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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21°.70S×179°.55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21°.76S×179°.70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:43.1±2.7,22°.3S±0°.2×179°.6W±0°.3,h613km±42km,
n22,σ1s15/21,mb4.4/9,1C,South of Fiji Islands

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

From data month January 2009 the ISC hypocentres are computed using the new ISC location algorithm and all reported IASPEI seismic phases, for which ak135 predictions are available. This algorithm is described in: *Bondár, I. and D.A. Storchak (2011), Improved location procedures at the International Seismological Centre, Geophys. J. Int., 186, 1220-1244, doi:10.1111/j.1365-246X.2011.05107.x*

The alternative locations based on JB-tables are still produced with the original location algorithm for consistency with the past data. It is still the plan that by the middle of calendar year 2014 all ISC locations (1960-2008) are going to be re-computed with the new locatin algorithm and ak135 as part of the ISC Bulletin Re-Build project, sponsored by the US NSF and several agencies from Japan, China and India.

*IDC **01** 00:02:59.8±1.2, 11.°89N×87.°05W, h0km, mb3.9/7, mb1 4.2/9, mb1mx3.9/34, mbtmp3.8/9, ML3.2/2, MS3.0/3, Ms1 3.0/3, ms1mx2.6/25, Error ellipse: s-maj=48.5km s-min=22.5km az=48.0*
*NEIC **01** 00:03:04.7±1.7, 11.°60N±0.°09×87.°2W±0.°1, h49km±7km, mb4.2/32*
*UCR **01** 00:03:04.8±1.6, 11.°72N×87.°13W, h24km±6km, ML3.6, mb4.2(NEIC)*
*SNET **01** 00:03:10.4±12.0, 12.°34N×86.°85W, h17km±129km, ML3.8*
ISC 01 00:03:03.1±1.5**, 11.°72N**±0.°07×**87.°20W**±0.°04**, h28**km±10km**,**
n91, σ1s44/98**, mb4.2**/21**, 1C-2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNGN	Cerro Negro	0.92	33	eP	Pn	00 03 20.4	+0.2
MOMN	Momotombo	0.94	44	eP	Pn	00 03 16.8	-3.8
MOMN	Momotombo	0.94	44	eP	Pn	00 03 16.8	-3.8
CRIN	San Cristobal	0.98	9	⇓iP	Pb	00 03 22.9	+1.3
TISN	Laguna Tiscapa	1.00	65	eP	Pn	00 03 21.9	+0.6
MGAN	Managua	1.02	66	eP	Pn	00 03 22.2	+0.5
MGAN				eS	Sb	00 03 35.5	+0.1
MASN	Masaya	1.06	76	eP	Pn	00 03 22.5	+0.3
MASN				eS	Sb	00 03 38.6	+2.1
BRAN	Las Pilas	1.29	40	eP	Pn	00 03 21.5	-3.9
ESTN	Estel	1.59	31	eP	Pb	00 03 31.1	-0.9
ESTN	Estel	1.59	31	Pn	Pb	00 03 31.1	-0.9
CNCH	Conchagua	1.66	338	eP	Pb	00 03 33.2	0.0
CNCH	Conchagua	1.66	338	eP	Pb	00 03 33.2	0.0
LCND	La Caada	1.71	337	eP	Pb	00 03 33.8	-0.2
LCND				eS	Sb	00 03 56.2	+1.0
LCND				IAML		00 04 00.6	
	comp=Z,1μm,0.4s						
LCND	La Caada	1.71	337	eP	Pb	00 03 33.8	-0.2
LCND				eS	Sb	00 03 56.2	+1.0
LCND				IAML		00 04 00.6	
	comp=Z,1μm,0.4s						
MATN	Matagalpa	1.73	46	eP	Pn	00 03 32.5	+1.1
MATN				eS	Sb	00 03 54.9	-0.8
JUCU	Jucuar¡n	1.83	326	eP	Pb	00 03 35.1	-1.0
BUEV	Buena Vista	1.99	117	eP	Pn	00 03 35.9	+0.9
VSM	San Miguel	1.99	328	eP	Pb	00 03 38.7	-0.2
LCY	Lacayo	2.00	328	eP	Pb	00 03 37.6	-1.3
LCY	Lacayo	2.00	328	eP	Pb	00 03 37.6	-1.3
ACON	Acoyapa	2.00	83	eP	Pn	00 03 35.2	+0.1
ACON				IAML		00 04 14.1	
	comp=E,295nm,1.2s						
ACON	Acoyapa	2.00	83		Pn	00 03 34.6	-0.4
RCON	San Juan de Ri	2.03	30	eP	Pn	00 03 37.5	+1.9
ALJI	Alcalda de J	2.08	320	⇓iP	Pb	00 03 52.7	+12
ALJI				eP	Pn	00 03 54.3	+18
ALJI				eS	Sb	00 04 04.5	-1.1
FAGO	Alcalda de S	2.15	336	eP	Pb	00 03 40.2	-1.2
FAGO				eS	Sb	00 04 06.5	-1.2
COEB	Comit de Eme	2.19	324	eP	Pb	00 03 41.6	-0.5
TGUH	Tegucigalpa,Un	2.32	358		Pb	00 03 42.6	-1.8
COEG	Centro de Oper	2.50	319	eP	Pn	00 03 44.3	+2.3
COEG				eS	Sb	00 04 15.8	-1.9
LFRS	El Faro	2.62	316	eP	Pn	00 03 46.4	+2.7
JTS	Las Juntas de	2.63	123	Pn	Pn	00 03 43.9	+0.2
	comp=E,7.6nm,0.3s,baz=23,slow=18,SNR=20						
JTS				Sn	Sn	00 04 11.6	-3.2
	comp=E,14nm,0.3s,baz=316,slow=22,SNR=5.9						
JTS	Las Juntas de	2.63	123	eP	Pn	00 03 44.2	+0.5
JTS	Las Juntas de	2.63	123		Pn	00 03 43.6	-0.1
ARE1	Arenal 1	2.74	117	eP	Pn	00 03 48.2	+2.9
CEDE	Laguna Cedeo	2.74	116	eP	Pn	00 03 46.8	+1.5
LFU	La Fuente	2.74	317	eP	Pb	00 03 49.2	-2.4
LFU	La Fuente	2.74	317	eP	Pb	00 03 49.2	-2.4
ESPN	Las Esperanzas	2.88	80	⇑eP	Pn	00 03 47.5	+0.4
ESPN	Las Esperanzas	2.88	80		Pn	00 03 47.0	-0.1
HDC	Heredia	3.48	119	Pn	Pn	00 03 53.6	-2.0
LCR2	La Lucha 2	3.71	122	eP	Pn	00 03 59.5	+0.7
TEIG	Tepich	8.52	353	LR	LR	00 08 41.2	
	comp=E,90nm,18.9s,baz=46,slow=41						
TEIG	Tepich	8.52	353	Pn	Pn	00 05 07.2	+2.6
CMIG	Matias Romero	9.15	307	Pn	Pn	00 05 14.4	+0.9
	comp=E,0.2nm,0.3s,baz=0.3,slow=3.2,SNR=1.9						
ROSC	El Rosal	14.46	117	LR	LR	00 11 26.7	
	comp=E,66nm,21.6s,baz=65,slow=35						
833A	Chaparral WMA,	20.07	327	P	Pn	00 07 36.9	+0.6
833A				IAmb	IAmb	00 07 37.8	
	comp=Z,15nm,0.9s						
Y49A	Blount Mountai	22.04	2	P	P	00 07 55.9	+0.3
Y49A				IAmb	IAmb	00 07 58.4	
	comp=Z,8.5nm,0.8s						
WHTX	Lake Whitney,	22.27	336	P	P	00 07 59.5	+1.4
WHTX				IAmb	IAmb	00 08 02.1	
	comp=Z,7.7nm,0.8s						
X48A	Hartselle	22.62	0	P	P	00 08 02.6	+0.7
X48A				IAmb	IAmb	00 08 14.0	
	comp=Z,13nm,1.4s						
TXAR	Lajitas Array	23.29	321	P	P	00 08 10.9	+2.0
	comp=Z,3.3nm,0.7s,baz=138,slow=9.7,SNR=37						
TXAR				PcP	PcP	00 11 58.1	+2.2
	comp=Z,0.2nm,0.6s,baz=144,slow=5.4,SNR=3.6						
TXAR	Lajitas Array	23.29	321	P	P	00 08 10.6	+1.8
TX31	Lajitas Ar. Si	23.29	321	P	P	00 08 10.7	+1.8
TX32	Lajitas Array	23.29	321	P	P	00 08 10.7	+1.9
W50A	Signal Mountai	23.43	4	P	P	00 08 09.9	-0.2
MIAR	Mount Ida	23.45	347	P	P	00 08 11.3	+1.0
MIAR				IAmb	IAmb	00 08 12.2	
	comp=Z,5.6nm,0.7s						
MIAR					PcP	00 11 54.4	-1.6
TKL	Tuckaleechee C	24.03	7	P	P	00 08 16.8	+1.0
	comp=Z,5.8nm,0.8s,baz=143,slow=9.5,SNR=5.6						
CLTN	Cedars of Leba	24.27	2	P	P	00 08 18.4	+0.4
CLTN				IAmb	IAmb	00 08 20.6	
	comp=Z,5.1nm,0.7s						
X34A	Smith Ranch, M	24.75	339	P	P	00 08 23.9	+1.6
U40A	Yellville	25.05	349		PcP	00 12 01.8	+2.3
FNO	Franklin	25.19	340	P	P	00 08 27.1	+0.7
WMOK	Wichita Mounta	25.22	337	P	P	00 08 27.4	+0.7
WMOK				IAmb	IAmb	00 08 30.1	
	comp=Z,7.4nm,0.9s						
TUL1	Leonard	25.30	344	P	P	00 08 27.7	+0.4
TUL1				IAmb	IAmb	00 08 30.8	
	comp=Z,9.5nm,0.9s						
Q51A	Peebles	27.41	7	P	P	00 08 45.7	-0.6
SAML	Samuel	31.50	130	P	P	00 09 20.6	-2.2
PV13	Radium Mtn., P	32.65	327	P	P	00 09 33.7	+0.7
PV03	Paradox Valley	32.73	328	P	P	00 09 35.0	+1.2
PV05	Paradox Valley	32.74	327	P	P	00 09 34.1	+0.2
PV12	Saucer Basin,	32.76	328	P	P	00 09 34.8	+0.8
PV12				IAmb	IAmb	00 09 37.3	
	comp=Z,4.9nm,1.0s						
PV18	Skein Mesa, Pa	32.76	327	P	P	00 09 35.0	+1.0
PV11	David Mesa, Pa	32.78	328	P	P	00 09 34.9	+0.7
PV11				IAmb	IAmb	00 09 36.8	
	comp=Z,3.7nm,0.8s						
PV16	Nyswonger Mesa	32.81	328	P	P	00 09 36.0	+1.5
PV17	East Wray Mesa	32.81	327	P	P	00 09 34.9	+0.4
PV17				IAmb	IAmb	00 09 37.5	
	comp=Z,3.4nm,0.7s						
PV19	Morning Glory	32.85	327	P	P	00 09 34.1	-0.6
PV19				IAmb	IAmb	00 09 52.6	
	comp=Z,2.7nm,0.7s						
PV20	West Nyswonger	32.86	327	P	P	00 09 35.7	+0.8
PV20				IAmb	IAmb	00 09 37.5	
	comp=Z,2.4nm,0.7s						
PV04	Paradox Valley	32.87	328	P	P	00 09 35.6	+0.7
PV04				IAmb	IAmb	00 09 37.6	
	comp=Z,5.4nm,1.2s						
ECSD	EROS Data Cent	32.91	347	IAmb	IAmb	00 09 34.9	
	comp=Z,3.7nm,0.8s						
SRU	San Rafael Swe	34.25	327	P	P	00 09 47.5	+0.6
PDAR	Pinedale Array	36.52	332	P	P	00 10 07.4	+0.9
	comp=Z,0.6nm,0.6s,baz=128,slow=9.3,SNR=8.1						
PDAR	Pinedale Array	36.52	332	P	P	00 10 06.3	-0.2
REDW	Red Top Meadow	37.59	331	P	P	00 10 16.3	+0.7
MOOW	Moose Ponds	37.83	332	P	P	00 10 18.0	+0.4
NVAR	Mina Array Bea	38.41	319	P	P	00 10 22.4	-0.1
	comp=Z,0.2nm,0.5s,baz=122,slow=6.5,SNR=2.5						
NVAR				PcP	PcP	00 12 37.1	+1.4
	comp=Z,0.7nm,0.7s,baz=128,slow=3.8,SNR=7.2						
ULM	Lac du Bonnet	39.07	351	P	P	00 10 26.1	-1.5
	comp=Z,2.2nm,0.4s,baz=162,slow=8.9,SNR=4.2						
ULM	Lac du Bonnet	39.07	351	IAmb	IAmb	00 10 26.8	
	comp=Z,4.0nm,1.0s						
YKA	Yellowknife Ar	54.37	345	P	P	00 12 26.3	-0.8
	comp=Z,1.3nm,0.7s,baz=140,slow=7.6,SNR=11						
YKA				PcP	PcP	00 13 29.5	-1.2
	comp=Z,0.4nm,0.7s,baz=150,slow=3.9,SNR=3.2						
ILAR	Eielson Array	66.78	336	P	P	00 13 51.3	-0.5
	comp=Z,0.5nm,0.8s,baz=153,slow=5.1,SNR=6.1						
ILAR	Eielson Array	66.78	336	P	P	00 13 50.9	-0.9
BMAR	Burnt Mountain	67.04	339	P	P	00 13 52.5	-1.0
MDT	Midelt	77.57	59	LR	LR	00 44 18.7	
	comp=Z,11nm,21.1s,baz=353,slow=32						
ASAR	Alice Springs	139.22	247	PKP	PKPdf	00 22 28.7	+0.3
	comp=Z,0.4nm,0.8s,baz=106,slow=3.4,SNR=3.5						
WRA	Warramunga Arr	139.30	253	PKP	PKPdf	00 22 29.9	+1.3
	comp=Z,1.9nm,0.3s,baz=90,slow=2.3,SNR=14						
CMAR	Chiang Mai Arr	149.40	348	PKPbc	PKPbc	00 22 51.0	+0.5
	comp=Z,1.5nm,0.4s,baz=343,slow=2.8,SNR=5.2						

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*TAP **01** 00:18:59.7, 23.°45N×120.°65E, h12km, ML3.3, B*
*JMA **01** 00:18:59.4, 23.°47N×120.°62E, h0km, M3.5*
*ISCJB **01** 00:19:00.6±0.2, 23.°460N±0.°010×120.°63E±0.°01, h12km±1km, Error ellipse: s-maj=2.0km s-min=1.6km az=21.0*
ISC 01 00:19:00.4±0.8**, 23.°46N**±0.°01×**120.°62E**±0.°01**, h15**km±5km**,**
n91, σ0s69/154**, 16C-7D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHN4	Tsaushan	0.11	192	⇑iP	Pg	00 19 03.0	-0.8
	baz=207						
CHN4				iS	Sg	00 19 05.5	-0.5
	baz=207						
CHN5	Tsauling	0.15	22	⇑iP	Pg	00 19 03.4	-1.0
	baz=9.0						
CHN5				iS	Sg	00 19 06.0	-1.0
	baz=9.0						
CHN2	Minshiung	0.15	299	⇓iP	Pg	00 19 04.2	-0.1
	baz=295						
CHN2				iS	Sb	00 19 07.8	-0.1
	baz=295						
TPUB	Ta-pu	0.16	176	⇑P	Pg	00 19 03.7	-0.8
	baz=187						
TPUB				S	Sg	00 19 06.6	-0.5
	baz=187						
CHY	Chiayi	0.18	282	⇓iP	Pg	00 19 04.7	0.0
	baz=282						
CHY				S	Sb	00 19 08.7	-0.2
	baz=282						
WTP	Ta-pu	0.21	181	⇑iP	Pg	00 19 04.7	-0.6
	baz=187						
WTP				S	Sg	00 19 08.5	0.0
	baz=187						
TWK	Hsinying	0.23	212	⇑iP	Pg	00 19 05.3	-0.2
	baz=216						
TWK				S	Sb	00 19 09.5	-0.7
	baz=216						
WGK	Gukeng	0.23	347	P	Pg	00 19 05.5	0.0
	baz=342						
WGK				S	Sb	00 19 10.3	0.0
	baz=342						
WDLH	Douliu	0.24	342	⇑eP	Pg	00 19 05.7	0.0
	baz=336						
WDLH				S	Sb	00 19 10.5	-0.1
	baz=336						
SNST	Tainan City	0.26	205	⇑iP	Pg	00 19 05.9	-0.2
	baz=211						
SNST				S	Sb	00 19 10.6	-0.6
	baz=211						
CHN1	Nanshi	0.28	197	⇑iP	Pg	00 19 06.2	-0.3
	baz=203						
CHN1				S	Sb	00 19 11.4	-0.5
	baz=203						
WLGB	Puzi	0.29	274	P	Pb	00 19 07.0	-0.4
	baz=274						
WLGB				S	Sb	00 19 13.1	+1.0
	baz=274						
YUS	Yu-Shan	0.31	84	⇓iP	Pg	00 19 06.7	-0.4
	baz=83						
YUS				S	Sg	00 19 11.7	-0.1
	baz=83						
WHYT	Xinyi Township	0.32	42	P	Pg	00 19 06.7	-0.4
	baz=37						
WHYT				S	Sg	00 19 11.8	+0.1
	baz=37						
WJS	Zhushan	0.38	16	⇑P	Pg	00 19 08.1	0.0
	baz=10.0						
WJS				S	Sb	00 19 14.3	-0.2
	baz=10.0						
SGST	Jiashian	0.38	185	⇑eP	Pg	00 19 06.9	-1.2
	baz=188						
SGST				S	Sg	00 19 13.6	+0.4
	baz=188						
CHN8	Yiju	0.39	253	P	Pg	00 19 08.6	+0.3
	baz=255						
CHN8				S	Sb	00 19 16.0	+1.2
	baz=255						
WSF	Szhu	0.40	296	P	Pg	00 19 08.5	-0.1
	baz=295						
WSF				S	Sb	00 19 15.8	+0.5
	baz=295						
WNT	Mingjian	0.42	8	⇑iP	Pg	00 19 09.2	+0.3
	baz=5.0						
WNT				S	Sb	00 19 16.1	+0.3
	baz=5.0						
SSLB	Suanglung	0.45	43	P	Pg	00 19 08.9	-0.5
	baz=39						
SSLB				S	Sg	00 19 15.4	-0.1
	baz=39						
ELDTW	Lidau	0.46	126	⇓iP	Pg	00 19 09.1	-0.4
	baz=127						
ELDTW				eS	Sg	00 19 15.4	-0.3
	baz=127						
SLGT	Liugui	0.46	177	eP	Pg	00 19 09.6	-0.1
	baz=180						
SLGT				eS	Sb	00 19 17.4	+0.4
	baz=180						
SCLT	Jiali	0.48	234	eP	Pb	00 19 10.7	+0.1
	baz=236						
SCLT				eS	Sn	00 19 19.4	-1.5
	baz=236						
RLNB	Erlin	0.49	331	P	Pg	00 19 10.3	+0.2
	baz=328						
RLNB				S	Sb	00 19 18.1	+0.3
	baz=328						
TYC	Yuchr	0.49	26	⇑iP	Pg	00 19 10.3	0.0
	baz=23						
TYC				S	Sb	00 19 18.1	+0.2
	baz=23						
SMLT	Sun Moon Lake	0.49	31	⇑iP	Pg	00 19 10.2	-0.1
	baz=28						
SMLT				S	Sb	00 19 18.6	+0.5
	baz=28						
WTCT	Ta-ch'eng	0.51	323	eP	Pg	00 19 09.7	-0.7
	baz=320						
WTCT				eS	Sb	00 19 18.4	+0.1
	baz=320						
TAI1	Yung-k'ang	0.55	221	eP	Pb	00 19 12.4	+0.6
	baz=222						
TAI1				eS	Sn	00 19 21.2	-1.4
	baz=222						
VWDT	VWDT	0.56	58	⇓P	Pg	00 19 11.2	-0.3
	baz=56						
VWDT				S	Sg	00 19 18.4	-0.6
	baz=56						
WCHH	Zhanghua	0.62	355	eP	Pg	00 19 12.7	+0.1
	baz=352						
WCHH				eS	Sb	00 19 22.3	+0.8
	baz=352						
YULB	Yu-li	0.63	96	⇓P	Pg	00 19 12.2	-0.6
	baz=95						
YULB				S	Sg	00 19 19.9	-1.1
	baz=95						
TWF1	Yuli	0.63	100	⇓P	Pg	00 19 12.5	-0.4
	baz=99						
TWF1				eS	Sg	00 19 20.9	-0.4
	baz=99						
DPDB	Guoxing	0.64	26	⇑P	Pg	00 19 12.5	-0.5
	baz=23						
DPDB				S	Sg	00 19 21.6	+0.2
	baz=23						
EHY	Hungye	0.65	86	P	Pg	00 19 12.8	-0.3
	baz=85						
EHY				S	Sg	00 19 21.8	+0.1
	baz=85						
TWM1	Shoushan	0.66	196	eP	Pn	00 19 14.9	-0.4
	baz=197						
SSD	Sandimen	0.71	179	P	Pg	00 19 14.0	-0.3
	baz=180						
SSD				S	Sb	00 19 24.8	+0.7
	baz=180						
HGSD	Ruisui	0.74	87	eP	Pg	00 19 14.8	-0.1
	baz=86						
HGSD				eS	Sn	00 19 27.0	-0.4
	baz=86						
TWG	Pinlang	0.76	147	P	Pg	00 19 14.9	-0.3
	baz=148						
TWG				S	Sb	00 19 25.8	+0.3
	baz=148						
TWGBT	Beinan	0.77	146	P	Pg	00 19 14.9	-0.5
	baz=148						
TWGBT				S	Sg	00 19 25.6	+0.1
	baz=148						
EGFH	Guangfu	0.77	74	eP	Pg	00 19 15.0	-0.5
	baz=73						
EGFH				eS	Sg	00 19 25.5	-0.1
	baz=73						
CHKT	Chengkung	0.78	117	eP	Pg	00 19 15.5	0.0
	baz=118						
CHKT				eS	Sn	00 19 27.2	-1.0
	baz=118						
CHGB	Renai	0.79	40	P	Pg	00 19 15.1	-0.7
	baz=38						
CHGB				S	Sg	00 19 26.3	+0.2
	baz=38						
ESL	Shilin	0.83	65	eP	Pg	00 19 15.9	-0.6
	baz=63						
ESL				eS	Sg	00 19 27.3	0.0
	baz=63						
MASBT	Mashibuluo	0.84	179	⇑P	Pg	00 19 16.4	-0.4
	baz=181						
MASBT				eS	Sb	00 19 28.4	+0.5
	baz=181						
WHP	Taichung City	0.87	20	eP	Pb	00 19 16.9	-0.4
	baz=18						
WHP				eS	Sb	00 19 29.9	+1.2
	baz=18						
WDJ	Dajia District	0.89	1	eP	Pg	00 19 17.7	+0.1
	baz=359						
WDJ				eS	Sn	00 19 30.5	-0.4
	baz=359						
WDGT	Dungji	0.90	257	P	Pb	00 19 17.2	-0.6
	baz=257						
WDGT				S	Sg	00 19 29.7	0.0
	baz=257						
WHF	Hehuan Shan	0.90	41	⇑P	Pg	00 19 17.4	-0.6
	baz=39						
WHF				S	Sg	00 19 30.1	+0.1
	baz=39						
ECL	Taimali	0.91	160	eP	Pb	00 19 17.7	-0.2
	baz=161						
ECL				eS	Sg	00 19 30.3	+0.3
	baz=161						
TDCB	Techi	0.93	32	eP	Pb	00 19 17.5	-0.9
	baz=30						
TDCB				eS	Sb	00 19 30.5	-0.2
	baz=30						
NSY	Sanyi	0.96	8	eP	Pb	00 19 18.7	-0.1
	baz=6.0						
PHUB	P'eng-hu	0.96	273	P	Pb	00 19 17.8	-1.0
	baz=273						
PHUB				S	Sb	00 19 31.0	-0.3
	baz=273						
PNG	Penghu	0.98	276	eP	Pb	00 19 18.4	-0.7
	baz=276						
PNG				eS	Sb	00 19 31.7	-0.2
	baz=276						
PTSB	Yuanli	0.99	5	eP	Pb	00 19 18.8	-0.5
	baz=2.0						
PTSB				eS	Sg	00 19 33.1	+0.7
	baz=2.0						
ENLB	Shoufeng	1.00	64	eP	Pb	00 19 18.8	-0.8
	baz=62						
ENLB				eS	Sb	00 19 32.5	-0.1
	baz=62						
HWA	Hwalien	1.04	60	eP	Pb	00 19 19.1	-1.0
	baz=59						
SCZT	Fangliau	1.08	180	eP	Pn	00 19 21.1	0.0
	baz=181						
NMLH	Miaoli	1.08	8	eP	Pb	00 19 20.3	-0.6
	baz=6.0						
ETLH	Xiulin Townshi	1.09	47	eP	Pb	00 19 20.2	-0.8
	baz=45						
ETLH				eS	Sn	00 19 36.1	0.0
	baz=45						
TWD	Chiawan	1.09	55	eP	Pb	00 19 20.6	-0.3
	baz=54						
TWD				eS	Sb	00 19 35.3	+0.3
	baz=54						
EAST	Anshuo	1.09	169	eP	Pb	00 19 21.0	0.0
	baz=169						
EAST				eS	Sn	00 19 36.8	+0.7
	baz=169						
VCHM	Qimei	1.12	257	eP	Pb	00 19 20.6	-0.9
	baz=257						
WLCH	Liuqiu	1.12	191	eP	Pn	00 19 21.6	0.0
	baz=192						
NACB	Ninganchiao	1.14	51	P	Pn	00 19 21.1	-0.8
	baz=50						
NACB				S	Sb	00 19 37.1	+0.6
	baz=50						
NNSB	Datong	1.19	36	P	Pn	00 19 21.7	-1.0
	baz=34						
NNSB				S	Sn	00 19 38.8	0.0
	baz=34						
NNSH	Datong	1.19	36	eP	Pn	00 19 22.3	-0.4
	baz=34						
NNS	Nan Shan	1.20	35	eP	Pn	00 19 21.7	-1.1
	baz=34						
NSTT	Nanjuang	1.22	17	eP	Pn	00 19 22.5	-0.5
	baz=15						
YHNB	Yeheng	1.39	30	eP	Pn	00 19 25.6	+0.3
	baz=28						
NDT	Datong Townshi	1.40	36	eP	Pb	00 19 26.2	-0.1
	baz=34						
NANB	Nanao	1.42	47	eP	Pn	00 19 25.8	+0.2
	baz=45						
ENTT	Nioudou	1.46	36	eP	Pn	00 19 26.9	+0.6
	baz=35						
TWKBT	Hengchun	1.52	173	eP	Pb	00 19 28.9	+0.6
	baz=174						
NWLT	Wulai	1.54	31	eP	Pn	00 19 28.1	+0.7
	baz=30						
TWE	Neicheng	1.58	37	eP	Pb	00 19 29.3	-0.1
	baz=36						
TWC	Suao	1.61	44	eP	Pb	00 19 30.3	+0.5
	baz=43						
EOS1	EOS1	1.76	52	eP	Pb	00 19 31.9	-0.4
	baz=51						
VWUC	VWUC	1.86	325	eP	Pn	00 19 30.4	-1.4
	baz=324						
TIPB	Shuangxi	1.87	36	eP	Pn	00 19 32.6	+0.7
	baz=35						
PTMZ	Houxiangcun	2.08	319	eP	Pn	00 19 34.2	-0.7
	baz=318						
KNMB	Chin-men Tao	2.27	297	eP	Pn	00 19 37.1	-0.4
	baz=295						
JYNG	Yonagunijimaku	2.35	65	P	Pb	00 19 40.8	-1.6
JYNG				eS	Sb	00 20 10.0	-1.2
YOJ	Yonaguni jima	2.41	65	eP	Pn	00 19 39.1	-0.2
	baz=64						
AXDP	Jialang	2.81	301	eP	Pn	00 19 44.2	-0.6
	baz=300						
IRIF	Iriomote-Funau	2.98	72	P	Pn	00 19 49.4	+2.3
IRIF				eS	Sn	00 20 24.7	+2.1
HATJ	Hateruma jima	2.98	78	P	Pn	00 19 48.3	+1.1
HATJ				eS	Sn	00 20 24.7	+2.0
MHZQ	Yeshan	3.00	332	eP	Pn	00 19 47.4	0.0
	baz=330						
LYJJ	Jianjiangzhen	3.17	346	eP	Pn	00 19 49.6	-0.2
	baz=345						
JKRS	Kuro-shima	3.20	75	eS	Sn	00 20 30.7	+2.6
JIJ	Ishigaki jima	3.35	74	P	Pn	00 19 53.8	+1.6
JIJ				eS	Sn	00 20 32.3	+0.5
JISG	Ishigakijimahi	3.56	71	P	Pn	00 19 56.3	+1.2
JISG				eS	Sn	00 20 37.2	+0.3

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*ISCJB **01** 00:33:58.8±2.9, 31.°05N±0.°06×115.°5W±0.°3, h18km±13km, Error ellipse: s-maj=39.2km s-min=8.3km az=7.5*
*ECX **01** 00:33:59.8±0.3, 31.°10N×115.°51W, h9km±3km, MD2.2, ML2.4*
*MEX **01** 00:33:59.1±25.0, 31.°06N×115.°48W, h20km, MD3.6*
ISC 01 00:33:58.8±1.4**, 31.°06N**±0.°08×**115.°6W**±0.°2**, h13**km±23km**,**
n6, σ0s18/10**, 2C-1D, Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPIG	San Pedro Mart	0.07	104	iP	Pg	00 34 02.1	+0.2
	baz=84,slow=4.6						
SPIG				eS	Sg	00 34 03.9	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SPIG	**San Pedro Mart**	**0.07**	**104**	eP	**Pg**	**00 34 02.0**	**0.0**
SPIG				eS	**Sg**	**00 34 04.0**	**-0.2**
SPX	**San Pedro Mart**	**0.08**	**111**	⇓iP	**Pg**	**00 34 02.2**	**+0.2**
SPX				eS	**Sg**	**00 34 04.0**	**-0.1**
SPX				⇑e		00 34 04.3	
SPX				IAML		00 34 04.3	
	comp=N,2μm,0.1s						
SQX	**San Quintin**	**0.56**	**210**	eP	**Pg**	**00 34 09.9**	**+0.1**
SQX				eS	**Sb**	**00 34 18.3**	**0.0**
SQX				IAML		00 34 19.2	
	comp=E,144nm,0.2s						
SQX				⇑e		00 34 19.2	
SQX				IAML		00 34 19.6	
	comp=N,204nm,0.2s						
VTX	**Valle De La Tr**	**0.70**	**197**	eP	Pb	00 34 06.6	-6.3
VTX				eS	Sg	00 34 11.8	-10
ESJX	**Sierra Juarez**	**1.00**	**340**	eP	**Pb**	**00 34 18.0**	**0.0**
ESJX				eS	**Sb**	**00 34 31.2**	**0.0**

*ISCJB **01** 00:42:02.7±1.4, 5°.6S±0°.1×148°.5E±0°.3, h163km, mb3.4/3, Error ellipse: s-maj=38.1km s-min=13.5km az=22.6*

*IDC **01** 00:42:03.2±2.2, 5°.55S×148°.41E, h159km±21km, mb3.2/3, mb1 3.5/5, mb1mx3.1/31, mbtmp3.8/5, Error ellipse: s-maj=63.8km s-min=17.0km az=119.0*

ISC 01 00:42:04.1±1.4**, 5°.5S**±0°.2×**148°.3E**±0°.3**, h163**km**, n6, σ1s.53**/9**, mb3.3**/3**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.00**	**196**	P	**Pn**	**00 43 05.7**	**+1.0**
	5.8nm,0.3s,baz=0.0,slow=3.0,SNR=15						
PMG				S	**Sn**	**00 43 50.5**	**-1.5**
	3.9nm,0.3s,baz=321,slow=15,SNR=3.6						
WRA	**Warramunga Arr**	**19.73**	**222**	P	**P**	**00 46 22.4**	**+1.1**
	0.6nm,0.3s,baz=46,slow=10,SNR=44						
WRA				S	**S**	**00 49 52.6**	**-2.4**
	0.1nm,0.3s,baz=47,slow=15,SNR=3.8						
ASAR	**Alice Springs**	**22.73**	**216**	P	**P**	**00 46 53.0**	**+0.5**
	0.7nm,0.7s,baz=50,slow=8.1,SNR=15						
ASAR				S	**S**	**00 50 50.5**	**+1.7**
	1.1nm,1.0s,baz=27,slow=21,SNR=4.7						
FITZ	**Fitzroy Crossi**	**25.40**	**239**	P	**P**	**00 47 17.0**	**+0.3**
	1.5nm,0.7s,baz=58,slow=9.8,SNR=5.0						
ILAR	**Eielson Array**	**84.56**	**23**	P	**P**	**00 54 18.0**	**-0.6**
	0.3nm,0.6s,baz=256,slow=5.0,SNR=6.0						
TORD	**Torodi Ar. Bea**	**146.22**	**285**	PKPbc	**PKPdf**	**01 01 24.6**	**-0.6**
	0.4nm,0.9s,baz=61,slow=3.4,SNR=4.8						

PRU 01 00:51:23.6±0.0**, 49°.83N**×**18°.50E, h0**km**, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.23**	**272**	ePG	Pg	00 51 27.9	-0.1
OKC				eSG	Sg	00 51 32.0	+1.1
	comp=Z,6.4nm,0.5s						
MORC	**Moravsky Berou**	**0.62**	**265**	ePG	Pg	00 51 35.6	+0.1
MORC				eSG	Sg	00 51 43.4	-0.2
LANS	**Liptovska Anna**	**0.93**	**137**	ePG	Pg	00 51 40.7	-0.7
LANS				eSG	Sg	00 51 54.4	+1.0
LANS				eLG	Lg	00 52 00.7	
JAVC	**Velka Javorina**	**1.11**	**209**	ePG	Pb	00 51 45.8	+0.1
KRLC	**Kraliky**	**1.14**	**283**	ePG	Pg	00 51 44.1	-1.3
KRLC				eSG	Sg	00 51 59.2	-0.9
VRAC	**Vranov**	**1.35**	**248**	ePG	Pg	00 51 48.5	-0.9
VRAC				eSG	Sg	00 52 06.4	-0.4
VYHS	**Vyhne**	**1.35**	**171**	ePG	Pg	00 51 48.5	-1.0
VYHS				eSG	Sg	00 52 06.9	-0.2
DPC	**Dobruska-Polom**	**1.50**	**291**	ePG	Pn	00 51 50.8	-1.0
DPC				eSG	Sg	00 52 10.5	-1.1
KRUC	**Moravsky**	**1.57**	**242**	ePG	Pn	00 51 52.2	-0.6
KRUC				eSG	Sn	00 52 13.6	-0.2
OSTC	**Ostas**	**1.64**	**297**	ePG	Pn	00 51 53.9	+0.2
OSTC				eSG	Sg	00 52 16.2	0.0
KHC	**Kasperske Hory**	**3.29**	**260**	eSG	Sg	00 53 08.5	-0.6

*IDC **01** 01:13:48.4±0.4, 56°.59S×25°.51W, h0km, mb4.7/27, mb1 4.7/28, mb1mx4.6/42, mbtmp4.7/28, ML4.3/1, MS4.6/4, Ms1 4.6/4, ms1mx4.3/34, Error ellipse: s-maj=14.1km s-min=11.3km az=29.0*

*ISCJB **01** 01:13:51.0±0.2, 56°.66S±0°.04×25°.48W±0°.09, h29km, mb4.8/32, MS4.8/4, Error ellipse: s-maj=8.2km s-min=4.7km az=144.8*

*NEIC **01** 01:13:52.8±1.5, 56°.6S±0°.1×25°.5W±0°.2, h32km±4km, mb5.0/41*

*MOS **01** 01:13:52.3±1.3, 56°.57S×25°.50W, h33km, mb5.3/15, Error ellipse: s-maj=21.4km s-min=11.7km az=116.5*

*GCMT **01** 01:13:56.8±0.2, 56°.61S±0°.03×25°.21W±0°.02, h20km, MW5.2/43, Moment Tensor Solution. s38,c62; s43,c73; Duration: 1s.0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.73±.03; $M_{\theta\theta}$0.14±.03; $M_{\phi\phi}$-0.87±.03; $M_{r\theta}$0.19±.06; $M_{\theta\phi}$0.16±.02; $M_{\phi r}$0.40±.05; Best double couple: $M_0$0.93400×10^{17} NP1:ϕ_s9.00000°, δ60.00000°, λ110.00000°. NP2:ϕ_s152.00000°, δ36.00000°, λ59.00000°. Principal axes: T 0.8910, Plg68.0000°, Azm320.0000°; N 0.0880, Plg17.0000°, Azm178.0000°; P -0.9770, Plg12.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 01:13:52.6±0.3**, 56°.63S**±0°.06×**25°.35W**±0°.06**, h29**km**, n235, σ1s.29**/232**, mb4.9**/37**, MS4.5**/4**, 2C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.75**	**286**	P	**Pn**	**01 15 31.3**	**+1.6**
HOPE	**Hope Point**	**6.75**	**286**		**Pn**	**01 15 31.3**	**+1.6**
VNA1	**Neumayer--Stat**	**15.88**	**159**	P	**Pn**	**01 17 34.2**	**+0.5**
VNA3	**Neumayer Olymp**	**16.11**	**162**	P	**Pn**	**01 17 36.8**	**+0.1**
VNA2	**Neumayer--Watz**	**16.28**	**159**	P	**Pn**	**01 17 39.7**	**+1.0**
	baz=323,slow=14						
SNAA	**Sanae**	**17.80**	**157**	P	**P**	**01 17 59.0**	**+0.6**
SNAA	**Sanae**	**17.80**	**157**	i P	**P**	**01 17 59.3**	**+0.8**
SNAA	**Sanae**	**17.80**	**157**	P	**P**	**01 17 58.8**	**+0.4**
	1.1nm,0.3s,baz=321,slow=16,SNR=29						
SNAA				LR	LR	01 23 21.5	
	comp=Z,1μm,21.6s,baz=357,slow=32						
SNAA	**Sanae**	**17.80**	**157**	P	**P**	**01 17 59.0**	**+0.6**
TROLL	**Troll, Antarti**	**19.27**	**154**	P	**Pn**	**01 18 16.4**	**+0.6**
EFI	**East Falkland**	**19.67**	**271**	i P	**Pn**	**01 18 20.2**	**-0.3**
EFI				pmax	pmax		
	comp=Z,127nm,1.4s						
EFI	**East Falkland**	**19.67**	**271**	P	**P**	**01 18 19.1**	**+0.2**
EFI				IAmb	IAmb	01 18 22.8	
	comp=Z,160nm,1.4s						
PMSA	**Palmer Station**	**20.31**	**231**	P	**P**	**01 18 26.3**	**+0.5**
	comp=Z,26nm,0.5s,baz=78,slow=8.2,SNR=13						
PMSA				LR	LR	01 25 18.8	
	comp=Z,2μm,19.4s,baz=86,slow=34						
PMSA	**Palmer Station**	**20.31**	**231**	P	**P**	**01 18 26.0**	**+0.2**
PMSA				IAmb	IAmb	01 18 30.6	
	comp=Z,99nm,1.3s						
PMSA	**Palmer Station**	**20.31**	**231**	eP	**P**	**01 18 26.6**	**+0.8**
PMSA	**Palmer Station**	**20.31**	**231**	eP	**P**	**01 18 26.6**	**+0.8**
USHA	**Ushuaia**	**24.04**	**256**	P	**P**	**01 19 03.0**	**-1.8**
	comp=Z,7.3nm,0.6s,baz=84,slow=9.2,SNR=3.3						
USHA				LR	LR	01 26 01.2	
	comp=Z,2μm,20.3s,baz=108,slow=31						
SYO	**Syowa Base**	**30.49**	**140**	⇓eP	**P**	**01 20 02.0**	**-0.4**
SYO	**Syowa Base**	**30.49**	**140**	⇑epP	pP	01 20 09.6	+0.4
TRQA	**Tornquist**	**30.49**	**292**	eP	**P**	**01 20 01.7**	**-1.1**
TRQA	**Tornquist**	**30.49**	**292**	P	**P**	**01 20 01.7**	**-1.1**
PLTB	**Pedras Altas**	**31.65**	**310**	eP	**P**	**01 20 13.2**	**+0.1**
PLTB	**Pedras Altas**	**31.65**	**310**	eP	**P**	**01 20 13.2**	**+0.1**
CPSB	**Cacapava Do Su**	**32.76**	**311**	eP	**P**	**01 20 24.2**	**+1.4**
CPSB	**Cacapava Do Su**	**32.76**	**311**	eP	**P**	**01 20 24.2**	**+1.4**
PLCA	**Paso Flores**	**33.11**	**279**	eP	**P**	**01 20 24.6**	**-1.2**
PLCA	**Paso Flores**	**33.11**	**279**	P	**P**	**01 20 23.2**	**-2.7**
	comp=Z,1.9nm,0.8s,baz=155,slow=17,SNR=2.6						
PLCA				LR	LR	01 35 09.5	
	comp=Z,968nm,18.2s,baz=140,slow=39						
PLCA	**Paso Flores**	**33.11**	**279**	P	**P**	**01 20 24.6**	**-1.2**
QSPA	**South Pole Qui**	**33.62**	**180**	P	**P**	**01 20 30.4**	**+0.2**
	comp=Z,16nm,0.5s,baz=298,slow=0.4,SNR=236						
QSPA	**South Pole Qui**	**33.62**	**180**	P	**P**	**01 20 30.4**	**+0.2**
GO06	**Curarrehue**	**34.41**	**280**	P	**P**	**01 20 36.3**	**-1.0**
ITAB	**Concordia**	**35.05**	**316**	eP	**P**	**01 20 43.5**	**+0.9**
ITAB	**Concordia**	**35.05**	**316**	eP	**P**	**01 20 43.5**	**+0.9**
SPB	**Sao Paulo**	**36.73**	**325**	eP	**P**	**01 20 59.9**	**+2.8**
SPB	**Sao Paulo**	**36.73**	**325**	eP	**P**	**01 20 59.9**	**+2.8**
VAO	**Valinhos**	**37.13**	**326**	eP	**P**	**01 21 02.6**	**+1.9**
VAO	**Valinhos**	**37.13**	**326**	eP	**P**	**01 21 02.6**	**+1.9**
PTGB	**Pitanga**	**37.30**	**318**	eP	**P**	**01 21 03.2**	**+1.1**
PTGB	**Pitanga**	**37.30**	**318**	eP	**P**	**01 21 03.2**	**+1.1**
FRTB	**Fartura**	**37.66**	**322**	eP	**P**	**01 21 06.5**	**+1.4**
FRTB	**Fartura**	**37.66**	**322**	eP	**P**	**01 21 06.5**	**+1.4**
CPUP	**Villa Florida**	**37.97**	**309**	P	**P**	**01 21 07.0**	**-0.5**
CPUP				pmax	pmax		
	comp=Z,26nm,1.0s						
CPUP	**Villa Florida**	**37.97**	**309**	P	**P**	**01 21 07.1**	**-0.5**
	comp=Z,15nm,0.8s,baz=158,slow=6.5,SNR=34						
CPUP	**Villa Florida**	**37.97**	**309**	P	**P**	**01 21 07.0**	**-0.5**
CPUP				IAmb	IAmb	01 21 08.2	
	comp=Z,26nm,0.9s						
CPUP	**Villa Florida**	**37.97**	**309**	eP	**P**	**01 21 07.7**	**+0.1**
CPUP	**Villa Florida**	**37.97**	**309**	eP	**P**	**01 21 07.7**	**+0.1**
GO05	**Huala**	**38.02**	**285**	P	**P**	**01 21 05.5**	**-2.5**
GO05				IAmb	IAmb	01 21 10.8	
	comp=Z,18nm,1.1s						
CFA	**Coronel Fontan**	**38.73**	**292**	P	**P**	**01 21 11.8**	**-2.3**
	comp=Z,7.4nm,0.4s,baz=154,slow=8.9,SNR=9.1						
PEL	**Peldehue**	**38.79**	**288**	P	**P**	**01 21 13.0**	**-1.5**
PEL				pmax	pmax		
	comp=Z,13nm,0.7s						
PEL	**Peldehue**	**38.79**	**288**	P	**P**	**01 21 13.0**	**-1.5**
MAW	**Mawson**	**39.07**	**143**	P	**P**	**01 21 17.3**	**+0.9**
MAW				pmax	pmax		
	comp=Z,4.0nm,1.4s						
MAW	**Mawson**	**39.07**	**143**	P	**P**	**01 21 17.7**	**+1.3**
	comp=Z,2.6nm,0.6s,baz=251,slow=7.8,SNR=5.7						
MAW	**Mawson**	**39.07**	**143**	P	**P**	**01 21 17.3**	**+0.9**
ROC1	**El Roble**	**39.09**	**288**	P	**P**	**01 21 15.9**	**-1.4**
TRCB	**Terra Rica**	**39.26**	**318**	eP	**P**	**01 21 19.6**	**+1.1**
TRCB	**Terra Rica**	**39.26**	**318**	eP	**P**	**01 21 19.6**	**+1.1**
BSFB	**Barra de Sao F**	**39.48**	**337**	eP	**P**	**01 21 21.6**	**+1.3**
BSFB	**Barra de Sao F**	**39.48**	**337**	eP	**P**	**01 21 21.6**	**+1.3**
SJMB	**Sao Joao De Ma**	**39.68**	**336**	eP	**P**	**01 21 24.3**	**+2.3**
SJMB	**Sao Joao De Ma**	**39.68**	**336**	eP	**P**	**01 21 24.3**	**+2.3**
SUR	**Sutherland**	**39.82**	**72**	P	**P**	**01 21 23.5**	**+0.1**
	comp=Z,3.9nm,0.7s,baz=200,slow=15,SNR=3.9						
SUR	**Sutherland**	**39.82**	**72**	P	**P**	**01 21 22.9**	**-0.4**
SUR				IAmb	IAmb	01 21 34.1	
	comp=Z,30nm,1.3s						
PCMB	**Pacaembu**	**39.85**	**321**	eP	**P**	**01 21 24.9**	**+1.5**
PCMB	**Pacaembu**	**39.85**	**321**	eP	**P**	**01 21 24.9**	**+1.5**
PMNB	**Patos De Minas**	**41.18**	**329**	eP	**P**	**01 21 36.8**	**+2.3**
PMNB	**Patos De Minas**	**41.18**	**329**	eP	**P**	**01 21 36.8**	**+2.3**
GO04	**Tololo Observa**	**41.19**	**290**	P	**P**	**01 21 33.2**	**-1.5**
GO04				IAmb	IAmb	01 21 42.6	
	comp=Z,23nm,1.1s						
IPMB	**Ipameri, GO**	**42.23**	**327**	eP	**P**	**01 21 44.3**	**+1.2**
IPMB	**Ipameri, GO**	**42.23**	**327**	eP	**P**	**01 21 44.3**	**+1.2**
AQDB	**Aquidauana**	**42.52**	**316**	eP	**P**	**01 21 45.5**	**+0.1**
AQDB	**Aquidauana**	**42.52**	**316**	eP	**P**	**01 21 45.5**	**+0.1**
GO03	**Copiap**	**42.98**	**293**	P	**P**	**01 21 47.5**	**-1.6**
GO03				IAmb	IAmb	01 21 48.3	
	comp=Z,30nm,1.2s						
BDFB	**Brasilia**	**44.39**	**328**	P	**P**	**01 22 00.7**	**+0.2**
BDFB				pmax	pmax		
	comp=Z,32nm,1.5s						
BDFB	**Brasilia**	**44.39**	**328**	P	**P**	**01 22 00.4**	**-0.1**
	comp=Z,3.7nm,0.4s,baz=127,slow=6.0,SNR=8.5						
BDFB	**Brasilia**	**44.39**	**328**	P	**P**	**01 22 00.7**	**+0.2**
BDFB				IAmb	IAmb	01 22 03.5	
	comp=Z,32nm,1.5s						
GO02	**Mina Guanaco**	**44.67**	**296**	P	**P**	**01 22 02.3**	**-0.7**
GO02				IAmb	IAmb	01 22 03.3	
	comp=Z,60nm,1.3s						
PP1B	**Ponte de Pedra**	**44.84**	**318**	eP	**P**	**01 22 04.8**	**+0.8**
PP1B	**Ponte de Pedra**	**44.84**	**318**	eP	**P**	**01 22 04.8**	**+0.8**
ARAG	**Araguaiana, MT**	**45.51**	**323**	eP	**P**	**01 22 11.4**	**+2.0**
ARAG	**Araguaiana, MT**	**45.51**	**323**	eP	**P**	**01 22 11.4**	**+2.0**
SBA	**Scott Base**	**45.57**	**184**	P	**P**	**01 22 09.9**	**+0.8**
SBA				pmax	pmax		
	comp=Z,37nm,1.4s						
SBA	**Scott Base**	**45.57**	**184**	P	**P**	**01 22 09.9**	**+0.8**
SBA				IAmb	IAmb	01 22 23.7	
	comp=Z,37nm,1.4s						
VNDA	**Vanda**	**46.04**	**182**	P	**P**	**01 22 13.8**	**+0.9**
	comp=Z,4.5nm,0.8s,baz=193,slow=6.9,SNR=6.7						
LVC	**Limon Verde**	**46.48**	**299**	P	**P**	**01 22 17.7**	**+0.3**
LVC				pmax	pmax		
	comp=Z,93nm,1.1s						
LVC	**Limon Verde**	**46.48**	**299**	P	**P**	**01 22 17.4**	**0.0**
	comp=Z,34nm,0.4s,baz=147,slow=5.6,SNR=54						
LVC	**Limon Verde**	**46.48**	**299**	P	**P**	**01 22 17.7**	**+0.3**
LVC	**Limon Verde**	**46.48**	**299**	eP	**P**	**01 22 17.6**	**+0.3**
LVC	**Limon Verde**	**46.48**	**299**	eP	**P**	**01 22 17.6**	**+0.3**
PB10	**IPOC Station P**	**46.52**	**296**	P	**P**	**01 22 16.4**	**-0.9**
NBLA	**Lagarto - SE**	**46.54**	**343**	eP	**P**	**01 22 18.8**	**+1.3**
NBLA	**Lagarto - SE**	**46.54**	**343**	eP	**P**	**01 22 18.8**	**+1.3**
NBPN	**Ponto Novo - B**	**47.11**	**340**	eP	**P**	**01 22 23.0**	**+1.0**
NBPN	**Ponto Novo - B**	**47.11**	**340**	eP	**P**	**01 22 23.0**	**+1.0**
PEXB	**Peixe**	**47.82**	**329**	eP	**P**	**01 22 29.5**	**+2.0**
PEXB	**Peixe**	**47.82**	**329**	eP	**P**	**01 22 29.5**	**+2.0**
LBTB	**Lobatse**	**48.21**	**71**	P	**P**	**01 22 30.8**	**+0.2**
LBTB				pmax	pmax		
	comp=Z,12nm,1.0s						
LBTB	**Lobatse**	**48.21**	**71**	P	**P**	**01 22 31.0**	**+0.5**
	comp=Z,4.5nm,0.8s,baz=222,slow=12,SNR=3.9						
LBTB	**Lobatse**	**48.21**	**71**	P	**P**	**01 22 30.8**	**+0.2**
LBTB				IAmb	IAmb	01 22 49.8	
	comp=Z,12nm,1.0s						
SIV	**San Ignacio**	**48.72**	**312**	P	**P**	**01 22 33.9**	**-0.6**
	comp=Z,16nm,1.1s,baz=169,slow=8.9,SNR=31						
TSUM	**Tsumeb**	**49.09**	**58**	P	**P**	**01 22 37.9**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=244,slow=23,SNR=7.1						
MNMC	**Minye Minye**	**49.77**	**300**	P	**P**	**01 22 42.0**	**-0.8**
CLDB	**Colider**	**51.38**	**320**	eP	**P**	**01 22 54.5**	**0.0**
CLDB	**Colider**	**51.38**	**320**	eP	**P**	**01 22 54.5**	**0.0**
LPAZ	**La Paz**	**51.55**	**304**	P	**P**	**01 22 56.9**	**+0.4**
	comp=Z,29nm,0.4s,baz=94,slow=4.5,SNR=220						
LPAZ	**La Paz**	**51.55**	**304**	eP	**P**	**01 22 56.9**	**+0.4**
LPAZ	**La Paz**	**51.55**	**304**	eP	**P**	**01 22 56.9**	**+0.4**
NBPB	**Pedra_Branca-C**	**52.18**	**342**	eP	**P**	**01 23 02.0**	**+1.4**
NBPB	**Pedra_Branca-C**	**52.18**	**342**	eP	**P**	**01 23 02.0**	**+1.4**
NBPS	**Pedro II - PI**	**53.64**	**340**	eP	**P**	**01 23 13.0**	**+1.6**
NBPS	**Pedro II - PI**	**53.64**	**340**	eP	**P**	**01 23 13.0**	**+1.6**
SAML	**Samuel**	**55.94**	**313**	P	**P**	**01 23 27.8**	**-0.2**
SAML				pmax	pmax		
	comp=Z,53nm,1.4s						
SAML	**Samuel**	**55.94**	**313**	P	**P**	**01 23 27.8**	**-0.2**
SAML	**Samuel**	**55.94**	**313**	eP	**P**	**01 23 28.2**	**+0.2**
SAML	**Samuel**	**55.94**	**313**	eP	**P**	**01 23 28.2**	**+0.2**
LSZ	**Lusaka**	**57.64**	**67**	P	**P**	**01 23 40.5**	**+0.3**
LSZ				pmax	pmax		
	comp=Z,9.0nm,1.4s						
LSZ	**Lusaka**	**57.64**	**67**	P	**P**	**01 23 40.5**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=202,slow=10,SNR=3.8						
NNA	**Nana**	**59.42**	**297**	ceP	**P**	**01 23 53.2**	**+0.7**
NNA				pmax	pmax		
	comp=Z,51nm,1.7s						
NNA	**Nana**	**59.42**	**297**	P	**P**	**01 23 51.4**	**-1.1**
	comp=Z,9.1nm,0.6s,baz=130,slow=2.1,SNR=4.1						
NNA	**Nana**	**59.42**	**297**	P	**P**	**01 23 51.2**	**-1.3**
ATAH	**Atahualpa**	**64.37**	**298**	P	**P**	**01 24 26.8**	**+0.6**
	comp=Z,18nm,0.9s,baz=194,slow=2.8,SNR=18						
DBIC	**Dimbokro**	**65.29**	**23**	P	**P**	**01 24 31.3**	**-0.3**
DBIC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
DBIC	**Dimbokro**	**65.29**	**23**	P	**P**	**01 24 30.9**	**-0.7**
	comp=Z,6.8nm,0.9s,baz=160,slow=4.9,SNR=6.2						
DBIC	**Dimbokro**	**65.29**	**23**	P	**P**	**01 24 31.3**	**-0.3**
DBIC				IAmb	IAmb	01 24 34.5	
	comp=Z,9.1nm,0.9s						
MDP	**Montagnes des**	**65.44**	**330**	P	**P**	**01 24 32.0**	**-0.6**
	comp=Z,5.9nm,0.7s,baz=34,slow=11,SNR=4.0						
RER	**Riviere de l'E**	**67.73**	**95**	P	**P**	**01 24 45.3**	**-2.1**
MCQ	**Macquarie Isla**	**69.18**	**183**	P	**P**	**01 24 55.4**	**-0.4**
MCQ				pmax	pmax		
	comp=Z,169nm,1.2s						
MCQ	**Macquarie Isla**	**69.18**	**183**	P	**P**	**01 24 55.4**	**-0.4**
FLOC	**Florencia**	**70.73**	**305**	eP	**P**	**01 25 03.6**	**-2.3**
FLOC	**Florencia**	**70.73**	**305**	eP	**P**	**01 25 03.6**	**-2.3**
OTAV	**Otavalo**	**70.83**	**302**	P	**P**	**01 25 07.2**	**+0.2**
OTAV				pmax	pmax		
	comp=Z,83nm,1.4s						
OTAV	**Otavalo**	**70.83**	**302**	P	**P**	**01 25 07.2**	**+0.2**
OTAV	**Otavalo**	**70.83**	**302**	eP	**P**	**01 25 08.5**	**+1.5**
OTAV	**Otavalo**	**70.83**	**302**	eP	**P**	**01 25 08.5**	**+1.5**
SOTA	**Rioblanco**	**71.65**	**305**	eP	**P**	**01 25 13.6**	**+1.6**
SOTA	**Rioblanco**	**71.65**	**305**	eP	**P**	**01 25 13.6**	**+1.6**
PCON	**Cinco Dias**	**71.73**	**305**	eP	**P**	**01 25 10.3**	**-2.3**
PCON	**Cinco Dias**	**71.73**	**305**	eP	**P**	**01 25 10.3**	**-2.3**
BBAC	**Balboa, Cauca**	**71.84**	**304**	eP	**P**	**01 25 11.6**	**-1.2**
BBAC	**Balboa, Cauca**	**71.84**	**304**	eP	**P**	**01 25 11.6**	**-1.2**
POPC	**Popayan, Colom**	**72.04**	**305**	eP	**P**	**01 25 13.6**	**-0.4**
POPC	**Popayan, Colom**	**72.04**	**305**	eP	**P**	**01 25 13.6**	**-0.4**
PRAC	**Prado**	**72.28**	**307**	eP	**P**	**01 25 14.3**	**-1.0**
PRAC	**Prado**	**72.28**	**307**	eP	**P**	**01 25 14.3**	**-1.0**
CHIC	**Chingaza**	**72.60**	**309**	eP	**P**	**01 25 16.9**	**-0.6**
CHIC	**Chingaza**	**72.60**	**309**	eP	**P**	**01 25 16.9**	**-0.6**
ORTC	**Ortega, Tolima**	**72.62**	**307**	eP	**P**	**01 25 13.6**	**-3.6**
ORTC	**Ortega, Tolima**	**72.62**	**307**	eP	**P**	**01 25 13.6**	**-3.6**
ROSC	**El Rosal**	**73.04**	**308**	P	**P**	**01 25 20.1**	**-0.1**
	comp=Z,5.7nm,0.5s,baz=110,slow=3.6,SNR=7.8						
ROSC	**El Rosal**	**73.04**	**308**	P	**P**	**01 25 19.4**	**-0.8**
ROSC				IAmb	IAmb	01 25 22.4	
	comp=Z,22nm,1.3s						
TOA0	**Torodi Ar. Sit**	**73.08**	**28**	P	**P**	**01 25 19.5**	**-0.3**
TOA0				IAmb	IAmb	01 25 36.8	
	comp=Z,20nm,1.5s						
TORD	**Torodi Ar. Bea**	**73.08**	**28**	P	**P**	**01 25 20.0**	**+0.2**
	comp=Z,4.7nm,0.7s,baz=203,slow=6.4,SNR=25						
TORD	**Torodi Ar. Bea**	**73.08**	**28**	P	**P**	**01 25 19.5**	**-0.3**
YOTC	**Yotoco, Valle**	**73.17**	**306**	eP	**P**	**01 25 18.9**	**-1.7**
YOTC	**Yotoco, Valle**	**73.17**	**306**	eP	**P**	**01 25 18.9**	**-1.7**
SPBC	**San Pablo de B**	**73.66**	**309**	eP	**P**	**01 25 21.6**	**-1.9**
SPBC	**San Pablo de B**	**73.66**	**309**	eP	**P**	**01 25 21.6**	**-1.9**
GUY2C	**Guyana, Caldas**	**73.84**	**307**	eP	P	01 25 18.9	-6.0
GUY2C	**Guyana, Caldas**	**73.84**	**307**	eP	P	01 25 18.9	-6.0
NORC	**Norcasia**	**73.93**	**308**	eP	**P**	**01 25 21.6**	**-3.4**
NORC	**Norcasia**	**73.93**	**308**	eP	**P**	**01 25 21.6**	**-3.4**
PCRV	**Puerto La Cruz**	**74.05**	**320**	P	**P**	**01 25 26.2**	**+0.6**
	comp=Z,24nm,0.9s,baz=164,slow=2.4,SNR=13						
PTBC	**PUERTO BERRIO,**	**74.62**	**309**	eP	**P**	**01 25 26.7**	**-2.3**
PTBC	**PUERTO BERRIO,**	**74.62**	**309**	eP	**P**	**01 25 26.7**	**-2.3**
SDV	**Santo Domingo**	**75.14**	**313**	P	**P**	**01 25 31.9**	**-0.3**
	comp=Z,5.0nm,0.4s,baz=227,slow=4.4,SNR=8.3						
SDV	**Santo Domingo**	**75.14**	**313**	P	**P**	**01 25 31.8**	**-0.4**
SDV				IAmb	IAmb	01 25 35.3	
	comp=Z,29nm,1.2s						
SDV	**Santo Domingo**	**75.14**	**313**	eP	**P**	**01 25 32.6**	**+0.4**
SDV	**Santo Domingo**	**75.14**	**313**	eP	**P**	**01 25 32.6**	**+0.4**
BHW	**Baring Head**	**80.85**	**195**	P	**P**	**01 26 03.1**	**-0.2**
TUWZ	**Tuamarina**	**80.96**	**195**	P	**P**	**01 26 04.6**	**+0.6**
ABVI	**Anegada Island**	**81.89**	**323**	P	**P**	**01 26 07.8**	**-1.2**
JTS	**Las Juntas de**	**82.69**	**301**	i P	**P**	**01 26 13.5**	**+0.2**
JTS				pmax	pmax		
	comp=Z,38nm,1.4s						
JTS	**Las Juntas de**	**82.69**	**301**	P	**P**	**01 26 12.1**	**-1.3**
PCDR	**Punta Cana, DR**	**83.09**	**319**	P	**P**	**01 26 14.6**	**-0.6**
URZ	**Urewera**	**83.58**	**198**	P	**P**	**01 26 17.3**	**-0.4**
	comp=Z,14nm,1.1s,baz=68,slow=5.4,SNR=3.5						
URZ	**Urewera**	**83.58**	**198**	IAmb	IAmb	01 26 18.0	
	comp=Z,26nm,1.3s						
HIZ	**Hauiti**	**83.69**	**196**	P	**P**	**01 26 17.7**	**-0.6**
STKA	**Stephens Creek**	**91.15**	**169**	eP	**P**	**01 26 57.0**	**+2.5**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
STKA	**Stephens Creek**	**91.15**	**169**	P	**P**	**01 26 55.3**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=168,slow=5.9,SNR=3.6						
TEIG	**Tepich**	**92.88**	**303**	P	**P**	**01 27 02.5**	**+0.1**
	comp=Z,4.5nm,0.4s,baz=320,slow=1.3,SNR=9.7						
TEIG	**Tepich**	**92.88**	**303**	P	**P**	**01 27 02.5**	**+0.1**
ASAR	**Alice Springs**	**98.12**	**161**	P	**P**	**01 27 25.6**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=184,slow=5.1,SNR=6.0						
VYHS	**Vyhne**	**111.02**	**30**	eP	**Pdif**	**01 28 27.8**	**+4.8**
VYHS	**Vyhne**	**111.02**	**30**	ePDIFF	**Pdif**	**01 28 27.8**	**+4.8**
ULM	**Lac du Bonnet**	**121.38**	**315**	PKP	**PKiKP**	**01 32 42.2**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=135,slow=2.9,SNR=2.8						
PDAR	**Pinedale Array**	**121.52**	**301**	PKP	**PKPdf**	**01 32 41.7**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=157,slow=4.8,SNR=4.3						
PDAR	**Pinedale Array**	**121.52**	**301**		**PKPdf**	**01 32 41.4**	**-1.2**
BGU	**Big Grassy Mou**	**121.80**	**297**		**PKiKP**	**01 32 43.9**	**+0.6**
OBN	**Obninsk**	**122.19**	**37**	ePKIKP	**PKPdf**	**01 32 42.8**	**-0.3**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NVAR	**Mina Array Bea**	**122.56**	**291**	PKP	**PKiKP**	**01 32 45.5**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=132,slow=3.4,SNR=5.0						
ELK	**Elko**	**122.75**	**295**	PKIKP	**PKPdf**	**01 32 45.1**	**0.0**
ELK	**Elko**	**122.75**	**295**	PKP	**PKiKP**	**01 32 45.7**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=260,slow=3.0,SNR=3.9						
ELK	**Elko**	**122.75**	**295**		**PKPdf**	**01 32 45.1**	**0.0**
FXWY	**Fox Creek**	**122.88**	**300**		**PKPdf**	**01 32 45.0**	**-0.2**
FINES	**FINESS Array B**	**124.42**	**27**	ePKIKP	**PKPdf**	**01 32 47.0**	**-0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**124.42**	**27**	PKP	**PKiKP**	**01 32 47.8**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=204,slow=2.7,SNR=15						
FINES				PKKPbc	**PKKPbc**	**01 42 31.3**	**+1.1**
	comp=Z,6.3nm,0.7s,baz=72,slow=4.5,SNR=5.3						
PLID	**Pearl Lake**	**126.35**	**298**		**PKPdf**	**01 32 51.3**	**-0.6**
KKAR	**Karatay Array**	**127.50**	**67**	PKIKP	**PKPdf**	**01 32 52.9**	**-0.9**
KKAR	**Karatay Array**	**127.50**	**67**		**PKPdf**	**01 32 52.9**	**-0.9**
AAK	**Ala-Archa**	**129.21**	**70**	i PKIKP	**PKPdf**	**01 32 54.6**	**-2.7**
ARCES	**ARCESS Array B**	**131.11**	**21**	ePKIKP	**PKPdf**	**01 32 58.5**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**131.11**	**21**	PKP	**PKPdf**	**01 33 00.1**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=186,slow=0.9,SNR=12						
BRVK	**Borovoye**	**134.21**	**57**	i PKIKP	**PKPdf**	**01 33 05.8**	**-0.3**
BVAR	**Borovoye Array**	**134.23**	**57**	PKP	**PKiKP**	**01 33 07.9**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=288,slow=2.3,SNR=2.6						
MKAR	**Makanchi Array**	**136.11**	**71**	PKP	**PKiKP**	**01 33 11.6**	**0.0**
	comp=Z,0.2nm,0.5s,baz=242,slow=3.4,SNR=3.0						
CD2	**Chengdu**	**136.52**	**104**	Pdif	**Pdif**	**01 30 15.5**	**-1.5**
KURK	**Kurchatov**	**136.73**	**64**	i PKIKP	**PKPdf**	**01 33 11.5**	**+0.6**
WMQ	**Urumqi**	**137.02**	**78**	eP	**PKPdf**	**01 33 12.0**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,60nm,5.5s						
WMQ				LR	LR		
	comp=N,1μm,16.5s						
WMQ				LR	LR		
	comp=E,1μm,19.3s						
WMQ				LR	LR		
	comp=Z,2μm,17.9s						
YKA	**Yellowknife Ar**	**137.29**	**317**	PKIKP	**PKPdf**	**01 33 11.0**	**-0.5**
YKA	**Yellowknife Ar**	**137.29**	**317**	PKP	**PKPdf**	**01 33 11.7**	**+0.1**
	comp=Z,2.6nm,0.9s,baz=154,slow=1.7,SNR=4.9						
YKA	**Yellowknife Ar**	**137.29**	**317**		**PKPdf**	**01 33 11.0**	**-0.5**
ZALV	**Zalesovo Beam**	**141.71**	**64**	PKhKP	PKPpre	01 33 14.1	
	comp=Z,0.6nm,0.4s,baz=215,slow=5.8,SNR=3.1						
NJ2	**Nanjing**	**145.17**	**120**	eP	**PKPbc**	**01 33 25.9**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
DAWY	**Dawson**	**147.94**	**311**		**PKPbc**	**01 33 32.9**	**-0.6**
HHC	**Hu-ho-hao-te**	**148.13**	**101**	eP	**PKPdf**	**01 33 33.1**	**+1.5**
BCAR	**Beaver Creek A**	**148.65**	**308**		**PKPdf**	**01 33 30.3**	**-1.3**
BCAR				PKPbc	**PKPbc**	**01 33 35.2**	**-0.3**
NRIK	**Noril'sk**	**148.81**	**39**	PKPbc	**PKiKP**	**01 33 37.4**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=230,slow=2.8,SNR=6.4						
MOY	**Mondy**	**148.87**	**76**	ePKHKP	PKPpre	01 33 31.3	
MOY				pmax	pmax		
	comp=Z,1μm,3.6s						
ZAK	**Zakamensk**	**149.44**	**80**	ePKIKP	**PKPdf**	**01 33 30.3**	**-3.1**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.5s						
SONM	**Songino Array**	**149.74**	**86**	PKP2	**PKPbc**	**01 33 38.7**	**0.0**
SONM	**Songino Array**	**149.74**	**86**	PKPbc	**PKPbc**	**01 33 38.8**	**+0.1**
	comp=Z,3.8nm,0.6s,baz=228,slow=3.0,SNR=33						
DOT	**Dot Lake**	**149.80**	**309**		**PKPbc**	**01 33 38.1**	**-0.1**
RIDG	**Independent Ri**	**150.16**	**309**		**PKiKP**	**01 33 39.6**	**-0.3**
BMAR	**Burnt Mountain**	**150.81**	**316**		**PKPbc**	**01 33 40.1**	**-0.4**
DHY	**Denali Highway**	**151.10**	**307**		**PKiKP**	**01 33 42.1**	**+0.1**
ILAR	**Eielson Array**	**151.27**	**311**	PKIKP	**PKPbc**	**01 33 40.5**	**-1.1**
ILAR	**Eielson Array**	**151.27**	**311**	PKPbc	**PKPbc**	**01 33 41.5**	**-0.2**
	comp=Z,19nm,1.1s,baz=116,slow=1.4,SNR=50						
ILAR	**Eielson Array**	**151.27**	**311**		**PKPbc**	**01 33 40.5**	**-1.1**
COLA	**College**	**151.69**	**311**	PKIKP	**PKPbc**	**01 33 42.1**	**-0.4**
COLA	**College**	**151.69**	**311**		**PKPbc**	**01 33 42.1**	**-0.4**
MCK	**McKinley**	**151.93**	**308**	PKIKP	**PKiKP**	**01 33 43.6**	**0.0**
MCK	**McKinley**	**151.93**	**308**		**PKiKP**	**01 33 43.6**	**0.0**
KTH	**Kantishna Hill**	**152.76**	**307**		**PKPbc**	**01 33 45.1**	**0.0**
COLD	**Coldfoot**	**152.95**	**315**		**PKiKP**	**01 33 45.7**	**+0.2**
IMAR	**Indian Mountai**	**154.28**	**312**		**PKPdf**	**01 33 37.9**	**-2.1**
IMAR					**PKPbc**	**01 33 48.2**	**0.0**
BILL	**Bilibino**	**167.37**	**340**	i PKIKP	**PKPdf**	**01 33 53.9**	**-0.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						

*ISCJB **01** 01:15:03.2±0.3, 4°.68N±0°.02×76°.12W±0°.03, h106km±4km,*

mb3.2/6, Error ellipse: s-maj=5.4km s-min=3.3km az=28.6
*RSNC **01** 01:15:05.0±1.1, 4.°67N×76.°11W, h93km±5km, ML3.2, Mw3.4*
*IDC **01** 01:15:08.8±1.6, 4.°74N×75.°79W, h154km±18km, mb2.9/6, mb1 3.2/7, mb1mx3.1/37, mbtmp3.4/7, Error ellipse: s-maj=30.1km s-min=16.3km az=71.0*
ISC 01 01:15:03.9±0.8**, 4.°70N**±0.°03×**76.°17W**±0.°03**, h98**km±6km**, n39,** σ**1.s50**/60**, mb3.2**/6**, 3C-4D, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLMC	**San Jos del P**	**0.24**	**331**	*e*P	**Pn**	**01 15 17.9**	**-0.3**
PLMC				*e*S	**Sn**	**01 15 28.9**	**+0.1**
PLMC				*i*		01 15 29.3	
	comp=Z,9µm,0.1s						
YOTC	**Yotoco, Valle**	**0.73**	**194**	*e*P	**Pn**	**01 15 21.4**	**-0.3**
YOTC				*i*		01 15 35.6	
	comp=Z,599nm,0.5s						
RREF	**El Recreo**	**0.84**	**76**	*e*P	**Pn**	**01 15 23.0**	**-0.2**
RREF				*i*		01 15 37.9	
	comp=Z,635nm,0.6s						
GUY2C	**Guyana, Caldas**	**0.95**	**57**	⇓*i*P	**Pn**	**01 15 24.1**	**-0.1**
GUY2C				*e*S	**Sn**	**01 15 38.8**	**-0.6**
GUY2C				*i*		01 15 41.9	
	comp=Z,262nm,0.5s						
CBOC	**Ciudad Bolivar**	**1.17**	**8**	*e*P	**Pn**	**01 15 26.4**	**0.0**
CBOC				*i*		01 15 51.0	
	comp=Z,251nm,0.7s						
ORTC	**Ortega, Tolima**	**1.21**	**130**	⇓*i*P	**Pn**	**01 15 26.1**	**-0.5**
ORTC				*e*S	**Sn**	**01 15 42.8**	**-0.9**
ORTC				*i*		01 15 43.7	
	comp=Z,452nm,0.2s						
MALC	**Bahia Malaga**	**1.35**	**240**	⇑*e*P	**Pn**	**01 15 29.7**	**+1.5**
MALC				*e*Sn	**Sn**	**01 15 49.2**	**+2.5**
MALC				*i*		01 15 53.1	
	comp=Z,366nm,0.3s						
MALC				*i*		01 15 53.4	
	comp=Z,352nm,0.4s						
NORC	**Norcasia**	**1.55**	**56**	⇑*i*P	**Pn**	**01 15 31.1**	**+0.3**
NORC				*e*S	**Sn**	**01 15 51.1**	**-0.1**
NORC				*i*		01 15 53.2	
	comp=Z,139nm,0.6s						
PRAC	**Prado**	**1.61**	**127**	⇓*i*P	**Pn**	**01 15 31.3**	**-0.2**
PRAC				*i*		01 15 52.5	
	comp=Z,359nm,0.6s						
HELC	**Santa Helena**	**1.61**	**23**	⇑*e*P	**Pn**	**01 15 32.1**	**+0.2**
HELC				*i*		01 15 55.9	
	comp=Z,127nm,0.7s						
ROSC	**El Rosal**	**1.84**	**85**	P	**Pn**	**01 15 36.8**	**+2.0**
	comp=Z,25nm,0.3s,baz=199,slow=3.1,SNR=22						
ROSC				S	**Sn**	**01 16 01.9**	**+3.7**
	comp=Z,12nm,0.3s,baz=90,slow=20,SNR=27						
POPC	**Popayan, Colom**	**2.20**	**193**	⇓*i*P	**Pn**	**01 15 38.9**	**-0.4**
POPC				*e*S	**Sn**	**01 16 03.8**	**-2.5**
POPC				*i*		01 16 12.1	
	comp=Z,81nm,0.3s						
SPBC	**San Pablo de B**	**2.29**	**65**	*e*P	**Pn**	**01 15 40.9**	**+0.6**
SPBC				*i*		01 16 13.6	
	comp=Z,33nm,0.4s						
DBBC	**Dabeiba**	**2.31**	**359**	*e*P	**Pn**	**01 15 41.7**	**+1.1**
DBBC				*i*		01 16 21.5	
	comp=Z,136nm,0.6s						
PCON	**Cinco Dias**	**2.36**	**186**	*e*P	**Pn**	**01 15 42.9**	**+1.1**
PCON				*e*S	**Sn**	**01 16 10.7**	**+0.1**
PCON				*i*		01 16 15.2	
	comp=Z,149nm,0.5s						
CHIC	**Chingaza**	**2.43**	**91**	*e*P	**Pn**	**01 15 44.1**	**+1.7**
CHIC				*i*		01 16 16.1	
	comp=Z,52nm,0.4s						
PTBC	**PUERTO BERRIO,**	**2.50**	**43**	*e*P	**Pn**	**01 15 43.6**	**+0.6**
PTBC				*i*		01 16 15.9	
	comp=Z,68nm,0.6s						
VILC	**Villavicencio,**	**2.53**	**103**	*e*P	**Pn**	**01 15 45.3**	**+1.7**
VILC				*e*S	**Sn**	**01 16 17.5**	**+3.5**
VILC				*i*		01 16 19.8	
	comp=Z,208nm,0.7s						
VILC				*i*		01 16 20.9	
	comp=Z,142nm,0.6s						
SOTA	**Rioblanco**	**2.58**	**190**	*e*P	**Pn**	**01 15 45.1**	**+0.5**
SOTA				*e*S	**Sn**	**01 16 16.4**	**+0.7**
SOTA				*i*		01 16 27.2	
	comp=Z,89nm,0.6s						
GRGC	**Isla de Gorgon**	**2.61**	**230**	*e*P	**Pn**	**01 15 44.1**	**-0.4**
GRGC				*e*S	**Sn**	**01 16 15.6**	**0.0**
GRGC				*i*		01 16 20.1	
	comp=Z,18nm,0.3s						
GRGC				*i*		01 16 20.3	
	comp=Z,19nm,0.4s						
BBAC	**Balboa, Cauca**	**2.87**	**202**	*e*P	**Pn**	**01 15 48.3**	**+0.2**
BBAC				*e*S	**Sn**	**01 16 21.0**	**-1.0**
BBAC				*i*		01 16 24.1	
	comp=Z,76nm,0.2s						
PTAC	**Punta Ardita,**	**2.93**	**326**	*e*P	**Pn**	**01 15 49.5**	**+0.8**
PTAC				*e*S	**Sn**	**01 16 21.4**	**-1.9**
PTAC				*i*		01 16 22.7	
	comp=Z,210nm,0.3s						
FLOC	**Florencia**	**3.13**	**171**	*e*P	**Pn**	**01 15 51.5**	**0.0**
FLOC				*e*S	**Sn**	**01 16 25.7**	**-2.5**
FLOC				*i*		01 16 46.5	
	comp=Z,37nm,1.2s						
CRUC	**La Cruz**	**3.21**	**194**	*e*P	**Pn**	**01 15 53.2**	**+0.4**
CRUC				*i*		01 16 37.3	
	comp=Z,45nm,0.4s						
BRRC	**Barranca, Sant**	**3.42**	**45**	*e*P	**Pn**	**01 15 55.5**	**+0.2**
BRRC				*e*S	**Sn**	**01 16 33.9**	**-1.0**
BRRC				*i*		01 16 39.8	
	comp=Z,24nm,1.1s						
MACC	**Macarena, Meta**	**3.43**	**138**	*e*P	**Pn**	**01 15 55.0**	**-0.5**
MACC				*e*S	**Sn**	**01 16 32.7**	**-2.6**
MACC				*i*		01 16 38.6	
	comp=Z,110nm,0.4s						
BARC	**Barichara**	**3.52**	**57**	*e*P	**Pn**	**01 15 57.8**	**+1.0**
BARC				*i*		01 16 49.3	
	comp=Z,61nm,0.7s						
GUVC	**San Jose del G**	**4.13**	**121**	*e*P	**Pn**	**01 16 04.5**	**-0.3**
GUVC				*e*S	**Sn**	**01 16 49.7**	**-2.4**
GUVC				*i*		01 16 52.2	
	comp=Z,85nm,0.3s						
PAMC	**Pamplona, Colo**	**4.33**	**53**	*e*P	**Pn**	**01 16 08.7**	**+0.6**
PAMC				*e*S	**Sn**	**01 16 56.2**	**-1.6**
OCAC	**Ocana**	**4.51**	**39**	*e*P	**Pn**	**01 16 11.1**	**+0.8**
OCAC				*e*S	**Sn**	**01 17 01.2**	**-0.5**
OCAC				*i*		01 17 05.1	
	comp=Z,14nm,0.3s						
SMLC	**San Martn de**	**4.58**	**27**	*e*P	**Pn**	**01 16 10.4**	**-0.6**
SMLC				*e*S	**Sn**	**01 17 00.7**	**-2.3**
PTLC	**Puerto Leguiza**	**4.70**	**163**	*e*P	**Pn**	**01 16 16.7**	**+4.1**
SDV	**Santo Domingo**	**6.89**	**53**	P	**Pn**	**01 16 43.2**	**+0.6**
	comp=Z,2.4nm,0.3s,baz=304,slow=3.6,SNR=16						
SDV				S	**Sn**	**01 17 56.6**	**-3.0**
	comp=Z,1.2nm,0.3s,baz=60,slow=21,SNR=5.2						
LPAZ	**La Paz**	**22.31**	**159**	P	**P**	**01 19 53.2**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=22,slow=5.4,SNR=2.6						
SIV	**San Ignacio**	**25.41**	**144**	P	**P**	**01 20 20.8**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=328,slow=9.9,SNR=3.6						
TXAR	**Lajitas Array**	**35.75**	**316**	P	**P**	**01 21 54.7**	**+1.0**
	comp=Z,0.2nm,0.8s,baz=132,slow=10,SNR=2.2						
PDAR	**Pinedale Array**	**48.10**	**327**	P	**P**	**01 23 34.4**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=142,slow=9.1,SNR=2.2						
NVAR	**Mina Array Bea**	**50.89**	**317**	P	**P**	**01 23 56.8**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=134,slow=8.9,SNR=3.0						
YKA	**Yellowknife Ar**	**64.25**	**341**	P	**P**	**01 25 27.8**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=133,slow=6.1,SNR=7.6						

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*BJI **01** 01:24:11.1±0.0, 7.°05S×128.°30E, h10km, mb5.8/78, mB6.5/78, Ms6.5/98, Ms7 6.3/86*
*ISCJB **01** 01:24:12.3±0.6, 7.°01S±0.°02×128.°40E±0.°02, h12km±3km, mb5.9/168, MS6.2/83, Error ellipse: s-maj=3.0km s-min=2.6km az=41.6*
*IDC **01** 01:24:12.2±0.3, 7.°04S×128.°37E, h0km, mb5.7/48, mb1 5.6/54, mb1mx5.6/56, mbtmp5.7/54, ML5.5/4, MS6.1/30, Ms1 6.1/30, ms1mx5.9/40, Error ellipse: s-maj=10.6km s-min=8.0km az=68.0*
*MOS **01** 01:24:13.8±0.9, 6.°99S×128.°45E, h24km, mb6.4/70, MS6.2/31, Error ellipse: s-maj=7.1km s-min=4.2km az=116.7*
*NEIC **01** 01:24:13.5±1.4, 7.°03S±0.°06×128.°38E±0.°05, h10km±2km, mb6.3/203, Ms_20 6.3/639, Mwb6.4, Mwc6.5, Mww6.4, Mwc6.5(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}2.53; $M_{\theta\theta}$-3.48; $M_{\phi\phi}$0.95; $M_{r\theta}$-2.30; $M_{\theta\phi}$-1.82; $M_{\phi r}$-0.85; Fault plane solution: $M_0$4.36000×10^{18} NP1:ϕ_s249.47000°, δ63.17000°, λ89.00000°. NP2:ϕ_s71.68000°, δ26.85000°, λ91.97000°. Principal axes: T 3.3362, Plg72.0000°, Azm157.0000°; N 1.5969, Plg1.0000°, Azm250.0000°; P -4.9331, Plg18.0000°, Azm340.0000°;*
*DJA **01** 01:24:16.3±0.3, 7°S±1°×12°8E±°, h37km±3km, M6.5/145, mB6.8/95, mB6.8/145, mb6.2/100, MLv6.3/13, Mw(mB)6.7/95, Mw(mB)6.7/145, Mwp6.3/74, Mwp6.3/133*
*GCMT **01** 01:24:16.6±0.0, 7.°02S×128.°29E, h13km, MW6.5/163, Moment Tensor Solution. s163,c383; s156,c666; Duration: 4.s3 Moment tensor: Scale 10^{18}Nm; M_{rr}4.91±.03; $M_{\theta\theta}$-6.04±.02; $M_{\phi\phi}$1.13±.03; $M_{r\theta}$-3.00±.07; $M_{\theta\phi}$-2.21±.02; $M_{\phi r}$-2.04±.06; Best double couple: $M_0$6.87900×10^{18} NP1:ϕ_s241.00000°, δ62.00000°, λ75.00000°. NP2:ϕ_s91.00000°, δ32.00000°, λ116.00000°. Principal axes: T 6.1350, Plg69.0000°, Azm120.0000°; N 1.4880, Plg13.0000°, Azm249.0000°; P -7.6230, Plg16.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **01** 01:24:18, 7.°00S×128.°37E, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}4.87; $M_{\theta\theta}$-6.14; $M_{\phi\phi}$1.27; $M_{r\theta}$-2.48; $M_{\theta\phi}$-2.29; $M_{\phi r}$-1.46; Fault plane solution: $M_0$6.71000×10^{18} NP1:ϕ_s87.00000°, δ33.00000°, λ109.00000°. NP2:ϕ_s244.00000°, δ59.00000°, λ78.00000°. Principal axes: T 5.6361, Plg73.0000°, Azm123.0000°; N 1.7881, Plg10.0000°, Azm251.0000°; P -7.4242, Plg13.0000°, Azm343.0000°;*
*KLM **01** 01:24:19.0, 6.°93S×128.°43E, h43km, mb6.4*
*NEIC **01** 01:24:19, 7.°01S×128.°35E, h26km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}4.81; $M_{\theta\theta}$-5.04; $M_{\phi\phi}$0.23; $M_{r\theta}$0.36; $M_{\theta\phi}$-1.68; $M_{\phi r}$-2.50; Fault plane solution: $M_0$5.79000×10^{18} NP1:ϕ_s97.00000°, δ48.00000°, λ125.00000°. NP2:ϕ_s230.00000°, δ52.00000°, λ57.00000°. Principal axes: T 6.0081, Plg65.0000°, Azm77.0000°; N -0.4666, Plg25.0000°, Azm252.0000°; P -5.5415, Plg2.0000°, Azm343.0000°;*
*NEIC **01** 01:24:32.7, 6.°37S×128.°63E, h19km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}5.79; $M_{\theta\theta}$-6.54; $M_{\phi\phi}$0.75; $M_{r\theta}$-3.79; $M_{\theta\phi}$-2.05; $M_{\phi r}$1.18; Fault plane solution: $M_0$7.63000×10^{18} NP1:ϕ_s273.05000°, δ61.45000°, λ109.95000°. NP2:ϕ_s55.85000°, δ34.34000°, λ57.92000°. Principal axes: T 7.3139, Plg67.0000°, Azm222.0000°; N 0.6238, Plg17.0000°, Azm83.0000°; P -7.9376, Plg14.0000°, Azm349.0000°;*
ISC 01 01:24:15.7±0.4**, 7.°03S**±0.°02×**128.°42E**±0.°03**, h26**km±2km**, h27**km**:pP-P, n1594,** σ**2.s03**/1510**, mb6.2**/236**, MS6.3**/408**, 114C-21D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.90**	**31**	P	**Pn**	**01 24 56.6**	**-3.6**
BNDI				S	**Sn**	**01 25 31.7**	**-2.5**
SAUI	**Saumlaki**	**3.01**	**109**	P	**Pn**	**01 25 04.1**	**+2.3**
SAUI	**Saumlaki**	**3.01**	**109**		**Pn**	**01 25 02.1**	**+0.3**
AAI	**Ambon**	**3.33**	**356**	P	**Pn**	**01 25 03.3**	**-2.8**
AAI				S	**Sn**	**01 25 39.7**	**-5.2**
MSAI	**Masohi**	**3.69**	**8**	P	**Pn**	**01 25 08.3**	**-2.9**
MSAI				S	**Sn**	**01 25 49.9**	**-4.0**
SOEI	**Soe**	**4.92**	**236**	P	**Pn**	**01 25 30.3**	**+2.2**
	11µm,1.2s,187µm322µm103nm						
SOEI				S	**Sn**	**01 26 26.2**	**+1.9**
	11µm,1.2s,187µm322µm103nm						
SOEI	**Soe**	**4.92**	**236**		**Pn**	**01 25 29.9**	**+1.8**
SANI	**Sanana**	**5.51**	**334**	P	**Pn**	**01 25 35.0**	**-1.1**
	2µm,0.8s,129µm21nm						
FAKI	**Fak Fak**	**5.59**	**43**	P	**Pn**	**01 25 36.4**	**-0.9**
	2µm,0.9s,68µm485µm10nm						
FAKI	**Fak Fak**	**5.59**	**43**		**Pn**	**01 25 36.1**	**-1.2**
BATI	**Baumata**	**5.66**	**236**	Pn	Pn	01 25 43.6	+5.3
	697nm,0.3s,baz=120,slow=1.6,SNR=294						
BATI				Sn	**Sn**	**01 26 49.4**	**+6.9**
	765nm,0.3s,baz=86,slow=22,SNR=9.6						
BATI	**Baumata**	**5.66**	**236**	P	Pn	01 25 43.1	+4.8
	8µm,1.1s,69µm69µm155µm155µm36nm						
LBMI	**Labuha**	**6.41**	**352**	P	**Pn**	**01 25 50.0**	**+1.4**
KDI	**Kendari**	**6.53**	**298**	P	**Pn**	**01 25 49.8**	**-0.3**
	2µm,1.2s						
SIJI	**Sorong**	**6.75**	**25**	Pn	**Pn**	**01 25 52.7**	**-0.5**
	127nm,0.3s,baz=202,slow=7.2,SNR=103						
SIJI				Sn	**Sn**	**01 27 06.4**	**-2.9**
	54nm,0.3s,baz=324,slow=16,SNR=6.4						
SWI	**Sorong**	**6.75**	**25**	P	**Pn**	**01 25 53.0**	**-0.2**
	3µm,1.0s,59µm404µm11nm						
KDU	**Kakadu**	**6.90**	**145**	P	**Pn**	**01 25 54.5**	**-0.7**
	baz=6.9,SNR=714						
TNTI	**Ternate**	**7.82**	**352**	P	**Pn**	**01 26 07.9**	**0.0**
	1µm,0.8s,30µm289µm4.4nm						
TNTI	**Ternate**	**7.82**	**352**		**Pn**	**01 26 08.0**	**+0.1**
RKPI	**Ransiki, Papua**	**7.94**	**47**	P	**Pn**	**01 26 08.6**	**-1.0**
	3µm,0.8s,38µm223µm223µm10nm						
LUWI	**Luwuk**	**8.19**	**316**	P	**Pn**	**01 26 13.0**	**0.0**
	3µm,0.9s,47µm505µm505µm						
LUWI	**Luwuk**	**8.19**	**316**		**Pn**	**01 26 13.3**	**+0.3**
WSI	**Waingapu**	**8.45**	**251**	P	**Pn**	**01 26 18.7**	**+2.1**
	5µm,0.6s,116µm						
KNRA	**Kununurra**	**8.60**	**178**	P	**Pn**	**01 26 17.9**	**-0.8**
	baz=8.7,SNR=1000						
KNRA	**Kununurra**	**8.60**	**178**		**Pn**	**01 26 18.5**	**-0.1**
BNSI	**Bone**	**8.67**	**287**	P	**Pn**	**01 26 19.7**	**+0.1**
	2µm,0.6s						
KAPI	**Kappang**	**8.85**	**283**	P	**Pn**	**01 26 23.1**	**+1.1**
KAPI						01 28 02.3	
KAPI	**Kappang**	**8.85**	**283**	Pn	**Pn**	**01 26 22.6**	**+0.7**
	23nm,0.3s,baz=96,slow=3.4,SNR=149						
KAPI				Sn	**Sn**	**01 28 02.3**	**+1.4**
	5.3nm,0.3s,baz=17,slow=19,SNR=2.8						
KAPI				LR	LR	01 29 35.0	
	comp=Z,159µm,19.5s,baz=299,slow=37						
KAPI	**Kappang**	**8.85**	**283**		**Pn**	**01 26 23.1**	**+1.1**
SRPI	**Serui, Papua**	**9.33**	**57**	P	**Pn**	**01 26 26.0**	**-2.7**
	724nm,0.8s,18µm86µm86µm						
TTSI	**Tana Toraja**	**9.43**	**294**	P	**Pn**	**01 26 29.6**	**-0.4**
PLAI	**Plampang**	**10.69**	**260**	P	**Pn**	**01 26 46.9**	**-0.4**
	2µm,1.0s,35µm66µm66µm						
WAMI	**Wamena**	**10.71**	**74**	P	**Pn**	**01 26 46.7**	**-0.9**
	2µm,0.8s,42µm59µm						
SGSI	**Sangihe**	**11.03**	**345**	P	**Pn**	**01 26 52.5**	**+0.6**
	2µm,0.9s,17µm						
FITZ	**Fitzroy Crossi**	**11.33**	**194**	Pn	**Pn**	**01 26 53.8**	**-2.2**
	29nm,0.3s,baz=24,slow=9.3,SNR=183						
FITZ				Sn	**Sn**	**01 28 56.5**	**-5.3**
	132nm,0.3s,baz=105,slow=13,SNR=9.9						
FITZ				LR	LR	01 31 56.7	
	comp=Z,235µm,19.2s,baz=20,slow=41						
FITZ	**Fitzroy Crossi**	**11.33**	**194**		**Pn**	**01 26 54.3**	**-1.7**
TWSI	**Taliwang, Sumb**	**11.55**	**261**	P	**Pn**	**01 26 58.3**	**-0.8**
	874nm,1.3s,18µm59µm						
MMPI	**Merauke**	**11.95**	**98**	P	**Pn**	**01 27 01.6**	**-2.9**
	2µm,0.7s,42µm106µm106µm						
BKB	**Balikpapan**	**12.83**	**296**	P	**Pn**	**01 27 19.1**	**+2.5**
	1µm,1.0s,55µm293µm293µm						
BKB	**Balikpapan**	**12.83**	**296**		**Pn**	**01 27 20.2**	**+3.5**
SMKI	**Samarinda**	**12.95**	**300**	P	**Pn**	**01 27 19.6**	**+1.4**
	564nm,1.7s,49µm240µm240µm						
JAY	**Jayapura**	**13.04**	**70**	Pn	**Pn**	**01 27 19.1**	**-0.4**
	1.5nm,0.3s,baz=249,slow=7.9,SNR=32						
JAY	**Jayapura**	**13.04**	**70**	P	**Pn**	**01 27 17.1**	**-2.4**
	232nm,0.9s,12µm						
SRBI	**Singaraja**	**13.13**	**265**	P	**Pn**	**01 27 20.2**	**-0.5**
	1µm,2.6s,53µm57µm57µm						
DNP	**Denpasar**	**13.18**	**262**	P	**Pn**	**01 27 24.8**	**+3.4**
	1µm,1.2s,61µm77µm77µm						
IGBI	**Denpasar**	**13.26**	**261**	P	**Pn**	**01 27 21.1**	**-1.4**
	445nm,1.6s,17µm26µm26µm						
DDMP	**Don Marcelino,**	**13.32**	**348**	P	**Pn**	**01 27 20.1**	**-3.3**
GSPH	**General Santos**	**13.48**	**345**	⇑P	**Pn**	**01 27 28.5**	**+3.0**
WB0	**Warramunga Arr**	**13.93**	**156**		**Pn**	**01 27 27.3**	**-4.3**
WRAB	**Tennant Creek**	**14.06**	**156**	P	**Pn**	**01 27 29.0**	**-4.4**
WRAB	**Tennant Creek**	**14.06**	**156**		**Pn**	**01 27 29.0**	**-4.4**
WRA	**Warramunga Arr**	**14.07**	**156**	P	Pn	01 27 28.0	-5.5
WRA	**Warramunga Arr**	**14.07**	**156**	Pn	**Pn**	**01 27 28.9**	**-4.6**
	0.6nm,0.3s,baz=334,slow=13,SNR=79						
WRA				Sn	**Sn**	**01 30 02.3**	**-6.5**
	105nm,0.3s,baz=335,slow=22,SNR=22						
WRA				LR	LR	01 33 13.2	
	comp=Z,483µm,20.4s,baz=335,slow=38						
WRA	**Warramunga Arr**	**14.07**	**156**		Pn	01 27 27.9	-5.5
WB2	**Warramunga Arr**	**14.07**	**156**		**Pn**	**01 27 28.9**	**-4.6**
WR0	**Warramunga Arr**	**14.16**	**156**		Pn	01 27 29.7	-5.1
JAGI	**Jajag, Banyuwa**	**14.21**	**263**	P	**Pn**	**01 27 32.9**	**-2.5**
	1000nm,2.2s,25µm25µm42µm42µm						
JAGI	**Jajag, Banyuwa**	**14.21**	**263**		**Pn**	**01 27 34.8**	**-0.6**
DAV	**Davao City (W)**	**14.29**	**349**	P	**Pn**	**01 27 36.9**	**+0.4**
	SNR=46						
DAV	**Davao City (W)**	**14.29**	**349**	Pn	**Pn**	**01 27 36.2**	**-0.3**
	32nm,0.3s,baz=122,slow=1.9,SNR=31						
DAV	**Davao City (W)**	**14.29**	**349**	⇓*i*P	**Pn**	**01 27 32.3**	**-4.3**
DAV	**Davao City (W)**	**14.29**	**349**		**Pn**	**01 27 36.8**	**+0.3**
KCP	**Kidapawan**	**14.33**	**347**	⇓P	**Pn**	**01 27 35.8**	**-1.4**
KMMI	**Kalianget**	**14.34**	**269**	P	**Pn**	**01 27 39.6**	**+2.4**
	1µm,2.2s,63µm63µm						
CTBH	**Cotabato--PC H**	**14.75**	**344**	⇓P	**Pn**	**01 27 41.8**	**-1.0**
GMJI	**Gumukmas**	**14.89**	**264**	P	**Pn**	**01 27 43.4**	**-1.3**
	719nm,1.5s,23µm23µm44µm44µm						
PALU	**Palau**	**15.50**	**23**	P	**P**	**01 27 54.9**	**-2.1**
	baz=16,SNR=24						
PAGZ	**Pagadian**	**15.61**	**341**	P	**Pn**	**01 27 53.5**	**-0.7**
GRJI	**Gresik**	**15.82**	**269**	P	**Pn**	**01 27 57.8**	**+0.9**
	643nm,0.8s,12µm12µm4µm4µm						
CGP	**Cagayan de Oro**	**15.82**	**346**	⇓P	**Pn**	**01 27 56.0**	**-0.9**
DCPH	**Dipolog City**	**16.31**	**342**	⇓P	**P**	**01 28 10.8**	**+4.9**
MBWA	**Marble Bar**	**16.37**	**210**		**Pn**	**01 28 01.1**	**-2.8**
TBJI	**Tambak Boyo**	**16.45**	**270**	P	**Pn**	**01 28 05.8**	**+0.9**
PWJI	**Pagerwojo**	**16.50**	**266**	P	**Pn**	**01 28 03.6**	**-2.0**
	474nm,0.9s,16µm16µm49µm49µm						
PSA00	**Pilbara Seismi**	**16.66**	**209**	Pn	**Pn**	**01 28 06.0**	**-1.6**
SPMM	**Sapulut**	**16.68**	**314**	P	**P**	**01 28 10.0**	**-0.1**
NGJI	**Ngawi**	**16.82**	**268**	P	**Pn**	**01 28 10.2**	**+0.5**
	1µm,1.2s,67µm67µm133µm133µm						
SNPH	**Sibulan**	**17.06**	**342**	P	**P**	**01 28 14.3**	**-0.1**
PBKI	**Pangkalan Bun**	**17.23**	**284**	P	**P**	**01 28 16.2**	**+0.1**
	2µm,0.9s,44µm44µm117µm117µm						
AS31	**Alice Springs**	**17.36**	**163**		**Pn**	**01 28 14.2**	**-2.2**
ASAR	**Alice Springs**	**17.36**	**163**	P	**Pn**	**01 28 14.6**	**-1.8**
ASAR	**Alice Springs**	**17.36**	**163**	P	**Pn**	**01 28 13.2**	**-3.2**
	15nm,0.3s,baz=345,slow=9.2,SNR=216						
ASAR				S	**Sn**	**01 31 24.2**	**-4.8**
	33nm,0.3s,baz=319,slow=20,SNR=9.0						
ASAR				LR	LR	01 35 13.3	
	comp=Z,277µm,19.2s,baz=335,slow=38						
ASAR				P3KPbc		02 03 16.0	
	baz=145,slow=3.4,SNR=6.9						
ASAR	**Alice Springs**	**17.36**	**163**		**Pn**	**01 28 14.6**	**-1.8**
UGM	**Wanagama**	**17.76**	**266**	P	**Pn**	**01 28 19.3**	**-2.1**
	1µm,1.4s,41µm68µm						
UGM	**Wanagama**	**17.76**	**266**		**Pn**	**01 28 20.3**	**-1.1**
UGM				IAmb	IAmb	01 28 38.3	
	comp=Z,4µm,1.7s						
KKM	**Kota Kinabalu**	**17.80**	**317**	P	**P**	**01 28 23.5**	**+1.0**
SMRI	**Semarang**	**17.84**	**269**	P	**Pn**	**01 28 22.1**	**-0.3**
	comp=Z,972nm,1.4s,comp=Z,42µmcomp=Z,42µmcomp=Z,102µm comp=Z,102µm						
SMRI	**Semarang**	**17.84**	**269**	P	**P**	**01 28 23.2**	**+0.3**
YOGI	**Yogyakarta**	**17.99**	**266**	P	**Pn**	**01 28 23.0**	**-1.2**
	comp=Z,913nm,1.3s,comp=Z,22µmcomp=Z,29µm						
STKI	**Sintang**	**18.31**	**292**	P	**P**	**01 28 29.6**	**+1.6**
	comp=Z,709nm,0.9s,comp=Z,46µmcomp=Z,119µm						
GUIM	**Jordan**	**18.47**	**342**	P	**Pn**	**01 28 30.1**	**+0.1**
PMG	**Port Moresby**	**18.70**	**99**	*c i*P	**P**	**01 28 30.3**	**-2.1**
PMG				pmax	pmax		
	comp=Z,1µm,1.2s						
PMG	**Port Moresby**	**18.70**	**99**	P	**Pn**	**01 28 32.9**	**+0.1**
	comp=Z,4.0nm,0.3s,baz=295,slow=8.3,SNR=63						
PMG				S	**Sn**	**01 31 56.7**	**-4.8**
	comp=Z,1.0nm,0.3s,baz=176,slow=23,SNR=2.6						
PMG				LR	LR	01 37 05.7	
	comp=Z,79µm,18.1s,baz=254,slow=41						
PMG	**Port Moresby**	**18.70**	**99**	P	**Pn**	**01 28 32.5**	**-0.4**
PMG				IAmb	IAmb	01 28 52.4	
	comp=Z,2µm,1.1s						
SBUM	**Sibu**	**18.71**	**300**	P	**Pn**	**01 28 35.0**	**+2.1**
SBUM	**Sibu**	**18.71**	**300**	P	**Pn**	**01 28 33.6**	**+0.7**
BESP	**Borongan**	**18.74**	**351**	P	**Pn**	**01 28 35.2**	**+1.9**
JAP	**San Jose, Anti**	**18.80**	**340**	⇓P	**P**	**01 28 32.8**	**-0.6**
BATP	**Bataraza**	**18.95**	**326**	P	**Pn**	**01 28 36.2**	**+0.3**
MTSU	**Mount Surprise**	**19.02**	**127**	P	**P**	**01 28 35.7**	**-0.3**
	baz=19,SNR=244						
RCP	**Roxas**	**19.31**	**343**	⇑P	**Pn**	**01 28 41.9**	**+1.7**
KPJI	**Karang Pucung**	**19.33**	**268**	P	**P**	**01 28 38.3**	**-1.0**
	comp=Z,1µm,1.9s,comp=Z,37µmcomp=Z,37µmcomp=Z,76µm comp=Z,76µm						
MANU	**Manus Island**	**19.52**	**76**	P	**Pn**	**01 28 42.9**	**+0.1**
KSM	**Kuching**	**19.95**	**294**	P	**Pn**	**01 28 47.0**	**-0.8**
KSM	**Kuching**	**19.95**	**294**	P	**Pn**	**01 28 46.9**	**-0.8**
KSM				IAmb	IAmb	01 28 56.3	
	comp=Z,2µm,1.0s						
ENPP	**El Nido**	**20.20**	**334**	P	Pn	01 28 50.9	+0.1
CISI	**Cisompet, Garu**	**20.44**	**267**	P	**P**	**01 28 48.5**	**-3.0**
	comp=Z,1µm,0.7s,comp=Z,30µmcomp=Z,30µmcomp=Z,40µm comp=Z,40µm						
CISI	**Cisompet, Garu**	**20.44**	**267**	P	**P**	**01 28 51.7**	**+0.2**
CISI				IAmb	IAmb	01 28 58.5	
	comp=Z,859nm,0.7s						
LEM	**Lembang**	**20.65**	**269**	P	**P**	**01 28 54.3**	**+0.5**
	comp=Z,142nm,0.7s,baz=60,slow=6.8,SNR=27						
LEM	**Lembang**	**20.65**	**269**	P	**P**	**01 28 52.2**	**-1.6**
	comp=Z,397nm,1.3s,comp=Z,30µmcomp=Z,30µmcomp=Z,40µm comp=Z,40µm						
SJMP	**San Jose**	**20.68**	**339**	P	Pn	01 28 56.2	-0.1
GIRL	**Giralia**	**20.68**	**220**	P	**P**	**01 28 53.6**	**-0.3**
	baz=21,SNR=70						
GIRL	**Giralia**	**20.68**	**220**	P	**P**	**01 28 54.8**	**+0.9**
PVCP	**Virac**	**20.92**	**348**	P	Pn	01 28 57.9	-1.2
TPI	**Tanjungpandan**	**21.11**	**281**	P	**P**	**01 29 01.1**	**+2.4**
MEEK	**Meekatharra**	**21.62**	**204**	P	**P**	**01 29 04.6**	**+0.6**
	baz=22,SNR=197						
GQP	**Guinayangan**	**21.62**	**344**	⇑P	**P**	**01 29 05.9**	**+1.8**
CTA	**Charters Tower**	**21.63**	**129**	P	**P**	**01 29 05.5**	**+1.3**
	comp=Z,95nm,0.8s,baz=304,slow=12,SNR=59						
CTAO	**Charters Tower**	**21.63**	**129**	IAMs_20	IAMs_20	01 38 00.1	
	comp=Z,106µm,20.0s						
TNG	**Tangerang**	**21.64**	**271**	P	**P**	**01 29 05.4**	**+1.1**
	comp=Z,771nm,0.8s,comp=Z,26µmcomp=Z,26µmcomp=Z,56µm comp=Z,56µm						
SKJI	**Sukabumi**	**21.70**	**269**	P	**P**	**01 29 03.7**	**-1.2**
	comp=Z,1µm,0.7s,comp=Z,30µmcomp=Z,30µmcomp=Z,34µm comp=Z,34µm						
LQP	**Lukban**	**22.08**	**342**	⇑P	**P**	**01 29 10.5**	**+1.2**
SBJI	**Serang**	**22.16**	**271**	P	**P**	**01 29 07.6**	**-2.3**
	comp=Z,540nm,1.3s,comp=Z,20µmcomp=Z,20µm						
TGY	**Tagaytay City**	**22.27**	**341**	P	**P**	**01 29 13.7**	**+2.6**
	comp=Z,802nm,1.0s,baz=312,slow=4.9,SNR=18						
TGY				LR	LR	01 40 52.3	
	comp=Z,20µm,18.2s,baz=144,slow=45						
TGY	**Tagaytay City**	**22.27**	**341**	P	**P**	**01 29 11.3**	**+0.2**
PPBI	**Pangkal Pinang**	**22.72**	**281**	P	**P**	**01 29 16.5**	**+0.6**
	comp=Z,2µm,1.8s,comp=Z,78µmcomp=Z,78µmcomp=Z,94µm comp=Z,94µm						
XMIS	**Christmas Isla**	**22.75**	**260**	P	**P**	**01 29 14.3**	**-2.0**
XMIS				IAmb	IAmb	01 29 24.9	
	comp=Z,803nm,0.8s						
BLSI	**Bandar Lampung**	**23.09**	**273**	P	**P**	**01 29 18.1**	**-1.7**
	comp=Z,268nm,1.4s,comp=Z,12µmcomp=Z,12µmcomp=Z,28µm comp=Z,28µm						
FORT	**Forrest**	**23.63**	**181**	P	**P**	**01 29 24.8**	**0.0**
	baz=24,SNR=186						
FORT	**Forrest**	**23.63**	**181**	P	**P**	**01 29 24.9**	**0.0**
KRVT	**Keravat (AS076**	**23.65**	**85**	P	**P**	**01 29 25.3**	**0.0**
	comp=Z,265nm,1.0s,baz=230,slow=0.9,SNR=21						
KLSI		**23.67**	**274**	P	**P**	**01 29 23.2**	**-2.3**
	comp=Z,269nm,1.2s,comp=Z,15µmcomp=Z,12µmcomp=Z,12µm						
KASI	**Kota Agung**	**23.82**	**272**	P	**P**	**01 29 23.4**	**-3.5**
	comp=Z,578nm,1.2s,comp=Z,11µmcomp=Z,11µmcomp=Z,28µm comp=Z,28µm						
PMBI	**Palembang**	**23.90**	**279**	P	**P**	**01 29 29.0**	**+1.3**
	comp=Z,6µm,2.0s,comp=Z,149µmcomp=Z,149µmcomp=Z,73µm comp=Z,73µm						
PMBI	**Palembang**	**23.90**	**279**	P	**P**	**01 29 29.3**	**+1.6**
MDSI	**Maura Dua**	**24.24**	**275**	P	**P**	**01 29 28.3**	**-2.6**
	comp=Z,259nm,1.9s,comp=Z,13µmcomp=Z,13µmcomp=Z,22µm comp=Z,22µm						
SMPP	**San Manuel, Pa**	**24.27**	**342**	P	**P**	**01 29 30.1**	**-1.0**
LWLI	**Liwa**	**24.30**	**273**	P	**P**	**01 29 28.7**	**-2.9**
	comp=Z,322nm,1.6s,comp=Z,12µm						
QLP	**Quilpie**	**24.59**	**144**	P	**P**	**01 29 34.3**	**+0.4**
	baz=25,SNR=196						
DSRI	**Dabo**	**24.65**	**284**	P	**P**	**01 29 36.4**	**+1.8**
	comp=Z,2µm,1.1s,comp=Z,48µmcomp=Z,48µmcomp=Z,504µm comp=Z,504µm						
MORW	**Morawa**	**24.84**	**207**	P	**P**	**01 29 36.0**	**-0.1**
	baz=25,SNR=146						
MORW	**Morawa**	**24.84**	**207**	P	**P**	**01 29 36.1**	**-0.1**
LHSI	**Lahat**	**24.98**	**276**	P	**P**	**01 29 35.5**	**-2.1**
	comp=Z,1µm,1.9s,comp=Z,32µmcomp=Z,32µmcomp=Z,37µm comp=Z,37µm						

TPRI Tanjung Pinang 25.11 287 P **P** **01 29 38.6 -0.1**
comp=Z,587nm,1.3s,comp=Z,29µmcomp=Z,73µm
MNAI Manna 25.47 275 P P 01 29 34.0 -8.0
ABRA Dolores 25.67 343 P **P** **01 29 46.0 +2.2**
BLDU Ballidu 25.91 204 P **P** **01 29 46.3 +0.5**
baz=26,SNR=92
MYKOM **Kota Tinggi 26.03 289** P **P** **01 29 48.0 +0.9**
MYKOM **Kota Tinggi 26.03 289** P **P** **01 29 47.6 +0.4**
MYKOM IAMs_20 IAMs_20 01 40 57.6
comp=Z,85µm,19.0s
GUMO Guam 26.20 39 P **P** **01 29 49.5 +0.9**
GUMO pmax pmax
comp=Z,1µm,1.2s
GUMO Guam 26.20 39 P **P** **01 29 49.3 +0.7**
comp=Z,881nm,1.1s,baz=198,slow=8.9,SNR=10
GUMO Guam 26.20 39 P **P** **01 29 49.5 +0.9**
KLBR Kellerberrin 26.39 201 P **P** **01 29 50.8 +0.6**
baz=26,SNR=34
BBOO Buckleboo 26.62 166 P **P** **01 29 52.2 0.0**
baz=27,SNR=204
BBOO Buckleboo 26.62 166 P **P** **01 29 52.6 +0.4**
BBOO IAmb IAmb 01 30 35.1
comp=Z,578nm,0.9s
KRJI Kerinci 27.30 279 P **P** **01 29 58.6 -0.1**
comp=Z,2µm,1.1s,comp=Z,51µmcomp=Z,51µmcomp=Z,35µm
comp=Z,35µm
MUN Mundaring 27.31 203 P **P** **01 29 58.6 +0.2**
baz=27,SNR=17
RMQ Roma 27.37 137 P **P** **01 30 00.2 +1.1**
baz=27,SNR=26
SDSI Sungai Dareh 27.58 281 P **P** **01 30 00.6 -0.5**
comp=Z,1µm,2.0s,comp=Z,38µmcomp=Z,38µm
STKA Stephens Creek 27.61 155 P **P** **01 30 00.8 -0.4**
baz=28,SNR=266
STKA Stephens Creek 27.61 155 P **P** **01 30 00.8 -0.4**
STKA pmax pmax
comp=Z,322nm,1.6s
STKA MLR MLR
comp=Z,50µm,19.0s
STKA Stephens Creek 27.61 155 P **P** **01 30 00.9 -0.3**
comp=Z,266nm,0.9s,baz=330,slow=8.9,SNR=140
STKA LR LR 01 41 39.9
comp=Z,239µm,19.6s,baz=324,slow=38
STKA Stephens Creek 27.61 155 P **P** **01 30 00.8 -0.3**
NWAO Narrogin (SRO) 27.79 200 P **P** **01 30 03.5 +0.9**
baz=28,SNR=58
NWAO Narrogin (SRO) 27.79 200 P **P** **01 30 04.0 +1.3**
SNR=25
NWAO P **P** **01 30 04.0 +1.3**
SNR=25
NWAO Narrogin (SRO) 27.79 200 P **P** **01 30 02.7 0.0**
NWAO pmax pmax
comp=Z,846nm,1.5s
NWAO MLR MLR
comp=Z,98µm,19.0s
NWAO Narrogin (SRO) 27.79 200 P **P** **01 30 03.6 +0.9**
comp=Z,339nm,0.9s,baz=29,slow=8.4,SNR=52
NWAO Narrogin (SRO) 27.79 200 P **P** **01 30 02.6 -0.1**
NWAO IAmb IAmb 01 30 06.8
comp=Z,968nm,1.4s
NWAO Narrogin (SRO) 27.79 200 P **P** **01 30 02.7 0.0**
NWAO IAmb IAmb 01 30 06.8
comp=Z,846nm,1.4s
NWAO IAMs_20 IAMs_20 01 42 35.4
comp=Z,98µm,19.0s
HTT Hallett 28.02 161 P **P** **01 30 05.3 +0.5**
baz=28,SNR=154
JRMM Jerantut 28.07 292 P **P** **01 30 08.0 +2.6**
BKNI Bangkinang 28.27 284 P **P** **01 30 07.3 +0.1**
comp=Z,2µm,1.0s,comp=Z,26µmcomp=Z,26µmcomp=Z,30µm
comp=Z,30µm
BKNI Bangkinang 28.27 284 P **P** **01 30 07.4 +0.2**
BKNI IAMs_20 IAMs_20 01 42 02.7
comp=Z,73µm,22.0s
EIDS Eidsvold 28.31 133 P **P** **01 30 07.6 +0.2**
baz=28,SNR=12
EIDS Eidsvold 28.31 133 P **P** **01 30 07.6 +0.2**
EIDS IAmb IAmb 01 30 45.0
comp=Z,658nm,1.9s
PDSI Padang 28.53 281 P **P** **01 30 08.2 -1.4**
comp=Z,285nm,1.2s,comp=Z,7µmcomp=Z,7µmcomp=Z,22µm
comp=Z,22µm
PPSI Pulau Pagai 28.61 277 P **P** **01 30 10.2 -0.1**
comp=Z,748nm,1.9s,comp=Z,15µmcomp=Z,15µm
CMSA Cobar Meteorol 29.24 149 P **P** **01 30 15.6 -0.1**
baz=29,SNR=314
RKGY Rocky Gully 29.41 199 P **P** **01 30 19.5 +2.4**
baz=30,SNR=24
IPM Ipoh 29.63 292 P **P** **01 30 20.0 +0.6**
IPM Ipoh 29.63 292 IAmb IAmb 01 30 25.8
comp=Z,502nm,1.2s
SISI Saibi 29.78 280 P **P** **01 30 18.6 -2.0**
comp=Z,242nm,2.1s,comp=Z,8µmcomp=Z,8µm
KULM Kulim 30.29 293 P **P** **01 30 27.0 +1.8**
TPUB Ta-pu 31.09 346 P **P** **01 30 31.7 -0.4**
SKLT Songkhla 31.11 296 P **P** **01 30 36.4 +4.0**
HNR Honiara 31.29 97 P **P** **01 30 33.7 -0.3**
comp=Z,653nm,0.9s,baz=211,slow=4.7,SNR=30
HNR Honiara 31.29 97 *e*P **P** **01 30 33.0 -1.0**
HNR Honiara 31.29 97 P **P** **01 30 32.5 -1.6**
QIZ Qiongzhong 31.71 325 P **P** **01 30 36.6 -1.0**
QIZ sP **pP** **01 30 43.7 -0.8**
QIZ S **S** **01 35 46.5 +0.6**
QIZ sS **sS** **01 35 55.3 -1.5**
QIZ pmax pmax
comp=Z,7µm,10.4s
QIZ LR LR
comp=Z,26µm,15.7s
QIZ LR LR
comp=Z,15µm,14.7s
QIZ LR LR
comp=Z,40µm,36.3s
NACB Ninganchiao 31.72 348 P **P** **01 30 37.0 -0.6**
YOJ Yonaguni jima 31.74 351 P **P** **01 30 36.0 -1.8**
YOJ pmax pmax
comp=Z,285nm,1.2s
YOJ Yonaguni jima 31.74 351 P **P** **01 30 36.0 -1.8**
UBPT Khong Chiam 31.75 314 P **P** **01 30 39.1 +1.1**
GSI Gunungsitoli 31.87 284 P **P** **01 30 38.3 -0.8**
comp=Z,1µm,1.3s,comp=Z,31µmcomp=Z,31µmcomp=Z,30µm
comp=Z,30µm
GSI Gunungsitoli 31.87 284 P **P** **01 30 38.5 -0.6**
ARMA Armidale 31.87 140 P **P** **01 30 40.8 +1.7**
baz=32,SNR=14
ARMA Armidale 31.87 140 P **P** **01 30 39.9 +0.8**
ARPS Mount Arapiles 32.04 159 P **P** **01 30 41.0 +0.7**
baz=32,SNR=87
TRTT Trang 32.23 297 P **P** **01 30 43.2 +1.0**
YHNB Yeheng 32.24 348 P **P** **01 30 41.8 -0.5**
YHNB IAmb IAmb 01 30 48.9
comp=Z,573nm,1.8s
HKPS Hong Kong Po S 32.31 335 IAMs_20 IAMs_20 01 41 15.0
comp=Z,47µm,18.0s
HKC Hong Kong Obse 32.32 335 ⇑P **P** **01 30 44.0 +1.1**
KNMB Chin-men Tao 32.79 343 P **P** **01 30 47.3 +0.3**
KNMB IAmb IAmb 01 30 59.1
comp=Z,358nm,1.3s
TPTI 32.81 287 P **P** **01 30 48.9 +1.6**
comp=Z,238nm,2.0s,comp=Z,6µm
YNG Young 32.81 149 P **P** **01 30 47.9 +0.8**
baz=33,SNR=83
PATS Pohnpei 32.85 66 P **P** **01 30 49.9 +2.2**
baz=33,SNR=7.5
PATS Pohnpei 32.85 66 P **P** **01 30 48.8 +1.1**
PATS IAmb IAmb 01 31 35.9
comp=Z,444nm,1.4s
QZH Quanzhou 33.19 344 ⇓*i*P **P** **01 30 49.3 -1.1**
QZH PP **PP** **01 32 06.4 +0.5**
QZH S **S** **01 36 07.2 -1.6**
QZH pmax pmax
comp=Z,160nm,1.5s
QZH pmax pmax
comp=Z,4µm,4.9s
QZH LR LR
comp=Z,22µm,16.6s
QZH LR LR
comp=Z,14µm,14.5s
QZH LR LR
comp=Z,9µm,9.7s
GZH Guangzhou 33.36 334 P **P** **01 30 54.0 +2.0**
GZH PcP **PcP** **01 33 32.0 -1.6**
GZH S **S** **01 36 16.9 +5.4**
GZH pmax pmax
comp=Z,11µm,12.4s
GZH LR LR
comp=Z,21µm,20.3s
GZH LR LR
comp=Z,22µm,18.9s
SNSI Sinabang, Aceh 33.37 285 P **P** **01 30 52.2 -0.1**
comp=Z,1µm,1.3s,comp=Z,35µmcomp=Z,35µm
PKDT Phuket 33.46 296 P **P** **01 30 54.9 +1.9**
SURT Suratani 33.52 298 P **P** **01 30 56.2 +2.7**
JOW Kunigami 33.66 360 P **P** **01 30 55.6 +1.1**
comp=Z,10nm,0.9s,baz=170,slow=13,SNR=21
JOW Kunigami 33.66 360 P **P** **01 30 54.6 0.0**
LHMI Lhok Sumawe 33.68 290 P **P** **01 30 55.1 +0.1**
comp=Z,1µm,1.0s,comp=Z,31µmcomp=Z,31µmcomp=Z,30µm
comp=Z,30µm
PATY Pattaya 33.80 306 P **P** **01 30 56.8 +0.9**
MLSI Meulaboh, Aceh 33.86 288 P **P** **01 30 54.7 -1.9**
comp=Z,1µm,0.7s,comp=Z,22µmcomp=Z,22µmcomp=Z,30µm
comp=Z,30µm
CAN Canberra 33.92 149 P **P** **01 30 58.1 +1.3**
CAN pmax pmax
comp=Z,239nm,0.8s
CAN MLR MLR
comp=Z,261µm,21.0s
CAN Canberra 33.92 149 P **P** **01 30 58.1 +1.3**
CAN IAmb IAmb 01 31 01.7
comp=Z,239nm,0.8s
SKNT Sakolnakorn 33.95 315 P **P** **01 30 58.1 +0.9**
CNB Canberra Magne 34.10 149 P **P** **01 30 60.0 +1.5**
baz=34,SNR=36
TOO Toolangi 34.13 155 P **P** **01 31 00.7 +2.0**
baz=34,SNR=64
TOO Toolangi 34.13 155 P **P** **01 30 59.8 +1.1**
TOO pmax pmax
comp=Z,586nm,1.3s
TOO MLR MLR
comp=Z,230µm,19.0s
TOO Toolangi 34.13 155 P **P** **01 30 59.8 +1.1**
TOO IAmb IAmb 01 31 04.9
comp=Z,586nm,1.2s
CHAI Chaiyaphum 34.70 311 P **P** **01 31 04.8 +1.1**
PHET Kaeng Krachan 34.79 305 P **P** **01 31 05.5 +1.0**
NONG Nongkai 35.27 315 P **P** **01 31 09.4 +0.8**
MILA Mila 35.36 151 P **P** **01 31 11.7 +2.4**
baz=36,SNR=12
UTHA Uthaitani 36.43 308 P **P** **01 31 19.4 +0.8**
comp=Z,234µm,0.9s
JCJ Chichijima 36.45 21 P **P** **01 31 19.5 +0.8**
comp=Z,366nm,0.9s,baz=118,slow=4.4,SNR=9.9
UTTA Uttaradit 36.92 312 P **P** **01 31 24.2 +1.5**
SLVN Son La 37.06 320 P **P** **01 31 24.2 +0.2**
UMPA Umpang Tak 37.27 308 P **P** **01 31 26.3 +0.5**
PHRA Phrae 37.64 313 P **P** **01 30 30.6 +1.8**
LAMP Lampang 38.09 312 P **P** **01 31 35.3 +2.6**
PAYA Payao 38.45 313 P **P** **01 31 37.1 +1.4**
comp=Z,245µm,1.4s
SSE Sheshan 38.53 350 P **P** **01 31 37.5 +1.3**
SSE PP **PnPn** **01 33 12.6 +5.8**
SSE S **S** **01 37 30.9 +0.4**
SSE pmax pmax
comp=Z,28nm,0.8s
SSE pmax pmax
comp=Z,5µm,10.4s
SSE LR LR
comp=Z,6µm,18.8s
CM31 Chiang Mai Arr 38.56 311 P **P** **01 31 38.8 +2.1**
SNR=72
CM31 Chiang Mai Arr 38.56 311 P **P** **01 31 36.4 -0.2**
CMAR Chiang Mai Arr 38.56 311 *i*P **P** **01 31 37.7 +1.1**
CMAR pmax pmax
comp=Z,25nm,0.7s
CMAR Chiang Mai Arr 38.56 311 P **P** **01 31 37.8 +1.1**
comp=Z,38nm,1.0s,baz=145,slow=7.5,SNR=112
CMAR PcP **PcP** **01 33 50.6 +1.4**
comp=Z,20nm,0.8s,baz=171,slow=2.7,SNR=4.8
CMAR LR LR 01 48 23.9
comp=Z,35µm,21.1s,baz=141,slow=38
CMAR PKPPKP 02 04 04.8
comp=Z,0.6nm,0.3s,baz=274,slow=2.4,SNR=3.8
CMAR Chiang Mai Arr 38.56 311 P **P** **01 31 36.0 -0.6**
CMMT Chiang Mai 38.77 312 P **P** **01 31 39.3 +0.8**
CHTO Chiang Mai 38.78 312 P **P** **01 31 40.0 +1.5**
SNR=109
CHTO P **P** **01 31 40.0 +1.5**
SNR=109
CHTO Chiang Mai 38.78 312 P **P** **01 31 38.1 -0.4**
CHTO pmax pmax
comp=Z,925nm,1.8s
CHTO Chiang Mai 38.78 312 P **P** **01 31 38.1 -0.4**
CHTO IAmb IAmb 01 31 47.6
comp=Z,925nm,1.8s
MOO Moorlands 38.98 158 P **P** **01 31 42.8 +3.0**
baz=39,SNR=9.8
MHMT Maesarieng 39.15 310 P **P** **01 31 43.8 +2.2**
GYA Guiyang 39.41 328 *i*P **P** **01 31 44.6 +0.8**
GYA pP pP 01 31 49.8 -1.1
GYA PP **PnPn** **01 33 17.5 0.0**
GYA PcP **PcP** **01 33 53.6 +1.8**
GYA S **S** **01 37 40.1 -4.1**
GYA pmax pmax
comp=Z,160nm,1.0s
GYA pmax pmax
comp=Z,9µm,10.9s
GYA LR LR
comp=Z,32µm,18.8s
GYA LR LR
comp=Z,26µm,16.7s
GYA LR LR
comp=Z,31µm,19.0s
TAU Tasmania Unive 39.43 158 P **P** **01 31 44.7 +1.1**
TAU pmax pmax
comp=Z,341nm,1.3s
TAU MLR MLR
comp=Z,110µm,20.0s
TAU Tasmania Unive 39.43 158 P **P** **01 31 44.7 +1.1**
DZM Mont Dzumac 39.59 116 *e*P **P** **01 31 46.4 +1.0**
comp=Z,512nm,1.4s
DZM *e*S **S** **01 37 44.6 -2.4**
comp=Z,40µm,31.1s
DZM *e*LQ LQ 01 40 41.3
comp=Z,67µm,24.8s
DZM *e*LR LR 01 42 20.2
comp=Z,67µm,38.6s
DZM Mont Dzumac 39.59 116 P **P** **01 31 45.6 +0.2**
DZM IAmb IAmb 01 31 53.8
comp=Z,1µm,1.8s
WHN Wuhan 39.72 341 ⇑*i*P **P** **01 31 47.3 +1.2**
WHN PP **PnPn** **01 33 24.4 +3.4**
WHN S **S** **01 37 45.3 -3.1**
WHN pmax pmax
comp=Z,9µm,5.2s
WHN LR LR
comp=Z,50µm,16.1s
WHN LR LR
comp=Z,50µm,15.9s
NJ2 Nanjing 39.92 347 *e*P **P** **01 31 48.6 +0.8**
NJ2 sP **pP** **01 31 54.2 -0.2**
NJ2 PP **PnPn** **01 33 24.2 +0.9**
NJ2 S **S** **01 37 47.3 -4.0**
NJ2 pmax pmax
comp=Z,28nm,0.7s
NJ2 pmax pmax
comp=Z,12µm,10.7s
NJ2 LR LR
comp=Z,19µm,22.6s
NJ2 LR LR
comp=Z,12µm,22.7s
NJ2 LR LR
comp=Z,45µm,22.5s
JNU Nakatsue 40.00 3 P **P** **01 31 49.0 +0.5**
comp=Z,72nm,0.9s,baz=220,slow=2.9,SNR=18
JNU Nakatsue 40.00 3 P **P** **01 31 48.7 +0.2**
JNU IAmb IAmb 01 31 57.2
comp=Z,871nm,1.5s
JNU IAMs_20 IAMs_20 01 48 35.1
comp=Z,34µm,19.0s
DGPR DIGLIPUR 40.56 300 *e*P **P** **01 31 51.3 -2.1**
KMI Kunming 40.57 323 P **P** **01 31 55.1 +1.5**
KMI pP pP 01 32 00.1 -0.5
KMI PP **PnPn** **01 33 32.0 +0.6**
KMI PcP **PcP** **01 33 57.9 +2.2**
KMI S **S** **01 38 03.2 +1.4**
KMI pmax pmax
comp=Z,190nm,2.0s
KMI pmax pmax
comp=Z,11µm,10.8s
KMI LR LR
comp=Z,14µm,14.4s
KMI LR LR
comp=Z,20µm,19.6s
KMI LR LR
comp=Z,44µm,30.7s
ENH Enshi 41.30 335 P **P** **01 31 59.5 +0.2**
JHJ2 Mitsune 41.36 15 IAMs_20 IAMs_20 01 46 27.6
comp=Z,32µm,20.0s
INU Inuyama 42.92 10 P **P** **01 32 12.9 +0.5**
INU IAMs_20 IAMs_20 01 47 23.8
comp=Z,36µm,21.0s
TJN Taejon 43.19 359 *ce*P **P** **01 32 15.8 +1.3**
KSAR Wonju Array Be 44.24 359 P **P** **01 32 23.3 +0.3**
KSAR Wonju Array Be 44.24 359 P **P** **01 32 23.3 +0.3**
KSRS Korea Array 44.25 359 P **P** **01 32 23.9 +0.9**
comp=Z,39nm,0.7s,baz=177,slow=9.2,SNR=89
KSRS LR LR 01 48 56.4
comp=Z,27µm,21.7s,baz=172,slow=34
TIA Tai'an 44.30 347 P **P** **01 32 23.4 -0.1**
TIA S **S** **01 38 55.0 -1.0**
TIA pmax pmax
comp=Z,9µm,10.8s
TIA LR LR
comp=Z,16µm,32.8s
TIA LR LR
comp=Z,11µm,20.6s
TIA LR LR
comp=Z,40µm,27.6s
KS19 Wonju Array Si 44.30 359 P **P** **01 32 23.6 +0.1**
MJAR Matsushiro Arr 44.30 11 P **P** **01 32 23.1 -0.4**
comp=Z,114nm,0.9s,baz=188,slow=9.4,SNR=90
MJAR LR LR 01 49 11.5
comp=Z,29µm,21.9s,baz=200,slow=34
MJAR Matsushiro Arr 44.30 11 P **P** **01 32 22.4 -1.2**
MAJO Matsushiro 44.30 11 *c i*P **P** **01 32 23.3 -0.2**
MAJO pmax pmax
comp=Z,149nm,1.0s
MAJO Matsushiro 44.30 11 P **P** **01 32 22.9 -0.7**
MAJO IAmb IAmb 01 32 31.2
comp=Z,666nm,1.6s
MAJO Matsushiro 44.30 11 IAMs_20 IAMs_20 01 48 49.4
comp=Z,33µm,21.0s
MAT Matsushiro 44.30 11 P **P** **01 32 22.1 -1.4**
MAT S **S** **01 38 57.2 +1.1**
MJB9 Matsu-Tunnel 44.31 11 IAmb IAmb 01 32 31.2
comp=Z,705nm,1.6s
MJB9 IAMs_20 IAMs_20 01 48 49.3
comp=Z,36µm,22.0s
INCN Inchon 44.31 358 P **P** **01 32 24.3 +0.7**
INCN pmax pmax
comp=Z,369nm,1.2s
INCN Inchon 44.31 358 P **P** **01 32 24.2 +0.7**
INCN IAmb IAmb 01 32 36.9
comp=Z,369nm,1.1s
INCN Inchon 44.31 358 IAMs_20 IAMs_20 01 49 07.0
comp=Z,34µm,21.0s
CD2 Chengdu 44.51 329 ⇓*i*P **P** **01 32 25.5 +0.2**
CD2 sP pP 01 32 30.5 -1.9
CD2 PP **PP** **01 34 13.1 +3.6**
CD2 S **S** **01 38 58.3 -1.0**
CD2 pmax pmax
comp=Z,70nm,1.0s
CD2 pmax pmax
comp=Z,22µm,9.5s
CD2 LR LR
comp=Z,71µm,20.2s
CD2 LR LR
comp=Z,77µm,23.5s
CD2 LR LR
comp=Z,70µm,21.0s
XAN Xi'an 44.83 337 P **P** **01 32 26.9 -0.9**
XAN PcP **PP** **01 34 11.2 -1.7**
XAN ScS ScS 01 42 17.2 -6.7
XAN pmax pmax
comp=Z,24nm,1.0s
XAN pmax pmax
comp=Z,9µm,13.2s
XAN LR LR
comp=Z,16µm,15.7s
XAN LR LR
comp=Z,14µm,17.7s
XAN LR LR
comp=Z,22µm,19.6s
XAN Xi'an 44.83 337 IAmb IAmb 01 32 37.0
comp=Z,702nm,1.9s
TARA Tarawa 45.19 81 P **P** **01 32 32.4 +1.4**
TARA IAmb IAmb 01 32 35.7
comp=Z,380nm,1.2s
TARA Tarawa 45.19 81 IAMs_20 IAMs_20 01 50 58.2
comp=Z,31µm,22.0s
SAIH SAIHA 45.43 311 *e*P **P** **01 32 31.7 -1.1**
WAKE Wake Island 45.85 55 P **P** **01 32 37.7 +1.7**
WAKE IAmb IAmb 01 32 46.6
comp=Z,411nm,1.1s
DL2 Dalian 46.13 353 P **P** **01 32 37.6 -0.4**
DL2 PP **PP** **01 34 27.0 +0.4**
DL2 S **S** **01 39 23.6 +1.2**
DL2 SS **ScS** **01 42 40.1 +8.2**
DL2 pmax pmax
comp=Z,150nm,1.4s
DL2 pmax pmax
comp=Z,10µm,11.0s
DL2 LR LR
comp=Z,13µm,21.5s
DL2 LR LR
comp=Z,17µm,16.8s
DL2 LR LR
comp=Z,33µm,32.1s
AZL Aizawl 46.39 312 *e*P **P** **01 32 40.0 -0.4**
LKP Lekhapani 46.48 319 *e*P **P** **01 32 40.5 -0.4**
KOHI KOHIMA 46.60 316 *e*P **P** **01 32 41.2 -0.8**
ZIRO ZIRO 47.93 317 *e*S **S** **01 39 47.5 -1.4**
SHL Shillong 48.07 314 P **P** **01 32 53.8 +0.2**
SNR=107
SHL Shillong 48.07 314 P **P** **01 32 53.5 -0.1**
SHL pmax pmax
comp=Z,240nm,1.0s
SHL Shillong 48.07 314 *e*P **P** **01 32 52.7 -0.9**
SHL *e*S **S** **01 39 49.2 -1.7**
SHL Shillong 48.07 314 P **P** **01 32 53.5 -0.1**
SHL IAmb IAmb 01 33 14.1
comp=Z,240nm,1.0s
BJI Beijing 48.18 347 P **P** **01 32 53.8 -0.1**
BJI S **S** **01 39 49.8 -1.7**
BJI pmax pmax
comp=Z,44nm,1.5s
BJI pmax pmax
comp=Z,9µm,11.3s
BJI LR LR
comp=Z,14µm,29.8s
BJI LR LR
comp=Z,9µm,16.7s
BJI LR LR
comp=Z,32µm,32.9s
LZH Lanzhou 48.71 333 ⇑P **P** **01 32 58.8 +0.5**
LZH pP pP 01 33 03.9 -1.5
LZH sP sP 01 33 06.1 -2.1
LZH S S 01 39 50.0 -10
LZH SS **SS** **01 43 27.9 -2.4**
LZH pmax pmax
comp=Z,130nm,1.2s
LZH pmax pmax
comp=Z,2µm,6.5s
LZH LR LR
comp=Z,24µm,18.4s
LZH LR LR
comp=Z,19µm,16.3s
LZH LR LR
comp=Z,26µm,18.9s
SNY Shenyang 48.82 355 ⇑P **P** **01 32 59.3 +0.5**
SNY pmax pmax
comp=Z,15µm,10.8s
SNY LR LR
comp=Z,17µm,21.0s
SNY LR LR
comp=Z,16µm,14.7s
SNY LR LR
comp=Z,42µm,28.5s
MSHR Mys Shultsa 49.43 3 *c i*P **P** **01 33 03.7 +0.2**
MSVF Nonsavu 49.50 107 *c i*P **P** **01 33 05.2 +0.6**
MSVF pmax pmax
comp=Z,44nm,1.4s
MSVF Nonsavu 49.50 107 P **P** **01 33 06.1 +1.5**
PALK Pallekele 49.66 286 *i* P **P** **01 33 05.0 -0.9**
SNR=27
BWNR Bhubaneshwar 49.92 304 *e*P **P** **01 33 06.7 -0.9**
VLA Vladivostok 50.01 3 *c i*P **P** **01 33 08.5 +0.6**
VLA pmax pmax

comp=Z,386nm,2.1s
OUZ Omahuta 50.01 131 P **P** **01 33 10.1 +2.0**
OUZ IAmb IAmb 01 33 23.8
comp=Z,363nm,1.4s
HHC Hu-ho-hao-te 50.10 343 *e*P **P** **01 33 12.1 +3.3**
HHC PP **PP** **01 35 08.5 +4.3**
HHC S **S** **01 40 17.7 -1.1**
FUNA Funafuti 50.31 95 P **P** **01 33 12.3 +1.6**
FUNA IAmb IAmb 01 33 15.6
comp=Z,519nm,1.1s
BTO Baotou 50.34 342 *e*P **P** **01 33 10.7 +0.1**
BTO S **S** **01 40 17.2 -4.8**
ERM Erimo 50.63 14 *i* P **P** **01 33 13.0 +0.4**
ERM pmax pmax
comp=Z,177nm,2.1s
ERM Erimo 50.63 14 P **P** **01 33 13.3 +0.7**
ERM IAmb IAmb 01 33 25.3
comp=Z,377nm,1.4s
CN2 Changchun 50.66 357 *e*P **P** **01 33 13.2 +0.4**
CN2 *e*pP pwP 01 33 23.1 -0.2
CN2 *e*S **S** **01 40 25.3 -0.9**
CN2 pmax pmax
comp=Z,10µm,10.0s
CN2 LR LR
comp=Z,17µm,18.0s
CN2 LR LR
comp=Z,9µm,18.0s
CN2 LR LR
comp=Z,23µm,19.0s
USA0B Ussuriysk Arra 51.09 3 IAmb IAmb 01 33 29.2
comp=Z,477nm,1.4s
USRK Ussuriysk Ar. 51.09 3 P **P** **01 33 16.6 +0.6**
comp=Z,98nm,0.7s,baz=183,slow=5.9,SNR=221
USRK LR LR 01 55 20.9
comp=Z,13µm,19.3s,baz=170,slow=37
USRK PKPPKP 02 03 59.0
comp=Z,2.2nm,0.9s,baz=242,slow=3.1,SNR=4.4
USRK Ussuriysk Ar. 51.09 3 P **P** **01 33 16.2 +0.1**
LSA Lhasa 51.14 317 P **P** **01 33 18.9 +1.6**
LSA S **S** **01 40 35.4 +1.1**
LSA pmax pmax
comp=Z,850nm,1.3s
LSA LR LR
comp=Z,5µm,7.4s
LSA LR LR
comp=Z,5µm,6.8s
LSA Lhasa 51.14 317 P **P** **01 33 18.8 +1.5**
FOZ Fox Glacier 51.32 142 P **P** **01 33 19.2 +1.3**
MLZ Mavora Lakes 51.35 145 P **P** **01 33 19.7 +1.6**
MDJ Mudanjiang 51.42 1 P **P** **01 33 18.6 +0.1**
MDJ S **S** **01 40 40.0 +3.3**
MDJ ScS **ScS** **01 43 11.2 +4.0**
MDJ pmax pmax
comp=Z,160nm,2.0s
MDJ pmax pmax
comp=Z,9µm,5.0s
MDJ LR LR
comp=Z,20µm,25.6s
MDJ LR LR
comp=Z,13µm,19.9s
MDJ LR LR
comp=Z,66µm,32.5s
GTK Tadong 51.48 313 *e*P **P** **01 33 20.1 +0.7**
GTK IAmb IAmb 01 33 28.9
comp=Z,144nm,0.8s
BOK Bokaro 51.59 308 *e*P **P** **01 33 19.6 -0.7**
MDRS Chennai 51.85 293 *e*P **P** **01 33 21.5 -0.7**
MDRS IAmb IAmb 01 33 30.2
comp=Z,1µm,1.8s
MDRS *e*S **S** **01 40 40.5 -3.1**
LBZ Lake Benmore 52.01 143 P **P** **01 33 24.2 +1.1**
LBZ IAmb IAmb 01 33 31.2
comp=Z,630nm,1.7s
ODAN Odare 52.10 312 *e*P **P** **01 33 24.7 +0.5**
comp=Z,518nm,0.8s
TAPN Taplejung 52.14 313 *e*P **P** **01 33 25.0 +0.4**
comp=Z,1µm,1.0s
RPZ Rata Peaks 52.18 142 P **P** **01 33 25.7 +1.4**
comp=Z,247nm,0.5s,baz=275,slow=2.7,SNR=76
ASAJ Asahikawa 52.50 13 P **P** **01 33 27.5 +1.0**
comp=Z,98nm,0.7s,baz=214,slow=11,SNR=34
ASAJ LR LR 01 54 35.0
comp=Z,17µm,21.4s,baz=216,slow=35
OXZ Oxford 52.59 141 P **P** **01 33 28.3 +1.0**
RAMN Ramite 52.73 312 *e*P **P** **01 33 29.7 +0.8**
comp=Z,2µm,1.1s
YUK Yuzh-Kuril'sk 53.22 16*c i*P **P** **01 33 31.8 0.0**
YUK *i* 01 35 29.4
YUK *i* S **S** **01 41 03.3 +2.0**
YUK *i* 01 43 16.7
YUK *i* SS **SS** **01 44 35.1 -6.3**
YUK pmax pmax
comp=Z,1µm,1.1s
YUK pmax pmax
comp=N,241nm,1.2s
YUK pmax pmax
comp=E,484nm,1.2s
YUK pmax pmax
comp=Z,1µm,1.6s
YUK pmax pmax
comp=Z,15µm,22.0s
YUK pmax pmax
comp=E,11µm,19.0s
YUK pmax pmax
comp=N,5µm,15.0s
GTA Gaotai 53.26 332 ⇓P **P** **01 33 32.7 +0.3**
GTA pP pP 01 33 37.1 -2.5
GTA sP sP 01 33 39.7 -2.7
GTA PcP **PcP** **01 34 44.1 +4.1**
GTA PcS **PcS** **01 38 38.4 -0.6**
GTA S **S** **01 41 02.7 +0.4**
GTA sS sS 01 41 13.5 -0.6
GTA ScS **ScS** **01 43 21.9 +1.3**
GTA pmax pmax
comp=N,41nm,1.1s
GTA pmax pmax
comp=N,4µm,8.1s
GTA LR LR
comp=N,14µm,22.9s
GTA LR LR
comp=N,10µm,20.6s
GTA LR LR
comp=N,33µm,24.8s
MCQ Macquarie Isla 53.32 158 P **P** **01 33 33.7 +1.3**
MCQ pmax pmax
comp=Z,340nm,1.2s
MCQ Macquarie Isla 53.32 158 P **P** **01 33 33.7 +1.3**
MCQ IAmb IAmb 01 33 36.1
comp=Z,340nm,1.1s
SNZO South Karori 53.37 137 P **P** **01 33 34.1 +1.0**
JIRN Jiri 53.43 312 *e*P **P** **01 33 34.7 +0.5**
comp=Z,1µm,0.9s
MSWZ Moikau Station 53.78 137 P **P** **01 33 36.3 +0.1**
URZ Urewera 53.79 133 P **P** **01 33 37.2 +0.9**
comp=Z,45nm,0.7s,baz=291,slow=2.7,SNR=17
GUN Gumba 53.80 312 *e*P **P** **01 33 37.3 +0.4**
comp=Z,1µm,1.0s
PKI Pulchoki 53.96 312 *e*P **P** **01 33 38.1 +0.1**
comp=Z,955nm,1.2s
PKIN Phulchoki 53.97 312 *e*P **P** **01 33 38.1 0.0**
comp=Z,601nm,1.3s
KKN Kakani 54.17 312 *e*P **P** **01 33 39.9 +0.4**
comp=Z,611nm,1.0s
DMN Daman 54.20 311 *e*P **P** **01 33 40.2 +0.5**
comp=Z,798nm,1.1s
GKN Gorkha 54.77 311 *e*P **P** **01 33 44.1 +0.4**
comp=Z,685nm,0.8s
KUR Kuril'sk 54.88 17*d i*P **P** **01 33 44.6 +0.7**
KUR *e* 01 34 46.5
KUR *i* S **S** **01 41 25.3 +1.6**
KUR *e* 01 43 31.3
KUR pmax pmax
comp=Z,559nm,1.8s
KUR pmax pmax
comp=E,283nm,1.4s
KUR pmax pmax
comp=N,248nm,1.7s
KUR pmax pmax
comp=Z,12µm,5.2s
KUR pmax pmax
comp=N,4µm,3.9s
KUR pmax pmax
comp=E,3µm,3.5s
HYB Hyderabad 54.92 297 *i* P **P** **01 33 42.5 -2.3**
comp=E,314nm,1.2s
HYB *e*S **S** **01 41 20.0 -5.3**
HYB *e*SS **SS** **01 45 16.0 +6.7**
HYB Hyderabad 54.92 297 *e*P **P** **01 33 43.1 -1.7**
HYB IAmb IAmb 01 33 52.3
comp=Z,980nm,1.7s
YSS Yuzh-Sakhalins 55.23 12*c i*P **P** **01 33 47.1 +0.6**
YSS *e**SP **pP** **01 33 53.1 -0.7**
YSS *e*S **S** **01 41 28.0 -0.4**
YSS *e*PS **PnS** **01 41 46.3 +5.8**
YSS *e*SS **SS** **01 45 04.8 -8.4**
YSS pmax pmax
comp=Z,8µm,4.9s
YSS pmax pmax
comp=N,3µm,4.8s
YSS pmax pmax
comp=E,2µm,4.7s
YSS smax smax
comp=N,8µm,12.2s
YSS smax smax
comp=E,9µm,10.1s
YSS Yuzh-Sakhalins 55.23 12 P **P** **01 33 46.6 +0.1**
KOLN Koldanda 55.42 311 *e*P **P** **01 33 49.1 +0.6**
comp=E,2µm,1.4s
DGAR Diego Garcia 55.49 266 P **P** **01 33 51.2 +2.2**
SNR=5.5
DGAR P **P** **01 33 51.2 +2.2**
SNR=5.5
DGAR Diego Garcia 55.49 266*c i*P **P** **01 33 48.8 -0.2**
DGAR Diego Garcia 55.49 266 P **P** **01 33 49.0 0.0**
DANN Dangsing 55.60 311 *e*P **P** **01 33 50.3 +0.4**
comp=E,840nm,0.9s
KAAM Kaadhehdhoo 55.79 275 P **P** **01 33 51.1 -0.1**
KAAM IAMs_20 IAMs_20 01 56 59.0
comp=Z,26µm,20.0s
NGP Nagpur 55.96 301 *e*P **P** **01 33 49.0 -3.2**
JBP Jabalpur 56.04 304⇑ *e*P **P** **01 33 53.3 +0.5**
JBP AMS AMS 02 01 06.6
comp=Z,22µm,19.5s
KLR Kul'dur 56.10 3 *i* P **P** **01 33 53.1 +0.4**
KLR pmax pmax
comp=Z,185nm,1.5s
KLR Kul'dur 56.10 3 P **P** **01 33 53.3 +0.6**
comp=Z,91nm,1.0s,baz=199,slow=4.9,SNR=49
KLR LR LR 01 56 10.3
comp=Z,11µm,21.4s,baz=171,slow=34
KLR PKPPKP **P'P'df** **02 03 52.8 +3.8**
comp=Z,2.6nm,1.0s,baz=166,slow=1.7,SNR=4.0
HIA Hailar 56.57 353 P **P** **01 33 56.4 +0.3**
HIA pmax pmax
comp=Z,80nm,1.2s
HIA Hailar 56.57 353 P **P** **01 33 56.4 +0.3**
HIA Hailar 56.57 353 IAMs_20 IAMs_20 01 57 34.6
comp=Z,21µm,20.0s
H08N1 Diego Garcia H 56.98 267 P **P** **01 33 54.9 -4.4**
baz=128,slow=4.2,SNR=7.9
H08N2 Diego Garcia H 57.00 267 P P 01 33 54.1 -5.3
baz=128,slow=4.2,SNR=7.6
H08N3 Diego Garcia H 57.01 267 P **P** **01 33 55.6 -3.8**
baz=128,slow=4.2,SNR=6.7
ULN Ulaanbaatar 57.82 343 P **P** **01 34 06.2 +1.0**
SNR=45
ULN P **P** **01 34 06.2 +1.0**
SNR=45
ULN Ulaanbaatar 57.82 343*ce*P **P** **01 34 05.2 +0.1**
ULN pmax pmax
comp=Z,76nm,1.0s
ULN Ulaanbaatar 57.82 343 P **P** **01 34 05.8 +0.6**
ULN IAmb IAmb 01 34 21.4
comp=Z,280nm,1.1s
GRNR Gornyy 57.98 6⇓ *i*P **P** **01 34 04.3 -1.7**
GRNR *e*S **S** **01 42 04.9 +0.2**
GRNR pmax pmax
comp=Z,100nm,1.6s
GRNR smax smax
comp=E,3.0nm,1.5s
SONM Songino Array 57.98 343 P **P** **01 34 07.4 +1.2**
comp=E,47nm,0.6s,baz=164,slow=8.0,SNR=23
SONM PKP2bc 02 03 59.2
comp=E,4.4nm,1.0s,baz=313,slow=2.2,SNR=9.6
SONM Songino Array 57.98 343 P **P** **01 34 06.6 +0.4**
BHPL Bhopal 58.20 303⇑ *i*P **P** **01 34 06.3 -1.8**
BHPL IAmb IAmb 01 34 15.8
comp=Z,1µm,1.9s
BHPL IAMs_20 IAMs_20 01 55 02.4
comp=Z,29µm,30.4s
GOA Goa 58.52 293⇑ *i*P **P** **01 34 09.4 -0.9**
GOA IAmb IAmb 01 34 18.1
comp=Z,248nm,1.0s
AFI Afiamalu 59.09 102 P **P** **01 34 15.2 +0.7**
AFI pmax pmax
comp=Z,339nm,1.1s
AFI Afiamalu 59.09 102 P **P** **01 34 16.6 +2.1**
baz=119,slow=13
AFI Afiamalu 59.09 102 P **P** **01 34 15.2 +0.7**
AFI IAmb IAmb 01 34 25.6
comp=Z,338nm,1.1s
POO Poona 59.50 296 *e*P **P** **01 34 15.5 -1.7**
KNTN Kanton 59.76 89 P **P** **01 34 19.8 +0.7**
CIT Chita 60.18 349 *e*P **P** **01 34 23.2 +1.9**
CIT *e* 01 35 10.7
CIT *e* 01 36 39.8
CIT *e* 01 42 34.9
CIT pmax pmax
comp=Z,521nm,3.9s
CASY Casey 60.44 188 P **P** **01 34 23.5 +0.7**
CASY IAmb IAmb 01 34 36.8
comp=Z,543nm,1.6s
CASY Casey 60.44 188 IAMs_20 IAMs_20 01 59 18.0
comp=Z,21µm,19.0s
BOM Bombay 60.54 296 IAmb IAmb 01 34 36.1
comp=Z,243nm,0.8s
ZEA Zeya 60.54 359*ce*P **P** **01 34 24.0 +0.4**
ZEA *e* 01 36 34.5
ZEA *e* 01 43 02.0
ZEA *e*SSS SSS 01 49 08.0
ZEA pmax pmax
comp=Z,290nm,1.0s
ZEA pmax pmax
comp=Z,14µm,11.0s
ZEA pmax pmax
comp=N,6µm,9.0s
ZEA pmax pmax
comp=E,1µm,9.0s
ZEA pmax pmax
comp=Z,4µm,8.0s
ZEA pmax pmax
comp=N,2µm,9.0s
ZEA MLR MLR
comp=Z,15µm,17.0s
ZEA MLR MLR
comp=E,7µm,14.0s
ZEA MLR MLR
comp=N,11µm,18.0s
NDI New Delhi 60.76 308 *e*P **P** **01 34 25.0 -0.7**
NKL Nikolayevsk 60.85 8 *e*P **P** **01 34 24.8 -0.9**
NKL *e* 01 35 09.8
NKL *e*S **S** **01 42 43.2 +1.6**
NKL pmax pmax
comp=N,4.0nm,1.5s
NKL pmax pmax
comp=Z,119nm,1.8s
NKL pmax pmax
comp=E,20nm,1.7s
NKL pmax pmax
comp=Z,1µm,7.1s
NKL smax smax
comp=E,912nm,5.9s
NKL smax smax
comp=N,8.0nm,2.3s
DDI Dehra Dun 60.89 310⇑ *i*P **P** **01 34 25.7 -0.9**
DDI IAmb IAmb 01 34 34.7
comp=Z,622nm,1.3s
NIUE Niue 60.98 108 P **P** **01 34 27.0 -0.3**
baz=61,SNR=4.7
NIUE Niue 60.98 108 P **P** **01 34 28.3 +1.0**
ZAK Zakamensk 61.19 342 *e*P P 01 34 20.7 -7.6
ZAK pmax pmax
comp=Z,92nm,1.4s
SMLA Simla 61.95 311⇑ *e*P **P** **01 34 34.0 +0.4**
SMLA *e*S **S** **01 42 55.0 -1.4**
TLY Talaya 62.23 343 P **P** **01 34 37.1 +2.0**
SNR=22
TLY P **P** **01 34 37.1 +2.0**
SNR=22
TLY Talaya 62.23 343*c i*P **P** **01 34 36.6 +1.5**
TLY *e*S **S** **01 42 56.5 -2.8**
TLY pmax pmax
comp=Z,179nm,1.0s
TLY MLR MLR
comp=Z,19µm,16.0s
TLY Talaya 62.23 343 P **P** **01 34 36.6 +1.5**
comp=Z,29nm,0.6s,baz=223,slow=2.9,SNR=16
TLY LR LR 02 04 58.8
comp=Z,5µm,19.1s,baz=133,slow=39
TLY Talaya 62.23 343 P **P** **01 34 36.0 +0.9**
TLY IAmb IAmb 01 35 09.8
comp=Z,287nm,1.7s
SKR Severo-Kuril's 62.27 20 *e*P **P** **01 34 33.9 -1.5**
SKR *e* 01 36 59.4
SKR *e*S **S** **01 42 52.6 -7.2**
SKR *e* 01 43 22.2
SKR pmax pmax
comp=Z,5µm,5.1s
SKR pmax pmax
comp=Z,4µm,6.3s
SKR pmax pmax
comp=Z,72nm,1.3s
SKR pmax pmax
comp=Z,900nm,4.1s
SKR pmax pmax
comp=Z,2µm,6.3s
SKR MLR MLR
comp=Z,4µm,16.0s
SKR MLR MLR
comp=Z,4µm,16.0s
IRK Irkutsk 62.54 344 *e*P **P** **01 34 37.3 +0.1**
IRK *e*S **S** **01 43 10.3 +7.1**
IRK pmax pmax
comp=Z,934nm,3.5s
WMQ Urumqi 62.57 328 P **P** **01 34 38.9 +1.3**
WMQ pP pP 01 34 41.6 -3.3
WMQ sP pwP 01 34 48.6 +0.1
WMQ S **S** **01 43 05.8 +1.8**
WMQ sS sS 01 43 13.1 -2.6
WMQ ScS **SKSac** **01 44 25.9 -2.6**
WMQ pmax pmax
comp=Z,120nm,1.5s
WMQ pmax pmax
comp=Z,6µm,5.1s
WMQ LR LR
comp=Z,9µm,27.5s
WMQ LR LR
comp=Z,9µm,20.9s
WMQ LR LR
comp=Z,38µm,29.5s
DHRM DHARAMSHALA 63.13 311⇑ *i*P **P** **01 34 42.0 +0.2**
BHUJ Bhuj 64.80 300⇑ *i*P **P** **01 34 49.9 -2.8**
PETK Petropavlovsk- 64.85 19 P **P** **01 34 53.1 +0.7**
comp=Z,217nm,0.9s,baz=180,slow=2.4,SNR=56
PETK LR LR 02 03 17.3
comp=Z,4µm,19.8s,baz=208,slow=36
PETK Petropavlovsk- 64.85 19 P **P** **01 34 52.9 +0.5**
PET Petropavlovsk 65.09 20*ce*P **P** **01 34 54.1 +0.2**
PET *e* 01 37 19.3
PET *e*S **S** **01 43 34.8 0.0**
PET *e*PS **PnS** **01 43 58.8 +3.2**
PET *e*SS **SS** **01 47 49.5 +1.9**
PET pmax pmax
comp=Z,9µm,15.1s
PET pmax pmax
comp=Z,252nm,1.2s
PET pmax pmax
comp=Z,4µm,12.8s
PET Petropavlovsk 65.09 20 P **P** **01 34 54.5 +0.6**
PET IAmb IAmb 01 35 06.5
comp=Z,262nm,1.1s
BOD Bodaibo 65.68 352 *e*P **P** **01 34 58.7 +1.0**
BOD pmax pmax
comp=Z,345nm,1.8s
NIL Nilore 66.05 311 P **P** **01 35 00.6 0.0**
NIL pmax pmax
comp=Z,445nm,1.0s
NIL Nilore 66.05 311 P **P** **01 35 00.6 0.0**
ZSN Zaisan 66.48 329 *e*P **P** **01 35 03.5 +0.4**
comp=Z,2µm,4.1s
ZSN *i* S **S** **01 43 53.0 +0.9**
comp=Z,2µm,6.6s
ZSN Zaisan 66.48 329 *e*P **P** **01 35 03.5 +0.4**
ZSN *i* S **S** **01 43 53.0 +0.9**
ZSN pmax pmax
comp=Z,2µm,4.1s
ZSN smax smax
comp=E,2µm,6.6s
SHLS Shalkode 66.79 323 *e*S **S** **01 43 55.1 -1.1**
comp=E,2µm,6.4s
PDGK Podgornoye 66.87 323 P **P** **01 35 06.0 +0.2**
PDGK pmax pmax
comp=Z,266nm,1.1s
KSH Kashi 66.98 318 P **P** **01 35 08.0 +1.4**
KSH PP **PP** **01 37 37.2 +2.7**
KSH ScP 01 39 37.6
KSH S **S** **01 43 58.1 -0.6**
KSH SS **SS** **01 48 19.3 +1.4**
KSH pmax pmax
comp=Z,680nm,0.9s
KSH pmax pmax
comp=Z,16µm,4.1s
KSH LR LR
comp=Z,22µm,16.2s
KSH LR LR
comp=Z,16µm,14.9s
UZB Uzynbulak 67.05 323⇑ *i*P **P** **01 35 07.9 +1.0**
comp=Z,2µm,4.1s
UZB *e*S **S** **01 44 05.2 +5.8**
UZB Uzynbulak 67.05 323*c i*P **P** **01 35 07.9 +1.0**
UZB *e*S **S** **01 44 05.2 +5.8**
UZB pmax pmax
comp=Z,2µm,4.1s
SATY Saty 67.37 323 *e*P **P** **01 35 09.3 +0.3**
comp=Z,3µm,3.9s
SATY *i* S **S** **01 44 04.9 +1.7**
comp=Z,3µm,6.2s
SATY Saty 67.37 323 *e*P **P** **01 35 09.2 +0.3**
SATY *i* S **S** **01 44 04.9 +1.7**
SATY pmax pmax
comp=Z,3µm,3.9s
SATY smax smax
comp=E,3µm,6.2s
MK31 Makanchi Array 67.40 328 *i* P **P** **01 35 09.2 +0.2**
MK31 pmax pmax
comp=Z,85nm,0.6s
MK31 Makanchi Array 67.40 328 P **P** **01 35 09.2 +0.2**
MK31 IAmb IAmb 01 35 20.7
comp=Z,317nm,1.2s
MKAR Makanchi Array 67.40 328 *i* P **P** **01 35 09.1 +0.2**
MKAR pmax pmax
comp=Z,140nm,0.6s
MKAR Makanchi Array 67.40 328 P **P** **01 35 09.4 +0.4**
comp=Z,140nm,0.6s,baz=125,slow=7.6,SNR=843
MKAR PKP2bc 02 03 34.1
comp=Z,4.1nm,1.0s,baz=318,slow=1.6,SNR=7.7
MKAR LR LR 02 05 15.6
comp=Z,6µm,21.0s,baz=132,slow=37
MKAR Makanchi Array 67.40 328 P **P** **01 35 08.6 -0.4**
ZHN Zhinishke 67.41 323⇑ *i*P **P** **01 35 09.8 +0.5**
comp=Z,1µm,4.0s
ZHN Zhinishke 67.41 323*c i*P **P** **01 35 09.7 +0.5**
ZHN pmax pmax
comp=Z,1µm,4.0s
KPKS Kokpek 67.43 323 *e*P **P** **01 35 09.3 -0.1**
comp=Z,3µm,3.9s
KPKS *e*S **S** **01 44 04.2 +0.3**
comp=Z,2µm,6.3s
KPKS Kokpek 67.43 323 *e*P **P** **01 35 09.2 -0.1**
KPKS *e*S **S** **01 44 04.2 +0.3**
KPKS pmax pmax
comp=Z,3µm,3.9s
KPKS smax smax
comp=E,2µm,6.3s
MAKZ Makanchi 67.57 327 P **P** **01 35 10.2 +0.1**
MAKZ pmax pmax
comp=Z,304nm,1.2s
MAKZ Makanchi 67.57 327 P **P** **01 35 10.2 +0.1**
MAKZ IAmb IAmb 01 35 21.8
comp=Z,304nm,1.2s
KDJ Kajisay 67.60 321 P **P** **01 35 11.1 +0.6**
KDJ pmax pmax
comp=Z,261nm,1.0s
KDJ MLR MLR
comp=Z,11µm,20.0s
KDJ Kajisay 67.60 321 P **P** **01 35 11.1 +0.6**
KDJ IAmb IAmb 01 35 16.8
comp=Z,261nm,0.9s

TNSS Tian-Shan 68.24 322 *e*P **P 01 35 16.1 +1.3**
TNSS Tian-Shan 68.24 322 *e*P **P 01 35 16.1 +1.3**
MDOK Medeo 68.25 322 *e*P **P 01 35 14.9 +0.4**
MDOK *e*S **S 01 44 15.9 +2.0**
MDOK Medeo 68.25 322 *e*P **P 01 35 14.9 +0.4**
MDOK *e*S **S 01 44 15.8 +2.0**
ULHL Ulahol 68.25 321 P **P 01 35 15.9 +1.3**
SNR=72
AAA Alma-Ata 68.36 322⇑ *i*P **P 01 35 16.0 +0.9**
comp=Z,5µm,4.9s
AAA *e*S **S 01 44 16.4 +1.4**
AAA *e*LR LR 02 02 59.8
comp=Z,10µm,29.4s
AAA Alma-Ata 68.36 322 *c i*P **P 01 35 16.0 +0.9**
AAA *e*S **S 01 44 16.3 +1.4**
AAA pmax pmax
comp=Z,5µm,4.9s
TDK Taldyqorghan 68.48 324 *i*P **P 01 35 16.6 +0.9**
comp=Z,5µm,4.1s
TDK Taldyqorghan 68.48 324 *i*P **P 01 35 16.6 +0.9**
TDK pmax pmax
comp=Z,5µm,4.1s
MTBS Maitube 68.61 322⇑ *i*P **P 01 35 17.8 +1.0**
MTBS Maitube 68.61 322⇑ *i*P **P 01 35 17.7 +1.0**
MA2 Magadan 68.74 12 *ce*P **P 01 35 17.8 +0.7**
MA2 pmax pmax
comp=Z,167nm,1.3s
MA2 Magadan 68.74 12 P **P 01 35 18.0 +1.0**
comp=Z,94nm,0.9s,baz=177,slow=4.1,SNR=17
MA2 LR LR 02 03 47.2
comp=Z,9µm,20.7s,baz=196,slow=34
MA2 Magadan 68.74 12 P **P 01 35 18.5 +1.4**
KZA Kyzart 68.79 320 P **P 01 35 20.1 +1.8**
SNR=215
YAK Yakutsk 68.86 1 *c i*P **P 01 35 18.3 +0.6**
YAK *e* 01 35 43.9
YAK *e*S **S 01 44 19.7 -0.2**
YAK *e* 01 45 15.5
YAK *e*SSS SSS 01 51 51.0
YAK pmax pmax
comp=Z,308nm,1.3s
YAK pmax pmax
comp=E,13nm,1.1s
YAK pmax pmax
comp=N,142nm,1.1s
YAK pmax pmax
comp=Z,2µm,3.2s
YAK pmax pmax
comp=N,968nm,3.0s
YAK pmax pmax
comp=E,381nm,2.7s
YAK smax smax
comp=N,18µm,9.4s
YAK smax smax
comp=E,7µm,7.2s
YAK MLR MLR
comp=Z,8µm,19.0s
YAK MLR MLR
comp=E,3µm,19.0s
YAK MLR MLR
comp=N,6µm,18.0s
YAK Yakutsk 68.86 1 P **P 01 35 19.1 +1.4**
comp=N,65nm,0.7s,baz=324,slow=1.6,SNR=24
YAK PKP2bc 02 03 30.0
comp=N,4.9nm,0.4s,baz=156,slow=3.9,SNR=7.2
YAK LR LR 02 04 27.9
comp=N,7µm,18.9s,baz=176,slow=35
YAK Yakutsk 68.86 1 P **P 01 35 17.9 +0.2**
TKM2 Tokmak 2 69.01 321 P **P 01 35 20.1 +0.7**
SNR=97
KUU Kurty 69.08 322⇑ *i*P **P 01 35 19.6 0.0**
comp=N,7µm,3.9s
KUU *e*S **S 01 44 24.4 +1.0**
KUU Kurty 69.08 322 *c i*P **P 01 35 19.5 0.0**
KUU *e*S **S 01 44 24.3 +1.0**
KUU pmax pmax
comp=Z,7µm,3.9s
KBK Karagaybulak 69.28 321 P **P 01 35 22.6 +1.6**
SNR=201
UCH Uchtor 69.33 320 P **P 01 35 23.8 +2.1**
SNR=6.5
AAK Ala-Archa 69.56 320 *i*P **P 01 35 23.5 +0.8**
SNR=115
AAK Ala-Archa 69.56 320 P **P 01 35 23.7 +1.0**
SNR=253
AAK P **P 01 35 23.7 +1.0**
SNR=253
AAK Ala-Archa 69.56 320 *ce*P **P 01 35 23.2 +0.5**
AAK pmax pmax
comp=Z,461nm,1.7s
AAK Ala-Archa 69.56 320 P **P 01 35 23.7 +1.0**
comp=Z,132nm,0.7s,baz=118,slow=5.4,SNR=412
AAK PKP2bc 02 03 30.1
comp=Z,54nm,1.2s,baz=250,slow=3.5,SNR=52
AAK LR LR 02 10 38.5
comp=Z,9µm,18.4s,baz=95,slow=40
AAK Ala-Archa 69.56 320 P **P 01 35 24.8 +2.1**
SNR=6.7
AAK Ala-Archa 69.56 320 P **P 01 35 23.2 +0.5**
CHMS Chumysh 69.58 321 P **P 01 35 23.1 +0.4**
SNR=71
KBL Kabul 69.58 311 P **P 01 35 23.4 +0.3**
KBL pmax pmax
comp=Z,329nm,1.2s
KBL MLR MLR
comp=Z,8µm,22.0s
KBL Kabul 69.58 311 P **P 01 35 23.4 +0.3**
KBL IAmb IAmb 01 35 30.7
comp=Z,329nm,1.1s
AML Almayashu 69.81 320 P **P 01 35 26.6 +2.0**
SNR=16
USP Ospenovka 69.88 321 P **P 01 35 26.2 +1.6**
SNR=102
SGDS Sogindy 69.89 321 *e*P **P 01 35 24.3 -0.3**
comp=Z,2µm,3.9s
SGDS *e*S **S 01 44 34.6 +1.5**
comp=Z,2µm,6.6s
EKS2 Erkin-Say 70.02 320 P **P 01 35 27.4 +1.9**
SNR=24
RAR Rarotonga 70.56 110 P **P 01 35 30.6 +1.5**
comp=Z,93nm,1.0s,baz=238,slow=5.3,SNR=9.7
RAR Rarotonga 70.56 110 P **P 01 35 29.9 +0.8**
RAR IAmb IAmb 01 35 33.9
comp=Z,214nm,1.2s
GAR Garm 70.58 315 P **P 01 35 29.1 0.0**
SEM Semipalatinsk 70.72 330 *e*P **P 01 35 29.2 -0.6**
SEM *e*S **S 01 44 39.8 -2.9**
SEM Semipalatinsk 70.72 330 *e*P **P 01 35 29.1 -0.6**
SEM *e*S **S 01 44 39.8 -2.9**
ZAA0 Zalesovo Array 70.92 334 P **P 01 35 30.3 -0.2**
ZALV Zalesovo Beam 70.92 334 P **P 01 35 29.8 -0.8**
comp=Z,79nm,0.6s,baz=131,slow=5.0,SNR=295
ZALV PKP2bc 02 03 24.1
comp=Z,11nm,1.2s,baz=341,slow=3.1,SNR=9.2
ZALV LR LR 02 08 01.9
comp=Z,8µm,19.6s,baz=128,slow=37
ZALV Zalesovo Beam 70.92 334 P **P 01 35 30.2 -0.3**
SMY Shemya 71.02 27 P **P 01 35 32.2 +1.0**
SMY pmax pmax
comp=Z,512nm,1.1s
SMY Shemya 71.02 27 P **P 01 35 32.1 +1.0**
BTLS Baital 71.08 322 *e*P **P 01 35 32.2 +0.4**
BTLS *e*S **S 01 44 47.7 +1.0**
BTLS Baital 71.08 322 *e*P **P 01 35 32.2 +0.4**
BTLS *e*S **S 01 44 47.7 +1.0**
RER Riviere de l'E 71.36 250 P **P 01 35 35.6 +1.5**
SNR=6.9
RER Riviere de l'E 71.36 250 IAmb IAmb 01 35 38.3
comp=Z,412nm,1.1s
DZA Taraz 71.70 319 *e*P **P 01 35 34.8 -0.9**
DZA Taraz 71.70 319 *e*P **P 01 35 34.7 -0.9**
KURBB Kurchatov Arra 71.72 329 P **P 01 35 35.2 -0.3**
comp=Z,88nm,0.7s,baz=136,slow=4.8,SNR=475
KURBB PKPPKP P'P'df 02 03 11.1 -14
comp=Z,0.7nm,0.9s,baz=296,slow=1.8,SNR=5.6
KURK Kurchatov 71.73 329 *ce*P **P 01 35 35.7 +0.1**
KURK pmax pmax
comp=Z,665nm,1.6s
KURK Kurchatov 71.73 329 P **P 01 35 35.6 +0.1**
JBG Jabagly 71.99 319 *e*P **P 01 35 38.4 +0.9**
JBG *e*S **S 01 44 58.3 +0.7**
JBG pmax pmax
comp=Z,2µm,3.1s
SEY Seymchan 72.13 11 P **P 01 35 38.6 +0.9**
comp=Z,77nm,0.8s,baz=207,slow=4.4,SNR=132
IUG luzhnay 72.20 318⇑ *i*P **P 01 35 39.1 +0.3**
IUG *e*S **S 01 45 01.3 +1.3**
IUG luzhnay 72.20 318 *c i*P **P 01 35 39.0 +0.3**
IUG *e*S **S 01 45 01.3 +1.3**
TAS Tashkent 72.32 317 IAMs_20 IAMs_20 02 13 11.3
comp=Z,14µm,21.0s
KK31 Karatay Array 72.33 319 *i*P **P 01 35 39.6 +0.2**
KK31 pmax pmax
comp=Z,155nm,1.2s
KK31 Karatay Array 72.33 319 P **P 01 35 39.5 +0.1**
KKAR Karatay Array 72.33 319 P **P 01 35 39.4 0.0**
KKAR Karatay Array 72.33 319 P **P 01 35 39.4 0.0**
KKAR Karatay Array 72.33 319 IAmb IAmb 01 35 48.3
comp=Z,852nm,1.9s
MSEY Mahe Island 72.53 267 P **P 01 35 40.3 -0.9**
MSEY Mahe Island 72.53 267 *i*P **P 01 35 42.5 +1.3**
MSEY Mahe Island 72.53 267 P **P 01 35 41.1 -0.1**
MSEY IAmb IAmb 01 35 44.7
comp=Z,378nm,1.6s
CHM Chimkent 72.56 318 *e*P **P 01 35 41.8 +1.0**
comp=Z,2µm,3.9s
CHM *e*S **S 01 45 04.8 +0.9**
CHM Chimkent 72.56 318 *e*P **P 01 35 41.7 +1.0**
CHM *e*S **S 01 45 04.8 +0.9**
CHM pmax pmax
comp=Z,2µm,3.9s
VNDA Vanda 72.61 173 P **P 01 35 41.3 +0.9**
comp=Z,24nm,0.7s,baz=311,slow=8.4,SNR=30
VNDA LR LR 02 06 11.2
comp=Z,53µm,20.1s,baz=354,slow=35
VNDA Vanda 72.61 173 P **P 01 35 40.9 +0.5**
BRLS Borolday 72.73 319 *e*P **P 01 35 42.2 +0.4**
BRLS *e*S **S 01 45 06.3 +0.4**
SBA Scott Base 73.52 172 P **P 01 35 46.3 +0.5**
SBA pmax pmax
comp=Z,356nm,1.6s
SBA Scott Base 73.52 172 P **P 01 35 46.3 +0.5**
SBA IAmb IAmb 01 36 20.9
comp=Z,356nm,1.6s
WBK Wadi Bani Khal 74.00 296 P **P 01 35 51.0 +1.3**
SNR=32
WBK P **P 01 35 51.0 +1.3**
SNR=32
MAW Mawson 74.35 201 P **P 01 35 51.7 +0.9**
comp=Z,53nm,0.6s,baz=80,slow=9.0,SNR=49
MAW LR LR 02 06 08.2
comp=Z,19µm,19.9s,baz=64,slow=34
MAW Mawson 74.35 201 IAmb IAmb 01 35 55.9
comp=Z,92nm,1.4s
MAW IAMs_20 IAMs_20 02 05 16.6
comp=Z,4µm,20.0s
BRZS Berezniki 74.46 326⇑ *i*P **P 01 35 51.8 0.0**
comp=Z,4µm,3.7s
BRZS *e*S **S 01 45 26.5 +1.4**
BRZS Berezniki 74.46 326 *c i*P **P 01 35 51.7 0.0**
BRZS *e*S **S 01 45 26.4 +1.4**
BRZS pmax pmax
comp=Z,4µm,3.7s
WSAR Wadi Sarin 74.47 296 P **P 01 35 52.4 0.0**
SNR=42
WSAR Wadi Sarin 74.47 296 LR LR 02 10 42.3
comp=Z,8µm,20.6s,baz=120,slow=38
XMAS Kiritimati 74.53 86 P **P 01 35 53.9 +1.0**
XMAS IAmb IAmb 01 35 59.4
comp=Z,413nm,1.1s
DQM DQM 74.65 293 P **P 01 35 55.0 +1.5**
SNR=19
DQM P **P 01 35 55.0 +1.5**
SNR=19
JMDO Jabal Madar 74.72 295 P **P 01 35 54.0 +0.2**
SNR=37
JMDO P **P 01 35 54.0 +0.2**
SNR=37
HRA Herat 74.73 308 IAmb IAmb 01 36 00.3
comp=Z,744nm,1.9s
HRA IAMs_20 IAMs_20 02 13 36.1
comp=Z,13µm,20.0s
KIWB Kanaga Island 74.77 32 P **P 01 35 53.8 +0.3**
SMDO Samad 74.94 296 P **P 01 35 56.0 +0.8**
SNR=34
SMDO P **P 01 35 56.0 +0.8**
SNR=34
BIDO Bidbid 74.99 297 P **P 01 35 56.0 +0.6**
SNR=113
BIDO P **P 01 35 56.0 +0.6**
SNR=113
ADK Adak 75.03 32 P **P 01 35 55.7 +0.8**
ADK pmax pmax
comp=Z,482nm,1.4s
ADK Adak 75.03 32 P **P 01 35 55.7 +0.8**
ADK IAmb IAmb 01 35 59.4
comp=Z,482nm,1.4s
BSY Bisya 75.62 296 P **P 01 35 60.0 +0.9**
SNR=35
BSY P **P 01 35 60.0 +0.9**
SNR=35
HOQ Hoqain 75.73 296 P **P 01 35 60.0 +0.3**
SNR=131
HOQ P **P 01 35 60.0 +0.3**
SNR=131
SHAO Shalim 75.99 290 *i*P **P 01 36 00.5 -0.7**
SNR=9.3
SHAO Shalim 75.99 290 P **P 01 36 02.0 +0.8**
SNR=9.6
SHAO P **P 01 36 02.0 +0.8**
SNR=9.6
ARQ Araqi 76.37 296 P **P 01 36 04.1 +0.8**
SNR=50
ARQ P **P 01 36 04.1 +0.8**
SNR=50
SOCY Socotra 76.41 284 P **P 01 36 03.9 +0.1**
SNR=9.2
SOCY Socotra 76.41 284 P **P 01 36 03.5 -0.3**
SOCY IAmb IAmb 01 36 13.8
comp=Z,445nm,1.4s
SOCY IAMs_20 IAMs_20 02 07 22.0
comp=Z,14µm,20.0s
DMTO DMTO 76.56 290 P **P 01 36 08.1 +3.7**
SNR=7.9
DMTO P **P 01 36 08.1 +3.7**
SNR=7.9
UOSS Minazif 77.04 298 P **P 01 36 06.4 -0.6**
UOSS IAmb IAmb 01 36 13.6
comp=Z,234nm,1.2s
MDH Madha 77.04 298 *i*P **P 01 36 05.9 -1.2**
SNR=15
MDH Madha 77.04 298 P **P 01 36 07.0 -0.1**
SNR=40
HATD Hatta, Dubai 77.07 297 *i*P **P 01 36 07.1 -0.1**
SNR=60
HATD Hatta, Dubai 77.07 297 P **P 01 36 08.0 +0.7**
SNR=130
HATD P **P 01 36 08.0 +0.7**
SNR=130
ASHO Ashiyiah 77.10 297 *i*P **P 01 36 06.9 -0.5**
SNR=62
ASHO Ashiyiah 77.10 297 P **P 01 36 08.0 +0.5**
SNR=92
MSFE Esma-Masafi 77.18 298 *i*P **P 01 36 07.5 -0.3**
SNR=82
BANOM Banah 77.19 298 *i*P **P 01 36 07.5 -0.4**
SNR=58
BANOM Banah 77.19 298 P **P 01 36 09.2 +1.3**
SNR=74
RBK Rabkut 77.21 290 P **P 01 36 09.0 +0.8**
SNR=20
RBK P **P 01 36 09.0 +0.8**
SNR=20
ALNE Al Ain 77.23 297 *i*P **P 01 36 07.4 -0.7**
SNR=40
SBV Sambava 77.25 258 P **P 01 36 08.6 +0.2**
SNR=14
BVAR Borovoye Array 77.25 328 P **P 01 36 07.8 +0.2**
comp=Z,154nm,0.9s,baz=125,slow=7.4,SNR=307
BRVK Borovoye 77.33 328 *ce*P **P 01 36 08.0 0.0**
BRVK pmax pmax
comp=Z,439nm,1.3s
BRVK Borovoye 77.33 328 P **P 01 36 07.9 -0.1**
SHME Shamm 77.36 299 *i*P **P 01 36 08.2 -0.6**
SNR=29
KIP Kipapa 77.44 66 *ce*P **P 01 36 12.7 +3.4**
KIP pmax pmax
comp=Z,215nm,1.7s
NAZ Nazwa, Dubai 77.53 297 *i*P **P 01 36 08.8 -1.0**
SNR=32
NAZ Nazwa, Dubai 77.53 297 P **P 01 36 10.0 +0.2**
SNR=39
NAZ P **P 01 36 10.0 +0.2**
SNR=39
FAQ Al Faqa, Dubai 77.53 297 *i*P **P 01 36 09.3 -0.5**
SNR=6.8
FAQ Al Faqa, Dubai 77.53 297 P **P 01 36 11.0 +1.2**
SNR=19
FAQ P **P 01 36 11.0 +1.2**
SNR=19
UMQ Umm Al-Quwin 77.66 298 *i*P **P 01 36 10.6 +0.1**
SNR=16
WHFO Wadi Hawf 77.70 290 P **P 01 36 11.0 +0.1**
SNR=20
WHFO P **P 01 36 11.0 +0.1**
SNR=20
ASUD Al Ashush, Dub 77.73 297 *i*P **P 01 36 10.8 -0.1**
SNR=19
ASUD Al Ashush, Dub 77.73 297 P **P 01 36 12.2 +1.3**
SNR=27
ASUD P **P 01 36 12.2 +1.3**
SNR=27
AJN Ajban 78.02 297 *i*P **P 01 36 11.7 -0.8**
SNR=49
AJN Ajban 78.02 297 P **P 01 36 12.8 +0.3**
SNR=19
AJN P **P 01 36 12.8 +0.3**
SNR=19
ABTO Aybut 78.03 289 P **P 01 36 13.1 +0.4**
SNR=30
ABTO P **P 01 36 13.1 +0.4**
SNR=30
TIXI Tiksi 78.52 0 *c i*P **P 01 36 12.2 -2.0**
TIXI pmax pmax
comp=Z,172nm,1.7s
TIXI MLR MLR
comp=Z,17µm,20.0s
TIXI Tiksi 78.52 0 P **P 01 36 13.8 -0.4**
TIXI IAmb IAmb 01 36 19.0
comp=Z,328nm,1.6s
TIXI IAMs_20 IAMs_20 02 10 47.4
comp=Z,18µm,22.0s
GEYT Alibeck 79.03 311 P **P 01 36 19.0 +1.1**
comp=Z,34nm,0.7s,baz=157,slow=4.2,SNR=59
GEYT LR LR 02 17 22.8
comp=Z,6µm,19.1s,baz=70,slow=40
KHU Kahuku 79.19 69 IAMs_20 IAMs_20 02 08 13.4
comp=Z,12µm,21.0s
MLOA Mauna Loa Obse 79.28 69 IAMs_20 IAMs_20 02 08 06.8
comp=Z,13µm,21.0s
POHA Pohakuloa 79.37 68 IAMs_20 IAMs_20 02 08 08.2
comp=Z,12µm,21.0s
HMH Humu'ula Sheep 79.38 69 P **P 01 36 21.9 +1.4**
HMH IAmb IAmb 01 36 25.6
comp=Z,374nm,1.1s
ABPO Ambohimpanom 79.44 252 P **P 01 36 20.7 0.0**
ABPO pmax pmax
comp=Z,326nm,1.7s
ABPO Ambohimpanom 79.44 252 P **P 01 36 20.7 0.0**
MLH Mauna Loa 79.45 69 P **P 01 36 21.7 +0.9**
MLH IAmb IAmb 01 36 26.2
comp=Z,348nm,1.1s
BILL Bilibino 79.50 14 *c i*P **P 01 36 19.8 +0.1**
BILL *i* 01 36 26.6
BILL *i* 01 39 19.7
BILL *i*S **S 01 46 19.2 -0.1**
BILL *i*SS **SS 01 51 32.6 +5.1**
BILL pmax pmax
comp=Z,22nm,1.1s
BILL Bilibino 79.50 14 P **P 01 36 19.5 -0.2**
BILL IAMs_20 IAMs_20 02 08 58.0
comp=Z,14µm,20.0s
OPO Ambohidratompo 79.51 252 P **P 01 36 21.2 +0.2**
baz=99,slow=7.1
NIKH Nikolski High 79.73 33 IAmb IAmb 01 36 25.3
comp=Z,329nm,1.0s
VOI Vohitsoka 79.74 249 P **P 01 36 22.4 +0.3**
SNR=15
TBI Tubuai 80.04 112 *e*P **P 01 36 26.2 +2.6**
comp=Z,580nm,1.3s
TBI *e*S **S 01 46 25.3 -1.5**
comp=Z,7µm,32.5s
TBI Tubuai 80.04 112 *e*LQ LQ 01 57 42.9
comp=Z,26µm,37.0s
TBI *e*LR LR 02 01 02.3
comp=Z,12µm,36.5s
PAE Paea 80.31 107 *e*P **P 01 36 27.0 +1.8**
comp=Z,29nm,1.1s
PPT2 Papeete2 80.32 107 *e*P **P 01 36 27.6 +2.3**
comp=Z,202nm,1.1s
PPT2 Papeete2 80.32 107 *e*S **S 01 46 28.6 -1.4**
comp=Z,7µm,25.5s
PPT2 Papeete2 80.32 107 *e*LQ LQ 01 57 50.1
comp=Z,29µm,36.2s
PPT2 *e*LR LR 02 01 08.0
comp=Z,16µm,25.8s
PPT Papeete 80.32 107 P P 01 36 31.1 +5.9
comp=Z,181nm,1.0s,baz=297,slow=7.6,SNR=11
PPT LR LR 02 08 18.9
comp=Z,4µm,21.9s,baz=264,slow=33
PPTF Pamatai, Papee 80.33 107 IAmb IAmb 01 36 39.7
comp=Z,351nm,1.2s
TIAR Tiarei 80.54 107 *e*P **P 01 36 28.4 +1.9**
comp=Z,82nm,1.4s
TVO Taravao 80.61 107 *e*P **P 01 36 29.0 +2.1**
comp=Z,96nm,1.3s
SPIA Saint Paul Isl 80.95 29 P **P 01 36 27.3 -0.4**
NRIK Noril'sk 81.21 346 P **P 01 36 29.9 +1.0**
comp=Z,190nm,1.1s,baz=135,slow=5.3,SNR=61
NRIK PKPPKP **P'P'df 02 03 09.3 +2.2**
comp=Z,2.6nm,0.5s,baz=67,slow=3.3,SNR=4.4
NRIK LR LR 02 15 40.2
comp=Z,16µm,20.3s,baz=139,slow=38
UNV Unalaska Valle 81.38 33 IAmb IAmb 01 36 35.8
comp=Z,274nm,0.9s
UNV IAMs_20 IAMs_20 02 07 58.0
comp=Z,15µm,21.0s
AB31 Akbulak array 81.56 322 *i*P **P 01 36 31.1 0.0**
AB31 pmax pmax
comp=Z,159nm,1.0s
ABKAR Akbulak array 81.56 322 P **P 01 36 31.9 +0.8**
MEH Mehetia 81.73 107 *e*P **P 01 36 34.4 +1.6**
comp=Z,119nm,1.3s
AKUT Akutan 81.89 33 IAMs_20 IAMs_20 02 08 13.6
comp=Z,12µm,22.0s
PMOR Pomariorio Ree 82.14 104 *e*P **P 01 36 37.2 +2.3**
comp=Z,395nm,1.2s
VAH Vaihoa 82.38 104 *e*P **P 01 36 37.9 +1.7**
comp=Z,282nm,1.2s
QSPA South Pole Qui 82.95 180 P **P 01 36 37.6 -0.8**
QSPA IAmb IAmb 01 37 00.3
comp=Z,333nm,1.4s
SYO Syowa Base 83.06 201⇓ *i*P **P 01 36 37.0 -1.7**
SYO Syowa Base 83.06 201⇓ *i*X **P 01 36 40.2 +1.5**
SYO Syowa Base 83.06 201 *e*SH **S 01 46 55.6 -0.7**
SYO Syowa Base 83.06 201⇑ *ep*P **SKKSac 01 47 05.4 +2.6**
AKTO Aktyubinsk 83.14 323 P **P 01 36 39.6 +0.2**
comp=Z,92nm,0.8s,baz=107,slow=8.0,SNR=89
AKTO PKKPbc **PKKPbc 01 55 02.6 -0.2**
comp=Z,1.6nm,0.8s,baz=256,slow=3.4,SNR=6.1
SVE Sverdlovsk 83.98 329 *d i*P **P 01 36 44.1 +0.5**
SVE *e* 01 39 52.9
SVE *e*S **S 01 47 01.5 -4.4**
SVE *e*SS **SS 01 52 30.1 -4.5**
SVE pmax pmax
comp=Z,579nm,1.8s
SVE pmax pmax
comp=Z,6µm,10.3s
ARU Arti 84.90 328 *c i*P **P 01 36 47.6 -0.6**
ARU 01 39 59.0
ARU *e*S **S 01 47 11.3 -3.8**
ARU SSS SSS 01 56 22.1
ARU pmax pmax
comp=Z,223nm,1.3s
ARU Arti 84.90 328 P **P 01 36 47.6 -0.6**
comp=Z,43nm,1.0s,baz=116,slow=3.7,SNR=75
ARU PKKPbc **PKKPbc 01 54 58.1 -0.9**
comp=Z,0.8nm,0.4s,baz=329,slow=0.7,SNR=7.5
ARU Arti 84.90 328 P **P 01 36 48.3 0.0**
CNBA Chernabura Isl 85.50 34 IAmb IAmb 01 36 54.6
comp=Z,168nm,1.0s
DAMY Dhamar 86.00 285 P **P 01 36 57.2 +2.2**
SNR=17
DAMY Dhamar 86.00 285 P **P 01 36 55.6 +0.5**
RAYN Ar Rayn 86.32 294 P **P 01 36 55.8 -0.3**
RAYN pmax pmax
comp=Z,382nm,1.7s
RAYN Ar Rayn 86.32 294 P **P 01 36 55.8 -0.3**
RAYN IAmb IAmb 01 37 03.0
comp=Z,382nm,1.6s

ANM Nome 86.37 23 IAmb IAmb 01 36 58.6
comp=Z,362nm,1.8s
ATD Arta Tunnel 87.08 282 P **P** **01 37 02.0 +2.0**
SNR=9.5
ATD Arta Tunnel 87.08 282 P **P** **01 37 00.1 +0.1**
AKT Akhty 87.68 312⇑ *i*P **P** **01 37 02.5 +0.1**
AKT *e* 01 37 06.1
AKT *e* 01 40 27.9
AKT *e*S **SKSac** **01 47 28.6 -0.5**
AKT pmax pmax
comp=Z,294nm,1.6s
MAK Makhachkala 88.13 314*c* *i*P **P** **01 36 59.6 -4.8**
MAK *e* 01 47 29.6
MAK *e*SS SS 01 53 29.0 -6.2
MAK *e*SSS SSS 01 57 06.0
MAK pmax pmax
comp=Z,645nm,2.0s
GNBR Gunib 88.42 313*c* *i*P **P** **01 37 05.7 -0.1**
RDOG Red Dog Mine 88.68 21 P **P** **01 37 06.5 +0.1**
RDOG IAmb IAmb 01 37 16.0
comp=Z,217nm,1.2s
SVW2 Sparrevohn 89.41 28 IAMs_20 IAMs_20 02 11 14.5
comp=Z,10µm,22.0s
GROC Groznyy 89.41 314 *e*P **P** **01 37 09.3 -1.1**
GROC *e* 01 40 48.0
GROC *e*S **SKSac** **01 47 37.2 -1.9**
GROC pmax pmax
comp=Z,116nm,1.1s
OHAK Old Harbor 89.57 32 IAmb IAmb 01 37 15.6
comp=Z,170nm,1.1s
OHAK IAMs_20 IAMs_20 02 15 03.6
comp=Z,10µm,21.0s
GNI Garni 89.67 310 *i* P **P** **01 37 12.5 +0.6**
SNR=31
GNI Garni 89.67 310 P **P** **01 37 15.0 +3.1**
SNR=10
GNI Garni 89.67 310*c* *i*P **P** **01 37 12.2 +0.3**
GNI pmax pmax
comp=Z,770nm,2.9s
GNI Garni 89.67 310 P **P** **01 37 12.0 0.0**
comp=Z,11nm,1.0s,baz=318,slow=1.3,SNR=10
GNI Garni 89.67 310 P **P** **01 37 11.8 -0.1**
GNI IAmb IAmb 01 38 01.1
comp=Z,406nm,1.9s
TTA Tatalina 89.71 26 IAmb IAmb 01 37 17.1
comp=Z,236nm,1.2s
KDAK Kodiak Island 90.07 32 *i* P **P** **01 37 14.7 +1.6**
KDAK Kodiak Island 90.07 32 P **P** **01 37 14.3 +1.2**
comp=Z,126nm,1.0s,baz=244,slow=5.8,SNR=19
KDAK Kodiak Island 90.07 32 P **P** **01 37 13.4 +0.3**
KDAK IAmb IAmb 01 37 19.8
comp=Z,234nm,1.2s
KIBK Kibwezi 90.08 268 P **P** **01 37 15.1 +0.8**
SNR=43
KIRV Kirov 90.25 329 P **P** **01 37 13.4 -0.5**
comp=Z,50nm,0.8s,baz=70,slow=3.9,SNR=12
KIRV PKKPbc **PKKPbc** **01 54 45.4 -0.5**
comp=Z,7.9nm,0.7s,baz=225,slow=3.5,SNR=3.7
TAOE Nuku Hiva Isla 90.34 99 *e*P **P** **01 37 17.0 +1.5**
comp=Z,305nm,1.3s
TAOE Nuku Hiva Isla 90.34 99 *e*LR LR 02 05 46.3
comp=Z,11µm,28.2s
ZEI Tsey 90.71 313 *e*P **P** **01 37 18.1 +1.3**
ZEI pmax pmax
comp=Z,75nm,1.0s
AAE Adis Abeba 90.74 279 *i* P **P** **01 37 18.4 +0.7**
AAE *e*S **S** **01 48 06.4 -6.9**
AKH Akhalkalaki 90.80 311 P **P** **01 37 17.5 +0.3**
AKH pmax pmax
comp=Z,190nm,1.4s
AKH Akhalkalaki 90.80 311 P **P** **01 37 17.6 +0.3**
AKH IAmb IAmb 01 37 28.6
comp=Z,190nm,1.4s
FURI Furi 90.81 279 *i* P **P** **01 37 18.4 +0.4**
FURI *e*S **S** **01 48 06.4 -7.6**
FURI Furi 90.81 279 P **P** **01 37 18.5 +0.5**
FURI Furi 90.81 279 IAMs_20 IAMs_20 02 17 57.3
comp=Z,9µm,20.0s
KMBO Kilima Mbogo 91.02 269 *i* P **P** **01 37 18.4 -0.5**
SNR=43
KMBO Kilima Mbogo 91.02 269 P **P** **01 37 19.0 +0.1**
SNR=50
KMBO Kilima Mbogo 91.02 269 *i* P **P** **01 37 18.4 -0.5**
KMBO *e*S **SKSac** **01 47 46.5 -3.7**
KMBO Kilima Mbogo 91.02 269 P **P** **01 37 18.5 -0.5**
comp=Z,14nm,1.0s,baz=78,slow=4.8,SNR=28
KMBO Kilima Mbogo 91.02 269 P **P** **01 37 18.4 -0.5**
NCK Nalchik 91.04 314*c* *i*P **P** **01 37 18.5 +0.5**
NCK pmax pmax
comp=Z,277nm,2.2s
BRLK Bradley Lake 91.36 30 IAmb IAmb 01 37 24.4
comp=Z,105nm,1.0s
PPLA Purkeypile 91.40 27 IAmb IAmb 01 37 32.0
comp=Z,329nm,1.5s
IMAR Indian Mountai 91.45 24 P **P** **01 37 19.1 -0.3**
SKT Skwentna 91.50 28 IAMs_20 IAMs_20 02 12 08.3
comp=Z,11µm,22.0s
KBZ Khabaz 91.58 314 P **P** **01 37 22.0 +1.6**
comp=Z,7.6nm,0.9s,baz=161,slow=3.1,SNR=11
KBZ LR LR 02 26 13.4
comp=Z,5µm,20.0s,baz=83,slow=41
NEY Neytrino 91.64 313*c* *i*P **P** **01 37 21.3 +0.3**
NEY pmax pmax
comp=Z,28nm,2.0s
GOF Gofitskoye 91.66 315⇑ *i*P **P** **01 37 20.8 -0.1**
GOF *e*S **SKSac** **01 47 54.0 +2.0**
GOF pmax pmax
comp=Z,215nm,2.2s
GOF smax smax
comp=E,38nm,1.5s
SHA1 Shidzhatmaz 91.75 314*c* *i*P **P** **01 37 21.2 -0.4**
KIV Kislovodsk 91.76 314 *i* P **P** **01 37 20.8 -0.7**
SNR=24
KIV Kislovodsk 91.76 314 P **P** **01 37 22.4 +0.9**
SNR=8.6
KIV Kislovodsk 91.76 314 *e*P **P** **01 37 21.2 -0.3**
KIV *e* 01 41 00.0
KIV *e*S **SKSac** **01 47 53.6 +0.8**
KIV *e*SS **SS** **01 54 31.2 +2.3**
KIV *e*SSS SSS 01 58 11.2
KIV pmax pmax
comp=Z,64nm,1.1s
KIV pmax pmax
comp=Z,4µm,4.6s
KIV MLR MLR
comp=Z,12µm,20.0s
KIV Kislovodsk 91.76 314 P **P** **01 37 21.1 -0.3**
KTH Kantishna Hill 92.10 26 IAmb IAmb 01 37 29.0
comp=Z,174nm,1.2s
SEW Seward 92.13 30 IAmb IAmb 01 37 31.4
comp=Z,168nm,1.4s
SEW IAMs_20 IAMs_20 02 15 47.0
comp=Z,10µm,22.0s
RC01 Rabbit Creek A 92.17 29 IAmb IAmb 01 37 27.5
comp=Z,119nm,0.9s
BPAW Bear Paw Mtn. 92.18 26 IAmb IAmb 01 37 27.3
comp=Z,176nm,1.7s
TRF Thorofare Moun 92.36 26 P **P** **01 37 23.3 -0.6**
TRF IAmb IAmb 01 37 31.8
comp=Z,128nm,1.2s
MLY Manley 92.47 25 IAmb IAmb 01 37 34.7
comp=Z,95nm,1.0s
PMR Palmer 92.55 28 IAmb IAmb 01 37 33.2
comp=Z,166nm,1.2s
PRGR Permogore 92.71 332 *e*P **P** **01 37 23.5 -1.8**
PRGR *e* 01 54 37.7
PRGR pmax pmax
comp=Z,38nm,0.9s
KNK Knik Glacier 92.83 29 IAMs_20 IAMs_20 02 14 21.1
comp=Z,9µm,20.0s
COLD Coldfoot 93.10 23 P **P** **01 37 27.1 +0.1**
VRH Novokhopyorsk 93.35 321 *e*P **P** **01 37 27.6 -0.9**
VRH *e* 01 41 10.7
VRH *e* 01 47 57.0
VRH *e*S **S** **01 48 34.1 -0.4**
VRH *e*SP SP 01 49 46.4 -0.7
VRH pmax pmax
comp=Z,120nm,1.9s
VRH pmax pmax
comp=Z,470nm,1.8s
VRH smax smax
comp=E,5µm,6.9s
GLI Glacier Island 93.41 29 IAmb IAmb 01 37 36.9
comp=Z,275nm,1.4s
GLI IAMs_20 IAMs_20 02 13 54.7
comp=Z,12µm,22.0s

LODK Lodwar 93.44 273 P **P** **01 37 30.5 +0.6**
SNR=15
WRH Wood River Hil 93.49 26 IAmb IAmb 01 37 37.8
comp=Z,172nm,1.0s
DHY Denali Highway 93.59 27 IAmb IAmb 01 37 39.3
comp=Z,192nm,1.0s
CCB Clear Creek Bu 93.64 25 IAmb IAmb 01 37 32.4
comp=Z,131nm,1.0s
COLA College 93.65 25 *i* P **P** **01 37 27.3 -2.2**
COLA pmax pmax
comp=Z,94nm,1.8s
COLA College 93.65 25 P **P** **01 37 29.0 -0.5**
FID Port Fidalgo 93.69 29 IAmb IAmb 01 37 45.3
comp=Z,136nm,1.3s
FID IAMs_20 IAMs_20 02 13 35.6
comp=Z,11µm,22.0s
TROLL Troll, Antarti 93.74 195 P **P** **01 37 31.4 +1.2**
TROLL Troll, Antarti 93.74 195 PP **PP** **01 41 17.0 +2.0**
SOC Sochi 93.85 313*c* *i*P **P** **01 37 29.6 -1.4**
SOC *e* 01 41 17.0
SOC *e*PPP PPP 01 43 26.1
SOC *i* S **SKSac** **01 48 03.7 -0.5**
SOC *e*SS **SS** **01 55 05.5 +6.9**
SOC pmax pmax
comp=Z,22nm,0.8s
HDA Harding Lake 93.97 26 IAmb IAmb 01 37 40.4
comp=Z,106nm,0.9s
EYAK Cordova Ski Ar 94.02 30 IAMs_20 IAMs_20 02 16 33.9
comp=Z,9µm,21.0s
ILAR Eielson Array 94.04 25 P **P** **01 37 29.2 -2.2**
comp=Z,40nm,1.0s,baz=252,slow=4.2,SNR=40
ILAR PKKPbc **PKKPdf** **01 54 34.2 -1.2**
comp=Z,3.0nm,1.0s,baz=82,slow=1.0,SNR=9.9
ILAR LR LR 02 13 37.3
comp=Z,3µm,20.4s,baz=277,slow=32
PAX Paxson 94.44 27 IAmb IAmb 01 37 48.9
comp=Z,173nm,1.2s
RIDG Independent Ri 94.80 26 IAmb IAmb 01 37 39.8
comp=Z,138nm,1.0s
VORD Divnogorie 94.85 321 *e*P **P** **01 37 34.7 -0.7**
VORD pmax pmax
comp=Z,30nm,0.6s
VSR Storozhevoye 94.95 321 *e*P **P** **01 37 33.6 -2.2**
VSR *e* 01 41 20.2
VSR *e* 01 48 05.5
VSR *e*S **S** **01 48 44.5 -4.1**
VSR *e*SP **SP** **01 50 03.5 -1.2**
VSR pmax pmax
comp=Z,150nm,2.1s
VSR pmax pmax
comp=Z,330nm,1.6s
VSR smax smax
comp=E,2µm,6.7s
VORR Voronezh 94.97 321 P **P** **01 37 36.0 +0.1**
VORR pmax pmax
comp=Z,250nm,1.0s
ASF Jabal al Asfar 94.97 302 P **P** **01 37 37.0 +0.4**
ASF Jabal al Asfar 94.97 302 P **P** **01 37 36.9 +0.4**
comp=Z,4.3nm,0.8s,baz=114,slow=3.4,SNR=8.5
GLB Gilahina Butte 95.05 29 IAmb IAmb 01 37 41.5
comp=Z,111nm,1.0s
GLB IAMs_20 IAMs_20 02 14 56.2
comp=Z,9µm,22.0s
DOT Dot Lake 95.14 27 IAmb IAmb 01 37 46.1
comp=Z,94nm,1.0s
GAZ Gaziantep 95.15 307 P **P** **01 37 36.8 -0.4**
LPSR Galich'ya Gora 95.22 322 *e*P **P** **01 37 36.1 -0.9**
LPSR *e* 01 41 23.1
LPSR *e* 01 48 08.4
LPSR *e*S **S** **01 48 52.1 +1.3**
LPSR *e*SP SP 01 50 07.3 -0.2
LPSR pmax pmax
comp=Z,80nm,1.5s
LPSR pmax pmax
comp=Z,230nm,1.3s
LPSR smax smax
comp=E,4µm,11.0s
MENT Mentasta 95.23 27 IAmb IAmb 01 37 42.2
comp=Z,65nm,0.9s
SNAA Sanae 95.27 194 P **P** **01 37 37.9 +0.8**
SNAA Sanae 95.27 194 PP **PP** **01 41 28.3 +1.5**
SNAA Sanae 95.27 194 *i* P **P** **01 37 38.0 +1.0**
SNAA Sanae 95.27 194 P **P** **01 37 37.3 +0.2**
SNAA IAmb IAmb 01 37 46.5
comp=Z,104nm,1.0s
BMAR Burnt Mountain 95.28 23 P **P** **01 37 37.1 0.0**
CRQM Cirque 95.32 30 IAmb IAmb 01 37 43.0
comp=Z,104nm,1.0s
CRQM IAMs_20 IAMs_20 02 19 59.9
comp=Z,8µm,20.0s
MCARA McCarthy VSAT 95.42 29 IAmb IAmb 01 37 55.3
comp=Z,82nm,1.0s
TGL Tana Glacier 95.47 30 IAmb IAmb 01 37 42.7
comp=Z,207nm,1.4s
ANN Anapa 95.59 314 *e*P **P** **01 37 36.9 -2.0**
ANN *e**PP **PcP** **01 37 41.6 +2.5**
ANN *e*PPP PPP 01 43 34.6
ANN *e* 01 48 13.1
ANN *e*PS **PS** **01 50 15.2 -0.5**
ANN pmax pmax
comp=Z,59nm,0.9s
ANN MLR MLR
comp=Z,11µm,25.0s
ANN MLR MLR
comp=E,8µm,25.0s
BALM Baldy 95.73 29 IAmb IAmb 01 37 44.8
comp=Z,66nm,1.0s
MESA MESA 95.86 30 IAMs_20 IAMs_20 02 16 17.7
comp=Z,11µm,22.0s
YAH Yahtse 95.98 30 IAMs_20 IAMs_20 02 20 43.6
comp=Z,9µm,21.0s
BCAR Beaver Creek A 96.12 27 P **P** **01 37 40.7 -0.3**
MOS Moscow 96.20 325 *e*P **P** **01 37 39.6 -1.8**
MOS *e* 01 41 35.7
MOS *e* 01 48 15.6
MOS *e*SS SS 01 55 33.0 +1.7
MOS pmax pmax
comp=Z,77nm,1.1s
MOS MLR MLR
comp=Z,9µm,20.0s
MOS MLR MLR
comp=E,7µm,22.0s
MOS MLR MLR
comp=N,3µm,21.0s
CTGM Chitina Glacie 96.21 29 IAmb IAmb 01 37 50.9
comp=Z,135nm,1.2s
MMAI Mount Meron Ar 96.30 302 P **P** **01 37 43.0 +0.5**
comp=Z,3.1nm,0.7s,baz=81,slow=8.9,SNR=4.4
EIL Elat 96.43 299 P **P** **01 37 43.3 +0.1**
comp=Z,4.3nm,0.8s,baz=340,slow=5.7,SNR=6.0
EIL PKKPbc **PKKPbc** **01 54 28.3 -0.3**
comp=Z,3.2nm,0.7s,baz=322,slow=3.3,SNR=4.2
TMCR Tamitsa 96.44 334 *e*P **P** **01 37 41.0 -1.3**
TMCR *e*S **SKSac** **01 48 17.3 +0.2**
TMCR pmax pmax
comp=Z,87nm,1.1s
EGAK Eagle 96.49 26 IAmb IAmb 01 37 51.9
comp=Z,69nm,1.0s
PCA Pinnacle 96.70 30 IAMs_20 IAMs_20 02 16 56.0
comp=Z,8µm,21.0s
OBN Obninsk 96.77 325*c* *e*P **P** **01 37 43.5 -0.5**
OBN *i* 01 41 41.2
OBN *i* S **SKSac** **01 48 19.5 +0.4**
OBN *i* PS **PS** **01 50 24.1 -4.0**
OBN *i* SS **SS** **01 55 39.3 -0.1**
OBN pmax pmax
comp=Z,96nm,2.0s
OBN MLR MLR
comp=Z,7µm,19.0s
OBN Obninsk 96.77 325 P **P** **01 37 42.8 -1.2**
comp=Z,6.9nm,0.7s,baz=101,slow=5.3,SNR=7.3
OBN Obninsk 96.77 325 P **P** **01 37 42.9 -1.2**
OBN IAmb IAmb 01 37 54.8
comp=Z,138nm,1.3s
VNA2 Neumayer--Watz 96.84 193 P **P** **01 37 45.3 +1.2**
baz=127,slow=3.3
VNA2 Neumayer--Watz 96.84 193 PP **PP** **01 41 35.0 -3.9**
baz=106,slow=6.1
VNA3 Neumayer Olymp 97.12 193 P Pdif 01 37 45.7 +0.2
VNA3 Neumayer Olymp 97.12 193 PP **PP** **01 41 33.5 -7.6**
DAWY Dawson 97.23 26 IAmb IAmb 01 37 56.3
comp=Z,101nm,1.1s
VNA1 Neumayer--Stat 97.24 193 P Pdif 01 37 46.8 +0.8
VNA1 Neumayer--Stat 97.24 193 PP **PP** **01 41 43.0 +1.1**
MBAR Mbarara 97.55 268 P **P** **01 37 48.3 -0.5**
comp=Z,3.4nm,0.2s,baz=96,slow=4.9,SNR=8.8

MBAR Mbarara 97.55 268 P **P** **01 37 47.7 -1.0**
MBAR IAMs_20 IAMs_20 02 21 33.9
comp=Z,10µm,20.0s
LSZ Lusaka 97.95 254 P **P** **01 37 49.4 -1.0**
LSZ pmax pmax
comp=Z,141nm,2.0s
LSZ MLR MLR
comp=Z,9µm,21.0s
LSZ Lusaka 97.95 254 P **P** **01 37 49.4 -1.0**
LSZ IAmb IAmb 01 37 53.7
comp=Z,141nm,2.0s
LSZ Lusaka 97.95 254 IAMs_20 IAMs_20 02 21 54.2
comp=Z,9µm,21.0s
SIM Simferopol' 97.96 314*ce* P **P** **01 37 48.2 -1.5**
SIM *e**PP **sP** **01 37 57.0 -2.8**
SIM *e* 01 41 52.0
SIM *e* 01 48 27.0
SIM *e*S **S** **01 49 17.0 +2.2**
SIM *e*PS **PS** **01 50 35.0 -6.6**
SIM pmax pmax
comp=Z,800nm,5.4s
SIM pmax pmax
comp=Z,3µm,10.4s
BOSA Boshof 98.09 240 P **P** **01 37 50.4 -0.5**
comp=Z,23nm,0.8s,baz=107,slow=4.9,SNR=22
BOSA LR LR 02 21 22.2
comp=Z,4µm,18.2s,baz=103,slow=35
BOSA Boshof 98.09 240 P **P** **01 37 50.0 -0.8**
BOSA IAmb IAmb 01 37 54.3
comp=Z,75nm,1.3s
BR131 Keskin Array S 98.11 309 P Pdif 01 37 51.2 +0.5
BR131 pmax pmax
comp=Z,30nm,1.5s
BR131 Keskin Array S 98.11 309 P Pdif 01 37 51.2 +0.5
BRTR Keskin Array B 98.11 309 *i* P Pdif 01 37 52.2 +1.5
BRTR pmax pmax
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 98.11 309 P Pdif 01 37 51.6 +0.9
comp=Z,3.9nm,1.0s,baz=129,slow=4.9,SNR=14
BRTR PKKPbc **PKKPbc** **01 54 25.8 +1.2**
comp=Z,0.9nm,0.8s,baz=167,slow=1.6,SNR=5.5
BRTR LR LR 02 27 37.9
comp=Z,3µm,21.7s,baz=81,slow=39
BRTR Keskin Array B 98.11 309 P **P** **01 37 50.4 -0.3**
EPYK Eagle Plains 98.35 24 IAmb IAmb 01 37 56.6
comp=Z,99nm,1.1s
APA Apatity 98.37 337⇑ *i*P Pdif 01 37 52.0 +1.0
APA *i* 01 41 49.0
APA *i* 01 48 26.0
APA *i* S **S** **01 49 17.0 -0.2**
APA *i* PS **PS** **01 50 46.0 +0.9**
APA *i* SS **SS** **01 55 59.0 -2.3**
APA pmax pmax
comp=Z,24nm,1.0s
APA MLR MLR
comp=Z,14µm,21.0s
LBTB Lobatse 98.55 243 P **P** **01 37 52.9 -0.1**
LBTB pmax pmax
comp=Z,78nm,1.2s
LBTB Lobatse 98.55 243 P **P** **01 37 52.9 -0.1**
LBTB IAmb IAmb 01 37 56.4
comp=Z,78nm,1.2s
BESE Bessie Mountai 99.47 32 IAmb IAmb 01 38 07.9
comp=Z,59nm,1.1s
INK Inuvik 99.47 22 P **Pdif** **01 37 55.9 0.0**
comp=Z,60nm,1.1s,baz=291,slow=5.7,SNR=18
INK PKKPbc **PKKPbc** **01 54 18.6 -2.9**
comp=Z,5.0nm,0.9s,baz=84,slow=1.9,SNR=11
INK Inuvik 99.47 22 IAmb IAmb 01 38 01.2
comp=Z,87nm,1.2s
ITZ Itezhi-Tezhi 99.93 253 *i* P **Pdif** **01 37 55.2 -4.1**
KEV Kevo 100.50 340 IAMs_20 IAMs_20 02 27 03.8
comp=Z,7µm,20.0s
ARCES ARCESS Array B 101.06 340 P **Pdif** **01 38 02.5 -0.5**
comp=Z,26nm,0.8s,baz=84,slow=4.9,SNR=20
ARCES PKiKP **PKiKP** **01 42 30.1 +2.2**
comp=Z,6.2nm,1.0s,baz=101,slow=1.8,SNR=4.0
ARCES PKKPbc **PKKPbc** **01 54 14.9 -2.1**
comp=Z,6.2nm,0.9s,baz=262,slow=3.3,SNR=7.3
AKASG Malin Array Be 101.22 320 *i* P **Pdif** **01 38 06.3 +2.2**
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 101.22 320 P **Pdif** **01 38 04.1 0.0**
comp=Z,6.4nm,0.8s,baz=70,slow=4.5,SNR=17
AKBB Malin Array Si 101.22 320 P **Pdif** **01 38 04.7 +0.6**
AKBB MLR MLR
comp=Z,6µm,21.0s
AKBB Malin Array Si 101.22 320 **Pdif** **01 38 04.7 +0.6**
SPITS Spitsbergen Ar 101.29 349 P **Pdif** **01 38 04.0 +0.2**
comp=Z,41nm,0.9s,baz=83,slow=14,SNR=7.4
KIS Kishinev 101.65 316 *e*P **Pdif** **01 38 05.0 -1.1**
comp=Z,900nm,4.0s
KIS Kishinev 101.65 316 *e*PP **PKiKP** **01 42 24.0 -5.6**
comp=Z,2µm,18.0s
KIS Kishinev 101.65 316 *e*PPP PPP 01 44 24.0
KIS *e*SKP 01 46 00.0
KIS *e*SKS 01 48 44.0
KIS *e*SKKS SKKSac 01 49 08.0 -13
KIS *e*S **Sdif** **01 49 39.0 -6.6**
comp=Z,3µm,12.0s
KIS Kishinev 101.65 316 *e*P **Pdif** **01 38 05.0 -1.1**
KIS *e* 01 42 24.0
KIS *e*PPP PPP 01 44 24.0
KIS *e* 01 48 44.0
KIS *e*S **Sdif** **01 49 39.0 -6.6**
KIS *e*PS PS 01 51 18.0 -3.1
KIS *e*PPS PPS 01 52 02.0
KIS pmax pmax
comp=Z,900nm,4.0s
KIS pmax pmax
comp=Z,1µm,11.0s
TLCR 101.71 315 ⇑P **Pdif** **01 38 06.2 -0.1**
TLCR 101.71 315 ⇑P **Pdif** **01 38 06.2 -0.1**
MICGM Minsk 101.80 324⇑ *e*P **Pdif** **01 38 10.0 +3.4**
MICGM PM 01 38 11.0
comp=Z,0.2nm,1.0s
MICGM *e*PP **PKiKP** **01 42 24.0 -5.6**
MICGM *e*PPP PPP 01 44 36.0
MICGM *e*SKS 01 48 44.0
MICGM *e*S **Sdif** **01 49 52.0 +5.4**
MICGM *e*PS PS 01 51 08.0 -14
MICGM *e*SS **SS** **01 57 00.0 +10**
MICGM *e*SSS SSS 02 01 00.0
MICGM *e*LQ LQ 02 14 40.0
MICGM *e*LR LR 02 19 00.0
MICGM LRM MLR 02 21 12.0
comp=N,19nm,24.0s
MICGM LRM MLR 02 21 30.0
comp=N,8.9nm,24.0s
MICGM LRM MLR 02 24 00.0
comp=Z,13nm,24.0s
MICGM LRM MLR 02 24 16.0
comp=Z,20nm,24.0s
MICGM LRM MLR 02 25 12.0
comp=E,13nm,24.0s
MICGM LRM MLR 02 25 16.0
comp=E,5.1nm,24.0s
MNK Minsk 101.80 324⇑ *e*P **Pdif** **01 38 10.0 +3.4**
MNK *e* 01 42 24.0
MNK *e*PPP PPP 01 44 36.0
MNK *e* 01 48 44.0
MNK *e*S **Sdif** **01 49 52.0 +5.4**
MNK *e*SS **SS** **01 57 00.0 +10**
MNK pmax pmax
comp=Z,150nm,1.0s
KBS Kingsbay 101.82 350 IAMs_20 IAMs_20 02 23 28.6
comp=Z,11µm,22.0s
TIRR Tirgusor 102.02 314 IAMs_20 IAMs_20 02 32 43.5
comp=Z,8µm,20.0s
FINES FINESS Array B 102.04 331 P **Pdif** **01 38 06.8 -0.7**
comp=Z,6.7nm,0.7s,baz=76,slow=4.8,SNR=10
CFR Carcaliu 102.19 315 ⇓P **Pdif** **01 38 08.8 +0.3**
CFR Carcaliu 102.19 315 ⇓P **Pdif** **01 38 08.8 +0.3**
CFR Carcaliu 102.19 315 ⇑P **PKKPbc** **01 54 10.5 -2.4**
PSN Preselentsi 102.22 313 *e*P **PP** **01 42 20.0 -0.9**
TLB Topalu 102.28 314 ⇓P **Pdif** **01 38 08.5 -0.4**
TLB Topalu 102.28 314 ⇓P **Pdif** **01 38 08.5 -0.4**
HARR Harsova 102.36 314 ⇑P **Pdif** **01 38 12.0 +2.7**
HARR Harsova 102.36 314 ⇑P **Pdif** **01 38 12.0 +2.7**
NACGM Naroch 102.41 325 *e*P **Pdif** **01 38 09.0 -0.2**
NACGM *e*P **Pdif** **01 38 09.0 -0.2**
NACGM *e*PPP PPP 01 44 40.0
NACGM *e*SKS 01 48 46.0
NACGM *e*S **Sdif** **01 49 50.0 -1.6**

NACGM				eSS	SS	01 56 32.0	-26
NACGM				eSSS	SSS	02 00 24.0	
NACGM				eLQ	LQ	02 18 10.0	
IZAR	Zarasai	102.62	326	eSP	SP	01 51 29.7	+2.5
VRI	Vrincioaia	103.15	315	⇑P	Pdif	01 38 14.0	+1.2
VRI	Vrincioaia	103.15	315	⇑P	Pdif	01 38 14.0	+1.2
TESR	Tescani	103.16	316	⇑P	Pdif	01 38 12.9	+0.1
PLOR	Plostina	103.20	315	⇑P	Pdif	01 38 16.0	+2.9
PLOR	Plostina	103.20	315	⇑P	Pdif	01 38 16.0	+2.9
JMB	Yambol	103.44	312	eP	PP	01 42 26.0	-4.1
BIZ	Bicaz	103.51	316	⇓P	Pdif	01 38 15.9	+1.6
MLR	Muntele Rosu	103.72	315	⇑P	Pdif	01 38 15.6	+0.1
MLR	Muntele Rosu	103.72	315	Pdiff	Pdif	01 38 15.8	+0.3
	comp=Z,7.2nm,0.8s,baz=323,slow=18,SNR=7.7						
MLR				PP	PKiKP	01 42 34.6	+1.0
	comp=Z,26nm,1.0s,baz=27,slow=6.8,SNR=4.3						
MLR				PKKPbc	PKKPbc	01 54 08.8	+0.2
	comp=Z,3.7nm,0.9s,baz=135,slow=13,SNR=4.7						
MLR	Muntele Rosu	103.72	315	⇑P	Pdif	01 38 15.6	+0.1
MLR	Muntele Rosu	103.72	315	⇑P	PKKPbc	01 54 10.6	+2.0
MLR	Muntele Rosu	103.72	315		Pdif	01 38 16.5	+1.0
MLR	Muntele Rosu	103.72	315	IAMs_20	IAMs_20	02 29 23.3	
	comp=Z,10µm,22.0s						
ELND	Elena	103.93	312	⇑P	PKKPbc	01 54 08.4	+0.8
PABE	Paberze	103.94	325	eSP	SP	01 51 40.2	-0.8
BURAR	Bucovina Array	104.06	317	⇑P	Pdif	01 38 18.3	+1.4
BURAR	Bucovina Array	104.06	317	⇑P	Pdif	01 38 18.3	+1.4
BURAR	Bucovina Array	104.06	317	⇑P	PKKPbc	01 54 08.2	+0.6
BURAR	Bucovina Array	104.06	317		Pdif	01 38 17.5	+0.6
PVL	Pavlikeni	104.31	313	eP	PP	01 42 41.0	+4.4
KDZ	Kurdzhali	104.35	311	eP	PP	01 42 38.2	+1.2
VOIR		104.35	315	⇑P	Pdif	01 38 19.1	+0.9
VOIR		104.35	315	⇑P	Pdif	01 38 19.1	+0.9
SUW	Suwalki	104.60	324	eP	Pdif	01 38 18.4	-0.6
SUW				e		01 42 43.4	
SUW				e		01 48 58.8	
SUW				eSP	SP	01 51 48.7	+0.7
SUW	Suwalki	104.60	324	ePdif	Pdif	01 38 18.4	-0.6
SUW				ePdif	Pdif	01 38 18.4	-0.6
SUW				ePP	PP	01 42 43.4	+5.0
SUW				ePP	PP	01 42 43.4	+5.0
SUW				eSKSac	SKSac	01 48 58.8	+1.4
SUW				eSKSac	SKSac	01 48 58.8	+1.4
SUW				eSP	SP	01 51 48.7	+0.7
SUW				eSP	SP	01 51 48.7	+0.7
SUW				eL	L	02 22 32.7	
	comp=Z,18µm,30.5s						
SUW				eL	L	02 22 32.7	
	comp=Z,18µm,30.5s						
LVV	L'vov	104.61	320	eP	Pdif	01 38 19.4	+0.2
LVV				e		01 42 36.3	
LVV				eS	Sdif	01 50 08.3	-2.0
ARR	Arges	104.65	315	⇓P	Pdif	01 38 19.1	-0.4
RZN	Rozhen	104.87	311	eP	PP	01 42 39.6	-1.4
PBUR	Paburg	105.00	326	eSP	SP	01 51 49.5	-2.6
PGB	Panagyurishte	105.21	312	eP	PP	01 42 49.7	+6.3
KWP	Kalwaria Pacla	105.49	319	eP	Pdif	01 38 25.2	+2.1
KWP				e		01 42 46.6	
KWP				eSP	SP	01 51 59.8	+2.2
KWP	Kalwaria Pacla	105.49	319	ePdif	Pdif	01 38 25.2	+2.1
KWP				ePdif	Pdif	01 38 25.2	+2.1
KWP				ePP	PP	01 42 46.5	+1.4
KWP				ePP	PP	01 42 46.5	+1.4
KWP				eSP	SP	01 51 59.8	+2.2
KWP				eSP	SP	01 51 59.8	+2.2
KWP				eL	L	02 20 55.6	
	comp=Z,14µm,37.5s						
KWP				eL	L	02 20 55.6	
	comp=Z,14µm,37.5s						
MMB	Musomiste	105.61	311	eP	PP	01 42 49.1	+2.7
TRPA	Tarpa	105.79	318	⇑P	Pdif	01 38 24.8	+0.3
TRPA	Tarpa	105.79	318	ePKiKP	PP	01 42 49.1	+1.7
DRGR		105.84	317	⇑P	Pdif	01 38 26.2	+1.4
DRGR		105.84	317	⇑P	Pdif	01 38 26.2	+1.4
DRGR		105.84	317	⇑P	PKKPbc	01 54 02.2	+0.1
KOLS	Kolonicke sedl	105.86	319	eP	Pdif	01 38 30.9	+6.1
KOLS	Kolonicke sedl	105.86	319	ePDIFF	Pdif	01 38 30.9	+6.1
UZH	Uzhgorod	105.89	318	eP	Pdif	01 38 26.0	+1.1
UZH				e		01 42 48.4	
UZH				i PPP	PPP	01 45 06.2	
UZH				i		01 49 01.9	
UZH				i S	Sdif	01 50 17.4	-3.5
UZH				i PS	PS	01 52 04.6	-1.0
UZH				MLR	MLR		
	comp=N,1µm,20.0s						
UZH				MLR	MLR		
	comp=E,1µm,20.0s						
UZH				MLR	MLR		
	comp=Z,500nm,20.0s						
VTS	Vitosha	105.89	312	eP	PP	01 42 51.7	+3.2
VTS	Vitosha	105.89	312	⇑P	PKKPbc	01 54 04.0	+2.1
GZR	Gura Zlata	105.95	315	⇑P	Pdif	01 38 27.6	+2.3
GZR	Gura Zlata	105.95	315	⇑P	Pdif	01 38 27.6	+2.3
GZR	Gura Zlata	105.95	315	⇑P	PKKPbc	01 54 00.2	-1.5
KKB	Krupnik	106.07	311	eP	PP	01 42 50.8	+1.1
HERR	Herculane	106.26	315	⇑P	Pdif	01 38 27.4	+0.7
HERR	Herculane	106.26	315	⇑P	PKKPbc	01 54 01.8	+1.2
LTVH	Ltavrtes, Hu	106.31	317	ePKiKP	PP	01 42 55.0	+3.8
BEL	Belsk	106.37	322	eP	Pdif	01 38 21.1	-5.9
BEL				e		01 42 51.6	
BEL				eSP	SP	01 52 06.7	+0.2
BEL				MLR	MLR		
	comp=Z,12µm,31.9s						
BEL	Belsk	106.37	322	ePdif	Pdif	01 38 21.1	-5.9
BEL				ePdif	Pdif	01 38 21.1	-5.9
BEL				ePP	PP	01 42 51.6	+0.1
BEL				ePP	PP	01 42 51.6	+0.1
BEL				eSP	SP	01 52 06.7	+0.2
BEL				eSP	SP	01 52 06.7	+0.2
BEL				eL	L	02 25 37.5	
	comp=Z,11µm,31.9s						
BEL				eL	L	02 25 37.5	
	comp=Z,11µm,31.9s						
SIRR	Siria	106.62	316	⇑P	Pdif	01 38 30.1	+1.9
SIRR	Siria	106.62	316	⇑P	PKKPbc	01 54 00.5	+0.9
BZS	Buzias	106.73	315	⇑P	PKKPbc	01 54 00.5	+1.3
MDVR	Moldovita	106.77	315	⇓P	Pdif	01 38 29.9	+0.9
NIE	Niedzica	107.07	320	eP	Pdif	01 38 30.7	+0.5
NIE				e		01 43 00.9	
NIE				e		01 49 13.4	
NIE	Niedzica	107.07	320	ePdif	Pdif	01 38 30.7	+0.5
NIE				ePdif	Pdif	01 38 30.7	+0.5
NIE				ePP	PP	01 43 00.9	+4.0
NIE				ePP	PP	01 43 00.9	+4.0
NIE				eSKSac	SKSac	01 49 13.4	+4.6
NIE				eSKSac	SKSac	01 49 13.4	+4.6
NIE				eL	L	02 22 20.0	
	comp=Z,9µm,38.4s						
NIE				eL	L	02 22 20.0	
	comp=Z,9µm,38.4s						
OJC	Ojcow	107.26	320	eP	Pdif	01 38 30.3	-0.7
OJC				e		01 43 03.1	
OJC				e		01 49 12.7	
OJC				eSP	SP	01 52 17.2	+1.4
OJC	Ojcow	107.26	320	ePdif	Pdif	01 38 30.3	-0.7
OJC				ePdif	Pdif	01 38 30.3	-0.7
OJC				ePP	PP	01 43 03.1	+4.9
OJC				ePP	PP	01 43 03.1	+4.9
OJC				eSKSac	SKSac	01 49 12.7	+3.3
OJC				eSKSac	SKSac	01 49 12.7	+3.3
OJC				eSP	SP	01 52 17.2	+1.4
OJC				eSP	SP	01 52 17.2	+1.4
OJC				eL	L	02 22 00.1	
	comp=Z,13µm,33.7s						
OJC				eL	L	02 22 00.1	
	comp=Z,13µm,33.7s						
BSZH	Besenyszg	107.43	317	ePKiKP	PKiKP	01 42 51.0	+11
BSZH				eSS	SP	01 52 19.0	+1.4
KBO	Bosley Butte	107.54	48	IAMs_20	IAMs_20	02 18 36.4	
	comp=Z,7µm,22.0s						
PSZ	Piszkesteto	107.58	318	ePKiKP	PKiKP	01 42 49.0	+8.4
JCC	Jacoby Creek,	107.84	49	IAMs_20	IAMs_20	02 28 01.5	
	comp=Z,8µm,18.0s						
KRMB	Red Mountain	107.85	49	IAMs_20	IAMs_20	02 30 09.8	
	comp=Z,8µm,18.0s						
COR	Corvallis	107.91	45	IAMs_20	IAMs_20	02 19 25.9	
	comp=Z,10µm,21.0s						
KMRM	Mail Ridge	108.15	50	IAMs_20	IAMs_20	02 29 40.8	
	comp=Z,7µm,19.0s						
VYHS	Vyhne	108.18	319	eP	Pdif	01 38 38.4	+3.3
VYHS				e		01 43 08.5	
VYHS	Vyhne	108.18	319	ePDIFF	Pdif	01 38 38.4	+3.3
VYHS				e		01 42 06.6	
VYHS				ePP	PP	01 43 08.5	+3.6
VYHS				e		01 53 55.5	
VYHS				e		01 54 09.1	
GKP	Gorka Klasztor	108.21	324	eP	Pdif	01 38 37.7	+2.6
GKP				e		01 43 07.3	
GKP				MLR	MLR		
	comp=N,17µm,30.9s						
GKP	Gorka Klasztor	108.21	324	ePdif	Pdif	01 38 37.6	+2.6
GKP				ePdif	Pdif	01 38 37.6	+2.6
GKP				ePP	PP	01 43 07.3	+2.4
GKP				ePP	PP	01 43 07.3	+2.4
GKP				eL	L	02 25 11.4	
	comp=N,17µm,30.9s						
GKP				eL	L	02 25 11.4	
	comp=N,17µm,30.9s						
HFS	Hagfors	108.24	331	Pdiff	Pdif	01 38 35.2	+0.1
	comp=N,7.8nm,0.9s,baz=108,slow=4.8,SNR=6.0						
OKC	Ostrava-Krasne	108.38	320	eP	Pdif	01 38 37.7	+1.8
OKC				e		01 43 06.2	
OKC				eSP	SP	01 52 22.4	-4.8
OKC				MLR	MLR		
	comp=Z,6µm,21.0s						
OKC	Ostrava-Krasne	108.38	320	ePDIFF	Pdif	01 38 37.7	+1.8
OKC				ePP	PP	01 43 06.2	-0.1
OKC				eSP	SP	01 52 22.4	-4.8
OKC				AMS	AMS	02 27 20.0	
	comp=Z,6µm,21.0s						
HUMO	Hull Mountain	108.42	48	IAMs_20	IAMs_20	02 19 07.8	
	comp=Z,10µm,22.0s						
YKA	Yellowknife Ar	108.47	26	PKiKP	PKiKP	01 42 41.5	-0.1
	comp=Z,4.9nm,0.7s,baz=292,slow=1.9,SNR=9.0						
YKA				PKKPbc	PKKPbc	01 53 51.2	-3.1
	comp=Z,5.7nm,1.0s,baz=106,slow=3.1,SNR=12						
YKA	Yellowknife Ar	108.47	26		PKiKP	01 42 43.2	+1.5
B06A	Marblemount	108.52	41	IAMs_20	IAMs_20	02 23 48.5	
	comp=Z,8µm,20.0s						
YBH	Yreka Blue Hor	108.72	48	IAMs_20	IAMs_20	02 20 23.7	
	comp=Z,9µm,22.0s						
CSKK	Cskako	108.76	318	ePKiKP	PP	01 43 05.1	-4.1
MORC	Moravsky Berou	108.77	320	ePDIFF	Pdif	01 38 37.2	-0.6
MORC				ePP	PP	01 43 13.0	+3.8
MORC				eSP	SP	01 52 27.8	-3.5
JAVC	Velka Javorina	108.87	319	ePDIFF	Pdif	01 38 41.2	+3.0
JAVC				ePP	PP	01 43 15.2	+5.2
JAVC				eSP	SP	01 52 34.5	+2.1
WDC	Whiskeytown Da	108.99	50	IAMs_20	IAMs_20	02 16 52.9	
	comp=Z,10µm,22.0s						
MCCM	Marconi Confer	109.01	52	IAMs_20	IAMs_20	02 26 18.8	
	comp=Z,10µm,19.0s						
NB2	NORSAR Subarra	109.09	333	P	Pdif	01 38 37.8	-1.1
	comp=Z,0.7nm,0.6s,baz=71,slow=4.4						
NOA	NORSAR Array B	109.09	333	Pdiff	Pdif	01 38 37.1	-1.8
	comp=Z,1.4nm,0.8s,baz=107,slow=4.1,SNR=4.8						
NOA				PKiKP	PKiKP	01 42 43.9	+0.9
	comp=Z,1.3nm,0.7s,baz=262,slow=3.3,SNR=4.3						
TIH	Tihany	109.09	317	ePKiKP	PP	01 43 07.0	-4.6
KRLC	Kraliky	109.19	321	eP	Pdif	01 38 38.8	-0.8
KRLC				e		01 43 17.0	
KRLC				eSP	SP	01 52 29.8	-5.7
KRLC				MLR	MLR		
	comp=Z,7µm,26.5s						
KRLC	Kraliky	109.19	321	ePDIFF	Pdif	01 38 38.8	-0.8
KRLC				ePP	PP	01 43 17.0	+4.7
KRLC				eSP	SP	01 52 29.8	-5.7
KRLC				AMS	AMS	02 27 50.0	
	comp=Z,7µm,26.5s						
MODS	Modra-Piesok	109.22	319	e	PKKPbc	01 53 54.9	+3.4
MPLH	Magyarpolny	109.28	318	ePKiKP	PP	01 43 11.1	-1.8
LTY	Liberty	109.29	42	IAMs_20	IAMs_20	02 18 09.2	
	comp=Z,7µm,20.0s						
KSP	Ksiaz	109.33	322	eP	Pdif	01 38 35.1	-5.0
KSP				e		01 43 17.9	
KSP				eSP	SP	01 52 32.8	-4.0
KSP				eSS	SS	01 58 33.4	+0.7
KSP				MLR	MLR		
	comp=Z,8µm,30.0s						
KSP	Ksiaz	109.33	322	ePdif	Pdif	01 38 35.1	-5.0
KSP				ePdif	Pdif	01 38 35.1	-5.0
KSP				ePP	PP	01 43 17.9	+4.7
KSP				ePP	PP	01 43 17.9	+4.7
KSP				eSKSac	SKSac	01 49 29.4	+11
KSP				eSKSac	SKSac	01 49 29.4	+11
KSP				eSP	SP	01 52 32.8	-4.0
KSP				eSP	SP	01 52 32.8	-4.0
KSP				eSS	SS	01 58 33.4	+0.7
KSP				eSS	SS	01 58 33.4	+0.7
KSP				eL	L	02 26 52.9	
	comp=Z,8µm,30.0s						
KSP				eL	L	02 26 52.9	
	comp=Z,8µm,30.0s						
DPC	Dobruska-Polom	109.42	321	eP	Pdif	01 38 39.8	-0.8
DPC				eSP	SP	01 52 31.3	-6.6
DPC				MLR	MLR		
	comp=Z,9µm,27.7s						
DPC	Dobruska-Polom	109.42	321	ePDIFF	Pdif	01 38 39.8	-0.8
DPC				ePP	PP	01 43 00.5	-13
DPC				eSP	SP	01 52 31.3	-6.6
DPC				AMS	AMS	02 26 20.0	
	comp=Z,9µm,27.7s						
OSTC	Ostas	109.44	321	ePDIFF	Pdif	01 38 37.9	-2.8
OSTC				ePP	PP	01 43 13.9	-0.1
OSTC				eSP	SP	01 52 29.9	-8.1
OSTC				AMS	AMS	02 25 40.0	
	comp=Z,6µm,26.6s						
VRAC	Vranov	109.47	320	Pdiff	Pdif	01 38 44.5	+3.7
	comp=Z,1.2nm,0.6s,baz=159,slow=6.3,SNR=4.1						
VRAC	Vranov	109.47	320	⇑P	PKKPab	01 54 03.7	+2.8
VRAC	Vranov	109.47	320	ePDIFF	Pdif	01 38 40.2	-0.7
VRAC				ePP	PP	01 43 18.8	+4.5
VRAC				eSP	SP	01 52 40.0	+1.6
CHVC	Chvalec	109.53	321	ePP	PP	01 43 12.2	-2.5
CHVC				eSP	SP	01 52 30.7	-8.3
CHVC				AMS	AMS	02 26 30.0	
	comp=Z,9µm,28.2s						
UPC	Upice	109.58	321	eP	Pdif	01 38 36.7	-4.6
UPC				eSP	SP	01 52 31.0	-8.4
UPC				MLR	MLR		
	comp=Z,14µm,39.6s						
UPC	Upice	109.58	321	ePDIFF	Pdif	01 38 36.7	-4.6
UPC				ePP	PP	01 43 01.2	-14
UPC				eSP	SP	01 52 31.0	-8.4
UPC				AMS	AMS	02 26 50.0	
	comp=Z,14µm,39.6s						
KRUC	Moravsky	109.65	320	ePDIFF	Pdif	01 38 42.2	+0.6
KRUC				ePP	PP	01 43 20.3	+4.7
KRUC				eSP	SP	01 52 42.4	+2.2
SOP	Sopron	109.83	318	ePKiKP	PKiKP	01 43 04.1	+19
TULEG	Thule	109.89	4	IAMs_20	IAMs_20	02 27 31.8	
	comp=Z,8µm,22.0s						
BEHE	Becsehely	109.93	317	ePKiKP	PP	01 43 20.1	+2.4
B08A	Colville Reser	109.95	41		Pdif	01 38 44.8	+1.7
B08A				IAMs_20	IAMs_20	02 24 42.5	
	comp=Z,7µm,20.0s						
RGN	Rugen	110.12	326	eSP	SP	01 52 43.1	-1.4
TREC	Trest	110.18	320	eP	Pdif	01 38 42.9	-1.1
TREC				eSP	SP	01 52 46.6	+1.2
TREC				MLR	MLR		
	comp=Z,12µm,28.0s						
TREC	Trest	110.18	320	ePDIFF	Pdif	01 38 42.9	-1.1
TREC				ePP	PP	01 43 11.4	-8.0
TREC				eSP	SP	01 52 46.6	+1.2
TREC				AMS	AMS	02 28 30.0	
	comp=Z,12µm,28.0s						
CONA	Conrad Observa	110.24	319	epPKiKP	PKiKP	01 42 52.2	+6.5
	comp=Z,14nm,1.4s						
CONA				ePKKPbc	PKKPbc	01 53 48.8	+0.5
	comp=Z,15nm,1.2s						
COP	Copenhagen	110.27	327	i P	SP	01 52 45.1	-0.6
	comp=Z,6µm,26.0s						
SAO	San Andreas Ge	110.30	53	IAMs_20	IAMs_20	02 29 56.9	
	comp=Z,6µm,18.0s						
KONO	Kongsberg	110.35	332	IAMs_20	IAMs_20	02 29 39.4	
	comp=Z,9µm,20.0s						
AFDM	Forest Hills D	110.40	51	IAMs_20	IAMs_20	02 28 57.5	
	comp=Z,8µm,19.0s						
RUE	Ruedersdorf	110.44	324	eSP	SP	01 52 47.3	-0.2
PVCC	Panska Ves	110.47	321	eP	Pdif	01 38 44.9	-0.3
PVCC				eSP	SP	01 52 38.5	-9.5
PVCC				MLR	MLR		
	comp=Z,6µm,22.7s						
PVCC	Panska Ves	110.47	321	ePDIFF	Pdif	01 38 44.9	-0.3
PVCC				ePP	PP	01 43 15.9	-5.5
PVCC				eSP	SP	01 52 38.5	-9.5
PVCC				AMS	AMS	02 27 20.0	
	comp=Z,6µm,22.7s						
GOPC	GO Pecny, Ondr	110.48	321	eP	Pdif	01 38 44.9	-0.4
GOPC				e		01 43 17.7	
GOPC				eSP	SP	01 52 46.3	-1.9
GOPC				MLR	MLR		
	comp=Z,8µm,23.2s						
GOPC	GO Pecny, Ondr	110.48	321	ePDIFF	Pdif	01 38 44.9	-0.4
GOPC				ePP	PP	01 43 17.7	-3.9
GOPC				eSP	SP	01 52 46.3	-1.9
GOPC				AMS	AMS	02 27 50.0	
	comp=Z,8µm,23.2s						
E08A	Dider Farm, El	110.52	43	IAMs_20	IAMs_20	02 23 29.8	
	comp=Z,7µm,22.0s						
ARSA	Arzberg	110.61	318	epPKiKP	PKiKP	01 42 47.9	+1.7
	comp=Z,13nm,1.7s						
ARSA				ePKKPbc	PKKPbc	01 53 49.1	+2.1
	comp=Z,6.7nm,0.9s						
PRU	Pruhonice	110.62	321	eP	Pdif	01 38 44.9	-1.0
PRU				e		01 43 20.1	
PRU				eSP	SP	01 52 49.5	+0.1
PRU				MLR	MLR		
	comp=Z,10µm,24.9s						
PRU	Pruhonice	110.62	321	ePDIFF	Pdif	01 38 44.9	-1.0
PRU				ePP	PP	01 43 20.1	-2.4
PRU				eSP	SP	01 52 49.5	+0.1
PRU				AMS	AMS	02 27 50.0	
	comp=Z,10µm,24.9s						
PRA	Prague	110.67	321	ePDIFF	Pdif	01 38 37.7	-8.4
PRA				ePP	PP	01 43 27.4	+4.6
PRA				eSP	SP	01 52 50.3	+0.5
PRA				AMS	AMS	02 27 50.0	
	comp=Z,9µm,24.9s						
BEKR	Beckworth	110.74	50	IAMs_20	IAMs_20	02 29 18.4	
	comp=Z,8µm,19.0s						
BRG	Berggiesshubel	110.77	322	i PDIFF	Pdif	01 38 47.3	+0.8
	comp=Z,29nm,2.0s						
BRG				i		01 38 53.7	
	comp=Z,25nm,1.6s						
BRG	Berggiesshubel	110.77	322	i PKP	PKiKP	01 42 33.1	-13
	comp=Z,49nm,2.1s						
BRG				PP	PP	01 43 19.0	-4.5
BRG				SKS	SKSac	01 49 06.0	-18
BRG				SDIFF	Sdif	01 50 46.0	-16
BRG				ePKKP	PKKPbc	01 53 44.4	-2.1
	comp=Z,44nm,2.0s						
BRG				SS	SS	01 58 45.0	-6.9
	comp=N,6µm,20.1s						
	comp=E,5µm,27.5s						
	comp=Z,11µm,21.5s						
BRG	Berggiesshubel	110.77	322	i P	Pdif	01 38 47.3	+0.8
BRG				SS	SS	01 58 45.0	-6.9
BRG				pmax	pmax		
	comp=Z,29nm,2.0s						
BRG				MLR	MLR		
	comp=N,6µm,20.1s						
BRG				MLR	MLR		
	comp=E,5µm,27.5s						
BRG				MLR	MLR		
	comp=Z,11µm,21.5s						
C09A	Chrisman Ranch	110.77	41	IAMs_20	IAMs_20	02 24 49.2	
	comp=Z,7µm,20.0s						
PMPB	Monarch Peak	110.88	54	IAMs_20	IAMs_20	02 18 46.0	
	comp=Z,7µm,22.0s						
PERS	Pernice	111.02	317	ePdiff	Pdif	01 38 48.0	+0.2
PERS				ePP	PP	01 43 29.2	+3.6
RUBR	Rubicon Trail	111.02	51	IAMs_20	IAMs_20	02 29 16.8	
	comp=Z,8µm,20.0s						
PBCC	Pribram	111.04	321	ePP	PP	01 43 21.9	-3.6
PBCC				eSP	SP	01 52 50.2	-3.0
PBCC				AMS	AMS	02 29 00.0	
	comp=Z,2µm,28.1s						
SOKA	Soboth	111.06	317	ePKiKP	PKiKP	01 42 47.9	+0.7
	comp=Z,23nm,1.6s						
CLL	Collm	111.22	323	ePdif	Pdif	01 38 50.0	+1.5
CLL				ePKiKP	PKiKP	01 42 47.0	-0.2
CLL				ePP	PP	01 43 25.0	-1.8
	comp=Z,718nm,3.2s						
CLL				ePPlp		01 43 33.0	
	comp=Z,3µm,16.1s						
CLL				ePPP	PPP	01 45 47.0	
CLL				e		01 45 58.0	
CLL				eSKSac	SKSac	01 49 25.0	-1.0
CLL				eSKKSac	SKKSac	01 50 24.0	-4.0
CLL				eSdif	Sdif	01 51 07.0	+1.7
CLL				ePS	SP	01 52 56.0	+1.2
CLL				ePKKPbc	PKKPbc	01 53 46.0	+1.0
CLL				ePKKPdf	PKKPdf	01 53 59.0	-4.3
CLL				ePPS	PPS	01 54 00.0	
CLL				eSS	SS	01 59 00.0	+2.0
CLL				eSSS	SSS	02 03 12.0	
CLL				e		02 04 30.0	
CLL				eSSSS		02 06 48.0	
CLL				LmV		02 41 00.0	
	comp=Z,7µm,20.4s						
CLL				Lmax		02 42 00.0	
CLL	Collm	111.22	323	IAMs_20	IAMs_20	02 35 08.2	
	comp=Z,7µm,21.0s						
MOA	Molln	111.31	319	PKiKP	PKiKP	01 42 48.0	+0.4
	comp=Z,6.1nm,1.3s						
MOA				ePKKPab	PKKPbc	01 53 46.8	+2.1
	comp=Z,17nm,1.5s						
PAGB	Antelope Grade	111.38	54	IAMs_20	IAMs_20	02 19 13.6	
	comp=Z,8µm,20.0s						
NEW	Newport	111.41	41	IAMs_20	IAMs_20	02 19 47.1	
	comp=Z,7µm,22.0s						
OBKA	Obir	111.42	317	PKiKP	PKiKP	01 42 48.6	+0.7
	comp=Z,26nm,1.9s						
GERES	GERESS Array B	111.43	320	Pdiff	Pdif	01 38 51.6	+2.0
	comp=Z,0.4nm,0.7s,baz=90,slow=1.0,SNR=2.8						
GERES				PKiKP	PKiKP	01 42 48.2	+0.4
	comp=Z,3.4nm,0.7s,baz=64,slow=2.3,SNR=12						
GERES				PP	PP	01 43 19.8	-8.7
	comp=Z,2.4nm,0.8s,baz=76,slow=8.2,SNR=3.6						
GERES				PKKPbc	PKKPbc	01 53 45.0	+0.6
	comp=Z,1.4nm,0.8s,baz=202,slow=1.4,SNR=6.7						
GERES	GERESS Array B	111.43	320		PKiKP	01 42 47.9	0.0
KHC	Kasperske Hory	111.44	320	eP	Pdif	01 38 47.2	-2.4
KHC				eSP	SP	01 52 56.0	-1.0
KHC				MLR	MLR		
	comp=Z,12µm,30.4s						
KHC	Kasperske Hory	111.44	320	ePDIFF	Pdif	01 38 47.2	-2.4
KHC				ex	x	01 42 22.5	
KHC				ex	x	01 42 53.5	
KHC				ePP	PP	01 43 23.7	-4.8
KHC				eSP	SP	01 52 56.0	-1.0
KHC				ePKKP	PKKPbc	01 53 45.5	+1.2
KHC				AMS	AMS	02 26 50.0	
	comp=Z,12µm,30.4s						
PNTR	Pine Nut	111.44	51	IAMs_20	IAMs_20	02 29 58.9	
	comp=Z,7µm,19.0s						
LJU	Ljubljana	111.54	317	ePdiff	Pdif	01 38 50.5	+0.3
LJU				ePKiKP	PKiKP	01 42 47.5	-0.5
LJU				ePP	PP	01 43 33.2	+3.9
LJU				eSKSac	SKSac	01 49 26.5	-1.2
LJU				eSKKSac	SKKSac	01 50 28.9	-1.6
LJU				eSdiff		01 51 11.7	
LJU				eSP	SP	01 52 58.6	+0.5
LJU				e		01 53 58.9	
LJU				eSS	SS	01 59 01.3	-1.3
LJU				e		02 01 29.7	
LJU				e		02 02 14.7	
MUD	Monsted U'grnd	111.73	329	i P	SP	01 52 52.0	-7.1
NKC	Novy Kostel	111.86	322	eP	Pdif	01 38 52.1	+0.7
NKC				eSP	SP	01 53 01.6	+0.9
NKC				MLR	MLR		
	comp=Z,6µm,19.7s						
NKC	Novy Kostel	111.86	322	ePDIFF	Pdif	01 38 52.1	+0.7
NKC				ePP	PP	01 43 25.9	-5.5
NKC				eSP	SP	01 53 01.6	+0.9
NKC				AMS	AMS	02 29 50.0	
	comp=Z,6µm,19.7s						
MYKA	Terra Mystica	112.01	318	ePKiKP	PKiKP	01 42 49.6	+0.6
	comp=Z,22nm,1.8s						
MYKA				ePKKPbc	PKKPbc	01 53 43.0	+0.6
	comp=Z,6.2nm,0.7s						
BMO	Blue Mountains	112.07	44	IAMs_20	IAMs_20	02 21 48.9	
	comp=Z,8µm,22.0s						
KBA	Koelnbreinsper	112.10	318	pPKiKP	PKiKP	01 42 53.5	+4.3
	comp=Z,10nm,0.8s						
OMMB	Old Mammoth Mi	112.12	52	IAMs_20	IAMs_20	02 24 53.2	
	comp=Z,9µm,21.0s						
NVAR	Mina Array Bea	112.54	51	Pdiff	Pdif	01 38 58.8	+3.8
	comp=Z,1.4nm,0.9s,baz=275,slow=5.1,SNR=4.4						
NVAR				PKiKP	PKiKP	01 42 52.3	+1.8

comp=Z,5,8nm,0.8s,baz=252,slow=1.8,SNR=14
NVAR PKKPbc **PKKPbc 01 53 40.4 -0.2**
comp=Z,2.4nm,0.9s,baz=147,slow=3.8,SNR=6.0
NVAR Mina Array Bea 112.54 51 PKiKP 01 42 52.1 +1.6
NV11 Mina Array Sit 112.66 51 IAMs_20 IAMs_20 02 28 36.2
comp=Z,10µm,20.0s
STAL STALIGIAL 112.72 317 IAMs_20 IAMs_20 02 34 23.3
comp=Z,7µm,22.0s
ABTA Abfaltersbach 112.73 318 *e*PKiKP **PKiKP 01 42 50.4 +0.1**
comp=Z,16nm,1.1s,SNR=4.2
ABTA *e*PKKPbc **PKKPbc 01 53 40.8 +0.8**
comp=Z,10nm,1.2s
BMN Battle Mountai 113.02 49 IAMs_20 IAMs_20 02 33 00.6
comp=Z,8µm,19.0s
AQU L'Aquila 113.12 313 IAMs_20 IAMs_20 02 35 07.2
comp=Z,6µm,21.0s
WTTA Wattenberg 113.18 319 *e*PKiKP **PKiKP 01 42 51.4 +0.1**
comp=Z,16nm,0.7s,SNR=10.0
WTTA PKKPab **PKKPbc 01 53 41.4 +2.7**
comp=Z,12nm,1.1s
WATA Walderalm 113.20 319 *e*PKiKP **PKiKP 01 42 50.7 -0.6**
comp=Z,31nm,1.2s,SNR=5.5
WATA *e*PKKPab **PKKPbc 01 53 39.9 +1.3**
comp=Z,4.8nm,0.8s
NRCA Norcia 113.23 314 IAMs_20 IAMs_20 02 37 59.0
comp=Z,7µm,22.0s
PASC Pasadena Art C 113.25 56 IAMs_20 IAMs_20 02 24 35.5
comp=Z,7µm,22.0s
WALA Waterton Lakes 113.25 39 IAMs_20 IAMs_20 02 26 50.6
comp=Z,9µm,22.0s
JTMT Jette 113.39 41 IAMs_20 IAMs_20 02 20 59.3
comp=Z,7µm,22.0s
SQTA Sankt Quirin 113.47 319 *e*PKiKP **PKiKP 01 42 52.5 +0.7**
comp=Z,29nm,1.5s
SQTA *e*PKKPab **PKKPbc 01 53 40.3 +2.7**
comp=Z,21nm,1.7s
CTI Castel Tesino 113.49 317 IAMs_20 IAMs_20 02 34 54.6
comp=Z,7µm,21.0s
MOTA Moosalm 113.50 319 *e*PKiKP **PKiKP 01 42 52.3 +0.3**
comp=Z,18nm,1.0s,SNR=6.1
MOTA *e*PKKPab **PKKPbc 01 53 38.3 +0.8**
comp=Z,16nm,1.4s
RETA Reutte 113.69 319 *e*PKiKP **PKiKP 01 42 52.5 +0.3**
comp=Z,7.6nm,1.0s
RETA *e*PKKPab **PKKPbc 01 53 39.4 +2.5**
comp=Z,15nm,1.6s
FETA Feichten 113.84 319 pPKPdf **PKiKP 01 42 55.3 +2.7**
comp=Z,22nm,1.5s
FETA *e*PKKPab **PKKPab 01 53 39.2 -2.6**
comp=Z,12nm,1.2s
SUMG Summit 114.03 356 *i* P **PS 01 53 25.0 +0.5**
SUMG Summit 114.03 356 *i* P **PKKPab 01 53 41.4 +0.6**
comp=Z,26nm,0.8s
SUMG Summit 114.03 356 IAMs_20 IAMs_20 02 31 35.9
comp=Z,8µm,20.0s
109C Camp Elliot, M 114.31 57 IAMs_20 IAMs_20 02 24 54.8
comp=Z,7µm,21.0s
DAVA Damuels 114.32 319 *e*PKiKP **PKiKP 01 42 54.2 +0.7**
comp=Z,21nm,1.1s,SNR=6.1
DAVA PKKPab **PKKPab 01 53 37.4 -2.3**
comp=Z,17nm,1.7s
ELK Elko 114.44 48 IAMs_20 IAMs_20 02 34 06.0
comp=Z,7µm,19.0s
RPN Rapa Nui 114.64 124 IAMs_20 IAMs_20 02 31 35.9
comp=Z,8µm,19.0s
R11A Troy Canyon, C 114.66 51 IAMs_20 IAMs_20 02 29 53.2
comp=Z,7µm,20.0s
PFO Pinyon Flats O 114.75 56 *i* PKiKP **PKiKP 01 42 56.8 +2.1**
SHPR Sheep Range 115.33 53 IAMs_20 IAMs_20 02 27 06.3
comp=Z,6µm,20.0s
MEM Membach 115.64 323 P **PKPdf 01 42 55.8 +0.1**
MEM x x 01 44 02.0
BHOU Houvegnez 115.73 323 x **PP 01 43 55.3 -3.5**
BSTI Sart Tilman 115.91 323 x **PP 01 44 02.8 +2.8**
HVU Hansel Valley 116.00 47 PKiKP **PKiKP 01 42 57.5 +0.6**
HVU Hansel Valley 116.00 47 PKiKP 01 42 57.5 +0.6
BCLA Clavier 116.12 323 P **PKiKP 01 42 54.3 -2.3**
BCLA pP sPKPdf 01 43 11.5 +4.4
BCLA sP pPKPdf 01 43 17.7 +13
BCLA x x 01 44 08.5
SENIN Lac Senin/Sane 116.29 319 PKiKP 01 42 57.8 +0.4
SENIN IAMs_20 IAMs_20 02 36 36.6
comp=Z,6µm,20.0s
Y12C Blythe 116.33 56 IAMs_20 IAMs_20 02 32 44.5
comp=Z,6µm,19.0s
DUG Dugway, Tooele 116.36 49 IAMs_20 IAMs_20 02 35 24.5
comp=Z,7µm,18.0s
BMRD Maredsous 116.48 323 P **PKPdf 01 42 56.0 -1.4**
BMRD pP sPKPdf 01 43 12.4 +4.6
BMRD x x 01 44 06.5
YHH Holmes Hill 116.52 43 PKiKP 01 42 58.5 +0.5
UCC Uccle 116.53 324 IAMs_20 IAMs_20 02 42 35.5
comp=Z,6µm,19.0s
W13A Hualapai Mount 116.61 54 IAMs_20 IAMs_20 02 26 48.2
comp=Z,7µm,22.0s
DOU Dourbes 116.67 323 P **PKPdf 01 42 56.7 -1.0**
DOU x x 01 44 11.0
SNF Seneffe 116.69 324 PcP **PKiKP 01 42 58.4 +0.7**
SNF sP sPKPdf 01 43 16.8 +8.6
SNF x x 01 44 02.0
FXWY Fox Creek 116.74 44 PKiKP 01 42 58.9 +0.5
FXWY IAMs_20 IAMs_20 02 29 24.5
comp=Z,7µm,22.0s
MOOW Moose Ponds 116.91 44 PKiKP 01 42 58.9 +0.2
MOOW IAMs_20 IAMs_20 02 34 34.8
comp=Z,5µm,19.0s
HWUT Hardware Ranch 116.92 47 IAMs_20 IAMs_20 02 24 45.6
comp=Z,8µm,22.0s
REDW Red Top Meadow 116.94 45 IAMs_20 IAMs_20 02 34 12.9
comp=Z,6µm,19.0s
SNOW Snow King Moun 116.98 45 IAMs_20 IAMs_20 02 34 25.9
comp=Z,6µm,20.0s
GCMT Greycliff 117.00 42 PKiKP 01 42 59.6 +0.9
BNI Bardonecchia 117.12 317 IAMs_20 IAMs_20 02 43 47.7
comp=Z,8µm,20.0s
JLU Jordanelle 117.27 48 PKiKP 01 43 00.3 +0.8
KEST Kesra 117.58 307 PKP **PKiKP 01 43 00.4 +0.4**
comp=Z,12nm,0.9s,baz=207,slow=1.5,SNR=5.3
KEST PP **PP 01 44 09.8 -2.6**
comp=Z,47nm,0.9s,baz=328,slow=6.3,SNR=8.8
KEST PKKPbc **PKKPbc 01 53 22.8 -0.1**
comp=Z,3.6nm,0.8s,baz=114,slow=12,SNR=2.0
U15A North Rim 117.62 53 PKKPbc 01 53 20.9 -2.2
FFC Flin Flon 117.78 30 *i* PKiKP **PKiKP 01 43 02.9 +3.2**
FFC Flin Flon 117.78 30 IAMs_20 IAMs_20 02 28 52.4
comp=Z,6µm,20.0s
FFC Flin Flon 117.78 30 PKKPbc 01 53 21.3 -1.4
BW06 Boulder Array 118.03 45 PKKPbc 01 53 20.6 -1.1
PD31 Pinedale Array 118.03 45 PKKPbc 01 53 20.6 -1.1
PDAR Pinedale Array 118.03 45 PKP **PKPdf 01 43 00.8 -0.1**
comp=Z,12nm,0.8s,baz=256,slow=0.4,SNR=22
PDAR PKKPbc **PKKPbc 01 53 20.6 -1.1**
comp=Z,17nm,1.1s,baz=112,slow=3.5,SNR=12
214A Organ Pipe Nat 118.05 58 IAMs_20 IAMs_20 02 28 11.5
comp=Z,6µm,21.0s
214A Organ Pipe Nat 118.05 58 PKKPbc 01 53 25.6 +4.5
P17A Butcher Ranch, 118.09 49 PKKPbc 01 53 21.3 0.0
SRU San Rafael Swe 118.35 49 PKiKP **PKPdf 01 43 01.2 -0.3**
SRU San Rafael Swe 118.35 49 PKPdf 01 43 01.2 -0.3
SRU San Rafael Swe 118.35 49 PKKPbc 01 53 21.2 +0.8
ESK Eskdalemuir 118.46 331 IAMs_20 IAMs_20 02 38 40.1
comp=Z,9µm,21.0s
SSB Saint Sauveur 118.47 318 PKiKP **PKiKP 01 43 01.6 +0.2**
SSB Saint Sauveur 118.47 318 PKiKP 01 43 01.6 +0.2
WUAZ Wupatki 118.54 53 PKKPbc 01 53 22.3 +2.7
X16A Lo Mia Camp, P 118.72 55 IAMs_20 IAMs_20 02 33 06.0
comp=Z,7µm,21.0s
X16A Lo Mia Camp, P 118.72 55 PKKPbc 01 53 21.9 +2.9
CLF Chambon-Foret 118.89 322 PKiKP 01 43 02.5 +0.5
CLF Chambon-Foret 118.89 322 PKKPbc 01 53 23.1 +4.7
CMAH Djebel Manchou 118.91 308 P **PP 01 44 20.5 -1.1**
ABSA Djebel Ababsia 118.94 308 P **PP 01 44 19.7 -2.2**
SRIG Santa Rosalia 119.23 63 IAMs_20 IAMs_20 02 36 02.4
comp=Z,7µm,18.0s
DGMT Dagmar 119.46 37 IAMs_20 IAMs_20 02 24 50.7
comp=Z,8µm,21.0s
CKFL Kef-Lekhel 119.51 308 P **PP 01 44 23.5 -2.3**
PV21 Cone Mtn., Par 119.66 49 IAMs_20 IAMs_20 02 33 58.3
comp=Z,6µm,20.0s
PV23 Carpenter Ridg 119.66 50 IAMs_20 IAMs_20 02 33 48.4
comp=Z,8µm,20.0s
TUC Tucson 119.67 57 PKiKP **PKiKP 01 43 04.4 +0.2**
TUC MLR MLR
comp=Z,6µm,20.0s
TUC Tucson 119.67 57 PKiKP 01 43 04.4 +0.2
TUC Tucson 119.67 57 IAMs_20 IAMs_20 02 31 12.6
comp=Z,6µm,20.0s
PV14 Lion Creek, Pa 119.67 50 IAMs_20 IAMs_20 02 33 48.6
comp=Z,9µm,20.0s
PV05 Paradox Valley 119.69 50 IAMs_20 IAMs_20 02 33 13.5
comp=Z,8µm,20.0s
PV19 Morning Glory 119.72 50 IAMs_20 IAMs_20 02 33 50.0
comp=Z,7µm,20.0s
CASM Ain Smara 119.72 308 P **PP 01 44 25.0 -2.2**
PV20 West Nyswonger 119.72 50 IAMs_20 IAMs_20 02 33 50.1
comp=Z,7µm,19.0s
O20A White River Ci 119.76 48 IAMs_20 IAMs_20 02 35 26.7
comp=Z,7µm,20.0s
PV04 Paradox Valley 119.76 50 IAMs_20 IAMs_20 02 33 51.0
comp=Z,8µm,19.0s
PV16 Nyswonger Mesa 119.77 50 IAMs_20 IAMs_20 02 33 50.5
comp=Z,7µm,20.0s
PV18 Skein Mesa, Pa 119.79 50 IAMs_20 IAMs_20 02 33 14.9
comp=Z,7µm,20.0s
PV22 Blue Mesa, Par 119.81 49 IAMs_20 IAMs_20 02 39 26.2
comp=Z,6µm,19.0s
CTEI Djebel Teioual 119.84 308 P **PP 01 44 26.8 -1.2**
PV03 Paradox Valley 119.84 50 IAMs_20 IAMs_20 02 33 25.3
comp=Z,8µm,20.0s
PV12 Saucer Basin, 119.86 50 IAMs_20 IAMs_20 02 34 03.7
comp=Z,9µm,21.0s
X18A Snowflake 119.89 54 IAMs_20 IAMs_20 02 30 20.2
comp=Z,6µm,20.0s
W18A Petrified Fore 119.93 53 IAMs_20 IAMs_20 02 26 15.1
comp=Z,7µm,22.0s
PV07 Paradox Valley 119.94 50 IAMs_20 IAMs_20 02 39 28.8
comp=Z,5µm,19.0s
RWWY Rawlins 120.02 46 IAMs_20 IAMs_20 02 27 58.4
comp=Z,7µm,21.0s
HSIG 120.11 61 IAMs_20 IAMs_20 02 27 55.6
comp=Z,6µm,22.0s
SFJD Kangerlussuaq 120.12 360 PKIKP **PKiKP 01 43 04.8 +0.9**
SFJD MLR MLR
comp=Z,5µm,19.0s
SFJD Kangerlussuaq 120.12 360 PKiKP 01 43 04.8 +0.9
DFRA Djebel Bou Aff 120.13 308 P **PP 01 44 28.6 -1.4**
MVCO Mesa Verde 120.38 51 IAMs_20 IAMs_20 02 27 00.9
comp=Z,6µm,22.0s
SMCO Snowmass 120.98 48 IAMs_20 IAMs_20 02 34 59.1
comp=Z,7µm,20.0s
319A Douglas 121.11 58 IAMs_20 IAMs_20 02 31 10.7
comp=Z,7µm,19.0s
N23A Red Feather La 121.18 46 IAMs_20 IAMs_20 02 27 15.2
comp=Z,8µm,22.0s
RSSD Black Hills 121.33 42 PKIKP **PKPdf 01 43 07.2 0.0**
RSSD Black Hills 121.33 42 PKPdf 01 43 07.2 0.0
RSSD Black Hills 121.33 42 IAMs_20 IAMs_20 02 38 00.7
comp=Z,5µm,19.0s
ISCO Idaho Springs 121.78 47 IAMs_20 IAMs_20 02 36 08.2
comp=Z,6µm,19.0s
121A Cookes Peak, D 122.11 56 IAMs_20 IAMs_20 02 32 52.9
comp=Z,6µm,20.0s
Q24A Divide 122.39 48 IAMs_20 IAMs_20 02 36 06.5
comp=Z,6µm,19.0s
Y22D IRIS PASSCAL I 122.44 54 IAMs_20 IAMs_20 02 30 25.5
comp=Z,6µm,20.0s
SDCO Great Sand Dun 122.52 49 IAMs_20 IAMs_20 02 35 06.0
comp=Z,6µm,20.0s
ANMO Albuquerque 122.58 53 *i* PKIKP **PKiKP 01 43 10.1 +0.1**
ANMO Albuquerque 122.58 53 PKiKP 01 43 10.4 +0.4
ANMO Albuquerque 122.58 53 IAMs_20 IAMs_20 02 31 56.1
comp=Z,6µm,20.0s
TAM Tamanrasset 122.97 293 PKIKP **PKiKP 01 43 11.7 +0.6**
TAM Tamanrasset 122.97 293 PKiKP 01 43 11.7 +0.6
ULM Lac du Bonnet 123.32 32 PKP **PKPdf 01 43 09.7 -0.8**
comp=Z,19nm,0.8s,baz=314,slow=2.4,SNR=21
ULM PKKPbc **PKKPbc 01 53 01.6 -0.2**
comp=Z,2.1nm,0.6s,baz=110,slow=2.9,SNR=3.7
T25A Trinidad 123.53 50 IAMs_20 IAMs_20 02 36 06.8
comp=Z,7µm,20.0s
OGNE Ogallala 123.93 45 IAMs_20 IAMs_20 02 26 42.8
comp=Z,6µm,22.0s
KSCO Kaye Shedlock' 124.22 47 IAMs_20 IAMs_20 02 35 36.9
comp=Z,7µm,20.0s
AGMN Agassiz Nation 124.41 34 IAMs_20 IAMs_20 02 32 06.1
comp=Z,6µm,21.0s
SUSD Miller 124.50 40 IAMs_20 IAMs_20 02 33 11.2
comp=Z,8µm,21.0s
HPIG 125.07 62 IAMs_20 IAMs_20 02 32 26.6
comp=Z,8µm,20.0s
UCM Universidad Co 125.65 315 PKP **PKPdf 01 43 15.0 -0.3**
IVI Ivigtut 125.88 358 IAMs_20 IAMs_20 02 50 03.1
comp=Z,6µm,22.0s
TXAR Lajitas Array 126.29 59 PKP **PKiKP 01 43 17.6 +0.2**
comp=Z,16nm,1.0s,baz=188,slow=2.4,SNR=38
TXAR PKP2bc 01 56 42.2
comp=Z,3.6nm,1.1s,baz=116,slow=6.1,SNR=3.5
TXAR Lajitas Array 126.29 59 PKiKP 01 43 17.5 +0.1
ECSD EROS Data Cent 126.32 40 PKPdf 01 43 16.3 -0.2
ECSD EROS Data Cent 126.32 40 IAMs_20 IAMs_20 02 41 18.2
comp=Z,6µm,19.0s
CBKS Cedar Bluff 126.39 46 IAMs_20 IAMs_20 02 34 39.9
comp=Z,7µm,22.0s
ESDC Sonseca Array 126.42 315 PKP **PKiKP 01 43 17.5 +0.2**
comp=Z,14nm,1.2s,baz=52,slow=1.7,SNR=20
ESDC PP **PP 01 45 07.3 -4.8**
comp=Z,6.4nm,1.0s,baz=48,slow=6.8,SNR=4.0
ESDC Sonseca Array 126.42 315 PKPdf 01 43 17.0 +0.2
PAB San Pablo 126.74 315 PKIKP **PKiKP 01 43 18.2 +0.2**
PAB San Pablo 126.74 315 PKiKP 01 43 18.2 +0.2
EYMN Ely 127.00 33 PKPdf 01 43 17.9 +0.2
EYMN Ely 127.00 33 IAMs_20 IAMs_20 02 40 27.4
comp=Z,5µm,21.0s
TOAO Torodi Ar. Sit 127.27 281 PKPdf 01 43 18.0 -1.1
TORD Torodi Ar. Bea 127.27 281 PKP **PKPdf 01 43 18.8 -0.3**
comp=Z,13nm,0.7s,baz=87,slow=1.5,SNR=56
TORD Torodi Ar. Bea 127.27 281 PKPdf 01 43 18.2 -0.9
PBRG Braganca 127.37 318 *e*PKPdf **PKiKP 01 43 19.3 +0.2**
PBRG Braganca 127.37 318 *e*PP PP 01 45 20.3 +2.1
SPMN Marine on St. 127.85 36 IAMs_20 IAMs_20 02 35 07.6
comp=Z,6µm,20.0s
MVO Moncorvo 127.86 318 *e*PKPdf **PKiKP 01 43 20.5 +0.4**
MVO Moncorvo 127.86 318 *e*PP PP 01 45 22.3 +0.8
MVO Moncorvo 127.86 318 *e*SS SS 02 02 36.0 +3.3
MVO Moncorvo 127.86 318 *e*LR LR 02 26 44.9
comp=Z,3µm,18.0s
U32A Wier Ranch, 127.86 49 IAMs_20 IAMs_20 02 30 05.5
comp=Z,8µm,22.0s
PCAB Cabril 128.25 319 *e*PKPdf **PKiKP 01 43 21.6 +0.7**
PCAB Cabril 128.25 319 *e*PP PP 01 45 25.4 +1.4
PVRL Vila Real 128.26 318 *e*PKPdf **PKiKP 01 43 21.2 +0.3**
PVRL Vila Real 128.26 318 *e*PP PP 01 45 26.2 +2.1
PVLZ Peæn de 128.41 310 PKP **PKPdf 01 43 19.5 -1.2**
MTE Manteigas 128.56 317 *e*PKPdf **PKPdf 01 43 21.2 +0.3**
MTE Manteigas 128.56 317 *e*PP PP 01 45 28.6 +2.4
MTE Manteigas 128.56 317 *e*SS SS 02 02 43.4 +1.9
MTE Manteigas 128.56 317 *e*LR LR 02 26 28.2
comp=Z,5µm,20.0s
MTE Manteigas 128.56 317 PKiKP 01 43 21.9 +0.3
MTE IAMs_20 IAMs_20 02 47 48.6
comp=Z,6µm,21.0s
LIJA Lijar 128.58 312 PKP **PKiKP 01 43 21.5 -0.2**
ZAIG Zacatecas 128.58 67 IAMs_20 IAMs_20 02 41 10.4
comp=Z,6µm,20.0s
WMOK Wichita Mounta 128.64 51 IAMs_20 IAMs_20 02 37 39.2
comp=Z,6µm,20.0s
PVIS Viseu 128.65 318 *e*PKPdf **PKiKP 01 43 22.1 +0.4**
PVIS Viseu 128.65 318 *e*PP PP 01 45 28.3 +1.6
ABTX Abilene, Hawle 128.69 54 IAMs_20 IAMs_20 02 40 13.9
comp=Z,5µm,20.0s
PCBR Castelo Branco 128.78 317 *e*PKPdf **PKiKP 01 43 22.4 +0.5**
PCBR Castelo Branco 128.78 317 *e*PP PP 01 45 20.3 -7.2
PMRV Marv??o 128.91 316 *e*PKPdf **PKPdf 01 43 21.9 +0.3**
PMRV Marv??o 128.91 316 *e*PP PP 01 45 32.8 +4.4
PMRV Marv??o 128.91 316 *e*LR LR 02 27 30.2
comp=Z,3µm,18.0s
CEU Ceuta 128.95 311 PKP **PKPdf 01 43 20.1 -1.6**
SHEL Horse Pasture 129.20 243 IAMs_20 IAMs_20 02 37 26.7
comp=Z,7µm,20.0s
JCT Junction City 129.22 56 IAMs_20 IAMs_20 02 39 44.3
comp=Z,6µm,20.0s
COI Coimbra 129.24 317 *e*PKPdf **PKPdf 01 43 22.2 +0.1**
COI Coimbra 129.24 317 *e*PP PP 01 45 31.9 +1.4
PESTR Estremoz 129.30 316 PKPdf 01 43 22.6 +0.2
SFS San Fernando 129.34 312 PKP **PKPdf 01 43 22.1 -0.3**
PLCA Paso Flores 129.37 161 PKIKP **PKPdf 01 43 22.7 +0.1**
PLCA Paso Flores 129.37 161 PKP **PKiKP 01 43 23.5 +0.3**
comp=Z,31nm,1.1s,baz=250,slow=1.3,SNR=14
PLCA Paso Flores 129.37 161 PKPdf 01 43 22.7 +0.1
PLCA Paso Flores 129.37 161 *e*P **PKiKP 01 43 24.8 +1.5**
PLCA Paso Flores 129.37 161 *e*P **PKiKP 01 43 24.8 +1.5**
PCAS Casmilo, Conde 129.37 317 *e*PKPdf **PKiKP 01 43 23.1 0.0**
PCAS Casmilo, Conde 129.37 317 *e*PP PP 01 45 33.8 +2.4
SCIA State Center 129.40 40 IAMs_20 IAMs_20 02 36 41.9
comp=Z,6µm,22.0s
X34A Smith Ranch, M 129.42 50 IAMs_20 IAMs_20 02 38 00.8
comp=Z,7µm,20.0s
PTOM Tomar 129.52 317 *e*PKPdf **PKiKP 01 43 23.8 +0.4**
PTOM Tomar 129.52 317 *e*PP PP 01 45 35.6 +3.3
IFR Ifrane 129.65 308 PKP **PKiKP 01 43 23.9 -0.2**
PMTG Montargil 129.65 316 *e*PKPdf **PKPdf 01 43 22.8 -0.1**
PMTG Montargil 129.65 316 *e*PP PP 01 45 35.6 +2.4
PBEJ Beja 129.88 315 *e*PKPdf **PKiKP 01 43 24.4 +0.2**
PBEJ Beja 129.88 315 *e*PP PP 01 45 39.1 +4.3
PVAQ Vaqueiros 130.04 314 *e*PKPdf **PKiKP 01 43 24.4 -0.1**
PVAQ Vaqueiros 130.04 314 *e*PP PP 01 45 36.5 +0.6
PVAQ Vaqueiros 130.04 314 *e*LR LR 02 27 44.0
comp=Z,4µm,20.0s
PVAQ Vaqueiros 130.04 314 IAMs_20 IAMs_20 02 52 08.2
comp=Z,5µm,19.0s
GO06 Curarrehue 130.10 160 PKPdf 01 43 24.4 +0.4
833A Chaparral WMA, 130.17 59 PKiKP 01 43 25.5 +0.5
833A IAMs_20 IAMs_20 02 41 51.8
comp=Z,6µm,20.0s
PCVE Castro Verde 130.17 314 *e*PKPdf **PKiKP 01 43 25.1 +0.3**
PCVE Castro Verde 130.17 314 *e*PP PP 01 45 42.1 +5.4
MESJ Messejana 130.21 315 *e*PKPdf **PKPdf 01 43 23.5 -0.5**
MESJ *e*PP **PP 01 45 36.7 -0.2**
MESJ *e*SS SS 02 03 04.3 +2.5
MESJ AMS AMS 02 49 50.4
comp=Z,5µm,27.4s
MESJ Messejana 130.21 315 *e*PKIKP **PKPdf 01 43 23.5 -0.5**
MESJ *e* 01 45 36.7
MESJ *e*SS SS 02 03 04.3 +2.5
PBDV Barranco-do-Ve 130.27 314 *e*PKPdf **PKiKP 01 43 24.8 -0.2**
PBDV Barranco-do-Ve 130.27 314 *e*PP PP 01 45 39.3 +1.9
PNCL Nicolau / Gran 130.30 315 *e*PKPdf **PKiKP 01 43 25.2 +0.2**
PNCL Nicolau / Gran 130.30 315 *e*PP PP 01 45 38.8 +1.3
PMAFR Mafra 130.43 316 *e*PKPdf **PKPdf 01 43 24.9 +0.5**
PMAFR Mafra 130.43 316 *e*PP PP 01 45 40.0 +1.7
TUL1 Leonard 130.44 48 IAMs_20 IAMs_20 02 33 54.5
comp=Z,5µm,22.0s
LIS Lisbon 130.45 316 *e*PKPdf **PKPdf 01 43 24.1 -0.4**
LIS *e*PP **PP 01 45 38.3 -0.1**
LIS AMS AMS 02 50 18.3
comp=Z,6µm,28.1s
LIS Lisbon 130.45 316 *e*PKIKP **PKPdf 01 43 24.1 -0.4**
LIS *e* 01 45 38.3
WHTX Lake Whitney, 130.64 53 IAMs_20 IAMs_20 02 37 12.7
comp=Z,8µm,22.0s
JFWS Jewell Farm 130.68 37 IAMs_20 IAMs_20 02 31 17.5
comp=Z,6µm,22.0s
MORF Marmelete 130.75 314 *e*PKPdf **PKPdf 01 43 24.8 -0.4**
MORF *e*PP **PP 01 45 40.2 -0.3**
MORF AMS AMS 02 48 14.9
comp=E,4µm,16.8s
MORF Marmelete 130.75 314 *e*PKPdf **PKPdf 01 43 25.3 +0.1**
MORF Marmelete 130.75 314 *e*PP PP 01 45 41.3 +0.8
E44A Grand Marais A 130.77 31 IAMs_20 IAMs_20 02 41 42.9
comp=Z,7µm,22.0s
SCHQ Schefferville 130.78 12 PKP **PKiKP 01 43 25.5 0.0**
comp=Z,12nm,0.8s,baz=32,slow=4.7,SNR=8.7
SCHQ Schefferville 130.78 12 PKiKP 01 43 25.3 -0.2
435B Jarvell 130.94 55 IAMs_20 IAMs_20 02 40 42.4
comp=Z,6µm,20.0s
PFVI Vila Bisbo 130.96 314 *e*PKPdf **PKiKP 01 43 26.1 -0.3**
PFVI Vila Bisbo 130.96 314 *e*PP PP 01 45 43.5 +1.7
HHAR Hobbs 131.63 47 IAMs_20 IAMs_20 02 41 27.7
comp=Z,6µm,19.0s
G45A Suttons Bay 131.96 32 IAMs_20 IAMs_20 02 44 14.6
comp=Z,6µm,21.0s
W39A Magazine 132.22 48 IAMs_20 IAMs_20 02 38 14.7
comp=Z,8µm,22.0s
I45A Fountain 132.31 34 IAMs_20 IAMs_20 02 36 11.9
comp=Z,5µm,21.0s
MGMO Mountain Grove 132.41 45 IAMs_20 IAMs_20 02 43 17.3
comp=Z,6µm,21.0s
L44A Lake County Fo 132.51 37 IAMs_20 IAMs_20 02 32 33.8
comp=Z,7µm,21.0s
J45A Montague 132.61 34 IAMs_20 IAMs_20 02 33 45.1
comp=Z,8µm,22.0s
HDIL Hopedale 132.61 39 IAMs_20 IAMs_20 02 38 22.8
comp=Z,5µm,21.0s
HKT Hockley 132.65 55 PKIKP **PKiKP 01 43 29.6 -0.3**
HKT Hockley 132.65 55 PKiKP 01 43 29.6 -0.3
HKT Hockley 132.65 55 IAMs_20 IAMs_20 02 48 24.6
comp=Z,5µm,19.0s
GLMI Grayling 132.66 32 IAMs_20 IAMs_20 02 50 16.9
comp=Z,5µm,20.0s
MIAR Mount Ida 132.66 49 IAMs_20 IAMs_20 02 40 17.2
comp=Z,7µm,20.0s
CCM Cathedral Cave 132.68 43 PKIKP **PKPdf 01 43 28.7 0.0**
CCM Cathedral Cave 132.68 43 PKPdf 01 43 28.7 0.0
CCM Cathedral Cave 132.68 43 IAMs_20 IAMs_20 02 38 03.0
comp=Z,7µm,20.0s
NATX Nacogdoches 132.94 53 IAMs_20 IAMs_20 02 32 53.5
comp=Z,7µm,22.0s
TLIG Tlapa 133.04 73 IAMs_20 IAMs_20 02 32 51.1
comp=Z,7µm,22.0s
I47A Gladwin 133.25 33 IAMs_20 IAMs_20 02 33 31.0
comp=Z,6µm,22.0s
WHAR Wooly Hollow 133.27 47 IAMs_20 IAMs_20 02 36 18.5
comp=Z,6µm,22.0s
W41B Gary Mavity, V 133.36 47 IAMs_20 IAMs_20 02 42 37.6
comp=Z,6µm,20.0s
UALR University of 133.47 48 IAMs_20 IAMs_20 02 39 03.6
comp=Z,7µm,20.0s
KIC Kosan Boka 133.49 272 *e*PKIKP **PKiKP 01 43 31.7 -0.5**
comp=Z,18nm,0.7s
L46A Eue Claire 133.56 36 PKPdf 01 43 30.5 +0.3
J47A Sunmer 133.61 34 IAMs_20 IAMs_20 02 39 59.3
comp=Z,5µm,20.0s
DBIC Dimbokro 133.62 273 PKPdf 01 43 31.5 +0.4
comp=Z,9.4nm,0.7s,baz=75,slow=3.3,SNR=4.4
DBIC PKKP **PKKPdf 01 53 21.1 +1.1**
comp=Z,4.6nm,0.9s,baz=226,slow=10,SNR=3.6
DBIC Dimbokro 133.62 273 PKiKP 01 43 32.1 -0.3
LCAR Lake Charles 133.72 46 IAMs_20 IAMs_20 02 43 16.0
comp=Z,7µm,19.0s
LIC Lamto 133.76 272 *e*PKIKP **PKiKP 01 43 32.2 -0.5**
comp=Z,29nm,0.7s
TIC Toumodi 133.78 272 *e*PKIKP **PKPdf 01 43 32.1 +0.6**
PBMO Poplar Bluff 133.88 44 PKPpre 01 43 18.6
PBMO PKPdf **PKPdf 01 43 30.5 -0.5**
PBMO IAMs_20 IAMs_20 02 37 50.0
comp=Z,7µm,22.0s
SFIN Lafayette 134.08 38 IAMs_20 IAMs_20 02 43 40.4
comp=Z,5µm,20.0s
TRQA Tornquist 134.11 169 PKIKP **PKPdf 01 43 31.2 -0.3**
TRQA Tornquist 134.11 169 PKPdf 01 43 31.2 -0.3
J48A Bridge Port 134.13 33 PKiKP 01 43 32.0 -0.6
J48A IAMs_20 IAMs_20 02 43 39.0
comp=Z,5µm,20.0s
I49A Point Hope 134.20 32 IAMs_20 IAMs_20 02 45 52.6
comp=Z,5µm,20.0s
SIUC Southern Illin 134.22 43 IAMs_20 IAMs_20 02 46 57.5
comp=Z,6µm,20.0s
D53A Lac Vacive, Po 134.25 25 IAMs_20 IAMs_20 02 43 28.4
comp=Z,6µm,21.0s
CCAR Cane Creek 134.27 49 IAMs_20 IAMs_20 02 38 16.0
comp=Z,7µm,20.0s
HBAR Harrisburg 134.32 46 IAMs_20 IAMs_20 02 35 18.1
comp=Z,6µm,22.0s
OLIL Olney 134.40 41 IAMs_20 IAMs_20 02 45 42.3
comp=Z,5µm,20.0s
PARMO Parma 134.41 44 IAMs_20 IAMs_20 02 38 05.9
comp=Z,7µm,22.0s
LPAR Lepanto 134.56 46 IAMs_20 IAMs_20 02 46 41.1
comp=Z,6µm,19.0s
HENM Henderson Moun 134.57 44 IAMs_20 IAMs_20 02 47 34.3
comp=Z,6µm,20.0s
GNAR Gosnell 134.57 45 IAMs_20 IAMs_20 02 44 19.5
comp=Z,5µm,19.0s
PENMO Penman 134.60 44 IAMs_20 IAMs_20 02 47 07.1
comp=Z,7µm,20.0s
PEBM Pemiscott Bayo 134.61 45 IAMs_20 IAMs_20 02 36 10.5
comp=Z,6µm,22.0s
X43A Marvell 134.66 47 IAMs_20 IAMs_20 02 36 32.1
comp=Z,5µm,20.0s
HICK Hickman 134.83 44 IAMs_20 IAMs_20 02 47 42.1
comp=Z,5µm,19.0s
AAM Ann Arbor 134.87 34 IAMs_20 IAMs_20 02 39 05.2
comp=Z,6µm,22.0s
LNXT Lenox 134.88 45 IAMs_20 IAMs_20 02 38 51.4
comp=Z,6µm,21.0s
MET Memphis--Engin 135.05 46 IAMs_20 IAMs_20 02 43 34.3
comp=Z,6µm,20.0s
HALT Halls 135.08 45 IAMs_20 IAMs_20 02 38 57.8

comp=Z,6µm,21.0s
K50A Casco 135.11 33 IAMs_20 IAMs_20 02 34 12.9
comp=Z,5µm,22.0s
P48A Milroy 135.66 38 PKPdf 01 43 34.0 -0.3
P48A IAMs_20 IAMs_20 02 39 52.2
comp=Z,7µm,21.0s
OXF Oxford 135.72 47 IAMs_20 IAMs_20 02 36 11.0
comp=Z,6µm,21.0s
WCI Wyandotte Cave 135.85 40 PKHKP PKPpre 01 43 23.7
WCI 01 43 34.9
WCI Wyandotte Cave 135.85 40 PKPpre 01 43 23.7
WCI PKPdf PKPdf 01 43 34.9 +0.3
WCI Wyandotte Cave 135.85 40 IAMs_20 IAMs_20 02 38 05.6
comp=Z,6µm,22.0s
VBMS Vicksburg 135.97 50 IAMs_20 IAMs_20 02 38 52.1
comp=Z,7µm,22.0s
WVT Waverly 136.01 44 PKHKP PKPpre 01 43 24.3
WVT 01 43 33.4
WVT Waverly 136.01 44 PKPpre 01 43 24.3
WVT PKPdf PKPdf 01 43 33.4 -1.6
T47A Sharon Grove 136.03 42 IAMs_20 IAMs_20 02 39 57.6
comp=Z,6µm,20.0s
DELO Deloro Mine 136.30 27 IAMs_20 IAMs_20 02 40 39.7
comp=Z,5µm,21.0s
PLAL Pickwick Lake 136.44 45 IAMs_20 IAMs_20 02 49 41.9
comp=Z,6µm,20.0s
R49A Shelbyville 136.53 39 IAMs_20 IAMs_20 02 44 58.3
comp=Z,6µm,20.0s
ACSO Alum Creek Sta 136.62 36 IAMs_20 IAMs_20 02 36 06.3
comp=Z,7µm,21.0s
M52A Chesterland 136.64 33 IAMs_20 IAMs_20 02 41 34.5
comp=Z,5µm,22.0s
J54A Appleton 136.78 29 IAMs_20 IAMs_20 02 39 41.6
comp=Z,7µm,21.0s
MEDO Medina 136.95 29 IAMs_20 IAMs_20 02 39 47.1
comp=Z,7µm,22.0s
ERPA Erie 136.95 31 IAMs_20 IAMs_20 02 42 57.6
comp=Z,6µm,20.0s
P51A Williamsport 137.07 36 IAMs_20 IAMs_20 02 36 08.2
comp=Z,8µm,22.0s
D62A Allapoint, All 137.38 18 IAMs_20 IAMs_20 02 48 35.3
comp=Z,6µm,20.0s
N53A Lisbon 137.44 33 IAMs_20 IAMs_20 02 47 55.6
comp=Z,5µm,20.0s
X48A Hartselle 137.44 45 IAMs_20 IAMs_20 02 37 45.3
comp=Z,6µm,22.0s
WVNY West Valley, N 137.44 30 IAMs_20 IAMs_20 02 40 02.3
comp=Z,6µm,21.0s
LONY Lake Ozonia 137.53 24 IAMs_20 IAMs_20 02 45 44.9
comp=Z,6µm,21.0s
MMNY Mt. Morris Dam 137.54 29 IAMs_20 IAMs_20 02 49 46.7
comp=Z,7µm,21.0s
M54A Oil Creek Stat 137.56 32 IAMs_20 IAMs_20 02 34 38.7
comp=Z,5µm,22.0s
J56A Wolcott 137.61 28 IAMs_20 IAMs_20 02 47 36.5
comp=Z,5µm,22.0s
E62A Clayton Lake 137.64 18 PKPdf 01 43 38.0 +0.2
E62A IAMs_20 IAMs_20 02 42 13.4
comp=Z,5µm,21.0s
N54A Moraine State 137.78 32 IAMs_20 IAMs_20 02 45 58.6
comp=Z,6µm,22.0s
SWET Sewanee 137.80 43 IAMs_20 IAMs_20 02 41 57.7
comp=Z,7µm,22.0s
J57A Williamstown 137.90 27 IAMs_20 IAMs_20 02 37 01.9
comp=Z,6µm,22.0s
PQI Presque Isle 138.05 17 IAMs_20 IAMs_20 02 48 43.0
comp=Z,7µm,21.0s
M55A Ridgway 138.05 31 IAMs_20 IAMs_20 02 50 23.6
comp=Z,5µm,21.0s
F62A Pittston Farm, 138.14 19 IAMs_20 IAMs_20 02 46 49.8
comp=Z,7µm,21.0s
L56A Greenwood 138.16 29 IAMs_20 IAMs_20 02 40 46.2
comp=Z,6µm,21.0s
E63A Oxbow 138.16 17 IAMs_20 IAMs_20 02 48 47.9
comp=Z,6µm,21.0s
LRAL Lakeview Retre 138.20 47 IAMs_20 IAMs_20 02 36 33.8
comp=Z,7µm,22.0s
W50A Signal Mountai 138.23 43 IAMs_20 IAMs_20 02 50 04.1
comp=Z,6µm,19.0s
J58A Remsen 138.25 26 IAMs_20 IAMs_20 02 55 32.2
comp=Z,6µm,22.0s
PMPST Porto Santo, M 138.29 313 *e*PKPdf PKPdf 01 43 39.9 +0.6
PMPS Porto Santo 138.31 313 *e*PKPdf PKPdf 01 43 40.1 +0.8
M56A Emporium 138.34 30 IAMs_20 IAMs_20 02 49 02.2
comp=Z,6µm,20.0s
CFA Coronel Fontan 138.42 158 PKhKP PKPpre 01 43 30.5
comp=Z,17nm,0.8s,baz=167,slow=3.6,SNR=9.5
R53A Hurricane 138.47 37 PKPdf 01 43 39.5 0.0
R53A IAMs_20 IAMs_20 02 47 53.5
comp=Z,7µm,20.0s
J59A Piesco 138.50 25 IAMs_20 IAMs_20 02 57 09.9
comp=Z,5µm,22.0s
G62A West of Eustis 138.55 20 PKPdf 01 43 40.3 +0.8
K58A Earlville 138.56 27 IAMs_20 IAMs_20 02 37 31.7
comp=Z,5µm,22.0s
F63A Nahmakanta, Br 138.59 19 IAMs_20 IAMs_20 02 46 22.6
comp=Z,5µm,21.0s
TZTN Tazewell 138.61 40 IAMs_20 IAMs_20 02 53 19.6
comp=Z,5µm,20.0s
T52A Hallie 138.62 39 IAMs_20 IAMs_20 02 43 39.8
comp=Z,6µm,20.0s
GO04 Tololo Observa 138.67 154 PKPdf PKPdf 01 43 36.3 -4.2
F64A Sherman 138.68 18 IAMs_20 IAMs_20 02 43 05.9
comp=Z,7µm,22.0s
BINY Binghamton 138.85 28 IAMs_20 IAMs_20 02 42 21.4
comp=Z,6µm,21.0s
Z50A Ashland 138.86 46 IAMs_20 IAMs_20 02 44 56.1
comp=Z,5µm,21.0s
H62A Milan 138.89 21 IAMs_20 IAMs_20 02 46 04.7
comp=Z,7µm,21.0s
LBNH Lisbon 138.89 22 IAMs_20 IAMs_20 02 45 22.8
comp=Z,5µm,22.0s
X51A Calhoun 138.90 44 IAMs_20 IAMs_20 02 41 05.7
comp=Z,6µm,22.0s
FUL Funchal 138.92 313 *e*PKPdf PKPdf 01 43 41.5 +1.0
PKME Peaks-Kenny Pk 138.92 19 PKPdf 01 43 39.7 -0.4
PKME IAMs_20 IAMs_20 02 50 10.3
comp=Z,6µm,21.0s
M57A Sunshine Farm, 138.97 30 IAMs_20 IAMs_20 02 56 08.8
comp=Z,5µm,20.0s
O56A Blue Knob Stat 139.03 32 IAMs_20 IAMs_20 02 49 11.8
comp=Z,5µm,21.0s
PMOZ Porto Moniz, M 139.05 313 *e*PKPdf PKiKP 01 43 42.3 -0.8
PMOZ Porto Moniz, M 139.05 313 *e*SS SS 02 04 55.1 +6.6
PMOZ Porto Moniz, M 139.05 313 *e*LR LR 02 31 45.0
comp=Z,3µm,22.0s
BRAL Brewton 139.07 49 IAMs_20 IAMs_20 02 39 17.8
comp=Z,5µm,20.0s
HNH Hanover 139.21 23 IAMs_20 IAMs_20 02 46 23.2
comp=Z,7µm,20.0s
L59A Walton 139.29 27 IAMs_20 IAMs_20 02 41 41.9
comp=Z,5µm,21.0s
CCIG Comitan 139.30 73 PKPdf 01 43 42.2 +0.4
CCIG IAMs_20 IAMs_20 02 44 04.2
comp=Z,5µm,20.0s
I62A Tamworth 139.42 22 IAMs_20 IAMs_20 02 45 59.9
comp=Z,6µm,22.0s
TRY Troy 139.45 25 IAMs_20 IAMs_20 02 47 38.1
comp=Z,4µm,20.0s
G65A Princeton 139.52 17 IAMs_20 IAMs_20 02 49 56.0
comp=Z,7µm,22.0s
I63A Otisfield 139.55 21 IAMs_20 IAMs_20 02 53 29.1
comp=Z,4µm,19.0s
Q56A Snyder Ridge, 139.58 34 IAMs_20 IAMs_20 02 38 11.3
comp=Z,6µm,22.0s
FFD Franklin Falls 139.65 23 IAMs_20 IAMs_20 02 44 41.0
comp=Z,6µm,21.0s
U54A Nelsons Funny 139.71 39 IAMs_20 IAMs_20 02 36 45.8
comp=Z,7µm,22.0s
Y52A Lilburn 139.83 44 IAMs_20 IAMs_20 02 47 22.6
comp=Z,6µm,20.0s
P57A Homestead Farm 139.90 32 IAMs_20 IAMs_20 02 40 40.6
comp=Z,4µm,20.0s
N59A State Game Lan 139.95 29 IAMs_20 IAMs_20 02 41 41.7
comp=Z,7µm,22.0s
EMMW East Machias 140.00 18 PKPdf 01 43 42.7 +0.7
EMMW IAMs_20 IAMs_20 02 49 59.7
comp=Z,6µm,22.0s
PAGS Pennsylvania G 140.01 30 IAMs_20 IAMs_20 02 44 30.5
comp=Z,5µm,20.0s
ASCN Ascension 140.02 249 IAMs_20 IAMs_20 02 44 01.6
comp=Z,6µm,20.0s
KSCT Kent School, K 140.35 26 IAMs_20 IAMs_20 02 47 25.0
comp=Z,6µm,21.0s
ODNJ Ogdensburg 140.37 28 IAMs_20 IAMs_20 02 42 36.6
comp=Z,6µm,21.0s
MVL Millersville 140.37 30 IAMs_20 IAMs_20 02 46 29.9

comp=Z,7µm,21.0s
GOGA Godfrey 140.50 44 IAMs_20 IAMs_20 02 42 15.3
comp=Z,5µm,21.0s
352A Blakely 140.50 48 IAMs_20 IAMs_20 02 43 39.8
comp=Z,5µm,21.0s
HRV Adam Dziewonsk 140.50 23 PKIKP PKiKP 01 43 44.4 -1.2
HRV MLR MLR
comp=Z,7µm,21.0s
HRV Adam Dziewonsk 140.50 23 PKiKP 01 43 44.4 -1.2
V55A Taylorsville 140.52 39 IAMs_20 IAMs_20 02 43 02.0
comp=Z,7µm,21.0s
BRNJ Basking Ridge 140.70 28 IAMs_20 IAMs_20 02 42 25.5
comp=Z,7µm,21.0s
PAL Palisades 140.75 27 PKIKP PKPdf 01 43 38.2 -5.3
PAL Palisades 140.75 27 PKPdf PKPdf 01 43 38.2 -5.3
PAL IAMs_20 IAMs_20 02 49 44.5
comp=Z,5µm,20.0s
PAULI Pauline 140.78 41 IAMs_20 IAMs_20 02 47 20.2
comp=Z,6µm,20.0s
BCX Boston College 140.80 23 IAMs_20 IAMs_20 02 47 30.5
comp=Z,6µm,21.0s
GBN Guysborough 140.81 11 IAMs_20 IAMs_20 02 51 40.6
comp=Z,5µm,22.0s
KMSC Kings Mountain 140.89 40 IAMs_20 IAMs_20 02 48 04.0
comp=Z,6µm,22.0s
CPNY Central Park 140.90 27 IAMs_20 IAMs_20 02 42 48.5
comp=Z,5µm,20.0s
BRYW Bryant College 141.01 24 IAMs_20 IAMs_20 02 46 57.1
comp=Z,7µm,22.0s
APG El Apazote 141.07 75 PKhKP PKPpre 01 43 38.9
comp=Z,46nm,1.0s,baz=162,slow=20,SNR=2.4
HAL Halifax 141.10 14 IAMs_20 IAMs_20 02 48 13.5
comp=Z,6µm,22.0s
CBN Corbin Frederi 141.17 33 IAMs_20 IAMs_20 02 38 01.4
comp=Z,5µm,22.0s
154A Montrose 141.20 45 IAMs_20 IAMs_20 02 46 30.9
comp=Z,5µm,20.0s
S58A Poland Farm, P 141.22 34 IAMs_20 IAMs_20 02 39 11.9
comp=Z,6µm,20.0s
453A Whigham 141.27 48 IAMs_20 IAMs_20 02 55 20.2
comp=Z,5µm,18.0s
CMLA Cha da Macela 141.33 326 *e*PKP PKPdf 01 43 44.5 -0.2
PLTB Pedras Altas 141.38 177 *e*P PKiKP 01 43 46.6 -1.2
PLTB Pedras Altas 141.38 177 *e*P PKiKP 01 43 46.6 -1.2
P61A Hammonton 141.39 29 IAMs_20 IAMs_20 02 50 48.7
comp=Z,6µm,20.0s
PSET Sete Cidades 141.40 326 *e*PKP PKPdf 01 43 44.6 -0.3
TIGA Tifton 141.50 47 IAMs_20 IAMs_20 02 55 45.0
comp=Z,5µm,20.0s
ADH Angra Heroismo 141.59 329 *e*PKP PKPdf 01 43 44.9 -0.2
PSMN Pico do Norte, 141.61 325 *e*PKP PKPdf 01 43 44.7 -0.6
PSMA Santa Maria 141.66 325 *e*PKP PKPdf 01 43 43.6 -1.7
M65A Busby, Falmout 141.66 23 IAMs_20 IAMs_20 02 47 25.3
comp=Z,5µm,20.0s
PGRA Graciosa 141.69 330 *e*PKP PKPdf 01 43 45.0 -0.3
W57A Gilead 141.73 39 IAMs_20 IAMs_20 02 44 10.1
comp=Z,6µm,21.0s
BIRD Birdtown, Kers 141.76 40 IAMs_20 IAMs_20 02 48 39.0
comp=Z,7µm,21.0s
T59A Double "B" Far 141.95 35 PKPdf PKPdf 01 43 42.9 -2.9
T59A IAMs_20 IAMs_20 02 39 34.1
comp=Z,7µm,22.0s
PMAN Manadas 142.05 329 *e*PKP PKPdf 01 43 45.8 -0.2
ROSA Rosais 142.06 330 *e*PKP PKPdf 01 43 46.2 +0.2
TEIG Tepich 142.11 66 PKhKP PKPpre 01 43 43.4
comp=Z,38nm,1.1s,baz=315,slow=1.2,SNR=3.1
R61A Willards 142.15 31 IAMs_20 IAMs_20 02 40 01.1
comp=Z,6µm,22.0s
Y57A Sumter 142.20 41 IAMs_20 IAMs_20 02 46 54.7
comp=Z,6µm,21.0s
PICO Pico 142.32 330 *e*PKP PKPdf 01 43 46.8 +0.2
PCAN Candelaria 142.38 330 *e*PKP PKPdf 01 43 46.4 -0.2
SNET Serv Nac Est T 142.42 77 IAMs_20 IAMs_20 02 38 32.9
comp=Z,5µm,21.0s
S61A Accomac 142.46 32 IAMs_20 IAMs_20 02 38 31.5
comp=Z,5µm,21.0s
X58A Rowland 142.53 39 IAMs_20 IAMs_20 02 44 42.2
comp=Z,7µm,22.0s
H07N1 FLORES T-PHASE 142.64 334 *e*PKP PKPdf 01 43 46.8 -0.2
Y58A Scranton 142.73 40 IAMs_20 IAMs_20 02 49 13.9
comp=Z,5µm,21.0s
CPSB Cacapava Do Su 142.74 177 *e*P PKiKP 01 43 49.6 -1.0
CPSB Cacapava Do Su 142.74 177 *e*P PKiKP 01 43 49.6 -1.0
H07S1 FLORES T-PHASE 142.94 333 *e*PKP PKPdf 01 43 47.6 0.0
CNNC Cliffs of the 142.96 37 IAMs_20 IAMs_20 02 39 31.4
comp=Z,7µm,22.0s
656A Willston 143.36 49 IAMs_20 IAMs_20 02 41 52.6
comp=Z,5µm,20.0s
Y60A Bolivia 143.59 39 IAMs_20 IAMs_20 02 49 29.3
comp=Z,7µm,21.0s
CNLB Canela 143.86 181 *e*P PKiKP 01 43 51.7 -1.4
CNLB Canela 143.86 181 *e*P PKiKP 01 43 51.7 -1.4
TGUH Tegucigalpa,Un 144.26 76 PKPdf 01 43 50.2 -0.5
658A Bunnell 144.27 48 IAMs_20 IAMs_20 02 46 12.8
comp=Z,7µm,21.0s
PB10 IPOC Station P 144.43 149 PKPdf 01 43 50.3 -0.4
DWPF Disney Wildern 144.83 50 PKPdf 01 43 50.7 -0.4
DWPF Disney Wildern 144.83 50 IAMs_20 IAMs_20 02 51 32.9
comp=Z,5µm,20.0s
ESTN Estel 145.25 77 PKPbc 01 43 52.1 0.0
PB04 IPOC Station P 145.62 149 PKPbc 01 43 53.2 +0.1
ITAB Concordia 145.94 179 *e*P PKPab 01 43 55.4 +1.2
ITAB Concordia 145.94 179 *e*P PKPab 01 43 55.4 +1.2
LVC Limon Verde 146.01 151 PKPbc PKPbc 01 43 54.6 +0.1
comp=Z,86nm,0.7s,baz=254,slow=3.8,SNR=55
LVC Limon Verde 146.01 151 PKPbc PKPab 01 43 55.6 +0.6
LVC Limon Verde 146.01 151 *e*P PKPab 01 43 55.0 -0.1
LVC Limon Verde 146.01 151 *e*P PKPab 01 43 55.0 -0.1
060A Indiantown 146.20 51 IAMs_20 IAMs_20 02 59 48.1
comp=Z,5µm,21.0s
061Z Ochoppi 146.35 53 PKPbc 01 43 55.4 +0.3
061Z IAMs_20 IAMs_20 02 58 32.5
comp=Z,5µm,20.0s
CPUP Villa Florida 146.37 171 PKPbc PKPdf 01 43 54.4 +0.5
comp=Z,118nm,1.0s,baz=196,slow=2.5,SNR=68
CPUP Villa Florida 146.37 171 PKPbc PKPbc 01 43 55.1 0.0
CPUP Villa Florida 146.37 171 *e*P PKPab 01 43 56.1 +0.3
CPUP Villa Florida 146.37 171 *e*P PKPab 01 43 56.1 +0.3
JTS Las Juntas de 146.86 82 PKP2 PKPdf 01 43 55.5 +0.5
JTS Las Juntas de 146.86 82 PKPbc PKPbc 01 43 56.2 -0.7
comp=Z,194nm,0.8s,baz=30,slow=2.8,SNR=39
JTS Las Juntas de 146.86 82 PKPdf 01 43 55.5 +0.5
JTS Las Juntas de 146.86 82 IAMs_20 IAMs_20 02 40 36.0
comp=Z,5µm,20.0s
JTS Las Juntas de 146.86 82⥣*i*P PKPdf 01 43 55.8 +0.8
PB01 IPOC Station P 147.02 148 PKPbc PKPbc 01 43 56.5 -0.7
ESPN Las Esperanzas 147.36 78 PKPbc 01 43 58.8 +0.6
ESPN IAMs_20 IAMs_20 02 51 48.8
comp=Z,4µm,21.0s
HDC Heredia 147.70 82 PKPbc 01 43 59.7 +0.4
HDC IAMs_20 IAMs_20 02 42 07.3
comp=Z,5µm,22.0s
HDC Heredia 147.70 82⥣*i*P PKPdf 01 43 57.1 +0.6
PB11 IPOC Station P 147.98 147 PKPdf 01 43 57.8 +0.9
GO01 Chusmiza 148.31 147 PKPdf 01 43 59.0 +1.1
PTGB Pitanga 148.44 179 *e*P PKPbc 01 43 59.6 -1.4
PTGB Pitanga 148.44 179 *e*P PKPbc 01 43 59.6 -1.4
NNA Nana 148.57 127 *i* PKP2 PKPbc 01 43 59.8 -1.7
NNA Nana 148.57 127 PKPbc PKPdf 01 43 59.5 +1.6
comp=Z,109nm,0.9s,baz=257,slow=4.9,SNR=18
NNA Nana 148.57 127 PKPdf 01 43 58.5 +0.6
BRU2 Volcan 149.15 85⥣*i*P PKPdf 01 43 59.6 +0.7
BRU2 *e*P PKPbc 01 44 01.1 -2.1
SPB Sao Paulo 149.30 187 PKPbc PKiKP 01 44 03.8 -0.5
SPB Sao Paulo 149.30 187 *e*P PKPdf 01 43 59.3 +0.5
SPB Sao Paulo 149.30 187 *e*P PKPdf 01 44 00.1 +1.4
SPB Sao Paulo 149.30 187 *e*P PKPdf 01 43 59.3 +0.5
SPB Sao Paulo 149.30 187 *e*P PKPdf 01 44 00.1 +1.4
BCO2 Palmira 149.31 85 *e*P PKiKP 01 44 05.6 +0.8
BAGA3 Bagala, Chiriq 149.31 85 *e*P PKiKP 01 44 05.5 +0.9
ESAR Angra dos Reis 149.33 193 *e*P PKPdf 01 44 00.5 +1.6
ESAR Angra dos Reis 149.33 193 *e*P PKPdf 01 44 00.5 +1.6
MAN01 Angra dos Reis 149.37 194 *e*P PKPdf 01 43 59.3 +0.3
MAN01 Angra dos Reis 149.37 194 *e*P PKPdf 01 43 59.3 +0.3
CHGR2 Aguacate 149.68 84⥣*i*P PKPdf 01 43 59.9 +0.3
CAM01 Campos-RJ 149.72 199 *e*P PKPdf 01 44 00.8 +1.3
CAM01 Campos-RJ 149.72 199 *e*P PKPdf 01 44 00.8 +1.3
FRTB Fartura 149.75 184 *e*P PKPdf 01 44 00.5 +0.9
FRTB Fartura 149.75 184 *e*P PKPdf 01 44 00.5 +0.9
ATAH Atahualpa 149.78 117 PKPbc PKPbc 01 44 03.1 -2.0
comp=Z,38nm,0.9s,baz=302,slow=2.5,SNR=30
VAS01 Vassouras-RJ 149.80 195 *e*P PKPdf 01 44 02.0 +2.3
VAS01 Vassouras-RJ 149.80 195 *e*P PKPdf 01 44 02.0 +2.3
VAO Valinhos 149.81 188 *e*P PKPdf 01 44 00.2 +0.4

VAO Valinhos 149.81 188 *e*P PKPdf 01 44 00.2 +0.4
CBCY The Bluff, Cay 149.88 62 PKPdf 01 43 59.9 +0.2
CBCY PKPbc PKiKP 01 44 05.4 -0.2
PRVC Isla de Provid 150.04 75 *e*P PKPdf 01 44 01.2 +1.1
PRVC Isla de Provid 150.04 75 *e*P PKPdf 01 44 01.2 +1.1
TRCB Terra Rica 150.34 178 *e*P PKPdf 01 44 01.4 +0.8
TRCB Terra Rica 150.34 178 *e*P PKPdf 01 44 01.4 +0.8
RCLB Rio Claro- Sao 150.47 188 *e*P PKPdf 01 44 02.3 +1.5
RCLB Rio Claro- Sao 150.47 188 *e*P PKPdf 01 44 02.3 +1.5
ALF01 Guarapari-ES 150.53 201 *e*P PKPbc 01 44 03.8 -2.4
ALF01 Guarapari-ES 150.53 201 *e*P PKPbc 01 44 03.8 -2.4
CACAO El Cacao, Vera 150.95 88⥣*i*P PKPdf 01 44 03.1 +1.5
BSCB Bom Sucesso 151.36 193 *e*P PKPdf 01 44 04.1 +1.9
BSCB Bom Sucesso 151.36 193 *e*P PKPdf 01 44 04.1 +1.9
SACV Santiago Islan 151.45 288 PKiKP 01 44 09.1 +0.2
SACV Santiago Islan 151.45 288 IAMs_20 IAMs_20 02 55 43.9
comp=Z,4µm,20.0s
AZU Azuero 151.54 87 *e*P PKPdf 01 44 02.0 -0.5
RIB01 Linhares ES 151.60 203 *e*P PKPdf 01 44 04.7 +2.2
RIB01 Linhares ES 151.60 203 *e*P PKPdf 01 44 04.7 +2.2
LPAZ La Paz 151.63 145 PKP PKPdf 01 44 03.6 +0.3
comp=Z,27nm,0.9s,baz=326,slow=0.2,SNR=66
LPAZ PKPbc sPKPdf 01 44 11.3 -3.1
comp=Z,53nm,0.5s,baz=65,slow=4.4,SNR=68
LPAZ La Paz 151.63 145 PKPdf 01 44 04.7 +1.3
LPAZ La Paz 151.63 145 *e*P PKPdf 01 44 03.2 -0.2
LPAZ La Paz 151.63 145 *e*P PKPdf 01 44 03.2 -0.2
BB19B Bebedouro 151.92 186 *e*P PKPdf 01 44 02.0 -0.9
BB19B Bebedouro 151.92 186 *e*P PKPdf 01 44 02.0 -0.9
BCIP Isla Barro Col 151.95 84 *e*P PKPdf 01 44 03.0 -0.1
BCIP Isla Barro Col 151.95 84 *e*P PKPdf 01 44 03.0 -0.1
BCIP Isla Barro Col 151.95 84 PKIKP PKPdf 01 44 03.6 +0.5
BCIP 01 44 10.1
BCIP Isla Barro Col 151.95 84 PKPdf 01 44 03.6 +0.5
BCIP PKPbc PKiKP 01 44 10.1 +0.2
BCIP Isla Barro Col 151.95 84⥣*i*P PKPdf 01 44 01.3 -1.8
OTAV Otavalo 152.37 103 PKIKP PKPdf 01 44 05.5 +1.1
OTAV Otavalo 152.37 103 PKPdf 01 44 05.5 +1.1
OTAV Otavalo 152.37 103 *e*P PKPdf 01 44 05.8 +1.5
OTAV Otavalo 152.37 103 *e*P PKPdf 01 44 05.8 +1.5
AQDB Aquidauana 152.37 172 *e*P PKPdf 01 44 05.5 +2.0
AQDB Aquidauana 152.37 172 *e*P PKPdf 01 44 05.5 +2.0
MTDJ Mount Denham 152.38 64 IAMs_20 IAMs_20 02 57 44.7
comp=Z,5µm,22.0s
SJMB Sao Joao De Ma 152.45 202 *e*P PKPdf 01 44 04.7 +0.9
SJMB Sao Joao De Ma 152.45 202 *e*P PKPdf 01 44 04.7 +0.9
TUMC Tumaco 152.46 100 *e*P PKPdf 01 44 04.5 +0.6
TUMC Tumaco 152.46 100 *e*P PKPdf 01 44 04.5 +0.6
GRGC Isla de Gorgon 153.22 97 *e*P PKPdf 01 44 04.5 -0.5
GRGC Isla de Gorgon 153.22 97 *e*P PKPdf 01 44 04.5 -0.5
ITRB Iturama 153.41 183 *e*P PKPdf 01 44 07.0 +1.9
ITRB Iturama 153.41 183 *e*P PKPdf 01 44 07.0 +1.9
UPD2 Meteti 153.77 85⥣*i*P PKPdf 01 44 02.6 -3.1
GTBY Guantanamo Bay 153.82 58 IAMs_20 IAMs_20 02 52 37.2
comp=Z,4µm,21.0s
BBAC Balboa, Cauca 153.95 100 *e*P PKPdf 01 44 06.1 -0.3
BBAC Balboa, Cauca 153.95 100 *e*P PKPdf 01 44 06.1 -0.3
PTAC Punta Ardita, 153.98 88 *e*P PKPdf 01 44 05.2 -0.9
PTAC *e*P PKPdf 01 44 06.5 +0.4
PTAC Punta Ardita, 153.98 88 *e*P PKPdf 01 44 05.2 -0.9
PTAC *e*P PKPdf 01 44 06.5 +0.4
PMNB Patos De Minas 154.09 191 *e*P PKPdf 01 44 08.5 +2.3
PMNB Patos De Minas 154.09 191 *e*P PKPdf 01 44 08.5 +2.3
SOTA Rioblanco 154.59 100 *e*P PKPdf 01 44 08.5 +0.9
SOTA Rioblanco 154.59 100 *e*P PKPdf 01 44 08.5 +0.9
POPC Popayan, Colom 154.61 99 *e*P PKPdf 01 44 07.8 +0.5
POPC Popayan, Colom 154.61 99 *e*P PKPdf 01 44 07.8 +0.5
PCON Cinco Dias 154.84 100 *e*P PKPdf 01 44 08.5 +0.4
PCON Cinco Dias 154.84 100 *e*P PKPdf 01 44 08.5 +0.4
IPMB Ipameri, GO 154.93 188 *e*P PKPdf 01 44 09.7 +2.3
IPMB Ipameri, GO 154.93 188 *e*P PKPdf 01 44 09.7 +2.3
NBIT Itapeh - BA 155.08 209 *e*P PKPdf 01 44 10.3 +2.8
NBIT Itapeh - BA 155.08 209 *e*P PKPdf 01 44 10.3 +2.8
YOTC Yotoco, Valle 155.17 96 *e*P PKPdf 01 44 07.2 -0.8
YOTC Yotoco, Valle 155.17 96 *e*P PKPdf 01 44 07.2 -0.8
SIV San Ignacio 155.27 158 PKP PKPdf 01 44 08.3 +0.4
comp=Z,13nm,0.8s,baz=220,slow=1.4,SNR=50
SIV PKPab PKPab 01 44 34.1 +1.4
comp=Z,42nm,0.7s,baz=250,slow=3.6,SNR=5.7
PP1B Ponte de Pedra 155.31 172 *e*P PKPdf 01 44 10.9 +3.1
PP1B Ponte de Pedra 155.31 172 *e*P PKPdf 01 44 10.9 +3.1
FLOC Florencia 155.41 102 *e*P PKPdf 01 44 08.2 0.0
FLOC Florencia 155.41 102 *e*P PKPdf 01 44 08.2 0.0
CBOC Ciudad Bolivar 155.70 91 *e*P PKPdf 01 44 08.2 -0.5
CBOC Ciudad Bolivar 155.70 91 *e*P PKPdf 01 44 08.2 -0.5
PTLC Puerto Leguiza 155.87 105 *e*P PKPdf 01 44 06.5 -2.2
PTLC Puerto Leguiza 155.87 105 *e*P PKPdf 01 44 06.5 -2.2
HELC Santa Helena 156.20 91 *e*P PKPdf 01 44 09.2 -0.4
HELC Santa Helena 156.20 91 *e*P PKPdf 01 44 09.2 -0.4
HELC Santa Helena 156.20 91⥣*i*P PKPdf 01 44 06.3 -3.3
ORTC Ortega, Tolima 156.25 96 *e*P PKPdf 01 44 09.2 -0.1
ORTC Ortega, Tolima 156.25 96 *e*P PKPdf 01 44 09.2 -0.1
RREF El Recreo 156.27 94 *e*P PKPdf 01 44 11.8 +1.8
RREF El Recreo 156.27 94 *e*P PKPdf 01 44 11.8 +1.8
GUY2C Guyana, Caldas 156.29 93 *e*P PKPdf 01 44 10.5 +0.6
GUY2C Guyana, Caldas 156.29 93 *e*P PKPdf 01 44 10.5 +0.6
SJCC San Jacinto, C 156.49 81 *e*P PKPdf 01 44 09.8 +0.3
SJCC San Jacinto, C 156.49 81 *e*P PKPdf 01 44 09.8 +0.3
PRAC Prado 156.57 97 *e*P PKPdf 01 44 09.2 -0.5
PRAC Prado 156.57 97 *e*P PKPdf 01 44 09.2 -0.5
NORC Norcasia 156.81 92 *e*P PKPdf 01 44 09.2 -0.8
NORC Norcasia 156.81 92 *e*P PKPdf 01 44 09.2 -0.8
BDFB Brasilia 157.20 189 PKIKP PKPdf 01 44 09.7 -0.8
BDFB Brasilia 157.20 189 PKP PKPdf 01 44 11.0 +0.5
comp=Z,20nm,1.0s,baz=180,slow=3.4,SNR=14
BDFB PKPab PKPab 01 44 41.0 0.0
comp=Z,42nm,1.1s,baz=323,slow=4.3,SNR=3.6
BDFB Brasilia 157.20 189 PKPdf PKPdf 01 44 09.7 -0.8
BDFB PKPab PKPab 01 44 41.9 +0.9
SMRC Santa Marta, M 157.28 78⥣*e*P PKPdf 01 44 11.8 +1.4
SMRC Santa Marta, M 157.28 78⥣*e*P PKPdf 01 44 11.8 +1.4
ROSC El Rosal 157.28 94 PKP PKPdf 01 44 11.5 +0.5
comp=Z,53nm,0.8s,baz=297,slow=2.7,SNR=23
ROSC El Rosal 157.28 94 PKPdf 01 44 11.1 +0.1
ROSC PKPab PKPab 01 44 42.8 +0.6
ROSC IAMs_20 IAMs_20 03 05 11.1
comp=Z,4µm,22.0s
MACC Macarena, Meta 157.29 101 *e*P PKPdf 01 44 10.5 -0.1
MACC Macarena, Meta 157.29 101 *e*P PKPdf 01 44 10.5 -0.1
NBRF Rio Formoso - 157.36 227 *e*P PKPdf 01 44 13.0 +2.4
NBRF Rio Formoso - 157.36 227 *e*P PKPdf 01 44 13.0 +2.4
ARAG Araguaiana, MT 157.41 179 *e*P PKPdf 01 44 12.4 +1.8
ARAG Araguaiana, MT 157.41 179 *e*P PKPdf 01 44 12.4 +1.8
ARGC Ariguani, Magd 157.41 81 *e*P PKPdf 01 44 10.2 -0.5
ARGC Ariguani, Magd 157.41 81 *e*P PKPdf 01 44 10.2 -0.5
NBLA Lagarto - SE 157.44 218 *e*P PKPdf 01 44 11.5 +0.8
NBLA Lagarto - SE 157.44 218 *e*P PKPdf 01 44 11.5 +0.8
SDDR Presa de Saban 157.46 56 *e*P PKPdf 01 44 08.7 -2.0
SDDR Presa de Saban 157.46 56 PKPdf 01 44 10.2 -0.4
SDDR PKPab PKPab 01 44 39.9 -2.3
NBAN Anadia - AL 157.47 223 *e*P PKPdf 01 44 12.7 +1.9
NBAN Anadia - AL 157.47 223 *e*P PKPdf 01 44 12.7 +1.9
SPBC San Pablo de B 157.61 92 *e*P PKPdf 01 44 08.5 -2.6
SPBC San Pablo de B 157.61 92 *e*P PKPdf 01 44 08.5 -2.6
SMLC San Martn de 157.66 84⥣*e*P PKPdf 01 44 11.8 +0.8
SMLC San Martn de 157.66 84⥣*e*P PKPdf 01 44 11.8 +0.8
SC01 Santiago de lo 157.69 55 IAMs_20 IAMs_20 02 57 32.0
comp=Z,5µm,21.0s
VILC Villavicencio, 157.81 96 *e*P PKPdf 01 44 07.8 -3.5
VILC Villavicencio, 157.81 96 *e*P PKPdf 01 44 07.8 -3.5
CHIC Chingaza 157.84 95 *e*P PKPdf 01 44 10.5 -1.3
CHIC Chingaza 157.84 95 *e*P PKPdf 01 44 10.5 -1.3
CODC Agustn Codazz 158.19 81 *e*P PKPdf 01 44 10.0 -1.7
CODC Agustn Codazz 158.19 81 *e*P PKPdf 01 44 10.0 -1.7
NBPN Ponto Novo - B 158.93 213 *e*P PKPdf 01 44 13.6 +1.0
NBPN Ponto Novo - B 158.93 213 *e*P PKPdf 01 44 13.6 +1.0
PAMC Pamplona, Colo 159.05 88 *e*P PKPdf 01 44 11.8 -1.5
PAMC Pamplona, Colo 159.05 88 *e*P PKPdf 01 44 11.8 -1.5
DR12 Loma Pena Alta 159.11 54 PKPab 01 44 50.0 +0.6
URIC Uribia, Colomb 159.34 75⥣*e*P PKPdf 01 44 12.5 -0.5
URIC Uribia, Colomb 159.34 75⥣*e*P PKPdf 01 44 12.5 -0.5
PTGC Puerto Gaitan, 159.36 97 *e*P PKPdf 01 44 09.2 -3.9
PTGC Puerto Gaitan, 159.36 97 *e*P PKPdf 01 44 09.2 -3.9
RCBR Riachuelo 159.80 231 PKIKP PKPdf 01 44 13.0 -0.6
RCBR 01 44 53.2
RCBR Riachuelo 159.80 231 PKPdf PKPdf 01 44 13.0 -0.6
RCBR PKPab 01 44 53.2 +0.8
RCBR Riachuelo 159.80 231 *e*P PKPdf 01 44 14.2 +0.6
RCBR Riachuelo 159.80 231 *e*P PKPdf 01 44 14.2 +0.6
SAML Samuel 160.37 144 PKIKP PKPdf 01 44 14.7 +0.5

SAML						01 44 54.4	
SAML	Samuel	160.37	144		PKPdf	01 44 14.7	+0.5
SAML				PKPab	PKPab	01 44 54.4	-0.3
SAML	Samuel	160.37	144	*e*P	PKPdf	01 44 15.7	+1.5
SAML	Samuel	160.37	144	*e*P	PKPdf	01 44 15.7	+1.5
NBPA	Parau_RN	160.77	229	*e*P	PKPdf	01 44 16.3	+1.7
NBPA	Parau_RN	160.77	229	*e*P	PKPdf	01 44 16.3	+1.7
NBMA	Muriti-CE	160.82	222	*e*P	PKPdf	01 44 16.3	+1.6
NBMA	Muriti-CE	160.82	222	*e*P	PKPdf	01 44 16.3	+1.6
SDV	Santo Domingo	161.04	83	PKP	PKPdf	01 44 14.8	-0.4
	comp=Z,72nm,0.8s,baz=258,slow=1.4,SNR=54						
SDV	Santo Domingo	161.04	83		PKPdf	01 44 14.9	-0.2
SDV	Santo Domingo	161.04	83	*e*P	PKPdf	01 44 16.3	+1.1
SDV	Santo Domingo	161.04	83	*e*P	PKPdf	01 44 16.3	+1.1
MPR	Mayaguez	161.21	52		PKPdf	01 44 15.0	+0.1
MLPR	Magueyes Islan	161.42	53		PKPdf	01 44 15.2	+0.1
MLPR				PKPab	PKPab	01 44 59.0	-0.4
OBIP	Obispado Ponce	161.72	52		PKPdf	01 44 15.2	-0.2
OBIP					PKPab	01 45 00.4	-0.3
CLDB	Colider	161.73	167	*e*P	PKPdf	01 44 16.3	+0.6
CLDB	Colider	161.73	167	*e*P	PKPdf	01 44 14.6	-1.1
CLDB				*e*S	PP	01 48 50.3	+7.8
CLDB	Colider	161.73	167	*e*P	PKPdf	01 44 16.3	+0.6
CLDB	Colider	161.73	167	*e*P	PKPdf	01 44 14.6	-1.1
CLDB				*e*S	PP	01 48 50.3	+7.8
GCPR	Guaynabo City	161.97	50		PKPdf	01 44 16.3	+0.5
GCPR				PKPab	PKPab	01 45 01.9	+0.2
SJG	San Juan	162.03	51	*e*P	PKPdf	01 44 12.2	-3.6
SJG	San Juan	162.03	51	PKP	PKPdf	01 44 15.9	+0.1
	comp=Z,51nm,1.1s,baz=331,slow=5.0,SNR=7.1						
SJG				PKPab	PKPab	01 45 03.1	+1.0
	comp=Z,81nm,0.9s,baz=0.6,slow=4.5,SNR=7.9						
SJG	San Juan	162.03	51		PKPab	01 45 03.5	+1.4
SJG	San Juan	162.03	51		PKPdf	01 44 12.2	-3.6
MTP	Monte Pirata	162.50	50		PKPdf	01 44 16.1	-0.2
NBCL	Cascavel-CE	162.65	230	*e*P	PKPdf	01 44 18.4	+1.8
NBCL	Cascavel-CE	162.65	230	*e*P	PKPdf	01 44 18.4	+1.8
BAUV	El Baul	163.59	82	*i* P	PKPdf	01 44 14.8	-2.6
SABA	Saba	164.50	46	*e*P	PKPdf	01 44 16.8	-1.3
SABA	Saba	164.50	46		PKPdf	01 44 16.8	-1.3
SEUS	St. Eustatius	164.77	46	*e*P	PKPdf	01 44 17.4	-1.0
SEUS	St. Eustatius	164.77	46		PKPdf	01 44 17.4	-1.0
SKI	Saint Kitts	165.05	46	PKIKP	PKPdf	01 44 16.8	-1.9
SKI	Saint Kitts	165.05	46	*i* P	PKPdf	01 44 16.8	-1.9
SKI	Saint Kitts	165.05	46		PKPdf	01 44 16.8	-1.9
NVBH	Bath Hotel, Ne	165.28	46	*e*P	PKPdf	01 44 16.3	-2.5
ANWB	Willy Bob	165.48	42	*e*P	PKPdf	01 44 14.8	-4.1
MLYT	Lee's Yard	165.85	46	*e*P	PKPdf	01 44 14.0	-5.4
BPA	Boggy Peak	165.87	44	*e*P	PKPdf	01 44 18.6	-0.7
BPA	Boggy Peak	165.87	44		PKPdf	01 44 18.6	-0.7
BBL	Barber's Block	167.15	48	*e*P	PKPdf	01 44 13.9	-6.5
MDN	Morne-Daniel	167.34	49	*e*P	PKPdf	01 44 19.2	-1.3
MDN	Morne-Daniel	167.34	49		PKPdf	01 44 19.2	-1.3
FDF	Fort de France	167.89	50	*e*P	PKPdf	01 44 14.8	-6.1
ORIV	Oritupano	168.12	79	*i* P	PKPdf	01 44 20.1	-1.0
ORIV	Oritupano	168.12	79		PKPdf	01 44 20.1	-1.0
SLBI	Saint Lucia, B	168.45	52	*e*P	PKPdf	01 44 15.7	-5.5
SLBI	Saint Lucia, B	168.45	52	*e*	PKPab	01 45 33.2	+2.9
SLB	Belfond	168.51	53	*e*P	PKPdf	01 44 22.2	+0.8
SLB	Belfond	168.51	53		PKPdf	01 44 22.2	+0.8
SVB	Belmont	168.64	56	*i* P	PKPdf	01 44 19.9	-1.6
SVB	Belmont	168.64	56		PKPdf	01 44 19.9	-1.6
SVV	Soufriere Volc	168.65	56	*e*P	PKPdf	01 44 19.8	-1.6
SVV	Soufriere Volc	168.65	56		PKPdf	01 44 19.8	-1.6
MCLT	Moule a Chique	168.66	53	*e*P	PKPdf	01 44 17.6	-3.8
SVCV	St. Vincent, C	168.73	56	*e*P	PKPdf	01 44 16.2	-5.3
GRHS	Sauteurs	168.82	62	*e*P	PKPdf	01 44 12.5	-9.1
GRGR	Grenville	168.85	62	*e*P	PKPdf	01 44 14.0	-7.6
GUIV	Guiria	168.89	70	*e*P	PKPdf	01 44 15.7	-5.9
TRN	Trinidad (W)	169.65	69	*e*	PKPab	01 45 55.8	+20
BBGH	Gun Hill	170.07	52	*e*P	PKPdf	01 44 21.9	-0.4
BBGH	Gun Hill	170.07	52		PKPdf	01 44 21.9	-0.4
BBSP	Saint Philip	170.18	51	*e*P	PKPdf	01 44 27.8	+5.4
TOSP	Speyside	170.20	64	*i* P	PKPdf	01 44 21.7	-0.6
TOSP	Speyside	170.20	64		PKPdf	01 44 21.7	-0.6
MDP	Montagnes des	177.82	151	PKP	PKPdf	01 44 25.4	+0.3
	comp=Z,38nm,1.0s,baz=78,slow=4.9,SNR=5.0						

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*NEIC **01** 01:30:15.0±2.2, 17°.43N±0°.07×101°.50W±0°.06, h23km±5km, mb4.7/226, Md5.0(MEX)*
*MEX **01** 01:30:15.0±0.9, 17°.36N×101°.65W, h10km, MD5.0*
*ISCJB **01** 01:30:18.1±0.5, 17°.57N±0°.04×101°.29W±0°.02, h60km±4km, mb4.7/16, MS5.9/1, Error ellipse: s-maj=6.9km s-min=3.2km az=16.8*
*IDC **01** 01:30:23.3±3.0, 17°.91N×101°.06W, h74km±25km, mb4.3/16, mb1 4.4/20, mb1mx4.2/49, mbtmp4.5/20, MS4.0/2, Ms1 4.0/2, ms1mx3.8/37, Error ellipse: s-maj=28.1km s-min=10.9km az=50.0*
ISC 01 01:30:15.6±0.9**, 17°.43N**±0°.05×**101°.49W**±0°.03**, h26**km±5km**, n453, σ1ˢ38**/396**, mb4.7**/94**, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.17	9	*e*P	Pb	01 30 20.1	-1.0
ZIIG				*i* S	Sb	01 30 25.5	+0.7
ZIIG	Zihuatanejo	0.17	9		Pb	01 30 20.1	-1.0
ZIIG					Sb	01 30 25.5	+0.7
CAIG	El Cayaco	1.23	108	*e*P	Pn	01 30 36.4	-0.8
CAIG				*e*S	Sb	01 30 53.2	-0.6
CAIG	El Cayaco	1.23	108		Pn	01 30 36.4	-0.8
CAIG					Sb	01 30 53.2	-0.6
ARIG	Puente Sto Nin	1.38	52	*e*P	Pb	01 30 39.3	-1.5
ARIG				*e*S	Sb	01 31 01.4	+3.4
ARIG	Puente Sto Nin	1.38	52		Pb	01 30 39.3	-1.5
ARIG					Sb	01 31 01.4	+3.4
ACP2	Acapulco	1.63	110	*e*P	Pn	01 30 42.5	-0.2
ACP2	Acapulco	1.63	110		Pn	01 30 42.5	-0.2
MEIG	Mezcala	1.85	74	*e*P	Pn	01 30 45.9	+0.2
MEIG				*e*S	Sb	01 31 10.8	-0.8
MEIG	Mezcala	1.85	74		Pn	01 30 45.9	+0.2
MEIG					Sb	01 31 10.8	-0.8
MMIG	Aquila	1.96	296	*e*P	Pn	01 30 42.8	-4.3
MMIG				*e*S	Sb	01 31 14.2	-0.3
MMIG	Aquila	1.96	296		Pn	01 30 42.8	-4.3
MMIG					Sb	01 31 14.2	-0.3
PLIG	Platanillo	2.12	63	*e*P	Pn	01 30 49.8	+0.3
PLIG				*e*S	Sb	01 31 15.8	-3.6
PLIG	Platanillo	2.12	63		Pn	01 30 49.8	+0.3
PLIG					Sb	01 31 15.8	-3.6
MAVM	Malinalco, Edo	2.43	51	*e*P	Pn	01 30 54.0	+0.1
MAVM	Malinalco, Edo	2.43	51		Pn	01 30 54.0	+0.1
TOVM	TOLUCA	2.52	43	*e*P	Pn	01 30 56.6	+1.4
TOVM	TOLUCA	2.52	43		Pn	01 30 56.6	+1.4
YAIG	Yautepec	2.71	58	*e*P	Pn	01 30 57.7	0.0
YAIG	Yautepec	2.71	58		Pn	01 30 57.7	0.0
ATVM	ATLACOMULCO	2.80	34	*e*P	Pn	01 30 59.4	+0.4
ATVM	ATLACOMULCO	2.80	34		Pn	01 30 59.4	+0.4
TLIG	Tlapa	2.80	87		Pn	01 30 59.0	+0.2
EZ5V		2.85	316	*i* P	Pn	01 30 58.8	-0.9
EZ5V		2.85	316		Pn	01 30 58.8	-0.9
R15V		2.93	307	*e*P	Pn	01 30 57.8	-2.8
R15V		2.93	307		Pn	01 30 57.8	-2.8
AMVM	AMECAMECA	3.08	56	*e*P	Pn	01 31 03.7	+0.8
AMVM	AMECAMECA	3.08	56		Pn	01 31 03.7	+0.8
PPM	Popocatepetl	3.17	59	*e*P	Pn	01 31 04.7	+0.4
PNIG	Pinotepa	3.38	107	*e*P	Pn	01 31 05.5	-1.3
PNIG	Pinotepa	3.38	107		Pn	01 31 05.5	-1.3
VTVM	Tizayuca	3.47	48	*e*P	Pn	01 31 10.7	+2.4
VTVM	Tizayuca	3.47	48		Pn	01 31 10.7	+2.4
CJM	Chamela	3.95	302	*e*P	Pn	01 31 10.9	-3.6
TPIG	Tehuac#an	4.05	75	*e*P	Pn	01 31 16.8	+0.6
TPIG	Tehuac#an	4.05	75		Pn	01 31 16.8	+0.6
VHO	Vista Hermosa	4.56	94	*e*P	Pn	01 31 23.4	+0.2
ZAIG	Zacatecas	5.40	349		Pn	01 31 34.6	-0.2
CMIG	Matias Romero	6.33	92	P	Pn	01 31 47.3	+0.1
	2.1nm,0.3s,baz=282,slow=11,SNR=16						
CMIG				S	Sn	01 32 55.6	-3.1
	6.6nm,0.3s,baz=350,slow=6.1,SNR=4.2						
CCIG	Comitan	9.03	96		Pn	01 32 25.4	+0.8
H06E1	SOCORRO T-PHAS	9.07	280	T	T	01 41 38.6	
	SNR=36						
HPIG		10.21	339		Pn	01 32 42.1	+1.3
LPIG	La Paz	10.58	310	LR	LR	01 36 34.5	
	comp=Z,955nm,18.7s,baz=122,slow=35						
APG	El Apazote	10.87	101	LR	LR	01 36 52.2	
	comp=Z,689nm,19.6s,baz=283,slow=37						
833A	Chaparral WMA,	11.01	10	Pn	Pn	01 32 52.2	+0.7
TX31	Lajitas Ar. Si	12.01	351		Pn	01 33 06.7	+1.4
TX32	Lajitas Array	12.01	351		Pn	01 33 06.8	+1.5
TXAR	Lajitas Array	12.01	351	P	Pn	01 33 07.3	+2.0
	0.0nm,0.3s,baz=167,slow=15,SNR=13						
TXAR	Lajitas Array	12.01	351		Pn	01 33 06.5	+1.2
TEIG	Tepich	12.82	75	P	Pn	01 33 20.6	+4.4
	0.7nm,0.3s,baz=318,slow=12,SNR=3.8						
TEIG				S	Sn	01 35 39.3	+1.2
	0.9nm,0.3s,baz=319,slow=20,SNR=2.7						
JCT	Junction City	13.08	6	P	Pn	01 33 21.5	+1.7
	baz=186						
JCT	Junction City	13.08	6		Pn	01 33 20.5	+0.7
HKT	Hockley	13.49	22		Pn	01 33 26.0	+0.7
435B	Jarrell	13.76	14	P	P	01 33 36.8	-0.6
	baz=195,SNR=7.0						
435B	Jarrell	13.76	14		Pn	01 33 29.4	+0.3
HSIG		14.43	325		Pn	01 33 39.7	+1.5
MNTX	Cornudas Mount	14.63	347	P	P	01 33 45.0	-2.1
	baz=164,SNR=13						
MNTX	Cornudas Mount	14.63	347	Pn	Pn	01 33 41.4	+0.4
GDL2	Guadalupe Moun	14.93	351	Pn	Pn	01 33 45.3	+0.2
WHTX	Lake Whitney,	14.95	13	P	P	01 33 48.3	-2.3
	baz=194,SNR=16						
WHTX	Lake Whitney,	14.95	13	Pn	Pn	01 33 47.6	+2.4
ABTX	Abilene, Hawle	15.22	6	P	P	01 33 53.0	-0.6
	baz=186,SNR=12						
ABTX	Abilene, Hawle	15.22	6	Pn	Pn	01 33 48.7	-0.2
ABTX				IAmb	IAmb	01 33 54.4	
	comp=Z,30nm,0.9s						
NATX	Nacogdoches	15.55	22	P	P	01 33 56.6	-0.6
	baz=205,SNR=18						
NATX	Nacogdoches	15.55	22	P	P	01 33 56.2	-1.1
121A	Cookes Peak, D	16.07	340	P	P	01 34 02.2	-1.0
	baz=157						
121A	Cookes Peak, D	16.07	340		Pn	01 34 01.7	+1.7
MSTX	Muleshoe	16.51	356	P	Pn	01 34 06.1	+0.6
	baz=175,SNR=11						
TUC	Tucson	17.03	332	P	P	01 34 14.2	+0.5
	baz=148						
TUC	Tucson	17.03	332		Pn	01 34 13.1	+1.0
BNM	Barren Site	17.27	346	Pn	Pn	01 34 14.9	-0.3
Y22D	IRIS PASSCAL I	17.27	345		Pn	01 34 15.3	+0.1
LENM	Lemitar	17.37	345	P	P	01 34 17.7	+0.1
AMTX	Amarillo	17.38	359	P	Pn	01 34 16.9	+0.5
	baz=179						
AMTX	Amarillo	17.38	359	IAmb	IAmb	01 34 20.1	
	comp=Z,40nm,0.9s						
WMOK	Wichita Mounta	17.40	7	P	Pn	01 34 16.1	-0.6
	baz=188,SNR=12						
WMOK	Wichita Mounta	17.40	7		Pn	01 34 15.5	-1.2
X34A	Smith Ranch, M	17.41	10	IAmb	IAmb	01 34 32.9	
	comp=Z,43nm,0.9s						
LPM	Los Pinos Moun	17.43	346		Pn	01 34 17.7	+0.6
JTS	Las Juntas de	17.55	112	P	P	01 34 22.3	+2.7
	comp=Z,0.2nm,0.3s,baz=22,slow=19,SNR=3.2						
Z41A	Richland Creek	17.59	25	P	P	01 34 19.4	-0.4
	baz=208,SNR=5.5						
Z41A	Richland Creek	17.59	25		Pn	01 34 18.6	-0.4
Z41A				IAmb	IAmb	01 34 31.1	
	comp=Z,62nm,1.1s						
214A	Organ Pipe Nat	17.72	327	P	P	01 34 22.1	+0.8
	baz=141						
VBMS	Vicksburg	17.76	32	P	Pn	01 34 21.0	0.0
	baz=216						
VBMS	Vicksburg	17.76	32	IAmb	IAmb	01 34 34.7	
	comp=Z,46nm,1.0s						
ANMO	Albuquerque	18.00	347	P	P	01 34 25.9	+1.4
	baz=164						
ANMO	Albuquerque	18.00	347	P	P	01 34 25.7	+1.1
	comp=Z,0.2nm,0.3s,baz=156,slow=12,SNR=28						
ANMO	Albuquerque	18.00	347		Pn	01 34 24.3	+0.1
W35A	Tecumseh	18.12	12	Pn	Pn	01 34 23.7	-1.8
MIAR	Mount Ida	18.45	21	P	P	01 34 28.1	-1.2
	baz=204,SNR=11						
X18A	Snowflake	18.63	338	P	Pn	01 34 32.1	+0.2
X40A	Basin Creek Fa	18.67	23	P	P	01 34 31.4	-0.3
	baz=206						
W39A	Magazine	18.98	20	P	P	01 34 35.0	-0.1
	baz=203,SNR=31						
W39A	Magazine	18.98	20	P	P	01 34 34.3	-0.8
TUL1	Leonard	19.09	14	P	P	01 34 34.8	-1.5
	baz=196,SNR=21						
TUL1	Leonard	19.09	14	P	P	01 34 34.4	-1.9
TUL1				IAmb	IAmb	01 34 36.1	
	comp=Z,54nm,0.8s						
UALR	University of	19.11	24	P	P	01 34 35.6	-0.9
X43A	Marvell	19.48	27	P	P	01 34 40.9	+0.3
	baz=212,SNR=12						
X43A	Marvell	19.48	27	P	P	01 34 40.2	-0.4
W41B	Gary Mavity, V	19.50	23	P	P	01 34 39.6	-1.2
	baz=207,SNR=7.3						
W41B	Gary Mavity, V	19.50	23	P	P	01 34 39.5	-1.2
WHAR	Wooly Hollow	19.59	23	P	P	01 34 41.1	-0.7
WHAR				IAmb	IAmb	01 34 50.5	
	comp=Z,31nm,0.8s						
GLA	Glamis	19.65	325	P	Pn	01 34 43.8	-0.2
	baz=138						
GLA	Glamis	19.65	325	P	P	01 34 43.1	+0.6
T25A	Trinidad	19.80	353	P	Pn	01 34 45.4	-0.6
	baz=171,SNR=31						
T25A	Trinidad	19.80	353	P	P	01 34 44.8	+0.5
T25A				IAmb	IAmb	01 34 46.5	
	comp=Z,35nm,0.8s						
HHAR	Hobbs	19.93	18	P	P	01 34 43.2	-2.3
HHAR				IAmb	IAmb	01 34 45.3	
	comp=Z,48nm,0.9s						
250A	Grady	19.99	41	P	P	01 34 45.2	-1.0
	baz=227						
250A	Grady	19.99	41	P	P	01 34 44.2	-1.9
250A				IAmb	IAmb	01 34 46.8	
	comp=Z,23nm,0.8s						
Y12C	Blythe	20.02	327	P	P	01 34 47.9	+1.4
	baz=140,SNR=5.7						
Y12C	Blythe	20.02	327	P	P	01 34 47.3	+0.8
WUAZ	Wupatki	20.04	336	P	Pn	01 34 49.1	+0.3
	baz=151,SNR=50						
WUAZ	Wupatki	20.04	336	P	Pn	01 34 48.2	-0.6
WUAZ				IAmb	IAmb	01 34 53.9	
	comp=Z,53nm,0.9s						
IKP	In-Ko-Pah, Jac	20.09	322	P	Pn	01 34 49.2	-0.1
	baz=135						
IKP	In-Ko-Pah, Jac	20.09	322	P	P	01 34 47.9	+0.6
SWSC	Sam W. Stewart	20.12	323	P	Pn	01 34 49.2	-0.3
	baz=136						
OXF	Oxford	20.15	30	P	P	01 34 46.6	-1.3
	baz=215						
OXF	Oxford	20.15	30	IAmb	IAmb	01 34 47.3	
	comp=Z,42nm,0.8s						
LRAL	Lakeview Retre	20.29	37	P	P	01 34 48.4	-1.1
	baz=223,SNR=9.2						
LRAL	Lakeview Retre	20.29	37	P	P	01 34 47.9	-1.5
LRAL				IAmb	IAmb	01 34 49.4	
	comp=Z,30nm,1.1s						
U40A	Yellville	20.34	20	P	P	01 34 48.5	-1.5
	baz=204,SNR=30						
U40A	Yellville	20.34	20	P	P	01 34 48.2	-1.8
U40A				IAmb	IAmb	01 34 50.0	
	comp=Z,34nm,0.8s						
MONP2	Monument Peak	20.44	322	P	P	01 34 52.8	+1.4
	baz=135,SNR=15						
MONP2	Monument Peak	20.44	322	P	P	01 34 52.2	+0.9
MONP2				IAmb	IAmb	01 34 53.6	
	comp=Z,25nm,1.0s						
BAR	Barrett	20.44	321	P	P	01 34 52.0	+0.8
BC3	Big Chuckawall	20.45	325	P	P	01 34 52.4	+1.1
	baz=138,SNR=11						
HBAR	Harrisburg	20.46	26	P	P	01 34 50.7	-0.5
352A	Blakely	20.53	44	P	P	01 34 51.1	-0.9
	baz=231						
352A	Blakely	20.53	44	IAmb	IAmb	01 34 58.5	
	comp=Z,38nm,0.9s						
SDCO	Great Sand Dun	20.54	351	P	P	01 34 53.3	+0.8
	baz=168,SNR=54						
SDCO	Great Sand Dun	20.54	351	IAmb	IAmb	01 34 54.1	
	comp=Z,35nm,0.9s						
453A	Whigham	20.56	46	P	P	01 34 51.2	-1.2
	baz=233						
SDRC	San Diego Road	20.65	320	P	P	01 34 54.1	+0.8
SDRC				IAmb	IAmb	01 34 55.5	
	comp=Z,42nm,1.0s						
MVCO	Mesa Verde	20.65	344	P	P	01 34 54.0	+0.5
	baz=160,SNR=42						
LPAR	Lepanto	20.65	27	P	P	01 34 51.9	-1.5
IRM	Iron Mountain	20.66	326	P	P	01 34 54.9	+1.4
	baz=140,SNR=32						
EML	El Monte Cty P	20.70	321	IAmb	IAmb	01 34 55.8	
	comp=Z,25nm,0.8s						
CBCY	The Bluff, Cay	20.73	80	P	P	01 34 52.2	-2.1
S22A	4UR Ranch, Cre	20.77	348	P	P	01 34 55.9	+1.0
	baz=165,SNR=20						
109C	Camp Elliot, M	20.85	320	P	P	01 34 57.1	+1.5
	baz=133,SNR=5.3						
109C	Camp Elliot, M	20.85	320	IAmb	IAmb	01 34 57.5	
	comp=Z,36nm,0.9s						
353A	Camilla	20.92	45	P	P	01 34 55.5	-0.8
	baz=232						
454A	Quitman	20.96	48	P	P	01 34 56.7	+0.1
	baz=235						
PFO	Pinyon Flats O	20.98	323	P	P	01 34 58.5	+1.4
	baz=136,SNR=19						
PFO	Pinyon Flats O	20.98	323	P	P	01 34 58.2	+1.1
	comp=Z,17nm,0.9s,baz=129,slow=8.2,SNR=23						
PFO	Pinyon Flats O	20.98	323	P	P	01 34 57.9	+0.8
PFO				IAmb	IAmb	01 34 59.4	
	comp=Z,30nm,1.1s						
252A	Lumpkin	20.98	43	P	P	01 34 56.0	-1.0
	baz=230						
BELC	Belle Mtn. Jos	21.00	325	P	P	01 34 58.5	+1.2
	baz=138,SNR=15						
Z50A	Ashland	21.08	39	P	P	01 34 56.6	-1.5
	baz=225,SNR=6.4						
Z50A	Ashland	21.08	39	IAmb	IAmb	01 35 05.4	
	comp=Z,20nm,0.9s						
PLAL	Pickwick Lake	21.18	32	IAmb	IAmb	01 35 02.7	
	comp=Z,41nm,0.9s						
U15A	North Rim	21.20	335	IAmb	IAmb	01 35 04.8	
	comp=Z,28nm,1.0s						
Y49A	Blount Mountai	21.23	37	P	P	01 34 56.7	-2.9
	baz=223						
MGMO	Mountain Grove	21.26	21	IAmb	IAmb	01 35 07.5	
	comp=Z,38nm,1.1s						
X48A	Hartselle	21.31	35	P	P	01 34 58.4	-2.1
	baz=221,SNR=12						
CBKS	Cedar Bluff	21.36	4	P	P	01 34 59.8	-1.2
	baz=184,SNR=11						
CBKS	Cedar Bluff	21.36	4	IAmb	IAmb	01 35 05.2	
	comp=Z,30nm,0.8s						
455A	Stateville	21.40	48	P	P	01 35 00.1	-1.3
	baz=236						
MURC	Murrieta	21.40	322	P	P	01 35 03.0	+1.5
	baz=134,SNR=14						
TIGA	Tifton	21.41	46	P	P	01 35 00.5	-1.0
	baz=233						
TIGA	Tifton	21.41	46	P	P	01 35 00.9	-0.6
GMRC	Granite Mounta	21.41	327	P	P	01 35 02.7	+0.9
	baz=140,SNR=20						
152A	Waverly Hall	21.43	42	P	P	01 34 59.9	-1.9
	baz=229						
KSCO	Kaye Shedlock'	21.52	358	P	P	01 35 02.8	0.0
	baz=177,SNR=23						
KSCO	Kaye Shedlock'	21.52	358	P	P	01 35 02.3	-0.5
PV01	Paradox Valley	21.54	345	P	P	01 35 02.9	-0.2
Z51A	Franklin	21.58	40	P	P	01 35 01.5	-1.8
	baz=227						
PBMO	Poplar Bluff	21.61	25	IAmb	IAmb	01 35 07.8	
	comp=Z,24nm,1.0s						
PV05	Paradox Valley	21.62	344	P	P	01 35 03.9	-0.1
PV02	Paradox Valley	21.65	344	P	P	01 35 03.9	-0.5
GLAT	Glass	21.66	28	P	P	01 35 02.2	-1.9
GLAT				IAmb	IAmb	01 35 14.9	
	comp=Z,35nm,0.8s						
Q24A	Divide	21.69	352	P	P	01 35 06.0	+1.2
	baz=170						
Q24A	Divide	21.69	352	P	P	01 35 03.8	-1.0
PV03	Paradox Valley	21.72	344	P	P	01 35 05.1	0.0
PV03				IAmb	IAmb	01 35 07.9	
	comp=Z,24nm,1.1s						
PV12	Saucer Basin,	21.77	344	P	P	01 35 05.8	+0.2
PV12				IAmb	IAmb	01 35 09.1	
	comp=Z,42nm,0.9s						
HEC	Hector,Ludlow	21.81	325	P	P	01 35 07.2	+1.3
	baz=138,SNR=10						
HICK	Hickman	21.91	27	P	P	01 35 05.8	-1.0
254A	Abbeville	21.91	45	P	P	01 35 05.3	-1.6
	baz=233						
Z52A	Williamson	21.96	41	P	P	01 35 05.7	-1.8
	baz=228						
PV22	Blue Mesa, Par	21.97	345	P	P	01 35 08.2	+0.4
PV22				IAmb	IAmb	01 35 10.3	
	comp=Z,25nm,0.8s						
CIS	Catalina Islan	22.00	319	P	P	01 35 09.0	+1.0
	baz=132						
KSU1	Kansas State U	22.01	10	P	P	01 35 06.0	-1.9
	baz=192,SNR=7.2						
Y51A	Rockmart	22.04	39	P	P	01 35 06.8	-1.6
	baz=226,SNR=6.3						
TUQ	Turquoise Moun	22.05	327	P	P	01 35 09.9	+1.4
	baz=140,SNR=32						
PKCU	Pink Cliffs	22.09	337	P	P	01 35 10.0	+0.8
BFSC	Mount Baldy Ra	22.12	322	P	P	01 35 10.2	+0.8
	baz=135,SNR=6.7						
SMCO	Snowmass	22.19	349	IAmb	IAmb	01 35 13.1	
	comp=Z,24nm,1.0s						
WVT	Waverly	22.22	30	P	P	01 35 08.9	-1.2
	baz=216						
WVT	Waverly	22.22	30	P	P	01 35 08.3	-1.9
WVT				IAmb	IAmb	01 35 18.5	
	comp=Z,12nm,0.7s						
W49A	Belvidere	22.24	35	P	P	01 35 09.0	-1.4
	baz=221,SNR=6.2						
V48A	Smith Brothers	22.41	33	P	P	01 35 10.4	-1.9
	baz=219						
GSC	Goldstone, Bar	22.42	326	P	P	01 35 13.1	+0.6
	baz=138,SNR=15						
CCM	Cathedral Cave	22.43	22	P	P	01 35 10.3	-2.1
	baz=206						
CCM	Cathedral Cave	22.43	22	P	P	01 35 10.3	-2.1
CCM				IAmb	IAmb	01 35 11.8	
	comp=Z,19nm,0.8s						
SHPR	Sheep Range	22.52	330	IAmb	IAmb	01 35 16.6	
	comp=Z,20nm,1.0s						
Z53A	Monticello	22.56	42	P	P	01 35 11.5	-2.3
	baz=230						
ISCO	Idaho Springs	22.57	352	P	P	01 35 14.1	-0.2
	baz=169,SNR=49						
ISCO	Idaho Springs	22.57	352	IAmb	IAmb	01 35 16.8	
	comp=Z,30nm,0.9s						
SHOC	Shoshone, Teco	22.59	327	P	P	01 35 15.7	+1.5
	baz=140						
Y52A	Lilburn	22.63	40	P	P	01 35 12.2	-2.4
	baz=228						
GOGA	Godfrey	22.71	42	P	P	01 35 13.1	-2.3
	baz=230						
GOGA	Godfrey	22.71	42	IAmb	IAmb	01 35 17.7	
	comp=Z,19nm,1.1s						
EDW2	Edwards Air Fo	22.77	323	P	P	01 35 16.8	+0.6
	baz=135,SNR=9.7						
W50A	Signal Mountai	22.82	36	P	P	01 35 14.9	-1.8
	baz=223						
W50A	Signal Mountai	22.82	36	IAmb	IAmb	01 35 30.0	
	comp=Z,18nm,0.9s						
S44A	Carbondale	22.87	26	P	P	01 35 15.3	-1.8
	baz=211						
155A	Kite	22.88	45	P	P	01 35 18.9	+1.7
	baz=233						
BLG	Laguna Peak, P	22.88	320	P	P	01 35 18.7	+1.5
	baz=132						
V49A	McMinnville	22.92	34	P	P	01 35 14.9	-2.7
	baz=221,SNR=5.9						
SRU	San Rafael Swe	22.99	342	P	P	01 35 18.2	-0.3
X52A	Dahlonega	23.23	39	P	P	01 35 18.2	-2.7
	baz=227,SNR=5.8						
T47A	Sharon Grove	23.25	30	P	P	01 35 19.0	-2.0
	baz=217,SNR=7.4						
V50A	Pikevile	23.29	36	P	P	01 35 19.0	-2.4
	baz=223,SNR=13						
SLM	Saint Louis	23.31	23	P	P	01 35 19.6	-1.9
SLM				IAmb	IAmb	01 35 24.9	
	comp=Z,23nm,0.8s						
FURC	Furnace Creek,	23.33	327	P	P	01 35 22.6	+0.8
	baz=140						
MPMC	Manual Prospec	23.35	326	P	P	01 35 22.6	+0.4
	baz=138,SNR=18						
O20A	White River Ci	23.37	347	P	P	01 35 22.6	+0.3
	baz=163,SNR=11						
O20A	White River Ci	23.37	347	IAmb	IAmb	01 35 24.1	
	comp=Z,19nm,0.9s						
P17A	Butcher Ranch,	23.39	342	P	P	01 35 21.9	-0.6
TPNV	Topopah Spring	23.40	329	P	P	01 35 23.8	+1.1
	baz=142,SNR=20						
TPNV	Topopah Spring	23.40	329	IAmb	IAmb	01 35 35.7	
	comp=Z,24nm,1.1s						
OGNE	Ogallala	23.44	359	P	P	01 35 22.3	-0.6
	baz=178,SNR=6.0						
Y54A	Tignall	23.50	42	P	P	01 35 20.8	-2.6

baz=230
X53A **Estanollee** 23.52 40 P P 01 35 21.4 -2.3
baz=228
U49A **Red Boiling Sp** 23.55 33 P P 01 35 22.1 -1.8
baz=220
W52A **Murphy** 23.55 38 P P 01 35 22.4 -1.5
baz=226
W52A **Murphy** 23.55 38 IAmb IAmb 01 35 31.8
comp=Z,23nm,0.9s
DAC **Darwin (Calif)** 23.57 326 P P 01 35 26.0 +1.6
ISA **Isabella, Lake** 23.61 324 P P 01 35 26.8 +2.2
baz=135,SNR=9.1
N23A **Red Feather La** 23.69 352 P P 01 35 25.7 +0.1
baz=169,SNR=14
N23A **Red Feather La** 23.69 352 IAmb IAmb 01 35 35.9
comp=Z,30nm,1.0s
V51A **Loudon** 23.80 36 P P 01 35 24.0 -2.4
baz=224
V51A **Loudon** 23.80 36 IAmb IAmb 01 35 34.3
comp=Z,17nm,0.8s
PKM **Mcpherson Peak** 23.86 320 P P 01 35 27.8 +0.7
baz=132
CWC **Cottonwood Cre** 23.95 325 P P 01 35 29.0 +1.0
baz=137
U50A **Jamestown** 23.97 35 P P 01 35 25.4 -2.6
baz=222
GRAC **Grapevine Rang** 24.00 327 P P 01 35 29.8 +1.6
baz=140,SNR=5.7
TKL **Tuckaleechee C** 24.03 37 P P 01 35 25.9 -2.6
comp=Z,23nm,0.8s,baz=200,slow=11,SNR=26
PHWY **Pilot Hill** 24.03 353 P P 01 35 27.5 -1.3
PHWY IAmb IAmb 01 35 29.5
comp=Z,16nm,0.9s
W53A **Cullowhee** 24.05 39 P P 01 35 28.3 -0.6
baz=227,SNR=5.1
BGNE **Belgrade** 24.07 6 P P 01 35 28.3 -0.5
baz=187
BG3 **Lake Jocassee** 24.08 40 IAmb IAmb 01 35 29.5
comp=Z,25nm,1.1s
VES **Vestal, Richgr** 24.08 323 P P 01 35 30.6 +1.6
baz=134,SNR=7.0
T49A **Edmonton** 24.12 33 P P 01 35 27.6 -1.8
baz=220
X54A **Belton** 24.13 41 P P 01 35 27.5 -1.9
baz=230
R11A **Troy Canyon, C** 24.22 332 P P 01 35 31.3 +0.8
baz=145,SNR=33
R11A **Troy Canyon, C** 24.22 332 IAmb IAmb 01 35 32.5
comp=Z,14nm,0.9s
NLU **North Lily Min** 24.25 340 P P 01 35 30.8 0.0
SMMC **Simmler** 24.25 321 P P 01 35 32.3 +1.7
baz=132
V52A **Sevierville** 24.26 37 P P 01 35 28.6 -2.0
baz=225,SNR=5.5
V52A **Sevierville** 24.26 37 IAmb IAmb 01 35 30.6
comp=Z,26nm,1.0s
U51A **La Follette** 24.40 36 P P 01 35 30.3 -1.7
baz=224,SNR=6.3
T50A **Nancy** 24.42 34 P P 01 35 30.0 -2.1
baz=221,SNR=12
X55A **Gracelyn & Ava** 24.56 42 P P 01 35 32.0 -1.4
baz=231
W54A **Cherokee Point** 24.60 41 P P 01 35 32.9 -0.8
baz=229,SNR=5.6
V53A **Saluda** 24.60 39 P P 01 35 32.9 -0.9
baz=227,SNR=12
WCI **Wyandotte Cave** 24.63 30 P P 01 35 33.1 -0.9
baz=217
WCI **Wyandotte Cave** 24.63 30 P P 01 35 32.7 -1.3
WCI IAmb IAmb 01 35 35.8
comp=Z,23nm,0.8s
PAULI **Pauline** 24.66 42 P P 01 35 33.1 -1.2
PAULI IAmb IAmb 01 35 35.1
comp=Z,21nm,0.9s
JSC **Jenkinsville** 24.68 43 P P 01 35 33.0 -1.4
DUG **Dugway, Tooele** 24.71 339 P P 01 35 35.6 +0.8
baz=153,SNR=25
DUG **Dugway, Tooele** 24.71 339 P P 01 35 34.6 -0.2
DUG IAmb IAmb 01 35 37.4
comp=Z,20nm,1.1s
S49A **Springfield** 24.77 32 P P 01 35 34.2 -1.1
baz=219
U52A **Thorn Hill** 24.78 37 P P 01 35 33.7 -1.7
baz=225
TZTN **Tazewell** 24.78 36 P P 01 35 34.0 -1.4
baz=224
TZTN **Tazewell** 24.78 36 IAmb IAmb 01 35 35.5
comp=Z,15nm,0.7s
CTU **Camp Tracy** 24.81 341 P P 01 35 35.6 -0.2
T51A **Gray** 24.86 35 P P 01 35 35.4 -0.7
baz=223,SNR=5.9
N41A **Harden Midland** 24.95 19 P P 01 35 34.9 -1.9
S50A **Richmond** 25.15 33 P P 01 35 38.0 -0.7
baz=221
KMSC **Kings Mountain** 25.17 42 P P 01 35 37.8 -1.1
baz=230
KMSC **Kings Mountain** 25.17 42 P P 01 35 37.9 -1.1
KMSC IAmb IAmb 01 35 40.0
comp=Z,14nm,0.9s
V54A **Nebo** 25.20 40 P P 01 35 38.5 -0.7
baz=228,SNR=13
U53A **Fall Branch** 25.22 38 P P 01 35 38.3 -1.1
baz=226
MLAC **Mammoth, Mammo** 25.24 326 P P 01 35 41.7 +1.9
baz=138
BLO **Bloomington** 25.29 28 IAmb IAmb 01 35 43.1
comp=Z,17nm,0.8s
OMMB **Old Mammoth Mi** 25.32 326 IAmb IAmb 01 35 44.2
comp=Z,15nm,1.0s
HDIL **Hopedale** 25.34 22 P P 01 35 38.7 -1.6
baz=208,SNR=6.1
PMPB **Monarch Peak** 25.35 321 P P 01 35 41.3 +0.7
PMPB IAmb IAmb 01 35 44.1
comp=Z,30nm,1.2s
MDPB **Devils Postpil** 25.37 326 P P 01 35 41.4 +0.3
MDPB IAmb IAmb 01 35 44.7
comp=Z,23nm,1.1s
SCIA **State Center** 25.40 15 P P 01 35 40.7 -0.3
baz=198
Q48A **North Vernon** 25.45 30 P P 01 35 40.9 -0.5
baz=217
K22A **Casper** 25.50 351 P P 01 35 43.4 +1.4
baz=168,SNR=29
NV11 **Mina Array Sit** 25.50 328 P P 01 35 42.7 +0.7
NV11 IAmb IAmb 01 35 54.5
comp=Z,22nm,1.1s
T52A **Hallie** 25.50 36 P P 01 35 40.8 -1.1
baz=224
T52A **Hallie** 25.50 36 P P 01 35 40.7 -1.2
T52A IAmb IAmb 01 35 46.2
comp=Z,26nm,1.1s
Y58A **Scranton** 25.53 46 P P 01 35 40.2 -1.9
S51A **Beattyville** 25.55 34 P P 01 35 40.7 -1.6
baz=223,SNR=8.8
NVAR **Mina Array Bea** 25.57 328 P P 01 35 44.0 +1.2
comp=Z,19nm,0.9s,baz=154,slow=10.0,SNR=54
NVAR **Mina Array Bea** 25.57 328 P P 01 35 43.0 +0.3
HWUT **Hardware Ranch** 25.60 342 IAmb IAmb 01 35 45.8
comp=Z,18nm,1.0s
R50A **Paris** 25.64 32 P P 01 35 40.9 -2.2
baz=220
T53A **Wise** 25.67 37 P P 01 35 42.9 -0.6
baz=226,SNR=5.1
V55A **Taylorsville** 25.70 40 P P 01 35 42.8 -0.8
baz=230,SNR=6.2
U54A **Nelsons Funny** 25.77 39 P P 01 35 43.1 -1.3
baz=228
U54A **Nelsons Funny** 25.77 39 IAmb IAmb 01 35 45.7
comp=Z,20nm,0.7s
RYN **Ryan** 25.83 328 P P 01 35 45.7 +0.6
RYN IAmb IAmb 01 35 49.2
comp=Z,18nm,1.1s
S52A **Salyersville** 25.86 35 P P 01 35 43.5 -1.6
baz=224
Q49A **Aurora** 25.91 31 P P 01 35 45.0 -0.6
baz=218
SFIN **Lafayette** 26.04 26 P P 01 35 45.2 -1.5
baz=212
R51A **Hillsboro** 26.04 33 P P 01 35 44.9 -1.8
baz=222
ELK **Elko** 26.08 336 P P 01 35 48.1 +0.7
comp=Z,5.5nm,0.9s,baz=147,slow=6.7,SNR=12
SAO **San Andreas Ge** 26.10 321 P P 01 35 47.8 +0.5
V56A **Mocksville** 26.12 41 P P 01 35 45.9 -1.6
baz=231
BW06 **Boulder Array** 26.17 346 P P 01 35 48.1 0.0
baz=162,SNR=18
BW06 **Boulder Array** 26.17 346 IAmb IAmb 01 35 50.8
comp=Z,21nm,1.0s
PD31 **Pinedale Array** 26.17 346 IAmb IAmb 01 35 50.8
comp=Z,18nm,0.9s
PDAR **Pinedale Array** 26.17 346 P P 01 35 47.8 -0.4
comp=Z,14nm,0.9s,baz=152,slow=12,SNR=40
PDAR PcP PcP 01 39 14.2 -0.7
comp=Z,1.1nm,0.7s,baz=134,slow=5.2,SNR=3.8
PDAR **Pinedale Array** 26.17 346 P P 01 35 47.5 -0.7
U55A **TA2, Sparta** 26.22 40 P P 01 35 47.3 -1.2
baz=229
Q50A **Georgetown** 26.24 32 P P 01 35 46.9 -1.7
baz=220,SNR=7.0
T54A **Tazewell** 26.28 38 P P 01 35 47.4 -1.6
baz=227
CMB **Columbia Colle** 26.37 325 P P 01 35 50.0 +0.2
P49A **Miami Univ. Ec** 26.41 30 P P 01 35 49.8 -0.3
baz=218
U56A **King** 26.53 41 P P 01 35 50.0 -1.2
baz=230
ECSD **EROS Data Cent** 26.54 8 P P 01 35 52.1 +0.8
baz=190,SNR=9.7
ECSD **EROS Data Cent** 26.54 8 IAmb IAmb 01 36 01.6
comp=Z,26nm,1.1s
AHID **Auburn Hatcher** 26.54 344 IAmb IAmb 01 35 52.2
comp=Z,19nm,0.8s
R52A **Catlettsburg** 26.57 35 P P 01 35 49.8 -1.8
baz=223
V57A **Coltrane Farms** 26.63 42 P P 01 35 50.8 -1.3
baz=232
BMN **Battle Mountai** 26.65 333 IAmb IAmb 01 35 57.2
comp=Z,20nm,0.9s
RSSD **Black Hills** 26.69 356 P P 01 35 53.1 +0.3
baz=174
RSSD **Black Hills** 26.69 356 P P 01 35 52.6 -0.2
Q51A **Peebles** 26.70 33 P P 01 35 50.8 -2.0
Q51A **Peebles** 26.70 33 IAmb IAmb 01 36 00.3
comp=Z,20nm,0.9s
PNTR **Pine Nut** 26.73 327 IAmb IAmb 01 35 55.7
comp=Z,16nm,0.9s
O48A **Farmland** 26.78 29 P P 01 35 52.6 -0.9
baz=216
VCNR **Virginia City** 26.91 328 P P 01 35 55.2 +0.3
P50A **Jamestown** 26.92 31 P P 01 35 52.5 -2.2
baz=220
R53A **Hurricane** 26.95 35 P P 01 35 53.2 -1.7
baz=225
R53A **Hurricane** 26.95 35 IAmb IAmb 01 35 56.3
comp=Z,27nm,0.9s
RUBR **Rubicon Trail** 26.99 327 P P 01 35 56.5 +0.9
RUBR IAmb IAmb 01 35 58.4
comp=Z,22nm,0.9s
V58A **Windy Hill, Pi** 27.00 43 P P 01 35 53.5 -1.9
baz=233
SUSD **Miller** 27.01 4 P P 01 35 57.5 +2.0
baz=185,SNR=5.6
N47A **Urbana** 27.05 27 P P 01 35 55.3 -0.5
baz=215,SNR=10
BLA **Blacksburg** 27.07 39 P P 01 35 54.9 -1.2
baz=229
BLA **Blacksburg** 27.07 39 IAmb IAmb 01 35 57.6
comp=Z,22nm,0.8s
PAHR **Pah Rah Range** 27.09 329 P P 01 35 56.9 +0.5
O49A **Covington** 27.11 30 P P 01 35 55.5 -0.9
baz=218
SNOW **Snow King Moun** 27.11 345 P P 01 35 56.4 -0.2
TPAW **Teton Pass** 27.18 345 IAmb IAmb 01 36 01.9
comp=Z,24nm,1.0s
T56A **Rocky Mt** 27.18 40 P P 01 35 56.0 -1.2
baz=230
Q52A **Bidwell** 27.23 34 P P 01 35 55.6 -1.8
baz=223
FXWY **Fox Creek** 27.34 345 IAmb IAmb 01 35 59.8
comp=Z,14nm,0.9s
S55A **Lewisburg** 27.39 38 P P 01 35 57.4 -1.6
baz=228
O50A **Cable** 27.42 31 P P 01 35 59.2 0.0
baz=219,SNR=6.7
IMW **Indian Meadow** 27.56 345 IAmb IAmb 01 36 02.3
comp=Z,18nm,1.1s
FLWY **Flagg Ranch** 27.68 346 P P 01 36 01.7 -0.1
FLWY IAmb IAmb 01 36 20.6
comp=Z,15nm,1.1s
BEKR **Beckworth** 27.70 328 IAmb IAmb 01 36 04.2
comp=Z,9.9nm,0.9s
N49A **Columbus Grove** 27.76 29 P P 01 36 00.5 -1.7
baz=217
N49A **Columbus Grove** 27.76 29 IAmb IAmb 01 36 12.8
comp=Z,16nm,0.9s
P52A **Corning** 27.79 33 P P 01 36 00.6 -1.8
baz=222
YPP **Pitchstone Pla** 27.88 346 P P 01 36 03.6 0.0
R55A **Marlinton** 27.95 38 P P 01 36 02.9 -1.2
baz=228
R55A **Marlinton** 27.95 38 P P 01 36 02.9 -1.2
R55A IAmb IAmb 01 36 16.1
comp=Z,17nm,1.0s
O52A **Adamsville** 28.30 33 P P 01 36 04.8 -2.2
baz=222
O52A **Adamsville** 28.30 33 IAmb IAmb 01 36 07.3
comp=Z,14nm,0.8s
RLMT **Red Lodge** 28.36 348 P P 01 36 07.6 -0.2
baz=164
YHL **Hebgen Lake** 28.52 345 P P 01 36 09.3 0.0
QLMT **Earthquake Lak** 28.56 345 P P 01 36 09.2 -0.3
SPMN **Marine on St.** 28.65 13 P P 01 36 08.7 -1.4
baz=197
SPMN **Marine on St.** 28.65 13 P P 01 36 07.9 -2.2
M50A **Fremont** 28.67 30 P P 01 36 08.0 -2.3
M50A IAmb IAmb 01 36 08.7
comp=Z,22nm,1.1s
O53A **New Philadelph** 28.72 34 P P 01 36 08.8 -2.0
baz=223
WVOR **Wild Horse Val** 28.89 333 IAmb IAmb 01 36 13.9
comp=Z,11nm,1.1s
MOD **Modoc Plateau** 29.22 330 IAmb IAmb 01 36 17.2
comp=Z,13nm,0.8s
BOZ **Bozeman (W)** 29.33 345 P P 01 36 16.6 +0.3
baz=160,SNR=12
LAO **LASA Array** 29.43 353 P P 01 36 16.4 -0.8
baz=170,SNR=5.7
LAO **LASA Array** 29.43 353 IAmb IAmb 01 36 18.2
comp=Z,8.0nm,0.8s
M04C **Madrel** 29.88 329 P P 01 36 22.4 +1.2
baz=138
PLID **Pearl Lake** 30.13 339 IAmb IAmb 01 36 24.4
comp=Z,10.0nm,0.8s
MDND **Maddock** 30.37 3 P P 01 36 23.9 -1.5
MDND IAmb IAmb 01 36 33.1
comp=Z,14nm,0.8s
L04D **Klamath Falls** 30.43 329 P P 01 36 25.9 -0.2
baz=138
O57A **Amberson** 30.68 37 P P 01 36 24.3 -3.8
baz=229
J05D **Fort Rock, OR** 30.73 331 P P 01 36 29.4 +0.7
baz=140,SNR=5.0
M55A **Ridgway** 30.89 34 P P 01 36 27.9 -2.1
baz=226
DGMT **Dagmar** 31.04 357 P P 01 36 31.6 +0.4
baz=175,SNR=6.0
MSO **Missoula** 31.07 343 P P 01 36 31.8 +0.2
baz=156,SNR=8.5
MSO **Missoula** 31.07 343 IAmb IAmb 01 36 32.1
comp=Z,8.4nm,0.9s
N57A **Milroy** 31.08 37 P P 01 36 30.3 -1.4
baz=228
J04D **Umpqua Nationa** 31.11 330 P P 01 36 33.0 +0.9
baz=139
AGMN **Agassiz Nation** 31.13 7 P P 01 36 30.5 -1.4
baz=190,SNR=11
SDV **Santo Domingo** 31.19 102 P P 01 36 33.5 +0.4
EGMT **Eagleton** 31.25 349 P P 01 36 33.8 +0.6
baz=174,SNR=6.5
EGMT **Eagleton** 31.25 349 IAmb IAmb 01 36 35.2
comp=Z,16nm,1.1s
EYMN **Ely** 31.52 13 P P 01 36 33.7 -1.8
baz=198
EYMN **Ely** 31.52 13 IAmb IAmb 01 36 36.1
comp=Z,11nm,0.9s
I05D **Terrebonne, OR** 31.60 332 P P 01 36 37.4 +1.2
baz=141
I04A **Tendick Farm,** 31.67 330 P P 01 36 37.9 +1.0
baz=139
M57A **Sunshine Farm,** 31.70 36 P P 01 36 35.6 -1.6
baz=228
J01E **Myrtle Point** 31.94 328 P P 01 36 40.7 +1.5
baz=136,SNR=12
JTMT **Jette** 32.00 344 IAmb IAmb 01 36 49.3
comp=Z,7.8nm,1.0s
I03D **Drain, OR** 32.05 329 P P 01 36 40.9 +0.8
baz=138,SNR=8.1
M58A **Price's Panora** 32.11 37 P P 01 36 39.3 -1.4
baz=229
F07A **Phinny Hill Vi** 32.26 336 P P 01 36 41.4 -0.6
F07A IAmb IAmb 01 36 43.0
comp=Z,9.7nm,0.9s
G05D **Wamic, OR** 32.30 333 P P 01 36 43.6 +1.2
baz=142
I02D **Swisshome** 32.59 329 P P 01 36 46.4 +1.6
baz=137,SNR=7.2
F05D **White Salmon** 32.88 334 P P 01 36 49.1 +1.6
baz=143,SNR=13
L58A **Harry Jones Me** 32.89 36 P P 01 36 46.3 -1.3
baz=229
BINY **Binghamton** 32.91 36 P P 01 36 46.4 -1.4
baz=229
ULM **Lac du Bonnet** 33.05 7 P P 01 36 46.7 -2.1
comp=Z,10nm,0.9s,baz=188,slow=9.4,SNR=13
ULM PcP PcP 01 39 30.7 -1.3
comp=Z,1.1nm,0.3s,baz=267,slow=2.5,SNR=4.4
ULM **Lac du Bonnet** 33.05 7 P P 01 36 46.5 -2.3
ULM IAmb IAmb 01 36 47.9
comp=Z,12nm,0.9s
WALA **Waterton Lakes** 33.12 345 IAmb IAmb 01 36 51.7
comp=Z,10nm,0.8s
C09A **Chrisman Ranch** 33.27 339 IAmb IAmb 01 37 01.2
comp=Z,11nm,1.1s
NEW **Newport** 33.30 341 P P 01 36 51.3 +0.2
baz=152,SNR=9.1
NEW **Newport** 33.30 341 IAmb IAmb 01 36 52.8
comp=Z,7.1nm,0.9s
ATAH **Atahualpa** 33.42 135 P P 01 36 55.8 +2.9
comp=Z,4.6nm,0.8s,baz=321,slow=19,SNR=1.8
LON **Longmire** 33.72 335 IAmb IAmb 01 36 56.4
comp=Z,16nm,1.1s
E04D **Cinebar** 33.88 334 P P 01 36 57.1 +1.0
baz=142
B08A **Colville Reser** 34.11 339 IAmb IAmb 01 36 58.7
comp=Z,12nm,1.1s
YLE **Yale** 34.16 40 P P 01 36 57.3 -1.3
STVI **Saint Thomas** 34.75 83 P P 01 37 02.2 -1.8
D03D **Eldon** 34.87 334 P P 01 37 04.9 +0.3
baz=142
B06A **Marblemount** 35.03 337 P P 01 37 05.1 -0.9
B05A **Bryant** 35.05 336 P P 01 37 06.2 -0.1
baz=144
FFC **Flin Flon** 37.22 360 P P 01 37 23.4 -1.3
FFC IAmb IAmb 01 37 24.2
comp=Z,12nm,1.1s
MATQ **Matagami** 37.55 25 P P 01 37 28.7 +1.2
baz=219
G62A **West of Eustis** 37.89 36 P P 01 37 29.6 -0.9
baz=233
D62A **Allapoint, All** 39.83 35 P P 01 37 47.0 +0.3
baz=233
D62A **Allapoint, All** 39.83 35 IAmb IAmb 01 37 48.6
comp=Z,15nm,1.1s
SCHQ **Schefferville** 45.80 27 P P 01 38 33.2 -1.9
comp=Z,8.8nm,0.7s,baz=256,slow=4.9,SNR=11
SCHQ **Schefferville** 45.80 27 P P 01 38 33.7 -1.3
YKA **Yellowknife Ar** 45.94 352 P P 01 38 35.6 -0.4
comp=Z,7.3nm,0.8s,baz=160,slow=7.3,SNR=25
YKA PcP PcP 01 40 12.1 -0.5
comp=Z,1.8nm,0.8s,baz=156,slow=3.4,SNR=6.3
YKW3 **Yellowknife Ar** 46.01 352 P P 01 38 36.1 -0.4
YKW3 IAmb IAmb 01 38 37.6
comp=Z,7.8nm,0.8s
SAML **Samuel** 46.05 122 P P 01 38 36.3 -1.2
SAML IAmb IAmb 01 38 43.5
comp=Z,7.8nm,1.0s
LPAZ **La Paz** 46.94 134 P P 01 38 49.6 +4.4
comp=Z,2.3nm,1.0s,baz=350,slow=7.7,SNR=5.3
LPAZ **La Paz** 46.94 134 sP 01 38 53.2 -2.5
INK **Inuvik** 54.74 346 P P 01 39 42.3 -0.1
comp=Z,19nm,0.9s,baz=145,slow=6.4,SNR=6.5
RIDG **Independent Ri** 54.87 338 P P 01 39 44.1 +0.5
PMR **Palmer** 55.31 335 P P 01 39 46.7 0.0
GHO **Glory Hole Cre** 55.32 335 P P 01 39 47.4 +0.5
PRP **Porcupine Dome** 56.17 340 P P 01 39 53.4 +0.4
IL31 56.20 338 P P 01 39 52.5 -0.5
ILAR **Eielson Array** 56.20 338 P P 01 39 53.5 +0.4
comp=Z,7.0nm,0.8s,baz=147,slow=6.0,SNR=10
ILAR **Eielson Array** 56.20 338 P P 01 39 53.0 -0.1
RSO **Redoubt South** 56.31 332 P P 01 39 54.1 -0.1
TRF **Thorofare Moun** 56.73 336 P P 01 39 57.2 +0.1
BDFB **Brasilia** 62.12 119 P P 01 40 34.8 -0.1
comp=Z,1.9nm,0.7s,baz=289,slow=15,SNR=3.6
BDFB **Brasilia** 62.12 119 IAmb IAmb 01 40 42.6
comp=Z,4.5nm,0.8s
PLCA **Paso Flores** 64.62 154 P P 01 40 55.6 +4.6
comp=Z,5.1nm,1.1s,baz=354,slow=5.3,SNR=4.1
SUMG **Summit** 65.52 17 *i* P P 01 40 56.0 -0.8
comp=Z,89nm,1.0s
SUMG **Summit** 65.52 17 P P 01 40 57.3 +0.4
SPITS **Spitsbergen Ar** 78.50 11 P P 01 42 14.1 +0.1
comp=Z,35nm,1.2s,baz=3.8,slow=8.8,SNR=2.5
SEY **Seymchan** 81.75 334 P P 01 42 32.1 +0.3
comp=Z,7.3nm,0.8s,baz=115,slow=5.2,SNR=5.0
TIXI **Tiksi** 84.86 346 P P 01 42 47.4 -0.2
WLF **Walferdange** 87.81 38 PcP P 01 43 03.4 +0.8
WLF x x 01 44 01.5
YAK **Yakutsk** 91.12 338 P P 01 43 17.8 0.0
AKASG **Malin Array Be** 99.57 29 LR LR 02 31 00.2
comp=Z,4μm,20.4s,baz=80,slow=37
GTA **Gaotai** 120.05 341 *e*PKP PKPdf 01 49 04.8 +0.3
GTA sPKP 01 49 22.2
GEYT **Alibeck** 121.69 19 PKP PKPdf 01 49 07.3 -0.3
comp=Z,1.3nm,0.6s,baz=316,slow=4.1,SNR=3.8
CD2 **Chengdu** 126.15 333 Pdif Pdif 01 45 52.5 -2.8
CMAR **Chiang Mai Arr** 139.06 330 PKP PKPdf 01 49 40.6 -0.2
comp=Z,2.1nm,0.6s,baz=343,slow=2.8,SNR=6.3

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*IDC **01** 01:34:33.8±1.8, 6.°64S×129.°16E, h0km, mb4.2/4, mb1 4.4/6, mb1mx3.9/48, mbtmp4.3/6, ML4.0/1, Error ellipse: s-maj=139.9km s-min=28.9km az=67.0*
*NEIC **01** 01:34:34.9±1.9, 6.°9S±0.°2×129.°0E±0.°2, h10km±2km, mb4.5/1*
ISC 01 01:34:35.0±2.6, 6.°8S±0.°7×12.°9E±.°, h10km, n8, σ2.°34/8, mb4.3/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.92**	**160**			Pn	**Pn**	**01 37 54.3**	**+1.8**
	0.7nm,0.3s,baz=342,slow=14,SNR=2.3								
WRA						Sn	**Sn**	**01 40 23.6**	**-3.7**
	1.7nm,0.3s,baz=332,slow=24,SNR=5.6								
ASAR	**Alice Springs**	**17.32**	**166**			P	**P**	**01 38 40.5**	**+2.1**
	baz=345,slow=10,SNR=3.6								
MKAR	**Makanchi Array**	**67.71**	**327**			P	**P**	**01 45 31.4**	**-1.2**
	1.4nm,0.7s,baz=125,slow=7.3,SNR=4.2								
AAK	**Ala-Archa**	**69.97**	**320**			P	**P**	**01 45 45.9**	**-1.1**
	2.3nm,0.8s,baz=180,slow=8.1,SNR=3.4								
KURBB	**Kurchatov Arra**	**72.01**	**329**			P	**P**	**01 45 57.7**	**-1.2**
	1.9nm,1.0s,baz=128,slow=5.0,SNR=3.6								
KURK	**Kurchatov**	**72.02**	**329**			P	**P**	**01 45 57.7**	**-1.3**
KURK	**Kurchatov**	**72.02**	**329**			IAmb	IAmb	01 46 05.7	
	comp=Z,4.5nm,1.0s								
BVAR	**Borovoye Array**	**77.55**	**328**			P	**P**	**01 46 31.2**	**+0.1**
	comp=Z,2.4nm,1.0s,baz=108,slow=4.8,SNR=3.9								

IDC 01 01:41:18.6±1.9, 6.°16S×128.°51E, h0km, mb3.8/2, mb1 4.0/5, mb1mx3.5/53, mbtmp3.8/5, ML3.5/3, Error ellipse: s-maj=96.0km s-min=26.9km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.19**	**193**			Pn	Pn	01 44 12.7	-1.0
	0.2nm,0.3s,baz=16,slow=15,SNR=0.9								
FITZ						Sn	Sn	01 46 13.3	-17
	0.2nm,0.3s,baz=333,slow=20,SNR=2.5								
WRA	**Warramunga Arr**	**14.83**	**158**			Pn	Pn	01 44 48.4	-1.3
	0.2nm,0.3s,baz=338,slow=13,SNR=1.3								
ASAR	**Alice Springs**	**18.17**	**164**			P	P	01 45 33.7	+0.8
	0.1nm,0.3s,baz=340,slow=10,SNR=1.6								
MKAR	**Makanchi Array**	**66.72**	**327**			P	P	01 52 12.0	+0.4
	0.4nm,0.4s,baz=117,slow=7.8,SNR=4.3								
KURBB	**Kurchatov Arra**	**71.02**	**329**			P	P	01 52 37.9	-0.4
	0.3nm,0.3s,baz=141,slow=5.9,SNR=0.7								

*ISCJB **01** 01:44:35.0±0.8, 6°.99S±0°.09×129°.2E±0°.3, h10km, mb3.9/6, Error ellipse: s-maj=38.3km s-min=9.1km az=166.8*
*IDC **01** 01:44:36.5±1.3, 6°.85S×129°.02E, h0km, mb3.9/6, mb1 4.0/9, mb1mx3.7/53, mbtmp3.9/9, ML3.7/3, Error ellipse: s-maj=66.4km s-min=23.5km az=80.0*
ISC 01 01:44:37.1±0.9**, 7°.00S**±0°.10×**129°.2E**±0°.2**, h10km, n9, σ2s.24**/11**, mb4.0**/6**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.55	197	Pn	Pn	01 47 23.1	+0.9
	0.2nm,0.3s,baz=14,slow=12,SNR=2.4						
FITZ				Sn	Sn	01 49 20.4	-11
	0.3nm,0.3s,baz=309,slow=13,SNR=3.8						
WRA	Warramunga Arr	13.82	159	Pn	Pn	01 47 55.5	+2.3
	0.6nm,0.3s,baz=333,slow=14,SNR=5.7						
WRA				Sn	Sn	01 50 23.1	-3.7
	0.4nm,0.3s,baz=339,slow=22,SNR=5.6						
ASAR	Alice Springs	17.19	165	P	P	01 48 42.0	+2.9
	0.3nm,0.3s,baz=340,slow=11,SNR=5.7						
ASAR				S	Sn	01 51 46.0	-3.0
	0.2nm,0.3s,baz=351,slow=26,SNR=4.9						
USRK	Ussuriysk Ar.	51.02	3	P	P	01 53 38.3	-0.9
	1.5nm,0.9s,baz=198,slow=9.1,SNR=3.0						
SONM	Songino Array	58.18	342	P	P	01 54 31.7	+0.3
	0.2nm,0.3s,baz=183,slow=2.6,SNR=3.7						
MKAR	Makanchi Array	67.77	327	P	P	01 55 35.6	+0.5
	1.2nm,0.7s,baz=132,slow=7.5,SNR=7.8						
AAK	Ala-Archa	70.00	320	P	P	01 55 49.3	+0.1
	1.6nm,0.7s,baz=138,slow=7.6,SNR=5.6						
KURBB	Kurchatov Arra	72.07	329	P	P	01 56 01.5	+0.1
	0.6nm,0.5s,baz=134,slow=5.0,SNR=5.5						
BVAR	Borovoye Array	77.62	328	P	P	01 56 32.1	-1.4
	0.8nm,0.8s,baz=116,slow=6.6,SNR=3.5						

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*ISCJB **01** 01:45:26.0±0.4, 7°.08S±0°.04×128°.80E±0°.06, h10km, mb4.0/7, Error ellipse: s-maj=8.4km s-min=5.1km az=179.2*
*NEIC **01** 01:45:27.7±1.5, 7°.11S±0°.04×128°.89E±0°.07, h10km±2km, mb4.6/7*
*IDC **01** 01:45:32.9±3.0, 7°.22S×128°.72E, h47km±38km, mb3.8/7, mb1 4.0/11, mb1mx3.6/54, mbtmp4.1/11, ML4.1/4, Error ellipse: s-maj=58.0km s-min=20.4km az=88.0*
ISC 01 01:45:27.9±0.7**, 7°.10S**±0°.06×**128°.83E**±0°.08**, h10km, n23, σ1s.02**/25**, mb4.2**/8**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.60	110	Pn	Pn	01 46 08.6	-1.5
SOEI	Soe	5.23	239	Pn	Pn	01 46 45.7	-0.6
BATI	Baumata	5.97	238	S	Sn	01 48 06.3	+1.4
	2.8nm,0.3s,baz=117,slow=18,SNR=2.1						
SIJI	Sorong	6.65	22	P	Pn	01 47 10.7	+5.0
	2.7nm,0.3s,baz=227,slow=12,SNR=4.4						
SIJI				S	Sn	01 48 22.6	+1.0
	baz=308,slow=21,SNR=3.4						
LUWI	Luwuk	8.52	315	Pn	Pn	01 47 29.9	-1.6
KNRA	Kununurra	8.53	180	Pn	Pn	01 47 31.2	-0.3
KNRA					Sn	01 49 10.2	+2.3
FITZ	Fitzroy Crossi	11.37	196	P	Pn	01 48 09.5	-1.0
	0.7nm,0.3s,baz=18,slow=10,SNR=3.8						
WRA	Warramunga Arr	13.84	158	P	Pn	01 48 45.8	+1.5
	1.4nm,0.3s,baz=342,slow=13,SNR=9.5						
WRA				S	Sn	01 51 16.5	-1.8
	1.3nm,0.3s,baz=332,slow=21,SNR=5.3						
ASAR	Alice Springs	17.18	164	P	P	01 49 29.5	-0.4
	0.4nm,0.3s,baz=340,slow=9.6,SNR=4.0						
ASAR				S	Sn	01 52 39.1	-0.4
	0.4nm,0.3s,baz=353,slow=25,SNR=4.1						
USRK	Ussuriysk Ar.	51.14	3	P	P	01 54 31.1	+0.2
	1.4nm,0.7s,baz=187,slow=7.0,SNR=4.5						
SONM	Songino Array	58.17	342	P	P	01 55 22.8	+0.6
	0.3nm,0.4s,baz=157,slow=4.7,SNR=6.3						
NIL	Nilore	66.40	311	P	P	01 56 17.5	0.0
MKAR	Makanchi Array	67.67	327	P	P	01 56 25.8	+0.5
	1.6nm,0.7s,baz=132,slow=7.3,SNR=8.8						
MKAR	Makanchi Array	67.67	327	P	P	01 56 25.6	+0.3
AAK	Ala-Archa	69.87	320	P	P	01 56 39.7	+0.4
	1.5nm,0.6s,baz=146,slow=5.1,SNR=6.1						
AAK	Ala-Archa	69.87	320	IAmb	IAmb	01 56 46.8	
	comp=Z,3.5nm,0.9s						
ARSB	Arslanbob	70.19	319	P	P	01 56 41.2	-0.1
ARSB				IAmb	IAmb	01 56 48.5	
	comp=Z,6.2nm,0.9s						
GAR	Garm	70.91	315	P	P	01 56 45.3	-0.5
ZALV	Zalesovo Beam	71.16	334	P	P	01 56 46.7	0.0
	comp=Z,0.7nm,0.3s,baz=108,slow=3.2,SNR=2.8						
KURBB	Kurchatov Arra	71.99	329	P	P	01 56 52.1	+0.3
	comp=Z,0.5nm,0.3s,baz=129,slow=4.9,SNR=8.1						
KURK	Kurchatov	72.00	329	P	P	01 56 52.3	+0.5
KKAR	Karatay Array	72.65	319	P	P	01 56 54.9	-1.0
BVAR	Borovoye Array	77.53	328	P	P	01 57 23.7	-0.1
	comp=Z,1.1nm,0.8s,baz=134,slow=6.2,SNR=4.2						

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*ISCJB **01** 01:50:18.5±0.6, 7°.01S±0°.05×128°.69E±0°.06, h10km, mb4.0/5, Error ellipse: s-maj=9.0km s-min=7.0km az=3.4*
*IDC **01** 01:50:19.1±1.5, 6°.80S×128°.87E, h0km, mb4.0/5, mb1 4.1/9, mb1mx3.7/58, mbtmp4.0/9, ML3.5/3, MS5.3/1, Ms1 5.3/1, ms1mx4.2/32, Error ellipse: s-maj=52.0km s-min=23.5km az=85.0*
*NEIC **01** 01:50:20.5±1.7, 6°.94S±0°.03×128°.8E±0°.1, h10km±3km, mb4.3/5*
ISC 01 01:50:20.2±0.9**, 7°.00S**±0°.07×**128°.76E**±0°.09**, h10km, n18, σ1s.46**/20**, mb4.3**/7**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOEI	Soe	5.22	238	Pn	Pn	01 51 39.5	+1.0
SOEI					Sn	01 52 37.0	-1.9
BATI	Baumata	5.96	237	Pn	Pn	01 51 51.3	+2.6
	2.0nm,0.3s,baz=8.2,slow=2.7,SNR=4.1						
BATI				Sn	Sn	01 52 56.1	-1.1
	3.2nm,0.3s,baz=294,slow=23,SNR=5.7						
BATI				LR	LR	01 54 49.4	
	comp=Z,22µm,18.1s,baz=152,slow=44						
KNRA	Kununurra	8.63	180	Pn	Pn	01 52 25.0	-0.2
KNRA					Sn	01 54 00.3	-2.3
FITZ	Fitzroy Crossi	11.45	195	Pn	Pn	01 53 05.7	+1.9
	0.3nm,0.3s,baz=4.8,slow=12,SNR=2.7						
FITZ				Sn	Sn	01 55 02.6	-9.3
	0.2nm,0.3s,baz=100,slow=6.1,SNR=2.6						
WRAB	Tennant Creek	13.96	158	Pn	Pn	01 53 38.9	+0.7
WRA	Warramunga Arr	13.96	158	Pn	Pn	01 53 39.1	+0.8
	0.1nm,0.3s,baz=342,slow=14,SNR=3.3						
ASAR	Alice Springs	17.30	164	P	P	01 54 26.1	+2.6
	baz=340,slow=9.8,SNR=2.2						
ASAR				S	Sn	01 57 33.2	-1.4
	0.1nm,0.3s,baz=317,slow=19,SNR=4.2						
SONM	Songino Array	58.06	342	P	P	02 00 12.9	-0.8
	0.6nm,0.9s,baz=151,slow=3.3,SNR=2.5						
SONM	Songino Array	58.06	342	IAmb	IAmb	02 00 15.4	
	comp=Z,0.5nm,0.9s						
MKAR	Makanchi Array	67.56	327	P	P	02 01 16.8	-0.1
	comp=Z,1.2nm,0.8s,baz=116,slow=6.7,SNR=6.1						
AAK	Ala-Archa	69.75	320	P	P	02 01 31.8	+0.9
	comp=Z,2.2nm,0.9s,baz=94,slow=3.7,SNR=4.5						
AAK	Ala-Archa	69.75	320	IAmb	IAmb	02 01 32.5	
	comp=Z,3.0nm,1.0s						
KURBB	Kurchatov Arra	71.87	329	P	P	02 01 42.6	-0.8
	comp=Z,2.9nm,1.1s,baz=136,slow=5.1,SNR=9.0						
KURK	Kurchatov	71.88	329	P	P	02 01 44.2	+0.8
KK31	Karatay Array	72.53	319	P	P	02 01 46.2	-1.4
KK31				IAmb	IAmb	02 01 48.6	
	comp=Z,1.9nm,1.1s						
KKAR	Karatay Array	72.53	319	P	P	02 01 47.9	+0.3
BVAR	Borovoye Array	77.41	328	P	P	02 02 15.6	+0.1
	comp=Z,2.7nm,1.1s,baz=123,slow=5.3,SNR=7.7						
BRVK	Borovoye	77.48	328	P	P	02 02 16.3	+0.4
BRVK				IAmb	IAmb	02 02 18.9	
	comp=Z,3.4nm,1.1s						

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*IDC **01** 01:56:55.1±0.7, 56°.58S×25°.33W, h0km, mb4.6/12, mb1 4.6/13, mb1mx4.3/34, mbtmp4.6/13, ML4.1/1, Error ellipse: s-maj=26.9km s-min=15.7km az=65.0*
*ISCJB **01** 01:56:57.7±0.5, 56°.65S±0°.07×25°.5W±0°.2, h29km, mb4.6/11, Error ellipse: s-maj=17.9km s-min=6.5km az=151.1*
*NEIC **01** 01:57:01.6±0.9, 56°.66S±0°.07×25°.5W±0°.2, h49km±7km, mb4.6/15*
ISC 01 01:56:59.2±0.5**, 56°.62S**±0°.10×**25°.4W**±0°.1**, h29km, n88, σ0s.59**/82**, mb4.6**/12**, 1C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	Hope Point	6.76	286	Pn	Pn	01 58 37.2	+0.9
VNA1	Neumayer--Stat	15.88	159	P	Pn	02 00 39.9	-0.4
VNA3	Neumayer Olymp	16.11	162	P	Pn	02 00 42.7	-0.6
VNA2	Neumayer--Watz	16.28	159	P	Pn	02 00 45.2	-0.1
	baz=324,slow=15						
SNAA	Sanae	17.80	157	P	P	02 01 05.5	+0.5
SNAA	Sanae	17.80	157	P	P	02 01 05.3	+0.3
	0.6nm,0.3s,baz=333,slow=19,SNR=18						
SNAA	Sanae	17.80	157	P	P	02 01 06.1	+1.1
PMSA	Palmer Station	20.31	231	P	Pn	02 01 32.8	-1.8
	13nm,0.9s,baz=76,slow=7.4,SNR=8.9						
PMSA	Palmer Station	20.31	231	P	P	02 01 32.1	-0.3
PMSA	Palmer Station	20.31	231	eP	Pn	02 01 33.1	-1.5
PMSA	Palmer Station	20.31	231	eP	Pn	02 01 33.1	-1.5
SYO	Syowa Base	30.49	140⇑	eX	P	02 03 15.0	+6.0
PLTB	Pedras Altas	31.65	310	eP	P	02 03 19.7	0.0
PLTB	Pedras Altas	31.65	310	eP	P	02 03 19.7	0.0
QSPA	South Pole Qui	33.62	180	P	P	02 03 36.9	0.0
	7.0nm,0.5s,baz=207,slow=5.3,SNR=57						
QSPA	South Pole Qui	33.62	180	P	P	02 03 36.2	-0.7
QSPA				IAmb	IAmb	02 03 37.9	
	comp=Z,9.5nm,0.7s						
SPB	Sao Paulo	36.73	325	eP	P	02 04 03.2	-0.4
SPB	Sao Paulo	36.73	325	eP	P	02 04 03.2	-0.4
PTGB	Pitanga	37.30	318	eP	P	02 04 08.2	-0.4
PTGB	Pitanga	37.30	318	eP	P	02 04 08.2	-0.4
CPUP	Villa Florida	37.97	309	P	P	02 04 13.6	-0.6
	comp=Z,7.9nm,0.7s,baz=149,slow=7.5,SNR=26						
CPUP	Villa Florida	37.97	309	P	P	02 04 13.1	-1.0
CPUP				IAmb	IAmb	02 04 14.1	
	comp=Z,8.3nm,0.8s						
CPUP	Villa Florida	37.97	309	eP	P	02 04 13.6	-0.6
CPUP	Villa Florida	37.97	309	eP	P	02 04 13.6	-0.6
SJMB	Sao Joao De Ma	39.68	336	eP	P	02 04 29.2	+0.7
SJMB	Sao Joao De Ma	39.68	336	eP	P	02 04 29.2	+0.7
PCMB	Pacaembu	39.85	321	eP	P	02 04 30.2	+0.2
PCMB	Pacaembu	39.85	321	eP	P	02 04 30.2	+0.2
IPMB	Ipameri, GO	42.23	327	eP	P	02 04 49.7	0.0
IPMB	Ipameri, GO	42.23	327	eP	P	02 04 49.7	0.0
BDFB	Brasilia	44.38	328	P	P	02 05 08.6	+1.5
	comp=Z,2.9nm,0.8s,baz=126,slow=7.5,SNR=3.4						
BDFB	Brasilia	44.38	328	IAmb	IAmb	02 05 09.2	
	comp=Z,3.1nm,0.8s						
PP1B	Ponte de Pedra	44.84	318	eP	P	02 05 11.4	+0.9
PP1B	Ponte de Pedra	44.84	318	eP	P	02 05 11.4	+0.9
ARAG	Araguaiana, MT	45.51	323	eP	P	02 05 16.8	+0.8
ARAG	Araguaiana, MT	45.51	323	eP	P	02 05 16.8	+0.8
VNDA	Vanda	46.04	182	P	P	02 05 20.2	+0.8
	comp=Z,2.9nm,0.7s,baz=49,slow=8.1,SNR=3.7						
LVC	Limon Verde	46.48	299	P	P	02 05 23.8	-0.1
	comp=Z,21nm,0.6s,baz=146,slow=4.7,SNR=27						
LVC	Limon Verde	46.48	299	P	P	02 05 23.6	-0.4
LVC	Limon Verde	46.48	299	eP	P	02 05 24.2	+0.3
LVC	Limon Verde	46.48	299	eP	P	02 05 24.2	+0.3
PB01	IPOC Station P	48.09	299	P	P	02 05 35.5	-0.7
SIV	San Ignacio	48.72	312	P	P	02 05 40.5	-0.5
	comp=Z,2.3nm,0.5s,baz=159,slow=8.2,SNR=20						
GO01	Chusmiza	49.12	300	P	P	02 05 44.1	-0.5
PB11	IPOC Station P	49.26	300	P	P	02 05 44.9	-0.4
MNMC	Minye Minye	49.77	300	P	P	02 05 48.9	-0.4
CLDB	Colider	51.38	320	eP	P	02 06 00.2	-1.0
CLDB	Colider	51.38	320	eP	P	02 06 00.2	-1.0
LPAZ	La Paz	51.55	304	P	P	02 06 03.2	+0.1
	comp=Z,21nm,0.7s,baz=150,slow=5.4,SNR=60						
LPAZ	La Paz	51.55	304	P	P	02 06 03.3	+0.3
LPAZ	La Paz	51.55	304	eP	P	02 06 03.4	+0.3
LPAZ	La Paz	51.55	304	eP	P	02 06 03.4	+0.3
SAML	Samuel	55.94	313	P	P	02 06 34.3	-0.3
SAML				IAmb	IAmb	02 06 36.7	
	comp=Z,3.6nm,0.8s						
SAML	Samuel	55.94	313	eP	P	02 06 34.5	0.0
SAML	Samuel	55.94	313	eP	P	02 06 34.5	0.0
OTAV	Otavalo	70.83	302	P	P	02 08 13.1	-0.5
OTAV				IAmb	IAmb	02 08 17.6	
	comp=Z,4.4nm,0.9s						
OTAV	Otavalo	70.83	302	eP	P	02 08 14.5	+0.9
OTAV	Otavalo	70.83	302	eP	P	02 08 14.5	+0.9
TORD	Torodi Ar. Bea	73.07	28	P	P	02 08 26.7	+0.3
	comp=Z,1.3nm,0.6s,baz=205,slow=6.0,SNR=13						
TORD	Torodi Ar. Bea	73.07	28	P	P	02 08 26.5	+0.2
PLCV	Puerto La Cruz	74.02	320	P	P	02 08 33.0	+1.0
PCRV	Puerto La Cruz	74.05	320	P	P	02 08 33.0	+0.8
	comp=Z,24nm,0.9s,baz=149,slow=6.0,SNR=5.6						
SDV	Santo Domingo	75.14	313	P	P	02 08 38.8	0.0
	comp=Z,5.0nm,0.6s,baz=166,slow=9.4,SNR=5.6						
SDV	Santo Domingo	75.14	313	P	P	02 08 38.6	-0.2
SDV				IAmb	IAmb	02 08 41.1	
	comp=Z,6.3nm,0.8s						
SDV	Santo Domingo	75.14	313	eP	P	02 08 39.1	+0.3
SDV	Santo Domingo	75.14	313	eP	P	02 08 39.1	+0.3
ASAR	Alice Springs	98.12	161	P	Pdif	02 10 33.9	+0.7
	comp=Z,0.4nm,0.9s,baz=202,slow=4.6,SNR=3.0						
NVAR	Mina Array Bea	122.56	291	PKP	PKiKP	02 15 51.9	+0.3
	comp=Z,0.3nm,0.6s,baz=104,slow=3.3,SNR=3.5						
KSH	Kashi	127.74	74	ePKP	PKiKP	02 16 03.1	+1.4
CD2	Chengdu	136.52	104	Pdif	Pdif	02 13 23.1	-0.5
YKA	Yellowknife Ar	137.29	317	PKP	PKPdf	02 16 17.9	-0.2
	comp=Z,2.4nm,0.9s,baz=126,slow=2.1,SNR=8.2						
YKA	Yellowknife Ar	137.29	317		PKPdf	02 16 17.5	-0.6
ZALV	Zalesovo Beam	141.70	64	PKP	PKPdf	02 16 26.5	+0.1
	comp=Z,0.3nm,0.3s,baz=235,slow=5.1,SNR=2.8						
INK	Inuvik	146.90	320		PKPbc	02 16 37.0	0.0
BCAR	Beaver Creek A	148.65	308		PKPbc	02 16 41.6	-0.4
SONM	Songino Array	149.74	86	PKPbc	PKPbc	02 16 44.9	-0.4
	comp=Z,1.9nm,0.6s,baz=230,slow=2.9,SNR=9.7						
SONM	Songino Array	149.74	86	PKPbc	PKPbc	02 16 44.4	-0.9
DOT	Dot Lake	149.80	309		PKiKP	02 16 45.1	-0.7
RIDG	Independent Ri	150.16	309		PKiKP	02 16 46.1	-0.4
BMAR	Burnt Mountain	150.81	316		PKPbc	02 16 46.8	-0.3
FYU	Fort Yukon	150.92	314		PKiKP	02 16 47.8	-0.1
IL31		151.27	311		PKPbc	02 16 47.4	-0.8
ILAR	Eielson Array	151.27	311	PKPbc	PKiKP	02 16 48.0	-0.7
	comp=Z,6.7nm,0.9s,baz=126,slow=1.6,SNR=47						
ILAR	Eielson Array	151.27	311		PKPbc	02 16 47.4	-0.8
CCB	Clear Creek Bu	151.63	310		PKPbc	02 16 48.6	-0.4
WRH	Wood River Hil	151.72	310		PKiKP	02 16 49.1	-0.5
BPAW	Bear Paw Mtn.	152.89	308		PKiKP	02 16 51.9	-0.2
IMAR	Indian Mountai	154.28	312		PKiKP	02 16 54.6	-0.3

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*ISCJB **01** 01:57:25.0±0.6, 17°.51N±0°.05×101°.51W±0°.04, h38km±4km, mb4.0/12, Error ellipse: s-maj=9.2km s-min=5.2km az=31.8*
*NEIC **01** 01:57:25.8±2.4, 17°.49N±0°.05×101°.51W±0°.04, h29km±5km, mb4.2/39, Md4.4(MEX)*
*MEX **01** 01:57:26.8±0.7, 17°.50N×101°.57W, h27km±4km, MD4.4*
*IDC **01** 01:57:34.1±3.3, 17°.74N×101°.04W, h98km±29km, mb3.7/13, mb1 3.8/17, mb1mx3.7/44, mbtmp3.9/17, Error ellipse: s-maj=33.4km s-min=10.4km az=50.0*
ISC 01 01:57:25.7±0.8**, 17°.49N**±0°.05×**101°.50W**±0°.06**, h30km**±5km**, n91, σ1s.13**/83**, mb4.2**/19**, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.12	14	i P	Pb	01 57 30.8	-0.3
ZIIG				i S	Sb	01 57 34.8	-0.1
ZIIG	Zihuatanejo	0.12	14		Pb	01 57 30.8	-0.3
ZIIG					Sb	01 57 34.8	-0.1
CAIG	El Cayaco	1.25	110	eP	Pn	01 57 46.4	-0.7
CAIG				i S	Sn	01 58 02.4	-0.7
CAIG	El Cayaco	1.25	110		Pn	01 57 46.4	-0.7
CAIG					Sn	01 58 02.4	-0.7
ARIG	Puente Sto Nin	1.34	54	i P	Pn	01 57 48.0	-0.4
ARIG				i S	Sn	01 58 04.7	-0.6
ARIG	Puente Sto Nin	1.34	54		Pn	01 57 48.0	-0.4
ARIG					Sn	01 58 04.7	-0.6
ACP2	Acapulco	1.66	112	eP	Pn	01 57 52.9	+0.1
ACP2	Acapulco	1.66	112		Pn	01 57 52.9	+0.1
MEIG	Mezcala	1.84	76	eP	Pn	01 57 55.8	+0.5
MEIG	Mezcala	1.84	76		Pn	01 57 55.8	+0.5
MMIG	Aquila	1.93	294	eP	Pn	01 57 55.1	-1.4
MMIG	Aquila	1.93	294		Pn	01 57 55.1	-1.4
PLIG	Platanillo	2.10	64	eP	Pn	01 57 58.9	0.0
PLIG	Platanillo	2.10	64		Pn	01 57 58.9	0.0
MAVM	Malinalco, Edo	2.40	52	eP	Pn	01 58 03.1	0.0
MAVM	Malinalco, Edo	2.40	52		Pn	01 58 03.1	0.0
TOVM	TOLUCA	2.48	44	eP	Pn	01 58 04.6	+0.2
TOVM	TOLUCA	2.48	44		Pn	01 58 04.6	+0.2
YAIG	Yautepec	2.68	59	eP	Pn	01 58 06.7	-0.3
YAIG	Yautepec	2.68	59		Pn	01 58 06.7	-0.3
ATVM	ATLACOMULCO	2.75	35	eP	Pn	01 58 07.6	-0.4
ATVM	ATLACOMULCO	2.75	35		Pn	01 58 07.6	-0.4
TLIG	Tlapa	2.79	88	eP	Pn	01 58 09.5	+1.0
TLIG	Tlapa	2.79	88		Pn	01 58 09.5	+1.0
TLIG	Tlapa	2.79	88		Pn	01 58 08.8	+0.3
R15V		2.89	306	eP	Pn	01 58 09.4	-0.4
R15V		2.89	306		Pn	01 58 09.4	-0.4
AMVM	AMECAMECA	3.05	57	eP	Pn	01 58 13.3	+1.2
AMVM	AMECAMECA	3.05	57		Pn	01 58 13.3	+1.2
PPM	Popocatepetl	3.14	60	eP	Pn	01 58 13.9	+0.2
PNIG	Pinotepa	3.40	108	eP	Pn	01 58 17.3	+0.5
PNIG	Pinotepa	3.40	108		Pn	01 58 17.3	+0.5
CJM	Chamela	3.92	301	eP	Pn	01 58 22.9	-0.9
VHO	Vista Hermosa	4.57	95	eP	Pn	01 58 35.0	+2.0
CMIG	Matias Romero	6.33	93	P	Pn	01 58 58.5	+1.5
	0.8nm,0.3s,baz=251,slow=16,SNR=14						
CMIG				S	Sn	02 00 06.1	-2.3
	3.5nm,0.3s,baz=198,slow=9.6,SNR=2.2						
CCIG	Comitan	9.04	96	Pn	Pn	01 59 35.5	+1.1
H06E1	SOCORRO T-PHAS	9.06	280	T	T	02 08 46.5	
	SNR=141						
H06S1	SOCORRO T	9.08	279	T	T	02 08 44.5	
	SNR=64						
HPIG		10.16	338	Pn	Pn	01 59 50.4	+0.7
TX31	Lajitas Ar. Si	11.95	351		Pn	02 00 15.0	+0.8
TXAR	Lajitas Array	11.95	351	P	Pn	02 00 20.7	+6.4
	0.1nm,0.3s,baz=166,slow=16,SNR=9.9						
TXAR	Lajitas Array	11.95	351		Pn	02 00 15.8	+1.6
GDL2	Guadalupe Moun	14.87	350	P	P	02 00 59.7	+0.3
NATX	Nacogdoches	15.50	22	Pn	Pn	02 01 03.7	+1.6
MSTX	Muleshoe	16.45	356	P	P	02 01 17.9	+0.9
MSTX				IAmb	IAmb	02 01 33.0	
	comp=Z,15nm,1.3s						
BNM	Barren Site	17.21	345	Pn	Pn	02 01 24.4	+0.2
AMTX	Amarillo	17.32	359	Pn	Pn	02 01 23.6	-1.8
Z41A	Richland Creek	17.54	25	Pn	Pn	02 01 27.3	-0.7
JTS	Las Juntas de	17.57	112	P	P	02 01 31.0	+1.6
	comp=Z,0.1nm,0.3s,baz=317,slow=19,SNR=1.5						
JTS	Las Juntas de	17.57	112	IAmb	IAmb	02 01 47.7	
	comp=Z,34nm,1.4s						
ANMO	Albuquerque	17.94	347	P	P	02 01 33.6	+0.1
	comp=Z,0.0nm,0.3s,baz=140,slow=17,SNR=3.0						
ANMO	Albuquerque	17.94	347	IAmb	IAmb	02 01 39.1	
	comp=Z,15nm,2.0s						
W39A	Magazine	18.92	20	P	P	02 01 44.1	0.0
W39A				IAmb	IAmb	02 02 01.4	
	comp=Z,13nm,0.9s						
TUL1	Leonard	19.03	14	P	P	02 01 44.3	-1.0
TUL1				IAmb	IAmb	02 01 56.1	
	comp=Z,11nm,1.0s						
X43A	Marvell	19.43	27	P	P	02 01 49.0	-0.6
WHAR	Wooly Hollow	19.53	23	P	P	02 01 49.8	-1.0
WHAR				IAmb	IAmb	02 02 02.2	
	comp=Z,19nm,1.3s						
HHAR	Hobbs	19.88	18	IAmb	IAmb	02 02 05.2	
	comp=Z,8.2nm,1.0s						
WUAZ	Wupatki	19.99	336	P	P	02 01 56.5	+0.6
U40A	Yellville	20.29	20	P	P	02 01 57.1	-1.9
U40A				IAmb	IAmb	02 02 09.9	
	comp=Z,19nm,1.3s						
SDCO	Great Sand Dun	20.48	351	P	P	02 02 02.1	+0.7
MVCO	Mesa Verde	20.59	344	IAmb	IAmb	02 02 14.6	
	comp=Z,6.4nm,0.7s						
S22A	4UR Ranch, Cre	20.71	348	P	P	02 02 05.0	+1.0
PFO	Pinyon Flats O	20.93	323	P	Pn	02 02 08.3	-0.6
	comp=Z,1.3nm,0.7s,baz=139,slow=16,SNR=2.3						
PFO	Pinyon Flats O	20.93	323	IAmb	IAmb	02 02 15.9	
	comp=Z,3.8nm,0.8s						
PLAL	Pickwick Lake	21.13	32	P	P	02 02 06.1	-2.1
PBMO	Poplar Bluff	21.55	25	P	P	02 02 15.8	+3.2
SHPR	Sheep Range	22.47	330	IAmb	IAmb	02 02 33.2	
	comp=Z,5.7nm,1.0s						
ISCO	Idaho Springs	22.51	352	IAmb	IAmb	02 02 33.1	
	comp=Z,15nm,1.6s						
MTPU	Mount Pierson	22.52	338	P	P	02 02 24.9	+1.5
TPNV	Topopah Spring	23.35	329	P	P	02 02 33.5	+1.7
TPNV				IAmb	IAmb	02 02 47.1	
	comp=Z,10nm,1.1s						
N23A	Red Feather La	23.64	352	IAmb	IAmb	02 02 47.2	
	comp=Z,7.1nm,1.0s						
TKL	Tuckaleechee C	23.98	38	P	P	02 02 34.7	-3.0
	comp=Z,3.5nm,0.6s,baz=199,slow=12,SNR=6.0						
NV11	Mina Array Sit	25.45	328	IAmb	IAmb	02 03 01.9	
	comp=Z,12nm,1.1s						
NVAR	Mina Array Bea	25.52	328	P	P	02 02 53.7	+1.8
	comp=Z,1.7nm,0.6s,baz=142,slow=9.6,SNR=15						
KVN	Kaiserville	25.90	329	IAmb	IAmb	02 03 07.4	
	comp=Z,9.1nm,0.8s						
ELK	Elko	26.03	336	P	P	02 02 59.4	+2.9
	comp=Z,0.3nm,0.3s,baz=191,slow=19,SNR=2.2						
PDAR	Pinedale Array	26.11	346	P	P	02 02 57.7	+0.5
	comp=Z,1.1nm,0.8s,baz=148,slow=11,SNR=9.8						
PDAR				PcP	PcP	02 06 23.2	-1.1
	comp=Z,0.8nm,0.8s,baz=134,slow=3.9,SNR=4.0						
PDAR	Pinedale Array	26.11	346	P	P	02 02 58.4	+1.2
YERR	Yerington	26.42	328	IAmb	IAmb	02 03 13.8	
	comp=Z,10nm,1.5s						
ULM	Lac du Bonnet	32.99	7	P	P	02 03 56.5	-1.4
	comp=Z,1.5nm,0.6s,baz=187,slow=11,SNR=2.4						
YKA	Yellowknife Ar	45.88	352	P	P	02 05 45.1	0.0
	comp=Z,1.0nm,0.7s,baz=161,slow=6.9,SNR=5.0						
SIV	San Ignacio	51.91	128	P	P	02 06 31.5	-0.5
	comp=Z,5.7nm,0.8s,baz=310,slow=9.6,SNR=12						
INK	Inuvik	54.68	346	P	P	02 06 51.4	-0.2
	comp=Z,1.7nm,0.7s,baz=128,slow=7.3,SNR=9.6						
IL31		56.14	338	P	P	02 07 04.3	+2.1
ILAR	Eielson Array	56.14	338	P	P	02 07 03.1	+0.9
	comp=Z,0.7nm,0.3s,baz=155,slow=5.7,SNR=14						
ILAR	Eielson Array	56.14	338	P	P	02 07 02.6	+0.4
TRF	Thorofare Moun	56.67	336	P	P	02 07 07.0	+0.7
CPUP	Villa Florida	61.15	134	P	P	02 07 36.9	-0.7
	comp=Z,3.7nm,0.8s,baz=322,slow=7.0,SNR=6.4						
CPUP	Villa Florida	61.15	134	IAmb	IAmb	02 07 38.2	
	comp=Z,5.0nm,0.9s						
BDFB	Brasilia	62.15	119	P	P	02 07 44.5	-0.2
	comp=Z,3.2nm,0.7s,baz=346,slow=9.6,SNR=3.8						
PLCA	Paso Flores	64.67	154	P	P	02 08 01.5	+0.7
	comp=Z,2.5nm,0.9s,baz=342,slow=9.6,SNR=3.3						

IDC 01 02:10:24.1±2.4**, 2°.93S**×**128°.20E, h0km, mb3.2**/2**, mb1 3.7**/3**, mb1mx3.4**/32**, mbtmp3.5**/3**, ML3.7**/1**, Error ellipse: s-maj=206.4km s-min=26.6km az=67.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.94	161	P	Pn	02 14 34.4	-0.9
	0.3nm,0.3s,baz=343,slow=13,SNR=6.1						
ASAR	Alice Springs	21.34	166	P	P	02 15 13.8	+0.7
	0.3nm,0.5s,baz=338,slow=9.3,SNR=2.7						
MKAR	Makanchi Array	63.86	327	P	P	02 20 58.5	-0.1
	0.4nm,0.7s,baz=130,slow=5.7,SNR=3.4						

IDC 01 02:33:14.4±1.7**, 6°.64S**×**129°.51E, h0km, mb3.9**/2**, mb1 3.9**/4**, mb1mx3.5**/31**, mbtmp3.8**/4**, ML3.8**/2**, Error ellipse: s-maj=142.3km s-min=25.0km az=65.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.03	161	Pn	Pn	02 36 33.9	-0.7
	0.6nm,0.3s,baz=344,slow=13,SNR=11						
WRA				Sn	Sn	02 39 00.7	-10
	0.4nm,0.3s,baz=342,slow=21,SNR=6.8						
ASAR	Alice Springs	17.45	166	P	Pn	02 37 18.9	-0.4
	0.2nm,0.3s,baz=342,slow=12,SNR=6.7						
ASAR				S	Sn	02 40 21.9	-13
	0.1nm,0.3s,baz=342,slow=24,SNR=4.1						
STKA	Stephens Creek	27.53	157	P	P	02 39 03.1	+0.3
	0.7nm,0.4s,baz=333,slow=9.0,SNR=3.6						
MKAR	Makanchi Array	67.66	327	P	P	02 44 13.3	0.0
	1.0nm,0.7s,baz=124,slow=7.8,SNR=7.9						

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*ANF **01** 02:35:46.0±0.3, 37°.47N×118°.88W, h5km, ML3.0/14, Error ellipse: s-maj=4.4km s-min=2.2km az=85.0*
*NCEDC **01** 02:35:46.4, 37°.50N×118°.84W, h5km*
*NEIC **01** 02:35:47.3±1.5, 37°.55N±0°.04×118°.85W±0°.04, h1km±1km*
ISC 01 02:35:46.6±0.9**, 37°.50N**±0°.02×**118°.85W**±0°.02**, h8km**±7km**, n183, σ0s.97**/199**, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MCVM	Convict Lake	0.09	8		Pg	02 35 48.4	-0.7
RCCR	Rock Creek Can	0.10	97		Pg	02 35 48.5	-0.7
MCMM	Convict Lake	0.11	349		Pg	02 35 48.9	-0.5
MLCM	Laurel Creek C	0.13	334		Pg	02 35 49.2	-0.4
MLAC	Mammoth, Mammo	0.13	3	P	Pg	02 35 49.5	-0.1
	baz=180						
MLAC	Mammoth, Mammo	0.13	3		Pg	02 35 49.4	-0.2
MGPM	Gravel Pit	0.14	340		Pg	02 35 49.5	-0.2
MDRNC	Doe Ridge	0.14	3		Pg	02 35 49.6	-0.1
MCBM	Casa Benchmark	0.15	344		Pg	02 35 49.8	-0.2
MCSM	Casa Diablo Ho	0.16	343		Pg	02 35 50.1	-0.1
OMMB	Old Mammoth Mi	0.17	313		Pg	02 35 50.0	-0.3
WMD		0.17	110		Pg	02 35 49.9	-0.2
MLHM	Little Hot Cre	0.18	8		Pg	02 35 50.5	+0.1
MEMM	East Mammoth H	0.18	336		Pg	02 35 50.5	0.0
MMPM	Mammoth Pass	0.18	308		Pg	02 35 50.3	-0.2
SCHCA	Scheelite	0.19	138		Pg	02 35 50.2	-0.3
MMLB	Mammoth Lakes	0.19	327		Pg	02 35 50.7	+0.1
MLIM	Lincoln Peak	0.20	315		Pg	02 35 50.8	+0.1
MLIM					Sg	02 35 54.7	+1.1
MRDM	Red Cones	0.20	300		Pg	02 35 50.6	-0.1
ORC	Owens River	0.20	48		Pg	02 35 50.6	-0.2
MDYM	Dry Creek	0.21	320		Pg	02 35 51.0	+0.1
MDPB	Devils Postpil	0.23	306		Pg	02 35 51.2	-0.1
MDPB					Sg	02 35 54.5	0.0
MINS	Minaret Summit	0.23	312		Pg	02 35 51.2	-0.1
MINS					Sg	02 35 54.7	+0.1
CASR	Casa Diablo Mo	0.24	72		Pg	02 35 51.6	0.0
MDCM	Deadman Creek	0.26	324		Pg	02 35 51.8	-0.1
MTUM	Tungsten Hills	0.27	123		Pg	02 35 51.8	-0.2
BENR	Benton	0.31	45		Pg	02 35 52.4	-0.4
MRCM	Red Rock Canyo	0.32	57		Pg	02 35 52.8	-0.2
MCDM	Chidago Canyon	0.32	81		Pg	02 35 53.1	0.0
MGNR	McGee Canyon	0.34	21		Pg	02 35 53.3	0.0
MFBM	Five Bridges	0.34	102		Pg	02 35 53.6	+0.3
BHPR	Bishop	0.35	125		Pg	02 35 53.4	-0.1
MLNR	Milner Canyon	0.41	76		Pg	02 35 54.6	-0.1
KCC	Kaiser Creek	0.41	245		Pg	02 35 54.7	0.0
KCC					Sg	02 36 00.4	+0.2
POCCA	Poleta Canyon	0.47	107		Pg	02 35 55.6	-0.1
ANTCA	Antelope Range	0.47	28		Pg	02 35 55.6	-0.2
LUL	Lundy Lake	0.61	334		Pg	02 35 58.3	-0.2
BONR	Boundary Peak	0.63	43		Pg	02 35 58.5	-0.3
TIN	Tinemaha, Big	0.66	132	P	Pg	02 35 59.3	0.0
	baz=313						
TIN				S	Sg	02 36 08.5	+0.5
	baz=313						
TIN	Tinemaha, Big	0.66	132		Pg	02 35 59.3	0.0
LHV	Little Huntoon	0.80	20		Pg	02 36 01.8	-0.2
LHV					Sb	02 36 13.0	-0.7
HELL	Mitchell Peak,	0.83	190		Pg	02 36 02.1	-0.4
FRI	Friant	0.85	234		Pg	02 36 02.7	-0.3
MHDM	Hidden Dam	0.92	246		Pg	02 36 04.0	-0.2
NVAR	Mina Array Bea	1.02	25	Pg	Pg	02 36 05.0	-1.3
NV11	Mina Array Sit	1.08	30		Pg	02 36 06.8	-0.6
WAKR	Walker	1.11	335		Pg	02 36 07.6	-0.3
RYN	Ryan	1.16	13		Pg	02 36 08.5	-0.3
CWC	Cottonwood Cre	1.22	150	P	Pg	02 36 09.1	-0.9
	baz=331						
CWC	Cottonwood Cre	1.22	150		Pg	02 36 09.2	-0.9
MRHM	Rocky Hill	1.23	189		Pg	02 36 08.9	-1.2
VOG	Valley Oaks Go	1.25	200	P	Pg	02 36 09.4	-1.2
	baz=20						
VOG				S	Sg	02 36 26.1	-0.7
	baz=20						
GRAC	Grapevine Rang	1.28	113	P	Pg	02 36 11.0	-0.2
	baz=294						
GRAC				S	Sb	02 36 28.0	+0.3
	baz=294						
SPG2	Springville 2	1.30	177		Pn	02 36 10.4	-0.7
CMB	Columbia Colle	1.33	294	Pn	Pn	02 36 10.8	-0.7
MCUB	Copperopolis B	1.48	289		Pn	02 36 13.8	+0.2
BFC	Buffalo Canyon	1.52	337		Pb	02 36 15.1	0.0
YERR	Yerington	1.52	348		Pn	02 36 14.6	+0.4
PWMM	Westland Maint	1.53	226		Pb	02 36 15.1	0.0
DAC	Darwin (Calif)	1.58	140		Pg	02 36 17.6	+0.8
GNO	Genoa	1.63	331		Pg	02 36 17.4	-0.5
KVN	Kaiserville	1.66	21		Pb	02 36 17.1	-0.4
VES	Vestal, Richgr	1.67	187	Pb	Pb	02 36 17.0	-0.5
	baz=6.7						
VES				S	Sn	02 36 37.2	-0.4
	baz=6.7						
VES	Vestal, Richgr	1.67	187		Pb	02 36 17.4	-0.1
MNHB	New Hogan Dam	1.69	293		Pb	02 36 17.2	-0.7
PNTR	Pine Nut	1.69	340		Pb	02 36 18.1	0.0
BRMM	Rolling Bench	1.71	248		Pb	02 36 18.5	+0.2
PARM	Anticline Ridg	1.73	224		Pb	02 36 18.6	0.0
PKEM	Kettleman Hill	1.76	216		Pb	02 36 19.3	+0.2
BMSM	Mercy Hot Spri	1.77	242		Pb	02 36 19.1	-0.2
EMB	Emerald Bay	1.77	326		Pb	02 36 19.6	+0.1
MPMC	Manual Prospec	1.80	142	Pb	Pn	02 36 19.0	+0.8
	baz=324						
ISA	Isabella, Lake	1.86	171	Pb	Pb	02 36 20.5	-0.3
	baz=351						
ISA				Sb	Sb	02 36 44.8	+0.6
	baz=351						
ISA	Isabella, Lake	1.86	171		Pb	02 36 20.6	-0.2
RUBR	Rubicon Trail	1.86	327		Pb	02 36 21.3	+0.3
VCNR	Virginia City	1.90	341		Pn	02 36 19.9	+0.4
SFJWR	San Luis Fatjo	1.91	257		Pb	02 36 20.9	-0.8
PHRM	Hernandez Vall	1.94	235		Pb	02 36 21.6	-0.6
SLD	San Luis Dam	1.94	258		Pb	02 36 21.7	-0.5
BAVM	Antelope Valle	1.94	245		Pb	02 36 21.6	-0.6
ASMM	Slate Mountain	1.96	313		Pb	02 36 22.2	-0.4
WOFM	Oak Flat	1.96	177		Pb	02 36 22.1	-0.5
CTM	Castle Mountai	1.97	218		Pb	02 36 22.5	-0.3
BBGB	Big Mountain B	1.98	243		Pb	02 36 22.4	-0.5
BEMM	Emmet	1.98	246		Pb	02 36 22.4	-0.6
HPCM	Pacheco Lake	1.99	258		Pb	02 36 22.0	-1.0
PSMM	Smith Mountain	2.00	225		Pb	02 36 22.3	-1.0
PSRM	Scobie Ranch	2.00	216		Pb	02 36 22.5	-0.7
PACP	Pacheco Peak	2.01	257		Pb	02 36 22.5	-0.9
AASM	Arroyo Seco	2.02	298		Pb	02 36 23.1	-0.4
MPK	Martis Peak	2.02	333		Pb	02 36 24.4	+0.6
PMPB	Monarch Peak	2.02	231	Pn	Pn	02 36 21.6	+0.6
BBNM	San Benito	2.04	242		Pb	02 36 23.5	-0.4
BEHM	Elkhorn Ranch	2.04	247		Pb	02 36 23.5	-0.4
LRV	Little Rabbit	2.04	239		Pb	02 36 23.8	-0.2
PBWM	Bitterwater Cr	2.04	235		Pb	02 36 23.2	-0.8
PPTM	Peach Tree Val	2.05	228		Pn	02 36 22.7	+1.4
GHC	Gold Hill	2.06	217		Pn	02 36 22.7	+1.2
PSTM	Stockdale Moun	2.06	221		Pn	02 36 23.0	+1.5
PKD	Bear Valley Ra	2.06	222		Pn	02 36 23.0	+1.4
PSNM	Stone Corral	2.07	215		Pn	02 36 22.8	+1.2
PHPM	Hope Ranch	2.07	224		Pn	02 36 23.0	+1.3
PVCM	Vineyard Canyo	2.08	221		Pn	02 36 23.1	+1.3
BHRM	Hodges Ranch	2.08	249		Pb	02 36 24.1	-0.5
PAGB	Antelope Grade	2.10	213		Pn	02 36 23.1	+1.1
PKLM	Kerr Lake	2.10	215		Pn	02 36 23.6	+1.5
HFEM	San Felipe	2.10	257		Pb	02 36 23.8	-1.2
PCMM	Cholame Hills	2.11	217		Pn	02 36 23.5	+1.3
CMMM	Mount Mocho	2.11	270		Pb	02 36 24.0	-1.1
BLRM	Lewis Ranch	2.11	248		Pb	02 36 24.8	-0.3
BPIM	Pinnacles	2.11	242		Pb	02 36 23.9	-1.3
BSLM	Silva Ranch	2.13	251		Pb	02 36 24.5	-0.9
TPNV	Topopah Spring	2.14	104		Pn	02 36 22.9	+0.1
ARN	Arnold Ranch	2.14	267		Pb	02 36 24.5	-1.2
BCGM	Cienega Road	2.15	249		Pb	02 36 24.9	-0.8
BJOM	Mount Johnson	2.16	247		Pb	02 36 25.4	-0.5
PBPM	Bitterwater Pu	2.16	208		Pb	02 36 24.8	-1.1
CDC	Canada Road	2.16	258		Pb	02 36 25.0	-0.9
LRC	Lone Oak Road	2.16	235		Pb	02 36 24.8	-1.2
HSPM	Sheep	2.16	261		Pb	02 36 25.0	-1.0
PPO	Portuguese Can	2.16	222		Pn	02 36 24.2	+1.3
BVYM	Vineyard	2.18	251		Pb	02 36 25.2	-1.2
TCHL	Shandon	2.20	215		Pb	02 36 25.3	-1.3
SAO	San Andreas Ge	2.21	251		Pb	02 36 25.3	-1.4
SAO	San Andreas Ge	2.21	251	Pn	Pn	02 36 24.6	+1.1
AFDM	Forest Hills D	2.21	311		Pb	02 36 26.5	-0.4
MHC	Mount Hamilton	2.23	267		Pb	02 36 26.1	-1.1
SCZ	Santa Cruz	2.23	247		Pn	02 36 25.6	+1.7
FRP	Fremont Peak	2.24	251		Pn	02 36 25.6	+1.5
CBSNC	Byron Hot Spri	2.24	279		Pb	02 36 27.0	-0.3
PAHR	Pah Rah Range	2.25	349		Pb	02 36 27.5	+0.1
BJCM	Johnson Can.	2.25	246		Pb	02 36 25.9	-1.5
TEJ	El Tejon	2.27	177		Pb	02 36 27.7	-0.1
KBF	Kyburz Flat	2.27	332		Pg	02 36 29.0	-1.2
PEAR	Peavine Mounta	2.28	338		Pb	02 36 28.6	+0.5
HJGM	San Juan Grade	2.29	253		Pn	02 36 26.3	+1.7
BSRM	Salinas Radio	2.29	250		Pn	02 36 26.4	+1.7
TSCN	Private Proper	2.30	212		Pb	02 36 27.1	-1.1
JLAB	Laurel Hill	2.33	262		Pb	02 36 27.3	-1.5
PCCM	Crazy Canyon	2.33	234		Pb	02 36 27.4	-1.5
BSMM	Soledad Missio	2.35	242		Pn	02 36 27.4	+1.8
CALM	Calaveras Res.	2.35	270		Pb	02 36 27.7	-1.5
ARVC	Arvin	2.37	180	Pb	Pb	02 36 29.2	-0.2
	baz=360						
ARVC				Sb	Sb	02 36 59.9	+1.0
	baz=360						
ARVC	Arvin	2.37	180		Pb	02 36 29.4	-0.1
CMOB	Morgan Territo	2.37	278		Pn	02 36 27.6	+1.9
SMMC	Simmler	2.37	203	Pb	Pn	02 36 27.8	+2.0
	baz=23						
SMMC	Simmler	2.37	203		Pn	02 36 27.4	+1.6
JSTM	Santa Teresa H	2.37	264		Pn	02 36 27.6	+1.9
CVLM	Vallecito	2.38	274		Pb	02 36 28.5	-1.1
PANM	San Antonio Re	2.39	225		Pn	02 36 27.7	+1.7
CMJM	Mission San Jo	2.41	271		Pb	02 36 28.5	-1.6
BPCNC	Pine Canyon	2.41	248		Pn	02 36 28.0	+1.7
AMC	Almaden	2.42	263		Pn	02 36 28.2	+1.9
HAST	Hastings Reser	2.43	244		Pn	02 36 28.3	+1.7
BDM	Black Diamond	2.44	282		Pb	02 36 29.8	-0.8
PHSB	Hesperia Broad	2.44	227		Pn	02 36 28.4	+1.7
JUMM	Mount Umunhum	2.46	263		Pn	02 36 28.9	+1.9
RAMR	Ramage Ranch	2.47	222		Pn	02 36 28.9	+1.8
BCWM	Chews Ridge	2.48	242		Pn	02 36 29.1	+1.6
BCH	Branch Mountai	2.52	204		Pb	02 36 30.3	-1.8
PAPM	Alder Peak	2.57	233		Pn	02 36 30.1	+1.6
BLDC	Black Mountain	2.57	221		Pn	02 36 30.0	+1.5
BLDC	Black Mountain	2.57	221		Pn	02 36 30.3	+1.8
BCW	Bitter Crk WRg	2.59	190		Pb	02 36 31.9	-1.5
BAPM	Anderson Peak	2.60	240		Pn	02 36 30.7	+1.6
SHOC	Shoshone, Teco	2.61	127	Pb	Pb	02 36 33.2	-0.4
	baz=309						
HMOM	Monterey	2.62	251		Pn	02 36 30.7	+1.5
BEKR	Beckworth	2.65	334		Pg	02 36 35.6	-1.6
NADM	Allendale	2.65	292		Pb	02 36 33.9	-0.4
JFP	Foothills Park	2.67	268		Pn	02 36 31.6	+1.8
EDW2	Edwards Air Fo	2.70	165	Pb	Pb	02 36 35.1	-0.1
	baz=346						
EDW2				Sb	Sb	02 37 10.1	+1.6
	baz=346						
R11A	Troy Canyon, C	2.71	71	Pb	Pb	02 36 35.6	+0.1
	baz=253						
R11A				Sb	Sg	02 37 11.7	-2.1
	baz=253						
R11A	Troy Canyon, C	2.71	71	Pn	Pn	02 36 31.0	+0.4
R11A					Pb	02 36 36.2	+0.7
R11A					LR	02 37 12.4	
CPIM	Pinole Ridge	2.72	281		Pb	02 36 35.1	-0.3
PKM	Mcpherson Peak	2.72	197	Pb	Pb	02 36 33.6	-1.9
	baz=16						
ORV	Oroville	2.92	315	Pn	Pn	02 36 34.2	+0.8
ORV					Pg	02 36 40.8	-1.8
SHPR	Sheep Range	3.11	107		Pn	02 36 37.2	+1.1
BMN	Battle Mountai	3.19	23		Pb	02 36 45.2	+1.7
PSUT	Pine Spring	4.08	74	Pn	Pn	02 36 49.3	-0.1
PSUT					Pg	02 37 02.9	-1.8
ELK	Elko	4.29	40	Pn	Pn	02 36 53.0	+0.6
ELK					LR	02 38 01.0	
CCUT	Cedar City	4.36	88		Pg	02 37 09.9	-0.2
LCMT	Little Creek M	4.50	95		Pg	02 37 11.3	-1.4
DUG	Dugway, Tooele	5.42	58		Pg	02 37 30.1	-0.4
VCNR	Virginia City	6.04	111		Pn	02 40 47.7	+0.2
PAHR	Pah Rah Range	6.07	107		Pn	02 40 47.9	+0.2
CMB	Columbia Colle	6.22	124		Pn	02 40 49.7	0.0
WVOR	Wild Horse Val	6.22	80		Pn	02 40 50.5	+0.7
LON	Longmire	6.26	34		Pn	02 40 50.7	+0.4
D05A	Enumclaw	6.54	31		Pn	02 40 55.0	+1.0
F07A	Phinny Hill Vi	6.58	48	Pn	Pn	02 40 55.3	+0.7
LTY	Liberty	7.14	37		Pn	02 41 03.3	+0.9
NVAR	Mina Array Bea	7.37	113	Pn	Pn	02 41 07.4	+1.6
	0.1nm,0.3s,baz=284,slow=13,SNR=5.3						
B08A	Colville Reser	8.57	36		Pn	02 41 22.8	+0.9
ELK	Elko	8.86	92	Pn	Pn	02 41 29.4	+3.2
	0.1nm,0.3s,baz=287,slow=12,SNR=4.9						
ELK				LR	LR	02 44 49.1	
	comp=Z,2µm,20.9s,baz=336,slow=37						
NEW	Newport	9.56	43	Pn	Pn	02 41 38.1	+2.5
	0.1nm,0.3s,baz=233,slow=15,SNR=3.4						
BGU	Big Grassy Mou	10.49	90		Pn	02 41 49.7	+1.3
DUG	Dugway, Tooele	10.79	93		Pn	02 41 52.3	-0.1
TCUT	Toone Canyon	11.68	88	Pn	Pn	02 42 05.5	+0.8
IMW	Indian Meadow	11.96	74		Pn	02 42 09.7	+1.1
PKCU	Pink Cliffs	12.05	106		Pn	02 42 09.7	-0.3
MOOW	Moose Ponds	12.09	75		Pn	02 42 12.2	+1.9
PDAR	Pinedale Array	12.93	79	Pn	Pn	02 42 24.2	+2.4
	0.1nm,0.3s,baz=264,slow=6.0,SNR=3.9						
PDAR	Pinedale Array	12.93	79		Pn	02 42 23.0	+1.2
214A	Organ Pipe Nat	14.89	126	Pn	Pn	02 42 47.3	-1.1
W18A	Petrified Fore	14.98	110	Pn	Pn	02 42 49.3	-0.5
W18A				IAmb	IAmb	02 43 01.4	
	comp=Z,7.8nm,0.9s						
N23A	Red Feather La	15.80	86	IAmb	IAmb	02 43 18.4	
	comp=Z,11nm,1.1s						
TUC	Tucson	15.91	121	Pn	Pn	02 43 00.2	-1.8
PHWY	Pilot Hill	16.09	84	IAmb	IAmb	02 43 11.4	
	comp=Z,13nm,1.1s						
DGMT	Dagmar	17.39	59	IAmb	IAmb	02 43 32.5	
	comp=Z,31nm,1.1s						
ANMO	Albuquerque	17.40	106	P	P	02 43 23.6	+1.5
	comp=Z,0.1nm,0.3s,baz=332,slow=11,SNR=7.6						
ANMO	Albuquerque	17.40	106	IAmb	IAmb	02 43 28.8	
	comp=Z,2.0nm,0.9s						
T25A	Trinidad	17.97	97	IAmb	IAmb	02 43 33.4	
	comp=Z,9.1nm,0.9s						
KSCO	Kaye Shedlock'	18.70	90	P	P	02 43 34.8	-1.7
KSCO				IAmb	IAmb	02 43 42.3	
	comp=Z,32nm,1.1s						
MNTX	Cornudas Mount	19.90	113	IAmb	IAmb	02 43 57.1	
	comp=Z,9.2nm,1.1s						
MSTX	Muleshoe	20.54	104	P	P	02 43 56.8	+0.3
SUSD	Miller	20.59	73	P	P	02 43 57.1	+0.3
SUSD				IAmb	IAmb	02 44 05.6	
	comp=Z,16nm,1.0s						
AMTX	Amarillo	20.91	101	IAmb	IAmb	02 44 14.5	
	comp=Z,10nm,1.1s						
FFC	Flin Flon	20.99	43	P	P	02 44 01.6	+0.5
FFC				IAmb	IAmb	02 44 19.2	
	comp=Z,18nm,1.1s						
YKA	Yellowknife Ar	22.09	15	P	P	02 44 12.4	-0.5
	comp=Z,3.0nm,1.0s,baz=205,slow=11,SNR=4.1						
ECSD	EROS Data Cent	22.31	75	P	P	02 44 16.3	+0.9
ECSD				IAmb	IAmb	02 44 24.3	
	comp=Z,18nm,1.1s						
TX32	Lajitas Array	22.52	116	IAmb	IAmb	02 44 33.7	
	comp=Z,9.9nm,1.1s						
TXAR	Lajitas Array	22.52	116	P	P	02 44 19.4	+1.7
	comp=Z,1.5nm,0.9s,baz=325,slow=7.7,SNR=11						
TXAR	Lajitas Array	22.52	116	P	P	02 44 18.6	+0.8
AGMN	Agassiz Nation	22.84	63	IAmb	IAmb	02 44 32.0	
	comp=Z,7.7nm,1.1s						
ULM	Lac du Bonnet	23.09	58	P	P	02 44 23.8	+0.3
	comp=Z,5.7nm,1.0s,baz=274,slow=9.2,SNR=4.9						
ULM	Lac du Bonnet	23.09	58	P	P	02 44 24.0	+0.6
WMOK	Wichita Mounta	23.12	98	IAmb	IAmb	02 44 39.0	
	comp=Z,5.4nm,1.1s						
JCT	Junction City	24.51	108	P	P	02 44 37.2	-0.2
JCT				IAmb	IAmb	02 44 45.9	
	comp=Z,7.9nm,1.1s						
EPYK	Eagle Plains	25.33	351	P	P	02 44 45.0	+0.6
EPYK				IAmb	IAmb	02 44 56.2	
	comp=Z,8.7nm,1.1s						
ILAR	Eielson Array	25.79	340	P	P	02 44 49.1	+0.4
	comp=Z,1.7nm,1.0s,baz=151,slow=8.6,SNR=4.3						
ILAR				PcP	PcP	02 48 17.6	-0.3
	comp=Z,0.5nm,0.8s,baz=153,slow=2.2,SNR=5.1						
ILAR	Eielson Array	25.79	340	P	P	02 44 48.7	+0.1
JFWS	Jewell Farm	27.03	75	P	P	02 45 00.4	+0.4
BMAR	Burnt Mountain	27.53	345	P	P	02 45 04.0	-0.4
RES	Resolute Bay	36.15	14	P	P	02 46 19.4	-0.4
	comp=Z,3.1nm,0.7s,baz=217,slow=10.0,SNR=6.9						
SUMG	Summit	50.37	23	*i* P	P	02 48 15.4	+0.4
	comp=Z,15nm,0.9s						
SUMG				*i*		02 48 21.7	
DAG	Danmarks Havn	53.80	16	*i* P	P	02 48 40.4	+0.5
DAG				*i*		02 48 45.7	
H11N3	WAKE ISLAND Hy	59.51	270	T	T	03 53 43.0	
	baz=52,slow=75,SNR=160						
H11N2	WAKE ISLAND Hy	59.51	270	T	T	03 53 45.8	
	baz=52,slow=75,SNR=186						
H11N1	WAKE ISLAND Hy	59.52	270	T	T	03 53 54.3	
	baz=52,slow=75,SNR=152						
H11S1	WAKE ISLAND Hy	60.40	269	T	T	03 54 40.1	
	baz=52,slow=75,SNR=320						
H11S2	WAKE ISLAND Hy	60.41	269	T	T	03 54 40.6	
	baz=52,slow=75,SNR=345						
H11S3	WAKE ISLAND Hy	60.42	269	T	T	03 54 42.5	
	baz=52,slow=75,SNR=240						
SONM	Songino Array	79.15	327	P	P	02 51 22.6	-0.1
	comp=Z,0.7nm,0.8s,baz=70,slow=4.9,SNR=5.3						
SONM	Songino Array	79.15	327	P	P	02 51 22.2	-0.5
ZALV	Zalesovo Beam	80.91	342	P	P	02 51 31.4	-0.5
	comp=Z,0.3nm,0.2s,baz=17,slow=6.0,SNR=2.9						
GERES	GERESS Array B	83.40	25	P	P	02 51 45.3	+0.1
	comp=Z,1.2nm,1.0s,baz=319,slow=5.2,SNR=4.1						
ESDC	Sonseca Array	83.87	41	P	P	02 51 48.3	+0.5
	comp=Z,1.0nm,0.7s,baz=313,slow=5.4,SNR=6.6						
ESDC	Sonseca Array	83.87	41	P	P	02 51 48.7	+0.9
BRVK	Borovoye	84.47	350	P	P	02 51 49.7	-0.8
KURK	Kurchatov	85.30	344	P	P	02 51 54.8	+0.1
KURK	Kurchatov	85.30	344	IAmb	IAmb	02 52 05.5	
	comp=Z,2.4nm,1.0s						
KURBB	Kurchatov Arra	85.41	344	P	P	02 51 54.8	-0.4
	comp=Z,0.5nm,0.4s,baz=19,slow=3.1,SNR=3.3						
AKASG	Malin Array Be	85.66	15	P	P	02 51 55.6	-0.9
	comp=Z,0.4nm,0.4s,baz=346,slow=4.4,SNR=5.2						
AKASG	Malin Array Be	85.66	15	IAmb	IAmb	02 52 01.6	
	comp=Z,1.1nm,1.1s						
ABKAR	Akbulak array	89.24	356	P	P	02 52 14.2	+0.4

*ISCJB **01** 02:39:16.4±0.4, 41°.67N±0°.03×126°.92W±0°.05, h11km, mb3.9/12, Error ellipse: s-maj=5.6km s-min=3.7km az=148.7*

*IDC **01** 02:39:16.3±1.1, 41°.74N×127°.02W, h0km, mb3.8/11, mb1 3.9/16, mb1mx3.8/56, mbtmp3.7/16, ML2.9/5, MS4.3/1, Ms1 4.3/1, ms1mx3.6/54, Error ellipse: s-maj=25.4km s-min=12.2km az=30.0*

*NEIC **01** 02:39:17.7±1.9, 41°.65N±0°.06×126°.92W±0°.10, h10km±2km*

*NCEDC **01** 02:39:17.6, 41°.64N×126°.99W, h10km, MB4.2(NEIC), ML3.3(NEIC)*

*ANF **01** 02:39:19.0±1.6, 41°.77N×126°.71W, h5km, ML3.5/17, Error ellipse: s-maj=16.4km s-min=8.6km az=84.0*

ISC 01 02:39:18.0±0.7, **41°.69N**±0°.05×**126°.93W**±0°.07, **h11**km, **n120**, σ**1.09**/109, **mb4.1**/19, **Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBO	Bosley Butte	2.08	75		Pn	02 39 51.3	-1.7
KBO					Sn	02 40 18.3	-0.7
KRPM	Rodgers	2.25	103		Pn	02 39 54.5	-0.7
KEBM	Edson Butte	2.26	58		Pn	02 39 54.3	-1.1
KRMB	Red Mountain	2.27	93		Pn	02 39 54.8	-0.7
KCTM	Capetown	2.31	121		Pn	02 39 54.7	-1.2
JCC	Jacoby Creek,	2.35	111		Pn	02 39 54.7	-1.8
JCC	Jacoby Creek,	2.35	111		Pn	02 39 55.1	-1.4
JCC	Jacoby Creek,	2.35	111		Sn	02 40 24.3	-1.1
L02E	Cave Junction	2.53	78	P	Pn	02 39 57.6	-1.4
	baz=256,SNR=38						
KHMM	Horse Mountain	2.54	108		Pn	02 39 58.5	-0.9
KSMM	Slide Mountain	2.57	125		Pn	02 39 57.8	-1.8
K02D	Willamette Mer	2.63	66	P	Pn	02 39 58.9	-1.5
	baz=244,SNR=51						
J01E	Myrtle Point	2.67	55	P	Pn	02 39 59.1	-1.7
	baz=233,SNR=17						
J01E				S	Sn	02 40 29.8	-3.2
	baz=233						
KCRM	Chalk Rock	2.67	117		Pn	02 39 59.6	-1.3
KMRM	Mail Ridge	2.85	120		Pn	02 40 02.3	-1.1
KHBM	Hayfork Bally	2.98	109		Pn	02 40 04.6	-0.9
M02C	Callahan	3.08	94	P	Pn	02 40 06.1	-0.5
	baz=273,SNR=44						
KBSM	Bell Springs	3.09	124		Pn	02 40 06.0	-0.7
HUMO	Hull Mountain	3.10	71		Pn	02 40 05.7	-1.0
YBH	Yreka Blue Hor	3.16	88	Pn	Pn	02 40 08.2	+0.5
	1.6nm,0.3s,baz=259,slow=12,SNR=84						
YBH	Yreka Blue Hor	3.16	88		Pn	02 40 08.0	+0.3
KCPM	Cahto Peak	3.24	127		Pn	02 40 08.0	-0.8
N02D	Trinity Center	3.26	101	P	Pn	02 40 09.7	+0.6
	baz=281,SNR=8.9						
I02D	Swisshome	3.31	42	P	Pn	02 40 08.9	-0.8
	baz=221,SNR=36						
I03D	Drain, OR	3.32	52	P	Pn	02 40 08.3	-1.4
	baz=230						
KFPM	Farley Peak	3.36	126		Pn	02 40 08.9	-1.6
O02D	Mt. Diablo Mer	3.48	114	P	Pn	02 40 11.5	-0.7
	baz=295,SNR=17						
O02D				S	Sn	02 40 52.3	-1.1
	baz=295						
L04D	Klamath Falls	3.49	80	P	Pn	02 40 12.3	0.0
	baz=259,SNR=9.7						
WDC	Whiskeytown Da	3.50	107		Pn	02 40 11.4	-0.9
M04C	Macdoel	3.81	87	P	Pn	02 40 17.3	+0.5
	baz=267,SNR=32						
J04D	Umpqua Nationa	3.89	65	P	Pn	02 40 18.6	+0.7
	baz=245,SNR=16						
COR	Corvallis	3.93	41		Pn	02 40 18.2	0.0
I04A	Tendick Farm,	3.94	56	P	Pn	02 40 18.4	0.0
	baz=236						
I04A				S	Sn	02 41 06.0	+1.4
	baz=236						
HOPS	Hopland Field	3.99	131	Pn	Pn	02 40 18.1	-1.0
O03E	Paynes Creek	4.12	108	P	Pn	02 40 20.7	-0.3
	baz=289,SNR=21						
O03E				S	Sn	02 41 11.8	+2.5
	baz=289						
H04D	Lebanon	4.18	46	P	Pn	02 40 22.0	+0.4
	baz=226,SNR=11						
H04D				S	Sn	02 41 09.2	-1.3
	baz=226						
GDXM	Geysers	4.28	131	Pn	Pn	02 40 23.3	+0.2
G03D	McMinnville, O	4.42	36	P	Pn	02 40 25.4	+0.5
	baz=216						
J05D	Fort Rock, OR	4.50	67	P	Pn	02 40 26.2	0.0
	baz=248						
ORV	Oroville	4.65	115		Pn	02 40 27.0	-1.2
I05D	Terrebonne, OR	4.88	55	P	Pn	02 40 32.2	+0.9
	baz=237						
PINE	Pine Mountain	4.89	63		Pn	02 40 31.7	+0.1
MOD	Modoc Plateau	4.96	85		Pn	02 40 32.4	-0.1
BEKR	Beckworth	5.31	108		Pn	02 40 37.4	0.0
AFDM	Forest Hills D	5.31	119		Pn	02 40 36.4	-0.9
F04A	Amboy	5.35	36		Pn	02 40 38.1	+0.3
E04D	Cinebar	5.79	31	P	Pn	02 40 45.4	+1.6
	baz=213,SNR=21						
RUBR	Rubicon Trail	5.81	115		Pn	02 40 43.5	-0.8

*ISCJB **01** 02:41:54.0±0.6, 7°.13S±0°.05×128°.70E±0°.06, h10km, mb3.9/3, MS5.3/2, Error ellipse: s-maj=8.7km s-min=7.3km az=175.4*

*IDC **01** 02:41:54.7±1.1, 7°.06S×128°.58E, h0km, mb4.1/3, mb1 4.3/7, mb1mx3.8/50, mbtmp4.1/7, ML4.1/4, MS4.8/3, Ms1 4.7/3, ms1mx3.8/40, Error ellipse: s-maj=48.3km s-min=19.7km az=76.0*

*NEIC **01** 02:41:56.2±2.3, 7°.12S±0°.08×128°.79E±0°.08, h10km±3km, mb4.3/1*

ISC 01 02:41:55.9±0.9, **7°.16S**±0°.07×**128°.76E**±0°.09, **h10**km, **n22**, σ**1.39**/22, **mb4.2**/4, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.65	108	Pn	Pn	02 42 38.7	0.0
SOEI	Soe	5.13	240	Pn	Pn	02 43 14.5	+1.4
BATI	Baumata	5.88	239	Pn	Pn	02 43 26.9	+3.8
	4.6nm,0.3s,baz=75,slow=20,SNR=7.8						
BATI				Sn	Sn	02 44 30.2	-0.4
	2.1nm,0.3s,baz=77,slow=18,SNR=2.1						
SIJI	Sorong	6.73	22	Pn	Pn	02 43 35.2	+0.3
	7.4nm,0.3s,baz=222,slow=14,SNR=16						
KNRA	Kununurra	8.46	180		Pn	02 44 00.4	+1.7
KAPI	Kappang	9.21	283	LR	LR	02 47 46.0	
	comp=Z,981nm,20.1s,baz=298,slow=39						
FITZ	Fitzroy Crossi	11.29	195	Pn	Pn	02 44 38.1	+0.7
	1.0nm,0.3s,baz=16,slow=11,SNR=14						
FITZ				Sn	Sn	02 46 42.6	-1.1
	1.1nm,0.3s,baz=127,slow=16,SNR=3.3						
FITZ	Fitzroy Crossi	11.29	195		Pn	02 44 37.6	+0.2
WB0	Warramunga Arr	13.67	157		Pn	02 45 11.2	+1.2
WRA	Warramunga Arr	13.81	157	Pn	Pn	02 45 12.8	+0.9
	1.0nm,0.3s,baz=337,slow=13,SNR=24						
WRA				Sn	Sn	02 47 42.3	-3.2
	1.1nm,0.3s,baz=339,slow=21,SNR=7.4						

WRA	Warramunga Arr	13.81	157		Pn	02 45 12.7	+0.7
WRA					Sn	02 47 42.6	-2.8
WB2	Warramunga Arr	13.81	157		Pn	02 45 12.9	+0.9
WR0	Warramunga Arr	13.90	157		Sn	02 47 47.0	-0.8
ASAR	Alice Springs	17.14	164	P	P	02 45 57.4	0.0
	0.4nm,0.3s,baz=338,slow=10,SNR=15						
ASAR				S	Sn	02 49 06.0	-0.5
	0.3nm,0.3s,baz=334,slow=19,SNR=5.5						
ASAR	Alice Springs	17.14	164		P	02 45 57.6	+0.2
STKA	Stephens Creek	27.35	156	P	P	02 47 43.6	+2.3
	1.7nm,0.4s,baz=328,slow=9.2,SNR=9.2						
MKAR	Makanchi Array	67.69	327	P	P	02 52 52.6	-0.8
	0.4nm,0.5s,baz=130,slow=8.2,SNR=5.5						
KURBB	Kurchatov Arra	72.01	329	P	P	02 53 19.0	-0.9
	0.6nm,0.2s,baz=125,slow=5.9,SNR=4.9						
KURK	Kurchatov	72.02	329	P	P	02 53 19.0	-0.9
KURK	Kurchatov	72.02	329	IAmb	IAmb	02 53 27.5	
	comp=Z,2.2nm,0.9s						
KBZ	Khabaz	91.91	314	LR	LR	03 41 14.6	
	comp=Z,711nm,21.4s,baz=296,slow=39						
BRTR	Keskin Array B	98.46	309	LR	LR	03 47 24.1	
	comp=Z,1μm,21.5s,baz=244,slow=40						

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*IDC **01** 02:46:03.2±1.3, 17°.25S×172°.93W, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.8/47, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=53.4km s-min=21.9km az=128.0*
*ISCJB **01** 02:46:07.2±1.1, 17°.1S±0°.2×173°.0W±0°.3, h41km, mb4.0/5, Error ellipse: s-maj=42.7km s-min=10.1km az=28.2*
ISC 01 02:46:08.8±1.2, 17°.1S±0°.2×173°.0W±0°.3, h41km, n6, σ1s.58/7, mb4.2/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.40	20	Pn	Pn	02 46 57.6	-1.8
	5.1nm,0.3s,baz=203,slow=15,SNR=4.2						
AFI				Sn	Sn	02 47 38.6	-0.1
	6.3nm,0.3s,baz=111,slow=16,SNR=6.2						
URZ	Urewera	22.78	201	P	P	02 51 06.1	-1.6
	8.7nm,0.8s,baz=49,slow=11,SNR=8.2						
WRA	Warramunga Arr	49.89	258	P	P	02 54 58.8	+0.2
	1.0nm,0.4s,baz=99,slow=7.2,SNR=3.0						
ASAR	Alice Springs	50.01	253	P	P	02 54 59.6	+0.1
	3.3nm,0.6s,baz=90,slow=8.9,SNR=11						
NVAR	Mina Array Bea	75.33	41	P	P	02 57 49.4	+1.1
	0.3nm,0.6s,baz=224,slow=8.3,SNR=3.6						
ILAR	Eielson Array	84.06	11	P	P	02 58 36.3	+1.6
	0.3nm,0.7s,baz=228,slow=6.5,SNR=5.7						

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*ISCJB **01** 02:47:08.5±0.5, 4°.49S±0°.06×152°.48E±0°.09, h100km, mb4.1/17, Error ellipse: s-maj=13.2km s-min=8.0km az=20.6*
*IDC **01** 02:47:09.6±0.8, 4°.48S×152°.42E, h96km±5km, mb3.9/17, mb1 4.1/18, mb1mx3.9/50, mbtmp4.3/18, Error ellipse: s-maj=19.7km s-min=13.3km az=90.0*
*NEIC **01** 02:47:12.3±0.8, 4°.54S±0°.07×152°.4E±0°.1, h123km±8km, mb4.5/14*
ISC 01 02:47:09.9±0.6, 4°.48S±0°.08×152°.5E±0°.1, h100km, n42, σ0s.77/36, mb4.2/19, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	0.48	291	P	Pn	02 47 25.8	+0.2
	1μm,0.3s,baz=99,slow=6.0,SNR=653						
KRVT				S	Sn	02 47 37.2	-0.1
	493nm,0.3s,baz=180,slow=20,SNR=49						
PMG	Port Moresby	7.20	227		Pn	02 48 53.7	+1.2
CTA	Charters Tower	16.65	201	P	P	02 50 58.9	+0.8
	0.5nm,0.3s,baz=29,slow=12,SNR=5.4						
CTAO	Charters Tower	16.65	201		P	02 50 58.2	+0.2
CTAO				IAmb	IAmb	02 51 00.4	
	comp=Z,16nm,0.7s						
SIJI	Sorong	21.49	279	P	P	02 51 51.3	+0.5
	comp=Z,8.5nm,0.7s,baz=120,slow=9.2,SNR=5.1						
DZM	Mont Dzumac	22.11	144	P	P	02 51 58.6	+1.2
	comp=Z,7.9nm,0.7s,baz=328,slow=13,SNR=15						
DZM	Mont Dzumac	22.11	144	IAmb	IAmb	02 52 00.9	
	comp=Z,8.9nm,0.6s						
WB0	Warramunga Arr	23.27	228	P	P	02 52 08.3	-0.6
WB0				IAmb	IAmb	02 52 10.0	
	comp=Z,22nm,0.8s						
WR0	Warramunga Arr	23.28	227	P	P	02 52 08.4	-0.5
WR0				IAmb	IAmb	02 52 09.7	
	comp=Z,28nm,1.1s						
WRAB	Tennant Creek	23.40	227	P	P	02 52 09.4	-0.8
WB2	Warramunga Arr	23.41	227	P	P	02 52 09.4	-0.8
WRA	Warramunga Arr	23.42	227	P	P	02 52 09.5	-0.7
	comp=Z,18nm,0.5s,baz=51,slow=9.8,SNR=22						
WRA	Warramunga Arr	23.42	227	P	P	02 52 08.7	-1.6
KNRA	Kununurra	25.83	243	P	P	02 52 32.3	+0.2
AS31	Alice Springs	26.17	221	P	P	02 52 34.3	-0.9
AS31				IAmb	IAmb	02 52 39.9	
	comp=Z,3.1nm,0.3s						
ASAR	Alice Springs	26.17	221	P	P	02 52 34.5	-0.7
	comp=Z,2.1nm,0.4s,baz=55,slow=9.1,SNR=21						
H11S3	WAKE ISLAND Hy	26.79	31	T	T	03 20 43.9	
	baz=215						
H11S2	WAKE ISLAND Hy	26.79	31	T	T	03 20 44.5	
	baz=215						
H11S1	WAKE ISLAND Hy	26.80	31	T	T	03 20 41.6	
	baz=215						
STKA	Stephens Creek	29.10	199	P	P	02 53 00.9	-0.3
	comp=Z,1.5nm,0.6s,baz=32,slow=13,SNR=5.5						
STKA	Stephens Creek	29.10	199	IAmb	IAmb	02 53 09.6	
	comp=Z,0.4nm,0.7s						
FORT	Forrest	34.83	219	P	P	02 53 50.5	-0.8
JNU	Nakatsue	42.63	333	P	P	02 54 57.1	+0.6
	comp=Z,10.0nm,0.7s,baz=147,slow=4.6,SNR=9.8						
JNU	Nakatsue	42.63	333	IAmb	IAmb	02 54 58.8	
	comp=Z,13nm,0.8s						
KSRS	Korea Array	47.57	333	P	P	02 55 36.2	+0.7
	comp=Z,1.5nm,0.7s,baz=154,slow=8.8,SNR=5.8						
PETK	Petropavlovsk-	57.55	4	P	P	02 56 49.0	+0.2
	comp=Z,3.4nm,0.9s,baz=159,slow=6.5,SNR=3.7						
SONM	Songino Array	65.89	328	P	P	02 57 45.1	0.0
	comp=Z,0.4nm,0.6s,baz=154,slow=7.0,SNR=3.0						
SONM				PcP	PcP	02 58 15.9	+0.6
	comp=Z,0.4nm,0.5s,baz=136,slow=3.6,SNR=3.6						
MKAR	Makanchi Array	79.88	319	P	P	02 59 07.6	-0.1
	comp=Z,0.6nm,0.5s,baz=95,slow=7.2,SNR=8.8						
ZALV	Zalesovo Beam	80.71	326	P	P	02 59 11.6	-0.3
	comp=Z,1.8nm,0.5s,baz=116,slow=6.0,SNR=5.9						
ILAR	Eielson Array	81.99	22	P	P	02 59 17.8	-0.7
	comp=Z,0.7nm,0.6s,baz=247,slow=5.5,SNR=11						
KURK	Kurchatov	83.32	322	P	P	02 59 25.9	+0.2
KURK	Kurchatov	83.32	322	IAmb	IAmb	02 59 31.6	
	comp=Z,1.3nm,0.7s						
KURBB	Kurchatov Arra	83.35	322	P	P	02 59 25.9	+0.1
	comp=Z,0.4nm,0.3s,baz=114,slow=4.6,SNR=4.4						
BVAR	Borovoye Array	88.80	323	P	P	02 59 51.8	-0.7
	comp=Z,2.3nm,0.5s,baz=108,slow=5.9,SNR=18						
NVAR	Mina Array Bea	92.14	52	P	P	03 00 09.3	+0.5
	comp=Z,0.9nm,0.7s,baz=251,slow=5.7,SNR=8.3						
NVAR	Mina Array Bea	92.14	52	P	P	03 00 10.1	+1.3
SYO	Syowa Base	93.86	199⇓	eP	P	03 00 13.8	-1.9
YKA	Yellowknife Ar	95.30	28	P	P	03 00 22.2	-0.2
	comp=Z,0.7nm,0.7s,baz=271,slow=4.8,SNR=6.7						
PDAR	Pinedale Array	98.87	48	P	Pdif	03 00 39.3	0.0
	comp=Z,0.4nm,0.6s,baz=293,slow=1.1,SNR=3.9						
GERES	GERESS Array B	123.62	328	PKP	PKiKP	03 05 55.9	-0.4
	comp=Z,0.6nm,0.6s,baz=79,slow=2.1,SNR=5.5						
TORD	Torodi Ar. Bea	149.90	289	PKPbc	PKPbc	03 06 49.0	-0.6
	comp=Z,2.0nm,0.4s,baz=70,slow=2.6,SNR=62						
BDFB	Brasilia	151.52	135	PKPbc	PKPbc	03 06 53.5	0.0
	comp=Z,0.8nm,0.3s,baz=223,slow=1.4,SNR=3.2						

IDC 01 02:47:19.8±2.0, 7°.09S×128°.62E, h0km, mb3.8/1, mb1 3.9/5, mb1mx3.6/55, mbtmp3.8/5, ML3.6/3, MS4.6/1, Ms1 4.5/1, ms1mx3.4/37, Error ellipse: s-maj=42.0km s-min=28.1km az=86.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.80	237	Pn	Pn	02 48 48.6	+1.5
	6.2nm,0.3s,baz=68,slow=6.9,SNR=3.7						
BATI				Sn	Sn	02 49 53.6	-0.8
	3.4nm,0.3s,baz=56,slow=18,SNR=2.7						
FITZ	Fitzroy Crossi	11.32	195	Pn	Pn	02 50 02.4	-0.6
	0.2nm,0.3s,baz=13,slow=12,SNR=3.0						
FITZ				Sn	Sn	02 52 04.2	-6.1
	0.4nm,0.3s,baz=138,slow=18,SNR=3.0						
WRA	Warramunga Arr	13.93	157	Pn	Pn	02 50 38.8	+0.2
	baz=332,slow=13,SNR=222						
ASAR	Alice Springs	17.25	163	P	Pn	02 51 22.1	-0.1
	0.1nm,0.3s,baz=340,slow=11,SNR=3.4						
STKA	Stephens Creek	27.47	156	LR	LR	03 04 40.7	
	comp=Z,1μm,19.0s,baz=209,slow=38						
MKAR	Makanchi Array	67.56	327	P	P	02 58 18.0	-0.1
	0.9nm,0.9s,baz=116,slow=8.3,SNR=4.4						

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*ISCJB **01** 02:50:58.6±0.4, 7°.25S±0°.04×128°.95E±0°.06, h10km, mb3.8/8, Error ellipse: s-maj=8.6km s-min=5.1km az=174.3*
*NEIC **01** 02:51:00.5±2.1, 7°.22S±0°.07×129°.01E±0°.07, h10km±2km, mb4.3/11*
*IDC **01** 02:51:07.3±2.3, 7°.01S×128°.77E, h47km±24km, mb3.7/8, mb1 3.9/12, mb1mx3.6/52, mbtmp4.0/12, ML3.7/4, Error ellipse: s-maj=22.4km s-min=20.3km az=109.0*
ISC 01 02:51:01.1±0.6, 7°.23S±0°.06×129°.02E±0°.06, h10km, n30, σ1s.87/32, mb4.0/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.38	108	Pn	Pn	02 51 40.3	+0.1
SOEI	Soe	5.33	242	Pn	Pn	02 52 20.4	-0.4
BATI	Baumata	6.06	240	P	Pn	02 52 34.1	+3.2
	3.8nm,0.3s,baz=346,slow=4.2,SNR=2.9						
BATI				S	Sn	02 53 40.4	0.0
	0.6nm,0.3s,baz=86,slow=16,SNR=3.3						
SIJI	Sorong	6.71	20	P	Pn	02 52 41.8	+2.0
	3.8nm,0.3s,baz=314,slow=13,SNR=7.3						
KNRA	Kununurra	8.40	182	Pn	Pn	02 53 03.6	+0.7
KNRA					Sn	02 54 38.6	+0.7
FITZ	Fitzroy Crossi	11.29	197	S	Sn	02 55 46.3	-2.7
	0.5nm,0.3s,baz=108,slow=20,SNR=5.3						
FITZ	Fitzroy Crossi	11.29	197		Sn	02 55 48.7	-0.3
WRA	Warramunga Arr	13.65	158	P	P	02 54 21.2	-2.7
	0.3nm,0.3s,baz=342,slow=13,SNR=3.8						
WRA				S	Sn	02 56 47.7	+0.9
	0.4nm,0.3s,baz=327,slow=25,SNR=4.3						
WRA	Warramunga Arr	13.65	158		Pn	02 54 14.2	-0.7
WRA					Sn	02 56 48.2	+1.4
ASAR	Alice Springs	17.00	165	P	P	02 55 05.1	+4.0
	0.2nm,0.3s,baz=344,slow=11,SNR=5.7						
ASAR				S	Sn	02 58 05.5	-2.9
	0.1nm,0.3s,baz=343,slow=24,SNR=4.9						
STKA	Stephens Creek	27.18	156	P	P	02 56 49.6	+4.7
	1.5nm,0.8s,baz=330,slow=14,SNR=2.8						
SONM	Songino Array	58.36	342	P	P	03 00 55.8	-0.8
	0.8nm,0.9s,baz=150,slow=6.2,SNR=3.6						
SONM	Songino Array	58.36	342	IAmb	IAmb	03 00 57.9	
	comp=Z,0.8nm,1.0s						
MK31	Makanchi Array	67.89	327	P	P	03 01 58.8	-1.1
MK31				IAmb	IAmb	03 02 00.3	
	comp=Z,2.3nm,0.9s						
MKAR	Makanchi Array	67.89	327	P	P	03 01 59.0	-0.9
	comp=Z,1.1nm,0.7s,baz=126,slow=8.2,SNR=7.6						
MAKZ	Makanchi	68.06	327	P	P	03 01 59.0	-2.0
AAK	Ala-Archa	70.09	320	P	P	03 02 13.1	-0.8
	comp=Z,1.0nm,0.5s,baz=153,slow=9.7,SNR=5.1						
AAK	Ala-Archa	70.09	320	IAmb	IAmb	03 02 20.1	
	comp=Z,2.7nm,0.9s						
GAR	Garm	71.14	315	P	P	03 02 19.8	-0.5
ZAA0	Zalesovo Array	71.36	334	P	P	03 02 19.2	-1.9
ZAA0				IAmb	IAmb	03 02 20.9	
	comp=Z,2.4nm,1.0s						
ZALV	Zalesovo Beam	71.36	334	P	P	03 02 20.1	-1.1
	comp=Z,0.9nm,0.6s,baz=143,slow=5.0,SNR=2.8						
CHGR	Chuyangaron	71.80	315	P	P	03 02 22.7	-1.6
KURBB	Kurchatov Arra	72.20	329	P	P	03 02 25.4	-0.8
	comp=Z,0.8nm,0.7s,baz=131,slow=5.2,SNR=7.4						
KURK	Kurchatov	72.21	329	P	P	03 02 25.4	-0.8
KURK	Kurchatov	72.21	329	IAmb	IAmb	03 02 27.7	
	comp=Z,3.7nm,1.1s						
KK31	Karatay Array	72.87	319	P	P	03 02 28.7	-1.7
KKAR	Karatay Array	72.87	319	P	P	03 02 29.1	-1.4
BVAR	Borovoye Array	77.74	328	P	P	03 02 57.5	-0.7
	comp=Z,0.6nm,0.5s,baz=92,slow=4.6,SNR=5.2						
TIXI	Tiksi	78.72	360	P	P	03 03 03.4	+0.2
ILAR	Eielson Array	93.97	25	P	P	03 04 19.1	+0.1
	comp=Z,0.4nm,0.8s,baz=258,slow=3.6,SNR=3.4						

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*ISCJB **01** 03:01:59.2±0.8, 7°.06S±0°.05×128°.7E±0°.1, h10km, mb3.6/1, Error ellipse: s-maj=14.8km s-min=7.2km az=2.8*
*IDC **01** 03:02:00.6±1.7, 7°.05S×128°.69E, h0km, mb3.6/1, mb1 4.0/6, mb1mx3.7/38, mbtmp3.9/6, ML3.7/5, Error ellipse: s-maj=41.9km s-min=23.5km az=86.0*
ISC 01 03:02:01.4±0.9, 7°.08S±0°.06×128°.9E±0°.1, h10km, n6, σ1s.47/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	6.63	21	Pn	Pn	03 03 40.4	+1.4
	3.3nm,0.3s,baz=193,slow=8.2,SNR=7.8						
SIJI				Sn	Sn	03 04 53.0	-1.6
	0.4nm,0.3s,baz=135,slow=16,SNR=2.0						
KAPI	Kappang	9.28	282	Pn	Pn	03 04 14.5	-0.8
	0.7nm,0.3s,baz=112,slow=14,SNR=3.5						
FITZ	Fitzroy Crossi	11.39	196	Pn	Pn	03 04 45.5	+1.3
	0.3nm,0.3s,baz=18,slow=14,SNR=3.4						
FITZ				Sn	Sn	03 06 51.8	+0.1
	0.5nm,0.3s,baz=286,slow=16,SNR=5.1						
WRA	Warramunga Arr	13.85	158	Pn	Pn	03 05 19.0	+1.1
	0.3nm,0.3s,baz=333,slow=14,SNR=4.6						
WRA				Sn	Sn	03 07 49.9	-2.0
	0.3nm,0.3s,baz=330,slow=22,SNR=6.6						
ASAR	Alice Springs	17.19	164	P	P	03 06 04.0	+0.6
	0.2nm,0.3s,baz=342,slow=10,SNR=9.9						
ASAR				S	Sn	03 09 11.6	-1.6
	0.1nm,0.3s,baz=353,slow=28,SNR=3.4						
MKAR	Makanchi Array	67.67	327	P	P	03 12 58.5	-0.4
	0.4nm,0.6s,baz=130,slow=7.8,SNR=3.8						

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*IDC **01** 03:14:58.6±2.3, 13°.02N×87°.32W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/43, mbtmp3.7/3, ML2.5/1, Error ellipse: s-maj=112.7km s-min=23.9km az=54.0*
*ISCJB **01** 03:14:59.6±1.2, 12°.10N±0°.08×88°.23W±0°.09, h37km±11km, mb3.7/3, Error ellipse: s-maj=18.3km s-min=6.5km az=139.0*
*SNET **01** 03:15:00.0±0.9, 12°.21N×88°.35W, h14km±4km, ML3.1*
*NEIC **01** 03:15:03.6±1.2, 12°.23N±0°.10×87°.94W±0°.08, h73km±15km, mb4.1/7*
ISC 01 03:15:01.2±1.6, 12°.16N±0°.09×88°.21W±0°.09, h49km±17km, n26, σ1s.24/30, mb3.7/5, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	Jucuar¡n	1.08	358	eP	Pn	03 15 19.1	-1.0
JUCU				eS	Sn	03 15 33.3	-0.8
JUCU				IAML		03 15 48.3	
	comp=Z,427nm,0.4s						
CNCH	Conchagua	1.17	18	eP	Pn	03 15 20.9	-0.4
LCND	La Caada	1.18	15⇑	eP	Pn	03 15 20.8	-0.6
LCY	Lacayo	1.26	356	eP	Pn	03 15 22.0	-0.5
VSM	San Miguel	1.26	357	eP	Pn	03 15 22.5	-0.2
TECA	Tecapa	1.35	348	eP	Pn	03 15 22.9	-1.0
COEB	Comit de Eme	1.36	347	eP	Pn	03 15 23.1	-0.9
COEB				eS	Sn	03 15 41.0	0.0
COEB				IAML		03 15 51.7	
	comp=Z,312nm,0.4s						
FAGO	Alcalda de S	1.53	4	eP	Pn	03 15 25.9	-0.2
FAGO				eS	Sn	03 15 47.1	+2.3
COEG	Centro de Oper	1.59	336	eP	Pn	03 15 26.3	-0.8
COEG				eS	Sn	03 15 47.2	+0.8
COEG				IAML		03 15 51.0	
	comp=Z,236nm,0.4s						
PAVA	Las Pavas	1.70	335	eP	Pn	03 15 27.7	-0.9
PAVA				eS	Sn	03 15 49.0	-0.1
PAVA				IAML		03 15 55.0	
	comp=Z,258nm,0.4s						
LFU	La Fuente	1.81	331	eP	Pn	03 15 29.5	-0.4
SNET	Serv Nac Est T	1.81	327	Pn	Pn	03 15 34.3	+4.2
ESTN	Estel	2.02	62	Pn	Pn	03 15 31.7	-1.3
TGUH	Tegucigalpa,Un	2.09	26		Pn	03 15 34.1	+0.2
JTS	Las Juntas de	3.70	120	Pn	Pn	03 15 55.4	-0.5
	comp=Z,0.4nm,0.3s,baz=340,slow=14,SNR=6.0						
JTS				Sn	Sn	03 16 39.1	+0.9
	comp=Z,1.0nm,0.3s,baz=331,slow=16,SNR=4.1						
833A	Chaparral WMA,	19.18	329	P	Pn	03 19 22.7	+0.6
833A				IAmb	IAmb	03 19 23.7	
	comp=Z,16nm,0.8s						
TX31	Lajitas Ar. Si	22.34	322	P	P	03 19 57.1	+2.0
TX31				IAmb	IAmb	03 20 05.5	
	comp=Z,1.4nm,0.8s						
TX32	Lajitas Array	22.34	322	P	P	03 19 57.4	+2.4
TXAR	Lajitas Array	22.34	322	P	P	03 19 57.0	+2.0
	comp=Z,1.1nm,0.8s,baz=146,slow=11,SNR=11						
TXAR	Lajitas Array	22.34	322	P	P	03 19 56.9	+1.9
X34A	Smith Ranch, M	23.99	340	P	P	03 20 12.5	+1.2
FNO	Franklin	24.46	342	P	P	03 20 16.8	+1.3
AMTX	Amarillo	25.72	334	P	P	03 20 27.8	+0.7
AMTX				IAmb	IAmb	03 20 28.7	
	comp=Z,4.6nm,0.8s						
ULM	Lac du Bonnet	38.50	352	P	P	03 22 16.4	-2.1
	comp=Z,2.4nm,0.6s,baz=174,slow=8.9,SNR=5.2						
ULM	Lac du Bonnet	38.50	352	IAmb	IAmb	03 22 18.0	
	comp=Z,3.0nm,0.8s						
YKA	Yellowknife Ar	53.70	345	P	P	03 24 17.5	-0.3
	comp=Z,0.5nm,0.7s,baz=140,slow=6.9,SNR=3.7						

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*NCEDC **01** 03:19:33.6, 41°.68N×127°.38W, h5km*
*ISCJB **01** 03:19:35.4±0.8, 41°.73N±0°.02×126°.95W±0°.03, h0km±5km, mb5.2/114, MS5.2/18, Error ellipse: s-maj=3.9km s-min=2.7km az=37.5*
*MOS **01** 03:19:36.4±1.0, 41°.67N×126°.93W, h10km, mb5.4/65, MS5.3/5, Error ellipse: s-maj=7.8km s-min=5.0km az=93.9*
*IDC **01** 03:19:36.5±0.5, 41°.81N×126°.92W, h0km, mb4.8/33, mb1 4.9/39, mb1mx4.8/60, mbtmp4.8/39, ML3.8/6, MS5.0/13, Ms1 5.1/13, ms1mx4.8/32, Error ellipse: s-maj=12.8km s-min=7.5km az=28.0*
*NEIC **01** 03:19:38.1±1.9, 41°.68N±0°.05×126°.88W±0°.09, h10km±2km, mb5.2/228, Ms_20 5.2/286, Mwr5.5, Mww5.5, Mwc5.5(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr-1.09; Mθθ0.36; Mφφ0.73; Mrθ-0.22; Mθφ-0.18; Mφr-1.95; Fault plane solution: Mo2.19000×10^17 NP1:φs158.53000°, δ13.59000°, λ-114.30000°. NP2:φs3.44000°, δ77.63000°, λ-84.32000°. Principal axes: T 1.9741, Plg32.0000°, Azm89.0000°; N 0.3851, Plg6.0000°, Azm182.0000°; P -2.3592, Plg57.0000°, Azm281.0000°;*
*BJI **01** 03:19:39.2±0.0, 42°.39N×127°.77W, h5km, mb5.2/48, mB5.7/34, Ms5.5/34, Ms7 5.4/33*
*NEIC **01** 03:19:40, 41°.74N×127°.17W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr-2.28; Mθθ0.25; Mφφ2.03; Mrθ-0.66; Mθφ0.36; Mφr-0.27; Fault plane solution: Mo2.31000×10^17 NP1:φs179.00000°, δ41.00000°, λ-109.00000°. NP2:φs24.00000°, δ52.00000°, λ-74.00000°. Principal axes: T 2.1373, Plg5.0000°, Azm103.0000°; N 0.3104, Plg13.0000°, Azm194.0000°; P -2.4478, Plg76.0000°, Azm350.0000°;*
*GCMT **01** 03:19:40.1±0.3, 41°.67N±0°.03×127°.18W±0°.02, h17km, MW5.5/126, Moment Tensor Solution. s44,c52; s126,c203; Duration: 1s.5 Moment tensor: Scale 10^17 Nm; Mrr-2.38±.11; Mθθ0.27±.07; Mφφ2.10±.07; Mrθ-0.97±.26; Mθφ0.39±.04; Mφr-0.48±.18; Best double couple: Mo2.50400×10^17 NP1:φs29.00000°, δ56.00000°, λ-71.00000°. NP2:φs177.00000°, δ39.00000°, λ-115.00000°. Principal axes: T 2.2850, Plg9.0000°, Azm105.0000°; N 0.4310, Plg15.0000°, Azm198.0000°; P -2.7220, Plg72.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*ANF **01** 03:19:41.4±1.1, 41°.84N×126°.62W, h5km, ML4.6/20 Error ellipse: s-maj=13.1km s-min=4.6km az=76.0*
*NEIC **01** 03:19:46, 41°.71N×126°.84W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr-1.65; Mθθ0.07; Mφφ1.58; Mrθ-0.41; Mθφ0.13; Mφr-1.82; Fault plane solution: Mo2.47000×10^17 NP1:φs180.00000°, δ21.00000°, λ-100.00000°. NP2:φs11.00000°, δ70.00000°, λ-86.00000°. Principal axes: T 2.4356, Plg25.0000°, Azm98.0000°; N 0.0745, Plg4.0000°, Azm189.0000°; P -2.5102, Plg65.0000°, Azm287.0000°;*
ISC 01 03:19:39.0±1.2, 41°.71N±0°.05×126°.93W±0°.05, h15km±6km, n902, σ1s.25/723, mb5.2/210, MS5.2/159, 46C-10D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	Bosley Butte	2.08	75		Pn	03 20 10.8	-2.6
KEBM	Edson Butte	2.25	58		Sn	03 20 41.9	-1.4
KEBM	Edson Butte	2.25	58		Pn	03 20 13.9	-1.8
KRPM	Rodgers	2.25	103		Pn	03 20 13.2	-2.5
KRMB	Red Mountain	2.27	94	Pn	Pn	03 20 14.7	-1.4
KSXB	Camp Six Broad	2.29	86		Pn	03 20 13.9	-2.3
KCTM	Capetown	2.31	121		Pn	03 20 14.7	-1.8
JCC	Jacoby Creek,	2.36	111		Pn	03 20 13.9	-3.2
JCC					Sn	03 20 44.2	-1.5
KMPM	Mount Pierce	2.48	120		Pn	03 20 16.6	-2.3
L02E	Cave Junction	2.52	79	P	Pn	03 20 18.1	-1.4
	baz=262,SNR=232						
L02E	Cave Junction	2.52	79		Pn	03 20 16.7	-2.7
KHMM	Horse Mountain	2.55	108		Pn	03 20 17.3	-2.6
KSMM	Slide Mountain	2.58	125		Pn	03 20 17.0	-3.3
K02D	Willamette Mer	2.62	67	P	Pn	03 20 19.1	-1.7
	baz=251,SNR=114						
KOMM	Orleans Mounta	2.65	98		Pn	03 20 19.3	-1.9
J01E	Myrtle Point	2.66	56	P	Pn	03 20 19.3	-1.9
	baz=241,SNR=69						
KTRM	Thompson Ridge	2.67	84		Pn	03 20 19.6	-1.9
KCRM	Chalk Rock	2.68	117		Pn	03 20 18.9	-2.7
KCSM	Cold Springs	2.83	113		Pn	03 20 21.4	-2.4
KMRM	Mail Ridge	2.85	120		Pn	03 20 22.1	-1.9
KHBM	Hayfork Bally	2.99	109		Pn	03 20 23.7	-2.3
KPPM	Pickett Peak	3.02	116		Pn	03 20 25.1	-1.3
DBO	Dodson Butte	3.08	61		Pn	03 20 24.9	-2.2
M02C	Callahan	3.08	94	P	Pn	03 20 26.2	-0.9
	baz=276,SNR=607						
M02C				S	Sn	03 21 05.9	+2.4
	baz=276						
M02C	Callahan	3.08	94		Pn	03 20 25.3	-1.7
HUMO	Hull Mountain	3.09	72		Pn	03 20 24.9	-2.3
KBSM	Bell Springs	3.10	124		Pn	03 20 25.7	-1.7
YBH	Yreka Blue Hor	3.16	88	P	Pn	03 20 27.5	-0.7
YBH	Yreka Blue Hor	3.16	88	Pn	Pn	03 20 27.8	-0.4
	23nm,0.3s,baz=268,slow=12,SNR=310						
YBH				Sn	Sn	03 21 06.0	+0.4
	5.1nm,0.3s,baz=141,slow=20,SNR=3.0						
YBH				LR	LR	03 21 32.3	
	comp=Z,24μm,20.4s,baz=246,slow=37						
YBH	Yreka Blue Hor	3.16	88		Pn	03 20 27.6	-0.7
LGPM	Granite Peak	3.19	103		Pn	03 20 26.7	-1.9
LAMM	Antelope Mount	3.23	90		Pn	03 20 28.4	-0.8
KIPM	Iron Peak	3.23	125		Pn	03 20 27.0	-2.3
KCPM	Cahto Peak	3.25	127		Pn	03 20 27.3	-2.2
N02D	Trinity Center	3.26	102	P	Pn	03 20 28.5	-1.2
	baz=283,SNR=160						
N02D	Trinity Center	3.26	102		Pn	03 20 28.1	-1.5
I02D	Swisshome	3.30	42	P	Pn	03 20 29.0	-1.0
	baz=228,SNR=198						
I02D				S	Sn	03 21 07.0	-2.0
	baz=228						
I03D	Drain, OR	3.31	52	P	Pn	03 20 28.4	-1.7
	baz=237,SNR=208						
L04D	Klamath Falls	3.49	80	P	Pn	03 20 31.7	-1.1
	baz=264,SNR=130						
O02D	Mt. Diablo Mer	3.49	115	P	Pn	03 20 31.1	-1.6
	baz=295,SNR=56						
O02D				S	Sn	03 21 16.3	+2.5
	baz=295						
WDC	Whiskeytown Da	3.50	107	P	Pn	03 20 31.0	-1.8
WDC	Whiskeytown Da	3.50	107		Pn	03 20 31.0	-1.8
M04C	Macdoel	3.81	87	P	Pn	03 20 36.8	-0.4
	baz=270,SNR=176						
J04D	Umpqua Nationa	3.88	65	P	Pn	03 20 38.0	-0.3
	baz=250,SNR=142						
COR	Corvallis	3.92	41	P	Pn	03 20 37.9	-0.6
COR	Corvallis	3.92	41		Pn	03 20 37.9	-0.6
I04A	Tendick Farm,	3.93	56	P	Pn	03 20 37.6	-1.2
	baz=242,SNR=159						
I04A				S	Sn	03 21 22.9	-1.7
	baz=242						
K04D	Chiloquin, OR	3.96	75	P	Pn	03 20 38.6	-0.6
	baz=259,SNR=9.9						
O03E	Paynes Creek	4.13	108	P	Pn	03 20 40.8	-0.7
	baz=290,SNR=100						
O03E				S	Sn	03 21 31.6	+2.0
	baz=290						
H04D	Lebanon	4.17	46	P	Pn	03 20 40.9	-1.0
	baz=232,SNR=162						

H04D S Sn 03 21 29.5 -0.8
baz=232
GDXM Geysers 4.29 131 Pn 03 20 42.9 -0.8
G03D McMinnville, O 4.41 36 P Pn 03 20 44.3 -1.0
baz=222,SNR=69
J05D Fort Rock, OR 4.50 68 P Pn 03 20 45.6 -1.1
baz=253,SNR=51
ORV Oroville 4.66 116 P Pn 03 20 46.7 -2.0
ORV Oroville 4.66 116 Pn 03 20 46.7 -2.0
MCCM Marconi Confer 4.73 137 Pn 03 20 48.1 -1.5
I05D Terrebonne, OR 4.87 55 P Pn 03 20 51.2 -0.5
baz=241,SNR=34
PINE Pine Mountain 4.88 63 Pn 03 20 51.3 -0.7
F04D Rainier, OR 5.21 32 P Pn 03 20 57.6 +1.2
baz=217,SNR=9.6
BEKR Beckworth 5.32 108 Pn 03 20 57.2 -0.7
G05D Wamic, OR 5.40 47 P Pn 03 20 59.1 +0.1
baz=233,SNR=18
E04D Cinebar 5.78 31 P Pn 03 21 04.6 +0.5
baz=217,SNR=77
PAHR Pah Rah Range 6.07 107 Pn 03 21 08.4 +0.1
PNTR Pine Nut 6.18 113 Pn 03 21 10.3 +0.5
D04E Lakebay 6.23 27 P Pn 03 21 11.4 +1.1
baz=212
D03D Eldon 6.44 24 P Pn 03 21 13.7 +0.5
baz=209,SNR=16
SAO San Andreas Ge 6.51 137 P Pn 03 21 11.5 -2.7
SAO San Andreas Ge 6.51 137 Pn 03 21 11.6 -2.7
D05A Enumclaw 6.52 31 Pn 03 21 15.9 +1.6
G08A Pilot Rock 6.81 56 Pn 03 21 19.2 +0.7
E07A Sunnyside 7.03 44 Pn 03 21 21.7 +0.4
PMPB Monarch Peak 7.27 137 Pn 03 21 24.4 -0.3
NVAR Mina Array Bea 7.38 113 Pn Pn 03 21 27.1 +0.8
1.9nm,0.3s,baz=280,slow=14,SNR=32
NVAR LR LR 03 24 35.5
comp=Z,21µm,18.3s,baz=285,slow=40
NVAR Mina Array Bea 7.38 113 Pn 03 21 26.9 +0.5
B05A Bryant 7.40 26 P Pn 03 21 26.7 +0.4
baz=212,SNR=26
E08A Dider Farm, El 7.41 47 Pn 03 21 26.0 -0.5
MLAC Mammoth, Mammo 7.45 120 P Pn 03 21 31.4 +4.1
baz=304,SNR=11
C06D Leavenworth 7.55 33 P Pn 03 21 29.3 +0.8
baz=219,SNR=15
VOG Valley Oaks Go 7.96 130 P Pn 03 21 35.2 +1.1
baz=313,SNR=8.4
TIN Tinemaha, Big 8.18 122 P Pn 03 21 41.8 +4.6
baz=306,SNR=18
VES Vestal, Richgr 8.47 131 P Pn 03 21 41.8 +0.7
baz=315,SNR=44
PLID Pearl Lake 8.65 63 Pn 03 21 43.2 -0.4
CWC Cottonwood Cre 8.66 124 P Pn 03 21 46.6 +2.8
baz=309
GRAC Grapevine Rang 8.77 119 P Pn 03 21 50.2 +5.0
baz=304,SNR=15
PKM Mcpherson Peak 8.81 138 S Sn 03 23 24.3 -0.6
baz=321
ELK Elko 8.86 92 Pn Pn 03 21 48.6 +1.9
0.2nm,0.3s,baz=281,slow=14,SNR=39
ISA Isabella, Lake 8.95 130 P Pn 03 21 49.5 +1.8
baz=314,SNR=63
ARVC Arvin 9.14 133 P Pn 03 21 52.1 +1.9
baz=317,SNR=16
MPMC Manual Prospec 9.27 124 P Pn 03 21 54.6 +2.4
baz=309,SNR=34
R11A Troy Canyon, C 9.32 107 P Pn 03 21 56.1 +3.2
baz=294,SNR=24
FURC Furnace Creek, 9.41 120 P Pn 03 21 59.8 +5.9
baz=306
TPNV Topopah Spring 9.54 116 P Pn 03 21 57.9 +2.0
baz=302,SNR=27
NEW Newport 9.55 43 P Pn 03 21 57.7 +1.9
baz=232,SNR=12
NEW Newport 9.55 43 Pn Pn 03 21 56.9 +1.0
0.3nm,0.3s,baz=215,slow=10,SNR=12
NEW LR LR 03 25 42.5
comp=Z,14µm,19.3s,baz=216,slow=39
OSI Osito Audit: C 9.58 135 P Pn 03 21 58.8 +2.4
baz=319
EDW2 Edwards Air Fo 9.78 131 P Pn 03 22 00.4 +1.3
baz=316,SNR=25
SHOC Shoshone, Teco 10.13 121 P Pn 03 22 09.0 +5.2
baz=307,SNR=11
GSC Goldstone, Bar 10.19 126 P Pn 03 22 06.2 +1.5
baz=311,SNR=9.0
RRX Edison Barstow 10.36 128 P Pn 03 22 09.9 +2.9
baz=313,SNR=9.0
BFSC Mount Baldy Ra 10.44 133 P Pn 03 22 10.1 +1.9
baz=317,SNR=10
BGU Big Grassy Mou 10.49 90 Pn 03 22 10.1 +1.3
PSUT Pine Spring 10.50 103 Pn 03 22 11.0 +1.9
BBB Bella Bella 10.52 356 Pn Pn 03 22 11.0 +2.0
0.4nm,0.3s,baz=201,slow=14,SNR=2.7
BBB LR LR 03 25 20.1
comp=Z,3µm,19.1s,baz=134,slow=33
MSO Missoula 10.63 57 P Pn 03 22 11.7 +1.0
baz=247,SNR=51
TUQ Turquoise Moun 10.64 122 P Pn 03 22 14.8 +3.8
baz=308,SNR=15
DUG Dugway, Tooele 10.79 93 P Pn 03 22 15.1 +2.2
baz=282,SNR=61
HEC Hector,Ludlow 10.79 126 P Pn 03 22 14.5 +1.6
baz=312,SNR=25
GMRC Granite Mounta 11.23 124 P Pn 03 22 22.2 +3.2
baz=310,SNR=9.6
PFO Pinyon Flats O 11.57 131 P Pn 03 22 25.6 +1.9
baz=316
PFO Pinyon Flats O 11.57 131 Pn Pn 03 22 25.7 +2.0
0.3nm,0.3s,baz=310,slow=6.0,SNR=9.6
PFO LR LR 03 26 48.7
comp=Z,9µm,18.7s,baz=300,slow=37
BOZ Bozeman (W) 11.75 66 P Pn 03 22 27.4 +1.4
baz=257,SNR=35
IRM Iron Mountain 11.96 125 P Pn 03 22 30.9 +2.0
baz=312
PKCU Pink Cliffs 12.05 106 Pn 03 22 33.4 +3.0
BC3 Big Chuckawall 12.12 128 P Pn 03 22 33.1 +1.8
baz=314,SNR=8.2
MONP2 Monument Peak 12.13 133 P Pn 03 22 33.4 +2.0
baz=318
H17A Grant Village 12.26 72 P Pn 03 22 33.3 +0.1
baz=263,SNR=6.5
Y12C Blythe 12.62 125 P Pn 03 22 39.5 +1.6
baz=312,SNR=18
BW06 Boulder Array 12.92 79 P Pn 03 22 44.2 +2.0
baz=271,SNR=37
PDAR Pinedale Array 12.92 79 Pn Pn 03 22 44.5 +2.2
0.1nm,0.3s,baz=270,slow=8.8,SNR=20
PDAR LR LR 03 28 06.4
comp=Z,11µm,20.4s,baz=274,slow=40
PDAR Pinedale Array 12.92 79 Pn 03 22 43.5 +1.3
RLMT Red Lodge 13.29 69 P Pn 03 22 50.3 +3.2
baz=262
WUAZ Wupatki 13.64 112 P Pn 03 22 56.0 +4.1
baz=301,SNR=52
EGMT Eagleton 13.71 57 P Pn 03 22 53.6 +0.9
baz=250,SNR=12
O20A White River Ci 14.22 90 P Pn 03 23 02.7 +2.8
baz=282,SNR=29
CRAG Craig 14.36 346 P P 03 23 11.0 +2.5
214A Organ Pipe Nat 14.90 126 P P 03 23 12.1 -2.6
baz=314,SNR=17
MVCO Mesa Verde 14.93 101 P P 03 23 13.6 -1.6
baz=293,SNR=63
W18A Petrified Fore 14.99 110 P P 03 23 15.1 -0.7
baz=301,SNR=20
X18A Snowflake 15.15 113 IAmb IAmb 03 23 25.9
comp=Z,136nm,1.3s
K22A Casper 15.16 80 P Pn 03 23 13.4 +0.8
baz=274,SNR=8.6
LAO LASA Array 15.65 64 P P 03 23 25.5 +2.6
baz=259,SNR=38
LAO LASA Array 15.65 64 IAmb IAmb 03 23 28.4
comp=Z,375nm,1.4s
N23A Red Feather La 15.79 86 P Pn 03 23 20.5 -0.5
baz=280,SNR=36
TUC Tucson 15.92 121 P P 03 23 25.4 -0.7
baz=310
TUC Tucson 15.92 121 P P 03 23 25.5 -0.6
TUC pmax pmax
comp=Z,44nm,1.2s
TUC Tucson 15.92 121 P P 03 23 25.5 -0.6
S22A 4UR Ranch, Cre 15.96 98 P P 03 23 27.5 +0.8
baz=290,SNR=84
PHWY Pilot Hill 16.09 84 Pn 03 23 25.0 +0.1
ISCO Idaho Springs 16.26 90 P Pn 03 23 27.9 +0.8
baz=284,SNR=40

ISCO Idaho Springs 16.26 90 P Pn 03 23 26.5 -0.6
ISCO pmax pmax
comp=Z,43nm,1.2s
ISCO Idaho Springs 16.26 90 Pn Pn 03 23 26.4 -0.6
Q24A Divide 16.83 92 P P 03 23 36.9 +0.5
baz=286,SNR=37
DLBC Dease Lake 16.86 354 Pn P 03 23 36.5 +0.1
comp=Z,0.2nm,0.3s,baz=172,slow=11,SNR=7.1
RSSD Black Hills 16.94 74 P Pn 03 23 36.2 +0.7
baz=270
RSSD Black Hills 16.94 74 P Pn 03 23 32.3 -3.2
RSSD pmax pmax
comp=Z,9.0nm,1.2s
RSSD Black Hills 16.94 74 Pn Pn 03 23 32.3 -3.2
SDCO Great Sand Dun 16.95 96 P P 03 23 38.3 +0.7
baz=290,SNR=167
SDCO Great Sand Dun 16.95 96 P 03 23 38.1 +0.5
DGMT Dagmar 17.39 59 P P 03 23 42.8 +0.7
baz=256,SNR=62
DGMT Dagmar 17.39 59 P 03 23 41.5 -0.6
ANMO Albuquerque 17.41 106 P P 03 23 43.6 +1.0
baz=299
ANMO Albuquerque 17.41 106 *ce*P P 03 23 43.0 +0.4
ANMO pmax pmax
comp=Z,37nm,1.3s
ANMO Albuquerque 17.41 106 P P 03 23 44.0 +1.3
comp=Z,0.2nm,0.3s,baz=305,slow=12,SNR=28
ANMO LR LR 03 30 52.3
comp=Z,8µm,18.9s,baz=9.0,slow=39
ANMO Albuquerque 17.41 106 P P 03 23 44.5 +1.8
121A Cookes Peak, D 17.77 115 P P 03 23 50.1 +3.4
baz=306,SNR=41
T25A Trinidad 17.97 97 P P 03 23 50.2 +1.3
baz=292,SNR=82
T25A Trinidad 17.97 97 IAmb IAmb 03 23 58.2
comp=Z,130nm,1.0s
KSCO Kaye Shedlock' 18.70 90 P Pn 03 23 58.7 +1.4
baz=286,SNR=20
KSCO Kaye Shedlock' 18.70 90 IAmb IAmb 03 24 02.3
comp=Z,194nm,1.1s
OGNE Ogallala 18.70 84 P Pn 03 23 58.2 +1.0
baz=281,SNR=22
OGNE Ogallala 18.70 84 P P 03 23 56.4 -0.4
OGNE IAmb IAmb 03 24 01.4
comp=Z,159nm,1.2s
MNTX Cornudas Mount 19.91 113 P Pn 03 24 12.2 +0.5
MNTX IAmb IAmb 03 24 18.4
comp=Z,91nm,1.1s
MDND Maddock 20.29 63 P Pn 03 24 17.5 +1.5
baz=263,SNR=16
MDND Maddock 20.29 63 IAmb IAmb 03 24 24.8
comp=Z,296nm,1.4s
MDND IAMs_20 IAMs_20 03 32 20.7
comp=Z,11µm,20.0s
MSTX Muleshoe 20.54 104 P Pn 03 24 20.5 +1.4
baz=299,SNR=26
SUSD Miller 20.58 73 P P 03 24 18.0 +0.8
baz=272,SNR=28
SUSD Miller 20.58 73 IAMs_20 IAMs_20 03 32 36.5
comp=Z,7µm,18.0s
AMTX Amarillo 20.91 101 P Pn 03 24 23.6 +0.1
baz=296
AMTX Amarillo 20.91 101 IAmb IAmb 03 24 33.0
comp=Z,75nm,0.9s
AMTX IAMs_20 IAMs_20 03 31 51.6
comp=Z,13µm,20.0s
CBKS Cedar Bluff 20.92 89 P Pn 03 24 24.2 +0.7
baz=287,SNR=30
CBKS Cedar Bluff 20.92 89 IAMs_20 IAMs_20 03 32 31.7
comp=Z,8µm,22.0s
FFC Flin Flon 20.98 43 *ce*P P 03 24 21.3 -0.1
FFC Flin Flon 20.98 43 P P 03 24 20.9 -0.4
FFC IAmb IAmb 03 24 29.7
comp=Z,196nm,1.1s
FFC Flin Flon 20.98 43 IAMs_20 IAMs_20 03 32 44.5
comp=Z,10µm,18.0s
CTGM Chitina Glacie 21.19 340 P P 03 24 23.7 0.0
CTGM IAmb IAmb 03 24 31.9
comp=Z,356nm,1.9s
HMT Hamilton 21.48 336 IAMs_20 IAMs_20 03 30 31.2
comp=Z,6µm,19.0s
BGNE Belgrade 21.50 81 P P 03 24 29.6 +2.4
baz=280,SNR=37
BGNE Belgrade 21.50 81 IAMs_20 IAMs_20 03 33 08.9
comp=Z,8µm,20.0s
BALM Baldy 21.51 339 P P 03 24 27.5 +0.3
RAGM Ragged Mountai 21.65 336 IAMs_20 IAMs_20 03 30 25.6
comp=Z,7µm,22.0s
YKA Yellowknife Ar 22.08 15 P P 03 24 31.5 -1.6
YKA 03 28 29.2
YKA Yellowknife Ar 22.08 15 P P 03 24 32.2 -0.8
comp=Z,25nm,0.9s,baz=205,slow=10,SNR=39
YKA PcP PcP 03 28 29.7 -0.4
comp=Z,4.2nm,0.9s,baz=192,slow=2.3,SNR=7.6
YKA Yellowknife Ar 22.08 15 P P 03 24 31.5 -1.6
YKA PcP 03 28 29.2 -0.9
EYAK Cordova Ski Ar 22.11 335 IAMs_20 IAMs_20 03 30 48.9
comp=Z,8µm,20.0s
YKW3 Yellowknife Ar 22.14 15 P P 03 24 32.6 -1.1
YKW3 IAmb IAmb 03 24 39.0
comp=Z,73nm,1.1s
HIN Hinchinbrook I 22.24 334 IAMs_20 IAMs_20 03 30 58.3
comp=Z,8µm,18.0s
GLB Gilahina Butte 22.24 338 P P 03 24 36.1 +1.2
ECSD EROS Data Cent 22.31 75 P P 03 24 35.7 -0.1
baz=276,SNR=44
ECSD EROS Data Cent 22.31 75 P P 03 24 36.0 +0.2
ECSD EROS Data Cent 22.31 75 IAMs_20 IAMs_20 03 33 42.2
comp=Z,7µm,18.0s
FID Port Fidalgo 22.50 335 P P 03 24 38.9 +1.3
FID IAMs_20 IAMs_20 03 30 49.7
comp=Z,7µm,22.0s
TXAR Lajitas Array 22.52 116 P P 03 24 38.8 +0.6
TXAR Lajitas Array 22.52 116 P P 03 24 40.2 +2.0
comp=Z,34nm,1.0s,baz=268,slow=5.5,SNR=12
TXAR Lajitas Array 22.52 116 P P 03 24 38.8 +0.6
GLI Glacier Island 22.79 334 P P 03 24 38.6 -2.2
GLI IAmb IAmb 03 24 45.3
comp=Z,82nm,1.2s
AGMN Agassiz Nation 22.83 63 P P 03 24 41.8 +0.5
baz=265,SNR=74
AGMN Agassiz Nation 22.83 63 IAmb IAmb 03 24 51.2
comp=Z,102nm,1.1s
AGMN IAMs_20 IAMs_20 03 33 46.9
comp=Z,7µm,19.0s
KDAK Kodiak Island 22.89 323 P P 03 24 41.6 -0.1
KDAK pmax pmax
comp=Z,25nm,1.1s
KDAK Kodiak Island 22.89 323 LR LR 03 31 12.9
comp=Z,5µm,20.4s,baz=125,slow=30
KDAK Kodiak Island 22.89 323 P P 03 24 41.6 -0.1
OHAK Old Harbor 22.91 322 IAmb IAmb 03 24 50.2
comp=Z,119nm,1.4s
SEW Seward 23.05 331 IAMs_20 IAMs_20 03 31 11.0
comp=Z,6µm,20.0s
ULM Lac du Bonnet 23.07 58 P P 03 24 43.3 -0.5
ULM pmax pmax
comp=Z,240nm,1.2s
ULM Lac du Bonnet 23.07 58 P P 03 24 43.5 -0.3
comp=Z,113nm,1.1s,baz=262,slow=9.7,SNR=29
ULM Lac du Bonnet 23.07 58 P P 03 24 43.3 -0.5
WMOK Wichita Mounta 23.12 98 P P 03 24 46.6 +2.2
baz=296,SNR=32
WMOK Wichita Mounta 23.12 98 IAMs_20 IAMs_20 03 33 13.0
comp=Z,7µm,22.0s
BCAR Beaver Creek A 23.12 343 P P 03 24 44.9 +0.7
KSU1 Kansas State U 23.18 86 P P 03 24 45.6 +0.6
baz=286,SNR=23
KSU1 Kansas State U 23.18 86 IAMs_20 IAMs_20 03 34 24.4
comp=Z,9µm,22.0s
CNPM China Post 23.36 328 IAMs_20 IAMs_20 03 31 20.3
comp=Z,6µm,20.0s
ABTX Abilene, Hawle 23.48 104 IAMs_20 IAMs_20 03 30 57.7
comp=Z,9µm,18.0s
DAWY Dawson 23.54 346 IAmb IAmb 03 24 57.9
comp=Z,123nm,1.3s
HOM Homer 23.60 328 IAMs_20 IAMs_20 03 31 27.9
comp=Z,5µm,19.0s
RC01 Rabbit Creek A 23.84 332 IAmb IAmb 03 25 01.9
comp=Z,129nm,1.6s
X34A Smith Ranch, M 23.88 98 IAMs_20 IAMs_20 03 34 30.2
comp=Z,7µm,18.0s
SML Sawmill 23.88 335 P P 03 24 52.3 +0.6
SML IAmb IAmb 03 25 01.8
comp=Z,42nm,1.0s
SML IAMs_20 IAMs_20 03 31 54.8
comp=Z,6µm,20.0s

PMR Palmer 23.99 334 P P 03 24 53.4 +0.9
PMR pmax pmax
comp=Z,65nm,1.2s
PMR Palmer 23.99 334 P P 03 24 53.4 +0.9
PMR IAmb IAmb 03 25 02.9
comp=Z,65nm,1.2s
SCRK Sand Creek 24.41 342 P P 03 24 56.9 +0.3
RIDG Independent Ri 24.42 341 IAMs_20 IAMs_20 03 32 27.7
comp=Z,7µm,22.0s
EGAK Eagle 24.51 345 P P 03 24 58.3 +0.9
DHY Denali Highway 24.56 338 IAmb IAmb 03 25 08.0
comp=Z,52nm,1.0s
SPMN Marine on St. 24.91 70 IAmb IAmb 03 25 11.6
comp=Z,51nm,1.1s
SCIA State Center 25.04 78 IAMs_20 IAMs_20 03 35 30.7
comp=Z,10µm,19.0s
SKT Skwentna 25.07 332 IAMs_20 IAMs_20 03 32 46.4
comp=Z,6µm,19.0s
RND Reindeer 25.24 337 IAmb IAmb 03 25 13.4
comp=Z,70nm,1.3s
RND IAMs_20 IAMs_20 03 33 17.7
comp=Z,6µm,18.0s
EPYK Eagle Plains 25.31 351 P P 03 25 05.0 +0.3
baz=164,SNR=75
HDA Harding Lake 25.50 340 IAmb IAmb 03 25 10.9
comp=Z,56nm,1.5s
MCK McKinley 25.51 337 IAmb IAmb 03 25 16.4
comp=Z,70nm,1.2s
MCK IAMs_20 IAMs_20 03 33 00.8
comp=Z,5µm,20.0s
TRF Thorofare Moun 25.71 336 P P 03 25 10.0 +1.6
TRF IAmb IAmb 03 25 17.2
comp=Z,86nm,1.4s
TRF PcP PcP 03 28 38.4 +0.3
EYMN Ely 25.73 64 P P 03 25 10.3 +1.7
baz=270,SNR=21
EYMN Ely 25.73 64 IAMs_20 IAMs_20 03 35 42.9
comp=Z,9µm,18.0s
IL31 25.78 340 P P 03 25 09.3 +0.5
IL31 PcP 03 28 38.1 +0.1
ILAR Eielson Array 25.78 340 P P 03 25 09.2 +0.3
ILAR 03 28 36.7
ILAR Eielson Array 25.78 340 P P 03 25 08.2 -0.7
comp=Z,8.8nm,1.0s,baz=154,slow=8.0,SNR=34
ILAR PcP PcP 03 28 37.8 -0.3
comp=Z,6.5nm,0.9s,baz=183,slow=1.5,SNR=14
ILAR LR LR 03 33 29.3
comp=Z,3µm,21.4s,baz=120,slow=32
ILAR Eielson Array 25.78 340 P P 03 25 09.2 +0.3
ILAR PcP 03 28 36.7 -1.4
CCB Clear Creek Bu 25.91 339 P P 03 25 11.0 +1.0
CCB IAmb IAmb 03 25 18.9
comp=Z,42nm,1.3s
CCB PcP PcP 03 28 38.5 +0.2
PPLA Purkeypile 25.93 333 IAMs_20 IAMs_20 03 33 07.8
comp=Z,6µm,20.0s
KTH Kantishna Hill 25.98 335 IAmb IAmb 03 25 20.9
comp=Z,65nm,1.6s
KTH IAMs_20 IAMs_20 03 33 12.1
comp=Z,5µm,18.0s
SVW2 Sparrevohn 26.03 328 IAmb IAmb 03 25 18.8
comp=Z,55nm,1.3s
PRP Porcupine Dome 26.07 342 IAmb IAmb 03 25 22.4
comp=Z,88nm,1.5s
COLA College 26.11 340 P P 03 25 13.3 +1.5
COLA 03 28 38.8
COLA pmax pmax
comp=Z,42nm,1.5s
COLA College 26.11 340 P P 03 25 13.3 +1.5
COLA PcP 03 28 38.8 0.0
HHAR Hobbs 26.11 91 IAmb IAmb 03 25 20.9
comp=Z,88nm,1.2s
HHAR IAMs_20 IAMs_20 03 35 31.0
comp=Z,7µm,22.0s
POKR Poker Plat Res 26.20 340 P P 03 25 13.8 +1.1
baz=144,SNR=11
BPAW Bear Paw Mtn. 26.39 336 IAMs_20 IAMs_20 03 33 36.1
comp=Z,5µm,19.0s
I40A Norwalk 26.60 73 IAMs_20 IAMs_20 03 36 34.7
comp=Z,5µm,21.0s
U40A Yellville 26.89 90 IAmb IAmb 03 25 26.6
comp=Z,60nm,1.6s
U40A IAMs_20 IAMs_20 03 34 40.8
comp=Z,7µm,20.0s
INK Inuvik 26.89 355 P P 03 25 18.3 -0.5
comp=Z,12nm,1.2s,baz=171,slow=9.5,SNR=15
JFWS Jewell Farm 27.02 75 P P 03 25 21.3 +1.0
baz=280,SNR=7.7
N41A Harden Midland 27.04 80 IAMs_20 IAMs_20 03 35 34.6
comp=Z,9µm,21.0s
MGMO Mountain Grove 27.04 88 IAmb IAmb 03 25 30.2
comp=Z,48nm,1.0s
MGMO IAMs_20 IAMs_20 03 36 22.7
comp=Z,6µm,19.0s
TTA Tatalina 27.28 331 IAmb IAmb 03 25 31.4
comp=Z,83nm,1.8s
TTA IAMs_20 IAMs_20 03 33 47.5
comp=Z,5µm,21.0s
COWI Conover 27.41 68 IAMs_20 IAMs_20 03 36 42.2
comp=Z,6µm,21.0s
CCM Cathedral Cave 27.50 86 P P 03 25 27.1 +2.4
baz=289
CCM Cathedral Cave 27.50 86 P P 03 25 24.5 -0.2
CCM pmax pmax
comp=Z,41nm,1.0s
CCM Cathedral Cave 27.50 86 P P 03 25 24.4 -0.2
CCM IAmb IAmb 03 25 33.2
comp=Z,41nm,1.0s
BMAR Burnt Mountain 27.52 345 P P 03 25 24.8 +0.3
NATX Nacogdoches 27.56 101 IAMs_20 IAMs_20 03 37 16.7
comp=Z,6µm,20.0s
FCAR Ozark Folk Cen 27.61 91 IAMs_20 IAMs_20 03 37 48.9
comp=Z,4µm,18.0s
X40A Basin Creek Fa 27.65 94 IAMs_20 IAMs_20 03 36 24.2
comp=Z,5µm,22.0s
WHAR Wooly Hollow 27.73 92 IAMs_20 IAMs_20 03 34 28.0
comp=Z,5µm,22.0s
C36M Palautuk 27.75 2 P P 03 25 26.1 -0.3
baz=185,SNR=22
W41B Gary Mavity, V 27.81 92 IAMs_20 IAMs_20 03 35 44.0
comp=Z,4µm,19.0s
UALR University of 27.90 93 IAMs_20 IAMs_20 03 37 22.5
comp=Z,7µm,21.0s
SLM Saint Louis 28.07 84 P P 03 25 29.1 -0.6
SLM pmax pmax
comp=Z,21nm,0.8s
SLM MLR MLR
comp=Z,8µm,21.0s
SLM Saint Louis 28.07 84 P P 03 25 29.1 -0.6
SLM IAmb IAmb 03 25 35.2
comp=Z,21nm,0.8s
SLM IAMs_20 IAMs_20 03 37 23.9
comp=Z,7µm,21.0s
HDIL Hopedale 28.23 80 P P 03 25 31.5 +0.3
HDIL IAmb IAmb 03 25 38.9
comp=Z,27nm,1.1s
P43A Skaggs, Pawnee 28.31 82 P P 03 25 32.5 +0.6
P43A IAmb IAmb 03 25 40.4
comp=Z,64nm,1.2s
P43A IAMs_20 IAMs_20 03 37 12.1
comp=Z,8µm,19.0s
PBMO Poplar Bluff 28.55 88 P P 03 25 34.2 +0.1
PBMO IAmb IAmb 03 25 41.6
comp=Z,43nm,1.0s
IMAR Indian Mountai 28.57 337 P P 03 25 34.0 +0.1
IMAR PcP 03 28 45.0 +0.3
HBAR Harrisburg 28.84 90 IAMs_20 IAMs_20 03 37 50.5
comp=Z,8µm,19.0s
UNV Unalaska Valle 28.85 309 P P 03 25 38.2 +1.8
UNV IAmb IAmb 03 25 39.2
comp=Z,61nm,1.1s
L44A Lake County Fo 28.86 76 P P 03 25 38.9 +2.1
baz=283
LPAR Lepanto 29.09 90 IAMs_20 IAMs_20 03 37 58.1
comp=Z,7µm,21.0s
PARMO Parma 29.10 88 IAMs_20 IAMs_20 03 38 00.6
comp=Z,7µm,20.0s
X43A Marvell 29.10 92 IAMs_20 IAMs_20 03 38 08.3
comp=Z,7µm,21.0s
S44A Carbondale 29.11 85 P P 03 25 39.8 +0.9
baz=290,SNR=5.3
SIUC Southern Illin 29.13 85 P P 03 25 39.8 +0.7
SIUC IAmb IAmb 03 25 43.0
comp=Z,36nm,1.1s
GNAR Gosnell 29.16 89 IAMs_20 IAMs_20 03 37 26.9
comp=Z,6µm,22.0s
PEBM Pemiscott Bayo 29.22 89 IAMs_20 IAMs_20 03 37 38.5

	comp=Z,5µm,21.0s						
PVMO	Portageville	29.23	88	IAMs_20	IAMs_20	03 37 38.7	
	comp=Z,7µm,19.0s						
PENMO	Penman	29.27	88	IAMs_20	IAMs_20	03 37 39.8	
	comp=Z,6µm,20.0s						
LNXT	Lenox	29.50	88	IAMs_20	IAMs_20	03 37 48.0	
	comp=Z,7µm,21.0s						
HALT	Halls	29.69	89	IAMs_20	IAMs_20	03 38 18.9	
	comp=Z,5µm,22.0s						
SFIN	Lafayette	29.89	79	IAmb	IAmb	03 25 54.5	
	comp=Z,60nm,1.1s						
P46A	Rosedale	30.02	81	P	P	03 25 48.1	+1.0
	baz=287						
USIN	University of	30.20	84	IAmb	IAmb	03 26 00.5	
	comp=Z,53nm,1.1s						
BLO	Bloomington	30.66	81	IAmb	IAmb	03 25 56.3	
	comp=Z,33nm,0.9s						
WVT	Waverly	30.74	87	IAMs_20	IAMs_20	03 38 34.6	
	comp=Z,7µm,21.0s						
N47A	Urbana	30.79	78	IAmb	IAmb	03 26 00.8	
	comp=Z,23nm,1.1s						
J47A	Sunmer	30.86	73	P	P	03 25 55.6	+1.1
	baz=282						
J47A	Sunmer	30.86	73	IAmb	IAmb	03 26 04.2	
	comp=Z,62nm,1.1s						
I47A	Gladwin	30.93	71	P	P	03 25 57.0	+2.0
	baz=281						
H47A	Mio	31.04	70	P	P	03 25 57.3	+1.2
	baz=280,SNR=5.7						
WCI	Wyandotte Cave	31.14	83	P	P	03 25 57.8	+0.9
	baz=290						
WCI	Wyandotte Cave	31.14	83	P	P	03 25 57.6	+0.7
WCI				pmax	pmax		
	comp=Z,26nm,1.0s						
WCI	Wyandotte Cave	31.14	83	P	P	03 25 57.6	+0.7
WCI				IAmb	IAmb	03 26 04.7	
	comp=Z,26nm,1.0s						
N48A	Decatur	31.28	77	P	P	03 25 59.2	+1.0
	baz=286						
Q48A	North Vernon	31.32	81	P	P	03 25 58.9	+0.3
	baz=289						
M48A	Edgerton	31.34	76	IAmb	IAmb	03 26 07.3	
	comp=Z,28nm,1.1s						
O48A	Farmland	31.35	79	P	P	03 25 59.8	+1.0
	baz=287,SNR=6.1						
P48A	Milroy	31.39	80	P	P	03 25 59.5	+0.4
	baz=288						
P48A	Milroy	31.39	80	IAmb	IAmb	03 26 06.0	
	comp=Z,20nm,1.0s						
I48A	Sherman Twp	31.47	71	P	P	03 25 59.3	-0.5
	baz=281						
J48A	Bridge Port	31.59	72	P	P	03 26 02.0	+1.1
	baz=282						
N49A	Columbus Grove	31.88	77	IAmb	IAmb	03 26 12.4	
	comp=Z,24nm,1.0s						
N49A				IAMs_20	IAMs_20	03 39 20.3	
	comp=Z,6µm,20.0s						
R49A	Shelbyville	31.95	82	IAmb	IAmb	03 26 12.5	
	comp=Z,20nm,1.1s						
X48A	Hartselle	32.00	90	IAMs_20	IAMs_20	03 39 14.3	
	comp=Z,4µm,20.0s						
O50A	Cable	32.51	78	P	P	03 26 09.4	+0.4
	baz=287						
P50A	Jamestown	32.54	79	P	P	03 26 09.7	+0.5
	baz=288						
R50A	Paris	32.58	82	IAMs_20	IAMs_20	03 39 45.7	
	comp=Z,7µm,21.0s						
Q50A	Georgetown	32.65	81	P	P	03 26 10.6	+0.4
	baz=289						
RDOG	Red Dog Mine	32.65	336	IAMs_20	IAMs_20	03 37 35.5	
	comp=Z,4µm,21.0s						
LRAL	Lakeview Retre	32.66	92	IAMs_20	IAMs_20	03 40 08.7	
	comp=Z,5µm,19.0s						
N50A	Nevada	32.67	77	P	P	03 26 11.2	+0.7
	baz=286						
S50A	Richmond	32.73	83	P	P	03 26 11.3	+0.4
	baz=291						
Y49A	Blount Mountai	32.73	90	IAMs_20	IAMs_20	03 40 00.6	
	comp=Z,4µm,22.0s						
ACSO	Alum Creek Sta	32.95	78	IAMs_20	IAMs_20	03 39 41.7	
	comp=Z,7µm,21.0s						
FPAL	Fort Paine	33.04	89	IAMs_20	IAMs_20	03 40 20.8	
	comp=Z,5µm,22.0s						
P51A	Williamsport	33.12	79	IAmb	IAmb	03 26 23.3	
	comp=Z,29nm,0.8s						
N51A	Ashland	33.20	76	P	P	03 26 15.3	+0.4
	baz=286						
N51A	Ashland	33.20	76	IAMs_20	IAMs_20	03 40 00.2	
	comp=Z,5µm,20.0s						
S51A	Beattyville	33.34	82	IAMs_20	IAMs_20	03 40 01.0	
	comp=Z,7µm,20.0s						
BRAL	Brewton	33.50	95	IAMs_20	IAMs_20	03 41 14.0	
	comp=Z,4µm,19.0s						
N52A	McGinn's Farm,	33.73	76	P	P	03 26 19.5	-0.1
	baz=287						
P52A	Corning	33.76	78	P	P	03 26 22.0	+2.1
	baz=288						
R52A	Catlettsburg	33.80	81	P	P	03 26 22.4	+2.2
	baz=290						
O52A	Adamsville	33.82	77	P	P	03 26 24.0	+3.5
	baz=288						
O52A	Adamsville	33.82	77	IAmb	IAmb	03 26 33.4	
	comp=Z,50nm,1.1s						
O52A				IAMs_20	IAMs_20	03 40 18.6	
	comp=Z,6µm,20.0s						
D51A	Lot 18 Range I	33.98	64	P	P	03 26 22.6	+0.9
	baz=279						
T52A	Hallie	33.99	83	IAMs_20	IAMs_20	03 40 21.0	
	comp=Z,6µm,20.0s						
H52A	Wyevale	34.06	69	P	P	03 26 24.2	+1.7
	baz=282						
O53A	New Philadelph	34.24	77	P	P	03 26 30.6	+6.5
	baz=288						
N53A	Lisbon	34.34	76	P	P	03 26 25.5	+0.5
	baz=287						
N53A	Lisbon	34.34	76	IAmb	IAmb	03 26 33.8	
	comp=Z,48nm,1.1s						
P53A	Whipple	34.35	78	P	P	03 26 29.4	+4.4
	baz=289						
Q53A	Leroy	34.45	79	P	P	03 26 26.8	+0.9
	baz=290						
Y52A	Lilburn	34.48	89	IAMs_20	IAMs_20	03 40 42.2	
	comp=Z,5µm,20.0s						
SADO	Sadowa	34.56	68	P	P	03 26 26.4	-0.4
	comp=Z,45nm,1.1s,baz=278,slow=7.5,SNR=6.8						
ALLY	Alegheny Colle	34.61	74	IAmb	IAmb	03 26 35.9	
	comp=Z,43nm,1.0s						
D52A	ZEK Kipawa Sen	34.65	64	P	P	03 26 28.0	+0.5
	baz=280						
MATQ	Matagami	34.79	59	P	P	03 26 28.9	+0.1
	baz=276						
O54A	Avella	34.87	77	P	P	03 26 30.1	+0.6
	baz=288						
O54A	Avella	34.87	77	IAMs_20	IAMs_20	03 41 15.4	
	comp=Z,4µm,21.0s						
N54A	Moraine State	34.91	75	P	P	03 26 31.2	+1.3
	baz=287						
Q54A	Coxs Mills	34.92	79	P	P	03 26 30.3	+0.4
	baz=290						
Q54A	Coxs Mills	34.92	79	IAmb	IAmb	03 26 40.1	
	comp=Z,26nm,1.1s						
P54A	Burton	34.98	78	P	P	03 26 32.7	+2.2
	baz=289						
H53A	Bobcaygeon	34.99	69	P	P	03 26 31.2	+0.7
	baz=283						
M54A	Oil Creek Stat	34.99	74	P	P	03 26 31.2	+0.6
	baz=287						
M54A	Oil Creek Stat	34.99	74	IAmb	IAmb	03 26 39.0	
	comp=Z,31nm,1.1s						
L54A	Sinclairville	35.04	73	P	P	03 26 31.8	+0.8
	baz=286						
U54A	Nelsons Funny	35.07	83	IAMs_20	IAMs_20	03 41 04.7	
	comp=Z,5µm,19.0s						
R54A	Victor	35.08	80	P	P	03 26 37.8	+6.4
	baz=291						
D53A	Lac Vacive, Po	35.11	64	P	P	03 26 32.8	+1.3
	baz=280						
D53A	Lac Vacive, Po	35.11	64	IAmb	IAmb	03 26 40.7	
	comp=Z,95nm,1.5s						
253A	Americus	35.25	92	IAMs_20	IAMs_20	03 41 08.4	
	comp=Z,3µm,20.0s						
LSQQ	Lebel-sur-Quev	35.30	61	P	P	03 26 33.1	0.0
	baz=278						
MCWV	Mont Chateau	35.42	77	P	P	03 26 35.4	+1.1
	baz=289						
Q55A	Buckhannon	35.47	78	P	P	03 26 35.9	+1.2
	baz=290,SNR=8.3						
P55A	Reedsville	35.48	78	P	P	03 26 35.9	+1.0
	baz=289						
E54A	Lac Daplat, Po	35.57	65	P	P	03 26 35.4	-0.1
	baz=281						
S55A	Lewisburg	35.58	81	P	P	03 26 37.0	+1.3
	baz=291						
O55A	Ligonier	35.64	76	P	P	03 26 36.8	+0.6
	baz=288						
M55A	Ridgway	35.65	74	P	P	03 26 37.0	+0.8
	baz=287						
DELO	Deloro Mine	35.67	68	IAmb	IAmb	03 26 45.4	
	comp=Z,42nm,1.2s						
L55A	Hinsdale	35.68	73	P	P	03 26 37.6	+1.0
	baz=286						
R55A	Marlinton	35.68	80	P	P	03 26 37.2	+0.6
	baz=291						
R55A	Marlinton	35.68	80	IAmb	IAmb	03 26 46.8	
	comp=Z,23nm,0.9s						
N55A	Marion Center	35.70	75	P	P	03 26 37.3	+0.6
	baz=288						
V55A	Taylorsville	35.78	84	IAMs_20	IAMs_20	03 41 58.6	
	comp=Z,6µm,20.0s						
D54A	Lac Fusel, La	35.80	64	P	P	03 26 37.9	+0.4
	baz=280						
H55A	Tweed	35.97	68	P	P	03 26 40.0	+1.1
	baz=284						
M56A	Emporium	36.06	74	P	P	03 26 40.8	+1.0
	baz=287						
M56A	Emporium	36.06	74	IAmb	IAmb	03 26 50.4	
	comp=Z,59nm,1.1s						
Q56A	Snyder Ridge,	36.11	78	P	P	03 26 42.6	+2.4
	baz=290						
RES	Resolute Bay	36.13	14	P	P	03 26 39.1	-0.8
	comp=Z,40nm,0.9s,baz=226,slow=9.6,SNR=50						
O56A	Blue Knob Stat	36.16	76	P	P	03 26 40.8	+0.2
	baz=289						
R56A	Bull Pasture M	36.17	79	P	P	03 26 43.9	+3.2
	baz=291,SNR=5.2						
P56A	Dayton Farm, R	36.21	77	P	P	03 26 42.4	+1.4
	baz=290,SNR=5.9						
L56A	Greenwood	36.32	72	P	P	03 26 42.9	+0.9
	baz=287						
JSC	Jenkinsville	36.40	86	IAMs_20	IAMs_20	03 42 24.9	
	comp=Z,4µm,19.0s						
SSPA	Standing Stone	36.53	75	P	P	03 26 44.4	+0.6
	baz=288						
D55A	Sainte-Anne-du	36.62	64	P	P	03 26 45.1	+0.7
	baz=281						
Q57A	Strasburg	36.68	78	P	P	03 26 46.3	+1.2
	baz=290						
S57A	Dark Hollow, R	36.73	80	P	P	03 26 47.8	+2.3
	baz=292,SNR=6.6						
P57A	Homestead Farm	36.82	77	P	P	03 26 47.3	+1.1
	baz=290						
O57A	Amberson	36.85	75	P	P	03 26 47.4	+0.9
	baz=289						
R57A	Stanardsville	36.85	79	P	P	03 26 48.4	+1.8
	baz=291						
M57A	Sunshine Farm,	36.87	73	P	P	03 26 46.4	-0.2
	baz=288						
M57A	Sunshine Farm,	36.87	73	IAmb	IAmb	03 26 55.3	
	comp=Z,36nm,1.1s						
L57A	Andrews Acres	36.87	72	P	P	03 26 47.1	+0.4
	baz=287						
CHGQ	Chibougamau	36.87	59	P	P	03 26 46.3	-0.3
	baz=278						
W57A	Gilead	36.98	84	IAMs_20	IAMs_20	03 41 38.2	
	comp=Z,3µm,20.0s						
E56A	St. Veronique	37.01	64	P	P	03 26 47.4	-0.4
	baz=282						
J57A	Williamstown	37.08	70	IAMs_20	IAMs_20	03 42 39.1	
	comp=Z,4µm,18.0s						
R58A	Rapidan	37.23	79	P	P	03 26 49.5	-0.2
	baz=291,SNR=6.7						
H57A	Richville	37.24	68	P	P	03 26 50.1	+0.4
	baz=284						
N58A	Sunbury	37.31	74	P	P	03 26 51.2	+0.8
	baz=288						
N58A	Sunbury	37.31	74	IAMs_20	IAMs_20	03 42 42.1	
	comp=Z,3µm,18.0s						
P58A	Pank, Wackersv	37.33	76	P	P	03 26 53.7	+3.1
	baz=290						
M58A	Price's Panora	37.33	73	P	P	03 26 51.7	+1.0
	baz=288						
O58A	Lewisberry	37.40	75	P	P	03 26 52.1	+1.0
	baz=289						
BINY	Binghamton	37.43	72	P	P	03 26 52.1	+0.7
	baz=287						
BINY	Binghamton	37.43	72	IAmb	IAmb	03 27 00.4	
	comp=Z,53nm,1.2s						
456A	Hilliard	37.47	92	IAMs_20	IAMs_20	03 38 29.3	
	comp=Z,3µm,20.0s						
K58A	Earlville	37.51	71	P	P	03 26 52.8	+0.8
	baz=286						
L58A	Harry Jones Me	37.57	72	P	P	03 26 53.8	+1.3
	baz=287						
257A	Skidaway Islan	37.62	90	IAMs_20	IAMs_20	03 42 28.1	
	comp=Z,4µm,21.0s						
D57A	Chemin Vers le	37.68	63	P	P	03 26 53.6	+0.2
	baz=282						
NHSC	New Hope	37.73	88	IAMs_20	IAMs_20	03 43 37.0	
	comp=Z,5µm,20.0s						
LONY	Lake Ozonia	37.76	67	P	P	03 26 55.1	+1.0
	baz=285						
656A	Willston	37.77	94	IAMs_20	IAMs_20	03 38 20.2	
	comp=Z,4µm,18.0s						
MVL	Millersville	37.85	75	IAmb	IAmb	03 27 05.6	
	comp=Z,60nm,1.5s						
O59A	Robesonia	37.87	75	P	P	03 26 56.2	+1.1
	baz=289						
P59A	Jarrettsville	37.92	76	P	P	03 26 54.3	-1.2
	baz=290						
N59A	State Game Lan	37.97	74	P	P	03 26 56.8	+0.8
	baz=289						
N59A	State Game Lan	37.97	74	IAmb	IAmb	03 27 05.2	
	comp=Z,42nm,1.2s						
G58A	Ormstown	37.99	66	P	P	03 26 57.7	+1.7
	baz=284						
M59A	Waymart	38.02	73	P	P	03 26 57.0	+0.6
	baz=288						
T59A	Double "B" Far	38.06	80	P	P	03 26 55.1	-1.6
	baz=293						
T59A	Double "B" Far	38.06	80	P	P	03 26 57.1	+0.4
T59A				IAmb	IAmb	03 27 06.0	
	comp=Z,86nm,1.2s						
K59A	Cooperstown	38.06	70	P	P	03 26 57.4	+0.6
	baz=287						
H58A	Gabriels	38.09	68	P	P	03 26 57.9	+0.9
	baz=285						
L59A	Walton	38.10	71	P	P	03 26 57.4	+0.3
	baz=288						
L59A	Walton	38.10	71	IAmb	IAmb	03 27 06.1	
	comp=Z,41nm,1.2s						
J59A	Piesco	38.12	69	P	P	03 26 57.8	+0.6
	baz=286						
J59A	Piesco	38.12	69	IAmb	IAmb	03 27 01.3	
	comp=Z,32nm,1.1s						
E58A	La Victoria	38.23	64	P	P	03 26 58.5	+0.4
	baz=283						
D58A	Chemin du LacG	38.34	63	P	P	03 26 58.9	-0.1
	baz=282						
LATQ	La Tuque	38.35	63	P	P	03 26 59.6	+0.6
	baz=282						
H59A	Cadyville	38.37	67	P	P	03 26 58.4	-0.9
	baz=285						
O60A	Telford	38.43	74	P	P	03 27 00.4	+0.6
	baz=290						
P60A	Greenville	38.43	75	IAmb	IAmb	03 27 09.0	
	comp=Z,35nm,1.1s						
N60A	Cedar Hill Far	38.47	73	P	P	03 27 01.5	+1.4
	baz=289						
Q60A	Greensboro	38.56	77	IAMs_20	IAMs_20	03 43 29.2	
	comp=Z,4µm,19.0s						
M60A	Port Jervis	38.66	73	P	P	03 27 02.7	+0.9
	baz=289						
L60A	Shokan	38.74	71	P	P	03 27 03.1	+0.6
	baz=288						
ODNJ	Ogdensburg	38.75	73	P	P	03 27 02.7	+0.1
ODNJ				IAmb	IAmb	03 27 11.7	
	comp=Z,60nm,1.3s						
ODNJ				IAMs_20	IAMs_20	03 42 41.3	
	comp=Z,3µm,22.0s						
I60A	Shoreham	38.86	68	P	P	03 27 03.7	+0.3
	baz=286						
TRY	Troy	38.91	70	IAmb	IAmb	03 27 12.9	
	comp=Z,47nm,1.2s						
BRNJ	Basking Ridge	38.91	73	IAMs_20	IAMs_20	03 45 28.5	
	comp=Z,2µm,19.0s						
J60A	Lant Hill Farm	38.94	69	P	P	03 27 05.2	+1.2
	baz=287						
D59A	Saint-Raymond	39.06	63	P	P	03 27 05.6	+0.6
	baz=283						
H60A	Morristown	39.07	67	P	P	03 27 06.4	+1.2
	baz=286						
N61A	South Mountain	39.08	73	P	P	03 27 06.2	+1.0
	baz=289						
L61A	Hillsdale 1, H	39.15	71	P	P	03 27 06.5	+0.6
	baz=288						
G60A	Masonville	39.18	66	P	P	03 27 06.9	+0.8
	baz=285						
K61A	Williamstown	39.21	70	P	P	03 27 08.1	+1.7
	baz=288						
F60A	Warwick	39.22	65	P	P	03 27 06.5	+0.1
	baz=284						
PAL	Palisades	39.28	73	P	P	03 27 09.6	+2.7
	baz=289						
E60A	Ste Agathe de	39.47	64	P	P	03 27 08.7	+0.3
	baz=284						
I61A	Oroboro, Fairl	39.58	68	P	P	03 27 09.2	-0.3
	baz=287						
HNH	Hanover	39.59	68	IAmb	IAmb	03 27 19.1	
	comp=Z,54nm,1.2s						
H61A	Lyndonville	39.61	67	P	P	03 27 10.0	+0.3
	baz=286						
G61A	St-Isidore-de-	39.69	66	P	P	03 27 11.2	+0.9
	baz=285						
D60A	Saint Jean D'O	39.69	63	P	P	03 27 10.8	+0.6
	baz=284						
LBNH	Lisbon	39.69	67	P	P	03 27 11.7	+1.3
	baz=286						
LBNH	Lisbon	39.69	67	IAmb	IAmb	03 27 19.9	
	comp=Z,52nm,1.1s						
F61A	St Evariste	39.87	64	P	P	03 27 13.0	+1.1
	baz=285						
E61A	Lac Etchemin	40.09	63	P	P	03 27 14.6	+0.8
	baz=285						
D61A	St Aubert, Com	40.11	62	P	P	03 27 14.5	+0.7
	baz=284						
H62A	Milan	40.13	66	P	P	03 27 14.1	+0.1
	baz=286						
I62A	Tamworth	40.20	68	P	P	03 27 15.9	+1.3
	baz=287						
G62A	West of Eustis	40.38	65	IAmb	IAmb	03 27 25.4	
	comp=Z,91nm,1.9s						
F62A	Pittston Farm,	40.58	64	P	P	03 27 19.3	+1.6
	baz=285						
F62A	Pittston Farm,	40.58	64	IAMs_20	IAMs_20	03 44 06.8	
	comp=Z,4µm,20.0s						
BRYW	Bryant College	40.66	71	IAmb	IAmb	03 27 27.2	
	comp=Z,33nm,1.0s						
I63A	Otisfield	40.67	67	P	P	03 27 19.0	+0.5
	baz=287						
E62A	Clayton Lake	40.69	63	P	P	03 27 19.3	+0.6
	baz=285						
E62A	Clayton Lake	40.69	63	IAmb	IAmb	03 27 27.8	
	comp=Z,80nm,1.2s						
SCHQ	Schefferville	40.84	50	P	P	03 27 19.0	-0.8
	comp=Z,24nm,1.0s,baz=284,slow=7.8,SNR=9.7						
SCHQ	Schefferville	40.84	50	P	P	03 27 19.6	-0.1
SCHQ				IAmb	IAmb	03 27 27.3	
	comp=Z,78nm,1.1s						
D62A	Allapoint, All	40.89	62	P	P	03 27 20.8	+0.5
	baz=285						
D62A	Allapoint, All	40.89	62	P	P	03 27 20.6	+0.4
D62A				IAmb	IAmb	03 27 29.4	
	comp=Z,46nm,1.1s						
D62A				IAMs_20	IAMs_20	03 44 35.0	
	comp=Z,4µm,19.0s						
G63A	Kingsbury	41.03	65	P	P	03 27 22.5	+1.1
	baz=286						
PKME	Peaks-Kenny Pk	41.21	65	P	P	03 27 24.1	+1.3
	baz=286						
PKME	Peaks-Kenny Pk	41.21	65	IAMs_20	IAMs_20	03 44 30.4	
	comp=Z,4µm,21.0s						
F63A	Nahmakanta, Br	41.22	64	P	P	03 27 23.6	+0.6
	baz=286						
F63A	Nahmakanta, Br	41.22	64	P	P	03 27 23.0	0.0
F63A				IAmb	IAmb	03 27 31.5	
	comp=Z,37nm,1.1s						
E63A	Oxbow	41.48	63	P	P	03 27 25.2	+0.1
	baz=286						
E63A	Oxbow	41.48	63	P	P	03 27 25.0	-0.1
E63A				IAMs_20	IAMs_20	03 44 53.4	
	comp=Z,3µm,19.0s						
D63A	Stockholm	41.53	62	P	P	03 27 26.0	+0.5
	baz=285						
G64A	Maxfield	41.58	65	P	P	03 27 26.8	+1.0
	baz=287						
F64A	Sherman	41.68	64	P	P	03 27 27.4	+0.7
	baz=286						
F64A	Sherman	41.68	64	IAmb	IAmb	03 27 35.2	
	comp=Z,37nm,1.1s						
PQI	Presque Isle	41.68	62	P	P	03 27 26.7	-0.1
PQI				IAMs_20	IAMs_20	03 45 08.9	
	comp=Z,4µm,20.0s						
E64A	Bridgewater	41.88	63	P	P	03 27 28.9	+0.5
	baz=286						
G65A	Princeton	42.40	64	P	P	03 27 33.8	+1.2
	baz=287						
G65A	Princeton	42.40	64	IAmb	IAmb	03 27 42.1	
	comp=Z,57nm,1.2s						
BATG	Bathurst New B	42.81	61	IAmb	IAmb	03 27 44.8	
	comp=Z,58nm,1.2s						
BATG				IAMs_20	IAMs_20	03 45 32.8	
	comp=Z,3µm,19.0s						
SNET	Serv Nac Est T	42.97	119	P	P	03 27 37.6	0.0
BILL	Bilibino	43.52	330*c*	*i*P	P	03 27 41.1	-0.3
BILL				*i*		03 27 47.9	
BILL				*i*		03 29 27.4	
BILL				pmax	pmax		
	comp=Z,41nm,1.6s						
BILL				MLR	MLR		
	comp=Z,3µm,17.0s						
BILL	Bilibino	43.52	330	P	P	03 27 40.6	-0.8
BILL				IAMs_20	IAMs_20	03 44 41.3	
	comp=Z,4µm,19.0s						
KULLO	Kullorsuaq	44.92	21	*i*P	P	03 27 53.2	+0.7
KULLO	Kullorsuaq	44.92	21	*i*P	P	03 27 53.2	+0.7
KULLO				*i*		03 31 14.7	
HAL	Halifax	45.25	64	P	P	03 27 56.4	+0.9
HAL				pmax	pmax		
	comp=Z,86nm,1.1s						
HAL	Halifax	45.25	64	P	P	03 27 56.4	+0.9
SFJD	Kangerlussuaq	47.23	31	P	P	03 28 09.3	-1.5
SFJD				pmax	pmax		
	comp=Z,80nm,1.7s						
SFJD	Kangerlussuaq	47.23	31	P	P	03 28 09.3	-1.5
	comp=Z,14nm,1.0s,baz=322,slow=7.3,SNR=3.5						
SFJD	Kangerlussuaq	47.23	31	IAmb	IAmb	03 28 16.9	
	comp=Z,80nm,1.7s						
ESPN	Las Esperanzas	47.33	116	P	P	03 28 12.8	+0.6
JTS	Las Juntas de	48.28	118	*i*P	P	03 28 17.7	-1.9
JTS				pmax	pmax		
	comp=Z,41nm,2.6s						
GTBY	Guantanamo Bay	48.70	100	IAMs_20	IAMs_20	03 51 53.6	
	comp=Z,2µm,19.0s						
PET	Petropavlovsk	49.48	310	*e*P	P	03 28 29.3	+1.0
PET				*e*S	S	03 35 34.1	-0.8
PET				pmax	pmax		
	comp=Z,800nm,13.5s						
PET				pmax	pmax		
	comp=Z,49nm,1.1s						
PET				pmax	pmax		
	comp=Z,1µm,18.0s						
SEY	Seymchan	49.85	324*c*	*i*P	P	03 28 30.4	-0.6
PEA0B	Petropavlovsk-	50.00	310	P	P	03 28 34.4	+2.1
PEA0B				pmax	pmax		
	comp=Z,249nm,1.8s						
PEA0B	Petropavlovsk-	50.00	310	P	P	03 28 34.4	+2.1
PETK	Petropavlovsk-	50.00	310	P	P	03 28 31.1	-1.2
	comp=Z,14nm,0.9s,baz=87,slow=13,SNR=5.7						
SUMG	Summit	50.36	23	*i*P	P	03 28 35.5	+0.3
SUMG				pmax	pmax		
	comp=Z,230nm,1.0s						
SUMG	Summit	50.36	23	*i*P	P	03 28 35.5	+0.3
	comp=Z,228nm,1.0s						
SUMG	Summit	50.36	23	P	P	03 28 34.9	-0.3
TAOE	Nuku Hiva Isla	51.76	197	*e*T	T	04 24 03.8	
	comp=Z,95nm,0.3s						
DAG	Danmarks Havn	53.78	16	*i*P	P	03 28 59.8	-0.3
DAG				*i*		03 32 13.1	
DAG				pmax	pmax		
	comp=Z,18nm,0.9s						
DAG	Danmarks Havn	53.78	16	*i*P	P	03 28 59.8	-0.3
	comp=Z,21nm,0.9s						
DAG				*i*		03 32 13.1	

TIXI Tiksi 55.22 338 *c iP* **P 03 29 10.1 -0.5**
TIXI pmax pmax
comp=Z,31nm,1.5s
TIXI Tiksi 55.22 338 P **P 03 29 09.8 -0.8**
comp=Z,2.0nm,0.4s,baz=58,slow=2.7
TIXI Tiksi 55.22 338 P **P 03 29 10.4 -0.2**
SCO Scoresbysund 56.00 23 *i P* **P 03 29 17.0 +0.7**
SCO pmax pmax
comp=Z,22nm,1.0s
SCO Scoresbysund 56.00 23 *i P* **P 03 29 17.0 +0.7**
comp=Z,22nm,1.0s
SCO Scoresbysund 56.00 23 P **P 03 29 16.6 +0.4**
SCO IAmb IAmb 03 29 18.8
comp=Z,16nm,1.0s
SJG San Juan 56.47 95 P **P 03 29 20.9 +0.6**
SJG pmax pmax
comp=Z,42nm,1.2s
SJG San Juan 56.47 95 P **P 03 29 20.8 +0.6**
comp=Z,21nm,1.0s,baz=232,slow=3.9,SNR=3.5
SJG San Juan 56.47 95 P **P 03 29 20.9 +0.6**
SJG IAmb IAmb 03 29 22.8
comp=Z,42nm,1.1s
MTP Monte Pirata 56.92 95 P **P 03 29 24.2 +0.7**
SPA0 Spitsbergen Ar 58.35 8 P **P 03 29 32.9 0.0**
SABA Saba 58.94 94 IAMs_20 IAMs_20 03 54 48.9
comp=Z,1µm,20.0s
H11N3 WAKE ISLAND Hy 59.51 270 T T 04 34 07.9
baz=52,slow=75,SNR=1506
H11N2 WAKE ISLAND Hy 59.51 270 T T 04 34 06.5
baz=52,slow=75,SNR=1565
H11N1 WAKE ISLAND Hy 59.52 270 T T 04 34 07.5
baz=52,slow=75,SNR=1304
YAK Yakutsk 59.82 328 *e*P **P 03 29 47.7 +4.6**
YAK pmax pmax
comp=Z,56nm,1.5s
YAK pmax pmax
comp=E,29nm,1.5s
YAK pmax pmax
comp=N,16nm,1.5s
YAK Yakutsk 59.82 328 P **P 03 29 42.4 -0.8**
WAKE Wake Island 59.96 270 IAMs_20 IAMs_20 03 46 43.2
comp=Z,2µm,21.0s
OTAV Otavalo 60.06 120 P **P 03 29 46.3 +0.3**
OTAV pmax pmax
comp=Z,13nm,1.1s
OTAV Otavalo 60.06 120 P **P 03 29 46.2 +0.3**
OTAV IAmb IAmb 03 29 48.7
comp=Z,13nm,1.1s
KNTN Kanton 60.07 234 P **P 03 29 44.9 -0.6**
H11S1 WAKE ISLAND Hy 60.40 269 T T 04 35 02.2
baz=52,slow=75,SNR=3119
H11S2 WAKE ISLAND Hy 60.41 269 T T 04 35 03.9
baz=52,slow=75,SNR=2395
H11S3 WAKE ISLAND Hy 60.42 269 T T 04 35 03.5
baz=52,slow=75,SNR=1683
YUK Yuzh-Kuril'sk 60.96 305 *e*P **P 03 29 53.1 +1.8**
YUK 03 32 01.8
YUK *i* S **S 03 38 14.2 +5.4**
YUK pmax pmax
comp=Z,380nm,1.3s
YUK pmax pmax
comp=N,60nm,0.5s
YUK pmax pmax
comp=E,141nm,1.1s
YUK pmax pmax
comp=Z,474nm,1.8s
YUK MLR MLR
comp=Z,2µm,23.0s
YUK MLR MLR
comp=E,2µm,20.0s
YUK MLR MLR
comp=N,3µm,23.0s
YSS Yuzh-Sakhalins 61.31 309 IAMs_20 IAMs_20 03 53 17.3
comp=Z,1µm,20.0s
TIAR Tiarei 62.51 204 *e*T T 04 37 30.0
comp=Z,19nm,0.3s
PPT2 Papeete2 62.61 204 *e*LR LR 03 48 07.4
comp=Z,2µm,24.5s,baz=36
PPT2 Papeete2 62.61 204 *e*T T 04 37 44.1
comp=Z,2.7nm,0.3s
PAE Paea 62.68 204 *e*T T 04 37 41.5
comp=Z,1.6nm,0.3s
TVO Taravao 62.69 204 *e*T T 04 37 48.0
comp=Z,1.5nm,0.3s
ERM Erimo 63.72 304 IAMs_20 IAMs_20 03 58 41.4
comp=Z,1µm,18.0s
TOSP Speyside 64.97 97 IAMs_20 IAMs_20 03 48 47.7
comp=Z,1µm,21.0s
ZEA Zeya 65.67 321 *e*P **P 03 30 22.0 -0.3**
ZEA pmax pmax
comp=Z,61nm,1.6s
ATAH Atahualpa 65.78 125 P **P 03 30 25.4 +1.5**
comp=Z,10nm,0.9s,baz=296,slow=4.8,SNR=4.6
TEY Ternei 65.95 310‖ *e*P **P 03 30 28.3 +4.1**
TEY pmax pmax
comp=Z,20nm,1.0s
NRIK Noril'sk 66.38 347 P **P 03 30 26.1 -0.5**
comp=Z,9.8nm,0.9s,baz=21,slow=6.6,SNR=12
ARCES ARCESS Array B 67.23 10 P **P 03 30 30.5 -1.6**
comp=Z,17nm,1.0s,baz=335,slow=8.4,SNR=6.8
TBI Tubuai 68.01 202 *e*T T 04 44 26.3
comp=Z,4.9nm,0.3s
BOD Bodaibo 68.58 330 *e*P **P 03 30 38.9 -1.8**
BOD pmax pmax
comp=Z,40nm,1.3s
USRK Ussuriysk Ar. 69.08 311 P **P 03 30 43.2 -0.9**
USRK Ussuriysk Ar. 69.08 311 P **P 03 30 44.1 0.0**
comp=Z,9.4nm,0.9s,baz=52,slow=5.2,SNR=16
USRK Ussuriysk Ar. 69.08 311 P **P 03 30 43.2 -0.9**
MJAR Matsushiro Arr 70.01 301 P **P 03 30 50.2 +0.2**
MJAR pmax pmax
comp=Z,4.0nm,1.2s
MJAR Matsushiro Arr 70.01 301 P **P 03 30 49.5 -0.5**
comp=Z,2.4nm,1.0s,baz=331,slow=3.6,SNR=5.2
MJAR Matsushiro Arr 70.01 301 P **P 03 30 50.1 +0.2**
MAT Matsushiro 70.01 301 P **P 03 30 49.2 -0.8**
MJB9 Matsu-Tunnel 70.01 301 IAMs_20 IAMs_20 03 57 56.2
comp=Z,1µm,21.0s
APA Apatity 70.03 8⇑ *i P* P 03 30 55.0 +5.5
APA pmax pmax
comp=Z,14nm,0.9s
NNA Nana 70.53 127 *ce*P **P 03 30 54.9 +1.6**
NNA Nana 70.53 127 P **P 03 30 54.1 +0.8**
comp=Z,13nm,0.8s,baz=323,slow=9.5,SNR=6.4
NNA Nana 70.53 127 P **P 03 30 53.7 +0.4**
NNA IAmb IAmb 03 31 02.7
comp=Z,28nm,1.1s
NB2 NORSAR Subarra 72.09 20 P **P 03 31 02.2 0.0**
comp=Z,43nm,1.2s,baz=328,slow=5.6
NB2 NORSAR Subarra 72.09 20 P **P 03 31 02.2 0.0**
baz=328,slow=5.6
NOA NORSAR Array B 72.09 20 P **P 03 31 01.7 -0.5**
comp=Z,12nm,0.9s,baz=330,slow=5.8,SNR=15
NOA LR LR 04 02 17.5
comp=Z,407nm,18.4s,baz=310,slow=36
HIA Hailar 72.15 321 P **P 03 31 02.3 -0.4**
HIA pmax pmax
comp=Z,40nm,1.6s
HIA Hailar 72.15 321 P **P 03 31 02.3 -0.4**
HIA IAmb IAmb 03 31 09.1
comp=Z,40nm,1.6s
NAO01 NORSAR Array S 72.17 20 P **P 03 31 02.9 +0.3**
CN2 Changchun 72.96 314 *e*P **P 03 31 06.7 -0.9**
TMCR Tamitsa 73.80 7 *e*P **P 03 31 12.4 +0.2**
TMCR pmax pmax
comp=Z,38nm,0.9s
FIA1 FINESS Array S 74.89 13 P **P 03 31 18.6 +0.1**
FIA1 IAmb IAmb 03 31 19.5
comp=Z,47nm,1.2s
FINES FINESS Array B 74.89 13 P **P 03 31 18.3 -0.3**
FINES FINESS Array B 74.89 13 P **P 03 31 17.8 -0.7**
comp=Z,29nm,1.1s,baz=339,slow=3.9,SNR=27
FINES FINESS Array B 74.89 13 P **P 03 31 18.3 -0.3**
KSRS Korea Array 75.78 308 P **P 03 31 24.0 -0.1**
KSRS Korea Array 75.78 308 P **P 03 31 24.0 -0.1**
comp=Z,3.0nm,0.8s,baz=58,slow=5.6,SNR=10
KSRS Korea Array 75.78 308 P **P 03 31 24.0 -0.1**
KSAR Wonju Array Be 75.81 308 P **P 03 31 24.0 -0.3**
KSAR Wonju Array Be 75.81 308 P **P 03 31 24.0 -0.3**
IRK Irkutsk 76.45 330 *e*P **P 03 31 27.2 -0.6**
IRK pmax pmax
comp=Z,123nm,2.8s
INCN Inchon 76.52 308 IAMs_20 IAMs_20 04 09 09.3
comp=Z,815nm,21.0s
PRGR Permogore 76.83 4 *e*P **P 03 31 29.0 -0.7**
PRGR *e* 03 31 35.1
PRGR pmax pmax
comp=Z,80nm,1.0s
SAML Samuel 77.01 115 P **P 03 31 30.6 -0.7**
SAML pmax pmax
comp=Z,8.0nm,1.0s
SAML Samuel 77.01 115 P **P 03 31 30.6 -0.7**
TLY Talaya 77.14 330 P **P 03 31 31.8 +0.1**
SNR=11
TLY P **P 03 31 31.8 +0.1**
SNR=11
TLY Talaya 77.14 330 *d iP* **P 03 31 31.9 +0.3**
TLY pmax pmax
comp=Z,129nm,1.1s
TLY MLR MLR
comp=Z,5µm,20.0s
TLY Talaya 77.14 330 P **P 03 31 32.2 +0.5**
SLIT Slitere, Latvi 77.72 16 *e*P **P 03 31 34.4 -0.3**
SLIT IAmb IAmb 03 31 36.6
comp=Z,312nm,0.9s
VSU Vasula 77.81 14 *e*P **P 03 31 33.7 -1.4**
MOY Mondy 78.11 332 *e*P **P 03 31 37.5 +0.3**
MOY pmax pmax
comp=Z,61nm,3.1s
ZAK Zakamensk 78.32 330 *e*P P 03 31 29.9 -8.5
ZAK pmax pmax
comp=Z,19nm,1.3s
ULN Ulaanbaatar 78.84 326 P **P 03 31 40.7 -0.6**
SNR=11
ULN P **P 03 31 40.7 -0.6**
SNR=11
ULN Ulaanbaatar 78.84 326 *ce*P **P 03 31 41.6 +0.3**
ULN pmax pmax
comp=Z,44nm,2.5s
ULN Ulaanbaatar 78.84 326 P **P 03 31 41.3 0.0**
ULN Ulaanbaatar 78.84 326 IAMs_20 IAMs_20 04 12 16.9
comp=Z,2µm,22.0s
PBUR Paburg 79.13 17 *e*P P 03 31 48.5 +6.0
PBUR IAmb IAmb 03 31 54.9
comp=Z,120nm,1.2s
SONM Songino Array 79.14 327 P **P 03 31 42.3 -0.6**
SONM pmax pmax
comp=Z,21nm,1.2s
SONM Songino Array 79.14 327 P **P 03 31 42.8 -0.2**
comp=Z,10nm,1.0s,baz=43,slow=4.5,SNR=44
SONM Songino Array 79.14 327 P **P 03 31 42.3 -0.6**
LPAZ La Paz 79.18 123 P **P 03 31 44.2 +0.1**
comp=Z,5.3nm,0.7s,baz=338,slow=9.4,SNR=7.8
LPAZ La Paz 79.18 123 P **P 03 31 44.2 +0.1**
CLF Chambon-Foret 80.00 32 P **P 03 31 47.5 +0.1**
CLF IAmb IAmb 03 31 52.4
comp=Z,54nm,1.1s
PABE Paberze 80.05 16 *e*P **P 03 31 47.5 0.0**
WLF Walferdange 80.13 29 P **P 03 31 49.3 +1.2**
WLF pmax pmax
comp=Z,21nm,1.0s
WLF Walferdange 80.13 29 P **P 03 31 49.3 +1.2**
WLF IAmb IAmb 03 31 58.3
comp=Z,21nm,1.0s
IZAR Zarasai 80.28 15 *e*P **P 03 31 49.4 +0.6**
IZAR IAmb IAmb 03 31 50.7
comp=Z,16nm,1.1s
ISAL Salakas 80.42 15 *e*P **P 03 31 49.1 -0.4**
ISAL IAmb IAmb 03 31 57.7
comp=Z,15nm,0.9s
MNMC Minye Minye 80.43 126 P **P 03 31 50.1 -0.3**
BJI Beijing 80.52 316⇑ *iP* **P 03 31 50.1 -0.3**
BJI pmax pmax
comp=Z,5.0nm,1.1s
BJI LR LR
comp=Z,560nm,19.6s
BJI LR LR
comp=Z,760nm,22.2s
BJI LR LR
comp=Z,1µm,24.5s
IDID Didziasalis 80.78 15 *e*P **P 03 31 51.6 +0.1**
PVRL Vila Real 80.79 42 *e*P **P 03 31 52.6 +0.7**
PBRG Braganca 80.87 41 *e*P **P 03 31 53.4 +1.1**
comp=Z,38nm,2.0s
PB11 IPOC Station P 80.88 127 P **P 03 31 53.1 +0.5**
ZAA0 Zalesovo Array 80.90 342 P **P 03 31 51.7 -0.4**
ZAA0 IAmb IAmb 03 31 58.8
comp=Z,18nm,1.1s
ZALV Zalesovo Beam 80.90 342 P **P 03 31 51.5 -0.6**
ZALV Zalesovo Beam 80.90 342 P **P 03 31 51.7 -0.4**
comp=Z,10nm,1.0s,baz=19,slow=5.5,SNR=25
ZALV LR LR 04 08 51.0
comp=Z,1µm,18.4s,baz=328,slow=37
ZALV Zalesovo Beam 80.90 342 P **P 03 31 51.5 -0.6**
CLL Collm 81.01 24 *i P* **P 03 31 52.7 -0.1**
CLL pmax pmax
comp=Z,33nm,1.1s
CLL Collm 81.01 24 *i P* **P 03 31 52.7 -0.1**
comp=Z,33nm,1.1s
CLL *e*PcP **PcP 03 31 59.0 -0.2**
CLL *e* 03 32 11.0
CLL Lm MLR 04 08 00.0
comp=N,700nm,19.9s
CLL Lm MLR 04 08 00.0
comp=E,500nm,19.6s
CLL Collm 81.01 24 P **P 03 31 52.2 -0.6**
CLL IAmb IAmb 03 31 55.0
comp=Z,32nm,1.1s
GO01 Chusmiza 81.09 126 P **P 03 31 54.1 0.0**
GO01 IAmb IAmb 03 31 56.9
comp=Z,19nm,1.1s
PVIS Viseu 81.12 42 *e*P **P 03 31 54.2 +0.6**
comp=Z,58nm,1.7s
MVO Moncorvo 81.21 41 *e*P **P 03 31 54.9 +0.7**
comp=Z,50nm,1.7s
COI Coimbra 81.23 43 *e*P **P 03 31 56.0 +1.8**
comp=Z,88nm,1.3s
COI Coimbra 81.23 43 P **P 03 31 54.8 +0.6**
COI pmax pmax
comp=Z,43nm,1.0s
COI Coimbra 81.23 43 P **P 03 31 54.8 +0.6**
COI IAmb IAmb 03 31 57.1
comp=Z,43nm,1.0s
SUW Suwalki 81.26 17 *e*P **P 03 31 53.7 -0.4**
SUW Suwalki 81.26 17 *e*P **P 03 31 53.7 -0.4**
SUW *e*P **P 03 31 53.7 -0.4**
SUW Suwalki 81.26 17 P **P 03 31 54.2 +0.1**
PCAS Casmilo, Conde 81.31 43 *e*P **P 03 31 55.5 +0.9**
MTE Manteigas 81.53 42 *e*P **P 03 31 59.4 +3.5**
SVE Sverdlovsk 81.63 356 *e*P **P 03 31 55.1 -0.9**
SVE pmax pmax
comp=Z,42nm,1.4s
PTOM Tomar 81.67 43 *e*P **P 03 31 57.5 +1.0**
comp=Z,47nm,1.2s
BRG Berggiesshubel 81.68 24⇑ *iP* **P 03 31 57.1 +0.7**
BRG *i* 03 32 03.5
BRG pmax pmax
comp=Z,31nm,1.0s
BRG pmax pmax
comp=Z,22nm,1.0s
BRG MLR MLR
comp=N,1µm,16.5s
BRG MLR MLR
comp=E,1µm,20.7s
BRG MLR MLR
comp=Z,2µm,20.1s
ECH Echery 81.70 29 P **P 03 31 57.1 +0.5**
ECH pmax pmax
comp=Z,22nm,1.3s
ECH Echery 81.70 29 P **P 03 31 57.1 +0.5**
ECH IAmb IAmb 03 32 00.5
comp=Z,22nm,1.3s
NKC Novy Kostel 81.78 25 *e*P **P 03 31 56.9 0.0**
NKC *e* 03 32 03.9
NKC Novy Kostel 81.78 25 *e*P **P 03 31 56.9 0.0**
NKC *ex* x 03 32 03.9
GRA1 Grafenberg Arr 81.85 26 IAmb IAmb 03 32 06.8
comp=Z,17nm,0.9s
PCBR Castelo Branco 81.98 43 *e*P **P 03 31 58.5 +0.3**
comp=Z,34nm,1.8s
BFO Black Forest 82.03 28 *ce*P **P 03 31 59.4 +1.1**
BFO Black Forest 82.03 28 P **P 03 31 58.5 +0.2**
BFO IAmb IAmb 03 32 00.2
comp=Z,20nm,1.1s
ARU Arti 82.12 357 *c iP* **P 03 31 57.5 -1.1**
ARU 03 35 07.7
ARU S **S 03 42 09.8 -2.7**
ARU pmax pmax
comp=Z,26nm,1.4s
ARU Arti 82.12 357 P **P 03 31 57.6 -1.0**
ARU IAmb IAmb 03 32 05.4
comp=Z,28nm,1.2s
PVCC Panska Ves 82.17 24 *e*P **P 03 31 59.7 +0.8**
PVCC *e* 03 32 06.1
PVCC Panska Ves 82.17 24 *e*P **P 03 31 59.7 +0.8**
PVCC *ex* x 03 32 06.1
PMTG Montargil 82.18 44 *e*P **P 03 31 59.5 +0.3**
comp=Z,38nm,1.6s
HHC Hu-ho-hao-te 82.24 319 *e*P **P 03 31 58.9 -0.7**
PMRV Marv??o 82.34 43 *e*P **P 03 31 59.8 -0.3**
comp=Z,52nm,1.3s
KSP Ksiaz 82.40 23 *e*P **P 03 32 01.0 +0.8**
KSP Ksiaz 82.40 23 *e*P **P 03 32 00.9 +0.8**
KSP *e*P **P 03 32 00.9 +0.8**
OBN Obninsk 82.53 9 *ce*P **P 03 32 00.1 -0.6**
OBN *i* 03 32 04.3
OBN pmax pmax
comp=Z,92nm,2.5s
OBN Obninsk 82.53 9 P **P 03 32 00.2 -0.6**
OBN IAmb IAmb 03 32 07.3
comp=Z,38nm,1.1s
CHVC Chvalec 82.56 23 *e*P **P 03 32 01.3 +0.3**
CHVC *ex* x 03 32 07.8
PB04 IPOC Station P 82.57 129 P **P 03 32 00.8 -0.7**
PRU Pruhonice 82.64 24 *e*P **P 03 32 01.5 +0.1**
PRU Pruhonice 82.64 24 *e*P **P 03 32 01.5 +0.1**
PESTR Estremoz 82.66 43 P **P 03 32 00.8 -0.9**
JOW Kunigami 82.72 299 IAMs_20 IAMs_20 04 07 44.9
comp=Z,978nm,22.0s
PNCL Nicolau / Gran 82.74 44 *e*P **P 03 32 02.3 +0.2**
comp=Z,61nm,1.6s
PBCC Pribram 82.74 24 *e*P **P 03 32 02.3 +0.3**
GOPC GO Pecny, Ondr 82.78 24 *e*P **P 03 32 02.1 -0.1**
GOPC GO Pecny, Ondr 82.78 24 *e*P **P 03 32 02.1 -0.1**
TIA Tai'an 82.83 313 P **P 03 32 02.4 -0.2**
TIA pmax pmax
comp=Z,9.0nm,0.5s
TIA Tai'an 82.83 313 P **P 03 32 02.5 -0.2**
TIA pmax pmax
comp=Z,8.0nm,0.4s
DPC Dobruska-Polom 82.84 23 *e*P **P 03 32 03.0 +0.5**
DPC Dobruska-Polom 82.84 23 *e*P **P 03 32 03.0 +0.5**
DPC *ex* x 03 32 15.9
KHC Kasperske Hory 83.10 25 *e*P **P 03 32 04.5 +0.6**
KHC *e* 03 32 10.6
KHC Kasperske Hory 83.10 25 *e*P **P 03 32 04.5 +0.6**
KHC *ex* x 03 32 10.6
KHC *ex* x 03 32 27.6
KHC *ex* x 03 33 04.5
KHC Kasperske Hory 83.10 25 P **P 03 32 04.7 +0.9**
MESJ Messejana 83.10 44 *e*P **P 03 32 04.0 0.0**
MESJ AMb AMB 03 32 09.1
comp=Z,40nm,1.4s
MESJ Messejana 83.10 44 *e*P **P 03 32 04.0 0.0**
BTO Baotou 83.18 320 *e*P **P 03 32 02.8 -1.7**
KRLC Kraliky 83.22 23 *e*P **P 03 32 04.9 +0.4**
KRLC *e* 03 32 10.7
KRLC Kraliky 83.22 23 *e*P **P 03 32 04.9 +0.4**
KRLC *ep*P **pwP 03 32 10.7 -1.5**
MORF Marmelete 83.27 45 *e*P **P 03 32 05.0 0.0**
MORF AMb AMB 03 32 09.9
comp=Z,56nm,1.1s
MORF Marmelete 83.27 45 *e*P **P 03 32 05.9 +0.9**
comp=Z,62nm,1.6s
MORF Marmelete 83.27 45 *e*P **P 03 32 05.0 0.0**
PCVE Castro Verde 83.35 44 *e*P **P 03 32 05.7 +0.4**
comp=Z,64nm,1.4s
GEC2 GERESS Array S 83.39 25 P **P 03 32 06.0 +0.5**
GEC2 IAmb IAmb 03 32 13.7
comp=Z,14nm,1.0s
GERES GERESS Array B 83.39 25 P **P 03 32 05.8 +0.4**
GERES GERESS Array B 83.39 25 P **P 03 32 05.5 +0.1**
comp=Z,9.1nm,1.0s,baz=343,slow=4.2,SNR=37
GERES LR LR 04 10 54.3
comp=Z,896nm,19.2s,baz=320,slow=37
GERES GERESS Array B 83.39 25 P **P 03 32 05.8 +0.4**
DAVA Damuels 83.47 28 *ep*P **P 03 32 06.7 +0.7**
comp=Z,21nm,1.0s,SNR=6.4
LVC Limon Verde 83.51 128 P **P 03 32 06.9 +0.3**
LVC pmax pmax
comp=Z,18nm,1.1s
LVC Limon Verde 83.51 128 P **P 03 32 07.1 +0.5**
comp=Z,12nm,0.9s,baz=46,slow=1.7,SNR=6.5
LVC Limon Verde 83.51 128 P **P 03 32 06.9 +0.3**
LVC IAmb IAmb 03 32 08.7
comp=Z,18nm,1.1s
SIV San Ignacio 83.51 118 P **P 03 32 06.5 +0.2**
comp=Z,7.8nm,1.1s,baz=326,slow=4.0,SNR=6.7
TREC Trest 83.54 24 *e*P **P 03 32 06.6 +0.5**
TREC *e* 03 32 13.1
TREC Trest 83.54 24 *e*P **P 03 32 06.6 +0.5**
TREC *ex* x 03 32 13.1
RETA Reutte 83.60 27 *ep*P **P 03 32 07.4 +0.9**
comp=Z,7.1nm,1.1s
PVAQ Vaqueiros 83.69 44 *e*P **P 03 32 08.1 +1.0**
comp=Z,88nm,1.7s
PBDV Barranco-do-Ve 83.70 45 *e*P **P 03 32 08.4 +1.2**
comp=Z,58nm,1.3s
MORC Moravsky Berou 83.71 22⇑P **P 03 32 06.9 -0.1**
MORC Moravsky Berou 83.71 22⇑P **P 03 32 06.9 -0.1**
MORC Moravsky Berou 83.71 22 *e*P **P 03 32 07.0 -0.1**
MORC Moravsky Berou 83.71 22 P **P 03 32 06.9 -0.1**
MORC IAmb IAmb 03 32 10.8
comp=Z,43nm,1.6s
PAB San Pablo 83.77 41 P **P 03 32 07.7 +0.1**
PAB pmax pmax
comp=Z,11nm,1.1s
PAB San Pablo 83.77 41 P **P 03 32 07.7 +0.1**
PAB IAmb IAmb 03 32 12.8
comp=Z,11nm,1.1s
OKC Ostrava-Krasne 83.83 22 *e*P **P 03 32 07.7 +0.2**
OKC *e* 03 32 14.7
OKC Ostrava-Krasne 83.83 22 *e*P **P 03 32 07.7 +0.2**
OKC *ex* x 03 32 14.7
MOTA Moosalm 83.84 27 *ep*P **P 03 32 08.6 +0.8**
comp=Z,25nm,1.2s,SNR=5.2
VRAC Vranov 83.86 23⇑P **P 03 32 08.7 +1.0**
VRAC Vranov 83.86 23⇑P **P 03 32 08.7 +1.0**
VRAC Vranov 83.86 23 *e*P **P 03 32 08.0 +0.3**
ESBB Sonseca Array 83.86 41 IAmb IAmb 03 32 09.8
comp=Z,26nm,1.1s
ESDC Sonseca Array 83.86 41 P **P 03 32 07.9 -0.1**
comp=Z,15nm,0.9s,baz=314,slow=4.6,SNR=39
ESDC Sonseca Array 83.86 41 P **P 03 32 08.1 +0.1**
HNR Honiara 83.88 252 IAMs_20 IAMs_20 04 11 07.0
comp=Z,1µm,20.0s
OJC Ojcow 83.93 21 *e*P **P 03 32 08.5 +0.4**
OJC Ojcow 83.93 21 *e*P **P 03 32 08.5 +0.4**
OJC *e*P **P 03 32 08.5 +0.4**
SQTA Sankt Quirin 83.98 27 *ep*P **P 03 32 09.2 +0.6**
comp=Z,24nm,1.0s,SNR=8.6
FETA Feichten 83.99 28 *ep*P **P 03 32 09.5 +0.9**
comp=Z,11nm,0.9s,SNR=7.6
WATA Walderalm 84.01 27 *ep*P **P 03 32 09.2 +0.5**
comp=Z,22nm,1.1s,SNR=6.0
KRUC Moravsky 84.02 23 *e*P **P 03 32 08.4 -0.1**
WTTA Wattenberg 84.09 27 *ep*P **P 03 32 09.6 +0.4**
comp=Z,14nm,0.9s,SNR=7.7
FUORN Ofenpass-Fuorn 84.17 28 P **P 03 32 11.1 +1.4**
MOA Molln 84.44 25 *ep*P **P 03 32 10.8 0.0**
comp=Z,18nm,1.2s
BRVK Borovoye 84.45 350 P **P 03 32 09.8 -0.9**
SNR=24
BRVK P **P 03 32 09.8 -0.9**
SNR=24
BRVK Borovoye 84.45 350 *ce*P **P 03 32 10.1 -0.6**
BRVK pmax pmax
comp=Z,41nm,1.0s
BRVK Borovoye 84.45 350 P **P 03 32 10.0 -0.6**
JAVC Velka Javorina 84.57 23 *e*P **P 03 32 12.6 +1.2**
NIE Niedzica 84.79 21 *e*P **P 03 32 13.3 +0.8**
NIE Niedzica 84.79 21 *e*P **P 03 32 13.3 +0.8**
NIE *e*P **P 03 32 13.3 +0.8**
LANS Liptovska Anna 84.81 21 *e*P **P 03 32 14.1 +1.5**
LANS pmax pmax
comp=Z,17nm,1.0s
LANS Liptovska Anna 84.81 21 *e*P **P 03 32 14.1 +1.5**
SMOL Smolenice 84.81 23 *e*P **P 03 32 13.6 +1.0**
SMOL pmax pmax

comp=Z,14nm,0.9s
SMOL Smolenice 84.81 23 *e*P P 03 32 13.6 +1.0
KBA Koelnbreinsper 84.82 26 *e*pP P 03 32 13.2 +0.3
comp=Z,41nm,1.2s
ABTA Abfaltersbach 84.84 27 *e*pP P 03 32 14.1 +1.2
comp=Z,24nm,1.1s
CONA Conrad Observa 84.87 24 *e*PcP P 03 32 13.5 +0.5
comp=Z,20nm,1.1s,SNR=6.2
NJ2 Nanjing 84.88 309 *e*P P 03 32 12.4 -0.8
NJ2 pmax pmax
comp=Z,13nm,0.5s
MODS Modra-Piesok 84.89 23 *e*P P 03 32 13.1 +0.1
MODS pmax pmax
comp=Z,43nm,1.1s
MODS Modra-Piesok 84.89 23 *e*P P 03 32 13.1 +0.1
GO02 Mina Guanaco 85.07 130 P P 03 32 14.7 +0.3
GO02 IAmb IAmb 03 32 16.4
comp=Z,29nm,1.0s
VYHS Vyhne 85.23 22 *e*P P 03 32 15.0 +0.3
VYHS pmax pmax
comp=Z,122nm,2.6s
VYHS Vyhne 85.23 22 *e*P P 03 32 15.0 +0.3
LPSR Galich'ya Gora 85.28 9 *e*P P 03 32 14.3 -0.5
LPSR pmax pmax
comp=Z,20nm,0.9s
KURK Kurchatov 85.29 344 P P 03 32 13.6 -1.3
SNR=17
KURK P P 03 32 13.6 -1.3
SNR=17
KURK Kurchatov 85.29 344 *ce*P P 03 32 14.3 -0.6
KURK pmax pmax
comp=Z,57nm,1.7s
KURK Kurchatov 85.29 344 P P 03 32 14.2 -0.6
LVV L'vov 85.36 18 *e*P P 03 32 14.4 -0.9
ARSA Arzberg 85.37 25 *e*PcP P 03 32 16.0 +0.5
comp=Z,16nm,1.0s
AKASG Malin Array Be 85.64 15 P P 03 32 15.7 -0.9
AKASG pmax pmax
comp=Z,10.0nm,1.0s
AKASG Malin Array Be 85.64 15 P P 03 32 15.9 -0.7
comp=Z,12nm,0.8s,baz=349,slow=4.3,SNR=33
AKASG Malin Array Be 85.64 15 P P 03 32 15.7 -0.9
AKBB Malin Array Si 85.64 15 P P 03 32 15.5 -1.2
AKBB pmax pmax
comp=Z,25nm,1.0s
AKBB Malin Array Si 85.64 15 P P 03 32 15.4 -1.2
AKBB IAmb IAmb 03 32 23.6
comp=Z,25nm,0.9s
KECS Kecovo 85.70 21 *e*P P 03 32 17.0 0.0
KECS pmax pmax
comp=Z,8.0nm,1.1s
KECS Kecovo 85.70 21 *e*P P 03 32 16.9 0.0
OBKA Obir 85.72 26 *e*PcP P 03 32 18.0 +0.7
comp=Z,37nm,1.1s
SOKA Soboth 85.72 25 *e*PcP P 03 32 18.0 +0.8
comp=Z,30nm,1.1s,SNR=5.8
KOLS Kolonicke sedl 85.75 20 *e*P P 03 32 17.6 +0.3
KOLS Kolonicke sedl 85.75 20 *e*P P 03 32 17.6 +0.3
UZH Uzhgorod 86.03 20 *e*P P 03 32 12.9 -5.7
UZH *e* 03 32 16.0
UZH *i* 03 32 18.7
PSZ Piszkesteto 86.05 22 ⇑P P 03 32 19.4 +0.6
PSZ Piszkesteto 86.05 22 ⇑P P 03 32 19.4 +0.6
PSZ Piszkesteto 86.05 22 P P 03 32 19.5 +0.6
PSZ IAmb IAmb 03 32 26.9
comp=Z,14nm,1.0s
VSR Storozhevoye 86.67 9 *e*P P 03 32 20.1 -1.6
VSR pmax pmax
comp=Z,30nm,1.2s
VRH Novokhopyorsk 86.94 7 *e*P P 03 32 21.6 -1.4
VRH pmax pmax
comp=Z,20nm,1.0s
BURAR Bucovina Array 87.70 18 ⇑P P 03 32 27.1 +0.2
BURAR Bucovina Array 87.70 18 ⇑P P 03 32 27.1 +0.2
BURAR Bucovina Array 87.70 18 P P 03 32 26.6 -0.4
DRGR 87.84 20 ⇑P P 03 32 27.7 +0.1
DRGR 87.84 20 ⇑P P 03 32 27.7 +0.1
MANU Manus Island 88.13 266 IAMs_20 IAMs_20 04 01 53.2
comp=Z,797nm,21.0s
MK31 Makanchi Array 88.13 340 *i* P P 03 32 25.8 -3.1
MK31 pmax pmax
comp=Z,21nm,1.2s
MK31 Makanchi Array 88.13 340 P P 03 32 27.9 -1.1
MKAR Makanchi Array 88.13 340 P P 03 32 28.1 -0.8
comp=Z,2.8nm,0.8s,baz=24,slow=4.1,SNR=14
MKAR PKKPbc **PKKPbc** 03 50 11.6 -0.8
comp=Z,1.2nm,0.9s,baz=235,slow=4.3,SNR=5.2
MKAR Makanchi Array 88.13 340 P P 03 32 27.6 -1.4
AKTO Aktyubinsk 88.14 357 P P 03 32 27.1 -1.7
AKTO pmax pmax
comp=Z,38nm,1.3s
PRAR RASCA 88.17 18 ⇑P P 03 32 29.2 +0.2
MAKZ Makanchi 88.20 341 P P 03 32 24.0 -5.2
MAKZ pmax pmax
comp=Z,34nm,1.2s
TATO Taipei 88.38 302 IAMs_20 IAMs_20 04 11 02.2
comp=Z,762nm,22.0s
DZM Mont Dzumac 88.40 238 *e*LR LR 03 59 53.3
comp=Z,2μm,22.8s
DZM Mont Dzumac 88.40 238 P P 03 32 31.0 +0.5
DZM IAMs_20 IAMs_20 04 03 36.3
comp=Z,1μm,21.0s
NRCA Norcia 88.47 28 IAMs_20 IAMs_20 04 13 36.0
comp=Z,908nm,18.0s
BIZ Bicaz 88.54 18 ⇑P P 03 32 31.0 +0.2
BZS Buzias 88.64 21 ⇑P P 03 32 29.9 -1.4
BZS Buzias 88.64 21 ⇑P P 03 32 29.9 -1.4
YHNB Yeheng 88.67 302 IAMs_20 IAMs_20 04 14 19.0
comp=Z,834nm,21.0s
GTA Gaotai 88.76 326 ⇓P P 03 32 32.4 +0.2
GTA pP sP 03 32 37.1 -1.0
GTA sP pwP 03 32 39.4 -0.2
GTA S S 03 43 18.4 -0.4
GTA sS ScS 03 43 24.3 0.0
GTA pmax pmax
comp=Z,11nm,1.5s
GTA pmax pmax
comp=Z,290nm,7.9s
GTA LR LR
comp=Z,1μm,21.6s
LR LR
GTA comp=Z,1μm,21.3s
LR LR
GTA comp=Z,3μm,22.8s
XAN Xi'an 88.84 317 P P 03 32 31.9 -0.6
XAN pP pwP 03 32 43.1 +3.1
XAN pmax pmax
comp=Z,13nm,1.6s
XAN pmax pmax
comp=Z,220nm,2.7s
XAN Xi'an 88.84 317 P P 03 32 32.4 -0.1
XAN pmax pmax
comp=Z,19nm,1.1s
XAN Xi'an 88.84 317 P P 03 32 32.4 -0.1
XAN IAmb IAmb 03 32 38.6
comp=Z,20nm,1.1s
TESR Tescani 89.07 18 ⇑P P 03 32 33.7 +0.4
GZR Gura Zlata 89.16 21 ⇑P P 03 32 32.9 -0.9
GZR Gura Zlata 89.16 21 ⇑P P 03 32 32.9 -0.9
AB31 Akbulak array 89.22 356 *i* P P 03 32 32.8 -1.1
AB31 pmax pmax
comp=Z,42nm,1.0s
ABKAR Akbulak array 89.22 356 P P 03 32 33.2 -0.7
DOPR Dopca 89.28 19 ⇓P P 03 32 33.1 -1.3
WMQ Urumqi 89.35 336 *e*P P 03 32 35.8 +1.0
WMQ PcP PcP 03 32 37.3 +1.1
WMQ pP pwP 03 32 41.3 -1.0
WMQ pmax pmax
comp=Z,28nm,1.5s
WMQ pmax pmax
comp=Z,370nm,3.8s
WMQ LR LR
comp=Z,740nm,21.9s
WMQ LR LR
comp=Z,1μm,22.1s
LR LR
comp=Z,2μm,22.1s
WMQ Urumqi 89.35 336 P P 03 32 34.7 -0.1
WMQ pmax pmax
comp=Z,68nm,1.1s
WMQ Urumqi 89.35 336 P P 03 32 34.7 -0.1
HERR Herculane 89.53 21 ⇑P P 03 32 31.8 -3.7
SSLB Suanglung 89.56 302 IAMs_20 IAMs_20 04 10 23.8
comp=Z,732nm,21.0s
ARR Arges 89.66 20 ⇑P P 03 32 35.2 -1.0
VRI Vrincioaia 89.70 18 ⇑P P 03 32 36.0 -0.3
VRI Vrincioaia 89.70 18 ⇑P P 03 32 36.0 -0.3
VOIR 89.70 19 ⇑P P 03 32 35.8 -0.6
VOIR 89.70 19 ⇑P P 03 32 35.8 -0.6
LZH Lanzhou 89.71 321 *e*P P 03 32 37.6 +0.9
LZH pP sP 03 32 41.3 -1.4
LZH sP pwP 03 32 44.0 -0.2
LZH pmax pmax
comp=Z,29nm,1.0s
LZH pmax pmax
comp=Z,95nm,4.3s
LZH LR LR
comp=Z,360nm,14.1s
LZH LR LR
comp=Z,410nm,14.6s
LZH LR LR
comp=Z,370nm,15.7s
MLR Muntele Rosu 89.87 19 ⇑P P 03 32 37.7 +0.4
MLR Muntele Rosu 89.87 19 ⇑P P 03 32 37.7 +0.4
TPUB Ta-pu 90.12 302 IAMs_20 IAMs_20 04 17 56.5
comp=Z,698nm,21.0s
SGRT San Giovanni R 90.33 27 IAMs_20 IAMs_20 04 15 44.3
comp=Z,771nm,19.0s
CFR Carcaliu 90.67 17 ⇓P P 03 32 38.8 -2.0
CFR Carcaliu 90.67 17 ⇓P P 03 32 38.8 -2.0
KNMB Chin-men Tao 90.69 304 IAMs_20 IAMs_20 04 06 13.4
comp=Z,612nm,20.0s
CFA Coronel Fontan 90.78 133 P P 03 32 41.6 +0.3
comp=Z,6.1nm,0.9s,baz=316,slow=3.2,SNR=4.0
TOPG Topolog 91.01 17 ⇑P P 03 32 41.0 -1.3
TLB Topalu 91.21 18 ⇑P P 03 32 42.5 -0.8
TLB Topalu 91.21 18 ⇑P P 03 32 42.5 -0.8
ENH Enshi 91.48 314 P P 03 32 44.5 -0.4
VTS Vitosha 91.85 22 ⇓P P 03 32 45.7 -0.8
VTS Vitosha 91.85 22 ⇓P P 03 32 45.7 -0.8
VTS Vitosha 91.85 22 P P 03 32 45.3 -1.2
PDGK Podgornoye 92.07 341 P P 03 32 46.4 -1.1
PDGK pmax pmax
comp=Z,21nm,1.3s
BDFB Brasilia 92.23 109 LR LR 04 19 04.6
comp=Z,631nm,18.0s,baz=303,slow=39
CORL Corleone 92.86 30 IAMs_20 IAMs_20 04 03 18.4
comp=Z,760nm,21.0s
PRZ Przheval'sk 93.13 342 P P 03 32 52.3 -0.2
PRZ pmax pmax
comp=Z,12nm,0.9s
PRZ Przheval'sk 93.13 342 P P 03 32 52.3 -0.2
PRZ IAmb IAmb 03 33 00.1
comp=Z,12nm,0.9s
PMG Port Moresby 93.15 260 IAMs_20 IAMs_20 04 17 32.2
comp=Z,1μm,22.0s
KEST Kesra 93.15 34 P P 03 32 52.7 +0.1
comp=Z,18nm,1.1s,baz=30,slow=4.1,SNR=5.2
KEST Kesra 93.15 34 P P 03 32 53.0 +0.5
TKM2 Tokmak 2 93.34 344 P P 03 32 51.4 -2.1
TKM2 pmax pmax
comp=Z,25nm,1.4s
BOOM Boomskoye usch 93.68 343 P P 03 32 54.9 -0.1
BOOM pmax pmax
comp=Z,10.0nm,1.3s
BOOM Boomskoye usch 93.68 343 P P 03 32 54.9 -0.1
BOOM IAmb IAmb 03 33 02.2
comp=Z,9.9nm,1.3s
KDJ Kajisay 93.75 342 P P 03 32 55.0 -0.3
KDJ pmax pmax
comp=Z,11nm,1.0s
KDJ Kajisay 93.75 342 P P 03 32 55.0 -0.3
KDJ IAmb IAmb 03 33 02.2
comp=Z,11nm,1.0s
AAK Ala-Archa 93.84 344 *ce*P P 03 32 54.6 -1.1
AAK pmax pmax
comp=Z,9.0nm,1.5s
AAK Ala-Archa 93.84 344 P P 03 32 56.2 +0.4
AAK IAmb IAmb 03 33 03.1
comp=Z,16nm,1.4s
CD2 Chengdu 93.95 318 *e*P P 03 32 54.0 -2.3
CD2 S S 03 44 03.3 -2.8
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 LR LR
comp=Z,2μm,22.6s
CD2 LR LR
comp=Z,1μm,24.5s
CD2 LR LR
comp=Z,2μm,24.5s
TARG Taragay, Kyrgy 93.99 342 IAmb IAmb 03 32 59.7
comp=Z,17nm,1.7s
KK31 Karatay Array 94.12 347 *i* P P 03 32 54.0 -2.8
KK31 pmax pmax
comp=Z,8.0nm,1.1s
KK31 Karatay Array 94.12 347 P P 03 32 56.3 -0.5
KK31 IAmb IAmb 03 33 03.9
comp=Z,8.5nm,1.1s
KKAR Karatay Array 94.12 347 P P 03 32 55.7 -1.2
KKAR Karatay Array 94.12 347 P P 03 32 55.6 -1.2
KIV Kislovodsk 94.21 7 *e*P P 03 32 56.2 -1.1
KIV pmax pmax
comp=Z,18nm,1.1s
SHA1 Shidzhatmaz 94.43 8 *i* P P 03 32 57.2 -1.3
HKPS Hong Kong Po S 94.91 306 IAMs_20 IAMs_20 04 23 53.0
comp=Z,1μm,21.0s
ILGA Ilgaz 95.78 15 IAMs_20 IAMs_20 04 20 06.2
comp=Z,805nm,21.0s
GYA Guiyang 96.01 313 *e*P P 03 33 13.5 +7.6
GYA pmax pmax
comp=Z,10.0nm,0.4s
TAS Tashkent 96.05 348 IAMs_20 IAMs_20 04 05 14.6
comp=Z,1μm,22.0s
KSH Kashi 96.52 342 *e*P P 03 33 11.8 +3.8
BR131 Keskin Array S 97.05 15 P P 03 33 10.1 -0.3
BR131 pmax pmax
comp=Z,4.0nm,1.0s
BR131 Keskin Array S 97.05 15 P P 03 33 10.1 -0.3
BRTR Keskin Array B 97.05 15 P P 03 33 09.5 -0.9
BRTR 03 37 05.0
BRTR Keskin Array B 97.05 15 P P 03 33 09.9 -0.4
comp=Z,1.5nm,0.9s,baz=4.2,slow=5.1,SNR=7.1
BRTR PP PP 03 37 05.5 +0.5
comp=Z,1.8nm,1.1s,baz=330,slow=5.5,SNR=5.1
BRTR Keskin Array B 97.05 15 P P 03 33 09.5 -0.9
BRTR PP PP 03 37 05.0 0.0
GAR Garm 98.15 347 P Pdif 03 33 15.4 0.0
DAV Davao City (W) 98.18 287 IAMs_20 IAMs_20 04 07 48.2
comp=Z,935nm,20.0s
FAKI Fak Fak 100.02 275 IAMs_20 IAMs_20 04 13 21.9
comp=Z,1μm,20.0s
LSA Lhasa 100.72 327 IAMs_20 IAMs_20 04 20 10.2
comp=Z,959nm,20.0s
TOC7 Torodi Ar. Sit 107.77 53 IAMs_20 IAMs_20 04 21 03.1
comp=Z,924nm,20.0s
TOA1 Torodi Ar. Sit 107.78 53 IAMs_20 IAMs_20 04 21 32.6
comp=Z,900nm,20.0s
TOA0 Torodi Ar. Sit 107.79 53 IAMs_20 IAMs_20 04 21 23.7
comp=Z,952nm,19.0s
TORD Torodi Ar. Bea 107.79 53 PP PP 03 38 27.3 +0.9
comp=Z,1.0nm,1.1s,baz=304,slow=6.2,SNR=3.5
TOB4 Torodi Ar. Sit 107.79 53 IAMs_20 IAMs_20 04 17 40.7
comp=Z,934nm,20.0s
TOA2 Torodi Ar. Sit 107.79 53 IAMs_20 IAMs_20 04 20 10.8
comp=Z,942nm,20.0s
TOA3 Torodi Ar. Sit 107.79 53 IAMs_20 IAMs_20 04 17 40.8
comp=Z,959nm,20.0s
TOB2 Torodi Ar. Sit 107.79 53 IAMs_20 IAMs_20 04 20 10.8
comp=Z,934nm,20.0s
TOC2 Torodi Ar. Sit 107.80 53 IAMs_20 IAMs_20 04 20 10.9
comp=Z,956nm,20.0s
TOB3 Torodi Ar. Sit 107.80 53 IAMs_20 IAMs_20 04 21 05.1
comp=Z,927nm,20.0s
TOC3 Torodi Ar. Sit 107.81 53 IAMs_20 IAMs_20 04 21 05.4
comp=Z,953nm,20.0s
WB0 Warramunga Arr 109.22 260 IAMs_20 IAMs_20 04 28 40.1
comp=Z,857nm,20.0s
WB9 Warramunga Arr 109.24 260 IAMs_20 IAMs_20 04 15 58.2
comp=Z,1μm,22.0s
WB7 Warramunga Arr 109.28 260 IAMs_20 IAMs_20 04 15 57.6
comp=Z,791nm,21.0s
WR6 Warramunga Arr 109.29 260 IAMs_20 IAMs_20 04 18 01.0
comp=Z,1μm,22.0s
WR2 Warramunga Arr 109.35 260 IAMs_20 IAMs_20 04 18 00.6
comp=Z,941nm,22.0s
WC3 Warramunga Arr 109.36 260 IAMs_20 IAMs_20 04 17 59.6
comp=Z,1μm,22.0s
WB2 Warramunga Arr 109.36 260 IAMs_20 IAMs_20 04 18 00.8
comp=Z,1μm,22.0s
WR1 Warramunga Arr 109.37 260 IAMs_20 IAMs_20 04 15 42.0
comp=Z,782nm,22.0s
WC4 Warramunga Arr 109.38 260 IAMs_20 IAMs_20 04 18 10.3
comp=Z,825nm,18.0s
BKB Balikpapan 110.16 287 IAMs_20 IAMs_20 04 22 16.7
comp=Z,903nm,21.0s
SOEI Soe 110.45 275 IAMs_20 IAMs_20 04 14 10.3
comp=Z,666nm,19.0s
KAPI Kappang 110.66 282 IAMs_20 IAMs_20 04 16 04.3
comp=Z,644nm,22.0s
ASAR Alice Springs 111.96 257 PKiKP **PKiKP** 03 38 12.7 -0.9
comp=Z,1.3nm,1.0s,baz=23,slow=3.0,SNR=5.2
KSM Kuching 112.84 294 IAMs_20 IAMs_20 04 26 26.1
comp=Z,683nm,20.0s
VNDA Vanda 126.47 195 PKP **PKPdf** 03 38 40.1 +0.3
comp=Z,8.0nm,1.1s,baz=4.4,slow=5.4,SNR=4.2
QSPA South Pole Qui 131.51 180 **PKPdf** 03 38 50.1 +0.3
KMBO Kilima Mbogo 137.16 24 PKP **PKPdf** 03 39 02.7 +0.4
comp=Z,7.0nm,0.9s,baz=35,slow=4.1,SNR=19
LSZ Lusaka 146.01 47 P **PKPdf** 03 39 17.8 0.0
LSZ Lusaka 146.01 47 PKP2 **PKPdf** 03 39 18.0 +0.2
LSZ Lusaka 146.01 47 **PKPdf** 03 39 18.0 +0.2
SYO Syowa Base 151.72 170 ⇓*e*PKPdf **PKPdf** 03 39 23.4 -1.8
SYO Syowa Base 151.72 170 ⇓*i*pPKPdf pPKPdf 03 39 29.0 -0.7
SYO Syowa Base 151.72 170 ⇓*i*pPKPbc pPKPbc 03 39 35.2 -0.8
SBV Sambava 151.72 6 P **PKPdf** 03 39 29.7 +2.8
LBTB Lobatse 151.82 62 PKIKP **PKPbc** 03 39 32.8 -0.5
LBTB Lobatse 151.82 62 **PKPbc** 03 39 32.8 -0.5
MAW Mawson 153.50 188 PKPbc **PKPbc** 03 39 35.0 -0.5
comp=Z,10nm,0.9s,baz=185,slow=0.6,SNR=11
MAW Mawson 153.50 188 PKPbc **PKPbc** 03 39 35.2 -0.3
BOSA Boshof 153.91 69 PKPbc **PKPbc** 03 39 36.9 -0.9
comp=Z,7.7nm,0.9s,baz=329,slow=3.2,SNR=5.9

MEX ***01*** *03:20:55.7±1.1, 17°.30N×101°.67W, h20km, MD5.4*
MOS ***01*** *03:20:58.0±0.9, 17°.64N×101°.29W, h41km, mb5.2/25, Error ellipse: s-maj=11.8km s-min=5.6km az=104.8*
ISCJB ***01*** *03:20:58.9±0.5, 17°.66N±0°.03×101°.29W±0°.02, h46km±4km, mb4.9/58, MS5.5/1, Error ellipse: s-maj=5.1km s-min=2.7km az=23.3*
NEIC ***01*** *03:20:58.3±2.4, 17°.50N±0°.06×101°.48W±0°.05, h36km±5km*
IDC ***01*** *03:21:00.2±2.0, 17°.57N×101°.31W, h49km±18km, mb4.5/31, mb1 4.6/37, mb1mx4.5/55, mbtmp4.7/37, ML3.7/5, MS5.1/3, Ms1 5.1/3, ms1mx4.3/30, Error ellipse: s-maj=19.0km s-min=8.7km az=48.0*
BJI ***01*** *03:21:01.0±0.0, 17°.80N×101°.30W, h53km, mB5.7/3, Ms5.5/9, Ms7 5.4/9*

ISC 01 03:20:57.0±0.8, 17°.46N±0°.05×101°.48W±0°.04, h26km±5km, n604, σ1s29/544, mb5.1/152, 3C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
ZIIG	**Zihuatanejo**	**0.15**	**5**	*i* P		**Pb**	**03 21 01.0**	**-1.3**
ZIIG				eS		**Sb**	**03 21 06.3**	**+0.5**
ZIIG	**Zihuatanejo**	**0.15**	**5**			**Pb**	**03 21 01.0**	**-1.3**
ZIIG						**Sb**	**03 21 06.3**	**+0.5**
CAIG	**El Cayaco**	**1.23**	**109**	*e*P		**Pn**	**03 21 15.5**	**-3.0**
CAIG	**El Cayaco**	**1.23**	**109**			**Pn**	**03 21 15.5**	**-3.0**
ACP2	**Acapulco**	**1.63**	**111**	*e*P		**Pn**	**03 21 22.3**	**-1.7**
ACP2	**Acapulco**	**1.63**	**111**			**Pn**	**03 21 22.3**	**-1.7**
MEIG	**Mezcala**	**1.83**	**75**	*e*P		**Pn**	**03 21 26.8**	**-0.1**
MEIG	**Mezcala**	**1.83**	**75**			**Pn**	**03 21 26.8**	**-0.1**
MMIG	**Aquila**	**1.96**	**295**	*e*P		Pn	03 21 23.5	-5.0
MMIG				eS		**Sb**	**03 21 57.5**	**+1.5**
MMIG	**Aquila**	**1.96**	**295**			Pn	03 21 23.5	-5.0
MMIG						**Sb**	**03 21 57.5**	**+1.5**
PLIG	**Platanillo**	**2.10**	**63**	*e*P		**Pn**	**03 21 30.6**	**+0.1**
PLIG	**Platanillo**	**2.10**	**63**			**Pn**	**03 21 30.6**	**+0.1**
MAVM	**Malinalco, Edo**	**2.40**	**51**	*e*P		**Pn**	**03 21 35.0**	**+0.1**
MAVM	**Malinalco, Edo**	**2.40**	**51**			**Pn**	**03 21 35.0**	**+0.1**
TOVM	**TOLUCA**	**2.49**	**43**	*e*P		**Pn**	**03 21 36.9**	**+0.7**
TOVM	**TOLUCA**	**2.49**	**43**			**Pn**	**03 21 36.9**	**+0.7**
YAIG	**Yautepec**	**2.68**	**58**	*e*P		**Pn**	**03 21 38.7**	**0.0**
YAIG	**Yautepec**	**2.68**	**58**			**Pn**	**03 21 38.7**	**0.0**
ATVM	**ATLACOMULCO**	**2.77**	**34**	*e*P		**Pn**	**03 21 40.6**	**+0.7**
ATVM	**ATLACOMULCO**	**2.77**	**34**			**Pn**	**03 21 40.6**	**+0.7**
TLIG	**Tlapa**	**2.78**	**87**	*e*P		**Pn**	**03 21 39.9**	**-0.1**
TLIG	**Tlapa**	**2.78**	**87**			**Pn**	**03 21 39.9**	**-0.1**
TLIG	**Tlapa**	**2.78**	**87**			**Pn**	**03 21 40.6**	**+0.6**
HMTT	**Tlapaneco**	**2.80**	**83**	*e*P		**Pn**	**03 21 42.5**	**+2.2**
HMTT	**Tlapaneco**	**2.80**	**83**			**Pn**	**03 21 42.5**	**+2.2**
EZ5V		**2.84**	**315**	*e*P		**Pn**	**03 21 39.7**	**-1.3**
EZ5V		**2.84**	**315**			**Pn**	**03 21 39.7**	**-1.3**
R15V		**2.92**	**306**	*e*P		**Pn**	**03 21 39.1**	**-2.8**
R15V		**2.92**	**306**			**Pn**	**03 21 39.1**	**-2.8**
AZVM	**Cuida Lopez Ma**	**2.97**	**44**	*e*P		**Pn**	**03 21 43.7**	**+1.0**
AZVM	**Cuida Lopez Ma**	**2.97**	**44**			**Pn**	**03 21 43.7**	**+1.0**
PPM	**Popocatepetl**	**3.15**	**59**	*e*P		**Pn**	**03 21 45.8**	**+0.4**
ZUVM	**ZUMPANGO**	**3.27**	**44**	*e*P		**Pn**	**03 21 47.5**	**+0.6**
ZUVM	**ZUMPANGO**	**3.27**	**44**			**Pn**	**03 21 47.5**	**+0.6**
PNIG	**Pinotepa**	**3.38**	**108**	*e*P		**Pn**	**03 21 46.5**	**-1.7**
PNIG	**Pinotepa**	**3.38**	**108**			**Pn**	**03 21 46.5**	**-1.7**
VTVM	**Tizayuca**	**3.44**	**48**	*e*P		**Pn**	**03 21 49.9**	**+0.7**
VTVM	**Tizayuca**	**3.44**	**48**			**Pn**	**03 21 49.9**	**+0.7**
DEIG	**Demacu**	**3.65**	**39**	*e*P		**Pn**	**03 21 52.4**	**+0.3**
CJM	**Chamela**	**3.94**	**301**	*e*P		Pn	03 21 50.3	-5.6
VHO	**Vista Hermosa**	**4.55**	**94**	*e*P		**Pn**	**03 22 04.5**	**+0.1**
ZAIG	**Zacatecas**	**5.38**	**349**			**Pn**	**03 22 15.8**	**-0.1**
HUIG	**Huatulco**	**5.42**	**107**	*e*P		**Pn**	**03 22 15.4**	**-0.7**
HUIG	**Huatulco**	**5.42**	**107**			**Pn**	**03 22 15.4**	**-0.7**
CMIG	**Matias Romero**	**6.31**	**92**	P		**Pn**	**03 22 28.7**	**+0.2**
	1.9nm,0.3s,baz=272,slow=11,SNR=15							
CMIG				S		**Sn**	**03 23 38.4**	**-1.4**
	12nm,0.3s,baz=268,slow=15,SNR=4.0							
CCIG	**Comitan**	**9.02**	**96**			**Pn**	**03 23 07.3**	**+1.5**
HPIG		**10.19**	**338**			**Pn**	**03 23 22.6**	**+0.7**
KVTX	**Kingsville**	**10.57**	**18**		Pn	**Pn**	**03 23 25.7**	**-1.2**
LPIG	**La Paz**	**10.57**	**310**	P		**Pn**	**03 23 28.7**	**+1.8**
	baz=45,slow=7.1,SNR=4.6							
APG	**El Apazote**	**10.86**	**101**	P		**Pn**	**03 23 34.2**	**+3.2**
	2.0nm,0.3s,baz=282,slow=13,SNR=3.9							
APG				LR		LR	03 27 59.3	
	comp=Z,6μm,18.1s,baz=98,slow=39							
833A	**Chaparral WMA,**	**10.98**	**10**			**Pn**	**03 23 31.2**	**-1.3**
TX31	**Lajitas Ar. Si**	**11.99**	**351**			**Pn**	**03 23 47.6**	**+1.2**
TX32	**Lajitas Array**	**11.99**	**351**			**Pn**	**03 23 47.5**	**+1.1**
TXAR	**Lajitas Array**	**11.99**	**351**	P		**Pn**	**03 23 47.0**	**+0.6**
TXAR	**Lajitas Array**	**11.99**	**351**	P		**Pn**	**03 23 48.1**	**+1.8**
	0.1nm,0.3s,baz=166,slow=16,SNR=35							
TXAR	**Lajitas Array**	**11.99**	**351**			**Pn**	**03 23 47.0**	**+0.6**
TEIG	**Tepich**	**12.80**	**76**	P		**Pn**	**03 23 57.3**	**-0.1**
	0.4nm,0.3s,baz=320,slow=1.6,SNR=2.7							
TEIG				S		**Sn**	**03 26 17.9**	**-1.1**
	1.2nm,0.3s,baz=319,slow=18,SNR=2.5							
TEIG				LR		LR	03 29 16.6	
	comp=Z,6μm,20.3s,baz=51,slow=39							
TEIG	**Tepich**	**12.80**	**76**		Pn	**Pn**	**03 23 57.9**	**+0.5**
JCT	**Junction City**	**13.05**	**6**	P		**Pn**	**03 24 03.2**	**+2.4**
	baz=186,SNR=6.9							
JCT	**Junction City**	**13.05**	**6**	P		**Pn**	**03 24 00.5**	**-0.3**
JCT	**Junction City**	**13.05**	**6**			**Pn**	**03 24 00.6**	**-0.3**
HKT	**Hockley**	**13.46**	**22**	P		**Pn**	**03 24 05.5**	**-0.8**
HKT	**Hockley**	**13.46**	**22**			**Pn**	**03 24 05.5**	**-0.8**
435B	**Jarrell**	**13.73**	**14**	P		**Pn**	**03 24 13.0**	**+3.0**
	baz=195,SNR=12							
435B	**Jarrell**	**13.73**	**14**			**Pn**	**03 24 07.7**	**-2.3**
TGUH	**Tegucigalpa,Un**	**14.09**	**102**			**Pn**	**03 24 17.0**	**+1.9**
WHTX	**Lake Whitney,**	**14.92**	**13**	P		**P**	**03 24 31.2**	**-0.5**
	baz=194,SNR=21							
WHTX	**Lake Whitney,**	**14.92**	**13**			**Pn**	**03 24 24.4**	**-1.8**
WHTX				IAmb		IAmb	03 24 33.1	
	comp=Z,158nm,1.1s							
ABTX	**Abilene, Hawle**	**15.19**	**6**	P		**Pn**	**03 24 30.7**	**+0.9**
	baz=186							
ABTX	**Abilene, Hawle**	**15.19**	**6**			**Pn**	**03 24 28.8**	**-1.0**
ABTX				IAmb		IAmb	03 24 35.9	
	comp=Z,80nm,0.9s							
NATX	**Nacogdoches**	**15.52**	**22**	P		**P**	**03 24 38.5**	**+0.2**
	baz=205,SNR=21							
ACON	**Acoyapa**	**16.68**	**107**			**P**	**03 24 52.0**	**+0.7**
LENM	**Lemitar**	**17.35**	**345**			**P**	**03 24 59.4**	**+0.6**
X34A	**Smith Ranch, M**	**17.38**	**10**	Pn		**Pn**	**03 24 57.7**	**-0.1**
X34A				IAmb		IAmb	03 25 03.6	
	comp=Z,190nm,1.2s							
ESPN	**Las Esperanzas**	**17.41**	**105**	P		**P**	**03 25 01.3**	**+2.0**
JTS	**Las Juntas de**	**17.55**	**112**	*i* P		**P**	**03 25 01.4**	**+0.5**
JTS	**Las Juntas de**	**17.55**	**112**	P		**Pn**	**03 25 00.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=282,slow=14,SNR=2.1							
JTS	**Las Juntas de**	**17.55**	**112**	P		**P**	**03 25 02.3**	**+1.4**
Z41A	**Richland Creek**	**17.56**	**25**	P		**P**	**03 25 01.1**	**+0.2**
	baz=208,SNR=15							
Z41A	**Richland Creek**	**17.56**	**25**	P		**Pn**	**03 24 59.2**	**-0.7**

Z41A IAmb IAmb 03 25 02.0
comp=Z,192nm,1.2s
214A Organ Pipe Nat 17.71 327 P **P** **03 25 02.6 0.0**
baz=141
214A Organ Pipe Nat 17.71 327 **P** **03 25 02.5 0.0**
VBMS Vicksburg 17.72 32 P **P** **03 25 02.5 -0.2**
baz=216
VBMS Vicksburg 17.72 32 P **Pn** **03 25 01.0 -1.0**
WLAR White Oak Lake 17.82 23 IAmb IAmb 03 25 19.1
comp=Z,144nm,1.3s
ANMO Albuquerque 17.97 347 P **P** **03 25 07.5 +1.9**
baz=164
ANMO Albuquerque 17.97 347 *i* P **Pn** **03 25 03.3 -2.0**
ANMO Albuquerque 17.97 347 P **P** **03 25 07.0 +1.4**
comp=Z,0.3nm,0.3s,baz=155,slow=12,SNR=8.6
ANMO Albuquerque 17.97 347 **P** **03 25 05.6 0.0**
HDC Heredia 18.42 111 P **Pn** **03 25 11.8 +1.1**
MIAR Mount Ida 18.42 21 P **P** **03 25 08.7 -1.7**
baz=204,SNR=23
CCAR Cane Creek 18.56 26 P **P** **03 25 10.7 -1.2**
X40A Basin Creek Fa 18.64 23 P **P** **03 25 11.5 -1.3**
baz=206,SNR=9.5
BRAL Brewton 18.92 41 **P** **03 25 15.3 -0.6**
W39A Magazine 18.95 20 P **P** **03 25 15.8 -0.4**
baz=203,SNR=64
TUL1 Leonard 19.06 14 P **P** **03 25 16.4 -1.0**
baz=196
X16A Lo Mia Camp, P 19.09 334 P **Pn** **03 25 18.9 0.0**
X43A Marvell 19.45 27 P **P** **03 25 21.6 0.0**
baz=212,SNR=26
X43A Marvell 19.45 27 P **P** **03 25 21.5 -0.2**
W41B Gary Mavity, V 19.46 23 P **P** **03 25 21.0 -0.8**
baz=207,SNR=31
WHAR Wooly Hollow 19.55 23 IAmb IAmb 03 25 36.3
comp=Z,168nm,1.2s
GLA Glamis 19.63 325 P **Pn** **03 25 25.2 -0.1**
baz=138,SNR=15
GLA Glamis 19.63 325 P **Pn** **03 25 24.8 -0.4**
GLA pmax pmax
comp=Z,83nm,1.1s
GLA Glamis 19.63 325 P **Pn** **03 25 24.8 -0.4**
T25A Trinidad 19.77 353 P **Pn** **03 25 26.5 -0.6**
baz=171,SNR=7.2
T25A Trinidad 19.77 353 P **P** **03 25 24.9 -0.5**
T25A IAmb IAmb 03 25 28.0
comp=Z,83nm,0.9s
DREC Desert Rsrch C 19.80 323 P **Pn** **03 25 27.2 +0.1**
DREC IAmb IAmb 03 25 32.8
comp=Z,75nm,0.8s
WESC Westside Schoo 19.93 323 P **Pn** **03 25 28.3 -0.3**
WESC IAmb IAmb 03 25 34.0
comp=Z,94nm,0.9s
250A Grady 19.96 41 P **P** **03 25 26.1 -1.2**
baz=227,SNR=8.6
250A Grady 19.96 41 P **P** **03 25 26.5 -0.7**
Y12C Blythe 20.00 327 P **P** **03 25 28.8 +1.1**
baz=140,SNR=10
WUAZ Wupatki 20.02 336 P **P** **03 25 28.9 +0.8**
baz=151,SNR=22
WUAZ Wupatki 20.02 336 P Pn 03 25 29.2 -0.8
WUAZ IAmb IAmb 03 25 35.3
comp=Z,147nm,1.0s
IKP In-Ko-Pah, Jac 20.07 322 P **P** **03 25 29.7 +1.1**
baz=134,SNR=9.3
SWSC Sam W. Stewart 20.10 323 P **P** **03 25 30.0 +1.1**
baz=136,SNR=15
OXF Oxford 20.12 30 P **P** **03 25 28.2 -0.7**
baz=215,SNR=9.0
FCAR Ozark Folk Cen 20.15 23 IAmb IAmb 03 25 29.6
comp=Z,110nm,0.8s
LRAL Lakeview Retre 20.26 37 P **P** **03 25 29.3 -1.2**
baz=224,SNR=17
U40A Yellville 20.31 20 P **P** **03 25 29.3 -1.7**
baz=204
MET Memphis--Engin 20.38 28 P **P** **03 25 30.9 -0.9**
HBAR Harrisburg 20.43 26 P **P** **03 25 31.6 -0.7**
HBAR IAmb IAmb 03 25 33.1
comp=Z,120nm,1.0s
MONP2 Monument Peak 20.43 322 P Pn 03 25 33.9 -0.9
baz=134,SNR=27
MONP2 Monument Peak 20.43 322 IAmb IAmb 03 25 35.0
comp=Z,68nm,1.0s
BC3 Big Chuckawall 20.43 325 P **P** **03 25 33.7 +1.2**
baz=138,SNR=16
352A Blakely 20.50 44 P **P** **03 25 32.2 -0.9**
baz=231,SNR=6.0
SDCO Great Sand Dun 20.52 351 P **P** **03 25 34.2 +0.6**
baz=168
SDCO Great Sand Dun 20.52 351 P **P** **03 25 34.1 +0.6**
SDCO IAmb IAmb 03 25 35.6
comp=Z,90nm,1.0s
453A Whigham 20.53 46 P **P** **03 25 33.3 -0.2**
baz=234
LPAR Lepanto 20.62 27 P **P** **03 25 32.7 -1.7**
LPAR IAmb IAmb 03 25 34.6
comp=Z,75nm,0.9s
MVCO Mesa Verde 20.62 344 P **P** **03 25 35.4 +0.7**
baz=160,SNR=11
MVCO Mesa Verde 20.62 344 P **P** **03 25 34.4 -0.3**
MVCO IAmb IAmb 03 25 40.2
comp=Z,141nm,1.0s
SDRC San Diego Road 20.63 320 P **P** **03 25 35.7 +1.1**
SDRC IAmb IAmb 03 25 36.9
comp=Z,110nm,1.1s
IRM Iron Mountain 20.65 326 P **P** **03 25 35.7 +1.0**
baz=139,SNR=27
LCAR Lake Charles 20.67 24 IAmb IAmb 03 25 45.9
comp=Z,70nm,1.2s
EML El Monte Cty P 20.68 321 IAmb IAmb 03 25 37.2
comp=Z,61nm,0.9s
CBCY The Bluff, Cay 20.71 80 P **P** **03 25 36.1 +0.6**
S22A 4UR Ranch, Cre 20.75 348 P Pn 03 25 37.7 -0.8
baz=165
S22A 4UR Ranch, Cre 20.75 348 P **P** **03 25 36.0 -0.2**
S22A IAmb IAmb 03 25 41.7
comp=Z,89nm,1.2s
109C Camp Elliot, M 20.84 320 P **P** **03 25 37.8 +1.0**
baz=133,SNR=20
109C Camp Elliot, M 20.84 320 IAmb IAmb 03 25 38.9
comp=Z,105nm,1.1s
NEE2 Needles Airpor 20.85 328 P **P** **03 25 38.2 +1.3**
baz=142,SNR=11
353A Camilla 20.89 45 P **P** **03 25 36.0 -1.3**
baz=233,SNR=6.1
454A Quitman 20.93 48 P **P** **03 25 38.1 +0.4**
baz=235
252A Lumpkin 20.95 43 P **P** **03 25 37.7 -0.3**
baz=230
PFO Pinyon Flats O 20.97 323 P **P** **03 25 39.5 +1.1**
baz=136,SNR=23
PFO Pinyon Flats O 20.97 323 *i* P Pn 03 25 40.1 -0.9
PFO Pinyon Flats O 20.97 323 P **P** **03 25 39.2 +0.9**
comp=Z,45nm,0.9s,baz=132,slow=8.8,SNR=27
PFO Pinyon Flats O 20.97 323 P **P** **03 25 39.4 +1.1**
PFO IAmb IAmb 03 25 40.8
comp=Z,90nm,1.1s
BELC Belle Mtn. Jos 20.99 324 P **P** **03 25 39.8 +1.2**
baz=137,SNR=24
656A Willston 21.00 52 P **P** **03 25 37.4 -1.2**
656A IAmb IAmb 03 25 40.5
comp=Z,99nm,1.1s
Z50A Ashland 21.05 39 P **P** **03 25 37.4 -1.7**
baz=225,SNR=8.8
GNAR Gosnell 21.05 27 P **P** **03 25 36.9 -2.1**
GNAR IAmb IAmb 03 25 52.2
comp=Z,111nm,1.1s
PAYG Puerto Ayora 21.13 147 P **P** **03 25 44.4 +4.3**
PAYG IAmb IAmb 03 25 58.3
comp=Z,87nm,1.3s
PLAL Pickwick Lake 21.15 32 IAmb IAmb 03 25 48.4
comp=Z,115nm,1.1s
U15A North Rim 21.18 335 P **P** **03 25 40.8 0.0**
U15A IAmb IAmb 03 25 46.3
comp=Z,65nm,1.0s
Y49A Blount Mountai 21.20 37 P **P** **03 25 38.5 -2.1**
baz=223,SNR=5.6
PEBM Pemiscott Bayo 21.24 27 P **P** **03 25 39.5 -1.6**
PEBM IAmb IAmb 03 25 49.1
comp=Z,150nm,1.2s
X48A Hartselle 21.28 35 P **P** **03 25 39.5 -2.0**
baz=221,SNR=25
HALT Halls 21.30 28 P **P** **03 25 40.7 -1.1**
CBKS Cedar Bluff 21.33 4 P **P** **03 25 41.3 -0.8**
baz=184,SNR=5.2
CBKS Cedar Bluff 21.33 4 P **P** **03 25 40.7 -1.4**
CBKS pmax pmax
comp=Z,70nm,0.9s
CBKS Cedar Bluff 21.33 4 P **P** **03 25 40.7 -1.4**
CBKS IAmb IAmb 03 25 52.5
comp=Z,70nm,0.9s
455A Stateville 21.37 48 P **P** **03 25 42.3 -0.2**
baz=236,SNR=5.3
TIGA Tifton 21.38 46 P **P** **03 25 42.1 -0.5**
baz=234
TIGA Tifton 21.38 46 P **P** **03 25 40.8 -1.8**
TIGA IAmb IAmb 03 25 47.3
comp=Z,98nm,0.9s
MURC Murrieta 21.39 322 P **P** **03 25 43.8 +1.0**
baz=134,SNR=38
253A Americus 21.39 44 P **P** **03 25 41.6 -1.2**
253A IAmb IAmb 03 25 52.6
comp=Z,188nm,1.4s
LNXT Lenox 21.39 27 P **P** **03 25 41.1 -1.6**
152A Waverly Hall 21.40 42 P **P** **03 25 41.1 -1.7**
baz=229
152A Waverly Hall 21.40 42 P **P** **03 25 41.0 -1.9**
GMRC Granite Mounta 21.40 326 P **P** **03 25 43.6 +0.7**
baz=139,SNR=23
KSCO Kaye Shedlock' 21.50 358 P **P** **03 25 44.1 +0.1**
baz=176,SNR=15
PV01 Paradox Valley 21.52 345 P **P** **03 25 44.6 +0.3**
Z51A Franklin 21.55 40 P **P** **03 25 42.3 -2.1**
baz=227
PVMO Portageville 21.57 27 P **P** **03 25 42.0 -2.5**
GLAT Glass 21.62 28 P **P** **03 25 43.1 -2.1**
GLAT IAmb IAmb 03 25 48.2
comp=Z,140nm,1.2s
PENMO Penman 21.63 27 P **P** **03 25 43.2 -2.0**
PENMO IAmb IAmb 03 25 54.3
comp=Z,109nm,0.9s
Q24A Divide 21.66 352 P **P** **03 25 47.8 +1.9**
baz=170
Q24A Divide 21.66 352 P **P** **03 25 45.1 -0.8**
BBRC Big Bear Solar 21.70 323 P **P** **03 25 48.3 +1.9**
baz=136
PV11 David Mesa, Pa 21.75 344 P **P** **03 25 45.9 -0.9**
PV19 Morning Glory 21.79 344 P **P** **03 25 47.3 +0.1**
PV19 IAmb IAmb 03 25 50.8
comp=Z,76nm,1.1s
HEC Hector,Ludlow 21.79 325 P **P** **03 25 48.3 +1.1**
baz=138,SNR=24
SCI2 San Clemente I 21.80 318 P **P** **03 25 48.8 +1.8**
baz=130,SNR=7.3
254A Abbeville 21.88 45 P **P** **03 25 45.6 -2.4**
baz=233
KNB Kanab 21.90 335 P **P** **03 25 49.2 +0.8**
KNB pmax pmax
comp=Z,75nm,0.9s
KNB Kanab 21.90 335 P **P** **03 25 49.1 +0.8**
HENM Henderson Moun 21.92 27 P **P** **03 25 45.7 -2.6**
HENM IAmb IAmb 03 25 49.7
comp=Z,106nm,0.8s
PV23 Carpenter Ridg 21.93 344 P **P** **03 25 49.6 +0.9**
PV23 IAmb IAmb 03 25 51.6
comp=Z,90nm,1.1s
Z52A Williamson 21.93 41 P **P** **03 25 46.6 -1.9**
baz=229,SNR=7.7
153A Fort Valley 21.96 43 P **P** **03 25 47.3 -1.5**
baz=231
KSU1 Kansas State U 21.98 10 P **P** **03 25 48.6 -0.4**
baz=192
CIS Catalina Islan 21.99 319 P **P** **03 25 49.8 +0.6**
baz=131,SNR=9.2
PV09 Paradox Valley 22.00 344 P **P** **03 25 49.8 +0.1**
Y51A Rockmart 22.01 39 P **P** **03 25 47.4 -2.0**
baz=226,SNR=9.7
TUQ Turquoise Moun 22.04 327 P **P** **03 25 51.6 +1.8**
baz=140,SNR=32
PKCU Pink Cliffs 22.07 337 P **P** **03 25 50.6 +0.2**
BFSC Mount Baldy Ra 22.11 322 P **P** **03 25 51.8 +1.2**
baz=134,SNR=13
SMCO Snowmass 22.16 349 IAmb IAmb 03 26 02.7
comp=Z,100nm,1.2s
WVT Waverly 22.18 30 P **P** **03 25 48.7 -2.5**
baz=216
WVT Waverly 22.18 30 P **P** **03 25 49.8 -1.4**
WVT pmax pmax
comp=Z,43nm,1.0s
WVT Waverly 22.18 30 P **P** **03 25 49.8 -1.4**
RRX Edison Barstow 22.19 324 P **P** **03 25 53.2 +1.8**
baz=137
W49A Belvidere 22.21 35 P **P** **03 25 49.9 -1.6**
baz=221,SNR=10
PASC Pasadena Art C 22.38 321 IAmb IAmb 03 25 56.5
comp=Z,56nm,1.1s
V48A Smith Brothers 22.38 33 P **P** **03 25 51.1 -2.2**
baz=219
CCM Cathedral Cave 22.40 22 P **P** **03 25 52.2 -1.3**
baz=206
GSC Goldstone, Bar 22.40 325 P **P** **03 25 55.1 +1.4**
baz=138,SNR=26
154A Montrose 22.41 44 P **P** **03 25 52.4 -1.3**
baz=232
255A Hazlehurst 22.43 47 P **P** **03 25 53.6 -0.3**
baz=235
255A Hazlehurst 22.43 47 P **P** **03 25 52.9 -1.0**
255A IAmb IAmb 03 25 56.9
comp=Z,110nm,1.1s
DECC Green Verdugo 22.52 321 P **P** **03 25 56.6 +1.7**
baz=133
Z53A Monticello 22.53 42 P **P** **03 25 52.3 -2.6**
baz=230
ISCO Idaho Springs 22.55 352 P **P** **03 25 55.3 -0.2**
baz=169,SNR=28
ISCO Idaho Springs 22.55 352 P **P** **03 25 55.2 -0.2**
ISCO pmax pmax
comp=Z,77nm,1.0s
ISCO Idaho Springs 22.55 352 P **P** **03 25 55.1 -0.3**
ISCO IAmb IAmb 03 25 58.3
comp=Z,77nm,1.0s
MTPU Mount Pierson 22.55 338 P **P** **03 25 56.1 +0.5**
SHOC Shoshone, Teco 22.58 327 P **P** **03 25 56.1 +0.7**
baz=140,SNR=8.2
CCUT Cedar City 22.58 335 P **P** **03 25 56.1 +0.4**
Y52A Lilburn 22.60 40 P **P** **03 25 52.8 -2.9**
baz=228
X51A Calhoun 22.60 38 P **P** **03 25 54.3 -1.4**
baz=225
X51A Calhoun 22.60 38 P **P** **03 25 54.0 -1.7**
GOGA Godfrey 22.68 42 P **P** **03 25 54.4 -2.1**
baz=230
EDW2 Edwards Air Fo 22.76 323 P **P** **03 25 58.3 +0.8**
baz=135,SNR=12
W50A Signal Mountai 22.79 36 P **P** **03 25 55.3 -2.5**
baz=223
155A Kite 22.85 45 P **P** **03 25 56.5 -1.8**
baz=233
BLG Laguna Peak, P 22.87 320 P **P** **03 25 59.7 +1.2**
baz=131,SNR=6.5
V49A McMinnville 22.89 34 P **P** **03 25 55.6 -3.1**
baz=221,SNR=8.4
Y53A Monroe 22.89 41 P **P** **03 25 58.3 -0.5**
baz=229
MSU Marysvale 22.97 338 P **P** **03 26 00.0 +0.2**
MSU Marysvale 22.97 338 P **P** **03 26 00.0 +0.2**
SRU San Rafael Swe 22.97 342 P **P** **03 25 59.8 +0.1**
SRU pmax pmax
comp=Z,26nm,0.9s
SRU San Rafael Swe 22.97 342 P **P** **03 25 59.8 +0.1**
Z54A Sparta 22.97 43 P **P** **03 25 56.6 -3.0**
baz=232
Q16A Castle Valley 22.99 340 P **P** **03 25 59.7 -0.3**
OSI Osito Audit: C 23.00 321 P **P** **03 26 02.3 +2.4**
baz=133
W51A Cleveland 23.08 37 P **P** **03 25 58.4 -2.2**
baz=224
SCZ2 Santa Cruz Isl 23.15 319 P **P** **03 26 03.8 +2.4**
baz=130
TCRU Three Creeks R 23.15 338 P **P** **03 26 01.8 +0.2**
X52A Dahlonega 23.20 39 P **P** **03 25 59.7 -2.2**
baz=227,SNR=14
T47A Sharon Grove 23.22 30 P **P** **03 25 58.4 -3.6**
baz=217,SNR=10
V50A Pikeville 23.25 36 P **P** **03 26 00.1 -2.4**
baz=223,SNR=23
MPMC Manual Prospec 23.34 326 P **P** **03 26 04.0 +0.5**
baz=138,SNR=14
O20A White River Ci 23.34 347 P **P** **03 26 03.4 -0.1**
baz=163,SNR=8.4
O20A White River Ci 23.34 347 P **P** **03 26 03.5 0.0**
O20A IAmb IAmb 03 26 14.1
comp=Z,87nm,1.3s
TPNV Topopah Spring 23.38 329 P **P** **03 26 04.5 +0.6**
baz=141,SNR=14
TPNV Topopah Spring 23.38 329 P **P** **03 26 05.0 +1.1**
TPNV pmax pmax
comp=Z,84nm,1.4s
TPNV Topopah Spring 23.38 329 P **P** **03 26 05.0 +1.1**
TPNV IAmb IAmb 03 26 17.0
comp=Z,84nm,1.4s
OGNE Ogallala 23.41 359 P **P** **03 26 03.8 -0.3**
baz=178
OGNE Ogallala 23.41 359 P **P** **03 26 03.2 -0.8**
OGNE IAmb IAmb 03 26 14.7
comp=Z,102nm,1.1s
ARVC Arvin 23.42 322 P **P** **03 26 05.4 +1.3**
baz=134
Y54A Tignall 23.46 42 P **P** **03 26 01.5 -3.0**
baz=231
257A Skidaway Islan 23.48 48 P **P** **03 26 04.0 -0.7**
X53A Estanollee 23.49 40 P **P** **03 26 02.3 -2.5**
baz=228,SNR=6.0
U49A Red Boiling Sp 23.52 33 P **P** **03 26 03.3 -1.7**
baz=220,SNR=11
W52A Murphy 23.52 38 P **P** **03 26 02.9 -2.2**
baz=226,SNR=7.6
156A Sylvania 23.53 46 P **P** **03 26 04.6 -0.6**
baz=235
DAC Darwin (Calif) 23.56 326 P **P** **03 26 06.8 +1.1**
DAC pmax pmax
comp=Z,80nm,1.4s
DAC Darwin (Calif) 23.56 326 P **P** **03 26 06.8 +1.1**
DAC IAmb IAmb 03 26 11.2
comp=Z,80nm,1.4s
ISA Isabella, Lake 23.59 324 P **P** **03 26 06.9 +1.1**
baz=135,SNR=15
PSUT Pine Spring 23.62 335 P **P** **03 26 06.5 +0.2**
N23A Red Feather La 23.67 352 P **P** **03 26 06.5 -0.3**
baz=169,SNR=7.0
N23A Red Feather La 23.67 352 P **P** **03 26 06.3 -0.4**
N23A IAmb IAmb 03 26 16.7
comp=Z,85nm,1.1s
V51A Loudon 23.77 36 P **P** **03 26 05.5 -2.0**
baz=224,SNR=7.7
PKM Mcpherson Peak 23.85 320 P **P** **03 26 09.3 +0.8**
baz=131,SNR=8.7
CWC Cottonwood Cre 23.94 325 P **P** **03 26 10.4 +1.1**
baz=137
U50A Jamestown 23.94 35 P **P** **03 26 06.4 -2.7**
baz=222,SNR=7.7
GRAC Grapevine Rang 23.98 327 P **P** **03 26 11.3 +1.8**
baz=139,SNR=9.0
TKL Tuckaleechee C 24.00 38 P **P** **03 26 07.3 -2.3**
comp=Z,41nm,0.8s,baz=198,slow=11,SNR=43
PHWY Pilot Hill 24.00 353 IAmb IAmb 03 26 10.9
comp=Z,72nm,1.2s
W53A Cullowhee 24.02 39 P **P** **03 26 09.0 -1.0**
baz=227,SNR=11
BGNE Belgrade 24.04 6 P **P** **03 26 08.4 -1.5**
Y55A Saluda 24.05 43 P **P** **03 26 08.5 -1.6**
baz=232
VES Vestal, Richgr 24.07 323 P **P** **03 26 11.7 +1.4**
baz=134,SNR=6.8
T49A Edmonton 24.09 33 P **P** **03 26 08.7 -1.8**
baz=220
T49A Edmonton 24.09 33 P **P** **03 26 08.6 -2.0**
X54A Belton 24.10 41 P **P** **03 26 09.2 -1.4**
baz=230,SNR=6.6
MPU Maple Canyon 24.14 341 P **P** **03 26 11.1 0.0**
R11A Troy Canyon, C 24.20 332 P **P** **03 26 12.5 +0.8**
baz=145,SNR=21
R11A Troy Canyon, C 24.20 332 P **P** **03 26 12.2 +0.5**
R11A IAmb IAmb 03 26 14.0
comp=Z,47nm,1.0s
V52A Sevierville 24.23 37 P **P** **03 26 10.0 -1.8**
baz=226,SNR=8.5
V52A Sevierville 24.23 37 IAmb IAmb 03 26 12.2
comp=Z,38nm,0.9s
SMMC Simmler 24.24 321 P **P** **03 26 13.3 +1.4**
baz=132,SNR=9.1
U51A La Follette 24.37 36 P **P** **03 26 11.5 -1.6**
baz=224,SNR=11
T50A Nancy 24.39 34 P **P** **03 26 10.8 -2.5**
baz=221,SNR=18
P43A Skaggs, Pawnee 24.42 23 P **P** **03 26 12.5 -1.0**
TIN Tinemaha, Big 24.48 326 P **P** **03 26 15.9 +1.8**
baz=138
X55A Gracelyn & Ava 24.52 43 P **P** **03 26 13.2 -1.2**
baz=231
W54A Cherokee Point 24.57 41 P **P** **03 26 13.8 -1.1**
baz=229,SNR=11
V53A Saluda 24.57 39 P **P** **03 26 14.1 -0.9**
baz=227,SNR=18
RGRS Roger Stewart 24.58 47 P **P** **03 26 12.8 -2.1**
WCI Wyandotte Cave 24.60 30 P **P** **03 26 14.4 -0.7**
baz=217
WCI Wyandotte Cave 24.60 30 P **P** **03 26 14.4 -0.7**
WCI pmax pmax
comp=Z,49nm,0.8s
WCI Wyandotte Cave 24.60 30 P **P** **03 26 14.4 -0.7**
WCI IAmb IAmb 03 26 17.4
comp=Z,49nm,0.8s
JLU Jordanelle 24.62 342 P **P** **03 26 16.4 +0.8**
PAULI Pauline 24.63 42 IAmb IAmb 03 26 15.5
comp=Z,39nm,0.8s
RWWY Rawlins 24.64 350 P **P** **03 26 15.4 -0.3**
JSC Jenkinsville 24.65 43 P **P** **03 26 14.1 -1.5**
JSC pmax pmax
comp=Z,12nm,1.0s
JSC Jenkinsville 24.65 43 P **P** **03 26 14.1 -1.5**
PAGB Antelope Grade 24.68 321 P **P** **03 26 17.6 +1.7**
PAGB IAmb IAmb 03 26 33.2
comp=Z,68nm,1.3s
DUG Dugway, Tooele 24.69 339 P **P** **03 26 16.3 +0.2**
baz=153,SNR=15
DUG Dugway, Tooele 24.69 339 IAmb IAmb 03 26 18.8
comp=Z,49nm,1.1s
NHSC New Hope 24.70 47 P **P** **03 26 16.5 +0.5**
baz=236,SNR=5.3
CSU Charleston Sou 24.71 47 P **P** **03 26 15.3 -0.8**
S49A Springfield 24.74 32 P **P** **03 26 15.5 -0.9**
baz=219
U52A Thorn Hill 24.75 37 P **P** **03 26 15.7 -0.8**
baz=225
TZTN Tazewell 24.75 36 P **P** **03 26 16.0 -0.5**
baz=224,SNR=9.0
TZTN Tazewell 24.75 36 P **P** **03 26 14.8 -1.7**
TZTN IAmb IAmb 03 26 17.0
comp=Z,50nm,0.9s
CTU Camp Tracy 24.79 341 P **P** **03 26 16.2 -0.8**
T51A Gray 24.83 35 P **P** **03 26 16.5 -0.8**
baz=223,SNR=7.6
N41A Harden Midland 24.92 19 P **P** **03 26 16.6 -1.3**
X56A White Oak 24.93 43 P **P** **03 26 17.6 -0.6**
baz=232
Y57A Sumter 25.07 45 P **P** **03 26 19.2 -0.2**
baz=234
Y57A Sumter 25.07 45 P **P** **03 26 17.9 -1.5**
S50A Richmond 25.12 33 P **P** **03 26 18.5 -1.3**
baz=221
KMSC Kings Mountain 25.14 42 P **P** **03 26 18.5 -1.5**
baz=231
KMSC Kings Mountain 25.14 42 IAmb IAmb 03 26 23.1
comp=Z,36nm,1.0s
V54A Nebo 25.17 40 P **P** **03 26 19.2 -1.1**
baz=229,SNR=26
U53A Fall Branch 25.19 38 P **P** **03 26 19.4 -1.0**
baz=227,SNR=7.2
O44A Mansfield 25.27 24 P **P** **03 26 20.1 -1.0**
O44A IAmb IAmb 03 26 34.0
comp=Z,52nm,0.8s
OMMB Old Mammoth Mi 25.30 326 IAmb IAmb 03 26 25.6
comp=Z,42nm,1.1s
HDIL Hopedale 25.31 22 P **P** **03 26 20.8 -0.7**
baz=208
MDPB Devils Postpil 25.36 326 P **P** **03 26 23.6 +1.3**
MDPB IAmb IAmb 03 26 26.7
comp=Z,72nm,1.2s
SCIA State Center 25.37 14 P **P** **03 26 21.9 -0.1**
SCIA IAmb IAmb 03 26 23.7
comp=Z,58nm,0.9s
BIRD Birdtown, Kers 25.40 44 P **P** **03 26 21.3 -1.1**
T52A Hallie 25.47 36 P **P** **03 26 19.4 -3.6**
baz=225
T52A Hallie 25.47 36 P **P** **03 26 21.7 -1.3**
T52A IAmb IAmb 03 26 36.4
comp=Z,38nm,0.9s
K22A Casper 25.47 351 P **P** **03 26 24.6 +1.4**
baz=168,SNR=22
NV11 Mina Array Sit 25.48 328 IAmb IAmb 03 26 35.2
comp=Z,59nm,1.1s

Y58A	Scranton	25.50	46	P	P	03 26 23.0	-0.3
	baz=236						
Y58A	Scranton	25.50	46	P	P	03 26 22.1	-1.2
S51A	Beattyville	25.52	34	P	P	03 26 21.5	-1.9
	baz=223,SNR=10						
S51A	Beattyville	25.52	34	IAmb	IAmb	03 26 23.3	
	comp=Z,72nm,1.1s						
NVAR	Mina Array Bea	25.55	328	P	P	03 26 24.9	+0.8
	comp=Z,38nm,0.9s,baz=151,slow=10,SNR=36						
NVAR				PcP	PcP	03 29 55.5	+0.5
	comp=Z,0.9nm,0.9s,baz=178,slow=2.1,SNR=4.0						
NVAR	Mina Array Bea	25.55	328	P	P	03 26 25.4	+1.4
HWUT	Hardware Ranch	25.57	342	IAmb	IAmb	03 26 27.9	
	comp=Z,42nm,1.1s						
R50A	Paris	25.61	32	P	P	03 26 22.8	-1.5
	baz=220						
R50A	Paris	25.61	32	IAmb	IAmb	03 26 23.3	
	comp=Z,38nm,1.1s						
T53A	Wise	25.64	37	P	P	03 26 24.7	+0.1
	baz=226,SNR=8.5						
V55A	Taylorsville	25.67	41	P	P	03 26 25.1	+0.3
	baz=230,SNR=11						
V55A	Taylorsville	25.67	41	IAmb	IAmb	03 26 25.9	
	comp=Z,54nm,0.9s						
U54A	Nelsons Funny	25.74	39	P	P	03 26 24.6	-0.9
	baz=228,SNR=8.0						
U54A	Nelsons Funny	25.74	39	IAmb	IAmb	03 26 26.9	
	comp=Z,50nm,0.8s						
RYN	Ryan	25.82	328	IAmb	IAmb	03 26 30.7	
	comp=Z,71nm,1.2s						
S52A	Salyersville	25.83	35	P	P	03 26 24.9	-1.4
	baz=224						
Q49A	Aurora	25.88	31	P	P	03 26 26.2	-0.5
	baz=218						
KVN	Kaiserville	25.93	329	P	P	03 26 27.8	+0.4
KVN				pmax	pmax		
	comp=Z,76nm,0.9s						
KVN	Kaiserville	25.93	329	P	P	03 26 27.9	+0.4
SFIN	Lafayette	26.01	26	P	P	03 26 26.8	-1.0
R51A	Hillsboro	26.01	33	P	P	03 26 26.8	-1.1
	baz=222						
W57A	Gilead	26.01	43	P	P	03 26 26.8	-1.1
	baz=233						
W57A	Gilead	26.01	43	P	P	03 26 27.2	-0.7
ELK	Elko	26.07	336	P	P	03 26 28.7	0.0
ELK						03 29 56.3	
ELK				pmax	pmax		
	comp=Z,27nm,1.1s						
ELK	Elko	26.07	336	P	P	03 26 29.4	+0.7
	comp=Z,12nm,0.9s,baz=167,slow=6.6,SNR=11						
ELK				PcP	PcP	03 29 56.3	+0.2
	comp=Z,1.2nm,0.9s,baz=290,slow=1.3,SNR=4.1						
ELK				LR	LR	03 37 38.0	
	comp=Z,7μm,19.6s,baz=126,slow=38						
ELK	Elko	26.07	336	P	P	03 26 28.7	0.0
V56A	Mocksville	26.09	41	P	P	03 26 27.4	-1.2
	baz=231						
X58A	Rowland	26.09	45	P	P	03 26 27.8	-0.8
HVU	Hansel Valley	26.10	341	P	P	03 26 28.6	-0.3
HVU				pmax	pmax		
	comp=Z,34nm,0.9s						
HVU	Hansel Valley	26.10	341	P	P	03 26 28.6	-0.3
BW06	Boulder Array	26.15	346	P	P	03 26 29.6	+0.2
	baz=162,SNR=18						
BW06	Boulder Array	26.15	346	IAmb	IAmb	03 26 32.8	
	comp=Z,57nm,1.1s						
PD31	Pinedale Array	26.15	346	IAmb	IAmb	03 26 32.8	
	comp=Z,48nm,1.0s						
PDAR	Pinedale Array	26.15	346	P	P	03 26 29.6	+0.2
	comp=Z,28nm,0.9s,baz=150,slow=11,SNR=33						
PDAR				PcP	PcP	03 29 55.6	-0.7
	comp=Z,2.3nm,0.9s,baz=158,slow=3.6,SNR=6.1						
PDAR	Pinedale Array	26.15	346	P	P	03 26 28.7	-0.7
U55A	TA2, Sparta	26.19	40	P	P	03 26 28.4	-1.3
	baz=229						
Q50A	Georgetown	26.21	32	P	P	03 26 28.5	-1.2
	baz=220						
T54A	Tazewell	26.25	38	P	P	03 26 29.1	-1.0
	baz=227,SNR=8.5						
CMB	Columbia Colle	26.36	325	P	P	03 26 31.7	+0.6
CMB				pmax	pmax		
	comp=Z,38nm,1.4s						
CMB	Columbia Colle	26.36	325	P	P	03 26 31.7	+0.6
W58A	Raeford	26.43	44	P	P	03 26 31.5	-0.2
	baz=234						
YERR	Yerington	26.45	328	P	P	03 26 33.2	+1.0
ECSD	EROS Data Cent	26.51	8	P	P	03 26 31.7	-0.7
ECSD				IAmb	IAmb	03 26 43.8	
	comp=Z,47nm,1.1s						
AHID	Auburn Hatcher	26.52	344	IAmb	IAmb	03 26 33.7	
	comp=Z,45nm,0.9s						
V57A	Coltrane Farms	26.60	42	P	P	03 26 31.9	-1.4
	baz=232,SNR=7.3						
RSSD	Black Hills	26.67	356	P	P	03 26 33.5	-0.5
RSSD				pmax	pmax		
	comp=Z,12nm,0.9s						
RSSD	Black Hills	26.67	356	P	P	03 26 33.5	-0.5
Q51A	Peebles	26.67	33	P	P	03 26 28.0	-5.9
	baz=221						
PNTR	Pine Nut	26.71	327	P	P	03 26 35.7	+1.2
PNTR				IAmb	IAmb	03 26 37.2	
	comp=Z,50nm,0.9s						
T55A	Pulaski	26.75	39	P	P	03 26 33.0	-1.7
	baz=228						
VCNR	Virginia City	26.90	328	P	P	03 26 38.0	+1.9
VCNR				IAmb	IAmb	03 26 38.6	
	comp=Z,40nm,1.1s						
S54A	Dingess, Beckl	26.91	37	P	P	03 26 35.2	-0.9
	baz=227						
S54A	Dingess, Beckl	26.91	37	P	P	03 26 34.9	-1.2
S54A				IAmb	IAmb	03 26 44.5	
	comp=Z,80nm,1.3s						
R53A	Hurricane	26.91	36	P	P	03 26 33.5	-2.6
	baz=225						
R53A	Hurricane	26.91	36	IAmb	IAmb	03 26 39.6	
	comp=Z,47nm,0.8s						
V58A	Windy Hill, Pi	26.97	43	P	P	03 26 35.8	-0.7
	baz=233						
V58A	Windy Hill, Pi	26.97	43	IAmb	IAmb	03 26 48.6	
	comp=Z,52nm,1.4s						
RUBR	Rubicon Trail	26.98	327	P	P	03 26 38.0	+1.1
RUBR				IAmb	IAmb	03 26 39.8	
	comp=Z,73nm,1.0s						
SUSD	Miller	26.98	4	P	P	03 26 39.1	+2.5
	baz=185,SNR=7.2						
SUSD	Miller	26.98	4	P	P	03 26 36.1	-0.6
N47A	Urbana	27.02	27	P	P	03 26 37.8	+0.9
	baz=215						
N47A	Urbana	27.02	27	P	P	03 26 36.6	-0.3
BLA	Blacksburg	27.04	39	P	P	03 26 36.3	-1.0
	baz=229,SNR=7.7						
PAHR	Pah Rah Range	27.07	329	P	P	03 26 38.4	+0.7
O49A	Covington	27.08	30	P	P	03 26 38.8	+1.3
	baz=218						
T56A	Rocky Mt	27.15	40	P	P	03 26 37.4	-0.9
	baz=230						
TPAW	Teton Pass	27.16	345	IAmb	IAmb	03 26 43.9	
	comp=Z,56nm,1.1s						
Q52A	Bidwell	27.19	34	P	P	03 26 32.5	-6.1
	baz=223,SNR=6.8						
U57A	Blanch	27.21	42	P	P	03 26 38.0	-0.8
	baz=232						
FXWY	Fox Creek	27.32	345	IAmb	IAmb	03 26 41.2	
	comp=Z,35nm,1.0s						
AFDM	Forest Hills D	27.34	325	P	P	03 26 41.1	+1.2
V59A	Middlesex	27.52	44	P	P	03 26 42.4	+0.8
	baz=235						
JAKH	Jacmel	27.57	84	P	P	03 26 42.0	-0.1
T57A	Hurt	27.61	41	P	P	03 26 41.3	-1.1
	baz=293						
T57A	Hurt	27.61	41	P	P	03 26 40.9	-1.5
T57A				IAmb	IAmb	03 26 54.7	
	comp=Z,72nm,1.4s						
FLWY	Flagg Ranch	27.66	346	IAmb	IAmb	03 27 02.0	
	comp=Z,65nm,1.2s						
T58A	Grand View Acr	28.04	42	P	P	03 26 45.2	-1.0
	baz=232						
YMR	Madison River	28.27	346	P	P	03 26 48.7	+0.3
S57A	Dark Hollow, R	28.28	40	P	P	03 26 47.1	-1.2
S57A				IAmb	IAmb	03 26 55.0	
	comp=Z,81nm,1.4s						
OTAV	Otavalo	28.40	125	P	P	03 26 51.0	+0.9
OTAV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
OTAV	Otavalo	28.40	125	P	P	03 26 51.0	+0.9
S58A	Poland Farm, P	28.75	41	IAmb	IAmb	03 27 06.0	
	comp=Z,31nm,1.0s						
MCMT	McKenzie Canyo	28.91	343	P	P	03 26 55.1	+1.0
GCMT	Greycliff	29.06	348	P	P	03 26 55.2	-0.2
MOD	Modoc Plateau	29.21	330	IAmb	IAmb	03 26 58.3	
	comp=Z,29nm,0.9s						
ROSC	El Rosal	29.39	112	P	P	03 27 01.6	+2.7
	comp=Z,3.4nm,0.4s,baz=22,slow=19,SNR=3.0						
ROSC	El Rosal	29.39	112	IAmb	IAmb	03 27 10.0	
	comp=Z,15nm,1.3s						
LAO	LASA Array	29.41	353	IAmb	IAmb	03 27 08.7	
	comp=Z,30nm,1.1s						
Q58A	Fox Den Farm,	29.80	39	P	P	03 26 56.1	-5.7
	baz=231						
PLID	Pearl Lake	30.11	339	IAmb	IAmb	03 27 05.9	
	comp=Z,25nm,0.9s						
Q59A	Harwood	30.38	40	P	P	03 27 05.7	-1.2
	baz=232						
L04D	Klamath Falls	30.42	329	P	P	03 27 08.3	+0.9
	baz=137						
K04D	Chiloquin, OR	30.45	330	P	P	03 27 08.3	+0.7
	baz=139						
J05D	Fort Rock, OR	30.71	331	P	P	03 27 10.5	+0.5
	baz=140						
Q60A	Greensboro	30.97	41	P	P	03 27 11.2	-0.9
DGMT	Dagmar	31.01	356	P	P	03 27 13.0	+0.6
	baz=174,SNR=6.6						
MSO	Missoula	31.05	343	IAmb	IAmb	03 27 14.1	
	comp=Z,32nm,1.1s						
J04D	Umpqua Nationa	31.09	330	P	P	03 27 14.6	+1.2
	baz=139,SNR=5.1						
AGMN	Agassiz Nation	31.10	7	P	P	03 27 12.1	-1.0
	baz=190,SNR=8.0						
AGMN	Agassiz Nation	31.10	7	IAmb	IAmb	03 27 13.2	
	comp=Z,39nm,0.9s						
SDV	Santo Domingo	31.18	102	P	P	03 27 15.0	+0.6
EGMT	Eagleton	31.23	349	P	P	03 27 16.5	+2.1
	baz=164						
G08A	Pilot Rock	31.36	336	IAmb	IAmb	03 27 16.8	
	comp=Z,40nm,0.9s						
EYMN	Ely	31.49	13	P	P	03 27 14.7	-1.9
	baz=198						
EYMN	Ely	31.49	13	IAmb	IAmb	03 27 16.0	
	comp=Z,20nm,0.9s						
I05D	Terrebonne, OR	31.58	332	P	P	03 27 18.2	+0.6
	baz=141						
J01E	Myrtle Point	31.92	328	P	P	03 27 21.8	+1.3
	baz=136,SNR=7.6						
JTMT	Jette	31.98	344	IAmb	IAmb	03 27 22.0	
	comp=Z,25nm,1.1s						
I03D	Drain, OR	32.03	329	P	P	03 27 22.3	+1.0
	baz=137						
H04D	Lebanon	32.36	331	P	P	03 27 24.3	+0.1
	baz=139						
I02D	Swisshome	32.57	329	P	P	03 27 27.1	+1.0
	baz=137,SNR=5.6						
F05D	White Salmon	32.86	334	P	P	03 27 29.8	+1.2
	baz=142,SNR=12						
ULM	Lac du Bonnet	33.02	7	P	P	03 27 28.6	-1.4
ULM						03 30 12.3	
ULM				pmax	pmax		
	comp=Z,35nm,1.0s						
ULM	Lac du Bonnet	33.02	7	P	P	03 27 28.5	-1.4
	comp=Z,28nm,0.9s,baz=177,slow=9.6,SNR=6.2						
ULM				PcP	PcP	03 30 12.3	-1.1
	comp=Z,5.4nm,0.8s,baz=246,slow=4.3,SNR=3.7						
ULM	Lac du Bonnet	33.02	7	P	P	03 27 28.6	-1.4
ULM				IAmb	IAmb	03 27 29.4	
	comp=Z,35nm,1.0s						
SADO	Sadowa	33.05	30	P	P	03 27 28.0	-2.3
	comp=Z,8.9nm,0.8s,baz=265,slow=9.0,SNR=3.8						
WALA	Waterton Lakes	33.10	345	IAmb	IAmb	03 27 33.2	
	comp=Z,26nm,0.9s						
G03D	McMinnville, O	33.13	331	P	P	03 27 32.0	+1.1
	baz=139						
C09A	Chrisman Ranch	33.25	339	IAmb	IAmb	03 27 42.9	
	comp=Z,42nm,1.3s						
NEW	Newport	33.28	341	P	P	03 27 32.5	+0.2
NEW				pmax	pmax		
	comp=Z,39nm,1.3s						
NEW	Newport	33.28	341	P	P	03 27 32.0	-0.3
	comp=Z,16nm,1.0s,baz=152,slow=9.2,SNR=11						
NEW	Newport	33.28	341	P	P	03 27 32.5	+0.2
NEW				IAmb	IAmb	03 27 34.8	
	comp=Z,39nm,1.2s						
F04A	Amboy	33.31	333	P	P	03 27 33.1	+0.6
ATAH	Atahualpa	33.43	135	P	P	03 27 36.1	+1.7
	comp=Z,3.6nm,0.8s,baz=321,slow=11,SNR=2.4						
SJG	San Juan	33.62	83	P	P	03 27 34.9	-0.7
SJG				pmax	pmax		
	comp=Z,27nm,1.0s						
SJG	San Juan	33.62	83	P	P	03 27 34.9	-0.7
	comp=Z,11nm,0.8s,baz=266,slow=6.6,SNR=3.8						
SJG	San Juan	33.62	83	IAmb	IAmb	03 27 50.0	
	comp=Z,27nm,0.9s						
PDPR	Patillas Dam,	33.74	84	P	P	03 27 35.6	-1.1
PDPR				IAmb	IAmb	03 27 52.4	
	comp=Z,21nm,0.9s						
E04D	Cinebar	33.86	334	P	P	03 27 38.4	+1.1
	baz=141						
B08A	Colville Reser	34.09	339	IAmb	IAmb	03 27 41.6	
	comp=Z,51nm,1.3s						
MTP	Monte Pirata	34.18	83	P	P	03 27 39.7	-0.8
C06D	Leavenworth	34.29	337	P	P	03 27 42.6	+1.5
	baz=145,SNR=7.7						
M63A	Gales Ferry	34.73	40	P	P	03 27 44.9	0.0
	baz=235						
D03D	Eldon	34.85	334	P	P	03 27 46.4	+0.4
	baz=142,SNR=6.0						
B05A	Bryant	35.03	336	P	P	03 27 46.9	-0.5
	baz=144,SNR=9.3						
A04D	Lummi Island	35.64	336	P	P	03 27 53.7	+1.0
	baz=143,SNR=6.0						
FFC	Flin Flon	37.20	360	*i* P	P	03 28 05.4	-0.5
FFC	Flin Flon	37.20	360	P	P	03 28 04.7	-1.2
FFC				IAmb	IAmb	03 28 05.8	
	comp=Z,31nm,1.1s						
MATQ	Matagami	37.51	25	P	P	03 28 10.3	+1.6
	baz=219						
H64A	Troy	38.27	38	P	P	03 28 14.8	-0.4
	baz=235						
E63A	Oxbow	39.76	36	P	P	03 28 26.8	-0.7
	baz=234						
D62A	Allapoint, All	39.80	35	P	P	03 28 27.3	-0.6
	baz=233						
D63A	Stockholm	40.29	36	P	P	03 28 31.2	-0.8
	baz=234						
MOBC	Moresby Island	42.82	333	P	P	03 28 52.3	-0.4
CRAG	Craig	44.94	335	P	P	03 29 10.0	+0.5
SCHQ	Schefferville	45.77	27	P	P	03 29 15.2	-1.0
	comp=Z,18nm,0.8s,baz=234,slow=8.9,SNR=7.1						
SCHQ	Schefferville	45.77	27	P	P	03 29 15.2	-1.0
SCHQ				IAmb	IAmb	03 29 17.6	
	comp=Z,32nm,1.1s						
YKA	Yellowknife Ar	45.91	352	P	P	03 29 16.4	-0.8
	comp=Z,15nm,0.8s,baz=160,slow=7.3,SNR=31						
YKA				PcP	PcP	03 30 53.5	-0.3
	comp=Z,3.1nm,0.8s,baz=156,slow=3.0,SNR=8.2						
YKA	Yellowknife Ar	45.91	352	P	P	03 29 16.6	-0.6
YKW3	Yellowknife Ar	45.98	352	IAmb	IAmb	03 29 19.1	
	comp=Z,22nm,0.9s						
DLBC	Dease Lake	46.00	340	P	P	03 29 19.3	+1.2
	comp=Z,68nm,0.9s,baz=164,slow=6.0,SNR=20						
SAML	Samuel	46.05	122	P	P	03 29 17.5	-1.4
SAML				pmax	pmax		
	comp=Z,25nm,1.4s						
SAML	Samuel	46.05	122	P	P	03 29 17.5	-1.4
SAML				IAmb	IAmb	03 29 25.5	
	comp=Z,25nm,1.4s						
LPAZ	La Paz	46.95	134	P	P	03 29 26.3	-0.3
	comp=Z,6.7nm,1.3s,baz=323,slow=7.2,SNR=5.5						
SKAG	Skagway	48.61	338	P	P	03 29 38.8	+0.6
GO01	Chusmiza	48.65	138	P	P	03 29 41.5	+1.9
GO01				IAmb	IAmb	03 29 48.8	
	comp=Z,28nm,1.5s						
CTGM	Chitina Glacie	51.84	337	P	P	03 30 03.7	+0.7
CTGM				IAmb	IAmb	03 30 11.5	
	comp=Z,26nm,1.0s						
SIV	San Ignacio	51.87	128	P	P	03 30 02.5	-1.1
	comp=Z,3.6nm,1.0s,baz=312,slow=7.7,SNR=11						
BARN	Barnard Glacie	52.03	337	P	P	03 30 05.0	+0.6
BARN				IAmb	IAmb	03 30 06.4	
	comp=Z,29nm,1.3s						
BALM	Baldy	52.28	336	P	P	03 30 07.7	+1.6
BALM				IAmb	IAmb	03 30 16.0	
	comp=Z,25nm,1.3s						
TGL	Tana Glacier	52.29	336	P	P	03 30 06.6	+0.4
TGL				IAmb	IAmb	03 30 08.7	
	comp=Z,38nm,1.0s						
CRQM	Cirque	52.41	336	P	P	03 30 07.2	0.0
CRQM				IAmb	IAmb	03 30 09.4	
	comp=Z,36nm,0.9s						
MCARA	McCarthy VSAT	52.75	336	P	P	03 30 10.2	+0.7
MCARA				IAmb	IAmb	03 30 26.1	
	comp=Z,27nm,0.9s						
VRDI	Verde Repeater	52.82	336	IAmb	IAmb	03 30 25.9	
	comp=Z,52nm,1.4s						
GLB	Gilahina Butte	53.09	336	IAmb	IAmb	03 30 14.5	
	comp=Z,30nm,0.9s						
DAWY	Dawson	53.20	340	IAmb	IAmb	03 30 14.6	
	comp=Z,23nm,1.1s						
BCAR	Beaver Creek A	53.35	338	P	P	03 30 14.5	+0.6
C36M	Paulatuk	53.74	350	P	P	03 30 17.0	+0.5
	baz=153						
FID	Port Fidalgo	53.75	334	P	P	03 30 17.4	+0.5
EPYK	Eagle Plains	54.04	343	P	P	03 30 19.2	+0.3
	baz=137						
GO03	Copiap	54.06	145	P	P	03 30 21.8	+2.2
PAX	Paxson	54.62	337	IAmb	IAmb	03 30 24.9	
	comp=Z,24nm,0.9s						
SCRK	Sand Creek	54.69	339	IAmb	IAmb	03 30 27.1	
	comp=Z,31nm,1.1s						
SCM	Sheep Creek Mo	54.69	335	P	P	03 30 24.3	+0.6
SCM				pmax	pmax		
	comp=Z,27nm,1.0s						
SCM	Sheep Creek Mo	54.69	335	P	P	03 30 24.3	+0.6
SCM				IAmb	IAmb	03 30 40.7	
	comp=Z,27nm,1.0s						
INK	Inuvik	54.72	346	P	P	03 30 24.1	+0.4
	comp=Z,29nm,0.9s,baz=129,slow=7.7,SNR=27						
KNK	Knik Glacier	54.92	335	P	P	03 30 24.1	-1.3
RC01	Rabbit Creek A	55.29	334	P	P	03 30 29.1	+1.1
RC01				IAmb	IAmb	03 30 40.0	
	comp=Z,15nm,0.9s						
PMR	Palmer	55.29	335	IAmb	IAmb	03 30 29.5	
	comp=Z,24nm,0.9s						
GHO	Glory Hole Cre	55.30	335	P	P	03 30 27.9	-0.2
HDA	Harding Lake	55.99	338	P	P	03 30 33.6	+0.7
	baz=124						
HDA	Harding Lake	55.99	338	IAmb	IAmb	03 30 35.5	
	comp=Z,25nm,0.9s						
ILAR	Eielson Array	56.18	338	P	P	03 30 34.5	+0.2
ILAR	Eielson Array	56.18	338	P	P	03 30 34.8	+0.5
	comp=Z,16nm,0.8s,baz=148,slow=6.1,SNR=63						
ILAR	Eielson Array	56.18	338	P	P	03 30 34.5	+0.2
MCK	McKinley	56.34	337	IAmb	IAmb	03 30 37.1	
	comp=Z,31nm,1.0s						
CCB	Clear Creek Bu	56.43	338	IAmb	IAmb	03 30 37.6	
	comp=Z,16nm,0.8s						
WRH	Wood River Hil	56.43	338	IAmb	IAmb	03 30 39.3	
	comp=Z,22nm,0.9s						
POKR	Poker Plat Res	56.57	339	P	P	03 30 37.9	+0.8
	baz=124						
COLA	College	56.57	338 *c*	*i*P	P	03 30 36.3	-0.8
COLA				pmax	pmax		
	comp=Z,19nm,1.2s						
COLA	College	56.57	338	P	P	03 30 36.9	-0.2
COLA				IAmb	IAmb	03 30 46.8	
	comp=Z,16nm,0.9s						
MDM	Murphy Dome	56.76	338	IAmb	IAmb	03 30 40.3	
	comp=Z,13nm,0.9s						
NEA	Nenana	56.85	338	P	P	03 30 39.2	+0.1
NEA				IAmb	IAmb	03 30 40.4	
	comp=Z,32nm,1.2s						
KTH	Kantishna Hill	57.01	336	IAmb	IAmb	03 30 41.5	
	comp=Z,30nm,1.1s						
BMAR	Burnt Mountain	57.03	342	P	P	03 30 40.3	-0.1
BPAW	Bear Paw Mtn.	57.31	337	P	P	03 30 41.9	-0.5
BPAW				IAmb	IAmb	03 30 43.4	
	comp=Z,21nm,1.2s						
RES	Resolute Bay	57.35	2	P	P	03 30 41.8	-0.6
	comp=Z,7.7nm,0.8s,baz=192,slow=6.7,SNR=8.1						
MLY	Manley	57.69	338	IAmb	IAmb	03 30 46.6	
	comp=Z,29nm,1.2s						
SVW2	Sparrevohn	57.82	332	IAmb	IAmb	03 30 48.8	
	comp=Z,27nm,0.9s						
CFA	Coronel Fontan	58.29	147	P	P	03 30 49.5	-0.2
	comp=Z,2.3nm,0.8s,baz=322,slow=10,SNR=4.7						
COLD	Coldfoot	58.68	340	IAmb	IAmb	03 31 05.7	
	comp=Z,24nm,1.4s						
TTA	Tatalina	58.76	334	IAmb	IAmb	03 30 53.1	
	comp=Z,22nm,1.0s						
IMAR	Indian Mountai	59.26	338	P	P	03 30 55.1	-0.8
CPUP	Villa Florida	61.12	134	P	P	03 31 11.0	+1.8
CPUP				pmax	pmax		
	comp=Z,12nm,1.3s						
CPUP	Villa Florida	61.12	134	P	P	03 31 10.4	+1.2
	comp=Z,1.9nm,0.6s,baz=350,slow=8.4,SNR=3.6						
CPUP	Villa Florida	61.12	134	P	P	03 31 11.0	+1.8
BDFB	Brasilia	62.12	119	P	P	03 31 16.7	+0.3
BDFB				pmax	pmax		
	comp=Z,15nm,0.9s						
BDFB	Brasilia	62.12	119	P	P	03 31 16.1	-0.3
	comp=Z,2.7nm,0.8s,baz=272,slow=5.8,SNR=4.3						
BDFB	Brasilia	62.12	119	P	P	03 31 16.7	+0.3
BDFB				IAmb	IAmb	03 31 24.1	
	comp=Z,15nm,0.9s						
RDOG	Red Dog Mine	63.39	338	P	P	03 31 23.2	-0.7
PLCA	Paso Flores	64.64	154	P	P	03 31 33.6	+1.1
	comp=Z,3.3nm,1.1s,baz=341,slow=8.8,SNR=3.4						
SUMG	Summit	65.49	17	P	P	03 31 37.9	-0.1
SUMG				pmax	pmax		
	comp=Z,80nm,1.1s						
SUMG	Summit	65.49	17	P	P	03 31 37.9	-0.1
SUMG	Summit	65.49	17	*i*	P	03 31 38.1	+0.1
BILL	Bilibino	74.80	337 *c*	*i*P	P	03 32 34.1	-0.5
BILL				*i*		03 32 42.1	
BILL				*i*		03 35 18.1	
BILL				pmax	pmax		
	comp=Z,35nm,1.5s						
BILL				MLR	MLR		
	comp=Z,3μm,20.0s						
BILL	Bilibino	74.80	337	P	P	03 32 34.3	-0.3
BILL				IAmb	IAmb	03 32 36.1	
	comp=Z,48nm,1.5s						
EFI	East Falkland	78.56	154	*i* P	P	03 32 57.4	+1.5
EFI				pmax	pmax		
	comp=Z,123nm,1.7s						
PCAS	Casmilo, Conde	81.20	51	*e*P	P	03 33 11.5	+0.8
PTOM	Tomar	81.38	51	*e*P	P	03 33 12.2	+0.5
PMTG	Montargil	81.66	52	*e*P	P	03 33 13.5	+0.3
	comp=Z,48nm,1.6s						
PNCL	Nicolau / Gran	81.69	53	*e*P	P	03 33 14.1	+0.7
	comp=Z,35nm,1.4s						
PFVI	Vila Bisbo	81.72	54	*e*P	P	03 33 14.6	+1.0
SEY	Seymchan	81.73	334	*i* P	P	03 33 13.2	+0.1
SEY	Seymchan	81.73	334	P	P	03 33 13.8	+0.8
	comp=Z,16nm,0.9s,baz=105,slow=6.5,SNR=19						
MTE	Manteigas	81.81	50	*e*P	P	03 33 14.5	+0.5
MORF	Marmelete	81.81	54	*e*P	P	03 33 15.8	+1.7
PCBR	Castelo Branco	82.01	51	*e*P	P	03 33 15.5	+0.5
	comp=Z,42nm,1.5s						
PMRV	Marv??o	82.19	51	*e*P	P	03 33 16.2	+0.2
PCVE	Castro Verde	82.19	53	*e*P	P	03 33 17.2	+1.2
	comp=Z,57nm,1.9s						
PBEJ	Beja	82.22	53	*e*P	P	03 33 16.7	+0.5
PBDV	Barranco-do-Ve	82.38	53	*e*P	P	03 33 18.7	+1.6
	comp=Z,72nm,1.7s						
PVAQ	Vaqueiros	82.50	53	*e*P	P	03 33 19.0	+1.4
	comp=Z,45nm,1.5s						
PETK	Petropavlovsk-	82.54	323	P	P	03 33 18.3	+0.8
	comp=Z,12nm,1.0s,baz=70,slow=13,SNR=6.1						
PAB	San Pablo	84.41	50	P	P	03 33 27.5	0.0
PAB				pmax	pmax		
	comp=Z,42nm,1.5s						
PAB	San Pablo	84.41	50	P	P	03 33 27.5	0.0
ESDC	Sonseca Array	84.65	50	P	P	03 33 29.1	+0.4
	comp=Z,2.5nm,0.9s,baz=292,slow=4.5,SNR=3.2						
ESDC	Sonseca Array	84.65	50	P	P	03 33 28.4	-0.4
TIXI	Tiksi	84.84	346 *c*	*i*P	P	03 33 27.4	-1.5
TIXI				pmax	pmax		
	comp=Z,41nm,1.1s						
TIXI	Tiksi	84.84	346	P	P	03 33 28.8	-0.1
	comp=Z,18nm,0.9s,baz=180,slow=24,SNR=26						
TIXI	Tiksi	84.84	346	P	P	03 33 28.4	-0.6
NB2	NORSAR Subarra	85.34	27	P	P	03 33 31.8	+0.1
	comp=Z,27nm,1.4s,baz=299,slow=5.6						
NB2	NORSAR Subarra	85.34	27	P	P	03 33 31.8	+0.1
	baz=299,slow=5.6						
NOA	NORSAR Array B	85.34	27	P	P	03 33 31.6	-0.1
	comp=Z,2.3nm,0.9s,baz=300,slow=5.1,SNR=3.6						
ARCES	ARCESS Array B	85.57	16	P	P	03 33 33.3	+0.6
	comp=Z,6.4nm,0.9s,baz=318,slow=7.0,SNR=5.3						
BCLA	Clavier	86.97	38	PcP	P	03 33 40.8	+0.9
NRIK	Noril'sk	93.20	357	P	P	03 34 09.3	+0.6

	comp=Z,2.5nm,0.5s,baz=355,slow=6.8,SNR=3.7						
DBIC	**Dimbokro**	**94.30**	**82**	P	**P**	**03 34 14.5**	**-0.4**
DBIC				pmax	pmax		
	comp=Z,11nm,1.0s						
DBIC	**Dimbokro**	**94.30**	**82**	P	**P**	**03 34 14.5**	**-0.4**
	comp=Z,6.8nm,0.9s,baz=183,slow=5.7,SNR=5.5						
DBIC	**Dimbokro**	**94.30**	**82**	IAmb	IAmb	03 34 15.6	
	comp=Z,10nm,1.0s						
TORD	**Torodi Ar. Bea**	**98.31**	**73**	P	**P**	**03 34 32.1**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=316,slow=6.0,SNR=3.5						
OBN	**Obninsk**	**99.42**	**23**	eP	**Pdif**	**03 34 34.7**	**-2.5**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
HHC	**Hu-ho-hao-te**	**114.37**	**333**	ePKP	PKPdf	03 39 36.5	+1.6
MKAR	**Makanchi Array**	**115.96**	**357**	PKP	**PKiKP**	**03 39 36.1**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=27,slow=3.0,SNR=4.0						
MKAR				PP	**PP**	**03 40 37.6**	**-2.9**
	comp=Z,1.5nm,0.9s,baz=46,slow=5.2,SNR=4.7						
NJ2	**Nanjing**	**117.41**	**322**	ePKP	**PKPdf**	**03 39 40.0**	**-0.8**
NJ2				LR	LR		
	comp=Z,800nm,17.0s						
NJ2				LR	LR		
	comp=Z,3μm,21.3s						
WMQ	**Urumqi**	**118.44**	**352**	ePKP	**PKiKP**	**03 39 43.4**	**+0.7**
WMQ				LR	LR		
	comp=Z,570nm,28.3s						
WMQ				LR	LR		
	comp=Z,570nm,25.5s						
GTA	**Gaotai**	**120.03**	**341**	ePKP	**PKPdf**	**03 39 45.8**	**-0.1**
KDJ	**Kajisay**	**120.70**	**1**	PKIKP	**PKPdf**	**03 39 46.9**	**-0.3**
KDJ	**Kajisay**	**120.70**	**1**		**PKPdf**	**03 39 46.9**	**-0.3**
LZH	**Lanzhou**	**121.60**	**336**	ePKP	**PKiKP**	**03 39 51.2**	**+2.0**
LZH				sPKP		03 40 06.4	
LZH				LR	LR		
	comp=Z,52nm,17.3s						
LZH				LR	LR		
	comp=Z,86nm,16.6s						
LZH				LR	LR		
	comp=Z,110nm,18.0s						
STKA	**Stephens Creek**	**121.63**	**243**	PKIKP	**PKPdf**	**03 39 48.0**	**-0.9**
STKA	**Stephens Creek**	**121.63**	**243**	PKP	**PKPdf**	**03 39 48.0**	**-0.9**
	comp=Z,3.1nm,1.0s,baz=350,slow=6.1,SNR=3.0						
GEYT	**Alibeck**	**121.66**	**19**	PKP	**PKPdf**	**03 39 48.5**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=332,slow=2.1,SNR=7.2						
CD2	**Chengdu**	**126.13**	**333**	PKP	**PKPdf**	**03 39 56.0**	**-1.7**
WRA	**Warramunga Arr**	**127.27**	**258**	PKP	**PKPdf**	**03 39 59.4**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=82,slow=1.2,SNR=3.8						
ASAR	**Alice Springs**	**128.04**	**253**	PKP	**PKPdf**	**03 40 00.8**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=99,slow=2.2,SNR=4.9						
QIZ	**Qiongzhong**	**132.43**	**318**	PKP	**PKPdf**	**03 40 07.4**	**-2.5**
QIZ				SS	SS	04 00 06.9	-2.8
QIZ				LR	LR		
	comp=Z,660nm,17.7s						
QIZ				LR	LR		
	comp=Z,990nm,21.1s						
CMAR	**Chiang Mai Arr**	**139.04**	**330**	PKIKP	**PKPdf**	**03 40 22.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**139.04**	**330**	PKP	**PKPdf**	**03 40 22.0**	**-0.3**
	comp=Z,1.7nm,0.3s,baz=331,slow=2.4,SNR=10						
KAD	**Karad**	**145.19**	**7**	eP	**PKPbc**	**03 40 32.0**	**-0.8**
HYB	**Hyderabad**	**145.34**	**360**	i PKP	**PKPbc**	**03 40 30.0**	**-3.2**
HYB				epPKP	pPKPab	03 40 40.0	-2.0
CISI	**Cisompet, Garu**	**149.80**	**285**	PKPbc	**PKPbc**	**03 40 44.2**	**-1.6**
ABPO	**Ambohimpanom**	**150.26**	**98**	PKIKP	**PKPbc**	**03 40 47.0**	**+0.1**
ABPO	**Ambohimpanom**	**150.26**	**98**		**PKPbc**	**03 40 47.0**	**+0.1**
PSI	**Prapat**	**151.53**	**313**	PKIKP	**PKPbc**	**03 40 49.0**	**-1.0**
RPSI	**Rantau Prapat**	**151.61**	**313**		**PKPbc**	**03 40 49.0**	**-1.0**

IDC 01 03:33:23.9±2.2**, 7°08S×129°34E, h0**km**, mb3.8**/1**, mb1 3.8**/3**, mb1mx3.5**/26**, mbtmp3.7**/3**, ML3.7**/2**, Error ellipse: s-maj=145.3km s-min=31.8km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.68**	**160**	Pn	Pn	03 36 38.9	-0.3
	0.6nm,0.3s,baz=339,slow=13,SNR=8.2						
WRA				Sn	Sn	03 39 05.8	-6.3
	0.3nm,0.3s,baz=331,slow=22,SNR=6.2						
ASAR	**Alice Springs**	**17.06**	**166**	P	Pn	03 37 24.4	+0.3
	0.1nm,0.3s,baz=340,slow=9.9,SNR=8.2						
ASAR				S	Sn	03 40 30.1	-4.4
	0.1nm,0.3s,baz=318,slow=16,SNR=4.3						
MKAR	**Makanchi Array**	**67.94**	**327**	P	P	03 44 24.6	0.0
	0.7nm,0.6s,baz=118,slow=7.7,SNR=7.2						

IDC 01 03:44:58.3±2.3**, 6°75S×129°11E, h0**km**, mb3.6**/1**, mb1 3.6**/3**, mb1mx3.4**/21**, mbtmp3.5**/3**, ML3.4**/2**, Error ellipse: s-maj=145.5km s-min=32.7km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.07**	**159**	Pn	Pn	03 48 17.8	-1.2
	0.2nm,0.3s,baz=342,slow=13,SNR=7.6						
WRA				Sn	Sn	03 50 48.1	-7.9
	0.2nm,0.3s,baz=337,slow=19,SNR=6.1						
ASAR	**Alice Springs**	**17.44**	**165**	P	P	03 49 04.1	-0.5
	0.1nm,0.3s,baz=342,slow=11,SNR=5.7						
ASAR				S	Sn	03 52 12.7	-5.5
	0.1nm,0.3s,baz=324,slow=19,SNR=4.2						
MKAR	**Makanchi Array**	**67.53**	**327**	P	P	03 55 56.5	0.0
	0.5nm,0.7s,baz=128,slow=7.9,SNR=4.1						

*SJA **01** 03:51:48.8±1.2, 23°35S×66°82W, h210km±11km, ML2.7, MW2.8*
*ISCJB **01** 03:51:50.0±1.1, 23°36S±0°06×66°91W±0°04, h201km±12km, Error ellipse: s-maj=9.9km s-min=6.2km az=20.3*
*GUC **01** 03:51:50.9±0.4, 23°22S×67°44W, h250km±8km, ML3.6*
ISC 01 03:51:47.7±2.8**, 23°38S**±0°07×**66°85W**±0°06**, h220**km±23km**, n22, σ1°37**/40**, 2C-2D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.33**	**83**	i P	**Pn**	**03 52 23.1**	**+0.7**
HJA				IAML		03 52 23.7	
	comp=Z,6.2nm,0.5s						
HJA				i S	**Sn**	**03 52 48.6**	**-0.7**
SLA	**San Lorenzo**	**1.82**	**138**	i P	**Pn**	**03 52 27.7**	**+1.4**
SLA				IAML		03 52 58.2	
	comp=Z,5.8nm,0.6s						
AZAP	**Zapla**	**1.84**	**118**	i P	**Pn**	**03 52 26.5**	**0.0**
LVC	**Limon Verde**	**2.05**	**291**	i P	**Pn**	**03 52 30.2**	**+1.5**
LVC				i S	**Sn**	**03 53 00.1**	**-0.6**
PB15	**IPOC Station P**	**2.42**	**273**	i P	**Pn**	**03 52 33.9**	**+1.6**
PB15				i S	**Sn**	**03 53 06.8**	**-0.3**
PB15				IAML		03 53 11.4	
	comp=N,409nm,0.4s						
PB15	**IPOC Station P**	**2.42**	**273**	i P	**Pn**	**03 52 34.0**	**+1.6**
PB15				i S	**Sn**	**03 53 06.9**	**-0.3**
PB15				IAML		03 53 10.9	
	comp=Z,316nm,0.2s						
PB06	**IPOC Station P**	**2.60**	**284**	⇑iP	**Pn**	**03 52 35.6**	**+1.4**
PB06				i S	**Sn**	**03 53 09.4**	**-1.1**
PB06				IAML		03 53 12.1	
	comp=E,120nm,0.1s						
PB06	**IPOC Station P**	**2.60**	**284**	i P	**Pn**	**03 52 35.6**	**+1.4**
PB06				i S	**Sn**	**03 53 09.4**	**-1.1**
PB06				IAML		03 53 11.3	
	comp=Z,56nm,0.3s						
PB09	**IPOC Station P**	**2.72**	**305**	eP	**Pn**	**03 52 37.4**	**+1.9**
PB09				i S	**Sn**	**03 53 12.4**	**-0.6**
PB09	**IPOC Station P**	**2.72**	**305**	i P	**Pn**	**03 52 37.3**	**+1.8**
PB09				IAML		03 53 15.0	
	comp=Z,14nm,0.2s						
PB03	**IPOC Station P**	**2.99**	**296**	⇓iP	**Pn**	**03 52 39.6**	**+1.1**
PB03				i S	**Sn**	**03 53 16.8**	**-1.6**
PB03				IAML		03 53 17.9	
	comp=E,81nm,0.2s						
PB03	**IPOC Station P**	**2.99**	**296**	eP	**Pn**	**03 52 39.7**	**+1.1**
PB03				i S	**Sn**	**03 53 16.8**	**-1.6**
GO02	**Mina Guanaco**	**3.07**	**234**	i P	**Pn**	**03 52 40.7**	**+1.1**
GO02				i S	**Sn**	**03 53 19.6**	**-0.7**
GO02				IAML		03 53 21.8	
	comp=N,128nm,0.1s						
PB05	**IPOC Station P**	**3.13**	**279**	eP	**Pn**	**03 52 41.1**	**+1.0**
PB05				i S	**Sn**	**03 53 19.2**	**-2.1**
PB05				IAML		03 53 23.6	
	comp=E,30nm,0.3s						
PB05	**IPOC Station P**	**3.13**	**279**	i P	**Pn**	**03 52 41.2**	**+1.0**
PB05				i S	**Sn**	**03 53 19.9**	**-1.4**
PB04	**IPOC Station P**	**3.22**	**288**	⇓iP	**Pn**	**03 52 42.2**	**+1.0**
PB04				i S	**Sn**	**03 53 22.7**	**-0.5**
PB04				IAML		03 53 24.6	
	comp=N,75nm,0.2s						
PB04	**IPOC Station P**	**3.22**	**288**	i P	**Pn**	**03 52 42.2**	**+1.0**
PB04				i S	**Sn**	**03 53 22.4**	**-0.7**
PB07	**IPOC Station P**	**3.25**	**300**	⇑iP	**Pn**	**03 52 42.7**	**+1.1**
PB07				eS	**Sn**	**03 53 22.1**	**-1.9**
PB07				IAML		03 53 24.0	
	comp=E,113nm,0.3s						
PB01	**IPOC Station P**	**3.37**	**313**	eP	**Pn**	**03 52 44.1**	**+1.2**
PB01				i S	**Sn**	**03 53 25.1**	**-1.2**
PB01				IAML		03 53 28.0	
	comp=N,35nm,0.2s						
PB10	**IPOC Station P**	**3.41**	**267**	i P	**Pn**	**03 52 44.4**	**+1.2**
PB14	**IPOC Station P**	**3.48**	**248**	eP	**Pn**	**03 52 45.1**	**+0.7**
PB14				i S	**Sn**	**03 53 26.6**	**-2.3**
PB02	**IPOC Station P**	**3.49**	**305**	eP	**Pn**	**03 52 45.2**	**+0.9**
PB02				i S	**Sn**	**03 53 26.2**	**-2.6**
PB02				IAML		03 53 30.8	
	comp=E,51nm,0.2s						

TRN 01 04:08:03.0, 11°17N×59°78W, h61km**, MD3.6, 1C, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOSP	**Speyside**	**0.75**	**280**	⇑eP	Pn	04 08 17.3	-0.6
TOSP				eS	Sn	04 08 29.1	+0.2
TBH	**Brigand Hill**	**1.44**	**242**	eP	Pn	04 08 28.1	+1.2
TBH				eS	Sn	04 08 45.6	+0.7
BBSP	**Saint Philip**	**1.95**	**9**	eP	Pn	04 08 33.8	0.0
BBSP				eS	Sn	04 08 55.7	-1.5
BBGH	**Gun Hill**	**1.97**	**6**	eP	Pn	04 08 34.8	+0.7
BBGH				eS	Sn	04 08 57.9	+0.1
GRGR	**Grenville**	**2.07**	**298**	eP	Pn	04 08 35.0	-0.4
GRGR				eS	Sn	04 09 00.2	0.0
GRHS	**Sauteurs**	**2.10**	**300**	eP	Pn	04 08 36.5	+0.6
GRHS				eS	Sn	04 09 01.5	+0.5
GRSS	**Sisters**	**2.12**	**302**	eP	Pn	04 08 36.4	+0.3
GRSS				eS	Sn	04 09 01.8	+0.5
FCV	**Fort Charlotte**	**2.44**	**324**	eP	Pn	04 08 40.3	-0.2
FCV				eS	Sn	04 09 08.2	-1.1
GUIV	**Guiria**	**2.46**	**258**	eP	Pn	04 08 40.9	+0.2
GUIV				eS	Sn	04 09 08.2	-1.4
SVCV	**St. Vincent, C**	**2.48**	**328**	eP	Pn	04 08 40.7	-0.4
SVCV				eS	Sn	04 09 08.6	-1.6
SVB	**Belmont**	**2.54**	**326**	eP	Pn	04 08 41.6	-0.3
SVB				eS	Sn	04 09 11.2	-0.4
SVV	**Soufriere Volc**	**2.56**	**327**	eP	Pn	04 08 41.9	-0.1
SVV				eS	Sn	04 09 10.9	-1.2
SFAN	**Fancy Village**	**2.59**	**328**	eP	Pn	04 08 43.1	+0.6
SFAN				eS	Sn	04 09 11.1	-1.7
MCLT	**Moule a Chique**	**2.77**	**336**	eP	Pn	04 08 45.1	+0.2
MCLT				eS	Sn	04 09 16.1	-1.1
SLB	**Belfond**	**2.91**	**335**	eP	Pn	04 08 47.0	0.0
SLB				eS	Sn	04 09 20.2	-0.7
SLBI	**Saint Lucia, B**	**3.07**	**338**	eP	Pn	04 08 49.5	+0.5
SLBI				eS	Sn	04 09 23.8	-0.7
MPOM	**Morne Pois Mar**	**3.42**	**342**	eP	Pn	04 08 53.9	0.0
MVM	**Montagne Vaucl**	**3.54**	**342**	eP	Pn	04 08 55.9	+0.4
BIM	**Bigot**	**3.56**	**339**	eP	Pn	04 08 56.2	+0.4
TRMF	**Trois Ilets**	**3.57**	**340**	eP	Pn	04 08 56.1	+0.2
LPMF	**Morne Lapointe**	**3.58**	**341**	eP	Pn	04 08 56.0	0.0
ZAM	**Aeronautique**	**3.59**	**340**	eP	Pn	04 08 56.5	+0.3
FDF	**Fort de France**	**3.79**	**339**	eP	Pn	04 08 59.8	+0.9
FDF				eS	Sn	04 09 41.0	-1.3
PML	**Morne Lenard**	**3.84**	**339**	eP	Pn	04 09 00.7	+1.0
GBMF	**Grand Be**	**3.85**	**340**	eP	Pn	04 09 01.0	+1.2
BAMF	**Morne Balai**	**3.86**	**340**	eP	Pn	04 09 00.9	+0.9
PCM	**Pelee Case Pet**	**3.88**	**339**	eP	Pn	04 09 00.7	+0.5
PCM	**Pelee Case Pet**	**3.88**	**339**	eP	Pn	04 09 01.1	+0.9
SVN	**Savane Anatole**	**3.89**	**340**	eP	Pn	04 09 01.4	+1.0
ORIV	**Oritupano**	**4.14**	**240**	eP	Pn	04 09 03.6	-0.1
ORIV	**Oritupano**	**4.14**	**240**	eS	Sn	04 09 48.8	-2.1
DBCT	**Belle View Cho**	**4.35**	**340**	eP	Pn	04 09 10.5	+3.8
DBCT				eS	Sn	04 09 54.8	-1.4
MDN	**Morne-Daniel**	**4.41**	**339**	eP	Pn	04 09 06.6	-0.9
MDN	**Morne-Daniel**	**4.41**	**339**	eS	Sn	04 09 55.7	-1.8
DWS	**Wesley**	**4.62**	**341**	eP	Pn	04 09 11.3	+1.0
DWS	**Wesley**	**4.62**	**341**	eS	Sn	04 10 01.2	-1.4
BBL	**Barber's Block**	**4.63**	**339**	eP	Pn	04 09 11.7	+1.2
BBL	**Barber's Block**	**4.63**	**339**	eS	Sn	04 10 00.9	-2.2
MDPO	**Dominica; Chan**	**4.67**	**340**	eP	Pn	04 09 12.4	+1.4
MDPO	**Dominica; Chan**	**4.67**	**340**	eS	Sn	04 10 01.9	-2.0
ANWB	**Willy Bob**	**6.75**	**343**	eP	Pn	04 09 39.9	+0.5
ANWB	**Willy Bob**	**6.75**	**343**	eS	Sn	04 10 50.2	-4.6
SKI	**Saint Kitts**	**6.76**	**335**	eP	Pn	04 09 41.1	+1.4
BAUV	**El Baul**	**8.43**	**256**	eP	Pn	04 10 02.8	+0.2
BAUV	**El Baul**	**8.43**	**256**	eS	Sn	04 11 30.3	-6.0

*BJI **01** 04:24:17.1±0.0, 24°17N×124°51E, h51km, mb4.4/37, mB5.0/26, ML4.5/1, Ms4.3/18, Ms7 4.2/16*
*MOS **01** 04:24:19.2±0.9, 24°40N×124°16E, h51km, mb5.0/34, Error ellipse: s-maj=9.0km s-min=5.7km az=112.9*
*ISCJB **01** 04:24:19.8±0.2, 24°36N±0°03×124°18E±0°02, h55km±1km, mb4.7/64, MS4.3/2, Error ellipse: s-maj=5.4km s-min=3.1km az=160.7*
*IDC **01** 04:24:20.7±2.1, 24°42N×124°22E, h50km±20km, mb4.3/24, mb1 4.4/27, mb1mx4.3/41, mbtmp4.5/27, ML3.1/4, Error ellipse: s-maj=14.3km s-min=11.9km az=65.0*
*JMA **01** 04:24:21.0±0.1, 24°42N×124°18E, h44km±1km, M4.7*
JMA Felt II J1.
*NEIC **01** 04:24:21.1±1.4, 24°35N±0°08×124°20E±0°07, h56km±6km, mb4.8/80*
ISC 01 04:24:21.0±0.5**, 24°34N**±0°05×**124°20E**±0°03**, h52**km±4km**, n308, σ1°17**/325**, mb4.8**/96**, 45C-8D, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIJ	**Ishigaki jima**	**0.06**	**291**	⇑P	**Pn**	**04 24 27.7**	**-1.2**
JIJ				S	**Sn**	**04 24 32.8**	**-1.8**
JKRS	**Kuro-shima**	**0.20**	**239**	⇑P	**Pn**	**04 24 29.0**	**-0.6**
JKRS				S	**Sn**	**04 24 35.4**	**-0.3**
JISG	**Ishigakijimahi**	**0.26**	**23**	⇑P	**Pn**	**04 24 28.8**	**-1.2**
JISG				eS	**Sn**	**04 24 34.2**	**-2.3**
IRIF	**Iriomote-Funau**	**0.43**	**269**	⇑P	**Pn**	**04 24 30.9**	**-0.7**
IRIF				eS	**Sn**	**04 24 37.8**	**-1.4**
HATJ	**Hateruma jima**	**0.46**	**232**	P	**Pn**	**04 24 31.5**	**-0.4**
HATJ				S	**Sn**	**04 24 40.2**	**+0.4**
JTJ	**Tarama**	**0.55**	**57**	⇓P	**Pn**	**04 24 32.3**	**-0.6**
JTJ				S	**Sn**	**04 24 41.3**	**-0.2**
JIRB	**Irabujima**	**1.01**	**61**	⇓P	**Pn**	**04 24 38.5**	**-0.4**
JIRB				S	**Sn**	**04 24 52.2**	**+0.1**
YOJ	**Yonaguni jima**	**1.09**	**276**	P	**Pn**	**04 24 39.5**	**-0.4**
YOJ	**Yonaguni jima**	**1.09**	**276**	⇓P	**Pn**	**04 24 39.7**	**-0.3**
YOJ				eS	**Sn**	**04 24 53.4**	**-0.6**
YOJ	**Yonaguni jima**	**1.09**	**276**		**Pn**	**04 24 39.5**	**-0.4**
JMJ2	**Miyako jima3**	**1.10**	**69**	⇓P	**Pn**	**04 24 40.4**	**+0.3**
JMJ2				S	**Sn**	**04 24 55.7**	**+1.4**
JIKM	**Ikemajima**	**1.11**	**59**	⇓P	**Pn**	**04 24 40.0**	**-0.3**
JIKM				eS	**Sn**	**04 24 55.5**	**+0.9**
JYNG	**Yonagunijimaku**	**1.15**	**276**	⇓P	**Pn**	**04 24 40.6**	**-0.1**
JYNG				S	**Sn**	**04 24 55.2**	**-0.2**
JOGS	**Gusukube**	**1.17**	**69**	⇓P	**Pn**	**04 24 41.5**	**+0.4**
JOGS				S	**Sn**	**04 24 58.0**	**+1.9**
NACB	**Ninganchiao**	**2.38**	**266**		**Pn**	**04 24 56.7**	**-0.9**
TATO	**Taipei**	**2.55**	**285**		**Pn**	**04 25 00.7**	**+0.9**
YHNB	**Yeheng**	**2.59**	**278**		**Pn**	**04 25 01.3**	**+0.8**
YULB	**Yu-li**	**2.82**	**251**		**Pn**	**04 25 01.6**	**-2.0**
SSLB	**Suanglung**	**3.02**	**260**		**Pn**	**04 25 05.5**	**-0.8**
TWG	**Pinlang**	**3.25**	**243**		**Pn**	**04 25 07.1**	**-2.3**
TPUB	**Ta-pu**	**3.43**	**253**		**Pn**	**04 25 11.9**	**0.0**
JOW	**Kunigami**	**4.44**	**55**	P	**Pn**	**04 25 24.5**	**-1.2**
	1.1nm,0.3s,baz=181,slow=14,SNR=20						
JOW				S	**Sn**	**04 26 15.1**	**-1.0**
	1.8nm,0.3s,baz=66,slow=20,SNR=2.1						
JOW	**Kunigami**	**4.44**	**55**		**Pn**	**04 25 24.8**	**-0.9**
QZH	**Quanzhou**	**5.14**	**278**	P	**Pn**	**04 25 36.0**	**+0.7**
QZH				S	**Sn**	**04 26 30.0**	**-3.3**
KNMB	**Chin-men Tao**	**5.30**	**272**	Pn	**Pn**	**04 25 37.2**	**-0.3**
NJ2	**Nanjing**	**9.01**	**330**	eP	**Pn**	**04 26 28.8**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
JNU	**Nakatsue**	**10.53**	**32**	P	**Pn**	**04 26 47.4**	**-1.8**
	0.3nm,0.3s,baz=225,slow=8.6,SNR=2.9						
KSAR	**Wonju Array Be**	**13.43**	**13**	P	**Pn**	**04 27 29.0**	**+0.2**
KSAR	**Wonju Array Be**	**13.43**	**13**	Pn	**Pn**	**04 27 29.0**	**+0.2**
KSRS	**Korea Array**	**13.45**	**13**	P	**Pn**	**04 27 28.0**	**-1.1**
	0.1nm,0.3s,baz=189,slow=12,SNR=3.8						
KS19	**Wonju Array Si**	**13.49**	**13**		**Pn**	**04 27 30.8**	**+1.2**
ENH	**Enshi**	**14.35**	**298**		**Pn**	**04 27 41.7**	**+0.4**
GYA	**Guiyang**	**15.99**	**281**	⇑iP	**P**	**04 28 07.1**	**+1.8**
GYA				pP	pP	04 28 16.0	-0.8
GYA				S	**Sn**	**04 31 03.1**	**+4.2**
GYA				SS	**SnSn**	**04 31 22.8**	**+11**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.6s						
GYA				LR	LR		
	comp=N,390nm,15.6s						
GYA				LR	LR		
	comp=E,440nm,17.7s						
GYA				LR	LR		
	comp=Z,450nm,15.6s						
XAN	**Xi'an**	**16.45**	**309**	P	**P**	**04 28 12.0**	**+1.7**
XAN				S	**Sn**	**04 31 06.9**	**-3.2**
XAN				pmax	pmax		
	comp=Z,16nm,0.9s						
XAN				LR	LR		
	comp=N,710nm,18.6s						
XAN				LR	LR		
	comp=E,340nm,18.1s						
XAN				LR	LR		
	comp=Z,900nm,21.1s						
XAN	**Xi'an**	**16.45**	**309**	P	**P**	**04 28 12.4**	**+2.0**
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
XAN	**Xi'an**	**16.45**	**309**	P	**P**	**04 28 12.4**	**+2.0**
MJAR	**Matsushiro Arr**	**17.11**	**41**	P	**P**	**04 28 18.3**	**+0.7**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MJAR	**Matsushiro Arr**	**17.11**	**41**	P	**Pn**	**04 28 17.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=230,slow=10,SNR=5.7						
MJAR	**Matsushiro Arr**	**17.11**	**41**		**P**	**04 28 18.3**	**+0.7**
CD2	**Chengdu**	**19.24**	**294**	P	**P**	**04 28 41.0**	**-0.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CN2	**Changchun**	**19.44**	**3**	eP	**P**	**04 28 42.7**	**-0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**19.57**	**330**	eP	**Pn**	**04 28 47.1**	**+0.8**
USRK	**Ussuriysk Ar.**	**20.81**	**16**	P	**P**	**04 28 56.7**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=193,slow=9.2,SNR=4.3						
LZH	**Lanzhou**	**21.08**	**308**	eP	**P**	**04 29 01.2**	**+0.1**
LZH				pP	pwP	04 29 13.8	-0.9
LZH				sP	sP	04 29 19.0	0.0
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				LR	LR		
	comp=Z,360nm,13.0s						
LZH				LR	LR		
	comp=Z,430nm,15.0s						
LZH				LR	LR		
	comp=Z,520nm,15.8s						
CHAI	**Chaiyaphum**	**22.46**	**252**	P	**P**	**04 29 19.4**	**+3.5**
	comp=Z,17μm,0.9s						
PHRA	**Phrae**	**23.05**	**260**	P	**P**	**04 29 25.0**	**+3.0**
	comp=Z,1.2nm,1.1s						
TNTI	**Ternate**	**23.63**	**172**	P	**P**	**04 29 28.3**	**+0.7**
TNTI				IAmb	IAmb	04 29 51.9	
	comp=Z,24nm,0.7s						
CMMT	**Chiang Mai**	**24.10**	**262**	P	**P**	**04 29 34.0**	**+2.1**
	comp=Z,3.5nm,0.6s						
CHTO	**Chiang Mai**	**24.10**	**262**	P	**P**	**04 29 31.9**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**24.10**	**262**	P	**P**	**04 29 31.9**	**-0.1**
CM31	**Chiang Mai Arr**	**24.21**	**261**	P	**P**	**04 29 30.8**	**-2.1**
CM31				IAmb	IAmb	04 30 21.2	
	comp=Z,16nm,0.5s						
CMAR	**Chiang Mai Arr**	**24.21**	**261**	ceP	**P**	**04 29 30.5**	**-2.4**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**24.21**	**261**	P	**P**	**04 29 33.4**	**+0.4**
	comp=Z,2.3nm,0.4s,baz=65,slow=9.1,SNR=5.2						
CMAR	**Chiang Mai Arr**	**24.21**	**261**	P	**P**	**04 29 33.0**	**+0.1**
ASAJ	**Asahikawa**	**24.80**	**33**	P	**P**	**04 29 37.1**	**-0.9**
	comp=Z,10nm,0.9s,baz=265,slow=10,SNR=5.3						
JKA	**Kamikawa-asahi**	**24.80**	**33**	P	**P**	**04 29 37.1**	**-0.9**
GTA	**Gaotai**	**25.47**	**312**	eP	**P**	**04 29 43.4**	**-0.9**
GTA				pP	pP	04 29 55.8	-1.6
GTA				sP	sP	04 30 00.7	-3.0
GTA				PcP	**PcP**	**04 33 14.6**	**-0.5**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KLR	**Kul'dur**	**25.54**	**12**	i P	**P**	**04 29 43.5**	**-1.1**
KLR				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KLR	**Kul'dur**	**25.54**	**12**	P	**P**	**04 29 44.1**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=225,slow=7.1,SNR=3.7						
KLR				PcP	**PcP**	**04 33 14.6**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=1.6,slow=3.2,SNR=4.2						
SANI	**Sanana**	**26.29**	**176**	P	**P**	**04 29 50.5**	**-1.2**
	comp=Z,19nm,0.7s,comp=Z,609nm						
ULN	**Ulaanbaatar**	**27.13**	**334**	ceP	**P**	**04 29 58.7**	**-0.6**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**27.38**	**333**	P	**P**	**04 30 00.5**	**-0.9**
SONM						04 33 19.1	
SONM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SONM	**Songino Array**	**27.38**	**333**	P	**P**	**04 30 00.8**	**-0.6**
	comp=Z,3.9nm,0.5s,baz=153,slow=10.0,SNR=29						
SONM				PcP	**PcP**	**04 33 19.1**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=134,slow=3.1,SNR=3.9						
SONM	**Songino Array**	**27.38**	**333**	P	**P**	**04 30 00.5**	**-0.9**
SHL	**Shillong**	**29.29**	**279**	P	**P**	**04 30 18.6**	**-0.2**
SHL				pmax	pmax		
	comp=Z,14nm,1.2s						
SHL	**Shillong**	**29.29**	**279**	P	**P**	**04 30 18.6**	**-0.2**
TLY	**Talaya**	**31.52**	**335**	i P	**P**	**04 30 36.8**	**-1.1**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TLY	**Talaya**	**31.52**	**335**	P	**P**	**04 30 37.2**	**-0.7**
	comp=Z,2.7nm,0.5s,baz=180,slow=8.1,SNR=3.4						
RGRI	**Rengat**	**32.43**	**224**	P	**P**	**04 30 46.6**	**+0.3**
PSI	**Prapat**	**32.46**	**233**	P	**P**	**04 30 47.0**	**+0.3**
PSI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
RPSI	**Rantau Prapat**	**32.54**	**232**	P	**P**	**04 30 47.0**	**-0.2**
MOY	**Mondy**	**32.56**	**333**	eP	**P**	**04 30 46.2**	**-1.0**
MOY				pmax	pmax		
	comp=Z,15nm,2.5s						
MMRI	**Maumere**	**32.83**	**184**	P	**P**	**04 30 49.1**	**-0.7**
TAPN	**Taplejung**	**32.90**	**283**	eP	**P**	**04 30 52.2**	**+1.5**
ODAN	**Odare**	**33.22**	**282**	eP	**P**	**04 30 54.6**	**+1.2**
	comp=Z,37nm,0.8s						
RAMN	**Ramite**	**33.92**	**283**	eP	**P**	**04 31 00.5**	**+1.0**
JIRN	**Jiri**	**34.23**	**284**	eP	**P**	**04 31 03.4**	**+1.0**
	comp=Z,19nm,0.6s						
GUN	**Gumba**	**34.50**	**284**	eP	**P**	**04 31 05.6**	**+1.0**
PKI	**Pulchoki**	**34.93**	**284**	eP	**P**	**04 31 08.8**	**+0.4**
PKIN	**Phulchoki**	**34.94**	**284**	eP	**P**	**04 31 08.8**	**+0.4**
KKN	**Kakani**	**35.03**	**284**	eP	**P**	**04 31 09.8**	**+0.7**
DMN	**Daman**	**35.20**	**284**	eP	**P**	**04 31 11.2**	**+0.6**
	comp=Z,22nm,0.8s						
WMQ	**Urumqi**	**35.56**	**312**	eP	**P**	**04 31 15.6**	**+2.4**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,190nm,11.6s						
WMQ				LR	LR		
	comp=Z,610nm,29.3s						
WMQ				LR	LR		
	comp=Z,1μm,28.9s						
WMQ				LR	LR		
	comp=Z,270nm,19.3s						
GKN	**Gorkha**	**35.59**	**285**	eP	**P**	**04 31 14.3**	**+0.5**
	comp=Z,13nm,0.4s						
DANN	**Dangsing**	**36.34**	**285**	eP	**P**	**04 31 21.3**	**+0.9**
KOLN	**Koldanda**	**36.52**	**284**	eP	**P**	**04 31 22.6**	**+0.8**
	comp=Z,23nm,0.8s						
PETK	**Petropavlovsk-**	**38.22**	**33**	P	**P**	**04 31 35.0**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=221,slow=2.7,SNR=8.0						
H11N1	**WAKE ISLAND Hy**	**39.73**	**88**	T	T	05 13 43.0	
	baz=283,slow=74,SNR=11						
H11N2	**WAKE ISLAND Hy**	**39.73**	**88**	T	T	05 13 51.1	
	baz=283,slow=74,SNR=8.9						
H11N3	**WAKE ISLAND Hy**	**39.75**	**88**	T	T	05 13 47.3	

baz=283,slow=74,SNR=8.8
MK31 Makanchi Array 40.16 315 P P 04 31 51.3 -0.7
MK31 pmax pmax
comp=Z,7.0nm,0.5s
MK31 Makanchi Array 40.16 315 P P 04 31 51.2 -0.7
MK31 IAmb IAmb 04 31 51.6
comp=Z,6.7nm,0.5s
MKAR Makanchi Array 40.16 315 *ce*P **P 04 31 51.2 -0.8**
MKAR pmax pmax
comp=Z,7.0nm,0.4s
MKAR Makanchi Array 40.16 315 P P 04 31 51.3 -0.6
comp=Z,6.5nm,0.4s,baz=100,slow=9.5,SNR=98
MKAR PcP **PcP 04 33 55.2 -0.3**
comp=Z,2.9nm,0.7s,baz=86,slow=5.1,SNR=9.5
MKAR Makanchi Array 40.16 315 P P 04 31 50.9 -1.1
MKAR PcP **PcP 04 33 55.1 -0.3**
PMG Port Moresby 40.34 144 *i* P **P 04 31 53.2 -0.5**
PMG pmax pmax
comp=Z,47nm,0.9s
PMG Port Moresby 40.34 144 P P 04 31 54.3 +0.6
PMG IAmb IAmb 04 31 55.2
comp=Z,13nm,1.0s
MAKZ Makanchi 40.37 315 P P 04 31 53.3 -0.4
MAKZ pmax pmax
comp=Z,17nm,1.0s
MAKZ Makanchi 40.37 315 P P 04 31 53.3 -0.4
MAKZ IAmb IAmb 04 31 53.8
comp=Z,17nm,1.0s
ZAA0 Zalesovo Array 41.64 326 P P 04 32 02.5 -1.4
ZAA0 IAmb IAmb 04 32 03.1
comp=Z,11nm,0.7s
ZALV Zalesovo Beam 41.64 326 P P 04 32 02.0 -1.9
ZALV 04 33 59.5
ZALV Zalesovo Beam 41.64 326 P P 04 32 02.5 -1.4
comp=Z,12nm,0.5s,baz=118,slow=8.5,SNR=53
ZALV PcP **PcP 04 33 59.5 -0.6**
comp=Z,0.7nm,0.5s,baz=92,slow=3.3,SNR=3.3
ZALV Zalesovo Beam 41.64 326 P P 04 32 02.0 -1.9
TARG Taragay, Kyrgy 42.04 306 IAmb IAmb 04 32 10.4
comp=Z,26nm,1.6s
FITZ Fitzroy Crossi 42.21 178 P P 04 32 07.7 -1.2
KDJ Kajisay 42.56 306 IAmb IAmb 04 32 13.2
comp=Z,11nm,0.7s
KSH Kashi 43.13 302 P P 04 32 20.3 +3.8
KSH S **S 04 38 44.8 +5.6**
KSH sS sS 04 39 05.1 +2.7
KSH SS **SS 04 41 52.5 -0.7**
KSH pmax pmax
comp=Z,170nm,6.7s
KSH LR LR
comp=Z,250nm,5.8s
KSH LR LR
comp=Z,150nm,9.5s
ULHL Ulahol 43.27 306 P P 04 32 18.2 +0.5
SNR=14
NRN Naryn 43.33 305 IAmb IAmb 04 32 19.8
comp=Z,12nm,0.8s
KURK Kurchatov 43.76 319 *ce*P **P 04 32 20.0 -1.1**
KURK pmax pmax
comp=Z,18nm,1.7s
KURK Kurchatov 43.76 319 P P 04 32 20.1 -1.1
TKM2 Tokmak 2 43.85 307 P P 04 32 22.5 +0.2
SNR=22
CHMS Chumysh 44.47 307 P P 04 32 27.3 +0.2
SNR=5.4
UCH Uchtor 44.54 306 P P 04 32 29.3 +1.2
SNR=21
AAK Ala-Archa 44.61 307 *ce*P **P 04 32 28.4 +0.1**
AAK pmax pmax
comp=Z,11nm,2.5s
AAK Ala-Archa 44.61 307 P P 04 32 28.1 -0.2
comp=Z,3.0nm,0.8s,baz=90,slow=4.7,SNR=8.0
AAK Ala-Archa 44.61 307 P P 04 32 28.3 0.0
WB0 Warramunga Arr 44.95 166 IAmb IAmb 04 32 32.0
comp=Z,11nm,0.8s
WRAB Tennant Creek 45.11 166 P P 04 32 32.4 +0.2
WRAB pmax pmax
comp=Z,16nm,0.8s
WRAB Tennant Creek 45.11 166 P P 04 32 32.4 +0.2
WRAB IAmb IAmb 04 32 33.3
comp=Z,16nm,0.8s
WRA Warramunga Arr 45.11 166 P P 04 32 32.2 -0.1
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 45.11 166 P P 04 32 32.5 +0.2
comp=Z,13nm,0.7s,baz=349,slow=8.7,SNR=55
WRA Warramunga Arr 45.11 166 P P 04 32 32.2 -0.1
WB2 Warramunga Arr 45.12 166 P P 04 32 32.5 +0.2
WB2 IAmb IAmb 04 32 33.4
comp=Z,15nm,0.8s
AML Almayashu 45.13 306 P P 04 32 33.6 +0.8
SNR=8.1
NIL Nilore 45.13 294 P P 04 32 32.5 0.0
NIL pmax pmax
comp=Z,8.0nm,0.7s
NIL Nilore 45.13 294 P P 04 32 32.5 0.0
NIL IAmb IAmb 04 32 33.5
comp=Z,8.3nm,0.7s
WR0 Warramunga Arr 45.17 166 P P 04 32 33.1 +0.3
WR0 IAmb IAmb 04 32 33.8
comp=Z,13nm,0.8s
TIXI Tiksi 47.41 2 *ce*P **P 04 32 47.7 -2.0**
TIXI pmax pmax
comp=Z,11nm,2.5s
CHGR Chuyangaron 48.38 301 P P 04 32 58.0 +0.1
KBL Kabul 48.58 295 P P 04 32 59.4 -0.2
KBL pmax pmax
comp=Z,31nm,1.8s
KBL Kabul 48.58 295 P P 04 32 59.4 -0.2
AS31 Alice Springs 48.64 168 P P 04 33 00.0 +0.2
ASAR Alice Springs 48.64 168 P P 04 33 00.0 +0.1
ASAR 04 34 24.5
ASAR Alice Springs 48.64 168 P P 04 33 00.5 +0.6
comp=Z,3.0nm,0.4s,baz=352,slow=7.4,SNR=106
ASAR PcP **PcP 04 34 24.4 -0.2**
comp=Z,0.8nm,0.5s,baz=356,slow=3.6,SNR=4.1
ASAR Alice Springs 48.64 168 P P 04 33 00.0 +0.1
BRVK Borovoye 49.38 320 P P 04 33 04.5 -0.7
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 49.38 320 P P 04 33 04.5 -0.7
BRVK IAmb IAmb 04 33 05.3
comp=Z,10nm,1.0s
BILL Bilibino 50.62 19 *i* P **P 04 33 14.6 +0.3**
BILL pmax pmax
comp=Z,9.0nm,3.0s
ABKAR Akbulak array 55.30 314 P P 04 33 48.6 -0.5
SVE Sverdlovsk 55.55 323 *eP* **P 04 33 50.2 -0.6**
SVE pmax pmax
comp=Z,14nm,0.8s
ARU Arti 56.64 323 *d* iP **P 04 33 57.8 -0.8**
ARU S **S 04 41 47.8 +1.0**
ARU SS **SS 04 45 30.5 -4.2**
ARU pmax pmax
comp=Z,9.0nm,0.6s
ARU Arti 56.64 323 P P 04 33 57.5 -1.1
GEYT Alibeck 57.09 301 P **P 04 34 03.2 +1.0**
comp=Z,8.0nm,0.7s,baz=85,slow=1.8,SNR=17
GEYT Alibeck 57.09 301 P P 04 34 02.8 +0.7
GYA0B ALIBECK ARRAY 57.09 301 P P 04 34 03.0 +0.8
STKA Stephens Creek 58.33 163 P P 04 34 10.9 +0.3
comp=Z,5.0nm,0.5s,baz=355,slow=5.8,SNR=14
PRGR Permogore 63.48 328 *eP* **P 04 34 44.3 -1.0**
PRGR pmax pmax
comp=Z,36nm,0.9s
IMAR Indian Mountai 64.81 27 P P 04 34 54.6 +0.6
MLY Manley 66.14 28 P P 04 35 03.6 +0.9
MLY IAmb IAmb 04 35 04.6
comp=Z,11nm,0.8s
VRH Novokhopyorsk 66.81 317 *eP* **P 04 35 05.3 -1.8**
VRH pmax pmax
comp=Z,10.0nm,0.5s
NEA Nenana 66.91 28 P P 04 35 08.0 +0.5
ZEI Tsey 67.01 308 *eP* **P 04 35 08.0 -0.8**
ZEI pmax pmax
comp=Z,7.0nm,0.6s
MCK McKinley 67.09 29 IAmb IAmb 04 35 10.5
comp=Z,8.9nm,0.8s
COLA College 67.38 28 P P 04 35 11.0 +0.6
COLA pmax pmax
comp=Z,9.0nm,0.7s
COLA College 67.38 28 P P 04 35 11.0 +0.6
COLA IAmb IAmb 04 35 13.0
comp=Z,9.3nm,0.7s
KBZ Khabaz 67.52 309 P P 04 35 12.0 +0.3
comp=Z,5.4nm,0.8s,baz=106,slow=5.5,SNR=9.0
AKH Akhalkalaki 67.61 307 P P 04 35 13.2 +0.6
AKH pmax pmax
comp=Z,11nm,0.9s
AKH Akhalkalaki 67.61 307 ⇑P **P 04 35 13.7 +1.1**
AKH Akhalkalaki 67.61 307 P P 04 35 13.2 +0.6
AKH IAmb IAmb 04 35 14.8
comp=Z,11nm,0.9s
KIV Kislovodsk 67.62 309 P P 04 35 12.8 +0.3
KIV pmax pmax
comp=Z,11nm,0.8s
KIV Kislovodsk 67.62 309 P P 04 35 12.8 +0.3
KIV IAmb IAmb 04 35 13.9
comp=Z,11nm,0.8s
ILAR Eielson Array 67.80 28 P P 04 35 12.2 -1.0
ILAR Eielson Array 67.80 28 P P 04 35 12.5 -0.7
comp=Z,1.3nm,0.7s,baz=250,slow=3.8,SNR=38
ILAR Eielson Array 67.80 28 P P 04 35 12.2 -1.0
HDA Harding Lake 67.84 28 IAmb IAmb 04 35 13.8
comp=Z,11nm,0.9s
LPSR Galich'ya Gora 68.24 319 *eP* **P 04 35 15.1 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
BMAR Burnt Mountain 68.25 25 P P 04 35 17.2 +1.3
VSR Storozhevoye 68.39 318 *eP* **P 04 35 15.2 -1.8**
VSR pmax pmax
comp=Z,20nm,1.2s
PAX Paxson 68.76 29 P P 04 35 19.5 +0.2
PAX Paxson 68.76 29 P P 04 35 19.5 +0.2
OBN Obninsk 69.07 322 *ce*P **P 04 35 21.0 -0.2**
OBN *e* 04 35 45.0
OBN *e* 04 37 53.1
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 69.07 322 P P 04 35 20.5 -0.7
DOT Dot Lake 69.24 28 IAmb IAmb 04 35 23.0
comp=Z,10nm,0.9s
MENT Mentasta 69.55 29 IAmb IAmb 04 35 28.2
comp=Z,11nm,1.0s
BCAR Beaver Creek A 70.38 29 P P 04 35 29.3 +0.1
ARCES ARCESS Array B 70.41 338 P P 04 35 28.9 -0.4
comp=Z,2.9nm,0.7s,baz=73,slow=7.3,SNR=13
DAWY Dawson 71.13 28 IAmb IAmb 04 35 35.4
comp=Z,8.9nm,0.8s
EPYK Eagle Plains 71.51 25 IAmb IAmb 04 35 37.2
comp=Z,8.5nm,0.7s
INK Inuvik 72.03 22 P P 04 35 39.0 0.0
comp=Z,4.8nm,0.7s,baz=289,slow=6.1,SNR=23
FINES FINESS Array B 72.69 330 P P 04 35 43.6 +0.6
FINES FINESS Array B 72.69 330 P P 04 35 42.8 -0.3
comp=Z,4.3nm,0.5s,baz=57,slow=5.1,SNR=42
FINES FINESS Array B 72.69 330 P P 04 35 43.6 +0.6
GAZ Gaziantep 73.45 304 P P 04 35 46.1 -2.1
GAZ IAmb IAmb 04 35 49.7
comp=Z,14nm,0.9s
AKASG Malin Array Be 74.57 319 P P 04 35 53.8 -0.5
AKASG pmax pmax
comp=Z,4.0nm,1.0s
AKASG Malin Array Be 74.57 319 P P 04 35 53.6 -0.7
comp=Z,2.9nm,0.4s,baz=57,slow=6.0,SNR=29
AKASG Malin Array Be 74.57 319 P P 04 35 53.8 -0.5
AKBB Malin Array Si 74.57 319 P P 04 35 53.7 -0.6
AKBB pmax pmax
comp=Z,11nm,0.7s
AKBB Malin Array Si 74.57 319 P P 04 35 53.7 -0.6
AKBB IAmb IAmb 04 35 54.2
comp=Z,11nm,0.7s
BR131 Keskin Array S 75.28 307 P P 04 35 58.8 0.0
BR131 pmax pmax
comp=Z,8.0nm,0.9s
BR131 Keskin Array S 75.28 307 P P 04 35 58.8 0.0
BR131 IAmb IAmb 04 35 59.7
comp=Z,7.9nm,0.8s
BRTR Keskin Array B 75.28 307 P P 04 35 58.6 -0.2
comp=Z,6.6nm,0.8s,baz=102,slow=6.1,SNR=37
BRTR Keskin Array B 75.28 307 P P 04 35 58.3 -0.5
ANTO Ankara 75.85 307 P P 04 36 01.9 -0.1
ANTO pmax pmax
comp=Z,11nm,0.8s
ANTO Ankara 75.85 307 P P 04 36 01.9 -0.1
ANTO IAmb IAmb 04 36 02.9
comp=Z,11nm,0.8s
DAG Danmarks Havn 76.62 352 *i* P **P 04 36 04.6 -0.9**
DAG *i* S **pP 04 36 22.5 +2.1**
DAG Danmarks Havn 76.62 352 *i* P **P 04 36 04.6 -0.9**
DAG *i* S **pP 04 36 22.5 +2.1**
TLCR 76.75 314 ⇑P **P 04 36 06.7 -0.1**
TLCR mb 04 36 07.1
SUW Suwalki 76.82 323 P **P 04 36 07.0 -0.1**
SUW pmax pmax
comp=Z,39nm,0.9s
SUW Suwalki 76.82 323 *eP* **P 04 36 06.3 -0.7**
SUW *eP* **P 04 36 06.3 -0.7**
SUW Suwalki 76.82 323 P **P 04 36 07.0 -0.1**
TOPG Topolog 77.15 313 ⇑P **P 04 36 09.3 +0.2**
CFR Carcaliu 77.19 314 ⇑P **P 04 36 09.0 -0.4**
TIRR Tirgusor 77.28 313 P **P 04 36 08.7 -1.1**
TIRR pmax pmax
comp=Z,32nm,0.9s
TIRR Tirgusor 77.28 313 ⇑P **P 04 36 10.3 +0.4**
TIRR Tirgusor 77.28 313 P **P 04 36 08.7 -1.1**
TLB Topalu 77.48 313 ⇑P **P 04 36 10.7 -0.3**
HARR Harsova 77.51 313 ⇑P **P 04 36 10.8 -0.3**
HARR mb 04 36 11.9
PETR Petresti 77.58 315 ⇑P **P 04 36 12.7 +1.2**
TESR Tescani 77.66 316 ⇑P **P 04 36 11.8 -0.1**
ICOR Ion Corvin 77.81 313 ⇑P **P 04 36 13.0 +0.2**
BIZ Bicaz 77.85 316 ⇑P **P 04 36 13.1 +0.1**
VRI Vrincioaia 77.86 315 ⇑P **P 04 36 14.0 +0.9**
PLOR Plostina 77.91 315 ⇑P **P 04 36 12.5 -1.0**
BURAR Bucovina Array 78.14 317 ⇑P **P 04 36 14.8 +0.1**
BURAR Bucovina Array 78.14 317 P **P 04 36 14.6 -0.2**
OZUR 78.37 315 ⇑P **P 04 36 15.8 -0.2**
MLR Muntele Rosu 78.51 315 P **P 04 36 16.6 -0.2**
MLR pmax pmax
comp=Z,7.0nm,0.7s
MLR Muntele Rosu 78.51 315 ⇑P **P 04 36 17.7 +0.8**
MLR Muntele Rosu 78.51 315 P **P 04 36 16.6 -0.2**
MLR IAmb IAmb 04 36 17.8
comp=Z,7.5nm,0.7s
DOPR Dopca 78.68 315 ⇑P **P 04 36 18.2 +0.6**
KWP Kalwaria Pacla 78.86 320 *eP* **P 04 36 18.4 -0.1**
KWP Kalwaria Pacla 78.86 320 *eP* **P 04 36 18.4 -0.1**
KWP *eP* **P 04 36 18.4 -0.1**
RAZG Razgrad 78.89 313 ⇑P **P 04 36 18.9 +0.1**
BEL Belsk 79.04 322 *eP* **P 04 36 19.7 +0.3**
BEL Belsk 79.04 322 *eP* **P 04 36 19.7 +0.3**
BEL *eP* **P 04 36 19.7 +0.3**
VOIR 79.11 315 ⇑P **P 04 36 20.2 +0.1**
NB2 NORSAR Subarra 79.35 333 P **P 04 36 20.1 -1.0**
comp=Z,6.4nm,0.6s,baz=56,slow=5.3
NOA NORSAR Array B 79.35 333 P **P 04 36 20.4 -0.7**
comp=Z,2.7nm,0.7s,baz=54,slow=5.9,SNR=10
ARR Arges 79.40 315 ⇑P **P 04 36 22.1 +0.4**
ELND Elena 79.56 312 ⇑P **P 04 36 22.5 0.0**
TRPA Tarpa 79.58 318 ⇑P **P 04 36 22.4 -0.1**
TRPA mb 04 36 25.4
LOT Lotru 79.93 315 ⇑P **P 04 36 25.0 +0.4**
DRGR 80.04 317 ⇑P **P 04 36 25.4 +0.3**
OJC Ojcow 80.30 321 *eP* **P 04 36 26.6 +0.2**
OJC Ojcow 80.30 321 *eP* **P 04 36 26.6 +0.2**
OJC *eP* **P 04 36 26.6 +0.2**
OJC Ojcow 80.30 321 P **P 04 36 26.4 +0.1**
NIE Niedzica 80.37 320 *eP* **P 04 36 27.6 +0.8**
NIE Niedzica 80.37 320 *eP* **P 04 36 27.6 +0.8**
NIE *eP* **P 04 36 27.6 +0.8**
GZR Gura Zlata 80.58 316 ⇑P **P 04 36 27.3 -0.8**
HERR Herculane 81.03 315 ⇑P **P 04 36 30.6 +0.2**
BZS Buzias 81.23 316 ⇑P **P 04 36 30.8 -0.6**
VTS Vitosha 81.46 313 ⇑P **P 04 36 33.6 +0.7**
VTS mb 04 36 34.2
VTS Vitosha 81.46 313 IAmb IAmb 04 36 34.3
comp=Z,14nm,0.8s
MDVR Moldovita 81.53 315 ⇑P **P 04 36 33.2 +0.1**
YKW3 Yellowknife Ar 81.69 24 IAmb IAmb 04 36 34.7
comp=Z,6.8nm,0.7s
YKA Yellowknife Ar 81.74 24 P **P 04 36 33.6 -0.1**
YKA Yellowknife Ar 81.74 24 P **P 04 36 33.5 -0.3**
comp=Z,4.2nm,0.7s,baz=302,slow=5.4,SNR=28
YKA Yellowknife Ar 81.74 24 P **P 04 36 33.6 -0.1**
MORC Moravsky Berou 81.80 321 P **P 04 36 34.6 +0.2**
MORC pmax pmax
comp=Z,5.0nm,0.7s
MORC Moravsky Berou 81.80 321 ⇑P **P 04 36 34.7 +0.2**
MORC mb 04 36 35.0
MORC Moravsky Berou 81.80 321 *eP* **P 04 36 34.5 +0.2**
MORC Moravsky Berou 81.80 321 P **P 04 36 34.6 +0.2**
KSP Ksiaz 82.00 322 *eP* **P 04 36 35.8 +0.5**
KSP Ksiaz 82.00 322 *eP* **P 04 36 35.8 +0.5**
KSP *eP* **P 04 36 35.8 +0.5**
KRLC Kraliky 82.09 322 *eP* **P 04 36 36.2 +0.3**
KRLC Kraliky 82.09 322 *eP* **P 04 36 36.2 +0.3**
JAVC Velka Javorina 82.16 320 *eP* **P 04 36 37.7 +1.4**
DPC Dobruska-Polom 82.22 322 *eP* **P 04 36 36.5 -0.1**
DPC Dobruska-Polom 82.22 322 *eP* **P 04 36 36.5 -0.1**
UPC Upice 82.32 322 *eP* **P 04 36 37.5 +0.5**
UPC Upice 82.32 322 *eP* **P 04 36 37.5 +0.5**
VRAC Vranov 82.57 321 ⇑P **P 04 36 39.0 +0.6**
VRAC mb 04 36 39.4
VRAC Vranov 82.57 321 *eP* **P 04 36 38.9 +0.5**
SUMG Summit 82.61 355 *i* P **P 04 36 38.9 +0.2**
SUMG Summit 82.61 355 *i* P **P 04 36 38.9 +0.2**
SUMG Summit 82.61 355 P **P 04 36 38.7 +0.1**
SUMG IAmb IAmb 04 36 39.5
comp=Z,11nm,0.9s
KRUC Moravsky 82.80 321 *eP* **P 04 36 39.9 +0.3**
TREC Trest 83.21 321 *eP* **P 04 36 41.5 -0.2**
TREC Trest 83.21 321 *eP* **P 04 36 41.5 -0.2**
GOPC GO Pecny, Ondr 83.30 322 *eP* **P 04 36 42.2 0.0**
GOPC GO Pecny, Ondr 83.30 322 *eP* **P 04 36 42.2 0.0**
PRU Pruhonice 83.39 322 *eP* **P 04 36 43.3 +0.7**
PRU Pruhonice 83.39 322 *eP* **P 04 36 43.3 +0.7**
CLL Collm 83.56 324 *eP* **P 04 36 43.0 -0.5**
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 83.56 324 *eP* **P 04 36 43.0 -0.5**
comp=Z,5.0nm,0.8s
CLL Collm 83.56 324 P **P 04 36 42.8 -0.6**
CONA Conrad Observa 83.66 320 *eP* **P 04 36 44.4 +0.2**
comp=Z,6.2nm,1.0s
PBCC Pribram 83.85 322 *eP* **P 04 36 44.7 -0.3**
KHC Kasperske Hory 84.37 322 P **P 04 36 47.5 -0.2**
KHC pmax pmax
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 84.37 322 *eP* **P 04 36 47.0 -0.7**
KHC Kasperske Hory 84.37 322 P **P 04 36 47.5 -0.2**
BLY Banja Luka 84.41 317 ⇑P **P 04 36 48.3 +0.4**
NKC Novy Kostel 84.43 323 *eP* **P 04 36 48.3 +0.4**
NKC Novy Kostel 84.43 323 *eP* **P 04 36 48.3 +0.4**
GEC2 GERESS Array S 84.45 322 IAmb IAmb 04 36 48.9
comp=Z,10nm,0.8s
GERES GERESS Array B 84.45 322 P **P 04 36 48.0 -0.2**
GERES GERESS Array B 84.45 322 P **P 04 36 48.1 0.0**
comp=Z,8.9nm,0.7s,baz=56,slow=4.9,SNR=74
GERES GERESS Array B 84.45 322 P **P 04 36 48.0 -0.2**
MOA Molln 84.63 321 *ePcP* **P 04 36 49.3 +0.3**
comp=Z,6.7nm,0.6s,SNR=13
SOKA Soboth 84.78 319 *ePcP* **P 04 36 49.8 0.0**
comp=Z,4.4nm,0.6s
OBKA Obir 85.15 319 PcP **P 04 36 53.3 +1.6**
comp=Z,2.3nm,0.4s
ABTA Abfaltersbach 86.23 320 *ePcP* **P 04 36 56.7 -0.4**
comp=Z,3.2nm,0.7s
SQTA Sankt Quirin 86.73 321 *ePcP* **P 04 37 00.2 +0.7**
comp=Z,11nm,1.5s
STU Stuttgart 87.00 323 P **P 04 37 00.6 -0.1**
STU pmax pmax
comp=Z,16nm,1.1s
STU Stuttgart 87.00 323 P **P 04 37 00.6 -0.1**
E07A Sunnyside 88.78 38 IAmb IAmb 04 37 11.6
comp=Z,6.3nm,1.0s
NEW Newport 89.28 36 IAmb IAmb 04 37 13.5
comp=Z,5.9nm,1.1s
BMO Blue Mountains 91.23 39 P **P 04 37 21.2 +0.4**
BMO Blue Mountains 91.23 39 P **P 04 37 21.2 +0.4**
FFC Flin Flon 91.86 25 *ceP* **P 04 37 24.3 +0.9**
FFC Flin Flon 91.86 25 P **P 04 37 23.4 0.0**
FFC IAmb IAmb 04 37 25.6
comp=Z,6.1nm,1.0s
MFID Camas Ranch 92.94 39 P **P 04 37 29.0 +0.2**
MFID IAmb IAmb 04 37 31.1
comp=Z,2.9nm,0.9s
NVAR Mina Array Bea 94.42 44 P **P 04 37 36.2 +0.4**
comp=Z,0.6nm,0.7s,baz=291,slow=4.2,SNR=5.2
NVAR Mina Array Bea 94.42 44 P **P 04 37 36.0 +0.1**
TORD Torodi Ar. Bea 112.63 297 PKiKP **PKiKP 04 42 51.8 -0.7**
comp=Z,0.6nm,0.6s,baz=39,slow=2.5,SNR=8.4
DBIC Dimbokro 121.57 295 PKP **PKPdf 04 43 09.3 -0.4**
comp=Z,2.9nm,0.5s,baz=354,slow=0.8,SNR=5.5
SDV Santo Domingo 143.94 25 PKPbc 04 43 49.4 -0.1

IDC 01 04:40:05.5±2.2, 7.00S×129.66E, h0km, mb 3.6/1, mb1 3.9/3, mb1mx3.6/23, mbtmp3.7/3, ML3.5/2, MS4.1/1, Ms1 4.1/1, ms1mx3.3/22, Error ellipse: s-maj=107.0km s-min=33.0km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.65**	**161**		Pn	04 43 20.3	-0.2
	0.3nm,0.3s,baz=340,slow=13,SNR=13						
WRA				Sn	Sn	04 45 49.3	-3.7
	0.3nm,0.3s,baz=334,slow=21,SNR=6.6						
ASAR	**Alice Springs**	**17.07**	**167**	P	Pn	04 44 06.0	+0.2
	0.1nm,0.3s,baz=340,slow=9.6,SNR=8.8						
ASAR				S	Sn	04 47 12.2	-4.1
	0.1nm,0.3s,baz=332,slow=16,SNR=4.3						
AFI	**Afiamalu**	**57.88**	**102**	LR	LR	05 12 07.7	
	comp=Z,191nm,21.2s,baz=46,slow=33						
MKAR	**Makanchi Array**	**68.04**	**327**	P	P	04 51 06.9	0.0
	0.4nm,0.6s,baz=121,slow=6.2,SNR=3.6						

*ISCJB **01** 04:48:49.8±1.0, 28.06N±0.05×51.5E±0.1, h10km, Error ellipse: s-maj=14.3km s-min=4.0km az=155.6*
*THR **01** 04:48:49.8, 28.08N×51.56E, h15km, ML3.6*
*TEH **01** 04:48:54.0, 28.31N×51.47E, h22km, ML3.5*
*OMAN **01** 04:48:56.0±0.2, 28.41N×51.97E, h50km, ml3.8/8, Error ellipse: s-maj=13.3km s-min=2.6km az=38.0*

ISC 01 04:48:51.7±1.6, 28.18N±0.07×51.5E±0.1, h10km, n35, σt 1.56/38, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKAZ	**Kazeroun**	**1.62**	**10**	*ePg*	**Pb**	**04 49 21.9**	**-0.1**
IKAZ				IAMB	IAmb	04 49 55.6	
	comp=Z,6μm,0.5s						
LMD1	**Lamerd**	**1.68**	**119**	*ePn*	**Pn**	**04 49 25.3**	**+4.1**
LMD1				IAMB	IAmb	04 50 02.7	
	comp=Z,0.0nm,0.3s						
SHI	**Shiraz**	**1.70**	**31**	*ePg*	**Pb**	**04 49 23.6**	**+0.4**
JHRM	**Jahrom**	**1.84**	**79**	*ePn*	**Pn**	**04 49 26.2**	**+2.7**
JHRM				IAMB	IAmb	04 50 00.5	
	comp=Z,0.0nm,0.4s						
ISRV	**Sarvestan**	**1.84**	**49**	*ePn*	**Pn**	**04 49 26.2**	**+2.5**
ISRV				IAMB	IAmb	04 49 34.5	
	comp=Z,2μm,0.3s						
KLNJ	**Kolanjah**	**2.82**	**1**	*ePn*	**Pn**	**04 49 37.8**	**+0.6**
KLNJ				IAMB	IAmb	04 50 33.5	
	comp=Z,0.0nm,0.6s						
IRAM	**Ramesheh**	**3.70**	**11**	*ePn*	**Pn**	**04 49 49.6**	**+0.5**
IBRJ	**Brojen**	**3.73**	**357**	*ePn*	**Pn**	**04 49 49.9**	**+0.3**
ROKH	**ROKH**	**4.18**	**354**	*ePn*	**Pn**	**04 49 56.2**	**+0.5**
IMEH	**Mehriz**	**4.18**	**39**	*ePn*	**Pn**	**04 49 58.3**	**+2.5**
IZEF	**Zefreh**	**4.75**	**8**	*ePn*	**Pn**	**04 50 04.7**	**+1.0**
ICHK	**Chekchek**	**4.76**	**31**	*ePn*	**Pn**	**04 50 05.4**	**+1.6**
NGRK	**Negar Kerman**	**4.79**	**71**	*ePn*	**Pn**	**04 50 06.0**	**+1.6**
NGRK				IAMB	IAmb	04 51 06.1	
	comp=Z,0.0nm,0.2s						
BANOM	**Banah**	**4.82**	**117**	P	**Pn**	**04 50 04.1**	**-0.3**
	SNR=9.9						
KHGB	**Koh Gabri**	**4.85**	**62**	*ePn*	**Pn**	**04 50 06.9**	**+1.9**
NAZ	**Nazwa, Dubai**	**4.88**	**130**	P	**Pn**	**04 50 05.4**	**+0.2**
NAZ				S	**Sn**	**04 50 59.9**	**-1.9**
IBAF	**Bafgh**	**4.89**	**45**	*ePn*	**Pn**	**04 50 07.4**	**+1.9**
ASUD	**Al Ashush, Dub**	**4.92**	**135**	P	**Pn**	**04 50 06.1**	**+0.4**
ASUD	SNR=11			S	**Sn**	**04 51 00.9**	**-1.7**
KRBR	**Kerman**	**4.93**	**67**	*ePn*	**Pn**	**04 50 05.7**	**-0.4**
KRBR	**Kerman**	**4.93**	**67**	*ePn*	**Pn**	**04 50 05.7**	**-0.4**
TVBK	**TV Kerman**	**4.93**	**67**	IAMB	IAmb	04 50 10.5	
	comp=Z,0.0nm,0.2s						
TVBK				*ePn*	**Pn**	**04 50 08.1**	**+1.9**
YZKH	**Yazd**	**4.97**	**32**	*ePn*	**Pn**	**04 50 07.6**	**+1.1**
YZKH	**Yazd**	**4.97**	**32**	*eP*	**Pn**	**04 50 07.6**	**+1.1**
MDH	**Madha**	**5.14**	**123**	P	**Pn**	**04 50 08.7**	**-0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MDH				S	Sn	04 51 04.1	-4.2
UOSS	Minazif	5.29	126	P	Pn	04 50 11.0	+0.2
HATD	Hatta, Dubai	5.31	128	P	Pn	04 50 11.4	+0.2
HATD				S	Sn	04 51 09.7	-2.7
ANAR	Anarak	5.35	20	ePn	Pn	04 50 12.8	+1.1
ASHO	Ashiyiah	5.35	130	P	Pn	04 50 11.1	-0.6
	SNR=9.9						
ASHO				S	Sn	04 51 11.2	-2.3
CHMN	Cheshme madani	5.53	71	ePn	Pn	04 50 16.5	+2.0
CHMN				IAMB	IAmb	04 50 16.7	
	comp=Z,0.0nm,0.4s						
KHMZ	Khomeyn	5.71	347	ePn	Pn	04 50 17.8	+1.1
KHMZ	Khomeyn	5.71	347	ePn	Pn	04 50 17.8	+1.1
HOQ	Hoqain	6.94	130	P	Pn	04 50 32.9	-0.6
BSRN	Basiran	7.59	58	ePn	Pn	04 50 42.3	-0.3
BSRN	Basiran	7.59	58	ePn	Pn	04 50 42.3	-0.3
SMDO	Samad	7.79	129	P	Pn	04 50 44.1	-1.2

IDC 01 05:03:20.4±2.2**, 6°.61S×129°.55E, h0km, mb3.7**/1**, mb1 3.9**/3**, mb1mx3.5**/42**, mbtmp3.7**/3**, ML3.8**/2**, Error ellipse: s-maj=118.3km s-min=32.3km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.05	161	Pn	Pn	05 06 40.0	-0.9
	0.5nm,0.3s,baz=340,slow=13,SNR=2.4						
WRA				Sn	Sn	05 09 10.6	-7.1
	0.5nm,0.3s,baz=335,slow=22,SNR=5.7						
ASAR	Alice Springs	17.47	167	P	Pn	05 07 26.3	+0.6
	0.3nm,0.3s,baz=342,slow=9.0,SNR=13						
ASAR				S	Sn	05 10 35.3	-5.7
	0.1nm,0.3s,baz=343,slow=21,SNR=5.2						
MKAR	Makanchi Array	67.65	327	P	P	05 14 19.3	0.0
	0.4nm,0.5s,baz=130,slow=8.1,SNR=5.0						

IDC 01 05:09:29.8±5.5, 20°.08S×170°.23E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.8/55, mbtmp4.0/5, ML3.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/38, Error ellipse: s-maj=175.4km s-min=37.3km az=137.0

NEIC 01 05:09:31.4±1.5, 20°.19S±0°.09×170°.11E±0°.07, h10km±1km, mb4.8/22

ISCJB 01 05:09:32.3±0.4, 20°.21S±0°.07×170°.10E±0°.05, h30km, mb4.0/4, Error ellipse: s-maj=10.5km s-min=6.1km az=168.5

ISC 01 05:09:34.4±0.5**, 20°.2S**±0°.1×**170°.12E**±0°.07**, h30km, n33, σ1s.15**/35**, mb4.5**/11**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.90	241	Pn	Pn	05 10 34.2	+1.8
	1.6nm,0.3s,baz=110,slow=14,SNR=19						
DZM				Sn	Sn	05 11 17.9	+0.6
	2.3nm,0.3s,baz=113,slow=20,SNR=2.1						
DZM				LR	LR	05 11 59.5	
	comp=Z,427nm,18.9s,baz=166,slow=37						
DZM	Mont Dzumac	3.90	241		Pn	05 10 31.3	-1.1
DZM					Sn	05 11 17.4	+0.1
MSVF	Nonsavu	7.90	73	Pn	Pn	05 11 25.9	-1.5
AFI	Afiamalu	18.40	73	P	P	05 13 47.2	-0.1
AFI				IAmb	IAmb	05 13 57.6	
	comp=Z,44nm,0.9s						
HIZ	Hauiti	18.70	168	P	P	05 13 50.4	0.0
NIUE	Niue	18.83	90	P	P	05 13 52.3	+0.3
URZ	Urewera	18.99	163	P	P	05 13 53.2	-0.3
BKZ	Black Stump Fm	19.68	165	P	P	05 13 57.9	-3.3
BKZ				IAmb	IAmb	05 14 07.8	
	comp=Z,27nm,1.1s						
SNZO	South Karori	21.40	170	P	P	05 14 17.5	-2.2
MSWZ	Moikau Station	21.59	169	P	P	05 14 23.8	+2.0
RAR	Rarotonga	28.17	97	P	P	05 15 25.4	+1.0
PATS	Pohnpei	29.27	335	P	P	05 15 34.0	-0.1
BBOO	Buckleboo	32.81	240	P	P	05 16 04.7	-0.6
BBOO				IAmb	IAmb	05 16 14.6	
	comp=Z,21nm,1.4s						
WB0	Warramunga Arr	33.53	264	P	P	05 16 10.1	-1.6
WB2	Warramunga Arr	33.55	264	P	P	05 16 11.2	-0.7
WB2				IAmb	IAmb	05 16 17.9	
	comp=Z,9.6nm,1.4s						
WRA	Warramunga Arr	33.56	264	P	P	05 16 11.8	-0.3
	comp=Z,0.5nm,0.6s,baz=95,slow=7.9,SNR=4.0						
WRA	Warramunga Arr	33.56	264	P	P	05 16 11.0	-1.0
AS31	Alice Springs	33.71	257	P	P	05 16 12.7	-0.7
ASAR	Alice Springs	33.71	257	P	P	05 16 13.7	+0.4
	comp=Z,3.4nm,0.7s,baz=86,slow=9.0,SNR=51						
ASAR	Alice Springs	33.71	257	P	P	05 16 13.2	-0.1
PPT	Papeete	38.17	93	P	P	05 16 52.2	+0.8
PPTF	Pamatai, Papee	38.17	93	P	P	05 16 51.9	+0.3
FITZ	Fitzroy Crossi	41.97	265	P	P	05 17 23.3	+0.2
PSAD2	Pilbara Seismi	46.71	259	P	P	05 17 59.7	-1.3
PSAD2				IAmb	IAmb	05 18 05.2	
	comp=Z,10nm,1.0s						
PSAB3	Pilbara Seismi	46.81	259	P	P	05 18 00.7	-1.1
PSAB3				IAmb	IAmb	05 18 02.6	
	comp=Z,5.1nm,0.9s						
PSA00	Pilbara Seismi	46.82	259	P	P	05 18 01.0	-0.8
PSA00				IAmb	IAmb	05 18 09.5	
	comp=Z,13nm,1.1s						
PSAD1	Pilbara Seismi	46.85	259	P	P	05 18 01.4	-0.7
PSAD1				IAmb	IAmb	05 18 16.6	
	comp=Z,16nm,1.4s						
PTCN	Pitcairn Islan	55.02	107	P	P	05 19 04.3	+0.7
VNDA	Vanda	57.50	182	P	P	05 19 21.0	+0.6
VNDA				IAmb	IAmb	05 19 24.7	
	comp=Z,27nm,1.5s						
NIKH	Nikolski High	75.12	13	P	P	05 21 13.8	+0.4
CMAR	Chiang Mai Arr	79.65	294	P	P	05 21 41.2	+1.7
	comp=Z,0.4nm,0.3s,baz=108,slow=4.7,SNR=4.5						
SONM	Songino Array	88.48	323	P	P	05 22 23.8	-0.2
	comp=Z,0.5nm,0.7s,baz=120,slow=5.2,SNR=2.7						
GERES	GERESS Array B	145.72	332	PKPbc	PKPdf	05 29 09.2	-0.9
	comp=Z,0.8nm,0.8s,baz=14,slow=2.8,SNR=4.9						

VAO 01 05:10:04.1±0.5, 24°.55S×68°.06W, h270km±5km, mb4.2

SJA 01 05:10:06.5±1.1, 24°.30S×67°.16W, h189km±8km, ML3.9, MW3.8

ISCJB 01 05:10:06.3±0.2, 24°.31S±0°.02×67°.14W±0°.02, h181km±2km, mb3.7/9, Error ellipse: s-maj=3.7km s-min=2.8km az=141.9

NEIC 01 05:10:06.8±2.0, 24°.32S±0°.05×67°.06W±0°.08, h167km±6km, mb4.4/63

IDC 01 05:10:07.0±1.0, 24°.21S×67°.00W, h169km±9km, mb3.7/9, mb1 3.8/16, mb1mx3.6/36, mbtmp4.1/16, Error ellipse: s-maj=16.2km s-min=11.8km az=45.0

GUC 01 05:10:09.3±0.7, 24°.19S×67°.64W, h207km±7km, ML4.4

ISC 01 05:10:06.9±0.6**, 24°.31S**±0°.04×**67°.15W**±0°.04**, h175km**±6km**, n192, σ1s.54**/226**, mb4.3**/31**, 7C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.56	106	iP	Pn	05 10 41.4	+2.2
SLA				IAML		05 10 42.2	
	comp=Z,630nm,0.6s						
SLA				iS	Sn	05 11 06.2	+2.2
AZAP	Zapla	1.91	88	iP	Pn	05 10 44.4	+1.5
AZAP				IAML		05 10 45.4	
	comp=Z,312nm,0.3s						
AZAP				eS	Sn	05 11 12.1	+1.5
HJA	Humahuaca	1.94	56	iP	Pn	05 10 45.2	+1.8
HJA				iS	Sn	05 11 13.5	+1.9
LVC	Limon Verde	2.34	316⇓	iP	Pn	05 10 49.3	+1.5
LVC				iS	Sn	05 11 19.9	+0.4
LVC	Limon Verde	2.34	316	P	Pn	05 10 49.3	+1.5
	comp=Z,69nm,0.3s,baz=124,slow=8.1,SNR=778						
LVC				S	Sn	05 11 19.7	+0.2
	comp=Z,123nm,0.3s,baz=267,slow=20,SNR=32						
LVC	Limon Verde	2.34	316		Pn	05 10 49.4	+1.6
LVC				Sn	Sn	05 11 20.4	+1.0
LVC	Limon Verde	2.34	316	eP	Pn	05 10 49.7	+1.9
LVC	Limon Verde	2.34	316	eP	Pn	05 10 49.7	+1.9
LVC	Limon Verde	2.34	316⇑	iP	Pn	05 10 49.3	+1.5
LVC				iS	Sn	05 11 20.5	+1.0
LVC				IAML		05 11 24.8	
	comp=Z,193nm,0.2s						
GO02	Mina Guanaco	2.37	249⇑	iP	Pn	05 10 49.6	+1.5
GO02				iS	Sn	05 11 21.4	+1.4
GO02				iS	Sn	05 11 21.6	+1.6
GO02				IAML		05 11 23.1	
	comp=N,1μm,0.2s						
GO02	Mina Guanaco	2.37	249		Pn	05 10 49.5	+1.5
GO02				Sn	Sn	05 11 21.9	+1.8
PB15	IPOC Station P	2.39	297	eP	Pn	05 10 49.7	+1.4
PB15				iS	Sn	05 11 19.9	-0.3
PB15	IPOC Station P	2.39	297	iP	Pn	05 10 49.8	+1.6
PB15				eS	Sn	05 11 21.1	+0.9
YJA	Yavi	2.61	36⇑	iP	Pn	05 10 52.6	+1.5
YJA				eS	Sn	05 11 26.8	+1.5
PB06	IPOC Station P	2.73	305⇑	iP	Pn	05 10 53.4	+1.2
PB06				iS	Sn	05 11 26.8	-0.7
PB06				IAML		05 11 29.2	
	comp=N,2μm,0.2s						
PB06	IPOC Station P	2.73	305	iP	Pn	05 10 53.2	+0.9
PB06				IAML		05 11 32.0	
	comp=Z,821nm,0.2s						
AHML	Horco Molle	2.96	147	iP	Pn	05 10 56.3	+1.5
AHML				iS	Sn	05 11 31.9	-0.3
PB14	IPOC Station P	2.98	263⇑	iP	Pn	05 10 55.9	+0.6
PB14				iS	Sn	05 11 32.1	-0.9
PB14	IPOC Station P	2.98	263	iP	Pn	05 10 56.2	+0.8
PB05	IPOC Station P	3.15	297⇑	iP	Pn	05 10 58.0	+0.7
PB05				iS	Sn	05 11 34.5	-2.0
PB05				IAML		05 11 39.1	
	comp=E,603nm,0.5s						
PB05	IPOC Station P	3.15	297	iP	Pn	05 10 58.0	+0.7
PB09	IPOC Station P	3.16	322	iP	Pn	05 10 58.9	+1.4
PB09				iS	Sn	05 11 36.6	-0.1
PB10	IPOC Station P	3.21	284	iP	Pn	05 10 58.4	+0.5
PB10				iS	Sn	05 11 34.6	-3.0
PB10				IAML		05 11 40.4	
	comp=N,380nm,0.6s						
PB10	IPOC Station P	3.21	284		Pn	05 10 58.7	+0.8
PB10					Sn	05 11 37.0	-0.7
PB10	IPOC Station P	3.21	284	iP	Pn	05 10 58.6	+0.8
PB10				iS	Sn	05 11 36.0	-1.6
PB03	IPOC Station P	3.29	313	iP	Pn	05 10 59.5	+0.5
PB03				iS	Sn	05 11 38.1	-1.4
PB03				IAML		05 11 40.2	
	comp=E,634nm,0.3s						
PB04	IPOC Station P	3.38	305	iP	Pn	05 11 00.6	+0.4
PB04				iS	Sn	05 11 39.8	-2.0
PB04				IAML		05 11 42.2	
	comp=N,724nm,0.3s						
PB04	IPOC Station P	3.38	305		Pn	05 11 00.8	+0.6
PB04				Sn	Sn	05 11 41.4	-0.4
PB04	IPOC Station P	3.38	305	iP	Pn	05 11 00.8	+0.6
PB04				iS	Sn	05 11 39.8	-2.0
PB07	IPOC Station P	3.60	315⇑	iP	Pn	05 11 03.3	+0.4
PB07				iS	Sn	05 11 44.1	-2.5
PB07				IAML		05 11 48.1	
	comp=E,640nm,0.2s						
PB01	IPOC Station P	3.90	326		Pn	05 11 06.8	+0.1
PB01				Sn	Sn	05 11 52.3	-1.1
GO03	Copiap	4.29	220		Pn	05 11 11.1	-0.4
GO03				Sn	Sn	05 12 01.6	-0.6
GO03	Copiap	4.29	220	iP	Pn	05 11 11.3	-0.3
CYA	Choya	4.29	164	iP	Pn	05 11 12.6	+1.1
GO01	Chusmiza	4.99	337		Pn	05 11 21.1	-0.1
GO01				Sn	Sn	05 12 19.6	+0.2
PB11	IPOC Station P	5.09	332		Pn	05 11 20.7	-1.4
ACLC	CERRO LA CRUZ	5.10	178	iP	Pn	05 11 23.4	+1.3
MNMC	Minye Minye	5.63	336		Pn	05 11 28.6	-0.7
MNMC				Sn	Sn	05 12 31.8	-2.2
APLL	PUNTA DE LOS L	6.08	175	iP	Pn	05 11 35.5	+0.5
APLL				IAML		05 11 35.9	
	comp=Z,25nm,0.2s						
APLL				iS	Sn	05 12 41.5	-2.8
ACCO	Cerro Coronel	6.48	195	iP	Pn	05 11 41.2	+0.8
GO04	Tololo Observa	6.68	208		Pn	05 11 41.4	-1.6
GO04					Sn	05 12 56.9	-1.8
GO04	Tololo Observa	6.68	208	iP	Pn	05 11 41.2	-1.8
AMOG	MOGNA	6.71	190	iP	Pn	05 11 43.6	+0.4
AMOG				iS	Sn	05 12 56.1	-3.0
RTLL	Cerro Villicun	7.09	189	iP	Pn	05 11 48.5	+0.3
RTLL				iS	Sn	05 13 03.3	-4.8
RTLL				IAML		05 13 08.3	
	comp=Z,21nm,0.4s						
CFA	Coronel Fontan	7.33	187	P	Pn	05 11 51.7	+0.4
	comp=Z,0.9nm,0.3s,baz=334,slow=9.5,SNR=20						
CFA				S	Sn	05 13 08.8	-5.1
	comp=Z,3.4nm,0.3s,baz=252,slow=17,SNR=8.8						
CFA	Coronel Fontan	7.33	187	iP	Pn	05 11 51.4	0.0
CFA				iS	Sn	05 13 10.0	-3.9
TCA	Tanti	7.36	163	IAML		05 11 51.3	
	comp=Z,17nm,0.3s						
TCA				iP	Pn	05 11 51.3	-0.5
RTLS	Leoncito	7.70	194	iP	Pn	05 11 56.7	+0.2
RTLS				IAML		05 13 26.4	
	comp=Z,9.3nm,0.4s						
ACAN	Cantantal	7.93	180	iP	Pn	05 11 58.6	-0.8
LPAZ	La Paz	8.04	353	P	Pn	05 12 01.5	+0.1
	comp=Z,1.5nm,0.3s,baz=154,slow=5.8,SNR=41						
LPAZ				S	Sn	05 13 27.0	-4.7
	comp=Z,0.5nm,0.3s,baz=64,slow=17,SNR=4.3						
LPAZ	La Paz	8.04	353		Pn	05 12 02.0	+0.7
LPAZ					Sn	05 13 30.3	-1.4
ASAL	Salagasta	8.38	190	iP	Pn	05 12 05.5	+0.2
AAGR	Agrelo	8.86	189	iP	Pn	05 12 12.4	+0.7
CPUP	Villa Florida	9.11	105	P	Pn	05 12 13.8	-1.1
	comp=Z,0.2nm,0.3s,baz=277,slow=13,SNR=6.2						
CPUP	Villa Florida	9.11	105		Pn	05 12 13.7	-1.2
CPUP				Sn	Sn	05 13 53.9	-2.5
SIV	San Ignacio	10.05	36	P	Pn	05 12 25.2	-2.1
	comp=Z,1.0nm,0.3s,baz=224,slow=13,SNR=50						
SIV				S	Sn	05 14 06.3	-13
	comp=Z,0.2nm,0.3s,baz=222,slow=17,SNR=1.8						
TRCB	Terra Rica	13.40	86	eP	P	05 13 14.0	+0.2
TRCB	Terra Rica	13.40	86	eP	P	05 13 14.0	+0.2
PTGB	Pitanga	13.74	95	eP	P	05 13 18.6	+1.0
PTGB	Pitanga	13.74	95	eP	P	05 13 18.6	+1.0
ITAB	Concordia	13.85	105	eP	P	05 13 18.6	0.0
ITAB	Concordia	13.85	105	eP	P	05 13 18.6	0.0
PLTB	Pedras Altas	14.07	125	eP	Pn	05 13 18.5	-0.2
PLTB	Pedras Altas	14.07	125	eP	Pn	05 13 18.5	-0.2
TRQA	Tornquist	14.39	163		Pn	05 13 22.0	-0.7
TRQA	Tornquist	14.39	163	eP	Pn	05 13 16.5	-6.2
TRQA	Tornquist	14.39	163	eP	Pn	05 13 16.5	-6.2
PCMB	Pacaembu	14.88	83	eP	Pn	05 13 28.6	-0.2
PCMB	Pacaembu	14.88	83	eP	Pn	05 13 28.6	-0.2
CNLB	Canela	15.38	112	eP	Pn	05 13 34.7	-0.3
CNLB	Canela	15.38	112	eP	Pn	05 13 34.7	-0.3
GO06	Curarrehue	15.66	192		P	05 13 39.3	+0.5
SAML	Samuel	15.74	15	Pn	Pn	05 13 38.1	-1.2
SAML	Samuel	15.74	15	eP	Pn	05 13 36.1	-3.3
SAML	Samuel	15.74	15	eP	Pn	05 13 36.1	-3.3
FRTB	Fartura	16.13	90	eP	Pn	05 13 44.9	+0.9
FRTB	Fartura	16.13	90	eP	Pn	05 13 44.9	+0.9
ITRB	Iturama	16.23	77	eP	P	05 13 44.1	-1.0
ITRB	Iturama	16.23	77	eP	P	05 13 44.1	-1.0
PLCA	Paso Flores	16.62	189	P	Pn	05 13 50.9	+1.0
	comp=Z,0.1nm,0.3s,baz=21,slow=9.5,SNR=6.2						
PLCA	Paso Flores	16.62	189	P	Pn	05 13 50.6	+0.8
ARAG	Araguaiana, MT	16.76	62	eP	Pn	05 13 52.0	+0.4
ARAG	Araguaiana, MT	16.76	62	eP	Pn	05 13 52.0	+0.4
CLDB	Colider	17.18	41	eP	P	05 13 53.6	-2.0
CLDB	Colider	17.18	41	eP	P	05 13 53.6	-2.0
BB19B	Bebedouro	17.49	83	eP	P	05 13 58.2	-0.8
BB19B	Bebedouro	17.49	83	eP	P	05 13 58.2	-0.8
SPB	Sao Paulo	18.04	92	eP	P	05 14 05.0	+0.1
SPB	Sao Paulo	18.04	92	eP	P	05 14 05.0	+0.1
RCLB	Rio Claro- Sao	18.12	88	eP	P	05 14 05.4	-0.4
RCLB	Rio Claro- Sao	18.12	88	eP	P	05 14 05.4	-0.4
VAO	Valinhos	18.54	90	eP	P	05 14 09.9	-0.6
VAO	Valinhos	18.54	90	eP	P	05 14 09.9	-0.6
IPMB	Ipameri, GO	18.75	74	eP	P	05 14 12.3	-0.5
IPMB	Ipameri, GO	18.75	74	eP	P	05 14 12.3	-0.5
BDFB	Brasilia	19.93	68	P	P	05 14 25.3	-0.3
	comp=Z,2.3nm,0.3s,baz=237,slow=11,SNR=25						
BDFB	Brasilia	19.93	68	P	P	05 14 25.3	-0.3
PMNB	Patos De Minas	20.11	77	eP	P	05 14 26.9	-0.6
PMNB	Patos De Minas	20.11	77	eP	P	05 14 26.9	-0.6
ESAR	Angra dos Reis	20.84	91	eP	P	05 14 33.6	-1.5
ESAR	Angra dos Reis	20.84	91	eP	P	05 14 33.6	-1.5
BSCB	Bom Sucesso	20.91	85	eP	P	05 14 35.0	-0.9
BSCB	Bom Sucesso	20.91	85	eP	P	05 14 35.0	-0.9
PEXB	Peixe	21.60	59	eP	P	05 14 41.3	-1.9
PEXB	Peixe	21.60	59	eP	P	05 14 41.3	-1.9
VAS01	Vassouras-RJ	21.87	89	eP	P	05 14 43.8	-2.1
VAS01	Vassouras-RJ	21.87	89	eP	P	05 14 43.8	-2.1
CAM01	Campos-RJ	23.58	89	eP	P	05 14 57.4	-4.4
CAM01	Campos-RJ	23.58	89	eP	P	05 14 57.4	-4.4
SMTB	Santa Maria do	24.19	54	eP	P	05 15 05.9	-1.5
SMTB	Santa Maria do	24.19	54	eP	P	05 15 05.9	-1.5
SJMB	Sao Joao De Ma	24.78	82	eP	P	05 15 09.7	-3.0
SJMB	Sao Joao De Ma	24.78	82	eP	P	05 15 09.7	-3.0
BSFB	Barra de Sao F	25.05	83	eP	P	05 15 11.8	-3.3
BSFB	Barra de Sao F	25.05	83	eP	P	05 15 11.8	-3.3
MLPR	Magueyes Islan	42.02	0	P	P	05 17 41.4	+0.2
OBIP	Obispado Ponce	42.10	1	P	P	05 17 40.2	-1.6
MTP	Monte Pirata	42.18	2	P	P	05 17 40.4	-2.1
AGPR	Aguadilla, PR	42.52	0	P	P	05 17 44.7	-0.5
ABVI	Anegada Island	42.87	4	P	P	05 17 49.1	+1.1
TEIG	Tepich	48.81	333	P	P	05 18 35.2	+0.7
SNAA	Sanae	59.10	161	P	P	05 19 50.0	+1.4
SNAA				IAmb	IAmb	05 19 54.9	
	comp=Z,8.4nm,1.4s						
X58A	Rowland	59.68	348	P	P	05 19 53.7	+1.0
JSC	Jenkinsville	59.79	346	P	P	05 19 54.5	+1.0
JSC				IAmb	IAmb	05 20 03.8	
	comp=Z,12nm,1.4s						
Z50A	Ashland	59.97	342	P	P	05 19 54.7	-0.2
Z50A				IAmb	IAmb	05 19 55.8	
	comp=Z,7.5nm,1.1s						
BIRD	Birdtown, Kers	59.98	347	P	P	05 19 55.7	+0.8
W57A	Gilead	60.38	348	P	P	05 19 58.2	+0.7
V55A	Taylorsville	61.30	347	P	P	05 20 04.6	+0.8
W50A	Signal Mountai	61.64	343	P	P	05 20 06.1	0.0
W50A				IAmb	IAmb	05 20 07.3	
	comp=Z,5.5nm,0.9s						
CPCT	Cooper Cave	61.67	344	P	P	05 20 07.1	+0.9
V52A	Sevierville	61.82	345	P	P	05 20 07.2	0.0
S54A	Dingess, Beckl	63.20	347	P	P	05 20 17.1	+0.7
WVT	Waverly	63.21	341	P	P	05 20 16.2	-0.2
WVT				IAmb	IAmb	05 20 16.8	
	comp=Z,9.5nm,1.1s						
MIAR	Mount Ida	63.68	336	P	P	05 20 20.3	+0.7
MIAR				IAmb	IAmb	05 20 21.2	
	comp=Z,7.3nm,1.3s						
TXAR	Lajitas Array	63.85	325	P	P	05 20 22.1	+1.1
	comp=Z,0.5nm,0.7s,baz=155,slow=7.8,SNR=3.9						
TXAR	Lajitas Array	63.85	325	P	P	05 20 22.3	+1.4
FCAR	Ozark Folk Cen	64.36	338	P	P	05 20 23.8	-0.2
FCAR				IAmb	IAmb	05 20 36.6	
	comp=Z,6.6nm,1.4s						
MCWV	Mont Chateau	64.73	349	P	P	05 20 27.6	+1.3
MCWV				IAmb	IAmb	05 20 32.9	
	comp=Z,11nm,1.4s						
WCI	Wyandotte Cave	64.75	343	P	P	05 20 26.4	0.0
WSPT	Westport, CT	65.40	355		PcP	05 20 59.2	-1.9
P48A	Milroy	65.70	345	P	P	05 20 32.0	-0.6
OLIL	Olney	65.71	342	P	P	05 20 33.6	+1.0
QSPA	South Pole Qui	65.89	180	P	P	05 20 35.4	+1.6
QSPA				IAmb	IAmb	05 20 35.9	
	comp=Z,1.8nm,0.7s						
N53A	Lisbon	66.02	349	P	P	05 20 35.5	+0.9
N54A	Moraine State	66.03	349	P	P	05 20 35.8	+1.2
MNTX	Cornudas Mount	66.62	325	P	P	05 20 39.5	+0.8
MNTX				IAmb	IAmb	05 20 39.9	
	comp=Z,2.5nm,0.9s						
N49A	Columbus Grove	66.80	346	P	P	05 20 39.6	+0.1
N49A				IAmb	IAmb	05 20 39.7	
	comp=Z,7.3nm,0.8s						
MSTX	Muleshoe	67.13	328	P	P	05 20 42.8	+0.9
MSTX				IAmb	IAmb	05 20 44.0	
	comp=Z,6.7nm,0.9s						
K58A	Earlville	67.20	353	P	P	05 20 43.2	+1.2
K58A				IAmb	IAmb	05 20 53.6	
	comp=Z,12nm,1.1s						
WVNY	West Valley, N	67.22	351	P	P	05 20 43.3	+1.1
DBIC	Dimbokro	68.03	71	P	P	05 20 47.4	-0.5
	comp=Z,2.3nm,0.7s,baz=217,slow=7.3,SNR=3.5						
DBIC	Dimbokro	68.03	71	P	P	05 20 47.3	-0.5
ANMO	Albuquerque	69.73	326	P	P	05 20 59.8	+1.7
CBKS	Cedar Bluff	69.82	333	P	P	05 21 00.0	+1.6
CBKS				IAmb	IAmb	05 21 00.5	
	comp=Z,7.0nm,0.8s						
JFWS	Jewell Farm	70.20	342	P	P	05 21 01.3	+0.8
JFWS				IAmb	IAmb	05 21 01.4	
	comp=Z,7.4nm,0.7s						
BGNE	Belgrade	71.43	336	P	P	05 21 09.2	+1.1
SDCO	Great Sand Dun	71.48	329	P	P	05 21 10.5	+1.8
D53A	Lac Vacive, Po	71.69	352	P	P	05 21 10.4	+0.9
D53A				IAmb	IAmb	05 21 13.2	
	comp=Z,19nm,1.5s						
ECSD	EROS Data Cent	72.92	338	P	P	05 21 17.5	+0.7
ECSD				IAmb	IAmb	05 21 23.4	
	comp=Z,9.1nm,1.4s						
SYO	Syowa Base	73.31	159⇑	eP	P	05 21 07.0	-12
SYO	Syowa Base	73.31	159⇓	eP	P	05 21 16.2	-2.6
KNB	Kanab	74.64	324	P	P	05 21 30.2	+3.0
SRU	San Rafael Swe	75.00	326	P	P	05 21 30.9	+1.6
MTPU	Mount Pierson	75.06	325	P	P	05 21 29.8	0.0
EYMN	Ely	75.18	343	P	P	05 21 30.7	+0.9
EYMN				IAmb	IAmb	05 21 32.1	
	comp=Z,12nm,1.3s						
MSU	Marysvale	75.40	325	P	P	05 21 34.5	+2.9
TPNV	Topopah Spring	76.49	321	P	P	05 21 40.7	+3.0
TPNV				IAmb	IAmb	05 21 41.6	
	comp=Z,4.1nm,1.2s						
TOA0	Torodi Ar. Sit	76.81	69	P	P	05 21 40.3	+0.5
TORD	Torodi Ar. Bea	76.81	69	P	P	05 21 39.2	-0.5
	comp=Z,1.0nm,0.4s,baz=256,slow=5.4,SNR=19						
TORD	Torodi Ar. Bea	76.81	69	P	P	05 21 40.2	+0.4
BW06	Boulder Array	77.34	329	P	P	05 21 44.1	+1.6
PDAR	Pinedale Array	77.34	329	P	P	05 21 43.5	+1.0
	comp=Z,0.4nm,0.6s,baz=134,slow=7.0,SNR=5.2						
PDAR	Pinedale Array	77.34	329	P	P	05 21 43.9	+1.5
HWUT	Hardware Ranch	77.41	327	P	P	05 21 44.6	+1.8
SPUT	South Promonto	77.63	327	P	P	05 21 46.0	+2.1
ULM	Lac du Bonnet	78.48	342	P	P	05 21 48.6	+0.4
	comp=Z,3.3nm,0.8s,baz=167,slow=7.5,SNR=4.9						
ULM	Lac du Bonnet	78.48	342	IAmb	IAmb	05 21 49.4	
	comp=Z,2.8nm,0.8s						
OMMB	Old Mammoth Mi	78.53	320	P	P	05 21 51.4	+2.1
OMMB				IAmb	IAmb	05 21 51.9	
	comp=Z,2.6nm,0.8s						
ELK	Elko	78.64	325	P	P	05 21 51.4	+1.7
NVAR	Mina Array Bea	78.69	321	P	P	05 21 51.7	+1.7
	comp=Z,0.8nm,0.7s,baz=162,slow=7.6,SNR=6.3						
KVN	Kaiserville	79.01	322	P	P	05 21 53.5	+1.9
KVN				IAmb	IAmb	05 21 54.0	
	comp=Z,2.8nm,0.7s						
RLMT	Red Lodge	79.05	331	P	P	05 21 53.7	+2.0
PAHR	Pah Rah Range	80.18	322	P	P	05 22 00.2	+2.4
PAHR				IAmb	IAmb	05 22 00.9	
	comp=Z,4.7nm,1.0s						
MCMT	McKenzie Canyo	80.45	329	P	P	05 22 01.5	+2.1
BOSA	Boshof	80.72	117	P	P	05 22 01.6	+0.5
	comp=Z,4.2nm,0.9s,baz=230,slow=1.6,SNR=3.5						
BOSA	Boshof	80.72	117	IAmb	IAmb	05 22 16.7	
	comp=Z,11nm,1.4s						
MAW	Mawson	81.18	163	P	P	05 22 03.7	+1.1
	comp=Z,1.3nm,0.7s,baz=225,slow=4.3,SNR=2.9						
YKA	Yellowknife Ar	94.37	340	P	P	05 23 05.8	-0.3
	comp=Z,0.6nm,0.5s,baz=134,slow=4.7,SNR=11						
ZALV	Zalesovo Beam	143.73	28	PKP	PKPbc	05 29 19.5	+0.8
	comp=Z,1.3nm,0.5s,baz=289,slow=4.7,SNR=7.1						
MKAR	Makanchi Array	146.85	40	PKPbc	PKPbc	05 29 27.4	-1.1
	comp=Z,2.1nm,0.6s,baz=297,slow=3.2,SNR=15						
MKAR	Makanchi Array	146.85	40		PKPdf	05 29 26.4	+0.1
MKAR				PKPbc	PKPbc	05 29 29.3	+0.8
KLR	Kul'dur	151.04	334	PKPbc	PKPbc	05 29 39.1	+0.2
	comp=Z,1.0nm,0.7s,baz=81,slow=4.4,SNR=5.5						

ISCJB 01 05:19:02.3±0.5, 54°.59N±0°.04×159°.96W±0°.05, h10km, mb3.9/21, Error ellipse: s-maj=6.6km s-min=2.9km az=145.3

AEIC 01 05:19:04.7±2.1, 54°.68N±0°.05×160°.11W±0°.09, h7km±6km, ML3.6, mb3.8/3(NEIC)

IDC 01 05:19:06.0±0.9, 55°.61N×160°.85W, h0km, mb3.9/18, mb1 4.1/21, mb1mx3.9/59, mbtmp3.9/21, ML3.7/3, Error ellipse: s-maj=27.5km s-min=12.9km az=172.0

ISC 01 05:19:02.7±0.6**, 54°.63N**±0°.05×**160°.04W**±0°.03**, h10km, n73, σ2s.05**/76**, mb3.9**/21**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	Chernabura Isl	0.32	54		Pb	05 19 12.2	+1.7
CNBA				Sg	Sb	05 19 17.7	+1.9
SDPT	Sand Point	0.76	341	Pg	Pb	05 19 18.7	+0.7
SDPT					Pb	05 19 18.8	+0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDPT					Sg	05 19 26.6	-0.8
SDPT					Sb	05 19 27.5	-1.0
PN6	Pavlof North-6	1.36	308		Pb	05 19 29.2	+1.0
PN6					Sg	05 19 47.2	+0.8
VNWF	Veniaminof 8	1.55	10		Pn	05 19 31.4	+1.0
VNWF					Sb	05 19 52.3	+1.1
VNSS	Veniaminof 8	1.63	12		Pn	05 19 32.9	+1.2
VNSS					Sg	05 19 56.4	+1.2
VNFG	Fog Glacier, M	1.68	9		Pn	05 19 33.8	+1.6
VNNF	Veniaminof 3	1.71	14		Pn	05 19 34.1	+1.5
CHGN	Chignik	1.91	28		Pn	05 19 36.1	+0.8
CHGN					Pb	05 19 36.6	-1.1
CHGN				Sn	Sn	05 20 00.5	+1.1
CHGN					Sb	05 20 01.2	-0.3
FALS	False Pass	1.97	278		Pn	05 19 37.4	+1.3
FALS				Sn	Sb	05 20 03.4	+0.2
FALS	False Pass	1.97	278		Sb	05 20 04.1	+1.0
SSBA	Shishaldin	2.37	275		Pn	05 19 43.3	+1.6
SSBA					Sb	05 20 14.1	-0.7
ANNE	Aniakchak Nort	2.55	25		Pn	05 19 46.0	+1.9
WEBT	Westdahl Beart	2.74	271		Pn	05 19 48.6	+1.9
AKSA	Akutan Strait	3.34	264		Pn	05 19 57.1	+2.1
AKUT	Akutan	3.39	264		Pn	05 19 57.8	+2.2
AKBBA	Akutan Broad B	3.49	264		Pn	05 19 58.9	+1.9
AKLV	Akutan Long Va	3.49	265		Pn	05 19 58.8	+1.8
AKGG	Akutan Green G	3.50	265		Pn	05 19 59.0	+1.9
AKMO	Akutan Morgan	3.53	264		Pn	05 19 59.5	+1.9
PLK3	Peulik 3	3.72	33		Pn	05 20 03.2	+3.0
UNV	Unalaska Valle	3.87	261		Pn	05 20 03.5	+1.2
UNV	Unalaska Valle	3.87	261		Sn	05 20 51.8	+4.1
MTBL	Makushin Table	3.94	263		Pn	05 20 05.1	+1.8
MSW	Makushin Switc	4.02	262		Pn	05 20 05.6	+1.3
MSW					Sn	05 20 53.2	+1.9
MREP	Makushin Rep't	4.02	261		Pn	05 20 06.0	+1.7
MCIR	Makushin Cirqu	4.07	263		Pn	05 20 07.8	+2.8
KABU	Katmai Buttres	4.50	34		Pn	05 20 13.7	+2.7
OHAK	Old Harbor	4.60	53		Pn	05 20 12.1	-0.1
KDAK	Kodiak Island	5.22	50	Pn	Pn	05 20 20.1	-0.6
	0.7nm,0.3s,baz=203,slow=5.1,SNR=20						
KDAK				Sn	Sn	05 21 16.9	-4.1
	0.6nm,0.3s,baz=259,slow=18,SNR=1.4						
KDAK	Kodiak Island	5.22	50		Pn	05 20 22.2	+1.4
SPIA	Saint Paul Isl	6.28	298	Pn	Pn	05 20 35.8	+0.6
CNPM	China Poot	6.86	41	Pn	Pn	05 20 46.5	+3.2
SVW2	Sparrevohn	6.91	18	Pn	Pn	05 20 46.2	+2.4
RSO	Redoubt South	7.04	31	Pn	Pn	05 20 49.6	+3.7
RC01	Rabbit Creek A	8.48	36	Pn	Pn	05 21 07.9	+2.4
TTA	Tatalina	8.58	12		Pn	05 21 08.1	+1.2
TRF	Thorofare Moun	10.16	26		Sn	05 23 18.6	-3.9
BWN	Browne	10.96	25		Sn	05 23 47.2	+5.2
IMAR	Indian Mountai	11.80	13		Pn	05 21 53.3	+2.5
ILAR	Eielson Array	12.11	28	Pn	Pn	05 21 51.9	-3.2
	0.0nm,0.3s,baz=216,slow=13,SNR=3.1						
DAWY	Dawson	14.08	40	P	P	05 22 32.0	+2.2
EPYK	Eagle Plains	16.30	35	P	P	05 22 55.3	+0.9
EPYK				IAmb	IAmb	05 23 03.9	
	comp=Z,11nm,0.8s						
DLBC	Dease Lake	16.91	65	Pn	P	05 23 06.8	+5.5
	comp=Z,0.3nm,0.3s,baz=236,slow=3.4,SNR=3.5						
INK	Inuvik	18.43	32	P	P	05 23 16.7	-1.1
	comp=Z,0.2nm,0.3s,baz=220,slow=12,SNR=12						
INK	Inuvik	18.43	32	P	P	05 23 17.1	-0.8
INK				IAmb	IAmb	05 23 19.0	
	comp=Z,6.9nm,1.3s						
YKA	Yellowknife Ar	24.49	53	P	P	05 24 26.2	+4.5
	comp=Z,0.2nm,0.5s,baz=274,slow=8.5,SNR=3.7						
PETK	Petropavlovsk-	24.70	284	P	P	05 24 22.0	-1.6
	comp=Z,5.2nm,0.5s,baz=82,slow=14,SNR=41						
RES	Resolute Bay	31.86	27	P	P	05 25 26.9	-0.5
	comp=Z,1.0nm,0.7s,baz=211,slow=5.9,SNR=4.5						
PDAR	Pinedale Array	34.63	89	P	P	05 26 01.2	+9.2
	comp=Z,0.3nm,0.7s,baz=291,slow=5.5,SNR=3.1						
KLR	Kul'dur	40.90	292	P	P	05 26 43.2	-1.5
	comp=Z,1.3nm,0.7s,baz=96,slow=9.2,SNR=3.6						
H11N2	WAKE ISLAND Hy	42.94	229	T	T	06 12 54.8	
	baz=28,slow=76,SNR=28						
H11N3	WAKE ISLAND Hy	42.95	229	T	T	06 12 56.2	
	baz=28,slow=76,SNR=20						
H11N1	WAKE ISLAND Hy	42.96	229	T	T	06 12 56.2	
	baz=28,slow=76,SNR=13						
H11S1	WAKE ISLAND Hy	44.10	228	T	T	06 14 26.0	
	baz=27,slow=76,SNR=6.8						
H11S2	WAKE ISLAND Hy	44.12	228	T	T	06 14 27.6	
	baz=27,slow=76,SNR=9.9						
H11S3	WAKE ISLAND Hy	44.12	228	T	T	06 14 27.7	
	baz=27,slow=76,SNR=8.2						
MJAR	Matsushiro Arr	45.25	273	P	P	05 27 22.1	+2.0
	comp=Z,1.2nm,0.6s,baz=35,slow=6.8,SNR=3.5						
MJAR	Matsushiro Arr	45.25	273	IAmb	IAmb	05 27 24.6	
	comp=Z,1.1nm,0.8s						
NRIK	Noril'sk	47.00	333	P	P	05 27 32.1	-1.3
	comp=Z,2.1nm,0.5s,baz=50,slow=8.1,SNR=3.5						
TXAR	Lajitas Array	47.34	99	P	P	05 27 45.8	+9.2
	comp=Z,0.3nm,0.7s,baz=325,slow=7.7,SNR=3.2						
KSRS	Korea Array	50.55	281	P	P	05 28 00.9	-0.1
	comp=Z,1.0nm,0.8s,baz=54,slow=6.8,SNR=4.5						
SONM	Songino Array	54.77	305	P	P	05 28 31.2	-1.1
	comp=Z,1.0nm,0.7s,baz=48,slow=7.6,SNR=7.0						
ZALV	Zalesovo Beam	59.32	322	P	P	05 29 02.4	-1.8
	comp=Z,0.2nm,0.3s,baz=18,slow=9.7,SNR=2.5						
FINES	FINESS Array B	64.17	357	P	P	05 29 35.1	-1.7
	comp=Z,3.3nm,0.9s,baz=126,slow=9.7,SNR=3.5						
GTA	Gaotai	64.21	302	eP	P	05 29 36.1	-1.5
GTA				pP	sP	05 29 48.1	+6.1
GTA				sP	pP	05 29 53.3	+13
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	Makanchi Array	66.07	318	P	P	05 29 47.6	-1.8
	comp=Z,0.3nm,0.4s,baz=46,slow=7.2,SNR=4.3						
AKASG	Malin Array Be	74.75	354	P	P	05 30 40.4	-2.0
	comp=Z,1.2nm,0.6s,baz=7.8,slow=5.9,SNR=6.1						
GERES	GERESS Array B	76.76	4	P	P	05 30 53.5	-0.6
	comp=Z,0.6nm,0.8s,baz=335,slow=4.3,SNR=3.8						
KBZ	Khabaz	80.08	343	P	P	05 31 11.9	-0.3
	comp=Z,2.2nm,0.9s,baz=236,slow=3.6,SNR=2.8						
CMAR	Chiang Mai Arr	81.34	290	P	P	05 31 18.7	-0.7
	comp=Z,0.8nm,0.3s,baz=12,slow=5.7,SNR=5.6						
ESDC	Sonseca Array	83.85	18	P	P	05 31 32.1	-0.1
	comp=Z,1.3nm,0.7s,baz=339,slow=5.0,SNR=8.3						
BRTR	Keskin Array B	85.28	349	P	P	05 31 38.8	-0.8
	comp=Z,0.7nm,0.8s,baz=53,slow=0.6,SNR=4.5						
WRA	Warramunga Arr	92.87	239	P	P	05 32 20.9	+5.4
	comp=Z,0.3nm,0.7s,baz=34,slow=6.1,SNR=3.0						

IDC 01 05:22:01.0±5.5, 7°.49S×128°.29E, h188km±53km, mb2.9/1, mb1 3.0/5, mb1mx2.8/42, mbtmp3.5/5, Error ellipse: s-maj=68.7km s-min=23.0km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.31	239	P	Pn	05 23 19.8	+0.5
	5.1nm,0.3s,baz=80,slow=6.1,SNR=3.7						
FITZ	Fitzroy Crossi	10.85	194	P	Pn	05 24 31.8	+0.2
	0.3nm,0.3s,baz=13,slow=7.3,SNR=8.3						
FITZ				S	Sn	05 26 30.8	-1.6
	0.4nm,0.3s,baz=106,slow=20,SNR=6.1						
WRA	Warramunga Arr	13.69	155	P	Pn	05 25 06.1	-1.6
	baz=334,slow=13,SNR=0.3						
WRA				S	Sn	05 27 36.4	-4.0
	1.9nm,0.3s,baz=65,slow=26,SNR=4.9						
ASAR	Alice Springs	16.96	162	P	Pn	05 25 48.4	+0.8
	0.1nm,0.3s,baz=342,slow=9.9,SNR=2.7						
ASAR				S	S	05 28 54.7	+1.0
	0.1nm,0.3s,baz=338,slow=24,SNR=4.1						
MKAR	Makanchi Array	67.72	328	P	P	05 32 38.0	-0.2
	0.2nm,0.5s,baz=121,slow=5.6,SNR=2.2						

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*NORS **01** 05:33:55.4±0.0, 42°.32N×45°.11E, h29km, MPVA4.2*
*MOS **01** 05:33:55.3±0.0, 42°.35N×45°.12E, h23km, MPVA4.1*
*TIF **01** 05:33:56.0, 42°.38N×45°.17E, h31km±1km*
*ISK **01** 05:33:56.1, 42°.41N×45°.08E, h9km, ML3.3/11*
*AZER **01** 05:33:56.2±0.6, 42°.38N×45°.06E, h49km±156km, ml3.3/16, Error ellipse: s-maj=14.3km s-min=7.6km az=325.0*
*ISCJB **01** 05:33:57.9±0.3, 42°.36N±0°.01×45°.12E±0°.02, h21km±3km, mb3.7/1, Error ellipse: s-maj=2.4km s-min=1.9km az=135.2*
*DRS **01** 05:33:58.8±0.0, 42°.50N×45°.17E, h17km*
ISC 01 05:33:57.5±1.0, 42°.37N±0°.01×45°.12E±0°.01, h16km±8km, n112, σ0s.97/190, 8C-8D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUDG	Gudauri	0.48	281	P	Pg	05 34 07.1	-0.1
GUDG				S	Sb	05 34 15.2	+0.5
GUDG	Gudauri	0.48	281	PG	Pg	05 34 07.1	-0.1
GUDG				S	Sb	05 34 15.1	+0.5
GUDG	Gudauri	0.48	281	ePg	Pg	05 34 07.1	-0.1
GUDG				eSg	Sb	05 34 15.0	+0.4
SEAG	Tbilisi Sea	0.65	201	P	Pg	05 34 09.3	-1.1
SEAG				S	Sb	05 34 19.6	+0.3
SEAG	Tbilisi Sea	0.65	201	PG	Pg	05 34 09.2	-1.1
SEAG				S	Sb	05 34 19.6	+0.3
TBLG	Delisi	0.70	204	P	Pg	05 34 10.9	-0.4
TBLG				S	Sb	05 34 21.3	+0.5
TBLG	Delisi	0.70	204	PG	Pg	05 34 10.8	-0.4
TBLG				S	Sb	05 34 21.2	+0.5
TBLG	Delisi	0.70	204	PG	Pg	05 34 10.4	-0.8
TBLG				SG	Sb	05 34 20.9	+0.2
KMGR	Komgaron	0.71	345	ePG	Pb	05 34 11.6	+0.1
KMGR				eS	Sn	05 34 23.1	-0.4
KMGR	Komgaron	0.71	345	ePg	Pb	05 34 11.7	+0.1
KMGR				eSg	Sn	05 34 22.8	-0.8
BTNK	Botanikuri	0.73	199	P	Pb	05 34 11.2	-0.7
BTNK				S	Sb	05 34 22.1	+0.5
BTNK	Botanikuri	0.73	199	PG	Pb	05 34 11.1	-0.7
BTNK				S	Sb	05 34 22.1	+0.5
VLKR	Vladikavkaz	0.75	334	ePG	Pg	05 34 12.4	+0.3
VLKR				eS	Sn	05 34 24.0	-0.5
VLKR	Vladikavkaz	0.75	334	ePg	Pb	05 34 12.2	+0.1
VLKR				eSg	Sn	05 34 23.7	-0.8
LACR	Lac	0.76	307	i PG	Pb	05 34 10.2	-2.2
LACR				pmax	pmax		
	comp=Z,282nm,0.3s						
LACR	Lac	0.76	307	i Pg	Pb	05 34 10.2	-2.2
LACR				i Sg	Sb	05 34 20.9	-1.5
BTLR	Botlikh	0.87	70	ePG	Pb	05 34 12.3	-1.9
BTLR				eS	Sb	05 34 23.8	-1.8
BTLR				pmax	pmax		
	comp=Z,362nm,0.3s						
DGRG	David-gareji	0.94	168	P	Pb	05 34 15.6	+0.1
DGRG				S	Sn	05 34 29.7	+0.5
DGRG	David-gareji	0.94	168	PG	Pb	05 34 15.5	+0.1
DGRG				S	Sn	05 34 29.7	+0.5
DGRG	David-gareji	0.94	168	i Pg	Pb	05 34 15.6	+0.1
DGRG				eSg	Sn	05 34 29.7	+0.5
GROC	Groznyy	0.97	31	⇓ePG	Pb	05 34 15.5	-0.4
GROC				e		05 34 29.1	
GROC				pmax	pmax		
	comp=Z,271nm,0.4s						
GROC				smax	smax		
	comp=E,2μm,0.5s						
GROC				smax	smax		
	comp=E,2μm,0.5s						
GROC				smax	smax		
	comp=N,857nm,0.4s						
GROC	Groznyy	0.97	31	ePg	Pb	05 34 15.6	-0.4
GROC				eSg	Sn	05 34 30.2	+0.4
ZEI	Tsey	0.99	295	ePG	Pb	05 34 15.2	-1.2
ZEI				pmax	pmax		
	comp=Z,139nm,0.4s						
ZEI	Tsey	0.99	295	ePg	Pb	05 34 15.1	-1.3
ZEI				eSg	Sb	05 34 29.0	-0.2
KORR	Kora	1.05	313	⇓iPG	Pb	05 34 17.3	0.0
KORR				eS	Sn	05 34 33.0	+1.1
KORR	Kora	1.05	313	i Pg	Pb	05 34 17.3	0.0
KORR				eSg	Sn	05 34 33.3	+1.3
BTKR	Batakoyurt	1.08	337	ePG	Pn	05 34 18.4	+0.3
BTKR				eS	Sg	05 34 35.8	+3.1
BTKR	Batakoyurt	1.08	337	i Pg	Pb	05 34 18.1	+0.2
BTKR				eSg	Sg	05 34 35.5	+2.9
KZRT	Kazreti	1.12	209	P	Pb	05 34 17.2	-1.3
KZRT				S	Sb	05 34 32.8	-0.2
KZRT	Kazreti	1.12	209	PG	Pb	05 34 17.2	-1.3
KZRT				S	Sb	05 34 32.7	-0.2
XNZR	Khunzakh	1.19	81	ePG	Pn	05 34 18.5	-1.1
XNZR				eS	Sb	05 34 34.9	0.0
DDFL	Dedoflistskaro	1.19	141	P	Pb	05 34 20.3	+0.6
DDFL				S	Sg	05 34 37.5	+1.4
DDFL	Dedoflistskaro	1.19	141	PG	Pb	05 34 20.3	+0.6
DDFL				S	Sg	05 34 37.5	+1.4
ONI	Oni	1.25	281	P	Pn	05 34 20.1	-0.2
ONI				S	Sg	05 34 37.5	-0.4
ONI	Oni	1.25	281	dePG	Pn	05 34 20.3	-0.1
ONI	Oni	1.25	281	PN	Pn	05 34 19.9	-0.5
ONI				SN	Sn	05 34 36.9	0.0
ONI	Oni	1.25	281	ePg	Pn	05 34 20.3	-0.1
ONI				eSg	Sn	05 34 37.3	+0.4
UNCR	Uncukul	1.29	74	⇑iPG	Pn	05 34 20.0	-0.8
UNCR				eS	Sb	05 34 37.0	-0.6
UNCR				pmax	pmax		
	comp=Z,178nm,0.2s						
LSNR	Lesken	1.31	314	ePg	Pn	05 34 21.2	+0.1
LSNR				eSg	Sg	05 34 40.0	+0.2
QZX	Qazax, Azerbai	1.33	172	P	Pn	05 34 20.1	-1.3
	SNR=8.3						
QZX				S	Sn	05 34 38.6	-0.1
ZKTA	Zakatala	1.34	123	P	Pn	05 34 20.5	-1.1
	SNR=9.7						
ZKTA				S	Sn	05 34 38.8	-0.2
GNBR	Gunib	1.37	89	ePG	Pn	05 34 21.6	-0.4
GNBR				eS	Sb	05 34 40.3	+0.3
GNBR	Gunib	1.37	89	ePg	Pn	05 34 21.2	-0.8
GNBR				eSg	Sn	05 34 39.6	-0.2
TRKR	Terskaya	1.38	348	i PG	Pn	05 34 21.7	-0.3
TRKR				pmax	pmax		
	comp=Z,66nm,0.8s						
TRKR	Terskaya	1.38	348	i Pg	Pn	05 34 21.7	-0.3
TRKR				eSg	Sg	05 34 42.1	+0.1
KRNR	Karanay	1.40	70	ePG	Pn	05 34 21.5	-0.9
KRNR				eS	Sn	05 34 41.0	+0.4
KRNR				pmax	pmax		
	comp=Z,49nm,0.3s						
ARKR	Arakani	1.41	80	ePG	Pn	05 34 22.0	-0.5
ARKR				eS	Sb	05 34 42.0	+0.8
DBC	Dubki	1.42	62	⇑iPG	Pn	05 34 22.1	-0.6
DBC				eS	Sn	05 34 41.2	+0.1
DBC	Dubki	1.42	62	ePg	Pn	05 34 21.8	-0.9
DBC				eSg	Sn	05 34 40.9	-0.2
KMKR	Kumukh	1.49	99	ePG	Pn	05 34 24.0	+0.2
KMKR				i S	Sb	05 34 45.0	+1.3
KMKR				pmax	pmax		
	comp=Z,117nm,0.2s						
PRTR	Priterechnaya	1.51	336	ePG	Pn	05 34 23.8	0.0
PRTR				pmax	pmax		
	comp=Z,111nm,0.3s						
PRTR	Priterechnaya	1.51	336	ePg	Pn	05 34 23.9	0.0
PRTR				eSg	Sg	05 34 46.2	+0.1
BUJR	Buynaksk	1.54	72	ePG	Pb	05 34 26.3	+0.7
BUJR				eS	Sg	05 34 47.7	+0.6
AKH	Akhalkalaki	1.55	232	P	Pn	05 34 24.4	-0.1
AKH				S	Sb	05 34 45.3	0.0
AKH	Akhalkalaki	1.55	232	d iPG	Pn	05 34 24.3	-0.2
AKH	Akhalkalaki	1.55	232	PN	Pn	05 34 24.3	-0.2
AKH				SN	Sb	05 34 45.2	0.0
AKH	Akhalkalaki	1.55	232	i Pg	Pn	05 34 24.4	-0.1
AKH				eSg	Sb	05 34 45.3	0.0
TKB	Tkibuli	1.57	270	P	Pn	05 34 24.7	-0.1
TKB				S	Sb	05 34 46.3	+0.4
TKB	Tkibuli	1.57	270	PG	Pn	05 34 24.7	-0.1
TKB				S	Sb	05 34 46.3	+0.4
NCK	Nalchik	1.58	316	ePG	Pn	05 34 23.9	-1.0
NCK				eS	Sb	05 34 46.3	+0.1
NCK	Nalchik	1.58	316	ePg	Pn	05 34 23.3	-1.6
NCK				eSg	Sb	05 34 45.9	-0.3
GDB	GEDABAY	1.72	164	P	Pn	05 34 25.2	-1.7
	SNR=11						
GDB				S	Sn	05 34 48.5	0.0
MAK	Makhachkala	1.86	71	ePN	Pb	05 34 30.9	-0.1
MAK				e		05 34 58.2	
MAK				pmax	pmax		
	comp=Z,110nm,0.3s						
MAK				smax	smax		
	comp=N,440nm,0.6s						
MAK				smax	smax		
	comp=N,344nm,0.6s						
URKR	Urkarakh	1.88	95	ePN	Pb	05 34 32.6	+1.1
URKR				eS	Sg	05 34 58.1	+0.1
URKR	Urkarakh	1.88	95	ePg	Pb	05 34 31.2	-0.3
URKR				eSg	Sb	05 34 56.0	+1.2
KBTC	Kuba-Taba	1.91	320	ePN	Pn	05 34 29.7	+0.3
KBTC	Kuba-Taba	1.91	320	ePg	Pn	05 34 29.7	+0.3
KBTC				eSg	Sb	05 34 56.6	+1.0
SEKA	Sheki	1.94	126	PN	Pn	05 34 29.9	0.0
SEKA	Sheki	1.94	126	P	Pn	05 34 30.0	0.0
	SNR=15						
SEKA				S	Sn	05 34 55.4	+1.4
GANJ	Ganja	1.95	152	PN	Pn	05 34 28.6	-1.3
GANJ	Ganja	1.95	152	P	Pn	05 34 28.6	-1.3
	SNR=8.8						
GANJ				S	Sn	05 34 52.8	-1.3
NEY	Neytrino	1.97	297	ePN	Pn	05 34 31.4	+1.1
NEY				eS	Sb	05 34 58.6	+1.2
NEY	Neytrino	1.97	297	ePg	Pn	05 34 31.5	+1.1
NEY				eSg	Sb	05 34 56.4	-1.0
AKT	Akhty	2.15	114	ePN	Pn	05 34 34.2	+1.5
AKT				eS	Sn	05 34 59.4	+0.4
AKT	Akhty	2.15	114	ePg	Pn	05 34 34.2	+1.5
AKT				eSg	Sn	05 34 59.4	+0.4
GNI	Garni	2.24	187	dePN	Pn	05 34 34.5	+0.4
GNI				pmax	pmax		
	comp=Z,1μm,0.8s						
GNI	Garni	2.24	187	PN	Pn	05 34 34.8	+0.7
GNI				SN	Sn	05 35 03.2	+1.8
PYA1	Pyatigorsk	2.24	320	PN	Pn	05 34 33.2	-0.8
PYA1	Pyatigorsk	2.24	320	ePn	Pn	05 34 33.3	-0.7
PYA1				eSn	Sn	05 35 02.3	+0.9
SHA1	Shidzhatmaz	2.26	308	⇑ePN	Pn	05 34 33.0	-1.4
SHA1				pmax	pmax		
	comp=Z,20nm,0.3s						
SHA1	Shidzhatmaz	2.26	308	ePn	Pn	05 34 33.9	-0.5
SHA1				eSn	Sb	05 35 06.8	+0.9
KARS	Kars	2.32	222	PN	Pn	05 34 35.9	+0.8
KIV0	Kislovodsk Arr	2.38	313	ePn	Pn	05 34 35.9	0.0
KIV0				eSn	Sn	05 35 06.5	+1.8
KIV	Kislovodsk	2.38	312	PN	Pn	05 34 35.9	0.0
KIV	Kislovodsk	2.38	312	PN	Pn	05 34 35.6	-0.3
TASB	TASBURUN-IGDIR	2.48	196	PN	Pn	05 34 37.6	+0.4
QBL	Gabala	2.49	124	P	Pn	05 34 36.3	-1.1
QBL				S	Sn	05 35 08.8	+1.4
QSAR	Qusar	2.50	109	P	Pn	05 34 37.6	+0.1
XNQ	Khinaliq	2.56	117	P	Pn	05 34 38.8	+0.3
	SNR=4.0						
XNQ				S	Sn	05 35 10.3	+0.8
HYR	Heyderabad	2.66	184	P	Pn	05 34 39.4	-0.3
HYR				S	Sn	05 35 11.1	-0.5
AGDM	Agdam	2.72	146	P	Pn	05 34 39.7	-0.8
	SNR=3.3						
AGDM				S	Sn	05 35 14.8	+1.8
QUBA	Quba, Azerbaij	2.72	111	P	Pn	05 34 41.1	+0.5
SENK	Senkaya-Erzuru	2.76	230	PN	Pn	05 34 42.0	+0.8
BCA	Borcka	2.77	252	PN	Pn	05 34 41.6	+0.4
ALER	Alexandrovskoy	2.88	327	ePn	Pn	05 34 42.8	+0.1
ALER				eSn	Sn	05 35 16.4	-0.5
SBZ	Shahbuz	2.99	173	P	Pn	05 34 46.2	+1.9
	SNR=13						
SBZ				S	Sb	05 35 24.4	-2.4
PQL	Pirkuli	3.05	120	P	Pn	05 34 44.4	-0.8
GOF	Gofitskoye	3.08	331	⇑ePN	Pn	05 34 44.7	-0.7
GOF				eS	Sn	05 35 22.6	+0.8
GOF				pmax	pmax		
	comp=Z,17nm,0.5s						
GOF				smax	smax		
	comp=E,30nm,0.5s						
GOF	Gofitskoye	3.08	331	ePn	Pn	05 34 45.2	-0.2
GOF				eSn	Sn	05 35 21.7	-0.1
SIZA	Siyzn	3.11	113	P	Pn	05 34 46.9	+0.9
NAX	Nakhchivan	3.21	175	P	Pn	05 34 46.7	-0.6
	SNR=9.9						
NAX				S	Sb	05 35 32.8	-0.2
AGRB	Hanur-Agry	3.22	211	PN	Pn	05 34 48.4	+0.8
CLDR	Caldiran	3.35	196	PN	Pn	05 34 50.5	+1.1
KOPR	Koprukoy-ERZUR	3.42	227	PN	Pn	05 34 51.4	+1.1
ORD	Ordubad	3.51	169	P	Pn	05 34 51.5	+0.1
	SNR=5.7						
ORD				S	Sn	05 35 32.5	-0.1
BAYT	Aydıntepe-Bayb	4.23	244	PN	Pn	05 35 02.7	+1.2
ANN	Anapa	6.08	296	eP	Pn	05 35 27.7	+1.0
ANN				e		05 36 40.0	
ANN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ANN				smax	smax		
	comp=N,22nm,0.8s						
AKTO	Aktyubinsk	12.00	43	⇑P	Pn	05 36 45.6	-2.1
	comp=N,6.0nm,1.4s						
AKTO				⇓S	Sn	05 38 48.7	-12
	comp=N,7.7nm,1.6s						
AB31	Akbulak array	12.41	51	⇓P	Pn	05 36 50.2	-3.2
	comp=N,1.1nm,0.7s,baz=241,slow=12,SNR=8.7						
AB31				⇑S	Sn	05 39 01.5	-10
	comp=N,1.3nm,0.8s,baz=244,slow=23						
ARU	Arti	16.52	27	⇓iP	P	05 37 50.3	-0.6
ARU				pmax	pmax		
	comp=Z,17nm,2.8s						
AAK	Ala-Archa	21.62	79	⇑eP	P	05 38 47.6	+0.7
AAK				pmax	pmax		
	comp=Z,7.0nm,3.4s						
KURK	Kurchatov	24.34	58	⇑eP	P	05 39 18.7	+4.4
KURK				pmax	pmax		
	comp=Z,6.0nm,1.9s						

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*ISCJB **01** 05:53:03.4±0.6, 72°.32N±0°.04×75°.6W±0°.1, h10km, Error ellipse: s-maj=6.3km s-min=5.8km az=6.4*
*OTT **01** 05:53:08.5±0.2, 72°.24N×75°.42W, h18km, MN3.5/6, 100km southeast from Pond Inlet, Nu Eastern Arctic Background Seismic Zone.*
ISC 01 05:53:05.1±1.0, 72°.25N±0°.06×75°.42W±0°.06, h10km, n10, σ2s.47/18, Baffin Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CLRN	Clyde River	2.83	126	PN	Pn	05 53 52.9	+2.7
CLRN				SN	Sn	05 54 26.2	+1.9
CLRN				LG	Lg	05 54 34.8	
CLRN				Trac		05 54 41.4	
	comp=Z,143nm,0.3s						
ILON	Igloolik, Nuna	3.58	219	PN	Pn	05 54 01.3	+0.7
ILON				SN	Sn	05 54 42.6	-0.3
ILON				LG	Lg	05 54 56.9	
ILON				Trac		05 54 58.2	
	comp=Z,144nm,0.3s						
TULEG	Thule	4.66	19	PN	Pn	05 54 16.6	+1.4
TULEG				SN	Sn	05 55 07.8	-1.4
TULEG				Trac		05 55 10.9	
	comp=Z,13nm,0.2s						
KULLO	Kullorsuaq	5.70	57	i P	Pn	05 54 31.2	+1.7
KULLO				eS	Sn	05 55 32.9	-2.0
KULLO	Kullorsuaq	5.70	57	PN	Pn	05 54 31.9	+2.3
KULLO				SN	Sn	05 55 33.8	-1.0
KULLO				Trac		05 55 39.6	
	comp=Z,1.6nm,0.0s						
RES	Resolute Bay	6.05	303	PN	Pn	05 54 36.8	+2.4
RES				SN	Sn	05 55 42.2	-1.4
RES				LG	Lg	05 56 16.6	
RES				Trac		05 56 32.4	
	comp=Z,25nm,0.6s						
EUNU	Eureka	8.25	347	PN	Pn	05 55 06.3	+1.8
EUNU				SN	Sn	05 56 34.9	-2.7
EUNU				Trac		05 56 42.5	
	comp=Z,810nm,6.0s						
FRB	Frobisher Bay	8.92	160	PN	Pn	05 55 14.4	+0.7
FRB				SN	Sn	05 56 49.5	-4.5
FRB				LG	Lg	05 57 46.1	
FRB				Trac		05 57 57.0	
	comp=Z,40nm,0.8s						
SFJD	Kangerlussuaq	10.06	109	SN	Sn	05 57 17.1	-4.8
SFJD				SN		05 59 35.4	
SUMG	Summit	11.06	71	i P	Pn	05 55 44.7	+1.3
SUMG				e		05 57 40.5	

IDC 01 05:56:23.9±2.4, 6°.77S×129°.38E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.4/32, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=150.7km s-min=33.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.95	160	Pn	Pn	05 59 41.9	-1.2
	0.2nm,0.3s,baz=343,slow=13,SNR=9.0						
WRA				Sn	Sn	06 02 12.5	-6.3
	0.2nm,0.3s,baz=329,slow=20,SNR=2.4						
ASAR	Alice Springs	17.35	166	P	P	06 00 28.6	-0.6
	0.2nm,0.3s,baz=340,slow=9.8,SNR=11						
ASAR				S	Sn	06 03 36.7	-4.9
	0.1nm,0.3s,baz=328,slow=21,SNR=5.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	67.70	327	P	P	06 07 23.2	0.0
	0.4nm,0.6s,baz=126,slow=7.4,SNR=2.1						

*NEIC **01** 06:02:19.2±4.0, 17°.5N±0°.1×101°.4W±0°.1, h5km±8km*
*IDC **01** 06:02:19.4±2.4, 17°.61N×101°.37W, h0km, mb3.8/8, mb1 4.0/11, mb1mx3.8/35, mbtmp3.7/11, ML3.1/3, Error ellipse: s-maj=46.7km s-min=18.1km az=21.0*
*MEX **01** 06:02:21.0±0.8, 17°.36N×101°.71W, h4km±7km, MD4.2*
*ISCJB **01** 06:02:22.7±2.1, 17°.42N±0°.06×101°.51W±0°.04, h33km±16km, mb3.9/7, Error ellipse: s-maj=10.7km s-min=5.8km az=25.6*
ISC 01 06:02:21.5±1.4, 17°.39N±0°.08×101°.57W±0°.06, h28km±8km, n71, σ1s.56/66, mb3.9/12, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.24	25	iP	Pb	06 02 27.1	-0.9
ZIIG				iS	Sb	06 02 32.6	+0.3
CAIG	El Cayaco	1.29	105	eP	Pb	06 02 43.5	-1.6
CAIG				eS	Sb	06 03 02.0	+0.7
ARIG	Puente Sto Nin	1.46	53	eP	Pn	06 02 46.4	+0.2
ARIG				eS	Sb	06 03 05.5	-0.8
MEIG	Mezcala	1.93	74	eP	Pb	06 02 53.8	-2.4
MEIG				iS	Sb	06 03 23.2	+3.3
PLIG	Platanillo	2.21	63	eP	Pn	06 02 57.2	+0.7
PLIG				eS	Sb	06 03 30.3	+2.5
EZ5V		2.84	317	iP	Pn	06 03 05.5	+0.2
TLIG	Tlapa	2.87	86	eP	Pn	06 03 06.3	+0.7
TLIG				eS	Sb	06 03 49.2	+2.3
TLIG	Tlapa	2.87	86		Pn	06 03 06.7	+1.1
PNIG	Pinotepa	3.44	106	eP	Pn	06 03 14.6	+1.3
ZAIG	Zacatecas	5.43	350		Pn	06 03 35.0	-6.0
CMIG	Matias Romero	6.39	92	Pn	Pn	06 03 54.3	+0.4
	0.4nm,0.3s,baz=275,slow=14,SNR=3.7						
CMIG				Sn	Sn	06 05 06.3	+0.2
	1.8nm,0.3s,baz=280,slow=16,SNR=4.7						
CMIG				Lg	Lg	06 05 38.0	
	2.0nm,0.3s,baz=282,slow=10.0,SNR=4.1						
H06S1	SOCORRO T	9.03	280	T	T	06 13 37.0	
	SNR=24						
TX31	Lajitas Ar. Si	12.04	351		Pn	06 05 05.7	-5.8
TX32	Lajitas Array	12.04	351		Pn	06 05 05.7	-5.8
TXAR	Lajitas Array	12.04	351	Pn	Pn	06 05 10.3	-1.2
	0.0nm,0.3s,baz=174,slow=13,SNR=2.9						
TXAR				Lg	Lg	06 08 38.1	
	0.0nm,0.3s,baz=165,slow=29,SNR=2.8						
TXAR	Lajitas Array	12.04	351		Pn	06 05 06.4	-5.1
SNET	Serv Nac Est T	12.45	105		Pn	06 05 09.4	-7.6
HSIG		14.42	325	Pn	Pn	06 05 40.0	-3.9
WHTX	Lake Whitney,	15.01	14	Pn	Pn	06 05 45.0	-6.8
WHTX				IAmb	IAmb	06 05 58.3	
	comp=Z,6.9nm,0.8s						
319A	Douglas	15.59	335	Pn	Pn	06 05 54.1	-5.4
319A				IAmb	IAmb	06 06 07.7	
	comp=Z,9.9nm,1.4s						
NATX	Nacogdoches	15.62	22	Pn	Pn	06 06 00.9	+1.2
121A	Cookes Peak, D	16.09	341	Pn	Pn	06 06 05.5	-0.5
MSTX	Muleshoe	16.55	356	Pn	Pn	06 06 03.2	-8.6
BNM	Barren Site	17.30	346	P	P	06 06 24.1	+1.6
LENM	Lemitar	17.39	345	P	P	06 06 26.4	+2.8
AMTX	Amarillo	17.42	360	P	P	06 06 23.7	-0.1
AMTX				IAmb	IAmb	06 06 26.8	
	comp=Z,6.9nm,1.2s						
Z41A	Richland Creek	17.66	25	P	Pn	06 06 25.9	+0.3
Z41A				IAmb	IAmb	06 06 37.5	
	comp=Z,7.9nm,0.8s						
214A	Organ Pipe Nat	17.72	327	P	P	06 06 28.6	+1.6
ANMO	Albuquerque	18.02	347	P	Pn	06 06 30.4	+0.2
	comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=6.3						
W35A	Tecumseh	18.18	12	P	Pn	06 06 31.7	-0.3
W39A	Magazine	19.04	20	P	P	06 06 41.0	-0.5
W39A				IAmb	IAmb	06 06 42.8	
	comp=Z,9.9nm,0.9s						
X16A	Lo Mia Camp, P	19.12	334	P	Pn	06 06 45.0	+1.4
X43A	Marvell	19.55	27	P	P	06 06 46.4	-0.7
T25A	Trinidad	19.83	353	P	Pn	06 06 52.2	+0.1
T25A				IAmb	IAmb	06 06 53.1	
	comp=Z,3.7nm,0.9s						
HHAR	Hobbs	20.00	18	P	P	06 06 51.2	-0.8
HHAR				IAmb	IAmb	06 06 52.5	
	comp=Z,5.2nm,0.6s						
WUAZ	Wupatki	20.05	336	P	Pn	06 06 55.2	+0.6
WUAZ				IAmb	IAmb	06 07 00.5	
	comp=Z,5.2nm,0.8s						
FCAR	Ozark Folk Cen	20.25	23	P	P	06 06 54.0	-0.6
FCAR				IAmb	IAmb	06 06 54.9	
	comp=Z,6.3nm,0.7s						
U40A	Yellville	20.41	21	P	P	06 06 55.8	-0.7
U40A				IAmb	IAmb	06 06 57.5	
	comp=Z,4.7nm,0.8s						
SDCO	Great Sand Dun	20.57	351	P	P	06 06 59.5	+1.0
MVCO	Mesa Verde	20.67	344	P	Pn	06 07 02.0	+0.1
MVCO				IAmb	IAmb	06 07 05.4	
	comp=Z,4.3nm,0.9s						
PFO	Pinyon Flats O	20.97	323	P	P	06 07 05.1	+2.4
	comp=Z,1.4nm,0.8s,baz=122,slow=13,SNR=3.8						
U15A	North Rim	21.21	335	P	P	06 07 07.9	+2.5
KSCO	Kaye Shedlock'	21.56	358	P	P	06 07 09.4	+0.5
KSCO				IAmb	IAmb	06 07 12.7	
	comp=Z,8.4nm,0.9s						
PV12	Saucer Basin,	21.79	345	P	P	06 07 14.2	+2.6
PV12				IAmb	IAmb	06 07 15.7	
	comp=Z,6.4nm,1.1s						
LCMT	Little Creek M	22.10	334	P	P	06 07 17.0	+2.3
SMCO	Snowmass	22.21	349	P	P	06 07 17.6	+1.3
SMCO				IAmb	IAmb	06 07 24.8	
	comp=Z,2.8nm,1.1s						
SHPR	Sheep Range	22.52	330	P	P	06 07 22.1	+2.7
MTPU	Mount Pierson	22.58	338	P	P	06 07 21.6	+1.4
ISCO	Idaho Springs	22.61	352	P	P	06 07 21.2	+0.8
ISCO				IAmb	IAmb	06 07 23.6	
	comp=Z,4.3nm,1.0s						
MSU	Marysvale	23.00	338	P	P	06 07 25.8	+1.3
PSUT	Pine Spring	23.65	335	P	P	06 07 32.3	+1.5
TKL	Tuckaleechee C	24.11	38	P	P	06 07 33.2	-1.7
	comp=Z,3.0nm,0.7s,baz=221,slow=14,SNR=3.8						
R11A	Troy Canyon, C	24.22	332	P	P	06 07 38.1	+1.9
NVAR	Mina Array Bea	25.57	328	P	P	06 07 49.9	+1.4
	comp=Z,1.9nm,0.8s,baz=148,slow=10,SNR=12						
NVAR	Mina Array Bea	25.57	328	P	P	06 07 50.0	+1.6
HWUT	Hardware Ranch	25.62	342	P	P	06 07 49.7	+0.9
HWUT				IAmb	IAmb	06 07 55.8	
	comp=Z,5.3nm,1.3s						
PDAR	Pinedale Array	26.20	347	P	P	06 07 54.5	+0.5
	comp=Z,1.5nm,0.9s,baz=146,slow=11,SNR=8.2						
PDAR	Pinedale Array	26.20	347	P	P	06 07 54.7	+0.6
ACSO	Alum Creek Sta	27.87	31	P	P	06 08 04.3	-4.7
H17A	Grant Village	27.97	346	P	P	06 08 10.9	+0.8
MCMT	McKenzie Canyo	28.95	343	P	P	06 08 21.1	+2.4
SCHQ	Schefferville	45.87	27	P	P	06 10 40.5	-0.8
	comp=Z,4.1nm,0.9s,baz=263,slow=17,SNR=2.5						
SCHQ	Schefferville	45.87	27	P	P	06 10 39.2	-2.1
YKA	Yellowknife Ar	45.97	352	P	P	06 10 42.0	+0.1
	comp=Z,1.1nm,0.8s,baz=159,slow=7.4,SNR=4.1						
YKA	Yellowknife Ar	45.97	352	P	P	06 10 41.5	-0.5
PB11	IPOC Station P	48.43	138	P	P	06 11 01.0	-0.8
INK	Inuvik	54.76	346	P	P	06 11 49.1	+0.8
	comp=Z,1.0nm,0.7s,baz=118,slow=2.7,SNR=7.0						
INK	Inuvik	54.76	346	P	P	06 11 47.8	-0.5
PRP	Porcupine Dome	56.19	340	P	P	06 12 00.4	+1.6
ILAR	Eielson Array	56.21	338	P	P	06 11 59.6	+0.8
	comp=Z,0.9nm,0.8s,baz=147,slow=6.2,SNR=12						
ILAR	Eielson Array	56.21	338	P	P	06 12 00.2	+1.4

*BEO **01** 06:04:25.8±0.5, 46°.24N×18°.35E, h0km, ML3.0/11*
*ISCJB **01** 06:04:29.0±0.4, 46°.06N±0°.01×18°.50E±0°.02, h15km±2km, Error ellipse: s-maj=2.5km s-min=1.8km az=157.3*
*RHSSO **01** 06:04:29.4±0.4, 46°.00N×18°.46E, h6km±2km, ML2.9/1*
*PRU **01** 06:04:30.4±0.0, 46°.12N×18°.36E, h0km*
*VIE **01** 06:04:31.1±1.2, 46°.02N×18°.46E, h24km±20km, mb2.6/7, ml2.5/11, Error ellipse: s-maj=15.3km s-min=5.1km az=143.0 17 km ESE of Pecs*
ISC 01 06:04:30.1±1.1, 46°.04N±0°.02×18°.50E±0°.02, h14km±9km, n97, σ1s.38/166, 9C-14D, Hungary

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIH	Tihany	0.96	334	ePn	Pg	06 04 48.0	-0.5
TIH				Sn	Sb	06 05 02.0	+1.1
BEHE	Becsehely	1.27	291	⇓iPg	Pn	06 04 52.3	-1.0
BEHE				eSg	Sg	06 05 09.2	-1.8
BEHE	Becsehely	1.27	291	ePn	Pb	06 04 55.1	+1.4
BEHE				Sn	Sn	06 05 11.1	+1.0
FRGS	Fruska Gora	1.27	133	ePg	Pn	06 04 52.9	-0.5
FRGS				eSg	Sn	06 05 12.2	+1.9
FRGS	Fruska Gora	1.27	133	⇑iPg	Pn	06 04 52.4	-1.0
FRGS				eSg	Sg	06 05 09.9	-1.3
MPLH	Magyarpolny	1.31	330	ePnc	Pn	06 04 53.1	-0.8
MPLH				Sn	Sb	06 05 11.0	-0.1
DOB	Doboj	1.33	192	⇓iPg	Pn	06 04 53.6	-0.6
DOB				eSg	Sb	06 05 11.0	-0.7
CSKK	Cskako	1.34	353	ePn	Pn	06 04 54.0	-0.2
CSKK				Sn	Sb	06 05 11.1	-0.7
KALN	Kalnik	1.42	275	ePn	Pg	06 04 56.6	-0.8
KALN				Sg	Sg	06 05 16.6	+0.7
BLY	Banja Luka	1.58	216	ePn	Pn	06 04 56.7	-0.9
BLY				eSn	Sg	06 05 19.3	-1.8
BLY	Banja Luka	1.58	216	⇓iPg	Pn	06 04 56.7	-0.9
BLY				eSg	Sb	06 05 18.1	-0.8
BLY	Banja Luka	1.58	216	⇓P	Pn	06 04 56.8	-0.8
BLY				⇓S	Sn	06 05 17.3	-0.5
BLY				AML	AML	06 05 26.4	
TEKS	Tekeris	1.66	154	ePn	Pn	06 04 58.6	-0.1
TEKS				eSn	Sg	06 05 23.1	-0.3
TEKS	Tekeris	1.66	154	ePn	Pn	06 04 58.4	-0.3
TEKS				eSn	Sn	06 05 20.0	+0.3
BSZH	Besenyszg	1.76	43	ePn	Pg	06 05 05.0	+1.2
ZAG	Zagreb	1.76	264	ePn	Pn	06 05 03.9	+3.9
ZAG				Sg	Sg	06 05 26.2	-0.6
PTJ	Puntijarka	1.77	267	iPn	Pn	06 05 02.1	+1.9
PTJ				Sn	Sg	06 05 25.9	-1.0
SRO	Srobarova	1.78	356	ePN	Pn	06 05 02.0	+1.7
SRO				eSG	Sg	06 05 29.5	+2.1
MGRS	Mrkonjic Grad	1.90	212	ePn	Pn	06 05 02.1	+0.1
MGRS				eSn	Sn	06 05 25.9	+0.1
HAPS	Han Pijesak,Bl	1.98	170	ePn	Pn	06 05 02.1	-1.1
HAPS				eSn	Sg	06 05 31.5	-2.1
HAPS	Han Pijesak,Bl	1.98	170	⇑iPn	Pn	06 05 02.0	-1.1
HAPS				eSn	Sn	06 05 27.1	-0.6
PSZ	Piszkesteto	2.11	26	⇓P	Pn	06 05 03.6	-1.3
PSZ	Piszkesteto	2.11	26	ePn	Pn	06 05 03.1	-1.9
PSZ				Sn	Sn	06 05 30.0	-1.0
SOP	Sopron	2.12	322	ePn	Pn	06 05 04.1	-0.9
SOP				Sn	Sn	06 05 30.1	-0.9
CRES	Cresnjev	2.13	265	ePn	Pn	06 05 04.7	-0.5
CRES				eSn	Sn	06 05 32.2	+0.8
OZLJ	Ozalj	2.16	260	iPn	Pb	06 05 07.1	-1.7
OZLJ				Sn	Sb	06 05 34.2	-1.2
DIVS	Divibare	2.21	151	ePn	Pn	06 05 06.8	+0.5
DIVS				eSn	Sb	06 05 38.0	+1.0
DIVS	Divibare	2.21	151	ePn	Pn	06 05 05.6	-0.7
DIVS				eSn	Sn	06 05 34.4	+1.0
SIRR	Siria	2.21	83	⇓P	Pn	06 05 07.8	+1.5
SIRR				AML	AML	06 05 54.5	
BZS	Buzias	2.22	100	ePn	Pn	06 05 07.2	+0.8
BZS				eSn	Sn	06 05 36.4	+2.8
BZS	Buzias	2.22	100	⇑P	Pn	06 05 06.0	-0.4
BZS				⇓S	Sn	06 05 34.2	+0.6
BZS				AML	AML	06 05 49.4	
TRUS	Trudelj	2.26	143	ePn	Pn	06 05 07.1	+0.1
TRUS				eSn	Sb	06 05 39.3	+0.9
BBLS	Lazići	2.27	163	ePn	Pb	06 05 08.8	-1.9
BBLS				eSn	Sb	06 05 39.0	+0.4
BBLS	Lazići	2.27	163	ePn	Pn	06 05 06.6	-0.5
BBLS				eSn	Sn	06 05 35.7	+0.9
ZST	Bratislava	2.36	337	ePN	Pn	06 05 07.4	-0.9
ZST				eSN	Sn	06 05 33.5	-3.5
ARSA	Arzberg	2.38	302	Pn	Pn	06 05 08.3	-0.3
	6.6nm,0.3s,SNR=10						
VYHS	Vyhne	2.47	5	ePN	Pn	06 05 09.7	-0.1
VYHS				eSG	Sg	06 05 52.8	+3.4
MODS	Modra-Piesok	2.48	341	ePN	Pn	06 05 09.1	-0.9
MODS				eSN	Sn	06 05 37.2	-2.8
MODS				eLG	Lg	06 06 02.6	
SOKA	Soboth	2.48	286	Pn	Pn	06 05 09.0	-1.1
	1.9nm,0.2s						
SOKA				Sn	Sn	06 05 39.0	-1.1
	5.0nm,0.3s						
RUDO	Rudo	2.50	165	eSn	Sn	06 05 40.2	-0.2
KOLL	Kolacno	2.54	359	ePN	Pn	06 05 10.9	+0.1
KOLL				eSN	Sn	06 05 39.8	-1.8
SMOL	Smolenice	2.58	344	ePN	Pn	06 05 11.5	+0.1
SMOL				ePG	Pg	06 05 20.8	+1.3
SMOL				eSN	Sn	06 05 42.3	-0.2
MDVR	Moldovita	2.59	118	⇓P	Pn	06 05 11.5	0.0
MDVR				AML	AML	06 05 23.9	
CONA	Conrad Observa	2.61	317	ePn	Pn	06 05 11.7	-0.2
	14nm,0.3s,SNR=50						
CONA				Sn	Sn	06 05 42.5	-0.9
	16nm,0.4s						
GRUS	Gruza	2.66	143	ePn	Pn	06 05 12.6	+0.1
GRUS				eSn	Sb	06 05 49.1	-0.9
RICI	Ricice	2.72	201	ePn	Pn	06 05 15.8	+2.5
RICI				Sn	Sn	06 05 46.9	+1.0
IVAS	Ivanjica	2.73	154	ePn	Pn	06 05 12.9	-0.5
OBKA	Obir	2.78	281	Pn	Pn	06 05 12.7	-1.4
	1.1nm,0.3s						
OBKA				Sn	Sn	06 05 48.6	+1.1
	11nm,0.6s						
CEY	Cerknica	2.86	265	ePn	Pn	06 05 14.8	-0.4
CEY				eSn	Sn	06 05 49.6	+0.3
JAVC	Velka Javorina	2.88	349	ePN	Pn	06 05 16.0	+0.5
MAKA	Makarska	2.94	201	ePn	Pn	06 05 18.4	+2.1
MAKA				Sn	Sn	06 05 52.6	+1.2
NVLJ	Novalja	2.95	241	ePn	Pn	06 05 16.7	+0.3
NVLJ				Sn	Sn	06 05 51.1	-0.5
SJES	Sjenica	2.97	159	ePn	Pn	06 05 17.0	+0.2
HERR	Herculane	2.99	111	⇓P	Pn	06 05 17.4	+0.4
HERR				AML	AML	06 05 25.4	
HERR				⇓S	Sn	06 05 52.3	-0.3
DRGR		3.01	74	ePn	Pn	06 05 15.0	-2.3
DRGR		3.01	74	⇓P	Pn	06 05 15.2	-2.1
GZR	Gura Zlata	3.07	101	⇓P	Pn	06 05 18.6	+0.5
GZR				AML	AML	06 06 17.7	
ZIRJ	Zirje	3.13	221	ePn	Pn	06 05 19.3	+0.5
ZIRJ				Sn	Sn	06 05 56.2	+0.3
DUGI	Dugi Otok	3.18	231	ePn	Pn	06 05 20.2	+0.7
DUGI				Sn	Sn	06 05 57.5	+0.2
LANS	Liptovska Anna	3.18	12	ePN	Pn	06 05 20.8	+1.1
HVAR	Hvar	3.21	208	ePn	Pn	06 05 22.2	+2.2
HVAR				Sn	Sn	06 05 59.4	+1.5
STON	Ston	3.22	190	ePn	Pn	06 05 21.5	+1.5
STON				Sn	Sn	06 05 58.7	+0.6
STON	Ston	3.22	190	eSn	Sn	06 05 57.0	-1.1
BOVS	Bovan	3.31	135	ePn	Pn	06 05 21.4	0.0
TREB	Trebinje	3.32	182	ePn	Pn	06 05 22.2	+0.7
TREB				eSn	Sn	06 06 00.4	-0.3
KRUC	Moravsky	3.34	336	ePN	Pn	06 05 21.3	-0.5
KRUC				eSN	Sn	06 05 58.4	-2.9
SELS	Selova	3.38	145	ePn	Pn	06 05 21.8	-0.6
MYKA	Terra Mystica	3.41	282	Pn	Pn	06 05 23.2	+0.4
	1.8nm,0.4s						
MYKA				eSn	Sn	06 06 02.5	-0.7
	3.4nm,0.4s						
MOA	Molln	3.42	304	ePn	Pn	06 05 23.5	+0.6
	3.7nm,0.3s,SNR=12						
MOA				eSn	Sn	06 06 04.4	+1.3
	3.1nm,0.2s						
ZAGS	Zajecar	3.46	129	ePn	Pn	06 05 23.3	-0.2
TRPA	Tarpa	3.47	51	ePn	Pb	06 05 29.0	-2.1
TRPA				Sn	Sn	06 06 02.0	-2.3
VRAC	Vranov	3.52	339	⇑P	Pn	06 05 24.0	-0.2
VRAC				AML	AML	06 06 37.6	
VRAC	Vranov	3.52	339	ePN	Pn	06 05 24.0	-0.2
VRAC				eSN	Sn	06 06 04.4	-1.2
PDG	Podgorica	3.65	171	eSn	Sn	06 06 08.6	-0.1
PDG	Podgorica	3.65	171	⇑P	Pn	06 05 28.4	+2.4
PDG				⇑S	Sn	06 06 11.7	+3.0
MORC	Moravsky Berou	3.80	351	⇑P	Pn	06 05 27.8	-0.3
MORC				⇓S	Sn	06 06 11.1	-1.4
MORC	Moravsky Berou	3.80	351	ePN	Pn	06 05 28.5	+0.4
MORC				eSN	Sn	06 06 10.9	-1.6
OKC	Ostrava-Krasne	3.81	357	eSN	Sn	06 06 10.7	-2.1
TREC	Trest	3.84	329	ePN	Pn	06 05 28.4	-0.3
TREC				eSN	Sn	06 06 12.3	-1.3
STHS	Stebnicka Huta	3.86	28	ePG	Pg	06 05 45.2	+1.3
KOLS	Kolonicke sedl	3.87	40	ePG	Pg	06 05 46.9	+2.8
DRME	Dracevica, Mon	3.88	172	ePn	Pn	06 05 28.9	-0.3
DRME				eSn	Sn	06 06 13.7	-0.8
ZAPS	Zavoj	4.04	132	ePn	Pn	06 05 32.5	+1.0
ABTA	Abfaltersbach	4.20	282	ePn	Pn	06 05 34.4	+0.7
	2.4nm,0.5s						
KHC	Kasperske Hory	4.54	315	ePN	Pn	06 05 38.8	+0.5
KHC				eSN	Sn	06 06 28.9	-2.0
BOSS	Bosilegrad	4.55	140	ePn	Pn	06 05 38.3	-0.1
DPC	Dobruska-Polom	4.55	342	ePN	Pn	06 05 38.4	-0.1
DPC				eSN	Sn	06 06 28.9	-2.3
GOPC	GO Pecny, Ondr	4.61	329	ePN	Pn	06 05 39.1	-0.1
GOPC				eSN	Sn	06 06 30.1	-2.4
VOIR		4.63	95	⇑P	Pn	06 05 40.6	+1.1
PRU	Pruhonice	4.76	328	ePN	Pn	06 05 40.3	-1.0
PRU				eSN	Sn	06 06 34.5	-1.7
UPC	Upice	4.77	341	ePN	Pn	06 05 41.7	+0.3
VTS	Vitosha	4.82	133	⇑P	Pn	06 05 42.5	+0.2
CHVC	Chvalec	4.84	341	ePN	Pn	06 05 42.6	+0.2
CHVC				eSN	Sn	06 06 36.5	-1.6
WTTA	Wattenberg	4.88	287	Pn	Pn	06 05 44.5	+1.4
	0.4nm,0.1s						
WTTA				eSn	Sn	06 06 41.9	+2.5
	1.0nm,0.3s						
WATA	Walderalm	4.94	288	ePn	Pn	06 05 45.7	+1.9
	0.2nm,0.2s						
WATA				Sn	Sn	06 06 42.5	+1.8
	2.7nm,0.5s						
SQTA	Sankt Quirin	5.16	286	eSn	Sn	06 06 47.0	+0.8
	2.2nm,0.4s						
CLL	Collm	6.41	327	iPn	Pn	06 06 03.9	+0.1
CLL				eSg	Sg	06 08 01.0	+5.5

IDC 01 06:09:32.4±2.3, 6°.87S×129°.33E, h0km, mb3.7/1, mb1 3.7/5, mb1mx3.5/34, mbtmp3.6/5, ML3.6/4, Error ellipse: s-maj=54.3km s-min=30.5km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.51	239	Pn	Pn	06 11 09.8	+0.2
	6.7nm,0.3s,baz=99,slow=23,SNR=2.5						
FITZ	Fitzroy Crossi	11.73	198	Pn	Pn	06 12 19.9	-1.2
	0.2nm,0.3s,baz=20,slow=11,SNR=2.3						
FITZ				Sn	Sn	06 14 14.8	-18
	0.1nm,0.3s,baz=245,slow=14,SNR=1.4						
WRA	Warramunga Arr	13.88	160	Pn	Pn	06 12 50.4	-0.2
	0.2nm,0.3s,baz=343,slow=12,SNR=6.2						
WRA				Sn	Sn	06 15 20.1	-5.4
	0.3nm,0.3s,baz=334,slow=22,SNR=5.4						
ASAR	Alice Springs	17.27	166	P	P	06 13 36.2	-0.5
	0.1nm,0.3s,baz=346,slow=12,SNR=3.0						
MKAR	Makanchi Array	67.75	327	P	P	06 20 31.9	0.0
	0.8nm,0.9s,baz=121,slow=8.1,SNR=2.8						

*IDC **01** 06:14:32.1±2.2, 7°.15S×128°.40E, h0km, mb3.9/1, mb1 3.9/4, mb1mx3.6/35, mbtmp3.8/4, ML3.7/3, Error ellipse: s-maj=106.6km s-min=28.2km az=74.0*
*NEIC **01** 06:14:38.6±1.8, 7°.25S±0°.10×128°.86E±0°.10, h102km±9km, mb4.5/3*
ISC 01 06:14:30.7±0.8, 7°.19S±0°.06×128°.43E±0°.08, h10km, n19, σ2s.67/23, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOEI	Soe	4.84	238		Pb	06 15 55.1	-0.6
SOEI				Sn	Sb	06 16 50.9	-3.2
FAKI	Fak Fak	5.70	42	Pn	Pn	06 15 57.8	+2.3
KNRA	Kununurra	8.44	178		Pn	06 16 38.2	+5.1
KNRA					Sn	06 18 09.7	+1.2
KAPI	Kappang	8.90	284	Pn	Pn	06 16 46.6	+7.2
FITZ	Fitzroy Crossi	11.18	194	Pn	Pn	06 17 14.4	+3.8
	0.3nm,0.3s,baz=33,slow=7.4,SNR=5.1						
FITZ				Sn	Sn	06 19 15.6	-0.2
	0.3nm,0.3s,baz=89,slow=21,SNR=4.0						
FITZ	Fitzroy Crossi	11.18	194		Pn	06 17 15.3	+4.7
WB0	Warramunga Arr	13.77	156	Pn	Pn	06 17 46.4	+0.2
WRA	Warramunga Arr	13.91	156	Pn	Pn	06 17 49.9	+1.9
	0.6nm,0.3s,baz=329,slow=13,SNR=22						
WRA				Sn	Sn	06 20 20.4	-2.3
	0.9nm,0.3s,baz=336,slow=22,SNR=5.9						
WRA	Warramunga Arr	13.91	156		Pn	06 17 48.8	+0.8
WRA					Sn	06 20 19.4	-3.3
WB2	Warramunga Arr	13.91	156	Pn	Pn	06 17 50.8	+2.7
WR0	Warramunga Arr	14.01	156	Pn	Pn	06 17 48.6	-0.8
ASAR	Alice Springs	17.20	163	P	P	06 18 35.1	+2.3
	0.2nm,0.3s,baz=334,slow=10.0,SNR=7.7						
ASAR				S	Sn	06 21 39.5	-3.3
	0.2nm,0.3s,baz=338,slow=22,SNR=4.6						
KSAR	Wonju Array Be	44.41	359	P	P	06 22 38.8	-2.8
MAJO	Matsushiro	44.46	11	P	P	06 22 39.1	-3.1
MJAR	Matsushiro Arr	44.46	11	P	P	06 22 39.5	-2.6
MJB9	Matsu-Tunnel	44.46	11	P	P	06 22 39.9	-2.3
MKAR	Makanchi Array	67.54	328	P	P	06 25 30.0	+2.7
	0.7nm,0.6s,baz=126,slow=8.0,SNR=5.8						
MKAR	Makanchi Array	67.54	328	P	P	06 25 29.1	+1.8
MAKZ	Makanchi	67.72	327	P	P	06 25 26.2	-2.2
MAKZ				IAmb	IAmb	06 25 29.0	
	comp=Z,5.3nm,0.8s						

IDC 01 06:19:55.9±6.2, 19°.61S×169°.21E, h121km±65km, mb3.4/3, mb1 3.5/4, mb1mx3.3/31, mbtmp3.7/4, Error ellipse: s-maj=140.3km s-min=48.5km az=148.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.57	226	P	Pn	06 20 50.6	+0.8
	2.6nm,0.3s,baz=91,slow=13,SNR=64						
DZM				S	Sn	06 21 31.6	0.0
	11nm,0.3s,baz=135,slow=23,SNR=16						
WRA	Warramunga Arr	32.79	263	P	P	06 26 17.2	-0.6
	0.3nm,0.7s,baz=167,slow=20,SNR=2.1						
ASAR	Alice Springs	33.02	257	P	P	06 26 20.4	+0.6
	1.5nm,0.5s,baz=82,slow=9.0,SNR=20						
SONM	Songino Array	87.50	323	P	P	06 32 29.8	-0.2
	0.3nm,0.5s,baz=132,slow=4.1,SNR=2.6						
GERES	GERESS Array B	144.80	332	PKP	PKPab	06 39 17.4	-0.5
	0.3nm,0.5s,baz=40,slow=4.4,SNR=4.5						

*ISCJB **01** 06:22:56.8±0.6, 24°.63N±0°.03×122°.44E±0°.02, h91km±5km, Error ellipse: s-maj=5.4km s-min=3.1km az=173.5*
*TAP **01** 06:22:56.4, 24°.64N×122°.43E, h95km±1km, ML3.5, C*
*JMA **01** 06:22:56.5±0.2, 24°.58N×122°.40E, h94km±2km, M2.7*
ISC 01 06:22:57.0±1.5, 24°.63N±0°.05×122°.44E±0°.03, h92km±9km, n47, σ0s.65/91, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EOS1	EOS1	0.29	255	P	Pn	06 23 10.9	+0.4
	baz=251						
EOS1				S	Sn	06 23 22.2	+1.6
	baz=251						
JYNG	Yonagunijimaku	0.49	110	P	Pn	06 23 12.0	+0.1
JYNG				S	Sn	06 23 22.7	-0.3
TWC	Suao	0.54	268	eP	Pn	06 23 12.0	-0.2
	baz=266						
TWC				eS	Sn	06 23 22.9	-0.7
	baz=266						
YOJ	Yonaguni jima	0.55	107	P	Pn	06 23 12.4	+0.1
YOJ				S	Sn	06 23 24.0	+0.3
YOJ	Yonaguni jima	0.55	107	P	Pn	06 23 12.5	+0.1
	baz=108						
YOJ				S	Sn	06 23 23.7	0.0
	baz=108						
NTC	Toucheng	0.60	293	P	Pn	06 23 12.5	-0.3
	baz=290						
NTC				S	Sn	06 23 24.0	-0.5
	baz=290						
TIPB	Shuangxi	0.65	302	iP	Pn	06 23 13.2	-0.2
	baz=300						
TIPB				iS	Sn	06 23 25.0	-0.5
	baz=300						
NANB	Nanao	0.66	253	⇑iP	Pn	06 23 13.4	+0.2
	baz=250						
NANB				iS	Sn	06 23 25.9	+0.5
	baz=250						
ENA	Nanau	0.66	253	P	Pn	06 23 13.5	+0.2
	baz=250						
ENA				S	Sn	06 23 26.4	+0.8
	baz=250						
TWE	Neicheng	0.71	278	P	Pn	06 23 13.8	+0.1
	baz=276						
TWE				S	Sn	06 23 26.3	+0.1
	baz=276						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NWF	**Wu-fen Shan**	**0.74**	**307**	P	**Pn**	**06 23 14.1**	**-0.1**
	baz=305						
NWF				S	**Sn**	**06 23 27.1**	**+0.1**
	baz=305						
WFSB	**Wu-fen Shan**	**0.74**	**307**	P	**Pn**	**06 23 14.1**	**0.0**
	baz=305						
WFSB				S	**Sn**	**06 23 26.9**	**0.0**
	baz=305						
ENTT	**Nioudou**	**0.79**	**271**	*e*P	**Pn**	**06 23 15.2**	**+0.6**
	baz=269						
NDT	**Datong Townshi**	**0.84**	**269**	*e*P	**Pn**	**06 23 15.7**	**+0.6**
	baz=267						
NDT				S	**Sn**	**06 23 28.8**	**+0.1**
	baz=267						
TWA	**Mucha**	**0.85**	**295**	*e*P	**Pn**	**06 23 14.8**	**-0.5**
	baz=293						
TWA				*e*S	**Sn**	**06 23 28.2**	**-0.7**
	baz=293						
NWLT	**Wulai**	**0.86**	**280**	*e*P	**Pn**	**06 23 15.3**	**-0.1**
	baz=278						
NWLT				*e*S	**Sn**	**06 23 29.4**	**+0.3**
	baz=278						
NACB	**Ninganchiao**	**0.89**	**240**	P	**Pn**	**06 23 15.1**	**-0.6**
	baz=238						
NACB				*i* S	**Sn**	**06 23 29.1**	**-0.5**
	baz=238						
TWD	**Chiawan**	**0.94**	**235**	⇓*i*P	**Pn**	**06 23 15.8**	**-0.4**
	baz=233						
TWD				*i* S	**Sn**	**06 23 30.4**	**-0.1**
	baz=233						
YM01	**YM01**	**0.94**	**304**	*e*P	**Pn**	**06 23 16.0**	**-0.3**
	baz=302						
YM01				*e*S	**Sn**	**06 23 30.0**	**-0.6**
	baz=302						
YM10	**YM10**	**0.95**	**304**	*e*P	**Pn**	**06 23 16.1**	**-0.3**
	baz=302						
YM10				*e*S	**Sn**	**06 23 30.1**	**-0.8**
	baz=302						
ETLH	**Xiulin Townshi**	**0.96**	**245**	P	**Pn**	**06 23 16.2**	**-0.3**
	baz=243						
ETLH				S	**Sn**	**06 23 30.9**	**-0.3**
	baz=243						
YHNB	**Yeheng**	**0.97**	**273**	*e*P	**Pn**	**06 23 16.8**	**+0.2**
	baz=271						
YHNB				*e*S	**Sn**	**06 23 31.4**	**+0.2**
	baz=271						
YM04	**YM04**	**0.97**	**303**	*e*P	**Pn**	**06 23 16.0**	**-0.6**
	baz=301						
YM04				*e*S	**Sn**	**06 23 30.0**	**-1.3**
	baz=301						
NNSB	**Datong**	**0.98**	**259**	P	**Pn**	**06 23 16.9**	**+0.2**
	baz=257						
NNSB				S	**Sn**	**06 23 31.5**	**0.0**
	baz=257						
NNSH	**Datong**	**0.98**	**259**	*e*P	**Pn**	**06 23 16.9**	**+0.1**
	baz=257						
NNSH				*e*S	**Sn**	**06 23 31.4**	**-0.2**
	baz=257						
NSK	**Sanguang**	**0.98**	**273**	P	**Pn**	**06 23 16.8**	**+0.1**
	baz=271						
NSK				*e*S	**Sn**	**06 23 31.6**	**0.0**
	baz=271						
NNS	**Nan Shan**	**0.99**	**259**	*e*P	**Pn**	**06 23 17.0**	**+0.1**
	baz=257						
NNS				S	**Sn**	**06 23 31.6**	**0.0**
	baz=257						
HWA	**Hwalien**	**1.00**	**230**	P	**Pn**	**06 23 16.8**	**0.0**
	baz=228						
HWA				S	**Sn**	**06 23 32.7**	**+1.1**
	baz=228						
ENLB	**Shoufeng**	**1.05**	**227**	*e*P	**Pn**	**06 23 16.3**	**-1.1**
	baz=225						
ENLB				*e*S	**Sn**	**06 23 32.4**	**-0.3**
	baz=225						
WHF	**Hehuan Shan**	**1.17**	**246**	P	**Pn**	**06 23 19.1**	**-0.2**
	baz=244						
WHF				*e*S	**Sn**	**06 23 35.7**	**-0.3**
	baz=244						
TWT	**Tachien**	**1.21**	**252**	P	**Pn**	**06 23 20.2**	**+0.7**
	baz=251						
TWT				S	**Sn**	**06 23 36.8**	**+0.4**
	baz=251						
IRIF	**Iriomote-Funau**	**1.21**	**104**	P	**Pn**	**06 23 19.2**	**-0.1**
IRIF				*e*S	**Sn**	**06 23 36.4**	**+0.3**
ESL	**Shilin**	**1.22**	**229**	*e*P	**Pn**	**06 23 18.6**	**-0.8**
	baz=227						
ESL				*e*S	**Sn**	**06 23 34.4**	**-1.9**
	baz=227						
TDCB	**Techi**	**1.22**	**253**	*e*P	**Pn**	**06 23 20.1**	**+0.5**
	baz=251						
TDCB				*e*S	**Sn**	**06 23 36.7**	**+0.1**
	baz=251						
CHGB	**Renai**	**1.28**	**244**	*e*P	**Pn**	**06 23 20.6**	**+0.2**
	baz=243						
CHGB				*e*S	**Sn**	**06 23 38.2**	**+0.3**
	baz=243						
EGFH	**Guangfu**	**1.33**	**224**	*e*P	**Pn**	**06 23 20.1**	**-0.6**
	baz=223						
EGFH				*e*S	**Sn**	**06 23 37.8**	**-0.8**
	baz=223						
HATJ	**Hateruma jima**	**1.37**	**114**	P	**Pn**	**06 23 21.5**	**+0.3**
WHP	**Taichung City**	**1.40**	**256**	*e*P	**Pn**	**06 23 22.7**	**+0.9**
	baz=254						
WHP				*e*S	**Sn**	**06 23 41.4**	**+1.0**
	baz=254						
HGSD	**Ruisui**	**1.46**	**220**	*e*P	**Pn**	**06 23 21.9**	**-0.4**
	baz=218						
HGSD				*e*S	**Sn**	**06 23 41.1**	**-0.4**
	baz=218						
VWDT	**VWDT**	**1.47**	**234**	P	**Pn**	**06 23 22.7**	**+0.2**
	baz=233						
VWDT				S	**Sn**	**06 23 41.6**	**0.0**
	baz=233						
JKRS	**Kuro-shima**	**1.48**	**105**	P	**Pn**	**06 23 22.9**	**+0.2**
JIJ	**Ishigaki jima**	**1.58**	**99**	P	**Pn**	**06 23 23.6**	**-0.2**
JIJ				S	**Sn**	**06 23 43.9**	**-0.2**
SMLT	**Sun Moon Lake**	**1.59**	**243**	*e*P	**Pn**	**06 23 25.5**	**+1.4**
	baz=241						
SMLT				S	**Sn**	**06 23 46.3**	**+1.7**
	baz=241						
YULB	**Yu-li**	**1.61**	**221**	*e*P	**Pn**	**06 23 23.5**	**-0.8**
	baz=219						
YULB				*e*S	**Sn**	**06 23 42.9**	**-2.1**
	baz=219						
TYC	**Yuchr**	**1.61**	**244**	*e*P	**Pn**	**06 23 25.5**	**+1.3**
	baz=242						
TYC				*e*S	**Sn**	**06 23 46.5**	**+1.6**
	baz=242						
JISG	**Ishigakijimahi**	**1.71**	**91**	P	**Pn**	**06 23 25.4**	**-0.1**
JISG				S	**Sn**	**06 23 47.4**	**+0.3**
JTJ	**Tarama**	**2.06**	**89**	P	**Pn**	**06 23 30.1**	**0.0**
JTJ				S	**Sn**	**06 23 55.5**	**+0.2**

IDC 01 06:25:17.2±2.0**, 0°.78N**×**126°.01E, h0**km**, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.3**/41**, mbtmp3.4**/3**, Error ellipse: s-maj=183.4km s-min=26.6km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.15**	**159**	P	P	06 30 15.2	+0.3
	0.8nm,0.3s,baz=337,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**25.48**	**163**	P	P	06 30 47.1	-0.3
	0.1nm,0.3s,baz=346,slow=12,SNR=4.7						
MKAR	**Makanchi Array**	**59.58**	**327**	P	P	06 35 22.9	0.0
	0.3nm,0.6s,baz=113,slow=7.9,SNR=5.4						

*BJI **01** 06:29:51.8±0.0, 1°.75N×96°.84E, h8km, mb5.6/87, mB5.9/58, Ms6.3/99, Ms7 6.1/87*

*IDC **01** 06:29:55.0±0.3, 2°.13N×96°.82E, h0km, mb5.2/45, mb1 5.2/48, mb1mx5.2/50, mbtmp5.2/48, ML4.9/3, MS5.7/38, Ms1 5.7/38, ms1mx5.6/52, Error ellipse: s-maj=10.5km s-min=8.6km az=52.0*

*ISCJB **01** 06:29:57.1±0.5, 2°.07N±0°.02×96°.84E±0°.02, h23km±3km, mb5.6/188, MS5.9/143, Error ellipse: s-maj=3.5km s-min=2.2km az=138.4*

*NEIC **01** 06:29:57.8, 2°.04N×96°.83E, h26km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr0.59; Mθθ-0.19; Mφφ-0.40; Mrθ0.70; Mθφ-0.05; Mφr-0.52; Fault plane solution: M0 1.02000×10^18 NP1:φs132.57000°, δ77.05000°, λ82.90000°. NP2:φs341.62000°, δ14.73000°, λ118.25000°. Principal axes: T 1.1498, Plg57.0000°, Azm33.0000°; N -0.3599, Plg7.0000°, Azm134.0000°; P -0.7899, Plg32.0000°, Azm228.0000°;*

*NEIC **01** 06:29:57.8±1.8, 2°.04N±0°.06×96°.83E±0°.06, h20km±1km, mb5.8/198, Ms_20 6.1/736, Mwb5.9, Mww6.0, Mwc6.1(GCMT)*

*MOS **01** 06:29:57.8±0.9, 2°.05N×96°.85E, h33km, mb6.0/109, MS5.9/79, Error ellipse: s-maj=6.1km s-min=3.7km az=107.4*

*KLM **01** 06:29:59.0, 2°.00N×96°.64E, h34km, mb5.9*

*DJA **01** 06:30:00.0±0.9, 2°N±2°×9°7E±°, h15km±6km, M5.7/64, mB6.0/50, mb5.6/64, MLv6.0/18, Mw6.1/36, Mw(mB)5.6/50, Mwp6.0/10*

*GCMT **01** 06:30:02.8±0.1, 1°.91N±0°.01×96°.58E±0°.01, h21km, MW6.0/149, Moment Tensor Solution. s149,c321; s147,c378; Duration: 2s5 Moment tensor: Scale 10^18 Nm; Mrr0.68±.01; Mθθ-0.42±.01; Mφφ-0.26±.01; Mrθ0.70±.02; Mθφ0.35±.01; Mφr-0.88±.02; Best double couple: M0 1.32400×10^18 NP1:φs139.00000°, δ74.00000°, λ96.00000°. NP2:φs299.00000°, δ17.00000°, λ70.00000°. Principal axes: T 1.3280, Plg60.0000°, Azm58.0000°; N -0.0060, Plg6.0000°, Azm318.0000°; P -1.3210, Plg29.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **01** 06:30:05, 1°.97N×96°.60E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr0.49; Mθθ-0.32; Mφφ-0.17; Mrθ1.17; Mθφ0.32; Mφr-1.27; Fault plane solution: M0 1.81000×10^18 NP1:φs297.00000°, δ9.00000°, λ70.00000°. NP2:φs137.00000°, δ82.00000°, λ93.00000°. Principal axes: T 1.7734, Plg53.0000°, Azm51.0000°; N 0.0697, Plg3.0000°, Azm317.0000°; P -1.8431, Plg36.0000°, Azm224.0000°;*

ISC 01 06:29:58.3±0.3**, 2°.02N**±0°.03×**96°.85E**±0°.03**, h22**km±2km**, h22**km**:pP-P, n1572, σ1s99**/1353**, mb5.8**/266**, MS6.0**/502**, 81C-29D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.65**	**307**	P	**Pb**	**06 30 09.9**	**-1.2**
GSI	**Gunungsitoli**	**1.01**	**134**	P	**Pb**	**06 30 16.9**	**-0.3**
GSI				S	**Sn**	**06 30 31.3**	**+0.3**
GSI	**Gunungsitoli**	**1.01**	**134**		**Pn**	**06 30 17.5**	**+0.2**
GSI					**Sn**	**06 30 31.2**	**+0.3**
TPTI		**1.28**	**15**	P	**Pb**	**06 30 23.8**	**+2.1**
TPTI				S	**Sb**	**06 30 39.7**	**+2.0**
RPSI	**Rantau Prapat**	**2.18**	**72**		**Pn**	**06 30 35.0**	**+1.6**
PSI	**Prapat**	**2.21**	**69**	P	**Pn**	**06 30 35.0**	**+1.1**
TSI	**Tuntungan**	**2.26**	**49**	P	**Pb**	**06 30 37.6**	**-0.9**
MLSI	**Meulaboh, Aceh**	**2.28**	**349**	P	**Pn**	**06 30 33.8**	**-0.9**
PBSI	**Pulau Batu**	**2.51**	**145**	P	**Pn**	**06 30 37.6**	**-0.2**
LHMI	**Lhok Sumawe**	**3.19**	**2**	P	**Pn**	**06 30 47.5**	**+0.2**
LHMI	**Lhok Sumawe**	**3.19**	**2**		**Pn**	**06 30 47.8**	**+0.6**
SISI	**Saibi**	**4.01**	**146**	P	**Pn**	**06 30 58.9**	**+0.4**
BKNI	**Bangkinang**	**4.51**	**112**	P	**Pn**	**06 31 07.3**	**+1.8**
BKNI	**Bangkinang**	**4.51**	**112**		**Pn**	**06 31 06.5**	**+1.1**
PDSI	**Padang**	**4.64**	**129**	P	**Pn**	**06 31 09.3**	**+2.1**
IPM	**Ipoh**	**4.83**	**60**	P	**Pn**	**06 31 12.0**	**+2.1**
IPM	**Ipoh**	**4.83**	**60**		**Pn**	**06 31 12.1**	**+2.3**
KULM	**Kulim**	**5.00**	**49**	P	**Pn**	**06 31 14.0**	**+1.9**
KULM	**Kulim**	**5.00**	**49**		**Pn**	**06 31 12.9**	**+0.8**
SDSI	**Sungai Dareh**	**5.44**	**123**	P	**Pn**	**06 31 22.2**	**+4.1**
PPSI	**Pulau Pagai**	**5.70**	**146**	P	**Pn**	**06 31 23.1**	**+1.3**
CMBY	**CAMPBELL BAY**	**5.75**	**330**	*e*P	**Pn**	**06 31 21.7**	**-0.8**
JRMM	**Jerantut**	**5.92**	**72**	P	**Pn**	**06 31 28.0**	**+3.2**
RGRI	**Rengat**	**5.97**	**113**	P	Pb	06 31 34.7	-7.0
PKDT	**Phuket**	**6.02**	**14**	P	**Pn**	**06 31 26.7**	**+0.5**
	764nm,0.8s,16μm129μm9.0nm						
KRJI	**Kerinci**	**6.16**	**131**	P	**Pn**	**06 31 31.8**	**+3.6**
SKLT	**Songkhla**	**6.35**	**36**	P	**Pn**	**06 31 33.2**	**+2.5**
	1μm,1.0s,12μm87μm6.0nm						
TRTT	**Trang**	**6.44**	**26**	P	**Pn**	**06 31 32.3**	**+0.4**
	1μm,1.0s,16μm12nm						
MYKOM	**Kota Tinggi**	**7.00**	**92**	P	**Pn**	**06 31 41.0**	**+1.4**
MYKOM	**Kota Tinggi**	**7.00**	**92**		**Pn**	**06 31 40.7**	**+1.1**
SURT	**Suratani**	**7.16**	**16**	P	**Pn**	**06 31 42.0**	**+0.1**
	817nm,0.8s,8μm89μm7.9nm						
MASI	**Maura Aman, Be**	**7.44**	**134**	P	**Pn**	**06 31 49.0**	**+3.3**
TPRI	**Tanjung Pinang**	**7.75**	**98**	P	**Pn**	**06 31 52.8**	**+2.8**
MNAI	**Manna**	**8.80**	**136**	P	**Pn**	**06 32 04.5**	**+0.2**
	1μm,0.7s						
MNAI	**Manna**	**8.80**	**136**		**Pn**	**06 32 03.9**	**-0.4**
MNAI				Sn	**Sn**	**06 33 39.4**	**-3.5**
LHSI	**Lahat**	**8.84**	**131**	P	**Pn**	**06 32 06.8**	**+1.9**
MDSI	**Maura Dua**	**9.77**	**131**	P	**Pn**	**06 32 18.0**	**+0.4**
LWLI	**Liwa**	**10.04**	**134**	P	Pn	06 32 26.6	+5.2
KLSI		**10.31**	**130**	P	**Pn**	**06 32 25.7**	**+0.6**
KASI	**Kota Agung**	**10.70**	**134**	P	**Pn**	**06 32 29.0**	**-1.4**
BLSI	**Bandar Lampung**	**11.14**	**131**	P	Pn	06 32 44.3	+7.8
PHET	**Kaeng Krachan**	**11.17**	**14**	P	**Pn**	**06 32 39.6**	**+2.8**
	278μm,0.9s						
PATY	**Pattaya**	**11.54**	**20**	P	**Pn**	**06 32 45.2**	**+3.3**
	335μm,1.0s						
DGPR	**DIGLIPUR**	**11.75**	**341**	*e*P	**Pn**	**06 32 41.8**	**-2.9**
DGPR				IAMs_20	IAMs_20	06 41 47.8	
	comp=Z,81μm,14.9s						
TPI	**Tanjungpandan**	**11.80**	**114**	P	**Pn**	**06 32 49.0**	**+3.6**
SBJI	**Serang**	**12.30**	**131**	P	**P**	**06 33 03.1**	**-1.3**
SRDT	**SRDT**	**12.46**	**10**	P	**Pn**	**06 32 57.3**	**+2.8**
	comp=Z,84nm,2.2s,comp=Z,3μm						
SKJI	**Sukabumi**	**13.20**	**133**	P	**P**	**06 33 12.6**	**-1.8**
KSM	**Kuching**	**13.46**	**92**	P	**Pn**	**06 33 12.0**	**+3.8**
KSM	**Kuching**	**13.46**	**92**		**Pn**	**06 33 10.6**	**+2.4**
UTHA	**Uthaitani**	**13.70**	**11**	P	**Pn**	**06 33 13.0**	**+1.6**
	comp=Z,225μm,0.9s						
LEM	**Lembang**	**13.88**	**129**	Pn	**Pn**	**06 33 13.1**	**-1.0**
	comp=Z,5.8nm,0.3s,baz=104,slow=9.6,SNR=7.5						
LEM				LR	LR	06 39 45.0	
	comp=Z,22μm,19.1s,baz=298,slow=42						
UMPA	**Umpang Tak**	**14.24**	**8**	P	**Pn**	**06 33 19.1**	**+0.3**
	comp=Z,229μm,1.0s						
CISI	**Cisompet, Garu**	**14.50**	**131**	P	**Pn**	**06 33 18.3**	**-4.1**
CISI	**Cisompet, Garu**	**14.50**	**131**		Pn	06 33 16.2	-6.2
CHAI	**Chaiyaphum**	**14.70**	**20**	P	**P**	**06 33 28.4**	**-2.7**
	comp=Z,276μm,0.9s						
STKI	**Sintang**	**14.75**	**97**	P	**P**	**06 33 29.7**	**-2.0**
DLV	**T Lat**	**15.18**	**49**		**Pn**	**06 33 31.5**	**-0.2**
DLV				IAmb	IAmb	06 33 44.4	
	comp=Z,438nm,1.0s						
XMIS	**Christmas Isla**	**15.20**	**145**		**Pn**	**06 33 31.9**	**+0.1**
KPJI	**Karang Pucung**	**15.22**	**128**	P	**Pn**	**06 33 33.0**	**+0.9**
SBUM	**Sibu**	**15.37**	**88**	P	**Pn**	**06 33 36.0**	**+1.9**
SBUM	**Sibu**	**15.37**	**88**		**Pn**	**06 33 36.0**	**+1.9**
PBKI	**Pangkalan Bun**	**15.54**	**108**	P	**Pn**	**06 33 38.0**	**+1.7**
UBPT	**Khong Chiam**	**15.68**	**32**	P	**P**	**06 33 43.3**	**+1.2**
	comp=Z,151nm,1.2s,comp=Z,4μm						
UBPT	**Khong Chiam**	**15.68**	**32**		**Pn**	**06 33 37.6**	**-0.6**
UTTA	**Uttaradit**	**16.05**	**13**	P	**Pn**	**06 33 42.7**	**-0.1**
	comp=Z,543μm,0.9s						
MHMT	**Maesarieng**	**16.09**	**4**	P	**Pn**	**06 33 42.5**	**-0.9**
	comp=Z,356nm,0.9s,comp=Z,5μmcomp=Z,29μm						
SMRI	**Semarang**	**16.28**	**124**	P	**P**	**06 33 54.9**	**+6.2**
SMRI	**Semarang**	**16.28**	**124**		**Pn**	**06 33 44.8**	**-1.1**
SKNT	**Sakolnakorn**	**16.44**	**25**	P	**P**	**06 33 50.0**	**-0.4**
	comp=Z,317nm,1.4s,comp=Z,7μmcomp=Z,34μm						
CM31	**Chiang Mai Arr**	**16.47**	**7**	P	**Pn**	**06 33 47.6**	**-0.6**
	SNR=121						
CM31	**Chiang Mai Arr**	**16.47**	**7**		**Pn**	**06 33 47.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.47**	**7**	*ce*P	**Pn**	**06 33 48.2**	**0.0**
CMAR				pmax	pmax		
	comp=Z,171nm,1.1s						
CMAR	**Chiang Mai Arr**	**16.47**	**7**	Pn	**Pn**	**06 33 46.8**	**-1.4**
	comp=Z,2.1nm,0.3s,baz=206,slow=12,SNR=51						
CMAR				Lg	Lg	06 38 32.7	
	comp=Z,0.7nm,0.3s,baz=172,slow=32,SNR=4.2						
CMAR				LR	LR	06 40 27.8	
	comp=Z,50μm,20.9s,baz=198,slow=39						
CMAR	**Chiang Mai Arr**	**16.47**	**7**		**Pn**	**06 33 47.6**	**-0.6**
LAMP	**Lampang**	**16.63**	**9**	P	**Pn**	**06 33 50.5**	**+0.3**
	comp=Z,475μm,0.9s						
PHRA	**Phrae**	**16.71**	**11**	P	**Pn**	**06 33 50.9**	**-0.4**
	comp=Z,57nm,1.2s,comp=Z,1μm						
CMMT	**Chiang Mai**	**16.82**	**7**	P	**Pn**	**06 33 51.6**	**-1.0**
	comp=Z,148nm,1.2s,comp=Z,3μmcomp=Z,25μm						
CHTO	**Chiang Mai**	**16.82**	**7**	P	**Pn**	**06 33 51.3**	**-1.3**
	SNR=91						
CHTO	**Chiang Mai**	**16.82**	**7**	P	**Pn**	**06 33 51.2**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,204nm,0.9s						
CHTO	**Chiang Mai**	**16.82**	**7**		**Pn**	**06 33 51.2**	**-1.5**
UGM	**Wanagama**	**16.83**	**126**	P	**Pn**	**06 33 53.0**	**+0.1**
UGM	**Wanagama**	**16.83**	**126**		**Pn**	**06 33 52.2**	**-0.7**
PALK	**Pallekele**	**16.91**	**289**	*i* P	**Pn**	**06 33 54.5**	**+0.6**
	SNR=12						
PALK	**Pallekele**	**16.91**	**289**	Pn	**Pn**	**06 33 52.8**	**-1.1**
	comp=Z,2.3nm,0.3s,baz=116,slow=7.5,SNR=9.1						
PALK				Sn	Sn	06 36 43.7	-18
	comp=Z,1.7nm,0.3s,baz=296,slow=3.2,SNR=3.1						
PALK				LR	LR	06 39 35.9	
	comp=Z,46μm,21.9s,baz=105,slow=34						
PALK	**Pallekele**	**16.91**	**289**		**Pn**	**06 33 53.0**	**-0.9**
NGJI	**Ngawi**	**17.31**	**123**	P	**P**	**06 34 01.4**	**+1.3**
TBJI	**Tambak Boyo**	**17.35**	**121**	P	**P**	**06 34 03.9**	**+3.3**
PAYA	**Payao**	**17.49**	**10**	P	**Pn**	**06 34 00.5**	**-0.5**
	comp=Z,536μm,0.9s						
PWJI	**Pagerwojo**	**17.94**	**124**	P	**P**	**06 34 07.1**	**0.0**
GRJI	**Gresik**	**17.95**	**120**	P	**P**	**06 34 12.6**	**+5.4**
SIMRM	**Sittwe**	**18.42**	**348**	P	**P**	**06 34 11.1**	**-1.2**
KMMI	**Kalianget**	**19.31**	**118**	P	**Pn**	**06 34 24.8**	**+1.5**
	comp=Z,289nm,0.9s,comp=Z,5μm						
GMJI	**Gumukmas**	**19.45**	**122**	P	Pn	06 34 35.5	+11
KKM	**Kota Kinabalu**	**19.72**	**78**	P	**P**	**06 34 26.2**	**-0.7**
KKM				IAmb	IAmb	06 34 42.9	
	comp=Z,756nm,1.2s						
SPMM	**Sapulut**	**19.76**	**82**	P	**Pn**	**06 34 31.0**	**+2.3**
MDRS	**Chennai**	**19.76**	**305**	*e*P	**P**	**06 34 27.2**	**+0.1**
MDRS				IAMs_20	IAMs_20	06 41 15.8	
	comp=Z,41μm,20.2s						
JAGI	**Jajag, Banyuwa**	**20.15**	**121**	P	Pn	06 34 37.8	+4.5
JAGI	**Jajag, Banyuwa**	**20.15**	**121**	P	**P**	**06 34 31.4**	**0.0**
BKB	**Balikpapan**	**20.31**	**99**	P	Pn	06 34 36.0	+0.9
	comp=Z,2μm,0.9s,comp=Z,22μmcomp=Z,40μm						
BKB	**Balikpapan**	**20.31**	**99**	P	Pn	06 34 34.6	-0.6
SLVN	**Son La**	**20.39**	**19**	P	**P**	**06 34 33.0**	**-1.0**
SLVN				IAMs_20	IAMs_20	06 43 12.6	
	comp=Z,54μm,20.0s						
SMKI	**Samarinda**	**20.50**	**97**	P	Pn	06 34 39.1	+1.7
	comp=Z,413nm,1.7s,comp=Z,6μmcomp=Z,20μm						
SAIH	**SAIHA**	**20.69**	**350**	*e*P	**P**	**06 34 35.5**	**-1.8**
SRBI	**Singaraja**	**20.88**	**119**	P	Pn	06 34 42.5	+0.6
	comp=Z,362nm,1.0s,comp=Z,4μm						
BRDH	**Bariadhala**	**21.15**	**347**	P	**P**	**06 34 42.1**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=63,slow=24,SNR=8.9						
QIZ	**Qiongzhong**	**21.16**	**36**	P	**P**	**06 34 42.5**	**+0.2**
QIZ				sP	**pP**	**06 34 47.5**	**-0.8**
QIZ				S	Sn	06 38 40.5	-3.4
QIZ				sS	**sS**	**06 38 45.2**	**-0.5**
QIZ				pmax	pmax		
	comp=Z,2μm,8.1s						
QIZ				LR	LR		
	comp=Z,55μm,20.6s						
QIZ				LR	LR		
	comp=Z,47μm,14.7s						
QIZ				LR	LR		
	comp=Z,46μm,14.7s						
QIZ	**Qiongzhong**	**21.16**	**36**	P	**P**	**06 34 42.4**	**+0.2**
QIZ	**Qiongzhong**	**21.16**	**36**	IAMs_20	IAMs_20	06 44 22.1	
	comp=Z,47μm,19.0s						
BELO	**BELONIA**	**21.75**	**346**	*e*P	**P**	**06 34 48.2**	**-0.3**
BATP	**Bataraza**	**21.91**	**71**	P	**P**	**06 34 50.3**	**0.0**
AZL	**Aizawl**	**21.97**	**350**	*e*P	**P**	**06 34 48.1**	**-2.9**
AZL				IAmb	IAmb	06 34 59.2	
	comp=Z,2μm,1.5s						
AZL				IAMs_20	IAMs_20	06 47 45.5	
	comp=Z,38μm,21.6s						
AGT	**Agartala**	**22.40**	**346**	*e*P	**P**	**06 34 54.4**	**-1.1**
AGT				IAMs_20	IAMs_20	06 51 06.9	
	comp=Z,41μm,15.4s						
TWSI	**Taliwang, Sumb**	**22.65**	**118**	P	**P**	**06 35 02.4**	**+4.1**
	comp=Z,125nm,1.1s,comp=Z,2μm						
IMP	**Imphal**	**22.85**	**353**	*e*P	**P**	**06 34 55.9**	**-4.5**
IMP				IAMs_20	IAMs_20	06 45 26.5	
	comp=Z,63μm,27.5s						
IMP				IAMs_20	IAMs_20	06 45 26.7	
	comp=Z,67μm,29.5s						
PLAI	**Plampang**	**23.48**	**118**	P	**P**	**06 35 06.4**	**-0.4**
TTSI	**Tana Toraja**	**23.51**	**102**	P	**P**	**06 35 08.7**	**+1.7**
	comp=Z,353nm,1.5s						
HYB	**Hyderabad**	**23.61**	**312**	*i* P	**P**	**06 35 08.0**	**0.0**
	comp=Z,280nm,1.0s						
HYB				*e*S	**S**	**06 39 22.0**	**+0.5**
HYB				*e*LR	LR		
	comp=Z,21nm,22.0s						
HYB	**Hyderabad**	**23.61**	**312**	*e*P	**P**	**06 35 08.9**	**+0.8**
KMI	**Kunming**	**23.66**	**13**	P	**P**	**06 35 09.2**	**+0.5**
KMI				pP	pP	06 35 15.0	-0.1
KMI				sP	sP	06 35 18.6	+0.8
KMI				S	**S**	**06 39 21.6**	**-1.0**
KMI				pmax	pmax		
	comp=Z,150nm,1.4s						
KMI				pmax	pmax		
	comp=Z,3μm,5.5s						
KMI				LR	LR		
	comp=Z,14μm,20.0s						
KMI				LR	LR		
	comp=Z,59μm,19.8s						
KMI				LR	LR		
	comp=Z,38μm,14.8s						
KMI	**Kunming**	**23.66**	**13**	P	**P**	**06 35 08.4**	**-0.3**
KMI				pmax	pmax		
	comp=Z,339nm,1.1s						
KMI				MLR	MLR		
	comp=Z,25μm,22.0s						
KMI	**Kunming**	**23.66**	**13**	P	**P**	**06 35 08.4**	**-0.3**
KMI				IAmb	IAmb	06 35 19.8	
	comp=Z,338nm,1.1s						
KOHI	**KOHIMA**	**23.71**	**354**	*e*P	**P**	**06 35 07.0**	**-2.1**
KAAM	**Kaadhehdhoo**	**23.89**	**267**	P	**P**	**06 35 09.9**	**-0.9**
KAAM				IAmb	IAmb	06 35 22.2	
	comp=Z,226nm,1.0s						
SHL	**Shillong**	**23.90**	**349**	P	**P**	**06 35 07.9**	**-3.0**
SHL				pmax	pmax		
	comp=Z,1μm,1.4s						
SHL	**Shillong**	**23.90**	**349**	*e*P	**P**	**06 35 07.0**	**-3.9**
SHL				*e*P	pP	06 35 08.3	-9.0
SHL				*e*S	**S**	**06 39 24.4**	**-1.9**
SHL				IAMs_20	IAMs_20	06 47 49.6	
	comp=Z,45μm,19.0s						
SHL	**Shillong**	**23.90**	**349**	P	**P**	**06 35 07.9**	**-3.0**
KAPI	**Kappang**	**23.92**	**107**	P	**P**	**06 35 11.8**	**+0.7**
	SNR=42						
KAPI	**Kappang**	**23.92**	**107**	P	**P**	**06 35 10.5**	**-0.5**
KAPI				pmax	pmax		
	comp=Z,482nm,1.3s						
KAPI				MLR	MLR		
	comp=Z,26μm,18.0s						
KAPI	**Kappang**	**23.92**	**107**	P	**P**	**06 35 10.3**	**-0.8**
	comp=Z,94nm,0.8s,baz=290,slow=12,SNR=40						
KAPI				S	**S**	**06 39 26.1**	**-0.5**
	comp=Z,4.4nm,0.3s,baz=190,slow=13,SNR=1.4						
KAPI	**Kappang**	**23.92**	**107**	P	**P**	**06 35 10.6**	**-0.5**
KAPI				IAmb	IAmb	06 35 29.0	
	comp=Z,482nm,1.3s						
BNSI	**Bone**	**24.10**	**105**	P	**P**	**06 35 14.0**	**+1.3**
	comp=Z,714nm,1.7s						
BOK	**Bokaro**	**24.11**	**335**	*e*P	**P**	**06 35 11.5**	**-1.2**
BOK				IAmb	IAmb	06 35 20.5	
	comp=Z,313nm,0.6s						
BOK				IAMs_20	IAMs_20	06 46 44.2	
	comp=Z,33μm,19.2s						
ENPP	**El Nido**	**24.19**	**67**	P	**P**	**06 35 13.3**	**-0.2**
GUWA	**GUWAHATI**	**24.54**	**349**	⇑*i*P	**P**	**06 35 15.3**	**-1.3**
GUWA				IAmb	IAmb	06 35 22.7	
	comp=Z,165nm,0.9s						
JORH	**JORHAT**	**24.71**	**354**	*e*P	**P**	**06 35 16.9**	**-1.2**
DHUB	**DHUBRI**	**24.76**	**345**	*e*P	**P**	**06 35 17.3**	**-1.2**
DHUB				IAmb	IAmb	06 35 20.5	
	comp=Z,1μm,1.6s						
DHUB				IAMs_20	IAMs_20	06 54 27.6	
	comp=Z,21μm,15.7s						
ITAN	**ITANAGAR**	**25.16**	**353**	*e*P	**P**	**06 35 21.2**	**-1.0**
ITAN				IAmb	IAmb	06 35 26.8	
	comp=Z,337nm,0.7s						
LKP	**Lekhapani**	**25.19**	**358**	*e*P	**P**	**06 35 20.7**	**-1.8**
DIBR	**DIBRUGARH**	**25.38**	**356**	*e*P	**P**	**06 35 22.8**	**-1.3**
ZIRO	**ZIRO**	**25.53**	**354**	*e*P	**P**	**06 35 25.0**	**-0.7**
NGP	**Nagpur**	**25.74**	**319**	*e*P	**P**	**06 35 29.3**	**+1.7**
LUBP	**Lubang**	**25.90**	**62**	P	**P**	**06 35 29.7**	**+0.7**
GYA	**Guiyang**	**26.07**	**20**	⇑*i*P	**P**	**06 35 30.2**	**-0.4**
GYA				pP	pP	06 35 36.8	-0.3
GYA				PP	**PnPn**	**06 36 16.9**	**+7.8**
GYA				S	**S**	**06 40 06.9**	**+6.1**
GYA				pmax	pmax		
	comp=Z,130nm,0.9s						
GYA				pmax	pmax		
	comp=Z,710nm,6.0s						
GYA				LR	LR		

comp=Z,30µm,15.6s
GYA LR LR
comp=Z,31µm,17.7s
GYA LR LR
comp=Z,46µm,15.6s
DGAR Diego Garcia 26.08 249 *de*P **P 06 35 28.4 -2.3**
DGAR pmax pmax
comp=Z,25nm,0.5s
DGAR MLR MLR
comp=Z,28µm,21.0s
DGAR Diego Garcia 26.08 249 P **P 06 35 29.6 -1.1**
DGAR IAmb IAmb 06 35 45.0
comp=Z,220nm,1.1s
LUWI Luwuk 26.10 96 P **P 06 35 36.3 +5.4**
LUWI Luwuk 26.10 96 P **P 06 35 31.6 +0.8**
H08S2 Diego Garcia H 26.12 248 T T 07 02 24.5
baz=69,slow=76
H08S3 Diego Garcia H 26.13 248 T T 07 02 26.6
baz=69,slow=76
H08S1 Diego Garcia H 26.14 248 T T 07 02 27.8
baz=69,slow=76
SJMP San Jose 26.18 65 P **P 06 35 32.6 +1.0**
HKPS Hong Kong Bg 26.23 39 P **P 06 35 30.7 -1.3**
HKPS IAmb IAmb 06 35 38.0
comp=Z,329nm,1.4s
HKPS **PcP 06 38 57.6 -1.0**
HKC Hong Kong Obse 26.27 39 ⇑P **P 06 35 33.0 +0.7**
ODAN Odare 26.32 341 *e*P **P 06 35 32.7 -0.3**
comp=Z,990nm,1.0s
GOA Goa 26.36 302 *e*P **P 06 35 35.2 +2.0**
GOA IAMs_20 IAMs_20 06 44 54.1
comp=Z,24µm,23.9s
GOA IAMs_20 IAMs_20 06 45 13.4
comp=Z,20µm,18.0s
GZH Guangzhou 26.36 36 P **P 06 35 38.5 +5.4**
GZH S S 06 40 23.4 +18
GZH LR LR
comp=Z,90µm,19.0s
GZH LR LR
comp=Z,47µm,18.2s
GTK Tadong 26.37 343 *e*P **P 06 35 33.1 -0.2**
GTK IAMs_20 IAMs_20 06 48 02.3
comp=Z,29µm,20.7s
JAP San Jose, Anti 26.38 70 ⇑P **P 06 35 35.2 +1.8**
KDI Kendari 26.43 103 P **P 06 35 36.8 +2.9**
comp=Z,124nm,0.9s,comp=Z,6µm
JBP Jabalpur 26.64 323 ⇑*e*P **P 06 35 37.7 +2.1**
JBP AMS AMS 06 45 38.5
comp=Z,21µm,21.5s
TGY Tagaytay City 26.66 62 P **P 06 35 35.6 -0.4**
comp=Z,229nm,0.5s,baz=303,slow=8.5,SNR=5.1
TGY LR LR 06 46 03.8
comp=Z,13µm,21.7s,baz=212,slow=36
TAPN Taplejung 26.67 342 *e*P **P 06 35 36.4 +0.2**
comp=Z,2µm,1.0s
RAMN Ramite 26.67 339 *e*P **P 06 35 36.0 -0.2**
comp=Z,812nm,1.2s
GUIM Jordan 26.95 70 P **P 06 35 41.5 +3.0**
KAD Karad 26.96 306 *e*P **P 06 35 41.4 +2.7**
PAGZ Pagadian 27.05 77 P **P 06 35 41.1 +1.6**
H08N1 Diego Carcia H 27.10 252 T T 07 04 17.4
baz=133,slow=75,SNR=63
H08N2 Diego Garcia H 27.11 252 T T 07 04 27.9
baz=133,slow=75,SNR=60
H08N3 Diego Garcia H 27.12 252 T T 07 04 23.3
baz=133,slow=75,SNR=63
SMPP San Manuel, Pa 27.35 58 P **P 06 35 42.3 +0.1**
RCP Roxas 27.38 69 ⇑P **P 06 35 43.8 +1.4**
MMRI Maumere 27.43 113 P **P 06 35 43.1 +0.2**
MMRI Maumere 27.43 113 P **P 06 35 40.5 -2.4**
MMRI IAmb IAmb 06 35 53.5
comp=Z,161nm,1.0s
JIRN Jiri 27.46 339 *e*P **P 06 35 43.6 +0.1**
comp=Z,2µm,1.0s
PKI Pulchoki 27.67 338 *e*P **P 06 35 45.1 -0.2**
comp=Z,369nm,1.1s
PKIN Phulchoki 27.68 338 *e*P **P 06 35 45.0 -0.3**
CTBH Cotabato--PC H 27.78 78 ⇑P **P 06 35 47.5 +1.4**
GUN Gumba 27.80 339 *e*P **P 06 35 45.9 -0.6**
comp=Z,934nm,1.0s
DMN Daman 27.82 337 *e*P **P 06 35 46.3 -0.2**
comp=Z,490nm,1.1s
POO Poona 27.89 308 *e*P **P 06 35 47.3 +0.3**
POO IAmb IAmb 06 35 59.4
comp=Z,25nm,0.8s
AUQP San Andres 27.91 65 P **P 06 35 49.0 +1.8**
KKN Kakani 27.92 338 *e*P **P 06 35 47.1 -0.2**
comp=Z,1µm,1.3s
LSA Lhasa 28.06 349 P **P 06 35 48.1 -0.8**
LSA Lhasa 28.06 349 P **P 06 35 49.1 +0.2**
LSA Lhasa 28.06 349 P **P 06 35 48.4 -0.5**
LSA pmax pmax
comp=Z,159nm,0.9s
LSA Lhasa 28.06 349 P **P 06 35 48.4 -0.5**
LSA IAmb IAmb 06 35 59.8
comp=Z,159nm,0.9s
ABRA Dolores 28.11 55 P **P 06 35 50.3 +1.4**
BHPL Bhopal 28.28 320 *e*P **P 06 35 51.0 +0.6**
BHPL IAmb IAmb 06 36 06.5
comp=Z,70nm,0.7s
BHPL *e*S **S 06 40 36.3 +0.6**
BHPL IAMs_20 IAMs_20 06 48 15.0
comp=Z,20µm,16.0s
GKN Gorkha 28.36 337 *e*P **P 06 35 50.9 -0.3**
comp=Z,1µm,1.2s
CGP Cagayan de Oro 28.44 76 P **P 06 35 55.8 +3.8**
KOLN Koldanda 28.57 335 *e*P **P 06 35 52.7 -0.5**
comp=Z,991nm,1.3s
KCP Kidapawan 28.58 79 ⇓P **P 06 35 54.0 +0.8**
SGSI Sangihe 28.69 86 P **P 06 35 58.4 +4.2**
BOM Bombay 28.91 307 AMb AMB 06 36 08.4
comp=Z,46nm,1.6s
BOM AMS AMS 06 48 54.7
comp=Z,3µm,20.8s
DANN Dangsing 29.02 336 *e*P **P 06 35 56.4 -0.8**
comp=Z,1µm,1.1s
DAV Davao City (W) 29.07 79 P **P 06 35 58.7 +1.2**
comp=Z,155nm,0.4s,baz=336,slow=1.8,SNR=12
DAV Davao City (W) 29.07 79 ⇑*i*P **P 06 35 59.6 +2.1**
DAV Davao City (W) 29.07 79 P **P 06 35 59.0 +1.5**
DDMP Don Marcelino, 29.07 81 P **P 06 35 58.2 +0.7**
BATI Baumata 29.33 115 P **P 06 36 01.7 +1.9**
comp=Z,55nm,0.6s,baz=260,slow=4.0,SNR=5.0
PVCP Virac 29.35 66 P **P 06 36 00.2 +0.2**
SANI Sanana 29.41 98 P **P 06 35 59.7 -0.9**
CD2 Chengdu 29.47 12 ⇓*i*P **P 06 35 59.7 -1.2**
CD2 pP pP 06 36 06.5 -0.9
CD2 S **S 06 40 52.8 -1.5**
CD2 sS sS 06 41 08.4 +3.9
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,7µm,13.9s
CD2 LR LR
comp=Z,107µm,17.5s
CD2 LR LR
comp=Z,173µm,17.5s
CD2 LR LR
comp=Z,75µm,20.6s
SOEI Soe 29.71 114 P **P 06 36 05.4 +2.1**
SOEI Soe 29.71 114 P **P 06 36 00.4 -2.9**
SOEI IAmb IAmb 06 36 19.6
comp=Z,173nm,0.8s
GIRL Giralia 29.81 146 P **P 06 36 03.0 -0.9**
GIRL IAmb IAmb 06 36 15.2
comp=Z,137nm,1.1s
BESP Borongan 29.91 70 P **P 06 36 03.0 -2.0**
KNMB Chin-men Tao 30.51 41 P **P 06 36 09.4 -0.7**
KNMB IAmb IAmb 06 36 14.4
comp=Z,95nm,1.0s
KNMB IAMs_20 IAMs_20 06 49 01.0
comp=Z,44µm,20.0s
TNTI Ternate 30.53 92 P **P 06 36 10.7 +0.1**
ENH Enshi 30.55 22 P **P 06 36 09.1 -1.4**
ENH IAmb IAmb 06 36 21.5
comp=Z,86nm,0.9s
ENH IAMs_20 IAMs_20 06 49 49.8
comp=Z,28µm,21.0s
QZH Quanzhou 30.98 41 ⇑*i*P **P 06 36 15.3 +1.0**
QZH S **S 06 41 21.2 +3.3**
QZH pmax pmax
comp=Z,97nm,1.5s
QZH pmax pmax
comp=Z,1µm,2.9s
QZH LR LR
comp=Z,46µm,17.8s
QZH LR LR
comp=Z,16µm,14.7s
QZH LR LR
comp=Z,52µm,15.7s
TPUB Ta-pu 31.29 46 P **P 06 36 16.0 -1.0**
TPUB IAmb IAmb 06 36 27.9
comp=Z,179nm,1.0s
TWG Pinlang 31.31 47 P **P 06 36 17.9 +0.7**
YULB Yu-li 31.82 46 P **P 06 36 21.9 +0.1**
YULB IAmb IAmb 06 36 33.2
comp=Z,227nm,1.2s
SSLB Suanglung 31.82 45 P **P 06 36 21.6 -0.2**
AAI Ambon 31.84 100 P **P 06 36 22.3 +0.3**
PSAD1 Pilbara Seismi 32.40 137 P **P 06 36 28.0 +1.2**
PSAD1 IAmb IAmb 06 36 41.5
comp=Z,249nm,1.4s
PSAC1 Pilbara Seismi 32.44 137 P **P 06 36 27.6 +0.4**
PSAC1 IAmb IAmb 06 36 43.9
comp=Z,158nm,0.9s
PSAB1 Pilbara Seismi 32.47 137 P **P 06 36 28.0 +0.5**
PSAB1 IAmb IAmb 06 36 44.1
comp=Z,134nm,0.9s
PSAA2 Pilbara Seismi 32.48 137 P **P 06 36 27.9 +0.4**
PSAA2 IAmb IAmb 06 36 44.2
comp=Z,140nm,0.9s
PSAA1 Pilbara Seismi 32.48 137 P **P 06 36 28.4 +0.8**
PSAA1 IAmb IAmb 06 36 44.2
comp=Z,139nm,1.0s
PSAB2 Pilbara Seismi 32.48 137 P **P 06 36 29.2 +1.6**
PSAB2 IAmb IAmb 06 36 42.2
comp=Z,244nm,1.3s
PSA00 Pilbara Seismi 32.49 137 P **P 06 36 27.1 -0.5**
PSA00 IAmb IAmb 06 36 44.3
comp=Z,151nm,1.0s
PSA00 Pilbara Seismi 32.49 137 P **P 06 36 27.5 -0.1**
PSA00 IAmb IAmb 06 36 45.7
comp=Z,81nm,1.1s
PSAA3 Pilbara Seismi 32.50 137 P **P 06 36 27.7 0.0**
PSAA3 IAmb IAmb 06 36 44.4
comp=Z,144nm,1.0s
MSAI Masohi 32.51 99 P **P 06 36 31.8 +3.9**
NACB Ninganchiao 32.52 45 P **P 06 36 27.2 -0.6**
NACB IAmb IAmb 06 36 38.7
comp=Z,113nm,0.9s
NACB IAMs_20 IAMs_20 06 49 59.4
comp=Z,38µm,19.0s
YHNB Yeheng 32.68 44 P **P 06 36 29.3 0.0**
YHNB IAmb IAmb 06 36 43.0
comp=Z,148nm,1.1s
YHNB IAMs_20 IAMs_20 06 49 22.5
comp=Z,24µm,21.0s
WHN Wuhan 32.86 29 ⇑P **P 06 36 31.0 +0.3**
WHN S **S 06 41 48.1 +0.9**
WHN ScS **ScS 06 46 57.1 -1.3**
WHN pmax pmax
comp=Z,150nm,0.9s
WHN pmax pmax
comp=Z,2µm,3.2s
WHN LR LR
comp=Z,44µm,13.4s
WHN LR LR
comp=Z,46µm,13.4s
WHN LR LR
comp=Z,67µm,14.1s
TATO Taipei 32.95 44 P **P 06 36 31.3 -0.3**
TATO IAmb IAmb 06 36 38.6
comp=Z,221nm,1.2s
DDI Dehra Dun 33.32 330 ⇑*i*P **P 06 36 35.3 +0.4**
DDI IAmb IAmb 06 36 52.2
comp=Z,333nm,1.1s
DDI IAMs_20 IAMs_20 06 50 17.8
comp=Z,35µm,19.6s
YOJ Yonaguni jima 33.71 46 P **P 06 36 37.7 -0.6**
YOJ pmax pmax
comp=Z,75nm,0.8s
YOJ MLR MLR
comp=Z,22µm,19.0s
YOJ Yonaguni jima 33.71 46 P **P 06 36 37.7 -0.6**
YOJ IAmb IAmb 06 36 54.9
comp=Z,74nm,0.8s
YOJ IAMs_20 IAMs_20 06 51 24.9
comp=Z,22µm,19.0s
BHUJ Bhuj 33.77 311 *e*P **P 06 36 41.5 +2.7**
BHUJ IAmb IAmb 06 36 57.3
comp=Z,39nm,0.9s
BHUJ *e*S **S 06 42 05.8 +4.4**
BHUJ IAMs_20 IAMs_20 06 49 43.3
comp=Z,18µm,20.2s
XAN Xi'an 33.80 18 P **P 06 36 39.0 +0.1**
XAN PP **PP 06 37 55.5 -0.2**
XAN PcP **PcP 06 39 19.9 +1.9**
XAN S **S 06 41 56.6 -5.2**
XAN SS **SnSn 06 44 05.4 -2.1**
XAN pmax pmax
comp=Z,100nm,1.4s
XAN pmax pmax
comp=Z,820nm,3.7s
XAN LR LR
comp=Z,19µm,22.8s
XAN LR LR
comp=Z,46µm,21.8s
XAN LR LR
comp=Z,27µm,16.7s
XAN Xi'an 33.80 18 P **P 06 36 37.0 -2.0**
XAN pmax pmax
comp=Z,110nm,0.8s
XAN MLR MLR
comp=Z,24µm,18.0s
XAN Xi'an 33.80 18 P **P 06 36 37.0 -2.0**
XAN IAmb IAmb 06 36 49.9
comp=Z,110nm,0.8s
XAN Xi'an 33.80 18 IAMs_20 IAMs_20 06 52 04.4
comp=Z,24µm,18.0s
SMLA Simla 34.42 329 *e*P **P 06 36 43.7 -0.6**
SMLA IAMs_20 IAMs_20 06 50 53.0
comp=Z,34µm,21.7s
LZH Lanzhou 34.51 10 ⇑P **P 06 36 44.1 -1.2**
LZH sP sP 06 36 54.3 -0.2
LZH S **S 06 42 14.5 +1.5**
LZH SS **SnSn 06 44 22.1 -2.9**
LZH pmax pmax
comp=Z,150nm,1.0s
LZH pmax pmax
comp=Z,1µm,4.3s
LZH LR LR
comp=Z,19µm,15.2s
LZH LR LR
comp=Z,22µm,13.6s
LZH LR LR
comp=Z,22µm,17.4s
SWI Sorong 34.52 94 P **P 06 36 46.0 +0.5**
FITZ Fitzroy Crossi 34.69 126 P **P 06 36 47.2 +0.4**
baz=35,SNR=29
FITZ Fitzroy Crossi 34.69 126 P **P 06 36 47.2 +0.4**
comp=Z,26nm,0.8s
FITZ LR LR 06 52 51.5
comp=Z,6µm,19.9s,baz=308,slow=40
FITZ Fitzroy Crossi 34.69 126 P **P 06 36 45.1 -1.7**
MEEK Meekatharra 35.40 145 P **P 06 36 55.3 +2.4**
baz=36,SNR=7.2
FAKI Fak Fak 35.73 98 P **P 06 36 55.8 -0.1**
FAKI Fak Fak 35.73 98 P **P 06 36 54.7 -1.1**
FAKI IAmb IAmb 06 37 12.1
comp=Z,104nm,1.2s
DHRM DHARAMSHALA 35.76 329 ⇑*i*P **P 06 36 54.9 -1.2**
DHRM IAMs_20 IAMs_20 06 51 57.4
comp=Z,35µm,19.9s
SAUI Saumlaki 35.77 107 P **P 06 36 55.2 -0.9**
MORW Morawa 35.97 151 P **P 06 37 00.6 +2.9**
baz=36,SNR=4.4
MORW Morawa 35.97 151 P **P 06 36 58.0 +0.3**
KNRA Kununurra 36.12 120 P **P 06 36 58.9 -0.2**
baz=36,SNR=9.5
KNRA Kununurra 36.12 120 P **P 06 36 58.9 -0.2**
KNRA IAmb IAmb 06 37 15.7
comp=Z,182nm,1.1s
NJ2 Nanjing 36.36 32 *e*P **P 06 37 00.9 -0.1**
NJ2 pP **pP 06 37 04.6 -3.0**
NJ2 sP **sP 06 37 06.6 -3.6**
NJ2 PcP **PcP 06 39 25.6 +0.2**
NJ2 S **S 06 42 35.8 -5.4**
NJ2 pmax pmax
comp=Z,110nm,1.9s
NJ2 pmax pmax
comp=Z,1µm,4.2s
NJ2 LR LR
comp=Z,32µm,20.8s
NJ2 LR LR
comp=Z,38µm,19.9s
NJ2 LR LR
comp=Z,46µm,16.1s
SSE Sheshan 36.96 36 P **P 06 37 06.3 +0.2**
SSE S **S 06 42 54.0 +3.7**
SSE pmax pmax
comp=Z,58nm,1.0s
SSE pmax pmax
comp=Z,440nm,3.8s
SSE LR LR
comp=Z,9µm,15.9s
SSE Sheshan 36.96 36 P **P 06 37 06.7 +0.6**
SSE IAmb IAmb 06 37 08.9
comp=Z,103nm,0.9s
GTA Gaotai 37.32 4 ⇑P **P 06 37 08.0 -1.2**
GTA pP pP 06 37 12.6 -3.2
GTA sP sP 06 37 15.2 -3.3
GTA PP **PnPn 06 38 37.2 +2.0**
GTA S **S 06 42 53.8 -2.0**
GTA sS pS 06 43 02.9 -0.6
GTA ScS **ScS 06 47 20.0 -2.4**
GTA pmax pmax
comp=Z,2µm,9.0s
GTA LR LR
comp=Z,8µm,17.5s
GTA LR LR
comp=Z,10µm,15.6s
GTA LR LR
comp=Z,13µm,20.0s
RKPI Ransiki, Papua 37.49 95 P P 06 37 25.5 +15
PALU Palau 37.85 81 P **P 06 37 13.9 -0.1**
baz=38,SNR=8.6
TIY Taiyuan 38.30 20 *e*P **P 06 37 16.2 -1.3**
TIY PP **PnPn 06 38 50.1 +3.0**
TIY S **S 06 43 12.6 +1.9**
TIY LR LR
comp=Z,47µm,15.1s
TIY LR LR
comp=Z,10µm,13.0s
TIY LR LR
comp=Z,51µm,15.5s
NIL Nilore 38.44 328 P **P 06 37 17.3 -1.4**
NIL pmax pmax
comp=Z,340nm,0.9s
NIL MLR MLR
comp=Z,14µm,20.0s
NIL Nilore 38.44 328 P **P 06 37 17.3 -1.4**
MUN Mundaring 38.48 153 P **P 06 37 21.7 +2.7**
baz=39,SNR=6.2
TIA Tai'an 38.86 27 P **P 06 37 21.3 -0.8**
TIA PP **PnPn 06 38 58.4 +4.7**
TIA S **S 06 43 18.8 -0.2**
TIA pmax pmax
comp=Z,58nm,1.5s
TIA LR LR
comp=Z,17µm,20.0s
TIA LR LR
comp=Z,23µm,15.7s
TIA LR LR
comp=Z,19µm,18.1s
KLBR Kellerberrin 38.88 151 P **P 06 37 24.7 +2.3**
baz=39,SNR=7.2
JOW Kunigami 38.95 48 P **P 06 37 23.4 +0.4**
comp=Z,4.1nm,0.6s,baz=190,slow=15,SNR=15
JOW Kunigami 38.95 48 P **P 06 37 20.9 -2.1**
NWAO Narrogin (SRO) 39.74 153 P **P 06 37 32.2 +2.7**
baz=40,SNR=9.9
NWAO Narrogin (SRO) 39.74 153 P **P 06 37 31.1 +1.6**
NWAO pmax pmax
comp=Z,76nm,1.0s
NWAO Narrogin (SRO) 39.74 153 P **P 06 37 30.5 +1.0**
comp=Z,13nm,0.9s,baz=311,slow=8.6,SNR=4.6
NWAO LR LR 06 52 51.5
comp=Z,12µm,21.6s,baz=340,slow=34
NWAO Narrogin (SRO) 39.74 153 P **P 06 37 31.1 +1.6**
NWAO Narrogin (SRO) 39.74 153 P **P 06 37 31.1 +1.6**
NWAO IAmb IAmb 06 37 44.6
comp=Z,56nm,0.9s
NWAO IAMs_20 IAMs_20 06 53 01.0
comp=Z,11µm,21.0s
H01W3 Cape Leeuwin H 40.13 158 T T 07 20 21.4
baz=333,slow=76,SNR=948
H01W2 Cape Leeuwin H 40.14 158 T T 07 20 22.4
baz=333,slow=76,SNR=793
H01W1 Cape Leeuwin H 40.15 158 T T 07 20 12.6
baz=333,slow=76,SNR=902
BTO Baotou 40.22 16 *e*P **P 06 37 33.5 0.0**
WRKA Warakurna 40.65 133 P **P 06 37 38.5 +1.3**
baz=41,SNR=28
HHC Hu-ho-hao-te 40.88 17 ⇓*i*P **P 06 37 42.4 +3.4**
HHC PP **PnPn 06 39 20.4 +2.6**
HHC S **S 06 43 54.0 +4.6**
KBL Kabul 41.46 324 P **P 06 37 43.9 -0.1**
KBL pmax pmax
comp=Z,24nm,0.8s
KBL MLR MLR
comp=Z,14µm,21.0s
KBL Kabul 41.46 324 P **P 06 37 43.9 -0.1**
BJT Baijiatuan 41.70 22 P **P 06 37 46.4 +0.8**
BJT pmax pmax
comp=Z,164nm,0.9s
BJT MLR MLR
comp=Z,9µm,18.0s
BJT Baijiatuan 41.70 22 P **P 06 37 46.4 +0.8**
BJT IAmb IAmb 06 37 53.1
comp=Z,164nm,0.9s
BJI Beijing 41.72 22 ⇑*i*P **P 06 37 45.8 +0.1**
BJI S **S 06 44 08.2 +6.6**
BJI pmax pmax
comp=Z,160nm,1.2s
BJI LR LR
comp=Z,26µm,18.0s
BJI LR LR
comp=Z,9µm,22.0s
BJI LR LR
comp=Z,14µm,16.7s
KSH Kashi 41.89 336 P **P 06 37 48.1 +0.8**
KSH pP pP 06 37 54.4 +0.5
KSH PP **PnPn 06 39 28.5 -1.0**
KSH S **S 06 44 04.4 0.0**
KSH pmax pmax
comp=Z,170nm,0.8s
KSH pmax pmax
comp=Z,1µm,4.2s
KSH LR LR
comp=Z,24µm,17.1s
KSH LR LR
comp=Z,24µm,17.1s
KSH LR LR
comp=Z,32µm,18.5s
SMPI Sarmi 42.04 95 P **P 06 37 50.1 +1.3**
comp=Z,303nm,1.6s,comp=Z,6µm
WBK Wadi Bani Khal 42.07 302 P P 06 38 00.2 +11
SNR=9.3
WMQ Urumqi 42.41 350 P **P 06 37 52.6 +1.1**
WMQ pP pP 06 37 57.1 -1.0
WMQ sP sP 06 38 01.9 +1.1
WMQ PP **PP 06 39 34.4 +4.4**
WMQ PcP **PcP 06 39 44.5 +0.1**
WMQ S **S 06 44 10.9 -1.1**
WMQ sS sS 06 44 25.2 +2.9
WMQ pmax pmax
comp=Z,57nm,2.3s
WMQ pmax pmax
comp=Z,710nm,3.8s
WMQ LR LR
comp=Z,2µm,23.7s
WMQ LR LR
comp=Z,7µm,28.7s
WMQ LR LR
comp=Z,10µm,27.1s
WMQ Urumqi 42.41 350 P **P 06 37 51.7 +0.2**
WMQ pmax pmax
comp=Z,315nm,1.3s
WMQ MLR MLR
comp=Z,11µm,20.0s
WMQ Urumqi 42.41 350 P **P 06 37 51.7 +0.2**
WMQ IAmb IAmb 06 38 02.9
comp=Z,314nm,1.3s
WSAR Wadi Sarin 42.61 303 P P 06 38 05.2 +12
SNR=11
WSAR Wadi Sarin 42.61 303 LR LR 06 56 26.5
comp=Z,9µm,18.3s,baz=121,slow=37

JMDO Jabal Madar 42.72 301 P P 06 38 08.0 +14
SNR=7.3
WB0 Warramunga Arr 42.73 122 P **P** 06 37 53.7 -0.7
WB0 IAmb IAmb 06 38 06.1
comp=Z,140nm,1.1s
WRA Warramunga Arr 42.77 123 P **P** 06 37 53.8 -0.8
comp=Z,54nm,0.8s,baz=300,slow=9.0,SNR=97
WRA S **S** 06 44 11.8 -5.9
comp=Z,6.8nm,1.2s,baz=310,slow=4.4,SNR=2.5
WRA LR LR 06 55 44.9
comp=Z,6µm,19.4s,baz=300,slow=36
WRA Warramunga Arr 42.77 123 P **P** 06 37 53.8 -0.8
WRAB Tennant Creek 42.77 122*d* iP **P** 06 37 54.1 -0.5
WRAB pmax pmax
comp=Z,74nm,0.8s
WRAB MLR MLR
comp=Z,18µm,25.0s
WRAB Tennant Creek 42.77 122 P **P** 06 37 54.1 -0.5
WRAB IAmb IAmb 06 38 13.1
comp=Z,244nm,1.2s
WB2 Warramunga Arr 42.77 123 P **P** 06 37 53.9 -0.8
WB2 IAmb IAmb 06 38 13.2
comp=Z,250nm,1.3s
WR0 Warramunga Arr 42.94 122 P **P** 06 37 55.4 -0.7
WR0 IAmb IAmb 06 38 14.7
comp=Z,350nm,1.4s
SMDO Samad 43.03 302 P P 06 38 09.0 +12
SNR=10
TARG Taragay, Kyrgy 43.09 339 P **P** 06 37 57.7 +0.3
TARG IAmb IAmb 06 38 09.7
comp=Z,256nm,0.9s
TARG IAMs_20 IAMs_20 06 58 55.7
comp=Z,18µm,19.0s
DL2 Dalian 43.13 29 P **P** 06 37 57.1 -0.1
DL2 pP **sP** 06 38 06.9 +0.4
DL2 S **S** 06 44 23.7 +1.3
DL2 SS **SS** 06 47 26.3 -9.2
DL2 pmax pmax
comp=Z,210nm,0.9s
DL2 pmax pmax
comp=Z,2µm,11.5s
DL2 LR LR
comp=Z,9µm,17.9s
DL2 LR LR
comp=Z,25µm,16.0s
DL2 LR LR
comp=Z,25µm,20.2s
NRN Naryn 43.51 337 P **P** 06 38 00.0 -0.7
NRN pmax pmax
comp=Z,254nm,0.9s
NRN MLR MLR
comp=Z,27µm,19.0s
NRN Naryn 43.51 337 P **P** 06 38 00.0 -0.7
NRN IAMs_20 IAMs_20 06 59 07.9
comp=Z,27µm,19.0s
PRZ Przheval'sk 43.55 340 P **P** 06 38 01.9 +1.1
PRZ pmax pmax
comp=Z,236nm,1.1s
PRZ MLR MLR
comp=Z,13µm,20.0s
PRZ Przheval'sk 43.55 340 P **P** 06 38 01.9 +1.1
PRZ IAmb IAmb 06 38 12.6
comp=Z,236nm,1.1s
KDJ Kajisay 43.66 339 P **P** 06 38 01.5 -0.2
KDJ pmax pmax
comp=Z,453nm,1.0s
KDJ MLR MLR
comp=Z,15µm,19.0s
KDJ Kajisay 43.66 339 P **P** 06 38 01.6 -0.2
KDJ IAMs_20 IAMs_20 06 59 12.3
comp=Z,15µm,19.0s
SHLS Shalkode 43.80 342 *e*P **P** 06 38 02.3 -0.5
SHLS *e*S **S** 06 44 31.6 -0.9
SHLS Shalkode 43.80 342 *e*P **P** 06 38 02.2 -0.5
SHLS *e*S **S** 06 44 31.5 -0.9
UZB Uzynbulak 43.93 341 *e*P **P** 06 38 03.5 -0.4
comp=Z,204nm,2.7s
UZB *e*S **S** 06 44 34.6 +0.2
UZB Uzynbulak 43.93 341 *e*P **P** 06 38 03.5 -0.4
UZB *e*S **S** 06 44 34.6 +0.2
UZB pmax pmax
comp=Z,204nm,2.7s
PDGK Podgornoye 43.95 342 P **P** 06 38 03.7 -0.3
PDGK pmax pmax
comp=Z,165nm,0.9s
SATY Saty 44.06 341 *e*P **P** 06 38 04.4 -0.5
comp=Z,285nm,1.8s
SATY *e*S **S** 06 44 36.2 0.0
SATY Saty 44.06 341 *e*P **P** 06 38 04.3 -0.5
SATY *e*S **S** 06 44 36.2 0.0
SATY pmax pmax
comp=Z,285nm,1.8s
GAR Garm 44.06 330 P **P** 06 38 03.9 -1.1
GAR IAMs_20 IAMs_20 06 57 56.1
comp=Z,20µm,21.0s
JAY Jayapura 44.08 96 S **S** 06 44 33.5 -3.6
comp=Z,14nm,0.9s,baz=321,slow=21,SNR=3.9
JAY Jayapura 44.08 96 P **P** 06 38 04.5 -0.8
ULHL Ulahol 44.11 338 P **P** 06 38 07.5 +2.1
SNR=14
FORT Forrest 44.12 140 P **P** 06 38 07.6 +2.2
baz=44,SNR=14
FORT Forrest 44.12 140 P **P** 06 38 06.8 +1.4
ZHN Zhinishke 44.14 341 *e*P **P** 06 38 04.9 -0.7
comp=Z,117nm,2.5s
ZHN Zhinishke 44.14 341 *e*P **P** 06 38 04.8 -0.7
ZHN pmax pmax
comp=Z,117nm,2.5s
ASAR Alice Springs 44.17 128 P **P** 06 38 05.2 -0.7
comp=Z,36nm,0.8s,baz=302,slow=7.1,SNR=138
ASAR S **S** 06 44 33.3 -4.9
comp=Z,3.1nm,1.0s,baz=308,slow=5.0,SNR=2.4
ASAR LR LR 06 59 05.2
comp=Z,8µm,19.6s,baz=307,slow=40
ASAR PKPPKP P'P'df 07 09 35.5 -17
comp=Z,0.8nm,0.9s,baz=78,slow=2.7,SNR=5.9
ASAR Alice Springs 44.17 128 P **P** 06 38 05.1 -0.8
AS31 Alice Springs 44.17 128 P **P** 06 38 05.5 -0.4
TJN Taejon 44.32 36*d* iP **P** 06 38 06.5 -0.3
KPKS Kokpek 44.33 341 *e*P **P** 06 38 06.6 -0.4
comp=Z,178nm,1.7s
KPKS *e*S **S** 06 44 40.0 -0.2
KPKS *e*LR LR 06 59 03.5
comp=Z,9µm,24.4s
KPKS Kokpek 44.33 341 *e*P **P** 06 38 06.6 -0.4
KPKS *e*S **S** 06 44 39.9 -0.2
KPKS pmax pmax
comp=Z,178nm,1.7s
KPKS MLR MLR
comp=Z,9µm,24.0s
KZA Kyzart 44.35 337 P **P** 06 38 10.5 +3.0
SNR=14
CHGR Chuyangaron 44.39 329 P **P** 06 38 06.0 -1.5
CHGR IAMs_20 IAMs_20 06 59 59.8
comp=Z,26µm,19.0s
ARQ Araqi 44.43 302 P P 06 38 21.0 +13
SNR=11
JNU Nakatsue 44.43 42 P **P** 06 38 07.8 -0.2
comp=Z,105nm,0.9s,baz=38,slow=23,SNR=42
JNU Nakatsue 44.43 42 P **P** 06 38 07.7 -0.2
JNU IAmb IAmb 06 38 18.8
comp=Z,242nm,1.1s
JNU IAMs_20 IAMs_20 06 58 05.8
comp=Z,17µm,19.0s
BOOM Boomskoye usch 44.44 338 P **P** 06 38 07.7 -0.3
BOOM pmax pmax
comp=Z,185nm,0.9s
BOOM MLR MLR
comp=Z,21µm,22.0s
BOOM Boomskoye usch 44.44 338 P **P** 06 38 07.7 -0.3
BOOM IAmb IAmb 06 38 19.9
comp=Z,185nm,0.9s
BOOM IAMs_20 IAMs_20 06 58 24.9
comp=Z,21µm,22.0s
RBK Rabkut 44.61 293 P P 06 38 23.0 +13
SNR=8.9
MDOK Medeo 44.62 339 *e*P **P** 06 38 08.8 -0.5
MDOK *e*S **S** 06 44 43.8 -0.6
MDOK *e*LR LR 06 58 55.4
comp=Z,6µm,19.0s
MDOK Medeo 44.62 339 *e*P **P** 06 38 08.8 -0.5
MDOK *e*S **S** 06 44 43.7 -0.6
MDOK MLR MLR
comp=Z,6µm,19.0s
BTK Batken 44.63 331 P **P** 06 38 09.6 +0.1
BTK pmax pmax
comp=Z,296nm,1.1s
BTK MLR MLR
comp=Z,9µm,18.0s
BTK Batken 44.63 331 P **P** 06 38 09.6 +0.1
ARSB Arslanbob 44.66 334 P **P** 06 38 09.6 -0.1
ARSB IAMs_20 IAMs_20 06 57 49.7
comp=Z,29µm,22.0s
INCN Inchon 44.67 34 P **P** 06 38 07.9 -1.8
INCN pmax pmax
comp=Z,163nm,1.2s
INCN MLR MLR
comp=Z,48µm,18.0s
INCN Inchon 44.67 34 P **P** 06 38 07.9 -1.8
INCN IAmb IAmb 06 38 18.9
comp=Z,163nm,1.2s
AAA Alma-Ata 44.70 339 *e*P **P** 06 38 09.9 0.0
AAA *e*S **S** 06 44 47.9 +2.4
AAA *e*LR LR 06 58 55.8
comp=Z,5µm,18.1s
AAA Alma-Ata 44.70 339 *e*P **P** 06 38 09.9 0.0
AAA *e*S **S** 06 44 47.9 +2.4
AAA MLR MLR
comp=Z,5µm,18.0s
UCH Uchtor 44.77 336 P **P** 06 38 10.6 -0.3
SNR=46
MTBS Maitube 44.81 339 *e*P **P** 06 38 09.6 -1.2
MTBS Maitube 44.81 339 *e*P **P** 06 38 09.5 -1.2
TKM2 Tokmak 2 44.93 338 P **P** 06 38 10.5 -1.5
TKM2 pmax pmax
comp=Z,249nm,1.1s
TKM2 Tokmak 2 44.93 338 P **P** 06 38 14.8 +2.8
SNR=21
KBK Karagaybulak 44.96 337 P **P** 06 38 12.4 +0.3
SNR=40
AML Almayashu 45.02 336 P **P** 06 38 12.5 -0.4
SNR=42
AAK Ala-Archa 45.12 337 *i* P **P** 06 38 14.1 +0.7
SNR=38
AAK Ala-Archa 45.12 337*d* iP **P** 06 38 13.7 +0.3
AAK pmax pmax
comp=Z,188nm,1.6s
AAK MLR MLR
comp=Z,19µm,21.0s
AAK Ala-Archa 45.12 337 P **P** 06 38 13.7 +0.3
comp=Z,33nm,1.0s,baz=147,slow=12,SNR=1.9
AAK Ala-Archa 45.12 337 P **P** 06 38 15.7 +2.4
SNR=41
AAK Ala-Archa 45.12 337 P **P** 06 38 13.7 +0.3
AAK Ala-Archa 45.12 337 IAMs_20 IAMs_20 06 58 17.1
comp=Z,20µm,22.0s
FRU1 Bishkek 45.21 337 P **P** 06 38 14.3 +0.3
FRU1 pmax pmax
comp=Z,476nm,1.5s
FRU1 MLR MLR
comp=Z,23µm,22.0s
FRU1 Bishkek 45.21 337 P **P** 06 38 14.3 +0.3
FRU1 IAMs_20 IAMs_20 06 58 23.5
comp=Z,23µm,22.0s
CHMS Chumysh 45.32 337 P **P** 06 38 14.7 -0.1
SNR=33
UOSS Minazif 45.33 304 P P 06 38 25.3 +10
HATD Hatta, Dubai 45.34 304 *i* P **P** 06 38 16.8 +1.5
SNR=6.2
HATD Hatta, Dubai 45.34 304 P P 06 38 25.6 +10
ASHO Ashiyiah 45.35 303 P P 06 38 27.4 +12
SNR=9.6
KSAR Wonju Array Be 45.35 35 P **P** 06 38 14.4 -0.7
KSAR Wonju Array Be 45.35 35 P **P** 06 38 14.4 -0.7
ALNE Al Ain 45.36 302 *i* P **P** 06 38 17.2 +1.8
SNR=29
KSRS Korea Array 45.38 35 P **P** 06 38 14.7 -0.7
comp=Z,102nm,1.0s,baz=227,slow=8.2,SNR=67
KSRS LR LR 06 59 27.7
comp=Z,19µm,18.5s,baz=217,slow=39
KS19 Wonju Array Si 45.38 35 P **P** 06 38 14.5 -0.8
ABTO Aybut 45.40 292 P P 06 38 27.4 +12
SNR=7.7
EKS2 Erkin-Say 45.43 336 P **P** 06 38 15.6 -0.2
SNR=22
KUU Kurty 45.50 339 *e*P **P** 06 38 15.2 -1.1
comp=Z,237nm,1.2s
KUU *e*S **S** 06 44 55.4 -1.6
KUU *e*LR LR 06 59 22.4
comp=Z,6µm,17.7s
KUU Kurty 45.50 339 *e*P **P** 06 38 15.1 -1.1
KUU *e*S **S** 06 44 55.3 -1.6
KUU pmax pmax
comp=Z,237nm,1.2s
KUU MLR MLR
comp=Z,6µm,18.0s
MSFE Esma-Masafi 45.53 304 P **P** 06 38 17.2 +0.4
HRA Herat 45.58 319 P **P** 06 38 17.5 +0.3
HRA IAMs_20 IAMs_20 06 58 30.4
comp=Z,15µm,20.0s
USP Ospenovka 45.65 337 P **P** 06 38 17.0 -0.5
SNR=32
SGDS Sogindy 45.76 337 *e*P **P** 06 38 17.1 -1.2
comp=Z,160nm,1.9s
SGDS *e*S **S** 06 44 59.0 -1.7
SGDS *e*LR LR 06 57 51.7
comp=Z,7µm,18.2s
FAQ Al Faqa, Dubai 45.76 303 P P 06 38 19.8 +1.3
TDK Taldyqorghan 45.79 342 *e*P **P** 06 38 17.2 -1.3
comp=Z,650nm,3.4s
TDK *e*S **S** 06 44 59.0 -2.1
TDK *e*LR LR 07 00 23.3
comp=Z,9µm,22.5s
TDK Taldyqorghan 45.79 342 *e*P **P** 06 38 17.2 -1.3
TDK *e*S **S** 06 44 59.0 -2.1
TDK pmax pmax
comp=Z,650nm,3.4s
TDK MLR MLR
comp=Z,9µm,23.0s
NAZ Nazva, Dubai 45.80 304 *i* P **P** 06 38 19.9 +1.0
SNR=5.3
ASUD Al Ashush, Dub 45.93 303 *i* P **P** 06 38 22.0 +2.1
SNR=9.7
ASUD Al Ashush, Dub 45.93 303 P P 06 38 33.1 +13
SNR=9.7
AJN Ajban 46.20 303 *i* P **P** 06 38 22.4 +0.4
SNR=7.3
AJN Ajban 46.20 303 P P 06 38 34.4 +12
SNR=7.3
RER Riviere de l'E 46.34 238 P **P** 06 38 22.8 -0.5
RER IAmb IAmb 06 38 42.2
comp=Z,93nm,1.0s
TAS Tashkent 46.34 331 P **P** 06 38 22.8 -0.1
TAS pmax pmax
comp=Z,359nm,1.0s
TAS MLR MLR
comp=Z,4µm,19.0s
TAS Tashkent 46.34 331 P **P** 06 38 22.8 -0.1
SNY Shenyang 46.34 28 ⇑P **P** 06 38 20.9 -1.9
SNY S **S** 06 45 16.5 +7.5
SNY pmax pmax
comp=Z,120nm,1.8s
SNY pmax pmax
comp=Z,1µm,2.8s
SNY LR LR
comp=Z,13µm,14.7s
SNY LR LR
comp=Z,26µm,16.9s
SNY LR LR
comp=Z,45µm,15.7s
MK31 Makanchi Array 46.37 346 P **P** 06 38 22.4 -0.6
MK31 pmax pmax
comp=Z,171nm,0.9s
MK31 Makanchi Array 46.37 346 P **P** 06 38 22.3 -0.6
MK31 IAmb IAmb 06 38 35.3
comp=Z,191nm,1.1s
MKAR Makanchi Array 46.37 346*ce*P **P** 06 38 22.0 -1.0
MKAR pmax pmax
comp=Z,132nm,0.9s
MKAR Makanchi Array 46.37 346 P **P** 06 38 22.0 -1.0
comp=Z,133nm,0.9s,baz=161,slow=8.9,SNR=120
MKAR LR LR 07 01 46.3
comp=Z,14µm,20.6s,baz=160,slow=41
MKAR Makanchi Array 46.37 346 P **P** 06 38 22.3 -0.7
SONM Songino Array 46.38 9 P **P** 06 38 22.7 -0.5
comp=Z,34nm,0.5s,baz=192,slow=8.8,SNR=91
SONM PcP **PcP** 06 39 59.9 +1.9
comp=Z,16nm,0.7s,baz=206,slow=2.8,SNR=4.4
SONM LR LR 07 01 06.2
comp=Z,17µm,18.3s,baz=188,slow=40
SONM PKPPKP **P'P'df** 07 09 52.8 +4.6
comp=Z,0.8nm,0.9s,baz=335,slow=6.6,SNR=4.4
SONM Songino Array 46.38 9 P **P** 06 38 23.2 0.0
ZSN Zaisan 46.44 349 *e*P **P** 06 38 23.2 -0.3
comp=Z,546nm,3.0s
ZSN *e*S **S** 06 45 09.7 -0.5
ZSN *e*LR LR 06 59 20.1
comp=Z,4µm,19.6s
ZSN Zaisan 46.44 349 *e*P **P** 06 38 23.2 -0.3
ZSN *e*S **S** 06 45 09.7 -0.5
ZSN pmax pmax
comp=Z,546nm,3.0s
ZSN MLR MLR
comp=Z,4µm,20.0s
MAKZ Makanchi 46.46 346 P **P** 06 38 23.0 -0.7
MAKZ pmax pmax
comp=Z,122nm,0.8s
MAKZ Makanchi 46.46 346 P **P** 06 38 23.0 -0.7
MAKZ IAmb IAmb 06 38 29.8
comp=Z,122nm,0.8s
MAKZ IAMs_20 IAMs_20 07 01 36.5
ULN Ulaanbaatar 46.52 9*c* iP **P** 06 38 23.4 -0.9
ULN pmax pmax
comp=Z,315nm,2.5s
ULN MLR MLR
comp=Z,14µm,21.0s
ULN Ulaanbaatar 46.52 9 P **P** 06 38 24.2 -0.1
ULN IAmb IAmb 06 38 40.0
comp=Z,133nm,1.1s
ULN Ulaanbaatar 46.52 9 IAMs_20 IAMs_20 07 00 51.1
comp=Z,14µm,20.0s
JBG Jabagly 46.62 333 *e*P **P** 06 38 24.1 -1.1
JBG pmax pmax
comp=Z,177nm,1.6s
JBG MLR MLR
comp=Z,4µm,22.0s
IUG Iuzhnay 46.63 333 *e*P **P** 06 38 24.3 -1.0
IUG *e*S **S** 06 45 12.9 -0.5
IUG *e*LR LR 06 58 04.9
IUG Iuzhnay 46.63 333 *e*P **P** 06 38 24.2 -1.0
IUG *e*S **S** 06 45 12.9 -0.5
DZA Taraz 46.64 334 *e*P **P** 06 38 24.3 -0.9
DZA Taraz 46.64 334 *e*P **P** 06 38 24.3 -0.9
MZR Muzera 46.92 300 P P 06 38 42.3 +15
SNR=12
KK31 Karatay Array 47.17 334 P **P** 06 38 29.3 -0.1
KK31 pmax pmax
comp=Z,117nm,1.0s
KK31 Karatay Array 47.17 334 P **P** 06 38 29.3 -0.1
KK31 IAmb IAmb 06 38 42.9
comp=Z,117nm,0.9s
KKAR Karatay Array 47.17 334 P **P** 06 38 28.7 -0.7
KKAR Karatay Array 47.17 334 P **P** 06 38 28.7 -0.7
KKAR IAmb IAmb 06 38 42.9
comp=Z,117nm,0.9s
BTLS Baital 47.33 338 *e*P **P** 06 38 30.3 -0.2
BTLS *e*S **S** 06 45 23.5 +0.4
BTLS Baital 47.33 338 *e*P **P** 06 38 30.3 -0.2
BTLS *e*S **S** 06 45 23.4 +0.4
QIS Mount Isa 47.51 120 P **P** 06 38 32.2 -0.2
baz=48,SNR=17
ZAK Zakamensk 48.50 5 *e*P P 06 38 31.9 -7.7
ZAK *e* 06 40 08.2
ZAK pmax pmax
comp=Z,89nm,1.4s
ZAK pmax pmax
comp=Z,33nm,1.5s
CN2 Changchun 48.74 27 *e*P **P** 06 38 40.2 -1.3
CN2 *e*S **S** 06 45 49.5 +6.4
CN2 pmax pmax
comp=Z,70nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,33µm,16.0s
CN2 LR LR
comp=Z,14µm,16.0s
CN2 LR LR
comp=Z,23µm,17.0s
GUMO Guam 48.84 74 LR LR 06 58 51.4
comp=Z,8µm,20.7s,baz=244,slow=36
MOY Mondy 49.60 3 *e*P **P** 06 38 46.7 -1.3
MOY pmax pmax
comp=Z,319nm,2.4s
TLY Talaya 49.82 6*c* iP **P** 06 38 49.4 -0.2
TLY *e* 06 40 47.8
TLY *e*S **S** 06 45 58.1 +0.1
TLY *e* 06 48 37.4
TLY pmax pmax
comp=Z,341nm,1.3s
TLY MLR MLR
comp=Z,46µm,15.0s
TLY Talaya 49.82 6 P **P** 06 38 50.0 +0.4
comp=Z,12nm,0.7s,baz=191,slow=8.6,SNR=24
TLY LR LR 07 00 17.1
comp=Z,3µm,20.1s,baz=168,slow=37
TLY Talaya 49.82 6 P **P** 06 38 50.1 +0.5
TLY IAmb IAmb 06 39 04.7
comp=Z,112nm,1.2s
INU Inuyama 49.88 44 P **P** 06 38 49.9 -0.4
INU IAMs_20 IAMs_20 07 00 50.2
comp=Z,16µm,19.0s
JCJ Chichijima 50.05 56 P **P** 06 38 52.2 +0.5
comp=Z,204nm,0.8s,baz=266,slow=10,SNR=8.4
ANA2 Anatahan 50.13 70 P **P** 06 38 51.5 -1.1
SARN Sarigan 50.27 70 P **P** 06 38 53.1 -0.5
SARN IAmb IAmb 06 38 57.5
comp=Z,65nm,0.8s
GEYT Alibeck 50.37 320 P **P** 06 38 53.7 -0.3
comp=Z,16nm,0.9s,baz=147,slow=8.9,SNR=15
GEYT LR LR 07 02 05.0
comp=Z,12µm,21.2s,baz=130,slow=38
GYA0B ALIBECK ARRAY 50.37 320 IAMs_20 IAMs_20 07 02 48.2
comp=Z,12µm,21.0s
IRK Irkutsk 50.44 6 *e*P **P** 06 38 54.1 -0.2
IRK *e*S **S** 06 46 08.9 +2.3
IRK pmax pmax
comp=Z,551nm,2.0s
MANU Manus Island 50.67 94 P **P** 06 38 55.1 -1.6
MANU IAmb IAmb 06 39 13.9
comp=Z,115nm,1.1s
MSHR Mys Shultsa 50.71 33*de*P **P** 06 38 58.1 +1.7
BBOO Buckleboo 50.71 137 P **P** 06 38 57.9 +1.2
baz=51,SNR=9.9
BBOO Buckleboo 50.71 137 P **P** 06 38 57.2 +0.5
BBOO IAmb IAmb 06 39 16.4
comp=Z,136nm,1.4s
BBOO IAMs_20 IAMs_20 07 02 04.6
comp=Z,13µm,22.0s
MTSU Mount Surprise 50.83 115 P **P** 06 38 58.0 +0.2
baz=51,SNR=58
KURBB Kurchatov Arra 50.86 345 S **S** 06 46 10.5 -1.9
comp=Z,2.2nm,0.2s,baz=304,slow=36,SNR=1.9
KURK Kurchatov 50.92 345 P **P** 06 38 57.2 -0.6
SNR=110
KURK Kurchatov 50.92 345*c* iP **P** 06 38 56.5 -1.4
KURK pmax pmax
comp=Z,337nm,2.5s
KURK MLR MLR
comp=Z,13µm,20.0s
KURK Kurchatov 50.92 345 P **P** 06 38 56.9 -1.0
KURK Kurchatov 50.92 345 IAMs_20 IAMs_20 07 04 42.4
comp=Z,12µm,20.0s
HIA Hailar 50.99 19 P **P** 06 38 58.0 -0.5
HIA pmax pmax
comp=Z,110nm,0.8s
HIA MLR MLR
comp=Z,17µm,19.0s
HIA Hailar 50.99 19 P **P** 06 38 58.0 -0.5
HIA IAmb IAmb 06 39 03.7
comp=Z,110nm,0.8s
HIA Hailar 50.99 19 IAMs_20 IAMs_20 07 02 53.6
comp=Z,17µm,19.0s
MJB9 Matsu-Tunnel 51.33 43 P **P** 06 39 00.9 -0.4
MJB9 IAMs_20 IAMs_20 07 01 36.4
comp=Z,13µm,20.0s
MAJO Matsushiro 51.33 43*c* iP **P** 06 39 00.9 -0.4
MAJO pmax pmax
comp=Z,49nm,1.0s
MAJO MLR MLR
comp=Z,12µm,19.0s
MAJO Matsushiro 51.33 43 P **P** 06 39 00.9 -0.4
MAJO Matsushiro 51.33 43 IAMs_20 IAMs_20 07 01 35.4
comp=Z,12µm,20.0s
MAT Matsushiro 51.33 43 P **P** 06 39 00.5 -0.8
MAT S **S** 06 46 14.8 -4.7

MJAR	**Matsushiro Arr**	**51.33**	**43**	P	**P**	**06 39 00.6**	**-0.7**
	comp=Z,30nm,1.0s,baz=217,slow=4.2,SNR=52						
MJAR				LR	LR	07 02 07.3	
	comp=Z,11μm,19.1s,baz=195,slow=38						
MJAR	**Matsushiro Arr**	**51.33**	**43**	P	**P**	**06 39 00.1**	**-1.2**
MDJ	**Mudanjiang**	**51.33**	**30**	P	**P**	**06 39 00.7**	**-0.4**
MDJ				sP	sP	06 39 12.0	+1.5
MDJ				ScP	**ScP**	**06 44 09.8**	**-1.5**
MDJ				PcS	**PcS**	**06 44 11.1**	**-2.3**
MDJ				S	**S**	**06 46 22.2**	**+3.0**
MDJ				sS	sS	06 46 31.0	+1.1
MDJ				pmax	pmax		
	comp=Z,84nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,2μm,3.6s						
MDJ				LR	LR		
	comp=Z,32μm,17.2s						
MDJ				LR	LR		
	comp=Z,15μm,17.2s						
MDJ				LR	LR		
	comp=Z,47μm,16.1s						
MDJ	**Mudanjiang**	**51.33**	**30**	P	**P**	**06 39 01.3**	**+0.2**
MDJ				IAmb	IAmb	06 39 12.7	
	comp=Z,162nm,1.1s						
PMG	**Port Moresby**	**51.38**	**104**	*c iP*	**P**	**06 39 01.0**	**-1.0**
PMG				pmax	pmax		
	comp=Z,842nm,0.8s						
PMG				MLR	MLR		
	comp=Z,27μm,23.0s						
PMG	**Port Moresby**	**51.38**	**104**	P	**P**	**06 39 01.4**	**-0.6**
VLA	**Vladivostok**	**51.47**	**33**	*de*P	**P**	**06 39 02.5**	**+0.4**
VLA				pmax	pmax		
	comp=Z,95nm,1.1s						
VLA				MLR	MLR		
	comp=Z,20μm,20.0s						
CIT	**Chita**	**51.76**	**13**	*e*P	**P**	**06 39 04.8**	**+0.6**
CIT				*e*		06 39 15.2	
CIT				pmax	pmax		
	comp=Z,436nm,2.5s						
BRZS	**Berezniki**	**52.03**	**340**	*e*P	**P**	**06 39 05.1**	**-1.2**
	comp=Z,274nm,2.5s						
BRZS				*e*LR	LR	07 03 53.4	
	comp=Z,4μm,19.1s						
BRZS	**Berezniki**	**52.03**	**340**	*e*P	**P**	**06 39 05.0**	**-1.2**
BRZS				pmax	pmax		
	comp=Z,274nm,2.5s						
BRZS				MLR	MLR		
	comp=Z,4μm,19.0s						
USA0B	**Ussuriysk Arra**	**52.26**	**32**	P	**P**	**06 39 08.2**	**+0.2**
USA0B				pmax	pmax		
	comp=Z,377nm,1.4s						
USA0B				MLR	MLR		
	comp=Z,35μm,20.0s						
USA0B	**Ussuriysk Arra**	**52.26**	**32**	P	**P**	**06 39 08.2**	**+0.2**
USRK	**Ussuriysk Ar.**	**52.26**	**32**	P	**P**	**06 39 07.8**	**-0.2**
USRK	**Ussuriysk Ar.**	**52.26**	**32**	P	**P**	**06 39 08.1**	**0.0**
	comp=Z,35nm,0.9s,baz=240,slow=5.7,SNR=48						
USRK				LR	LR	07 03 59.8	
	comp=Z,32μm,18.8s,baz=208,slow=39						
USRK	**Ussuriysk Ar.**	**52.26**	**32**	P	**P**	**06 39 07.8**	**-0.2**
ZAA0	**Zalesovo Array**	**52.70**	**351**	P	**P**	**06 39 10.2**	**-0.9**
ZALV	**Zalesovo Beam**	**52.70**	**351**	P	**P**	**06 39 10.2**	**-1.0**
	comp=Z,102nm,0.6s,baz=179,slow=6.4,SNR=150						
ZALV				S	**S**	**06 46 37.0**	**-0.7**
	comp=Z,7.6nm,0.9s,baz=171,slow=12,SNR=6.2						
ZALV				LR	LR	07 04 40.8	
	comp=Z,6μm,20.9s,baz=176,slow=40						
ZALV				PKPPKP	P'P'df	07 09 52.4	+13
	comp=Z,1.0nm,0.6s,baz=277,slow=3.9,SNR=4.4						
OPO	**Ambohidratompo**	**52.95**	**245**	P	**P**	**06 39 13.1**	**-0.6**
	comp=Z,22nm,1.0s,baz=64,slow=8.2,SNR=12						
ABPO	**Ambohimpanom**	**53.04**	**244**	P	**P**	**06 39 13.9**	**-0.6**
ABPO				pmax	pmax		
	comp=Z,30nm,1.0s						
ABPO	**Ambohimpanom**	**53.04**	**244**	P	**P**	**06 39 13.9**	**-0.6**
ABPO	**Ambohimpanom**	**53.04**	**244**	IAMs_20	IAMs_20	06 56 53.1	
	comp=Z,11μm,20.0s						
HTT	**Hallett**	**53.05**	**135**	P	**P**	**06 39 15.8**	**+1.7**
	baz=53,SNR=16						
CTA	**Charters Tower**	**53.18**	**117**	P	**P**	**06 39 14.9**	**-0.4**
	comp=Z,71nm,0.8s,baz=288,slow=8.9,SNR=50						
DAMY	**Dhamar**	**53.25**	**287**	P	P	06 39 29.9	+14
	SNR=8.7						
DAMY	**Dhamar**	**53.25**	**287**	P	**P**	**06 39 16.9**	**+0.7**
DAMY				IAmb	IAmb	06 39 30.8	
	comp=Z,175nm,1.2s						
QLP	**Quilpie**	**53.82**	**125**	P	**P**	**06 39 21.9**	**+2.1**
	baz=54,SNR=18						
RAYN	**Ar Rayn**	**54.07**	**298**	P	**P**	**06 39 21.9**	**+0.1**
RAYN				pmax	pmax		
	comp=Z,61nm,0.9s						
RAYN	**Ar Rayn**	**54.07**	**298**	P	**P**	**06 39 21.9**	**+0.1**
RAYN				IAmb	IAmb	06 39 38.4	
	comp=Z,61nm,0.9s						
STKA	**Stephens Creek**	**54.16**	**132**	P	**P**	**06 39 24.0**	**+1.7**
	baz=54,SNR=29						
STKA	**Stephens Creek**	**54.16**	**132**	P	**P**	**06 39 22.5**	**+0.2**
STKA				pmax	pmax		
	comp=Z,18nm,1.0s						
STKA				MLR	MLR		
	comp=Z,2μm,21.0s						
STKA	**Stephens Creek**	**54.16**	**132**	P	**P**	**06 39 21.6**	**-0.7**
	comp=Z,26nm,0.8s,baz=309,slow=7.1,SNR=38						
STKA				LR	LR	07 05 27.1	
	comp=Z,7μm,20.6s,baz=301,slow=39						
STKA	**Stephens Creek**	**54.16**	**132**	P	**P**	**06 39 22.5**	**+0.2**
TEY	**Ternei**	**55.29**	**33**	*e*P	**P**	**06 39 30.6**	**+0.4**
TEY				pmax	pmax		
	comp=N,10.0nm,2.1s						
TEY				pmax	pmax		
	comp=Z,30nm,1.7s						
TEY				pmax	pmax		
	comp=Z,200nm,2.9s						
BRVK	**Borovoye**	**55.43**	**341**	*d iP*	**P**	**06 39 29.8**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,150nm,1.0s						
BRVK				MLR	MLR		
	comp=Z,14μm,19.0s						
BRVK	**Borovoye**	**55.43**	**341**	P	**P**	**06 39 29.6**	**-1.5**
BRVK				IAmb	IAmb	06 39 41.7	
	comp=Z,136nm,1.0s						
BRVK	**Borovoye**	**55.43**	**341**		P	**06 39 29.8**	**-1.3**
BRVK				IAMs_20	IAMs_20	07 06 45.8	
	comp=Z,15μm,19.0s						
KRVT	**Keravat (AS076**	**55.49**	**97**	P	**P**	**06 39 32.2**	**0.0**
	comp=Z,28nm,0.5s,baz=304,slow=7.3,SNR=2.4						
KLR	**Kul'dur**	**55.69**	**27**	*c iP*	**P**	**06 39 33.9**	**+0.9**
KLR				pmax	pmax		
	comp=Z,56nm,0.9s						
KLR				MLR	MLR		
	comp=Z,35μm,16.0s						
KLR	**Kul'dur**	**55.69**	**27**	P	**P**	**06 39 31.9**	**-1.1**
	comp=Z,40nm,0.7s,baz=244,slow=7.7,SNR=56						
AB31	**Akbulak array**	**56.63**	**332**	*i* P	**P**	**06 39 37.9**	**-1.9**
AB31				pmax	pmax		
	comp=Z,259nm,1.1s						
ABKAR	**Akbulak array**	**56.63**	**332**	P	**P**	**06 39 38.8**	**-0.9**
ABKAR	**Akbulak array**	**56.63**	**332**	P	**P**	**06 39 38.6**	**-1.2**
ABKAR				IAmb	IAmb	06 39 54.7	
	comp=Z,246nm,1.1s						
CMSA	**Cobar Meteorol**	**57.08**	**130**	P	**P**	**06 39 43.6**	**+0.3**
	baz=57,SNR=44						
BOD	**Bodaibo**	**57.28**	**11**	*e*P	**P**	**06 39 43.3**	**-0.9**
BOD				pmax	pmax		
	comp=Z,242nm,1.4s						
ZEA	**Zeya**	**57.30**	**21**	*e*P	**P**	**06 39 44.0**	**-0.4**
ZEA				*e*		06 41 59.0	
ZEA				*e*PPP	PPP	06 43 18.0	
ZEA				*e*S	**S**	**06 47 43.0**	**+3.6**
ZEA				*e*SS	**SS**	**06 51 34.0**	**+5.0**
ZEA				pmax	pmax		
	comp=N,83nm,1.0s						
ZEA				pmax	pmax		
	comp=E,59nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,130nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,2μm,12.0s						
ZEA				pmax	pmax		
	comp=E,500nm,14.0s						
ZEA				pmax	pmax		
	comp=N,1μm,12.0s						
ZEA				pmax	pmax		
	comp=N,500nm,13.0s						
ZEA				pmax	pmax		
	comp=E,500nm,13.0s						
ZEA				pmax	pmax		
	comp=Z,1μm,13.0s						
ZEA				smax	smax		
	comp=Z,900nm,15.0s						
ZEA				smax	smax		
	comp=N,1μm,17.0s						
ZEA				smax	smax		
	comp=E,1μm,17.0s						
ERM	**Erimo**	**57.47**	**40**	*e*P	**P**	**06 39 47.3**	**+1.5**
ERM				pmax	pmax		
	comp=Z,104nm,1.4s						
ERM				MLR	MLR		
	comp=Z,11μm,17.0s						
ERM	**Erimo**	**57.47**	**40**	P	**P**	**06 39 46.2**	**+0.4**
ERM				IAmb	IAmb	06 40 05.5	
	comp=Z,139nm,1.1s						
ERM	**Erimo**	**57.47**	**40**	IAMs_20	IAMs_20	07 07 31.6	
	comp=Z,10μm,18.0s						
RMQ	**Roma**	**57.52**	**123**	P	**P**	**06 39 49.3**	**+2.8**
	baz=58,SNR=13						
AAE	**Adis Abeba**	**58.17**	**279**	*e*P	P	06 40 02.1	+10
AAE				*e*S	S	06 48 03.5	+11
ASAJ	**Asahikawa**	**58.23**	**37**	P	**P**	**06 39 50.8**	**-0.3**
	comp=Z,32nm,0.7s,baz=260,slow=7.9,SNR=21						
JKA	**Kamikawa-asahi**	**58.23**	**37**	P	**P**	**06 39 50.8**	**-0.3**
FURI	**Furi**	**58.25**	**279**	*e*P	P	06 40 00.4	+8.2
FURI				*e*S	S	06 48 03.5	+10
FURI	**Furi**	**58.25**	**279**	P	**P**	**06 39 52.5**	**+0.3**
FURI				IAmb	IAmb	06 40 10.5	
	comp=Z,66nm,1.1s						
GRNR	**Gornyy**	**58.92**	**28**	*i iP*	**P**	**06 39 55.6**	**-0.3**
GRNR				*e*		06 42 13.9	
GRNR				*e*S	**S**	**06 48 09.5**	**+8.7**
GRNR				*e*SS	**SS**	**06 51 56.1**	**+1.4**
GRNR				pmax	pmax		
	comp=Z,60nm,1.3s						
GRNR				smax	smax		
	comp=N,5.0nm,0.8s						
GRNR				MLR	MLR		
	comp=Z,12μm,16.0s						
AKT	**Akhty**	**59.03**	**319**	*e*P	**P**	**06 39 57.8**	**+0.9**
AKT				*e*		06 40 47.4	
AKT				*e*		06 42 15.7	
AKT				pmax	pmax		
	comp=Z,94nm,1.0s						
EIDS	**Eidsvold**	**59.10**	**121**	P	**P**	**06 39 59.7**	**+2.2**
	baz=59,SNR=12						
EIDS	**Eidsvold**	**59.10**	**121**	P	**P**	**06 39 58.2**	**+0.6**
EIDS				IAmb	IAmb	06 40 08.6	
	comp=Z,92nm,1.1s						
KMBO	**Kilima Mbogo**	**59.67**	**268**	*i* P	**P**	**06 40 02.5**	**+0.5**
	SNR=5.1						
KMBO	**Kilima Mbogo**	**59.67**	**268**	*i* P	**P**	**06 40 01.0**	**-1.0**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KMBO	**Kilima Mbogo**	**59.67**	**268**	*e*P	P	06 40 10.4	+8.4
KMBO				*e*S	**S**	**06 48 13.5**	**+1.4**
KMBO	**Kilima Mbogo**	**59.67**	**268**	P	**P**	**06 40 01.5**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=77,slow=7.5,SNR=9.4						
KMBO				LR	LR	07 01 24.0	
	comp=Z,10μm,21.2s,baz=84,slow=32						
KMBO				PKPPKP		07 09 42.7	
	comp=Z,0.4nm,0.2s,baz=94,slow=5.5,SNR=3.1						
KMBO	**Kilima Mbogo**	**59.67**	**268**	P	**P**	**06 40 02.0**	**0.0**
KMBO	**Kilima Mbogo**	**59.67**	**268**	IAMs_20	IAMs_20	07 01 11.3	
	comp=Z,11μm,21.0s						
TOO	**Toolangi**	**59.77**	**136**	P	**P**	**06 40 05.4**	**+3.4**
	baz=60,SNR=7.4						
TOO	**Toolangi**	**59.77**	**136**	P	**P**	**06 40 03.3**	**+1.3**
TOO				pmax	pmax		
	comp=Z,109nm,1.2s						
TOO				MLR	MLR		
	comp=Z,9μm,22.0s						
TOO	**Toolangi**	**59.77**	**136**	P	**P**	**06 40 03.3**	**+1.3**
TOO				IAmb	IAmb	06 40 20.9	
	comp=Z,109nm,1.2s						
YSS	**Yuzh-Sakhalins**	**59.88**	**35**	*e*P	**P**	**06 40 02.3**	**-0.2**
YSS				*e*		06 40 12.9	
YSS				*e*S	**S**	**06 48 09.3**	**-3.8**
YSS				*e*PS		06 48 22.6	
YSS				pmax	pmax		
	comp=Z,120nm,1.1s						
YSS				pmax	pmax		
	comp=Z,1μm,2.8s						
YSS				pmax	pmax		
	comp=E,200nm,2.9s						
YSS				pmax	pmax		
	comp=Z,1μm,19.4s						
YSS				pmax	pmax		
	comp=E,400nm,16.0s						
YSS	**Yuzh-Sakhalins**	**59.88**	**35**	P	**P**	**06 40 03.0**	**+0.6**
YSS				IAMs_20	IAMs_20	07 08 02.4	
	comp=Z,9μm,20.0s						
MAK	**Makhachkala**	**59.89**	**320**	*e*P	**P**	**06 39 58.5**	**-4.1**
MAK				*e*		06 42 12.1	
MAK				*e*S	**S**	**06 48 06.5**	**-6.9**
MAK				*e*SS	**SS**	**06 52 06.4**	**-3.6**
MAK				pmax	pmax		
	comp=Z,37nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**60.20**	**39**	*e*P	**P**	**06 40 05.9**	**+1.2**
YUK				*i*		06 40 50.2	
YUK				*i*		06 42 21.0	
YUK				*i* PPP	PPP	06 43 45.4	
YUK				*i* S	**S**	**06 48 22.5**	**+5.1**
YUK				pmax	pmax		
	comp=N,398nm,1.2s						
YUK				pmax	pmax		
	comp=E,228nm,1.2s						
YUK				pmax	pmax		
	comp=Z,663nm,1.2s						
YUK				pmax	pmax		
	comp=Z,655nm,1.9s						
YUK				MLR	MLR		
	comp=N,8μm,16.0s						
YUK				MLR	MLR		
	comp=Z,12μm,16.0s						
YUK				MLR	MLR		
	comp=E,15μm,17.0s						
YNG	**Young**	**60.34**	**132**	P	**P**	**06 40 07.9**	**+2.0**
	baz=60,SNR=22						
GNI	**Garni**	**60.47**	**316**	*i* P	**P**	**06 40 08.2**	**+1.3**
	SNR=5.7						
GNI	**Garni**	**60.47**	**316**	*c iP*	**P**	**06 40 07.1**	**+0.2**
GNI				pmax	pmax		
	comp=Z,21nm,0.7s						
GNI	**Garni**	**60.47**	**316**	LR	LR	07 09 10.9	
	comp=Z,3μm,20.3s,baz=121,slow=39						
GNI	**Garni**	**60.47**	**316**	P	**P**	**06 40 07.2**	**+0.2**
GROC	**Groznyy**	**61.10**	**319**	*e*P	**P**	**06 40 11.4**	**+0.4**
GROC				*e*		06 40 55.0	
GROC				*e*S	**S**	**06 48 28.7**	**-0.3**
GROC				pmax	pmax		
	comp=Z,153nm,0.8s						
TBLG	**Delisi**	**61.15**	**318**	P	**P**	**06 40 10.4**	**-0.9**
TBLG				pmax	pmax		
	comp=Z,175nm,0.9s						
TBLG	**Delisi**	**61.15**	**318**	P	**P**	**06 40 10.4**	**-0.9**
CAN	**Canberra**	**61.23**	**133**	P	**P**	**06 40 11.9**	**-0.1**
CAN				pmax	pmax		
	comp=Z,86nm,1.1s						
CAN				MLR	MLR		
	comp=Z,11μm,22.0s						
CAN	**Canberra**	**61.23**	**133**	P	**P**	**06 40 11.9**	**-0.1**
CAN				IAmb	IAmb	06 40 30.6	
	comp=Z,86nm,1.1s						
CAN				IAMs_20	IAMs_20	07 06 42.1	
	comp=Z,11μm,22.0s						
ARMA	**Armidale**	**61.30**	**126**	P	**P**	**06 40 15.7**	**+3.0**
	baz=61,SNR=5.8						
ARMA	**Armidale**	**61.30**	**126**	P	**P**	**06 40 13.4**	**+0.8**
ARMA				IAmb	IAmb	06 40 26.8	
	comp=Z,154nm,1.4s						
LODK	**Lodwar**	**61.43**	**273**	P	P	06 40 27.4	+14
	SNR=6.1						
PATS	**Pohnpei**	**61.43**	**83**	P	**P**	**06 40 13.4**	**-0.3**
CNB	**Canberra Magne**	**61.49**	**132**	P	**P**	**06 40 16.5**	**+2.7**
	baz=62,SNR=5.6						
SVE	**Sverdlovsk**	**61.80**	**338**	*c*e*P*	**P**	**06 40 14.5**	**-0.9**
SVE				*e*		06 42 40.9	
SVE				*e*PPP	PPP	06 44 09.2	
SVE				*e*S	**S**	**06 48 41.7**	**+4.3**
SVE				*e*		06 52 37.0	
SVE				pmax	pmax		
	comp=Z,2μm,17.4s						
SVE				pmax	pmax		
	comp=Z,269nm,1.1s						
SVE				MLR	MLR		
	comp=Z,12μm,22.0s						
SVE				MLR	MLR		
	comp=N,7μm,21.0s						
SVE				MLR	MLR		
	comp=E,9μm,20.0s						
AKH	**Akhalkalaki**	**61.85**	**317**	P	**P**	**06 40 15.8**	**-0.5**
AKH				pmax	pmax		
	comp=Z,50nm,0.9s						
AKH	**Akhalkalaki**	**61.85**	**317**	P	**P**	**06 40 15.8**	**-0.5**
AKH				IAmb	IAmb	06 40 31.9	
	comp=Z,50nm,0.9s						
KUR	**Kuril'sk**	**62.03**	**38**	*c iP*	**P**	**06 40 17.8**	**+0.7**
KUR				*e*PPP	PPP	06 44 01.6	
KUR				S	**S**	**06 48 42.6**	**+1.9**
KUR				pmax	pmax		
	comp=Z,692nm,1.3s						
KUR				MLR	MLR		
	comp=Z,8μm,16.0s						
KUR				MLR	MLR		
	comp=N,9μm,15.0s						
KUR				MLR	MLR		
	comp=E,7μm,16.0s						
TYV	**Tymovskoe**	**62.06**	**31**	*e*P	**P**	**06 40 18.3**	**+1.1**
TYV				*e*		06 48 45.7	
TYV				pmax	pmax		
	comp=Z,74nm,1.7s						
TYV				pmax	pmax		
	comp=Z,3μm,3.2s						
TYV				MLR	MLR		
	comp=E,10μm,18.0s						
TYV				MLR	MLR		
	comp=Z,14μm,18.0s						
ZEI	**Tsey**	**62.16**	**318**	*e*P	**P**	**06 40 17.0**	**-1.4**
ZEI				pmax	pmax		
	comp=Z,68nm,0.8s						
ARU	**Arti**	**62.30**	**337**	*d iP*	**P**	**06 40 17.3**	**-1.4**
ARU						06 40 58.9	
ARU						06 42 33.1	
ARU				S	**S**	**06 48 42.8**	**-0.9**
ARU						06 50 08.6	
ARU				SS	**SS**	**06 52 42.8**	**-4.5**
ARU				pmax	pmax		
	comp=Z,61nm,1.4s						
ARU				MLR	MLR		
	comp=Z,10μm,22.0s						
ARU	**Arti**	**62.30**	**337**	LR	LR	07 09 06.4	
	comp=Z,9μm,20.9s,baz=136,slow=38						
ARU	**Arti**	**62.30**	**337**	P	**P**	**06 40 17.4**	**-1.4**
ARU				IAMs_20	IAMs_20	07 09 32.5	
	comp=Z,10μm,21.0s						
NKL	**Nikolayevsk**	**62.48**	**28**	*e*P	**P**	**06 40 20.3**	**+0.4**
NKL				*e*S	S	06 49 07.4	+21
NKL				*e*		06 50 11.2	
NKL				pmax	pmax		
	comp=N,4.0nm,1.0s						
NKL				pmax	pmax		
	comp=E,36nm,1.1s						
NKL				pmax	pmax		
	comp=Z,68nm,1.1s						
NKL				smax	smax		
	comp=E,146nm,4.0s						
NKL				smax	smax		
	comp=N,9.0nm,3.1s						
NKL				MLR	MLR		
	comp=E,6μm,14.0s						
NKL				MLR	MLR		
	comp=N,78nm,13.0s						
NKL				MLR	MLR		
	comp=Z,17μm,15.0s						
NCK	**Nalchik**	**62.67**	**319**	*e*P	**P**	**06 40 20.4**	**-1.1**
NCK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NCK				MLR	MLR		
	comp=Z,3μm,21.0s						
NEY	**Neytrino**	**63.14**	**318**	*e*P	**P**	**06 40 26.4**	**+1.5**
NEY				pmax	pmax		
	comp=Z,20nm,2.0s						
NEY				MLR	MLR		
	comp=Z,2μm,21.0s						
KBZ	**Khabaz**	**63.23**	**319**	P	**P**	**06 40 25.6**	**+0.4**
	comp=Z,17nm,0.8s,baz=117,slow=5.4,SNR=24						
MOO	**Moorlands**	**63.34**	**140**	P	**P**	**06 40 28.5**	**+2.5**
	baz=63,SNR=4.9						
KVAR	**Kislovodsk Arr**	**63.46**	**319**	LR	LR	07 10 25.1	
	comp=Z,3μm,21.2s,baz=162,slow=38						
KIV	**Kislovodsk**	**63.46**	**319**	*i* P	**P**	**06 40 29.2**	**+2.3**
	SNR=6.4						
KIV	**Kislovodsk**	**63.46**	**319**	*e*P	**P**	**06 40 26.5**	**-0.4**
KIV				*e*		06 42 46.1	
KIV				*e*S	**S**	**06 48 58.8**	**-0.2**
KIV				*e*SS	**SS**	**06 53 06.6**	**+0.3**
KIV				pmax	pmax		
	comp=Z,279nm,1.0s						
KIV				pmax	pmax		
	comp=Z,210nm,4.7s						
KIV				MLR	MLR		
	comp=Z,7μm,17.0s						
KIV	**Kislovodsk**	**63.46**	**319**	P	**P**	**06 40 26.8**	**-0.1**
TAU	**Tasmania Unive**	**63.67**	**141**	P	**P**	**06 40 28.5**	**+0.4**
TAU				pmax	pmax		
	comp=Z,99nm,1.0s						
TAU	**Tasmania Unive**	**63.67**	**141**	P	**P**	**06 40 28.5**	**+0.4**
TAU				IAmb	IAmb	06 40 44.6	
	comp=Z,99nm,0.9s						
GOF	**Gofitskoye**	**63.71**	**320**	*e*P	P	06 40 37.9	+10
GOF				pmax	pmax		
	comp=Z,171nm,0.9s						
ASF	**Jabal al Asfar**	**63.71**	**305**	P	P	06 40 37.5	+8.8
HNR	**Honiara**	**63.87**	**101**	P	**P**	**06 40 30.1**	**+0.1**
HNR				pmax	pmax		
	comp=Z,380nm,1.0s						
HNR	**Honiara**	**63.87**	**101**	P	**P**	**06 40 31.0**	**+1.1**
HNR	**Honiara**	**63.87**	**101**	P	**P**	**06 40 30.1**	**+0.1**
EIL	**Elat**	**64.73**	**302**	P	**P**	**06 40 36.6**	**+1.2**
EIL	**Elat**	**64.73**	**302**	P	**P**	**06 40 37.5**	**+2.1**
HRFI	**Mount Harif**	**64.74**	**302**	P	**P**	**06 40 36.8**	**+1.4**
HRFI	**Mount Harif**	**64.74**	**302**	P	**P**	**06 40 37.5**	**+2.1**
YAK	**Yakutsk**	**64.74**	**16**	*c iP*	**P**	**06 40 33.2**	**-1.5**
YAK				*e**PP	**sP**	**06 40 43.2**	**-1.0**
YAK				*e*		06 41 05.5	
YAK				*e*		06 42 53.1	
YAK				*e*S	**S**	**06 49 13.1**	**-0.8**
YAK				*e**SS	**sS**	**06 49 26.4**	**+1.4**
YAK				*e*		06 50 23.7	
YAK				*e*SS	**SS**	**06 53 24.4**	**-0.8**
YAK				pmax	pmax		
	comp=Z,232nm,1.2s						
YAK				pmax	pmax		
	comp=N,113nm,1.2s						
YAK				pmax	pmax		
	comp=E,71nm,1.1s						
YAK				pmax	pmax		
	comp=Z,189nm,2.8s						
YAK				pmax	pmax		
	comp=E,103nm,2.3s						
YAK				pmax	pmax		
	comp=N,140nm,2.5s						
YAK				smax	smax		
	comp=N,956nm,4.3s						
YAK				smax	smax		
	comp=E,416nm,3.3s						
YAK				MLR	MLR		
	comp=Z,27μm,16.0s						
YAK				MLR	MLR		
	comp=E,13μm,14.0s						
YAK				MLR	MLR		
	comp=N,15μm,14.0s						
YAK	**Yakutsk**	**64.74**	**16**	P	**P**	**06 40 33.8**	**-0.9**
	comp=N,105nm,0.7s,baz=200,slow=1.4,SNR=33						
YAK	**Yakutsk**	**64.74**	**16**	P	**P**	**06 40 33.5**	**-1.2**
YAK				IAMs_20	IAMs_20	07 10 58.1	
	comp=Z,12μm,19.0s						
SHMJ	**Saham**	**64.78**	**305**	P	P	06 40 48.4	+13
GAZ	**Gaziantep**	**64.88**	**310**	P	**P**	**06 40 37.2**	**+0.9**
GAZ				IAmb	IAmb	06 40 48.4	
	comp=Z,94nm,0.9s						
MMLI	**Mount Malkishu**	**64.99**	**305**	P	**P**	**06 40 40.4**	**+3.4**
	comp=Z,49nm,0.4s						
SOC	**Sochi**	**65.28**	**318**	*c iP*	**P**	**06 40 37.8**	**-0.9**
SOC				*e*		06 43 02.1	
SOC				*e*PPP	PPP	06 44 33.5	
SOC				*e*S	**S**	**06 49 19.6**	**-1.7**
SOC				*e*SS	**SS**	**06 53 33.7**	**-0.7**

SOC pmax pmax
comp=Z,99nm,1.0s
SOC MLR MLR
comp=Z,2µm,19.0s
KZIT Kziot 65.47 303 P **P** **06 40 41.4 +1.2**
MBAR Mbarara 66.15 268⇑ *e*P **P** **06 40 45.2 +0.1**
MBAR pmax pmax
comp=Z,28nm,1.1s
MBAR Mbarara 66.15 268 P **P** **06 40 45.5 +0.4**
VRH Novokhopyorsk 67.25 326 *e*P **P** **06 40 53.5 +2.4**
VRH pmax pmax
comp=Z,90nm,0.8s
VRH MLR MLR
comp=Z,11µm,22.0s
ANN Anapa 67.26 318 *e*P P 06 40 57.9 +6.6
ANN pmax pmax
comp=Z,105nm,1.2s
ANN MLR MLR
comp=E,2µm,19.0s
ANN MLR MLR
comp=Z,4µm,19.0s
ANN MLR MLR
comp=N,8µm,19.0s
CSS Mathiatis 67.30 307 P **P** **06 40 55.4 +3.6**
comp=N,17nm,1.0s
CSS Mathiatis 67.30 307 P **P** **06 40 51.3 -0.5**
CSS IAmb IAmb 06 41 07.9
comp=Z,132nm,1.3s
CSS IAMs_20 IAMs_20 07 14 12.5
comp=Z,10µm,19.0s
NRIK Noril'sk 67.50 356 P **P** **06 40 50.6 -1.7**
comp=Z,39nm,0.7s,baz=169,slow=5.8,SNR=37
NRIK S **S** **06 49 44.9 -2.4**
comp=Z,3.4nm,0.8s,baz=1.5,slow=20,SNR=9.1
NRIK PKPPKP 07 09 26.1
comp=Z,1.1nm,0.3s,baz=89,slow=4.5,SNR=3.6
NRIK LR LR 07 15 16.8
comp=Z,7µm,20.4s,baz=172,slow=40
BR131 Keskin Array S 68.31 312 P **P** **06 40 56.2 -2.0**
BR131 Keskin Array S 68.31 312 P **P** **06 40 56.2 -2.0**
BRTR Keskin Array B 68.31 312 *i* P **P** **06 40 59.0 +0.8**
BRTR pmax pmax
comp=Z,8.0nm,0.7s
BRTR Keskin Array B 68.31 312 P **P** **06 40 56.2 -2.0**
comp=Z,8.0nm,0.7s,baz=132,slow=6.4,SNR=25
BRTR PKPPKP 07 09 26.1
comp=Z,0.7nm,0.8s,baz=226,slow=3.2,SNR=3.9
BRTR LR LR 07 12 36.2
comp=Z,2µm,21.4s,baz=82,slow=38
BRTR Keskin Array B 68.31 312 P **P** **06 40 56.0 -2.3**
VORD Divnogorie 68.52 325 *e*P **P** **06 40 59.8 +0.7**
VORD pmax pmax
comp=Z,80nm,1.0s
ILGA Ilgaz 68.63 314 P **P** **06 41 00.8 +0.5**
ILGA IAmb IAmb 06 41 11.6
comp=Z,106nm,1.1s
BZK Bozkurt 68.69 315⇑P **P** **06 41 04.2 +3.9**
VSR Storozhevoye 68.70 325 *e*P **P** **06 40 59.8 -0.5**
VSR pmax pmax
comp=Z,40nm,0.8s
CASY Casey 68.85 174 P **P** **06 41 01.4 +0.6**
CASY IAmb IAmb 06 41 19.3
comp=Z,76nm,1.2s
VORR Voronezh 68.87 326 *e*P **P** **06 41 01.0 -0.3**
VORR pmax pmax
comp=Z,250nm,1.0s
ANTO Ankara 68.97 312 P **P** **06 41 01.3 -1.0**
ANTO pmax pmax
comp=Z,49nm,0.9s
ANTO MLR MLR
comp=Z,4µm,18.0s
ANTO Ankara 68.97 312 P **P** **06 41 01.3 -1.0**
ANTO IAmb IAmb 06 41 17.0
comp=Z,49nm,0.9s
BR231 Keskin MP Arra 68.98 312 P **P** **06 41 00.8 -1.6**
BR231 IAmb IAmb 06 41 13.2
comp=Z,64nm,1.1s
SKR Severo-Kuril's 69.40 36 *e*P **P** **06 41 04.4 -0.2**
SKR *e* 06 41 21.6
SKR *e*S **S** **06 50 13.2 +2.7**
SKR pmax pmax
comp=Z,84nm,0.9s
SKR pmax pmax
comp=Z,800nm,5.0s
SKR pmax pmax
comp=Z,1µm,2.3s
SKR MLR MLR
comp=Z,4µm,18.0s
SKR MLR MLR
comp=Z,4µm,18.0s
LPSR Galich'ya Gora 69.42 326 *e*P **P** **06 41 04.1 -0.6**
LPSR pmax pmax
comp=Z,50nm,0.8s
LPSR MLR MLR
comp=Z,1µm,16.0s
SIM Simferopol' 69.53 318 P **P** **06 41 07.4 +1.9**
SIM *e*S **S** **06 50 10.0 -2.3**
SIM pmax pmax
comp=Z,89nm,1.0s
SEVA Sevastopol 69.69 317⇓P P 06 41 17.3 +11
LSZ Lusaka 70.01 253 P **P** **06 41 08.5 -0.7**
LSZ pmax pmax
comp=Z,40nm,1.1s
LSZ Lusaka 70.01 253 P **P** **06 41 08.5 -0.7**
LSZ Lusaka 70.01 253 IAMs_20 IAMs_20 07 07 36.5
comp=Z,12µm,20.0s
ELL Elmali 70.41 308 P **P** **06 41 07.6 -3.7**
ELL pmax pmax
comp=Z,304nm,1.0s
ELL MLR MLR
comp=Z,15µm,19.0s
ELL Elmali 70.41 308 P **P** **06 41 07.6 -3.7**
KWAJ Kwajalein Atol 70.69 81 P **P** **06 41 10.3 -2.9**
KWAJ pmax pmax
comp=Z,574nm,1.4s
KWAJ Kwajalein Atol 70.69 81 P **P** **06 41 10.3 -2.9**
MA2 Magadan 70.75 26*c* *i*P **P** **06 41 13.7 +1.0**
MA2 pmax pmax
comp=Z,87nm,1.5s
MA2 MLR MLR
comp=Z,15µm,18.0s
MA2 Magadan 70.75 26 P **P** **06 41 13.3 +0.5**
comp=Z,44nm,0.7s,baz=234,slow=5.0,SNR=18
MA2 LR LR 07 15 60.0
comp=Z,15µm,18.2s,baz=232,slow=39
MA2 Magadan 70.75 26 P **P** **06 41 11.3 -1.5**
MA2 IAmb IAmb 06 41 25.0
comp=Z,118nm,1.2s
PRGR Permogore 70.75 337 *e*P **P** **06 41 10.1 -2.6**
PRGR *e*S **S** **06 50 22.9 -3.0**
PRGR pmax pmax
comp=Z,105nm,0.6s
PEA0B Petropavlovsk- 71.25 34 P **P** **06 41 16.1 +0.2**
PEA0B pmax pmax
comp=Z,121nm,1.5s
PEA0B MLR MLR
comp=Z,12µm,18.0s
PEA0B Petropavlovsk- 71.25 34 P **P** **06 41 16.1 +0.2**
PEA0B IAmb IAmb 06 41 26.6
comp=Z,121nm,1.4s
PEA0B IAMs_20 IAMs_20 07 16 33.0
comp=Z,12µm,18.0s
PETK Petropavlovsk- 71.25 34 P **P** **06 41 16.5 +0.6**
comp=Z,12nm,0.7s,baz=193,slow=1.1,SNR=18
PETK LR LR 07 16 34.8
comp=Z,11µm,18.1s,baz=219,slow=39
PETK Petropavlovsk- 71.25 34 P **P** **06 41 16.1 +0.2**
MOS Moscow 71.45 329 *e*P **P** **06 41 13.8 -3.2**
MOS *e* 06 41 24.6
MOS *e* 06 41 36.7
MOS *i* 06 43 55.4
MOS *e*S **S** **06 50 28.3 -6.0**
MOS *e* 06 51 15.2
MOS *i* SS **SS** **06 55 03.1 -6.2**
MOS pmax pmax
comp=Z,128nm,0.8s
MOS MLR MLR
comp=Z,10µm,22.0s
MOS MLR MLR
comp=N,10µm,21.0s
MOS MLR MLR
comp=E,4µm,21.0s
YLV Yalova 71.68 312⇑P **P** **06 41 22.3 +3.4**
YLV Yalova 71.68 312⇑P **P** **06 41 22.3 +3.4**
OBN Obninsk 71.74 328⇑ *e*P **P** **06 41 17.8 -1.0**
OBN *i* 06 41 28.8
OBN *i* 06 41 36.2
OBN *e* 06 44 03.4
OBN *i* S **S** **06 50 38.4 +0.8**
OBN *e*SS **SS** **06 55 10.8 -2.9**
OBN pmax pmax
comp=Z,242nm,2.5s
OBN MLR MLR
comp=Z,6µm,20.0s
OBN Obninsk 71.74 328⇑P **P** **06 41 22.4 +3.7**
OBN Obninsk 71.74 328 P **P** **06 41 17.8 -1.0**
OBN Obninsk 71.74 328 IAMs_20 IAMs_20 07 16 11.6
comp=Z,7µm,22.0s
PET Petropavlovsk 71.75 34 *e*P **P** **06 41 19.0 +0.1**
PET *e* 06 43 56.4
PET *e*PPP PPP 06 45 34.8
PET *e*S **S** **06 50 36.5 -1.3**
PET *e*SS **SS** **06 55 14.8 +0.8**
PET pmax pmax
comp=Z,2µm,13.3s
PET pmax pmax
comp=Z,2µm,19.6s
PET pmax pmax
comp=Z,182nm,0.8s
PET pmax pmax
comp=Z,600nm,14.3s
PET MLR MLR
comp=Z,8µm,17.0s
PET MLR MLR
comp=Z,8µm,19.0s
PET Petropavlovsk 71.75 34 P **P** **06 41 18.8 -0.1**
PET IAmb IAmb 06 41 31.8
comp=Z,93nm,0.7s
PET IAMs_20 IAMs_20 07 16 13.7
comp=Z,8µm,18.0s
MANT Manisa 71.83 310 P **P** **06 41 17.9 -2.2**
MANT IAMs_20 IAMs_20 07 18 22.0
comp=Z,10µm,20.0s
DZM Mont Dzumac 71.93 114 *e*P **P** **06 41 21.5 +0.8**
comp=Z,188nm,1.4s
DZM *e*S **S** **06 50 42.4 +1.1**
comp=Z,9µm,26.9s
DZM *e*SS **SS** **06 55 16.5 -1.7**
comp=Z,4µm,28.1s
DZM *e*LQ LQ 07 00 12.2
comp=Z,9µm,35.1s
DZM *e*LR LR 07 03 17.1
comp=Z,14µm,25.8s
DZM Mont Dzumac 71.93 114 P **P** **06 41 18.7 -2.0**
KLYT Kilyos 72.08 313⇑P P 06 41 34.0 +13
ITZ Itezhi-Tezhi 72.15 253 *i* P P 06 41 33.5 +11
KARP Karpathos 72.35 307 IAMs_20 IAMs_20 07 16 26.0
comp=Z,8µm,20.0s
TIXI Tiksi 72.45 10*de*P **P** **06 41 21.1 -1.6**
TIXI pmax pmax
comp=Z,47nm,1.0s
TIXI Tiksi 72.45 10 P **P** **06 41 21.5 -1.2**
comp=Z,29nm,0.6s,baz=180,slow=24,SNR=41
TIXI Tiksi 72.45 10 P **P** **06 41 21.3 -1.4**
TIXI IAmb IAmb 06 41 33.9
comp=Z,115nm,1.0s
TIXI IAMs_20 IAMs_20 07 16 55.4
comp=Z,11µm,18.0s
MANR Mangalia 73.02 315⇑P P 06 41 37.1 +10
SEY Seymchan 73.15 23⇓ *e*P **P** **06 41 26.5 -0.6**
SEY Seymchan 73.15 23 P **P** **06 41 26.9 -0.2**
comp=Z,22nm,0.6s,baz=242,slow=6.9,SNR=39
PSN Preselentsi 73.27 315 *e*P P 06 41 38.2 +10
TIRR Tirgusor 73.30 316 P **P** **06 41 28.3 0.0**
TIRR pmax pmax
comp=Z,183nm,1.0s
TIRR MLR MLR
comp=Z,10µm,22.0s
TIRR Tirgusor 73.30 316 P **P** **06 41 28.3 0.0**
TIRR IAMs_20 IAMs_20 07 16 46.2
comp=Z,10µm,22.0s
TOPG Topolog 73.42 316⇑P **P** **06 41 29.0 -0.1**
MAW Mawson 73.42 193 P **P** **06 41 30.2 +1.7**
baz=74,SNR=11
MAW Mawson 73.42 193 P **P** **06 41 30.2 +1.7**
comp=Z,5.6nm,0.7s,baz=55,slow=4.2,SNR=18
MAW LR LR 07 07 25.6
comp=Z,3µm,21.2s,baz=30,slow=31
MAW Mawson 73.42 193 P **P** **06 41 28.4 -0.2**
TLB Topalu 73.58 316⇑P **P** **06 41 33.3 +3.4**
TLB Topalu 73.58 316⇑P **P** **06 41 33.3 +3.4**
KIS Kishinev 73.66 319 *e*P **P** **06 41 30.0 -0.4**
KIS Kishinev 73.66 319 *e*PP PP 06 44 24.0 +9.2
KIS Kishinev 73.66 319 *e*PS **PnS** **06 51 29.0 -4.9**
KIS *e*SS SS 06 55 32.0 -11
KIS *e*SSS SSS 06 59 19.0
KIS *e*L L 07 06 26.0
KIS LRM MLR 07 16 44.0
comp=Z,4µm,21.0s
KIS Kishinev 73.66 319 *e*P **P** **06 41 30.0 -0.4**
KIS *e* 06 41 37.0
KIS *e*S **SKiKP** **06 50 56.0 -3.4**
KIS *e*PS **PnS** **06 51 29.0 -4.9**
KIS MLR MLR
comp=Z,4µm,21.0s
CFR Carcaliu 73.66 317⇓P **P** **06 41 29.9 -0.5**
CFR Carcaliu 73.66 317⇓P **P** **06 41 29.9 -0.5**
HARR Harsova 73.69 316⇑P **P** **06 41 32.6 +2.0**
HARR Harsova 73.69 316⇑P **P** **06 41 32.6 +2.0**
PRD Provadia 73.72 314 *e*P **P** **06 41 34.9 +4.1**
LBTB Lobatse 73.94 243 P **P** **06 41 31.3 -1.3**
LBTB pmax pmax
comp=Z,66nm,1.2s
LBTB Lobatse 73.94 243 P **P** **06 41 31.3 -1.3**
JMB Yambol 74.14 314 *e*P P 06 41 41.7 +8.4
ALN Alexandroupoli 74.22 312 P **P** **06 41 33.4 -0.4**
ALN pmax pmax
comp=Z,36nm,1.1s
ALN MLR MLR
comp=Z,2µm,20.0s
ALN Alexandroupoli 74.22 312 P **P** **06 41 33.4 -0.4**
AKASG Malin Array Be 74.40 322 P **P** **06 41 33.4 -1.3**
comp=Z,6.4nm,0.8s,baz=89,slow=5.2,SNR=16
AKASG Malin Array Be 74.40 322 P **P** **06 41 32.9 -1.7**
AKBB Malin Array Si 74.40 322 P **P** **06 41 33.3 -1.3**
AKBB pmax pmax
comp=Z,60nm,1.0s
AKBB Malin Array Si 74.40 322 P **P** **06 41 33.3 -1.3**
AKBB IAmb IAmb 06 41 46.6
comp=Z,60nm,0.9s
ELND Elena 74.75 314⇑P **P** **06 41 35.8 -1.0**
SZH Strazhica 74.78 314 *e*P **P** **06 41 37.4 +0.4**
VRI Vrincioaia 74.78 317⇑P **P** **06 41 41.3 +4.3**
VRI Vrincioaia 74.78 317⇑P **P** **06 41 41.3 +4.3**
PLOR Plostina 74.83 317⇑P **P** **06 41 37.1 -0.2**
PLOR Plostina 74.83 317⇑P **P** **06 41 37.1 -0.2**
BOSA Boshof 74.88 240 P **P** **06 41 38.7 +0.6**
comp=Z,12nm,1.1s,baz=86,slow=4.6,SNR=6.9
BOSA LR LR 07 11 14.1
comp=Z,6µm,19.3s,baz=58,slow=33
BOSA Boshof 74.88 240 P **P** **06 41 38.4 +0.3**
TESR Tescani 74.98 318⇑P **P** **06 41 37.5 -0.6**
TMCR Tamitsa 75.04 337 *e*P **P** **06 41 38.1 +0.1**
TMCR *e*S **S** **06 51 14.9 +0.3**
TMCR pmax pmax
comp=Z,67nm,0.8s
MLR Muntele Rosu 75.24 317 P **P** **06 41 39.9 +0.1**
MLR pmax pmax
comp=Z,112nm,1.1s
MLR Muntele Rosu 75.24 317⇓P **P** **06 41 43.7 +4.0**
MLR⇑P **pP** **06 41 47.9 +1.3**
MLR Muntele Rosu 75.24 317 P **P** **06 41 39.9 +0.1**
MLR IAmb IAmb 06 41 51.5
comp=Z,112nm,1.1s
BIZ Bicaz 75.45 318⇑P **P** **06 41 42.9 +2.1**
OZUR 75.47 317⇓P P 06 41 48.6 +7.5
DOPR Dopca 75.72 317⇓P **P** **06 41 46.2 +3.8**
PLVB Pleven 75.74 314⇑P **P** **06 41 46.3 +3.8**
MTUR Matau 75.79 316⇓P P 06 41 52.6 +10
MTUR Matau 75.79 316⇓P P 06 41 52.6 +10
VOIR 75.84 316⇑P **P** **06 41 44.6 +1.4**
VOIR 75.84 316⇑P **P** **06 41 44.6 +1.4**
ARR Arges 76.11 316⇑P **P** **06 41 45.9 +1.1**
BURAR Bucovina Array 76.18 319⇑P **P** **06 41 44.7 -0.4**
BURAR Bucovina Array 76.18 319⇑P **P** **06 41 44.7 -0.4**
BURAR Bucovina Array 76.18 319 P **P** **06 41 44.8 -0.4**
BUR08 Bucovina Ar. S 76.20 319 P **P** **06 41 45.2 -0.1**
MICGM Minsk 76.25 326 *e*P **P** **06 41 44.0 -1.2**
MICGM *e*PcP **sP** **06 41 54.0 -0.8**
MICGM *e*PP **PP** **06 44 40.0 +3.4**
MICGM *e*S **S** **06 51 25.0 -3.5**
MICGM *e*SSS SSS 06 59 26.0
MICGM *e*LQ LQ 07 09 30.0
MICGM *e*LR LR 07 16 12.0
MICGM LRM MLR 07 20 06.0
comp=Z,7.7nm,20.0s
MICGM LRM MLR 07 20 06.0
comp=E,4.1nm,20.0s
MNK Minsk 76.25 326 *e*P **P** **06 41 44.0 -1.2**
MNK *e* 06 41 54.0
MNK *e* 06 44 40.0
MNK *e*S **S** **06 51 25.0 -3.5**
MNK MLR MLR
comp=E,4µm,20.0s
MNK MLR MLR
comp=Z,8µm,20.0s
VTS Vitosha 76.60 313⇑P **P** **06 41 48.9 +1.2**
VTS Vitosha 76.60 313⇑P **P** **06 41 48.9 +1.2**
VTS Vitosha 76.60 313 P **P** **06 41 48.0 +0.3**
PUL Pulkovo 76.61 332*de*P **P** **06 41 45.8 -1.3**
PUL pmax pmax
comp=Z,80nm,0.8s
PUL MLR MLR
comp=Z,7µm,20.0s
ARCR ARCALIA 76.65 318⇓P P 06 41 59.3 +12
NACGM Naroch 76.98 326 *e* **P** **06 41 47.0 -2.3**
NACGM *e*LR LR 07 19 51.0
IDID Didziasalis 77.11 327 *e*P **P** **06 41 52.7 +2.6**
GZR Gura Zlata 77.41 316⇓P **P** **06 41 51.8 -0.2**
LVV L'vov 77.42 321 *e*P **P** **06 41 54.8 +2.9**
LVV *e* 06 42 02.9
LVV *e* 06 44 50.3
LVV *e* 06 46 38.2
LVV *e*S **S** **06 51 37.5 -3.9**
LVV *e* 06 52 02.0
IZAR Zarasai 77.50 327 *e*P **P** **06 41 56.1 +3.9**
IZAR IAmb IAmb 06 42 04.5
comp=Z,31nm,0.9s
ISAL Salakas 77.52 327 *e*P **P** **06 41 54.9 +2.6**
ISAL IAmb IAmb 06 42 05.7
comp=Z,31nm,0.9s
DRGR 77.70 317⇑P **P** **06 41 55.0 +1.4**
DRGR 77.70 317⇑P **P** **06 41 55.0 +1.4**
LVZ Lovozero 77.95 340⇑ *e*P **P** **06 41 55.6 +1.0**
LVZ pmax pmax
comp=Z,38nm,0.8s
LVZ MLR MLR
comp=Z,10µm,21.0s
LVZ Lovozero 77.95 340 P **P** **06 41 53.2 -1.4**
LVZ IAmb IAmb 06 42 07.6
comp=Z,71nm,0.9s
LVZ IAMs_20 IAMs_20 07 20 15.7
comp=Z,12µm,22.0s
VSU Vasula 77.97 330⇑ *e*P **P** **06 41 54.5 -0.2**
VSU pmax pmax
comp=Z,225nm,1.8s
VSU MLR MLR
comp=Z,19µm,22.0s
VSU Vasula 77.97 330 *e*P **P** **06 41 56.8 +2.1**
VSU IAmb IAmb 06 42 07.3
comp=Z,240nm,1.0s
MDVR Moldovita 78.05 315⇑P **P** **06 41 56.4 +0.8**
TRPA Tarpa 78.05 319⇑P **P** **06 41 55.3 -0.1**
TRPA Tarpa 78.05 319 *e*P **P** **06 41 56.0 +0.6**
KWP Kalwaria Pacla 78.22 320 *e*P **P** **06 41 57.0 +0.6**
KWP Kalwaria Pacla 78.22 320 *e*P **P** **06 41 57.0 +0.6**
KWP *e*P **P** **06 41 57.0 +0.6**
KWP Kalwaria Pacla 78.22 320 P **P** **06 41 56.0 -0.4**
BZS Buzias 78.25 316⇑P **P** **06 41 56.6 0.0**
BZS Buzias 78.25 316⇑P **P** **06 41 56.6 0.0**
UZH Uzhgorod 78.30 319 *e*P **P** **06 41 57.4 +0.6**
UZH *e* 06 42 05.2
UZH *i* 06 42 09.7
UZH *i* 06 44 57.1
UZH *i* S **S** **06 51 48.1 -2.9**
UZH *e*SP **SPn** **06 52 38.2 +7.6**
SIRR Siria 78.32 317⇑P **P** **06 41 56.5 -0.6**
LTVH Ltavrtes, Hu 78.34 318 *e*P P 06 42 08.0 +11
KOLS Kolonicke sedl 78.37 320 *e*P **P** **06 41 57.3 0.0**
KOLS Kolonicke sedl 78.37 320 *e*P **P** **06 41 57.3 0.0**
WHZ Wether Hill Ro 78.40 138 P **P** **06 41 58.0 +0.5**
PABE Paberze 78.69 326 *e*P **P** **06 41 59.5 +0.7**
PABE IAmb IAmb 06 42 14.2
comp=Z,165nm,1.2s
SUW Suwalki 78.81 325 *e*P **P** **06 41 59.8 +0.3**
SUW Suwalki 78.81 325 *e*P **P** **06 41 59.8 +0.3**
SUW *e*P **P** **06 41 59.8 +0.3**
SUW Suwalki 78.81 325 P **P** **06 41 59.5 0.0**
WKZ Wanaka 78.86 136 IAMs_20 IAMs_20 07 17 58.4
comp=Z,5µm,20.0s
FIA1 FINESS Array S 79.12 332 P **P** **06 42 01.0 0.0**
FIA1 IAmb IAmb 06 42 12.1
comp=Z,71nm,1.0s
FINES FINESS Array B 79.12 332 P **P** **06 41 59.1 -1.9**
comp=Z,24nm,0.7s,baz=92,slow=5.8,SNR=28
FINES LR LR 07 21 36.3
comp=Z,7µm,20.7s,baz=113,slow=39
FINES FINESS Array B 79.12 332 P **P** **06 42 00.2 -0.8**
STHS Stebnicka Huta 79.12 320 *e*P **P** **06 42 03.5 +2.1**
STHS Stebnicka Huta 79.12 320 *e*P **P** **06 42 03.4 +2.1**
DIVS Divibare 79.17 314 *e*P **P** **06 42 01.5 -0.3**
SUR Sutherland 79.31 237 P **P** **06 42 02.5 -0.5**
SUR IAmb IAmb 06 42 17.6
comp=Z,72nm,1.1s
SUR Sutherland 79.31 237 IAMs_20 IAMs_20 07 15 10.4
comp=Z,10µm,18.0s
FRGS Fruska Gora 79.44 315 *e*P **P** **06 42 02.9 -0.3**
PDG Podgorica 79.49 313 *e*P **P** **06 42 05.8 +2.3**
PDG Podgorica 79.49 313⇑P **P** **06 42 06.6 +3.1**
PDG Podgorica 79.49 313 P **P** **06 42 03.9 +0.4**
DRME Dracevica, Mon 79.51 312 *e*P **P** **06 42 07.8 +4.2**
BBLS Lazići 79.56 314 *e*P **P** **06 42 04.2 +0.3**
PSZ Piszkesteto 79.77 318⇑P **P** **06 42 02.5 -2.5**
PSZ Piszkesteto 79.77 318⇑P **P** **06 42 02.5 -2.5**
PSZ Piszkesteto 79.77 318 P **P** **06 42 03.6 -1.4**
PSZ IAmb IAmb 06 42 22.6
comp=Z,89nm,1.2s
PSZ Piszkesteto 79.77 318 *e*P **P** **06 42 04.1 -0.9**
HAPS Han Pijesak,Bl 79.91 314 *e*P **P** **06 42 06.1 +0.2**
PBUR Paburg 79.93 327 *e*P **P** **06 42 08.9 +3.4**
PBUR IAmb IAmb 06 42 17.1
comp=Z,304nm,1.2s
RPZ Rata Peaks 80.03 135 IAMs_20 IAMs_20 07 18 32.4
comp=Z,6µm,21.0s
OJC Ojcow 80.17 321 P **P** **06 42 06.0 -1.1**
OJC pmax pmax
comp=Z,68nm,1.3s
OJC Ojcow 80.17 321 P **P** **06 42 06.0 -1.1**
LANS Liptovska Anna 80.23 319 *e*P **P** **06 42 09.4 +2.0**
LANS Liptovska Anna 80.23 319 *e*P **P** **06 42 09.4 +2.0**
OUZ Omahuta 80.36 126 IAMs_20 IAMs_20 07 19 53.5
comp=Z,8µm,20.0s
QRZ Quartz Range 80.51 132 IAMs_20 IAMs_20 07 23 11.4
comp=Z,6µm,19.0s
BILL Bilibino 80.53 21*c* *i*P **P** **06 42 07.9 -0.7**
BILL *i* 06 42 15.1
BILL *i* 06 45 13.1
BILL *i* S **S** **06 52 15.8 +1.9**
BILL pmax pmax
comp=Z,14nm,1.7s
BILL MLR MLR
comp=Z,20µm,18.0s
BILL Bilibino 80.53 21 P **P** **06 42 07.7 -0.9**
BILL IAmb IAmb 06 42 22.6
comp=Z,118nm,1.5s
VYHS Vyhne 80.55 319 *e*P **P** **06 42 10.9 +1.8**
VYHS *e*S **S** **06 52 11.3 -3.6**
VYHS Vyhne 80.55 319 *e*P **P** **06 42 10.9 +1.8**
VYHS Vyhne 80.55 319 *e*S **S** **06 52 11.3 -3.6**
KLNR Kaliningrad 80.63 325*de*P **P** **06 42 07.9 -1.4**
KLNR pmax pmax
comp=Z,413nm,1.6s
OXZ Oxford 80.65 134 IAMs_20 IAMs_20 07 17 53.8
comp=Z,7µm,22.0s
SYO Syowa Base 80.67 198⇓ *e*P **P** **06 42 07.6 -1.6**
SYO Syowa Base 80.67 198⇑ *e*PcP **PcP** **06 42 16.6 +0.6**
SMY Shemya 80.68 37 P **P** **06 42 10.0 +0.3**
SMY pmax pmax
comp=Z,240nm,1.0s
SMY Shemya 80.68 37 P **P** **06 42 10.0 +0.3**
LTZ Lake Taylor 80.70 134 IAMs_20 IAMs_20 07 18 08.4
comp=Z,10µm,22.0s
CSKK Cskako 80.79 318 *e*P **P** **06 42 10.1 -0.4**

SRO	Srobarova	80.81	318	eP	P	06 42 11.9	+1.4
SRO	Srobarova	80.81	318	eP	P	06 42 11.9	+1.4
THZ	Tophouse	80.97	133	IAMs_20	IAMs_20	07 18 41.4	
	comp=Z,6µm,22.0s						
TIH	Tihany	80.98	317	eP	P	06 42 10.1	-1.4
OKC	Ostrava-Krasne	81.17	320	eP	P	06 42 14.7	+2.3
OKC				eS	S	06 52 16.4	-4.9
OKC				MLR	MLR		
	comp=Z,4µm,19.6s						
OKC	Ostrava-Krasne	81.17	320	eP	P	06 42 14.7	+2.3
OKC				epP	pP	06 42 19.5	+0.2
OKC				eS	S	06 52 16.4	-4.9
OKC				AMS	AMS	07 23 10.0	
	comp=Z,4µm,19.6s						
KEV	Kevo	81.22	341	P	P	06 42 12.0	-0.2
KEV				pmax	pmax		
	comp=Z,55nm,0.9s						
KEV	Kevo	81.22	341	P	P	06 42 12.0	-0.2
KEV				IAmb	IAmb	06 42 24.3	
	comp=Z,55nm,0.9s						
KEV				IAMs_20	IAMs_20	07 23 56.1	
	comp=Z,8µm,18.0s						
NNZ	Nelson	81.22	132	IAMs_20	IAMs_20	07 23 33.1	
	comp=Z,5µm,19.0s						
BLY	Banja Luka	81.24	315	eP	P	06 42 12.4	-0.5
BLY	Banja Luka	81.24	315	⇑P	P	06 42 14.3	+1.4
BLY	Banja Luka	81.24	315	P	P	06 42 12.5	-0.3
BLY				IAmb	IAmb	06 42 28.4	
	comp=Z,64nm,1.0s						
MPLH	Magyarpolny	81.25	317	eP	P	06 42 12.0	-0.9
MGRS	Mrkonjic Grad	81.28	314	eP	P	06 42 18.5	+5.4
JAVC	Velka Javorina	81.36	319	eP	P	06 42 15.0	+1.5
KHZ	Kahutara	81.55	133	IAMs_20	IAMs_20	07 18 35.9	
	comp=Z,7µm,22.0s						
MORC	Moravsky Berou	81.56	320	⇓P	P	06 42 23.1	+8.6
MORC	Moravsky Berou	81.56	320	⇓P	P	06 42 23.1	+8.6
MORC	Moravsky Berou	81.56	320	eP	P	06 42 15.3	+0.8
MORC	Moravsky Berou	81.56	320	P	P	06 42 15.4	+0.9
MORC				IAmb	IAmb	06 42 30.4	
	comp=Z,88nm,1.4s						
MODS	Modra-Piesok	81.57	318	eP	P	06 42 15.7	+1.1
MODS				eS	S	06 52 22.3	-3.2
MODS	Modra-Piesok	81.57	318	eP	P	06 42 15.7	+1.1
ARCES	ARCESS Array B	81.65	340	P	P	06 42 14.5	-0.1
ARCES	ARCESS Array B	81.65	340	P	P	06 42 13.5	-1.1
	comp=Z,9.5nm,0.5s,baz=95,slow=5.3,SNR=24						
ARCES				LR	LR	07 21 27.2	
	comp=Z,10µm,20.9s,baz=118,slow=38						
ARCES	ARCESS Array B	81.65	340	P	P	06 42 14.5	-0.1
ARE0	ARCESS Array S	81.65	340	P	P	06 42 14.7	+0.2
BEHE	Becsehely	81.70	317	eP	P	06 42 20.0	+4.7
BEHE	Becsehely	81.70	317	eP	P	06 42 20.0	+4.7
ACER	Acerenza	81.80	311	P	P	06 42 15.9	-0.1
ACER				IAmb	IAmb	06 42 31.9	
	comp=Z,160nm,1.1s						
HIZ	Hauiti	81.88	129	IAMs_20	IAMs_20	07 21 01.9	
	comp=Z,6µm,20.0s						
SOP	Sopron	81.97	318	eP	P	06 42 19.1	+2.4
KRLC	Kraliky	82.08	320	eP	P	06 42 17.2	-0.1
KRLC				eS	S	06 52 27.8	-3.0
KRLC				MLR	MLR		
	comp=Z,2µm,18.6s						
KRLC	Kraliky	82.08	320	eP	P	06 42 17.2	-0.1
KRLC				ex	x	06 42 21.6	
KRLC				eS	S	06 52 27.8	-3.0
KRLC				AMS	AMS	07 23 40.0	
	comp=Z,2µm,18.6s						
VRAC	Vranov	82.12	319	eP	P	06 42 18.1	+0.7
SNZO	South Karori	82.22	132	IAMs_20	IAMs_20	07 19 56.7	
	comp=Z,6µm,22.0s						
KRUC	Moravsky	82.22	319	eP	P	06 42 18.6	+0.6
MSVF	Nonsavu	82.23	108	P	P	06 42 18.3	-0.4
MSVF				pmax	pmax		
	comp=Z,34nm,1.0s						
MSVF	Nonsavu	82.23	108	P	P	06 42 18.3	-0.4
DPC	Dobruska-Polom	82.40	320	eP	P	06 42 19.3	+0.4
DPC				e		06 42 29.3	
DPC				eS	S	06 52 30.5	-3.6
DPC				MLR	MLR		
	comp=Z,3µm,20.3s						
DPC	Dobruska-Polom	82.40	320	eP	P	06 42 19.3	+0.4
DPC				ex	x	06 42 29.3	
DPC				eS	S	06 52 30.5	-3.6
DPC				AMS	AMS	07 24 40.0	
	comp=Z,3µm,20.3s						
CONA	Conrad Observa	82.46	318	ePcP	P	06 42 21.2	+1.8
	comp=Z,5.5nm,0.9s						
KSP	Ksiaz	82.47	321	eP	P	06 42 22.9	+3.6
KSP	Ksiaz	82.47	321	eP	P	06 42 22.9	+3.6
KSP				eP	P	06 42 22.9	+3.6
CRES	Cresnjev	82.55	316	eP	P	06 42 26.2	+6.4
CHVC	Chvalec	82.60	321	eP	P	06 42 16.9	-3.0
CHVC				ex	x	06 42 22.2	
CHVC				ex	x	06 42 32.7	
CHVC				AMS	AMS	07 27 40.0	
	comp=Z,3µm,18.6s						
UPC	Upice	82.61	321	eP	P	06 42 26.9	+6.9
UPC				eS	S	06 52 33.1	-3.1
UPC				MLR	MLR		
	comp=Z,4µm,19.2s						
UPC	Upice	82.61	321	epP	pP	06 42 26.9	0.0
UPC				eS	S	06 52 33.1	-3.1
UPC				AMS	AMS	07 27 50.0	
	comp=Z,4µm,19.2s						
ARSA	Arzberg	82.63	317	ePcP	P	06 42 22.3	+2.1
	comp=Z,17nm,1.0s						
MSWZ	Moikau Station	82.64	132	P	P	06 42 20.0	-0.3
FUNA	Funafuti	82.73	99	P	P	06 42 19.4	-1.9
FUNA				IAmb	IAmb	06 42 33.4	
	comp=Z,110nm,1.4s						
TREC	Trest	82.84	319	eP	P	06 42 22.6	+1.4
TREC				e		06 42 31.1	
TREC				eS	S	06 52 39.8	+1.3
TREC				MLR	MLR		
	comp=Z,3µm,19.8s						
TREC	Trest	82.84	319	eP	P	06 42 22.6	+1.4
TREC				epP	sP	06 42 31.1	+0.3
TREC				eS	S	06 52 39.8	+1.3
TREC				AMS	AMS	07 27 20.0	
	comp=Z,3µm,19.8s						
SOKA	Soboth	82.92	317	i PcP	P	06 42 23.8	+2.0
LJU	Ljubljana	83.22	316	eP	P	06 42 32.4	+9.2
OBKA	Obir	83.24	316	epP	pP	06 42 27.9	-2.4
	comp=Z,28nm,1.7s						
BKZ	Black Stump Fm	83.24	130	P	P	06 42 24.3	+0.8
BKZ				IAmb	IAmb	06 42 38.6	
	comp=Z,50nm,0.7s						
BKZ				IAMs_20	IAMs_20	07 20 38.9	
	comp=Z,6µm,22.0s						
CEY	Cerknica	83.27	316	eP	P	06 42 26.9	+3.4
BFZ	Birch Farm	83.27	131	IAMs_20	IAMs_20	07 25 19.6	
	comp=Z,8µm,19.0s						
GOPC	GO Pecny, Ondr	83.34	320	eP	P	06 42 25.6	+1.8
GOPC				e		06 42 37.8	
GOPC				eS	S	06 52 37.0	-6.6
GOPC				MLR	MLR		
	comp=Z,4µm,19.0s						
GOPC	GO Pecny, Ondr	83.34	320	eP	P	06 42 25.6	+1.8
GOPC				ex	x	06 42 37.8	
GOPC				eS	S	06 52 37.0	-6.6
GOPC				AMS	AMS	07 25 20.0	
	comp=Z,4µm,19.0s						
PRU	Pruhonice	83.51	320	eP	P	06 42 26.5	+1.9
PRU				e		06 42 39.3	
PRU				eS	S	06 52 41.0	-4.2
PRU				MLR	MLR		
	comp=Z,4µm,19.2s						
PRU	Pruhonice	83.51	320	eP	P	06 42 26.5	+1.9
PRU				epP	pP	06 42 31.4	-0.1
PRU				ex	x	06 42 39.3	
PRU				eS	S	06 52 41.0	-4.2
PRU				AMS	AMS	07 25 30.0	
	comp=Z,4µm,19.2s						
MOA	Molln	83.53	318	ePcP	P	06 42 26.3	+1.5
	comp=Z,6.4nm,0.8s						
PVCC	Panska Ves	83.53	320	eP	P	06 42 27.9	+3.2
PVCC				e		06 42 36.9	
PVCC				eS	S	06 52 38.2	-7.3
PVCC				MLR	MLR		
	comp=Z,3µm,19.1s						
PVCC	Panska Ves	83.53	320	eP	P	06 42 27.9	+3.2
PVCC				ex	x	06 42 36.9	
PVCC				eS	S	06 52 38.2	-7.3
PVCC				AMS	AMS	07 28 50.0	
	comp=Z,3µm,19.1s						
PRA	Prague	83.58	320	eP	P	06 42 27.1	+2.1
PRA				eS	S	06 52 45.4	-0.6
PRA				MLR	MLR		
	comp=Z,4µm,19.2s						
PRA	Prague	83.58	320	eP	P	06 42 27.1	+2.1
PRA				eS	S	06 52 45.4	-0.6
PRA				AMS	AMS	07 25 20.0	
	comp=Z,4µm,19.2s						
URZ	Urewera	83.60	129	IAMs_20	IAMs_20	07 21 48.1	
	comp=Z,6µm,20.0s						
AQU	L'Aquila	83.80	312	eP	P	06 42 34.3	+7.9
PBCC	Pribram	83.84	320	AMS	AMS	07 28 00.0	
	comp=Z,700nm,20.4s						
MYKA	Terra Mystica	83.87	317	ePcP	P	06 42 28.1	+1.5
	comp=Z,82nm,1.7s						
BRG	Berggiesshubel	83.96	321	i P	P	06 42 28.9	+2.0
	comp=Z,11nm,0.9s						
BRG				i		06 42 39.7	
	comp=Z,102nm,1.6s						
BRG				PP	PP	06 45 42.0	+1.4
BRG				S	S	06 52 51.0	+1.3
BRG				SS	SS	06 58 24.0	+6.1
	comp=N,4µm,18.7s						
	comp=E,3µm,18.7s						
	comp=Z,3µm,19.9s						
BRG	Berggiesshubel	83.96	321	i P	P	06 42 28.9	+2.0
BRG				i		06 42 39.7	
BRG						06 45 42.0	
BRG				S	S	06 52 51.0	+1.3
BRG				SS	SS	06 58 24.0	+6.1
BRG				pmax	pmax		
	comp=Z,11nm,0.9s						
BRG				pmax	pmax		
	comp=Z,102nm,1.6s						
BRG				MLR	MLR		
	comp=N,4µm,18.7s						
BRG				MLR	MLR		
	comp=E,3µm,18.7s						
BRG				MLR	MLR		
	comp=Z,3µm,19.9s						
GEC2	GERESS Array S	83.97	319	P	P	06 42 27.1	-0.1
GEC2				IAmb	IAmb	06 42 42.8	
	comp=Z,99nm,1.1s						
GERES	GERESS Array B	83.97	319	P	P	06 42 26.7	-0.5
	comp=Z,9.7nm,0.8s,baz=100,slow=5.5,SNR=15						
GERES				LR	LR	07 23 36.7	
	comp=Z,2µm,22.0s,baz=89,slow=38						
GERES	GERESS Array B	83.97	319	P	P	06 42 26.4	-0.8
KHC	Kasperske Hory	84.07	319	eP	P	06 42 29.0	+1.4
KHC				e		06 42 43.2	
KHC				eS	S	06 52 47.8	-3.2
KHC				MLR	MLR		
	comp=Z,3µm,17.3s						
KHC	Kasperske Hory	84.07	319	eP	P	06 42 29.0	+1.4
KHC				ex	x	06 42 43.2	
KHC				ex	x	06 42 55.5	
KHC				eS	S	06 52 47.8	-3.2
KHC				AMS	AMS	07 27 00.0	
	comp=Z,3µm,17.3s						
KHC	Kasperske Hory	84.07	319	P	P	06 42 27.7	+0.1
KBA	Koelnbreinsper	84.10	317	ePcP	P	06 42 28.9	+1.0
	comp=Z,13nm,1.3s						
MXZ	Matakaoa Point	84.45	128	IAMs_20	IAMs_20	07 22 54.9	
	comp=Z,5µm,20.0s						
STAL	STALIGIAL	84.49	316	P	P	06 42 29.3	-0.5
STAL				IAmb	IAmb	06 42 48.1	
	comp=Z,87nm,1.0s						
CLL	Collm	84.58	321	eP	P	06 42 31.0	+1.0
CLL				i		06 42 42.1	
CLL				eS	S	06 52 56.0	+0.1
CLL				pmax	pmax		
	comp=Z,31nm,1.0s						
CLL				MLR	MLR		
	comp=Z,3µm,21.0s						
CLL	Collm	84.58	321	eP	P	06 42 31.0	+1.0
CLL				i		06 42 42.1	
	comp=Z,29nm,1.2s						
CLL				i Pmax		06 42 46.6	
	comp=Z,31nm,1.0s						
CLL				ePP	PP	06 45 48.0	+2.3
CLL				ePPP	PPP	06 47 42.0	
CLL				eS	S	06 52 56.0	+0.1
CLL				eSS	SS	06 58 30.0	+3.0
CLL				eSSS	SSS	07 01 48.0	
CLL				e		07 03 18.0	
CLL				eSSSS		07 04 48.0	
CLL				LmV		07 29 00.0	
	comp=Z,3µm,21.0s						
CLL	Collm	84.58	321	P	P	06 42 29.2	-0.9
ABTA	Abfaltersbach	84.65	317	ePcP	P	06 42 31.7	+1.1
	comp=Z,17nm,0.9s						
NKC	Novy Kostel	84.87	320	eP	P	06 42 41.3	+10
NKC				eS	S	06 52 58.4	-0.5
NKC				MLR	MLR		
	comp=Z,3µm,23.0s						
NKC	Novy Kostel	84.87	320	eS	S	06 52 58.4	-0.5
NKC				AMS	AMS	07 26 20.0	
	comp=Z,3µm,23.0s						
CTI	Castel Tesino	85.22	316	P	P	06 42 33.4	-0.2
CTI				pmax	pmax		
	comp=Z,85nm,1.1s						
CTI	Castel Tesino	85.22	316	P	P	06 42 33.4	-0.2
CTI				IAmb	IAmb	06 42 49.0	
	comp=Z,85nm,1.1s						
WTTA	Wattenberg	85.27	317	ePcP	P	06 42 34.6	+0.7
	comp=Z,36nm,0.8s						
WATA	Walderalm	85.32	317	ePcP	P	06 42 33.9	-0.2
	comp=Z,14nm,0.9s,SNR=4.5						
SQTA	Sankt Quirin	85.56	317	eP	P	06 42 34.9	-0.3
	comp=Z,7.2nm,0.6s,SNR=7.4						
GRA1	Grafenberg Arr	85.64	320	P	P	06 42 34.6	-0.8
GRA1				IAmb	IAmb	06 42 51.3	
	comp=Z,85nm,1.1s						
GRF	Grafenberg Arr	85.64	320	P	P	06 42 34.6	-0.8
GRF				pmax	pmax		
	comp=Z,85nm,1.1s						
MOTA	Moosalm	85.64	317	ePcP	P	06 42 35.4	-0.3
	comp=Z,24nm,1.1s						
RETA	Reutte	85.87	317	ePcP	P	06 42 37.8	+1.1
	comp=Z,17nm,1.0s						
FETA	Feichten	85.88	317	PcP	P	06 42 38.2	+1.3
	comp=Z,17nm,1.4s						
KIWB	Kanaga Island	85.95	38	P	P	06 42 37.0	+0.1
SPA0	Spitsbergen Ar	86.08	348	P	P	06 42 37.2	+0.1
NB2	NORSAR Subarra	86.13	331	P	P	06 42 36.6	-1.0
	comp=Z,110nm,1.4s,baz=93,slow=5.1						
NB2	NORSAR Subarra	86.13	331	P	P	06 42 36.6	-1.0
	baz=93,slow=5.1						
NOA	NORSAR Array B	86.13	331	P	P	06 42 36.9	-0.7
	comp=Z,4.0nm,0.8s,baz=94,slow=4.8,SNR=4.3						
NOA				PP	PP	06 46 06.9	+8.9
	comp=Z,6.0nm,0.9s,baz=84,slow=8.1,SNR=3.9						
NOA				LR	LR	07 25 36.6	
	comp=Z,6µm,19.8s,baz=90,slow=39						
FUORN	Ofenpass-Fuorn	86.19	316	P	P	06 42 37.1	-1.5
FUORN				IAmb	IAmb	06 42 54.3	
	comp=Z,62nm,1.0s						
DAVA	Damuels	86.47	317	ePcP	P	06 42 39.4	-0.4
	comp=Z,20nm,1.0s						
VNDA	Vanda	86.69	169	P	P	06 42 42.6	+2.6
	comp=Z,2.8nm,0.9s,baz=316,slow=3.8,SNR=2.9						
VNDA				LR	LR	07 17 49.6	
	comp=Z,4µm,19.1s,baz=311,slow=33						
KEST	Kesra	86.80	306	P	P	06 42 43.2	+1.6
	comp=Z,6.9nm,1.0s,baz=109,slow=2.3,SNR=3.1						
KEST				LR	LR	07 25 50.9	
	comp=Z,2µm,18.9s,baz=40,slow=39						
MUD	Monsted U'grnd	87.04	326	i P	P	06 42 52.0	+10
MUD	Monsted U'grnd	87.04	326	i P	P	06 42 52.0	+10
KBS	Kingsbay	87.05	349⇑	eP	P	06 42 42.8	+1.0
KBS				pmax	pmax		
	comp=Z,179nm,1.0s						
KBS	Kingsbay	87.05	349	P	P	06 42 41.7	-0.1
KBS				IAmb	IAmb	06 42 56.4	
	comp=Z,54nm,1.1s						
KBS	Kingsbay	87.05	349	IAMs_20	IAMs_20	07 26 51.4	
	comp=Z,9µm,20.0s						
BFO	Black Forest	87.52	318	P	P	06 42 44.0	-0.7
BFO				pmax	pmax		
	comp=Z,27nm,1.0s						
BFO	Black Forest	87.52	318	P	P	06 42 44.0	-0.7
ATKA	Atka Island	87.78	38	P	P	06 42 45.8	0.0
ECH	Echery	88.30	318	P	P	06 42 46.8	-1.6
ECH				pmax	pmax		
	comp=Z,22nm,1.0s						
ECH	Echery	88.30	318	P	P	06 42 46.8	-1.6
GAMB	Gambell	88.85	26	IAMs_20	IAMs_20	07 25 56.8	
	comp=Z,8µm,20.0s						
SSB	Saint Sauveur	90.21	315		pP	06 43 04.6	+0.1
ANM	Nome	91.54	25	IAMs_20	IAMs_20	07 27 01.9	
	comp=Z,6µm,20.0s						
CLF	Chambon-Foret	91.59	318	P	P	06 43 04.0	+0.2
CLF				IAMs_20	IAMs_20	07 30 47.1	
	comp=Z,5µm,21.0s						
QSPA	South Pole Qui	91.95	180	P	P	06 43 04.9	-0.3
QSPA	South Pole Qui	91.95	180	IAMs_20	IAMs_20	07 22 10.5	
	comp=Z,4µm,18.0s						
DAG	Danmarks Havn	93.73	348	eP	P	06 43 11.9	-1.1
DAG				pmax	pmax		
	comp=Z,29nm,1.0s						
DAG				MLR	MLR		
	comp=Z,6µm,20.0s						
DAG	Danmarks Havn	93.73	348	i P	P	06 43 11.9	-1.1
	comp=Z,29nm,1.0s						
DAG				e		06 46 44.2	
	comp=Z,5µm,20.0s						
FALS	False Pass	93.97	35	IAMs_20	IAMs_20	07 32 43.7	
	comp=Z,4µm,20.0s						
TOC2	Torodi Ar. Sit	94.54	283	IAMs_20	IAMs_20	07 24 30.0	
	comp=Z,7µm,20.0s						
TOC3	Torodi Ar. Sit	94.54	283	IAMs_20	IAMs_20	07 24 30.0	
	comp=Z,7µm,20.0s						
TOB2	Torodi Ar. Sit	94.55	283	IAMs_20	IAMs_20	07 24 29.3	
	comp=Z,7µm,19.0s						
TOB3	Torodi Ar. Sit	94.55	283	IAMs_20	IAMs_20	07 24 29.4	
	comp=Z,6µm,19.0s						
TOC1	Torodi Ar. Sit	94.56	283	IAMs_20	IAMs_20	07 24 28.4	
	comp=Z,8µm,19.0s						
TOA2	Torodi Ar. Sit	94.56	283	IAMs_20	IAMs_20	07 24 29.5	
	comp=Z,7µm,19.0s						
TOC4	Torodi Ar. Sit	94.56	283	IAMs_20	IAMs_20	07 24 29.6	
	comp=Z,7µm,19.0s						
TOA0	Torodi Ar. Sit	94.56	283	IAMs_20	IAMs_20	07 24 20.7	
	comp=Z,6µm,20.0s						
TORD	Torodi Ar. Bea	94.56	283	P	P	06 43 17.9	-0.2
	comp=Z,1.7nm,0.9s,baz=71,slow=5.2,SNR=7.1						
TORD				PP	PP	06 47 09.8	+3.5
	comp=Z,1.3nm,1.2s,baz=192,slow=12,SNR=2.4						
TORD				PKKPbc	PKKPbc	07 00 27.6	+11
	comp=Z,1.4nm,0.9s,baz=287,slow=2.8,SNR=3.6						
TORD				LR	LR	07 24 31.9	
	comp=Z,6µm,19.2s,baz=20,slow=35						
TORD	Torodi Ar. Bea	94.56	283	P	P	06 43 17.9	-0.2
TOA1	Torodi Ar. Sit	94.56	283	IAMs_20	IAMs_20	07 24 20.7	
	comp=Z,6µm,20.0s						
TOA3	Torodi Ar. Sit	94.56	283	IAMs_20	IAMs_20	07 24 39.7	
	comp=Z,6µm,20.0s						
TOB4	Torodi Ar. Sit	94.57	283	IAMs_20	IAMs_20	07 24 31.0	
	comp=Z,6µm,19.0s						
TOB5	Torodi Ar. Sit	94.58	283	IAMs_20	IAMs_20	07 24 31.0	
	comp=Z,7µm,19.0s						
TOC7	Torodi Ar. Sit	94.58	283	IAMs_20	IAMs_20	07 24 29.0	
	comp=Z,7µm,20.0s						
TOC5	Torodi Ar. Sit	94.58	283	IAMs_20	IAMs_20	07 24 30.2	
	comp=Z,8µm,20.0s						
TTA	Tatalina	95.95	26	P	P	06 43 23.1	-0.5
TTA				pmax	pmax		
	comp=Z,24nm,1.2s						
TTA				MLR	MLR		
	comp=Z,6µm,20.0s						
TTA	Tatalina	95.95	26	P	P	06 43 23.1	-0.5
TTA				IAMs_20	IAMs_20	07 30 17.5	
	comp=Z,6µm,20.0s						
IMAR	Indian Mountai	95.97	23	P	P	06 43 23.3	-0.2
CNBA	Chernabura Isl	96.15	34	IAMs_20	IAMs_20	07 31 25.4	
	comp=Z,4µm,20.0s						
SVW2	Sparrevohn	96.66	28	IAMs_20	IAMs_20	07 33 08.8	
	comp=Z,6µm,19.0s						
ESDC	Sonseca Array	97.03	310	P	Pdif	06 43 29.3	+0.2
	comp=Z,0.7nm,0.7s,baz=77,slow=4.1,SNR=4.2						
ESDC				LR	LR	07 30 15.7	
	comp=Z,2µm,20.5s,baz=85,slow=37						
ESDC	Sonseca Array	97.03	310	P	P	06 43 28.9	-0.1
SCO	Scoresbysund	97.41	343	eP	Pdif	06 43 36.2	+6.3
SCO	Scoresbysund	97.41	343	i P	Pdif	06 43 36.2	+6.3
MLY	Manley	97.47	23	P	P	06 43 30.1	-0.3
MLY				IAMs_20	IAMs_20	07 33 07.6	
	comp=Z,7µm,19.0s						
PPLA	Purkeypile	97.62	26	IAMs_20	IAMs_20	07 34 08.7	
	comp=Z,6µm,18.0s						
BPAW	Bear Paw Mtn.	97.71	24	P	P	06 43 30.9	-0.6
BPAW				IAmb	IAmb	06 43 42.2	
	comp=Z,42nm,1.1s						
BPAW				IAMs_20	IAMs_20	07 33 25.9	
	comp=Z,5µm,21.0s						
KTH	Kantishna Hill	97.93	25	IAMs_20	IAMs_20	07 31 42.8	
	comp=Z,7µm,20.0s						
SKT	Skwentna	98.22	26	P	P	06 43 32.8	-1.0
SKT				IAMs_20	IAMs_20	07 29 30.7	
	comp=Z,5µm,20.0s						
TRF	Thorofare Moun	98.24	25	P	P	06 43 33.4	-0.6
TRF				IAmb	IAmb	06 43 44.5	
	comp=Z,24nm,1.1s						
BWN	Browne	98.31	24	IAMs_20	IAMs_20	07 34 12.3	
	comp=Z,6µm,18.0s						
NEA	Nenana	98.31	23	IAMs_20	IAMs_20	07 33 42.5	
	comp=Z,8µm,19.0s						
COLA	College	98.67	23⇑	eP	Pdif	06 43 38.8	+3.1
COLA				pmax	pmax		
	comp=Z,16nm,2.5s						
MCK	McKinley	98.69	24	P	P	06 43 35.7	-0.2
MCK				pmax	pmax		
	comp=Z,21nm,1.0s						
MCK	McKinley	98.69	24	P	P	06 43 35.7	-0.2
MCK				IAmb	IAmb	06 43 54.1	
	comp=Z,21nm,1.0s						
MCK				IAMs_20	IAMs_20	07 31 57.8	
	comp=Z,7µm,21.0s						
WRH	Wood River Hil	98.74	23	IAMs_20	IAMs_20	07 34 06.0	
	comp=Z,8µm,20.0s						
BMAR	Burnt Mountain	98.76	20	P	Pdif	06 43 36.5	+0.4
SUA	Susitna One	98.76	27	IAMs_20	IAMs_20	07 31 57.7	
	comp=Z,5µm,20.0s						
CCB	Clear Creek Bu	98.78	23	IAMs_20	IAMs_20	07 34 06.1	
	comp=Z,5µm,20.0s						
RND	Reindeer	98.85	25	IAMs_20	IAMs_20	07 32 04.0	
	comp=Z,6µm,19.0s						
FYU	Fort Yukon	98.92	21	P	P	06 43 35.6	-1.1
FYU				IAMs_20	IAMs_20	07 32 04.7	
	comp=Z,5µm,19.0s						
OHAK	Old Harbor	98.94	31	IAMs_20	IAMs_20	07 35 01.9	
	comp=Z,4µm,18.0s						
HOM	Homer	98.97	29	IAMs_20	IAMs_20	07 33 22.4	
	comp=Z,5µm,20.0s						
ILAR	Eielson Array	99.09	23	P	Pdif	06 43 35.5	-2.1
	comp=Z,1.1nm,0.6s,baz=296,slow=3.8,SNR=13						
ILAR				PP	PP	06 47 33.7	-5.9
	comp=Z,1.9nm,0.9s,baz=278,slow=7.2,SNR=4.4						
ILAR				PKKPbc	PKKPdf	07 00 16.4	+7.4
	comp=Z,2.7nm,0.9s,baz=148,slow=2.6,SNR=12						
ILAR				LR	LR	07 32 01.1	
	comp=Z,3µm,19.5s,baz=319,slow=38						
MVO	Moncorvo	99.09	312	ePdif	Pdif	06 43 47.5	+9.2
MVO	Moncorvo	99.09	312	ePP	PP	06 47 48.8	+8.3
MVO				eS	S	06 55 05.3	-3.2
MVO				eSS	SS	07 02 00.9	+4.5
MVO	Moncorvo	99.09	312	eLQ	LQ	07 15 32.8	
MVO				eLR	LR	07 19 10.1	
	comp=Z,2µm,20.0s						
KDAK	Kodiak Island	99.12	31	IAMs_20	IAMs_20	07 35 26.7	
	comp=Z,5µm,21.0s						
CNPM	China Poot	99.21	29	IAMs_20	IAMs_20	07 33 40.8	
	comp=Z,5µm,20.0s						
HDA	Harding Lake	99.22	23	Pdiff	Pdif	06 43 38.4	+0.2
	baz=295						
HDA	Harding Lake	99.22	23	IAMs_20	IAMs_20	07 34 20.6	
	comp=Z,6µm,19.0s						
PRP	Porcupine Dome	99.28	22	IAMs_20	IAMs_20	07 33 26.3	
	comp=Z,6µm,21.0s						
BRLK	Bradley Lake	99.29	28	IAMs_20	IAMs_20	07 37 13.9	
	comp=Z,4µm,19.0s						
RC01	Rabbit Creek A	99.35	27	IAMs_20	IAMs_20	07 34 37.3	
	comp=Z,6µm,19.0s						
PMR	Palmer	99.43	26	IAMs_20	IAMs_20	07 34 23.6	
	comp=Z,5µm,20.0s						
GHO	Glory Hole Cre	99.45	26	IAMs_20	IAMs_20	07 37 14.1	
	comp=Z,4µm,18.0s						
DHY	Denali Highway	99.60	25	IAMs_20	IAMs_20	07 32 35.8	
	comp=Z,7µm,20.0s						
MTE	Manteigas	99.62	311	ePdif	Pdif	06 43 50.2	+10

MTE	Manteigas	99.62	311	ePP	PP	06 47 55.6	+11
MTE				eS	S	06 55 13.3	+0.3
MTE				eSS	SS	07 02 15.0	+11
MTE	Manteigas	99.62	311	eLQ	LQ	07 15 11.7	
MTE				eLR	LR	07 19 39.3	
	comp=Z,2µm,18.0s						
PMRV	Marv??o	99.69	310	ePdif	Pdif	06 43 51.7	+11
PMRV	Marv??o	99.69	310	ePP	PP	06 47 54.3	+9.3
PMRV				eS	S	06 55 11.9	-1.6
PMRV				eSS	SS	07 02 16.5	+12
PMRV	Marv??o	99.69	310	eLQ	LQ	07 15 21.1	
PMRV				eLR	LR	07 19 54.3	
	comp=Z,2µm,20.0s						
SML	Sawmill	99.70	26	IAMs_20	IAMs_20	07 35 19.6	
	comp=Z,5µm,19.0s						
KNK	Knik Glacier	99.80	26	IAMs_20	IAMs_20	07 34 35.2	
	comp=Z,5µm,20.0s						
SEW	Seward	99.84	28	IAMs_20	IAMs_20	07 34 34.5	
	comp=Z,6µm,20.0s						
SCM	Sheep Creek Mo	100.12	26	IAMs_20	IAMs_20	07 35 38.8	
	comp=Z,5µm,19.0s						
PVAQ	Vaqueiros	100.31	308	ePdif	Pdif	06 43 53.5	+10
PVAQ	Vaqueiros	100.31	308	ePP	PP	06 47 57.8	+8.0
PVAQ				eS	Sdif	06 55 13.5	-5.2
PVAQ				eSS	SS	07 02 18.4	+4.9
PVAQ	Vaqueiros	100.31	308	eLQ	LQ	07 16 16.8	
PVAQ				eLR	LR	07 20 04.2	
	comp=Z,3µm,22.0s						
RIDG	Independent Ri	100.34	23	IAMs_20	IAMs_20	07 35 03.4	
	comp=Z,4µm,20.0s						
SUMG	Summit	100.41	348	eP	Pdif	06 43 47.4	+3.6
SUMG	Summit	100.41	348	i P	Pdif	06 43 47.4	+3.6
PAX	Paxson	100.43	24	IAMs_20	IAMs_20	07 33 11.8	
	comp=Z,6µm,20.0s						
SCRK	Sand Creek	100.57	23		Pdif	06 43 43.9	-0.4
GLI	Glacier Island	100.62	27	IAMs_20	IAMs_20	07 35 11.9	
	comp=Z,6µm,20.0s						
MESJ	Messejana	100.62	309	ePP	PP	06 47 51.7	-0.4
MESJ				eSKSac	SKSac	06 54 23.9	+0.7
MESJ				eSS	SS	07 02 19.4	+1.6
MESJ				AMS	AMS	07 31 35.3	
	comp=Z,3µm,14.6s						
DOT	Dot Lake	100.69	23	IAMs_20	IAMs_20	07 29 54.6	
	comp=Z,4µm,21.0s						
MORF	Marmelete	101.06	308	ePP	PP	06 47 54.9	-0.7
MORF				eSKSac	SKSac	06 54 25.7	+0.2
MORF				eSS	SS	07 02 25.6	+1.6
MORF				AMS	AMS	07 31 33.2	
	comp=Z,3µm,21.1s						
HIN	Hinchinbrook I	101.08	27	IAMs_20	IAMs_20	07 35 05.4	
	comp=Z,5µm,20.0s						
MENT	Mentasta	101.16	24	IAMs_20	IAMs_20	07 35 32.0	
	comp=Z,5µm,19.0s						
LIS	Lisbon	101.17	310	ePP	PP	06 47 55.8	-0.5
LIS				AMS	AMS	07 34 05.4	
	comp=Z,3µm,23.8s						
EGAK	Eagle	101.26	22	IAMs_20	IAMs_20	07 37 11.6	
	comp=Z,6µm,18.0s						
INK	Inuvik	101.80	17	i P	Pdif	06 43 48.4	-1.1
INK	Inuvik	101.80	17		Pdif	06 43 48.4	-1.1
GLB	Gilahina Butte	101.81	25	IAMs_20	IAMs_20	07 34 06.3	
	comp=Z,4µm,18.0s						
EPYK	Eagle Plains	101.96	19	Pdiff	Pdif	06 43 50.8	+0.4
	baz=305						
VRDI	Verde Repeater	102.06	25	IAMs_20	IAMs_20	07 33 13.0	
	comp=Z,4µm,22.0s						
MCARA	McCarthy VSAT	102.17	25	IAMs_20	IAMs_20	07 37 02.9	
	comp=Z,5µm,19.0s						
CRQM	Cirque	102.42	26	IAMs_20	IAMs_20	07 31 43.0	
	comp=Z,6µm,21.0s						
SHEL	Horse Pasture	102.66	254	IAMs_20	IAMs_20	07 27 43.9	
	comp=Z,5µm,21.0s						
RES	Resolute Bay	103.08	3	P	Pdif	06 43 56.5	+1.4
	comp=Z,2.4nm,1.0s,baz=21,slow=2.2,SNR=2.6						
RES				PP	PP	06 48 07.7	-1.7
	comp=Z,2.7nm,0.9s,baz=357,slow=14,SNR=4.0						
CTGM	Chitina Glacie	103.09	25	IAMs_20	IAMs_20	07 34 39.2	
	comp=Z,7µm,22.0s						
MESA	MESA	103.21	26	IAMs_20	IAMs_20	07 36 44.4	
	comp=Z,6µm,20.0s						
YAH	Yahtse	103.21	26	IAMs_20	IAMs_20	07 39 43.4	
	comp=Z,4µm,18.0s						
C36M	Paulatuk	103.61	14	Pdiff	Pdif	06 43 59.0	+1.5
	baz=318						
PCA	Pinnacle	103.99	26	IAMs_20	IAMs_20	07 32 54.2	
	comp=Z,5µm,21.0s						
BCPM	Bancas Point	104.33	26	IAMs_20	IAMs_20	07 37 45.1	
	comp=Z,5µm,21.0s						
ANGG	Ammassalik, Gr	105.01	342	IAMs_20	IAMs_20	07 37 48.7	
	comp=Z,6µm,20.0s						
ILULI	Ilulissat	105.65	349	IAMs_20	IAMs_20	07 39 32.8	
	comp=Z,5µm,21.0s						
BESE	Bessie Mountai	107.14	25	IAMs_20	IAMs_20	07 39 47.2	
	comp=Z,6µm,18.0s						
SFJD	Kangerlussuaq	107.40	347	IAMs_20	IAMs_20	07 37 55.1	
	comp=Z,6µm,22.0s						
JIS	Juneau Island	107.52	26	IAMs_20	IAMs_20	07 40 06.2	
	comp=Z,6µm,20.0s						
PMOZ	Porto Moniz, M	108.91	306	ePP	PP	06 49 03.7	+10
PMOZ				eS	Sdif	06 56 36.9	+6.1
PMOZ				eSS	SS	07 04 15.9	+4.2
PMOZ	Porto Moniz, M	108.91	306	eLR	LR	07 24 50.8	
	comp=Z,2µm,16.0s						
WRAK	Wrangell Islan	109.50	27	IAMs_20	IAMs_20	07 33 26.8	
	comp=Z,4µm,21.0s						
CRAG	Craig	109.71	28	IAMs_20	IAMs_20	07 41 27.4	
	comp=Z,3µm,19.0s						
ASCN	Ascension	111.28	262	IAMs_20	IAMs_20	07 32 05.3	
	comp=Z,4µm,19.0s						
YKW3	Yellowknife Ar	111.34	15	IAMs_20	IAMs_20	07 44 10.6	
	comp=Z,5µm,20.0s						
YKA	Yellowknife Ar	111.40	15	PKiKP	PKiKP	06 48 32.2	+1.7
	comp=Z,0.3nm,0.8s,baz=357,slow=1.8,SNR=2.4						
YKA				PP	PP	06 49 06.4	-4.0
	comp=Z,3.2nm,1.0s,baz=324,slow=8.3,SNR=6.1						
YKA				PKKPbc	PKKPab	06 59 35.3	-1.1
	comp=Z,1.0nm,0.8s,baz=149,slow=3.8,SNR=3.7						
MOBC	Moresby Island	111.62	29	IAMs_20	IAMs_20	07 36 36.1	
	comp=Z,5µm,22.0s						
TBI	Tubuai	112.51	114	ePdif	Pdif	06 44 33.6	-4.5
	comp=Z,103nm,28.5s						
TBI	Tubuai	112.51	114	ePP	PP	06 49 18.1	-2.0
	comp=Z,303nm,28.0s						
TBI				eSdif	Sdif	06 56 57.9	-3.0
	comp=Z,2µm,28.5s						
TBI	Tubuai	112.51	114	ePS	PS	06 58 52.4	-2.5
	comp=Z,1µm,30.0s						
TBI				eSS	SS	07 04 59.1	-1.3
	comp=Z,3µm,27.5s						
TBI	Tubuai	112.51	114	eLQ	LQ	07 17 19.3	
	comp=Z,6µm,41.0s						
TBI				eLR	LR	07 22 07.3	
	comp=Z,5µm,24.0s						
PPT2	Papeete2	113.06	108	ePdif	Pdif	06 44 36.0	-4.8
	comp=Z,142nm,28.0s						
PPT2	Papeete2	113.06	108	ePP	PP	06 49 17.1	-7.3
	comp=Z,427nm,27.0s						
PPT2				eSdif	Sdif	06 57 01.6	-4.3
	comp=Z,2µm,26.8s						
PPT2	Papeete2	113.06	108	ePS	PS	06 58 56.2	-4.1
	comp=Z,2µm,27.0s						
PPT2	Papeete2	113.06	108	eLQ	LQ	07 17 33.4	
	comp=Z,7µm,40.2s						
PPT2				eLR	LR	07 22 24.0	
	comp=Z,4µm,23.2s						
PMSA	Palmer Station	115.87	189	IAMs_20	IAMs_20	07 33 30.4	
	comp=Z,3µm,20.0s						
NLWA	Neilton Lookou	119.28	31	IAMs_20	IAMs_20	07 45 48.7	
	comp=Z,2µm,18.0s						
B05A	Bryant	119.56	29	P	PKiKP	06 48 47.9	+1.2
	baz=314						
D03D	Eldon	119.57	30	P	PKiKP	06 48 49.1	+2.4
	baz=313						
B06A	Marblemount	119.68	28	IAMs_20	IAMs_20	07 41 33.1	
	comp=Z,3µm,21.0s						
D05A	Enumclaw	120.36	30	IAMs_20	IAMs_20	07 50 11.2	
	comp=Z,3µm,20.0s						
E04D	Cinebar	120.50	31	P	PKiKP	06 48 52.7	+4.1
	baz=313						
LON	Longmire	120.75	30	IAMs_20	IAMs_20	07 48 10.6	
	comp=Z,3µm,20.0s						
B08A	Colville Reser	120.79	27	IAMs_20	IAMs_20	07 42 29.6	
	comp=Z,4µm,21.0s						
LTY	Liberty	120.95	29	IAMs_20	IAMs_20	07 43 56.0	
	comp=Z,3µm,22.0s						
F04A	Amboy	120.99	31	IAMs_20	IAMs_20	07 46 09.2	
	comp=Z,3µm,21.0s						
FFC	Flin Flon	121.35	13	IAMs_20	IAMs_20	07 44 47.0	
	comp=Z,4µm,21.0s						
COR	Corvallis	121.42	33	IAMs_20	IAMs_20	07 50 44.5	
	comp=Z,3µm,22.0s						
C09A	Chrisman Ranch	121.69	27	IAMs_20	IAMs_20	07 51 04.1	
	comp=Z,4µm,19.0s						
SCHQ	Schefferville	121.76	349	PKP	PKiKP	06 48 51.5	+0.6
	comp=Z,4.4nm,0.7s,baz=324,slow=3.4,SNR=5.5						
SCHQ	Schefferville	121.76	349		PKPdf	06 48 50.3	-0.4
H04D	Lebanon	121.77	32	P	PKiKP	06 48 53.1	+2.0
	baz=312						
E07A	Sunnyside	121.84	29	IAMs_20	IAMs_20	07 43 02.5	
	comp=Z,4µm,22.0s						
KEBM	Edson Butte	121.95	35	IAMs_20	IAMs_20	07 48 52.1	
	comp=Z,3µm,19.0s						
I03D	Drain, OR	121.98	33	P	PKiKP	06 48 53.5	+1.9
	baz=311						
J01E	Myrtle Point	122.00	34	P	PKiKP	06 48 53.1	+1.5
	baz=310						
G05D	Wamic, OR	122.03	31	P	PKiKP	06 48 58.0	+6.3
	baz=313						
HAWA	Hanford	122.12	29	PKPdf	PKPdf	06 48 51.7	+0.1
HAWA				IAMs_20	IAMs_20	07 40 48.7	
	comp=Z,3µm,22.0s						
E08A	Dider Farm, El	122.28	29	PKPdf	PKPdf	06 48 51.9	0.0
F07A	Phinny Hill Vi	122.28	30	IAMs_20	IAMs_20	07 46 00.0	
	comp=Z,4µm,22.0s						
I04A	Tendick Farm,	122.43	33	P	PKiKP	06 48 53.3	+0.8
	baz=312						
KBO	Bosley Butte	122.43	35	IAMs_20	IAMs_20	07 52 39.8	
	comp=Z,3µm,20.0s						
K02D	Willamette Mer	122.45	35	P	PKiKP	06 48 53.8	+1.1
	baz=310						
I05D	Terrebonne, OR	122.64	32	P	PKiKP	06 48 54.4	+1.5
	baz=313						
L02E	Cave Junction	122.83	35	P	PKiKP	06 48 57.6	+4.2
	baz=310						
HUMO	Hull Mountain	122.90	34	IAMs_20	IAMs_20	07 49 57.1	
	comp=Z,3µm,20.0s						
TAOE	Nuku Hiva Isla	122.91	99	ePP	PP	06 50 24.0	-8.9
	comp=Z,506nm,27.6s						
TAOE	Nuku Hiva Isla	122.91	99	ePS	PS	07 00 28.6	-0.9
	comp=Z,972nm,27.5s						
TAOE	Nuku Hiva Isla	122.91	99	eLR	LR	07 26 57.5	
	comp=Z,3µm,24.9s						
J04D	Umpqua Nationa	122.96	33	P	PKiKP	06 48 55.0	+1.2
	baz=312						
G08A	Pilot Rock	123.19	30	IAMs_20	IAMs_20	07 46 59.1	
	comp=Z,3µm,22.0s						
PINE	Pine Mountain	123.22	32	IAMs_20	IAMs_20	07 45 32.3	
	comp=Z,3µm,21.0s						
J05D	Fort Rock, OR	123.41	33	P	PKiKP	06 48 55.8	+1.2
	baz=312						
JCC	Jacoby Creek,	123.42	37	IAMs_20	IAMs_20	07 45 20.0	
	comp=Z,3µm,20.0s						
JTMT	Jette	123.47	25	IAMs_20	IAMs_20	07 48 50.2	
	comp=Z,6µm,21.0s						
F10A	Beach Ranch, E	123.52	28		PKPdf	06 48 54.0	-0.5
F10A				IAMs_20	IAMs_20	07 49 09.8	
	comp=Z,3µm,20.0s						
L04D	Klamath Falls	123.52	34	P	PKiKP	06 48 55.4	+0.5
	baz=311						
KHMM	Horse Mountain	123.56	36	IAMs_20	IAMs_20	07 45 23.7	
	comp=Z,3µm,21.0s						
M02C	Callahan	123.75	35	P	PKiKP	06 48 56.9	+1.6
	baz=310						
KMRM	Mail Ridge	123.98	37	IAMs_20	IAMs_20	07 48 50.2	
	comp=Z,3µm,20.0s						
M04C	Macdoel	124.07	34	P	PKiKP	06 48 57.0	+1.0
	baz=311						
N02D	Trinity Center	124.10	36	P	PKiKP	06 48 57.4	+1.4
	baz=310						
BMO	Blue Mountains	124.31	29	IAMs_20	IAMs_20	07 47 27.8	
	comp=Z,3µm,22.0s						
MSO	Missoula	124.34	25	P	PKiKP	06 48 56.8	+0.4
	baz=322,SNR=6.2						
MSO	Missoula	124.34	25		PKPdf	06 48 55.1	-0.9
KCPM	Cahto Peak	124.39	37	IAMs_20	IAMs_20	07 45 51.8	
	comp=Z,3µm,21.0s						
WDC	Whiskeytown Da	124.45	36	IAMs_20	IAMs_20	07 44 36.9	
	comp=Z,3µm,22.0s						
O02D	Mt. Diablo Mer	124.56	36	P	PKiKP	06 48 57.9	+0.9
	baz=309						
PLID	Pearl Lake	124.76	28		PKPdf	06 48 56.4	-0.7
MOD	Modoc Plateau	124.85	33		PKPdf	06 48 57.1	-0.1
MOD				IAMs_20	IAMs_20	07 52 59.4	
	comp=Z,2µm,19.0s						
EGMT	Eagleton	125.03	22	P	PKiKP	06 48 58.5	+0.9
	baz=327						
EGMT	Eagleton	125.03	22		PKiKP	06 48 58.0	+0.3
O03E	Paynes Creek	125.06	36	P	PKiKP	06 48 58.5	+0.6
	baz=310						
WVOR	Wild Horse Val	125.38	32	PKIKP	PKPdf	06 48 58.1	-0.1
WVOR	Wild Horse Val	125.38	32		PKPdf	06 48 58.1	-0.1
GDXM	Geysers	125.41	38	IAMs_20	IAMs_20	07 46 45.9	
	comp=Z,3µm,20.0s						
MCCM	Marconi Confer	125.77	38	IAMs_20	IAMs_20	07 44 48.5	
	comp=Z,3µm,20.0s						
DLMT	Dillon	126.07	25		PKPdf	06 48 59.3	-0.2
DLMT				IAMs_20	IAMs_20	07 50 20.9	
	comp=Z,3µm,21.0s						
MFID	Camas Ranch	126.09	29		PKPdf	06 48 59.2	-0.3
MFID				IAMs_20	IAMs_20	07 48 08.9	
	comp=Z,3µm,22.0s						
BEKR	Beckworth	126.18	35		PKPdf	06 48 58.7	-1.2
BEKR				IAMs_20	IAMs_20	07 46 04.9	
	comp=Z,3µm,22.0s						
BOZ	Bozeman (W)	126.29	25	P	PKiKP	06 49 01.2	+0.9
	baz=324						
BOZ	Bozeman (W)	126.29	25	IAMs_20	IAMs_20	07 49 15.7	
	comp=Z,5µm,21.0s						
MCMT	McKenzie Canyo	126.38	26		PKiKP	06 49 00.6	-0.1
AFDM	Forest Hills D	126.42	36		PKPdf	06 48 58.5	-1.7
DGMT	Dagmar	126.49	17	P	PKiKP	06 49 02.6	+2.2
	baz=334						
DGMT	Dagmar	126.49	17	IAMs_20	IAMs_20	07 52 31.3	
	comp=Z,5µm,20.0s						
ULM	Lac du Bonnet	126.80	10	PKP	PKPdf	06 49 00.7	+0.2
	comp=Z,13nm,0.8s,baz=348,slow=4.3,SNR=9.5						
ULM	Lac du Bonnet	126.80	10		PKPdf	06 48 59.8	-0.7
RUBR	Rubicon Trail	126.83	36	IAMs_20	IAMs_20	07 49 48.4	
	comp=Z,3µm,22.0s						
PAHR	Pah Rah Range	126.84	35		PKPdf	06 49 00.9	-0.2
PAHR				IAMs_20	IAMs_20	07 49 49.4	
	comp=Z,3µm,22.0s						
VCNR	Virginia City	126.97	35		PKPdf	06 49 01.6	+0.1
QLMT	Earthquake Lak	126.99	25		PKPdf	06 49 00.3	-1.0
YHL	Hebgen Lake	127.08	25		PKPdf	06 49 01.2	-0.4
PNTR	Pine Nut	127.13	35	IAMs_20	IAMs_20	07 51 26.2	
	comp=Z,3µm,20.0s						
YHB	Horse Butte	127.15	25		PKPdf	06 48 59.4	-2.2
YHH	Holmes Hill	127.27	25		PKPdf	06 49 01.1	-0.9
YERR	Yerington	127.41	35	IAMs_20	IAMs_20	07 50 10.5	
	comp=Z,3µm,22.0s						
LAO	LASA Array	127.42	20	P	PKiKP	06 49 03.9	+1.5
	baz=331						
LAO	LASA Array	127.42	20		PKiKP	06 49 02.4	0.0
LAO				IAMs_20	IAMs_20	07 55 04.0	
	comp=Z,4µm,18.0s						
SAO	San Andreas Ge	127.52	39	IAMs_20	IAMs_20	07 46 14.8	
	comp=Z,3µm,22.0s						
WAKR	Walker	127.62	36	PKPdf	PKPdf	06 49 02.4	-0.3
RLMT	Red Lodge	127.63	23	P	PKiKP	06 49 04.2	+1.1
	baz=326						
RLMT	Red Lodge	127.63	23	IAMs_20	IAMs_20	07 52 49.1	
	comp=Z,5µm,19.0s						
H17A	Grant Village	127.70	25	IAMs_20	IAMs_20	07 53 40.0	
	comp=Z,5µm,20.0s						
CHGQ	Chibougamau	127.73	353	P	PKiKP	06 49 03.4	+0.6
	baz=11						
FLWY	Flagg Ranch	127.90	25	IAMs_20	IAMs_20	07 56 56.4	
	comp=Z,3µm,19.0s						
IMW	Indian Meadow	127.95	25	IAMs_20	IAMs_20	07 57 01.7	
	comp=Z,3µm,21.0s						
KVN	Kaiserville	128.02	34	PKIKP	PKPdf	06 49 03.3	-0.1
KVN	Kaiserville	128.02	34	PKPdf	PKPdf	06 49 03.3	-0.1
FXWY	Fox Creek	128.12	26	PKPdf	PKPdf	06 49 03.2	-0.3
FXWY				IAMs_20	IAMs_20	07 57 09.3	
	comp=Z,3µm,19.0s						
MOOW	Moose Ponds	128.15	25		PKPdf	06 49 02.6	-1.0
MOOW				IAMs_20	IAMs_20	07 57 16.1	
	comp=Z,3µm,20.0s						
MATQ	Matagami	128.21	355	P	PKiKP	06 49 06.8	+3.0
	baz=7.0						
PMPB	Monarch Peak	128.27	39	IAMs_20	IAMs_20	07 46 35.7	
	comp=Z,3µm,21.0s						
TPAW	Teton Pass	128.27	26	IAMs_20	IAMs_20	07 57 14.3	
	comp=Z,4µm,19.0s						
MDND	Maddock	128.30	14	IAMs_20	IAMs_20	07 53 52.2	
	comp=Z,5µm,21.0s						
NVAR	Mina Array Bea	128.32	35	PKP	PKPdf	06 49 04.3	+0.2
	comp=Z,1.7nm,0.8s,baz=263,slow=1.8,SNR=13						
NVAR	Mina Array Bea	128.32	35		PKiKP	06 49 04.6	-0.1
ELK	Elko	128.36	31	PKIKP	PKiKP	06 49 04.5	-0.2
ELK				MLR	MLR		
	comp=Z,4µm,22.0s						
ELK	Elko	128.36	31		PKiKP	06 49 04.5	-0.2
ELK				IAMs_20	IAMs_20	07 46 19.1	
	comp=Z,3µm,22.0s						
SNOW	Snow King Moun	128.38	25		PKPdf	06 49 04.0	-0.1
SNOW				IAMs_20	IAMs_20	07 54 45.1	
	comp=Z,3µm,19.0s						
NV11	Mina Array Sit	128.41	35		PKiKP	06 49 04.5	-0.3
NV11				IAMs_20	IAMs_20	07 54 17.9	
	comp=Z,3µm,20.0s						
REDW	Red Top Meadow	128.42	26		PKiKP	06 49 05.6	+0.8
REDW				IAMs_20	IAMs_20	07 57 18.2	
	comp=Z,4µm,19.0s						
MLAC	Mammoth, Mammo	128.55	36	P	PKiKP	06 49 06.6	+1.4
	baz=312						
AGMN	Agassiz Nation	128.68	11	P	PKiKP	06 49 06.5	+1.7
	baz=344						
AHID	Auburn Hatcher	128.79	26	IAMs_20	IAMs_20	07 50 53.0	
	comp=Z,4µm,20.0s						
HVU	Hansel Valley	128.80	28	PKIKP	PKPdf	06 49 03.6	-1.2
HVU	Hansel Valley	128.80	28		PKPdf	06 49 03.6	-1.2
LSQQ	Lebel-sur-Quev	128.85	355	P	PKiKP	06 49 05.9	+0.8
	baz=7.9						
GBN	Guysborough	129.02	340	IAMs_20	IAMs_20	07 51 20.4	
	comp=Z,4µm,20.0s						
BGU	Big Grassy Mou	129.33	29		PKPdf	06 49 05.8	0.0
BW06	Boulder Array	129.46	25	P	PKiKP	06 49 10.0	+3.2
	baz=325						
BW06	Boulder Array	129.46	25		PKPdf	06 49 05.8	-0.3
BW06				IAMs_20	IAMs_20	07 54 54.5	
	comp=Z,3µm,20.0s						
PD31	Pinedale Array	129.46	25		PKPdf	06 49 05.0	-1.2
PDAR	Pinedale Array	129.46	25	PKP	PKPdf	06 49 06.1	0.0
	comp=Z,1.5nm,0.6s,baz=257,slow=1.6,SNR=8.9						
PDAR				PP	PP	06 51 14.9	+0.2
	comp=Z,0.2nm,0.3s,baz=128,slow=51,SNR=1.7						
PDAR	Pinedale Array	129.46	25		PKPdf	06 49 05.2	-0.9
HWUT	Hardware Ranch	129.50	28		PKPdf	06 49 05.7	-0.4
HWUT				IAMs_20	IAMs_20	07 52 45.9	
	comp=Z,4µm,21.0s						
D62A	Allapoint, All	129.56	348	IAMs_20	IAMs_20	07 58 34.3	
	comp=Z,4µm,21.0s						
EYMN	Ely	129.71	7	P	PKiKP	06 49 08.4	+1.5
	baz=349						
PQI	Presque Isle	129.72	346	IAMs_20	IAMs_20	07 58 40.4	
	comp=Z,3µm,19.0s						
CWC	Cottonwood Cre	129.79	37	P	PKiKP	06 49 08.2	+0.6
	baz=312						
GRAC	Grapevine Rang	129.84	36	P	PKiKP	06 49 10.1	+2.6
	baz=313						
R11A	Troy Canyon, C	129.91	33	P	PKPdf	06 49 07.0	0.0
	baz=316						
R11A	Troy Canyon, C	129.91	33		PKPdf	06 49 06.6	-0.4
LATQ	La Tuque	129.97	351	P	PKiKP	06 49 08.0	+0.6
	baz=14						
DUG	Dugway, Tooele	130.00	30	P	PKiKP	06 49 07.9	0.0
	baz=320						
DUG	Dugway, Tooele	130.00	30	PKIKP	PKPdf	06 49 06.9	-0.2
DUG	Dugway, Tooele	130.00	30		PKPdf	06 49 06.9	-0.2
E63A	Oxbow	130.04	347	IAMs_20	IAMs_20	07 57 53.1	
	comp=Z,4µm,20.0s						
ISA	Isabella, Lake	130.07	38	P	PKiKP	06 49 09.4	+1.3
	baz=311						
GO09	Cerro Castillo	130.08	189	IAMs_20	IAMs_20	07 39 08.2	
	comp=Z,5µm,22.0s						
D58A	Chemin du LacG	130.27	351	P	PKiKP	06 49 09.2	+1.2
	baz=13						
HAL	Halifax	130.38	342	IAMs_20	IAMs_20	07 54 28.2	
	comp=Z,3µm,22.0s						
MPMC	Manual Prospec	130.41	37	P	PKiKP	06 49 09.6	+0.7
	baz=312						
RSSD	Black Hills	130.41	20	P	PKPdf	06 49 04.7	-3.1
	baz=332						
RSSD	Black Hills	130.41	20	IAMs_20	IAMs_20	07 53 49.0	
	comp=Z,4µm,19.0s						
E61A	Lac Etchemin	130.48	349	P	PKiKP	06 49 09.2	+0.7
	baz=17						
D57A	Chemin Vers le	130.50	352	P	PKiKP	06 49 09.7	+1.2
	baz=12						
FURC	Furnace Creek,	130.50	36	P	PKiKP	06 49 10.3	+1.6
	baz=313						
TPNV	Topopah Spring	130.53	35	P	PKiKP	06 49 10.5	+1.5
	baz=314						
TPNV	Topopah Spring	130.53	35	PKIKP	PKPdf	06 49 07.1	-1.1
TPNV				MLR	MLR		
	comp=Z,3µm,22.0s						
TPNV	Topopah Spring	130.53	35		PKPdf	06 49 07.1	-1.1
TPNV				IAMs_20	IAMs_20	07 48 08.0	
	comp=Z,3µm,22.0s						
NLU	North Lily Min	130.54	29		PKPdf	06 49 07.4	-0.8
F64A	Sherman	130.55	346	P	PKiKP	06 49 09.5	+0.9
	baz=20						
F64A	Sherman	130.55	346	IAMs_20	IAMs_20	07 58 10.6	
	comp=Z,4µm,20.0s						
D55A	Sainte-Anne-du	130.70	353	P	PKiKP	06 49 09.4	+0.5
	baz=10						
MPU	Maple Canyon	130.71	29		PKPdf	06 49 08.4	-0.1
PSUT	Pine Spring	130.71	32		PKPdf	06 49 08.7	+0.1
K22A	Casper	130.78	23	P	PKiKP	06 49 10.0	+0.5
	baz=328						
K22A	Casper	130.78	23		PKPdf	06 49 08.2	-0.4
K22A				IAMs_20	IAMs_20	07 54 56.4	
	comp=Z,4µm,19.0s						
EDW2	Edwards Air Fo	130.88	38	P	PKiKP	06 49 11.3	+1.6
	baz=311						
F63A	Nahmakanta, Br	130.88	347	IAMs_20	IAMs_20	07 54 23.2	
	comp=Z,4µm,20.0s						
F62A	Pittston Farm,	130.88	348	IAMs_20	IAMs_20	07 56 47.2	
	comp=Z,5µm,19.0s						
G65A	Princeton	130.99	345	IAMs_20	IAMs_20	07 53 54.1	
	comp=Z,3µm,22.0s						
F61A	St Evariste	131.02	349	P	PKPdf	06 49 09.0	+0.4
	baz=16						
E58A	La Victoria	131.03	351	P	PKiKP	06 49 09.4	-0.1
	baz=13						
E56A	St. Veronique	131.12	353	P	PKiKP	06 49 10.3	+0.5
	baz=11						
F60A	Warwick	131.20	350	P	PKiKP	06 49 10.4	+0.5
	baz=15						
SHOC	Shoshone, Teco	131.23	36	P	PKiKP	06 49 11.8	+1.5
	baz=314						
D46A	Sault St. Mari	131.29	1	P	PKiKP	06 49 10.2	+0.1
	baz=359						
GSC	Goldstone, Bar	131.32	37	P	PKiKP	06 49 12.1	+1.5
	baz=313						
RWWY	Rawlins	131.32	24	IAMs_20	IAMs_20	07 51 01.9	
	comp=Z,4µm,22.0s						
PKME	Peaks-Kenny Pk	131.34	347	IAMs_20	IAMs_20	07 59 04.3	
	comp=Z,3µm,20.0s						
EMMW	East Machias	131.42	345	IAMs_20	IAMs_20	07 58 47.6	
	comp=Z,3µm,19.0s						
SHPR	Sheep Range	131.46	35		PKPdf	06 49 10.1	+0.1
MSU	Marysvale	131.60	31	PKIKP	PKiKP	06 49 11.2	-0.1
MSU	Marysvale	131.60	31		PKiKP	06 49 11.2	-0.1
SUSD	Miller	131.64	15	IAMs_20	IAMs_20	07 47 28.3	
	comp=Z,4µm,22.0s						
G62A	West of Eustis	131.65	348	IAMs_20	IAMs_20	07 57 50.9	
	comp=Z,4µm,19.0s						
CCUT	Cedar City	131.70	32		PKiKP	06 49 12.6	+1.1
TUQ	Turquoise Moun	131.76	36	P	PKiKP	06 49 13.7	+2.1
	baz=314						
COWI	Conover	131.80	6	IAMs_20	IAMs_20	07 59 59.1	
	comp=Z,4µm,20.0s						
SZCU	Shurtz Canyon	131.81	32		PKiKP	06 49 12.6	+0.9
HEC	Hector,Ludlow	131.93	37	P	PKiKP	06 49 14.2	+2.3
	baz=313						
MTPU	Mount Pierson	131.95	31		PKiKP	06 49 13.1	+1.0
SRU	San Rafael Swe	131.95	29	PKIKP	PKiKP	06 49 12.9	+1.0
SRU	San Rafael Swe	131.95	29		PKiKP	06 49 12.9	+1.0
WVL	Waterville	132.08	347	IAMs_20	IAMs_20	07 59 33.1	
	comp=Z,5µm,20.0s						
LCMT	Little Creek M	132.16	33		PKPdf	06 49 10.2	-1.1
O20A	White River Ci	132.18	26	P	PKPdf	06 49 11.6	+0.3
	baz=325,SNR=7.0						
O20A	White River Ci	132.18	26		PKPdf	06 49 11.6	+0.3
O20A				IAMs_20	IAMs_20	07 54 13.7	
	comp=Z,4µm,21.0s						
MURC	Murrieta	132.21	39	P	PKiKP	06 49 13.6	+1.2
	baz=311						

PKCU **Pink Cliffs** 132.33 32 PKiKP PKiKP 06 49 13.7 +0.8
PHWY **Pilot Hill** 132.35 23 IAMs_20 IAMs_20 07 55 47.8
comp=Z,4µm,19.0s
GMRC **Granite Mounta** 132.36 37 P PKiKP 06 49 14.2 +1.4
baz=314
KNB **Kanab** 132.38 32 PKiKP PKiKP 06 49 13.0 +0.2
KNB **Kanab** 132.38 32 PKiKP 06 49 13.0 +0.2
H62A **Milan** 132.39 348 IAMs_20 IAMs_20 07 54 51.2
comp=Z,3µm,19.0s
N23A **Red Feather La** 132.50 23 P PKiKP 06 49 14.5 +1.4
baz=328
N23A **Red Feather La** 132.50 23 IAMs_20 IAMs_20 07 52 41.3
comp=Z,4µm,22.0s
G54A **Lake Saint Pet** 132.58 355 P PKPdf 06 49 12.1 +0.4
baz=6.8
FRNY **Flat Rock** 132.58 351 IAMs_20 IAMs_20 07 59 18.9
comp=Z,3µm,19.0s
H61A **Lyndonville** 132.58 349 P PKiKP 06 49 13.9 +1.1
baz=15
PFO **Pinyon Flats O** 132.67 39 P PKiKP 06 49 13.8 +0.3
baz=312
TPFO **Pinon Flats** 132.67 39 P PKiKP 06 49 14.0 +0.5
baz=312
BELC **Belle Mtn. Jos** 132.69 38 P PKPdf 06 49 11.1 -1.2
baz=313
RCBR **Riachuelo** 132.72 264 IAMs_20 IAMs_20 07 47 08.8
comp=Z,2µm,19.0s
109C **Camp Elliot, M** 132.73 40 IAMs_20 IAMs_20 07 54 06.2
comp=Z,2µm,21.0s
I63A **Otisfield** 132.78 348 IAMs_20 IAMs_20 07 55 28.3
comp=Z,4µm,20.0s
H59A **Cadyville** 132.78 351 P PKiKP 06 49 13.8 +0.6
baz=13
G46A **Petoskey** 132.85 2 P PKiKP 06 49 14.1 +0.8
baz=358
LBNH **Lisbon** 132.87 349 IAMs_20 IAMs_20 07 57 39.6
comp=Z,3µm,19.0s
ECSD **EROS Data Cent** 132.88 13 P PKiKP 06 49 14.0 +0.6
baz=342
ECSD **EROS Data Cent** 132.88 13 PKPdf 06 49 11.0 -1.3
ECSD **EROS Data Cent** 132.88 13 IAMs_20 IAMs_20 07 56 16.1
comp=Z,5µm,21.0s
VT1 **Waterbury** 132.93 350 IAMs_20 IAMs_20 07 57 34.4
comp=Z,5µm,20.0s
SDRC **San Diego Road** 132.94 40 IAMs_20 IAMs_20 07 54 01.4
comp=Z,2µm,19.0s
LONY **Lake Ozonia** 132.94 352 P PKiKP 06 49 14.5 +1.0
baz=12
LONY **Lake Ozonia** 132.94 352 IAMs_20 IAMs_20 07 56 18.4
comp=Z,4µm,20.0s
I62A **Tamworth** 133.10 348 IAMs_20 IAMs_20 07 56 34.9
comp=Z,2µm,21.0s
IRM **Iron Mountain** 133.10 37 P PKiKP 06 49 15.4 +1.2
baz=314
U15A **North Rim** 133.10 33 IAMs_20 IAMs_20 07 55 29.9
comp=Z,3µm,22.0s
PV21 **Cone Mtn., Par** 133.12 28 IAMs_20 IAMs_20 07 53 49.5
comp=Z,4µm,21.0s
MONP2 **Monument Peak** 133.17 39 P PKiKP 06 49 18.0 +3.4
baz=311
MONP2 **Monument Peak** 133.17 39 PKPdf 06 49 12.2 -1.2
W13A **Hualapai Mount** 133.19 35 PKPdf 06 49 12.6 -0.8
W13A IAMs_20 IAMs_20 07 51 37.1
comp=Z,2µm,20.0s
PV22 **Blue Mesa, Par** 133.23 28 IAMs_20 IAMs_20 07 53 42.7
comp=Z,4µm,22.0s
PV14 **Lion Creek, Pa** 133.25 28 IAMs_20 IAMs_20 07 52 59.3
comp=Z,5µm,21.0s
BC3 **Big Chuckawall** 133.26 38 P PKiKP 06 49 15.4 +0.8
baz=313
PV04 **Paradox Valley** 133.29 28 IAMs_20 IAMs_20 07 56 51.4
comp=Z,4µm,20.0s
PV20 **West Nyswonger** 133.30 28 IAMs_20 IAMs_20 07 53 00.6
comp=Z,4µm,20.0s
PV19 **Morning Glory** 133.32 28 IAMs_20 IAMs_20 07 53 13.1
comp=Z,4µm,22.0s
PV16 **Nyswonger Mesa** 133.35 28 IAMs_20 IAMs_20 07 57 02.9
comp=Z,4µm,19.0s
PV11 **David Mesa, Pa** 133.38 28 IAMs_20 IAMs_20 07 57 03.4
comp=Z,5µm,19.0s
PV18 **Skein Mesa, Pa** 133.41 28 IAMs_20 IAMs_20 07 53 03.4
comp=Z,4µm,20.0s
PV03 **Paradox Valley** 133.43 28 IAMs_20 IAMs_20 07 53 14.7
comp=Z,4µm,22.0s
HNH **Hanover** 133.45 349 IAMs_20 IAMs_20 07 58 04.1
comp=Z,5µm,20.0s
PV02 **Paradox Valley** 133.52 28 IAMs_20 IAMs_20 07 57 05.3
comp=Z,3µm,19.0s
PV13 **Radium Mtn., P** 133.52 28 IAMs_20 IAMs_20 07 58 34.3
comp=Z,4µm,19.0s
SMCO **Snowmass** 133.52 26 IAMs_20 IAMs_20 08 00 49.1
comp=Z,4µm,20.0s
SWSC **Sam W. Stewart** 133.52 39 P PKiKP 06 49 16.9 +1.9
baz=312
IKP **In-Ko-Pah, Jac** 133.52 39 P PKiKP 06 49 14.6 -0.5
baz=312
IKP **In-Ko-Pah, Jac** 133.52 39 PKPdf 06 49 12.3 -1.6
NCB **Newcomb** 133.52 351 IAMs_20 IAMs_20 07 53 57.8
comp=Z,3µm,22.0s
FFD **Franklin Falls** 133.55 348 IAMs_20 IAMs_20 08 00 23.5
comp=Z,2µm,20.0s
ISCO **Idaho Springs** 133.57 24 P PKiKP 06 49 16.0 +0.7
baz=328
ISCO **Idaho Springs** 133.57 24 PKiKP PKPdf 06 49 13.7 -0.4
ISCO **Idaho Springs** 133.57 24 PKPdf 06 49 13.7 -0.4
H46A **Fife Lake** 133.61 2 P PKiKP 06 49 16.2 +1.3
baz=357
I59A **Olmsteadville** 133.64 351 P PKiKP 06 49 16.5 +1.5
baz=13
Y12C **Blythe** 133.76 37 P PKiKP 06 49 15.0 -0.5
baz=314
Y12C **Blythe** 133.76 37 IAMs_20 IAMs_20 07 47 33.8
comp=Z,3µm,22.0s
OGNE **Ogallala** 133.91 20 IAMs_20 IAMs_20 07 55 59.8
comp=Z,5µm,22.0s
ACCN **Adirondack Com** 134.01 350 IAMs_20 IAMs_20 07 51 11.6
comp=Z,3µm,22.0s
GLA **Glamis** 134.05 38 P PKiKP 06 49 18.3 +2.2
baz=313
J59A **Piesco** 134.06 351 IAMs_20 IAMs_20 07 54 13.0
comp=Z,4µm,22.0s
J58A **Remsen** 134.28 352 IAMs_20 IAMs_20 07 55 39.7
comp=Z,4µm,21.0s
WUAZ **Wupatki** 134.28 33 P PKiKP 06 49 17.3 +0.6
baz=319
WUAZ **Wupatki** 134.28 33 PKPdf 06 49 14.1 -1.2
WUAZ IAMs_20 IAMs_20 07 58 34.0
comp=Z,3µm,18.0s
MVCO **Mesa Verde** 134.43 29 P PKiKP 06 49 17.4 +0.3
baz=323
MVCO **Mesa Verde** 134.43 29 IAMs_20 IAMs_20 07 57 48.5
comp=Z,4µm,20.0s
K62A **Royalston** 134.44 349 IAMs_20 IAMs_20 07 56 42.4
comp=Z,4µm,21.0s
HRV **Adam Dziewonsk** 134.46 348 IAMs_20 IAMs_20 07 58 51.9
comp=Z,3µm,19.0s
Q24A **Divide** 134.47 24 P PKPdf 06 49 12.2 -3.6
baz=328
Q24A **Divide** 134.47 24 IAMs_20 IAMs_20 08 01 36.1
comp=Z,4µm,20.0s
BCX **Boston College** 134.54 348 IAMs_20 IAMs_20 07 52 44.1
comp=Z,4µm,20.0s
J56A **Wolcott** 134.56 354 IAMs_20 IAMs_20 07 52 19.1
comp=Z,3µm,21.0s
TRY **Troy** 134.64 350 IAMs_20 IAMs_20 07 54 59.4
comp=Z,3µm,21.0s
BGNE **Belgrade** 134.68 16 P PKPdf 06 49 15.2 -0.6
baz=339
BGNE **Belgrade** 134.68 16 IAMs_20 IAMs_20 07 56 29.9
comp=Z,4µm,19.0s
S22A **4UR Ranch, Cre** 134.77 27 P PKPdf 06 49 14.4 -1.9
baz=326
S22A **4UR Ranch, Cre** 134.77 27 PKPdf 06 49 13.5 -2.9
S22A IAMs_20 IAMs_20 07 54 09.3
comp=Z,4µm,22.0s
JFWS **Jewell Farm** 134.82 7 P PKiKP 06 49 19.7 +2.3
baz=350
J48A **Bridge Port** 134.89 1 P PKPdf 06 49 15.9 -0.1
baz=359
K58A **Earlville** 134.91 352 P PKiKP 06 49 17.6 0.0
baz=11
BRYW **Bryant College** 135.02 348 IAMs_20 IAMs_20 07 58 58.7
comp=Z,4µm,19.0s
X16A **Lo Mia Camp, P** 135.06 34 PKPdf 06 49 16.0 -0.9
X16A IAMs_20 IAMs_20 08 01 26.8
comp=Z,3µm,19.0s
L61A **Hillsdale 1, H** 135.14 350 P PKiKP 06 49 20.6 +2.6
baz=14

M65A **Busby, Falmout** 135.16 347 IAMs_20 IAMs_20 07 59 50.5
comp=Z,4µm,20.0s
K56A **Middlesex** 135.18 354 P PKPdf 06 49 17.2 +0.5
baz=8.2
MMNY **Mt. Morris Dam** 135.21 355 IAMs_20 IAMs_20 07 54 42.3
comp=Z,4µm,20.0s
SDCO **Great Sand Dun** 135.35 25 P PKiKP 06 49 19.1 +0.2
baz=327
SDCO **Great Sand Dun** 135.35 25 PKPdf 06 49 16.0 -1.5
SDCO IAMs_20 IAMs_20 07 52 42.5
comp=Z,4µm,21.0s
L59A **Walton** 135.39 351 IAMs_20 IAMs_20 07 56 47.2
comp=Z,4µm,21.0s
KSCO **Kaye Shedlock'** 135.41 22 P PKiKP 06 49 24.5 +5.6
baz=332
W18A **Petrified Fore** 135.45 32 P PKiKP 06 49 20.4 +1.3
baz=321
W18A **Petrified Fore** 135.45 32 IAMs_20 IAMs_20 07 58 26.2
comp=Z,3µm,21.0s
K47A **Vermontville** 135.49 2 P PKiKP 06 49 22.8 +4.1
baz=357
BINY **Binghamton** 135.51 352 IAMs_20 IAMs_20 08 02 32.4
comp=Z,4µm,19.0s
KSCT **Kent School, K** 135.59 350 IAMs_20 IAMs_20 07 58 46.4
comp=Z,3µm,21.0s
L58A **Harry Jones Me** 135.65 352 P PKiKP 06 49 22.9 +3.8
baz=10
L56A **Greenwood** 135.76 354 P PKiKP 06 49 22.9 +3.6
baz=8.0
X18A **Snowflake** 135.79 32 PKPdf 06 49 16.9 -1.3
X18A IAMs_20 IAMs_20 07 51 53.9
comp=Z,3µm,21.0s
L55A **Hinsdale** 135.80 355 P PKiKP 06 49 20.2 +0.8
baz=6.7
L57A **Andrews Acres** 135.82 353 P PKiKP 06 49 18.8 -0.7
baz=9.0
YLE **Yale** 135.88 349 IAMs_20 IAMs_20 07 53 59.5
comp=Z,3µm,22.0s
214A **Organ Pipe Nat** 136.04 37 P PKiKP 06 49 23.8 +3.6
baz=315
KSPA **Keystone Colle** 136.11 352 IAMs_20 IAMs_20 07 57 23.4
comp=Z,4µm,20.0s
M60A **Port Jervis** 136.17 351 P PKiKP 06 49 21.7 +1.5
baz=12
L48A **N Adams** 136.23 1 P PKiKP 06 49 19.8 -0.4
baz=358
T25A **Trinidad** 136.32 25 P PKiKP 06 49 22.1 +1.2
baz=328
T25A **Trinidad** 136.32 25 PKPdf 06 49 16.3 -2.9
T25A IAMs_20 IAMs_20 08 01 43.3
comp=Z,4µm,20.0s
PAL **Palisades** 136.36 350 IAMs_20 IAMs_20 07 56 57.8
comp=Z,4µm,22.0s
M56A **Emporium** 136.47 355 P PKiKP 06 49 20.5 -0.2
baz=7.2
M56A **Emporium** 136.47 355 IAMs_20 IAMs_20 08 00 21.7
comp=Z,4µm,19.0s
M57A **Sunshine Farm,** 136.50 353 P PKiKP 06 49 20.2 -0.6
baz=8.7
M55A **Ridgway** 136.53 355 P PKiKP 06 49 22.0 +1.1
baz=6.3
M54A **Oil Creek Stat** 136.56 356 P PKPdf 06 49 18.2 -1.0
baz=5.0
M54A **Oil Creek Stat** 136.56 356 IAMs_20 IAMs_20 08 00 25.2
comp=Z,4µm,20.0s
CBKS **Cedar Bluff** 136.59 19 IAMs_20 IAMs_20 07 59 33.7
comp=Z,3µm,20.0s
N59A **State Game Lan** 136.74 352 P PKiKP 06 49 22.2 +0.9
baz=11
N59A **State Game Lan** 136.74 352 IAMs_20 IAMs_20 07 57 41.7
comp=Z,4µm,20.0s
N58A **Sunbury** 136.94 353 P PKiKP 06 49 22.5 +0.8
baz=9.4
N58A **Sunbury** 136.94 353 IAMs_20 IAMs_20 07 59 28.3
comp=Z,4µm,20.0s
TUC **Tucson** 136.98 35 P PKiKP 06 49 24.3 +2.1
baz=317
TUC **Tucson** 136.98 35 IAMs_20 IAMs_20 07 49 25.9
comp=Z,2µm,22.0s
N56A **West Decatur** 137.04 355 P PKiKP 06 49 23.1 +1.1
baz=7.1
N57A **Milroy** 137.12 354 P PKiKP 06 49 23.0 +0.9
baz=8.2
N54A **Moraine State** 137.13 356 IAMs_20 IAMs_20 07 59 00.1
comp=Z,4µm,20.0s
ANMO **Albuquerque** 137.23 29 P PKPdf 06 49 19.9 -1.0
baz=324
ANMO **Albuquerque** 137.23 29*d* iPKiKP PKPdf 06 49 19.5 -1.4
ANMO pmax pmax
comp=Z,15nm,2.5s
ANMO **Albuquerque** 137.23 29 PKPdf 06 49 20.0 -0.9
ANMO **Albuquerque** 137.23 29 IAMs_20 IAMs_20 07 56 14.6
comp=Z,5µm,21.0s
N55A **Manon Center** 137.24 355 P PKiKP 06 49 25.3 +2.9
baz=6.1
KSU1 **Kansas State U** 137.25 15 P PKiKP 06 49 24.0 +1.6
baz=340
KSU1 **Kansas State U** 137.25 15 IAMs_20 IAMs_20 07 59 35.9
comp=Z,5µm,22.0s
N49A **Columbus Grove** 137.25 1 P PKiKP 06 49 22.9 +0.5
baz=358
N49A **Columbus Grove** 137.25 1 IAMs_20 IAMs_20 08 00 18.6
comp=Z,4µm,20.0s
HDIL **Hopedale** 137.26 7 P PKiKP 06 49 23.4 +1.0
baz=351
O60A **Telford** 137.28 351 P PKiKP 06 49 23.9 +1.5
baz=11
SSPA **Standing Stone** 137.28 354 P PKiKP 06 49 22.8 +0.3
baz=7.7
SSPA **Standing Stone** 137.28 354 IAMs_20 IAMs_20 08 00 48.2
comp=Z,4µm,21.0s
N48A **Decatur** 137.29 2 P PKiKP 06 49 21.8 -0.6
baz=357
N53A **Lisbon** 137.33 357 P PKiKP 06 49 22.4 -0.1
baz=3.4
N52A **McGinn's Farm,** 137.35 358 P PKiKP 06 49 23.0 +0.4
baz=2.1
N50A **Nevada** 137.42 360 P PKiKP 06 49 22.1 -0.6
LENM **Lemitar** 137.60 30 PKPdf 06 49 20.2 -1.4
Y22D **IRIS PASSCAL I** 137.70 30 IAMs_20 IAMs_20 08 04 15.4
comp=Z,4µm,19.0s
O56A **Blue Knob Stat** 137.71 355 P PKiKP 06 49 24.8 +1.4
baz=6.8
O56A **Blue Knob Stat** 137.71 355 IAMs_20 IAMs_20 08 02 01.5
comp=Z,5µm,20.0s
MVL **Millersville** 137.72 352 IAMs_20 IAMs_20 08 02 17.2
comp=Z,4µm,19.0s
O48A **Farmland** 137.89 2 P PKiKP 06 49 24.7 +1.0
baz=357
O53A **New Philadelph** 137.90 358 P PKiKP 06 49 25.4 +1.7
baz=2.9
O54A **Avella** 137.93 357 P PKiKP 06 49 24.3 +0.5
baz=4.1
ACSO **Alum Creek Sta** 137.95 360 P PKiKP 06 49 24.8 +1.0
baz=0.2
O49A **Covington** 137.98 1 P PKiKP 06 49 23.5 -0.4
baz=358
O49A **Covington** 137.98 1 PKPdf 06 49 22.5 +0.6
O51A **Pataskala** 138.04 359 P PKiKP 06 49 23.5 -0.5
baz=0.8
O50A **Cable** 138.04 1 P PKiKP 06 49 24.5 +0.5
baz=359
O52A **Adamsville** 138.05 358 P PKiKP 06 49 23.7 -0.4
baz=1.9
P59A **Jarrettsville** 138.12 352 P PKiKP 06 49 25.6 +1.4
baz=10.0
P58A **Pank, Wackersv** 138.35 353 P PKiKP 06 49 27.5 +2.9
baz=8.8
SDMD **Soldier's Deli** 138.37 353 IAMs_20 IAMs_20 08 01 33.0
comp=Z,2µm,19.0s
MCWV **Mont Chateau** 138.42 356 IAMs_20 IAMs_20 08 01 40.2
comp=Z,3µm,20.0s
P57A **Homestead Farm** 138.43 354 P PKiKP 06 49 24.1 -0.7
baz=7.7
121A **Cookes Peak, D** 138.47 32 P PKiKP 06 49 24.8 -0.6
baz=321
121A **Cookes Peak, D** 138.47 32 IAMs_20 IAMs_20 08 04 37.4
comp=Z,4µm,22.0s
P54A **Burton** 138.51 357 P PKiKP 06 49 26.0 +1.0
baz=4.0
319A **Douglas** 138.53 35 IAMs_20 IAMs_20 07 59 08.2
comp=Z,2µm,21.0s
P52A **Corning** 138.54 359 P PKPdf 06 49 23.5 +0.5
baz=1.5
P50A **Jamestown** 138.57 1 P PKiKP 06 49 25.4 +0.3
baz=359
Q60A **Greensboro** 138.63 351 IAMs_20 IAMs_20 07 58 24.0
comp=Z,4µm,21.0s

P53A **Whipple** 138.67 358 P PKiKP 06 49 26.8 +1.5
baz=2.6
P48A **Milroy** 138.67 3 P PKPdf 06 49 23.7 +0.5
baz=357
P48A **Milroy** 138.67 3 PKPdf 06 49 23.1 -0.1
P51A **Williamsport** 138.70 360 P PKiKP 06 49 26.3 +1.0
baz=0.1
Q58A **Fox Den Farm,** 138.93 354 P PKiKP 06 49 27.1 +1.3
baz=8.3
Q56A **Snyder Ridge,** 138.98 355 P PKiKP 06 49 27.3 +1.3
baz=6.0
Q56A **Snyder Ridge,** 138.98 355 IAMs_20 IAMs_20 08 02 04.3
comp=Z,4µm,20.0s
SLM **Saint Louis** 139.02 8 IAMs_20 IAMs_20 08 02 23.5
comp=Z,4µm,19.0s
U32A **Winter Ranch,** 139.04 20 IAMs_20 IAMs_20 07 59 13.7
comp=Z,4µm,19.0s
Q55A **Buckhannon** 139.09 356 P PKiKP 06 49 25.3 -1.0
baz=4.7
Q51A **Peebles** 139.16 0 P PKiKP 06 49 28.5 +2.2
baz=360
Q51A **Peebles** 139.16 0 IAMs_20 IAMs_20 08 01 55.8
comp=Z,4µm,20.0s
TRQA **Tornquist** 139.21 206 IAMs_20 IAMs_20 07 58 30.4
comp=Z,2µm,18.0s
SPB **Sao Paulo** 139.31 235 IAMs_20 IAMs_20 07 43 32.1
comp=Z,3µm,20.0s
AMTX **Amarillo** 139.39 24 IAMs_20 IAMs_20 08 00 41.2
comp=Z,4µm,20.0s
CCM **Cathedral Cave** 139.43 10 P PKPdf 06 49 23.4 -1.2
baz=348
CCM **Cathedral Cave** 139.43 10 PKiKP PKPdf 06 49 22.1 -2.5
CCM **Cathedral Cave** 139.43 10 PKPdf 06 49 22.1 -2.5
CBN **Corbin Frederi** 139.62 353 IAMs_20 IAMs_20 08 02 32.2
comp=Z,4µm,20.0s
R56A **Bull Pasture M** 139.63 355 P PKiKP 06 49 28.1 +0.7
baz=5.8
MSTX **Muleshoe** 139.72 26 P PKPdf 06 49 21.4 -4.0
baz=329
MSTX **Muleshoe** 139.72 26 IAMs_20 IAMs_20 08 03 10.2
comp=Z,4µm,20.0s
PLCA **Paso Flores** 139.81 195 PKiKP PKPdf 06 49 25.4 +0.1
PLCA **Paso Flores** 139.81 195 PKP PKPdf 06 49 23.7 -1.6
comp=Z,2.3nm,0.8s,baz=200,slow=2.6,SNR=7.9
PLCA **Paso Flores** 139.81 195 PKPdf 06 49 25.4 +0.1
R49A **Shelbyville** 139.85 2 IAMs_20 IAMs_20 08 00 15.3
comp=Z,5µm,20.0s
WCI **Wyandotte Cave** 139.85 4 P PKPdf 06 49 22.9 -2.4
baz=355
WCI **Wyandotte Cave** 139.85 4 PKiKP PKPdf 06 49 22.9 -2.4
WCI **Wyandotte Cave** 139.85 4 PKPdf 06 49 22.9 -2.4
R50A **Paris** 139.89 1 IAMs_20 IAMs_20 08 02 26.6
comp=Z,4µm,21.0s
R58B **Mineral** 139.92 354 IAMs_20 IAMs_20 08 03 41.1
comp=Z,4µm,19.0s
USIN **University of** 140.00 6 IAMs_20 IAMs_20 07 56 44.2
comp=Z,5µm,22.0s
S59A **Mechanicsville** 140.05 353 P PKiKP 06 49 29.6 +1.5
baz=9.1
S44A **Carbondale** 140.09 8 P PKiKP 06 49 29.6 +1.3
baz=350
S57A **Dark Hollow, R** 140.23 355 P PKiKP 06 49 29.9 +1.4
baz=6.5
MNTX **Cornudas Mount** 140.38 30 P PKPdf 06 49 20.4 -6.1
baz=324
TUL1 **Leonard** 140.46 16 P PKPdf 06 49 21.5 -5.0
baz=340
S51A **Beattyville** 140.54 1 P PKPdf 06 49 26.6 0.0
baz=359
T60A **Surry** 140.59 352 IAMs_20 IAMs_20 08 04 03.8
comp=Z,4µm,19.0s
HHAR **Hobbs** 140.59 14 IAMs_20 IAMs_20 07 58 50.3
comp=Z,4µm,21.0s
WMOK **Wichita Mounta** 140.60 20 P PKPdf 06 49 19.0 -7.8
baz=335
WMOK **Wichita Mounta** 140.60 20 IAMs_20 IAMs_20 08 03 38.2
comp=Z,4µm,19.0s
U40A **Yellville** 140.77 12 P PKPdf 06 49 20.2 -6.9
baz=345
PBMO **Poplar Bluff** 140.81 9 PKPdf 06 49 24.5 -2.6
T59A **Double "B" Far** 140.86 353 IAMs_20 IAMs_20 07 59 05.5
comp=Z,4µm,21.0s
T47A **Sharon Grove** 141.02 5 P PKPdf 06 49 24.0 -3.5
baz=354
GO06 **Curarrehue** 141.12 194 IAMs_20 IAMs_20 07 53 58.3
comp=Z,2µm,19.0s
T50A **Nancy** 141.13 2 P PKPdf 06 49 27.5 -0.2
baz=357
U61A **Possum Corner** 141.34 351 IAMs_20 IAMs_20 08 04 37.7
comp=Z,4µm,20.0s
FCAR **Ozark Folk Cen** 141.37 12 IAMs_20 IAMs_20 08 05 12.7
comp=Z,4µm,20.0s
LCAR **Lake Charles** 141.38 10 IAMs_20 IAMs_20 07 59 31.9
comp=Z,4µm,21.0s
U58A **Oxford** 141.55 354 P PKiKP 06 49 33.0 +1.7
baz=7.4
BBSR **BB Station** 141.59 334 IAMs_20 IAMs_20 07 55 00.2
comp=Z,2µm,22.0s
U55A **TA2, Sparta** 141.63 357 P PKPdf 06 49 26.8 -1.9
baz=3.4
W39A **Magazine** 141.66 14 P PKPdf 06 49 26.1 -2.6
baz=343
W39A **Magazine** 141.66 14 PKPdf 06 49 27.4 -1.3
GNAR **Gosnell** 141.67 9 IAMs_20 IAMs_20 07 58 29.6
comp=Z,5µm,22.0s
U50A **Jamestown** 141.73 2 P PKPdf 06 49 24.9 -3.9
baz=357
WVT **Waverly** 141.80 6 P PKPdf 06 49 25.3 -3.6
baz=352
HALT **Halls** 141.83 8 IAMs_20 IAMs_20 07 57 03.7
comp=Z,4µm,21.0s
V61A **Roper** 141.89 351 IAMs_20 IAMs_20 07 58 00.2
comp=Z,4µm,22.0s
WHAR **Wooly Hollow** 141.91 12 IAMs_20 IAMs_20 08 03 49.8
comp=Z,4µm,20.0s
CLTN **Cedars of Leba** 141.97 4 PKPdf 06 49 27.9 -1.3
CLTN IAMs_20 IAMs_20 07 58 01.4
comp=Z,3µm,21.0s
W41B **Gary Mavity, V** 142.03 12 P PKPdf 06 49 27.9 -1.4
baz=345
W41B **Gary Mavity, V** 142.03 12 PKPdf 06 49 27.4 -2.0
W41B IAMs_20 IAMs_20 08 04 02.1
comp=Z,4µm,20.0s
V57A **Coltrane Farms** 142.16 356 P PKiKP 06 49 33.3 +0.7
baz=5.5
ABTX **Abilene, Hawle** 142.18 23 P PKPdf 06 49 26.7 -3.1
baz=333
V48A **Smith Brothers** 142.28 5 P PKPdf 06 49 28.6 -1.2
baz=354
V49A **McMinnville** 142.32 4 P PKPdf 06 49 27.7 -2.2
baz=356
MIAR **Mount Ida** 142.34 14 P PKPdf 06 49 26.4 -3.6
baz=343,SNR=12
MIAR **Mount Ida** 142.34 14 IAMs_20 IAMs_20 07 59 54.4
comp=Z,4µm,20.0s
V52A **Sevierville** 142.34 1 P PKPdf 06 49 28.2 -1.7
baz=359
V54A **Nebo** 142.38 358 P PKPdf 06 49 30.1 +0.1
baz=2.0
UALR **University of** 142.40 12 PKPdf 06 49 28.0 -2.0
UALR IAMs_20 IAMs_20 08 04 23.0
comp=Z,4µm,21.0s
V50A **Pikevile** 142.46 3 P PKPdf 06 49 27.0 -3.1
baz=357
V53A **Saluda** 142.51 360 P PKPdf 06 49 27.6 -2.7
baz=0.6
X40A **Basin Creek Fa** 142.57 13 P PKPdf 06 49 27.5 -2.9
baz=344
X40A **Basin Creek Fa** 142.57 13 PKPdf 06 49 27.9 -2.5
CPCT **Cooper Cave** 142.71 2 IAMs_20 IAMs_20 08 02 57.0
comp=Z,4µm,19.0s
BDFB **Brasilia** 142.82 247 PKP PKPdf 06 49 29.6 -1.8
comp=Z,1.7nm,0.8s,baz=176,slow=8.3,SNR=4.0
BDFB **Brasilia** 142.82 247 IAMs_20 IAMs_20 07 57 09.3
comp=Z,4µm,18.0s
PLAL **Pickwick Lake** 142.91 7 PKPdf 06 49 30.6 -0.4
W50A **Signal Mountai** 142.92 3 P PKiKP 06 49 35.8 +1.6
baz=356
X43A **Marvell** 142.94 11 P PKPdf 06 49 28.4 -2.6
baz=347
X43A **Marvell** 142.94 11 IAMs_20 IAMs_20 08 00 25.2
comp=Z,4µm,22.0s
W49A **Belvidere** 142.94 4 P PKPdf 06 49 28.1 -2.9
baz=355
KMSC **Kings Mountain** 143.00 358 P PKiKP 06 49 32.9 -1.4
baz=3.0
KMSC **Kings Mountain** 143.00 358 PKPdf 06 49 30.4 -0.6
W53A **Cullowhee** 143.01 0 P PKPdf 06 49 32.8 +1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=360						
TX31	**Lajitas Ar. Si**	**143.15**	**31**		PKPbc	06 49 29.8	+1.3
TX32	**Lajitas Array**	**143.15**	**31**		PKPbc	06 49 29.7	+1.2
TXAR	**Lajitas Array**	**143.16**	**31**	PKIKP	PKPbc	06 49 29.9	+1.4
TXAR	**Lajitas Array**	**143.16**	**31**	PKhKP	PKPbc	06 49 28.6	+0.1
	comp=Z,4.6nm,0.7s,baz=270,slow=2.5,SNR=22						
TXAR				PP	**PP**	**06 52 40.2**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=32,slow=22,SNR=1.7						
TXAR	**Lajitas Array**	**143.16**	**31**		PKPbc	06 49 29.9	+1.4
OXF	**Oxford**	**143.19**	**9**	P	PKPbc	06 49 29.1	+0.8
	baz=350						
WLAR	**White Oak Lake**	**143.27**	**14**	IAMs_20	IAMs_20	08 00 41.1	
	comp=Z,4µm,21.0s						
CCAR	**Cane Creek**	**143.35**	**12**	PKPdf	PKPbc	06 49 29.7	+1.0
CCAR				IAMs_20	IAMs_20	08 00 48.1	
	comp=Z,3µm,21.0s						
X48A	**Hartselle**	**143.54**	**5**	P	PKPbc	06 49 29.7	+0.4
	baz=354						
WHTX	**Lake Whitney,**	**143.56**	**21**	P	PKPbc	06 49 30.7	+1.3
	baz=336						
WHTX	**Lake Whitney,**	**143.56**	**21**		PKPbc	06 49 30.1	+0.7
WHTX				IAMs_20	IAMs_20	07 57 33.3	
	comp=Z,4µm,22.0s						
FPAL	**Fort Paine**	**143.56**	**3**	IAMs_20	IAMs_20	08 04 11.5	
	comp=Z,3µm,20.0s						
X52A	**Dahlonega**	**143.57**	**1**	P	**PKPdf**	**06 49 31.3**	**-0.9**
	baz=359						
X51A	**Calhoun**	**143.57**	**2**	P	PKPbc	06 49 30.2	+0.8
	baz=357						
X51A	**Calhoun**	**143.57**	**2**	IAMs_20	IAMs_20	08 05 14.8	
	comp=Z,4µm,20.0s						
X54A	**Belton**	**143.62**	**359**	P	PKPbc	06 49 30.8	+1.2
	baz=1.3						
X56A	**White Oak**	**143.63**	**357**	P	**PKPdf**	**06 49 30.9**	**-1.3**
	baz=3.5						
X53A	**Estanollee**	**143.67**	**0**	P	PKPbc	06 49 30.4	+0.7
	baz=360						
X55A	**Gracelyn & Ava**	**143.68**	**358**	P	**PKPdf**	**06 49 32.6**	**+0.3**
	baz=2.5						
Z41A	**Richland Creek**	**143.75**	**14**	P	**PKPdf**	**06 49 31.7**	**-0.8**
	baz=344,SNR=9.7						
Z41A	**Richland Creek**	**143.75**	**14**	IAMs_20	IAMs_20	08 01 06.9	
	comp=Z,4µm,20.0s						
JSC	**Jenkinsville**	**143.85**	**357**	IAMs_20	IAMs_20	08 02 26.0	
	comp=Z,3µm,20.0s						
JCT	**Junction City**	**143.99**	**25**	P	PKPbc	06 49 30.9	0.0
	baz=331						
JCT	**Junction City**	**143.99**	**25**	PKIKP	PKPbc	06 49 30.9	+0.1
JCT	**Junction City**	**143.99**	**25**		PKPbc	06 49 30.9	+0.1
JCT				IAMs_20	IAMs_20	08 04 52.3	
	comp=Z,4µm,21.0s						
Y58A	**Scranton**	**144.12**	**355**	P	**PKPdf**	**06 49 33.3**	**+0.2**
	baz=5.9						
Y49A	**Blount Mountai**	**144.19**	**5**	P	PKPbc	06 49 32.1	+0.8
	baz=354						
Y51A	**Rockmart**	**144.23**	**3**	P	**PKPdf**	**06 49 33.3**	**0.0**
	baz=357						
Y52A	**Lilburn**	**144.30**	**1**	P	**PKPdf**	**06 49 33.0**	**-0.4**
	baz=358						
Y52A	**Lilburn**	**144.30**	**1**		**PKPdf**	**06 49 33.1**	**-0.3**
Y54A	**Tignall**	**144.31**	**359**	P	**PKPab**	**06 49 31.4**	**+0.1**
	baz=0.8						
Y53A	**Monroe**	**144.32**	**1**	P	**PKPdf**	**06 49 32.7**	**-0.8**
	baz=359						
435B	**Jarrell**	**144.60**	**22**	P	**PKPdf**	**06 49 33.6**	**-0.4**
	baz=335						
435B	**Jarrell**	**144.60**	**22**		PKPbc	06 49 32.7	+0.1
435B				IAMs_20	IAMs_20	08 04 32.1	
	comp=Z,4µm,20.0s						
NATX	**Nacogdoches**	**144.68**	**17**	P	PKPbc	06 49 32.8	0.0
	baz=340						
NATX	**Nacogdoches**	**144.68**	**17**		**PKPab**	**06 49 32.4**	**-0.3**
Z58A	**St. Stephen**	**144.70**	**355**	P	PKPbc	06 49 32.9	0.0
	baz=5.7						
GOGA	**Godfrey**	**144.76**	**0**	P	**PKPdf**	**06 49 33.9**	**-0.3**
	baz=359						
GOGA	**Godfrey**	**144.76**	**0**	PKIKP	**PKPab**	**06 49 32.2**	**-0.8**
GOGA	**Godfrey**	**144.76**	**0**		**PKPab**	**06 49 32.2**	**-0.8**
GOGA	**Godfrey**	**144.76**	**0**	IAMs_20	IAMs_20	08 05 53.1	
	comp=Z,3µm,19.0s						
Z57A	**Bowman**	**144.80**	**356**	P	**PKPdf**	**06 49 34.3**	**0.0**
	baz=4.2						
Z51A	**Franklin**	**144.80**	**3**	P	**PKPdf**	**06 49 34.7**	**+0.4**
	baz=356						
Z50A	**Ashland**	**144.82**	**4**	P	**PKPab**	**06 49 32.8**	**-0.4**
	baz=355						
Z50A	**Ashland**	**144.82**	**4**		**PKPab**	**06 49 32.4**	**-0.9**
Z53A	**Monticello**	**144.89**	**1**	P	**PKPab**	**06 49 33.0**	**-0.5**
	baz=359						
Z54A	**Sparta**	**144.94**	**360**	P	**PKPab**	**06 49 32.6**	**-1.0**
	baz=0.5						
Z55A	**Blythe**	**144.94**	**359**	P	**PKPdf**	**06 49 35.2**	**+0.7**
	baz=1.8						
LRAL	**Lakeview Retre**	**144.95**	**6**	P	PKPbc	06 49 34.0	+0.3
	baz=353,SNR=8.7						
LRAL	**Lakeview Retre**	**144.95**	**6**		**PKPab**	**06 49 32.8**	**-0.9**
LRAL				IAMs_20	IAMs_20	08 07 11.2	
	comp=Z,4µm,18.0s						
Z52A	**Williamson**	**144.96**	**2**	P	**PKPab**	**06 49 33.5**	**-0.2**
	baz=358,SNR=15						
VBMS	**Vicksburg**	**145.24**	**11**	P	**PKPbc**	**06 49 34.5**	**-0.1**
	baz=347,SNR=12						
VBMS	**Vicksburg**	**145.24**	**11**		**PKPbc**	**06 49 34.5**	**-0.1**
CPUP	**Villa Florida**	**145.36**	**223**	PKIKP	**PKPdf**	**06 49 36.0**	**+0.6**
CPUP	**Villa Florida**	**145.36**	**223**	PKPbc	**PKPdf**	**06 49 36.9**	**+1.5**
	comp=Z,11nm,0.7s,baz=110,slow=1.3,SNR=17						
CPUP	**Villa Florida**	**145.36**	**223**		**PKPdf**	**06 49 36.0**	**+0.6**
152A	**Waverly Hall**	**145.47**	**2**	P	**PKPbc**	**06 49 35.0**	**-0.5**
	baz=357,SNR=25						
152A	**Waverly Hall**	**145.47**	**2**		**PKPbc**	**06 49 34.9**	**-0.5**
156A	**Sylvania**	**145.48**	**358**	P	**PKPab**	**06 49 36.1**	**+0.5**
	baz=2.9						
153A	**Fort Valley**	**145.51**	**1**	P	**PKPdf**	**06 49 34.6**	**-1.0**
	baz=359,SNR=14						
155A	**Kite**	**145.54**	**359**	P	**PKPab**	**06 49 36.1**	**+0.3**
	baz=1.2						
GO05	**Huala**	**145.55**	**196**		**PKPab**	**06 49 36.5**	**+0.6**
154A	**Montrose**	**145.56**	**360**	P	**PKPdf**	**06 49 35.3**	**-0.3**
	baz=0.1,SNR=8.2						
154A	**Montrose**	**145.56**	**360**		**PKPdf**	**06 49 35.2**	**-0.4**
154A				IAMs_20	IAMs_20	08 00 28.2	
	comp=Z,4µm,20.0s						
H06E1	**SOCORRO T-PHAS**	**145.75**	**52**	PKPbc	**PKPbc**	**06 49 36.7**	**0.0**
	SNR=6.7						
HKT	**Hockley**	**145.98**	**20**	PKP2	**PKPbc**	**06 49 37.1**	**+0.1**
HKT	**Hockley**	**145.98**	**20**		**PKPbc**	**06 49 37.1**	**+0.1**
833A	**Chaparral WMA,**	**146.04**	**26**	P	**PKPbc**	**06 49 37.2**	**-0.1**
	baz=330						
833A	**Chaparral WMA,**	**146.04**	**26**		**PKPbc**	**06 49 37.0**	**-0.3**
833A				IAMs_20	IAMs_20	08 05 06.6	
	comp=Z,4µm,19.0s						
250A	**Grady**	**146.06**	**5**	P	**PKPbc**	**06 49 37.0**	**-0.3**
	baz=354,SNR=16						
253A	**Americus**	**146.09**	**1**	P	**PKPbc**	**06 49 37.4**	**0.0**
	baz=358						
253A	**Americus**	**146.09**	**1**		**PKPdf**	**06 49 36.4**	**-0.2**
252A	**Lumpkin**	**146.14**	**2**	P	**PKPbc**	**06 49 37.1**	**-0.4**
	baz=357,SNR=8.0						
256A	**Glennville**	**146.17**	**358**	P	**PKPbc**	**06 49 37.6**	**0.0**
	baz=2.2						
254A	**Abbeville**	**146.22**	**0**	P	**PKPab**	**06 49 38.9**	**+0.6**
	baz=360						
255A	**Hazlehurst**	**146.24**	**359**	P	**PKPab**	**06 49 39.1**	**+0.7**
	baz=1.2						
255A	**Hazlehurst**	**146.24**	**359**		**PKPdf**	**06 49 35.0**	**-1.8**
352A	**Blakely**	**146.65**	**3**	P	**PKPbc**	**06 49 39.2**	**+0.2**
	baz=357,SNR=15						
352A	**Blakely**	**146.65**	**3**		**PKPdf**	**06 49 37.6**	**+0.1**
TIGA	**Tifton**	**146.73**	**1**	P	**PKPab**	**06 49 40.0**	**-0.3**
	baz=359						
TIGA	**Tifton**	**146.73**	**1**		**PKPdf**	**06 49 37.7**	**+0.1**
TIGA				IAMs_20	IAMs_20	08 00 44.2	
	comp=Z,4µm,21.0s						
BRAL	**Brewton**	**146.79**	**6**	P	**PKPab**	**06 49 40.9**	**+0.3**
	baz=353,SNR=5.8						
BRAL	**Brewton**	**146.79**	**6**		**PKPdf**	**06 49 37.0**	**-0.7**
353A	**Camilla**	**146.80**	**2**	P	**PKPab**	**06 49 40.5**	**-0.1**
	baz=358						
355A	**Pearson**	**146.82**	**360**	P	**PKPab**	**06 49 40.6**	**-0.1**
	baz=0.5						
356A	**Blackshear**	**146.83**	**358**	P	**PKPab**	**06 49 40.8**	**+0.1**
	baz=1.9						
PEL	**Peldehue**	**146.90**	**199**	IAMs_20	IAMs_20	07 52 57.4	
	comp=Z,3µm,20.0s						
453A	**Whigham**	**147.29**	**2**	P	**PKPbc**	**06 49 40.4**	**-0.4**
	baz=358						
455A	**Stateville**	**147.42**	**360**	P	**PKPab**	**06 49 42.8**	**-0.3**
	baz=0.2						
557A	**Orange Park**	**148.12**	**358**	P	**PKPbc**	**06 49 43.1**	**0.0**
	baz=2.7						
656A	**Willston**	**148.79**	**359**	P	**PKPbc**	**06 49 43.8**	**-1.1**
	baz=1.2						
GO04	**Tololo Observa**	**149.64**	**202**	IAMs_20	IAMs_20	07 55 30.3	
	comp=Z,3µm,21.0s						
ANWB	**Willy Bob**	**151.26**	**314**	IAMs_20	IAMs_20	08 01 50.2	
	comp=Z,3µm,21.0s						
GO03	**Copiap**	**151.72**	**205**	IAMs_20	IAMs_20	08 03 30.6	
	comp=Z,2µm,19.0s						
BBGH	**Gun Hill**	**152.16**	**303**	IAMs_20	IAMs_20	07 59 03.7	
	comp=Z,4µm,20.0s						
SEUS	**St. Eustatius**	**152.23**	**315**	IAMs_20	IAMs_20	07 56 37.7	
	comp=Z,3µm,21.0s						
SABA	**Saba**	**152.33**	**316**	IAMs_20	IAMs_20	07 57 39.2	
	comp=Z,3µm,22.0s						
FDF	**Fort de France**	**152.59**	**308**	IAMs_20	IAMs_20	08 13 56.0	
	comp=Z,2µm,21.0s						
GRTK	**Grand Turk**	**153.83**	**334**	IAMs_20	IAMs_20	08 10 53.4	
	comp=Z,3µm,21.0s						
GRGR	**Grenville**	**154.43**	**304**	IAMs_20	IAMs_20	08 15 39.6	
	comp=Z,3µm,21.0s						
LVC	**Limon Verde**	**155.29**	**213**	IAMs_20	IAMs_20	08 01 03.8	
	comp=Z,2µm,20.0s						
TLIG	**Tlapa**	**155.31**	**37**		**PKPdf**	**06 49 56.6**	**+5.4**
PB10	**IPOC Station P**	**155.39**	**209**	IAMs_20	IAMs_20	07 54 24.9	
	comp=Z,2µm,22.0s						
SDDR	**Presa de Saban**	**156.09**	**331**	IAMs_20	IAMs_20	08 03 32.7	
	comp=Z,4µm,21.0s						
PB04	**IPOC Station P**	**156.18**	**211**	IAMs_20	IAMs_20	07 57 35.0	
	comp=Z,2µm,21.0s						
GTBY	**Guantanamo Bay**	**156.81**	**340**	IAMs_20	IAMs_20	08 15 14.7	
	comp=Z,3µm,18.0s						
PB01	**IPOC Station P**	**156.87**	**214**	IAMs_20	IAMs_20	08 14 47.8	
	comp=Z,2µm,21.0s						
TEIG	**Tepich**	**157.33**	**13**	IAMs_20	IAMs_20	08 06 29.6	
	comp=Z,3µm,22.0s						
GO01	**Chusmiza**	**157.77**	**217**	IAMs_20	IAMs_20	07 58 03.9	
	comp=Z,3µm,20.0s						
PB11	**IPOC Station P**	**157.97**	**216**	IAMs_20	IAMs_20	07 56 08.1	
	comp=Z,2µm,22.0s						
MNMC	**Minye Minye**	**158.43**	**217**	IAMs_20	IAMs_20	07 57 55.2	
	comp=Z,2µm,21.0s						
SAML	**Samuel**	**158.98**	**250**	IAMs_20	IAMs_20	07 54 24.7	
	comp=Z,3µm,20.0s						
MTDJ	**Mount Denham**	**159.14**	**345**	IAMs_20	IAMs_20	08 17 01.0	
	comp=Z,4µm,20.0s						
LPAZ	**La Paz**	**159.51**	**225**	PKP	**PKPdf**	**06 49 58.5**	**+1.3**
	comp=Z,2.4nm,0.9s,baz=24,slow=4.7,SNR=6.7						
ROSC	**El Rosal**	**168.85**	**308**	PKP	**PKPdf**	**06 50 07.5**	**+2.1**
	comp=Z,10nm,1.0s,baz=292,slow=8.4,SNR=3.5						

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*SKHL **01** 06:32:25.6±0.8, 44°.85N×150°.23E, h44^{km}±4^{km}, mb4.8/5*
*JMA **01** 06:32:26.4±0.5, 44°.65N×150°.13E, h105^{km}, M3.7*
ISC 01 06:32:22.8±2.9**, 44°.74N**±0°.09×**150°.4E**±0°.2**, h51**^{km}**, n25,** σ**1**^{s}**99**/37**, 1C, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.87**	**286**	*i* P	**Pn**	**06 32 52.5**	**+0.1**
KUR				AMB	AMB	06 32 56.0	
	300nm,0.3s						
KUR				*i* S	**Sn**	**06 33 13.1**	**-1.7**
KUR				A	A	06 33 14.4	
	750nm,0.3s						
KUR				A	A	06 33 14.4	
	1µm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.34**	**259**	⇑*i*P	**Pn**	**06 33 14.9**	**+2.5**
YUK				AMB	AMB	06 33 16.0	
	160nm,0.4s						
YUK				*i* S	**Sn**	**06 33 51.3**	**+0.5**
YUK				A	A	06 33 56.0	
	180nm,0.4s						
YUK				A	A	06 33 56.0	
	490nm,0.4s						
GRPR	**Tuman**	**3.41**	**259**	*e*P	**Pn**	**06 33 15.2**	**+1.8**
GRPR				AMB	AMB	06 33 19.0	
	100nm,0.4s						
GRPR				*i* S	**Sn**	**06 33 53.1**	**+0.5**
GRPR				A	A	06 33 53.5	
	530nm,0.4s						
GRPR				A	A	06 33 53.5	
	170nm,0.4s						
NEM2	**Nemuro 2**	**3.63**	**249**	P	**Pn**	**06 33 18.5**	**+2.0**
NEM2				*e*S	**Sn**	**06 33 58.4**	**+0.3**
NMR	**Nemuro--Hokkai**	**3.64**	**250**	*i* P	**Pn**	**06 33 18.8**	**+2.2**
NMR				*i* S	**Sn**	**06 33 59.8**	**+1.5**
GLVR	**Golovnino**	**3.65**	**256**	*e*P	**Pn**	**06 33 19.2**	**+2.4**
GLVR				AMB	AMB	06 33 21.0	
	190nm,0.5s						
GLVR				*e*S	**Sn**	**06 33 59.0**	**+0.4**
GLVR				A	A	06 34 11.0	
	420nm,0.5s						
GLVR				A	A	06 34 11.0	
	320nm,0.5s						
JRA	**Rausu**	**3.88**	**260**	P	**Pn**	**06 33 22.5**	**+2.7**
JNK	**Nakash**	**4.25**	**256**	P	**Pn**	**06 33 27.4**	**+2.4**
JAK	**Akkeshi**	**4.48**	**249**	P	**Pn**	**06 33 29.8**	**+1.6**
JAK				*e*S	**Sn**	**06 34 19.2**	**+0.2**
JTKR	**Abashiri--Toko**	**4.72**	**263**	P	**Pn**	**06 33 33.4**	**+1.9**
JAR	**Ashorobuto**	**5.00**	**256**	P	**Pn**	**06 33 38.1**	**+2.8**
JOB	**Onbets**	**5.10**	**251**	P	**Pn**	**06 33 38.6**	**+2.0**
JOB				*e*S	**Sn**	**06 34 34.2**	**+0.1**
JCH	**Churui**	**5.53**	**250**	P	**Pn**	**06 33 44.6**	**+2.0**
JCH				*e*S	**Sn**	**06 34 43.9**	**-1.0**
JKK2	**Kamakawa 2**	**5.57**	**264**	P	**Pn**	**06 33 44.9**	**+1.9**
YSS	**Yuzh-Sakhalins**	**5.79**	**295**	*e*P	**Pn**	**06 33 47.3**	**+1.3**
YSS				AMB	AMB	06 33 48.5	
	40nm,0.3s						
JNBK	**Urakawa-nobuka**	**6.09**	**249**	P	**Pn**	**06 33 51.9**	**+1.8**
JNBK				*e*S	**Sn**	**06 34 57.8**	**-0.6**
JKB	**Kayabe**	**7.41**	**251**	P	**Pn**	**06 34 09.0**	**+0.7**
JKB				*e*S	**Sn**	**06 35 27.9**	**-3.0**
JYM2	**Yakumo 2**	**7.76**	**254**	P	**Pn**	**06 34 14.4**	**+1.3**
JANG	**Nango**	**7.88**	**239**	P	**Pn**	**06 34 15.8**	**+1.0**
JANG				*e*S	**Sn**	**06 35 38.7**	**-3.8**
JTM	**Tenmabayashi**	**7.93**	**243**	*e*S	**Sn**	**06 35 39.7**	**-3.9**
JTH	**Tanohata**	**7.94**	**236**	*e*S	**Sn**	**06 35 40.1**	**-3.9**
OFUJ	**Ofunato**	**8.62**	**232**	*e*S	**Sn**	**06 35 59.8**	**-1.0**
EKMR	**Ekimchan**	**14.16**	**312**	*e*P	**Pn**	**06 35 40.2**	**-0.2**
BMKR	**Bomnak**	**17.08**	**313**	*e*P	**Pn**	**06 36 17.0**	**-0.8**
KROS	**Kirovskiy**	**17.95**	**311**	*e*P	**Pn**	**06 36 27.0**	**-1.5**

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*ISCJB **01** 06:42:08.3±0.4, 37°.23N±0°.03×71°.93E±0°.04, h130^{km}, mb3.4/6, Error ellipse: s-maj=5.3km s-min=4.0km az=145.5*
*IDC **01** 06:42:08.8±3.1, 37°.26N×71°.95E, h109^{km}±27^{km}, mb3.5/6, mb1 3.6/12, mb1mx3.3/63, mbtmp3.9/12, Error ellipse: s-maj=24.1km s-min=18.7km az=172.0*
*NNC **01** 06:42:09.9±5.3, 37°.77N×71°.32E, h0^{km}, mb4.2, mpv3.9, Error ellipse: s-maj=49.8km s-min=24.4km az=151.0*
*NEIC **01** 06:42:11.4±1.8, 37°.41N±0°.06×71°.92E±0°.09, h129^{km}±6^{km}, mb4.2/5*
ISC 01 06:42:10.0±0.7**, 37°.38N**±0°.06×**71°.84E**±0°.05**, h130**^{km}**, n56,** σ**2**^{s}**27**/69**, mb3.5**/9**, 4C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GAR	**Garm**	**2.01**	**324**		**Pn**	**06 42 45.8**	**+1.6**
GAR				Sn	**Sn**	**06 43 11.0**	**+0.6**
CHGR	**Chuyangaron**	**2.47**	**302**		**Pn**	**06 42 51.1**	**+1.3**
CHGR				Sn	**Sn**	**06 43 21.0**	**+0.6**
BTK	**Batken**	**2.79**	**344**		**Pn**	**06 42 56.9**	**+2.9**
KBL	**Kabul**	**3.63**	**219**		**Pn**	**06 43 07.9**	**+2.8**
NIL	**Nilore**	**3.90**	**162**		**Pn**	**06 43 10.4**	**+1.9**
ARSB	**Arslanbob**	**4.04**	**12**	Pn	**Pn**	**06 43 11.6**	**+1.3**
AML	**Almayashu**	**4.96**	**16**	P	**Pn**	**06 43 24.1**	**+1.3**
	SNR=9.8						
NRN	**Naryn**	**5.17**	**37**		**Pn**	**06 43 25.4**	**-0.3**
NRN				Sn	**Sn**	**06 44 23.8**	**-0.7**
UCH	**Uchtor**	**5.26**	**22**	P	**Pn**	**06 43 28.4**	**+1.5**
	SNR=44						
KZA	**Kyzart**	**5.38**	**28**	P	**Pn**	**06 43 29.6**	**+1.2**
	SNR=13						
EKS2	**Erkin-Say**	**5.48**	**15**	P	**Pn**	**06 43 31.6**	**+2.0**
	SNR=33						
AAK	**Ala-Archa**	**5.63**	**20**	P	**Pn**	**06 43 33.2**	**+1.5**
	6.1nm,0.3s,baz=165,slow=6.5,SNR=30						
AAK				S	**Sn**	**06 44 35.0**	**-0.3**
	5.6nm,0.3s,baz=313,slow=22,SNR=12						
AAK	**Ala-Archa**	**5.63**	**20**	P	**Pn**	**06 43 33.4**	**+1.8**
	SNR=12						
AAK	**Ala-Archa**	**5.63**	**20**		**Pn**	**06 43 32.9**	**+1.2**
AAK	**Ala-Archa**	**5.63**	**20**	⇑P	**Pn**	**06 43 33.3**	**+1.6**
	10nm,0.5s						
AAK				⇑S	**Sn**	**06 44 34.6**	**-0.7**
	32nm,0.6s						
KK31	**Karatay Array**	**5.80**	**350**		**Pn**	**06 43 35.6**	**+1.8**
KK31				Sn	**Sn**	**06 44 38.1**	**-1.2**
KK31	**Karatay Array**	**5.80**	**350**	⇓P	**Pn**	**06 43 33.9**	**+0.1**
	5.3nm,0.3s,baz=176,slow=13,SNR=100						
KK31				S	**Sn**	**06 44 37.0**	**-2.3**
	18nm,0.3s,baz=179,slow=23,SNR=21						
KKAR	**Karatay Array**	**5.80**	**350**		**Pn**	**06 43 35.6**	**+1.8**
KKAR				Sn	**Sn**	**06 44 37.9**	**-1.3**
KKAR	**Karatay Array**	**5.80**	**350**	Pn	**Pn**	**06 43 35.4**	**+1.6**
KKAR				Sn	**Sn**	**06 44 38.1**	**-1.2**
BOOM	**Boomskoye usch**	**6.00**	**30**	Pn	**Pn**	**06 43 38.5**	**+2.0**
CHMS	**Chumysh**	**6.04**	**21**	P	**Pn**	**06 43 38.5**	**+1.6**
	SNR=9.2						
USP	**Ospenovka**	**6.22**	**18**	P	**Pn**	**06 43 40.5**	**+1.1**
	SNR=16						
TKM2	**Tokmak 2**	**6.24**	**26**	⇓P	**Pn**	**06 43 41.5**	**+1.7**
	5.7nm,0.7s						
TKM2				⇓S	**Sn**	**06 44 50.5**	**+0.6**
	25nm,1.1s						
KDJ	**Kajisay**	**6.28**	**39**	Pn	**Pn**	**06 43 41.5**	**+1.2**
TARG	**Taragay, Kyrgy**	**6.33**	**45**	Pn	**Pn**	**06 43 41.9**	**+0.6**
TARG				Sn	**Sn**	**06 44 51.2**	**-1.3**
GEYT	**Alibeck**	**10.89**	**277**	P	**Pn**	**06 44 40.9**	**-1.3**
	2.5nm,0.3s,baz=108,slow=11,SNR=19						
GEYT				S	Sn	06 46 35.8	-6.5
	0.8nm,0.3s,baz=225,slow=33,SNR=2.4						
GYA0B	**ALIBECK ARRAY**	**10.89**	**277**	Pn	**Pn**	**06 44 41.1**	**-1.2**
GYA0B	**ALIBECK ARRAY**	**10.89**	**277**	⇓P	**Pn**	**06 44 40.0**	**-2.2**
GYA0B				⇑S	**Sn**	**06 46 38.7**	**-3.6**
MKAR	**Makanchi Array**	**12.19**	**36**	P	**Pn**	**06 44 59.8**	**+0.6**
	0.1nm,0.3s,baz=225,slow=15,SNR=2.8						
DANN	**Dangsing**	**13.46**	**129**	*e*P	Pn	06 45 12.2	-3.9
	32nm,0.3s						
DANN				*e*S	Sn	06 47 30.3	-15
KOLN	**Koldanda**	**13.78**	**131**	*e*P	**Pn**	**06 45 16.6**	**-3.5**
	16nm,0.3s						
GKN	**Gorkha**	**14.26**	**127**	*e*P	**Pn**	**06 45 22.9**	**-3.2**
	48nm,0.3s						
AB31	**Akbulak array**	**14.67**	**328**	⇑P	**Pn**	**06 45 30.9**	**0.0**
	1.1nm,0.3s,baz=136,slow=14,SNR=60						
AB31				⇓S	**Sn**	**06 48 06.6**	**-6.5**
	5.3nm,0.7s,baz=160,slow=18,SNR=9.1						
ABKAR	**Akbulak array**	**14.67**	**328**	Pn	**Pn**	**06 45 32.0**	**+1.0**
KKN	**Kakani**	**14.81**	**126**	*e*P	**Pn**	**06 45 29.7**	**-3.5**
DMN	**Daman**	**14.83**	**127**	*e*P	**Pn**	**06 45 29.9**	**-3.5**
	22nm,0.3s						
PKIN	**Phulchoki**	**15.04**	**127**	*e*P	**Pn**	**06 45 33.0**	**-3.0**
PKI	**Pulchoki**	**15.05**	**127**	*e*P	**Pn**	**06 45 32.9**	**-3.3**
	13nm,0.3s						
GUN	**Gumba**	**15.12**	**125**	*e*P	**Pn**	**06 45 33.1**	**-4.1**
	23nm,0.4s						
JIRN	**Jiri**	**15.49**	**125**	*e*P	**Pn**	**06 45 38.2**	**-3.6**
	77nm,0.3s						
BVAR	**Borovoye Array**	**15.68**	**357**	P	**Pn**	**06 45 45.0**	**+1.5**
	0.1nm,0.3s,baz=162,slow=11,SNR=2.9						
RAMN	**Ramite**	**16.24**	**126**	*e*P	**Pn**	**06 45 47.6**	**-3.3**
AKTO	**Aktyubinsk**	**16.38**	**327**	P	**P**	**06 45 54.3**	**+1.7**
	0.8nm,0.3s,baz=130,slow=8.7,SNR=9.7						
AKTO				S	**Sn**	**06 48 47.2**	**-6.9**
	0.2nm,0.3s,baz=180,slow=21,SNR=2.3						
ODAN	**Odare**	**16.82**	**124**	*e*P	**Pn**	**06 45 55.6**	**-2.4**
ZALV	**Zalesovo Beam**	**18.84**	**24**	P	**Pn**	**06 46 22.1**	**+0.5**
	0.3nm,0.3s,baz=210,slow=10,SNR=3.5						
BRTR	**Keskin Array B**	**29.82**	**286**	P	**P**	**06 48 07.6**	**+2.8**
	0.8nm,0.8s,baz=86,slow=9.4,SNR=2.5						
FINES	**FINESS Array B**	**37.13**	**325**	P	**P**	**06 49 09.6**	**+1.9**
	5.5nm,1.0s,baz=113,slow=11,SNR=3.0						
INK	**Inuvik**	**72.93**	**10**	P	**P**	**06 53 26.2**	**+1.7**
	1.0nm,1.0s,baz=318,slow=7.0,SNR=4.1						
INK	**Inuvik**	**72.93**	**10**	P	**P**	**06 53 26.0**	**+1.6**
KTH	**Kantishna Hill**	**73.82**	**18**	P	**P**	**06 53 31.4**	**+1.5**
KTH				IAmb	IAmb	06 53 50.1	
	comp=Z,5.9nm,1.3s						
PPLA	**Purkeypile**	**74.03**	**19**	P	**P**	**06 53 32.7**	**+1.5**
SVW2	**Sparrevohn**	**74.54**	**22**	P	**P**	**06 53 34.3**	**+0.2**
SVW2				IAmb	IAmb	06 53 50.3	
	comp=Z,5.3nm,1.2s						
EGAK	**Eagle**	**74.93**	**14**	P	**P**	**06 53 38.0**	**+1.7**
EGAK				IAmb	IAmb	06 53 48.2	
	comp=Z,5.8nm,1.3s						
YKA	**Yellowknife Ar**	**80.33**	**3**	P	**P**	**06 54 07.3**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=351,slow=5.6,SNR=6.1						
WRA	**Warramunga Arr**	**81.89**	**123**	P	**P**	**06 54 14.7**	**-0.4**
	comp=Z,0.4nm,0.9s,baz=106,slow=31,SNR=3.6						
ASAR	**Alice Springs**	**84.21**	**125**	P	**P**	**06 54 28.2**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=319,slow=4.1,SNR=2.2						

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*ISCJB **01** 06:42:38.6±0.4, 7°.13S±0°.03×128°.62E±0°.05, h10^{km}, mb4.0/8, Error ellipse: s-maj=6.6km s-min=4.8km az=166.9*
*IDC **01** 06:42:39.1±0.7, 7°.05S×128°.51E, h0^{km}, mb4.2/8, mb1 4.2/13, mb1mx3.9/52, mbtmp4.2/13, ML3.9/5, Error ellipse: s-maj=27.1km s-min=15.4km az=79.0*
*NEIC **01** 06:42:43.1±2.6, 7°.12S±0°.07×128°.56E±0°.06, h27^{km}±7^{km}, mb4.4/12*
ISC 01 06:42:40.7±0.6**, 7°.17S**±0°.05×**128°.61E**±0°.07**, h10**^{km}**, n44,** σ**1**^{s}**67**/52**, mb4.3**/13**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.79**	**107**	Pn	**Pn**	**06 43 27.2**	**+1.8**
SOEI	**Soe**	**5.00**	**239**	Pn	**Pn**	**06 43 57.0**	**+0.9**
FAKI	**Fak Fak**	**5.57**	**41**	Pn	**Pn**	**06 44 05.3**	**+1.6**
BATI	**Baumata**	**5.75**	**238**	Pn	**Pn**	**06 44 07.4**	**+1.2**
	4.9nm,0.3s,baz=142,slow=23,SNR=1.9						
BATI				Sn	**Sn**	**06 45 14.1**	**+1.9**
	1.1nm,0.3s,baz=266,slow=22,SNR=1.2						
MMRI	**Maumere**	**6.48**	**257**	Pn	**Pn**	**06 44 17.4**	**+1.2**
SIJI	**Sorong**	**6.80**	**23**	Pn	**Pn**	**06 44 20.9**	**+0.2**
	3.5nm,0.3s,baz=215,slow=17,SNR=5.6						
KNRA	**Kununurra**	**8.45**	**179**	Pn	**Pn**	**06 44 44.9**	**+1.6**
KNRA					**Sn**	**06 46 21.4**	**+2.5**
KAPI	**Kappang**	**9.07**	**283**	Pn	**Pn**	**06 44 51.1**	**-0.6**
	0.7nm,0.3s,baz=144,slow=11,SNR=4.3						
FITZ	**Fitzroy Crossi**	**11.24**	**195**	Pn	**Pn**	**06 45 21.6**	**+0.1**
	0.5nm,0.3s,baz=16,slow=7.2,SNR=2.3						
FITZ				Sn	**Sn**	**06 47 22.8**	**-4.6**
	1.2nm,0.3s,baz=308,slow=20,SNR=5.8						
WB0	**Warramunga Arr**	**13.72**	**156**	Pn	**Pn**	**06 45 55.5**	**0.0**
WRAB	**Tennant Creek**	**13.85**	**157**	Pn	**Pn**	**06 45 57.5**	**+0.2**
WRA	**Warramunga Arr**	**13.86**	**157**	Pn	**Pn**	**06 45 55.7**	**-1.7**
	0.8nm,0.3s,baz=329,slow=13,SNR=14						
WRA				Sn	**Sn**	**06 48 26.1**	**-5.3**
	1.3nm,0.3s,baz=332,slow=20,SNR=6.5						
WRA	**Warramunga Arr**	**13.86**	**157**		**Pn**	**06 45 58.5**	**+1.2**
WRA					**Sn**	**06 48 28.8**	**-2.7**
WB2	**Warramunga Arr**	**13.86**	**157**	Pn	**Pn**	**06 45 57.4**	**0.0**
WR0	**Warramunga Arr**	**13.95**	**156**	Pn	**Pn**	**06 45 59.2**	**+0.6**
WR0					**Sn**	**06 48 32.9**	**-0.8**
JAGI	**Jajag, Banyuwa**	**14.38**	**264**	Pn	**Pn**	**06 46 05.1**	**+0.5**
PSAC2	**Pilbara Seismi**	**16.60**	**210**	Pn	**Pn**	**06 46 33.3**	**-0.4**
PSA00	**Pilbara Seismi**	**16.63**	**210**	Pn	**Pn**	**06 46 33.3**	**-0.8**
PSA00				IAmb	IAmb	06 46 41.1	
	comp=Z,29nm,1.4s						
AS31	**Alice Springs**	**17.17**	**163**	P	**P**	**06 46 44.6**	**+2.1**
ASAR	**Alice Springs**	**17.17**	**163**	P	**P**	**06 46 42.4**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=334,slow=10,SNR=9.7						
ASAR				S	**Sn**	**06 49 50.9**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=334,slow=20,SNR=8.1						
ASAR	**Alice Springs**	**17.17**	**163**	P	**P**	**06 46 44.5**	**+1.9**
XMIS	**Christmas Isla**	**22.92**	**260**	P	**P**	**06 47 44.6**	**-0.6**
FORT	**Forrest**	**23.49**	**181**	P	**P**	**06 47 51.9**	**+1.1**
FORT				IAmb	IAmb	06 48 11.1	
	comp=Z,15nm,0.8s						
MORW	**Morawa**	**24.80**	**207**	P	**P**	**06 48 04.1**	**+1.0**
MORW				IAmb	IAmb	06 48 07.6	
	comp=Z,14nm,1.2s						
BBOO	**Buckleboo**	**26.43**	**166**	P	**P**	**06 48 19.9**	**+2.1**
STKA	**Stephens Creek**	**27.40**	**155**	P	**P**	**06 48 28.3**	**+1.7**
	comp=Z,2.5nm,0.8s,baz=348,slow=8.9,SNR=4.6						
STKA	**Stephens Creek**	**27.40**	**155**	P	**P**	**06 48 28.5**	**+1.9**
HKPS	**Hong Kong Po S**	**32.52**	**335**		**S**	**06 54 30.5**	**+3.2**
USRK	**Ussuriysk Ar.**	**51.22**	**3**	P	**P**	**06 51 44.3**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=202,slow=8.5,SNR=5.1						
USRK	**Ussuriysk Ar.**	**51.22**	**3**	P	**P**	**06 51 44.6**	**+0.2**
SONM	**Songino Array**	**58.18**	**343**	P	**P**	**06 52 33.1**	**-1.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,0.9nm,1.0s,baz=144,slow=5.2,SNR=3.2						
MK31	**Makanchi Array**	**67.62**	**327**	P	**P**	**06 53 36.8**	**-1.0**
MK31				IAmb	IAmb	06 53 37.9	
	comp=Z,6.0nm,1.3s						
MKAR	**Makanchi Array**	**67.62**	**327**	P	**P**	**06 53 36.9**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=122,slow=7.7,SNR=25						
MKAR	**Makanchi Array**	**67.62**	**327**	P	**P**	**06 53 37.1**	**-0.7**
ARSB	**Arslanbob**	**70.10**	**319**	P	**P**	**06 53 52.4**	**-1.2**
ZALV	**Zalesovo Beam**	**71.13**	**334**	P	**P**	**06 53 57.8**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=134,slow=5.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**71.13**	**334**	P	**P**	**06 53 58.1**	**-1.3**
KURBB	**Kurchatov Arra**	**71.94**	**329**	P	**P**	**06 54 03.0**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=124,slow=5.0,SNR=8.0						
KURK	**Kurchatov**	**71.95**	**329**	P	**P**	**06 54 03.5**	**-0.8**
KURK				IAmb	IAmb	06 54 04.5	
	comp=Z,5.4nm,0.9s						
VNDA	**Vanda**	**72.45**	**173**	P	**P**	**06 54 06.4**	**-0.5**
	comp=Z,2.8nm,1.0s,baz=315,slow=1.4,SNR=2.1						
KKAR	**Karatay Array**	**72.57**	**319**	P	**P**	**06 54 07.3**	**-0.9**
KKAR	**Karatay Array**	**72.57**	**319**	P	**P**	**06 54 08.2**	**-0.1**
KKAR				IAmb	IAmb	06 54 08.3	
	comp=Z,2.9nm,1.1s						
BVAR	**Borovoye Array**	**77.48**	**328**	P	**P**	**06 54 35.7**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=58,slow=8.9,SNR=7.2						
LPAZ	**La Paz**	**151.40**	**145**	PKPbc	**PKiKP**	**07 02 37.8**	**+0.7**
	comp=Z,2.3nm,1.2s,baz=215,slow=12,SNR=2.3						
LPAZ				PKPab	**pPKPab**	**07 02 46.4**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=264,slow=1.8,SNR=5.1						

JMA 01 06:46:16.9±0.2**, 37°.06N×144°.30E, h41^{km}, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.57**	**300**	P	Pn	06 46 57.8	+1.8
JIKH				*e*S	Sn	06 47 27.8	+1.7
JIO	**Ouri**	**2.72**	**302**	P	Pn	06 46 59.7	+1.6
JIO				*e*S	Sn	06 47 31.9	+2.2
JFK	**Kawauchi**	**2.75**	**277**	*e*S	Sn	06 47 32.3	+1.7
JMST	**Minamisoumatoc**	**2.80**	**285**	P	Pn	06 47 00.5	+1.4
JMST				*e*S	Sn	06 47 33.3	+1.7
ONAJ	**Iwakimizuishiy**	**2.80**	**272**	P	Pn	06 47 00.6	+1.4
ONAJ				S	Sn	06 47 33.4	+1.6
JKMT	**Kesennumamotoy**	**2.84**	**309**	P	Pn	06 47 01.0	+1.3
JKMT				*e*S	Sn	06 47 34.0	+1.4
JMK	**Ichinoseki**	**3.08**	**309**	P	Pn	06 47 04.5	+1.5
JOU	**Okura**	**3.16**	**295**	P	Pn	06 47 06.6	+2.4
JFT	**Otama**	**3.19**	**279**	P	Pn	06 47 07.0	+2.4
JFT				*e*S	Sn	06 47 44.1	+2.7
JOM	**Ohasama**	**3.38**	**316**	P	Pn	06 47 08.8	+1.7
JOM				S	Sn	06 47 47.6	+1.7
JYK	**Kaneyama**	**3.62**	**302**	P	Pn	06 47 12.9	+2.4
JRG	**Rokugo**	**3.71**	**310**	P	Pn	06 47 14.4	+2.7
JRY	**Ryogami san**	**4.47**	**258**	P	Pn	06 47 23.1	+0.9
JRY				*e*S	Sn	06 48 13.2	+0.3
JOD2	**Odawara 2**	**4.58**	**249**	*e*S	Sn	06 48 15.1	-0.6
JOT	**Ohata**	**5.00**	**331**	P	Pn	06 47 31.7	+2.3
JKB	**Kayabe**	**5.44**	**333**	P	Pn	06 47 37.2	+1.8
JCH	**Churui**	**5.59**	**353**	P	Pn	06 47 36.7	-0.8
JCH				*e*S	Sn	06 48 37.1	-3.4
NEM2	**Nemuro 2**	**6.39**	**9**	P	Pn	06 47 45.0	-3.5
NEM2				*e*S	Sn	06 48 54.1	-6.0

*ISCJB **01** 07:06:04.6±0.6, 18°.67N±0°.09×65°.98W±0°.02, h112^{km}±7^{km}, Error ellipse: s-maj=15.4km s-min=3.8km az=178.5*
*OSPL **01** 07:06:05.3±1.6, 18°.82N×65°.72W, h56^{km}±27^{km}, MD3.6, ML3.4*
*RSPR **01** 07:06:06.2, 18°.67N×65°.97W, h104^{km}±1^{km}, MD3.1/16*
ISC 01 07:06:05.4±1.4**, 18°.64N**±0°.09×**65°.97W**±0°.03**, h110**^{km}±9^{km}**, n63, σ0s.35**/99**, 15C-12D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**0.35**	**199**		**Pn**	**07 06 21.3**	**-0.1**
CBYP	**Canovanas**	**0.38**	**164**	⇑*e*P	**Pn**	**07 06 21.4**	**-0.2**
CBYP				*e*S	**Sn**	**07 06 33.7**	**-0.1**
CBYP	**Canovanas**	**0.38**	**164**	⇑*e*P	**Pn**	**07 06 21.5**	**-0.2**
CBYP	**Canovanas**	**0.38**	**164**	⇑*e*P	**Pn**	**07 06 21.4**	**-0.2**
CBYP				*e*S	**Sn**	**07 06 33.7**	**-0.1**
CBYP	**Canovanas**	**0.38**	**164**		**Pn**	**07 06 21.4**	**-0.2**
CBYP					Pn	07 06 21.6	-0.1
CBYP					**Sn**	**07 06 33.6**	**-0.1**
HUMP	**Col San Antoni**	**0.51**	**167**	⇓*e*P	**Pn**	**07 06 21.9**	**-0.3**
HUMP	**Col San Antoni**	**0.51**	**167**	⇓*e*P	**Pn**	**07 06 22.1**	**-0.2**
HUMP				*e*S	**Sn**	**07 06 34.6**	**-0.4**
HUMP	**Col San Antoni**	**0.51**	**167**	⇓*e*P	**Pn**	**07 06 21.9**	**-0.3**
HUMP				*e*S	**Sn**	**07 06 34.5**	**-0.4**
HUMP	**Col San Antoni**	**0.51**	**167**	Pn	**Pn**	**07 06 22.2**	**-0.1**
HUMP	**Col San Antoni**	**0.51**	**167**		**Sn**	**07 06 34.6**	**-0.4**
HUMP	**Col San Antoni**	**0.51**	**167**		**Sn**	**07 06 35.0**	**0.0**
SJG	**San Juan**	**0.56**	**198**		**Pn**	**07 06 22.6**	**0.0**
SJG				Sn	**Sn**	**07 06 35.5**	**0.0**
EMPR	**Esperanza - Ma**	**0.56**	**253**	⇓*e*P	**Pn**	**07 06 22.9**	**+0.3**
EMPR	**Esperanza - Ma**	**0.56**	**253**	*e*S	**Sn**	**07 06 35.9**	**+0.4**
EMPR	**Esperanza - Ma**	**0.56**	**253**		**Pn**	**07 06 23.3**	**+0.7**
EMPR					Pn	07 06 23.5	+0.9
EMPR					**Sn**	**07 06 36.3**	**+0.8**
PDPR	**Patillas Dam,**	**0.62**	**185**	⇑*e*P	**Pn**	**07 06 23.1**	**0.0**
PDPR				*e*S	**Sn**	**07 06 36.4**	**0.0**
PDPR	**Patillas Dam,**	**0.62**	**185**		**Pn**	**07 06 23.3**	**+0.2**
PDPR					**Sn**	**07 06 36.4**	**0.0**
PDPR					Sn	07 06 36.5	+0.1
MTP	**Monte Pirata**	**0.67**	**144**	⇑*e*P	**Pn**	**07 06 23.7**	**+0.3**
MTP	**Monte Pirata**	**0.67**	**144**	⇑*e*P	**Pn**	**07 06 23.7**	**+0.3**
MTP				*e*S	**Sn**	**07 06 37.7**	**+0.6**
MTP	**Monte Pirata**	**0.67**	**144**		**Pn**	**07 06 23.7**	**+0.3**
MTP					Pn	07 06 24.0	+0.5
MTP					**Sn**	**07 06 37.7**	**+0.6**
MTP					Sn	07 06 38.0	+0.9
IGPR	**InterUniversit**	**0.69**	**191**	⇓*e*P	**Pn**	**07 06 23.4**	**-0.2**
IGPR	**InterUniversit**	**0.69**	**191**	*e*S	**Sn**	**07 06 37.1**	**-0.2**
IGPR	**InterUniversit**	**0.69**	**191**		**Pn**	**07 06 23.5**	**-0.1**
IGPR				Sn	**Sn**	**07 06 37.2**	**-0.1**
CUPR	**Culebra, Puert**	**0.73**	**117**	⇑*e*P	**Pn**	**07 06 23.7**	**-0.3**
CUPR	**Culebra, Puert**	**0.73**	**117**	*e*S	**Sn**	**07 06 38.0**	**+0.1**
CUPR	**Culebra, Puert**	**0.73**	**117**	Pn	**Pn**	**07 06 23.8**	**-0.1**
CUPR					**Sn**	**07 06 37.6**	**-0.3**
CUPR					Sn	07 06 38.1	+0.2
AOPR	**Arecibo Observ**	**0.80**	**249**	⇓*e*P	**Pn**	**07 06 24.6**	**0.0**
AOPR	**Arecibo Observ**	**0.80**	**249**	⇓*e*P	**Pn**	**07 06 24.6**	**0.0**
AOPR				*e*S	**Sn**	**07 06 38.2**	**-1.0**
AOPR	**Arecibo Observ**	**0.80**	**249**	Pn	**Pn**	**07 06 24.7**	**0.0**
AOPR					**Sn**	**07 06 38.8**	**-0.4**
AOPR				Sn	Sn	07 06 38.9	-0.3
OBIP	**Obispado Ponce**	**0.85**	**226**	⇑*e*P	**Pn**	**07 06 25.3**	**+0.2**
OBIP	**Obispado Ponce**	**0.85**	**226**	⇑*e*P	**Pn**	**07 06 25.3**	**+0.2**
OBIP				*e*S	**Sn**	**07 06 39.8**	**-0.1**
OBIP	**Obispado Ponce**	**0.85**	**226**		**Pn**	**07 06 25.2**	**+0.1**
OBIP					Pn	07 06 25.3	+0.2
OBIP					**Sn**	**07 06 40.0**	**+0.1**
STVI	**Saint Thomas**	**1.00**	**107**		**Pn**	**07 06 26.5**	**-0.1**
STVI				Sn	**Sn**	**07 06 42.6**	**0.0**
AGPR	**Aguadilla, PR**	**1.10**	**261**	⇑*e*P	**Pn**	**07 06 27.5**	**-0.1**
AGPR	**Aguadilla, PR**	**1.10**	**261**	⇑*e*P	**Pn**	**07 06 27.5**	**-0.1**
AGPR				*e*S	**Sn**	**07 06 44.0**	**-0.4**
AGPR	**Aguadilla, PR**	**1.10**	**261**	*i* P	**Pn**	**07 06 27.5**	**-0.1**
AGPR				*e*S	**Sn**	**07 06 44.3**	**-0.1**
AGPR				IAML		07 06 47.4	
	comp=Z,481nm,0.2s						
AGPR	**Aguadilla, PR**	**1.10**	**261**		**Pn**	**07 06 27.5**	**-0.1**
AGPR					Pn	07 06 27.7	+0.1
AGPR					**Sn**	**07 06 43.9**	**-0.4**
AGPR				Sn	Sn	07 06 44.1	-0.3
LSP	**Las Mesas**	**1.16**	**247**	⇑*e*P	**Pn**	**07 06 28.9**	**+0.6**
LSP	**Las Mesas**	**1.16**	**247**	⇑*e*P	**Pn**	**07 06 28.9**	**+0.6**
LSP				*e*S	**Sn**	**07 06 45.5**	**-0.1**
LSP	**Las Mesas**	**1.16**	**247**		**Pn**	**07 06 28.9**	**+0.6**
LSP					**Sn**	**07 06 45.5**	**-0.1**
MPR	**Mayaguez**	**1.19**	**249**	*i* P	**Pn**	**07 06 28.8**	**+0.2**
MPR				*e*S	**Sn**	**07 06 45.7**	**-0.5**
MPR				IAML		07 06 47.3	
	comp=Z,474nm,0.2s						
MPR	**Mayaguez**	**1.19**	**249**		**Pn**	**07 06 28.8**	**+0.2**
MPR				Sn	**Sn**	**07 06 46.1**	**-0.1**
MLPR	**Magueyes Islan**	**1.22**	**237**	⇓*e*P	**Pn**	**07 06 29.1**	**+0.2**
MLPR	**Magueyes Islan**	**1.22**	**237**	*e*S	**Sn**	**07 06 46.9**	**+0.1**
MLPR	**Magueyes Islan**	**1.22**	**237**		**Pn**	**07 06 29.1**	**+0.2**
MLPR					Pn	07 06 29.3	+0.3
MLPR					**Sn**	**07 06 46.9**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.26**	**240**	⇓*e*P	**Pn**	**07 06 29.3**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.26**	**240**	⇓*e*P	**Pn**	**07 06 29.3**	**0.0**
CRPR				*e*S	**Sn**	**07 06 47.5**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.26**	**240**	Pn	**Pn**	**07 06 29.5**	**+0.2**
CRPR					**Sn**	**07 06 47.3**	**-0.1**
TBVI	**Tortola**	**1.30**	**100**	⇓*i*P	**Pn**	**07 06 30.0**	**+0.2**
TBVI	**Tortola**	**1.30**	**100**	⇓*i*P	**Pn**	**07 06 30.0**	**+0.2**
TBVI				*e*S	**Sn**	**07 06 48.0**	**-0.3**
TBVI	**Tortola**	**1.30**	**100**		**Pn**	**07 06 30.0**	**+0.2**
TBVI					**Sn**	**07 06 48.0**	**-0.3**
ABV	**Anegada**	**1.55**	**87**	⇑*e*P	**Pn**	**07 06 32.9**	**+0.1**
ABV	**Anegada**	**1.55**	**87**	⇑*e*P	**Pn**	**07 06 32.9**	**+0.1**
ABV				*e*S	**Sn**	**07 06 53.8**	**+0.2**
ABVI	**Anegada Island**	**1.55**	**87**		**Pn**	**07 06 32.9**	**+0.2**
PCDR	**Punta Cana, DR**	**2.29**	**267**	*i* P	**Pn**	**07 06 42.6**	**+0.5**
PCDR				*e*S	**Sn**	**07 07 09.5**	**-0.8**
PCDR				IAML		07 07 19.9	
	comp=Z,113nm,0.3s						
PCDR	**Punta Cana, DR**	**2.29**	**267**	Pn	**Pn**	**07 06 43.0**	**+0.9**
PCDR				Sn	**Sn**	**07 07 09.8**	**-0.5**
SABA	**Saba**	**2.78**	**111**	Pn	**Pn**	**07 06 48.4**	**-0.1**
DR12	**Loma Pena Alta**	**3.24**	**273**		**Pn**	**07 06 54.3**	**-0.3**
SKI	**Saint Kitts**	**3.34**	**112**	Pn	**Pn**	**07 06 55.7**	**-0.1**
SC01	**Santiago de lo**	**4.57**	**281**	*i* P	**Pn**	**07 07 13.1**	**+0.7**
SC01				*e*S	**Sn**	**07 08 03.6**	**-0.9**
SC01	**Santiago de lo**	**4.57**	**281**	Pn	**Pn**	**07 07 12.6**	**+0.2**
SDDR	**Presa de Saban**	**5.05**	**275**	*i* P	**Pn**	**07 07 19.6**	**+0.6**
SDDR				*e*S	**Sn**	**07 08 15.4**	**-0.8**
SDDR	**Presa de Saban**	**5.05**	**275**		**Pn**	**07 07 19.3**	**+0.3**
SDDR					**Sn**	**07 08 16.8**	**+0.5**

*NEIC **01** 07:17:15.2±1.5, 27°.78S±0°.05×66°.65W±0°.07, h144^{km}±4^{km}, mb4.6/140*
*IDC **01** 07:17:15.5±1.1, 27°.74S×66°.79W, h143^{km}±9^{km}, mb4.4/20, mb1 4.5/25, mb1mx4.4/31, mbtmp4.9/25, Error ellipse: s-maj=13.1km s-min=7.6km az=93.0*
*ISCJB **01** 07:17:16.0±0.1, 27°.78S±0°.02×66°.76W±0°.02, h164^{km}, mb4.6/27, Error ellipse: s-maj=2.7km s-min=2.2km az=178.5*
*VAO **01** 07:17:16.5±0.5, 27°.82S×66°.81W, h164^{km}±5^{km}, mb5.0*
*SJA **01** 07:17:16.2±1.2, 27°.84S×66°.79W, h186^{km}±7^{km}, ML4.9, MW4.6*
*GUC **01** 07:17:18.6±0.7, 27°.87S×67°.07W, h188^{km}±6^{km}, ML5.5*
ISC 01 07:17:17.1±0.3**, 27°.78S**±0°.03×**66°.82W**±0°.04**, h164**^{km}**, n418, σ1s.32**/458**, mb4.6**/79**, 9C, Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**1.11**	**126**	*i* P	**Pn**	**07 17 45.7**	**+1.5**
CYA				*i* S	**Sn**	**07 18 05.3**	**+0.3**
VCA	**Vinchina**	**1.55**	**232**	⇑*i*P	**Pn**	**07 17 50.1**	**+1.8**
VCA				*e*S	**Sn**	**07 18 14.2**	**+1.7**
VCA				IAML		07 18 18.4	
	comp=E,19μm,0.7s						
VCA	**Vinchina**	**1.55**	**232**	*i* P	**Pn**	**07 17 50.2**	**+1.8**
VCA				*i* S	**Sn**	**07 18 14.5**	**+1.9**
VCA				IAML		07 18 17.8	
	comp=Z,13μm,0.6s						
ACLC	**CERRO LA CRUZ**	**1.64**	**184**	*i* P	**Pn**	**07 17 50.4**	**+1.1**
AHML	**Horco Molle**	**1.66**	**53**	*i* P	**Pn**	**07 17 50.8**	**+1.4**
AHML				*i* S4		07 18 15.1	
AHML				IAML		07 18 15.8	
	comp=Z,2μm,0.5s						
APLL	**PUNTA DE LOS L**	**2.62**	**174**	*i* P	**Pn**	**07 18 01.1**	**+0.7**
APLL				*e*S	**Sn**	**07 18 32.7**	**-1.2**
APLL				IAML		07 18 33.8	
	comp=Z,3μm,0.5s						
GO03	**Copiap**	**3.03**	**273**	⇑*i*P	**Pn**	**07 18 06.0**	**+0.5**
GO03				*e*S	**Sn**	**07 18 41.9**	**-1.1**
GO03				IAML		07 18 44.9	
	comp=E,6μm,0.5s						
GO03	**Copiap**	**3.03**	**273**		**Pn**	**07 18 06.0**	**+0.5**
GO03				Sn	**Sn**	**07 18 42.6**	**-0.5**
ACDV	**Cuesta del Vie**	**3.12**	**220**	*i* P	**Pn**	**07 18 07.3**	**+0.7**
ACDV				IAML		07 18 08.4	
	comp=Z,4μm,0.5s						
ACDV				*i* S	**Sn**	**07 18 45.8**	**+0.6**
SLA	**San Lorenzo**	**3.27**	**21**	*i* P	**Pn**	**07 18 10.9**	**+2.3**
SLA				*i* S	**Sn**	**07 18 50.4**	**+1.7**
AROD	**Rodeo**	**3.32**	**224**	*i* P	**Pn**	**07 18 10.3**	**+0.9**
AROD				*e*S	**Sn**	**07 18 50.7**	**+0.7**
ACCO	**Cerro Coronel**	**3.41**	**215**	*i* P	**Pn**	**07 18 11.0**	**+0.4**
AMOG	**MOGNA**	**3.47**	**204**	*i* P	**Pn**	**07 18 11.0**	**+0.1**
AMOG				*i* S	**Sn**	**07 18 51.9**	**-1.0**
GO02	**Mina Guanaco**	**3.60**	**316**	*e*P	**Pn**	**07 18 15.2**	**+2.2**
GO02				*e*S	**Sn**	**07 18 57.6**	**+1.2**
GO02				IAML		07 19 01.7	
	comp=E,5μm,1.0s						
GO02	**Mina Guanaco**	**3.60**	**316**		**Pn**	**07 18 15.1**	**+2.1**
CFA	**Coronel Fontan**	**4.00**	**198**	P	**Pn**	**07 18 17.4**	**-0.4**
	comp=E,116nm,0.3s,baz=345,slow=7.7,SNR=2824						
CFA				S	**Sn**	**07 19 02.6**	**-2.6**
	comp=E,104nm,0.3s,baz=0.2,slow=16,SNR=25						
GO04	**Tololo Observa**	**4.22**	**235**	⇑*i*P	**Pn**	**07 18 20.3**	**-0.5**
GO04				*e*S	**Sn**	**07 19 08.2**	**-2.3**
GO04				IAML		07 19 13.8	
	comp=N,5μm,0.5s						
GO04	**Tololo Observa**	**4.22**	**235**		**Pn**	**07 18 20.4**	**-0.4**
GO04				Sn	**Sn**	**07 19 10.0**	**-0.5**
PB14	**IPOC Station P**	**4.50**	**314**	⇑*i*P	**Pn**	**07 18 26.1**	**+1.6**
PB14				*e*S	**Sn**	**07 19 16.5**	**-0.6**
HJA	**Humahuaca**	**4.73**	**16**	*i* P	**Pn**	**07 18 29.5**	**+1.8**
HJA				IAML		07 18 43.7	
	comp=Z,174nm,0.6s						
CO02	**Combarbal**	**4.99**	**226**	⇑*i*P	**Pn**	**07 18 30.1**	**-0.6**
CO02				*e*S	**Sn**	**07 19 24.0**	**-4.3**
CO02				IAML		07 19 29.4	
	comp=E,1μm,0.5s						
ASAL	**Salagasta**	**5.10**	**200**	*i* P	**Pn**	**07 18 31.7**	**-0.4**
PB15	**IPOC Station P**	**5.15**	**332**	*i* P	**Pn**	**07 18 34.2**	**+1.3**
PB15				*i* S	**Sn**	**07 19 32.2**	**-0.1**
PB15				IAML		07 19 37.9	
	comp=Z,764nm,0.2s						
ARCO	**CERRO ARCO**	**5.36**	**199**	*i* P	**Pn**	**07 18 35.2**	**-0.5**
ARCO				IAML		07 19 38.8	
	comp=Z,814nm,0.7s						
PB10	**IPOC Station P**	**5.42**	**321**		**Pn**	**07 18 36.8**	**+0.4**
PB10				Sn	**Sn**	**07 19 37.1**	**-1.3**
PB10	**IPOC Station P**	**5.42**	**321**	*i* P	**Pn**	**07 18 36.8**	**+0.4**
PB10				IAML		07 18 41.9	
	comp=Z,372nm,0.5s						
PB10				*i* S	**Sn**	**07 19 36.6**	**-1.9**
LVC	**Limon Verde**	**5.49**	**339**	P	**Pn**	**07 18 38.2**	**+0.6**
	comp=Z,28nm,0.3s,baz=130,slow=8.6,SNR=131						
LVC				S	**Sn**	**07 19 38.8**	**-1.7**
	comp=Z,47nm,0.3s,baz=285,slow=21,SNR=40						
LVC	**Limon Verde**	**5.49**	**339**		**Pn**	**07 18 38.5**	**+0.9**
LVC					**Sn**	**07 19 39.4**	**-1.1**
LVC	**Limon Verde**	**5.49**	**339**	*e*P	**Pn**	**07 18 38.4**	**+0.9**
LVC	**Limon Verde**	**5.49**	**339**	*e*P	**Pn**	**07 18 38.4**	**+0.9**
LVC	**Limon Verde**	**5.49**	**339**	*i* P	**Pn**	**07 18 38.6**	**+0.9**
LVC				*i* S	**Sn**	**07 19 38.9**	**-1.7**
AAGR	**Agrelo**	**5.56**	**198**	*i* P	**Pn**	**07 18 37.6**	**-0.6**
PB06	**IPOC Station P**	**5.64**	**333**	*i* P	**Pn**	**07 18 40.5**	**+1.2**
PB06				IAML		07 18 41.5	
	comp=Z,232nm,0.4s						
PB06				*i* S	**Sn**	**07 19 42.2**	**-1.6**
YJA	**Yavi**	**5.71**	**12**	*i* P	**Pn**	**07 18 43.1**	**+2.6**
PB05	**IPOC Station P**	**5.79**	**327**	*i* P	**Pn**	**07 18 41.7**	**+0.4**
PB05				*i* S	**Sn**	**07 19 44.9**	**-2.3**
PB04	**IPOC Station P**	**6.21**	**330**		**Pn**	**07 18 46.6**	**-0.3**
PEL	**Peldehue**	**6.30**	**211**		**Pn**	**07 18 46.2**	**-1.6**
PEL				Sn	**Sn**	**07 19 57.0**	**-2.1**
PEL	**Peldehue**	**6.30**	**211**	*i* P	**Pn**	**07 18 47.1**	**-0.8**
ROC1	**El Roble**	**6.32**	**214**		**Pn**	**07 18 46.3**	**-2.0**
ROC1	**El Roble**	**6.32**	**214**	*i* P	**Pn**	**07 18 46.3**	**-2.0**
RFA	**San Rafael**	**7.11**	**191**	*i* P	**Pn**	**07 18 57.4**	**-1.2**
RFA				IAML		07 20 50.0	
	comp=Z,395nm,0.6s						
PB01	**IPOC Station P**	**7.14**	**340**		**Pn**	**07 18 58.2**	**-0.9**
EDS3	**Malargue**	**8.26**	**195**	*i* P	**Pn**	**07 19 13.1**	**-0.9**
GO01	**Chusmiza**	**8.37**	**344**		**Pn**	**07 19 14.8**	**-1.0**
GO01				Sn	**Sn**	**07 20 46.4**	**-3.0**
PB11	**IPOC Station P**	**8.40**	**341**		**Pn**	**07 19 14.2**	**-1.7**
GO05	**Huala**	**8.42**	**210**		**Pn**	**07 19 12.7**	**-3.3**
GO05				Sn	**Sn**	**07 20 46.4**	**-3.5**
CPUP	**Villa Florida**	**8.59**	**82**	P	**Pn**	**07 19 16.7**	**-1.5**
	comp=Z,1.7nm,0.3s,baz=264,slow=12,SNR=87						
CPUP	**Villa Florida**	**8.59**	**82**		**Pn**	**07 19 16.5**	**-1.7**
CPUP	**Villa Florida**	**8.59**	**82**	*e*P	**Pn**	**07 19 16.1**	**-2.1**
CPUP	**Villa Florida**	**8.59**	**82**	*e*P	**Pn**	**07 19 16.1**	**-2.1**
MNMC	**Minye Minye**	**8.98**	**343**		**Pn**	**07 19 22.9**	**-0.9**
TRQA	**Tornquist**	**11.02**	**160**		**Pn**	**07 19 48.8**	**-1.4**
TRQA	**Tornquist**	**11.02**	**160**	*e*P	**Pn**	**07 19 48.0**	**-2.2**
TRQA	**Tornquist**	**11.02**	**160**	*e*P	**Pn**	**07 19 48.0**	**-2.2**
LPAZ	**La Paz**	**11.51**	**354**	P	**Pn**	**07 19 56.1**	**-1.1**
	comp=Z,6.9nm,0.3s,baz=143,slow=8.3,SNR=167						
LPAZ				S	**Sn**	**07 21 58.4**	**-6.7**
	comp=Z,0.4nm,0.3s,baz=179,slow=22,SNR=3.3						
LPAZ	**La Paz**	**11.51**	**354**		**Pn**	**07 19 56.4**	**-0.8**
LPAZ	**La Paz**	**11.51**	**354**	*e*P	**Pn**	**07 19 56.2**	**-1.1**
LPAZ	**La Paz**	**11.51**	**354**	*e*P	**Pn**	**07 19 56.2**	**-1.1**
PLTB	**Pedras Altas**	**12.15**	**112**	*e*P	**Pn**	**07 20 03.1**	**-1.8**
PLTB	**Pedras Altas**	**12.15**	**112**	*e*P	**Pn**	**07 20 03.1**	**-1.8**
GO06	**Curarrehue**	**12.39**	**197**		**Pn**	**07 20 06.6**	**-1.4**
AQDB	**Aquidauana**	**12.49**	**57**	*e*P	**Pn**	**07 20 08.4**	**-0.9**
AQDB	**Aquidauana**	**12.49**	**57**	*e*P	**Pn**	**07 20 08.4**	**-0.9**
SIV	**San Ignacio**	**12.89**	**26**	P	**Pn**	**07 20 13.3**	**-1.2**
	comp=Z,3.4nm,0.3s,baz=224,slow=14,SNR=275						
ITAB	**Concordia**	**13.05**	**91**	*e*P	**Pn**	**07 20 15.6**	**-0.9**
ITAB	**Concordia**	**13.05**	**91**	*e*P	**Pn**	**07 20 15.6**	**-0.9**
PLCA	**Paso Flores**	**13.28**	**192**	P	**Pn**	**07 20 19.0**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=24,slow=14,SNR=16						
PLCA	**Paso Flores**	**13.28**	**192**		**Pn**	**07 20 17.9**	**-1.4**
PLCA	**Paso Flores**	**13.28**	**192**	*e*P	**Pn**	**07 20 18.4**	**-0.9**
PLCA	**Paso Flores**	**13.28**	**192**	*e*P	**Pn**	**07 20 18.4**	**-0.9**
PTGB	**Pitanga**	**13.59**	**80**	*e*P	**Pn**	**07 20 23.9**	**+0.5**
PTGB	**Pitanga**	**13.59**	**80**	*e*P	**Pn**	**07 20 23.9**	**+0.5**
TRCB	**Terra Rica**	**13.76**	**72**	*e*P	**Pn**	**07 20 25.7**	**+0.2**
TRCB	**Terra Rica**	**13.76**	**72**	*e*P	**Pn**	**07 20 25.7**	**+0.2**
CNLB	**Canela**	**14.12**	**100**	*e*P	**Pn**	**07 20 29.3**	**-0.7**
CNLB	**Canela**	**14.12**	**100**	*e*P	**Pn**	**07 20 29.3**	**-0.7**
PP1B	**Ponte de Pedra**	**14.96**	**50**	*e*P	**Pn**	**07 20 40.1**	**-0.4**
PP1B	**Ponte de Pedra**	**14.96**	**50**	*e*P	**Pn**	**07 20 40.1**	**-0.4**
PCMB	**Pacaembu**	**15.41**	**70**	*e*P	**Pn**	**07 20 45.6**	**-0.4**
PCMB	**Pacaembu**	**15.41**	**70**	*e*P	**Pn**	**07 20 45.6**	**-0.4**
FRTB	**Fartura**	**16.19**	**78**	*e*P	**Pn**	**07 20 54.5**	**-1.0**
FRTB	**Fartura**	**16.19**	**78**	*e*P	**Pn**	**07 20 54.5**	**-1.0**
ITRB	**Iturama**	**17.07**	**65**	*e*P	**P**	**07 21 05.5**	**+0.2**
ITRB	**Iturama**	**17.07**	**65**	*e*P	**P**	**07 21 05.5**	**+0.2**
BB19B	**Bebedouro**	**17.94**	**72**	*e*P	**P**	**07 21 14.3**	**-0.6**
BB19B	**Bebedouro**	**17.94**	**72**	*e*P	**P**	**07 21 14.3**	**-0.6**
SPB	**Sao Paulo**	**17.96**	**81**	P	**P**	**07 21 14.2**	**-0.9**
SPB				IAmb	IAmb	07 21 16.4	
	comp=Z,50nm,0.8s						
SPB	**Sao Paulo**	**17.96**	**81**	*e*P	**P**	**07 21 14.6**	**-0.4**
SPB	**Sao Paulo**	**17.96**	**81**	*e*P	**P**	**07 21 14.6**	**-0.4**
RCLB	**Rio Claro- Sao**	**18.26**	**77**	*e*P	**P**	**07 21 18.2**	**-0.2**
RCLB	**Rio Claro- Sao**	**18.26**	**77**	*e*P	**P**	**07 21 18.2**	**-0.2**
ARAG	**Araguaiana, MT**	**18.38**	**52**	*e*P	**P**	**07 21 19.6**	**-0.1**
ARAG	**Araguaiana, MT**	**18.38**	**52**	*e*P	**P**	**07 21 19.6**	**-0.1**
VAO	**Valinhos**	**18.55**	**80**	*e*P	**P**	**07 21 21.6**	**0.0**
VAO	**Valinhos**	**18.55**	**80**	*e*P	**P**	**07 21 21.6**	**0.0**
SAML	**Samuel**	**19.05**	**11**	P	**P**	**07 21 26.5**	**-0.4**
SAML	**Samuel**	**19.05**	**11**	*e*P	**P**	**07 21 26.4**	**-0.5**
SAML	**Samuel**	**19.05**	**11**	*e*P	**P**	**07 21 26.4**	**-0.5**
IPMB	**Ipameri, GO**	**19.70**	**64**	*e*P	**P**	**07 21 33.3**	**-0.7**
IPMB	**Ipameri, GO**	**19.70**	**64**	*e*P	**P**	**07 21 33.3**	**-0.7**
CLDB	**Colider**	**19.76**	**34**	*e*P	**P**	**07 21 31.5**	**-3.0**
CLDB	**Colider**	**19.76**	**34**	*e*P	**P**	**07 21 31.5**	**-3.0**
ESAR	**Angra dos Reis**	**20.76**	**82**	*e*P	**P**	**07 21 45.0**	**-0.1**
ESAR	**Angra dos Reis**	**20.76**	**82**	*e*P	**P**	**07 21 45.0**	**-0.1**
PMNB	**Patos De Minas**	**20.85**	**68**	*e*P	**P**	**07 21 45.2**	**-1.1**
PMNB	**Patos De Minas**	**20.85**	**68**	*e*P	**P**	**07 21 45.2**	**-1.1**
BSCB	**Bom Sucesso**	**21.17**	**76**	*e*P	**P**	**07 21 49.3**	**-0.4**
BSCB	**Bom Sucesso**	**21.17**	**76**	*e*P	**P**	**07 21 49.3**	**-0.4**
BDFB	**Brasilia**	**21.21**	**59**	P	**P**	**07 21 48.7**	**-1.5**
	comp=Z,46nm,0.7s,baz=225,slow=11,SNR=80						
BDFB	**Brasilia**	**21.21**	**59**	P	**P**	**07 21 48.0**	**-2.2**
MAN01	**Angra dos Reis**	**21.22**	**82**	*e*P	**P**	**07 21 49.6**	**-0.6**
MAN01	**Angra dos Reis**	**21.22**	**82**	*e*P	**P**	**07 21 49.6**	**-0.6**
VAS01	**Vassouras-RJ**	**21.87**	**81**	*e*P	**P**	**07 21 56.0**	**-0.9**
VAS01	**Vassouras-RJ**	**21.87**	**81**	*e*P	**P**	**07 21 56.0**	**-0.9**
DUB01	**Friburgo-RJ**	**22.87**	**81**	*e*P	**P**	**07 22 06.4**	**-0.2**
DUB01	**Friburgo-RJ**	**22.87**	**81**	*e*P	**P**	**07 22 06.4**	**-0.2**
PEXB	**Peixe**	**23.32**	**52**	*e*P	**P**	**07 22 09.6**	**-1.1**
PEXB	**Peixe**	**23.32**	**52**	*e*P	**P**	**07 22 09.6**	**-1.1**
CAM01	**Campos-RJ**	**23.58**	**81**	*e*P	**P**	**07 22 12.4**	**-0.5**
CAM01	**Campos-RJ**	**23.58**	**81**	*e*P	**P**	**07 22 12.4**	**-0.5**
EFI	**East Falkland**	**24.76**	**167**	P	**P**	**07 22 23.4**	**+0.1**
ALF01	**Guarapari-ES**	**24.82**	**79**	*e*P	**P**	**07 22 24.0**	**-0.2**
ALF01	**Guarapari-ES**	**24.82**	**79**	*e*P	**P**	**07 22 24.0**	**-0.2**
SJMB	**Sao Joao De Ma**	**25.19**	**74**	*e*P	**P**	**07 22 26.6**	**-1.0**
SJMB	**Sao Joao De Ma**	**25.19**	**74**	*e*P	**P**	**07 22 26.6**	**-1.0**
BSFB	**Barra de Sao F**	**25.42**	**75**	*e*P	**P**	**07 22 28.1**	**-1.6**
BSFB	**Barra de Sao F**	**25.42**	**75**	*e*P	**P**	**07 22 28.1**	**-1.6**
GO10	**Punta Arenas**	**25.54**	**186**	P	**P**	**07 22 30.1**	**-0.3**
RIB01	**Linhares ES**	**25.61**	**77**	*e*P	**P**	**07 22 31.4**	**0.0**
RIB01	**Linhares ES**	**25.61**	**77**	*e*P	**P**	**07 22 31.4**	**0.0**
SMTB	**Santa Maria do**	**26.15**	**48**	*e*P	**P**	**07 22 34.5**	**-1.8**
SMTB	**Santa Maria do**	**26.15**	**48**	*e*P	**P**	**07 22 34.5**	**-1.8**
USHA	**Ushuaia**	**27.05**	**182**	P	**P**	**07 22 44.2**	**+0.3**
	comp=Z,16nm,1.0s,baz=22,slow=11,SNR=5.6						
FLOC	**Florencia**	**30.41**	**342**	*e*P	**P**	**07 23 15.3**	**+1.3**
FLOC	**Florencia**	**30.41**	**342**	*e*P	**P**	**07 23 15.3**	**+1.3**
SOTA	**Rioblanco**	**31.20**	**341**	*e*P	**P**	**07 23 25.3**	**+3.7**
SOTA	**Rioblanco**	**31.20**	**341**	*e*P	**P**	**07 23 25.3**	**+3.7**
BBAC	**Balboa, Cauca**	**31.29**	**340**	*e*P	**P**	**07 23 25.3**	**+3.3**
BBAC	**Balboa, Cauca**	**31.29**	**340**	*e*P	**P**	**07 23 25.3**	**+3.3**
PCON	**Cinco Dias**	**31.32**	**341**	*e*P	**P**	**07 23 25.3**	**+2.6**
PCON	**Cinco Dias**	**31.32**	**341**	*e*P	**P**	**07 23 25.3**	**+2.6**
ORTC	**Ortega, Tolima**	**32.54**	**344**	*e*P	**P**	**07 23 33.3**	**+0.5**
ORTC	**Ortega, Tolima**	**32.54**	**344**	*e*P	**P**	**07 23 33.3**	**+0.5**
YOTC	**Yotoco, Valle**	**32.89**	**342**	*e*P	**P**	**07 23 35.3**	**-0.6**
YOTC	**Yotoco, Valle**	**32.89**	**342**	*e*P	**P**	**07 23 35.3**	**-0.6**
CHIC	**Chingaza**	**32.91**	**347**	*e*P	**P**	**07 23 35.3**	**-1.1**
CHIC	**Chingaza**	**32.91**	**347**	*e*P	**P**	**07 23 35.3**	**-1.1**
ROSC	**El Rosal**	**33.23**	**346**	P	**P**	**07 23 40.8**	**+1.6**
	comp=Z,3.8nm,0.7s,baz=93,slow=20,SNR=4.5						
ROSC	**El Rosal**	**33.23**	**346**	P	**P**	**07 23 39.0**	**-0.2**
GUY2C	**Guyana, Caldas**	**33.84**	**345**	*e*P	**P**	**07 23 46.6**	**+2.1**
GUY2C	**Guyana, Caldas**	**33.84**	**345**	*e*P	**P**	**07 23 46.6**	**+2.1**
RUSC	**La Rusia**	**34.02**	**349**	*e*P	**P**	**07 23 45.9**	**-0.2**
RUSC	**La Rusia**	**34.02**	**349**	*e*P	**P**	**07 23 45.9**	**-0.2**
NORC	**Norcasia**	**34.05**	**346**	*e*P	**P**	**07 23 45.9**	**0.0**
NORC	**Norcasia**	**34.05**	**346**	*e*P	**P**	**07 23 45.9**	**0.0**
CBOC	**Ciudad Bolivar**	**34.61**	**344**	*e*P	**P**	**07 23 51.9**	**+1.1**
CBOC	**Ciudad Bolivar**	**34.61**	**344**	*e*P	**P**	**07 23 51.9**	**+1.1**
HELC	**Santa Helena**	**34.81**	**345**	*e*P	**P**	**07 23 49.9**	**-2.8**
HELC	**Santa Helena**	**34.81**	**345**	*e*P	**P**	**07 23 49.9**	**-2.8**
PTBC	**PUERTO BERRIO,**	**34.91**	**347**	*e*P	**P**	**07 23 49.9**	**-3.3**
PTBC	**PUERTO BERRIO,**	**34.91**	**347**	*e*P	**P**	**07 23 49.9**	**-3.3**
NBMO	**Morrinhos-CE**	**35.29**	**51**	*e*P	**P**	**07 23 56.1**	**-0.4**
NBMO	**Morrinhos-CE**	**35.29**	**51**	*e*P	**P**	**07 23 56.1**	**-0.4**
PAMC	**Pamplona, Colo**	**35.38**	**350**	*e*P	**P**	**07 23 56.5**	**-1.2**
PAMC	**Pamplona, Colo**	**35.38**	**350**	*e*P	**P**	**07 23 56.5**	**-1.2**
MDP	**Montagnes des**	**35.44**	**25**	P	**P**	**07 23 56.7**	**-1.1**
	comp=Z,88nm,1.2s,baz=202,slow=9.3,SNR=38						
RCBR	**Riachuelo**	**36.58**	**59**	P	**P**	**07 24 06.3**	**-1.3**
RCBR	**Riachuelo**	**36.58**	**59**	*e*P	**P**	**07 24 06.8**	**-0.8**
RCBR	**Riachuelo**	**36.58**	**59**	*e*P	**P**	**07 24 06.8**	**-0.8**
SDV	**Santo Domingo**	**36.64**	**354**	P	**P**	**07 24 07.2**	**-0.9**
	comp=Z,8.6nm,0.4s,baz=223,slow=2.7,SNR=17						
SDV	**Santo Domingo**	**36.64**	**354**	P	**P**	**07 24 05.9**	**-2.3**
SDV				IAmb	IAmb	07 24 08.7	
	comp=Z,25nm,1.1s						
SDV	**Santo Domingo**	**36.64**	**354**	*e*P	**P**	**07 24 07.2**	**-0.9**
SDV	**Santo Domingo**	**36.64**	**354**	*e*P	**P**	**07 24 07.2**	**-0.9**
SMLC	**San Martn de**	**37.04**	**348**	*e*P	**P**	**07 24 08.5**	**-2.8**
SMLC	**San Martn de**	**37.04**	**348**	*e*P	**P**	**07 24 08.5**	**-2.8**
PMSA	**Palmer Station**	**37.04**	**178**	P	**P**	**07 24 11.7**	**+1.0**
	comp=Z,12nm,0.7s,baz=22,slow=7.1,SNR=8.4						
PMSA	**Palmer Station**	**37.04**	**178**	P	**P**	**07 24 09.7**	**-1.0**
PLCV	**Puerto La Cruz**	**37.78**	**4**	P	**P**	**07 24 17.6**	**0.0**
PCRV	**Puerto La Cruz**	**37.79**	**4**	P	**P**	**07 24 17.6**	**-0.1**
	comp=Z,12nm,0.5s,baz=156,slow=3.6,SNR=12						
SJCC	**San Jacinto, C**	**38.32**	**347**	*e*P	**P**	**07 24 20.5**	**-1.7**
SJCC	**San Jacinto, C**	**38.32**	**347**	*e*P	**P**	**07 24 20.5**	**-1.7**
TOSP	**Speyside**	**39.33**	**10**	P	**P**	**07 24 30.7**	**+0.3**
GRGR	**Grenville**	**39.99**	**8**	P	**P**	**07 24 36.1**	**+0.2**
JTS	**Las Juntas de**	**41.73**	**333**	P	**P**	**07 24 48.9**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=127,slow=5.1,SNR=3.2						
JTS	**Las Juntas de**	**41.73**	**333**	P	**P**	**07 24 49.9**	**-0.3**
JTS				IAmb	IAmb	07 25 05.7	
	comp=Z,12nm,1.1s						
FDF	**Fort de France**	**42.62**	**8**	P	**P**	**07 24 56.8**	**-0.5**
SABA	**Saba**	**45.27**	**5**	P	**P**	**07 25 17.6**	**-0.7**
MLPR	**Magueyes Islan**	**45.48**	**360**	P	**P**	**07 25 20.5**	**+0.5**
CRPR	**Cabo Rojo, PR**	**45.52**	**360**	P	**P**	**07 25 19.3**	**-1.0**
PDPR	**Patillas Dam,**	**45.54**	**1**	P	**P**	**07 25 19.1**	**-1.3**
OBIP	**Obispado Ponce**	**45.55**	**0**	P	**P**	**07 25 19.0**	**-1.6**

MTP Monte Pirata 45.63 2 P P 07 25 19.4 -1.7
MTP IAmb IAmb 07 25 37.5
comp=Z,28nm,1.2s
SJG San Juan 45.63 1 P P 07 25 18.8 -2.3
comp=Z,6.7nm,0.5s,baz=169,slow=9.3,SNR=6.6
SJG San Juan 45.63 1 P P 07 25 19.7 -1.5
SJG IAmb IAmb 07 25 29.8
comp=Z,29nm,1.2s
CBYP Canovanas 45.79 1 P P 07 25 21.3 -1.3
GCPR Guaynabo City 45.83 1 P P 07 25 21.3 -1.5
AOPR Arecibo Observ 45.86 0 P P 07 25 21.5 -1.5
STVI Saint Thomas 45.90 2 P P 07 25 22.4 -0.9
STVI IAmb IAmb 07 25 38.3
comp=Z,30nm,1.1s
ABVI Anegada Island 46.30 3 P P 07 25 25.1 -1.3
TEIG Tepich 52.05 334 P P 07 26 10.8 +0.7
VNA3 Neumayer Olymp 53.54 160 P P 07 26 21.4 +0.9
VNA1 Neumayer--Stat 53.76 159 P P 07 26 23.6 +1.7
VNA2 Neumayer--Watz 54.12 160 P P 07 26 25.9 +1.3
baz=287,slow=7.8
SNAA Sanae 55.75 160 P P 07 26 37.1 +0.7
SNAA Sanae 55.75 160 P P 07 26 37.0 +0.7
comp=Z,41nm,0.9s,baz=279,slow=7.0,SNR=86
SNAA Sanae 55.75 160 P P 07 26 37.4 +1.0
TROLL Troll, Antarti 57.47 160 P P 07 26 49.8 +1.2
QSPA South Pole Qui 62.44 180 P P 07 27 24.0 +1.5
Z50A Ashland 63.35 342 P P 07 27 29.5 +0.7
Z50A IAmb IAmb 07 27 38.9
comp=Z,9.1nm,1.1s
BIRD Birdtown, Kers 63.42 347 P P 07 27 30.2 +1.1
BIRD IAmb IAmb 07 27 49.3
comp=Z,11nm,1.3s
LRAL Lakeview Retre 63.45 341 P P 07 27 29.4 0.0
LRAL IAmb IAmb 07 27 34.4
comp=Z,14nm,1.4s
833A Chaparral WMA, 63.94 328 P P 07 27 34.2 +1.5
X51A Calhoun 64.32 344 P P 07 27 35.5 +0.5
X51A IAmb IAmb 07 27 36.0
comp=Z,11nm,0.9s
V55A Taylorsville 64.73 347 P P 07 27 38.5 +0.8
V55A IAmb IAmb 07 27 49.9
comp=Z,5.6nm,0.7s
X48A Hartselle 64.79 342 P P 07 27 38.0 -0.1
X48A IAmb IAmb 07 27 39.0
comp=Z,9.0nm,1.0s
NATX Nacogdoches 64.88 334 P P 07 27 39.1 +0.4
NATX IAmb IAmb 07 27 41.1
comp=Z,13nm,0.9s
JCT Junction City 65.95 329 P P 07 27 46.0 +0.3
JCT IAmb IAmb 07 27 47.6
comp=Z,11nm,0.8s
HPIG 65.98 322 P P 07 27 46.6 +0.5
HPIG IAmb IAmb 07 27 48.8
comp=Z,5.6nm,1.0s
WLAR White Oak Lake 66.03 336 P P 07 27 46.9 +0.9
WVT Waverly 66.58 342 P P 07 27 49.5 -0.1
WVT IAmb IAmb 07 27 50.0
comp=Z,9.2nm,0.8s
TXAR Lajitas Array 66.85 325 P P 07 27 52.5 +1.0
comp=Z,1.5nm,0.9s,baz=146,slow=8.5,SNR=15
TXAR Lajitas Array 66.85 325 P P 07 27 52.8 +1.2
TX31 Lajitas Ar. Si 66.85 325 P P 07 27 52.4 +0.8
TX32 Lajitas Array 66.85 325 P P 07 27 52.5 +0.9
PARMO Parma 67.64 340 P P 07 27 57.1 +0.9
FCAR Ozark Folk Cen 67.68 338 P P 07 27 57.1 +0.6
FCAR IAmb IAmb 07 27 58.6
comp=Z,9.8nm,1.3s
ABTX Abilene, Hawle 67.70 330 P P 07 27 57.6 +0.9
ABTX IAmb IAmb 07 27 58.5
comp=Z,8.8nm,0.9s
PBMO Poplar Bluff 67.95 340 P P 07 27 58.8 +0.6
PBMO IAmb IAmb 07 27 59.3
comp=Z,16nm,1.0s
U40A Yellville 68.35 338 P P 07 28 01.3 +0.7
U40A IAmb IAmb 07 28 02.0
comp=Z,5.8nm,0.9s
LIC Lamto 68.51 70 *eP* P 07 28 01.1 -1.0
comp=Z,12nm,0.6s
LIC Lamto 68.51 70 P P 07 28 01.1 -1.0
X34A Smith Ranch, M 68.64 333 P P 07 28 03.3 +0.8
X34A IAmb IAmb 07 28 04.8
comp=Z,15nm,0.9s
HHAR Hobbs 68.65 337 P P 07 28 02.9 +0.4
HHAR IAmb IAmb 07 28 04.7
comp=Z,7.7nm,1.1s
TIC Toumodi 68.74 70 *eP* P 07 28 02.3 -1.3
TIC Toumodi 68.74 70 P P 07 28 02.3 -1.3
KIC Kosan Boka 68.82 70 *eP* P 07 28 03.0 -1.1
comp=Z,17nm,0.7s
KIC Kosan Boka 68.82 70 P P 07 28 03.0 -1.1
MGMO Mountain Grove 68.88 338 P P 07 28 04.6 +0.6
MGMO IAmb IAmb 07 28 05.9
comp=Z,9.3nm,1.1s
DBIC Dimbokro 68.89 70 P P 07 28 03.9 -0.6
comp=Z,9.5nm,0.6s,baz=212,slow=7.5,SNR=11
DBIC Dimbokro 68.89 70 P P 07 28 03.2 -1.2
DBIC IAmb IAmb 07 28 07.0
comp=Z,9.4nm,0.8s
TUL1 Leonard 68.99 335 P P 07 28 05.5 +0.8
TUL1 IAmb IAmb 07 28 06.7
comp=Z,10.0nm,0.8s
WMOK Wichita Mounta 69.14 332 P P 07 28 05.5 -0.2
WMOK IAmb IAmb 07 28 06.8
comp=Z,5.9nm,1.2s
ACSO Alum Creek Sta 69.32 347 P P 07 28 06.7 +0.1
ACSO IAmb IAmb 07 28 09.5
comp=Z,18nm,1.1s
ADOK Arcadia Dam 69.37 334 P P 07 28 06.6 -0.4
CCM Cathedral Cave 69.38 340 P P 07 28 07.2 +0.3
CCM IAmb IAmb 07 28 08.1
comp=Z,9.2nm,0.9s
MNTX Cornudas Mount 69.63 325 P P 07 28 09.1 +0.4
SYO Syowa Base 69.98 158⇑ *eP* P 07 28 09.0 -1.3
SYO Syowa Base 69.98 158⇑ PcP PcP 07 28 29.2 -3.3
SYO Syowa Base 69.98 158⇑ epP pP 07 28 42.3 -7.6
MSTX Muleshoe 70.23 329 P P 07 28 12.7 +0.3
MSTX IAmb IAmb 07 28 14.1
comp=Z,9.8nm,0.9s
AMTX Amarillo 70.51 330 P P 07 28 13.5 -0.5
U32A Winter Ranch, 70.65 333 P P 07 28 15.3 +0.5
U32A IAmb IAmb 07 28 17.2
comp=Z,14nm,0.9s
VNDA Vanda 71.02 190 P P 07 28 17.6 +1.1
comp=Z,9.7nm,0.9s,baz=130,slow=5.6,SNR=10
121A Cookes Peak, D 71.52 324 P P 07 28 20.1 -0.2
121A IAmb IAmb 07 28 23.3
comp=Z,6.7nm,0.8s
LENM Lemitar 72.40 326 P P 07 28 26.7 +1.2
ANMO Albuquerque 72.78 327 P P 07 28 28.9 +1.2
TUC Tucson 72.94 322 P P 07 28 29.6 +1.0
GBN Guysborough 73.00 4 P P 07 28 29.4 +0.9
CBKS Cedar Bluff 73.05 334 P P 07 28 29.6 +0.5
CBKS IAmb IAmb 07 28 31.2
comp=Z,11nm,0.9s
T25A Trinidad 73.60 329 P P 07 28 33.0 +0.5
214A Organ Pipe Nat 73.80 320 P P 07 28 34.2 +0.7
214A IAmb IAmb 07 28 36.7
comp=Z,9.7nm,1.1s
SUR Sutherland 73.85 118 P P 07 28 35.6 +1.3
comp=Z,12nm,0.6s,baz=235,slow=6.4,SNR=21
SDCO Great Sand Dun 74.59 329 P P 07 28 39.3 +0.9
X16A Lo Mia Camp, P 74.90 323 P P 07 28 41.7 +1.6
Q24A Divide 75.44 330 P P 07 28 45.1 +1.9
Q24A IAmb IAmb 07 28 45.9
comp=Z,7.6nm,0.8s
WUAZ Wupatki 75.71 324 P P 07 28 45.3 +0.7
WUAZ IAmb IAmb 07 28 47.8
comp=Z,5.9nm,0.9s
Y12C Blythe 76.09 321 P P 07 28 48.9 +2.3
Y12C IAmb IAmb 07 28 49.7
comp=Z,6.0nm,0.9s
ECSD EROS Data Cent 76.24 338 P P 07 28 47.9 +0.6
ECSD IAmb IAmb 07 28 48.1
comp=Z,7.5nm,1.1s
ISCO Idaho Springs 76.33 330 P P 07 28 49.3 +1.1
SMCO Snowmass 76.43 329 P P 07 28 50.1 +1.1
PV16 Nyswonger Mesa 76.65 327 P P 07 28 51.6 +1.6
PV04 Paradox Valley 76.71 327 P P 07 28 51.8 +1.5
PV04 IAmb IAmb 07 28 52.5
comp=Z,11nm,1.4s
W13A Hualapai Mount 76.73 322 P P 07 28 51.3 +0.7
PV14 Lion Creek, Pa 76.75 327 P P 07 28 50.4 -0.2
PV14 IAmb IAmb 07 28 53.2
comp=Z,8.6nm,1.2s

PV22 Blue Mesa, Par 76.76 327 P P 07 28 50.2 -0.4
PV22 IAmb IAmb 07 28 53.5
comp=Z,14nm,1.4s
U15A North Rim 76.88 324 P P 07 28 53.0 +1.6
U15A IAmb IAmb 07 28 54.7
comp=Z,7.2nm,1.1s
PFO Pinyon Flats O 77.09 319 P P 07 28 52.2 -0.3
PHWY Pilot Hill 77.49 331 P P 07 28 56.0 +1.3
KNB Kanab 77.61 324 P P 07 28 56.9 +1.6
O20A White River Ci 77.78 329 P P 07 28 55.4 -0.8
O20A IAmb IAmb 07 28 59.5
comp=Z,8.9nm,1.1s
MAW Mawson 77.79 162 P P 07 28 56.7 +1.0
comp=Z,50nm,0.9s,baz=217,slow=6.6,SNR=73
MAW Mawson 77.79 162 P P 07 28 56.8 +1.0
MAW IAmb IAmb 07 28 57.8
comp=Z,9.9nm,0.8s
TOA0 Torodi Ar. Sit 77.80 68 P P 07 28 56.4 -0.2
TORD Torodi Ar. Bea 77.80 68 P P 07 28 56.3 -0.3
comp=Z,9.8nm,0.5s,baz=257,slow=5.3,SNR=57
TORD pP **pP 07 29 35.7 -1.7**
comp=Z,4.4nm,0.8s,baz=260,slow=5.3,SNR=2.8
TORD PP **PP 07 31 56.6 +1.9**
comp=Z,2.4nm,0.9s,baz=245,slow=6.9,SNR=3.9
TORD Torodi Ar. Bea 77.80 68 P P 07 28 56.0 -0.6
LCMT Little Creek M 77.82 324 P P 07 28 57.9 +1.4
SRU San Rafael Swe 78.05 327 P P 07 28 58.3 +0.6
MTPU Mount Pierson 78.06 325 P P 07 28 58.9 +0.9
SZCU Shurtz Canyon 78.18 324 P P 07 28 58.2 -0.3
CCUT Cedar City 78.29 324 P P 07 29 00.0 +0.9
MSU Marysvale 78.41 325 P P 07 29 01.5 +1.7
P17A Butcher Ranch, 78.44 327 P P 07 29 00.6 +0.7
SHPR Sheep Range 78.47 322 P P 07 29 00.9 +0.8
PASC Pasadena Art C 78.50 319 P P 07 29 01.5 +1.4
PASC IAmb IAmb 07 29 07.4
comp=Z,12nm,1.4s
RWWY Rawlins 78.57 330 P P 07 29 01.2 +0.6
RWWY IAmb IAmb 07 29 04.7
comp=Z,10.0nm,0.9s
TCRU Three Creeks R 78.62 325 P P 07 29 00.7 -0.2
BOSA Boshof 78.89 116 P P 07 29 03.1 +0.4
comp=Z,33nm,0.7s,baz=251,slow=4.1,SNR=68
BOSA Boshof 78.89 116 P P 07 29 02.4 -0.3
K22A Casper 79.05 331 P P 07 29 04.4 +1.3
K22A IAmb IAmb 07 29 14.7
comp=Z,10nm,1.4s
PSUT Pine Spring 79.28 324 P P 07 29 05.8 +1.3
MPU Maple Canyon 79.30 327 P P 07 29 05.2 +0.7
TPNV Topopah Spring 79.39 322 P P 07 29 06.7 +1.7
DAC Darwin (Calif) 79.65 320 P P 07 29 07.2 +0.6
JLU Jordanelle 79.66 327 P P 07 29 07.0 +0.5
DUG Dugway, Tooele 80.01 326 P P 07 29 09.9 +1.6
R11A Troy Canyon, C 80.06 323 P P 07 29 10.4 +1.8
AGMN Agassiz Nation 80.09 341 P P 07 29 08.9 +0.6
BW06 Boulder Array 80.47 330 P P 07 29 11.2 +0.4
PD31 Pinedale Array 80.47 330 P P 07 29 11.5 +0.7
PDAR Pinedale Array 80.47 330 P P 07 29 11.2 +0.4
comp=Z,0.7nm,0.3s,baz=133,slow=6.5,SNR=9.3
PDAR Pinedale Array 80.47 330 P P 07 29 11.1 +0.3
HWUT Hardware Ranch 80.49 328 P P 07 29 11.6 +0.7
HWUT IAmb IAmb 07 29 13.1
comp=Z,6.9nm,0.9s
BGU Big Grassy Mou 80.68 326 P P 07 29 13.3 +1.4
SPUT South Promonto 80.69 327 P P 07 29 13.2 +1.3
LBTB Lobatse 80.73 113 P P 07 29 12.5 -0.1
HVU Hansel Valley 81.20 327 P P 07 29 15.7 +1.0
REDW Red Top Meadow 81.53 329 P P 07 29 17.5 +1.1
REDW IAmb IAmb 07 29 18.1
comp=Z,8.7nm,1.4s
SNOW Snow King Moun 81.56 329 P P 07 29 17.7 +1.1
NVAR Mina Array Bea 81.58 322 P P 07 29 17.1 +0.3
comp=Z,0.7nm,0.9s,baz=142,slow=6.2,SNR=5.1
ELK Elko 81.64 325 P P 07 29 18.1 +1.1
TPAW Teton Pass 81.67 329 P P 07 29 17.8 +0.6
ULM Lac du Bonnet 81.85 342 P P 07 29 17.7 +0.1
comp=Z,2.1nm,0.8s,baz=185,slow=3.1,SNR=4.4
ULM Lac du Bonnet 81.85 342 IAmb IAmb 07 29 18.7
comp=Z,7.6nm,1.1s
KVN Kaiserville 81.92 322 P P 07 29 19.6 +1.1
IMW Indian Meadow 81.98 329 P P 07 29 20.0 +1.2
IMW IAmb IAmb 07 29 21.1
comp=Z,6.2nm,1.0s
FLWY Flagg Ranch 82.02 330 P P 07 29 20.1 +1.1
YPP Pitchstone Pla 82.22 330 P P 07 29 21.2 +1.2
RLMT Red Lodge 82.22 331 P P 07 29 20.8 +0.9
RLMT IAmb IAmb 07 29 22.1
comp=Z,5.6nm,1.0s
YNE Yellowstone No 82.45 331 P P 07 29 22.2 +1.0
YMR Madison River 82.60 330 P P 07 29 22.7 +0.8
YHH Holmes Hill 82.64 330 P P 07 29 23.5 +1.2
GCMT Greycliff 82.92 331 P P 07 29 24.6 +1.2
QLMT Earthquake Lak 82.93 330 P P 07 29 25.7 +2.0
DGMT Dagmar 82.97 336 P P 07 29 25.0 +1.5
DGMT IAmb IAmb 07 29 25.7
comp=Z,9.4nm,0.8s
PAHR Pah Rah Range 83.08 322 P P 07 29 25.1 +0.7
MCMT McKenzie Canyo 83.57 329 P P 07 29 28.0 +1.0
DLMT Dillon 83.87 329 P P 07 29 29.3 +1.0
DLMT IAmb IAmb 07 29 30.8
comp=Z,5.6nm,1.1s
ORV Oroville 84.15 321 P P 07 29 30.0 +0.3
ORV IAmb IAmb 07 29 32.2
comp=Z,7.8nm,1.2s
LRM Limekiln Ridge 84.16 330 P P 07 29 31.3 +1.4
PLID Pearl Lake 85.24 327 P P 07 29 36.5 +1.2
PLID IAmb IAmb 07 29 37.4
comp=Z,5.5nm,0.8s
PCVE Castro Verde 85.26 43 *eP* P 07 29 37.4 +2.1
PNCL Nicolau / Gran 85.28 42 *eP* P 07 29 36.8 +1.5
PVAQ Vaqueiros 85.31 43 *eP* P 07 29 37.3 +1.8
PMTG Montargil 86.08 42 *eP* P 07 29 41.7 +2.4
PTOM Tomar 86.33 41 *eP* P 07 29 43.0 +2.5
JTMT Jette 86.44 330 P P 07 29 41.7 +0.7
JTMT IAmb IAmb 07 29 43.1
comp=Z,5.0nm,0.8s
F10A Beach Ranch, E 86.47 327 P P 07 29 43.0 +1.8
F10A IAmb IAmb 07 29 52.2
comp=Z,5.6nm,1.2s
PCAS Casmilo, Conde 86.56 41 *eP* P 07 29 43.9 +2.3
comp=Z,69nm,1.9s
COI Coimbra 86.72 41 P P 07 29 41.9 -0.4
PINE Pine Mountain 86.77 324 P P 07 29 43.9 +1.1
PINE IAmb IAmb 07 29 45.4
comp=Z,11nm,1.0s
PMRV Marv??o 86.81 42 *eP* P 07 29 44.9 +2.0
PCBR Castelo Branco 87.02 42 *eP* P 07 29 45.7 +1.9
comp=Z,19nm,1.7s
WALA Waterton Lakes 87.28 331 P P 07 29 44.9 -0.1
WALA IAmb IAmb 07 29 46.9
comp=Z,5.9nm,0.8s
MTE Manteigas 87.34 41 *eP* P 07 29 47.6 +2.1
PVRL Vila Real 87.81 40 *eP* P 07 29 50.2 +2.6
comp=Z,38nm,2.0s
KEBM Edson Butte 87.97 322 P P 07 29 48.9 +0.6
C09A Chrisman Ranch 88.29 328 P P 07 29 49.9 +0.2
C09A IAmb IAmb 07 29 52.1
comp=Z,4.7nm,0.8s
ESDC Sonseca Array 89.02 43 P P 07 29 55.0 +1.6
comp=Z,1.3nm,0.6s,baz=237,slow=4.1,SNR=12
YKA Yellowknife Ar 97.72 340 *eP*DIFF Pdif 07 30 33.1 +0.4
comp=Z,0.5nm,0.7s,baz=132,slow=4.7,SNR=4.0
VYHS Vyhne 107.55 44 *eP*DIFF **Pdif 07 31 18.0 +1.1**
BRTR Keskin Array B 114.78 57 PKKPbc PKKPbc 07 46 23.3 +7.0
comp=Z,1.2nm,0.7s,baz=86,slow=5.1,SNR=5.0
ASAR Alice Springs 125.08 203 PKP **PKPdf 07 35 58.5 -0.1**
comp=Z,7.4nm,0.7s,baz=133,slow=1.7,SNR=29
ASAR pPKP **pPKPdf 07 36 42.6 +0.6**
comp=Z,1.2nm,0.6s,baz=119,slow=1.6,SNR=3.3
WB2 Warramunga Arr 128.32 206 PKPdf 07 36 04.7 -0.1
WRA Warramunga Arr 128.32 206 PKP **PKiKP 07 36 05.1 -0.4**
comp=Z,8.7nm,0.7s,baz=168,slow=1.6,SNR=29
WRA Warramunga Arr 128.32 206 PKPdf 07 36 04.8 0.0
WB0 Warramunga Arr 128.46 206 PKPdf 07 36 04.9 -0.1
FITZ Fitzroy Crossi 132.82 196 PKP **PKiKP 07 36 14.4 -0.1**
comp=Z,4.2nm,0.7s,baz=312,slow=23,SNR=3.2
FITZ Fitzroy Crossi 132.82 196 PKPdf 07 36 13.8 +0.4
AKTO Aktyubinsk 132.85 46 PKP **PKiKP 07 36 12.9 -0.6**
comp=Z,1.8nm,0.6s,baz=88,slow=21,SNR=4.4
AKTO SKPbc **SKPbc 07 39 25.2 +0.6**
comp=Z,1.0nm,0.5s,baz=256,slow=2.5,SNR=4.2
ABKAR Akbulak array 134.25 47 PKiKP 07 36 16.2 -0.2
ABKAR Akbulak array 134.25 47 PKPdf 07 36 15.1 +0.2
BVAR Borovoye Array 139.66 39 PKP **PKiKP 07 36 26.6 -0.7**
comp=Z,1.7nm,0.8s,baz=266,slow=4.2,SNR=6.0

FAKI Fak Fak 144.38 214 PKPdf 07 36 34.3 -0.2
UGM Wanagama 144.42 175 PKPdf 07 36 34.1 -0.5
CISI Cisompet, Garu 144.49 171 PKPdf 07 36 34.2 -0.5
ARSB Arslanbob 144.56 57 PKPdf 07 36 34.0 -0.2
EKS2 Erkin-Say 144.89 55 P **PKPdf 07 36 35.8 +1.0**
SNR=13
AML Almayashu 144.94 55 P **PKPdf 07 36 36.2 +1.0**
SNR=12
LEM Lembang 145.18 170 PKPbc **PKPab 07 36 37.7 +1.5**
comp=Z,126nm,0.6s,baz=357,slow=1.5,SNR=23
KURBB Kurchatov Arra 145.26 39 PKPbc **PKPab 07 36 36.1 +0.8**
comp=Z,12nm,0.9s,baz=300,slow=3.4,SNR=70
KURBB pPKPbc **pPKPdf 07 37 18.2 -0.4**
comp=Z,6.3nm,0.7s,baz=299,slow=3.4,SNR=5.9
KURBB SKPbc **SKiKP 07 40 00.2 +0.6**
comp=Z,1.9nm,0.7s,baz=297,slow=2.9,SNR=6.8
KURK Kurchatov 145.26 39 PKPab 07 36 36.4 +1.1
SMRI Semarang 145.27 175 PKPab 07 36 37.6 +1.3
USP Ospenovka 145.28 53 P **PKPab 07 36 36.8 +1.1**
SNR=8.1
NIL Nilore 145.34 70 PKPab 07 36 36.1 0.0
AAK Ala-Archa 145.41 54 PKPbc **PKPab 07 36 37.4 +1.0**
comp=Z,37nm,0.9s,baz=216,slow=2.7,SNR=59
AAK pPKPbc **pPKPdf 07 37 21.1 +1.9**
comp=Z,9.0nm,0.7s,baz=212,slow=8.1,SNR=2.6
AAK Ala-Archa 145.41 54 P **PKPab 07 36 37.5 +1.2**
SNR=31
AAK Ala-Archa 145.41 54 PKiKP 07 36 38.0 -1.7
UCH Uchtor 145.52 55 P **PKPab 07 36 38.2 +1.1**
SNR=49
CHMS Chumysh 145.52 54 P **PKPab 07 36 37.4 +0.8**
SNR=9.7
KBK Karagaybulak 145.74 54 P **PKPab 07 36 38.5 +0.9**
SNR=10.0
TKM2 Tokmak 2 146.14 54 P **PKPab 07 36 38.8 -0.4**
SNR=7.1
BOOM Boomskoye usch 146.49 54 PKPab 07 36 40.0 -0.5
ZAA0 Zalesovo Array 146.60 31 PKPbc 07 36 38.5 -0.3
ZALV Zalesovo Beam 146.60 31 PKPbc **PKPbc 07 36 38.4 -0.5**
comp=Z,8.8nm,0.5s,baz=296,slow=3.4,SNR=31
ZALV pPKPbc pPKPbc 07 37 21.9 -0.1
comp=Z,11nm,0.7s,baz=300,slow=4.0,SNR=4.1
ZALV SKPbc **SKiKP 07 40 03.2 +0.9**
comp=Z,2.6nm,0.5s,baz=306,slow=3.1,SNR=5.2
SIJI Sorong 146.63 214 PKPbc **PKPab 07 36 40.8 -0.8**
comp=Z,44nm,0.7s,baz=347,slow=5.9,SNR=10
ULHL Ulahol 146.76 54 P **PKPbc 07 36 40.3 +0.2**
SNR=18
NRN Naryn 146.77 56 PKPbc 07 36 40.5 +0.2
KAPI Kappang 146.78 192 PKPbc **PKPbc 07 36 40.5 -0.1**
comp=Z,25nm,0.5s,baz=174,slow=5.5,SNR=18
KAPI Kappang 146.78 192 PKPab 07 36 42.1 0.0
KSH Kashi 147.11 59 PKPbc **PKPbc 07 36 40.7 -0.3**
KSH pPKP pPKPdf 07 37 22.5 +0.4
KDJ Kajisay 147.47 54 PKPbc 07 36 41.1 -0.8
TARG Taragay, Kyrgy 148.02 55 PKPbc 07 36 42.9 -0.8
MK31 Makanchi Array 149.24 44 PKiKP 07 36 47.4 +0.1
MK31 PKPab **PKPab 07 36 54.4 +3.2**
MKAR Makanchi Array 149.24 44 PKPbc **PKiKP 07 36 46.9 -0.4**
comp=Z,10nm,0.8s,baz=302,slow=2.9,SNR=35
MKAR PKPab **PKPab 07 36 53.7 +2.5**
comp=Z,6.2nm,0.6s,baz=288,slow=2.7,SNR=11
MKAR pPKPbc **pPKPbc 07 37 28.7 -0.7**
comp=Z,4.4nm,0.7s,baz=307,slow=2.4,SNR=3.4
MKAR Makanchi Array 149.24 44 PKiKP 07 36 47.1 -0.1
MKAR PKPab **PKPab 07 36 54.5 +3.3**
GSI Gunungsitoli 149.72 148 PKiKP 07 36 49.8 +0.6
WMQ Urumqi 154.01 45 *eP* PKPdf 07 36 48.6 -0.4
WMQ pmax pmax
comp=Z,170nm,9.5s
WMQ LR LR
comp=N,420nm,18.1s
WMQ LR LR
comp=E,2μm,18.3s
WMQ LR LR
comp=Z,570nm,21.5s
IPM Ipoh 154.09 151 PKPbc 07 36 57.9 -0.3
KLR Kul'dur 154.25 331 PKPbc **PKiKP 07 36 57.6 +0.2**
comp=Z,1.9nm,0.6s,baz=7.1,slow=4.7,SNR=5.4
MJAR Matsushiro Arr 157.13 299 PKPab 07 37 25.4 +0.5
SONM Songino Array 159.29 13 PKP **PKPdf 07 36 56.6 +0.8**
comp=Z,1.8nm,0.9s,baz=298,slow=1.0,SNR=10
SONM PKPab **PKPab 07 37 36.0 +2.1**
comp=Z,0.5nm,0.4s,baz=329,slow=45,SNR=2.0
GTA Gaotai 163.94 40 ⇑PKP **PKPdf 07 37 02.4 +1.5**
GTA pPKP pPKPdf 07 37 47.5 +2.8
GTA PKPab **PKPab 07 37 57.0 +2.4**
GTA sPKP 07 38 10.6
CMAR Chiang Mai Arr 163.96 122 PKP **PKPdf 07 37 01.5 +0.2**
comp=Z,0.8nm,0.3s,baz=265,slow=3.0,SNR=5.5
CMAR PKPab **PKPab 07 37 54.6 -0.4**
comp=Z,1.7nm,0.6s,baz=238,slow=4.1,SNR=6.6
CMAR Chiang Mai Arr 163.96 122 PKPdf 07 37 02.3 +1.0
CMAR **PKPab 07 37 54.8 -0.2**
KSRS Korea Array 164.29 312 PKP **PKPdf 07 37 01.9 +1.0**
comp=Z,0.4nm,0.6s,baz=66,slow=32,SNR=4.5
HHC Hu-ho-hao-te 166.90 5 *eP* PKPdf 07 37 01.1 -2.1
CD2 Chengdu 171.21 67 PKP **PKPdf 07 37 05.2 -0.9**
NJ2 Nanjing 173.49 312 *eP* PKPdf 07 36 06.8 -0.2
NJ2 pmax pmax
comp=Z,12nm,0.5s

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*NEIC **01** 07:17:48.6±1.9, 1°97N±0°08×96°77E±0°07, h10km±1km, mb4.4/12*
*ISCJB **01** 07:17:49.8±0.5, 1°71N±0°05×96°70E±0°06, h28km, mb3.8/7, Error ellipse: s-maj=10.1km s-min=5.7km az=142.8*
*IDC **01** 07:17:49.1±2.3, 1°83N×96°47E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.6/51, mbtmp3.8/8, Error ellipse: s-maj=97.0km s-min=20.8km az=58.0*
*DJA **01** 07:17:53.8±0.8, 2°N±7°×9°7E±1°3, h22km±16km, M3.5/5, MLv3.5/5*

ISC 01 07:17:52.2±0.6, 1°90N±0°05×96°79E±0°06, h28km, n40, σ1°77/37, mb4.1/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.68**	**317**	P	**Pb**	**07 18 06.3**	**+0.7**
GSI	**Gunungsitoli**	**0.98**	**127**	P	**Pb**	**07 18 14.0**	**+3.3**
GSI	**Gunungsitoli**	**0.98**	**127**		**Pn**	**07 18 10.1**	**-0.1**
GSI					**Sn**	**07 18 22.0**	**-1.2**
TPTI		**1.40**	**16**	P	**Pb**	**07 18 19.5**	**+1.7**
TPTI				S	**Sb**	**07 18 38.2**	**+2.9**
RPSI	**Rantau Prapat**	**2.27**	**70**		**Pn**	**07 18 25.4**	**-2.5**
TSI	**Tuntungan**	**2.38**	**48**	P	Pb	07 18 41.6	+7.2
MLSI	**Meulaboh, Aceh**	**2.38**	**351**	P	**Pn**	**07 18 31.4**	**+2.0**
IPM	**Ipoh**	**4.94**	**59**	Pn	**Pn**	**07 19 02.2**	**-2.5**
KULM	**Kulim**	**5.12**	**49**	Pn	**Pn**	**07 19 03.8**	**-3.2**
RGRI	**Rengat**	**5.98**	**112**	P	Pn	07 19 07.3	-12
MNAI	**Manna**	**8.76**	**135**	Pn	**Pn**	**07 19 55.7**	**-1.3**
KSM	**Kuching**	**13.52**	**92**	Pn	**Pn**	**07 21 01.6**	**-0.7**
CISI	**Cisompet, Garu**	**14.47**	**131**	Pn	**Pn**	**07 21 14.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**16.59**	**7**	Pn	**Pn**	**07 21 45.2**	**+2.3**
	baz=198,slow=11,SNR=9.3						
SHL	**Shillong**	**24.00**	**349**	P	**P**	**07 23 04.0**	**-0.9**
H08S2	**Diego Garcia H**	**26.03**	**248**	T	T	07 50 09.3	
	baz=69,slow=76,SNR=58						
H08S3	**Diego Garcia H**	**26.03**	**248**	T	T	07 50 12.6	
	baz=69,slow=76,SNR=58						
H08S1	**Diego Carcia H**	**26.03**	**248**	T	T	07 50 14.4	
	baz=69,slow=76,SNR=45						
WB0	**Warramunga Arr**	**42.72**	**122**	P	**P**	**07 25 46.4**	**-0.8**
WRA	**Warramunga Arr**	**42.75**	**122**	P	**P**	**07 25 50.1**	**+2.6**
	0.7nm,0.6s,baz=300,slow=9.3,SNR=5.1						
WRA	**Warramunga Arr**	**42.75**	**122**	P	**P**	**07 25 47.8**	**+0.3**
WRAB	**Tennant Creek**	**42.76**	**122**	P	**P**	**07 25 45.9**	**-1.7**
WRAB				IAmb	IAmb	07 26 00.3	
	comp=Z,11nm,1.4s						
ASAR	**Alice Springs**	**44.14**	**127**	P	**P**	**07 26 01.9**	**+3.2**
	comp=Z,0.5nm,0.8s,baz=309,slow=7.9,SNR=4.7						
RER	**Riviere de l'E**	**46.23**	**238**	P	**P**	**07 26 14.5**	**-0.9**
MK31	**Makanchi Array**	**46.47**	**346**	P	**P**	**07 26 18.6**	**+1.8**
MK31				IAmb	IAmb	07 26 35.6	
	comp=Z,3.8nm,1.3s						
MKAR	**Makanchi Array**	**46.47**	**346**	P	**P**	**07 26 18.0**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=166,slow=7.5,SNR=9.4						
MKAR	**Makanchi Array**	**46.47**	**346**	P	**P**	**07 26 18.0**	**+1.2**
SONM	**Songino Array**	**46.50**	**9**	P	**P**	**07 26 19.0**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=189,slow=8.6,SNR=4.2						
SONM	**Songino Array**	**46.50**	**9**	P	**P**	**07 26 15.7**	**-1.4**
MAKZ	**Makanchi**	**46.55**	**346**	P	**P**	**07 26 15.5**	**-1.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MAKZ				IAmb	IAmb	07 26 24.5	
	comp=Z,8.2nm,1.2s						
KKAR	**Karatay Array**	**47.25**	**334**	P	**P**	**07 26 21.6**	**-1.3**
KURBB	**Kurchatov Arra**	**50.95**	**345**	P	**P**	**07 26 52.2**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=166,slow=6.8,SNR=1.4						
ZAA0	**Zalesovo Array**	**52.81**	**351**	P	**P**	**07 27 03.5**	**-1.4**
ZAA0				IAmb	IAmb	07 27 07.4	
	comp=Z,2.4nm,0.8s						
ZALV	**Zalesovo Beam**	**52.81**	**351**	P	**P**	**07 27 05.9**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=186,slow=7.4,SNR=7.5						
ZALV	**Zalesovo Beam**	**52.81**	**351**	P	**P**	**07 27 05.6**	**+0.7**
BVAR	**Borovoye Array**	**55.46**	**341**	P	**P**	**07 27 25.5**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=81,slow=8.9,SNR=3.2						
SUR	**Sutherland**	**79.20**	**237**	P	**P**	**07 29 54.2**	**-1.1**
ACER	**Acerenza**	**81.83**	**311**	P	**P**	**07 30 08.1**	**-1.0**
ADK	**Adak**	**86.36**	**38**	P	**P**	**07 30 31.5**	**-0.3**
TXAR	**Lajitas Array**	**143.28**	**31**	PKP	**PKPdf**	**07 37 24.8**	**0.0**
	comp=Z,0.3nm,0.9s,baz=288,slow=0.9,SNR=2.2						

*ISCJB **01** 07:28:10.8±1.3, 37°.47N±0°.10×71°.7E±0°.1, h109km, mb3.4/1, Error ellipse: s-maj=16.0km s-min=10.2km az=142.0*

*IDC **01** 07:28:13.1±6.5, 37°.69N×71°.46E, h131km±39km, mb3.3/1, mb1 3.3/6, mb1mx3.0/63, mbtmp3.7/6, Error ellipse: s-maj=97.4km s-min=23.7km az=145.0*

*NNC **01** 07:28:15.0±2.5, 37°.93N×71°.74E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=19.1km s-min=14.0km az=172.0*

ISC 01 07:28:10.6±1.7**, 37°.5N**±0°.1×**71°.5E**±0°.1**, h109**km**, n20, σ2s15**/24**, 5C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.91**	**19**	P	**Pn**	**07 29 24.7**	**+2.2**
	SNR=34						
UCH	**Uchtor**	**5.24**	**25**	P	**Pn**	**07 29 28.8**	**+1.7**
	SNR=12						
KZA	**Kyzart**	**5.39**	**31**	P	**Pn**	**07 29 30.1**	**+1.2**
	SNR=11						
EKS2	**Erkin-Say**	**5.43**	**18**	P	**Pn**	**07 29 31.7**	**+2.5**
	SNR=13						
AAK	**Ala-Archa**	**5.60**	**23**	P	**Pn**	**07 29 33.9**	**+2.3**
	5.2nm,0.3s,baz=234,slow=12,SNR=41						
AAK				S	**Sn**	**07 30 35.1**	**+0.3**
	1.7nm,0.3s,baz=123,slow=22,SNR=13						
AAK	**Ala-Archa**	**5.60**	**23**	P	**Pn**	**07 29 34.0**	**+2.3**
	SNR=16						
AAK	**Ala-Archa**	**5.60**	**23**	⇑P	**Pn**	**07 29 33.8**	**+2.1**
	5.2nm,0.3s						
AAK				⇓S	**Sn**	**07 30 34.9**	**+0.1**
	8.0nm,0.5s						
KK31	**Karatay Array**	**5.64**	**352**	P	Pn	07 29 35.9	+3.8
	3.4nm,0.6s,baz=172,slow=12,SNR=52						
KK31				⇑S	**Sn**	**07 30 37.4**	**+1.8**
	5.7nm,0.3s,baz=178,slow=22,SNR=13						
ULHL	**Ulahol**	**5.96**	**36**	P	**Pn**	**07 29 36.9**	**+0.3**
	SNR=15						
CHMS	**Chumysh**	**6.01**	**23**	P	**Pn**	**07 29 39.1**	**+2.0**
	SNR=11						
USP	**Ospenovka**	**6.18**	**21**	P	**Pn**	**07 29 41.9**	**+2.5**
	SNR=5.2						
TKM2	**Tokmak 2**	**6.24**	**29**	P	**Pn**	**07 29 42.3**	**+2.0**
	SNR=6.0						
TKM2	**Tokmak 2**	**6.24**	**29**	⇑P	**Pn**	**07 29 42.0**	**+1.7**
	3.8nm,0.4s						
TKM2				⇑S	**Sn**	**07 30 50.3**	**+0.1**
	2.1nm,0.6s						
GEYT	**Alibeck**	**10.64**	**276**	P	**Pn**	**07 30 40.6**	**+0.7**
	0.8nm,0.3s,baz=112,slow=11,SNR=10						
MKAR	**Makanchi Array**	**12.23**	**37**	P	**Pn**	**07 30 59.8**	**-1.2**
	0.0nm,0.3s,baz=216,slow=10,SNR=3.3						
KURBB	**Kurchatov Arra**	**14.03**	**19**	P	**Pn**	**07 31 22.1**	**-2.4**
	0.0nm,0.3s,baz=206,slow=10,SNR=2.7						
AB31	**Akbulak array**	**14.43**	**328**	⇓P	**P**	**07 31 34.4**	**+1.2**
	0.5nm,0.4s,baz=134,slow=14,SNR=30						
AB31				⇑S	**S**	**07 34 14.9**	**-6.0**
	0.7nm,0.6s,baz=154,slow=23,SNR=5.1						
BVAR	**Borovoye Array**	**15.54**	**357**	P	**P**	**07 31 46.2**	**+0.8**
	0.2nm,0.3s,baz=234,slow=33,SNR=3.7						
ZALV	**Zalesovo Beam**	**18.82**	**25**	P	**P**	**07 32 21.1**	**-0.5**
	0.4nm,0.3s,baz=211,slow=11,SNR=5.1						
YKA	**Yellowknife Ar**	**80.22**	**3**	P	**P**	**07 40 08.0**	**-0.7**
	0.5nm,0.8s,baz=351,slow=5.6,SNR=3.6						

IDC 01 07:30:31.7±1.7**, 7°.30S**×**128°.53E, h0**km**, mb3.8**/2**, mb1 3.8**/4**, mb1mx3.5**/43**, mbtmp3.7**/4**, ML3.6**/2**, Error ellipse: s-maj=119.0km s-min=27.3km az=64.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.78**	**156**	Pn	Pn	07 33 46.5	-2.0
	0.2nm,0.3s,baz=337,slow=13,SNR=2.1						
ASAR	**Alice Springs**	**17.08**	**163**	P	Pn	07 34 31.1	-1.0
	0.4nm,0.3s,baz=335,slow=10,SNR=13						
STKA	**Stephens Creek**	**27.32**	**155**	P	P	07 36 19.4	+1.0
	0.5nm,0.4s,baz=319,slow=11,SNR=1.4						
MKAR	**Makanchi Array**	**67.68**	**328**	P	P	07 41 30.7	-0.1
	0.8nm,0.7s,baz=123,slow=7.7,SNR=5.0						

PAS 01 07:47:50.0±0.6**, 32°.91N**±0°.01×**116°.27W**±0°.01**, h7**km±4km**, ML1.8, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MONP2	**Monument Peak**	**0.13**	**263**		Pg	07 47 53.1	+0.2
MONP2				Sg	Sg	07 47 54.9	-0.1
IKP	**In-Ko-Pah, Jac**	**0.29**	**152**		Pg	07 47 55.5	-0.3
IKP				Sg	Sg	07 47 59.4	-0.2
SWSC	**Sam W. Stewart**	**0.40**	**85**		Pg	07 47 57.5	-0.2
SWSC				Sg	Sg	07 48 02.8	-0.1
BAR	**Barrett**	**0.41**	**236**		Pg	07 47 57.7	-0.2
BAR				Sg	Sg	07 48 03.2	-0.1
WESC	**Westside Schoo**	**0.48**	**108**	Pg	Pb	07 48 00.1	-0.6
EML	**El Monte Cty P**	**0.48**	**268**		Pg	07 47 59.0	-0.3
EML				Sg	Sg	07 48 05.3	-0.4
SDRC	**San Diego Road**	**0.59**	**253**		Pg	07 48 00.9	-0.5
SDRC				Sg	Sg	07 48 08.6	-0.6
DREC	**Desert Rsrch C**	**0.70**	**98**	Pg	Pb	07 48 04.0	-0.5
109C	**Camp Elliot, M**	**0.70**	**269**		Pg	07 48 02.8	-0.7
109C					Sg	07 48 11.9	-0.9
PFO	**Pinyon Flats O**	**0.72**	**347**		Pg	07 48 03.3	-0.6
PFO				Sg	Sg	07 48 12.5	-0.7
Y12C	**Blythe**	**1.69**	**60**	Pn	Pn	07 48 19.5	-0.4
W13A	**Hualapai Mount**	**2.95**	**42**	Pn	Pn	07 48 37.3	-0.1

IDC 01 08:09:30.8±1.7**, 6°.20S**×**123°.85E, h0**km**, mb3.9**/1**, mb1 3.8**/4**, mb1mx3.5**/36**, mbtmp3.6**/4**, ML3.2**/3**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.8**/47**, Error ellipse: s-maj=74.8km s-min=25.9km az=50.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.99**	**183**	LR	LR	08 12 41.8	
	comp=Z,347nm,18.7s,baz=116,slow=48						
KAPI	**Kappang**	**4.25**	**286**	Pn	Pn	08 10 37.1	+0.3
	1.3nm,0.3s,baz=133,slow=8.8,SNR=5.1						
KAPI				Sn	Sn	08 11 23.1	-3.9
	2.1nm,0.3s,baz=207,slow=23,SNR=14						
WRA	**Warramunga Arr**	**17.05**	**144**	P	Pn	08 13 29.0	-1.7
	0.1nm,0.3s,baz=316,slow=13,SNR=11						
ASAR	**Alice Springs**	**19.88**	**152**	P	Pn	08 14 04.8	-0.6
	0.1nm,0.3s,baz=323,slow=11,SNR=12						
MKAR	**Makanchi Array**	**64.33**	**330**	P	P	08 20 08.2	-0.1
	0.8nm,0.6s,baz=126,slow=7.9,SNR=5.3						

*ISCJB **01** 08:14:00.6±0.2, 0°.98S±0°.03×26°.86E±0°.03, h10km, mb4.9/103, MS4.1/1, Error ellipse: s-maj=4.7km s-min=4.0km az=44.9*

*IDC **01** 08:14:01.0±0.4, 1°.00S×26°.84E, h0km, mb4.7/26, mb1 4.7/28, mb1mx4.7/39, mbtmp4.7/28, ML4.7/2, MS4.4/7, Ms1 4.3/7, ms1mx4.0/37, Error ellipse: s-maj=15.5km s-min=11.1km az=105.0*

*MOS **01** 08:14:00.6±0.9, 0°.94S×26°.84E, h10km, mb5.1/54, Error ellipse: s-maj=7.6km s-min=4.4km az=83.7*

*NEIC **01** 08:14:02.1±1.4, 0°.96S±0°.06×26°.79E±0°.08, h10km±1km, mb4.9/89*

*BJI **01** 08:14:03.0±0.0, 1°.09S×27°.41E, h6km, mb4.9/26, mB5.3/18, Ms5.2/4, Ms7 4.9/6*

*GCMT **01** 08:14:05.1±0.4, 0°.89S±0°.02×26°.92E±0°.03, h26km±1km, MW5.0/67, Moment Tensor Solution. s21,c24; s67,c90; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.30±.36; Mθθ3.71±.27; Mφφ-1.42±.25; Mrθ-0.03±.39; Mθφ-2.32±.14; Mφr-2.01±.49; Best double couple: M₀4.45000×10¹⁶ NP1:φs326.00000°, δ65.00000°, λ-40.00000°. NP2: φs75.00000°, δ55.00000°, λ-148.00000°. Principal axes: T 4.6770, Plg6.0000°, Azm23.0000°; N -0.4650, Plg44.0000°, Azm119.0000°; P -4.2220, Plg45.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 08:14:02.2±0.3**, 1°.00S**±0°.05×**26°.85E**±0°.05**, h10**km**, n411, σ1s09**/425**, mb4.9**/117**, 29C-20D, Zaire**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**3.91**	**84***c*	*i*P	**Pn**	**08 15 01.9**	**-0.7**
MBAR	**Mbarara**	**3.91**	**84**	Pn	**Pn**	**08 15 02.1**	**-0.5**
	242nm,0.3s,baz=50,slow=22,SNR=187						
MBAR				Sn	**Sn**	**08 15 45.4**	**-3.3**
	2μm,0.3s,baz=18,slow=23,SNR=6.6						
MBAR				Lg	Lg	08 16 00.7	
	2μm,0.3s,baz=357,slow=22,SNR=5.5						
MBAR				LR	LR	08 16 47.0	
	comp=Z,3μm,19.1s,baz=265,slow=42						
MBAR	**Mbarara**	**3.91**	**84**		**Pn**	**08 15 02.9**	**+0.3**
MBAR					**Sn**	**08 15 46.1**	**-2.6**
I32KE	**NAIROBI INFRAS**	**9.98**	**91**	*i*		09 05 50.0	
	baz=271,slow=323,SNR=1.7						
KMBO	**Kilima Mbogo**	**10.41**	**91**	*i*P	**Pn**	**08 16 33.2**	**+1.3**
KMBO	**Kilima Mbogo**	**10.41**	**91**	P	**Pn**	**08 16 33.6**	**+1.7**
	SNR=13						
KMBO	**Kilima Mbogo**	**10.41**	**91**	Pn	**Pn**	**08 16 32.3**	**+0.4**
	1.4nm,0.3s,baz=272,slow=18,SNR=11						
KMBO				Sn	**Sn**	**08 18 22.8**	**-6.0**
	3.1nm,0.3s,baz=253,slow=18,SNR=2.2						
KMBO				Lg	Lg	08 19 24.6	
	14nm,0.3s,baz=176,slow=7.2,SNR=10						
KMBO	**Kilima Mbogo**	**10.41**	**91**	*i*P	**Pn**	**08 16 33.2**	**+1.3**
KMBO	**Kilima Mbogo**	**10.41**	**91**		**Pn**	**08 16 32.6**	**+0.8**
KIBK	**Kibwezi**	**11.28**	**97**	P	**Pn**	**08 16 45.8**	**+2.2**
	SNR=8.6						
VWZMW	**Thunduwike**	**12.12**	**147**	*i*P	**Pn**	**08 16 54.1**	**-1.1**
VWZMW				S	Sn	08 19 21.6	+11
LSZ	**Lusaka**	**14.24**	**175**	*i*P	**Pn**	**08 17 21.0**	**-3.3**
LSZ	**Lusaka**	**14.24**	**175**	P	**Pn**	**08 17 20.2**	**-4.1**
	SNR=8.5						
LSZ	**Lusaka**	**14.24**	**175**	Pn	**Pn**	**08 17 20.3**	**-4.0**
	2.2nm,0.3s,baz=9.0,slow=12,SNR=29						
LSZ				Sn	Sn	08 19 50.4	-12
	9.7nm,0.3s,baz=106,slow=14,SNR=12						
LSZ				Lg	Lg	08 21 21.8	
	3.4nm,0.3s,baz=116,slow=19,SNR=4.9						
LSZ	**Lusaka**	**14.24**	**175**	*i*P	**Pn**	**08 17 21.0**	**-3.3**
LSZ	**Lusaka**	**14.24**	**175**		Pn	08 17 19.7	-4.6
FURI	**Furi**	**15.35**	**50**	Pn	**Pn**	**08 17 39.6**	**+0.1**
FURI				IAmb	IAmb	08 17 56.8	
	comp=Z,57nm,1.3s						
ZOMB	**Zomba**	**16.57**	**150**	*i*P	**Pn**	**08 17 52.8**	**-2.2**
ZOMB				S	**Sn**	**08 21 02.5**	**+3.3**
BLWY	**Bulawayo**	**19.10**	**175**	*i*P	**P**	**08 18 22.4**	**-3.0**
BLWY	**Bulawayo**	**19.10**	**175**	*i*P	**P**	**08 18 22.4**	**-3.0**
ATD	**Arta Tunnel**	**20.20**	**51**	P	Pn	08 18 41.2	+1.9
	comp=Z,10nm,0.7s,baz=299,slow=10,SNR=4.2						
ATD				Lg	Lg	08 24 32.6	
	comp=Z,2.5nm,0.3s,baz=40,slow=21,SNR=1.3						
ATD				LR	LR	08 26 13.0	
	comp=Z,747nm,18.3s,baz=224,slow=36						
ATD	**Arta Tunnel**	**20.20**	**51**	P	**P**	**08 18 35.6**	**-1.9**
TSUM	**Tsumeb**	**20.24**	**206**	P	**P**	**08 18 37.5**	**-0.4**
	comp=Z,17nm,0.7s,baz=20,slow=13,SNR=21						
TSUM				S	S	08 22 08.7	-16
	comp=Z,33nm,0.9s,baz=109,slow=19,SNR=2.0						
TSUM				Lg	Lg	08 24 30.2	
	comp=Z,66nm,1.0s,baz=76,slow=7.7,SNR=3.8						
TSUM				LR	LR	08 26 28.8	
	comp=Z,851nm,19.8s,baz=351,slow=37						
LBTB	**Lobatse**	**23.90**	**183**	*i*P	**P**	**08 19 16.4**	**-0.1**
LBTB	**Lobatse**	**23.90**	**183**	P	**P**	**08 19 16.2**	**-0.2**
	comp=Z,8.0nm,0.7s,baz=358,slow=10,SNR=11						
LBTB				Lg	Lg	08 26 28.0	
	comp=Z,15nm,0.9s,baz=108,slow=16,SNR=4.4						
LBTB				LR	LR	08 28 45.7	
	comp=Z,1μm,19.1s,baz=4.5,slow=37						
LBTB	**Lobatse**	**23.90**	**183**	*i*P	**P**	**08 19 16.4**	**-0.1**
LBTB	**Lobatse**	**23.90**	**183**	P	**P**	**08 19 16.0**	**-0.4**
OPO	**Ambohidratompo**	**26.52**	**132**	P	**P**	**08 19 43.9**	**+3.4**
	comp=Z,3.3nm,1.0s,baz=315,slow=14,SNR=3.7						
OPO				LR	LR	08 29 35.2	
	comp=Z,448nm,18.4s,baz=216,slow=35						
ABPO	**Ambohimpanom**	**26.83**	**133**	P	**P**	**08 19 43.8**	**+0.6**
ABPO				pmax	pmax		
	comp=Z,31nm,1.5s						
ABPO	**Ambohimpanom**	**26.83**	**133**	P	**P**	**08 19 43.8**	**+0.6**
ABPO				IAmb	IAmb	08 19 48.9	
	comp=Z,31nm,1.4s						
BOSA	**Boshof**	**27.50**	**183**	*i*P	**P**	**08 19 48.6**	**-0.4**
BOSA	**Boshof**	**27.50**	**183**	P	**P**	**08 19 48.8**	**-0.3**
	comp=Z,8.9nm,0.9s,baz=351,slow=7.2,SNR=9.5						
BOSA				LR	LR	08 30 45.6	
	comp=Z,936nm,18.0s,baz=5.0,slow=36						
BOSA	**Boshof**	**27.50**	**183**	*i*P	**P**	**08 19 48.6**	**-0.4**
BOSA	**Boshof**	**27.50**	**183**	P	**P**	**08 19 48.3**	**-0.8**
TOA0	**Torodi Ar. Sit**	**28.63**	**300**	P	**P**	**08 19 59.7**	**+0.4**
	SNR=6.6						
TOA0	**Torodi Ar. Sit**	**28.63**	**300**	P	**P**	**08 19 58.3**	**-0.9**
TORD	**Torodi Ar. Bea**	**28.63**	**300**	P	**P**	**08 19 59.2**	**-0.1**
	comp=Z,36nm,0.7s,baz=111,slow=8.4,SNR=199						
TORD				Lg	Lg	08 28 59.3	
	comp=Z,7.9nm,1.2s,baz=127,slow=26,SNR=4.1						
TORD				LR	LR	08 30 50.8	
	comp=Z,756nm,21.8s,baz=15,slow=35						
TORD	**Torodi Ar. Bea**	**28.63**	**300**	P	**P**	**08 19 57.9**	**-1.3**
RAYN	**Ar Rayn**	**30.39**	**35**	P	**P**	**08 20 14.4**	**-0.4**
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
RAYN	**Ar Rayn**	**30.39**	**35**	P	**P**	**08 20 14.4**	**-0.4**
TAM	**Tamanrasset**	**31.48**	**320**	P	**P**	**08 20 23.5**	**-1.0**
TAM				pmax	pmax		
	comp=Z,18nm,1.4s						
TAM	**Tamanrasset**	**31.48**	**320**	P	**P**	**08 20 23.6**	**-1.0**
TAM				IAmb	IAmb	08 20 26.6	
	comp=Z,18nm,1.4s						
SUR	**Sutherland**	**31.72**	**190**	P	**P**	**08 20 27.3**	**+0.7**
	comp=Z,12nm,0.8s,baz=16,slow=8.4,SNR=8.9						
SUR	**Sutherland**	**31.72**	**190**	P	**P**	**08 20 27.1**	**+0.5**
SUR				IAmb	IAmb	08 20 37.1	
	comp=Z,35nm,1.4s						
KIC	**Kosan Boka**	**32.37**	**283**	*e*P	**P**	**08 20 31.8**	**-0.5**
	comp=Z,13nm,0.4s						
KIC	**Kosan Boka**	**32.37**	**283**	P	**P**	**08 20 31.8**	**-0.5**
WHFO	**Wadi Hawf**	**32.50**	**53**	P	**P**	**08 20 33.5**	**+0.1**
DBIC	**Dimbokro**	**32.54**	**284**	P	**P**	**08 20 34.0**	**+0.2**
	comp=Z,20nm,0.9s,baz=88,slow=8.6,SNR=15						
DBIC	**Dimbokro**	**32.54**	**284**	P	**P**	**08 20 31.4**	**-2.4**
LIC	**Lamto**	**32.62**	**283**	*e*P	**P**	**08 20 33.8**	**-0.7**
	comp=Z,24nm,0.3s						
LIC	**Lamto**	**32.62**	**283**	P	**P**	**08 20 33.8**	**-0.7**
TIC	**Toumodi**	**32.70**	**284**	*e*P	**P**	**08 20 34.7**	**-0.5**
TIC	**Toumodi**	**32.70**	**284**	P	**P**	**08 20 34.7**	**-0.5**
TIC	**Toumodi**	**32.70**	**284**	P	**P**	**08 20 34.7**	**-0.5**
DMTO	**DMTO**	**33.34**	**55**	P	**P**	**08 20 41.0**	**+0.3**
RER	**Riviere de l'E**	**34.59**	**127**	P	**P**	**08 20 51.5**	**-0.1**
BSY	**Bisya**	**37.83**	**50**	P	**P**	**08 21 19.0**	**-0.4**
ASHO	**Ashiyiah**	**38.13**	**46**	P	**P**	**08 21 22.6**	**+0.8**
ITM	**Ithomi**	**38.27**	**354**	P	**P**	**08 21 20.6**	**-2.1**
UOSS	**Minazif**	**38.39**	**46**	P	**P**	**08 21 24.1**	**+0.1**
UOSS	**Minazif**	**38.39**	**46**	P	**P**	**08 21 24.3**	**+0.3**
SMDO	**Samad**	**38.66**	**50**	P	**P**	**08 21 26.4**	**0.0**
	SNR=6.6						
MDH	**Madha**	**38.68**	**45**	P	**P**	**08 21 26.2**	**-0.2**
BIDO	**Bidbid**	**38.98**	**49**	P	**P**	**08 21 29.0**	**+0.1**
BANOM	**Banah**	**39.06**	**45**	P	**P**	**08 21 30.4**	**+0.8**
	SNR=5.1						
GAZ	**Gaziantep**	**39.18**	**13**	P	**P**	**08 21 30.8**	**+0.2**
GAZ				IAmb	IAmb	08 21 34.2	
	comp=Z,25nm,0.8s						
MANT	**Manisa**	**39.33**	**2**	P	**P**	**08 21 31.6**	**-0.4**
KEST	**Kesra**	**40.03**	**338**	P	**P**	**08 21 38.6**	**+1.0**
	comp=Z,27nm,0.8s,baz=297,slow=3.2,SNR=14						
KEST	**Kesra**	**40.03**	**338**	P	**P**	**08 21 37.3**	**-0.3**
KEST				IAmb	IAmb	08 21 41.4	
	comp=Z,34nm,0.8s						
AGG	**Agios Georgios**	**40.05**	**355**	P	**P**	**08 21 37.5**	**-0.1**
AGG				pmax	pmax		
	comp=Z,38nm,0.8s						
AGG	**Agios Georgios**	**40.05**	**355**	P	**P**	**08 21 37.5**	**-0.1**
AGG				IAmb	IAmb	08 21 38.9	
	comp=Z,38nm,0.8s						
CLTB	**Caltabellotta**	**40.41**	**343**	P	**P**	**08 21 40.1**	**-0.6**
CLTB				IAmb	IAmb	08 21 58.8	
	comp=Z,45nm,1.4s						
BR131	**Keskin Array S**	**41.01**	**8**	P	**P**	**08 21 47.0**	**+1.3**
	SNR=8.1						
BR131	**Keskin Array S**	**41.01**	**8**	P	**P**	**08 21 46.7**	**+0.9**
BR131				pmax	pmax		
	comp=Z,20nm,0.6s						
BR131	**Keskin Array S**	**41.01**	**8**	P	**P**	**08 21 46.7**	**+0.9**
BR131				IAmb	IAmb	08 21 47.6	
	comp=Z,20nm,0.6s						
BRTR	**Keskin Array B**	**41.01**	**8**	P	**P**	**08 21 46.6**	**+0.9**
	comp=Z,18nm,0.6s,baz=182,slow=10,SNR=106						
BRTR				PcP	**PcP**	**08 23 46.4**	**+0.6**
	comp=Z,3.2nm,0.7s,baz=177,slow=6.3,SNR=4.2						
BRTR	**Keskin Array B**	**41.01**	**8**	P	**P**	**08 21 46.4**	**+0.7**
ANTO	**Ankara**	**41.04**	**7**	P	**P**	**08 21 46.6**	**+0.7**
ANTO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ANTO	**Ankara**	**41.04**	**7**	P	**P**	**08 21 46.6**	**+0.7**
ALN	**Alexandroupoli**	**41.71**	**359**	P	**P**	**08 21 52.0**	**+0.7**
ALN				pmax	pmax		
	comp=Z,16nm,1.4s						
ALN	**Alexandroupoli**	**41.71**	**359**	P	**P**	**08 21 52.0**	**+0.7**
FNA	**Florina**	**41.89**	**354**	P	**P**	**08 21 53.1**	**+0.3**
FNA				pmax	pmax		
	comp=Z,27nm,0.8s						
FNA	**Florina**	**41.89**	**354**	P	**P**	**08 21 53.1**	**+0.3**
FNA				IAmb	IAmb	08 21 54.2	
	comp=Z,27nm,0.8s						
VAY	**Valandovo**	**42.31**	**355**	*i*P	**P**	**08 21 57.0**	**+0.9**
ILGA	**Ilgaz**	**42.32**	**8**	P	**P**	**08 21 56.2**	**-0.4**
PDG	**Podgorica**	**43.77**	**352**	⇑P	**P**	**08 22 08.0**	**0.0**
GNI	**Garni**	**44.10**	**20**	⇑*e*P	**P**	**08 22 10.9**	**0.0**
GNI				pmax	pmax		
	comp=Z,65nm,1.1s						
GNI	**Garni**	**44.10**	**20**	P	**P**	**08 22 10.6**	**-0.3**
GNI				IAmb	IAmb	08 22 16.8	
	comp=Z,27nm,0.8s						
BCA	**Borcka**	**44.33**	**16**	⇑P	**P**	**08 22 13.6**	**+1.0**
AKH	**Akhalkalaki**	**44.84**	**18**	P	**P**	**08 22 17.3**	**+0.5**
AKH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AKH	**Akhalkalaki**	**44.84**	**18**	P	**P**	**08 22 17.3**	**+0.5**
TBLG	**Delisi**	**45.52**	**19**	P	**P**	**08 22 22.3**	**+0.3**
TBLG				pmax	pmax		
	comp=Z,31nm,0.8s						
TBLG	**Delisi**	**45.52**	**19**	P	**P**	**08 22 22.3**	**+0.3**
MDVR	**Moldovita**	**45.81**	**355**	⇓P	**P**	**08 22 24.8**	**+0.4**
HERR	**Herculane**	**45.85**	**356**	⇑P	**P**	**08 22 25.0**	**+0.4**
DGAR	**Diego Garcia**	**45.90**	**99**	⇑*e*P	**P**	**08 22 26.7**	**+1.2**
DGAR				pmax	pmax		
	comp=Z,117nm,1.0s						
CFR	**Carcaliu**	**46.00**	**1**	⇑P	**P**	**08 22 25.9**	**+0.2**
ARR	**Arges**	**46.21**	**358**	⇓P	**P**	**08 22 27.5**	**0.0**
ZEI	**Tsey**	**46.22**	**17**	*e*P	**P**	**08 22 28.6**	**+0.8**
ZEI				pmax	pmax		
	comp=Z,24nm,0.9s						
VOIR		**46.27**	**358**	⇑P	**P**	**08 22 28.1**	**+0.1**
MLR	**Muntele Rosu**	**46.30**	**359**	P	**P**	**08 22 27.3**	**-1.0**
MLR				pmax	pmax		
	comp=Z,21nm,0.9s						
MLR	**Muntele Rosu**	**46.30**	**359**	⇓P	**P**	**08 22 28.9**	**+0.6**
MLR	**Muntele Rosu**	**46.30**	**359**	P	**P**	**08 22 27.3**	**-1.0**
MLR				IAmb	IAmb	08 22 32.7	
	comp=Z,21nm,0.9s						
NEY	**Neytrino**	**46.30**	**16**	⇓*e*P	**P**	**08 22 27.6**	**-0.8**
NEY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LOT	**Lotru**	**46.33**	**357**	⇓P	**P**	**08 22 29.3**	**+0.8**
GZR	**Gura Zlata**	**46.34**	**356**	⇑P	**P**	**08 22 29.0**	**+0.6**
ANN	**Anapa**	**46.57**	**10**	*e*P	P	08 22 24.7	-5.5
ANN				*e*S	**S**	**08 29 17.2**	**-1.7**
ANN				pmax	pmax		
	comp=Z,75nm,1.2s						
BZS	**Buzias**	**46.65**	**355**	⇑P	**P**	**08 22 31.6**	**+0.8**
PLOR	**Plostina**	**46.66**	**360**	⇑P	**P**	**08 22 31.3**	**+0.4**
VRI	**Vrincioaia**	**46.67**	**360**	⇑P	**P**	**08 22 30.9**	**-0.1**
NCK	**Nalchik**	**46.78**	**17**	⇑*e*P	**P**	**08 22 33.4**	**+1.5**
NCK				pmax	pmax		
	comp=Z,41nm,1.0s						
DOPR	**Dopca**	**46.79**	**359**	⇑P	**P**	**08 22 31.5**	**-0.4**
KBZ	**Khabaz**	**46.80**	**16**	P	**P**	**08 22 32.6**	**+0.6**
	comp=Z,10.0nm,1.0s,baz=263,slow=6.1,SNR=7.1						
KIV	**Kislovodsk**	**46.95**	**16**	*e*P	**P**	**08 22 34.2**	**+0.9**
KIV				pmax	pmax		
	comp=Z,49nm,1.1s						
KIV	**Kislovodsk**	**46.95**	**16**	⇑P	**P**	**08 22 34.6**	**+1.3**
KIV				mb		08 22 49.6	
KIV	**Kislovodsk**	**46.95**	**16**	P	**P**	**08 22 32.4**	**-0.9**
KIV				IAmb	IAmb	08 22 36.7	
	comp=Z,13nm,0.9s						
SIRR	**Siria**	**47.29**	**355**	⇓P	**P**	**08 22 36.9**	**+1.0**
TESR	**Tescani**	**47.32**	**360**	⇓P	**P**	**08 22 35.5**	**-0.6**
CJR	**Cluj-Napoca**	**47.60**	**357**	⇑P	**P**	**08 22 39.2**	**+0.9**
DRGR		**47.73**	**356**	⇓P	**P**	**08 22 40.3**	**+0.9**
BIZ	**Bicaz**	**47.75**	**359**	⇓P	**P**	**08 22 40.2**	**+0.8**
GOF	**Gofitskoye**	**48.07**	**15**	⇓*i*P	**P**	**08 22 43.1**	**+1.2**
GOF				pmax	pmax		
	comp=Z,60nm,0.8s						
GEYT	**Alibeck**	**48.31**	**33**	P	**P**	**08 22 44.4**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=350,slow=3.5,SNR=4.6						
GEYT				PcP	**PcP**	**08 24 11.2**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=218,slow=9.4,SNR=4.6						
GEYT	**Alibeck**	**48.31**	**33**	P	**P**	**08 22 44.7**	**+0.7**
TIH	**Tihany**	**48.35**	**352**	*e*P	**P**	**08 22 45.1**	**+1.1**
HRA	**Herat**	**48.38**	**40**	P	**P**	**08 22 45.9**	**+1.2**
HRA				IAmb	IAmb	08 22 49.1	
	comp=Z,22nm,1.2s						
LTVH	**Ltavrtes, Hu**	**48.38**	**356**	*e*P	**P**	**08 22 45.1**	**+0.8**
BURAR	**Bucovina Array**	**48.44**	**359**	⇓P	**P**	**08 22 45.7**	**+0.9**
BURAR				mb		08 22 51.7	
BURAR	**Bucovina Array**	**48.44**	**359**	P	**P**	**08 22 45.0**	**+0.1**
BUR08	**Bucovina Ar. S**	**48.47**	**359**	P	**P**	**08 22 45.2**	**+0.1**
BUR08				IAmb	IAmb	08 22 52.1	
	comp=Z,18nm,1.1s						
OBKA	**Obir**	**48.54**	**349**	*e*P	**P**	**08 22 46.4**	**+0.8**
	comp=Z,12nm,0.8s						
BMR	**Baia Mare**	**48.57**	**357**	⇓P	**P**	**08 22 47.3**	**+1.6**
SOKA	**Soboth**	**48.61**	**349**	*e*P	**P**	**08 22 47.1**	**+1.0**
	comp=Z,10nm,0.9s						
MPLH	**Magyarpolny**	**48.66**	**352**	*e*P	**P**	**08 22 48.0**	**+1.6**
CTI	**Castel Tesino**	**48.74**	**346**	P	**P**	**08 22 46.8**	**-0.4**
CTI				pmax	pmax		
	comp=Z,26nm,0.9s						
CTI	**Castel Tesino**	**48.74**	**346**	P	**P**	**08 22 46.8**	**-0.4**
SORM	**Soroca**	**48.96**	**1**	⇓P	**P**	**08 22 48.2**	**-0.5**
ARSA	**Arzberg**	**49.07**	**350**	*e*P	**P**	**08 22 50.9**	**+1.3**
	comp=Z,15nm,0.7s,SNR=6.0						
TRPA	**Tarpa**	**49.08**	**356**	⇓P	**P**	**08 22 50.3**	**+0.6**
TRPA				mb		08 22 51.5	
TRPA	**Tarpa**	**49.08**	**356**	*e*P	**P**	**08 22 50.1**	**+0.5**
PSZ	**Piszkesteto**	**49.10**	**354**	P	**P**	**08 22 49.3**	**-0.6**
PSZ				pmax	pmax		
	comp=Z,29nm,0.8s						
PSZ	**Piszkesteto**	**49.10**	**354**	⇑P	**P**	**08 22 49.4**	**-0.6**
PSZ				mb		08 22 51.1	
PSZ	**Piszkesteto**	**49.10**	**354**	P	**P**	**08 22 49.3**	**-0.6**
PSZ	**Piszkesteto**	**49.10**	**354**	*e*P	**P**	**08 22 50.0**	**+0.1**
ABTA	**Abfaltersbach**	**49.19**	**347**	*e*P	**P**	**08 22 51.7**	**+1.0**
	comp=Z,8.0nm,0.7s						
KBA	**Koelnbreinsper**	**49.33**	**348**	*e*P	**P**	**08 22 52.4**	**+0.6**
	comp=Z,17nm,1.0s						
ESBB	**Sonseca Array**	**49.33**	**329**	P	**P**	**08 22 51.2**	**-0.5**
ESBB				IAmb	IAmb	08 22 53.7	
	comp=Z,14nm,0.9s						
ESDC	**Sonseca Array**	**49.33**	**329**	P	**P**	**08 22 52.4**	**+0.6**
	comp=Z,8.2nm,0.8s,baz=143,slow=7.7,SNR=37						
ESDC	**Sonseca Array**	**49.33**	**329**	P	**P**	**08 22 52.2**	**+0.4**
PAB	**San Pablo**	**49.44**	**328**	P	**P**	**08 22 52.8**	**+0.2**
PAB				pmax	pmax		
	comp=Z,21nm,1.3s						
PAB	**San Pablo**	**49.44**	**328**	P	**P**	**08 22 52.8**	**+0.2**
PAB				IAmb	IAmb	08 22 55.0	
	comp=Z,21nm,1.3s						
UZH	**Uzhgorod**	**49.59**	**356**	⇓*i*P	**P**	**08 22 53.5**	**0.0**
KECS	**Kecovo**	**49.60**	**354**	*e*P	**P**	**08 22 54.4**	**+0.8**
KECS				pmax	pmax		

KECS **Kecovo** 49.60 354 *e*P P 08 22 54.4 +0.8
FUORN **Ofenpass-Fuorn** 49.62 345 P P 08 22 54.2 +0.1
FUORN IAmb IAmb 08 22 58.4
comp=Z,10nm,0.8s
CONA **Conrad Observa** 49.67 350 *e*P P 08 22 55.1 +0.9
comp=Z,11nm,0.8s
VYHS **Vyhne** 49.79 353 *e*P P 08 22 55.5 +0.4
VYHS pmax pmax
comp=Z,17nm,0.8s
VYHS **Vyhne** 49.79 353 *e*P P 08 22 55.5 +0.4
PVAQ **Vaqueiros** 49.82 324 *e*P P 08 22 56.5 +1.0
MOA **Molln** 49.88 349 *e*P P 08 22 56.3 +0.6
comp=Z,20nm,0.7s,SNR=7.0
MODS **Modra-Piesok** 49.88 352 *e*P P 08 22 55.2 -0.6
MODS **Modra-Piesok** 49.88 352 *e*P P 08 22 55.1 -0.7
WTTA **Wattenberg** 49.88 346 *e*P P 08 22 56.5 +0.5
comp=Z,16nm,0.9s,SNR=6.1
KOLS **Kolonicke sedl** 49.90 356 *e*P P 08 22 58.1 +2.2
KOLS **Kolonicke sedl** 49.90 356 *e*P P 08 22 58.1 +2.2
SQTA **Sankt Quirin** 49.94 346 *e*P P 08 22 56.8 +0.4
comp=Z,11nm,0.7s
WATA **Walderalm** 49.96 346 *e*P P 08 22 56.8 +0.2
comp=Z,13nm,1.1s
SMOL **Smolenice** 49.99 352 *e*P P 08 22 56.8 +0.2
SMOL **Smolenice** 49.99 352 *e*P P 08 22 56.8 +0.2
MOTA **Moosalm** 50.08 346 *e*P P 08 22 57.4 -0.1
comp=Z,12nm,0.7s
PCVE **Castro Verde** 50.16 324 *e*P P 08 22 59.3 +1.2
SENIN **Lac Senin/Sane** 50.21 342 P P 08 22 57.4 -1.2
SENIN IAmb IAmb 08 23 01.1
comp=Z,6.8nm,0.7s
JAVC **Velka Javorina** 50.30 352 *e*P P 08 22 59.4 +0.4
RETA **Reutte** 50.30 346 *e*P P 08 22 59.0 -0.1
comp=Z,8.7nm,0.7s
PFVI **Vila Bisbo** 50.31 323 *e*P P 08 23 01.6 +2.4
PBEJ **Beja** 50.33 324 *e*P P 08 23 00.5 +1.2
DAVA **Damuels** 50.33 345 *e*P P 08 22 59.0 -0.4
comp=Z,16nm,0.6s,SNR=11
LANS **Liptovska Anna** 50.36 354 *e*P P 08 23 00.6 +1.1
LANS **Liptovska Anna** 50.36 354 *e*P P 08 23 00.6 +1.1
NIE **Niedzica** 50.54 354 *e*P P 08 23 02.0 +1.2
NIE **Niedzica** 50.54 354 *e*P P 08 23 02.0 +1.2
NIE *e*P P 08 23 02.0 +1.2
KWP **Kalwaria Pacla** 50.56 357 *e*P P 08 23 01.6 +0.7
KWP **Kalwaria Pacla** 50.56 357 *e*P P 08 23 01.6 +0.7
KWP *e*P P 08 23 01.6 +0.7
KWP **Kalwaria Pacla** 50.56 357 P P 08 23 01.4 +0.5
KRUC **Moravsky** 50.68 351 *e*P P 08 23 01.2 -0.6
LVV **L'vov** 50.68 358 *e*P P 08 23 01.8 0.0
PNCL **Nicolau / Gran** 50.77 324 *e*P P 08 23 04.2 +1.5
comp=Z,32nm,1.6s
VRAC **Vranov** 50.89 351 ⇓P P 08 23 03.3 -0.1
VRAC mb 08 23 04.1
VRAC **Vranov** 50.89 351 *e*P P 08 23 02.9 -0.5
GEC2 **GERESS Array S** 50.94 349 P P 08 23 03.6 -0.3
GEC2 IAmb IAmb 08 23 04.7
comp=Z,13nm,0.9s
GERES **GERESS Array B** 50.94 349 P P 08 23 03.9 0.0
comp=Z,8.8nm,0.8s,baz=162,slow=7.4,SNR=58
GERES **GERESS Array B** 50.94 349 P P 08 23 03.4 -0.5
TREC **Trest** 51.05 350 *e*P P 08 23 03.8 -0.8
TREC *e* 08 23 09.1
TREC **Trest** 51.05 350 *e*P P 08 23 03.8 -0.8
TREC *ep*P **sP** 08 23 09.1 -0.2
OKC **Ostrava-Krasne** 51.19 353 *e*P P 08 23 05.7 +0.1
OKC **Ostrava-Krasne** 51.19 353 *e*P P 08 23 05.7 +0.1
MORC **Moravsky Berou** 51.21 352 P P 08 23 05.6 -0.3
MORC pmax pmax
comp=Z,11nm,0.8s
MORC **Moravsky Berou** 51.21 352 ⇓P P 08 23 05.8 -0.1
MORC mb 08 23 06.8
MORC **Moravsky Berou** 51.21 352 *e*P P 08 23 05.6 -0.3
MORC **Moravsky Berou** 51.21 352 P P 08 23 05.6 -0.3
MORC IAmb IAmb 08 23 06.8
comp=Z,11nm,0.8s
KHC **Kasperske Hory** 51.24 349 *e*P P 08 23 05.2 -0.9
KHC *e* 08 23 08.5
KHC *e* 08 23 13.2
KHC **Kasperske Hory** 51.24 349 *e*P P 08 23 05.2 -0.9
KHC *ep*P **pP** 08 23 08.5 -0.9
KHC *ex* x 08 23 13.2
KHC *ex* x 08 23 18.1
KHC **Kasperske Hory** 51.24 349 P P 08 23 05.8 -0.2
KHC IAmb IAmb 08 23 06.8
comp=Z,12nm,0.9s
PMTG **Montargil** 51.24 325 *e*P P 08 23 07.3 +1.1
PCBR **Castelo Branco** 51.34 326 *e*P P 08 23 07.9 +1.0
comp=Z,28nm,1.3s
OJC **Ojcow** 51.38 354 *e*P P 08 23 07.5 +0.4
OJC **Ojcow** 51.38 354 *e*P P 08 23 07.5 +0.4
OJC *e*P P 08 23 07.5 +0.4
OJC **Ojcow** 51.38 354 P P 08 23 06.8 -0.2
OJC IAmb IAmb 08 23 08.0
comp=Z,14nm,0.9s
AKASG **Malin Array Be** 51.55 2 *i*P P 08 23 08.0 -0.3
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKASG **Malin Array Be** 51.55 2 P P 08 23 08.0 -0.3
comp=Z,8.5nm,0.8s,baz=190,slow=6.9,SNR=28
AKASG **Malin Array Be** 51.55 2 P P 08 23 07.5 -0.8
AKBB **Malin Array Si** 51.55 2 P P 08 23 06.9 -1.4
AKBB pmax pmax
comp=Z,15nm,0.9s
AKBB **Malin Array Si** 51.55 2 P P 08 23 06.9 -1.4
AKBB IAmb IAmb 08 23 09.2
comp=Z,15nm,0.9s
KRLC **Kraliky** 51.61 352 *e*P P 08 23 08.7 -0.1
KRLC **Kraliky** 51.61 352 *e*P P 08 23 08.7 -0.1
BFO **Black Forest** 51.70 344 P P 08 23 09.1 -0.5
BFO pmax pmax
comp=Z,15nm,1.1s
BFO **Black Forest** 51.70 344 P P 08 23 09.1 -0.5
BFO IAmb IAmb 08 23 10.5
comp=Z,15nm,1.1s
MTE **Manteigas** 51.77 327 *e*P P 08 23 11.7 +1.5
STU **Stuttgart** 51.88 345 P P 08 23 10.3 -0.6
STU pmax pmax
comp=Z,22nm,1.3s
STU **Stuttgart** 51.88 345 P P 08 23 10.3 -0.6
STU IAmb IAmb 08 23 17.4
comp=Z,22nm,1.3s
ECH **Echery** 51.92 343 P P 08 23 11.3 +0.1
ECH pmax pmax
comp=Z,13nm,1.2s
ECH **Echery** 51.92 343 P P 08 23 11.3 +0.1
ECH IAmb IAmb 08 23 12.2
comp=Z,13nm,1.2s
DPC **Dobruska-Polom** 51.95 351 *e*P P 08 23 11.0 -0.3
DPC *e* 08 23 15.7
DPC **Dobruska-Polom** 51.95 351 *e*P P 08 23 11.0 -0.3
DPC *ep*P **sP** 08 23 15.7 -0.3
MVO **Moncorvo** 52.02 328 *e*P P 08 23 13.6 +1.5
UPC **Upice** 52.15 351 *e*P P 08 23 12.5 -0.3
UPC *e* 08 23 17.5
UPC **Upice** 52.15 351 *e*P P 08 23 12.5 -0.3
UPC *ep*P **sP** 08 23 17.5 +0.1
CHVC **Chvalec** 52.22 351 *e*P P 08 23 12.8 -0.5
CHVC *ex* x 08 23 19.5
GRA1 **Grafenberg Arr** 52.26 347 P P 08 23 13.1 -0.5
GRA1 IAmb IAmb 08 23 14.3
comp=Z,27nm,1.1s
GRF **Grafenberg Arr** 52.26 347 P P 08 23 13.1 -0.5
GRF pmax pmax
comp=Z,27nm,1.1s
PBRG **Braganca** 52.33 328 *e*P P 08 23 15.4 +1.1
SACV **Santiago Islan** 52.35 290 P P 08 23 15.0 +0.1
NKC **Novy Kostel** 52.51 348 *e*P P 08 23 16.0 +0.5
NKC **Novy Kostel** 52.51 348 *e*P P 08 23 16.0 +0.5
POLO **Lamas de Olo** 52.58 327 *e*P P 08 23 17.8 +1.5
comp=Z,31nm,1.4s
BRG **Berggiesshubel** 52.84 350 *e*P P 08 23 17.5 -0.4
comp=Z,13nm,1.1s
BRG *e* 08 23 58.3
comp=Z,3.9nm,0.9s
BRG **Berggiesshubel** 52.84 350 *e*P P 08 23 17.5 -0.4
BRG pmax pmax
comp=Z,13nm,1.2s
BRG pmax pmax
comp=Z,4.0nm,0.9s
VSR **Storozhevoye** 53.07 10 *e*P P 08 23 18.5 -1.1
VSR pmax pmax
comp=Z,8.0nm,0.6s

CLL **Collm** 53.43 349 P P 08 23 21.7 -0.5
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL **Collm** 53.43 349 *e*P P 08 23 20.0 -2.2
CLL **Collm** 53.43 349 P P 08 23 21.7 -0.5
VRH **Novokhopyorsk** 53.53 12 *e*P P 08 23 22.9 0.0
VRH pmax pmax
comp=Z,10.0nm,0.8s
LPSR **Galich'ya Gora** 54.37 9 *e*P P 08 23 27.9 -1.2
LPSR pmax pmax
comp=Z,20nm,1.2s
MEM **Membach** 54.41 344 P P 08 23 29.4 0.0
BCLA **Clavier** 54.44 343 P P 08 23 29.4 -0.2
SNF **Seneffe** 54.82 343 P P 08 23 33.1 +0.7
SUW **Suwalki** 54.91 357 *e*P P 08 23 32.9 -0.1
SUW **Suwalki** 54.91 357 *e*P P 08 23 32.9 -0.1
SUW *e*P P 08 23 32.9 -0.1
SUW **Suwalki** 54.91 357 P P 08 23 32.8 -0.1
CHGR **Chuyangaron** 55.39 40 P P 08 23 37.4 +0.5
NIL **Nilore** 55.56 47 P P 08 23 38.8 +0.7
NIL pmax pmax
comp=Z,19nm,1.0s
NIL **Nilore** 55.56 47 P P 08 23 38.8 +0.7
NIL IAmb IAmb 08 23 43.4
comp=Z,19nm,0.9s
NACGM **Naroch** 55.72 360 *e* P 08 23 36.0 -2.8
RGN **Rugen** 56.48 351 P P 08 23 44.3 +0.1
OBN **Obninsk** 56.50 7⇑ *e*P P 08 23 44.2 -0.1
OBN *e* 08 25 49.8
OBN pmax pmax
comp=Z,68nm,2.5s
BTK **Batken** 57.24 39 P P 08 23 50.6 +0.5
BTK pmax pmax
comp=Z,12nm,1.3s
BTK **Batken** 57.24 39 P P 08 23 50.6 +0.5
BTK IAmb IAmb 08 23 59.1
comp=Z,12nm,1.3s
ABKAR **Akbulak array** 57.61 25 P P 08 23 52.0 -0.4
KK31 **Karatay Array** 58.81 36 P P 08 24 00.5 -0.4
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KK31 **Karatay Array** 58.81 36 P P 08 24 00.5 -0.4
KK31 IAmb IAmb 08 24 03.1
comp=Z,6.2nm,0.7s
KKAR **Karatay Array** 58.81 36 P P 08 24 00.8 -0.2
KKAR **Karatay Array** 58.81 36 P P 08 24 00.5 -0.4
KKAR IAmb IAmb 08 24 03.1
comp=Z,6.2nm,0.7s
KKAR **Karatay Array** 58.81 36 P P 08 24 00.8 -0.2
VSU **Vasula** 59.29 360⇑ *e*P P 08 24 02.5 -1.4
VSU pmax pmax
comp=Z,47nm,0.9s
ARSB **Arslanbob** 59.31 39 P P 08 24 03.4 -1.2
KSH **Kashi** 60.33 42 *e*P P 08 24 10.1 -1.5
HOMB **Homborsund** 60.87 349 *e*P P 08 24 15.3 +0.6
AAK **Ala-Archa** 60.97 39⇑ *e*P P 08 24 18.0 +2.0
AAK pmax pmax
comp=Z,3.0nm,1.2s
AAK **Ala-Archa** 60.97 39 P P 08 24 16.5 +0.5
SNART **Snartemo** 61.19 348 *e*P P 08 24 18.1 +1.2
NRN **Naryn** 61.30 40 P P 08 24 18.2 -0.3
NRN pmax pmax
comp=Z,4.0nm,1.0s
NRN **Naryn** 61.30 40 P P 08 24 18.2 -0.3
KOLN **Koldanda** 61.47 58 *e*P P 08 24 19.3 -0.4
comp=Z,35nm,1.0s
DANN **Dangsing** 61.78 57 *e*P P 08 24 21.3 -0.6
comp=Z,38nm,0.7s
BOOM **Boomskoye usch** 61.80 39 P P 08 24 20.2 -1.4
BOOM pmax pmax
comp=Z,9.0nm,1.2s
BOOM **Boomskoye usch** 61.80 39 P P 08 24 20.2 -1.4
BOOM IAmb IAmb 08 24 25.5
comp=Z,8.7nm,1.2s
KONO **Kongsberg** 61.97 350 *e*P P 08 24 22.3 +0.2
OSL **Oslo** 62.06 351 *e*P P 08 24 23.3 +0.6
FINES **FINESS Array B** 62.28 360 P P 08 24 24.0 -0.2
comp=Z,14nm,1.0s,baz=181,slow=4.0,SNR=15
FINES PcP **PcP** 08 25 04.2 +0.2
comp=Z,10nm,1.1s,baz=145,slow=5.4,SNR=4.3
FINES **FINESS Array B** 62.28 360 P P 08 24 22.1 -2.1
BLS5 **Blasjo** 62.34 348 *e*P P 08 24 25.4 +0.7
KDJ **Kajisay** 62.41 40 P P 08 24 25.4 -0.4
KDJ pmax pmax
comp=Z,3.0nm,0.8s
KDJ **Kajisay** 62.41 40 P P 08 24 25.4 -0.4
GKN **Gorkha** 62.41 58 *e*P P 08 24 25.3 -0.7
TARG **Taragay, Kyrgy** 62.62 41 P P 08 24 26.5 -0.9
TARG IAmb IAmb 08 24 41.2
comp=Z,13nm,1.3s
DMN **Daman** 62.70 58 *e*P P 08 24 27.6 -0.4
NC602 **NORSAR Array S** 62.70 352 *e*P P 08 24 27.1 +0.1
ARU **Arti** 62.74 19 *d i*P P 08 24 27.0 -0.4
ARU 08 26 43.6
ARU S **S** 08 32 57.4 +1.3
ARU SS **SS** 08 37 00.7 -0.3
ARU pmax pmax
comp=Z,12nm,0.7s
ARU **Arti** 62.74 19 P P 08 24 26.8 -0.6
ODD1 **Odda** 62.76 349 *e*P P 08 24 29.0 +1.4
RCBR **Riachuelo** 62.79 264 P P 08 24 28.1 -0.5
RCBR pmax pmax
comp=Z,30nm,0.9s
RCBR **Riachuelo** 62.79 264 P P 08 24 28.1 -0.5
KKN **Kakani** 62.90 58 *e*P P 08 24 28.3 -1.0
comp=Z,23nm,0.7s
NAO01 **NORSAR Array S** 62.90 351 P P 08 24 28.0 -0.4
PKIN **Phulchoki** 62.93 58 *e*P P 08 24 28.8 -0.8
PKI **Pulchoki** 62.94 58 *e*P P 08 24 28.6 -1.1
NB201 **NORSAR Array S** 63.03 352 P P 08 24 29.0 -0.3
NB2 **NORSAR Subarra** 63.04 352 P P 08 24 29.6 +0.2
comp=Z,28nm,0.8s,baz=165,slow=6.5
NB2 **NORSAR Subarra** 63.04 352 P P 08 24 29.6 +0.2
baz=165,slow=6.5
NOA **NORSAR Array B** 63.04 352 P P 08 24 29.5 +0.1
comp=Z,14nm,0.7s,baz=164,slow=6.5,SNR=25
NBO00 **NORSAR Array S** 63.09 351 P P 08 24 29.9 +0.3
SKAR **Skarsla** 63.17 350 *e*P P 08 24 31.6 +1.3
NC303 **NORSAR Array S** 63.19 352 P P 08 24 30.3 0.0
NC204 **NORSAR Array S** 63.33 351 P P 08 24 30.6 -0.8
PRZ **Przheval'sk** 63.38 40 P P 08 24 32.3 +0.1
PRZ pmax pmax
comp=Z,10.0nm,0.7s
PRZ **Przheval'sk** 63.38 40 P P 08 24 32.3 +0.1
PRZ IAmb IAmb 08 24 33.8
comp=Z,9.5nm,0.7s
GUN **Gumba** 63.44 58 *e*P P 08 24 32.3 -0.8
comp=Z,36nm,0.8s
JIRN **Jiri** 63.63 58 *e*P P 08 24 33.2 -1.2
comp=Z,21nm,0.7s
SVE **Sverdlovsk** 63.75 20 *e*P P 08 24 34.2 +0.1
RAMN **Ramite** 63.79 59 *e*P P 08 24 35.0 -0.3
DOMB **Dombas** 64.32 351 *e*P P 08 24 38.4 +0.6
ODAN **Odare** 64.44 60 *e*P P 08 24 39.3 -0.3
comp=Z,10nm,0.7s
AKN **Aaknes** 64.79 350 *e*P P 08 24 41.0 +0.1
TAPN **Taplejung** 64.85 59 *e*P P 08 24 41.5 -0.8
BRVK **Borovoye** 64.89 27⇑ *i*P P 08 24 41.1 -0.6
BRVK pmax pmax
comp=Z,11nm,1.3s
BRVK **Borovoye** 64.89 27 P 08 24 41.4 -0.3
BRVK **Borovoye** 64.89 27 P P 08 24 41.2 -0.4
BRVK IAmb IAmb 08 24 45.0
comp=Z,6.5nm,0.9s
NSS **Namsos** 66.29 353 *e*P P 08 24 51.0 +0.5
KURK **Kurchatov** 67.67 33⇓ *e*P P 08 24 59.5 -0.1
KURK pmax pmax
comp=Z,15nm,1.3s
KURK **Kurchatov** 67.67 33 P P 08 24 58.7 -0.8
KURK IAmb IAmb 08 25 03.5
comp=Z,10nm,1.0s
MK31 **Makanchi Array** 67.85 38 P P 08 25 00.7 -0.1
MK31 pmax pmax
comp=Z,5.0nm,0.7s
MK31 **Makanchi Array** 67.85 38 P P 08 25 00.7 -0.1
MK31 IAmb IAmb 08 25 01.5
comp=Z,4.7nm,0.7s
MKAR **Makanchi Array** 67.85 38 P P 08 25 00.7 -0.1
comp=Z,5.2nm,0.6s,baz=243,slow=5.5,SNR=31
MKAR **Makanchi Array** 67.85 38 P P 08 25 00.4 -0.4
SHL **Shillong** 68.06 62 P P 08 25 02.2 -0.5
SHL pmax pmax
comp=Z,20nm,1.3s
SHL **Shillong** 68.06 62 P P 08 25 02.2 -0.5

SYO **Syowa Base** 68.43 175⇑ *e*P P 08 25 03.0 -0.9
SYO **Syowa Base** 68.43 175⇑ *e*X P 08 25 05.0 +1.1
APA **Apatity** 68.58 3⇑ *i*P P 08 25 01.8 -3.1
APA pmax pmax
comp=Z,11nm,1.1s
APA MLR MLR
comp=Z,2μm,14.0s
STEI **Steigen** 69.27 355 *e*P P 08 25 09.1 0.0
KTK1 **Kautokeino** 69.92 359 *e*P P 08 25 12.7 -0.5
WMQ **Urumqi** 70.09 42 *e*P P 08 25 17.1 +2.2
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,290nm,6.5s
WMQ LR LR
comp=Z,580nm,20.3s
WMQ LR LR
comp=Z,240nm,22.7s
ARCES **ARCESS Array B** 70.41 360 P P 08 25 16.0 -0.2
ARCES **ARCESS Array B** 70.41 360 P P 08 25 16.0 -0.2
comp=Z,2.6nm,0.6s,baz=171,slow=5.7,SNR=15
ARCES **ARCESS Array B** 70.41 360 P P 08 25 15.1 -1.2
ARE0 **ARCESS Array S** 70.41 360 *e*P P 08 25 16.8 +0.6
TRO **Tromso** 70.71 357 *e*P P 08 25 18.3 +0.3
MAW **Mawson** 70.98 166 P P 08 25 21.7 +2.1
MAW pmax pmax
comp=Z,2.0nm,1.1s
MAW **Mawson** 70.98 166 P P 08 25 20.8 +1.2
comp=Z,4.3nm,0.8s,baz=302,slow=12,SNR=8.1
MAW **Mawson** 70.98 166 P P 08 25 21.7 +2.1
TROLL **Troll, Antarti** 72.56 188 P P 08 25 31.7 +2.4
ZAA0 **Zalesovo Array** 72.58 32 P P 08 25 28.9 -0.6
ZALV **Zalesovo Beam** 72.58 32 P P 08 25 29.0 -0.6
ZALV **Zalesovo Beam** 72.58 32 P P 08 25 29.0 -0.6
comp=Z,4.4nm,0.6s,baz=269,slow=4.9,SNR=15
ZALV **Zalesovo Beam** 72.58 32 P P 08 25 28.7 -0.9
SNAA **Sanae** 73.06 189 P P 08 25 34.2 +1.9
SNAA **Sanae** 73.06 189⇑ *e*P P 08 25 33.9 +1.7
SNAA **Sanae** 73.06 189 P P 08 25 33.4 +1.2
SNAA IAmb IAmb 08 25 37.9
comp=Z,10nm,1.2s
VNA2 **Neumayer--Watz** 73.25 191 P P 08 25 35.1 +1.9
baz=33,slow=4.4
CMAR **Chiang Mai Arr** 73.37 71 P P 08 25 35.5 +0.5
comp=Z,1.4nm,0.4s,baz=266,slow=7.0,SNR=12
VNA3 **Neumayer Olymp** 73.95 192 P P 08 25 39.6 +2.2
BDFB **Brasilia** 75.15 254 P P 08 25 46.3 +0.7
comp=Z,5.9nm,0.9s,baz=64,slow=2.9,SNR=7.8
BDFB **Brasilia** 75.15 254 P P 08 25 45.2 -0.4
BDFB IAmb IAmb 08 25 47.9
comp=Z,8.4nm,1.0s
MDSI **Maura Dua** 77.30 94 P P 08 25 58.3 +0.6
GTA **Gaotai** 77.53 49 ⇓P P 08 26 02.2 +3.5
GTA pP PcP 08 26 07.0 -2.0
GTA sP sP 08 26 09.2 +5.7
GTA pmax pmax
comp=Z,4.0nm,1.1s
KLSI 77.84 95 P P 08 26 02.9 +2.1
SPA0 **Spitsbergen Ar** 79.30 358 *e*P P 08 26 08.9 +1.4
CD2 **Chengdu** 79.30 58 P P 08 26 08.4 -0.1
CD2 pmax pmax
comp=Z,20nm,0.5s
LZH **Lanzhou** 80.10 53 *e*P P 08 26 14.8 +1.9
LZH pP sP 08 26 18.5 +0.8
LZH sP PcP 08 26 21.1 +0.8
LZH pmax pmax
comp=Z,20nm,1.0s
NRIK **Noril'sk** 80.95 18 P P 08 26 17.3 +0.8
comp=Z,4.3nm,0.8s,baz=32,slow=2.1,SNR=5.8
KSM **Kuching** 83.49 88 P P 08 26 31.6 +0.5
SONM **Songino Array** 83.72 42 P P 08 26 33.1 +1.4
SONM pmax pmax
comp=Z,5.0nm,1.1s
SONM **Songino Array** 83.72 42 P P 08 26 33.2 +1.5
comp=Z,3.4nm,0.9s,baz=279,slow=5.0,SNR=10
SONM **Songino Array** 83.72 42 P P 08 26 33.1 +1.4
SUMG **Summit** 83.73 344 *i*P P 08 26 32.0 +0.5
SUMG pmax pmax
comp=Z,26nm,0.9s
SUMG **Summit** 83.73 344 *i*P P 08 26 32.0 +0.5
comp=Z,26nm,0.9s
SUMG **Summit** 83.73 344 P P 08 26 32.4 +0.8
SUMG IAmb IAmb 08 26 33.7
comp=Z,11nm,0.9s
ULN **Ulaanbaatar** 84.17 42 *ce*P P 08 26 34.6 +0.6
ULN pmax pmax
comp=Z,8.0nm,1.3s
ULN **Ulaanbaatar** 84.17 42 P P 08 26 34.0 -0.1
CPUP **Villa Florida** 84.33 244 P P 08 26 34.7 -0.4
CPUP pmax pmax
comp=Z,5.0nm,1.3s
CPUP **Villa Florida** 84.33 244 P P 08 26 35.0 -0.1
comp=Z,1.2nm,0.7s,baz=78,slow=4.5,SNR=3.6
CPUP **Villa Florida** 84.33 244 P P 08 26 34.7 -0.4
EFI **East Falkland** 86.05 218⇑ *e*P P 08 26 42.5 -0.6
EFI pmax pmax
comp=Z,57nm,1.4s
HHC **Hu-ho-hao-te** 86.65 49 *e*P P 08 26 46.5 0.0
WHN **Wuhan** 88.35 60 P P 08 26 59.0 +4.2
QSPA **South Pole Qui** 89.04 180 P P 08 26 58.7 +1.3
BJI **Beijing** 90.12 50 *e*P P 08 27 04.7 +1.8
BJI pmax pmax
comp=Z,3.0nm,1.5s
BJI LR LR
comp=Z,370nm,7.6s
BJI LR LR
comp=Z,420nm,10.4s
BJI LR LR
comp=Z,390nm,25.5s
NJ2 **Nanjing** 92.23 58 *e*P P 08 27 13.6 +0.7
NJ2 pmax pmax
comp=Z,15nm,0.5s
LPAZ **La Paz** 94.50 254 P P 08 27 22.9 -1.5
LPAZ pmax pmax
comp=Z,6.0nm,1.0s
LPAZ **La Paz** 94.50 254 P P 08 27 24.0 -0.4
comp=Z,4.1nm,0.9s,baz=59,slow=5.6,SNR=18
LPAZ **La Paz** 94.50 254 P P 08 27 22.9 -1.5
LPAZ IAmb IAmb 08 27 25.3
comp=Z,5.8nm,0.9s
TIXI **Tiksi** 94.73 18⇑ *e*P P 08 27 22.3 -1.2
TIXI pmax pmax
comp=Z,1.0nm,1.6s
PLCA **Paso Flores** 94.96 229 P P 08 27 24.5 -0.9
PLCA pmax pmax
comp=Z,3.0nm,1.3s
PLCA **Paso Flores** 94.96 229 P P 08 27 26.3 +0.9
comp=Z,1.5nm,0.9s,baz=170,slow=2.5,SNR=3.9
PLCA **Paso Flores** 94.96 229 P P 08 27 24.5 -0.9
ILAR **Eielson Array** 116.21 357 PKP **PKiKP** 08 32 44.5 -1.1
comp=Z,0.8nm,0.9s,baz=316,slow=2.4,SNR=6.3
ILAR **Eielson Array** 116.21 357 **PKiKP** 08 32 43.0 -2.5
PDAR **Pinedale Array** 123.02 323 PKP **PKPdf** 08 32 59.8 +0.2
comp=Z,0.8nm,0.7s,baz=102,slow=3.7,SNR=9.1
PDAR **Pinedale Array** 123.02 323 **PKPdf** 08 32 59.1 -0.5
SMCO **Snowmass** 123.30 318 **PKPdf** 08 33 00.5 0.0
ANMO **Albuquerque** 124.98 313⇑ *i*PKIKP **PKiKP** 08 33 04.5 +0.6
ANMO pmax pmax
comp=Z,5.0nm,2.5s
TX31 **Lajitas Ar. Si** 125.14 306 **PKPdf** 08 33 03.5 -0.5
TX32 **Lajitas Array** 125.14 306 **PKPdf** 08 33 03.3 -0.6
TXAR **Lajitas Array** 125.14 306 PKIKP **PKPdf** 08 33 03.9 0.0
TXAR **Lajitas Array** 125.14 306 PKIKP **PKiKP** 08 33 05.0 +0.7
comp=Z,1.1nm,0.7s,baz=90,slow=2.9,SNR=17
TXAR **Lajitas Array** 125.14 306 **PKPdf** 08 33 03.9 0.0
MNTX **Cornudas Mount** 125.58 309 **PKPdf** 08 33 03.8 -0.8
SRU **San Rafael Swe** 125.68 320 PKIKP **PKPdf** 08 33 03.4 -1.4
SRU **San Rafael Swe** 125.68 320 **PKPdf** 08 33 03.4 -1.4
BMO **Blue Mountains** 126.06 329 PKIKP **PKPdf** 08 33 05.5 +0.3
BMO **Blue Mountains** 126.06 329 **PKPdf** 08 33 05.5 +0.3
MFID **Camas Ranch** 126.25 327 **PKPdf** 08 33 05.3 -0.4
DUG **Dugway, Tooele** 126.51 322 PKIKP **PKPdf** 08 33 05.4 -0.9
DUG **Dugway, Tooele** 126.51 322 **PKPdf** 08 33 05.4 -0.9
G08A **Pilot Rock** 126.59 330 **PKPdf** 08 33 05.8 -0.4
121A **Cookes Peak, D** 127.06 311 **PKPdf** 08 33 06.8 -0.8
WUAZ **Wupatki** 128.19 316 **PKPdf** 08 33 09.3 -0.4
U15A **North Rim** 128.33 318 **PKiKP** 08 33 11.0 +0.4
319A **Douglas** 128.72 311 **PKPdf** 08 33 09.1 -1.7
NVAR **Mina Array Bea** 130.94 324 PKP **PKiKP** 08 33 16.6 +0.8
comp=Z,1.3nm,0.9s,baz=102,slow=1.5,SNR=10
NVAR **Mina Array Bea** 130.94 324 **PKPdf** 08 33 13.9 -0.9

IDC 01 08:20:26.6±2.4,37.20S×141.63E,h0km,mb3.5/3,

mb1 4.0/4,mb1mx3.5/43,mbtmp3.8/4,ML4.0/1,Error ellipse: s-maj=43.1km s-min=15.4km az=59.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	Jayapura	1.15	306	Pn	Pn	08 20 50.4	+0.5
	10nm,0.3s,baz=163,slow=9.4,SNR=52						
JAY				Lg	Lg	08 21 04.0	
	40nm,0.3s,baz=111,slow=23,SNR=9.9						
JAY				LR	LR	08 21 13.0	
	comp=Z,238nm,20.7s,baz=192,slow=40						
WRA	Warramunga Arr	18.10	203	P	Pn	08 24 38.2	-1.3
	0.5nm,0.3s,baz=16,slow=11,SNR=18						
FITZ	Fitzroy Crossi	21.55	225	P	P	08 25 19.3	+1.5
	1.1nm,0.4s,baz=41,slow=14,SNR=3.4						
ASAR	Alice Springs	21.67	199	P	P	08 25 18.6	-0.5
	4.2nm,0.6s,baz=29,slow=10,SNR=29						
MKAR	Makanchi Array	71.97	322	P	P	08 31 51.8	-0.3
	0.3nm,0.6s,baz=96,slow=4.5,SNR=1.4						

*IDC **01** 08:34:23.1±0.4,40˚29N×78˚91E,h0km,mb4.6/39, mb1 4.7/45,mb1mx4.6/62,mbtmp4.6/45,ML3.9/6,MS4.7/41, Ms1 4.7/41,ms1mx4.6/48,Error ellipse: s-maj=9.3km s-min=8.3km az=173.0*

*KRNET **01** 08:34:23.5±0.1,40˚02N×79˚06E,mb5.6*

*NEIC **01** 08:34:24±1.3,40˚25N±0˚04×78˚94E±0˚06,h8km±2km, mb5.0/118,Mwr5.0,Mwc5.4(GCMT),Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}3.72; $M_{\theta\theta}$-3.64; $M_{\phi\phi}$-0.08; $M_{r\theta}$0.04; $M_{\theta\phi}$-2.08; $M_{\phi r}$-1.89; Fault plane solution: $M_0$4.63000×10^{16} NP1:ϕ_s222.32000°, δ55.22000°,λ59.37000°. NP2:ϕ_s88.39000°,δ45.03000°, λ126.26000°. Principal axes: T 4.5907, Plg65.0000°, Azm75.0000°; N 0.0826, Plg25.0000°, Azm241.0000°; P -4.6733, Plg6.0000°, Azm334.0000°;*

*BJI **01** 08:34:24.4±0.0,40˚28N×79˚02E,h5km,mb5.0/65, mB5.2/52,ML5.5/9,Ms5.3/74,Ms7 5.1/65*

*MOS **01** 08:34:26.2±1.0,40˚24N×78˚95E,h33km,mb5.0/59, MS5.0/21,Error ellipse: s-maj=5.5km s-min=4.0km az=121.8*

*GCMT **01** 08:34:27.0±0.1,40˚32N±0˚01×78˚98E±0˚02,h12km, MW5.3/133,Moment Tensor Solution. s80,c101; s133,c244; Duration: 1^{s}0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.90±.01; $M_{\theta\theta}$-0.78±.01; $M_{\phi\phi}$-0.12±.01; $M_{r\theta}$0.34±.04; $M_{\theta\phi}$-0.34±.01; $M_{\phi r}$0.06±.05; Best double couple: $M_0$0.97100×10^{17} NP1:ϕ_s72.00000°,δ55.00000°, λ95.00000°. NP2:ϕ_s243.00000°,δ35.00000°,λ82.00000°. Principal axes: T 0.9630, Plg79.0000°, Azm2.0000°; N 0.0150, Plg4.0000°, Azm249.0000°; P -0.9790, Plg10.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*SOME **01** 08:34:27.5,40˚33N×79˚03E,h25km,MS5.0*

*NNC **01** 08:34:28.1±0.8,40˚40N×78˚86E,h0km,mb5.5,mpv5.2, Error ellipse: s-maj=6.5km s-min=5.3km az=152.0*

*ISCJB **01** 08:34:28.2±0.3,40˚15N±0˚02×78˚90E±0˚02,h53km±3km, mb4.9/122,MS4.9/79,Error ellipse: s-maj=3.4km s-min=2.5km az=44.4*

*NEIC **01** 08:34:29,40˚36N×79˚05E,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.94; $M_{\theta\theta}$-0.79; $M_{\phi\phi}$-0.16; $M_{r\theta}$0.64; $M_{\theta\phi}$-0.39; $M_{\phi r}$0.35; Fault plane solution: $M_0$1.20000×10^{17} NP1:ϕ_s246.00000°, δ26.00000°,λ93.00000°. NP2:ϕ_s63.00000°,δ64.00000°, λ88.00000°. Principal axes: T 1.1884, Plg71.0000°, Azm329.0000°; N 0.0272, Plg1.0000°, Azm63.0000°; P -1.2156, Plg19.0000°, Azm154.0000°;*

ISC 01 08:34:25.2±0.6**,40˚29N**±0˚02×**78˚91E**±0˚02**,h12**km±3km**, n603,**σ1^s**88**/687**,mb4.9**/160**,MS4.9**/80**,64C-18D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.66	330		Pb	08 34 55.5	-0.5
PRZ	Przheval'sk	2.22	350	PN	Pb	08 35 05.9	+0.5
PRZ	Przheval'sk	2.22	350	⇑eP	Pb	08 35 05.5	+0.1
	baz=49						
PRZ				⇑iS	Sg	08 35 35.9	-0.8
	baz=49						
PRZ	Przheval'sk	2.22	350		Pb	08 35 05.9	+0.5
PRZ				Sn	Sn	08 35 28.6	-1.0
KDJ	Kajisay	2.25	325	PN	Pb	08 35 05.4	-0.5
KDJ						08 35 30.6	
KDJ	Kajisay	2.25	325	⇑iP	Pb	08 35 06.0	+0.1
	baz=27						
KDJ				⇑iS	Sg	08 35 36.8	-0.8
	baz=27						
KDJ	Kajisay	2.25	325		Pb	08 35 05.4	-0.5
KDJ				Sn	Sn	08 35 30.6	+0.3
KSH	Kashi	2.38	252	Pn	Pg	08 35 10.7	-0.2
KSH				Sn	Sg	08 35 46.5	+4.6
KSH				smax	smax		
	comp=N,29µm,0.7s						
KSH				smax	smax		
	comp=E,24µm,0.9s						
NRN	Naryn	2.48	298	PN	Pb	08 35 08.7	-1.2
NRN	Naryn	2.48	298	⇑iP	Pn	08 35 08.3	+2.6
	baz=2.0						
NRN				⇑iS	Sb	08 35 41.4	+0.9
	baz=2.0						
NRN	Naryn	2.48	298		Pb	08 35 08.7	-1.2
ANVS	Anan'yevo	2.66	340	⇑eP	Pb	08 35 11.8	-1.0
	baz=40						
ANVS				⇑iS	Sb	08 35 47.2	+1.7
	baz=40						
SATY	Saty	2.79	352	eP	Pg	08 35 18.1	-0.6
	5µm,0.8s						
SATY				eS	Sg	08 35 54.6	-0.3
	19µm,2.1s						
SATY	Saty	2.79	352	Pg	Pg	08 35 18.4	-0.3
	5µm,0.8s						
SATY				Lg	Lg	08 35 54.9	
	4µm,0.7s						
ULHL	Ulahol	2.80	315	⇑eP	Pb	08 35 13.4	-1.9
	baz=17						
ULHL				⇑iS	Sb	08 35 49.5	-0.1
	baz=17						
ULHL	Ulahol	2.80	315	P	Pb	08 35 14.5	-0.8
	SNR=39						
UZB	Uzynbulak	2.85	2	eP	Pg	08 35 18.5	-1.4
	1µm,0.8s						
UZB				eS	Sg	08 35 55.3	-1.6
	4µm,1.3s						
PDGK	Podgornoye	3.07	8	⇑Pn	Pn	08 35 16.4	+2.8
	3µm,1.0s						
PDGK				⇓Lg	Lg	08 36 03.2	
	23µm,1.1s						
TNSS	Tian-Shan	3.11	332	eP	Pg	08 35 24.2	-0.7
	1µm,0.8s						
TNSS				eS	Sg	08 36 04.8	-0.4
	3µm,1.1s						
TNSS	Tian-Shan	3.11	332	Pg	Pg	08 35 23.8	-1.0
	1µm,0.8s						
TNSS				Lg	Lg	08 36 04.1	
	3µm,1.1s						
BOOM	Boomskoye usch	3.13	316	PN	Pn	08 35 18.0	+3.5
BOOM	Boomskoye usch	3.13	316	⇑iP	Pn	08 35 17.8	+3.3
	baz=17						
BOOM				⇑iS	Sb	08 35 57.7	-1.4
	baz=17						
BOOM	Boomskoye usch	3.13	316		Pn	08 35 18.0	+3.5
KPKS	Kokpek	3.18	357	eP	Pg	08 35 24.4	-1.6
	2µm,0.4s						
KPKS				eS	Sg	08 36 05.2	-2.0
	7µm,0.6s						
MDOK	Medeo	3.19	335	eP	Pb	08 35 22.3	+0.4
	2µm,1.1s						
MDOK				eS	Sb	08 36 01.8	+1.0
	4µm,0.7s						
MDOK	Medeo	3.19	335	⇓Pn	Pn	08 35 18.6	+3.3
	5µm,1.4s						
MDOK				⇑Lg	Lg	08 36 04.8	
	5µm,0.8s						
KOTS	Kotyrbulak	3.23	336	eP	Pb	08 35 25.1	+2.4
	2µm,0.8s						
KOTS				eS	Sg	08 36 06.6	-2.4
	7µm,0.8s						
KOTS	Kotyrbulak	3.23	336	Pg	Pb	08 35 25.0	+2.4
	2µm,0.8s						
KOTS				Lg	Lg	08 36 06.6	
	3µm,0.6s						
IZV	Izvestkoviy	3.23	329	eP	Pb	08 35 25.1	+2.5
	828nm,0.9s						
IZV				eS	Sg	08 36 06.8	-2.3
	2µm,1.0s						
IZV	Izvestkoviy	3.23	329	Pg	Pg	08 35 25.3	-1.9
	828nm,0.9s						
IZV				Lg	Lg	08 36 07.9	
	2µm,1.0s						
KNDC	Almaty	3.26	334	⇑Pn	Pb	08 35 20.2	-2.9
	2µm,0.7s						
KNDC				⇑Lg	Lg	08 36 08.4	
	10µm,1.0s						
KZA	Kyzart	3.29	304	⇑eP	Pn	08 35 19.3	+2.4
	baz=7.0						
KZA				⇑iS	Sb	08 36 01.1	-2.7
	baz=7.0						
KZA	Kyzart	3.29	304	P	Pn	08 35 19.6	+2.8
	SNR=38						
KTMS	Ketmen	3.33	18	eP	Pb	08 35 26.3	+2.0
	132nm,0.2s						
KTMS				eS	Sg	08 36 08.6	-3.6
	2µm,0.9s						
KTMS	Ketmen	3.33	18	Pg	Pb	08 35 26.3	+2.0
	121nm,0.2s						
KTMS				Lg	Lg	08 36 08.6	
	2µm,0.9s						
MTBS	Maitube	3.39	328	eP	Pg	08 35 28.1	-2.0
	615nm,0.6s						
MTBS				eS	Sg	08 36 12.0	-2.0
	1µm,0.4s						
MTBS	Maitube	3.39	328	Pg	Pg	08 35 28.4	-1.7
	615nm,0.6s						
MTBS				Lg	Lg	08 36 12.0	
	1µm,0.4s						
KST	Kastek	3.52	322	eP	Pb	08 35 29.9	+2.3
	2µm,1.2s						
KST				eS	Sg	08 36 15.1	-3.2
	3µm,1.1s						
KST	Kastek	3.52	322	Pg	Pb	08 35 30.2	+2.6
	2µm,1.2s						
KST				Lg	Lg	08 36 15.5	
	2µm,0.6s						
TKM2	Tokmak 2	3.61	318	⇑eP	Pn	08 35 24.4	+3.2
	baz=19						
TKM2				⇑iS	Sb	08 36 09.4	-3.6
	baz=19						
TKM2	Tokmak 2	3.61	318	P	Pb	08 35 25.7	-3.5
	SNR=17						
TKM2	Tokmak 2	3.61	318	⇑Pn	Pn	08 35 24.7	+3.5
	2µm,1.4s						
TKM2				⇑Lg	Lg	08 36 18.9	
	2µm,1.1s						
KBK	Karagaybulak	3.80	310	⇑iP	Pn	08 35 26.6	+2.9
	baz=12						
KBK				⇑iS	Sn	08 36 13.4	+5.0
	baz=12						
KBK	Karagaybulak	3.80	310	P	Pn	08 35 28.1	+4.4
	SNR=12						
KTBS	Karatobe	3.80	335	eP	Pb	08 35 34.8	+2.6
	631nm,0.8s						
KTBS				eS	Sg	08 36 23.4	-3.8
	2µm,0.8s						
KTBS	Karatobe	3.80	335	Pg	Pb	08 35 34.8	+2.6
	526nm,0.8s						
KTBS				Lg	Lg	08 36 23.4	
	2µm,0.8s						
ARLS	Aral	3.80	296	⇑eP	Pn	08 35 26.5	+2.8
	baz=99						
ARLS				⇑iS	Sn	08 36 12.5	+4.1
	baz=99						
MNBS	Baschi	3.80	355	eP	Pg	08 35 36.0	-2.1
	175nm,0.4s						
MNBS				eS	Sg	08 36 24.9	-2.5
	2µm,0.8s						
MNBS	Baschi	3.80	355	Pg	Pg	08 35 35.3	-2.7
	180nm,0.5s						
MNBS				Lg	Lg	08 36 24.1	
	2µm,0.8s						
UCH	Uchtor	3.83	302	⇑iP	Pn	08 35 26.7	+2.3
	baz=4.0						
UCH				⇑iS	Sn	08 36 13.9	+4.3
	baz=4.0						
UCH	Uchtor	3.83	302	P	Pn	08 35 26.9	+2.4
	SNR=75						
CHKK	Chushkaly	3.83	339	eP	Pg	08 35 36.6	-2.1
	544nm,0.5s						
CHKK				eS	Sg	08 36 26.3	-2.0
	3µm,0.6s						
CHKK	Chushkaly	3.83	339	Pg	Pg	08 35 36.3	-2.3
	544nm,0.5s						
CHKK				Lg	Lg	08 36 26.3	
	3µm,0.6s						
ARXS	Arharly	4.00	349	eP	Pb	08 35 38.7	+3.1
	761nm,0.7s						
ARXS				eS	Sg	08 36 30.0	-3.6
	3µm,0.7s						
ARXS	Arharly	4.00	349	Pg	Pb	08 35 38.2	+2.6
	761nm,0.7s						
ARXS				Lg	Lg	08 36 30.0	
	3µm,0.7s						
AAK	Ala-Archa	4.06	307	P	Pn	08 35 30.6	+3.3
	SNR=684						
AAK	Ala-Archa	4.06	307	c iPN	Pn	08 35 30.4	+3.2
AAK				pmax	pmax		
	comp=Z,415nm,2.5s						
AAK	Ala-Archa	4.06	307	Pn	Pn	08 35 30.4	+3.2
	comp=Z,5.8nm,0.3s,baz=130,slow=11,SNR=64						
AAK				Pg	Pb	08 35 38.2	+1.5
	comp=Z,35nm,0.3s,baz=120,slow=16,SNR=84						
AAK				Lg	Lg	08 36 29.9	
	comp=Z,28nm,0.3s,baz=142,slow=15,SNR=3.9						
AAK	Ala-Archa	4.06	307	⇑iP	Pn	08 35 30.2	+2.9
	baz=9.0						
AAK				⇑iS	Sn	08 36 19.4	+4.6
	baz=9.0						
AAK	Ala-Archa	4.06	307	P	Pn	08 35 30.4	+3.2
	SNR=47						
AAK	Ala-Archa	4.06	307		Pn	08 35 29.6	+2.3
AAK	Ala-Archa	4.06	307	⇑Pn	Pn	08 35 30.1	+2.9
	comp=Z,1µm,0.9s						
AAK				⇑Lg	Lg	08 36 34.0	
	comp=Z,4µm,1.1s						
KUU	Kurty	4.07	333	eP	Pg	08 35 40.6	-2.6
	comp=Z,303nm,0.8s						
KUU				eS	Sg	08 36 33.4	-2.6
	comp=Z,2µm,1.0s						
KUU	Kurty	4.07	333	Pg	Pg	08 35 40.8	-2.5
	comp=Z,303nm,0.8s						
KUU				Lg	Lg	08 36 33.4	
	comp=Z,2µm,1.0s						
FRU1	Bishkek	4.08	309	PN	Pn	08 35 31.0	+3.6
FRU1	Bishkek	4.08	309	⇑eP	Pn	08 35 30.7	+3.3
	baz=11						
FRU1				⇑eS	Sn	08 36 20.4	+5.3
	baz=11						
FRU1	Bishkek	4.08	309		Pn	08 35 31.1	+3.6
DJR	Jarkent	4.09	9	eP	Pg	08 35 41.4	-2.1
	comp=Z,653nm,0.6s						
DJR				eS	Sg	08 36 35.0	-1.5
	comp=Z,4µm,1.9s						
DJR	Jarkent	4.09	9	Pg	Pg	08 35 41.4	-2.1
	comp=Z,653nm,0.6s						
DJR				Lg	Lg	08 36 35.0	
	comp=Z,2µm,1.4s						
CHMS	Chumysh	4.12	312	P	Pn	08 35 32.9	+4.9
	SNR=9.0						
AML	Almayashu	4.34	297	⇑eP	Pn	08 35 33.4	+2.1
	baz=99						
AML				⇑eS	Sn	08 36 25.8	+3.8
	baz=99						
AML	Almayashu	4.34	297	P	Pn	08 35 33.6	+2.3
	SNR=48						
USP	Ospenovka	4.44	314	P	Pn	08 35 37.9	+5.6
	SNR=21						
EKS2	Erkin-Say	4.52	303	⇓eP	Pn	08 35 36.5	+2.9
	baz=5.0						
EKS2				⇓iS	Sn	08 36 30.1	+4.0
	baz=5.0						
EKS2	Erkin-Say	4.52	303	P	Pn	08 35 36.8	+3.2
	SNR=98						
ARSB	Arslanbob	4.61	285	⇑eP	Pn	08 35 37.4	+2.5
	baz=88						
ARSB				⇑eS	Sn	08 36 31.3	+2.9
	baz=88						
ARSB	Arslanbob	4.61	285		Pb	08 35 44.6	-1.5
MRKS	Merke	4.92	302	eP	Pb	08 35 54.5	+3.2
	comp=Z,266nm,1.1s						
MRKS				eS	Sb	08 36 57.5	+7.1
	comp=Z,365nm,1.0s						
MRKS	Merke	4.92	302	Pg	Pb	08 35 54.9	+3.6
	comp=Z,242nm,0.6s						
MRKS				Lg	Lg	08 36 57.5	
	comp=Z,365nm,1.0s						
BTLS	Baital	5.95	325	eP	Pg	08 36 16.6	-2.4
	comp=Z,154nm,1.1s						
BTLS				eS	Sg	08 37 35.0	-1.0
	comp=Z,594nm,1.6s						
BTK	Batken	6.20	270	PN	Pn	08 35 56.7	+0.1
BTK	Batken	6.20	270		Pn	08 35 56.7	+0.1
GAR	Garm	6.75	262		Pn	08 36 03.7	-0.6
KK31	Karatay Array	6.88	297	PN	Pn	08 36 07.8	+1.9
KK31	Karatay Array	6.88	297		Pn	08 36 07.8	+1.9
KK31	Karatay Array	6.88	297	⇓Pn	Pn	08 36 08.1	+2.3
	comp=Z,11nm,1.1s						
KK31				⇑Pg	Pb	08 36 30.1	+5.5
	comp=Z,132nm,0.8s						
KK31				⇑Lg	Lg	08 38 05.8	
	comp=Z,354nm,0.9s						
KKAR	Karatay Array	6.88	297	PN	Pn	08 36 07.6	+1.7
KKAR	Karatay Array	6.88	297		Pn	08 36 07.6	+1.7
KKAR	Karatay Array	6.88	297		Pn	08 36 09.4	+3.5
MAKZ	Makanchi	6.88	18	PN	Pn	08 36 07.2	+1.3
MAKZ	Makanchi	6.88	18		Pn	08 36 07.2	+1.3
MAKZ	Makanchi	6.88	18	⇑Pn	Pn	08 36 07.3	+1.4
	comp=Z,150nm,1.0s						
MAKZ				⇓Lg	Lg	08 38 03.3	
	comp=Z,726nm,1.1s						
IUG	Iuzhnay	6.94	288	Pg	Pg	08 36 32.9	-5.2
	comp=Z,41nm,0.8s						
IUG				Lg	Lg	08 38 02.9	
	comp=Z,478nm,1.0s						
MK31	Makanchi Array	6.95	20	PN	Pn	08 36 08.3	+1.5
MK31	Makanchi Array	6.95	20		Pn	08 36 08.3	+1.5
MK31	Makanchi Array	6.95	20	Pn	Pn	08 36 08.2	+1.4
	comp=Z,14nm,0.4s,baz=202,slow=12,SNR=594						
MK31				⇓Pg	Pg	08 36 35.4	-2.8
	comp=Z,179nm,0.9s,baz=191,slow=14,SNR=6.7						
MK31				⇑Sn	Sn	08 37 27.4	+1.6
	comp=Z,154nm,0.6s						
MK31				⇑Lg	Lg	08 38 05.8	
	comp=Z,1µm,1.4s,baz=193,slow=28,SNR=3.7						
MKAR	Makanchi Array	6.95	20	PN	Pn	08 36 08.0	+1.2
MKAR	Makanchi Array	6.95	20	Pn	Pn	08 36 08.3	+1.5
	comp=Z,11nm,0.3s,baz=203,slow=12,SNR=178						
MKAR				Sn	Sn	08 37 25.8	0.0
	comp=Z,18nm,0.3s,baz=205,slow=26,SNR=6.4						
MKAR				Lg	Lg	08 38 03.7	
	comp=Z,6.7nm,0.3s,baz=126,slow=6.2,SNR=1.6						
MKAR				LR	LR	08 38 50.9	
	comp=Z,3µm,18.1s,baz=196,slow=38						
WMQ	Urumqi	7.43	59	ePn	Pn	08 36 14.6	+1.1
WMQ				Sn	Sn	08 37 37.5	-0.2
WMQ				smax	smax		
	comp=Z,410nm,1.5s						
WMQ				smax	smax		
	comp=Z,460nm,1.7s						
WMQ	Urumqi	7.43	59	P	Pn	08 36 14.8	+1.3
WMQ	Urumqi	7.43	59		Pn	08 36 14.8	+1.3
CHGR	Chuyangaron	7.71	261		Pn	08 36 16.4	-1.1
CHCP	Chirah Chowk	8.01	216	P	Pn	08 36 22.7	+1.3
NIL	Nilore	8.02	216	P	Pn	08 36 22.8	+1.2
NIL	Nilore	8.02	216		Pn	08 36 22.8	+1.2
JMU	Jammu	8.22	204	eP	Pn	08 36 25.5	+1.3
JMU				ex	x	08 37 52.0	
DHRM	DHARAMSHALA	8.30	195	eP	Pn	08 36 25.5	0.0
DHRM				eS	Sn	08 37 56.8	-2.5
DHRM				IAML		08 38 02.3	
	comp=E,788nm,1.3s						
DHRM				IAML		08 38 13.8	
	comp=N,648nm,0.8s						
CEP	Cherat	8.54	223	P	Pn	08 36 29.1	+0.3
SMLA	Simla	9.25	189	eP	Pn	08 36 39.0	+0.6
SMLA				eS	Sn	08 38 16.8	-5.6
SMLA				IAML		08 38 21.7	
	comp=N,659nm,0.6s						
SMLA				IAML		08 38 24.6	
	comp=E,942nm,0.8s						
THW	Thamme Wali	9.44	220	P	Pn	08 36 40.2	-0.8
KBL	Kabul	9.72	237	P	Pn	08 36 44.1	-0.9
KBL						08 38 33.8	
KBL	Kabul	9.72	237		Pn	08 36 44.1	-0.9
KBL				Sn	Sn	08 38 33.8	-0.4
SARP	Sargodha	9.75	213	P	Pn	08 36 44.5	-0.8
DDI	Dehra Dun	9.97	184	eP	Pn	08 36 47.5	-0.9
DDI				IAmb	IAmb	08 36 52.0	
	comp=Z,369nm,0.8s						
DDI				eS	Sn	08 38 34.0	-6.2
KURBB	Kurchatov Arra	10.34	359	Pn	Pn	08 36 53.5	+0.3
	comp=Z,0.5nm,0.3s,baz=188,slow=12,SNR=61						
KURBB				Lg	Lg	08 39 50.1	
	comp=Z,0.9nm,0.3s,baz=170,slow=28,SNR=4.8						
KURBB	Kurchatov Arra	10.34	359	⇑Pn	Pn	08 36 56.7	+3.5
	comp=Z,88nm,1.4s						
KURBB				⇑Lg	Lg	08 39 54.3	
	comp=Z,2µm,1.3s						
KURK	Kurchatov	10.43	359	P	Pn	08 36 55.9	+1.5
	SNR=21						
KURK	Kurchatov	10.43	359	P	Pn	08 36 54.6	+0.2
KURK	Kurchatov	10.43	359		Pn	08 36 54.6	+0.2
KURK	Kurchatov	10.43	359	⇓Pn	Pn	08 36 57.8	+3.3
	comp=Z,63nm,1.1s						
KURK				⇑Lg	Lg	08 39 56.2	
	comp=Z,1µm,1.4s						
NDI	New Delhi	11.66	187	eP	Pn	08 37 08.5	-3.0
NDI				eS	Sn	08 39 12.0	-10
BVAR	Borovoye Array	14.00	338	Pn	Pn	08 37 42.3	-0.9
	comp=Z,1.0nm,0.3s,baz=148,slow=12,SNR=52						
BVAR				Lg	Lg	08 41 43.1	
	comp=Z,0.8nm,0.3s,baz=149,slow=26,SNR=3.5						
BRVK	Borovoye	14.06	338	P	Pn	08 37 43.9	-0.2
	SNR=34						
BRVK	Borovoye	14.06	338	P	Pn	08 37 43.7	-0.3
BRVK	Borovoye	14.06	338	P	Pn	08 37 43.7	-0.3
BRVK	Borovoye	14.06	338	Pn	Pn	08 37 43.6	-0.5
ZAA0	Zalesovo Array	14.23	14		Pn	08 37 44.8	-1.6
ZALV	Zalesovo Beam	14.23	14	i P	Pn	08 37 45.0	-1.4
ZALV				pmax	pmax		
	comp=Z,17nm,0.8s						
ZALV	Zalesovo Beam	14.23	14	Pn	Pn	08 37 45.1	-1.3
	comp=Z,0.7nm,0.3s,baz=200,slow=15,SNR=31						
ZALV				Sn	Sn	08 40 24.8	+0.6
	comp=Z,0.7nm,0.3s,baz=192,slow=18,SNR=3.7						
ZALV				Lg	Lg	08 41 54.7	
	baz=230,slow=25,SNR=1.5						
ZALV				LR	LR	08 43 39.9	
	comp=Z,6µm,20.0s,baz=205,slow=39						
ZALV	Zalesovo Beam	14.23	14		Pn	08 37 44.9	-1.6
HRA	Herat	14.50	251		Pn	08 37 47.1	-3.3
LSA	Lhasa	14.56	133	P	Pn	08 37 52.7	+1.3
LSA				pmax	pmax		
	comp=Z,49nm,0.6s						
LSA				LR	LR		
	comp=Z,5µm,6.1s						
LSA				LR	LR		
	comp=Z,5µm,6.2s						
LSA				LR	LR		
	comp=Z,6µm,6.1s						
LSA	Lhasa	14.56	133	P	Pn	08 37 49.6	-1.8
LSA	Lhasa	14.56	133		Pn	08 37 49.6	-1.8
GTA	Gaotai	16.08	86	⇑P	Pn	08 38 09.0	-2.2
GTA				pP	P	08 38 13.5	-1.1
GTA				sP	pP	08 38 16.1	-2.2
GTA				S	Sn	08 41 07.7	-1.8
GTA				sS	S	08 41 16.2	-6.9
GTA				SS	SnSn	08 41 26.6	+4.3
GTA				pmax	pmax		
	comp=Z,120nm,6.2s						
GTA				LR	LR		
	comp=Z,5µm,15.9s						
GTA				LR	LR		
	comp=Z,5µm,16.2s						
GTA				LR	LR		
	comp=Z,7µm,18.7s						
AB31	Akbulak array	16.14	310	Pn	P	08 38 14.4	-0.5
	comp=Z,27nm,0.9s,baz=113,slow=7.6,SNR=94						
AB31				⇓Lg	Lg	08 42 57.4	
	comp=Z,70nm,1.4s						
ABKAR	Akbulak array	16.14	310		Pn	08 38 09.7	-2.0
ABKAR	Akbulak array	16.14	310		Pn	08 38 10.5	-1.2
ABKAR				IAmb	IAmb	08 38 16.8	
	comp=Z,35nm,1.1s						
GEYT	Alibeck	16.31	268	Pn	Pn	08 38 15.5	+1.5

comp=Z,1.4nm,0.3s,baz=96,slow=7.6,SNR=64
GEYT Sn **Sn** **08 41 08.2 -6.6**
comp=Z,0.3nm,0.3s,baz=108,slow=8.3,SNR=3.5
GEYT LR LR 08 45 21.0
comp=Z,2µm,19.0s,baz=60,slow=40
GYA0B ALIBECK ARRAY 16.31 268 Pn P 08 38 13.3 -0.7
GYA0B ALIBECK ARRAY 16.31 268 ⇑Pn **P 08 38 17.5 +0.5**
GYA0B ⇑Sn **Sn 08 41 20.2 +5.4**
BHPL Bhopal 17.05 185 *e*P **Pn 08 38 20.8 -2.6**
BHPL ⇑*e*S Sn 08 41 17.0 -16
BHPL IAML 08 41 29.6
comp=E,40nm,0.8s
BHPL IAML 08 41 32.6
comp=N,33nm,0.7s
BHPL IAMs_20 IAMs_20 08 45 15.7
comp=Z,4µm,20.2s
JBP Jabalpur 17.10 177 *e*P **Pn 08 38 19.3 -4.7**
JBP AMB AMB 08 38 21.3
comp=Z,45nm,0.9s
JBP *e*S Sn 08 41 17.7 -16
BOK Bokaro 17.47 158 IAMs_20 IAMs_20 08 45 53.5
comp=Z,8µm,10.1s
AKTO Aktyubinsk 17.78 312 P **Pn 08 38 32.0 -0.4**
comp=Z,0.4nm,0.3s,baz=114,slow=16,SNR=16
AKTO Lg Lg 08 43 46.4
comp=Z,0.1nm,0.3s,baz=202,slow=22,SNR=1.6
AKTO LR LR 08 45 42.3
comp=Z,5µm,18.3s,baz=123,slow=38
AKTO Aktyubinsk 17.78 312 ⇑Pn **P 08 38 35.0 +1.8**
comp=Z,63nm,1.1s
AKTO ⇓Lg Lg 08 43 48.2
comp=Z,90nm,1.4s
SHL Shillong 18.25 140 P **Pn 08 38 36.7 -1.8**
SHL pmax pmax
comp=Z,100nm,0.7s
SHL Shillong 18.25 140 Pn 08 38 36.7 -1.8
SHL IAmb IAmb 08 38 43.0
comp=Z,100nm,0.7s
BHUJ Bhuj 18.70 207 *e*P **Pn 08 38 45.7 +2.0**
BHUJ *e*S Sn 08 41 56.8 -16
BHUJ IAMs_20 IAMs_20 08 46 06.1
comp=Z,3µm,10.1s
MOY Mondy 19.02 46 *e*P **Pn 08 38 48.5 +0.8**
MOY pmax pmax
comp=Z,199nm,4.0s
NGP Nagpur 19.08 180 *ex* **Pn 08 38 42.8 -5.6**
NGP *ex* x 08 38 43.0
NGP IVmB_BB 08 38 47.9
comp=Z,352nm,0.6s
NGP *ex* x 08 41 58.0
NGP *e*S Sn 08 42 01.8 -20
ZAK Zakamensk 19.80 51 *e*P P 08 38 48.1 -7.3
ZAK pmax pmax
comp=Z,33nm,1.1s
ZAK pmax pmax
comp=Z,29nm,1.2s
LZH Lanzhou 20.02 94 *e*P **Pn 08 38 58.9 -0.9**
LZH sP sP 08 39 04.2 +0.6
LZH S **S 08 42 41.8 -1.2**
LZH sS sS 08 42 51.0 +1.9
LZH pmax pmax
comp=Z,37nm,1.0s
LZH pmax pmax
comp=Z,680nm,4.9s
LZH LR LR
comp=Z,5µm,10.8s
LZH LR LR
comp=Z,6µm,9.8s
LZH LR LR
comp=Z,5µm,11.9s
SVE Sverdlovsk 20.38 330⇓*e*P **P 08 39 01.9 +0.3**
SVE *e*S **S 08 42 49.7 +0.2**
SVE pmax pmax
comp=Z,113nm,1.4s
SVE MLR MLR
comp=Z,11µm,15.0s
TLY Talaya 20.51 48*c i*P **P 08 39 03.4 +0.3**
TLY *e* 08 39 33.3
TLY *e*S Sn 08 42 54.6 -1.7
TLY *e*SS **SnSn 08 43 14.6 +3.8**
TLY pmax pmax
comp=Z,28nm,0.9s
TLY MLR MLR
comp=Z,3µm,13.0s
TLY Talaya 20.51 48 P Pn 08 39 04.4 -0.8
comp=Z,3.5nm,0.5s,baz=262,slow=7.1,SNR=3.8
TLY LR LR 08 47 56.5
comp=Z,1µm,21.3s,baz=244,slow=40
TLY Talaya 20.51 48 P **P 08 39 02.3 -0.8**
BRDH Bariadhala 20.61 145 P Pn 08 39 05.4 -1.1
comp=Z,0.5nm,0.4s,baz=308,slow=19,SNR=3.2
BWNR Bhubaneshwar 20.79 161 *e*P **P 08 39 05.5 -0.7**
BWNR *ex* x 08 42 52.2
ARU Arti 20.93 327*c i*P **P 08 39 07.8 +0.3**
ARU PPP PPP 08 39 35.6
ARU S **S 08 43 03.3 +3.0**
ARU SS **SnSn 08 43 23.6 +2.7**
ARU pmax pmax
comp=Z,90nm,0.9s
ARU MLR MLR
comp=Z,7µm,19.0s
ARU Arti 20.93 327 P **P 08 39 07.9 +0.5**
comp=Z,22nm,0.7s,baz=133,slow=6.6,SNR=76
ARU Lg Lg 08 45 17.4
comp=Z,0.8nm,0.3s,baz=116,slow=23,SNR=2.9
ARU LR LR 08 47 29.0
comp=Z,7µm,19.7s,baz=124,slow=38
ARU Arti 20.93 327 P **P 08 39 07.6 +0.1**
ARU IAmb IAmb 08 39 10.5
comp=Z,75nm,0.8s
SONM Songino Array 21.07 60 P **P 08 39 09.5 +0.3**
SONM pmax pmax
comp=Z,29nm,1.0s
SONM Songino Array 21.07 60 P **P 08 39 10.3 +1.0**
comp=Z,17nm,0.6s,baz=255,slow=11,SNR=118
SONM Songino Array 21.07 60 P **P 08 39 09.5 +0.3**
IRK Irkutsk 21.10 47 *e*P **P 08 39 10.2 +0.8**
ULN Ulaanbaatar 21.51 60 P **P 08 39 15.0 +1.0**
SNR=17
ULN P **P 08 39 15.0 +1.0**
SNR=17
ULN Ulaanbaatar 21.51 60*c i*P **P 08 39 14.6 +0.6**
ULN pmax pmax
comp=Z,84nm,2.5s
ULN Ulaanbaatar 21.51 60 P **P 08 39 13.2 -0.8**
BOM Bombay 21.96 196 *ex* **P 08 39 23.1 +4.3**
BOM *ex* x 08 43 25.6
POO Poona 22.12 193 *ex* **P 08 39 25.0 +4.4**
POO *ex* x 08 43 30.3
CD2 Chengdu 22.21 107⇓*i*P **P 08 39 20.1 -1.4**
CD2 pP pP 08 39 24.2 -1.2
CD2 PP **PnPn 08 39 44.1 +0.3**
CD2 S **S 08 43 26.4 +0.5**
CD2 SS Sn 08 43 59.7 +22
CD2 pmax pmax
comp=Z,80nm,0.5s
CD2 pmax pmax
comp=Z,930nm,11.2s
CD2 LR LR
comp=Z,5µm,9.9s
CD2 LR LR
comp=Z,4µm,11.0s
CD2 LR LR
comp=Z,3µm,9.3s
HYB Hyderabad 22.80 181 *i*P **P 08 39 25.0 -2.8**
HYB *e*S **S 08 43 36.0 -0.7**
KAD Karad 23.27 191 *ex* **P 08 39 31.4 -1.3**
KAD *ex* x 08 43 09.7
AKT Akhty 23.54 283 *e*P **P 08 39 36.3 +0.9**
AKT *e* 08 40 04.5
AKT pmax pmax
comp=Z,73nm,1.4s
MAK Makhachkala 23.55 287 *e*P **P 08 39 28.9 -6.4**
MAK *e*S **S 08 43 39.0 -10**
MAK pmax pmax
comp=Z,23nm,0.3s
MAK MLR MLR
comp=Z,3µm,16.0s
BTO Baotou 23.62 79 *e*P **P 08 39 34.5 -1.7**
BTO S **S 08 43 49.0 -1.5**
WSAR Wadi Sarin 24.12 231 P **P 08 39 41.0 0.0**
SNR=8.9
WSAR Wadi Sarin 24.12 231 P **P 08 39 40.9 0.0**
comp=Z,40nm,0.9s,baz=68,slow=7.7,SNR=14
WSAR LR LR 08 50 55.7

comp=Z,777nm,20.8s,baz=86,slow=41
UOSS Minazif 24.39 238 P **P 08 39 42.9 -0.5**
WBK Wadi Bani Khal 24.40 230 P **P 08 39 46.0 +2.5**
SNR=5.8
WBK P **P 08 39 46.0 +2.5**
SNR=5.8
SMDO Samad 24.60 232 P **P 08 39 49.0 +3.5**
SNR=7.7
SMDO P **P 08 39 49.0 +3.5**
SNR=7.7
XAN Xi'an 24.65 95 P **P 08 39 45.5 -0.2**
XAN pP pP 08 39 50.2 +0.4
XAN PP sP 08 40 20.6 +29
XAN S **S 08 44 06.8 -0.1**
XAN pmax pmax
comp=Z,35nm,1.0s
XAN pmax pmax
comp=Z,380nm,3.9s
XAN LR LR
comp=Z,5µm,13.3s
XAN LR LR
comp=Z,3µm,11.2s
XAN LR LR
comp=Z,4µm,22.1s
XAN Xi'an 24.65 95 P **P 08 39 45.3 -0.4**
XAN pmax pmax
comp=Z,26nm,0.8s
XAN Xi'an 24.65 95 P **P 08 39 45.3 -0.4**
XAN IAmb IAmb 08 39 47.0
comp=Z,26nm,0.8s
HOQ Hoqain 24.66 234 P **P 08 39 49.0 +3.1**
SNR=7.1
ASHO Ashiyiah 24.67 238 P **P 08 39 50.0 +4.0**
SNR=7.6
HHC Hu-ho-hao-te 24.74 78 *e*P **P 08 39 46.8 +0.2**
GROC Groznyy 24.78 288 *e*P **P 08 39 45.4 -1.4**
GROC *e* 08 40 18.4
GROC *e*S **S 08 44 06.8 -2.0**
GROC pmax pmax
comp=Z,41nm,0.6s
KMI Kunming 25.01 120 P **P 08 39 50.1 +0.9**
KMI PP **PnPn 08 40 21.6 -0.8**
KMI S **S 08 44 13.2 0.0**
KMI SS **SnSn 08 45 09.0 +7.2**
KMI pmax pmax
comp=Z,72nm,0.8s
KMI pmax pmax
comp=Z,380nm,6.5s
KMI LR LR
comp=Z,890nm,13.4s
KMI LR LR
comp=Z,2µm,14.1s
KMI LR LR
comp=Z,2µm,17.2s
KMI Kunming 25.01 120 P **P 08 39 49.4 +0.2**
KMI pmax pmax
comp=Z,54nm,0.8s
KMI Kunming 25.01 120 P **P 08 39 49.4 +0.2**
JMDO Jabal Madar 25.09 231 P **P 08 39 54.0 +4.2**
SNR=6.3
JMDO P **P 08 39 54.0 +4.2**
SNR=6.3
ARQ Araqi 25.34 235 P **P 08 39 55.0 +3.0**
SNR=9.2
TBLG Delisi 25.73 284 P **P 08 39 56.6 +1.2**
TBLG pmax pmax
comp=Z,10.0nm,0.7s
TBLG Delisi 25.73 284 P **P 08 39 56.6 +1.2**
GNI Garni 26.00 281 P **P 08 40 00.7 +2.7**
SNR=8.0
GNI P **P 08 40 00.7 +2.7**
SNR=8.0
GNI Garni 26.00 281*d i*P **P 08 40 00.4 +2.4**
GNI pmax pmax
comp=Z,30nm,1.0s
GNI Garni 26.00 281 P **P 08 39 59.2 +1.2**
comp=Z,5.8nm,0.3s,baz=150,slow=5.5,SNR=6.2
GNI LR LR 08 51 22.1
comp=Z,907nm,20.8s,baz=60,slow=39
GNI Garni 26.00 281 P **P 08 39 59.4 +1.4**
GNI IAmb IAmb 08 40 07.9
comp=Z,32nm,0.9s
TIY Taiyuan 26.10 85 *e*P **P 08 40 01.5 +2.7**
TIY S **S 08 44 30.6 +0.6**
TIY SS 08 45 32.7
TIY pmax pmax
comp=Z,38nm,0.8s
TIY pmax pmax
comp=Z,260nm,5.2s
TIY LR LR
comp=Z,3µm,8.6s
TIY LR LR
comp=Z,2µm,5.0s
TIY LR LR
comp=Z,960nm,10.5s
KIRV Kirov 26.17 324 P **P 08 39 58.7 -0.5**
comp=Z,17nm,0.6s,baz=143,slow=9.2,SNR=5.8
CIT Chita 26.45 52 *e*P **P 08 40 01.0 -0.9**
AKH Akhalkalaki 26.70 284 P **P 08 40 03.3 -1.1**
AKH pmax pmax
comp=Z,13nm,1.0s
AKH Akhalkalaki 26.70 284 P **P 08 40 03.4 -1.1**
ENH Enshi 26.78 102 P **P 08 40 04.9 -0.1**
ENH IAmb IAmb 08 40 11.4
comp=Z,49nm,1.0s
KBZ Khabaz 26.84 289 P **P 08 40 05.0 -0.4**
KBZ Khabaz 26.84 289 P **P 08 40 05.0 -0.4**
comp=Z,2.4nm,0.9s,baz=81,slow=6.6,SNR=4.5
KBZ LR LR 08 51 28.8
comp=Z,2µm,19.9s,baz=84,slow=38
GYA Guiyang 26.84 112⇓*i*P **P 08 40 06.2 +0.5**
GYA PP **PnPn 08 40 50.9 +3.6**
GYA PcP **PcP 08 43 29.5 +1.3**
GYA S **S 08 44 41.7 -0.3**
GYA pmax pmax
comp=Z,10.0nm,0.4s
GYA pmax pmax
comp=Z,110nm,4.5s
GYA LR LR
comp=Z,1µm,13.2s
GYA LR LR
comp=Z,940nm,11.9s
GYA LR LR
comp=Z,2µm,12.9s
KVAR Kislovodsk Arr 26.97 290 LR LR 08 51 28.1
comp=Z,3µm,19.6s,baz=256,slow=38
KIV Kislovodsk 26.97 290 *e*P **P 08 40 06.9 +0.2**
KIV *e*S **S 08 44 45.5 +1.7**
KIV pmax pmax
comp=Z,29nm,1.1s
KIV MLR MLR
comp=Z,4µm,15.0s
KIV Kislovodsk 26.97 290 P **P 08 40 06.8 0.0**
NEY Neytrino 27.02 288⇑*e*P **P 08 40 09.2 +2.0**
NEY pmax pmax
comp=Z,9.0nm,2.6s
MHMT Maesarieng 27.48 138 P **P 08 40 13.3 +2.0**
comp=Z,62nm,0.8s,comp=Z,1µm
CHTO Chiang Mai 27.48 135 P **P 08 40 17.6 +6.2**
SNR=5.9
CHTO Chiang Mai 27.48 135 P **P 08 40 11.8 +0.4**
CHTO pmax pmax
comp=Z,19nm,0.9s
CHTO Chiang Mai 27.48 135 P **P 08 40 11.8 +0.4**
CHTO IAmb IAmb 08 40 17.9
comp=Z,19nm,0.9s
CMMT Chiang Mai 27.48 135 P **P 08 40 12.0 +0.6**
comp=Z,14nm,1.2s,comp=Z,241nm
PAYA Payao 27.55 133 P **P 08 40 15.5 +3.6**
comp=Z,189µm,0.8s
CM31 Chiang Mai Arr 27.77 136 P **P 08 40 18.4 +4.5**
SNR=7.4
CM31 Chiang Mai Arr 27.77 136 P **P 08 40 13.4 -0.5**
CM31 IAmb IAmb 08 40 19.7
comp=Z,17nm,0.8s
CMAR Chiang Mai Arr 27.77 136 P **P 08 40 14.3 +0.4**
comp=Z,12nm,0.8s,baz=318,slow=8.8,SNR=23
VRH Novokhopyorsk 27.86 306 *e*P **P 08 40 14.2 -0.2**
VRH pmax pmax
comp=Z,30nm,2.2s
VRH MLR MLR
comp=Z,4µm,17.0s
LAMP Lampang 28.09 135 P **P 08 40 18.5 +1.7**
comp=Z,25µm,0.6s
BJI Beijing 28.35 78 *e*P **P 08 40 19.8 +0.9**
BJI S **S 08 45 11.0 +5.8**

BJI pmax pmax
comp=Z,9.0nm,0.7s
BJI LR LR
comp=Z,3µm,16.1s
BJI LR LR
comp=Z,2µm,14.9s
BJI LR LR
comp=Z,2µm,18.2s
BJT Baijiatuau 28.35 78 P **P 08 40 18.6 -0.3**
BJT pmax pmax
comp=Z,7.0nm,0.8s
BJT Baijiatuau 28.35 78 P **P 08 40 18.6 -0.3**
PHRA Phrae 28.44 134 P **P 08 40 21.0 +1.1**
comp=Z,3.5nm,0.9s
SLVN Son La 28.44 124 P **P 08 40 19.6 -0.4**
BOD Bodaibo 28.47 40 *e*P **P 08 40 19.6 -0.2**
BOD pmax pmax
comp=Z,15nm,1.3s
SOC Sochi 29.15 290 *e*P **P 08 40 25.1 -0.9**
SOC *e*PPP PPP 08 41 23.9
SOC *e*S **S 08 45 17.7 -0.1**
SOC *e*SS **SnSn 08 46 43.6 +1.5**
SOC pmax pmax
comp=Z,27nm,0.9s
SOC MLR MLR
comp=Z,2µm,15.0s
UTTA Uttaradit 29.23 134 P **P 08 40 28.3 +1.4**
comp=Z,28µm,1.0s,comp=Z,225µm
PRGR Permogore 29.39 328 *e*P **P 08 40 26.7 -1.2**
PRGR pmax pmax
comp=Z,93nm,0.4s
VSR Storozhevoye 29.46 305 *e*P **P 08 40 29.0 +0.3**
VSR pmax pmax
comp=Z,30nm,1.8s
VSR MLR MLR
comp=Z,4µm,18.0s
NRIK Noril'sk 29.47 6 P **P 08 40 28.5 -0.1**
comp=Z,9.7nm,0.8s,baz=159,slow=4.0,SNR=11
NRIK LR LR 08 53 37.2
comp=Z,2µm,19.0s,baz=202,slow=39
LPSR Galich'ya Gora 29.78 308 *e*P **P 08 40 31.8 +0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
LPSR MLR MLR
comp=Z,3µm,18.0s
HIA Hailar 30.03 59 P **P 08 40 33.5 -0.3**
HIA pmax pmax
comp=Z,8.0nm,0.9s
HIA Hailar 30.03 59 P **P 08 40 33.5 -0.3**
TIA Tai'an 30.13 85 P **P 08 40 36.0 +1.2**
TIA S **S 08 45 37.6 +4.2**
TIA pmax pmax
comp=Z,120nm,3.4s
TIA LR LR
comp=Z,2µm,10.4s
TIA LR LR
comp=Z,2µm,15.2s
TIA LR LR
comp=Z,3µm,16.2s
WHN Wuhan 30.31 98⇑*i*P **P 08 40 38.3 +1.9**
WHN S **S 08 45 40.5 +4.3**
WHN pmax pmax
comp=Z,170nm,1.3s
WHN pmax pmax
comp=Z,410nm,3.3s
WHN LR LR
comp=Z,6µm,15.3s
WHN LR LR
comp=Z,3µm,10.4s
WHN LR LR
comp=Z,8µm,18.2s
UTHA Uthaitani 30.45 138 P **P 08 40 39.6 +1.9**
comp=Z,34µm,1.0s,comp=Z,315µm
NONG Nongkai 30.45 130 P **P 08 40 41.9 +4.1**
comp=Z,0.5nm,1.5s
MOS Moscow 31.09 314 *e*P **P 08 40 41.9 -1.2**
MOS *e* 08 41 45.2
MOS *e*S **S 08 45 50.4 +2.4**
MOS MLR MLR
comp=Z,2µm,16.0s
MOS MLR MLR
comp=E,2µm,14.0s
SRDT SRDT 31.32 140 P **P 08 40 47.5 +2.1**
comp=E,10nm,0.9s
CHAI Chaiyaphum 31.52 134 P **P 08 40 48.9 +1.7**
comp=E,61µm,0.9s,comp=E,540µm
OBN Obninsk 31.56 312⇑*e*P **P 08 40 50.0 +2.8**
OBN *e*S **S 08 46 00.1 +4.8**
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,2µm,18.0s
SKNT Sakolnakorn 31.80 130 P **P 08 40 50.9 +1.3**
comp=Z,52nm,0.9s,comp=Z,7µm
GAZ Gaziantep 32.46 278 P P 08 40 49.7 -5.7
GAZ IAmb IAmb 08 40 59.2
comp=Z,22nm,1.0s
RAYN Ar Rayn 32.67 249 P **P 08 40 57.0 -0.3**
RAYN pmax pmax
comp=Z,14nm,1.2s
RAYN Ar Rayn 32.67 249 P **P 08 40 57.0 -0.3**
PHET Kaeng Krachan 32.80 140 P **P 08 41 00.8 +2.4**
comp=Z,49µm,0.9s
PALK Pallekele 32.92 177 LR LR 08 55 01.9
comp=Z,3µm,20.8s,baz=296,slow=38
NJ2 Nanjing 33.06 92 *e*P **P 08 41 00.2 -0.3**
NJ2 S **S 08 46 21.9 +2.8**
NJ2 pmax pmax
comp=Z,16nm,0.5s
NJ2 pmax pmax
comp=Z,210nm,4.5s
NJ2 LR LR
comp=Z,3µm,15.6s
NJ2 LR LR
comp=Z,3µm,14.2s
NJ2 LR LR
comp=Z,4µm,14.2s
SNY Shenyang 33.44 72 ⇑P **P 08 41 05.1 +1.3**
SNY S **S 08 46 26.1 +1.3**
SNY pmax pmax
comp=Z,13nm,1.1s
SNY pmax pmax
comp=Z,350nm,4.6s
SNY LR LR
comp=Z,4µm,14.9s
SNY LR LR
comp=Z,3µm,16.3s
SNY LR LR
comp=Z,6µm,17.1s
TMCR Tamitsa 33.65 329 *e*P **P 08 41 02.8 -2.5**
TMCR pmax pmax
comp=Z,45nm,1.1s
QIZ Qiongzhong 33.96 119 P **P 08 41 08.0 -0.5**
QIZ S **S 08 46 34.0 +0.7**
QIZ LR LR
comp=Z,870nm,16.2s
QIZ LR LR
comp=Z,1µm,20.6s
QIZ LR LR
comp=Z,1µm,17.7s
ILGA Ilgaz 33.99 286 P **P 08 41 07.3 -1.6**
UBPT Khong Chiam 34.01 129 P **P 08 41 10.0 +1.1**
comp=Z,30nm,1.0s
UBPT Khong Chiam 34.01 129 P **P 08 41 08.3 -0.7**
BR131 Keskin Array S 34.39 284 P **P 08 41 14.7 +2.4**
SNR=7.5
BR131 Keskin Array S 34.39 284 P **P 08 41 12.4 +0.2**
BR131 pmax pmax
comp=Z,12nm,0.9s
BR131 Keskin Array S 34.39 284 P **P 08 41 12.4 +0.2**
BR131 IAmb IAmb 08 41 15.1
comp=Z,12nm,0.9s
BRTR Keskin Array B 34.39 284 *i*P **P 08 41 12.5 +0.2**
BRTR pmax pmax
comp=Z,9.0nm,0.9s
BRTR Keskin Array B 34.39 284 P **P 08 41 12.5 +0.2**
comp=Z,8.4nm,0.9s,baz=94,slow=7.9,SNR=30
BRTR LR LR 08 56 18.9
comp=Z,526nm,20.8s,baz=40,slow=38
BRTR Keskin Array B 34.39 284 P **P 08 41 12.4 +0.2**
CN2 Changchun 34.39 69 *e*P **P 08 41 12.2 +0.2**
CN2 *e*S **S 08 46 38.7 -0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,3µm,16.0s

CN2 LR LR
comp=Z,2µm,16.0s
CN2 LR LR
comp=Z,3µm,18.0s
ASF Jabal al Asfar 34.58 270 P **P** **08 41 14.9 +1.0**
comp=Z,7.5nm,0.9s,baz=2.8,slow=3.4,SNR=7.1
ZEA Zeya 34.90 51 *eP* **P** **08 41 17.2 +0.9**
ZEA pmax pmax
comp=Z,52nm,1.0s
ZEA MLR MLR
comp=Z,2µm,14.0s
ZEA MLR MLR
comp=E,1µm,13.0s
ANTO Ankara 34.98 285 P **P** **08 41 15.4 -1.9**
ANTO pmax pmax
comp=Z,28nm,1.5s
ANTO Ankara 34.98 285 P **P** **08 41 15.4 -1.9**
ANTO IAmb IAmb 08 41 28.7
comp=Z,28nm,1.4s
SSE Sheshan 35.26 92 P **P** **08 41 21.5 +1.8**
SSE S **S** **08 46 56.5 +3.3**
SSE pmax pmax
comp=Z,28nm,0.7s
SSE pmax pmax
comp=Z,63nm,3.5s
SSE LR LR
comp=Z,1µm,14.9s
SSE LR LR
comp=Z,1µm,14.9s
MMAI Mount Meron Ar 35.37 272 P **P** **08 41 21.3 +0.6**
comp=Z,0.7nm,0.2s,baz=79,slow=10,SNR=2.8
AKASG Malin Array Be 35.72 304 P **P** **08 41 23.1 -0.4**
comp=Z,2.8nm,0.6s,baz=73,slow=8.3,SNR=11
AKASG PcP **PcP** **08 43 50.4 -0.9**
comp=Z,2.1nm,0.6s,baz=73,slow=3.8,SNR=6.8
AKASG LR LR 08 59 10.5
comp=Z,2µm,18.3s,baz=85,slow=42
AKASG Malin Array Be 35.72 304 P **P** **08 41 21.1 -2.3**
AKBB Malin Array Si 35.72 304 P **P** **08 41 23.1 -0.3**
AKBB pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 35.72 304 P **P** **08 41 23.1 -0.3**
PUL Pulkovo 35.74 319⇓ *eP* **P** **08 41 23.1 -0.4**
PUL pmax pmax
comp=Z,45nm,0.6s
KIS Kishinev 36.34 298 *eP* **P** **08 41 27.5 -1.3**
KIS *eL* L 08 53 00.0
KIS LRM MLR 08 59 56.0
comp=Z,2µm,18.0s
KIS Kishinev 36.34 298 *eP* **P** **08 41 27.5 -1.3**
KIS MLR MLR
comp=Z,2µm,18.0s
PKDT Phuket 36.63 146 P **P** **08 41 33.0 +1.5**
comp=Z,69nm,0.9s
MDJ Mudanjiang 37.16 66 P **P** **08 41 35.6 -0.2**
MDJ S **S** **08 47 22.4 +0.4**
MDJ LR LR
comp=N,4µm,12.8s
MDJ Mudanjiang 37.16 66 P **P** **08 41 35.7 -0.1**
MDJ S **S** **08 47 22.2 +0.2**
MDJ ScP **ScP** **08 47 43.4 +0.9**
MDJ PcS **PcS** **08 47 45.7 +1.8**
MDJ pmax pmax
comp=N,13nm,2.0s
MDJ pmax pmax
comp=N,220nm,3.4s
MDJ LR LR
comp=N,4µm,12.8s
MDJ LR LR
comp=N,3µm,16.5s
MDJ LR LR
comp=N,4µm,17.7s
EIL Elat 37.20 267 P **P** **08 41 37.2 +0.9**
comp=N,11nm,0.9s,baz=4.3,slow=8.8,SNR=6.4
YAK Yakutsk 37.24 37 *eP* **P** **08 41 36.2 0.0**
YAK *e**PP **sP** **08 41 48.1 +6.0**
YAK *e* 08 43 01.6
YAK *e* 08 43 50.5
YAK *eS* **S** **08 47 22.1 -0.7**
YAK *eSS* **SnSn** **08 49 54.5 -3.3**
YAK *e* 08 51 46.4
YAK pmax pmax
comp=Z,33nm,1.2s
YAK pmax pmax
comp=E,25nm,1.3s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=Z,185nm,2.8s
YAK smax smax
comp=N,251nm,3.6s
YAK smax smax
comp=E,127nm,3.6s
YAK MLR MLR
comp=Z,579nm,18.0s
YAK MLR MLR
comp=N,301nm,16.0s
YAK MLR MLR
comp=E,402nm,17.0s
YAK Yakutsk 37.24 37 P **P** **08 41 35.3 -0.9**
comp=E,11nm,0.5s,baz=89,slow=17,SNR=7.0
YAK LR LR 08 56 52.1
comp=E,734nm,18.6s,baz=261,slow=36
YAK Yakutsk 37.24 37 P **P** **08 41 35.6 -0.6**
YAK IAmb IAmb 08 41 40.2
comp=Z,25nm,1.0s
TRTT Trang 37.27 145 P **P** **08 41 38.5 +1.5**
comp=Z,42nm,1.0s
TJN Taejon 37.84 80⇓ *iP* **P** **08 41 40.8 -0.8**
KSAR Wonju Array Be 37.86 78 P **P** **08 41 41.5 -0.3**
KSAR Wonju Array Be 37.86 78 P **P** **08 41 41.5 -0.3**
KLR Kul'dur 37.88 58*c i*P **P** **08 41 42.3 +0.4**
KLR pmax pmax
comp=Z,18nm,0.9s
KSRS Korea Array 37.88 78 P **P** **08 41 41.5 -0.5**
comp=Z,13nm,1.0s,baz=279,slow=8.1,SNR=23
KSRS LR LR 09 00 26.6
comp=Z,2µm,18.4s,baz=292,slow=41
FIA1 FINESS Array S 38.09 322 P **P** **08 41 43.6 +0.1**
FIA1 IAmb IAmb 08 41 48.8
comp=Z,19nm,0.7s
FINES FINESS Array B 38.09 322 P **P** **08 41 43.7 +0.2**
FINES FINESS Array B 38.09 322 P **P** **08 41 43.6 +0.1**
comp=Z,13nm,0.6s,baz=111,slow=7.2,SNR=46
FINES LR LR 08 57 54.5
comp=Z,5µm,18.6s,baz=99,slow=37
FINES FINESS Array B 38.09 322 P **P** **08 41 43.7 +0.2**
FINES pP **pP** **08 41 47.0 -0.6**
ELL Elmali 38.11 281 P **P** **08 41 48.2 +4.1**
ELL pmax pmax
comp=Z,133nm,1.3s
ELL Elmali 38.11 281 P **P** **08 41 48.2 +4.1**
LHMI Lhok Sumawe 38.50 150 P **P** **08 41 48.7 +1.3**
LHMI Lhok Sumawe 38.50 150 P **P** **08 41 45.3 -2.0**
LHMI pP **P** **08 41 48.6 +1.3**
MLR Muntele Rosu 38.56 296 P **P** **08 41 48.2 +0.4**
MLR pmax pmax
comp=Z,24nm,1.0s
MLR Muntele Rosu 38.56 296 P **P** **08 41 48.2 +0.4**
MLR IAmb IAmb 08 41 55.8
comp=Z,24nm,1.0s
BURAR Bucovina Array 38.67 299 P **P** **08 41 48.2 -0.4**
BUR08 Bucovina Ar. S 38.67 299 P **P** **08 41 48.2 -0.5**
USRK Ussuriysk Ar. 38.92 66 P **P** **08 41 50.5 -0.2**
comp=Z,3.8nm,0.8s,baz=294,slow=10,SNR=7.4
USRK LR LR 09 00 50.3
comp=Z,2µm,18.4s,baz=273,slow=41
LVV L'vov 39.12 303 *eP* **P** **08 41 51.2 -1.1**
TIXI Tiksi 39.93 22*c i*P **P** **08 41 58.1 -0.6**
TIXI pmax pmax
comp=Z,28nm,0.8s
TIXI Tiksi 39.93 22 P **P** **08 41 58.4 -0.3**
comp=Z,26nm,0.7s,baz=180,slow=24,SNR=37
TIXI LR LR 08 58 22.5
comp=Z,1µm,20.8s,baz=246,slow=36
TIXI Tiksi 39.93 22 P **P** **08 41 58.4 -0.3**
TIXI IAmb IAmb 08 42 01.8
comp=Z,25nm,0.7s
KULM Kulim 39.96 145 P **P** **08 41 59.1 -0.5**
KULM IAmb IAmb 08 42 01.2
comp=Z,30nm,0.8s
KAAM Kaadhehdhoo 39.98 189 P **P** **08 41 58.9 -0.8**
KWP Kalwaria Pacla 40.00 303 P **P** **08 41 58.9 -0.7**
KWP pmax pmax
comp=Z,185nm,1.0s
KWP Kalwaria Pacla 40.00 303 P **P** **08 41 58.9 -0.7**

ARCES ARCESS Array B 40.24 334 P **P** **08 42 01.1 -0.2**
comp=Z,12nm,0.8s,baz=102,slow=6.8,SNR=33
ARCES LR LR 08 59 29.8
comp=Z,4µm,18.7s,baz=98,slow=37
ARCES ARCESS Array B 40.24 334 P **P** **08 42 00.5 -0.8**
ARE0 ARCESS Array S 40.24 334 *eP* **P** **08 42 01.1 -0.2**
TPTI 40.40 151 P **P** **08 42 05.3 +2.1**
UZH Uzhgorod 40.43 301 *eP* **P** **08 42 04.5 +1.4**
UZH *i* 08 42 15.2
IPM Ipoh 40.85 145 P **P** **08 42 06.0 -0.9**
IPM IAmb IAmb 08 42 07.8
comp=Z,34nm,0.9s
KTK1 Kautokeino 40.86 333 *eP* **P** **08 42 06.2 -0.2**
SNSI Sinabang, Aceh 40.88 153 P **P** **08 42 09.1 +1.9**
VTS Vitosha 41.15 292 P **P** **08 42 09.2 -0.2**
VTS pmax pmax
comp=Z,10.0nm,1.1s
VTS Vitosha 41.15 292 P **P** **08 42 09.2 -0.2**
HAMF Hammerfest 41.17 335 *eP* **P** **08 42 08.8 -0.2**
PSI Prapat 41.49 149 P **P** **08 42 10.8 -1.5**
NIE Niedzica 41.58 303 *eP* **P** **08 42 13.7 +1.0**
NIE Niedzica 41.58 303 *eP* **P** **08 42 13.7 +1.0**
NIE *eP* **P** **08 42 13.7 +1.0**
RPSI Rantau Prapat 41.58 149 P **P** **08 42 10.8 -2.1**
RPSI IAmb IAmb 08 42 12.8
comp=Z,35nm,0.8s
KECS Kecovo 41.63 301 *eP* **P** **08 42 13.8 +0.7**
KECS pmax pmax
comp=Z,6.0nm,0.9s
KECS Kecovo 41.63 301 *eP* **P** **08 42 13.8 +0.7**
PSZ Piszkesteto 42.14 301 P **P** **08 42 17.5 +0.2**
PSZ pmax pmax
comp=Z,8.0nm,0.9s
PSZ Piszkesteto 42.14 301 P **P** **08 42 17.5 +0.2**
LANS Liptovska Anna 42.16 303 *eP* **P** **08 42 19.0 +1.5**
LANS pmax pmax
comp=Z,2.0nm,0.7s
LANS Liptovska Anna 42.16 303 *eP* **P** **08 42 19.0 +1.5**
GSI Gunungsitoli 42.35 152 P **P** **08 42 19.8 +0.6**
GSI Gunungsitoli 42.35 152 P **P** **08 42 18.9 -0.4**
TRO Tromso 42.49 333 *eP* **P** **08 42 19.5 -0.3**
VYHS Vyhne 42.71 302 *eP* **P** **08 42 22.2 +0.3**
VYHS Vyhne 42.71 302 *eP* **P** **08 42 22.2 +0.3**
OKC Ostrava-Krasne 42.88 304 AMS AMS 09 01 10.0
comp=Z,2µm,17.2s
MORC Moravsky Berou 43.27 304 P **P** **08 42 26.5 0.0**
MORC pmax pmax
comp=Z,7.0nm,0.9s
MORC Moravsky Berou 43.27 304 *eP* **P** **08 42 26.4 0.0**
MORC Moravsky Berou 43.27 304 P **P** **08 42 26.5 0.0**
JAVC Velka Javorina 43.38 303 *eP* **P** **08 42 28.7 +1.3**
STEI Steigen 43.56 331 *eP* **P** **08 42 28.1 -0.3**
SMOL Smolenice 43.62 302 *eP* **P** **08 42 30.1 +0.9**
SMOL pmax pmax
comp=Z,5.0nm,1.0s
SMOL Smolenice 43.62 302 *eP* **P** **08 42 30.1 +0.9**
KRLC Kraliky 43.69 304 AMS AMS 09 00 40.0
comp=Z,2µm,21.5s
TIH Tihany 43.69 300 *eP* **P** **08 42 28.0 -1.8**
MOR8 Moi Rana 43.73 328 *eP* **P** **08 42 28.9 -1.1**
MPLH Magyarpolny 43.86 300 *eP* **P** **08 42 30.1 -1.1**
DPC Dobruska-Polom 43.92 305 *eP* **P** **08 42 31.8 +0.1**
DPC MLR MLR
comp=Z,2µm,19.4s
DPC Dobruska-Polom 43.92 305 *eP* **P** **08 42 31.8 +0.1**
DPC *ex* x 08 42 55.9
DPC AMS AMS 09 01 40.0
comp=Z,2µm,19.4s
VRAC Vranov 43.98 303 *eP* **P** **08 42 32.0 -0.1**
CHVC Chvalec 44.04 305 *eP* **P** **08 42 32.9 +0.3**
CHVC *ex* x 08 42 57.9
CHVC AMS AMS 09 01 50.0
comp=Z,3µm,17.4s
UPC Upice 44.09 305 *eP* **P** **08 42 33.3 +0.3**
UPC MLR MLR
comp=Z,2µm,17.4s
UPC Upice 44.09 305 *eP* **P** **08 42 33.3 +0.3**
UPC AMS AMS 09 01 40.0
comp=Z,2µm,17.4s
KRUC Moravsky 44.16 303 *eP* **P** **08 42 33.9 +0.4**
KONS Konsvik 44.28 328 *eP* **P** **08 42 34.4 +0.1**
BKNI Bangkinang 44.59 148 P **P** **08 42 38.3 +1.0**
BKNI Bangkinang 44.59 148 P **P** **08 42 36.9 -0.3**
TREC Trest 44.68 304 AMS AMS 09 04 40.0
comp=Z,2µm,20.2s
CONA Conrad Observa 44.77 302 *ep*P **P** **08 42 38.9 +0.3**
comp=Z,11nm,1.0s,SNR=6.6
PVCC Panska Ves 44.98 306 AMS AMS 09 02 20.0
comp=Z,2µm,17.6s
GOPC GO Pecny, Ondr 44.98 305 AMS AMS 09 02 20.0
comp=Z,2µm,19.2s
NC405 NORSAR Array S 45.00 321 P **P** **08 42 39.6 -0.5**
NC602 NORSAR Array S 45.12 320 *eP* **P** **08 42 40.8 -0.3**
NC602 NORSAR Array S 45.12 320 P **P** **08 42 40.7 -0.3**
PRU Pruhonice 45.12 305 *eP* **P** **08 42 41.3 +0.1**
PRU MLR MLR
comp=Z,2µm,10.0s
PRU Pruhonice 45.12 305 *eP* **P** **08 42 41.3 +0.1**
PRU AMS AMS 09 02 20.0
comp=Z,2µm,10.0s
ARSA Arzberg 45.17 301 *eP* **P** **08 42 41.4 -0.3**
comp=Z,3.6nm,0.8s
PRA Prague 45.17 305 AMS AMS 09 02 20.0
comp=Z,2µm,19.5s
NB2 NORSAR Subarra 45.25 321 P **P** **08 42 41.1 -1.0**
comp=Z,5.7nm,0.6s,baz=85,slow=7.9
NB2 NORSAR Subarra 45.25 321 P **P** **08 42 41.1 -1.0**
baz=85,slow=7.9
NOA NORSAR Array B 45.25 321 P **P** **08 42 41.4 -0.7**
comp=Z,5.3nm,0.6s,baz=86,slow=7.9,SNR=14
NOA LR LR 09 02 16.1
comp=Z,4µm,19.6s,baz=85,slow=37
BRG Berggiesshubel 45.30 306 *eP* **P** **08 42 42.7 +0.1**
comp=Z,56nm,1.0s
BRG *e* 08 43 03.3
comp=Z,41nm,2.0s
comp=N,1µm,20.2s
comp=E,1µm,18.2s
comp=Z,3µm,19.6s
BRG Berggiesshubel 45.30 306 *eP* **P** **08 42 42.7 +0.1**
BRG pmax pmax
comp=Z,56nm,1.0s
BRG pmax pmax
comp=Z,41nm,2.0s
BRG MLR MLR
comp=N,1µm,20.2s
BRG MLR MLR
comp=E,1µm,18.2s
BRG MLR MLR
comp=Z,3µm,19.6s
SPA0 Spitsbergen Ar 45.33 345 P **P** **08 42 42.6 +0.1**
NC204 NORSAR Array S 45.45 321 P **P** **08 42 43.5 -0.3**
PDSI Padang 45.48 149 P **P** **08 42 43.7 -0.7**
PBCC Pribram 45.54 304 AMS AMS 09 04 40.0
comp=Z,600nm,19.1s
YSS Yuzh-Sakhalins 45.56 59 *eP* **P** **08 42 48.6 +3.9**
YSS *eS* **S** **08 49 33.3 +6.9**
YSS MLR MLR
comp=Z,2µm,17.0s
YSS MLR MLR
comp=N,2µm,15.0s
YSS MLR MLR
comp=E,1µm,17.0s
OSL Oslo 45.60 319 *eP* **P** **08 42 44.4 -0.4**
SOKA Soboth 45.65 300 *ep*P **P** **08 42 45.5 0.0**
comp=E,6.9nm,1.0s
CLL Collm 45.77 307 *eP* **P** **08 42 46.0 -0.4**
CLL *eS* **S** **08 49 28.0 -1.5**
CLL MLR MLR
comp=Z,2µm,18.9s
CLL Collm 45.77 307 *eP* **P** **08 42 46.0 -0.4**
CLL *eS* **S** **08 49 28.0 -1.5**
CLL *eSS* **SS** **08 53 00.0 +6.5**
CLL *eSSS* SSS 08 53 42.0
CLL Lm MLR 09 05 00.0
comp=Z,2µm,18.9s
MOA Molln 45.83 302 P **P** **08 42 46.6 -0.3**
comp=Z,6.3nm,1.0s
MAJO Matsushiro 45.87 75⇑ *eP* **P** **08 42 47.6 +0.3**
MAJO pmax pmax
comp=Z,7.0nm,1.0s
MAJO Matsushiro 45.87 75 P **P** **08 42 46.1 -1.2**
MAJO IAmb IAmb 08 42 50.8
comp=Z,19nm,1.4s
MJAR Matsushiro Arr 45.87 75 P **P** **08 42 47.1 -0.2**
comp=Z,4.3nm,0.9s,baz=295,slow=10,SNR=9.0
MJAR LR LR 09 03 35.3
comp=Z,411nm,20.2s,baz=320,slow=38
MJAR Matsushiro Arr 45.87 75 P **P** **08 42 46.8 -0.5**
GEC2 GERESS Array S 45.93 303 P **P** **08 42 47.7 -0.1**
GERES GERESS Array B 45.93 303 P **P** **08 42 47.8 -0.1**
comp=Z,4.1nm,0.8s,baz=76,slow=7.2,SNR=31
GERES PcP **PcP** **08 44 24.4 -0.2**
comp=Z,1.8nm,0.9s,baz=88,slow=4.7,SNR=3.5
GERES LR LR 09 04 16.4
comp=Z,1µm,20.1s,baz=82,slow=39
KHC Kasperske Hory 45.94 304 *eP* **P** **08 42 47.7 0.0**
KHC MLR MLR
comp=Z,3µm,8.2s
KHC Kasperske Hory 45.94 304 *eP* **P** **08 42 47.7 0.0**
KHC AMS AMS 09 05 40.0
comp=Z,3µm,8.2s
DOMB Dombas 46.18 322 *eP* **P** **08 42 49.0 -0.4**
NKC Novy Kostel 46.37 306 AMS AMS 09 03 10.0
comp=Z,3µm,21.3s
KBA Koelnbreinsper 46.65 301 pP **P** **08 42 53.8 +0.3**
comp=Z,13nm,1.6s
SKAR Skarslia 46.70 320 *eP* **P** **08 42 53.6 0.0**
MOL Molde 46.83 323 *eP* **P** **08 42 54.4 -0.1**
GRA1 Grafenberg Arr 47.28 305 P **P** **08 42 58.5 +0.3**
GRA1 IAmb IAmb 08 43 07.2
comp=Z,13nm,0.8s
GRF Grafenberg Arr 47.28 305 P **P** **08 42 58.5 +0.3**
GRF pmax pmax
comp=Z,13nm,0.8s
ABTA Abfaltersbach 47.29 301 *ep*P **P** **08 42 59.9 +1.5**
comp=Z,2.9nm,0.8s
SEY Seymchan 47.75 36 P **P** **08 43 02.5 +0.8**
comp=Z,3.1nm,0.6s,baz=259,slow=4.3,SNR=12
SEY PcP **PcP** **08 44 30.8 +0.2**
comp=Z,4.1nm,0.8s,baz=305,slow=2.8,SNR=3.6
SQTA Sankt Quirin 47.99 302 P **P** **08 43 03.1 -0.8**
comp=Z,8.3nm,1.1s
KSM Kuching 48.00 136 P **P** **08 43 05.6 +1.4**
MOTA Moosalm 48.03 302 *eP* **P** **08 43 03.4 -0.8**
comp=Z,9.1nm,1.2s
RETA Reutte 48.20 302 *ep*P **P** **08 43 05.2 -0.3**
comp=Z,8.6nm,0.8s
SBUM Sibu 48.24 133 P **P** **08 43 04.5 -1.5**
FETA Feichten 48.37 302 *eP* **P** **08 43 05.9 -1.0**
comp=Z,4.9nm,1.1s
YUK Yuzh-Kuril'sk 48.54 62*c i*P P 08 43 00.7 -7.3
YUK PPP PPP 08 45 48.7
YUK pmax pmax
comp=Z,615nm,1.2s
YUK pmax pmax
comp=N,266nm,1.0s
YUK pmax pmax
comp=E,416nm,1.2s
YUK pmax pmax
comp=Z,642nm,1.4s
YUK MLR MLR
comp=E,798nm,15.0s
YUK MLR MLR
comp=Z,752nm,15.0s
YUK MLR MLR
comp=N,1µm,14.0s
STU Stuttgart 48.81 304 P **P** **08 43 10.4 +0.3**
STU pmax pmax
comp=Z,24nm,1.4s
STU Stuttgart 48.81 304 P **P** **08 43 10.4 +0.3**
STU IAmb IAmb 08 43 14.9
comp=Z,24nm,1.4s
DAVA Damuels 48.84 302 *eP* **P** **08 43 08.1 -2.4**
comp=Z,13nm,1.5s
BFO Black Forest 49.50 304 *i* P **P** **08 43 15.9 +0.5**
STKI Sintang 49.81 135 P **P** **08 43 20.5 +2.5**
MDSI Maura Dua 50.24 146 P **P** **08 43 22.0 +0.7**
KLSI 50.66 146 P **P** **08 43 22.9 -1.5**
LWLI Liwa 50.67 147 P **P** **08 43 23.2 -1.4**
BILL Bilibino 52.41 28 *i* P **P** **08 43 37.5 +0.6**
BILL *i* 08 43 53.6
BILL *i* 08 44 48.5
BILL *i* 08 45 34.5
BILL pmax pmax
comp=Z,15nm,1.0s
BILL MLR MLR
comp=Z,850nm,16.0s
BILL Bilibino 52.41 28 P **P** **08 43 35.4 -1.5**
BILL IAmb IAmb 08 43 41.7
comp=Z,14nm,1.0s
KCP Kidapawan 52.86 116⇓ P **P** **08 43 41.5 +0.5**
DAG Danmarks Havn 52.87 343 *i* P **P** **08 43 39.6 -0.6**
DAG pmax pmax
comp=Z,14nm,0.9s
DAG Danmarks Havn 52.87 343 *i* P **P** **08 43 39.6 -0.6**
comp=Z,16nm,0.9s
PETK Petropavlovsk- 52.88 48 LR LR 09 09 52.3
comp=Z,533nm,19.4s,baz=356,slow=40
KEST Kesra 53.71 289 LR LR 09 11 21.5
comp=Z,813nm,19.5s,baz=13,slow=41
LEM Lembang 53.84 144 LR LR 09 10 08.7
comp=Z,424nm,18.7s,baz=313,slow=40
KPJI Karang Pucung 54.88 143 P **P** **08 43 57.6 +2.0**
SMRI Semarang 55.35 141 P **P** **08 44 00.5 +1.4**
SMRI Semarang 55.35 141 P **P** **08 43 58.2 -0.9**
KMBO Kilima Mbogo 56.02 233 *i* P **P** **08 44 05.0 +0.8**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 56.02 233 P **P** **08 44 03.7 -0.5**
comp=Z,3.0nm,0.8s,baz=20,slow=9.6,SNR=8.5
KMBO LR LR 09 10 08.0
comp=Z,616nm,20.3s,baz=300,slow=38
KMBO Kilima Mbogo 56.02 233 P **P** **08 44 03.9 -0.4**
NGJI Ngawi 56.12 140 P **P** 08 44 13.5 +8.9
KAPI Kappang 58.63 130 P **P** **08 44 21.7 -0.6**
KAPI pmax pmax
comp=Z,24nm,1.1s
KAPI Kappang 58.63 130 LR LR 09 12 50.5
comp=Z,288nm,21.9s,baz=117,slow=39
KAPI Kappang 58.63 130 P **P** **08 44 21.7 -0.6**
TNTI Ternate 58.95 119 P **P** **08 44 24.4 -0.2**
SUMG Summit 59.45 342 *i* P **P** **08 44 28.4 +0.7**
SUMG Summit 59.45 342 *i* P **P** **08 44 28.4 +0.7**
SUMG Summit 59.45 342 P **P** **08 44 27.8 0.0**
SUMG IAmb IAmb 08 44 40.7
comp=Z,18nm,1.5s
MBAR Mbarara 59.77 240 P **P** **08 44 29.7 -0.8**
MBAR pmax pmax
comp=Z,7.0nm,0.8s
MBAR Mbarara 59.77 240 P **P** **08 44 29.7 -0.8**
MBAR IAmb IAmb 08 44 32.2
comp=Z,6.5nm,0.8s
SANI Sanana 60.16 122 P **P** **08 44 32.8 -0.1**
ESDC Sonseca Array 61.12 299 P **P** **08 44 38.1 -1.2**
comp=Z,0.8nm,0.5s,baz=54,slow=7.2,SNR=6.4
ESDC LR LR 09 14 19.2
comp=Z,581nm,18.9s,baz=85,slow=39
ESDC Sonseca Array 61.12 299 P **P** **08 44 38.8 -0.6**
FAKI Fak Fak 64.94 118 P **P** **08 45 05.6 +0.7**
FAKI Fak Fak 64.94 118 P **P** **08 45 04.5 -0.4**
BATI Baumata 65.09 130 LR LR 09 17 19.3
comp=Z,514nm,20.9s,baz=320,slow=40
RES Resolute Bay 65.23 358 P **P** **08 45 05.2 -0.7**
comp=Z,3.6nm,1.0s,baz=14,slow=10,SNR=6.1
COLD Coldfoot 66.52 19 P **P** **08 45 14.3 0.0**
COLD IAmb IAmb 08 45 21.2
comp=Z,6.9nm,0.9s
IMAR Indian Mountai 66.56 21 P **P** **08 45 14.0 -0.6**
BMAR Burnt Mountain 67.67 17 P **P** **08 45 22.7 +1.0**
MLY Manley 68.10 20 P **P** **08 45 24.8 +0.3**
MLY IAmb IAmb 08 45 30.0
comp=Z,12nm,1.1s
TTA Tatalina 68.18 24 P **P** **08 45 25.7 +0.7**
TTA pmax pmax
comp=Z,6.0nm,1.1s
TTA Tatalina 68.18 24 P **P** **08 45 25.7 +0.7**
FYU Fort Yukon 68.23 17 P **P** **08 45 26.4 +1.3**
FYU IAmb IAmb 08 45 36.0
comp=Z,14nm,1.2s
BPAW Bear Paw Mtn. 68.76 21 P **P** **08 45 28.9 +0.3**
BPAW IAmb IAmb 08 45 32.2
comp=Z,10nm,1.0s
MDM Murphy Dome 68.81 20 P **P** **08 45 30.3 +1.4**
MDM IAmb IAmb 08 45 34.1
comp=Z,9.4nm,1.1s
POKR Poker Plat Res 68.89 19 P **P** **08 45 29.9 +0.6**
baz=324
TCOL CIGO, UAF Yank 68.97 19 P **P** **08 45 29.2 -0.6**
baz=323

COLA College 68.98 19⇓eP P 08 45 30.1 +0.3
COLA pmax pmax
comp=Z,10.0nm,1.1s
COLA College 68.98 19 P P 08 45 29.7 -0.1
COLA IAmb IAmb 08 45 30.4
comp=Z,12nm,0.9s
INK Inuvik 69.03 12 P P 08 45 30.3 +0.2
INK pmax pmax
comp=Z,32nm,1.3s
INK Inuvik 69.03 12 P P 08 45 29.9 -0.1
comp=Z,8.5nm,0.8s,baz=352,slow=6.6,SNR=34
INK Inuvik 69.03 12 P P 08 45 30.3 +0.2
PRP Porcupine Dome 69.03 18 P P 08 45 31.0 +0.6
PRP IAmb IAmb 08 45 33.9
comp=Z,12nm,1.3s
BWN Browne 69.12 21 P P 08 45 31.1 +0.4
CCB Clear Creek Bu 69.17 20 P P 08 45 30.8 -0.2
CCB IAmb IAmb 08 45 36.1
comp=Z,7.9nm,1.1s
KTH Kantishna Hill 69.20 21 P P 08 45 31.4 0.0
IL31 69.30 19 P P 08 45 31.3 -0.5
ILAR Eielson Array 69.30 19 P P 08 45 31.0 -0.9
comp=Z,3.7nm,0.8s,baz=316,slow=4.9,SNR=42
ILAR PP PP 08 48 00.8 -3.6
comp=Z,3.6nm,1.0s,baz=321,slow=6.9,SNR=4.9
ILAR LR LR 09 19 47.5
comp=Z,676nm,19.7s,baz=334,slow=39
ILAR Eielson Array 69.30 19 P P 08 45 30.9 -1.0
PPLA Purkeypile 69.36 22 P P 08 45 32.1 -0.4
C36M Paulatuk 69.36 9 P P 08 45 31.0 -1.2
baz=341
HDA Harding Lake 69.58 19 P P 08 45 31.9 -1.7
baz=324
EPYK Eagle Plains 70.19 14 P P 08 45 36.7 -0.7
baz=332
SKT Skwentna 70.26 23 P P 08 45 37.4 -0.4
SKT IAmb IAmb 08 45 41.9
comp=Z,15nm,1.0s
JAY Jayapura 70.55 111 LR LR 09 16 08.3
comp=Z,348nm,21.9s,baz=14,slow=36
DHY Denali Highway 70.56 20 P P 08 45 39.5 -0.3
DHY IAmb IAmb 08 45 42.4
comp=Z,12nm,0.8s
EGAK Eagle 70.66 17 P P 08 45 39.6 -0.6
EGAK IAmb IAmb 08 45 48.7
comp=Z,14nm,1.3s
RIDG Independent Ri 70.66 19 P P 08 45 39.6 -0.7
SCRK Sand Creek 70.68 19 P P 08 45 39.6 -0.9
SCRK IAmb IAmb 08 45 40.8
comp=Z,8.6nm,1.0s
DOT Dot Lake 70.93 19 P P 08 45 41.0 -1.0
PAX Paxson 71.14 20 P P 08 45 42.1 -1.2
PAX pmax pmax
comp=Z,25nm,1.4s
PAX Paxson 71.14 20 P P 08 45 42.1 -1.2
PAX IAmb IAmb 08 45 46.8
comp=Z,25nm,1.4s
PMR Palmer 71.27 22 P P 08 45 43.8 -0.1
PMR pmax pmax
comp=Z,9.0nm,0.8s
PMR Palmer 71.27 22 P P 08 45 43.9 -0.1
PMR IAmb IAmb 08 45 52.8
comp=Z,8.8nm,0.8s
SML Sawmill 71.32 22 P P 08 45 43.9 -0.5
RC01 Rabbit Creek A 71.50 23 P P 08 45 45.1 -0.3
SCM Sheep Creek Mo 71.58 21 P P 08 45 45.5 -0.5
SCM pmax pmax
comp=Z,20nm,0.6s
SCM Sheep Creek Mo 71.58 21 P P 08 45 45.5 -0.5
DAWY Dawson 71.67 17 P P 08 45 45.3 -1.1
TOA0 Torodi Ar. Sit 71.91 272 P P 08 45 46.9 -1.6
TOA0 IAmb IAmb 08 45 49.5
comp=Z,17nm,1.0s
TORD Torodi Ar. Bea 71.91 272 P P 08 45 47.4 -1.1
comp=Z,8.9nm,0.8s,baz=46,slow=4.9,SNR=31
TORD Torodi Ar. Bea 71.91 272 P P 08 45 46.4 -2.2
BCAR Beaver Creek A 71.98 18 P P 08 45 48.0 -0.3
PSAC1 Pilbara Seismi 72.35 140 P P 08 45 50.1 -0.8
PSAC1 IAmb IAmb 08 45 55.3
comp=Z,15nm,1.0s
FITZ Fitzroy Crossi 72.56 133 LR LR 09 22 13.6
comp=Z,114nm,19.6s,baz=15,slow=40
LSZ Lusaka 72.62 232 P P 08 45 52.0 -0.8
LSZ pmax pmax
comp=Z,15nm,1.1s
LSZ Lusaka 72.62 232 P P 08 45 52.0 -0.8
LSZ IAmb IAmb 08 45 54.6
comp=Z,15nm,1.1s
VRDI Verde Repeater 73.12 20 P P 08 45 54.7 -0.6
VRDI IAmb IAmb 08 46 01.3
comp=Z,11nm,0.8s
KDAK Kodiak Island 73.21 26 iP P 08 45 56.6 +1.0
KDAK Kodiak Island 73.21 26 P P 08 45 55.4 -0.2
comp=Z,14nm,0.8s,baz=321,slow=7.2,SNR=9.6
KDAK Kodiak Island 73.21 26 P P 08 45 55.2 -0.4
DHAK Deception Hill 76.30 19 P P 08 46 13.4 -0.2
YKW3 Yellowknife Ar 76.92 6 P P 08 46 16.4 -0.6
YKW3 IAmb IAmb 08 46 20.0
comp=Z,14nm,1.0s
YKA Yellowknife Ar 76.98 6 P P 08 46 16.6 -0.7
comp=Z,7.6nm,0.7s,baz=344,slow=5.4,SNR=55
YKA LR LR 09 21 49.3
comp=Z,70nm,20.8s,baz=350,slow=37
YKA Yellowknife Ar 76.98 6 P P 08 46 16.5 -0.8
MORW Morawa 77.15 147 P P 08 46 18.8 +0.2
MORW IAmb IAmb 08 46 20.0
comp=Z,21nm,1.1s
WB0 Warramunga Arr 78.95 128 P P 08 46 27.1 -1.7
WB0 IAmb IAmb 08 46 33.2
comp=Z,10nm,1.1s
WRA Warramunga Arr 79.06 128 iP P 08 46 29.2 -0.2
WRA pmax pmax
comp=Z,6.0nm,0.9s
WRA Warramunga Arr 79.06 128 P P 08 46 28.7 -0.6
comp=Z,6.2nm,0.9s,baz=327,slow=5.4,SNR=12
WRA LR LR 09 25 13.7
comp=Z,169nm,21.4s,baz=135,slow=39
WRA Warramunga Arr 79.06 128 P P 08 46 28.4 -1.0
WRAB Tennant Creek 79.06 128⇑eP P 08 46 30.0 +0.6
WRAB pmax pmax
comp=Z,13nm,1.3s
WRAB Tennant Creek 79.06 128 P P 08 46 28.4 -0.9
WRAB IAmb IAmb 08 46 33.9
comp=Z,8.5nm,0.7s
WB2 Warramunga Arr 79.06 128 P P 08 46 28.7 -0.7
WR0 Warramunga Arr 79.19 128 P P 08 46 29.5 -0.6
WR0 IAmb IAmb 08 46 31.6
comp=Z,16nm,1.5s
SCHQ Schefferville 80.81 341 LR LR 09 26 37.9
comp=Z,425nm,18.8s,baz=24,slow=39
DBIC Dimbokro 80.97 271 P P 08 46 39.2 -0.7
DBIC pmax pmax
comp=Z,19nm,1.1s
DBIC Dimbokro 80.97 271 P P 08 46 39.0 -1.0
comp=Z,8.5nm,0.9s,baz=75,slow=5.6,SNR=5.4
DBIC LR LR 09 26 33.9
comp=Z,267nm,20.7s,baz=26,slow=39
DBIC Dimbokro 80.97 271 P P 08 46 39.2 -0.7
DBIC IAmb IAmb 08 46 42.5
comp=Z,19nm,1.1s
KIC Kosan Boka 81.08 271 ePKIKP P 08 46 39.1 -1.5
comp=Z,42nm,1.3s
KIC Kosan Boka 81.08 271 P P 08 46 39.1 -1.5
TIC Toumodi 81.11 271 ePKIKP P 08 46 39.2 -1.6
TIC Toumodi 81.11 271 P P 08 46 39.2 -1.6
TIC Toumodi 81.11 271 P P 08 46 39.2 -1.6
LIC Lamto 81.39 271 ePKIKP P 08 46 39.1 -3.1
comp=Z,30nm,0.9s
AS31 Alice Springs 81.65 131 P P 08 46 41.3 -2.0
ASAR Alice Springs 81.65 131 P P 08 46 42.4 -0.9
comp=Z,2.3nm,0.8s,baz=326,slow=5.2,SNR=19
ASAR LR LR 09 27 36.2
comp=Z,223nm,20.4s,baz=332,slow=39
LBTB Lobatse 81.73 227 P P 08 46 42.6 -1.2
LBTB pmax pmax
comp=Z,17nm,1.1s
LBTB Lobatse 81.73 227 P P 08 46 42.6 -1.2
LBTB IAmb IAmb 08 46 45.7
comp=Z,17nm,1.1s
BOSA Boshof 84.74 225 P P 08 46 58.1 -1.1
comp=Z,10nm,0.9s,baz=43,slow=5.6,SNR=10
BOSA Boshof 84.74 225 P P 08 46 57.4 -1.8
FFC Flin Flon 85.35 1 iP P 08 47 01.3 -0.6
FFC Flin Flon 85.35 1 P P 08 47 00.8 -1.1
FFC IAmb IAmb 08 47 01.7
comp=Z,9.8nm,0.9s
CHGQ Chibougamau 87.15 343 P P 08 47 10.0 -0.9
baz=20
MATQ Matagami 87.98 345 P P 08 47 14.2 -0.7
baz=18
LSQQ Lebel-sur-Quev 88.51 344 P P 08 47 17.2 -0.2
baz=18
D61A St Aubert, Com 88.64 339 P P 08 47 17.8 -0.3
baz=23
E64A Bridgewater 88.70 338 P P 08 47 17.3 -1.1
baz=25
LATQ La Tuque 89.14 341 P P 08 47 20.4 0.0
baz=21
A04D Lummi Island 89.33 14 P P 08 47 21.9 +0.7
baz=344
D58A Chemin du LacG 89.44 341 P P 08 47 21.7 -0.1
baz=21
ULM Lac du Bonnet 89.72 357 P P 08 47 21.8 -1.3
comp=Z,1.9nm,0.7s,baz=338,slow=5.5,SNR=4.5
ULM LR LR 09 30 55.8
comp=Z,542nm,18.8s,baz=4.5,slow=38
D57A Chemin Vers le 89.75 342 P P 08 47 23.1 -0.3
baz=20
F62A Pittston Farm, 89.78 339 P P 08 47 23.2 -0.2
baz=23
B05A Bryant 89.88 14 P P 08 47 23.8 0.0
baz=344
D55A Sainte-Anne-du 90.12 343 P P 08 47 25.0 0.0
baz=19
E58A La Victoria 90.21 341 P P 08 47 25.3 -0.2
baz=21
F60A Warwick 90.25 340 P P 08 47 25.2 -0.4
baz=22
B08A Colville Reser 90.26 12 P P 08 47 25.1 -0.6
B08A IAmb IAmb 08 47 41.5
comp=Z,9.7nm,1.3s
NEW Newport 90.69 11 P P 08 47 27.2 -0.5
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 90.69 11 P P 08 47 27.0 -0.7
comp=Z,2.6nm,0.7s,baz=331,slow=5.5,SNR=7.5
NEW Newport 90.69 11 P P 08 47 27.2 -0.5
E55A Montcerf-Lytto 90.79 343 P P 08 47 27.9 -0.2
baz=19
C09A Chrisman Ranch 90.97 11 P P 08 47 28.6 -0.3
C09A IAmb IAmb 08 47 29.4
comp=Z,7.2nm,0.9s
E54A Lac Daplat, Po 91.05 344 P P 08 47 29.1 -0.3
baz=18
E53A Dumoine, Ponti 91.21 344 P P 08 47 29.7 -0.4
baz=18
LON Longmire 91.39 14 P P 08 47 30.7 -0.3
LON pmax pmax
comp=Z,12nm,1.5s
LON Longmire 91.39 14 P P 08 47 30.7 -0.3
LON IAmb IAmb 08 47 47.0
comp=Z,12nm,1.4s
JTMT Jette 91.56 9 P P 08 47 31.2 -0.6
JTMT IAmb IAmb 08 47 38.3
comp=Z,9.6nm,1.1s
AGMN Agassiz Nation 91.67 357 P P 08 47 31.2 -0.9
baz=4.0
AGMN Agassiz Nation 91.67 357 P P 08 47 31.5 -0.7
AGMN IAmb IAmb 08 47 34.8
comp=Z,10nm,1.3s
ALGO Algonquin Park 91.69 344 P P 08 47 32.3 0.0
baz=17
EGMT Eagleton 91.73 6 P P 08 47 32.1 -0.4
baz=353
EGMT Eagleton 91.73 6 P P 08 47 31.8 -0.8
E50A Wahnapitae 91.77 346 P P 08 47 33.8 +1.2
baz=15
D46A Sault St. Mari 91.88 348 P P 08 47 32.9 -0.2
baz=13
LONY Lake Ozonia 92.17 341 P P 08 47 34.2 -0.4
baz=20
STKA Stephens Creek 92.29 131 LR LR 09 33 42.4
comp=Z,280nm,21.6s,baz=274,slow=39
MSO Missoula 92.51 9 P P 08 47 35.4 -0.8
baz=350
J61A Chester 92.84 340 P P 08 47 37.8 +0.1
baz=21
HRY Holter Researc 92.85 7 P P 08 47 37.5 -0.3
F10A Beach Ranch, E 92.91 11 P P 08 47 37.3 -0.8
F10A IAmb IAmb 08 47 43.9
comp=Z,4.6nm,0.8s
FLWY Flagg Ranch 95.56 7 P P 08 47 50.2 -0.2
FLWY IAmb IAmb 08 47 51.7
comp=Z,4.5nm,0.9s
IMW Indian Meadow 95.72 7 P P 08 47 51.4 +0.1
PDAR Pinedale Array 96.97 6 P P 08 47 55.9 -1.0
comp=Z,0.6nm,0.7s,baz=356,slow=2.3,SNR=7.2
PDAR LR LR 09 34 30.0
comp=Z,436nm,20.8s,baz=358,slow=37
NVAR Mina Array Bea 100.09 14 P Pdif 08 48 10.4 -0.5
comp=Z,0.5nm,0.8s,baz=306,slow=5.3,SNR=4.2
NVAR PP PP 08 52 14.1 -1.0
comp=Z,0.8nm,0.9s,baz=12,slow=5.3,SNR=3.8
TXAR Lajitas Array 110.69 2 PP PP 08 53 36.0 +2.6
comp=Z,0.5nm,0.9s,baz=12,slow=6.4,SNR=4.2
ROSC El Rosal 128.79 325 PKPdf 08 53 33.5 0.0
QSPA South Pole Qui 130.07 180 PKiKP 08 53 34.3 -0.4
CPUP Villa Florida 141.25 277 PKIKP PKPdf 08 53 54.9 -0.9
CPUP Villa Florida 141.25 277 PKP PKPdf 08 53 56.2 +0.4
comp=Z,3.9nm,1.0s,baz=41,slow=5.3,SNR=7.1
CPUP Villa Florida 141.25 277 PKPdf 08 53 54.9 -0.9
LPAZ La Paz 142.74 300 PKIKP PKPdf 08 53 57.3 -2.2
LPAZ La Paz 142.74 300 PKP PKPdf 08 53 58.4 -1.1
comp=Z,1.1nm,0.7s,baz=41,slow=12,SNR=5.2
LPAZ La Paz 142.74 300 PKPdf 08 53 57.3 -2.2
NNA Nana 144.62 316 PKIKP PKPab 08 54 00.8 +0.1
NNA Nana 144.62 316 PKPab 08 54 00.8 +0.1
MNMC Minye Minye 145.74 299 PKPdf 08 54 03.4 -0.9
GO01 Chusmiza 145.84 298 PKPdf 08 54 02.9 -1.8
GO01 PKPbc PKPbc 08 54 05.2 0.0
PB11 IPOC Station P 146.22 298 PKPdf 08 54 03.5 -1.4
PB11 PKPbc PKPbc 08 54 06.1 +0.1
LVC Limon Verde 147.61 293 PKP2 PKPbc 08 54 10.6 +0.5
LVC Limon Verde 147.61 293 PKPbc 08 54 10.6 +0.5
GO02 Mina Guanaco 149.70 290 PKPbc 08 54 15.8 +0.4
TRQA Tornquist 149.76 261 PKP2 PKPbc 08 54 14.4 -0.4
TRQA Tornquist 149.76 261 PKPbc 08 54 14.4 -0.4
GO03 Copiap 151.59 287 PKPdf PKPdf 08 54 12.2 -1.1
GO03 PKPbc 08 54 19.1 -0.3
PLCA Paso Flores 156.83 259 PKIKP PKPdf 08 54 18.9 -1.3
PLCA Paso Flores 156.83 259 PKP PKPdf 08 54 21.4 +1.1
comp=Z,2.6nm,1.1s,baz=222,slow=7.7,SNR=3.1
PLCA PKPab PKPab 08 54 49.4 -0.6
comp=Z,3.0nm,1.0s,baz=130,slow=8.3,SNR=5.0
PLCA Paso Flores 156.83 259 PKPdf 08 54 18.9 -1.3
PLCA PKPab 08 54 49.7 -0.3
GO06 Curarrehue 157.32 262 PKPdf 08 54 21.2 +0.3
GO06 PKPab PKPab 08 54 51.7 -0.6

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*ISCJB **01** 09:06:19.7±0.5, 1°.88N±0°.05×96°.60E±0°.06, h28km, mb4.1/7, Error ellipse: s-maj=9.2km s-min=4.8km az=144.2*
*DJA **01** 09:06:20.5±0.6, 2°N±4°×9°7E±°, h19km±10km, M4.0/7, MLv4.0/7*
*NEIC **01** 09:06:21.8±1.4, 1°.97N±0°.08×96°.7E±0°.1, h30km±5km, mb4.3/12*
*IDC **01** 09:06:26.2±10.0, 2°.00N×96°.81E, h64km±90km, mb3.8/7, mb1 4.0/8, mb1mx3.6/49, mbtmp4.1/8, ML4.8/1, Error ellipse: s-maj=73.2km s-min=15.7km az=61.0*
ISC 01 09:06:21.2±0.7, **1°.95N**±0°.05×**96°.63E**±0°.07, **h28**km, **n48**, σ**0s.97**/45, **mb4.2**/11, **Off west coast of northern Sumatera**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SNSI Sinabang, Aceh 0.55 327 P Pb 09 06 31.2 -1.2
SNSI S Sn 09 06 42.4 +0.9
GSI Gunungsitoli 1.14 124 P Pb 09 06 41.6 -0.7
GSI S Sb 09 06 55.9 -0.8
GSI Gunungsitoli 1.14 124 Pb 09 06 41.3 -0.9
TPTI 1.42 23 P Pb 09 06 47.2 +0.2
TPTI S Sb 09 07 04.6 -0.1
MLSI Meulaboh, Aceh 2.32 354 P Pn 09 06 56.7 -0.8
RPSI Rantau Prapat 2.41 72 Pn 09 06 58.3 -0.5
TSI Tuntungan 2.47 51 P Pn 09 06 59.9 +0.2
PBSI Pulau Batu 2.58 140 P Pn 09 07 02.4 +1.2
LHMI Lhok Sumawe 3.28 6 Pn Pn 09 07 10.3 -0.4
BKNI Bangkinang 4.69 110 Pn Pn 09 07 30.6 +0.4
IPM Ipoh 5.06 60 Pn 09 07 35.2 0.0
KULM Kulim 5.21 50 Pn 09 07 37.4 +0.1
MYKOM Kota Tinggi 7.22 91 Pn Pn 09 08 06.7 +1.8
CM31 Chiang Mai Arr 16.57 8 P P 09 10 13.8 -0.2
CM31 IAmb IAmb 09 10 14.0
comp=Z,8.7nm,0.5s
CMAR Chiang Mai Arr 16.57 8 P P 09 10 13.1 -0.9
comp=Z,1.2nm,0.3s,baz=197,slow=12,SNR=22
CMAR Chiang Mai Arr 16.57 8 P P 09 10 12.9 -1.1
PHRA Phrae 16.82 12 P P 09 10 17.1 +0.2
SHL Shillong 23.93 349 P P 09 11 33.2 0.0
SHL IAmb IAmb 09 11 33.9
comp=Z,8.8nm,0.6s
H08S2 Diego Garcia H 25.90 248 T T 09 38 43.5
baz=69,slow=76,SNR=77
H08S3 Diego Garcia H 25.90 248 T T 09 38 43.6
baz=69,slow=76,SNR=70
H08S1 Diego Carcia H 25.91 248 T T 09 38 44.8
baz=69,slow=76,SNR=70
FITZ Fitzroy Crossi 34.82 126 P P 09 13 09.9 -0.1
comp=Z,1.6nm,0.8s,baz=229,slow=20,SNR=3.4
FITZ Fitzroy Crossi 34.82 126 P P 09 13 10.1 +0.1
FITZ IAmb IAmb 09 13 14.3
comp=Z,4.4nm,1.2s
H01W3 Cape Leeuwin H 40.15 157 T T 09 56 45.9
baz=332
H01W2 Cape Leeuwin H 40.16 157 T T 09 56 43.0
baz=332,slow=74
H01W1 Cape Leeuwin H 40.16 157 T T 09 56 43.0
baz=332,slow=74
WB0 Warramunga Arr 42.88 122 P P 09 14 17.0 -0.5
WRA Warramunga Arr 42.91 122 P P 09 14 17.6 -0.2
comp=Z,2.2nm,0.7s,baz=300,slow=9.2,SNR=16
WRA Warramunga Arr 42.91 122 P P 09 14 17.4 -0.4
WB2 Warramunga Arr 42.92 122 P P 09 14 17.4 -0.5
KDJ Kajisay 43.65 339 P P 09 14 25.6 +1.9
KDJ IAmb IAmb 09 14 33.7
comp=Z,3.7nm,0.9s
ASAR Alice Springs 44.30 127 P P 09 14 29.6 +0.7
comp=Z,1.2nm,0.8s,baz=300,slow=8.3,SNR=14
ASAR Alice Springs 44.30 127 P P 09 14 29.9 +0.9
HRA Herat 45.49 319 P P 09 14 40.2 +1.7
KSRS Korea Array 45.57 35 P P 09 14 38.2 -0.5
comp=Z,1.8nm,0.8s,baz=228,slow=8.2,SNR=7.1
MKAR Makanchi Array 46.39 346 P P 09 14 46.1 +0.9
comp=Z,3.4nm,0.7s,baz=156,slow=7.3,SNR=15
MKAR Makanchi Array 46.39 346 P P 09 14 45.4 +0.2
SONM Songino Array 46.49 9 P P 09 14 46.6 +0.6
comp=Z,1.2nm,0.5s,baz=192,slow=8.8,SNR=8.9
SONM Songino Array 46.49 9 P P 09 14 46.7 +0.6
KK31 Karatay Array 47.14 334 P P 09 14 52.3 +1.2
KK31 IAmb IAmb 09 15 08.0
comp=Z,6.0nm,1.5s
KKAR Karatay Array 47.14 334 P P 09 14 52.5 +1.4
KKAR Karatay Array 47.14 334 P P 09 14 52.3 +1.2
KKAR IAmb IAmb 09 15 08.0
comp=Z,6.0nm,1.5s
ZAA0 Zalesovo Array 52.74 351 P P 09 15 34.0 +0.6
ZALV Zalesovo Beam 52.74 351 P P 09 15 34.0 +0.7
comp=Z,8.6nm,1.0s,baz=182,slow=5.8,SNR=16
ZALV Zalesovo Beam 52.74 351 P P 09 15 33.8 +0.4
ABKAR Akbulak array 56.59 332 P P 09 16 01.7 +0.2
MSWZ Moikau Station 82.75 132 P P 09 18 40.6 -2.2
TXAR Lajitas Array 143.33 30 PKP PKPdf 09 25 51.4 -2.4
comp=Z,0.1nm,0.6s,baz=225,slow=1.1,SNR=2.8

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*BJI **01** 09:18:40.2±0.0, 1°.09N×126°.95E, h56km, mb4.6/27, mB5.1/20, Ms4.8/5, Ms7 4.5/5*
*MOS **01** 09:18:43.4±1.3, 1°.59N×126°.51E, h49km, mb4.7/19, Error ellipse: s-maj=12.4km s-min=7.8km az=105.1*
*ISCJB **01** 09:18:44.6±0.6, 1°.57N±0°.03×126°.55E±0°.04, h61km±6km, mb4.5/45, Error ellipse: s-maj=6.7km s-min=4.8km az=160.9*
*DJA **01** 09:18:44.7±0.4, 2°N±5°×12°7E±°, h61km±7km, M4.6/8, mB4.8/3, mb4.7/8, MLv4.6/8, Mw(mB)4.0/3*
*KLM **01** 09:18:44.0, 1°.71N×126°.80E, h55km, mb4.8*
*NEIC **01** 09:18:45.8±2.1, 1°.58N±0°.07×126°.60E±0°.05, h56km±5km, mb4.7/38*
*IDC **01** 09:18:47.3±0.7, 1°.56N×126°.56E, h77km±6km, mb4.1/20, mb1 4.3/23, mb1mx4.1/54, mbtmp4.4/23, MS3.5/3, Ms1 3.5/3, ms1mx3.0/44, Error ellipse: s-maj=17.9km s-min=8.9km az=80.0*
ISC 01 09:18:45.8±0.5, **1°.60N**±0°.04×**126°.59E**±0°.05, **h57**km±3km, **h57**km**:pP-P**, **n161**, σ**1s.37**/175, **mb4.5**/56, **MS4.3**/3, **10C-5D**, **Northern Molucca Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TNTI Ternate 1.13 137 P Pn 09 19 03.9 -1.6
TNTI Ternate 1.13 137 Pn 09 19 04.0 -1.6
SGSI Sangihe 2.33 333 P Pn 09 19 19.4 -2.3
SANI Sanana 3.68 189 P Pn 09 19 39.8 -0.4
LUWI Luwuk 4.63 235 P Pn 09 19 54.7 +1.4
LUWI Luwuk 4.63 235 Pn 09 19 54.8 +1.5
SIJI Sorong 5.28 118 P Pn 09 20 02.2 0.0
3.0nm,0.3s,baz=300,slow=7.3,SNR=7.3
SIJI LR LR 09 22 33.5
comp=Z,525nm,21.2s,baz=6.5,slow=43
MSAI Masohi 5.44 155 P Pn 09 20 07.5 +3.1
DAV Davao City (W) 5.53 350 LR LR 09 22 24.2
comp=Z,427nm,18.9s,baz=112,slow=39
KCP Kidapawan 5.58 345 ⇓P Pn 09 20 08.5 +2.2
CTBH Cotabato--PC H 6.05 337 ⇑P Pn 09 20 11.8 -0.9
FAKI Fak Fak 7.22 128 P Pn 09 20 30.9 +2.0
FAKI Fak Fak 7.22 128 Pn 09 20 29.7 +0.8
TTSI Tana Toraja 8.19 236 P Pn 09 20 42.1 0.0
BNSI Bone 8.80 227 P Pn 09 20 51.0 +0.5
KAPI Kappang 9.48 226 P Pn 09 20 60.0 +0.3
4.8nm,0.3s,baz=347,slow=3.5,SNR=27
KAPI S Sn 09 22 45.5 +0.6
0.8nm,0.3s,baz=29,slow=10,SNR=2.1
KKM Kota Kinabalu 11.25 293 Pn Pn 09 21 25.6 +1.5
TWSI Taliwang, Sumb 14.11 223 P P 09 22 10.7 +1.8
SBUM Sibu 14.38 274 P Pn 09 22 08.0 +1.5
SBUM Sibu 14.38 274 P P 09 22 12.4 +0.4
KSM Kuching 16.27 270 P Pn 09 22 32.0 +1.2
KSM Kuching 16.27 270 P P 09 22 33.8 +0.8
KNRA Kununurra 17.30 173 P Pn 09 22 43.7 +0.1
KNRA IAmb IAmb 09 22 44.0
comp=Z,32nm,0.8s
FITZ Fitzroy Crossi 19.60 183 P P 09 23 07.5 -2.0
comp=Z,0.7nm,0.3s,baz=8.8,slow=7.3,SNR=25
FITZ Fitzroy Crossi 19.60 183 P P 09 23 09.0 -0.5
KPJI Karang Pucung 19.73 243 P P 09 23 09.9 -1.1
GUMO Guam 21.66 56 LR LR 09 30 25.5
comp=Z,135nm,21.1s,baz=122,slow=32
YULB Yu-li 22.26 347 P P 09 23 41.4 +3.2
TPUB Ta-pu 22.33 345 P P 09 23 39.0 0.0
TPUB IAmb IAmb 09 23 50.6
comp=Z,18nm,0.8s
WB0 Warramunga Arr 22.57 161 P P 09 23 40.8 -0.8
WRAB Tennant Creek 22.72 161 c iP P 09 23 42.4 -0.7
WRAB i *PP pP 09 23 52.2 -3.1
WRAB pmax pmax
comp=Z,56nm,1.0s
WRAB Tennant Creek 22.72 161 P P 09 23 42.8 -0.3
WRA Warramunga Arr 22.72 161 P P 09 23 40.8 -2.4
WRA 09 27 32.9
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 22.72 161 P P 09 23 42.2 -0.9
comp=Z,39nm,0.6s,baz=336,slow=11,SNR=95
WRA PcP PcP 09 27 34.2 +0.5
comp=Z,0.8nm,0.5s,baz=320,slow=2.3,SNR=5.8
WRA S S 09 27 45.6 -2.1
comp=Z,2.6nm,1.0s,baz=346,slow=17,SNR=3.4
WRA Warramunga Arr 22.72 161 P P 09 23 40.8 -2.4
WRA PcP 09 27 32.9 -0.8
WB2 Warramunga Arr 22.73 161 P P 09 23 42.3 -0.9
MYKOM Kota Tinggi 22.73 271 P P 09 23 44.0 +0.7
MYKOM Kota Tinggi 22.73 271 P P 09 23 42.5 -0.8
MYKOM IAmb IAmb 09 23 50.2
comp=Z,30nm,1.1s
WR0 Warramunga Arr 22.80 160 P P 09 23 43.0 -1.0
WR0 IAmb IAmb 09 23 46.5
comp=Z,24nm,0.7s
PMG Port Moresby 23.23 118⇓eP P 09 23 46.2 -2.1
PMG pmax pmax
comp=Z,63nm,1.0s
YHNB Yeheng 23.48 348 P P 09 23 51.6 +0.9
YHNB IAmb IAmb 09 24 04.2

	comp=Z,44nm,1.4s						
IPM	**Ipoh**	**25.68**	**277**	P	**P**	**09 24 10.0**	**-0.9**
AS31	**Alice Springs**	**26.10**	**165**	P	**P**	**09 24 14.4**	**-0.1**
ASAR	**Alice Springs**	**26.11**	**165**	P	**P**	**09 24 14.4**	**-0.2**
ASAR						09 27 41.1	
ASAR	**Alice Springs**	**26.11**	**165**	P	**P**	**09 24 14.4**	**-0.2**
	comp=Z,20nm,0.7s,baz=348,slow=13,SNR=97						
ASAR				PcP	**PcP**	**09 27 39.7**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=351,slow=2.3,SNR=5.3						
ASAR				S	**S**	**09 28 44.5**	**+2.4**
	comp=Z,0.4nm,0.8s,baz=352,slow=26,SNR=2.9						
ASAR	**Alice Springs**	**26.11**	**165**	P	**P**	**09 24 14.4**	**-0.2**
ASAR					**PcP**	**09 27 41.1**	**0.0**
RPSI	**Rantau Prapat**	**27.67**	**273**	P	**P**	**09 24 27.3**	**-1.4**
RPSI				IAmb	IAmb	09 24 29.3	
	comp=Z,8.3nm,0.8s						
PSI	**Prapat**	**27.67**	**273**	P	**P**	**09 24 27.3**	**-1.6**
PSI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CHAI	**Chaiyaphum**	**28.10**	**302**	P	**P**	**09 24 33.9**	**+1.3**
WHN	**Wuhan**	**31.04**	**339**	P	**P**	**09 25 00.6**	**+2.3**
NJ2	**Nanjing**	**31.15**	**347**	*e*P	**P**	**09 25 01.6**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
JNU	**Nakatsue**	**31.61**	**7**	P	**P**	**09 25 03.9**	**+0.4**
JNU				IAmb	IAmb	09 25 20.5	
	comp=Z,22nm,1.3s						
CMAR	**Chiang Mai Arr**	**31.87**	**303***c*	*e*P	**P**	**09 25 08.1**	**+2.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**31.87**	**303**	P	**P**	**09 25 04.7**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=121,slow=7.1,SNR=5.8						
CMAR	**Chiang Mai Arr**	**31.87**	**303**	P	**P**	**09 25 04.3**	**-1.6**
CMMT	**Chiang Mai**	**32.04**	**304**	P	**P**	**09 25 08.8**	**+1.4**
	comp=Z,5.0nm,1.6s						
CHTO	**Chiang Mai**	**32.04**	**304**	P	**P**	**09 25 06.4**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CHTO	**Chiang Mai**	**32.04**	**304**	P	**P**	**09 25 06.4**	**-1.0**
CHTO				IAmb	IAmb	09 25 09.0	
	comp=Z,4.7nm,0.6s						
FORT	**Forrest**	**32.23**	**178**	P	**P**	**09 25 09.4**	**+0.5**
INU	**Inuyama**	**34.95**	**15**	P	**P**	**09 25 33.3**	**+0.9**
INU				IAmb	IAmb	09 25 44.4	
	comp=Z,21nm,1.2s						
BBOO	**Buckleboo**	**35.38**	**166**	P	**P**	**09 25 36.3**	**+0.1**
NWAO	**Narrogin (SRO)**	**35.46**	**194**	P	**P**	**09 25 36.6**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NWAO	**Narrogin (SRO)**	**35.46**	**194**	P	**P**	**09 25 36.6**	**-0.3**
NWAO				IAmb	IAmb	09 25 37.4	
	comp=Z,9.9nm,1.0s						
KSRS	**Korea Array**	**35.70**	**2**	P	**P**	**09 25 38.5**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=141,slow=31,SNR=3.3						
KSRS				pP	**pwP**	**09 25 56.2**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=179,slow=9.5,SNR=3.9						
STKA	**Stephens Creek**	**36.21**	**158**	P	**P**	**09 25 43.7**	**+0.4**
STKA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
STKA	**Stephens Creek**	**36.21**	**158**	P	**P**	**09 25 41.2**	**-2.1**
	comp=Z,4.2nm,0.8s,baz=315,slow=11,SNR=7.2						
STKA				PcP	**PcP**	**09 28 07.7**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=350,slow=4.9,SNR=2.8						
STKA	**Stephens Creek**	**36.21**	**158**	P	**P**	**09 25 43.7**	**+0.4**
CD2	**Chengdu**	**36.29**	**326**	P	**P**	**09 25 44.5**	**+0.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
MAJO	**Matsushiro**	**36.39**	**16**⇓	*e*P	**P**	**09 25 47.1**	**+2.3**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MAJO	**Matsushiro**	**36.39**	**16**	P	**P**	**09 25 45.5**	**+0.7**
MAJO				IAmb	IAmb	09 25 50.7	
	comp=Z,7.2nm,0.8s						
MJAR	**Matsushiro Arr**	**36.39**	**16**	P	**P**	**09 25 46.2**	**+1.4**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MJAR	**Matsushiro Arr**	**36.39**	**16**	P	**P**	**09 25 43.3**	**-1.5**
	comp=Z,2.1nm,0.7s,baz=180,slow=9.4,SNR=9.3						
MJAR	**Matsushiro Arr**	**36.39**	**16**	P	**P**	**09 25 46.2**	**+1.4**
BJI	**Beijing**	**39.41**	**347**	P	**P**	**09 26 13.2**	**+3.0**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ARMA	**Armidale**	**39.79**	**145**	P	**P**	**09 26 16.0**	**+2.3**
ARMA				IAmb	IAmb	09 26 16.5	
	comp=Z,24nm,1.4s						
LZH	**Lanzhou**	**40.27**	**331**	*e*P	**P**	**09 26 19.9**	**+2.3**
LZH				pP	pwP	09 26 33.4	-0.5
LZH				sP	sP	09 26 38.8	+0.8
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
HHC	**Hu-ho-hao-te**	**41.37**	**343**	*e*P	**P**	**09 26 30.2**	**+3.7**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**42.69**	**6**	P	**P**	**09 26 37.9**	**+0.8**
USRK	**Ussuriysk Ar.**	**42.69**	**6**	P	**P**	**09 26 36.5**	**-0.5**
	comp=Z,3.7nm,0.7s,baz=192,slow=6.1,SNR=14						
USRK				pP	**sP**	**09 26 57.0**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=187,slow=7.5,SNR=4.0						
USRK	**Ussuriysk Ar.**	**42.69**	**6**	P	**P**	**09 26 37.9**	**+0.8**
GTA	**Gaotai**	**44.85**	**330**	⇑P	**P**	**09 26 54.0**	**-0.7**
GTA				pP	pP	09 27 07.5	-1.4
GTA				sP	sP	09 27 13.2	-2.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,100nm,7.6s						
GTA				LR	LR		
	comp=Z,250nm,17.8s						
GTA				LR	LR		
	comp=Z,180nm,15.5s						
GTA				LR	LR		
	comp=Z,350nm,17.1s						
KLR	**Kul'dur**	**47.66**	**5**⇑	*e*P	**P**	**09 27 17.6**	**+1.2**
KLR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN	**Ulaanbaatar**	**49.09**	**343**⇑	*e*P	**P**	**09 27 28.5**	**+0.8**
ULN				pmax	pmax		
	comp=Z,11nm,2.5s						
ULN	**Ulaanbaatar**	**49.09**	**343**	P	**P**	**09 27 28.7**	**+1.1**
ULN				IAmb	IAmb	09 27 30.7	
	comp=Z,8.0nm,1.4s						
SONM	**Songino Array**	**49.26**	**342**	P	**P**	**09 27 28.8**	**-0.1**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**49.26**	**342**	P	**P**	**09 27 28.2**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=155,slow=8.3,SNR=12						
SONM				pP	**sP**	**09 27 48.7**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=167,slow=7.2,SNR=3.6						
SONM	**Songino Array**	**49.26**	**342**	P	**P**	**09 27 28.8**	**-0.1**
WMQ	**Urumqi**	**54.39**	**326**	*e*P	**P**	**09 28 09.8**	**+2.7**
WMQ				pmax	pmax		
	comp=Z,18nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,82nm,6.5s						
WMQ				LR	LR		
	comp=Z,430nm,29.0s						
WMQ				LR	LR		
	comp=Z,1μm,29.3s						
WMQ				LR	LR		
	comp=Z,200nm,29.2s						
PETK	**Petropavlovsk-**	**57.44**	**22**	P	**P**	**09 28 27.7**	**-1.0**
PETK	**Petropavlovsk-**	**57.44**	**22**	P	**P**	**09 28 28.3**	**-0.4**
	comp=Z,2.1nm,0.5s,baz=182,slow=4.7,SNR=9.2						
PETK				pP	**sP**	**09 28 48.6**	**-0.7**
	comp=Z,4.5nm,0.9s,baz=200,slow=2.9,SNR=2.7						
PETK	**Petropavlovsk-**	**57.44**	**22**	P	**P**	**09 28 27.7**	**-1.0**
MK31	**Makanchi Array**	**59.22**	**326**	P	**P**	**09 28 42.0**	**+0.7**
MK31				pmax	pmax		
	comp=Z,10.0nm,1.3s						
MK31	**Makanchi Array**	**59.22**	**326**	P	**P**	**09 28 42.0**	**+0.7**
MK31				IAmb	IAmb	09 28 55.0	
	comp=Z,9.6nm,1.3s						
MKAR	**Makanchi Array**	**59.22**	**326**	*i* P	**P**	**09 28 40.0**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR	**Makanchi Array**	**59.22**	**326**	P	**P**	**09 28 40.0**	**-1.3**
	comp=Z,3.4nm,0.4s,baz=118,slow=8.5,SNR=43						
MKAR	**Makanchi Array**	**59.22**	**326**	P	**P**	**09 28 39.5**	**-1.8**
TARG	**Taragay, Kyrgy**	**59.24**	**319**	P	**P**	**09 28 41.9**	**-0.1**
TARG				IAmb	IAmb	09 28 50.9	
	comp=Z,2.7nm,0.7s						
KSH	**Kashi**	**59.45**	**316**	P	**P**	**09 28 45.2**	**+2.0**
KDJ	**Kajisay**	**59.84**	**319**	P	**P**	**09 28 45.1**	**-0.8**
KDJ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KDJ	**Kajisay**	**59.84**	**319**	P	**P**	**09 28 45.1**	**-0.8**
KDJ				IAmb	IAmb	09 28 47.3	
	comp=Z,3.7nm,0.7s						
TUWZ	**Tuamarina**	**60.60**	**141**	P	**P**	**09 28 51.1**	**+0.3**
BKZ	**Black Stump Fm**	**61.12**	**137**	P	**P**	**09 28 54.2**	**-0.3**
BKZ				IAmb	IAmb	09 29 06.7	
	comp=Z,8.1nm,0.9s						
AAK	**Ala-Archa**	**61.84**	**319**⇑	*e*P	**P**	**09 29 00.3**	**+0.9**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ZALV	**Zalesovo Beam**	**62.41**	**334**	P	**P**	**09 29 01.8**	**-1.0**
ZALV	**Zalesovo Beam**	**62.41**	**334**	P	**P**	**09 29 00.3**	**-2.5**
	comp=Z,1.0nm,0.3s,baz=144,slow=3.5,SNR=3.9						
ZALV	**Zalesovo Beam**	**62.41**	**334**	P	**P**	**09 29 01.8**	**-1.0**
GAR	**Garm**	**63.26**	**313**	P	**P**	**09 29 09.3**	**+0.4**
KURK	**Kurchatov**	**63.45**	**328**⇑	*e*P	**P**	**09 29 08.5**	**-1.3**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KURK	**Kurchatov**	**63.45**	**328**	P	**P**	**09 29 08.8**	**-0.9**
KKAR	**Karatay Array**	**64.69**	**318**	P	**P**	**09 29 17.2**	**-0.9**
KKAR	**Karatay Array**	**64.69**	**318**	P	**P**	**09 29 17.1**	**-0.9**
BRVK	**Borovoye**	**69.09**	**327**⇓	*e*P	**P**	**09 29 45.2**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**69.09**	**327**	P	**P**	**09 29 46.6**	**+0.8**
BRVK				IAmb	IAmb	09 29 55.5	
	comp=Z,5.0nm,0.8s						
TIXI	**Tiksi**	**69.96**	**1**⇓	*e*P	**P**	**09 29 51.8**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s						
BILL	**Bilibino**	**71.63**	**15**⇑	*e*P	**P**	**09 30 02.4**	**+1.3**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GEYT	**Alibeck**	**72.12**	**309**	P	**P**	**09 30 03.9**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=262,slow=1.0,SNR=2.4						
NRIK	**Noril'sk**	**72.45**	**346**	P	**P**	**09 30 05.4**	**-0.5**
	comp=Z,4.6nm,0.7s,baz=122,slow=5.9,SNR=8.5						
SOCY	**Socotra**	**72.66**	**282**	P	**P**	**09 30 07.1**	**-1.2**
ABKAR	**Akbulak array**	**73.70**	**321**	P	**P**	**09 30 12.6**	**-1.1**
SVE	**Sverdlovsk**	**75.69**	**329**	*e*P	**P**	**09 30 24.7**	**-0.4**
ARU	**Arti**	**76.65**	**328***c*	*i*P	**P**	**09 30 29.5**	**-1.0**
ARU						09 33 18.1	
ARU				S	**S**	**09 40 13.4**	**+0.7**
ARU				SS	**SS**	**09 45 03.3**	**-5.8**
ARU				pmax	pmax		
	comp=Z,27nm,2.4s						
ABPO	**Ambohimpanom**	**80.47**	**251**	P	**P**	**09 30 52.4**	**-0.1**
ABPO	**Ambohimpanom**	**80.47**	**251**	P	**P**	**09 30 52.4**	**-0.1**
RAYN	**Ar Rayn**	**81.19**	**293**	P	**P**	**09 30 55.4**	**-0.7**
RAYN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
RAYN	**Ar Rayn**	**81.19**	**293**	P	**P**	**09 30 55.4**	**-0.7**
VNDA	**Vanda**	**81.35**	**173**	P	**P**	**09 30 57.7**	**+1.9**
VNDA				pmax	pmax		
	comp=Z,14nm,1.2s						
VNDA	**Vanda**	**81.35**	**173**	P	**P**	**09 30 55.9**	**0.0**
	comp=Z,1.1nm,0.3s,baz=319,slow=6.9,SNR=11						
VNDA	**Vanda**	**81.35**	**173**	P	**P**	**09 30 57.7**	**+1.9**
VNDA				IAmb	IAmb	09 31 15.1	
	comp=Z,14nm,1.2s						
MAW	**Mawson**	**81.72**	**200**	P	**P**	**09 30 58.9**	**+1.0**
MAW				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MAW	**Mawson**	**81.72**	**200**	P	**P**	**09 30 56.6**	**-1.3**
	comp=Z,2.1nm,0.7s,baz=74,slow=8.7,SNR=4.6						
MAW	**Mawson**	**81.72**	**200**	P	**P**	**09 30 58.9**	**+1.0**
KIRV	**Kirov**	**81.96**	**329**	P	**P**	**09 30 58.8**	**-0.5**
	comp=Z,8.3nm,0.5s,baz=144,slow=1.9,SNR=4.7						
TTA	**Tatalina**	**82.85**	**27**	P	**P**	**09 31 05.9**	**+1.8**
TTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TTA	**Tatalina**	**82.85**	**27**	P	**P**	**09 31 05.9**	**+1.8**
ZEI	**Tsey**	**83.54**	**313**	*e*P	**P**	**09 31 06.8**	**-1.5**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KBZ	**Khabaz**	**84.33**	**314**	P	**P**	**09 31 10.7**	**-1.2**
	comp=Z,2.2nm,0.8s,baz=171,slow=13,SNR=3.9						
IMAR	**Indian Mountai**	**84.33**	**24**	P	**P**	**09 31 13.4**	**+1.9**
ILAR	**Eielson Array**	**87.07**	**25**	P	**P**	**09 31 24.5**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=240,slow=5.4,SNR=8.1						
ILAR				pP	**pwP**	**09 31 44.2**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=224,slow=6.1,SNR=4.2						
KMBO	**Kilima Mbogo**	**89.37**	**269**	*i* P	**P**	**09 31 39.2**	**+1.8**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.2s						
FINES	**FINESS Array B**	**93.63**	**332**	P	**P**	**09 31 56.3**	**+0.5**
	comp=Z,9.4nm,1.1s,baz=49,slow=5.8,SNR=7.5						
MLR	**Muntele Rosu**	**96.32**	**316**	P	**P**	**09 32 07.6**	**-1.0**
	comp=Z,1.9nm,1.0s,baz=117,slow=6.8,SNR=3.4						
BURAR	**Bucovina Array**	**96.48**	**318**	P	**P**	**09 32 08.1**	**-1.2**
RSSD	**Black Hills**	**115.94**	**38**	PKIKP	**PKiKP**	**09 37 23.0**	**+0.1**
RSSD	**Black Hills**	**115.94**	**38**	PKPdf	**PKiKP**	**09 37 23.0**	**+0.1**
ECSD	**EROS Data Cent**	**120.60**	**35**	PKPdf	**PKPdf**	**09 37 31.6**	**0.0**
SCHQ	**Schefferville**	**122.68**	**9**	PKP	**PKPdf**	**09 37 35.0**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=348,slow=9.3,SNR=5.7						
SCHQ	**Schefferville**	**122.68**	**9**	PKPdf	**PKiKP**	**09 37 35.5**	**+0.1**
TXAR	**Lajitas Array**	**122.99**	**53**	PKIKP	**PKiKP**	**09 37 37.1**	**+0.2**
TXAR	**Lajitas Array**	**122.99**	**53**	PKP	**PKPdf**	**09 37 36.1**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=197,slow=2.5,SNR=6.6						
TXAR	**Lajitas Array**	**122.99**	**53**	PKPdf	**PKiKP**	**09 37 37.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**123.42**	**287**	PKP	**PKPdf**	**09 37 36.7**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=69,slow=2.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**123.42**	**287**		**PKPdf**	**09 37 35.7**	**-2.1**
PLAL	**Pickwick Lake**	**131.25**	**38**	PKPdf	**PKPdf**	**09 37 52.3**	**+0.1**
GBN	**Guysborough**	**132.64**	**8**	PKPdf	**PKiKP**	**09 37 56.2**	**+0.7**
LRAL	**Lakeview Retre**	**133.19**	**40**	PKPdf	**PKiKP**	**09 37 57.5**	**+0.4**
PLCA	**Paso Flores**	**138.07**	**160**	PKIKP	**PKPdf**	**09 38 04.0**	**-0.9**
PLCA	**Paso Flores**	**138.07**	**160**	PKP	**PKPdf**	**09 38 03.9**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=305,slow=2.7,SNR=5.0						
TRQA	**Tornquist**	**142.88**	**169**	PKIKP	**PKPdf**	**09 38 11.5**	**-2.1**
TRQA	**Tornquist**	**142.88**	**169**	PKPdf	**PKPdf**	**09 38 11.6**	**-2.1**
ROC1	**El Roble**	**144.68**	**154**	PKPdf	**PKPdf**	**09 38 17.1**	**-0.1**
GO02	**Mina Guanaco**	**151.85**	**148**	PKPbc	**PKiKP**	**09 38 36.4**	**+0.5**

ISCJB ***01*** *09:23:19.3±0.4, 20°.77S±0°.07×178°.68W±0°.08, h600^{km}, mb3.8/15, Error ellipse: s-maj=11.1km s-min=7.7km az=137.2*

NEIC ***01*** *09:23:19.9±1.7, 20°.7S±0°.1×178°.6W±0°.1, h593^{km}±7^{km}, mb4.1/21*

IDC ***01*** *09:23:22.4±2.3, 20°.82S×178°.65W, h632^{km}±29^{km}, mb3.3/15, mb1 3.5/17, mb1mx3.2/43, mbtmp4.3/17, Error ellipse: s-maj=26.1km s-min=13.0km az=158.0*

ISC 01 09:23:20.0±0.5**, 20°.7S**±0°.1×**178°.61W**±0°.09**, h600**^{km}**, n62,** σ**1^{s}18**/67**, mb3.9**/23**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.30**	**312**	P	**P**	**09 24 48.1**	**+0.3**
AFI	**Afiamalu**	**9.37**	**45**	P	**P**	**09 25 31.4**	**-1.5**
DZM	**Mont Dzumac**	**13.99**	**262**	P	**P**	**09 26 18.7**	**-0.3**
	0.5nm,0.3s,baz=77,slow=18,SNR=8.0						
OUZ	**Omahuta**	**16.03**	**204**	P	**P**	**09 26 39.7**	**+2.2**
URZ	**Urewera**	**17.91**	**191**	P	**P**	**09 26 52.6**	**-2.0**
	0.6nm,0.3s,baz=31,slow=13,SNR=4.0						
URZ	**Urewera**	**17.91**	**191**	P	**P**	**09 26 53.7**	**-0.9**
URZ				IAmb	IAmb	09 26 55.7	
	comp=Z,23nm,1.1s						
BKZ	**Black Stump Fm**	**18.90**	**192**	P	**P**	**09 27 02.0**	**-1.8**
BKZ				IAmb	IAmb	09 27 04.5	
	comp=Z,8.7nm,1.1s						
BFZ	**Birch Farm**	**20.42**	**191**	P	**P**	**09 27 17.1**	**-0.2**
SNZO	**South Karori**	**21.34**	**194**	P	**P**	**09 27 24.4**	**-1.1**
WHZ	**Wether Hill Ro**	**27.47**	**201**	P	**P**	**09 28 20.6**	**+1.0**
CTA	**Charters Tower**	**32.90**	**265**	P	**P**	**09 29 07.2**	**+0.6**
	comp=Z,2.7nm,0.5s,baz=89,slow=10,SNR=5.9						
BBOO	**Buckleboo**	**41.95**	**244**	P	**P**	**09 30 20.3**	**+0.3**
BBOO				IAmb	IAmb	09 30 27.1	
	comp=Z,16nm,1.4s						
JAY	**Jayapura**	**43.55**	**289**	P	**P**	**09 30 33.4**	**+0.7**
	comp=Z,13nm,0.8s,baz=164,slow=19,SNR=4.3						
AS31	**Alice Springs**	**43.92**	**257**	P	**P**	**09 30 36.1**	**+0.7**
AS31				IAmb	IAmb	09 30 36.2	
	comp=Z,1.8nm,0.7s						
ASAR	**Alice Springs**	**43.92**	**257**	P	**P**	**09 30 35.6**	**+0.2**
	comp=Z,4.6nm,0.6s,baz=97,slow=7.5,SNR=55						
ASAR				PcP	**PcP**	**09 32 07.2**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=102,slow=4.0,SNR=5.6						
ASAR				S	**S**	**09 36 21.9**	**-2.7**
	comp=Z,0.9nm,0.8s,baz=95,slow=16,SNR=8.2						
ASAR	**Alice Springs**	**43.92**	**257**	P	**P**	**09 30 35.4**	**0.0**
ASAR					**PcP**	**09 32 08.0**	**+0.2**
WB0	**Warramunga Arr**	**43.98**	**263**	P	**P**	**09 30 35.8**	**-0.1**
WB0				IAmb	IAmb	09 30 36.3	
	comp=Z,4.4nm,0.6s						
WB2	**Warramunga Arr**	**43.99**	**262**	P	**P**	**09 30 36.2**	**+0.2**
WB2				IAmb	IAmb	09 30 36.6	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**44.01**	**262**	P	**P**	**09 30 35.9**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=98,slow=8.0,SNR=22						
WRA	**Warramunga Arr**	**44.01**	**262**	P	**P**	**09 30 35.3**	**-0.8**
FORT	**Forrest**	**48.70**	**247**	P	**P**	**09 31 11.0**	**-0.2**
FORT				IAmb	IAmb	09 31 28.1	
	comp=Z,12nm,0.9s						
KNRA	**Kununurra**	**50.07**	**267**	P	**P**	**09 31 20.7**	**-0.8**
KNRA				IAmb	IAmb	09 31 35.4	
	comp=Z,12nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.43**	**263**	P	**P**	**09 31 38.9**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=97,slow=8.1,SNR=5.1						
FITZ	**Fitzroy Crossi**	**52.43**	**263**	P	**P**	**09 31 39.1**	**+0.7**
SIJI	**Sorong**	**52.73**	**285**	P	**P**	**09 31 41.1**	**+0.4**
	comp=Z,15nm,0.8s,baz=51,slow=2.8,SNR=4.1						
QSPA	**South Pole Qui**	**69.39**	**180**	P	**P**	**09 33 29.7**	**+1.0**
MJAR	**Matsushiro Arr**	**70.01**	**324**	P	**P**	**09 33 32.5**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=92,slow=19,SNR=4.1						
MJAR	**Matsushiro Arr**	**70.01**	**324**	P	**P**	**09 33 33.0**	**+0.3**
PETK	**Petropavlovsk-**	**76.29**	**346**	P	**P**	**09 34 06.6**	**-1.4**
	comp=Z,8.2nm,1.0s,baz=116,slow=3.4,SNR=3.4						
PETK	**Petropavlovsk-**	**76.29**	**346**	P	**P**	**09 34 08.9**	**+0.8**
USRK	**Ussuriysk Ar.**	**78.79**	**326**	P	**P**	**09 34 23.0**	**+1.4**
	comp=Z,1.2nm,0.6s,baz=109,slow=5.8,SNR=4.5						
YBH	**Yreka Blue Hor**	**80.79**	**39**	P	**P**	**09 34 33.8**	**+1.5**
	comp=Z,1.8nm,1.0s,baz=230,slow=15,SNR=3.9						
YBH	**Yreka Blue Hor**	**80.79**	**39**	P	**P**	**09 34 34.0**	**+1.7**
YBH				IAmb	IAmb	09 34 34.9	
	comp=Z,5.9nm,1.4s						
NVAR	**Mina Array Bea**	**81.55**	**44**	P	**P**	**09 34 37.1**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=223,slow=9.0,SNR=5.8						
NVAR	**Mina Array Bea**	**81.55**	**44**	P	**P**	**09 34 37.6**	**+1.1**
KVN	**Kaiserville**	**82.03**	**43**	P	**P**	**09 34 39.8**	**+0.9**
TPNV	**Topopah Spring**	**82.08**	**46**	P	**P**	**09 34 40.3**	**+1.2**
MOD	**Modoc Plateau**	**82.32**	**40**	P	**P**	**09 34 41.4**	**+1.2**
MOD				IAmb	IAmb	09 34 41.9	
	comp=Z,2.5nm,0.9s						
U15A	**North Rim**	**84.50**	**48**	P	**P**	**09 34 52.9**	**+1.5**
U15A				IAmb	IAmb	09 34 53.1	
	comp=Z,1.4nm,0.8s						
TXAR	**Lajitas Array**	**87.64**	**58**	P	**P**	**09 35 06.8**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=205,slow=5.5,SNR=5.9						
TXAR	**Lajitas Array**	**87.64**	**58**	P	**P**	**09 35 07.6**	**+1.6**
ILAR	**Eielson Array**	**88.61**	**13**	P	**P**	**09 35 08.3**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=222,slow=5.8,SNR=8.9						
ILAR	**Eielson Array**	**88.61**	**13**	P	**P**	**09 35 08.8**	**-0.9**
PDAR	**Pinedale Array**	**89.48**	**43**	P	**P**	**09 35 14.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=205,slow=3.3,SNR=6.4						
CMAR	**Chiang Mai Arr**	**89.63**	**290**	P	**P**	**09 35 15.3**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=120,slow=3.6,SNR=4.9						
CMAR	**Chiang Mai Arr**	**89.63**	**290**	P	**P**	**09 35 17.0**	**+1.5**
BVAR	**Borovoye Array**	**118.84**	**320**	PKP	**PKPdf**	**09 41 00.0**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=90,slow=1.4,SNR=4.7						
ARCES	**ARCESS Array B**	**128.99**	**349**	PKP	**PKPdf**	**09 41 18.6**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=299,slow=5.6,SNR=3.9						
AKASG	**Malin Array Be**	**142.88**	**331**	PKP	**PKPdf**	**09 41 42.8**	**-3.2**
	comp=Z,1.1nm,0.5s,baz=44,slow=4.3,SNR=4.6						
AKASG	**Malin Array Be**	**142.88**	**331**		**PKPdf**	**09 41 43.0**	**-3.0**
AKBB	**Malin Array Si**	**142.88**	**331**	PKPdf	**PKPdf**	**09 41 43.1**	**-2.9**
EKA	**Eskdalemuir Ar**	**145.23**	**5**	PKPbc	**PKPdf**	**09 41 50.0**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=346,slow=2.6,SNR=3.2						
BRTR	**Keskin Array B**	**146.53**	**312**	PKPbc	**PKPbc**	**09 41 54.9**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=148,slow=5.8,SNR=4.9						
BRTR	**Keskin Array B**	**146.53**	**312**		**PKPbc**	**09 41 55.6**	**+0.1**
BUR08	**Bucovina Ar. S**	**146.91**	**330**	PKPbc	**PKiKP**	**09 41 57.7**	**-0.4**
BURAR	**Bucovina Array**	**146.93**	**330**	PKPbc	**PKiKP**	**09 41 58.1**	**+0.1**
MLR	**Muntele Rosu**	**148.06**	**326**	PKPbc	**PKPbc**	**09 41 58.7**	**-0.6**
CLL	**Collm**	**148.10**	**346**	PKPbc	**PKPbc**	**09 41 59.5**	**+0.5**
KHC	**Kasperske Hory**	**149.98**	**344**	PKPbc	**PKiKP**	**09 42 04.9**	**+0.6**
KHC				PKPab	**PKPab**	**09 42 13.4**	**+1.3**
GERES	**GERESS Array B**	**150.21**	**344**	PKPbc	**PKPbc**	**09 42 04.1**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=11,slow=2.0,SNR=6.2						
GERES	**GERESS Array B**	**150.21**	**344**		**PKPbc**	**09 42 04.3**	**0.0**
GERES				PKPab	**PKPab**	**09 42 13.4**	**+0.3**
BFO	**Black Forest**	**151.85**	**350**	PKPbc	**PKiKP**	**09 42 08.3**	**+0.2**

MOS ***01*** *09:36:18.4±1.2, 4°.19S×102°.42E, h33^{km}, mb5.0/24, Error ellipse: s-maj=12.8km s-min=6.6km az=110.9*

NEIC ***01*** *09:36:20.3±2.1, 4°.48S±0°.07×102°.18E±0°.06, h49^{km}±4^{km}, mb4.7/44*

IDC ***01*** *09:36:21.8±0.6, 4°.24S×102°.36E, h50^{km}±4^{km}, mb4.3/24, mb1 4.4/25, mb1mx4.2/50, mbtmp4.6/25, Error ellipse: s-maj=20.3km s-min=8.7km az=45.0*

ISCJB ***01*** *09:36:22.5±0.5, 4°.34S±0°.04×102°.37E±0°.04, h76^{km}±3^{km}, mb4.6/59, Error ellipse: s-maj=9.2km s-min=3.4km az=41.3*

DJA ***01*** *09:36:24.1±0.2, 4°S±2°×10°2E±°, h45^{km}±5^{km}, M4.7/16, mb4.7/7, mB5.4/1, MLv4.7/16, Mw(mB)4.8/1*

ISC 01 09:36:21.5±0.5**, 4°.39S**±0°.05×**102°.30E**±0°.04**, h55**^{km}±3^{km}**, n248,** σ**1^{s}44**/265**, mb4.8**/67**, 9C-8D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.66**	**87**	P	**Pn**	**09 36 36.1**	**+1.1**
MNAI				S	**Sn**	**09 36 45.0**	**+0.2**
MNAI	**Manna**	**0.66**	**87**		**Pn**	**09 36 36.1**	**+1.1**
MNAI				Sn	**Sn**	**09 36 46.1**	**+1.4**
MASI	**Maura Aman, Be**	**1.24**	**357**	P	**Pn**	**09 36 43.9**	**+1.2**
MASI				S	**Sn**	**09 36 59.8**	**+1.3**
LHSI	**Lahat**	**1.34**	**65**	P	**Pn**	**09 36 45.1**	**+1.1**
LHSI				S	**Sn**	**09 37 01.8**	**+0.9**
LWLI	**Liwa**	**1.86**	**110**	P	**Pn**	**09 36 53.1**	**+1.9**
LWLI				S	**Sn**	**09 37 14.6**	**+1.0**
MDSI	**Maura Dua**	**1.88**	**93**	P	**Pn**	**09 36 52.4**	**+1.2**
MDSI				S	**Sn**	**09 37 14.4**	**+0.6**
KRJI	**Kerinci**	**2.43**	**340**	P	**Pn**	**09 37 01.6**	**+2.7**
KRJI				S	**Sn**	**09 37 30.4**	**+2.8**
KLSI		**2.44**	**97**	P	**Pn**	**09 37 01.1**	**+2.1**
KASI	**Kota Agung**	**2.46**	**117**	P	**Pn**	**09 37 01.0**	**+1.7**
KASI				S	**Sn**	**09 37 28.6**	**+0.4**
PPSI	**Pulau Pagai**	**2.80**	**305**	P	**Pn**	**09 37 07.6**	**+3.8**
PPSI				S	**Sn**	**09 37 39.9**	**+3.5**
PMBI	**Palembang**	**2.87**	**60**	P	**Pn**	**09 37 05.0**	**+0.2**
PMBI	**Palembang**	**2.87**	**60**		**Pn**	**09 37 04.7**	**-0.1**
BLSI	**Bandar Lampung**	**3.09**	**108**	P	Pn	09 37 23.9	+16
SDSI	**Sungai Dareh**	**3.54**	**346**	P	**Pn**	**09 37 17.1**	**+3.0**
PDSI	**Padang**	**3.91**	**332**	P	**Pn**	**09 37 21.5**	**+2.3**
SISI	**Saibi**	**4.42**	**313**	P	**Pn**	**09 37 28.4**	**+2.3**
BKNI	**Bangkinang**	**4.85**	**345**	P	**Pn**	**09 37 34.7**	**+2.7**
BKNI	**Bangkinang**	**4.85**	**345**		**Pn**	**09 37 34.5**	**+2.5**
TPRI	**Tanjung Pinang**	**5.72**	**23**	P	**Pn**	**09 37 47.1**	**+3.1**
LEM	**Lembang**	**5.82**	**115**	P	**Pn**	**09 37 48.9**	**+3.5**
	5.6nm,0.3s,baz=315,slow=19,SNR=4.1						
CISI	**Cisompet, Garu**	**6.33**	**120**	P	**Pn**	**09 37 54.6**	**+2.3**
CISI	**Cisompet, Garu**	**6.33**	**120**		**Pn**	**09 37 52.9**	**+0.6**
MYKOM	**Kota Tinggi**	**6.33**	**14**		**Pn**	**09 37 55.2**	**+2.9**
XMIS	**Christmas Isla**	**6.90**	**151**	Pn	**Pn**	**09 37 57.9**	**-2.3**
KPJI	**Karang Pucung**	**7.22**	**114**	P	Pn	09 38 18.6	+14
GSI	**Gunungsitoli**	**7.37**	**320**	P	**Pn**	**09 38 08.0**	**+1.5**
GSI	**Gunungsitoli**	**7.37**	**320**		**Pn**	**09 38 06.6**	**+0.1**
RPSI	**Rantau Prapat**	**7.80**	**334**	Pn	**Pn**	**09 38 12.2**	**-0.3**
PSI	**Prapat**	**7.90**	**335**	P	**Pn**	**09 38 12.2**	**-1.7**
UGM	**Wanagama**	**8.89**	**114**	Pn	**Pn**	**09 38 30.0**	**+2.5**
STKI	**Sintang**	**10.18**	**64**	P	Pn	09 38 58.2	+13
MLSI	**Meulaboh, Aceh**	**10.42**	**326**	P	**Pn**	**09 38 51.2**	**+2.8**
JAGI	**Jajag, Banyuwa**	**12.46**	**110**	Pn	**Pn**	**09 39 17.3**	**+1.2**
KAPI	**Kappang**	**17.41**	**93**	P	**P**	**09 40 21.7**	**+0.4**
KAPI				pmax	pmax		
	comp=Z,22nm,1.3s						
KAPI	**Kappang**	**17.41**	**93**	P	**P**	**09 40 21.8**	**+0.5**
	comp=Z,3.3nm,0.3s,baz=277,slow=21,SNR=5.5						
KAPI	**Kappang**	**17.41**	**93**	P	**P**	**09 40 21.7**	**+0.4**
TTSI	**Tana Toraja**	**17.54**	**86**	P	**P**	**09 40 27.3**	**+4.6**
BNSI	**Bone**	**17.76**	**91**	P	**P**	**09 40 28.3**	**+3.1**
UBPT	**Khong Chiam**	**19.80**	**9**	P	**Pn**	**09 40 48.7**	**-0.7**
	comp=Z,30nm,0.9s						
UBPT	**Khong Chiam**	**19.80**	**9**	P	**P**	**09 40 47.5**	**0.0**
UBPT				IAmb	IAmb	09 40 49.0	
	comp=Z,35nm,0.9s						
UTHA	**Uthaitani**	**20.02**	**352**	P	**Pn**	**09 40 52.7**	**+0.6**
	comp=Z,15μm,1.0s						
CHAI	**Chaiyaphum**	**20.16**	**359**	P	Pn	09 40 52.9	-0.9
	comp=Z,33μm,0.8s						
BATI	**Baumata**	**21.96**	**106**	P	**P**	**09 41 12.9**	**+2.0**
	comp=Z,12nm,0.3s,baz=297,slow=4.5,SNR=3.2						
BATI				S	**S**	**09 45 11.3**	**+0.9**
	comp=Z,8.9nm,0.3s,baz=324,slow=19,SNR=3.0						

NONG Nongkai 22.33 2 P **P** **09 41 14.1 -0.7**
comp=Z,0.6nm,1.7s
PHRA Phrae 22.84 355 P **P** **09 41 20.7 +0.6**
comp=Z,5.4nm,1.0s
CMAR Chiang Mai Arr 22.94 352 P **P** **09 41 20.8 -0.5**
comp=Z,7.4nm,0.7s,baz=185,slow=8.8,SNR=48
CMAR PcP **PcP** **09 45 12.2 +2.1**
comp=Z,1.1nm,0.3s,baz=206,slow=3.0,SNR=4.4
CMAR Chiang Mai Arr 22.94 352 P **P** **09 41 22.1 +0.8**
CHTO Chiang Mai 23.29 352 P **P** **09 41 24.9 +0.2**
CHTO pmax pmax
comp=Z,9.0nm,1.0s
CHTO Chiang Mai 23.29 352 P **P** **09 41 24.9 +0.2**
SLVN Son La 25.61 3 P **P** **09 41 44.2 -1.7**
FITZ Fitzroy Crossi 26.59 123 P **P** **09 41 54.1 -0.7**
comp=Z,7.0nm,0.8s,baz=277,slow=5.6,SNR=12
FITZ Fitzroy Crossi 26.59 123 P **P** **09 41 55.5 +0.7**
KNRA Kununurra 28.33 115 P **P** **09 42 10.4 +0.1**
KNRA IAmb IAmb 09 42 19.2
comp=Z,6.6nm,0.7s
DGAR Diego Garcia 29.83 263⇓ *eP* **P** **09 42 22.2 -1.6**
DGAR pmax pmax
comp=Z,103nm,1.0s
SHL Shillong 31.45 342 P **P** **09 42 37.5 -0.6**
SHL pmax pmax
comp=Z,9.0nm,0.5s
SHL Shillong 31.45 342 P **P** **09 42 37.5 -0.6**
SHL IAmb IAmb 09 42 38.0
comp=Z,9.4nm,0.5s
H01W3 Cape Leeuwin H 32.26 162 T T 10 16 35.9
baz=338,slow=76,SNR=47
H01W2 Cape Leeuwin H 32.28 162 T T 10 16 44.9
baz=338,slow=76,SNR=58
H01W1 Cape Leeuwin H 32.28 162 T T 10 16 36.9
baz=338,slow=76,SNR=45
ODAN Odare 34.25 336 *eP* **P** **09 43 03.4 +0.8**
TAPN Taplejung 34.56 337 *eP* **P** **09 43 06.5 +1.2**
comp=Z,78nm,0.9s
WB0 Warramunga Arr 34.80 119 P **P** **09 43 07.5 +0.3**
WB0 IAmb IAmb 09 43 08.3
comp=Z,4.5nm,0.8s
WRA Warramunga Arr 34.82 119 P **P** **09 43 07.1 -0.3**
WRA 09 45 40.2
WRA Warramunga Arr 34.82 119 P **P** **09 43 07.7 +0.3**
comp=Z,1.2nm,0.3s,baz=325,slow=12,SNR=39
WRA pP **pP** **09 43 21.7 +0.2**
comp=Z,2.8nm,0.5s,baz=300,slow=9.1,SNR=8.0
WRA PcP **PcP** **09 45 40.6 +0.7**
comp=Z,1.3nm,0.6s,baz=310,slow=2.0,SNR=6.0
WRA Warramunga Arr 34.82 119 P **P** **09 43 07.1 -0.3**
WRA **PcP** **09 45 40.2 +0.4**
WRAB Tennant Creek 34.83 119⇓ *eP* **P** **09 43 08.2 +0.7**
WRAB pmax pmax
comp=Z,15nm,2.5s
WB2 Warramunga Arr 34.83 119 P **P** **09 43 08.0 +0.5**
CD2 Chengdu 35.13 2 P **P** **09 43 11.2 +1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
JIRN Jiri 35.45 335 *eP* **P** **09 43 14.0 +0.9**
PKI Pulchoki 35.71 334 *eP* **P** **09 43 15.8 +0.5**
PKIN Phulchoki 35.72 334 *eP* **P** **09 43 15.8 +0.5**
comp=Z,7.7nm,0.4s
FORT Forrest 35.75 140 P **P** **09 43 16.0 +0.7**
FORT IAmb IAmb 09 43 17.0
comp=Z,19nm,1.1s
GUN Gumba 35.80 335 *eP* **P** **09 43 17.1 +1.0**
comp=Z,64nm,0.5s
DMN Daman 35.88 333 *eP* **P** **09 43 17.4 +0.7**
KKN Kakani 35.96 334 *eP* **P** **09 43 18.0 +0.7**
ASAR Alice Springs 36.00 125 P **P** **09 43 18.6 +1.0**
ASAR 09 45 43.6
ASAR Alice Springs 36.00 125 P **P** **09 43 18.6 +1.0**
comp=Z,3.5nm,0.8s,baz=303,slow=8.2,SNR=35
ASAR PcP **PcP** **09 45 44.7 +1.4**
comp=Z,2.1nm,0.6s,baz=304,slow=2.4,SNR=13
ASAR S **S** **09 48 51.1 -1.7**
comp=Z,1.1nm,1.0s,baz=292,slow=17,SNR=6.5
ASAR ScP **ScP** **09 49 26.6 +1.5**
comp=Z,0.5nm,0.9s,baz=314,slow=3.5,SNR=3.5
ASAR Alice Springs 36.00 125 P **P** **09 43 18.6 +1.0**
ASAR **PcP** **09 45 43.6 +0.3**
AS31 Alice Springs 36.01 125 P **P** **09 43 18.1 +0.5**
GKN Gorkha 36.43 333 *eP* **P** **09 43 22.0 +0.8**
comp=Z,26nm,0.3s
WHN Wuhan 36.60 18 P P 09 43 30.9 +8.5
KOLN Koldanda 36.71 332 *eP* **P** **09 43 24.9 +1.2**
comp=Z,54nm,0.7s
DANN Dangsing 37.12 332 *eP* **P** **09 43 28.2 +0.9**
comp=Z,89nm,0.5s
XAN Xi'an 38.73 9 P **P** **09 43 39.9 -0.6**
XAN pP sP 09 44 08.9 +7.7
XAN pmax pmax
comp=Z,15nm,0.9s
XAN pmax pmax
comp=Z,89nm,3.1s
XAN Xi'an 38.73 9 P **P** **09 43 40.1 -0.4**
XAN pmax pmax
comp=Z,15nm,1.0s
XAN Xi'an 38.73 9 P **P** **09 43 40.1 -0.4**
XAN IAmb IAmb 09 43 40.9
comp=Z,15nm,1.0s
NJ2 Nanjing 39.52 22 *eP* **P** **09 43 50.2 +3.2**
NJ2 pmax pmax
comp=Z,13nm,0.5s
LZH Lanzhou 40.29 2 *eP* **P** **09 43 55.2 +1.6**
LZH pP pP 09 44 06.1 -1.8
LZH sP sP 09 44 11.1 -3.2
LZH pmax pmax
comp=Z,19nm,1.0s
BBOO Buckleboo 42.35 136 P **P** **09 44 06.0 -4.4**
GTA Gaotai 43.64 357 ⇑ P **P** **09 44 20.8 0.0**
GTA pP pP 09 44 31.4 -3.9
GTA sP sP 09 44 35.1 -6.6
GTA PcP **PcP** **09 46 08.0 +0.6**
GTA S **S** **09 50 46.9 +0.2**
GTA sS sS 09 51 05.4 -5.6
GTA SS **SS** **09 54 00.9 -2.8**
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA pmax pmax
comp=Z,230nm,6.8s
GTA LR LR
comp=N,150nm,15.6s
GTA LR LR
comp=E,170nm,16.5s
GTA LR LR
comp=Z,180nm,14.3s
HHC Hu-ho-hao-te 45.81 10 *eP* **P** **09 44 41.6 +3.5**
HHC pmax pmax
comp=Z,4.0nm,1.1s
HHC pmax pmax
comp=Z,7.0nm,5.0s
STKA Stephens Creek 45.86 131 P **P** **09 44 39.2 +0.7**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 45.86 131 P **P** **09 44 39.7 +1.2**
comp=Z,3.3nm,0.6s,baz=306,slow=8.6,SNR=14
STKA pP **pP** **09 44 53.3 +0.3**
comp=Z,5.4nm,0.5s,baz=305,slow=8.9,SNR=7.6
STKA PcP **PcP** **09 46 17.0 +1.9**
comp=Z,2.8nm,0.8s,baz=342,slow=9.6,SNR=1.9
STKA Stephens Creek 45.86 131 P **P** **09 44 39.2 +0.7**
BJT Baijiatuau 46.00 15 IAmb IAmb 09 44 40.2
comp=Z,8.8nm,0.6s
BJI Beijing 46.02 15 ⇑ *iP* **P** **09 44 39.5 0.0**
BJI pmax pmax
comp=Z,12nm,0.7s
NIL Nilore 46.75 326 P **P** **09 44 46.1 +0.6**
NIL pmax pmax
comp=Z,28nm,0.8s
NIL Nilore 46.75 326 P **P** **09 44 46.1 +0.6**
KSRS Korea Array 47.98 28 P **P** **09 44 55.2 +0.3**
comp=Z,1.8nm,0.8s,baz=201,slow=6.7,SNR=6.1
KSRS PcP **PcP** **09 46 24.0 +1.6**
comp=Z,0.6nm,0.5s,baz=213,slow=4.3,SNR=4.3
WMQ Urumqi 49.76 346 *eP* **P** **09 45 10.1 +1.5**
WMQ pP pP 09 45 20.6 -2.6
WMQ pmax pmax
comp=Z,26nm,0.9s
WMQ pmax pmax
comp=Z,120nm,5.1s
WMQ LR LR
comp=N,360nm,28.8s
WMQ LR LR
comp=E,910nm,29.3s
WMQ LR LR
comp=Z,200nm,27.5s
KSH Kashi 49.98 333 P **P** **09 45 09.6 -0.7**
KSH sP pP 09 45 22.1 -2.9
KSH PP **PP** **09 47 05.3 -0.5**
KSH PcS **PcS** **09 50 19.4 -7.4**
KSH S **S** **09 52 13.4 -3.8**
KSH sS sS 09 52 30.3 -11
KSH Kashi 49.98 333 SS SS 09 55 43.9 -7.0
KSH pmax pmax
comp=Z,640nm,6.2s
KSH LR LR
comp=N,440nm,7.9s
KSH LR LR
comp=E,610nm,6.9s
TARG Taragay, Kyrgy 51.04 336 P **P** **09 45 19.9 +1.2**
TARG IAmb IAmb 09 45 20.7
comp=Z,6.4nm,0.8s
SONM Songino Array 52.13 3 P **P** **09 45 27.5 +1.1**
SONM 09 46 37.4
SONM pmax pmax
comp=Z,16nm,0.8s
SONM Songino Array 52.13 3 P **P** **09 45 26.9 +0.6**
comp=Z,19nm,0.8s,baz=182,slow=8.4,SNR=92
SONM sP **sP** **09 45 45.0 -2.5**
comp=Z,2.1nm,0.6s,baz=182,slow=9.6,SNR=2.2
SONM PcP **PcP** **09 46 37.8 +0.2**
comp=Z,0.9nm,0.5s,baz=192,slow=2.5,SNR=3.7
SONM Songino Array 52.13 3 P **P** **09 45 27.5 +1.1**
SONM **PcP** **09 46 37.4 -0.2**
ULN Ulaanbaatar 52.20 4 *d iP* **P** **09 45 27.7 +0.7**
ULN pmax pmax
comp=Z,15nm,1.0s
ULN Ulaanbaatar 52.20 4 P **P** **09 45 27.6 +0.7**
ULN IAmb IAmb 09 45 28.9
comp=Z,12nm,0.9s
GAR Garm 52.31 329 IAmb IAmb 09 45 28.1
comp=Z,9.5nm,0.7s
BOOM Boomskoye usch 52.44 336 IAmb IAmb 09 45 30.1
comp=Z,10.0nm,0.8s
MJAR Matsushiro Arr 52.75 36 P **P** **09 45 29.2 -1.8**
MJAR pmax pmax
comp=Z,1.0nm,1.0s
MJAR Matsushiro Arr 52.75 36 P **P** **09 45 29.1 -1.9**
comp=Z,3.0nm,0.9s,baz=217,slow=6.7,SNR=8.4
MJAR PcP **PcP** **09 46 40.5 +0.5**
comp=Z,1.3nm,0.8s,baz=212,slow=4.5,SNR=3.2
MJAR Matsushiro Arr 52.75 36 P **P** **09 45 29.2 -1.8**
ARSB Arslanbob 52.79 332 P **P** **09 45 32.5 +1.2**
UCH Uchtor 52.82 334 P **P** **09 45 32.6 +0.6**
SNR=7.1
TKM2 Tokmak 2 52.93 336 P **P** **09 45 33.1 +0.6**
SNR=15
KBK Karagaybulak 52.99 335 P **P** **09 45 33.7 +0.9**
SNR=6.2
AML Almayashu 53.10 334 P **P** **09 45 34.6 +0.6**
SNR=11
AAK Ala-Archa 53.16 335 *ceP* **P** **09 45 35.1 +1.0**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 53.16 335 P **P** **09 45 33.1 -1.0**
comp=Z,2.6nm,0.6s,baz=147,slow=5.2,SNR=7.4
AAK Ala-Archa 53.16 335 P **P** **09 45 33.4 -0.8**
AAK IAmb IAmb 09 45 36.8
comp=Z,3.1nm,0.7s
EKS2 Erkin-Say 53.49 334 P **P** **09 45 37.5 +1.0**
SNR=17
MK31 Makanchi Array 53.95 343 P **P** **09 45 39.8 +0.2**
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK31 Makanchi Array 53.95 343 P **P** **09 45 39.9 +0.2**
MK31 IAmb IAmb 09 45 40.4
comp=Z,9.5nm,0.8s
MKAR Makanchi Array 53.95 343 P **P** **09 45 39.6 0.0**
comp=Z,10nm,0.6s,baz=151,slow=8.4,SNR=66
MKAR pP **pP** **09 45 54.0 -0.5**
comp=Z,2.2nm,0.6s,baz=154,slow=8.7,SNR=3.6
MKAR sP **sP** **09 45 59.9 -0.9**
comp=Z,2.7nm,0.7s,baz=149,slow=7.5,SNR=2.6
USA0B Ussuriysk Arra 55.24 26 P **P** **09 45 48.8 -0.2**
USA0B pmax pmax
comp=Z,13nm,0.9s
USA0B Ussuriysk Arra 55.24 26 P **P** **09 45 48.8 -0.2**
USA0B IAmb IAmb 09 45 49.7
comp=Z,13nm,0.8s
USRK Ussuriysk Ar. 55.24 26 P **P** **09 45 48.8 -0.2**
USRK Ussuriysk Ar. 55.24 26 P **P** **09 45 48.7 -0.3**
comp=Z,9.5nm,0.7s,baz=218,slow=5.6,SNR=29
USRK Ussuriysk Ar. 55.24 26 P **P** **09 45 48.8 -0.2**
KK31 Karatay Array 55.32 332 P **P** **09 45 49.9 +0.3**
KK31 pmax pmax
comp=Z,3.0nm,1.3s
KK31 Karatay Array 55.32 332 P **P** **09 45 49.9 +0.3**
KKAR Karatay Array 55.32 332 P **P** **09 45 49.2 -0.4**
KKAR pmax pmax
comp=Z,3.0nm,1.3s
KKAR Karatay Array 55.32 332 P **P** **09 45 49.2 -0.4**
KKAR Karatay Array 55.32 332 P **P** **09 45 49.8 +0.2**
KKAR IAmb IAmb 09 45 49.9
comp=Z,3.2nm,1.3s
TLY Talaya 55.87 1 ⇓ *iP* **P** **09 45 52.3 -1.1**
TLY pmax pmax
comp=Z,5.0nm,0.9s
TLY Talaya 55.87 1 P **P** **09 45 52.7 -0.7**
comp=Z,2.4nm,0.5s,baz=248,slow=12,SNR=3.5
TLY Talaya 55.87 1 P **P** **09 45 52.4 -1.0**
TLY IAmb IAmb 09 45 55.2
comp=Z,5.1nm,0.9s
KURK Kurchatov 58.55 343 *c iP* **P** **09 46 12.0 -0.3**
KURK pmax pmax
comp=Z,15nm,0.8s
KURK Kurchatov 58.55 343 P **P** **09 46 12.3 0.0**
GEYT Alibeck 58.74 320 P **P** **09 46 12.8 -1.2**
comp=Z,4.7nm,0.8s,baz=142,slow=7.5,SNR=10
KLR Kul'dur 59.22 22 *d iP* **P** **09 46 16.5 -0.5**
KLR pmax pmax
comp=Z,6.0nm,0.8s
ZAA0 Zalesovo Array 59.95 348 P **P** **09 46 20.8 -1.1**
ZALV Zalesovo Beam 59.95 348 P **P** **09 46 21.4 -0.4**
comp=Z,17nm,0.6s,baz=169,slow=4.3,SNR=76
ZALV pP **pP** **09 46 34.8 -2.2**
comp=Z,2.3nm,0.4s,baz=165,slow=7.4,SNR=2.8
YSS Yuzh-Sakhalins 62.33 30 *eP* **P** **09 46 37.5 -0.7**
YSS pmax pmax
comp=Z,20nm,0.8s
BRVK Borovoye 63.28 339⇑ *eP* **P** **09 46 43.7 -0.7**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 63.28 339 P **P** **09 46 44.1 -0.3**
BRVK IAmb IAmb 09 46 44.7
comp=Z,9.1nm,1.1s
ABKAR Akbulak array 64.83 331 P **P** **09 46 54.8 +0.1**
ABKAR Akbulak array 64.83 331 P **P** **09 46 54.6 0.0**
YAK Yakutsk 69.49 13 *eP* **P** **09 47 22.2 -1.7**
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK Yakutsk 69.49 13 P **P** **09 47 23.0 -0.9**
SVE Sverdlovsk 69.76 337⇑ *eP* **P** **09 47 26.4 +0.8**
SVE pmax pmax
comp=Z,21nm,1.1s
ARU Arti 70.31 336 *c iP* **P** **09 47 28.4 -0.6**
ARU 09 50 02.0
ARU S **S** **09 56 40.9 +4.0**
ARU pmax pmax
comp=Z,14nm,1.2s
ARU Arti 70.31 336 P **P** **09 47 27.5 -1.5**
ARU IAmb IAmb 09 47 30.0
comp=Z,14nm,1.1s
ZEI Tsey 70.54 318 *eP* **P** **09 47 32.0 +1.0**
ZEI pmax pmax
comp=Z,6.0nm,0.8s
KBZ Khabaz 71.61 319 P **P** **09 47 38.4 +1.2**
comp=Z,7.1nm,0.9s,baz=119,slow=5.6,SNR=11
KIV Kislovodsk 71.84 319 *eP* **P** **09 47 39.7 +1.0**
KIV pmax pmax
comp=Z,28nm,1.1s
NRIK Noril'sk 74.27 355 P **P** **09 47 51.7 -0.7**
comp=Z,6.6nm,0.8s,baz=167,slow=6.4,SNR=7.3
BKZ Black Stump Fm 74.99 129 P **P** **09 47 58.2 +0.8**
KIRV Kirov 75.50 334 P **P** **09 48 00.5 +0.8**
comp=Z,16nm,0.8s,baz=173,slow=3.6
BR131 Keskin Array S 76.62 312 P **P** **09 48 07.1 +0.4**
BR131 pmax pmax
comp=Z,3.0nm,0.9s
BR131 Keskin Array S 76.62 312 P **P** **09 48 07.1 +0.4**
BRTR Keskin Array B 76.62 312 *ceP* **P** **09 48 07.3 +0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 76.62 312 P **P** **09 48 06.8 +0.1**
comp=Z,3.7nm,1.0s,baz=145,slow=7.9,SNR=12
TIXI Tiksi 77.86 8⇓ *eP* **P** **09 48 11.4 -1.4**
TIXI pmax pmax
comp=Z,11nm,2.5s
TIXI Tiksi 77.86 8 P **P** **09 48 11.0 -1.8**
TIXI IAmb IAmb 09 48 12.0
comp=Z,7.5nm,1.1s
PRGR Permogore 78.77 336 *eP* **P** **09 48 17.1 -0.9**
PRGR pmax pmax
comp=Z,13nm,0.5s
OBN Obninsk 80.02 328⇓ *eP* **P** **09 48 25.6 +0.7**
OBN pmax pmax
comp=Z,60nm,2.5s
AKASG Malin Array Be 82.77 322 *ceP* **P** **09 48 40.0 +0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 82.77 322 P **P** **09 48 39.8 +0.2**
comp=Z,1.2nm,0.7s,baz=96,slow=4.3,SNR=4.6
AKASG Malin Array Be 82.77 322 P **P** **09 48 39.8 +0.2**
AKBB Malin Array Si 82.77 322 P **P** **09 48 40.1 +0.5**
AKBB pmax pmax
comp=Z,1.0nm,0.7s
AKBB Malin Array Si 82.77 322 P **P** **09 48 40.1 +0.5**
MLR Muntele Rosu 83.60 317 P **P** **09 48 45.9 +1.7**
MLR pmax pmax
comp=Z,10.0nm,1.1s
MLR Muntele Rosu 83.60 317 P **P** **09 48 44.8 +0.6**
comp=Z,5.7nm,1.1s,baz=213,slow=1.6,SNR=9.5
MLR Muntele Rosu 83.60 317 P **P** **09 48 45.9 +1.7**
MLR IAmb IAmb 09 48 47.4
comp=Z,10nm,1.1s
BURAR Bucovina Array 84.56 319 P **P** **09 48 51.2 +2.2**
BUR08 Bucovina Ar. S 84.58 319 P **P** **09 48 51.5 +2.4**
BUR08 IAmb IAmb 09 48 52.4
comp=Z,5.9nm,1.0s
BILL Bilibino 84.60 20 *i* P **P** **09 48 49.1 +0.5**
BILL *i* 09 52 01.9
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,195nm,18.0s
PUL Pulkovo 84.81 331⇓ *eP* **P** **09 48 50.8 +1.0**
PUL pmax pmax
comp=Z,74nm,0.7s
KOLS Kolonicke sedl 86.75 319 *eP* **P** **09 49 01.8 +2.1**
KOLS Kolonicke sedl 86.75 319 *eP* **P** **09 49 01.8 +2.1**
FINES FINESS Array B 87.28 332 P **P** **09 49 01.1 -0.9**
FINES FINESS Array B 87.28 332 P **P** **09 49 02.2 +0.2**
comp=Z,17nm,1.2s,baz=112,slow=6.1,SNR=17
FINES FINESS Array B 87.28 332 P **P** **09 49 01.1 -0.9**
VYHS Vyhne 88.93 319 *eP* **P** **09 49 11.7 +1.6**
VYHS Vyhne 88.93 319 *eP* **P** **09 49 11.7 +1.6**
ARCES ARCESS Array B 89.49 340 P **P** **09 49 12.1 -0.2**
ARCES ARCESS Array B 89.49 340 P **P** **09 49 13.1 +0.8**
comp=Z,6.3nm,1.0s,baz=91,slow=5.5,SNR=5.2
ARCES ARCESS Array B 89.49 340 P **P** **09 49 12.1 -0.2**
GERES GERESS Array B 92.35 319 P **P** **09 49 26.0 -0.2**
GERES GERESS Array B 92.35 319 P **P** **09 49 27.5 +1.3**
comp=Z,0.8nm,0.9s,baz=99,slow=8.2,SNR=4.5
GERES GERESS Array B 92.35 319 P **P** **09 49 26.0 -0.2**
CLL Collm 92.95 321 *eP* **P** **09 49 26.0 -2.7**
CLL Collm 92.95 321 *eP* **P** **09 49 26.0 -2.7**
NC405 NORSAR Array S 94.09 331 P **P** **09 49 30.9 -3.0**
NC602 NORSAR Array S 94.17 330 P **P** **09 49 30.2 -3.9**
NVAR Mina Array Bea 129.92 42 PKP **PKiKP** **09 55 26.3 -0.2**
comp=Z,0.3nm,0.6s,baz=320,slow=0.8,SNR=3.3
NVAR Mina Array Bea 129.92 42 **PKPdf** **09 55 25.3 -0.4**
PDAR Pinedale Array 132.46 32 PKP **PKPdf** **09 55 30.8 +0.4**
comp=Z,0.2nm,0.6s,baz=225,slow=2.3,SNR=2.8
PDAR Pinedale Array 132.46 32 **PKPdf** **09 55 30.1 -0.3**
CPUP Villa Florida 143.64 212 PKIKP PKPab 09 55 48.4 +0.7
CPUP Villa Florida 143.64 212 PKP PKPbc 09 55 49.9 +1.4
comp=Z,1.8nm,0.9s,baz=190,slow=4.7,SNR=3.6
CPUP pPKP pPKPdf 09 56 05.7 -1.7
comp=Z,3.2nm,0.9s,baz=120,slow=4.0,SNR=4.7
CPUP Villa Florida 143.64 212 PKPab 09 55 48.4 +0.7
WMOK Wichita Mounta 144.03 30 PKIKP PKPbc 09 55 49.6 +0.1
WMOK Wichita Mounta 144.03 30 PKPdf PKPbc 09 55 49.6 +0.1
CCM Cathedral Cave 144.28 18 PKIKP **PKPab** **09 55 49.5 -0.3**
CCM Cathedral Cave 144.28 18 PKPdf **PKPab** **09 55 49.5 -0.3**
O54A Avella 144.29 4 PKPdf PKPbc 09 55 50.7 +0.6
TUL1 Leonard 144.47 26 PKPdf **PKPab** **09 55 50.6 +0.1**
BDFB Brasilia 144.50 235 PKIKP **PKPdf** **09 55 54.6 +1.6**
BDFB Brasilia 144.50 235 PKP **PKPdf** **09 55 54.3 +1.3**
comp=Z,3.7nm,0.6s,baz=183,slow=1.0,SNR=6.1
BDFB pPKP **pPKPdf** **09 56 09.7 +0.4**
comp=Z,4.2nm,0.6s,baz=132,slow=7.8,SNR=4.5
BDFB Brasilia 144.50 235 PKPdf **PKPdf** **09 55 54.6 +1.6**
MVL Millersville 144.53 358 PKPdf PKPbc 09 55 51.3 +0.5
X34A Smith Ranch, M 144.61 29 **PKPab** **09 55 51.0 -0.1**
MGMO Mountain Grove 144.76 20 **PKPab** **09 55 50.6 -1.0**
P53A Whipple 144.90 5 **PKPab** **09 55 51.5 -0.5**
HHAR Hobbs 144.92 23 PKPbc **PKPab** **09 55 51.6 -0.6**
TX31 Lajitas Ar. Si 145.07 42 **PKPab** **09 55 53.3 +0.2**
TX32 Lajitas Array 145.07 42 **PKPbc** **09 55 53.2 +0.1**
TXAR Lajitas Array 145.07 42 PKIKP **PKPbc** **09 55 53.0 -0.1**
TXAR 09 56 08.8
TXAR Lajitas Array 145.07 42 PKP **PKPdf** **09 55 53.7 +0.1**
comp=Z,4.2nm,0.7s,baz=289,slow=1.4,SNR=65
TXAR pPKP pPKPab 09 56 08.8 -0.3
comp=Z,0.8nm,0.6s,baz=232,slow=1.1,SNR=4.5
TXAR Lajitas Array 145.07 42 **PKPbc** **09 55 53.0 -0.1**
Q51A Peebles 145.15 8 **PKPbc** **09 55 52.1 -0.8**
SIUC Southern Illin 145.20 16 **PKPbc** **09 55 52.9 -0.1**
ABTX Abilene, Hawle 145.21 34 **PKPbc** **09 55 52.8 -0.5**
U40A Yellville 145.27 22 **PKPbc** **09 55 52.2 -1.2**
WCI Wyandotte Cave 145.42 12 PKIKP **PKPbc** **09 55 53.2 -0.6**
WCI Wyandotte Cave 145.42 12 **PKPbc** **09 55 53.2 -0.6**
Q54A Coxs Mills 145.45 4 **PKPbc** **09 55 53.4 -0.4**
R49A Shelbyville 145.58 10 **PKPdf** **09 55 53.6 -0.5**
PBMO Poplar Bluff 145.71 18 **PKPdf** **09 55 53.7 -0.6**
R50A Paris 145.73 9 **PKPdf** **09 55 54.0 -0.3**
FCAR Ozark Folk Cen 145.95 21 **PKPdf** **09 55 54.7 -0.1**
LCAR Lake Charles 146.12 20 **PKPab** **09 55 56.6 -0.1**
WHAR Wooly Hollow 146.42 22 **PKPdf** **09 55 56.1 +0.6**
S51A Beattyville 146.47 8 **PKPdf** **09 55 56.2 +0.6**
MIAR Mount Ida 146.57 24 PKP2 **PKPbc** **09 55 57.4 0.0**
MIAR Mount Ida 146.57 24 **PKPbc** **09 55 57.4 0.0**
JCT Junction City 146.71 36 PKP2 **PKPbc** **09 55 58.0 0.0**
JCT Junction City 146.71 36 **PKPbc** **09 55 58.0 0.0**
WVT Waverly 147.06 15 PKP2 **PKPbc** **09 55 58.5 -0.3**
WVT Waverly 147.06 15 **PKPbc** **09 55 58.5 -0.3**
435B Jarrell 147.75 33 **PKPdf** **09 55 59.2 +1.2**
PLAL Pickwick Lake 148.08 16 **PKPdf** **09 55 59.6 +1.2**
V53A Saluda 148.52 8 **PKPbc** **09 56 02.4 -0.4**
X48A Hartselle 148.86 15 **PKPbc** **09 56 02.4 -1.2**
Y49A Blount Mountai 149.58 14 **PKPbc** **09 56 05.0 -0.4**

THR **01** *09:44:55.3,31.13N×56.37E,h14km,ML3.4*
TEH **01** *09:44:56.6,31.25N×56.37E,h10km,ML3.7*
ISCJB **01** *09:44:57.5±0.4,31.24N±0.04×56.36E±0.04,h11km,Error ellipse: s-maj=6.1km s-min=5.0km az=20.0*
ISC 01 09:44:55.7±0.9,31.15N±0.03×56.37E±0.03,h11km,n36,
σ1s94/35,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KHGB	**Koh Gabri**	**0.78**	**173**	*e*Pg	**Pb**	**Pb**	**09 45 12.1**	**+0.8**
KHGB					IAMB	IAmb	09 45 28.3	
comp=Z,0.0nm,0.2s								
IBAF	**Bafgh**	**0.81**	**303**	*e*Pg	**Pg**	**Pg**	**09 45 10.0**	**-1.4**
IBAF					IAMB	IAmb	09 45 22.4	
comp=Z,17μm,0.2s								
TVBK	**TV Kerman**	**1.21**	**164**	*e*Pn	**Pg**	**Pg**	**09 45 20.5**	**+1.6**
TVBK					IAMB	IAmb	09 45 22.3	
comp=Z,0.0nm,0.3s								
KRBR	**Kerman**	**1.21**	**164**	*e*Pg	**Pn**	**Pn**	**09 45 17.4**	**-1.4**
KRBR	**Kerman**	**1.21**	**164**	*e*Pg	**Pn**	**Pn**	**09 45 17.4**	**-1.4**
IMEH	**Mehriz**	**1.52**	**280**	*e*Pn	**Pn**	**Pn**	**09 45 23.6**	**+0.6**
IMEH					IAMB	IAmb	09 45 46.5	
comp=Z,7μm,0.4s								
NGRK	**Negar Kerman**	**1.53**	**168**	*e*Pn	**Pg**	**Pg**	**09 45 26.3**	**+1.2**
NGRK					IAMB	IAmb	09 45 27.6	
comp=Z,0.0nm,0.3s								
CHMN	**Cheshme madani**	**1.63**	**141**	*e*Pn	**Pg**	**Pg**	**09 45 27.5**	**+0.5**
CHMN					IAMB	IAmb	09 45 55.9	

	comp=Z,0.0nm,0.4s						
TPRV	Parvadeh(Tabas	1.90	8	ePn	Pn	09 45 28.7	+0.6
TPRV				IAMB	IAmb	09 45 56.7	
	comp=Z,0.0nm,0.4s						
YZKH	Yazd	1.96	310	ePn	Pb	09 45 30.4	-0.9
YZKH	Yazd	1.96	310	eAML	AML	09 46 00.2	
	comp=N,276nm,0.4s						
YZKH	Yazd	1.96	310	ePn	Pb	09 45 30.4	-0.9
ICHK	Chekchek	2.00	304	ePn	Pb	09 45 31.7	-0.4
ICHK				IAMB	IAmb	09 46 01.2	
	comp=Z,4µm,0.4s						
ISAD	Sadrabad	2.41	289	ePn	Pb	09 45 38.1	-1.2
ISAD				IAMB	IAmb	09 46 17.8	
	comp=Z,2µm,0.3s						
BSRN	Basiran	2.49	70	ePn	Pn	09 45 37.9	+1.6
BSRN	Basiran	2.49	70	eSg	Sg	09 46 13.7	-2.1
BSRN	Basiran	2.49	70	ePn	Pn	09 45 38.0	+1.6
TABS	Tabas	2.57	14	ePn	Pn	09 45 38.9	+1.5
TABS	Tabas	2.57	14	eSg	Sg	09 46 16.3	-2.1
TABS	Tabas	2.57	14	ePn	Pn	09 45 38.9	+1.5
IKOO	Kooshah	2.58	60	ePn	Pb	09 45 40.6	-1.5
IKOO				IAMB	IAmb	09 46 21.8	
	comp=N,4µm,0.4s						
ITEG	Tejag	2.67	49	ePn	Pn	09 45 39.8	+1.0
ITEG				IAMB	IAmb	09 46 29.0	
	comp=Z,2µm,0.4s						
ANAR	Anarak	3.02	313	ePn	Pn	09 45 45.5	+1.9
ANAR				IAMB	IAmb	09 46 35.5	
	comp=Z,0.0nm,0.6s						
NHDN	Nehbandan	3.16	85	ePn	Pn	09 45 48.6	+3.1
NHDN				IAMB	IAmb	09 46 44.1	
	comp=Z,0.0nm,0.4s						
AFRZ	Afriz	3.19	44	ePn	Pn	09 45 47.3	+1.4
AFRZ				IAMB	IAmb	09 46 54.8	
	comp=Z,0.0nm,0.8s						
ISRV	Sarvestan	3.32	239	ePn	Pb	09 45 52.8	-1.9
IDAH	Dahanechah	3.37	61	ePn	Pn	09 45 51.7	+3.2
IDAH				IAMB	IAmb	09 46 53.0	
	comp=N,2µm,0.6s						
IRAM	Ramesheh	3.47	282	ePn	Pn	09 45 51.9	+2.1
NIAN	Nian	3.60	173	ePn	Pb	09 45 56.8	-2.5
IZEF	Zefreh	3.85	298	ePn	Pn	09 45 57.3	+2.3
KLNJ	Kolanjah	4.10	269	ePn	Pn	09 46 01.8	+3.2
KRSH	Karshahi	4.55	309	ePn	Pn	09 46 06.7	+2.1
IKLH	Kolahrood	4.60	299	ePn	Pn	09 46 08.0	+2.6
IANJ	Anjilo	4.77	335	ePn	Pn	09 46 09.8	+2.1
GHVR	GHOM	5.41	309	ePn	Pn	09 46 19.0	+2.6
GHVR	GHOM	5.41	309	ePn	Pn	09 46 19.0	+2.6

*NAO **01** 09:48:16.9±1.7, 60°.67N×1°.82E, h5km±15km, ML2.6*
*LDG **01** 09:48:17.6±0.2, 60°.70N×1°.44E, h10km, Ml3.8/15, Error ellipse: s-maj=4.7km s-min=2.5km az=139.0*
*BER **01** 09:48:19.4±1.3, 60°.74N×1°.69E, h10km, ML3.0, MW3.0, ML3.4(BGS), Confirmed Earthquake*
*IDC **01** 09:48:20.6±3.6, 60°.80N×1°.64E, h35km±40km, mb3.2/2, mb1 3.8/8, mb1mx3.4/43, mbtmp3.7/8, ML3.5/5, MS3.6/1, Ms1 3.6/1, ms1mx2.7/27, Error ellipse: s-maj=24.7km s-min=18.6km az=149.0*
*BGS **01** 09:48:20.6±0.4, 60°.73N×1°.69E, h24km±6km, ML3.4*
*UPP **01** 09:48:24.6±2.9, 60°.48N×2°.48E, h0km, ML2.6, Suspected explosion*

ISC 01 09:48:18.2±1.9**, 60°.71N**±0°.04×**1°.73E**±0°.03**, h30**km±17km**, n155,** σ1s.99/214**, 2C-6D, North Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUE	Sulen	1.52	75⇓	iP	Pn	09 48 45.0	+1.7
SUE				eS	Sn	09 49 02.8	+0.7
SUE				IAML		09 49 05.0	
	comp=Z,175nm,0.2s						
LRW	Lerwick	1.55	250	eP	Pn	09 48 45.0	+1.3
LRW				eS	Sn	09 49 03.2	+0.4
LRW				IAML		09 49 13.6	
	comp=E,373nm,0.3s						
LRW				IAML		09 49 14.5	
	comp=N,275nm,0.4s						
LRW	Lerwick	1.55	250	eP	Pn	09 48 45.0	+1.3
LRW				eS	Sn	09 49 03.2	+0.4
LRW				IAML		09 49 13.6	
	comp=E,373nm,0.3s						
LRW				IAML		09 49 14.5	
	comp=N,275nm,0.4s						
LRW	Lerwick	1.55	250	eP	Pn	09 48 45.0	+1.3
LRW				eS	Sn	09 49 03.5	+0.6
LRW				IAML		09 49 13.6	
	comp=E,373nm,0.3s						
LRW				IAML		09 49 14.5	
	comp=N,275nm,0.4s						
ASK	Askoy	1.73	96⇓	iP	Pn	09 48 48.3	+2.1
ASK				eS	Sn	09 49 08.6	+1.5
ASK				IAML		09 49 09.6	
	comp=Z,196nm,0.2s						
BER	Bergen	1.81	99	Pg	Pn	09 48 49.5	+2.2
BER				Lg	Lg	09 49 11.1	
BER	Bergen	1.81	99⇓	iP	Pn	09 48 49.4	+2.2
BER				eS	Sn	09 49 10.1	+0.9
BER				IAML		09 49 11.4	
	comp=E,105nm,0.2s						
BER				IAML		09 49 11.4	
	comp=N,166nm,0.3s						
BER	Bergen	1.81	99⇓	iP	Pn	09 48 49.4	+2.2
BER				eS	Sn	09 49 10.1	+0.9
BER				IAML		09 49 11.4	
	comp=E,105nm,0.2s						
BER				IAML		09 49 11.4	
	comp=N,166nm,0.3s						
BER	Bergen	1.81	99⇓	iP	Pn	09 48 49.5	+2.2
BER				eS	Sn	09 49 10.6	+1.4
BER				IAML		09 49 11.4	
	comp=Z,606nm,0.4s						
FOO	Floro	1.84	60	eP	Pn	09 48 49.2	+1.5
FOO				eS	Sn	09 49 10.1	+0.3
FOO				IAML		09 49 11.2	
	comp=E,86nm,0.2s						
FOO				IAML		09 49 11.4	
	comp=N,107nm,0.0s						
FOO	Floro	1.84	60	eP	Pn	09 48 49.2	+1.5
FOO				eS	Sn	09 49 10.1	+0.3
FOO				IAML		09 49 11.2	
	comp=E,86nm,0.2s						
FOO				IAML		09 49 11.4	
	comp=N,107nm,0.0s						
FOO	Floro	1.84	60⇓	iP	Pn	09 48 49.2	+1.5
FOO				eS	Sn	09 49 10.2	+0.3
FOO				IAML		09 49 11.9	
	comp=Z,346nm,0.2s						
HYA	Hoyanger	2.22	76⇑	iP	Pn	09 48 55.0	+2.0
HYA				eS	Sn	09 49 21.0	+1.6
KMY	Karmoy	2.32	129	e	Pn	09 48 52.1	-2.2
KMY				eP	Pb	09 48 57.7	-1.6
KMY				eS	Sn	09 49 23.3	+1.5
KMY				IAML		09 49 27.3	
	comp=Z,324nm,0.3s						
ODD1	Odda	2.57	106	eP	Pn	09 49 00.2	+2.4
ODD1				eS	Sn	09 49 29.8	+1.9
ODD1				IAML		09 49 31.4	
	comp=Z,181nm,0.2s						
BLS5	Blasjo	2.70	117	eP	Pn	09 49 02.2	+2.6
BLS5				eS	Sn	09 49 32.1	+0.9
BLS5				IAML		09 49 35.2	
	comp=Z,179nm,0.1s						
AKN	Aaknes	2.93	57	Pn	Pn	09 49 05.0	+2.3
AKN				Sn	Sn	09 49 37.2	+0.4
AKN	Aaknes	2.93	57	Pn	Pn	09 49 05.0	+2.3
AKN				Sn	Sn	09 49 37.2	+0.4
AKN				IAML		09 49 38.5	
	comp=Z,148nm,0.1s						
SKAR	Skarslia	3.23	88	eP	Pn	09 49 09.9	+3.0
SKAR				eS	Sn	09 49 45.5	+1.1
SKAR				IAML		09 49 59.0	
	comp=Z,57nm,0.4s						
MOL	Molde	3.35	54	eP	Pn	09 49 11.0	+2.6
MOL				eS	Sn	09 49 47.0	-0.1
MOL				IAML		09 49 51.0	
	comp=Z,50nm,0.2s						
MLA1	Latheron	3.54	229	eP	Pn	09 49 12.7	+1.6
MLA1	Latheron	3.54	229	eP	Pn	09 49 12.7	+1.6
MLA1	Latheron	3.54	229	eP	Pn	09 49 12.7	+1.6
BIGH	Upper Bighouse	3.63	235	eP	Pn	09 49 13.9	+1.7
BIGH				IAML		09 49 55.4	
	comp=N,84nm,0.3s						
BIGH				IAML		09 49 55.7	
	comp=E,157nm,0.3s						
BIGH	Upper Bighouse	3.63	235	eP	Pn	09 49 13.9	+1.7
BIGH				IAML		09 49 55.4	
	comp=N,84nm,0.3s						
BIGH				IAML		09 49 55.7	
	comp=E,157nm,0.3s						
BIGH	Upper Bighouse	3.63	235	eP	Pn	09 49 13.9	+1.7
BIGH				IAML		09 49 55.4	
	comp=N,84nm,0.3s						
BIGH				IAML		09 49 55.7	
	comp=E,157nm,0.3s						
SNART	Snartemo	3.67	128	eP	Pn	09 49 15.7	+2.9
SNART				eS	Sn	09 49 55.8	+0.8
SNART				IAML		09 50 00.1	
	comp=Z,90nm,0.2s						
DOMB	Dombas	3.77	66	eP	Pn	09 49 17.3	+3.0
DOMB				eS	Sn	09 49 57.4	-0.3
DOMB				IAML		09 49 59.2	
	comp=Z,81nm,0.2s						
MCD	Coleburn Disti	4.05	221	eP	Pn	09 49 19.9	+1.8
MCD				IAML		09 50 04.6	
	comp=N,114nm,0.3s						
MCD				IAML		09 50 06.3	
	comp=E,122nm,0.3s						
MCD	Coleburn Disti	4.05	221	eP	Pn	09 49 19.9	+1.8
MCD				IAML		09 50 04.6	
	comp=N,114nm,0.3s						
MCD				IAML		09 50 06.3	
	comp=E,122nm,0.3s						
MCD	Coleburn Disti	4.05	221	eP	Pn	09 49 19.9	+1.8
MCD				IAML		09 50 04.6	
	comp=N,114nm,0.3s						
MCD				IAML		09 50 06.3	
	comp=E,122nm,0.3s						
KON	Kongsberg	4.07	102	Pn	Pn	09 49 20.5	+2.1
KON				Sn	Sn	09 50 05.2	+0.2
KONO	Kongsberg	4.07	102	eP	Pn	09 49 20.5	+2.1
KONO				eS	Sn	09 50 05.1	+0.2
KONO				IAML		09 50 10.2	
	comp=Z,17nm,0.2s						
HOMB	Homborsund	4.23	122	eP	Pn	09 49 23.3	+2.7
HOMB				eS	Sn	09 50 09.1	+0.2
HOMB				IAML		09 50 12.2	
	comp=Z,59nm,0.2s						
DRUM	Mains of Drumt	4.39	212	eP	Pn	09 49 24.7	+1.9
DRUM				eS	Sn	09 50 10.7	-2.2
DRUM				IAML		09 50 12.8	
	comp=E,99nm,0.2s						
DRUM				IAML		09 50 13.6	
	comp=N,128nm,0.4s						
DRUM	Mains of Drumt	4.39	212	eP	Pn	09 49 24.7	+1.9
DRUM				eS	Sn	09 50 10.7	-2.2
DRUM				IAML		09 50 12.8	
	comp=E,99nm,0.2s						
DRUM				IAML		09 50 13.6	
	comp=N,128nm,0.4s						
DRUM	Mains of Drumt	4.39	212	eP	Pn	09 49 24.7	+1.9
DRUM				eS	Sn	09 50 10.7	-2.2
DRUM				IAML		09 50 12.8	
	comp=E,99nm,0.2s						
DRUM				IAML		09 50 13.6	
	comp=N,128nm,0.4s						
SOFL	Sornfelli, Far	4.40	292	eS	Sn	09 50 10.5	-2.6
NBO00	NORSAR Array S	4.44	82	eP	Pn	09 49 26.0	+2.6
NBO00				eS	Sn	09 50 14.3	+0.3
NC204	NORSAR Array S	4.44	79⇑	iP	Pn	09 49 25.7	+2.2
NC204				eS	Sn	09 50 13.5	-0.5
NC204				IAML		09 50 17.0	
	comp=Z,53nm,0.1s						
NAO01	NORSAR Array S	4.49	84	eP	Pn	09 49 26.5	+2.4
NAO01				eS	Sn	09 50 15.5	+0.2
NAO01				IAML		09 50 35.0	
	comp=Z,46nm,0.6s						
MDO	Dochfour	4.54	226	eP	Pn	09 49 26.4	+1.6
MDO	Dochfour	4.54	226	eP	Pn	09 49 26.4	+1.6
MDO	Dochfour	4.54	226	eP	Pn	09 49 26.4	+1.6
NB2	NORSAR Subarra	4.65	82	Pn	Pn	09 49 28.2	+1.8
	baz=273,slow=12						
NB2				Sn	Sn	09 50 18.8	-0.5
	baz=271,slow=22						
NB2	NORSAR Subarra	4.65	82	Pn	Pn	09 49 28.2	+1.8
	baz=273,slow=12						
NB2				Sn	Sn	09 50 18.8	-0.5
	baz=271,slow=22						
NOA	NORSAR Array B	4.65	82	Pn	Pn	09 49 27.8	+1.4
	comp=Z,0.6nm,0.3s,baz=264,slow=11,SNR=76						
NOA				Sn	Sn	09 50 15.3	-3.9
	comp=Z,0.7nm,0.3s,baz=348,slow=2.3,SNR=3.5						
NRA0	NORESS Array S	4.82	85	Pn	Pn	09 49 30.6	+2.0
	baz=288,slow=12						
NRA0				Sn	Sn	09 50 22.4	-1.0
	baz=280,slow=22						
NRA0	NORESS Array S	4.82	85	Pn	Pn	09 49 30.6	+2.0
	baz=288,slow=12						
NRA0				Sn	Sn	09 50 22.4	-1.0
	baz=280,slow=22						
KAC	Achnashellach	4.84	231	eP	Pn	09 49 29.8	+0.8
KAC	Achnashellach	4.84	231	eP	Pn	09 49 29.8	+0.8
KAC	Achnashellach	4.84	231	eP	Pn	09 49 29.8	+0.8
EDU	Dundee	4.85	213	eP	Pn	09 49 30.7	+1.6
EDU	Dundee	4.85	213	eP	Pn	09 49 30.7	+1.6
EDU	Dundee	4.85	213	eP	Pn	09 49 30.7	+1.6
STRU	Stroemstad	5.05	105	eP	Pn	09 49 33.5	+1.7
STRU				eS	Sn	09 50 27.7	-1.4
KPL	Plockton	5.09	232	eP	Pn	09 49 33.2	+0.8
KPL				eS	Sn	09 50 26.7	-3.4
KPL				IAML		09 50 29.2	
	comp=N,29nm,0.2s						
KPL				IAML		09 50 30.9	
	comp=E,21nm,0.4s						
KPL	Plockton	5.09	232	eP	Pn	09 49 33.2	+0.8
KPL				eS	Sn	09 50 26.7	-3.4
KPL				IAML		09 50 29.2	
	comp=N,29nm,0.2s						
KPL				IAML		09 50 30.9	
	comp=E,21nm,0.4s						
KPL	Plockton	5.09	232	eP	Pn	09 49 34.0	+1.6
KPL				eS	Sn	09 50 26.6	-3.4
KPL				eS	Sn	09 50 26.7	-3.4
KPL				IAML		09 50 29.2	
	comp=N,29nm,0.2s						
KPL				IAML		09 50 30.9	
	comp=E,21nm,0.4s						
INVG	Invergeldie, C	5.25	218	eP	Pn	09 49 35.9	+1.4
INVG	Invergeldie, C	5.25	218	eP	Pn	09 49 35.9	+1.4
INVG	Invergeldie, C	5.25	218	eP	Pn	09 49 35.9	+1.4
ESY	Stoneypath	5.32	207	eP	Pn	09 49 37.1	+1.6
ESY	Stoneypath	5.32	207	eP	Pn	09 49 37.1	+1.6
ESY	Stoneypath	5.32	207	eP	Pn	09 49 37.1	+1.6
EDI	Edinburgh	5.45	210	eP	Pn	09 49 39.5	+2.2
EDI				eS	Sn	09 50 37.8	-1.1
EAB	Aberfoyle	5.54	218	eP	Pn	09 49 40.0	+1.4
EAB	Aberfoyle	5.54	218	eP	Pn	09 49 40.0	+1.4
EAB	Aberfoyle	5.54	218	eP	Pn	09 49 40.0	+1.4
EBL	Broad Law	5.55	209	eP	Pn	09 49 40.6	+1.9
EBL	Broad Law	5.55	209	eP	Pn	09 49 40.6	+1.9
EBL	Broad Law	5.55	209	eP	Pn	09 49 40.6	+1.9
TJOU	Tjoern	5.73	114	P	Pn	09 49 43.1	+2.1
TJOU				S	Sn	09 50 44.1	-1.6
MUD	Monsted U'grnd	5.77	134	i P	Pn	09 49 45.6	+3.9
MUD	Monsted U'grnd	5.77	134	i P	Pn	09 49 45.6	+3.9
LAWE	Loch Awe, Argy	5.82	223	eP	Pn	09 49 43.0	+0.7
LAWE				eS	Sn	09 50 44.1	-3.9
LAWE				IAML		09 50 46.5	
	comp=N,45nm,0.7s						
LAWE				IAML		09 50 47.2	
	comp=E,36nm,0.3s						
LAWE	Loch Awe, Argy	5.82	223	eP	Pn	09 49 43.0	+0.7
LAWE				eS	Sn	09 50 44.1	-3.9
LAWE				IAML		09 50 46.5	
	comp=N,45nm,0.7s						
LAWE				IAML		09 50 47.2	
	comp=E,36nm,0.3s						
LAWE	Loch Awe, Argy	5.82	223	eP	Pn	09 49 43.0	+0.7
LAWE				eS	Sn	09 50 44.1	-3.9
LAWE				IAML		09 50 46.5	
	comp=N,45nm,0.7s						
LAWE				IAML		09 50 47.2	
	comp=E,36nm,0.3s						
HFS	Hagfors	5.96	90	Pn	Pn	09 49 46.0	+1.8
	baz=278,slow=14						
HFS				Sn	Sn	09 50 49.6	-1.8
	baz=287,slow=22						
HFS	Hagfors	5.96	90	Pn	Pn	09 49 46.0	+1.8
	comp=E,1.7nm,0.3s,baz=279,slow=11,SNR=49						
HFS				Sn	Sn	09 50 49.5	-1.8
	comp=E,4.1nm,0.3s,baz=280,slow=24,SNR=9.7						
HFS				Lg	Lg	09 51 31.2	
	comp=E,2.8nm,0.3s,baz=280,slow=26,SNR=3.9						
HFS	Hagfors	5.96	90	Pn	Pn	09 49 46.0	+1.8
	baz=278,slow=14						
HFS				Sn	Sn	09 50 49.6	-1.8
	baz=287,slow=22						
EKA	Eskdalemuir Ar	5.98	208	Pn	Pn	09 49 46.4	+1.7
EKA				Sn	Sn	09 50 50.1	-1.9
EKA	Eskdalemuir Ar	5.98	208	Pn	Pn	09 49 46.0	+1.4
	baz=14,slow=13,SNR=310						
EKA				Sn	Sn	09 50 49.9	-2.2
	baz=19,slow=24,SNR=10						
EKA	Eskdalemuir Ar	5.98	208	Pn	Pn	09 49 46.4	+1.7
EKA				Sn	Sn	09 50 50.1	-1.9
EDMD	Edmundbyers	6.22	200	eP	Pn	09 49 49.2	+1.4
EDMD	Edmundbyers	6.22	200	eP	Pn	09 49 49.2	+1.4
EDMD	Edmundbyers	6.22	200	eP	Pn	09 49 49.2	+1.4
ONAU	Onsala	6.22	118	P	Pn	09 49 50.3	+2.5
ONAU				S	Sn	09 50 55.6	-2.1
BORU	Boraas	6.46	114	P	Pn	09 49 53.0	+1.8
BORU				S	Sn	09 51 00.4	-3.3
BORU	Boraas	6.46	114	i P	Pn	09 49 53.1	+2.0
BORU				i S	Sn	09 51 00.8	-2.9
FKPU	Falk	6.63	107	P	Pn	09 49 56.0	+2.5
FKPU				S	Sn	09 51 07.2	-0.7
NRAU	Nora	6.75	94	P	Pn	09 49 57.7	+2.6
FABU	Falkenberg	6.80	118	P	Pn	09 49 58.1	+2.2
FABU	Falkenberg	6.80	118	i P	Pn	09 49 58.4	+2.6
FABU				i S	Sn	09 51 08.8	-3.3
ASKU	Askersund	6.86	100	P	Pn	09 49 58.9	+2.3
GNOU	Gnosjoe	7.09	114	P	Pn	09 50 02.0	+2.2
COP	Copenhagen	7.57	127	i P	Pn	09 50 07.2	+0.9
COP				e		09 51 28.8	
COP	Copenhagen	7.57	127	eP	Pn	09 50 07.3	+0.9
COP				e		09 51 28.9	
DEL	Delary	7.63	118	i P	Pn	09 50 09.9	+2.7
DEL				eS	Sn	09 51 28.9	-3.7
LUNU	Lund	8.01	124	i P	Pn	09 50 14.4	+2.0
LUNU				eS	Sn	09 51 37.3	-4.6
BSD	Bornholm Skovb	8.97	123	i P	Pn	09 50 27.4	+1.8
BSD				e		09 52 00.5	
BSD	Bornholm Skovb	8.97	123	i P	Pn	09 50 27.5	+1.8
BSD				e		09 52 00.6	
BSD				IAML		09 52 33.5	
	comp=Z,3.6nm,0.4s						
LOF	Lofoten	9.01	29	eP	Pn	09 50 24.9	-1.2
BAIF	Baives	10.77	171	ePn	Pn	09 50 49.8	-0.4
BAIF				eSn	Sn	09 52 42.3	-7.2
	comp=Z,2.3nm,0.5s						
GIVF	Givet	10.78	169	ePn	Pn	09 50 49.5	-0.8
GIVF				eSn	Sn	09 52 41.4	-8.3
	comp=Z,3.3nm,0.3s						
JMIC	Jan Mayen	11.11	342	Pn	Pn	09 50 57.4	+2.6
	comp=Z,28nm,0.3s,baz=151,slow=14,SNR=3.1						
CLL	Collm	11.32	141	eSn	Sn	09 52 55.0	-8.1
FIA0	FINESS Array S	11.79	76	Pn	Pn	09 51 04.8	+0.6
	baz=276,slow=12						
FIA0	FINESS Array S	11.79	76	Pn	Pn	09 51 04.8	+0.6
	baz=276,slow=12						
FINES	FINESS Array B	11.79	76	Pn	Pn	09 51 04.7	+0.6
	comp=Z,1.1nm,0.3s,baz=280,slow=12,SNR=30						
FINES				Sn	Sn	09 53 08.5	-5.9
	comp=Z,0.4nm,0.3s,baz=277,slow=23,SNR=3.0						
FLN	La Foliniere	12.04	187	ePn	Pn	09 51 06.8	-0.8
	baz=7.4						
FLN				eSn	Sn	09 53 13.2	-7.5
	comp=Z,1.3nm,0.2s						
HEF	Hetta	12.11	41	Pn	Pn	09 51 08.9	+0.4
HEF	Hetta	12.11	41	Pn	Pn	09 51 08.9	+0.4
LDF	La Druitiere	12.19	186	ePn	Pn	09 51 08.2	-1.4
LDF				eSn	Sn	09 53 16.9	-7.4
	comp=Z,3.2nm,0.4s						
MEZF	Maizieres J'vi	12.38	170	ePn	Pn	09 51 11.5	-0.7
	baz=344						
MEZF	Maizieres J'vi	12.38	170	eP	Pn	09 51 17.0	+4.8
PAGF	Fort de Pagny	12.39	168	ePn	Pn	09 51 11.3	-1.1
GRR	Gorron	12.44	188	ePn	Pn	09 51 12.1	-0.9
GRR				eSn	Sn	09 53 23.1	-7.3
	comp=Z,2.8nm,0.3s						
SFTF	Sexfontaines	12.68	170	ePn	Pn	09 51 15.9	-0.4
SFTF				eSn	Sn	09 53 27.4	-8.8
	comp=Z,5.5nm,0.5s						
SGMF	Saint Gilles	12.72	193	ePn	Pn	09 51 16.4	-0.5
SGMF				eSn	Sn	09 53 29.8	-7.6
	comp=Z,0.6nm,0.2s						
CDF	Champ du Feu	12.73	163	ePn	Pn	09 51 15.3	-1.8
CDF				eSn	Sn	09 53 29.1	-8.6
	comp=Z,0.5nm,0.3s						
ROSF	Rostrenen	12.73	195	ePn	Pn	09 51 15.8	-1.2
ROSF				eSn	Sn	09 53 30.5	-7.0
	comp=Z,0.6nm,0.2s						
HAU	Haudompre	13.01	166	ePn	Pn	09 51 20.3	-0.5
QUIF	Quistinic	13.13	195	ePn	Pn	09 51 21.8	-0.6
QUIF				eSn	Sn	09 53 39.1	-8.1
	comp=Z,4.0nm,0.5s						
ARA0	ARCESS Array S	13.25	38	Pn	Pn	09 51 23.2	-0.8
	baz=233,slow=14						
ARA0	ARCESS Array S	13.25	38	Pn	Pn	09 51 23.2	-0.8
	baz=233,slow=14						
ARCES	ARCESS Array B	13.25	38	Pn	Pn	09 51 23.2	-0.7
	comp=Z,0.4nm,0.3s,baz=234,slow=13,SNR=13						
ARCES				Sn	Sn	09 53 42.6	-7.5
	comp=Z,0.3nm,0.3s,baz=233,slow=22,SNR=4.3						
HINF	Hinteralfeld	13.26	165	ePn	Pn	09 51 23.1	-1.1
HYF	Humbligny	13.48	177	ePn	Pn	09 51 26.7	-0.5
LOR	Lormes	13.53	174	ePn	Pn	09 51 27.2	-0.7
	baz=354						
LOR				eSn	Sn	09 53 47.7	-9.3
	comp=Z,2.9nm,0.4s						
SSF	Saint Saulge	13.71	175	ePn	Pn	09 51 29.5	-0.9
GERES	GERESS Array B	13.72	145	Pn	Pn	09 51 32.0	+1.4
	comp=Z,0.1nm,0.3s,baz=340,slow=14,SNR=6.2						
AVF	Avril sur Loir	13.98	175	ePn	Pn	09 51 33.3	-0.7
SMF	Signal de Mont	14.15	174	ePn	Pn	09 51 35.1	-1.2
SMF				eSn	Sn	09 54 03.3	-8.8
	comp=Z,1.4nm,0.3s						
MFF	Saint Martin d	14.18	185	ePn	Pn	09 51 35.0	-1.7
MFF				eSn	Sn	09 54 03.8	-9.0
	comp=Z,2.9nm,0.4s						
BGF	Bois d'Agland	14.19	177	ePn	Pn	09 51 36.0	-1.0
CABF	La Chapelle	14.35	168	ePn	Pn	09 51 37.8	-1.5
CABF	La Chapelle	14.35	168	eP	Pn	09 51 42.7	+3.4
TCF	Toulx Ste Croi	14.45	179	ePn	Pn	09 51 39.7	-0.8
APA0	Apatity Array	15.13	50	P	Pn	09 51 48.4	-1.0
APA0	Apatity Array	15.13	50	P	Pn	09 51 48.4	-1.0
RJF	Les Rejaudoux	15.43	181	ePn	Pn	09 51 52.1	-1.5
LPL	La Plagne	15.51	167	eP	P	09 51 58.6	-0.3
LPG	La Plagne	15.53	167	eP	P	09 51 59.3	+0.1
CAF	Calviac	15.81	179	ePn	Pn	09 51 57.7	-0.8
VIVF	Saint-Julien-l	15.98	172	ePn	Pn	09 52 00.7	+0.1
ORIF	Oris-en-Rattie	16.01	169	ePn	Pn	09 52 01.5	+0.4
LASF	Ste Croix	16.71	175	eP	P	09 52 13.5	+1.5
FRF	La Foret Royal	17.43	168	eP	P	09 52 22.7	+2.8
EPF	Esparros	17.73	183	ePn	Pn	09 52 24.3	+1.7
EPF	Esparros	17.73	183	eP	P	09 52 26.6	+3.3
ETSF	Etsaut	17.89	185	ePn	Pn	09 52 25.9	+1.2
ESDC	Sonseca Array	21.36	192	P	P	09 53 04.9	+2.1
	comp=Z,0.3nm,0.5s,baz=1.5,slow=10,SNR=3.0						
KIRV	Kirov	23.78	74	LR	LR	10 03 50.4	
	comp=Z,158nm,20.6s,baz=69,slow=39						
TORD	Torodi Ar. Bea	47.48	180	P	P	09 56 53.1	+2.9
	comp=Z,0.4nm,0.7s,baz=350,slow=8.9,SNR=4.9						

IDC 01 09:49:05.9±1.6**, 8°.46S×129°.37E, h0**km**, mb3.8**/2**, mb1 3.6**/5**, mb1mx3.5**/36**, mbtmp3.4**/5**, ML3.1**/3**, Error ellipse: s-maj=66.9km s-min=29.1km az=82.0, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.25	200	Pn	Pn	09 51 32.3	-2.1
	0.1nm,0.3s,baz=21,slow=12,SNR=3.3						
FITZ				Sn	Sn	09 53 35.9	+5.9
	0.2nm,0.3s,baz=68,slow=19,SNR=2.9						
WRA	Warramunga Arr	12.39	158	Pn	Pn	09 52 04.4	+0.7
	0.1nm,0.3s,baz=342,slow=12,SNR=6.2						
WRA				Sn	Sn	09 54 33.2	+11
	0.1nm,0.3s,baz=336,slow=22,SNR=4.6						
ASAR	Alice Springs	15.73	165	Pn	Pn	09 52 51.0	+1.9

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.1nm,0.3s,baz=342,slow=12,SNR=4.6						
ASAR				Sn	S	09 55 58.9	-0.7
	0.0nm,0.3s,baz=343,slow=25,SNR=3.2						
MKAR	**Makanchi Array**	**69.11**	**327**	P	P	10 00 14.5	+0.5
	0.4nm,0.7s,baz=110,slow=8.0,SNR=2.9						
ILAR	**Eielson Array**	**94.92**	**25**	P	P	10 02 29.1	-0.8
	0.6nm,1.1s,baz=242,slow=5.8,SNR=3.2						

*ISCJB **01** 10:01:29.6±0.5, 17°.58S±0°.02×178°.42W±0°.02, h515km±5km, mb5.3/102, Error ellipse: s-maj=4.1km s-min=2.7km az=149.8*
*IDC **01** 10:01:30.8±0.4, 17°.56S×178°.36W, h518km±4km, mb4.8/40, mb1 4.8/43, mb1mx4.8/47, mbtmp5.7/43, Error ellipse: s-maj=6.6km s-min=6.3km az=141.0*
*BJI **01** 10:01:31.8±0.0, 17°.15S×177°.97W, h543km, mb5.2/72, mB5.4/45*
*NEIC **01** 10:01:31.7±2.2, 17°.56S±0°.08×178°.29W±0°.08, h534km±4km, mb5.4/395*
*MOS **01** 10:01:32.7±1.1, 17°.45S×178°.43W, h543km, mb5.5/36, Error ellipse: s-maj=8.5km s-min=7.5km az=44.9*
*GCMT **01** 10:01:34.7±0.2, 17°.46S±0°.01×178°.33W±0°.02, h544km±1km, MW5.7/144, Moment Tensor Solution. s144,c254; Duration: 1s8 Moment tensor: Scale 10^{17} Nm; M_{rr}-3.72±.06; $M_{\theta\theta}$2.25±.10; $M_{\phi\phi}$1.46±.09; $M_{r\theta}$-0.53±.10; $M_{\theta\phi}$2.17±.09; $M_{\phi r}$-2.49±.10; Best double couple: $M_0$4.65700×10^{17} NP1:ϕ_s31.00000°, δ62.00000°, λ-110.00000°. NP2:ϕ_s249.00000°, δ34.00000°, λ-58.00000°. Principal axes: T 4.5740, Plg14.0000°, Azm135.0000°; N 0.1550, Plg18.0000°, Azm41.0000°; P -4.7390, Plg67.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 01 10:01:31.8±0.2**, 17°.57S**±0°.03×**178°.26W**±0°.03**, h535**km±2km**, h536**km**:pP-P, n1193,** σ1s**30**/1237**, mb5.4**/260**, 75C-88D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.52**	**267** *c i*P		**P**	**10 02 50.7**	**+1.5**
MSVF	**Nonsavu**	**3.52**	**267**	P	**P**	**10 02 50.7**	**+1.5**
MSVF				S	**S**	**10 03 57.2**	**+5.0**
AFI	**Afiamalu**	**7.23**	**61**	P	**P**	**10 03 19.1**	**-2.5**
	68nm,0.3s,baz=275,slow=15,SNR=85						
AFI				S	**S**	**10 04 45.9**	**-5.6**
	38nm,0.3s,baz=108,slow=20,SNR=7.3						
NIUE	**Niue**	**8.05**	**102**	P	**P**	**10 03 30.0**	**+0.3**
	baz=8.0,SNR=110						
NIUE	**Niue**	**8.05**	**102**	P	**P**	**10 03 30.0**	**+0.3**
NIUE				S	**S**	**10 05 05.3**	**-1.0**
FUNA	**Funafuti**	**9.33**	**344**	P	**P**	**10 03 41.2**	**-1.5**
FUNA				S	**S**	**10 05 32.8**	**+2.6**
RIZ	**Raoul Island**	**11.62**	**179**	P	**P**	**10 04 05.3**	**-1.0**
RIZ				S	**S**	**10 06 15.1**	**+1.6**
RAO	**Raoul Island**	**11.63**	**179**	P	**P**	**10 04 04.8**	**-1.5**
	541nm,0.3s,baz=280,slow=19,SNR=38						
RAO				S	**S**	**10 06 12.8**	**-0.7**
	139nm,0.3s,baz=253,slow=19,SNR=5.1						
RAO	**Raoul Island**	**11.63**	**179**	P	**P**	**10 04 04.5**	**-1.8**
RAO				S	**S**	**10 06 11.7**	**-1.9**
GLKZ	**Green Lake**	**11.64**	**179**	P	**P**	**10 04 05.3**	**-1.1**
GLKZ				S	**S**	**10 06 15.8**	**+2.1**
DZM	**Mont Dzumac**	**15.07**	**250**	*e*P	**P**	**10 04 40.3**	**-2.1**
	286nm,1.2s						
DZM	**Mont Dzumac**	**15.07**	**250**	P	**P**	**10 04 40.5**	**-1.9**
	1.7nm,0.3s,baz=81,slow=14,SNR=27						
DZM				S	**S**	**10 07 16.8**	**-2.6**
	0.6nm,0.3s,baz=114,slow=20,SNR=1.7						
DZM				ScP	**ScP**	**10 11 57.8**	**+2.4**
	0.0nm,0.3s,baz=94,slow=7.7,SNR=4.8						
DZM	**Mont Dzumac**	**15.07**	**250**	P	**P**	**10 04 40.1**	**-2.3**
DZM				IAmb	IAmb	10 04 46.7	
	comp=Z,92nm,0.9s						
DZM				S	**S**	**10 07 19.7**	**+0.2**
KNTN	**Kanton**	**16.05**	**24**	P	**P**	**10 04 51.0**	**-1.4**
NFK	**Norfolk Island**	**17.04**	**225**	P	**P**	**10 05 03.6**	**+2.0**
	baz=17,SNR=8.4						
RAR	**Rarotonga**	**17.81**	**105**	P	**P**	**10 05 09.3**	**+0.5**
RAR				pmax	pmax		
	comp=Z,720nm,1.2s						
RAR	**Rarotonga**	**17.81**	**105**	P	**P**	**10 05 09.9**	**+1.1**
	comp=Z,7.7nm,0.3s,baz=247,slow=9.5,SNR=30						
RAR	**Rarotonga**	**17.81**	**105**	P	**P**	**10 05 09.3**	**+0.5**
OUZ	**Omahuta**	**19.01**	**201**	P	**P**	**10 05 22.3**	**+2.7**
OUZ	**Omahuta**	**19.01**	**201**	P	**P**	**10 05 21.5**	**+2.0**
GRZ	**Great Barrier**	**19.42**	**195**	P	**P**	**10 05 24.2**	**+1.0**
WCZ	**Waipu Caves**	**19.43**	**198**	P	**P**	**10 05 26.4**	**+3.1**
KUZ	**Kuaotunu**	**19.82**	**194**	P	**P**	**10 05 28.1**	**+1.2**
MXZ	**Matakaoa Point**	**20.14**	**188**	P	**P**	**10 05 28.7**	**-1.1**
MXZ	**Matakaoa Point**	**20.14**	**188**	P	**P**	**10 05 28.9**	**-0.8**
MXZ				IAmb	IAmb	10 05 49.8	
	comp=Z,170nm,1.4s						
WMGZ	**Waiomatatini S**	**20.38**	**188**	P	**P**	**10 05 32.0**	**+0.1**
WMGZ				S	S	10 09 14.8	+28
HAZ	**Te Kaha**	**20.41**	**189**	P	**P**	**10 05 31.5**	**-0.6**
PKGZ	**Pakihiroa**	**20.49**	**188**	P	**P**	**10 05 33.8**	**+0.8**
RUGZ	**Raukumara Rang**	**20.63**	**189**	P	**P**	**10 05 33.5**	**-0.8**
TGRZ	**Tauranga**	**20.65**	**192**	P	**P**	**10 05 36.1**	**+1.8**
PUZ	**Puketiti**	**20.65**	**188**	P	**P**	**10 05 33.5**	**-0.9**
OPRZ	**Ohinepanea**	**20.70**	**192**	P	**P**	**10 05 36.1**	**+1.3**
TARA	**Tarawa**	**20.72**	**334**	P	**P**	**10 05 34.3**	**-1.0**
TOZ	**Tahuroa Road**	**20.82**	**194**	P	**P**	**10 05 37.7**	**+1.8**
KARZ	**Kaharoa**	**20.93**	**192**	P	**P**	**10 05 37.6**	**+0.6**
OMRZ	**Omania**	**20.99**	**192**	P	**P**	**10 05 38.3**	**+0.8**
URZ	**Urewera**	**21.00**	**190**	P	**P**	**10 05 35.3**	**-2.2**
	comp=Z,80nm,0.6s,baz=13,slow=1.7,SNR=69						
URZ				S	**S**	**10 08 58.8**	**+2.4**
	comp=Z,13nm,0.8s,baz=37,slow=20,SNR=3.4						
URZ	**Urewera**	**21.00**	**190**	P	**P**	**10 05 35.4**	**-2.2**
URZ	**Urewera**	**21.00**	**190**	P	**P**	**10 05 35.1**	**-2.5**
URZ				IAmb	IAmb	10 05 37.3	
	comp=Z,98nm,0.7s						
MWZ	**Matawai**	**21.01**	**189**	P	**P**	**10 05 35.4**	**-2.2**
CNGZ	**Carnagh Statio**	**21.06**	**188**	P	**P**	**10 05 37.4**	**-0.6**
TKGZ	**Te Karaka**	**21.07**	**189**	P	**P**	**10 05 38.1**	**0.0**
RRRZ	**Republican Roa**	**21.19**	**191**	P	**P**	**10 05 39.2**	**-0.1**
MUGZ	**Murupara**	**21.27**	**191**	P	**P**	**10 05 39.7**	**-0.4**
HRRZ	**Handcock Road**	**21.28**	**192**	P	**P**	**10 05 40.2**	**+0.1**
RIGZ	**Rimuhau**	**21.34**	**189**	P	**P**	**10 05 39.6**	**-1.1**
PRRZ	**Plateau Road**	**21.37**	**192**	P	**P**	**10 05 40.1**	**-0.7**
RTZ	**Ruatahuna**	**21.37**	**190**	P	**P**	**10 05 39.4**	**-1.5**
PRGZ	**Paritu Road**	**21.54**	**188**	P	**P**	**10 05 43.2**	**+0.8**
MTHZ	**Maungataniwha**	**21.63**	**190**	P	**P**	**10 05 38.6**	**-4.7**
RAHZ	**Arahi**	**21.65**	**190**	P	**P**	**10 05 42.0**	**-1.4**
KNZ	**Kokohu**	**21.66**	**189**	P	**P**	**10 05 43.2**	**-0.3**
MRHZ	**Matea Rd**	**21.69**	**191**	P	**P**	**10 05 42.3**	**-1.5**
HIZ	**Hauiti**	**21.71**	**195**	P	**P**	**10 05 46.8**	**+2.8**
HIZ	**Hauiti**	**21.71**	**195**	P	**P**	**10 05 44.8**	**+0.8**
HIZ				IAmb	IAmb	10 05 46.4	
	comp=Z,166nm,1.3s						
MHGZ	**Mahia Peninsul**	**21.76**	**188**	P	**P**	**10 05 44.8**	**+0.5**
RATZ	**Rangitukua**	**21.84**	**193**	P	**P**	**10 05 46.2**	**+1.0**
BKZ	**Black Stump Fm**	**21.99**	**191**	P	**P**	**10 05 44.1**	**-2.5**
BKZ	**Black Stump Fm**	**21.99**	**191**	P	**P**	**10 05 43.9**	**-2.7**
BKZ				IAmb	IAmb	10 05 59.4	
	comp=Z,141nm,1.8s						
ARHZ	**Aropaoanui**	**22.00**	**190**	P	**P**	**10 05 46.1**	**-0.4**
TWVZ	**Taurewa**	**22.11**	**193**	P	**P**	**10 05 47.4**	**-0.2**
WTVZ	**West Tongariro**	**22.12**	**193**	P	**P**	**10 05 47.0**	**-0.8**
MCHZ	**McNeill Hill**	**22.23**	**190**	P	**P**	**10 05 47.7**	**-0.8**
TUVZ	**Tukino**	**22.26**	**193**	P	**P**	**10 05 48.1**	**-0.9**
KWHZ	**Kaweka Forest**	**22.26**	**191**	P	**P**	**10 05 47.5**	**-1.4**
FWVZ	**Far West T-bar**	**22.27**	**193**	P	**P**	**10 05 49.0**	**-0.2**
TRVZ	**Turoa**	**22.31**	**193**	P	**P**	**10 05 48.1**	**-1.5**
VRZ	**Vera Road**	**22.32**	**194**	P	**P**	**10 05 51.1**	**+1.8**
PKVZ	**Pokaka**	**22.34**	**193**	P	**P**	**10 05 49.0**	**-0.6**
MOVZ	**Moawhango**	**22.37**	**192**	P	**P**	**10 05 49.2**	**-0.7**
CKHZ	**Cape Kidnapper**	**22.38**	**189**	P	**P**	**10 05 49.8**	**-0.1**
BHHZ	**Black Hill Sta**	**22.39**	**192**	P	**P**	**10 05 47.6**	**-2.5**
MTVZ	**Mangateitei**	**22.41**	**193**	P	**P**	**10 05 49.9**	**-0.3**
KRHZ	**Kereru**	**22.48**	**191**	P	**P**	**10 05 49.2**	**-1.6**
KAHZ	**Kahuranaki**	**22.54**	**190**	P	**P**	**10 05 50.2**	**-1.2**
KHEZ	**Kahui Hut**	**22.66**	**196**	P	**P**	**10 05 55.7**	**+3.2**
HNR	**Honiara**	**22.66**	**288**	P	**P**	**10 05 53.3**	**+0.5**
	comp=Z,157nm,0.7s,baz=152,slow=1.7,SNR=9.2						
HNR				S	**S**	**10 09 21.0**	**-2.2**
	comp=Z,22nm,0.4s,baz=119,slow=18,SNR=2.5						
HNR	**Honiara**	**22.66**	**288**	P	**P**	**10 05 53.0**	**+0.2**
HNR	**Honiara**	**22.66**	**288**	P	**P**	**10 05 53.5**	**+0.7**
PNHZ	**Pukenui**	**22.77**	**191**	P	**P**	**10 05 52.4**	**-1.1**
PXZ	**Pawanui**	**22.77**	**190**	P	**P**	**10 05 52.0**	**-1.4**
TSZ	**Takapari Road**	**22.96**	**191**	P	**P**	**10 05 53.9**	**-1.2**
DVHZ	**Dannevirke**	**23.15**	**191**	P	**P**	**10 05 55.6**	**-1.3**
ANWZ	**Angora Road**	**23.26**	**190**	P	**P**	**10 05 56.3**	**-1.4**
POWZ	**Post Office Ro**	**23.32**	**192**	P	**P**	**10 05 58.3**	**+0.1**
PRWZ	**Pori Road**	**23.44**	**191**	P	**P**	**10 05 58.9**	**-0.5**
BFZ	**Birch Farm**	**23.51**	**191**	P	**P**	**10 05 58.2**	**-1.8**
BFZ	**Birch Farm**	**23.51**	**191**	P	**P**	**10 05 58.2**	**-1.8**
BFZ				IAmb	IAmb	10 06 12.4	
	comp=Z,197nm,1.8s						
MRZ	**Mangatainoka R**	**23.61**	**192**	P	**P**	**10 05 58.6**	**-2.4**
TIWZ	**Tintock**	**23.67**	**191**	P	**P**	**10 06 02.8**	**+1.4**
CPWZ	**Castlepoint**	**23.74**	**190**	P	**P**	**10 06 02.2**	**+0.2**
HOWZ	**Holdsworth Sta**	**23.86**	**192**	P	**P**	**10 06 01.3**	**-1.7**
MTW	**Mount Morrison**	**24.11**	**192**	P	**P**	**10 06 03.6**	**-1.7**
MSWZ	**Moikau Station**	**24.41**	**192**	P	**P**	**10 06 06.9**	**-1.1**
MSWZ	**Moikau Station**	**24.41**	**192**	P	**P**	**10 06 06.7**	**-1.3**
SNZO	**South Karori**	**24.42**	**193**	P	**P**	**10 06 05.8**	**-2.2**
BHW	**Baring Head**	**24.48**	**193**	P	**P**	**10 06 07.4**	**-1.1**
BHW	**Baring Head**	**24.48**	**193**	P	**P**	**10 06 07.1**	**-1.4**
QRZ	**Quartz Range**	**24.50**	**197**	IAmb	IAmb	10 06 09.5	
	comp=Z,54nm,0.8s						
TUWZ	**Tuamarina**	**24.70**	**194**	P	**P**	**10 06 09.1**	**-1.4**
LHI	**Lord Howe Isla**	**24.80**	**232**	P	**P**	**10 06 12.2**	**+0.6**
LHI				IAmb	IAmb	10 06 33.7	
	comp=Z,147nm,1.2s						
BSWZ	**Blackbirch Sta**	**24.99**	**194**	P	**P**	**10 06 12.9**	**-0.2**
OXZ	**Oxford**	**26.96**	**196**	IAmb	IAmb	10 06 30.0	
	comp=Z,108nm,0.7s						
CRLZ	**Canterbury Las**	**27.04**	**195**		**P**	**10 06 29.1**	**-2.0**
CRLZ				IAmb	IAmb	10 06 49.2	
	comp=Z,133nm,1.3s						
PAE	**Paea**	**27.33**	**95**	*e*P	**P**	**10 06 34.6**	**+0.6**
	comp=Z,89nm,1.3s						
PPT2	**Papeete2**	**27.34**	**94**	*e*P	**P**	**10 06 35.2**	**+1.0**
	comp=Z,440nm,1.5s						
PPT	**Papeete**	**27.34**	**94**	P	**P**	**10 06 35.5**	**+1.3**
	comp=Z,151nm,0.7s,baz=26,slow=1.2,SNR=29						
PPTF	**Pamatai, Papee**	**27.35**	**94**	P	**P**	**10 06 35.5**	**+1.2**
TIAR	**Tiarei**	**27.56**	**94**	*e*P	**P**	**10 06 36.9**	**+0.8**
	comp=Z,126nm,1.3s						
TBI	**Tubuai**	**27.56**	**107**	*e*P	**P**	**10 06 37.4**	**+1.4**
	comp=Z,216nm,0.7s						
RPZ	**Rata Peaks**	**27.58**	**197**	P	**P**	**10 06 34.5**	**-1.5**
	comp=Z,28nm,0.5s,baz=336,slow=2.5,SNR=21						
RPZ	**Rata Peaks**	**27.58**	**197**	IAmb	IAmb	10 06 51.8	
	comp=Z,208nm,1.9s						
TVO	**Taravao**	**27.63**	**95**	*e*P	**P**	**10 06 37.6**	**+0.8**
	comp=Z,160nm,1.4s						
LBZ	**Lake Benmore**	**28.45**	**198**	IAmb	IAmb	10 06 46.9	
	comp=Z,63nm,1.0s						
MEH	**Mehetia**	**28.75**	**95**	*e*P	**P**	**10 06 47.2**	**+0.7**
	comp=Z,48nm,1.2s						
WKZ	**Wanaka**	**29.19**	**199**	IAmb	IAmb	10 06 50.8	
	comp=Z,192nm,1.2s						
PMOR	**Pomariorio Ree**	**29.25**	**89**	*e*P	**P**	**10 06 51.7**	**+0.9**
VAH	**Vaihoa**	**29.46**	**90**	*e*P	**P**	**10 06 53.2**	**+0.5**
	comp=Z,401nm,1.3s						
EIDS	**Eidsvold**	**29.51**	**249**	P	**P**	**10 06 52.1**	**-1.0**
	baz=30,SNR=37						
EIDS	**Eidsvold**	**29.51**	**249**	P	**P**	**10 06 51.8**	**-1.2**
EIDS				IAmb	IAmb	10 06 54.4	
	comp=Z,127nm,0.9s						
ARMA	**Armidale**	**30.23**	**239**	P	**P**	**10 06 59.5**	**+0.2**
	baz=30,SNR=111						
ARMA	**Armidale**	**30.23**	**239**	P	**P**	**10 06 59.3**	**0.0**
ARMA				IAmb	IAmb	10 07 01.8	
	comp=Z,86nm,0.8s						
DCZ	**Deep Cove**	**30.36**	**201**	IAmb	IAmb	10 07 01.9	
	comp=Z,75nm,0.9s						
MGCD	**Mangrove Creek**	**31.60**	**235**	P	**P**	**10 07 11.5**	**+0.6**
	baz=32,SNR=31						
RMQ	**Roma**	**31.76**	**248**	P	**P**	**10 07 12.4**	**0.0**
	baz=32,SNR=104						
KRVT	**Keravat (AS076**	**31.94**	**291**	S	**S**	**10 11 45.2**	**-2.6**
	comp=Z,42nm,0.6s,baz=149,slow=20,SNR=7.8						
CTA	**Charters Tower**	**33.64**	**260**	P	**P**	**10 07 27.8**	**-0.6**
	comp=Z,78nm,0.8s,baz=89,slow=10,SNR=44						
CTA				PcP	**PcP**	**10 09 53.9**	**+0.9**
	comp=Z,23nm,0.9s,baz=76,slow=7.4,SNR=4.3						
CTA				S	S	10 12 04.0	-9.5
	comp=Z,9.4nm,1.1s,baz=67,slow=15,SNR=2.6						
CNB	**Canberra Magne**	**33.74**	**232**	P	**P**	**10 07 29.4**	**+0.3**
	baz=34,SNR=92						
CAN	**Canberra**	**34.02**	**232**	P	**P**	**10 07 31.5**	**+0.1**
CAN				pmax	pmax		
	comp=Z,93nm,1.0s						
CAN	**Canberra**	**34.02**	**232**	P	**P**	**10 07 31.6**	**+0.1**
CAN				IAmb	IAmb	10 07 33.8	
	comp=Z,93nm,1.0s						
YNG	**Young**	**34.10**	**234**	P	**P**	**10 07 32.5**	**+0.5**
	baz=34,SNR=9.7						
PMG	**Port Moresby**	**34.54**	**279** *d i*P		**P**	**10 07 36.3**	**+0.3**
PMG				pmax	pmax		
	comp=Z,1µm,0.8s						
PMG	**Port Moresby**	**34.54**	**279**	P	**P**	**10 07 36.5**	**+0.5**
	comp=Z,244nm,0.8s,baz=81,slow=6.4,SNR=41						
PMG				S	**S**	**10 12 26.2**	**-1.0**
	comp=Z,13nm,0.8s,baz=248,slow=21,SNR=5.9						
PMG	**Port Moresby**	**34.54**	**279**	P	**P**	**10 07 36.2**	**+0.3**
JOHN	**Johnston Islan**	**35.16**	**15**	P	**P**	**10 07 41.6**	**+0.6**
CMSA	**Cobar Meteorol**	**35.44**	**240**	P	**P**	**10 07 43.0**	**-0.3**
	baz=36,SNR=167						
MTSU	**Mount Surprise**	**35.59**	**263**	P	**P**	**10 07 44.1**	**-0.6**
	baz=36,SNR=18						
QLP	**Quilpie**	**35.78**	**249**	P	**P**	**10 07 45.5**	**-0.6**
	baz=36,SNR=50						
MANU	**Manus Island**	**37.11**	**291**	P	**P**	**10 07 57.8**	**+0.5**
TOO	**Toolangi**	**37.49**	**231**	P	**P**	**10 08 00.3**	**+0.2**
	baz=38,SNR=98						
TOO	**Toolangi**	**37.49**	**231**	P	**P**	**10 08 00.5**	**+0.4**
TOO				pmax	pmax		
	comp=Z,425nm,1.3s						
TOO	**Toolangi**	**37.49**	**231**	P	**P**	**10 08 00.5**	**+0.4**
TAOE	**Nuku Hiva Isla**	**38.04**	**82**	*e*P	**P**	**10 08 05.6**	**+0.7**
	comp=Z,318nm,1.4s						
TAOE	**Nuku Hiva Isla**	**38.04**	**82**	P	**P**	**10 08 06.0**	**+1.1**
MOO	**Moorlands**	**38.43**	**222**	P	**P**	**10 08 08.3**	**+0.7**
	baz=39,SNR=7.1						
STKA	**Stephens Creek**	**38.91**	**241**	P	**P**	**10 08 11.9**	**+0.2**
	baz=39,SNR=273						
STKA	**Stephens Creek**	**38.91**	**241**	P	**P**	**10 08 11.9**	**+0.2**
	comp=Z,146nm,0.8s,baz=88,slow=9.4,SNR=301						
STKA	**Stephens Creek**	**38.91**	**241**	P	**P**	**10 08 11.9**	**+0.2**
QIS	**Mount Isa**	**39.86**	**259**	P	**P**	**10 08 18.0**	**-1.5**
	baz=40,SNR=24						
ARPS	**Mount Arapiles**	**39.96**	**233**	P	**P**	**10 08 20.0**	**-0.1**
	baz=40,SNR=35						
HTT	**Hallett**	**41.44**	**239**	P	**P**	**10 08 31.9**	**0.0**
	baz=42,SNR=159						
KHU	**Kahuku**	**42.83**	**32**	P	**P**	**10 08 44.2**	**+1.0**
KHU				pmax	pmax		
	comp=Z,222nm,1.2s						
KHU	**Kahuku**	**42.83**	**32**	P	**P**	**10 08 44.1**	**+1.0**
JAY	**Jayapura**	**42.95**	**286**	P	**P**	**10 08 43.7**	**-0.4**
	comp=Z,44nm,0.5s,baz=132,slow=5.0,SNR=41						
JAY				S	**S**	**10 14 29.4**	**-1.4**
	comp=Z,9.1nm,0.9s,baz=145,slow=12,SNR=2.4						
JAY	**Jayapura**	**42.95**	**286**	P	**P**	**10 08 44.0**	**-0.1**
SDHHI	**Sand Hill**	**43.11**	**33**	IAmb	IAmb	10 08 47.0	
	comp=Z,146nm,1.0s						
MLH	**Mauna Loa**	**43.15**	**32**	P	**P**	**10 08 47.0**	**+1.2**
HMH	**Humu'ula Sheep**	**43.19**	**32**	P	**P**	**10 08 47.1**	**+1.0**
POHA	**Pohakuloa**	**43.30**	**32**	P	**P**	**10 08 48.1**	**+1.2**
HPAH	**Hawaii Prepara**	**43.44**	**32**	P	**P**	**10 08 48.6**	**+0.8**
KIP	**Kipapa**	**43.54**	**28** ⇑ *e*P		**P**	**10 08 50.0**	**+1.6**
KIP				pmax	pmax		
	comp=Z,163nm,1.0s						
BBOO	**Buckleboo**	**43.69**	**241**	P	**P**	**10 08 49.2**	**-0.4**
	baz=44,SNR=469						
BBOO	**Buckleboo**	**43.69**	**241**	P	**P**	**10 08 48.9**	**-0.7**
WR0	**Warramunga Arr**	**44.64**	**259**	IAmb	IAmb	10 08 57.3	
	comp=Z,260nm,1.5s						
WB0	**Warramunga Arr**	**44.80**	**259**	P	**P**	**10 08 56.5**	**-1.8**
WB0				PcP	**PcP**	**10 10 29.5**	**+0.6**
WRAB	**Tennant Creek**	**44.82**	**259** *d i*P		**P**	**10 08 57.0**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,305nm,1.3s						
WRAB	**Tennant Creek**	**44.82**	**259**	P	**P**	**10 08 57.1**	**-1.4**
WRAB				PcP	**PcP**	**10 10 29.1**	**+0.1**
WRA	**Warramunga Arr**	**44.83**	**259**	P	**P**	**10 08 57.0**	**-1.6**
	comp=Z,58nm,0.4s,baz=96,slow=6.9,SNR=98						
WRA				PcP	**PcP**	**10 10 29.5**	**+0.5**
	comp=Z,20nm,0.8s,baz=91,slow=3.7,SNR=11						
WRA				ScP	**ScP**	**10 13 31.0**	**+0.5**
	comp=Z,2.9nm,0.3s,baz=90,slow=4.7,SNR=8.3						
WRA				S	**S**	**10 14 54.0**	**-3.3**
	comp=Z,8.7nm,0.8s,baz=92,slow=14,SNR=10						
WRA	**Warramunga Arr**	**44.83**	**259**	P	**P**	**10 08 56.7**	**-1.9**
WRA				PcP	**PcP**	**10 10 28.7**	**-0.4**
WRA				ScP	**ScP**	**10 13 32.7**	**+2.1**
SMPI	**Sarmi**	**44.99**	**285**	P	**P**	**10 08 59.3**	**-0.5**
AS31	**Alice Springs**	**45.02**	**254**	P	**P**	**10 08 59.2**	**-0.8**
AS31				PcP	**PcP**	**10 10 29.6**	**-0.1**
ASAR	**Alice Springs**	**45.02**	**254**	P	**P**	**10 08 59.3**	**-0.7**
	comp=Z,533nm,0.6s,baz=89,slow=8.0,SNR=9499						
ASAR				PcP	**PcP**	**10 10 29.6**	**0.0**
	comp=Z,24nm,0.9s,baz=89,slow=4.0,SNR=8.2						
ASAR				S	**S**	**10 14 57.0**	**-2.9**
	comp=Z,13nm,0.9s,baz=89,slow=17,SNR=14						
ASAR				PKKP	**PKKPdf**	**10 32 04.3**	**+4.2**
	comp=Z,0.7nm,0.7s,baz=89,slow=8.7,SNR=12						
ASAR	**Alice Springs**	**45.02**	**254**	P	**P**	**10 08 58.5**	**-1.5**
ASAR				PcP	**PcP**	**10 10 28.8**	**-0.9**
SRPI	**Serui, Papua**	**47.31**	**284**	P	**P**	**10 09 17.4**	**-0.1**
KDU	**Kakadu**	**47.70**	**269**	P	**P**	**10 09 19.5**	**-0.9**
	baz=48,SNR=91						
GUMO	**Guam**	**47.78**	**308**	P	**P**	**10 09 21.2**	**+0.3**
GUMO				pmax	pmax		
	comp=Z,295nm,1.0s						
GUMO	**Guam**	**47.78**	**308**	P	**P**	**10 09 20.8**	**-0.1**
	comp=Z,150nm,0.7s,baz=180,slow=2.0,SNR=5.1						
GUMO	**Guam**	**47.78**	**308**	P	**P**	**10 09 21.2**	**+0.3**
RKPI	**Ransiki, Papua**	**49.36**	**284**	P	**P**	**10 09 32.5**	**-0.2**
SAUI	**Saumlaki**	**49.97**	**274**	P	**P**	**10 09 37.4**	**+0.1**
WRKA	**Warakurna**	**50.08**	**252**	P	**P**	**10 09 37.5**	**-0.5**
	baz=50,SNR=676						
FORT	**Forrest**	**50.28**	**244**	P	**P**	**10 09 38.2**	**-1.0**
	baz=50,SNR=198						
FAKI	**Fak Fak**	**50.65**	**281**	P	**P**	**10 09 41.4**	**-0.8**
	comp=Z,134nm,1.7s,comp=Z,3µm						
FAKI	**Fak Fak**	**50.65**	**281**	P	**P**	**10 09 41.4**	**-0.8**
KNRA	**Kununurra**	**50.66**	**264**	P	**P**	**10 09 41.3**	**-0.9**
	baz=51,SNR=190						
KNRA	**Kununurra**	**50.66**	**264**		**S**	**10 16 15.2**	**-2.5**
SIJI	**Sorong**	**52.30**	**283**	S	**S**	**10 16 39.5**	**-0.3**
	comp=Z,2.1nm,0.3s,baz=162,slow=20,SNR=5.8						
SWI	**Sorong**	**52.31**	**283**	P	**P**	**10 09 53.9**	**-0.3**
BNDI	**Bandanaira**	**52.33**	**278**	P	**P**	**10 09 53.8**	**-0.5**
	comp=Z,385nm,1.5s,comp=Z,6µm						
PALU	**Palau**	**52.84**	**294**	P	**P**	**10 09 59.0**	**+1.0**
	baz=53,SNR=13						
FITZ	**Fitzroy Crossi**	**53.22**	**260**	P	**P**	**10 10 00.3**	**-0.4**
	baz=53,SNR=152						
FITZ	**Fitzroy Crossi**	**53.22**	**260**	S	**S**	**10 16 48.6**	**-3.3**
	comp=Z,9.6nm,1.1s,baz=102,slow=20,SNR=7.1						
FITZ	**Fitzroy Crossi**	**53.22**	**260**	P	**P**	**10 10 00.2**	**-0.4**
FITZ				IAmb	IAmb	10 10 01.9	
	comp=Z,441nm,1.6s						
FITZ					**S**	**10 16 51.3**	**-0.5**
MSAI	**Masohi**	**53.63**	**279**	P	**P**	**10 10 02.7**	**-0.9**
AAI	**Ambon**	**54.21**	**278**	P	**P**	**10 10 07.0**	**-0.7**
	comp=Z,219nm,1.4s,comp=Z,4µm						
NLAI	**Namlea**	**55.39**	**278**	P	**P**	**10 10 15.6**	**-0.3**
SOEI	**Soe**	**56.21**	**270**	P	**P**	**10 10 22.6**	**+0.8**
TNTI	**Ternate**	**56.52**	**283**	P	**P**	**10 10 23.5**	**-0.3**
TNTI	**Ternate**	**56.52**	**283**	P	**P**	**10 10 23.3**	**-0.5**
TNTI				IAmb	IAmb	10 10 25.1	
	comp=Z,408nm,1.4s						
BATI	**Baumata**	**56.68**	**269**	S	**S**	**10 17 40.5**	**+3.4**
	comp=Z,9.0nm,0.3s,baz=94,slow=19,SNR=1.9						
BATI	**Baumata**	**56.68**	**269**	P	**P**	**10 10 29.4**	**+4.5**
SANI	**Sanana**	**56.83**	**279**	P	**P**	**10 10 25.1**	**-0.8**
	comp=Z,240nm,1.5s,comp=Z,3µm						
PSA00	**Pilbara Seismi**	**58.13**	**255**	IAmb	IAmb	10 10 35.9	
	comp=Z,212nm,0.8s						
PSA00					**S**	**10 17 54.9**	**-0.5**
MBWA	**Marble Bar**	**58.29**	**256**	P	**P**	**10 10 34.7**	**-1.1**
MBWA				IAmb	IAmb	10 10 37.0	
	comp=Z,165nm,0.8s						
MMRI	**Maumere**	**58.44**	**271**	P	**P**	**10 10 35.8**	**-1.0**
MMRI	**Maumere**	**58.44**	**271**	P	**P**	**10 10 35.6**	**-1.2**
MMRI				PcP	**PcP**	**10 11 21.1**	**+0.6**
MMRI				IAmb	IAmb	10 11 22.6	
	comp=Z,322nm,1.3s						
MEEK	**Meekatharra**	**58.68**	**249**	P	**P**	**10 10 37.3**	**-1.1**
	baz=59,SNR=82						
KLBR	**Kellerberrin**	**59.10**	**243**	P	**P**	**10 10 40.1**	**-1.0**
	baz=59,SNR=77						
KDI	**Kendari**	**59.40**	**276**	P	**P**	**10 10 43.1**	**-0.2**
NWAO	**Narrogin (SRO)**	**59.49**	**242**	P	**P**	**10 10 43.1**	**-0.6**
	baz=60,SNR=18						
NWAO	**Narrogin (SRO)**	**59.49**	**242**	P	**P**	**10 10 43.3**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,323nm,1.4s						
NWAO	**Narrogin (SRO)**	**59.49**	**242**	P	**P**	**10 10 43.3**	**-0.4**
NWAO				IAmb	IAmb	10 10 44.5	
	comp=Z,323nm,1.4s						
NWAO	**Narrogin (SRO)**	**59.49**	**242**	IAmb	IAmb	10 10 44.5	
	comp=Z,260nm,1.4s						
RKGY	**Rocky Gully**	**59.66**	**240**	P	**P**	**10 10 44.7**	**0.0**
	baz=60,SNR=11						
BLDU	**Ballidu**	**60.05**	**244**	P	**P**	**10 10 46.5**	**-0.9**
	baz=60,SNR=37						
LUWI	**Luwuk**	**60.19**	**279**	P	**P**	**10 10 48.7**	**+0.1**
MUN	**Mundaring**	**60.40**	**243**	P	**P**	**10 10 48.9**	**-0.8**
	baz=60,SNR=21						
MORW	**Morawa**	**60.74**	**246**	P	**P**	**10 10 51.0**	**-1.1**
	baz=61,SNR=34						
MORW	**Morawa**	**60.74**	**246**	P	**P**	**10 10 50.8**	**-1.3**
MORW				IAmb	IAmb	10 10 51.8	
	comp=Z,188nm,1.4s						
MORW				PcP	**PcP**	**10 11 29.6**	**0.0**
VNDA	**Vanda**	**60.79**	**185**	P	**P**	**10 10 52.5**	**+1.0**
	comp=Z,16nm,0.8s,baz=356,slow=8.0,SNR=27						
VNDA				PcP	**PcP**	**10 11 29.8**	**+1.0**
	comp=Z,19nm,1.1s,baz=45,slow=7.0,SNR=3.9						
VNDA				S	**S**	**10 18 29.1**	**+2.1**
	comp=Z,4.1nm,1.0s,baz=12,slow=7.8,SNR=2.1						
VNDA	**Vanda**	**60.79**	**185**	P	**P**	**10 10 53.0**	**+1.5**
KCP	**Kidapawan**	**61.04**	**289** ⇓P		**P**	**10 10 54.1**	**-0.1**
KAPI	**Kappang**	**61.81**	**274**	P	**P**	**10 10 58.4**	**-0.8**
KAPI				pmax	pmax		
	comp=Z,140nm,1.2s						
KAPI	**Kappang**	**61.81**	**274**	P	**P**	**10 10 58.4**	**-0.8**
KAPI				IAmb	IAmb	10 11 00.3	
	comp=Z,140nm,1.2s						
H01W1	**Cape Leeuwin H**	**61.97**	**239**	P	**P**	**10 11 01.1**	**+1.4**
	baz=109,slow=5.3,SNR=8.0						
H01W3	**Cape Leeuwin H**	**61.99**	**239**	P	**P**	**10 11 01.2**	**+1.4**
	baz=109,slow=5.3,SNR=9.2						
H01W2	**Cape Leeuwin H**	**61.99**	**239**	P	**P**	**10 11 01.1**	**+1.3**
	baz=109,slow=5.3,SNR=6.9						
PLAI	**Plampang**	**62.64**	**269**	P	**P**	**10 11 03.9**	**-0.7**
GIRL	**Giralia**	**63.12**	**253**	P	**P**	**10 11 08.6**	**+1.0**
	baz=63,SNR=36						
TWSI	**Taliwang, Sumb**	**63.52**	**269**	P	**P**	**10 11 09.3**	**-0.9**
RPN	**Rapa Nui**	**63.78**	**112**	P	**P**	**10 11 12.1**	**+0.3**
	comp=Z,71nm,0.8s,baz=324,slow=1.3,SNR=3.7						
RPN	**Rapa Nui**	**63.78**	**112**	P	**P**	**10 11 11.2**	**-0.6**
RPN				IAmb	IAmb	10 11 48.1	
	comp=Z,227nm,1.4s						
JHJ2	**Mitsune**	**64.37**	**322**	P	**P**	**10 11 15.6**	**+0.3**
JHJ	**Hachijo jima 2**	**64.40**	**322**	P	**P**	**10 11 15.2**	**-0.3**
	comp=Z,91nm,0.4s,baz=152,slow=6.1,SNR=6.5						
IGBI	**Denpasar**	**65.15**	**268**	P	**P**	**10 11 19.8**	**-0.8**
SRBI	**Singaraja**	**65.28**	**269**	P	**P**	**10 11 20.4**	**-1.0**
SMKI	**Samarinda**	**65.64**	**278**	P	**P**	**10 11 25.2**	**+1.5**
BKB	**Balikpapan**	**65.67**	**277**	P	**P**	**10 11 25.4**	**+1.5**
KBKI	**Kotabaru**	**65.73**	**274**	P	**P**	**10 11 24.0**	**-0.3**
JAGI	**Jajag, Banyuwa**	**66.19**	**268**	P	**P**	**10 11 25.0**	**-2.1**
JAGI	**Jajag, Banyuwa**	**66.19**	**268**	P	**P**	**10 11 25.5**	**-1.6**
CASY	**Casey**	**66.50**	**205**	P	**P**	**10 11 28.1**	**+0.1**
KMMI	**Kalianget**	**66.75**	**270**	P	**P**	**10 11 30.5**	**-0.1**
GMJI	**Gumukmas**	**66.92**	**268**	P	**P**	**10 11 30.4**	**-1.2**
MJAR	**Matsushiro Arr**	**67.72**	**323**	P	**P**	**10 11 35.6**	**-0.5**
MJAR				pmax	pmax		
	comp=Z,16nm,1.0s						
MJAR	**Matsushiro Arr**	**67.72**	**323**	P	**P**	**10 11 35.3**	**-0.8**
	comp=Z,41nm,1.0s,baz=150,slow=5.8,SNR=94						
MJAR				pP	**pwP**	**10 13 27.5**	**-0.9**
	comp=Z,7.3nm,1.2s,baz=193,slow=8.7,SNR=2.6						
MJAR				PKPPKP		10 39 53.9	
	comp=Z,6.2nm,1.2s,baz=298,slow=2.7,SNR=6.2						
MJAR	**Matsushiro Arr**	**67.72**	**323**	P	**P**	**10 11 35.6**	**-0.5**
MAJO	**Matsushiro**	**67.73**	**323** *d i*P		**P**	**10 11 35.3**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,67nm,1.0s						
MAJO	**Matsushiro**	**67.73**	**323**	P	**P**	**10 11 35.1**	**-1.0**
MAJO				IAmb	IAmb	10 11 36.9	
	comp=Z,83nm,1.0s						
MAT	**Matsushiro**	**67.73**	**323**	P	**P**	**10 11 35.4**	**-0.7**

MAT S **S** **10 19 50.4 -1.2**
MJB9 Matsu-Tunnel 67.73 323 IAmb IAmb 10 11 36.9
comp=Z,84nm,1.0s
TGY Tagaytay City 67.74 294 P **P** **10 11 37.4 +0.8**
comp=Z,140nm,0.3s,baz=173,slow=4.8,SNR=6.9
SPMM Sapulut 68.09 283 P **P** **10 11 38.0 -0.8**
GRJI Gresik 68.21 269 P **P** **10 11 39.4 -0.1**
PWJI Pagerwojo 68.55 268 P **P** **10 11 40.8 -0.8**
KKM Kota Kinabalu 68.80 284 IAmb IAmb 10 11 44.5
comp=Z,95nm,1.0s
TBJI Tambak Boyo 68.83 269 P **P** **10 11 43.4 +0.1**
NGJI Ngawi 69.05 269 P **P** **10 11 45.4 +0.8**
ADK Adak 69.17 1 P **P** **10 11 43.8 -0.6**
ADK pmax pmax
comp=Z,166nm,1.0s
ADK Adak 69.17 1 P **P** **10 11 43.8 -0.6**
YUK Yuzh-Kuril'sk 69.54 333 *e*P **P** **10 11 44.9 -1.9**
YUK *i* *PP **PP** **10 14 28.9 -1.3**
YUK *i* S **S** **10 20 08.8 -3.3**
YUK *i* SS **SS** **10 24 49.1 -5.3**
YUK pmax pmax
comp=Z,480nm,1.4s
YUK pmax pmax
comp=N,326nm,1.1s
YUK pmax pmax
comp=E,185nm,1.5s
YUK pmax pmax
comp=Z,1μm,1.7s
UGM Wanagama 69.80 268 P **P** **10 11 48.4 -0.7**
JNU Nakatsue 70.00 316 P **P** **10 11 49.4 -0.5**
comp=Z,50nm,1.0s,baz=90,slow=3.4,SNR=16
JNU S **S** **10 20 18.9 +1.0**
comp=Z,6.8nm,1.0s,baz=263,slow=16,SNR=3.0
JNU Nakatsue 70.00 316 IAmb IAmb 10 11 51.0
comp=Z,96nm,1.1s
YOGI Yogyakarta 70.04 268 P **P** **10 11 49.9 -0.7**
SMRI Semarang 70.11 269 P **P** **10 11 51.2 +0.2**
ASAJ Asahikawa 71.05 331 P **P** **10 11 56.9 +1.1**
comp=Z,58nm,0.8s,baz=231,slow=5.8,SNR=27
SBUM Sibu 71.29 279 P **P** **10 11 58.0 +0.1**
KPJI Karang Pucung 71.47 268 P **P** **10 11 58.4 -0.6**
SKR Severo-Kuril's 71.60 343 *e*P P 10 11 52.5 -6.3
SKR *e* 10 14 41.0
SKR *e*S **S** **10 20 33.1 -2.1**
SKR pmax pmax
comp=Z,400nm,6.9s
SKR pmax pmax
comp=Z,156nm,1.0s
SKR pmax pmax
comp=Z,200nm,5.4s
CMJI Cimerak 71.81 267 P **P** **10 11 58.0 -2.9**
UNV Unalaska Valle 71.84 7 IAmb IAmb 10 12 00.2
comp=Z,180nm,1.1s
NACB Ninganchiao 71.85 304 IAmb IAmb 10 12 01.6
comp=Z,173nm,1.1s
SSLB Suanglung 72.17 303 IAmb IAmb 10 12 02.8
comp=Z,121nm,1.5s
TPUB Ta-pu 72.20 302 P **P** **10 12 01.7 -1.3**
TPUB IAmb IAmb 10 12 02.9
comp=Z,118nm,1.0s
AKUT Akutan 72.22 8 P **P** **10 12 01.0 -1.3**
AKUT IAmb IAmb 10 12 03.0
comp=Z,142nm,1.2s
YHNB Yeheng 72.27 304 IAmb IAmb 10 12 04.3
comp=Z,184nm,1.3s
TATO Taipei 72.33 304 P **P** **10 12 03.2 -0.4**
CISI Cisompet, Garu 72.48 267 P **P** **10 12 03.0 -1.9**
QSPA South Pole Qui 72.48 180 pP **pP** **10 13 54.3 -1.0**
comp=Z,9.6nm,1.0s,baz=75,slow=18,SNR=1.2
QSPA S **S** **10 20 46.2 +1.2**
comp=Z,2.6nm,1.0s,baz=55,slow=14,SNR=3.1
QSPA South Pole Qui 72.48 180 P **P** **10 12 04.3 +0.3**
KSM Kuching 72.78 277 P **P** **10 12 07.0 +0.4**
PET Petropavlovsk 73.09 346 *i* P **P** **10 12 07.0 -0.4**
PET *e**SP **sP** **10 14 54.9 +1.0**
PET *e*S S **10 20 51.9 +0.2**
PET *e*SP **ScS** **10 21 25.0 +0.1**
PET pmax pmax
comp=Z,92nm,1.3s
PET pmax pmax
comp=Z,400nm,15.8s
PET pmax pmax
comp=Z,500nm,17.9s
PET Petropavlovsk 73.09 346 P **P** **10 12 06.3 -1.1**
PET IAmb IAmb 10 12 08.0
comp=Z,141nm,1.3s
YSS Yuzh-Sakhalins 73.18 333 *e*P **P** **10 12 07.9 -0.2**
YSS *e* 10 12 20.5
YSS *e* 10 12 01.0
YSS *e*S **S** **10 20 54.1 +1.1**
YSS *e*SS **SS** **10 25 48.7 -0.9**
YSS pmax pmax
comp=Z,900nm,2.6s
YSS pmax pmax
comp=Z,110nm,1.2s
YSS Yuzh-Sakhalins 73.18 333 P **P** **10 12 08.1 0.0**
YSS IAmb IAmb 10 12 10.0
comp=Z,174nm,1.2s
PETK Petropavlovsk- 73.39 345 P **P** **10 12 09.0 -0.2**
PETK Petropavlovsk- 73.39 345 P **P** **10 12 09.0 -0.2**
comp=Z,108nm,0.9s,baz=118,slow=8.0,SNR=63
PETK Petropavlovsk- 73.39 345 P **P** **10 12 08.8 -0.4**
XMIS Christmas Isla 73.75 264 IAmb IAmb 10 12 13.3
comp=Z,215nm,1.2s
SKJI Sukabumi 73.83 268 P **P** **10 12 11.0 -1.6**
TPI Tanjungpandan 74.00 272 P **P** **10 12 13.9 +0.4**
SDPT Sand Point 74.19 10 P **P** **10 12 12.3 -1.3**
SDPT IAmb IAmb 10 12 13.8
comp=Z,206nm,1.1s
TJN Taejon 74.27 317⇑ *e*P **P** **10 12 14.7 +0.2**
SBJI Serang 74.48 268 P **P** **10 12 15.1 -1.1**
KSRS Korea Array 74.55 318 P **P** **10 12 16.6 +0.6**
comp=Z,27nm,1.0s,baz=135,slow=6.2,SNR=58
KSAR Wonju Array Be 74.56 318 P **P** **10 12 16.3 +0.2**
KSAR Wonju Array Be 74.56 318 P **P** **10 12 16.4 +0.2**
QZH Quanzhou 74.61 303⇑ *i*P **P** **10 12 16.9 +0.2**
QZH sP **sP** **10 15 04.5 +0.4**
QZH S **S** **10 21 10.6 +1.0**
QZH pmax pmax
comp=Z,78nm,0.9s
INCN Inchon 75.39 318 P **P** **10 12 21.2 +0.4**
INCN pmax pmax
comp=Z,188nm,1.6s
INCN Inchon 75.39 318 P **P** **10 12 21.2 +0.4**
INCN IAmb IAmb 10 12 22.9
comp=Z,188nm,1.6s
SNCC San Nicolas Is 75.46 48 P **P** **10 12 22.9 +1.6**
baz=237
CHGN Chignik 75.46 11 IAmb IAmb 10 12 21.1
comp=Z,128nm,1.1s
SSE Sheshan 75.64 310 P **P** **10 12 22.4 +0.1**
SSE S **S** **10 21 21.7 +1.3**
SSE sS **sS** **10 24 46.1 +5.4**
SSE pmax pmax
comp=Z,20nm,1.3s
VLA Vladivostok 75.76 325 *d i*P **P** **10 12 22.9 +0.2**
VLA pmax pmax
comp=Z,86nm,1.2s
SCZ2 Santa Cruz Isl 75.78 47 P **P** **10 12 24.7 +1.6**
baz=237,SNR=10
MSHR Mys Shultsa 75.81 324 *de*P **P** **10 12 23.7 +0.7**
SBC Santa Barbara 75.97 47 P **P** **10 12 25.8 +1.7**
baz=237,SNR=5.6
SCI2 San Clemente I 76.01 48 P **P** **10 12 25.7 +1.4**
baz=238,SNR=12
SAO San Andreas Ge 76.09 44 P **P** **10 12 25.6 +0.9**
SAO *PP **pwP** **10 14 20.2 +0.1**
SAO pmax pmax
comp=Z,110nm,1.0s
SAO San Andreas Ge 76.09 44 P **P** **10 12 25.6 +0.9**
SAO IAmb IAmb 10 12 27.3
comp=Z,110nm,1.0s
SAO pwP **pwP** **10 14 20.2 +0.1**
PKM Mcpherson Peak 76.14 46 P **P** **10 12 26.7 +1.4**
baz=237,SNR=16
PMPB Monarch Peak 76.21 45 IAmb IAmb 10 12 28.4
comp=Z,140nm,1.2s
KASI Kota Agung 76.21 269 P **P** **10 12 24.3 -1.6**
KLSI 76.22 269 P **P** **10 12 23.6 -2.4**
BLG Laguna Peak, P 76.24 47 P **P** **10 12 26.8 +1.2**
baz=237
SMMC Simmler 76.25 46 P **P** **10 12 27.4 +1.7**
baz=237,SNR=18
TYV Tymovskoe 76.28 336 *e*P **P** **10 12 25.8 +0.4**
TYV pmax pmax
comp=Z,700nm,3.6s
TYV pmax pmax
comp=Z,168nm,1.2s
PAGB Antelope Grade 76.31 45 IAmb IAmb 10 12 28.9
comp=Z,232nm,1.9s
CIS Catalina Islan 76.33 48 P **P** **10 12 27.2 +1.1**
baz=238,SNR=8.7
HOPS Hopland Field 76.33 41 P **P** **10 12 27.5 +1.5**
HOPS IAmb IAmb 10 12 28.6
comp=Z,112nm,1.2s
USRK Ussuriysk Ar. 76.42 326 P **P** **10 12 27.1 +0.8**
comp=Z,16nm,0.9s,baz=116,slow=4.4,SNR=31
USRK Ussuriysk Ar. 76.42 326 P **P** **10 12 26.6 +0.3**
USA0B Ussuriysk Arra 76.42 326 IAmb IAmb 10 12 28.6
comp=Z,181nm,1.6s
KCPM Cahto Peak 76.43 40 IAmb IAmb 10 12 29.4
comp=Z,118nm,1.2s
FMP Fort Macarthur 76.58 48 P **P** **10 12 28.8 +1.4**
baz=238
KMRM Mail Ridge 76.67 40 IAmb IAmb 10 12 30.9
comp=Z,205nm,1.0s
PMBI Palembang 76.70 271 P **P** **10 12 30.7 +2.1**
OSI Osito Audit: C 76.75 47 P **P** **10 12 29.7 +1.3**
baz=238,SNR=16
LWLI Liwa 76.77 269 P **P** **10 12 29.0 -0.1**
MDSI Maura Dua 76.81 269 P **P** **10 12 27.6 -1.6**
DECC Green Verdugo 76.83 47 P **P** **10 12 29.9 +1.0**
baz=238,SNR=13
ARVC Arvin 76.95 46 P **P** **10 12 30.7 +1.3**
baz=237,SNR=34
109C Camp Elliot, M 77.00 49 P **P** **10 12 31.1 +1.3**
baz=239,SNR=11
109C Camp Elliot, M 77.00 49 P **P** **10 12 31.0 +1.3**
109C pwP **pwP** **10 14 24.7 -0.8**
KHMM Horse Mountain 77.05 39 IAmb IAmb 10 12 33.0
comp=Z,107nm,1.1s
VES Vestal, Richgr 77.16 46 P **P** **10 12 31.7 +1.1**
baz=237,SNR=67
BAR Barrett 77.20 50 P **P** **10 12 32.0 +1.1**
BAR pwP **pwP** **10 14 25.8 -1.0**
O02D Mt. Diablo Mer 77.21 40 P **P** **10 12 32.7 +1.8**
baz=234,SNR=30
VOG Valley Oaks Go 77.22 45 P **P** **10 12 31.9 +1.0**
baz=237
MURC Murrieta 77.30 48 P **P** **10 12 32.7 +1.3**
baz=239,SNR=31
BFSC Mount Baldy Ra 77.30 48 P **P** **10 12 32.4 +0.9**
baz=238,SNR=35
KRMB Red Mountain 77.33 39 IAmb IAmb 10 12 34.6
comp=Z,125nm,1.3s
OHAK Old Harbor 77.38 14 P **P** **10 12 31.3 +0.1**
OHAK IAmb IAmb 10 12 32.5
comp=Z,217nm,1.1s
EDW2 Edwards Air Fo 77.40 47 P **P** **10 12 33.3 +1.3**
baz=238,SNR=124
ISA Isabella, Lake 77.48 46 P **P** **10 12 33.9 +1.4**
baz=238,SNR=93
MONP2 Monument Peak 77.49 49 P **P** **10 12 34.2 +1.5**
baz=239,SNR=123
MONP2 Monument Peak 77.49 49 IAmb IAmb 10 12 35.4
comp=Z,132nm,1.0s
KBO Bosley Butte 77.57 38 IAmb IAmb 10 12 35.8
comp=Z,127nm,1.4s
IKP In-Ko-Pah, Jac 77.60 50 P **P** **10 12 34.7 +1.6**
baz=240,SNR=74
IKP In-Ko-Pah, Jac 77.60 50 IAmb IAmb 10 12 36.0
comp=Z,101nm,1.1s
LHSI Lahat 77.63 270 P **P** **10 12 32.6 -1.0**
N02D Trinity Center 77.73 40 P **P** **10 12 35.2 +1.6**
baz=234,SNR=33
PFO Pinyon Flats O 77.83 49 P **P** **10 12 35.6 +1.2**
baz=239,SNR=31
PFO Pinyon Flats O 77.83 49 P **P** **10 12 35.2 +0.8**
PFO *PP **pwP** **10 14 29.8 -0.7**
PFO pmax pmax
comp=Z,54nm,1.2s
PFO Pinyon Flats O 77.83 49 P **P** **10 12 35.2 +0.8**
PFO pwP **pwP** **10 14 29.8 -0.7**
BBRC Big Bear Solar 77.83 48 P **P** **10 12 35.7 +1.1**
baz=239,SNR=8.2
NJ2 Nanjing 77.84 309 *e*P **P** **10 12 35.0 +0.7**
NJ2 pmax pmax
comp=Z,60nm,0.8s
O03E Paynes Creek 77.89 41 P **P** **10 12 35.4 +0.8**
baz=234,SNR=42
M02C Callahan 77.89 39 P **P** **10 12 36.3 +1.8**
baz=233,SNR=34
L02E Cave Junction 77.90 38 P **P** **10 12 35.9 +1.4**
baz=233,SNR=9.7
KEBM Edson Butte 77.91 37 P **P** **10 12 35.5 +0.9**
WESC Westside Schoo 77.93 50 IAmb IAmb 10 12 37.7
comp=Z,137nm,1.1s
SWSC Sam W. Stewart 77.97 50 P **P** **10 12 36.5 +1.5**
baz=240,SNR=40
SWSC Sam W. Stewart 77.97 50 IAmb IAmb 10 12 37.7
comp=Z,128nm,1.1s
MDJ Mudanjiang 78.00 325 P **P** **10 12 35.0 +0.1**
MDJ S **S** **10 21 48.9 +4.0**
MDJ pmax pmax
comp=Z,160nm,1.1s
MDJ Mudanjiang 78.00 325 IAmb IAmb 10 12 37.2
comp=Z,170nm,1.1s
DLV T Lat 78.04 287 IAmb IAmb 10 12 38.1
comp=Z,196nm,1.3s
KDAK Kodiak Island 78.05 14 P **P** **10 12 34.8 0.0**
comp=Z,181nm,1.1s,baz=189,slow=1.9,SNR=38
KDAK Kodiak Island 78.05 14 P **P** **10 12 34.8 0.0**
RRX Edison Barstow 78.10 47 P **P** **10 12 37.0 +1.3**
baz=239,SNR=10.0
MDPB Devils Postpil 78.14 44 IAmb IAmb 10 12 38.6
comp=Z,121nm,1.0s
DREC Desert Rsrch C 78.16 50 IAmb IAmb 10 12 39.5
comp=Z,163nm,1.0s
CWC Cottonwood Cre 78.17 46 P **P** **10 12 37.5 +1.2**
baz=238
YBH Yreka Blue Hor 78.18 39 pP **pP** **10 14 28.3 -1.0**
comp=Z,2.6nm,1.0s,baz=219,slow=4.7,SNR=1.7
YBH S **S** **10 21 47.7 +0.6**
comp=Z,1.1nm,1.0s,baz=189,slow=4.8,SNR=3.0
K02D Willamette Mer 78.19 38 P **P** **10 12 37.4 +1.3**
baz=232,SNR=18
MLAC Mammoth, Mammo 78.30 44 P **P** **10 12 38.6 +1.6**
baz=237,SNR=46
J01E Myrtle Point 78.32 37 P **P** **10 12 37.8 +1.2**
baz=232,SNR=7.8
BELC Belle Mtn. Jos 78.36 49 P **P** **10 12 38.7 +1.4**
baz=240,SNR=29
MPMC Manual Prospec 78.37 46 P **P** **10 12 38.7 +1.3**
baz=238,SNR=66
WAKR Walker 78.38 43 IAmb IAmb 10 12 40.2
comp=Z,136nm,1.1s
TIN Tinemaha, Big 78.39 45 P **P** **10 12 38.9 +1.5**
baz=237,SNR=16
GSC Goldstone, Bar 78.45 47 P **P** **10 12 38.9 +1.2**
baz=239,SNR=35
HEC Hector Ludlow 78.54 48 P **P** **10 12 39.3 +1.2**
baz=239,SNR=23
HUMO Hull Mountain 78.55 38 P **P** **10 12 38.9 +0.9**
HUMO pwP **pwP** **10 14 34.5 +0.1**
BC3 Big Chuckawall 78.58 49 P **P** **10 12 40.0 +1.6**
baz=240,SNR=23
PNTR Pine Nut 78.60 43 P **P** **10 12 39.7 +1.1**
PNTR IAmb IAmb 10 12 41.1
comp=Z,157nm,1.0s
PNTR pwP **pwP** **10 14 34.6 -0.3**
L04D Klamath Falls 78.71 39 P **P** **10 12 40.2 +1.2**
baz=234,SNR=28
GLA Glamis 78.73 50 P **P** **10 12 41.1 +2.0**
baz=240,SNR=16
GLA Glamis 78.73 50 IAmb IAmb 10 12 42.4
comp=Z,126nm,1.1s
M04C Macdoel 78.73 39 P **P** **10 12 40.3 +1.2**
baz=234,SNR=42
YERR Yerington 78.78 43 IAmb IAmb 10 12 41.9
comp=Z,150nm,1.1s
GRNR Gornyy 78.81 333⇓ *i*P **P** **10 12 39.8 +0.7**
GRNR pmax pmax
comp=Z,130nm,1.0s
I02D Swisshome 78.94 37 P **P** **10 12 41.6 +1.7**
baz=232
GRAC Grapevine Rang 78.95 45 P **P** **10 12 41.9 +1.6**
baz=238,SNR=11
I03D Drain, OR 78.98 37 P **P** **10 12 41.3 +1.2**
baz=233,SNR=14
GMRC Granite Mounta 79.00 48 P **P** **10 12 41.9 +1.2**
baz=240,SNR=22
MYKOM Kota Tinggi 79.00 275 P **P** **10 12 40.0 -1.0**
MYKOM Kota Tinggi 79.00 275 IAmb IAmb 10 12 42.7
comp=Z,194nm,1.3s
FURC Furnace Creek, 79.02 46 P **P** **10 12 41.9 +1.4**
baz=238,SNR=49
IRM Iron Mountain 79.05 49 P **P** **10 12 42.4 +1.6**
baz=240,SNR=46
MASI Maura Aman, Be 79.05 270 P **P** **10 12 40.8 -0.5**
NVAR Mina Array Bea 79.09 44 P **P** **10 12 42.3 +1.1**
comp=Z,78nm,1.0s,baz=226,slow=8.2,SNR=310
NVAR pP **pP** **10 14 33.7 -1.1**
comp=Z,2.7nm,1.0s,baz=209,slow=13,SNR=1.6
NVAR S **S** **10 22 02.0 +5.0**
comp=Z,0.1nm,0.3s,baz=247,slow=36,SNR=0.8
NVAR PKPPKP **P'P'df** **10 39 28.1 -2.8**
comp=Z,0.4nm,0.7s,baz=198,slow=1.4,SNR=4.6
NVAR Mina Array Bea 79.09 44 P **P** **10 12 41.9 +0.7**
NVAR pwP **pwP** **10 14 37.2 -0.5**
SHOC Shoshone, Teco 79.13 47 P **P** **10 12 42.4 +1.2**
baz=239,SNR=43
TUQ Turquoise Moun 79.14 47 P **P** **10 12 42.7 +1.3**
baz=239,SNR=24
NV11 Mina Array Sit 79.19 44 IAmb IAmb 10 12 44.1
comp=Z,127nm,1.1s
K04D Chiloquin, OR 79.28 39 P **P** **10 12 43.2 +1.3**
baz=234
Y12C Blythe 79.30 50 P **P** **10 12 43.7 +1.6**
baz=240,SNR=41
J04D Umpqua Nationa 79.43 38 P **P** **10 12 44.2 +1.4**
baz=234,SNR=21
DL2 Dalian 79.44 317 P **P** **10 12 41.5 -1.2**
DL2 sP **sP** **10 15 31.6 -0.1**
DL2 S **S** **10 22 01.6 +1.5**
DL2 pmax pmax
comp=Z,79nm,1.0s
DL2 pmax pmax
comp=Z,670nm,3.8s
KVN Kaiserville 79.56 43 IAmb IAmb 10 12 45.9
comp=Z,104nm,1.1s
I04A Tendick Farm, 79.58 38 P **P** **10 12 44.2 +0.8**
baz=233,SNR=18
TPNV Topopah Spring 79.69 46 P **P** **10 12 45.6 +1.3**
baz=239,SNR=48
214A Organ Pipe Nat 79.70 52 P **P** **10 12 46.2 +1.9**
baz=242
214A Organ Pipe Nat 79.70 52 IAmb IAmb 10 12 47.6
comp=Z,121nm,1.3s
MOD Modoc Plateau 79.74 40 IAmb IAmb 10 12 46.8
comp=Z,126nm,1.2s
SNY Shenyang 79.82 320⇓ P **P** **10 12 44.7 +0.1**
SNY sP **sP** **10 15 37.2 +4.0**
SNY S **S** **10 22 07.2 +3.3**
SNY pmax pmax
comp=Z,57nm,1.6s
H04D Lebanon 79.83 37 P **P** **10 12 46.0 +1.3**
baz=233,SNR=9.2
CN2 Changchun 79.84 322⇓ P **P** **10 12 44.8 +0.1**
CN2 *e*S **S** **10 22 08.7 +4.6**
CN2 pmax pmax
comp=Z,160nm,1.2s
CN2 pmax pmax
comp=Z,200nm,3.0s
KLR Kul'dur 79.90 329 *d i*P **P** **10 12 45.0 +0.1**
KLR pmax pmax
comp=Z,44nm,1.1s
KLR Kul'dur 79.90 329 P **P** **10 12 44.9 +0.1**
comp=Z,30nm,1.1s,baz=102,slow=4.2,SNR=28
CNPM China Poot 79.93 14 IAmb IAmb 10 12 46.0
comp=Z,208nm,1.1s
G03D McMinnville, O 79.95 36 P **P** **10 12 46.8 +1.5**
baz=232,SNR=13
J05D Fort Rock, OR 79.97 38 P **P** **10 12 47.1 +1.4**
baz=234,SNR=64
BRLK Bradley Lake 80.22 14 IAmb IAmb 10 12 47.4
comp=Z,174nm,1.0s
PINE Pine Mountain 80.44 38 P **P** **10 12 48.8 +0.7**
PINE IAmb IAmb 10 12 50.9
comp=Z,175nm,1.1s
PINE pwP **pwP** **10 14 44.7 -0.3**
SDSI Sungai Dareh 80.48 272 P **P** **10 12 48.1 -0.7**
WHN Wuhan 80.52 306⇓ P **P** **10 12 48.8 +0.2**
WHN sP **sP** **10 15 37.3 -0.8**
WHN S **S** **10 22 13.6 +2.1**
WHN pmax pmax
comp=Z,220nm,1.3s
WHN pmax pmax
comp=Z,1μm,6.1s
I05D Terrebonne, OR 80.53 38 P **P** **10 12 49.5 +1.1**
baz=234,SNR=30
E03A Lebam 80.60 35 IAmb IAmb 10 12 51.0
comp=Z,184nm,1.1s
F04D Rainier, OR 80.62 35 P **P** **10 12 50.1 +1.4**
baz=232
SEW Seward 80.85 14 IAmb IAmb 10 12 50.3
comp=Z,117nm,1.0s
F04A Amboy 80.86 36 IAmb IAmb 10 12 52.1
comp=Z,156nm,1.3s
R11A Troy Canyon, C 80.86 45 P **P** **10 12 51.3 +0.9**
baz=239,SNR=55
MA2 Magadan 80.91 345 *de*P **P** **10 12 49.0 -0.9**
MA2 pmax pmax
comp=Z,125nm,1.2s
MA2 Magadan 80.91 345 P **P** **10 12 48.9 -1.0**
comp=Z,44nm,0.8s,baz=145,slow=9.2,SNR=9.2
MA2 Magadan 80.91 345 P **P** **10 12 49.0 -0.9**
MA2 IAmb IAmb 10 12 50.4
comp=Z,100nm,1.1s
NLWA Neilton Lookou 80.96 34 IAmb IAmb 10 12 53.0
comp=Z,78nm,1.1s
JRMM Jerantut 80.96 277 P **P** **10 12 50.0 -1.2**
WVOR Wild Horse Val 81.06 40 IAmb IAmb 10 12 53.8
comp=Z,148nm,1.1s
G05D Wamic, OR 81.07 37 P **P** **10 12 52.1 +0.9**
baz=234
TIA Tai'an 81.13 312 P **P** **10 12 51.6 0.0**
TIA S **S** **10 22 19.4 +1.9**
TIA pmax pmax
comp=Z,41nm,1.1s
E04D Cinebar 81.15 35 P **P** **10 12 52.7 +1.3**
baz=233
BKNI Bangkinang 81.23 273 P **P** **10 12 52.7 +0.1**
F05D White Salmon 81.37 36 P **P** **10 12 53.6 +0.9**
baz=234
TUC Tucson 81.39 52 P **P** **10 12 55.2 +2.1**
baz=243
TUC Tucson 81.39 52 P **P** **10 12 54.9 +1.8**
TUC *PP **pwP** **10 14 49.1 -1.3**
TUC pmax pmax
comp=Z,127nm,1.2s
TUC Tucson 81.39 52 P **P** **10 12 54.9 +1.8**
TUC IAmb IAmb 10 12 56.6
comp=Z,127nm,1.1s
TUC pwP **pwP** **10 14 49.1 -1.3**
PDSI Padang 81.41 272 P **P** **10 12 51.5 -2.1**
D04E Lakebay 81.42 35 P **P** **10 12 54.6 +1.8**
baz=233
D03D Eldon 81.46 34 P **P** **10 12 54.1 +1.0**
baz=232,SNR=12
RC01 Rabbit Creek A 81.66 14 IAmb IAmb 10 12 54.7
comp=Z,162nm,1.1s
X16A Lo Mia Camp, P 81.86 50 IAmb IAmb 10 12 58.9
comp=Z,108nm,1.1s
UBPT Khong Chiam 81.96 289 P **P** **10 12 57.3 +1.1**
comp=Z,43nm,1.2s
BBB Bella Bella 81.96 29 P **P** **10 12 55.5 +0.1**
comp=Z,89nm,1.0s,baz=297,slow=3.3,SNR=6.8
319A Douglas 82.11 54 IAmb IAmb 10 13 00.5
comp=Z,144nm,1.1s
TTA Tatalina 82.12 10 IAmb IAmb 10 12 57.9
comp=Z,186nm,1.2s
U15A North Rim 82.19 48 IAmb IAmb 10 13 00.5
comp=Z,196nm,1.1s
KNK Knik Glacier 82.24 14 IAmb IAmb 10 12 57.7
comp=Z,99nm,1.0s
F07A Phinny Hill Vi 82.24 37 IAmb IAmb 10 12 59.2
comp=Z,76nm,1.0s
PMR Palmer 82.25 14 IAmb IAmb 10 12 57.6
comp=Z,110nm,1.0s
ELK Elko 82.32 43 P **P** **10 12 58.3 +0.4**
ELK pmax pmax
comp=Z,86nm,1.1s
ELK Elko 82.32 43 pP **pP** **10 14 52.4 -0.3**
comp=Z,5.3nm,1.1s,baz=264,slow=5.8,SNR=2.7
ELK S **S** **10 22 31.9 +2.2**
comp=Z,0.2nm,0.4s,baz=252,slow=9.6,SNR=5.5
ELK Elko 82.32 43 P **P** **10 12 58.3 +0.4**
ELK IAmb IAmb 10 13 00.2
comp=Z,86nm,1.1s

A04D Lummi Island 82.39 33 P **P** **10 12 58.8 +1.2**
baz=232,SNR=8.8
WUAZ Wupatki 82.42 49 P **P** **10 13 00.0 +1.6**
baz=242
WUAZ Wupatki 82.42 49 P **P** **10 13 00.1 +1.6**
WUAZ IAmb IAmb 10 13 01.4
comp=Z,125nm,1.1s
WUAZ pwP **pwP** **10 14 56.0 -0.1**
B05A Bryant 82.44 34 P **P** **10 12 58.8 +0.9**
baz=233,SNR=24
G08A Pilot Rock 82.46 38 IAmb IAmb 10 13 00.6
comp=Z,128nm,1.1s
ANM Nome 82.48 6 IAmb IAmb 10 12 59.7
comp=Z,92nm,1.2s
IPM Ipoh 82.52 277 P **P** **10 12 58.0 -1.2**
IPM Ipoh 82.52 277 IAmb IAmb 10 13 01.0
comp=Z,197nm,1.1s
PKCU Pink Cliffs 82.66 47 P **P** **10 13 01.9 +2.0**
PKCU pwP **pwP** **10 14 57.7 +0.1**
E07A Sunnyside 82.67 36 IAmb IAmb 10 13 01.6
comp=Z,127nm,1.1s
HAWA Hanford 82.75 37 IAmb IAmb 10 13 01.9
comp=Z,135nm,1.1s
C06D Leavenworth 82.88 35 P **P** **10 13 00.8 +0.5**
baz=234,SNR=9.7
CRQM Cirque 83.01 17 IAmb IAmb 10 13 02.1
comp=Z,170nm,1.0s
MTPU Mount Pierson 83.03 47 P **P** **10 13 03.7 +2.0**
MTPU pwP **pwP** **10 14 59.6 -0.2**
YAH Yahtse 83.07 17 IAmb IAmb 10 13 02.8
comp=Z,170nm,1.0s
E08A Dider Farm, El 83.08 37 IAmb IAmb 10 13 03.5
comp=Z,137nm,1.3s
TGL Tana Glacier 83.09 17 IAmb IAmb 10 13 02.4
comp=Z,174nm,1.0s
KULM Kulim 83.13 278 P **P** **10 13 01.0 -1.2**
KULM Kulim 83.13 278 IAmb IAmb 10 13 04.2
comp=Z,133nm,1.2s
WRAK Wrangell Islan 83.15 24 IAmb IAmb 10 13 03.4
comp=Z,96nm,1.1s
PCA Pinnacle 83.29 18 IAmb IAmb 10 13 03.4
comp=Z,88nm,1.0s
VRDI Verde Repeater 83.32 16 IAmb IAmb 10 13 03.5
comp=Z,163nm,1.2s
MFID Camas Ranch 83.33 41 IAmb IAmb 10 13 05.1
comp=Z,114nm,1.1s
GLB Gilahina Butte 83.41 16 IAmb IAmb 10 13 03.7
comp=Z,150nm,1.1s
W18A Petrified Fore 83.43 50 P **P** **10 13 04.9 +1.4**
baz=243
W18A Petrified Fore 83.43 50 P **P** **10 13 04.7 +1.1**
W18A IAmb IAmb 10 13 06.3
comp=Z,89nm,1.2s
W18A pwP **pwP** **10 15 01.4 +0.3**
BALM Baldy 83.46 17 IAmb IAmb 10 13 04.2
comp=Z,174nm,1.1s
SEY Seymchan 83.48 347 P **P** **10 13 02.5 -0.4**
comp=Z,171nm,0.9s,baz=173,slow=4.7,SNR=151
SEY pP **pP** **10 14 56.5 -1.5**
comp=Z,10nm,1.0s,baz=119,slow=5.8,SNR=3.5
MCARA McCarthy VSAT 83.57 16 IAmb IAmb 10 13 04.7
comp=Z,144nm,1.1s
KTH Kantishna Hill 83.62 12 IAmb IAmb 10 13 03.6
comp=Z,120nm,1.0s
BJT Baijiatuan 83.64 315 IAmb IAmb 10 13 06.1
comp=Z,102nm,1.1s
DUG Dugway, Tooele 83.64 45 P **P** **10 13 05.1 +0.7**
baz=241
DUG Dugway, Tooele 83.64 45 P **P** **10 13 05.2 +0.7**
DUG *PP **pwP** **10 15 01.6 -1.0**
DUG pmax pmax
comp=Z,45nm,1.3s
DUG Dugway, Tooele 83.64 45 P **P** **10 13 05.2 +0.7**
DUG pwP **pwP** **10 15 01.6 -1.0**
BJI Beijing 83.65 315 ⇓*i*P **P** **10 13 04.6 +0.4**
BJI sP **sP** **10 15 55.1 +1.2**
BJI S **S** **10 22 43.8 +1.5**
BJI sS **sS** **10 26 13.3 +4.8**
BJI pmax pmax
comp=Z,83nm,1.4s
BJI pmax pmax
comp=Z,720nm,4.1s
CTGM Chitina Glacie 83.68 17 IAmb IAmb 10 13 05.4
comp=Z,137nm,1.0s
SKLT Songkhla 83.75 280 P **P** **10 13 08.2 +2.9**
121A Cookes Peak, D 83.76 53 P **P** **10 13 07.0 +1.8**
baz=245,SNR=15
F10A Beach Ranch, E 83.85 38 IAmb IAmb 10 13 07.0
comp=Z,124nm,1.0s
SKNT Sakolnakorn 83.89 290 P **P** **10 13 06.4 +0.5**
DHY Denali Highway 83.94 14 IAmb IAmb 10 13 06.2
comp=Z,145nm,1.3s
RPSI Rantau Prapat 83.96 275 IAmb IAmb 10 13 07.3
comp=Z,177nm,1.2s
B08A Colville Reser 83.99 35 IAmb IAmb 10 13 07.2
comp=Z,75nm,1.1s
PMSA Palmer Station 84.06 157 P **P** **10 13 07.5 +1.6**
PMSA IAmb IAmb 10 13 08.7
comp=Z,78nm,1.3s
MAW Mawson 84.22 200 P **P** **10 13 07.1 +0.5**
baz=84,SNR=92
MAW Mawson 84.22 200 P **P** **10 13 07.2 +0.7**
comp=Z,90nm,1.1s,baz=131,slow=5.0,SNR=197
MAW pP **pP** **10 14 59.7 -2.6**
comp=Z,1.3nm,0.5s,baz=127,slow=10,SNR=1.0
MAW S **SKSac** **10 22 40.4 +1.7**
comp=Z,1.0nm,0.8s,baz=139,slow=20,SNR=1.6
MAW PKKP **PKKPdf** **10 31 05.5 -2.1**
comp=Z,0.8nm,0.7s,baz=334,slow=8.6,SNR=1.9
MAW PKKPbc **PKKPbc** **10 31 14.8 -3.4**
comp=Z,1.0nm,0.6s,baz=326,slow=3.6,SNR=4.7
MAW Mawson 84.22 200 P **P** **10 13 07.0 +0.4**
C09A Chrisman Ranch 84.26 36 IAmb IAmb 10 13 09.0
comp=Z,65nm,1.1s
PAX Paxson 84.29 14 IAmb IAmb 10 13 07.6
comp=Z,71nm,1.0s
TMUT Trail Mountain 84.30 46 P **P** **10 13 09.1 +1.2**
TMUT pwP **pwP** **10 15 05.9 -0.5**
SKAG Skagway 84.34 20 IAmb IAmb 10 13 09.7
comp=Z,134nm,1.3s
MENT Mentasta 84.69 15 IAmb IAmb 10 13 10.3
comp=Z,115nm,1.1s
JLU Jordanelle 84.75 45 P **P** **10 13 11.2 +1.2**
JLU pwP **pwP** **10 15 08.0 -0.7**
TRTT Trang 84.83 280 P **P** **10 13 12.4 +1.8**
ZEA Zeya 84.97 331 *e*P **P** **10 13 10.4 0.0**
ZEA *e* 10 22 57.0
ZEA pmax pmax
comp=E,35nm,1.0s
ZEA pmax pmax
comp=N,190nm,1.4s
ZEA pmax pmax
comp=Z,310nm,1.4s
ZEA pmax pmax
comp=Z,1μm,6.0s
MLY Manley 84.99 11 IAmb IAmb 10 13 10.6
comp=Z,85nm,1.1s
GYA Guiyang 84.99 300 ⇓*i*P **P** **10 13 11.8 +0.5**
GYA pP pP 10 15 09.5 +1.7
GYA sP sP 10 16 03.3 +1.2
GYA PP **PP** **10 16 37.8 -0.5**
GYA S **S** **10 22 54.9 -1.4**
GYA pmax pmax
comp=Z,10.0nm,0.5s
GYA pmax pmax
comp=Z,90nm,4.8s
NONG Nongkai 85.01 291 P **P** **10 13 12.3 +0.9**
Y22D IRIS PASSCAL I 85.07 52 P **P** **10 13 13.3 +1.7**
baz=245
TIY Taiyuan 85.15 312 *e*P **P** **10 13 12.8 +1.0**
TIY sP **sP** **10 16 05.3 +3.2**
TIY S **S** **10 22 58.9 +1.7**
TIY sS sS 10 26 29.9 +7.9
TIY pmax pmax
comp=Z,65nm,0.8s
TIY pmax pmax
comp=Z,630nm,3.7s
NEW Newport 85.16 36 P **P** **10 13 11.7 +0.2**
comp=Z,31nm,0.9s,baz=234,slow=4.8,SNR=56
NEW S **SKSac** **10 22 45.6 +0.5**
comp=Z,0.8nm,0.8s,baz=204,slow=6.7,SNR=3.6
HDA Harding Lake 85.20 13 P **P** **10 13 10.6 -0.7**
baz=210
HDA Harding Lake 85.20 13 IAmb IAmb 10 13 12.0
comp=Z,81nm,0.8s
DOT Dot Lake 85.21 15 IAmb IAmb 10 13 12.4
comp=Z,117nm,1.0s
CCB Clear Creek Bu 85.23 13 P **P** **10 13 10.2 -1.2**
CCB IAmb IAmb 10 13 11.8
comp=Z,148nm,1.1s
CCB pwP **pwP** **10 15 08.4 -1.1**
MVCO Mesa Verde 85.25 49 P **P** **10 13 13.3 +0.8**
baz=244,SNR=7.9
MNTX Cornudas Mount 85.27 55 P **P** **10 13 13.9 +1.5**
baz=246,SNR=67
BCAR Beaver Creek A 85.29 16 P **P** **10 13 11.3 -0.5**
CHAI Chaiyaphum 85.32 288 P **P** **10 13 13.9 +0.9**
IMAR Indian Mountai 85.33 10 P **P** **10 13 11.1 -0.8**
PATY Pattaya 85.36 285 P **P** **10 13 15.9 +2.7**
MDM Murphy Dome 85.42 12 IAmb IAmb 10 13 12.7
comp=Z,147nm,1.2s
TCOL CIGO, UAF Yank 85.42 13 P **P** **10 13 11.4 -0.8**
baz=209
COLA College 85.42 13 *d*iP **P** **10 13 11.1 -1.2**
COLA pmax pmax
comp=Z,161nm,1.1s
COLA College 85.42 13 P **P** **10 13 11.0 -1.2**
COLA pwP **pP** **10 15 09.7 +1.3**
PV20 West Nyswonger 85.42 48 P **P** **10 13 13.7 +0.4**
PV20 pwP **pwP** **10 15 11.8 -0.3**
DLBC Dease Lake 85.47 23 P **P** **10 13 13.4 +0.6**
comp=Z,47nm,1.0s,baz=233,slow=5.7,SNR=16
SLVN Son La 85.48 294 IAmb IAmb 10 13 16.1
comp=Z,64nm,1.2s
SCRK Sand Creek 85.50 14 IAmb IAmb 10 13 14.1
comp=Z,69nm,1.0s
PV12 Saucer Basin, 85.53 48 IAmb IAmb 10 13 16.1
comp=Z,87nm,1.4s
IL31 85.53 13 IAmb IAmb 10 13 13.4
comp=Z,138nm,1.1s
ILAR Eielson Array 85.53 13 P **P** **10 13 12.2 -0.7**
comp=Z,29nm,0.6s,baz=224,slow=5.2,SNR=479
ILAR pP **pP** **10 15 08.4 -0.6**
comp=Z,13nm,1.1s,baz=224,slow=5.2,SNR=5.4
ILAR S **SKSac** **10 22 50.1 +3.5**
comp=Z,1.0nm,0.9s,baz=227,slow=7.3,SNR=4.6
ILAR PKKP **PKKPdf** **10 31 11.2 +2.9**
comp=Z,0.2nm,0.4s,baz=327,slow=3.1,SNR=6.0
ILAR PKPPKP 10 39 24.8
comp=Z,0.3nm,0.6s,baz=248,slow=2.0,SNR=4.6
ILAR Eielson Array 85.53 13 P **P** **10 13 11.0 -1.9**
PV22 Blue Mesa, Par 85.63 47 P **P** **10 13 14.2 0.0**
PV22 pwP **pwP** **10 15 12.0 -1.1**
TX32 Lajitas Array 85.70 58 IAmb IAmb 10 13 18.2
comp=Z,135nm,1.2s
TXAR Lajitas Array 85.70 58 P **P** **10 13 16.7 +2.1**
comp=Z,48nm,0.9s,baz=225,slow=5.5,SNR=359
TXAR pP **pP** **10 15 09.4 -1.0**
comp=Z,3.2nm,1.1s,baz=218,slow=5.7,SNR=1.9
TXAR PKiKP **PKiKP** **10 18 21.0 +0.9**
comp=Z,0.5nm,1.0s,baz=235,slow=3.2,SNR=3.7
TXAR S **SKSac** **10 22 52.6 +3.1**
comp=Z,0.1nm,0.6s,baz=196,slow=9.4,SNR=2.3
TXAR PKKP **PKKPdf** **10 31 06.5 -0.1**
comp=Z,0.1nm,0.4s,baz=103,slow=5.6,SNR=4.0
TXAR PKKPbc **PKKPbc** **10 31 14.2 +0.5**
comp=Z,0.3nm,0.6s,baz=136,slow=2.9,SNR=6.7
TXAR PKPPKP 10 39 18.3
comp=Z,0.4nm,0.9s,baz=64,slow=4.1,SNR=2.8
TXAR Lajitas Array 85.70 58 P **P** **10 13 15.6 +0.9**
POKR Poker Plat Res 85.72 13 P **P** **10 13 12.8 -1.0**
baz=209
ANMO Albuquerque 85.78 51 P **P** **10 13 16.0 +0.9**
baz=245
ANMO Albuquerque 85.78 51 *d*iP **P** **10 13 16.0 +0.9**
ANMO pmax pmax
comp=Z,45nm,1.1s
ANMO Albuquerque 85.78 51 P **P** **10 13 15.9 +0.9**
AHID Auburn Hatcher 86.01 43 IAmb IAmb 10 13 18.4
comp=Z,76nm,1.2s
SURT Suratani 86.02 281 P **P** **10 13 18.3 +1.9**
BILL Bilibino 86.11 354 *d*iP **P** **10 13 14.8 -0.8**
BILL *i* *PP **pwP** **10 15 14.9 +0.4**
BILL *i* S **S** **10 23 00.4 -4.6**
BILL *i* SS **SS** **10 28 59.9 -0.1**
BILL pmax pmax
comp=Z,143nm,1.1s
BILL Bilibino 86.11 354 P **P** **10 13 15.1 -0.5**
XAN Xi'an 86.17 307 P **P** **10 13 17.3 +0.6**
XAN PP **PP** **10 16 51.8 +4.4**
XAN S **S** **10 23 10.3 +3.3**
XAN SS **SS** **10 29 02.1 -0.2**
XAN pmax pmax
comp=Z,170nm,1.3s
XAN pmax pmax
comp=Z,860nm,5.5s
HIA Hailar 86.18 325 *d*iP **P** **10 13 16.0 -0.4**
HIA pmax pmax
comp=Z,263nm,1.3s
HIA Hailar 86.18 325 IAmb IAmb 10 13 18.1
comp=Z,133nm,1.5s
MSO Missoula 86.24 38 P **P** **10 13 16.8 0.0**
baz=239,SNR=22
DLMT Dillon 86.31 40 IAmb IAmb 10 13 19.7
comp=Z,97nm,1.1s
TPAW Teton Pass 86.44 42 IAmb IAmb 10 13 20.6
comp=Z,81nm,1.1s
FXWY Fox Creek 86.47 42 P **P** **10 13 19.1 +0.9**
FXWY IAmb IAmb 10 13 20.7
comp=Z,164nm,1.9s
FXWY pwP **pP** **10 15 17.0 +2.3**
PHET Kaeng Krachan 86.50 285 P **P** **10 13 20.5 +1.9**
SNOW Snow King Moun 86.56 42 IAmb IAmb 10 13 21.2
comp=Z,115nm,1.1s
IMW Indian Meadow 86.64 42 IAmb IAmb 10 13 21.6
comp=Z,108nm,1.0s
S22A 4UR Ranch, Cre 86.68 49 P **P** **10 13 20.6 +1.2**
baz=245,SNR=58
S22A 4UR Ranch, Cre 86.68 49 IAmb IAmb 10 13 22.0
comp=Z,56nm,1.1s
O20A White River Ci 86.72 46 P **P** **10 13 20.3 +0.9**
baz=244,SNR=19
DAWY Dawson 86.73 16 IAmb IAmb 10 13 20.1
comp=Z,70nm,1.1s
EGAK Eagle 86.86 15 IAmb IAmb 10 13 20.4
comp=Z,106nm,1.3s
YMR Madison River 86.99 41 P **P** **10 13 22.0 +1.4**
YMR pwP **pP** **10 15 19.5 +2.2**
BW06 Boulder Array 87.01 43 P **P** **10 13 21.3 +0.5**
baz=243,SNR=53
BW06 Boulder Array 87.01 43 IAmb IAmb 10 13 22.6
comp=Z,81nm,1.2s
PD31 Pinedale Array 87.01 43 IAmb IAmb 10 13 22.6
comp=Z,73nm,1.2s
PDAR Pinedale Array 87.01 43 P **P** **10 13 21.4 +0.7**
comp=Z,39nm,1.0s,baz=205,slow=3.1,SNR=149
PDAR pP **pP** **10 15 16.6 -0.6**
comp=Z,6.7nm,1.1s,baz=209,slow=2.7,SNR=6.7
PDAR S **SKSac** **10 22 59.9 +2.8**
comp=Z,0.1nm,0.6s,baz=187,slow=1.4,SNR=2.4
PDAR PKKPbc **PKKPbc** **10 31 10.6 -0.9**
comp=Z,0.8nm,0.8s,baz=96,slow=7.6,SNR=6.6
PDAR Pinedale Array 87.01 43 P **P** **10 13 21.0 +0.3**
BOZ Bozeman (W) 87.02 40 P **P** **10 13 21.7 +1.1**
baz=241,SNR=80
BOZ Bozeman (W) 87.02 40 IAmb IAmb 10 13 23.1
comp=Z,82nm,1.2s
H17A Grant Village 87.11 42 P **P** **10 13 23.4 +2.3**
baz=242,SNR=34
H17A Grant Village 87.11 42 IAmb IAmb 10 13 24.8
comp=Z,91nm,1.1s
HHC Hu-ho-hao-te 87.14 314 P **P** **10 13 23.2 +2.0**
HHC pmax pmax
comp=Z,17nm,1.1s
UTTA Uttaradit 87.22 289 P **P** **10 13 23.2 +1.3**
LKWY Lake 87.30 42 IAmb IAmb 10 13 25.8
comp=Z,109nm,1.1s
WALA Waterton Lakes 87.39 36 IAmb IAmb 10 13 24.1
comp=Z,55nm,1.1s
SRDT SRDT 87.43 286 P **P** **10 13 24.9 +2.0**
UTHA Uthaitani 87.52 287 P **P** **10 13 24.9 +1.5**
SDCO Great Sand Dun 87.64 49 P **P** **10 13 24.5 +0.6**
baz=246,SNR=26
PHRA Phrae 87.77 290 P **P** **10 13 25.4 +0.9**
KMI Kunming 87.81 297 P **P** **10 13 26.0 +1.2**
KMI pP pP 10 15 28.9 +6.7
KMI sP sP 10 16 14.8 -1.5
KMI S **S** **10 23 24.7 +1.6**
KMI sS sS 10 26 52.9 +2.2
KMI SS **SS** **10 29 28.9 +2.4**
KMI pmax pmax
comp=Z,68nm,1.4s
KMI pmax pmax
comp=Z,500nm,3.6s
KMI Kunming 87.81 297 IAmb IAmb 10 13 27.5
comp=Z,123nm,1.3s
BTO Baotou 88.09 314 *e*P **P** **10 13 26.4 +0.7**
RWWY Rawlins 88.10 45 P **P** **10 13 26.4 +0.5**
RWWY pwP **pwP** **10 15 24.3 -1.0**
MSTX Muleshoe 88.18 54 P **P** **10 13 27.0 +0.8**
baz=247
MSTX Muleshoe 88.18 54 IAmb IAmb 10 13 28.3
comp=Z,67nm,1.1s
T25A Trinidad 88.19 50 P **P** **10 13 26.9 +0.5**
baz=246,SNR=14
UMPA Umpang Tak 88.26 287 P **P** **10 13 28.7 +1.8**
RLMT Red Lodge 88.27 41 P **P** **10 13 27.9 +1.3**
baz=243,SNR=45
RLMT Red Lodge 88.27 41 IAmb IAmb 10 13 29.2
comp=Z,77nm,1.1s
BMAR Burnt Mountain 88.30 12 P **P** **10 13 25.4 -0.5**
LAMP Lampang 88.31 290 P **P** **10 13 29.0 +2.0**
comp=Z,78μm,1.1s
PAYA Payao 88.37 291 P **P** **10 13 29.1 +1.8**
Q24A Divide 88.39 48 P **P** **10 13 28.4 +1.0**
baz=246,SNR=17
Q24A Divide 88.39 48 IAmb IAmb 10 13 29.9
comp=Z,52nm,1.2s
ISCO Idaho Springs 88.40 47 P **P** **10 13 28.4 +1.0**
baz=246,SNR=16
N23A Red Feather La 88.63 46 P **P** **10 13 29.5 +1.2**
baz=245,SNR=33
N23A Red Feather La 88.63 46 IAmb IAmb 10 13 31.0
comp=Z,90nm,1.2s
833A Chaparral WMA, 88.81 60 P **P** **10 13 30.8 +1.6**
baz=249
833A Chaparral WMA, 88.81 60 IAmb IAmb 10 13 32.1
comp=Z,70nm,1.1s
CMAR Chiang Mai Arr 88.91 290 P **P** **10 13 30.7 +0.9**
comp=Z,29nm,1.0s,baz=108,slow=3.0,SNR=111
CMAR pP **pP** **10 15 24.1 -3.4**
comp=Z,0.4nm,0.5s,baz=139,slow=8.4,SNR=1.2
CMAR PKKPbc **PKKPbc** **10 31 06.2 +0.7**
comp=Z,0.8nm,0.3s,baz=285,slow=4.4,SNR=7.4
CMAR PKPPKP 10 39 13.7
comp=Z,0.5nm,0.3s,baz=300,slow=4.0,SNR=4.6
CMAR Chiang Mai Arr 88.91 290 P **P** **10 13 30.3 +0.5**
K22A Casper 88.97 44 P **P** **10 13 30.6 +0.8**
baz=245,SNR=21
K22A Casper 88.97 44 IAmb IAmb 10 13 31.9
comp=Z,85nm,1.2s
CD2 Chengdu 89.01 303 P **P** **10 13 29.4 -0.7**
CD2 sP sP 10 16 22.9 +1.1
CD2 S **S** **10 23 34.7 +1.2**
CD2 SS **SS** **10 29 40.2 -3.1**
CD2 pmax pmax
comp=Z,30nm,0.4s
CD2 pmax pmax
comp=Z,890nm,5.7s
CMMT Chiang Mai 89.02 290 P **P** **10 13 31.0 +0.7**
CHTO Chiang Mai 89.02 290 P **P** **10 13 30.8 +0.4**
CHTO pmax pmax
comp=Z,71nm,1.2s
CHTO Chiang Mai 89.02 290 P **P** **10 13 30.8 +0.4**
CHTO IAmb IAmb 10 13 32.5
comp=Z,71nm,1.2s
PHWY Pilot Hill 89.13 46 IAmb IAmb 10 13 32.8
comp=Z,44nm,1.2s
JCT Junction City 89.24 58 P **P** **10 13 32.0 +0.8**
baz=249
JCT Junction City 89.24 58 IAmb IAmb 10 13 33.3
comp=Z,44nm,1.1s
EPYK Eagle Plains 89.25 16 P **P** **10 13 30.0 -0.3**
baz=219
EGMT Eagleton 89.30 39 P **P** **10 13 31.8 +0.7**
baz=242
EGMT Eagleton 89.30 39 IAmb IAmb 10 13 33.2
comp=Z,67nm,1.4s
YAK Yakutsk 89.32 338 *e*P **P** **10 13 29.2 -1.5**
YAK pmax pmax
comp=Z,41nm,1.0s
YAK pmax pmax
comp=E,13nm,1.3s
YAK pmax pmax
comp=N,13nm,1.3s
YAK Yakutsk 89.32 338 P **P** **10 13 29.9 -0.8**
comp=N,13nm,0.7s,baz=110,slow=3.2,SNR=11
YAK Yakutsk 89.32 338 P **P** **10 13 29.4 -1.3**
YAK IAmb IAmb 10 13 30.8
comp=Z,37nm,0.9s
AMTX Amarillo 89.36 53 P **P** **10 13 32.3 +0.6**
baz=248
AMTX Amarillo 89.36 53 IAmb IAmb 10 13 33.6
comp=Z,56nm,1.1s
SYO Syowa Base 89.51 193 ⇑*i*P **P** **10 13 29.6 -2.0**
SYO Syowa Base 89.51 193 ⇓*i*PcP **PcP** **10 13 32.4 -0.1**
MHMT Maesarieng 89.73 289 P **P** **10 13 35.2 +1.6**
ABTX Abilene, Hawle 90.12 56 P **P** **10 13 36.2 +1.0**
baz=249
KSCO Kaye Shedlock' 90.21 49 P **P** **10 13 36.5 +0.9**
baz=248
KSCO Kaye Shedlock' 90.21 49 IAmb IAmb 10 13 38.9
comp=Z,96nm,1.4s
TROLL Troll, Antarti 90.64 180 P **P** **10 13 37.3 +0.3**
LZH Lanzhou 90.80 308 ⇑P **P** **10 13 39.7 +1.3**
LZH sP sP 10 16 33.1 +3.1
LZH S **S** **10 23 53.0 +3.3**
LZH SS **SS** **10 30 07.9 -1.0**
LZH pmax pmax
comp=Z,85nm,1.2s
LZH pmax pmax
comp=Z,290nm,4.9s
LAO LASA Array 90.87 41 P **P** **10 13 40.0 +1.6**
baz=245
SNAA Sanae 90.93 179 P **P** **10 13 38.3 0.0**
SNAA Sanae 90.93 179 *d*iP **P** **10 13 37.9 -0.3**
SNAA Sanae 90.93 179 S **SKSac** **10 23 19.7 +1.1**
comp=Z,1.9nm,0.9s,baz=192,slow=20,SNR=5.7
SNAA Sanae 90.93 179 P **P** **10 13 37.5 -0.7**
VNA3 Neumayer Olymp 91.06 176 P **P** **10 13 39.0 +0.2**
435B Jarrell 91.14 58 P **P** **10 13 41.1 +1.3**
baz=250
435B Jarrell 91.14 58 IAmb IAmb 10 13 42.4
comp=Z,55nm,1.1s
RSSD Black Hills 91.23 44 P **P** **10 13 40.6 +0.4**
baz=247
RSSD Black Hills 91.23 44 P **P** **10 13 40.5 +0.2**
RSSD pmax pmax
comp=Z,66nm,1.1s
RSSD Black Hills 91.23 44 P **P** **10 13 40.5 +0.2**
RSSD IAmb IAmb 10 13 42.0
comp=Z,66nm,1.1s
GO06 Curarrehue 91.29 132 P **P** **10 13 42.0 +1.4**
GO06 IAmb IAmb 10 15 45.2
comp=Z,40nm,1.6s
OGNE Ogallala 91.37 47 P **P** **10 13 41.6 +0.8**
baz=248
OGNE Ogallala 91.37 47 IAmb IAmb 10 13 42.8
comp=Z,56nm,1.1s
PLCA Paso Flores 91.46 134 P **P** **10 13 42.8 +1.4**
comp=Z,5.8nm,1.0s,baz=239,slow=5.5,SNR=11
PLCA pP **pP** **10 15 37.1 -1.5**
comp=Z,2.2nm,1.0s,baz=214,slow=5.1,SNR=2.2
PLCA PKKPbc **PKKPbc** **10 30 58.4 -1.6**
comp=Z,4.5nm,1.1s,baz=7.9,slow=4.0,SNR=5.6
PLCA Paso Flores 91.46 134 P **P** **10 13 43.0 +1.6**
VNA2 Neumayer--Watz 91.50 177 P **P** **10 13 41.1 +0.3**
baz=180,slow=4.3
INK Inuvik 91.53 15 P **P** **10 13 40.4 -0.4**
comp=Z,61nm,1.0s,baz=212,slow=4.8,SNR=109
INK S **SKSac** **10 23 20.8 -0.6**
comp=Z,1.7nm,1.2s,baz=189,slow=18,SNR=4.3
INK Inuvik 91.53 15 P **P** **10 13 39.5 -1.2**
WMOK Wichita Mounta 91.53 54 P **P** **10 13 41.8 +0.1**
baz=250
WHTX Lake Whitney, 91.64 57 P **P** **10 13 43.0 +0.8**
baz=250
VNA1 Neumayer--Stat 91.73 177 P **P** **10 13 42.4 +0.6**
X34A Smith Ranch, M 92.22 54 IAmb IAmb 10 13 47.4
comp=Z,46nm,1.1s
CBKS Cedar Bluff 92.24 50 P **P** **10 13 45.6 +0.8**
baz=249
HKT Hockley 92.29 59 P **P** **10 13 46.3 +1.2**
HKT pmax pmax
comp=Z,85nm,1.9s
HKT Hockley 92.29 59 P **P** **10 13 46.3 +1.2**
HKT IAmb IAmb 10 15 50.4
comp=Z,85nm,1.9s

DGMT Dagmar 92.85 40 P **P** **10 13 48.4 +1.1**
baz=247
ULN Ulaanbaatar 92.99 319 *d* iP **P** **10 13 48.0 -0.2**
ULN pmax pmax
comp=Z,67nm,1.1s
ULN Ulaanbaatar 92.99 319 P **P** **10 13 47.5 -0.7**
SONM Songino Array 93.39 319 P **P** **10 13 49.4 -0.6**
comp=Z,12nm,1.0s,baz=108,slow=2.9,SNR=61
SONM pP **pP** **10 15 45.6 -2.6**
comp=Z,0.3nm,0.6s,baz=115,slow=26,SNR=0.9
SONM S **SKSac** **10 23 34.7 +1.8**
comp=Z,0.2nm,0.3s,baz=112,slow=1.6,SNR=2.3
SONM PKKP **PKKPdf** **10 30 54.0 +0.1**
comp=Z,2.0nm,1.1s,baz=272,slow=3.7,SNR=6.6
SONM Songino Array 93.39 319 P **P** **10 13 49.3 -0.7**
BOD Bodaibo 93.44 330 *e*P **P** **10 13 47.7 -2.1**
BOD pmax pmax
comp=Z,492nm,1.2s
NATX Nacogdoches 93.82 58 P **P** **10 13 53.4 +1.3**
baz=252
NATX Nacogdoches 93.82 58 IAmb IAmb 10 13 54.9
comp=Z,64nm,1.4s
YKA Yellowknife Ar 93.97 25 P **P** **10 13 51.8 -0.2**
comp=Z,21nm,0.9s,baz=244,slow=4.4,SNR=61
YKA pP **pP** **10 15 47.7 -1.9**
comp=Z,1.3nm,0.9s,baz=246,slow=4.5,SNR=1.3
YKA PKIKP **PKiKP** **10 18 32.6 -0.2**
comp=Z,0.4nm,0.7s,baz=259,slow=1.7,SNR=4.7
YKA PKKP **PKKPdf** **10 30 50.2 -2.9**
comp=Z,0.4nm,0.4s,baz=40,slow=2.0,SNR=11
YKA Yellowknife Ar 93.97 25 P **P** **10 13 51.4 -0.7**
YKW3 Yellowknife Ar 94.00 25 IAmb IAmb 10 13 53.2
comp=Z,33nm,1.0s
TUL1 Leonard 94.23 54 P **P** **10 13 54.4 +0.4**
baz=251
TUL1 Leonard 94.23 54 IAmb IAmb 10 13 56.0
comp=Z,29nm,1.5s
BGNE Belgrade 94.27 48 P **P** **10 13 55.2 +1.1**
baz=250
KSU1 Kansas State U 94.63 51 P **P** **10 13 56.8 +1.1**
baz=251
C36M Paulatuk 94.74 17 P **P** **10 13 55.2 -0.2**
baz=231
SUSD Miller 94.74 45 P **P** **10 13 56.7 +0.6**
baz=250
SUSD Miller 94.74 45 IAmb IAmb 10 13 59.1
comp=Z,32nm,1.1s
GTA Gaotai 94.93 310 ⇓P **P** **10 13 57.3 +0.1**
GTA pP pP 10 16 03.3 +7.8
GTA sP sP 10 16 55.3 +6.2
GTA PP **PP** **10 17 58.7 +3.0**
GTA SS SS 10 31 08.6 +1.5
GTA pmax pmax
comp=Z,14nm,1.4s
GTA pmax pmax
comp=Z,91nm,6.8s
MDND Maddock 95.48 42 P **P** **10 13 59.8 +0.5**
baz=250
MIAR Mount Ida 95.53 56 P **P** **10 14 00.9 +1.0**
baz=253
MIAR Mount Ida 95.53 56 IAmb IAmb 10 16 04.2
comp=Z,49nm,2.0s
W39A Magazine 95.57 55 P **P** **10 14 01.3 +1.3**
baz=252
W39A Magazine 95.57 55 IAmb IAmb 10 17 30.0
comp=Z,41nm,1.9s
HHAR Hobbs 95.77 54 IAmb IAmb 10 14 04.1
comp=Z,31nm,1.8s
TIXI Tiksi 95.87 345 *d* iP **P** **10 13 59.2 -1.3**
TIXI pmax pmax
comp=Z,24nm,1.1s
TIXI Tiksi 95.87 345 P **P** **10 13 59.3 -1.2**
comp=Z,11nm,0.8s,baz=132,slow=5.1,SNR=24
TIXI pP **pP** **10 15 56.2 -1.9**
comp=Z,0.5nm,0.2s,baz=135,slow=5.7,SNR=1.5
TIXI PKIKP **PKiKP** **10 18 35.6 -0.3**
comp=Z,1.3nm,0.3s,baz=98,slow=2.4,SNR=3.7
TIXI S **SKSac** **10 23 45.7 +1.1**
comp=Z,1.6nm,0.3s,baz=90,slow=20,SNR=1.1
TIXI Tiksi 95.87 345 P **P** **10 13 58.9 -1.5**
TIXI IAmb IAmb 10 14 00.6
comp=Z,24nm,1.1s
ECSD EROS Data Cent 96.10 46 P **P** **10 14 02.7 +0.4**
baz=252
ECSD EROS Data Cent 96.10 46 IAmb IAmb 10 14 02.9
comp=Z,15nm,1.0s
JTS Las Juntas de 96.17 81 ⇑*e*P **P** **10 14 01.7 -1.5**
JTS pmax pmax
comp=Z,8.0nm,1.0s
ZAK Zakamensk 96.22 321 *e*P P 10 13 52.8 -10
ZAK pmax pmax
comp=Z,11nm,1.1s
TLY Talaya 96.45 322 *de*P **P** **10 14 02.5 -1.1**
TLY pmax pmax
comp=Z,9.0nm,0.8s
U40A Yellville 96.63 54 Pdiff **P** **10 14 05.3 +0.6**
baz=253
U40A Yellville 96.63 54 IAmb IAmb 10 14 08.1
comp=Z,16nm,1.1s
W41B Gary Mavity, V 96.76 55 Pdiff **P** **10 14 05.9 +0.5**
baz=253
SHL Shillong 97.28 294 IAmb IAmb 10 14 09.9
comp=Z,18nm,1.2s
AGMN Agassiz Nation 98.00 42 Pdiff **P** **10 14 10.7 +0.1**
baz=253
CCM Cathedral Cave 98.34 53 Pdiff **P** **10 14 13.8 +1.4**
baz=254
ULM Lac du Bonnet 98.57 40 Pdiff Pdif 10 14 10.6 -2.4
comp=Z,6.5nm,1.0s,baz=228,slow=4.2,SNR=4.7
SPMN Marine on St. 99.14 46 Pdiff **Pdif** **10 14 16.6 +0.8**
baz=254
JFWS Jewell Farm 100.33 48 Pdiff **Pdif** **10 14 22.3 +1.2**
baz=256
LPAZ La Paz 103.39 112 Pdiff **Pdif** **10 14 38.5 +2.5**
comp=Z,1.4nm,0.9s,baz=268,slow=3.3,SNR=6.1
LPAZ PKKPbc **PKKPbc** **10 30 27.4 -0.3**
comp=Z,1.1nm,0.7s,baz=60,slow=4.3,SNR=5.7
RES Resolute Bay 105.07 16 Pdiff **Pdif** **10 14 41.9 +0.5**
comp=Z,2.0nm,0.9s,baz=239,slow=4.0,SNR=3.9
NRIK Noril'sk 107.77 338 Pdiff **Pdif** **10 14 54.0 +0.5**
comp=Z,1.2nm,0.5s,baz=124,slow=8.1,SNR=2.9
NRIK PKiKP **PKiKP** **10 18 57.2 -0.5**
comp=Z,2.4nm,0.6s,baz=85,slow=4.2,SNR=3.8
ZALV Zalesovo Beam 108.06 322 P **Pdif** **10 14 53.7 -1.5**
ZALV Zalesovo Beam 108.06 322 Pdiff **Pdif** **10 14 54.8 -0.4**
comp=Z,0.8nm,0.3s,baz=72,slow=4.8,SNR=8.1
ZALV PKiKP **PKiKP** **10 18 57.8 -0.8**
comp=Z,4.7nm,0.9s,baz=0.0,slow=1.5,SNR=12
ZALV PP **PP** **10 19 31.0 -1.3**
comp=Z,1.1nm,0.6s,baz=90,slow=5.9,SNR=3.6
ZALV Zalesovo Beam 108.06 322 **Pdif** **10 14 53.7 -1.5**
MKAR Makanchi Array 109.00 314 Pdiff **Pdif** **10 15 01.4 +1.7**
comp=Z,1.8nm,1.0s,baz=100,slow=5.8,SNR=3.9
MKAR PKiKP **PKiKP** **10 18 59.9 -0.8**
comp=Z,1.6nm,0.4s,baz=194,slow=0.7,SNR=35
MKAR PKKPbc **PKKPbc** **10 30 08.7 -1.9**
comp=Z,0.8nm,0.6s,baz=257,slow=4.8,SNR=4.8
M60A Port Jervis 111.52 52 PKiKP **PKiKP** **10 19 05.3 -0.2**
baz=265
KURK Kurchatov 111.67 318 *c* iPKIKP **PKiKP** **10 19 04.7 -0.8**
KURK pmax pmax
comp=Z,13nm,1.0s
KURBB Kurchatov Arra 111.73 318 PKiKP **PKiKP** **10 19 04.8 -0.8**
comp=Z,6.6nm,0.9s,baz=99,slow=1.9,SNR=23
E58A La Victoria 112.79 47 PKiKP **PKiKP** **10 19 07.3 -0.5**
baz=268
KSH Kashi 113.00 306 PKP **PKiKP** **10 19 08.9 +0.3**
KSH PP **PP** **10 20 15.2 +7.2**
KSH SKS **SKSdf** **10 25 29.2 -1.0**
KSH AMB AMB
comp=Z,520nm,5.8s
D58A Chemin du LacG 113.08 46 PKiKP **PKiKP** **10 19 07.6 -0.8**
baz=269
TKM2 Tokmak 2 113.48 310 P **PKiKP** **10 19 08.9 -0.6**
SNR=8.3
F60A Warwick 113.70 47 PKiKP **PKiKP** **10 19 09.3 -0.2**
baz=269
KBK Karagaybulak 113.95 309 P **PKiKP** **10 19 10.1 -0.3**
SNR=6.5
UCH Uchtor 114.25 309 P **PKiKP** **10 19 11.6 +0.2**
SNR=18
AAK Ala-Archa 114.28 309 *c* iPKIKP PKPdf 10 19 10.6 -0.4
AAK pmax pmax
comp=Z,11nm,1.3s
AAK Ala-Archa 114.28 309 P P PKPdf 10 19 10.8 -0.3
SNR=5.8
E61A Lac Etchemin 114.72 46 PKiKP **PKiKP** **10 19 11.7 +0.2**
baz=270
EKS2 Erkin-Say 114.81 309 P PKPdf 10 19 11.9 -0.1
SNR=7.7
AML Almayashu 114.86 309 P **PKiKP** **10 19 12.6 +0.1**
SNR=9.5
D61A St Aubert, Com 114.92 46 PKiKP PKPdf 10 19 11.5 -0.4
baz=271
E62A Clayton Lake 115.38 46 PKiKP **PKPdf** **10 19 12.4 -0.4**
baz=271
D63A Stockholm 116.34 46 PKiKP **PKPdf** **10 19 14.0 -0.6**
baz=272
BRVK Borovoye 116.74 321 P **PKPdf** **10 19 14.7 -0.5**
SNR=7.3
BRVK Borovoye 116.74 321 *c* iPKIKP **PKPdf** **10 19 14.6 -0.5**
BRVK pmax pmax
comp=Z,30nm,1.3s
BRVK Borovoye 116.74 321 **PKPdf** **10 19 14.2 -1.0**
KKAR Karatay Array 117.21 310 PKIKP **PKPdf** **10 19 15.5 -1.0**
KKAR Karatay Array 117.21 310 **PKPdf** **10 19 15.5 -1.0**
KBL Kabul 118.24 300 PKIKP **PKPdf** **10 19 18.7 -0.3**
KBL Kabul 118.24 300 **PKPdf** **10 19 18.7 -0.3**
DAG Danmarks Havn 119.86 5 ⇓*i* PKIKP **PKPdf** **10 19 19.4 -1.2**
DAG Danmarks Havn 119.86 5 ⇓*i*P **PKPdf** **10 19 19.4 -1.2**
DAG *i* 10 20 49.3
SUMG Summit 120.38 13 *i* PKIKP **PKPdf** **10 19 22.0 -0.2**
SUMG pmax pmax
comp=Z,58nm,1.0s
SUMG Summit 120.38 13 *i* P **PKPdf** **10 19 22.0 -0.2**
comp=Z,58nm,1.0s
SUMG Summit 120.38 13 **PKPdf** **10 19 21.8 -0.4**
BDFB Brasilia 120.89 121 PKiKP **PKPdf** **10 19 24.0 -0.4**
comp=Z,4.1nm,0.7s,baz=204,slow=18,SNR=5.8
BDFB PKKPbc **PKKPbc** **10 29 30.1 0.0**
comp=Z,5.0nm,0.9s,baz=111,slow=3.9,SNR=6.1
BDFB Brasilia 120.89 121 **PKPdf** **10 19 22.2 -2.2**
GBN Guysborough 121.03 47 **PKPdf** **10 19 23.6 -0.1**
SVE Sverdlovsk 121.44 327 *e*PKIKP **PKPdf** **10 19 23.9 -0.2**
SVE pmax pmax
comp=Z,50nm,1.3s
ABPO Ambohimpanom 122.38 233 PKiKP **PKiKP** **10 19 27.7 +0.1**
ABPO Ambohimpanom 122.38 233 **PKiKP** **10 19 27.7 +0.1**
ARU Arti 122.65 326 *i* PKIKP **PKPdf** **10 19 26.3 -0.1**
ARU 10 21 13.6
ARU 10 25 46.5
ARU SS SS 10 37 16.8 +3.1
ARU Arti 122.65 326 **PKPdf** **10 19 25.6 -0.9**
ABKAR Akbulak array 123.78 318 **PKPdf** **10 19 27.7 -1.1**
SCO Scoresbysund 125.19 10 *i* PKIKP **PKiKP** **10 19 31.1 -0.2**
SCO pmax pmax
comp=Z,52nm,1.2s
SCO Scoresbysund 125.19 10 *i* P **PKiKP** **10 19 31.1 -0.2**
comp=Z,52nm,1.2s
ARCES ARCESS Array B 126.01 350 PKiKP **PKPdf** **10 19 32.4 -0.2**
comp=Z,19nm,0.7s,baz=19,slow=0.9,SNR=44
ARCES ARCESS Array B 126.01 350 **PKPdf** **10 19 31.6 -0.9**
PRGR Permogore 126.30 336 *e*PKIKP **PKPdf** **10 19 26.3 -6.9**
PRGR pmax pmax
comp=Z,39nm,1.0s
GEYT Alibeck 126.97 304 PKP **PKPdf** **10 19 34.6 -0.8**
comp=Z,24nm,1.0s,baz=17,slow=0.2,SNR=39
GEYT PKiKP **PKiKP** **10 19 35.9 0.0**
comp=Z,24nm,1.0s,baz=50,slow=0.0,SNR=39
GEYT PP **pPKPdf** **10 21 39.5 -1.5**
comp=Z,3.4nm,0.9s,baz=26,slow=7.4,SNR=5.5
GEYT Alibeck 126.97 304 **PKPdf** **10 19 35.0 -0.3**
SUR Sutherland 127.08 200 **PKiKP** **10 19 36.5 -0.1**
BIDO Bidbid 127.14 286 P **PKiKP** **10 19 37.1 +0.4**
SNR=5.1
SMDO Samad 127.17 286 P **PKiKP** **10 19 38.0 +1.1**
SNR=6.6
TMCR Tamitsa 127.35 341 *e*PKIKP **PKPdf** **10 19 33.5 -1.7**
TMCR pmax pmax
comp=Z,68nm,1.5s
HOQ Hoqain 127.89 286 P **PKiKP** **10 19 38.1 -0.1**
SNR=6.0
BOSA Boshof 128.76 207 PKP **PKPdf** **10 19 38.7 -0.5**
comp=Z,7.0nm,0.8s,baz=109,slow=2.2,SNR=8.4
BOSA PKiKP **PKiKP** **10 19 40.6 +0.6**
comp=Z,7.0nm,0.8s,baz=149,slow=3.1,SNR=8.6
BOSA PP **PP** **10 21 53.9 +1.3**
comp=Z,14nm,1.1s,baz=158,slow=8.8,SNR=5.7
UOSS Minazif 128.99 288 **PKPdf** **10 19 37.7 -1.9**
HATD Hatta, Dubai 129.05 288 P **PKPdf** **10 19 40.0 +0.3**
SNR=8.8
ASHO Ashiyiah 129.11 288 P **PKPdf** **10 19 40.0 +0.1**
SNR=8.4
RBK Rabkut 130.11 278 P **PKiKP** **10 19 44.0 +1.2**
SNR=5.0
FINES FINESS Array B 132.91 344 PKiKP **PKiKP** **10 19 46.9 -0.2**
comp=Z,16nm,0.9s,baz=72,slow=2.2,SNR=9.6
FINES SKPab **SKPab** **10 22 26.0 +0.1**
comp=Z,12nm,1.0s,baz=151,slow=4.4,SNR=4.4
MOS Moscow 133.20 333 *e*PKIKP **PKPdf** **10 19 45.9 -0.6**
MOS pmax pmax
comp=Z,73nm,1.5s
VRH Novokhopyorsk 133.88 326 *e*PKIKP **PKPdf** **10 19 47.3 -0.6**
VRH pmax pmax
comp=Z,40nm,1.3s
OBN Obninsk 134.07 333 ⇑*i* PKIKP **PKiKP** **10 19 48.9 -0.7**
OBN *e* 10 22 27.6
OBN pmax pmax
comp=Z,89nm,1.7s
AKT Akhty 134.11 311 *e*PKIKP **PKiKP** **10 19 50.9 +0.6**
AKT *e* 10 22 31.4
AKT pmax pmax
comp=Z,53nm,1.2s
LPSR Galich'ya Gora 134.53 329 *e*PKIKP **PKPdf** **10 19 48.2 -0.9**
LPSR pmax pmax
comp=Z,40nm,1.0s
GROC Groznyy 134.91 314 *e*PKIKP **PKPdf** **10 19 48.5 -1.6**
GROC *e* 10 22 30.7
GROC *e* 10 22 50.6
GROC *e* 10 26 09.6
GROC pmax pmax
comp=Z,50nm,1.0s
VSU Vasula 135.21 342 ⇑*i* PKIKP **PKiKP** **10 19 51.3 -0.5**
VSU pmax pmax
comp=Z,74nm,1.0s
VSR Storozhevoye 135.21 327 *e*PKIKP **PKPdf** **10 19 50.0 -0.4**
VSR pmax pmax
comp=Z,70nm,1.1s
VORD Divnogorie 135.29 327 *e*PKIKP **PKPdf** **10 19 50.6 0.0**
VORD pmax pmax
comp=Z,50nm,1.1s
GOF Gofitskoye 136.02 318 ⇑*e*PKIKP **PKiKP** **10 19 54.0 +0.1**
GOF pmax pmax
comp=Z,52nm,1.3s
NB2 NORSAR Subarra 136.06 353 PKP PKPpre 10 19 40.0
comp=Z,3.7nm,0.5s,baz=33,slow=2.5
NOA NORSAR Array B 136.06 353 PKP **PKPdf** **10 19 51.1 -0.7**
comp=Z,7.1nm,1.0s,baz=13,slow=4.0,SNR=9.5
NOA PKiKP **PKiKP** **10 19 53.5 -0.1**
comp=Z,1.0nm,0.4s,baz=20,slow=3.4,SNR=8.8
NCK Nalchik 136.29 315 ⇓*i* PKIKP **PKiKP** **10 19 53.7 -0.9**
ZEI Tsey 136.35 314 *i* PKIKP **PKPdf** **10 19 52.2 -0.9**
ZEI pmax pmax
comp=Z,18nm,1.1s
KBZ Khabaz 136.66 316 PKP **PKPdf** **10 19 53.8 +0.4**
comp=Z,4.5nm,0.9s,baz=158,slow=4.3,SNR=5.9
KBZ PP **PP** **10 22 46.6 +3.6**
comp=Z,1.6nm,0.5s,baz=139,slow=5.4,SNR=3.8
GNI Garni 136.67 310 ⇑*i* PKIKP **PKPdf** **10 19 54.3 +0.5**
KIV Kislovodsk 136.71 316 *e*PKIKP **PKPdf** **10 19 53.7 +0.1**
KIV pmax pmax
comp=Z,59nm,1.1s
KIV Kislovodsk 136.71 316 **PKPdf** **10 19 53.5 -0.1**
NEY Neytrino 136.97 315 ⇓*i* PKIKP **PKiKP** **10 19 55.3 -0.9**
AKH Akhalkalaki 137.14 313 ⇓P **PKiKP** **10 19 57.6 +1.0**
NACGM Naroch 138.08 339 *e* **PKPdf** **10 19 51.0 -4.6**
LSZ Lusaka 138.22 220 PKHKP PKPpre 10 19 49.5
LSZ 10 19 57.5
LSZ Lusaka 138.22 220 PKPpre 10 19 49.5
LSZ **PKPdf** **10 19 57.5 +0.2**
DAMY Dhamar 138.97 272 **PKPdf** **10 19 59.9 +1.1**
KIBK Kibwezi 139.10 245 P **PKPdf** **10 19 52.3 -6.6**
SNR=12
SUW Suwalki 140.02 340 *e*PKP **PKPdf** **10 19 52.4 -6.8**
SUW *e*PKP **PKPdf** **10 19 52.4 -6.8**
AKASG Malin Array Be 140.33 333 PKHKP PKPpre 10 19 52.2
AKASG 10 19 59.0
AKASG Malin Array Be 140.33 333 PKHKP PKPpre 10 19 52.7
comp=Z,2.8nm,0.3s,baz=44,slow=4.0,SNR=12
AKASG PKiKP **PKiKP** **10 20 01.9 -0.6**
comp=Z,3.9nm,0.7s,baz=37,slow=2.6,SNR=4.4
AKASG pPKP pPKPdf 10 22 04.8 -0.6
comp=Z,0.5nm,0.4s,baz=36,slow=1.9,SNR=1.9
AKASG Malin Array Be 140.33 333 PKPpre 10 19 52.1
AKASG PKPdf **PKPdf** **10 19 59.0 -0.8**
KMBO Kilima Mbogo 140.40 246 P **PKPdf** **10 19 56.6 -4.8**
SNR=14
KMBO Kilima Mbogo 140.40 246 PKhKP **PKPdf** **10 19 55.6 -5.9**
comp=Z,3.5nm,0.7s,baz=84,slow=4.2,SNR=21
KMBO SKP 10 22 45.7
comp=Z,1.2nm,0.6s,baz=96,slow=10,SNR=2.1
SIM Simferopol' 141.57 322 *e*PKIKP **PKPdf** **10 19 59.1 -3.2**
SIM pmax pmax
comp=Z,24nm,1.0s
URFA Urfa 141.94 309 *e*P **PKPdf** **10 19 59.4 -3.9**
SVSK Karacayir 142.27 313 *e*P **PKPdf** **10 20 00.7 -2.9**
GKP Gorka Klasztor 142.38 345 *e*PKIKP **PKPdf** **10 20 01.4 -2.0**
GKP Gorka Klasztor 142.38 345 *e*PKP **PKPdf** **10 20 01.4 -2.0**
GKP *e*PKP **PKPdf** **10 20 01.4 -2.0**
DARE Darende-Malaty 142.49 311 *e*P **PKPdf** **10 20 01.6 -2.6**
SORM Soroca 142.57 330 ⇑P **PKPdf** **10 20 01.0 -2.9**
DIKM Dikmen 142.63 317 ⇑P **PKPdf** **10 20 01.5 -2.7**
BEL Belsk 142.64 341 *e*PKIKP **PKPdf** **10 20 01.2 -2.7**
BEL Belsk 142.64 341 *e*PKP **PKPdf** **10 20 01.2 -2.7**
BEL *e*PKP **PKPdf** **10 20 01.4 -2.7**
FURI Furi 143.08 261 **PKPdf** **10 20 05.7 -0.5**
LVV L'vov 143.16 336 ⇑*i* PKIKP **PKPab** 10 20 02.6 -0.1
MILM Milestii Mici 143.20 329 ⇓P **PKPbc** 10 20 03.3 0.0
GAZ Gaziantep 143.23 309 *e*P **PKPab** 10 20 02.2 -1.3
BZK Bozkurt 143.27 318 ⇓P **PKPbc** 10 20 04.1 +0.4
BZK Bozkurt 143.27 318 *e*P **PKPbc** 10 20 04.2 +0.5
BNN Bunyan 143.53 313 *e*P **PKPbc** 10 20 05.1 +0.3
YOZ Yozgat 143.55 314 *e*P **PKPbc** 10 20 04.9 +0.1
KWP Kalwaria Pacla 143.82 337 *e*PKIKP **PKPab** 10 20 05.3 +0.1
KWP Kalwaria Pacla 143.82 337 *e*PKP **PKPab** 10 20 05.3 +0.1
KWP *e*PKP **PKPab** 10 20 05.3 +0.1
PRAR RASCA 144.12 331 ⇓P **PKPdf** **10 20 07.6 +0.9**
KOZT Kozan 144.13 310 *e*P **PKPbc** 10 20 06.6 +0.1
KURC Kurucasile-Bar 144.13 319 *e*P **PKPbc** 10 20 05.9 -0.5
LODK Lodwar 144.17 251 P **PKPdf** **10 20 08.2 +0.4**
SNR=73
CANT Cankiri 144.22 317 *e*P **PKPbc** 10 20 06.9 +0.1
BIR Birlad 144.24 329 ⇑PKIKP **PKPdf** **10 20 08.1 +1.2**
BIR Birlad 144.24 329 ⇑P **PKPdf** **10 20 08.1 +1.2**
OJC Ojcow 144.35 340 *e*PKIKP **PKPbc** 10 20 06.7 -0.1
OJC Ojcow 144.35 340 *e*PKP **PKPbc** 10 20 06.7 -0.1
OJC *e*PKP **PKPbc** 10 20 06.7 -0.1
CEYT Ceyhan 144.37 310 *e*P **PKPab** **10 20 07.9 +0.2**
TLCR 144.37 326 ⇓PKIKP **PKPab** **10 20 08.8 +1.4**
TLCR 144.37 326 ⇓P **PKPab** **10 20 08.8 +1.4**
BURAR Bucovina Array 144.38 332 ⇓PKIKP **PKPab** **10 20 07.4 -0.1**
BURAR Bucovina Array 144.38 332 ⇓P **PKPab** **10 20 07.4 -0.1**
BURAR Bucovina Array 144.38 332 **PKPbc** 10 20 07.0 -0.1
BIZ Bicaz 144.49 331 ⇑P **PKPab** **10 20 08.4 +0.6**
STHS Stebnicka Huta 144.54 338 *e*PKIKP **PKPbc** 10 20 07.5 +0.1
STHS Stebnicka Huta 144.54 338 *e*PKP **PKPbc** 10 20 07.5 +0.1
TESR Tescani 144.54 330 ⇑P **PKPab** **10 20 07.9 -0.1**
KOLS Kolonicke sedl 144.56 336 *e*PKIKP **PKPab** **10 20 07.8 -0.2**
KOLS Kolonicke sedl 144.56 336 *e*PKP **PKPab** **10 20 07.8 -0.2**
JURR Jurilovca 144.62 326 ⇑P **PKPab** **10 20 08.6 +0.3**
BR131 Keskin Array S 144.65 315 P **PKPdf** **10 20 07.5 -0.5**
SNR=63
BRTR Keskin Array B 144.65 315 PKP **PKPdf** **10 20 07.6 -0.5**
comp=Z,64nm,0.9s,baz=128,slow=2.0,SNR=154
BRTR SKP 10 22 50.2
comp=Z,2.9nm,0.9s,baz=119,slow=2.5,SNR=3.4
BRTR SKKPbc SKKPbc 10 31 02.0 +0.8
comp=Z,2.9nm,1.0s,baz=212,slow=4.4,SNR=8.7
BRTR Keskin Array B 144.65 315 *e*P **PKPdf** **10 20 07.5 -0.5**
BRTR Keskin Array B 144.65 315 **PKPdf** **10 20 07.5 -0.5**
CMRD Camardi-Nigde 144.65 311 *e*P **PKPab** **10 20 08.7 -0.2**
CFR Carcaliu 144.73 327 ⇑PKIKP **PKPdf** **10 20 07.6 -0.2**
CFR Carcaliu 144.73 327 ⇑P **PKPdf** **10 20 07.6 -0.2**
UZH Uzhgorod 144.79 336 ⇑*i* PKIKP **PKPdf** **10 20 06.9 -0.9**
UZH *e* 10 22 05.8
TOPG Topolog 144.81 326 ⇑P **PKPab** **10 20 09.1 0.0**
PETR Petresti 144.82 328 ⇓P **PKiKP** **10 20 10.6 -1.3**
KSP Ksiaz 144.83 344 *e*PKIKP **PKPab** **10 20 08.7 -0.3**
KSP Ksiaz 144.83 344 *e*PKP **PKPab** **10 20 08.7 -0.3**
KSP *e*PKP **PKPab** **10 20 08.7 -0.3**
NIE Niedzica 144.87 339 *e*PKIKP **PKPbc** 10 20 08.8 +0.3
NIE Niedzica 144.87 339 *e*PKP **PKPbc** 10 20 08.8 +0.4
NIE *e*PKP **PKPbc** 10 20 08.8 +0.4
YAYX Yaylak 144.91 314 *e*P **PKPbc** 10 20 08.8 -0.2
VRI Vrincioaia 144.97 329 ⇑PKIKP **PKPab** **10 20 09.3 -0.4**
VRI Vrincioaia 144.97 329 ⇑P **PKPab** **10 20 09.3 -0.4**
PLOR Plostina 145.02 329 ⇑PKIKP **PKPbc** **10 20 09.3 +0.3**
PLOR Plostina 145.02 329 ⇑P **PKPbc** **10 20 09.3 +0.3**
TIRR Tirgusor 145.07 326 ⇓PKIKP **PKPab** **10 20 10.6 +0.5**
TIRR Tirgusor 145.07 326 ⇓P **PKPab** **10 20 10.6 +0.5**
SERE Sereflikochisa 145.07 314 *e*P **PKPab** **10 20 10.2 -0.3**
BMR Baia Mare 145.08 334 ⇑PKIKP **PKPab** **10 20 09.6 -0.5**
BMR Baia Mare 145.08 334 ⇑P **PKPab** **10 20 09.6 -0.5**
TRPA Tarpa 145.10 335 ⇑P **PKPbc** **10 20 09.5 +0.3**
TRPA Tarpa 145.10 335 *e*PKIKPd **PKPab** **10 20 09.0 -1.1**
CHVC Chvalec 145.12 344 *e*PKP **PKPbc** **10 20 09.1 -0.1**
ANTO Ankara 145.14 316 P **PKPdf** **10 20 08.9 +0.1**
SNR=30
ANTO Ankara 145.14 316 ⇓PKIKP **PKPdf** **10 20 08.4 -0.4**
ANTO Ankara 145.14 316 ⇓P **PKPdf** **10 20 08.4 -0.4**
ANTO Ankara 145.14 316 *e*P **PKPdf** **10 20 08.9 +0.1**
ANTO Ankara 145.14 316 **PKPdf** **10 20 08.6 -0.1**
LOD Lodumlu 145.15 316 *e*P **PKPbc** **10 20 10.1 +0.4**
AFSR Afar-Bala (An 145.17 315 *e*P **PKPbc** **10 20 09.6 -0.2**
ARCR ARCALIA 145.17 333 ⇑P **PKPab** **10 20 10.4 0.0**
CLL Collm 145.17 348 *i* PKIKP **PKPbc** **10 20 09.2 0.0**
CLL *e* 10 22 17.0
CLL pmax pmax
comp=Z,521nm,1.2s
CLL Collm 145.17 348 *i* PKPbc **PKPdf** **10 20 08.7 +0.4**
comp=Z,521nm,1.2s
CLL *e*pPKiKP **pPKiKP** **10 22 17.0 -0.3**
HARR Harsova 145.17 327 ⇑PKIKP **PKPab** **10 20 11.0 +0.5**
HARR Harsova 145.17 327 ⇑P **PKPab** **10 20 11.0 +0.5**
TLB Topalu 145.18 326 ⇑PKIKP **PKPab** **10 20 10.5 0.0**
TLB Topalu 145.18 326 ⇑P **PKPab** **10 20 10.5 0.0**
EFOR EFORIE 145.20 325 ⇓P **PKPab** **10 20 10.9 +0.3**
OKC Ostrava-Krasne 145.20 341 *e*PKIKP **PKPdf** **10 20 08.6 +0.2**
OKC *e* 10 20 10.0
OKC Ostrava-Krasne 145.20 341 *e*PKP **PKPdf** **10 20 08.6 +0.2**
OKC *ex* x 10 20 10.0
UPC Upice 145.21 344 *e*PKIKP **PKPbc** **10 20 09.3 -0.1**
UPC Upice 145.21 344 *e*PKP **PKPbc** **10 20 09.3 -0.1**
HWQ Hawqa 145.24 305 *e*P **PKPdf** **10 20 09.1 -0.1**
MFTR Murfatlar 145.25 325 ⇓P **PKiKP** **10 20 11.8 -1.0**
OZUR 145.26 330 ⇑P **PKPab** **10 20 10.8 -0.1**
DPC Dobruska-Polom 145.27 344 *e*PKIKP **PKPdf** **10 20 09.0 +0.4**
DPC *e* 10 20 10.7
DPC Dobruska-Polom 145.27 344 *e*PKP **PKPdf** **10 20 09.0 +0.4**
DPC *ex* x 10 20 10.7
MERS Mersin 145.33 310 *e*P **PKPbc** **10 20 10.3 0.0**
BRG Berggiesshubel 145.38 346 ⇑*i* PKP **PKPbc** **10 20 09.3 -0.6**
comp=Z,183nm,1.1s
BRG *e*pPKP **pPKPdf** **10 22 15.1 +1.0**
comp=Z,27nm,1.5s
BRG Berggiesshubel 145.38 346 ⇑*i* PKIKP **PKPbc** **10 20 09.3 -0.6**
BRG *e* 10 22 15.1
BRG pmax pmax
comp=Z,183nm,1.1s
BRG pmax pmax
comp=Z,27nm,1.5s
LANS Liptovska Anna 145.38 339 *e*PKP2 **PKPab** **10 20 11.3 +0.1**
LANS Liptovska Anna 145.38 339 *e*PKP **PKPab** **10 20 11.3 +0.1**
KRLC Kraliky 145.39 343 *e*PKP2 **PKPbc** **10 20 10.1 +0.1**
KRLC Kraliky 145.39 343 *e*PKP **PKPbc** **10 20 10.1 +0.1**
MANR Mangalia 145.40 325 ⇑P **PKPab** **10 20 11.2 -0.2**
KULU Kulu 145.41 315 *e*P **PKPbc** **10 20 10.2 -0.3**
MORC Moravsky Berou 145.44 342 *e*PKP **PKPdf** **10 20 09.4 +0.5**
WTSB Winterswijk 145.45 354 *e*PKP **PKPdf** **10 20 09.2 +0.4**
SULT Sultanhani-AKS 145.46 313 *e*P **PKPbc** **10 20 10.4 -0.3**
AMRR Amara 145.54 327 ⇓PKP2 **PKiKP** **10 20 14.3 +0.9**
AMRR Amara 145.54 327 ⇓P **PKiKP** **10 20 14.3 +0.9**
DOPR Dopca 145.54 330 ⇑P **PKPbc** **10 20 10.6 0.0**
PVCC Panska Ves 145.55 345 *e*PKIKP **PKPdf** **10 20 09.4 +0.4**
PVCC *e* 10 20 11.4
PVCC Panska Ves 145.55 345 *e*PKP **PKPdf** **10 20 09.4 +0.4**
PVCC *ex* x 10 20 11.4
BHL Bhannes 145.59 305 *e*P **PKPdf** **10 20 08.7 -1.1**
ISR Istrita 145.59 328 ⇓PKP2 **PKPab** **10 20 12.3 +0.1**
ISR Istrita 145.59 328 ⇓P **PKPab** **10 20 12.3 +0.1**
YUVA Yuva-Kibriscik 145.59 318 *e*P **PKPbc** **10 20 11.6 +0.6**
KECS Kecovo 145.59 338 *e*PKP2 **PKPab** **10 20 11.4 -0.6**
KECS Kecovo 145.59 338 *e*PKP **PKPab** **10 20 11.4 -0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MLR	Muntele Rosu	145.62	329	⇓PKIKP	PKPdf	10 20 09.4	-0.1
MLR	Muntele Rosu	145.62	329	⇓P	PKPdf	10 20 09.4	-0.1
ICOR	Ion Corvin	145.63	326	⇑P	PKPab	10 20 12.7	+0.4
PSN	Preselentsi	145.71	325	eP	PKPbc	10 20 11.3	+0.2
CHBY	Cihanbeyli	145.71	314	eP	PKPbc	10 20 11.1	-0.3
CJR	Cluj-Napoca	145.78	333	⇑PKIKP	PKPbc	10 20 10.9	-0.4
CJR	Cluj-Napoca	145.78	333	⇑P	PKPbc	10 20 10.9	-0.4
SHEL	Horse Pasture	145.87	167	i PKP2	PKiKP	10 20 14.9	-0.1
SECR		145.88	329	⇑P	PKPbc	10 20 12.3	+0.7
LEHL	Lehliu	145.90	327	⇓P	PKPab	10 20 12.9	-0.4
LTVH	Ltavrtes, Hu	145.96	335	ePKiKPd	PKPbc	10 20 12.0	+0.4
SILI	Silifke-Mersin	145.97	310	eP	PKPbc	10 20 12.4	+0.3
PRA	Prague	146.01	345	ePKP2	PKPbc	10 20 12.0	+0.3
PRA	Prague	146.01	345	ePKP	PKPbc	10 20 12.0	+0.3
SULR		146.04	328	⇑P	PKPbc	10 20 12.4	+0.5
PRU	Pruhonice	146.06	345	ePKIKP	PKPdf	10 20 10.1	+0.2
PRU				e		10 20 12.4	
PRU	Pruhonice	146.06	345	ePKP	PKPdf	10 20 10.1	+0.2
PRU				ex	x	10 20 12.4	
VOIR		146.09	330	⇑PKP2	PKPab	10 20 14.1	-0.1
VOIR		146.09	330	⇑P	PKPab	10 20 14.1	-0.1
KEBE	Keben-Mersin	146.09	310	eP	PKPbc	10 20 12.6	+0.1
DRGR		146.10	334	⇓PKIKP	PKPbc	10 20 11.8	-0.4
DRGR		146.10	334	⇓P	PKPbc	10 20 11.8	-0.4
EREN	Erenkoy	146.13	308	eP	PKPbc	10 20 12.9	+0.4
VRAC	Vranov	146.14	342	⇑PKP2	PKPbc	10 20 12.8	+0.7
VRAC	Vranov	146.14	342	⇑P	PKPbc	10 20 12.8	+0.7
VRAC	Vranov	146.14	342	ePKP	PKPdf	10 20 10.5	+0.4
VYHS	Vyhne	146.16	339	ePKP2	PKPbc	10 20 13.1	+0.9
VYHS	Vyhne	146.16	339	ePKP	PKPbc	10 20 13.1	+0.9
AUSIV	SIVRIHISAR	146.19	316	eP	PKPbc	10 20 12.7	0.0
IKL	Isikli	146.20	310	eP	PKPbc	10 20 12.6	-0.1
JAVC	Velka Javorina	146.21	341	ePKP	PKPbc	10 20 11.6	-0.8
MBAR	Mbarara	146.22	241	d iPKP2	PKPbc	10 20 13.7	+0.1
MBAR	Mbarara	146.22	241		PKPdf	10 20 11.7	+0.2
MTUR	Matau	146.24	330	⇑PKP2	PKPab	10 20 14.4	-0.4
MTUR	Matau	146.24	330	⇑P	PKPab	10 20 14.4	-0.4
MMLI	Mount Malkishu	146.24	302	eP	PKPbc	10 20 13.9	+0.9
KIZT	Kizilcal	146.25	315	eP	PKPbc	10 20 12.9	0.0
LADK	Ladik-KONYA	146.26	314	eP	PKPbc	10 20 12.4	-0.6
SAUV	Serdivan-Sakar	146.26	319	eP	PKPbc	10 20 11.9	-0.8
HKB	Herkenbosch	146.28	355	PKPdf	PKPdf	10 20 09.2	-1.0
HKB				PKiKP	PKPbc	10 20 12.8	+0.4
PSZ	Piszkesteto	146.28	338	⇑PKIKP	PKPdf	10 20 10.9	+0.4
PSZ	Piszkesteto	146.28	338	⇑P	PKPdf	10 20 10.9	+0.4
PSZ	Piszkesteto	146.28	338	ePKiKPd	PKPbc	10 20 12.1	-0.6
TEVE	Tevekalti-Mers	146.30	310	eP	PKPbc	10 20 13.1	0.0
SPNC	Sapanca-Adapaz	146.30	319	eP	PKPbc	10 20 12.8	0.0
NKC	Novy Kostel	146.30	348	ePKIKP	PKPdf	10 20 10.7	+0.4
NKC				e		10 20 13.3	
NKC	Novy Kostel	146.30	348	ePKP	PKPdf	10 20 10.7	+0.4
NKC				ex	x	10 20 13.3	
BDSL	Dessel	146.33	356	x	PKPdf	10 20 11.4	+1.1
BDSL				PKiKP	PKPbc	10 20 12.9	+0.4
BMOL	Mol	146.33	356	PKiKP	PKPab	10 20 14.6	-0.2
AKKU	Akkuyu-Mersin	146.34	310	eP	PKPbc	10 20 12.6	-0.5
ARR	Arges	146.34	330	⇓P	PKPdf	10 20 11.7	+1.1
KONT	Konya--Tatoy	146.38	313	eP	PKPbc	10 20 12.8	-0.4
KRUC	Moravsky	146.41	342	ePKP	PKPdf	10 20 10.7	+0.2
ROSA	Rosais	146.44	45		PKPbc	10 20 12.5	-0.8
SILT	Sile	146.44	320	eP	PKPbc	10 20 13.4	+0.2
PRD	Provadia	146.46	325	eP	PKPbc	10 20 13.3	+0.2
TREC	Trest	146.46	344	ePKP2	PKPbc	10 20 13.2	+0.2
TREC	Trest	146.46	344	ePKP	PKPbc	10 20 13.2	+0.2
PBCC	Pribram	146.47	346	ePKP	PKPbc	10 20 13.7	+0.7
BERE	Bereket-Mersin	146.50	310	eP	PKPbc	10 20 13.7	0.0
CIFT	Cifteler, Eski	146.54	316	eP	PKPbc	10 20 13.7	0.0
SMOL	Smolenice	146.59	341	ePKP2	PKiKP	10 20 14.9	-0.6
SMOL	Smolenice	146.59	341	ePKP	PKiKP	10 20 14.9	-0.6
HRT	Hereke	146.62	320	eP	PKPdf	10 20 11.3	+0.1
VKB	Valkenburg	146.63	355	ePKP	PKPbc	10 20 13.5	+0.2
BORA	Eskisehir	146.66	318	eP	PKPbc	10 20 13.8	-0.2
TEKE	Tekeli-Mersin	146.66	310	eP	PKPbc	10 20 13.4	-0.6
BSZH	Besenyszg	146.66	337	ePKiKPd	PKPbc	10 20 14.0	+0.4
LOT	Lotru	146.68	331	⇑P	PKPbc	10 20 14.0	+0.1
RAZG	Razgrad	146.69	326	⇑P	PKPbc	10 20 13.9	+0.1
BEBN	Eben Emael	146.71	355	PKPdf	PKPdf	10 20 08.8	-2.1
BEBN				PKiKP	PKPbc	10 20 13.7	+0.1
HGN	Heimansgroeve	146.72	355	ePKP	PKPbc	10 20 13.7	+0.1
DEV	Deva	146.73	333	⇓PKP2	PKiKP	10 20 15.0	-0.9
DEV	Deva	146.73	333	⇓P	PKiKP	10 20 15.0	-0.9
MODS	Modra-Piesok	146.77	341	ePKP2	PKPbc	10 20 14.2	+0.3
MODS	Modra-Piesok	146.77	341	ePKP	PKPbc	10 20 14.2	+0.3
UCC	Uccle	146.79	357	PKiKP	PKPbc	10 20 13.7	-0.1
MEM	Membach	146.87	355	PKPdf	PKPdf	10 20 10.5	-0.7
MEM				PKiKP	PKPbc	10 20 14.4	+0.4
MEM				PKPab	PKiKP	10 20 15.1	-0.9
BLCH	La Chartreuse	146.87	356	PKPdf	PKPdf	10 20 11.8	+0.6
BLCH				PKiKP	PKPbc	10 20 14.2	+0.2
BLCH				PKPab	PKiKP	10 20 14.7	-1.3
CAVI	Cavuskoy	146.87	319	eP	PKPbc	10 20 14.5	+0.1
SRO	Srobarova	146.92	339	ePKP2	PKiKP	10 20 15.4	-0.8
SRO	Srobarova	146.92	339	ePKP	PKiKP	10 20 15.4	-0.8
BSTI	Sart Tilman	146.93	356	PKiKP	PKPbc	10 20 14.5	+0.3
BSKQ	Steenkerk	146.95	357	PKiKP	PKPbc	10 20 14.3	+0.1
YLV	Yalova	146.95	320	⇓PKP2	PKPbc	10 20 15.0	+0.3
YLV	Yalova	146.95	320	⇓P	PKPbc	10 20 15.0	+0.3
YLV	Yalova	146.95	320	eP	PKPbc	10 20 14.6	-0.1
SIRR	Siria	146.96	334	⇓P	PKiKP	10 20 15.7	-0.6
BCES	Court-Saint-Et	146.97	357	PKiKP	PKPbc	10 20 14.5	+0.2
BRQR	Ronquire	146.99	357	PKiKP	PKPbc	10 20 14.5	+0.2
CSS	Mathiatis	146.99	308	eP	PKPbc	10 20 14.0	-0.9
CTYL	Yalikoy Yolu	147.06	322	⇑P	PKPbc	10 20 15.1	+0.3
CTYL	Yalikoy Yolu	147.06	322	eP	PKPbc	10 20 13.5	-1.3
CTKS	Kestanelik-??a	147.08	321	eP	PKPbc	10 20 14.0	-0.9
SNF	Seneffe	147.08	357	PKPdf	PKPdf	10 20 11.3	-0.3
SNF				PKiKP	PKPbc	10 20 14.7	+0.2
SNF				x	x	10 20 17.8	
KHC	Kasperske Hory	147.09	346	ePKIKP	PKPdf	10 20 11.5	-0.2
KHC				e		10 20 15.0	
KHC				e		10 22 19.0	
KHC	Kasperske Hory	147.09	346	ePKP	PKPdf	10 20 11.5	-0.2
KHC				ex	x	10 20 15.0	
KHC				ex	x	10 21 30.0	
KHC				epPKP	pPKPab	10 22 19.0	+1.0
BCLA	Clavier	147.11	356	PKPdf	PKPdf	10 20 11.1	-0.6
BCLA				PKiKP	PKPbc	10 20 14.5	-0.1
BHOU	Houvegnez	147.12	355	PKPdf	PKPdf	10 20 11.8	+0.1
BHOU				PKiKP	PKPbc	10 20 15.1	+0.3
BGES	Gesves	147.16	356	PKiKP	PKPbc	10 20 14.9	+0.1
BGES				x	x	10 20 17.4	
GZR	Gura Zlata	147.17	332	⇓P	PKPdf	10 20 13.3	+1.3
SZH	Strazhica	147.20	326	eP	PKPbc	10 20 14.2	-1.0
BBOU	Bougnies	147.22	357	PKPdf	PKPdf	10 20 12.3	+0.6
BBOU				PKiKP	PKPbc	10 20 15.2	+0.3
ZIMR		147.22	328	⇑PKP2	PKiKP	10 20 16.5	-0.4
ZIMR		147.22	328	⇑P	PKiKP	10 20 16.5	-0.4
LEF	Lefka	147.25	308	⇑P	PKiKP	10 20 16.5	-0.8
LEF	Lefka	147.25	308	eP	PKPbc	10 20 15.2	-0.4
SLVT	Silivri	147.26	322	eP	PKiKP	10 20 16.4	-0.7
BMRD	Maredsous	147.26	356	PKPdf	PKPdf	10 20 11.6	-0.3
BMRD				PKiKP	PKPbc	10 20 15.0	0.0
ARMT	Armutlu	147.27	320	eP	PKPbc	10 20 14.1	-1.4
SHUT	Suhut-Afyon	147.31	316	eP	PKPbc	10 20 15.9	+0.1
GERES	GERESS Array B	147.33	345	PKPbc	PKPbc	10 20 15.4	0.0
	comp=Z,67nm,0.9s,baz=32,slow=2.4,SNR=165						
GERES				PKPab	PKPab	10 20 19.1	0.0
	comp=Z,6.2nm,0.4s,baz=34,slow=4.4,SNR=14						
GERES	GERESS Array B	147.33	345		PKPdf	10 20 11.5	-0.7
GERES				PKPbc	PKPbc	10 20 15.7	+0.3
CSKK	Cskako	147.33	339	ePKiKPc	PKPbc	10 20 15.1	-0.3
LKLB	Kalborn	147.36	355	PKiKP	PKPbc	10 20 16.1	+0.7
JMB	Yambol	147.39	325	eP	PKPbc	10 20 15.7	0.0
PHSR	Pinarhisar	147.41	323	⇑P	PKiKP	10 20 18.0	+0.6
PHSR	Pinarhisar	147.41	323	eP	PKiKP	10 20 16.7	-0.7
VLAD	Vladila	147.46	329	⇑P	PKPbc	10 20 16.4	+0.6
ELND	Elena	147.46	326	⇑P	PKPbc	10 20 15.3	-0.6
DOU	Dourbes	147.47	357	PKPdf	PKPdf	10 20 12.0	-0.2
DOU				PKiKP	PKPbc	10 20 15.7	+0.1
BZS	Buzias	147.50	334	⇑PKIKP	PKPdf	10 20 12.3	-0.1
BZS	Buzias	147.50	334	⇑P	PKPdf	10 20 12.3	-0.1
LVIA	Vianden	147.52	355	PKPdf	PKPdf	10 20 13.2	+0.9
LVIA				PKiKP	PKPbc	10 20 16.4	+0.6
TVSB	Tavsanli	147.53	318	eP	PKPdf	10 20 13.3	+0.5
SRE	Strehaia	147.54	331	⇑PKP2	PKPbc	10 20 16.1	+0.1
SRE	Strehaia	147.54	331	⇑P	PKPbc	10 20 16.1	+0.1
CONA	Conrad Observa	147.59	342	ePKPdf	PKPdf	10 20 11.5	-1.1
	comp=Z,16nm,1.3s						
CONA				ePKiKP	PKPbc	10 20 16.7	+0.5
	comp=Z,212nm,1.1s,SNR=39						
CONA				epPKiKP	pPKiKP	10 22 24.3	+1.6
	comp=Z,27nm,1.3s						
SOP	Sopron	147.60	341	ePKiKPd	PKPbc	10 20 16.0	0.0
HERR	Herculane	147.73	332	⇑P	PKPdf	10 20 12.3	-0.5
MPLH	Magyarpolny	147.74	340	ePKiKPd	PKPbc	10 20 16.1	-0.4
KCTX	Karacabey (Bur	147.75	320	eP	PKPbc	10 20 16.6	-0.1
WLF	Walferdange	147.79	355	PKPdf	PKPdf	10 20 13.8	+1.1
WLF				PKiKP	PKiKP	10 20 17.2	-0.7
PLVB	Pleven	147.79	328	⇓P	PKPbc	10 20 17.0	+0.3
TIH	Tihany	147.86	339	ePKiKPd	PKPbc	10 20 16.1	-0.7
BASM	Basmaki-Afyon	147.98	315	eP	PKPbc	10 20 17.5	0.0
EDC	Edincik	148.01	321	eP	PKPbc	10 20 17.4	+0.1
MRMT	Marmara Adasi	148.01	321	eP	PKPbc	10 20 16.9	-0.5
ANTB	Antalya	148.08	313	eP	PKPbc	10 20 15.9	-1.7
MOA	Molln	148.11	344	ePKPdf	PKPdf	10 20 11.7	-1.7
	comp=Z,11nm,1.4s						
MOA				ePKiKP	PKPbc	10 20 17.4	0.0
	comp=Z,109nm,1.2s,SNR=25						
MOA				pPKiKP	pPKiKP	10 22 25.3	+1.6
	comp=Z,16nm,1.1s						
MDVR	Moldovita	148.12	333	⇑P	PKPdf	10 20 13.2	-0.3
ARSA	Arzberg	148.30	342	ePKiKP	PKPbc	10 20 17.9	0.0
	comp=Z,102nm,1.5s,SNR=15						
ARSA				epPKiKP	pPKiKP	10 22 25.6	+1.5
	comp=Z,15nm,1.2s						
KRBG	Karabiga-Canak	148.32	321	eP	PKPbc	10 20 18.1	0.0
BALB	Balikesir	148.42	319	eP	PKPbc	10 20 18.3	-0.1
KULA	Kula-Manisa	148.58	317	eP	PKPab	10 20 24.0	-0.5
KDZ	Kurdzhali	148.58	325	eP	PKPbc	10 20 18.6	-0.2
BEHE	Becsehely	148.61	340	⇓iP	PKPbc	10 20 18.5	-0.1
BEHE	Becsehely	148.61	340	ePKiKPd	PKPbc	10 20 18.1	-0.6
ERIK	Erikli-Kesan	148.61	322	eP	PKPbc	10 20 18.5	-0.3
FRGS	Fruska Gora	148.62	335	⇓iP	PKPbc	10 20 18.6	-0.1
PGB	Panagyurishte	148.62	327	eP	PKiKP	10 20 21.3	+1.3
CMLA	Cha da Macela	148.76	44	i PKP2	PKiKP	10 20 22.0	+1.7
BFO	Black Forest	148.85	351	PKIKP	PKPdf	10 20 14.1	-0.5
BFO	Black Forest	148.85	351		PKPdf	10 20 14.1	-0.5
BFO				PKPbc	PKPbc	10 20 19.3	0.0
RDO	Rodhopi	148.85	324	eP	PKPbc	10 20 19.1	-0.3
RZN	Rozhen	148.94	325	eP	PKPbc	10 20 19.6	-0.3
SOKA	Soboth	148.96	342	ePKiKP	PKPbc	10 20 19.2	-0.4
	comp=Z,165nm,1.2s,SNR=24						
PERS	Pernice	148.98	342	i PKPbc	PKPbc	10 20 19.1	-0.6
KALN	Kalnik	149.01	340	i P	PKPbc	10 20 19.4	-0.3
VTS	Vitosha	149.05	328	eP	PKPbc	10 20 19.9	-0.2
VTS	Vitosha	149.05	328	⇑PKHKP	PKPbc	10 20 19.7	-0.3
VTS	Vitosha	149.05	328	⇑P	PKPbc	10 20 19.7	-0.3
KBA	Koelnbreinsper	149.06	344	ePKiKP	PKPbc	10 20 19.4	-0.6
	comp=Z,52nm,0.5s,SNR=22						
TEKS	Tekeris	149.23	335	⇓iP	PKPbc	10 20 20.4	+0.1
WATA	Walderalm	149.23	347	ePKPdf	PKPdf	10 20 14.3	-1.1
	comp=Z,24nm,1.3s,SNR=51						
WATA				ePKiKP	PKPbc	10 20 20.1	-0.2
	comp=Z,242nm,1.2s						
WATA				epPKPab	pPKPab	10 22 26.3	-0.1
	comp=Z,9.6nm,1.1s						
EZN	Ezine	149.25	321	⇓P	PKPbc	10 20 18.0	-2.4
OBKA	Obir	149.26	343	ePKiKP	PKPbc	10 20 20.2	-0.1
	comp=Z,68nm,1.2s,SNR=6.8						
RETA	Reutte	149.26	348	ePKiKP	PKPbc	10 20 20.3	0.0
	comp=Z,160nm,1.2s,SNR=22						
WTTA	Wattenberg	149.29	347	ePKPdf	PKPdf	10 20 14.6	-0.9
	comp=Z,29nm,1.3s,SNR=68						
WTTA				ePKiKP	PKPbc	10 20 20.5	0.0
	comp=Z,239nm,0.9s						
WTTA				epPKiKP	pPKPab	10 22 26.5	-0.2
	comp=Z,22nm,1.4s						
FETY	Fethiye	149.30	314	eP	PKPbc	10 20 20.8	+0.1
MOTA	Moosalm	149.32	347	ePKPdf	PKPdf	10 20 15.3	-0.2
	comp=Z,27nm,1.2s,SNR=46						
MOTA				ePKiKP	PKPbc	10 20 20.2	-0.3
	comp=Z,265nm,1.2s						
MOTA				epPKPbc	pPKPab	10 22 26.2	-0.5
	comp=Z,23nm,1.2s						
PTJ	Puntijarka	149.37	340	i P	PKPbc	10 20 20.6	0.0
MYKA	Terra Mystica	149.40	344	ePKiKP	PKPbc	10 20 20.1	-0.5
	comp=Z,41nm,0.4s,SNR=18						
AYDB	Zeytinkoy-Aydi	149.40	317	eP	PKiKP	10 20 21.4	-0.4
BOZC	Bozcaada	149.41	321	eP	PKPbc	10 20 20.5	-0.3
DIVS	Divibare	149.41	334	⇓iP	PKPbc	10 20 20.6	-0.2
SQTA	Sankt Quirin	149.42	347	ePKPdf	PKPdf	10 20 15.6	0.0
	comp=Z,24nm,1.3s,SNR=54						
SQTA				ePKiKP	PKPbc	10 20 20.6	-0.1
	comp=Z,148nm,0.8s						
ZAG	Zagreb	149.43	340	eP	PKiKP	10 20 21.6	+0.2
TURN	Turunc	149.51	314	eP	PKiKP	10 20 22.6	+0.7
MMB	Musomiste	149.54	326	eP	PKPbc	10 20 20.7	-0.4
ABTA	Abfaltersbach	149.57	345	ePKPdf	PKPdf	10 20 15.3	-0.6
	comp=Z,50nm,1.2s,SNR=45						
ABTA				ePKiKP	PKPbc	10 20 20.4	-0.7
	comp=Z,241nm,1.0s						
ABTA				epPKPbc	pPKPab	10 22 26.6	-1.0
	comp=Z,25nm,1.2s						
CRES	Cresnjev	149.60	341	⇓iP	PKPbc	10 20 20.9	-0.2
DAVA	Damuels	149.62	349	ePKPdf	PKPdf	10 20 16.0	0.0
	comp=Z,19nm,1.2s,SNR=65						
DAVA				ePKiKP	PKPbc	10 20 21.2	-0.1
	comp=Z,283nm,1.1s						
DAVA				epPKPab	pPKPab	10 22 29.8	+1.9
	comp=Z,27nm,1.3s						
LJU	Ljubljana	149.69	342	i PKPbc	PKPbc	10 20 21.1	-0.2
LJU	Ljubljana	149.69	342	⇓iP	PKPbc	10 20 21.0	-0.2
FETA	Feichten	149.71	348	ePKPdf	PKPdf	10 20 16.4	+0.2
	comp=Z,28nm,1.1s,SNR=39						
FETA				ePKiKP	PKPbc	10 20 21.4	-0.1
	comp=Z,216nm,1.0s						
OZLJ	Ozalj	149.79	341	i P	PKPbc	10 20 21.5	+0.1
MLSB	Milas	149.83	316	eP	PKPbc	10 20 22.1	+0.2
BBLS	Lazići	149.84	334	⇓iP	PKPbc	10 20 21.9	+0.1
HAPS	Han Pijesak,BI	149.85	335	eP	PKPbc	10 20 20.9	-1.0
BOJS	Bojanci	149.95	341	i PKPbc	PKPbc	10 20 22.1	+0.2
BLY	Banja Luka	149.97	338	⇓iP	PKPbc	10 20 22.0	+0.1
BLY	Banja Luka	149.97	338	⇓P	PKPbc	10 20 21.5	-0.4
CEY	Cerknica	149.99	342	⇓iP	PKPbc	10 20 21.6	-0.4
RUDO	Rudo	150.06	334	eP	PKPbc	10 20 21.7	-0.5
ASCN	Ascension	150.08	147		PKiKP	10 20 23.9	+0.1
STIP	Stip	150.26	328	i P	PKPbc	10 20 21.9	-0.8
PLE	Pljevlja	150.28	333	⇓iPKP	PKPbc	10 20 22.9	0.0
MGRS	Mrkonjic Grad	150.29	338	⇑iP	PKiKP	10 20 23.3	0.0
VAY	Valandovo	150.33	327	i P	PKPbc	10 20 22.4	-0.5
RIY	Rijeka	150.35	342	⇓iP	PKPbc	10 20 22.3	-0.5
SKO	Skopje	150.42	329	i P	PKiKP	10 20 23.5	-0.1
IVA	Berane	150.44	332	⇓iPKP	PKPbc	10 20 23.1	-0.1
UPM	Unac-Piva	150.59	334	eP	PKPbc	10 20 22.8	-0.9
UPM	Unac-Piva	150.59	334	⇓iPKP	PKPbc	10 20 23.6	-0.1
KOME	Kolasin	150.62	333	⇓iPKP	PKiKP	10 20 23.9	-0.2
PVY	Plav	150.63	332	⇓iPKP	PKPbc	10 20 23.4	-0.3
UDBI	Udbina	150.65	339	i P	PKPbc	10 20 23.5	-0.2
NKY	Niksic	150.87	333	⇓iPKP	PKPbc	10 20 24.3	0.0
NVLJ	Novalja	150.92	340	i P	PKPbc	10 20 23.7	-0.4
NKME	Niksic	150.93	333	⇓iPKP	PKPbc	10 20 23.7	-0.6
BRY	Bratogost	150.99	334	eP	PKPbc	10 20 24.1	-0.5
BRY	Bratogost	150.99	334	⇓iPKP	PKPbc	10 20 24.0	-0.5
RICI	Ricice	151.06	336	i P	PKPbc	10 20 24.0	-0.5
PDG	Podgorica	151.07	333	eP	PKPbc	10 20 24.2	-0.4
PDG	Podgorica	151.07	333	⇑P	PKiKP	10 20 24.9	-0.1
TTG	Podgorica	151.07	333	⇓iPKP	PKPbc	10 20 23.9	-0.7
CEME	Cevo	151.12	333	⇓iPKP	PKiKP	10 20 25.4	+0.3
TREB	Trebinje	151.22	334	eP	PKPbc	10 20 24.0	-0.9
MAKA	Makarska	151.28	336	i P	PKPbc	10 20 24.3	-0.7
DRME	Dracevica, Mon	151.30	332	⇓iP	PKPbc	10 20 25.1	0.0
BUM	Brajici-Budva	151.33	333	⇓iPKP	PKPbc	10 20 24.8	-0.5
STON	Ston	151.36	335	i P	PKPbc	10 20 24.3	-0.9
STON	Ston	151.36	335	⇓iP	PKPbc	10 20 23.8	-1.4
DUGI	Dugi Otok	151.37	340	i P	PKPbc	10 20 24.8	-0.4
HCY	Herceg Novi	151.38	334	eP	PKPbc	10 20 24.8	-0.5
HCY	Herceg Novi	151.38	334	⇓iPKP	PKPbc	10 20 24.9	-0.4
ULC	Ulcinj	151.45	332	⇓iPKP	PKPbc	10 20 25.0	-0.5
ZIRJ	Zirje	151.46	339	i P	PKPbc	10 20 24.8	-0.6
HVAR	Hvar	151.59	337	i P	PKPbc	10 20 24.9	-0.8
PCAB	Cabril	154.53	17	ePKPab	PKPab	10 20 50.0	+0.6
PBRG	Braganca	154.78	15	ePKPab	PKPab	10 20 50.9	+0.4
POLO	Lamas de Olo	154.91	17	ePKPab	PKPab	10 20 51.7	+0.6
PVRL	Vila Real	155.02	17	ePKPab	PKPab	10 20 52.2	+0.7
MVO	Moncorvo	155.31	16	ePKPdf	PKPdf	10 20 25.6	+1.2
MVO				eLQ	LQ	10 20 34.6	
MVO	Moncorvo	155.31	16	ePKPab	PKPab	10 20 53.5	+0.7
PVIS	Viseu	155.49	18	ePKPab	PKPab	10 20 53.9	+0.3
COI	Coimbra	155.79	19	ePKPab	PKPab	10 20 55.5	+0.7
MTE	Manteigas	155.88	18	ePKPdf	PKPdf	10 20 25.4	+0.3
MTE	Manteigas	155.88	18	ePKPab	PKPab	10 20 55.8	+0.5
PCAS	Casmilo, Conde	155.91	20	ePKPab	PKPab	10 20 55.8	+0.5
PTOM	Tomar	156.33	20	ePKPab	PKPab	10 20 57.5	+0.3
PCBR	Castelo Branco	156.41	18	ePKPdf	PKPdf	10 20 26.6	+0.9
PCBR	Castelo Branco	156.41	18	ePKPab	PKPab	10 20 57.8	+0.3
PMAFR	Mafra	156.63	22	ePKPab	PKPab	10 20 59.3	+0.8
PMRV	Marv??o	156.82	18	ePKPdf	PKPdf	10 20 27.2	+0.9
PMRV				eLQ	LQ	10 20 37.5	
PMRV	Marv??o	156.82	18	ePKPab	PKPab	10 20 59.7	+0.4
PMTG	Montargil	156.89	20	ePKPab	PKPab	10 20 59.5	-0.1
ESDC	Sonseca Array	157.43	12	PKP	PKPdf	10 20 28.2	+1.1
	comp=Z,1.4nm,0.6s,baz=360,slow=2.6,SNR=8.8						
ESDC				PKPab	PKPab	10 21 02.0	0.0
	comp=Z,17nm,0.9s,baz=347,slow=4.2,SNR=24						
ESDC				PP	PP	10 24 45.5	+3.2
	comp=Z,6.0nm,1.1s,baz=352,slow=5.4,SNR=6.3						
ESDC	Sonseca Array	157.43	12		PKPdf	10 20 27.4	+0.3
ESDC					PKPab	10 21 01.6	-0.3
PAB	San Pablo	157.48	12	PKIKP	PKPdf	10 20 27.8	+0.6
PAB	San Pablo	157.48	12		PKPdf	10 20 27.8	+0.6
PNCL	Nicolau / Gran	157.65	22	ePKPdf	PKPdf	10 20 28.2	+0.9
PNCL	Nicolau / Gran	157.65	22	ePKPab	PKPab	10 21 03.3	+0.4
PBEJ	Beja	157.95	21	ePKPdf	PKPdf	10 20 29.1	+1.4
PBEJ	Beja	157.95	21	ePKPab	PKPab	10 21 04.6	+0.4
MESJ	Messejana	158.00	21	ePKPdf	PKPdf	10 20 27.2	-0.5
PCVE	Castro Verde	158.25	21	ePKPab	PKPab	10 21 06.0	+0.5
MORF	Marmelete	158.32	23	ePKPdf	PKPdf	10 20 29.3	+1.1
PVAQ	Vaqueiros	158.56	21	ePKPdf	PKPdf	10 20 29.6	+1.1
PVAQ	Vaqueiros	158.56	21	ePKPab	PKPab	10 21 08.0	+1.1
KEST	Kesra	160.69	341	PKPab	PKPab	10 21 17.3	+1.0
	comp=Z,42nm,1.1s,baz=330,slow=1.2,SNR=8.1						
LIC	Lamto	166.93	149	ePKIKP	PKPdf	10 20 35.7	-1.4
	comp=Z,96nm,1.1s						
LIC	Lamto	166.93	149	eP	PKPab	10 21 44.9	+0.7
	comp=Z,41nm,1.1s						
KIC	Kosan Boka	167.18	150	ePKIKP	PKPdf	10 20 36.0	-1.3
	comp=Z,95nm,1.2s						
KIC	Kosan Boka	167.18	150	eP	PKPab	10 21 46.2	+0.8
	comp=Z,16nm,0.8s						
TIC	Toumodi	167.29	148	ePKIKP	PKPdf	10 20 36.0	-1.4
TIC	Toumodi	167.29	148	eP	PKPab	10 21 46.5	+0.6
DBIC	Dimbokro	167.39	148	PKP	PKPdf	10 20 37.1	-0.3
	comp=Z,22nm,1.1s,baz=130,slow=1.6,SNR=8.9						
DBIC				PKPab	PKPab	10 21 47.2	+0.9
	comp=Z,4.9nm,0.7s,baz=178,slow=6.2,SNR=4.6						
TAM	Tamanrasset	173.71	326	PKIKP	PKPdf	10 20 40.8	0.0
TAM						10 22 14.8	
TAM	Tamanrasset	173.71	326	PKPdf	PKPdf	10 20 40.8	0.0
TAM					PKPab	10 22 14.8	+0.4
TOA0	Torodi Ar. Sit	175.60	179		PKPdf	10 20 39.7	-1.6
TORD	Torodi Ar. Bea	175.60	179	PKP	PKPdf	10 20 40.3	-1.0
	comp=Z,24nm,1.0s,baz=202,slow=1.6,SNR=56						
TORD				PKPab	PKPab	10 22 22.9	+0.4
	comp=Z,6.6nm,1.0s,baz=187,slow=4.3,SNR=15						
TORD				PP	PP	10 26 15.2	+1.1
	comp=Z,26nm,1.3s,baz=170,slow=2.8,SNR=15						
TORD	Torodi Ar. Bea	175.60	179		PKPdf	10 20 38.2	-3.1
TORD					PKPab	10 22 22.3	-0.2

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*NCEDC **01** 10:03:06.2, 41°.76N×127°.06W, h5km, MD3.1, MD3.1(NEIC)*
*ANF **01** 10:03:09.9±1.4, 41°.86N×126°.62W, h5km, ML2.7/5, Error ellipse: s-maj=14.0km s-min=8.5km az=88.0*
*NEIC **01** 10:03:11.4±1.7, 41°.74N±0°.06×126°.5W±0°.1, h13km±9km*
ISC 01 10:03:09.6±2.5**, 41°.78N**±0°.05×**126°.7W**±0°.1**, h10**km**, n52,** σ1s**25**/59**, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBO	Bosley Butte	1.92	76		Pn	10 03 41.1	-1.3
KEBM	Edson Butte	2.08	58		Pn	10 03 43.1	-1.6
KEBM				Sn	Sn	10 04 07.2	-3.5
KRMB	Red Mountain	2.13	96		Pn	10 03 44.1	-1.3
KSXB	Camp Six Broad	2.13	88		Pn	10 03 44.3	-1.1
KCTM	Capetown	2.23	125		Pn	10 03 45.1	-1.5
JCC	Jacoby Creek,	2.25	114	Pn	Pn	10 03 44.4	-2.4
L02E	Cave Junction	2.36	80	P	Pn	10 03 47.3	-1.2
	baz=260,SNR=24						
L02E	Cave Junction	2.36	80		Pn	10 03 47.3	-1.2
KHMM	Horse Mountain	2.43	111	Pn	Pn	10 03 48.5	-1.1
K02D	Willamette Mer	2.45	67	P	Pn	10 03 48.5	-1.2
	baz=246,SNR=46						
K02D				S	Sn	10 04 21.0	+1.2
	baz=246						
J01E	Myrtle Point	2.49	55	P	Pn	10 03 48.5	-1.7
	baz=234,SNR=17						
J01E				S	Sn	10 04 18.8	-1.8
	baz=234						
KTRM	Thompson Ridge	2.51	86		Pn	10 03 49.4	-1.2
KOMM	Orleans Mounta	2.51	100		Pn	10 03 50.3	-0.3
KCRM	Chalk Rock	2.58	121		Pn	10 03 50.0	-1.5
KMRM	Mail Ridge	2.77	123		Pn	10 03 52.4	-1.6
HUMO	Hull Mountain	2.92	72		Pn	10 03 55.4	-0.8
HUMO	Hull Mountain	2.92	72	Pn	Pn	10 03 55.2	-1.0
M02C	Callahan	2.93	96	P	Pn	10 03 56.2	-0.2
	baz=278,SNR=22						
M02C	Callahan	2.93	96		Pn	10 03 56.3	-0.1
YBH	Yreka Blue Hor	3.01	90		Pn	10 03 58.0	+0.6
YBH	Yreka Blue Hor	3.01	90	Pn	Pn	10 03 57.2	-0.1
LGPM	Granite Peak	3.06	105		Pn	10 03 58.0	-0.2
N02D	Trinity Center	3.13	104	P	Pn	10 03 59.2	0.0
	baz=286,SNR=11						
LBKM	Bonanza King	3.13	101		Pn	10 03 59.7	+0.5
I03D	Drain, OR	3.14	51	P	Pn	10 03 57.8	-1.4
	baz=231,SNR=69						
I03D				S	Sn	10 04 37.7	+1.0
	baz=231						
I02D	Swisshome	3.15	41	P	Pn	10 03 58.4	-0.8
	baz=220,SNR=46						
I02D				S	Sn	10 04 35.4	-1.3
	baz=220						
KCPM	Cahto Peak	3.18	130	Pn	Pn	10 03 58.7	-1.1
L04D	Klamath Falls	3.33	81	P	Pn	10 04 02.2	+0.4
	baz=262,SNR=7.3						
WDC	Whiskeytown Da	3.38	109	Pn	Pn	10 04 03.1	+0.7
LGBM	Gray Butte	3.43	96		Pn	10 04 04.9	+1.6
LMPM	Military Pass	3.44	93		Pn	10 04 04.9	+1.5
M04C	Macdoel	3.66	88	P	Pn	10 04 07.1	+0.7
	baz=271,SNR=8.1						
LGMM	Garner Mountai	3.67	91		Pn	10 04 07.7	+1.1
COR	Corvallis	3.76	41	Pn	Pn	10 04 07.6	0.0
I04A	Tendick Farm,	3.76	56	P	Pn	10 04 07.7	-0.1
	baz=237,SNR=17						
HOPS	Hopland Field	3.94	134	Pn	Pn	10 04 08.6	-1.5
H04D	Lebanon	4.01	45	P	Pn	10 04 10.9	-0.1
	baz=226,SNR=20						
H04D				S	Sn	10 04 58.1	+0.1
	baz=226						
O03E	Paynes Creek	4.01	110	P	Pn	10 04 12.4	+1.2
	baz=293						
O03E				S	Sn	10 04 59.9	+1.7
	baz=293						
ORV	Oroville	4.55	117		Pn	10 04 19.9	+1.3
PINE	Pine Mountain	4.71	63	Pn	Pn	10 04 21.1	+0.2
MOD	Modoc Plateau	4.80	86	Pn	Pn	10 04 21.4	-0.7
F04A	Amboy	5.19	35	Pn	Pn	10 04 27.7	+0.4
AFDM	Forest Hills D	5.23	121	Pn	Pn	10 04 28.7	+0.9
E04D	Cinebar	5.64	31	P	Pn	10 04 34.7	+1.3
	baz=212						
PNTR	Pine Nut	6.07	114	Pn	Pn	10 04 41.1	+1.5
LON	Longmire	6.10	34		Pn	10 04 40.5	+0.7
YERR	Yerington	6.36	114		Pn	10 04 45.4	+1.9
D05A	Enumclaw	6.38	30	Pn	Pn	10 04 45.2	+1.5
G08A	Pilot Rock	6.65	56	Pn	Pn	10 04 49.2	+1.7
HAWA	Hanford	6.94	46	Pn	Pn	10 04 51.8	+0.5
LTY	Liberty	6.98	36	Pn	Pn	10 04 52.8	+0.9
B08A	Colville Reser	8.40	36	Pn	Pn	10 05 12.3	+0.9

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*IDC **01** 10:12:34.5±1.2, 53°.86S×141°.07E, h0km, mb4.4/8, mb1 4.5/8, mb1mx4.1/40, mbtmp4.4/8, MS4.1/19, Ms1 4.1/19, ms1mx3.9/37, Error ellipse: s-maj=73.8km s-min=17.7km az=80.0*
*ISCJB **01** 10:12:35.8±0.5, 53°.90S±0°.08×140°.5E±0°.1, h10km, mb4.4/8, MS4.1/19, Error ellipse: s-maj=12.9km s-min=9.7km az=144.7*
*NEIC **01** 10:12:37.6±2.7, 53°.9S±0°.1×140°.59E±0°.09, h10km±1km, mb4.6/14*
ISC 01 10:12:37.7±0.6**, 53°.94S**±0°.09×**140°.5E**±0°.1**, h10**km**, n54,** σ1s**69**/28**, mb4.5**/13**, MS4.1**/19**, 1D, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	10.82	100	Pn	Pn	10 15 13.8	+1.3
TOO	Toolangi	16.72	14	P	Pn	10 16 33.9	+1.9
STKA	Stephens Creek	22.06	2	P	P	10 17 31.5	-1.1
	18nm,0.9s,baz=171,slow=12,SNR=13						
STKA	Stephens Creek	22.06	2	P	P	10 17 32.3	-0.3
RPZ	Rata Peaks	22.39	75	LR	LR	10 24 20.6	
	comp=Z,1µm,19.2s,baz=234,slow=32						
THZ	Tophouse	24.68	74	P	P	10 17 59.7	+1.1
THZ				IAmb	IAmb	10 18 03.9	
	comp=Z,26nm,1.1s						
FORT	Forrest	24.83	334	P	P	10 17 58.9	-1.1
VNDA	Vanda	24.91	169	P	P	10 17 58.6	-1.8
	comp=Z,2.3nm,0.9s,baz=328,slow=12,SNR=3.8						
VNDA	Vanda	24.91	169	P	P	10 18 00.3	-0.1
VNDA				IAmb	IAmb	10 18 10.0	
	comp=Z,10.0nm,1.1s						
BSWZ	Blackbirch Sta	25.27	75	P	P	10 18 02.9	-1.0
CMWZ	Cape Campbell	25.44	75	P	P	10 18 03.1	-2.3
H01W1	Cape Leeuwin H	26.52	305	T	T	10 46 00.7	
	baz=143,slow=75,SNR=18						
H01W2	Cape Leeuwin H	26.53	305	T	T	10 45 59.8	
	baz=143,slow=75,SNR=19						
H01W3	Cape Leeuwin H	26.54	305	T	T	10 46 01.7	
	baz=143,slow=75,SNR=16						
NWAO	Narrogin (SRO)	26.73	312	LR	LR	10 26 23.0	
	comp=Z,308nm,18.3s,baz=80,slow=31						
URZ	Urewera	29.43	73	LR	LR	10 28 38.6	
	comp=Z,517nm,21.1s,baz=230,slow=33						
ASAR	Alice Springs	30.64	348	P	P	10 18 48.9	-3.2
	comp=Z,2.0nm,0.7s,baz=167,slow=10,SNR=7.3						
ASAR	Alice Springs	30.64	348	P	P	10 18 50.1	-2.0
WB2	Warramunga Arr	34.26	350	P	P	10 19 22.9	-0.9
WB2				IAmb	IAmb	10 19 35.7	
	comp=Z,10nm,1.1s						
WRA	Warramunga Arr	34.26	350	P	P	10 19 21.3	-2.6
	comp=Z,3.3nm,1.0s,baz=172,slow=7.7,SNR=8.0						
WRA	Warramunga Arr	34.26	350	P	P	10 19 21.6	-2.3
WB0	Warramunga Arr	34.43	350	P	P	10 19 24.5	-0.7
WB0				IAmb	IAmb	10 19 37.0	
	comp=Z,6.7nm,1.1s						
QSPA	South Pole Qui	36.17	180	P	P	10 19 38.6	-1.4
	comp=Z,6.3nm,1.0s,baz=339,slow=4.3,SNR=5.4						
QSPA	South Pole Qui	36.17	180	P	P	10 19 39.5	-0.6
QSPA				IAmb	IAmb	10 19 41.6	
	comp=Z,9.7nm,1.1s						
DZM	Mont Dzumac	37.39	42	LR	LR	10 32 15.7	
	comp=Z,387nm,18.3s,baz=212,slow=32						
MAW	Mawson	37.49	218	LR	LR	10 33 42.6	
	comp=Z,470nm,20.2s,baz=82,slow=34						
MAW	Mawson	37.49	218	P	P	10 19 52.6	+1.6
FITZ	Fitzroy Crossi	37.58	336	P	P	10 19 52.9	+0.7
FITZ				IAmb	IAmb	10 19 55.1	
	comp=Z,12nm,1.4s						
RAO	Raoul Island	38.87	68	LR	LR	10 33 28.1	
	comp=Z,198nm,20.5s,baz=202,slow=32						
KNRA	Kununurra	39.27	342	P	P	10 20 09.4	+3.0
KNRA				IAmb	IAmb	10 20 17.8	
	comp=Z,23nm,1.4s						
SYO	Syowa Base	44.61	210⇓	eX	P	10 20 42.0	-7.5
PMG	Port Moresby	44.73	9	LR	LR	10 39 37.8	
	comp=Z,212nm,19.7s,baz=336,slow=36						
BATI	Baumata	45.65	336	LR	LR	10 38 56.5	
	comp=Z,417nm,21.1s,baz=148,slow=35						
HNR	Honiara	47.05	27	LR	LR	10 38 13.1	
	comp=Z,124nm,18.7s,baz=196,slow=33						
KRVT	Keravat (AS076	50.36	15	LR	LR	10 41 30.6	
	comp=Z,110nm,18.6s,baz=233,slow=35						
JAY	Jayapura	51.26	0	LR	LR	10 43 03.9	
	comp=Z,131nm,18.9s,baz=12,slow=36						
KAPI	Kappang	51.62	333	P	P	10 21 43.5	-0.8
	comp=Z,5.2nm,0.3s,baz=164,slow=8.1,SNR=4.1						
KAPI				LR	LR	10 42 57.5	
	comp=Z,167nm,19.5s,baz=294,slow=35						
LEM	Lembang	53.97	318	P	P	10 22 01.1	-0.8
	comp=Z,12nm,0.4s,baz=170,slow=22,SNR=3.8						
LEM				LR	LR	10 41 23.2	
	comp=Z,178nm,20.6s,baz=170,slow=32						
PPT	Papeete	64.17	84	LR	LR	10 44 32.2	
	comp=Z,56nm,20.8s,baz=239,slow=30						
IPM	Ipoh	66.90	316	P	P	10 23 33.0	+2.9
KULM	Kulim	67.78	316	P	P	10 23 36.8	+1.1
H08S2	Diego Garcia H	70.97	284	T	T	11 41 35.6	
	baz=144,slow=76,SNR=14						
H08S1	Diego Carcia H	70.99	284	T	T	11 41 34.6	
	baz=144,slow=76,SNR=13						
H08S3	Diego Garcia H	71.00	284	T	T	11 41 34.4	
	baz=144,slow=76,SNR=21						
H08N1	Diego Carcia H	72.88	283	T	T	11 43 55.1	
	baz=151,slow=77,SNR=5.0						
H08N3	Diego Garcia H	72.89	283	T	T	11 43 56.3	
	baz=151,slow=77,SNR=5.2						
H08N2	Diego Garcia H	72.90	283	T	T	11 43 55.1	
	baz=151,slow=77,SNR=7.2						
CMAR	Chiang Mai Arr	80.44	320	P	P	10 24 49.0	-0.4
	comp=Z,0.8nm,0.6s,baz=178,slow=5.4,SNR=7.2						
CMAR				LR	LR	10 57 58.1	
	comp=Z,67nm,20.9s,baz=170,slow=34						
CMAR	Chiang Mai Arr	80.44	320	P	P	10 24 49.4	-0.1
BOSA	Boshof	80.65	234	LR	LR	10 53 29.6	
	comp=Z,132nm,21.3s,baz=206,slow=30						
LSZ	Lusaka	90.32	243	LR	LR	10 59 52.7	
	comp=Z,165nm,21.3s,baz=234,slow=31						
KSRS	Korea Array	91.67	350	LR	LR	11 06 31.9	
	comp=Z,28nm,21.0s,baz=205,slow=35						
KMBO	Kilima Mbogo	96.88	259	LR	LR	11 01 45.3	
	comp=Z,78nm,21.6s,baz=94,slow=30						
GERES	GERESS Array B	147.08	283	PKPbc	PKPbc	10 32 19.7	-0.3
	comp=Z,1.8nm,0.9s,baz=132,slow=2.9,SNR=5.1						

*ISCJB **01** 10:14:10.4±0.4, 25°.71S±0°.05×177°.36W±0°.08, h160km, mb4.0/8, Error ellipse: s-maj=10.6km s-min=6.8km az=23.5*
*NEIC **01** 10:14:10.1±2.3, 25°.77S±0°.09×177°.4W±0°.1, h139km±5km, mb4.4/14*
*IDC **01** 10:14:10.5±2.4, 25°.61S×177°.51W, h135km±24km, mb3.8/8, mb1 4.0/11, mb1mx3.6/47, mbtmp4.4/11, Error ellipse: s-maj=26.5km s-min=19.3km az=127.0*
ISC 01 10:14:12.2±0.6**, 25°.75S**±0°.07×**177°.3W**±0°.1**, h160km, n42, σ1.s76**/44**, mb4.1**/13**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	3.54	189	P	Pn	10 15 06.7	0.0
	32nm,0.3s,baz=45,slow=20,SNR=2.1						
RAO				S	Sn	10 15 48.9	-0.3
	296nm,0.3s,baz=65,slow=22,SNR=12						
RAO	Raoul Island	3.54	189		Pn	10 15 06.5	-0.2
RAO					Sn	10 15 50.0	+0.9
NIUE	Niue	9.49	47	Pn	Pn	10 16 24.7	-0.7
AFI	Afiamalu	12.86	25	P	Pn	10 17 06.2	-3.1
	7.4nm,0.3s,baz=229,slow=9.3,SNR=7.3						
AFI				S	Sn	10 19 16.8	-15
	3.0nm,0.3s,baz=209,slow=19,SNR=3.5						
AFI	Afiamalu	12.86	25		Pn	10 17 06.5	-2.8
URZ	Urewera	13.35	200	P	Pn	10 17 16.3	+1.0
	3.1nm,0.3s,baz=304,slow=2.0,SNR=17						
URZ				S	Sn	10 19 27.7	-16
	0.5nm,0.3s,baz=104,slow=2.6,SNR=5.4						
URZ	Urewera	13.35	200	P	Pn	10 17 15.8	+0.4
HIZ	Hauiti	14.36	206	P	P	10 17 31.4	+0.9
BKZ	Black Stump Fm	14.37	200		Pn	10 17 27.1	-1.2
DZM	Mont Dzumac	15.35	280	P	P	10 17 43.1	+1.4
	0.4nm,0.3s,baz=73,slow=14,SNR=6.5						
DZM	Mont Dzumac	15.35	280	P	P	10 17 46.1	+4.4
DZM				IAmb	IAmb	10 17 46.3	
	comp=Z,30nm,1.3s						
BFZ	Birch Farm	15.84	198		Pn	10 17 44.0	-2.4
MSWZ	Moikau Station	16.81	200	P	P	10 17 54.1	-3.5
SNZO	South Karori	16.89	201	P	P	10 17 56.7	-1.7
PLWZ	Palliser	16.95	200	P	P	10 17 56.1	-3.1
TUWZ	Tuamarina	17.25	203	P	P	10 17 58.5	-3.9
KHZ	Kahutara	18.27	202	P	P	10 18 10.2	-3.3
KHZ				IAmb	IAmb	10 18 20.8	
	comp=Z,34nm,1.1s						
WHZ	Wether Hill Ro	23.33	207	P	P	10 19 04.8	-1.1
WHZ				IAmb	IAmb	10 19 12.3	
	comp=Z,44nm,1.5s						
PPT	Papeete	26.94	78	P	P	10 19 39.6	+0.7
PPTF	Pamatai, Papee	26.94	78	P	P	10 19 39.3	+0.4
CTA	Charters Tower	34.01	272	P	P	10 20 40.1	-0.8
	comp=Z,2.0nm,0.6s,baz=89,slow=11,SNR=6.6						
AS31	Alice Springs	44.22	262	P	P	10 22 05.0	-0.8
ASAR	Alice Springs	44.22	262	P	P	10 22 04.6	-1.2
	comp=Z,1.3nm,0.5s,baz=88,slow=7.4,SNR=22						
ASAR	Alice Springs	44.22	262	P	P	10 22 05.6	-0.2
WB2	Warramunga Arr	44.78	267	P	P	10 22 09.3	-0.8
WB2				IAmb	IAmb	10 22 11.6	
	comp=Z,8.8nm,1.4s						
WRA	Warramunga Arr	44.79	267	P	P	10 22 08.3	-2.0
	comp=Z,2.7nm,0.6s,baz=105,slow=8.0,SNR=12						
WRA	Warramunga Arr	44.79	267	P	P	10 22 09.1	-1.2
WB0	Warramunga Arr	44.79	267	P	P	10 22 09.2	-1.1
WB0				IAmb	IAmb	10 22 10.8	
	comp=Z,4.0nm,0.7s						
KNRA	Kununurra	51.18	270	P	P	10 22 59.2	-0.1
KNRA				IAmb	IAmb	10 23 07.2	
	comp=Z,14nm,1.2s						
FITZ	Fitzroy Crossi	53.18	266	P	P	10 23 13.5	-0.6
	comp=Z,1.8nm,0.6s,baz=101,slow=10,SNR=4.0						
FITZ	Fitzroy Crossi	53.18	266	P	P	10 23 15.1	+1.0
SIJI	Sorong	55.38	288	P	P	10 23 28.8	-1.3
	comp=Z,7.1nm,0.7s,baz=162,slow=20,SNR=3.3						
LUWI	Luwuk	62.68	283	pP		10 24 51.7	-5.7
QSPA	South Pole Qui	64.34	180	P	P	10 24 32.1	+1.5
QSPA				IAmb	IAmb	10 24 38.7	
	comp=Z,6.0nm,1.4s						
MAW	Mawson	76.88	200	P	P	10 25 46.8	+0.6
	comp=Z,0.9nm,0.5s,baz=117,slow=9.6,SNR=4.7						
MAW	Mawson	76.88	200	P	P	10 25 47.0	+0.9
PETK	Petropavlovsk-	81.50	345	P	P	10 26 11.8	+0.6
	comp=Z,14nm,1.3s,baz=130,slow=5.4,SNR=6.4						
PETK	Petropavlovsk-	81.50	345	P	P	10 26 13.1	+1.8
NVAR	Mina Array Bea	84.39	43	P	P	10 26 28.3	+1.5
	comp=Z,0.3nm,0.5s,baz=234,slow=7.7,SNR=3.5						
NC405	NORSAR Array S	144.12	353		PKPdf	10 33 28.3	+0.1
BRTR	Keskin Array B	150.68	306	PKPbc	PKiKP	10 33 45.8	-0.4
	comp=Z,0.6nm,0.7s,baz=169,slow=1.5,SNR=3.3						
BRTR				PKPab	PKPab	10 33 54.0	+0.8
	comp=Z,0.9nm,0.6s,baz=76,slow=3.0,SNR=4.1						
BURAR	Bucovina Array	151.89	327	PKPbc	PKiKP	10 33 50.0	+1.6

*THR **01** 10:14:31.7, 26°.90N×57°.37E, h14km, ML3.4*
*OMAN **01** 10:14:31.7±1.9, 26°.97N×57°.95E, h17km±54km, Error ellipse: s-maj=97.7km s-min=17.2km az=29.0*
*DSN **01** 10:14:32.0±3.0, 26°.56N×58°.10E, h10km, ML3.4/8, Error ellipse: s-maj=47.0km s-min=18.0km az=179.0*
*ISCJB **01** 10:14:33.3±0.5, 26°.87N±0°.03×57°.62E±0°.05, h10km, Error ellipse: s-maj=6.4km s-min=4.3km az=178.7*
*TEH **01** 10:14:34.0, 26°.87N×57°.58E, h10km, ML3.6*
ISC 01 10:14:34.7±1.0**, 26°.86N**±0°.03×**57°.58E**±0°.05**, h10km, n45, σ1.s68**/45**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIAN	Nian	0.96	317	ePg	Pg	10 14 52.5	-0.7
NIAN				IAMB	IAmb	10 15 11.3	
	comp=Z,0.0nm,0.3s						
KHNJ	Kahnooj	1.09	6	ePg	Pg	10 14 49.5	-6.2
JSK1	Jask	1.23	172	ePg	Pg	10 14 57.7	-0.7
BNDS	Bandar-Abbas	1.36	294	ePg	Pn	10 14 53.6	-6.4
BNDS	Bandar-Abbas	1.36	294	ePg	Pn	10 14 53.6	-6.4
GENO	Geno	1.36	294	ePn	Pb	10 14 59.7	-0.8
GENO				eSg	Sg	10 15 20.7	+2.1
BANOM	Banah	1.48	231	eP	Pb	10 15 01.7	-0.6
	SNR=59						
BANOM				S	Sg	10 15 25.4	+3.0
BANOM	Banah	1.48	231	P	Pb	10 15 01.7	-0.6
BANOM				S	Sg	10 15 25.3	+3.0
SHME	Shamm	1.52	238	eP	Pg	10 15 03.5	-0.4
	SNR=16						
SHME	Shamm	1.52	238	ePn	Pb	10 15 02.7	-0.3
MDH	Madha	1.93	217	P	Pn	10 15 05.6	-2.1
MDH	Madha	1.93	217	P	Pn	10 15 05.4	-2.4
MDH	Madha	1.93	217	ePn	Pn	10 15 05.3	-2.4
MSFE	Esma-Masafi	1.96	221	eP	Pn	10 15 06.8	-1.4
	SNR=13						
MSFE	Esma-Masafi	1.96	221	ePn	Pn	10 15 06.4	-1.7
UOSS	Minazif	2.27	213	P	Pn	10 15 09.8	-2.6
HATD	Hatta, Dubai	2.41	213	P	Pn	10 15 11.2	-3.1
HATD	Hatta, Dubai	2.41	213	ePn	Pn	10 15 12.9	-1.3
NAZ	Nazwa, Dubai	2.54	223	P	Pn	10 15 16.9	+0.9
NAZ	Nazwa, Dubai	2.54	223	ePn	Pn	10 15 16.6	+0.6
ASHO	Ashiyiah	2.56	213	eP	Pn	10 15 16.0	-0.4
	SNR=16						
ASHO	Ashiyiah	2.56	213	P	Pn	10 15 17.0	+0.6
ASHO	Ashiyiah	2.56	213	ePn	Pn	10 15 16.4	0.0
NGRK	Negar Kerman	2.87	345	ePn	Pn	10 15 20.6	-0.4
NGRK				IAMB	IAmb	10 16 09.2	
	comp=Z,0.0nm,0.5s						
CHBR	Chabahar	2.90	115	ePn	Pn	10 15 21.9	+1.0
CHBR	Chabahar	2.90	115	eP	Pn	10 15 21.9	+1.0
CHMN	Cheshme madani	2.99	359	IAMB	IAmb	10 15 28.4	
	comp=Z,0.0nm,0.4s						
ASUD	Al Ashush, Dub	3.01	223	i P	Pn	10 15 23.7	+1.2
	SNR=9.4						
ASUD	Al Ashush, Dub	3.01	223	P	Pn	10 15 23.8	+1.3
	SNR=9.3						
KRBR	Kerman	3.19	347	eAML	AML	10 16 23.8	
	comp=E,98nm,0.7s						
KRBR				ePn	Pn	10 15 22.8	-2.5
KRBR	Kerman	3.19	347	eSg	Sb	10 16 09.0	-1.9
TVBK	TV Kerman	3.20	347	ePn	Pn	10 15 26.4	+1.0
TVBK				IAMB	IAmb	10 16 18.7	
	comp=Z,0.0nm,0.7s						
ALNE	Al Ain	3.24	211	ePn	Pn	10 15 26.1	+0.4
HOQ	Hoqain	3.27	184	P	Pn	10 15 22.5	-3.6
KHGB	Koh Gabri	3.63	345	ePn	Pn	10 15 30.9	-0.4
KHGB				IAMB	IAmb	10 16 38.9	
	comp=Z,0.0nm,0.5s						
ARQ	Araqi	3.64	195	P	Pn	10 15 31.0	-0.2
	SNR=27						
ARQ				S	Sn	10 16 16.4	+2.3
WSAR	Wadi Sarin	3.73	165	P	Pn	10 15 29.2	-3.2
ZHSF	Zahedan	3.93	45	ePn	Pn	10 15 35.4	0.0
ZHSF	Zahedan	3.93	45	ePn	Pn	10 15 35.4	0.0
BSY	Bisya	4.11	185	P	Pn	10 15 37.0	-0.7
	SNR=12						
NHDN	Nehbandan	5.01	25	ePn	Pn	10 15 51.6	+1.5
BSRN	Basiran	5.26	15	ePn	Pn	10 15 52.3	-1.4
BSRN	Basiran	5.26	15	ePn	Pn	10 15 52.3	-1.4
IKAZ	Kazeroun	5.83	301	ePn	Pn	10 16 00.4	-1.2
KLNJ	Kolanjah	6.68	310	ePn	Pn	10 16 12.5	-0.7

*ISCJB **01** 10:15:27.8±0.9, 56°.7S±0°.1×25°.8W±0°.3, h10km, mb4.2/3, Error ellipse: s-maj=31.4km s-min=15.0km az=147.4*
*IDC **01** 10:15:27.3±1.0, 56°.77S×25°.93W, h0km, mb4.2/3, mb1 4.1/4, mb1mx3.8/25, mbtmp4.0/4, ML3.3/1, Error ellipse: s-maj=43.2km s-min=25.6km az=72.0*
*NEIC **01** 10:15:32.7±2.5, 56°.83S±0°.09×25°.9W±0°.3, h35km±5km, mb4.5/7*
ISC 01 10:15:28.9±0.8**, 56°.7S**±0°.2×**25°.8W**±0°.2**, h10km, n16, σ1.s15**/15**, mb4.3**/5**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	Hope Point	6.54	287	Pn	Pn	10 17 10.5	+5.5
SNAA	Sanae	17.82	156	P	P	10 19 37.6	+0.3
	0.1nm,0.3s,baz=315,slow=14,SNR=2.2						
SNAA	Sanae	17.82	156	P	P	10 19 39.4	+2.0
QSPA	South Pole Qui	33.53	180	P	P	10 22 08.0	-0.4
	2.1nm,0.6s,baz=209,slow=4.7,SNR=11						
QSPA	South Pole Qui	33.53	180	P	P	10 22 07.7	-0.7
QSPA				IAmb	IAmb	10 22 10.3	
	comp=Z,3.5nm,0.8s						
GO05	Huala	37.80	285		P	10 22 46.5	+1.3
GO05				IAmb	IAmb	10 23 03.2	
	comp=Z,19nm,1.1s						
MNMC	Minye Minye	49.61	301	P	P	10 24 20.7	+0.2
MNMC				IAmb	IAmb	10 24 22.2	
	comp=Z,6.7nm,1.2s						
LPAZ	La Paz	51.39	304	P	P	10 24 34.4	0.0
	comp=Z,1.8nm,0.5s,baz=165,slow=5.9,SNR=18						
LPAZ	La Paz	51.39	304	P	P	10 24 34.6	+0.1
LPAZ				IAmb	IAmb	10 24 41.4	
	comp=Z,3.4nm,1.1s						
TORD	Torodi Ar. Bea	73.27	28	P	P	10 27 01.4	+1.3
	comp=Z,1.3nm,0.8s,baz=208,slow=6.2,SNR=5.2						
TORD	Torodi Ar. Bea	73.27	28	P	P	10 27 01.2	+1.1
STVI	Saint Thomas	81.66	323	P	P	10 27 46.2	-0.7
INK	Inuvik	146.81	320	PKPdf	PKPbc	10 35 08.4	-1.1
SONM	Songino Array	150.00	87	PKPbc	PKPbc	10 35 17.4	-1.2
	comp=Z,0.6nm,0.4s,baz=222,slow=1.9,SNR=5.4						
SONM	Songino Array	150.00	87		PKPbc	10 35 17.6	-1.1
ILAR	Eielson Array	151.14	311	PKPbc	PKiKP	10 35 19.8	-1.4
	comp=Z,0.9nm,1.0s,baz=124,slow=1.3,SNR=5.4						

*ISCJB **01** 11:02:19.8±0.8, 38°.72N±0°.03×22°.57E±0°.04, h11km±8km, Error ellipse: s-maj=6.1km s-min=5.2km az=43.6*
*ATH **01** 11:02:19.6, 38°.72N×22°.58E, h14km±3km, ML2.6/1, Error ellipse: s-maj=3.3km s-min=1.2km az=54.0*
*THE **01** 11:02:19.6, 38°.72N×22°.58E, h16km±3km, ML1.6/4, Error ellipse: s-maj=3.4km s-min=0.4km az=49.0*
ISC 01 11:02:19.4±1.0**, 38°.72N**±0°.03×**22°.58E**±0°.03**, h15km**±7km**, n10, σ0.s37**/18**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AXAR	Agios Charalam	0.08	55	P	Pg	11 02 22.4	-0.2
AXAR				S	Sg	11 02 24.5	-0.1
AXAR				AML	AML	11 02 24.7	
	comp=E,8116µm,0.4s						
AXAR				AML	AML	11 02 24.8	
	comp=N,10984µm,0.2s						
DLFA	Delphi	0.25	195	P	Pg	11 02 24.7	-0.2
DLFA				S	Sg	11 02 28.9	+0.2
LKR	Lokris	0.34	102	P	Pg	11 02 26.4	0.0
LKR				S	Sg	11 02 31.7	+0.5
	comp=N,192nm,0.1s						
LKR	Lokris	0.34	102	P	Pg	11 02 26.4	0.0
LKR				S	Sg	11 02 31.9	+0.7
AGG	Agios Georgios	0.36	328	P	Pg	11 02 26.5	-0.3
AGG				S	Sg	11 02 32.3	+0.6
	comp=N,65nm,0.2s						
AGG	Agios Georgios	0.36	328	P	Pg	11 02 26.4	-0.3
AGG				S	Sg	11 02 32.4	+0.6
MAKR	Makrakomi, Fth	0.45	310	P	Pg	11 02 28.8	+0.3
MAKR				S	Sb	11 02 35.6	-0.2
	comp=N,138nm,0.3s						
KALE	Kalithea	0.47	226	P	Pg	11 02 28.8	-0.1
KALE				S	Sb	11 02 36.3	-0.1
	comp=N,80nm,0.2s						
KALE	Kalithea	0.47	226	P	Pg	11 02 29.0	+0.1
VIL2	Platees	0.74	133	P	Pn	11 02 35.2	-0.3

*NEIC **01** 11:26:11.7±2.5, 16°.05S±0°.07×172°.69W±0°.09, h8km±1km, mb4.7/31*
*IDC **01** 11:26:11.0±0.8, 15°.84S×173°.03W, h0km, mb4.1/8, mb1 4.4/8, mb1mx4.1/30, mbtmp4.1/8, MS3.6/5, Ms1 3.6/5, ms1mx3.2/25, Error ellipse: s-maj=47.1km s-min=17.8km az=140.0*
*ISCJB **01** 11:26:13.8±0.4, 15°.86S±0°.07×173°.08W±0°.09, h26km, mb4.0/8, MS3.6/5, Error ellipse: s-maj=14.1km s-min=7.5km az=33.6*
ISC 01 11:26:14.7±0.6**, 15°.73S**±0°.10×**172°.9W**±0°.1**, h26km, n54, σ1.s66**/51**, mb4.6**/23**, MS3.7**/5**, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.10	30	Pn	Pn	11 26 45.9	-2.4
	17nm,0.3s,baz=170,slow=4.5,SNR=27						
AFI				Sn	Sn	11 27 11.5	-2.1
	66nm,0.3s,baz=58,slow=19,SNR=10						
AFI	Afiamalu	2.10	30		Pn	11 26 46.4	-1.9
AFI					Sn	11 27 10.7	-2.9
NIUE	Niue	4.35	140		Pn	11 27 10.3	-9.0
NIUE				Sn	Sn	11 27 53.1	-16
FUNA	Funafuti	10.56	312	Pn	Pn	11 28 45.8	+1.3
DZM	Mont Dzumac	20.55	249	Pn	Pn	11 30 54.2	+0.3
PPT	Papeete	22.39	98	LR	LR	11 37 50.4	
	comp=Z,69nm,21.5s,baz=274,slow=31						
OUZ	Omahuta	22.89	210	P	P	11 31 13.4	-3.0
OUZ				IAmb	IAmb	11 31 25.4	
	comp=Z,32nm,1.3s						
URZ	Urewera	24.12	200	P	P	11 31 27.5	-1.0
	comp=Z,3.3nm,0.4s,baz=70,slow=2.6,SNR=5.9						
URZ	Urewera	24.12	200	P	P	11 31 28.4	0.0
URZ				IAmb	IAmb	11 31 29.5	
	comp=Z,30nm,1.5s						
BKZ	Black Stump Fm	25.14	200	P	P	11 31 35.0	-2.8
BKZ				IAmb	IAmb	11 31 50.7	
	comp=Z,40nm,1.4s						
QRZ	Quartz Range	28.03	204	P	P	11 32 06.3	+2.5
BSWZ	Blackbirch Sta	28.31	201	P	P	11 32 05.4	-0.9
LTZ	Lake Taylor	29.82	202	P	P	11 32 21.8	+2.1
MLZ	Mavora Lakes	33.60	205	P	P	11 32 55.0	+2.1
ARMA	Armidale	35.61	239	P	P	11 33 09.1	-1.5
ARMA				IAmb	IAmb	11 33 21.8	
	comp=Z,24nm,1.4s						
STKA	Stephens Creek	44.32	240	P	P	11 34 20.7	-2.1
	comp=Z,3.6nm,0.7s,baz=93,slow=9.4,SNR=10.0						
STKA	Stephens Creek	44.32	240	P	P	11 34 20.6	-2.1
BBOO	Buckleboo	49.09	240	P	P	11 34 58.8	-1.3
BBOO				IAmb	IAmb	11 35 05.4	
	comp=Z,7.7nm,1.1s						
WB0	Warramunga Arr	50.23	257	P	P	11 35 08.6	-0.5
WB0				IAmb	IAmb	11 35 08.8	
	comp=Z,10nm,1.4s						
WB2	Warramunga Arr	50.26	257	P	P	11 35 08.7	-0.5
WRA	Warramunga Arr	50.27	257	P	P	11 35 08.0	-1.4
	comp=Z,1.2nm,0.4s,baz=96,slow=6.7,SNR=38						
WRA				LR	LR	11 55 07.3	
	comp=Z,74nm,19.0s,baz=100,slow=35						
WRA	Warramunga Arr	50.27	257	P	P	11 35 08.9	-0.5
AS31	Alice Springs	50.49	252	P	P	11 35 09.9	-1.1
ASAR	Alice Springs	50.49	252	P	P	11 35 09.8	-1.3
	comp=Z,4.8nm,0.6s,baz=88,slow=8.0,SNR=90						
ASAR				LR	LR	11 55 51.4	
	comp=Z,90nm,18.4s,baz=96,slow=35						
ASAR	Alice Springs	50.49	252	P	P	11 35 09.5	-1.5
FORT	Forrest	55.72	243	P	P	11 35 47.7	-1.7
KNRA	Kununurra	56.02	262	P	P	11 35 52.7	+0.9
PSAA2	Pilbara Seismi	63.60	253	P	P	11 36 43.3	-0.5
NVAR	Mina Array Bea	74.23	42	P	P	11 37 51.3	+1.4
	comp=Z,0.5nm,0.7s,baz=221,slow=10,SNR=5.2						
QSPA	South Pole Qui	74.31	180	P	P	11 37 49.5	-0.3
PMR	Palmer	79.34	11	P	P	11 38 19.9	+2.0
PMR				IAmb	IAmb	11 38 20.6	
	comp=Z,13nm,1.4s						
GHO	Glory Hole Cre	79.55	11	P	P	11 38 20.9	+1.8
GHO				IAmb	IAmb	11 38 21.2	
	comp=Z,4.3nm,0.7s						
TXAR	Lajitas Array	80.37	56	P	P	11 38 25.5	+1.2
	comp=Z,0.4nm,1.0s,baz=264,slow=5.9,SNR=3.2						
TXAR				LR	LR	12 07 49.5	
	comp=Z,22nm,18.5s,baz=0.0,slow=31						
TRF	Thorofare Moun	80.86	10	P	P	11 38 27.5	+1.3
TRF				IAmb	IAmb	11 38 32.6	
	comp=Z,6.0nm,1.1s						
MCK	McKinley	81.35	11	P	P	11 38 29.9	+1.2
MCK				IAmb	IAmb	11 38 31.4	
	comp=Z,6.5nm,0.9s						
PDAR	Pinedale Array	82.17	42	P	P	11 38 35.3	+1.5
	comp=Z,0.9nm,0.8s,baz=225,slow=1.9,SNR=8.0						
WRH	Wood River Hil	82.18	11	P	P	11 38 34.7	+1.7
WRH				IAmb	IAmb	11 38 36.3	
	comp=Z,6.7nm,1.0s						
DOT	Dot Lake	82.22	13	P	P	11 38 35.1	+1.9
CCB	Clear Creek Bu	82.39	11	P	P	11 38 35.9	+1.8
CCB				IAmb	IAmb	11 38 36.6	
	comp=Z,3.5nm,0.7s						
SCRK	Sand Creek	82.52	12	P	P	11 38 37.1	+2.1
SCRK				IAmb	IAmb	11 38 37.1	
	comp=Z,3.8nm,1.0s						
COLA	College	82.59	10	P	P	11 38 36.1	+1.0
COLA				IAmb	IAmb	11 38 37.4	
	comp=Z,7.9nm,0.9s						
IL31		82.67	11	P	P	11 38 36.7	+1.2
ILAR	Eielson Array	82.67	11	P	P	11 38 36.5	+0.9
	comp=Z,1.2nm,0.6s,baz=228,slow=6.4,SNR=29						
ILAR	Eielson Array	82.67	11	P	P	11 38 36.7	+1.2
833A	Chaparral WMA,	83.44	58	P	P	11 38 40.6	+0.3
PRP	Porcupine Dome	83.60	11	P	P	11 38 42.7	+2.2
PRP				IAmb	IAmb	11 38 43.3	
	comp=Z,4.7nm,0.9s						
DAWY	Dawson	83.62	14	P	P	11 38 42.8	+2.3
DAWY				IAmb	IAmb	11 38 43.5	
	comp=Z,2.5nm,0.8s						
ULM	Lac du Bonnet	93.87	39	LR	LR	12 16 16.8	
	comp=Z,42nm,18.5s,baz=140,slow=32						
BURAR	Bucovina Array	144.86	339		PKPdf	11 45 51.8	+2.2
GERES	GERESS Array B	146.54	352	PKPbc	PKPdf	11 45 53.6	+1.1
	comp=Z,0.1nm,0.3s,baz=32,slow=3.9,SNR=2.8						
BRTR	Keskin Array B	146.74	321	PKPbc	PKPab	11 45 56.4	+0.3
	comp=Z,1.7nm,0.8s,baz=126,slow=2.9,SNR=8.5						

BRTR	Keskin Array B	146.74	321		PKPab	11 45 56.6	+0.6
FUORN	Ofenpass-Fuorn	149.09	356	PKPbc	PKiKP	11 46 03.0	+0.7
NRCA	Norcia	152.51	350	PKPbc	PKPbc	11 46 07.6	-1.5

NNC 01 11:28:12.4±0.7, 43°.51N×77°.83E, h0km, mb1.9, mpv2.5, 2C-2D, Error ellipse: s-maj=12.1km s-min=2.5km az=163.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDOK	Medeo	0.67	239	⇑P	Pg	11 28 25.2	+0.1
	4.4nm,0.9s						
MDOK				⇓S	Sg	11 28 34.9	+1.1
	0.8nm,0.2s						
PDGK	Podgornoye	1.22	98	⇓P	Pg	11 28 35.5	-0.3
	3.3nm,1.2s						
PDGK				⇑S	Sb	11 28 52.4	-0.5
	0.7nm,0.4s						

SOME 01 11:28:12.4, 44°.72N×82°.17E, h20km, 4C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DJR	Jarkent	1.74	258	eP	Pb	11 28 43.8	0.0
	2.6nm,0.2s						
DJR				eS	Sb	11 29 06.0	+0.8
	2.4nm,0.2s						
DJR	Jarkent	1.74	258	P	Pb	11 28 43.6	-0.1
	2.5nm,0.2s						
DJR				S	Sb	11 29 06.0	+0.8
	2.4nm,0.3s						
KTMS	Ketmen	1.82	226	eP	Pb	11 28 45.0	-0.1
	0.4nm,0.1s						
KTMS				eS	Sb	11 29 08.4	+0.8
	6.2nm,0.2s						
KTMS	Ketmen	1.82	226	P	Pb	11 28 45.0	-0.1
	0.4nm,0.1s						
KTMS				S	Sb	11 29 08.4	+0.8
	6.2nm,0.2s						
KAPS	Kapalarasan	2.07	287	eP	Pb	11 28 49.6	+0.2
	0.7nm,0.1s						
KAPS				eS	Sb	11 29 16.5	+1.8
	2.0nm,0.2s						
KAPS	Kapalarasan	2.07	287	Pg	Pb	11 28 49.6	+0.2
	0.7nm,0.2s						
KAPS				Lg	Lg	11 29 16.5	
	2.0nm,0.2s						
MK31	Makanchi Array	2.08	2	⇑Pn	Pb	11 28 49.9	+0.4
	1.8nm,0.3s,baz=187,slow=16,SNR=66						
MK31				⇑Lg	Lg	11 29 17.4	
	1.1nm,0.3s,baz=183,slow=28,SNR=8.3						
MAKZ	Makanchi	2.10	356	⇑Pn	Pb	11 28 48.7	-1.0
	12nm,1.2s						
MAKZ				⇑Lg	Lg	11 29 17.3	
	11nm,1.2s						

*SKO **01** 11:58:38.1, 40°.80N×21°.34E, h15km, M1.7, ML2.2*
*ISCJB **01** 11:58:39.4±0.7, 40°.80N±0°.04×21°.42E±0°.05, h4km±4km, Error ellipse: s-maj=8.7km s-min=3.6km az=135.2*
*ATH **01** 11:58:39.6, 40°.79N×21°.40E, h6km±2km, ML2.5/3, Error ellipse: s-maj=3.4km s-min=1.3km az=315.0*
*THE **01** 11:58:39.0, 40°.85N×21°.34E, h4km±2km, ML2.3/6, Error ellipse: s-maj=2.5km s-min=0.5km az=141.0*
ISC 01 11:58:39.6±0.9, 40°.75N±0°.03×21°.40E±0°.03, h3km±7km, n25, σ0s.81/40, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FNA	Florina	0.04	333	P	Pg	11 58 40.7	+0.1
FNA				S	Sg	11 58 41.7	+0.3
	14µm,0.2s						
FNA	Florina	0.04	333	⇓iPg	Pg	11 58 40.7	+0.1
FNA				iSg	Sg	11 58 41.8	+0.3
FNA	Florina	0.04	333	P	Pg	11 58 40.8	+0.1
FNA				S	Sg	11 58 41.7	+0.3
FNA				AML	AML	11 58 41.9	
	comp=E,42964µm,0.2s						
FNA				AML	AML	11 58 42.0	
	comp=N,56134µm,0.2s						
NEST	Nestorio	0.43	219	P	Pg	11 58 48.0	+0.1
NEST				S	Sb	11 58 55.3	-1.4
	comp=N,428nm,0.1s						
NEST	Nestorio	0.43	219	P	Pg	11 58 48.1	+0.3
NEST				S	Sb	11 58 55.3	-1.4
NEST				AML	AML	11 58 56.4	
	comp=E,1163µm,0.2s						
NEST				AML	AML	11 58 58.8	
	comp=N,983µm,0.2s						
KZN	Kozani	0.53	147	P	Pb	11 58 51.0	-0.5
KZN				S	Sb	11 59 00.1	+0.6
	comp=N,502nm,0.2s						
KZN	Kozani	0.53	147	P	Pg	11 58 50.5	+0.8
KZN				S	Sb	11 58 58.8	-0.7
KZN				AML	AML	11 59 01.4	
	comp=N,807µm,0.2s						
KZN				AML	AML	11 59 01.9	
	comp=E,1181µm,0.2s						
PENT	Pentalofos	0.59	200	P	Pg	11 58 51.2	+0.3
PENT				S	Sb	11 59 01.4	+0.1
	comp=E,220nm,0.4s						
PENT	Pentalofos	0.59	200	P	Pg	11 58 51.5	+0.6
PENT				S	Sb	11 59 00.4	-0.9
KTI	Kastanea	0.65	123	P	Pg	11 58 52.8	+0.7
GRG	Griva	0.79	74	P	Pg	11 58 54.4	-0.3
GRG				S	Sb	11 59 06.4	-0.6
	comp=E,185nm,0.6s						
GRG	Griva	0.79	74	iPg	Pg	11 58 54.4	-0.3
GRG	Griva	0.79	74	P	Pg	11 58 54.4	-0.3
KPRO	Kipourio	0.79	182	P	Pg	11 58 55.5	+0.7
KPRO				S	Sn	11 59 09.1	-1.0
	comp=E,235nm,0.3s						
KPRO	Kipourio	0.79	182	P	Pg	11 58 54.9	0.0
VAY	Valandovo	1.05	57	iPg	Pg	11 58 59.3	-0.6
VAY				iSg	Sg	11 59 13.6	+0.1
VAY				eLg	Lg	11 59 14.7	
	comp=N,30nm,0.7s						
VAY				eLg	Lg	11 59 15.3	
	comp=E,34nm,0.6s						
LIT	Litokhoron	1.05	128	P	Pg	11 59 00.0	+0.2
LIT	Litokhoron	1.05	128	iPg	Pg	11 59 00.0	+0.2
LIT	Litokhoron	1.05	128	P	Pg	11 58 59.9	+0.1
STIP	Stip	1.11	32	iPg	Pn	11 59 02.6	+0.5
STIP				iSg	Sn	11 59 20.8	+2.8
STIP				eLg	Lg	11 59 21.4	
	comp=N,7.4nm,0.3s						
STIP				eLg	Lg	11 59 21.4	
	comp=E,16nm,0.4s						
KNT	Kendrikon	1.21	70	iPg	Pg	11 59 02.1	-0.7
KNT				iSg	Sg	11 59 18.5	+0.1
KNT	Kendrikon	1.21	70	P	Pg	11 59 02.1	-0.7
THL	Klokotos Trika	1.27	158	P	Pn	11 59 03.3	-0.9
IGT	Igoumenitsa	1.47	214	P	Pg	11 59 08.7	+1.0
SOH	Sokhos	1.49	87	iPg	Pb	11 59 07.7	-0.2
SOH				iSg	Sg	11 59 28.8	+1.4

IDC 01 12:10:26.5±2.0, 7°.09S×128°.78E, h0km, mb3.6/1, mb1 3.6/4, mb1mx3.4/31, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=88.6km s-min=27.6km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.36	195	Pn	Pn	12 13 08.5	-1.7
	0.1nm,0.3s,baz=45,slow=13,SNR=3.0						
FITZ				Sn	Sn	12 15 10.7	-7.3
	0.3nm,0.3s,baz=90,slow=20,SNR=3.7						
WRA	Warramunga Arr	13.87	158	Pn	Pn	12 13 45.6	+1.1
	0.2nm,0.3s,baz=342,slow=13,SNR=8.3						
WRA				Sn	Sn	12 16 16.0	-3.3
	0.4nm,0.3s,baz=337,slow=22,SNR=9.9						
ASAR	Alice Springs	17.20	164	P	Pn	12 14 29.1	+0.7
	0.1nm,0.3s,baz=340,slow=11,SNR=8.1						
ASAR				S	Sn	12 17 35.8	-4.7
	0.1nm,0.3s,baz=354,slow=25,SNR=6.5						
MKAR	Makanchi Array	67.64	327	P	P	12 21 25.4	+0.1
	0.4nm,0.6s,baz=130,slow=8.2,SNR=2.7						

*SKO **01** 12:12:55.8, 40°.80N×21°.32E, h15km, M2.0, ML2.3*
*THE **01** 12:12:56.6, 40°.85N×21°.34E, h3km±1km, ML2.7/8, Error ellipse: s-maj=1.6km s-min=0.6km az=126.0*
*ATH **01** 12:12:57.1, 40°.81N×21°.38E, h9km±1km, ML2.8/6, Error ellipse: s-maj=2.7km s-min=1.2km az=328.0*
ISC 01 12:12:57.4±0.9, 40°.77N±0°.04×21°.38E±0°.04, h6km±5km, n32, σ0s.75/51, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FNA	Florina	0.01	2	P	Pg	12 12 58.7	+0.1
FNA				S	Sg	12 12 59.8	+0.2
	19µm,0.2s						
FNA	Florina	0.01	2	⇓iPg	Pg	12 12 58.8	+0.1
FNA				iSg	Sg	12 12 59.8	+0.2
FNA	Florina	0.01	2	P	Pg	12 12 58.7	+0.1
FNA				S	Sg	12 12 59.7	+0.1
FNA				AML	AML	12 12 59.9	
	comp=E,52534µm,0.2s						
FNA				AML	AML	12 12 60.0	
	comp=N,70435µm,0.3s						
NEST	Nestorio	0.43	215	P	Pg	12 13 05.9	+0.1
NEST				S	Sb	12 13 12.8	-1.5
	comp=N,985nm,0.2s						
NEST	Nestorio	0.43	215	P	Pg	12 13 05.9	+0.1
NEST				S	Sb	12 13 13.2	-1.1
NEST				AML	AML	12 13 14.3	
	comp=E,2217µm,0.2s						
NEST				AML	AML	12 13 16.8	
	comp=N,1430µm,0.2s						
KZN	Kozani	0.55	147	P	Pg	12 13 08.4	+0.3
KZN				S	Sb	12 13 18.1	+0.4
	comp=N,1µm,0.2s						
KZN	Kozani	0.55	147	P	Pg	12 13 08.3	+0.3
KZN				S	Sb	12 13 17.3	-0.4
KZN				AML	AML	12 13 18.4	
	comp=N,2182µm,0.3s						
KZN				AML	AML	12 13 20.4	
	comp=E,2348µm,0.3s						
PENT	Pentalofos	0.60	198	P	Pg	12 13 09.2	+0.2
PENT	Pentalofos	0.60	198	P	Pg	12 13 09.3	+0.2
PENT				S	Sb	12 13 18.4	-0.8
KTI	Kastanea	0.68	124	P	Pg	12 13 10.7	+0.2
GRG	Griva	0.80	76	P	Pg	12 13 12.3	-0.4
GRG				S	Sb	12 13 24.1	-0.7
	comp=E,452nm,0.5s						
GRG	Griva	0.80	76	iPg	Pg	12 13 12.4	-0.4
GRG	Griva	0.80	76	P	Pg	12 13 12.3	-0.4
GRG				S	Sb	12 13 23.9	-0.9
GRG				AML	AML	12 13 31.4	
	comp=N,1262µm,0.9s						
GRG				AML	AML	12 13 31.7	
	comp=E,696µm,0.5s						
KPRO	Kipourio	0.81	181	P	Pb	12 13 13.5	-0.5
KPRO				S	Sn	12 13 26.8	-1.1
	comp=E,572nm,0.4s						
KPRO	Kipourio	0.81	181	P	Pg	12 13 12.6	-0.4
KPRO				AML	AML	12 13 31.2	
	comp=N,984µm,0.2s						
KPRO				AML	AML	12 13 32.2	
	comp=E,1348µm,0.6s						
MEV	Metsovon	0.99	187	P	Pb	12 13 16.8	-0.2
MEV	Metsovon	0.99	187	P	Pb	12 13 17.1	+0.1
VAY	Valandovo	1.06	58	iPg	Pg	12 13 17.2	-0.5
VAY				iSg	Sb	12 13 31.8	-0.4
VAY				eLg	Lg	12 13 31.9	
	comp=N,71nm,0.6s						
VAY				eLg	Lg	12 13 32.4	
	comp=E,28nm,0.3s						
LIT	Litokhoron	1.08	128	P	Pg	12 13 17.8	-0.3
LIT				S	Sn	12 13 35.0	+0.6
	comp=E,500nm,0.4s						
LIT	Litokhoron	1.08	128	iPg	Pg	12 13 17.9	-0.3
LIT				iSg	Sn	12 13 35.3	+0.9
LIT	Litokhoron	1.08	128	P	Pg	12 13 17.8	-0.3
LIT				S	Sb	12 13 33.1	+0.2
LIT				AML	AML	12 13 37.9	
	comp=E,1108µm,0.3s						
LIT				AML	AML	12 13 39.2	
	comp=N,931µm,0.6s						
STIP	Stip	1.11	33	iPg	Pn	12 13 20.8	+1.4
THE	Thessaloniki	1.22	96	iPg	Pg	12 13 21.0	+0.3
KNT	Kendrikon	1.22	71	P	Pb	12 13 20.0	-0.8
KNT				S	Sg	12 13 36.6	0.0
	comp=N,100nm,0.4s						
KNT	Kendrikon	1.22	71	iPg	Pb	12 13 20.1	-0.8
KNT				iSg	Sg	12 13 36.5	0.0
THL	Klokotos Trika	1.30	158	P	Pn	12 13 21.4	-0.6
THL				S	Sn	12 13 42.2	+2.5
	comp=N,198nm,0.5s						
THL	Klokotos Trika	1.30	158	P	Pn	12 13 21.3	-0.8
IGT	Igoumenitsa	1.47	213	P	Pg	12 13 26.6	+0.9
SOH	Sokhos	1.50	87	iPg	Pb	12 13 25.4	-0.3
SOH				iSg	Sg	12 13 47.0	+1.4
MAKR	Makrakomi, Fth	1.85	161	P	Pb	12 13 30.5	-1.1
EVR	Evrytania	1.88	170	P	Pb	12 13 31.3	-0.9
AGG	Agios Georgios	1.90	157	P	Pn	12 13 31.0	+0.7

*ISCJB **01** 12:22:40.9±0.9, 8°.83S±0°.10×118°.9E±0°.1, h150km, mb3.6/3, Error ellipse: s-maj=20.1km s-min=7.6km az=141.8*
*IDC **01** 12:22:41.9±5.9, 8°.84S×118°.66E, h140km±52km, mb3.4/4, mb1 3.4/7, mb1mx3.2/32, mbtmp3.8/7, MS2.7/1, Ms1 2.7/1, ms1mx2.2/21, Error ellipse: s-maj=106.3km s-min=18.4km az=65.0*
ISC 01 12:22:41.5±1.1, 8°.9S±0°.1×118°.9E±0°.1, h150km, n8, σ2s.92/12, mb3.7/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAPI	Kappang	3.97	13	P	Pn	12 23 40.6	-0.8
	0.5nm,0.3s,baz=175,slow=12,SNR=2.9						
BATI	Baumata	4.89	106	P	Pn	12 23 57.7	+4.2
	13nm,0.3s,baz=264,slow=2.1,SNR=9.4						
BATI				S	Sn	12 24 49.0	-0.7
	29nm,0.3s,baz=275,slow=6.6,SNR=10						
FITZ	Fitzroy Crossi	11.25	145	P	Pn	12 25 20.9	+2.8
	0.1nm,0.3s,baz=328,slow=13,SNR=6.7						
FITZ				S	Sn	12 27 19.7	-2.7
	0.5nm,0.3s,baz=216,slow=16,SNR=9.4						
FITZ				LR	LR	12 30 35.2	
	comp=Z,38nm,20.2s,baz=298,slow=41						
WRA	Warramunga Arr	18.54	128	P	P	12 26 43.7	-3.0
	0.1nm,0.3s,baz=304,slow=10,SNR=7.5						
WRA				S	S	12 30 06.5	-4.0
	0.1nm,0.3s,baz=304,slow=24,SNR=9.2						
ASAR	Alice Springs	20.54	137	P	P	12 27 11.2	+2.8
	1.1nm,0.4s,baz=310,slow=9.4,SNR=34						
ASAR				S	S	12 30 47.2	-2.9
	0.3nm,0.8s,baz=317,slow=23,SNR=2.7						
SONM	Songino Array	57.57	350	P	P	12 32 16.1	+0.6
	0.3nm,0.5s,baz=168,slow=8.1,SNR=2.7						
MKAR	Makanchi Array	64.32	333	P	P	12 33 02.0	+1.0
	0.9nm,0.8s,baz=150,slow=6.9,SNR=4.3						
ZALV	Zalesovo Beam	68.92	339	P	P	12 33 30.2	+0.2
	0.8nm,0.3s,baz=155,slow=5.8,SNR=2.9						

*IDC **01** 12:27:59.0±5.3, 36°.21N×70°.75E, h116km±41km, mb3.8/3, mb1 3.6/5, mb1mx3.2/34, mbtmp4.0/5, MS4.1/1, Ms1 4.1/1, ms1mx2.8/44, Error ellipse: s-maj=52.7km s-min=21.2km az=148.0*
*ISCJB **01** 12:28:01.6±0.4, 36°.47N±0°.03×70°.77E±0°.04, h150km, mb3.8/2, Error ellipse: s-maj=4.8km s-min=4.0km az=172.3*
*NNC **01** 12:28:02.1±4.2, 36°.88N×70°.47E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=33.7km s-min=24.2km az=169.0*
*NEIC **01** 12:28:02.6±1.2, 36°.49N±0°.04×70°.7E±0°.1, h146km±17km, mb4.1/3*
ISC 01 12:28:01.4±0.6, 36°.44N±0°.05×70°.82E±0°.05, h150km, n46, σ1s.74/61, mb4.1/3, 7C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	Kabul	2.38	218		Pn	12 28 42.3	+0.9
KBL				Sn	Sn	12 29 11.7	-0.3
CHGR	Chuyangaron	2.58	330		Pn	12 28 43.8	+0.2
CHGR				Sn	Sn	12 29 14.4	-1.8
GAR	Garm	2.59	351		Pn	12 28 44.7	+0.9
GAR				Sn	Sn	12 29 15.6	-0.9
NIL	Nilore	3.42	144		Pn	12 28 56.3	+2.0
ARSB	Arslanbob	5.17	18		Pn	12 29 18.0	+0.8
AML	Almayashu	6.11	21	P	Pn	12 29 31.1	+1.2
	SNR=75						
DHRM	DHARAMSHALA	6.16	131	eS	Sn	12 30 37.6	-2.6
DHRM				eS	Sn	12 30 39.1	-1.0
DHRM				IAML		12 30 42.7	
	comp=N,48nm,0.2s						
DHRM				IAML		12 30 42.9	
	comp=E,95nm,0.4s						
NRN	Naryn	6.42	37		Pn	12 29 34.4	+0.4
NRN					Sn	12 30 45.1	-1.3
UCH	Uchtor	6.45	25	P	Pn	12 29 35.7	+1.2
	SNR=16						
EKS2	Erkin-Say	6.62	19	P	Pn	12 29 38.1	+1.6
	SNR=8.5						
KK31	Karatay Array	6.66	358		Pn	12 29 37.7	+0.7
KK31				Sn	Sn	12 30 50.3	-1.5
KK31	Karatay Array	6.66	358	⇑P	Pn	12 29 37.5	+0.6
	comp=E,3.1nm,0.3s,baz=177,slow=12,SNR=80						
KK31				S	Sn	12 30 49.6	-2.2
	comp=E,13nm,0.5s,baz=193,slow=20,SNR=18						
KKAR	Karatay Array	6.66	358		Pn	12 29 37.5	+0.6
KKAR				Sn	Sn	12 30 50.0	-1.8
KKAR	Karatay Array	6.66	358		Pn	12 29 37.6	+0.6
KKAR				Sn	Sn	12 30 49.7	-2.1
AAK	Ala-Archa	6.81	23	P	Pn	12 29 42.4	+3.3
	SNR=9.4						
AAK	Ala-Archa	6.81	23		Pn	12 29 40.4	+1.3
AAK	Ala-Archa	6.81	23	⇑P	Pn	12 29 40.2	+1.1
	comp=E,3.6nm,0.3s						
AAK				S	Sn	12 30 54.4	-1.2
	comp=E,13nm,0.9s						
CHMS	Chumysh	7.22	24	P	Pn	12 29 45.5	+1.1
	SNR=7.4						
TKM2	Tokmak 2	7.45	28	⇑P	Pn	12 29 48.7	+1.1
	comp=E,5.8nm,0.8s						
TKM2				⇑S	Sn	12 31 12.5	+1.6
	comp=E,3.8nm,0.4s						
SMLA	Simla	7.48	133	eP	Pn	12 29 48.5	+0.7
SMLA				eS	Sn	12 31 07.3	-4.0
SMLA				IAML		12 31 12.2	
	comp=N,19nm,0.5s						
SMLA				IAML		12 31 12.3	
	comp=E,18nm,0.0s						
KDJ	Kajisay	7.53	39		Pn	12 29 50.7	+2.1
TARG	Taragay, Kyrgy	7.58	44		Pn	12 29 50.4	+0.9
KUDL	Kundal	9.55	148	eP	Pn	12 30 12.6	-3.0
KUDL				eP	Pn	12 30 13.1	-2.4
KUDL				eS	Sn	12 31 53.2	-8.3
KUDL				eS	Sn	12 31 53.5	-8.0
KUDL				IAML		12 31 56.3	
	comp=E,46nm,0.4s						
KUDL				IAML		12 31 57.4	
	comp=N,52nm,0.3s						
GEYT	Alibeck	10.25	282	P	Pn	12 30 23.6	-1.1
	comp=N,0.3nm,0.3s,baz=95,slow=11,SNR=3.2						
GEYT				S	Sn	12 32 14.8	-3.2
	comp=N,1.0nm,0.3s,baz=232,slow=31,SNR=6.5						
GEYT	Alibeck	10.25	282	Pn	Pn	12 30 24.8	+0.1
GEYT					Sn	12 32 17.6	-0.5
GYA0B	ALIBECK ARRAY	10.25	282		Pn	12 30 27.1	+2.4
MK31	Makanchi Array	13.43	36	Pn	P	12 31 09.2	-0.9
MKAR	Makanchi Array	13.43	36	P	Pn	12 31 07.2	+1.3
	comp=N,0.1nm,0.3s,baz=220,slow=16,SNR=5.7						
MKAR	Makanchi Array	13.43	36		Pn	12 31 08.5	+2.5
DANN	Dangsing	13.57	123	eP	P	12 31 12.7	+0.6
KKN	Kakani	14.97	121	eP	Pn	12 31 27.6	+1.9
AB31	Akbulak array	15.07	332	⇓P	Pn	12 31 26.8	+0.2
	comp=N,0.5nm,0.3s,baz=145,slow=12,SNR=50						
AB31				⇑S	Sn	12 34 10.1	-3.8
	comp=N,0.3nm,0.3s,baz=150,slow=24,SNR=4.5						
ABKAR	Akbulak array	15.07	332		Pn	12 31 27.0	+0.4
ABKAR	Akbulak array	15.07	332	Pn	Pn	12 31 26.9	+0.4
PKIN	Phulchoki	15.18	121	eP	Pn	12 31 29.3	+0.9
PKI	Pulchoki	15.19	121	eP	Pn	12 31 29.3	+0.7
KURK	Kurchatov	15.34	19		Pn	12 31 30.9	+1.0
KURK				IAmb	IAmb	12 31 34.5	
	comp=Z,3.4nm,1.0s						
JIRN	Jiri	15.68	120	eP	Pn	12 31 35.4	+0.8
RAMN	Ramite	16.41	121	eP	P	12 31 40.0	-3.5
AKTO	Aktyubinsk	16.77	331	⇑P	Pn	12 31 48.8	+1.5
	comp=Z,2.6nm,0.7s						
AKTO				⇑S	S	12 34 52.5	-1.0
	comp=Z,8.1nm,1.4s						
ZAA0	Zalesovo Array	20.03	25	P	P	12 32 24.8	+2.4
ZAA0				IAmb	IAmb	12 32 25.3	
	comp=Z,9.5nm,0.6s						
ZALV	Zalesovo Beam	20.03	25	P	P	12 32 24.8	+2.3
	comp=Z,10nm,0.5s,baz=219,slow=11,SNR=56						
SHL	Shillong	21.01	115		P	12 32 35.1	+1.7
SHL				IAmb	IAmb	12 32 38.4	
	comp=Z,4.2nm,0.5s						
FINES	FINESS Array B	37.46	326	LR	LR	12 52 47.4	
	comp=Z,290nm,20.1s,baz=284,slow=40						
ARCES	ARCESS Array B	41.15	338	P	P	12 35 33.3	+2.8
	comp=Z,8.0nm,1.1s,baz=120,slow=8.4,SNR=3.5						
TORD	Torodi Ar. Bea	65.57	269	P	P	12 38 29.9	+0.5
	comp=Z,0.4nm,0.8s,baz=43,slow=7.9,SNR=2.8						

IDC 01 12:45:49.0±2.1, 6°.82S×129°.13E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.4/28, mbtmp3.4/3, ML3.3/2, MS3.7/1, Ms1 3.7/1, ms1mx2.6/28, Error ellipse: s-maj=120.3km s-min=31.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.99	159	Pn	Pn	12 49 08.0	-0.7
	0.2nm,0.3s,baz=339,slow=13,SNR=3.8						
WRA				Sn	Sn	12 51 37.6	-7.3
	0.2nm,0.3s,baz=333,slow=23,SNR=6.4						
ASAR	Alice Springs	17.37	165	P	Pn	12 49 53.5	+0.5
	0.1nm,0.3s,baz=334,slow=10,SNR=5.6						
ASAR				S	Sn	12 52 54.5	-13
	0.0nm,0.3s,baz=317,slow=20,SNR=3.4						
JHJ	Hachijo jima 2	40.98	14	LR	LR	13 07 02.6	
	comp=Z,104nm,21.0s,baz=350,slow=31						
MKAR	Makanchi Array	67.61	327	P	P	12 56 47.6	0.0
	0.3nm,0.6s,baz=123,slow=7.6,SNR=5.9						

*NEIC **01** 12:53:50.7±1.6, 22°.0S±0°.1×178°.8W±0°.2, h579km±12km, mb4.3/20*
*IDC **01** 12:53:55.5±43.0, 21°.93S×179°.40W, h580km±359km, mb3.1/4, mb1 3.2/4, mb1mx2.8/39, mbtmp4.1/4, Error ellipse: s-maj=364.7km s-min=93.2km az=75.0*
ISC 01 12:53:51.2±1.0, 21°.9S±0°.1×178°.8W±0°.1, h576km, n33, σ1s.34/35, mb4.1/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.12	324	P	P	12 55 23.6	-0.2
RAO	Raoul Island	7.36	174	P	P	12 55 43.6	+0.2
DZM	Mont Dzumac	13.72	267	P	P	12 56 49.5	+1.9
URZ	Urewera	16.68	191	P	P	12 57 13.5	-2.2
URZ				IAmb	IAmb	12 57 29.9	
	comp=Z,38nm,1.4s						
BKZ	Black Stump Fm	17.68	192	P	P	12 57 21.8	-3.0
BKZ				IAmb	IAmb	12 57 21.9	
	comp=Z,14nm,1.3s						
BFZ	Birch Farm	19.19	192	P	P	12 57 37.4	-1.1
KHZ	Kahutara	21.45	196	P	P	12 58 01.0	+2.2
FOZ	Fox Glacier	23.56	201	P	P	12 58 17.7	+0.1
WHZ	Wether Hill Ro	26.27	201	P	P	12 58 41.9	+0.3
ARMA	Armidale	27.83	246	P	P	12 58 56.0	+0.4
ARMA				IAmb	IAmb	12 59 07.7	
	comp=Z,14nm,1.4s						
CTA	Charters Tower	32.66	267	P	P	12 59 36.7	-0.4
	comp=Z,6.6nm,1.0s,baz=89,slow=10,SNR=5.3						
STKA	Stephens Creek	36.55	246	P	P	13 00 08.7	-0.6
	comp=Z,1.0nm,0.4s,baz=102,slow=9.3,SNR=8.4						
STKA	Stephens Creek	36.55	246	P	P	13 00 08.7	-0.6
BBOO	Buckleboo	41.29	245	P	P	13 00 46.4	-1.1
BBOO				IAmb	IAmb	13 00 57.4	
	comp=Z,24nm,1.5s						
AS31	Alice Springs	43.51	258	P	P	13 01 03.7	-1.3
ASAR	Alice Springs	43.52	258	P	P	13 01 04.4	-0.6
	comp=Z,2.1nm,0.7s,baz=101,slow=7.8,SNR=24						
ASAR				PcP	PcP	13 02 41.6	+1.7
	comp=Z,0.4nm,0.7s,baz=112,slow=4.0,SNR=4.6						
ASAR	Alice Springs	43.52	258	P	P	13 01 04.0	-1.0
ASAR					PcP	13 02 41.6	+1.7
WB0	Warramunga Arr	43.70	264	P	P	13 01 05.3	-1.2
WB0				IAmb	IAmb	13 01 06.1	
	comp=Z,4.5nm,1.1s						
WB2	Warramunga Arr	43.70	264	P	P	13 01 05.2	-1.3
WB2				IAmb	IAmb	13 01 13.3	
	comp=Z,6.4nm,1.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WRAB	Tennant Creek	43.71	264	P	P	13 01 05.2	-1.3
WRAB				IAmb	IAmb	13 01 17.2	
	comp=Z,3.3nm,0.9s						
WRA	Warramunga Arr	43.71	264	P	P	13 01 05.5	-1.1
	comp=Z,0.8nm,0.3s,baz=96,slow=8.0,SNR=20						
WRA	Warramunga Arr	43.71	264	P	P	13 01 05.4	-1.1
FORT	Forrest	48.09	248	P	P	13 01 39.0	-0.6
FORT				IAmb	IAmb	13 01 57.2	
	comp=Z,16nm,1.0s						
KNRA	Kununurra	49.87	268	P	P	13 01 51.9	-1.0
KNRA				IAmb	IAmb	13 02 07.0	
	comp=Z,14nm,1.1s						
FITZ	Fitzroy Crossi	52.15	264	P	P	13 02 09.8	+0.5
SOEI	Soe	55.84	273	P	P	13 02 36.6	+1.1
SOEI				IAmb	IAmb	13 02 44.8	
	comp=Z,32nm,1.4s						
PSAA2	Pilbara Seismi	56.66	258	P	P	13 02 40.7	-0.2
PSAA2				IAmb	IAmb	13 02 46.9	
	comp=Z,13nm,1.2s						
QSPA	South Pole Qui	68.17	180	P	P	13 03 57.2	+2.7
TRY	Troy	115.41	52	PKPdf	PKPdf	13 11 27.6	-0.5
BURAR	Bucovina Array	147.91	329		PKPab	13 12 36.7	-0.3
KARP	Karpathos	153.60	307	PKPbc	PKPbc	13 12 43.9	-1.8
SALO	Salr	155.15	344	PKPab	PKPab	13 13 08.4	+0.9
OSSC	Osservatorio P	156.89	341	PKPdf	PKPdf	13 12 40.4	-1.1

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*IDC **01** 13:00:46.4±2.5, 36°.23N×70°.44E, h179km±21km, mb3.5/15, mb1 3.5/21, mb1mx3.3/57, mbtmp4.0/21, MS3.6/1, Ms1 3.6/1, ms1mx2.6/34, Error ellipse: s-maj=18.9km s-min=12.7km az=176.0*

*BJI **01** 13:00:46.8±0.0, 36°.18N×70°.30E, h195km, mb4.3/14, mB4.6/5*

*MOS **01** 13:00:48.7±0.8, 36°.46N×70°.30E, h198km, mb4.5/6, Error ellipse: s-maj=10.4km s-min=5.3km az=84.8*

*ISCJB **01** 13:00:49.2±0.2, 36°.49N±0°.02×70°.35E±0°.03, h204km, mb4.1/29, Error ellipse: s-maj=3.9km s-min=2.7km az=145.2*

*NNC **01** 13:00:50.1±5.4, 36°.93N×70°.08E, h0km, mb4.8, mpv4.7, Error ellipse: s-maj=43.4km s-min=31.0km az=170.0*

*NEIC **01** 13:00:51.1±3.1, 36°.49N±0°.07×70°.32E±0°.09, h215km±7km, mb4.8/32*

ISC 01 13:00:49.6±0.4**, 36°.43N**±0°.04×**70°.36E**±0°.04**, h204**km**, n164, σ1s.67**/176**, mb4.5**/36**, 11C-9D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	Kabul	2.17	210	PN	Pn	13 01 32.0	+1.5
KBL	Kabul	2.17	210		Pn	13 01 32.0	+1.5
CHGR	Chuyangaron	2.42	337		Pn	13 01 33.0	+0.1
CHGR					S	13 02 03.6	-2.6
GAR	Garm	2.56	359		Pn	13 01 35.0	+0.5
CEP	Cherat	2.90	154	P	Pn	13 01 40.9	+2.5
CEP				S	S	13 02 18.0	+2.0
CHCP	Chirah Chowk	3.65	138	P	Pn	13 01 49.9	+2.6
NIL	Nilore	3.65	139	PN	Pn	13 01 50.0	+2.7
NIL	Nilore	3.65	139		Pn	13 01 50.0	+2.7
THW	Thamme Wali	3.81	162	P	Pn	13 01 51.1	+1.9
SARP	Sargodha	4.89	156	P	Pn	13 02 03.4	+0.6
TAS	Tashkent	4.96	351	PN	Pn	13 02 04.2	+0.7
TAS	Tashkent	4.96	351		Pn	13 02 04.2	+0.7
JMU	Jammu	5.27	133	ex	S	13 03 03.5	-5.1
ARSB	Arslanbob	5.29	22		Pn	13 02 07.8	-0.1
KSH	Kashi	5.39	54	P	Pn	13 02 05.4	-3.8
KSH				S	S	13 03 00.1	-12
KSH				smax	smax		
	comp=N,280nm,0.3s						
KSH				smax	smax		
	comp=E,260nm,0.5s						
THN	Thein Dam	5.96	131	eP	Pn	13 02 19.0	+2.6
THN				eS	S	13 03 24.0	-0.7
AML	Almayashu	6.25	23	P	Pn	13 02 20.5	+0.1
	SNR=290						
DHRM	DHARAMSHALA	6.44	129	eP	Pn	13 02 24.3	+1.4
DHRM				eS	S	13 03 35.4	-1.1
DHRM				IAML		13 03 37.8	
	comp=E,710nm,0.3s						
DHRM				IAML		13 03 37.8	
	comp=N,284nm,0.2s						
UCH	Uchtor	6.62	28	P	Pn	13 02 25.2	-0.1
	SNR=215						
NRN	Naryn	6.65	40	PN	Pn	13 02 24.4	-1.2
NRN	Naryn	6.65	40		Pn	13 02 24.4	-1.2
KK31	Karatay Array	6.66	1	PN	Pn	13 02 25.0	-0.4
KK31	Karatay Array	6.66	1		Pn	13 02 25.0	-0.4
KK31	Karatay Array	6.66	1	⇑P	Pn	13 02 25.1	-0.4
	comp=N,13nm,0.3s,baz=171,slow=9.1,SNR=503						
KK31				⇑S	S	13 03 37.1	-4.2
	comp=N,19nm,0.7s,baz=213,slow=38,SNR=6.2						
KKAR	Karatay Array	6.66	1	PN	Pn	13 02 24.8	-0.6
KKAR	Karatay Array	6.66	1		Pn	13 02 24.8	-0.6
KKAR	Karatay Array	6.66	1		Pn	13 02 25.0	-0.4
EKS2	Erkin-Say	6.75	22	P	Pn	13 02 27.2	+0.5
	SNR=27						
KZA	Kyzart	6.79	32	P	Pn	13 02 27.3	-0.2
	SNR=38						
HRA	Herat	6.94	255	Pn	Pn	13 02 30.2	+0.9
AAK	Ala-Archa	6.97	26	d iPN	Pn	13 02 29.7	+0.2
AAK				pmax	pmax		
	comp=Z,26nm,0.6s						
AAK	Ala-Archa	6.97	26	P	Pn	13 02 29.9	+0.4
	comp=Z,12nm,0.3s,baz=192,slow=7.2,SNR=142						
AAK				S	S	13 03 44.5	-4.3
	comp=Z,4.8nm,0.3s,baz=353,slow=21,SNR=20						
AAK	Ala-Archa	6.97	26	P	Pn	13 02 29.9	+0.4
	SNR=52						
AAK	Ala-Archa	6.97	26		Pn	13 02 29.5	0.0
AAK	Ala-Archa	6.97	26	⇑P	Pn	13 02 29.7	+0.2
	comp=Z,18nm,0.4s						
AAK				⇑S	S	13 03 45.7	-3.0
	comp=Z,59nm,0.8s						
KBK	Karagaybulak	7.15	28	P	Pn	13 02 32.7	+0.8
	SNR=5.3						
FRU1	Bishkek	7.17	26	PN	Pn	13 02 32.2	+0.2
FRU1	Bishkek	7.17	26	Pn	Pn	13 02 32.2	+0.2
CHMS	Chumysh	7.38	26	P	Pn	13 02 35.0	+0.3
	SNR=20						
ULHL	Ulahol	7.38	36	P	Pn	13 02 34.7	-0.2
	SNR=21						
USP	Ospenovka	7.53	24	P	Pn	13 02 35.9	-0.8
	SNR=10						
TKM2	Tokmak 2	7.63	30	P	Pn	13 02 38.7	+0.6
	SNR=9.8						
TKM2	Tokmak 2	7.63	30	⇑P	Pn	13 02 38.5	+0.3
	comp=Z,51nm,0.6s						
TKM2				⇓S	S	13 04 01.4	-3.1
	comp=Z,22nm,0.7s						
SMLA	Simla	7.75	131	eP	Pn	13 02 41.9	+2.3
SMLA				eS	S	13 04 04.3	-2.8
SMLA				IAML		13 04 07.2	
	comp=N,170nm,0.2s						
SMLA				IAML		13 04 07.2	
	comp=E,149nm,0.2s						
KDJ	Kajisay	7.76	41	PN	Pn	13 02 39.6	-0.3
KDJ	Kajisay	7.76	41		Pn	13 02 39.6	-0.3
TARG	Taragay, Kyrgy	7.84	45		Pn	13 02 40.8	-0.3
PRZ	Przheval'sk	8.66	43	PN	Pn	13 02 52.4	+0.8
PRZ	Przheval'sk	8.66	43		Pn	13 02 52.4	+0.8
NDI	New Delhi	9.65	141	eP	S	13 04 46.5	-6.0
JOSI	Joshimath	9.66	125	eS	S	13 04 47.4	-5.6
JOSI				IAML		13 04 52.8	
	comp=E,532nm,0.5s						
JOSI				IAML		13 04 53.1	
	comp=N,583nm,0.5s						
KUDL	Kundal	9.75	146	eP	Pn	13 03 02.9	-2.8
KUDL				eS	S	13 04 45.5	-9.5
AYAN	Aya Nagar	9.77	142	eP	P	13 03 10.7	-3.2
GEYT	Alibeck	9.89	282	P	Pn	13 03 06.7	-0.7
	comp=N,0.3nm,0.3s,baz=120,slow=8.5,SNR=3.7						
GEYT				S	S	13 04 55.0	-3.1
	comp=N,0.2nm,0.3s,baz=71,slow=9.3,SNR=2.4						
GYA0B	ALIBECK ARRAY	9.89	282	Pn	Pn	13 03 08.2	+0.9
MAKZ	Makanchi	13.51	36	P	Pn	13 03 53.7	+0.5
MAKZ	Makanchi	13.51	36	Pn	Pn	13 03 53.7	+0.5
MK31	Makanchi Array	13.65	37	P	Pn	13 03 55.0	+0.1
MK31	Makanchi Array	13.65	37	Pn	Pn	13 03 55.0	+0.1
MKAR	Makanchi Array	13.65	37	P	P	13 03 58.0	+0.9
MKAR	Makanchi Array	13.65	37	P	Pn	13 03 55.4	+0.5
	comp=N,0.5nm,0.3s,baz=203,slow=8.1,SNR=18						
MKAR	Makanchi Array	13.65	37	P	P	13 03 58.0	+0.9
DANN	Dangsing	13.88	122	eP	P	13 03 59.8	-0.4
	comp=N,10.0nm,0.2s						
KOLN	Koldanda	14.15	124	eP	P	13 04 02.9	-0.1
	comp=N,6.7nm,0.2s						
GKN	Gorkha	14.71	121	eP	P	13 04 10.1	+0.9
AB31	Akbulak array	14.90	333	P	P	13 04 11.6	+0.6
	comp=N,1.8nm,0.3s,baz=150,slow=12,SNR=151						
AB31				⇓S	S	13 06 52.3	-3.0
	comp=N,1.9nm,0.8s,baz=156,slow=23,SNR=4.4						
ABKAR	Akbulak array	14.90	333	Pn	Pn	13 04 09.1	-1.2
ABKAR	Akbulak array	14.90	333	Pn	Pn	13 04 09.0	-1.2
WMQ	Urumqi	15.16	56	eP	P	13 04 16.3	+2.4
WMQ				pmax	pmax		
	comp=N,12nm,0.7s						
DMN	Daman	15.28	121	eP	P	13 04 16.2	+0.6
KKN	Kakani	15.28	120	eP	P	13 04 16.7	+1.1
KURBB	Kurchatov Arra	15.35	20	P	Pn	13 04 15.5	-0.3
	comp=N,0.2nm,0.3s,baz=210,slow=10,SNR=7.6						
KURK	Kurchatov	15.46	20	⇓eP	P	13 04 17.5	+0.4
KURK	Kurchatov	15.46	20		P	13 04 17.7	+0.6
KURK				IAmb	IAmb	13 05 07.3	
	comp=Z,13nm,0.2s						
PKIN	Phulchoki	15.50	120	eP	P	13 04 19.8	+1.8
	comp=Z,28nm,0.4s						
PKI	Pulchoki	15.51	120	eP	P	13 04 19.7	+1.5
	comp=Z,48nm,0.5s						
GUN	Gumba	15.63	119	eP	Pn	13 04 20.9	+1.2
	comp=Z,20nm,0.4s						
JIRN	Jiri	16.00	119	eP	Pn	13 04 25.6	+1.4
	comp=Z,89nm,0.6s						
AKTO	Aktyubinsk	16.59	331	P	Pn	13 04 31.0	+0.4
AKTO	Aktyubinsk	16.59	331	P	Pn	13 04 31.0	+0.4
	comp=Z,1.5nm,0.3s,baz=142,slow=11,SNR=37						
AKTO	Aktyubinsk	16.59	331	⇑P	Pn	13 04 35.0	+4.4
	comp=Z,18nm,0.9s						
AKTO				⇓S	S	13 07 33.6	+1.2
	comp=Z,5.8nm,1.5s						
BVAR	Borovoye Array	16.59	0	P	Pn	13 04 31.1	+0.5
	comp=Z,1.2nm,0.3s,baz=177,slow=10,SNR=21						
BRVK	Borovoye	16.62	360	⇓iP	Pn	13 04 31.3	+0.3
BRVK				pmax	pmax		
	comp=Z,11nm,1.7s						
BRVK	Borovoye	16.62	360		Pn	13 04 30.9	0.0
RAMN	Ramite	16.72	120	eP	P	13 04 31.9	+0.4
	comp=Z,23nm,0.5s						
TAPN	Taplejung	17.27	117	eP	P	13 04 37.5	-0.1
	comp=Z,12nm,0.4s						
ZAA0	Zalesovo Array	20.19	25	P	P	13 05 08.3	-0.1
ZALV	Zalesovo Beam	20.19	25	P	P	13 05 09.1	+0.6
	comp=Z,6.0nm,0.3s,baz=215,slow=10,SNR=25						
ZALV	Zalesovo Beam	20.19	25	P	P	13 05 08.7	+0.2
GNI	Garni	20.43	288	⇓eP	Pn	13 05 14.2	-2.4
GNI				pmax	pmax		
	comp=Z,66nm,2.2s						
GNI	Garni	20.43	288	P	P	13 05 12.2	+0.8
GNI				IAmb	IAmb	13 05 38.8	
	comp=Z,8.0nm,0.6s						
SHL	Shillong	21.34	114	P	P	13 05 22.1	+0.9
SHL				pmax	pmax		
	comp=Z,9.0nm,0.3s						
SHL	Shillong	21.34	114	P	P	13 05 22.1	+0.9
SHL				IAmb	IAmb	13 06 13.6	
	comp=Z,9.4nm,0.3s						
ARU	Arti	21.53	342	d iP	P	13 05 24.0	+1.5
ARU						13 06 04.5	
ARU				S	S	13 09 09.2	+1.8
ARU				pmax	pmax		
	comp=Z,19nm,1.4s						
ARU	Arti	21.53	342	P	P	13 05 23.6	+1.1
	comp=Z,1.5nm,0.4s,baz=130,slow=20,SNR=7.0						
ARU	Arti	21.53	342	P	P	13 05 24.7	+2.1
KIV	Kislovodsk	22.37	298	P	P	13 05 31.0	+0.1
KIV				pmax	pmax		
	comp=Z,12nm,1.3s						
KIV	Kislovodsk	22.37	298	P	P	13 05 31.0	+0.1
KIRV	Kirov	26.08	335	P	P	13 06 05.3	+1.2
	comp=Z,7.3nm,0.4s,baz=97,slow=3.5,SNR=4.1						
VSR	Storozhevoye	26.67	313	⇑eP	P	13 06 09.5	0.0
VSR				pmax	pmax		
	comp=Z,19nm,0.5s						
LZH	Lanzhou	26.93	81	eP	P	13 06 13.7	+1.5
LZH				pP	pP	13 06 49.0	-5.7
LZH				sP	PP	13 07 12.9	-4.2
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
CD2	Chengdu	28.24	91	P	P	13 06 23.5	-0.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SONM	Songino Array	28.79	55	P	P	13 06 29.0	+0.4
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM	Songino Array	28.79	55	P	P	13 06 28.3	-0.3
	comp=Z,0.6nm,0.5s,baz=261,slow=8.6,SNR=3.4						
SONM	Songino Array	28.79	55	P	P	13 06 28.9	+0.4
BRTR	Keskin Array B	28.97	288	P	P	13 06 31.5	+1.3
BRTR	Keskin Array B	28.97	288	P	P	13 06 31.5	+1.3
CM31	Chiang Mai Arr	30.88	118	P	P	13 06 49.0	+2.0
CM31				IAmb	IAmb	13 06 50.6	
	comp=Z,4.6nm,0.5s						
CMAR	Chiang Mai Arr	30.88	118	P	P	13 06 48.5	+1.5
CMAR	Chiang Mai Arr	30.88	118	P	P	13 06 48.5	+1.5
HHC	Hu-ho-hao-te	32.27	69	eP	P	13 07 00.8	+1.7
HHC				pmax	pmax		
	comp=Z,4.0nm,1.1s						
AKASG	Malin Array Be	32.59	309	P	P	13 07 02.4	+0.8
	comp=Z,0.8nm,0.4s,baz=83,slow=6.8,SNR=3.7						
AKBB	Malin Array Si	32.59	309	P	P	13 06 59.5	-2.1
AKBB				pmax	pmax		
	comp=Z,33nm,2.0s						
AKBB	Malin Array Si	32.59	309	P	P	13 06 59.5	-2.1
AKBB				IAmb	IAmb	13 07 04.9	
	comp=Z,33nm,2.0s						
NRIK	Noril'sk	34.28	11	P	P	13 07 17.8	+1.8
	comp=Z,5.5nm,0.7s,baz=189,slow=6.4,SNR=5.1						
FIA1	FINESS Array S	37.25	326	P	P	13 07 42.2	+0.9
FINES	FINESS Array B	37.25	326	P	P	13 07 42.4	+1.1
	comp=Z,3.1nm,0.6s,baz=121,slow=9.5,SNR=16						
LVZ	Lovozero	37.33	339	⇑eP	P	13 07 43.9	+1.9
LVZ				i *PP	pP	13 08 25.1	+0.4
LVZ				pmax	pmax		
	comp=Z,78nm,1.4s						
LVZ	Lovozero	37.33	339	P	P	13 07 42.9	+0.9
VYHS	Vyhne	39.17	304	eP	P	13 07 55.4	-2.1
VYHS	Vyhne	39.17	304	eP	P	13 07 55.4	-2.1
NJ2	Nanjing	39.99	82	eP	P	13 08 03.5	-1.0
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
KEV	Kevo	40.67	338	P	P	13 08 10.5	+1.0
KEV				pmax	pmax		
	comp=Z,149nm,1.8s						
KEV	Kevo	40.67	338	P	P	13 08 10.5	+1.0
KEV				IAmb	IAmb	13 08 33.5	
	comp=Z,149nm,1.8s						
ARCES	ARCESS Array B	41.01	338	P	P	13 08 13.4	+1.1
ARCES	ARCESS Array B	41.01	338	P	P	13 08 13.7	+1.3
	comp=Z,3.7nm,0.5s,baz=110,slow=7.8,SNR=31						
ARCES	ARCESS Array B	41.01	338	P	P	13 08 13.4	+1.1
ARE0	ARCESS Array S	41.01	338	P	P	13 08 13.4	+1.1
GERES	GERESS Array B	42.55	305	P	P	13 08 26.8	+1.6
GERES	GERESS Array B	42.55	305	P	P	13 08 26.8	+1.6
CLL	Collm	42.83	309	ePP	PP	13 10 14.0	+3.1
CLL				e		13 10 22.0	
NC405	NORSAR Array S	43.89	323	P	P	13 08 36.3	+0.7
NC602	NORSAR Array S	43.93	323	P	P	13 08 36.0	+0.1
NC602				IAmb	IAmb	13 10 22.0	
	comp=Z,66nm,1.6s						
NC303	NORSAR Array S	44.07	323	P	P	13 08 37.9	+0.9
GRA1	Grafenberg Arr	44.09	307	P	P	13 08 36.9	-0.5
GRA1				IAmb	IAmb	13 08 51.7	
	comp=Z,35nm,1.7s						
GRF	Grafenberg Arr	44.09	307	P	P	13 08 36.9	-0.5
GRF				pmax	pmax		
	comp=Z,35nm,1.7s						
NB201	NORSAR Array S	44.09	323	P	P	13 08 37.5	+0.3
NOA	NORSAR Array B	44.12	323	P	P	13 08 37.9	+0.4
	comp=Z,1.5nm,0.8s,baz=98,slow=7.8,SNR=3.3						
YAK	Yakutsk	44.32	35	P	P	13 08 39.9	+1.0
YAK				pmax	pmax		
	comp=Z,43nm,1.7s						
YAK	Yakutsk	44.32	35	P	P	13 08 39.9	+1.0
YAK				IAmb	IAmb	13 10 00.6	
	comp=Z,43nm,1.7s						
NC204	NORSAR Array S	44.37	323	P	P	13 08 40.2	+0.7
LATE	Laterza	44.81	297	P	P	13 08 41.1	-2.1
TIXI	Tiksi	46.03	22	c eP	P	13 08 53.1	+0.9
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIXI	Tiksi	46.03	22	P	P	13 08 53.0	+0.7
WLF	Walferdange	47.36	307	pP	pP	13 09 41.9	-5.5
WLF				PcP	PcP	13 10 25.1	-5.1
SPA0	Spitsbergen Ar	47.44	347	P	P	13 09 05.0	+1.9
SPA0				IAmb	IAmb	13 10 30.2	
	comp=Z,82nm,1.4s						
KBS	Kingsbay	48.56	347	⇑eP	P	13 09 11.6	-0.1
KBS				pmax	pmax		
	comp=Z,133nm,1.3s						
MBAR	Mbarara	52.05	234	⇓eP	P	13 09 38.5	-0.4
MBAR				pmax	pmax		
	comp=Z,2.0nm,1.3s						
ESDC	Sonseca Array	57.03	298	LR	LR	13 38 39.6	
	comp=Z,42nm,18.0s,baz=295,slow=40						
BILL	Bilibino	58.89	26	⇑eP	P	13 10 28.1	+1.5
TULEG	Thule	64.42	350	P	P	13 11 04.6	+1.2
TULEG				IAmb	IAmb	13 12 06.9	
	comp=Z,90nm,1.8s						
TOA0	Torodi Ar. Sit	65.20	268	P	P	13 11 08.6	-0.8
TOA0				IAmb	IAmb	13 13 12.9	
	comp=Z,20nm,1.9s						
TORD	Torodi Ar. Bea	65.20	268	P	P	13 11 08.4	-1.0
	comp=Z,0.5nm,0.4s,baz=47,slow=6.1,SNR=7.9						
INK	Inuvik	74.05	9	P	P	13 12 03.6	+1.1
INK				pmax	pmax		
	comp=Z,10.0nm,1.7s						
INK	Inuvik	74.05	9	P	P	13 12 01.9	-0.6
	comp=Z,0.5nm,0.5s,baz=4.3,slow=6.4,SNR=4.9						
INK	Inuvik	74.05	9	P	P	13 12 03.6	+1.1
PSAB3	Pilbara Seismi	74.27	133	P	P	13 12 04.8	+0.3
PSAB3				IAmb	IAmb	13 14 02.8	
	comp=Z,37nm,1.6s						
ILAR	Eielson Array	74.98	16	P	P	13 12 08.0	0.0
ILAR	Eielson Array	74.98	16	P	P	13 12 08.0	0.0
	comp=Z,0.3nm,0.7s,baz=302,slow=5.9,SNR=3.5						
RIDG	Independent Ri	76.32	15	P	P	13 12 15.1	-0.6
RIDG				IAmb	IAmb	13 14 42.1	
	comp=Z,31nm,1.7s						
BCAR	Beaver Creek A	77.56	14	P	P	13 12 21.2	-1.3
YKA	Yellowknife Ar	81.33	2	P	P	13 12 43.6	+0.7
	comp=Z,0.3nm,0.4s,baz=351,slow=5.4,SNR=5.0						
WRA	Warramunga Arr	82.39	121	P	P	13 12 47.7	-1.3
	comp=Z,0.2nm,0.5s,baz=323,slow=4.9,SNR=3.9						
ASAR	Alice Springs	84.64	124	P	P	13 12 59.9	-0.6
	comp=Z,0.2nm,0.7s,baz=311,slow=4.6,SNR=5.3						

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*SKO **01** 13:02:40.8, 40°.77N×21°.36E, h13km, M2.1, ML2.3*

*ATH **01** 13:02:41.4, 40°.84N×21°.34E, h7km±3km, ML2.7/2, Error ellipse: s-maj=3.9km s-min=1.7km az=145.0*

*THE **01** 13:02:41.7, 40°.84N×21°.35E, h6km±1km, ML2.6/6, Error ellipse: s-maj=1.5km s-min=0.5km az=153.0*

ISC 01 13:02:41.8±1.0**, 40°.81N**±0°.04×**21°.38E**±0°.05**, h8**km±4km**, n23, σ0s.30**/35**, 3D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FNA	Florina	0.03	185	P	Pg	13 02 43.3	0.0
FNA				S	Sg	13 02 44.3	-0.1
	30μm,0.2s						
FNA	Florina	0.03	185	⇓iPg	Pg	13 02 43.4	0.0
FNA				i Sg	Sg	13 02 44.5	0.0
FNA	Florina	0.03	185	P	Pg	13 02 43.4	0.0
FNA				S	Sg	13 02 44.4	0.0
NEST	Nestorio	0.47	213	P	Pg	13 02 50.7	-0.2
NEST				S	Sg	13 02 58.0	+0.9
	1μm,0.3s						
NEST	Nestorio	0.47	213	P	Pg	13 02 50.8	-0.2
NEST				S	Sg	13 02 57.2	+0.1
NEST				AML	AML	13 02 59.0	
	comp=E,2762μm,0.2s						
NEST				AML	AML	13 03 00.5	
	comp=N,1864μm,0.4s						
KZN	Kozani	0.59	149	P	Pg	13 02 53.0	-0.1
KZN				S	Sb	13 03 02.7	-0.1
	comp=N,712nm,0.3s						
KZN	Kozani	0.59	149	P	Pg	13 02 53.1	-0.1
KZN				S	Sb	13 03 02.8	0.0
KZN				AML	AML	13 03 03.7	
	comp=E,1337μm,0.3s						
KZN				AML	AML	13 03 04.3	
	comp=N,1607μm,0.5s						
PENT	Pentalofos	0.64	197	P	Pg	13 02 54.0	-0.2
PENT	Pentalofos	0.64	197	P	Pg	13 02 54.0	-0.2
KTI	Kastanea	0.70	126	P	Pg	13 02 55.1	-0.2
GRG	Griva	0.79	79	P	Pg	13 02 56.9	0.0
GRG				S	Sb	13 03 09.1	+0.5
	comp=N,300nm,0.5s						
GRG	Griva	0.79	79	⇓iPg	Pg	13 02 56.9	0.0
GRG				i Sg	Sb	13 03 09.2	+0.5
GRG	Griva	0.79	79	P	Pg	13 02 56.9	0.0
KPRO	Kipourio	0.86	181	P	Pg	13 02 58.4	+0.2
KPRO	Kipourio	0.86	181	P	Pg	13 02 58.4	+0.2
MEV	Metsovon	1.03	186	P	Pg	13 03 01.6	0.0
MEV				S	Sn	13 03 17.2	-0.3
VAY	Valandovo	1.03	60	⇓iPg	Pg	13 03 01.5	-0.1
VAY				i Sg	Sb	13 03 16.2	+0.5
VAY				eLg	Lg	13 03 16.4	
	comp=E,51nm,0.5s						
VAY				eLg	Lg	13 03 16.5	
	comp=N,51nm,0.3s						
STIP	Stip	1.07	34	i Pn	Pn	13 03 08.2	+5.0
LIT	Litokhoron	1.10	130	P	Pg	13 03 02.5	-0.5
LIT				S	Sn	13 03 19.7	+0.6
	comp=N,352nm,0.5s						
LIT	Litokhoron	1.10	130	P	Pg	13 03 02.9	-0.1
SKO	Skopje	1.16	2	i Pg	Pn	13 03 04.1	-0.3
KNT	Kendrikon	1.20	73	P	Pb	13 03 04.5	-0.3
KNT				S	Sn	13 03 21.5	0.0
	comp=N,92nm,0.4s						
KNT	Kendrikon	1.20	73	i Pg	Pb	13 03 04.7	-0.2

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*IDC **01** 13:12:02.1±3.2, 5°.83S×150°.04E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/37, mbtmp4.0/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/45, Error ellipse: s-maj=103.5km s-min=38.7km az=118.0*

*NEIC **01** 13:12:10.9±1.1, 6°.1S±0°.2×149°.9E±0°.3, h53km±14km, mb4.2/10*

ISC 01 13:12:11.1±2.4**, 6°.1S**±0°.2×**149°.8E**±0°.5**, h52**km**, n21, σ0s.63**/22**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.21	218	Pn	Pn	13 13 13.6	+0.9
	baz=17,slow=9.4						
PMG				Sn	Sn	13 14 00.4	-0.2
	14nm,0.3s,baz=338,slow=23,SNR=6.1						
PMG	Port Moresby	4.21	218		Pn	13 13 13.2	+0.4
PMG					Sn	13 13 59.9	-0.7
SIJI	Sorong	19.22	285	LR	LR	13 25 13.1	
	comp=Z,65nm,19.7s,baz=160,slow=41						
WB0	Warramunga Arr	20.23	226	P	P	13 16 42.2	+0.1
WR0	Warramunga Arr	20.25	226	P	P	13 16 42.3	0.0
WR0				IAmb	IAmb	13 16 49.3	
	comp=Z,15nm,1.6s						
WB2	Warramunga Arr	20.37	226	P	P	13 16 43.9	+0.2
WB2				IAmb	IAmb	13 17 24.7	
	comp=Z,7.4nm,1.3s						
WRA	Warramunga Arr	20.38	226	P	P	13 16 44.2	+0.4
	comp=Z,2.1nm,0.5s,baz=52,slow=11,SNR=21						
WRA	Warramunga Arr	20.38	226	P	P	13 16 43.5	-0.2
KNRA	Kununurra	22.73	244	P	P	13 17 09.2	+0.2
KNRA				IAmb	IAmb	13 17 34.9	
	comp=Z,37nm,1.4s						
AS31	Alice Springs	23.22	220	P	P	13 17 13.8	-0.2
ASAR	Alice Springs	23.22	220	P	P	13 17 14.6	+0.7
	comp=Z,0.5nm,0.4s,baz=55,slow=8.9,SNR=26						
ASAR	Alice Springs	23.22	220	P	P	13 17 13.7	-0.3
FITZ	Fitzroy Crossi	26.43	241	P	P	13 17 43.0	-0.2
	comp=Z,1.4nm,0.3s,baz=46,slow=8.6,SNR=22						
FITZ	Fitzroy Crossi	26.43	241	P	P	13 17 42.8	-0.4
FITZ				IAmb	IAmb	13 18 07.5	
	comp=Z,19nm,1.7s						
MJAR	Matsushiro Arr	43.79	346	P	P	13 20 11.2	-0.6
MAJO	Matsushiro	43.79	346	P	P	13 20 11.3	-0.6
MJB9	Matsu-Tunnel	43.79	346	P	P	13 20 11.2	-0.7
USA0B	Ussuriysk Arra	52.59	344	P	P	13 21 21.1	+1.6
USRK	Ussuriysk Ar.	52.59	344	P	P	13 21 20.0	+0.5
TORD	Torodi Ar. Bea	147.82	285	PKPbc	PKPbc	13 31 50.5	-1.0
	comp=Z,1.0nm,0.4s,baz=63,slow=2.3,SNR=15						
TORD	Torodi Ar. Bea	147.82	285		PKPdf	13 31 48.3	-0.2

*IDC **01** 13:17:20.9±0.8, 3°.65S×142°.04E, h0km, mb4.1/8, mb1 4.3/11, mb1mx4.0/41, mbtmp4.2/11, ML4.1/2, Error ellipse: s-maj=21.0km s-min=12.1km az=56.0*
*ISCJB **01** 13:17:26.0±0.3, 3°.84S±0°.04×141°.96E±0°.05, h50km, mb4.4/13, MS4.2/1, Error ellipse: s-maj=7.6km s-min=5.1km az=164.2*
*NEIC **01** 13:17:27.8±2.5, 3°.78S±0°.09×141°.92E±0°.07, h53km±8km, mb4.7/36*
*BJI **01** 13:17:27.6±0.0, 4°.23S×141°.70E, h69km, mb4.7/21, mB5.0/12, Ms4.8/4, Ms7 4.6/4*
ISC 01 13:17:27.9±0.5**, 3°.83S**±0°.05×**141°.95E**±0°.07**, h50km, n61, σ1s.40**/68**, mb4.6**/28**, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	Jayapura	1.81	316	Pg	Pn	13 17 54.0	-2.6
	45nm,0.3s,baz=154,slow=8.5,SNR=232						
JAY				Lg	Lg	13 18 15.3	
	61nm,0.3s,baz=66,slow=17,SNR=13						
PMG	Port Moresby	7.58	137	Pn	Pn	13 19 15.7	-0.2
	1.9nm,0.3s,baz=71,slow=3.2,SNR=6.8						
PMG				Sn	Sn	13 20 42.3	+1.8
	0.8nm,0.3s,baz=108,slow=20,SNR=3.6						
PMG	Port Moresby	7.58	137		Pn	13 19 17.1	+1.2
SIJI	Sorong	11.07	285	Pn	Pn	13 20 03.0	-0.8
	0.4nm,0.3s,baz=198,slow=20,SNR=2.7						
WB0	Warramunga Arr	17.47	204	P	P	13 21 29.4	+0.6
KNRA	Kununurra	17.52	227	P	Pn	13 21 28.8	+0.1
KNRA				IAmb	IAmb	13 21 31.6	
	comp=Z,28nm,0.7s						
WR0	Warramunga Arr	17.58	204	P	Pn	13 21 29.2	-0.3
WRAB	Tennant Creek	17.64	204	P	Pn	13 21 29.7	-0.5
WB2	Warramunga Arr	17.64	204	P	Pn	13 21 29.9	-0.4
WRA	Warramunga Arr	17.65	204	P	Pn	13 21 29.9	-0.5
	comp=Z,1.1nm,0.3s,baz=12,slow=10,SNR=21						
WRA	Warramunga Arr	17.65	204	P	Pn	13 21 28.2	-2.2
SOEI	Soe	18.51	251	P	Pn	13 21 41.8	+0.8
SOEI				IAmb	IAmb	13 22 00.8	
	comp=Z,24nm,0.7s						
BATI	Baumata	19.21	250	P	Pn	13 21 53.7	+4.3
	comp=Z,3.9nm,0.3s,baz=62,slow=2.7,SNR=7.4						
AS31	Alice Springs	21.19	201	P	P	13 22 08.6	-0.9
ASAR	Alice Springs	21.19	201	P	P	13 22 09.4	0.0
	comp=Z,1.6nm,0.6s,baz=30,slow=12,SNR=24						
ASAR				S	S	13 26 01.6	-1.0
	comp=Z,0.4nm,0.7s,baz=18,slow=26,SNR=3.0						
ASAR	Alice Springs	21.19	201	P	P	13 22 08.2	-1.2
FITZ	Fitzroy Crossi	21.35	227	P	P	13 22 12.1	+0.9
	comp=Z,8.8nm,0.6s,baz=44,slow=10,SNR=26						
FITZ				S	S	13 26 04.8	-0.9
	comp=Z,2.1nm,0.8s,baz=232,slow=18,SNR=3.5						
FITZ	Fitzroy Crossi	21.35	227	P	P	13 22 11.0	-0.1
EIDS	Eidsvold	23.14	159	P	P	13 22 27.9	-2.2
EIDS				IAmb	IAmb	13 22 53.7	
	comp=Z,25nm,1.4s						
KKM	Kota Kinabalu	27.51	291	P	P	13 23 09.9	-0.2
KKM				IAmb	IAmb	13 23 59.2	
	comp=Z,32nm,1.1s						
PSA00	Pilbara Seismi	27.78	229	P	P	13 23 11.7	-0.7
PSA00				IAmb	IAmb	13 23 18.4	
	comp=Z,18nm,1.2s						
STKA	Stephens Creek	27.90	181	P	P	13 23 14.5	+1.2
	comp=Z,3.3nm,1.1s,baz=353,slow=8.1,SNR=5.3						
STKA	Stephens Creek	27.90	181	P	P	13 23 13.4	+0.1
BBOO	Buckleboo	29.35	190	P	P	13 23 27.2	+1.0
FORT	Forrest	29.84	205	P	P	13 23 31.3	+0.8
FORT				IAmb	IAmb	13 24 01.8	
	comp=Z,37nm,1.4s						
DZM	Mont Dzumac	29.88	129	P	P	13 23 31.1	-0.1
DZM				IAmb	IAmb	13 24 09.0	
	comp=Z,54nm,2.0s						
MORW	Morawa	35.14	222	P	P	13 24 17.3	+0.3
NWAO	Narrogin (SRO)	37.04	216	P	P	13 24 34.2	+1.0
NWAO	Narrogin (SRO)	37.04	216	P	P	13 24 34.1	+1.0
NWAO				IAmb	IAmb	13 25 31.9	
	comp=Z,35nm,1.4s						
MAJO	Matsushiro	40.32	355	P	P	13 25 01.0	+0.5
MJB9	Matsu-Tunnel	40.32	355	P	P	13 25 01.0	+0.4
NJ2	Nanjing	41.90	330	eP	P	13 25 14.6	+1.0
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
WHN	Wuhan	43.17	324	P	P	13 25 27.4	+3.4
RPSI	Rantau Prapat	43.49	278	P	P	13 25 25.1	-1.6
RPSI				IAmb	IAmb	13 25 53.2	
	comp=Z,13nm,1.1s						
TUWZ	Tuamarina	47.15	147	P	P	13 25 55.6	+0.3
CRLZ	Canterbury Las	47.98	150	P	P	13 26 00.3	-1.6
CD2	Chengdu	50.20	316	P	P	13 26 18.8	-0.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	Hu-ho-hao-te	52.43	331	eP	P	13 26 38.8	+3.1
HHC				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GTA	Gaotai	57.91	322	eP	P	13 27 16.1	+0.9
GTA				S	S	13 35 13.0	+1.2
GTA				sS	sS	13 35 39.5	+4.2
GTA				SS	SS	13 39 06.2	+2.6
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,80nm,7.3s						
GTA				LR	LR		
	comp=Z,130nm,16.8s						
GTA				LR	LR		
	comp=Z,150nm,17.1s						
GTA				LR	LR		
	comp=Z,140nm,18.7s						
PETK	Petropavlovsk-	58.27	11	P	P	13 27 16.4	-0.9
	comp=Z,3.0nm,0.8s,baz=201,slow=13,SNR=6.4						
SONM	Songino Array	60.14	333	P	P	13 27 28.3	-2.2
	comp=Z,0.2nm,0.4s,baz=139,slow=9.3,SNR=3.3						
WMQ	Urumqi	67.91	321	eP	P	13 28 23.3	+1.8
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,100nm,7.1s						
WMQ				LR	LR		
	comp=Z,740nm,29.1s						
MKAR	Makanchi Array	72.66	322	P	P	13 28 51.2	+0.7
	comp=Z,4.4nm,0.7s,baz=111,slow=7.5,SNR=20						
TARG	Taragay, Kyrgy	73.64	315	P	P	13 28 56.4	-0.5
TARG				IAmb	IAmb	13 29 03.9	
	comp=Z,7.1nm,0.9s						
KSH	Kashi	74.21	313	P	P	13 29 02.0	+2.1
KSH				S	S	13 38 28.6	-1.4
KSH				sS	SKSac	13 39 02.3	-1.4
KSH				SS	SS	13 43 17.3	+0.8
KSH				LR	LR		
	comp=Z,680nm,7.1s						
KDJ	Kajisay	74.22	316	P	P	13 28 59.6	-0.4
KDJ				IAmb	IAmb	13 29 01.9	
	comp=Z,5.8nm,0.8s						
NIL	Nilore	74.59	306	P	P	13 29 02.3	+0.1
NIL				IAmb	IAmb	13 29 04.1	
	comp=Z,10.0nm,0.6s						
KURK	Kurchatov	76.50	324	P	P	13 29 12.6	0.0
KURK				IAmb	IAmb	13 29 13.6	
	comp=Z,6.3nm,1.1s						
CHGR	Chuyangaron	79.06	310	P	P	13 29 27.0	-0.2
CHGR				IAmb	IAmb	13 29 28.8	
	comp=Z,9.7nm,0.7s						
KKAR	Karatay Array	79.20	315	P	P	13 29 27.6	-0.2
BRVK	Borovoye	82.16	325	P	P	13 29 43.6	+0.2
RND	Reindeer	84.25	25	P	P	13 29 52.8	-1.2
RND				IAmb	IAmb	13 29 54.0	
	comp=Z,9.3nm,0.8s						
DHY	Denali Highway	84.77	26	P	P	13 29 56.2	-0.6
DHY				IAmb	IAmb	13 29 57.1	
	comp=Z,9.6nm,0.9s						
IL31		85.52	24	P	P	13 29 58.3	-2.0
IL31				IAmb	IAmb	13 33 08.3	
	comp=Z,15nm,1.6s						
ILAR	Eielson Array	85.52	24	P	P	13 29 58.6	-1.8
	comp=Z,3.2nm,0.7s,baz=257,slow=4.7,SNR=46						
ILAR	Eielson Array	85.52	24	P	P	13 29 58.4	-2.0
BCAR	Beaver Creek A	87.20	26	P	P	13 30 07.0	-1.7
GEYT	Alibeck	87.47	308	P	P	13 30 10.4	-0.1
	comp=Z,1.1nm,0.7s,baz=186,slow=8.2,SNR=3.5						
ABKAR	Akbulak array	87.66	320	P	P	13 30 09.6	-1.5
ABKAR	Akbulak array	87.66	320	P	P	13 30 09.7	-1.5
ABKAR				IAmb	IAmb	13 32 56.7	
	comp=Z,16nm,1.9s						
DAWY	Dawson	88.47	26	P	P	13 30 15.0	+0.3

*IDC **01** 13:19:21.9±1.6, 41°.72N×127°.01W, h0km, mb3.5/5, mb1 3.7/9, mb1mx3.6/51, mbtmp3.4/9, ML3.3/4, Error ellipse: s-maj=33.4km s-min=13.7km az=27.0*
*ISCJB **01** 13:19:22.6±0.7, 41°.80N±0°.03×126°.91W±0°.07, h10km, mb3.5/5, Error ellipse: s-maj=7.1km s-min=4.5km az=167.0*
*NEIC **01** 13:19:23.8±2.3, 41°.70N±0°.08×126°.95W±0°.10, h11km±3km, ML3.0(NCEDC)*
*NCEDC **01** 13:19:24.5±2.5, 41°.73N±0°.07×126°.9W±0°.1, h10km±6km*
*ANF **01** 13:19:26.5±1.1, 41°.89N×126°.61W, h5km, ML3.0/12, Error ellipse: s-maj=11.6km s-min=7.7km az=98.0*
ISC 01 13:19:23.7±1.1**, 41°.77N**±0°.05×**126°.94W**±0°.08**, h10km, n82, σ1s.24**/84**, mb3.5**/5**, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBO	Bosley Butte	2.07	77		Pn	13 19 57.3	-1.4
KEBM	Edson Butte	2.23	60		Pn	13 19 59.8	-1.0
KRMB	Red Mountain	2.29	95		Pn	13 20 00.8	-0.8
KSXB	Camp Six Broad	2.29	88		Pn	13 20 00.4	-1.3
KCTM	Capetown	2.36	122		Pn	13 20 01.7	-0.8
JCC	Jacoby Creek,	2.39	113		Pn	13 20 01.4	-1.6
L02E	Cave Junction	2.52	80	P	Pn	13 20 03.6	-1.2
	baz=265,SNR=19						
L02E	Cave Junction	2.52	80		Pn	13 20 03.6	-1.2
KHMM	Horse Mountain	2.58	109		Pn	13 20 04.6	-1.1
K02D	Willamette Mer	2.60	68	P	Pn	13 20 04.8	-1.2
	baz=242,SNR=32						
K02D				S	Sn	13 20 37.2	-0.5
	baz=242						
J01E	Myrtle Point	2.63	57	P	Pn	13 20 05.0	-1.2
	baz=223,SNR=11						
J01E				S	Sn	13 20 35.1	-3.0
	baz=223						
KSMM	Slide Mountain	2.63	126		Pn	13 20 04.8	-1.5
KTRM	Thompson Ridge	2.67	86		Pn	13 20 05.9	-1.1
KCRM	Chalk Rock	2.72	119		Pn	13 20 06.4	-1.1
KMRM	Mail Ridge	2.90	121		Pn	13 20 08.9	-1.1
HUMO	Hull Mountain	3.08	73		Pn	13 20 12.0	-0.4
HUMO	Hull Mountain	3.08	73	Pn	Pn	13 20 11.2	-1.2
M02C	Callahan	3.09	96	P	Pn	13 20 12.6	-0.1
	baz=290,SNR=17						
M02C				S	Sn	13 20 49.6	-0.1
	baz=290						
M02C	Callahan	3.09	96		Pn	13 20 12.8	+0.1
YBH	Yreka Blue Hor	3.17	89	Pn	Pn	13 20 14.0	+0.3
	1.6nm,0.3s,baz=250,slow=11,SNR=47						
YBH				Sn	Sn	13 20 53.8	+2.1
	0.2nm,0.3s,baz=288,slow=20,SNR=1.9						
YBH	Yreka Blue Hor	3.17	89		Pn	13 20 14.5	+0.8
LGPM	Granite Peak	3.21	104		Pn	13 20 14.1	-0.3
LAMM	Antelope Mount	3.24	91		Pn	13 20 15.5	+0.7
I02D	Swisshome	3.26	43	P	Pn	13 20 14.5	-0.3
	baz=208,SNR=33						
I02D				S	Sn	13 20 51.0	-2.6
	baz=208						
I03D	Drain, OR	3.27	53	P	Pn	13 20 14.1	-0.9
	baz=222,SNR=33						
I03D				S	Sn	13 20 52.0	-2.1
	baz=222						
N02D	Trinity Center	3.29	103	P	Pn	13 20 15.0	-0.4
	baz=300,SNR=6.6						
N02D	Trinity Center	3.29	103		Pn	13 20 15.3	-0.1
LBKM	Bonanza King	3.29	101		Pn	13 20 15.5	0.0
B040	Montague	3.38	88		Pn	13 20 17.1	+0.5
L04D	Klamath Falls	3.49	81	P	Pn	13 20 18.5	+0.4
	baz=266,SNR=8.1						
L04D	Klamath Falls	3.49	81		Pn	13 20 18.6	+0.5
O02D	Mt. Diablo Mer	3.53	115	P	Pn	13 20 17.9	-0.7
	baz=315						
WDC	Whiskeytown Da	3.53	108		Pn	13 20 18.2	-0.4
LHEM	Herd Peak	3.54	91		Pn	13 20 20.0	+1.0
LGBM	Gray Butte	3.59	95		Pn	13 20 20.8	+1.1
LMPM	Military Pass	3.60	93		Pn	13 20 21.3	+1.6
M03C	McCloud	3.66	96		Pn	13 20 22.7	+2.3
LBFM	Black Fox Moun	3.82	95		Pn	13 20 24.3	+1.6
M04C	Macdoel	3.82	88	P	Pn	13 20 23.6	+0.9
	baz=277,SNR=15						
LGMM	Garner Mountai	3.83	91		Pn	13 20 23.7	+0.8
I04A	Tendick Farm,	3.90	57	P	Pn	13 20 24.7	+1.0
	baz=231						
H04D	Lebanon	4.13	47	P	Pn	13 20 27.5	+0.7
	baz=218,SNR=14						
H04D				S	Sn	13 21 14.0	-1.1
	baz=218						
O03E	Paynes Creek	4.16	109	P	Pn	13 20 28.4	+1.1
	baz=305,SNR=5.9						
O03E				S	Sn	13 21 17.6	+1.5
	baz=305						
ORV	Oroville	4.70	116		Pn	13 20 34.3	-0.3
PINE	Pine Mountain	4.86	63		Pn	13 20 36.9	-0.2
MOD	Modoc Plateau	4.96	86		Pn	13 20 38.0	-0.5
F04A	Amboy	5.29	37	Pn	Pn	13 20 43.8	+1.0
BEKR	Beckworth	5.35	109		Pn	13 20 41.8	-2.0
E03A	Lebam	5.36	26	Pn	Pn	13 20 43.9	+0.2
AFDM	Forest Hills D	5.36	120	Pn	Pn	13 20 44.0	+0.2
E04D	Cinebar	5.72	32	P	Pn	13 20 50.6	+1.9
	baz=204,SNR=8.2						
VCNR	Virginia City	6.08	112		Pn	13 20 53.0	-0.8
PAHR	Pah Rah Range	6.10	107		Pn	13 20 54.9	+0.9
LON	Longmire	6.19	35		Pn	13 20 56.2	+1.0
PNTR	Pine Nut	6.21	113		Pn	13 20 56.3	+0.7
WVOR	Wild Horse Val	6.21	81	Pn	Pn	13 20 54.6	-1.0
CMB	Columbia Colle	6.27	124		Pn	13 20 56.1	-0.3
D05A	Enumclaw	6.47	32	Pn	Pn	13 21 00.9	+2.0
YERR	Yerington	6.51	113		Pn	13 21 00.4	+0.7
WAKR	Walker	6.61	117		Pn	13 21 00.2	-0.9
LTY	Liberty	7.08	37	Pn	Pn	13 21 08.8	+1.3
KVN	Kaiserville	7.28	109		Pn	13 21 10.5	+0.3
NVAR	Mina Array Bea	7.42	114	Pn	Pn	13 21 12.3	+0.1
	0.1nm,0.3s,baz=288,slow=14,SNR=9.8						
BMO	Blue Mountains	7.67	63		Pn	13 21 16.3	+0.7
B08A	Colville Reser	8.50	37	Pn	Pn	13 21 28.0	+1.1
PLID	Pearl Lake	8.62	64	Pn	Pn	13 21 29.7	+0.9
ELK	Elko	8.88	93	Pn	Pn	13 21 35.4	+3.1
	0.1nm,0.3s,baz=286,slow=9.4,SNR=5.2						
PDAR	Pinedale Array	12.92	80	Pn	Pn	13 22 31.8	+4.2
	0.1nm,0.3s,baz=270,slow=14,SNR=3.0						
PV05	Paradox Valley	14.18	99	P	P	13 22 51.7	-0.7
PV16	Nyswonger Mesa	14.24	98	P	P	13 22 51.4	-1.6
YKA	Yellowknife Ar	22.02	15	P	P	13 24 17.8	-0.1
	1.8nm,0.9s,baz=203,slow=11,SNR=4.5						
TXAR	Lajitas Array	22.56	116	P	P	13 24 24.8	+0.6
	0.7nm,1.0s,baz=291,slow=7.6,SNR=2.8						
ULM	Lac du Bonnet	23.05	58	P	P	13 24 29.7	+0.7
	1.1nm,0.4s,baz=259,slow=3.7,SNR=3.5						
ILAR	Eielson Array	25.71	340	P	P	13 24 53.8	-0.1
	1.0nm,0.9s,baz=156,slow=7.0,SNR=8.6						
ILAR	Eielson Array	25.71	340	P	P	13 24 54.4	+0.6
H11N3	WAKE ISLAND Hy	59.50	270	T	T	14 33 46.4	
	baz=52,slow=75						
H11N2	WAKE ISLAND Hy	59.50	270	T	T	14 33 42.1	
	baz=52,slow=75						
H11N1	WAKE ISLAND Hy	59.51	270	T	T	14 33 47.0	
	baz=52,slow=75						
H11S1	WAKE ISLAND Hy	60.39	269	T	T	14 34 57.0	
	baz=52,slow=75						
H11S2	WAKE ISLAND Hy	60.40	269	T	T	14 34 55.8	
	baz=52,slow=75						
H11S3	WAKE ISLAND Hy	60.41	269	T	T	14 34 53.4	
	baz=52,slow=75						
SONM	Songino Array	79.08	327	P	P	13 31 28.4	+0.2
	1.1nm,1.1s,baz=38,slow=5.7,SNR=4.8						

*ANF **01** 13:20:43.6±2.0, 41°.98N×126°.54W, h5km, Error ellipse: s-maj=21.9km s-min=12.1km az=83.0*
NCEDC 01 13:19:40.9, 42°.04N×125°.31W, h2km, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
L02E	Cave Junction	2.19	84	P	Pn	13 21 20.1	-0.5
	baz=266,SNR=8.1						
K02D	Willamette Mer	2.25	70	P	Pn	13 21 21.3	-0.2
	baz=252,SNR=9.8						
J01E	Myrtle Point	2.26	58	P	Pn	13 21 20.5	-1.0
	baz=239,SNR=10						
J01E				S	Sn	13 21 50.7	+0.9
	baz=239						
M02C	Callahan	2.82	101	P	Pn	13 21 29.0	-0.3
	baz=283						
I02D	Swisshome	2.90	42	P	Pn	13 21 30.5	+0.1
	baz=224,SNR=17						
I03D	Drain, OR	2.91	53	P	Pn	13 21 30.1	-0.3
	baz=235,SNR=17						
L04D	Klamath Falls	3.16	84	P	Pn	13 21 35.4	+1.3
	baz=267						
H04D	Lebanon	3.77	46	P	Pn	13 21 43.5	+1.3
	baz=229,SNR=10						

*ISCJB **01** 13:22:01.7±0.8, 41°.88N±0°.04×126°.94W±0°.07, h10km, mb3.2/4, Error ellipse: s-maj=8.0km s-min=5.4km az=173.6*
*NEIC **01** 13:22:05.0±3.0, 41°.90N±0°.07×126°.7W±0°.2, h11km±8km, ML2.9/40*
*ANF **01** 13:22:04.4±1.2, 41°.89N×126°.71W, h5km, ML2.9/2, Error ellipse: s-maj=10.9km s-min=7.2km az=96.0*
*IDC **01** 13:22:04.5±2.2, 42°.22N×126°.73W, h0km, mb3.3/4, mb1 3.6/7, mb1mx3.4/52, mbtmp3.2/7, ML2.7/2, Error ellipse: s-maj=39.8km s-min=15.9km az=38.0*
ISC 01 13:22:03.9±1.5**, 41°.87N**±0°.05×**126°.89W**±0°.10**, h10km, n52, σ1s.70**/53**, mb3.3**/4**, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBO	Bosley Butte	2.01	79	Pn	Pn	13 22 36.0	-2.0
KBO				IAML		13 22 55.2	
	comp=E,78nm,2.8s						
KBO				IAML		13 23 23.1	
	comp=N,64nm,4.0s						
KEBM	Edson Butte	2.14	61	Pn	Pn	13 22 38.0	-1.8
KEBM				IAML		13 22 56.6	
	comp=E,78nm,2.0s						
KEBM				IAML		13 23 07.5	
	comp=N,84nm,2.0s						
KRMB	Red Mountain	2.26	98	Pn	Pn	13 22 40.3	-1.1
JCC	Jacoby Creek,	2.40	115	Pn	Pn	13 22 40.1	-3.0
JCC				IAML		13 23 25.6	
	comp=N,39nm,2.0s						
L02E	Cave Junction	2.46	82	P	Pn	13 22 42.3	-1.9
	baz=265						
L02E				S	Sn	13 23 13.9	-0.4
	baz=265						
K02D	Willamette Mer	2.53	70	P	Pn	13 22 43.5	-1.6
	baz=252,SNR=5.9						
K02D				S	Sn	13 23 15.7	-0.3
	baz=252						
J01E	Myrtle Point	2.54	58	P	Pn	13 22 43.4	-1.7
	baz=240						
J01E				S	Sn	13 23 14.2	-2.0
	baz=240						
KHMM	Horse Mountain	2.58	112	Pn	Pn	13 22 43.9	-1.9
KHMM				IAML		13 23 02.2	
	comp=N,43nm,2.8s						
KHMM				IAML		13 23 45.8	
	comp=E,47nm,2.6s						
KMRM	Mail Ridge	2.91	123	Pn	Pn	13 22 47.8	-2.6
KMRM				IAML		13 23 24.1	
	comp=E,69nm,2.2s						
KMRM				IAML		13 24 00.6	
	comp=N,50nm,4.9s						
HUMO	Hull Mountain	3.01	75		Pn	13 22 50.0	-1.7
M02C	Callahan	3.06	98	P	Pn	13 22 51.2	-1.2
	baz=281						
YBH	Yreka Blue Hor	3.13	91	Pn	Pn	13 22 52.6	-0.8
	comp=N,1.2nm,0.3s,baz=279,slow=11,SNR=7.7						
YBH				Sn	Sn	13 23 32.2	+1.4
	baz=308,slow=19,SNR=1.5						
YBH	Yreka Blue Hor	3.13	91		Pn	13 22 52.7	-0.6
I02D	Swisshome	3.16	44	P	Pn	13 22 53.2	-0.5
	baz=225,SNR=8.0						
I02D				S	Sn	13 23 31.6	+0.2
	baz=225						
I03D	Drain, OR	3.18	54	P	Pn	13 22 52.9	-1.1
	baz=235						
I03D				S	Sn	13 23 31.4	-0.6
	baz=235						
N02D	Trinity Center	3.27	104	P	Pn	13 22 54.0	-1.3
	baz=288						
KCPM	Cahto Peak	3.32	130	Pn	Pn	13 22 53.9	-2.2
KCPM				IAML		13 23 46.4	
	comp=N,41nm,2.0s						
KCPM				IAML		13 24 43.0	
	comp=E,53nm,3.0s						
L04D	Klamath Falls	3.43	83	P	Pn	13 22 57.5	0.0
	baz=266,SNR=12						
WDC	Whiskeytown Da	3.52	110	Pn	Pn	13 22 57.5	-1.2
COR	Corvallis	3.77	43	Pn	Pn	13 23 01.1	-1.0
M04C	Macdoel	3.77	90	P	Pn	13 23 02.3	0.0
	baz=274						
H04D	Lebanon	4.03	47	P	Pn	13 23 06.3	+0.7
	baz=229,SNR=9.2						
O03E	Paynes Creek	4.15	111	P	Pn	13 23 08.1	+0.7
	baz=295						
O03E				S	Sn	13 23 52.4	-3.7
	baz=295						
ORV	Oroville	4.70	118		Pn	13 23 14.9	0.0
ORV				IAML		13 24 02.8	
	comp=E,8.8nm,3.8s						
ORV				IAML		13 24 04.0	
	comp=N,6.4nm,4.2s						
PINE	Pine Mountain	4.78	64	Pn	Pn	13 23 15.4	-0.8
PINE				IAML		13 24 33.5	
	comp=E,20nm,4.4s						
MCCM	Marconi Confer	4.83	139	Pn	Pn	13 23 17.9	+1.4
MOD	Modoc Plateau	4.92	87	Pn	Pn	13 23 16.8	-1.2
MOD				IAML		13 24 12.0	
	comp=E,11nm,3.1s						
MOD				IAML		13 25 55.1	
	comp=N,10nm,4.0s						
F04A	Amboy	5.19	37	Pn	Pn	13 23 21.8	+0.2
E03A	Lebam	5.25	26	Pn	Pn	13 23 22.3	-0.1
BEKR	Beckworth	5.34	110	Pn	Pn	13 23 24.5	+0.6
BEKR				IAML		13 24 32.6	
	comp=N,7.6nm,4.5s						
BEKR				IAML		13 24 49.0	
	comp=E,6.3nm,4.5s						
AFDM	Forest Hills D	5.38	121	Pn	Pn	13 23 25.0	+0.8
AFDM				IAML		13 24 03.9	
	comp=N,5.4nm,4.4s						
AFDM				IAML		13 25 34.7	
	comp=E,6.3nm,3.6s						
LON	Longmire	6.09	35		Pn	13 23 34.6	+0.6
PAHR	Pah Rah Range	6.09	108	Pn	Pn	13 23 36.2	+2.1
PNTR	Pine Nut	6.21	114	Pn	Pn	13 23 36.5	+0.6
D05A	Enumclaw	6.37	32	Pn	Pn	13 23 38.5	+0.8
YERR	Yerington	6.51	114	Pn	Pn	13 23 40.7	+0.8
LTY	Liberty	6.98	37	Pn	Pn	13 23 46.9	+0.6
NVAR	Mina Array Bea	7.42	115	Pn	Pn	13 23 56.5	+4.0
	baz=291,slow=15,SNR=2.9						
NVAR	Mina Array Bea	7.42	115		Pn	13 23 55.4	+3.0
BMO	Blue Mountains	7.59	64		Pn	13 23 54.5	-0.2
PLID	Pearl Lake	8.54	64	Pn	Pn	13 24 09.4	+1.5
ELK	Elko	8.84	93	Pn	Pn	13 24 15.6	+3.7
	comp=E,0.1nm,0.3s,baz=303,slow=10,SNR=3.5						
YKA	Yellowknife Ar	21.91	15	P	P	13 26 55.1	-1.8
	comp=E,0.8nm,0.7s,baz=211,slow=9.3,SNR=2.9						
TXAR	Lajitas Array	22.57	116	P	P	13 27 08.1	+3.6
	comp=E,0.4nm,0.8s,baz=291,slow=8.0,SNR=5.4						
ULM	Lac du Bonnet	22.96	58	P	P	13 27 07.9	-0.4
	comp=E,0.8nm,0.4s,baz=254,slow=6.5,SNR=2.6						
ILAR	Eielson Array	25.63	340	P	P	13 27 32.7	-0.6
	comp=E,0.7nm,0.9s,baz=148,slow=9.3,SNR=4.5						
H11N3	WAKE ISLAND Hy	59.54	270	T	T	14 36 24.4	
	baz=52,slow=75,SNR=5.4						
H11N2	WAKE ISLAND Hy	59.54	270	T	T	14 36 23.5	
	baz=52,slow=75,SNR=5.3						
H11N1	WAKE ISLAND Hy	59.56	270	T	T	14 36 24.5	
	baz=52,slow=75,SNR=7.0						
H11S1	WAKE ISLAND Hy	60.44	269	T	T	14 37 30.7	
	baz=52						
H11S2	WAKE ISLAND Hy	60.44	269	T	T	14 37 31.3	
	baz=52,slow=74						
H11S3	WAKE ISLAND Hy	60.45	269	T	T	14 37 32.1	
	baz=52,slow=74						

*ISCJB **01** 13:27:10.9±0.6, 41°.80N±0°.03×126°.99W±0°.05, h10km, mb3.7/7, MS3.3/10, Error ellipse: s-maj=5.8km s-min=4.1km az=168.6*
*NEIC **01** 13:27:12.5±2.7, 41°.73N±0°.06×127°.00W±0°.09, h14km±4km*
*IDC **01** 13:27:12.1±1.2, 42°.25N×126°.78W, h0km, mb3.7/7, mb1 3.7/13, mb1mx3.6/51, mbtmp3.5/13, ML3.2/6, MS3.4/11, Ms1 3.4/11, ms1mx3.2/38, Error ellipse: s-maj=23.8km s-min=11.1km az=30.0*

NCEDC ***01*** *13:27:13.4±2.7, 41.°74N±0.°06×126.°9W±0.°1, h10km±1km, ML3.0*

ANF ***01*** *13:27:13.8±1.0, 41.°81N×126.°77W, h5km, ML3.2/12, Error ellipse: s-maj=9.5km s-min=7.1km az=82.0*

ISC 01 13:27:12.0±0.9, 41.°80N±0.°05×127.°00W±0.°07, h10km, n102, σ1.°23/98, mb3.7/7, MS3.3/10, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBO	Bosley Butte	2.11	78	Pn	Pn	13 27 46.3	-1.2
KEBM	Edson Butte	2.25	61		Pn	13 27 48.0	-1.3
KRPM	Rodgers	2.33	105		Pn	13 27 49.9	-0.5
KRMB	Red Mountain	2.33	96		Pn	13 27 49.2	-1.4
KSXB	Camp Six Broad	2.33	88		Pn	13 27 49.1	-1.5
KCTM	Capetown	2.41	122		Pn	13 27 50.6	-0.8
JCC	Jacoby Creek,	2.44	113	Pn	Pn	13 27 50.1	-1.8
L02E	Cave Junction	2.56	81	P	Pn	13 27 52.2	-1.3
	baz=265,SNR=48						
L02E				S	Sn	13 28 24.6	-0.1
	baz=265						
L02E	Cave Junction	2.56	81		Pn	13 27 52.5	-1.0
KHMM	Horse Mountain	2.63	109		Pn	13 27 54.3	-0.3
K02D	Willamette Mer	2.63	69	P	Pn	13 27 53.6	-1.0
	baz=248,SNR=59						
K02D				S	Sn	13 28 25.5	-1.1
	baz=248						
J01E	Myrtle Point	2.65	58	P	Pn	13 27 53.8	-0.9
	baz=232,SNR=20						
J01E				S	Sn	13 28 24.0	-2.9
	baz=232						
KSMM	Slide Mountain	2.68	126		Pn	13 27 53.5	-1.7
KTRM	Thompson Ridge	2.71	86		Pn	13 27 54.7	-1.1
KCRM	Chalk Rock	2.77	119		Pn	13 27 55.1	-1.3
KMRM	Mail Ridge	2.95	121		Pn	13 27 57.9	-1.0
DBO	Dodson Butte	3.08	63		Pn	13 28 00.5	-0.2
HUMO	Hull Mountain	3.11	74		Pn	13 28 00.6	-0.5
HUMO	Hull Mountain	3.11	74	Pn	Pn	13 28 00.3	-0.9
M02C	Callahan	3.13	96	P	Pn	13 28 01.5	0.0
	baz=286,SNR=42						
M02C	Callahan	3.13	96		Pn	13 28 01.7	+0.2
YBH	Yreka Blue Hor	3.21	90	Pn	Pn	13 28 03.3	+0.7
	2.1nm,0.3s,baz=285,slow=13,SNR=81						
YBH				Sn	Sn	13 28 41.8	+0.9
	baz=239,slow=12,SNR=1.7						
YBH	Yreka Blue Hor	3.21	90	Pn	Pn	13 28 03.1	+0.5
LGPM	Granite Peak	3.26	104		Pn	13 28 03.0	-0.3
I02D	Swisshome	3.27	44	P	Pn	13 28 03.6	+0.3
	baz=216,SNR=44						
I02D				S	Sn	13 28 42.6	+0.4
	baz=216						
LAMM	Antelope Mount	3.28	92		Pn	13 28 04.4	+0.8
I03D	Drain, OR	3.29	54	P	Pn	13 28 02.8	-0.8
	baz=228,SNR=111						
I03D				S	Sn	13 28 42.9	+0.2
	baz=228						
N02D	Trinity Center	3.33	103	P	Pn	13 28 04.4	+0.2
	baz=294,SNR=9.9						
N02D				S	Sn	13 28 45.2	+1.3
	baz=294						
LBKM	Bonanza King	3.33	101		Pn	13 28 04.7	+0.3
KCPM	Cahto Peak	3.34	128	Pn	Pn	13 28 04.1	-0.3
B040	Montague	3.42	88		Pn	13 28 06.1	+0.6
L04D	Klamath Falls	3.52	82	P	Pn	13 28 07.6	+0.6
	baz=266,SNR=49						
O02D	Mt. Diablo Mer	3.58	116	P	Pn	13 28 07.4	-0.2
	baz=309						
WDC	Whiskeytown Da	3.58	108		Pn	13 28 07.2	-0.4
LHEM	Herd Peak	3.58	91		Pn	13 28 08.9	+1.0
LGBM	Gray Butte	3.63	96		Pn	13 28 09.9	+1.4
LMPM	Military Pass	3.64	93		Pn	13 28 08.5	-0.1
M04C	Macdoel	3.86	89	P	Pn	13 28 12.2	+0.7
	baz=275,SNR=8.4						
LBFM	Black Fox Moun	3.86	95		Pn	13 28 13.6	+2.0
LGMM	Garner Mountai	3.87	91		Pn	13 28 13.0	+1.3
COR	Corvallis	3.88	43	Pn	Pn	13 28 12.4	+0.8
I04A	Tendick Farm,	3.92	58	P	Pn	13 28 12.8	+0.5
	baz=236,SNR=16						
I04A				S	Sn	13 28 59.1	+0.7
	baz=236						
HOPS	Hopland Field	4.10	132	Pn	Pn	13 28 14.0	-0.7
H04D	Lebanon	4.14	47	P	Pn	13 28 16.1	+0.9
	baz=223,SNR=45						
H04D				S	Sn	13 29 03.0	-0.6
	baz=223						
O03E	Paynes Creek	4.21	109	P	Pn	13 28 16.5	+0.2
	baz=300,SNR=8.5						
G03D	McMinnville, O	4.36	37	P	Pn	13 28 19.7	+1.4
	baz=211						
ORV	Oroville	4.74	116		Pn	13 28 22.3	-1.3
PINE	Pine Mountain	4.88	64		Pn	13 28 26.0	+0.4
MOD	Modoc Plateau	5.00	87		Pn	13 28 26.6	-0.6
F04A	Amboy	5.29	37		Pn	13 28 32.2	+1.1
E03A	Lebam	5.35	26	Pn	Pn	13 28 32.7	+0.8
G05D	Wamic, OR	5.38	48	P	Pn	13 28 33.5	+1.2
	baz=227,SNR=10						
BEKR	Beckworth	5.39	109		Pn	13 28 33.5	+0.8
AFDM	Forest Hills D	5.41	120		Pn	13 28 33.4	+0.6
F05D	White Salmon	5.72	43	P	Pn	13 28 39.2	+2.2
	baz=221						
E04D	Cinebar	5.72	32	P	Pn	13 28 39.7	+2.7
	baz=209,SNR=14						
PAHR	Pah Rah Range	6.15	107		Pn	13 28 43.1	+0.1
LON	Longmire	6.19	35		Pn	13 28 44.4	+0.9
PNTR	Pine Nut	6.26	113		Pn	13 28 45.6	+1.0
CMB	Columbia Colle	6.32	124	Pn	Pn	13 28 46.4	+1.1
D05A	Enumclaw	6.47	32		Pn	13 28 49.6	+2.3
G08A	Pilot Rock	6.80	56	Pn	Pn	13 28 52.2	+0.2
HAWA	Hanford	7.07	47	Pn	Pn	13 28 55.9	+0.5
LTY	Liberty	7.09	37		Pn	13 28 57.5	+1.7
NVAR	Mina Array Bea	7.46	114	Pn	Pn	13 29 03.4	+2.2
	0.1nm,0.3s,baz=287,slow=14,SNR=9.6						
NVAR	Mina Array Bea	7.46	114	Pn	Pn	13 29 01.7	+0.6
BMO	Blue Mountains	7.70	63		Pn	13 29 05.3	+1.1
PAGB	Antelope Grade	8.03	137	Pn	Pn	13 29 10.0	+1.3
B08A	Colville Reser	8.51	37		Pn	13 29 17.0	+1.7
PLID	Pearl Lake	8.65	64	Pn	Pn	13 29 19.2	+1.8
ELK	Elko	8.92	93	Pn	Pn	13 29 22.7	+1.6
	0.0nm,0.3s,baz=277,slow=13,SNR=4.7						
NEW	Newport	9.52	44	Pn	Pn	13 29 26.0	-3.1
	0.2nm,0.3s,baz=144,slow=18,SNR=3.6						
NEW	Newport	9.52	44		Pn	13 29 28.5	-0.6
LRM	Limekiln Ridge	11.25	64	Pn	Pn	13 29 58.0	+4.9
PDAR	Pinedale Array	12.96	80	Pn	Pn	13 30 17.3	+1.0
	0.1nm,0.3s,baz=277,slow=11,SNR=2.4						
ANMO	Albuquerque	17.48	106	P	P	13 31 19.1	+1.9
	0.1nm,0.3s,baz=302,slow=8.5,SNR=5.5						
ANMO				LR	LR	13 38 27.4	
	comp=Z,255nm,18.4s,baz=302,slow=39						
YKA	Yellowknife Ar	22.00	15	P	P	13 32 03.8	-2.2
	1.8nm,0.8s,baz=206,slow=11,SNR=5.7						
LPIG	La Paz	22.46	137	LR	LR	13 39 35.8	
	comp=Z,78nm,20.3s,baz=11,slow=33						
TXAR	Lajitas Array	22.61	116	P	P	13 32 16.0	+3.0
	1.2nm,0.9s,baz=293,slow=7.8,SNR=10						
TXAR				LR	LR	13 41 03.4	
	comp=Z,30nm,19.4s,baz=0.0,slow=37						
TXAR	Lajitas Array	22.61	116	P	P	13 32 13.3	+0.3
KDAK	Kodiak Island	22.78	323	LR	LR	13 38 45.6	
	comp=Z,155nm,20.6s,baz=108,slow=31						
BCAR	Beaver Creek A	23.02	343	P	P	13 32 18.3	+1.4
ULM	Lac du Bonnet	23.07	58	P	P	13 32 16.6	-0.9
	2.4nm,0.5s,baz=264,slow=11,SNR=5.5						
ULM				LR	LR	13 41 13.6	
	comp=Z,99nm,19.9s,baz=321,slow=37						
ULM	Lac du Bonnet	23.07	58	P	P	13 32 18.3	+0.8
WMOK	Wichita Mounta	23.18	98	P	P	13 32 19.2	+0.4
ILAR	Eielson Array	25.67	340	P	P	13 32 41.9	+0.2
	0.7nm,0.9s,baz=158,slow=7.2,SNR=5.9						
ILAR				PcP	PcP	13 36 12.8	+1.1
	0.4nm,0.7s,baz=147,slow=1.8,SNR=5.7						
ILAR				LR	LR	13 41 00.4	
	comp=Z,77nm,21.5s,baz=206,slow=33						
ILAR	Eielson Array	25.67	340	P	P	13 32 43.8	+2.0
PETK	Petropavlovsk-	49.90	310	LR	LR	13 53 44.2	
	comp=Z,28nm,21.2s,baz=62,slow=32						
MA2	Magadan	51.46	320	LR	LR	13 55 49.8	
	comp=Z,29nm,18.1s,baz=94,slow=34						
H11N3	WAKE ISLAND Hy	59.46	270	T	T	14 41 38.2	
	baz=52,slow=75,SNR=45						
H11N2	WAKE ISLAND Hy	59.46	270	T	T	14 41 38.4	
	baz=52,slow=75,SNR=63						
H11N1	WAKE ISLAND Hy	59.47	270	T	T	14 41 36.0	
	baz=52,slow=75,SNR=42						
ROSC	El Rosal	59.51	113	LR	LR	14 07 02.4	
	comp=Z,21nm,18.4s,baz=358,slow=40						
H11S1	WAKE ISLAND Hy	60.35	269	T	T	14 42 42.8	
	baz=52,slow=75,SNR=96						
H11S2	WAKE ISLAND Hy	60.36	269	T	T	14 42 43.4	
	baz=52,slow=75,SNR=93						
H11S3	WAKE ISLAND Hy	60.37	269	T	T	14 42 44.2	
	baz=52,slow=75,SNR=77						
JCJ	Chichijima	73.06	291	LR	LR	14 02 24.5	
	comp=Z,50nm,22.0s,baz=90,slow=29						
SONM	Songino Array	79.03	327	P	P	13 39 16.9	+0.7
	0.6nm,0.7s,baz=48,slow=2.2,SNR=4.6						
SONM	Songino Array	79.03	327	P	P	13 39 16.4	+0.2
ZALV	Zalesovo Beam	80.79	342	P	P	13 39 24.0	-1.5
	0.5nm,0.3s,baz=9.9,slow=3.4,SNR=3.8						
AKASG	Malin Array Be	85.56	15	P	P	13 39 48.2	-2.0
	0.7nm,0.5s,baz=338,slow=4.5,SNR=4.0						
MKAR	Makanchi Array	88.03	340	LR	LR	14 24 47.5	
	comp=Z,30nm,18.9s,baz=319,slow=39						

SOME 01 13:28:08.6, 41.°80N×79.°93E, h25km, 1C-1D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHLS	Shalkode	1.40	346	*e*P	Pb	13 28 34.3	+0.1
	2.1nm,0.1s						
SHLS				*e*S	Sb	13 28 52.6	+1.0
	21nm,0.2s						
UZB	Uzynbulak	1.50	334	*e*P	Pb	13 28 35.9	0.0
	1.7nm,0.1s						
UZB				*e*S	Sb	13 28 55.7	+1.0
	12nm,0.3s						
KTMS	Ketmen	1.67	11	*e*P	Pb	13 28 39.0	+0.2
	4.6nm,0.1s						
KTMS				*e*S	Sb	13 29 01.0	+1.5
	5.9nm,0.4s						
SATY	Saty	1.69	319	*e*P	Pb	13 28 39.1	0.0
	2.2nm,0.1s						
SATY				*e*S	Sb	13 29 01.3	+1.3
	6.4nm,0.1s						
KPKS	Kokpek	1.90	331	*e*P	Pb	13 28 43.4	+0.7
	8.3nm,0.1s						
KPKS				*e*S	Sb	13 29 08.3	+2.3
	18nm,0.3s						
MDOK	Medeo	2.53	304	*e*P	Pb	13 28 54.2	+0.8
	0.8nm,0.1s						
MDOK				*e*S	Sb	13 29 26.8	+2.6
	5.3nm,0.3s						
DJR	Jarkent	2.53	358	⇓*i*P	Pb	13 28 54.6	+1.2
	6.5nm,0.8s						
DJR				⇑*i*S	Sb	13 29 27.4	+3.2
	8.7nm,0.6s						
TNSS	Tian-Shan	2.53	300	*e*P	Pb	13 28 53.7	+0.1
	1.2nm,0.1s						
TNSS				*e*S	Sb	13 29 26.6	+2.1
	5.8nm,0.4s						
IZV	Izvestkoviy	2.75	298	*e*P	Pb	13 28 57.8	+0.6
	2.6nm,0.3s						
IZV				*e*S	Sb	13 29 33.8	+3.3
	5.6nm,0.4s						
ARXS	Arharly	2.86	328	*e*P	Pb	13 28 60.0	+0.9
	3.2nm,0.4s						
ARXS				*e*S	Sb	13 29 36.8	+3.1
	7.2nm,0.5s						
KTBS	Karatobe	3.06	310	*e*P	Pb	13 29 03.7	+1.3
	3.8nm,0.6s						
KTBS				*e*S	Sb	13 29 43.1	+3.8
	6.9nm,0.6s						
KUU	Kurty	3.37	310	*e*P	Pb	13 29 08.9	+1.3
	1.4nm,0.2s						
KUU				*e*S	Sb	13 29 52.2	+4.0
	3.3nm,0.5s						
KAPS	Kapalarasan	3.51	353	*e*P	Pb	13 29 11.1	+1.1
	0.2nm,0.1s						
KAPS				*e*S	Sb	13 29 56.0	+3.8
	1.4nm,0.3s						

KRNET 01 13:28:20.0±0.1, 41.°92N×77.°41E, h9km, mb1.6, 12C, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDJ	Kajisay	0.27	322	⇑*i*P	Pg	13 28 24.9	-0.7
	baz=23						
KDJ				⇑*i*S	Sg	13 28 29.4	+0.1
	baz=23						
TARG	Taragay, Kyrgy	0.35	122	⇑*i*P	Pg	13 28 27.0	-0.1
	baz=22						
TARG				⇑*i*S	Sg	13 28 32.3	+0.5
	baz=22						
ANVS	Anan'yevo	0.89	12	⇑*i*P	Pb	13 28 37.5	-0.3
	baz=12						
ANVS				⇑*i*S	Sb	13 28 49.9	+0.1
	baz=12						
ULHL	Ulahol	0.93	291	⇑*e*P	Pg	13 28 37.9	0.0
	baz=91						
ULHL				⇑*i*S	Sb	13 28 50.9	-0.1
	baz=91						
PRZ	Przheval'sk	0.93	52	⇑*e*P	Pg	13 28 37.6	-0.4
	baz=53						
PRZ				⇑*i*S	Sb	13 28 51.0	0.0
	baz=53						
BOOM	Boomskoye usch	1.23	298	⇑*i*P	Pb	13 28 43.0	-0.6
	baz=98						
BOOM				⇑*i*S	Sn	13 29 00.8	+0.3
	baz=98						

NIED ***01*** *13:35:00, 36.°80N×140.°60E, h5km, Mw3.3 Best double couple: M0 9.72000×10^13 NP1: φs 23.00000°, δ44.00000°, λ-36.00000°. NP2: φs 140.00000°, δ66.00000°, λ-128.00000°.*

ISCJB ***01*** *13:35:18.7±0.6, 36.°74N±0.°02×140.°65E±0.°05, h14km±3km, mb3.4/5, Error ellipse: s-maj=6.4km s-min=3.8km az=17.3*

IDC ***01*** *13:35:18.4±0.9, 36.°64N×140.°62E, h0km, mb3.4/5, mb1 3.7/7, mb1mx3.4/40, mbtmp3.5/7, ML3.4/2, Error ellipse: s-maj=22.8km s-min=19.3km az=116.0*

JMA ***01*** *13:35:19.6, 36.°76N×140.°57E, h9km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs 342.00000°, δ50.00000°, λ-101.00000°. NP2: φs 180.00000°, δ41.00000°, λ-76.00000°. Principal axes: T Plg5.0000°, Azm80.0000°; N Plg9.0000°, Azm349.0000°; P Plg80.0000°, Azm198.0000°;*

JMA Felt II J1.

ISC 01 13:35:18.8±1.1, 36.°77N±0.°03×140.°46E±0.°03, h6km±8km, n24, σ0.°87/30, mb3.4/5, 6C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHO	Hitachi	0.18	151	⇓P	Pg	13 35 22.9	+0.5
JHO				S	Sg	13 35 25.3	+0.4
JFFD	Fukushimafurud	0.33	14	⇑P	Pb	13 35 26.1	-1.1
JFFD				*e*S	Sg	13 35 30.5	+0.8
ONAJ	Iwakimizuishiy	0.43	39	⇑P	Pg	13 35 27.1	0.0
ONAJ				*e*S	Sg	13 35 32.6	-0.2
JSB	Shiboa	0.48	295	⇑P	Pn	13 35 31.0	-1.3
JSB				*e*S	Sb	13 35 38.7	+1.7
JYT	Yasato	0.58	202	⇑P	Pb	13 35 31.3	-0.1
JYT				*e*S	Sb	13 35 39.4	-0.6
JFK	Kawauchi	0.68	29	⇑P	Pg	13 35 31.7	-0.3
JFK				*e*S	Sg	13 35 40.3	-0.5
JFT	Otama	0.75	353	⇓P	Pb	13 35 34.4	0.0
JFT				*e*S	Sb	13 35 44.8	-0.2
JFY	Yanaizu	0.88	317	P	Pn	13 35 37.4	-0.4
JFY				*e*S	Sn	13 35 49.7	-1.2
JAG	Ashikaga	0.88	247	⇑P	Pn	13 35 37.0	-0.8
JAG				*e*S	Sn	13 35 50.0	-0.9
MJAR	Matsushiro Arr	1.82	263	Pn	Pb	13 35 52.4	-0.3
	4.1nm,0.3s,baz=82,slow=16,SNR=141						
MJAR				Sn	Sg	13 36 18.2	+0.7
	5.8nm,0.3s,baz=161,slow=20,SNR=12						
MAT	Matsushiro	1.83	264	P	Pg	13 35 53.1	-0.7
MAT				S	Sg	13 36 17.8	+0.3
JHJ	Hachijo jima 2	3.69	189	Pn	Pn	13 36 14.7	-1.7
	6.9nm,0.3s,baz=326,slow=11,SNR=2.2						
JHJ				Sn	Sn	13 36 59.9	-0.2
	5.9nm,0.3s,baz=24,slow=12,SNR=2.3						
ASAJ	Asahikawa	7.52	12	Pn	Pn	13 37 09.2	+0.2
	0.6nm,0.3s,baz=214,slow=16,SNR=5.5						
H11N2	WAKE ISLAND Hy	28.68	119	T	T	14 11 00.9	
	baz=313,slow=75,SNR=100						
H11N1	WAKE ISLAND Hy	28.69	119	T	T	14 11 01.5	
	baz=313,slow=75,SNR=72						
H11N3	WAKE ISLAND Hy	28.70	119	T	T	14 11 02.2	
	baz=313,slow=75,SNR=68						
H11S1	WAKE ISLAND Hy	29.37	121	T	T	14 11 52.4	
	baz=314,slow=75,SNR=194						
H11S3	WAKE ISLAND Hy	29.37	121	T	T	14 11 52.6	
	baz=314,slow=75,SNR=272						
H11S2	WAKE ISLAND Hy	29.38	121	T	T	14 11 53.6	
	baz=314,slow=75,SNR=179						
MKAR	Makanchi Array	43.61	302	P	P	13 43 25.7	+1.8
	0.4nm,0.8s,baz=74,slow=9.4,SNR=2.3						
WRA	Warramunga Arr	56.70	187	P	P	13 45 02.6	-0.7
	0.3nm,0.6s,baz=4.2,slow=7.5,SNR=4.3						
ASAR	Alice Springs	60.43	187	P	P	13 45 29.0	-0.3
	0.3nm,0.9s,baz=5.4,slow=7.0,SNR=3.8						
NVAR	Mina Array Bea	75.76	53	P	P	13 47 06.5	+0.7
	0.4nm,0.6s,baz=296,slow=4.4,SNR=4.6						
TXAR	Lajitas Array	90.89	52	P	P	13 48 24.5	+0.7
	0.1nm,0.5s,baz=309,slow=3.3,SNR=3.4						

ANF 01 13:41:28.9±3.5, 42.°05N×126.°06W, h5km, Error ellipse: s-maj=41.4km s-min=8.1km az=76.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
L02E	Cave Junction	1.83	86	P	Pn	13 42 00.6	-0.5
	baz=267,SNR=26						
K02D	Willamette Mer	1.89	69	P	Pn	13 42 01.7	-0.2
	baz=251,SNR=25						
J01E	Myrtle Point	1.93	54	P	Pn	13 42 01.9	-0.5
	baz=235,SNR=18						
M02C	Callahan	2.49	104	P	Pn	13 42 09.5	-0.6
	baz=286,SNR=6.1						
I03D	Drain, OR	2.59	49	P	Pn	13 42 11.1	-0.4
	baz=231,SNR=27						
I02D	Swisshome	2.62	37	P	Pn	13 42 11.4	-0.4
	baz=219,SNR=37						
L04D	Klamath Falls	2.80	85	P	Pn	13 42 15.5	+1.1
	baz=268,SNR=14						
M04C	Macdoel	3.16	93	P	Pn	13 42 20.4	+0.9
	baz=276						
I04A	Tendick Farm,	3.20	56	P	Pn	13 42 20.9	+0.9
	baz=238						
H04D	Lebanon	3.46	43	P	Pn	13 42 24.5	+1.0
	baz=226,SNR=10						
O03E	Paynes Creek	3.66	117	P	Pn	13 42 26.3	0.0
	baz=300						

ANF 01 13:41:44.4±1.3, 41.°91N×126.°65W, h5km, ML2.4/1, Error ellipse: s-maj=14.0km s-min=9.4km az=109.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
L02E	Cave Junction	2.29	83	P	Pn	13 42 22.3	-0.5
	baz=265						
K02D	Willamette Mer	2.35	70	P	Pn	13 42 23.1	-0.7
	baz=252						
K02D				S	Sn	13 42 54.7	+1.6
	baz=252						
J01E	Myrtle Point	2.37	57	P	Pn	13 42 22.7	-1.1
	baz=239						
J01E				S	Sn	13 42 52.7	-0.7
	baz=239						
M02C	Callahan	2.90	99	P	Pn	13 42 31.0	-0.2
	baz=282						
I02D	Swisshome	3.01	42	P	Pn	13 42 32.6	-0.1
	baz=224						
I03D	Drain, OR	3.02	53	P	Pn	13 42 32.2	-0.6
	baz=235						
I03D				S	Sn	13 43 11.1	+1.8
	baz=235						
L04D	Klamath Falls	3.25	83	P	Pn	13 42 36.8	+0.6
	baz=266						
I04A	Tendick Farm,	3.64	57	P	Pn	13 42 42.1	+0.6
	baz=240						
H04D	Lebanon	3.87	46	P	Pn	13 42 45.9	+1.3
	baz=229,SNR=6.4						
O03E	Paynes Creek	4.01	112	P	Pn	13 42 47.1	+0.6
	baz=295						

ISCJB ***01*** *13:54:32.1±0.7, 41.°79N±0.°04×126.°98W±0.°07, h10km, mb3.6/7, MS3.4/11, Error ellipse: s-maj=7.7km s-min=4.7km az=161.6*

NCEDC ***01*** *13:54:33.5±2.5, 41.°74N±0.°06×127.°0W±0.°1, h10km±5km, ML3.1*

NEIC ***01*** *13:54:33.8±2.1, 41.°72N±0.°06×127.°0W±0.°1, h11km±5km*

IDC ***01*** *13:54:33.2±1.2, 41.°96N×126.°90W, h0km, mb3.7/7, mb1 3.8/12, mb1mx3.7/43, mbtmp3.6/12, ML3.2/5, MS3.4/15, Ms1 3.4/15, ms1mx3.3/38, Error ellipse: s-maj=28.5km s-min=11.9km az=26.0*

ANF ***01*** *13:54:35.2±1.3, 41.°86N×126.°72W, h5km, ML3.2/12, Error ellipse: s-maj=13.9km s-min=7.5km az=77.0*

ISC 01 13:54:34.4±1.0, 41.°82N±0.°06×126.°94W±0.°08, h10km, n96, σ1.°14/84, mb3.8/7, MS3.3/11, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBO	Bosley Butte	2.06	78		Pn	13 55 07.3	-1.8
KBO					Sn	13 55 34.6	-0.3
KEBM	Edson Butte	2.20	61		Pn	13 55 09.7	-1.3
KRPM	Rodgers	2.29	106		Pn	13 55 10.7	-1.6
KSXB	Camp Six Broad	2.29	89		Pn	13 55 10.5	-1.8
KRMB	Red Mountain	2.29	97		Pn	13 55 10.5	-1.8
KCTM	Capetown	2.38	124		Pn	13 55 11.6	-1.9
JCC	Jacoby Creek,	2.41	114		Pn	13 55 11.5	-2.3
L02E	Cave Junction	2.51	81	P	Pn	13 55 13.6	-1.6
	baz=266,SNR=7.2						
L02E	Cave Junction	2.51	81		Pn	13 55 13.7	-1.6
K02D	Willamette Mer	2.58	69	P	Pn	13 55 14.7	-1.6
	baz=248,SNR=6.7						
K02D				S	Sn	13 55 46.6	-1.2
	baz=248						
KHMM	Horse Mountain	2.59	110		Pn	13 55 15.6	-1.0
J01E	Myrtle Point	2.59	58	P	Pn	13 55 15.2	-1.2
	baz=231,SNR=8.0						
KSMM	Slide Mountain	2.65	127		Pn	13 55 14.9	-2.4
KTRM	Thompson Ridge	2.66	87		Pn	13 55 15.7	-1.7
KOMM	Orleans Mounta	2.67	101		Pn	13 55 15.9	-1.7
KCRM	Chalk Rock	2.74	120		Pn	13 55 16.7	-1.8
KMRM	Mail Ridge	2.92	122		Pn	13 55 19.5	-1.5
DBO	Dodson Butte	3.02	63		Pn	13 55 20.8	-1.6
HUMO	Hull Mountain	3.06	74		Pn	13 55 21.5	-1.3
M02C	Callahan	3.09	97	P	Pn	13 55 22.6	-0.8
	baz=287,SNR=22						
M02C	Callahan	3.09	97		Pn	13 55 22.4	-0.9
YBH	Yreka Blue Hor	3.16	90	Pn	Pn	13 55 23.9	-0.4
	2.6nm,0.3s,baz=309,slow=12,SNR=67						
YBH				Sn	Sn	13 56 02.7	+0.6
	0.2nm,0.3s,baz=297,slow=16,SNR=1.8						
YBH				LR	LR	13 56 27.9	
	comp=Z,661nm,21.5s,baz=256,slow=37						
YBH	Yreka Blue Hor	3.16	90		Pn	13 55 24.2	-0.1
I02D	Swisshome	3.22	44	P	Pn	13 55 24.5	-0.5
	baz=215,SNR=20						
LGPM	Granite Peak	3.22	105		Pn	13 55 23.8	-1.4
LAMM	Antelope Mount	3.23	92		Pn	13 55 25.3	-0.1
I03D	Drain, OR	3.24	53	P	Pn	13 55 23.9	-1.3
	baz=228,SNR=47						
LBKM	Bonanza King	3.29	102		Pn	13 55 26.1	-0.1
N02D	Trinity Center	3.29	104	P	Pn	13 55 25.3	-0.8
	baz=295,SNR=11						
B040	Montague	3.38	88		Pn	13 55 27.1	-0.1
L04D	Klamath Falls	3.48	82	P	Pn	13 55 28.5	-0.2
	baz=267,SNR=14						
LHEM	Herd Peak	3.54	92		Pn	13 55 29.6	0.0
WDC	Whiskeytown Da	3.54	109		Pn	13 55 27.9	-1.5
O02D	Mt. Diablo Mer	3.54	116	P	Pn	13 55 28.3	-1.2
	baz=310						
LGBM	Gray Butte	3.59	96		Pn	13 55 30.6	+0.2
M04C	Macdoel	3.81	89	P	Pn	13 55 33.2	-0.1
	baz=276,SNR=19						
LBFM	Black Fox Moun	3.82	95		Pn	13 55 34.1	+0.7
LGMM	Garner Mountai	3.83	92		Pn	13 55 33.9	+0.4
I04A	Tendick Farm,	3.87	58	P	Pn	13 55 33.8	-0.2
	baz=236						
H04D	Lebanon	4.09	47	P	Pn	13 55 37.3	+0.4
	baz=223,SNR=11						
O03E	Paynes Creek	4.17	110	P	Pn	13 55 38.3	+0.1
	baz=301,SNR=5.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
G03D	**McMinnville, O**	**4.31**	**37**	P	**Pn**	**13 55 40.7**	**+0.6**
	baz=211						
ORV	**Oroville**	**4.71**	**117**		**Pn**	**13 55 45.2**	**-0.3**
MCCM	**Marconi Confer**	**4.82**	**138**	Pn	**Pn**	**13 55 45.6**	**-1.3**
PINE	**Pine Mountain**	**4.83**	**64**		**Pn**	**13 55 46.9**	**-0.5**
MOD	**Modoc Plateau**	**4.96**	**87**		**Pn**	**13 55 47.8**	**-1.2**
F04A	**Amboy**	**5.25**	**37**		**Pn**	**13 55 53.3**	**+0.4**
E03A	**Lebam**	**5.31**	**26**	Pn	**Pn**	**13 55 53.9**	**+0.2**
BEKR	**Beckworth**	**5.36**	**109**		**Pn**	**13 55 54.2**	**-0.3**
AFDM	**Forest Hills D**	**5.38**	**120**		**Pn**	**13 55 53.1**	**-1.7**
VCNR	**Virginia City**	**6.10**	**112**		**Pn**	**13 56 04.2**	**-0.5**
PAHR	**Pah Rah Range**	**6.11**	**108**		**Pn**	**13 56 05.9**	**+1.0**
LON	**Longmire**	**6.15**	**35**		**Pn**	**13 56 06.3**	**+1.0**
WVOR	**Wild Horse Val**	**6.20**	**82**		**Pn**	**13 56 06.0**	**-0.2**
CMB	**Columbia Colle**	**6.30**	**125**	Pn	**Pn**	**13 56 08.2**	**+0.8**
D05A	**Enumclaw**	**6.42**	**32**	Pn	**Pn**	**13 56 11.0**	**+1.9**
YERR	**Yerington**	**6.52**	**113**		**Pn**	**13 56 10.5**	**-0.1**
G08A	**Pilot Rock**	**6.75**	**56**	Pn	**Pn**	**13 56 14.3**	**+0.6**
LTY	**Liberty**	**7.04**	**37**		**Pn**	**13 56 18.7**	**+1.1**
RYN	**Ryan**	**7.18**	**114**	Pn	**Pn**	**13 56 20.3**	**+0.7**
KVN	**Kaiserville**	**7.29**	**109**		**Pn**	**13 56 21.4**	**+0.3**
E08A	**Dider Farm, El**	**7.34**	**48**	Pn	**Pn**	**13 56 22.1**	**+0.5**
MDPB	**Devils Postpil**	**7.36**	**122**	Pn	**Pn**	**13 56 21.6**	**-0.6**
OMMB	**Old Mammoth Mi**	**7.42**	**122**	Pn	**Pn**	**13 56 23.1**	**+0.1**
NVAR	**Mina Array Bea**	**7.43**	**114**	Pn	**Pn**	**13 56 23.4**	**+0.3**
	0.1nm,0.3s,baz=293,slow=14,SNR=3.5						
BMO	**Blue Mountains**	**7.65**	**63**		**Pn**	**13 56 26.1**	**+0.2**
B08A	**Colville Reser**	**8.46**	**37**		**Pn**	**13 56 37.9**	**+0.9**
PLID	**Pearl Lake**	**8.60**	**64**		**Pn**	**13 56 39.9**	**+0.8**
ELK	**Elko**	**8.88**	**93**	Pn	**Pn**	**13 56 44.2**	**+1.3**
	0.0nm,0.3s,baz=304,slow=11,SNR=7.7						
ELK				LR	LR	14 00 28.2	
	comp=Z,412nm,20.8s,baz=278,slow=40						
NEW	**Newport**	**9.47**	**44**	LR	LR	14 00 45.4	
	comp=Z,366nm,18.6s,baz=228,slow=40						
DLMT	**Dillon**	**10.99**	**66**	Pn	**Pn**	**13 57 12.4**	**+0.6**
NLU	**North Lily Min**	**11.41**	**94**	Pn	**Pn**	**13 57 17.7**	**+0.1**
QLMT	**Earthquake Lak**	**11.69**	**70**	Pn	**Pn**	**13 57 20.2**	**-1.2**
PDAR	**Pinedale Array**	**12.91**	**80**	Pn	Pn	13 57 43.2	+5.1
	0.1nm,0.3s,baz=289,slow=9.2,SNR=2.5						
PDAR				LR	LR	14 03 01.0	
	comp=Z,293nm,19.1s,baz=283,slow=40						
ANMO	**Albuquerque**	**17.44**	**106**	P	**P**	**13 58 39.5**	**+0.3**
	0.1nm,0.3s,baz=338,slow=9.9,SNR=4.4						
YKA	**Yellowknife Ar**	**21.96**	**15**	P	**P**	**13 59 26.7**	**-1.3**
	1.6nm,0.9s,baz=206,slow=11,SNR=4.3						
LPIG	**La Paz**	**22.45**	**137**	LR	LR	14 07 19.3	
	comp=Z,103nm,19.6s,baz=356,slow=34						
TXAR	**Lajitas Array**	**22.58**	**116**	P	**P**	**13 59 37.0**	**+1.9**
	0.7nm,0.7s,baz=309,slow=7.9,SNR=7.5						
TXAR				LR	LR	14 07 28.0	
	comp=Z,54nm,20.9s,baz=0.0,slow=34						
KDAK	**Kodiak Island**	**22.79**	**323**	LR	LR	14 06 07.0	
	comp=Z,177nm,20.2s,baz=118,slow=31						
ULM	**Lac du Bonnet**	**23.02**	**58**	P	**P**	**13 59 39.4**	**+0.1**
	3.3nm,0.6s,baz=276,slow=9.8,SNR=6.1						
ULM				LR	LR	14 08 53.7	
	comp=Z,174nm,18.7s,baz=324,slow=38						
ILAR	**Eielson Array**	**25.66**	**340**	P	**P**	**14 00 04.3**	**+0.2**
	1.5nm,1.0s,baz=155,slow=8.3,SNR=11						
ILAR				PcP	**PcP**	**14 03 33.6**	**-0.6**
	0.6nm,0.9s,baz=149,slow=2.1,SNR=5.2						
ILAR				LR	LR	14 07 24.6	
	comp=Z,42nm,19.3s,baz=174,slow=30						
SCHQ	**Schefferville**	**40.77**	**50**	LR	LR	14 19 02.9	
	comp=Z,66nm,20.0s,baz=358,slow=36						
PETK	**Petropavlovsk-**	**49.92**	**310**	LR	LR	14 22 22.0	
	comp=Z,22nm,19.1s,baz=62,slow=34						
H11N3	**WAKE ISLAND Hy**	**59.50**	**270**	T	T	15 08 55.0	
	baz=52,slow=75,SNR=73						
H11N2	**WAKE ISLAND Hy**	**59.50**	**270**	T	T	15 08 55.2	
	baz=52,slow=75,SNR=45						
H11N1	**WAKE ISLAND Hy**	**59.52**	**270**	T	T	15 08 56.3	
	baz=52,slow=75,SNR=47						
H11S1	**WAKE ISLAND Hy**	**60.40**	**269**	T	T	15 10 00.5	
	baz=52,slow=75,SNR=87						
H11S2	**WAKE ISLAND Hy**	**60.40**	**269**	T	T	15 10 07.6	
	baz=52,slow=75,SNR=90						
H11S3	**WAKE ISLAND Hy**	**60.41**	**269**	T	T	15 10 02.1	
	baz=52,slow=75,SNR=58						
MJAR	**Matsushiro Arr**	**69.95**	**301**	LR	LR	14 32 44.7	
	comp=Z,18nm,19.6s,baz=350,slow=33						
KSRS	**Korea Array**	**75.70**	**308**	LR	LR	14 35 01.4	
	comp=Z,12nm,20.9s,baz=5.0,slow=32						
SONM	**Songino Array**	**79.04**	**327**	P	**P**	**14 06 37.8**	**-0.8**
	0.6nm,0.6s,baz=56,slow=11,SNR=4.8						
LPAZ	**La Paz**	**79.25**	**123**	P	**P**	**14 06 43.5**	**+2.7**
	1.3nm,0.9s,baz=354,slow=5.8,SNR=4.9						
ZALV	**Zalesovo Beam**	**80.78**	**342**	LR	LR	14 48 30.1	
	comp=Z,46nm,19.8s,baz=273,slow=40						
AKASG	**Malin Array Be**	**85.53**	**15**	P	**P**	**14 07 10.7**	**-1.7**
	0.2nm,0.3s,baz=339,slow=4.5,SNR=3.0						
BDFB	**Brasilia**	**92.27**	**109**	LR	LR	14 53 50.8	
	comp=Z,17nm,18.0s,baz=124,slow=38						

*IDC **01** 13:58:53.8±1.3, 8°.39S×112°.34E, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.4/31, mbtmp3.5/5, ML3.3/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/19, Error ellipse: s-maj=66.5km s-min=19.8km az=36.0*
*ISCJB **01** 13:58:55.0±0.7, 9°.1S±0°.1×111°.94E±0°.05, h10km, mb3.2/3, Error ellipse: s-maj=16.0km s-min=5.5km az=19.9*
*DJA **01** 13:58:57.2±0.6, 9°S±6°×11°2E±°, h10km, M4.1/5, MLv4.1/5*
ISC 01 13:58:55.8±1.1, **9°.0S**±0°.2×**111°.95E**±0°.07, **h10km, n13,** σ2s.**04**/13, **mb3.1**/3, **Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.76**	**307**	P	**Pn**	**13 59 28.1**	**+1.7**
UGM				S	**Sn**	**13 59 48.9**	**-0.1**
JAGI	**Jajag, Banyuwa**	**2.24**	**77**	P	**Pn**	**13 59 34.4**	**+1.4**
JAGI				S	**Sn**	**13 59 59.8**	**-0.9**
SMRI	**Semarang**	**2.43**	**322**	P	**Pb**	**13 59 39.1**	**-0.5**
CISI	**Cisompet, Garu**	**4.33**	**289**	P	**Pn**	**14 00 02.5**	**+0.7**
LEM	**Lembang**	**4.79**	**296**	Pn	**Pn**	**14 00 09.7**	**+1.4**
	1.3nm,0.3s,baz=345,slow=16,SNR=3.0						
LEM				Sn	**Sn**	**14 01 06.0**	**+2.0**
	2.6nm,0.3s,baz=9.0,slow=19,SNR=3.0						
LEM				LR	LR	14 02 12.1	
	comp=Z,87nm,21.5s,baz=214,slow=40						
PLAI	**Plampang**	**5.76**	**89**	P	**Pn**	**14 00 26.0**	**+4.5**
FITZ	**Fitzroy Crossi**	**16.10**	**126**	Pn	**Pn**	**14 02 41.8**	**-0.6**
	0.1nm,0.3s,baz=106,slow=16,SNR=5.0						
FITZ				Sn	Sn	14 05 29.0	-12
	0.1nm,0.3s,baz=131,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**24.23**	**119**	P	**P**	**14 04 12.7**	**-0.5**
	0.5nm,0.9s,baz=297,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**25.58**	**127**	P	**P**	**14 04 25.0**	**-0.4**
	0.2nm,0.5s,baz=303,slow=8.7,SNR=8.9						
H08S2	**Diego Garcia H**	**39.05**	**269**	T	T	14 47 32.8	
	baz=94,slow=75,SNR=6.5						
H08S3	**Diego Garcia H**	**39.06**	**269**	T	T	14 47 33.7	
	baz=94,slow=75,SNR=6.1						
H08S1	**Diego Carcia H**	**39.07**	**269**	T	T	14 47 47.9	
	baz=94,slow=75,SNR=4.3						
MKAR	**Makanchi Array**	**61.50**	**337**	P	**P**	**14 09 10.0**	**-2.8**
	0.4nm,0.5s,baz=144,slow=7.3,SNR=7.0						

*IDC **01** 14:13:25.7±2.2, 16°.81S×178°.13W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.8/24, mbtmp3.8/4, Error ellipse: s-maj=132.7km s-min=28.4km az=152.0*
*NEIC **01** 14:13:28.2±1.6, 16°.5S±0°.2×178°.4W±0°.2, h10km±2km, mb4.8/13*
*ISCJB **01** 14:13:30.1±0.9, 16°.5S±0°.1×178°.5W±0°.1, h33km, mb3.8/4, Error ellipse: s-maj=18.3km s-min=16.3km az=168.3*
ISC 01 14:13:31.8±1.0, **16°.4S**±0°.2×**178°.5W**±0°.2, **h35km, n21,** σ1s.**27**/21, **mb4.6**/10, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**21.26**	**187**	P	**P**	**14 18 12.9**	**-2.2**
URZ	**Urewera**	**22.11**	**189**	P	**P**	**14 18 27.1**	**+3.0**
URZ				IAmb	IAmb	14 18 49.7	
	comp=Z,34nm,1.2s						
BKZ	**Black Stump Fm**	**23.09**	**190**	P	**P**	**14 18 36.7**	**+2.1**
BKZ				IAmb	IAmb	14 19 16.0	
	comp=Z,77nm,2.0s						
BFZ	**Birch Farm**	**24.61**	**190**	P	**P**	**14 18 48.2**	**-0.6**
BFZ				IAmb	IAmb	14 19 32.6	
	comp=Z,40nm,1.2s						
CMWZ	**Cape Campbell**	**26.02**	**193**	P	**P**	**14 19 02.3**	**+0.7**
BSWZ	**Blackbirch Sta**	**26.06**	**193**	P	**P**	**14 19 01.7**	**-0.3**
STKA	**Stephens Creek**	**39.31**	**240**	P	**P**	**14 20 57.4**	**-0.3**
BBOO	**Buckleboo**	**44.09**	**240**	P	**P**	**14 21 34.7**	**-2.0**
WR0	**Warramunga Arr**	**44.66**	**258**	P	**P**	**14 21 41.6**	**0.0**
WR0				IAmb	IAmb	14 22 30.0	
	comp=Z,18nm,1.8s						
WB0	**Warramunga Arr**	**44.82**	**258**	P	**P**	**14 21 43.6**	**+0.9**
WB0				IAmb	IAmb	14 22 24.5	
	comp=Z,30nm,1.9s						
WB2	**Warramunga Arr**	**44.84**	**258**	P	**P**	**14 21 43.2**	**+0.2**
WB2				IAmb	IAmb	14 22 39.0	
	comp=Z,9.4nm,1.4s						
WRA	**Warramunga Arr**	**44.86**	**258**	P	**P**	**14 21 44.1**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=95,slow=7.2,SNR=32						
WRA	**Warramunga Arr**	**44.86**	**258**	P	**P**	**14 21 43.9**	**+0.7**
AS31	**Alice Springs**	**45.15**	**253**	P	**P**	**14 21 45.9**	**+0.4**
ASAR	**Alice Springs**	**45.15**	**253**	P	**P**	**14 21 46.0**	**+0.6**
	comp=Z,5.1nm,0.6s,baz=88,slow=8.9,SNR=145						
ASAR	**Alice Springs**	**45.15**	**253**	P	**P**	**14 21 45.1**	**-0.3**
KNRA	**Kununurra**	**50.59**	**263**	P	**P**	**14 22 28.7**	**+1.1**
FITZ	**Fitzroy Crossi**	**53.22**	**259**	P	**P**	**14 22 47.0**	**-0.2**
ILAR	**Eielson Array**	**84.45**	**13**	P	**P**	**14 26 00.9**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=228,slow=5.2,SNR=4.2						
ILAR	**Eielson Array**	**84.45**	**13**	P	**P**	**14 26 01.2**	**+0.8**
TXAR	**Lajitas Array**	**85.25**	**58**	P	**P**	**14 26 04.8**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=222,slow=5.0,SNR=4.0						

*NCEDC **01** 14:14:25.2±1.4, 37°.251N±0°.008×122°.17W±0°.01, h11km±1km, Md2.8*
NEIC 01 14:14:24.8±0.9, **37°.24N**±0°.01×**122°.20W**±0°.01, **h17km**±1km, **Central California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHUM	**Huhtala Lane,**	**0.03**	**139**		Pg	14 14 29.0	+1.2
JPC	**Peters Creek,**	**0.04**	**339**		Pg	14 14 29.1	+1.2
JJRM	**Joaquin Road**	**0.11**	**358**		Pg	14 14 28.1	-0.4
JBNB	**Ben Lomond Mou**	**0.12**	**164**		Pg	14 14 28.6	0.0
JBNB					Sg	14 14 31.0	-0.2
JFP	**Foothills Park**	**0.12**	**2**		Pg	14 14 28.1	-0.6
JFP					Sg	14 14 30.2	-1.0
JSGM	**Saratoga Golf**	**0.12**	**69**		Pg	14 14 28.0	-0.7
JSGM					Sg	14 14 30.1	-1.0
JPSM		**0.13**	**253**		Pb	14 14 29.3	+0.5
BGH	**Bear Gulch**	**0.15**	**313**		Pb	14 14 29.5	+0.2
BGH					Sb	14 14 32.7	+0.4
JSFB	**Stanford Teles**	**0.17**	**6**		Pg	14 14 29.0	-0.2
JRSC	**Jasper Ridge**	**0.17**	**349**		Pg	14 14 29.0	-0.2
JRSC					Sg	14 14 31.7	-0.4
JJOM	**Saint Joseph's**	**0.18**	**100**		Pg	14 14 28.8	-0.5
JHPM	**Huddart Park**	**0.22**	**338**		Pg	14 14 30.2	+0.1
JUMM	**Mount Umunhum**	**0.25**	**108**		Pg	14 14 30.2	-0.3
SCCB	**Santa Clara Co**	**0.27**	**79**		Pg	14 14 30.7	-0.1
AMC	**Almaden**	**0.29**	**106**		Pg	14 14 30.7	-0.4
JCHM	**Cahill Ridge**	**0.31**	**333**		Pg	14 14 31.6	+0.1
JHLM	**Holstrom Ranch**	**0.32**	**114**		Pg	14 14 31.4	-0.3
OXMT	**Ox Mountain**	**0.32**	**325**		Pg	14 14 31.8	+0.2
JSTM	**Santa Teresa H**	**0.32**	**95**		Pg	14 14 31.4	-0.2
JTGM	**Trout Gulch Ro**	**0.33**	**129**		Pb	14 14 32.1	-0.2
CYD1	**Coyote D'meter**	**0.34**	**14**		Pg	14 14 31.7	-0.2
JECB	**Eureka Canyon**	**0.36**	**121**		Pg	14 14 32.5	+0.1
JCPM	**Coyote Point**	**0.36**	**344**		Pg	14 14 32.5	+0.1
JLAB	**Laurel Hill**	**0.38**	**103**		Pg	14 14 32.5	-0.2
CALM	**Calaveras Res.**	**0.38**	**56**		Pg	14 14 32.6	-0.1
CMJM	**Mission San Jo**	**0.38**	**42**		Pg	14 14 32.7	-0.1
SAC	**San Andreas**	**0.39**	**333**		Pg	14 14 32.9	+0.1
CNIC	**Niles Canyon**	**0.41**	**26**		Pg	14 14 33.4	+0.1
CCOB	**Coe Ranch Numb**	**0.42**	**87**		Pb	14 14 33.8	0.0
C055	**Cottonwood Ave**	**0.42**	**9**		Pg	14 14 33.6	+0.1
JELB	**Ellicott, Sant**	**0.43**	**136**		Pb	14 14 33.8	-0.2
MHC	**Mount Hamilton**	**0.45**	**77**		Pg	14 14 34.1	+0.1
MHC					Sg	14 14 40.6	+0.3
JMGM	**Milagra Ridge**	**0.46**	**331**		Pg	14 14 34.0	-0.1
CADM	**Anderson Res.**	**0.46**	**99**		Pg	14 14 33.9	-0.2
JSBM	**San Bruno Moun**	**0.47**	**340**		Pg	14 14 34.1	-0.2
CVLM	**Vallecito**	**0.48**	**36**		Pb	14 14 35.0	+0.1
HLPM	**Lions Peak**	**0.49**	**113**		Pg	14 14 34.4	-0.3
CMLM	**Mount Lewis**	**0.50**	**61**		Pg	14 14 34.9	0.0
CLCB	**Lake Chabot**	**0.51**	**12**		Pb	14 14 35.3	-0.1
WENL	**Wente Vineyard**	**0.52**	**42**		Pb	14 14 35.5	-0.1
HCOM	**Corn Cob Canyo**	**0.52**	**132**		Pg	14 14 35.4	+0.1
ARN	**Arnold Ranch**	**0.54**	**78**		Pg	14 14 35.5	-0.1
CMCM	**Mills College**	**0.54**	**2**		Pg	14 14 35.8	+0.1
MOBB	**Monterey Bay O**	**0.55**	**177**		Pb	14 14 36.8	+0.9
HSPM	**Sheep**	**0.56**	**102**		Pg	14 14 35.8	-0.2
CDOM	**Doolan Road**	**0.57**	**30**		Pb	14 14 37.0	+0.6
HERM	**Elkhorn Road**	**0.59**	**138**		Pg	14 14 36.5	+0.1
BGC	**Bolinger Road**	**0.59**	**10**		Pb	14 14 36.8	0.0
CYBM	**Yerba Buena Is**	**0.59**	**347**		Pg	14 14 36.4	-0.1
ANZ	**Anzar Road**	**0.60**	**126**		Pg	14 14 36.2	-0.4
JPRM	**Presidio of Sa**	**0.60**	**338**		Pb	14 14 36.8	-0.1
CMMM	**Mount Mocho**	**0.60**	**69**		Pg	14 14 36.7	-0.1
HTUM	**Tustin Road**	**0.60**	**133**		Pg	14 14 36.6	-0.2
SMCB	**Saint Mary's C**	**0.60**	**6**		Pb	14 14 37.0	0.0
CDC	**Canada Road**	**0.61**	**110**		Pg	14 14 36.6	-0.3
GHS	**Gilroy Hot Spr**	**0.61**	**103**		Pg	14 14 36.8	-0.2
BRK	**Berkeley--Havi**	**0.64**	**355**		Pb	14 14 37.5	0.0
BRK					Sg	14 14 45.9	0.0
OCR	**O'Connell Ranc**	**0.64**	**120**		Pg	14 14 37.2	-0.1
BKS	**Berkeley--Byer**	**0.64**	**357**		Pb	14 14 37.7	+0.1
BKS					Sb	14 14 46.1	-0.1
BL88	**Building 88, L**	**0.64**	**356**		Pb	14 14 37.8	+0.1
VAK	**Adit at Lawren**	**0.64**	**356**		Pb	14 14 37.7	+0.1
VAK					Sb	14 14 46.3	0.0
CRHM	**Round Hill Res**	**0.64**	**15**		Pn	14 14 38.5	-0.8
HBTM	**San Juan Bauti**	**0.65**	**127**		Pg	14 14 37.1	-0.4
CVPM	**Vollmer Peak**	**0.65**	**358**		Pb	14 14 37.9	+0.2
CMOB	**Morgan Territo**	**0.65**	**29**		Pb	14 14 38.5	+0.7
HJGM	**San Juan Grade**	**0.66**	**131**		Pg	14 14 37.4	-0.5
HMOM	**Monterey**	**0.67**	**161**		Pb	14 14 38.2	0.0
HFEM	**San Felipe**	**0.69**	**111**		Pg	14 14 37.9	-0.4
CRPB	**Russellman Par**	**0.71**	**19**		Pb	14 14 39.3	+0.4
CSPM	**San Pablo Ridg**	**0.72**	**353**		Pg	14 14 39.2	+0.1
CBSNC	**Byron Hot Spri**	**0.73**	**37**		Pg	14 14 39.7	+0.6
CPMM	**Point Molate**	**0.73**	**347**		Pb	14 14 39.1	0.0
FRP	**Fremont Peak**	**0.74**	**130**		Pb	14 14 38.7	-0.7
CPIM	**Pinole Ridge**	**0.75**	**359**		Pg	14 14 39.9	+0.4
HPCM	**Pacheco Lake**	**0.76**	**103**		Pb	14 14 39.3	-0.3
BDM	**Black Diamond**	**0.76**	**20**		Pn	14 14 40.4	-0.5
PACP	**Pacheco Peak**	**0.76**	**107**		Pb	14 14 39.5	-0.2
SAO	**San Andreas Ge**	**0.76**	**128**		Pb	14 14 38.9	-0.8
HERB	**Hercules**	**0.78**	**356**		Pg	14 14 40.2	+0.2
BSRM	**Salinas Radio**	**0.79**	**136**		Pb	14 14 39.6	-0.5
FARB	**Farallon Islan**	**0.79**	**306**		Pb	14 14 39.9	-0.2
HLTM	**Lone Tree Road**	**0.79**	**116**		Pb	14 14 40.2	0.0
BVYM	**Vineyard**	**0.79**	**128**		Pb	14 14 39.7	-0.6
SLD	**San Luis Dam**	**0.80**	**101**		Pb	14 14 40.1	-0.2
BPCNC	**Pine Canyon**	**0.81**	**145**		Pg	14 14 40.6	+0.1
BSLM	**Silva Ranch**	**0.82**	**124**		Pg	14 14 41.0	+0.2
SFJWR	**San Luis Fatjo**	**0.84**	**103**		Pb	14 14 40.9	-0.1
BCGM	**Cienega Road**	**0.86**	**127**		Pb	14 14 41.4	0.0
NLHM	**Lake Herman**	**0.88**	**2**		Pb	14 14 41.9	+0.1
SCZ	**Santa Cruz**	**0.90**	**135**		Pb	14 14 41.4	-0.6
BHRM	**Hodges Ranch**	**0.90**	**124**		Pg	14 14 42.4	0.0
NOLM	**Olema**	**0.93**	**330**		Pb	14 14 42.1	-0.4
BJOM	**Mount Johnson**	**0.93**	**130**		Pb	14 14 42.5	-0.1
BLRM	**Lewis Ranch**	**0.93**	**127**		Pb	14 14 42.6	0.0
BJCM	**Johnson Can.**	**0.94**	**137**		Pb	14 14 42.3	-0.5
HAST	**Hastings Reser**	**0.99**	**148**		Pb	14 14 43.6	0.0
BEHM	**Elkhorn Ranch**	**1.00**	**125**		Pb	14 14 43.9	+0.2
NPRM	**Point Reyes**	**1.00**	**320**		Pb	14 14 43.9	+0.1
BSMM	**Soledad Missio**	**1.05**	**144**		Pb	14 14 44.6	-0.1
BEMM	**Emmet**	**1.05**	**123**		Pb	14 14 44.6	-0.1
MCCM	**Marconi Confer**	**1.06**	**329**		Pb	14 14 44.0	-0.6
BCWM	**Chews Ridge**	**1.06**	**151**		Pb	14 14 44.8	0.0
BPOM	**Post Ranch**	**1.06**	**161**		Pb	14 14 44.5	-0.3
BAVM	**Antelope Valle**	**1.10**	**122**		Pb	14 14 45.2	-0.3
BPIM	**Pinnacles**	**1.11**	**132**		Pb	14 14 45.1	-0.5
BSGM	**Shirttail Gulc**	**1.12**	**137**		Pb	14 14 45.1	-0.6
CVS	**Carmenet Viney**	**1.12**	**349**		Pn	14 14 45.5	-0.4
BBGB	**Big Mountain B**	**1.14**	**125**		Pn	14 14 45.8	-0.3
BAPM	**Anderson Peak**	**1.15**	**157**		Pn	14 14 45.8	-0.5
BBNM	**San Benito**	**1.16**	**129**		Pb	14 14 46.6	+0.2
BRMM	**Rolling Bench**	**1.17**	**110**		Pg	14 14 47.1	-0.4
NAPC	**Atlas Peak**	**1.20**	**358**		Pn	14 14 46.5	-0.4
NTYM	**Taylor**	**1.21**	**342**		Pn	14 14 46.2	-0.7
LRV	**Little Rabbit**	**1.25**	**130**		Pb	14 14 47.8	-0.2
BMSM	**Mercy Hot Spri**	**1.26**	**117**		Pb	14 14 48.2	0.0
NSHM	**Saint Helena R**	**1.32**	**346**		Pn	14 14 47.8	-0.8
LRC	**Lone Oak Road**	**1.35**	**137**		Pn	14 14 48.8	-0.2
PBWM	**Bitterwater Cr**	**1.37**	**132**		Pn	14 14 49.5	+0.3
MAC	**Mark West Spri**	**1.38**	**343**		Pn	14 14 48.6	-0.6
PHRM	**Hernandez Vall**	**1.40**	**128**		Pn	14 14 49.9	+0.2
PCCM	**Crazy Canyon**	**1.42**	**144**		Pn	14 14 49.7	-0.2
MNHB	**New Hogan Dam**	**1.42**	**50**		Pn	14 14 48.7	-1.2
MYLM	**Yosemite Lake**	**1.42**	**84**		Pn	14 14 49.3	-0.7
NBPM	**Berryessa Peak**	**1.43**	**0**		Pn	14 14 49.5	-0.5
MCUB	**Copperopolis B**	**1.45**	**59**		Pn	14 14 50.0	-0.4
NHSM	**Mount Saint He**	**1.46**	**347**		Pn	14 14 50.9	+0.4
NMCNC	**Mill Creek, So**	**1.47**	**337**		Pn	14 14 49.4	-1.2
AASM	**Arroyo Seco**	**1.47**	**36**		Pn	14 14 49.6	-0.9
PAPM	**Alder Peak**	**1.48**	**153**		Pn	14 14 50.5	-0.4
FTR	**Fort Ross**	**1.49**	**330**		Pn	14 14 50.3	-0.6
PMPB	**Monarch Peak**	**1.52**	**132**		Pn	14 14 51.8	+0.5
GAXM	**Alexander Vall**	**1.54**	**343**		Pn	14 14 51.2	-0.3
NMTM	**Middletown**	**1.58**	**353**		Pn	14 14 51.7	-0.4
GHCM	**House Creek**	**1.58**	**330**		Pn	14 14 51.6	-0.5
GCRM	**Castle Rock Sp**	**1.59**	**345**		Pn	14 14 51.3	-1.0
PSAM	**San Ardo**	**1.60**	**139**		Pn	14 14 52.2	-0.3
GBGM	**Boggs Mountain**	**1.62**	**347**		Pn	14 14 52.4	-0.4
PPTM	**Peach Tree Val**	**1.64**	**133**		Pn	14 14 52.0	-0.9
GDXM	**Geysers**	**1.64**	**343**		Pn	14 14 53.7	+0.7
CMB	**Columbia Colle**	**1.64**	**60**		Pn	14 14 53.0	0.0
CMB	**Columbia Colle**	**1.64**	**60**	Pn	Pn	14 14 52.9	-0.2
MNRC	**McLaughlin Min**	**1.65**	**353**		Pn	14 14 53.0	-0.1
GSGM	**Seigler Mounta**	**1.68**	**346**		Pn	14 14 53.2	-0.2
PHSB	**Hesperia Broad**	**1.68**	**147**		Pn	14 14 53.7	+0.1
GPMM	**Pine Mountain**	**1.71**	**340**		Pn	14 14 52.6	-1.4
GDCM	**Dry Creek**	**1.74**	**332**		Pn	14 14 53.7	-0.6
PSMM	**Smith Mountain**	**1.74**	**132**		Pn	14 14 54.7	+0.3
PANM	**San Antonio Re**	**1.79**	**144**		Pn	14 14 55.2	+0.3
PHPM	**Hope Ranch**	**1.79**	**134**		Pn	14 14 55.1	0.0
MHDM	**Hidden Dam**	**1.84**	**93**		Pn	14 14 55.2	-0.4
PKD	**Bear Valley Ra**	**1.85**	**134**		Pn	14 14 55.9	0.0
PPO	**Portuguese Can**	**1.87**	**137**		Pn	14 14 56.3	+0.2
PVCM	**Vineyard Canyo**	**1.87**	**134**		Pn	14 14 56.5	+0.3
PSTM	**Stockdale Moun**	**1.89**	**133**		Pn	14 14 56.3	-0.1
GHLM	**Highland Sprin**	**1.91**	**340**		Pn	14 14 56.1	-0.7
GGUM	**Gualala**	**1.92**	**328**		Pn	14 14 56.4	-0.3
RAMR	**Ramage Ranch**	**1.92**	**146**		Pn	14 14 56.5	-0.3
AFDM	**Forest Hills D**	**1.96**	**29**		Pn	14 14 57.5	0.0
MMIM	**Miami Mountain**	**1.96**	**84**		Pn	14 14 57.8	+0.3
BLDC	**Black Mountain**	**1.99**	**148**		Pn	14 14 58.2	+0.4
BLDC	**Black Mountain**	**1.99**	**148**		Pn	14 14 58.2	+0.4
SUTB	**Sutter Butte**	**2.02**	**9**		Pn	14 14 57.2	-0.9
PCMM	**Cholame Hills**	**2.03**	**134**		Pn	14 14 58.2	-0.1
PKLM	**Kerr Lake**	**2.09**	**134**		Pn	14 14 59.5	+0.4
PSNM	**Stone Corral**	**2.11**	**133**		Pn	14 15 00.1	+0.8
TCHL	**Shandon**	**2.12**	**136**		Pn	14 14 59.9	+0.4
OHCM	**Honcut**	**2.17**	**15**		Pn	14 14 59.8	-0.4
PAGB	**Antelope Grade**	**2.17**	**133**		Pn	14 15 00.5	+0.2
TSCN	**Private Proper**	**2.25**	**138**		Pn	14 15 01.5	+0.1
GNAM	**Navarro Ridge**	**2.26**	**330**		Pn	14 15 00.9	-0.5
GTC	**Three Chop Rid**	**2.41**	**334**		Pn	14 15 03.0	-0.6
RUBR	**Rubicon Trail**	**2.42**	**41**		Pn	14 15 05.3	+1.4
MDPB	**Devils Postpil**	**2.51**	**80**		Pn	14 15 06.3	+1.1
WAKR	**Walker**	**2.52**	**59**		Pn	14 15 07.3	+2.0
MINS	**Minaret Summit**	**2.53**	**80**		Pn	14 15 06.7	+1.2
OMMB	**Old Mammoth Mi**	**2.57**	**81**		Pn	14 15 07.1	+1.0
DONR	**Donner Summit**	**2.58**	**34**		Pn	14 15 05.0	-1.1
BFC	**Buffalo Canyon**	**2.63**	**50**		Pb	14 15 09.6	-2.0
IND	**Independence**	**2.66**	**34**		Pb	14 15 10.3	-1.8
MPK	**Martis Peak**	**2.67**	**39**		Pn	14 15 09.6	+2.3
PNTR	**Pine Nut**	**2.76**	**47**		Pn	14 15 10.0	+1.5
VCNR	**Virginia City**	**2.87**	**44**		Pn	14 15 11.3	+1.3
YERR	**Yerington**	**2.91**	**52**		Pn	14 15 11.3	+0.7
BEKR	**Beckworth**	**2.99**	**28**		Pn	14 15 13.1	+1.4
RYN	**Ryan**	**3.22**	**63**	Pn	Pn	14 15 14.9	+0.1
NVAR	**Mina Array Bea**	**3.30**	**68**	Pn	Pn	14 15 16.4	+0.4
KVN	**Kaiserville**	**3.70**	**59**	Pn	Pn	14 15 21.8	+0.3
KRMB	**Red Mountain**	**4.48**	**343**	Pn	Pn	14 15 33.4	+1.3

JMA 01 14:23:03.3, 34°.91N×135°.58E, h12km, M3.1, 2C-5D Broadband fault plane solution: P waves. NP1: φs56.00000°, δ69.00000°, λ143.00000°. **NP2:** φs161.00000°, δ56.00000°, λ26.00000°. **Principal axes:** T Plg41.0000°, Azm14.0000°; N Plg48.0000°, Azm210.0000°; P Plg8.0000°, Azm111.0000°; **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHE	**Heguri**	**0.27**	**161**	⇑P	Pg	14 23 08.8	-0.1
JHE				S	Sg	14 23 12.7	+0.1
JWT	**Wachi**	**0.40**	**339**	⇓P	Pg	14 23 11.3	0.0
JKS	**Kasai**	**0.61**	**277**	⇓P	Pg	14 23 14.8	-0.4
JKS				S	Sg	14 23 23.0	-0.2
JWY	**Kouya**	**0.69**	**179**	⇑P	Pg	14 23 16.2	-0.5
JWY				S	Sg	14 23 25.3	-0.5
TSUJ	**Tsu 2**	**0.72**	**106**	⇓P	Pg	14 23 16.7	-0.5
TSUJ				S	Sg	14 23 26.3	-0.4
JAJ2	**Tsuna**	**0.75**	**230**	P	Pg	14 23 17.3	-0.6
JAJ2				S	Sg	14 23 27.4	-0.4
JKY	**Yasaka**	**0.82**	**332**	⇓P	Pg	14 23 18.7	-0.4
JKN2	**Miekihoku**	**0.88**	**139**	⇓P	Pg	14 23 19.5	-0.8
JKN2				S	Sg	14 23 30.9	-0.9
MAT	**Matsushiro**	**2.69**	**52**	P	Pn	14 23 47.2	+0.8
MAT				S	Sb	14 24 26.8	+2.5

*JMA **01** 14:29:40.8±0.2, 43°.78N×147°.40E, h36km, M3.7*
*SKHL **01** 14:29:41.3±0.2, 43°.90N×147°.38E, h25km±4km, mb4.0/4*
ISC 01 14:29:36.6±2.1, **43°.87N**±0°.08×**147°.47E**±0°.08, **h5km**±11km, **n16,** σ1s.**36**/29, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.17**	**278**	*e*P	**Pg**	**14 30 00.1**	**+1.0**
YUK				AMB	AMB	14 30 01.7	
	30nm,0.3s						
YUK				*e*S	**Sg**	**14 30 14.2**	**-0.1**
YUK				A	A	14 30 15.2	
	910nm,0.3s						
YUK				A	A	14 30 15.2	
	1μm,0.3s						
GRPR	**Tuman**	**1.23**	**276**	*e*P	**Pg**	**14 30 01.1**	**+0.8**
GRPR				AMB	AMB	14 30 02.0	
	50nm,0.2s						
GRPR				*i* S	**Sg**	**14 30 15.0**	**-1.2**
GRPR				A	A	14 30 16.6	
	660nm,0.2s						
GRPR				A	A	14 30 16.6	
	270nm,0.2s						
NEM2	**Nemuro 2**	**1.35**	**249**	P	**Pg**	**14 30 02.8**	**+0.2**
NEM2				*e*S	**Sg**	**14 30 19.1**	**-1.0**
NMR	**Nemuro--Hokkai**	**1.36**	**249**	*e*P	**Pg**	**14 30 02.8**	**+0.1**
KUR	**Kuril'sk**	**1.39**	**12**	*e*P	**Pn**	**14 30 03.3**	**+0.6**
KUR				AMB	AMB	14 30 04.2	
	90nm,0.6s						
KUR				*e*S	**Sg**	**14 30 19.7**	**-1.6**
KUR				A	A	14 30 21.5	
	390nm,0.4s						
KUR				A	A	14 30 21.5	
	180nm,0.4s						
GLVR	**Golovnino**	**1.42**	**265**	*e*P	**Pn**	**14 30 04.1**	**+1.0**
GLVR				AMB	AMB	14 30 06.1	
	60nm,0.3s						
GLVR				*e*S	**Sg**	**14 30 19.8**	**-2.4**
GLVR				A	A	14 30 22.0	
	490nm,0.2s						
GLVR				A	A	14 30 22.0	
	350nm,0.2s						
JRA	**Rausu**	**1.70**	**273**	P	**Pn**	**14 30 08.2**	**+1.3**
JRA				*e*S	**Sn**	**14 30 28.3**	**-0.7**
JNSB	**Nemuroshibetsu**	**1.79**	**268**	P	**Pn**	**14 30 09.5**	**+1.4**
JNSB				*e*S	**Sn**	**14 30 30.1**	**-1.1**
JKHN	**Kushirohamanak**	**1.86**	**246**	P	**Pn**	**14 30 10.2**	**+1.1**
JKHN				*e*S	**Sn**	**14 30 31.4**	**-1.5**
JNK	**Nakash**	**2.02**	**263**	P	**Pn**	**14 30 12.5**	**+1.2**
JNK				*e*S	**Sn**	**14 30 35.3**	**-1.6**
JAK	**Akkeshi**	**2.20**	**247**	P	**Pn**	**14 30 14.9**	**+1.1**
JAK				*e*S	**Sn**	**14 30 40.1**	**-1.3**
JTKR	**Abashiri--Toko**	**2.58**	**273**	P	**Pn**	**14 30 20.6**	**+1.6**
JAR	**Ashorobuto**	**2.75**	**259**	P	**Pn**	**14 30 23.2**	**+1.8**
JAR				*e*S	**Sn**	**14 30 54.9**	**-0.1**
JOB	**Onbets**	**2.82**	**251**	P	**Pn**	**14 30 24.1**	**+1.7**
JOB				*e*S	**Sn**	**14 30 55.7**	**-1.0**
JMP	**Maruseppu**	**2.97**	**274**	P	**Pn**	**14 30 26.4**	**+1.9**
JCH	**Churui**	**3.25**	**249**	P	**Pn**	**14 30 29.6**	**+1.3**
JCH				*e*S	**Sn**	**14 31 06.3**	**-1.1**

IDC 01 14:55:43.1±2.2, 7.°39S×129.°78E, h144km±28km, mb3.5/1, mb1 3.2/6, mb1mx3.0/49, mbtmp3.7/6, Error ellipse: s-maj=37.0km s-min=20.6km az=94.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	6.64	13	P	Pn	14 57 18.2	-0.2
	0.6nm,0.3s,baz=198,slow=20,SNR=8.4						
SIJI				S	Sn	14 58 26.9	-6.1
	0.6nm,0.3s,baz=253,slow=19,SNR=4.8						
BATI	Baumata	6.66	245	P	Pn	14 57 19.7	+1.0
	5.6nm,0.3s,baz=112,slow=3.0,SNR=7.7						
BATI				S	Sn	14 58 28.8	-4.8
	0.9nm,0.3s,baz=260,slow=11,SNR=2.5						
FITZ	Fitzroy Crossi	11.38	200	P	Pn	14 58 19.8	-1.7
	0.2nm,0.3s,baz=30,slow=9.4,SNR=19						
FITZ				S	Sn	15 00 16.9	-10
	0.8nm,0.3s,baz=153,slow=21,SNR=9.2						
WRA	Warramunga Arr	13.24	161	P	Pn	14 58 45.3	-0.4
	0.5nm,0.3s,baz=334,slow=13,SNR=26						
WRA				S	Sn	15 01 03.6	-8.4
	0.3nm,0.3s,baz=331,slow=22,SNR=6.8						
ASAR	Alice Springs	16.66	167	P	Pn	14 59 29.6	+1.3
	0.2nm,0.3s,baz=356,slow=10.0,SNR=16						
ASAR				S	S	15 02 27.4	-6.6
	0.1nm,0.3s,baz=346,slow=23,SNR=4.7						
MKAR	Makanchi Array	68.43	327	P	P	15 06 29.4	0.0
	1.3nm,1.0s,baz=126,slow=7.4,SNR=4.1						

SOME 01 15:32:22.3, 42.°87N×77.°07E, h0km, 3C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNSS	Tian-Shan	0.19	333	⇑*i*P	Pg	15 32 26.7	+0.8
	2.3nm,0.1s						
TNSS				⇓*i*S	Sg	15 32 29.8	+1.3
	4.1nm,0.2s						
KOTS	Kotyrbulak	0.37	5	*e*P	Pg	15 32 30.0	+0.6
	0.8nm,0.2s						
KOTS				*e*S	Sg	15 32 35.4	+1.3
	1.0nm,0.2s						
IZV	Izvestkoviy	0.37	297	⇑*e*P	Pg	15 32 29.9	+0.4
	0.5nm,0.1s						
IZV				⇑*e*S	Sg	15 32 35.4	+1.1
	3.6nm,0.1s						

KRNET 01 15:32:43.0±0.1, 42.°08N×76.°75E, h4km, mb1.7, 4C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDJ	Kajisay	0.32	81	⇓*e*P	Pg	15 32 49.4	+0.1
	baz=82						
KDJ				⇓*e*S	Sg	15 32 54.2	+0.7
	baz=82						
ULHL	Ulahol	0.41	294	⇑*i*P	Pg	15 32 51.7	+0.6
	baz=94						
ULHL				⇑*i*S	Sg	15 32 57.1	+0.6
	baz=94						
NRN	Naryn	0.86	221	⇑*e*P	Pb	15 33 00.1	-0.6
	baz=22						
NRN				⇑*i*S	Sb	15 33 12.3	-0.3
	baz=22						
TARG	Taragay, Kyrgy	0.86	114	⇓*e*P	Pg	15 32 59.9	+0.4
	baz=14						
TARG				⇓*i*S	Sb	15 33 11.8	-1.0
	baz=14						

*IDC **01** 16:21:02.7±3.0, 19.°03N×120.°93E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.4/42, mbtmp3.8/4, MS2.8/2, Ms1 2.8/2, ms1mx2.4/34, Error ellipse: s-maj=289.8km s-min=21.8km az=62.0*

*MAN **01** 16:21:06.2, 18.°52N×119.°59E, h23km, MS3.4*

*NEIC **01** 16:21:09.5±1.1, 18.°8N±0.°1×120.°2E±0.°2, h50km±6km, mb4.4/9*

ISC 01 16:21:07.8±0.7, 18.°66N±0.°05×119.°91E±0.°10, h24km, n26, σ1.s48/27, mb4.0/8, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIPP	Brgy, Tapao	0.90	144	⇑P	Pb	16 21 24.8	+0.1
ABRA	Dolores	1.26	142	P	Pn	16 21 29.4	-0.5
ABRA				S	Sb	16 21 48.7	+1.9
APYP	Conner	1.50	122	P	Pb	16 21 34.1	-0.9
APYP				S	Sb	16 21 55.9	+2.4
SMPP	San Manuel, Pa	2.60	163	P	Pn	16 21 46.7	-1.7
SMPP				S	Sn	16 22 18.1	-1.2
PCPH	Palayan	3.28	160	⇓P	Pn	16 21 59.1	+1.4
TWG	Pinlang	4.28	15	Pn	Pn	16 22 09.7	-1.8
TPUB	Ta-pu	4.67	8	Pn	Pn	16 22 15.8	-1.0
YULB	Yu-li	4.89	15	Pn	Pn	16 22 20.6	+0.7
SSLB	Suanglung	5.20	11	Pn	Pn	16 22 24.0	-0.2
DAV	Davao City (W)	12.77	154	LR	LR	16 30 02.3	
	comp=Z,35nm,19.1s,baz=9.0,slow=42						
ENH	Enshi	14.94	323	Pn	Pn	16 24 39.7	+2.1
GUMO	Guam	24.49	98	LR	LR	16 36 33.5	
	comp=Z,20nm,18.2s,baz=21,slow=40						
WB0	Warramunga Arr	40.75	159	P	P	16 28 45.5	-1.6
WB0				IAmb	IAmb	16 29 47.4	
	comp=Z,8.0nm,1.4s						
WRAB	Tennant Creek	40.88	159	P	P	16 28 46.7	-1.6
WRAB				IAmb	IAmb	16 29 00.7	
	comp=Z,22nm,1.8s						
WRA	Warramunga Arr	40.89	159	P	P	16 28 46.2	-2.0
	comp=Z,1.6nm,0.7s,baz=342,slow=9.0,SNR=10						
WRA	Warramunga Arr	40.89	159	P	P	16 28 46.3	-2.0
WB2	Warramunga Arr	40.89	159	P	P	16 28 46.7	-1.6
WB2				IAmb	IAmb	16 29 52.2	
	comp=Z,12nm,1.6s						
WR0	Warramunga Arr	40.98	159	P	P	16 28 47.2	-1.7
WR0				IAmb	IAmb	16 29 44.2	
	comp=Z,7.4nm,1.2s						
MKAR	Makanchi Array	41.66	321	P	P	16 28 56.1	+1.7
	comp=Z,1.4nm,0.9s,baz=114,slow=7.0,SNR=3.5						
AS31	Alice Springs	44.23	161	P	P	16 29 14.1	-1.3
ASAR	Alice Springs	44.23	161	P	P	16 29 14.8	-0.7
	comp=Z,0.6nm,0.6s,baz=341,slow=6.9,SNR=24						
ASAR	Alice Springs	44.23	161	P	P	16 29 14.6	-0.8
KURBB	Kurchatov Arra	45.71	324	P	P	16 29 26.9	0.0
	comp=Z,0.8nm,0.7s,baz=121,slow=7.8,SNR=5.2						
BBOO	Buckleboo	53.46	163	P	P	16 30 26.7	+0.6
ABKAR	Akbulak array	56.55	317	P	P	16 30 47.7	-0.6
ARU	Arti	58.87	325	P	P	16 31 03.2	-1.3

IDC 01 17:06:47.2±2.2, 6.°71S×129.°53E, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.4/22, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=151.6km s-min=31.1km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.95	161	Pn	Pn	17 10 06.3	-0.1
	0.4nm,0.3s,baz=344,slow=13,SNR=21						
WRA				Sn	Sn	17 12 36.8	-5.4
	0.7nm,0.3s,baz=336,slow=22,SNR=12						
ASAR	Alice Springs	17.37	166	P	Pn	17 10 51.2	0.0
	0.1nm,0.3s,baz=338,slow=11,SNR=12						
ASAR				S	Sn	17 13 57.8	-7.6
	0.2nm,0.3s,baz=321,slow=19,SNR=7.6						
MKAR	Makanchi Array	67.73	327	P	P	17 17 46.7	0.0
	0.9nm,0.9s,baz=137,slow=6.9,SNR=3.9						

*ISCJB **01** 17:27:06.9±0.5, 22.°45N±0.°08×45.°23W±0.°06, h14km, mb3.8/11, MS3.7/33, Error ellipse: s-maj=11.9km s-min=8.3km az=166.1*

*IDC **01** 17:27:07.6±0.8, 22.°57N×45.°02W, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.8/48, mbtmp3.8/11, MS3.7/33, Ms1 3.7/33, ms1mx3.6/48, Error ellipse: s-maj=25.9km s-min=18.8km az=9.0*

*NEIC **01** 17:27:08.3±2.8, 22.°5N±0.°1×45.°2W±0.°1, h10km±1km, mb4.8/18*

ISC 01 17:27:08.8±0.6, 22.°4N±0.°1×45.°15W±0.°08, h14km, n61, σ1.s40/29, mb4.0/14, MS3.8/33, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANWB	Willy Bob	16.33	256	Pn	Pn	17 30 58.5	+0.7
ANWB				IAmb	IAmb	17 31 01.2	
	comp=Z,56nm,0.7s						
MCLT	Moule a Chique	17.33	243	Pn	Pn	17 31 03.6	-6.9
MCLT				IAmb	IAmb	17 31 22.4	
	comp=Z,142nm,1.3s						
TOSP	Speyside	18.41	235	P	P	17 31 20.7	-3.0
TOSP				IAmb	IAmb	17 31 29.6	
	comp=Z,84nm,1.2s						
MDP	Montagnes des	18.70	204	LR	LR	17 37 06.1	
	comp=Z,57nm,19.9s,baz=334,slow=32						
MTP	Monte Pirata	19.61	261	P	P	17 31 37.5	+0.5
CBYP	Canovanas	19.85	262		P	17 31 39.1	-0.5
HUMP	Col San Antoni	19.87	261	P	P	17 31 38.8	-1.0
PDPR	Patillas Dam,	20.07	261	P	P	17 31 41.5	-0.4
PDPR				IAmb	IAmb	17 31 56.3	
	comp=Z,40nm,1.5s						
SJG	San Juan	20.16	261	LR	LR	17 37 50.9	
	comp=Z,182nm,19.9s,baz=90,slow=32						
PCDR	Punta Cana, DR	22.10	264	P	P	17 32 04.4	+0.5
HAL	Halifax	26.83	330	P	P	17 32 47.9	-0.8
HAL				IAmb	IAmb	17 32 58.0	
	comp=Z,37nm,1.4s						
SDV	Santo Domingo	27.93	245	LR	LR	17 42 48.9	
	comp=Z,72nm,21.3s,baz=72,slow=34						
RCBR	Riachuelo	29.52	161	P	P	17 33 12.8	-0.2
RCBR				IAmb	IAmb	17 33 25.1	
	comp=Z,31nm,1.4s						
HRV	Adam Dziewonsk	29.74	318	P	P	17 33 15.0	+0.3
HRV				IAmb	IAmb	17 33 16.0	
	comp=Z,16nm,1.1s						
V62A	Hyde County Ai	29.81	303	P	P	17 33 14.9	-0.5
PAL	Palisades	30.46	314	P	P	17 33 19.6	-1.6
MTDJ	Mount Denham	30.62	268	P	P	17 33 21.5	-1.4
Y60A	Bolivia	31.19	299	P	P	17 33 25.6	-2.1
ROSC	El Rosal	33.19	243	LR	LR	17 48 07.9	
	comp=Z,83nm,19.7s,baz=60,slow=38						
SCHQ	Schefferville	36.20	339	LR	LR	17 47 50.4	
	comp=Z,92nm,19.1s,baz=314,slow=34						
MDT	Midelt	37.18	65	LR	LR	17 45 36.0	
	comp=Z,75nm,19.0s,baz=312,slow=30						
BDFB	Brasilia	37.95	184	LR	LR	17 48 46.4	
	comp=Z,96nm,19.1s,baz=94,slow=34						
DBIC	Dimbokro	41.87	106	P	P	17 34 59.5	+0.6
	comp=Z,2.1nm,0.6s,baz=242,slow=0.8,SNR=3.8						
DBIC				LR	LR	17 49 19.2	
	comp=Z,111nm,20.9s,baz=270,slow=32						
DBIC	Dimbokro	41.87	106	IAmb	IAmb	17 35 03.5	
	comp=Z,22nm,1.4s						
H10N3	ASCENSION HYDR	42.52	132	T	T	18 20 08.6	
	baz=316,slow=75,SNR=460						
H10N2	ASCENSION HYDR	42.52	132	T	T	18 20 11.6	
	baz=316,slow=75,SNR=601						
H10N1	ASCENSION HYDR	42.53	132	T	T	18 20 13.0	
	baz=316,slow=75,SNR=617						
H10S3	ASCENSION HYDR	43.20	133	T	T	18 21 06.2	
	baz=265,slow=74,SNR=174						
H10S2	ASCENSION HYDR	43.22	133	T	T	18 21 03.8	
	baz=315,slow=74,SNR=170						
LPAZ	La Paz	44.59	212	P	P	17 35 23.5	+2.0
	comp=Z,3.8nm,0.8s,baz=16,slow=8.5,SNR=11						
LPAZ				LR	LR	17 53 08.6	
	comp=Z,54nm,21.3s,baz=7.5,slow=35						
LPAZ	La Paz	44.59	212	P	P	17 35 23.0	+1.5
LPAZ				IAmb	IAmb	17 35 24.4	
	comp=Z,7.2nm,1.1s						
TORD	Torodi Ar. Bea	45.40	94	P	P	17 35 26.8	-0.6
	comp=Z,1.7nm,0.9s,baz=295,slow=9.2,SNR=7.0						
TORD				LR	LR	17 52 07.6	
	comp=Z,168nm,20.7s,baz=300,slow=33						
ULM	Lac du Bonnet	48.16	318	LR	LR	17 53 22.1	
	comp=Z,135nm,21.1s,baz=135,slow=33						
PB11	IPOC Station P	48.30	212	P	P	17 35 50.4	+0.3
KEST	Kesra	48.87	62	LR	LR	17 54 09.8	
	comp=Z,53nm,20.8s,baz=284,slow=33						
TXAR	Lajitas Array	52.63	290	P	P	17 36 24.9	+2.1
	comp=Z,0.1nm,0.5s,baz=88,slow=8.4,SNR=3.0						
TXAR				LR	LR	17 57 59.1	
	comp=Z,38nm,20.7s,baz=0.0,slow=35						
CLL	Collm	52.99	42	*e*P	P	17 36 27.0	+2.0
CLL				*e*(sP)	pwP	17 36 31.0	-2.0
GERES	GERESS Array B	53.05	45	P	P	17 36 26.5	+0.8
	comp=Z,0.5nm,0.8s,baz=249,slow=5.0,SNR=4.6						
NOA	NORSAR Array B	54.48	30	LR	LR	17 55 51.8	
	comp=Z,82nm,18.5s,baz=5.0,slow=32						
PDAR	Pinedale Array	56.55	307	P	P	17 36 52.1	+0.8
	comp=Z,0.8nm,0.9s,baz=111,slow=8.4,SNR=4.1						
PDAR				LR	LR	17 59 34.7	
	comp=Z,64nm,18.4s,baz=72,slow=34						
RES	Resolute Bay	58.34	346	LR	LR	18 00 54.8	
	comp=Z,59nm,18.2s,baz=230,slow=35						
YKA	Yellowknife Ar	60.86	330	P	P	17 37 19.5	-1.1
	comp=Z,0.7nm,0.8s,baz=92,slow=6.9,SNR=3.6						
YKA				LR	LR	18 01 41.5	
	comp=Z,6.6nm,21.5s,baz=76,slow=34						
ELK	Elko	60.91	305	LR	LR	18 00 59.7	
	comp=Z,120nm,20.3s,baz=75,slow=33						
FINES	FINESS Array B	61.58	31	LR	LR	17 59 13.7	
	comp=Z,97nm,19.5s,baz=134,slow=31						
NEW	Newport	61.72	314	LR	LR	18 01 52.2	
	comp=Z,112nm,20.8s,baz=79,slow=34						
AKASG	Malin Array Be	63.17	43	P	P	17 37 35.0	-1.4
	comp=Z,2.2nm,0.9s,baz=272,slow=6.1,SNR=4.1						
NVAR	Mina Array Bea	63.54	303	LR	LR	18 03 36.3	
	comp=Z,139nm,19.9s,baz=84,slow=34						
YBH	Yreka Blue Hor	66.36	307	LR	LR	18 04 23.8	
	comp=Z,84nm,18.1s,baz=68,slow=34						
PLCA	Paso Flores	67.15	201	LR	LR	18 06 59.3	
	comp=Z,21nm,19.9s,baz=29,slow=36						
BRTR	Keskin Array B	67.65	55	P	P	17 38 05.8	0.0
	comp=Z,0.6nm,0.8s,baz=268,slow=7.2,SNR=3.6						
BRTR				LR	LR	18 05 14.6	
	comp=Z,19nm,18.2s,baz=275,slow=34						
INK	Inuvik	68.77	337	P	P	17 38 14.5	+2.5
	comp=Z,0.8nm,0.8s,baz=62,slow=4.3,SNR=3.0						
EIL	Elat	71.02	65	LR	LR	18 09 29.2	
	comp=Z,54nm,20.1s,baz=292,slow=36						
ILAR	Eielson Array	74.79	334	P	P	17 38 48.4	0.0
	comp=Z,1.0nm,0.8s,baz=75,slow=4.6,SNR=10.0						
ILAR				LR	LR	18 11 06.6	
	comp=Z,97nm,20.0s,baz=82,slow=35						
MBAR	Mbarara	77.20	96	LR	LR	18 10 36.2	
	comp=Z,82nm,21.6s,baz=316,slow=34						
LSZ	Lusaka	80.99	111	LR	LR	18 08 43.0	
	comp=Z,41nm,21.8s,baz=332,slow=31						
LBTB	Lobatse	83.28	120	LR	LR	18 10 14.1	
	comp=Z,69nm,19.6s,baz=311,slow=31						
SUR	Sutherland	83.31	129	LR	LR	18 08 15.1	
	comp=Z,53nm,19.7s,baz=336,slow=30						
KMBO	Kilima Mbogo	83.41	94	LR	LR	18 16 33.6	
	comp=Z,41nm,18.9s,baz=92,slow=36						
ATD	Arta Tunnel	83.86	80	LR	LR	18 17 01.5	
	comp=Z,19nm,19.9s,baz=29,slow=36						
BOSA	Boshof	84.73	124	LR	LR	18 12 45.0	
	comp=Z,38nm,19.8s,baz=31,slow=32						
SEY	Seymchan	93.78	352	LR	LR	18 23 17.6	
	comp=Z,189nm,18.2s,baz=330,slow=36						

IDC 01 17:42:08.0±490.0, 28.°47N×111.°38E, h0km, Error ellipse: s-maj=281.4km s-min=147.1km az=58.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I34MN	SONGINO INFRAS	19.69	350	*i*		19 48 00.0	
	baz=173,slow=328,SNR=2.1						
I45RU	USSURIYSK INFR	22.75	41	*i*		19 57 40.0	
	baz=227,slow=278,SNR=1.9						
I39PW	PALAU INFRASON	30.20	129	*i*		20 49 00.0	
	baz=315,slow=315,SNR=0.8						

IDC 01 17:43:05.7±734.0, 29.°90N×105.°18E, h0km, Error ellipse: s-maj=337.1km s-min=205.1km az=68.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I34MN	SONGINO INFRAS	17.90	3	*i*		19 36 30.0	
	baz=184,slow=336,SNR=0.9						
I45RU	USSURIYSK INFR	25.57	49	*i*		20 18 35.0	
	baz=244,slow=326,SNR=7.1						
I39PW	PALAU INFRASON	35.42	123	*i*		21 20 40.0	
	baz=310,slow=316,SNR=2.0						

*ISCJB **01** 17:59:40.2±0.5, 26.°47S±0.°03×27.°40E±0.°04, h8km±3km, mb3.9/2, MS3.2/1, Error ellipse: s-maj=6.0km s-min=4.6km az=23.4*

*PRE **01** 17:59:40.5±0.8, 26.°47S×27.°39E, h2km, ML3.2*

*IDC **01** 17:59:41.6±1.4, 26.°43S×27.°32E, h0km, mb3.9/2, mb1 4.0/7, mb1mx3.7/42, mbtmp4.0/7, ML3.8/3, MS3.2/1, Ms1 3.1/1, ms1mx2.2/41, Error ellipse: s-maj=20.8km s-min=15.4km az=96.0*

ISC 01 17:59:40.6±0.8, 26.°45S±0.°03×27.°38E±0.°03, h8km±5km, n27, σ2.s09/39, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WDLM	Western Deep L	0.05	50	*e*P	Pg	17 59 42.1	-0.4
WDLM				*e*S	Sg	17 59 42.7	-1.2
WDLM				AML	AML	17 59 44.7	
	comp=Z,79μm,0.3s						
KLOF	Kloof	0.23	63	*e*P	Pg	17 59 45.1	-0.2
KLOF				*e*S	Sg	17 59 47.8	-0.6
KLOF				AML	AML	17 59 48.6	
	comp=Z,12μm,0.1s						
PRYS	Parys	0.47	182	*e*P	Pg	17 59 49.7	-0.1
PRYS				*e*S	Sg	17 59 55.4	-0.7
PRYS				AML	AML	18 00 03.0	
	comp=Z,1μm,0.5s						
KSR	Koster	0.74	324	*e*P	Pg	17 59 55.2	+0.3
KSR				*e*S	Sg	18 00 05.4	+0.8
KSR				AML	AML	18 00 13.8	
	comp=Z,256nm,0.1s						
ERPM	east rand prop	0.78	82	*e*P	Pg	17 59 55.3	-0.4
ERPM				*e*S	Sg	18 00 07.1	+1.3
ERPM				AML	AML	18 00 17.4	
	comp=Z,278nm,0.2s						
SWZ	Schweizer	1.97	248	*e*P	Pn	18 00 15.9	+1.4
SWZ				*e*S	Sn	18 00 40.7	+1.3
SWZ				AML	AML	18 00 45.9	
	comp=Z,754nm,0.2s						
LBTB	Lobatse	2.15	311	*e*P	Pn	18 00 18.5	+1.6
LBTB				*e*S	Sn	18 00 45.3	+1.5
LBTB				AML	AML	18 00 50.0	
	comp=Z,649nm,0.2s						
LBTB	Lobatse	2.15	311	Pn	Pb	18 00 20.0	0.0
	comp=Z,44nm,0.3s,baz=131,slow=15,SNR=374						
LBTB				Lg	Lg	18 00 47.8	
	comp=Z,193nm,0.3s,baz=345,slow=19,SNR=52						
BOSA	Boshof	2.86	221	*i* P	Pn	18 00 29.1	+2.4
BOSA				*i* S	Sg	18 01 11.3	-1.3
BOSA	Boshof	2.86	221	*e*P	Pn	18 00 27.7	+1.0
BOSA				*e*S	Sn	18 01 02.2	+0.9
BOSA				AML	AML	18 01 12.4	
	comp=Z,135nm,0.3s						
BOSA	Boshof	2.86	221	Pn	Pn	18 00 28.8	+2.1
	comp=Z,7.4nm,0.3s,baz=44,slow=16,SNR=264						
BOSA				Lg	Lg	18 01 10.6	
	comp=Z,62nm,0.3s,baz=317,slow=19,SNR=20						
BOSA	Boshof	2.86	221	*i* P	Pn	18 00 29.1	+2.4
BOSA				*i* S	Sg	18 01 11.3	-1.3
HVD	Gariep Dam	4.46	201	*e*P	Pn	18 00 50.1	+1.5
HVD				*e*S	Sn	18 01 39.7	-1.0
HVD				AML	AML	18 02 03.3	
	comp=Z,48nm,0.6s						
MSNA	Messina	4.75	31	*e*P	Pn	18 00 52.3	-0.2
MSNA				*e*S	Sn	18 01 45.7	-2.1
MSNA				AML	AML	18 02 17.3	
	comp=Z,60nm,0.7s						
BLWY	Bulawayo	6.38	10	*i* P	Pb	18 01 25.6	-6.5
BLWY	Bulawayo	6.38	10	*i* P	Pb	18 01 25.6	-6.5
BUFB	Buffelsbos	8.00	196	*e*P	Pn	18 01 39.1	+2.0
BUFB				*e*S	Sn	18 03 04.8	-3.1
BUFB				AML	AML	18 03 09.8	
	comp=Z,7.6nm,0.5s						
SUR	Sutherland	8.23	223	Pn	Pn	18 01 42.0	+1.6
	comp=Z,1.5nm,0.3s,baz=43,slow=10,SNR=47						
SUR				Sn	Sn	18 03 10.4	-3.3
	comp=Z,1.9nm,0.3s,baz=133,slow=19,SNR=5.0						
SUR				Lg	Lg	18 03 56.2	
	comp=Z,4.6nm,0.3s,baz=308,slow=19,SNR=8.1						
KOMG	Komaggas	9.35	247	*e*P	Pn	18 01 57.3	+1.6
KOMG				*e*S	Sn	18 03 37.3	-3.8
KOMG				AML	AML	18 04 39.8	
	comp=Z,34nm,0.6s						
LSZ	Lusaka	11.15	4	*i* P	Pn	18 02 16.0	-4.5
LSZ	Lusaka	11.15	4	Pn	Pn	18 02 20.4	-0.1
	comp=Z,0.8nm,0.3s,baz=178,slow=12,SNR=8.0						
LSZ				Sn	Sn	18 04 22.1	-3.3
	comp=Z,0.5nm,0.3s,baz=131,slow=20,SNR=4.2						
LSZ				Lg	Lg	18 05 28.0	
	comp=Z,0.8nm,0.3s,baz=61,slow=20,SNR=4.0						
LSZ	Lusaka	11.15	4	*i* P	Pn	18 02 16.0	-4.5
TSUM	Tsumeb	11.56	307	Pn	Pn	18 02 27.8	+1.7
	comp=Z,1.0nm,0.3s,baz=124,slow=8.5,SNR=9.8						
TSUM				Sn	Sn	18 04 28.9	-6.6
	comp=Z,0.2nm,0.3s,baz=3.5,slow=19,SNR=3.0						
TSUM				Lg	Lg	18 05 41.2	
	comp=Z,0.7nm,0.3s,baz=245,slow=21,SNR=3.5						
MAW	Mawson	46.45	162	LR	LR	18 25 50.8	
	comp=Z,27nm,18.5s,baz=260,slow=34						
TORD	Torodi Ar. Bea	46.62	324	P	P	18 08 10.7	+1.1
	comp=Z,0.7nm,0.5s,baz=138,slow=6.2,SNR=8.3						
MKAR	Makanchi Array	88.16	34	P	P	18 12 33.5	+1.7
	comp=Z,0.5nm,0.7s,baz=238,slow=4.2,SNR=3.7						
NVAR	Mina Array Bea	148.85	301	PKPbc	PKiKP	18 19 32.7	+2.1
	comp=Z,0.3nm,0.6s,baz=66,slow=3.1,SNR=3.7						

*ISCJB **01** 18:03:39.7±0.7, 34.°35N±0.°09×137.°3E±0.°1, h330km±5km, mb2.9/4, Error ellipse: s-maj=18.7km s-min=10.9km az=40.5*

*JMA **01** 18:03:39.6±0.3, 34.°36N×137.°30E, h334km±3km, M2.9*

*IDC **01** 18:03:40.5±1.2, 34.°49N×137.°73E, h336km±60km, mb2.8/4, mb1 2.9/5, mb1mx2.7/38, mbtmp3.4/5, Error ellipse: s-maj=174.7km s-min=17.9km az=62.0*

ISC 01 18:03:40.7±1.0, 34.°38N±0.°10×137.°27E±0.°09, h324km±8km, n19, σ0.s61/23, mb3.0/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAA	Atsumi	0.27	338	P	Pn	18 04 22.2	+0.6
JAA				*e*S	S	18 04 54.6	+0.4
JIE	Ise	0.46	271	P	Pn	18 04 22.3	+0.4
TTO1	TONANKAI O.B.S	0.86	208	P	Pn	18 04 23.4	+0.6
JYTA	Yamagatataniai	1.28	340	P	Pn	18 04 25.4	+0.5
JWY	Kouya	1.39	264	P	Pn	18 04 25.9	+0.2
JTNC	Tanabenakahech	1.48	248	P	Pn	18 04 26.2	0.0
JTNC				*e*S	S	18 05 01.6	-0.9
JOD2	Odawara 2	1.74	59	P	Pn	18 04 28.5	+0.8
JWT	Wachi	1.78	301	P	Pn	18 04 28.2	+0.2
JKG	Kaga	2.04	338	P	Pn	18 04 30.0	+0.2
JRY	Ryogami san	2.11	39	P	Pn	18 04 31.1	+0.7
MJAR	Matsushiro Arr	2.29	19	P	Pn	18 04 31.6	-0.2
	0.2nm,0.3s,baz=186,slow=7.0,SNR=18						
MJAR				S	S	18 05 11.9	-0.9
	0.1nm,0.3s,baz=210,slow=19,SNR=8.9						
MAT	Matsushiro	2.29	19	P	Pn	18 04 32.4	+0.6
MAT				S	S	18 05 12.0	-0.8
JAI	Aioi	2.41	257	P	Pn	18 04 32.5	-0.4
JAG	Ashikaga	2.71	41	P	Pn	18 04 34.7	-0.7
JHS	Saijyo	3.47	281	P	Pn	18 04 43.2	+0.4
MKAR	Makanchi Array	42.73	304	P	P	18 11 07.4	+0.7
	0.7nm,0.8s,baz=83,slow=10.0,SNR=3.6						
KURBB	Kurchatov Arra	45.03	310	P	P	18 11 25.3	+0.5
	0.5nm,0.6s,baz=89,slow=6.0,SNR=4.4						
WRA	Warramunga Arr	54.09	183	P	P	18 12 32.3	-0.6
	0.4nm,0.3s,baz=359,slow=7.5,SNR=12						
ASAR	Alice Springs	57.82	184	P	P	18 12 58.8	-0.3
	0.1nm,0.3s,baz=358,slow=5.8,SNR=11						

*NNC **01** 18:34:19.3±2.6, 37.°77N×71.°71E, h0km, mb4.7, mpv4.5, Error ellipse: s-maj=24.2km s-min=13.0km az=158.0*

*ISCJB **01** 18:34:20.1±0.2, 37.°40N±0.°02×72.°08E±0.°03, h130km, mb4.1/27, Error ellipse: s-maj=3.6km s-min=2.7km az=151.5*

*BJI **01** 18:34:20.9±0.0, 37.°61N×71.°95E, h128km, mb4.4/23, mB4.6/18*

*MOS **01** 18:34:21.8±0.9, 37.°47N×72.°06E, h139km, mb4.3/6, Error ellipse: s-maj=10.2km s-min=5.7km az=85.3*

*IDC **01** 18:34:21.5±3.6, 37.°31N×72.°11E, h130km±30km, mb3.6/17, mb1 3.8/22, mb1mx3.5/62, mbtmp4.1/22, MS3.1/1, Ms1 3.1/1, ms1mx2.3/47, Error ellipse: s-maj=25.3km s-min=11.9km az=1.0*

*NEIC **01** 18:34:22.8±1.5, 37.°54N±0.°05×72.°02E±0.°06, h135km±6km,*

mb4.4/17

ISC 01 18:34:22.0±0.4**, 37.49N**±0.04×**72.01E**±0.04**, h130km, n138,** σ**2.32**/160**, mb4.2**/30**, 14C-9D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.01**	**319**		**Pn**	**18 34 57.0**	**+0.8**
GAR				Sn	**Sn**	**18 35 23.4**	**+0.9**
CHGR	**Chuyangaron**	**2.54**	**298**		**Pn**	**18 35 02.7**	**0.0**
CHGR				Sn	**Sn**	**18 35 33.6**	**-0.4**
CEP	**Cherat**	**3.66**	**181**	P	**Pn**	**18 35 17.7**	**+0.3**
CEP				S	**Sn**	**18 36 02.0**	**+1.8**
KSH	**Kashi**	**3.71**	**56**	P	**Pn**	**18 35 14.0**	**-4.0**
KSH				S	Sn	18 35 51.0	-10
KSH				smax	smax		
	comp=N,620nm,0.6s						
KSH				smax	smax		
	comp=E,670nm,0.7s						
KBL	**Kabul**	**3.80**	**220**	PN	**Pn**	**18 35 20.5**	**+1.2**
KBL						18 36 06.0	
KBL	**Kabul**	**3.80**	**220**		**Pn**	**18 35 20.5**	**+1.2**
KBL				Sn	**Sn**	**18 36 06.0**	**+2.4**
ARSB	**Arslanbob**	**3.90**	**11**		**Pn**	**18 35 21.0**	**+0.5**
ARSB				Sn	**Sn**	**18 36 07.0**	**+1.1**
CHCP	**Chirah Chowk**	**3.96**	**165**	P	**Pn**	**18 35 22.3**	**+1.1**
NIL	**Nilore**	**3.96**	**165**	PN	**Pn**	**18 35 22.4**	**+1.1**
NIL	**Nilore**	**3.96**	**165**		**Pn**	**18 35 22.4**	**+1.1**
NIL				Sn	**Sn**	**18 36 04.0**	**-3.2**
THW	**Thamme Wali**	**4.69**	**183**	P	**Pn**	**18 35 30.6**	**-0.4**
NRN	**Naryn**	**5.00**	**37**	PN	**Pn**	**18 35 35.0**	**-0.3**
NRN	**Naryn**	**5.00**	**37**		**Pn**	**18 35 35.0**	**-0.3**
JMU	**Jammu**	**5.32**	**153**	*e*S	**Sn**	**18 36 33.5**	**-6.0**
AAK	**Ala-Archa**	**5.48**	**20**	c*e*PN	**Pn**	**18 35 42.8**	**+1.2**
AAK				pmax	pmax		
	comp=Z,248nm,0.8s						
AAK	**Ala-Archa**	**5.48**	**20**	P	**Pn**	**18 35 43.0**	**+1.4**
	comp=Z,36nm,0.3s,baz=176,slow=6.3,SNR=504						
AAK				S	**Sn**	**18 36 42.7**	**-1.0**
	comp=Z,12nm,0.3s,baz=315,slow=19,SNR=31						
AAK	**Ala-Archa**	**5.48**	**20**		**Pn**	**18 35 43.0**	**+1.4**
AAK					**Sn**	**18 36 43.0**	**-0.7**
AAK	**Ala-Archa**	**5.48**	**20**	⇑P	**Pn**	**18 35 42.8**	**+1.2**
	comp=Z,75nm,0.6s						
AAK				⇑S	**Sn**	**18 36 42.5**	**-1.2**
	comp=Z,138nm,0.6s						
FRU1	**Bishkek**	**5.68**	**20**	PN	**Pn**	**18 35 45.9**	**+1.7**
FRU1	**Bishkek**	**5.68**	**20**		**Pn**	**18 35 45.9**	**+1.7**
KK31	**Karatay Array**	**5.72**	**349**	PN	**Pn**	**18 35 45.6**	**+0.9**
KK31	**Karatay Array**	**5.72**	**349**		**Pn**	**18 35 45.6**	**+0.9**
KK31				Sn	**Sn**	**18 36 47.2**	**-2.1**
KK31	**Karatay Array**	**5.72**	**349**	P	**Pn**	**18 35 43.2**	**-1.5**
	comp=Z,66nm,0.6s,baz=177,slow=13,SNR=775						
KK31				⇑S	**Sn**	**18 36 46.3**	**-3.0**
	comp=Z,26nm,0.3s,baz=173,slow=22,SNR=23						
KKAR	**Karatay Array**	**5.72**	**349**	PN	**Pn**	**18 35 45.3**	**+0.6**
KKAR	**Karatay Array**	**5.72**	**349**		**Pn**	**18 35 45.3**	**+0.6**
KKAR				Sn	**Sn**	**18 36 47.2**	**-2.0**
KKAR	**Karatay Array**	**5.72**	**349**		**Pn**	**18 35 45.5**	**+0.8**
KKAR				Sn	**Sn**	**18 36 47.0**	**-2.2**
THN	**Thein Dam**	**5.89**	**148**	*e*P	**Pn**	**18 35 47.0**	**0.0**
THN				*e*S	**Sn**	**18 36 49.0**	**-4.3**
TKM2	**Tokmak 2**	**6.08**	**26**	⇑P	**Pn**	**18 35 50.3**	**+0.6**
	comp=Z,18nm,0.5s						
TKM2				⇓S	**Sn**	**18 36 58.7**	**+0.6**
	comp=Z,30nm,0.7s						
KDJ	**Kajisay**	**6.11**	**39**	PN	**Pn**	**18 35 50.4**	**+0.4**
KDJ	**Kajisay**	**6.11**	**39**	Pn	**Pn**	**18 35 50.4**	**+0.4**
TARG	**Taragay, Kyrgy**	**6.16**	**45**		**Pn**	**18 35 51.3**	**+0.3**
DHRM	**DHARAMSHALA**	**6.30**	**145**	*e*P	**Pn**	**18 35 51.7**	**-1.1**
DHRM				*e*S	**Sn**	**18 36 57.5**	**-6.2**
DHRM				IAML		18 37 02.6	
	comp=E,444nm,0.9s						
DHRM				IAML		18 37 03.3	
	comp=N,282nm,0.1s						
MDOK	**Medeo**	**6.85**	**33**	⇑P	**Pn**	**18 36 00.3**	**+0.3**
	comp=N,7.4nm,0.4s						
MDOK				S	**Sn**	**18 37 16.3**	**-0.3**
	comp=N,13nm,0.7s						
PRZ	**Przheval'sk**	**6.99**	**43**	PN	**Pn**	**18 36 02.6**	**+0.7**
PRZ	**Przheval'sk**	**6.99**	**43**		**Pn**	**18 36 02.6**	**+0.7**
SMLA	**Simla**	**7.64**	**145**	*e*P	**Pn**	**18 36 09.1**	**-1.5**
SMLA				*e*S	Sn	18 37 26.6	-9.1
SMLA				IAML		18 37 28.8	
	comp=E,185nm,0.1s						
SMLA				IAML		18 37 31.8	
	comp=N,176nm,0.3s						
PDGK	**Podgornoye**	**8.16**	**42**	⇑P	**Pn**	**18 36 17.0**	**-0.6**
	comp=N,6.4nm,0.5s						
PDGK				⇓S	**Sn**	**18 37 50.0**	**+1.8**
	comp=N,11nm,0.9s						
HRA	**Herat**	**8.50**	**252**		**Pn**	**18 36 22.8**	**+0.4**
JOSI	**Joshimath**	**9.33**	**136**	*e*P	**Pn**	**18 36 31.3**	**-2.1**
JOSI				IAML		18 38 09.8	
JOSI				IAML		18 38 10.1	
	comp=E,1µm,1.0s						
JOSI				IAML		18 38 11.7	
JOSI				IAML		18 38 16.0	
	comp=N,983nm,0.6s						
KUDL	**Kundal**	**10.05**	**157**	*e*P	Pn	18 36 36.7	-6.3
KUDL				*e*S	Sn	18 38 20.2	-14
GEYT	**Alibeck**	**11.02**	**277**	P	**Pn**	**18 36 53.0**	**-2.9**
	comp=N,2.3nm,0.3s,baz=119,slow=11,SNR=31						
GEYT				S	**Sn**	**18 38 50.2**	**-7.1**
	comp=N,2.7nm,0.3s,baz=115,slow=24,SNR=8.3						
GEYT	**Alibeck**	**11.02**	**277**		**Pn**	**18 36 53.3**	**-2.6**
GYA0B	**ALIBECK ARRAY**	**11.02**	**277**		**Pn**	**18 36 53.3**	**-2.6**
GYA0B	**ALIBECK ARRAY**	**11.02**	**277**	⇑P	**Pn**	**18 36 52.9**	**-3.0**
GYA0B				⇑S	**Sn**	**18 38 55.4**	**-2.0**
MKAR	**Makanchi Array**	**12.02**	**36**	*i* P	**Pn**	**18 37 09.1**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**12.02**	**36**	P	**Pn**	**18 37 08.3**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=225,slow=15,SNR=18						
DANN	**Dangsing**	**13.42**	**129**	*e*P	**Pn**	**18 37 23.2**	**-4.4**
WMQ	**Urumqi**	**13.47**	**57**	*e*P	**Pn**	**18 37 28.7**	**+0.8**
KOLN	**Koldanda**	**13.75**	**131**	*e*P	**Pn**	**18 37 27.8**	**-3.9**
KURBB	**Kurchatov Arra**	**13.93**	**17**	P	**Pn**	**18 37 34.4**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=208,slow=10,SNR=16						
KURK	**Kurchatov**	**14.04**	**18**	⇓*e*P	**P**	**18 37 38.5**	**-0.2**
KURK	**Kurchatov**	**14.04**	**18**	P	**P**	**18 37 38.9**	**+0.3**
GKN	**Gorkha**	**14.21**	**128**	*e*P	**Pn**	**18 37 33.5**	**-4.1**
AB31	**Akbulak array**	**14.65**	**327**	⇓P	**Pn**	**18 37 42.2**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=136,slow=13,SNR=90						
AB31				⇓S	**Sn**	**18 40 22.0**	**-2.7**
	comp=Z,3.6nm,0.4s,baz=155,slow=22,SNR=14						
ABKAR	**Akbulak array**	**14.65**	**327**		**Pn**	**18 37 42.6**	**-0.1**
ABKAR	**Akbulak array**	**14.65**	**327**		**Pn**	**18 37 41.6**	**-1.1**
KKN	**Kakani**	**14.77**	**127**	*e*P	Pn	18 37 40.0	-4.6
	comp=Z,22nm,0.5s						
DMN	**Daman**	**14.78**	**128**	*e*P	**Pn**	**18 37 41.4**	**-3.5**
PKIN	**Phulchoki**	**14.99**	**127**	*e*P	**Pn**	**18 37 43.5**	**-3.9**
PKI	**Pulchoki**	**15.00**	**127**	*e*P	**Pn**	**18 37 43.6**	**-4.1**
	comp=Z,21nm,0.7s						
GUN	**Gumba**	**15.07**	**125**	*e*P	**Pn**	**18 37 43.9**	**-4.6**
	comp=Z,55nm,0.9s						
JIRN	**Jiri**	**15.44**	**125**	*e*P	**Pn**	**18 37 49.0**	**-4.2**
BVAR	**Borovoye Array**	**15.58**	**356**	P	**Pn**	**18 37 53.0**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=167,slow=10,SNR=22						
BVAR				S	**Sn**	**18 40 38.4**	**-8.5**
	comp=Z,0.4nm,0.3s,baz=166,slow=27,SNR=8.3						
BRVK	**Borovoye**	**15.62**	**356**	d*e*P	**P**	**18 37 56.8**	**+0.6**
BRVK	**Borovoye**	**15.62**	**356**	Pn	**Pn**	**18 37 53.1**	**-1.6**
BRVK				IAmb	IAmb	18 37 57.9	
	comp=Z,8.8nm,0.9s						
RAMN	**Ramite**	**16.19**	**126**	*e*P	**Pn**	**18 37 58.4**	**-3.9**
	comp=Z,13nm,0.5s						
AKTO	**Aktyubinsk**	**16.36**	**327**	P	**P**	**18 38 05.0**	**+0.5**
	comp=Z,1.9nm,0.3s,baz=133,slow=9.2,SNR=31						
AKTO				S	**Sn**	**18 40 55.6**	**-10**
	comp=Z,0.3nm,0.3s,baz=198,slow=20,SNR=4.3						
AKTO	**Aktyubinsk**	**16.36**	**327**	⇓P	**P**	**18 38 04.9**	**+0.5**
	comp=Z,8.5nm,0.7s						
AKTO				⇓S	**Sn**	**18 41 02.4**	**-3.5**
	comp=Z,6.5nm,0.7s						
TAPN	**Taplejung**	**16.65**	**123**	*e*P	**Pn**	**18 38 04.0**	**-4.0**
ODAN	**Odare**	**16.77**	**125**	*e*P	**Pn**	**18 38 05.8**	**-3.5**
	comp=Z,14nm,0.5s						
LSA	**Lhasa**	**17.72**	**110**	P	**P**	**18 38 20.7**	**+0.7**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LSA	**Lhasa**	**17.72**	**110**	P	**P**	**18 38 20.7**	**+0.7**
ZAA0	**Zalesovo Array**	**18.68**	**24**	P	**P**	**18 38 29.5**	**-0.3**
ZAA0				IAmb	IAmb	18 38 32.1	
	comp=Z,4.5nm,0.6s						
ZALV	**Zalesovo Beam**	**18.68**	**24**	*i* P	**P**	**18 38 30.3**	**+0.5**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ZALV	**Zalesovo Beam**	**18.68**	**24**	P	**P**	**18 38 30.4**	**+0.5**
	comp=Z,2.0nm,0.3s,baz=214,slow=11,SNR=16						
ZALV	**Zalesovo Beam**	**18.68**	**24**	P	**P**	**18 38 30.2**	**+0.5**
GROC	**Groznyy**	**20.74**	**294**	*e*P	**P**	**18 38 51.3**	**-0.8**
SVE	**Sverdlovsk**	**20.78**	**342**	*e*P	**P**	**18 38 53.6**	**+1.1**
SVE				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARU	**Arti**	**20.98**	**339**	d *i*P	**P**	**18 38 55.6**	**+1.0**
ARU						18 39 25.4	
ARU				S	**S**	**18 42 43.4**	**+2.5**
ARU				SS	Sn	18 43 27.5	+31
ARU				pmax	pmax		
	comp=Z,14nm,1.5s						
ARU	**Arti**	**20.98**	**339**	P	**P**	**18 38 55.6**	**+1.0**
	comp=Z,2.3nm,0.6s,baz=162,slow=9.2,SNR=12						
GNI	**Garni**	**21.38**	**286**	LR	LR	18 50 27.2	
	comp=Z,49nm,20.1s,baz=333,slow=45						
GTA	**Gaotai**	**21.83**	**76**	⇑P	**P**	**18 39 06.5**	**+2.5**
GTA				pP	pP	18 39 33.9	+4.9
GTA				sP	sP	18 39 49.5	+3.7
GTA				S	**S**	**18 42 59.4**	**+2.4**
GTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,77nm,7.3s						
GTA				LR	LR		
	comp=Z,120nm,14.9s						
GTA				LR	LR		
	comp=Z,150nm,14.0s						
GTA				LR	LR		
	comp=Z,150nm,14.3s						
TLY	**Talaya**	**26.37**	**47**	⇑*e*P	**P**	**18 39 49.8**	**+3.9**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CD2	**Chengdu**	**26.98**	**95**	P	**P**	**18 39 51.5**	**-0.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
SONM	**Songino Array**	**27.11**	**57**	P	**P**	**18 39 53.9**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=276,slow=9.6,SNR=5.7						
SONM	**Songino Array**	**27.11**	**57**	IAmb	IAmb	18 40 02.2	
	comp=Z,1.3nm,1.4s						
BRTR	**Keskin Array B**	**29.92**	**286**	P	**P**	**18 40 17.9**	**+0.2**
BRTR	**Keskin Array B**	**29.92**	**286**	P	**P**	**18 40 19.7**	**+2.0**
	comp=Z,0.4nm,0.5s,baz=82,slow=8.2,SNR=3.3						
BRTR	**Keskin Array B**	**29.92**	**286**	P	**P**	**18 40 17.9**	**+0.2**
HHC	**Hu-ho-hao-te**	**30.67**	**71**	*e*P	**P**	**18 40 25.8**	**+1.5**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.2s						
AKASG	**Malin Array Be**	**32.97**	**307**	P	**P**	**18 40 45.3**	**+1.2**
	comp=Z,2.5nm,0.4s,baz=109,slow=8.6,SNR=14						
AKASG	**Malin Array Be**	**32.97**	**307**	P	**P**	**18 40 44.9**	**+0.7**
NRIK	**Noril'sk**	**33.01**	**10**	P	**P**	**18 40 45.2**	**+1.0**
	comp=Z,4.4nm,0.6s,baz=239,slow=5.9,SNR=5.1						
BJT	**Baijiatuau**	**34.27**	**72**	P	**P**	**18 40 55.9**	**+0.4**
BJT				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BJT	**Baijiatuau**	**34.27**	**72**	P	**P**	**18 40 55.9**	**+0.4**
BJT				IAmb	IAmb	18 41 05.5	
	comp=Z,3.3nm,0.7s						
BURAR	**Bucovina Array**	**35.44**	**302**	P	**P**	**18 41 07.5**	**+1.9**
BUR08	**Bucovina Ar. S**	**35.45**	**302**	P	**P**	**18 41 06.3**	**+0.6**
WHN	**Wuhan**	**35.54**	**88**	P	**P**	**18 41 09.7**	**+3.2**
WHN				pmax	pmax		
	comp=Z,26nm,0.5s						
KAAM	**Kaadhehdhoo**	**36.83**	**178**	P	**P**	**18 41 17.9**	**+0.4**
LVZ	**Lovozero**	**36.85**	**337**	P	**P**	**18 41 18.1**	**+0.9**
LVZ				pmax	pmax		
	comp=Z,85nm,1.5s						
LVZ	**Lovozero**	**36.85**	**337**	P	**P**	**18 41 18.1**	**+0.9**
FIA1	**FINESS Array S**	**37.12**	**325**	P	**P**	**18 41 19.5**	**-0.1**
FIA1				IAmb	IAmb	18 41 34.5	
	comp=Z,20nm,1.1s						
FINES	**FINESS Array B**	**37.13**	**325**	P	**P**	**18 41 20.6**	**+1.1**
	comp=Z,3.9nm,0.6s,baz=121,slow=9.8,SNR=20						
FINES	**FINESS Array B**	**37.13**	**325**	P	**P**	**18 41 20.0**	**+0.4**
KOLS	**Kolonicke sedl**	**37.38**	**304**	*e*P	**P**	**18 41 24.0**	**+2.0**
KOLS	**Kolonicke sedl**	**37.38**	**304**	*e*P	**P**	**18 41 24.0**	**+2.0**
NJ2	**Nanjing**	**38.55**	**84**	*e*P	**P**	**18 41 30.8**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
VYHS	**Vyhne**	**39.68**	**303**	*e*P	**P**	**18 41 43.9**	**+2.8**
VYHS	**Vyhne**	**39.68**	**303**	*e*P	**P**	**18 41 43.9**	**+2.8**
ARCES	**ARCESS Array B**	**40.55**	**337**	P	**P**	**18 41 49.1**	**+1.1**
	comp=Z,3.2nm,0.4s,baz=111,slow=8.3,SNR=26						
ARCES	**ARCESS Array B**	**40.55**	**337**	P	**P**	**18 41 47.5**	**-0.6**
ARE0	**ARCESS Array S**	**40.55**	**337**	P	**P**	**18 41 47.5**	**-0.5**
GSI	**Gunungsitoli**	**43.02**	**141**	P	**P**	**18 42 09.5**	**+0.8**
GSI				IAmb	IAmb	18 42 20.5	
	comp=Z,28nm,1.1s						
GERES	**GERESS Array B**	**43.03**	**305**	P	**P**	**18 42 10.0**	**+1.4**
GERES	**GERESS Array B**	**43.03**	**305**	P	**P**	**18 42 10.0**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=74,slow=7.3,SNR=4.1						
GERES	**GERESS Array B**	**43.03**	**305**	P	**P**	**18 42 09.7**	**+1.2**
KLR	**Kul'dur**	**43.91**	**55**	P	**P**	**18 42 16.2**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=275,slow=6.0,SNR=8.6						
NC303	**NORSAR Array S**	**44.02**	**323**	P	**P**	**18 42 17.5**	**+1.3**
NB201	**NORSAR Array S**	**44.05**	**322**	P	**P**	**18 42 17.2**	**+0.7**
NB201				IAmb	IAmb	18 42 32.3	
	comp=Z,63nm,1.4s						
NB2	**NORSAR Subarra**	**44.09**	**322**	P	**P**	**18 42 17.0**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.09**	**322**	P	**P**	**18 42 17.3**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=103,slow=7.3,SNR=5.9						
NC204	**NORSAR Array S**	**44.32**	**323**	P	**P**	**18 42 19.2**	**+0.5**
TIXI	**Tiksi**	**44.55**	**22**	⇑*i*P	**P**	**18 42 20.7**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TIXI	**Tiksi**	**44.55**	**22**	P	**P**	**18 42 19.4**	**-0.9**
TIXI					**P**	**18 42 20.5**	**+0.2**
TIXI				IAmb	IAmb	18 42 21.3	
	comp=Z,3.1nm,0.8s						
TIXI				IAmb	IAmb	18 42 21.3	
	comp=Z,3.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**44.98**	**62**	P	**P**	**18 42 23.9**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=256,slow=10,SNR=4.2						
VLA	**Vladivostok**	**45.16**	**63**	⇑*e*P	**P**	**18 42 25.3**	**-0.2**
VLA				pmax	pmax		
	comp=Z,9.0nm,0.4s						
KBS	**Kingsbay**	**47.83**	**347**	⇑*e*P	**P**	**18 42 48.6**	**+2.8**
KBS				pmax	pmax		
	comp=Z,141nm,1.1s						
BCLA	**Clavier**	**48.16**	**308**	pP	**pP**	**18 43 12.8**	**-6.7**
BCLA				sP	sP	18 43 32.4	-2.1
BCLA				PcP	**PcP**	**18 44 16.6**	**+2.4**
MJAR	**Matsushiro Arr**	**51.84**	**70**	P	**P**	**18 43 16.7**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=293,slow=9.1,SNR=5.6						
ESDC	**Sonseca Array**	**57.71**	**298**	P	**P**	**18 43 59.9**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=54,slow=7.2,SNR=7.6						
ESDC	**Sonseca Array**	**57.71**	**298**	IAmb	IAmb	18 44 07.7	
	comp=Z,2.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**66.55**	**269**	P	**P**	**18 44 57.5**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=48,slow=6.0,SNR=20						
TORD	**Torodi Ar. Bea**	**66.55**	**269**	IAmb	IAmb	18 44 57.9	
	comp=Z,0.7nm,0.6s						
CMLA	**Cha da Macela**	**73.33**	**305**	*i* P	**P**	**18 45 42.8**	**+3.4**
ILAR	**Eielson Array**	**73.61**	**16**	P	**P**	**18 45 39.6**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=326,slow=4.3,SNR=7.0						
YKA	**Yellowknife Ar**	**80.22**	**3**	P	**P**	**18 46 17.8**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=350,slow=5.5,SNR=26						
WRA	**Warramunga Arr**	**81.83**	**123**	*i* P	**P**	**18 46 26.8**	**0.0**
WRA	**Warramunga Arr**	**81.83**	**123**	P	**P**	**18 46 24.7**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=321,slow=5.4,SNR=5.6						

ISCJB ***01*** *18:45:52.0±0.2, 33.87N±0.02×46.39E±0.03, h10km, mb3.9/13, Error ellipse: s-maj=3.7km s-min=2.7km az=34.6*

ISN ***01*** *18:45:52.0±0.7, 34.01N×45.55E, h0km±3km, ML3.5*

NEIC ***01*** *18:45:53.8±2.4, 33.89N±0.08×46.49E±0.08, h10km±1km, mb4.2/17, mb_Lg3.6(TEH)*

IDC ***01*** *18:45:53.0±1.1, 34.01N×46.48E, h0km, mb3.9/14, mb1 4.0/17, mb1mx3.7/44, mbtmp3.8/17, ML3.3/3, MS2.9/4, Ms1 2.9/4, ms1mx2.6/52, Error ellipse: s-maj=25.5km s-min=14.4km az=172.0*

THR ***01*** *18:45:55.2, 34.08N×46.40E, h18km, ML3.6*

TEH ***01*** *18:45:55.3, 34.11N×46.68E, h10km, ML3.6*

DSN ***01*** *18:46:06.9±1.0, 33.68N×47.80E, h15km, Error ellipse: s-maj=51.8km s-min=8.7km az=45.0*

ISC 01 18:45:54.0±0.4**, 34.03N**±0.03×**46.55E**±0.03**, h10km, n141,** σ**1.94**/133**, mb4.1**/18**, 4D, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.30**	**2**	*e*Pg	**Pg**	**18 46 00.8**	**+0.6**
KCHF	**Cheshme Sefid,**	**0.47**	**58**	*e*Pg	**Pg**	**18 46 02.8**	**-0.5**
KER	**Kermanshah**	**0.60**	**53**	*e*Pg	**Pg**	**18 46 05.0**	**-0.6**
IDHR	**Dehrash**	**0.69**	**348**	IAMB	IAmb	18 46 18.5	
	comp=Z,0.0nm,0.2s						
IDHR				*e*Pg	**Pg**	**18 46 06.9**	**-0.4**
IKOM	**Komasi**	**0.81**	**79**	IAMB	IAmb	18 46 24.7	
	comp=Z,0.0nm,0.5s						
IKOM				*e*Pg	**Pg**	**18 46 09.0**	**-0.6**
ILIN	**Lien**	**0.95**	**21**	*e*Pg	**Pb**	**18 46 12.1**	**-0.6**
ILIN				IAMB	IAmb	18 46 26.8	
	comp=Z,20µm,0.5s						
IBDR	**Badra**	**1.05**	**210**	*e*Pg	Pb	18 46 11.5	-2.8
IBDR				AML	AML	18 46 25.1	
	comp=Z,796nm,0.7s						
IBDR				*e*Sg	**Sb**	**18 46 25.6**	**-2.5**
IBZA	**Bozab**	**1.17**	**67**	*e*Pg	**Pn**	**18 46 17.2**	**+0.6**
IKFM	**Kafar-mosalman**	**1.19**	**115**	*e*Pg	**Pb**	**18 46 16.1**	**-0.5**
IDOB	**Doab**	**1.37**	**100**	*e*Pg	**Pg**	**18 46 20.2**	**-0.1**
IKMR	**Kamar-syah**	**1.60**	**108**	*e*Pg	**Pg**	**18 46 24.8**	**+0.1**
IKMR				*e*Sg	**Sg**	**18 46 46.4**	**+0.9**
HSAM	**Samen**	**1.71**	**83**	*e*Pn	**Pg**	**18 46 26.4**	**-0.4**
HSAM				IAMB	IAmb	18 47 01.1	
	comp=Z,0.0nm,0.8s						
HSRG	**Sareghieh**	**1.87**	**49**	*e*Pn	**Pg**	**18 46 29.3**	**-0.5**
HSRG				IAMB	IAmb	18 46 59.8	
	comp=Z,0.0nm,0.8s						
BMDN	**Meydan**	**1.92**	**100**	*e*Pn	**Pb**	**18 46 29.3**	**+0.1**
BMDN				IAMB	IAmb	18 47 04.9	
	comp=Z,0.0nm,0.5s						
BDRS	**Dareh Seyedi**	**1.93**	**91**	*e*Pn	**Pb**	**18 46 29.6**	**+0.1**
BDRS				IAMB	IAmb	18 47 04.7	
	comp=Z,0.0nm,0.7s						
BHD	**Baghdad**	**1.96**	**248**	*e*Pn	Pn	18 46 18.0	-9.3
BHD				*e*Sn	Sn	18 46 37.0	-15
BHD				AML	AML	18 46 39.5	
	comp=Z,9µm,1.2s						
HAGD	**Aghdareh**	**2.28**	**69**	*e*Pn	**Pb**	**18 46 34.8**	**-0.6**
HAGD				IAMB	IAmb	18 47 20.2	
	comp=Z,0.0nm,1.0s						
IKRK	**Kirkuk**	**2.28**	**308**	*e*Pn	Pn	18 46 25.0	-6.7
IKRK				*e*Sn	Sn	18 46 49.0	-11
SHGR	**Shooshtar-Gavs**	**2.69**	**135**	*e*Pn	**Pb**	**18 46 41.3**	**-0.8**
SHGR	**Shooshtar-Gavs**	**2.69**	**135**	*e*Sg	**Sg**	**18 47 22.9**	**+2.6**
SHGR	**Shooshtar-Gavs**	**2.69**	**135**	*e*Pn	**Pb**	**18 46 41.3**	**-0.8**
SHGR				*e*AML	AML	18 47 35.6	
	comp=N,195nm,0.5s						
SHGR	**Shooshtar-Gavs**	**2.69**	**135**	*e*AML	AML	18 47 29.3	
	comp=E,184nm,0.5s						
ASAO	**Ashtian**	**2.92**	**79**	*e*Pn	**Pb**	**18 46 44.6**	**-1.7**
ASAO	**Ashtian**	**2.92**	**79**	*e*Pn	**Pb**	**18 46 44.5**	**-1.7**
QABG	**Abgarm-Qazvin**	**3.00**	**55**	*e*Pn	**Pb**	**18 46 44.7**	**-3.0**
NSR	**Nassriya**	**3.03**	**187**	*e*Pn	**Pn**	**18 46 43.0**	**+1.1**
NSR				AML	AML	18 46 56.9	
	comp=Z,163nm,0.7s						
NSR				*e*Sn	**Sn**	**18 47 21.0**	**+2.8**
IRAZ	**Razeghan**	**3.10**	**63**	*e*Pn	**Pb**	**18 46 46.3**	**-3.0**
ZNJK	**Zanjan**	**3.16**	**33**	*e*Pn	**Pb**	**18 46 46.8**	**-3.6**
ZNJK	**Zanjan**	**3.16**	**33**	*e*Pn	**Pb**	**18 46 46.8**	**-3.6**
ZNJK	**Zanjan**	**3.16**	**33**	*e*Sg	**Sg**	**18 47 34.9**	**-0.6**
IBST	**Bostanabad**	**3.68**	**4**	*e*Pn	**Pn**	**18 46 53.8**	**+2.7**
MSL	**Mosul**	**3.68**	**311**	*e*Pn	Pn	18 46 45.0	-6.0
MSL				AML	AML	18 47 10.3	
	comp=Z,458nm,0.2s						
MSL				*e*Sn	Sn	18 47 23.0	-11
IMHD	**Mahdasht**	**3.77**	**63**	*e*Pn	**Pn**	**18 46 55.5**	**+3.3**
IQOM	**Qom**	**3.82**	**76**	*e*Pn	**Pn**	**18 46 55.9**	**+2.8**
IPIR	**Pirpir**	**3.87**	**109**	*e*Pn	**Pn**	**18 46 57.2**	**+3.4**
JHBN	**Jahan bin**	**3.89**	**116**	*e*Pn	**Pn**	**18 46 55.5**	**+1.4**
GHVR	**GHOM**	**3.95**	**82**	*e*Pn	**Pn**	**18 46 58.2**	**+3.4**
GHVR	**GHOM**	**3.95**	**82**	*e*P	**Pn**	**18 46 58.1**	**+3.4**
QAM	**Ghamsar**	**4.07**	**92**	*e*Pn	**Pn**	**18 46 59.3**	**+2.8**
ZNGN	**Zangian**	**4.08**	**117**	*e*Pn	**Pn**	**18 46 58.5**	**+1.8**
ROKH	**ROKH**	**4.11**	**113**	*e*Pn	**Pn**	**18 46 58.9**	**+1.8**
QALM	**Alamut, Qazvin**	**4.12**	**53**	*e*Pn	**Pn**	**18 46 59.7**	**+2.5**
ITBZ	**Tabriz**	**4.21**	**356**	*e*Pn	**Pn**	**18 47 01.8**	**+3.4**
IKLH	**Kolahrood**	**4.25**	**98**	*e*Pn	**Pn**	**18 47 00.9**	**+1.9**
IVRN	**Varamin**	**4.38**	**76**	*e*Pn	**Pn**	**18 47 03.1**	**+2.5**
KRSH	**Karshahi**	**4.64**	**89**	*e*Pn	**Pn**	**18 47 06.6**	**+2.4**
ISFB	**Sefidab**	**4.72**	**84**	*e*Pn	**Pn**	**18 47 07.5**	**+2.1**
IDMV	**Damavand**	**4.76**	**70**	*e*Pn	**Pn**	**18 47 09.2**	**+3.1**
IZEF	**Zefreh**	**4.96**	**102**	*e*Pn	**Pn**	**18 47 11.2**	**+2.5**
KLNJ	**Kolanjah**	**5.21**	**124**	*e*Pn	**Pn**	**18 47 13.1**	**+0.8**
RTB	**Rutbah**	**5.31**	**261**	*e*Pn	Pn	18 47 03.5	-10
RTB				AML	AML	18 47 25.2	
	comp=Z,143nm,0.9s						
RTB				*e*Sn	Sn	18 47 56.0	-19
IFIR	**Firoozkooh**	**5.35**	**71**	*e*Pn	**Pn**	**18 47 16.7**	**+2.6**
IRAM	**Ramesheh**	**5.38**	**113**	*e*Pn	**Pn**	**18 47 15.9**	**+1.4**
GNI	**Garni**	**6.28**	**347**	Pg	**Pb**	**18 47 43.6**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=69,slow=17,SNR=3.6						
GNI				Lg	Lg	18 49 19.4	
	comp=Z,0.2nm,0.3s,baz=150,slow=20,SNR=2.7						
GNI	**Garni**	**6.28**	**347**	Pn	**Pn**	**18 47 28.6**	**+1.8**
ISRV	**Sarvestan**	**7.26**	**128**	*e*Pn	**Pn**	**18 47 43.8**	**+3.4**
GAZ	**Gaziantep**	**8.23**	**295**	Pn	**Pn**	**18 47 51.6**	**-1.9**
ASF	**Jabal al Asfar**	**8.31**	**260**	Pn	**Pn**	**18 47 53.8**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=94,slow=14,SNR=4.2						
ASF				Sn	**Sn**	**18 49 25.4**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=60,slow=20,SNR=2.9						
ASF				Lg	Lg	18 50 18.9	
	comp=Z,0.5nm,0.3s,baz=44,slow=22,SNR=3.1						
MMAI	**Mount Meron Ar**	**9.37**	**267**	Pn	**Pn**	**18 48 08.2**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=84,slow=15,SNR=3.2						
MMAI				Lg	Lg	18 50 49.7	
	comp=Z,0.5nm,0.3s,baz=282,slow=40,SNR=2.2						
GEYT	**Alibeck**	**10.15**	**64**	LR	LR	18 52 39.0	
	comp=Z,76nm,20.2s,baz=240,slow=40						
KIV	**Kislovodsk**	**10.36**	**344**	Pn	**Pn**	**18 48 24.0**	**+1.3**
RAYN	**Ar Rayn**	**10.51**	**185**		Pn	18 48 22.4	-2.3
EIL	**Elat**	**10.78**	**249**	LR	LR	18 52 54.8	
	comp=Z,29nm,20.6s,baz=8.0,slow=39						
SHME	**Shamm**	**11.49**	**131**	P	**Pn**	**18 48 37.2**	**-1.0**
BANOM	**Banah**	**11.68**	**131**	*i* P	**Pn**	**18 48 39.6**	**-1.2**
	SNR=13						
BANOM	**Banah**	**11.68**	**131**	P	**Pn**	**18 48 41.0**	**+0.2**
	SNR=14						
BANOM				S	**Sn**	**18 50 44.9**	**-6.4**
NAZ	**Nazwa, Dubai**	**11.99**	**136**	*i* P	**Pn**	**18 48 45.1**	**+0.1**
	SNR=15						
NAZ	**Nazwa, Dubai**	**11.99**	**136**	P	**Pn**	**18 48 46.0**	**+1.0**
	SNR=15						
NAZ				S	**Sn**	**18 50 53.3**	**-5.6**
MSFE	**Esma-Masafi**	**12.01**	**133**	P	**Pn**	**18 48 44.3**	**-0.9**
MSFE				S	Sn	18 50 48.7	-11
ASUD	**Al Ashush, Dub**	**12.09**	**138**	*i* P	**Pn**	**18 48 46.7**	**+0.3**
	SNR=13						
ASUD	**Al Ashush, Dub**	**12.09**	**138**	P	**Pn**	**18 48 47.0**	**+0.7**
	SNR=13						
MDH	**Madha**	**12.13**	**133**	P	**Pn**	**18 48 46.6**	**-0.4**
MDH				S	Sn	18 50 53.8	-8.5
UOSS	**Minazif**	**12.34**	**135**	P	**Pn**	**18 48 48.8**	**-1.0**
UOSS	**Minazif**	**12.34**	**135**		**Pn**	**18 48 49.0**	**-0.8**
HATD	**Hatta, Dubai**	**12.39**	**135**	*i* P	**Pn**	**18 48 48.9**	**-1.6**
	SNR=16						
HATD	**Hatta, Dubai**	**12.39**	**135**	P	**Pn**	**18 48 50.1**	**-0.4**
	SNR=16						
HATD				S	**Sn**	**18 51 01.4**	**-7.3**
ASHO	**Ashiyiah**	**12.46**	**136**	*i* P	**Pn**	**18 48 50.0**	**-1.4**
	SNR=25						
ASHO	**Ashiyiah**	**12.46**	**136**	P	**Pn**	**18 48 51.0**	**-0.4**
	SNR=43						
ARQ	**Araqi**	**13.77**	**138**	P	**Pn**	**18 49 09.2**	**-0.1**
	SNR=9.7						
HOQ	**Hoqain**	**14.03**	**135**	P	**Pn**	**18 49 11.9**	**-1.0**
BSY	**Bisya**	**14.62**	**137**	P	**Pn**	**18 49 20.0**	**-1.0**
	SNR=7.3						
SMDO	**Samad**	**14.87**	**134**	P	**Pn**	**18 49 22.0**	**-2.4**
WSAR	**Wadi Sarin**	**15.08**	**132**	P	**Pn**	**18 49 25.1**	**-2.1**
	SNR=6.1						
WSAR	**Wadi Sarin**	**15.08**	**132**	Pn	**Pn**	**18 49 25.1**	**-2.1**
	comp=Z,1.1nm,0.3s,baz=315,slow=11,SNR=12						
WSAR				LR	LR	18 57 05.8	
	comp=Z,32nm,18.4s,baz=4.0,slow=44						
JMDO	**Jabal Madar**	**15.43**	**136**	P	**Pn**	**18 49 29.7**	**-2.0**
WBK	**Wadi Bani Khal**	**15.76**	**133**	P	**Pn**	**18 49 33.1**	**-3.0**
DQM	**DQM**	**17.10**	**142**	P	**Pn**	**18 49 51.3**	**-1.8**
WHFO	**Wadi Hawf**	**17.29**	**156**	P	**Pn**	**18 49 55.3**	**-0.3**
	SNR=9.9						
ALN	**Alexandroupoli**	**17.65**	**299**	Pn	**Pn**	**18 49 59.2**	**-0.7**

ALN				IAmb	IAmb	18 50 02.4	
	comp=Z,19nm,1.4s						
RBK	**Rabkut**	**17.83**	**155**	P	**Pn**	**18 50 01.8**	**-0.5**
SHAO	**Shalim**	**17.88**	**151**	P	**Pn**	**18 50 01.2**	**-1.8**
DMTO	**DMTO**	**17.90**	**153**	P	**Pn**	**18 50 02.4**	**-0.7**
	SNR=6.9						
ABKAR	**Akbulak array**	**18.17**	**29**	P	**P**	**18 50 06.5**	**0.0**
ABKAR	**Akbulak array**	**18.17**	**29**	P	**P**	**18 50 08.4**	**+2.0**
ABKAR				IAmb	IAmb	18 50 16.7	
	comp=Z,3.5nm,1.1s						
AKTO	**Aktyubinsk**	**18.43**	**24**	P	**P**	**18 50 09.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=191,slow=10,SNR=2.8						
AKTO				LR	LR	19 00 33.4	
	comp=Z,92nm,18.9s,baz=318,slow=48						
SORM	**Soroca**	**19.60**	**321**	⇓P	**P**	**18 50 23.3**	**+1.1**
GAR	**Garm**	**19.71**	**69**	P	**P**	**18 50 24.2**	**+0.5**
GAR				IAmb	IAmb	18 50 35.8	
	comp=Z,8.8nm,1.1s						
VOIR		**20.02**	**311**	⇓P	Pn	18 50 29.6	+0.9
DOPR	**Dopca**	**20.06**	**313**	⇓P	**P**	**18 50 29.5**	**+2.2**
AGG	**Agios Georgios**	**20.07**	**291**		**P**	**18 50 30.0**	**+2.5**
KK31	**Karatay Array**	**20.75**	**57**	P	Pn	18 50 38.1	+0.8
KKAR	**Karatay Array**	**20.75**	**57**	P	Pn	18 50 38.2	+1.0
KKAR	**Karatay Array**	**20.75**	**57**	P	Pn	18 50 38.1	+0.8
KKAR				IAmb	IAmb	18 50 41.3	
	comp=Z,3.1nm,0.9s						
AKASG	**Malin Array Be**	**20.93**	**328**	P	**P**	**18 50 36.8**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=140,slow=9.9,SNR=9.2						
AKASG	**Malin Array Be**	**20.93**	**328**	P	**P**	**18 50 34.3**	**-2.4**
AKBB	**Malin Array Si**	**20.93**	**328**	P	**P**	**18 50 36.9**	**+0.3**
BURAR	**Bucovina Array**	**21.01**	**317**	⇓P	**P**	**18 50 38.8**	**+1.2**
BURAR	**Bucovina Array**	**21.01**	**317**	P	**P**	**18 50 38.9**	**+1.2**
BUR08	**Bucovina Ar. S**	**21.03**	**317**	P	**P**	**18 50 38.4**	**+0.5**
BUR08				IAmb	IAmb	18 51 31.9	
	comp=Z,15nm,1.6s						
FNA	**Florina**	**21.07**	**296**	P	**P**	**18 50 36.9**	**-1.4**
NRN	**Naryn**	**24.35**	**64**	P	**P**	**18 51 13.1**	**+0.7**
NRN				IAmb	IAmb	18 51 16.3	
	comp=Z,6.9nm,0.8s						
OJC	**Ojcow**	**25.41**	**318**	P	**P**	**18 51 21.4**	**-0.1**
OJC				IAmb	IAmb	18 52 00.2	
	comp=Z,9.1nm,1.3s						
BRVK	**Borovoye**	**25.45**	**34**	P	**P**	**18 51 24.0**	**+2.2**
BRVK				IAmb	IAmb	18 51 25.0	
	comp=Z,9.4nm,1.6s						
BVAR	**Borovoye Array**	**25.47**	**35**	P	**P**	**18 51 23.8**	**+1.7**
	comp=Z,1.9nm,0.7s,baz=233,slow=8.0,SNR=18						
KURBB	**Kurchatov Arra**	**28.58**	**45**	P	**P**	**18 51 52.2**	**+2.2**
	comp=Z,1.0nm,0.3s,baz=252,slow=8.8,SNR=5.3						
KURK	**Kurchatov**	**28.67**	**45**	P	**P**	**18 51 50.9**	**0.0**
KURK				IAmb	IAmb	18 52 01.9	
	comp=Z,6.2nm,1.4s						
MKAR	**Makanchi Array**	**29.79**	**54**	P	**P**	**18 52 02.9**	**+2.1**
	comp=Z,2.7nm,0.6s,baz=248,slow=12,SNR=18						
MKAR	**Makanchi Array**	**29.79**	**54**	P	**P**	**18 52 02.6**	**+1.8**
FINES	**FINESS Array B**	**30.42**	**341**	P	**P**	**18 52 06.1**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=100,slow=4.5,SNR=8.3						
DANN	**Dangsing**	**32.20**	**90**	*e*P	**P**	**18 52 24.1**	**+1.4**
GKN	**Gorkha**	**33.05**	**90**	*e*P	**P**	**18 52 30.9**	**+1.0**
ZALV	**Zalesovo Beam**	**33.41**	**42**	P	**P**	**18 52 34.5**	**+1.9**
	comp=Z,1.0nm,0.3s,baz=249,slow=7.2,SNR=3.2						
DMN	**Daman**	**33.58**	**90**	*e*P	**P**	**18 52 35.7**	**+1.1**
KKN	**Kakani**	**33.66**	**90**	*e*P	**P**	**18 52 36.3**	**+1.0**
PKIN	**Phulchoki**	**33.83**	**90**	*e*P	**P**	**18 52 37.8**	**+1.0**
	comp=Z,7.7nm,0.9s						
PKI	**Pulchoki**	**33.84**	**90**	*e*P	**P**	**18 52 37.9**	**+0.9**
GUN	**Gumba**	**34.12**	**89**	*e*P	**P**	**18 52 40.5**	**+1.1**
	comp=Z,26nm,1.0s						
JIRN	**Jiri**	**34.46**	**90**	*e*P	**P**	**18 52 43.6**	**+1.2**
	comp=Z,17nm,0.6s						
RAMN	**Ramite**	**35.05**	**91**	*e*P	**P**	**18 52 48.2**	**+0.8**
	comp=Z,21nm,0.6s						
NB2	**NORSAR Subarra**	**35.28**	**331**	P	**P**	**18 52 48.1**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=124,slow=8.6						
NOA	**NORSAR Array B**	**35.28**	**331**	P	**P**	**18 52 48.7**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=124,slow=8.5,SNR=5.8						
TAPN	**Taplejung**	**35.83**	**89**	*e*P	**P**	**18 52 55.6**	**+1.4**
	comp=Z,18nm,0.7s						
ARCES	**ARCESS Array B**	**37.44**	**348**	P	**P**	**18 53 07.0**	**0.0**
	comp=Z,2.9nm,0.8s,baz=166,slow=8.3,SNR=7.9						
ESDC	**Sonseca Array**	**40.38**	**293**	P	**P**	**18 53 33.1**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=70,slow=8.5,SNR=4.7						
ESDC	**Sonseca Array**	**40.38**	**293**	IAmb	IAmb	18 53 39.0	
	comp=Z,2.1nm,1.3s						
TORD	**Torodi Ar. Bea**	**45.62**	**254**	P	**P**	**18 54 15.5**	**+0.7**
	comp=Z,1.0nm,1.0s,baz=50,slow=6.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**45.62**	**254**	IAmb	IAmb	18 54 19.1	
	comp=Z,2.1nm,1.4s						
SONM	**Songino Array**	**46.15**	**54**	P	**P**	**18 54 19.9**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=286,slow=10,SNR=3.1						
CMAR	**Chiang Mai Arr**	**48.97**	**95**	P	**P**	**18 54 40.5**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=289,slow=8.3,SNR=5.9						
KSRS	**Korea Array**	**64.12**	**61**	P	**P**	**18 56 27.8**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=290,slow=6.3,SNR=3.3						
YKA	**Yellowknife Ar**	**82.62**	**351**	P	**P**	**18 58 17.1**	**0.0**
	comp=Z,0.8nm,0.8s,baz=7.4,slow=5.3,SNR=4.4						

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*TIF **01** 18:53:51.4, 42°.30N×43°.06E, h0km±1km*
*MOS **01** 18:53:52.7±0.0, 42°.36N×43°.05E, h1km, MPVA3.6*
*ISK **01** 18:53:52.3, 42°.35N×43°.02E, h8km, ML2.8/10*
*DDA **01** 18:53:52.7, 42°.28N×43°.05E, h4km±4km, ML2.4*
ISC 01 18:53:52.3±1.0**, 42°.31N**±0°.02×**43°.04E**±0°.02**, h3**km±8km**,**
n56, σ1**§08**/98**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TKB	**Tkibuli**	**0.05**	**321**	P	**Pg**	**18 53 53.4**	**-0.1**
TKB				S	**Sg**	**18 53 54.4**	**+0.1**
ONI	**Oni**	**0.41**	**47**	P	**Pg**	**18 54 00.4**	**+0.1**
ONI				S	**Sb**	**18 54 07.8**	**-1.4**
ONI	**Oni**	**0.41**	**47**	PG	**Pg**	**18 54 00.5**	**+0.1**
ONI				SG	**Sg**	**18 54 07.0**	**+1.2**
ONI	**Oni**	**0.41**	**47**	*i* Pg	**Pg**	**18 54 00.4**	**+0.1**
ONI				*i* Sg	**Sb**	**18 54 07.6**	**-1.6**
DIGR	**Digorskoe uzhe**	**0.71**	**34**	*e*Pg	**Pg**	**18 54 05.7**	**-0.3**
DIGR				*e*Sg	**Sg**	**18 54 16.3**	**+1.0**
ZEI	**Tsey**	**0.80**	**53**	*e*Pg	**Pg**	**18 54 07.6**	**0.0**
ZEI				*e*Sg	**Sb**	**18 54 19.2**	**-1.0**
EPOS	**Posof**	**0.84**	**196**	*i* P	**Pb**	**18 54 09.6**	**0.0**
EPOS				*i* S	**Sb**	**18 54 21.3**	**0.0**
EPOS				IAML		18 54 32.0	
	comp=N,70nm,1.8s						
EPOS				IAML		18 54 39.0	
	comp=E,249nm,0.8s						
AKH	**Akhalkalaki**	**0.96**	**159**	P	**Pn**	**18 54 12.0**	**-1.0**
AKH	**Akhalkalaki**	**0.96**	**159**	PG	**Pn**	**18 54 11.9**	**-1.0**
AKH				SG	**Sn**	**18 54 26.6**	**-0.6**
AKH	**Akhalkalaki**	**0.96**	**159**	*i* Pg	**Pn**	**18 54 12.0**	**-1.0**
AKH				*e*Sg	**Sn**	**18 54 26.5**	**-0.6**
NEY	**Neytrino**	**0.97**	**346**	*i* Pg	**Pg**	**18 54 10.6**	**-0.3**
NEY				*e*Sg	**Sg**	**18 54 23.4**	**0.0**
LACR	**Lac**	**1.06**	**60**	*e*Pg	**Pg**	**18 54 11.8**	**-0.9**
LACR				*e*Sg	**Sg**	**18 54 27.0**	**+0.4**
GUDG	**Gudauri**	**1.08**	**81**	P	**Pn**	**18 54 14.0**	**-0.6**
GUDG	**Gudauri**	**1.08**	**81**	*e*Pg	**Pg**	**18 54 13.0**	**0.0**
GUDG				*e*Sg	**Sb**	**18 54 27.5**	**-0.9**
KORR	**Kora**	**1.08**	**44**	*e*Pg	**Pg**	**18 54 13.3**	**+0.2**
KORR				*e*Sg	**Sb**	**18 54 28.5**	**0.0**
LSNR	**Lesken**	**1.13**	**31**	*e*Pg	**Pg**	**18 54 14.2**	**+0.3**
LSNR				*e*Sg	**Sn**	**18 54 31.3**	**+0.1**
NCK	**Nalchik**	**1.25**	**19**	*e*Pg	**Pn**	**18 54 16.9**	**0.0**
NCK				*e*Sg	**Sg**	**18 54 32.7**	**+0.1**
STDR	**Stavd-Durt**	**1.30**	**35**	*e*Pg	**Pb**	**18 54 18.0**	**+0.5**
STDR				*e*Sg	**Sn**	**18 54 36.5**	**+1.1**
BCA	**Borcka**	**1.37**	**231**	PN	**Pn**	**18 54 18.2**	**-0.2**
BCA				SN	**Sn**	**18 54 37.6**	**+0.6**
KZRT	**Kazreti**	**1.37**	**132**	*i* P	**Pg**	**18 54 18.9**	**+0.3**
TBLG	**Delisi**	**1.39**	**114**	P	**Pg**	**18 54 18.9**	**-0.1**
TBLG				S	**Sn**	**18 54 38.4**	**+0.8**
TBLG	**Delisi**	**1.39**	**114**	*i* P	**Pg**	**18 54 19.0**	**-0.1**
TBLG				*i* S	**Sn**	**18 54 38.4**	**+0.8**
TBLG				IAML		18 54 39.0	
	comp=N,41nm,1.0s						
TBLG				IAML		18 54 42.0	
	comp=E,24nm,0.5s						
TBLG	**Delisi**	**1.39**	**114**	PN	**Pb**	**18 54 18.7**	**-0.3**
TBLG				SN	**Sn**	**18 54 38.4**	**+0.8**
ARTV	**Artvin**	**1.40**	**217**	*i* P	**Pg**	**18 54 19.1**	**-0.1**
ARTV				*i* S	**Sn**	**18 54 39.0**	**+1.0**
ARTV				IAML		18 54 41.0	
	comp=N,55nm,0.5s						
ARTV				IAML		18 54 42.0	
	comp=E,75nm,0.4s						
DBOC	**Borcka**	**1.41**	**227**	*i* P	**Pg**	**18 54 19.2**	**-0.1**
DBOC				*i* S	**Sb**	**18 54 36.9**	**-0.7**
DBOC				IAML		18 54 40.0	
	comp=E,127nm,0.9s						
BTNK	**Botanikuri**	**1.45**	**115**	P	**Pg**	**18 54 19.9**	**-0.3**
BTNK	**Botanikuri**	**1.45**	**115**	*i* P	**Pg**	**18 54 19.8**	**-0.3**
BTNK				*i* S	**Sg**	**18 54 39.9**	**+0.9**
BTNK				IAML		18 54 41.0	
	comp=E,12nm,0.5s						
BTNK				IAML		18 54 44.0	
	comp=N,27nm,0.5s						
SHA1	**Shidzhatmaz**	**1.46**	**349**	*i* Pg	**Pb**	**18 54 20.3**	**0.0**
SHA1				*e*Sg	**Sn**	**18 54 39.7**	**+0.2**
DAGI	**Agillar**	**1.49**	**215**	*i* P	**Pg**	**18 54 20.9**	**0.0**
DAGI				*i* S	**Sg**	**18 54 41.9**	**+1.7**
DAGI				IAML		18 54 48.0	
	comp=E,43nm,0.8s						
DAGI				IAML		18 54 48.0	
	comp=N,49nm,0.8s						
KBTC	**Kuba-Taba**	**1.53**	**10**	*e*Pg	**Pg**	**18 54 23.2**	**+1.6**
KBTC				*e*Sg	**Sg**	**18 54 41.7**	**+0.1**
KMGR	**Komgaron**	**1.54**	**60**	*e*Pg	**Pg**	**18 54 24.1**	**+2.2**
KMGR				*e*Sg	**Sg**	**18 54 42.2**	**+0.3**
DBAD	**Bademkaya**	**1.64**	**218**	*i* P	**Pn**	**18 54 22.4**	**+0.2**
DBAD				*i* S	**Sg**	**18 54 45.4**	**+0.5**
DBAD				IAML		18 54 48.0	
	comp=E,98nm,0.7s						
DBAD				IAML		18 54 53.0	
	comp=N,130nm,0.9s						
KIV0	**Kislovodsk Arr**	**1.67**	**351**	*e*Pg	**Pb**	**18 54 23.6**	**-0.2**
KIV0				*e*Sg	**Sg**	**18 54 46.4**	**+0.6**
KIV	**Kislovodsk**	**1.67**	**351**	PN	**Pn**	**18 54 21.9**	**-0.7**
EAK	**Akyaka**	**1.68**	**165**	*i* P	**Pn**	**18 54 22.0**	**-0.8**
EAK				*i* S	**Sg**	**18 54 46.1**	**-0.1**
EAK				IAML		18 54 49.0	
	comp=E,76nm,0.6s						
EAK				IAML		18 54 50.0	
	comp=N,51nm,0.8s						
KARS	**Kars**	**1.68**	**179**	PN	**Pb**	**18 54 23.7**	**-0.3**
PRTR	**Priterechnaya**	**1.71**	**32**	*e*Pg	**Pg**	**18 54 25.3**	**+0.2**
PRTR				*e*Sg	**Sb**	**18 54 45.8**	**-0.5**
DDEM	**Demirkent**	**1.71**	**215**	*i* P	**Pb**	**18 54 24.6**	**+0.1**
DDEM				*i* S	**Sg**	**18 54 48.4**	**+1.1**
DDEM				IAML		18 54 54.0	
	comp=N,135nm,0.4s						
DDEM				IAML		18 54 57.0	
	comp=E,113nm,0.5s						
ARXR	**Arkhyz**	**1.80**	**315**	*i* Pg	**Pb**	**18 54 26.6**	**+0.5**
ARXR				*i* Sg	**Sg**	**18 54 52.3**	**+2.1**
SENK	**Senkaya-Erzuru**	**1.82**	**197**	PN	**Pb**	**18 54 25.4**	**-1.0**
TRKR	**Terskaya**	**1.88**	**41**	*e*Pg	**Pg**	**18 54 28.3**	**-0.1**
TRKR				*e*Sg	**Sg**	**18 54 53.0**	**+0.2**
CHOM	**Cayeli-Rize**	**2.09**	**235**	PN	**Pn**	**18 54 28.5**	**+0.2**
GROC	**Groznyy**	**2.22**	**65**	*e*Pg	**Pg**	**18 54 34.1**	**-0.7**
GROC				*e*Sg	**Sg**	**18 55 03.4**	**-0.2**
LGD	**Lagodekhi**	**2.43**	**100**	P	**Pb**	**18 54 36.4**	**-0.4**
LGD				S	**Sg**	**18 55 09.7**	**-0.7**
LGD	**Lagodekhi**	**2.43**	**100**	*e*Pn	**Pb**	**18 54 36.2**	**-0.6**
LGD				*e*Sn	**Sg**	**18 55 09.6**	**-0.7**
DDFL	**Dedoflistskaro**	**2.46**	**110**	P	**Pg**	**18 54 38.4**	**-0.9**
DDFL				S	**Sg**	**18 55 15.5**	**+4.3**
DDFL	**Dedoflistskaro**	**2.46**	**110**	*i* P	**Pg**	**18 54 38.3**	**-1.1**
DDFL				*i* S	**Sg**	**18 55 15.2**	**+4.0**
KOPR	**Koprukoy-ERZUR**	**2.48**	**202**	PN	**Pn**	**18 54 35.1**	**+1.2**
TASB	**TASBURUN-IGDIR**	**2.49**	**158**	PN	**Pn**	**18 54 35.1**	**+1.2**
GNI	**Garni**	**2.51**	**149**	PN	**Pn**	**18 54 35.3**	**+1.1**
KRIK	**Erzurum-spir**	**2.53**	**220**	*i* P	**Pb**	**18 54 39.5**	**+0.9**
KRIK				*i* S	**Sg**	**18 55 13.1**	**-0.5**
KRIK				IAML		18 55 19.0	
	comp=E,4.0nm,0.6s						
KRIK				IAML		18 55 24.0	
	comp=N,4.0nm,0.9s						
AKDA	**Akdag**	**2.54**	**210**	*i* P	Pg	18 54 51.9	+11
AGRB	**Hanur-Agry**	**2.73**	**181**	PN	**Pb**	**18 54 39.3**	**-2.6**
BAYB	**BAYBURT**	**2.93**	**227**	*i* P	**Pn**	**18 54 42.0**	**+2.0**
BAYB				*i* S	**Sg**	**18 55 25.3**	**-1.2**
BAYB				IAML		18 55 30.0	
	comp=N,29nm,1.2s						
BAYB				IAML		18 55 34.0	
	comp=E,23nm,0.7s						
KOPT	**Kop Dagi**	**2.99**	**221**	*i* P	**Pb**	**18 54 45.1**	**-1.3**
KOPT				*i* S	**Sb**	**18 55 25.0**	**+1.6**
KOPT				IAML		18 55 40.0	
	comp=N,20nm,1.1s						
KOPT				IAML		18 55 42.0	
	comp=E,20nm,1.6s						
LZRR	**Lazarevskoye**	**3.13**	**302**	*e*Pn	**Pb**	**18 54 46.3**	**-2.4**
LZRR				*e*Sn	**Sb**	**18 55 25.2**	**-2.1**

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*ISCJB **01** 19:25:60.0±0.2, 59°.78N±0°.02×152°.78W±0°.04, h101km±2km, mb3.7/13, Error ellipse: s-maj=3.3km s-min=2.6km az=43.8*
*IDC **01** 19:25:59.0±1.4, 59°.84N×153°.09W, h65km±15km, mb3.6/13, mb1 3.9/17, mb1mx3.7/40, mbtmp4.0/17, MS2.3/2, Ms1 2.3/2, ms1mx2.2/38, Error ellipse: s-maj=12.4km s-min=10.3km az=95.0*
*NEIC **01** 19:26:00.9±1.4, 59°.77N±0°.04×152°.90W±0°.07, h94km±3km*
*AEIC **01** 19:26:02.3±1.9, 59°.76N±0°.04×152°.84W±0°.07, h86km±3km, ML3.9, mb4.2/3(NEIC)*
ISC 01 19:26:01.2±0.7**, 59°.77N**±0°.03×**152°.80W**±0°.04**, h94**km±5km**,**
n181, σ1**§10**/204**, mb3.7**/13**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.23**	**324**		**Pn**	**19 26 14.4**	**-0.4**
IVE	**Iliamna Volcan**	**0.27**	**336**		**Pn**	**19 26 14.7**	**-0.3**
ILIM	**Iliamna**	**0.32**	**345**		**Pn**	**19 26 15.0**	**-0.2**
ILW	**Iliamna West**	**0.33**	**330**		**Pn**	**19 26 14.9**	**-0.5**
ILW					**Sn**	**19 26 25.4**	**-0.6**
AU22	**Augustine Moun**	**0.49**	**215**		**Pn**	**19 26 15.9**	**-0.3**
AU22					**Sn**	**19 26 26.8**	**-0.6**
AU2	**Augustine Isla**	**0.50**	**216**		**Pn**	**19 26 15.9**	**-0.3**
AUL	**Augustine Lava**	**0.51**	**220**		**Pn**	**19 26 16.1**	**-0.2**
AUL					**Sn**	**19 26 27.1**	**-0.5**
AUP	**Augustine Pinn**	**0.52**	**218**		**Pn**	**19 26 16.2**	**-0.3**
AUJK	**Augustine Jueg**	**0.53**	**216**		**Pn**	**19 26 16.2**	**-0.3**
AUI	**Augustine Isla**	**0.54**	**216**		**Pn**	**19 26 16.2**	**-0.4**
HOM	**Homer**	**0.60**	**101**		**Pn**	**19 26 17.5**	**+0.5**
HOM					**Sn**	**19 26 30.0**	**+1.2**
RED	**Redoubt Volcan**	**0.65**	**1**		**Pn**	**19 26 17.3**	**-0.2**
RED					**Sn**	**19 26 29.5**	**-0.3**
RSO	**Redoubt South**	**0.69**	**2**		**Pn**	**19 26 17.9**	**-0.2**
RDWB	**Redoubt West**	**0.72**	**358**		**Pn**	**19 26 18.0**	**-0.3**
RDWB					**Sn**	**19 26 30.8**	**-0.3**
NCT	**North Crescent**	**0.79**	**355**		**Pn**	**19 26 18.9**	**-0.1**
NCT					**Sn**	**19 26 31.9**	**-0.5**
RDJH	**Redoubt Jeurge**	**0.82**	**360**		**Pn**	**19 26 19.3**	**0.0**
RDJH					**Sn**	**19 26 32.8**	**-0.1**
DFR	**Drift River**	**0.82**	**4**		**Pn**	**19 26 19.3**	**0.0**
CNPM	**China Poot**	**0.83**	**107**		**Pn**	**19 26 19.3**	**0.0**
CNPM				Sn	**Sn**	**19 26 33.0**	**+0.2**
BRLK	**Bradley Lake**	**0.97**	**90**		**Pn**	**19 26 20.7**	**-0.1**
BRLK				Sn	**Sn**	**19 26 36.8**	**+1.4**
BRSE	**Bradley Lake S**	**1.04**	**91**		**Pn**	**19 26 21.4**	**-0.1**
BRSE					**Sn**	**19 26 37.2**	**+0.3**
FOSS	**Fourpeaked Sta**	**1.08**	**206**		**Pn**	**19 26 21.5**	**-0.5**
CAPN	**Captain Cook N**	**1.29**	**39**		**Pn**	**19 26 26.4**	**+2.0**
CKL	**Chakachamna La**	**1.45**	**9**		**Pn**	**19 26 26.8**	**+0.4**
SPCR	**Spurr Chakacha**	**1.46**	**11**		**Pn**	**19 26 26.9**	**+0.3**
SLKM	**Skilak Lake**	**1.49**	**59**		**Pn**	**19 26 27.4**	**+0.5**
SPBG	**Spurr Blockage**	**1.51**	**8**		**Pn**	**19 26 27.7**	**+0.5**
SPWE	**Spurr West**	**1.51**	**4**		**Pn**	**19 26 27.9**	**+0.7**
KAHG	**Katmai Hook Gl**	**1.57**	**216**		**Pn**	**19 26 27.9**	**-0.1**
SPCG	**Spurr Capps Gl**	**1.57**	**14**		**Sn**	**19 26 49.3**	**+0.9**
CGLM	**Capps Glacier**	**1.59**	**14**		**Pn**	**19 26 28.7**	**+0.4**
SPNN	**North Nagishla**	**1.60**	**2**		**Pn**	**19 26 28.9**	**+0.5**
SPNN					**Sn**	**19 26 50.4**	**+1.2**
KAHC	**Katmai Hardscr**	**1.60**	**226**		**Pn**	**19 26 28.1**	**-0.3**
SEW	**Seward**	**1.72**	**77**		**Pn**	**19 26 29.5**	**-0.2**
SEW	**Seward**	**1.72**	**77**	Sn	**Sn**	**19 26 51.2**	**-0.3**
KAWH	**Katmai**	**1.73**	**217**		**Pn**	**19 26 28.3**	**-1.8**
FIS	**Fire Island**	**1.88**	**42**		**Pn**	**19 26 33.6**	**+1.8**
KAKN	**Katmai Knife C**	**1.89**	**219**		**Pn**	**19 26 31.9**	**-0.2**
SVW2	**Sparrevohn**	**1.92**	**315**		**Pn**	**19 26 32.0**	**-0.3**
SVW2				Sn	**Sn**	**19 26 53.8**	**-2.3**
SUA	**Susitna One**	**1.98**	**30**		**Pn**	**19 26 34.5**	**+1.3**
SUA				Sn	**Sn**	**19 26 59.5**	**+1.8**
KABU	**Katmai Buttres**	**1.98**	**221**		**Pn**	**19 26 33.4**	**+0.2**
KDAK	**Kodiak Island**	**2.00**	**177**	P	**Pn**	**19 26 32.6**	**-0.8**
	94nm,0.3s,baz=27,slow=8.8,SNR=387						
KDAK				S	**Sn**	**19 26 56.0**	**-2.0**
	84nm,0.3s,baz=13,slow=8.4,SNR=4.2						
KDAK				LR	LR	19 27 25.0	
	comp=Z,45nm,19.4s,baz=88,slow=41						
KDAK	**Kodiak Island**	**2.00**	**177**		**Pn**	**19 26 32.7**	**-0.7**
KDAK				Sn	**Sn**	**19 26 56.1**	**-1.9**
RC01	**Rabbit Creek A**	**2.01**	**48**		**Pn**	**19 26 34.0**	**+0.5**
RC01				Sn	**Sn**	**19 26 58.8**	**+0.5**
ACHA	**Angle Creek He**	**2.04**	**221**		**Pn**	**19 26 34.1**	**0.0**
ANCK	**Angle Creek**	**2.11**	**223**		**Pn**	**19 26 35.0**	**+0.1**
CAHL	**Cahill**	**2.16**	**218**		**Pn**	**19 26 35.9**	**+0.3**
KJL	**Kejulik**	**2.25**	**221**		**Pn**	**19 26 37.2**	**+0.5**
SKT	**Skwentna**	**2.30**	**15**		**Pn**	**19 26 37.6**	**+0.3**
PWL	**Port Wells**	**2.47**	**62**		**Pn**	**19 26 39.2**	**-0.5**
PMR	**Palmer**	**2.57**	**43**		**Pn**	**19 26 40.7**	**-0.1**
PMR	**Palmer**	**2.57**	**43**	Sn	**Sn**	**19 27 09.0**	**-2.3**
OHAK	**Old Harbor**	**2.57**	**186**		**Pn**	**19 26 39.8**	**-1.1**
KNK	**Knik Glacier**	**2.70**	**51**		**Pn**	**19 26 42.7**	**0.0**
KNK	**Knik Glacier**	**2.70**	**51**	Sn	**Sn**	**19 27 13.4**	**-1.2**
PLK2	**Peulik 2**	**2.73**	**224**		**Pn**	**19 26 43.7**	**+0.6**
GHO	**Glory Hole Cre**	**2.76**	**42**		**Pn**	**19 26 43.8**	**+0.2**
PLK3	**Peulik 3**	**2.76**	**222**		**Pn**	**19 26 44.1**	**+0.6**
PLK5	**Peulik 5**	**2.77**	**232**		**Pn**	**19 26 44.3**	**+0.8**
PLK1	**Peulik 1**	**2.80**	**227**		**Pn**	**19 26 44.5**	**+0.5**
SML	**Sawmill**	**2.99**	**45**		**Pn**	**19 26 46.9**	**+0.2**
GLI	**Glacier Island**	**3.05**	**66**		**Pn**	**19 26 46.0**	**-1.3**
PPLA	**Purkeypile**	**3.15**	**5**		**Pn**	**19 26 50.0**	**+1.2**
HIN	**Hinchinbrook I**	**3.22**	**76**		**Pn**	**19 26 48.7**	**-0.9**
FID	**Port Fidalgo**	**3.30**	**70**		**Pn**	**19 26 49.2**	**-1.5**
JPK	**Jack Peak**	**3.33**	**65**		**Pn**	**19 26 50.4**	**-0.8**
SCM	**Sheep Creek Mo**	**3.38**	**50**		**Pn**	**19 26 52.0**	**+0.1**
TT01	**Tatalina**	**3.51**	**335**		**Pn**	**19 26 53.5**	**0.0**
TTA	**Tatalina**	**3.52**	**335**		**Pn**	**19 26 53.3**	**-0.5**
HUR	**Hurricane**	**3.56**	**24**		**Pn**	**19 26 55.1**	**+0.9**
EYAK	**Cordova Ski Ar**	**3.61**	**75**		**Pn**	**19 26 53.0**	**-1.8**
WAT1	**Susitna Watana**	**3.69**	**32**		**Pn**	**19 26 56.1**	**+0.1**
WAT6	**Susitna Watana**	**3.73**	**39**		**Pn**	**19 26 56.5**	**-0.2**
WAT2	**Susitna Watana**	**3.79**	**31**		**Pn**	**19 26 57.5**	**+0.1**
TRF	**Thorofare Moun**	**3.88**	**17**		**Pn**	**19 26 59.0**	**+0.3**
KTH	**Kantishna Hill**	**3.90**	**12**		**Pn**	**19 26 59.0**	**+0.2**
ANNE	**Aniakchak Nort**	**3.99**	**226**		**Pn**	**19 27 00.5**	**+0.4**
RND	**Reindeer**	**4.10**	**26**		**Pn**	**19 27 01.9**	**+0.3**
GOAT	**Goat Mountain**	**4.11**	**75**		**Pn**	**19 27 00.9**	**-0.8**
CHUM	**Lake Minchumin**	**4.13**	**3**		**Pn**	**19 27 02.5**	**+0.6**
DHY	**Denali Highway**	**4.21**	**36**		**Pn**	**19 27 03.3**	**+0.1**
PS11	**TAPS Pump St11**	**4.26**	**54**		**Pn**	**19 27 04.0**	**+0.4**
HMT	**Hamilton**	**4.32**	**79**		**Pn**	**19 27 03.1**	**-1.4**
MCK	**McKinley**	**4.38**	**23**		**Pn**	**19 27 06.2**	**+0.9**
BPAW	**Bear Paw Mtn.**	**4.43**	**10**		**Pn**	**19 27 05.5**	**-0.4**
NICHA	**Nichawak Mount**	**4.46**	**80**		**Pn**	**19 27 06.5**	**+0.1**
SUCK	**Suckling Hills**	**4.55**	**82**		**Pn**	**19 27 06.5**	**-1.1**
CHGN	**Chignik**	**4.58**	**223**		**Pn**	**19 27 08.1**	**0.0**
BWN	**Browne**	**4.69**	**18**		**Pn**	**19 27 10.5**	**+1.1**
GLB	**Gilahina Butte**	**4.74**	**65**		**Pn**	**19 27 09.3**	**-0.8**
PAX	**Paxson**	**4.76**	**45**		**Pn**	**19 27 10.6**	**+0.1**
GRIN	**Grindle Hills**	**4.78**	**80**		**Pn**	**19 27 11.1**	**+0.3**
KHIT	**Khitrov Hills**	**4.83**	**78**		**Pn**	**19 27 11.4**	**0.0**
VRDI	**Verde Repeater**	**4.85**	**68**		**Pn**	**19 27 11.5**	**-0.3**
CRQM	**Cirque**	**4.91**	**74**		**Pn**	**19 27 11.9**	**-0.7**
PS10	**TAPS Pump St10**	**4.97**	**39**		**Pn**	**19 27 13.6**	**+0.4**
WAX	**Waxell Ridge**	**5.02**	**78**		**Pn**	**19 27 14.3**	**+0.3**
WAX					**Sn**	**19 28 07.3**	**-3.5**
TGL	**Tana Glacier**	**5.06**	**74**		**Pn**	**19 27 13.5**	**-1.1**
KULT	**Kultieth River**	**5.08**	**80**		**Pn**	**19 27 15.1**	**+0.2**
MCARA	**McCarthy VSAT**	**5.08**	**67**		**Pn**	**19 27 14.3**	**-0.6**
NEA	**Nenana**	**5.13**	**18**		**Pn**	**19 27 15.7**	**+0.3**
WRH	**Wood River Hil**	**5.21**	**23**		**Pn**	**19 27 16.5**	**0.0**
PTPK	**Patty Peak**	**5.30**	**70**		**Pn**	**19 27 18.6**	**+0.7**
KIAG	**Kiagna River**	**5.31**	**73**		**Pn**	**19 27 18.1**	**0.0**
BALM	**Baldy**	**5.33**	**72**		**Pn**	**19 27 18.9**	**+0.6**
MLY	**Manley**	**5.36**	**9**		**Pn**	**19 27 18.5**	**-0.1**
MENT	**Mentasta**	**5.40**	**50**		**Pn**	**19 27 20.8**	**+1.7**
HDA	**Harding Lake**	**5.40**	**28**	P	**Pn**	**19 27 19.3**	**+0.1**
	baz=213						
HDA				S	**Sn**	**19 28 17.5**	**-2.4**
	baz=213						
HDA	**Harding Lake**	**5.40**	**28**		**Pn**	**19 27 19.2**	**+0.1**
CCB	**Clear Creek Bu**	**5.42**	**23**		**Pn**	**19 27 18.8**	**-0.5**
MESA	**MESA**	**5.46**	**81**		**Pn**	**19 27 20.4**	**+0.2**
MESA	**MESA**	**5.46**	**81**		**Sn**	**19 28 18.4**	**-3.4**
RIDG	**Independent Ri**	**5.49**	**40**		**Pn**	**19 27 20.7**	**+0.4**
PS08	**TAPS Pump Stn8**	**5.54**	**28**		**Pn**	**19 27 20.9**	**-0.2**
GRNC	**Granite Creek**	**5.58**	**75**		**Pn**	**19 27 21.8**	**0.0**
TCOL	**CIGO, UAF Yank**	**5.61**	**22**	P	**Pn**	**19 27 22.1**	**+0.3**
	baz=207						
TCOL				S	**Sn**	**19 28 25.0**	**+0.1**
	baz=207						
TCOL	**CIGO, UAF Yank**	**5.61**	**22**		**Pn**	**19 27 22.2**	**+0.3**
COLA	**College**	**5.61**	**22**		**Pn**	**19 27 21.6**	**-0.3**
MDM	**Murphy Dome**	**5.62**	**20**		**Pn**	**19 27 22.2**	**+0.1**
BARN	**Barnard Glacie**	**5.67**	**72**		**Pn**	**19 27 23.7**	**+0.7**
DOT	**Dot Lake**	**5.69**	**43**		**Pn**	**19 27 23.3**	**+0.3**
IL31		**5.72**	**26**		**Pn**	**19 27 22.9**	**-0.5**
ILAR	**Eielson Array**	**5.72**	**26**	P	**Pn**	**19 27 23.1**	**-0.4**
	13nm,0.3s,baz=213,slow=14,SNR=367						
ILAR				S	**Sn**	**19 28 24.4**	**-3.3**
	9.2nm,0.3s,baz=202,slow=19,SNR=6.0						
RKAV	**Rock Avalanche**	**5.77**	**80**		**Pn**	**19 27 24.6**	**+0.4**
CTGM	**Chitina Glacie**	**5.81**	**73**		**Pn**	**19 27 25.5**	**+0.6**
POKR	**Poker Plat Res**	**5.91**	**23**	P	**Pn**	**19 27 26.1**	**+0.1**
	baz=208						
POKR				S	**Sn**	**19 28 29.9**	**-2.4**
	baz=208						
POKR	**Poker Plat Res**	**5.91**	**23**		**Pn**	**19 27 25.8**	**-0.3**
SCRK	**Sand Creek**	**5.93**	**41**		**Pn**	**19 27 25.6**	**-0.8**
PS07	**TAPS Pump Stn7**	**5.94**	**19**		**Pn**	**19 27 26.8**	**+0.4**
SAMH	**Samovar Hills**	**6.05**	**81**		**Pn**	**19 27 28.6**	**+0.5**
YUK2	**White River**	**6.19**	**66**		**Pn**	**19 27 30.0**	**0.0**
BC03		**6.23**	**53**		**Pn**	**19 27 30.3**	**0.0**
BCAR	**Beaver Creek A**	**6.23**	**53**		**Pn**	**19 27 31.2**	**+0.7**
IM03		**6.25**	**356**		**Pn**	**19 27 30.7**	**+0.1**
IMAR	**Indian Mountai**	**6.25**	**356**		**Pn**	**19 27 31.0**	**+0.4**
PS06	**TAPS Pump Stn6**	**6.26**	**12**		**Pn**	**19 27 31.5**	**+0.7**
PCA	**Pinnacle**	**6.31**	**82**		**Pn**	**19 27 32.1**	**+0.5**
BVCY	**Beaver Creek**	**6.37**	**60**		**Pn**	**19 27 32.6**	**+0.3**
YUK3	**Moose Creek**	**6.37**	**66**		**Pn**	**19 27 32.4**	**-0.1**
YUK1	**Sand Pete Hill**	**6.43**	**63**		**Pn**	**19 27 33.2**	**-0.1**
BCPM	**Bancas Point**	**6.63**	**83**		**Pn**	**19 27 35.9**	**0.0**
PRP	**Porcupine Dome**	**6.67**	**27**		**Pn**	**19 27 36.3**	**-0.1**
PNL	**Peninsula**	**6.78**	**85**		**Pn**	**19 27 38.0**	**0.0**
PS05	**TAPS Pump Stn5**	**7.13**	**7**		**Pn**	**19 27 43.2**	**+0.6**
YUK4	**Talbot Arm**	**7.15**	**71**		**Pn**	**19 27 44.2**	**+1.1**
YUK6	**Outpost Mounta**	**7.26**	**74**		**Pn**	**19 27 44.6**	**+0.1**
YUK7	**Dusty Glacier**	**7.36**	**78**		**Pn**	**19 27 46.1**	**+0.2**
EGAK	**Eagle**	**7.39**	**42**		**Pn**	**19 27 45.5**	**-0.6**
DHAK	**Deception Hill**	**7.47**	**89**		**Pn**	**19 27 47.7**	**+0.4**
YUK5	**Granite Creek**	**7.51**	**73**		**Pn**	**19 27 47.8**	**-0.1**
COLD	**Coldfoot**	**7.57**	**8**		**Pn**	**19 27 48.9**	**+0.3**
ANM	**Nome**	**7.59**	**315**		**Pn**	**19 27 48.2**	**-0.7**
DAWY	**Dawson**	**7.65**	**50**		**Pn**	**19 27 48.9**	**-0.8**
HYT	**Haines Junctio**	**7.67**	**76**		**Pn**	**19 27 50.1**	**0.0**
BM03	**Burnt Mountain**	**8.49**	**22**		**Pn**	**19 28 00.0**	**-1.1**
BMAR	**Burnt Mountain**	**8.50**	**22**		**Pn**	**19 27 59.9**	**-1.4**
SKAG	**Skagway**	**8.86**	**84**		**Pn**	**19 28 06.5**	**+0.4**
WHY	**Whitehorse**	**8.96**	**77**		**Pn**	**19 28 07.9**	**+0.2**
JIS	**Juneau Island**	**9.61**	**91**		**Pn**	**19 28 16.7**	**+0.4**
EPYK	**Eagle Plains**	**9.82**	**41**	P	**Pn**	**19 28 21.3**	**+2.1**
	baz=235						
EPYK				S	**Sn**	**19 30 04.3**	**-3.1**
	baz=235						
DLBC	**Dease Lake**	**11.77**	**87**	P	**Pn**	**19 28 47.4**	**+1.8**
	5.6nm,0.3s,baz=255,slow=7.6,SNR=20						
DLBC				S	**Sn**	**19 30 53.3**	**-1.6**
	0.7nm,0.3s,baz=96,slow=19,SNR=6.1						
INK	**Inuvik**	**11.96**	**36**	P	**Pn**	**19 28 48.5**	**+0.4**
	0.6nm,0.3s,baz=235,slow=15,SNR=27						
INK				LR	LR	19 33 13.6	
	comp=Z,28nm,21.4s,baz=87,slow=36						
INK	**Inuvik**	**11.96**	**36**		**Pn**	**19 28 48.0**	**-0.1**
C36M	**Paulatuk**	**15.45**	**40**	P	**Pn**	**19 29 30.5**	**-2.9**
	baz=246						
C36M				S	**Sn**	**19 32 16.7**	**-7.0**
	baz=246						
YKW3	**Yellowknife Ar**	**18.44**	**65**	P	**Pn**	**19 30 10.2**	**+0.1**
YKW3				IAmb	IAmb	19 30 10.7	
	comp=Z,10nm,0.6s						
YKA	**Yellowknife Ar**	**18.45**	**65**	P	**Pn**	**19 30 10.1**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=276,slow=10.0,SNR=106						
YKA	**Yellowknife Ar**	**18.45**	**65**	P	**P**	**19 30 09.1**	**+0.1**
SEY	**Seymchan**	**25.79**	**301**	P	**P**	**19 31 22.8**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=29,slow=10,SNR=2.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YBH	**Yreka Blue Hor**	**25.88**	**121**	P	**P**	**19 31 27.2**	**+3.2**
	comp=Z,1.1nm,0.7s,baz=90,slow=5.1,SNR=3.4						
PETK	**Petropavlovsk-**	**27.59**	**278**	P	**P**	**19 31 38.3**	**-0.9**
	comp=Z,5.1nm,1.1s,baz=76,slow=14,SNR=6.2						
NVAR	**Mina Array Bea**	**30.52**	**119**	P	**P**	**19 32 08.3**	**+2.8**
	comp=Z,0.6nm,0.6s,baz=310,slow=8.3,SNR=8.5						
PDAR	**Pinedale Array**	**31.24**	**103**	P	**P**	**19 32 14.1**	**+2.3**
	comp=Z,0.3nm,0.5s,baz=355,slow=5.1,SNR=4.4						
ULM	**Lac du Bonnet**	**33.01**	**81**	P	**P**	**19 32 28.0**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=280,slow=8.7,SNR=3.3						
ULM	**Lac du Bonnet**	**33.01**	**81**	IAmb	IAmb	19 32 30.4	
	comp=Z,3.1nm,0.9s						
TXAR	**Lajitas Array**	**44.81**	**110**	P	**P**	**19 34 07.3**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=309,slow=7.9,SNR=3.8						
KSRS	**Korea Array**	**53.33**	**283**	P	**P**	**19 35 10.6**	**+0.2**
	comp=Z,2.8nm,0.4s,baz=38,slow=6.9,SNR=16						
SONM	**Songino Array**	**55.01**	**306**	P	**P**	**19 35 23.0**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=38,slow=6.9,SNR=14						
SONM	**Songino Array**	**55.01**	**306**	IAmb	IAmb	19 35 23.8	
	comp=Z,1.6nm,0.7s						
ZALV	**Zalesovo Beam**	**57.62**	**324**	P	**P**	**19 35 40.3**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=27,slow=7.7,SNR=4.8						
MKAR	**Makanchi Array**	**64.67**	**321**	P	**P**	**19 36 28.0**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=35,slow=6.9,SNR=10						
ESDC	**Sonseca Array**	**77.62**	**24**	P	**P**	**19 37 46.8**	**0.0**
	comp=Z,0.3nm,0.5s,baz=346,slow=5.3,SNR=3.0						
CMAR	**Chiang Mai Arr**	**83.05**	**295**	P	**P**	**19 38 16.0**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=10,slow=5.6,SNR=4.4						

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*ISCJB **01** 19:28:38.3±0.9, 8°.28N±0°.04×82°.91W±0°.03, h13km±4km, Error ellipse: s-maj=7.8km s-min=4.4km az=18.7*
*UPA **01** 19:28:38.7±0.6, 8°.33N×82°.89W, h14km±1km, MW3.6*
*UCR **01** 19:28:39.4±1.5, 8°.33N×82°.87W, h10km±3km*
ISC 01 19:28:38.8±1.3, **8°.32N**±0°.06×**82°.90W**±0°.04, **h16**km±7km, **n24**, σ**0s.85**/38, **2C-11D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.14**	**53**	⇓*i*P	**Pg**	**19 28 42.5**	**-0.1**
LESP3				*e*S	**Sg**	**19 28 45.1**	**0.0**
BAGA3	**Bagala, Chiriq**	**0.39**	**69**	⇓*i*P	**Pb**	**19 28 47.4**	**0.0**
DVD	**David**	**0.46**	**76**	⇑*i*P	**Pg**	**19 28 47.9**	**0.0**
DVD				*e*S	**Sb**	**19 28 54.5**	**-0.5**
DVD	**David**	**0.46**	**76**	⇑*i*P	**Pg**	**19 28 47.9**	**0.0**
DVD				*e*S	**Sb**	**19 28 54.5**	**-0.5**
PEDE3	**Pedregal, Chir**	**0.47**	**83**	⇓*i*P	**Pg**	**19 28 48.3**	**0.0**
LOCO3	**Loma Colorada,**	**0.48**	**80**	⇓*i*P	**Pg**	**19 28 48.5**	**+0.1**
EDSV	**San Vito**	**0.50**	**352**	*e*P	**Pg**	**19 28 49.0**	**+0.2**
EDSV				*e*S	**Sb**	**19 28 58.1**	**+1.7**
BRU2	**Volcan**	**0.51**	**24**	⇓*i*P	**Pb**	**19 28 49.4**	**-0.2**
BRU2				*e*S	**Sb**	**19 28 57.6**	**+0.8**
BRU2	**Volcan**	**0.51**	**24**	⇓*i*P	**Pb**	**19 28 49.4**	**-0.2**
BRU2				*e*S	**Sb**	**19 28 57.6**	**+0.8**
LOMA3	**Las Lomas, Chi**	**0.51**	**78**	⇓*i*P	**Pg**	**19 28 48.8**	**-0.2**
LOMA3				*e*S	**Sb**	**19 28 56.3**	**-0.3**
BCO2	**Palmira**	**0.54**	**43**	⇓*i*P	**Pg**	**19 28 49.7**	**+0.2**
BCO2				*e*S	**Sb**	**19 28 58.4**	**+0.8**
PTAR3	**Potrerillos Ar**	**0.54**	**47**	⇓*i*P	**Pg**	**19 28 49.7**	**+0.1**
PTAR3				*e*S	**Sb**	**19 28 58.2**	**+0.6**
CHIR3	**Chiriqui UPA,**	**0.57**	**83**	⇓*i*P	**Pg**	**19 28 49.6**	**-0.4**
CHIR3				*e*S	**Sb**	**19 28 58.8**	**+0.6**
EDPN	**Palmar Norte**	**0.84**	**319**	*e*P	**Pg**	**19 28 53.8**	**-1.3**
EDPN				*e*S	**Sg**	**19 29 06.1**	**-0.2**
CHGR2	**Aguacate**	**0.96**	**51**	⇓*i*P	**Pg**	**19 28 56.1**	**-1.4**
CHGR2				*e*S	**Sg**	**19 29 09.1**	**-1.1**
DRK0	**Durika**	**0.99**	**340**	*e*P	**Pg**	**19 28 56.9**	**-1.2**
DRK0	**Durika**	**0.99**	**340**	*e*P	**Pg**	**19 28 56.9**	**-1.2**
REME3	**Remedios, Chir**	**1.06**	**95**	*e*P	**Pb**	**19 28 57.3**	**-1.5**
REME3				*e*S	**Sb**	**19 29 12.3**	**-0.1**
EDLM	**Las Mercedes**	**1.17**	**324**	*e*P	**Pb**	**19 29 00.4**	**-0.3**
CNI2	**El Empalme, Bo**	**1.17**	**21**	*e*P	**Pb**	**19 28 59.7**	**-1.0**
CNI2				*e*S	**Sb**	**19 29 14.2**	**-1.5**
EDDO	**Dominical**	**1.33**	**314**	*e*P	**Pn**	**19 29 03.1**	**+0.4**
LCR2	**La Lucha 2**	**1.78**	**322**	*e*P	**Pb**	**19 29 11.8**	**+0.6**
AZU	**Azuero**	**2.65**	**101**	*e*P	**Pn**	**19 29 22.5**	**+1.6**
JTS	**Las Juntas de**	**2.82**	**314**	*e*P	**Pn**	**19 29 24.4**	**+1.1**

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*NIED **01** 19:48:00, 37°.40N×141°.40E, h38km, Mw3.5 Best double couple: $M_0$2.18000×10^{14} NP1:ϕ_s153.00000°, δ16.00000°, λ-2.00000°. NP2:ϕ_s245.00000°, δ90.00000°, λ-106.00000°.*
JMA 01 19:48:02.9±0.1, **37°.41N**×**141°.33E**, **h34**km±1km, **M3.7, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.36**	**263**	P	Pb	19 48 11.4	-0.2
JFK				S	Sn	19 48 17.0	-0.5
JMST	**Minamisoumatoc**	**0.47**	**312**	P	Pb	19 48 12.6	-0.5
JMST				S	Sb	19 48 19.4	-0.7
ONAJ	**Iwakimizuishiy**	**0.52**	**234**	P	Pb	19 48 13.5	-0.5
ONAJ				S	Sb	19 48 20.7	-0.9
JMM	**Marumori**	**0.62**	**317**	P	Pn	19 48 14.9	-0.4
JMM				S	Sn	19 48 23.3	-0.8
JFFD	**Fukushimafurud**	**0.69**	**243**	P	Pn	19 48 16.1	-0.2
JFFD				S	Sn	19 48 25.0	-0.8
JFT	**Otama**	**0.80**	**278**	P	Pb	19 48 18.4	0.0
JFT				S	Sb	19 48 29.0	0.0
JHO	**Hitachi**	**1.00**	**218**	P	Pn	19 48 19.7	-0.9
JHO				*e*S	Sn	19 48 31.9	-1.6
JIO	**Ouri**	**1.04**	**1**	P	Pn	19 48 20.9	-0.2
JIO				S	Sn	19 48 33.6	-0.9
JOU	**Okura**	**1.09**	**331**	P	Pn	19 48 22.5	+0.7
JOU				S	Sb	19 48 36.8	-0.5
JYS	**Shirataka**	**1.29**	**309**	P	Pb	19 48 25.9	-0.7
JYS				S	Sb	19 48 42.7	-0.2
JFY	**Yanaizu**	**1.29**	**270**	P	Pb	19 48 26.0	-0.7
JFY				S	Sb	19 48 42.3	-0.8
MAT	**Matsushiro**	**2.65**	**252**	P	Pb	19 48 47.5	-2.1
MAT				S	Sb	19 49 20.0	-1.7

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*UPA **01** 19:50:18.4±0.5, 8°.31N×82°.91W, h18km±1km, MW3.5*
*UCR **01** 19:50:19.3±1.6, 8°.32N×82°.88W, h13km±4km*
ISC 01 19:50:18.4±2.4, **8°.3N**±0°.1×**82°.89W**±0°.06, **h17**km±11km, **n10**, σ**0s.48**/17, **3D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.16**	**39**	*e*P	**Pg**	**19 50 22.8**	**+0.1**
LESP3				*e*S	**Sb**	**19 50 26.2**	**+0.3**
LOCO3	**Loma Colorada,**	**0.48**	**75**	*e*P	**Pg**	**19 50 28.1**	**0.0**
BRU2	**Volcan**	**0.55**	**21**	⇓*i*P	**Pb**	**19 50 29.5**	**-0.1**
BRU2				*e*S	**Sb**	**19 50 37.7**	**+0.5**
BRU2	**Volcan**	**0.55**	**21**	⇓*i*P	**Pb**	**19 50 29.5**	**-0.1**
BRU2				*e*S	**Sb**	**19 50 37.7**	**+0.5**
BCO2	**Palmira**	**0.56**	**39**	⇓*i*P	**Pg**	**19 50 29.8**	**+0.2**
BCO2				*e*S	**Sb**	**19 50 38.2**	**+0.6**
CHIR3	**Chiriqui UPA,**	**0.56**	**78**	*e*P	**Pg**	**19 50 29.9**	**+0.2**
PTAR3	**Potrerillos Ar**	**0.56**	**44**	*e*P	**Pg**	**19 50 29.4**	**-0.2**
CHGR2	**Aguacate**	**0.98**	**48**	*e*P	**Pb**	**19 50 36.2**	**-0.7**
CHGR2				*e*S	**Sb**	**19 50 49.7**	**0.0**
DRK0	**Durika**	**1.04**	**340**	*e*P	**Pb**	**19 50 37.1**	**-0.9**
DRK0				*e*S	**Sb**	**19 50 50.8**	**-0.5**
LCR2	**La Lucha 2**	**1.82**	**323**	*e*P	**Pb**	**19 50 51.9**	**+0.5**
LCR2				*e*S	**Sg**	**19 51 17.1**	**0.0**

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*UPA **01** 19:59:02.9±0.6, 8°.33N×82°.87W, h16km±1km, MW3.8*
*UCR **01** 19:59:03.5±1.4, 8°.34N×82°.86W, h11km±6km*
ISC 01 19:58:60.0±2.6, **8°.2N**±0°.1×**82°.93W**±0°.05, **h18**km±15km, **n18**, σ**0s.69**/28, **2C-4D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LESP3	**La Esperanza,**	**0.25**	**34**	⇓*i*P	**Pb**	**19 59 06.7**	**+0.9**
BAGA3	**Bagala, Chiriq**	**0.48**	**56**	*e*P	**Pn**	**19 59 11.3**	**-0.7**
DVD	**David**	**0.53**	**64**	⇑*i*P	**Pn**	**19 59 12.1**	**-0.5**
DVD				*e*S	**Sb**	**19 59 18.4**	**+0.3**
DVD	**David**	**0.53**	**64**	⇑*i*P	**Pn**	**19 59 12.1**	**-0.5**
DVD				*e*S	**Sb**	**19 59 18.4**	**+0.3**
PEDE3	**Pedregal, Chir**	**0.54**	**70**	*e*P	**Pn**	**19 59 12.3**	**-0.4**
LOCO3	**Loma Colorada,**	**0.55**	**68**	⇓*i*P	**Pn**	**19 59 12.6**	**-0.4**
LOCO3				*e*S	**Sb**	**19 59 18.6**	**0.0**
CHIR3	**Chiriqui UPA,**	**0.62**	**72**	*e*P	**Pn**	**19 59 13.6**	**-0.4**
CHIR3				*e*S	**Sb**	**19 59 21.9**	**+1.1**
BRU2	**Volcan**	**0.64**	**22**	*e*P	**Pn**	**19 59 13.5**	**-0.8**
BRU2				*e*S	**Sg**	**19 59 21.5**	**+0.2**
BRU2	**Volcan**	**0.64**	**22**	⇓*i*P	**Pn**	**19 59 13.5**	**-0.8**
BRU2				*e*S	**Sg**	**19 59 21.5**	**+0.2**
BCO2	**Palmira**	**0.65**	**38**	⇓*i*P	**Pn**	**19 59 13.8**	**-0.7**
BCO2				*e*S	**Sg**	**19 59 22.1**	**+0.3**
PTAR3	**Potrerillos Ar**	**0.65**	**41**	*e*P	**Pn**	**19 59 13.9**	**-0.6**
CHGR2	**Aguacate**	**1.07**	**47**	*e*P	**Pn**	**19 59 19.9**	**-0.2**
CHGR2				*e*S	**Sg**	**19 59 33.1**	**-1.7**
DRK0	**Durika**	**1.10**	**344**	*e*P	**Pn**	**19 59 21.1**	**+0.3**
DRK0				*e*S	**Sg**	**19 59 35.0**	**-0.9**
DRK0	**Durika**	**1.10**	**344**	*e*P	**Pn**	**19 59 21.0**	**+0.3**
DRK0				*e*S	**Sg**	**19 59 35.0**	**-0.9**
EDDO	**Dominical**	**1.40**	**319**	*e*P	**Pg**	**19 59 27.7**	**+0.8**
LCR2	**La Lucha 2**	**1.86**	**325**	*e*P	**Pg**	**19 59 35.9**	**0.0**
ARE1	**Arenal 1**	**2.86**	**322**	*e*P	**Pb**	**19 59 50.5**	**-0.1**
JTS	**Las Juntas de**	**2.88**	**316**	*e*P	**Pb**	**19 59 50.7**	**-0.2**

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*ISCJB **01** 20:14:07.8±0.5, 31°.01S±0°.03×177°.94W±0°.09, h46km, mb4.7/16, MS3.5/12, Error ellipse: s-maj=11.1km s-min=3.3km az=13.3*
*BJI **01** 20:14:07.6±0.0, 30°.71S×177°.74W, h39km, mb5.1/11, mB5.7/4, Ms5.2/1*
*NEIC **01** 20:14:08.9±3.0, 30°.81S±0°.04×178°.2W±0°.2, h32km±4km, mb4.8/15*
*IDC **01** 20:14:10.8±2.0, 30°.69S×178°.13W, h48km±17km, mb4.3/12, mb1 4.5/13, mb1mx4.2/31, mbtmp4.5/13, ML4.1/1, MS3.5/14, Ms1 3.5/14, ms1mx3.2/46, Error ellipse: s-maj=19.0km s-min=16.0km az=111.0*
ISC 01 20:14:10.1±0.4, **30°.84S**±0°.05×**177°.96W**±0°.09, **h46**km, **n133**, σ**2s.21**/130, **mb4.8**/21, **MS3.6**/13, **2D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.58**	**1**	P	**Pn**	**20 14 33.5**	**-2.1**
GLKZ				S	**Sn**	**20 14 49.6**	**-5.1**
RAO	**Raoul Island**	**1.59**	**1**	P	**Pn**	**20 14 33.7**	**-2.0**
	578nm,0.3s,baz=103,slow=7.9,SNR=60						
RAO				S	**Sn**	**20 14 49.7**	**-5.4**
	2μm,0.3s,baz=76,slow=24,SNR=19						
RAO	**Raoul Island**	**1.59**	**1**		**Pn**	**20 14 34.0**	**-1.7**
RAO				Sn	**Sn**	**20 14 52.2**	**-2.8**
RIZ	**Raoul Island**	**1.59**	**1**	P	**Pn**	**20 14 33.6**	**-2.2**
RIZ				S	**Sn**	**20 14 52.0**	**-3.1**
MXZ	**Matakaoa Point**	**7.38**	**204**	P	**Pn**	**20 15 52.4**	**-2.8**
MXZ				S	**Sn**	**20 17 16.5**	**-1.1**
WMGZ	**Waiomatatini S**	**7.58**	**202**	P	**Pn**	**20 15 56.1**	**-1.8**
WMGZ				S	**Sn**	**20 17 23.0**	**+0.6**
GRZ	**Great Barrier**	**7.70**	**224**	P	**Pn**	**20 16 03.8**	**+4.3**
HAZ	**Te Kaha**	**7.74**	**206**	P	**Pn**	**20 15 58.3**	**-1.8**
HAZ				S	**Sn**	**20 17 26.8**	**+0.4**
PKGZ	**Pakihiroa**	**7.75**	**204**	P	**Pn**	**20 15 57.9**	**-2.5**
PKGZ				S	**Sn**	**20 17 24.7**	**-2.1**
PUZ	**Puketiti**	**7.86**	**202**	P	**Pn**	**20 15 59.4**	**-2.4**
PUZ				S	**Sn**	**20 17 27.9**	**-1.4**
RUGZ	**Raukumara Rang**	**7.97**	**206**	P	**Pn**	**20 16 00.9**	**-2.4**
RUGZ				S	**Sn**	**20 17 30.8**	**-1.3**
WCZ	**Waipu Caves**	**8.20**	**230**	P	Pn	20 16 12.5	+6.1
CNGZ	**Carnagh Statio**	**8.25**	**201**	P	**Pn**	**20 16 04.5**	**-2.6**
CNGZ				S	**Sn**	**20 17 32.8**	**-6.1**
OUZ	**Omahuta**	**8.33**	**236**	P	Pn	20 16 13.5	+5.4
OUZ	**Omahuta**	**8.33**	**236**		Pn	20 16 13.9	+5.8
MWZ	**Matawai**	**8.35**	**205**	P	**Pn**	**20 16 05.7**	**-2.7**
MWZ				S	**Sn**	**20 17 39.7**	**-1.7**
URZ	**Urewera**	**8.44**	**207**	P	**Pn**	**20 16 06.0**	**-3.7**
	0.6nm,0.3s,baz=274,slow=5.9,SNR=7.8						
URZ				S	**Sn**	**20 17 41.9**	**-1.7**
	7.9nm,0.3s,baz=70,slow=18,SNR=9.3						
URZ	**Urewera**	**8.44**	**207**	P	**Pn**	**20 16 06.4**	**-3.3**
URZ				S	**Sn**	**20 17 41.8**	**-1.8**
URZ	**Urewera**	**8.44**	**207**		**Sn**	**20 17 45.0**	**+1.4**
RAGZ	**Rawiri**	**8.53**	**205**	P	**Pn**	**20 16 07.7**	**-3.4**
RAGZ				S	**Sn**	**20 17 45.2**	**-0.8**
RIGZ	**Rimuhau**	**8.60**	**203**	P	**Pn**	**20 16 08.9**	**-3.0**
RIGZ				S	**Sn**	**20 17 45.6**	**-1.9**
PRGZ	**Paritu Road**	**8.75**	**202**	P	**Pn**	**20 16 10.2**	**-3.9**
MUGZ	**Murupara**	**8.77**	**208**	P	**Pn**	**20 16 12.3**	**-1.8**
MUGZ				S	**Sn**	**20 17 49.4**	**-2.2**
RTZ	**Ruatahuna**	**8.80**	**207**	P	**Pn**	**20 16 10.4**	**-4.3**
KNZ	**Kokohu**	**8.91**	**203**	P	**Pn**	**20 16 12.2**	**-3.9**
MTHZ	**Maungataniwha**	**9.06**	**207**	P	**Pn**	**20 16 16.3**	**-2.0**
MTHZ				S	**Sn**	**20 17 57.1**	**-1.8**
ARHZ	**Aropaoanui**	**9.36**	**205**	P	**Pn**	**20 16 18.0**	**-4.4**
ARHZ				S	**Sn**	**20 18 02.9**	**-3.3**
BKZ	**Black Stump Fm**	**9.47**	**207**	P	**Pn**	**20 16 20.4**	**-3.5**
BKZ				S	**Sn**	**20 18 05.5**	**-3.4**
BKZ	**Black Stump Fm**	**9.47**	**207**	Pn	**Pn**	**20 16 21.4**	**-2.4**
BKZ					**Sn**	**20 18 06.6**	**-2.3**
CKHZ	**Cape Kidnapper**	**9.68**	**203**	P	Pn	20 16 21.9	-4.9
CKHZ				S	**Sn**	**20 18 08.5**	**-5.6**
TRVZ	**Turoa**	**9.97**	**210**	P	**Pn**	**20 16 32.4**	**+1.5**
PRHZ	**Porangahau**	**10.38**	**204**	P	Pn	20 16 31.1	-5.1
HOWZ	**Holdsworth Sta**	**11.34**	**206**	P	**Pn**	**20 16 46.3**	**-3.1**
THZ	**Tophouse**	**13.14**	**211**	P	**Pn**	**20 17 10.7**	**-3.4**
KHZ	**Kahutara**	**13.41**	**208**	P	Pn	20 17 11.1	-6.5
INZ	**Inchbonnie**	**14.57**	**213**	P	**Pn**	**20 17 31.9**	**-1.4**
RPZ	**Rata Peaks**	**15.52**	**211**	P	**Pn**	**20 17 46.2**	**+0.5**
	0.7nm,0.3s,baz=49,slow=10,SNR=3.2						
RPZ				S	Sn	20 20 22.4	-14
	0.7nm,0.3s,baz=136,slow=23,SNR=4.7						
RPZ				LR	LR	20 23 39.4	
	comp=Z,165nm,19.8s,baz=24,slow=36						
DZM	**Mont Dzumac**	**16.46**	**298**	*e*P	**P**	**20 18 00.8**	**+0.7**
	42nm,1.2s						
DZM				*e*LR	LR	20 21 48.0	
	comp=Z,476nm,25.8s						
DZM	**Mont Dzumac**	**16.46**	**298**	LR	LR	20 23 18.5	
	comp=Z,187nm,18.2s,baz=134,slow=34						
JCZ	**Jackson Bay**	**16.86**	**215**	P	**Pn**	**20 18 01.4**	**-1.3**
AFI	**Afiamalu**	**17.79**	**20**	LR	LR	20 23 43.9	
	comp=Z,68nm,20.3s,baz=72,slow=32						
RAR	**Rarotonga**	**18.93**	**64**	LR	LR	20 23 42.3	
	comp=Z,123nm,20.1s,baz=172,slow=30						
ARMA	**Armidale**	**26.14**	**263**	P	**P**	**20 19 43.1**	**+3.0**
	baz=26,SNR=7.1						
TBI	**Tubuai**	**26.39**	**81**	*e*LR	LR	20 26 19.4	
	comp=Z,183nm,27.8s						
TBI	**Tubuai**	**26.39**	**81**	*e*T	T	20 47 13.5	
	75nm,0.4s						
PAE	**Paea**	**28.91**	**70**	*e*T	T	20 50 19.9	
	18nm,0.3s						
PPT2	**Papeete2**	**28.95**	**69**	*e*LR	LR	20 27 24.4	
	comp=Z,171nm,28.0s						
PPT2	**Papeete2**	**28.95**	**69**	*e*T	T	20 50 23.8	
	12nm,0.3s						
PPT	**Papeete**	**28.97**	**69**	LR	LR	20 28 33.4	
	comp=Z,41nm,21.0s,baz=180,slow=30						
TVO	**Taravao**	**29.11**	**70**	*e*T	T	20 50 35.5	
	3.7nm,0.3s						
TIAR	**Tiarei**	**29.16**	**70**	*e*T	T	20 50 38.3	
	4.0nm,0.4s						
RMQ	**Roma**	**29.46**	**270**	P	**P**	**20 20 12.8**	**+3.0**
	baz=29,SNR=5.4						
HNR	**Honiara**	**29.62**	**311**	LR	LR	20 29 48.7	
	comp=Z,69nm,19.0s,baz=122,slow=32						
MEH	**Mehetia**	**30.03**	**71**	*e*T	T	20 51 44.1	
	27nm,0.3s						
CMSA	**Cobar Meteorol**	**31.02**	**259**	P	**P**	**20 20 25.1**	**+1.7**
	baz=31,SNR=16						
PMOR	**Pomariorio Ree**	**31.73**	**67**	*e*T	T	20 53 49.7	
	4.5nm,0.3s						
VAH	**Vaihoa**	**31.81**	**68**	*e*T	T	20 53 55.6	
	94nm,0.2s						
QLP	**Quilpie**	**33.33**	**268**	P	**P**	**20 20 44.8**	**+1.1**
	baz=33,SNR=3.5						
STKA	**Stephens Creek**	**34.42**	**258**	P	**P**	**20 20 54.1**	**+1.0**
	baz=34,SNR=57						
STKA	**Stephens Creek**	**34.42**	**258**	P	**P**	**20 20 53.8**	**+0.7**
	26nm,0.8s,baz=99,slow=9.8,SNR=70						
STKA				LR	LR	20 32 37.3	
	comp=Z,89nm,19.8s,baz=33,slow=32						
STKA	**Stephens Creek**	**34.42**	**258**	P	**P**	**20 20 54.4**	**+1.3**
STKA				IAmb	IAmb	20 20 55.3	
	comp=Z,5.6nm,0.8s						
HTT	**Hallett**	**36.42**	**254**	P	**P**	**20 21 10.7**	**+0.4**
	baz=36,SNR=18						
MTSU	**Mount Surprise**	**36.42**	**281**	P	**P**	**20 21 11.3**	**+0.9**
	baz=36,SNR=10						
BBOO	**Buckleboo**	**38.89**	**255**	P	**P**	**20 21 30.6**	**-0.5**
	baz=39,SNR=41						
BBOO	**Buckleboo**	**38.89**	**255**	P	**P**	**20 21 30.7**	**-0.5**
QIS	**Mount Isa**	**39.38**	**275**	P	**P**	**20 21 35.1**	**-0.4**
	baz=39,SNR=7.4						
AS31	**Alice Springs**	**43.12**	**267**	P	**P**	**20 22 06.1**	**-0.1**
ASAR	**Alice Springs**	**43.12**	**267**	P	**P**	**20 22 05.4**	**-0.8**
	comp=Z,13nm,0.7s,baz=107,slow=7.7,SNR=87						
ASAR				PcP	**PcP**	**20 23 55.0**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=106,slow=3.1,SNR=3.2						
ASAR				ScP	**ScP**	**20 27 42.5**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=106,slow=4.5,SNR=5.8						
ASAR				LR	LR	20 39 43.0	
	comp=Z,67nm,18.8s,baz=110,slow=36						
ASAR	**Alice Springs**	**43.12**	**267**	P	**P**	**20 22 05.1**	**-1.1**
WR0	**Warramunga Arr**	**43.97**	**273**	P	**P**	**20 22 12.0**	**-1.0**
WR0				IAmb	IAmb	20 22 13.6	
	comp=Z,16nm,0.8s						
WB2	**Warramunga Arr**	**44.14**	**273**	P	**P**	**20 22 13.5**	**-0.9**
WB2				IAmb	IAmb	20 22 14.9	
	comp=Z,20nm,0.8s						
WRAB	**Tennant Creek**	**44.15**	**273**	P	**P**	**20 22 13.0**	**-1.5**
WRAB				IAmb	IAmb	20 22 14.9	
	comp=Z,21nm,0.8s						
WRA	**Warramunga Arr**	**44.15**	**273**	P	**P**	**20 22 13.4**	**-1.0**
	comp=Z,18nm,0.6s,baz=112,slow=7.7,SNR=128						
WRA				PcP	**PcP**	**20 23 59.8**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=118,slow=3.0,SNR=4.0						
WRA				LR	LR	20 40 21.2	
	comp=Z,76nm,18.3s,baz=165,slow=36						
WRA	**Warramunga Arr**	**44.15**	**273**	P	**P**	**20 22 13.2**	**-1.2**
WB0	**Warramunga Arr**	**44.18**	**273**	P	**P**	**20 22 13.8**	**-0.8**
WB0				IAmb	IAmb	20 22 15.2	
	comp=Z,22nm,0.7s						
FORT	**Forrest**	**45.97**	**256**	P	**P**	**20 22 27.6**	**-1.2**
	baz=46,SNR=27						
FORT	**Forrest**	**45.97**	**256**	P	**P**	**20 22 26.9**	**-1.8**
WRKA	**Warakurna**	**47.46**	**263**	P	**P**	**20 22 38.6**	**-2.0**
	baz=47,SNR=20						
KNRA	**Kununurra**	**50.78**	**275**	P	**P**	**20 23 05.9**	**0.0**
	baz=51,SNR=3.9						
FITZ	**Fitzroy Crossi**	**52.40**	**270**	P	**P**	**20 23 17.2**	**-0.8**
	baz=52,SNR=8.1						
FITZ	**Fitzroy Crossi**	**52.40**	**270**	LR	LR	20 44 36.8	
	comp=Z,56nm,18.4s,baz=109,slow=35						
MEEK	**Meekatharra**	**55.12**	**257**	P	**P**	**20 23 37.3**	**-0.6**
	baz=55,SNR=3.1						
BATI	**Baumata**	**57.74**	**278**	LR	LR	20 47 09.3	
	comp=Z,186nm,19.3s,baz=114,slow=34						
QSPA	**South Pole Qui**	**59.27**	**180**	P	**P**	**20 24 09.1**	**+2.3**
	comp=Z,6.1nm,0.7s,baz=19,slow=1.7,SNR=21						
QSPA	**South Pole Qui**	**59.27**	**180**	P	**P**	**20 24 09.3**	**+2.6**
MAW	**Mawson**	**71.91**	**201**	P	**P**	**20 25 28.5**	**+0.5**
	comp=Z,3.4nm,0.7s,baz=136,slow=6.9,SNR=7.3						
MAW	**Mawson**	**71.91**	**201**	P	**P**	**20 25 29.1**	**+1.1**
SYO	**Syowa Base**	**76.69**	**193**	⇓*e*P	**P**	**20 25 55.0**	**-0.8**
SYO	**Syowa Base**	**76.69**	**193**	⇓*i*X	P	20 26 02.4	+6.6
TROLL	**Troll, Antarti**	**77.43**	**180**	P	**P**	**20 26 01.7**	**+1.6**
SNAA	**Sanae**	**77.71**	**178**	P	**P**	**20 26 02.6**	**+1.0**
SNAA	**Sanae**	**77.71**	**178**	P	**P**	**20 26 00.6**	**-1.0**
SNAA				IAmb	IAmb	20 26 08.3	
	comp=Z,5.9nm,0.9s						
VNA3	**Neumayer Olymp**	**77.86**	**176**	P	**P**	**20 26 03.4**	**+1.1**
VNA2	**Neumayer--Watz**	**78.30**	**177**	P	**P**	**20 26 02.9**	**-1.9**
	baz=197,slow=2.3						
VNA1	**Neumayer--Stat**	**78.53**	**177**	P	**P**	**20 26 07.9**	**+1.9**
MJAR	**Matsushiro Arr**	**78.63**	**325**	P	**P**	**20 26 07.1**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=150,slow=5.5,SNR=3.7						
MJAR	**Matsushiro Arr**	**78.63**	**325**	IAmb	IAmb	20 26 09.1	
	comp=Z,0.9nm,1.1s						
PLCA	**Paso Flores**	**82.18**	**133**	P	**P**	**20 26 28.7**	**+2.4**
	comp=Z,2.8nm,0.9s,baz=236,slow=5.6,SNR=4.8						
PLCA	**Paso Flores**	**82.18**	**133**	IAmb	IAmb	20 26 46.8	
	comp=Z,6.4nm,0.9s						
PETK	**Petropavlovsk-**	**86.25**	**346**	P	**P**	**20 26 47.7**	**+1.4**
	comp=Z,6.2nm,0.6s,baz=117,slow=7.7,SNR=22						
NJ2	**Nanjing**	**86.56**	**311**	*e*P	**P**	**20 26 49.8**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NVAR	**Mina Array Bea**	**88.54**	**43**	P	**P**	**20 26 59.2**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=222,slow=8.5,SNR=14						
CFA	**Coronel Fontan**	**88.94**	**127**	P	**P**	**20 27 01.3**	**+1.3**
	comp=Z,3.0nm,0.8s,baz=255,slow=3.3,SNR=7.8						
TXAR	**Lajitas Array**	**92.60**	**57**	P	**P**	**20 27 17.8**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=210,slow=3.1,SNR=3.5						
NNA	**Nana**	**93.27**	**106**	LR	LR	20 59 21.8	
	comp=Z,22nm,21.5s,baz=217,slow=29						
LVC	**Limon Verde**	**93.69**	**119**	LR	LR	21 01 26.4	
	comp=Z,16nm,21.9s,baz=213,slow=30						
CD2	**Chengdu**	**96.35**	**302**	P	**P**	**20 27 33.8**	**-0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PDAR	**Pinedale Array**	**96.43**	**44**	LR	LR	21 02 41.3	
	comp=Z,20nm,20.9s,baz=345,slow=30						
HHC	**Hu-ho-hao-te**	**96.57**	**314**	*e*P	**P**	**20 27 37.3**	**+2.4**
HHC				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ILAR	**Eielson Array**	**98.35**	**13**	P	**P**	**20 27 40.8**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=222,slow=3.6,SNR=4.0						
LZH	**Lanzhou**	**99.02**	**307**	*e*P	Pdif	20 27 48.3	+2.2
LZH				pP	sP	20 28 02.0	-1.6
LZH				sP	pwP	20 28 07.6	+4.6
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
WMQ	**Urumqi**	**113.53**	**308**	*e*PKP	**PKiKP**	**20 32 42.8**	**-0.2**
WMQ				LR	LR		
	comp=Z,520nm,29.1s						
MKAR	**Makanchi Array**	**118.08**	**310**	PKP	**PKPdf**	**20 32 49.9**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=210,slow=1.5,SNR=18						
GEYT	**Alibeck**	**133.78**	**295**	PKP	**PKPdf**	**20 33 21.0**	**-1.0**
	comp=Z,3.2nm,0.9s,baz=201,slow=1.2,SNR=3.6						
ARCES	**ARCESS Array B**	**139.03**	**348**	PKhKP	PKPpre	20 33 24.7	
	comp=Z,3.4nm,0.8s,baz=11,slow=1.8,SNR=8.1						
KBZ	**Khabaz**	**145.39**	**303**	PKPbc	**PKPbc**	**20 33 40.2**	**-2.5**
	comp=Z,3.1nm,0.8s,baz=213,slow=4.1,SNR=7.2						
FINES	**FINESS Array B**	**145.57**	**340**	PKPbc	**PKPdf**	**20 33 41.1**	**-1.4**
	comp=Z,21nm,0.5s,baz=64,slow=2.9,SNR=90						
FINES	**FINESS Array B**	**145.57**	**340**		**PKPdf**	**20 33 41.2**	**-1.2**
NB2	**NORSAR Subarra**	**149.19**	**351**	PKP	**PKPbc**	**20 33 51.7**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=12,slow=2.7						
NOA	**NORSAR Array B**	**149.19**	**351**	PKPbc	**PKPbc**	**20 33 51.9**	**-1.0**
	comp=Z,2.9nm,0.7s,baz=15,slow=4.1,SNR=9.0						
AKASG	**Malin Array Be**	**151.67**	**322**	PKPbc	**PKPbc**	**20 33 57.7**	**-1.3**
	comp=Z,13nm,0.6s,baz=49,slow=2.6,SNR=20						
AKASG	**Malin Array Be**	**151.67**	**322**		**PKiKP**	**20 34 01.8**	**+2.4**
AKBB	**Malin Array Si**	**151.67**	**322**		**PKiKP**	**20 34 01.7**	**+2.3**
BR131	**Keskin Array S**	**152.84**	**298**		**PKiKP**	**20 34 04.6**	**+2.2**
BRTR	**Keskin Array B**	**152.84**	**298**	PKPbc	**PKPbc**	**20 34 00.6**	**-1.6**
	comp=Z,4.0nm,0.6s,baz=131,slow=4.2,SNR=22						
BRTR	**Keskin Array B**	**152.84**	**298**		**PKiKP**	**20 34 04.0**	**+1.6**
DBIC	**Dimbokro**	**155.10**	**164**	PKP	**PKPdf**	**20 33 59.0**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=226,slow=3.3,SNR=4.5						
LANS	**Liptovska Anna**	**157.46**	**329**	*e*PKP	**PKPab**	**20 34 35.5**	**+2.9**
CLL	**Collm**	**158.00**	**341**	*e*PKPdf	**PKPdf**	**20 34 03.0**	**+1.7**
CLL				*e*PKPab	**PKPab**	**20 34 32.0**	**-2.8**
CLL				*e*pPKPab	**pPKPab**	**20 34 45.0**	**-2.4**
VYHS	**Vyhne**	**158.22**	**329**	*e*PKP	**PKPab**	**20 34 38.0**	**+2.1**
KHC	**Kasperske Hory**	**159.75**	**338**	*e*PKPAB	**PKPab**	**20 34 44.5**	**+2.0**
GERES	**GERESS Array B**	**159.96**	**337**	PKPab	**PKPab**	**20 34 44.9**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=36,slow=5.0,SNR=6.8						
TORD	**Torodi Ar. Bea**	**162.39**	**179**	PKP	**PKPdf**	**20 34 07.2**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=219,slow=1.1,SNR=3.6						
TORD				PKPab	**PKPab**	**20 34 55.1**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=173,slow=5.0,SNR=11						

DJA 01 20:15:49.8±0.5, **1°S**±5°×**12°0E**±°, **h10**km, **M3.9**/3, **MLv3.9**/3, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.60**	**194**	P	Pn	20 16 15.8	-2.4
TTSI				S	Sn	20 16 38.2	-0.7
LUWI	**Luwuk**	**2.61**	**80**	P	Pn	20 16 32.1	+0.1
LUWI				S	Sb	20 17 08.3	-0.5
MRSI	**Marisa**	**2.61**	**42**	P	Pn	20 16 31.5	-0.6
BNSI	**Bone**	**2.90**	**182**	P	Pn	20 16 37.7	+1.6

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*NEIC **01** 20:19:15.3±2.7, 17°.58S±0°.04×68°.0W±0°.1, h236km±7km, mb4.4/6*
*ISCJB **01** 20:19:16.2±0.4, 17°.60S±0°.04×68°.05W±0°.06, h228km±4km, mb3.6/7, Error ellipse: s-maj=9.7km s-min=6.4km az=7.3*
*GUC **01** 20:19:17.5±0.5, 18°.03S×68°.65W, h269km±6km, ML3.5*
*SJA **01** 20:19:18.0±0.9, 17°.81S×68°.13W, h243km±12km, ML4.1, MW3.7*
*IDC **01** 20:19:20.2±0.7, 16°.96S×67°.75W, h227km±3km, mb3.4/7, mb1 3.7/9, mb1mx3.5/30, mbtmp4.0/9, Error ellipse:*

s-maj=21.7km s-min=16.0km az=31.0

ISC 01 20:19:15.8±0.7**, 17°.62S**±0°.05×**68°.01W**±0°.07**, h224**km±7km**, n53,** σ2s15/65**, mb4.1**/10**, 1C-6D, Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	1.33	355	P	Pn	20 19 52.5	+1.4
	12nm,0.3s,baz=159,slow=3.0,SNR=252						
LPAZ				S	S	20 20 17.9	-0.6
	8.7nm,0.3s,baz=290,slow=23,SNR=17						
LPAZ	La Paz	1.33	355		Pn	20 19 52.4	+1.3
PB16	IPOC Station P	1.59	243	⇓iP	Pn	20 19 54.8	+1.7
MNMC	Minye Minye	2.13	225	⇓iP	Pn	20 19 59.0	+1.3
MNMC				iS	S	20 20 30.8	+0.5
MNMC				IAML		20 20 32.5	
	comp=N,226nm,0.7s						
MNMC	Minye Minye	2.13	225		Pn	20 19 59.3	+1.6
MNMCX	Minye Minye	2.13	225	eP	Pn	20 19 59.1	+1.4
MNMCX				iS	S	20 20 30.9	+0.5
GO01	Chusmiza	2.33	209	⇓iP	Pn	20 20 01.7	+1.8
GO01				iS	S	20 20 35.5	+1.2
GO01				IAML		20 20 41.7	
	comp=E,75nm,0.2s						
GO01	Chusmiza	2.33	209		Pn	20 20 02.0	+2.0
PB11	IPOC Station P	2.64	216	iP	Pn	20 20 03.5	+0.6
PB11				iS	S	20 20 38.2	-1.5
PB11				IAML		20 20 42.5	
	comp=E,123nm,0.4s						
PB11	IPOC Station P	2.64	216		Pn	20 20 03.9	+0.9
PB08	IPOC Station P	2.73	203	⇓iP	Pn	20 20 06.0	+1.8
PB08				iS	S	20 20 42.2	+0.2
PB08				IAML		20 20 44.7	
	comp=E,122nm,0.5s						
PSGC	Pisagua	2.81	225	⇓iP	Pn	20 20 04.2	-0.5
PSGC				iS	S	20 20 40.1	-2.8
PSGC				IAML		20 20 41.7	
	comp=N,95nm,0.6s						
PB01	IPOC Station P	3.68	202	iP	Pn	20 20 15.4	+0.6
PB01				iS	S	20 20 58.3	-2.8
PB01	IPOC Station P	3.68	202		Pn	20 20 15.4	+0.6
PB02	IPOC Station P	4.09	205	eP	Pn	20 20 21.2	+1.5
PB02				iS	S	20 21 06.9	-3.1
PB09	IPOC Station P	4.32	195	eP	Pn	20 20 24.0	+1.5
PB09				IAML		20 21 18.7	
	comp=N,122nm,0.5s						
PB07	IPOC Station P	4.45	203	⇑iP	Pn	20 20 25.0	+0.8
PB07				iS	S	20 21 14.3	-3.9
PB03	IPOC Station P	4.70	200	eP	Pn	20 20 28.1	+0.8
PB03				iS	S	20 21 19.5	-4.2
LVC	Limon Verde	5.04	189	P	Pn	20 20 44.1	+12
	comp=N,5.3nm,0.3s,baz=9.8,slow=9.1,SNR=46						
LVC	Limon Verde	5.04	189	Pn	Pn	20 20 33.1	+1.5
PB04	IPOC Station P	5.10	203		Pn	20 20 32.4	+0.1
PB04	IPOC Station P	5.10	203	IAML		20 21 32.4	
	comp=Z,158nm,0.4s						
YJA	Yavi	5.11	153	iP	Pn	20 20 35.1	+2.4
YJA				iS	S	20 21 35.0	+1.7
PB06	IPOC Station P	5.27	196	iP	Pn	20 20 35.4	+1.0
PB06				IAML		20 21 18.9	
	comp=Z,64nm,0.2s						
PB05	IPOC Station P	5.60	201	iP	Pn	20 20 38.7	+0.2
PB05				iS	S	20 21 38.7	-5.4
PB15	IPOC Station P	5.73	194	iP	Pn	20 20 41.8	+1.6
PB15				iS	S	20 21 45.3	-1.8
SIV	San Ignacio	6.84	77	P	Pn	20 20 54.3	-0.1
	comp=Z,0.5nm,0.3s,baz=266,slow=11,SNR=11						
ASTB	Santa Barbara	7.12	153	⇓iP	Pn	20 20 59.2	+1.1
AZAP	Zapla	7.13	158	⇑iP	Pn	20 20 58.8	+0.7
AZAP				iS	S	20 22 15.1	-4.6
GO02	Mina Guanaco	7.65	191		Pn	20 21 04.9	0.0
SAML	Samuel	9.81	29	Pn	Pn	20 21 28.4	-4.1
ACLC	CERRO LA CRUZ	11.79	175	iP	Pn	20 21 59.5	+1.8
GO04	Tololo Observa	12.76	191	Pn	Pn	20 22 08.1	-1.6
ACCO	Cerro Coronel	12.95	184	iP	P	20 22 15.3	+0.5
CPUP	Villa Florida	13.16	133	Pn	Pn	20 22 13.9	-0.7
AMOG	MOGNA	13.27	182	iP	P	20 22 17.9	-0.3
RTLL	Cerro Villicun	13.66	182	iP	P	20 22 23.2	+0.7
BDFB	Brasilia	19.27	87	P	Pn	20 23 25.3	-2.6
	comp=Z,0.8nm,0.3s,baz=263,slow=9.1,SNR=5.4						
TRQA	Tornquist	21.04	167	P	P	20 23 45.1	+2.5
TRQA				IAmb	IAmb	20 23 57.5	
	comp=Z,9.4nm,1.4s						
PLCA	Paso Flores	23.14	185	P	P	20 24 06.0	+3.6
MCLT	Moule a Chique	31.90	13	P	P	20 25 18.3	-2.2
CRPR	Cabo Rojo, PR	35.41	1	P	P	20 25 48.1	-2.7
HUMP	Col San Antoni	35.60	4	P	P	20 25 47.9	-4.4
HUMP				IAmb	IAmb	20 25 57.3	
	comp=Z,14nm,1.1s						
MPR	Mayaguez	35.62	1	P	P	20 25 47.7	-4.7
MPR				IAmb	IAmb	20 25 57.3	
	comp=Z,30nm,1.1s						
TXAR	Lajitas Array	57.99	323	P	P	20 28 46.2	+0.7
	comp=Z,0.2nm,0.7s,baz=163,slow=7.5,SNR=2.7						
TXAR	Lajitas Array	57.99	323	P	P	20 28 44.2	-1.2
PDAR	Pinedale Array	71.21	329	P	P	20 30 12.8	+2.0
	comp=Z,0.2nm,0.4s,baz=121,slow=9.3,SNR=4.3						
ULM	Lac du Bonnet	71.90	342	P	P	20 30 15.2	+0.7
	comp=Z,2.3nm,0.4s,baz=150,slow=5.0,SNR=5.2						
TORD	Torodi Ar. Bea	75.27	71	P	P	20 30 36.0	+1.2
	comp=Z,1.1nm,0.4s,baz=252,slow=5.4,SNR=28						
VNDA	Vanda	80.80	190	P	P	20 31 12.4	+8.3
	comp=Z,7.3nm,1.3s,baz=90,slow=6.1,SNR=3.1						
ESDC	Sonseca Array	82.48	44	P	P	20 31 14.5	+1.0
	comp=Z,0.3nm,0.5s,baz=259,slow=5.3,SNR=3.5						
YKA	Yellowknife Ar	87.83	340	P	P	20 31 41.5	+2.2
	comp=Z,1.5nm,0.5s,baz=130,slow=4.7,SNR=14						
SONM	Songino Array	149.52	7	PKPbc	PKiKP	20 38 40.5	+0.7
	comp=Z,1.1nm,1.0s,baz=250,slow=1.6,SNR=4.9						

IDC 01 20:46:50.7±2.3**, 50°.09N**×**114°.64W, h0**km**, mb2.8**/1**, mb1 3.5**/3**, mb1mx3.2**/63**, mbtmp3.2**/3**, ML3.2**/2**, Error ellipse: s-maj=47.8km s-min=12.5km az=112.0, Alberta**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEW	Newport	2.45	223	Pn	Pn	20 47 33.4	+1.4
	1.2nm,0.3s,baz=41,slow=17,SNR=20						
NEW				Sn	Sb	20 48 04.9	-1.4
	2.3nm,0.3s,baz=53,slow=17,SNR=7.5						
I56US	NEWPORT INFRAS	2.45	223	i		21 06 06.4	
	baz=38,slow=336,SNR=7.2						
I10CA	LAC DU BONNET	11.94	82	i		22 00 00.0	
	baz=271,slow=311,SNR=3.4						
YKA	Yellowknife Ar	12.43	0	Pn	Pn	20 49 44.6	-4.0
	0.2nm,0.3s,baz=182,slow=13,SNR=11						
ILAR	Eielson Array	22.39	323	P	P	20 51 51.0	+0.7
	0.4nm,0.9s,baz=118,slow=9.6,SNR=5.8						

IDC ***01*** *20:48:07.9±1.1, 19°.89S×170°.00E, h0km, mb3.9/8, mb1 4.2/10, mb1mx3.9/43, mbtmp4.0/10, ML4.2/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/35, Error ellipse: s-maj=33.4km s-min=20.2km az=145.0*

NEIC ***01*** *20:48:09.3±1.3, 19°.9S±0°.1×170°.0E±0°.1, h10km±1km, mb4.3/12*

ISCJB ***01*** *20:48:11.2±0.6, 20°.06S±0°.07×169°.88E±0°.08, h30km, mb3.8/8, MS3.3/2, Error ellipse: s-maj=11.3km s-min=9.5km az=143.3*

ISC 01 20:48:12.1±0.7**, 19°.9S**±0°.1×**169°.96E**±0°.10**, h30**km**, n29,** σ1s16/26**, mb3.8**/8**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.91	236	ePn	Pn	20 49 11.1	+0.9
	23nm,0.3s						
DZM				eSn	Sn	20 49 53.0	-2.1
	75nm,0.3s						
DZM				eLR	LR	20 50 07.0	
	comp=Z,775nm,24.8s						
DZM	Mont Dzumac	3.91	236	Pn	Pn	20 49 11.0	+0.9
	4.0nm,0.3s,baz=62,slow=18,SNR=23						
DZM				Sn	Sn	20 49 57.0	+1.9
	9.5nm,0.3s,baz=308,slow=24,SNR=8.6						
DZM	Mont Dzumac	3.91	236		Pn	20 49 11.4	+1.2
FUNA	Funafuti	14.45	40	P	P	20 51 40.0	-1.0
LHI	Lord Howe Isla	15.13	218	Pn	Pn	20 51 42.1	-1.6
OUZ	Omahuta	15.56	169	Pn	Pn	20 51 50.0	+0.7
OUZ				IAmb	IAmb	20 51 51.7	
	comp=Z,14nm,1.2s						
EIDS	Eidsvold	18.23	249	Pn	P	20 52 20.4	-2.6
EIDS				IAmb	IAmb	20 52 32.1	
	comp=Z,28nm,1.4s						
URZ	Urewera	19.28	163	P	P	20 52 34.5	0.0
	comp=Z,3.5nm,0.3s,baz=244,slow=9.7,SNR=10						
URZ	Urewera	19.28	163	P	P	20 52 34.8	+0.3
URZ				IAmb	IAmb	20 52 51.1	
	comp=Z,26nm,1.0s						
NNZ	Nelson	21.41	173	P	P	20 52 55.5	-1.9
BHW	Baring Head	21.81	170	P	P	20 53 02.7	+1.0
KRVT	Keravat (AS076	23.38	309	LR	LR	21 01 11.6	
	comp=Z,76nm,18.9s,baz=109,slow=34						
STKA	Stephens Creek	28.06	239	P	P	20 54 01.4	+0.4
	comp=Z,1.3nm,0.7s,baz=72,slow=6.4,SNR=2.1						
STKA	Stephens Creek	28.06	239	IAmb	IAmb	20 54 05.4	
	comp=Z,1.1nm,1.2s						
WB2	Warramunga Arr	33.43	264	P	P	20 54 48.6	+0.1
WRAB	Tennant Creek	33.43	264	P	P	20 54 48.8	+0.2
WRA	Warramunga Arr	33.44	264	P	P	20 54 49.1	+0.4
	comp=Z,1.0nm,1.0s,baz=90,slow=6.1,SNR=3.4						
WRA	Warramunga Arr	33.44	264	IAmb	IAmb	20 54 51.7	
	comp=Z,0.2nm,0.9s						
AS31	Alice Springs	33.62	257	P	P	20 54 51.0	+0.8
ASAR	Alice Springs	33.62	257	P	P	20 54 51.1	+0.9
	comp=Z,5.1nm,0.8s,baz=83,slow=9.0,SNR=24						
ASAR	Alice Springs	33.62	257	P	P	20 54 50.0	-0.2
PPT2	Papeete2	38.33	93	eLR	LR	21 06 19.4	
	comp=Z,76nm,27.2s						
FITZ	Fitzroy Crossi	41.85	265	P	P	20 56 00.6	+0.9
	comp=Z,3.2nm,0.8s,baz=97,slow=8.8,SNR=2.7						
FITZ	Fitzroy Crossi	41.85	265	IAmb	IAmb	20 56 03.8	
	comp=Z,7.5nm,1.1s						
CMAR	Chiang Mai Arr	79.41	294	P	P	21 00 15.6	-0.2
	comp=Z,0.2nm,0.4s,baz=124,slow=3.6,SNR=2.7						
SONM	Songino Array	88.18	323	P	P	21 01 01.1	+0.9
	comp=Z,0.4nm,0.7s,baz=100,slow=6.0,SNR=3.1						
NVAR	Mina Array Bea	88.76	48	P	P	21 01 03.6	+0.2
	comp=Z,0.4nm,0.8s,baz=222,slow=7.9,SNR=2.5						
ILAR	Eielson Array	90.70	17	P	P	21 01 11.5	+0.1
	comp=Z,0.4nm,0.7s,baz=230,slow=5.0,SNR=5.3						
GERES	GERESS Array B	145.42	332	PKPbc	PKPab	21 07 48.0	+0.6
	comp=Z,0.5nm,0.5s,baz=34,slow=5.0,SNR=5.4						

IDC 01 20:49:36.4±2.1**, 7°.20S**×**128°.87E, h56**km±29km**, mb3.3**/1**, mb1 3.7**/6**, mb1mx3.4**/38**, mbtmp3.7**/6**, ML3.7**/5**, Error ellipse: s-maj=32.6km s-min=14.4km az=96.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	5.95	240	P	Pn	20 51 03.8	+1.8
	2.9nm,0.3s,baz=33,slow=1.8,SNR=4.1						
BATI				S	Sn	20 52 07.8	-1.0
	1.6nm,0.3s,baz=288,slow=20,SNR=2.6						
SIJI	Sorong	6.73	21	P	Pn	20 51 12.9	+0.2
	0.8nm,0.3s,baz=188,slow=14,SNR=8.0						
SIJI				S	Sn	20 52 27.9	-0.2
	0.3nm,0.3s,baz=187,slow=13,SNR=3.0						
FITZ	Fitzroy Crossi	11.28	196	P	Pn	20 52 13.6	-1.3
	0.2nm,0.3s,baz=23,slow=12,SNR=7.2						
FITZ				S	Sn	20 54 14.6	-4.9
	0.3nm,0.3s,baz=229,slow=17,SNR=3.6						
WRA	Warramunga Arr	13.73	158	P	Pn	20 52 48.4	0.0
	0.5nm,0.3s,baz=332,slow=13,SNR=25						
WRA				S	Sn	20 55 18.9	-0.4
	0.5nm,0.3s,baz=326,slow=24,SNR=5.5						
ASAR	Alice Springs	17.07	164	P	P	20 53 32.3	-0.1
	0.3nm,0.3s,baz=332,slow=9.4,SNR=7.3						
ASAR				S	Sn	20 56 40.5	+0.1
	0.1nm,0.3s,baz=322,slow=19,SNR=4.3						
MKAR	Makanchi Array	67.79	327	P	P	21 00 28.4	0.0
	0.3nm,0.5s,baz=123,slow=6.7,SNR=5.6						

ISCJB ***01*** *20:54:22.2±1.3, 19°.5S±0°.1×169°.6E±0°.1, h10km, mb3.9/4, MS3.4/8, Error ellipse: s-maj=22.1km s-min=12.8km az=28.8*

NEIC ***01*** *20:54:24.0±2.8, 19°.53S±0°.09×169°.6E±0°.1, h10km±1km, mb4.3/7*

IDC ***01*** *20:54:27.2±1.9, 19°.31S×168°.95E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.7/45, mbtmp3.9/5, ML3.2/1, MS3.3/10, Ms1 3.3/10, ms1mx3.1/38, Error ellipse: s-maj=62.0km s-min=28.0km az=138.0*

ISC 01 20:54:23.9±0.9**, 19°.6S**±0°.1×**169°.6E**±0°.1**, h10**km**, n25,** σ1s34/16**, mb4.0**/7**, MS3.4**/8**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.86	229	ePn	Pn	20 55 23.1	-0.4
	16nm,0.3s						
DZM				eSn	Sn	20 56 06.5	-2.5
	28nm,0.3s						
DZM				eLR	LR	20 56 17.8	
	comp=Z,933nm,25.3s						
DZM	Mont Dzumac	3.86	229	Pn	Pn	20 55 22.7	-0.8
	1.9nm,0.3s,baz=62,slow=16,SNR=7.4						
DZM				Sn	Sn	20 56 10.0	+1.0
	5.6nm,0.3s,baz=109,slow=18,SNR=3.1						
DZM				LR	LR	20 56 47.4	
	comp=Z,549nm,18.9s,baz=32,slow=39						
DZM	Mont Dzumac	3.86	229		Pn	20 55 23.4	-0.1
MSVF	Nonsavu	8.22	79	Pn	Pn	20 56 22.2	-1.2
HNR	Honiara	13.73	316	LR	LR	21 01 56.8	
	comp=Z,36nm,18.7s,baz=160,slow=34						
HNR	Honiara	13.73	316	Pn	Pn	20 57 37.6	-1.2
LHI	Lord Howe Isla	15.22	216	P	P	20 58 04.2	+0.2
AFI	Afiamalu	18.70	75	LR	LR	21 04 14.9	
	comp=Z,100nm,19.7s,baz=44,slow=31						
CTAO	Charters Tower	21.96	265	P	P	20 59 17.6	-0.5
CTAO				IAmb	IAmb	20 59 19.6	
	comp=Z,22nm,0.6s						
STKA	Stephens Creek	27.96	238	LR	LR	21 10 23.5	
	comp=Z,106nm,20.8s,baz=26,slow=35						
RAR	Rarotonga	28.74	99	LR	LR	21 08 49.1	
	comp=Z,27nm,21.3s,baz=160,slow=29						
TAU	Tasmania Unive	29.90	214	P	P	21 00 33.1	+1.3
WR0	Warramunga Arr	32.96	263	P	P	21 01 00.3	+1.2
WR0				IAmb	IAmb	21 01 17.7	
	comp=Z,4.9nm,1.4s						
WRA	Warramunga Arr	33.15	263	P	P	21 01 00.7	-0.1
	comp=Z,1.5nm,1.1s,baz=90,slow=8.6,SNR=3.9						
WRA	Warramunga Arr	33.15	263	IAmb	IAmb	21 01 04.4	
	comp=Z,0.3nm,1.2s						
AS31	Alice Springs	33.38	256	P	P	21 01 03.5	+0.7
AS31				IAmb	IAmb	21 01 09.8	
	comp=Z,2.1nm,0.9s						
ASAR	Alice Springs	33.38	256	P	P	21 01 03.1	+0.3
	comp=Z,2.6nm,0.7s,baz=85,slow=8.5,SNR=14						
ASAR				LR	LR	21 14 21.0	
	comp=Z,84nm,19.6s,baz=99,slow=36						
ASAR	Alice Springs	33.38	256	P	P	21 01 01.1	-1.7
PPT2	Papeete2	38.69	94	eLR	LR	21 12 15.4	
	comp=Z,89nm,29.2s						
VNDA	Vanda	58.12	182	LR	LR	21 27 42.6	
	comp=Z,21nm,18.0s,baz=340,slow=34						
LEM	Lembang	61.37	273	LR	LR	21 33 14.4	
	comp=Z,72nm,18.3s,baz=324,slow=38						
MAW	Mawson	78.26	202	LR	LR	21 37 35.9	
	comp=Z,20nm,18.2s,baz=218,slow=33						
SONM	Songino Array	87.68	323	P	P	21 07 15.2	+2.4
	comp=Z,0.5nm,0.9s,baz=116,slow=3.4,SNR=4.1						
SONM	Songino Array	87.68	323	IAmb	IAmb	21 07 15.7	
	comp=Z,1.1nm,1.2s						
TXAR	Lajitas Array	96.62	61	P	P	21 08 01.3	+6.6
	comp=Z,0.1nm,0.4s,baz=206,slow=3.9,SNR=3.7						
TXAR				LR	LR	21 44 16.2	
	comp=Z,16nm,19.4s,baz=0.0,slow=31						

KRSC 01 21:09:33.6±2.1**, 50°.45N**×**157°.75E, h63**km±33km**, ML3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAU	Pauzhetka	1.18	330	eP	Pn	21 09 56.4	+2.3
PAU				eS	Sn	21 10 11.5	+2.1
ASAK	Asacha	1.94	3	eP	Pn	21 10 07.3	+3.0
ASAK				eS	Sn	21 10 30.1	+2.4
RUS	Russkaya	2.04	13	eP	Pn	21 10 08.2	+2.5
RUS				eS	Sn	21 10 31.5	+1.4
KRMR	Karymshinskiy	2.40	5	eP	Pn	21 10 13.5	+3.0
KRMR				eS	Sn	21 10 41.9	+3.2
DALK	Dalny	2.66	13	eP	Pn	21 10 17.5	+3.5
DALK				eS	Sn	21 10 47.2	+2.1
AVH	Avacha	2.89	12	eP	Pn	21 10 21.4	+4.2
AVH				eS	Sn	21 10 54.7	+3.9
SMAR	Somma	2.89	13	eP	Pn	21 10 21.7	+4.3
KOK	Koryaka	2.90	11	eP	Pn	21 10 21.7	+4.3
KOK				eS	Sn	21 10 55.1	+4.0
SDLR	Sedlovina	2.92	13	eP	Pn	21 10 21.1	+3.4
MKZ	Mys Kozlova	4.78	29	eP	Pn	21 10 45.4	+2.5
MKZ				eS	Sn	21 11 37.2	+0.3
KBTR	Krutoberegovo	6.52	26	eP	Pn	21 11 08.1	+1.4

IDC 01 21:12:45.0±2.5**, 17°.00S**×**175°.08W, h376**km±32km**, mb3.4**/4**, mb1 3.6**/5**, mb1mx3.2**/34**, mbtmp4.2**/5**, Error ellipse: s-maj=147.3km s-min=27.9km az=138.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	4.42	46	P	Pn	21 14 00.2	+0.1
	12nm,0.3s,baz=220,slow=7.9,SNR=7.0						
AFI				S	S	21 15 01.0	+0.3
	7.1nm,0.3s,baz=238,slow=19,SNR=2.8						
STKA	Stephens Creek	41.85	241	P	P	21 19 59.6	-0.4
	1.7nm,0.8s,baz=69,slow=10,SNR=5.1						
WRA	Warramunga Arr	47.92	258	P	P	21 20 47.0	-0.5
	0.9nm,0.2s,baz=96,slow=7.7,SNR=65						
ASAR	Alice Springs	48.09	253	P	P	21 20 49.1	+0.4
	5.9nm,0.5s,baz=88,slow=8.1,SNR=120						
ILAR	Eielson Array	84.33	12	P	P	21 24 35.1	-0.1
	0.3nm,0.8s,baz=220,slow=6.9,SNR=3.0						

IDC ***01*** *21:37:36.6±0.9, 7°.51S×104°.42E, h0km, mb4.0/10, mb1 4.1/12, mb1mx3.9/43, mbtmp4.1/12, ML4.5/2, MS3.5/1, Ms1 3.5/1, ms1mx2.6/40, Error ellipse: s-maj=23.9km s-min=12.8km az=33.0*

BJI ***01*** *21:37:36.0±0.0, 7°.50S×104°.50E, h10km, mb4.4/8, mB4.7/5, Ms4.9/2*

ISCJB ***01*** *21:37:38.0±0.4, 7°.79S±0°.04×104°.42E±0°.04, h33km, mb3.9/10, MS3.3/1, Error ellipse: s-maj=7.1km s-min=4.1km az=137.2*

NEIC ***01*** *21:37:38.2±1.2, 7°.75S±0°.07×104°.24E±0°.07, h35km±4km, mb4.2/19*

KLM ***01*** *21:37:43.0, 7°.60S×104°.46E, h27km, mb4.6*

ISC 01 21:37:39.6±0.5**, 7°.78S**±0°.05×**104°.33E**±0°.06**, h35**km**, n64,** σ1s82/68**, mb4.0**/13**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KASI	Kota Agung	2.25	4	P	Pn	21 38 12.2	-2.2
	1μm,0.6s,24μm6.4nm						
BLSI	Bandar Lampung	2.57	21	P	Pn	21 38 16.5	-2.3
	428nm,0.4s,9μm2.4nm						
LWLI	Liwa	2.76	354	P	Pn	21 38 21.3	-0.2
	207nm,0.5s,35μm						
XMIS	Christmas Isla	2.98	154		Pn	21 38 24.2	-0.3
XMIS				Sn	Sn	21 38 55.5	-3.6
KLSI		3.10	7	P	Pn	21 38 25.0	-1.1
	165nm,0.6s,3μm						
MDSI	Maura Dua	3.28	357	P	Pn	21 38 27.0	-1.5
LEM	Lembang	3.40	74	Pn	Pn	21 38 31.0	+0.6
	20nm,0.3s,baz=217,slow=9.6,SNR=21						
LEM				Sn	Sn	21 39 08.9	-0.7
	48nm,0.3s,baz=34,slow=20,SNR=7.3						
CISI	Cisompet, Garu	3.47	87		Pn	21 38 30.5	-0.7
CISI				Sn	Sn	21 39 06.6	-4.5
MNAI	Manna	3.66	338	Pn	Pn	21 38 32.0	-1.8
MNAI				Sn	Sn	21 39 13.4	-2.4
SMRI	Semarang	6.11	84		Pn	21 39 07.6	+0.1
UGM	Wanagama	6.14	92		Pn	21 39 08.2	+0.2
UGM				Sn	Sn	21 40 17.1	0.0
MYKOM	Kota Tinggi	9.52	357	P	Pn	21 40 02.0	+7.7
JAGI	Jajag, Banyuwa	9.75	95		Pn	21 39 57.0	-0.5
JAGI				Sn	Sn	21 41 43.0	-2.9
GSI	Gunungsitoli	11.26	323	Pn	Pn	21 40 15.0	-3.2
JRMM	Jerantut	11.74	351	P	Pn	21 40 29.0	+4.3
IPM	Ipoh	12.62	345	P	P	21 40 47.0	-0.7
GIRL	Giralia	17.58	148		Pn	21 41 42.4	+0.3
BATI	Baumata	19.25	99	P	Pn	21 42 03.9	+1.4
	3.7nm,0.3s,baz=250,slow=15,SNR=4.1						
BATI				S	S	21 45 39.9	+2.3
	1.7nm,0.3s,baz=288,slow=20,SNR=2.8						
SOEI	Soe	19.81	97	P	P	21 42 07.7	+0.3
PSAD1	Pilbara Seismi	20.22	134	P	P	21 42 11.0	-0.7
PSAD1				IAmb	IAmb	21 42 22.2	
	comp=Z,10nm,0.9s						
PSAC1	Pilbara Seismi	20.25	134	P	P	21 42 11.9	-0.2
PSAC1				IAmb	IAmb	21 42 19.8	
	comp=Z,11nm,0.4s						
PSAB1	Pilbara Seismi	20.28	134	P	P	21 42 11.0	-1.5
PSAB1				IAmb	IAmb	21 42 21.3	
	comp=Z,6.9nm,0.8s						
PSAA2	Pilbara Seismi	20.30	134	P	P	21 42 11.4	-1.2
PSAA1	Pilbara Seismi	20.30	134	P	P	21 42 11.8	-0.9
PSAA1				IAmb	IAmb	21 42 21.0	
	comp=Z,10nm,0.9s						
PSAB2	Pilbara Seismi	20.30	134	P	P	21 42 12.5	-0.1
PSAB2				IAmb	IAmb	21 42 20.8	
	comp=Z,8.5nm,1.0s						
FITZ	Fitzroy Crossi	23.14	118	P	P	21 42 44.6	+1.6
	comp=Z,2.9nm,0.8s,baz=288,slow=8.8,SNR=6.5						
FITZ	Fitzroy Crossi	23.14	118	P	P	21 42 41.4	-1.6
PBKT	Sadao Pong	24.42	352	P	P	21 42 53.3	-1.8
KNRA	Kununurra	25.16	110	P	P	21 43 01.0	-0.9
KNRA				IAmb	IAmb	21 43 07.8	
	comp=Z,6.8nm,0.8s						
CMAR	Chiang Mai Arr	26.61	349	P	P	21 43 15.1	+0.1
	comp=Z,0.7nm,0.5s,baz=189,slow=8.1,SNR=4.1						
CMAR	Chiang Mai Arr	26.61	349	P	P	21 43 14.4	-0.6
SIJI	Sorong	27.71	77	LR	LR	21 55 43.1	
	comp=Z,85nm,19.0s,baz=69,slow=39						
WB0	Warramunga Arr	31.47	115	P	P	21 43 58.1	-0.2
WB0				IAmb	IAmb	21 44 01.9	
	comp=Z,1.7nm,0.7s						
WRA	Warramunga Arr	31.48	116	P	P	21 44 00.4	+2.0
	comp=Z,1.4nm,0.7s,baz=289,slow=10,SNR=18						
WRA	Warramunga Arr	31.48	116	P	P	21 43 58.5	+0.2
WB2	Warramunga Arr	31.49	116	P	P	21 43 59.4	+1.0
WB2				IAmb	IAmb	21 44 02.0	
	comp=Z,1.8nm,0.7s						
H08S2	Diego Garcia H	31.54	268	T	T	22 17 24.9	
	baz=91,slow=74,SNR=12						
H08S3	Diego Garcia H	31.55	268	T	T	22 17 30.2	
	baz=91,slow=74,SNR=11						
H08S1	Diego Carcia H	31.56	268	T	T	22 17 25.8	
	baz=91,slow=74,SNR=7.9						
ASAR	Alice Springs	32.45	122	P	P	21 44 09.2	+2.4
	comp=Z,1.1nm,0.8s,baz=295,slow=8.6,SNR=11						
ODAN	Odare	38.15	335	eP	P	21 44 57.3	+1.3
TAPN	Taplejung	38.45	336	eP	P	21 45 00.0	+1.4
	comp=Z,13nm,0.8s						
JIRN	Jiri	39.36	334	eP	P	21 45 07.4	+1.1
	comp=Z,19nm,0.8s						
PKI	Pulchoki	39.63	333	eP	P	21 45 10.3	+1.8
PKIN	Phulchoki	39.64	333	eP	P	21 45 10.3	+1.8
GUN	Gumba	39.71	334	eP	P	21 45 10.4	+1.2
	comp=Z,8.8nm,0.4s						
KOLN	Koldanda	40.63	331	eP	P	21 45 19.4	+2.7
DANN	Dangsing	41.05	332	eP	P	21 45 22.6	+2.4
	comp=Z,7.0nm,0.5s						
STKA	Stephens Creek	42.13	130	P	P	21 45 31.3	+2.5
	comp=Z,1.6nm,0.5s,baz=306,slow=5.4,SNR=6.4						
STKA	Stephens Creek	42.13	130	P	P	21 45 29.7	+0.9
CAN	Canberra	49.18	131	P	P	21 46 23.7	-0.8
KSRS	Korea Array	50.12	25	P	P	21 46 30.2	-1.2
	comp=Z,0.5nm,0.3s,baz=211,slow=9.7,SNR=2.6						
KSH	Kashi	53.89	333	eP	P	21 47 03.4	+3.7
KSH				S	S	21 54 34.8	+2.0
KSH				LR	LR		
	comp=Z,420nm,6.9s						
KSH				LR	LR		
	comp=Z,410nm,6.0s						
SONM	Songino Array	55.40	2	P	P	21 47 10.5	0.0
	comp=Z,1.7nm,0.8s,baz=174,slow=7.8,SNR=11						
SONM	Songino Array	55.40	2	P	P	21 47 08.8	-1.8
USRK	Ussuriysk Ar.	57.47	23	P	P	21 47 24.4	-0.7
	comp=Z,1.6nm,0.5s,baz=199,slow=5.5,SNR=10						
USRK	Ussuriysk Ar.	57.47	23	P	P	21 47 23.7	-1.4
MKAR	Makanchi Array	57.77	342	P	P	21 47 27.9	+0.7
	comp=Z,1.1nm,0.5s,baz=150,slow=8.9,SNR=13						
MKAR	Makanchi Array	57.77	342	P	P	21 47 25.2	-2.0
MAKZ	Makanchi	57.88	342	P	P	21 47 26.1	-1.9
BOSA	Boshof	76.74	242	P	P	21 49 31.7	+3.6
	comp=Z,2.0nm,0.8s,baz=36,slow=5.3,SNR=3.2						
BOSA	Boshof	76.74	242	P	P	21 49 26.3	-1.7
BOSA				IAmb	IAmb	21 49 44.3	
	comp=Z,3.4nm,1.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**146.06**	**47**	PKPbc	**PKiKP**	**21 57 19.9**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=250,slow=1.8,SNR=3.2						
TXAR	**Lajitas Array**	**146.06**	**47**	PKPdf	**PKPdf**	**21 57 13.5**	**-2.4**
TXAR					**PKiKP**	**21 57 20.0**	**-0.1**

IDC 01 21:58:48.7±9.2**,15°.00S×173°.61W,h0**km**,mb3.7**/3**,**
mb1 4.0/3**,mb1mx3.6**/40**,mbtmp3.7**/3**,MS3.2**/1**,Ms1 3.2**/1**,**
ms1mx2.5/21**,Error ellipse: s-maj=409.1km**
s-min=36.2km az=139.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**26.41**	**279**	LR	LR	22 13 48.9	
	comp=Z,51nm,19.5s,baz=128,slow=34						
WRA	**Warramunga Arr**	**49.73**	**256**	P	P	22 07 43.4	+0.1
	0.5nm,0.6s,baz=91,slow=7.5,SNR=6.4						
ASAR	**Alice Springs**	**50.04**	**252**	P	P	22 07 45.2	-0.3
	1.3nm,0.8s,baz=88,slow=7.8,SNR=13						
ILAR	**Eielson Array**	**82.09**	**11**	P	P	22 11 10.7	0.0
	0.3nm,0.7s,baz=223,slow=6.3,SNR=6.0						

IDC 01 22:02:58.6±1.7**,46°.95N×153°.91E,h0**km**,mb3.5**/4**,**
mb1 3.8/5**,mb1mx3.4**/46**,mbtmp3.5**/5**,ML2.5**/1**,MS3.2**/1**,**
Ms1 3.2/1**,ms1mx2.3**/37**,Error ellipse: s-maj=117.6km**
s-min=24.4km az=117.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.63**	**20**	Pn	Pn	22 04 35.9	-1.2
	0.4nm,0.3s,baz=180,slow=12,SNR=18						
PETK				Sn	Sn	22 05 40.6	-13
	0.5nm,0.3s,baz=138,slow=16,SNR=5.4						
JNU	**Nakatsue**	**22.29**	**240**	LR	LR	22 17 02.6	
	comp=Z,56nm,19.1s,baz=199,slow=38						
H11N2	**WAKE ISLAND Hy**	**29.16**	**154**	T	T	22 41 13.5	
	baz=340,slow=76,SNR=4.4						
H11N1	**WAKE ISLAND Hy**	**29.17**	**154**	T	T	22 41 20.7	
	baz=340,slow=76,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**29.17**	**154**	T	T	22 41 21.1	
	baz=340,slow=76,SNR=3.4						
H11S1	**WAKE ISLAND Hy**	**30.26**	**155**	T	T	22 42 45.1	
	baz=341,slow=75						
H11S3	**WAKE ISLAND Hy**	**30.27**	**155**	T	T	22 42 39.3	
	baz=341,slow=75						
H11S2	**WAKE ISLAND Hy**	**30.27**	**155**	T	T	22 42 40.5	
	baz=341						
ILAR	**Eielson Array**	**36.05**	**39**	P	P	22 10 00.3	-1.0
	0.3nm,0.6s,baz=243,slow=7.7,SNR=8.7						
INK	**Inuvik**	**41.19**	**33**	P	P	22 10 45.5	+1.3
	0.9nm,0.5s,baz=273,slow=8.7,SNR=6.5						
ASAR	**Alice Springs**	**72.58**	**199**	P	P	22 14 27.4	-0.1
	0.4nm,0.6s,baz=10,slow=5.7,SNR=3.9						
TXAR	**Lajitas Array**	**76.92**	**61**	P	P	22 14 52.9	+0.1
	0.3nm,0.6s,baz=308,slow=4.4,SNR=5.1						

*ISK **01** 22:13:53.2,39°.15N×29°.03E,h3km,ML2.1/16*
DDA 01 22:13:53.3,39°.12N×29°.00E,h7km±4km**,ML1.7,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAP	**Saphane-Kutahy**	**0.20**	**120**	PG	Pg	22 13 58.3	+1.0
SHAP				SG	Sg	22 14 01.4	+1.4
DEMI	**Demirci**	**0.24**	**251**	*i* P	Pg	22 13 59.4	+1.3
DEMI				*i* S	Sg	22 14 03.0	+1.7
DEMI				IAML		22 14 03.0	
	comp=E,371nm,0.2s						
DEMI				IAML		22 14 03.0	
	comp=N,605nm,0.4s						
GEDZ	**Gediz**	**0.33**	**103**	PG	Pg	22 14 00.3	+0.6
GDZ	**Gediz**	**0.37**	**95**	*i* P	Pg	22 14 01.1	+0.4
GDZ				IAML		22 14 06.0	
	comp=E,50nm,0.2s						
GDZ				IAML		22 14 06.0	
	comp=N,24nm,0.4s						
GDZ				*i* S	Sg	22 14 06.2	+0.6
USAK	**Uak-Merkez**	**0.41**	**178**	*i* P	Pb	22 14 02.4	-0.5
USAK				IAML		22 14 07.0	
	comp=N,73nm,0.8s						
USAK				*i* S	Sg	22 14 07.2	+0.6
USAK				IAML		22 14 10.0	
	comp=E,59nm,0.1s						
TVSB	**Tavsanli**	**0.48**	**47**	PG	Pg	22 14 02.9	+0.2
TVSB				SG	Sg	22 14 08.7	-0.3
DURS	**Dursunbey**	**0.63**	**320**	*i* P	Pg	22 14 05.9	+0.4
DURS				IAML		22 14 14.0	
	comp=N,18nm,0.5s						
DURS				*i* S	Sg	22 14 14.1	+0.4
DURS				IAML		22 14 19.0	
	comp=E,34nm,0.5s						
KULA	**Kula-Manisa**	**0.66**	**204**	PG	Pb	22 14 07.1	-0.1
MANT	**Manisa**	**0.72**	**209**	*i* P	Pb	22 14 08.1	-0.2
MANT				*i* S	Sg	22 14 16.9	+0.3
MANT				IAML		22 14 17.0	
	comp=E,17nm,0.4s						
MANT				IAML		22 14 19.0	
	comp=N,21nm,0.1s						
KHAL	**Karahalli**	**0.84**	**153**	*i* P	Pb	22 14 10.2	0.0
KHAL				*i* S	Sb	22 14 21.7	-0.1
KHAL				IAML		22 14 25.0	
	comp=N,23nm,0.3s						
KHAL				IAML		22 14 25.0	
	comp=E,37nm,0.4s						
BALB	**Balikesir**	**1.01**	**301**	PG	Pn	22 14 13.8	-0.1
STEP	**BALIKESIR_Sava**	**1.03**	**285**	*i* P	Pn	22 14 14.6	+0.4
STEP				*i* S	Sb	22 14 27.8	+0.6
STEP				IAML		22 14 39.0	
	comp=E,33nm,1.5s						
STEP				IAML		22 14 43.0	
	comp=N,17nm,0.6s						
IGD	**Bursa**	**1.15**	**8**	*i* P	Pg	22 14 15.2	-0.2
IGD				*i* S	Sg	22 14 30.3	-0.1
IGD				IAML		22 14 31.0	
	comp=E,13nm,1.1s						
IGD				IAML		22 14 31.0	
	comp=N,31nm,1.0s						
BALY	**Balya**	**1.24**	**300**	*i* P	Pn	22 14 17.2	+0.1
BALY				*i* S	Sg	22 14 31.3	-1.8
BALY				IAML		22 14 37.0	
	comp=E,7.6nm,0.3s						
BALY				IAML		22 14 41.0	
	comp=N,26nm,1.6s						
KZIL	**AFYON_Kizioren**	**1.24**	**134**	*i* P	Pn	22 14 17.8	+0.6
KZIL				IAML		22 14 34.0	
	comp=N,11nm,0.9s						
KZIL				*i* S	Sn	22 14 34.0	-0.2
KZIL				IAML		22 14 39.0	
	comp=E,9.4nm,0.8s						
KCTX	**Karacabey (Bur**	**1.25**	**337**	PN	Pg	22 14 17.8	+0.6
MDNY	**Mudanya-Bursa**	**1.25**	**356**	PN	Pn	22 14 17.1	-0.1
CAVI	**Cavuskoy**	**1.26**	**31**	PN	Pn	22 14 17.1	-0.3
SHUT	**Suhut-Afyon**	**1.33**	**115**	PN	Pg	22 14 19.5	+0.6
BORA	**Eskisehir**	**1.35**	**55**	*i* P	Pn	22 14 18.5	-0.2
BORA				IAML		22 14 36.0	
	comp=E,8.3nm,0.7s						
BORA				*i* S	Sb	22 14 36.1	-0.5
BORA				IAML		22 14 37.0	
	comp=N,24nm,0.5s						
BORA	**Eskisehir**	**1.35**	**55**	PN	Pn	22 14 18.8	+0.1
ARMT	**Armutlu**	**1.45**	**356**	PN	Pg	22 14 20.9	-0.2
BASM	**Basmaki-Afyon**	**1.45**	**145**	PN	Pg	22 14 21.4	+0.2
AYDB	**Zeytinkoy-Aydi**	**1.46**	**217**	PN	Pg	22 14 21.6	+0.3
YLV	**Yalova**	**1.47**	**11**	PN	Pb	22 14 21.0	0.0
EDC	**Edincik**	**1.51**	**325**	PN	Pb	22 14 21.8	+0.2
ZEDA	**zmir-Bergama**	**1.51**	**265**	*i* P	Pg	22 14 22.8	+0.6
SRCK	**Saricakaya, Es**	**1.55**	**53**	*i* P	Pg	22 14 22.9	-0.3
SRCK				*i* S	Sn	22 14 39.7	-2.1
SRCK				IAML		22 14 49.0	
	comp=E,8.7nm,0.4s						
SRCK	**Saricakaya, Es**	**1.55**	**53**	PN	Pb	22 14 22.1	-0.3
CIFT	**Cifteler, Eski**	**1.62**	**81**	PN	Pb	22 14 23.2	-0.3
GEYV	**SAKARYA_Geyve**	**1.69**	**36**	*i* P	Pb	22 14 24.6	0.0
GULT	**Gulveren**	**1.75**	**41**	PN	Pb	22 14 25.3	-0.5
MRMT	**Marmara Adasi**	**1.83**	**324**	PN	Pb	22 14 27.0	-0.2
AUMIH	**MIHALICIK**	**2.06**	**68**	PN	Pb	22 14 29.8	-1.3

IDC 01 23:01:22.3±1.8**,4°.23S×139°.39E,h122**km±23km**,mb3.1**/2**,**
mb1 3.3/5**,mb1mx3.1**/23**,mbtmp3.5**/5**,Error ellipse:**
s-maj=61.0km s-min=17.0km az=114.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.15**	**38**	P	Pn	23 01 59.2	+1.5
	5.5nm,0.3s,baz=213,slow=12,SNR=20						
JAY				S	Sn	23 02 25.4	+0.5
	7.8nm,0.3s,baz=31,slow=1.6,SNR=7.3						
WRA	**Warramunga Arr**	**16.38**	**197**	P	Pn	23 05 05.0	-0.3
	0.2nm,0.3s,baz=16,slow=14,SNR=12						
WRA				S	Sn	23 07 57.1	-10
	0.2nm,0.3s,baz=0.2,slow=23,SNR=5.4						
FITZ	**Fitzroy Crossi**	**19.26**	**223**	P	P	23 05 38.3	+0.9
	0.1nm,0.3s,baz=53,slow=12,SNR=3.1						
FITZ				S	S	23 08 58.0	-11
	0.1nm,0.3s,baz=225,slow=20,SNR=3.7						
ASAR	**Alice Springs**	**20.04**	**195**	P	Pn	23 05 47.8	-1.0
	0.4nm,0.4s,baz=20,slow=10.0,SNR=7.2						
ASAR				S	S	23 09 24.5	-0.1
	0.4nm,0.6s,baz=15,slow=21,SNR=4.2						
ILAR	**Eielson Array**	**86.92**	**24**	P	P	23 13 51.7	-1.5
	0.7nm,1.0s,baz=270,slow=4.5,SNR=4.2						

HEL 01 23:05:23.0±0.0**,67°.17N×20°.61E,h0**km**,ML1.1,**
ML1.1(UPP)**,Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.05**	**198**	*i* P	Pg	23 05 23.9	-0.1
DUNU				*i* S	Sg	23 05 24.9	+0.2
MASU	**Masugnsbyn**	**0.61**	**61**	*i* P	Pg	23 05 33.9	-0.7
RATU	**Laukkuluspa**	**0.76**	**329**	*i* P	Pg	23 05 36.7	-0.9
KUA	**Kurravaara**	**0.79**	**352**	*i* P	Pg	23 05 37.2	-1.0
ERTU	**Ertsjaerv**	**0.88**	**134**	*e*P	Pg	23 05 38.3	-1.5
LANU	**Lannavaara**	**1.03**	**30**	*e*P	Pg	23 05 41.4	-1.2
HEF	**Hetta**	**1.70**	**42**	*e*PN	Pn	23 05 54.0	+0.1
	baz=217						
HEF				MSG		23 06 14.4	
	comp=Z,1.3nm,0.2s						
HEF				*e*SN	Sb	23 06 16.9	0.0
KALU	**Kalix**	**1.72**	**139**	*e*SN	Sg	23 06 18.0	0.0
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*PG	Pb	23 05 56.9	-0.5
	baz=185						
KIF				MSG		23 06 19.6	
	comp=Z,0.9nm,0.2s						
KIF				*e*SG	Sg	23 06 22.2	+0.1
TOF	**Tornio**	**1.84**	**125**	*e*PN	Pn	23 05 55.8	0.0
	baz=315						
TOF				MSG		23 06 17.8	
	comp=Z,1.1nm,0.2s						
TOF				*e*SN	Sn	23 06 20.0	+0.2
LILU	**Lilltraesk**	**1.92**	**190**	*e*P	Pn	23 05 56.7	-0.2
SGF	**Sodankyl**	**2.31**	**81**	*e*SG	Sb	23 06 33.8	-0.7

UPP 01 23:05:56.6±0.1**,67°.19N×20°.67E,h0**km**,ML2.4,**
Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**210**	P	Pg	23 05 58.4	+0.3
DUNU				S	Sg	23 05 59.6	+0.6
MASU	**Masugnsbyn**	**0.58**	**62**	P	Pg	23 06 07.7	0.0
RATU	**Laukkuluspa**	**0.76**	**327**	P	Pg	23 06 10.8	-0.4
KUA	**Kurravaara**	**0.78**	**351**	P	Pg	23 06 11.2	-0.3
ERTU	**Ertsjaerv**	**0.88**	**136**	P	Pg	23 06 12.6	-0.8
LANU	**Lannavaara**	**1.00**	**30**	P	Pg	23 06 15.2	-0.6

IDC 01 23:33:02.5±2.0**,4°.41S×151°.25E,h0**km**,mb3.4**/3**,**
mb1 3.8/3**,mb1mx3.4**/29**,mbtmp3.5**/3**,Error ellipse:**
s-maj=135.4km s-min=27.1km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.57**	**225**	P	P	23 38 05.7	+0.9
	0.3nm,0.3s,baz=52,slow=10,SNR=9.4						
ASAR	**Alice Springs**	**25.43**	**220**	P	P	23 38 31.8	-0.4
	0.3nm,0.3s,baz=54,slow=9.0,SNR=8.0						
ILAR	**Eielson Array**	**82.39**	**22**	P	P	23 45 26.8	+0.6
	0.4nm,0.6s,baz=247,slow=4.9,SNR=8.6						
TORD	**Torodi Ar. Bea**	**148.72**	**288**	PKPbc	PKPbc	23 52 51.5	-1.5
	0.8nm,0.6s,baz=82,slow=2.4,SNR=12						

*IDC **01** 23:34:56.6±0.8,37°.22N×144°.61E,h0km,mb3.6/8,*
mb1 3.9/11,mb1mx3.7/34,mbtmp3.6/11,ML3.5/2,MS2.5/2,
Ms1 2.5/2,ms1mx2.2/34,Error ellipse: s-maj=24.8km
s-min=18.4km az=124.0
*ISCJB **01** 23:35:00.4±0.6,37°.46N±0°.05×144°.45E±0°.04,h33km,*
mb3.6/8,Error ellipse: s-maj=6.6km s-min=5.1km
az=175.9
*NIED **01** 23:35:00,37°.40N×144°.40E,h8km,Mw3.7 Best double*
couple: $M_0$4.38000×10^14 NP1:ϕ_s25.00000°,δ25.00000°,
λ-68.00000°. NP2:ϕ_s181.00000°,δ67.00000°,
λ-100.00000°.
*JMA **01** 23:35:01.0±0.3,37°.42N×144°.39E,h46km,M4.0*
ISC 01 23:35:01.9±0.8**,37°.44N**±0°.06×**144°.50E**±0°.07**,h35**km**,n30,**
σ**1**§**60**/36**,mb3.6**/8**,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.56**	**291**	P	**Pn**	**23 35 40.4**	**-0.4**
JIKH				*e*S	**Sn**	**23 36 09.1**	**-1.6**
JIO	**Ouri**	**2.69**	**293**	P	**Pn**	**23 35 42.3**	**-0.4**
JIO				S	**Sn**	**23 36 13.1**	**-0.9**
JKMT	**Kesennumamotoy**	**2.75**	**301**	P	**Pn**	**23 35 43.1**	**-0.4**
JKMT				*e*S	**Sn**	**23 36 14.6**	**-0.9**
OFUJ	**Ofunato**	**2.77**	**307**	P	**Pn**	**23 35 43.5**	**-0.2**
OFUJ				*e*S	**Sn**	**23 36 14.9**	**-1.0**
JMK	**Ichinoseki**	**3.00**	**301**	P	**Pn**	**23 35 46.9**	**+0.1**
JMK				*e*S	**Sn**	**23 36 20.7**	**-0.8**
JOM	**Ohasama**	**3.24**	**310**	P	**Pn**	**23 35 50.6**	**+0.4**
JOM				S	**Sn**	**23 36 27.2**	**-0.3**
JFT	**Otama**	**3.31**	**273**	P	**Pn**	**23 35 51.7**	**+0.4**
JFT				S	**Sn**	**23 36 28.7**	**-0.7**
JRY	**Ryogami san**	**4.72**	**254**	P	**Pn**	**23 36 09.3**	**-1.3**
JRY				S	**Sn**	**23 36 59.7**	**-4.3**
MJAR	**Matsushiro Arr**	**5.12**	**262**	Pn	**Pn**	**23 36 15.9**	**-0.2**
	1.0nm,0.3s,baz=88,slow=14,SNR=19						
MJAR				Sn	**Sn**	**23 37 14.0**	**+0.1**
	0.3nm,0.3s,baz=93,slow=24,SNR=6.2						
MJAR				LR	LR	23 38 09.4	
	comp=Z,44nm,20.2s,baz=50,slow=38						
MAT	**Matsushiro**	**5.12**	**262**	P	**Pn**	**23 36 16.3**	**+0.2**
MAT				S	**Sn**	**23 37 13.7**	**-0.2**
JKB	**Kayabe**	**5.19**	**330**	*e*S	**Sn**	**23 37 14.1**	**-1.4**
JCH	**Churui**	**5.24**	**351**	P	**Pn**	**23 36 16.6**	**-1.1**
JCH				S	**Sn**	**23 37 13.4**	**-3.5**
JTKR	**Abashiri--Toko**	**6.54**	**356**	P	**Pn**	**23 36 34.8**	**-0.8**
JTKR				*e*S	**Sn**	**23 37 44.1**	**-4.8**
ASAJ	**Asahikawa**	**6.83**	**348**	Pn	**Pn**	**23 36 40.1**	**+0.6**
	1.0nm,0.3s,baz=276,slow=19,SNR=2.7						
ASAJ				Sn	**Sn**	**23 37 57.2**	**+1.3**
	1.0nm,0.3s,baz=75,slow=20,SNR=2.9						
USRK	**Ussuriysk Ar.**	**11.63**	**309**	Pn	**Pn**	**23 37 47.2**	**+1.9**
	baz=107,slow=14,SNR=2.8						
KSRS	**Korea Array**	**13.18**	**275**	LR	LR	23 42 25.2	
	comp=Z,25nm,21.8s,baz=176,slow=34						
H11N2	**WAKE ISLAND Hy**	**26.31**	**126**	T	T	00 07 43.6	
	baz=317,slow=76,SNR=70						
H11N1	**WAKE ISLAND Hy**	**26.32**	**126**	T	T	00 07 48.1	
	baz=317,slow=76,SNR=31						
H11N3	**WAKE ISLAND Hy**	**26.33**	**126**	T	T	00 07 49.8	
	baz=317,slow=76,SNR=46						
H11S1	**WAKE ISLAND Hy**	**27.09**	**128**	T	T	00 08 47.7	
	baz=319,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**27.09**	**128**	T	T	00 08 43.0	
	baz=319,slow=76,SNR=8.7						
H11S2	**WAKE ISLAND Hy**	**27.10**	**128**	T	T	00 08 46.7	
	baz=319,slow=76,SNR=9.4						
ILAR	**Eielson Array**	**47.83**	**33**	P	**P**	**23 43 36.7**	**+1.0**
	0.6nm,1.0s,baz=258,slow=7.7,SNR=4.8						
INK	**Inuvik**	**52.90**	**27**	P	**P**	**23 44 14.2**	**+0.3**
	0.5nm,0.6s,baz=270,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**57.87**	**191**	P	**P**	**23 44 48.4**	**-1.9**
	1.2nm,0.5s,baz=11,slow=7.2,SNR=19						
ASAR	**Alice Springs**	**61.59**	**191**	P	**P**	**23 45 14.4**	**-1.4**
	0.2nm,0.5s,baz=10,slow=12,SNR=5.7						
NVAR	**Mina Array Bea**	**72.76**	**55**	P	**P**	**23 46 27.8**	**+0.9**
	0.6nm,0.8s,baz=290,slow=4.2,SNR=4.9						
PDAR	**Pinedale Array**	**75.61**	**47**	P	**P**	**23 46 44.2**	**+0.7**
	0.3nm,0.6s,baz=243,slow=1.0,SNR=3.7						
BRTR	**Keskin Array B**	**80.40**	**313**	P	**P**	**23 47 11.7**	**+1.7**
	0.2nm,0.5s,baz=20,slow=5.1,SNR=2.6						
TXAR	**Lajitas Array**	**87.91**	**54**	P	**P**	**23 47 49.1**	**+0.9**
	0.2nm,0.6s,baz=330,slow=3.1,SNR=2.6						

*ROM **02** 00:09:02.6±0.3,44°.82N±0°.01×11°.41E±0°.02,h8km±1km,*
ML2.3/9,Error ellipse: s-maj=1.5km s-min=0.8km
az=131.0
*LDG **02** 00:09:03.9±0.3,44°.80N×11°.64E,h7km,Md2.5/2,Ml2.1/10,*
Error ellipse: s-maj=6.0km s-min=3.4km az=110.0
ISC 02 00:09:06.8±0.8**,44°.88N**±0°.03×**11°.27E**±0°.03**,h17**km±5km**,**
n48,σ**1**§**52**/77**,2C-1D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SERM	**Sermide**	**0.13**	**9**	P	**Pg**	**00 09 10.4**	**-0.2**
SERM				S	**Sg**	**00 09 15.2**	**+2.0**
SERM				AML	AML		
	comp=E,277µm,0.2s						
SERM				AML	AML		
	comp=N,706µm,1.4s						
SERM				AML	AML		
	comp=N,708µm,1.4s						
SERM				AML	AML		
	comp=E,276µm,0.2s						
RAVA	**Ravarino**	**0.17**	**220**	P	**Pg**	**00 09 09.6**	**-1.5**
RAVA				S	**Sg**	**00 09 14.6**	**+0.6**
RAVA				AML	AML		
	comp=E,1790µm,0.2s						
RAVA				AML	AML		
	comp=N,1261µm,0.4s						
RAVA				AML	AML		
	comp=N,1260µm,0.4s						
CAVE	**Cavezzo**	**0.19**	**264**	P	**Pg**	**00 09 10.9**	**-0.5**
CAVE				S	**Sg**	**00 09 17.1**	**+2.6**
CAVE				AML	AML		
	comp=E,438µm,1.3s						
CAVE				AML	AML		
	comp=N,504µm,0.6s						
CAVE				AML	AML		
	comp=E,438µm,1.3s						
CAVE				AML	AML		
	comp=N,504µm,0.6s						
FERS	**Ferrara-Casagl**	**0.20**	**84**	P	**Pg**	**00 09 08.0**	**-3.5**
FERS				S	**Sg**	**00 09 11.2**	**-3.4**
NOVE	**Novellara**	**0.40**	**258**	P	**Pb**	**00 09 16.0**	**+0.5**
MTRZ	**Monterenzio**	**0.53**	**164**	P	**Pg**	**00 09 16.4**	**-0.9**
TEOL	**Teolo**	**0.55**	**31**	P	**Pg**	**00 09 16.6**	**-1.2**
TEOL				AML	AML		
	comp=E,675µm,0.9s						
TEOL				AML	AML		
	comp=N,602µm,0.5s						
TEOL	**Teolo**	**0.55**	**31**⇓	*e*Pg	**Pg**	**00 09 16.6**	**-1.2**
TEOL				*e*Sg	**Sb**	**00 09 25.4**	**-0.3**
ZOVE	**Zovencedo**	**0.59**	**15**	P	**Pg**	**00 09 17.6**	**-0.9**
MARN	**Marana (Italy)**	**0.76**	**357**⇑	*e*Pg	**Pb**	**00 09 21.1**	**-0.4**
MARN				*e*Sg	**Sn**	**00 09 33.4**	**-0.5**
ROVR	**Rover Verones**	**0.78**	**350**	P	**Pb**	**00 09 21.6**	**-0.3**
ROVR				AML	AML		
	comp=E,268µm,0.4s						
ROVR				AML	AML		
	comp=N,450µm,1.6s						
ROVR				AML	AML		
	comp=E,101µm,0.4s						
ROVR				AML	AML		
	comp=N,180µm,1.6s						
SALO	**Salr**	**0.90**	**325**	P	**Pn**	**00 09 25.2**	**+0.4**
SALO				AML	AML		
	comp=N,164µm,1.6s						
SALO				AML	AML		
	comp=E,130µm,1.3s						
DOSS	**Dosso del Somm**	**1.00**	**357**⇑	*e*Pg	**Pb**	**00 09 25.4**	**-0.4**
DOSS				*e*Sg	**Sn**	**00 09 40.4**	**+0.4**
MAGA	**Magasa**	**1.00**	**333**	P	**Pn**	**00 09 26.2**	**0.0**
MAGA				S	**Sn**	**00 09 42.3**	**+2.3**
MAGA				AML	AML		
	comp=N,243µm,0.3s						
MAGA				AML	AML		
	comp=E,358µm,0.6s						
ASOL	**Asolo**	**1.02**	**26**	P	**Pg**	**00 09 25.7**	**-0.9**
CGRP	**Cima Grappa**	**1.06**	**20**	*e*Pg	**Pg**	**00 09 26.2**	**-1.2**
CGRP				*e*Sg	**Sn**	**00 09 42.6**	**+0.9**
MTLO	**Montello**	**1.10**	**32**	*e*Pg	**Pg**	**00 09 26.9**	**-1.1**
PANI	**Panarotta**	**1.17**	**2**	*e*Pg	**Pb**	**00 09 28.3**	**-0.4**
GAGG	**Gaggia**	**1.22**	**350**	*e*Pg	**Pn**	**00 09 29.6**	**+0.4**
VARN	**Col Varnada, M**	**1.26**	**28**	*e*Pg	**Pg**	**00 09 29.2**	**-1.8**
VARN				*e*Sg	**Sn**	**00 09 47.4**	**+1.1**
PII	**Pisa**	**1.28**	**205**	P	**Pg**	**00 09 28.5**	**-3.0**
MABI	**Malga Bissina**	**1.28**	**336**	P	**Pn**	**00 09 30.8**	**+0.5**
OZOL	**Ozolo**	**1.53**	**354**	*e*Pg	**Pg**	**00 09 34.6**	**-1.6**
APPI	**Appiano**	**1.59**	**359**	P	**Pg**	**00 09 36.1**	**-1.4**
MOSI	**Grossmontoni**	**1.80**	**344**	P	**Pg**	**00 09 39.5**	**-2.0**
ABSI	**Aberstueckl**	**1.84**	**1**	P	**Pn**	**00 09 38.6**	**+0.7**
ABSI				AML	AML		
	comp=N,75µm,0.5s						
ABSI				AML	AML		
	comp=E,112µm,0.6s						
ABTA	**Abfaltersbach**	**2.06**	**25**	*i* Pn	**Pb**	**00 09 43.4**	**-0.4**
	comp=E,1.3nm,0.4s						
ABTA				*i* Sn	**Sg**	**00 10 11.6**	**-1.4**
	comp=E,2.9nm,0.5s						
FETA	**Feichten**	**2.17**	**350**	*i* Pn	**Pb**	**00 09 45.6**	**-0.1**
	comp=E,0.5nm,0.2s						
FETA				*i* Sn	**Sg**	**00 10 13.6**	**-3.1**
	comp=E,1.4nm,0.4s						
SQTA	**Sankt Quirin**	**2.34**	**359**	*i* Pn	**Pn**	**00 09 46.5**	**+1.9**
	comp=E,1.0nm,0.1s						
SQTA				*i* Sn	**Sg**	**00 10 21.6**	**-0.4**
	comp=E,7.7nm,0.2s						
WTTA	**Wattenberg**	**2.39**	**6**	*i* Pn	**Pn**	**00 09 47.3**	**+1.9**
	comp=E,0.3nm,0.1s						
WTTA				*i* Sn	**Sg**	**00 10 22.6**	**-1.2**
	comp=E,4.0nm,0.3s						
MYKA	**Terra Mystica**	**2.41**	**43**	Pn	**Pb**	**00 09 49.9**	**+0.1**
	comp=E,0.3nm,0.2s						
MYKA				Sn	**Sn**	**00 10 17.8**	**+3.1**
	comp=E,1.3nm,0.4s						
WATA	**Walderalm**	**2.46**	**5**	*i* Pn	**Pn**	**00 09 47.1**	**+0.7**
	comp=E,0.6nm,0.2s						
WATA				*i* Sn	**Sb**	**00 10 20.4**	**-0.4**
	comp=E,2.9nm,0.3s						
MOTA	**Moosalm**	**2.46**	**357**	*i* Pn	**Pn**	**00 09 48.3**	**+2.0**
	comp=E,0.9nm,0.2s						
MOTA				*i* Sn	**Sb**	**00 10 19.7**	**-1.2**
	comp=E,2.1nm,0.3s						
DAVA	**Damuels**	**2.59**	**339**	*i* Pn	**Pn**	**00 09 49.2**	**+1.1**
	comp=E,0.4nm,0.2s						
DAVA				*i* Sn	**Sb**	**00 10 24.3**	**-0.2**
	comp=E,2.7nm,0.5s						
OBKA	**Obir**	**2.81**	**54**	Pn	**Pb**	**00 09 58.7**	**+2.0**
	comp=E,2.1nm,0.8s						
OBKA				*i* Sn	**Sb**	**00 10 33.7**	**+2.8**
	comp=E,2.3nm,0.3s						
SOKA	**Soboth**	**3.19**	**54**	*i* Sn	**Sb**	**00 10 43.9**	**+2.3**
	comp=E,1.5nm,0.5s						
MBDF	**Montbardon**	**3.21**	**269**	*e*Pn	**Pn**	**00 09 56.4**	**-0.1**
MBDF				*e*Sn	**Sn**	**00 10 35.0**	**+0.6**
	comp=E,0.5nm,0.3s						
LPL	**La Plagne**	**3.27**	**283**	*e*P	**Pn**	**00 10 00.8**	**+3.3**
LPL				*e*Sn	**Sn**	**00 10 35.8**	**-0.3**
	comp=E,0.4nm,0.3s						
FRF	**La Foret Royal**	**3.58**	**250**	*e*P	**Pn**	**00 10 04.8**	**+3.3**
FRF				*e*Sn	**Sn**	**00 10 43.0**	**-0.4**
	comp=E,0.6nm,0.2s						
LMR	**La Mourre**	**3.76**	**247**	*e*Pn	**Pn**	**00 10 03.3**	**-0.7**
LMR				*e*Sn	**Sn**	**00 10 46.2**	**-1.7**
	comp=E,0.7nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.83**	**272**	*e*P	**Pn**	**00 10 07.7**	**+2.6**
ORIF				*e*Sn	**Sn**	**00 10 49.9**	**+0.2**
	comp=E,1.0nm,0.3s						
CABF	**La Chapelle**	**4.02**	**297**	*e*Pn	**Pn**	**00 10 07.5**	**-0.1**
CABF				*e*Sn	**Sn**	**00 10 55.2**	**+0.8**
	comp=E,0.5nm,0.3s						
HINF	**Hinteralfeld**	**4.24**	**315**	*e*Pn	**Pn**	**00 10 11.1**	**+0.5**
HINF				*e*Sn	**Sn**	**00 11 00.2**	**+0.5**
	comp=E,0.8nm,0.3s						
CDF	**Champ du Feu**	**4.47**	**324**	*e*Pn	**Pn**	**00 10 14.3**	**+0.4**
CDF				*e*Sn	**Sn**	**00 11 05.7**	**+0.1**
	comp=E,0.5nm,0.3s						
HAU	**Haudompre**	**4.62**	**314**	*e*Pn	**Pn**	**00 10 16.2**	**+0.4**
HAU	**Haudompre**	**4.62**	**314**	*e*Pg	**Pg**	**00 10 34.1**	**-1.1**
HAU				*e*Sn	**Sn**	**00 11 09.5**	**+0.5**
	comp=E,1.4nm,0.3s						
VIVF	**Saint-Julien-l**	**4.69**	**272**	*e*Pn	**Pn**	**00 10 16.8**	**0.0**
SMF	**Signal de Mont**	**5.49**	**291**	*e*Pn	**Pn**	**00 10 28.2**	**+0.4**
SMF				*e*Sn	**Sn**	**00 11 30.1**	**-0.4**
	comp=E,0.2nm,0.2s						

NNC 02 00:09:41.7±4.2**, 37°93N**×**72°29E, h0**km**, mb3.9, mpv3.5, 2C, Error ellipse: s-maj=47.4km s-min=15.5km az=40.0, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	Merke	4.87	8	Lg	Lg	00 11 56.1	
	11nm,0.7s						
AAK	Ala-Archa	5.00	19	⇑P	Pn	00 10 58.9	+0.8
	4.6nm,0.7s						
KK31	Karatay Array	5.34	346	P	Pn	00 11 02.5	-0.3
	0.2nm,0.2s,baz=156,slow=11,SNR=17						
KK31				S	Sn	00 12 06.1	+1.1
	4.2nm,0.4s,baz=163,slow=17,SNR=24						
TKM2	Tokmak 2	5.59	26	⇑P	Pn	00 11 06.1	-0.2
	7.6nm,0.6s						
KST	Kastek	5.83	28	P	Pn	00 11 09.8	+0.4
	5.7nm,0.5s						
TNSS	Tian-Shan	6.22	33	P	Pn	00 11 14.1	-1.0
	5.5nm,0.6s						

*ISCJB **02** 00:28:19.3±0.7, 32°94S±0°04×70°71W±0°05, h111km±6km, Error ellipse: s-maj=8.3km s-min=5.8km az=138.5*
*SJA **02** 00:28:20.5±0.5, 32°89S×70°41W, h144km±4km, ML3.4, MW3.7*
*GUC **02** 00:28:21.1±1.0, 32°87S×70°62W, h82km±6km, ML3.5*
ISC 02 00:28:19.7±1.6**, 32°94S**±0°05×**70°69W**±0°05**, h108**km±10km**, n24,** σ1§**30**/38**, 3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	El Roble	0.27	263	iP	Pn	00 28 35.2	-0.2
ROCH				iS	Sn	00 28 45.7	-1.4
ROCH				IAML		00 28 47.1	
	comp=E,3μm,0.2s						
ROC1	El Roble	0.28	262	iP	Pn	00 28 35.4	0.0
ROC1				eS	Sn	00 28 45.8	-1.4
CLCH	Cerro Calan	0.47	164	⇓iP	Pn	00 28 36.2	-0.1
CLCH				iS	Sn	00 28 47.7	-0.9
CLCH				IAML		00 28 55.8	
	comp=E,2μm,0.4s						
FCH	Farellones	0.51	139	⇓iP	Pn	00 28 36.8	0.0
FCH				iS	Sn	00 28 48.6	-1.0
FCH				IAML		00 28 49.5	
	comp=E,3μm,0.2s						
ANTU	Antumapu	0.63	176	⇓iP	Pn	00 28 38.4	+1.1
ANTU				iS	Sn	00 28 50.9	+0.3
ANTU				IAML		00 28 51.7	
	comp=E,4μm,0.4s						
VA01	Torpederas	0.81	264	iP	Pn	00 28 39.8	+1.0
VA01				iS	Sn	00 28 53.4	+0.3
VA01				IAML		00 28 55.5	
	comp=N,4μm,0.2s						
LMEL	Las Melosas	0.99	156	iP	Pn	00 28 42.0	+1.2
LMEL				iS	Sn	00 28 57.6	+0.8
ARCO	CERRO ARCO	1.48	87	iP	Pn	00 28 47.5	+1.2
ARCO				IAML		00 28 48.5	
	comp=Z,173nm,0.2s						
ARCO				eS	Sn	00 29 08.1	+1.5
AAGR	Agrelo	1.57	96	iP	Pn	00 28 48.9	+1.6
AAGR				eS	Sn	00 29 10.1	+1.7
RTLS	Leoncito	1.64	46	iP	Pn	00 28 49.9	+1.6
RTLS				IAML		00 28 49.9	
	comp=Z,320nm,0.2s						
RTLS				eS	Sn	00 29 12.5	+2.4
RTCV	Cerro Valdivia	2.11	60	iP	Pn	00 28 54.5	+0.5
GO05	Huala	2.31	206	iP	Pn	00 28 56.8	+0.3
GO05				iS	Sn	00 29 24.8	0.0
GO05				IAML		00 29 30.1	
	comp=E,275nm,0.2s						
CFA	Coronel Fontan	2.47	58	iP	Pn	00 28 58.8	+0.1
CFA				eS	Sn	00 29 27.3	-1.2
RTLL	Cerro Villicun	2.47	50	iP	Pn	00 28 59.4	+0.6
RTLL				IAML		00 28 60.0	
	comp=Z,166nm,0.4s						
ACCO	Cerro Coronel	2.72	31	iP	Pn	00 29 03.7	+1.4
ACCO				eS	Sn	00 29 35.8	+0.8
AMOG	MOGNA	2.73	44	iP	Pn	00 29 03.0	+0.8
AROD	Rodeo	2.95	21	iP	Pn	00 29 07.5	+2.2
ACAN	Cantantal	3.03	78	iP	Pn	00 29 05.8	-0.2
ACAN				eS	Sn	00 29 39.4	-2.4
APLL	PUNTA DE LOS L	4.36	56	iP	Pn	00 29 23.4	-0.5
APLL				IAML		00 29 23.7	
	comp=Z,20nm,0.2s						
VCA	Vinchina	4.70	28	iP	Pn	00 29 28.9	+0.3
VCA				IAML		00 30 28.3	
	comp=Z,54nm,0.3s						
ACLC	CERRO LA CRUZ	4.75	43	iP	Pn	00 29 28.8	-0.4
TCA	Tanti	5.41	74	iP	Pn	00 29 37.0	-1.2
TCA				IAML		00 29 38.9	
	comp=Z,24nm,0.5s						
CYA	Choya	6.15	44	iP	Pn	00 29 46.0	-2.1
AHML	Horco Molle	7.70	39	iP	Pn	00 30 06.2	-2.9

*ISCJB **02** 00:28:36.7±0.5, 23°01S±0°09×179°92W±0°08, h550km, mb4.0/6, Error ellipse: s-maj=11.4km s-min=10.0km az=179.9*
*NEIC **02** 00:28:37.5±0.7, 23°1S±0°1×179°8W±0°1, h552km±11km, mb4.2/34*
*IDC **02** 00:28:37.8±2.9, 22°60S×179°99E, h540km±25km, mb3.4/6, mb1 3.7/6, mb1mx3.3/30, mbtmp4.4/6, Error ellipse: s-maj=57.7km s-min=22.4km az=152.0*
ISC 02 00:28:37.8±0.7**, 23°1S**±0°1×**179°86W**±0°10**, h550**km**, n49,** σ**0§67**/51**, mb4.2**/20**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.65	339	P	P	00 30 15.0	+1.5
RAO	Raoul Island	6.41	165	P	P	00 30 20.1	0.0
NIUE	Niue	10.08	69	P	P	00 30 56.4	-0.3
DZM	Mont Dzumac	12.70	272	P	P	00 31 23.9	+0.2
MXZ	Matakaoa Point	14.54	186	P	P	00 31 42.5	+0.2
QRZ	Quartz Range	18.84	198	P	P	00 32 23.6	+0.4
QRZ				IAmb	IAmb	00 32 34.5	
	comp=Z,9.1nm,1.2s						
KHZ	Kahutara	20.07	194	P	P	00 32 33.6	-0.7
KHZ				IAmb	IAmb	00 32 34.8	
	comp=Z,6.0nm,0.9s						
LTZ	Lake Taylor	20.73	197	P	P	00 32 40.5	+0.2
ARMA	Armidale	26.45	248	P	P	00 33 33.0	+1.4
EIDS	Eidsvold	26.58	259	P	P	00 33 32.8	+0.2
CAN	Canberra	29.68	239	P	P	00 34 00.9	+1.3
TOO	Toolangi	33.02	236	P	P	00 34 28.7	+0.7
TOO				IAmb	IAmb	00 34 29.6	
	comp=Z,6.1nm,0.8s						
STKA	Stephens Creek	35.16	247	P	P	00 34 46.8	+0.8
	comp=Z,5.1nm,0.6s,baz=93,slow=9.9,SNR=14						
STKA	Stephens Creek	35.16	247	P	P	00 34 46.6	+0.6
COEN	Coen	36.12	278	P	P	00 34 53.7	-0.4
COEN				IAmb	IAmb	00 35 06.0	
	comp=Z,7.6nm,1.1s						
BBOO	Buckleboo	39.90	246	P	P	00 35 24.6	-0.1
AS31	Alice Springs	42.30	260	P	P	00 35 43.9	0.0
AS31				IAmb	IAmb	00 35 45.2	
	comp=Z,3.2nm,0.5s						
ASAR	Alice Springs	42.30	260	P	P	00 35 44.1	+0.2
	comp=Z,5.6nm,0.4s,baz=94,slow=8.1,SNR=76						
ASAR				ScP	ScP	00 40 23.4	0.0
	comp=Z,1.1nm,1.0s,baz=111,slow=5.1,SNR=3.5						
ASAR	Alice Springs	42.30	260	P	P	00 35 43.6	-0.3
WR0	Warramunga Arr	42.41	265	P	P	00 35 44.1	-0.7
WR0				IAmb	IAmb	00 35 45.3	
	comp=Z,7.3nm,1.1s						
WB0	Warramunga Arr	42.59	265	P	P	00 35 45.7	-0.5
WB2	Warramunga Arr	42.59	265	P	P	00 35 46.0	-0.2
WRAB	Tennant Creek	42.59	265	P	P	00 35 45.7	-0.5
WRA	Warramunga Arr	42.60	265	P	P	00 35 46.0	-0.3
	comp=Z,9.4nm,0.7s,baz=91,slow=5.8,SNR=221						
WRA				ScP	ScP	00 40 26.3	+1.8
	comp=Z,1.2nm,0.8s,baz=98,slow=3.5,SNR=6.7						
WRA	Warramunga Arr	42.60	265	P	P	00 35 45.9	-0.4
JAY	Jayapura	43.31	292	P	P	00 35 50.0	-1.8
	comp=Z,10.0nm,0.9s,baz=154,slow=22,SNR=5.8						
FORT	Forrest	46.73	249	P	P	00 36 17.5	-0.3
KNRA	Kununurra	48.83	269	P	P	00 36 33.5	-0.1
PSAD2	Pilbara Seismi	55.33	259	P	P	00 37 19.9	-0.4
PSAC2	Pilbara Seismi	55.40	259	P	P	00 37 20.5	-0.3
PSAB3	Pilbara Seismi	55.43	259	P	P	00 37 20.4	-0.6
PSAB3				IAmb	IAmb	00 37 20.9	
	comp=Z,12nm,1.1s						
PSAA3	Pilbara Seismi	55.44	259	P	P	00 37 20.7	-0.3
PSAB2	Pilbara Seismi	55.44	259	P	P	00 37 20.5	-0.6
PSAB2				IAmb	IAmb	00 37 34.8	
	comp=Z,14nm,1.1s						
PSA00	Pilbara Seismi	55.45	259	P	P	00 37 20.7	-0.4
PSAA2	Pilbara Seismi	55.45	259	P	P	00 37 20.7	-0.4
PSAA2				IAmb	IAmb	00 37 35.8	
	comp=Z,14nm,1.1s						
PSAC3	Pilbara Seismi	55.45	259	P	P	00 37 20.6	-0.6
PSAC3				IAmb	IAmb	00 37 35.5	
	comp=Z,12nm,1.1s						
PSAA1	Pilbara Seismi	55.45	259	P	P	00 37 20.5	-0.6
PSAA1				IAmb	IAmb	00 37 32.1	
	comp=Z,12nm,1.1s						
PSAB1	Pilbara Seismi	55.47	259	P	P	00 37 20.9	-0.4
PSAB1				IAmb	IAmb	00 37 38.5	
	comp=Z,12nm,1.1s						
PSAC1	Pilbara Seismi	55.49	259	P	P	00 37 21.1	-0.4
PSAC1				IAmb	IAmb	00 37 21.5	
	comp=Z,13nm,1.1s						
PSAD1	Pilbara Seismi	55.49	259	P	P	00 37 21.2	-0.2
PSAD1				IAmb	IAmb	00 37 31.5	
	comp=Z,11nm,1.1s						
PSAD3	Pilbara Seismi	55.49	259	P	P	00 37 20.8	-0.6
PSAD3				IAmb	IAmb	00 37 36.3	
	comp=Z,12nm,1.1s						
NWAO	Narrogin (SRO)	55.70	245	P	P	00 37 22.6	-0.1
NWAO				IAmb	IAmb	00 37 40.2	
	comp=Z,14nm,1.1s						
NWAO	Narrogin (SRO)	55.70	245	P	P	00 37 22.6	-0.1
NWAO				IAmb	IAmb	00 37 40.2	
	comp=Z,10nm,1.1s						
MORW	Morawa	57.29	249	P	P	00 37 33.4	-0.3
NVAR	Mina Array Bea	84.06	44	P	P	00 40 10.8	-0.4
	comp=Z,0.3nm,0.8s,baz=224,slow=9.5,SNR=3.8						
PDAR	Pinedale Array	92.00	44	P	P	00 40 48.4	0.0
	comp=Z,0.4nm,0.7s,baz=207,slow=5.8,SNR=2.9						
PDAR	Pinedale Array	92.00	44	P	P	00 40 47.9	-0.6
BRTR	Keskin Array B	147.17	308	PKPbc	PKPdf	00 47 17.8	+1.1
	comp=Z,0.4nm,0.6s,baz=99,slow=2.6,SNR=2.6						
MMAI	Mount Meron Ar	147.47	296	PKPbc	PKPbc	00 47 21.0	+0.3
	comp=Z,0.7nm,0.5s,baz=62,slow=4.3,SNR=1.7						

*ISCJB **02** 00:33:57.6±0.2, 18°43N±0°02×68°90W±0°02, h119km±2km, mb4.1/25, Error ellipse: s-maj=3.5km s-min=2.2km az=18.8*
*IDC **02** 00:33:57.1±0.6, 18°43N×68°90W, h101km±5km, mb3.9/26, mb1 4.0/30, mb1mx3.9/49, mbtmp4.2/30, MS2.8/2, Ms1 2.8/2, ms1mx2.4/29, Error ellipse: s-maj=10.3km s-min=6.7km az=32.0*
*RSPR **02** 00:33:57.8, 18°25N×68°99W, h108km±1km, MD4.2/12*
*NEIC **02** 00:33:58.2±1.5, 18°37N±0°07×68°93W±0°05, h113km±5km*
*OSPL **02** 00:34:00.3±3.4, 18°04N×68°95W, h102km±26km, MD4.2, ML4.2*
ISC 02 00:33:57.6±0.5**, 18°34N**±0°04×**68°91W**±0°04**, h107**km±4km**, n327,** σ1§**74**/342**, mb4.3**/54**, 28C-7D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.53	71	⇑eP	Pn	00 34 15.1	+0.8
PCDR				eS	Sn	00 34 28.4	+1.6
PCDR	Punta Cana, DR	0.53	71	⇑eP	Pn	00 34 15.3	+1.0
PCDR	Punta Cana, DR	0.53	71	⇑eP	Pn	00 34 15.1	+0.8
PCDR				eS	Sn	00 34 28.2	+1.3
PCDR	Punta Cana, DR	0.53	71	iP	Pn	00 34 14.7	+0.4
PCDR				eS	Sn	00 34 28.5	+1.6
PCDR				IAML		00 34 32.9	
	comp=Z,6μm,0.7s						
PCDR	Punta Cana, DR	0.53	71	Pn	Pn	00 34 15.2	+1.0
PCDR	Punta Cana, DR	0.53	71		Sn	00 34 28.2	+1.3
DR12	Loma Pena Alta	0.63	315		Pn	00 34 15.0	-0.2
SDD	Santo Domingo	0.96	277	iP	Pn	00 34 19.1	+1.1
SDD				eS	Sn	00 34 34.6	+1.0
SDD	Santo Domingo	0.96	277		Pn	00 34 19.1	+1.0
BANI	BANI	1.38	273		Pn	00 34 24.0	+1.1
BON1	Bonao	1.53	293	iP	Pn	00 34 26.9	+2.3
BON1				eS	Sn	00 34 48.4	+3.2
MPR	Mayaguez	1.69	94	⇑eP	Pn	00 34 27.9	+1.3
MPR	Mayaguez	1.69	94	⇑eP	Pn	00 34 27.9	+1.3
MPR	Mayaguez	1.69	94	iP	Pn	00 34 28.0	+1.5
MPR				eS	Sn	00 34 50.5	+2.0
MPR				IAML		00 34 57.6	
	comp=Z,757nm,0.4s						
MPR	Mayaguez	1.69	94		Pn	00 34 27.9	+1.3
AGPR	Aguadilla, PR	1.71	85	⇑eP	Pn	00 34 28.1	+1.2
AGPR	Aguadilla, PR	1.71	85	⇑eP	Pn	00 34 28.1	+1.2
AGPR				eS	Sn	00 34 51.4	+2.3
AGPR	Aguadilla, PR	1.71	85	iP	Pn	00 34 28.1	+1.2
AGPR				eS	Sn	00 34 52.5	+3.3
AGPR				IAML		00 35 00.1	
	comp=Z,2μm,0.3s						
AGPR	Aguadilla, PR	1.71	85		Pn	00 34 28.1	+1.2
AGPR	Aguadilla, PR	1.71	85		Sn	00 34 51.4	+2.3
AGPR	Aguadilla, PR	1.71	85		Pn	00 34 28.0	+1.2
AGPR	Aguadilla, PR	1.71	85		Pn	00 34 28.8	+2.0
LSP	Las Mesas	1.74	95	⇓eP	Pn	00 34 28.0	+0.8
LSP	Las Mesas	1.74	95	⇓eP	Pn	00 34 28.0	+0.8
LSP				eS	Sn	00 34 51.8	+2.0
LSP	Las Mesas	1.74	95		Pn	00 34 28.0	+0.8
LSP					Sn	00 34 51.8	+2.0
CRPR	Cabo Rojo, PR	1.74	101	⇓eP	Pn	00 34 27.9	+0.7
CRPR	Cabo Rojo, PR	1.74	101	⇓eP	Pn	00 34 27.9	+0.7
CRPR	Cabo Rojo, PR	1.74	101		Pn	00 34 27.9	+0.7
MLPR	Magueyes Islan	1.81	101	⇓eP	Pn	00 34 28.6	+0.6
MLPR	Magueyes Islan	1.81	101	eS	Sn	00 34 53.3	+2.0
MLPR	Magueyes Islan	1.81	101	Pn	Pn	00 34 28.6	+0.6
MLPR	Magueyes Islan	1.81	101		Sn	00 34 53.3	+2.0
SC01	Santiago de lo	2.03	303	iP	Pn	00 34 34.0	+3.1
SC01				eS	Sn	00 34 59.5	+3.2
SC01				IAML		00 35 08.3	
	comp=Z,3μm,0.6s						
SC01	Santiago de lo	2.03	303		Pn	00 34 31.9	+1.0
AOPR	Arecibo Observ	2.05	89	⇑eP	Pn	00 34 32.0	+0.9
AOPR	Arecibo Observ	2.05	89	⇑eP	Pn	00 34 32.1	+1.0
AOPR	Arecibo Observ	2.05	89	⇑eP	Pn	00 34 32.0	+0.9
AOPR	Arecibo Observ	2.05	89	⇑eP	Pn	00 34 32.1	+1.0
AOPR				eS	Sn	00 34 58.8	+2.1
AOPR	Arecibo Observ	2.05	89	Pn	Pn	00 34 32.1	+1.0
AOPR					Pn	00 34 32.4	+1.3
AOPR	Arecibo Observ	2.05	89		Sn	00 34 58.8	+2.1
LOBA1	Barahona	2.08	264	iP	Pn	00 34 32.1	+0.7
LOBA1				eS	Sn	00 34 56.8	-0.4
LOBA1				IAML		00 34 57.7	
	comp=Z,1μm,0.5s						
UUPR	Utuado, UPR, P	2.08	92		Pn	00 34 32.9	+1.4
OBIP	Obispado Ponce	2.21	97	⇑eP	Pn	00 34 34.0	+0.8
OBIP	Obispado Ponce	2.21	97	⇑eP	Pn	00 34 34.0	+0.8
OBIP				eS	Sn	00 35 02.1	+1.7
OBIP	Obispado Ponce	2.21	97	Pn	Pn	00 34 33.9	+0.8
OBIP	Obispado Ponce	2.21	97		Sn	00 35 02.1	+1.7
CELP	Cerrillos	2.23	96	⇑iP	Pn	00 34 34.1	+0.7
CELP	Cerrillos	2.23	96	⇑iP	Pn	00 34 34.1	+0.7
CELP	Cerrillos	2.23	96		Pn	00 34 34.1	+0.7
EMPR	Esperanza - Ma	2.27	86	⇑eP	Pn	00 34 35.4	+1.6
EMPR	Esperanza - Ma	2.27	86	eS	Sn	00 35 03.6	+1.9
EMPR	Esperanza - Ma	2.27	86		Sn	00 35 03.6	+1.9
EMPR	Esperanza - Ma	2.27	86		Pn	00 34 34.1	+0.2
EMPR					Pn	00 34 34.9	+1.0
SDDR	Presa de Saban	2.34	286	iP	Pn	00 34 37.3	+2.4
SDDR				eS	Sn	00 35 04.5	+0.9
SDDR				IAML		00 35 15.1	
	comp=Z,1μm,0.6s						
SDDR	Presa de Saban	2.34	286		Pn	00 34 36.0	+1.1
SJG	San Juan	2.63	94	P	Pn	00 34 39.0	+0.3
	comp=Z,182nm,0.3s,baz=303,slow=7.9,SNR=191						
SJG				S	Sn	00 35 10.8	+0.6
	comp=Z,344nm,0.3s,baz=7.4,slow=13,SNR=14						
SJG	San Juan	2.63	94		Pn	00 34 38.8	+0.1
GCPR	Guaynabo City	2.69	90		Pn	00 34 39.0	-0.3
IGPR	InterUniversit	2.69	97	⇑eP	Pn	00 34 40.4	+1.0
IGPR	InterUniversit	2.69	97	⇑eP	Pn	00 34 40.8	+1.4
IGPR	InterUniversit	2.69	97	eS	Sn	00 35 13.9	+2.3
IGPR	InterUniversit	2.69	97		Pn	00 34 40.4	+1.0
IGPR	InterUniversit	2.69	97		Pn	00 34 40.5	+1.0
PDPR	Patillas Dam,	2.77	96	⇑eP	Pn	00 34 41.2	+0.8
PDPR	Patillas Dam,	2.77	96		Pn	00 34 41.2	+0.8
CBYP	Canovanas	2.90	91	⇑eP	Pn	00 34 43.0	+0.7
CBYP	Canovanas	2.90	91	⇑eP	Pn	00 34 43.0	+0.7
CBYP	Canovanas	2.90	91	⇑eP	Pn	00 34 43.0	+0.7
CBYP	Canovanas	2.90	91		Pn	00 34 43.0	+0.7
CBYP					Pn	00 34 43.2	+0.9
HUMP	Col San Antoni	2.92	93	⇑eP	Pn	00 34 43.3	+0.9
HUMP	Col San Antoni	2.92	93	⇑eP	Pn	00 34 43.7	+1.3
HUMP	Col San Antoni	2.92	93	⇑eP	Pn	00 34 43.3	+0.9
HUMP	Col San Antoni	2.92	93	Pn	Pn	00 34 43.5	+1.1
MTP	Monte Pirata	3.20	94	⇑eP	Pn	00 34 47.2	+1.0
MTP	Monte Pirata	3.20	94	⇑eP	Pn	00 34 47.2	+1.0
MTP	Monte Pirata	3.20	94		Pn	00 34 47.2	+1.0
JAKH	Jacmel	3.43	269	iP	Pn	00 34 50.6	+1.4
JAKH				IAML		00 35 34.8	
	comp=E,313nm,0.5s						
GRTK	Grand Turk	3.79	327	Pn	Pn	00 34 51.6	-2.4
TBVI	Tortola	4.08	88	⇑eP	Pn	00 34 59.7	+1.8
TBVI	Tortola	4.08	88	⇑eP	Pn	00 34 59.7	+1.8
TBVI	Tortola	4.08	88		Pn	00 34 59.7	+1.8
ABV	Anegada	4.36	84	⇓eP	Pn	00 35 03.3	+1.5
ABV	Anegada	4.36	84	⇓eP	Pn	00 35 03.3	+1.5
ABVI	Anegada Island	4.36	84		Pn	00 35 00.8	-0.9
ABVI					Pn	00 35 02.3	+0.6
SABA	Saba	5.44	97	eP	Pn	00 35 20.3	+3.9
SABA	Saba	5.44	97	eS	Sn	00 36 17.1	-0.7
SABA	Saba	5.44	97	Pn	Pn	00 35 18.1	+1.7
SEUS	St. Eustatius	5.71	98	eP	Pn	00 35 18.2	-1.8
SEUS	St. Eustatius	5.71	98	eS	Sn	00 36 28.4	+4.2
SKI	Saint Kitts	5.96	99	eP	Pn	00 35 24.8	+1.3
SKI	Saint Kitts	5.96	99	eS	Sn	00 36 33.2	+2.8
SKI	Saint Kitts	5.96	99	Pn	Pn	00 35 24.9	+1.4
SKOC	St. Kitts, UWI	5.98	99	eP	Pn	00 35 28.7	+5.1
SKOC	St. Kitts, UWI	5.98	99	eS	Sn	00 36 33.4	+2.7
GTBY	Guantanamo Bay	6.07	286	iP	Pn	00 35 22.4	-2.5
GTBY				IAML		00 36 41.9	
	comp=Z,42nm,1.6s						
GTBY	Guantanamo Bay	6.07	286	Pn	Pn	00 35 22.8	-2.1
MLYT	Lee's Yard	6.61	103	eP	Pn	00 35 32.6	+0.4
MLYT	Lee's Yard	6.61	103	eS	Sn	00 36 47.2	+1.0
ANWB	Willy Bob	6.81	94	eP	Pn	00 35 32.2	-2.7
ANWB	Willy Bob	6.81	94	eS	Sn	00 36 45.7	-5.4
ANWB	Willy Bob	6.81	94	Pn	Pn	00 35 34.8	-0.1
BPA	Boggy Peak	6.85	100	eP	Pn	00 35 33.0	-2.4
BPA	Boggy Peak	6.85	100	eS	Sn	00 36 46.8	-5.1
URIC	Uribia, Colomb	7.24	205	eP	Pn	00 35 41.8	+1.0
URIC	Uribia, Colomb	7.24	205	eP	Pn	00 35 41.8	+1.0
ABD	La Joyeuse, An	7.33	104	eP	Pn	00 35 43.7	+1.8
CBE	Ff, Capester	7.34	107	eP	Pn	00 35 44.2	+2.1
TDBA	Terre de Bas,	7.38	108	eP	Pn	00 35 44.6	+1.9
MDPO	Dominica; Chan	7.65	110	eS	Sn	00 37 11.8	+0.4
BBL	Barber's Block	7.65	110	eP	Pn	00 35 49.4	+3.0
BBL	Barber's Block	7.65	110	eS	Sn	00 37 10.6	-0.9
H05N1	Guadeloupe/Mar	7.77	104	P	Pn	00 35 48.7	+0.8
H05N1				S	Sn	00 37 11.9	-2.4
DWS	Wesley	7.78	110	eP	Pn	00 35 54.8	+6.7
DWS	Wesley	7.78	110	eS	Sn	00 37 20.6	+6.0
PCM	Pelee Case Pet	8.17	114	eP	Pn	00 35 55.1	+1.6
PCM	Pelee Case Pet	8.17	114	eP	Pn	00 35 56.9	+3.4
MTDJ	Mount Denham	8.19	271	Pn	Pn	00 35 54.0	+0.2
SVN	Savane Anatole	8.20	114	eP	Pn	00 35 56.8	+3.0
CXM	Morne La Croix	8.21	114	eP	Pn	00 35 57.0	+2.9
PML	Morne Lenard	8.21	114	eP	Pn	00 35 56.0	+2.1
GBMF	Grand Be	8.22	114	eP	Pn	00 35 58.1	+3.9
BAMF	Morne Balai	8.22	114	eP	Pn	00 35 55.5	+1.3
FDF	Fort de France	8.26	115	eP	Pn	00 35 56.6	+1.9
FDF	Fort de France	8.26	115	eS	Sn	00 37 23.4	-3.0
BIM	Bigot	8.43	116	eP	Pn	00 35 58.6	+1.6
TRMF	Trois Ilets	8.44	115	eP	Pn	00 35 58.2	+1.2
ZAM	Aeronautique	8.44	115	eP	Pn	00 35 58.2	+1.2
LPMF	Morne Lapointe	8.49	115	eP	Pn	00 35 59.2	+1.5
MVM	Montagne Vaucl	8.56	115	eP	Pn	00 36 04.2	+5.4
MPOM	Morne Pois Mar	8.64	115	eP	Pn	00 36 02.6	+2.7
H05S1	Guadeloupe/Mar	8.67	115	P	Pn	00 36 00.7	+0.5
H05S1				S	Sn	00 37 34.0	-2.3
SLBI	Saint Lucia, B	8.75	118	eP	Pn	00 36 03.2	+1.9
SLBI	Saint Lucia, B	8.75	118	eS	Sn	00 37 36.6	-1.6
SLDE	Delcer	8.79	120	eP	Pn	00 36 08.9	+7.0
SLDE	Delcer	8.79	120	eS	Sn	00 37 51.3	+12
SLB	Belfond	8.79	120	eP	Pn	00 36 04.8	+2.9
SLB	Belfond	8.79	120	eS	Sn	00 37 42.5	+3.1
SLPA	Patience	8.88	119	eP	Pn	00 36 08.3	+5.3
SLPA	Patience	8.88	119	eS	Sn	00 37 52.1	+11
SVB	Belmont	8.93	123	eP	Pn	00 36 04.1	+0.4
SVB	Belmont	8.93	123	eP	Pn	00 36 07.6	+3.8
SVB	Belmont	8.93	123	eS	Sn	00 37 54.0	+11
SVB	Belmont	8.93	123		Pn	00 36 03.8	+0.1
SVV	Soufriere Volc	8.93	123	eP	Pn	00 36 05.7	+1.9
SVV	Soufriere Volc	8.93	123	eS	Sn	00 37 42.0	-0.6
MCLT	Moule a Chique	8.94	120	eP	Pn	00 36 14.7	+11
MCLT	Moule a Chique	8.94	120	eS	Sn	00 37 39.0	-3.8
FCV	Fort Charlotte	9.00	124	eP	Pn	00 36 06.4	+1.7
FCV	Fort Charlotte	9.00	124	eS	Sn	00 37 43.4	-0.9
SVCV	St. Vincent, C	9.01	123	eP	Pn	00 36 05.5	+0.6
SVCV	St. Vincent, C	9.01	123	eS	Sn	00 37 37.8	-6.9
PCRV	Puerto La Cruz	9.11	152	P	Pn	00 36 09.0	+2.7
	comp=Z,0.9nm,0.3s,baz=300,slow=5.6,SNR=11						
PCRV				S	Sn	00 37 40.8	-6.3
	comp=Z,1.5nm,0.3s,baz=41,slow=19,SNR=3.6						
PLCV	Puerto La Cruz	9.14	152		Pn	00 36 09.0	+2.3
PLCV					Sn	00 37 40.8	-7.0
GRGR	Grenville	9.33	130	Pn	Pn	00 36 09.6	+0.4
BAUV	El Baul	9.38	175	eP	Pn	00 36 13.1	+3.3
BAUV	El Baul	9.38	175	eS	Sn	00 37 50.8	-2.7
CODC	Agustn Codazz	9.44	208	eP	Pn	00 36 11.1	+0.5
CODC	Agustn Codazz	9.44	208	eP	Pn	00 36 11.1	+0.5
SDV	Santo Domingo	9.54	190	P	Pn	00 36 15.0	+2.7
	comp=Z,3.0nm,0.3s,baz=20,slow=6.8,SNR=21						
SDV				S	Sn	00 37 54.6	-3.2
	comp=Z,1.6nm,0.3s,baz=342,slow=19,SNR=3.1						
SDV	Santo Domingo	9.54	190		Pn	00 36 15.1	+2.9
GUIV	Guiria	10.02	139	eP	Pn	00 36 21.7	+3.2
GUIV	Guiria	10.02	139	eS	Sn	00 38 03.4	-5.7
SJCC	San Jacinto, C	10.36	217	eP	Pn	00 36 23.7	+0.5
SJCC	San Jacinto, C	10.36	217	eP	Pn	00 36 23.7	+0.5
BBGH	Gun Hill	10.38	118	Pn	Pn	00 36 24.0	+0.6
TOSP	Speyside	10.70	130	Pn	Pn	00 36 28.4	+0.6
SMLC	San Martn de	10.72	209	eP	Pn	00 36 26.6	-1.5
SMLC	San Martn de	10.72	209	eP	Pn	00 36 26.6	-1.5
OCAC	Ocana	10.91	204	eP	Pn	00 36 31.3	+0.5
OCAC	Ocana	10.91	204	eP	Pn	00 36 31.3	+0.5
PAMC	Pamplona, Colo	11.54	199	eP	Pn	00 36 42.7	+3.2
PAMC	Pamplona, Colo	11.54	199	eP	Pn	00 36 42.7	+3.2
FSCY	Frank Sound, G	11.66	277	Pn	Pn	00 36 40.3	-0.3
BRRC	Barranca, Sant	12.10	203	eP	Pn	00 36 48.3	+1.7
BRRC	Barranca, Sant	12.10	203	eP	Pn	00 36 48.3	+1.7
ZARC	Zaragoza, Cauc	12.23	209	eP	Pn	00 36 49.7	+1.4
ZARC	Zaragoza, Cauc	12.23	209	eP	Pn	00 36 49.7	+1.4
BARC	Barichara	12.39	200	eP	Pn	00 36 51.7	+1.1
BARC	Barichara	12.39	200	eP	Pn	00 36 51.7	+1.1
PTBC	PUERTO BERRIO,	12.91	205	eP	Pn	00 36 59.6	+2.4
PTBC	PUERTO BERRIO,	12.91	205	eP	Pn	00 36 59.6	+2.4
RUSC	La Rusia	13.02	199	eP	Pn	00 37 02.5	+3.4
RUSC	La Rusia	13.02	199	eP	Pn	00 37 02.5	+3.4
SPBC	San Pablo de B	13.58	202	eP	Pn	00 37 08.3	+2.4
SPBC	San Pablo de B	13.58	202	eP	Pn	00 37 08.3	+2.4
HELC	Santa Helena	13.69	209	eP	P	00 37 11.6	-1.2
HELC	Santa Helena	13.69	209	eP	P	00 37 11.6	-1.2
NORC	Norcasia	13.96	205	eP	P	00 37 14.8	-0.7
NORC	Norcasia	13.96	205	eP	P	00 37 14.8	-0.7
BCIP	Isla Barro Col	13.98	231		Pn	00 37 12.4	+1.3
CBOC	Ciudad Bolivar	14.20	210	eP	Pn	00 37 16.8	+2.7
CBOC	Ciudad Bolivar	14.20	210	eP	Pn	00 37 16.8	+2.7
CHIC	Chingaza	14.41	200	eP	Pn	00 37 19.8	+2.7
CHIC	Chingaza	14.41	200	eP	Pn	00 37 19.8	+2.7
ROSC	El Rosal	14.42	202	P	P	00 37 21.4	+0.5
	comp=Z,1.6nm,0.3s,baz=115,slow=16,SNR=7.2						
ROSC				S	Sn	00 39 57.0	+0.7
	comp=Z,1.0nm,0.3s,baz=37,slow=20,SNR=2.2						
ROSC				LR	LR	00 43 00.8	
	comp=Z,41nm,18.5s,baz=34,slow=38						
ROSC	El Rosal	14.42	202		Pn	00 37 18.1	+1.0
GUY2C	Guyana, Caldas	14.48	207	eP	P	00 37 21.1	-0.5
GUY2C	Guyana, Caldas	14.48	207	eP	P	00 37 21.1	-0.5
BBSR	BB Station	14.48	14	Pn	Pn	00 37 16.7	-0.6
ORTC	Ortega, Tolima	15.62	204	eP	P	00 37 34.2	+0.3
ORTC	Ortega, Tolima	15.62	204	eP	P	00 37 34.2	+0.3
PRAC	Prado	15.66	203	eP	P	00 37 37.3	+3.0
PRAC	Prado	15.66	203	eP	P	00 37 37.3	+3.0
656A	Willston	16.59	314		Pn	00 37 43.7	-0.1
456A	Hilliard	17.14	318	P	Pn	00 37 48.1	-2.3
JTS	Las Juntas de	17.47	245	P	Pn	00 37 59.2	+4.5
	comp=Z,0.8nm,0.3s,baz=168,slow=2.7,SNR=5.0						
Y60A	Bolivia	17.68	334	P	Pn	00 37 58.0	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TGUH	**Tegucigalpa,Un**	**18.14**	**259**	P	**P**	**00 38 00.6**	**-1.2**
TGUH				IAmb	IAmb	00 38 09.9	
	comp=Z,20nm,1.1s						
Y58A	**Scranton**	**18.25**	**330**	P	**P**	**00 38 02.9**	**+0.3**
TEIG	**Tepich**	**18.38**	**279**	P	**P**	**00 38 04.8**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=319,slow=9.2,SNR=4.4						
TEIG	**Tepich**	**18.38**	**279**	IAmb	IAmb	00 38 16.1	
	comp=Z,20nm,1.0s						
V61A	**Roper**	**18.66**	**340**	P	**P**	**00 38 07.9**	**+0.7**
V61A				IAmb	IAmb	00 38 15.1	
	comp=Z,21nm,1.2s						
V60A	**Jim Taylor Roa**	**18.87**	**339**	P	**P**	**00 38 09.7**	**+0.3**
V60A				IAmb	IAmb	00 38 20.1	
	comp=Z,14nm,1.1s						
U61A	**Possum Corner**	**19.12**	**341**	P	**P**	**00 38 12.6**	**+0.4**
BIRD	**Birdtown, Kers**	**19.23**	**330**	P	**P**	**00 38 14.0**	**+0.7**
JSC	**Jenkinsville**	**19.33**	**328**	P	**P**	**00 38 14.7**	**+0.3**
352A	**Blakely**	**19.52**	**315**	P	**P**	**00 38 15.9**	**-0.6**
352A				IAmb	IAmb	00 38 23.7	
	comp=Z,14nm,1.0s						
U59A	**Littleton**	**19.59**	**338**	P	**Pn**	**00 38 18.5**	**-1.0**
V58A	**Windy Hill, Pi**	**19.60**	**335**	P	**P**	**00 38 17.1**	**-0.2**
V58A				IAmb	IAmb	00 38 33.9	
	comp=Z,15nm,1.4s						
HODGE	**Hodges**	**19.81**	**326**	P	**P**	**00 38 20.4**	**+0.8**
HODGE				IAmb	IAmb	00 38 28.6	
	comp=Z,16nm,1.5s						
V55A	**Taylorsville**	**20.57**	**330**	P	**P**	**00 38 28.1**	**+0.3**
V55A				IAmb	IAmb	00 38 41.9	
	comp=Z,13nm,1.4s						
MDP	**Montagnes des**	**20.63**	**128**	P	**P**	**00 38 29.4**	**+0.8**
	comp=Z,5.0nm,0.7s,baz=318,slow=13,SNR=4.2						
V53A	**Saluda**	**21.21**	**327**	P	**P**	**00 38 34.6**	**-0.1**
BLA	**Blacksburg**	**21.35**	**334**	P	**P**	**00 38 35.8**	**-0.4**
BLA				IAmb	IAmb	00 38 37.0	
	comp=Z,10nm,0.9s						
U54A	**Nelsons Funny**	**21.39**	**330**		**PcP**	**00 42 36.5**	**+0.2**
TKL	**Tuckaleechee C**	**21.70**	**326**	P	**P**	**00 38 39.3**	**-0.6**
	comp=Z,3.0nm,1.0s,baz=148,slow=11,SNR=2.8						
TKL				S	**S**	**00 42 33.9**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=194,slow=12,SNR=2.7						
V52A	**Sevierville**	**21.75**	**326**	P	**P**	**00 38 41.0**	**+0.6**
LRAL	**Lakeview Retre**	**21.86**	**316**	P	**P**	**00 38 42.0**	**+0.4**
S54A	**Dingess, Beckl**	**22.22**	**333**	P	**P**	**00 38 45.2**	**-0.2**
S54A				IAmb	IAmb	00 38 46.2	
	comp=Z,9.7nm,0.7s						
TZTN	**Tazewell**	**22.26**	**328**	P	**P**	**00 38 46.0**	**+0.2**
TZTN				IAmb	IAmb	00 38 51.0	
	comp=Z,12nm,1.2s						
R50A	**Paris**	**24.00**	**329**	P	**P**	**00 39 02.7**	**+0.4**
R50A				IAmb	IAmb	00 39 04.4	
	comp=Z,11nm,1.1s						
Q51A	**Peebles**	**24.13**	**332**	P	**P**	**00 39 03.6**	**+0.1**
Q51A				IAmb	IAmb	00 39 04.8	
	comp=Z,10nm,1.1s						
WVT	**Waverly**	**24.36**	**320**	P	**P**	**00 39 05.7**	**+0.1**
WVT				IAmb	IAmb	00 39 06.2	
	comp=Z,6.5nm,0.7s						
O52A	**Adamsville**	**24.41**	**335**	P	**P**	**00 39 06.0**	**0.0**
O52A				IAmb	IAmb	00 39 11.3	
	comp=Z,19nm,1.5s						
BINY	**Binghamton**	**24.54**	**347**	P	**P**	**00 39 08.5**	**+1.3**
BINY				IAmb	IAmb	00 39 09.0	
	comp=Z,17nm,1.2s						
N53A	**Lisbon**	**24.63**	**338**	P	**P**	**00 39 08.5**	**+0.5**
N53A				IAmb	IAmb	00 39 12.4	
	comp=Z,16nm,1.2s						
CMIG	**Matias Romero**	**24.77**	**271**	LR	LR	00 49 05.6	
	comp=Z,19nm,21.5s,baz=60,slow=37						
WCI	**Wyandotte Cave**	**24.96**	**326**	P	**P**	**00 39 10.6**	**-0.5**
K58A	**Earlville**	**25.01**	**348**	P	**P**	**00 39 12.1**	**+0.6**
K58A				IAmb	IAmb	00 39 13.5	
	comp=Z,15nm,1.2s						
LPAR	**Lepanto**	**25.58**	**317**		**PcP**	**00 42 45.0**	**-0.2**
J54A	**Appleton**	**26.18**	**344**	P	**P**	**00 39 22.5**	**+0.5**
SIUC	**Southern Illin**	**26.24**	**322**	P	**P**	**00 39 22.7**	**+0.1**
N47A	**Urbana**	**26.69**	**331**	P	**P**	**00 39 26.5**	**-0.1**
CCM	**Cathedral Cave**	**27.68**	**320**	P	**P**	**00 39 35.6**	**0.0**
SAML	**Samuel**	**27.70**	**168**	P	**P**	**00 39 35.0**	**-0.8**
SAML				IAmb	IAmb	00 39 38.0	
	comp=Z,4.3nm,0.7s						
P43A	**Skaggs, Pawnee**	**27.73**	**324**	P	**P**	**00 39 36.0**	**+0.1**
WHTX	**Lake Whitney,**	**29.09**	**303**	P	**P**	**00 39 48.0**	**-0.1**
WMOK	**Wichita Mounta**	**31.16**	**308**	IAmb	IAmb	00 40 07.5	
	comp=Z,2.4nm,0.6s						
TXAR	**Lajitas Array**	**33.51**	**296**	P	**P**	**00 40 27.7**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=123,slow=7.9,SNR=18						
TXAR				PcP	**PcP**	**00 43 06.2**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=131,slow=3.2,SNR=4.3						
TXAR				ScP	**ScP**	**00 46 41.4**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=113,slow=6.0,SNR=4.6						
TXAR	**Lajitas Array**	**33.51**	**296**	P	**P**	**00 40 27.2**	**+0.1**
CBKS	**Cedar Bluff**	**33.65**	**314**	P	**P**	**00 40 28.4**	**+0.3**
MSTX	**Muleshoe**	**33.96**	**304**	IAmb	IAmb	00 40 33.2	
	comp=Z,3.9nm,0.7s						
ECSD	**EROS Data Cent**	**34.41**	**323**	IAmb	IAmb	00 40 35.0	
	comp=Z,5.3nm,0.8s						
LPAZ	**La Paz**	**34.41**	**179**	P	**P**	**00 40 37.2**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=45,slow=10.0,SNR=3.1						
SIV	**San Ignacio**	**34.97**	**167**	P	**P**	**00 40 40.4**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=15,slow=8.8,SNR=15						
MNTX	**Cornudas Mount**	**35.45**	**299**	P	**P**	**00 40 44.2**	**+0.4**
MNTX				IAmb	IAmb	00 40 45.5	
	comp=Z,4.1nm,1.0s						
SCHQ	**Schefferville**	**36.46**	**2**	P	**P**	**00 40 51.9**	**-0.2**
	comp=Z,13nm,0.7s,baz=190,slow=7.3,SNR=21						
SCHQ	**Schefferville**	**36.46**	**2**	P	**P**	**00 40 52.2**	**+0.2**
BNM	**Barren Site**	**37.07**	**303**	P	**P**	**00 40 57.5**	**-0.3**
MNMC	**Minye Minye**	**37.24**	**181**	P	**P**	**00 40 58.7**	**-0.6**
SDCO	**Great Sand Dun**	**37.33**	**309**	P	**P**	**00 40 60.0**	**0.0**
LENM	**Lemitar**	**37.35**	**303**	P	**P**	**00 40 60.0**	**-0.1**
ISCO	**Idaho Springs**	**38.18**	**312**	P	**P**	**00 41 07.0**	**-0.2**
ISCO				IAmb	IAmb	00 41 09.9	
	comp=Z,4.0nm,1.1s						
BDFB	**Brasilia**	**39.54**	**147**	P	**P**	**00 41 18.8**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=270,slow=6.1,SNR=2.8						
BDFB	**Brasilia**	**39.54**	**147**	IAmb	IAmb	00 41 27.1	
	comp=Z,2.6nm,0.9s						
PV22	**Blue Mesa, Par**	**40.03**	**309**	P	**P**	**00 41 22.7**	**+0.3**
PV22				IAmb	IAmb	00 41 23.9	
	comp=Z,3.1nm,0.8s						
PV20	**West Nyswonger**	**40.10**	**308**	P	**P**	**00 41 22.8**	**-0.3**
PV20				IAmb	IAmb	00 41 24.9	
	comp=Z,6.6nm,1.2s						
PV14	**Lion Creek, Pa**	**40.16**	**308**	P	**P**	**00 41 23.4**	**-0.1**
PV14				IAmb	IAmb	00 41 25.0	
	comp=Z,3.3nm,0.8s						
PV23	**Carpenter Ridg**	**40.17**	**308**	P	**P**	**00 41 23.0**	**-0.6**
PV23				IAmb	IAmb	00 41 25.2	
	comp=Z,4.1nm,0.9s						
PV21	**Cone Mtn., Par**	**40.18**	**309**	P	**P**	**00 41 22.3**	**-1.4**
PV21				IAmb	IAmb	00 41 25.9	
	comp=Z,2.9nm,0.8s						
PV09	**Paradox Valley**	**40.28**	**308**	P	**P**	**00 41 24.3**	**-0.3**
LVC	**Limon Verde**	**40.70**	**180**	P	**P**	**00 41 28.8**	**+0.7**
	comp=Z,3.5nm,0.6s,baz=42,slow=4.5,SNR=5.3						
LVC	**Limon Verde**	**40.70**	**180**	P	**P**	**00 41 27.0**	**-1.2**
LVC				IAmb	IAmb	00 41 29.5	
	comp=Z,3.6nm,0.7s						
DGMT	**Dagmar**	**41.46**	**325**	P	**P**	**00 41 33.6**	**-0.2**
PDAR	**Pinedale Array**	**42.08**	**314**	P	**P**	**00 41 37.8**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=113,slow=11,SNR=3.8						
PDAR				pP	**pP**	**00 42 02.5**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=104,slow=6.3,SNR=2.3						
PDAR				PcP	**PcP**	**00 43 31.3**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=117,slow=4.8,SNR=8.0						
MTPU	**Mount Pierson**	**42.44**	**307**	P	**P**	**00 41 42.8**	**+0.4**
MSU	**Marysvale**	**42.56**	**307**	P	**P**	**00 41 42.3**	**-0.9**
RLMT	**Red Lodge**	**42.84**	**318**	IAmb	IAmb	00 41 46.0	
	comp=Z,3.7nm,0.7s						
PSUT	**Pine Spring**	**43.84**	**307**	P	**P**	**00 41 53.2**	**-0.2**
R11A	**Troy Canyon, C**	**45.12**	**306**	P	**P**	**00 42 03.4**	**-0.2**
TPNV	**Topopah Spring**	**45.35**	**304**	P	**P**	**00 42 06.1**	**+0.8**
TPNV				IAmb	IAmb	00 42 08.6	
	comp=Z,4.5nm,0.8s						
CPUP	**Villa Florida**	**45.80**	**165**	P	**P**	**00 42 08.3**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=342,slow=10,SNR=4.6						
CPUP	**Villa Florida**	**45.80**	**165**	IAmb	IAmb	00 42 11.2	
	comp=Z,6.9nm,1.1s						
JTMT	**Jette**	**47.07**	**319**	P	**P**	**00 42 18.1**	**-0.6**
JTMT				IAmb	IAmb	00 42 20.3	
	comp=Z,6.9nm,1.2s						
NV11	**Mina Array Sit**	**47.11**	**306**	P	**P**	**00 42 18.7**	**-0.4**
NV11				IAmb	IAmb	00 42 21.8	
	comp=Z,4.2nm,0.8s						
KVN	**Kaiserville**	**47.19**	**307**	P	**P**	**00 42 19.8**	**0.0**
NVAR	**Mina Array Bea**	**47.23**	**306**	P	**P**	**00 42 21.0**	**+0.8**
	comp=Z,1.8nm,0.9s,baz=103,slow=5.4,SNR=10						
NVAR				pP	**pP**	**00 42 42.6**	**-2.7**
	comp=Z,1.0nm,0.9s,baz=82,slow=16,SNR=2.9						
NVAR	**Mina Array Bea**	**47.23**	**306**	P	**P**	**00 42 21.2**	**+1.1**
RYN	**Ryan**	**47.43**	**306**	P	**P**	**00 42 21.4**	**-0.3**
OMMB	**Old Mammoth Mi**	**47.62**	**304**	P	**P**	**00 42 23.8**	**+0.4**
MDPB	**Devils Postpil**	**47.69**	**304**	P	**P**	**00 42 23.5**	**-0.3**
MDPB				IAmb	IAmb	00 42 27.1	
	comp=Z,3.2nm,1.0s						
NEW	**Newport**	**49.04**	**319**	P	**P**	**00 42 33.3**	**-0.4**
NEW				IAmb	IAmb	00 42 33.7	
	comp=Z,3.2nm,0.8s						
SAO	**San Andreas Ge**	**49.44**	**303**	P	**P**	**00 42 34.1**	**-2.8**
SFJD	**Kangerlussuaq**	**50.06**	**9**	P	**P**	**00 42 40.8**	**-0.2**
	comp=Z,5.7nm,0.6s,baz=247,slow=7.7,SNR=2.5						
SFJD	**Kangerlussuaq**	**50.06**	**9**	IAmb	IAmb	00 42 45.1	
	comp=Z,23nm,1.4s						
YKA	**Yellowknife Ar**	**54.20**	**336**	P	**P**	**00 43 10.6**	**-1.2**
	comp=Z,2.4nm,0.6s,baz=111,slow=7.4,SNR=9.8						
YKA				pP	**pP**	**00 43 35.7**	**-1.9**
	comp=Z,1.1nm,0.6s,baz=107,slow=7.3,SNR=3.5						
YKA	**Yellowknife Ar**	**54.20**	**336**	P	**P**	**00 43 11.0**	**-0.8**
YKW3	**Yellowknife Ar**	**54.24**	**336**	P	**P**	**00 43 10.4**	**-1.6**
YKW3				IAmb	IAmb	00 43 11.9	
	comp=Z,3.5nm,0.8s						
PLCA	**Paso Flores**	**58.78**	**181**	P	**P**	**00 43 45.2**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=39,slow=8.8,SNR=3.4						
PLCA				PcP	**PcP**	**00 44 33.8**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=34,slow=3.6,SNR=3.3						
ESDC	**Sonseca Array**	**59.39**	**54**	P	**P**	**00 43 48.9**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=278,slow=7.3,SNR=12						
ESDC	**Sonseca Array**	**59.39**	**54**	P	**P**	**00 43 49.5**	**+0.6**
DBIC	**Dimbokro**	**63.33**	**92**	P	**P**	**00 44 15.6**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=252,slow=7.8,SNR=4.3						
BCAR	**Beaver Creek A**	**66.06**	**332**	P	**P**	**00 44 32.4**	**-0.4**
HMT	**Hamilton**	**67.00**	**328**	P	**P**	**00 44 38.6**	**-0.2**
RIDG	**Independent Ri**	**67.50**	**332**	P	**P**	**00 44 41.6**	**-0.3**
BMAR	**Burnt Mountain**	**67.72**	**336**	P	**P**	**00 44 42.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**67.80**	**83**	P	**P**	**00 44 44.0**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=291,slow=6.5,SNR=10						
TORD				pP	**PcP**	**00 45 09.1**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=304,slow=4.0,SNR=2.5						
TORD	**Torodi Ar. Bea**	**67.80**	**83**	P	**P**	**00 44 44.3**	**-0.3**
ILAR	**Eielson Array**	**68.45**	**333**	P	**P**	**00 44 47.1**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=109,slow=3.7,SNR=9.8						
ILAR				pP	**PcP**	**00 45 12.8**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=91,slow=5.4,SNR=2.4						
ILAR	**Eielson Array**	**68.45**	**333**	P	**P**	**00 44 45.4**	**-2.3**
NOA	**NORSAR Array B**	**69.36**	**31**	P	**P**	**00 44 54.2**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=271,slow=6.2,SNR=2.7						
KEST	**Kesra**	**70.18**	**58**	P	**P**	**00 44 59.4**	**+0.3**
	comp=Z,5.7nm,0.9s,baz=214,slow=2.3,SNR=5.2						
IMAR	**Indian Mountai**	**71.32**	**335**	P	**P**	**00 45 04.8**	**-0.6**
GERES	**GERESS Array B**	**71.61**	**44**	P	**P**	**00 45 07.6**	**0.0**
	comp=Z,0.3nm,0.5s,baz=303,slow=28,SNR=4.3						
ARCES	**ARCESS Array B**	**74.52**	**21**	P	**P**	**00 45 23.6**	**-0.5**
	comp=Z,4.5nm,0.8s,baz=294,slow=3.6,SNR=9.5						
FINES	**FINESS Array B**	**76.44**	**30**	P	**P**	**00 45 35.1**	**-0.1**
	comp=Z,4.1nm,0.7s,baz=300,slow=4.2,SNR=7.4						
BURAR	**Bucovina Array**	**79.40**	**43**	P	**P**	**00 45 52.1**	**+0.1**
MLR	**Muntele Rosu**	**80.46**	**45**	P	**P**	**00 45 58.6**	**+0.7**
MLR				IAmb	IAmb	00 45 59.9	
	comp=Z,6.5nm,1.0s						
BR131	**Keskin Array S**	**87.72**	**49**	P	**P**	**00 46 34.5**	**-0.2**
BR131				IAmb	IAmb	00 46 35.6	
	comp=Z,2.3nm,0.8s						
BRTR	**Keskin Array B**	**87.72**	**49**	P	**P**	**00 46 34.6**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=277,slow=3.8,SNR=10						
BRTR	**Keskin Array B**	**87.72**	**49**	P	**P**	**00 46 34.3**	**-0.5**
TIXI	**Tiksi**	**89.42**	**354**	P	**P**	**00 46 41.0**	**-0.9**
	comp=Z,1.4nm,0.4s,baz=1.0,slow=4.1,SNR=3.0						
TIXI	**Tiksi**	**89.42**	**354**	IAmb	IAmb	00 46 57.3	
	comp=Z,4.4nm,1.5s						
MMAI	**Mount Meron Ar**	**91.59**	**55**	P	**P**	**00 46 53.2**	**+0.2**
	comp=Z,2.5nm,0.9s,baz=278,slow=1.0,SNR=2.6						
STKA	**Stephens Creek**	**149.38**	**238**	PKP	**PKPdf**	**00 53 29.5**	**-0.6**
	comp=Z,2.3nm,0.9s,baz=352,slow=22,SNR=3.6						
STKA				PKPbc	**PKPbc**	**00 53 34.3**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=65,slow=2.2,SNR=7.8						
WRA	**Warramunga Arr**	**157.98**	**262**	PKP	**PKPdf**	**00 53 41.7**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=65,slow=1.1,SNR=4.5						
ASAR	**Alice Springs**	**158.06**	**252**	PKP	**PKPdf**	**00 53 41.8**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=132,slow=1.4,SNR=3.9						
ASAR				PKPab	**PKPab**	**00 54 16.1**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=110,slow=4.7,SNR=6.1						

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*MOS **02** 00:49:03.8±1.4, 41°.26N×49°.35E, h11km, mb4.1/3, Error ellipse: s-maj=7.9km s-min=5.2km az=42.4*

*IDC **02** 00:49:03.4±1.0, 41°.05N×48°.85E, h0km, mb3.7/8, mb1 3.8/14, mb1mx3.7/42, mbtmp3.7/14, ML3.4/7, MS2.5/2, Ms1 2.5/2, ms1mx2.2/43, Error ellipse: s-maj=18.9km s-min=9.0km az=161.0*

*ISCJB **02** 00:49:06.4±0.4, 41°.35N±0°.02×49°.22E±0°.03, h23km±3km, mb3.6/10, Error ellipse: s-maj=3.3km s-min=2.8km az=11.3*

*DRS **02** 00:49:07.4±0.0, 41°.17N×49°.10E, h16km*

*AZER **02** 00:49:08.2±0.1, 41°.23N×48°.85E, h11km, ml3.7/33, Error ellipse: s-maj=1.3km s-min=0.5km az=236.0*

*NNC **02** 00:49:15.0±1.4, 41°.53N×50°.27E, h0km, mb4.1, Error ellipse: s-maj=14.0km s-min=6.7km az=82.0*

ISC 02 00:49:05.9±0.9**, 41°.28N**±0°.02×**49°.23E**±0°.03**, h19**km±2km**, n117, σ2°.18**/169**, mb3.7**/10**, 12C-8D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIZA	**Siyzn**	**0.32**	**231**	P	**Pb**	**00 49 13.7**	**+0.6**
	SNR=2396						
SIZA				S	**Sb**	**00 49 18.1**	**+0.2**
ATGJ	**Altiaghaj**	**0.47**	**208**	P	**Pn**	**00 49 17.5**	**-0.3**
	SNR=1029						
ATGJ				S	**Sn**	**00 49 24.4**	**-1.2**
QUBA	**Quba, Azerbaij**	**0.56**	**278**	P	**Pg**	**00 49 16.7**	**-0.5**
	SNR=897						
QUBA				S	**Sg**	**00 49 23.0**	**-1.8**
PQL	**Pirkuli**	**0.69**	**225**	P	**Pn**	**00 49 20.5**	**-0.3**
	SNR=69						
PQL				S	**Sb**	**00 49 29.9**	**+1.4**
QSAR	**Qusar**	**0.77**	**288**	P	**Pg**	**00 49 20.3**	**-0.7**
	SNR=2828						
QSAR				S	**Sg**	**00 49 29.4**	**-1.7**
GBS	**Qobustan**	**0.78**	**196**	P	**Pn**	**00 49 25.3**	**+3.4**
	SNR=71						
GBS				S	**Sn**	**00 49 39.0**	**+6.0**
XNQ	**Khinaliq**	**0.83**	**263**	P	**Pg**	**00 49 21.0**	**-1.2**
	SNR=6900						
XNQ				S	**Sg**	**00 49 29.9**	**-3.3**
KSMR	**Kasumkent**	**0.89**	**292**	*e*PG	**Pg**	**00 49 22.5**	**-0.8**
KSMR				*e*S	**Sg**	**00 49 35.0**	**-0.1**
KSMR	**Kasumkent**	**0.89**	**292**	*e*Pg	**Pg**	**00 49 22.5**	**-0.8**
KSMR				*e*Sg	**Sg**	**00 49 35.0**	**-0.1**
NDR	**Nardaran**	**0.90**	**140**	P	Pn	00 49 29.6	+6.0
NDR				S	Sn	00 49 46.6	+11
IML	**Ismayilli**	**0.93**	**239**	P	**Pn**	**00 49 23.6**	**-0.4**
	SNR=688						
IML				S	**Sg**	**00 49 35.1**	**-1.3**
DRN	**Derbent**	**1.01**	**318**⇑	*i*PG	**Pn**	**00 49 25.5**	**+0.5**
DRN				*e*S	**Sb**	**00 49 38.3**	**+0.7**
DRN				pmax	pmax		
	comp=Z,1μm,0.4s						
DRN	**Derbent**	**1.01**	**318**	*i* Pg	**Pn**	**00 49 25.6**	**+0.5**
	comp=Z,1μm,0.4s						
DRN				*e*Sg	**Sb**	**00 49 38.4**	**+0.7**
	comp=Z,26μm,0.2s						
QBL	**Gabala**	**1.10**	**253**	P	**Pb**	**00 49 25.5**	**-0.9**
	SNR=91						
QBL				S	**Sb**	**00 49 38.9**	**-1.6**
GALA	**Gala**	**1.12**	**141**	P	Pn	00 49 33.7	+7.2
GALA				S	Sn	00 49 53.6	+12
AKT	**Akhty**	**1.15**	**281**	*e*PG	**Pn**	**00 49 26.2**	**-0.8**
AKT				pmax	pmax		
	comp=Z,2μm,0.2s						
AKT	**Akhty**	**1.15**	**281**	*e*Pg	**Pn**	**00 49 26.2**	**-0.8**
	comp=Z,2μm,0.2s						
AKT				*e*Sg	**Sb**	**00 49 39.2**	**-2.5**
	comp=Z,10μm,0.3s						
KDMR	**Kurdemir**	**1.20**	**222**	P	**Pg**	**00 49 29.7**	**+0.5**
	SNR=63						
KDMR				S	**Sg**	**00 49 46.8**	**+1.8**
ALIB	**Äli-Bayra**	**1.33**	**187**	P	Pg	00 49 35.1	+3.5
	SNR=30						
ALIB				S	Sg	00 49 56.9	+7.8
URKR	**Urkarakh**	**1.49**	**307**⇓	*i*PG	**Pb**	**00 49 32.6**	**-0.4**
URKR	**Urkarakh**	**1.49**	**307**	*i* Pg	**Pb**	**00 49 32.6**	**-0.4**
URKR				*e*Sg	**Sn**	**00 49 50.0**	**-0.7**
SEKA	**Sheki**	**1.53**	**268**	PN	**Pn**	**00 49 32.8**	**+0.5**
SEKA	**Sheki**	**1.53**	**268**	P	**Pn**	**00 49 32.9**	**+0.5**
	SNR=124						
SEKA				S	**Sn**	**00 49 49.8**	**-1.9**
ZRD	**Zardab**	**1.54**	**230**	P	**Pg**	**00 49 34.4**	**-1.2**
	SNR=233						
ZRD				S	**Sg**	**00 49 55.8**	**+0.1**
SAAT	**Saatly**	**1.54**	**204**	P	**Pg**	**00 49 36.0**	**+0.3**
SAAT				S	**Sg**	**00 49 57.6**	**+1.8**
MNGR	**Mingechevir, A**	**1.70**	**253**	PN	**Pb**	**00 49 36.6**	**+0.1**
MNGR	**Mingechevir, A**	**1.70**	**253**	Pn	**Pb**	**00 49 36.7**	**+0.1**
	SNR=15						
MNGR				Sn	**Sb**	**00 49 59.5**	**+1.9**
KMKR	**Kumukh**	**1.81**	**299**	*e*PN	**Pb**	**00 49 38.0**	**-0.5**
KMKR				pmax	pmax		
	comp=Z,294nm,0.2s						
KMKR	**Kumukh**	**1.81**	**299**	*e*Pg	**Pb**	**00 49 38.0**	**-0.5**
	comp=Z,294nm,0.2s						
KMKR				*e*Sg	**Sb**	**00 50 01.5**	**+0.6**
	comp=Z,1μm,0.3s						
BRDA	**Brd**	**1.86**	**238**	Pn	**Pb**	**00 49 38.6**	**-0.7**
BRDA				Sn	**Sb**	**00 50 02.9**	**+0.8**
AGDM	**Agdam**	**1.99**	**235**	Pn	**Pb**	**00 49 39.9**	**-1.7**
	SNR=320						
AGDM				Sn	**Sb**	**00 50 05.4**	**-0.6**
ZKTA	**Zakatala**	**1.99**	**281**	Pn	**Pb**	**00 49 41.1**	**-0.4**
	SNR=26						
ZKTA				Sn	**Sn**	**00 50 03.9**	**+0.9**
BLQ	**Beylaqan**	**2.01**	**220**	Pn	**Pb**	**00 49 40.1**	**-1.8**
	SNR=34						
BLQ				Sn	**Sn**	**00 50 04.3**	**+0.8**
GNBR	**Gunib**	**2.02**	**304**	*d i*PN	**Pb**	**00 49 41.4**	**-0.7**
GNBR	**Gunib**	**2.02**	**304**	*e*Pg	**Pg**	**00 49 43.4**	**-1.5**
	comp=Z,389nm,0.7s						
GNBR				*e*Sg	**Sb**	**00 50 08.3**	**+1.4**
	comp=Z,999nm,0.4s						
MAK	**Makhachkala**	**2.11**	**323**	*e*PN	**Pn**	**00 49 39.5**	**-0.7**
MAK				*e*		00 49 43.2	
MAK				*e*		00 50 14.2	
MAK				pmax	pmax		
	comp=Z,107nm,0.7s						
MAK				MLR	MLR		
	comp=Z,153nm,7.0s						
ARKR	**Arakani**	**2.13**	**309**	*e*PN	**Pb**	**00 49 44.0**	**+0.1**
ARKR				S	**Sb**	**00 50 11.0**	**+1.1**
ARKR				pmax	pmax		
	comp=Z,138nm,0.6s						
ARKR	**Arakani**	**2.13**	**309**	*e*Pg	**Pb**	**00 49 44.0**	**+0.1**
	comp=Z,138nm,0.6s						
ARKR				*e*Sg	**Sb**	**00 50 11.0**	**+1.1**
	comp=Z,463nm,0.0s						
GLBA	**Clilabad**	**2.13**	**198**	Pn	**Pb**	**00 49 42.9**	**-1.0**
GLBA				Sn	**Sb**	**00 50 09.2**	**-0.8**
GANJ	**Ganja**	**2.29**	**255**	PN	**Pn**	**00 49 43.6**	**+0.9**
GANJ	**Ganja**	**2.29**	**255**	Pn	**Pn**	**00 49 43.6**	**+0.9**
	SNR=84						
GANJ				Sn	**Sn**	**00 50 09.4**	**-1.1**
UNCR	**Uncukul**	**2.31**	**309**	*i* PN	**Pb**	**00 49 48.0**	**+1.0**
UNCR				*e*S	**Sb**	**00 50 18.0**	**+2.8**
UNCR				pmax	pmax		
	comp=Z,168nm,0.4s						
UNCR	**Uncukul**	**2.31**	**309**	*i* Pn	**Pb**	**00 49 48.0**	**+1.0**
	comp=Z,168nm,0.4s						
UNCR				*e*Sn	**Sb**	**00 50 18.0**	**+2.8**
	comp=Z,629nm,0.5s						
KRNR	**Karanay**	**2.32**	**313**	*e*PN	**Pb**	**00 49 46.5**	**-0.7**
KRNR				*e*S	**Sb**	**00 50 15.0**	**-0.5**
KRNR				pmax	pmax		
	comp=Z,73nm,0.3s						
KRNR	**Karanay**	**2.32**	**313**	*e*Pn	**Pb**	**00 49 46.5**	**-0.7**
	comp=Z,73nm,0.3s						
KRNR				*e*Sn	**Sb**	**00 50 15.0**	**-0.5**
	comp=Z,315nm,0.4s						
QRD	**Qoradiz**	**2.33**	**219**	Pn	**Pn**	**00 49 44.4**	**+1.2**
	SNR=15						
QRD				Sn	**Sn**	**00 50 11.8**	**+0.5**
YRD	**Yardimli**	**2.48**	**198**	Pn	**Pb**	**00 49 47.0**	**-3.0**
	SNR=99						
YRD				Sn	**Sb**	**00 50 18.6**	**-1.6**
LKRN	**Lenkeran, Azer**	**2.59**	**188**	PN	**Pb**	**00 49 49.1**	**-2.6**
LKRN	**Lenkeran, Azer**	**2.59**	**188**	Pn	**Pb**	**00 49 49.1**	**-2.6**
LKRN				Sn	**Sb**	**00 50 21.0**	**-2.1**
DLMR	**Dylym**	**2.63**	**314**	*e*PN	**Pb**	**00 49 54.0**	**+1.5**
DLMR				*e*S	**Sb**	**00 50 28.0**	**+3.6**
DLMR	**Dylym**	**2.63**	**314**	*e*Pn	**Pb**	**00 49 54.0**	**+1.5**
	comp=Z,259nm,0.0s						
DLMR				*e*Sn	**Sb**	**00 50 28.0**	**+3.6**
	comp=Z,1μm,0.0s						
GDB	**GEDABAY**	**2.69**	**259**	Pn	**Pn**	**00 49 48.6**	**+0.3**
GDB				Sn	**Sn**	**00 50 19.5**	**-1.0**
ASTR	**Astara**	**2.74**	**187**	Pn	**Pb**	**00 49 50.7**	**-3.5**
ASTR				Sn	**Sn**	**00 50 23.3**	**+2.0**
QZX	**Qazax, Azerbai**	**2.92**	**267**	Pn	**Pn**	**00 49 53.0**	**+1.7**
QZX				Sg	**Sb**	**00 50 32.2**	**-0.5**
GROC	**Groznyy**	**3.19**	**308**	*e*PN	**Pb**	**00 49 59.5**	**-2.5**
GROC				*e*		00 50 42.9	
GROC				pmax	pmax		
	comp=Z,81nm,0.6s						
GROC				smax	smax		
	comp=E,210nm,0.6s						
GROC				smax	smax		
	comp=N,164nm,0.5s						
GROC				smax	smax		
	comp=E,216nm,0.6s						
SBZ	**Shahbuz**	**3.38**	**237**	Pn	**Pn**	**00 49 59.5**	**+1.7**
SBZ				Sn	**Sn**	**00 50 38.1**	**+0.6**
TBLG	**Delisi**	**3.40**	**279**	PN	**Pn**	**00 49 58.8**	**+0.8**
TBLG	**Delisi**	**3.40**	**279**	*e*P	**Pn**	**00 49 59.7**	**+1.7**
ORD	**Ordubad**	**3.42**	**228**	Pn	**Pn**	**00 49 59.9**	**+1.7**
	SNR=13						
ORD				Sn	**Sn**	**00 50 39.2**	**+0.9**
NAX	**Nakhchivan**	**3.55**	**235**	PN	**Pn**	**00 50 02.1**	**+2.1**
NAX	**Nakhchivan**	**3.55**	**235**	Pn	**Pn**	**00 50 02.2**	**+2.1**
NAX				Sn	**Sn**	**00 50 43.8**	**+2.2**
GNI	**Garni**	**3.59**	**253**⇑	*e*PN	**Pn**	**00 50 04.1**	**+3.4**
GNI	**Garni**	**3.59**	**253**	Pg	**Pb**	**00 50 05.3**	**-3.6**
	comp=E,4.2nm,0.3s,baz=296,slow=3.1,SNR=15						
GNI				Lg	Lg	00 50 56.1	
	comp=E,6.6nm,0.3s,baz=186,slow=21,SNR=4.3						
GNI	**Garni**	**3.59**	**253**	*e*P	**Pn**	**00 50 03.7**	**+3.0**
HYR	**Heyderabad**	**3.68**	**246**	Pn	**Pn**	**00 50 03.7**	**+1.8**
HYR				Sg	**Sb**	**00 50 57.0**	**+2.3**
TASB	**TASBURUN-IGDIR**	**4.01**	**253**	*e*P	**Pn**	**00 50 09.2**	**+2.8**
ZEI	**Tsey**	**4.25**	**293**	*e*PN	**Pb**	**00 50 19.3**	**-0.8**
ZEI				pmax	pmax		
	comp=Z,17nm,0.6s						
AKH	**Akhalkalaki**	**4.32**	**274**	*e*P	**Pn**	**00 50 12.6**	**+1.8**
ONI	**Oni**	**4.50**	**289**	*e*P	**Pn**	**00 50 15.9**	**+2.7**
CLDR	**Caldiran**	**4.59**	**244**	*e*P	**Pn**	**00 50 17.7**	**+3.1**
KARS	**Kars**	**4.70**	**264**	*e*P	**Pn**	**00 50 18.1**	**+2.1**
NCK	**Nalchik**	**4.72**	**300**⇓	*e*PN	**Pn**	**00 50 13.7**	**-2.4**
AGRB	**Hanur-Agry**	**5.06**	**252**	*e*P	**Pn**	**00 50 24.3**	**+3.4**
NEY	**Neytrino**	**5.21**	**294**⇑	*e*PN	**Pn**	**00 50 24.7**	**+1.7**
SENK	**Senkaya-Erzuru**	**5.26**	**264**	*e*P	**Pn**	**00 50 25.9**	**+2.2**
KBZ	**Khabaz**	**5.28**	**300**	*e*PN	**Pn**	**00 50 23.9**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBZ	**Khabaz**	**5.28**	**300**	Pn	**Pn**	**00 50 26.2**	**+2.5**
	comp=Z,0.6nm,0.3s,baz=89,slow=12,SNR=11						
KBZ				Sn	**Sn**	**00 51 24.6**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=154,slow=0.8,SNR=4.6						
SHA1	**Shidzhatmaz**	**5.44**	**299**⇑	*e*P	**Pn**	**00 50 29.6**	**+3.4**
KVAR	**Kislovodsk Arr**	**5.51**	**301**	Pn	**Pn**	**00 50 28.1**	**+1.0**
	baz=107,slow=19,SNR=5.1						
KVAR				Sn	**Sn**	**00 51 29.1**	**-0.9**
	baz=246,slow=20,SNR=4.0						
KIV	**Kislovodsk**	**5.52**	**301**	*e*P	**Pn**	**00 50 27.8**	**+0.7**
KIV				*e*S	**Sn**	**00 51 33.0**	**+2.9**
KIV				pmax	pmax		
	comp=Z,28nm,1.0s						
KIV	**Kislovodsk**	**5.52**	**301**	*e*P	**Pn**	**00 50 30.1**	**+3.0**
KOPR	**Koprukoy-ERZUR**	**5.76**	**259**	*e*P	**Pn**	**00 50 32.9**	**+2.4**
GOF	**Gofitskoye**	**5.89**	**312**⇑	*e*P	**Pn**	**00 50 34.1**	**+2.0**
GOF				*e*S	**Sn**	**00 51 40.2**	**+1.1**
GOF				pmax	pmax		
	comp=Z,12nm,1.4s						
GOF				smax	smax		
	comp=E,24nm,0.6s						
GEYT	**Alibeck**	**7.63**	**113**	Pn	Pn	00 50 59.3	+3.2
	comp=E,0.9nm,0.3s,baz=324,slow=5.9,SNR=23						
GEYT				Sn	**Sn**	**00 52 25.6**	**+3.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,1.0nm,0.3s,baz=304,slow=16,SNR=2.9						
GYA0B	**ALIBECK ARRAY**	**7.63**	**113**	⇓Pn	Pn	00 50 59.6	+3.5
GYA0B				⇓Sn	**Sn**	**00 52 20.7**	**-1.3**
ANN	**Anapa**	**9.33**	**296**	P	**Pn**	**00 51 21.4**	**+2.2**
ANN				pmax	pmax		
	comp=Z,35nm,1.6s						
AB31	**Akbulak array**	**10.97**	**40**	Pn	**Pn**	**00 51 43.0**	**+1.2**
	comp=Z,1.5nm,0.3s,baz=227,slow=12,SNR=124						
AB31				⇓Sn	**Sn**	**00 53 42.7**	**-1.2**
	comp=Z,5.7nm,0.6s,baz=224,slow=25,SNR=4.9						
AKTO	**Aktyubinsk**	**11.01**	**31**	Pn	**Pn**	**00 51 44.4**	**+2.2**
	comp=Z,1.8nm,0.3s,baz=197,slow=14,SNR=31						
AKTO				Sn	**Sn**	**00 53 39.3**	**-5.4**
	comp=Z,0.8nm,0.3s,baz=197,slow=20,SNR=2.7						
AKTO	**Aktyubinsk**	**11.01**	**31**	⇑Pn	**Pn**	**00 51 44.4**	**+2.2**
	comp=Z,4.2nm,0.5s						
AKTO				⇑Sn	**Sn**	**00 53 44.3**	**-0.5**
	comp=Z,19nm,0.9s						
BRTR	**Keskin Array B**	**11.97**	**268**	Pn	**Pn**	**00 51 55.8**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=79,slow=15,SNR=2.0						
ASF	**Jabal al Asfar**	**13.42**	**231**	Pn	**Pn**	**00 52 17.7**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=333,slow=4.5,SNR=2.1						
MMAI	**Mount Meron Ar**	**13.76**	**238**	LR	LR	00 58 23.1	
	comp=Z,34nm,18.4s,baz=15,slow=42						
KK31	**Karatay Array**	**15.88**	**76**	⇑Pn	**P**	**00 52 49.5**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=263,slow=15,SNR=27						
KK31				Sn	**Sn**	**00 55 37.4**	**-6.3**
	comp=Z,2.4nm,0.6s,baz=274,slow=24,SNR=5.6						
ARU	**Arti**	**16.33**	**19***c*	*i*P	**Pn**	**00 52 52.4**	**-1.6**
ARU				S	**Sn**	**00 55 48.1**	**-6.4**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.4s						
ARU	**Arti**	**16.33**	**19**	Pn	**Pn**	**00 52 53.0**	**-1.0**
	comp=Z,0.0nm,0.3s,baz=215,slow=4.9,SNR=34						
ARU				Sn	**Sn**	**00 55 45.6**	**-8.9**
	comp=Z,0.0nm,0.3s,baz=131,slow=19,SNR=5.2						
EIL	**Elat**	**16.39**	**230**	LR	LR	00 59 22.1	
	comp=Z,12nm,21.1s,baz=282,slow=39						
AKASG	**Malin Array Be**	**16.75**	**311**	Pn	**P**	**00 53 00.6**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=112,slow=12,SNR=3.1						
SVE	**Sverdlovsk**	**17.22**	**22**	*e*P	**P**	**00 53 05.6**	**-1.0**
SVE				*e*S	**Sn**	**00 56 11.2**	**-4.9**
SVE				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KIRV	**Kirov**	**17.32**	**0**	P	**Pn**	**00 53 05.4**	**-1.0**
	comp=Z,1.4nm,0.3s,baz=182,slow=4.7,SNR=4.2						
BRVK	**Borovoye**	**18.46**	**43**	⇑*e*P	**Pn**	**00 53 22.8**	**+2.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRVK	**Borovoye**	**18.46**	**43**	⇑P	**Pn**	**00 53 22.8**	**+2.4**
	comp=Z,4.5nm,0.8s						
BRVK				⇓S	**Sn**	**00 56 42.1**	**-3.9**
	comp=Z,3.5nm,0.8s						
BVAR	**Borovoye Array**	**18.50**	**43**	P	**Pn**	**00 53 22.4**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=228,slow=15,SNR=19						
AAK	**Ala-Archa**	**18.82**	**77**	P	**Pn**	**00 53 30.1**	**+5.0**
	comp=Z,0.2nm,0.3s,baz=288,slow=6.4,SNR=3.3						
PUL	**Pulkovo**	**21.93**	**334**	*e*P	**P**	**00 53 58.3**	**+0.4**
KURBB	**Kurchatov Arra**	**22.28**	**55**	P	**P**	**00 54 05.6**	**+3.8**
	comp=Z,0.4nm,0.5s,baz=261,slow=10,SNR=9.3						
KURK	**Kurchatov**	**22.36**	**55**	⇓*e*P	**P**	**00 54 03.9**	**+1.3**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.8s						
MK31	**Makanchi Array**	**24.28**	**66**	⇑P	**P**	**00 54 26.3**	**+4.4**
	comp=Z,4.1nm,1.0s,baz=260,slow=8.8,SNR=4.1						
MKAR	**Makanchi Array**	**24.28**	**66**	P	**P**	**00 54 26.5**	**+4.6**
	comp=Z,1.2nm,0.6s,baz=261,slow=10,SNR=17						
FINES	**FINESS Array B**	**24.58**	**333**	*e*P	**P**	**00 54 25.3**	**+0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**24.58**	**333**	P	**P**	**00 54 24.8**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=139,slow=9.2,SNR=9.6						
GERES	**GERESS Array B**	**26.02**	**299**	P	**P**	**00 54 38.5**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=94,slow=13,SNR=2.3						
HFS	**Hagfors**	**28.84**	**323**	P	**P**	**00 55 02.7**	**0.0**
	comp=Z,1.4nm,0.5s,baz=121,slow=10,SNR=11						
NB2	**NORSAR Subarra**	**30.33**	**324**	P	P	00 55 23.0	+7.0
	comp=Z,0.5nm,0.4s,baz=115,slow=8.6						
NOA	**NORSAR Array B**	**30.33**	**324**	P	**P**	**00 55 17.0**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=102,slow=7.4,SNR=3.4						
ARCES	**ARCESS Array B**	**30.92**	**344**	P	**P**	**00 55 22.4**	**+1.4**
	comp=Z,7.6nm,1.1s,baz=152,slow=9.9,SNR=4.3						
CMAR	**Chiang Mai Arr**	**47.98**	**103**	*i*P	**P**	**00 57 42.2**	**-1.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TORD	**Torodi Ar. Bea**	**49.89**	**250**	P	**P**	**00 57 56.2**	**-2.1**
	comp=Z,0.2nm,0.4s,baz=43,slow=8.0,SNR=3.5						

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*IDC **02** 00:59:54.8±1.2, 19.°20S×177.°44W, h547km±14km, mb3.5/12, mb1 3.8/16, mb1mx3.7/28, mbtmp4.5/16, Error ellipse: s-maj=16.0km s-min=10.7km az=133.0*

*ISCJB **02** 00:59:55.0±0.2, 19.°23S±0.°05×177.°40W±0.°05, h570km, mb4.0/15, Error ellipse: s-maj=7.4km s-min=4.8km az=38.7*

*NEIC **02** 00:59:55.6±1.3, 19.°17S±0.°08×177.°4W±0.°1, h566km±7km, mb4.6/54*

ISC 02 00:59:56.0±0.3**, 19.°21S**±0.°06×**177.°37W**±0.°06**, h570**km**, n167, σ1.s06**/171**, mb4.6**/37**, 15C-19D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.59**	**288**	P	**P**	**01 01 24.3**	**+0.4**
NIUE	**Niue**	**7.04**	**90**	P	**P**	**01 01 46.0**	**+0.9**
	baz=7.0,SNR=8.7						
NIUE	**Niue**	**7.04**	**90**	P	**P**	**01 01 45.3**	**+0.2**
AFI	**Afiamalu**	**7.52**	**46**	P	**P**	**01 01 49.3**	**-0.6**
	38nm,0.3s,baz=153,slow=0.6,SNR=37						
AFI				S	**S**	**01 03 18.3**	**-4.8**
	20nm,0.3s,baz=64,slow=22,SNR=5.9						
AFI	**Afiamalu**	**7.52**	**46**	P	**P**	**01 01 48.8**	**-1.1**
AFI					**S**	**01 03 21.1**	**-1.9**
RAO	**Raoul Island**	**10.01**	**183**	P	**P**	**01 02 12.7**	**-1.4**
	107nm,0.3s,baz=46,slow=7.3,SNR=7.8						
RAO				S	**S**	**01 04 04.2**	**-3.5**
	22nm,0.3s,baz=144,slow=19,SNR=2.6						
RAO	**Raoul Island**	**10.01**	**183**	P	**P**	**01 02 12.6**	**-1.6**
FUNA	**Funafuti**	**11.13**	**342**	P	**P**	**01 02 24.0**	**-1.9**
DZM	**Mont Dzumac**	**15.42**	**257**	P	**P**	**01 03 08.8**	**-0.5**
	1.7nm,0.3s,baz=84,slow=20,SNR=21						
DZM	**Mont Dzumac**	**15.42**	**257**	P	**P**	**01 03 09.4**	**+0.1**
DZM				IAmb	IAmb	01 03 11.4	
	comp=Z,15nm,0.7s						
RAR	**Rarotonga**	**16.64**	**100**	P	**P**	**01 03 22.4**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=264,slow=10,SNR=3.0						
URZ	**Urewera**	**19.58**	**193**	P	**P**	**01 03 46.1**	**-1.0**
	comp=Z,3.3nm,0.3s,baz=214,slow=2.6,SNR=9.7						
URZ	**Urewera**	**19.58**	**193**	P	**P**	**01 03 45.8**	**-1.3**
URZ				IAmb	IAmb	01 03 46.5	
	comp=Z,9.2nm,0.8s						
THZ	**Tophouse**	**23.96**	**198**	P	**P**	**01 04 25.9**	**-0.4**
THZ				IAmb	IAmb	01 04 43.6	
	comp=Z,30nm,1.5s						
KHZ	**Kahutara**	**24.38**	**196**	P	**P**	**01 04 29.1**	**-0.9**
KHZ				IAmb	IAmb	01 04 47.4	
	comp=Z,18nm,1.2s						
LTZ	**Lake Taylor**	**25.08**	**198**	P	**P**	**01 04 36.5**	**+0.2**
LTZ				IAmb	IAmb	01 04 41.2	
	comp=Z,25nm,1.3s						
OXZ	**Oxford**	**25.64**	**198**	P	**P**	**01 04 40.3**	**-0.9**
OXZ				IAmb	IAmb	01 04 48.2	
	comp=Z,31nm,1.3s						
FOZ	**Fox Glacier**	**26.54**	**201**	P	**P**	**01 04 49.4**	**+0.4**
FOZ				IAmb	IAmb	01 04 50.2	
	comp=Z,25nm,1.1s						
MLZ	**Mavora Lakes**	**28.73**	**202**	P	**P**	**01 05 08.5**	**+0.3**
MLZ				IAmb	IAmb	01 05 08.6	
	comp=Z,22nm,1.0s						
DCZ	**Deep Cove**	**29.16**	**203**	P	**P**	**01 05 11.7**	**-0.1**
WHZ	**Wether Hill Ro**	**29.25**	**201**	P	**P**	**01 05 13.5**	**+0.9**
EIDS	**Eidsvold**	**29.78**	**252**	P	**P**	**01 05 18.2**	**+0.6**
EIDS				IAmb	IAmb	01 05 20.8	
	comp=Z,19nm,1.4s						
ARMA	**Armidale**	**30.18**	**242**	P	**P**	**01 05 20.9**	**-0.1**
	baz=30,SNR=6.2						
ARMA	**Armidale**	**30.18**	**242**	P	**P**	**01 05 21.4**	**+0.4**
ARMA				IAmb	IAmb	01 05 22.4	
	comp=Z,23nm,1.4s						
CNB	**Canberra Magne**	**33.45**	**234**	P	**P**	**01 05 47.7**	**-1.0**
	baz=33,SNR=6.5						
CAN	**Canberra**	**33.73**	**235**	P	**P**	**01 05 51.4**	**+0.3**
CAN				IAmb	IAmb	01 05 59.6	
	comp=Z,13nm,1.2s						
CMSA	**Cobar Meteorol**	**35.40**	**242**	P	**P**	**01 06 05.1**	**+0.2**
	baz=35,SNR=40						
QLP	**Quilpie**	**36.02**	**251**	P	**P**	**01 06 10.1**	**-0.1**
	baz=36,SNR=6.4						
MTSU	**Mount Surprise**	**36.27**	**265**	P	**P**	**01 06 12.7**	**+0.4**
	baz=36,SNR=5.8						
TOO	**Toolangi**	**37.14**	**233**	P	**P**	**01 06 19.5**	**+0.3**
	baz=37,SNR=16						
TAU	**Tasmania Unive**	**37.96**	**224**	P	**P**	**01 06 25.9**	**+0.1**
COEN	**Coen**	**38.12**	**272**	P	**P**	**01 06 27.6**	**+0.2**
COEN				IAmb	IAmb	01 06 28.6	
	comp=Z,13nm,0.7s						
STKA	**Stephens Creek**	**38.89**	**243**	P	**P**	**01 06 34.0**	**+0.5**
	comp=Z,14nm,0.6s,baz=92,slow=10,SNR=44						
WR0	**Warramunga Arr**	**45.19**	**261**	P	**P**	**01 07 22.3**	**-0.8**
WR0				IAmb	IAmb	01 07 24.1	
	comp=Z,30nm,1.4s						
WB0	**Warramunga Arr**	**45.35**	**261**	P	**P**	**01 07 23.8**	**-0.5**
WB2	**Warramunga Arr**	**45.37**	**261**	IAmb	IAmb	01 07 25.2	
	comp=Z,16nm,0.6s						
WRAB	**Tennant Creek**	**45.37**	**261**	P	**P**	**01 07 23.9**	**-0.6**
WRAB				IAmb	IAmb	01 07 24.6	
	comp=Z,40nm,1.4s						
WRA	**Warramunga Arr**	**45.38**	**261**	P	**P**	**01 07 23.6**	**-0.9**
	comp=Z,6.4nm,0.3s,baz=98,slow=7.6,SNR=226						
WRA				PcP	**PcP**	**01 08 52.2**	**+0.4**
	comp=Z,3.7nm,0.8s,baz=93,slow=3.4,SNR=8.9						
WRA				S	**S**	**01 13 21.1**	**-3.8**
	comp=Z,1.0nm,0.6s,baz=96,slow=12,SNR=5.9						
WRA	**Warramunga Arr**	**45.38**	**261**	P	**P**	**01 07 23.6**	**-0.9**
WRA					**PcP**	**01 08 52.3**	**+0.4**
AS31	**Alice Springs**	**45.40**	**255**	IAmb	IAmb	01 07 25.7	
	comp=Z,8.6nm,0.9s						
ASAR	**Alice Springs**	**45.40**	**255**	P	**P**	**01 07 24.4**	**-0.4**
	comp=Z,16nm,0.4s,baz=88,slow=8.5,SNR=200						
ASAR				PcP	**PcP**	**01 08 52.1**	**+0.3**
	comp=Z,6.0nm,0.7s,baz=100,slow=4.4,SNR=9.7						
ASAR				S	**S**	**01 13 21.7**	**-3.4**
	comp=Z,1.9nm,0.7s,baz=91,slow=16,SNR=15						
FAKI	**Fak Fak**	**51.80**	**282**		pP	01 10 04.2	+5.2
FITZ	**Fitzroy Crossi**	**53.80**	**261**	IAmb	IAmb	01 08 27.0	
	comp=Z,11nm,0.6s						
PSA00	**Pilbara Seismi**	**58.55**	**256**	P	**P**	**01 08 57.5**	**-1.4**
PSA00	**Pilbara Seismi**	**58.55**	**256**	P	**P**	**01 08 58.6**	**-0.3**
PSA00				IAmb	IAmb	01 08 59.2	
	comp=Z,43nm,0.8s						
VNDA	**Vanda**	**59.24**	**185**	P	**P**	**01 09 04.5**	**+1.9**
	comp=Z,1.3nm,0.5s,baz=51,slow=6.5,SNR=4.8						
NWAO	**Narrogin (SRO)**	**59.48**	**243**	P	**P**	**01 09 05.0**	**0.0**
NWAO				IAmb	IAmb	01 09 17.7	
	comp=Z,25nm,1.2s						
NWAO	**Narrogin (SRO)**	**59.48**	**243**	P	**P**	**01 09 05.0**	**0.0**
NWAO				IAmb	IAmb	01 09 17.6	
	comp=Z,20nm,1.2s						
MORW	**Morawa**	**60.87**	**247**	P	**P**	**01 09 14.0**	**-0.3**
MORW				IAmb	IAmb	01 09 14.8	
	comp=Z,21nm,1.1s						
GIRL	**Giralia**	**63.47**	**254**	P	**P**	**01 09 31.7**	**+0.5**
CASY	**Casey**	**65.38**	**205**	P	**P**	**01 09 43.0**	**+0.6**
CASY				IAmb	IAmb	01 09 46.7	
	comp=Z,27nm,1.2s						
MJAR	**Matsushiro Arr**	**69.54**	**323**	P	**P**	**01 10 08.2**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=149,slow=6.8,SNR=4.4						
KKM	**Kota Kinabalu**	**70.01**	**284**	P	**P**	**01 10 12.0**	**+0.3**
KKM				IAmb	IAmb	01 10 12.4	
	comp=Z,12nm,0.6s						
UGM	**Wanagama**	**70.59**	**268**	P	**P**	**01 10 14.6**	**-0.4**
QSPA	**South Pole Qui**	**70.85**	**180**	P	**P**	**01 10 17.1**	**+1.3**
QSPA				IAmb	IAmb	01 10 18.0	
	comp=Z,11nm,0.9s						
MONP2	**Monument Peak**	**77.92**	**49**	P	**P**	**01 10 55.9**	**-0.3**
USRK	**Ussuriysk Ar.**	**78.24**	**325**	P	**P**	**01 10 59.5**	**+2.1**
	comp=Z,1.7nm,0.8s,baz=132,slow=2.8,SNR=5.9						
YERR	**Yerington**	**79.40**	**42**	P	**P**	**01 11 03.5**	**-0.4**
NJ2	**Nanjing**	**79.52**	**309**	*e*P	**P**	**01 11 06.2**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NVAR	**Mina Array Bea**	**79.69**	**43**	P	**P**	**01 11 06.9**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=222,slow=8.4,SNR=7.0						
NVAR	**Mina Array Bea**	**79.69**	**43**	P	**P**	**01 11 04.9**	**-0.5**
HOM	**Homer**	**81.35**	**13**	P	**P**	**01 11 13.2**	**0.0**
TUC	**Tucson**	**81.72**	**52**	P	**P**	**01 11 15.3**	**-0.6**
WHN	**Wuhan**	**82.17**	**306**	P	**P**	**01 11 22.2**	**+4.1**
X16A	**Lo Mia Camp, P**	**82.26**	**50**	P	**P**	**01 11 17.8**	**-1.0**
U15A	**North Rim**	**82.66**	**48**	P	**P**	**01 11 20.7**	**-0.1**
MAW	**Mawson**	**82.97**	**200**	P	**P**	**01 11 21.9**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=173,slow=6.2,SNR=5.0						
MSU	**Marysvale**	**83.79**	**46**	P	**P**	**01 11 25.9**	**-0.4**
GHO	**Glory Hole Cre**	**83.84**	**13**	P	**P**	**01 11 25.8**	**0.0**
DHAK	**Deception Hill**	**84.37**	**19**	P	**P**	**01 11 27.2**	**-1.2**
TX31	**Lajitas Ar. Si**	**85.86**	**57**	P	**P**	**01 11 36.3**	**-0.1**
TX32	**Lajitas Array**	**85.86**	**57**	P	**P**	**01 11 37.2**	**+0.8**
TXAR	**Lajitas Array**	**85.86**	**57**	P	**P**	**01 11 38.8**	**+2.4**
	comp=Z,1.5nm,0.7s,baz=218,slow=7.0,SNR=20						
TXAR	**Lajitas Array**	**85.86**	**57**	P	**P**	**01 11 36.3**	**-0.1**
CCB	**Clear Creek Bu**	**86.64**	**12**	P	**P**	**01 11 38.3**	**-0.8**
IMAR	**Indian Mountai**	**86.79**	**9**	P	**P**	**01 11 39.2**	**-0.6**
ILAR	**Eielson Array**	**86.93**	**13**	P	**P**	**01 11 40.8**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=222,slow=3.5,SNR=5.5						
ILAR	**Eielson Array**	**86.93**	**13**	P	**P**	**01 11 39.3**	**-1.2**
LRM	**Limekiln Ridge**	**87.34**	**39**		pP	01 13 49.5	+3.4
PDAR	**Pinedale Array**	**87.62**	**43**	P	**P**	**01 11 45.7**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=197,slow=3.1,SNR=6.0						
PDAR	**Pinedale Array**	**87.62**	**43**	P	**P**	**01 11 44.1**	**-0.4**
YHL	**Hebgen Lake**	**87.62**	**41**	P	**P**	**01 11 44.7**	**+0.1**
SYO	**Syowa Base**	**88.11**	**193**	⇓*e*P	**P**	**01 11 44.7**	**-1.4**
SYO	**Syowa Base**	**88.11**	**193**	⇓*e*PcP	**PcP**	**01 11 47.2**	**-0.1**
HHC	**Hu-ho-hao-te**	**88.88**	**314**	P	**P**	**01 11 53.1**	**+2.8**
HHC				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,7.0nm,5.7s						
SNAA	**Sanae**	**89.27**	**178**	P	**P**	**01 11 51.6**	**0.0**
VNA3	**Neumayer Olymp**	**89.38**	**176**	P	**P**	**01 11 52.3**	**+0.3**
BMAR	**Burnt Mountain**	**89.72**	**12**	P	**P**	**01 11 53.9**	**+0.5**
VNA2	**Neumayer--Watz**	**89.83**	**177**	P	**P**	**01 11 55.2**	**+1.1**
	baz=191,slow=4.7						
CMAR	**Chiang Mai Arr**	**90.25**	**289**	P	**P**	**01 11 58.4**	**+1.4**
	comp=Z,1.4nm,0.4s,baz=125,slow=3.1,SNR=12						
CMAR	**Chiang Mai Arr**	**90.25**	**289**	P	**P**	**01 11 58.0**	**+0.9**
ABTX	**Abilene, Hawle**	**90.34**	**56**	P	**P**	**01 11 56.1**	**-1.0**
ABTX				IAmb	IAmb	01 11 59.3	
	comp=Z,3.2nm,0.8s						
CHTO	**Chiang Mai**	**90.37**	**290**	P	**P**	**01 11 57.3**	**-0.3**
CHTO				IAmb	IAmb	01 11 59.6	
	comp=Z,7.2nm,1.1s						
CD2	**Chengdu**	**90.60**	**303**	P	**P**	**01 11 57.6**	**-0.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
MKAR	**Makanchi Array**	**110.75**	**314**	PKiKP	**PKiKP**	**01 17 23.4**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=217,slow=0.6,SNR=19						
KSH	**Kashi**	**114.64**	**305**	PKP	**PKiKP**	**01 17 34.2**	**+1.8**
KSH				PP	PP	01 18 49.6	+8.6
KSH				SKKS		01 24 45.6	
KSH	**Kashi**	**114.64**	**305**	SS	SS	01 34 01.2	+8.7
KSH				LR	LR		
	comp=N,320nm,7.2s						
KSH				LR	LR		
	comp=E,410nm,7.7s						
BOSA	**Boshof**	**127.67**	**205**	PKP	**PKPdf**	**01 17 57.2**	**-0.6**
	comp=E,2.3nm,0.8s,baz=152,slow=8.6,SNR=4.7						
ARCES	**ARCESS Array B**	**127.76**	**350**	PKP	**PKPdf**	**01 17 56.5**	**-0.1**
	comp=E,1.5nm,0.4s,baz=7.2,slow=1.9,SNR=13						
GEYT	**Alibeck**	**128.58**	**304**	PKP	**PKiKP**	**01 17 59.3**	**-0.5**
	comp=E,0.8nm,0.6s,baz=244,slow=6.3,SNR=2.8						
FINES	**FINESS Array B**	**134.70**	**344**	PKhKP	PKPpre	01 18 04.2	
	comp=E,2.9nm,0.9s,baz=100,slow=8.7,SNR=1.4						
NOA	**NORSAR Array B**	**137.78**	**354**	PKP	**PKiKP**	**01 18 17.6**	**-0.1**
	comp=E,0.6nm,0.6s,baz=8.5,slow=3.9,SNR=2.7						
AKASG	**Malin Array Be**	**142.17**	**332**	PKhKP	PKPpre	01 18 19.8	
	comp=E,2.0nm,0.6s,baz=34,slow=4.4,SNR=9.6						
SORM	**Soroca**	**144.41**	**330**	⇑P	**PKPdf**	**01 18 27.7**	**-0.1**
GAZ	**Gaziantep**	**144.91**	**308**		**PKPab**	**01 18 30.8**	**0.0**
MILM	**Milestii Mici**	**145.03**	**328**	⇓P	**PKPdf**	**01 18 28.9**	**+0.1**
MBAR	**Mbarara**	**146.11**	**238**	PKPbc	**PKPbc**	**01 18 34.0**	**-0.1**
BUR08	**Bucovina Ar. S**	**146.21**	**332**	PKPbc	**PKPbc**	**01 18 34.0**	**+0.8**
BURAR	**Bucovina Array**	**146.22**	**332**	⇓P	**PKPbc**	**01 18 34.2**	**+0.9**
BURAR	**Bucovina Array**	**146.22**	**332**		**PKPbc**	**01 18 33.9**	**+0.6**
BIZ	**Bicaz**	**146.32**	**331**	⇓P	**PKiKP**	**01 18 34.4**	**-1.3**
KOLS	**Kolonicke sedl**	**146.39**	**336**	*e*PKP	**PKPab**	**01 18 36.6**	**+0.5**
BR131	**Keskin Array S**	**146.40**	**314**		**PKPbc**	**01 18 34.0**	**-0.1**
BRTR	**Keskin Array B**	**146.40**	**314**	PKPbc	**PKPbc**	**01 18 34.0**	**-0.1**
	comp=E,3.8nm,0.7s,baz=140,slow=4.3,SNR=23						
CFR	**Carcaliu**	**146.56**	**326**	⇓P	**PKPbc**	**01 18 34.4**	**+0.3**
ODBI	**Odobesti**	**146.71**	**328**	⇑P	**PKiKP**	**01 18 35.8**	**-0.7**
VRI	**Vrincioaia**	**146.80**	**329**	⇑P	**PKPbc**	**01 18 35.0**	**+0.3**
ANTO	**Ankara**	**146.90**	**315**		**PKPbc**	**01 18 34.4**	**-0.9**
TRPA	**Tarpa**	**146.94**	**335**	⇑P	**PKPbc**	**01 18 35.4**	**+0.4**
CLL	**Collm**	**146.94**	**348**	⇓*i*PKPbc	**PKPbc**	**01 18 35.3**	**+0.4**
	comp=Z,12nm,1.0s						
HARR	**Harsova**	**147.00**	**326**	⇓P	**PKPbc**	**01 18 35.9**	**+0.7**
TLB	**Topalu**	**147.01**	**326**	⇓P	**PKPbc**	**01 18 35.7**	**+0.4**
DPC	**Dobruska-Polom**	**147.07**	**344**	⇑*e*PKP	**PKiKP**	**01 18 36.3**	**-0.9**
DPC				*e*PKPAB	**PKPab**	**01 18 39.9**	**+1.1**
BRG	**Berggiesshubel**	**147.16**	**347**	*i* PKP	**PKPbc**	**01 18 35.9**	**+0.4**
	comp=Z,5.5nm,0.8s						
KRLC	**Kraliky**	**147.20**	**343**	⇑*e*PKP	**PKiKP**	**01 18 36.6**	**-0.8**
PVCC	**Panska Ves**	**147.34**	**346**	⇑*e*PKP	**PKiKP**	**01 18 37.3**	**-0.3**
DOPR	**Dopca**	**147.37**	**330**	⇓P	**PKiKP**	**01 18 37.2**	**-0.7**
MLR	**Muntele Rosu**	**147.45**	**329**	⇓P	**PKPbc**	**01 18 37.0**	**+0.3**
CJR	**Cluj-Napoca**	**147.62**	**333**	⇓P	**PKPbc**	**01 18 35.6**	**-1.3**
PRU	**Pruhonice**	**147.85**	**346**	⇑*e*PKP	**PKPbc**	**01 18 37.6**	**+0.3**
PRU				*e*PKPAB	**PKPab**	**01 18 42.2**	**+0.3**
GOPC	**GO Pecny, Ondr**	**147.86**	**345**	⇑*e*PKP	**PKiKP**	**01 18 38.4**	**-0.4**
VOIR		**147.92**	**330**	⇑P	**PKPbc**	**01 18 38.2**	**+0.4**
DRGR		**147.94**	**334**	⇓P	**PKPbc**	**01 18 38.1**	**+0.3**
VYHS	**Vyhne**	**147.98**	**340**	*e*PKP	**PKPbc**	**01 18 38.2**	**+0.5**
PSZ	**Piszkesteto**	**148.11**	**338**	⇓P	**PKPbc**	**01 18 37.9**	**-0.3**
ARR	**Arges**	**148.17**	**330**	⇓P	**PKiKP**	**01 18 39.5**	**-0.1**
TREC	**Trest**	**148.26**	**344**	⇑*e*PKP	**PKiKP**	**01 18 39.2**	**-0.4**
MODS	**Modra-Piesok**	**148.58**	**341**	*e*PKP	**PKPbc**	**01 18 39.4**	**+0.2**
SIRR	**Siria**	**148.79**	**334**	⇓P	**PKiKP**	**01 18 40.3**	**-0.5**
KHC	**Kasperske Hory**	**148.88**	**346**	⇑*e*PKP	**PKiKP**	**01 18 40.7**	**-0.2**
KHC				*e*PKPAB	**PKPab**	**01 18 46.0**	**-0.2**
GZR	**Gura Zlata**	**149.01**	**332**	⇓P	**PKPbc**	**01 18 40.4**	**0.0**
GEC2	**GERESS Array S**	**149.12**	**346**		**PKiKP**	**01 18 41.4**	**-0.1**
GERES	**GERESS Array B**	**149.12**	**346**	PKPbc	**PKiKP**	**01 18 41.1**	**-0.4**
	comp=Z,4.6nm,0.8s,baz=28,slow=2.1,SNR=30						
GERES	**GERESS Array B**	**149.12**	**346**		**PKiKP**	**01 18 40.9**	**-0.6**
DOU	**Dourbes**	**149.15**	**358**	PKiKP	**PKiKP**	**01 18 41.2**	**-0.1**
BZS	**Buzias**	**149.34**	**333**	⇑P	**PKiKP**	**01 18 41.5**	**-0.4**
CONA	**Conrad Observa**	**149.40**	**342**	*i* PKiKP	**PKiKP**	**01 18 41.8**	**-0.2**
	comp=Z,14nm,1.3s						
WLF	**Walferdange**	**149.49**	**355**	PKiKP	**PKiKP**	**01 18 42.7**	**+0.6**
HERR	**Herculane**	**149.56**	**332**	⇑P	**PKPbc**	**01 18 41.7**	**0.0**
PLVB	**Pleven**	**149.62**	**327**	⇑P	**PKPbc**	**01 18 42.0**	**+0.2**
MOA	**Molln**	**149.91**	**344**	*i* PKiKP	**PKPbc**	**01 18 42.2**	**-0.2**
	comp=Z,2.9nm,0.6s						
MDVR	**Moldovita**	**149.96**	**332**	⇓P	**PKPbc**	**01 18 42.5**	**-0.2**
BFO	**Black Forest**	**150.59**	**352**		**PKiKP**	**01 18 44.3**	**-0.1**
SOKA	**Soboth**	**150.77**	**342**	*i* PKiKP	**PKPbc**	**01 18 44.3**	**-0.3**
	comp=Z,4.9nm,0.8s						
KBA	**Koelnbreinsper**	**150.85**	**345**	*i* PKiKP	**PKPbc**	**01 18 44.6**	**-0.2**
	comp=Z,13nm,1.1s						
VTS	**Vitosha**	**150.88**	**328**	⇓P	**PKiKP**	**01 18 45.1**	**-0.3**
WATA	**Walderalm**	**151.01**	**347**	*i* PKiKP	**PKPbc**	**01 18 44.7**	**-0.5**
	comp=Z,5.5nm,0.5s,SNR=5.2						
RETA	**Reutte**	**151.03**	**349**	*i* PKiKP	**PKPbc**	**01 18 45.0**	**-0.1**
	comp=Z,2.2nm,0.7s						
WTTA	**Wattenberg**	**151.07**	**347**	*i* PKiKP	**PKPbc**	**01 18 45.1**	**-0.3**
	comp=Z,9.3nm,0.5s,SNR=11						
MOTA	**Moosalm**	**151.10**	**348**	*i* PKPbc	**PKPbc**	**01 18 44.0**	**-1.4**
	comp=Z,7.5nm,0.9s						
MYKA	**Terra Mystica**	**151.19**	**344**	*i* PKiKP	**PKPbc**	**01 18 44.8**	**-0.7**
	comp=Z,4.6nm,0.5s						
SQTA	**Sankt Quirin**	**151.19**	**348**	*i* PKiKP	**PKPbc**	**01 18 45.5**	**-0.1**
	comp=Z,7.6nm,0.6s						
ABTA	**Abfaltersbach**	**151.36**	**346**	*i* PKiKP	**PKPbc**	**01 18 45.3**	**-0.6**
	comp=Z,10nm,0.6s,SNR=8.9						
DAVA	**Damuels**	**151.38**	**350**	*i* PKiKP	**PKPbc**	**01 18 45.5**	**-0.5**
	comp=Z,8.3nm,1.2s						
FETA	**Feichten**	**151.48**	**348**	*i* PKPbc	**PKPbc**	**01 18 43.9**	**-2.4**
	comp=Z,3.4nm,0.6s						
DBIC	**Dimbokro**	**165.56**	**149**	PKP	**PKPdf**	**01 18 56.4**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=180,slow=1.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**173.90**	**171**	PKP	**PKPdf**	**01 19 00.2**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=77,slow=0.5,SNR=5.2						
TORD				PKPab	**PKPab**	**01 20 38.1**	**+2.1**
	comp=Z,0.6nm,1.1s,baz=154,slow=4.1,SNR=4.4						

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*ISCJB **02** 01:23:46.2±0.6, 32.°13S±0.°04×68.°03W±0.°05, h129km±5km, Error ellipse: s-maj=7.6km s-min=4.9km az=137.2*

*SJA **02** 01:23:46.1±0.7, 32.°16S×68.°05W, h126km±3km, ML3.1, MW3.5*

*GUC **02** 01:23:46.7±0.7, 32.°18S×68.°21W, h179km±29km, ML3.7*

ISC 02 01:23:46.8±1.5**, 32.°14S**±0.°05×**68.°02W**±0.°05**, h126**km±9km**, n27, σ0.s60**/39**, 4C, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTCV	**Cerro Valdivia**	**0.52**	**302**	*i* P	**Pn**	**01 24 05.5**	**-0.1**
RTCV				*e*S	**Sn**	**01 24 19.5**	**-0.2**
CFA	**Coronel Fontan**	**0.56**	**341**	*i* P	**Pn**	**01 24 05.9**	**0.0**
CFA				*e*S	**Sn**	**01 24 20.1**	**-0.1**
ACAN	**Cantantal**	**0.72**	**101**	*i* P	**Pn**	**01 24 07.4**	**+0.4**
ACAN				*e*S	**Sn**	**01 24 22.3**	**+0.1**
ASAL	**Salagasta**	**0.82**	**236**	*i* P	**Pn**	**01 24 08.0**	**+0.1**
ASAL				*e*S	**Sn**	**01 24 23.2**	**-0.5**
RTLL	**Cerro Villicun**	**0.89**	**334**	*i* P	**Pn**	**01 24 08.5**	**+0.1**
RTLL				IAML		01 24 25.8	
	comp=Z,552nm,0.3s						
ARCO	**CERRO ARCO**	**1.04**	**227**	*i* P	**Pn**	**01 24 09.5**	**-0.4**
ARCO				IAML		01 24 27.9	
	comp=Z,236nm,0.2s						
RTLS	**Leoncito**	**1.13**	**287**	*i* P	**Pn**	**01 24 11.3**	**+0.3**
RTLS				*e*S	**Sn**	**01 24 29.5**	**+0.2**
RTLS				IAML		01 24 30.0	
	comp=Z,196nm,0.2s						
AAGR	**Agrelo**	**1.16**	**216**	*i* P	**Pn**	**01 24 11.2**	**+0.1**
AAGR				*e*S	**Sn**	**01 24 28.8**	**-0.8**
AMOG	**MOGNA**	**1.26**	**341**	*i* P	**Pn**	**01 24 12.4**	**+0.3**
ACCO	**Cerro Coronel**	**1.78**	**330**	*i* P	**Pn**	**01 24 19.4**	**+1.1**
APLL	**PUNTA DE LOS L**	**2.16**	**37**	*i* P	**Pn**	**01 24 23.2**	**+0.6**
APLL				IAML		01 24 52.4	
	comp=Z,53nm,0.3s						
FCH	**Farellones**	**2.25**	**238**	⇑*i*P	**Pn**	**01 24 24.4**	**+0.4**
FCH				*e*S	**Sn**	**01 24 54.1**	**+1.6**
CLCH	**Cerro Calan**	**2.46**	**239**	⇑*i*P	**Pn**	**01 24 26.4**	**0.0**
CLCH				*e*S	**Sn**	**01 24 56.8**	**0.0**
CLCH				IAML		01 24 59.4	
	comp=N,84nm,0.4s						
LMEL	**Las Melosas**	**2.50**	**226**	*e*P	**Pn**	**01 24 27.6**	**+0.6**
LMEL				*i* S	**Sn**	**01 24 58.4**	**+0.5**
ROCH	**El Roble**	**2.66**	**251**	⇑*i*P	**Pn**	**01 24 28.8**	**-0.2**
ROCH				*e*S	**Sn**	**01 25 00.8**	**-0.7**
ROCH				IAML		01 25 04.7	
	comp=E,87nm,0.3s						
ROC1	**El Roble**	**2.66**	**251**	*i* P	**Pn**	**01 24 28.7**	**-0.4**
CO02	**Combarbal**	**2.70**	**289**	⇑*i*P	**Pn**	**01 24 29.8**	**+0.2**
CO02				*e*S	**Sn**	**01 25 02.3**	**-0.1**
CO02				IAML		01 25 05.5	
	comp=N,548nm,0.2s						
ACLC	**CERRO LA CRUZ**	**2.86**	**19**	*i* P	**Pn**	**01 24 31.9**	**+0.3**
TCA	**Tanti**	**3.03**	**76**	*i* P	**Pn**	**01 24 34.0**	**+0.3**
TCA				IAML		01 24 34.8	
	comp=Z,32nm,0.5s						
GO04	**Tololo Observa**	**3.08**	**309**	*e*P	**Pn**	**01 24 34.9**	**+0.4**
GO04				*i* S	**Sn**	**01 25 11.1**	**-0.3**
GO04				IAML		01 25 14.2	
	comp=E,448nm,0.6s						
GO04	**Tololo Observa**	**3.08**	**309**	*i* P	**Pn**	**01 24 34.8**	**+0.2**
VCA	**Vinchina**	**3.39**	**357**	*i* P	**Pn**	**01 24 39.4**	**+0.8**
VCA				IAML		01 24 41.1	
	comp=Z,54nm,0.2s						
CYA	**Choya**	**4.15**	**28**	*i* P	**Pn**	**01 24 48.1**	**-0.5**
CYA				IAML		01 25 35.3	
	comp=Z,38nm,0.8s						
GO03	**Copiap**	**4.92**	**336**	*i* P	**Pn**	**01 24 59.2**	**+0.3**
AHML	**Horco Molle**	**5.83**	**24**	*i* P	**Pn**	**01 25 10.1**	**-0.9**
FSA	**Cafayete**	**6.26**	**17**	*i* P	**Pn**	**01 25 17.2**	**+0.2**
PB14	**IPOC Station P**	**7.77**	**344**	*i* P	**Pn**	**01 25 35.9**	**-1.6**

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*GUC **02** 01:25:07.3±0.5, 22.°98S×67.°22W, h246km±7km, ML3.7*

ISC 02 01:25:07.6±3.7**, 23.°08S**±0.°08×**67.°1W**±0.°3**, h245**km±31km**, n14, σ0.s59**/23**, 7C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.72**	**286**	*i* S	**S**	**01 26 18.4**	**-0.7**
PB15	**IPOC Station P**	**2.17**	**266**	*i* P	**Pn**	**01 25 52.0**	**+0.4**
PB06	**IPOC Station P**	**2.29**	**279**	⇑*i*P	**Pn**	**01 25 53.0**	**+0.2**
PB06				*i* S	**S**	**01 26 28.0**	**-0.1**
PB06				IAML		01 26 30.9	
	comp=E,130nm,0.1s						
PB06	**IPOC Station P**	**2.29**	**279**	*i* P	**Pn**	**01 25 53.2**	**+0.5**
PB09	**IPOC Station P**	**2.35**	**303**	⇑*i*P	**Pn**	**01 25 53.8**	**+0.5**
PB09				*i* S	**S**	**01 26 30.3**	**+1.1**
PB03	**IPOC Station P**	**2.64**	**292**	⇑*i*P	**Pn**	**01 25 56.5**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PB03				i S	S	01 26 34.0	-0.6
PB03				IAML		01 26 37.2	
	comp=E,140nm,0.1s						
PB05	IPOC Station P	2.85	274⇑	i P	Pn	01 25 59.0	+0.6
PB05				i S	S	01 26 38.4	0.0
PB05				IAML		01 26 44.5	
	comp=N,69nm,0.3s						
PB05	IPOC Station P	2.85	274	i P	Pn	01 25 58.6	+0.2
PB04	IPOC Station P	2.90	284⇑	i P	Pn	01 25 59.5	+0.6
PB04				i S	S	01 26 39.1	-0.3
PB04				IAML		01 26 44.9	
	comp=E,110nm,0.4s						
PB04	IPOC Station P	2.90	284	i P	Pn	01 25 59.7	+0.8
PB07	IPOC Station P	2.90	297⇑	i P	Pn	01 25 59.4	+0.4
PB07				i S	S	01 26 38.9	-0.5
PB07				IAML		01 26 41.0	
	comp=N,120nm,0.2s						
PB01	IPOC Station P	2.99	312	i P	Pn	01 25 59.8	-0.2
PB01				i S	S	01 26 40.6	-0.5
PB01				IAML		01 26 44.3	
	comp=E,110nm,0.4s						
GO02	Mina Guanaco	3.06	227	e P	Pn	01 26 00.8	-0.1
GO02				i S	S	01 26 42.4	-0.5
PB02	IPOC Station P	3.12	304⇑	i P	Pn	01 26 01.4	+0.1
PB02				i S	S	01 26 42.5	-1.2
PB02				IAML		01 26 48.3	
	comp=E,110nm,0.3s						

*ISCJB **02** 01:27:17.1±0.7, 24°.88N±0°.03×122°.49E±0°.03, h11km±4km, Error ellipse: s-maj=5.1km s-min=4.2km az=41.7*
*JMA **02** 01:27:17.0±0.1, 24°.91N×122°.51E, h25km*
*TAP **02** 01:27:18.2, 24°.88N×122°.47E, h14km, ML2.8, D*
ISC 02 01:27:17.4±1.3, **24°.88N**±0°.04×**122°.49E**±0°.04, **h19**km±3km, **n40**, σ**0s.40**/67, **Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EOS1	EOS1	0.47	225	i P	Pb	01 27 27.1	+0.1
	baz=223						
EOS1				e S	Sb	01 27 33.6	+0.1
	baz=223						
TWB1	Santiao Chiao	0.47	286	e P	Pg	01 27 26.3	-0.7
	baz=286						
TWB1				e S	Sg	01 27 33.0	-0.5
	baz=286						
EGS		0.51	266	e P	Pg	01 27 27.6	0.0
	baz=265						
EGS				S	Sg	01 27 34.3	-0.2
	baz=265						
JYNG	Yonagunijimaku	0.60	136	P	Pb	01 27 28.6	-0.6
JYNG				S	Sb	01 27 37.1	-0.1
NTC	Toucheng	0.60	267	e P	Pb	01 27 29.3	+0.1
	baz=267						
TIPB	Shuangxi	0.61	279	P	Pb	01 27 29.5	+0.1
	baz=278						
TIPB				e S	Sg	01 27 38.0	+0.3
	baz=278						
TWC	Suao	0.64	245	P	Pb	01 27 29.2	-0.8
	baz=243						
TWC				e S	Sg	01 27 38.8	+0.1
	baz=243						
NWF	Wu-fen Shan	0.67	286	P	Pg	01 27 30.7	+0.1
	baz=286						
NWF				e S	Sg	01 27 39.7	+0.1
	baz=286						
WFSB	Wu-fen Shan	0.67	286	P	Pg	01 27 30.8	+0.2
	baz=286						
WFSB				S	Sg	01 27 39.5	0.0
	baz=286						
TWE	Neicheng	0.76	258	P	Pb	01 27 31.8	-0.3
	baz=257						
TWE				e S	Sb	01 27 42.0	-0.1
	baz=257						
SLBB	Yuanshan	0.79	261	e P	Pb	01 27 32.1	-0.4
	baz=260						
SLBB				e S	Sb	01 27 42.7	-0.1
	baz=260						
NANB	Nanao	0.81	236	P	Pb	01 27 32.7	-0.2
	baz=235						
NANB				e S	Sb	01 27 43.4	-0.1
	baz=235						
ENA	Nanau	0.82	237	e P	Pb	01 27 33.1	+0.1
	baz=235						
ENA				e S	Sb	01 27 43.7	+0.1
	baz=235						
TWA	Mucha	0.83	277	e S	Sb	01 27 44.0	0.0
	baz=276						
PCYT	Pengchaiyu	0.83	333	e P	Pb	01 27 33.5	+0.1
	baz=334						
YM08	YM08	0.87	291	e P	Pb	01 27 33.9	0.0
	baz=291						
YM01	YM01	0.87	288	e P	Pg	01 27 34.6	+0.1
	baz=287						
YM01				e S	Sb	01 27 45.6	+0.3
	baz=287						
YM11	YM11	0.88	289	e P	Pb	01 27 34.2	+0.2
	baz=289						
YM05	YM05	0.88	289	e P	Pb	01 27 34.1	-0.1
	baz=289						
YM10	YM10	0.89	288	e P	Pb	01 27 33.8	-0.4
	baz=288						
TWY	Chenhua	0.90	296	e P	Pb	01 27 34.0	-0.3
	baz=296						
TWY				e S	Sb	01 27 45.9	0.0
	baz=296						
NWLT	Wulai	0.90	264	e P	Pb	01 27 34.0	-0.4
	baz=263						
NWLT				e S	Sb	01 27 45.0	-1.2
	baz=263						
NDT	Datong Townshi	0.93	253	e P	Pb	01 27 34.9	0.0
	baz=252						
NDT				e S	Sb	01 27 47.3	+0.3
	baz=252						
YHNB	Yeheng	1.03	258	e P	Pb	01 27 36.7	0.0
	baz=258						
NSK	Sanguang	1.05	259	P	Pb	01 27 36.6	-0.3
	baz=258						
NSK				e S	Sb	01 27 50.2	-0.2
	baz=258						
NACB	Ninganchiao	1.08	229	e P	Pb	01 27 36.8	-0.6
	baz=228						
NACB				S	Sb	01 27 51.4	+0.2
	baz=228						
NNSH	Datong	1.10	246	P	Pn	01 27 37.6	-0.4
	baz=245						
NNSH				S	Sb	01 27 51.7	-0.3
	baz=245						
NNSB	Datong	1.10	246	e P	Pn	01 27 37.7	-0.3
	baz=245						
NNSB				e S	Sb	01 27 52.0	0.0
	baz=245						
NNS	Nan Shan	1.11	247	P	Pn	01 27 37.9	-0.1
	baz=245						
NNS				e S	Sb	01 27 51.9	-0.2
	baz=245						
ETLH	Xiulin Townshi	1.14	234	e P	Pn	01 27 38.3	-0.1
	baz=233						
ETLH				e S	Sb	01 27 53.2	+0.2
	baz=233						
TWD	Chiawan	1.14	226	e P	Pb	01 27 38.7	+0.2
	baz=224						
TWD				e S	Sb	01 27 53.1	+0.1
	baz=224						
WHF	Hehuan Shan	1.33	237	e P	Pn	01 27 41.7	+0.2
	baz=236						
WHF				e S	Sn	01 27 58.7	-0.2
	baz=236						
TWT	Tachien	1.35	243	e P	Pb	01 27 42.0	-0.2
	baz=242						
TWT				e S	Sb	01 27 59.6	+0.4
	baz=242						
TDCB	Techi	1.36	243	e P	Pn	01 27 41.8	+0.2
	baz=242						
TDCB				e S	Sb	01 27 59.6	0.0
	baz=242						
CHGB	Renai	1.45	236	e P	Pb	01 27 43.7	-0.3
	baz=235						
WHP	Taichung City	1.53	247	e P	Pb	01 27 45.1	-0.1
	baz=246						
WHP				e S	Sb	01 28 04.0	-0.2
	baz=246						
VWDT	VWDT	1.67	228	e P	Pn	01 27 46.3	+0.7
	baz=227						
SSLB	Suanglung	1.77	232	e P	Pn	01 27 48.1	+1.0
	baz=231						
YULB	Yu-li	1.84	217	e P	Pn	01 27 49.0	+1.0
	baz=215						
WHYT	Xinyi Township	1.90	232	e P	Pn	01 27 50.2	+1.3
	baz=231						

*IDC **02** 01:36:16.5±0.7, 7°.09S×128°.58E, h0km, mb4.1/9, mb1 4.2/14, mb1mx4.1/34, mbtmp4.1/14, ML4.0/5, MS3.0/6, Ms1 3.1/6, ms1mx2.7/38, Error ellipse: s-maj=32.5km s-min=15.9km az=74.0*
*ISCJB **02** 01:36:18.8±0.3, 7°.14S±0°.03×128°.80E±0°.04, h35km, mb4.0/9, MS3.0/2, Error ellipse: s-maj=6.4km s-min=4.2km az=166.3*
*NEIC **02** 01:36:19.7±2.8, 7°.05S±0°.06×128°.81E±0°.06, h26km±5km, mb4.4/13*
*DJA **02** 01:36:22.4±0.4, 7°S±4°×12°9E±°, h221km±13km, M4.1/6, mB4.6/4, mb4.2/6, MLv4.2/6, Mw(mB)3.8/4*
ISC 02 01:36:21.0±0.5, **7°.18S**±0°.04×**128°.84E**±0°.06, **h35**km, **n58**, σ**2s.16**/66, **mb4.2**/13, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.57	108	P	Pn	01 37 10.9	+11
SAUI	Saumlaki	2.57	108		Pn	01 36 59.2	-0.9
MSAI	Masohi	3.81	1	P	Pn	01 37 20.6	+3.5
NLAI	Namlea	4.28	336	P	Pn	01 37 21.2	-2.4
SOEI	Soe	5.20	240	P	Pn	01 37 34.8	-1.6
SOEI	Soe	5.20	240		Pn	01 37 35.2	-1.2
FAKI	Fak Fak	5.42	39	Pn	Pn	01 37 37.0	-2.4
SANI	Sanana	5.83	331	P	Pn	01 37 42.9	-2.1
BATI	Baumata	5.94	239	Pn	Pn	01 37 49.5	+3.0
	8.4nm,0.3s,baz=94,slow=1.5,SNR=9.6						
BATI				Sn	Sn	01 38 54.6	+1.3
	5.6nm,0.3s,baz=47,slow=19,SNR=4.6						
BATI	Baumata	5.94	239	P	Pn	01 37 48.6	+2.1
MMRI	Maumere	6.70	257		Pn	01 37 54.5	-2.4
SIJI	Sorong	6.72	21	Pn	Pn	01 37 58.1	+0.9
	3.2nm,0.3s,baz=141,slow=20,SNR=4.2						
SIJI				Sn	Sn	01 39 09.8	-2.8
	1.2nm,0.3s,baz=252,slow=20,SNR=3.6						
KNRA	Kununurra	8.45	180		Pn	01 38 23.5	+2.5
KNRA				Sn	Sn	01 39 54.9	-0.3
KAPI	Kappang	9.29	283	Pn	Pn	01 38 28.5	-4.0
	1.1nm,0.3s,baz=131,slow=11,SNR=12						
KAPI				Sn	Sn	01 40 20.0	+4.2
	1.4nm,0.3s,baz=195,slow=20,SNR=3.5						
KAPI	Kappang	9.29	283		Pn	01 38 29.2	-3.3
SMPI	Sarmi	11.10	63	P	Pn	01 38 55.9	-1.5
FITZ	Fitzroy Crossi	11.30	196	Pn	Pn	01 38 60.0	0.0
	0.5nm,0.3s,baz=18,slow=10,SNR=14						
FITZ				Sn	Sn	01 40 58.4	-6.6
	0.4nm,0.3s,baz=20,slow=15,SNR=2.7						
FITZ				LR	LR	01 43 51.0	
	comp=Z,93nm,18.9s,baz=16,slow=40						
FITZ	Fitzroy Crossi	11.30	196		Pn	01 38 59.4	-0.6
FITZ					Sn	01 40 59.8	-5.2
WB0	Warramunga Arr	13.63	157		Pn	01 39 33.1	+1.2
WB0				Sn	Sn	01 42 01.5	-0.6
WRAB	Tennant Creek	13.76	158		Pn	01 39 35.3	+1.6
WRAB					Sn	01 42 03.2	-2.3
WRA	Warramunga Arr	13.77	158	Pn	Pn	01 39 35.1	+1.3
	1.6nm,0.3s,baz=346,slow=13,SNR=77						
WRA				Sn	Sn	01 42 02.9	-2.7
	1.8nm,0.3s,baz=345,slow=19,SNR=8.4						
WRA				LR	LR	01 45 16.0	
	comp=Z,128nm,21.8s,baz=320,slow=39						
WRA	Warramunga Arr	13.77	158		Pn	01 39 34.6	+0.8
WB2	Warramunga Arr	13.77	158		Pn	01 39 35.4	+1.5
WB2				Sn	Sn	01 42 04.7	-1.0
WR0	Warramunga Arr	13.86	157		Pn	01 39 36.8	+1.7
DAV	Davao City (W)	14.52	347	LR	LR	01 45 53.2	
	comp=Z,26nm,19.7s,baz=45,slow=40						
COEN	Coen	15.62	117	Pn	Pn	01 40 00.1	+1.5
PSA00	Pilbara Seismi	16.74	210	Pn	Pn	01 40 10.6	-2.4
PSA00				IAmb	IAmb	01 40 16.4	
	comp=Z,14nm,1.1s						
AS31	Alice Springs	17.10	164	P	P	01 40 21.1	+2.2
ASAR	Alice Springs	17.10	164	P	P	01 40 19.3	+0.4
	comp=Z,0.4nm,0.3s,baz=334,slow=8.6,SNR=20						
ASAR				S	Sn	01 43 26.1	-0.7
	comp=Z,0.6nm,0.3s,baz=350,slow=24,SNR=6.4						
ASAR				LR	LR	01 46 52.9	
	comp=Z,70nm,20.4s,baz=332,slow=37						
ASAR	Alice Springs	17.10	164	P	P	01 40 20.0	+1.1
FORT	Forrest	23.49	182	P	P	01 41 30.1	+2.4
FORT				IAmb	IAmb	01 41 49.6	
	comp=Z,17nm,1.1s						
STKA	Stephens Creek	27.31	156	P	P	01 42 05.8	+3.3
	comp=Z,0.7nm,0.4s,baz=317,slow=9.1,SNR=4.5						
STKA				LR	LR	01 52 57.6	
	comp=Z,49nm,21.2s,baz=21,slow=36						
STKA	Stephens Creek	27.31	156	P	P	01 42 05.6	+3.2
CMAR	Chiang Mai Arr	38.97	311	P	P	01 43 42.9	-1.2
	comp=Z,1.0nm,0.3s,baz=141,slow=5.8,SNR=4.0						
CMAR				LR	LR	02 00 21.8	
	comp=Z,18nm,19.1s,baz=115,slow=37						
WHN	Wuhan	39.99	340	P	P	01 43 53.3	+0.9
USRK	Ussuriysk Ar.	51.21	3	P	P	01 45 22.2	+1.3
	comp=Z,1.8nm,0.6s,baz=177,slow=7.9,SNR=7.8						
SONM	Songino Array	58.25	342	P	P	01 46 12.2	+0.1
	comp=Z,0.7nm,0.7s,baz=162,slow=5.4,SNR=5.2						
SONM	Songino Array	58.25	342	IAmb	IAmb	01 46 13.6	
	comp=Z,0.8nm,0.8s						
KSH	Kashi	67.37	318	P	P	01 47 15.1	+2.1
KSH				pP	pP	01 47 23.3	+0.2
KSH				PP	PP	01 49 45.4	+3.5
KSH				S	S	01 56 07.7	+1.2
KSH	Kashi	67.37	318	SS	SS	02 00 28.3	+1.1
KSH				LR	LR		
	comp=N,370nm,6.4s						
KSH				LR	LR		
	comp=E,390nm,5.3s						
MK31	Makanchi Array	67.75	327	P	P	01 47 14.4	-0.6
MK31				IAmb	IAmb	01 47 15.5	
	comp=Z,2.4nm,0.7s						
MKAR	Makanchi Array	67.75	327	P	P	01 47 14.8	-0.2
	comp=Z,3.2nm,0.6s,baz=118,slow=7.7,SNR=26						
MKAR	Makanchi Array	67.75	327	P	P	01 47 14.6	-0.5
AAK	Ala-Archa	69.94	320	P	P	01 47 29.2	+0.3
GAR	Garm	70.98	315	P	P	01 47 33.9	-1.5
ZALV	Zalesovo Beam	71.23	334	P	P	01 47 35.3	-1.1
	comp=Z,1.2nm,0.4s,baz=104,slow=6.3,SNR=5.5						
CHGR	Chuyangaron	71.64	315	P	P	01 47 37.5	-1.9
KURK	Kurchatov	72.07	329	P	P	01 47 40.8	-0.7
KURK				IAmb	IAmb	01 47 42.2	
	comp=Z,8.2nm,1.1s						
KKAR	Karatay Array	72.72	319	P	P	01 47 44.0	-1.6
BRVK	Borovoye	77.67	328	P	P	01 48 12.6	-1.3
BRVK				IAmb	IAmb	01 48 14.3	
	comp=Z,4.6nm,1.0s						
ABKAR	Akbulak array	81.93	322	P	P	01 48 37.0	0.0
QSPA	South Pole Qui	82.80	180	P	P	01 48 43.5	+2.1
	comp=Z,0.4nm,0.3s,baz=359,slow=2.8,SNR=4.3						
QSPA	South Pole Qui	82.80	180	IAmb	IAmb	01 48 53.5	
	comp=Z,4.1nm,1.5s						
ILAR	Eielson Array	94.00	25	P	P	01 49 34.7	-0.4
	comp=Z,0.3nm,0.6s,baz=251,slow=5.5,SNR=3.2						
BRTR	Keskin Array B	98.53	309	P	P	01 49 55.8	-0.6
	comp=Z,0.4nm,0.9s,baz=52,slow=2.4,SNR=2.5						
TORD	Torodi Ar. Bea	127.71	281	PKP	PKPdf	01 55 23.7	-0.1
	comp=Z,0.3nm,0.7s,baz=40,slow=2.5,SNR=2.6						
CPUP	Villa Florida	146.16	170	PKPbc	PKPab	01 55 59.5	+0.6
	comp=Z,2.0nm,0.9s,baz=166,slow=4.2,SNR=3.3						
LPAZ	La Paz	151.27	144	PKPbc	PKPbc	01 56 11.6	-1.0
	comp=Z,0.7nm,0.5s,baz=200,slow=2.3,SNR=2.0						

*ISCJB **02** 01:39:18.0±0.4, 39°.58N±0°.01×25°.95E±0°.03, h6km±3km, Error ellipse: s-maj=4.2km s-min=2.4km az=171.5*
*ATH **02** 01:39:18.0, 39°.56N×25°.90E, h26km±1km, ML2.4/4, Error ellipse: s-maj=2.9km s-min=0.9km az=76.0*
*ISK **02** 01:39:17.6, 39°.57N×25°.95E, h6km, ML2.9/23*
*THE **02** 01:39:18.4, 39°.58N×25°.92E, h5km±1km, ML2.4/5, Error ellipse: s-maj=1.8km s-min=0.5km az=152.0*
*DDA **02** 01:39:18.6, 39°.61N×26°.03E, h18km±1km, ML2.3*
ISC 02 01:39:18.1±0.9, **39°.58N**±0°.02×**25°.95E**±0°.02, **h13**km±7km, **n60**, σ**0s.71**/85, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GPNR	Gulpinar-Canak	0.19	131	PG	Pg	01 39 21.6	-0.8
GPNR				SG	Sb	01 39 24.5	-2.3
BOZC	Bozcaada	0.28	17	i P	Pg	01 39 23.9	0.0
BOZC				IAML		01 39 28.0	
	comp=N,734nm,0.2s						
BOZC				IAML		01 39 28.0	
	comp=E,853nm,0.3s						
BOZC				i S	Sg	01 39 28.2	+0.4
BOZC	Bozcaada	0.28	17	PG	Pg	01 39 23.9	0.0
BOZC				SG	Sg	01 39 28.1	+0.4
SIGR	SIGRI	0.37	191	P	Pg	01 39 25.5	-0.1
SIGR				S	Sg	01 39 31.2	+0.5
	comp=E,552nm,0.4s						
SIGR	SIGRI	0.37	191	P	Pg	01 39 25.7	+0.1
SIGR				S	Sg	01 39 31.3	+0.6
SIGR				AML	AML	01 39 33.6	
	comp=E,1148μm,0.3s						
SIGR				AML	AML	01 39 36.1	
	comp=N,1061μm,0.3s						
SIGR	SIGRI	0.37	191	PG	Pg	01 39 25.3	-0.3
SIGR				SG	Sg	01 39 31.1	+0.4
EZN	Ezine	0.38	49	P	Pg	01 39 25.6	-0.2
EZN				S	Sg	01 39 31.0	+0.1
EZN	Ezine	0.38	49	PG	Pg	01 39 25.5	-0.2
PRK	Paraskevi	0.41	143	P	Pb	01 39 27.5	+0.3
PRK				S	Sg	01 39 32.7	+0.8
	comp=N,2μm,0.3s						
PRK	Paraskevi	0.41	143	P	Pb	01 39 27.5	+0.3
PRK				S	Sb	01 39 33.5	0.0
PRK				AML	AML	01 39 33.8	
	comp=N,2723μm,0.2s						
PRK				AML	AML	01 39 34.0	
	comp=E,3271μm,0.3s						
BAYC	CANAKKALE_Bayr	0.49	70	i P	Pg	01 39 27.5	-0.3
BAYC				i S	Sg	01 39 33.5	-0.8
BAYC				IAML		01 39 34.0	
	comp=N,256nm,0.4s						
BAYC				IAML		01 39 36.0	
	comp=E,146nm,0.4s						
GADA	Gvkgeada	0.61	356	P	Pg	01 39 30.1	0.0
GADA				S	Sb	01 39 38.7	-0.5
GADA	Gvkgeada	0.61	356	PG	Pg	01 39 29.9	-0.2
AYVA	Ayvalik	0.63	115	i P	Pb	01 39 30.3	-0.6
DKL	Dikili	0.90	124	PG	Pg	01 39 36.0	+0.6
GELI	Tayfur-Gelibol	0.91	26	PG	Pb	01 39 35.5	-0.2
SMTH	Samothraki Isl	0.95	340	P	Pg	01 39 36.6	+0.2
SMTH				S	Sg	01 39 49.4	+0.6
	comp=E,160nm,0.3s						
SMTH	Samothraki Isl	0.95	340	P	Pg	01 39 36.6	+0.2
SMTH				S	Sn	01 39 49.6	-0.9
SMTH				AML	AML	01 39 51.1	
	comp=N,396μm,0.3s						
SMTH				AML	AML	01 39 52.6	
	comp=E,242μm,0.2s						
LPK	Lapseki	1.01	38	PG	Pb	01 39 36.9	-0.5
FOCM	Foa	1.06	145	PG	Pn	01 39 38.6	+0.1
ZEDA	zmir-Bergama	1.07	125	i P	Pb	01 39 38.4	0.0
ZEDA				i S	Sg	01 39 53.2	+0.7
ZEDA				IAML		01 39 54.0	
	comp=N,55nm,0.2s						
ZEDA				IAML		01 39 54.0	
	comp=E,52nm,0.2s						
PSRA	Psara	1.08	196	P	Pn	01 39 38.8	-0.1
ERIK	Erikli-Kesan	1.17	21	PN	Pb	01 39 40.2	0.0
CHOS	Chios island	1.19	176	P	Pn	01 39 40.2	-0.3
CHOS				S	Sg	01 39 58.1	+1.5
	comp=E,218nm,0.3s						
CHOS	Chios island	1.19	176	P	Pn	01 39 40.2	-0.3
CHOS	Chios island	1.19	176	PN	Pn	01 39 40.4	-0.1
BALY	Balya	1.30	82	i P	Pb	01 39 42.6	+0.3
BALY				i S	Sn	01 39 58.6	-0.5
BALY				IAML		01 40 00.0	
	comp=N,55nm,0.4s						
BALY				IAML		01 40 00.0	
	comp=E,53nm,0.3s						
URLA	Izmir	1.32	157	i P	Pn	01 39 41.9	-0.3
URLA				i S	Sn	01 39 58.1	-1.4
URLA				IAML		01 40 05.0	
	comp=N,38nm,0.8s						
URLA				IAML		01 40 11.0	
	comp=E,30nm,0.9s						
URLA	Izmir	1.32	157	PN	Pn	01 39 41.7	-0.4
KRBG	Karabiga-Canak	1.32	51	PN	Pb	01 39 42.7	+0.1
ALN	Alexandroupoli	1.32	3	P	Pb	01 39 42.6	-0.1
ALN				S	Sg	01 40 00.5	-0.1
	comp=E,102nm,0.3s						
ALN	Alexandroupoli	1.32	3	P	Pb	01 39 42.9	+0.3
ALN				AML	AML	01 40 01.7	
	comp=E,132μm,0.4s						
ALN				AML	AML	01 40 02.3	
	comp=N,307μm,0.5s						
ALN	Alexandroupoli	1.32	3	PN	Pg	01 39 43.2	-0.3
KESN	Edirne-Kesan	1.37	24	i P	Pb	01 39 44.0	+0.3
KESN				i S	Sb	01 40 00.9	-0.3
KESN				IAML		01 40 04.0	
	comp=N,173nm,0.5s						
KESN				IAML		01 40 05.0	
	comp=E,133nm,0.2s						
STEP	BALIKESIR_Sava	1.38	98	i P	Pg	01 39 45.6	+1.0
STEP				i S	Sg	01 40 02.3	-0.4
STEP				IAML		01 40 10.0	
	comp=N,39nm,0.6s						
STEP				IAML		01 40 13.0	
	comp=E,23nm,0.7s						
THAS	Thassos island	1.40	318	P	Pb	01 39 43.4	-0.5
THAS	Thassos island	1.40	318	P	Pb	01 39 43.4	-0.5
ZEY	zmir	1.41	162	i P	Pb	01 39 44.2	+0.1
ZEY				i S	Sn	01 40 01.5	-0.2
ZEY				IAML		01 40 06.0	
	comp=E,82nm,0.7s						
ZEY				IAML		01 40 06.0	
	comp=N,57nm,0.7s						
GONE	Gonen-Balikesi	1.42	70	PN	Pb	01 39 44.9	+0.6
RKY	Sarkoy-Tekirda	1.45	40	PN	Pb	01 39 44.7	-0.3
SART	Tekirdag	1.46	40	i P	Pb	01 39 45.1	0.0
SART				i S	Sb	01 40 04.0	+0.5
SART				IAML		01 40 11.0	
	comp=N,60nm,0.8s						
SART				IAML		01 40 14.0	
	comp=E,46nm,0.4s						
BALB	Balikesir	1.49	87	PN	Pg	01 39 46.6	-0.2
RDO	Rodhopi	1.60	349	P	Pb	01 39 46.6	-0.8
RDO				S	Sb	01 40 07.7	+0.2
RDO	Rodhopi	1.60	349	P	Pb	01 39 46.8	-0.6
RDO	Rodhopi	1.60	349	PN	Pb	01 39 46.6	-0.8
AKHS	Akhisar	1.61	115	i P	Pg	01 39 48.6	-0.4
MRMT	Marmara Adasi	1.62	50	PN	Pb	01 39 47.9	0.0
UKOP	Uzunkopru-Edir	1.63	18	PN	Pb	01 39 48.7	+0.7
EDC	Edincik	1.66	62	PN	Pb	01 39 47.9	-0.6
DGB	zmir	1.69	154	i P	Pn	01 39 47.6	+0.4
DGB				i S	Sb	01 40 11.5	+1.4
DGB				IAML		01 40 14.0	
	comp=E,12nm,0.2s						
DGB				IAML		01 40 14.0	
	comp=N,24nm,0.5s						
KAVA	Kavala	1.79	323	P	Pn	01 39 49.1	+0.4
DURS	Dursunbey	1.95	89	i P	Pb	01 39 52.2	-1.3
DURS				i S	Sn	01 40 15.3	0.0
DURS				IAML		01 40 26.0	
	comp=E,21nm,0.4s						
KCTX	Karacabey (Bur	1.97	69	PN	Pn	01 39 52.3	+1.1
SMG	Samos	1.99	159	P	Pn	01 39 51.9	+0.5
KDZ	Kurdzhali	2.11	349	PN	Pn	01 39 54.3	+1.3
DEMI	Demirci	2.21	103	i P	Pn	01 39 56.1	+1.6
EDRB	Edirne	2.34	15	PN	Pn	01 39 57.9	+1.6
KIRK	Kırklareli	2.37	21	i P	Pb	01 39 58.8	-1.8
NVR	Nevrokopi	2.38	319	P	Pn	01 39 57.5	+0.7
SLVT	Silivri	2.39	46	PN	Pb	01 39 59.2	-1.7

*DDA **02** 01:41:28.8, 39°.59N×26°.05E, h6km±5km, ML1.8*
ISK 02 01:41:27.9, 39°.58N×25°.98E, h5km, **ML2.2**/14, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GPNR	Gulpinar-Canak	0.17	135	PG	Pg	01 41 31.3	+0.1
BOZC	Bozcaada	0.27	11	i P	Pg	01 41 33.8	+0.6
BOZC				IAML		01 41 38.0	
	comp=N,159nm,0.2s						
BOZC				IAML		01 41 38.0	
	comp=E,163nm,0.3s						
BOZC				i S	Sg	01 41 38.2	+1.3
BOZC	Bozcaada	0.27	11	PG	Pg	01 41 34.0	+0.8
BOZC				SG	Sg	01 41 37.8	+0.9
EZN	Ezine	0.36	46	PG	Pg	01 41 35.5	+0.5
EZN				SG	Sg	01 41 41.1	+1.3
SIGR	SIGRI	0.38	195	PG	Pg	01 41 35.5	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIGR				SG	Sg	01 41 41.5	+1.4
BAYC	CANAKKALE_Bayr	0.47	69	i P	Pg	01 41 33.1	-3.8
BAYC				i S	Sg	01 41 43.8	+0.8
BAYC				IAML		01 41 44.0	
	comp=E,23nm,0.2s						
BAYC				IAML		01 41 44.0	
	comp=N,48nm,0.4s						
AYVA	Ayvalik	0.61	116	i P	Pg	01 41 40.2	+0.6
GADA	Gvkgeada	0.62	354	PG	Pg	01 41 40.2	+0.4
DKL	Dikili	0.88	125	PG	Pn	01 41 46.2	-0.6
GELI	Tayfur-Gelibol	0.91	25	PG	Pg	01 41 45.6	+0.3
ZEDA	zmir-Bergama	1.04	125	i P	Pn	01 41 48.9	-0.3
ZEDA				i S	Sb	01 42 02.4	0.0
ZEDA				IAML		01 42 03.0	
	comp=E,23nm,1.0s						
ZEDA				IAML		01 42 23.0	
	comp=N,4.7nm,0.6s						
ERIK	Erikli-Kesan	1.17	20	PN	Pn	01 41 51.3	+0.5
CHOS	Chios island	1.19	177	PN	Pn	01 41 51.1	-0.1
URLA	Izmir	1.30	158	PN	Pg	01 41 53.2	+0.3
ALN	Alexandroupoli	1.32	2	PN	Pn	01 41 52.9	-0.1
KESN	Edirne-Kesan	1.36	23	i P	Pb	01 41 56.5	+2.5
KESN				i S	Sg	01 42 11.0	-0.7
KESN				IAML		01 42 15.0	
	comp=E,30nm,0.3s						
RKY	Sarkoy-Tekirda	1.44	39	PN	Pn	01 41 54.3	-0.4
RDO	Rodhopi	1.61	348	PN	Pb	01 41 57.7	-0.3
MRMT	Marmara Adasi	1.61	50	PN	Pn	01 41 57.5	+0.5
EDC	Edincik	1.64	61	PN	Pn	01 41 57.9	+0.6

*ISK **02** 01:48:06.9, 39°.58N×25°.95E, h6km, ML2.8/19*
*ISCJB **02** 01:48:07.2±0.5, 39°.58N±0°.02×25°.94E±0°.03, h6km±3km, Error ellipse: s-maj=4.5km s-min=2.8km az=174.4*
*THE **02** 01:48:07.6, 39°.58N×25°.88E, h2km±2km, ML2.3/3, Error ellipse: s-maj=2.7km s-min=0.5km az=101.0*
*ATH **02** 01:48:07.4, 39°.60N×25°.87E, h11km±3km, ML2.3/4, Error ellipse: s-maj=4.3km s-min=1.2km az=82.0*
*DDA **02** 01:48:07.3, 39°.59N×26°.00E, h18km±1km, ML2.3*
ISC 02 01:48:07.3±0.9, **39°.58N**±0°.02×**25°.95E**±0°.02, **h13**km±7km, **n54**, σ**0s.50**/73, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GPNR	Gulpinar-Canak	0.19	131	PG	Pg	01 48 10.8	-0.7
BOZC	Bozcaada	0.28	16	i P	Pg	01 48 13.2	+0.1
BOZC				IAML		01 48 17.0	
	comp=N,328nm,0.2s						
BOZC				IAML		01 48 17.0	
	comp=E,282nm,0.3s						
BOZC				i S	Sg	01 48 17.3	+0.4
BOZC	Bozcaada	0.28	16	PG	Pg	01 48 12.9	-0.1
BOZC				SG	Sg	01 48 17.2	+0.3
SIGR	SIGRI	0.37	192	P	Pg	01 48 14.9	+0.1
SIGR				S	Sg	01 48 19.9	+0.1
	comp=E,570nm,0.3s						
SIGR	SIGRI	0.37	192	P	Pg	01 48 14.8	+0.1
SIGR				S	Sg	01 48 20.5	+0.7
SIGR				AML	AML	01 48 23.7	
	comp=E,1083μm,0.3s						
SIGR				AML	AML	01 48 27.1	
	comp=N,1187μm,0.4s						
SIGR	SIGRI	0.37	192	PG	Pg	01 48 14.9	+0.1
SIGR				SG	Sg	01 48 20.5	+0.7
EZN	Ezine	0.38	49	P	Pg	01 48 14.8	-0.1
EZN	Ezine	0.38	49	PG	Pg	01 48 14.8	-0.1
EZN				SG	Sg	01 48 20.5	+0.5
PRK	Paraskevi	0.41	143	P	Pb	01 48 16.6	+0.1
PRK				S	Sb	01 48 22.7	0.0
	comp=N,1μm,0.2s						
PRK	Paraskevi	0.41	143	P	Pb	01 48 16.7	+0.2
PRK				S	Sb	01 48 22.8	+0.1
PRK				AML	AML	01 48 29.2	
	comp=E,2686μm,0.3s						
PRK				AML	AML	01 48 30.4	
	comp=N,2528μm,0.5s						
BAYC	CANAKKALE_Bayr	0.49	70	i P	Pg	01 48 16.7	-0.2
BAYC				IAML		01 48 23.0	
	comp=E,121nm,0.1s						
BAYC				IAML		01 48 23.0	
	comp=N,239nm,0.3s						
BAYC				i S	Sg	01 48 23.0	-0.4
GADA	Gvkgeada	0.61	356	P	Pg	01 48 19.3	0.0
GADA				S	Sb	01 48 28.0	-0.5
GADA	Gvkgeada	0.61	356	PG	Pg	01 48 19.3	0.0
GADA				SG	Sb	01 48 27.8	-0.7
AYVA	Ayvalik	0.63	115	i P	Pg	01 48 19.0	-0.6
DKL	Dikili	0.90	124	PG	Pg	01 48 24.7	+0.1
GELI	Tayfur-Gelibol	0.91	26	PG	Pg	01 48 24.6	-0.3
SMTH	Samothraki Isl	0.95	340	P	Pg	01 48 25.5	-0.1
SMTH				S	Sb	01 48 38.9	+0.7
	comp=N,160nm,0.2s						
SMTH	Samothraki Isl	0.95	340	P	Pg	01 48 25.0	-0.6
SMTH				S	Sg	01 48 37.9	-0.1
SMTH				AML	AML	01 48 46.4	
	comp=E,321μm,0.2s						
SMTH				AML	AML	01 48 46.5	
	comp=N,346μm,0.3s						
LPK	Lapseki	1.01	38	PG	Pb	01 48 26.8	+0.1
ZEDA	zmir-Bergama	1.07	125	i P	Pb	01 48 27.9	+0.2
ZEDA				i S	Sg	01 48 41.8	0.0
PSRA	Psara	1.08	196	P	Pg	01 48 28.2	+0.2
ERIK	Erikli-Kesan	1.17	21	PN	Pb	01 48 29.4	-0.1
CHOS	Chios island	1.19	176	P	Pb	01 48 29.3	-0.5
CHOS	Chios island	1.19	176	P	Pb	01 48 29.7	-0.1
CHOS	Chios island	1.19	176	PN	Pn	01 48 30.3	+0.5
BALY	Balya	1.30	82	i P	Pg	01 48 32.8	+0.6
BALY				i S	Sn	01 48 48.8	+0.3
BALY				IAML		01 48 56.0	
	comp=N,40nm,0.7s						
BALY				IAML		01 48 57.0	
	comp=E,43nm,0.5s						
URLA	Izmir	1.31	157	i P	Pn	01 48 30.1	-1.3
URLA				i S	Sg	01 48 49.9	+0.2
URLA				IAML		01 48 52.0	
	comp=N,31nm,0.5s						
URLA				IAML		01 48 54.0	
	comp=E,33nm,0.9s						
URLA	Izmir	1.31	157	PN	Pn	01 48 31.3	-0.2
KRBG	Karabiga-Canak	1.32	51	PN	Pn	01 48 31.5	+0.1
ALN	Alexandroupoli	1.32	3	P	Pn	01 48 31.7	+0.2
ALN	Alexandroupoli	1.32	3	P	Pb	01 48 32.0	0.0
ALN				AML	AML	01 48 56.8	
	comp=E,119μm,0.2s						
ALN				AML	AML	01 48 57.7	
	comp=N,224μm,0.4s						
ALN	Alexandroupoli	1.32	3	PN	Pb	01 48 32.1	+0.1
KESN	Edirne-Kesan	1.37	24	i P	Pn	01 48 32.6	+0.2
KESN				i S	Sn	01 48 50.8	+0.2
KESN				IAML		01 48 53.0	
	comp=N,114nm,0.5s						
KESN				IAML		01 48 54.0	
	comp=E,90nm,0.3s						
STEP	BALIKESIR_Sava	1.38	98	i P	Pb	01 48 33.3	+0.2
THAS	Thassos island	1.40	318	P	Pn	01 48 32.5	-0.1
THAS	Thassos island	1.40	318	P	Pn	01 48 32.4	-0.1
ZEY	zmir	1.41	162	i P	Pn	01 48 30.3	-2.4
ZEY				i S	Sb	01 48 51.9	+0.7
ZEY				IAML		01 48 53.0	
	comp=E,71nm,0.5s						
ZEY				IAML		01 48 55.0	
	comp=N,81nm,0.4s						
GONE	Gonen-Balikesi	1.42	70	PN	Pb	01 48 33.7	+0.1
RKY	Sarkoy-Tekirda	1.45	40	PN	Pb	01 48 34.1	-0.2
SART	Tekirdag	1.46	40	i P	Pn	01 48 33.0	-0.4
SART				IAML		01 48 54.0	
	comp=N,35nm,0.5s						
SART				IAML		01 48 54.0	
	comp=E,58nm,0.5s						
SART				i S	Sg	01 48 54.1	-0.1
BALB	Balikesir	1.49	87	PN	Pb	01 48 35.1	+0.2
RDO	Rodhopi	1.60	349	P	Pb	01 48 36.2	-0.5
RDO	Rodhopi	1.60	349	P	Pb	01 48 36.2	-0.5
RDO	Rodhopi	1.60	349	PN	Pb	01 48 36.4	-0.3
AKHS	Akhisar	1.61	115	i P	Pn	01 48 35.1	-0.3
MRMT	Marmara Adasi	1.62	50	PN	Pb	01 48 36.7	-0.5
UKOP	Uzunkopru-Edir	1.63	18	PN	Pb	01 48 36.9	-0.4
EDC	Edincik	1.66	62	PN	Pb	01 48 37.4	-0.3
KAVA	Kavala	1.79	323	P	Pn	01 48 38.4	+0.4
KAVA	Kavala	1.79	323	P	Pn	01 48 38.5	+0.5
DURS	Dursunbey	1.95	89	i P	Pn	01 48 41.0	+0.8
SMG	Samos	1.99	159	P	Pg	01 48 45.0	-0.5
PLG	Polygyros	2.08	293	P	Pb	01 48 44.5	-0.6
NVR	Nevrokopi	2.38	319	P	Pn	01 48 46.9	+0.7

*ISCJB **02** 02:05:15.3±0.9, 23°.88S±0°.05×66°.92W±0°.05, h216km±10km, Error ellipse: s-maj=9.4km s-min=5.7km az=36.7*
*SJA **02** 02:05:15.0±0.5, 23°.88S×66°.86W, h219km±4km, ML2.8, MW3.2*
*GUC **02** 02:05:17.0±0.6, 23°.82S×67°.18W, h244km±10km, ML4.1*
ISC 02 02:05:15.0±1.9, **23°.85S**±0°.07×**66°.88W**±0°.05, **h221**km±18km, **n23**, σ**0s.95**/35, **6C-2D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.52	125	i P	Pn	02 05 51.0	+0.1
SLA				IAML		02 05 51.8	
	comp=Z,48nm,0.6s						
SLA				eS	S	02 06 17.8	-1.1
AZAP	Zapla	1.70	103	IAML		02 05 52.3	
	comp=Z,124nm,0.2s						
YJA	Yavi	2.09	37	i P	Pn	02 05 57.3	+0.8
YJA				IAML		02 05 57.7	
	comp=Z,4.8nm,0.2s						
YJA				eS	S	02 06 29.0	+0.4
LVC	Limon Verde	2.24	303	⇓ iP	Pn	02 05 59.0	+1.1
LVC				i S	S	02 06 30.9	-0.3
LVC	Limon Verde	2.24	303	i P	Pn	02 05 58.7	+0.7
LVC				IAML		02 05 60.0	
	comp=Z,26nm,0.3s						
LVC				eS	S	02 06 30.7	-0.5
PB15	IPOC Station P	2.46	284	⇑ iP	Pn	02 06 01.3	+1.2
PB15				i S	S	02 06 34.7	-0.3
PB15				IAML		02 06 38.4	
	comp=E,1μm,0.3s						
PB15	IPOC Station P	2.46	284	i P	Pn	02 06 01.1	+1.0
PB15				eS	S	02 06 34.2	-0.9
PB06	IPOC Station P	2.73	294	⇑ iP	Pn	02 06 04.0	+1.1
PB06				i S	S	02 06 39.2	-0.9
PB06				IAML		02 06 41.0	
	comp=N,194nm,0.2s						
PB06	IPOC Station P	2.73	294	i P	Pn	02 06 03.5	+0.6
PB06				eS	S	02 06 39.5	-0.6
PB06				IAML		02 06 40.7	
	comp=Z,106nm,0.3s						
GO02	Mina Guanaco	2.79	242	⇑ iP	Pn	02 06 04.9	+1.1
GO02				i S	S	02 06 42.0	+0.2
GO02				IAML		02 06 42.7	
	comp=N,292nm,0.2s						
PB09	IPOC Station P	2.99	313	⇑ iP	Pn	02 06 07.4	+1.5
PB09				i S	S	02 06 45.6	+0.1
PB09	IPOC Station P	2.99	313	i P	Pn	02 06 06.7	+0.8
PB03	IPOC Station P	3.20	304	⇑ iP	Pn	02 06 09.0	+0.7
PB03				eS	S	02 06 48.4	-1.4
PB03				IAML		02 06 49.1	
	comp=E,192nm,0.3s						
PB05	IPOC Station P	3.21	287	eP	Pn	02 06 09.1	+0.7
PB05				eS	S	02 06 48.2	-1.8
PB05	IPOC Station P	3.21	287	i P	Pn	02 06 08.8	+0.5
AHML	Horco Molle	3.24	155	i P	Pn	02 06 08.8	+0.2
AHML				IAML		02 06 08.9	
	comp=Z,4.4nm,0.5s						
PB04	IPOC Station P	3.37	296	i P	Pn	02 06 10.7	+0.5
PB07	IPOC Station P	3.49	307	⇑ iP	Pn	02 06 12.3	+0.6
PB07				i S	S	02 06 54.0	-2.0
PB01	IPOC Station P	3.69	319	⇓ iP	Pn	02 06 14.7	+0.7
PB01				i S	S	02 06 58.7	-1.5
APLL	PUNTA DE LOS L	6.53	177	i P	Pn	02 06 49.4	0.0
GO04	Tololo Observa	7.20	208	i P	Pn	02 06 55.2	-3.1
TCA	Tanti	7.73	165	i P	Pn	02 07 04.9	+0.1
TCA				IAML		02 07 05.6	
	comp=Z,1.2nm,0.2s						
ACAN	Cantantal	8.40	182	i P	Pn	02 07 13.4	0.0

*GCG **02** 02:08:07.8±0.8, 13°.41N×90°.56W, h64km±44km, MD3.5*
*ISCJB **02** 02:08:08.7±1.6, 13°.4N±0°.1×90°.77W±0°.06, h38km, Error ellipse: s-maj=16.1km s-min=5.5km az=28.0*
*SNET **02** 02:08:09.8±1.1, 13°.78N×90°.66W, h75km±14km, ML3.1*
*UCR **02** 02:08:09.4±1.9, 13°.48N×90°.74W, h32km±11km, MD3.1, ML3.1*
ISC 02 02:08:11.7±2.0, **13°.53N**±0°.10×**90°.65W**±0°.07, **h38**km, **n27**, σ**1s.75**/34, **2C, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.67	18	eP	Pn	02 08 24.2	-0.7
IXG	Ixpaco	0.67	18	eP	Pn	02 08 24.2	-0.7
IXG	Ixpaco	0.67	18	eP	Pn	02 08 23.6	-1.3
PCG	Pacaya	0.85	3	eP	Pn	02 08 26.4	-1.1
PCG	Pacaya	0.85	3	eP	Pn	02 08 26.4	-1.1
FUG	Fuego 3	0.93	349	eP	Pn	02 08 27.2	-1.2
FUG				eS	Sn	02 08 44.4	+3.8
FUG	Fuego 3	0.93	349	eP	Pn	02 08 27.2	-1.2
FUG				eS	Sn	02 08 44.4	+3.8
CEVE	Cerro Verde	1.04	74	eP	Pn	02 08 29.3	-0.7
CEVE				eS	Sn	02 08 44.5	+1.0
CEVE				IAML		02 08 46.5	
	comp=Z,1μm,0.2s						
CEVE	Cerro Verde	1.04	74	eP	Pn	02 08 29.3	-0.7
CEVE				eS	Sn	02 08 44.5	+1.0
CEVE				IAML		02 08 46.5	
	comp=Z,1μm,0.2s						
RTR	El Retiro	1.04	70	eP	Pn	02 08 29.5	-0.5
RTR	El Retiro	1.04	70	eP	Pn	02 08 29.5	-0.5
SBLS	San Blas	1.04	73	eP	Pn	02 08 29.3	-0.8
SBLS	San Blas	1.04	73	eP	Pn	02 08 29.3	-0.8
NBG	Las Nubes	1.09	16	eP	Pn	02 08 29.3	-1.3
NBG				eS	Sn	02 08 46.4	+1.8
NBG	Las Nubes	1.09	16	eP	Pn	02 08 29.3	-1.3
NBG				eS	Sn	02 08 46.4	+1.8
BOQS	Boqueron	1.35	81	eP	Pn	02 08 33.7	-0.5
SNET	Serv Nac Est T	1.39	84	eS	Sn	02 08 53.2	+1.4
SNET				IAML		02 08 55.7	
	comp=Z,260nm,0.2s						
SNET	Serv Nac Est T	1.39	84	eS	Sn	02 08 53.2	+1.4
SNET				IAML		02 08 55.7	
	comp=Z,260nm,0.2s						
STG3	Santiaguito 3,	1.47	323	eP	Pn	02 08 35.2	-0.6
STG3				eS	Sn	02 08 52.4	-1.6
MTO3	Montecristo	1.52	55	eP	Pn	02 08 33.9	-2.7
MTO3	Montecristo	1.52	55	eP	Pn	02 08 33.9	-2.7
LFRS	El Faro	1.55	87	eS	Sn	02 08 57.0	+1.3
PAVA	Las Pavas	1.68	84	eP	Pn	02 08 37.8	-0.8
PAVA				IAML		02 09 08.3	
	comp=Z,70nm,0.3s						
PAVA	Las Pavas	1.68	84	eP	Pn	02 08 37.8	-0.8
PAVA				IAML		02 09 08.3	
	comp=Z,70nm,0.3s						
MRL	Marmol	1.80	31	⇑ iP	Pn	02 08 37.5	-3.0
MRL	Marmol	1.80	31	⇑ iP	Pn	02 08 37.5	-3.0
ALJI	Alcalda de J	2.04	96	eS	Sn	02 09 08.9	+1.3

*MOS **02** 02:14:56.0±1.0, 21°.26S×170°.29E, h109km, mb5.5/24, Error ellipse: s-maj=8.9km s-min=6.8km az=128.7*
*NEIC **02** 02:14:56.9±2.6, 21°.29S±0°.07×170°.32E±0°.06, h110km±1km, mb5.6/263, Mwb5.7, Mww5.6, Mwc5.7(GCMT), Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-3.74; Mθθ3.09; Mφφ0.65; Mrθ1.91; Mθφ1.94; Mφr2.14; Fault plane solution: M0 4.90000×10¹⁷ NP1:φs73.85000°, δ28.98000°, λ-68.24000°. NP2:φs229.32000°, δ63.26000°, λ-101.61000°. Principal axes: T 5.0151, Plg17.0000°, Azm328.0000°; N -0.2444, Plg10.0000°, Azm235.0000°; P -4.7706, Plg70.0000°, Azm115.0000°;*
*ISCJB **02** 02:14:58.9±0.6, 21°.22S±0°.02×170°.20E±0°.02, h131km±6km, mb5.4/87 Error ellipse: s-maj=4.1km s-min=3.4km az=13.2*
*IDC **02** 02:14:58.2±0.4, 21°.27S×170°.27E, h118km±2km, mb5.1/27, mb1 5.2/30, mb1mx5.2/31, mbtmp5.5/30, MS4.3/22, Ms1 4.3/22, ms1mx4.2/32, Error ellipse: s-maj=8.6km s-min=7.3km az=168.0*
*BJI **02** 02:14:58.6±0.0, 20°.75S×170°.30E, h118km, mb5.2/64, mB5.2/44*
*GCMT **02** 02:14:59.9±0.1, 21°.34S±0°.01×170°.18E±0°.01, h128km, MW5.7/159, Moment Tensor Solution. s151,c278; s159,c324; Duration: 1s.6 Moment tensor: Scale 10¹⁷ Nm; Mrr-2.33±.03; Mθθ2.67±.04; Mφφ-0.33±.04; Mrθ1.98±.03; Mθφ1.00±.04; Mφr1.78±.03; Best double couple: M0 3.78900×10¹⁷ NP1:φs234.00000°, δ69.00000°, λ-107.00000°. NP2:φs95.00000°, δ27.00000°, λ-52.00000°. Principal axes: T 3.9410, Plg22.0000°, Azm338.0000°; N -0.3010, Plg16.0000°, Azm241.0000°; P -3.6360, Plg62.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **02** 02:15:01, 21°.33S×170°.16E, h130km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-2.40; Mθθ2.71; Mφφ-0.30; Mrθ2.02; Mθφ0.87; Mφr1.83; Fault plane solution: M0 3.85000×10¹⁷ NP1:φs96.00000°, δ27.00000°, λ-52.00000°. NP2:φs235.00000°, δ69.00000°, λ-108.00000°. Principal axes: T 3.9264, Plg22.0000°, Azm339.0000°; N -0.1667, Plg16.0000°, Azm242.0000°; P -3.7597, Plg62.0000°, Azm118.0000°;*
*NEIC **02** 02:15:02, 21°.26S×170°.05E, h130km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-2.15; Mθθ2.53; Mφφ-0.38; Mrθ1.79; Mθφ0.94; Mφr1.92; Fault plane solution: M0 3.65000×10¹⁷ NP1:φs98.00000°, δ28.00000°, λ-46.00000°. NP2:φs231.00000°, δ70.00000°, λ-110.00000°. Principal axes: T 3.7352, Plg22.0000°, Azm336.0000°; N -0.1748, Plg19.0000°, Azm238.0000°; P -3.5605, Plg60.0000°, Azm111.0000°;*
ISC 02 02:14:58.6±0.2, **21°.25S**±0°.03×**170°.26E**±0°.03, **h125**km±1km, **h126**km**:pP-P**, **n1585**, σ**1s.49**/1628, **mb5.6**/190, **76C-84D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.64	256	ePn	Pn	02 15 53.6	0.0
	1μm,0.2s						
DZM				eSn	Sn	02 16 35.6	-0.5
	4μm,0.3s						
DZM				eLR	LR	02 16 40.8	
	comp=Z,12μm,27.9s						
DZM	Mont Dzumac	3.64	256	P	Pn	02 15 53.5	0.0
	522nm,0.3s,baz=93,slow=17,SNR=1269						
DZM				S	Sn	02 16 35.2	-0.9
	973nm,0.3s,baz=264,slow=12,SNR=9.2						
DZM	Mont Dzumac	3.64	256		Pn	02 15 53.6	0.0
DZM				Sn	Sn	02 16 30.9	-5.1
NFK	Norfolk Island	8.04	195	P	Pn	02 16 53.3	+0.7
	baz=8.1,SNR=104						
MSVF	Nonsavu	8.14	66	d iP	Pn	02 16 58.4	+4.3
MSVF	Nonsavu	8.14	66		Pn	02 16 58.1	+4.0
RAO	Raoul Island	13.34	129	P	Pn	02 18 01.3	-1.7
RAO						02 20 19.6	
RAO	Raoul Island	13.34	129	P	P	02 18 06.4	-1.6
	8.2nm,0.3s,baz=108,slow=12,SNR=5.1						
RAO				LR	LR	02 20 58.6	
	comp=Z,1μm,21.4s,baz=297,slow=27						
RAO	Raoul Island	13.34	129		Pn	02 18 01.3	-1.7
RAO				Sn	Sn	02 20 19.6	-10
GLKZ	Green Lake	13.34	129	P	P	02 18 11.7	+3.6
OUZ	Omahuta	14.23	169	P	P	02 18 20.3	+2.4
OUZ	Omahuta	14.23	169	P	Pn	02 18 15.8	+1.4
LHI	Lord Howe Isla	14.32	222		Pn	02 18 13.2	-2.3
WCZ	Waipu Caves	15.07	167	P	P	02 18 30.0	+2.8
FUNA	Funafuti	15.31	36	Pn	Pn	02 18 27.8	-0.3
HNR	Honiara	15.38	318	P	Pn	02 18 29.5	+0.6
HNR				pmax	pmax		
	comp=Z,12μm,1.9s						
HNR	Honiara	15.38	318	P	Pn	02 18 29.6	+0.6
	comp=Z,26nm,0.3s,baz=192,slow=4.5,SNR=40						
HNR				LR	LR	02 24 14.2	
	comp=Z,398nm,19.3s,baz=161,slow=36						
HNR	Honiara	15.38	318	i P	Pn	02 18 29.0	0.0
HNR	Honiara	15.38	318	P	Pn	02 18 29.5	+0.6
GRZ	Great Barrier	15.63	164	P	P	02 18 36.0	+2.6
ABAZ	Army Bay	15.81	166	P	P	02 18 38.5	+3.0
MBAZ	Motutapu North	15.99	166	P	P	02 18 41.1	+3.7
WIAZ	Waiheke Island	16.07	166	P	P	02 18 41.6	+3.3
KUZ	Kuaotunu	16.16	164	P	P	02 18 41.9	+2.6
TOZ	Tahuroa Road	17.05	166	P	Pn	02 18 51.1	+1.9
OMRZ	Omania	17.61	164	P	Pn	02 19 00.4	+4.2
HIZ	Hauiti	17.66	168	P	Pn	02 18 58.9	+2.1
HIZ	Hauiti	17.66	168	P	Pn	02 18 57.9	+1.1
HIZ				IAmb	IAmb	02 19 10.6	
	comp=Z,583nm,1.2s						
MXZ	Matakaoa Point	17.70	159	P	Pn	02 18 59.5	+2.4
MXZ				S	Sn	02 22 26.6	+12
MXZ	Matakaoa Point	17.70	159	P	P	02 18 55.6	-0.6
HAZ	Te Kaha	17.70	160	P	Pn	02 18 59.6	+2.5
TARZ	Mount Tarawera	17.77	164	P	Pn	02 19 02.6	+4.4
RUGZ	Raukumara Rang	17.86	161	P	Pn	02 19 00.5	+1.3
RUGZ				S	Sn	02 22 33.4	+14
PKGZ	Pakihiroa	17.91	160	P	Pn	02 19 02.0	+2.2
URZ	Urewera	17.96	162	P	Pn	02 19 01.3	+1.0
	comp=Z,17nm,0.3s,baz=346,slow=5.5,SNR=104						
URZ				S	Sn	02 22 33.3	+12
	comp=Z,0.6nm,0.3s,baz=52,slow=20,SNR=3.7						
URZ	Urewera	17.96	162	P	Pn	02 19 01.6	+1.3
URZ				S	Sn	02 22 35.5	+14
URZ	Urewera	17.96	162	P	Pn	02 19 00.1	-0.2
URZ				IAmb	IAmb	02 19 15.8	
	comp=Z,795nm,1.5s						
PRRZ	Plateau Road	17.99	164	P	Pn	02 19 03.6	+3.0
MUGZ	Murupara	18.07	163	P	Pn	02 19 03.5	+1.9
EIDS	Eidsvold	18.08	253	P	Pn	02 19 03.3	+1.5
	baz=18,SNR=17						
EIDS	Eidsvold	18.08	253	P	Pn	02 19 02.6	+0.7
EIDS				IAmb	IAmb	02 19 24.0	
	comp=Z,402nm,1.6s						
PUZ	Puketiti	18.14	159	P	Pn	02 19 03.2	+0.8
MWZ	Matawai	18.15	161	P	Pn	02 19 04.0	+1.4
MWZ				P	Sn	02 22 33.3	+7.4
RATZ	Rangitukua	18.19	166	P	Pn	02 19 06.6	+3.5
VRZ	Vera Road	18.23	169	P	Pn	02 19 05.2	+1.6
RAGZ	Rawiri	18.27	162	P	Pn	02 19 05.5	+1.5
KATZ	Kakaramea	18.28	166	P	Pn	02 19 08.1	+3.9
TWVZ	Taurewa	18.32	167	P	Pn	02 19 05.5	+0.8
RITZ	Rihia Road	18.32	166	P	Pn	02 19 07.9	+3.3
KRVZ	Karewarewa	18.38	167	P	Pn	02 19 07.0	+1.5
WTVZ	West Tongariro	18.39	167	P	Pn	02 19 07.8	+2.3
MTHZ	Maungataniwha	18.44	164	P	Pn	02 19 06.8	+0.8
MTHZ				S	Sn	02 22 41.1	+8.3
NGZ	Ngauruhoe	18.45	167	P	Pn	02 19 08.5	+2.2
CNGZ	Carnagh Statio	18.50	160	P	Pn	02 19 07.2	+0.5
SNGZ	Shannon Statio	18.51	162	P	Pn	02 19 07.7	+0.8
FWVZ	Far West T-bar	18.52	167	P	Pn	02 19 08.8	+1.7
DRZ	Dome Shelter	18.54	167	P	Pn	02 19 09.7	+2.2
TUVZ	Tukino	18.55	167	P	Pn	02 19 09.9	+2.5
RIGZ	Rimuhau	18.56	161	P	Pn	02 19 07.9	+0.5
RAHZ	Arahi	18.57	163	P	Pn	02 19 08.6	+1.1
RAHZ				S	Sn	02 22 42.8	+7.0
AFI	Afiamalu	18.61	70	P	P	02 19 06.5	0.0
	comp=Z,19nm,0.3s,baz=228,slow=7.6,SNR=27						
AFI	Afiamalu	18.61	70		P	02 19 06.9	+0.5
BKZ	Black Stump Fm	18.65	165	P	Pn	02 19 08.9	+0.4
BKZ	Black Stump Fm	18.65	165	P	Pn	02 19 07.7	-0.8
BKZ				IAmb	IAmb	02 19 10.0	
	comp=Z,418nm,1.0s						
NMHZ	Naumai	18.66	164	P	Pn	02 19 10.2	+1.6
MOVZ	Moawhango	18.71	167	P	Pn	02 19 10.1	+0.9
NIUE	Niue	18.73	87	P	P	02 19 08.6	+0.9
	baz=19,SNR=37						
NIUE	Niue	18.73	87	P	P	02 19 08.1	+0.3
NIUE				S	S	02 22 35.4	+0.9
WHHZ	Waihua	18.76	163	P	Pn	02 19 10.3	+0.6
WHHZ				S	Sn	02 22 45.8	+5.5
PRGZ	Paritu Road	18.80	161	P	Pn	02 19 10.5	+0.3
KNZ	Kokohu	18.83	162	P	Pn	02 19 10.3	-0.2
BHHZ	Black Hill Sta	18.85	166	P	Pn	02 19 11.9	+1.0
ARHZ	Aropaoanui	18.87	164	P	Pn	02 19 11.7	+0.7
KWHZ	Kaweka Forest	18.88	165	P	Pn	02 19 12.0	+0.8
KWHZ				S	Sn	02 22 47.8	+4.6
MCHZ	McNeill Hill	18.96	164	P	Pn	02 19 12.8	+0.7
MHGZ	Mahia Peninsul	19.02	161	P	Pn	02 19 12.8	0.0
KRHZ	Kereru	19.07	165	P	Pn	02 19 13.3	-0.1
KRHZ				S	Sn	02 22 50.9	+3.0
ARMA	Armidale	19.07	238	P	Pn	02 19 14.4	+0.8
	baz=19,SNR=86						
ARMA	Armidale	19.07	238	IAmb	IAmb	02 19 18.7	
	comp=Z,174nm,0.8s						
CKHZ	Cape Kidnapper	19.26	164	P	Pn	02 19 14.9	-0.7
PNHZ	Pukenui	19.29	166	P	Pn	02 19 15.3	-0.7
KAHZ	Kahuranaki	19.34	164	P	Pn	02 19 15.9	-0.7
QRZ	Quartz Range	19.61	175	P	P	02 19 17.5	+0.4
QRZ				IAmb	IAmb	02 19 36.1	

comp=Z,221nm,1.1s
BFZ Birch Farm 20.04 167 P **P** 02 19 20.9 -0.8
NNZ Nelson 20.09 173 P **P** 02 19 23.3 +1.1
NNZ IAmb IAmb 02 19 43.3
comp=Z,177nm,0.7s
RMQ Roma 20.33 251 P Pn 02 19 27.7 -0.6
baz=20,SNR=62
SNZO South Karori 20.36 170 P **P** 02 19 25.6 +0.5
SNZO IAmb IAmb 02 19 50.1
comp=Z,237nm,0.8s
SNZO **S** 02 23 06.7 +0.5
CMWZ Cape Campbell 20.71 172 P **P** 02 19 29.4 +0.5
CMWZ S **S** 02 23 07.7 -5.7
MGCD Mangrove Creek 20.74 231 P Pn 02 19 31.9 -1.1
baz=21,SNR=23
RIV Riverview 21.02 229 P **P** 02 19 34.8 +2.4
baz=21,SNR=16
KHZ Kahutara 21.29 173 IAmb IAmb 02 20 01.9
comp=Z,479nm,1.3s
LTZ Lake Taylor 21.54 176 IAmb IAmb 02 19 41.6
comp=Z,278nm,1.0s
OXZ Oxford 22.07 177 IAmb IAmb 02 19 46.5
comp=Z,518nm,1.5s
CRLZ Canterbury Las 22.36 175 IAmb IAmb 02 20 28.9
comp=Z,272nm,1.3s
RPZ Rata Peaks 22.42 178 P **P** 02 19 47.6 +0.7
comp=Z,78nm,0.8s,baz=345,slow=4.3,SNR=21
RPZ pP **pP** 02 20 10.3 +1.6
comp=Z,83nm,0.5s,baz=327,slow=6.7,SNR=5.5
CTA Charters Tower 22.48 269 P **P** 02 19 48.5 +0.7
comp=Z,30nm,0.7s,baz=92,slow=12,SNR=29
CTA pP **pP** 02 20 12.2 +2.4
comp=Z,70nm,0.9s,baz=103,slow=9.8,SNR=5.5
CTA S **S** 02 23 46.5 +0.9
comp=Z,4.9nm,0.7s,baz=235,slow=19,SNR=6.5
CTA LR LR 02 28 02.4
comp=Z,651nm,21.5s,baz=96,slow=35
MQZ McQueen's Vall 22.49 175 IAmb IAmb 02 19 49.5
comp=Z,756nm,2.0s
TARA Tarawa 22.61 7 P **P** 02 19 49.3 +0.3
CNB Canberra Magne 23.07 228 P **P** 02 19 54.7 +1.5
baz=23,SNR=158
LBZ Lake Benmore 23.08 180 P **P** 02 19 53.3 +0.1
YNG Young 23.24 231 P **P** 02 19 56.6 +1.7
baz=23,SNR=15
CAN Canberra 23.32 228 IAmb IAmb 02 19 58.9
comp=Z,369nm,0.9s
WKZ Wanaka 23.54 182 IAmb IAmb 02 20 38.2
comp=Z,232nm,1.0s
ODZ Otahua Downs 23.74 179 IAmb IAmb 02 20 04.9
comp=Z,218nm,1.4s
MLZ Mavora Lakes 24.12 184 IAmb IAmb 02 20 05.0
comp=Z,195nm,0.9s
MILA Mila 24.16 225 P **P** 02 20 04.5 +1.3
baz=24,SNR=23
CMSA Cobar Meteorol 24.22 240 P **P** 02 20 04.8 +1.1
baz=24,SNR=303
QLP Quilpie 24.35 252 P **P** 02 20 05.8 +0.8
baz=24,SNR=89
KRVT Keravat (AS076 24.43 311 P **P** 02 20 06.0 +0.2
comp=Z,617nm,0.6s,baz=130,slow=0.2,SNR=32
MTSU Mount Surprise 24.61 273 P **P** 02 20 09.0 +1.6
baz=25,SNR=66
WHZ Wether Hill Ro 24.66 184 IAmb IAmb 02 20 08.9
comp=Z,184nm,0.8s
PMG Port Moresby 25.15 294*c iP* **P** 02 20 13.0 +0.7
PMG pmax pmax
comp=Z,1µm,1.3s
PMG Port Moresby 25.15 294 P **P** 02 20 13.2 +0.9
comp=Z,199nm,0.9s,baz=98,slow=4.9,SNR=38
PMG pP **pP** 02 20 37.7 -0.6
comp=Z,114nm,0.9s,baz=146,slow=8.0,SNR=4.7
PMG Port Moresby 25.15 294 P **P** 02 20 12.8 +0.5
PMG IAmb IAmb 02 20 14.2
comp=Z,326nm,1.2s
KNTN Kanton 25.40 46 P **P** 02 20 13.6 -0.9
COEN Coen 26.78 281 P **P** 02 20 28.7 +1.7
baz=27,SNR=16
COEN Coen 26.78 281 P **P** 02 20 25.3 -1.8
TOO Toolangi 26.90 227 P **P** 02 20 29.1 +1.1
baz=27,SNR=28
TOO Toolangi 26.90 227 P **P** 02 20 28.5 +0.5
TOO pmax pmax
comp=Z,126nm,0.9s
TOO Toolangi 26.90 227 P **P** 02 20 28.5 +0.5
TOO IAmb IAmb 02 20 31.3
comp=Z,126nm,0.9s
STKA Stephens Creek 27.66 242 P **P** 02 20 35.9 +1.1
baz=28,SNR=134
STKA Stephens Creek 27.66 242 P **P** 02 20 36.2 +1.5
STKA 02 23 49.3
STKA pmax pmax
comp=Z,30nm,0.9s
STKA Stephens Creek 27.66 242 P **P** 02 20 35.8 +1.1
comp=Z,111nm,0.8s,baz=86,slow=10,SNR=177
STKA PcP **PcP** 02 23 49.3 +0.4
comp=Z,29nm,0.6s,baz=89,slow=4.3,SNR=9.7
STKA ScP **ScP** 02 27 20.2 +2.1
comp=Z,9.7nm,1.0s,baz=347,slow=6.4,SNR=4.3
STKA LR LR 02 30 26.8
comp=Z,627nm,22.0s,baz=80,slow=34
STKA Stephens Creek 27.66 242 P **P** 02 20 36.2 +1.5
RAR Rarotonga 27.92 95 P **P** 02 20 36.3 -0.8
comp=Z,29nm,1.0s,baz=216,slow=2.9,SNR=4.8
RAR LR LR 02 30 59.6
comp=Z,250nm,19.3s,baz=262,slow=34
RAR Rarotonga 27.92 95 P **P** 02 20 33.5 -3.7
RAR IAmb IAmb 02 20 38.8
comp=Z,224nm,1.6s
MOO Moorlands 28.65 217 P **P** 02 20 44.8 +1.3
baz=29,SNR=31
TAU Tasmania Unive 28.89 216 P **P** 02 20 42.9 -2.6
TAU pmax pmax
comp=Z,141nm,1.1s
TAU Tasmania Unive 28.89 216 P **P** 02 20 42.9 -2.6
TAU IAmb IAmb 02 20 47.6
comp=Z,141nm,1.1s
ARPS Mount Arapiles 29.13 232 P **P** 02 20 48.7 +1.0
baz=29,SNR=56
MANU Manus Island 29.35 308 P **P** 02 20 49.1 -0.8
MANU PcP **PcP** 02 23 54.2 +0.8
HTT Hallett 30.25 240 P **P** 02 20 58.5 +0.8
baz=30,SNR=108
BBOO Buckleboo 32.43 242 P **P** 02 21 17.3 +0.4
baz=32,SNR=53
WRAB Tennant Creek 33.59 266*d iP* **P** 02 21 26.3 -0.8
WRAB pmax pmax
comp=Z,61nm,1.2s
WRAB Tennant Creek 33.59 266 P **P** 02 21 24.9 -2.2
WRAB PcP **PcP** 02 24 03.2 -1.6
WRAB S **S** 02 26 38.2 -2.4
WRA Warramunga Arr 33.60 266 P **P** 02 21 26.4 -0.8
comp=Z,14nm,0.5s,baz=98,slow=8.2,SNR=138
WRA pP **pP** 02 21 51.8 -1.9
comp=Z,13nm,0.8s,baz=95,slow=9.2,SNR=4.8
WRA PcP **PcP** 02 24 05.0 +0.1
comp=Z,20nm,0.7s,baz=99,slow=2.6,SNR=10
WRA S **S** 02 26 36.9 -3.8
comp=Z,6.5nm,1.1s,baz=99,slow=14,SNR=8.4
WRA ScP **ScP** 02 27 40.1 +2.2
comp=Z,5.8nm,1.0s,baz=90,slow=3.3,SNR=4.4
WRA PKiKP **PKiKP** 02 31 28.3 -1.4
comp=Z,0.7nm,0.5s,baz=42,slow=0.1,SNR=8.0
WRA LR LR 02 34 59.7
comp=Z,1µm,19.5s,baz=95,slow=36
WRA P3KPbc 02 52 35.3
comp=Z,0.4nm,0.8s,baz=316,slow=2.3,SNR=4.7
WRA P3KP 02 53 58.4
comp=Z,0.7nm,0.7s,baz=221,slow=2.9,SNR=7.2
WRA Warramunga Arr 33.60 266 P **P** 02 21 25.4 -1.8
ASAR Alice Springs 33.63 259 P **P** 02 21 27.1 -0.3
comp=Z,62nm,0.9s,baz=84,slow=9.0,SNR=284
ASAR pP **pP** 02 21 52.5 -1.4
comp=Z,24nm,1.0s,baz=90,slow=9.5,SNR=3.3
ASAR PcP **PcP** 02 24 04.9 0.0
comp=Z,31nm,0.8s,baz=101,slow=3.2,SNR=16
ASAR S **S** 02 26 37.9 -3.2
comp=Z,3.2nm,0.9s,baz=90,slow=16,SNR=3.4
ASAR ScP **ScP** 02 27 40.0 +1.9
comp=Z,5.9nm,0.9s,baz=104,slow=3.5,SNR=6.9
ASAR PKiKP **PKiKP** 02 31 28.3 -1.4
comp=Z,0.8nm,0.6s,baz=78,slow=1.2,SNR=5.6
ASAR LR LR 02 34 36.7
comp=Z,1µm,20.2s,baz=93,slow=35
ASAR P3KPbc 02 52 34.9
comp=Z,0.6nm,0.7s,baz=273,slow=3.9,SNR=6.7
ASAR SKKS **SKKSdf** 02 53 11.2 -3.9
comp=Z,0.8nm,1.0s,baz=343,slow=1.0,SNR=4.1
ASAR P3KP 02 53 51.7
comp=Z,0.5nm,0.8s,baz=227,slow=2.2,SNR=3.2
ASAR Alice Springs 33.63 259 P **P** 02 21 25.3 -2.1
JAY Jayapura 34.27 299 P **P** 02 21 33.6 +0.6
baz=140,slow=7.6
JAY S **S** 02 26 52.0 +1.0
comp=Z,12nm,0.9s,baz=237,slow=9.3,SNR=4.1
JAY LR LR 02 35 34.7
comp=Z,1µm,19.5s,baz=122,slow=36
KDU Kakadu 37.05 277 P **P** 02 21 56.7 0.0
baz=37,SNR=20
TBI Tubuai 37.25 101*e*S **S** 02 27 35.4 -1.0
comp=Z,801nm,26.5s
TBI *e*LQ LQ 02 30 35.9
comp=Z,2µm,27.5s
TBI *e*LR LR 02 32 09.4
comp=Z,2µm,30.2s
PPT2 Papeete2 37.99 92*e*P **P** 02 22 04.6 -0.1
comp=Z,81nm,1.3s
PPT2 *e*S **S** 02 27 46.0 -1.9
comp=Z,954nm,25.5s
PPT2 *e*LQ LQ 02 30 55.6
comp=Z,3µm,24.5s
PPT2 *e*LR LR 02 32 33.7
comp=Z,3µm,34.0s
PPT Papeete 37.99 92 P **P** 02 22 04.3 -0.4
comp=Z,65nm,1.1s,baz=47,slow=18,SNR=2.9
TIAR Tiarei 38.21 92*e*P **P** 02 22 06.3 -0.2
comp=Z,20nm,1.1s
MTN Manton Dam 38.24 276 P **P** 02 22 06.8 0.0
baz=38,SNR=48
MTN Manton Dam 38.24 276 IAmb IAmb 02 22 07.8
comp=Z,71nm,0.7s
TVO Taravao 38.25 92*e*P **P** 02 22 06.5 -0.4
comp=Z,55nm,0.9s
WRKA Warakurna 38.66 256 P **P** 02 22 10.1 -0.1
baz=39,SNR=173
FORT Forrest 38.90 247 P **P** 02 22 12.0 -0.1
baz=39,SNR=124
FORT Forrest 38.90 247 **ScP** 02 27 59.1 +1.8
XMAS Kiritimati 39.17 58 P **P** 02 22 11.7 -2.8
XMAS IAmb IAmb 02 22 17.0
comp=Z,145nm,1.1s
KNRA Kununurra 39.66 271 P **P** 02 22 18.6 0.0
baz=40,SNR=18
KNRA Kununurra 39.66 271 IAmb IAmb 02 22 19.4
comp=Z,84nm,0.9s
PMOR Pomariorio Ree 40.17 88*e*P **P** 02 22 22.5 -0.3
comp=Z,170nm,1.3s
VAH Vaihoa 40.36 89*e*P **P** 02 22 24.0 -0.3
comp=Z,198nm,1.5s
FAKI Fak Fak 41.21 291 IAmb IAmb 02 22 32.9
comp=Z,146nm,1.3s
FITZ Fitzroy Crossi 42.03 266 P **P** 02 22 38.6 +0.7
baz=42,SNR=99
FITZ Fitzroy Crossi 42.03 266 P **P** 02 22 38.9 +0.9
comp=Z,110nm,0.8s,baz=113,slow=9.8
FITZ pP **pP** 02 23 04.5 -1.1
comp=Z,28nm,0.6s,baz=101,slow=11,SNR=2.4
FITZ S **S** 02 28 46.3 -1.6
comp=Z,11nm,1.1s,baz=261,slow=14,SNR=11
FITZ PKiKP **PKiKP** 02 31 39.0 +2.3
comp=Z,5.2nm,1.1s,baz=58,slow=6.1,SNR=3.6
FITZ LR LR 02 40 01.6
comp=Z,573nm,18.2s,baz=106,slow=36
FITZ Fitzroy Crossi 42.03 266 P **P** 02 22 37.9 0.0
FITZ **S** 02 28 45.9 -2.0
SIJI Sorong 43.08 293 P **P** 02 22 47.0 +0.5
comp=Z,30nm,0.5s,baz=107,slow=11
SIJI pP **pP** 02 23 12.7 -1.5
comp=Z,40nm,0.9s,baz=69,slow=8.6,SNR=3.2
SIJI PcP **PcP** 02 24 35.1 +0.7
comp=Z,22nm,0.8s,baz=117,slow=8.8,SNR=4.7
SIJI S **S** 02 29 03.6 +0.2
comp=Z,3.7nm,0.3s,baz=292,slow=19,SNR=4.6
SIJI LR LR 02 40 40.4
comp=Z,984nm,20.3s,baz=324,slow=36
SARN Sarigan 44.70 326 P **P** 02 22 57.9 -1.5
SARN IAmb IAmb 02 22 59.4
comp=Z,84nm,0.7s
BATI Baumata 46.02 276 LR LR 02 42 08.3
comp=Z,1µm,20.4s,baz=138,slow=35
PSA00 Pilbara Seismi 46.76 260 IAmb IAmb 02 23 16.8
comp=Z,93nm,0.9s
MEEK Meekatharra 47.25 253 P **P** 02 23 19.2 -0.2
baz=47,SNR=65
KLBR Kellerberrin 47.75 246 P **P** 02 23 22.8 -0.3
baz=48,SNR=106
NWAO Narrogin (SRO) 48.18 244 P **P** 02 23 26.4 -0.1
baz=48,SNR=109
NWAO Narrogin (SRO) 48.18 244 P **P** 02 23 26.4 -0.1
baz=94,slow=9.0
NWAO Narrogin (SRO) 48.18 244 P **P** 02 23 26.4 -0.1
NWAO PcP **PcP** 02 24 52.5 +0.6
RKGY Rocky Gully 48.41 242 P **P** 02 23 28.5 +0.2
baz=48,SNR=23
BLDU Ballidu 48.67 247 P **P** 02 23 29.8 -0.4
baz=49,SNR=45
MUN Mundaring 49.06 246 P **P** 02 23 33.1 -0.1
baz=49,SNR=19
TAOE Nuku Hiva Isla 49.26 83*e*P **P** 02 23 35.4 +0.3
comp=Z,432nm,1.3s
TAOE *e*S **S** 02 30 30.8 -1.2
comp=Z,372nm,28.0s
TAOE *e*LR LR 02 37 44.1
comp=Z,2µm,34.2s
TAOE Nuku Hiva Isla 49.26 83 P **P** 02 23 35.0 0.0
MORW Morawa 49.33 249 P **P** 02 23 35.0 -0.3
baz=49,SNR=40
MORW Morawa 49.33 249 P **P** 02 23 35.1 -0.3
MORW PcP **PcP** 02 24 56.2 0.0
H01W1 Cape Leeuwin H 50.74 242 P **P** 02 23 47.2 +1.6
baz=108,slow=8.4,SNR=15
H01W3 Cape Leeuwin H 50.76 242 P **P** 02 23 47.0 +1.3
baz=108,slow=8.4,SNR=13
H01W2 Cape Leeuwin H 50.76 242 P **P** 02 23 47.2 +1.5
baz=108,slow=8.4,SNR=12
KAPI Kappang 51.51 281 P **P** 02 23 53.4 +1.5
KAPI pmax pmax
comp=Z,152nm,1.3s
KAPI Kappang 51.51 281 P **P** 02 23 53.4 +1.5
KAPI IAmb IAmb 02 24 26.0
comp=Z,152nm,1.3s
GIRL Giralia 51.72 257 P **P** 02 23 54.5 +1.2
baz=52,SNR=4.7
KIP Kipapa 52.52 38⇓*e*P **P** 02 23 59.5 +0.4
KIP pmax pmax
comp=Z,32nm,0.8s
MLH Mauna Loa 52.63 42 P **P** 02 24 02.1 +1.9
HMH Humu'ula Sheep 52.65 42 P **P** 02 24 01.4 +0.9
HPAH Hawaii Prepara 52.84 41 P **P** 02 24 02.8 +1.2
JAGI Jajag, Banyuwa 55.43 274 IAmb IAmb 02 25 19.8
comp=Z,135nm,1.2s
VNDA Vanda 56.47 182 P **P** 02 24 27.2 +0.3
comp=Z,31nm,0.8s,baz=357,slow=8.1,SNR=50
VNDA LR LR 02 46 05.7
comp=Z,228nm,18.4s,baz=18,slow=33
SBA Scott Base 56.68 181 P **P** 02 24 30.0 +1.6
SBA pmax pmax
comp=Z,430nm,1.2s
SBA Scott Base 56.68 181 P **P** 02 24 30.0 +1.6
CASY Casey 58.69 204 P **P** 02 24 42.4 -0.2
KKM Kota Kinabalu 59.53 291 P **P** 02 24 49.7 +0.4
SBUM Sibu 61.44 285 P **P** 02 25 05.0 +2.8
CISI Cisompet, Garu 61.64 273 IAmb IAmb 02 25 04.5
comp=Z,96nm,0.9s
KSM Kuching 62.75 283 P **P** 02 25 12.0 +1.0
KSM Kuching 62.75 283 IAmb IAmb 02 25 13.3
comp=Z,72nm,0.9s
INU Inuyama 64.51 330 IAmb IAmb 02 25 24.4
comp=Z,76nm,1.3s
MJAR Matsushiro Arr 64.96 332 P **P** 02 25 25.2 +0.2
MJAR pmax pmax
comp=Z,21nm,1.5s
MJAR Matsushiro Arr 64.96 332 P **P** 02 25 25.4 +0.4
comp=Z,14nm,0.5s,baz=164,slow=7.2,SNR=28
MJAR sP **sP** 02 26 07.0 -1.3
comp=Z,10nm,0.8s,baz=170,slow=7.2,SNR=3.1
MJAR LR LR 02 48 20.8
comp=Z,112nm,21.9s,baz=185,slow=31
MJAR PKP2bc 02 54 08.5
comp=Z,3.2nm,0.7s,baz=343,slow=3.9,SNR=7.0
MJAR PKP2ab 02 54 18.0
comp=Z,1.3nm,0.3s,baz=327,slow=3.3,SNR=4.2
MJAR Matsushiro Arr 64.96 332 P **P** 02 25 25.2 +0.2
MAJO Matsushiro 64.96 332*c iP* **P** 02 25 25.4 +0.4
MAJO pmax pmax
comp=Z,33nm,1.1s
MAJO Matsushiro 64.96 332 P **P** 02 25 24.4 -0.7
MAT Matsushiro 64.96 332 P **P** 02 25 25.5 +0.5
MAT S **S** 02 33 57.2 +0.3
NACB Ninganchiao 65.41 311 P **P** 02 25 28.2 0.0
NACB IAmb IAmb 02 25 59.6
comp=Z,65nm,1.1s
JNU Nakatsue 65.84 324 IAmb IAmb 02 25 33.0
comp=Z,181nm,1.8s
YHNB Yeheng 65.88 311 IAmb IAmb 02 26 12.9
comp=Z,64nm,1.1s
QZH Quanzhou 68.03 310*e*P **P** 02 25 44.2 -0.5
QZH pP **pwP** 02 26 17.3 +0.1
QZH sP **sP** 02 26 29.5 +1.3
QZH S **S** 02 34 36.0 +1.8
YUK Yuzh-Kuril'sk 68.70 341*e*P **P** 02 25 48.8 +0.3
YUK *e* 02 26 11.7
YUK *e* 02 28 20.9
YUK *e*PPP PPP 02 30 04.3
YUK *e*S **S** 02 34 42.7 +1.2
YUK *e* 02 35 37.3
YUK *e*SS **SS** 02 39 12.6 +3.4
YUK pmax pmax
comp=Z,518nm,1.7s
YUK pmax pmax
comp=Z,321nm,1.6s
YUK pmax pmax
comp=E,422nm,1.3s
YUK pmax pmax
comp=N,206nm,1.4s
MYKOM Kota Tinggi 68.78 281 P **P** 02 25 50.0 +0.4
MYKOM Kota Tinggi 68.78 281 IAmb IAmb 02 25 51.7
comp=Z,99nm,1.2s
QSPA South Pole Qui 68.82 180 P **P** 02 25 49.5 +0.2
comp=Z,339nm,1.0s,baz=20,slow=1.9,SNR=549
QSPA S **S** 02 34 44.7 +1.9
comp=Z,0.6nm,0.5s,baz=172,slow=22,SNR=6.7
QSPA South Pole Qui 68.82 180 P **P** 02 25 49.5 +0.2
KUR Kuril'sk 69.23 343 P **P** 02 25 53.1 +1.4
KUR *e*S **S** 02 34 52.0 +4.3
KUR MLR MLR
comp=Z,310nm,13.0s
TJN Taejon 70.19 324*de*P **P** 02 25 59.2 +1.4
KSRS Korea Array 70.69 325 P **P** 02 26 02.4 +1.5
comp=Z,8.8nm,0.8s,baz=144,slow=6.0,SNR=25
KSRS pP **pP** 02 26 30.7 -0.6
comp=Z,12nm,1.1s,baz=142,slow=5.5,SNR=3.4
KSRS PKP2bc 02 53 52.8
comp=Z,3.3nm,0.9s,baz=334,slow=2.7,SNR=7.1
KSRS LR LR 02 55 08.1
comp=Z,151nm,20.4s,baz=128,slow=34
KSAR Wonju Array Be 70.70 325 P **P** 02 26 01.9 +1.0
KSAR Wonju Array Be 70.70 325 P **P** 02 26 01.9 +1.0
JRMM Jerantut 70.87 282 P **P** 02 26 04.0 +1.5
YSS Yuzh-Sakhalins 72.28 341*e*P **P** 02 26 11.7 +1.6
YSS *e**PP **pP** 02 26 43.1 +2.2
YSS *e**SP **sP** 02 26 55.3 +1.1
YSS *e*S **S** 02 35 23.0 +0.1
YSS smax smax
comp=N,700nm,8.1s
NJ2 Nanjing 72.31 316*e*P **P** 02 26 13.0 +2.3
NJ2 pP **pP** 02 26 41.9 +0.7
NJ2 sP **sP** 02 26 55.6 +1.1
NJ2 S **S** 02 35 25.0 +1.1
NJ2 pmax pmax
comp=N,20nm,0.6s
NJ2 pmax pmax
comp=N,350nm,5.7s
NJ2 LR LR
comp=N,390nm,22.7s
NJ2 LR LR
comp=N,360nm,20.8s
NJ2 LR LR
comp=N,510nm,19.0s
IPM Ipoh 72.43 282 IAmb IAmb 02 26 13.4
comp=Z,64nm,0.7s
SKR Severo-Kuril's 72.69 351*e*P **PcP** 02 26 25.4 -3.7
SKR *e*S **SKSac** 02 36 04.0 -1.6
SKR pmax pmax
comp=Z,200nm,6.4s
MSHR Mys Shultsa 73.03 331⇑*e*P **P** 02 26 15.5 +0.8
UBPT Khong Chiam 73.19 294 P P 02 26 21.2 +5.0
comp=Z,14nm,1.8s
RPSI Rantau Prapat 73.65 280 IAmb IAmb 02 26 20.1
comp=Z,68nm,1.0s
USRK Ussuriysk Ar. 73.95 332 P **P** 02 26 21.8 +1.8
comp=Z,7.9nm,0.6s,baz=149,slow=4.4,SNR=31
USRK pP **pP** 02 26 50.7 0.0
comp=Z,13nm,1.0s,baz=158,slow=5.6,SNR=4.0
USRK sP **sP** 02 27 03.8 -0.2
comp=Z,18nm,0.9s,baz=140,slow=4.8,SNR=5.0
USRK LR LR 03 00 31.6
comp=Z,57nm,18.4s,baz=133,slow=37
USRK Ussuriysk Ar. 73.95 332 P **P** 02 26 21.3 +1.3
GSI Gunungsitoli 74.36 278 P **P** 02 26 24.3 +1.1
GSI IAmb IAmb 02 26 25.3
comp=Z,148nm,1.0s
WHN Wuhan 74.40 312 P **P** 02 26 23.1 +0.1
PET Petropavlovsk 74.64 353*e*P **P** 02 26 24.8 +1.0
PET *e**PP **pP** 02 26 55.3 +0.6
PET *e* 02 29 16.5
PET *e*S **S** 02 35 50.3 +1.1
PET *e*SP **ScS** 02 36 32.0 +8.5
PET pmax pmax
comp=Z,73nm,1.4s
PET MLR MLR
comp=Z,400nm,18.0s
PETK Petropavlovsk- 74.84 352 P **P** 02 26 25.9 +0.9
comp=Z,27nm,0.9s,baz=148,slow=5.5,SNR=15
PETK pP **pP** 02 26 54.2 -1.7
comp=Z,18nm,0.9s,baz=107,slow=5.0,SNR=3.4
PETK Petropavlovsk- 74.84 352 P **P** 02 26 26.9 +1.9
TRTT Trang 75.00 285 P **P** 02 26 28.8 +2.0
comp=Z,52nm,1.1s
DL2 Dalian 75.18 323 P **P** 02 26 26.5 -0.8
DL2 pP **pP** 02 26 59.5 +1.3
DL2 S **S** 02 35 57.9 +2.0
DL2 pmax pmax
comp=Z,150nm,1.0s
DL2 pmax pmax
comp=Z,180nm,4.8s
SKNT Sakolnakorn 75.25 295 P **P** 02 26 29.7 +1.6
comp=Z,187nm,0.9s,comp=Z,3µm
MDJ Mudanjiang 75.33 331 P **P** 02 26 29.9 +1.9
MDJ PcP **PcP** 02 26 41.4 +0.7
MDJ pP pwP 02 27 00.4 +1.6
MDJ sP sP 02 27 12.7 +0.6
MDJ PP **PP** 02 29 20.9 +2.1
MDJ S **S** 02 36 00.4 +3.1
MDJ pmax pmax
comp=Z,37nm,1.2s
MDJ pmax pmax
comp=Z,210nm,5.0s
TIA Tai'an 76.07 318 P **P** 02 26 33.7 +1.3
TIA pmax pmax
comp=Z,37nm,0.7s
PATY Pattaya 76.11 290 P **P** 02 26 36.3 +3.2
comp=Z,95µm,0.9s
SURT Suratani 76.27 285 P **P** 02 26 36.7 +2.7
comp=Z,52nm,1.1s
CHAI Chaiyaphum 76.45 293 P **P** 02 26 36.3 +1.3
comp=Z,64µm,0.9s
NONG Nongkai 76.46 296 P **P** 02 26 36.7 +1.7
comp=Z,1.6nm,1.1s
CN2 Changchun 76.66 328*e*P **P** 02 26 36.0 +0.4
CN2 pmax pmax
comp=Z,50nm,1.1s
MAW Mawson 76.94 202 P **P** 02 26 37.8 +0.9
baz=77,SNR=61
MAW Mawson 76.94 202 P **P** 02 26 37.7 +0.9
MAW pmax pmax
comp=Z,34nm,1.0s
MAW Mawson 76.94 202 P **P** 02 26 37.8 +0.9
comp=Z,110nm,0.9s,baz=118,slow=6.6,SNR=110
MAW S **S** 02 36 18.7 +4.3
comp=Z,2.0nm,0.3s,baz=76,slow=19,SNR=7.5
MAW LR LR 02 56 49.8
comp=Z,89nm,18.5s,baz=87,slow=33
MAW Mawson 76.94 202 P **P** 02 26 37.7 +0.9
PHET Kaeng Krachan 77.19 289 P **P** 02 26 42.3 +3.1
comp=Z,117µm,1.0s
UNV Unalaska Valle 77.42 14 IAmb IAmb 02 26 40.9
comp=Z,81nm,0.9s
GRNR Gornyy 77.66 339⇑*iP* **P** 02 26 43.7 +2.7

GRNR pmax pmax
comp=Z,40nm,1.1s
ENH Enshi 77.68 309 IAmb IAmb 02 26 43.8
comp=Z,84nm,1.1s
GYA Guiyang 77.74 305⇑ *iP* **P** **02 26 43.6 +1.4**
GYA pP pP 02 27 12.0 -1.1
GYA PP **PP** **02 29 38.5 -1.0**
GYA S **S** **02 36 20.9 -3.7**
GYA SKS **SKSac** **02 36 42.7 -1.9**
GYA SS **SS** **02 41 24.5 -3.4**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,150nm,3.5s
KLR Kul'dur 78.08 335*c iP* **P** **02 26 45.0 +1.6**
KLR *i* *PP **pP** **02 27 14.0 -0.4**
KLR pmax pmax
comp=Z,34nm,1.1s
SRDT SRDT 78.25 290 P **P** **02 26 47.9 +2.9**
comp=Z,47nm,1.2s,comp=Z,886nm
UTHA Uthaitani 78.49 292 P **P** **02 26 48.7 +2.3**
comp=Z,128µm,1.1s
BJI Beijing 79.09 321⇑ *iP* **P** **02 26 50.8 +1.7**
BJI pP **pP** **02 27 21.2 +0.9**
BJI sP **sP** **02 27 31.1 -2.4**
BJI S **S** **02 36 39.5 +1.4**
BJI pmax pmax
comp=Z,20nm,0.7s
PHRA Phrae 79.12 295 P **P** **02 26 51.8 +2.0**
comp=Z,11nm,1.1s,comp=Z,1µm
UMPA Umpang Tak 79.28 292 P **P** **02 26 52.8 +2.1**
comp=Z,183µm,1.0s
TIY Taiyuan 79.95 317 *eP* **P** **02 26 57.0 +3.1**
TIY pP **pP** **02 27 22.3 -2.9**
TIY S **S** **02 36 48.4 +0.9**
TIY pmax pmax
comp=Z,35nm,0.5s
TIY pmax pmax
comp=Z,150nm,5.4s
KMI Kunming 80.14 302 P **P** **02 26 57.3 +1.9**
KMI pP pP 02 27 26.2 -0.2
KMI sP sP 02 27 36.9 -2.6
KMI PP **PP** **02 30 00.1 +0.5**
KMI S **S** **02 36 47.0 -3.3**
KMI SS **SS** **02 42 04.8 +0.7**
KMI pmax pmax
comp=Z,86nm,0.9s
KMI pmax pmax
comp=Z,310nm,4.3s
KMI LR LR
comp=Z,300nm,16.6s
KMI LR LR
comp=Z,300nm,15.1s
KMI LR LR
comp=Z,190nm,17.5s
XAN Xi'an 80.16 312 P **P** **02 26 56.5 +1.4**
XAN PcP **PcP** **02 27 02.6 +0.6**
XAN pP pwP 02 27 29.0 +0.4
XAN S **S** **02 36 48.5 -1.4**
XAN SS **SS** **02 42 04.2 +0.4**
XAN pmax pmax
comp=Z,53nm,1.0s
XAN pmax pmax
comp=Z,140nm,3.0s
CM31 Chiang Mai Arr 80.19 294 IAmb IAmb 02 26 59.4
comp=Z,64nm,0.9s
CMAR Chiang Mai Arr 80.19 294 P **P** **02 26 57.9 +2.3**
comp=Z,37nm,0.8s,baz=134,slow=4.1,SNR=123
CMAR pP **pP** **02 27 26.4 -0.1**
comp=Z,12nm,0.7s,baz=136,slow=4.4,SNR=4.2
CMAR PKKPbc **PKKPbc** **02 45 38.5 +0.3**
comp=Z,7.2nm,0.5s,baz=285,slow=4.0,SNR=23
CMAR PKPPKP 02 53 42.2
comp=Z,1.1nm,0.3s,baz=286,slow=3.7,SNR=8.3
CMAR LR LR 03 05 41.8
comp=Z,74nm,18.0s,baz=154,slow=38
CMAR Chiang Mai Arr 80.19 294 P **P** **02 26 57.5 +2.0**
SDPT Sand Point 80.27 16 IAmb IAmb 02 26 56.4
comp=Z,105nm,0.8s
CMMT Chiang Mai 80.34 294 P **P** **02 26 58.2 +1.8**
comp=Z,39nm,1.0s,comp=Z,453nm
CHTO Chiang Mai 80.35 294 P **P** **02 26 58.3 +1.9**
CHTO pmax pmax
comp=Z,56nm,0.9s
CHTO Chiang Mai 80.35 294 P **P** **02 26 58.3 +1.9**
MHMT Maesarieng 80.93 293 P **P** **02 27 02.0 +2.5**
comp=Z,71nm,1.1s
CHIR Chirikof Islan 82.04 19 IAmb IAmb 02 27 06.7
comp=Z,105nm,0.7s
MA2 Magadan 82.10 350⇑ *eP* **P** **02 27 03.3 -1.4**
MA2 pmax pmax
comp=Z,100nm,2.4s
CD2 Chengdu 82.21 307⇓ *iP* **P** **02 27 06.9 +0.9**
CD2 pP pwP 02 27 40.1 +0.6
CD2 sP sP 02 27 47.4 -2.9
CD2 S **S** **02 37 11.9 +0.7**
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,230nm,5.0s
CD2 LR LR
comp=Z,470nm,18.4s
CD2 LR LR
comp=Z,530nm,15.2s
CD2 LR LR
comp=Z,820nm,25.8s
HHC Hu-ho-hao-te 82.36 319 P **P** **02 27 09.0 +2.3**
BTO Baotou 83.16 318 *eP* **P** **02 27 11.9 +1.1**
SYO Syowa Base 83.28 196⇑ *iP* **P** **02 27 09.0 -1.9**
SYO Syowa Base 83.28 196⇑ *i* PcP **PcP** **02 27 13.6 -1.5**
SYO Syowa Base 83.28 196⇑ *e* PKiKP **PKiKP** **02 32 28.0 +0.2**
HIA Hailar 83.32 329⇑ *eP* **P** **02 27 12.2 +0.9**
HIA pmax pmax
comp=Z,57nm,1.2s
ZEA Zeya 83.37 336 *eP* **P** **02 27 12.6 +1.2**
ZEA *e* 02 27 45.0
ZEA *eS* **S** **02 37 22.5 +0.7**
ZEA pmax pmax
comp=N,47nm,1.0s
ZEA pmax pmax
comp=Z,70nm,1.0s
ZEA smax smax
comp=N,900nm,10.0s
KDAK Kodiak Island 84.60 19 *i* P **P** **02 27 18.9 +1.4**
KDAK Kodiak Island 84.60 19 P **P** **02 27 19.1 +1.6**
comp=N,77nm,0.8s,baz=218,slow=3.1,SNR=31
KDAK pP **pP** **02 27 49.5 +0.4**
comp=N,21nm,1.0s,baz=262,slow=3.4,SNR=1.4
KDAK Kodiak Island 84.60 19 P **P** **02 27 18.8 +1.2**
KDAK IAmb IAmb 02 27 21.3
comp=Z,91nm,0.8s
PMSA Palmer Station 84.71 160 P **P** **02 27 18.1 0.0**
PMSA Palmer Station 84.71 160 *eP* **P** **02 27 18.0 -0.2**
PMSA Palmer Station 84.71 160 *eP* **P** **02 27 18.0 -0.2**
LZH Lanzhou 84.77 312 *eP* **P** **02 27 21.3 +2.1**
LZH pP pP 02 27 54.6 +3.8
LZH PP **PP** **02 30 32.7 -4.7**
LZH S **S** **02 37 31.9 -5.1**
LZH pmax pmax
comp=Z,54nm,1.0s
LZH pmax pmax
comp=Z,140nm,6.0s
LZH LR LR
comp=Z,180nm,13.3s
LZH LR LR
comp=Z,230nm,14.6s
LZH LR LR
comp=Z,260nm,14.8s
SEY Seymchan 85.08 352⇑ *iP* **P** **02 27 20.8 +1.0**
GAMB Gambell 85.91 8 IAmb IAmb 02 27 26.7
comp=Z,101nm,0.9s
SNCC San Nicolas Is 86.10 52 P **P** **02 27 27.2 +1.6**
baz=242
SCZ2 Santa Cruz Isl 86.38 52 P **P** **02 27 27.9 +0.9**
baz=241
SAO San Andreas Ge 86.43 48 IAmb IAmb 02 28 04.3
comp=Z,101nm,1.4s
CNPM China Poot 86.44 19 IAmb IAmb 02 27 30.0
comp=Z,68nm,0.9s
HOPS Hopland Field 86.44 46 IAmb IAmb 02 28 05.1
comp=Z,144nm,1.4s
GDXM Geysers 86.53 46 IAmb IAmb 02 28 06.0
comp=Z,99nm,1.3s
SBC Santa Barbara 86.53 51 P **P** **02 27 29.1 +1.4**
baz=241

SVW2 Sparrevohn 86.55 16 IAmb IAmb 02 28 03.2
comp=Z,94nm,1.8s
PKM Mcpherson Peak 86.67 51 P **P** **02 27 30.1 +1.5**
baz=241,SNR=7.0
SCI2 San Clemente I 86.70 53 P **P** **02 27 29.7 +1.1**
baz=242
BRLK Bradley Lake 86.74 19 IAmb IAmb 02 27 31.6
comp=Z,43nm,0.8s
SMMC Simmler 86.75 50 P **P** **02 27 30.3 +1.5**
baz=241
PAGB Antelope Grade 86.77 50 IAmb IAmb 02 28 06.2
comp=Z,192nm,1.9s
BLG Laguna Peak, P 86.85 52 P **P** **02 27 30.0 +0.8**
baz=242
KHMM Horse Mountain 86.98 44 IAmb IAmb 02 28 07.6
comp=Z,144nm,1.3s
CIS Catalina Islan 87.00 53 P **P** **02 27 30.6 +0.6**
baz=242
SNAA Sanae 87.21 182 P **P** **02 27 29.8 -0.7**
SNAA Sanae 87.21 182*d iP* **P** **02 27 29.2 -1.3**
SNAA Sanae 87.21 182 PKKP **PKKPdf** **02 45 18.3 +3.2**
comp=Z,1.8nm,0.8s,baz=206,slow=24,SNR=5.1
FMP Fort Macarthur 87.23 52 P **P** **02 27 32.2 +1.1**
baz=242
O02D Mt. Diablo Mer 87.23 45 P **P** **02 27 33.1 +2.1**
baz=239,SNR=37
OSI Oaito Audit: C 87.33 51 P **P** **02 27 32.8 +1.2**
baz=242
KBO Bosley Butte 87.36 43 IAmb IAmb 02 28 09.4
comp=Z,148nm,1.5s
DECC Green Verdugo 87.45 52 P **P** **02 27 32.7 +0.5**
baz=242
ARVC Arvin 87.50 51 P **P** **02 27 33.5 +1.2**
baz=242,SNR=11
PASC Pasadena Art C 87.52 52 IAmb IAmb 02 28 09.0
comp=Z,145nm,1.8s
VES Vestal, Richgr 87.65 50 P **P** **02 27 33.8 +0.8**
baz=242,SNR=11
VOG Valley Oaks Go 87.67 50 P **P** **02 27 34.1 +1.0**
baz=242
N02D Trinity Center 87.69 44 P **P** **02 27 35.2 +2.0**
baz=239,SNR=48
L02E Cave Junction 87.73 43 P **P** **02 27 35.1 +1.8**
baz=239,SNR=7.0
109C Camp Elliot, M 87.74 53 P **P** **02 27 34.5 +0.9**
baz=243
109C Camp Elliot, M 87.74 53 IAmb IAmb 02 28 10.3
comp=Z,84nm,1.6s
VNA3 Neumayer Olymp 87.76 180 P **P** **02 27 32.4 -0.7**
ORV Oroville 87.78 46 IAmb IAmb 02 28 11.3
comp=Z,124nm,1.4s
CMB Columbia Colle 87.79 48 IAmb IAmb 02 28 11.4
comp=Z,55nm,1.1s
SDRC San Diego Road 87.79 54 IAmb IAmb 02 28 10.3
comp=Z,67nm,1.5s
M02C Callahan 87.81 44 P **P** **02 27 35.8 +2.0**
baz=239,SNR=46
AFDM Forest Hills D 87.83 47 IAmb IAmb 02 28 11.5
comp=Z,107nm,1.4s
EML El Monte Cty P 87.93 54 IAmb IAmb 02 28 11.8
comp=Z,57nm,1.3s
BFSC Mount Baldy Ra 87.94 52 P **P** **02 27 35.4 +0.8**
baz=243,SNR=16
O03E Paynes Creek 87.94 45 P **P** **02 27 35.6 +1.2**
baz=240,SNR=68
K02D Willamette Mer 87.97 42 P **P** **02 27 36.1 +1.6**
baz=238,SNR=7.7
EDW2 Edwards Air Fo 87.99 51 P **P** **02 27 36.0 +1.2**
baz=242,SNR=23
MURC Murrieta 87.99 53 P **P** **02 27 35.8 +1.0**
baz=243,SNR=8.4
ISA Isabella, Lake 88.00 51 P **P** **02 27 36.2 +1.3**
baz=242,SNR=30
J01E Myrtle Point 88.05 42 P **P** **02 27 36.5 +1.8**
baz=238
VNA2 Neumayer--Watz 88.06 181 P **P** **02 27 34.1 -0.4**
baz=184,slow=3.8
YBH Yreka Blue Hor 88.08 44 P **P** **02 27 34.5 -0.6**
YBH 02 31 00.3
YBH pmax pmax
comp=Z,77nm,1.2s
YBH Yreka Blue Hor 88.08 44 PP PP 02 31 00.2 -3.6
comp=Z,1.6nm,0.8s,baz=177,slow=7.9,SNR=2.4
YBH PKKPbc **PKKPbc** **02 45 19.1 -1.9**
comp=Z,1.0nm,0.8s,baz=18,slow=3.2,SNR=2.8
YBH Yreka Blue Hor 88.08 44 P **P** **02 27 34.5 -0.6**
YBH IAmb IAmb 02 27 38.2
comp=Z,77nm,1.2s
SUA Susitna One 88.16 18 IAmb IAmb 02 27 40.3
comp=Z,37nm,1.0s
MONP2 Monument Peak 88.25 54 P **P** **02 27 37.4 +1.2**
baz=243,SNR=19
MONP2 Monument Peak 88.25 54 IAmb IAmb 02 28 14.2
comp=Z,128nm,1.5s
VNA1 Neumayer--Stat 88.35 180 P **P** **02 27 35.3 -0.5**
HUMO Hull Mountain 88.37 43 IAmb IAmb 02 27 39.6
comp=Z,84nm,1.1s
IKP In-Ko-Pah, Jac 88.38 54 P **P** **02 27 38.0 +1.3**
baz=244,SNR=11
IKP In-Ko-Pah, Jac 88.38 54 IAmb IAmb 02 28 14.8
comp=Z,89nm,1.5s
BBRC Big Bear Solar 88.49 52 P **P** **02 27 38.4 +1.0**
baz=243
MDPB Devils Postpil 88.50 49 P **P** **02 27 38.4 +1.0**
MDPB PP **PP** **02 31 07.5 -0.1**
PFO Pinyon Flats O 88.54 53 P **P** **02 27 38.5 +0.9**
baz=243,SNR=8.5
PFO Pinyon Flats O 88.54 53 *i* P **P** **02 27 38.9 +1.4**
PFO Pinyon Flats O 88.54 53 P **P** **02 27 38.2 +0.7**
PFO IAmb IAmb 02 28 14.4
comp=Z,86nm,1.6s
OMMB Old Mammoth Mi 88.55 49 IAmb IAmb 02 28 15.5
comp=Z,120nm,1.6s
L04D Klamath Falls 88.59 43 P **P** **02 27 38.9 +1.4**
baz=240,SNR=17
I02D Swisshome 88.59 41 P **P** **02 27 39.8 +2.5**
baz=238
CWC Cottonwood Cre 88.65 50 P **P** **02 27 39.1 +1.1**
baz=242
M04C Macdoel 88.67 44 P **P** **02 27 39.3 +1.4**
baz=240,SNR=27
MLAC Mammoth, Mammo 88.67 49 P **P** **02 27 39.5 +1.3**
baz=242,SNR=7.2
I03D Drain, R 88.69 42 P **P** **02 27 38.8 +1.1**
baz=239
BEKR Beckworth 88.69 46 IAmb IAmb 02 28 15.0
comp=Z,137nm,1.6s
RRX Edison Barstow 88.72 52 P **P** **02 27 39.3 +1.2**
baz=243
SWSC Sam W. Stewart 88.74 54 P **P** **02 27 39.3 +1.1**
baz=244,SNR=14
SWSC Sam W. Stewart 88.74 54 IAmb IAmb 02 28 16.2
comp=Z,140nm,1.5s
TIN Tinemaha, Big 88.83 49 P **P** **02 27 40.0 +1.3**
baz=242,SNR=7.5
PNTR Pine Nut 88.83 47 IAmb IAmb 02 27 41.6
comp=Z,110nm,1.4s
MPMC Manual Prospec 88.90 51 P **P** **02 27 40.5 +1.3**
baz=243,SNR=33
VCNR Virginia City 88.90 47 IAmb IAmb 02 28 16.1
comp=Z,103nm,1.8s
YERR Yerington 89.03 47 IAmb IAmb 02 27 42.3
comp=Z,77nm,1.3s
ULN Ulaanbaatar 89.03 323*d iP* **P** **02 27 40.3 +0.8**
ULN pmax pmax
comp=Z,60nm,1.3s
ULN Ulaanbaatar 89.03 323 P **P** **02 27 39.6 +0.1**
ULN IAmb IAmb 02 27 42.3
comp=Z,50nm,1.1s
GSC Goldstone, Bar 89.05 51 P **P** **02 27 40.8 +1.0**
baz=243,SNR=18
BELC Belle Mtn. Jos 89.06 53 P **P** **02 27 41.1 +1.2**
baz=244,SNR=20
YAK Yakutsk 89.06 342 *eP* **P** **02 27 38.8 -0.2**
YAK *eS* **SKSac** **02 37 53.6 -3.1**
YAK *e* 02 38 17.3
YAK *eSP* **SP** **02 39 20.6 -1.1**
YAK *ePS* PS 02 39 40.8 +3.0
YAK *eSS* **SS** **02 44 18.6 +5.1**
YAK *eSSS* SSS 02 47 54.8
YAK pmax pmax
comp=Z,33nm,0.9s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,157nm,2.7s
YAK pmax pmax
comp=N,195nm,2.7s
YAK pmax pmax
comp=E,111nm,2.5s
YAK smax smax
comp=N,234nm,1.5s
YAK smax smax
comp=E,184nm,1.8s
YAK Yakutsk 89.06 342 P **P** **02 27 38.6 -0.4**
YAK IAmb IAmb 02 27 40.3
comp=Z,42nm,1.0s
BILL Bilibino 89.07 359*d iP* **P** **02 27 39.4 +0.4**
BILL *i* *PP **pP** **02 28 12.8 +1.9**
BILL *i* S **SKSac** **02 37 55.4 -1.2**
BILL *i* PS **SP** **02 39 27.0 +5.4**
BILL SS **SS** **02 44 21.0 +7.5**
BILL pmax pmax
comp=Z,79nm,1.0s
BILL Bilibino 89.07 359 P **P** **02 27 39.8 +0.8**
BILL IAmb IAmb 02 27 41.0
comp=Z,70nm,1.0s
SHL Shillong 89.13 298 *eP* **P** **02 27 40.5 0.0**
SHL *eS* **SKSac** **02 37 57.0 -2.2**
SHL Shillong 89.13 298 IAmb IAmb 02 27 42.0
comp=Z,50nm,0.9s
K04D Chiloquin, OR 89.14 43 P **P** **02 27 41.5 +1.4**
baz=240
HEC Hector,Ludlow 89.18 52 P **P** **02 27 41.5 +1.1**
baz=243
GTA Gaotai 89.19 313⇓ *iP* **P** **02 27 41.4 +1.0**
GTA pP pP 02 28 11.0 -1.2
GTA sP sP 02 28 24.5 -0.7
GTA SKS **SKSac** **02 37 58.3 -0.6**
GTA S **S** **02 38 17.8 -1.4**
GTA sS sS 02 39 14.5 +0.3
GTA SS **SS** **02 44 16.8 +0.1**
GTA pmax pmax
comp=Z,22nm,1.1s
GTA pmax pmax
comp=Z,84nm,7.8s
GTA LR LR
comp=Z,120nm,22.2s
GTA LR LR
comp=Z,180nm,19.7s
GTA LR LR
comp=Z,270nm,20.6s
J04D Umpqua Nationa 89.23 43 P **P** **02 27 41.9 +1.3**
baz=240,SNR=7.5
PAHR Pah Rah Range 89.28 47 IAmb IAmb 02 27 43.4
comp=Z,101nm,1.3s
BC3 Big Chuckawall 89.31 53 P **P** **02 27 42.5 +1.4**
baz=244,SNR=15
I04A Tendick Farm, 89.32 42 P **P** **02 27 41.9 +1.1**
baz=239,SNR=7.7
RYN Ryan 89.36 48 IAmb IAmb 02 28 19.1
comp=Z,93nm,1.4s
SONM Songino Array 89.39 323 P **P** **02 27 42.2 +1.1**
comp=Z,28nm,1.0s,baz=136,slow=4.5,SNR=95
SONM pP **pP** **02 28 13.5 +0.3**
comp=Z,8.2nm,1.0s,baz=126,slow=3.8,SNR=2.9
SONM sP **sP** **02 28 23.8 -2.5**
comp=Z,9.2nm,0.9s,baz=136,slow=4.7,SNR=3.2
SONM PKiKP **PKiKP** **02 32 38.7 +0.3**
comp=Z,0.8nm,0.7s,baz=150,slow=3.2,SNR=2.1
SONM S **SKSac** **02 37 59.2 -0.4**
comp=Z,0.6nm,0.9s,baz=127,slow=3.8,SNR=4.5
SONM PKKPbc **PKKPbc** **02 45 16.5 -1.7**
comp=Z,4.9nm,1.0s,baz=258,slow=3.2,SNR=14
SONM PKPPKP 02 53 20.7
comp=Z,1.8nm,1.0s,baz=253,slow=1.5,SNR=3.4
SONM LR LR 03 06 05.2
comp=Z,122nm,21.1s,baz=132,slow=34
SONM Songino Array 89.39 323 P **P** **02 27 41.3 +0.2**
GRAC Grapevine Rang 89.41 50 P **P** **02 27 42.9 +1.5**
baz=243,SNR=42
NVAR Mina Array Bea 89.42 48 P **P** **02 27 42.8 +1.2**
comp=Z,19nm,0.9s,baz=227,slow=7.0,SNR=115
NVAR pP **pP** **02 28 14.3 +1.1**
comp=Z,10nm,1.1s,baz=223,slow=7.1,SNR=2.9
NVAR PKKPbc **PKKPbc** **02 45 18.7 +1.0**
comp=Z,0.9nm,0.8s,baz=104,slow=4.7,SNR=6.6
NVAR PKPPKP 02 53 21.9
comp=Z,1.8nm,0.9s,baz=85,slow=1.9,SNR=8.0
NVAR LR LR 03 03 33.6
comp=Z,196nm,18.8s,baz=251,slow=33
NVAR Mina Array Bea 89.42 48 P **P** **02 27 42.0 +0.4**
SCM Sheep Creek Mo 89.45 19 IAmb IAmb 02 27 41.7
comp=Z,34nm,1.0s
H04D Lebanon 89.49 41 P **P** **02 27 42.8 +1.3**
baz=239,SNR=8.5
NV11 Mina Array Sit 89.52 48 IAmb IAmb 02 27 44.5
comp=Z,90nm,1.4s
G03D McMinnville, O 89.52 40 P **P** **02 27 42.8 +1.2**
baz=239
GLA Glamis 89.52 54 P **P** **02 27 43.7 +1.6**
baz=244,SNR=14
FURC Furnace Creek, 89.53 50 P **P** **02 27 43.2 +1.3**
baz=243,SNR=16
GMRC Granite Mounta 89.66 52 P **P** **02 27 43.9 +1.1**
baz=244,SNR=15
SHOC Shoshone, Teco 89.70 51 P **P** **02 27 43.7 +1.0**
baz=243,SNR=10
MOD Modoc Plateau 89.72 44 IAmb IAmb 02 27 45.4
comp=Z,80nm,1.1s
TUQ Turquoise Moun 89.75 52 P **P** **02 27 44.3 +1.2**
baz=244,SNR=28
IRM Iron Mountain 89.77 53 P **P** **02 27 44.5 +1.4**
baz=244,SNR=26
J05D Fort Rock, OR 89.80 43 P **P** **02 27 44.7 +1.5**
baz=240,SNR=33
KVN Kaiserville 89.84 48 IAmb IAmb 02 27 46.0
comp=Z,91nm,1.4s
TRF Thorofare Moun 89.89 17 IAmb IAmb 02 27 44.8
comp=Z,31nm,0.9s
Y12C Blythe 90.05 54 P **P** **02 27 45.8 +1.4**
baz=244,SNR=24
Y12C Blythe 90.05 54 IAmb IAmb 02 28 21.6
comp=Z,86nm,1.4s
F04D Rainier, OR 90.12 40 P **P** **02 27 46.4 +2.0**
baz=239,SNR=5.8
TPNV Topopah Spring 90.19 50 P **P** **02 27 46.4 +1.2**
baz=243,SNR=38
TPNV Topopah Spring 90.19 50 IAmb IAmb 02 27 47.7
comp=Z,85nm,1.4s
VRDI Verde Repeater 90.20 20 IAmb IAmb 02 27 45.9
comp=Z,34nm,1.0s
GLB Gilahina Butte 90.24 20 IAmb IAmb 02 27 46.0
comp=Z,60nm,1.0s
RND Reindeer 90.25 17 IAmb IAmb 02 27 47.3
comp=Z,57nm,1.3s
I05D Terrebonne, OR 90.26 42 P **P** **02 27 46.5 +1.3**
baz=240,SNR=16
NEE2 Needles Airpor 90.42 53 P **P** **02 27 47.6 +1.5**
baz=244
214A Organ Pipe Nat 90.60 56 P **P** **02 27 48.4 +1.3**
baz=245,SNR=8.0
214A Organ Pipe Nat 90.60 56 IAmb IAmb 02 28 25.3
comp=Z,95nm,1.6s
E04D Cinebar 90.63 40 P **P** **02 27 48.5 +1.8**
baz=239,SNR=9.1
BWN Browne 90.69 16 IAmb IAmb 02 27 48.9
comp=Z,66nm,1.0s
G05D Wamic, OR 90.72 41 P **P** **02 27 48.9 +1.6**
baz=240
SHPR Sheep Range 90.78 51 IAmb IAmb 02 28 26.2
comp=Z,109nm,1.7s
D03D Eldon 90.83 38 P **P** **02 27 49.3 +1.7**
baz=239,SNR=9.5
D04E Lakebay 90.83 39 P **P** **02 27 50.0 +2.3**
baz=239
F05D White Salmon 90.96 40 P **P** **02 27 49.7 +1.3**
baz=240,SNR=8.0
WVOR Wild Horse Val 91.06 44 P **P** **02 27 50.0 +0.9**
WVOR 02 31 29.4
WVOR pmax pmax
comp=Z,61nm,1.2s
WVOR Wild Horse Val 91.06 44 P **P** **02 27 50.0 +0.9**
WVOR IAmb IAmb 02 27 51.7
comp=Z,61nm,1.1s
WVOR **PP** **02 31 29.4 +1.8**
BMN Battle Mountai 91.08 47 IAmb IAmb 02 27 51.8
comp=Z,62nm,1.2s
W13A Hualapai Mount 91.11 53 IAmb IAmb 02 28 27.6
comp=Z,66nm,1.4s
IMAR Indian Mountai 91.13 14 P **P** **02 27 49.1 +0.5**
LON Longmire 91.18 40 IAmb IAmb 02 27 51.3

comp=Z,26nm,0.9s
R11A Troy Canyon, C 91.28 49 P **P 02 27 51.1 +0.9**
baz=244,SNR=27
R11A Troy Canyon, C 91.28 49 P **P 02 27 50.8 +0.6**
R11A **PP 02 31 27.8 -1.7**
WRH Wood River Hil 91.30 17 IAmb IAmb 02 27 51.0
comp=Z,45nm,1.2s
MENT Mentasta 91.38 19 IAmb IAmb 02 27 51.5
comp=Z,35nm,1.0s
CCB Clear Creek Bu 91.51 17 IAmb IAmb 02 27 51.8
comp=Z,25nm,1.0s
BOD Bodaibo 91.55 334 *eP* **P 02 27 48.0 -2.7**
BOD pmax pmax
comp=Z,24nm,1.7s
HDA Harding Lake 91.56 17 P **P 02 27 50.2 -0.4**
baz=219
RIDG Independent Ri 91.64 18 IAmb IAmb 02 27 52.5
comp=Z,71nm,1.3s
MDM Murphy Dome 91.64 16 IAmb IAmb 02 27 52.4
comp=Z,46nm,1.2s
A04D Lummi Island 91.66 38 P **P 02 27 53.0 +1.5**
baz=239
TCOL CIGO, UAF Yank 91.67 17 P **P 02 27 50.3 -0.9**
baz=219
COLA College 91.68 17*d iP* **P 02 27 50.0 -1.1**
COLA pmax pmax
comp=Z,47nm,1.2s
COLA College 91.68 17 P **P 02 27 50.7 -0.4**
COLA PP **PP 02 31 27.4 -4.3**
B05A Bryant 91.78 38 P **P 02 27 50.6 -1.4**
baz=240
DOT Dot Lake 91.81 19 IAmb IAmb 02 27 53.2
comp=Z,50nm,1.1s
IL31 91.86 17 IAmb IAmb 02 27 52.8
comp=Z,52nm,1.4s
ILAR Eielson Array 91.86 17 P **P 02 27 51.3 -0.7**
comp=Z,9.2nm,0.9s,baz=233,slow=5.8,SNR=50
ILAR PKiKP **PKiKP 02 32 41.0 -1.0**
comp=Z,1.5nm,0.5s,baz=278,slow=2.9,SNR=18
ILAR S **SKSac 02 38 11.0 -1.8**
comp=Z,0.6nm,1.1s,baz=204,slow=10,SNR=4.7
ILAR PKKPbc **PKKPdf 02 45 09.2 -0.5**
comp=Z,2.0nm,0.8s,baz=4.3,slow=3.1,SNR=13
ILAR PKPPKP **P'P'df 02 53 16.1 -1.9**
comp=Z,2.5nm,1.2s,baz=29,slow=2.1,SNR=3.7
ILAR LR LR 03 09 34.0
comp=Z,207nm,18.1s,baz=218,slow=36
ILAR Eielson Array 91.86 17 P **P 02 27 50.6 -1.5**
F07A Phinny Hill Vi 91.89 41 IAmb IAmb 02 27 55.0
comp=Z,33nm,0.8s
POKR Poker Plat Res 91.98 17 P **P 02 27 51.8 -0.8**
baz=219
SCRK Sand Creek 92.08 18 IAmb IAmb 02 27 54.8
comp=Z,50nm,1.1s
BCAR Beaver Creek A 92.08 20 P **P 02 27 52.4 -0.8**
LTY Liberty 92.11 40 IAmb IAmb 02 27 55.8
comp=Z,61nm,1.6s
G08A Pilot Rock 92.20 42 IAmb IAmb 02 27 56.5
comp=Z,42nm,0.9s
E07A Sunnyside 92.26 40 IAmb IAmb 02 27 56.8
comp=Z,38nm,1.0s
C06D Leavenworth 92.30 39 P **P 02 27 55.0 +0.5**
baz=240
TUC Tucson 92.31 56 P **P 02 27 56.3 +1.3**
baz=246
TUC Tucson 92.31 56 P **P 02 27 56.3 +1.3**
TUC pmax pmax
comp=Z,73nm,1.8s
TUC Tucson 92.31 56 P **P 02 27 56.3 +1.3**
TUC IAmb IAmb 02 28 33.4
comp=Z,73nm,1.8s
LCMT Little Creek M 92.39 51 P **P 02 27 56.3 +0.9**
LCMT **PP 02 31 39.8 +1.6**
ZAK Zakamensk 92.47 324 *eP* P 02 27 48.0 -7.4
ZAK pmax pmax
comp=Z,27nm,1.3s
CCUT Cedar City 92.53 51 P **P 02 27 57.0 +0.9**
CCUT **PP 02 31 38.5 -0.9**
X16A Lo Mia Camp, P 92.66 54 P **P 02 27 57.6 +0.9**
X16A IAmb IAmb 02 28 35.1
comp=Z,48nm,1.4s
X16A **PP 02 31 36.9 -3.5**
E08A Dider Farm, El 92.71 41 IAmb IAmb 02 27 58.7
comp=Z,47nm,1.0s
PRP Porcupine Dome 92.80 17 IAmb IAmb 02 27 58.4
comp=Z,26nm,1.1s
U15A North Rim 92.84 52 IAmb IAmb 02 28 00.4
comp=Z,35nm,0.9s
TLY Talaya 92.94 325*c iP* **P 02 27 58.0 +0.6**
TLY pmax pmax
comp=Z,16nm,1.0s
319A Douglas 93.12 58 IAmb IAmb 02 28 38.3
comp=Z,78nm,1.7s
WUAZ Wupatki 93.15 53 P **P 02 28 00.2 +1.3**
baz=246
TAPN Taplejung 93.27 298 *eP* **P 02 28 00.2 +0.4**
comp=Z,61nm,1.0s
ODAN Odare 93.35 297 *eP* **P 02 28 00.6 +0.5**
comp=Z,86nm,0.9s
MFID Camas Ranch 93.35 45 P **P 02 27 59.5 0.0**
MFID **PP 02 31 43.0 -2.6**
DLBC Dease Lake 93.38 27 P **P 02 28 00.4 +1.1**
comp=Z,26nm,0.9s,baz=239,slow=6.1,SNR=2.8
DLBC PP **PP 02 31 47.4 +2.1**
comp=Z,18nm,0.8s,baz=209,slow=2.9,SNR=3.5
DAWY Dawson 93.55 20 IAmb IAmb 02 28 01.5
comp=Z,50nm,1.0s
FYU Fort Yukon 93.68 16 IAmb IAmb 02 28 02.2
comp=Z,23nm,1.1s
X18A Snowflake 93.83 55 IAmb IAmb 02 28 40.1
comp=Z,43nm,1.4s
DUG Dugway, Tooele 94.02 48 P **P 02 28 03.7 +0.9**
baz=246
RAMN Ramite 94.04 297 *eP* **P 02 28 03.5 +0.2**
comp=Z,24nm,0.7s
W18A Petrified Fore 94.22 54 P **P 02 28 04.7 +0.8**
baz=247
MOY Mondy 94.37 324 *eP* **P 02 28 04.8 +0.7**
BMAR Burnt Mountain 94.50 16 P **P 02 28 04.4 +0.2**
JIRN Jiri 94.64 298 *eP* **P 02 28 06.5 +0.3**
comp=Z,36nm,0.7s
NEW Newport 94.69 40 P **P 02 28 05.8 +0.3**
baz=243
NEW Newport 94.69 40 PP **PP 02 31 55.4 -0.4**
comp=Z,0.6nm,0.3s,baz=192,slow=6.7,SNR=4.5
NEW Newport 94.69 40 IAmb IAmb 02 28 40.3
comp=Z,35nm,1.9s
121A Cookes Peak, D 94.74 57 P **P 02 28 07.4 +1.1**
baz=248
GUN Gumba 94.98 298 *eP* **P 02 28 08.0 +0.2**
comp=Z,38nm,0.9s
PKI Pulchoki 95.25 297 *eP* **P 02 28 09.2 +0.2**
comp=Z,44nm,0.8s
PKIN Phulchoki 95.26 297 *eP* **P 02 28 09.0 +0.1**
comp=Z,44nm,1.0s
KKN Kakani 95.43 298 *eP* **P 02 28 10.0 +0.3**
comp=Z,45nm,0.8s
DMN Daman 95.51 297 *eP* **P 02 28 10.4 +0.3**
comp=Z,80nm,0.9s
EPYK Eagle Plains 95.94 19 P **P 02 28 11.0 +0.2**
baz=229
MVCO Mesa Verde 95.95 52 P **P 02 28 11.9 +0.1**
baz=248
EFI East Falkland 95.99 152*d iP* **P 02 28 10.2 -1.3**
EFI pmax pmax
comp=Z,58nm,1.0s
EFI East Falkland 95.99 152 P **P 02 28 11.3 -0.2**
MSO Missoula 96.02 42 P **P 02 28 11.9 +0.2**
baz=245
GKN Gorkha 96.04 298 *eP* **P 02 28 12.1 -0.2**
comp=Z,59nm,0.9s
MNTX Cornudas Mount 96.33 59 P **P 02 28 14.0 +0.6**
baz=249
MNTX Cornudas Mount 96.33 59 IAmb IAmb 02 28 50.2
comp=Z,31nm,1.9s
PLCA Paso Flores 96.41 138 P **P 02 28 14.2 +0.3**
comp=Z,35nm,1.1s,baz=258,slow=4.5,SNR=31
PLCA PKKPbc **PKKPbc 02 44 58.5 -0.3**
comp=Z,1.7nm,0.7s,baz=115,slow=3.1,SNR=5.1
PLCA Paso Flores 96.41 138 *eP* **P 02 28 14.1 +0.3**
PLCA Paso Flores 96.41 138 *eP* **P 02 28 14.1 +0.3**
ANMO Albuquerque 96.65 55 P **P 02 28 15.4 +0.4**
baz=249
ANMO Albuquerque 96.65 55*de* **P 02 28 15.7 +0.7**
ANMO pmax pmax
comp=Z,3.0nm,0.9s
ANMO Albuquerque 96.65 55 P **P 02 28 14.4 -0.6**
ANMO PP **PP 02 32 10.4 -1.1**
KOLN Koldanda 96.82 297 *eP* **P 02 28 15.6 -0.3**
comp=Z,21nm,0.6s
TXAR Lajitas Array 96.88 61 P **P 02 28 16.9 +0.9**
comp=Z,1.8nm,1.0s,baz=220,slow=4.1,SNR=12
TXAR pP **pP 02 28 48.0 +0.4**
comp=Z,1.2nm,1.0s,baz=135,slow=0.4,SNR=2.2
TXAR PP **PP 02 32 10.5 -2.8**
comp=Z,0.7nm,1.1s,baz=209,slow=9.1,SNR=2.6
TXAR PKiKP **PKiKP 02 32 54.0 +2.1**
comp=Z,0.7nm,0.7s,baz=241,slow=1.3,SNR=6.2
TXAR S **SKSac 02 38 42.3 +0.6**
comp=Z,0.2nm,0.7s,baz=217,slow=5.7,SNR=2.1
TXAR PKKPbc **PKKPdf 02 44 58.6 -0.8**
comp=Z,1.8nm,0.6s,baz=108,slow=3.6,SNR=32
TXAR LR LR 03 03 34.6
comp=Z,70nm,21.6s,baz=0.0,slow=30
TXAR Lajitas Array 96.88 61 P **P 02 28 16.1 +0.1**
DANN Dangsing 96.89 298 *eP* **P 02 28 15.8 -0.5**
comp=Z,45nm,0.9s
TIXI Tiksi 96.89 348*d iP* **P 02 28 14.4 -0.5**
TIXI pmax pmax
comp=Z,8.0nm,1.2s
TIXI Tiksi 96.89 348 S **SKSac 02 38 38.2 -1.4**
comp=Z,1.5nm,0.2s,baz=360,slow=23,SNR=3.5
TIXI Tiksi 96.89 348 P **P 02 28 13.6 -1.3**
BOZ Bozeman (W) 96.99 44 P **P 02 28 16.8 +0.6**
baz=247
O20A White River Ci 97.22 50 P Pdif 02 28 18.0 +0.5
baz=248
BW06 Boulder Array 97.28 47 P **P 02 28 17.6 -0.1**
baz=248
PDAR Pinedale Array 97.28 47 P Pdif 02 28 17.8 0.0
comp=Z,1.9nm,0.9s,baz=11,slow=1.5,SNR=12
PDAR pP pP 02 28 48.1 -1.2
comp=Z,1.3nm,0.7s,baz=221,slow=2.3,SNR=2.8
PDAR PP **PP 02 32 11.4 -4.7**
comp=Z,8.0nm,1.2s,baz=256,slow=6.0,SNR=5.8
PDAR PKiKP **PKiKP 02 32 53.9 +1.5**
comp=Z,1.2nm,0.7s,baz=206,slow=2.5,SNR=4.6
PDAR PKKPbc **PKKPbc 02 44 55.6 -1.6**
comp=Z,1.4nm,0.7s,baz=85,slow=6.7,SNR=12
PDAR PKPPKP **P'P'df 02 53 08.9 -1.1**
comp=Z,0.8nm,1.0s,baz=45,slow=0.5,SNR=5.4
PDAR LR LR 03 04 22.2
comp=Z,90nm,21.4s,baz=262,slow=30
PDAR Pinedale Array 97.28 47 P **P 02 28 17.2 -0.4**
PDAR PP 02 32 06.5 -10
S22A 4UR Ranch, Cre 97.38 52 P Pdif 02 28 18.7 +0.3
baz=249
INK Inuvik 98.14 18 P **P 02 28 20.5 -0.1**
comp=Z,18nm,1.0s,baz=212,slow=5.1,SNR=41
INK PKiKP **PKiKP 02 32 52.4 -0.4**
comp=Z,4.2nm,0.6s,baz=191,slow=0.6,SNR=26
INK S **SKSac 02 38 47.2 +1.1**
comp=Z,1.0nm,0.8s,baz=24,slow=28,SNR=7.2
INK PKKPbc **PKKPbc 02 44 52.8 -2.7**
comp=Z,4.6nm,0.7s,baz=18,slow=3.7,SNR=22
RLMT Red Lodge 98.35 45 P Pdif 02 28 23.2 +0.8
baz=248
SDCO Great Sand Dun 98.36 53 P Pdif 02 28 22.9 +0.1
baz=250
GO05 Huala 98.72 133 IAmb IAmb 02 28 26.8
comp=Z,33nm,1.1s
EGMT Eagleton 99.10 42 P **Pdif 02 28 26.2 +0.6**
baz=252
MSTX Muleshoe 99.17 57 P **Pdif 02 28 26.1 -0.1**
baz=251
WMQ Urumqi 99.27 313 *eP* **Pdif 02 28 27.2 +0.8**
WMQ SKS **SKSac 02 38 53.1 0.0**
WMQ pmax pmax
comp=Z,16nm,1.3s
WMQ pmax pmax
comp=Z,140nm,4.5s
WMQ LR LR
comp=Z,830nm,28.9s
WMQ LR LR
comp=Z,2μm,28.8s
WMQ LR LR
comp=Z,270nm,28.9s
K22A Casper 99.32 48 P **Pdif 02 28 27.2 +0.5**
baz=250
LAO LASA Array 100.89 44 P **Pdif 02 28 34.6 +1.1**
baz=251
ABTX Abilene, Hawle 101.23 59 P **Pdif 02 28 36.0 +0.7**
baz=252
RSSD Black Hills 101.52 47 P **Pdif 02 28 36.6 0.0**
baz=252
C36M Paulatuk 101.56 19 P **Pdif 02 28 36.4 +0.5**
baz=240
YKA Yellowknife Ar 102.00 27 P **Pdif 02 28 38.1 +0.2**
comp=Z,5.6nm,0.8s,baz=255,slow=4.7,SNR=15
YKA PKiKP **PKiKP 02 32 59.1 -0.7**
comp=Z,2.9nm,0.7s,baz=247,slow=1.5,SNR=12
YKA PKKPbc **PKKPbc 02 44 41.7 -2.6**
comp=Z,1.1nm,0.6s,baz=55,slow=2.6,SNR=7.5
YKA PKKP PKKPdf 02 45 02.5 +12
comp=Z,3.8nm,1.0s,baz=67,slow=4.7,SNR=7.5
YKA Yellowknife Ar 102.00 27 Pdif 02 28 37.7 -0.3
YKA PKiKP **PKiKP 02 32 58.0 -1.9**
DGMT Dagmar 102.75 43 P **Pdif 02 28 42.8 +1.2**
baz=252
WHTX Lake Whitney, 102.80 61 P **Pdif 02 28 43.3 +1.0**
baz=253
CBKS Cedar Bluff 103.00 53 P **Pdif 02 28 44.2 +1.1**
baz=253
MKAR Makanchi Array 103.83 315 P **Pdif 02 28 46.2 -0.3**
MKAR Makanchi Array 103.83 315 Pdiff **Pdif 02 28 47.2 +0.7**
comp=Z,1.0nm,0.6s,baz=98,slow=6.0,SNR=5.1
MKAR PKiKP **PKiKP 02 33 03.2 -0.5**
comp=Z,3.4nm,0.7s,baz=231,slow=2.1,SNR=17
MKAR PKKPbc **PKKPbc 02 44 36.0 -2.3**
comp=Z,7.2nm,0.6s,baz=268,slow=3.0,SNR=48
MKAR PKKP PKKPdf 02 44 55.9 +8.7
comp=Z,9.3nm,0.8s,baz=294,slow=4.1,SNR=16
MKAR PKPPKP **P'P'df 02 52 58.1 +1.0**
comp=Z,1.7nm,0.9s,baz=17,slow=4.5,SNR=5.5
MKAR Makanchi Array 103.83 315 Pdif 02 28 46.2 -0.3
ZALV Zalesovo Beam 104.28 323 P **Pdif 02 28 47.0 -1.3**
ZALV Zalesovo Beam 104.28 323 Pdiff **Pdif 02 28 48.6 +0.3**
comp=Z,0.6nm,0.3s,baz=202,slow=7.3,SNR=3.5
ZALV PKiKP **PKiKP 02 33 03.8 -0.5**
comp=Z,4.1nm,0.9s,baz=180,slow=0.7,SNR=7.9
ZALV SKS 02 39 56.9
comp=Z,0.7nm,0.3s,baz=141,slow=2.8,SNR=4.0
ZALV PKKPbc **PKKPbc 02 44 35.0 -2.1**
comp=Z,2.9nm,0.5s,baz=283,slow=2.6,SNR=8.6
ZALV Zalesovo Beam 104.28 323 Pdif 02 28 47.0 -1.3
TUL1 Leonard 105.22 57 P **PKiKP 02 33 06.1 -0.5**
baz=255
KSU1 Kansas State U 105.43 54 P **PKiKP 02 33 06.4 -0.5**
baz=255
ECSD EROS Data Cent 106.56 49 P **PKiKP 02 33 07.6 -1.3**
baz=256
NRIK Noril'sk 107.14 338 Pdiff **Pdif 02 29 01.0 +0.3**
comp=Z,1.3nm,0.3s,baz=153,slow=6.8,SNR=3.3
NRIK PKiKP **PKiKP 02 33 07.8 -1.4**
comp=Z,5.6nm,0.7s,baz=76,slow=3.5,SNR=7.1
NRIK PKKPbc **PKKPbc 02 44 26.4 -2.5**
comp=Z,1.1nm,0.3s,baz=297,slow=2.2,SNR=4.7
NRIK PKKPab **PKKPdf 02 44 41.6 +0.1**
comp=Z,1.0nm,0.3s,baz=350,slow=2.7,SNR=5.4
KURBB Kurchatov Arra 107.19 318 PKiKP **PKiKP 02 33 08.6 -1.1**
comp=Z,6.6nm,0.8s,baz=109,slow=1.9,SNR=22
KURBB PKKPbc **PKKPbc 02 44 24.7 -3.3**
comp=Z,10nm,0.8s,baz=283,slow=3.7,SNR=26
KURBB PKKPab **PKKPdf 02 44 41.3 +0.4**
comp=Z,9.3nm,1.0s,baz=283,slow=5.2,SNR=12
U40A Yellville 107.64 57 P **PKiKP 02 33 09.9 -1.2**
baz=256
W41B Gary Mavity, V 107.84 59 P **PKiKP 02 33 10.4 -1.1**
baz=256
AGMN Agassiz Nation 108.08 44 P **PKiKP 02 33 10.2 -1.3**
baz=258
AAK Ala-Archa 108.19 309 PKiKP **PKiKP 02 33 11.6 -0.5**
comp=Z,2.8nm,1.0s,baz=124,slow=7.3,SNR=2.7
AAK PKKPbc **PKKPbc 02 44 22.3 -2.5**
comp=Z,7.9nm,0.8s,baz=118,slow=1.5,SNR=14
ULM Lac du Bonnet 108.46 42 PKiKP **PKiKP 02 33 10.9 -1.3**
comp=Z,6.6nm,0.6s,baz=268,slow=2.4,SNR=13
ULM PKKPbc **PKKPbc 02 44 22.6 -1.5**
comp=Z,2.0nm,0.5s,baz=194,slow=2.6,SNR=3.6
ULM PKKPab **PKKPab 02 44 35.2 +0.6**
comp=Z,2.8nm,0.8s,baz=67,slow=3.8,SNR=5.7
SCIA State Center 108.60 51 P **PKiKP 02 33 11.9 -0.8**
baz=258
X43A Marvell 108.78 60 P **PKiKP 02 33 12.6 -0.7**
baz=257
CCM Cathedral Cave 109.27 56 P **PKiKP 02 33 13.5 -0.6**
baz=258
SPMN Marine on St. 109.55 48 P **PKiKP 02 33 13.8 -0.6**
baz=259
S44A Carbondale 110.74 57 P **PKiKP 02 33 15.6 -1.2**
baz=259
JFWS Jewell Farm 110.95 51 P **PKiKP 02 33 15.7 -1.4**
baz=260
BRAL Brewton 111.18 64 P **PKiKP 02 33 16.2 -1.6**
baz=257
HDIL Hopedale 111.24 54 P **PKiKP 02 33 16.4 -1.3**
baz=260
WVT Waverly 111.56 58 P **PKiKP 02 33 17.0 -1.4**
baz=259
RES Resolute Bay 111.61 17 PKiKP **PKiKP 02 33 16.3 -1.1**
comp=Z,15nm,0.8s,baz=270,slow=1.7,SNR=34
RES PKKPbc **PKKPbc 02 44 12.7 -1.8**
comp=Z,4.5nm,0.8s,baz=82,slow=2.8,SNR=8.1
RES PKKPab **PKKPab 02 44 21.8 +1.8**
comp=Z,6.5nm,0.9s,baz=69,slow=4.8,SNR=7.5
LRAL Lakeview Retre 111.61 62 P **PKiKP 02 33 17.4 -1.2**
baz=258
LPAZ La Paz 111.67 118 PKiKP **PKiKP 02 33 19.8 -0.3**
comp=Z,3.4nm,0.6s,baz=163,slow=0.6,SNR=9.7
LPAZ PKKPbc **PKKPbc 02 44 13.1 -0.3**
comp=Z,0.9nm,0.6s,baz=36,slow=6.9,SNR=3.9
X48A Hartselle 111.86 60 P **PKiKP 02 33 17.6 -1.5**
baz=259
250A Grady 112.00 63 P **PKiKP 02 33 18.5 -0.9**
baz=258
Y49A Blount Mountai 112.26 61 P **PKiKP 02 33 18.8 -1.1**
baz=259
V48A Smith Brothers 112.28 59 P **PKiKP 02 33 18.5 -1.4**
baz=259
T47A Sharon Grove 112.29 58 P **PKiKP 02 33 18.5 -1.3**
baz=260
POPC Popayan, Colom 112.40 96 *eP* **PKiKP 02 33 19.3 -1.7**
POPC Popayan, Colom 112.40 96 *eP* **PKiKP 02 33 19.3 -1.7**
Z50A Ashland 112.54 62 P **PKiKP 02 33 19.3 -1.2**
baz=259
BVAR Borovoye Array 112.56 320 PKiKP **PKiKP 02 33 19.4 -0.4**
comp=Z,11nm,0.7s,baz=134,slow=1.6,SNR=52
BVAR PKKPbc **PKKPbc 02 44 08.7 -2.1**
comp=Z,7.4nm,0.6s,baz=266,slow=3.3,SNR=40
W49A Belvidere 112.62 60 P **PKiKP 02 33 18.8 -1.7**
baz=259
BRVK Borovoye 112.63 320*d iP* PKiKP **PKiKP 02 33 19.2 -0.8**
BRVK pmax pmax
comp=Z,24nm,1.3s
P46A Rosedale 112.66 55 P **PKiKP 02 33 19.3 -1.2**
baz=261
SFIN Lafayette 112.86 54 P **PKiKP 02 33 19.8 -1.0**
baz=261
FLOC Florencia 112.99 98 *eP* **PKiKP 02 33 21.1 -0.8**
FLOC Florencia 112.99 98 *eP* **PKiKP 02 33 21.1 -0.8**
352A Blakely 113.02 64 P **PKiKP 02 33 20.7 -0.6**
baz=258
V49A McMinnville 113.03 59 P **PKiKP 02 33 19.4 -1.9**
baz=260
WCI Wyandotte Cave 113.14 56 P **PKiKP 02 33 20.2 -1.2**
baz=261
Z51A Franklin 113.17 62 P **PKiKP 02 33 20.4 -1.3**
baz=259
553A Crawfordville 113.18 65 P **PKiKP 02 33 20.7 -1.0**
baz=258
YOTC Yotoco, Valle 113.23 95 *eP* **PKiKP 02 33 21.0 -1.5**
YOTC Yotoco, Valle 113.23 95 *eP* **PKiKP 02 33 21.0 -1.5**
U49A Red Boiling Sp 113.25 58 P **PKiKP 02 33 20.2 -1.5**
baz=260,SNR=9.2
252A Lumpkin 113.28 63 P **PKiKP 02 33 20.5 -1.3**
baz=259
Y51A Rockmart 113.37 61 P **PKiKP 02 33 20.6 -1.5**
baz=259,SNR=5.7
W50A Signal Mountai 113.40 60 P **PKiKP 02 33 20.6 -1.5**
baz=260,SNR=5.4
453A Whigham 113.40 65 P **PKiKP 02 33 21.3 -0.9**
baz=258
152A Waverly Hall 113.42 63 P **PKiKP 02 33 20.8 -1.3**
baz=259
T49A Edmonton 113.55 58 P **PKiKP 02 33 20.8 -1.5**
baz=261,SNR=6.7
353A Camilla 113.59 64 P **PKiKP 02 33 21.5 -0.9**
baz=259
V50A Pikevile 113.65 59 P **PKiKP 02 33 21.0 -1.5**
baz=260
Q48A North Vernon 113.68 56 P **PKiKP 02 33 21.3 -1.1**
baz=261
L46A Eue Claire 113.70 52 P **PKiKP 02 33 21.2 -1.1**
baz=262
Z52A Williamson 113.77 62 P **PKiKP 02 33 21.7 -1.1**
baz=259
253A Americus 113.80 63 P **PKiKP 02 33 21.6 -1.3**
baz=259
J45A Montague 113.81 51 P **PKiKP 02 33 21.6 -0.9**
baz=263
W51A Cleveland 113.84 60 P **PKiKP 02 33 21.5 -1.4**
baz=260
S49A Springfield 113.85 57 P **PKiKP 02 33 21.4 -1.4**
baz=261,SNR=7.4
CPUP Villa Florida 113.94 134 PKiKP **PKiKP 02 33 22.7 -0.7**
comp=Z,5.4nm,0.8s,baz=296,slow=1.5,SNR=12
454A Quitman 113.96 65 P **PKiKP 02 33 21.6 -1.6**
baz=259
U50A Jamestown 113.98 59 P **PKiKP 02 33 21.7 -1.4**
baz=261,SNR=12
N47A Urbana 113.99 54 P **PKiKP 02 33 21.7 -1.3**
baz=262
P48A Milroy 113.99 55 P **PKiKP 02 33 21.7 -1.4**
baz=262
I45A Fountain 114.00 50 P **PKiKP 02 33 21.8 -1.0**
baz=263
R49A Shelbyville 114.02 56 P PKPdf 02 33 21.8 -1.3
baz=261
T50A Nancy 114.08 58 P PKPdf 02 33 21.9 -1.3
baz=261,SNR=8.3
TIGA Tifton 114.13 64 P PKPdf 02 33 22.7 -0.8
baz=259
K46A Dorr 114.16 52 P PKPdf 02 33 22.1 -1.1
baz=263
Y52A Lilburn 114.18 61 P PKPdf 02 33 22.6 -0.9
baz=260
ORTC Ortega, Tolima 114.23 95 *eP* PKPdf 02 33 22.7 -1.6
ORTC Ortega, Tolima 114.23 95 *eP* PKPdf 02 33 22.7 -1.6
V51A Loudon 114.27 59 P PKPdf 02 33 22.4 -1.3
baz=261
O48A Farmland 114.31 54 P PKPdf 02 33 22.5 -1.1
baz=262
Q49A Aurora 114.34 56 P PKPdf 02 33 23.3 -0.4
baz=262
J46A Howard City 114.34 51 P PKPdf 02 33 23.0 -0.6
baz=263
X52A Dahlonega 114.44 61 P PKPdf 02 33 23.0 -1.1
baz=260,SNR=8.1
254A Abbeville 114.48 64 P PKPdf 02 33 22.9 -1.3
baz=259
Z53A Monticello 114.48 62 P PKPdf 02 33 23.0 -1.1
baz=260
RREF El Recreo 114.49 94 *eP* PKPdf 02 33 25.2 -0.3
RREF El Recreo 114.49 94 *eP* PKPdf 02 33 25.2 -0.3
N48A Decatur 114.49 54 P PKPdf 02 33 22.9 -1.1
baz=262,SNR=5.6
E44A Grand Marais A 114.50 47 P PKPdf 02 33 22.8 -1.0
baz=265
W52A Murphy 114.50 60 P PKPdf 02 33 22.9 -1.2
baz=260,SNR=6.5
L47A Sherwood 114.50 52 P PKPdf 02 33 22.9 -1.0
baz=263,SNR=5.9
S50A Richmond 114.53 57 P PKPdf 02 33 22.9 -1.2
baz=261,SNR=8.5
P49A Miami Univ. Ec 114.55 55 P PKPdf 02 33 22.8 -1.3
baz=262,SNR=6.0
I46A Reed City 114.55 50 P PKPdf 02 33 22.8 -1.1
baz=264
Y53A Monroe 114.57 62 P PKPdf 02 33 23.0 -1.3
baz=260
GUY2C Guyana, Caldas 114.59 94 *eP* PKPdf 02 33 24.7 -0.8
GUY2C Guyana, Caldas 114.59 94 *eP* PKPdf 02 33 24.7 -0.8
GOGA Godfrey 114.59 62 P PKPdf 02 33 23.3 -1.0
baz=260
656A Willston 114.63 67 P PKPdf 02 33 24.2 -0.3
baz=259
U51A La Follette 114.63 59 P PKPdf 02 33 24.3 -0.1
baz=261
R50A Paris 114.67 57 P PKPdf 02 33 23.1 -1.2
baz=262
K47A Vermontville 114.73 52 P PKPdf 02 33 23.2 -1.1
baz=263
154A Montrose 114.75 63 P PKPdf 02 33 23.6 -1.0

baz=260
HELC Santa Helena 114.77 93 eP PKPdf 02 33 24.8 -0.9
HELC Santa Helena 114.77 93 eP PKPdf 02 33 24.8 -0.9
T51A Gray 114.78 58 P PKPdf 02 33 23.5 -1.1
baz=261,SNR=7.2
H46A Fife Lake 114.79 50 P PKPdf 02 33 23.1 -1.2
baz=264,SNR=6.9
V52A Sevierville 114.89 59 P PKPdf 02 33 24.0 -0.8
baz=261,SNR=7.4
X53A Estanollee 114.91 61 P PKPdf 02 33 24.2 -0.7
baz=261
O49A Covington 114.93 55 P PKPdf 02 33 23.4 -1.4
baz=263,SNR=5.5
J47A Sunmer 114.93 51 P PKPdf 02 33 23.8 -0.8
baz=264,SNR=7.1
Q50A Georgetown 115.02 56 P PKPdf 02 33 23.8 -1.2
baz=262
TZTN Tazewell 115.03 59 P PKPdf 02 33 24.2 -0.9
baz=261
L48A N Adams 115.07 53 P PKPdf 02 33 24.1 -0.9
baz=263,SNR=5.6
Z54A Sparta 115.08 62 P PKPdf 02 33 24.0 -1.2
baz=260
G46A Petoskey 115.11 49 P PKPdf 02 33 23.6 -1.3
baz=265,SNR=7.3
W53A Cullowhee 115.13 60 P PKPdf 02 33 24.7 -0.8
baz=261,SNR=7.5
N49A Columbus Grove 115.13 54 P PKPdf 02 33 24.1 -1.0
baz=263,SNR=10
U52A Thorn Hill 115.15 59 P PKPdf 02 33 25.0 -0.4
baz=261
255A Hazlehurst 115.16 64 P PKPdf 02 33 24.6 -0.9
baz=260
S51A Beattyville 115.16 57 P PKPdf 02 33 24.5 -0.8
baz=262,SNR=12
NORC Norcasia 115.17 94 eP PKPdf 02 33 24.1 -2.0
NORC Norcasia 115.17 94 eP PKPdf 02 33 24.1 -2.0
GLMI Grayling 115.23 49 P PKPdf 02 33 24.2 -1.0
baz=265
R51A Hillsboro 115.25 57 P PKPdf 02 33 24.0 -1.4
baz=262
P50A Jamestown 115.26 55 P PKPdf 02 33 24.0 -1.4
baz=263
155A Kite 115.28 63 P PKPdf 02 33 24.9 -0.7
baz=260
Y54A Tignall 115.31 62 P PKPdf 02 33 24.9 -0.8
baz=261,SNR=5.1
M49A Liberty Center 115.35 53 P PKPdf 02 33 24.5 -1.0
baz=263,SNR=8.0
K48A Perry 115.39 52 P PKPdf 02 33 24.6 -1.0
baz=264,SNR=5.6
ROSC El Rosal 115.42 95 PKP PKPdf 02 33 26.3 -0.7
comp=Z,178nm,0.6s,baz=153,slow=4.9,SNR=15
ROSC PKKPbc PKKPbc 02 44 02.3 +2.0
comp=Z,5.5nm,0.5s,baz=136,slow=21,SNR=4.7
O50A Cable 115.46 55 P PKPdf 02 33 24.5 -1.4
baz=263,SNR=7.6
V53A Saluda 115.49 60 P PKPdf 02 33 25.2 -0.9
baz=261
H47A Mio 115.51 50 P PKPdf 02 33 24.7 -1.1
baz=265
Q51A Peebles 115.53 56 P PKPdf 02 33 24.8 -1.2
baz=263,SNR=6.0
T52A Hallie 115.56 58 P PKPdf 02 33 25.8 -0.3
baz=262,SNR=7.3
S52A Salyersville 115.57 57 P PKPdf 02 33 25.2 -0.9
baz=262,SNR=5.5
L49A Milan 115.58 52 P PKPdf 02 33 25.1 -0.8
baz=264,SNR=6.7
256A Glennville 115.66 64 P PKPdf 02 33 25.8 -0.6
baz=260
X54A Belton 115.67 61 P PKPdf 02 33 25.6 -0.8
baz=261
J48A Bridge Port 115.69 51 P PKPdf 02 33 25.1 -1.1
baz=264
U53A Fall Branch 115.78 59 P PKPdf 02 33 25.9 -0.7
baz=262,SNR=10
G47A Hillman 115.81 49 P PKPdf 02 33 25.4 -0.9
baz=265
D46A Sault St. Mari 115.81 47 P PKPdf 02 33 24.9 -1.3
baz=266
P51A Williamsport 115.81 55 P PKPdf 02 33 25.0 -1.5
baz=263
I48A Sherman Twp 115.83 50 P PKPdf 02 33 25.3 -1.0
baz=265
ZARC Zaragoza, Cauc 115.84 92 eP PKPdf 02 33 26.1 -1.2
ZARC Zaragoza, Cauc 115.84 92 eP PKPdf 02 33 26.1 -1.2
K49A Clarkson 115.88 52 P PKPdf 02 33 25.1 -1.4
baz=264
CHIC Chingaza 115.89 95 eP PKPdf 02 33 26.2 -1.7
CHIC Chingaza 115.89 95 eP PKPdf 02 33 26.2 -1.7
PTBC PUERTO BERRIO 115.89 93 eP PKPdf 02 33 25.2 -2.3
PTBC PUERTO BERRIO 115.89 93 eP PKPdf 02 33 25.2 -2.3
N50A Nevada 115.89 54 P PKPdf 02 33 25.5 -1.1
baz=264,SNR=5.3
T53A Wise 115.90 58 P PKPdf 02 33 26.5 -0.3
baz=262,SNR=22
W54A Cherokee Point 115.91 60 P PKPdf 02 33 26.0 -0.8
baz=261,SNR=5.3
SPBC San Pablo de B 115.94 94 eP PKPdf 02 33 26.1 -1.5
SPBC San Pablo de B 115.94 94 eP PKPdf 02 33 26.1 -1.5
ACSO Alum Creek Sta 115.96 55 P PKPdf 02 33 25.4 -1.4
baz=264,SNR=6.9
R52A Catlettsburg 115.99 57 P PKPdf 02 33 25.6 -1.3
baz=263
Y55A Saluda 116.00 62 P PKPdf 02 33 26.0 -1.0
baz=261
M50A Fremont 116.04 53 P PKPdf 02 33 25.8 -1.0
baz=264
156A Sylvania 116.10 63 P PKPdf 02 33 26.5 -0.7
baz=261
H48A Harrisville 116.14 50 P PKPdf 02 33 25.5 -1.5
baz=265
J49A Marlette 116.16 51 P PKPdf 02 33 25.8 -1.2
baz=265
V54A Nebo 116.20 60 P PKPdf 02 33 26.5 -0.9
baz=262
O51A Pataskala 116.24 55 P PKPdf 02 33 25.9 -1.4
baz=264
X55A Gracelyn & Ava 116.27 61 P PKPdf 02 33 26.7 -0.8
baz=261
L50A Kingsville 116.28 53 P PKPdf 02 33 26.3 -1.0
baz=264,SNR=5.6
E47A Iron Bridge 116.30 48 P PKPdf 02 33 26.0 -1.2
baz=266
Z56A Williston 116.31 62 P PKPdf 02 33 27.0 -0.6
baz=261,SNR=5.2
SJCC San Jacinto, C 116.34 89 eP PKPdf 02 33 27.6 -0.8
SJCC San Jacinto, C 116.34 89 eP PKPdf 02 33 27.6 -0.8
Q52A Bidwell 116.36 56 P PKPdf 02 33 26.1 -1.5
baz=263,SNR=5.3
U54A Nelsons Funny 116.41 59 P PKPdf 02 33 27.0 -0.8
baz=262,SNR=6.7
Y56A Pelion 116.43 62 P PKPdf 02 33 27.2 -0.7
baz=261
K50A Casco 116.49 52 P PKPdf 02 33 26.2 -1.5
baz=265
N51A Ashland 116.49 54 P PKPdf 02 33 26.6 -1.2
baz=264
157A Early Branch 116.52 63 P PKPdf 02 33 27.0 -1.0
baz=261
R53A Hurricane 116.53 57 P PKPdf 02 33 26.9 -1.0
baz=263
P52A Corning 116.54 55 P PKPdf 02 33 26.4 -1.5
baz=264,SNR=7.0
KMSC Kings Mountain 116.61 60 P PKPdf 02 33 27.4 -0.8
baz=262,SNR=5.0
T54A Tazewell 116.67 58 P PKPdf 02 33 27.5 -0.9
baz=263,SNR=8.9
M51A Elyria 116.68 53 P PKPdf 02 33 27.1 -1.0
baz=264
F48A Evansville 116.72 48 P PKPdf 02 33 26.8 -1.2
baz=266
X56A White Oak 116.76 61 P PKPdf 02 33 27.7 -0.8
baz=262
BRRC Barranca, Sant 116.78 93 eP PKPdf 02 33 27.3 -1.8
BRRC Barranca, Sant 116.78 93 eP PKPdf 02 33 27.3 -1.8
V55A Taylorsville 116.80 60 P PKPdf 02 33 27.8 -0.7
baz=262,SNR=5.8
O52A Adamsville 116.82 55 P PKPdf 02 33 27.2 -1.2
baz=264
Z57A Bowman 116.86 63 P PKPdf 02 33 27.9 -0.8
baz=261
Q53A Leroy 116.92 56 P PKPdf 02 33 27.5 -1.2
baz=264,SNR=5.9
S54A Dingess, Beckl 116.97 57 P PKPdf 02 33 28.0 -0.9
baz=263,SNR=5.9
N52A McGinn's Farm, 117.00 54 P PKPdf 02 33 27.6 -1.1
baz=264
SMLC San Martn de 117.01 91 eP PKPdf 02 33 28.2 -1.3
SMLC San Martn de 117.01 91 eP PKPdf 02 33 28.2 -1.3
U55A TA2, Sparta 117.02 59 P PKPdf 02 33 28.2 -0.8
baz=263,SNR=11
E48A Lockeyer 117.07 48 P PKPdf 02 33 27.5 -1.2
baz=267
P53A Whipple 117.10 56 P PKPdf 02 33 27.9 -1.1
baz=264,SNR=6.8
BARC Barichara 117.10 93 eP PKPdf 02 33 24.6 -5.4
BARC Barichara 117.10 93 eP PKPdf 02 33 24.6 -5.4
F49A Sandfield 117.12 49 P PKPdf 02 33 27.6 -1.2
baz=267
W56A Indian Trail 117.22 61 P PKPdf 02 33 28.2 -1.1
baz=262
Y57A Sumter 117.22 62 P PKPdf 02 33 28.4 -1.0
baz=262
WSAR Wadi Sarin 117.23 286 PKKPbc PKKPbc 02 43 54.1 +0.3
comp=Z,3.6nm,0.5s,baz=269,slow=9.6,SNR=4.6
NHSC New Hope 117.26 63 P PKPdf 02 33 28.8 -0.7
baz=261
R54A Victor 117.27 57 P PKPdf 02 33 28.1 -1.3
baz=264
K51A Iona Station 117.30 52 P PKPdf 02 33 28.1 -1.1
baz=266
T55A Pulaski 117.31 58 P PKPdf 02 33 28.5 -1.0
baz=263
O53A New Philadelph 117.31 55 P PKPdf 02 33 28.3 -1.1
baz=264
M52A Chesterland 117.32 53 P PKPdf 02 33 28.6 -0.8
baz=265
D48A Paudash Townsh 117.35 47 P PKPdf 02 33 27.7 -1.5
baz=268
V56A Mocksville 117.38 60 P PKPdf 02 33 28.8 -0.8
baz=263
Q54A Coxs Mills 117.47 56 P PKPdf 02 33 28.7 -1.0
baz=264,SNR=9.6
SIV San Ignacio 117.52 122 PKKPbc PKKPbc 02 43 53.6 +0.8
comp=Z,1.0nm,0.8s,baz=2.5,slow=10,SNR=3.5
X57A Johnson Farm, 117.53 61 P PKPdf 02 33 29.1 -0.9
baz=262
OCAC Ocana 117.53 92 eP PKPdf 02 33 29.4 -1.3
OCAC Ocana 117.53 92 eP PKPdf 02 33 29.4 -1.3
U56A King 117.53 59 P PKPdf 02 33 29.1 -0.8
baz=263
Z58A St. Stephen 117.60 63 P PKPdf 02 33 29.4 -0.7
baz=262
S55A Lewisburg 117.61 58 P PKPdf 02 33 28.7 -1.4
baz=264
BLA Blacksburg 117.61 58 P PKPdf 02 33 29.1 -1.0
baz=263,SNR=7.9
N53A Lisbon 117.64 54 P PKPdf 02 33 29.3 -0.7
baz=265
D49A Beulah Townshi 117.66 47 P PKPdf 02 33 28.6 -1.2
baz=268,SNR=5.8
W57A Gilead 117.70 61 P PKPdf 02 33 29.5 -0.8
baz=263,SNR=7.9
I51A Listowel 117.73 51 P PKPdf 02 33 28.9 -1.1
baz=266
Y58A Scranton 117.80 62 P PKPdf 02 33 29.7 -0.7
baz=262
PAMC Pamplona, Colo 117.80 93 eP PKPdf 02 33 30.9 -0.8
PAMC Pamplona, Colo 117.80 93 eP PKPdf 02 33 30.9 -0.8
P54A Burton 117.81 56 P PKPdf 02 33 29.2 -1.1
baz=265,SNR=8.5
M53A Wi Miller and 117.82 53 P PKPdf 02 33 29.1 -1.2
baz=266
K52A Tillsonburg 117.89 52 P PKPdf 02 33 29.2 -1.2
baz=266
T56A Rocky Mt 117.89 58 P PKPdf 02 33 29.8 -0.8
baz=264,SNR=6.6
O54A Avella 117.94 55 P PKPdf 02 33 29.8 -0.8
baz=265,SNR=14
R55A Marlinton 117.96 57 P PKPdf 02 33 29.7 -1.1
baz=264,SNR=12
V57A Coltrane Farms 117.97 60 P PKPdf 02 33 29.8 -1.0
baz=263,SNR=7.4
E50A Wahnapitae 118.06 48 P PKPdf 02 33 29.7 -0.9
baz=268,SNR=9.1
Q55A Buckhannon 118.06 56 P PKPdf 02 33 29.8 -1.1
baz=265,SNR=7.4
J52A Paris 118.09 51 P PKPdf 02 33 29.5 -1.3
baz=267
X58A Rowland 118.16 61 P PKPdf 02 33 30.4 -0.7
baz=263
L53A Girard 118.17 53 P PKPdf 02 33 29.8 -1.2
baz=266
SVE Sverdlovsk 118.24 324 ePKIKP PKiKP 02 33 30.9 +0.3
SVE pmax pmax
comp=Z,35nm,1.1s
N54A Moraine State 118.30 54 P PKPdf 02 33 30.3 -0.9
baz=266,SNR=8.9
W58A Raeford 118.30 61 P PKPdf 02 33 30.4 -1.0
baz=263
MCWV Mcf Chateau 118.30 56 P PKPdf 02 33 30.2 -1.1
baz=265
P55A Reedsville 118.30 56 P PKPdf 02 33 30.0 -1.4
baz=265,SNR=7.3
S56A Natural Bridge 118.33 58 P PKPdf 02 33 30.2 -1.3
baz=264,SNR=5.6
I52A Shelburne 118.35 51 P PKPdf 02 33 30.3 -1.0
baz=267,SNR=6.1
ERPA Erie 118.38 53 P PKPdf 02 33 30.2 -1.2
baz=266
U57A Blanch 118.38 59 P PKPdf 02 33 30.7 -0.9
baz=264,SNR=7.1
Y59A Loris 118.46 62 P PKPdf 02 33 30.9 -0.9
baz=262
V58A Windy Hill, Pi 118.49 60 P PKPdf 02 33 30.8 -1.0
baz=263,SNR=6.8
T57A Hurt 118.51 59 P PKPdf 02 33 30.9 -0.9
baz=264,SNR=9.3
R56A Bull Pasture M 118.53 57 P PKPdf 02 33 31.1 -0.8
baz=265,SNR=7.9
M54A Oil Creek Stat 118.58 53 P PKPdf 02 33 30.8 -1.0
baz=266,SNR=10
H52A Wyevale 118.58 50 P PKPdf 02 33 30.4 -1.2
baz=268
F51A Arnstein 118.61 48 P PKPdf 02 33 30.4 -1.3
baz=268,SNR=5.7
Q56A Snyder Ridge, 118.76 56 P PKPdf 02 33 31.2 -1.0
baz=265,SNR=5.6
O55A Ligonier 118.76 55 P PKPdf 02 33 31.4 -0.8
baz=266,SNR=9.3
I53A Kortright Cn E 118.76 51 P PKPdf 02 33 30.9 -1.1
baz=268
S57A Dark Hollow, R 118.82 58 P PKPdf 02 33 30.9 -1.5
baz=264
L54A Sinclairville 118.89 53 P PKPdf 02 33 31.2 -1.1
baz=267,SNR=7.1
E51A G1948 Merrick 118.92 48 P PKPdf 02 33 31.2 -1.1
baz=269,SNR=5.8
W59A Clinton 118.96 61 P PKPdf 02 33 31.7 -1.0
baz=263
ABKAR Akbulak array 118.97 315 PKPdf 02 33 31.9 -0.3
D51A Lot 18 Range I 119.01 47 P PKPdf 02 33 31.1 -1.3
baz=270,SNR=5.4
Y60A Bolivia 119.01 62 P PKPdf 02 33 31.6 -1.2
baz=263
U58A Oxford 119.01 59 P PKPdf 02 33 31.7 -1.1
baz=264,SNR=5.5
F52A Sundridge 119.02 49 P PKPdf 02 33 31.3 -1.2
baz=269,SNR=5.5
N55A Marion Center 119.04 54 P PKPdf 02 33 31.3 -1.4
baz=266
P56A Dayton Farm, R 119.06 56 P PKPdf 02 33 31.5 -1.2
baz=266,SNR=7.4
T58A Grand View Acr 119.08 59 P PKPdf 02 33 31.8 -1.1
baz=264,SNR=5.1
SUR Sutherland 119.19 210 PKKPbc PKKPbc 02 43 46.8 -0.8
comp=Z,6.7nm,0.9s,baz=316,slow=2.6,SNR=4.7
SUR Sutherland 119.19 210 PKPdf PKPdf 02 33 33.0 -0.7
V59A Middlesex 119.19 60 P PKPdf 02 33 32.3 -0.8
baz=264
R57A Stanardsville 119.21 57 P PKPdf 02 33 31.9 -1.2
baz=265
M55A Ridgway 119.25 54 P PKPdf 02 33 32.1 -1.0
baz=267,SNR=9.1
X60A Albert Glenn T 119.27 61 P PKPdf 02 33 32.5 -0.8
baz=263,SNR=5.4
O56A Blue Knob Stat 119.33 55 P PKPdf 02 33 32.4 -0.9
baz=266,SNR=9.1
Q57A Strasburg 119.36 56 P PKPdf 02 33 32.4 -1.0
baz=266,SNR=5.3
K54A Basiliko Farm, 119.37 52 P PKPdf 02 33 32.1 -1.2
baz=267,SNR=10
ARU Arti 119.41 324 i PKIKP PKPdf 02 33 32.6 -0.3
ARU 02 34 55.8
ARU 02 40 33.2
ARU SP SP 02 44 35.2 +4.2
ARU SS SS 02 51 03.7 -5.4
ARU Arti 119.41 324 PKP PKPdf 02 33 32.8 -0.1
comp=Z,12nm,0.5s,baz=78,slow=1.2,SNR=47
ARU PKKPbc PKKPab 02 43 45.2 -0.9
comp=Z,5.5nm,0.5s,baz=244,slow=1.6,SNR=22
ARU Arti 119.41 324 PKPdf 02 33 32.6 -0.3
ARU PP PP 02 34 51.3 -5.0
CNNC Cliffs of the 119.42 61 P PKPdf 02 33 32.8 -0.7
baz=264
J54A Appleton 119.43 51 P PKPdf 02 33 32.5 -0.9
baz=268
E52A Mattawa 119.49 48 P PKPdf 02 33 32.2 -1.1
baz=270,SNR=9.9
G53A Haliburton 119.50 49 P PKPdf 02 33 32.3 -1.1
baz=269,SNR=8.3
H53A Bobcaygeon 119.52 50 P PKPdf 02 33 32.4 -1.1
baz=269,SNR=6.9
S58A Poland Farm, P 119.52 58 P PKPdf 02 33 32.9 -0.8
baz=265,SNR=9.3
L55A Hinsdale 119.53 53 P PKPdf 02 33 32.7 -1.0
baz=267,SNR=15
W60A Pink Hill 119.54 61 P PKPdf 02 33 33.1 -0.7
baz=264
SAML Samuel 119.56 114 PKIKP PKPdf 02 33 33.7 -0.8
SAML Samuel 119.56 114 PKPdf 02 33 33.7 -0.8
N56A West Decatur 119.58 54 P PKPdf 02 33 32.8 -1.0
baz=267,SNR=8.8
U59A Littleton 119.61 59 P PKPdf 02 33 32.9 -1.0
baz=264
R58A Rapidan 119.62 57 P PKPdf 02 33 32.7 -1.2
baz=265
R58B Mineral 119.69 58 P PKPdf 02 33 32.8 -1.2
baz=265,SNR=7.1
M56A Emporium 119.69 54 P PKPdf 02 33 32.9 -1.0
baz=267,SNR=8.2
P57A Homestead Farm 119.70 56 P PKPdf 02 33 33.0 -1.0
baz=266
UOSS Minazif 119.75 287 PKPdf 02 33 33.0 -1.5
HATD Hatta, Dubai 119.79 287 i PKPdf PKPdf 02 33 34.1 -0.5
SNR=7.9
ASHO Ashiyiah 119.83 287 PKPdf PKPdf 02 33 34.1 -0.7
K55A Perry 119.83 52 P PKPdf 02 33 33.0 -1.1
baz=268,SNR=6.8
BANOM Banah 119.85 288 PKPdf PKPdf 02 33 34.1 -0.7
T59A Double "B" Far 119.86 59 P PKPdf 02 33 33.4 -0.9
baz=265,SNR=7.1
SSPA Standing Stone 119.87 55 P PKPdf 02 33 33.3 -1.0
baz=267
SSPA Standing Stone 119.87 55 PKPdf 02 33 32.5 -1.8
MSFE Esma-Masafi 119.87 288 PKPdf PKPdf 02 33 34.5 -0.3
URIC Uribia, Colomb 119.87 88 eP PKPdf 02 33 34.0 -1.0
URIC Uribia, Colomb 119.87 88 eP PKPdf 02 33 34.0 -1.0
G54A Lake Saint Pet 119.88 49 P PKPdf 02 33 33.0 -1.2
baz=269,SNR=12
GEYT Alibeck 119.90 302 PKP PKiKP 02 33 34.5 0.0
comp=Z,13nm,0.7s,baz=223,slow=3.5,SNR=29
GEYT PKKPbc PKKPbc 02 43 44.1 -0.5
comp=Z,3.8nm,0.8s,baz=262,slow=8.8,SNR=7.1
ALGO Algonquin Park 119.91 48 P PKPdf 02 33 33.0 -1.2
baz=270,SNR=12
Q58A Fox Den Farm, 119.92 56 P PKPdf 02 33 33.4 -1.0
baz=266,SNR=7.3
ALNE Al Ain 119.98 286 PKPdf PKPdf 02 33 34.7 -0.3
V60A Jim Taylor Roa 119.98 60 P PKPdf 02 33 33.6 -1.0
baz=264
SHME Shamm 120.01 289 PKPdf PKPdf 02 33 34.4 -0.6
BOSA Boshof 120.01 216 PKP PKiKP 02 33 35.4 +0.1
comp=Z,14nm,0.9s,baz=135,slow=1.2,SNR=16
BOSA PKKPbc PKKPbc 02 43 42.9 -1.4
comp=Z,9.8nm,1.1s,baz=323,slow=4.1,SNR=4.8
J55A Hilton 120.03 52 P PKPdf 02 33 33.3 -1.1
baz=268,SNR=6.0
O57A Amberson 120.04 55 P PKPdf 02 33 33.6 -1.0
baz=267,SNR=8.5
CBN Corbin Frederi 120.11 57 P PKPdf 02 33 33.9 -0.9
baz=266
MATQ Matagami 120.13 44 P PKPdf 02 33 32.8 -1.7
baz=272
N57A Milroy 120.13 54 P PKPdf 02 33 33.7 -1.0
baz=267,SNR=7.9
U60A Pendleton 120.13 59 P PKPdf 02 33 33.7 -1.2
baz=265
S59A Mechanicsville 120.13 58 P PKPdf 02 33 33.7 -1.2
baz=266
W61A Ground Anchor 120.14 61 P PKPdf 02 33 34.4 -0.6
baz=264
D53A Lac Vacive, Po 120.15 47 P PKPdf 02 33 33.3 -1.3
baz=271
I55A Frankford 120.15 50 P PKPdf 02 33 33.3 -1.4
baz=269
AKTO Aktyubinsk 120.18 317 PKP PKPdf 02 33 34.5 -0.1
comp=Z,17nm,0.6s,baz=98,slow=4.6,SNR=86
AKTO PKKPbc PKKPab 02 43 42.7 -0.4
comp=Z,8.9nm,0.6s,baz=262,slow=2.2,SNR=35
E53A Dumoine, Ponti 120.18 48 P PKPdf 02 33 33.6 -1.1
baz=270
L56A Greenwood 120.19 53 P PKPdf 02 33 34.0 -0.9
baz=268,SNR=12
NAZ Nazwa, Dubai 120.24 287 PKPdf PKPdf 02 33 35.1 -0.4
SDV Santo Domingo 120.25 92 PKPdf 02 33 35.1 -0.9
P58A Pank, Wackersv 120.25 56 P PKPdf 02 33 34.0 -1.0
baz=266,SNR=6.6
R59A King George, V 120.31 57 P PKPdf 02 33 34.5 -0.6
baz=266
K56A Middlesex 120.38 52 P PKPdf 02 33 34.0 -1.2
baz=268,SNR=6.4
ASUD Al Ashush, Dub 120.47 287 PKPdf PKPdf 02 33 35.6 -0.3
M57A Sunshine Farm, 120.48 54 P PKPdf 02 33 34.9 -0.6
baz=268,SNR=12
E54A Lac Daplat, Po 120.51 48 P PKPdf 02 33 34.0 -1.3
baz=271
H55A Tweed 120.52 50 P PKPdf 02 33 34.1 -1.3
baz=270
T60A Surry 120.53 59 P PKPdf 02 33 34.5 -1.1
baz=265
V61A Roper 120.54 60 P PKPdf 02 33 35.0 -0.7
baz=265
O58A Lewisberry 120.58 55 P PKPdf 02 33 34.5 -1.1
baz=267,SNR=12
LSQQ Lebel-sur-Quev 120.58 45 P PKPdf 02 33 33.9 -1.5
baz=272
S60A Water View 120.64 58 P PKPdf 02 33 35.2 -0.7
baz=266
U61A Possum Corner 120.69 60 P PKPdf 02 33 35.3 -0.7
baz=265
L57A Andrews Acres 120.71 53 P PKPdf 02 33 35.0 -0.9
baz=268,SNR=11
Q59A Harwood 120.71 57 P PKPdf 02 33 35.0 -0.9
baz=266
R60A Leonardtown, M 120.73 57 P PKPdf 02 33 35.3 -0.6
baz=266
J56A Wolcott 120.73 52 P PKPdf 02 33 34.6 -1.2
baz=269,SNR=8.5
N58A Sunbury 120.77 54 P PKPdf 02 33 35.0 -1.0
baz=268,SNR=13
G55A Calabogie 120.85 49 P PKPdf 02 33 34.9 -1.1
baz=270,SNR=7.9
D54A Lac Fusel, La 120.86 47 P PKPdf 02 33 34.4 -1.6
baz=272,SNR=11
P59A Jarrettsville 120.93 56 P PKPdf 02 33 35.4 -0.9
baz=267
K57A Scipio Center 120.97 52 P PKPdf 02 33 35.3 -1.1
baz=269,SNR=15
M58A Price's Panora 120.98 54 P PKPdf 02 33 35.7 -0.8
baz=268,SNR=6.9
V62A Hyde County Ai 121.02 61 P PKPdf 02 33 36.0 -0.6
baz=265
KULLO Kullorsuaq 121.05 13 i PKIKP PKPdf 02 33 34.7 -0.8
KULLO pmax pmax
comp=Z,60nm,0.9s
KULLO Kullorsuaq 121.05 13 i P PKPdf 02 33 34.7 -0.8
comp=Z,60nm,0.9s
F55A Otter Lake 121.10 49 P PKPdf 02 33 35.1 -1.4
baz=271,SNR=6.6
FRTB Fartura 121.11 137 eP PKPdf 02 33 36.6 -0.7
FRTB Fartura 121.11 137 eP PKPdf 02 33 36.6 -0.7
O59A Robesonia 121.15 55 P PKPdf 02 33 35.9 -0.9
baz=268,SNR=7.5
H56A Elgin 121.18 50 P PKPdf 02 33 35.5 -1.1
baz=270,SNR=6.7
PCMB Pacaembu 121.20 134 eP PKPdf 02 33 37.2 -0.3
PCMB Pacaembu 121.20 134 eP PKPdf 02 33 37.2 -0.3
E55A Montcerf-Lytto 121.29 48 P PKPdf 02 33 35.6 -1.2
baz=272
PP1B Ponte de Pedra 121.29 128 eP PKPdf 02 33 37.3 -0.4

PP1B Ponte de Pedra 121.29 128 eP PKPdf 02 33 37.3 -0.4
Q60A Greensboro 121.35 57 P PKPdf 02 33 36.7 -0.4
baz=267
BINY Binghamton 121.36 53 P PKPdf 02 33 36.3 -0.8
baz=269,SNR=8.8
J57A Williamstown 121.36 51 P PKPdf 02 33 36.1 -0.9
baz=270,SNR=9.4
KBS Kingsbay 121.40 355 ePKPdf PKiKP 02 33 36.2 0.0
S61A Accomac 121.41 58 P PKPdf 02 33 36.8 -0.5
baz=266
L58A Harry Jones Me 121.45 53 P PKPdf 02 33 36.7 -0.6
baz=269,SNR=17
N59A State Game Lan 121.49 54 P PKPdf 02 33 36.7 -0.7
baz=268,SNR=6.7
P60A Greenville 121.55 56 P PKPdf 02 33 36.5 -1.0
baz=268,SNR=7.8
I57A Carthage 121.61 51 P PKPdf 02 33 36.6 -0.9
baz=270,SNR=12
K58A Earlville 121.61 52 P PKPdf 02 33 36.5 -1.1
baz=270,SNR=8.8
D55A Sainte-Anne-du 121.67 47 P PKPdf 02 33 36.3 -1.2
baz=272,SNR=18
SPA0 Spitsbergen Ar 121.68 354 ePKPdf PKPdf 02 33 36.5 -0.2
SPITS Spitsbergen Ar 121.68 354 PKP PKPdf 02 33 36.4 -0.4
comp=Z,66nm,0.8s,baz=91,slow=6.7,SNR=33
SPITS PKKPbc PKKPab 02 43 36.9 +1.2
comp=Z,11nm,0.8s,baz=111,slow=3.7,SNR=4.6
O60A Telford 121.75 55 P PKPdf 02 33 37.2 -0.7
baz=268,SNR=9.1
Q61A Milford 121.75 57 P PKPdf 02 33 37.0 -0.9
baz=267
M59A Waymart 121.76 54 P PKPdf 02 33 37.3 -0.6
baz=269,SNR=16
H57A Richville 121.80 50 P PKPdf 02 33 36.6 -1.2
baz=271,SNR=8.6
J58A Remsen 121.88 51 P PKPdf 02 33 37.2 -0.9
baz=270,SNR=7.7
N60A Cedar Hill Far 121.99 54 P PKPdf 02 33 37.4 -1.0
baz=269,SNR=14
E56A St. Veronique 122.00 48 P PKPdf 02 33 36.8 -1.4
baz=272
L59A Walton 122.06 53 P PKPdf 02 33 37.7 -0.8
baz=270,SNR=8.0
G57A Newington 122.08 49 P PKPdf 02 33 37.2 -1.1
baz=272,SNR=8.4
I58A Old Forge 122.11 51 P PKPdf 02 33 37.6 -1.0
baz=271,SNR=9.2
P61A Hammonton 122.19 56 P PKPdf 02 33 38.0 -0.8
baz=268
K59A Cooperstown 122.20 52 P PKPdf 02 33 37.7 -1.0
baz=270,SNR=7.6
CHGQ Chibougamau 122.22 44 P PKPdf 02 33 36.6 -1.9
baz=275
SPB Sao Paulo 122.27 138 eP PKPdf 02 33 39.0 -0.4
SPB Sao Paulo 122.27 138 eP PKPdf 02 33 39.0 -0.4
M60A Port Jervis 122.36 54 P PKPdf 02 33 38.1 -0.9
baz=269,SNR=7.8
LONY Lake Ozonia 122.37 50 P PKPdf 02 33 37.9 -1.1
baz=271,SNR=11
O61A Allentown 122.39 55 P PKPdf 02 33 38.1 -1.1
baz=269
J59A Piesco 122.45 51 P PKPdf 02 33 38.2 -1.0
baz=271,SNR=12
N61A South Mountain 122.60 55 P PKPdf 02 33 38.9 -0.5
baz=269,SNR=6.5
LBTB Lobatse 122.61 219 PKKPbc PKKPbc 02 43 33.2 -1.3
comp=Z,4.3nm,0.9s,baz=45,slow=2.5,SNR=4.8
H58A Gabriels 122.67 50 P PKPdf 02 33 38.4 -1.1
baz=272,SNR=11
L60A Shokan 122.67 53 P PKPdf 02 33 39.0 -0.6
baz=270
G58A Ormstown 122.73 49 P PKPdf 02 33 38.5 -1.1
baz=272,SNR=15
D57A Chemin Vers le 122.76 47 P PKPdf 02 33 38.7 -1.0
baz=274
HSPB Hornsund (broa 122.81 353 ePKPdf PKiKP 02 33 39.0 -0.1
F58A St-Lin Laurent 122.87 48 P PKPdf 02 33 38.9 -1.0
baz=273
PAL Palisades 122.90 54 P PKPdf 02 33 39.5 -0.5
baz=270,SNR=7.4
I59A Olmsteadville 122.90 51 P PKPdf 02 33 39.2 -0.8
baz=271,SNR=9.3
K60A Five Rivers En 122.91 52 P PKPdf 02 33 39.5 -0.5
baz=271
VAO Valinhos 122.99 138 eP PKPdf 02 33 40.5 -0.5
VAO Valinhos 122.99 138 eP PKPdf 02 33 40.5 -0.5
M61A Granite Spring 123.01 54 P PKPdf 02 33 39.8 -0.5
baz=270,SNR=6.8
H59A Cadyville 123.01 50 P PKPdf 02 33 40.0 -0.2
baz=272
RCLB Rio Claro- Sao 123.06 137 eP PKPdf 02 33 40.7 -0.5
RCLB Rio Claro- Sao 123.06 137 eP PKPdf 02 33 40.7 -0.5
ITRB Iturama 123.12 133 eP PKPdf 02 33 40.2 -1.1
ITRB Iturama 123.12 133 eP PKPdf 02 33 40.2 -1.1
L61A Hillsdale 1, H 123.16 53 P PKPdf 02 33 39.9 -0.6
baz=271,SNR=5.7
E58A La Victoria 123.22 48 P PKPdf 02 33 39.7 -0.8
baz=274,SNR=21
N62A Caumsett State 123.23 54 P PKPdf 02 33 40.1 -0.6
baz=270
J60A Lant Hill Farm 123.24 52 P PKPdf 02 33 39.9 -0.8
baz=271,SNR=9.2
I60A Shoreham 123.32 51 P PKPdf 02 33 40.2 -0.6
baz=272,SNR=17
G59A Clarenceville 123.35 49 P PKPdf 02 33 39.7 -1.0
baz=273,SNR=8.4
K61A Williamstown 123.37 52 P PKPdf 02 33 40.5 -0.4
baz=271,SNR=7.8
BB19B Bebedouro 123.40 136 eP PKPdf 02 33 41.7 -0.1
BB19B Bebedouro 123.40 136 eP PKPdf 02 33 41.7 -0.1
D58A Chemin du LacG 123.44 47 P PKPdf 02 33 39.8 -1.1
baz=274,SNR=26
LATQ La Tuque 123.48 47 P PKPdf 02 33 39.7 -1.2
baz=275
F59A Saint Guilaume 123.59 48 P PKPdf 02 33 40.4 -0.8
baz=274,SNR=6.1
M62A Hamden 123.66 54 P PKPdf 02 33 40.4 -1.1
baz=270
H60A Morristown 123.72 50 P PKPdf 02 33 40.9 -0.7
baz=273,SNR=5.2
E59A St. Maurice 123.74 48 P PKPdf 02 33 40.8 -0.7
baz=274
L61B Northampton 123.81 52 P PKPdf 02 33 41.2 -0.6
baz=271,SNR=8.3
L62A Suffield 123.83 53 P PKPdf 02 33 41.1 -0.7
baz=271
KIRV Kirov 123.87 327 PKP PKiKP 02 33 41.6 0.0
comp=Z,69nm,0.9s,baz=102,slow=1.0,SNR=20
KIRV PKKPbc PKKPbc 02 43 28.4 -1.6
comp=Z,18nm,0.7s,baz=348,slow=1.8,SNR=6.0
J61A Chester 123.87 51 P PKPdf 02 33 41.4 -0.4
baz=272
N63A Mattituck 123.95 54 P PKPdf 02 33 41.7 -0.4
baz=270
G60A Masonville 123.95 49 P PKPdf 02 33 41.1 -0.8
baz=273
I61A Oroboro, Fairl 124.10 51 P PKPdf 02 33 41.8 -0.5
baz=273,SNR=7.8
K62A Royalston 124.13 52 P PKPdf 02 33 41.9 -0.5
baz=272
D59A Saint-Raymond 124.16 47 P PKPdf 02 33 41.5 -0.8
baz=275,SNR=6.5
F60A Warwick 124.16 48 P PKPdf 02 33 41.7 -0.7
baz=274,SNR=37
DAG Danmarks Havn 124.25 2 iPKIKP PKPdf 02 33 40.5 -1.1
DAG pmax pmax
comp=Z,28nm,0.7s
DAG Danmarks Havn 124.25 2 iP PKPdf 02 33 40.5 -1.1
comp=Z,40nm,0.7s
H61A Lyndonville 124.27 50 P PKPdf 02 33 42.2 -0.5
baz=273,SNR=6.9
LBNH Lisbon 124.29 50 P PKPdf 02 33 42.1 -0.6
baz=273,SNR=6.1
M63A Gales Ferry 124.30 54 P PKPdf 02 33 41.9 -0.8
baz=271
J62A Henniker 124.42 52 P PKPdf 02 33 42.7 -0.2
baz=272
E60A Ste Agathe de 124.48 48 P PKPdf 02 33 42.1 -0.8
baz=275,SNR=16
G61A St-Isidore-de- 124.51 49 P PKPdf 02 33 42.3 -0.7
baz=274,SNR=8.0
ESAR Angra dos Reis 124.51 140 eP PKPdf 02 33 43.1 -0.6
ESAR Angra dos Reis 124.51 140 eP PKPdf 02 33 43.1 -0.6
L63A North Scituate 124.62 53 P PKPdf 02 33 42.7 -0.6
baz=272
HRV Adam Dziewonsk 124.64 52 P PKPdf 02 33 42.7 -0.6
baz=272

CLDB Colider 124.64 121 eP PKPdf 02 33 42.9 -1.4
CLDB Colider 124.64 121 eP PKPdf 02 33 42.9 -1.4
K63A Dunstable 124.65 52 P PKPdf 02 33 43.1 -0.3
baz=272
PRGR Permogore 124.73 331 ǁ iPKIKP PKPdf 02 33 42.4 -0.5
PRGR pmax pmax
comp=Z,94nm,0.9s
I62A Tamworth 124.73 51 P PKPdf 02 33 43.2 -0.3
baz=273,SNR=5.6
ARAG Araguaiana, MT 124.75 128 eP PKPdf 02 33 43.8 -0.6
ARAG Araguaiana, MT 124.75 128 eP PKPdf 02 33 43.8 -0.6
D60A Saint Jean D'O 124.79 47 P PKPdf 02 33 42.6 -0.9
baz=276,SNR=5.4
H62A Milan 124.82 50 P PKPdf 02 33 43.6 -0.1
baz=274,SNR=6.8
F61A St Evariste 124.83 48 P PKPdf 02 33 43.3 -0.3
baz=275,SNR=8.9
M64A Tiverton 124.93 54 P PKPdf 02 33 43.4 -0.5
baz=272
J63A Strafford 124.95 51 P PKPdf 02 33 43.6 -0.3
baz=273
E61A Lac Etchemin 125.14 48 P PKPdf 02 33 44.0 -0.2
baz=276,SNR=30
L64A Middleborough 125.19 53 P PKPdf 02 33 43.8 -0.6
baz=272
G62A West of Eustis 125.21 49 P PKPdf 02 33 43.9 -0.6
baz=275,SNR=13
D61A St Aubert, Com 125.26 47 P PKPdf 02 33 43.6 -0.8
baz=276,SNR=7.2
I63A Otisfield 125.27 50 P PKPdf 02 33 44.5 -0.1
baz=274,SNR=7.2
M65A Busby, Falmout 125.35 54 P PKPdf 02 33 44.2 -0.5
baz=272
F62A Pittston Farm, 125.55 48 P PKPdf 02 33 44.6 -0.4
baz=276,SNR=12
H63A New Sharon 125.61 50 P PKPdf 02 33 44.6 -0.6
baz=275
VAS01 Vassouras-RJ 125.67 141 eP PKPdf 02 33 45.6 -0.4
VAS01 Vassouras-RJ 125.67 141 eP PKPdf 02 33 45.6 -0.4
M66A Nantucket 125.74 54 P PKPdf 02 33 44.8 -0.6
baz=272
IPMB Ipameri, GO 125.78 133 eP PKPdf 02 33 46.0 -0.4
IPMB Ipameri, GO 125.78 133 eP PKPdf 02 33 46.0 -0.4
E62A Clayton Lake 125.78 47 P PKPdf 02 33 44.8 -0.7
baz=277,SNR=19
BSCB Bom Sucesso 125.83 139 eP PKPdf 02 33 45.9 -0.6
BSCB Bom Sucesso 125.83 139 eP PKPdf 02 33 45.9 -0.6
G63A Kingsbury 125.87 49 P PKPdf 02 33 45.0 -0.6
baz=275,SNR=11
ILULI Ilulissat 125.91 17 i PKIKP PKPdf 02 33 44.9 -0.1
ILULI pmax pmax
comp=Z,90nm,0.9s
ILULI Ilulissat 125.91 17 i P PKPdf 02 33 44.9 -0.1
comp=Z,90nm,0.9s
SCHQ Schefferville 125.95 37 PKP PKPdf 02 33 44.9 -0.6
comp=Z,28nm,0.9s,baz=290,slow=3.7,SNR=14
SCHQ PKKPbc PKKPab 02 43 19.4 +1.3
comp=Z,3.1nm,0.9s,baz=8.0,slow=3.7,SNR=3.9
I64A Boothbay 125.96 51 P PKPdf 02 33 45.6 -0.2
baz=275
D62A Allapoint, All 126.05 47 P PKPdf 02 33 45.0 -0.9
baz=277,SNR=28
PKME Peaks-Kenny Pk 126.08 49 P PKPdf 02 33 45.8 -0.2
baz=276,SNR=14
SUMG Summit 126.16 10 i PKIKP PKiKP 02 33 46.4 0.0
SUMG pmax pmax
comp=Z,200nm,1.1s
SUMG Summit 126.16 10 i P PKiKP 02 33 46.4 0.0
comp=Z,199nm,1.1s
F63A Nahmakanta, Br 126.17 48 P PKPdf 02 33 45.9 -0.4
baz=276,SNR=14
H64A Troy 126.19 50 P PKPdf 02 33 45.6 -0.7
baz=275,SNR=6.8
DUB01 Friburgo-RJ 126.44 142 eP PKPdf 02 33 47.5 -0.1
DUB01 Friburgo-RJ 126.44 142 eP PKPdf 02 33 47.5 -0.1
G64A Maxfield 126.46 49 P PKPdf 02 33 46.5 -0.3
baz=276,SNR=16
E63A Oxbow 126.56 47 P PKPdf 02 33 46.1 -0.9
baz=277,SNR=10
PMNB Patos De Minas 126.57 135 eP PKPdf 02 33 47.6 -0.4
PMNB Patos De Minas 126.57 135 eP PKPdf 02 33 47.6 -0.4
F64A Sherman 126.67 48 P PKPdf 02 33 46.6 -0.6
baz=277,SNR=10
D63A Stockholm 126.69 47 P PKPdf 02 33 46.1 -1.0
baz=278,SNR=11
TMCR Tamitsa 126.76 336 ePKIKP PKPdf 02 33 45.8 -0.9
TMCR pmax pmax
comp=Z,99nm,1.5s
HAMF Hammerfest 126.81 347 ePKPdf PKPdf 02 33 46.6 -0.1
H65A Eastbrook 126.88 49 P PKPdf 02 33 47.1 -0.4
baz=276
E64A Bridgewater 126.96 47 P PKPdf 02 33 46.9 -0.8
baz=278,SNR=8.6
SJG San Juan 127.03 83 PKIKP PKPdf 02 33 47.6 -1.0
SJG San Juan 127.03 83 PKPdf 02 33 47.6 -1.0
CAM01 Campos-RJ 127.06 142 eP PKPdf 02 33 48.5 -0.2
CAM01 Campos-RJ 127.06 142 eP PKPdf 02 33 48.5 -0.2
ARCES ARCESS Array B 127.24 345 PKIKP PKPdf 02 33 47.5 -0.1
ARCES ARCESS Array B 127.24 345 PKP PKPdf 02 33 47.4 -0.2
comp=Z,38nm,0.6s,baz=74,slow=1.7,SNR=147
ARCES SKPbc SKPbc 02 36 54.9
comp=Z,6.5nm,0.7s,baz=20,slow=3.9,SNR=5.0
ARCES PKKPab PKKPab 02 43 16.8
comp=Z,3.0nm,0.9s,baz=202,slow=1.3,SNR=5.0
ARCES ARCESS Array B 127.24 345 PKPdf 02 33 47.5 -0.1
ARE0 ARCESS Array S 127.24 345 ePKPdf PKPdf 02 33 47.1 -0.5
G65A Princeton 127.30 49 P PKPdf 02 33 47.8 -0.6
baz=277
SFJD Kangerlussuaq 127.48 19 i PKIKP PKPdf 02 33 47.0 -1.0
SFJD Kangerlussuaq 127.48 19 i P PKPdf 02 33 47.0 -1.0
SFJD Kangerlussuaq 127.48 19 PKP PKPdf 02 33 47.7 -0.3
comp=Z,35nm,1.0s,baz=127,slow=2.2,SNR=9.9
BDFB Brasilia 127.52 131 PKP PKPdf 02 33 49.5 -0.4
comp=Z,50nm,0.7s,baz=215,slow=0.6,SNR=56
H66A Whiting 127.53 49 P PKPdf 02 33 48.4 -0.4
baz=277
AKT Akhty 127.92 307 ePKIKP PKiKP 02 33 50.5 +0.1
AKT e 02 34 24.0
AKT e 02 35 52.6
AKT pmax pmax
comp=Z,51nm,1.0s
LSZ Lusaka 128.01 229 PKP PKPdf 02 33 50.8 0.0
comp=Z,18nm,0.8s,baz=146,slow=0.9,SNR=3.7
LSZ PKKP PKKPdf 02 44 01.7 +1.5
comp=Z,0.8nm,0.4s,baz=8.6,slow=6.2,SNR=3.7
LSZ Lusaka 128.01 229 PKiKP 02 33 51.2 -0.2
KTK1 Kautokeino 128.17 346 ePKPdf PKPdf 02 33 48.8 -0.6
ALF01 Guarapari-ES 128.54 142 eP PKPdf 02 33 51.6 +0.1
ALF01 Guarapari-ES 128.54 142 eP PKPdf 02 33 51.6 +0.1
TRO Tromso 128.61 348 ePKPdf PKPdf 02 33 49.3 -0.8
KMBO Kilima Mbogo 128.98 250 i PKiKP PKiKP 02 33 53.9 +0.3
SNR=14
KMBO Kilima Mbogo 128.98 250 c iPKIKP PKPdf 02 33 49.9 -3.0
KMBO pmax pmax
comp=Z,15nm,1.1s
KMBO Kilima Mbogo 128.98 250 PKP PKPdf 02 33 53.1 +0.3
comp=Z,22nm,1.2s,baz=81,slow=0.9,SNR=23
KMBO PP PP 02 36 07.5 +5.9
comp=Z,1.2nm,0.8s,baz=102,slow=4.3,SNR=3.6
KMBO SKPbc SKPbc 02 37 04.7
comp=Z,1.7nm,0.8s,baz=127,slow=6.1,SNR=3.4
KMBO Kilima Mbogo 128.98 250 PKiKP 02 33 54.2 +0.6
RAYN Ar Rayn 129.13 284 PKIKP PKiKP 02 33 53.1 -0.2
RAYN Ar Rayn 129.13 284 PKiKP 02 33 53.1 -0.2
GROC Groznyy 129.18 309 i PKIKP PKiKP 02 33 52.6 -0.1
GROC e 02 34 24.2
GROC e 02 35 59.9
GROC e 02 40 50.8
GROC pmax pmax
comp=Z,63nm,1.0s
PEXB Peixe 129.67 128 eP PKPdf 02 33 53.8 -0.1
PEXB Peixe 129.67 128 eP PKPdf 02 33 53.8 -0.1
RIB01 Linhares ES 129.75 141 eP PKPdf 02 33 53.3 -0.6
RIB01 Linhares ES 129.75 141 eP PKPdf 02 33 53.3 -0.6
SJMB Sao Joao De Ma 129.76 140 eP PKPdf 02 33 53.9 0.0
SJMB Sao Joao De Ma 129.76 140 eP PKPdf 02 33 53.9 0.0
BSFB Barra de Sao F 129.86 140 eP PKPdf 02 33 53.9 -0.2
BSFB Barra de Sao F 129.86 140 eP PKPdf 02 33 53.9 -0.2
SKI Saint Kitts 130.01 85 eP PKPdf 02 33 54.0 -0.4
VRH Novokhopyorsk 130.21 320 ePKIKP PKPdf 02 33 53.2 -0.5
VRH pmax pmax
comp=Z,110nm,1.4s
SCO Scoresbysund 130.22 5 i PKIKP PKPdf 02 33 53.0 -0.2
SCO Scoresbysund 130.22 5 i P PKPdf 02 33 53.0 -0.2
GNI Garni 130.30 305 i PKiKP PKiKP 02 33 55.3 -0.1
SNR=9.1
GNI Garni 130.30 305 c iPKIKP PKiKP 02 33 55.8 +0.5
GNI pmax pmax
comp=Z,175nm,1.7s
GNI Garni 130.30 305 PKP PKiKP 02 33 55.2 -0.1
comp=Z,18nm,0.9s,baz=301,slow=3.1,SNR=12
GNI SKPbc SKPbc 02 37 09.5 +3.2
comp=Z,22nm,1.0s,baz=173,slow=2.5,SNR=12
GNI Garni 130.30 305 PKiKP 02 33 55.0 -0.3
SVB Belmont 130.35 90 eP PKPdf 02 33 54.0 -1.1
TOSP Speyside 130.43 93 eP PKiKP 02 33 55.7 -0.4
ZEI Tsey 130.61 309 i PKIKP PKPdf 02 33 54.4 -0.6
ZEI pmax pmax
comp=Z,14nm,0.8s
TASB TASBURUN-IGDIR 130.70 305 eP PKiKP 02 33 56.4 +0.4
NCK Nalchik 130.72 310 ǁ iPKIKP PKPdf 02 33 55.4 +0.4
CBE Ff, Capester 130.76 87 eP PKPdf 02 33 55.2 -0.6
STEI Steigen 130.77 348 ePKPdf PKPdf 02 33 53.8 -0.4
PCM Pelee Case Pet 130.81 88 eP PKPdf 02 33 55.8 -0.2
PCM Pelee Case Pet 130.81 88 eP PKPdf 02 33 56.1 +0.1
SLBI Saint Lucia, B 130.82 90 eP PKPdf 02 33 55.1 -0.8
PML Morne Lenard 130.83 89 eP PKPdf 02 33 56.4 +0.4
FDF Fort de France 130.85 89 eP PKPdf 02 33 55.6 -0.4
CXM Morne La Croix 130.85 89 eP PKPdf 02 33 56.0 -0.2
GBMF Grand Be 130.85 89 eP PKPdf 02 33 56.1 0.0
SVN Savane Anatole 130.86 88 eP PKPdf 02 33 55.9 -0.1
BIM Bigot 130.87 89 eP PKPdf 02 33 55.6 -0.5
BAMF Morne Balai 130.87 89 eP PKPdf 02 33 56.2 +0.1
MOS Moscow 130.88 327 i PKIKP PKPdf 02 33 53.3 -1.5
MOS e 02 34 25.6
MOS pmax pmax
comp=Z,97nm,1.1s
TRMF Trois Ilets 130.89 89 eP PKPdf 02 33 56.0 -0.1
ZAM Aeronautique 130.92 89 eP PKPdf 02 33 55.7 -0.4
LOF Lofoten 130.92 349 ePKPdf PKPdf 02 33 55.6 +0.1
LPMF Morne Lapointe 130.98 89 eP PKiKP 02 33 55.4 -0.8
CLDR Calderan 131.02 304 eP PKiKP 02 33 56.6 -0.3
AKH Akhalkalaki 131.10 307 ǁ P PKiKP 02 33 57.8 +0.8
KBZ Khabaz 131.19 310 PKP PKPdf 02 33 56.1 +0.4
comp=Z,6.0nm,0.9s,baz=174,slow=2.6,SNR=8.9
KBZ SKPbc SKPab 02 37 10.7 +1.1
comp=Z,22nm,1.0s,baz=113,slow=4.8,SNR=16
KVAR Kislovodsk Arr 131.29 310 SKPbc SKPab 02 37 13.2 +3.0
comp=Z,14nm,0.9s,baz=90,slow=20,SNR=7.0
KIV Kislovodsk 131.30 310 PKiKP PKiKP 02 33 57.4 +0.3
KIV Kislovodsk 131.30 310 i PKiKP PKPdf 02 33 56.4 +0.2
KIV pmax pmax
comp=Z,59nm,1.0s
KIV MLR MLR
comp=Z,276nm,23.0s
KIV Kislovodsk 131.30 310 PKPdf 02 33 56.1 0.0
LPSR Galich'ya Gora 131.39 322 ePKIKP PKPdf 02 33 55.6 -0.3
LPSR pmax pmax
comp=Z,90nm,1.0s
NEY Neytrino 131.39 309 ǁ iPKIKP PKiKP 02 33 58.1 +0.7
CUKT Cukurca 131.41 301 eP PKiKP 02 33 57.5 -0.1
OBN Obninsk 131.69 326 ǁ iPKIKP PKPdf 02 33 56.2 -0.1
OBN pmax pmax
comp=Z,34nm,1.1s
OBN pmax pmax
comp=Z,109nm,1.5s
OBN Obninsk 131.69 326 PKP PKPdf 02 33 55.9 -0.4
comp=Z,6.2nm,0.7s,baz=80,slow=2.1,SNR=9.4
OBN SKPbc SKPab 02 37 11.1 -0.2
comp=Z,9.6nm,0.6s,baz=45,slow=3.2,SNR=38
OBN Obninsk 131.69 326 PKPdf 02 33 56.4 0.0
AGRB Hanur-Agry 131.69 305 eP PKiKP 02 33 57.8 -0.4
TSUM Tsumeb 131.71 216 SKPbc SKPab 02 37 13.2 +0.4
comp=Z,8.6nm,1.2s,baz=130,slow=5.6,SNR=3.3
TSUM PKKP 02 43 52.2
comp=Z,3.4nm,1.0s,baz=67,slow=5.6,SNR=4.4
VSR Storozhevoye 131.73 321 c iPKIKP PKPdf 02 33 56.1 -0.5
VORD Divnogorie 131.74 320 ePKIKP PKPdf 02 33 55.5 -1.1
VORD pmax pmax
comp=Z,20nm,1.1s
AKDM Akdamar-Van 131.82 303 eP PKiKP 02 33 58.3 -0.2
SENK Senkaya-Erzuru 132.06 306 eP PKiKP 02 33 58.5 -0.4
PUL Pulkovo 132.22 334 d iPKIKP PKiKP 02 33 58.8 +0.5
PUL pmax pmax
comp=Z,37nm,0.4s
KONS Konsvik 132.43 348 ePKPdf PKPdf 02 33 57.2 -0.3
MOR8 Moi Rana 132.45 347 ePKPdf PKPdf 02 33 57.2 -0.4
BCA Borcka 132.49 307 ǁ P PKiKP 02 33 59.7 +0.2
BCA Borcka 132.49 307 eP PKiKP 02 33 59.4 -0.1
KOPR Koprukoy-ERZUR 132.51 305 eP PKiKP 02 34 00.2 +0.4
GURO Guroymak-BITLI 132.54 303 eP PKiKP 02 33 59.5 -0.4
FINES FINESS Array B 132.80 337 PKIKP PKPdf 02 33 58.0 -0.3
FINES FINESS Array B 132.80 337 PKhKP PKPpre 02 33 45.0
comp=Z,3.0nm,0.7s,baz=120,slow=6.8,SNR=6.8
FINES PKP PKPdf 02 33 58.0 -0.3
comp=Z,35nm,0.9s,baz=25,slow=3.2,SNR=31
FINES SKPbc SKPbc 02 37 13.8 -0.5
comp=Z,34nm,0.8s,baz=72,slow=6.2,SNR=26
FINES FINESS Array B 132.80 337 PKPpre 02 33 43.9
FINES PKPdf 02 33 57.8 -0.5
VRTB Varto-Mus 132.92 304 eP PKiKP 02 34 02.9 +2.3
NRS Narsarsuaq 133.04 23 i PKIKP PKPdf 02 33 58.0 -0.7
NRS pmax pmax
comp=Z,92nm,0.9s
NRS Narsarsuaq 133.04 23 i P PKPdf 02 33 58.0 -0.7
comp=Z,92nm,0.9s
SOC Sochi 133.48 310 ePKIKP PKPdf 02 33 58.0 -2.1
SOC e 02 36 31.2
SOC ePPP PPP 02 39 22.0
BAYT Aydıntepe-Bayb 133.76 306 eP PKiKP 02 34 03.5 +1.2
DYBB Diyarbakir 134.09 303 eP PKiKP 02 34 02.7 -0.2
NSS Namsos 134.39 347 ePKPdf PKPdf 02 34 01.7 +0.5
VSU Vasula 134.49 334 d iPKIKP PKPdf 02 34 01.0 -0.5
VSU pmax pmax
comp=Z,222nm,1.0s
VSU Vasula 134.49 334 eP PKPdf 02 34 01.1 -0.4
VSU IAmb IAmb 02 34 03.8
comp=Z,167nm,0.8s
VSU ePP SKPbc 02 37 19.6 -0.4
VSU Vasula 134.49 334 eP PKPdf 02 34 00.9 -0.7
VSU IAmb IAmb 02 34 03.9
comp=Z,180nm,0.9s
SVRC Sivrice-ELAZID 134.69 303 eP PKiKP 02 34 03.6 -0.7
MBAR Mbarara 134.89 246 PKP PKiKP 02 34 05.0 -0.4
comp=Z,11nm,0.9s,baz=110,slow=2.7,SNR=11
MBAR Mbarara 134.89 246 PKPdf 02 34 03.7 -0.2
URFA Urfa 135.19 302 eP PKiKP 02 34 04.8 -0.4
MALT Malatya 135.38 303 eP PKPdf 02 34 04.6 +0.6
MDP Montagnes des 135.44 105 SKPbc SKPbc 02 37 25.6 +1.2
comp=Z,9.8nm,1.0s,baz=244,slow=6.8,SNR=6.2
BORG Borgarnes 135.84 7 PKP PKiKP 02 34 06.2 +0.7
comp=Z,32nm,1.0s,baz=18,slow=3.2,SNR=2.8
TBLU Trondheim 135.88 347 ePKPdf PKPdf 02 34 04.0 -0.1
DARE Darende-Malaty 136.08 304 eP PKiKP 02 34 06.6 -0.4
SVSK Karacayir 136.21 306 eP PKiKP 02 34 06.5 -0.5
MICGM Minsk 136.35 329 e PKPdf 02 34 06.0 +0.9
MNK Minsk 136.35 329 ePKIKP PKPdf 02 34 06.0 +0.9
IZAR Zarasai 136.38 331 eP PKiKP 02 34 06.5 -0.4
IZAR IAmb IAmb 02 34 08.6
comp=Z,25nm,0.9s
IZAR ePP SKPbc 02 37 26.4 +0.5
IZAR Zarasai 136.38 331 eP PKPdf 02 34 05.5 +0.3
IZAR IAmb IAmb 02 34 08.6
comp=Z,26nm,0.9s
IDID Didziasalis 136.41 330 eP PKiKP 02 34 06.5 -0.4
GAZ Gaziantep 136.50 302 eP PKPdf 02 34 05.6 -0.5
ISAL Salakas 136.54 331 eP PKPdf 02 34 06.2 +0.7
ISAL IAmb IAmb 02 34 08.9
comp=Z,24nm,0.9s
KVT Kavak 136.68 308 eP PKPdf 02 34 04.6 -1.7
SIM Simferopol' 136.99 314 ePKIKP PKiKP 02 34 07.8 -0.7
DIKM Dikmen 137.12 309 ǁ P PKiKP 02 34 09.7 +0.8
DIKM Dikmen 137.12 309 eP PKiKP 02 34 09.0 +0.1
DOMB Dombas 137.21 347 ePKPdf PKPdf 02 34 06.4 -0.2
ASF Jabal al Asfar 137.23 295 PKP PKPdf 02 34 07.3 -0.3
comp=Z,5.7nm,0.7s,baz=54,slow=5.1,SNR=6.5
ASF SKPbc SKPbc 02 37 30.8 +1.4
comp=Z,3.6nm,0.8s,baz=38,slow=4.4,SNR=4.8
BNN Bunyan 137.29 305 eP PKPdf 02 34 08.1 +0.5
SEVA Sevastopol 137.42 313 ǁ P PKiKP 02 34 08.8 -0.7
AKN Aaknes 137.50 348 ePKPdf PKPdf 02 34 07.4 +0.3
PABE Paberze 137.54 332 eP PKiKP 02 34 07.7 +0.4
PABE Paberze 137.54 332 eP PKPdf 02 34 07.9 +0.6
PABE IAmb IAmb 02 34 10.8
comp=Z,153nm,0.9s
NB2 NORSAR Subarra 137.62 345 PKPdf PKPpre 02 33 58.6
comp=Z,20nm,1.0s,baz=31,slow=1.9
NOA NORSAR Array B 137.62 345 PKhKP PKPpre 02 33 57.6

	comp=Z,3.9nm,0.9s,baz=29,slow=2.7,SNR=5.0						
NOA				PKP	PKPdf	02 34 07.4	0.0
	comp=Z,13nm,0.7s,baz=31,slow=2.0,SNR=23						
NOA				SKPbc	SKPbc	02 37 28.3	-1.2
	comp=Z,4.4nm,0.7s,baz=18,slow=4.3,SNR=11						
AKASG	Malin Array Be	137.67	324	PKhKP	PKPpre	02 34 00.9	
	comp=Z,1.8nm,0.6s,baz=48,slow=3.6,SNR=9.2						
AKASG				PKP	PKPdf	02 34 07.5	-0.2
	comp=Z,29nm,0.9s,baz=59,slow=2.1,SNR=41						
AKASG				SKPbc	SKPbc	02 37 30.1	+0.1
	comp=Z,16nm,0.8s,baz=45,slow=3.4,SNR=27						
AKASG				SKPab	SKPab	02 37 38.5	+0.9
	comp=Z,3.4nm,0.6s,baz=44,slow=4.2,SNR=11						
AKASG				SKKPbc	SKKPbc	02 46 04.8	-15
	comp=Z,2.5nm,1.0s,baz=239,slow=6.0,SNR=7.4						
HFS	Hagfors	137.75	343	PKhKP	PKPpre	02 33 58.7	
	comp=Z,7.7nm,0.9s,baz=64,slow=3.4,SNR=9.1						
HFS				PKP	PKiKP	02 34 09.4	-0.2
	comp=Z,20nm,0.8s,baz=94,slow=5.8,SNR=12						
HFS				SKPbc	SKPbc	02 37 28.6	-1.3
	comp=Z,12nm,0.9s,baz=93,slow=3.0,SNR=7.8						
HFS				SKPab	SKPab	02 37 38.1	+0.5
	comp=Z,11nm,0.9s,baz=28,slow=3.5,SNR=4.1						
YURE	YUREGIR	137.80	302	*e*P	PKPdf	02 34 09.1	+0.6
NC602	NORSAR Array S	137.80	345	*e*PKPdf	PKPdf	02 34 07.9	+0.3
BZK	Bozkurt	137.95	310	⇑P	PKiKP	02 34 10.2	-0.4
BZK	Bozkurt	137.95	310	*e*P	PKiKP	02 34 09.8	-0.7
PBUR	Paburg	138.06	334	*e*P	PKPdf	02 34 08.2	-0.1
MMAI	Mount Meron Ar	138.43	296	PKhKP	PKPpre	02 34 01.3	
	comp=Z,1.6nm,0.6s,baz=87,slow=5.9,SNR=4.6						
MMAI				PKP	PKPdf	02 34 10.4	+0.7
	comp=Z,9.0nm,0.6s,baz=79,slow=8.8,SNR=13						
MMAI				SKPbc	SKPbc	02 37 34.3	+1.4
	comp=Z,13nm,1.0s,baz=74,slow=6.2,SNR=5.9						
HYA	Hoyanger	138.59	348	*e*PKPdf	PKPdf	02 34 09.3	+0.3
SKAR	Skarslia	138.60	347	*e*PKPdf	PKPdf	02 34 09.3	+0.1
OSL	Oslo	138.70	345	*e*PKPdf	PKPdf	02 34 09.4	+0.1
BRTR	Keskin Array B	138.78	306	PKhKP	PKPpre	02 34 00.8	
	comp=Z,0.9nm,0.5s,baz=125,slow=3.8,SNR=8.4						
BRTR				PKP	PKPdf	02 34 10.2	-0.1
	comp=Z,8.0nm,0.9s,baz=108,slow=4.0,SNR=8.7						
BRTR				SKPbc	SKPbc	02 37 34.9	+1.2
	comp=Z,3.9nm,1.0s,baz=145,slow=3.0,SNR=6.2						
BRTR				SKPab	SKPab	02 37 44.6	+1.4
	comp=Z,4.1nm,0.9s,baz=85,slow=4.3,SNR=7.7						
BRTR				PKKP	PKKPdf	02 43 38.8	-1.6
	comp=Z,0.7nm,0.8s,baz=207,slow=2.5,SNR=3.8						
BRTR				SKKPbc	SKKPbc	02 45 29.4	-46
	comp=Z,1.4nm,1.0s,baz=255,slow=5.7,SNR=3.7						
BRTR	Keskin Array B	138.78	306		PKPpre	02 34 00.5	
BRTR					PKPdf	02 34 09.6	-0.8
YAYX	Yaylak	138.83	305	*e*P	PKPdf	02 34 09.9	-0.5
SUW	Suwalki	138.85	331	*e*PKIKP	PKPdf	02 34 10.3	+0.5
SUW	Suwalki	138.85	331	*e*PKP	PKPdf	02 34 10.2	+0.5
SUW				*e*PKP	PKPdf	02 34 10.2	+0.5
SUW				*e*PP	SKPbc	02 37 34.2	+1.1
SUW				*e*PP	SKPbc	02 37 34.2	+1.1
EIL	Elat	138.99	291	PKhKP	PKPpre	02 34 02.0	
	comp=Z,4.0nm,0.8s,baz=292,slow=5.3,SNR=4.1						
EIL				PKP	PKPdf	02 34 11.4	+0.6
	comp=Z,14nm,0.8s,baz=350,slow=0.6,SNR=11						
KONO	Kongsberg	139.23	345	*e*PKPdf	PKPdf	02 34 08.5	-1.8
ANTO	Ankara	139.38	307	⇑PKIKP	PKiKP	02 34 12.6	-1.1
ANTO	Ankara	139.38	307	⇑P	PKiKP	02 34 12.6	-1.1
ANTO	Ankara	139.38	307		PKPdf	02 34 11.8	+0.4
LOD	Lodumlu	139.40	307	*e*P	PKPdf	02 34 10.5	-0.9
SORM	Soroca	139.40	321	⇑P	PKPdf	02 34 05.0	-6.0
ASK	Askoy	139.40	349	*e*PKPdf	PKPdf	02 34 11.1	+0.5
BER	Bergen	139.47	349	*e*PKPdf	PKPdf	02 34 11.2	+0.5
TEVE	Tevekalti-Mers	139.60	302	*e*P	PKPdf	02 34 11.4	-0.4
CHBY	Cihanbeyli	139.61	305	*e*P	PKPdf	02 34 10.7	-1.1
ODD1	Odda	139.65	347	*e*PKPdf	PKPdf	02 34 11.5	+0.4
MILM	Milestii Mici	139.67	319	⇑P	PKiKP	02 34 13.4	-0.5
BERE	Bereket-Mersin	139.79	302	*e*P	PKPdf	02 34 05.6	-6.7
LADK	Ladik-KONYA	140.09	305	*e*P	PKPdf	02 34 04.9	-7.8
BLS5	Blasjo	140.14	347	*e*PKPdf	PKPdf	02 34 11.7	-0.3
KONT	Konya--Tatoy	140.15	304	*e*P	PKPdf	02 34 04.7	-8.0
TLCR		140.41	316	⇑P	PKPdf	02 34 07.4	-5.4
HOMB	Homborsund	140.72	345	*e*PKPdf	PKPdf	02 34 13.4	+0.4
CIFT	Cifteler, Eski	140.80	307	*e*P	PKPdf	02 34 09.5	-4.4
TOPG	Topolog	140.81	316	⇑P	PKPdf	02 34 11.0	-2.6
CFR	Carcaliu	140.84	317	⇑PKIKP	PKPdf	02 34 13.7	0.0
CFR	Carcaliu	140.84	317	⇑P	PKPdf	02 34 13.7	0.0
GULT	Gulveren	140.91	309	*e*P	PKPdf	02 34 15.3	+1.2
LVV	L'vov	140.96	325	*e*PKIKP	PKPdf	02 34 09.3	-4.5
SNART	Snartemo	140.96	346	*e*PKPdf	PKPdf	02 34 14.3	+0.8
TIRR	Tirgusor	140.96	315	⇑PKIKP	PKPdf	02 34 14.2	+0.3
TIRR	Tirgusor	140.96	315	⇑P	PKPdf	02 34 14.2	+0.3
TIRR	Tirgusor	140.96	315	⇑P	PKPdf	02 34 14.2	+0.3
TLB	Topalu	141.15	316	⇑PKIKP	PKPdf	02 34 11.8	-2.4
TLB	Topalu	141.15	316	⇑P	PKPdf	02 34 11.8	-2.4
HARR	Harsova	141.18	316	⇑PKIKP	PKPdf	02 34 13.8	-0.5
HARR	Harsova	141.18	316	⇑P	PKPdf	02 34 13.8	-0.5
TESR	Tescani	141.18	319	⇓P	PKPdf	02 34 11.7	-2.6
BIZ	Bicaz	141.31	320	⇓P	PKPdf	02 34 10.9	-3.6
BEL	Belsk	141.36	330	*e*PKIKP	PKPdf	02 34 11.7	-2.7
BEL	Belsk	141.36	330	*e*PKP	PKPdf	02 34 11.7	-2.7
BEL				*e*PKP	PKPdf	02 34 11.7	-2.7
VRI	Vrincioaia	141.43	318	⇑PKIKP	PKPdf	02 34 10.7	-4.1
VRI	Vrincioaia	141.43	318	⇑P	PKPdf	02 34 10.7	-4.1
PLOR	Plostina	141.49	318	⇑PKIKP	PKPdf	02 34 11.8	-3.1
PLOR	Plostina	141.49	318	⇑P	PKPdf	02 34 11.8	-3.1
BURAR	Bucovina Array	141.49	321	⇓PKIKP	PKPdf	02 34 11.1	-3.8
BURAR	Bucovina Array	141.49	321	⇓P	PKPdf	02 34 11.1	-3.8
BURAR	Bucovina Array	141.49	321		PKPdf	02 34 11.2	-3.8
BCK	Bucak	141.63	304	*e*P	PKPdf	02 34 08.9	-6.6
KWP	Kalwaria Pacla	141.77	326	*e*PKIKP	PKPdf	02 34 14.1	-1.2
KWP	Kalwaria Pacla	141.77	326	*e*PKP	PKPdf	02 34 14.1	-1.2
KWP				*e*PKP	PKPdf	02 34 14.1	-1.2
KWP				*e*PP	SKiKP	02 37 42.7	-0.1
KWP				*e*PP	SKiKP	02 37 42.7	-0.1
COP	Copenhagen	141.82	340	*i* PKIKP	PKPdf	02 34 12.6	-2.5
COP				pmax	pmax		
	comp=Z,35nm,0.9s						
COP	Copenhagen	141.82	340	*i* P	PKPdf	02 34 12.6	-2.5
	comp=Z,35nm,0.9s						
OZUR		141.91	319	⇑P	PKPdf	02 34 13.6	-2.1
GKP	Gorka Klasztor	141.94	334	*e*PKP	PKPdf	02 34 05.3	-10
GKP				*e*PKP	PKPdf	02 34 05.3	-10
TVSB	Tavsanli	141.97	307	*e*P	PKPdf	02 34 11.8	-4.2
ARMT	Armutlu	142.07	309	*e*P	PKPdf	02 34 10.5	-5.6
MLR	Muntele Rosu	142.09	318	⇓PKIKP	PKPdf	02 34 15.0	-1.1
MLR	Muntele Rosu	142.09	318	PKhKP	PKPpre	02 34 11.5	
	comp=Z,11nm,0.6s,baz=323,slow=3.9,SNR=13						
MLR				SKPbc	SKiKP	02 37 43.0	-0.8
	comp=Z,7.5nm,0.9s,baz=27,slow=0.5,SNR=6.5						
MLR	Muntele Rosu	142.09	318	⇓P	PKPdf	02 34 15.0	-1.1
CTKS	Kestanelik-??a	142.10	311	*e*P	PKPdf	02 34 12.8	-3.2
MUD	Monsted U'grnd	142.14	343	*i* P	PKPdf	02 34 10.8	-4.8
DOPR	Dopca	142.21	319	⇓P	PKPdf	02 34 13.2	-3.0
ARCR	ARCALIA	142.27	321	⇑P	PKPdf	02 34 13.5	-2.7
ELL	Elmali	142.32	303	*e*P	PKPdf	02 34 13.2	-3.6
KOLS	Kolonicke sedl	142.41	325	*e*PKIKP	PKPdf	02 34 14.4	-2.0
KOLS	Kolonicke sedl	142.41	325	*e*PKP	PKPdf	02 34 14.4	-2.0
BMR	Baia Mare	142.45	323	⇓PKIKP	PKPdf	02 34 14.0	-2.5
BMR	Baia Mare	142.45	323	⇓P	PKPdf	02 34 14.0	-2.5
UZH	Uzhgorod	142.58	325	*e*PKHKP	PKPpre	02 34 11.4	
UZH				*e*		02 34 15.8	
UZH				*e*		02 34 41.5	
UZH				*i*		02 37 21.6	
VOIR		142.67	319	⇑PKIKP	PKPdf	02 34 17.5	+0.4
VOIR		142.67	319	⇑P	PKPdf	02 34 17.5	+0.4
TRPA	Tarpa	142.73	324	⇓P	PKPdf	02 34 14.8	-2.2
TRPA	Tarpa	142.73	324	*e*PKiKP	PKPdf	02 34 13.0	-3.9
MDB	Medias	142.74	320	⇑PKIKP	PKPdf	02 34 15.4	-1.7
MDB	Medias	142.74	320	⇑P	PKPdf	02 34 15.4	-1.7
RSC	Scourie	142.79	356	*e*P	PKPdf	02 34 12.4	-4.3
RCBR	Riachuelo	142.82	133	PKHKP	PKPpre	02 34 13.7	
RCBR	Riachuelo	142.82	133		PKPpre	02 34 13.7	
KULA	Kula-Manisa	142.83	306	*e*P	PKPdf	02 34 13.0	-4.6
EDC	Edincik	142.86	309	*e*P	PKPdf	02 34 14.5	-3.0
OJC	Ojcow	142.88	328	*e*PKIKP	PKPdf	02 34 14.1	-3.1
OJC	Ojcow	142.88	328	*e*PKP	PKPdf	02 34 14.1	-3.1
OJC				*e*PKP	PKPdf	02 34 14.1	-3.1
OJC				*e*PP	SKPbc	02 37 45.2	+1.4
OJC				*e*PP	SKPbc	02 37 45.2	+1.4
CJR	Cluj-Napoca	142.91	321	⇑PKIKP	PKPdf	02 34 15.3	-2.1
CJR	Cluj-Napoca	142.91	321	⇑P	PKPdf	02 34 15.3	-2.1
ARR	Arges	142.96	319	⇑P	PKPdf	02 34 15.4	-2.2
FETY	Fethiye	143.00	303	*e*P	PKPdf	02 34 13.9	-4.0
BALB	Balikesir	143.07	308	*e*P	PKPbc	02 34 14.8	-0.3
EDRB	Edirne	143.11	312	*e*P	PKPab	02 34 13.7	+0.1
NIE	Niedzica	143.15	327	*e*PKIKP	PKPbc	02 34 16.1	+1.1
NIE	Niedzica	143.15	327	*e*PKP	PKPbc	02 34 16.1	+1.1
NIE				*e*PKP	PKPbc	02 34 16.1	+1.1
NIE				*e*PP	SKPbc	02 37 46.7	+2.2
NIE				*e*PP	SKPbc	02 37 46.7	+2.2
COPA	Copaceanca	143.17	316	⇑P	PKPdf	02 34 16.8	-1.1
ELND	Elena	143.27	314	⇑P	PKPbc	02 34 16.2	+0.7
TURN	Turunc	143.31	304	*e*P	PKPbc	02 34 16.9	+1.1
RRR	Rubha Reidh	143.32	356	*e*P	PKPab	02 34 13.2	-0.7
DRGR		143.38	322	⇑PKIKP	PKPbc	02 34 16.4	+0.6
DRGR		143.38	322	⇑P	PKPbc	02 34 16.4	+0.6
MCD	Coleburn Disti	143.40	354	*e*P	PKPab	02 34 13.5	-0.7
LOT	Lotru	143.45	319	⇑P	PKPbc	02 34 16.5	+0.4
YER	Yerkesik	143.49	304	*e*P	PKPab	02 34 15.7	+0.3
LTVH	Ltavrtes, Hu	143.51	323	*e*PKiKPd	PKPdf	02 34 18.1	-0.3
AYDB	Zeytinkoy-Aydi	143.57	306	*e*P	PKPbc	02 34 16.8	+0.1
KECS	Kecovo	143.63	326	*e*PKIKP	PKPdf	02 34 17.5	-1.1
KECS	Kecovo	143.63	326	*e*PKP	PKPbc	02 34 17.4	+1.1
LPK	Lapseki	143.64	310	*e*P	PKPbc	02 34 16.2	-0.4
KAC	Achnashellach	143.64	356	*e*P	PKPbc	02 34 16.0	-0.1
LANS	Liptovska Anna	143.74	327	*e*PKIKP	PKPdf	02 34 18.5	-0.3
LANS	Liptovska Anna	143.74	327	*e*PKP	PKPdf	02 34 18.5	-0.3
DEV	Deva	143.75	320	⇑PKIKP	PKPbc	02 34 17.6	+0.8
DEV	Deva	143.75	320	⇑P	PKPbc	02 34 17.6	+0.8
VLAD	Vladila	143.76	317	⇑P	PKPdf	02 34 18.0	-0.9
KPL	Plockton	143.83	356	*e*P	PKPab	02 34 15.8	-0.1
GELI	Tayfur-Gelibol	143.84	310	*e*P	PKPab	02 34 16.6	+0.1
MLSB	Milas	143.84	305	*e*P	PKPbc	02 34 17.3	-0.1
PLVB	Pleven	143.90	316	⇑P	PKPdf	02 34 18.4	-0.8
RUE	Ruedersdorf	143.91	336	*e*P	PKPbc	02 34 17.8	+0.8
RUE	Ruedersdorf	143.91	336	*e*P	PKPbc	02 34 17.9	+0.9
RUE				IAmb	IAmb	02 34 24.2	
	comp=Z,62nm,0.8s						
OKC	Ostrava-Krasne	143.94	329	*e*PKIKP	PKPbc	02 34 17.5	+0.3
OKC	Ostrava-Krasne	143.94	329	*e*PKP	PKPbc	02 34 17.5	+0.3
OKC				*e*SKP	SKPbc	02 37 47.1	+0.7
DKL	Dikili	143.97	308	*e*P	PKPab	02 34 16.9	-0.1
DRUM	Mains of Drumt	143.98	353	*e*P	PKPab	02 34 16.5	+0.1
GZR	Gura Zlata	144.08	320	⇓P	PKPbc	02 34 18.3	+0.4
KSP	Ksiaz	144.09	332	*e*PKIKP	PKPbc	02 34 18.3	+0.7
KSP	Ksiaz	144.09	332	*e*PKP	PKPbc	02 34 18.3	+0.7
KSP				*e*PKP	PKPbc	02 34 18.3	+0.7
KSP				*e*PP	SKPbc	02 37 48.1	+1.4
KSP				*e*PP	SKPbc	02 37 48.1	+1.4
KDZ	Kurdzhali	144.10	313	*i* P	PKPbc	02 34 18.8	+0.8
EZN	Ezine	144.14	309	⇑PKIKP	PKPab	02 34 17.0	-0.6
EZN	Ezine	144.14	309	⇑P	PKPab	02 34 17.0	-0.6
GCAM	G?zelcaml?	144.14	305	*e*P	PKPbc	02 34 18.6	+0.4
DAT	Datca	144.15	304	*e*P	PKPab	02 34 18.1	+0.2
SRE	Strehaia	144.19	318	⇑PKIKP	PKPdf	02 34 19.7	0.0
SRE	Strehaia	144.19	318	⇑P	PKPdf	02 34 19.7	0.0
BODT	Bodrum	144.26	304	*e*P	PKPbc	02 34 18.6	0.0
MORC	Moravsky Berou	144.27	329	⇑PKIKP	PKPdf	02 34 19.2	-0.5
MORC	Moravsky Berou	144.27	329	⇑P	PKPdf	02 34 19.2	-0.5
MORC	Moravsky Berou	144.27	329	*e*PKP	PKPbc	02 34 18.7	+0.4
MORC				*e*		02 37 48.7	
SIRR	Siria	144.27	322	⇓P	PKPdf	02 34 19.4	-0.4
PSZ	Piszkesteto	144.29	325	⇓PKIKP	PKPdf	02 34 20.0	+0.2
PSZ	Piszkesteto	144.29	325	⇓P	PKPdf	02 34 20.0	+0.2
PSZ	Piszkesteto	144.29	325	*e*PKiKPd	PKPdf	02 34 18.1	-1.7
BOZC	Bozcaada	144.34	309	*e*P	PKPab	02 34 18.4	0.0
OSTC	Ostas	144.34	331	*e*PKP	PKPdf	02 34 19.2	-0.6
CHVC	Chvalec	144.38	332	*e*PKP	PKPbc	02 34 19.2	+0.6
EDU	Dundee	144.39	354	*e*P	PKPab	02 34 17.7	-0.3
PLD	Plovdiv	144.40	314	P	PKPbc	02 34 19.2	+0.3
KRLC	Kraliky	144.42	330	*e*PKIKP	PKPbc	02 34 19.2	+0.5
KRLC	Kraliky	144.42	330	*e*PKP	PKPbc	02 34 19.2	+0.5
BAIL	Bailesti	144.42	317	⇓P	PKPdf	02 34 20.2	+0.2
URLA	Izmir	144.43	307	*e*P	PKPab	02 34 18.8	-0.1
DPC	Dobruska-Polom	144.43	331	*e*PKIKP	PKPdf	02 34 19.4	-0.6
DPC	Dobruska-Polom	144.43	331	*e*PKP	PKPdf	02 34 19.4	-0.6
DPC				*e*SKP	SKPbc	02 37 48.0	+0.4
BSZH	Besenyszg	144.46	324	*e*PKiKPd	PKPdf	02 34 19.1	-0.9
UPC	Upice	144.46	331	*e*PKIKP	PKPdf	02 34 19.4	-0.6
UPC	Upice	144.46	331	*e*PKP	PKPdf	02 34 19.4	-0.6
VYHS	Vyhne	144.48	327	*e*PKIKP	PKPdf	02 34 20.2	+0.1
VYHS	Vyhne	144.48	327	*e*PKP	PKPdf	02 34 20.2	+0.1
MPEP	Malo Peshtene	144.48	316	*i* P	PKPdf	02 34 20.5	+0.3
PUNG	Punghina	144.55	318	⇓P	PKPdf	02 34 21.1	+0.8
HERR	Herculane	144.57	319	⇓P	PKPdf	02 34 19.8	-0.4
PGB	Panagyurishte	144.57	315	P	PKPdf	02 34 20.1	-0.4
INVG	Invergeldie, C	144.61	355	*e*P	PKPab	02 34 18.3	-0.6
BZS	Buzias	144.66	321	⇓PKIKP	PKPdf	02 34 20.2	-0.3
BZS	Buzias	144.66	321	⇓P	PKPdf	02 34 20.2	-0.3
TIM	Timisoara	144.82	321	⇑PKIKP	PKPdf	02 34 21.8	+1.1
TIM	Timisoara	144.82	321	⇑P	PKPdf	02 34 21.8	+1.1
JAVC	Velka Javorina	144.82	328	*e*PKP	PKPdf	02 34 21.8	+1.1
JAVC				*e*		02 37 51.2	
EAB	Aberfoyle	144.87	355	*e*P	PKPab	02 34 18.7	-1.1
LAWE	Loch Awe, Argy	144.88	356	*e*P	PKPbc	02 34 19.0	-0.9
ESY	Stoneypath	144.97	353	*e*P	PKPbc	02 34 19.4	-0.8
EDI	Edinburgh	145.03	354	*e*P	PKPbc	02 34 19.3	-1.0
VRAC	Vranov	145.04	330	PKPbc	PKPdf	02 34 21.6	+0.6
	comp=Z,36nm,0.8s,baz=50,slow=2.3,SNR=67						
VRAC				SKPbc	SKPbc	02 37 51.0	+2.0
	comp=Z,7.4nm,0.9s,baz=80,slow=4.0,SNR=3.3						
VRAC	Vranov	145.04	330	⇓P	PKPdf	02 34 21.7	+0.7
VRAC	Vranov	145.04	330	*e*PKP	PKPdf	02 34 21.1	+0.1
VRAC				*e*		02 37 50.3	
VRAC				*e*		02 38 11.6	
MDVR	Moldovita	145.04	320	⇑P	PKPdf	02 34 21.2	0.0
BANR	Banloc	145.07	321	⇓P	PKPdf	02 34 22.3	+1.2
PVCC	Panska Ves	145.08	333	*e*PKIKP	PKPdf	02 34 21.3	+0.3
PVCC				*e*		02 37 49.9	
PVCC	Panska Ves	145.08	333	*e*PKP	PKPdf	02 34 21.3	+0.3
PVCC				*e*SKP		02 37 49.9	
BRG	Berggiesshubel	145.08	334	*i* PKP	PKPdf	02 34 21.5	+0.5
	comp=Z,295nm,1.1s						
BRG				sPKP		02 34 52.0	
BRG				SKP		02 37 49.0	
BRG				SS	SS	02 56 20.0	+0.2
BRG	Berggiesshubel	145.08	334	*i* PKIKP	PKPdf	02 34 21.5	+0.5
BRG						02 34 52.0	
BRG						02 37 49.0	
BRG				SS	SS	02 56 20.0	+0.2
BRG				pmax	pmax		
	comp=Z,295nm,1.1s						
CLL	Collm	145.13	335	⇓*i*PKIKP	PKPdf	02 34 21.5	+0.5
CLL				*e*		02 34 52.0	
CLL				*e*		02 37 49.0	
CLL				pmax	pmax		
	comp=Z,272nm,1.1s						
CLL	Collm	145.13	335	⇓*i*PKPbc	PKPdf	02 34 21.5	+0.5
	comp=Z,272nm,1.1s						
CLL				*e*pPKPdf	pPKPab	02 34 52.0	-1.5
CLL				*e*(sPKPdf)		02 35 06.0	
CLL				*e*SKPbc	SKPbc	02 37 49.0	-0.1
	comp=Z,33nm,1.0s						
CLL				*e*PKSbc	PKSbc	02 38 06.0	+4.3
CLL				*e*PSKS		02 47 54.0	
CLL				*e*PPS	PPS	02 50 12.0	
CLL				*e*SS	SS	02 56 29.0	+8.7
CLL				*e*(SSS)		03 01 24.0	
CLL				*e*		03 10 36.0	
EAU	Auchinoon	145.13	354	*e*P	PKPbc	02 34 20.6	-0.1
VTS	Vitosha	145.15	315	*i* P	PKPdf	02 34 22.2	+0.6
VTS	Vitosha	145.15	315	⇑PKIKP	PKPdf	02 34 21.6	0.0
VTS	Vitosha	145.15	315	⇑P	PKPdf	02 34 21.6	0.0
VTS	Vitosha	145.15	315		PKPbc	02 34 20.9	-0.5
EBL	Broad Law	145.16	353	*e*P	PKPbc	02 34 20.6	-0.2
SMOL	Smolenice	145.18	328	*e*PKIKP	PKPab	02 34 22.7	+1.4
SMOL	Smolenice	145.18	328	*e*PKP	PKPab	02 34 22.7	+1.4
SRO	Srobarova	145.18	326	*e*PKIKP	PKPab	02 34 22.4	+1.1
SRO	Srobarova	145.18	326	*e*PKP	PKPab	02 34 22.4	+1.1
PGBU	Glenifferbraes	145.26	355	*e*P	PKPbc	02 34 20.7	-0.4
MMB	Musomiste	145.28	313	P	PKPdf	02 34 21.4	-0.3
KRUC	Moravsky	145.30	329	*e*PKP	PKPdf	02 34 21.4	0.0
KRUC				*e*		02 37 50.8	
KRUC				*e*		02 38 12.8	
MODS	Modra-Piesok	145.34	328	*e*PKP2	PKPab	02 34 21.9	0.0
MODS	Modra-Piesok	145.34	328	*e*PKP	PKPab	02 34 21.9	0.0
GOPC	GO Pecny, Ondr	145.43	332	*e*PKP2	PKPbc	02 34 21.9	0.0
GOPC				*e*		02 37 50.8	
GOPC	GO Pecny, Ondr	145.43	332	*e*PKP	PKPbc	02 34 21.9	0.0
GOPC				*e*SKP		02 37 50.8	
PRA	Prague	145.47	332	*e*PKP2	PKPbc	02 34 21.9	-0.1
PRA	Prague	145.47	332	*e*PKP	PKPbc	02 34 21.9	-0.1
PRU	Pruhonice	145.49	332	*e*PKP2	PKPdf	02 34 21.6	-0.1
PRU				*e*		02 37 50.5	
PRU	Pruhonice	145.49	332	*e*PKP	PKPdf	02 34 21.6	-0.1
PRU				*e*SKP	SKPbc	02 37 50.5	+0.5
CSKK	Cskako	145.50	326	*e*PKiKP	PKPbc	02 34 22.1	-0.1
TREC	Trest	145.56	330	*e*PKP2	PKPdf	02 34 22.0	+0.1
TREC	Trest	145.56	330	*e*PKP	PKPdf	02 34 22.0	+0.1
KKB	Krupnik	145.59	314	*i* P	PKPab	02 34 22.9	-0.2
EKA	Eskdalemuir Ar	145.60	353	PKPbc	PKPbc	02 34 22.1	0.0
	comp=Z,197nm,0.8s,baz=345,slow=2.8,SNR=452						
EKA				SKPbc	SKPbc	02 37 50.0	0.0
	comp=Z,2.7nm,0.8s,baz=26,slow=3.4,SNR=4.7						
EKA				SKKPbc	SKKPbc	02 45 23.4	-25
	comp=Z,1.6nm,0.9s,baz=148,slow=2.9,SNR=3.6						
APE	Apeiranthos	145.62	305	⇑PKP2	PKPdf	02 34 22.4	-0.1
APE	Apeiranthos	145.62	305	⇑P	PKPdf	02 34 22.4	-0.1
ESK	Eskdalemuir	145.62	353	*e*P	PKPdf	02 34 21.9	+0.1
ESK	Eskdalemuir	145.62	353	*i* PKP2	PKPbc	02 34 22.1	-0.1
ESK	Eskdalemuir	145.62	353		PKPbc	02 34 22.1	-0.1
SANT	Santorini	145.88	304	⇑P	PKPdf	02 34 23.3	+0.4
PBCC	Pribram	145.95	332	*e*PKP	PKPdf	02 34 22.7	+0.2
EDMD	Edmundbyers	145.95	352	*e*P	PKPdf	02 34 22.1	-0.2
FRGS	Fruska Gora	145.97	321	⇓*i*P	PKPbc	02 34 24.0	+0.3
TIH	Tihany	145.99	325	*e*PKiKPd	PKPab	02 34 24.0	-0.3
MPLH	Magyarpolny	146.00	326	*e*PKiKP	PKPbc	02 34 24.0	+0.3
SOP	Sopron	146.16	327	*e*PKiKPd	PKPab	02 34 25.0	0.0
VAY	Valandovo	146.18	314	*i* P	PKPbc	02 34 24.1	-0.3
NKC	Novy Kostel	146.19	334	*e*PKP2	PKPab	02 34 24.9	-0.2
NKC	Novy Kostel	146.19	334	*e*PKP	PKPab	02 34 24.9	-0.2
GDLE	Glaisdale, N Y	146.19	351	*e*P	PKPbc	02 34 23.7	-0.3
GAL1	Galloway	146.22	355	*e*P	PKPdf	02 34 22.6	-0.1
STIP	Stip	146.27	314	*i* P	PKPdf	02 34 23.6	+0.3
KESW	Keswick, Cumbr	146.33	353	*e*P	PKPdf	02 34 23.0	0.0
CONA	Conrad Observa	146.34	328	*i* PKPbc	PKPdf	02 34 23.1	-0.3
	comp=Z,248nm,1.0s,SNR=76						
CONA				*i* SKPbc	SKiKP	02 37 53.1	+0.8
	comp=Z,6.0nm,0.7s						
DIVS	Divibare	146.45	320	⇓*i*P	PKPbc	02 34 25.7	+0.5
TEKS	Tekeris	146.48	321	⇓*i*P	PKPbc	02 34 25.1	-0.1
KHC	Kasperske Hory	146.54	332	*e*PKIKP	PKPdf	02 34 23.7	+0.1
KHC				*e*		02 37 52.1	
KHC	Kasperske Hory	146.54	332	*e*PKP	PKPdf	02 34 23.7	+0.1
KHC				*e*x	x	02 35 10.0	
KHC				*e*SKP		02 37 52.1	
SKO	Skopje	146.63	315	*i* P	PKPab	02 34 26.5	-0.5
GERES	GERESS Array B	146.70	331	PKIKP	PKPdf	02 34 23.6	-0.4
GERES						02 34 26.6	
GERES	GERESS Array B	146.70	331	PKPbc	PKPbc	02 34 26.5	+0.7
	comp=Z,190nm,0.9s,baz=27,slow=2.9,SNR=400						
GERES				SKPbc	SKiKP	02 37 53.2	+0.1
	comp=Z,5.2nm,0.8s,baz=50,slow=2.1,SNR=5.1						
GERES				SKKPbc	SKKPbc	02 45 23.0	-21
	comp=Z,1.3nm,1.0s,baz=181,slow=13,SNR=3.4						
GERES	GERESS Array B	146.70	331		PKPdf	02 34 23.6	-0.4
GERES				PKPbc	PKPab	02 34 26.6	-0.6
HPK	Haverah Park	146.76	351	*e*P	PKPdf	02 34 23.7	0.0
BEHE	Becsehely	146.85	326	⇓*i*P	PKPbc	02 34 26.8	+0.6
BEHE	Becsehely	146.85	326	*i* PKiKPd	PKPab	02 34 27.0	-0.7
WIM	Isle of Man	146.93	355	*e*P	PKPdf	02 34 24.1	+0.1
BBLS	Lazići	146.93	320	⇓*i*P	PKPbc	02 34 27.3	+0.7
ARSA	Arzberg	146.97	328	*i* PKPbc	PKPdf	02 34 24.7	+0.3
	comp=Z,23nm,0.7s,SNR=8.5						
ARSA				*i* SKPbc	SKPbc	02 37 53.4	0.0
	comp=Z,18nm,1.8s						
HAPS	Han Pijesak,Bl	147.08	320	⇑*i*P	PKPbc	02 34 26.8	-0.3
RUDO	Rudo	147.09	319	⇓*i*P	PKPbc	02 34 26.9	-0.1
MOA	Molln	147.16	330	*i* PKPdf	PKPdf	02 34 24.4	-0.3
	comp=Z,32nm,0.6s,SNR=16						
MOA				*i* SKPdf	SKPdf	02 37 46.4	-0.8
	comp=Z,12nm,1.5s						
IVA	Berane	147.17	318	⇓*i*PKP	PKPbc	02 34 27.7	+0.4
DOB	Doboj	147.20	322	⇑*i*P	PKPbc	02 34 26.9	-0.3
PLE	Pljevlja	147.24	319	⇓*i*PKP	PKPbc	02 34 28.2	+0.7
KALN	Kalnik	147.24	325	*i* P	PKPbc	02 34 27.6	+0.2
PVY	Plav	147.27	317	⇓*i*PKP	PKPbc	02 34 27.8	+0.1
LBWR	Ladybower, Pea	147.31	351	*e*P	PKPdf	02 34 24.7	0.0
KOME	Kolasin	147.42	318	⇓*i*PKP	PKPbc	02 34 28.4	+0.4
WACR	West Acre	147.57	348	*e*P	PKPdf	02 34 26.4	+1.2
PERS	Pernice	147.60	327	*e*PKPdf	PKPdf	02 34 24.8	-0.7
PERS				*i* PKPbc	PKPbc	02 34 28.4	+0.1
UPM	Unac-Piva	147.60	319	⇓*i*P	PKPbc	02 34 28.4	-0.2
UPM	Unac-Piva	147.60	319	⇓*i*PKP	PKPbc	02 34 28.2	-0.4
SOKA	Soboth	147.61	327	*i* PKPdf	PKPdf	02 34 24.6	-0.9
	comp=Z,184nm,1.2s,SNR=29						
SOKA				*i* SKPbc	SKiKP	02 37 57.6	+2.5
	comp=Z,27nm,1.9s						
HKB	Herkenbosch	147.62	341	PKPbc	PKPbc	02 34 29.0	+0.9
WME	Myndd Eilian	147.63	354	*e*P	PKPdf	02 34 24.3	-0.9
PTJ	Puntijarka	147.65	326	*i* P	PKPbc	02 34 28.6	+0.1
WPS	Cemaes, Angles	147.65	354	*e*P	PKPdf	02 34 26.6	+1.4
STNC	Stoke	147.68	351	*e*P	PKPdf	02 34 25.7	+0.4
ZAG	Zagreb	147.69	325	*i* P	PKPbc	02 34 29.4	+0.9
ZAG	Zagreb	147.69	325	⇓*i*P	PKiKP	02 34 29.5	-0.9
BLY	Banja Luka	147.71	323	⇓*i*P	PKPbc	02 34 29.3	+0.7
BLY	Banja Luka	147.71	323	⇓P	PKiKP	02 34 29.6	-0.9
WLF1	Llynfaes	147.75	354	*e*P	PKPdf	02 34 26.5	+1.1
NKY	Niksic	147.76	318	⇓*i*PKP	PKPbc	02 34 29.4	+0.5
TTG	Podgorica	147.80	318	⇓*i*PKP	PKPbc	02 34 29.1	+0.2
YRC	Rhoscolyn	147.80	354	*e*P	PKPdf	02 34 25.6	+0.1
NKME	Niksic	147.81	318	⇓*i*PKP	PKPbc	02 34 29.2	+0.2
YLL	Llanberis	147.87	354	*e*P	PKPdf	02 34 26.4	+0.8
CWF	Charnwood Fore	147.90	350	*e*P	PKPdf	02 34 25.3	-0.3
BMOL	Mol	147.91	342	PKPbc	PKPab	02 34 31.7	-0.1
CEME	Cevo	147.95	318	⇓*i*PKP	PKPbc	02 34 29.4	0.0
TIR	Tirane	147.97	315	⇑PKP2	PKiKP	02 34 30.3	-0.8
TIR	Tirane	147.97	315	⇑P	PKiKP	02 34 30.3	-0.8
CRES	Cresnjev	147.97	326	⇓*i*P	PKPbc	02 34 29.6	+0.3
OBKA	Obir	147.97	328	*i* PKPdf	PKPdf	02 34 25.6	-0.5
	comp=Z,100nm,0.9s,SNR=9.2						
OBKA				*i* SKPbc	SKiKP	02 37 57.7	+1.9
	comp=Z,28nm,1.9s						
MGRS	Mrkonjic Grad	147.97	322	⇓*i*P	PKPbc	02 34 29.9	+0.5
DRME	Dracevica, Mon	147.97	317	⇓*i*P	PKPbc	02 34 29.5	+0.1
DRME	Dracevica, Mon	147.97	317	⇓*i*PKP	PKPbc	02 34 29.7	+0.3
BRY	Bratogost	147.99	319	⇓*i*P	PKPbc	02 34 29.6	0.0
BRY	Bratogost	147.99	319	⇓*i*PKP	PKPbc	02 34 29.6	0.0
FOEL	Foel Wylfa	148.01	353	*e*P	PKPdf	02 34 25.8	-0.1
ULC	Ulcinj	148.05	317	⇓*i*PKP	PKPbc	02 34 29.7	+0.1
BUM	Brajici-Budva	148.10	318	⇓*i*PKP	PKPbc	02 34 29.6	-0.2
OZLJ	Ozalj	148.10	326	*i* P	PKPbc	02 34 30.1	+0.6
LLW	Llanuwychllyn	148.10	353	*e*P	PKPdf	02 34 25.8	-0.2
KBA	Koelnbreinsper	148.15	329	*i* PKPdf	PKPdf	02 34 26.3	-0.3
	comp=Z,195nm,1.0s,SNR=14						
MEM	Membach	148.18	341	PKPbc	PKPbc	02 34 30.1	+0.5
TREB	Trebinje	148.21	319	⇓*i*P	PKPbc	02 34 29.6	-0.4
HCY	Herceg Novi	148.27	318	⇓*i*P	PKPbc	02 34 30.1	-0.1
HCY	Herceg Novi	148.27	318	⇓*i*PKP	PKPbc	02 34 30.1	-0.1
BLCH	La Chartreuse	148.28	341	PKPbc	PKPbc	02 34 30.5	+0.7
LJU	Ljubljana	148.30	327	*e*PKPdf	PKPdf	02 34 26.6	0.0
LJU				*e*PKPbc	PKPbc	02 34 30.6	+0.4
LJU	Ljubljana	148.30	327	⇓*i*P	PKPbc	02 34 30.5	+0.4
MYKA	Terra Mystica	148.33	329	*i* PKPdf	PKPdf	02 34 26.5	-0.2
	comp=Z,124nm,0.9s,SNR=13						
MYKA				*i* SKPbc	SKiKP	02 38 00.6	+4.1
	comp=Z,18nm,1.2s						
HLM1	Long Mynd	148.33	352	*e*P	PKPdf	02 34 26.3	-0.1
BSTI	Sart Tilman	148.34	341	PKPbc	PKiKP	02 34 30.8	-0.8
DBRK	Dubrovnik	148.36	319	*i* P	PKPbc	02 34 30.1	-0.2
BHOU	Houvegnez	148.41	341	PKPbc	PKiKP	02 34 31.0	-0.8
UCC	Uccle	148.49	343	PKPbc	PKPbc	02 34 30.8	+0.4
RICI	Ricice	148.50	321	*i* P	PKPbc	02 34 30.5	-0.3
STON	Ston	148.52	320	*i* P	PKPbc	02 34 30.8	0.0
STON	Ston	148.52	320	⇓*i*P	PKPbc	02 34 30.4	-0.3
CEY	Cerknica	148.56	327	⇓*i*P	PKPbc	02 34 31.1	+0.3
BCLA	Clavier	148.56	341	PKPbc	PKPbc	02 34 30.9	+0.3
CADS	Cadrg	148.57	328	*e*PKPdf	PKPdf	02 34 26.3	-0.8
CADS				*i* PKPbc	PKPbc	02 34 30.5	-0.4
LKLB	Kalborn	148.59	340	PKPbc	PKiKP	02 34 31.6	-0.5
UDBI	Udbina	148.64	324	*i* P	PKPbc	02 34 31.5	+0.4
BGES	Gesves	148.65	342	PKPbc	PKPbc	02 34 31.1	+0.2
MAKA	Makarska	148.69	321	*i* P	PKPbc	02 34 30.1	-1.0
BRQR	Ronquire	148.70	343	PKPbc	PKiKP	02 34 31.7	-0.6
BRQR				pPKPbc	pPKPbc	02 35 04.2	+0.1
BSKQ	Steenkerk	148.70	343	PKPbc	PKPbc	02 34 31.5	+0.6
LVIA	Vianden	148.71	340	PKPbc	PKiKP	02 34 32.0	-0.3
SNF	Seneffe	148.77	343	PKPdf	PKPdf	02 34 27.6	+0.4
SNF				PKPbc	PKPbc	02 34 31.8	+0.6
WATA	Walderalm	148.78	332	*i* PKPdf	PKPdf	02 34 27.1	-0.4
	comp=Z,262nm,1.3s,SNR=50						
WATA				*i* SKPbc	SKiKP	02 38 02.2	+4.7
	comp=Z,11nm,1.7s						
ABTA	Abfaltersbach	148.79	330	*i* PKPdf	PKPdf	02 34 26.9	-0.6
	comp=Z,176nm,0.9s,SNR=44						
WTTA	Wattenberg	148.80	331	*i* PKPdf	PKPdf	02 34 27.1	-0.5
	comp=Z,376nm,1.2s,SNR=73						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WTTA				i SKPbc	SKPbc	02 37 55.0	-2.6
	comp=Z,15nm,1.5s						
RIY	Rijeka	148.81	326	i P	PKPbc	02 34 30.8	-0.6
RIY	Rijeka	148.81	326	⇓iP	PKPbc	02 34 31.4	0.0
BMRD	Maredsous	148.82	342	PKPdf	PKPdf	02 34 27.5	+0.2
BMRD				PKPbc	PKPbc	02 34 31.8	+0.5
MCH1	Michaelchurch	148.86	352	eP	PKPdf	02 34 27.1	-0.1
STRD	Stroud	148.96	351	eP	PKPbc	02 34 29.6	-2.0
WLF	Walferdange	148.96	340	PKPdf	PKPdf	02 34 28.1	+0.6
WLF				PKPbc	PKiKP	02 34 32.8	-0.1
ELSH	Elham, Standar	148.96	347	eP	PKPbc	02 34 31.3	-0.3
MOTA	Moosalm	148.98	332	i PKPdf	PKPdf	02 34 27.3	-0.6
	comp=Z,401nm,1.0s,SNR=102						
MONM	Monmouth	148.99	352	eP	PKPbc	02 34 29.8	-1.9
RETA	Reutte	149.02	333	i PKPdf	PKPdf	02 34 27.6	-0.2
	comp=Z,193nm,1.2s,SNR=25						
RETA				i SKPbc		02 38 00.7	
	comp=Z,14nm,1.4s						
SQTA	Sankt Quirin	149.03	332	i PKPdf	PKPdf	02 34 27.5	-0.4
	comp=Z,250nm,0.8s,SNR=87						
SQTA				i SKPdf	SKPdf	02 37 42.5	-7.6
	comp=Z,18nm,1.7s						
DOU	Dourbes	149.06	342	PKPdf	PKPdf	02 34 28.0	+0.4
DOU				PKPbc	PKiKP	02 34 32.5	-0.6
HVAR	Hvar	149.09	321	i P	PKPbc	02 34 31.5	-0.7
RSBS	Rosebush, Pemb	149.10	354	eP	PKPdf	02 34 29.4	+1.7
NVLJ	Novalja	149.11	325	i P	PKPbc	02 34 32.0	-0.2
OLDB	Oldbury-Upon-S	149.13	351	eP	PKPbc	02 34 31.7	-0.3
SWN1	Swindon	149.16	350	eP	PKPdf	02 34 29.8	+2.0
WOL	Wolverton	149.26	350	eP	PKPbc	02 34 31.4	-1.0
ZIRJ	Zirje	149.26	322	i P	PKPbc	02 34 32.5	-0.1
BFO	Black Forest	149.33	336		PKPdf	02 34 28.5	+0.3
BFO				PKPbc	PKPbc	02 34 32.0	-0.7
DUGI	Dugi Otok	149.38	324	i P	PKPbc	02 34 32.9	0.0
FETA	Feichten	149.39	332	i PKPdf	PKPdf	02 34 28.3	-0.2
	comp=Z,425nm,1.0s,SNR=95						
HMNX	Herstmonceux	149.39	347	eP	PKiKP	02 34 33.2	-0.5
BRJN	Brijuni	149.48	326	i P	PKPbc	02 34 33.4	+0.3
DAVA	Damuels	149.55	333	i PKPdf	PKPdf	02 34 28.0	-0.8
	comp=Z,292nm,1.0s,SNR=34						
DAVA				i SKPbc		02 38 02.6	
	comp=Z,33nm,1.7s						
HTL	Hartland	150.02	353	eP	PKPdf	02 34 30.6	+1.5
MATE	Matera	150.37	317	⇑P	PKiKP	02 34 36.0	-0.1
ASCN	Ascension	150.65	171		PKiKP	02 34 37.4	-0.1
CCA1	Carnmenellis	150.90	354	eP	PKPbc	02 34 36.0	-0.3
AQU	L'Aquila	151.36	323	⇓iP	PKPbc	02 34 37.6	-0.1
JLP	Les Platons	151.41	350	eP	PKPbc	02 34 37.6	+0.1
JSA	Saint Aubin	151.47	350	eP	PKPbc	02 34 36.9	-0.7
VAE	Valguarnera	153.56	313	PKPbc	PKiKP	02 34 46.1	+3.3
	comp=Z,55nm,1.1s,baz=149,slow=5.9,SNR=3.2						
KEST	Kesra	157.93	315	PKP	PKPdf	02 34 40.9	0.0
	comp=Z,12nm,1.0s,baz=9.3,slow=0.9,SNR=4.4						
KEST				PKPab	PKPab	02 35 15.8	+1.3
	comp=Z,35nm,1.3s,baz=170,slow=1.8,SNR=3.9						
PBRG	Braganca	159.35	354	ePKPdf	PKPdf	02 34 51.9	+10
PBRG	Braganca	159.35	354	ePKPab	PKPab	02 35 21.1	+0.8
POLO	Lamas de Olo	159.87	356	ePKPab	PKPab	02 35 23.7	+1.1
PVRL	Vila Real	159.96	356	ePKPab	PKPab	02 35 24.1	+1.1
MVO	Moncorvo	160.01	354	ePKPdf	PKPdf	02 34 43.3	+0.1
MVO	Moncorvo	160.01	354	ePKPab	PKPab	02 35 23.9	+0.7
PVIS	Viseu	160.53	356	ePKPab	PKPab	02 35 26.4	+0.9
MTE	Manteigas	160.81	355	ePKPdf	PKPdf	02 34 44.1	0.0
MTE	Manteigas	160.81	355	ePKPab	PKPab	02 35 27.8	+1.0
ESDC	Sonseca Array	160.98	346	PKP	PKPdf	02 34 44.1	-0.1
	comp=Z,1.9nm,1.0s,baz=355,slow=3.8,SNR=7.2						
ESDC				PKPab	PKPab	02 35 27.6	+0.1
	comp=Z,3.9nm,0.9s,baz=14,slow=3.6,SNR=7.8						
ESDC				PP	PP	02 39 07.3	-2.5
	comp=Z,0.3nm,0.7s,baz=10,slow=9.0,SNR=4.2						
ESDC				SKKPbc		02 44 48.0	
	comp=Z,3.6nm,1.2s,baz=218,slow=3.2,SNR=5.2						
ESDC	Sonseca Array	160.98	346		PKPdf	02 34 41.4	-2.9
COI	Coimbra	161.06	357	ePKPab	PKPab	02 35 28.9	+1.2
PAB	San Pablo	161.18	347	PKIKP	PKPdf	02 34 42.9	-1.6
PAB	San Pablo	161.18	347		PKPdf	02 34 42.9	-1.6
PCAS	Casmilo, Conde	161.22	357	ePKPdf	PKPdf	02 34 44.1	-0.3
PCAS	Casmilo, Conde	161.22	357	ePKPab	PKPab	02 35 29.5	+1.0
PCBR	Castelo Branco	161.36	355	ePKPdf	PKPdf	02 34 44.6	+0.1
PCBR	Castelo Branco	161.36	355	ePKPab	PKPab	02 35 30.0	+0.9
PTOM	Tomar	161.65	357	ePKPdf	PKPdf	02 34 44.7	-0.2
PTOM	Tomar	161.65	357	ePKPab	PKPab	02 35 31.2	+0.9
PMRV	Marv??o	161.76	354	ePKPdf	PKPdf	02 34 45.8	+0.8
PMTG	Montargil	162.19	356	ePKPdf	PKPdf	02 34 45.0	-0.4
PMTG	Montargil	162.19	356	ePKPab	PKPab	02 35 33.4	+0.7
PMAFR	Mafra	162.34	359	ePKPab	PKPab	02 35 33.9	+0.5
PNCL	Nicolau / Gran	163.16	357	ePKPdf	PKPdf	02 34 46.1	-0.3
PBEJ	Beja	163.20	355	ePKPdf	PKPdf	02 34 46.9	+0.4
PBEJ	Beja	163.20	355	ePKPab	PKPab	02 35 38.3	+1.1
PCVE	Castro Verde	163.60	355	ePKPab	PKPab	02 35 40.5	+1.5
PVAQ	Vaqueiros	163.80	354	ePKPab	PKPab	02 35 41.0	+1.2
MORF	Marmelete	163.97	357	ePKPdf	PKPdf	02 34 51.8	+4.5
LIC	Lamto	164.38	198	ePKP1	PKPdf	02 34 47.1	-1.2
	comp=Z,101nm,1.3s						
LIC	Lamto	164.38	198	eP	PKPab	02 35 42.1	-0.9
	comp=Z,455nm,1.1s						
KIC	Kosan Boka	164.43	199	ePKP1	PKPdf	02 34 46.9	-1.4
	comp=Z,77nm,1.2s						
KIC	Kosan Boka	164.43	199	eP	PKPab	02 35 42.4	-0.8
	comp=Z,324nm,1.0s						
DBIC	Dimbokro	164.76	199	PKP	PKPdf	02 34 48.0	-0.5
	comp=Z,18nm,1.0s,baz=278,slow=0.8,SNR=10						
DBIC				PKPab	PKPab	02 35 45.0	+0.4
	comp=Z,123nm,0.9s,baz=143,slow=4.9,SNR=54						
DBIC				PP	PP	02 39 28.6	-1.1
	comp=Z,18nm,1.0s,baz=144,slow=6.2,SNR=6.8						
TIC	Toumodi	164.78	198	ePKP1	PKPdf	02 34 47.8	-0.8
	comp=Z,47nm,1.0s						
TIC	Toumodi	164.78	198	eP	PKPab	02 35 44.1	-0.6
	comp=Z,168nm,0.7s						
TAM	Tamanrasset	165.75	279	PKIKP	PKPdf	02 34 49.6	+0.3
TAM						02 39 39.6	
TAM	Tamanrasset	165.75	279		PKPdf	02 34 49.6	+0.3
TAM					PKPab	02 35 50.7	+1.3
TAM				PP	PP	02 39 39.6	+2.4
TORD	Torodi Ar. Bea	166.43	235	PKP	PKPdf	02 34 49.3	-0.6
	comp=Z,9.1nm,0.9s,baz=14,slow=0.4,SNR=36						
TORD				PKPab	PKPab	02 35 51.9	-0.3
	comp=Z,22nm,0.8s,baz=117,slow=4.2,SNR=21						
TORD				PP	PP	02 39 37.5	-2.3
	comp=Z,8.2nm,1.1s,baz=127,slow=4.6,SNR=7.8						
TORD	Torodi Ar. Bea	166.43	235		PKPdf	02 34 49.1	-0.8
TORD					PKPab	02 35 51.1	-1.0
FUL	Funchal	166.98	28	ePKPab	PKPab	02 35 49.5	-4.5
MDT	Midelt	167.60	339	PKP	PKPdf	02 34 50.7	+0.3
	comp=Z,6.6nm,0.9s,baz=330,slow=4.1,SNR=10						
MACI	Morro de la Ar	170.71	40		PKPdf	02 34 52.8	+0.2

ATH 02 02:31:50.7, 40°.34N×23°.24E, h11km±4km, ML1.8/1, Error ellipse: s-maj=4.5km s-min=0.9km az=55.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	Polygyros	0.16	79	P	Pg	02 31 54.5	+0.1
PLG				S	Sg	02 31 56.9	-0.1
PLG				AML	AML	02 31 57.0	
	comp=N,1254µm,0.2s						
PLG				AML	AML	02 31 57.2	
	comp=E,904µm,0.2s						
HORT	Hortiatis	0.28	338	P	Pg	02 31 56.5	+0.1
HORT				S	Sg	02 32 00.4	+0.2
THE	Thessaloniki	0.36	324	P	Pg	02 31 57.8	0.0
THE				S	Sg	02 32 02.6	+0.1
SOH	Sokhos	0.49	10	P	Pg	02 32 00.1	-0.1
SOH				S	Sg	02 32 07.2	+0.5
PAIG	Paliouri	0.54	141	P	Pg	02 32 00.9	-0.2
PAIG				S	Sg	02 32 08.2	0.0
OUR	Ouranopolis	0.57	91	P	Pg	02 32 01.9	+0.1
KNT	Kendrikon	0.86	343	P	Pg	02 32 07.0	-0.3
GRG	Griva	0.88	314	P	Pg	02 32 07.5	-0.2
NVR	Nevrokopi	1.11	25	P	Pb	02 32 11.6	-0.4
KAVA	Kavala	1.17	56	P	Pb	02 32 12.5	-0.5

IDC 02 02:33:08.5±51.0, 16°.23S×175°.58W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/35, mbtmp4.1/3, Error ellipse: s-maj=952.1km s-min=170.6km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.80	240	P	P	02 41 00.3	+0.2
	1.3nm,0.5s,baz=81,slow=8.0,SNR=7.9						
WRA	Warramunga Arr	47.61	258	P	P	02 41 46.7	0.0
	0.6nm,0.6s,baz=94,slow=7.4,SNR=5.8						
ASAR	Alice Springs	47.86	253	P	P	02 41 48.1	-0.5
	5.4nm,0.6s,baz=88,slow=8.3,SNR=84						

IDC 02 02:45:34.0±4.2, 5°.48S×152°.47E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.2/20, mbtmp3.1/2, Error ellipse: s-maj=194.4km s-min=50.8km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.76	229	P	P	02 50 38.0	-0.2
	0.3nm,0.7s,baz=53,slow=9.8,SNR=1.8						
ASAR	Alice Springs	25.44	223	P	P	02 51 03.5	-0.2
	0.5nm,0.6s,baz=57,slow=9.3,SNR=7.5						
TORD	Torodi Ar. Bea	150.20	287	PKPbc	PKPbc	03 05 28.0	-0.1
	0.2nm,0.5s,baz=102,slow=2.7,SNR=5.5						

ISCJB 02 02:47:52.0±1.0, 32°.10S±0°.04×70°.74W±0°.06, h102km±10km, Error ellipse: s-maj=8.9km s-min=6.1km az=2.2
SJA 02 02:47:52.5±0.6, 32°.05S×70°.67W, h79km±4km, ML2.2, MW2.8
GUC 02 02:47:53.2±0.4, 32°.13S×70°.58W, h36km±6km, ML2.4
ISC 02 02:47:53.3±2.2, 32°.10S±0°.04×70°.72W±0°.07, h88km±23km, n19, σ0s.73/27, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	El Roble	0.91	196	eP	Pn	02 48 11.5	-0.6
ROCH				eS	Sn	02 48 25.2	-0.8
ROC1	El Roble	0.91	196	i P	Pn	02 48 11.6	-0.5
ROC1				eS	Sn	02 48 27.1	+0.9
CO02	Combarbal	0.92	345	⇑iP	Pn	02 48 11.8	-0.3
CO02				eS	Sn	02 48 26.5	+0.3
CO02				IAML		02 48 27.9	
	comp=E,434nm,0.2s						
RTLS	Leoncito	1.24	77	i P	Pn	02 48 15.5	-0.6
RTLS				IAML		02 48 32.6	
	comp=Z,13nm,0.3s						
RTLS				eS	Sn	02 48 33.0	-0.1
FCH	Farellones	1.28	164	eP	Pn	02 48 16.5	0.0
FCH				eS	Sn	02 48 33.7	-0.3
FCH				IAML		02 48 37.8	
	comp=E,59nm,0.2s						
ASAL	Salagasta	1.67	108	i P	Pn	02 48 21.4	+0.3
ASAL				eS	Sn	02 48 42.4	+0.1
ARCO	CERRO ARCO	1.68	117	i P	Pn	02 48 21.5	+0.1
LMEL	Las Melosas	1.80	166	eS	Sn	02 48 47.1	+1.7
LMEL				IAML		02 48 53.0	
	comp=N,72nm,0.2s						
RTCV	Cerro Valdivia	1.86	83	⇓iP	Pn	02 48 23.6	-0.1
AAGR	Agrelo	1.87	122	i P	Pn	02 48 24.7	+0.8
AAGR				eS	Sn	02 48 48.0	+0.9
GO04	Tololo Observa	1.92	358	i P	Pn	02 48 24.6	0.0
RTLL	Cerro Villicun	2.06	69	i P	Pn	02 48 26.2	-0.1
RTLL				IAML		02 48 54.4	
	comp=Z,8.3nm,0.2s						
ACCO	Cerro Coronel	2.06	44	i P	Pn	02 48 27.1	+0.5
ACCO				eS	Sn	02 48 52.3	+0.4
CFA	Coronel Fontan	2.17	78	i P	Pn	02 48 27.0	-0.6
AROD	Rodeo	2.20	29	i P	Pn	02 48 28.9	+0.5
AMOG	MOGNA	2.22	59	i P	Pn	02 48 28.3	-0.1
ACAN	Cantantal	3.00	94	i P	Pn	02 48 38.0	-0.7
APLL	PUNTA DE LOS L	3.97	66	i P	Pn	02 48 51.7	-0.2
APLL				IAML		02 49 40.0	
	comp=Z,2.1nm,0.4s						
TCA	Tanti	5.27	83	i P	Pn	02 49 07.8	-1.9
TCA				IAML		02 50 06.3	
	comp=Z,10nm,1.3s						

NEIC 02 03:01:32.8±2.5, 17°.32N±0°.06×101°.61W±0°.07, h25km±15km
MEX 02 03:01:34.2±0.6, 17°.31N×101°.61W, h9km±4km, MD4.0
ISC 02 03:01:32.7±2.3, 17°.25N±0°.10×101°.6W±0°.1, h22km±4km, n12, σ1s.53/23, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.36	14	i P	Pb	03 01 40.1	-0.3
ZIIG				i S	Sb	03 01 45.4	-0.3
ZIIG	Zihuatanejo	0.36	14		Pb	03 01 40.1	-0.3
ZIIG					Sb	03 01 45.4	-0.3
CAIG	El Cayaco	1.25	99	eP	Pn	03 01 55.5	+0.6
CAIG				i S	Sb	03 02 11.1	-0.1
CAIG	El Cayaco	1.25	99		Pn	03 01 55.5	+0.6
CAIG					Sb	03 02 11.1	-0.1
ARIG	Puente Sto Nin	1.54	48	eP	Pn	03 01 58.3	-0.6
ARIG				i S	Sn	03 02 16.6	-1.7
ARIG	Puente Sto Nin	1.54	48		Pn	03 01 58.3	-0.6
ARIG					Sn	03 02 16.6	-1.7
MEIG	Mezcala	1.96	70	eP	Pn	03 02 05.2	+0.5
MEIG				eS	Sb	03 02 35.4	+3.5
MEIG	Mezcala	1.96	70		Pn	03 02 05.2	+0.5
MEIG					Sb	03 02 35.4	+3.5
PLIG	Platanillo	2.26	60	eP	Pb	03 02 11.5	-1.4
PLIG				i S	Sn	03 02 35.8	-0.4
PLIG	Platanillo	2.26	60		Pb	03 02 11.5	-1.4
PLIG					Sn	03 02 35.8	-0.4
TLIG	Tlapa	2.87	83	Pn	Pb	03 02 21.2	-2.0
TLIG					Sn	03 02 50.5	-0.8
JCT	Junction City	13.27	7	Pn	Pn	03 04 41.3	+1.5

UCR 02 03:11:48.7±5.2, 9°.72N×79°.11W, h21km±25km
ISCJB 02 03:11:52.3±0.5, 9°.75N±0°.04×79°.41W±0°.03, h44km±12km, Error ellipse: s-maj=7.3km s-min=4.3km az=172.0
UPA 02 03:11:54.4±0.5, 9°.67N×79°.45W, h25km±3km, MW4.5
ISC 02 03:11:52.0±1.6, 9°.75N±0°.06×79°.43W±0°.03, h25km±13km, n55, σ1s.00/83, 4C-12D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRIJ	El Hiral	0.60	209	⇓iP	Pn	03 12 04.7	-0.2
FRIJ				eS	Sb	03 12 12.6	+0.5
FRIJ	El Hiral	0.60	209	⇓iP	Pn	03 12 04.7	-0.2
FRIJ				eS	Sb	03 12 12.6	+0.5
CHPO	Chepo, Panama	0.66	152	⇓iP	Pn	03 12 06.2	+0.5
CHPO				eS	Sn	03 12 14.7	-0.5
MLIR	Monte Lirio	0.66	220	⇓iP	Pn	03 12 05.8	+0.1
MLIR				eS	Sb	03 12 13.5	-0.1
GAMB1	Gamboa	0.69	204	⇓iP	Pn	03 12 05.8	-0.3
GAMB1				eS	Sb	03 12 14.6	+0.2
SPIL	Cristobal, Col	0.69	226	eP	Pn	03 12 06.5	+0.3
SPIL				eS	Sn	03 12 16.3	+0.2
BCIP	Isla Barro Col	0.71	215	⇓iP	Pn	03 12 06.3	-0.1
BCIP				eS	Sb	03 12 15.2	+0.1
BCIP	Isla Barro Col	0.71	215	⇓iP	Pn	03 12 06.3	-0.1
BCIP				eS	Sb	03 12 15.2	+0.1
BCIP	Isla Barro Col	0.71	215	⇑iP	Pn	03 12 06.3	-0.1
BCIP				eS	Sb	03 12 14.8	-0.3
BCIP	Isla Barro Col	0.71	215	⇑iP	Pn	03 12 06.3	-0.1
BCIP				eS	Sb	03 12 14.7	-0.4
PINA	Piqa, Costa Ab	0.80	232	⇑eP	Pn	03 12 08.0	+0.3
PINA				eS	Sn	03 12 18.3	-0.4
PINA	Piqa, Costa Ab	0.80	232	⇑eP	Pn	03 12 08.0	+0.3
PINA				eS	Sn	03 12 18.3	-0.4
FLAM	Flamenco Islan	0.84	187	eP	Pn	03 12 08.4	+0.2
FLAM	Flamenco Islan	0.84	187	eP	Pn	03 12 08.4	+0.2
ZANG	Zanguenga, Cho	0.90	209	⇓iP	Pn	03 12 09.3	+0.2
ZANG				eS	Sn	03 12 21.3	0.0
ZANG	Zanguenga, Cho	0.90	209	⇓iP	Pn	03 12 09.3	+0.2
ZANG				eS	Sn	03 12 21.3	0.0
CHOR3	La Chorrera	0.91	201	⇓iP	Pn	03 12 09.5	+0.3
CHOR3				eS	Sb	03 12 20.8	-0.1
VTON	El Valle, Cocl	1.32	211	eP	Pb	03 12 15.6	-0.6
VTON				eS	Sn	03 12 31.6	-0.1
UPD2	Meteti	1.84	130	eP	Pn	03 12 23.4	+1.5
UPD2	Meteti	1.84	130	eP	Pn	03 12 23.4	+1.5
UPD2	Meteti	1.84	130	eP	Pn	03 12 22.9	+1.0
UPD2				eS	Sn	03 12 45.4	+1.0
UPD2	Meteti	1.84	130	eP	Pn	03 12 22.9	+1.0
UPD2				eS	Sn	03 12 45.4	+1.0
CRIS3	El Cristo, Coc	1.90	218	eP	Pn	03 12 23.7	+1.0
CRIS3				eS	Sn	03 12 45.2	-0.6
CALO3	Calobre, Verag	1.99	225	eP	Pn	03 12 25.0	+0.9
CALO3				eS	Sn	03 12 48.2	0.0
AZU	Azuero	2.12	203	⇓iP	Pn	03 12 25.9	+0.1
AZU	Azuero	2.12	203	⇓iP	Pn	03 12 25.9	+0.1
AZU	Azuero	2.12	203	eP	Pn	03 12 25.9	+0.1
AZU				eS	Sn	03 12 50.2	-1.1
AZU	Azuero	2.12	203	i P	Pn	03 12 25.9	+0.1
AZU				eS	Sn	03 12 50.2	-1.1
SFRA3	San Francisco,	2.13	226	eP	Pn	03 12 27.2	+1.2
SFRA3				eS	Sn	03 12 51.4	-0.4
GMAL	Guarumal, Vera	2.66	222	eP	Pn	03 12 33.3	0.0
CACAO	El Cacao, Vera	2.78	211	eP	Pn	03 12 35.9	+1.0
CACAO				eS	Sn	03 13 09.4	+1.7
PTAC	Punta Ardita,	3.04	148	eP	Pn	03 12 38.2	-0.3
PTAC				eS	Sn	03 13 12.0	-2.2
PTAC	Punta Ardita,	3.04	148	eP	Pn	03 12 38.2	-0.3
PTAC				eS	Sn	03 13 12.0	-2.2
DRK0	Durika	3.80	263	eP	Pn	03 12 49.7	+0.6
PRVC	Isla de Provid	4.07	332	eP	Pn	03 12 51.5	-1.2
PRVC	Isla de Provid	4.07	332	eP	Pn	03 12 51.5	-1.2
SJCC	San Jacinto, C	4.19	88	eP	Pn	03 12 56.3	+1.9
SJCC	San Jacinto, C	4.19	88	eP	Pn	03 12 56.3	+1.9
SJCC	San Jacinto, C	4.19	88	eP	Pn	03 12 56.0	+1.6
SJCC				eS	Sn	03 13 40.8	-1.8
SJCC	San Jacinto, C	4.19	88	eP	Pn	03 12 56.0	+1.6
SJCC				eS	Sn	03 13 40.8	-1.8
LCR2	La Lucha 2	4.51	270	eP	Pn	03 13 00.5	+1.6
ZARC	Zaragoza, Cauc	5.05	116	eP	Pn	03 13 07.6	+1.5
ZARC	Zaragoza, Cauc	5.05	116	eP	Pn	03 13 07.6	+1.5
ARE1	Arenal 1	5.26	278	eP	Pn	03 13 11.2	+2.2
SMLC	San Martn de	5.37	100	eP	Pn	03 13 10.6	0.0
SMLC	San Martn de	5.37	100	eP	Pn	03 13 10.6	0.0
JTS	Las Juntas de	5.47	276	eP	Pn	03 13 13.6	+1.7
PTBC	PUERTO BERRIO,	5.87	123	eP	Pn	03 13 18.7	+1.3
PTBC	PUERTO BERRIO,	5.87	123	eP	Pn	03 13 18.7	+1.3
CODC	Agustn Codazz	5.90	88	eP	Pn	03 13 19.4	+1.5
CODC	Agustn Codazz	5.90	88	eP	Pn	03 13 19.4	+1.5
OCAC	Ocana	6.22	103	eP	Pn	03 13 23.0	+0.6
OCAC	Ocana	6.22	103	eP	Pn	03 13 23.0	+0.6
BRRC	Barranca, Sant	6.24	114	eP	Pn	03 13 23.5	+1.0
BRRC	Barranca, Sant	6.24	114	eP	Pn	03 13 23.5	+1.0

ISCJB 02 03:32:21.7±1.6, 9°.14N±0°.09×77°.59W±0°.03, h26km±12km, Error ellipse: s-maj=15.0km s-min=4.6km az=5.2
UPA 02 03:32:21.7±1.9, 9°.10N×77°.63W, h9km±16km, MW3.1
RSNC 02 03:32:22.7±0.9, 9°.13N×77°.61W, h16km±9km, ML2.4, Mw2.5
ISC 02 03:32:16.6±1.4, 9°.24N±0°.06×77°.46W±0°.03, h15km±11km, n15, σ0s.98/23, 1D, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD2	Meteti	0.88	219	⇓iP	Pn	03 32 34.9	+0.5
UPD2				eS	Sg	03 32 45.0	-0.3
UPD2				i		03 32 46.6	
	comp=Z,186nm,0.2s						
UPD2	Meteti	0.88	219	i PD		03 32 34.9	
UPD2				eS	Sg	03 32 45.0	-0.3
CHPO	Chepo, Panama	1.64	268	eP	Pb	03 32 46.3	-0.2
CHPO				eS	Sn	03 33 05.6	-0.1
PTAC	Punta Ardita,	2.11	190	eP	Pb	03 32 55.0	+0.5
PTAC				i		03 33 24.0	
	comp=Z,81nm,0.2s						
PTAC	Punta Ardita,	2.11	190	eP	Pb	03 32 55.0	+0.5
FRIJ	El Hiral	2.24	270	eP	Pb	03 32 56.9	+0.2
FRIJ				eS	Sb	03 33 22.9	-1.4
CHOR3	La Chorrera	2.31	262	eS	Sn	03 33 23.1	+0.9
SJCC	San Jacinto, C	2.34	74	eP	Pg	03 33 02.2	+0.7
SJCC				i		03 33 52.2	
	comp=Z,7.9nm,2.9s						
SJCC	San Jacinto, C	2.34	74	eP	Pg	03 33 02.2	+0.7
BCIP	Isla Barro Col	2.35	268	eP	Pb	03 32 58.0	-0.7
BCIP				eS	Sn	03 33 24.6	+1.3
BCIP				i		03 34 05.8	
	comp=Z,28nm,2.5s						
BCIP	Isla Barro Col	2.35	268	eP	Pb	03 32 58.0	-0.7
BCIP				eS	Sn	03 33 24.6	+1.3
ZANG	Zanguenga, Cho	2.40	263	eP	Pb	03 32 58.1	-1.4
ZANG				eS	Sn	03 33 25.4	+0.9
ZARC	Zaragoza, Cauc	3.10	124	eP	Pb	03 33 11.7	+0.2
ZARC				eS	Sb	03 33 47.0	-2.1
ZARC				i		03 33 50.2	
	comp=Z,12nm,0.4s						
SMLC	San Martn de	3.37	97	eP	Pb	03 33 15.6	-0.5
SMLC				eS	Sb	03 33 55.9	-1.0
SMLC				i		03 33 58.8	
	comp=Z,7.3nm,0.1s						
CBOC	Ciudad Bolivar	3.65	157	eP	Pb	03 33 20.0	-0.9
CBOC				i		03 34 34.0	
	comp=Z,5.9nm,2.6s						

ISCJB 02 03:45:22.9±0.5, 31°.93S±0°.04×178°.8W±0°.1, h45km, mb4.3/4, Error ellipse: s-maj=15.9km s-min=3.7km az=18.4
NEIC 02 03:45:22.5±2.6, 31°.94S±0°.08×178°.6W±0°.2, h35km±2km, mb4.4/12
IDC 02 03:45:26.3±1.7, 31°.82S×178°.58W, h70km±14km, mb4.1/4, mb1 4.4/7, mb1mx4.0/28, mbtmp4.4/7, Error ellipse: s-maj=28.8km s-min=10.8km az=116.0
ISC 02 03:45:24.1±0.8, 31°.85S±0°.07×178°.7W±0°.1, h45km, n64, σ2s.71/77, mb4.4/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.67	15	P	Pn	03 46 07.0	+2.4
GLKZ				S	Sn	03 46 36.7	+1.0
RAO	Raoul Island	2.68	15	P	Pn	03 46 07.6	+2.9
	85nm,0.3s,baz=97,slow=11,SNR=8.9						
RAO				S	Sn	03 46 37.5	+1.5
	316nm,0.3s,baz=106,slow=23,SNR=12						
RAO	Raoul Island	2.68	15		Pn	03 46 06.6	+1.8
RAO					Sn	03 46 35.0	-1.0
RIZ	Raoul Island	2.69	15	P	Pn	03 46 07.3	+2.5
RIZ				S	Sn	03 46 37.5	+1.4
MXZ	Matakaoa Point	6.20	202	P	Pn	03 46 55.6	+2.6
MXZ				S	Sn	03 48 06.0	+3.5
MXZ	Matakaoa Point	6.20	202	Pn	Pn	03 46 55.4	+2.3
MXZ				Sn	Sn	03 47 57.6	-5.0
WMGZ	Waiomatatini S	6.40	201	P	Pn	03 46 59.2	+3.5
WMGZ				S	Sn	03 48 12.6	+5.0
HAZ	Te Kaha	6.55	205	P	Pn	03 47 01.9	+4.1
HAZ				S	Sn	03 48 17.3	+6.0
PUZ	Puketiti	6.68	201	P	Pn	03 47 02.1	+2.4
PUZ				S	Sn	03 48 17.9	+3.4
RUGZ	Raukumara Rang	6.78	205	P	Pn	03 47 04.1	+3.0
RUGZ				S	Sn	03 48 21.6	+4.6
WCZ	Waipu Caves	7.06	233	P	Pn	03 47 11.9	+7.1
CNGZ	Carnagh Statio	7.08	200	P	Pn	03 47 08.0	+3.0
OPRZ	Ohinepanea	7.13	212	P	Pn	03 47 10.0	+4.3
TKGZ	Te Karaka	7.15	202	P	Pn	03 47 07.8	+1.8
MWZ	Matawai	7.16	204	P	Pn	03 47 08.7	+2.4
URZ	Urewera	7.25	207	P	Pn	03 47 10.4	+3.0
	2.9nm,0.3s,baz=282,slow=4.1,SNR=18						
URZ				S	Sn	03 48 31.4	+3.1
	24nm,0.3s,baz=244,slow=23,SNR=27						
URZ	Urewera	7.25	207	P	Pn	03 47 09.9	+2.5
URZ	Urewera	7.25	207		Pn	03 47 09.6	+2.2
URZ					Sn	03 48 25.2	-3.1
RAGZ	Rawiri	7.34	204	P	Pn	03 47 11.0	+2.2
RIGZ	Rimuhau	7.42	202	P	Pn	03 47 12.0	+2.2
MUGZ	Murupara	7.57	208	P	Pn	03 47 14.3	+2.5
PRGZ	Paritu Road	7.58	200	P	Pn	03 47 13.4	+1.4
SNGZ	Shannon Statio	7.63	204	P	Pn	03 47 14.8	+2.2
BKZ	Black Stump Fm	8.27	207	Pn	Pn	03 47 22.4	+0.8
BKZ					Sn	03 48 45.1	-8.5
BFZ	Birch Farm	9.70	203	Pn	Pn	03 47 39.8	-1.2
BFZ					Sn	03 49 24.2	-4.3
MSWZ	Moikau Station	10.70	205	Pn	Pn	03 47 53.2	-1.5
SNZO	South Karori	10.81	207	Pn	Pn	03 47 54.0	-2.2
SNZO					Sn	03 49 51.8	-4.0
PLWZ	Palliser	10.83	205	Pn	Pn	03 47 54.5	-2.0
PLWZ					Sn	03 49 47.6	-8.7
BHW	Baring Head	10.83	207	Pn	Pn	03 47 53.4	-3.1
BHW					Sn	03 49 50.6	-5.7
TUWZ	Tuamarina	11.22	210	Pn	Pn	03 47 59.5	-2.3
NNZ	Nelson	11.29	212	Pn	Pn	03 48 00.5	-2.3
CMWZ	Cape Campbell	11.38	208	Pn	Pn	03 48 01.3	-2.6
CMWZ				Sn	Sn	03 50 05.1	-4.6
QRZ	Quartz Range	11.39	216	Pn	Pn	03 48 04.1	-0.1
QRZ				Sn	Sn	03 50 05.0	-5.0
BSWZ	Blackbirch Sta	11.49	209	Pn	Pn	03 48 07.1	+1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BSWZ					Sn	03 50 05.6	-6.7
THZ	Tophouse	11.94	212	Pn	Pn	03 48 08.1	-3.6
KHZ	Kahutara	12.21	208	Pn	Pn	03 48 12.2	-3.1
LTZ	Lake Taylor	13.04	211	Pn	Pn	03 48 24.6	-2.2
OXZ	Oxford	13.58	210		Pn	03 48 30.6	-3.4
OXZ					Sn	03 50 54.0	-9.5
MQZ	McQueen's Vall	13.65	207	Pn	Pn	03 48 33.3	-1.6
MQZ					Sn	03 50 51.5	-13
RPZ	Rata Peaks	14.32	211	P	Pn	03 48 47.5	+3.5
	1.4nm,0.3s,baz=7.1,slow=18,SNR=4.4						
RPZ				S	Sn	03 51 10.9	-11
	1.5nm,0.3s,baz=312,slow=22,SNR=7.3						
RPZ	Rata Peaks	14.32	211		Pn	03 48 42.4	-1.7
FOZ	Fox Glacier	14.76	215	Pn	Pn	03 48 49.0	-0.8
LBZ	Lake Benmore	15.24	212	Pn	Pn	03 48 54.8	-1.3
LBZ				IAmb	IAmb	03 49 08.8	
	comp=Z,44nm,1.5s						
ODZ	Otahua Downs	15.56	209	Pn	Pn	03 48 56.7	-3.6
ODZ				IAmb	IAmb	03 49 07.5	
	comp=Z,12nm,0.7s						
WKZ	Wanaka	16.11	213	Pn	Pn	03 49 04.3	-3.0
WKZ				IAmb	IAmb	03 49 16.4	
	comp=Z,62nm,1.4s						
MLZ	Mavora Lakes	16.93	213	P	Pn	03 49 19.2	+1.5
MLZ				IAmb	IAmb	03 49 26.9	
	comp=Z,38nm,1.4s						
STKA	Stephens Creek	33.57	259	P	P	03 52 01.9	+2.0
	comp=Z,3.4nm,0.6s,baz=92,slow=9.2,SNR=11						
STKA	Stephens Creek	33.57	259	P	P	03 52 02.1	+2.2
BBOO	Buckleboo	38.00	256	P	P	03 52 38.2	+0.4
BBOO				IAmb	IAmb	03 52 42.9	
	comp=Z,7.7nm,1.2s						
BBOO				PP	PP	03 54 04.3	-0.9
COEN	Coen	39.10	288	P	P	03 52 48.9	+1.6
AS31	Alice Springs	42.43	269	P	P	03 53 15.0	+0.3
ASAR	Alice Springs	42.43	269	P	P	03 53 15.3	+0.7
	comp=Z,4.7nm,0.5s,baz=106,slow=7.4,SNR=57						
WB2	Warramunga Arr	43.54	274	P	P	03 53 24.2	+0.6
WRA	Warramunga Arr	43.55	274	P	P	03 53 24.4	+0.6
	comp=Z,3.5nm,0.3s,baz=113,slow=7.8,SNR=81						
WRA	Warramunga Arr	43.55	274	P	P	03 53 23.8	0.0
WB0	Warramunga Arr	43.58	274	P	P	03 53 24.4	+0.4
WB0				IAmb	IAmb	03 53 25.4	
	comp=Z,6.7nm,0.8s						
FITZ	Fitzroy Crossi	51.75	271	P	P	03 54 26.2	-1.1
FITZ				IAmb	IAmb	03 54 31.3	
	comp=Z,5.9nm,1.4s						
NVAR	Mina Array Bea	89.72	43	P	P	03 58 17.3	-0.4
	comp=Z,0.6nm,0.9s,baz=214,slow=6.2,SNR=3.4						
BOSA	Boshof	115.69	203	PKP	PKiKP	04 04 01.3	-0.7
	comp=Z,0.4nm,0.4s,baz=100,slow=6.1,SNR=2.4						
FINES	FINESS Array B	146.28	339	PKPbc	PKPdf	04 04 56.9	-0.9
	comp=Z,3.1nm,0.8s,baz=64,slow=4.4,SNR=8.6						
FINES	FINESS Array B	146.28	339		PKPdf	04 04 56.2	-1.6
BRTR	Keskin Array B	152.70	296	PKPbc	PKPbc	04 05 14.3	-1.7
	comp=Z,0.2nm,0.5s,baz=170,slow=5.1,SNR=3.2						
BRTR				PKPab	pPKPdf	04 05 24.9	+2.5
	comp=Z,0.2nm,0.5s,baz=126,slow=3.2,SNR=4.5						
BRTR	Keskin Array B	152.70	296	PKPdf	PKPdf	04 05 05.2	-3.7
TORD	Torodi Ar. Bea	161.38	181	PKPab	PKPab	04 06 03.8	-0.6
	comp=Z,0.5nm,0.5s,baz=179,slow=2.8,SNR=6.2						

*NNC **02** 04:09:39.4±0.2, 43°.02N×77°.56E, h1km±1km, mb3.5, mpv3.8, Error ellipse: s-maj=2.8km s-min=1.1km az=177.0*
*KRNET **02** 04:09:39.5±0.1, 43°.00N×77°.55E, h18km, mb3.4*
*SOME **02** 04:09:39.9, 43°.02N×77°.52E, h20km*
ISC 02 04:09:39.7±0.9**, 43°.00N**±0°.02×**77°.50E**±0°.01**, h14**km±7km**,**
n95,σ1§**49**/168**, 43C-25D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	Anan'yevo	0.25	151	⇓iP	Pg	04 09 44.3	-0.9
	baz=57						
ANVS				⇓iS	Sg	04 09 47.8	-1.2
	baz=57						
KOTS	Kotyrbulak	0.37	309	eP	Pg	04 09 47.5	+0.2
	208nm,0.2s						
KOTS				eS	Sg	04 09 52.6	+0.3
	585nm,0.3s						
KOTS	Kotyrbulak	0.37	309	eP	Pg	04 09 47.5	+0.2
	baz=6.0						
KOTS				eS	Sg	04 09 52.7	+0.3
	baz=6.0						
KOTS	Kotyrbulak	0.37	309	P	Pg	04 09 47.5	+0.2
	208nm,0.2s						
KOTS				S	Sg	04 09 52.7	+0.3
	585nm,0.3s						
MDOK	Medeo	0.37	296	⇑iP	Pg	04 09 47.3	0.0
	88nm,0.3s						
MDOK				⇓iS	Sg	04 09 53.0	+0.6
	424nm,0.7s						
MDOK	Medeo	0.37	296	⇑iP	Pg	04 09 47.3	0.0
	baz=94						
MDOK				⇓iS	Sg	04 09 53.0	+0.6
	baz=94						
MDOK	Medeo	0.37	296	⇑P	Pg	04 09 47.4	+0.1
	12nm,0.2s						
MDOK				⇓S	Sg	04 09 52.9	+0.6
	155nm,0.3s						
MDOK	Medeo	0.37	296	Pg	Pg	04 09 47.3	0.0
	88nm,0.3s						
MDOK				Lg	Lg	04 09 53.0	
	424nm,0.7s						
TNSS	Tian-Shan	0.41	275	⇑iP	Pg	04 09 48.2	+0.2
	59nm,0.4s						
TNSS				⇑iS	Sg	04 09 54.4	+0.7
	251nm,0.4s						
TNSS	Tian-Shan	0.41	275	⇑iP	Pg	04 09 48.2	+0.2
	baz=75						
TNSS				⇑iS	Sg	04 09 54.4	+0.7
	baz=75						
TNSS	Tian-Shan	0.41	275	P	Pg	04 09 48.2	+0.2
	59nm,0.4s						
TNSS				S	Sg	04 09 54.4	+0.7
	251nm,0.4s						
KNDC	Almaty	0.45	299	⇑P	Pb	04 09 49.3	-0.2
KNDC				⇑S	Sg	04 09 55.7	+1.0
AAA	Alma-Ata	0.48	296	eP	Pb	04 09 50.0	0.0
	212nm,0.1s						
AAA				eS	Sb	04 09 57.2	+0.4
	765nm,0.2s						
AAA	Alma-Ata	0.48	296	eP	Pb	04 09 50.0	0.0
	baz=94						
AAA				eS	Sb	04 09 57.3	+0.4
	baz=94						
AAA	Alma-Ata	0.48	296	P	Pb	04 09 50.0	0.0
	212nm,0.1s						
AAA				S	Sb	04 09 57.2	+0.4
	765nm,0.2s						
IZV	Izvestkoviy	0.65	273	eP	Pb	04 09 52.7	-0.3
	47nm,0.2s						
IZV				eS	Sb	04 10 01.7	-0.2
	285nm,0.2s						
IZV	Izvestkoviy	0.65	273	eP	Pb	04 09 52.7	-0.3
	baz=73						
IZV				eS	Sb	04 10 01.8	-0.2
	baz=73						
IZV	Izvestkoviy	0.65	273	P	Pb	04 09 52.7	-0.3
	47nm,0.2s						
IZV				S	Sb	04 10 01.7	-0.2
	285nm,0.2s						
SATY	Saty	0.67	85	eP	Pb	04 09 51.9	-1.3
	129nm,0.1s						
SATY				eS	Sb	04 10 00.6	-1.8
	428nm,0.1s						
SATY	Saty	0.67	85	P	Pb	04 09 51.9	-1.3
	129nm,0.1s						
SATY				S	Sb	04 10 00.6	-1.8
	428nm,0.1s						
KURS	Kuram	0.69	45	⇓iP	Pg	04 09 52.5	-0.7
	6.6nm,0.2s						
KURS				⇑iS	Sg	04 10 01.6	-0.7
	39nm,0.3s						
KURS	Kuram	0.69	45	⇓iP	Pg	04 09 52.5	-0.7
	baz=43						
KURS				⇑iS	Sg	04 10 01.6	-0.7
	baz=43						
KURS	Kuram	0.69	45	P	Pg	04 09 52.5	-0.7
	6.6nm,0.2s						
KURS				S	Sg	04 10 01.6	-0.7
	39nm,0.3s						
ZHN	Zhinishke	0.70	76	eP	Pb	04 09 52.4	-1.4
	74nm,0.1s						
ZHN				eS	Sb	04 10 01.3	-2.2
	122nm,0.2s						
ZHN	Zhinishke	0.70	76	eP	Pb	04 09 52.4	-1.4
	baz=75						
ZHN				eS	Sb	04 10 01.3	-2.2
	baz=75						
ZHN	Zhinishke	0.70	76	P	Pb	04 09 52.4	-1.4
	74nm,0.1s						
ZHN				S	Sb	04 10 01.3	-2.2
	122nm,0.2s						
MTBS	Maitube	0.80	280	⇑iP	Pb	04 09 55.2	-0.2
	32nm,0.2s						
MTBS				⇑iS	Sb	04 10 06.0	0.0
	111nm,0.6s						
MTBS	Maitube	0.80	280	⇑iP	Pb	04 09 55.2	-0.2
	baz=79						
MTBS				⇑iS	Sb	04 10 06.0	0.0
	baz=79						
MTBS	Maitube	0.80	280	P	Pb	04 09 55.2	-0.2
	32nm,0.2s						
MTBS				S	Sb	04 10 06.0	0.0
	111nm,0.6s						
PRZ	Przheval'sk	0.84	128	⇑eP	Pg	04 09 56.0	-0.1
	baz=29						
PRZ				⇑iS	Sn	04 10 07.5	-2.1
	baz=29						
KDJ	Kajisay	0.90	195	⇑iP	Pb	04 09 56.6	-0.7
	baz=97						
KDJ				⇑iS	Sb	04 10 08.5	-0.7
	baz=97						
KTBS	Karatobe	0.93	320	eP	Pb	04 09 57.4	-0.3
	62nm,0.1s						
KTBS				eS	Sb	04 10 09.6	-0.2
	66nm,0.3s						
KTBS	Karatobe	0.93	320	P	Pb	04 09 57.4	-0.3
	62nm,0.1s						
KTBS				S	Sb	04 10 09.6	-0.2
	66nm,0.3s						
CHKK	Chushkaly	0.93	337	⇓iP	Pg	04 09 57.4	-0.3
	75nm,0.2s						
CHKK				eS	Sg	04 10 10.1	+0.2
	60nm,0.2s						
CHKK	Chushkaly	0.93	337	⇓iP	Pg	04 09 57.4	-0.3
	baz=35						
CHKK				⇓eS	Sg	04 10 10.1	+0.2
	baz=35						
CHKK	Chushkaly	0.93	337	P	Pg	04 09 57.4	-0.3
	75nm,0.2s						
CHKK				S	Sg	04 10 10.1	+0.2
	60nm,0.2s						
KPKS	Kokpek	0.98	61	eP	Pb	04 09 57.4	-1.2
	97nm,0.1s						
KPKS				eS	Sg	04 10 10.2	-1.4
	194nm,0.2s						
KPKS	Kokpek	0.98	61	eP	Pb	04 09 57.4	-1.2
	baz=62						
KPKS				eS	Sg	04 10 10.2	-1.4
	baz=62						
UZB	Uzynbulak	1.12	82	eP	Pb	04 09 59.9	-1.1
	181nm,0.3s						
UZB				eS	Sb	04 10 14.2	-1.4
	154nm,0.1s						
UZB	Uzynbulak	1.12	82	eP	Pb	04 09 59.9	-1.1
	baz=82						
UZB				eS	Sb	04 10 14.2	-1.4
	baz=82						
UZB	Uzynbulak	1.12	82	P	Pb	04 09 59.9	-1.1
	181nm,0.3s						
UZB				S	Sb	04 10 14.2	-1.4
	154nm,0.1s						
KST	Kastek	1.13	273	⇑iP	Pn	04 10 01.0	-0.2
	31nm,0.3s						
KST				⇑iS	Sn	04 10 16.3	-0.2
	43nm,0.5s						
KST	Kastek	1.13	273	⇑iP	Pn	04 10 01.0	-0.2
	baz=73						
KST				⇑iS	Sn	04 10 16.4	-0.2
	baz=73						
KST	Kastek	1.13	273	P	Pn	04 10 01.0	-0.2
	31nm,0.3s						
KST				S	Sn	04 10 16.3	-0.2
	43nm,0.5s						
ULHL	Ulahol	1.20	231	⇓iP	Pn	04 10 02.1	-0.1
	baz=32						
ULHL				⇓iS	Sn	04 10 18.3	-0.1
	baz=32						
ULHL	Ulahol	1.20	231	P	Pb	04 10 02.3	0.0
	SNR=18						
KUU	Kurty	1.23	317	eP	Pg	04 10 03.0	-0.4
	17nm,0.2s						
KUU				eS	Sg	04 10 19.0	-0.4
	196nm,0.2s						
KUU	Kurty	1.23	317	eP	Pg	04 10 03.0	-0.4
	baz=16						
KUU				eS	Sg	04 10 19.0	-0.4
	baz=16						
KUU	Kurty	1.23	317	P	Pg	04 10 03.0	-0.4
	17nm,0.2s						
KUU				S	Sg	04 10 19.0	-0.4
	196nm,0.2s						
ARXS	Arharly	1.23	11	eP	Pb	04 10 02.5	-0.4
	20nm,0.1s						
ARXS				eS	Sg	04 10 18.5	-1.1
	98nm,0.2s						
ARXS	Arharly	1.23	11	P	Pb	04 10 02.5	-0.4
	20nm,0.1s						
ARXS				S	Sg	04 10 18.5	-1.1
	98nm,0.2s						
MNBS	Baschi	1.26	31	eP	Pg	04 10 03.1	-0.9
	40nm,0.1s						
MNBS				eS	Sg	04 10 19.6	-0.9
	105nm,0.2s						
MNBS	Baschi	1.26	31	P	Pg	04 10 03.1	-0.9
	40nm,0.1s						
MNBS				S	Sg	04 10 19.6	-0.9
	105nm,0.2s						
TARG	Taragay, Kyrgy	1.29	170	⇓iP	Pn	04 10 03.4	-0.3
	baz=71						
TARG				⇓iS	Sn	04 10 20.5	-0.5
	baz=71						
TKM2	Tokmak 2	1.40	267	⇑iP	Pb	04 10 06.0	+0.3
	baz=67						
TKM2				⇑iS	Sg	04 10 25.3	+0.4
	baz=67						
TKM2	Tokmak 2	1.40	267	P	Pb	04 10 06.1	+0.3
	SNR=40						
SHLS	Shalkode	1.45	83	eP	Pg	04 10 11.3	+3.8
	19nm,0.1s						
SHLS				eS	Sg	04 10 33.8	+7.4
	58nm,0.3s						
SHLS	Shalkode	1.45	83	eP	Pg	04 10 11.3	+3.8
	baz=84						
SHLS				eS	Sg	04 10 33.8	+7.4
	baz=84						
SHLS	Shalkode	1.45	83	P	Pg	04 10 11.3	+3.8
	19nm,0.1s						
SHLS				S	Sg	04 10 33.8	+7.4
	58nm,0.3s						
PDGK	Podgornoye	1.49	77	⇑P	Pb	04 10 06.0	-1.3
	14nm,0.4s						
PDGK				⇓S	Sb	04 10 25.3	-0.8
	30nm,0.5s						
KZA	Kyzart	1.90	242	⇑iP	Pb	04 10 15.0	+0.6
	baz=42						
KZA				⇑iS	Sg	04 10 40.5	-0.5
	baz=42						
KZA	Kyzart	1.90	242	P	Pb	04 10 15.0	+0.6
	SNR=10						
KBK	Karagaybulak	1.91	260	⇑iP	Pb	04 10 15.1	+0.7
	baz=61						
KBK				⇑iS	Sg	04 10 40.7	-0.4
	baz=61						
KBK	Karagaybulak	1.91	260	P	Pb	04 10 15.2	+0.8
	SNR=34						
NRN	Naryn	1.92	216	⇑eP	Pb	04 10 15.3	+0.6
	baz=17						
NRN				⇑iS	Sg	04 10 41.2	-0.4
	baz=17						
CHMS	Chumysh	2.02	271	⇑iP	Pb	04 10 16.1	-0.1
	baz=71						
CHMS				⇑iS	Sb	04 10 43.1	+2.0
	baz=71						
CHMS	Chumysh	2.02	271	P	Pb	04 10 16.8	+0.6
	SNR=8.2						
TDK	Taldyqorghan	2.10	18	eP	Pb	04 10 17.8	+0.1
	52nm,0.2s						
TDK				eS	Sg	04 10 44.7	-2.7
	190nm,0.6s						
TDK	Taldyqorghan	2.10	18	Pg	Pb	04 10 17.8	+0.1
	52nm,0.2s						
TDK				Lg	Lg	04 10 44.7	
	190nm,0.6s						
DJR	Jarkent	2.13	51	eP	Pb	04 10 17.5	-0.7
	13nm,0.2s						
DJR				⇓iS	Sb	04 10 44.6	+0.2
	38nm,0.4s						
DJR	Jarkent	2.13	51	Pg	Pb	04 10 17.5	-0.7
	13nm,0.2s						
DJR				Lg	Lg	04 10 44.6	
	38nm,0.4s						
KTMS	Ketmen	2.13	77	eP	Pb	04 10 17.6	-0.6
	17nm,0.1s						
KTMS				eS	Sb	04 10 44.5	-0.1
	43nm,0.2s						
KTMS	Ketmen	2.13	77	Pg	Pb	04 10 17.6	-0.6
	17nm,0.1s						
KTMS				Lg	Lg	04 10 44.5	
	43nm,0.2s						
SGDS	Sogindy	2.15	283	Pg	Pb	04 10 19.3	+0.9
	13nm,0.2s						
SGDS				Lg	Lg	04 10 47.3	
	23nm,0.2s						
USP	Ospenovka	2.21	278	⇑iP	Pb	04 10 19.1	-0.4
	baz=78						
USP				⇑iS	Sb	04 10 47.8	+1.0
	baz=78						
USP	Ospenovka	2.21	278	P	Pb	04 10 20.5	+1.0
	SNR=30						
AAK	Ala-Archa	2.24	262	⇓iP	Pb	04 10 19.7	-0.4
	baz=62						
AAK				⇓iS	Sb	04 10 48.5	+0.8
	baz=62						
AAK	Ala-Archa	2.24	262	P	Pb	04 10 20.6	+0.5
	SNR=7.9						
AAK	Ala-Archa	2.24	262	⇓Pn	Pb	04 10 19.2	-0.9
	3.1nm,0.3s						
AAK				⇑Sn	Sb	04 10 49.4	+1.6
	16nm,0.6s						
UCH	Uchtor	2.34	252	⇑iP	Pb	04 10 20.9	-1.0
	baz=52						
UCH				⇑iS	Sb	04 10 50.9	+0.2
	baz=52						
UCH	Uchtor	2.34	252	P	Pb	04 10 22.7	+0.8
	SNR=18						
ARLS	Aral	2.61	245	⇓iP	Pb	04 10 24.9	-1.5
	baz=46						
ARLS				⇓iS	Sb	04 10 56.6	-1.8
	baz=46						
KAPS	Kapalarasan	2.65	30	eP	Pb	04 10 26.6	-0.3
	4.1nm,0.3s						
KAPS				eS	Sb	04 11 00.5	+1.2
	66nm,0.2s						
KAPS	Kapalarasan	2.65	30	Pg	Pb	04 10 26.7	-0.3
	4.1nm,0.3s						
KAPS				Lg	Lg	04 11 00.5	
	66nm,0.2s						
EKS2	Erkin-Say	2.76	264	⇓iP	Pb	04 10 26.9	-2.0
	baz=64						
EKS2				⇓iS	Sb	04 11 01.0	-1.6
	baz=64						
EKS2	Erkin-Say	2.76	264	P	Pg	04 10 31.3	-1.3
	SNR=12						
AML	Almayashu	2.94	254	P	Pb	04 10 33.9	+1.8
	SNR=9.2						
MRKS	Merke	3.15	267	eP	Pb	04 10 37.7	+2.1
	4.5nm,0.3s						
MRKS				eS	Sg	04 11 18.9	-2.0
	15nm,0.2s						
MRKS	Merke	3.15	267	Pg	Pb	04 10 37.7	+2.1
	4.5nm,0.3s						
MRKS				Lg	Lg	04 11 18.9	
	15nm,0.2s						
BTLS	Baital	3.22	310	eP	Pb	04 10 37.7	+1.1
	3.4nm,0.3s						
BTLS				eS	Sb	04 11 18.8	+3.1
	3.1nm,0.4s						
BTLS	Baital	3.22	310	Pg	Pb	04 10 37.7	+1.1
	3.4nm,0.3s						
BTLS				Lg	Lg	04 11 18.8	
	3.1nm,0.4s						
MAKZ	Makanchi	4.96	38	⇓Lg	Lg	04 12 14.1	
	3.4nm,0.7s						
MK31	Makanchi Array	5.09	40	Pn	Pn	04 10 56.5	+0.9
	2.9nm,1.0s,baz=211,slow=15,SNR=3.5						
MK31				⇑Pg	Pb	04 11 10.8	+2.2
	1.4nm,0.7s						
MK31				Sn	Sn	04 11 55.6	+1.4
	1.9nm,0.7s,baz=236,slow=15,SNR=5.5						
MK31				⇑Lg	Lg	04 12 18.7	
	0.5nm,0.3s,baz=222,slow=28,SNR=6.7						
KK31	Karatay Array	5.12	274	⇑Pg	Pg	04 11 15.0	-2.8
	0.4nm,0.4s,baz=87,slow=16,SNR=6.8						
KK31				⇑Lg	Lg	04 12 24.3	
	1.1nm,0.5s,baz=80,slow=29,SNR=6.1						
KURBB	Kurchatov Arra	7.66	5	⇓Lg	Lg	04 13 40.4	
	6.1nm,0.6s						

*SJA **02** 04:47:57.7±0.8, 34°.35S×72°.35W, h9km±4km, ML3.2, MW3.5*
*ISCJB **02** 04:48:01.4±1.3, 34°.45S±0°.04×72°.09W±0°.09, h19km±12km, Error ellipse: s-maj=13.4km s-min=4.9km az=22.8*
*GUC **02** 04:48:01.5±0.7, 34°.50S×71°.98W, h42km±3km, ML3.4*
ISC 02 04:48:00.2±2.2**, 34°.45S**±0°.05×**72°.02W**±0°.08**, h10**km±17km**,**
n27,σ1§**75**/39**, 6C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	Huala	0.56	172	iP	Pb	04 48 12.3	+0.1
GO05				eS	Sb	04 48 20.3	+0.1
GO05				IAML		04 48 20.9	
	comp=E,3µm,0.1s						
GO05	Huala	0.56	172	iP	Pb	04 48 12.3	+0.1
GO05				eS	Sn	04 48 20.9	-2.8
CLCH	Cerro Calan	1.62	50	⇑iP	Pn	04 48 29.1	+0.2
CLCH				eS	Sn	04 48 50.3	+0.4
CLCH				IAML		04 48 55.2	
	comp=E,719nm,0.2s						
LMEL	Las Melosas	1.62	69	⇑iP	Pn	04 48 29.6	+0.6
LMEL				eS	Sn	04 48 49.6	-0.4
LMEL				IAML		04 48 55.2	
	comp=N,1µm,0.1s						
ROC1	El Roble	1.69	30	⇓iP	Pn	04 48 31.3	+1.3
ROC1				eS	Sg	04 48 55.4	+0.7
ROCH	El Roble	1.70	30	⇑iP	Pn	04 48 30.3	+0.2
ROCH				eS	Sn	04 48 52.9	+0.9
ROCH				IAML		04 48 59.4	
	comp=N,616nm,0.3s						
PEL	Peldehue	1.71	41	⇑iP	Pn	04 48 30.6	+0.4
PEL				eS	Sn	04 48 52.7	+0.6
PEL				IAML		04 48 59.9	
	comp=N,463nm,0.6s						
COCH	Cobquecura	1.79	200	⇑iP	Pn	04 48 30.7	-0.5
COCH				eS	Sn	04 48 53.2	-0.8
COCH	Cobquecura	1.79	200	iP	Pn	04 48 31.2	0.0
COCH				eS	Sb	04 48 55.9	+0.3
FCH	Farellones	1.82	53	eP	Pn	04 48 32.5	+0.6
FCH				eS	Sb	04 48 56.2	-0.7
FCH				IAML		04 49 00.1	
	comp=E,523nm,0.2s						
CCHI	Chillan	2.15	181	⇑iP	Pn	04 48 35.6	-0.4
CCHI				eS	Sn	04 49 02.1	-0.6
CCHI				IAML		04 49 12.7	
	comp=E,675nm,0.2s						
CCHI	Chillan	2.15	181	iP	Pb	04 48 37.7	-1.4
CCHI				eS	Sb	04 49 06.5	+0.6
AAGR	Agrelo	2.99	64	iP	Pb	04 48 51.4	-2.2
ARCO	CERRO ARCO	3.04	59	iP	Pb	04 48 51.9	-2.5
ARCO				IAML		04 48 59.4	
	comp=Z,86nm,0.7s						
ASAL	Salagasta	3.24	56	iP	Pn	04 48 54.4	+3.1
RTLS	Leoncito	3.50	42	iP	Pn	04 48 57.7	+2.8
RTLS				IAML		04 49 58.6	
	comp=Z,47nm,0.4s						
RTCV	Cerro Valdivia	3.90	49	iP	Pn	04 49 03.1	+3.0
CFA	Coronel Fontan	4.26	49	iP	Pn	04 49 07.7	+2.5
RTLL	Cerro Villicun	4.31	45	⇓iP	Pn	04 49 08.5	+2.6
RTLL				IAML		04 50 11.0	
	comp=Z,15nm,0.4s						
GO04	Tololo Observa	4.39	14	iP	Pn	04 49 07.1	0.0
ACAN	Cantantal	4.59	63	iP	Pn	04 49 13.7	+4.0
ACCO	Cerro Coronel	4.59	34	iP	Pn	04 49 12.1	+2.1
AMOG	MOGNA	4.59	41	iP	Pn	04 49 11.9	+2.1
AROD	Rodeo	4.79	27	iP	Pn	04 49 15.1	+2.4
ACDV	Cuesta del Vie	4.92	31	iP	Pn	04 49 16.5	+2.0
APLL	PUNTA DE LOS L	6.16	50	iP	Pn	04 49 31.7	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
APLL				IAML		04 50 58.1	
	comp=Z,5.3nm,0.5s						
CYA	**Choya**	**8.01**	**43**	*i* P	**Pn**	**04 49 54.4**	**-2.2**

*SJA **02** 05:08:53.7±1.0, 31°.49S×68°.49W, h8^{km}±1^{km}, ML3.1, MW3.5*
*ISCJB **02** 05:08:54.7±0.5, 31°.48S±0°.02×68°.45W±0°.03, h0^{km}±4^{km}, Error ellipse: s-maj=4.2km s-min=3.0km az=0.2*
*NEIC **02** 05:08:55.8±2.0, 31°.48S±0°.05×68°.17W±0°.03, h10^{km}±4^{km}, mb4.4/6*
ISC 02 05:08:54.4±1.1**, 31°.49S**±0°.02×**68°.41W**±0°.02**, h1**^{km}±8^{km}**, n40,** σ1^{s}**69**/62**, mb4.5**/3**, 6C-1D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	**San Juan**	**0.14**	**253**	*e*P	**Pg**	**05 08 56.3**	**-0.7**
SJA				*i* S	**Sg**	**05 08 57.5**	**-1.3**
RTLL	**Cerro Villicun**	**0.17**	**341**	*e*P	**Pg**	**05 08 58.0**	**+0.3**
RTLL				*i* S	**Sg**	**05 09 00.9**	**+1.1**
CFA	**Coronel Fontan**	**0.19**	**128**	*i* P	**Pg**	**05 08 59.1**	**+1.1**
CFA				*i* S	**Sg**	**05 09 03.4**	**+2.9**
RTCV	**Cerro Valdivia**	**0.39**	**196**	*i* P	**Pg**	**05 09 01.3**	**-0.6**
RTCV				*i* S	**Sg**	**05 09 07.1**	**+0.2**
AMOG	**MOGNA**	**0.55**	**353**	*i* P	**Pg**	**05 09 04.9**	**0.0**
AMOG				*i* S	**Sg**	**05 09 13.9**	**+1.8**
RTLS	**Leoncito**	**0.82**	**247**	*i* P	**Pg**	**05 09 08.5**	**-1.6**
RTLS				*i* S	**Sg**	**05 09 19.2**	**-1.5**
RTLS				IAML		05 09 21.2	
	comp=Z,288nm,0.6s						
ACCO	**Cerro Coronel**	**1.06**	**328**	⇓*e*P	**Pg**	**05 09 14.0**	**-0.7**
ACCO				*e*S	**Sg**	**05 09 28.9**	**+0.5**
ASAL	**Salagasta**	**1.16**	**198**	*i* P	**Pb**	**05 09 16.0**	**-1.3**
ASAL				*i* S	**Sg**	**05 09 32.2**	**+0.6**
ACAN	**Cantantal**	**1.30**	**127**	⇑*i*P	**Pg**	**05 09 20.1**	**+0.7**
ACAN				*i* S	**Sn**	**05 09 38.0**	**+0.2**
ARCO	**CERRO ARCO**	**1.42**	**198**	*i* P	**Pb**	**05 09 21.7**	**-0.1**
ARCO				IAML		05 09 24.6	
	comp=Z,221nm,0.3s						
ACDV	**Cuesta del Vie**	**1.45**	**335**	*e*P	**Pn**	**05 09 20.8**	**-1.0**
AROD	**Rodeo**	**1.60**	**325**	*e*P	**Pn**	**05 09 23.6**	**-0.6**
AAGR	**Agrelo**	**1.63**	**192**	⇑*e*P	**Pg**	**05 09 26.1**	**+0.4**
APLL	**PUNTA DE LOS L**	**1.95**	**57**	*i* P	**Pg**	**05 09 30.7**	**-1.1**
APLL				*i* S	**Sg**	**05 09 57.5**	**+0.4**
APLL				IAML		05 10 03.5	
	comp=Z,187nm,0.3s						
CO02	**Combarbal**	**2.23**	**277**	⇑*i*P	**Pn**	**05 09 34.0**	**+1.4**
CO02				*e*S	**Sb**	**05 10 04.8**	**+1.0**
CO02				IAML		05 10 11.9	
	comp=E,774nm,0.2s						
ACLC	**CERRO LA CRUZ**	**2.41**	**32**	*i* P	**Pb**	**05 09 39.0**	**+0.3**
GO04	**Tololo Observa**	**2.44**	**302**	⇑*e*P	**Pn**	**05 09 37.7**	**+2.2**
GO04				*e*S	**Sb**	**05 10 10.8**	**+1.0**
GO04				IAML		05 10 21.3	
	comp=N,2μm,0.6s						
GO04	**Tololo Observa**	**2.44**	**302**		**Pb**	**05 09 38.0**	**-1.2**
GO04				Sn	**Sb**	**05 10 09.2**	**-0.6**
GO04	**Tololo Observa**	**2.44**	**302**	*i* P	**Pn**	**05 09 37.7**	**+2.2**
PEL	**Peldehue**	**2.54**	**229**		**Pb**	**05 09 40.1**	**-0.6**
PEL				Sn	**Sb**	**05 10 11.0**	**-1.5**
ROCH	**El Roble**	**2.66**	**235**	⇑*i*P	**Pb**	**05 09 41.7**	**-1.2**
ROCH				*e*S	**Sb**	**05 10 16.9**	**+0.8**
ROCH				IAML		05 10 24.9	
	comp=E,240nm,0.6s						
ROC1	**El Roble**	**2.66**	**235**		**Pn**	**05 09 41.1**	**+2.5**
ROC1				Sn	**Sb**	**05 10 16.6**	**+0.4**
VCA	**Vinchina**	**2.75**	**4**	*i* P	**Pb**	**05 09 43.2**	**-1.2**
TCA	**Tanti**	**3.27**	**88**	⇑*i*P	**Pb**	**05 09 48.8**	**-4.4**
TCA	**Tanti**	**3.27**	**88**	*i* P	**Pb**	**05 09 48.9**	**-4.4**
TCA				IAML		05 10 43.6	
	comp=Z,95nm,0.4s						
CYA	**Choya**	**3.79**	**37**	*i* P	**Pn**	**05 09 56.0**	**+2.1**
CYA				IAML		05 11 07.4	
	comp=Z,53nm,0.4s						
GO03	**Copiap**	**4.19**	**337**	Pn	**Pn**	**05 10 02.6**	**+3.1**
GO03				Sn	**Sn**	**05 10 51.4**	**+2.2**
GO05	**Huala**	**4.59**	**219**	Pn	**Pn**	**05 10 06.3**	**+1.4**
GO05				Sn	**Sn**	**05 11 02.9**	**+4.1**
AHML	**Horco Molle**	**5.40**	**31**	*i* P	**Pn**	**05 10 19.1**	**+2.9**
GO02	**Mina Guanaco**	**6.39**	**350**		**Pn**	**05 10 30.1**	**+0.2**
GO02				Sn	**Sn**	**05 11 43.5**	**-0.1**
TRQA	**Tornquist**	**8.42**	**143**	Pn	**Pn**	**05 10 56.1**	**-1.4**
TRQA				Sn	**Sn**	**05 12 30.5**	**-2.7**
GO06	**Curarrehue**	**8.45**	**196**		**Pn**	**05 10 59.7**	**+1.6**
GO06				Sn	**Sn**	**05 12 34.9**	**+0.7**
LVC	**Limon Verde**	**8.85**	**357**	Pn	**Pn**	**05 11 06.1**	**+2.2**
LVC				Sn	**Sn**	**05 12 44.9**	**+0.5**
GO09	**Cerro Castillo**	**19.98**	**187**	P	**Pn**	**05 13 29.6**	**-0.1**
GO09				IAmb	IAmb	05 13 40.4	
	comp=Z,23nm,1.2s						
TGUH	**Tegucigalpa,Un**	**48.77**	**335**	P	**P**	**05 17 41.7**	**+0.6**
TXAR	**Lajitas Array**	**69.16**	**327**	P	**P**	**05 20 03.2**	**+0.6**
TX32	**Lajitas Array**	**69.16**	**327**	P	**P**	**05 20 03.8**	**+1.2**
TX32				IAmb	IAmb	05 20 05.6	
	comp=Z,2.5nm,1.3s						
ABTX	**Abilene, Hawle**	**70.27**	**332**	P	**P**	**05 20 09.5**	**+0.2**
ABTX				IAmb	IAmb	05 20 16.7	
	comp=Z,4.0nm,0.9s						
MCWV	**Mont Chateau**	**71.58**	**351**	P	**P**	**05 20 15.0**	**-2.0**
TUL1	**Leonard**	**71.80**	**337**	P	**P**	**05 20 17.0**	**-1.5**
TUL1				IAmb	IAmb	05 20 26.5	
	comp=Z,6.6nm,1.4s						

IDC 02 05:15:02.1±3.0**, 30°.21S**×**138°.61E, h0**^{km}**, mb1 3.1**/3**, mb1mx3.1**/23**, mbtmp2.8**/3**, ML2.6**/3**, Error ellipse: s-maj=74.3km s-min=14.9km az=45.0, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.06**	**124**	Pn	Pn	05 15 51.0	-0.8
	0.2nm,0.3s,baz=295,slow=14,SNR=3.5						
STKA				Pg	Pb	05 15 59.0	+1.5
	0.7nm,0.3s,baz=300,slow=14,SNR=9.9						
STKA				Sn	Sn	05 16 28.6	-0.5
	1.0nm,0.3s,baz=41,slow=22,SNR=5.4						
STKA				Lg	Lg	05 16 39.4	
	1.4nm,0.3s,baz=198,slow=19,SNR=7.8						
ASAR	**Alice Springs**	**7.75**	**326**	Pn	Pn	05 16 56.8	+0.5
	0.1nm,0.3s,baz=149,slow=12,SNR=7.5						
ASAR				Sn	Sn	05 18 26.0	+1.2
	0.1nm,0.3s,baz=152,slow=22,SNR=6.1						
WRA	**Warramunga Arr**	**10.93**	**338**	Pn	Pn	05 17 39.7	-0.1
	0.1nm,0.3s,baz=155,slow=11,SNR=6.2						
WRA				Sn	Sn	05 19 42.9	0.0
	0.1nm,0.3s,baz=158,slow=24,SNR=3.0						

IDC 02 05:34:20.9±1.7**, 41°.67S**×**110°.91W, h0**^{km}**, mb3.8**/3**, mb1 4.1**/3**, mb1mx3.8**/16**, mbtmp3.8**/3**, MS3.5**/3**, Ms1 3.5**/3**, ms1mx3.0**/16**, Error ellipse: s-maj=61.3km s-min=37.5km az=23.0, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**30.19**	**102**	P	P	05 40 31.7	-1.3
	2.3nm,0.9s,baz=253,slow=8.3,SNR=3.5						
LPAZ	**La Paz**	**44.54**	**68**	P	P	05 42 36.6	+1.3
	1.0nm,0.7s,baz=241,slow=10,SNR=3.4						
LPAZ				LR	LR	05 56 32.6	
	comp=Z,61nm,19.3s,baz=286,slow=30						
CPUP	**Villa Florida**	**46.26**	**88**	LR	LR	05 59 59.0	
	comp=Z,70nm,19.3s,baz=246,slow=33						
BDFB	**Brasilia**	**59.58**	**84**	LR	LR	06 07 56.0	
	comp=Z,24nm,18.6s,baz=236,slow=34						
TXAR	**Lajitas Array**	**70.97**	**7**	P	P	05 45 39.3	-0.9
	0.5nm,1.1s,baz=173,slow=9.1,SNR=2.6						
SONM	**Songino Array**	**152.99**	**296**	PKPbc	PKiKP	05 54 21.2	+1.2
	0.5nm,0.4s,baz=91,slow=3.1,SNR=5.4						
BRTR	**Keskin Array B**	**153.17**	**82**	PKPbc	PKPbc	05 54 18.6	-1.9
	0.7nm,1.0s,baz=303,slow=6.7,SNR=2.7						
BRTR				PKPab	PKPab	05 54 33.5	+1.2
	1.1nm,0.9s,baz=255,slow=5.1,SNR=4.6						

*KRNET **02** 05:36:02.4±0.1, 42°.16N×78°.44E, h10^{km}, mb2.7*
*SOME **02** 05:36:05.9, 42°.27N×78°.40E, h10^{km}*
*NNC **02** 05:36:06.7±0.7, 42°.31N×78°.36E, h0^{km}, mb2.9, mpv2.6, Error ellipse: s-maj=5.5km s-min=2.9km az=176.0*
ISC 02 05:36:03.3±1.3**, 42°.20N**±0°.04×**78°.41E**±0°.03**, h4**^{km}±10^{km}**, n35,** σ0^{s}**61**/64**, 13C-5D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.28**	**358**	⇑*i*P	**Pg**	**05 36 08.5**	**-0.3**
	baz=57						
PRZ				⇑*i*S	**Sg**	**05 36 13.3**	**+0.8**
	baz=57						
TARG	**Taragay, Kyrgy**	**0.65**	**224**	⇓*i*P	**Pg**	**05 36 14.9**	**-1.0**
	baz=28						
TARG				⇓*i*S	**Sg**	**05 36 23.5**	**-0.9**
	baz=28						
ANVS	**Anan'yevo**	**0.80**	**317**	⇑*i*P	**Pg**	**05 36 18.1**	**-0.5**
	baz=18						
ANVS				⇑*i*S	**Sb**	**05 36 30.6**	**-0.6**
	baz=18						
SATY	**Saty**	**0.86**	**360**	*e*P	**Pb**	**05 36 20.4**	**-0.4**
	3.7nm,0.2s						
SATY				*e*S	**Sb**	**05 36 31.4**	**-1.4**
	6.2nm,0.1s						
SATY	**Saty**	**0.86**	**360**	P	**Pb**	**05 36 20.4**	**-0.4**
	3.7nm,0.2s						
SATY				S	**Sb**	**05 36 31.4**	**-1.4**
	6.2nm,0.1s						
KDJ	**Kajisay**	**0.92**	**266**	⇑*i*P	**Pg**	**05 36 20.8**	**-0.1**
	baz=68						
KDJ				⇑*i*S	**Sg**	**05 36 33.5**	**+0.7**
	baz=68						
TNSS	**Tian-Shan**	**1.36**	**308**	*e*P	**Pg**	**05 36 30.4**	**+0.9**
	9.8nm,1.2s						
TNSS				⇑*i*S	**Sn**	**05 36 48.5**	**+0.3**
	5.0nm,0.2s						
TNSS	**Tian-Shan**	**1.36**	**308**	*e*P	**Pg**	**05 36 30.4**	**+0.9**
	baz=9.0						
TNSS				⇑*i*S	**Sn**	**05 36 48.6**	**+0.3**
	baz=9.0						
TNSS	**Tian-Shan**	**1.36**	**308**	P	**Pg**	**05 36 30.4**	**+0.9**
	9.8nm,1.2s						
TNSS				S	**Sn**	**05 36 48.5**	**+0.3**
	5.0nm,0.2s						
MDOK	**Medeo**	**1.39**	**314**	*e*P	**Pg**	**05 36 30.5**	**+0.5**
	1.4nm,0.1s						
MDOK				*e*S	**Sn**	**05 36 48.3**	**-0.2**
	5.8nm,0.3s						
MDOK	**Medeo**	**1.39**	**314**	*e*P	**Pg**	**05 36 30.5**	**+0.5**
	baz=15						
MDOK				*e*S	**Sn**	**05 36 48.4**	**-0.2**
	baz=15						
MDOK	**Medeo**	**1.39**	**314**	P	**Pg**	**05 36 30.8**	**+0.9**
MDOK				S	**Sn**	**05 36 48.8**	**+0.3**
MDOK	**Medeo**	**1.39**	**314**	Pg	**Pg**	**05 36 30.5**	**+0.5**
	1.3nm,0.1s						
MDOK				Lg	Lg	05 36 48.3	
	3.2nm,0.2s						
IZV	**Izvestkoviy**	**1.57**	**303**	*e*P	**Pg**	**05 36 33.8**	**+0.5**
	1.6nm,0.1s						
IZV				*e*S	**Sg**	**05 36 54.3**	**+0.6**
	16nm,0.2s						
IZV	**Izvestkoviy**	**1.57**	**303**	*e*P	**Pg**	**05 36 33.8**	**+0.5**
	baz=4.0						
IZV				*e*S	**Sg**	**05 36 54.3**	**+0.6**
	baz=4.0						
IZV	**Izvestkoviy**	**1.57**	**303**	P	**Pg**	**05 36 33.8**	**+0.5**
	1.6nm,0.1s						
IZV				S	**Sg**	**05 36 54.3**	**+0.6**
	16nm,0.2s						
ULHL	**Ulahol**	**1.61**	**272**	⇑*i*P	**Pn**	**05 36 32.8**	**+0.1**
	baz=74						
ULHL				⇑*i*S	**Sn**	**05 36 54.5**	**+0.4**
	baz=74						
BOOM	**Boomskoye usch**	**1.85**	**280**	⇓*i*P	**Pn**	**05 36 37.0**	**+1.0**
	baz=81						
BOOM				⇓*i*S	**Sb**	**05 37 01.9**	**+0.4**
	baz=81						
KTMS	**Ketmen**	**1.89**	**48**	*e*P	**Pg**	**05 36 40.4**	**+0.8**
KTMS				*e*S	**Sg**	**05 37 05.3**	**+1.2**
	3.5nm,0.1s						
KTMS	**Ketmen**	**1.89**	**48**	P	**Pg**	**05 36 40.3**	**+0.8**
KTMS				S	**Sg**	**05 37 05.3**	**+1.2**
	3.5nm,0.1s						
CHKK	**Chushkaly**	**1.95**	**328**	*e*P	**Pg**	**05 36 40.5**	**-0.2**
	2.6nm,0.7s						
CHKK				⇑*i*S	**Sg**	**05 37 05.7**	**-0.3**
	11nm,0.3s						
CHKK	**Chushkaly**	**1.95**	**328**	*e*P	**Pg**	**05 36 40.5**	**-0.2**
	baz=29						
CHKK				⇑*i*S	**Sg**	**05 37 05.7**	**-0.3**
	baz=29						
CHKK	**Chushkaly**	**1.95**	**328**	P	**Pg**	**05 36 40.5**	**-0.2**
	2.6nm,0.7s						
CHKK				S	**Sg**	**05 37 05.7**	**-0.3**
	11nm,0.3s						
KTBS	**Karatobe**	**1.97**	**321**	*e*P	**Pg**	**05 36 40.9**	**-0.2**
	1.3nm,0.3s						
KTBS				*e*S	**Sg**	**05 37 06.4**	**-0.2**
	13nm,0.2s						
KTBS	**Karatobe**	**1.97**	**321**	*e*P	**Pg**	**05 36 40.9**	**-0.2**
	baz=18						
KTBS				*e*S	**Sg**	**05 37 06.4**	**-0.2**
	baz=18						
KTBS	**Karatobe**	**1.97**	**321**	Pg	**Pg**	**05 36 40.9**	**-0.2**
	1.3nm,0.3s						
KTBS				Lg	Lg	05 37 06.4	
	13nm,0.2s						
KST	**Kastek**	**1.99**	**296**	*e*P	**Pg**	**05 36 41.6**	**+0.1**
	3.4nm,0.2s						
KST				*e*S	**Sg**	**05 37 07.4**	**+0.1**
	9.9nm,0.7s						
KST	**Kastek**	**1.99**	**296**	*e*P	**Pg**	**05 36 41.6**	**+0.1**
	baz=97						
KST				*e*S	**Sg**	**05 37 07.4**	**+0.1**
	baz=97						
KST	**Kastek**	**1.99**	**296**	Pg	**Pg**	**05 36 41.6**	**+0.1**
	2.0nm,0.3s						
KST				Lg	Lg	05 37 07.6	
	6.0nm,0.6s						
TKM2	**Tokmak 2**	**2.20**	**290**	⇓Pg	**Pg**	**05 36 46.5**	**+1.1**
	2.4nm,0.9s						
TKM2				⇑Lg	Lg	05 37 13.2	
	2.8nm,0.5s						
KUU	**Kurty**	**2.27**	**319**	*e*P	**Pg**	**05 36 46.5**	**-0.3**
	1.3nm,0.2s						
KUU				*e*S	**Sg**	**05 37 16.1**	**-0.2**
	6.2nm,0.2s						
KUU	**Kurty**	**2.27**	**319**	*e*P	**Pg**	**05 36 46.5**	**-0.3**
	baz=19						
KUU				*e*S	**Sg**	**05 37 16.1**	**-0.2**
	baz=19						
KUU	**Kurty**	**2.27**	**319**	Pg	**Pg**	**05 36 46.5**	**-0.3**
	1.3nm,0.2s						
KUU				Lg	Lg	05 37 16.0	
	6.2nm,0.2s						
DJR	**Jarkent**	**2.36**	**25**	*e*P	**Pg**	**05 36 48.1**	**-0.3**
	0.3nm,0.1s						
DJR				*e*S	**Sg**	**05 37 17.9**	**-1.1**
	2.6nm,0.2s						
DJR	**Jarkent**	**2.36**	**25**	Pg	**Pg**	**05 36 48.2**	**-0.2**
	1.5nm,0.4s						
DJR				Lg	Lg	05 37 18.2	
	2.5nm,0.3s						

*ISCJB **02** 05:46:53.1±1.2, 10°.20N±0°.05×83°.90W±0°.05, h4^{km}±8^{km}, Error ellipse: s-maj=10.6km s-min=3.6km az=42.9*
*UCR **02** 05:46:55.9±2.3, 10°.04N×84°.04W, h24^{km}±4^{km}, MD3.9*
*UPA **02** 05:46:55.6±1.0, 10°.23N×83°.95W, h21^{km}±84^{km}, MW3.5*
ISC 02 05:46:54.4±1.2**, 10°.13N**±0°.07×**83°.97W**±0°.05**, h21**^{km}±10^{km}**, n24,** σ0^{s}**84**/40**, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	**Escuela Geolog**	**0.21**	**205**	*e*P	**Pb**	**05 46 59.7**	**-0.8**
SJS				*e*S	**Sb**	**05 47 04.2**	**-0.5**
LCR2	**La Lucha 2**	**0.39**	**185**	*e*P	**Pb**	**05 47 02.6**	**-0.1**
LCR2				*e*S	**Sb**	**05 47 08.7**	**+0.5**
SRA1	**San Ramn**	**0.51**	**265**	*e*P	**Pb**	**05 47 04.0**	**-0.8**
CEDE	**Laguna Cedeo**	**0.81**	**296**	*e*P	**Pn**	**05 47 10.2**	**-0.5**
CEDE				*e*S	**Sn**	**05 47 22.1**	**+0.1**
ARE1	**Arenal 1**	**0.81**	**294**	*e*P	**Pb**	**05 47 09.8**	**0.0**
CASO	**Castillo**	**0.81**	**292**	*i* P	**Pb**	**05 47 10.1**	**+0.2**
CASO				*i* S	**Sn**	**05 47 21.5**	**-0.7**
EDDO	**Dominical**	**0.88**	**173**	*e*P	**Pb**	**05 47 10.8**	**-0.1**
EDLM	**Las Mercedes**	**0.92**	**156**	*e*P	**Pb**	**05 47 10.6**	**-1.2**
JTS	**Las Juntas de**	**0.98**	**280**	*e*P	**Pn**	**05 47 12.8**	**-0.1**
JTS				*e*S	**Sn**	**05 47 26.4**	**0.0**
JTS	**Las Juntas de**	**0.98**	**280**	*e*P	**Pn**	**05 47 12.9**	**-0.1**
JTS				*e*S	**Sn**	**05 47 26.4**	**0.0**
DRK0	**Durika**	**1.12**	**140**	*e*P	**Pn**	**05 47 13.8**	**-1.1**
DRK0				*e*S	**Sb**	**05 47 28.8**	**-0.5**
DRK0	**Durika**	**1.12**	**140**	*e*P	**Pn**	**05 47 13.8**	**-1.1**
DRK0				*e*S	**Sb**	**05 47 28.8**	**-0.5**
PTEN	**Parque Tenorio**	**1.16**	**300**	*i* P	**Pn**	**05 47 15.3**	**-0.2**
EDBA	**Buenos Aires**	**1.18**	**145**	*e*P	**Pn**	**05 47 16.2**	**+0.6**
EDBA				*e*S	**Sn**	**05 47 29.8**	**-1.3**
BUEV	**Buena Vista**	**1.57**	**295**	*e*P	**Pb**	**05 47 22.5**	**-0.3**
GB1A	**Borinquen Arri**	**1.57**	**296**	*e*P	**Pb**	**05 47 22.6**	**-0.2**
GBS3	**Finca Las Img**	**1.60**	**294**	*i* P	**Pn**	**05 47 22.3**	**+0.8**
CNI2	**El Empalme, Bo**	**1.63**	**115**	*e*P	**Pn**	**05 47 21.6**	**-0.2**
CNI2				*e*S	**Sn**	**05 47 41.5**	**-0.8**
BRU2	**Volcan**	**1.83**	**136**	*e*P	**Pn**	**05 47 25.9**	**+1.2**
BRU2				*e*S	**Sb**	**05 47 50.9**	**+1.1**
BRU2	**Volcan**	**1.83**	**136**	*e*P	**Pn**	**05 47 26.2**	**+1.4**
BRU2				*e*S	**Sb**	**05 47 50.9**	**+1.1**
BCO2	**Palmira**	**1.99**	**135**	*e*P	**Pn**	**05 47 28.9**	**+1.8**
BCO2				*e*S	**Sb**	**05 47 53.9**	**-0.7**
CHGR2	**Aguacate**	**2.15**	**123**	*e*P	**Pn**	**05 47 31.0**	**+2.0**
CHGR2				*e*S	**Sb**	**05 47 58.0**	**-1.0**
DVD	**David**	**2.25**	**138**	*e*P	**Pb**	**05 47 34.3**	**-0.1**
DVD				*e*S	**Sb**	**05 48 02.2**	**+0.4**
DVD	**David**	**2.25**	**138**	*e*P	**Pb**	**05 47 34.3**	**-0.1**
DVD				*e*S	**Sb**	**05 48 02.2**	**+0.4**

*IDC **02** 05:57:31.7±1.4, 7°.17S×129°.40E, h0^{km}, mb4.0/4, mb1 3.9/8, mb1mx3.7/44, mbtmp3.9/8, ML3.6/4, MS3.0/1, Ms1 3.0/1, ms1mx2.3/42, Error ellipse: s-maj=49.3km s-min=21.6km az=82.0*
*ISCJB **02** 05:57:40.5±0.6, 7°.76S±0°.05×129°.06E±0°.08, h100^{km}, mb3.8/4, Error ellipse: s-maj=12.1km s-min=6.0km az=163.7*
*NEIC **02** 05:57:42.1±1.9, 7°.78S±0°.09×129°.1E±0°.1, h102^{km}±7^{km}, mb4.1/5*
ISC 02 05:57:42.1±1.1**, 7°.73S**±0°.08×**129°.08E**±0°.10**, h100**^{km}**, n25,** σ**2**^{s}**39**/30**, mb4.0**/6**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**5.47**	**159**	Pn	**Pn**	**05 59 04.1**	**+2.9**
MTN				Sn	**Sn**	**06 00 01.7**	**-1.1**
BATI	**Baumata**	**5.89**	**245**	Pn	**Pn**	**05 59 07.0**	**+0.1**
	9.7nm,0.3s,baz=142,slow=6.4,SNR=3.8						
KNRA	**Kununurra**	**7.91**	**182**	Pn	**Pn**	**05 59 33.4**	**-0.9**
KNRA				Sn	**Sn**	**06 00 59.4**	**-2.8**
FITZ	**Fitzroy Crossi**	**10.84**	**198**	Pn	**Pn**	**06 00 17.9**	**+3.7**
	0.4nm,0.3s,baz=44,slow=12,SNR=7.4						
FITZ				Sn	**Sn**	**06 02 13.1**	**-0.5**
	0.4nm,0.3s,baz=285,slow=20,SNR=3.2						
FITZ	**Fitzroy Crossi**	**10.84**	**198**		**Pn**	**06 00 10.9**	**-3.3**
WB0	**Warramunga Arr**	**13.03**	**157**	Pn	**Pn**	**06 00 43.2**	**-0.2**
WRAB	**Tennant Creek**	**13.16**	**158**	Pn	**Pn**	**06 00 41.1**	**-4.1**
WRA	**Warramunga Arr**	**13.17**	**158**	Pn	**Pn**	**06 00 45.0**	**-0.3**
	0.2nm,0.3s,baz=338,slow=14,SNR=5.4						
WRA				Sn	**Sn**	**06 03 10.9**	**+0.8**
	0.2nm,0.3s,baz=336,slow=22,SNR=4.3						
WRA	**Warramunga Arr**	**13.17**	**158**		**Pn**	**06 00 40.7**	**-4.5**
WRA					**Sn**	**06 03 09.5**	**-0.7**
WB2	**Warramunga Arr**	**13.17**	**158**	Pn	**Pn**	**06 00 45.3**	**0.0**
WR0	**Warramunga Arr**	**13.26**	**157**	Pn	**Pn**	**06 00 42.5**	**-4.0**
PSA00	**Pilbara Seismi**	**16.40**	**212**	Pn	**Pn**	**06 01 24.8**	**-1.5**
PSA00				IAmb	IAmb	06 01 27.7	
	comp=Z,13nm,1.4s						
AS31	**Alice Springs**	**16.51**	**164**	P	**P**	**06 01 28.3**	**-0.3**
ASAR	**Alice Springs**	**16.51**	**164**	Pn	**P**	**06 01 29.8**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=335,slow=8.5,SNR=4.3						
ASAR				Sn	**S**	**06 04 43.0**	**+6.7**
	comp=Z,0.2nm,0.3s,baz=347,slow=27,SNR=4.6						
ASAR	**Alice Springs**	**16.51**	**164**	P	**P**	**06 01 27.9**	**-0.7**
PMG	**Port Moresby**	**17.95**	**97**	P	**P**	**06 01 42.6**	**-2.0**
NWAO	**Narrogin (SRO)**	**27.38**	**202**	LR	LR	06 15 49.7	
	comp=Z,32nm,20.4s,baz=80,slow=39						
MK31	**Makanchi Array**	**68.34**	**327**	P	**P**	**06 08 33.2**	**+0.5**
MK31				IAmb	IAmb	06 08 40.9	
	comp=Z,3.4nm,1.3s						
MKAR	**Makanchi Array**	**68.34**	**327**	P	**P**	**06 08 33.2**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=127,slow=7.1,SNR=10						
MKAR	**Makanchi Array**	**68.34**	**327**	P	**P**	**06 08 31.8**	**-0.9**
ZALV	**Zalesovo Beam**	**71.84**	**334**	P	**P**	**06 08 54.1**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=123,slow=5.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**71.84**	**334**	P	**P**	**06 08 53.8**	**0.0**
KURBB	**Kurchatov Arra**	**72.66**	**329**	P	**P**	**06 08 59.5**	**+0.7**
	comp=Z,0.7nm,0.2s,baz=135,slow=5.5,SNR=4.2						
KURK	**Kurchatov**	**72.67**	**329**	P	**P**	**06 08 59.4**	**+0.6**
KURK				IAmb	IAmb	06 09 00.4	
	comp=Z,4.6nm,1.1s						
BVAR	**Borovoye Array**	**78.20**	**328**	P	**P**	**06 09 31.3**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=141,slow=5.2,SNR=5.1						

NNC 02 06:08:59.4±3.7**, 43°.41N**×**87°.17E, h0**^{km}**, mb3.5, mpv3.2, 2C-3D, Error ellipse: s-maj=24.1km s-min=21.7km az=160.0, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**4.36**	**339**	Pg	Pg	06 10 29.7	+6.7
	2.8nm,0.2s						
ZSN				Lg	Lg	06 11 19.8	
	3.8nm,0.3s						
MK31	**Makanchi Array**	**4.84**	**316**	⇑Pn	Pn	06 10 13.3	-0.2
	0.3nm,0.3s,baz=129,slow=14,SNR=43						
MK31				⇓Sn	Sn	06 11 12.0	+1.8
	1.0nm,0.5s,baz=130,slow=26,SNR=3.8						
MK31				⇓Lg	Lg	06 11 33.6	
	3.0nm,0.7s,baz=142,slow=29,SNR=3.6						
KTMS	**Ketmen**	**4.97**	**273**	Pg	Pg	06 10 40.6	+6.0
	0.5nm,0.1s						
KTMS				Lg	Lg	06 11 38.4	
	5.8nm,0.5s						
MAKZ	**Makanchi**	**5.01**	**315**	⇑Pn	Pn	06 10 15.2	-0.7
	1.6nm,0.4s						
MAKZ				⇓Sn	Sn	06 11 16.1	+1.7
	2.1nm,0.7s						
DJR	**Jarkent**	**5.42**	**282**	Pg	Pg	06 10 46.8	+3.6
	1.7nm,0.3s						
DJR				Lg	Lg	06 11 49.4	
	2.8nm,0.4s						
KAPS	**Kapalarasan**	**5.91**	**291**	Pg	Pg	06 10 56.2	+3.5
	1.9nm,1.0s						
KAPS				Lg	Lg	06 12 05.3	
	2.6nm,0.4s						

*UCR **02** 06:47:24.2±2.1, 13°.87N×91°.39W, h29^{km}±12^{km}, MD3.1, ML3.1*
*SNET **02** 06:47:25.8±1.0, 14°.23N×91°.15W, h14^{km}±23^{km}, ML3.0*
*GCG **02** 06:47:25.3±0.8, 13°.92N×91°.36W, h46^{km}±19^{km}, MD3.4*
ISC 02 06:47:24.1±2.7**, 13°.89N**±0°.10×**91°.41W**±0°.08**, h25**^{km}±16^{km}**, n21,** σ**0**^{s}**67**/31**, 2D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.57**	**344**	*e*P	**Pn**	**06 47 36.9**	**+0.2**
ERG				*e*S	**Sn**	**06 47 46.1**	**+0.7**
FUG	**Fuego 3**	**0.78**	**44**	*e*P	**Pb**	**06 47 39.1**	**-0.1**
FUG				⇓*e*S	**Sn**	**06 47 50.9**	**0.0**
FUG	**Fuego 3**	**0.78**	**44**	*e*P	**Pb**	**06 47 39.1**	**-0.1**
FUG				⇓*e*S	**Sn**	**06 47 50.9**	**0.0**
STG3	**Santiaguito 3,**	**0.84**	**349**	*e*P	**Pn**	**06 47 39.2**	**-1.3**
STG3				*e*S	**Sn**	**06 47 53.0**	**+0.9**
PCG	**Pacaya**	**0.93**	**57**	*e*P	**Pn**	**06 47 41.6**	**-0.2**
PCG	**Pacaya**	**0.93**	**57**	*e*P	**Pn**	**06 47 41.6**	**-0.2**
IXG	**Ixpaco**	**0.98**	**73**	*e*P	**Pn**	**06 47 42.7**	**+0.2**
IXG	**Ixpaco**	**0.98**	**73**	*e*P	**Pn**	**06 47 42.7**	**+0.2**
NBG	**Las Nubes**	**1.24**	**56**	*e*P	**Pn**	**06 47 46.6**	**+0.4**
NBG				*e*S	**Sb**	**06 48 03.3**	**+0.4**
NBG	**Las Nubes**	**1.24**	**56**	*e*P	**Pn**	**06 47 46.6**	**+0.4**
NBG				*e*S	**Sb**	**06 48 03.3**	**+0.4**
RTR	**El Retiro**	**1.71**	**89**	*e*P	**Pn**	**06 47 52.9**	**+0.3**
RTR	**El Retiro**	**1.71**	**89**	*e*P	**Pn**	**06 47 52.9**	**+0.3**
CEVE	**Cerro Verde**	**1.73**	**92**	*e*P	**Pn**	**06 47 53.0**	**+0.1**
CEVE				*e*S	**Sn**	**06 48 13.9**	**-0.5**
CEVE				IAML		06 48 19.9	
	comp=Z,213nm,0.3s						
CEVE	**Cerro Verde**	**1.73**	**92**	*e*P	**Pn**	**06 47 53.0**	**+0.1**
CEVE				*e*S	**Sn**	**06 48 13.9**	**-0.5**
CEVE				IAML		06 48 19.9	
	comp=Z,213nm,0.3s						
SBLS	**San Blas**	**1.73**	**91**	*e*P	**Pn**	**06 47 52.9**	**0.0**
SBLS				*e*S	**Sn**	**06 48 14.8**	**+0.5**
SBLS	**San Blas**	**1.73**	**91**	*e*P	**Pn**	**06 47 52.9**	**0.0**
SBLS				*e*S	**Sn**	**06 48 14.8**	**+0.5**
SNJE	**San Jose**	**1.75**	**90**	*e*P	**Pn**	**06 47 53.6**	**+0.4**

SNJE	San Jose	1.75	90	eP	Pn	06 47 53.6	+0.4
MTO3	Montecristo	2.05	75	eP	Pn	06 47 55.5	-1.8
MTO3	Montecristo	2.05	75	eP	Pn	06 47 55.5	-1.8
COEG	Centro de Oper	2.47	96	eP	Pn	06 48 02.8	-0.1

IDC **02** *06:53:19.5±2.7, 16°.37N×145°.90E, h114km±27km, mb3.4/9, mb1 3.7/10, mb1mx3.4/53, mbtmp3.8/10, Error ellipse: s-maj=24.2km s-min=20.8km az=54.0*
ISCJB **02** *06:53:20.3±0.5, 16°.30N±0°.05×145°.77E±0°.09, h139km±4km, mb3.5/9, Error ellipse: s-maj=14.1km s-min=7.5km az=20.6*
NEIC **02** *06:53:21.9±1.8, 16°.33N±0°.08×145°.7E±0°.1, h134km±4km, mb4.4/34*
ISC 02 06:53:21.5±0.8**, 16°.29N**±0°.06×**145°.8E**±0°.1**, h134**km±6km**, n61,** σ0s.**86**/61**, mb4.3**/26**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANA2	Anatahan	0.08	308		Pn	06 53 40.1	+0.4
SARN	Sarigan	0.41	0		Pn	06 53 41.0	+0.3
SARN				Sn	Sn	06 53 55.2	0.0
GUMO	Guam	2.83	198	P	Pn	06 54 06.2	+0.1
	58nm,0.3s,baz=69,slow=2.2,SNR=19						
GUMO				S	Sn	06 54 39.9	-0.6
	41nm,0.3s,baz=340,slow=23,SNR=5.1						
GUMO	Guam	2.83	198		Pn	06 54 06.1	+0.1
GUMO					Sn	06 54 39.5	-1.0
H11S3	WAKE ISLAND Hy	20.07	81	T	T	07 18 33.6	
	baz=266,slow=75,SNR=13						
H11S1	WAKE ISLAND Hy	20.09	81	T	T	07 18 34.5	
	baz=266,slow=75,SNR=8.5						
H11S2	WAKE ISLAND Hy	20.09	81	T	T	07 18 26.9	
	baz=266,slow=75,SNR=17						
MAJO	Matsushiro	21.26	343	P	P	06 57 56.0	-1.1
MAJO				IAmb	IAmb	06 58 08.7	
	comp=Z,19nm,1.4s						
MJB9	Matsu-Tunnel	21.27	343	P	P	06 57 56.0	-1.2
MJB9				IAmb	IAmb	06 58 08.7	
	comp=Z,20nm,1.4s						
MMRI	Maumere	34.01	225	P	P	06 59 54.4	+1.7
WB0	Warramunga Arr	37.54	198	P	P	07 00 23.0	+0.2
WB0				IAmb	IAmb	07 00 33.2	
	comp=Z,6.2nm,1.4s						
WB2	Warramunga Arr	37.72	198	P	P	07 00 24.1	-0.2
WB2				IAmb	IAmb	07 00 32.6	
	comp=Z,8.4nm,1.4s						
WRA	Warramunga Arr	37.72	198	P	P	07 00 24.5	+0.1
	comp=Z,0.1nm,0.3s,baz=14,slow=8.6,SNR=6.4						
WRA	Warramunga Arr	37.72	198	P	P	07 00 24.6	+0.3
FITZ	Fitzroy Crossi	39.51	211	P	P	07 00 37.9	-1.4
CMAR	Chiang Mai Arr	44.66	280	P	P	07 01 22.9	+1.8
	comp=Z,0.5nm,0.3s,baz=75,slow=7.0,SNR=4.8						
CMAR	Chiang Mai Arr	44.66	280	P	P	07 01 21.2	0.0
SONM	Songino Array	45.08	323	P	P	07 01 23.8	-0.5
	comp=Z,0.2nm,0.4s,baz=121,slow=5.9,SNR=2.7						
AFI	Afiamalu	51.57	123	P	P	07 02 14.1	-0.2
MK31	Makanchi Array	60.19	315	P	P	07 03 15.2	-0.1
MKAR	Makanchi Array	60.19	315	P	P	07 03 16.7	+1.3
	comp=Z,1.1nm,0.5s,baz=91,slow=8.6,SNR=19						
MKAR	Makanchi Array	60.19	315	P	P	07 03 14.9	-0.5
SVW2	Sparrevohn	60.89	28	P	P	07 03 20.9	+1.1
SVW2				IAmb	IAmb	07 03 22.8	
	comp=Z,9.5nm,1.4s						
KDAK	Kodiak Island	61.33	32	P	P	07 03 23.4	+0.6
BRLK	Bradley Lake	62.71	31	P	P	07 03 31.9	0.0
BRLK				IAmb	IAmb	07 03 33.8	
	comp=Z,7.2nm,1.0s						
PPLA	Purkeypile	62.99	27	P	P	07 03 33.5	-0.4
PPLA				IAmb	IAmb	07 03 46.4	
	comp=Z,15nm,1.4s						
SKT	Skwentna	63.01	28	P	P	07 03 33.7	-0.3
KURBB	Kurchatov Arra	63.16	319	P	P	07 03 35.0	-0.1
	comp=Z,1.9nm,0.7s,baz=98,slow=6.8,SNR=16						
SUA	Susitna One	63.23	29	P	P	07 03 35.5	0.0
SUA				IAmb	IAmb	07 03 37.3	
	comp=Z,3.5nm,1.0s						
IMAR	Indian Mountai	63.38	23	P	P	07 03 36.7	+0.5
RC01	Rabbit Creek A	63.60	29	P	P	07 03 38.2	+0.4
RC01				IAmb	IAmb	07 03 47.2	
	comp=Z,14nm,1.5s						
TRF	Thorofare Moun	63.98	27	P	P	07 03 37.8	-2.6
TRF				IAmb	IAmb	07 03 52.0	
	comp=Z,5.5nm,1.4s						
PMR	Palmer	64.01	29	P	P	07 03 40.1	-0.3
GHO	Glory Hole Cre	64.15	29	P	P	07 03 41.6	+0.1
GHO				IAmb	IAmb	07 03 54.1	
	comp=Z,12nm,1.3s						
MLY	Manley	64.25	25	P	P	07 03 42.8	+0.7
KNK	Knik Glacier	64.28	29	P	P	07 03 42.5	+0.2
SCM	Sheep Creek Mo	64.90	29	P	P	07 03 44.9	-1.5
EYAK	Cordova Ski Ar	65.38	30	P	P	07 03 50.5	+1.1
IL31		65.76	26	P	P	07 03 52.0	+0.3
ILAR	Eielson Array	65.76	26	P	P	07 03 50.8	-1.0
	comp=Z,0.4nm,0.6s,baz=251,slow=6.1,SNR=11						
ILAR	Eielson Array	65.76	26	P	P	07 03 51.0	-0.8
PAX	Paxson	65.98	28	P	P	07 03 53.8	+0.5
PAX				IAmb	IAmb	07 04 03.2	
	comp=Z,4.0nm,1.3s						
VRDI	Verde Repeater	66.61	30	P	P	07 03 58.3	+0.9
VRDI				IAmb	IAmb	07 04 04.0	
	comp=Z,11nm,1.4s						
CRQM	Cirque	66.69	30	P	P	07 03 58.8	+0.8
SCRK	Sand Creek	66.83	27	P	P	07 04 00.5	+1.7
MCARA	McCarthy VSAT	66.84	30	P	P	07 03 59.9	+1.2
MCARA				IAmb	IAmb	07 04 10.5	
	comp=Z,6.4nm,1.0s						
BALM	Baldy	67.11	30	P	P	07 04 01.1	+0.5
BALM				IAmb	IAmb	07 04 08.3	
	comp=Z,8.9nm,1.2s						
BMAR	Burnt Mountain	67.28	23	P	P	07 04 01.7	+0.2
CTGM	Chitina Glacie	67.59	30	P	P	07 04 04.9	+1.3
CTGM				IAmb	IAmb	07 04 06.0	
	comp=Z,4.4nm,0.9s						
BCAR	Beaver Creek A	67.66	28	P	P	07 04 04.8	+0.9
KK31	Karatay Array	68.36	310	P	P	07 04 09.1	+0.4
KKAR	Karatay Array	68.36	310	P	P	07 04 08.9	+0.2
KKAR	Karatay Array	68.36	310	P	P	07 04 07.8	-0.9
KKAR				IAmb	IAmb	07 04 13.4	
	comp=Z,2.5nm,1.2s						
BVAR	Borovoye Array	68.38	321	P	P	07 04 07.8	-0.7
	comp=Z,1.1nm,0.7s,baz=97,slow=7.6,SNR=6.3						
CHGR	Chuyangaron	69.67	306	P	P	07 04 17.4	+0.5
CHGR				IAmb	IAmb	07 04 18.8	
	comp=Z,8.1nm,0.7s						
ABKAR	Akbulak array	75.15	317	P	P	07 04 48.6	-0.4
ABKAR	Akbulak array	75.15	317	P	P	07 04 48.2	-0.8
YKA	Yellowknife Ar	80.07	28	P	P	07 05 15.7	-0.4
	comp=Z,0.4nm,0.4s,baz=284,slow=5.2,SNR=7.9						
NVAR	Mina Array Bea	84.56	52	P	P	07 05 40.6	+0.4
	comp=Z,0.3nm,0.5s,baz=265,slow=6.7,SNR=4.3						
NVAR	Mina Array Bea	84.56	52	P	P	07 05 39.6	-0.7
LPAZ	La Paz	147.47	95	PKPbc	PKPbc	07 12 51.7	+0.3
	comp=Z,0.6nm,0.4s,baz=341,slow=5.7,SNR=3.3						

ISCJB **02** *07:10:53.6±0.3, 35°.62N±0°.02×97°.39W±0°.02, h12km±1km, Error ellipse: s-maj=3.3km s-min=2.3km az=172.6*
ANF **02** *07:10:53.4±0.4, 35°.62N×97°.39W, h5km, ML3.8/12, Error ellipse: s-maj=8.1km s-min=3.4km az=160.0*
NEIC **02** *07:10:54.3±1.6, 35°.65N±0°.02×97°.38W±0°.05, h5km±2km*
TUL **02** *07:10:54.5, 35°.61N×97°.38W, h9km, ML3.2*
ISC 02 07:10:54.4±0.8**, 35°.61N**±0°.02×**97°.39W**±0°.02**, h7**km±5km**, n52,** σ0s.**94**/95**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ADOK	Arcadia Dam	0.04	20	Pg	Pg	07 10 56.3	+0.4
ADOK				Sg	Sg	07 10 57.1	0.0
OK009	Oakdale Elemen	0.04	222		Pg	07 10 55.7	-0.2
OK009				Sg	Sg	07 10 56.8	-0.2
OK001	Jones High Sch	0.10	122	Pg	Pg	07 10 56.7	+0.1
OK001				Sg	Sg	07 10 57.7	-0.5
OK005	Luther M Schoo	0.17	75	Pg	Pg	07 10 58.3	+0.4
OK005				Sg	Sg	07 10 60.0	-0.2
OKCSW	OKLAHOMA CITY	0.21	191	Pg	Pg	07 10 58.5	-0.1
OKCSW				Sg	Sg	07 11 01.3	-0.2
FNO	Franklin	0.35	182	Pg	Pg	07 11 02.1	+0.8
FNO				Sg	Sg	07 11 07.1	+1.0
W35A	Tecumseh	0.62	137	Pg	Pg	07 11 06.0	-0.4
W35A				Sg	Sg	07 11 14.3	-0.2
X34A	Smith Ranch, M	1.07	200		Pg	07 11 14.5	-0.5
X34A				Sg	Sb	07 11 29.7	+0.1
TUL1	Leonard	1.33	77	P	Pn	07 11 18.3	-1.2
	baz=258						
TUL1				S	Sg	07 11 36.8	-0.5
	baz=258						
TUL1	Leonard	1.33	77		Pn	07 11 18.1	-1.3
TUL1					Sb	07 11 37.0	-0.1
WMOK	Wichita Mounta	1.44	233	P	Pn	07 11 20.1	-0.8
	baz=52						
WMOK				S	Sb	07 11 39.3	-0.7
	baz=52						
WMOK	Wichita Mounta	1.44	233	Pn	Pn	07 11 20.1	-0.8
WMOK				Sn	Sb	07 11 39.2	-0.9
U32A	Winter Ranch,	1.52	301		Pn	07 11 22.1	+0.1
U32A				Sn	Sg	07 11 43.0	-0.1
HHAR	Hobbs	2.88	76	Pn	Pn	07 11 41.2	+0.4
HHAR				Sn	Sn	07 12 15.6	0.0
W39A	Magazine	2.97	97	P	Pn	07 11 42.1	0.0
	baz=279						
W39A				S	Sn	07 12 17.9	-0.1
	baz=279						
W39A	Magazine	2.97	97		Pn	07 11 42.2	+0.1
W39A				Sn	Sn	07 12 17.6	-0.3
MIAR	Mount Ida	3.30	108	P	Pn	07 11 45.8	-0.8
	baz=290						
MIAR				S	Sn	07 12 26.1	0.0
	baz=290						
MIAR	Mount Ida	3.30	108	Pn	Pn	07 11 47.1	+0.5
MIAR				Sn	Sn	07 12 27.1	+1.0
ABTX	Abilene, Hawle	3.52	213	Pb	Pb	07 11 57.5	+0.4
	baz=32						
ABTX				S	Sn	07 12 32.0	+0.5
	baz=32						
ABTX	Abilene, Hawle	3.52	213	Pn	Pn	07 11 50.8	+1.3
ABTX				Sn	Sn	07 12 31.9	+0.4
KSU1	Kansas State U	3.54	10	Pb	Pb	07 11 57.0	-0.4
	baz=190						
KSU1				S	Sn	07 12 32.1	+0.2
	baz=190						
AMTX	Amarillo	3.59	260	Pb	Pb	07 11 56.9	-1.3
	baz=77						
AMTX				Sb	Sb	07 12 44.7	+2.6
	baz=77						
AMTX	Amarillo	3.59	260	Pn	Pn	07 11 49.8	-0.8
AMTX				Sn	Sn	07 12 34.1	+0.9
WHTX	Lake Whitney,	3.61	181	Pb	Pb	07 11 57.5	-1.1
	baz=1.1						
WHTX				Sb	Sb	07 12 45.1	+2.5
	baz=1.1						
WHTX	Lake Whitney,	3.61	181	Pn	Pn	07 11 50.8	-0.1
WHTX				Sn	Sn	07 12 33.1	-0.7
CBKS	Cedar Bluff	3.71	330	Pb	Pb	07 12 00.2	-0.1
	baz=149						
CBKS				Sb	Sb	07 12 48.2	+2.8
	baz=149						
CBKS	Cedar Bluff	3.71	330	Pn	Pn	07 11 52.2	0.0
CBKS				Sn	Sn	07 12 34.5	-1.6
U40A	Yellville	3.75	77	P	Pn	07 11 52.4	-0.4
	baz=260						
U40A				S	Sn	07 12 37.5	+0.3
	baz=260						
U40A	Yellville	3.75	77		Pn	07 11 52.7	-0.1
U40A				Sn	Sn	07 12 35.3	-1.9
X40A	Basin Creek Fa	3.90	105	Pb	Pb	07 12 03.4	-0.1
	baz=288						
X40A				Sb	Sb	07 12 53.5	+2.5
	baz=288						
X40A	Basin Creek Fa	3.90	105	Pn	Pn	07 11 56.0	+1.2
X40A				Sn	Sn	07 12 39.7	-1.2
WLAR	White Oak Lake	4.01	117	Pn	Pn	07 11 56.8	+0.4
WLAR				Sn	Sn	07 12 42.0	-1.7
WHAR	Wooly Hollow	4.18	93		Pn	07 11 58.7	+0.1
WHAR				Sn	Sn	07 12 46.1	-1.6
UALR	University of	4.22	100	Pn	Pn	07 12 00.1	+1.0
UALR				Sn	Sn	07 12 47.4	-1.2
W41B	Gary Mavity, V	4.22	94	P	Pn	07 11 59.3	+0.1
	baz=278						
W41B				S	Sn	07 12 48.5	-0.2
	baz=278						
W41B	Gary Mavity, V	4.22	94		Pn	07 11 59.5	+0.3
W41B				Sn	Sn	07 12 48.5	-0.2
FCAR	Ozark Folk Cen	4.29	85	Pn	Pn	07 12 00.1	0.0
FCAR				Sn	Sn	07 12 50.0	-0.5
MGMO	Mountain Grove	4.41	68	Pn	Pn	07 12 02.6	+0.8
MGMO				Sn	Sn	07 12 53.4	-0.1
Z41A	Richland Creek	4.46	120	Pn	Pn	07 12 01.9	-0.5
Z41A				Sn	Sn	07 12 55.0	+0.4
MSTX	Muleshoe	4.72	251	Pn	Pn	07 12 06.4	+0.2
LCAR	Lake Charles	5.08	83	Pn	Pn	07 12 11.4	+0.4
LCAR				Sn	Sn	07 13 10.0	-0.1
CCM	Cathedral Cave	5.50	62	Pn	Pn	07 12 14.0	-2.7
JCT	Junction City	5.50	202	Pn	Pn	07 12 17.6	+0.7
T25A	Trinidad	5.87	287	Pn	Pn	07 12 22.8	+0.8
T25A				Sn	Sn	07 13 28.8	-0.8
OGNE	Ogallala	6.46	327	Pn	Pn	07 12 30.4	+0.4
SDCO	Great Sand Dun	6.86	290	Pn	Pn	07 12 36.1	+0.4
Q24A	Divide	7.03	301	Pn	Pn	07 12 37.3	-0.8
ANMO	Albuquerque	7.45	268	Pn	Pn	07 12 43.9	+0.2
MNTX	Cornudas Mount	7.72	242	Pn	Pn	07 12 46.4	-1.0
MNTX				Sn	Sn	07 14 14.8	-0.3
ISCO	Idaho Springs	7.74	305	Pn	Pn	07 12 48.4	+0.5
ISCO				Sn	Sn	07 14 15.7	-0.3
TXAR	Lajitas Array	8.20	222	Pn	Pn	07 12 54.4	+0.3
N23A	Red Feather La	8.55	311	Pn	Pn	07 12 56.8	-2.1

ISCJB **02** *07:16:33.0±1.1, 8°.2S±0°.1×13°.8W±0°.1, h10km, mb3.8/4, MS4.2/1, Error ellipse: s-maj=17.5km s-min=12.9km az=38.6*
IDC **02** *07:16:33.4±1.5, 8°.15S×13°.86W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/25, mbtmp3.9/4, MS3.4/2, Ms1 3.4/2, ms1mx2.8/27, Error ellipse: s-maj=32.3km s-min=19.4km az=139.0*
ISC 02 07:16:35.0±1.4**, 8°.2S**±0°.1×**13°.9W**±0°.2**, h10**km**, n12,** σ1s.**39**/9**, mb3.8**/4**, Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H10N1	ASCENSION HYDR	0.66	300	Pn	Pn	07 16 49.5	-0.7
H10N1				T	T	07 18 01.5	
	baz=107						
H10N2	ASCENSION HYDR	0.68	301	Pn	Pn	07 16 49.7	-0.7
H10N2				T	T	07 18 02.8	
	baz=107						
H10N3	ASCENSION HYDR	0.68	299	Pn	Pn	07 16 49.8	-0.6
H10N3				T	T	07 18 03.6	
	baz=107						
H10S2	ASCENSION HYDR	1.07	223	Pn	Pb	07 16 54.2	-1.3
H10S2				T	T	07 18 16.9	
	baz=166,slow=74,SNR=2417						
H10S3	ASCENSION HYDR	1.08	224	Pn	Pb	07 16 54.4	-1.3
H10S3				T	T	07 18 17.6	
	baz=54,slow=74,SNR=2323						
DBIC	Dimbokro	17.29	32	LR	LR	07 26 22.3	
	comp=Z,30nm,18.9s,baz=46,slow=34						
TORD	Torodi Ar. Bea	26.24	36	P	P	07 22 09.8	-0.7
	1.9nm,1.1s,baz=224,slow=9.7,SNR=3.9						
BDFB	Brasilia	34.16	254	P	P	07 23 22.1	+1.3
	3.7nm,0.7s,baz=117,slow=6.8,SNR=5.9						
H05S1	Guadeloupe/Mar	51.69	296	T	T	08 21 32.4	
	SNR=7.3						
LPAZ	La Paz	53.48	256	P	P	07 25 58.9	+2.1
	1.0nm,0.9s,baz=88,slow=4.3,SNR=3.3						
NOA	NORSAR Array B	71.77	13	P	P	07 27 56.9	-0.5
	0.7nm,0.8s,baz=195,slow=4.2,SNR=3.0						
RES	Resolute Bay	95.45	345	LR	LR	08 04 30.3	
	comp=Z,85nm,21.4s,baz=153,slow=30						

BJI **02** *07:34:52.8±0.0, 1°.85N×96°.76E, h17km, mb5.2/75, mB5.4/64, Ms5.5/85, Ms7 5.3/78*
NEIC **02** *07:34:55.9±2.1, 2°.03N±0°.04×96°.68E±0°.06, h18km±3km, mb5.3/105, Ms_20 5.4/512, Mwb5.4, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.96; Mθθ-0.74; Mϕϕ-0.23; Mrθ0.98; Mθϕ0.13; Mϕr-0.75; Fault plane solution: M0 1.51000×10^17 NP1:ϕs122.29000°, δ72.79000°, λ97.71000°. NP2:ϕs277.69000°, δ18.81000°, λ66.56000°. Principal axes: T 1.6264, Plg61.0000°, Azm44.0000°; N -0.2659, Plg7.0000°, Azm300.0000°; P -1.3606, Plg27.0000°, Azm206.0000°;*
ISCJB **02** *07:34:56.9±0.5, 2°.10N±0°.02×96°.76E±0°.02, h30km±3km, mb5.1/139, MS5.2/90 Error ellipse: s-maj=4.1km s-min=2.8km az=135.6*
MOS **02** *07:34:57.5±1.2, 2°.21N×96°.79E, h33km, mb5.5/73, MS5.1/32, Error ellipse: s-maj=7.0km s-min=4.2km az=108.2*
GCMT **02** *07:34:58.9±0.1, 1°.96N±0°.01×96°.49E±0°.01, h21km, MW5.5/130, Moment Tensor Solution. s130,c216; s126,c213; Duration: 1s.3 Moment tensor: Scale 10^17 Nm; Mrr1.26±.02; Mθθ-0.76±.02; Mϕϕ-0.50±.02; Mrθ0.94±.04; Mθϕ0.63±.01; Mϕr-1.33±.05; Best double couple: M0 2.06200×10^17 NP1:ϕs141.00000°, δ71.00000°, λ98.00000°. NP2:ϕs298.00000°, δ20.00000°, λ68.00000°. Principal axes: T 2.0840, Plg63.0000°, Azm64.0000°; N -0.0410, Plg7.0000°, Azm319.0000°; P -2.0410, Plg26.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA **02** *07:34:58.3±0.4, 2°N±2°×9°7E±°, h21km±3km, M5.2/27, mB5.7/16, mb5.3/27, MLv5.2/7, Mw(mB)5.2/16, Mwp6.0/2*
IDC **02** *07:34:59.9±1.6, 2°.18N×96°.83E, h34km±11km, mb4.6/44, mb1 4.6/45, mb1mx4.6/51, mbtmp4.8/45, ML5.1/1, MS5.0/32, Ms1 5.0/32, ms1mx4.9/43, Error ellipse: s-maj=11.7km s-min=8.2km az=58.0*
KLM **02** *07:34:59.0, 2°.09N×96°.62E, h30km, mb5.3*
ISC 02 07:34:58.9±0.4**, 2°.06N**±0°.03×**96°.70E**±0°.03**, h34**km±1km**, h34**km**:pP-P, n819,** σ1s.**82**/640**, mb5.2**/175**, MS5.4**/337**, 44C-12D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	0.50	313	P	Pn	07 35 08.4	-1.3
SNSI				S	Sb	07 35 16.8	-0.2
GSI	Gunungsitoli	1.16	131	P	Pn	07 35 19.0	+0.3
GSI	Gunungsitoli	1.16	131		Pn	07 35 19.0	+0.3
GSI				Sn	Sn	07 35 30.2	-3.1
TPTI		1.28	22	P	Pb	07 35 23.0	+0.4
MLSI	Meulaboh, Aceh	2.21	352	P	Pn	07 35 32.1	-1.1
RPSI	Rantau Prapat	2.31	74		Pn	07 35 35.8	+1.2
RPSI				Sn	Sn	07 35 59.1	-2.8
RPSI	Rantau Prapat	2.31	74		Pn	07 35 35.8	+1.2
PSI	Prapat	2.34	72	P	Pn	07 35 35.8	+0.6
PSI						07 35 59.1	
PSI	Prapat	2.34	72	Pn	Pn	07 35 35.8	+0.6
	48nm,0.3s,baz=289,slow=7.9,SNR=107						
TSI	Tuntungan	2.35	53	P	Pn	07 35 37.7	+2.6
PBSI	Pulau Batu	2.63	143	P	Pn	07 35 39.7	+0.7
LHMI	Lhok Sumawe	3.15	5	P	Pn	07 35 45.2	-1.0
LHMI	Lhok Sumawe	3.15	5		Pn	07 35 44.9	-1.3
LHMI				Sn	Sn	07 36 22.8	+0.1
SISI	Saibi	4.13	145	P	Pn	07 35 59.1	-0.5
BKNI	Bangkinang	4.67	112	P	Pn	07 36 10.3	+3.2
BKNI	Bangkinang	4.67	112		Pn	07 36 07.8	+0.7
PDSI	Padang	4.79	128	P	Pn	07 36 12.6	+3.9
IPM	Ipoh	4.95	61		Pn	07 36 11.6	+0.7
IPM				Sn	Sn	07 37 03.5	-3.4
KULM	Kulim	5.08	51		Pn	07 36 12.3	-0.5
KULM				Sn	Sn	07 37 05.0	-5.3
SDSI	Sungai Dareh	5.59	122	P	Pn	07 36 20.1	+0.4
CMBY	CAMPBELL BAY	5.64	331	eP	Pn	07 36 19.4	-0.9
CMBY				eS	Sn	07 37 20.6	-3.3
PPSI	Pulau Pagai	5.83	145	P	Pn	07 36 22.2	-0.8
PKDT	Phuket	6.02	16	P	Pn	07 36 27.4	+1.8
	234nm,0.8s,5μm2.3nm						
KRJI	Kerinci	6.30	131	P	Pn	07 36 31.7	+2.1
SKLT	Songkhla	6.41	38	P	Pn	07 36 34.7	+3.8
	149nm,0.7s,2μm1.6nm						
TRTT	Trang	6.46	27	P	Pn	07 36 31.5	-0.2
	342nm,1.1s,4μm2.6nm						
MYKOM	Kota Tinggi	7.16	92		Pn	07 36 42.6	+1.3
SURT	Suratani	7.16	17	P	Pn	07 36 41.1	-0.2
	205nm,0.8s,3μm1.4nm						
MASI	Maura Aman, Be	7.58	133	P	Pn	07 36 56.4	+9.3
TPRI	Tanjung Pinang	7.91	98	P	Pn	07 36 54.6	+3.0
	126nm,0.6s,1.3nm						
MNAI	Manna	8.94	136	P	Pn	07 36 59.4	-6.3
MNAI	Manna	8.94	136		Pn	07 37 05.3	-0.4
MNAI					Sn	07 38 41.2	-4.1
LHSI	Lahat	8.99	131	P	Pn	07 37 02.5	-3.9
MDSI	Maura Dua	9.91	131	P	Pn	07 37 18.7	-0.3
LWLI	Liwa	10.18	134	P	Pn	07 37 27.1	+4.3
PPBI	Pangkal Pinang	10.33	114	P	Pn	07 37 31.2	+6.4
KLSI		10.46	130	P	Pn	07 37 23.8	-2.8
KASI	Kota Agung	10.84	134	P	Pn	07 37 28.7	-3.1
PATY	Pattaya	11.55	21	P	Pn	07 37 45.5	+4.0
	127μm,0.9s						
DGPR	DIGLIPUR	11.65	342	eP	Pn	07 37 57.2	+14
DGPR				IAmb	IAmb	07 38 16.9	
	comp=Z,705nm,2.1s						
DGPR				eS	Sn	07 40 30.6	+39
TPI	Tanjungpandan	11.96	114	P	Pn	07 37 51.7	+4.7
SRDT	SRDT	12.44	11	P	P	07 38 03.4	-1.7
KSM	Kuching	13.62	92	P	Pn	07 38 14.0	+4.2
KSM	Kuching	13.62	92		Pn	07 38 08.9	-0.9
UTHA	Uthaitani	13.68	11	P	Pn	07 38 12.1	+1.5
	comp=Z,81μm,0.8s,comp=Z,764μm						
LEM	Lembang	14.03	129	LR	LR	07 44 25.5	
	comp=Z,5μm,18.2s,baz=296,slow=40						
UMPA	Umpang Tak	14.21	9	P	P	07 38 26.6	+1.7
CHAI	Chaiyaphum	14.71	20	P	P	07 38 29.3	-1.0
	comp=Z,73μm,1.1s						
STKI	Sintang	14.91	97	P	P	07 38 32.8	+0.2
PBKT	Sadao Pong	15.02	16	P	Pn	07 38 29.4	+0.7
	comp=Z,58nm,1.3s,comp=Z,1μm						
PBKT	Sadao Pong	15.02	16		Pn	07 38 26.7	-2.0
KPJI	Karang Pucung	15.37	128	P	Pn	07 38 34.8	+1.4
	comp=Z,82nm,0.7s						
SBUM	Sibu	15.52	88		Pn	07 38 35.0	-0.3
UBPT	Khong Chiam	15.73	33	Pn	Pn	07 38 37.6	-0.5
MHMT	Maesarieng	16.06	4	P	Pn	07 38 42.5	+0.2
	comp=Z,86nm,1.0s,comp=Z,1μm						
CM31	Chiang Mai Arr	16.44	8	P	P	07 38 49.2	-0.4
	SNR=25						
CM31	Chiang Mai Arr	16.44	8	Pn	Pn	07 38 45.9	-1.3
CMAR	Chiang Mai Arr	16.44	8	P	Pn	07 38 45.1	-2.0
CMAR	Chiang Mai Arr	16.44	8	Pn	Pn	07 38 45.8	-1.4
	comp=Z,2.8nm,0.3s,baz=196,slow=12,SNR=94						
CMAR				Lg	Lg	07 43 41.2	
	comp=Z,0.3nm,0.3s,baz=195,slow=34,SNR=4.3						
CMAR				LR	LR	07 45 22.6	
	comp=Z,8μm,20.6s,baz=206,slow=38						
CMAR	Chiang Mai Arr	16.44	8		Pn	07 38 45.1	-2.0
SKNT	Sakolnakorn	16.46	25	P	P	07 38 51.6	+1.8
	comp=Z,58nm,1.0s						
LAMP	Lampang	16.61	10	P	Pn	07 38 49.6	+0.3
	comp=Z,115μm,0.8s						
PHRA	Phrae	16.70	12	P	Pn	07 38 49.8	-0.6
	comp=Z,18nm,1.2s						
PALK	Pallekele	16.75	289	P	Pn	07 38 50.5	-0.7
PALK				pmax	pmax		
	comp=Z,143nm,1.3s						
PALK	Pallekele	16.75	289	Pn	Pn	07 38 50.3	-0.9
	comp=Z,1.2nm,0.3s,baz=116,slow=12,SNR=4.7						
PALK				Sn	Sn	07 41 38.9	-17
	comp=Z,2.0nm,0.3s,baz=118,slow=7.3,SNR=5.2						
PALK				LR	LR	07 44 38.2	
	comp=Z,8μm,20.2s,baz=101,slow=34						
PALK	Pallekele	16.75	289	Pn	Pn	07 38 50.5	-0.7
CHTO	Chiang Mai	16.79	7	P	Pn	07 38 51.0	-0.6
	SNR=22						
CHTO	Chiang Mai	16.79	7	P	Pn	07 38 48.5	-3.1
CHTO				pmax	pmax		
	comp=Z,95nm,1.4s						
CHTO	Chiang Mai	16.79	7		Pn	07 38 48.5	-3.1
CMMT	Chiang Mai	16.79	7	P	Pn	07 38 51.2	-0.4
	comp=Z,22nm,1.0s,comp=Z,871nm						
UGM	Wanagama	16.98	126	Pn	Pn	07 38 51.0	-3.1
NONG	Nongkai	17.11	21	P	P	07 38 57.4	+0.4
	comp=Z,1.5nm,0.9s,comp=Z,84nm						
NGJI	Ngawi	17.46	123	P	P	07 39 13.6	+13
PAYA	Payao	17.47	10	P	Pn	07 38 59.2	-0.8
	comp=Z,93μm,0.8s						
PWJI	Pagerwojo	18.10	124	P	P	07 39 11.1	+3.2
	comp=Z,41nm,1.4s						
KKM	Kota Kinabalu	19.86	78	P	P	07 39 26.4	-1.0
KKM				IAmb	IAmb	07 39 31.3	
	comp=Z,99nm,0.8s						
SPMM	Sapulut	19.91	82	P	Pn	07 39 29.0	-0.7
SLVN	Son La	20.40	20	P	P	07 39 30.5	-2.7
BKB	Balikpapan	20.47	99	P	Pn	07 39 36.7	+0.5
	comp=Z,425nm,0.7s,comp=Z,6μm						
BKB	Balikpapan	20.47	99	P	P	07 39 32.9	-1.0

SAIH SAIHA 20.62 350 *e*P **P** 07 39 32.2 -3.4
SAIH IAmb IAmb 07 39 50.8
comp=Z,288nm,1.7s
SRBI Singaraja 21.04 119 P P 07 39 50.2 +10
QIZ Qiongzhong 21.21 36 P **P** **07 39 40.8 -1.1**
QIZ S **S** **07 43 39.4 +3.3**
QIZ pmax pmax
comp=Z,1μm,13.7s
QIZ LR LR
comp=Z,8μm,17.7s
QIZ LR LR
comp=Z,8μm,16.7s
QIZ LR LR
comp=Z,8μm,15.7s
AGT Agartala 22.32 347 *e*P **P** **07 39 52.3 -1.4**
IMP Imphal 22.79 354 *e*P **P** **07 39 57.1 -1.7**
IMP IAmb IAmb 07 40 04.6
comp=Z,24nm,0.8s
HYB Hyderabad 23.46 312 *i* P **P** **07 40 07.0 +1.4**
comp=Z,50nm,1.0s
HYB *e*S **S** **07 44 21.0 +4.0**
HYB Hyderabad 23.46 312 *ex* P 07 39 58.4 -7.2
HYB IAmb IAmb 07 40 14.1
comp=Z,34nm,0.9s
KOHI KOHIMA 23.65 354 *e*P **P** **07 40 05.6 -1.9**
KOHI IAmb IAmb 07 40 10.0
comp=Z,89nm,1.2s
KMI Kunming 23.66 14 P **P** **07 40 07.4 -0.2**
KMI pP pP 07 40 09.0 -8.2
KMI sP sP 07 40 11.8 -9.0
KMI PP **PnPn** **07 40 40.2 +4.5**
KMI S **S** **07 44 18.7 -1.7**
KMI sS pS 07 44 26.7 -4.0
KMI SS **SnSn** **07 45 08.7 +9.1**
KMI pmax pmax
comp=Z,65nm,1.2s
KMI pmax pmax
comp=Z,1μm,5.2s
KMI LR LR
comp=Z,4μm,15.3s
KMI LR LR
comp=Z,5μm,15.4s
KMI LR LR
comp=Z,6μm,15.4s
KMI Kunming 23.66 14 P **P** **07 40 06.9 -0.7**
KMI pmax pmax
comp=Z,119nm,1.4s
KMI MLR MLR
comp=Z,4μm,22.0s
KMI Kunming 23.66 14 P **P** **07 40 06.9 -0.7**
KMI IAmb IAmb 07 40 09.7
comp=Z,119nm,1.4s
SHL Shillong 23.82 349 P **P** **07 40 06.9 -2.2**
SNR=99
SHL Shillong 23.82 349 P **P** **07 40 06.0 -3.1**
SHL pmax pmax
comp=Z,190nm,1.2s
SHL Shillong 23.82 349 *e*P **P** **07 40 06.0 -3.1**
SHL *e*P **P** **07 40 06.6 -2.6**
SHL IAmb IAmb 07 40 10.4
comp=Z,72nm,0.6s
SHL *ex* x 07 44 13.5
SHL *e*S **S** **07 44 22.5 -0.4**
SHL Shillong 23.82 349 P **P** **07 40 06.0 -3.1**
BOK Bokaro 24.00 335 *e*P **P** **07 40 11.2 +0.6**
BOK IAmb IAmb 07 40 16.0
comp=Z,67nm,0.6s
KAPI Kappang 24.08 107 P **P** **07 40 12.6 +1.1**
SNR=20
KAPI Kappang 24.08 107 P **P** **07 40 10.0 -1.5**
KAPI pmax pmax
comp=Z,56nm,1.0s
KAPI MLR MLR
comp=Z,4μm,18.0s
KAPI Kappang 24.08 107 P **P** **07 40 11.8 +0.3**
comp=Z,29nm,0.7s,baz=284,slow=9.1,SNR=15
KAPI Kappang 24.08 107 P **P** **07 40 10.0 -1.5**
KAPI IAmb IAmb 07 40 23.7
comp=Z,56nm,0.9s
GUWA GUWAHATI 24.47 349 *i* P **P** **07 40 13.0 -1.9**
GUWA IAmb IAmb 07 40 25.6
comp=Z,152nm,1.5s
DHUB DHUBRI 24.68 345 *e*P **P** **07 40 12.4 -4.3**
DHUB *i* P **P** **07 40 14.7 -2.1**
ITAN ITANAGAR 25.10 354 *e*P **P** **07 40 19.3 -1.3**
ITAN IAmb IAmb 07 40 30.9
comp=Z,159nm,0.3s
LKP Lekhapani 25.14 358 *i* P **P** **07 40 21.1 +0.1**
LKP IAmb IAmb 07 40 24.3
comp=Z,498nm,1.1s
MRSI Marisa 25.29 93 P **P** **07 40 23.1 +0.6**
comp=Z,37nm,0.8s
ZIRO ZIRO 25.47 354 *e*P **P** **07 40 22.4 -1.7**
NGP Nagpur 25.61 319 *e*P **P** **07 40 26.6 +1.3**
NGP *i* P **P** **07 40 26.9 +1.7**
NGP *ex* x 07 40 34.0
comp=Z,221nm,10.1s
NGP *e*S **S** **07 44 52.5 +1.2**
NGP *e*S S 07 44 53.2 +1.9
NGP *ex* x 07 45 46.2
comp=N,586nm,18.8s
H08S2 Diego Garcia H 26.00 248 T T 08 07 14.0
baz=69,slow=76
H08S3 Diego Garcia H 26.00 248 T T 08 07 14.2
baz=69,slow=76
H08S1 Diego Garcia H 26.02 248 T T 08 07 15.3
baz=69,slow=76
GYA Guiyang 26.08 21 ⇑*i*P **P** **07 40 29.5 -0.1**
GYA PP **PnPn** **07 41 16.4 +7.7**
GYA S **S** **07 44 58.0 -0.8**
GYA pmax pmax
comp=N,30nm,0.8s
GYA pmax pmax
comp=N,560nm,12.7s
GYA LR LR
comp=N,6μm,14.0s
GYA LR LR
comp=N,5μm,14.6s
GYA LR LR
comp=N,9μm,14.3s
ODAN Odare 26.22 341 *e*P **P** **07 40 32.2 +1.1**
comp=N,108nm,0.5s
LUWI Luwuk 26.25 97 P **P** **07 40 29.6 -1.6**
GTK Tadong 26.28 344 *e*P **P** **07 40 32.2 +0.7**
GTK IAmb IAmb 07 40 38.0
RAMN Ramite 26.57 340 *e*P **P** **07 40 35.0 +0.8**
comp=N,74nm,0.5s
TAPN Taplejung 26.58 342 *e*P **P** **07 40 34.7 +0.4**
comp=N,226nm,0.9s
H08N1 Diego Garcia H 26.96 252 T T 08 09 19.9
baz=193,slow=72,SNR=317
H08N2 Diego Garcia H 26.97 252 T T 08 09 21.8
baz=193,slow=72,SNR=465
H08N3 Diego Garcia H 26.99 252 T T 08 09 16.7
baz=193,slow=72,SNR=418
JIRN Jiri 27.37 339 *e*P **P** **07 40 41.8 +0.3**
PKI Pulchoki 27.57 338 *e*P **P** **07 40 44.1 +0.8**
comp=N,24nm,0.5s
PKIN Phulchoki 27.58 338 *e*P **P** **07 40 43.9 +0.6**
GUN Gumba 27.70 339 *e*P **P** **07 40 44.7 +0.2**
DMN Daman 27.72 337 *e*P **P** **07 40 45.1 +0.6**
comp=N,52nm,0.7s
POO Poona 27.73 308 *e*P **P** **07 40 50.0 +5.5**
KKN Kakani 27.82 338 *e*P **P** **07 40 45.1 -0.3**
LSA Lhasa 27.99 350 P **P** **07 40 47.7 +0.6**
LSA Lhasa 27.99 350 P **P** **07 40 46.5 -0.6**
LSA pmax pmax
comp=Z,42nm,0.8s
LSA MLR MLR
comp=Z,2μm,22.0s
LSA Lhasa 27.99 350 P **P** **07 40 46.5 -0.6**
LSA IAmb IAmb 07 40 59.0
comp=Z,42nm,0.8s
GKN Gorkha 28.25 337 *e*P **P** **07 40 49.4 +0.2**
KOLN Koldanda 28.47 335 *e*P **P** **07 40 51.4 +0.2**
comp=Z,139nm,0.7s
KCP Kidapawan 28.72 79 ⇓P **P** **07 40 54.5 +1.1**
BOM Bombay 28.76 307 *ex* P 07 40 59.8 +6.2
BOM AMb AMB 07 41 13.3
comp=Z,80nm,1.8s
BOM *ex* x 07 45 58.6
DANN Dangsing 28.91 336 *e*P **P** **07 40 55.8 +0.6**
comp=Z,63nm,0.4s
DAV Davao City (W) 29.21 79 P **P** **07 40 59.9 +2.2**
comp=Z,170nm,0.4s,baz=202,slow=11,SNR=2.5
DAV Davao City (W) 29.21 79 ⇓*e*P **P** **07 41 01.0 +3.4**
CD2 Chengdu 29.46 12 ⇓*i*P **P** **07 40 59.4 -0.3**
CD2 pP pP 07 41 09.3 -0.3
CD2 S **S** **07 45 51.5 -0.4**
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,1μm,14.7s
CD2 LR LR
comp=Z,10μm,13.1s
CD2 LR LR
comp=Z,18μm,18.4s
CD2 LR LR
comp=Z,12μm,12.9s
BATI Baumata 29.49 115 P **P** **07 40 59.1 -1.0**
comp=Z,21nm,0.3s,baz=243,slow=4.5,SNR=3.0
BATI LR LR 07 55 16.8
comp=Z,4μm,22.0s,baz=249,slow=41
SOEI Soe 29.86 114 P **P** **07 41 03.9 +0.3**
comp=Z,49nm,0.8s,comp=Z,1μm
SOEI Soe 29.86 114 P **P** **07 41 00.8 -2.8**
SOEI IAmb IAmb 07 41 17.4
comp=Z,35nm,0.8s
KNMB Chin-men Tao 30.58 41 IAMs_20 IAMs_20 07 53 58.7
comp=Z,6μm,20.0s
NLAI Namlea 30.84 100 P P 07 41 24.3 +12
QZH Quanzhou 31.04 41 ⇑*i*P **P** **07 41 14.0 +0.2**
QZH *e*S **S** **07 46 16.2 -0.6**
QZH sS **sS** **07 46 34.0 +1.1**
QZH LR LR
comp=Z,7μm,17.9s
QZH LR LR
comp=Z,3μm,13.3s
QZH LR LR
comp=Z,7μm,17.1s
TWG Pinlang 31.39 47 P **P** **07 41 14.5 -2.4**
SSLB Suanglung 31.90 45 P **P** **07 41 18.3 -3.1**
SSLB IAmb IAmb 07 41 30.3
comp=Z,43nm,1.1s
YULB Yu-li 31.90 46 P **P** **07 41 19.2 -2.2**
NDI New Delhi 32.34 327 *e*P **P** **07 41 26.0 +0.9**
NACB Ninganchiao 32.60 46 P **P** **07 41 25.9 -1.6**
NACB IAmb IAmb 07 41 33.7
comp=Z,33nm,1.0s
PSAB1 Pilbara Seismi 32.61 137 IAMs_20 IAMs_20 07 55 21.0
comp=Z,5μm,21.0s
PSA00 Pilbara Seismi 32.62 137 P **P** **07 41 27.9 +0.1**
PSA00 IAmb IAmb 07 41 40.6
comp=Z,33nm,1.0s
PSA00 Pilbara Seismi 32.62 137 P **P** **07 41 28.0 +0.3**
PSA00 IAmb IAmb 07 41 41.5
comp=Z,15nm,0.9s
WHN Wuhan 32.90 29 P **P** **07 41 28.3 -1.7**
WHN S **S** **07 46 49.5 +3.9**
WHN pmax pmax
comp=Z,610nm,7.0s
WHN LR LR
comp=Z,5μm,14.2s
WHN LR LR
comp=Z,8μm,12.7s
WHN LR LR
comp=Z,12μm,13.4s
DDI Dehra Dun 33.20 330 *ex* x 07 41 23.9
XAN Xi'an 33.80 18 P **P** **07 41 36.7 -1.2**
XAN PP **PnPn** **07 42 51.4 +0.4**
XAN S **S** **07 46 58.7 -1.0**
XAN pmax pmax
comp=Z,28nm,0.9s
XAN pmax pmax
comp=Z,290nm,4.3s
XAN LR LR
comp=Z,5μm,13.7s
XAN LR LR
comp=Z,6μm,15.5s
XAN LR LR
comp=Z,5μm,17.2s
XAN Xi'an 33.80 18 P **P** **07 41 36.7 -1.2**
XAN pmax pmax
comp=Z,57nm,0.7s
XAN MLR MLR
comp=Z,4μm,19.0s
XAN Xi'an 33.80 18 P **P** **07 41 36.7 -1.2**
LZH Lanzhou 34.50 10 *e*P **P** **07 41 44.6 +0.6**
LZH pP pP 07 41 47.3 -6.6
LZH S **S** **07 47 10.0 -0.6**
LZH sS pS 07 47 20.8 -0.6
LZH pmax pmax
comp=Z,97nm,1.2s
LZH pmax pmax
comp=Z,570nm,4.3s
LZH LR LR
comp=Z,3μm,12.5s
LZH LR LR
comp=Z,4μm,14.6s
LZH LR LR
comp=Z,3μm,14.7s
FITZ Fitzroy Crossi 34.84 126 P **P** **07 41 46.5 -0.5**
baz=35,SNR=17
FITZ Fitzroy Crossi 34.84 126 LR LR 07 56 04.1
comp=Z,976nm,20.5s,baz=310,slow=36
FITZ Fitzroy Crossi 34.84 126 P **P** **07 41 46.4 -0.7**
FITZ IAmb IAmb 07 41 49.3
comp=Z,28nm,1.1s
DHRM DHARAMSHALA 35.64 330 *e*P **P** **07 41 53.8 -0.2**
DHRM IAmb IAmb 07 42 08.0
comp=Z,96nm,0.4s
KNRA Kununurra 36.28 120 P **P** **07 41 58.8 -0.6**
baz=36,SNR=3.0
NJ2 Nanjing 36.41 33 *e*P **P** **07 42 00.9 +0.6**
NJ2 S S 07 47 49.3 +10
NJ2 pmax pmax
comp=Z,31nm,0.8s
NJ2 pmax pmax
comp=Z,340nm,4.2s
NJ2 LR LR
comp=Z,4μm,13.9s
NJ2 LR LR
comp=Z,5μm,16.5s
NJ2 LR LR
comp=Z,6μm,14.1s
SSE Sheshan 37.01 36 P **P** **07 42 05.2 -0.2**
SSE S **S** **07 47 52.8 +3.9**
SSE pmax pmax
comp=Z,19nm,0.8s
SSE pmax pmax
comp=Z,190nm,3.9s
SSE LR LR
comp=Z,2μm,20.2s
SSE Sheshan 37.01 36 IAMs_20 IAMs_20 07 59 25.0
comp=Z,6μm,18.0s
MTN Manton Dam 37.25 114 P **P** **07 42 07.2 -0.6**
baz=37,SNR=9.7
MTN Manton Dam 37.25 114 P **P** **07 42 07.2 -0.6**
MTN IAmb IAmb 07 42 09.6
comp=Z,38nm,0.9s
GTA Gaotai 37.28 4 ⇑P **P** **07 42 07.1 -0.7**
GTA pP pP 07 42 11.2 -6.6
GTA sP sP 07 42 14.2 -7.0
GTA PP **PnPn** **07 43 34.6 +0.6**
GTA S **S** **07 47 54.0 +0.9**
GTA sS pS 07 48 04.3 +0.2
GTA SS **SS** **07 50 28.0 -9.4**
GTA ScS **ScS** **07 52 20.4 +0.8**
GTA pmax pmax
comp=Z,16nm,1.0s
GTA pmax pmax
comp=Z,550nm,8.1s
GTA LR LR
comp=Z,2μm,18.4s
GTA LR LR
comp=Z,2μm,19.7s
GTA LR LR
comp=Z,3μm,14.9s
TIY Taiyuan 38.31 20 *e*P **P** **07 42 15.5 -1.0**
TIY PP **PnPn** **07 43 46.9 +0.5**
TIY S **S** **07 48 09.9 +1.2**
TIY pmax pmax
comp=Z,18nm,0.5s
TIY pmax pmax
comp=Z,310nm,5.7s
TIY LR LR
comp=Z,7μm,12.5s
TIY LR LR
comp=Z,2μm,14.7s
TIY LR LR
comp=Z,9μm,14.0s
NIL Nilore 38.32 328 P **P** **07 42 15.7 -0.9**
NIL pmax pmax
comp=Z,43nm,0.9s
NIL MLR MLR
comp=Z,3μm,21.0s
NIL Nilore 38.32 328 P **P** **07 42 15.7 -0.9**
NIL IAmb IAmb 07 42 23.0
comp=Z,43nm,0.8s
KDU Kakadu 38.42 113 P **P** **07 42 16.7 -0.9**
baz=38,SNR=8.9
TIA Tai'an 38.88 27 P **P** **07 42 20.2 -1.0**
TIA S **S** **07 48 19.0 +1.8**
TIA pmax pmax
comp=Z,7.0nm,0.8s
TIA pmax pmax
comp=Z,260nm,3.7s
TIA LR LR
comp=Z,2μm,22.0s
TIA LR LR
comp=Z,3μm,20.6s
TIA LR LR
comp=Z,1μm,22.0s
JOW Kunigami 39.03 48 P **P** **07 42 20.5 -2.1**
NWAO Narrogin (SRO) 39.85 153 LR LR 07 58 01.3
comp=Z,4μm,21.6s,baz=328,slow=35
BTO Baotou 40.22 16 *e*P **P** **07 42 32.3 -0.1**
BTO S **S** **07 48 37.8 +0.5**
H01W3 Cape Leeuwin H 40.23 158 T T 08 25 21.1
baz=333,slow=76,SNR=821
H01W2 Cape Leeuwin H 40.24 158 T T 08 25 22.0
baz=333,slow=76,SNR=973
H01W1 Cape Leeuwin H 40.25 158 T T 08 25 20.1
baz=333,slow=76,SNR=792
WRKA Warakurna 40.79 133 P **P** **07 42 38.2 +0.8**
baz=41,SNR=6.0
HHC Hu-ho-hao-te 40.88 17 P **P** **07 42 39.5 +1.6**
HHC pmax pmax
comp=Z,8.0nm,0.7s
KBL Kabul 41.33 325 P **P** **07 42 39.8 -2.0**
KBL pmax pmax
comp=Z,22nm,1.4s
KBL MLR MLR
comp=Z,2μm,21.0s
KBL Kabul 41.33 325 P **P** **07 42 39.8 -2.0**
BJT Baijiatuau 41.71 23 P **P** **07 42 44.5 -0.1**
BJT pmax pmax
comp=Z,45nm,0.9s
BJT MLR MLR
comp=Z,1μm,18.0s
BJT Baijiatuau 41.71 23 P **P** **07 42 44.5 -0.1**
BJT IAmb IAmb 07 42 49.3
comp=Z,45nm,0.9s
BJI Beijing 41.74 23 ⇑*i*P **P** **07 42 45.0 +0.3**
BJI pmax pmax
comp=Z,35nm,1.1s
BJI pmax pmax
comp=Z,300nm,4.4s
BJI LR LR
comp=Z,3μm,17.1s
BJI LR LR
comp=Z,2μm,15.8s
BJI LR LR
comp=Z,2μm,16.2s
KSH Kashi 41.78 336 P **P** **07 42 46.3 +1.0**
KSH sP sP 07 43 00.2 +1.4
KSH PP **PnPn** **07 44 26.3 -1.2**
KSH PcS **PcS** **07 48 33.6 +0.8**
KSH S **S** **07 49 01.2 +0.6**
KSH LR LR
comp=Z,2μm,13.2s
KSH LR LR
comp=Z,4μm,17.9s
KSH LR LR
comp=Z,5μm,18.4s
SMPI Sarmi 42.20 95 P **P** **07 42 50.7 +1.7**
comp=Z,69nm,1.4s,comp=Z,2μm
WMQ Urumqi 42.34 350 *e*P **P** **07 42 50.6 +0.8**
WMQ sP pP 07 42 58.1 -1.7
WMQ PcP **PcP** **07 44 38.9 -4.0**
WMQ S **S** **07 49 08.8 +0.1**
WMQ sS sS 07 49 22.9 -1.9
WMQ ScS **ScS** **07 52 47.2 -2.0**
WMQ pmax pmax
comp=Z,23nm,2.3s
WMQ pmax pmax
comp=Z,220nm,3.6s
WMQ LR LR
comp=Z,2μm,21.7s
WMQ LR LR
comp=Z,2μm,23.9s
WMQ LR LR
comp=Z,2μm,25.9s
WB0 Warramunga Arr 42.89 122 P **P** **07 42 53.9 -0.6**
WB0 IAmb IAmb 07 43 06.0
comp=Z,35nm,0.7s
WRA Warramunga Arr 42.92 122 P **P** **07 42 54.6 -0.2**
comp=Z,31nm,0.7s,baz=300,slow=9.2,SNR=190
WRA ScP **ScP** **07 48 36.5 +2.5**
comp=Z,1.7nm,1.0s,baz=303,slow=3.7,SNR=4.9
WRA LR LR 08 00 44.6
comp=Z,2μm,20.5s,baz=300,slow=36
WRA Warramunga Arr 42.92 122 P **P** **07 42 54.2 -0.5**
WRAB Tennant Creek 42.92 122 *ce*P **P** **07 42 55.1 +0.3**
WRAB pmax pmax
comp=Z,80nm,1.7s
WRAB Tennant Creek 42.92 122 P **P** **07 42 54.6 -0.2**
WRAB IAmb IAmb 07 43 05.0
comp=Z,38nm,0.8s
WB2 Warramunga Arr 42.93 122 P **P** **07 42 54.6 -0.2**
WB2 IAmb IAmb 07 43 04.9
comp=Z,37nm,0.8s
TARG Taragay, Kyrgy 42.99 339 P **P** **07 42 56.0 +0.5**
TARG IAmb IAmb 07 43 09.8
comp=Z,96nm,1.4s
WR0 Warramunga Arr 43.10 122 P **P** **07 42 55.1 -1.0**
WR0 IAmb IAmb 07 42 58.6
comp=Z,56nm,0.8s
DL2 Dalian 43.16 29 P **P** **07 42 56.8 +0.4**
DL2 S **S** **07 49 23.8 +3.1**
DL2 sS **sS** **07 49 35.4 -1.6**
DL2 pmax pmax
comp=Z,87nm,0.9s
DL2 pmax pmax
comp=Z,530nm,4.6s
DL2 LR LR
comp=Z,2μm,15.5s
DL2 LR LR
comp=Z,2μm,15.2s
DL2 LR LR
comp=Z,3μm,19.2s
NRN Naryn 43.40 337 P **P** **07 42 58.9 +0.2**
NRN pmax pmax
comp=Z,40nm,1.1s
NRN MLR MLR
comp=Z,6μm,22.0s
NRN Naryn 43.40 337 P **P** **07 42 58.9 +0.2**
NRN IAmb IAmb 07 43 05.1
comp=Z,40nm,1.1s
NRN IAMs_20 IAMs_20 08 02 21.4
comp=Z,6μm,22.0s
BSY Bisya 43.48 301 P P 07 43 13.0 +14
SNR=6.0
KDJ Kajisay 43.57 339 P **P** **07 42 59.8 0.0**
KDJ pmax pmax
comp=Z,56nm,0.9s
KDJ MLR MLR
comp=Z,2μm,19.0s
KDJ Kajisay 43.57 339 P **P** **07 42 59.8 0.0**
KDJ IAmb IAmb 07 43 15.3
comp=Z,56nm,0.9s
GENI Genyem 43.71 96 P **P** **07 43 00.5 -0.7**
comp=Z,165nm,1.3s
HOQ Hoqain 43.71 303 P P 07 43 12.5 +11
SNR=5.5
PDGK Podgornoye 43.86 342 P **P** **07 43 01.8 -0.3**
PDGK pmax pmax
comp=Z,54nm,1.1s
GAR Garm 43.94 330 P **P** **07 43 01.4 -1.5**
GAR IAMs_20 IAMs_20 08 02 11.4
comp=Z,4μm,21.0s
JAY Jayapura 44.23 96 P **P** **07 43 06.3 +0.8**
comp=Z,233nm,0.8s,comp=Z,4μm
FORT Forrest 44.26 140 P **P** **07 43 07.6 +2.3**
baz=44,SNR=24
FORT Forrest 44.26 140 P **P** **07 43 03.2 -2.2**
FORT IAMs_20 IAMs_20 08 01 54.1

comp=Z,4μm,22.0s
CHGR Chuyangaron 44.27 329 P **P** **07 43 03.6 -1.9**
CHGR IAMs_20 IAMs_20 08 04 44.4
comp=Z,5μm,19.0s
ASAR Alice Springs 44.32 127 P **P** **07 43 06.4 +0.4**
comp=Z,7.9nm,0.7s,baz=303,slow=7.8,SNR=108
ASAR PcP **PP** **07 44 49.1 -0.7**
comp=Z,1.9nm,0.7s,baz=325,slow=2.8
ASAR ScP **ScP** **07 48 40.3 +0.7**
comp=Z,0.9nm,0.9s,baz=315,slow=0.7,SNR=5.5
ASAR S **S** **07 49 37.6 -0.5**
comp=Z,0.9nm,0.9s,baz=304,slow=13,SNR=4.1
ASAR Alice Springs 44.32 127 P **P** **07 43 05.0 -1.0**
AS31 Alice Springs 44.32 127 P **P** **07 43 05.2 -0.8**
BOOM Boomskoye usch 44.33 338 P **P** **07 43 07.0 +1.0**
BOOM pmax pmax
comp=Z,41nm,1.0s
BOOM MLR MLR
comp=Z,5μm,22.0s
BOOM Boomskoye usch 44.33 338 P **P** **07 43 07.0 +1.0**
BOOM IAmb IAmb 07 43 20.6
comp=Z,41nm,1.0s
BOOM IAMs_20 IAMs_20 08 03 06.9
comp=Z,5μm,22.0s
TJN Taejon 44.37 36*ce*P **P** **07 43 05.3 -0.8**
JNU Nakatsue 44.50 42 P **P** **07 43 07.4 +0.1**
comp=Z,14nm,0.8s,baz=212,slow=4.7,SNR=8.1
JNU Nakatsue 44.50 42 P **P** **07 43 07.1 -0.2**
JNU IAmb IAmb 07 43 19.2
comp=Z,47nm,1.2s
BTK Batken 44.52 331 P **P** **07 43 08.0 +0.6**
BTK pmax pmax
comp=Z,122nm,1.3s
BTK MLR MLR
comp=Z,2μm,18.0s
BTK Batken 44.52 331 P **P** **07 43 08.0 +0.6**
UCH Uchtor 44.66 336 P **P** **07 43 10.3 +1.4**
SNR=28
INCN Inchon 44.72 34 P **P** **07 43 06.3 -2.7**
INCN pmax pmax
comp=Z,35nm,1.0s
INCN MLR MLR
comp=Z,6μm,18.0s
INCN Inchon 44.72 34 P **P** **07 43 06.3 -2.7**
INCN IAmb IAmb 07 43 19.6
comp=Z,35nm,0.9s
TKM2 Tokmak 2 44.83 338 P **P** **07 43 09.2 -0.8**
TKM2 pmax pmax
comp=Z,72nm,1.3s
TKM2 Tokmak 2 44.83 338 P **P** **07 43 11.7 +1.6**
SNR=18
KBK Karagaybulak 44.85 337 P **P** **07 43 11.2 +1.1**
SNR=29
AML Almayashu 44.91 336 P **P** **07 43 11.6 +0.7**
SNR=25
AAK Ala-Archa 45.02 337 P **P** **07 43 11.1 -0.3**
AAK pmax pmax
comp=Z,52nm,1.3s
AAK MLR MLR
comp=Z,4μm,21.0s
AAK Ala-Archa 45.02 337 P **P** **07 43 12.4 +1.0**
comp=Z,3.9nm,0.4s,baz=136,slow=9.9,SNR=18
AAK Ala-Archa 45.02 337 P **P** **07 43 11.1 -0.3**
AAK IAmb IAmb 07 43 27.3
comp=Z,52nm,1.2s
AAK Ala-Archa 45.02 337 IAMs_20 IAMs_20 08 03 10.9
comp=Z,4μm,21.0s
FRU1 Bishkek 45.11 337 IAMs_20 IAMs_20 08 03 05.4
comp=Z,4μm,22.0s
HATD Hatta, Dubai 45.19 304 P P 07 43 26.0 +13
SNR=5.5
CHMS Chumysh 45.22 337 P **P** **07 43 14.3 +1.4**
SNR=7.4
EKS2 Erkin-Say 45.32 336 P **P** **07 43 14.3 +0.5**
SNR=17
KSAR Wonju Array Be 45.40 35 P **P** **07 43 12.5 -1.8**
KSAR Wonju Array Be 45.40 35 P **P** **07 43 12.5 -1.8**
KSRS Korea Array 45.43 35 P **P** **07 43 14.2 -0.3**
comp=Z,17nm,0.7s,baz=229,slow=9.4,SNR=39
KSRS LR LR 08 04 15.6
comp=Z,3μm,18.8s,baz=218,slow=39
KS19 Wonju Array Si 45.44 35 P **P** **07 43 12.9 -1.7**
KS19 IAmb IAmb 07 43 18.8
comp=Z,41nm,0.9s
HRA Herat 45.44 319 IAMs_20 IAMs_20 08 03 24.2
comp=Z,3μm,20.0s
USP Ospenovka 45.55 337 P **P** **07 43 16.0 +0.5**
SNR=10
RER Riviere de l'E 46.23 238 P **P** **07 43 22.3 +1.0**
MK31 Makanchi Array 46.29 346 *e*P **P** **07 43 20.6 -0.6**
MK31 pmax pmax
comp=Z,15nm,0.5s
MK31 Makanchi Array 46.29 346 P **P** **07 43 20.4 -0.9**
MK31 IAmb IAmb 07 43 25.5
comp=Z,48nm,1.1s
MKAR Makanchi Array 46.29 346 P **P** **07 43 21.0 -0.2**
comp=Z,20nm,0.4s,baz=161,slow=8.9,SNR=224
MKAR LR LR 08 06 39.9
comp=Z,3μm,20.6s,baz=162,slow=41
MKAR Makanchi Array 46.29 346 P **P** **07 43 20.5 -0.7**
SONM Songino Array 46.36 9 P **P** **07 43 22.0 +0.1**
comp=Z,18nm,0.5s,baz=191,slow=8.4,SNR=74
SONM PcP **PcP** **07 44 57.5 +0.9**
comp=Z,3.1nm,0.6s,baz=194,slow=4.0,SNR=4.0
SONM LR LR 08 05 50.1
comp=Z,3μm,18.7s,baz=189,slow=40
SONM Songino Array 46.36 9 P **P** **07 43 21.8 -0.1**
SNY Shenyang 46.37 28 ⇑P **P** **07 43 20.7 -1.2**
SNY pmax pmax
comp=Z,18nm,0.8s
SNY LR LR
comp=Z,4μm,19.2s
SNY LR LR
comp=Z,2μm,17.1s
SNY LR LR
comp=Z,5μm,17.8s
MAKZ Makanchi 46.38 346 P **P** **07 43 20.9 -1.0**
MAKZ pmax pmax
comp=Z,23nm,0.6s
MAKZ Makanchi 46.38 346 P **P** **07 43 21.5 -0.5**
ULN Ulaanbaatar 46.50 10 P **P** **07 43 23.0 0.0**
SNR=22
ULN Ulaanbaatar 46.50 10*ce*P **P** **07 43 22.4 -0.6**
ULN pmax pmax
comp=Z,102nm,2.5s
ULN Ulaanbaatar 46.50 10 P **P** **07 43 22.6 -0.4**
ULN Ulaanbaatar 46.50 10 IAMs_20 IAMs_20 08 05 43.6
comp=Z,3μm,18.0s
KK31 Karatay Array 47.06 334 P **P** **07 43 27.3 -0.1**
KK31 pmax pmax
comp=Z,55nm,1.5s
KK31 Karatay Array 47.06 334 P **P** **07 43 26.8 -0.6**
KK31 IAmb IAmb 07 43 31.3
comp=Z,49nm,1.3s
KKAR Karatay Array 47.06 334 P **P** **07 43 26.9 -0.5**
KKAR pmax pmax
comp=Z,49nm,1.3s
KKAR Karatay Array 47.06 334 P **P** **07 43 27.3 0.0**
KKAR Karatay Array 47.06 334 P **P** **07 43 26.9 -0.5**
KKAR IAmb IAmb 07 43 31.3
comp=Z,49nm,1.3s
ZAK Zakamensk 48.47 6 *e*P P 07 43 31.7 -6.5
ZAK pmax pmax
comp=Z,25nm,2.2s
COEN Coen 48.73 111 P **P** **07 43 40.4 -0.3**
baz=49,SNR=6.0
COEN Coen 48.73 111 P **P** **07 43 39.4 -1.3**
COEN IAmb IAmb 07 43 43.3
comp=Z,25nm,0.9s
CN2 Changchun 48.77 28 *e*P **P** **07 43 39.9 -0.6**
CN2 *e*PP **PP** **07 45 33.3 -0.7**
CN2 *e*S **S** **07 50 43.1 +1.9**
CN2 *e*SS **SS** **07 54 08.8 -3.3**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,4μm,16.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,4μm,16.0s
MOY Mondy 49.56 4 *e*P **P** **07 43 47.2 +0.6**
MOY pmax pmax
comp=Z,106nm,2.4s

TLY Talaya 49.79 6*c i*P **P** **07 43 48.1 -0.1**
TLY *e* 07 45 45.6
TLY *e*S **S** **07 50 56.2 +0.9**
TLY pmax pmax
comp=Z,91nm,1.5s
TLY MLR MLR
comp=Z,10μm,17.0s
TLY Talaya 49.79 6 P **P** **07 43 49.6 +1.4**
comp=Z,4.1nm,0.6s,baz=175,slow=8.9,SNR=5.1
TLY Talaya 49.79 6 P **P** **07 43 48.2 0.0**
TLY IAmb IAmb 07 44 01.1
comp=Z,18nm,0.8s
TLY IAMs_20 IAMs_20 08 06 42.6
comp=Z,4μm,18.0s
INU Inuyama 49.95 44 P **P** **07 43 48.5 -1.2**
INU IAmb IAmb 07 43 51.3
comp=Z,64nm,1.4s
GEYT Alibeck 50.23 320 P **P** **07 43 53.0 +1.2**
comp=Z,5.2nm,0.7s,baz=153,slow=10.0,SNR=10
GEYT LR LR 08 06 58.2
comp=Z,2μm,21.2s,baz=140,slow=38
GEYT Alibeck 50.23 320 P **P** **07 43 49.6 -2.2**
GYA0B ALIBECK ARRAY 50.23 320 P **P** **07 43 50.2 -1.7**
GYA0B IAmb IAmb 07 44 03.6
comp=Z,18nm,0.6s
SARN Sarigan 50.40 70 IAMs_20 IAMs_20 08 09 03.8
comp=Z,3μm,21.0s
IRK Irkutsk 50.41 6 *e*P **P** **07 43 53.6 +0.7**
IRK pmax pmax
comp=Z,155nm,2.1s
KURBB Kurchatov Arra 50.77 345 P **P** **07 43 55.6 0.0**
comp=Z,14nm,0.8s,baz=168,slow=6.8,SNR=69
KURK Kurchatov 50.83 345 P **P** **07 43 56.0 -0.1**
SNR=26
KURK Kurchatov 50.83 345 P **P** **07 43 55.5 -0.6**
KURK pmax pmax
comp=Z,43nm,1.1s
KURK MLR MLR
comp=Z,2μm,20.0s
KURK Kurchatov 50.83 345 P **P** **07 43 55.5 -0.6**
KURK IAmb IAmb 07 44 12.4
comp=Z,42nm,1.1s
BBOO Buckleboo 50.85 136 P **P** **07 43 57.1 +0.6**
baz=51,SNR=5.9
BBOO Buckleboo 50.85 136 P **P** **07 43 56.1 -0.5**
BBOO IAMs_20 IAMs_20 08 06 51.5
comp=Z,4μm,22.0s
MTSU Mount Surprise 50.99 115 P **P** **07 43 59.1 +1.2**
baz=51,SNR=7.7
HIA Hailar 50.99 19 *i* P **P** **07 43 57.1 -0.3**
HIA pmax pmax
comp=Z,136nm,1.1s
HIA Hailar 50.99 19 P **P** **07 43 56.6 -0.8**
HIA IAmb IAmb 07 44 01.9
comp=Z,38nm,0.9s
HIA Hailar 50.99 19 IAMs_20 IAMs_20 08 07 49.8
comp=Z,3μm,21.0s
MDJ Mudanjiang 51.37 30 P **P** **07 44 01.3 +1.1**
MDJ pP pP 07 44 04.3 -6.2
MDJ sP sP 07 44 05.3 -8.6
MDJ PcP **PcP** **07 45 14.8 +0.2**
MDJ PP **PP** **07 45 59.1 +1.5**
MDJ ScP **ScP** **07 49 11.2 +2.4**
MDJ PcS **PcS** **07 49 13.0 +0.7**
MDJ S **S** **07 51 22.0 +4.6**
MDJ sS sS 07 51 32.3 -1.7
MDJ ScS **ScS** **07 53 48.1 0.0**
MDJ pmax pmax
comp=Z,31nm,0.8s
MDJ pmax pmax
comp=Z,430nm,4.6s
MDJ LR LR
comp=Z,4μm,17.8s
MDJ LR LR
comp=Z,5μm,17.1s
MDJ LR LR
comp=Z,5μm,17.1s
MDJ Mudanjiang 51.37 30 P **P** **07 43 59.8 -0.5**
MDJ IAmb IAmb 07 44 06.8
comp=Z,24nm,0.9s
MJB9 Matsu-Tunnel 51.40 43 P **P** **07 44 01.1 +0.4**
MJB9 IAmb IAmb 07 44 02.2
comp=Z,29nm,1.1s
MAJO Matsushiro 51.40 43*c i*P **P** **07 44 00.1 -0.6**
MAJO pmax pmax
comp=Z,15nm,1.0s
MAJO Matsushiro 51.40 43 P **P** **07 43 59.5 -1.2**
MAJO IAmb IAmb 07 44 02.2
comp=Z,28nm,1.1s
MAT Matsushiro 51.40 43 P **P** **07 44 01.0 +0.3**
MAT S **S** **07 51 18.6 +0.4**
MJAR Matsushiro Arr 51.40 43 P **P** **07 44 00.3 -0.3**
comp=Z,12nm,1.0s,baz=226,slow=6.8,SNR=15
MJAR LR LR 08 08 12.8
comp=Z,1μm,18.9s,baz=235,slow=39
MJAR Matsushiro Arr 51.40 43 P **P** **07 44 00.5 -0.2**
VLA Vladivostok 51.51 33*c i*P **P** **07 44 01.6 +0.3**
VLA pmax pmax
comp=Z,42nm,1.1s
PMG Port Moresby 51.55 104*ce*P **P** **07 44 01.7 -0.3**
PMG pmax pmax
comp=Z,193nm,0.7s
PMG Port Moresby 51.55 104 P **P** **07 44 02.5 +0.4**
CIT Chita 51.75 13 *e*P **P** **07 44 02.6 -0.4**
CIT *e* 07 44 12.0
USA0B Ussuriysk Arra 52.30 32*c i*P **P** **07 44 06.5 -0.7**
USA0B Ussuriysk Arra 52.30 32 P **P** **07 44 07.1 0.0**
USA0B IAmb IAmb 07 44 12.1
comp=Z,50nm,1.2s
USA0B IAMs_20 IAMs_20 08 08 26.6
comp=Z,4μm,19.0s
USRK Ussuriysk Ar. 52.30 32 P **P** **07 44 06.6 -0.6**
USRK Ussuriysk Ar. 52.30 32 P **P** **07 44 07.5 +0.3**
comp=Z,21nm,1.0s,baz=238,slow=7.5,SNR=20
USRK LR LR 08 08 46.8
comp=Z,4μm,18.7s,baz=208,slow=39
USRK Ussuriysk Ar. 52.30 32 P **P** **07 44 06.6 -0.6**
ZAA0 Zalesovo Array 52.63 351 P **P** **07 44 09.1 -0.3**
ZALV Zalesovo Beam 52.63 351 P **P** **07 44 09.3 -0.1**
comp=Z,60nm,0.6s,baz=180,slow=5.7,SNR=88
ZALV S **S** **07 51 34.9 +0.4**
comp=Z,0.7nm,0.3s,baz=171,slow=10,SNR=4.7
ZALV LR LR 08 11 03.9
comp=Z,1μm,18.7s,baz=176,slow=41
ZALV Zalesovo Beam 52.63 351 P **P** **07 44 09.0 -0.5**
ABPO Ambohimpanom 52.92 244 P **P** **07 44 10.7 -1.7**
ABPO pmax pmax
comp=Z,19nm,1.0s
ABPO Ambohimpanom 52.92 244 P **P** **07 44 10.7 -1.7**
ABPO Ambohimpanom 52.92 244 IAMs_20 IAMs_20 08 02 07.3
comp=Z,2μm,20.0s
DAMY Dhamar 53.09 287 P **P** **07 44 12.2 -1.6**
HTT Hallett 53.19 135 P **P** **07 44 15.1 +1.1**
baz=53,SNR=5.6
RAYN Ar Rayn 53.91 298 P **P** **07 44 19.5 0.0**
RAYN pmax pmax
comp=Z,38nm,1.4s
RAYN Ar Rayn 53.91 298 P **P** **07 44 19.5 0.0**
RAYN IAmb IAmb 07 44 30.8
comp=Z,38nm,1.4s
STKA Stephens Creek 54.31 132 P **P** **07 44 23.1 +1.0**
baz=54,SNR=19
STKA Stephens Creek 54.31 132 P **P** **07 44 21.2 -1.0**
STKA pmax pmax
comp=Z,4.0nm,0.8s
STKA MLR MLR
comp=Z,500nm,22.0s
STKA Stephens Creek 54.31 132 P **P** **07 44 21.9 -0.3**
comp=Z,9.5nm,0.8s,baz=303,slow=7.6,SNR=20
STKA LR LR 08 10 03.8
comp=Z,2μm,21.2s,baz=298,slow=39
STKA Stephens Creek 54.31 132 P **P** **07 44 21.2 -1.0**
BVAR Borovoye Array 55.27 341 P **P** **07 44 28.0 -0.8**
comp=Z,7.7nm,0.5s,baz=144,slow=9.6,SNR=37
BRVK Borovoye 55.34 341 P **P** **07 44 28.6 -0.6**
SNR=14
BRVK Borovoye 55.34 341 P **P** **07 44 27.8 -1.4**
BRVK pmax pmax
comp=Z,30nm,1.1s
BRVK Borovoye 55.34 341 P **P** **07 44 28.3 -0.9**
BRVK IAmb IAmb 07 44 44.6
comp=Z,17nm,0.7s
BRVK IAMs_20 IAMs_20 08 11 40.0
comp=Z,2μm,19.0s
KLR Kul'dur 55.72 27 *i* P **P** **07 44 31.7 -0.3**
KLR pmax pmax
comp=Z,20nm,0.9s
AB31 Akbulak array 56.52 332 *i* P **P** **07 44 37.0 -0.8**
AB31 pmax pmax
comp=Z,33nm,1.1s
ABKAR Akbulak array 56.52 332 P **P** **07 44 37.0 -0.7**
ABKAR IAmb IAmb 07 44 49.9
comp=Z,32nm,0.8s
CMSA Cobar Meteorol 57.23 130 P **P** **07 44 44.6 +1.5**
baz=57,SNR=20
BOD Bodaibo 57.26 11 *e*P **P** **07 44 41.4 -1.4**
BOD pmax pmax
comp=Z,62nm,1.7s
ZEA Zeya 57.31 21 *e*P **P** **07 44 42.8 -0.5**
ZEA *e*S S 07 52 54.0 +17
ZEA pmax pmax
comp=Z,31nm,0.8s
ZEA pmax pmax
comp=Z,400nm,10.0s
ZEA smax smax
comp=N,500nm,10.0s
ZEA MLR MLR
comp=Z,5μm,15.0s
ZEA MLR MLR
comp=E,2μm,16.0s
ZEA MLR MLR
comp=N,3μm,14.0s
ERM Erimo 57.53 40 IAMs_20 IAMs_20 08 12 20.2
comp=Z,2μm,19.0s
RMQ Roma 57.67 123 P **P** **07 44 47.2 +0.9**
baz=58,SNR=6.7
AKTO Aktyubinsk 58.24 332 P **P** **07 44 48.8 -1.1**
AKTO pmax pmax
comp=Z,18nm,0.9s
AKTO Aktyubinsk 58.24 332 P **P** **07 44 49.6 -0.2**
comp=Z,6.7nm,0.6s,baz=141,slow=4.0,SNR=20
ASAJ Asahikawa 58.28 37 P **P** **07 44 50.7 +0.4**
comp=Z,14nm,0.7s,baz=92,slow=4.9,SNR=7.8
JKA Kamikawa-asahi 58.28 37 P **P** **07 44 50.7 +0.4**
EIDS Eidsvold 59.26 121 P **P** **07 44 58.1 +0.6**
baz=59,SNR=4.2
KMBO Kilima Mbogo 59.52 267 *i* P **P** **07 45 02.7 +3.0**
KMBO pmax pmax
comp=Z,1.0nm,0.7s
KMBO Kilima Mbogo 59.52 267 P **P** **07 45 02.8 +3.1**
comp=Z,1.1nm,0.7s,baz=91,slow=4.1,SNR=3.4
KMBO LR LR 08 07 35.0
comp=Z,2μm,19.0s,baz=92,slow=33
KMBO Kilima Mbogo 59.52 267 P **P** **07 44 58.0 -1.8**
KMBO Kilima Mbogo 59.52 267 IAMs_20 IAMs_20 08 06 05.5
comp=Z,2μm,21.0s
MAK Makhachkala 59.75 320 *e*P P 07 44 55.6 -4.9
MAK *e*S **S** **07 53 02.0 -7.3**
MAK pmax pmax
comp=Z,99nm,1.1s
MAK MLR MLR
comp=Z,688nm,16.0s
TOO Toolangi 59.91 136 P **P** **07 45 04.6 +2.8**
baz=60,SNR=4.1
TOO Toolangi 59.91 136 IAMs_20 IAMs_20 08 12 32.0
comp=Z,2μm,22.0s
YSS Yuzh-Sakhalins 59.93 35*ce*P **P** **07 45 02.7 +1.1**
YSS *e**SP **pP** **07 45 09.6 -2.4**
YSS *e* 07 47 12.2
YSS *e*S **S** **07 53 06.3 -5.1**
YSS *e*PS 07 53 17.3
YSS *e*SSS SSS 07 59 32.7
YSS pmax pmax
comp=Z,50nm,1.1s
YSS MLR MLR
comp=Z,2μm,18.0s
YSS MLR MLR
comp=N,800nm,13.0s
YSS MLR MLR
comp=E,1μm,15.0s
YSS Yuzh-Sakhalins 59.93 35 P **P** **07 44 58.8 -2.9**
YUK Yuzh-Kuril'sk 60.26 39 *e*P **P** **07 45 00.0 -4.0**
YUK *e* 07 45 44.4
YUK *e* 07 47 14.9
YUK *e*PPP PPP 07 48 38.1
YUK *e*S **S** **07 53 13.7 -2.1**
YUK *e* 07 54 49.9
YUK *e*SS **SS** **07 57 12.7 -0.9**
YUK pmax pmax
comp=Z,271nm,1.4s
YUK pmax pmax
comp=N,111nm,1.3s
YUK pmax pmax
comp=E,284nm,1.3s
YUK pmax pmax
comp=Z,496nm,2.4s
YUK MLR MLR
comp=Z,2μm,17.0s
YUK MLR MLR
comp=E,1μm,16.0s
YUK MLR MLR
comp=N,540nm,14.0s
GNI Garni 60.33 316 *i* P **P** **07 45 06.4 +1.7**
GNI pmax pmax
comp=Z,135nm,1.7s
GROC Groznyy 60.97 320 P **P** **07 45 09.0 +0.2**
TBLG Delisi 61.01 318 P **P** **07 45 10.7 +1.5**
TBLG pmax pmax
comp=Z,72nm,1.4s
TBLG Delisi 61.01 318 P **P** **07 45 10.7 +1.5**
CAN Canberra 61.37 133 P **P** **07 45 13.3 +1.5**
CAN pmax pmax
comp=Z,16nm,0.8s
CAN MLR MLR
comp=Z,3μm,22.0s
CAN Canberra 61.37 133 P **P** **07 45 13.3 +1.5**
CAN IAmb IAmb 07 45 23.3
comp=Z,16nm,0.8s
CAN IAMs_20 IAMs_20 08 13 34.7
comp=Z,3μm,22.0s
SVE Sverdlovsk 61.70 338⇑ *e*P **P** **07 45 14.2 +0.7**
SVE *e*S **S** **07 53 33.8 0.0**
SVE pmax pmax
comp=Z,50nm,1.1s
SVE MLR MLR
comp=Z,2μm,22.0s
AKH Akhalkalaki 61.72 317 P **P** **07 45 13.4 -0.8**
AKH pmax pmax
comp=Z,10.0nm,1.1s
AKH Akhalkalaki 61.72 317 ⇓P P 07 45 35.6 +21
AKH Akhalkalaki 61.72 317 P **P** **07 45 13.4 -0.8**
ZEI Tsey 62.03 318 *e*P **P** **07 45 18.6 +2.3**
ZEI pmax pmax
comp=Z,16nm,1.1s
KUR Kuril'sk 62.09 39 P **P** **07 45 15.1 -1.2**
KUR S **S** **07 53 37.8 -1.3**
KUR pmax pmax
comp=Z,1μm,2.6s
KUR pmax pmax
comp=E,502nm,1.9s
KUR pmax pmax
comp=N,751nm,2.6s
KUR pmax pmax
comp=Z,253nm,1.5s
KUR pmax pmax
comp=N,133nm,1.4s
KUR pmax pmax
comp=E,142nm,1.7s
ARU Arti 62.20 337*c i*P **P** **07 45 16.9 0.0**
ARU 07 47 33.2
ARU S **S** **07 53 42.9 +2.9**
ARU SS **SS** **07 57 40.2 -3.4**
ARU pmax pmax
comp=Z,26nm,1.0s
ARU MLR MLR
comp=Z,2μm,21.0s
ARU Arti 62.20 337 P **P** **07 45 17.1 +0.2**
comp=Z,2.0nm,0.2s,baz=142,slow=2.0,SNR=12
ARU Arti 62.20 337 P **P** **07 45 17.0 +0.2**
ARU IAmb IAmb 07 45 20.0
comp=Z,25nm,1.0s
ARU IAMs_20 IAMs_20 08 14 38.4
comp=Z,2μm,21.0s
NEY Neytrino 63.01 318 *i* P **P** **07 45 23.9 +1.1**
NEY pmax pmax
comp=Z,1.0nm,0.8s
KBZ Khabaz 63.09 319 *i* P **P** **07 45 23.6 +0.5**
KBZ Khabaz 63.09 319 P **P** **07 45 23.8 +0.7**
comp=Z,5.2nm,0.7s,baz=136,slow=7.0,SNR=14
KBZ LR LR 08 16 43.8
comp=Z,620nm,20.1s,baz=114,slow=40

SHA1 **Shidzhatmaz** 63.26 319 *i* P **P** **07 45 25.3 +0.8**
KIV **Kislovodsk** 63.33 319 *e*P **P** **07 45 26.0 +1.2**
KIV *e*S **S** **07 53 55.9 +1.0**
KIV *e*SS **SS** **07 58 03.9 +1.9**
KIV pmax pmax
comp=Z,97nm,1.1s
KIV pmax pmax
comp=Z,198nm,4.3s
KIV MLR MLR
comp=Z,1μm,17.0s
KIV **Kislovodsk** 63.33 319 P **P** **07 45 25.2 +0.5**
ASF **Jabal al Asfar** 63.56 305 P **P** **07 45 29.6 +3.1**
comp=Z,1.9nm,0.7s,baz=327,slow=3.9,SNR=2.8
HNR **Honiara** 64.03 101 P **P** **07 45 29.3 -0.5**
HNR pmax pmax
comp=Z,61nm,0.8s
HNR MLR MLR
comp=Z,700nm,22.0s
HNR **Honiara** 64.03 101 P **P** **07 45 29.3 -0.5**
EIL **Elat** 64.57 302 P **P** **07 45 34.8 +1.6**
comp=Z,5.7nm,0.8s,baz=335,slow=2.9,SNR=6.2
GAZ **Gaziantep** 64.73 310 P **P** **07 45 31.0 -3.1**
GAZ IAmb IAmb 07 45 47.7
comp=Z,21nm,1.2s
YAK **Yakutsk** 64.74 16 *e*P **P** **07 45 32.6 -0.9**
YAK *e**PP **pP** **07 45 42.7 -1.3**
YAK *e* 07 46 03.4
YAK *e* 07 47 57.3
YAK *e*PPP PPP 07 49 28.1
YAK *e*S **S** **07 54 10.0 -1.5**
YAK *e**SS **sS** **07 54 30.7 +3.1**
YAK *e*SS **SS** **07 58 15.5 -7.5**
YAK pmax pmax
comp=Z,63nm,0.9s
YAK pmax pmax
comp=N,26nm,1.0s
YAK pmax pmax
comp=E,26nm,1.3s
YAK pmax pmax
comp=Z,391nm,4.3s
YAK pmax pmax
comp=N,582nm,3.9s
YAK pmax pmax
comp=E,178nm,4.3s
YAK smax smax
comp=N,233nm,3.2s
YAK smax smax
comp=E,158nm,3.2s
YAK MLR MLR
comp=Z,4μm,16.0s
YAK MLR MLR
comp=N,1μm,15.0s
YAK MLR MLR
comp=E,1μm,16.0s
YAK **Yakutsk** 64.74 16 P **P** **07 45 33.0 -0.5**
comp=E,35nm,0.7s,baz=26,slow=0.8,SNR=16
YAK **Yakutsk** 64.74 16 P **P** **07 45 32.9 -0.6**
SOC **Sochi** 65.14 318 *e*P **P** **07 45 34.7 -1.9**
SOC *e* 07 47 58.3
SOC *e*PPP PPP 07 49 30.8
SOC *e*S **S** **07 54 14.8 -2.4**
SOC *e* 07 55 26.6
SOC *e*SS **SS** **07 58 32.3 +2.2**
SOC MLR MLR
comp=Z,505nm,19.0s
MBAR **Mbarara** 66.00 268 P **P** **07 45 43.1 +0.3**
MBAR pmax pmax
comp=Z,34nm,1.5s
MBAR MLR MLR
comp=Z,2μm,18.0s
MBAR **Mbarara** 66.00 268 P **P** **07 45 43.1 +0.3**
MBAR IAmb IAmb 07 45 54.3
comp=Z,34nm,1.5s
MBAR IAMs_20 IAMs_20 08 15 32.3
comp=Z,2μm,18.0s
ANN **Anapa** 67.12 318 *e*P **P** **07 45 44.8 -4.4**
ANN *e*S **S** **07 54 37.7 -3.5**
ANN pmax pmax
comp=Z,82nm,0.9s
ANN MLR MLR
comp=Z,793nm,17.0s
VRH **Novokhopyorsk** 67.13 326 *e*P **P** **07 45 48.4 -0.7**
VRH pmax pmax
comp=Z,40nm,1.2s
CSS **Mathiatis** 67.15 307 IAMs_20 IAMs_20 08 19 06.9
comp=Z,2μm,19.0s
KIRV **Kirov** 67.32 335 P **P** **07 45 50.0 -0.2**
KIRV **Kirov** 67.32 335 P **P** **07 45 50.0 -0.2**
comp=Z,17nm,0.7s,baz=125,slow=3.4,SNR=9.1
NRIK **Noril'sk** 67.44 356 P **P** **07 45 51.6 +0.8**
comp=Z,4.8nm,0.4s,baz=172,slow=5.9,SNR=20
NRIK S **S** **07 54 42.7 -1.4**
comp=Z,1.0nm,0.3s,baz=180,slow=19,SNR=3.4
NRIK LR LR 08 18 29.9
comp=Z,1μm,21.7s,baz=178,slow=39
BR131 **Keskin Array S** 68.16 312 P **P** **07 45 54.4 -1.7**
BR131 pmax pmax
comp=Z,8.0nm,1.0s
BR131 **Keskin Array S** 68.16 312 P **P** **07 45 54.4 -1.7**
BRTR **Keskin Array B** 68.16 312 *i* P **P** **07 45 57.0 +0.9**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR **Keskin Array B** 68.16 312 P **P** **07 45 56.2 +0.1**
comp=Z,3.2nm,0.7s,baz=143,slow=8.0,SNR=20
BRTR LR LR 08 17 17.5
comp=Z,410nm,22.0s,baz=83,slow=37
BRTR **Keskin Array B** 68.16 312 P **P** **07 45 55.8 -0.3**
VORD **Divnogorie** 68.40 325 *e*P **P** **07 45 58.1 +1.0**
VORD pmax pmax
comp=Z,10.0nm,0.6s
ILGA **Ilgaz** 68.48 314 P **P** **07 45 58.1 -0.1**
BZK **Bozkurt** 68.54 315 ⇑P **P** **07 46 00.9 +2.7**
VSR **Storozhevoye** 68.58 325 *i* P **P** **07 45 59.3 +1.0**
VSR pmax pmax
comp=Z,17nm,0.8s
ANTO **Ankara** 68.83 312 P **P** **07 45 58.7 -1.5**
ANTO pmax pmax
comp=Z,12nm,0.7s
ANTO MLR MLR
comp=Z,900nm,21.0s
ANTO **Ankara** 68.83 312 P **P** **07 45 58.7 -1.5**
ANTO IAmb IAmb 07 46 11.2
comp=Z,12nm,0.7s
CASY **Casey** 68.91 174 IAMs_20 IAMs_20 08 10 32.2
comp=Z,2μm,20.0s
LPSR **Galich'ya Gora** 69.30 327 *e*P **P** **07 46 03.6 +0.9**
LPSR pmax pmax
comp=Z,20nm,1.0s
SIM **Simferopol'** 69.39 318 *e*P **P** **07 46 04.8 +1.3**
SIM *e*S **S** **07 55 07.0 -1.3**
SIM pmax pmax
comp=Z,23nm,0.9s
SKR **Severo-Kuril's** 69.45 36 *e*P **P** **07 46 04.8 +1.1**
SKR *e* 07 48 35.9
SKR *e*S **S** **07 55 12.6 +3.9**
SKR *e* 07 55 27.7
SKR pmax pmax
comp=Z,55nm,2.1s
SKR pmax pmax
comp=Z,300nm,8.1s
SKR MLR MLR
comp=Z,800nm,19.0s
SKR MLR MLR
comp=Z,700nm,21.0s
LSZ **Lusaka** 69.88 253 P **P** **07 46 07.4 +0.2**
LSZ pmax pmax
comp=Z,12nm,1.2s
LSZ **Lusaka** 69.88 253 P **P** **07 46 07.4 +0.2**
LSZ **Lusaka** 69.88 253 IAMs_20 IAMs_20 08 12 30.8
comp=Z,2μm,20.0s
ELL **Elmali** 70.26 308 P **P** **07 46 10.5 +1.3**
ELL pmax pmax
comp=Z,79nm,1.1s
ELL MLR MLR
comp=Z,4μm,18.0s
ELL **Elmali** 70.26 308 P **P** **07 46 10.5 +1.3**
PRGR **Permogore** 70.65 337 *e*P **P** **07 46 09.0 -1.8**
PRGR pmax pmax
comp=Z,35nm,0.7s
MA2 **Magadan** 70.78 26 *i* P **P** **07 46 11.1 -0.6**
MA2 pmax pmax
comp=Z,39nm,1.3s
MA2 **Magadan** 70.78 26 P **P** **07 46 11.8 +0.1**
comp=Z,22nm,0.7s,baz=171,slow=13,SNR=4.4
MA2 **Magadan** 70.78 26 P **P** **07 46 11.7 0.0**
comp=Z,33nm,1.0s
IAmb IAmb 07 46 24.2
PEA0B **Petropavlovsk-** 71.30 34 IAMs_20 IAMs_20 08 21 36.3
comp=Z,2μm,19.0s
PETK **Petropavlovsk-** 71.30 34 P **P** **07 46 14.7 -0.3**
PETK **Petropavlovsk-** 71.30 34 P **P** **07 46 16.3 +1.3**
comp=Z,2.8nm,0.8s,baz=232,slow=3.4,SNR=2.4
PETK LR LR 08 21 39.5
comp=Z,2μm,18.0s,baz=228,slow=39
PETK **Petropavlovsk-** 71.30 34 P **P** **07 46 14.7 -0.3**
MOS **Moscow** 71.34 329 *e*P **P** **07 46 14.2 -0.9**
MOS *e* 07 46 22.6
MOS *e* 07 46 31.0
MOS *e* 07 48 59.1
MOS *e*S **S** **07 55 36.5 +6.0**
MOS pmax pmax
comp=Z,68nm,0.9s
MOS MLR MLR
comp=Z,2μm,22.0s
OBN **Obninsk** 71.62 328⇓ *e*P **P** **07 46 17.5 +0.7**
OBN *PP **pP** **07 46 28.0 +0.6**
OBN *e**SP **sP** **07 46 30.0 -1.0**
OBN *e*S **S** **07 55 26.3 -7.5**
OBN *e* 07 56 21.8
OBN pmax pmax
comp=Z,66nm,1.7s
MANT **Manisa** 71.69 310 IAMs_20 IAMs_20 08 23 03.4
comp=Z,2μm,19.0s
PET **Petropavlovsk** 71.80 34 *e*P **P** **07 46 20.1 +2.1**
PET *e*S **S** **07 55 37.8 +1.8**
PET *e*PS **PnS** **07 56 11.0 +2.4**
PET pmax pmax
comp=Z,47nm,1.5s
PET pmax pmax
comp=Z,400nm,14.0s
PET pmax pmax
comp=Z,300nm,11.3s
PET MLR MLR
comp=Z,1μm,19.0s
PET MLR MLR
comp=Z,1μm,20.0s
DZM **Mont Dzumac** 72.09 114 *e*P **P** **07 46 21.9 +1.4**
comp=Z,46nm,1.4s
DZM *e*S **S** **07 55 37.4 -3.3**
comp=Z,2μm,26.6s
DZM **Mont Dzumac** 72.09 114 *e*LR LR 08 08 15.0
TIXI **Tiksi** 72.43 10 *ce*P **P** **07 46 20.5 -0.9**
TIXI pmax pmax
comp=Z,60nm,1.7s
TIXI **Tiksi** 72.43 10 P **P** **07 46 20.5 -0.9**
comp=Z,4.9nm,0.4s,baz=239,slow=6.7,SNR=16
TIXI S **S** **07 55 41.9 -0.7**
comp=Z,1.8nm,0.3s,baz=180,slow=24,SNR=5.0
TIXI **Tiksi** 72.43 10 P **P** **07 46 20.5 -0.9**
TIXI IAmb IAmb 07 46 24.3
comp=Z,47nm,1.3s
TIXI IAMs_20 IAMs_20 08 23 34.9
comp=Z,1μm,18.0s
TIRR **Tirgusor** 73.16 316 ⇑P **P** **07 46 24.1 -2.1**
TIRR **Tirgusor** 73.16 316 ⇑P **P** **07 46 24.1 -2.1**
TIRR **Tirgusor** 73.16 316 P **P** **07 46 26.8 +0.6**
SEY **Seymchan** 73.17 23 *i* P **P** **07 46 25.9 0.0**
SEY **Seymchan** 73.17 23 P **P** **07 46 26.4 +0.5**
comp=Z,12nm,0.8s,baz=221,slow=5.7,SNR=13
MAW **Mawson** 73.44 193 P **P** **07 46 29.2 +1.9**
comp=Z,3.0nm,0.7s,baz=254,slow=15,SNR=4.2
MAW LR LR 08 12 22.5
comp=Z,548nm,20.5s,baz=40,slow=30
CFR **Carcaliu** 73.52 317 ⇑P P 07 46 13.8 -15
CFR **Carcaliu** 73.52 317 ⇑P P 07 46 13.8 -15
HARR **Harsova** 73.55 316 ⇓P **P** **07 46 31.4 +2.9**
HARR **Harsova** 73.55 316 ⇓P **P** **07 46 31.4 +2.9**
LBTB **Lobatse** 73.82 243 P **P** **07 46 30.0 -0.7**
LBTB pmax pmax
comp=Z,16nm,0.9s
LBTB **Lobatse** 73.82 243 P **P** **07 46 30.0 -0.7**
LBTB IAmb IAmb 07 46 42.1
comp=Z,16nm,0.8s
SORM **Soroca** 74.12 320 ⇑P **P** **07 46 31.4 -0.4**
SORM **Soroca** 74.12 320 ⇑P **P** **07 46 31.4 -0.4**
AKASG **Malin Array Be** 74.27 322 *i* P **P** **07 46 33.2 +0.6**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG **Malin Array Be** 74.27 322 P **P** **07 46 31.8 -0.8**
comp=Z,4.7nm,0.7s,baz=91,slow=4.8,SNR=14
AKASG LR LR 08 24 19.4
comp=Z,364nm,19.3s,baz=120,slow=40
AKASG **Malin Array Be** 74.27 322 P **P** **07 46 30.2 -2.4**
AKBB **Malin Array Si** 74.27 322 P **P** **07 46 31.5 -1.2**
AKBB pmax pmax
comp=Z,25nm,1.4s
AKBB **Malin Array Si** 74.27 322 P **P** **07 46 31.4 -1.2**
VRI **Vrincioaia** 74.64 317 ⇑P **P** **07 46 36.9 +1.9**
VRI **Vrincioaia** 74.64 317 ⇑P **P** **07 46 36.9 +1.9**
PLOR **Plostina** 74.69 317 ⇓P P 07 46 44.5 +9.2
PLOR **Plostina** 74.69 317 ⇓P P 07 46 44.5 +9.2
BOSA **Boshof** 74.77 240 P **P** **07 46 37.3 +1.1**
BOSA pmax pmax
comp=Z,9.0nm,0.8s
BOSA **Boshof** 74.77 240 P **P** **07 46 37.4 +1.1**
comp=Z,4.9nm,0.8s,baz=104,slow=3.4,SNR=5.7
BOSA LR LR 08 16 26.7
comp=Z,2μm,18.4s,baz=57,slow=33
BOSA **Boshof** 74.77 240 P **P** **07 46 37.3 +1.1**
TESR **Tescani** 74.85 318 ⇑P **P** **07 46 37.5 +1.4**
TMCR **Tamitsa** 74.94 337 *e*P **P** **07 46 37.8 +1.6**
TMCR pmax pmax
comp=Z,22nm,0.5s
MLR **Muntele Rosu** 75.10 317 ⇑P **P** **07 46 39.4 +1.7**
MLR **Muntele Rosu** 75.10 317 ⇑P **P** **07 46 39.4 +1.6**
MLR **Muntele Rosu** 75.10 317 P **P** **07 46 37.5 -0.3**
MLR IAmb IAmb 07 46 47.9
comp=Z,34nm,1.3s
DOPR **Dopca** 75.58 317 ⇓P **P** **07 46 41.6 +1.3**
VOIR 75.70 316 ⇑P **P** **07 46 38.5 -2.7**
VOIR 75.70 316 ⇑P **P** **07 46 38.5 -2.7**
BURAR **Bucovina Array** 76.05 319 ⇑P **P** **07 46 43.6 +0.5**
BURAR **Bucovina Array** 76.05 319 ⇑P **P** **07 46 43.6 +0.5**
BURAR **Bucovina Array** 76.05 319 P **P** **07 46 43.2 +0.1**
BUR08 **Bucovina Ar. S** 76.06 319 P **P** **07 46 42.8 -0.4**
VTS **Vitosha** 76.46 313 ⇑P **P** **07 46 46.5 +0.9**
VTS **Vitosha** 76.46 313 ⇑P **P** **07 46 46.5 +0.9**
AGG **Agios Georgios** 76.57 310 P **P** **07 46 45.6 -0.6**
AGG pmax pmax
comp=Z,13nm,1.0s
AGG **Agios Georgios** 76.57 310 P **P** **07 46 45.6 -0.6**
GZR **Gura Zlata** 77.27 316 ⇑P **P** **07 46 52.7 +2.7**
GZR **Gura Zlata** 77.27 316 ⇑P **P** **07 46 52.7 +2.7**
LVV **L'vov** 77.28 321 *e*P **P** **07 46 48.6 -1.3**
LVV *e*S **S** **07 56 33.3 -4.2**
LVV MLR MLR
comp=E,800nm,19.0s
LVV MLR MLR
comp=N,800nm,18.0s
LVV MLR MLR
comp=Z,700nm,18.0s
HERR **Herculane** 77.43 315 ⇑P P 07 47 02.0 +11
DRGR 77.56 317 ⇓P **P** **07 46 53.3 +1.7**
DRGR 77.56 317 ⇓P **P** **07 46 53.3 +1.7**
LVZ **Lovozero** 77.85 340 P **P** **07 46 52.6 -0.2**
LVZ pmax pmax
comp=Z,46nm,1.2s
LVZ **Lovozero** 77.85 340 P **P** **07 46 52.6 -0.2**
LVZ IAmb IAmb 07 46 57.4
comp=Z,46nm,1.2s
TRPA **Tarpa** 77.92 319 ⇑P **P** **07 46 53.7 +0.2**
TRPA **Tarpa** 77.92 319 *e*P **P** **07 46 54.0 +0.6**
UZH **Uzhgorod** 78.17 319 *e*P **P** **07 46 57.9 +3.1**
UZH *e* 07 47 03.5
UZH *e* 07 47 14.5
SIRR **Siria** 78.18 317 ⇑P **P** **07 46 54.2 -0.9**
LTVH **Ltavrtes, Hu** 78.21 318 *e*P P 07 47 07.0 +12
KOLS **Kolonicke sedl** 78.24 320 *e*P **P** **07 46 56.6 +1.3**
KOLS pmax pmax
comp=Z,105nm,2.0s
KOLS **Kolonicke sedl** 78.24 320 *e*P **P** **07 46 56.6 +1.3**
FINES **FINESS Array B** 79.00 332 P **P** **07 46 59.1 -0.1**
comp=Z,9.4nm,0.6s,baz=104,slow=5.0,SNR=29
FINES LR LR 08 27 31.9
comp=Z,1μm,18.5s,baz=116,slow=40
FINES **FINESS Array B** 79.00 332 P **P** **07 46 58.8 -0.4**
FOZ **Fox Glacier** 79.25 135 IAMs_20 IAMs_20 08 21 41.0
comp=Z,2μm,21.0s
PSZ **Piszkesteto** 79.63 318 P **P** **07 47 02.6 -0.4**
PSZ **Piszkesteto** 79.63 318 *e*P P 07 47 09.1 +6.1
OUZ **Omahuta** 80.51 126 IAMs_20 IAMs_20 08 24 21.1
comp=Z,2μm,20.0s
BILL **Bilibino** 80.54 21⇑ *e*P **P** **07 47 08.5 +1.1**
BILL *e**PP **pP** **07 47 17.6 -0.6**
BILL *e**SP **sP** **07 47 22.3 +0.7**
BILL PPP PPP 07 52 03.0
BILL *e*S **S** **07 57 19.1 +7.5**
BILL *e* 07 58 06.1
BILL SS **SS** **08 02 27.0 +2.8**
BILL pmax pmax
comp=Z,7.0nm,1.1s
BILL MLR MLR
comp=Z,2μm,17.0s
BILL **Bilibino** 80.54 21 P **P** **07 47 05.2 -2.2**
SYO **Syowa Base** 80.67 198⇑ *e*P **P** **07 47 10.0 +2.0**
SYO **Syowa Base** 80.67 198⇑ *es*P sP 07 47 18.0 -4.7
OXZ **Oxford** 80.79 134 IAMs_20 IAMs_20 08 28 04.5
comp=Z,1μm,18.0s
MPLH **Magyarpolny** 81.12 317 *e*P **P** **07 47 14.0 +3.1**
JAVC **Velka Javorina** 81.23 319 *e*P **P** **07 47 15.8 +4.3**
JAVC *e* 07 47 21.7
MORC **Moravsky Berou** 81.42 320 *e*P **P** **07 47 16.4 +3.9**
MORC *e* 07 47 22.0
MODS **Modra-Piesok** 81.43 318 *e*P **P** **07 47 13.7 +1.1**
MODS pmax pmax
comp=Z,85nm,1.9s
MODS **Modra-Piesok** 81.43 318 *e*P **P** **07 47 13.7 +1.1**
ARCES **ARCESS Array B** 81.56 340 P **P** **07 47 12.5 -0.3**
ARCES **ARCESS Array B** 81.56 340 P **P** **07 47 13.0 +0.2**
comp=Z,5.5nm,0.4s,baz=94,slow=5.0,SNR=38
ARCES LR LR 08 26 31.0
comp=Z,2μm,20.6s,baz=120,slow=38
ARCES **ARCESS Array B** 81.56 340 P **P** **07 47 12.5 -0.3**
KHZ **Kahutara** 81.70 133 IAMs_20 IAMs_20 08 23 44.7
comp=Z,2μm,22.0s
KRLC **Kraliky** 81.94 320 *e*P **P** **07 47 16.4 +1.1**
KRLC *e* 07 47 25.7
KRLC **Kraliky** 81.94 320 *e*P **P** **07 47 16.4 +1.1**
KRLC *es*P **pP** **07 47 25.7 -0.4**
HIZ **Hauiti** 82.03 129 IAMs_20 IAMs_20 08 24 32.7
comp=Z,2μm,19.0s
DPC **Dobruska-Polom** 82.27 320 *e*P **P** **07 47 18.3 +1.3**
DPC *e* 07 47 27.4
DPC **Dobruska-Polom** 82.27 320 *e*P **P** **07 47 18.3 +1.3**
DPC *es*P **pP** **07 47 27.4 -0.3**
CONA **Conrad Observa** 82.33 318 *i* P **P** **07 47 17.6 +0.2**
comp=Z,5.3nm,0.8s
CHVC **Chvalec** 82.46 321 *e*P **P** **07 47 20.0 +2.0**
CHVC *ex* x 07 47 30.2
UPC **Upice** 82.48 321 AMS AMS 08 29 50.0
comp=Z,800nm,23.3s
ARSA **Arzberg** 82.49 317 *i* PcP **P** **07 47 19.4 +1.2**
comp=Z,19nm,1.5s
TREC **Trest** 82.70 319 AMS AMS 08 30 50.0
comp=Z,700nm,21.3s
SOKA **Soboth** 82.78 317 *i* PcP **P** **07 47 21.5 +1.7**
comp=Z,32nm,1.6s
GOPC **GO Peeny, Ondr** 83.21 320 AMS AMS 08 30 00.0
comp=Z,800nm,22.5s
PRU **Pruhonice** 83.37 320 AMS AMS 08 33 30.0
comp=Z,700nm,18.2s
MOA **Molln** 83.39 318 *i* PcP **P** **07 47 24.0 +1.1**
comp=Z,6.3nm,1.0s
BKZ **Black Stump Fm** 83.39 130 IAMs_20 IAMs_20 08 23 14.7
comp=Z,2μm,21.0s
MYKA **Terra Mystica** 83.73 317 *i* pP **P** **07 47 28.1 +3.4**
comp=Z,18nm,1.1s
URZ **Urewera** 83.75 129 IAMs_20 IAMs_20 08 25 37.6
comp=Z,1μm,19.0s
BRG **Berggiesshubel** 83.83 321 *e*P **P** **07 47 26.9 +1.9**
comp=Z,14nm,1.4s
BRG *e* 07 47 36.3
comp=Z,42nm,1.6s
BRG **Berggiesshubel** 83.83 321 S **S** **07 57 46.0 +0.1**
BRG SS **SS** **08 03 11.0 -2.7**
comp=N,664nm,18.4s
comp=E,559nm,17.5s
comp=Z,757nm,16.5s
BRG **Berggiesshubel** 83.83 321 *e*P **P** **07 47 26.9 +1.9**
BRG *e* 07 47 36.3
BRG S **S** **07 57 46.0 +0.1**
BRG SS **SS** **08 03 11.0 -2.7**
BRG pmax pmax
comp=Z,14nm,1.4s
BRG pmax pmax
comp=Z,42nm,1.6s
BRG MLR MLR
comp=N,664nm,18.4s
BRG MLR MLR
comp=E,559nm,17.5s
BRG MLR MLR
comp=Z,757nm,16.5s
GEC2 **GERESS Array S** 83.84 319 P **P** **07 47 25.1 -0.1**
GEC2 IAmb IAmb 07 47 35.4
comp=Z,20nm,1.2s
GERES **GERESS Array B** 83.84 319 P **P** **07 47 25.1 -0.1**
GERES **GERESS Array B** 83.84 319 P **P** **07 47 25.7 +0.5**
comp=Z,3.7nm,0.8s,baz=120,slow=4.8,SNR=16
GERES LR LR 08 32 46.3
comp=Z,240nm,18.2s,baz=90,slow=41
GERES **GERESS Array B** 83.84 319 P **P** **07 47 25.1 -0.1**
KHC **Kasperske Hory** 83.94 319 *e*P **P** **07 47 27.3 +1.7**
KHC *e* 07 47 35.0
KHC MLR MLR
comp=Z,600nm,16.3s
KHC **Kasperske Hory** 83.94 319 *e*P **P** **07 47 27.3 +1.7**
KHC *es*P **pP** **07 47 35.0 -1.4**
KHC AMS AMS 08 30 50.0
comp=Z,600nm,16.3s
CLL **Collm** 84.45 321 *e*P **P** **07 47 29.0 +0.9**
CLL *e*S **S** **07 57 50.0 -2.1**
CLL MLR MLR
comp=Z,600nm,19.3s
CLL **Collm** 84.45 321 *e*P **P** **07 47 29.0 +0.9**
CLL *e*PPP PPP 07 52 36.0
CLL *e*S **S** **07 57 50.0 -2.1**
CLL *e*SS **SS** **08 03 22.0 -0.8**
CLL *e*SSS SSS 08 06 42.0
CLL *e* 08 08 18.0
CLL *e*SSSS 08 09 42.0
CLL LmV 08 34 00.0
comp=Z,600nm,19.3s
ABTA **Abfaltersbach** 84.51 317 *i* PcP **P** **07 47 29.8 +1.2**
comp=Z,13nm,1.0s
MXZ **Matakaoa Point** 84.60 128 IAMs_20 IAMs_20 08 27 55.2
comp=Z,2μm,21.0s
WTTA **Wattenberg** 85.14 317 *i* PcP **P** **07 47 32.8 +0.9**
comp=Z,14nm,1.1s
WATA **Walderalm** 85.18 317 *i* PcP **P** **07 47 33.4 +1.3**
comp=Z,16nm,1.1s
SQTA **Sankt Quirin** 85.42 317 *i* P **P** **07 47 32.4 -0.9**
comp=Z,11nm,0.8s
MOTA **Moosalm** 85.50 317 *i* PcP **P** **07 47 33.8 +0.1**
comp=Z,14nm,1.3s
RETA **Reutte** 85.74 317 *i* PcP **P** **07 47 34.7 0.0**
comp=Z,9.3nm,1.0s
FETA **Feichten** 85.75 317 *i* PcP **P** **07 47 36.1 +1.2**
comp=Z,14nm,2.0s
NB2 **NORSAR Subarra** 86.01 331 P **P** **07 47 35.2 -0.6**
comp=Z,1.1nm,0.6s,baz=94,slow=5.1
NOA **NORSAR Array B** 86.01 331 P **P** **07 47 36.8 +1.0**
comp=Z,0.3nm,0.4s,baz=78,slow=6.4,SNR=4.4
NOA LR LR 08 30 29.9
comp=Z,1μm,19.8s,baz=90,slow=39
DAVA **Damuels** 86.33 317 *i* P **P** **07 47 37.0 -0.8**
comp=Z,11nm,0.9s
KEST **Kesra** 86.65 305 P **P** **07 47 42.1 +2.6**
comp=Z,9.7nm,0.9s,baz=344,slow=2.1,SNR=5.2
KEST LR LR 08 30 54.5
comp=Z,323nm,19.3s,baz=42,slow=39
VNDA **Vanda** 86.77 169 P **P** **07 47 42.2 +3.1**
comp=Z,3.3nm,1.1s,baz=90,slow=2.0,SNR=2.7
VNDA LR LR 08 23 15.0
comp=Z,1μm,18.4s,baz=310,slow=33
SBA **Scott Base** 87.87 169 IAMs_20 IAMs_20 08 24 33.3
comp=Z,1μm,20.0s
GAMB **Gambell** 88.88 26 IAMs_20 IAMs_20 08 34 27.6
comp=Z,1μm,19.0s
ANM **Nome** 91.56 25 IAMs_20 IAMs_20 08 35 30.6
comp=Z,988nm,18.0s
TOC2 **Torodi Ar. Sit** 94.38 283 IAMs_20 IAMs_20 08 29 22.5
comp=Z,2μm,19.0s
TOC3 **Torodi Ar. Sit** 94.38 283 IAMs_20 IAMs_20 08 30 45.5
comp=Z,2μm,19.0s

TOB2 **Torodi Ar. Sit** 94.39 283 IAMs_20 IAMs_20 08 30 46.8
comp=Z,2µm,20.0s
TOB3 **Torodi Ar. Sit** 94.39 283 IAMs_20 IAMs_20 08 30 47.9
comp=Z,2µm,20.0s
TOA2 **Torodi Ar. Sit** 94.40 283 IAMs_20 IAMs_20 08 30 48.0
comp=Z,2µm,20.0s
TOC4 **Torodi Ar. Sit** 94.40 283 IAMs_20 IAMs_20 08 30 47.0
comp=Z,2µm,20.0s
TORD **Torodi Ar. Bea** 94.40 283 P **P** 07 48 17.4 +1.3
comp=Z,5.4nm,1.1s,baz=108,slow=6.1,SNR=4.6
TORD PP PP 07 52 15.2 +11
comp=Z,0.5nm,0.9s,baz=64,slow=3.4,SNR=4.0
TORD LR LR 08 29 33.9
comp=Z,1µm,19.1s,baz=30,slow=35
TOA3 **Torodi Ar. Sit** 94.40 283 IAMs_20 IAMs_20 08 30 48.2
comp=Z,2µm,20.0s
TOA1 **Torodi Ar. Sit** 94.41 283 IAMs_20 IAMs_20 08 30 45.2
comp=Z,2µm,19.0s
TOB4 **Torodi Ar. Sit** 94.41 283 IAMs_20 IAMs_20 08 30 47.4
comp=Z,2µm,19.0s
TOC7 **Torodi Ar. Sit** 94.42 283 IAMs_20 IAMs_20 08 30 35.5
comp=Z,2µm,20.0s
SNAA **Sanae** 94.95 198 IAMs_20 IAMs_20 08 30 26.7
comp=Z,959nm,19.0s
IMAR **Indian Mountai** 95.98 23 P **P** 07 48 22.6 +0.3
VNA2 **Neumayer--Watz** 96.53 199 P **P** 07 48 25.6 +1.0
ESDC **Sonseca Array** 96.89 310 P **P** 07 48 29.1 +2.0
comp=Z,0.3nm,0.6s,baz=128,slow=10.0,SNR=2.8
ESDC LR LR 08 35 08.4
comp=Z,358nm,20.8s,baz=145,slow=37
VNA3 **Neumayer Olymp** 97.18 198 P Pdif 07 48 28.1 +0.5
MLY **Manley** 97.49 23 IAMs_20 IAMs_20 08 38 02.1
comp=Z,1µm,18.0s
PPLA **Purkeypile** 97.65 26 IAMs_20 IAMs_20 08 41 17.4
comp=Z,1µm,18.0s
BPAW **Bear Paw Mtn.** 97.73 24 P Pdif 07 48 30.4 +0.1
BPAW IAMs_20 IAMs_20 08 38 18.5
comp=Z,990nm,20.0s
KTH **Kantishna Hill** 97.96 25 IAMs_20 IAMs_20 08 36 47.5
comp=Z,927nm,21.0s
SKT **Skwentna** 98.25 26 IAMs_20 IAMs_20 08 36 18.4
comp=Z,853nm,20.0s
TRF **Thorofare Moun** 98.26 25 IAMs_20 IAMs_20 08 39 32.5
comp=Z,1µm,21.0s
BWN **Browne** 98.33 24 IAMs_20 IAMs_20 08 33 17.0
comp=Z,937nm,21.0s
COLA **College** 98.69 23 IAMs_20 IAMs_20 08 41 55.6
comp=Z,807nm,18.0s
MCK **McKinley** 98.71 24 IAMs_20 IAMs_20 08 37 03.4
comp=Z,860nm,20.0s
WRH **Wood River Hil** 98.76 23 IAMs_20 IAMs_20 08 39 00.6
comp=Z,1µm,19.0s
RND **Reindeer** 98.87 24 IAMs_20 IAMs_20 08 38 56.5
comp=Z,916nm,18.0s
ILAR **Eielson Array** 99.11 23 P **Pdif** 07 48 37.7 +1.3
comp=Z,0.3nm,0.6s,baz=291,slow=4.6,SNR=4.8
ILAR PP **PP** 07 52 36.9 -1.7
comp=Z,0.8nm,0.8s,baz=294,slow=7.2,SNR=5.6
ILAR PKKPbc **PKKPbc** 08 05 04.4 0.0
comp=Z,0.3nm,0.7s,baz=139,slow=1.8,SNR=4.5
ILAR LR LR 08 36 57.6
comp=Z,625nm,19.5s,baz=312,slow=38
KDAK **Kodiak Island** 99.16 30 IAMs_20 IAMs_20 08 40 22.8
comp=Z,1µm,20.0s
HDA **Harding Lake** 99.23 23 IAMs_20 IAMs_20 08 39 16.1
comp=Z,1µm,19.0s
PRP **Porcupine Dome** 99.30 22 IAMs_20 IAMs_20 08 39 19.8
comp=Z,929nm,18.0s
PMR **Palmer** 99.46 26 IAMs_20 IAMs_20 08 36 27.3
comp=Z,883nm,20.0s
GHO **Glory Hole Cre** 99.48 26 IAMs_20 IAMs_20 08 40 33.8
comp=Z,915nm,18.0s
DHY **Denali Highway** 99.62 25 IAMs_20 IAMs_20 08 37 31.4
comp=Z,934nm,21.0s
SML **Sawmill** 99.72 26 IAMs_20 IAMs_20 08 40 14.3
comp=Z,832nm,19.0s
KNK **Knik Glacier** 99.82 26 IAMs_20 IAMs_20 08 40 53.0
comp=Z,1µm,18.0s
SCM **Sheep Creek Mo** 100.15 26 IAMs_20 IAMs_20 08 40 41.5
comp=Z,935nm,20.0s
RIDG **Independent Ri** 100.36 23 IAMs_20 IAMs_20 08 40 50.9
comp=Z,854nm,19.0s
PAX **Paxson** 100.45 24 IAMs_20 IAMs_20 08 34 45.4
comp=Z,888nm,22.0s
DOT **Dot Lake** 100.71 23 IAMs_20 IAMs_20 08 43 16.2
comp=Z,989nm,18.0s
FID **Port Fidalgo** 100.97 27 IAMs_20 IAMs_20 08 37 45.2
comp=Z,1µm,20.0s
MENT **Mentasta** 101.18 24 IAMs_20 IAMs_20 08 38 51.6
comp=Z,947nm,21.0s
EGAK **Eagle** 101.28 22 IAMs_20 IAMs_20 08 43 33.0
comp=Z,1µm,18.0s
INK **Inuvik** 101.80 17 P **Pdif** 07 48 50.4 +2.1
comp=Z,0.9nm,0.7s,baz=324,slow=3.5,SNR=3.5
INK PP **PP** 07 53 04.7 +5.9
comp=Z,1.6nm,1.1s,baz=354,slow=7.9,SNR=3.7
INK **Inuvik** 101.80 17 IAMs_20 IAMs_20 08 41 36.7
comp=Z,1µm,20.0s
GLB **Gilahina Butte** 101.83 25 IAMs_20 IAMs_20 08 43 49.0
comp=Z,832nm,18.0s
EPYK **Eagle Plains** 101.97 19 IAMs_20 IAMs_20 08 42 56.2
comp=Z,1µm,19.0s
VRDI **Verde Repeater** 102.08 25 IAMs_20 IAMs_20 08 44 05.7
comp=Z,824nm,18.0s
CRQM **Cirque** 102.44 26 IAMs_20 IAMs_20 08 35 24.7
comp=Z,927nm,21.0s
CTGM **Chitina Glacie** 103.12 25 IAMs_20 IAMs_20 08 42 36.9
comp=Z,1µm,19.0s
YKW3 **Yellowknife Ar** 111.34 15 IAMs_20 IAMs_20 08 49 28.5
comp=Z,721nm,21.0s
YKA **Yellowknife Ar** 111.39 15 PP **PP** 07 54 10.5 +1.3
comp=Z,0.8nm,0.9s,baz=325,slow=7.0,SNR=3.8
TBI **Tubuai** 112.67 114 *e*PP **PP** 07 54 17.7 -2.4
comp=Z,94nm,31.0s
TBI **Tubuai** 112.67 114 *e*PS PS 08 03 54.6 -0.7
comp=Z,194nm,29.0s
TBI *e*SS SS 08 09 57.7 -2.5
comp=Z,614nm,25.8s
TBI **Tubuai** 112.67 114 *e*LQ LQ 08 22 27.3
comp=Z,1µm,39.8s
TBI *e*LR LR 08 27 15.7
comp=Z,1µm,23.8s
PPT2 **Papeete2** 113.22 108 *e*PP PP 07 54 15.7 -8.6
comp=Z,82nm,25.0s
PPT2 **Papeete2** 113.22 108 *e*PS PS 08 03 55.4 -5.4
comp=Z,251nm,27.2s
PPT2 **Papeete2** 113.22 108 *e*LQ LQ 08 22 36.0
comp=Z,1µm,37.0s
PPT2 *e*LR LR 08 27 32.5
comp=Z,790nm,22.8s
FFC **Flin Flon** 121.34 13 IAMs_20 IAMs_20 08 49 44.8
comp=Z,719nm,21.0s
NEW **Newport** 121.88 26 IAMs_20 IAMs_20 08 51 04.3
comp=Z,860nm,20.0s
TAOE **Nuku Hiva Isla** 123.07 99 *e*LR LR 08 31 49.6
comp=Z,589nm,24.7s
MSO **Missoula** 124.36 25 **PKPdf** 07 53 54.2 -0.5
MSO IAMs_20 IAMs_20 08 54 47.8
comp=Z,792nm,21.0s
PLID **Pearl Lake** 124.79 28 **PKPdf** 07 53 55.3 -0.5
EGMT **Eagleton** 125.04 21 IAMs_20 IAMs_20 08 55 07.4
comp=Z,749nm,20.0s
BOZ **Bozeman (W)** 126.31 24 IAMs_20 IAMs_20 08 54 09.9
comp=Z,762nm,20.0s
AFDM **Forest Hills D** 126.47 36 **PKiKP** 07 54 00.0 +0.6
DGMT **Dagmar** 126.49 17 IAMs_20 IAMs_20 08 55 56.4
comp=Z,936nm,20.0s
ULM **Lac du Bonnet** 126.78 10 PKP **PKPdf** 07 53 59.0 -0.1
comp=Z,3.2nm,0.7s,baz=74,slow=2.9,SNR=5.7
ULM **Lac du Bonnet** 126.78 10 **PKiKP** 07 53 59.6 +0.1
LAO **LASA Array** 127.42 20 IAMs_20 IAMs_20 09 01 11.9
comp=Z,616nm,21.0s
RLMT **Red Lodge** 127.65 23 IAMs_20 IAMs_20 08 56 50.6
comp=Z,749nm,20.0s
H17A **Grant Village** 127.72 25 IAMs_20 IAMs_20 08 48 53.7
comp=Z,835nm,21.0s
KVN **Kaiserville** 128.07 34 PKiKP **PKiKP** 07 54 02.8 0.0
KVN **Kaiserville** 128.07 34 **PKiKP** 07 54 02.8 0.0
FXWY **Fox Creek** 128.15 25 IAMs_20 IAMs_20 09 02 23.0
comp=Z,539nm,20.0s
MDND **Maddock** 128.29 14 IAMs_20 IAMs_20 08 59 19.8
comp=Z,975nm,20.0s
NVAR **Mina Array Bea** 128.38 35 PKP **PKiKP** 07 54 04.0 +0.6
comp=Z,0.5nm,0.5s,baz=312,slow=2.1,SNR=6.7
NVAR **Mina Array Bea** 128.38 35 **PKPdf** 07 54 01.7 -1.1
REDW **Red Top Meadow** 128.44 26 **PKPdf** 07 54 01.3 -1.5
NV11 **Mina Array Sit** 128.46 35 **PKPdf** 07 54 01.1 -1.8
AHID **Auburn Hatcher** 128.82 26 IAMs_20 IAMs_20 09 02 41.8
comp=Z,576nm,20.0s
BW06 **Boulder Array** 129.48 25 IAMs_20 IAMs_20 08 57 15.2
comp=Z,615nm,21.0s
PDAR **Pinedale Array** 129.48 25 PKP **PKiKP** 07 54 05.2 -0.3
comp=Z,0.5nm,0.6s,baz=210,slow=0.3,SNR=7.7
PDAR **Pinedale Array** 129.48 25 **PKPdf** 07 54 03.0 -1.8
D62A **Allapoint, All** 129.48 347 IAMs_20 IAMs_20 09 02 27.8
comp=Z,649nm,20.0s
HWUT **Hardwire Ranch** 129.53 27 IAMs_20 IAMs_20 09 01 07.8
comp=Z,728nm,19.0s
R11A **Troy Canyon, C** 129.96 33 **PKPdf** 07 54 05.5 -0.2
E62A **Clayton Lake** 130.02 348 IAMs_20 IAMs_20 09 00 44.1
comp=Z,771nm,21.0s
HAL **Halifax** 130.29 342 IAMs_20 IAMs_20 08 52 20.3
comp=Z,693nm,22.0s
RSSD **Black Hills** 130.41 20 IAMs_20 IAMs_20 09 03 13.1
comp=Z,714nm,19.0s
F63A **Nahmakanta, Br** 130.80 347 IAMs_20 IAMs_20 08 59 07.7
comp=Z,731nm,21.0s
K22A **Casper** 130.80 23 IAMs_20 IAMs_20 09 03 37.9
comp=Z,854nm,20.0s
F62A **Pittston Farm,** 130.81 348 IAMs_20 IAMs_20 09 01 31.8
comp=Z,826nm,20.0s
D53A **Lac Vacive, Po** 130.81 355 IAMs_20 IAMs_20 08 54 46.9
comp=Z,955nm,22.0s
PKME **Peaks-Kenny Pk** 131.26 347 IAMs_20 IAMs_20 08 59 07.8
comp=Z,832nm,22.0s
RWWY **Rawlins** 131.34 24 IAMs_20 IAMs_20 09 02 59.5
comp=Z,627nm,21.0s
G62A **West of Eustis** 131.57 348 IAMs_20 IAMs_20 09 02 46.1
comp=Z,592nm,20.0s
SUSD **Miller** 131.63 15 IAMs_20 IAMs_20 09 01 52.3
comp=Z,625nm,20.0s
WVL **Waterville** 132.00 347 IAMs_20 IAMs_20 09 04 25.6
comp=Z,825nm,20.0s
LCMT **Little Creek M** 132.20 33 **PKPdf** 07 54 09.8 -0.2
O20A **White River Ci** 132.20 26 **PKPdf** 07 54 08.6 -1.4
O20A IAMs_20 IAMs_20 09 04 24.4
comp=Z,685nm,21.0s
H62A **Milan** 132.32 348 IAMs_20 IAMs_20 09 00 54.7
comp=Z,574nm,19.0s
PHWY **Pilot Hill** 132.37 23 IAMs_20 IAMs_20 09 04 46.4
comp=Z,538nm,20.0s
FRNY **Flat Rock** 132.51 351 IAMs_20 IAMs_20 09 01 12.8
comp=Z,631nm,20.0s
N23A **Red Feather La** 132.52 23 IAMs_20 IAMs_20 09 04 41.6
comp=Z,597nm,20.0s
I63A **Otisfield** 132.70 348 IAMs_20 IAMs_20 09 00 11.9
comp=Z,670nm,20.0s
LBNH **Lisbon** 132.79 349 IAMs_20 IAMs_20 08 56 03.3
comp=Z,696nm,22.0s
VT1 **Waterbury** 132.86 350 IAMs_20 IAMs_20 09 00 38.3
comp=Z,684nm,21.0s
ECSD **EROS Data Cent** 132.87 13 **PKPdf** 07 54 10.4 -0.5
LONY **Lake Ozonia** 132.87 352 IAMs_20 IAMs_20 09 00 51.5
comp=Z,752nm,22.0s
U15A **North Rim** 133.15 32 **PKPdf** 07 54 10.6 -1.4
U15A IAMs_20 IAMs_20 09 00 13.1
comp=Z,620nm,20.0s
PV21 **Cone Mtn., Par** 133.15 28 IAMs_20 IAMs_20 09 03 14.7
comp=Z,579nm,21.0s
PV14 **Lion Creek, Pa** 133.28 28 IAMs_20 IAMs_20 09 03 49.2
comp=Z,915nm,21.0s
PV04 **Paradox Valley** 133.32 28 IAMs_20 IAMs_20 08 57 33.1
comp=Z,898nm,19.0s
DELO **Deloro Mine** 133.35 354 IAMs_20 IAMs_20 09 06 05.9
comp=Z,836nm,20.0s
PV19 **Morning Glory** 133.35 28 IAMs_20 IAMs_20 09 03 22.5
comp=Z,775nm,22.0s
HNH **Hanover** 133.37 349 IAMs_20 IAMs_20 08 56 08.8
comp=Z,917nm,22.0s
H48A **Harrisville** 133.44 0 IAMs_20 IAMs_20 09 04 25.5
comp=Z,802nm,22.0s
ISCO **Idaho Springs** 133.59 24 IAMs_20 IAMs_20 09 04 09.8
comp=Z,757nm,21.0s
I40A **Norwalk** 133.78 7 IAMs_20 IAMs_20 08 58 52.7
comp=Z,815nm,20.0s
J59A **Piesco** 133.99 351 IAMs_20 IAMs_20 08 59 07.0
comp=Z,697nm,22.0s
I45A **Fountain** 134.03 3 IAMs_20 IAMs_20 08 57 55.1
comp=Z,864nm,21.0s
J58A **Remsen** 134.21 352 IAMs_20 IAMs_20 09 01 51.8
comp=Z,627nm,20.0s
J57A **Williamstown** 134.26 353 IAMs_20 IAMs_20 09 00 52.9
comp=Z,643nm,21.0s
WUAZ **Wupatki** 134.32 32 IAMs_20 IAMs_20 09 05 48.2
comp=Z,455nm,18.0s
K62A **Royalston** 134.37 349 IAMs_20 IAMs_20 09 01 26.0
comp=Z,677nm,21.0s
HRV **Adam Dziewonsk** 134.38 348 IAMs_20 IAMs_20 08 57 39.4
comp=Z,538nm,20.0s
WES **Weston** 134.45 348 IAMs_20 IAMs_20 08 57 30.2
comp=Z,706nm,21.0s
MVCO **Mesa Verde** 134.46 28 IAMs_20 IAMs_20 09 04 18.4
comp=Z,539nm,20.0s
Q24A **Divide** 134.49 24 IAMs_20 IAMs_20 09 06 38.7
comp=Z,816nm,21.0s
J56A **Wolcott** 134.49 353 IAMs_20 IAMs_20 08 57 13.3
comp=Z,639nm,22.0s
TRY **Troy** 134.57 350 IAMs_20 IAMs_20 08 58 30.3
comp=Z,647nm,22.0s
J45A **Montague** 134.62 3 IAMs_20 IAMs_20 09 03 17.8
comp=Z,780nm,19.0s
BGNE **Belgrade** 134.67 16 IAMs_20 IAMs_20 08 59 34.8
comp=Z,716nm,20.0s
S22A **4UR Ranch, Cre** 134.79 26 IAMs_20 IAMs_20 09 07 11.0
comp=Z,715nm,21.0s
K58A **Earlville** 134.85 352 IAMs_20 IAMs_20 09 01 24.6
comp=Z,938nm,22.0s
J47A **Sunmer** 134.88 2 IAMs_20 IAMs_20 09 01 36.7
comp=Z,787nm,21.0s
BRYW **Bryant College** 134.94 348 IAMs_20 IAMs_20 08 57 52.3
comp=Z,643nm,20.0s
L59A **Walton** 135.32 351 IAMs_20 IAMs_20 09 06 34.2
comp=Z,687nm,19.0s
SCIA **State Center** 135.32 11 IAMs_20 IAMs_20 09 05 35.6
comp=Z,749nm,20.0s
SDCO **Great Sand Dun** 135.37 25 IAMs_20 IAMs_20 09 05 36.2
comp=Z,802nm,21.0s
KSCO **Kaye Shedlock'** 135.42 22 IAMs_20 IAMs_20 09 04 26.2
comp=Z,844nm,20.0s
BINY **Binghamton** 135.45 352 IAMs_20 IAMs_20 09 01 39.5
comp=Z,680nm,20.0s
L44A **Lake County Fo** 135.77 5 IAMs_20 IAMs_20 09 00 34.1
comp=Z,877nm,22.0s
PAL **Palisades** 136.29 350 IAMs_20 IAMs_20 08 59 13.8
comp=Z,537nm,22.0s
ODNJ **Ogdensburg** 136.33 350 IAMs_20 IAMs_20 08 58 22.0
comp=Z,1µm,22.0s
T25A **Trinidad** 136.35 25 IAMs_20 IAMs_20 09 06 37.9
comp=Z,861nm,20.0s
M56A **Emporium** 136.41 354 IAMs_20 IAMs_20 08 57 16.9
comp=Z,900nm,22.0s
M57A **Sunshine Farm,** 136.44 353 IAMs_20 IAMs_20 09 06 52.8
comp=Z,749nm,20.0s
M55A **Ridgway** 136.48 355 IAMs_20 IAMs_20 09 00 35.7
comp=Z,886nm,20.0s
M54A **Oil Creek Stat** 136.51 356 IAMs_20 IAMs_20 09 05 32.6
comp=Z,895nm,20.0s
M44A **Milbewin, Midew** 136.54 5 IAMs_20 IAMs_20 09 03 31.6
comp=Z,837nm,21.0s
M52A **Chesterland** 136.56 358 IAMs_20 IAMs_20 09 05 17.9
comp=Z,834nm,19.0s
CBKS **Cedar Bluff** 136.59 19 IAMs_20 IAMs_20 09 04 27.8
comp=Z,738nm,19.0s
M48A **Edgerton** 136.64 2 IAMs_20 IAMs_20 09 02 24.1
comp=Z,824nm,21.0s
N59A **State Game Lan** 136.68 352 IAMs_20 IAMs_20 08 56 46.0
comp=Z,777nm,22.0s
BRNJ **Basking Ridge** 136.72 350 IAMs_20 IAMs_20 08 58 21.1
comp=Z,782nm,21.0s
N41A **Harden Midland** 136.88 8 IAMs_20 IAMs_20 09 03 15.7
comp=Z,621nm,21.0s
N58A **Sunbury** 136.88 353 IAMs_20 IAMs_20 09 00 59.4
comp=Z,700nm,21.0s
N54A **Moraine State** 137.07 356 IAMs_20 IAMs_20 09 01 07.5
comp=Z,980nm,22.0s
N47A **Urbana** 137.21 3 IAMs_20 IAMs_20 09 00 19.1
comp=Z,824nm,21.0s
N49A **Columbus Grove** 137.21 1 IAMs_20 IAMs_20 09 05 13.2
comp=Z,747nm,20.0s
SSPA **Standing Stone** 137.22 354 IAMs_20 IAMs_20 08 59 31.4
comp=Z,688nm,21.0s
KSU1 **Kansas State U** 137.25 15 IAMs_20 IAMs_20 09 04 40.9
comp=Z,641nm,20.0s
ANMO **Albuquerque** 137.26 28 PKiKP **PKiKP** 07 54 20.8 -0.7
ANMO **Albuquerque** 137.26 28 **PKiKP** 07 54 20.8 -0.7
ANMO **Albuquerque** 137.26 28 IAMs_20 IAMs_20 09 08 15.6
comp=Z,690nm,20.0s
N53A **Lisbon** 137.28 357 IAMs_20 IAMs_20 08 58 52.9
comp=Z,886nm,22.0s
PSUB **Penn St. - Bra** 137.60 351 IAMs_20 IAMs_20 09 04 31.4
comp=Z,773nm,19.0s
SFIN **Lafayette** 137.62 4 IAMs_20 IAMs_20 09 06 02.1
comp=Z,722nm,20.0s
O56A **Blue Knob Stat** 137.65 355 IAMs_20 IAMs_20 09 06 58.8
comp=Z,792nm,20.0s
MVL **Millersville** 137.66 352 IAMs_20 IAMs_20 09 07 13.1
comp=Z,690nm,19.0s
P61A **Hammonton** 137.74 350 IAMs_20 IAMs_20 09 03 28.2
comp=Z,850nm,20.0s
P60A **Greenville** 137.74 351 IAMs_20 IAMs_20 09 05 04.2
comp=Z,617nm,20.0s
Y22D **IRIS PASSCAL I** 137.74 30 IAMs_20 IAMs_20 09 08 50.4
comp=Z,626nm,20.0s
ACSO **Alum Creek Sta** 137.91 360 IAMs_20 IAMs_20 09 07 49.6
comp=Z,779nm,18.0s
P57A **Homestead Farm** 138.37 354 IAMs_20 IAMs_20 09 07 23.9
comp=Z,893nm,21.0s
121A **Cookes Peak, D** 138.52 32 IAMs_20 IAMs_20 09 09 42.2
comp=Z,901nm,21.0s
Q60A **Greensboro** 138.56 351 IAMs_20 IAMs_20 09 00 42.9
comp=Z,799nm,22.0s
319A **Douglas** 138.58 34 IAMs_20 IAMs_20 09 08 54.2
comp=Z,580nm,21.0s
P48A **Milroy** 138.63 2 IAMs_20 IAMs_20 09 06 21.9
comp=Z,686nm,20.0s
P51A **Williamsport** 138.66 360 IAMs_20 IAMs_20 08 59 40.5
comp=Z,808nm,20.0s
Q56A **Snyder Ridge,** 138.92 355 IAMs_20 IAMs_20 08 58 45.5
comp=Z,955nm,22.0s
SLM **Saint Louis** 139.00 8 IAMs_20 IAMs_20 09 07 16.8
comp=Z,858nm,20.0s
U32A **Winter Ranch,** 139.05 19 IAMs_20 IAMs_20 09 08 02.0
comp=Z,752nm,21.0s
TRQA **Tornquist** 139.19 206 IAMs_20 IAMs_20 08 57 30.9
comp=Z,677nm,19.0s
AMTX **Amarillo** 139.41 23 IAMs_20 IAMs_20 09 07 03.8
comp=Z,790nm,22.0s
CCM **Cathedral Cave** 139.41 10 IAMs_20 IAMs_20 09 06 14.8
comp=Z,806nm,21.0s
CBN **Corbin Frederi** 139.56 353 IAMs_20 IAMs_20 09 02 30.4
comp=Z,620nm,20.0s
R55A **Marlinton** 139.75 356 IAMs_20 IAMs_20 09 06 52.3
comp=Z,848nm,20.0s
R49A **Shelbyville** 139.81 2 IAMs_20 IAMs_20 09 02 09.0
comp=Z,780nm,20.0s
WCI **Wyandotte Cave** 139.81 4 IAMs_20 IAMs_20 09 05 11.2
comp=Z,734nm,20.0s
R50A **Paris** 139.84 1 IAMs_20 IAMs_20 09 06 32.0
comp=Z,874nm,20.0s
R58B **Mineral** 139.86 353 IAMs_20 IAMs_20 09 00 16.3
comp=Z,955nm,22.0s
USIN **University of** 139.97 5 IAMs_20 IAMs_20 09 09 22.3
comp=Z,744nm,22.0s
MGMO **Mountain Grove** 140.10 11 IAMs_20 IAMs_20 09 06 25.2
comp=Z,728nm,20.0s
MNTX **Cornudas Mount** 140.42 30 IAMs_20 IAMs_20 09 10 11.3
comp=Z,670nm,20.0s
TUL1 **Leonard** 140.46 16 IAMs_20 IAMs_20 09 04 34.1
comp=Z,764nm,21.0s
S51A **Beattyville** 140.50 0 IAMs_20 IAMs_20 09 05 27.2
comp=Z,888nm,22.0s
T60A **Surry** 140.52 352 IAMs_20 IAMs_20 09 07 55.8
comp=Z,573nm,19.0s
HHAR **Hobbs** 140.58 14 IAMs_20 IAMs_20 09 04 27.1
comp=Z,823nm,22.0s
WMOK **Wichita Mounta** 140.62 20 IAMs_20 IAMs_20 09 08 52.5
comp=Z,625nm,20.0s
PBMO **Poplar Bluff** 140.79 9 IAMs_20 IAMs_20 09 08 22.3
comp=Z,866nm,20.0s
T59A **Double "B" Far** 140.80 353 IAMs_20 IAMs_20 09 10 22.1
comp=Z,654nm,19.0s
U61A **Possum Corner** 141.27 351 IAMs_20 IAMs_20 09 10 32.7
comp=Z,696nm,20.0s
FCAR **Ozark Folk Cen** 141.35 11 IAMs_20 IAMs_20 09 02 37.4
comp=Z,812nm,21.0s
LCAR **Lake Charles** 141.36 10 IAMs_20 IAMs_20 09 06 07.5
comp=Z,652nm,20.0s
U54A **Nelsons Funny** 141.59 358 IAMs_20 IAMs_20 09 07 03.1
comp=Z,751nm,20.0s
GNAR **Gosnell** 141.65 9 IAMs_20 IAMs_20 09 03 58.1
comp=Z,899nm,21.0s
W39A **Magazine** 141.66 14 IAMs_20 IAMs_20 09 04 49.2
comp=Z,824nm,21.0s
V61A **Roper** 141.82 351 IAMs_20 IAMs_20 09 02 53.2
comp=Z,840nm,21.0s
WHAR **Wooly Hollow** 141.90 12 IAMs_20 IAMs_20 09 07 59.5
comp=Z,672nm,21.0s
CLTN **Cedars of Leba** 141.94 4 IAMs_20 IAMs_20 09 03 07.4
comp=Z,512nm,21.0s
W41B **Gary Mavity, V** 142.02 12 IAMs_20 IAMs_20 09 08 02.1
comp=Z,717nm,21.0s
V51A **Loudon** 142.32 1 IAMs_20 IAMs_20 09 04 29.4
comp=Z,660nm,20.0s
MIAR **Mount Ida** 142.33 14 PKIKP **PKPdf** 07 54 26.3 -2.3
MIAR **Mount Ida** 142.33 14 **PKPdf** 07 54 26.3 -2.3
MIAR IAMs_20 IAMs_20 09 09 35.3
comp=Z,913nm,22.0s
UALR **University of** 142.39 12 IAMs_20 IAMs_20 09 09 26.4
comp=Z,788nm,20.0s
X40A **Basin Creek Fa** 142.56 13 IAMs_20 IAMs_20 09 08 57.3
comp=Z,805nm,20.0s
CPCT **Cooper Cave** 142.66 2 IAMs_20 IAMs_20 09 07 52.6
comp=Z,661nm,18.0s
W50A **Signal Mountai** 142.88 3 IAMs_20 IAMs_20 09 04 34.4
comp=Z,752nm,20.0s
X43A **Marvell** 142.92 10 IAMs_20 IAMs_20 09 02 56.8
comp=Z,821nm,21.0s
BG3 **Lake Jocassee** 143.14 359 IAMs_20 IAMs_20 09 08 57.1
comp=Z,666nm,18.0s
OXF **Oxford** 143.17 8 IAMs_20 IAMs_20 09 08 46.2
comp=Z,655nm,20.0s
TXAR **Lajitas Array** 143.19 30 PKhKP PKPpre 07 54 27.4
comp=Z,0.9nm,0.6s,baz=15,slow=0.8,SNR=13
WLAR **White Oak Lake** 143.26 14 IAMs_20 IAMs_20 09 09 23.9
comp=Z,686nm,20.0s
PAULI **Pauline** 143.28 358 IAMs_20 IAMs_20 09 08 31.9
comp=Z,820nm,20.0s
CCAR **Cane Creek** 143.33 12 IAMs_20 IAMs_20 09 07 42.8
comp=Z,748nm,20.0s
X48A **Hartselle** 143.51 5 IAMs_20 IAMs_20 09 04 14.1
comp=Z,880nm,21.0s
X51A **Calhoun** 143.53 2 IAMs_20 IAMs_20 09 10 50.7
comp=Z,686nm,20.0s
WHTX **Lake Whitney,** 143.57 20 IAMs_20 IAMs_20 09 06 38.7
comp=Z,571nm,20.0s
Z41A **Richland Creek** 143.74 14 IAMs_20 IAMs_20 09 08 48.7
comp=Z,790nm,20.0s
JSC **Jenkinsville** 143.80 357 IAMs_20 IAMs_20 09 07 51.5
comp=Z,441nm,20.0s
HODGE **Hodges** 143.88 359 IAMs_20 IAMs_20 09 02 22.9
comp=Z,685nm,22.0s
Y57A **Sumter** 144.01 356 IAMs_20 IAMs_20 09 03 14.1
comp=Z,910nm,22.0s
JCT **Junction City** 144.01 25 PKIKP PKPbc 07 54 29.4 -0.2
JCT **Junction City** 144.01 25 PKPbc 07 54 29.4 -0.2
JCT IAMs_20 IAMs_20 09 09 57.0
comp=Z,868nm,22.0s
NATX **Nacogdoches** 144.68 17 **PKPab** 07 54 30.5 -0.8
NATX IAMs_20 IAMs_20 09 06 34.7
comp=Z,812nm,20.0s
GOGA **Godfrey** 144.72 0 PKIKP **PKPab** 07 54 30.2 -1.3
GOGA **Godfrey** 144.72 0 **PKPab** 07 54 30.2 -1.3
GOGA **Godfrey** 144.72 0 IAMs_20 IAMs_20 09 12 11.9
comp=Z,728nm,20.0s
Z50A **Ashland** 144.79 4 PKPbc 07 54 32.0 +0.1
LRAL **Lakeview Retre** 144.92 5 PKPbc 07 54 32.4 +0.1
LRAL IAMs_20 IAMs_20 09 12 15.4
comp=Z,718nm,19.0s
CPUP **Villa Florida** 145.29 224 PKP2 **PKPbc** 07 54 33.0 -0.7
CPUP **Villa Florida** 145.29 224 PKPbc **PKPdf** 07 54 34.5 +0.5
comp=Z,6.4nm,0.7s,baz=117,slow=2.4,SNR=21
CPUP **Villa Florida** 145.29 224 **PKPbc** 07 54 33.0 -0.7
154A **Montrose** 145.51 360 IAMs_20 IAMs_20 09 08 30.7
comp=Z,731nm,20.0s
GO05 **Huala** 145.55 197 IAMs_20 IAMs_20 08 52 10.7
comp=Z,631nm,22.0s
TCA **Tanti** 145.94 209 *i* P **PKPab** 07 54 36.3 0.0
HKT **Hockley** 145.99 20 IAMs_20 IAMs_20 09 06 40.4
comp=Z,863nm,22.0s
253A **Americus** 146.05 1 IAMs_20 IAMs_20 09 04 28.3
comp=Z,763nm,22.0s
833A **Chaparral WMA,** 146.06 26 PKPbc **PKPbc** 07 54 35.9 -0.1
AAGR **Agrelo** 146.28 202 *i* P **PKPbc** 07 54 36.9 +0.1
ACAN **Cantantal** 146.34 205 *i* P **PKPbc** 07 54 36.6 -0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARCO	CERRO ARCO	146.54	202	*i* P	PKPab	07 54 38.9	+0.4
352A	Blakely	146.61	3		PKPbc	07 54 37.9	+0.4
ASAL	Salagasta	146.72	203	*i* P	PKPab	07 54 38.9	-0.3
RTCV	Cerro Valdivia	147.25	204	*i* P	PKPab	07 54 40.6	-0.6
CFA	Coronel Fontan	147.36	204	*i* P	PKPbc	07 54 39.1	-0.7
RTLS	Leoncito	147.61	203	*i* P	PKPbc	07 54 41.6	+0.9
APLL	PUNTA DE LOS L	147.64	208	*i* P	PKPbc	07 54 40.9	+0.3
RTLL	Cerro Villicun	147.69	204	*i* P	PKPbc	07 54 41.8	+1.0
AMOG	MOGNA	148.04	205	*i* P	PKPbc	07 54 42.2	+0.5
ACCO	Cerro Coronel	148.59	204	*i* P	PKPdf	07 54 38.2	-1.6
ACLC	CERRO LA CRUZ	148.66	208	*i* P	PKPab	07 54 46.7	-0.4
656A	Willston	148.74	359	IAMs_20	IAMs_20	09 10 10.4	
	comp=Z,679nm,18.0s						
CYA	Choya	148.90	211	*i* P	PKPbc	07 54 44.4	+0.4
ACDV	Cuesta del Vie	148.97	204	*i* P	PKiKP	07 54 46.7	+1.1
AROD	Rodeo	149.12	204	*i* P	PKPbc	07 54 43.6	-1.3
AGUA	GUANDACOL	149.30	206	*i* P	PKiKP	07 54 45.8	-0.4
GO03	Copiap	151.70	205	PKPbc	PKPbc	07 54 50.6	-0.1
GO03				PKPab	pPKPdf	07 54 57.2	+1.6
SABA	Saba	152.19	315	IAMs_20	IAMs_20	09 02 04.4	
	comp=Z,669nm,20.0s						
SDDR	Presa de Saban	155.98	331	IAMs_20	IAMs_20	09 08 14.5	
	comp=Z,657nm,20.0s						
TEIG	Tepich	157.32	12	IAMs_20	IAMs_20	09 11 35.2	
	comp=Z,650nm,22.0s						
LPAZ	La Paz	159.43	226	PKIKP	PKPdf	07 54 54.4	-1.3
LPAZ						07 55 31.7	
LPAZ	La Paz	159.43	226	PKP	PKPdf	07 54 56.6	+0.9
	comp=Z,0.9nm,0.7s,baz=135,slow=4.5,SNR=4.6						
LPAZ				PKPab	PKPab	07 55 35.9	+2.5
	comp=Z,1.7nm,0.8s,baz=156,slow=0.8,SNR=3.5						
LPAZ	La Paz	159.43	226		PKPdf	07 54 54.4	-1.3
LPAZ				PKPab	PKPab	07 55 31.7	-1.7
OTAV	Otavalo	174.63	295	PKIKP	PKPdf	07 55 03.6	-3.3
OTAV	Otavalo	174.63	295	PKPdf	PKPdf	07 55 03.6	-3.3

*ATH **02** 07:44:31.8, 38.°71N×22.°81E, h11km±3km, ML2.3/2, Error ellipse: s-maj=3.4km s-min=0.8km az=89.0*

THE 02 07:44:32.0, 38.°66N×22.°78E, h2km±35km, ML1.8/6, Error ellipse: s-maj=35.7km s-min=0.7km az=125.0, Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AXAR	Agios Charalam	0.14	318	P	Pg	07 44 34.7	-0.1
AXAR				S	Sg	07 44 36.7	0.0
AXAR				AML	AML	07 44 37.4	
	comp=E,3211μm,0.3s						
AXAR				AML	AML	07 44 37.6	
	comp=N,3688μm,0.1s						
LKR	Lokris	0.17	92	P	Pg	07 44 35.0	-0.3
LKR				S	Sg	07 44 38.0	+0.5
	comp=N,2μm,0.1s						
LKR	Lokris	0.17	92	P	Pg	07 44 35.0	-0.3
LKR				S	Sg	07 44 37.8	+0.2
LKR				AML	AML	07 44 39.0	
	comp=E,4083μm,0.1s						
LKR				AML	AML	07 44 39.3	
	comp=N,2671μm,0.2s						
DLFA	Delphi	0.29	231	P	Pg	07 44 38.5	+1.0
DLFA				S	Sb	07 44 43.8	-1.4
PROD	Prodromos	0.41	167	P	Pg	07 44 40.4	+0.6
PROD				S	Sg	07 44 45.1	0.0
PROD	Prodromos	0.41	167	P	Pg	07 44 40.4	+0.5
PROD				S	Sb	07 44 47.5	-1.2
AGG	Agios Georgios	0.51	316	P	Pg	07 44 40.8	-0.9
AGG				S	Sg	07 44 48.8	+0.5
	comp=N,120nm,0.3s						
AGG	Agios Georgios	0.51	316	P	Pg	07 44 40.7	-1.0
AGG				S	Sg	07 44 48.4	+0.1
KALE	Kalithea	0.57	242	P	Pg	07 44 43.0	+0.1
KALE				S	Sb	07 44 52.4	-1.0
VIL2	Platees	0.59	139	P	Pb	07 44 44.3	-0.7
VIL2				S	Sb	07 44 54.6	+0.8
MAKR	Makrakomi, Fth	0.62	305	P	Pg	07 44 43.4	-0.5
MAKR				S	Sg	07 44 52.9	+1.0
	comp=N,82nm,0.3s						
MAKR	Makrakomi, Fth	0.62	305	P	Pg	07 44 43.6	-0.3
MAKR				S	Sg	07 44 52.7	+0.8
TRIZ	Trizonia	0.63	243	P	Pg	07 44 44.0	0.0
TRIZ				S	Sb	07 44 54.3	-0.7
MRKA	Markates	0.63	85	P	Pg	07 44 44.2	+0.1
MRKA				S	Sg	07 44 53.1	+0.8
	comp=N,102nm,1.3s						
VILL	Villia	0.65	140	P	Pg	07 44 44.4	0.0
EFP	Efpalio	0.72	252	P	Pg	07 44 46.6	+0.7
NEO	Neokhori	0.73	28	P	Pg	07 44 45.6	-0.5
NEO				S	Sg	07 44 56.8	+1.2
	comp=N,105nm,0.3s						
NEO	Neokhori	0.73	28	P	Pg	07 44 45.3	-0.8
NEO				S	Sg	07 44 53.9	-1.7
LAKA	Lakka	0.76	237	P	Pg	07 44 46.9	+0.4
XOR	Xorichti	0.78	24	P	Pg	07 44 46.3	-0.6
XOR				S	Sg	07 44 58.0	+1.0
	comp=N,100nm,0.7s						
XOR	Xorichti	0.78	24	P	Pg	07 44 46.1	-0.8
KLV	Kalavryta, Ach	0.79	219	P	Pb	07 44 48.1	-0.4
AOS	Alonnisos	1.00	59	P	Pg	07 44 50.9	-0.2

*ISCJB **02** 07:48:42.9±0.6, 6.°04S±0.°04×128.°79E±0.°06, h300km, mb3.4/2, Error ellipse: s-maj=9.0km s-min=5.4km az=19.7*
*IDC **02** 07:48:44.7±2.0, 6.°01S×129.°09E, h316km±27km, mb3.1/2, mb1 3.5/6, mb1mx3.1/34, mbtmp4.1/6, Error ellipse: s-maj=40.7km s-min=12.9km az=79.0*
*NEIC **02** 07:48:44.7±1.1, 6.°03S±0.°08×128.°8E±0.°1, h313km±13km, mb4.1/3*

ISC 02 07:48:43.6±0.8, 6.°02S±0.°06×128.°82E±0.°08, h300km, n21, σ1.s70/31, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	3.14	129	Pn	Pn	07 49 42.9	+2.2
SAUI				S	S	07 50 27.2	+0.7
FAKI	Fak Fak	4.60	48		Pn	07 49 58.9	+2.3
FAKI				S	S	07 50 53.8	-1.3
SIJI	Sorong	5.67	26	P	Pn	07 50 10.7	+1.7
	1.1nm,0.3s,baz=142,slow=19,SNR=4.4						
SIJI				S	S	07 51 16.1	-1.8
	8.0nm,0.3s,baz=219,slow=22,SNR=11						
SOEI	Soe	5.84	230	Pn	Pn	07 50 12.1	+0.9
SOEI				S	S	07 51 18.5	-3.1
KNRA	Kununurra	9.60	180	Pn	Pn	07 50 57.3	+0.5
KNRA				S	S	07 52 46.7	+1.3
FITZ	Fitzroy Crossi	12.40	194	P	Pn	07 51 32.1	+1.2
	0.2nm,0.3s,baz=27,slow=9.5,SNR=7.4						
FITZ				S	S	07 53 49.9	+1.1
	0.2nm,0.3s,baz=131,slow=11,SNR=3.0						
FITZ	Fitzroy Crossi	12.40	194		Pn	07 51 32.7	+1.7
FITZ					S	07 53 49.1	+0.3
WB0	Warramunga Arr	14.70	159	P	Pn	07 51 58.2	-0.4
WRAB	Tennant Creek	14.84	159	P	Pn	07 51 59.8	-0.4
WRA	Warramunga Arr	14.84	159	P	P	07 51 58.6	-0.4
	2.8nm,0.3s,baz=340,slow=11,SNR=35						
WRA				S	S	07 54 37.3	-4.0
	baz=330,slow=21,SNR=6.1						
WRA	Warramunga Arr	14.84	159	P	P	07 51 58.5	-0.5
WRA					S	07 54 37.4	-3.9
WB2	Warramunga Arr	14.85	159	P	P	07 51 59.8	+0.8
WR0	Warramunga Arr	14.93	159	P	P	07 52 00.8	+0.8
COEN	Coen	16.18	120	P	Pn	07 52 14.9	-1.0
COEN				IAmb	IAmb	07 52 21.2	
	comp=Z,15nm,1.1s						
AS31	Alice Springs	18.21	165	P	P	07 52 36.5	+0.8
AS31				IAmb	IAmb	07 52 37.6	
	comp=Z,6.2nm,0.5s						
ASAR	Alice Springs	18.22	165	P	P	07 52 36.5	+0.9
	comp=Z,3.3nm,0.3s,baz=345,slow=11,SNR=242						
ASAR				S	S	07 55 46.0	-2.3
	comp=Z,0.1nm,0.3s,baz=339,slow=16,SNR=11						
ASAR	Alice Springs	18.22	165	P	P	07 52 33.8	-1.9
STKA	Stephens Creek	28.37	157	P	P	07 54 11.0	+0.3
	comp=Z,0.5nm,0.3s,baz=309,slow=11,SNR=3.7						
STKA	Stephens Creek	28.37	157	P	P	07 54 11.0	+0.3
STKA				IAmb	IAmb	07 54 12.7	
	comp=Z,0.8nm,1.2s						
MKAR	Makanchi Array	66.77	327	P	P	07 59 03.4	+0.2
	comp=Z,0.4nm,0.5s,baz=110,slow=10,SNR=5.1						
MKAR	Makanchi Array	66.77	327	P	P	07 59 03.0	-0.2

*NNC **02** 08:01:49.0±1.3, 53.°58N×90.°39E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=10.2km s-min=6.5km az=64.0, Suspected Mining explosion.*

ASRS 02 08:01:44.1, 53.°58N×91.°08E, M3.3, 4C-5D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	3.74	278	⇓Pg	Pb	08 02 49.5	-1.4
	1.8nm,0.7s						
ZAA0				Lg	Lg	08 03 35.3	
	21nm,1.1s						
KURBB	Kurchatov Arra	8.28	254	⇓Pn	Pn	08 03 45.1	-0.2
	5.2nm,0.6s						
KURBB				⇑Sn	Sn	08 05 15.1	-4.3
	51nm,0.9s						
KURBB				⇓Lg	Lg	08 06 00.3	
	62nm,0.9s						
MK31	Makanchi Array	8.82	223	⇑Pn	Pn	08 03 54.4	+1.6
	1.4nm,0.7s,baz=36,slow=12,SNR=13						
MK31				⇓Sn	Sn	08 05 31.7	-1.2
	3.6nm,0.8s,baz=24,slow=32,SNR=3.5						
MK31				⇑Lg	Lg	08 06 20.4	
	14nm,1.0s,baz=46,slow=28,SNR=3.8						
MAKZ	Makanchi	8.94	224	Pn	Pn	08 03 54.9	+0.5
	2.2nm,0.8s						
MAKZ				⇓Sn	Sn	08 05 35.8	0.0
	3.4nm,0.8s						
MAKZ				⇑Lg	Lg	08 06 24.7	
	11nm,1.2s						

NNC 02 08:30:22.5±4.6, 36.°43N×71.°08E, h127km±103km, mb2.9, mpv3.5, 1C-2D, Error ellipse: s-maj=44.5km s-min=40.8km az=70.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.68	356	P	Pn	08 31 57.5	-0.5
	2.2nm,0.3s,baz=174,slow=12,SNR=44						
KK31				⇓S	Sn	08 33 13.5	+0.8
	1.7nm,0.5s,baz=44,slow=33,SNR=6.1						
AAK	Ala-Archa	6.74	22	⇓P	Pn	08 31 59.3	+0.4
	1.6nm,0.7s						
AAK				⇑S	Sn	08 33 14.6	+0.3
	4.9nm,0.9s						
AB31	Akbulak array	15.17	331	P	Pn	08 33 49.9	0.0
	0.2nm,0.2s,baz=162,slow=12,SNR=29						

*IDC **02** 08:32:01.7±1.3, 1.°94N×96.°51E, h0km, mb4.1/10, mb1 4.2/12, mb1mx3.9/39, mbtmp4.1/12, ML3.4/1, Error ellipse: s-maj=38.3km s-min=16.1km az=60.0*
*NEIC **02** 08:32:03.8±2.7, 2.°07N±0.°05×96.°65E±0.°08, h10km±1km, mb4.4/26*
*ISCJB **02** 08:32:04.5±0.4, 2.°00N±0.°05×96.°61E±0.°05, h28km, mb4.2/14, MS4.3/2, Error ellipse: s-maj=8.6km s-min=4.1km az=135.5*
*DJA **02** 08:32:04.7±0.7, 2.°N±4.°×9.°6E±.°, h26km±7km, M4.4/3, mb4.7/2, MLv4.2/3*

ISC 02 08:32:06.2±0.5, 2.°00N±0.°04×96.°63E±0.°05, h28km, n72, σ1.s49/74, mb4.3/26, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	0.50	323	P	Pb	08 32 16.8	+0.2
SNSI				S	Sn	08 32 24.9	-0.3
GSI	Gunungsitoli	1.18	126	P	Pn	08 32 27.7	+0.9
GSI	Gunungsitoli	1.18	126	Pn	Pn	08 32 27.6	+0.9
GSI				Sn	Sb	08 32 43.4	+0.6
TPTI		1.36	24	P	Pb	08 32 32.1	+1.0
TPTI				S	Sb	08 32 52.9	+4.7
MLSI	Meulaboh, Aceh	2.26	354	P	Pn	08 32 40.9	-0.8
RPSI	Rantau Prapat	2.40	73		Pn	08 32 44.8	+1.3
RPSI				Sn	Sn	08 33 09.3	-2.7
RPSI	Rantau Prapat	2.40	73		Pn	08 32 44.4	+0.8
PSI	Prapat	2.43	71	Pn	Pn	08 32 44.4	+0.3
	8.2nm,0.3s,baz=257,slow=8.0,SNR=17						
TSI	Tuntungan	2.44	52	P	Pb	08 32 55.0	+5.6
PBSI	Pulau Batu	2.63	141	P	Pn	08 32 47.9	+1.1
LHMI	Lhok Sumawe	3.22	6	P	Pn	08 32 55.0	+0.1
LHMI	Lhok Sumawe	3.22	6	Pn	Pn	08 32 55.2	+0.3
LHMI				Sn	Sn	08 33 29.6	-2.7
BKNI	Bangkinang	4.72	111	Pn	Pn	08 33 16.0	+0.5
BKNI				Sn	Sn	08 34 09.0	-0.3
IPM	Ipoh	5.03	61		Pn	08 33 21.0	+1.1
IPM				Sn	Sn	08 34 11.2	-6.0
KULM	Kulim	5.17	51		Pn	08 33 22.5	+0.6
MYKOM	Kota Tinggi	7.22	92	Pn	Pn	08 33 52.0	+2.0
MNAI	Manna	8.94	135	Pn	Pn	08 34 14.8	+1.2
MNAI				Sn	Sn	08 35 50.4	-3.1
PBKT	Sadao Pong	15.09	16		Pn	08 35 39.4	+1.8
CMAR	Chiang Mai Arr	16.51	8	Pn	Pn	08 35 55.7	-0.2
	baz=197,slow=11,SNR=22						
SHL	Shillong	23.87	349	P	P	08 37 15.6	-2.1
SHL				IAmb	IAmb	08 37 17.5	
	comp=Z,7.1nm,0.8s						
H08S2	Diego Garcia H	25.91	248	T	T	09 04 21.1	
	baz=69,slow=76,SNR=392						
H08S3	Diego Garcia H	25.91	248	T	T	09 04 21.6	
	baz=69,slow=76,SNR=296						
H08S1	Diego Carcia H	25.93	248	T	T	09 04 22.8	
	baz=69,slow=76,SNR=179						
WHN	Wuhan	32.98	29	P	P	08 38 45.5	+6.7
XAN	Xi'an	33.88	18	P	P	08 38 45.3	-1.4
XAN				pP	pP	08 38 52.4	-2.5
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
FITZ	Fitzroy Crossi	34.86	126	P	P	08 38 55.3	0.0
	comp=Z,1.4nm,0.6s,baz=305,slow=12,SNR=3.5						
FITZ	Fitzroy Crossi	34.86	126	P	P	08 38 55.7	+0.4
KNRA	Kununurra	36.31	120	P	P	08 39 04.6	-3.1
MTN	Manton Dam	37.29	114	P	P	08 39 14.0	-2.1
MTN				IAmb	IAmb	08 39 30.4	
	comp=Z,12nm,1.4s						
GTA	Gaotai	37.34	4	⇓P	P	08 39 16.5	+0.1
GTA				pP	pP	08 39 23.8	-0.9
GTA				sP	sP	08 39 26.9	-1.2
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,44nm,5.9s						
GTA				LR	LR		
	comp=N,150nm,14.0s						
GTA				LR	LR		
	comp=E,140nm,14.3s						
GTA				LR	LR		
	comp=Z,140nm,15.9s						
H01W3	Cape Leeuwin H	40.20	157	T	T	09 22 27.6	
	baz=333,slow=76,SNR=11						
H01W2	Cape Leeuwin H	40.21	157	T	T	09 22 27.7	
	baz=333,slow=76,SNR=9.0						
H01W1	Cape Leeuwin H	40.22	157	T	T	09 22 26.6	
	baz=333,slow=76,SNR=8.5						
HHC	Hu-ho-hao-te	40.96	17	P	P	08 39 49.3	+2.7
HHC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,6.0nm,6.6s						
KSH	Kashi	41.81	336	P	P	08 39 55.3	+1.7
KSH				PcP	PcP	08 41 51.9	+2.4
KSH				PcS	PcS	08 45 42.5	+1.4
KSH				S	S	08 46 10.1	+0.4
KSH				sS	sS	08 46 26.7	+3.5
KSH				LR	LR		
	comp=N,380nm,7.3s						
KSH				LR	LR		
	comp=E,470nm,5.9s						
WMQ	Urumqi	42.39	350	*e*P	P	08 39 58.9	+0.7
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,85nm,5.5s						
WMQ				LR	LR		
	comp=N,500nm,28.8s						
WMQ				LR	LR		
	comp=E,1μm,29.2s						
WMQ				LR	LR		
	comp=Z,90nm,23.7s						
WB0	Warramunga Arr	42.91	122	P	P	08 40 03.1	+0.3
WB0				IAmb	IAmb	08 40 03.8	
	comp=Z,4.7nm,0.7s						
WRA	Warramunga Arr	42.95	122	P	P	08 40 03.5	+0.5
	comp=Z,2.1nm,0.7s,baz=301,slow=9.1,SNR=8.8						
WRA	Warramunga Arr	42.95	122	P	P	08 40 03.1	0.0
WRAB	Tennant Creek	42.95	122	P	P	08 40 03.0	-0.1
WRAB				IAmb	IAmb	08 40 04.4	
	comp=Z,5.6nm,0.8s						
WB2	Warramunga Arr	42.96	122	P	P	08 40 02.9	-0.3
TARG	Taragay, Kyrgy	43.02	339	P	P	08 40 05.0	+1.1
TARG				IAmb	IAmb	08 40 07.7	
	comp=Z,9.5nm,1.1s						
WR0	Warramunga Arr	43.12	122	P	P	08 40 05.6	+1.1
WR0				IAmb	IAmb	08 40 05.8	
	comp=Z,4.4nm,0.7s						
GAR	Garm	43.96	330	P	P	08 40 10.3	-0.8
GAR				IAmb	IAmb	08 40 19.8	
	comp=Z,6.7nm,0.9s						
CHGR	Chuyangaron	44.29	329	P	P	08 40 13.4	-0.3
ASAR	Alice Springs	44.34	127	P	P	08 40 14.2	-0.1
	comp=Z,0.6nm,0.8s,baz=302,slow=9.1,SNR=7.2						
KSAR	Wonju Array Be	45.49	35	P	P	08 40 22.9	-0.2
KS19	Wonju Array Si	45.52	35	P	P	08 40 23.6	+0.1
KSRS	Korea Array	45.52	35	P	P	08 40 23.6	+0.2
	comp=Z,2.9nm,0.7s,baz=222,slow=9.5,SNR=7.6						
MK31	Makanchi Array	46.33	346	P	P	08 40 30.1	+0.5
MKAR	Makanchi Array	46.33	346	P	P	08 40 29.8	+0.1
	comp=Z,2.4nm,0.4s,baz=160,slow=8.8,SNR=58						
MAKZ	Makanchi	46.42	346	P	P	08 40 30.5	+0.2
SONM	Songino Array	46.43	9	P	P	08 40 30.7	+0.1
	comp=Z,1.8nm,0.4s,baz=188,slow=9.3,SNR=23						
SONM	Songino Array	46.43	9	P	P	08 40 31.6	+1.0
KK31	Karatay Array	47.09	334	P	P	08 40 34.6	-1.1
KK31				IAmb	IAmb	08 40 37.0	
	comp=Z,4.0nm,1.3s						
KKAR	Karatay Array	47.09	334	P	P	08 40 35.6	-0.1
KKAR	Karatay Array	47.09	334	P	P	08 40 34.7	-1.0
KKAR				IAmb	IAmb	08 40 37.1	
	comp=Z,4.0nm,1.3s						
KURK	Kurchatov	50.87	345	P	P	08 41 02.3	-2.2
KURK				IAmb	IAmb	08 41 07.4	
	comp=Z,4.4nm,1.1s						
USRK	Ussuriysk Ar.	52.39	32	P	P	08 41 16.7	+0.8
	comp=Z,0.9nm,0.6s,baz=246,slow=6.1,SNR=3.9						
ZAA0	Zalesovo Array	52.68	351	P	P	08 41 18.2	+0.2
ZALV	Zalesovo Beam	52.68	351	P	P	08 41 18.2	+0.2
	comp=Z,4.7nm,0.4s,baz=182,slow=6.5,SNR=22						
ZALV	Zalesovo Beam	52.68	351	P	P	08 41 18.1	+0.1
RAYN	Ar Rayn	53.88	298	P	P	08 41 27.6	+0.3
RAYN				IAmb	IAmb	08 41 29.6	
	comp=Z,4.0nm,1.1s						
STKA	Stephens Creek	54.32	132	P	P	08 41 30.9	+0.5
	comp=Z,0.5nm,0.4s,baz=286,slow=10,SNR=3.2						
STKA	Stephens Creek	54.32	132	P	P	08 41 30.9	+0.5
BRVK	Borovoye	55.37	341	P	P	08 41 37.7	+0.1
BRVK				IAmb	IAmb	08 41 46.7	
	comp=Z,3.2nm,1.1s						
ABKAR	Akbulak array	56.54	332	P	P	08 41 43.9	-2.2
ABKAR	Akbulak array	56.54	332	P	P	08 41 45.3	-0.7
ABKAR				IAmb	IAmb	08 41 52.1	
	comp=Z,2.9nm,1.1s						
TIXI	Tiksi	72.50	10	P	P	08 43 29.1	-0.8
FINES	FINESS Array B	79.03	333	P	P	08 44 07.6	+0.2
ARCES	ARCESS Array B	81.59	340	P	P	08 44 21.4	+0.3
	comp=Z,1.2nm,0.4s,baz=98,slow=4.6,SNR=7.5						
TXAR	Lajitas Array	143.28	30	PKP	PKPbc	08 51 36.3	+0.6
	comp=Z,0.1nm,0.5s,baz=345,slow=0.9,SNR=3.0						

*ISCJB **02** 09:05:33.6±0.8, 9.°03N±0.°06×82.°91W±0.°04, h33km±15km, Error ellipse: s-maj=10.3km s-min=5.6km az=30.4*
*UCR **02** 09:05:33.6±1.5, 8.°99N×82.°94W, h32km±4km*
*UPA **02** 09:05:34.2±0.8, 9.°00N×82.°90W, h16km±3km, MW2.8*

ISC 02 09:05:33.5±1.0, 9.°03N±0.°05×82.°92W±0.°04, h32km±8km, n10, σ0.s63/18, 4C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EDSV	San Vito	0.21	195	⇑*i*P	Pb	09 05 40.1	-0.2
EDSV				*e*S	Sn	09 05 45.4	+0.4
BRU2	Volcan	0.32	136	⇑*i*P	Pb	09 05 41.4	-0.3
BRU2				*e*S	Sb	09 05 47.3	+0.1
BRU2	Volcan	0.32	136	⇑*i*P	Pb	09 05 41.3	-0.3
BRU2				*e*S	Sb	09 05 47.1	0.0
EDBA	Buenos Aires	0.38	291	*e*S	Sb	09 05 48.9	+0.6
BCO2	Palmira	0.49	129	⇑*i*P	Pb	09 05 43.9	-0.2
BCO2				*e*S	Sb	09 05 51.8	+0.5
CNI2	El Empalme, Bo	0.59	48	*e*P	Pb	09 05 45.1	-0.4
CNI2				*e*S	Sb	09 05 54.0	+0.2
EDLM	Las Mercedes	0.71	291	*e*P	Pn	09 05 45.8	-1.6
EDLM				*e*S	Sb	09 05 57.1	0.0
DVD	David	0.75	142	*e*P	Pn	09 05 47.6	-0.2
DVD				*e*S	Sn	09 05 58.3	+0.3
DVD	David	0.75	142	*e*P	Pn	09 05 47.6	-0.2
DVD				*e*S	Sn	09 05 58.3	+0.3
LCR2	La Lucha 2	1.29	304	*e*P	Pn	09 05 56.7	+1.3

*IDC **02** 09:07:33.3±0.6, 25.°25S×69.°99E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.1/46, mbtmp4.2/15, MS3.9/20, Ms1 3.9/20, ms1mx3.8/36, Error ellipse: s-maj=18.2km s-min=16.7km az=33.0*
*ISCJB **02** 09:07:34.7±0.4, 25.°31S±0.°09×70.°00E±0.°08, h19km, mb4.2/15, MS4.0/20, Error ellipse: s-maj=13.7km s-min=10.5km az=20.7*
*NEIC **02** 09:07:35.3±1.6, 25.°2S±0.°1×70.°0E±0.°1, h10km±1km, mb4.6/20*
*GCMT **02** 09:07:39.3±0.3, 25.°00S±0.°04×69.°88E±0.°02, h19km, MW4.9/92, Moment Tensor Solution. s38,c41; s92,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.13±.17; $M_{\theta\theta}$0.92±.11; $M_{\phi\phi}$2.20±.11; $M_{r\theta}$0.48±.29; $M_{\theta\phi}$-0.81±.06; $M_{\phi r}$0.23±.21; Best double couple: $M_0$2.89800×10^{16} NP1:ϕ_s326.00000°, δ46.00000°, λ-101.00000°. NP2: ϕ_s162.00000°, δ46.00000°, λ-79.00000°. Principal axes: T 2.5910, Plg0.0000°, Azm64.0000°; N 0.6080, Plg8.0000°, Azm334.0000°; P -3.2060, Plg82.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 09:07:36.8±0.5, 25.°3S±0.°1×69.°9E±0.°1, h19km, n59, σ0.s94/36, mb4.3/18, MS4.0/20, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	17.72	8	T	T	09 29 58.1	
	baz=189,slow=76,SNR=41						
H08S2	Diego Garcia H	17.72	8	T	T	09 29 55.9	
	baz=189,slow=76,SNR=81						
H08S3	Diego Garcia H	17.74	8	T	T	09 29 57.1	
	baz=189,slow=76,SNR=80						
OPO	Ambohidratompo	22.08	283	P	P	09 12 32.2	+1.1
	5.2nm,0.9s,baz=112,slow=10,SNR=6.2						
H01W2	Cape Leeuwin H	39.19	115	T	T	09 56 44.4	
	baz=274						
H01W3	Cape Leeuwin H	39.19	115	T	T	09 56 45.0	
	baz=274						
H01W1	Cape Leeuwin H	39.20	115	T	T	09 56 46.1	
	baz=274						
KMBO	Kilima Mbogo	39.61	302	P	P	09 15 07.5	-0.1
	1.1nm,0.3s,baz=159,slow=8.7,SNR=4.1						
KMBO				LR	LR	09 28 14.7	
	comp=Z,89nm,20.9s,baz=85,slow=31						
KMBO	Kilima Mbogo	39.61	302	IAmb	IAmb	09 15 11.2	
	comp=Z,7.8nm,1.4s						
BOSA	Boshof	39.76	255	P	P	09 15 08.8	+0.1
	comp=Z,4.9nm,1.0s,baz=119,slow=9.0,SNR=4.1						
BOSA				LR	LR	09 28 39.1	
	comp=Z,316nm,19.1s,baz=38,slow=32						
BOSA	Boshof	39.76	255	IAmb	IAmb	09 15 10.6	
	comp=Z,14nm,1.2s						
MAW	Mawson	42.55	184	LR	LR	09 28 48.0	
	comp=Z,179nm,21.2s,baz=36,slow=30						
CMAR	Chiang Mai Arr	51.87	36	P	P	09 16 44.2	+0.1
	comp=Z,1.2nm,0.3s,baz=232,slow=6.8,SNR=7.4						
CMAR				LR	LR	09 35 09.5	
	comp=Z,82nm,21.7s,baz=194,slow=32						
FITZ	Fitzroy Crossi	51.99	94	P	P	09 16 45.3	+0.1
FITZ				IAmb	IAmb	09 16 46.2	
	comp=Z,9.5nm,0.9s						
LUWI	Luwuk	56.36	73	P	P	09 17 20.3	+3.1
ASAR	Alice Springs	57.77	103	P	P	09 17 26.3	-0.8
	comp=Z,1.4nm,0.9s,baz=252,slow=7.2,SNR=12						
ASAR				LR	LR	09 39 41.6	

	comp=Z,120nm,18.6s,baz=272,slow=33						
WRA	Warramunga Arr	59.24	99	P	P	09 17 36.7	-0.6
	comp=Z,4.0nm,0.9s,baz=255,slow=7.3,SNR=17						
WRA				LR	LR	09 40 49.1	
	comp=Z,239nm,19.0s,baz=265,slow=34						
WRA	Warramunga Arr	59.24	99	P	P	09 17 37.0	-0.4
WB2	Warramunga Arr	59.25	99	P	P	09 17 35.9	-1.5
WRAB	Tennant Creek	59.25	99	P	P	09 17 36.9	-0.5
WR0	Warramunga Arr	59.41	99	P	P	09 17 39.1	+0.6
SNAA	Sanae	60.79	200	P	P	09 17 47.7	+0.4
	comp=Z,3.0nm,0.7s,baz=63,slow=5.6,SNR=7.5						
SNAA	Sanae	60.79	200	IAmb	IAmb	09 17 48.5	
	comp=Z,4.2nm,0.9s						
STKA	Stephens Creek	62.28	114	LR	LR	09 42 14.1	
	comp=Z,108nm,18.3s,baz=219,slow=33						
GEYT	Alibeck	63.85	350	LR	LR	09 42 59.6	
	comp=Z,104nm,18.0s,baz=30,slow=33						
SIJI	Sorong	63.89	78	LR	LR	09 41 28.5	
	comp=Z,65nm,21.6s,baz=241,slow=32						
EIL	Elat	64.11	326	LR	LR	09 41 24.2	
	comp=Z,77nm,20.7s,baz=134,slow=32						
QSPA	South Pole Qui	64.84	180	P	P	09 18 14.1	-0.3
	comp=Z,7.9nm,1.0s,baz=269,slow=1.9,SNR=26						
QSPA	South Pole Qui	64.84	180	P	P	09 18 13.8	-0.6
VNDA	Vanda	65.92	166	P	P	09 18 20.4	-0.6
	comp=Z,5.1nm,0.9s,baz=284,slow=5.0,SNR=5.2						
KK31	Karatay Array	68.06	0	P	P	09 18 35.5	+0.5
KKAR	Karatay Array	68.06	0	P	P	09 18 35.4	+0.4
KKAR	Karatay Array	68.06	0	P	P	09 18 35.9	+0.9
KKAR				IAmb	IAmb	09 18 36.2	
	comp=Z,7.8nm,1.2s						
JAY	Jayapura	71.59	84	LR	LR	09 49 20.4	
	comp=Z,59nm,20.5s,baz=200,slow=35						
MK31	Makanchi Array	72.62	9	P	P	09 18 56.4	-6.4
MKAR	Makanchi Array	72.62	9	P	P	09 18 55.0	-7.8
BR131	Keskin Array S	72.99	332	P	P	09 19 05.6	+0.2
BR131				IAmb	IAmb	09 19 06.5	
	comp=Z,6.3nm,1.1s						
BRTR	Keskin Array B	72.99	332	P	P	09 19 05.5	+0.2
	comp=Z,1.9nm,0.8s,baz=151,slow=5.6,SNR=10						
BRTR				LR	LR	09 47 48.8	
	comp=Z,42nm,21.4s,baz=280,slow=33						
KBZ	Khabaz	73.02	340	LR	LR	09 48 29.9	
	comp=Z,44nm,20.1s,baz=148,slow=34						
ILGA	Ilgaz	74.06	332	P	P	09 19 11.8	+0.1
ABKAR	Akbulak array	74.74	353	P	P	09 19 14.3	-0.8
ABKAR	Akbulak array	74.74	353	P	P	09 19 13.9	-1.2
ABKAR				IAmb	IAmb	09 19 15.9	
	comp=Z,5.9nm,1.1s						
KURK	Kurchatov	76.06	6	P	P	09 19 22.7	+0.1
KURK				IAmb	IAmb	09 19 31.8	
	comp=Z,10nm,1.4s						
TORD	Torodi Ar. Bea	76.62	292	P	P	09 19 26.4	-0.3
	comp=Z,2.6nm,1.0s,baz=119,slow=6.6,SNR=9.2						
TORD				LR	LR	09 51 41.5	
	comp=Z,123nm,20.2s,baz=305,slow=34						
TORD	Torodi Ar. Bea	76.62	292	P	P	09 19 26.7	0.0
TAM	Tamanrasset	78.60	302	P	P	09 19 38.8	+1.0
DBIC	Dimbokro	79.19	283	LR	LR	09 52 48.8	
	comp=Z,96nm,18.6s,baz=137,slow=34						
SONM	Songino Array	79.84	24	P	P	09 19 41.6	-2.4
	comp=Z,0.9nm,0.7s,baz=224,slow=4.0,SNR=7.7						
SONM				LR	LR	09 54 33.4	
	comp=Z,60nm,20.0s,baz=198,slow=35						
SONM	Songino Array	79.84	24	P	P	09 19 44.1	+0.1
ZALV	Zalesovo Beam	79.96	9	P	P	09 19 43.5	-0.8
	comp=Z,0.9nm,0.4s,baz=202,slow=7.5,SNR=3.8						
ZALV	Zalesovo Beam	79.96	9	P	P	09 19 43.9	-0.4
KSAR	Wonju Array Be	82.83	43	P	P	09 19 59.3	-0.6
KSRS	Korea Array	82.87	43	P	P	09 19 59.0	-1.0
	comp=Z,1.2nm,0.8s,baz=205,slow=4.9,SNR=3.5						
KSRS				LR	LR	09 55 59.9	
	comp=Z,61nm,18.6s,baz=238,slow=35						
KEST	Kesra	83.39	315	LR	LR	09 56 24.7	
	comp=Z,83nm,19.0s,baz=268,slow=35						
AKASG	Malin Array Be	83.76	335	P	P	09 20 03.7	-0.6
	comp=Z,0.3nm,0.3s,baz=140,slow=4.4,SNR=3.9						
MJAR	Matsushiro Arr	89.00	48	LR	LR	10 00 43.4	
	comp=Z,49nm,18.6s,baz=60,slow=36						
ARCES	ARCESS Array B	99.80	346	LR	LR	10 06 52.2	
	comp=Z,53nm,18.2s,baz=257,slow=36						
FRNY	Flat Rock	144.71	313		PKPbc	09 27 10.9	-0.2
NCB	Newcomb	145.44	312		PKPab	09 27 13.8	0.0

*NNC **02** 09:17:38.3±1.9, 44°.34N×82°.94E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=15.8km s-min=5.9km az=123.0*

SOME 02 09:17:36.7, 44°.37N×82°.98E, h5km, 2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	2.11	245	eP	Pb	09 18 15.5	0.0
	1.7nm,0.1s						
KTMS				eS	Sg	09 18 43.7	-0.9
	8.1nm,0.2s						
KTMS	Ketmen	2.11	245	Pg	Pb	09 18 15.5	0.0
	1.7nm,0.1s						
KTMS				Lg	Lg	09 18 43.7	
	8.1nm,0.2s						
DJR	Jarkent	2.29	270	eP	Pg	09 18 20.1	-0.5
	4.9nm,0.3s						
DJR				eS	Sg	09 18 51.6	+1.4
	3.5nm,0.3s						
DJR	Jarkent	2.29	270	Pg	Pg	09 18 20.1	-0.5
	4.9nm,0.3s						
DJR				Lg	Lg	09 18 51.6	
	3.5nm,0.3s						
MK31	Makanchi Array	2.48	349	Pg	Pg	09 18 23.7	-0.4
	0.3nm,0.2s,baz=165,slow=17,SNR=23						
MAKZ	Makanchi	2.54	344	⇓Pg	Pg	09 18 26.1	+0.7
	0.3nm,0.3s						
MAKZ				⇓Lg	Lg	09 18 59.1	
	1.4nm,0.6s						
KAPS	Kapalarasan	2.74	291	eP	Pb	09 18 27.2	+1.1
	0.3nm,0.1s						
KAPS				eS	Sg	09 19 04.1	-0.5
	2.5nm,0.5s						
KAPS	Kapalarasan	2.74	291	Pg	Pb	09 18 27.3	+1.1
	0.3nm,0.1s						
KAPS				Lg	Lg	09 19 04.1	
	2.5nm,0.5s						

*IDC **02** 09:23:43.0±1.6, 28°.07N×51°.25E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.6/46, mbtmp3.8/9, ML3.4/3, MS2.7/1, Ms1 2.7/1, ms1mx2.4/46, Error ellipse: s-maj=30.4km s-min=25.8km az=8.0*

*ISCJB **02** 09:23:43.7±0.4, 27°.96N±0°.03×51°.26E±0°.04, h16km, mb3.6/6, Error ellipse: s-maj=6.2km s-min=3.1km az=145.1*

*THR **02** 09:23:45.6, 28°.12N×51°.52E, h40km, ML3.8*

*NEIC **02** 09:23:48.7±0.6, 28°.0N±0°.2×51°.35E±0°.07, h41km±18km*

*TEH **02** 09:23:49.7, 28°.30N×51°.48E, h20km, ML3.9*

*OMAN **02** 09:23:51.7±2.6, 27°.74N×51°.39E, h111km±173km, ml4.1/8, Error ellipse: s-maj=51.4km s-min=25.2km az=37.0*

*DSN **02** 09:23:54.9±0.8, 27°.90N×52°.13E, h10km, ML4.3/7, Error ellipse: s-maj=19.6km s-min=7.2km az=45.0*

ISC 02 09:23:45.6±0.6, 28°.03N±0°.05×51°.37E±0°.05, h16km, n77, σ1s.69/86, mb3.6/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	1.73	113	ePn	Pg	09 24 21.5	+2.6
LMD1				IAMB	IAmb	09 24 50.0	
	comp=Z,0.0nm,0.6s						
IKAZ	Kazeroun	1.79	13	ePn	Pn	09 24 17.4	+1.2
IKAZ				IAMB	IAmb	09 24 50.7	
	comp=Z,15μm,0.4s						
SHI	Shiraz	1.89	32	ePn	Pn	09 24 19.1	+1.7
SHI				eSg	Sb	09 24 42.9	-0.4
JHRM	Jahrom	2.00	76	ePn	Pb	09 24 21.4	-0.3
JHRM				IAMB	IAmb	09 25 07.2	
	comp=Z,0.0nm,0.4s						
ISRV	Sarvestan	2.04	48	ePn	Pb	09 24 21.5	-0.9
ISRV				IAMB	IAmb	09 25 05.2	
	comp=Z,8μm,0.6s						
KLNJ	Kolanjah	2.97	4	ePn	Pn	09 24 33.5	+1.0
IBRJ	Brojen	3.87	359	ePn	Pn	09 24 46.2	+1.6
IRAM	Ramesheh	3.87	13	ePn	Pn	09 24 45.6	+1.0
ZNGN	Zangian	4.10	354	ePn	Pn	09 24 48.6	+0.7
JHBN	Jahan bin	4.23	352	ePn	Pn	09 24 50.3	+0.6
BNDS	Bandar-Abbas	4.30	97	ePn	Pn	09 24 48.9	-1.6
BNDS	Bandar-Abbas	4.30	97	ePn	Pn	09 24 48.9	-1.6
ROKH	ROKH	4.31	356	ePn	Pn	09 24 51.6	+0.9
IMEH	Mehriz	4.38	39	ePn	Pn	09 24 53.5	+1.9
IGAR	Gharneh	4.40	7	ePn	Pn	09 24 52.7	+0.8
IPIR	Pirpir	4.66	355	ePn	Pn	09 24 55.4	-0.2
SHME	Shamm	4.69	114	P	Pn	09 24 56.7	+0.9
SHME	Shamm	4.69	114	ePn	Pn	09 24 57.0	+1.3
BANOM	Banah	4.87	114	iP	Pn	09 24 59.4	+1.2
	SNR=51						
BANOM	Banah	4.87	114	P	Pn	09 24 59.6	+1.3
BANOM				S	Sn	09 25 53.1	-1.3
NAZ	Nazwa, Dubai	4.89	127	iP	Pn	09 25 00.8	+2.3
	SNR=13						
NAZ	Nazwa, Dubai	4.89	127	P	Pn	09 25 01.1	+2.6
	SNR=13						
NAZ				S	Sn	09 25 56.9	+2.0
ASUD	Al Ashush, Dub	4.91	133	iP	Pn	09 25 01.4	+2.7
	SNR=38						
ASUD	Al Ashush, Dub	4.91	133	P	Pn	09 25 01.6	+2.8
	SNR=38						
IZEF	Zefreh	4.92	9	ePn	Pn	09 25 00.2	+1.1
ICHK	Chekchek	4.95	31	ePn	Pn	09 25 01.2	+1.6
NGRK	Negar Kerman	4.97	70	ePn	Pn	09 25 01.0	+1.1
NGRK				IAMB	IAmb	09 26 01.6	
	comp=Z,0.0nm,0.2s						
KHGB	Koh Gabri	5.04	61	ePn	Pn	09 25 02.3	+1.6
KHGB				IAMB	IAmb	09 26 09.0	
	comp=N,0.0nm,1.3s						
MSFE	Esma-Masafi	5.04	121	iP	Pn	09 25 02.1	+1.5
	SNR=15						
MSFE	Esma-Masafi	5.04	121	ePn	Pn	09 25 02.1	+1.5
KRBR	Kerman	5.10	66	ePn	Pn	09 24 59.5	-2.2
KRBR	Kerman	5.10	66	ePn	Pn	09 24 59.5	-2.2
TVBK	TV Kerman	5.11	66	IAMB	IAmb	09 25 06.0	
	comp=Z,0.0nm,0.5s						
TVBK				ePn	Pn	09 25 03.8	+2.0
MDH	Madha	5.18	121	P	Pn	09 25 04.0	+1.6
MDH				S	Sn	09 26 01.5	-0.4
MDH	Madha	5.18	121	ePn	Pn	09 25 03.4	+0.9
IKLH	Kolahrood	5.27	2	ePn	Pn	09 25 05.5	+1.5
UOSS	Minazif	5.31	124	P	Pn	09 25 06.3	+2.1
UOSS	Minazif	5.31	124	Pn	Pn	09 25 05.5	+1.3
UOSS				Sn	Sn	09 26 01.9	-3.2
HATD	Hatta, Dubai	5.33	126	P	Pn	09 25 05.7	+1.1
HATD				S	Sn	09 26 02.1	-3.6
HATD	Hatta, Dubai	5.33	126	P	Pn	09 25 06.9	+2.4
HATD				S	Sn	09 26 04.8	-0.8
HATD	Hatta, Dubai	5.33	126	ePn	Pn	09 25 06.2	+1.7
ASHO	Ashiyiah	5.36	127	iP	Pn	09 25 06.6	+1.6
	SNR=25						
ASHO	Ashiyiah	5.36	127	P	Pn	09 25 07.0	+1.9
	SNR=25						
ASHO				S	Sn	09 26 06.4	-0.1
ASHO	Ashiyiah	5.36	127	ePn	Pn	09 25 06.7	+1.6
ANAR	Anarak	5.53	21	ePn	Pn	09 25 08.8	+1.4
QAM	Ghamsar	5.71	1	ePn	Pn	09 25 11.0	+1.0
KHMZ	Khomeyn	5.82	348	ePn	Pn	09 25 11.0	-0.4
KHMZ	Khomeyn	5.82	348	ePn	Pn	09 25 11.0	-0.4
BMDN	Meydan	6.03	339	ePn	Pn	09 25 14.5	+0.1
BDRS	Dareh Seyedi	6.28	341	ePn	Pn	09 25 18.1	+0.3
ISFB	Sefidab	6.34	7	ePn	Pn	09 25 19.1	+0.6
IDOB	Doab	6.36	335	ePn	Pn	09 25 19.3	+0.4
GHVR	GHOM	6.43	359	ePn	Pn	09 25 18.2	-1.5
GHVR	GHOM	6.43	359	ePn	Pn	09 25 18.1	-1.5
TPRV	Parvadeh(Tabas	6.77	41	ePn	Pn	09 25 26.8	+2.4
IQOM	Qom	6.80	358	ePn	Pn	09 25 24.8	-0.1
RAYN	Ar Rayn	6.94	231	Pn	Pn	09 25 27.6	+0.9
IKOM	Komasi	6.96	333	ePn	Pn	09 25 27.9	+0.8
BSY	Bisya	7.45	134	P	Pn	09 25 35.4	+1.7
BSY				S	Sn	09 26 56.4	-1.4
BSRN	Basiran	7.78	58	ePn	Pn	09 25 36.4	-1.9
BSRN	Basiran	7.78	58	ePn	Pn	09 25 36.4	-1.9
IDHR	Dehrash	7.90	329	ePn	Pn	09 25 39.1	-0.9
WSAR	Wadi Sarin	8.10	124	Pn	Pn	09 25 43.9	+1.2
	comp=Z,0.4nm,0.3s,baz=342,slow=9.6,SNR=4.9						
WSAR				Sn	Sn	09 27 07.5	-6.5
	comp=Z,1.0nm,0.3s,baz=167,slow=21,SNR=7.2						
WHFO	Wadi Hawf	10.30	167	P	Pn	09 26 12.0	-0.9
	SNR=10						
GNI	Garni	13.27	337	LR	LR	09 31 56.3	
	comp=Z,34nm,19.2s,baz=2.5,slow=37						
KBZ	Khabaz	17.09	339	P	Pn	09 27 43.9	+0.2
	comp=Z,0.1nm,0.3s,baz=174,slow=19,SNR=4.6						
BRTR	Keskin Array B	18.75	313	P	P	09 28 03.6	-0.3
	comp=Z,0.1nm,0.3s,baz=134,slow=13,SNR=6.3						
BRTR	Keskin Array B	18.75	313	P	P	09 28 04.3	+0.4
GAR	Garm	19.18	50	P	P	09 28 08.7	+0.1
GAR				IAmb	IAmb	09 28 10.4	
	comp=Z,10nm,1.1s						
ABKAR	Akbulak array	22.20	15	P	P	09 28 41.8	+0.7
AKTO	Aktyubinsk	22.94	11	P	P	09 28 50.1	+1.2
	comp=Z,0.8nm,0.5s,baz=190,slow=6.1,SNR=2.5						
MKAR	Makanchi Array	30.60	44	P	P	09 29 58.8	0.0
	comp=Z,0.5nm,0.8s,baz=239,slow=11,SNR=3.2						
VYHS	Vyhne	32.35	318	eP	P	09 30 16.3	+2.2
FINES	FINESS Array B	37.44	340	P	P	09 30 55.7	-2.1
	comp=Z,3.4nm,0.8s,baz=152,slow=9.3,SNR=3.7						
HFS	Hagfors	40.98	332	P	P	09 31 25.8	-1.6
	comp=Z,2.4nm,0.8s,baz=111,slow=7.9,SNR=4.4						
NOA	NORSAR Array B	42.51	332	P	P	09 31 38.4	-1.6
	comp=Z,0.3nm,0.5s,baz=120,slow=7.9,SNR=2.3						
TORD	Torodi Ar. Bea	48.48	263	P	P	09 32 27.2	-0.6
	comp=Z,0.5nm,0.7s,baz=56,slow=7.8,SNR=2.5						

*ISCJB **02** 09:29:55.8±0.9, 9°.12N±0°.06×83°.90W±0°.05, h25km±4km, Error ellipse: s-maj=12.7km s-min=3.4km az=36.0*

*UCR **02** 09:29:55.6±1.9, 9°.15N×83°.90W, h12km±10km, MD3.9*

*UPA **02** 09:29:55.7±0.7, 9°.22N×83°.85W, h13km±3km, MW3.4*

ISC 02 09:29:56.8±1.1, 9°.20N±0°.07×83°.84W±0°.05, h31km±6km, n24, σ0s.93/43, 3C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	Dominical	0.06	334	⇓iP	Pb	09 30 01.4	-0.8
EDDO				eS	Sb	09 30 06.0	+0.2
EDLM	Las Mercedes	0.26	73	⇓iP	Pb	09 30 03.6	-0.3
EDLM				eS	Sb	09 30 09.8	+1.0
EDPN	Palmar Norte	0.45	122	eP	Pb	09 30 05.4	-1.1
EDPN				eS	Sb	09 30 13.1	0.0
EDBA	Buenos Aires	0.56	94	⇓iP	Pb	09 30 06.6	-1.6
EDBA				eS	Sb	09 30 15.3	-0.8
LCR2	La Lucha 2	0.56	343	⇓iP	Pb	09 30 07.5	-0.9
LCR2				eS	Sb	09 30 16.2	-0.2
DRK0	Durika	0.59	84	⇑iP	Pb	09 30 07.9	-0.9
DRK0				eS	Sb	09 30 17.3	+0.1
DRK0	Durika	0.59	84	⇑iP	Pb	09 30 07.9	-0.9
DRK0				eS	Sb	09 30 17.3	+0.1
HDC	Heredia	0.84	341	⇑iP	Pb	09 30 11.6	-1.4
HDC				eS	Sb	09 30 24.0	-0.1
HDC	Heredia	0.84	341	eP	Pb	09 30 11.5	-1.5
HDC				eS	Sb	09 30 23.8	-0.3
EDSV	San Vito	0.94	114	eP	Pb	09 30 13.2	-1.4
BRU2	Volcan	1.20	110	eP	Pn	09 30 16.6	-1.1
BRU2				eP	Pn	09 30 17.1	-0.5
BRU2				eS	Sn	09 30 33.7	+0.8
BRU2				eS	Sn	09 30 34.2	+1.2
BRU2	Volcan	1.20	110	eP	Pn	09 30 17.1	-0.5
BRU2				eS	Sn	09 30 34.2	+1.2
BCO2	Palmira	1.38	110	eP	Pn	09 30 19.9	-0.1
BCO2				eS	Sb	09 30 39.1	-0.4
CASO	Castillo	1.51	324	iP	Pn	09 30 22.4	+0.6
CASO				iS	Sb	09 30 42.7	-0.4
ARE1	Arenal 1	1.52	325	eP	Pn	09 30 22.7	+0.8
CEDE	Laguna Cedeo	1.54	326	eP	Pn	09 30 22.4	+0.3
CEDE				iS	Sb	09 30 43.2	-0.6
JTS	Las Juntas de	1.54	315	eP	Pn	09 30 21.3	-0.8
DVD	David	1.57	119	eP	Pn	09 30 23.4	+0.9
DVD				eS	Sn	09 30 43.0	+1.2
DVD	David	1.57	119	eP	Pn	09 30 23.4	+0.9
DVD				eS	Sn	09 30 43.0	+1.2
CHGR2	Aguacate	1.69	99	eS	Sn	09 30 46.4	+1.5
ACAL	Aguas Claras	1.85	320	iP	Pn	09 30 26.6	+0.1
ACAL				iS	Sn	09 30 50.3	+1.5
PTEN	Parque Tenorio	1.88	323	iP	Pn	09 30 27.4	+0.5
COLC	Colonia	1.98	317	iP	Pn	09 30 29.2	+1.0
BUEV	Buena Vista	2.21	316	eP	Pn	09 30 31.8	+0.3

*AAE **02** 09:32:59.7±19.0, 8°.08N×37°.34E, h0km±931km, MD4.1*

*EAF **02** 09:33:05.6±15.0, 8°.29N×37°.65E, h0km±107km, MD3.8*

ISC 02 09:32:50.0±1.0, 7°.4N±0°.1×38°.0E±0°.2, h10km, n7, σ0s.92/16, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FURI	Furi	1.66	26	eP	Pb	09 33 21.0	+0.2
FURI				eS	Sb	09 33 41.5	-0.4
FURI	Furi	1.66	26	eP	Pb	09 33 21.0	+0.2
FURI				eS	Sb	09 33 41.5	-0.4
AAE	Adis Abeba	1.81	26	eP	Pb	09 33 23.5	+0.1
AAE				eS	Sn	09 33 44.8	+0.1
AAE	Adis Abeba	1.81	26	eP	Pb	09 33 23.5	+0.1
AAE				eS	Sn	09 33 44.8	+0.1
LODK	Lodwar	4.72	213	iP	Pb	09 34 12.9	0.0
LODK				eP	Pg	09 34 19.4	-1.1
	baz=48,slow=14						
LODK				iS	Sg	09 35 22.7	+1.1
LODK				iS	Sg	09 35 23.2	+1.6
ATD	Arta Tunnel	6.34	49	eP	Pb	09 34 42.0	+1.4
ATD				eS	Sb	09 35 55.5	-0.9
ATD	Arta Tunnel	6.34	49	eP	Pb	09 34 42.0	+1.4
ATD				eS	Sb	09 35 55.5	-0.9

IDC 02 09:47:39.7±3.5, 9°.43S×110°.15E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/32, mbtmp3.4/3, Error ellipse: s-maj=178.6km s-min=28.9km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.59	117	P	P	09 53 10.2	-0.7
	0.3nm,0.8s,baz=289,slow=11,SNR=3.7						
ASAR	Alice Springs	26.75	125	P	P	09 53 22.2	+0.8
	0.3nm,0.6s,baz=304,slow=9.9,SNR=2.9						
MKAR	Makanchi Array	61.24	339	P	P	09 57 56.6	-0.1
	0.7nm,0.6s,baz=148,slow=8.1,SNR=6.0						

*IDC **02** 09:52:52.2±1.9, 0°.19N×97°.42E, h0km, mb4.1/4, mb1 4.1/5, mb1mx3.6/39, mbtmp4.0/5, ML3.3/2, MS3.2/4, Ms1 3.2/4, ms1mx2.8/41, Error ellipse: s-maj=58.4km s-min=25.7km az=62.0*

*ISCJB **02** 09:52:56.4±1.2, 0°.4N±0°.1×97°.7E±0°.2, h29km, mb4.1/4, MS3.4/3, Error ellipse: s-maj=25.5km s-min=14.0km az=17.9*

ISC 02 09:52:58.4±1.4, 0°.4N±0°.1×97°.8E±0°.2, h29km, n13, σ0s.87/8, mb4.1/4, MS3.4/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.62	26	Pn	Pn	09 53 39.6	+0.7
	0.5nm,0.3s,baz=328,slow=19,SNR=2.3						
PSI				Sn	Sn	09 54 09.0	-0.8
	1.0nm,0.3s,baz=322,slow=18,SNR=3.8						
PSI				LR	LR	09 54 34.8	
	comp=Z,74nm,19.0s,baz=198,slow=35						
CMAR	Chiang Mai Arr	17.95	4	P	Pn	09 57 05.5	-0.5
	0.2nm,0.3s,baz=198,slow=11,SNR=2.5						
H08S2	Diego Garcia H	26.47	252	T	T	10 25 36.9	
	baz=73,slow=74,SNR=26						
H08S3	Diego Garcia H	26.47	252	T	T	10 25 36.9	
	baz=73,slow=74,SNR=25						
H08S1	Diego Garcia H	26.48	252	T	T	10 25 36.9	
	baz=73,slow=74,SNR=35						
WRA	Warramunga Arr	41.13	122	P	P	10 00 40.1	-0.3
	0.5nm,0.4s,baz=303,slow=8.9,SNR=8.5						
KSRS	Korea Array	46.15	34	LR	LR	10 21 19.8	
	comp=Z,28nm,19.1s,baz=20,slow=37						
SONM	Songino Array	47.81	8	P	P	10 01 34.7	+1.3
	0.7nm,0.5s,baz=197,slow=9.2,SNR=4.3						
MKAR	Makanchi Array	48.13	346	P	P	10 01 35.2	-0.6
	1.5nm,0.6s,baz=158,slow=8.3,SNR=12						
JCJ	Chichijima	50.19	54	LR	LR	10 24 32.9	
	comp=Z,33nm,19.0s,baz=139,slow=38						
STKA	Stephens Creek	52.41	132	LR	LR	10 26 21.5	
	comp=Z,68nm,19.0s,baz=47,slow=38						
ZALV	Zalesovo Beam	54.41	351	P	P	10 02 22.1	-0.6
	5.0nm,0.3s,baz=174,slow=6.5,SNR=18						
TXAR	Lajitas Array	144.00	33	PKP	PKPab	10 12 29.3	-0.1
	0.5nm,0.5s,baz=188,slow=0.8,SNR=18						

*ISCJB **02** 10:05:21.6±0.1, 36°.90N±0°.01×121°.62W±0°.02, h19km±1km, Error ellipse: s-maj=2.6km s-min=1.4km az=146.2*

*NEIC **02** 10:05:21.7±2.5, 36°.90N±0°.04×121°.60W±0°.04, h16km±3km*

*NCEDC **02** 10:05:21.8, 36°.94N×121°.54W, h8km*

*ANF **02** 10:05:22.9±0.8, 36°.89N×121°.60W, h22km±7km, ML3.8/31, Error ellipse: s-maj=4.5km s-min=3.0km az=57.0*

ISC 02 10:05:21.5±0.8, 36°.93N±0°.02×121°.62W±0°.02, h14km±4km, n324, σ1s.06/339, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSR	Chase Ranch	0.04	46		Pg	10 05 23.5	-0.5
ANZ	Anzar Road	0.05	156		Pg	10 05 23.9	-0.2
HCOM	Corn Cob Canyo	0.09	239		Pg	10 05 25.2	+0.8
OCR	O'Connell Ranc	0.09	99		Pg	10 05 23.6	-0.9
HBTM	San Juan Bauti	0.10	147		Pg	10 05 24.4	-0.2
HTUM	Tustin Road	0.11	191		Pg	10 05 24.9	+0.2
HTUM					Sg	10 05 27.3	+0.5
HLPM	Lions Peak	0.11	354		Pg	10 05 24.8	+0.1
HJGM	San Juan Grade	0.14	165		Pg	10 05 25.0	-0.1
CDC	Canada Road	0.14	49		Pg	10 05 24.6	-0.6
HCAM	Canada Road	0.14	49		Pg	10 05 24.6	-0.6
HERM	Elkhorn Road	0.15	210		Pg	10 05 26.1	+0.8
JELB	Ellicott, Sant	0.17	269		Pg	10 05 26.9	+1.4
JPLM	Pleasant Valle	0.18	285		Pg	10 05 27.3	+1.7
HFEM	San Felipe	0.18	73		Pg	10 05 24.9	-0.8
JECB	Eureka Canyon	0.19	308		Pg	10 05 26.9	+1.0
HSPM	Sheep	0.20	24		Pg	10 05 26.2	0.0
FRP	Fremont Peak	0.20	150		Pg	10 05 25.9	-0.2
GHS	Gilroy Hot Spr	0.21	40		Pg	10 05 26.0	-0.3
SAO	San Andreas Ge	0.22	141		Pg	10 05 26.0	-0.3
SAO					Sg	10 05 26.3	-3.2
JTGM	Trout Gulch Ro	0.23	295		Pg	10 05 28.1	+1.6
CADM	Anderson Res.	0.23	358		Pg	10 05 26.9	+0.4
JLAB	Laurel Hill	0.24	337		Pg	10 05 27.5	+0.7
BVYM	Vineyard	0.24	138		Pg	10 05 26.8	0.0
JHLM	Holstrom Ranch	0.25	316		Pg	10 05 27.7	+0.9
HLTM	Lone Tree Road	0.25	101		Pg	10 05 26.2	-0.7
BSLM	Silva Ranch	0.27	126		Pg	10 05 26.9	-0.2
PACP	Pacheco Peak	0.28	74		Pg	10 05 26.8	-0.6
BSRM	Salinas Radio	0.28	163		Pg	10 05 27.2	-0.1
AMC	Almaden	0.29	321		Pg	10 05 28.5	+0.9
JSTM	Santa Teresa H	0.31	332		Pg	10 05 28.8	+0.9
BCGM	Cienega Road	0.31	135		Pg	10 05 28.0	+0.1
JUMM	Mount Umunhum	0.32	316		Pg	10 05 29.0	+0.9
CCOB	Coe Ranch Numb	0.33	352		Pb	10 05 29.5	+0.3
SLD	San Luis Dam	0.35	66		Sg	10 05 32.9	-0.5
BHRM	Hodges Ranch	0.35	126		Pg	10 05 28.3	-0.3
BPCNC	Pine Canyon	0.36	181		Pb	10 05 29.2	-0.4
SCZ	Santa Cruz	0.38	153		Pg	10 05 28.8	-0.3
SFJWR	San Luis Fatjo	0.38	72		Pg	10 05 28.6	-0.5
BLRM	Lewis Ranch	0.38	134		Pg	10 05 29.4	+0.1
BJOM	Mount Johnson	0.39	141		Pg	10 05 29.4	+0.1
JJOM	Saint Joseph's	0.40	314		Pn	10 05 30.5	-2.4
SCCB	Santa Clara Co	0.41	331		Pn	10 05 30.7	-2.3
HMOM	Monterey	0.41	216		Pb	10 05 30.6	0.0
MHC	Mount Hamilton	0.41	357		Pb	10 05 30.6	0.0
ARN	Arnold Ranch	0.42	9		Pb	10 05 30.5	-0.3
BJCM	Johnson Can.	0.42	155		Pg	10 05 29.8	-0.2
BEHM	Elkhorn Ranch	0.44	127		Pg	10 05 30.0	-0.3
JBNB	Ben Lomond Mou	0.47	294		Pn	10 05 31.7	-2.3
JSGM	Saratoga Golf	0.49	316		Pn	10 05 32.7	-1.4
BEMM	Emmet	0.50	123		Pg	10 05 30.8	-0.6
MOBB	Monterey Bay O	0.50	242		Pn	10 05 33.2	-0.9
SCKWR	San Luis Creek	0.51	60		Pg	10 05 31.8	+0.4
JHUM	Huhtala Lane,	0.53	303		Pn	10 05 33.0	-1.6
CMMM	Mount Mocho	0.53	11		Pb	10 05 32.6	-0.1
CALM	Calaveras Res.	0.54	344		Pn	10 05 33.2	-1.6
HAST	Hastings Reser	0.54	174		Pg	10 05 32.3	+0.1
HAST					Sg	10 05 40.1	+0.6
CMLM	Mount Lewis	0.55	357		Pn	10 05 33.2	-1.8
BAVM	Antelope Valle	0.55	121		Pg	10 05 31.7	-0.6
BSMM	Soledad Missio	0.57	164		Pg	10 05 32.7	+0.1
BPIM	Pinnacles	0.57	141		Pg	10 05 32.2	-0.5
BBGB	Big Mountain B	0.58	127		Pg	10 05 32.7	-0.2
JPC	Peters Creek,	0.58	306		Pn	10 05 34.2	-1.2
BSGM	Shirttail Gulc	0.59	150		Pg	10 05 32.7	-0.4
BBNM	San Benito	0.60	134		Pg	10 05 33.5	+0.1
CMJM	Mission San Jo	0.62	341		Pn	10 05 34.7	-1.3
JJRM	Joaquin Road	0.62	312		Pn	10 05 34.9	-1.1
BCWM	Chews Ridge	0.62	176		Pg	10 05 33.9	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JFP	Foothills Park	0.63	313		Pn	10 05 34.9	-1.1
BRMM	Rolling Bench	0.64	98		Pg	10 05 34.0	0.0
JSFB	Stanford Teles	0.65	317		Pn	10 05 35.4	-1.0
JRSC	Jasper Ridge	0.69	314		Pn	10 05 36.0	-0.8
WENL	Wente Vineyard	0.70	351		Pn	10 05 36.4	-0.6
LRV	Little Rabbit	0.70	136		Pg	10 05 35.0	-0.2
BGH	Bear Gulch	0.71	306		Pn	10 05 36.3	-0.8
BPOM	Post Ranch	0.71	190		Pb	10 05 35.5	-0.2
BMSM	Mercy Hot Spri	0.71	112		Pg	10 05 34.9	-0.6
CVLM	Vallecito	0.71	346		Pn	10 05 36.7	-0.5
CNIC	Niles Canyon	0.73	338		Pn	10 05 36.7	-0.8
CYD1	Coyote D'meter	0.74	329		Pn	10 05 36.7	-0.8
JHPM	Huddart Park	0.75	313		Pn	10 05 37.2	-0.5
BAPM	Anderson Peak	0.76	182		Pg	10 05 36.1	-0.1
CDOM	Doolan Road	0.82	348		Pn	10 05 38.7	+0.1
LRC	Lone Oak Road	0.82	146		Pg	10 05 37.0	-0.5
PBWM	Bitterwater Cr	0.83	138		Pg	10 05 37.2	-0.4
JCHM	Cahill Ridge	0.84	314		Pn	10 05 38.7	-0.3
PHRM	Hernandez Vall	0.85	131		Pg	10 05 37.1	-0.8
OXMT	Ox Mountain	0.86	312		Pn	10 05 38.9	-0.3
JCPM	Coyote Point	0.86	320		Pn	10 05 38.8	-0.5
CLCB	Lake Chabot	0.88	336		Pn	10 05 39.2	-0.3
CBSNC	Byron Hot Spri	0.89	359		Pn	10 05 39.7	+0.1
CMOB	Morgan Territo	0.89	350		Pn	10 05 39.5	-0.2
SAC	San Andreas	0.91	316		Pn	10 05 39.5	-0.4
PCCM	Crazy Canyon	0.92	156		Pg	10 05 39.1	-0.2
BGC	Bolinger Road	0.95	338		Pn	10 05 40.4	-0.1
CMCM	Mills College	0.96	332		Pn	10 05 40.1	-0.4
PMPB	Monarch Peak	0.97	137		Pg	10 05 39.7	-0.6
CRHM	Round Hill Res	0.97	342		Pn	10 05 41.0	+0.2
JMGM	Milagra Ridge	0.98	316		Pn	10 05 40.5	-0.4
SMCB	Saint Mary's C	0.99	337		Pn	10 05 41.3	+0.3
CRPB	Russellman Par	1.01	347		Pn	10 05 40.7	-0.6
PAPM	Alder Peak	1.04	168		Pg	10 05 41.1	-0.5
BDM	Black Diamond	1.04	349		Pn	10 05 41.2	-0.6
MYLM	Yosemite Lake	1.06	64		Pg	10 05 40.7	-1.2
CYBM	Yerba Buena Is	1.06	326		Pn	10 05 40.9	-1.0
BKS	Berkeley--Byer	1.06	333		Pn	10 05 41.6	-0.5
CVPM	Vollmer Peak	1.07	333		Pn	10 05 41.7	-0.4
VAK	Adit at Lawren	1.07	332		Pn	10 05 41.5	-0.6
BRK	Berkeley--Havi	1.07	332		Pn	10 05 41.6	-0.5
BL88	Building 88, L	1.07	332		Pn	10 05 42.0	-0.1
BRIB	Briones	1.07	337		Pn	10 05 42.1	-0.1
PSAM	San Ardo	1.08	147		Pg	10 05 41.1	-1.2
PPTM	Peach Tree Val	1.09	138		Pg	10 05 41.3	-1.3
JPRM	Presidio of Sa	1.10	322		Pn	10 05 41.6	-0.9
RFSB	Richmond Field	1.14	330		Pn	10 05 43.3	+0.3
CPIM	Pinole Ridge	1.16	336		Pn	10 05 43.5	+0.1
CSPM	San Pablo Ridg	1.16	332		Pn	10 05 43.2	-0.2
PSMM	Smith Mountain	1.19	136		Pg	10 05 43.1	-1.3
CPMM	Point Molate	1.20	328		Pn	10 05 42.9	-0.9
HERB	Hercules	1.20	335		Pn	10 05 43.7	-0.1
PHSB	Hesperia Broad	1.20	157		Pg	10 05 43.0	-1.5
HMR	Hamilton Ranch	1.23	353		Pn	10 05 45.5	+1.2
PARM	Anticline Ridg	1.23	123		Pn	10 05 43.8	-0.6
PWMM	Westland Maint	1.23	113		Pn	10 05 43.6	-0.7
PHPM	Hope Ranch	1.25	139		Pn	10 05 43.4	-1.2
NLHM	Lake Herman	1.26	341		Pn	10 05 44.8	+0.1
PANM	San Antonio Re	1.28	153		Pn	10 05 44.4	-0.7
PHCM	Hearst Castle	1.30	163		Pn	10 05 44.7	-0.6
MCUB	Copperopolis B	1.31	37		Pn	10 05 44.6	-0.9
PKD	Bear Valley Ra	1.31	138		Pn	10 05 44.2	-1.3
PVCM	Vineyard Canyo	1.33	139		Pn	10 05 44.6	-1.2
PPO	Portuguese Can	1.33	142		Pn	10 05 45.2	-0.6
PSTM	Stockdale Moun	1.34	138		Pn	10 05 44.6	-1.3
FARB	Farallon Islan	1.34	305		Pg	10 05 45.3	-2.0
MNHB	New Hogan Dam	1.37	28		Pn	10 05 45.5	-0.8
MHDM	Hidden Dam	1.39	82		Pn	10 05 45.1	-1.4
RAMR	Ramage Ranch	1.43	155		Pn	10 05 46.2	-0.8
PHFM	Heflinger Ranc	1.44	137		Pn	10 05 47.8	+0.6
CTM	Castle Mountai	1.44	134		Pn	10 05 48.2	+0.9
NOLM	Olema	1.45	320		Pn	10 05 46.3	-1.0
CMB	Columbia Colle	1.47	41		Pn	10 05 46.8	-1.0
CMB				Sn	Sn	10 06 05.4	-1.5
PCBM	Cambria	1.48	162		Pn	10 05 46.9	-0.8
PCMM	Cholame Hills	1.49	139		Pn	10 05 47.7	-0.2
PKEM	Kettleman Hill	1.49	125		Pn	10 05 47.8	-0.2
GHC	Gold Hill	1.50	137		Pn	10 05 47.4	-0.6
BLDC	Black Mountain	1.51	157		Pn	10 05 47.7	-0.5
BLDC	Black Mountain	1.51	157		Pn	10 05 47.6	-0.5
PSRM	Scobie Ranch	1.52	134		Pn	10 05 47.9	-0.4
FRI	Friant	1.53	87		Pn	10 05 47.2	-1.2
NPRM	Point Reyes	1.54	314		Pb	10 05 48.0	-1.8
AASM	Arroyo Seco	1.55	15		Pn	10 05 47.9	-0.8
PKLM	Kerr Lake	1.55	138		Pn	10 05 47.9	-0.8
NADM	Allendale	1.55	350		Pg	10 05 49.4	-1.9
ARDC	Alexander Ranc	1.55	160		Pn	10 05 47.9	-0.9
CVS	Carmenet Viney	1.56	335		Pb	10 05 48.4	-1.8
PSNM	Stone Corral	1.56	137		Pn	10 05 48.6	-0.3
MCCM	Marconi Confer	1.57	321	Pn	Pb	10 05 48.7	-1.7
MCCM				Sn	Sg	10 06 11.3	-0.8
MMIM	Miami Mountain	1.57	71		Pn	10 05 48.7	-0.5
TCHL	Shandon	1.58	141		Pn	10 05 48.7	-0.5
NAPC	Atlas Peak	1.59	342		Pb	10 05 49.5	-1.2
PMRM	Maxey Ranch	1.60	135		Pn	10 05 48.8	-0.6
PAGB	Antelope Grade	1.63	137	Pn	Pn	10 05 49.3	-0.6
THIS	South End of C	1.65	137		Pn	10 05 49.8	-0.3
TRAM	Private Proper	1.66	139		Pn	10 05 49.7	-0.5
NTYM	Taylor	1.68	331		Pb	10 05 50.2	-1.9
PTAM	Tassajara Cree	1.70	154		Pn	10 05 50.3	-0.6
PTRM	Twissleman Ran	1.71	138		Pn	10 05 50.6	-0.3
TSCN	Private Proper	1.72	143		Pn	10 05 50.4	-0.7
LSDC	Los Osos Digit	1.75	159		Pn	10 05 52.1	+0.7
EFD	Emergency Oper	1.76	156		Pn	10 05 50.8	-0.9
NSHM	Saint Helena R	1.77	334		Pn	10 05 51.5	-0.3
NBPM	Berryessa Peak	1.79	345		Pb	10 05 52.7	-1.5
VPDC	Valencia Peak	1.79	160		Pn	10 05 51.4	-0.7
DPD	Davis Peak	1.82	158		Pn	10 05 51.8	-0.7
DCD	Diablo Creek	1.83	160		Pn	10 05 53.4	+0.9
PBPM	Bitterwater Pu	1.84	137		Pn	10 05 52.6	0.0
MAC	Mark West Spri	1.84	332		Pn	10 05 52.2	-0.4
NDHM	Dunnigan Hills	1.85	353		Pb	10 05 53.4	-1.6
KCC	Kaiser Creek	1.88	77		Pn	10 05 53.1	-0.2
NHSM	Mount Saint He	1.90	336		Pn	10 05 53.1	-0.5
VOG	Valley Oaks Go	1.90	108	P	Pn	10 05 53.2	-0.3
	baz=290,SNR=17						
VOG				S	Sn	10 06 15.4	-1.8
	baz=290						
NMCNC	Mill Creek, So	1.95	329		Pn	10 05 53.5	-0.7
NMTM	Middletown	1.98	341		Pn	10 05 54.7	0.0
GAXM	Alexander Vall	1.99	333		Pn	10 05 54.2	-0.6
FTR	Fort Ross	2.00	323		Pn	10 05 54.9	-0.2
ASMM	Slate Mountain	2.03	21		Pn	10 05 55.8	+0.4
GCRM	Castle Rock Sp	2.03	335		Pn	10 05 54.9	-0.5
MNRC	McLaughlin Min	2.05	342		Pn	10 05 55.6	0.0
GBGM	Boggs Mountain	2.06	336		Pn	10 05 55.6	-0.2
AFDM	Forest Hills D	2.08	14	Pn	Pn	10 05 55.5	-0.6
AFDM					Pb	10 05 55.9	-3.2
SMMC	Simmler	2.08	140	P	Pn	10 05 55.4	-0.6
	baz=323,SNR=66						
SMMC				S	Sn	10 06 22.0	+0.2
	baz=323						
SMMC	Simmler	2.08	140		Pn	10 05 55.3	-0.7
GSSM	Skaggs Springs	2.08	328		Pn	10 05 55.4	-0.7
GHCM	House Creek	2.09	324		Pn	10 05 55.5	-0.7
GDXM	Geysers	2.09	334		Pn	10 05 55.8	-0.4
HELL	Mitchell Peak,	2.10	96		Pn	10 05 55.4	-0.9
GSGM	Seigler Mounta	2.12	336		Pb	10 05 56.9	-2.7
MRHM	Rocky Hill	2.13	107		Pn	10 05 55.4	-1.4
BCH	Branch Mountai	2.14	144		Pn	10 05 56.7	-0.2
GCVM	Cloverdale	2.14	329		Pn	10 05 56.6	-0.2
MDPB	Devils Postpil	2.14	70		Pn	10 05 58.2	+1.1
MDPB	Devils Postpil	2.14	70	Sn	Sn	10 06 24.6	+1.0
MRDM	Red Cones	2.15	71		Pn	10 05 58.0	+0.8
MINS	Minaret Summit	2.16	70		Pn	10 05 58.3	+0.8
CARC	Carrizo Plain	2.16	138		Pn	10 05 56.6	-0.7
GACM	Adobe Creek	2.17	333		Pn	10 05 57.6	+0.2
MMPM	Mammoth Pass	2.17	71		Pn	10 05 58.5	+0.9
MLIM	Lincoln Peak	2.19	70		Pn	10 05 59.6	+1.8
PMLM	Mount Lospe	2.19	158		Pn	10 05 56.8	-0.8
MDCM	Deadman Creek	2.19	69		Pn	10 05 58.9	+1.0
OMMB	Old Mammoth Mi	2.19	71		Pn	10 05 58.5	+0.6
MDYM	Dry Creek	2.20	70		Pn	10 05 59.3	+1.4
MMLB	Mammoth Lakes	2.23	70		Pn	10 05 59.7	+1.4
GMKM	Mount Konoctai	2.23	336		Pn	10 05 57.9	-0.4
GDCM	Dry Creek	2.24	325		Pn	10 05 58.3	0.0
MEMM	East Mammoth H	2.26	70		Pn	10 06 00.1	+1.4
MLCM	Laurel Creek C	2.26	72		Pn	10 05 59.8	+1.1
LMCR	Lookout Mounta	2.27	69		Pn	10 06 00.8	+1.8
MGPM	Gravel Pit	2.27	71		Pn	10 06 00.4	+1.5
MCSM	Casa Diablo Ho	2.28	71		Pn	10 06 00.4	+1.4
MCBM	Casa Benchmark	2.28	71		Pn	10 06 00.6	+1.6
MCMM	Convict Lake	2.29	72		Pn	10 06 00.2	+1.1
SUTB	Sutter Butte	2.30	357		Pn	10 05 57.7	-1.3
VES	Vestal, Richgr	2.31	117	P	Pn	10 05 58.1	-1.1
	baz=300,SNR=82						
VES				S	Sn	10 06 26.7	-0.8
	baz=300						
VES	Vestal, Richgr	2.31	117		Pn	10 05 58.4	-0.9
MCVM	Convict Lake	2.32	73		Pn	10 06 00.7	+1.1
MLAC	Mammoth, Mammo	2.33	72	P	Pn	10 06 00.9	+1.3
	baz=253,SNR=69						
MLAC				Sb	Sb	10 06 34.9	+2.9
	baz=253						
MLAC	Mammoth, Mammo	2.33	72		Pn	10 06 01.3	+1.7
MDRNC	Doe Ridge	2.33	72		Pn	10 06 01.1	+1.4
WAKR	Walker	2.33	47		Pn	10 06 01.2	+1.5
WAKR	Walker	2.33	47	Sn	Sn	10 06 30.4	+2.1
MLHM	Little Hot Cre	2.35	71		Pn	10 06 02.0	+2.0
HOPS	Hopland Field	2.36	331		Pn	10 05 59.4	-0.5
GSNM	Snow Mountain	2.36	329		Pn	10 05 59.9	-0.1
EMB	Emerald Bay	2.37	30		Pn	10 06 01.5	+1.3
RCCR	Rock Creek Can	2.38	76		Pn	10 06 01.4	+1.1
SCHCA	Scheelite	2.38	79		Pn	10 06 01.5	+1.1
GHLM	Highland Sprin	2.38	333		Pn	10 05 59.7	-0.5
OHCM	Honcut	2.40	2		Pn	10 06 00.0	-0.4
SPG2	Springville 2	2.41	107		Pn	10 06 00.1	-0.5
RUBR	Rubicon Trail	2.41	28		Pn	10 06 02.0	+1.2
RUBR	Rubicon Trail	2.41	28	Sn	Sn	10 06 32.4	+2.1
GGUM	Gualala	2.43	323		Pn	10 06 00.6	-0.3
WMD		2.43	77		Pn	10 06 01.7	+0.9
GFC	Funks Creek	2.45	348		Pn	10 06 01.9	+0.8
ORC	Owens River	2.46	73		Pn	10 06 02.9	+1.4
MTUM	Tungsten Hills	2.48	79		Pn	10 06 02.9	+1.3
TAHR	Tahoe	2.50	27		Pn	10 06 03.6	+1.7
TMB	Temblor Range	2.50	137		Pn	10 06 03.1	+1.3
GTSM	Trough Springs	2.50	342		Pn	10 06 02.7	+0.8
PKM	Mcpherson Peak	2.51	144	P	Pn	10 06 01.7	-0.4
	baz=326,SNR=38						
PKM				S	Sn	10 06 32.4	-0.2
	baz=326						
PKM	Mcpherson Peak	2.51	144		Pn	10 06 01.8	-0.3
BFC	Buffalo Canyon	2.52	38		Pn	10 06 03.8	+1.5
GATR	Gnd/Air Tx Cnt	2.54	159		Pn	10 06 01.5	-0.9
BENR	Benton	2.55	71		Pn	10 06 03.8	+1.1
FIGC	Figueroa Mtn.	2.57	148		Pn	10 06 02.9	+0.1
MRCM	Red Rock Canyo	2.59	72		Pn	10 06 05.5	+2.3
MFBM	Five Bridges	2.59	78		Pn	10 06 05.4	+2.2
GHOM	Hamilton Openi	2.60	325		Pn	10 06 02.9	-0.3
MCDM	Chidago Canyon	2.61	75		Pn	10 06 05.6	+2.2
ORV	Oroville	2.62	2		Pn	10 06 03.4	0.0
ORV	Oroville	2.62	2		Pn	10 06 03.7	+0.2
DONR	Donner Summit	2.62	23		Pn	10 06 04.7	+0.9
MPK	Martis Peak	2.67	27		Pn	10 06 06.0	+1.5
BCW	Bitter Crk WRg	2.67	137		Pn	10 06 05.4	+1.1
PNTR	Pine Nut	2.68	36		Pn	10 06 05.7	+1.2
MLNR	Milner Canyon	2.69	75		Pn	10 06 06.5	+1.9
POCCA	Poleta Canyon	2.70	80		Pn	10 06 06.6	+1.8
TIN	Tinemaha, Big	2.71	86	P	Pn	10 06 05.7	+0.9
	baz=268,SNR=47						
WOFM	Oak Flat	2.73	120		Pn	10 06 04.5	-0.6
SYP	Santa Ynez Pea	2.75	150		Pn	10 06 05.5	+0.2
YERR	Yerington	2.78	42		Pn	10 06 07.0	+1.2
ISA	Isabella, Lake	2.84	116	P	Pn	10 06 06.0	-0.5
	baz=298,SNR=134						
CWC	Cottonwood Cre	2.88	99	P	Pn	10 06 07.6	+0.4
	baz=281						
ARVC	Arvin	2.89	128	P	Pn	10 06 06.9	-0.2
	baz=310,SNR=26						
SBC	Santa Barbara	2.93	147	P	Pn	10 06 07.8	+0.2
	baz=330						
NVAR	Mina Array Bea	3.02	59		Pn	10 06 09.7	+0.5
KCPM	Cahto Peak	3.15	331		Pn	10 06 11.5	+0.6
PAHR	Pah Rah Range	3.28	32		Pn	10 06 13.3	+0.6
DAC	Darwin (Calif)	3.30	100		Pn	10 06 15.9	+2.9
SCZ2	Santa Cruz Isl	3.35	151	P	Pn	10 06 13.8	+0.3
	baz=333						
O03E	Paynes Creek	3.36	358	P	Pn	10 06 14.1	+0.4
	baz=176,SNR=14						
O02D	Mt. Diablo Mer	3.37	345	P	Pn	10 06 14.8	+1.0
	baz=163						
O02D				S	Sn	10 06 53.6	0.0
	baz=163						
GRAC	Grapevine Rang	3.41	88	Pb	Pb	10 06 21.6	-0.1
	baz=270,SNR=19						
GRAC				Sb	Sb	10 07 04.7	+1.7
	baz=270						
MPMC	Manual Prospec	3.44	103	P	Pn	10 06 14.8	-0.1
	baz=286,SNR=67						
MPMC				Sb	Sb	10 07 06.6	+2.5
	baz=286						
KVN	Kaiserville	3.49	52		Pn	10 06 16.6	+1.0
BLG	Laguna Peak, P	3.50	143	P	Pn	10 06 15.5	-0.1
	baz=325						
EDW2	Edwards Air Fo	3.58	124	P	Pn	10 06 16.9	+0.2
	baz=307,SNR=41						
KMRM	Mail Ridge	3.67	334		Pn	10 06 19.4	+1.4
WDC	Whiskeytown Da	3.71	349		Pn	10 06 18.4	-0.1
DECC	Green Verdugo	3.78	134	P	Pn	10 06 19.1	-0.4
	baz=317						
FURC	Furnace Creek,	3.85	95	Sb	Sb	10 07 19.3	+3.6
	baz=279						
PASC	Pasadena Art C	3.93	134		Pn	10 06 21.7	+0.3
SNCC	San Nicolas Is	4.06	154	P	Pn	10 06 23.5	+0.4
	baz=337						
BFSC	Mount Baldy Ra	4.20	129	P	Pn	10 06 25.8	+0.5
	baz=312,SNR=13						
BFSC				S	Sn	10 07 14.6	+0.4
	baz=312						
GSC	Goldstone, Bar	4.22	111	P	Pn	10 06 25.2	-0.3
	baz=295,SNR=25						
RRX	Edison Barstow	4.28	117	Sb	Sb	10 07 30.0	+2.1
	baz=301						
TPNV	Topopah Spring	4.30	88	P	Pn	10 06 27.3	+0.6
	baz=272,SNR=12						
TPNV	Topopah Spring	4.30	88		Pn	10 06 27.4	+0.6
CIS	Catalina Islan	4.39	142	P	Pn	10 06 27.5	-0.3
	baz=325						
CIS				S	Sn	10 07 16.6	-2.2
	baz=325						
SHOC	Shoshone, Teco	4.43	102	P	Pn	10 06 28.5	+0.2
	baz=285,SNR=6.1						
BBRC	Big Bear Solar	4.66	123	P	Pn	10 06 32.3	+0.6
	baz=307,SNR=15						
SCI2	San Clemente I	4.68	147	P	Pn	10 06 32.8	+1.1
	baz=329						
HEC	Hector,Ludlow	4.77	114	P	Pn	10 06 32.5	-0.7
	baz=298,SNR=16						
TUQ	Turquoise Moun	4.84	106	P	Pn	10 06 34.7	+0.6
	baz=290						
YBH	Yreka Blue Hor	4.87	350	Pn	Pn	10 06 37.4	+2.9
KRMB	Red Mountain	4.92	340	Pn	Pn	10 06 37.8	+2.7
R11A	Troy Canyon, C	4.99	72	Pn	Pn	10 06 38.0	+1.8
SHPR	Sheep Range	5.21	93		Pn	10 06 39.5	+0.4
GMRC	Granite Mounta	5.29	112	P	Pn	10 06 38.9	-1.4
	baz=296,SNR=7.8						
PFO	Pinyon Flats O	5.36	127	P	Pn	10 06 41.7	+0.4
	baz=310						
PFO	Pinyon Flats O	5.36	127		Pn	10 06 41.2	-0.1
109C	Camp Elliot, M	5.48	136	P	Pn	10 06 42.4	-0.3
	baz=319						
KBO	Bosley Butte	5.65	340	Pn	Pn	10 06 47.2	+2.1
SDRC	San Diego Road	5.68	136	Pn	Pn	10 06 45.4	-0.2
HUMO	Hull Mountain	5.76	350	Pn	Pn	10 06 50.6	+4.0
MONP2	Monument Peak	5.87	132	P	Pn	10 06 48.4	+0.1
	baz=315						
MONP2	Monument Peak	5.87	132		Pn	10 06 48.0	-0.3
BAR	Barrett	5.88	135		Pn	10 06 47.5	-0.8
IRM	Iron Mountain	5.96	116	P	Pn	10 06 48.4	-1.0
	baz=300,SNR=13						
IKP	In-Ko-Pah, Jac	6.23	132		Pn	10 06 54.7	+1.6
ELK	Elko	6.27	51	Pn	Pn	10 06 54.0	+0.2
Y12C	Blythe	6.61	117	P	Pn	10 06 58.3	+0.1
	baz=301,SNR=5.9						
Y12C	Blythe	6.61	117		Pn	10 06 57.3	-0.9
LCMT	Little Creek M	6.70	87	Pn	Pn	10 07 00.1	+0.4

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*ISCJB **02** 10:12:24.4±0.5, 29°.13S±0°.02×71°.76W±0°.08, h31km, mb4.0/4, MS3.0/1, Error ellipse: s-maj=9.5km s-min=3.6km az=177.3*

*NEIC **02** 10:12:26.8±1.8, 29°.16S±0°.04×71°.7W±0°.1, h32km±2km, mb4.5/4, ML4.5(GUC)*

*GUC **02** 10:12:28.4±0.6, 29°.42S×70°.21W, h95km±10km, ML4.5*

*IDC **02** 10:12:29.9±3.0, 29°.09S×71°.42W, h48km±26km, mb3.8/4, mb1 3.9/8, mb1mx3.7/27, mbtmp3.9/8, ML3.7/4, MS3.2/6, Ms1 3.2/6, ms1mx3.0/21, Error ellipse: s-maj=39.0km s-min=12.6km az=73.0*

ISC 02 10:12:26.7±0.6**, 29°.13S**±0°.03×**71°.60W**±0°.08**, h31**km**, n43, σ1s.29**/51**, mb4.3**/6**, 1C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	Tololo Observa	1.25	146	*i* P	Pb	10 12 48.9	-1.0
GO04				*i* S	Sb	10 13 04.7	-1.1
GO04				IAML		10 13 06.3	
	comp=E,54μm,0.4s						
GO04	Tololo Observa	1.25	146	Pn	Pb	10 12 49.0	-0.8
GO04				Sn	Sn	10 13 04.3	0.0
GO03	Copiap	1.94	39	*i* P	Pb	10 12 59.8	-1.8
GO03				*i* S	Sb	10 13 23.1	-2.3
GO03				IAML		10 13 35.7	
	comp=E,4μm,0.3s						
GO03	Copiap	1.94	39		Pb	10 13 00.3	-1.3
CO02	Combarbal	2.13	166	⇑ *i* P	Pn	10 13 00.7	+0.4
CO02				*i* S	Sn	10 13 25.5	-0.2
CO02				IAML		10 13 38.9	
	comp=E,6μm,0.4s						
CFA	Coronel Fontan	3.81	131	P	Pn	10 13 26.3	+3.0
	comp=E,24nm,0.3s,baz=323,slow=15,SNR=80						
CFA				S	Sn	10 14 08.2	+1.0
	comp=E,27nm,0.3s,baz=292,slow=8.2,SNR=4.2						
CFA				LR	LR	10 15 02.2	
	comp=E,323nm,18.4s,baz=260,slow=41						
ROC1	El Roble	3.87	173		Pn	10 13 24.6	+0.3
PEL	Peldehue	4.08	169		Pn	10 13 27.8	+0.9
GO02	Mina Guanaco	4.34	25		Pn	10 13 32.4	+1.6
PB10	IPOC Station P	5.67	10	Pn	Pn	10 13 50.4	+1.5
PB10				Sn	Sn	10 14 53.4	+0.5
GO05	Huala	5.87	183	Pn	Pn	10 13 49.7	-1.8
PB04	IPOC Station P	6.89	11	Pn	Pn	10 14 06.3	+0.5
LVC	Limon Verde	6.93	21	P	Pn	10 14 06.9	+0.4
	comp=E,0.7nm,0.3s,baz=189,slow=9.6,SNR=11						
LVC				S	Sn	10 15 24.4	0.0
	comp=E,4.2nm,0.3s,baz=173,slow=18,SNR=2.9						
LVC				LR	LR	10 16 47.5	
	comp=E,174nm,18.7s,baz=193,slow=38						
PB01	IPOC Station P	8.28	14	Pn	Pn	10 14 23.8	-0.9
PB11	IPOC Station P	9.49	11	Pn	Pn	10 14 42.7	+1.2
GO01	Chusmiza	9.67	14	Pn	Pn	10 14 44.8	+0.7
MNMC	Minye Minye	10.12	11	Pn	Pn	10 14 51.9	+1.8
GO06	Curarrehue	10.43	179	Pn	Pn	10 14 53.2	-0.9
PLCA	Paso Flores	11.61	176	P	Pn	10 15 09.3	-1.0
	comp=E,0.2nm,0.3s,baz=357,slow=13,SNR=6.2						
PLCA				LR	LR	10 19 46.9	
	comp=E,104nm,20.0s,baz=32,slow=38						
TRQA	Tornquist	11.98	141		Pn	10 15 15.4	+0.2
CPUP	Villa Florida	12.94	81	P	Pn	10 15 28.8	+0.3
	comp=E,0.2nm,0.3s,baz=249,slow=11,SNR=3.4						
CPUP				LR	LR	10 20 57.8	
	comp=E,133nm,19.4s,baz=252,slow=40						
LPAZ	La Paz	13.17	15	P	Pn	10 15 32.7	+0.5
	comp=E,0.1nm,0.3s,baz=196,slow=7.4,SNR=1.9						
LPAZ				LR	LR	10 21 05.4	
	comp=E,61nm,18.1s,baz=203,slow=39						
SIV	San Ignacio	16.28	39	P	Pn	10 16 10.1	-3.1
	comp=E,0.1nm,0.3s,baz=239,slow=18,SNR=2.0						
BDFB	Brasilia	25.54	63	LR	LR	10 29 29.7	
	comp=E,51nm,20.0s,baz=158,slow=40						
SNAA	Sanae	55.97	159	P	P	10 22 02.2	+0.5
	comp=E,2.4nm,0.5s,baz=263,slow=9.7,SNR=11						
SNAA	Sanae	55.97	159	P	P	10 22 00.8	-0.9
QSPA	South Pole Qui	61.09	180	P	P	10 22 37.9	+0.3
QSPA				IAmb	IAmb	10 22 47.9	
	comp=Z,2.4nm,0.8s						
TXAR	Lajitas Array	65.71	329	P	P	10 23 11.1	+2.6
	comp=Z,0.6nm,0.7s,baz=153,slow=7.9,SNR=5.9						
TXAR	Lajitas Array	65.71	329	P	P	10 23 08.4	0.0
HALT	Halls	66.81	344	P	P	10 23 13.1	-2.2
PDAR	Pinedale Array	79.61	333	P	P	10 24 33.1	+2.2
	comp=Z,0.5nm,0.5s,baz=137,slow=7.8,SNR=5.2						
PDAR	Pinedale Array	79.61	333	P	P	10 24 31.3	+0.3
TOA0	Torodi Ar. Sit	82.21	70	P	P	10 24 46.0	+0.8
TOA0					pP	10 24 56.3	+1.4
TOA0				IAmb	IAmb	10 24 56.8	
	comp=Z,4.0nm,0.6s						
TORD	Torodi Ar. Bea	82.21	70	P	P	10 24 46.4	+1.2
	comp=Z,1.5nm,0.7s,baz=279,slow=6.1,SNR=8.3						
ILGA	Ilgaz	119.45	57		PKiKP	10 31 14.0	+0.6
ASAR	Alice Springs	122.06	208	PKP	PKPdf	10 31 18.7	-0.1
	comp=Z,0.2nm,0.4s,baz=127,slow=1.6,SNR=10						
ASAR	Alice Springs	122.06	208		PKPdf	10 31 16.4	-2.3
WRA	Warramunga Arr	125.17	210	PKP	PKiKP	10 31 25.3	+0.2
	comp=Z,1.0nm,0.5s,baz=162,slow=1.6,SNR=21						
ZAA0	Zalesovo Array	149.84	28		PKPbc	10 32 13.1	-0.1
ZALV	Zalesovo Beam	149.84	28	PKPbc	PKPbc	10 32 12.6	-0.5
	comp=Z,3.8nm,0.4s,baz=301,slow=4.1,SNR=17						
ZALV	Zalesovo Beam	149.84	28	PKPdf	PKPdf	10 32 09.3	+0.9
ZALV					PKPbc	10 32 12.7	-0.5
MKAR	Makanchi Array	153.08	42	PKPbc	PKiKP	10 32 22.1	+1.0
	comp=Z,1.0nm,0.7s,baz=335,slow=2.4,SNR=8.1						
MKAR	Makanchi Array	153.08	42		PKiKP	10 32 21.0	-0.1

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*ISCJB **02** 10:12:27.9±0.4, 19°.3S±0°.1×177°.73W±0°.09, h600km, mb4.0/10, Error ellipse: s-maj=14.5km s-min=8.7km az=148.9*

*NEIC **02** 10:12:27.2±2.1, 19°.3S±0°.1×177°.6W±0°.1, h578km±9km, mb4.4/18*

*IDC **02** 10:12:29.8±5.0, 19°.25S×177°.77W, h600km±58km, mb3.5/10, mb1 3.7/10, mb1mx3.3/38, mbtmp4.4/10, Error ellipse: s-maj=43.6km s-min=25.4km az=153.0*

ISC 02 10:12:29.1±0.6**, 19°.3S**±0°.1×**177°.72W**±0°.10**, h600**km**, n35, σ1s.28**/34**, mb4.3**/15**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.29	290	P	P	10 13 53.8	-3.0
NIUE	Niue	7.37	90	P	P	10 14 22.4	-0.1
AFI	Afiamalu	7.81	48	P	P	10 14 19.7	-7.1
AFI				S	S	10 15 51.0	-12
DZM	Mont Dzumac	15.07	257	P	P	10 15 38.6	+0.5
DZM				IAmb	IAmb	10 15 53.2	
	comp=Z,15nm,1.1s						
OUZ	Omahuta	17.64	204	P	P	10 16 02.5	+1.3
URZ	Urewera	19.44	192	P	P	10 16 15.4	-2.1
URZ				IAmb	IAmb	10 16 26.8	
	comp=Z,11nm,1.0s						
KHZ	Kahutara	24.22	196	P	P	10 16 57.8	-2.3
WHZ	Wether Hill Ro	29.06	201	P	P	10 17 42.6	+0.1
CTA	Charters Tower	33.89	262	P	P	10 18 24.1	+0.3
	comp=Z,18nm,0.6s,baz=90,slow=10,SNR=26						
TOO	Toolangi	36.83	233	P	P	10 18 48.5	+0.6
COEN	Coen	37.78	272	P	P	10 18 55.9	-0.1
STKA	Stephens Creek	38.56	243	P	P	10 19 02.8	+0.7
	comp=Z,5.3nm,0.8s,baz=82,slow=9.6,SNR=12						
STKA	Stephens Creek	38.56	243	P	P	10 19 03.0	+0.9
BBOO	Buckleboo	43.33	242	P	P	10 19 40.0	+0.3
BBOO				IAmb	IAmb	10 19 41.9	
	comp=Z,17nm,1.3s						
JAY	Jayapura	43.92	287	P	P	10 19 45.9	+1.3
	comp=Z,16nm,0.6s,baz=125,slow=5.1,SNR=7.3						
WRA	Warramunga Arr	45.04	261	P	P	10 19 52.5	-0.5
	comp=Z,5.2nm,0.7s,baz=95,slow=8.3,SNR=16						
WRA				PcP	PcP	10 21 21.7	+0.9
	comp=Z,1.2nm,0.8s,baz=89,slow=4.2,SNR=2.4						
WRA	Warramunga Arr	45.04	261	IAmb	IAmb	10 19 53.6	
	comp=Z,0.6nm,0.7s						
AS31	Alice Springs	45.06	256	P	P	10 19 53.6	+0.4
ASAR	Alice Springs	45.06	256	P	P	10 19 53.4	+0.2
	comp=Z,9.5nm,0.7s,baz=88,slow=8.7,SNR=145						
ASAR	Alice Springs	45.06	256	P	P	10 19 52.8	-0.3
FORT	Forrest	50.02	246	P	P	10 20 28.6	-1.4
SIJI	Sorong	53.19	284	P	P	10 20 53.0	0.0
	comp=Z,16nm,0.8s,baz=67,slow=12,SNR=5.2						
PSA00	Pilbara Seismi	58.20	256	P	P	10 21 27.4	-0.1
KMRM	Mail Ridge	77.65	39	P	P	10 23 24.6	-0.3
KMRM				IAmb	IAmb	10 23 42.8	
	comp=Z,18nm,1.3s						
PASC	Pasadena Art C	77.67	47	P	P	10 23 24.7	-0.4
PASC				IAmb	IAmb	10 23 26.7	
	comp=Z,5.3nm,0.3s						
OHAK	Old Harbor	78.91	13	P	P	10 23 30.7	-0.3
OHAK				IAmb	IAmb	10 23 41.3	
	comp=Z,18nm,1.2s						
PNTR	Pine Nut	79.51	42	P	P	10 23 37.1	+2.1
NVAR	Mina Array Bea	79.97	43	P	P	10 23 38.3	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.3nm,0.6s,baz=224,slow=9.2,SNR=4.1						
TXAR	**Lajitas Array**	**86.18**	**57**	P	**P**	**10 24 09.9**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=196,slow=5.3,SNR=3.4						
ILAR	**Eielson Array**	**87.08**	**13**	P	**P**	**10 24 11.2**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=231,slow=5.0,SNR=8.1						
ILAR	**Eielson Array**	**87.08**	**13**	P	**P**	**10 24 09.3**	**-2.3**
SNOW	**Snow King Moun**	**87.47**	**42**	P	**P**	**10 24 11.5**	**-2.7**
SNOW				IAmb	IAmb	10 24 13.8	
	comp=Z,5.6nm,1.0s						
CMAR	**Chiang Mai Arr**	**89.95**	**289**	P	**P**	**10 24 27.5**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=120,slow=2.3,SNR=5.6						
BRTR	**Keskin Array B**	**146.20**	**314**	PKPbc	**PKPbc**	**10 31 03.2**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=153,slow=3.7,SNR=4.2						
GERES	**GERESS Array B**	**149.10**	**345**	PKPbc	**PKPbc**	**10 31 10.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=5.7,slow=4.0,SNR=3.8						

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*ISCJB **02** 10:15:23.6±0.3, 3°.79S±0°.03×141°.36E±0°.05, h54km, mb4.0/11, MS3.4/1, Error ellipse: s-maj=6.7km s-min=4.6km az=169.9*
*NEIC **02** 10:15:25.5±1.5, 3°.80S±0°.06×141°.29E±0°.07, h58km±8km, mb4.3/18*
*DJA **02** 10:15:25.0±2.2, 4°S±4°×14°1E±°, h21km±21km, M4.5/4, mb4.7/3, MLv4.4/4*
*IDC **02** 10:15:25.1±1.9, 3°.76S×141°.33E, h54km±14km, mb3.7/12, mb1 3.9/14, mb1mx3.8/26, mbtmp4.1/14, ML4.1/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/25, Error ellipse: s-maj=22.9km s-min=11.9km az=83.0*
ISC 02 10:15:25.1±0.5, **3°.83S**±0°.05×**141°.29E**±0°.07, **h54**km, **n51**, σ**1s.49**/54, **mb4.2**/13, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.43**	**336**	P	**Pn**	**10 15 47.9**	**-0.9**
	28nm,0.3s,baz=156,slow=11,SNR=117						
JAY				S	**Sn**	**10 16 05.4**	**-1.1**
	200nm,0.3s,baz=338,slow=19,SNR=22						
JAY				LR	LR	10 16 26.9	
	comp=Z,318nm,20.7s,baz=142,slow=45						
JAY	**Jayapura**	**1.43**	**336**	P	**Pn**	**10 15 47.6**	**-1.2**
JAY				S	**Sn**	**10 16 05.3**	**-1.2**
GENI	**Genyem**	**1.66**	**318**	P	**Pn**	**10 15 52.6**	**+0.7**
GENI				S	**Sn**	**10 16 13.5**	**+1.4**
SMPI	**Sarmi**	**3.15**	**305**	P	**Pn**	**10 16 14.4**	**+2.1**
MANU	**Manus Island**	**6.33**	**74**	Pn	**Pn**	**10 16 55.9**	**+0.1**
PMG	**Port Moresby**	**8.04**	**134**	P	**Pn**	**10 17 20.4**	**+1.0**
	2.4nm,0.3s,baz=304,slow=11,SNR=14						
PMG	**Port Moresby**	**8.04**	**134**		**Pn**	**10 17 20.1**	**+0.7**
FAKI	**Fak Fak**	**9.07**	**275**	Pn	**Pn**	**10 17 34.6**	**+1.2**
COEN	**Coen**	**10.23**	**170**	Pn	**Pn**	**10 17 52.0**	**+2.6**
MTN	**Manton Dam**	**13.45**	**228**		**Pn**	**10 18 34.5**	**+1.2**
KNRA	**Kununurra**	**17.04**	**225**	P	**Pn**	**10 19 20.2**	**+0.4**
KNRA				IAmb	IAmb	10 19 42.1	
	comp=Z,15nm,0.6s						
WB0	**Warramunga Arr**	**17.21**	**202**	P	**Pn**	**10 19 22.8**	**+0.9**
WR0	**Warramunga Arr**	**17.33**	**202**	P	**Pn**	**10 19 23.7**	**+0.3**
WRAB	**Tennant Creek**	**17.38**	**202**	P	**P**	**10 19 25.4**	**+0.8**
WRAB				IAmb	IAmb	10 19 53.6	
	comp=Z,10nm,0.7s						
WB2	**Warramunga Arr**	**17.39**	**202**	P	**P**	**10 19 25.7**	**+0.9**
WB2				IAmb	IAmb	10 19 53.7	
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**17.39**	**202**	P	**P**	**10 19 25.5**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=24,slow=11,SNR=26						
WRA				S	**Sn**	**10 22 31.3**	**-5.7**
	comp=Z,0.1nm,0.3s,baz=16,slow=24,SNR=3.1						
WRA	**Warramunga Arr**	**17.39**	**202**	P	**Pn**	**10 19 24.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**20.88**	**226**	P	**P**	**10 20 04.0**	**+1.1**
	comp=Z,1.2nm,0.4s,baz=45,slow=8.6,SNR=3.8						
FITZ				S	**S**	**10 23 48.5**	**-4.3**
	comp=Z,1.8nm,0.6s,baz=52,slow=19,SNR=2.7						
FITZ	**Fitzroy Crossi**	**20.88**	**226**		**S**	**10 23 50.2**	**-2.6**
SARN	**Sarigan**	**20.88**	**12**	P	**P**	**10 20 02.0**	**-0.9**
ASAR	**Alice Springs**	**20.97**	**199**	P	**P**	**10 20 04.5**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=22,slow=8.3,SNR=14						
ASAR				S	**S**	**10 23 51.8**	**-3.0**
	comp=Z,0.3nm,0.7s,baz=20,slow=28,SNR=3.5						
BKSI	**Bulukumba**	**21.15**	**265**	P	P	10 20 18.9	+13
KAPI	**Kappang**	**21.50**	**266**	P	**P**	**10 20 09.6**	**0.0**
	comp=Z,3.5nm,0.4s,baz=180,slow=20,SNR=2.5						
KAPI	**Kappang**	**21.50**	**266**	IAmb	IAmb	10 20 33.9	
	comp=Z,14nm,1.1s						
EIDS	**Eidsvold**	**23.39**	**157**	P	**P**	**10 20 31.1**	**+1.7**
EIDS				IAmb	IAmb	10 21 09.4	
	comp=Z,20nm,1.4s						
DZM	**Mont Dzumac**	**30.40**	**129**	LR	LR	10 33 32.4	
	comp=Z,87nm,18.3s,baz=232,slow=36						
KSRS	**Korea Array**	**42.91**	**344**	P	**P**	**10 23 18.6**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=161,slow=9.0,SNR=3.3						
THZ	**Tophouse**	**47.18**	**148**	P	**P**	**10 23 53.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**47.22**	**299**	P	**P**	**10 23 52.9**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=119,slow=5.6,SNR=4.5						
URZ	**Urewera**	**47.33**	**141**	P	**P**	**10 23 54.1**	**+0.5**
URZ				IAmb	IAmb	10 24 44.3	
	comp=Z,17nm,1.2s						
BKZ	**Black Stump Fm**	**47.51**	**143**	P	**P**	**10 23 55.4**	**+0.4**
TUWZ	**Tuamarina**	**47.51**	**147**	P	**P**	**10 23 54.7**	**-0.3**
ASAJ	**Asahikawa**	**47.74**	**1**	P	**P**	**10 23 56.4**	**-0.2**
	comp=Z,5.1nm,0.7s,baz=177,slow=14,SNR=2.9						
JKA	**Kamikawa-asahi**	**47.74**	**1**	P	**P**	**10 23 56.4**	**-0.2**
USRK	**Ussuriysk Ar.**	**48.54**	**351**	P	**P**	**10 24 02.5**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=160,slow=7.8,SNR=5.6						
PETK	**Petropavlovsk-**	**58.39**	**12**	P	**P**	**10 25 14.8**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=90,slow=4.9,SNR=4.1						
SONM	**Songino Array**	**59.84**	**334**	P	**P**	**10 25 24.9**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=142,slow=7.3,SNR=4.3						
MK31	**Makanchi Array**	**72.25**	**322**	P	**P**	**10 26 45.9**	**+1.1**
MKAR	**Makanchi Array**	**72.25**	**322**	P	**P**	**10 26 45.5**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=105,slow=7.6,SNR=20						
MKAR	**Makanchi Array**	**72.25**	**322**	P	**P**	**10 26 45.4**	**+0.6**
MAKZ	**Makanchi**	**72.44**	**322**	P	**P**	**10 26 47.0**	**+1.1**
MAKZ				IAmb	IAmb	10 26 47.5	
	comp=Z,3.5nm,0.7s						
ZALV	**Zalesovo Beam**	**74.20**	**329**	P	**P**	**10 26 55.9**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=92,slow=4.3,SNR=2.9						
OHAK	**Old Harbor**	**80.21**	**30**	P	**P**	**10 27 29.7**	**+0.1**
PPLA	**Purkeypile**	**82.93**	**25**	P	**P**	**10 27 43.8**	**-0.3**
RC01	**Rabbit Creek A**	**83.34**	**27**	P	**P**	**10 27 45.9**	**-0.2**
IMAR	**Indian Mountai**	**83.55**	**22**	P	**P**	**10 27 46.7**	**-0.4**
MLY	**Manley**	**84.33**	**23**	P	**P**	**10 27 50.5**	**-0.6**
ILAR	**Eielson Array**	**85.79**	**24**	P	**P**	**10 27 56.4**	**-2.0**
	comp=Z,1.3nm,0.7s,baz=261,slow=4.3,SNR=14						
ILAR	**Eielson Array**	**85.79**	**24**	P	**P**	**10 27 56.0**	**-2.4**
TORD	**Torodi Ar. Bea**	**139.03**	**286**	PKP	**PKPdf**	**10 34 47.7**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=129,slow=2.0,SNR=2.7						
DBIC	**Dimbokro**	**146.17**	**276**	PKPbc	**PKPdf**	**10 34 59.3**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=102,slow=6.0,SNR=4.4						

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*SOME **02** 10:56:21.0, 44°.25N×83°.03E, h10km*
*NNC **02** 10:56:24.5±2.1, 44°.37N×82°.82E, h0km, mb2.9, mpv2.2, Error ellipse: s-maj=21.9km s-min=5.5km az=117.0*
ISC 02 10:56:25.1±2.2, **44°.31N**±0°.08×**82°.9E**±0°.1, **h17**km, **n9**, σ**1s.74**/15, **4C-2D**, **Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DJR	**Jarkent**	**2.21**	**272**	*e*P	**Pb**	**10 57 04.9**	**+0.3**
	12nm,0.3s						
DJR				*e*S	**Sg**	**10 57 37.0**	**+0.8**
	6.0nm,0.4s						
MK31	**Makanchi Array**	**2.51**	**351**	⇑Pg	**Pb**	**10 57 09.6**	**-0.2**
	0.1nm,0.1s,baz=177,slow=16,SNR=86						
MK31				⇑Lg	Lg	10 57 42.3	
	2.1nm,0.2s,baz=167,slow=28,SNR=16						
MAKZ	**Makanchi**	**2.57**	**346**	⇓Pg	**Pb**	**10 57 10.1**	**-0.7**
	0.8nm,0.3s						
MAKZ				⇓Lg	Lg	10 57 44.2	
	1.9nm,0.3s						
PDGK	**Podgornoye**	**2.64**	**249**	⇑Pg	**Pb**	**10 57 12.3**	**+0.4**
	0.9nm,0.3s						
PDGK				⇑Lg	Lg	10 57 48.0	
	9.9nm,0.6s						
KAPS	**Kapalarasan**	**2.68**	**292**	*e*P	**Pb**	**10 57 12.6**	**0.0**
	0.6nm,0.3s						
KAPS				*e*S	**Sg**	**10 57 50.2**	**-1.1**
	6.2nm,0.2s						
SHLS	**Shalkode**	**2.73**	**246**	*e*P	**Pn**	**10 57 08.7**	**+0.6**
	6.1nm,0.2s						
SHLS				*e*S	**Sn**	**10 57 43.5**	**+2.7**
	24nm,0.4s						
UZB	**Uzynbulak**	**3.02**	**249**	*e*P	**Pb**	**10 57 18.1**	**-0.4**
	1.6nm,0.2s						
UZB				*e*S	**Sg**	**10 57 59.2**	**-2.9**
	4.2nm,0.2s						
KPKS	**Kokpek**	**3.14**	**256**	*e*P	**Pb**	**10 57 19.6**	**-0.9**
	6.4nm,0.1s						
KPKS				*e*S	**Sg**	**10 58 02.3**	**-3.7**
	22nm,0.4s						
ARXS	**Arharly**	**3.62**	**270**	*e*P	**Pb**	**10 57 30.1**	**+1.4**
	1.4nm,0.2s						
ARXS				*e*S	**Sg**	**10 58 20.3**	**-1.1**
	6.5nm,0.4s						

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*ISCJB **02** 10:57:31.2±0.8, 18°.4N±0°.1×67°.86W±0°.04, h118km±7km, Error ellipse: s-maj=24.7km s-min=4.9km az=9.6*
*OSPL **02** 10:57:31.7±0.5, 18°.39N×67°.88W, h127km±5km, ML2.6*
*RSPR **02** 10:57:31.6, 18°.45N×67°.87W, h120km±1km, MD3.3/13*
*NEIC **02** 10:57:32.3±1.5, 18°.9N±0°.2×67°.75W±0°.04, h96km±21km*
ISC 02 10:57:32.3±1.5, **18°.5N**±0°.1×**67°.85W**±0°.04, **h113**km±10km, **n44**, σ**0s.57**/68, **18C-6D**, **Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.51**	**277**	*i* P	**Pn**	**10 57 49.0**	**-0.5**
PCDR				*e*S	**Sn**	**10 58 02.5**	**0.0**
PCDR				IAML		10 58 06.2	
	comp=Z,121nm,0.3s						
AGPR	**Aguadilla, PR**	**0.70**	**89**	⇑*e*P	**Pn**	**10 57 51.0**	**+0.1**
AGPR	**Aguadilla, PR**	**0.70**	**89**	⇑*e*P	**Pn**	**10 57 51.0**	**+0.1**
AGPR				*e*S	**Sn**	**10 58 05.3**	**+0.3**
AGPR	**Aguadilla, PR**	**0.70**	**89**	*i* P	**Pn**	**10 57 51.0**	**+0.1**
AGPR				*e*S	**Sn**	**10 58 05.1**	**+0.1**
AGPR				IAML		10 58 08.1	
	comp=Z,232nm,0.1s						
AGPR	**Aguadilla, PR**	**0.70**	**89**		**Pn**	**10 57 51.0**	**+0.1**
MPR	**Mayaguez**	**0.71**	**110**	*i* P	**Pn**	**10 57 51.0**	**0.0**
MPR				*e*S	**Sn**	**10 58 04.9**	**-0.3**
MPR				IAML		10 58 06.7	
	comp=Z,45nm,0.1s						
LSP	**Las Mesas**	**0.77**	**111**	⇑*e*P	**Pn**	**10 57 51.5**	**-0.1**
LSP	**Las Mesas**	**0.77**	**111**	⇑*e*P	**Pn**	**10 57 51.5**	**-0.1**
LSP				*e*S	**Sn**	**10 58 06.8**	**+0.6**
LSP	**Las Mesas**	**0.77**	**111**		**Pn**	**10 57 51.5**	**-0.1**
LSP					**Sn**	**10 58 06.8**	**+0.6**
CRPR	**Cabo Rojo, PR**	**0.83**	**122**	⇑*e*P	**Pn**	**10 57 51.6**	**-0.5**
CRPR	**Cabo Rojo, PR**	**0.83**	**122**	⇑*e*P	**Pn**	**10 57 51.6**	**-0.5**
CRPR				*e*S	**Sn**	**10 58 07.1**	**+0.1**
MLPR	**Magueyes Islan**	**0.90**	**122**	⇓*e*P	**Pn**	**10 57 51.7**	**-1.1**
MLPR	**Magueyes Islan**	**0.90**	**122**	*e*S	**Sn**	**10 58 07.3**	**-0.9**
AOPR	**Arecibo Observ**	**1.04**	**96**	⇑*e*P	**Pn**	**10 57 53.9**	**-0.3**
AOPR	**Arecibo Observ**	**1.04**	**96**	⇑*e*P	**Pn**	**10 57 54.1**	**-0.1**
AOPR				*e*S	**Sn**	**10 58 11.3**	**+0.6**
AOPR	**Arecibo Observ**	**1.04**	**96**	⇑*e*P	**Pn**	**10 57 53.9**	**-0.3**
AOPR				*e*S	**Sn**	**10 58 10.1**	**-0.6**
OBIP	**Obispado Ponce**	**1.25**	**109**	⇓*e*P	**Pn**	**10 57 56.5**	**+0.1**
OBIP	**Obispado Ponce**	**1.25**	**109**	⇓*e*P	**Pn**	**10 57 56.5**	**+0.1**
OBIP				*e*S	**Sn**	**10 58 15.6**	**+0.9**
EMPR	**Esperanza - Ma**	**1.25**	**89**	⇑*e*P	**Pn**	**10 57 56.3**	**-0.1**
EMPR	**Esperanza - Ma**	**1.25**	**89**	*e*S	**Sn**	**10 58 15.4**	**+0.8**
EMPR	**Esperanza - Ma**	**1.25**	**89**		**Pn**	**10 57 56.3**	**-0.1**
EMPR					**Sn**	**10 58 15.4**	**+0.8**
CELP	**Cerrillos**	**1.26**	**107**	⇓*e*P	**Pn**	**10 57 56.3**	**-0.3**
CELP				*e*S	**Sn**	**10 58 15.5**	**+0.6**
CELP	**Cerrillos**	**1.26**	**107**	⇓*e*P	**Pn**	**10 57 56.3**	**-0.3**
CELP				*e*S	**Sn**	**10 58 15.5**	**+0.6**
CELP	**Cerrillos**	**1.26**	**107**		**Pn**	**10 57 56.3**	**-0.3**
CELP					**Sn**	**10 58 15.5**	**+0.6**
DR12	**Loma Pena Alta**	**1.49**	**283**	Pn	**Pn**	**10 57 59.3**	**0.0**
SJG	**San Juan**	**1.65**	**102**		**Pn**	**10 58 00.7**	**-0.3**
SJG				Sn	**Sn**	**10 58 22.0**	**-0.9**
IGPR	**InterUniversit**	**1.72**	**106**	⇑*e*P	**Pn**	**10 58 01.5**	**-0.5**
IGPR	**InterUniversit**	**1.72**	**106**	*e*S	**Sn**	**10 58 25.7**	**+1.1**
PDPR	**Patillas Dam,**	**1.79**	**104**	⇑*e*P	**Pn**	**10 58 02.3**	**-0.4**
PDPR	**Patillas Dam,**	**1.79**	**104**	*e*S	**Sn**	**10 58 26.4**	**+0.5**
PDPR	**Patillas Dam,**	**1.79**	**104**		**Pn**	**10 58 02.3**	**-0.4**
PDPR					**Sn**	**10 58 26.4**	**+0.5**
CBYP	**Canovanas**	**1.90**	**95**	⇓*i*P	**Pn**	**10 58 03.8**	**-0.4**
CBYP				*e*S	**Sn**	**10 58 28.7**	**+0.1**
CBYP	**Canovanas**	**1.90**	**95**	⇑*e*P	**Pn**	**10 58 03.4**	**-0.9**
CBYP	**Canovanas**	**1.90**	**95**	⇑*e*P	**Pn**	**10 58 03.4**	**-0.9**
CBYP				*e*S	**Sn**	**10 58 28.7**	**+0.1**
CBYP	**Canovanas**	**1.90**	**95**		**Pn**	**10 58 03.4**	**-0.9**
CBYP					**Sn**	**10 58 28.9**	**+0.3**
HUMP	**Col San Antoni**	**1.92**	**99**	⇑*e*P	**Pn**	**10 58 04.2**	**-0.2**
HUMP	**Col San Antoni**	**1.92**	**99**	⇑*e*P	**Pn**	**10 58 04.2**	**-0.2**
HUMP				*e*S	**Sn**	**10 58 29.0**	**+0.1**
HUMP	**Col San Antoni**	**1.92**	**99**		**Pn**	**10 58 04.2**	**-0.2**
HUMP					**Sn**	**10 58 29.0**	**+0.1**
MTP	**Monte Pirata**	**2.21**	**99**	⇑*e*P	**Pn**	**10 58 08.0**	**-0.1**
MTP	**Monte Pirata**	**2.21**	**99**	⇑*e*P	**Pn**	**10 58 08.0**	**-0.1**
MTP				*e*S	**Sn**	**10 58 35.8**	**+0.3**
MTP	**Monte Pirata**	**2.21**	**99**		**Pn**	**10 58 08.0**	**-0.1**
MTP					**Sn**	**10 58 35.8**	**+0.3**
BANI	**BANI**	**2.39**	**269**	Pn	**Pn**	**10 58 12.6**	**+2.1**
CUPR	**Culebra, Puert**	**2.44**	**93**	Pn	**Pn**	**10 58 10.7**	**-0.3**
SDDR	**Presa de Saban**	**3.31**	**280**		**Pn**	**10 58 21.1**	**-1.4**
SDDR					**Sn**	**10 59 00.8**	**-0.5**

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*ISCJB **02** 11:10:56.5±0.4, 10°.25N±0°.05×141°.06E±0°.06, h35km, mb4.0/9, MS3.0/4, Error ellipse: s-maj=9.5km s-min=6.2km az=24.7*
*NEIC **02** 11:10:58.2±1.5, 10°.31N±0°.06×141°.11E±0°.08, h36km±7km, mb4.3/20*
*IDC **02** 11:10:59.9±3.2, 10°.25N×141°.06E, h40km±32km, mb3.8/9, mb1 4.1/11, mb1mx3.8/36, mbtmp4.1/11, ML4.3/2, MS3.1/6, Ms1 3.1/6, ms1mx2.8/33, Error ellipse: s-maj=24.7km s-min=13.0km az=108.0*
ISC 02 11:10:58.5±0.5, **10°.23N**±0°.07×**141°.06E**±0°.09, **h35**km, **n42**, σ**1s.01**/39, **mb4.2**/16, **MS3.0**/4, **Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.00**	**48**	P	**Pn**	**11 12 13.4**	**+2.3**
	15nm,0.3s,baz=228,slow=10,SNR=4.5						
GUMO				S	**Sn**	**11 13 08.5**	**+0.8**
	34nm,0.3s,baz=27,slow=22,SNR=11						
GUMO				LR	LR	11 14 17.6	
	comp=Z,82nm,20.5s,baz=250,slow=40						
GUMO	**Guam**	**5.00**	**48**		**Pn**	**11 12 09.2**	**-1.9**
JAY	**Jayapura**	**12.67**	**182**	P	**Pn**	**11 13 59.1**	**+2.7**
	1.4nm,0.3s,baz=14,slow=23,SNR=8.9						
MANU	**Manus Island**	**13.71**	**152**	Pn	**Pn**	**11 14 10.0**	**-0.7**
SIJI	**Sorong**	**14.72**	**222**	LR	LR	11 18 48.9	
	comp=Z,83nm,18.7s,baz=48,slow=32						
FAKI	**Fak Fak**	**15.74**	**214**		**Pn**	**11 14 37.5**	**-0.2**
FAKI				IAmb	IAmb	11 14 44.1	
	comp=Z,30nm,0.8s						
JNU	**Nakatsue**	**24.64**	**339**	LR	LR	11 24 59.3	
	comp=Z,44nm,18.1s,baz=132,slow=34						
MTN	**Manton Dam**	**24.96**	**203**	P	**P**	**11 16 18.7**	**-0.2**
MTN				IAmb	IAmb	11 16 21.2	
	comp=Z,8.6nm,1.1s						
KAPI	**Kappang**	**26.08**	**235**	LR	LR	11 28 16.1	
	comp=Z,78nm,18.0s,baz=304,slow=40						
WAKE	**Wake Island**	**26.30**	**67**	P	**P**	**11 16 31.2**	**+0.2**
KNRA	**Kununurra**	**28.48**	**205**	P	**P**	**11 16 50.1**	**-0.6**
KNRA				IAmb	IAmb	11 17 07.3	
	comp=Z,5.7nm,0.9s						
KSRS	**Korea Array**	**29.58**	**338**	LR	LR	11 27 42.2	
	comp=Z,25nm,19.4s,baz=158,slow=34						
WR0	**Warramunga Arr**	**30.68**	**192**	P	**P**	**11 17 10.3**	**+0.1**
WB2	**Warramunga Arr**	**30.70**	**192**	P	**P**	**11 17 10.6**	**+0.2**
WB2				IAmb	IAmb	11 17 11.5	
	comp=Z,4.6nm,0.8s						
WRA	**Warramunga Arr**	**30.71**	**192**	P	**P**	**11 17 10.8**	**+0.4**
	comp=Z,5.5nm,0.8s,baz=11,slow=9.6,SNR=51						
WRA	**Warramunga Arr**	**30.71**	**192**	P	**P**	**11 17 11.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**32.01**	**209**	P	**P**	**11 17 21.7**	**-0.1**
FITZ				IAmb	IAmb	11 17 26.8	
	comp=Z,4.4nm,1.1s						
AS31	**Alice Springs**	**34.41**	**192**	P	**P**	**11 17 43.5**	**+0.8**
AS31				IAmb	IAmb	11 17 44.9	
	comp=Z,1.6nm,0.5s						
ASAR	**Alice Springs**	**34.41**	**192**	P	**P**	**11 17 43.7**	**+0.9**
	comp=Z,1.7nm,0.4s,baz=21,slow=12,SNR=74						
ASAR				LR	LR	11 31 47.7	
	comp=Z,30nm,19.4s,baz=104,slow=36						
ASAR	**Alice Springs**	**34.41**	**192**	P	**P**	**11 17 43.2**	**+0.4**
DZM	**Mont Dzumac**	**40.63**	**142**	P	**P**	**11 18 34.5**	**-1.0**
XMIS	**Christmas Isla**	**40.79**	**241**	P	**P**	**11 18 36.4**	**-0.5**
CM31	**Chiang Mai Arr**	**41.54**	**286**	P	**P**	**11 18 41.2**	**-1.9**
CMAR	**Chiang Mai Arr**	**41.54**	**286**	P	**P**	**11 18 44.0**	**+1.0**
	comp=Z,3.3nm,0.6s,baz=92,slow=6.7,SNR=18						
CMAR	**Chiang Mai Arr**	**41.54**	**286**	P	**P**	**11 18 42.9**	**-0.2**
STKA	**Stephens Creek**	**41.87**	**179**	P	**P**	**11 18 45.9**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=354,slow=11,SNR=5.0						
STKA	**Stephens Creek**	**41.87**	**179**	P	**P**	**11 18 45.6**	**+0.1**
BBOO	**Buckleboo**	**43.07**	**186**	P	**P**	**11 18 55.5**	**+0.3**
BBOO				IAmb	IAmb	11 19 04.2	
	comp=Z,5.2nm,1.1s						
SONM	**Songino Array**	**47.48**	**329**	P	**P**	**11 19 31.0**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=140,slow=7.7,SNR=5.4						
SONM	**Songino Array**	**47.48**	**329**	P	**P**	**11 19 29.6**	**-0.7**
TOO	**Toolangi**	**47.73**	**175**	P	**P**	**11 19 33.2**	**+1.0**
TOO				IAmb	IAmb	11 19 48.1	
	comp=Z,3.1nm,0.9s						
TLY	**Talaya**	**51.33**	**331**	P	**P**	**11 19 59.2**	**-0.3**
WMQ	**Urumqi**	**56.85**	**316**	P	**P**	**11 20 39.8**	**-0.1**
MK31	**Makanchi Array**	**61.39**	**318**	P	**P**	**11 21 11.2**	**0.0**
MKAR	**Makanchi Array**	**61.39**	**318**	P	**P**	**11 21 11.4**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=101,slow=6.3,SNR=5.8						
MKAR	**Makanchi Array**	**61.39**	**318**	P	**P**	**11 21 10.7**	**-0.5**
XMAS	**Kiritimati**	**61.59**	**93**	P	**P**	**11 21 11.5**	**-1.6**
ZALV	**Zalesovo Beam**	**62.25**	**326**	P	**P**	**11 21 16.7**	**-0.1**
	comp=Z,0.6nm,0.2s,baz=115,slow=6.8,SNR=4.7						
ZALV	**Zalesovo Beam**	**62.25**	**326**	P	**P**	**11 21 16.3**	**-0.5**
ILAR	**Eielson Array**	**73.17**	**25**	P	**P**	**11 22 26.3**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=245,slow=6.1,SNR=12						
ILAR	**Eielson Array**	**73.17**	**25**	P	**P**	**11 22 24.5**	**-1.0**
YKA	**Yellowknife Ar**	**87.52**	**27**	P	**P**	**11 23 44.5**	**+1.9**
	comp=Z,0.5nm,0.9s,baz=286,slow=4.8,SNR=2.9						

IDC 02 11:17:38.8±2.2, **7°.40S**×**129°.19E**, **h160**km±25km, **mb3.7**/1, **mb1 3.7**/5, **mb1mx3.3**/29, **mbtmp4.2**/5, **Error ellipse: s-maj=34.8km s-min=22.5km az=91.0**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.13**	**243**	P	Pn	11 19 07.9	+0.4
	12nm,0.3s,baz=62,slow=3.5,SNR=7.8						
BATI				S	Sn	11 20 12.8	-4.3
	17nm,0.3s,baz=29,slow=15,SNR=9.0						
SIJI	**Sorong**	**6.80**	**18**	P	Pn	11 19 16.4	0.0
	0.8nm,0.3s,baz=221,slow=19,SNR=2.3						
SIJI				S	Sn	11 20 28.5	-4.6
	0.2nm,0.3s,baz=197,slow=19,SNR=1.8						
WRA	**Warramunga Arr**	**13.44**	**159**	P	Pn	11 20 41.4	-1.9
	1.5nm,0.3s,baz=331,slow=14,SNR=47						
WRA				S	Sn	11 23 05.4	-7.0
	1.1nm,0.3s,baz=340,slow=22,SNR=8.7						
ASAR	**Alice Springs**	**16.80**	**165**	P	Pn	11 21 25.9	+1.0
	0.7nm,0.3s,baz=337,slow=9.6,SNR=80						
ASAR				S	S	11 24 25.5	-5.6
	0.2nm,0.3s,baz=331,slow=16,SNR=4.0						
MKAR	**Makanchi Array**	**68.12**	**327**	P	P	11 28 21.5	0.0
	1.1nm,0.5s,baz=120,slow=8.2,SNR=20						

ROM 02 11:22:18.4±0.1, **43°.396N**±0°.004×**12°.520E**±0°.004, **h8**km, **ML2.7**/23, **Error ellipse: s-maj=0.3km s-min=0.3km az=207.0**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.05**	**128**	P	Pg	11 22 20.1	0.0
ATFO				S	Sg	11 22 21.1	-0.3
ATFO				AML	AML		
	comp=N,38650µm,0.4s						
ATFO				AML	AML		
	comp=N,38650µm,0.4s						
ATFO				AML	AML		
	comp=E,38250µm,0.4s						
ATVO	**AVT- Monte Val**	**0.08**	**261**	P	Pg	11 22 20.9	+0.4
ATVO				S	Sg	11 22 22.5	+0.4
ATVO				AML	AML		
	comp=E,18700µm,0.3s						
ATVO				AML	AML		
	comp=N,9225µm,0.7s						
ATVO				AML	AML		
	comp=E,18700µm,0.3s						
ATPI	**Pietralunga -**	**0.10**	**303**	P	Pg	11 22 21.4	+0.6
ATPI				S	Sg	11 22 23.5	+1.0
ATPI				AML	AML		
	comp=E,5880µm,0.8s						
ATPI				AML	AML		
	comp=N,6155µm,0.9s						
ATPI				AML	AML		
	comp=E,5885µm,0.8s						
MURB	**Monte Urbino**	**0.13**	**179**	P	Pg	11 22 21.9	+0.6
MURB				S	Sg	11 22 24.5	+1.2
MURB				AML	AML		
	comp=E,21600µm,0.3s						
MURB				AML	AML		
	comp=N,21600µm,0.3s						
MURB				AML	AML		
	comp=E,24600µm,0.3s						
MURB				AML	AML		
	comp=N,21600µm,0.3s						
MURB				AML	AML		
	comp=E,24550µm,0.3s						
MURB				AML	AML		
	comp=N,23000µm,0.3s						
MURB				AML	AML		
	comp=E,24550µm,0.3s						
MURB				AML	AML		
	comp=E,21600µm,0.3s						
MURB				AML	AML		
	comp=N,21600µm,0.3s						
FRON	**Frontone**	**0.19**	**51**	P	Pg	11 22 23.0	+0.7
FRON				S	Sg	11 22 26.6	+1.6
FRON				AML	AML		
	comp=E,3540µm,0.7s						
FRON				AML	AML		
	comp=N,6150µm,0.9s						
ATMI	**Monte Miggiano**	**0.19**	**252**	P	Pg	11 22 23.0	+0.7
ATMI				S	Sg	11 22 26.3	+1.3
ATMI				AML	AML		
	comp=N,3185µm,0.3s						
ATMI				AML	AML		
	comp=E,2510µm,0.9s						
SSFR	**Montelago di S**	**0.20**	**78**	P	Pg	11 22 23.0	+0.7
SSFR				S	Sg	11 22 26.4	+1.3
SSFR				AML	AML		
	comp=E,22600µm,0.2s						
SSFR				AML	AML		
	comp=E,20600µm,0.2s						
SSFR				AML	AML		
	comp=E,20600µm,0.2s						
SSFR				AML	AML		
	comp=N,18300µm,0.8s						
SSFR				AML	AML		
	comp=E,22600µm,0.2s						
SSFR				AML	AML		
	comp=N,16850µm,0.2s						
FOSV	**Fossato di Vic**	**0.20**	**120**	P	Pg	11 22 23.1	+0.6
FOSV				S	Sg	11 22 26.3	+1.0
FOSV				AML	AML		
	comp=N,2205µm,0.4s						
FOSV				AML	AML		
	comp=E,1635µm,0.2s						
CDCA	**Citt' di Caste**	**0.22**	**287**	P	Pg	11 22 23.5	+0.7
CDCA				AML	AML		
	comp=N,2780µm,0.9s						
CDCA				AML	AML		
	comp=E,4585µm,0.4s						
CDCA				AML	AML		
	comp=N,7025µm,0.5s						
CDCA				AML	AML		
	comp=E,1940µm,0.6s						
NARO	**Abbazia di Nar**	**0.22**	**12**	P	Pg	11 22 23.5	+0.7
NARO				S	Sg	11 22 27.3	+1.5
NARO				AML	AML		
	comp=E,2120µm,0.1s						
NARO				AML	AML		
	comp=N,1895µm,0.3s						
ATCC	**AVT- Casa Cast**	**0.23**	**157**	P	Pg	11 22 23.7	+0.7
ATCC				S	Sg	11 22 28.0	+1.9
ATCC				AML	AML		
	comp=E,10265µm,0.5s						
ATCC				AML	AML		
	comp=N,8695µm,1.2s						
ATCC				AML	AML		
	comp=N,8700µm,1.2s						
ATCC				AML	AML		
	comp=E,10275µm,0.5s						
ATTE	**AVT- Monte Tez**	**0.23**	**212**	P	Pg	11 22 23.5	+0.4
ATTE				S	Sg	11 22 28.2	+2.0
ATTE				AML	AML		

	comp=N,1190µm,0.8s						
ATTE				AML	AML		
	comp=E,1710µm,0.8s						
MPAG	**Monte Paganucc**	**0.29**	**37**	P	Pg	11 22 24.9	+0.7
MPAG				AML	AML		
	comp=N,1530µm,0.3s						
MPAG				AML	AML		
	comp=E,1770µm,1.3s						
MPAG				AML	AML		
	comp=N,1505µm,0.3s						
MPAG				AML	AML		
	comp=E,1745µm,1.3s						
PE3	**Peglio**	**0.30**	**357**	P	Pb	11 22 25.4	-0.7
PE3				AML	AML		
	comp=N,3135µm,0.3s						
PE3				AML	AML		
	comp=E,2965µm,0.5s						
ARVD	**Arcevia**	**0.32**	**71**	P	Pg	11 22 25.4	+0.7
ARVD				AML	AML		
	comp=E,1460µm,0.5s						
ARVD				AML	AML		
	comp=N,1070µm,0.8s						
SNTG	**Esanatoglia**	**0.34**	**115**	P	Pg	11 22 25.6	+0.5
SNTG				S	Sb	11 22 31.1	-1.2
SNTG				AML	AML		
	comp=N,308µm,0.3s						
SNTG				AML	AML		
	comp=E,244µm,0.5s						
SNTG				AML	AML		
	comp=N,2380µm,0.3s						
SNTG				AML	AML		
	comp=E,1920µm,0.2s						
FSSB	**Fossombrone**	**0.35**	**32**	P	Pg	11 22 26.0	+0.7
FSSB				AML	AML		
	comp=N,3420µm,1.2s						
FSSB				AML	AML		
	comp=E,3010µm,0.2s						
ASSB	**Assisi San Ben**	**0.37**	**164**	P	Pg	11 22 25.9	+0.3
ASSB				S	Sb	11 22 32.0	-1.1
ASSB				AML	AML		
	comp=E,1725µm,0.2s						
ASSB				AML	AML		
	comp=N,2245µm,0.1s						
CAFI	**Castiglion Fio**	**0.41**	**261**	P	Pg	11 22 27.0	+0.6
CAFI				S	Sb	11 22 33.2	-1.1
CAFI				AML	AML		
	comp=N,468µm,0.5s						
CAFI				AML	AML		
	comp=E,470µm,0.1s						
COR1	**Corinaldo**	**0.42**	**56**	P	Pb	11 22 28.1	-0.1
EL6	**Elcito**	**0.43**	**99**	P	Pg	11 22 27.4	+0.6
EL6				S	Sb	11 22 34.3	-0.7
EL6				AML	AML		
	comp=E,1760µm,0.4s						
EL6				AML	AML		
	comp=N,1840µm,0.3s						
CRE	**Caprese Michel**	**0.47**	**299**	P	Pg	11 22 28.1	+0.5
CRE				AML	AML		
	comp=N,725µm,0.2s						
CRE				AML	AML		
	comp=E,735µm,0.4s						
CESI	**CESI - Serrava**	**0.48**	**144**	P	Pg	11 22 28.2	+0.5
CESI				S	Sb	11 22 36.0	-0.4
CESI				AML	AML		
	comp=E,162µm,0.3s						
CESI				AML	AML		
	comp=N,366µm,1.6s						
CING	**Cingoli**	**0.49**	**92**	P	Pg	11 22 28.6	+0.7
CING				S	Sb	11 22 36.7	0.0
CING				AML	AML		
	comp=N,721µm,0.6s						
CING				AML	AML		
	comp=E,520µm,1.3s						
FDMO	**Fiordimonte**	**0.55**	**131**	P	Pg	11 22 29.2	+0.2
FDMO				S	Sb	11 22 38.4	+0.1
MGAB	**Montegabbione**	**0.57**	**212**	*i* P	Pg	11 22 29.8	+0.4
CSP1	**Cessapalombo**	**0.58**	**121**	P	Pg	11 22 29.9	+0.1
CSP1				S	Sb	11 22 39.8	+0.3
PESA	**Pesaro**	**0.59**	**23**	P	Pb	11 22 31.4	+0.3
MOMA	**Monte Martano**	**0.59**	**176**	P	Pg	11 22 30.2	+0.3
MOMA				S	Sb	11 22 39.6	-0.1
NRCA	**Norcia**	**0.71**	**142**	P	Pg	11 22 32.1	+0.1
NRCA				S	Sb	11 22 43.2	+0.2
NRCA				AML	AML		
	comp=E,560µm,0.5s						
NRCA				AML	AML		
	comp=N,563µm,1.5s						

ROM 02 11:23:01.7±0.1**, 43°.401N**±0°.002×**12°.529E**±0°.003**, h6km, ML2.2**/2**, Error ellipse: s-maj=0.2km s-min=0.1km az=107.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.05**	**137**	P	Pg	11 23 03.2	0.0
ATFO				S	Sg	11 23 04.2	0.0
ATFO				AML	AML		
	comp=E,4860µm,0.6s						
ATFO				AML	AML		
	comp=N,4220µm,0.1s						
ATVO	**AVT- Monte Val**	**0.09**	**258**	P	Pg	11 23 04.0	+0.3
ATVO				S	Sg	11 23 05.6	+0.4
ATVO				AML	AML		
	comp=E,2340µm,0.4s						
ATVO				AML	AML		
	comp=N,904µm,1.5s						
ATPI	**Pietralunga -**	**0.10**	**299**	P	Pg	11 23 04.4	+0.4
ATPI				S	Sg	11 23 06.4	+0.8
ATPI				AML	AML		
	comp=E,667µm,0.5s						
ATPI				AML	AML		
	comp=N,693µm,0.4s						
MURB	**Monte Urbino**	**0.14**	**181**	P	Pg	11 23 05.0	+0.4
MURB				S	Sg	11 23 07.5	+1.0
MURB				AML	AML		
	comp=E,2050µm,0.3s						
MURB				AML	AML		
	comp=E,2300µm,0.3s						
MURB				AML	AML		
	comp=N,1920µm,0.3s						
MURB				AML	AML		
	comp=E,2045µm,0.3s						
MURB				AML	AML		
	comp=N,1765µm,0.2s						
MURB				AML	AML		
	comp=E,2305µm,0.3s						
MURB				AML	AML		
	comp=N,1925µm,0.3s						
FRON	**Frontone**	**0.18**	**51**	P	Pg	11 23 06.1	+0.7
FRON				S	Sg	11 23 09.4	+1.5
FOSV	**Fossato di Vic**	**0.20**	**122**	P	Pg	11 23 06.3	+0.6
FOSV				S	Sg	11 23 09.8	+1.4
NARO	**Abbazia di Nar**	**0.21**	**10**	P	Pg	11 23 06.5	+0.6
NARO				S	Sg	11 23 10.4	+1.6
ATCC	**AVT- Casa Cast**	**0.23**	**159**	P	Pg	11 23 06.8	+0.5
ATCC				S	Sg	11 23 11.1	+1.8
MPAG	**Monte Paganucc**	**0.28**	**36**	P	Pg	11 23 08.1	+0.7
MPAG				S	Sg	11 23 12.7	+1.6
ARVD	**Arcevia**	**0.32**	**72**	P	Pg	11 23 08.7	+0.8
ARVD				S	Sb	11 23 14.0	-1.3
FSSB	**Fossombrone**	**0.34**	**32**	P	Pg	11 23 09.1	+0.7
FSSB				S	Sb	11 23 15.1	-1.0

*SJA **02** 11:36:43.7±0.8, 23°.08S×66°.49W, h246km±10km, ML2.9, MW3.2*

*ISCJB **02** 11:36:45.1±0.5, 23°.13S±0°.04×66°.63W±0°.04, h233km±4km, mb3.1/3, Error ellipse: s-maj=7.5km s-min=5.9km az=25.1*

*IDC **02** 11:36:45.1±2.7, 23°.05S×66°.44W, h216km±23km, mb2.9/3, mb1 3.2/5, mb1mx3.2/17, mbtmp3.6/5, Error ellipse: s-maj=32.7km s-min=20.7km az=77.0*

*GUC **02** 11:36:47.7±0.4, 23°.07S×67°.16W, h256km±9km, ML4.0*

ISC 02 11:36:45.4±0.8**, 23°.12S**±0°.05×**66°.60W**±0°.05**, h229**km±7km**, n21,** σ1s**24**/32**, mb3.1**/3**, 4C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.10**	**95**	*e*P	**Pn**	**11 37 19.3**	**+0.1**
HJA				IAML		11 37 21.9	
	comp=Z,51nm,0.4s						
HJA				*e*S	**S**	**11 37 45.6**	**0.0**
YJA	**Yavi**	**1.37**	**47**	*e*P	**Pn**	**11 37 21.3**	**0.0**
YJA				IAML		11 37 21.9	
	comp=Z,51nm,0.2s						
YJA				*e*S	**S**	**11 37 49.4**	**+0.2**
AZAP	**Zapla**	**1.79**	**128**	*e*P	**Pn**	**11 37 23.8**	**-0.6**
SLA	**San Lorenzo**	**1.88**	**148**	*e*P	**Pn**	**11 37 25.8**	**+0.6**
SLA				*e*S	**S**	**11 37 56.2**	**-0.2**
PB15	**IPOC Station P**	**2.65**	**267**	⇑*i*P	**Pn**	**11 37 33.8**	**+0.9**
PB15				*i* S	**S**	**11 38 09.2**	**-0.9**
PB09	**IPOC Station P**	**2.78**	**298**	⇑*i*P	**Pn**	**11 37 35.7**	**+1.4**
PB09				*e*S	**S**	**11 38 12.1**	**-0.5**
PB09				IAML		11 38 15.7	
	comp=N,110nm,0.8s						
FSA	**Cafayete**	**3.03**	**169**	*e*P	**Pn**	**11 37 37.5**	**+0.3**
PB05	**IPOC Station P**	**3.33**	**274**	⇑*i*P	**Pn**	**11 37 41.1**	**+0.6**
PB05				*e*S	**S**	**11 38 21.8**	**-1.9**
PB05				IAML		11 38 23.9	
	comp=E,97nm,0.2s						
PB05	**IPOC Station P**	**3.33**	**274**	*e*P	**Pn**	**11 37 41.1**	**+0.6**
PB07	**IPOC Station P**	**3.34**	**294**	*e*P	**Pn**	**11 37 41.6**	**+0.9**
PB07				*i* S	**S**	**11 38 22.2**	**-1.9**
PB07				IAML		11 38 24.5	
	comp=N,428nm,0.2s						
PB07	**IPOC Station P**	**3.34**	**294**	*e*P	**Pn**	**11 37 41.5**	**+0.9**
GO02	**Mina Guanaco**	**3.41**	**233**	*e*P	**Pn**	**11 37 42.2**	**+0.6**
GO02				*i* S	**S**	**11 38 25.5**	**-0.2**
GO02				IAML		11 38 27.7	
	comp=N,442nm,0.1s						
PB10	**IPOC Station P**	**3.66**	**263**	⇑*i*P	**Pn**	**11 37 44.5**	**+0.3**
PB10				*e*S	**S**	**11 38 27.5**	**-3.0**
PB10				IAML		11 38 33.0	
	comp=E,93nm,0.4s						
PB10	**IPOC Station P**	**3.66**	**263**	*e*P	**Pn**	**11 37 44.9**	**+0.7**
PB08	**IPOC Station P**	**3.80**	**321**	*e*P	**Pn**	**11 37 47.7**	**+1.4**
PB08				*i* S	**S**	**11 38 34.2**	**+0.1**
PB08				IAML		11 38 38.8	
	comp=N,80nm,0.3s						
LPAZ	**La Paz**	**6.95**	**348**	P	**Pn**	**11 38 26.9**	**+1.1**
	comp=N,1.1nm,0.3s,baz=190,slow=5.2,SNR=12						
LPAZ				S	**S**	**11 39 43.0**	**-2.9**
	comp=N,0.1nm,0.3s,baz=233,slow=20,SNR=2.2						
PLCA	**Paso Flores**	**17.88**	**190**	P	**P**	**11 40 39.0**	**+1.0**
	comp=N,0.2nm,0.3s,baz=37,slow=11,SNR=3.6						
TXAR	**Lajitas Array**	**63.18**	**324**	P	**P**	**11 46 51.2**	**+1.8**
	comp=N,0.1nm,0.4s,baz=138,slow=7.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**75.91**	**69**	P	**P**	**11 48 06.6**	**-0.7**
	comp=N,0.6nm,0.5s,baz=260,slow=5.2,SNR=6.9						
PDAR	**Pinedale Array**	**76.58**	**329**	P	**P**	**11 48 10.8**	**0.0**
	comp=N,0.2nm,0.5s,baz=143,slow=9.1,SNR=3.0						
MKAR	**Makanchi Array**	**145.61**	**39**	PKPbc	**PKiKP**	**11 55 58.5**	**-1.9**
	comp=N,0.5nm,0.5s,baz=321,slow=2.4,SNR=7.6						

*IDC **02** 12:18:44.7±0.5, 53°.39S×25°.67E, h0km, mb4.4/17, mb1 4.5/17, mb1mx4.4/43, mbtmp4.4/17, MS4.8/24, Ms1 4.8/24, ms1mx4.7/31, Error ellipse: s-maj=18.3km s-min=13.3km az=76.0*

*ISCJB **02** 12:18:46.4±0.3, 53°.32S±0°.04×25°.49E±0°.09, h10km, mb4.5/21, MS4.9/29, Error ellipse: s-maj=8.0km s-min=6.2km az=0.4*

*BJI **02** 12:18:48.4±0.0, 53°.04S×25°.06E, h13km, mB5.5/3, Ms5.2/9, Ms7 4.9/11*

*NEIC **02** 12:18:48.2±1.4, 53°.32S±0°.09×25°.5E±0°.2, h10km±1km, mb5.1/49, Ms_20 5.1/145, Mwb5.5, Mwc5.6(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.17; $M_{\theta\theta}$1.73; $M_{\phi\phi}$-1.90; $M_{r\theta}$-0.59; $M_{\theta\phi}$1.47; $M_{\phi r}$-0.74; Fault plane solution: $M_0$2.53000×10^{17} NP1: ϕ_s204.43000°, δ84.42000°, λ158.29000°. NP2: ϕ_s296.65000°, δ68.40000°, λ6.00000°. Principal axes: T 2.5313, Plg19.0000°, Azm159.0000°; N -0.0120, Plg68.0000°, Azm11.0000°; P -2.5193, Plg11.0000°, Azm252.0000°;*

*GCMT **02** 12:18:52.2±0.1, 53°.23S±0°.01×25°.69E±0°.01, h18km, MW5.6/147, Moment Tensor Solution. s133, c235; s147, c285; Duration: 1s6 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.04±.04; $M_{\theta\theta}$2.30±.04; $M_{\phi\phi}$-2.26±.04; $M_{r\theta}$0.51±.09; $M_{\theta\phi}$2.30±.03; $M_{\phi r}$0.23±.08; Best double couple: $M_0$3.28400×10^{17} NP1: ϕ_s22.00000°, δ84.00000°, λ173.00000°. NP2: ϕ_s113.00000°, δ83.00000°, λ6.00000°. Principal axes: T 3.3500, Plg9.0000°, Azm337.0000°; N -0.1300, Plg81.0000°, Azm159.0000°; P -3.2190, Plg0.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **02** 12:18:53, 53°.23S×25°.70E, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.01; $M_{\theta\theta}$2.31; $M_{\phi\phi}$-2.32; $M_{r\theta}$-0.03; $M_{\theta\phi}$2.35; $M_{\phi r}$-0.14; Fault plane solution: $M_0$3.30000×10^{17} NP1: ϕ_s292.00000°, δ88.00000°, λ-1.00000°. NP2: ϕ_s22.00000°, δ89.00000°, λ-178.00000°. Principal axes: T 3.2956, Plg1.0000°, Azm157.0000°; N 0.0127, Plg87.0000°, Azm34.0000°; P -3.3083, Plg2.0000°, Azm247.0000°;*

ISC 02 12:18:47.7±0.3**, 53°.40S**±0°.05×**25°.36E**±0°.07**, h10**km**, n196,** σ**1s80**/124**, mb5.0**/35**, MS5.1**/100**, 1D, South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**17.01**	**162**	⇓*e*X	**Pn**	**12 22 41.0**	**-4.3**
CRZF	**Crozet Islands**	**18.36**	**78**		**Pn**	**12 23 01.7**	**-0.5**
CRZF				IAmb	IAmb	12 23 10.5	
	comp=Z,382nm,1.6s						
SUR	**Sutherland**	**21.27**	**349**	P	**P**	**12 23 32.7**	**-1.5**
	comp=Z,135nm,0.9s,baz=163,slow=11,SNR=58						
SUR				S	**S**	**12 27 26.4**	**-4.1**
	comp=Z,7.9nm,0.4s,baz=143,slow=17,SNR=5.9						
SUR				LR	LR	12 29 47.6	
	comp=Z,7µm,21.4s,baz=161,slow=31						
SUR	**Sutherland**	**21.27**	**349**	P	**P**	**12 23 33.2**	**-1.0**
SUR				IAmb	IAmb	12 23 36.8	
	comp=Z,169nm,1.1s						
SUR				S	**S**	**12 27 25.9**	**-4.6**
SUR	**Sutherland**	**21.27**	**349**	IAMs_20	IAMs_20	12 29 27.1	
	comp=Z,8µm,22.0s						
SNAA	**Sanae**	**22.07**	**203**	P	**P**	**12 23 43.4**	**+0.9**
SNAA	**Sanae**	**22.07**	**203**	P	**P**	**12 23 42.8**	**+0.3**
	comp=Z,9.8nm,0.9s,baz=51,slow=9.0,SNR=15						
SNAA				S	**S**	**12 27 42.1**	**-3.4**
	comp=Z,0.6nm,0.5s,baz=80,slow=19,SNR=2.6						
SNAA	**Sanae**	**22.07**	**203**	P	**P**	**12 23 43.3**	**+0.9**
SNAA				IAmb	IAmb	12 24 03.4	
	comp=Z,52nm,1.1s						
VNA2	**Neumayer--Watz**	**22.79**	**207**	P	**P**	**12 23 51.7**	**+1.7**
	baz=47,slow=12						
MAW	**Mawson**	**22.81**	**143**	P	**P**	**12 23 50.4**	**+0.2**
	comp=Z,5.8nm,0.6s,baz=296,slow=12,SNR=6.3						
MAW				S	**S**	**12 27 54.7**	**-4.3**
	comp=Z,6.1nm,1.0s,baz=246,slow=20,SNR=2.9						
MAW				LR	LR	12 30 53.0	
	comp=Z,4µm,21.5s,baz=288,slow=32						
MAW	**Mawson**	**22.81**	**143**	P	**P**	**12 23 51.2**	**+1.0**
MAW					**S**	**12 28 01.6**	**+2.6**
VNA1	**Neumayer--Stat**	**22.88**	**208**	P	**P**	**12 23 53.0**	**+2.0**
VNA3	**Neumayer Olymp**	**23.59**	**208**	P	**P**	**12 24 02.2**	**+4.0**
BOSA	**Boshof**	**24.77**	**360**	P	**P**	**12 24 08.5**	**-1.1**
	comp=Z,15nm,0.8s,baz=177,slow=10,SNR=14						
BOSA				S	**S**	**12 28 32.3**	**+0.5**
	comp=Z,4.3nm,1.0s,baz=273,slow=18,SNR=1.5						
BOSA				LR	LR	12 31 58.6	
	comp=Z,5µm,20.5s,baz=174,slow=32						
BOSA	**Boshof**	**24.77**	**360**	P	**P**	**12 24 08.9**	**-0.7**
BOSA				IAmb	IAmb	12 24 24.7	
	comp=Z,65nm,1.1s						
LBTB	**Lobatse**	**28.35**	**0**	P	**P**	**12 24 40.3**	**-1.6**
	comp=Z,18nm,0.9s,baz=181,slow=8.6,SNR=20						
LBTB				LR	LR	12 34 05.5	
	comp=Z,5µm,18.4s,baz=177,slow=32						
LBTB	**Lobatse**	**28.35**	**0**	P	**P**	**12 24 40.1**	**-1.7**
LBTB				IAmb	IAmb	12 24 56.3	
	comp=Z,50nm,1.2s						
QSPA	**South Pole Qui**	**36.82**	**180**	P	**P**	**12 25 54.1**	**-1.5**
	comp=Z,11nm,0.6s,baz=236,slow=1.7,SNR=68						
QSPA				LR	LR	12 40 05.8	
	comp=Z,3µm,21.4s,baz=242,slow=35						
QSPA	**South Pole Qui**	**36.82**	**180**	P	**P**	**12 25 54.4**	**-1.1**
QSPA				IAmb	IAmb	12 26 16.4	
	comp=Z,48nm,1.1s						
QSPA	**South Pole Qui**	**36.82**	**180**	IAMs_20	IAMs_20	12 40 15.5	
	comp=Z,3µm,20.0s						
LSZ	**Lusaka**	**38.10**	**4**	P	**P**	**12 26 05.2**	**-1.7**
ABPO	**Ambohimpanom**	**38.27**	**35**	P	**P**	**12 26 07.8**	**-0.5**
CASY	**Casey**	**41.16**	**142**	P	**P**	**12 26 33.0**	**+1.3**
CASY	**Casey**	**41.16**	**142**	IAMs_20	IAMs_20	12 40 50.8	
	comp=Z,2µm,19.0s						
VNDA	**Vanda**	**46.58**	**168**	P	**P**	**12 27 14.5**	**-0.6**
	comp=Z,3.9nm,0.6s,baz=224,slow=7.9,SNR=19						
VNDA				LR	LR	12 46 15.4	
	comp=Z,2µm,21.6s,baz=210,slow=36						
VNDA	**Vanda**	**46.58**	**168**	P	**P**	**12 27 14.9**	**-0.2**
VNDA				IAmb	IAmb	12 27 34.7	
	comp=Z,16nm,0.9s						
SBA	**Scott Base**	**46.87**	**170**	P	**P**	**12 27 18.7**	**+1.4**
SBA				IAMs_20	IAMs_20	12 45 48.8	
	comp=Z,2µm,19.0s						
MBAR	**Mbarara**	**52.81**	**7**	P	**P**	**12 28 03.3**	**0.0**
MBAR				IAMs_20	IAMs_20	12 48 42.2	
	comp=Z,2µm,21.0s						
KMBO	**Kilima Mbogo**	**53.03**	**15**	LR	LR	12 49 03.8	
	comp=Z,1µm,19.0s,baz=168,slow=34						
KMBO	**Kilima Mbogo**	**53.03**	**15**	P	**P**	**12 28 05.5**	**+0.4**
KMBO	**Kilima Mbogo**	**53.03**	**15**	IAMs_20	IAMs_20	12 48 00.7	
	comp=Z,2µm,20.0s						
ASCN	**Ascension**	**55.53**	**310**	P	**P**	**12 28 22.6**	**-0.5**
TRQA	**Tornquist**	**59.10**	**247**	P	**P**	**12 28 49.4**	**+1.3**
SPB	**Sao Paulo**	**61.24**	**269**	IAMs_20	IAMs_20	12 49 19.9	
	comp=Z,1µm,19.0s						
PLCA	**Paso Flores**	**61.72**	**239**	P	**P**	**12 29 05.4**	**-0.6**
	comp=Z,4.9nm,1.0s,baz=184,slow=11,SNR=4.9						
PLCA				LR	LR	12 51 51.8	
	comp=Z,153nm,21.6s,baz=158,slow=32						
PLCA	**Paso Flores**	**61.72**	**239**	P	**P**	**12 29 08.2**	**+2.2**
H01W2	**Cape Leeuwin H**	**62.18**	**112**	T	T	13 37 09.5	
	baz=223,slow=75,SNR=14						
H01W3	**Cape Leeuwin H**	**62.19**	**112**	T	T	13 37 10.0	
	baz=223,slow=75,SNR=14						
H01W1	**Cape Leeuwin H**	**62.19**	**112**	T	T	13 37 06.6	
	baz=223,slow=75,SNR=14						
GO06	**Curarrehue**	**63.05**	**239**	P	**P**	**12 29 15.9**	**+1.0**
GO06				IAmb	IAmb	12 29 38.7	
	comp=Z,29nm,1.4s						
FURI	**Furi**	**63.08**	**15**	IAMs_20	IAMs_20	12 53 35.2	
	comp=Z,2µm,18.0s						
LIC	**Lamto**	**64.71**	**326**	*e*P	P	12 29 31.8	+5.9
	comp=Z,24nm,0.8s						
KIC	**Kosan Boka**	**64.74**	**327**	*e*P	**P**	**12 29 29.3**	**+3.2**
	comp=Z,7.4nm,1.0s						
CPUP	**Villa Florida**	**65.06**	**259**	P	**P**	**12 29 26.8**	**-1.4**
	comp=Z,3.4nm,1.0s,baz=135,slow=1.4,SNR=3.0						
CPUP				LR	LR	12 54 10.1	
	comp=Z,248nm,20.0s,baz=144,slow=33						
CPUP	**Villa Florida**	**65.06**	**259**	P	**P**	**12 29 28.9**	**+0.7**
CPUP				IAmb	IAmb	12 29 45.0	
	comp=Z,33nm,1.4s						
DBIC	**Dimbokro**	**65.07**	**327**	P	**P**	**12 29 27.6**	**-0.7**
	comp=Z,3.0nm,0.9s,baz=121,slow=5.9,SNR=2.0						
DBIC				LR	LR	12 51 08.9	
	comp=Z,1µm,22.0s,baz=135,slow=30						
DBIC	**Dimbokro**	**65.07**	**327**	P	**P**	**12 29 28.9**	**+0.7**
DBIC				IAmb	IAmb	12 29 47.0	
	comp=Z,22nm,1.2s						
TIC	**Toumodi**	**65.10**	**326**	*e*P	**P**	**12 29 32.0**	**+3.5**
	comp=Z,10nm,0.6s						
NWAO	**Narrogin (SRO)**	**65.36**	**112**	P	**P**	**12 29 30.3**	**+0.2**
NWAO	**Narrogin (SRO)**	**65.36**	**112**	P	**P**	**12 29 30.0**	**-0.1**
NWAO				IAmb	IAmb	12 29 33.6	
	comp=Z,44nm,1.6s						
ATD	**Arta Tunnel**	**66.38**	**19**	P	**P**	**12 29 37.1**	**+0.3**
ATD				IAmb	IAmb	12 29 59.7	
	comp=Z,15nm,1.1s						
ATD				IAMs_20	IAMs_20	12 55 27.5	
	comp=Z,1µm,18.0s						
PEL	**Peldehue**	**67.49**	**245**	P	**P**	**12 29 45.5**	**+1.7**
BDFB	**Brasilia**	**67.69**	**274**	P	**P**	**12 29 43.5**	**-1.7**
	comp=Z,1.8nm,0.3s,baz=168,slow=19,SNR=2.1						
BDFB				LR	LR	12 53 32.6	
	comp=Z,554nm,18.7s,baz=129,slow=31						
BDFB	**Brasilia**	**67.69**	**274**	P	**P**	**12 29 46.5**	**+1.3**
BDFB				IAmb	IAmb	12 29 54.8	
	comp=Z,18nm,1.2s						
TOC4	**Torodi Ar. Sit**	**69.29**	**335**	IAMs_20	IAMs_20	12 53 45.3	
	comp=Z,1µm,22.0s						
TOC3	**Torodi Ar. Sit**	**69.30**	**335**	IAMs_20	IAMs_20	12 53 56.6	
	comp=Z,1µm,21.0s						
TOC5	**Torodi Ar. Sit**	**69.31**	**335**	IAMs_20	IAMs_20	12 53 56.7	
	comp=Z,1µm,22.0s						
TOA0	**Torodi Ar. Sit**	**69.32**	**335**	P	**P**	**12 29 55.6**	**+0.4**
TOA0				IAmb	IAmb	12 30 11.6	
	comp=Z,17nm,1.1s						
TOA0				IAMs_20	IAMs_20	12 53 47.0	
	comp=Z,1µm,22.0s						
TORD	**Torodi Ar. Bea**	**69.32**	**335**	P	**P**	**12 29 52.8**	**-2.4**
	comp=Z,2.1nm,0.6s,baz=167,slow=7.6,SNR=6.6						
TORD				LR	LR	12 54 30.4	
	comp=Z,699nm,21.7s,baz=300,slow=31						
TORD	**Torodi Ar. Bea**	**69.32**	**335**	P	**P**	**12 29 55.8**	**+0.7**
TOC2	**Torodi Ar. Sit**	**69.32**	**335**	IAMs_20	IAMs_20	12 53 47.1	
	comp=Z,1µm,22.0s						
TOB5	**Torodi Ar. Sit**	**69.33**	**335**	IAMs_20	IAMs_20	12 53 56.3	
	comp=Z,1µm,22.0s						
TOC7	**Torodi Ar. Sit**	**69.34**	**335**	IAMs_20	IAMs_20	12 53 32.5	
	comp=Z,1µm,22.0s						
TOC1	**Torodi Ar. Sit**	**69.34**	**335**	IAMs_20	IAMs_20	12 53 45.6	
	comp=Z,1µm,22.0s						
SOCY	**Socotra**	**69.76**	**30**	IAMs_20	IAMs_20	12 57 17.3	
	comp=Z,861nm,19.0s						
LVC	**Limon Verde**	**74.64**	**253**	P	**P**	**12 30 28.6**	**+1.0**
LVC				IAmb	IAmb	12 30 49.0	
	comp=Z,13nm,1.1s						
BBOO	**Buckleboo**	**75.30**	**125**	P	**P**	**12 30 31.1**	**+0.2**
BBOO				IAmb	IAmb	12 30 48.8	
	comp=Z,14nm,1.0s						
PSAB1	**Pilbara Seismi**	**75.56**	**107**	IAMs_20	IAMs_20	12 56 16.2	
	comp=Z,986nm,21.0s						
PSAB3	**Pilbara Seismi**	**75.56**	**107**	IAMs_20	IAMs_20	12 55 58.2	
	comp=Z,949nm,20.0s						
PB01	**IPOC Station P**	**76.20**	**253**	P	**P**	**12 30 37.4**	**+1.1**
PB01				IAmb	IAmb	12 30 54.0	
	comp=Z,24nm,1.5s						
GO01	**Chusmiza**	**77.11**	**255**	P	**P**	**12 30 42.6**	**+0.7**
GO01				IAmb	IAmb	12 30 58.5	
	comp=Z,18nm,1.1s						
PB11	**IPOC Station P**	**77.30**	**254**	P	**P**	**12 30 43.5**	**+0.9**
WKZ	**Wanaka**	**77.32**	**154**	P	**P**	**12 30 42.9**	**+0.7**
MNMC	**Minye Minye**	**77.76**	**255**	P	**P**	**12 30 45.8**	**+0.5**
MNMC				IAmb	IAmb	12 31 02.0	
	comp=Z,29nm,1.4s						
TAM	**Tamanrasset**	**77.80**	**341**	P	**P**	**12 30 45.8**	**+0.7**
TAM				IAmb	IAmb	12 31 02.8	
	comp=Z,24nm,1.4s						
TAM				IAMs_20	IAMs_20	13 03 46.5	
	comp=Z,858nm,19.0s						
RAYN	**Ar Rayn**	**78.57**	**19**	P	**P**	**12 30 49.8**	**+0.6**
STKA	**Stephens Creek**	**78.71**	**129**	P	**P**	**12 30 46.9**	**-3.2**
	comp=Z,0.8nm,0.7s,baz=218,slow=7.4,SNR=2.4						
STKA				LR	LR	12 59 04.6	
	comp=Z,261nm,19.9s,baz=208,slow=31						
STKA	**Stephens Creek**	**78.71**	**129**	P	**P**	**12 30 50.4**	**+0.3**
LPAZ	**La Paz**	**79.15**	**257**	P	**P**	**12 30 53.8**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=120,slow=8.1,SNR=2.2						
LPAZ				LR	LR	13 00 46.9	
	comp=Z,207nm,21.2s,baz=111,slow=32						
LPAZ	**La Paz**	**79.15**	**257**	P	**P**	**12 30 53.8**	**+0.3**
OXZ	**Oxford**	**79.48**	**156**	IAMs_20	IAMs_20	12 54 47.6	
	comp=Z,1µm,22.0s						
LTZ	**Lake Taylor**	**80.05**	**156**	P	**P**	**12 30 57.2**	**-0.1**
LTZ				IAmb	IAmb	12 31 15.9	
	comp=Z,24nm,1.2s						
THZ	**Tophouse**	**81.17**	**156**	IAMs_20	IAMs_20	13 06 24.2	
	comp=Z,1µm,21.0s						
FITZ	**Fitzroy Crossi**	**81.62**	**109**	P	**P**	**12 31 02.2**	**-3.7**
	comp=Z,2.0nm,1.1s,baz=194,slow=9.8,SNR=2.3						
FITZ				LR	LR	13 00 04.5	
	comp=Z,469nm,22.0s,baz=230,slow=30						
FITZ	**Fitzroy Crossi**	**81.62**	**109**	P	**P**	**12 31 06.0**	**+0.1**
FITZ				IAmb	IAmb	12 31 22.6	
	comp=Z,18nm,1.5s						
ASAR	**Alice Springs**	**81.66**	**119**	P	**P**	**12 31 04.0**	**-2.2**
	comp=Z,2.2nm,0.7s,baz=207,slow=5.0,SNR=18						
ASAR				LR	LR	13 02 56.6	
	comp=Z,360nm,18.8s,baz=214,slow=32						
ASAR	**Alice Springs**	**81.66**	**119**	P	**P**	**12 31 05.5**	**-0.7**
AS31	**Alice Springs**	**81.66**	**119**	P	**P**	**12 31 05.6**	**-0.5**
BKNI	**Bangkinang**	**81.74**	**78**	P	**P**	**12 31 06.5**	**-0.1**
BKNI				IAMs_20	IAMs_20	12 58 36.1	
	comp=Z,946nm,20.0s						
NNZ	**Nelson**	**81.80**	**156**	IAMs_20	IAMs_20	13 05 19.9	
	comp=Z,1µm,21.0s						
SAML	**Samuel**	**82.02**	**266**	P	**P**	**12 31 08.8**	**+0.7**
SAML				IAmb	IAmb	12 31 25.5	
	comp=Z,27nm,1.4s						

SAML	Samuel	82.02	266	IAMs_20	IAMs_20	13 01 32.8	
	comp=Z,666nm,18.0s						
UOSS	Minazif	82.49	28	P	P	12 31 09.9	-0.3
DSRI	Dabo	83.18	82	P	P	12 31 17.6	+3.5
BKZ	Black Stump Fm	84.48	158	P	P	12 31 21.6	+1.0
BKZ				IAmb	IAmb	12 31 26.5	
	comp=Z,33nm,1.5s						
HIZ	Hauiti	84.72	156	IAMs_20	IAMs_20	13 02 31.2	
	comp=Z,772nm,18.0s						
WRA	Warramunga Arr	84.93	117	P	P	12 31 20.9	-2.1
	comp=Z,3.2nm,0.9s,baz=211,slow=3.8,SNR=15						
WRA				LR	LR	13 03 40.2	
	comp=Z,619nm,19.3s,baz=205,slow=32						
WRA	Warramunga Arr	84.93	117	P	P	12 31 23.0	-0.1
WB2	Warramunga Arr	84.93	117	P	P	12 31 22.8	-0.2
WB2				IAmb	IAmb	12 31 39.9	
	comp=Z,25nm,1.2s						
WRAB	Tennant Creek	84.94	117	P	P	12 31 23.6	+0.5
WB4	Warramunga Arr	84.97	117	IAMs_20	IAMs_20	13 03 40.6	
	comp=Z,1µm,20.0s						
WR0	Warramunga Arr	85.02	117	IAmb	IAmb	12 31 40.1	
	comp=Z,16nm,1.2s						
WR0				IAMs_20	IAMs_20	13 00 39.0	
	comp=Z,589nm,18.0s						
WB9	Warramunga Arr	85.08	117	IAMs_20	IAMs_20	13 03 41.4	
	comp=Z,982nm,18.0s						
BATI	Baumata	86.79	103	LR	LR	13 03 29.2	
	comp=Z,859nm,21.0s,baz=239,slow=31						
SOEI	Soe	87.51	103	P	P	12 31 33.9	-2.0
CSS	Mathiatis	88.27	7	IAMs_20	IAMs_20	13 14 09.8	
	comp=Z,655nm,20.0s						
KEST	Kesra	89.85	347	LR	LR	13 11 49.5	
	comp=Z,760nm,21.8s,baz=132,slow=35						
GAZ	Gaziantep	90.79	9	IAMs_20	IAMs_20	13 16 22.3	
	comp=Z,743nm,19.0s						
TIP	Timpagrande	92.51	353	IAMs_20	IAMs_20	13 17 53.5	
	comp=Z,890nm,20.0s						
BRTR	Keskin Array B	93.03	6	P	P	12 32 00.2	-0.8
	comp=Z,1.1nm,0.8s,baz=169,slow=5.2,SNR=2.5						
BRTR	Keskin Array B	93.03	6	P	P	12 32 01.6	+0.6
SFS	San Fernando	93.60	335	IAMs_20	IAMs_20	13 10 09.1	
	comp=Z,668nm,19.0s						
PVAQ	Vaqueiros	94.87	334	IAMs_20	IAMs_20	13 17 47.9	
	comp=Z,542nm,18.0s						
PFVI	Vila Bisbo	94.91	333	IAMs_20	IAMs_20	13 12 21.0	
	comp=Z,802nm,20.0s						
SGRT	San Giovanni R	95.14	353	IAMs_20	IAMs_20	13 08 53.2	
	comp=Z,765nm,21.0s						
CMAR	Chiang Mai Arr	95.24	66	LR	LR	13 08 25.0	
	comp=Z,208nm,19.7s,baz=210,slow=31						
GEYT	Alibeck	95.28	25	LR	LR	13 15 51.7	
	comp=Z,245nm,18.0s,baz=20,slow=36						
AKH	Akhalkalaki	95.72	14	IAMs_20	IAMs_20	13 14 46.8	
	comp=Z,558nm,19.0s						
PAB	San Pablo	96.07	337	IAMs_20	IAMs_20	13 17 10.6	
	comp=Z,659nm,20.0s						
ESDC	Sonseca Array	96.11	338	LR	LR	13 14 28.8	
	comp=Z,256nm,19.5s,baz=175,slow=35						
ESBB	Sonseca Array	96.11	338	IAMs_20	IAMs_20	13 08 50.5	
	comp=Z,846nm,21.0s						
SHL	Shillong	97.37	57	IAMs_20	IAMs_20	13 15 37.8	
	comp=Z,497nm,18.0s						
DZM	Mont Dzumac	97.64	144	ePS	PS	12 45 00.7	-10
	comp=Z,256nm,32.2s						
DZM				eSS	SS	12 50 17.8	-8.4
	comp=Z,356nm,28.1s						
DZM	Mont Dzumac	97.64	144	eLR	LR	13 03 56.0	
	comp=Z,825nm,27.0s						
MTE	Manteigas	97.65	335	IAMs_20	IAMs_20	13 17 50.5	
	comp=Z,639nm,18.0s						
COI	Coimbra	97.69	335	IAMs_20	IAMs_20	13 16 17.6	
	comp=Z,783nm,20.0s						
KBZ	Khabaz	97.92	13	LR	LR	13 18 39.2	
	comp=Z,248nm,18.5s,baz=196,slow=37						
TEOL	Teolo	99.08	350	IAMs_20	IAMs_20	13 20 41.6	
	comp=Z,675nm,19.0s						
ROSC	El Rosal	99.64	265	LR	LR	13 16 10.1	
	comp=Z,447nm,18.1s,baz=184,slow=34						
CTI	Castel Tesino	99.77	350	IAMs_20	IAMs_20	13 15 41.6	
	comp=Z,863nm,20.0s						
LSA	Lhasa	100.44	54	IAMs_20	IAMs_20	13 10 13.1	
	comp=Z,526nm,21.0s						
PMG	Port Moresby	100.44	121	IAMs_20	IAMs_20	13 12 10.6	
	comp=Z,501nm,19.0s						
FUORN	Ofenpass-Fuorn	100.48	349	IAMs_20	IAMs_20	13 15 05.4	
	comp=Z,688nm,21.0s						
SDV	Santo Domingo	100.65	271	IAMs_20	IAMs_20	13 14 11.4	
	comp=Z,598nm,18.0s						
BTK	Batken	101.01	34	IAMs_20	IAMs_20	13 12 20.6	
	comp=Z,637nm,21.0s						
QIZ	Qiongzhong	101.83	74	P	Pdif	12 32 42.7	+1.6
QIZ				S	Sdif	12 44 24.0	+1.2
QIZ				SS	SS	12 51 30.0	+3.4
QIZ				LR	LR		
	comp=Z,300nm,21.6s						
QIZ				LR	LR		
	comp=Z,370nm,19.6s						
QIZ				LR	LR		
	comp=Z,400nm,22.6s						
KSH	Kashi	102.34	38	eP	Pdif	12 32 44.2	+1.2
ECH	Echery	102.42	348	IAMs_20	IAMs_20	13 15 04.9	
	comp=Z,723nm,20.0s						
KMI	Kunming	102.68	65	P	Pdif	12 32 47.7	+2.7
KMI				PP	PKiKP	12 37 03.6	-2.2
KMI				SKS		12 43 21.2	
KMI				S	Sdif	12 44 28.6	-1.5
KMI				SS	SS	12 51 42.3	+3.6
KMI				LR	LR		
	comp=Z,230nm,9.8s						
KMI				LR	LR		
	comp=Z,220nm,10.9s						
KMI				LR	LR		
	comp=Z,180nm,9.6s						
STU	Stuttgart	102.72	349	IAMs_20	IAMs_20	13 21 01.8	
	comp=Z,750nm,19.0s						
TBI	Tubuai	103.44	185	ePS	PS	12 46 02.6	-10
	comp=Z,166nm,29.0s						
TBI				eSS	SS	12 51 41.2	-5.0
	comp=Z,233nm,32.5s						
TBI	Tubuai	103.44	185	eLQ	LQ	13 02 11.7	
	comp=Z,490nm,34.2s						
TBI				eLR	LR	13 06 43.3	
	comp=Z,918nm,36.5s						
WLF	Walferdange	103.97	347	IAMs_20	IAMs_20	13 24 52.0	
	comp=Z,790nm,21.0s						
CLL	Collm	104.86	352	ePP	PKiKP	12 37 18.0	+9.4
CLL				eSdif	Sdif	12 44 51.0	+4.5
CLL				ePS	PS	12 46 34.0	+6.5
CLL				ePPS	PPS	12 47 24.0	
CLL				eSS	SS	12 52 07.0	-0.5
CLL				eSSS	SSS	12 55 54.0	
CLL				eSSSS		12 59 29.0	
CLL				e		13 01 48.0	
CLL				Lm	MLR	13 19 00.0	
	comp=N,700nm,21.4s						
CLL				Lm	MLR	13 19 00.0	
	comp=E,500nm,21.1s						
CLL				LmV		13 22 00.0	
	comp=Z,600nm,19.0s						
CD2	Chengdu	107.81	62	Pdif	Pdif	12 33 09.2	+1.7
SC01	Santiago de lo	108.95	277	IAMs_20	IAMs_20	13 13 14.5	
	comp=Z,594nm,20.0s						
PPT2	Papeete2	109.17	185	ePS	PS	12 47 03.3	-8.4
	comp=Z,304nm,26.2s						
PPT2				eSS	SS	12 52 57.8	-6.7
	comp=Z,548nm,29.2s						
PPT2	Papeete2	109.17	185	eLQ	LQ	13 04 13.3	
	comp=Z,2µm,35.2s						
PPT2				eLR	LR	13 09 08.4	
	comp=Z,541nm,23.2s						
WMQ	Urumqi	110.57	43	ePKP	PKiKP	12 37 21.6	+1.9
WMQ				AMB	AMB		
	comp=Z,42nm,4.9s						
WMQ				LR	LR		
	comp=Z,310nm,29.1s						
HHC	Hu-ho-hao-te	119.45	60	PKP	PKiKP	12 37 40.9	+4.0
SONM	Songino Array	121.94	52	PKP	PKPdf	12 37 39.1	-2.3
	comp=Z,0.3nm,0.7s,baz=208,slow=1.3,SNR=2.5						
SONM	Songino Array	121.94	52		PKiKP	12 37 41.9	+0.3
HAL	Halifax	123.58	301	IAMs_20	IAMs_20	13 30 26.7	
	comp=Z,383nm,19.0s						
BCX	Boston College	126.01	294	IAMs_20	IAMs_20	13 15 39.5	
	comp=Z,412nm,20.0s						
250A	Grady	127.57	275	IAMs_20	IAMs_20	13 28 01.6	
	comp=Z,427nm,22.0s						
MDJ	Mudanjiang	131.74	68	PKP	PKPdf	12 37 59.3	-0.7
OLIL	Olney	133.28	280	IAMs_20	IAMs_20	13 30 38.7	
	comp=Z,295nm,18.0s						
L46A	Eue Claire	134.33	284	IAMs_20	IAMs_20	13 26 23.2	
	comp=Z,356nm,20.0s						
TXAR	Lajitas Array	136.02	258	PKP	PKPdf	12 38 06.6	-2.1
	comp=Z,0.1nm,0.7s,baz=224,slow=3.8,SNR=3.0						
TXAR	Lajitas Array	136.02	258		PKPdf	12 38 08.6	-0.2
L42A	Oliver, Polo	136.29	282	IAMs_20	IAMs_20	13 25 59.1	
	comp=Z,383nm,22.0s						
CBKS	Cedar Bluff	140.26	271	IAMs_20	IAMs_20	13 38 02.7	
	comp=Z,301nm,20.0s						
ECSD	EROS Data Cent	141.41	280	IAMs_20	IAMs_20	13 53 19.8	
	comp=Z,289nm,19.0s						
KSCO	Kaye Shedlock'	142.12	269	IAMs_20	IAMs_20	13 39 21.9	
	comp=Z,316nm,20.0s						
TIXI	Tiksi	143.51	31	PKP	PKPab	12 38 16.5	-0.7
	comp=Z,2.5nm,0.6s,baz=360,slow=24,SNR=4.4						
TIXI	Tiksi	143.51	31		PKPdf	12 38 21.7	+0.9
ISCO	Idaho Springs	144.40	268	IAMs_20	IAMs_20	13 53 45.5	
	comp=Z,335nm,21.0s						
ULM	Lac du Bonnet	144.43	289	PKP	PKPbc	12 38 21.9	+0.2
	comp=Z,0.7nm,0.4s,baz=74,slow=2.4,SNR=1.5						
SMCO	Snowmass	144.82	266	IAMs_20	IAMs_20	13 42 04.6	
	comp=Z,403nm,21.0s						
WUAZ	Wupatki	144.98	257		PKPdf	12 38 25.2	+0.4
PV13	Radium Mtn., P	145.26	263	IAMs_20	IAMs_20	13 41 00.3	
	comp=Z,323nm,19.0s						
PV07	Paradox Valley	145.34	263		PKPab	12 38 26.2	+0.7
MDND	Maddock	145.40	284		PKPab	12 38 26.0	+0.9
PV04	Paradox Valley	145.47	263	IAMs_20	IAMs_20	13 57 17.6	
	comp=Z,452nm,21.0s						
Y12C	Blythe	145.53	252		PKPab	12 38 27.0	+1.0
MONP2	Monument Peak	145.97	248	PKPdf	PKPbc	12 38 27.2	-0.2
RSSD	Black Hills	146.03	275		PKPbc	12 38 27.2	-0.1
RES	Resolute Bay	148.47	334	PKPbc	PKPbc	12 38 31.4	-1.4
	comp=Z,2.9nm,1.0s,baz=71,slow=2.1,SNR=2.6						
PDAR	Pinedale Array	148.56	269	PKPbc	PKPbc	12 38 34.2	-0.2
	comp=Z,0.7nm,0.8s,baz=108,slow=4.8,SNR=5.5						
PDAR	Pinedale Array	148.56	269		PKPdf	12 38 32.1	+1.4
DUG	Dugway, Tooele	148.94	262	IAMs_20	IAMs_20	13 44 02.8	
	comp=Z,308nm,21.0s						
FFC	Flin Flon	149.66	294		PKPab	12 38 39.8	-1.9
NVAR	Mina Array Bea	151.00	254	PKPbc	PKPbc	12 38 40.6	+0.1
	comp=Z,0.8nm,0.6s,baz=157,slow=2.6,SNR=8.2						
NVAR	Mina Array Bea	151.00	254	PKPdf	PKPdf	12 38 35.2	+0.5
NVAR					pPKPbc	12 38 42.1	-0.4
SEY	Seymchan	151.30	50	PKPbc	PKPbc	12 38 39.2	-0.8
	comp=Z,8.9nm,1.0s,baz=234,slow=7.9,SNR=5.7						
KVN	Kaiserville	151.30	255	PKPdf	PKPdf	12 38 36.6	+1.5
KVN					pPKPbc	12 38 43.1	0.0
EGMT	Eagleton	151.46	278		PKPdf	12 38 35.8	+1.0
BMN	Battle Mountai	151.69	258	IAMs_20	IAMs_20	13 57 49.6	
	comp=Z,319nm,20.0s						
DLMT	Dillon	151.83	271	IAMs_20	IAMs_20	13 43 43.9	
	comp=Z,428nm,22.0s						
PETK	Petropavlovsk-	151.90	71	PKPbc	PKPbc	12 38 39.8	-1.9
	comp=Z,4.9nm,0.9s,baz=178,slow=8.9,SNR=4.3						
PETK	Petropavlovsk-	151.90	71		PKPbc	12 38 41.1	-0.6
MSO	Missoula	153.38	272	IAMs_20	IAMs_20	13 41 31.9	
	comp=Z,380nm,18.0s						
YKW3	Yellowknife Ar	157.25	310	IAMs_20	IAMs_20	13 35 22.5	
	comp=Z,431nm,22.0s						
YKA	Yellowknife Ar	157.25	309	PKPab	PKPab	12 39 12.8	-0.8
	comp=Z,0.8nm,0.9s,baz=76,slow=2.6,SNR=2.9						
YKA	Yellowknife Ar	157.25	309		PKPdf	12 38 44.4	+2.1
ILAR	Eielson Array	167.94	344	PKPab	PKPab	12 40 00.3	0.0
	comp=Z,0.6nm,1.0s,baz=3.9,slow=5.2,SNR=3.4						

*ISCJB **02** 12:22:00.5±0.7, 42°51N±0°05×144°48E±0°04, h73km±5km, mb3.4/3, Error ellipse: s-maj=9.4km s-min=4.2km az=162.6*
*JMA **02** 12:22:00.9±0.1, 42°54N×144°41E, h77km±1km, M3.2*
*IDC **02** 12:22:01.7±7.4, 42°40N×144°24E, h67km±67km, mb3.3/3, mb1 3.3/4, mb1mx3.0/60, mbtmp3.6/4, ML3.1/1, MS3.0/2, Ms1 3.1/2, ms1mx2.4/26, Error ellipse: s-maj=219.0km s-min=54.5km az=54.0*
*SKHL **02** 12:22:02.2±0.5, 42°48N×144°58E, h33km±1km, mb4.4/3*
ISC 02 12:22:01.0±1.3**, 42°48N**±0°08×**144°48E**±0°04**, h66**km±9km**,**
n34, σ0.96/45, mb3.3/3, 1C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	Akkeshi	0.55	17	⇓P	Pn	12 22 14.3	+0.4
JAK				eS	Sn	12 22 24.1	+0.8
JOB	Onbets	0.64	312	⇓P	Pn	12 22 15.2	+0.3
JOB				eS	Sn	12 22 25.6	+0.5
JKHN	Kushirohamanak	0.79	39	⇓P	Pn	12 22 17.4	+0.8
JKHN				eS	Sn	12 22 29.1	+1.0
JCH	Churui	0.84	280	P	Pn	12 22 17.2	0.0
JCH				eS	Sn	12 22 28.5	-0.7
JAR	Ashorobuto	0.97	328	⇓P	Pn	12 22 18.7	-0.2
JAR				eS	Sn	12 22 31.7	-0.5
JNK	Nakash	1.12	9	⇓P	Pn	12 22 20.4	-0.5
JNK				eS	Sn	12 22 34.4	-1.3
NMR	Nemuro--Hokkai	1.28	45	iP	Pn	12 22 22.7	-0.2
NMR				iS	Sn	12 22 38.0	-1.3
NEM2	Nemuro 2	1.29	46	⇓P	Pn	12 22 22.8	-0.1
NEM2				eS	Sn	12 22 38.3	-1.1
JNBK	Urakawa-nobuka	1.29	262	P	Pn	12 22 22.6	-0.5
GLVR	Golovnino	1.48	31	eP	Pn	12 22 25.5	+0.1
GLVR				AMB	AMB	12 22 28.0	
	80nm,0.2s						
GLVR				iS	Sn	12 22 43.0	-0.9
GLVR				A	A	12 22 44.0	
	840nm,0.4s						
GLVR				A	A	12 22 44.0	
	770nm,0.4s						
JRA	Rausu	1.54	18	P	Pn	12 22 26.3	0.0
JRA				eS	Sn	12 22 44.9	-0.4
JFR	Furan	1.55	297	P	Pn	12 22 25.9	-0.6
JFR				eS	Sn	12 22 44.3	-1.4
JTKR	Abashiri--Toko	1.55	345	P	Pn	12 22 26.7	+0.2
JTKR				eS	Sn	12 22 46.3	+0.6
JBT2	Biratori 2	1.59	282	⇑P	Pn	12 22 25.8	-1.2
JMP	Maruseppu	1.74	332	P	Pn	12 22 28.5	-0.5
JMP				eS	Sn	12 22 49.5	-0.7
GRPR	Tuman	1.79	31	iP	Pn	12 22 30.0	+0.4
GRPR				AMB	AMB	12 22 30.0	
	110nm,0.3s						
GRPR				iS	Sn	12 22 50.6	-0.8
GRPR				A	A	12 22 51.0	
	520nm,0.4s						
GRPR				A	A	12 22 51.0	
	880nm,0.4s						
YUK	Yuzh-Kuril'sk	1.86	32	iP	Pn	12 22 31.0	+0.4
YUK				AMB	AMB	12 22 35.0	
	100nm,0.2s						
YUK				iS	Sn	12 22 53.0	0.0
YUK				A	A	12 22 53.0	
	530nm,0.4s						
YUK				A	A	12 22 53.0	
	380nm,0.4s						
JKK2	Kamakawa 2	1.89	318	P	Pn	12 22 30.8	-0.2
JKK2				eS	Sn	12 22 53.3	-0.5
JIAM	Iburiatsuma	1.90	275	P	Pn	12 22 33.0	+1.9
JIAM				eS	Sn	12 22 56.3	+2.3
JAB	Ashibetsu	1.95	303	P	Pn	12 22 32.4	+0.6
ASAJ	Asahikawa	2.14	321	P	Pn	12 22 34.6	+0.2
	4.1nm,0.3s,baz=184,slow=13,SNR=29						
ASAJ				S	Sn	12 23 00.2	+0.3
	7.1nm,0.3s,baz=252,slow=20,SNR=15						
KUR	Kuril'sk	3.69	40	eP	Pn	12 22 57.0	+1.5
KUR				eS	Sn	12 23 37.5	-0.2
KUR				A	A	12 23 49.6	
	230nm,0.8s						
YSS	Yuzh-Sakhalins	4.64	345	eP	Pn	12 23 11.7	+3.2
SONM	Songino Array	27.19	295	P	P	12 27 38.2	-0.2
	0.5nm,0.5s,baz=94,slow=9.1,SNR=5.8						
H11N2	WAKE ISLAND Hy	29.54	133	T	T	12 59 19.2	
	baz=327,slow=75,SNR=26						
H11N1	WAKE ISLAND Hy	29.55	133	T	T	12 59 17.3	
	baz=327,slow=75,SNR=15						
H11N3	WAKE ISLAND Hy	29.55	133	T	T	12 59 21.1	
	baz=327,slow=75,SNR=20						
TIXI	Tiksi	30.25	350	LR	LR	12 40 50.9	
	comp=Z,22nm,19.6s,baz=53,slow=37						
H11S1	WAKE ISLAND Hy	30.44	135	T	T	13 00 34.2	
	baz=328,slow=76,SNR=25						
H11S3	WAKE ISLAND Hy	30.44	135	T	T	13 00 31.6	
	baz=328,slow=76,SNR=20						
H11S2	WAKE ISLAND Hy	30.45	135	T	T	13 00 32.9	
	baz=328,slow=76,SNR=15						
ZALV	Zalesovo Beam	40.22	308	P	P	12 29 30.7	-0.1
	0.7nm,0.4s,baz=91,slow=9.2,SNR=3.5						
MKAR	Makanchi Array	43.45	298	P	P	12 29 56.5	-0.8
	0.3nm,0.7s,baz=80,slow=10,SNR=3.2						
CMAR	Chiang Mai Arr	45.28	252	LR	LR	12 48 31.6	
	comp=Z,20nm,19.1s,baz=240,slow=35						

TAP 02 12:23:26.8, 24°47N×121°83E, h52km, ML1.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	Nanao	0.08	242	P	Pn	12 23 34.8	0.0
	baz=242						
NANB				iS	Sn	12 23 41.0	+0.6
	baz=242						
ENA	Nanau	0.09	245	eP	Pn	12 23 35.0	+0.3
	baz=241						
ENA				S	Sn	12 23 41.3	+0.9
	baz=241						
TWC	Suao	0.14	7	P	Pn	12 23 35.1	+0.1
	baz=10.0						
TWC				S	Sn	12 23 41.4	+0.5
	baz=10.0						
EOS1	EOS1	0.28	73	P	Pn	12 23 36.8	+0.9
	baz=73						
EOS1				eS	Sn	12 23 44.2	+1.8
	baz=73						
TWE	Neicheng	0.29	330	iP	Pn	12 23 36.5	+0.5
	baz=331						
TWE				iS	Sn	12 23 43.3	+0.7
	baz=331						
ENTT	Nioudou	0.30	306	P	Pn	12 23 36.4	+0.3
	baz=306						
ENTT				S	Sn	12 23 43.4	+0.7
	baz=306						
NDT	Datong Townshi	0.32	295	P	Pn	12 23 36.5	+0.3
	baz=295						
NDT				S	Sn	12 23 44.3	+1.2
	baz=295						
SLBB	Yuanshan	0.34	328	P	Pn	12 23 35.9	-0.5
	baz=328						
SLBB				S	Sn	12 23 43.5	+0.1
	baz=328						
NACB	Ninganchiao	0.36	216	P	Pn	12 23 37.1	+0.5
	baz=216						
NACB				eS	Sn	12 23 44.4	+0.7
	baz=216						
EGS		0.39	14	eP	Pn	12 23 37.5	+0.6
	baz=15						
ETLH	Xiulin Townshi	0.41	231	P	Pn	12 23 37.9	+0.6
	baz=230						
ETLH				S	Sn	12 23 44.1	-0.6
	baz=230						
NNSB	Datong	0.41	265	P	Pn	12 23 37.6	+0.3
	baz=264						
NNSB				S	Sn	12 23 45.5	+0.7
	baz=264						
NNSH	Datong	0.41	265	eP	Pn	12 23 37.6	+0.3
	baz=264						
NNSH				eS	Sn	12 23 45.2	+0.4
	baz=264						
NNS	Nan Shan	0.42	267	P	Pn	12 23 37.7	+0.4
	baz=265						
NWLT	Wulai	0.43	316	eP	Pn	12 23 38.0	+0.6
	baz=316						
NWLT				eS	Sn	12 23 46.2	+1.2
	baz=316						
YHNB	Yeheng	0.46	296	P	Pn	12 23 38.0	+0.2
	baz=296						
YHNB				S	Sn	12 23 46.7	+1.0
	baz=296						
NSK	Sanguang	0.48	296	iP	Pn	12 23 38.2	+0.2
	baz=296						
NSK				S	Sn	12 23 45.9	-0.1
	baz=296						
TIPB	Shuangxi	0.50	360	iP	Pn	12 23 38.5	+0.2
	baz=359						
TIPB				iS	Sn	12 23 47.5	+1.1
	baz=359						
WHF	Hehuan Shan	0.61	238	eP	Pn	12 23 40.2	+0.4
	baz=237						
WHF				eS	Sn	12 23 50.1	+0.8
	baz=237						
TDCB	Techi	0.65	251	P	Pn	12 23 40.5	+0.4
	baz=250						
TDCB				eS	Sn	12 23 51.0	+1.3
	baz=250						
CHGB	Renai	0.72	236	eP	Pn	12 23 40.9	-0.2
	baz=235						
CHGB				eS	Sn	12 23 52.3	+0.8
	baz=235						
LIOB	Emei	0.76	284	eP	Pn	12 23 41.6	+0.2
	baz=283						
LIOB				eS	Sn	12 23 53.5	+1.4
	baz=283						
NSTT	Nanjuang	0.77	282	P	Pn	12 23 42.2	+0.7
	baz=282						
NSTT				S	Sn	12 23 54.0	+1.7
	baz=282						
WHP	Taichung City	0.83	257	eP	Pn	12 23 43.4	+1.0
	baz=256						
WHP				eS	Sn	12 23 55.6	+1.9
	baz=256						
VWDT	VWDT	0.95	222	eP	Pn	12 23 44.7	+0.9
	baz=221						
VWDT				eS	Sn	12 23 57.8	+1.5
	baz=221						
HGSD	Ruisui	1.04	201	eP	Pn	12 23 45.8	+0.7
	baz=200						
SSLB	Suanglung	1.05	230	eP	Pn	12 23 45.8	+0.6
	baz=229						
WHYT	Xinyi Township	1.18	230	eP	Pn	12 23 48.0	+1.0
	baz=229						
WHYT				eS	Sn	12 24 03.2	+1.2
	baz=229						

JMA 02 12:23:53.6±0.1**, 24°90N**×**123°40E, h29**km**, M1.3,**
Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.56	219	P	Pb	12 24 04.7	-0.3
YOJ				S	Sb	12 24 12.3	-0.5
IRIF	Iriomote-Funau	0.64	152	P	Pb	12 24 05.8	-0.5
IRIF				S	Sb	12 24 14.9	0.0
JIJ	Ishigaki jima	0.86	128	P	Pn	12 24 09.2	-0.6
JIJ				S	Sb	12 24 19.7	-1.5
JKRS	Kuro-shima	0.86	140	P	Pn	12 24 09.6	-0.2
JKRS				S	Sb	12 24 20.7	-0.5
JISG	Ishigakijimahi	0.89	110	P	Pn	12 24 09.9	-0.2
JISG				eS	Sb	12 24 20.9	-1.0
HATJ	Hateruma jima	0.92	156	P	Pn	12 24 10.4	-0.1
HATJ				S	Sn	12 24 22.1	-0.6

*IDC **02** 12:36:01.8±0.7, 51°65N×176°48W, h0km, mb3.6/10, mb1 3.9/11, mb1mx3.7/45, mbtmp3.7/11, ML3.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/45, Error ellipse: s-maj=31.0km s-min=15.3km az=162.0*
*ISCJB **02** 12:36:08.4±0.6, 51°61N±0°09×176°43W±0°05, h60km±3km, mb3.8/10, Error ellipse: s-maj=14.7km s-min=4.5km az=167.3*
*AEIC **02** 12:36:08±1.7, 51°48N±0°03×176°32W±0°04, h26km±5km, ML4.0, mb3.9/19(NEIC)*
*NEIC **02** 12:36:09.2±1.3, 51°57N±0°07×176°39W±0°05, h47km±8km*
ISC 02 12:36:09.0±1.1**, 51°6N**±0°1×**176°43W**±0°04**, h52**km±8km**,**
n69, σ0.98/71, mb3.8/12, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	Adak	0.33	331		Pn	12 36 18.1	-0.5
ADK				Sg	Sn	12 36 25.2	-0.3
ADAG	Mount Adagdak	0.40	344		Pn	12 36 19.6	+0.3
GSCK	Great Sitkin C	0.45	22		Pn	12 36 19.8	-0.1
GSCK					Sn	12 36 27.9	+0.3
GSTD	Great Sitkin T	0.49	21		Pn	12 36 20.3	-0.1
GSMY	Great Sitkin M	0.50	27		Pn	12 36 20.1	-0.4
KIWB	Kanaga Island	0.52	300		Pn	12 36 20.6	0.0
KIWB					Sn	12 36 29.2	+0.2
KIMD	Kanaga Island	0.53	288		Pn	12 36 20.5	-0.2
KIMD					Sn	12 36 29.4	+0.2
KIKV	Kanaga Island	0.54	302		Pn	12 36 20.9	0.0
GSTR	Great Sitkin T	0.55	25		Pn	12 36 21.1	+0.1
KICM	Kanaga Island	0.57	304		Pn	12 36 21.4	+0.1
KICM					Sn	12 36 31.3	+1.2
TAPA	Tanaga Point A	0.89	285		Pn	12 36 25.6	+0.2

TAFP	Tanaga Falls P	1.01	288		Pn	12 36 27.4	+0.4
TASE	Tanaga Southea	1.03	284		Pn	12 36 27.9	+0.6
GAEA	Gareloi East	1.46	278		Pn	12 36 33.9	+1.0
ATKA	Atka Island	1.51	66		Pn	12 36 33.0	-0.7
ATKA				Sn	Sn	12 36 52.3	+0.1
KOKL	Mount Kliuchef	1.56	61		Pn	12 36 34.7	+0.3
KOFP	Korovin Flat P	1.59	64		Pn	12 36 35.2	+0.3
KOSE	Korovin Southe	1.65	62		Pn	12 36 35.9	+0.2
KOSE					Sn	12 36 57.8	+2.1
NIKH	Nikolski High	4.85	71	Pn	Pn	12 37 20.9	+1.5
SMY	Shemya	5.94	285	Pn	Pn	12 37 35.3	+1.0
UNV	Unalaska Valle	6.43	66	Pn	Pn	12 37 43.1	+2.0
SPIA	Saint Paul Isl	6.65	30	Pn	Pn	12 37 44.9	+0.8
OHAK	Old Harbor	14.56	58	Pn	Pn	12 39 30.3	-1.5
KDAK	Kodiak Island	15.06	56	Pn	Pn	12 39 35.0	-3.3
	0.3nm,0.3s,baz=198,slow=2.4,SNR=19						
KDAK				Sn	Sn	12 42 24.5	+0.7
	0.1nm,0.3s,baz=134,slow=18,SNR=2.9						
KDAK	Kodiak Island	15.06	56		Pn	12 39 36.2	-2.1
TTA	Tatalina	15.75	36	Pn	Pn	12 39 48.7	+1.6
PETK	Petropavlovsk-	15.86	286	LR	LR	12 45 19.5	
	comp=Z,32nm,20.6s,baz=57,slow=35						
CNPM	China Poot	16.23	51	Pn	Pn	12 39 53.8	+0.5
BRLK	Bradley Lake	16.47	50	Pn	Pn	12 39 55.5	-0.8
SUA	Susitna One	17.15	45	Pn	P	12 40 05.4	-0.4
SUA				IAmb	IAmb	12 40 16.9	
	comp=Z,13nm,1.2s						
KTH	Kantishna Hill	18.02	39	P	Pn	12 40 16.5	+1.1
KTH				IAmb	IAmb	12 40 18.5	
	comp=Z,7.8nm,0.8s						
BPAW	Bear Paw Mtn.	18.27	37	P	P	12 40 18.1	+0.1
BILL	Bilibino	18.52	339	P	Pn	12 40 22.8	+1.4
BILL				IAmb	IAmb	12 40 41.5	
	comp=Z,6.6nm,1.1s						
RND	Reindeer	18.77	40	P	P	12 40 24.0	+0.4
RND				IAmb	IAmb	12 40 27.6	
	comp=Z,4.6nm,0.7s						
MCK	McKinley	18.88	39	P	Pn	12 40 26.0	+0.2
DHY	Denali Highway	19.24	42	P	P	12 40 29.4	+0.6
DHY				IAmb	IAmb	12 40 48.4	
	comp=Z,8.6nm,1.1s						
HDA	Harding Lake	19.97	39	P	Pn	12 40 38.1	-0.5
HDA				IAmb	IAmb	12 40 55.0	
	comp=Z,3.5nm,0.7s						
IL31		20.15	38	P	Pn	12 40 40.2	-0.5
ILAR	Eielson Array	20.15	38	P	P	12 40 38.5	-0.1
	comp=Z,1.5nm,0.7s,baz=236,slow=9.6,SNR=23						
ILAR				S	S	12 44 21.6	-0.1
	comp=Z,0.1nm,0.5s,baz=238,slow=29,SNR=3.3						
ILAR	Eielson Array	20.15	38	P	Pn	12 40 39.8	-1.0
SCRK	Sand Creek	20.98	41	P	P	12 40 47.5	-0.2
SCRK				IAmb	IAmb	12 40 59.5	
	comp=Z,4.3nm,0.8s						
BCAR	Beaver Creek A	21.63	45	P	P	12 40 56.6	+2.0
EGAK	Eagle	22.41	40	P	P	12 41 03.9	+1.0
EGAK				IAmb	IAmb	12 41 10.1	
	comp=Z,4.1nm,1.2s						
INK	Inuvik	26.43	35	P	P	12 41 38.5	-1.9
	comp=Z,0.3nm,0.3s,baz=238,slow=9.3,SNR=4.8						
INK				PcP	PcP	12 45 04.7	+0.5
	comp=Z,0.8nm,0.5s,baz=225,slow=4.3,SNR=8.4						
INK	Inuvik	26.43	35	P	P	12 41 39.6	-0.8
INK				IAmb	IAmb	12 41 48.2	
	comp=Z,3.2nm,1.4s						
YKA	Yellowknife Ar	34.00	47	P	P	12 42 46.3	-1.0
	comp=Z,0.5nm,0.8s,baz=276,slow=7.2,SNR=3.3						
YKA				PcP	PcP	12 45 24.6	+0.6
	comp=Z,0.6nm,0.5s,baz=288,slow=3.3,SNR=5.9						
YKA	Yellowknife Ar	34.00	47	P	P	12 42 47.2	-0.1
H11N2	WAKE ISLAND Hy	34.40	209	T	T	13 19 22.1	
	baz=18,slow=76,SNR=750						
H11N3	WAKE ISLAND Hy	34.40	209	T	T	13 19 22.8	
	baz=18,slow=76,SNR=1027						
H11N1	WAKE ISLAND Hy	34.41	209	T	T	13 19 22.8	
	baz=18,slow=76,SNR=692						
USRK	Ussuriysk Ar.	34.73	278	P	P	12 42 53.7	-0.2
	comp=Z,1.6nm,0.8s,baz=62,slow=9.9,SNR=4.0						
USRK	Ussuriysk Ar.	34.73	278	P	P	12 42 54.1	+0.2
LON	Longmire	35.33	76	P	P	12 42 57.7	-1.3
H11S1	WAKE ISLAND Hy	35.61	208	T	T	13 20 52.1	
	baz=18,slow=76,SNR=227						
H11S2	WAKE ISLAND Hy	35.62	208	T	T	13 20 53.0	
	baz=18,slow=76,SNR=143						
H11S3	WAKE ISLAND Hy	35.62	208	T	T	13 20 55.0	
	baz=18,slow=76,SNR=98						
PD31	Pinedale Array	44.83	74	P	P	12 44 18.5	+0.6
PD31				IAmb	IAmb	12 44 19.6	
	comp=Z,1.8nm,0.9s						
PDAR	Pinedale Array	44.83	74	P	P	12 44 18.5	+0.6
	comp=Z,1.3nm,0.7s,baz=308,slow=3.7,SNR=10						
SONM	Songino Array	47.87	298	P	P	12 44 42.3	+0.7
	comp=Z,0.2nm,0.4s,baz=47,slow=8.5,SNR=2.7						
SONM				PcP	PcP	12 46 09.7	+0.3
	comp=Z,0.5nm,0.5s,baz=37,slow=4.1,SNR=3.4						
TX32	Lajitas Array	57.15	83	P	P	12 45 51.1	+0.7
TX32				IAmb	IAmb	12 45 53.5	
	comp=Z,1.8nm,1.1s						
TXAR	Lajitas Array	57.15	83	P	P	12 45 50.7	+0.3
	comp=Z,0.7nm,0.7s,baz=300,slow=5.2,SNR=10						
TXAR	Lajitas Array	57.15	83	P	P	12 45 50.9	+0.4
WMQ	Urumqi	60.46	304	eP	P	12 46 18.9	+5.8
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,35nm,3.7s						
WMQ				LR	LR		
	comp=N,630nm,29.0s						
WMQ				LR	LR		
	comp=E,2μm,28.8s						
WMQ				LR	LR		
	comp=Z,350nm,29.3s						
MKAR	Makanchi Array	61.05	310	P	P	12 46 15.4	-1.6
	comp=Z,0.3nm,0.7s,baz=46,slow=8.4,SNR=3.4						
WRA	Warramunga Arr	83.22	226	P	P	12 48 29.3	-0.3
	comp=Z,0.5nm,0.6s,baz=33,slow=5.6,SNR=7.4						
ASAR	Alice Springs	86.67	224	P	P	12 48 47.3	+0.4
	comp=Z,0.8nm,0.7s,baz=32,slow=4.9,SNR=15						
ASAR	Alice Springs	86.67	224	P	P	12 48 47.7	+0.9
TORD	Torodi Ar. Bea	115.50	2	PKP	PKiKP	12 54 43.9	-1.3
	comp=Z,0.4nm,0.4s,baz=351,slow=1.7,SNR=6.2						
BOSA	Boshof	151.88	316	PKPbc	PKPbc	12 55 57.2	-0.7
	comp=Z,2.5nm,0.5s,baz=340,slow=1.6,SNR=9.8						

IDC 02 12:55:34.1±7.7, 6°.15S×150°.07E, h75km±57km, mb3.1/3, mb1 3.3/4, mb1mx3.1/26, mbtmp3.4/4, ML0.6/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/14, Error ellipse: s-maj=101.8km s-min=50.5km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.33	222	P	Pn	12 56 38.4	+0.8
	0.2nm,0.3s,baz=335,slow=1.2,SNR=3.0						
PMG				S	Sn	12 57 26.9	0.0
	0.6nm,0.3s,baz=202,slow=14,SNR=2.3						
SIJI	Sorong	19.48	285	LR	LR	13 07 48.3	
	comp=Z,222nm,21.6s,baz=216,slow=38						
WRA	Warramunga Arr	20.53	227	P	P	13 00 07.5	+0.8
	0.9nm,0.5s,baz=52,slow=9.8,SNR=9.1						
ASAR	Alice Springs	23.35	220	P	P	13 00 36.6	+0.4
	0.2nm,0.3s,baz=52,slow=9.1,SNR=16						
FITZ	Fitzroy Crossi	26.63	241	P	P	13 01 06.2	+0.3
	0.9nm,0.5s,baz=68,slow=11,SNR=3.1						
TORD	Torodi Ar. Bea	148.08	285	PKPbc	PKPbc	13 15 10.8	-1.5
	0.2nm,0.4s,baz=52,slow=1.9,SNR=3.5						

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*ISCJB **02** 13:20:16.7±0.9, 33°.06S±0°.03×68°.86W±0°.04, h3km±6km, Error ellipse: s-maj=6.1km s-min=3.5km az=38.0*
*SJA **02** 13:20:16.8±1.0, 32°.98S×68°.89W, h24km±2km, ML2.8, MW3.1*
*GUC **02** 13:20:17.4±0.4, 33°.09S×69°.11W, h15km±9km, ML2.9*
ISC 02 13:20:17.2±1.1, 33°.03S±0°.03×68°.91W±0°.04, h15km±7km, n19, σ1.49/37, 3D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCO	CERRO ARCO	0.19	353	eP	Pg	13 20 22.3	+0.4
ARCO				i S	Sg	13 20 26.9	+1.9
ARCO				IAML		13 20 27.0	
	comp=Z,4μm,0.2s						
ASAL	Salagasta	0.44	8	eP	Pb	13 20 25.9	-1.0
ASAL				i S	Sg	13 20 31.8	-0.4
FCH	Farellones	1.20	255	⇓iP	Pg	13 20 39.1	-1.3
FCH				i S	Sb	13 20 55.8	+0.5
FCH				IAML		13 20 56.2	
	comp=N,547nm,0.2s						
RTCV	Cerro Valdivia	1.21	15	i P	Pg	13 20 38.9	-1.6
RTCV				i S	Sb	13 20 55.3	0.0
RTLS	Leoncito	1.27	345	eP	Pg	13 20 40.2	-1.6
RTLS				i S	Sn	13 20 58.5	+0.7
RTLS				IAML		13 21 01.1	
	comp=Z,92nm,0.4s						
LMEL	Las Melosas	1.36	233	i P	Pn	13 20 41.9	+0.1
LMEL				i S	Sn	13 21 00.5	+0.9
LMEL				IAML		13 21 01.6	
	comp=N,795nm,0.2s						
CLCH	Cerro Calan	1.42	255	⇓iP	Pn	13 20 42.9	+0.4
CLCH				i S	Sn	13 21 02.7	+1.8
CLCH				IAML		13 21 04.0	
	comp=E,318nm,0.6s						
CFA	Coronel Fontan	1.53	22	i P	Pn	13 20 44.0	-0.1
CFA				i S	Sn	13 21 04.6	+0.8
ACAN	Cantantal	1.63	63	i P	Pn	13 20 46.1	+0.6
ACAN				i S	Sn	13 21 07.5	+1.2
RTLL	Cerro Villicun	1.74	12	i P	Pn	13 20 47.3	+0.4
RTLL				i S	Sb	13 21 10.8	+0.3
RTLL				IAML		13 21 12.3	
	comp=Z,178nm,0.4s						
ROCH	El Roble	1.77	271	⇓iP	Pb	13 20 49.1	-0.4
ROCH				i S	Sg	13 21 13.2	-1.1
ROCH				IAML		13 21 14.3	
	comp=E,184nm,0.4s						
RFA	San Rafael	1.77	168	i P	Pn	13 20 48.5	+1.0
RFA				i S	Sb	13 21 12.5	+0.9
RFA				IAML		13 21 17.0	
	comp=Z,166nm,0.4s						
ROC1	El Roble	1.77	271	i P	Pb	13 20 49.1	-0.5
ROC1				i S	Sg	13 21 12.5	-1.9
AMOG	MOGNA	2.12	10	i P	Pn	13 20 53.4	+1.2
AMOG				i S	Sb	13 21 22.1	+0.6
ACCO	Cerro Coronel	2.44	357	i P	Pb	13 21 00.6	-0.4
ACCO				i S	Sb	13 21 31.5	+0.4
ACDV	Cuesta del Vie	2.86	356	i P	Pb	13 21 06.0	-2.0
ACDV				i S	Sb	13 21 45.4	+2.5
ACDV				IAML		13 21 47.1	
	comp=Z,30nm,0.4s						
AROD	Rodeo	2.90	350	i P	Pn	13 21 05.9	+2.7
AROD				i S	Sb	13 21 46.1	+1.9
AGUA	GUANDACOL	3.55	6	i P	Pb	13 21 19.8	-0.1
AGUA				IAML		13 22 11.0	
	comp=Z,9.2nm,0.2s						
ACLC	CERRO LA CRUZ	3.97	25	i P	Pb	13 21 27.7	+0.7
ACLC				i S	Sg	13 22 19.9	-4.8

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*BJI **02** 13:25:14.4±0.0, 9°.03S×121°.42E, h196km, mb4.3/24, mB4.7/18*
*ISCJB **02** 13:25:19.3±0.2, 8°.31S±0°.02×121°.36E±0°.03, h200km, mb4.3/27, Error ellipse: s-maj=4.1km s-min=2.9km az=136.5*
*NEIC **02** 13:25:20.2±2.6, 8°.29S±0°.06×121°.40E±0°.07, h200km±4km, mb4.9/48*
*DJA **02** 13:25:20.0±0.2, 8°S±3°×12°1E±°, h195km±4km, M4.6/13, mB5.0/9, mb4.8/12, MLv5.0/13, Mw(mB)4.3/9*
*IDC **02** 13:25:21.8±0.6, 8°.18S×121°.51E, h206km±5km, mb4.0/16, mb1 4.2/22, mb1mx4.0/38, mbtmp4.6/22, Error ellipse: s-maj=11.9km s-min=6.4km az=61.0*
ISC 02 13:25:20.4±0.3, 8°.36S±0°.04×121°.41E±0°.05, h200km, n176, σ1.73/188, mb4.6/38, 1D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	0.87	109	P	Pn	13 25 48.5	-0.8
MMRI				S	Sn	13 26 09.3	-2.3
MMRI	Maumere	0.87	109		Pn	13 25 48.5	-0.8
WSI	Waingapu	1.70	220	P	Pn	13 25 53.7	-2.2
BATI	Baumata	2.89	130	P	Pn	13 26 12.8	+4.1
	237nm,0.3s,baz=155,slow=0.6,SNR=330						
BATI				S	Sn	13 26 48.5	+1.9
	549nm,0.3s,baz=194,slow=19,SNR=11						
BATI	Baumata	2.89	130	P	Pn	13 26 12.5	+3.8
BBSI	Bau Bau	3.08	22	P	Pn	13 26 12.2	+1.2
SOEI	Soe	3.15	116	P	Pn	13 26 12.2	+0.3
SOEI	Soe	3.15	116		Pn	13 26 12.1	+0.3
BKSI	Bulukumba	3.27	337	P	Pn	13 26 13.8	+0.5
PLAI	Plampang	3.62	262	P	Pn	13 26 17.2	-0.3
KAPI	Kappang	3.71	334	P	Pn	13 26 20.1	+1.6
	54nm,0.3s,baz=141,slow=9.1,SNR=145						
KAPI	Kappang	3.71	334		Pn	13 26 20.0	+1.4
TWSI	Taliwang, Sumb	4.49	265	P	Pn	13 26 27.6	-0.8
SPSI	Sidrap Palu	4.66	339	P	Pn	13 26 31.5	+1.0
TTSI	Tana Toraja	5.51	343	P	Pn	13 26 43.0	+1.6
SRBI	Singaraja	6.14	272	P	Pn	13 26 49.1	-0.4
JAGI	Jajag, Banyuwa	7.18	269	P	Pn	13 27 02.2	-0.8
JAGI	Jajag, Banyuwa	7.18	269		Pn	13 26 59.5	-3.5
APSI	Ampana	7.40	2	P	Pn	13 27 07.2	+1.3
SANI	Sanana	7.75	36	P	Pn	13 27 11.2	+0.8
GMJI	Gumukmas	7.88	270	P	Pn	13 27 10.2	-1.9
SAUI	Saumlaki	9.80	89		Pn	13 27 35.4	-1.7
KNRA	Kununurra	10.23	136		Pn	13 27 40.5	-2.1
FITZ	Fitzroy Crossi	10.52	157	P	Pn	13 27 45.2	-1.2
	baz=10,SNR=82						
FITZ	Fitzroy Crossi	10.52	157	P	Pn	13 27 45.1	-1.2
	2.6nm,0.3s,baz=346,slow=9.3,SNR=96						
FITZ				S	Sn	13 29 36.9	-7.0
	4.4nm,0.3s,baz=127,slow=15,SNR=3.8						
MTN	Manton Dam	10.55	116	P	Pn	13 27 45.4	-1.3
	baz=11,SNR=172						
MTN	Manton Dam	10.55	116		Pn	13 27 45.2	-1.5
UGM	Wanagama	10.79	272	Pn	Pn	13 27 48.6	-1.2
TNTI	Ternate	10.84	34		Pn	13 27 49.6	-0.9
KDU	Kakadu	11.70	113	P	Pn	13 28 00.1	-1.4
	baz=12,SNR=43						
FAKI	Fak Fak	12.06	64		Pn	13 28 04.9	-1.2
SWI	Sorong	12.32	53	P	Pn	13 28 09.2	-0.2
SIJI	Sorong	12.32	53	P	Pn	13 28 09.3	-0.1
	14nm,0.3s,baz=227,slow=7.2,SNR=107						
SIJI				S	Sn	13 30 23.2	-3.7
	0.6nm,0.3s,baz=90,slow=20,SNR=4.3						
CMJI	Cimerak	12.84	272	P	Pn	13 28 13.8	-2.2
PSA00	Pilbara Seismi	13.22	186		Pn	13 28 18.8	-1.9
PSA00	Pilbara Seismi	13.22	186	Pn	Pn	13 28 20.6	-0.1
CISI	Cisompet, Garu	13.49	272	P	Pn	13 28 22.7	-1.4
CISI	Cisompet, Garu	13.49	272	Pn	Pn	13 28 21.9	-2.2
SBUM	Sibu	14.11	319	Pn	Pn	13 28 30.9	-0.9
KSM	Kuching	14.76	311	P	Pn	13 28 40.0	+0.2
KKM	Kota Kinabalu	15.21	340	P	P	13 28 46.0	+0.2
KKM				IAmb	IAmb	13 28 49.8	
	comp=Z,22nm,0.7s						
XMIS	Christmas Isla	15.69	261	P	P	13 28 49.6	-1.4
XMIS				IAmb	IAmb	13 29 39.7	
	comp=Z,62nm,1.1s						
GIRL	Giralia	15.79	205	P	Pn	13 28 53.0	+0.7
	baz=16,SNR=8.1						
GIRL	Giralia	15.79	205	P	Pn	13 28 52.9	+0.6
WB0	Warramunga Arr	16.93	133	P	Pn	13 29 05.6	-0.4
WB0				IAmb	IAmb	13 29 08.3	
	comp=Z,27nm,0.7s						
WRA	Warramunga Arr	17.01	134	P	Pn	13 29 06.6	-0.3
	comp=Z,5.8nm,0.3s,baz=309,slow=12,SNR=313						
WRA				S	S	13 32 04.7	-7.9
	comp=Z,2.1nm,0.3s,baz=304,slow=24,SNR=10						
WRA				ScP	ScP	13 36 56.0	-0.4
	baz=320,slow=1.6,SNR=2.7						
WRA	Warramunga Arr	17.01	134	P	P	13 29 05.8	+0.3
WRAB	Tennant Creek	17.01	134	P	Pn	13 29 06.6	-0.3
WRAB				IAmb	IAmb	13 29 12.9	
	comp=Z,38nm,0.8s						
WB2	Warramunga Arr	17.02	134	P	Pn	13 29 06.6	-0.4
WB2				IAmb	IAmb	13 29 07.3	
	comp=Z,120nm,1.6s						
WR0	Warramunga Arr	17.16	134	P	Pn	13 29 08.4	-0.3
WR0				IAmb	IAmb	13 29 10.7	
	comp=Z,32nm,0.6s						
WRKA	Warakurna	17.84	159	P	Pn	13 29 16.4	-0.3
	baz=18,SNR=61						
MEEK	Meekatharra	18.37	188	P	Pn	13 29 22.1	-0.8
	baz=18,SNR=13						
MNAI	Manna	18.76	281	P	P	13 29 24.2	-0.4
AS31	Alice Springs	19.37	143	P	P	13 29 32.7	+1.6
AS31				IAmb	IAmb	13 29 37.2	
	comp=Z,34nm,1.1s						
ASAR	Alice Springs	19.37	143	P	P	13 29 32.6	+1.5
	comp=Z,8.3nm,0.3s,baz=330,slow=11,SNR=734						
ASAR				S	S	13 32 58.4	-1.1
	baz=317,slow=19,SNR=7.1						
ASAR				ScP	ScP	13 37 01.4	0.0
	comp=Z,0.1nm,0.3s,baz=357,slow=2.2,SNR=5.5						
JAY	Jayapura	20.06	74	P	P	13 29 37.4	-1.3
	comp=Z,1.2nm,0.3s,baz=214,slow=17,SNR=5.6						
MYKOM	Kota Tinggi	20.20	299	P	P	13 29 38.1	-2.0
MORW	Morawa	21.21	193	P	P	13 29 51.4	+0.7
	baz=21,SNR=9.8						
MORW	Morawa	21.21	193	P	P	13 29 51.2	+0.6
MORW				IAmb	IAmb	13 29 52.2	
	comp=Z,28nm,0.8s						
COEN	Coen	22.06	107	P	P	13 29 59.9	+0.5
	baz=22,SNR=24						
COEN	Coen	22.06	107	P	P	13 29 59.9	+0.5
TGY	Tagaytay City	22.32	359	P	P	13 30 02.9	+1.2
	comp=Z,255nm,0.4s,baz=174,slow=4.3,SNR=4.9						
BLDU	Ballidu	22.58	191	P	P	13 30 05.0	+1.1
	baz=23,SNR=23						
FORT	Forrest	23.16	165	P	P	13 30 10.5	+1.3
	baz=23,SNR=17						
FORT	Forrest	23.16	165	P	P	13 30 10.2	+1.0
KLBR	Kellerberrin	23.37	188	P	P	13 30 12.1	+1.1
	baz=23,SNR=9.6						
MTSU	Mount Surprise	24.30	116	P	P	13 30 21.8	+2.0
	baz=24,SNR=38						
KULM	Kulim	24.75	303	P	P	13 30 23.4	-0.4
NWAO	Narrogin (SRO)	24.75	188	P	P	13 30 25.0	+1.4
	comp=Z,9.3nm,0.7s,baz=33,slow=7.4,SNR=6.9						
NWAO	Narrogin (SRO)	24.75	188	P	P	13 30 24.1	+0.5
NWAO				IAmb	IAmb	13 30 58.1	
	comp=Z,88nm,1.8s						
NWAO	Narrogin (SRO)	24.75	188	P	P	13 30 23.4	-0.2
NWAO				IAmb	IAmb	13 30 58.0	
	comp=Z,104nm,1.7s						
RPSI	Rantau Prapat	24.96	295	P	P	13 30 26.8	+1.0
RPSI					pwP	13 31 08.4	-1.1
PSI	Prapat	25.01	295	P	P	13 30 26.8	+0.4
	comp=Z,2.6nm,0.3s,baz=166,slow=8.3,SNR=3.7						
PSI				pP	pwP	13 31 08.4	-1.8
	comp=Z,34nm,1.1s,baz=140,slow=7.1,SNR=2.9						
GSI	Gunungsitoli	25.62	291	P	P	13 30 29.8	-1.9
GSI				IAmb	IAmb	13 30 47.9	
	comp=Z,43nm,1.4s						
MANU	Manus Island	26.59	78	P	P	13 30 38.9	-1.5
CTA	Charters Tower	26.71	119	P	P	13 30 42.7	+1.2
	comp=Z,9.7nm,0.8s,baz=290,slow=10,SNR=10						
CTA				PcP	PcP	13 34 00.7	+1.0
	comp=Z,4.9nm,0.7s,baz=292,slow=5.4,SNR=3.8						
BBOO	Buckleboo	27.86	153	P	P	13 30 52.9	+1.4
	baz=28,SNR=59						
BBOO	Buckleboo	27.86	153	P	P	13 30 52.7	+1.2
BBOO				IAmb	IAmb	13 30 53.5	
	comp=Z,23nm,0.6s						
QLP	Quilpie	28.24	133	P	P	13 30 57.6	+2.7
	baz=28,SNR=5.1						
HTT	Hallett	29.74	150	P	P	13 31 10.3	+2.1
	baz=30,SNR=39						
STKA	Stephens Creek	30.00	144	P	P	13 31 12.5	+2.1
	baz=30,SNR=187						
STKA	Stephens Creek	30.00	144	P	P	13 31 12.4	+2.1
	comp=Z,39nm,0.3s,baz=322,slow=9.1,SNR=232						
STKA	Stephens Creek	30.00	144	P	P	13 31 12.3	+1.9
STKA				IAmb	IAmb	13 31 13.0	
	comp=Z,10nm,0.4s						
TPUB	Ta-pu	31.47	359	P	P	13 31 23.2	-0.2
YULB	Yu-li	31.55	360	P	P	13 31 23.4	-0.7
YULB				IAmb	IAmb	13 31 29.6	
	comp=Z,78nm,1.9s						
RMQ	Roma	31.60	128	P	P	13 31 27.5	+3.0
	baz=32,SNR=14						
SSLB	Suanglung	31.95	359	P	P	13 31 28.6	+0.9
SSLB				IAmb	IAmb	13 31 52.1	
	comp=Z,19nm,1.0s						
CMSA	Cobar Meteorol	32.30	139	P	P	13 31 33.5	+2.9
	baz=32,SNR=6.2						
YHNB	Yeheng	32.83	360	P	P	13 31 34.7	-0.6
EIDS	Eidsvold	32.93	125	P	P	13 31 37.2	+1.0
EIDS				IAmb	IAmb	13 32 04.1	
	comp=Z,38nm,1.6s						
ARPS	Mount Arapiles	33.84	150	P	P	13 31 46.3	+2.5
	baz=34,SNR=19						
CMAR	Chiang Mai Arr	34.66	320	P	P	13 31 51.9	+0.8
	comp=Z,1.0nm,0.3s,baz=147,slow=7.9,SNR=5.8						
ARMA	Armidale	35.77	132	P	P	13 32 04.7	+4.0
YNG	Young	35.81	140	P	P	13 32 03.8	+3.1
	baz=36,SNR=22						
TOO	Toolangi	36.34	147	P	P	13 32 08.8	+3.5
	baz=36,SNR=26						
TOO	Toolangi	36.34	147	P	P	13 32 08.8	+3.5
TOO				IAmb	IAmb	13 32 09.8	
	comp=Z,36nm,1.4s						
CAN	Canberra	36.84	141	P	P	13 32 12.7	+3.2
KMI	Kunming	37.92	332	P	P	13 32 20.6	+1.7
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,110nm,4.7s						
MILA	Mila	38.07	143	P	P	13 32 22.9	+3.1
	baz=38,SNR=3.2						
HNR	Honiara	38.08	95	P	P	13 32 19.6	-0.5
WHN	Wuhan	39.27	350	P	P	13 32 35.2	+5.5
NJ2	Nanjing	40.26	357	eP	P	13 32 40.3	+2.5
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
JCJ	Chichijima	40.59	29	P	P	13 32 40.0	-0.7
	comp=Z,78nm,0.6s,baz=319,slow=6.3,SNR=7.2						
TAU	Tasmania Unive	41.25	151	P	P	13 32 49.0	+3.2
JNU	Nakatsue	42.22	12	P	P	13 32 53.1	-0.8
JNU				IAmb	IAmb	13 32 54.1	
	comp=Z,34nm,1.3s						
CD2	Chengdu	42.55	337	eP	P	13 32 56.5	-0.1
XAN	Xi'an	43.80	345	P	P	13 33 13.0	+6.5
XAN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,56nm,3.4s						
DZM	Mont Dzumac	45.37	113	P	P	13 33 21.1	+1.9
	comp=Z,8.1nm,0.7s,baz=266,slow=22,SNR=8.2						
DZM	Mont Dzumac	45.37	113	P	P	13 33 21.4	+2.1
DZM				IAmb	IAmb	13 34 02.9	
	comp=Z,94nm,1.9s						
LZH	Lanzhou	47.20	341	eP	P	13 33 35.8	+2.5
LZH				pP	pP	13 34 20.4	+3.5
LZH				sP	sP	13 34 42.2	+3.2
LZH				pmax	pmax		
	comp=Z,14nm,1.2s						
MJAR	Matsushiro Arr	47.37	18	P	P	13 33 33.2	-1.2
	comp=Z,4.4nm,0.8s,baz=204,slow=8.1,SNR=8.7						
MJAR	Matsushiro Arr	47.37	18	IAmb	IAmb	13 33 42.6	
	comp=Z,1.7nm,0.7s						
LSA	Lhasa	47.74	324	P	P	13 33 39.1	+1.2
TAPN	Taplejung	48.22	319	eP	P	13 33 41.5	0.0
	comp=Z,18nm,0.4s						
BJI	Beijing	48.40	355	eP	P	13 33 41.5	-0.7
BJI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
RAMN	Ramite	48.69	317	eP	P	13 33 44.7	-0.3
	comp=Z,17nm,0.5s						
JIRN	Jiri	49.43	318	eP	P	13 33 50.5	-0.3
	comp=Z,33nm,0.6s						
HHC	Hu-ho-hao-te	49.80	350	P	P	13 33 55.7	+2.7
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GUN	Gumba	49.80	318	eP	P	13 33 53.3	-0.2
	comp=Z,34nm,0.6s						
PKI	Pulchoki	49.90	317	eP	P	13 33 53.5	-0.7
	comp=Z,11nm,0.4s						
PKIN	Phulchoki	49.91	317	eP	P	13 33 53.6	-0.7
	comp=Z,10nm,0.4s						
DMN	Daman	50.12	317	eP	P	13 33 55.0	-0.9
GKN	Gorkha	50.70	317	eP	P	13 33 59.6	-0.4
KOLN	Koldanda	51.26	316	eP	P	13 34 03.5	-0.8
DANN	Dangsing	51.51	317	eP	P	13 34 05.6	-0.7
	comp=Z,23nm,0.6s						
GTA	Gaotai	51.58	339	eP	P	13 34 06.8	+0.5
GTA				pP	pP	13 34 48.5	-2.2
GTA				sP	sP	13 35 09.6	-3.2
GTA				S	S	13 41 10.4	-1.2
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,110nm,6.2s						
GTA				LR	LR		
	comp=Z,84nm,17.5s						
GTA				LR	LR		
	comp=Z,120nm,16.5s						
GTA				LR	LR		

	comp=Z,140nm,18.7s						
USA0B	Ussuriysk Arra	53.18	9	P	P	13 34 16.5	-1.3
USRK	Ussuriysk Ar.	53.18	9	P	P	13 34 16.8	-1.1
	comp=Z,2.2nm,0.4s,baz=189,slow=6.9,SNR=18						
USRK	Ussuriysk Ar.	53.18	9	P	P	13 34 16.6	-1.2
DCZ	Deep Cove	53.95	141	P	P	13 34 25.1	+1.7
DCZ				IAmb	IAmb	13 35 43.9	
	comp=Z,106nm,1.9s						
RPZ	Rata Peaks	55.66	138	P	P	13 34 38.0	+2.1
	comp=Z,22nm,0.9s,baz=122,slow=5.3,SNR=5.9						
RPZ	Rata Peaks	55.66	138	P	P	13 34 37.6	+1.8
RPZ				IAmb	IAmb	13 34 38.8	
	comp=Z,23nm,0.9s						
MSVF	Nonsavu	55.79	106	P	P	13 34 39.6	+2.4
MSVF				IAmb	IAmb	13 34 40.7	
	comp=Z,31nm,0.7s						
BHW	Baring Head	57.43	134	P	P	13 34 48.8	+0.5
SONM	Songino Array	57.51	348	P	P	13 34 48.4	-0.4
	comp=Z,2.6nm,0.6s,baz=167,slow=8.3,SNR=12						
SONM	Songino Array	57.51	348	P	P	13 34 48.2	-0.6
BKZ	Black Stump Fm	57.92	131	P	P	13 34 53.8	+1.9
BKZ				IAmb	IAmb	13 34 54.4	
	comp=Z,68nm,2.0s						
WMQ	Urumqi	60.25	332	eP	P	13 35 09.1	+1.4
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,89nm,6.3s						
WMQ				LR	LR		
	comp=Z,570nm,29.1s						
WMQ				LR	LR		
	comp=Z,2μm,29.2s						
WMQ				LR	LR		
	comp=Z,100nm,28.9s						
NIL	Nilore	61.90	315	P	P	13 35 17.8	-1.2
KSH	Kashi	63.54	322	P	P	13 35 30.8	+1.0
KSH				PcP	PcP	13 36 04.3	-0.2
KSH				PP	PP	13 37 54.1	+1.8
KSH				PcS		13 40 07.6	
KSH				S	S	13 43 46.1	-1.2
KSH				SS	SS	13 47 59.0	+0.3
KSH				LR	LR		
	comp=Z,170nm,7.6s						
KSH				LR	LR		
	comp=Z,360nm,5.1s						
MK31	Makanchi Array	65.00	331	P	P	13 35 38.8	-0.2
MKAR	Makanchi Array	65.00	331	P	P	13 35 38.8	-0.3
	comp=Z,4.0nm,0.5s,baz=142,slow=7.8,SNR=86						
MKAR				pP	pP	13 36 27.6	+3.0
	comp=Z,3.6nm,0.7s,baz=136,slow=8.1,SNR=6.7						
MKAR	Makanchi Array	65.00	331	P	P	13 35 38.5	-0.5
CHGR	Chuyangaron	67.39	318	P	P	13 35 53.9	-0.5
PETK	Petropavlovsk-	68.55	23	P	P	13 36 01.2	0.0
	comp=Z,4.5nm,0.8s,baz=202,slow=3.9,SNR=14						
ZAA0	Zalesovo Array	69.32	338	P	P	13 36 04.4	-1.5
ZALV	Zalesovo Beam	69.32	338	P	P	13 36 04.5	-1.4
	comp=Z,4.4nm,0.5s,baz=130,slow=4.3,SNR=11						
ZALV				pP	pwP	13 36 54.4	-0.9
	comp=Z,2.1nm,0.5s,baz=134,slow=4.3,SNR=3.3						
ZALV	Zalesovo Beam	69.32	338	P	P	13 36 03.9	-2.0
KURK	Kurchatov	69.50	333	P	P	13 36 06.5	-0.6
VNDA	Vanda	72.26	171	P	P	13 36 25.8	+2.4
	comp=Z,1.6nm,0.5s,baz=317,slow=7.2,SNR=13						
SYO	Syowa Base	79.31	201⇓	ePP	PP	13 40 09.0	+3.1
QSPA	South Pole Qui	81.63	180	P	P	13 37 18.0	+2.0
	comp=Z,1.4nm,0.6s,baz=211,slow=1.1,SNR=15						
BOSA	Boshof	91.40	241	P	P	13 38 04.9	+0.5
	comp=Z,1.1nm,0.5s,baz=91,slow=4.7,SNR=3.1						
BOSA	Boshof	91.40	241	IAmb	IAmb	13 39 55.2	
	comp=Z,33nm,1.7s						
VNA2	Neumayer--Watz	93.87	195	P	P	13 38 11.6	-3.0
VNA3	Neumayer Olymp	94.23	194	P	P	13 38 14.3	-2.0
ILAR	Eielson Array	98.23	26	P	P	13 38 33.0	-1.5
	comp=Z,0.7nm,1.0s,baz=243,slow=5.0,SNR=8.4						
VYHS	Vyhne	104.54	318	ePDIFF	Pdif	13 39 04.1	+1.1
YKA	Yellowknife Ar	112.63	25	PKiKP	PKiKP	13 43 31.8	-0.8
	comp=Z,0.4nm,0.6s,baz=300,slow=1.7,SNR=4.0						
NVAR	Mina Array Bea	118.77	51	PKP	PKPdf	13 43 44.6	-0.9
	comp=Z,0.3nm,0.5s,baz=244,slow=2.5,SNR=4.3						
TORD	Torodi Ar. Bea	120.69	280	PKP	PKPdf	13 43 49.2	-0.3
	comp=Z,1.3nm,0.5s,baz=55,slow=2.0,SNR=12						
PDAR	Pinedale Array	123.82	44	PKP	PKPdf	13 43 54.8	-0.2
	comp=Z,0.1nm,0.3s,baz=268,slow=3.3,SNR=3.8						
TXAR	Lajitas Array	132.89	58	PKP	PKiKP	13 44 13.9	+0.2
	comp=Z,0.2nm,0.5s,baz=228,slow=1.5,SNR=3.8						
TXAR				SKPbc	SKPbc	13 47 20.8	-0.7
	comp=Z,2.1nm,1.2s,baz=247,slow=1.9,SNR=6.3						
TXAR	Lajitas Array	132.89	58		SKPbc	13 47 20.0	-1.4
X48A	Hartselle	143.15	41		PKPdf	13 44 30.3	-0.8
LRAL	Lakeview Retre	144.04	43		PKPbc	13 44 31.4	+0.2
R55A	Marlinton	144.44	30		PKPab	13 44 31.9	-0.2
P57A	Homestead Farm	144.46	26		PKPab	13 44 32.0	0.0
Z50A	Ashland	144.63	42		PKPab	13 44 32.5	-0.4
MVL	Millersville	144.72	24		PKPab	13 44 31.8	-1.2
V53A	Saluda	144.95	36		PKPbc	13 44 33.3	-0.7
BLA	Blacksburg	145.12	31		PKPbc	13 44 33.6	-0.8
P60A	Greenville	145.17	23		PKPbc	13 44 34.0	-0.4
CPUP	Villa Florida	145.50	182	PKPbc	PKPab	13 44 37.3	+1.1
	comp=Z,6.0nm,0.8s,baz=145,slow=2.7,SNR=16						
GOGA	Godfrey	146.10	39		PKPbc	13 44 37.6	+0.1
LPAZ	La Paz	153.76	159	PKPab	PKPab	13 45 13.3	+2.5
	comp=Z,3.7nm,0.6s,baz=206,slow=1.5,SNR=13						

WEL 02 13:40:03.3±1.1**,35˚S**±18˚×**18˚0E**±2˚2**,h242**km±22km**,M3.4**/11**,mB4.0**/1**,MLv3.4**/11**,Mw(mB)3.1**/1**,Error ellipse: s-maj=0.0km s-min=0.0km az=124.3,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.02	202	P	Pn	13 40 54.7	-0.7
MXZ				S	S	13 41 35.7	-0.9
WMGZ	Waiomatatini S	3.23	199	P	Pn	13 40 58.3	+0.5
WMGZ				S	S	13 41 42.4	+1.6
HAZ	Te Kaha	3.38	208	P	Pn	13 40 59.9	+0.5
HAZ				S	S	13 41 44.7	+0.9
PKGZ	Pakihiroa	3.39	203	P	Pn	13 40 59.8	+0.2
PKGZ				S	S	13 41 44.6	+0.4
PUZ	Puketiti	3.51	200	P	Pn	13 41 00.7	-0.3
PUZ				S	S	13 41 46.9	+0.3
RUGZ	Raukumara Rang	3.60	207	P	Pn	13 41 02.4	+0.3
RUGZ				S	S	13 41 48.6	-0.1
CNGZ	Carnagh Statio	3.91	198	P	Pn	13 41 06.5	+0.9
TKGZ	Te Karaka	3.97	202	P	Pn	13 41 06.1	-0.2
TKGZ				S	S	13 41 57.5	+1.3
MWZ	Matawai	3.98	206	P	Pn	13 41 06.0	-0.5
MWZ				S	S	13 41 55.7	-0.9
MARZ	Manawahe	4.06	217	P	Pn	13 41 07.6	+0.2
URZ	Urewera	4.08	211	P	Pn	13 41 07.4	-0.2
URZ				S	S	13 41 58.1	-0.5
RIGZ	Rimuhau	4.24	202	P	Pn	13 41 09.3	-0.3
RIGZ				S	S	13 42 02.9	+0.8
PRGZ	Paritu Road	4.41	199	P	Pn	13 41 13.1	+1.5
PRGZ				S	S	13 42 06.6	+0.8
MUGZ	Murupara	4.41	212	P	Pn	13 41 12.5	+0.9
RTZ	Ruatahuna	4.44	209	P	Pn	13 41 10.6	-1.4
SNGZ	Shannon Statio	4.45	205	P	Pn	13 41 11.8	-0.3
SNGZ				S	S	13 42 07.7	+1.1
MHGZ	Mahia Peninsul	4.62	198	P	Pn	13 41 13.2	-0.9
BKZ	Black Stump Fm	5.10	210	P	Pn	13 41 19.5	-0.6
HIZ	Hauiti	5.43	225	P	Pn	13 41 26.1	+2.0
BHHZ	Black Hill Sta	5.56	211	P	Pn	13 41 25.2	-0.5
KRHZ	Kereru	5.56	208	P	Pn	13 41 24.4	-1.3
PXZ	Pawanui	5.73	203	P	Pn	13 41 27.7	-0.1
PRHZ	Porangahau	6.02	203	P	Pn	13 41 30.9	-0.5
BFZ	Birch Farm	6.52	204	P	Pn	13 41 37.2	-0.5

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*IDC **02** 13:41:44.3±1.8, 1˚98N×96˚52E, h0km, mb4.0/6, mb1 4.0/8, mb1mx3.7/48, mbtmp3.9/8, ML3.6/2, Error ellipse: s-maj=47.6km s-min=20.1km az=57.0*
*DJA **02** 13:41:45.9±1.0, 2˚N±5˚×9˚6E±1˚1, h27km±8km, M4.2/6, mb4.7/1, MLv4.0/6*
*ISCJB **02** 13:41:46.0±0.6, 1˚92N±0˚06×96˚51E±0˚07, h28km, mb4.0/6, Error ellipse: s-maj=11.7km s-min=5.8km az=143.1*
*NEIC **02** 13:41:48.5±0.8, 1˚98N±0˚08×96˚6E±0˚1, h30km±7km, mb4.5/18*
ISC 02 13:41:47.8±0.8**,1˚95N**±0˚06×**96˚51E**±0˚08**,h28**km**,n50,** σ**0˚69**/46**,mb4.4**/14**,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	0.49	338	P	Pn	13 41 58.9	0.0
SNSI				S	Sn	13 42 07.4	+0.9
GSI	Gunungsitoli	1.25	121	P	Pn	13 42 09.4	+0.1
GSI	Gunungsitoli	1.25	121		Pn	13 42 09.5	+0.1
TPTI		1.46	27	P	Pb	13 42 14.4	0.0
TPTI				S	Sb	13 42 34.7	+2.1
MLSI	Meulaboh, Aceh	2.30	357	P	Pn	13 42 23.2	-0.7
RPSI	Rantau Prapat	2.53	73		Pn	13 42 26.7	-0.3
RPSI	Rantau Prapat	2.53	73		Pn	13 42 26.9	0.0
PSI	Prapat	2.56	71	Pn	Pn	13 42 26.9	-0.6
	4.2nm,0.3s,baz=249,slow=13,SNR=8.2						
LHMI	Lhok Sumawe	3.29	8	Pn	Pn	13 42 37.6	+0.2
IPM	Ipoh	5.16	61		Pn	13 43 03.0	-0.3
KULM	Kulim	5.30	51		Pn	13 43 04.5	-0.6
MYKOM	Kota Tinggi	7.34	91	Pn	Pn	13 43 33.6	+0.4
PBKT	Sadao Pong	15.18	17	P	P	13 45 24.4	-0.7
SMRI	Semarang	16.53	123	Pn	Pn	13 45 37.5	-0.3
CMAR	Chiang Mai Arr	16.58	8	Pn	Pn	13 45 36.4	-2.0
	0.2nm,0.3s,baz=197,slow=12,SNR=15						
CMAR	Chiang Mai Arr	16.58	8	P	P	13 45 39.7	-1.0
KAPI	Kappang	24.23	107	P	P	13 47 02.9	+0.3
H08S2	Diego Garcia H	25.78	248	T	T	14 14 02.0	
	baz=69,slow=76,SNR=442						
H08S3	Diego Garcia H	25.79	248	T	T	14 14 03.4	
	baz=69,slow=76,SNR=368						
H08S1	Diego Carcia H	25.80	248	T	T	14 14 04.6	
	baz=69,slow=76,SNR=433						
FITZ	Fitzroy Crossi	34.93	126	P	P	13 48 37.1	-0.3
MTN	Manton Dam	37.38	114	P	P	13 48 57.8	-0.7
MTN				IAmb	IAmb	13 49 36.3	
	comp=Z,14nm,1.3s						
H01W3	Cape Leeuwin H	40.20	157	T	T	14 32 07.5	
	baz=333,slow=76,SNR=7.2						
H01W2	Cape Leeuwin H	40.21	157	T	T	14 32 10.1	
	baz=333,slow=76,SNR=6.4						
H01W1	Cape Leeuwin H	40.22	157	T	T	14 32 08.4	
	baz=333,slow=76,SNR=6.6						
WB0	Warramunga Arr	42.99	122	P	P	13 49 45.0	-0.1
WB0				IAmb	IAmb	13 49 58.9	
	comp=Z,12nm,1.6s						
WRA	Warramunga Arr	43.02	122	P	P	13 49 45.7	+0.5
	comp=Z,1.7nm,0.6s,baz=301,slow=9.1,SNR=13						
WRA	Warramunga Arr	43.02	122	P	P	13 49 45.0	-0.3
WRAB	Tennant Creek	43.02	122	P	P	13 49 45.6	+0.3
WRAB				IAmb	IAmb	13 49 48.3	
	comp=Z,18nm,1.6s						
WB2	Warramunga Arr	43.03	122	P	P	13 49 45.7	+0.3
WB2				IAmb	IAmb	13 49 57.7	
	comp=Z,9.3nm,1.4s						
WR0	Warramunga Arr	43.20	122	P	P	13 49 47.0	+0.3
WR0				IAmb	IAmb	13 49 50.6	
	comp=Z,10nm,1.4s						
ASAR	Alice Springs	44.40	127	P	P	13 49 57.0	+0.6
	comp=Z,0.3nm,0.8s,baz=299,slow=7.9,SNR=6.1						
KSAR	Wonju Array Be	45.60	35	P	P	13 50 05.3	-0.3
KSRS	Korea Array	45.63	35	P	P	13 50 05.8	-0.1
	comp=Z,1.4nm,0.6s,baz=226,slow=8.5,SNR=5.9						
MK31	Makanchi Array	46.35	347	P	P	13 50 11.7	+0.3
MKAR	Makanchi Array	46.35	347	P	P	13 50 12.1	+0.6
	comp=Z,2.1nm,0.7s,baz=162,slow=7.6,SNR=24						
MKAR	Makanchi Array	46.35	347	P	P	13 50 11.5	0.0
MAKZ	Makanchi	46.44	346	P	P	13 50 12.3	+0.1
SONM	Songino Array	46.50	9	P	P	13 50 13.5	+0.8
	comp=Z,0.8nm,0.3s,baz=192,slow=9.6,SNR=6.2						
SONM	Songino Array	46.50	9	P	P	13 50 13.0	+0.3
KK31	Karatay Array	47.08	334	P	P	13 50 18.1	+0.8
KK31				IAmb	IAmb	13 50 37.5	
	comp=Z,8.0nm,1.9s						
KKAR	Karatay Array	47.08	334	P	P	13 50 18.3	+1.0
KKAR	Karatay Array	47.08	334	P	P	13 50 17.9	+0.6
KKAR				IAmb	IAmb	13 50 37.5	
	comp=Z,8.0nm,1.9s						
MJB9	Matsu-Tunnel	51.61	43	P	P	13 50 50.9	-1.0
MAJO	Matsushiro	51.61	43	P	P	13 50 50.9	-1.1
ZAA0	Zalesovo Array	52.71	351	P	P	13 50 59.5	-0.3
ZALV	Zalesovo Beam	52.71	351	P	P	13 51 00.2	+0.4
	comp=Z,2.5nm,0.5s,baz=183,slow=6.8,SNR=13						
ZALV	Zalesovo Beam	52.71	351	P	P	13 50 59.6	-0.2
BRVK	Borovoye	55.38	341	P	P	13 51 19.7	+0.4
BRVK				IAmb	IAmb	13 52 16.3	
	comp=Z,12nm,1.8s						
ABKAR	Akbulak array	56.53	332	P	P	13 51 27.6	0.0

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*ISCJB **02** 14:03:49.7±0.6, 49˚66S±0˚07×121˚6E±0˚2, h10km, mb4.1/7, MS3.9/14, Error ellipse: s-maj=15.5km s-min=10.3km az=174.3*
*IDC **02** 14:03:49.7±0.7, 49˚67S×121˚59E, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.1/24, mbtmp4.2/7, MS3.9/15, Ms1 3.9/15, ms1mx3.7/30, Error ellipse: s-maj=42.2km s-min=16.3km az=102.0*
*GCMT **02** 14:03:51.2±0.3, 49˚73S±0˚02×121˚53E±0˚06, h14km±1km, MW4.9/79, Moment Tensor Solution. s20,c21; s79,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.40±.20; $M_{\theta\theta}$2.20±.13; $M_{\phi\phi}$0.19±.12; $M_{r\theta}$-0.09±.24; $M_{\theta\phi}$-0.48±.07; $M_{\phi r}$1.62±.35; Best double couple: $M_0$2.77100×10^{16} NP1:ϕ_s128.00000°,δ56.00000°,λ-60.00000°. NP2: ϕ_s262.00000°,δ44.00000°,λ-127.00000°. Principal axes: T 2.3620, Plg7.0000°, Azm198.0000°; N 0.8170, Plg25.0000°, Azm291.0000°; P -3.1800, Plg64.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **02** 14:03:51.2±1.0, 49˚67S±0˚09×121˚6E±0˚2, h10km±1km, mb4.7/15*
ISC 02 14:03:51.3±0.6**,49˚69S**±0˚09×**121˚6E**±0˚1**,h10**km**,n55,** σ**0˚75**/41**,mb4.7**/12**,MS3.9**/14**,Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	15.75	337	T	T	14 23 47.0	
	baz=162,slow=76,SNR=22						
H01W2	Cape Leeuwin H	15.75	337	T	T	14 23 46.6	
	baz=162,slow=76,SNR=19						
H01W3	Cape Leeuwin H	15.77	337	T	T	14 23 46.2	
	baz=162,slow=76,SNR=21						
NWAO	Narrogin (SRO)	17.05	348	LR	LR	14 12 44.1	
	comp=Z,1μm,21.8s,baz=138,slow=31						
MORW	Morawa	21.02	346	P	P	14 08 36.1	+1.1
MORW				IAmb	IAmb	14 08 40.3	
	comp=Z,62nm,1.5s						
STKA	Stephens Creek	23.27	48	P	P	14 08 59.1	+0.2
	comp=Z,2.0nm,0.7s,baz=175,slow=12,SNR=6.0						
STKA				LR	LR	14 16 21.5	
	comp=Z,380nm,21.1s,baz=213,slow=32						
STKA	Stephens Creek	23.27	48	P	P	14 08 59.3	+0.4
ASAR	Alice Springs	27.73	25	P	P	14 09 39.1	-0.7
	comp=Z,3.0nm,1.0s,baz=177,slow=10,SNR=17						
ASAR				PcP	PcP	14 12 55.8	-0.7
	comp=Z,0.4nm,1.0s,baz=160,slow=3.0,SNR=3.6						
ASAR				LR	LR	14 19 30.2	
	comp=Z,962nm,20.4s,baz=193,slow=34						
ASAR	Alice Springs	27.73	25	P	P	14 09 39.5	-0.3
AS31	Alice Springs	27.73	25	P	P	14 09 39.1	-0.8
WRA	Warramunga Arr	31.39	24	P	P	14 10 11.5	-0.9
	comp=Z,3.6nm,1.1s,baz=199,slow=7.7,SNR=4.6						
WRA				PcP	PcP	14 13 06.1	+0.3
	comp=Z,0.7nm,1.0s,baz=188,slow=2.5,SNR=4.6						
WRA				LR	LR	14 21 35.3	
	comp=Z,730nm,21.3s,baz=195,slow=34						
WRA	Warramunga Arr	31.39	24	P	P	14 10 11.9	-0.4
WB2	Warramunga Arr	31.40	24	P	P	14 10 11.9	-0.5
WB2				IAmb	IAmb	14 10 19.3	
	comp=Z,10nm,1.2s						
WRAB	Tennant Creek	31.40	24	P	P	14 10 11.9	-0.5
WRAB				IAmb	IAmb	14 10 19.3	
	comp=Z,16nm,1.4s						
WR0	Warramunga Arr	31.43	24	P	P	14 10 13.0	+0.4
WB0	Warramunga Arr	31.57	24	P	P	14 10 13.2	-0.7
WB0				IAmb	IAmb	14 11 16.0	
	comp=Z,19nm,1.7s						
VNDA	Vanda	31.79	165	P	P	14 10 15.5	+0.2
	comp=Z,8.4nm,0.8s,baz=300,slow=8.7,SNR=14						
VNDA				LR	LR	14 22 23.1	
	comp=Z,524nm,18.4s,baz=320,slow=35						
VNDA	Vanda	31.79	165	P	P	14 10 15.6	+0.2
VNDA				IAmb	IAmb	14 10 18.2	
	comp=Z,10nm,0.8s						
MAW	Mawson	33.72	216	LR	LR	14 22 31.6	
	comp=Z,106nm,18.6s,baz=57,slow=33						
OXZ	Oxford	34.77	99	P	P	14 10 41.2	-0.5
QRZ	Quartz Range	36.34	96	P	P	14 10 54.4	-0.7
CMWZ	Cape Campbell	36.95	98	P	P	14 11 01.0	+0.7
BFZ	Birch Farm	38.82	98	P	P	14 11 17.4	+1.3
QSPA	South Pole Qui	40.43	180	P	P	14 11 29.2	-0.3
	comp=Z,4.3nm,0.9s,baz=326,slow=3.2,SNR=14						
QSPA	South Pole Qui	40.43	180	P	P	14 11 29.8	+0.4
QSPA				IAmb	IAmb	14 11 37.4	
	comp=Z,18nm,1.3s						
DZM	Mont Dzumac	44.70	69	LR	LR	14 27 40.3	
	comp=Z,108nm,21.2s,baz=260,slow=32						
SNAA	Sanae	52.75	199	P	P	14 13 06.1	+0.3
	comp=Z,7.5nm,0.8s,baz=148,slow=6.4,SNR=18						
SNAA	Sanae	52.75	199	P	P	14 13 06.0	+0.3
SNAA				IAmb	IAmb	14 13 08.6	
	comp=Z,10nm,0.9s						
RPSI	Rantau Prapat	55.72	332	P	P	14 13 27.9	0.0
RPSI				IAmb	IAmb	14 13 36.9	
	comp=Z,9.9nm,1.2s						
PSI	Prapat	55.82	332	LR	LR	14 35 53.3	
	comp=Z,87nm,18.0s,baz=116,slow=34						
DAV	Davao City (W)	56.63	5	LR	LR	14 39 15.2	
	comp=Z,33nm,20.5s,baz=50,slow=38						
GUMO	Guam	66.28	25	LR	LR	14 40 50.1	
	comp=Z,123nm,21.8s,baz=188,slow=34						
PALK	Pallekele	66.94	315	LR	LR	14 37 36.4	
	comp=Z,103nm,21.9s,baz=114,slow=30						
CMAR	Chiang Mai Arr	70.74	337	P	P	14 15 07.9	+0.4
	comp=Z,1.0nm,0.7s,baz=183,slow=4.8,SNR=6.7						
CMAR				LR	LR	14 43 45.4	
	comp=Z,53nm,21.2s,baz=182,slow=34						
CMAR	Chiang Mai Arr	70.74	337	P	P	14 15 07.7	+0.2
LBTB	Lobatse	75.01	249	LR	LR	14 41 16.6	
	comp=Z,72nm,21.6s,baz=140,slow=30						
WHN	Wuhan	80.13	354	P	P	14 16 02.7	+1.6
JNU	Nakatsue	82.86	8	LR	LR	14 53 14.7	
	comp=Z,27nm,20.3s,baz=156,slow=36						
MJAR	Matsushiro Arr	87.12	13	LR	LR	14 54 54.6	
	comp=Z,35nm,19.7s,baz=185,slow=35						
KSH	Kashi	97.48	326	P	Pdif	14 17 25.8	+0.7
KSH				pP	pwP	14 17 30.8	-1.9
KSH	Kashi	97.48	326	SKS	SKSac	14 28 01.2	-0.8
KSH	Kashi	97.48	326	S	S	14 28 47.6	-1.7
KSH	Kashi	97.48	326	sS	sS	14 28 55.3	+2.3
KSH				pmax	pmax		
	comp=Z,260nm,5.0s						
KSH				LR	LR		
	comp=N,200nm,8.7s						
KSH				LR	LR		
	comp=E,320nm,4.5s						
TORD	Torodi Ar. Bea	119.13	255	PKP	PKPdf	14 22 40.3	-0.2
	comp=E,0.6nm,0.9s,baz=90,slow=1.4,SNR=3.2						
F10A	Beach Ranch, E	141.24	72		PKPdf	14 23 19.2	-2.3
PDAR	Pinedale Array	144.56	81	PKP	PKPab	14 23 26.2	+0.1
	comp=E,0.1nm,0.3s,baz=167,slow=4.5,SNR=3.3						
PDAR	Pinedale Array	144.56	81		PKPbc	14 23 26.4	+0.1
BOZ	Bozeman (W)	144.56	76		PKPdf	14 23 27.1	-0.3
YHH	Holmes Hill	144.69	77		PKPdf	14 23 28.1	+0.2
WMOK	Wichita Mounta	147.04	102		PKPbc	14 23 33.3	-0.6
YKW3	Yellowknife Ar	147.29	45		PKPbc	14 23 33.8	+0.1
YKA	Yellowknife Ar	147.29	46	PKPbc	PKPbc	14 23 33.6	0.0
	comp=E,3.2nm,0.7s,baz=270,slow=3.0,SNR=25						
YKA	Yellowknife Ar	147.29	46		PKPbc	14 23 33.8	+0.2
RES	Resolute Bay	150.68	19	PKPbc	PKPbc	14 23 41.4	-0.5
	comp=E,2.9nm,0.8s,baz=272,slow=6.1,SNR=4.5						
U40A	Yellville	151.81	105		PKPbc	14 23 45.2	-0.6

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*ISK **02** 14:18:54.7, 38˚76N×39˚54E, h9km, ML2.2/7*
*DDA **02** 14:18:57.0, 38˚59N×39˚63E, h7km±3km, ML2.7*
ISC 02 14:18:56.5±1.2**,38˚66N**±0˚04×**39˚62E**±0˚03**,h22**km±13km**,n14,** σ**1˚47**/23**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.37	222	PG	Pb	14 19 04.0	-0.6
SVRC				SG	Sb	14 19 09.6	-0.5
TNCL	Tunceli-Merkez	0.46	352	*i* P	Pn	14 19 07.0	-0.9
TNCL				*i* S	Sn	14 19 14.8	-0.6
ELZG	Elazig	0.53	253	*i* P	Pb	14 19 07.5	+0.3
ELZG				*i* S	Sn	14 19 17.2	+0.2
HANI	Diyarbakir_Han	0.66	111	*i* P	Pb	14 19 08.6	-0.7
HANI				*i* S	Sn	14 19 18.9	-1.3
DYBB	Diyarbakir	0.81	150	PG	Pn	14 19 12.7	+0.1
DIYA	Diyarbakir	0.83	152	*i* P	Pn	14 19 12.9	0.0
DIYA				*i* S	Sn	14 19 23.1	-1.3
DIYA				IAML		14 19 25.0	
	comp=N,278nm,0.2s						
BNGB	Bingl	0.89	68	PG	Pn	14 19 13.3	-0.4
MALT	Malatya	1.00	250	PG	Pn	14 19 13.6	-1.6
MALT				SG	Sn	14 19 28.6	-0.1
KEMA	Kemaliye	1.07	305	*i* P	Pb	14 19 18.0	+1.6
KEMA				*i* S	Sn	14 19 33.8	+3.3
ILIC	ilic-Erzincan	1.14	314	PG	Pn	14 19 14.3	-2.9
SVAN	Silvan-Diyarba	1.34	112	*i* P	Pb	14 19 21.6	+0.7
SVAN				*i* S	Sb	14 19 39.1	+1.5
SVAN	Silvan-Diyarba	1.34	112	PN	Pb	14 19 21.4	+0.5
MAZI	Mazidag	1.36	151	PN	Pb	14 19 22.2	+0.9
URFA	Urfa	1.37	208	PN	Pb	14 19 21.9	+0.5
URFA				SN	Sb	14 19 41.0	+2.5

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*NIED **02** 14:33:00, 38˚30N×142˚10E, h44km, Mw3.9 Best double couple: $M_0$9.26000×10^{14} NP1:ϕ_s107.00000°,δ35.00000°, λ140.00000°. NP2:ϕ_s231.00000°,δ69.00000°,λ62.00000°.*
*ISCJB **02** 14:33:48.9±0.6, 38˚29N±0˚03×142˚24E±0˚06, h51km±5km, mb4.0/14, MS2.8/1, Error ellipse: s-maj=8.1km s-min=4.5km az=19.5*
*JMA **02** 14:33:50.7±0.1, 38˚32N×142˚12E, h47km±1km, M4.1*
JMA Felt II J1.
*NEIC **02** 14:33:51.3±1.6, 38˚28N±0˚07×142˚3E±0˚1, h59km±8km, mb4.8/19*
*IDC **02** 14:33:52.9±2.3, 38˚31N×142˚22E, h66km±21km, mb3.7/14, mb1 3.8/18, mb1mx3.6/50, mbtmp4.0/18, MS2.7/5, Ms1 2.7/5, ms1mx2.5/47, Error ellipse: s-maj=19.7km s-min=12.2km az=113.0*
ISC 02 14:33:49.9±1.5**,38˚28N**±0˚05×**142˚25E**±0˚09**,h42**km±14km**,n80,** σ**1˚34**/88**,mb4.2**/23**,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.62	273	P	Pn	14 34 02.0	-0.3
JIKH				S	Sn	14 34 09.7	-1.4
JIO	Ouri	0.73	284	P	Pn	14 34 03.4	-0.4
JIO				S	Sn	14 34 12.2	-1.6
JKMT	Kesennumamotoy	0.81	311	P	Pn	14 34 04.6	-0.3
JKMT				S	Sn	14 34 14.4	-1.3
OFUJ	Ofunato	0.92	331	P	Pn	14 34 06.3	-0.1
OFUJ				S	Sn	14 34 17.3	-1.2
JMK	Ichinoseki	1.05	310	P	Pn	14 34 08.0	-0.2
JMK				S	Sn	14 34 20.4	-1.2
JMM	Marumori	1.22	251	P	Pn	14 34 10.0	-0.5
JMM				eS	Sn	14 34 24.6	-1.2
JOU	Okura	1.25	275	P	Pn	14 34 10.9	0.0
JOU				S	Sn	14 34 25.6	-1.0
JOM	Ohasama	1.41	328	P	Pn	14 34 13.3	+0.2
JOM				eS	Sn	14 34 30.2	-0.2
JFK	Kawauchi	1.42	231	P	Pn	14 34 13.1	-0.1
JFK				S	Sn	14 34 29.6	-1.1
JYK	Kaneyama	1.61	294	P	Pn	14 34 15.9	0.0
JRG	Rokugo	1.69	312	P	Pn	14 34 17.0	+0.1
JFT	Otama	1.69	244	P	Pn	14 34 17.5	+0.5
JFT				S	Sn	14 34 37.2	-0.2
JYS	Shirataka	1.72	269	P	Pn	14 34 17.6	+0.2
JYS				eS	Sn	14 34 37.5	-0.6
MJAR	Matsushiro Arr	3.66	243	P	Pn	14 34 45.1	+1.2
	0.3nm,0.3s,baz=99,slow=7.7,SNR=17						
MJAR				S	Sn	14 35 30.4	+4.6
	0.6nm,0.3s,baz=78,slow=30,SNR=6.2						
MJAR				LR	LR	14 36 33.9	
	comp=Z,51nm,19.2s,baz=20,slow=44						
MJAR	Matsushiro Arr	3.66	243		Pn	14 34 46.3	+2.4
MAJO	Matsushiro	3.66	243		Pn	14 34 46.0	+2.0
MAT	Matsushiro	3.66	243	P	Pn	14 34 45.9	+2.0
MAT				eS	Sn	14 35 22.1	-3.7
MJB9	Matsu-Tunnel	3.66	243		Pn	14 34 45.8	+1.9
ERM	Erimo	3.80	10	Pn	Pn	14 34 46.4	+0.6
INU	Inuyama	5.12	237		Pn	14 35 06.1	+2.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	5.52	202	Pn	Pn	14 35 09.2	-0.4
JHJ	Hachijo jima 2	5.52	202	P	Pn	14 35 09.2	-0.4
	21nm,0.3s,baz=123,slow=23,SNR=15						
JHJ				S	Sn	14 36 07.5	-4.3
	25nm,0.3s,baz=264,slow=23,SNR=6.8						
ASAJ	Asahikawa	5.84	2	P	Pn	14 35 14.6	+0.7
	1.0nm,0.3s,baz=205,slow=16,SNR=19						
ASAJ				S	Sn	14 36 17.6	-1.9
	1.7nm,0.3s,baz=68,slow=19,SNR=2.2						
ASAJ				LR	LR	14 37 48.2	
	comp=Z,82nm,20.1s,baz=180,slow=40						
JKA	Kamikawa-asahi	5.84	2		Pn	14 35 14.6	+0.7
JKA					Sn	14 36 17.6	-1.9
YSS	Yuzh-Sakhalins	8.68	2	Pn	Pn	14 35 54.4	+1.7
USA0B	Ussuriysk Arra	9.73	311		Pn	14 36 07.8	+0.6
USRK	Ussuriysk Ar.	9.73	311	P	Pn	14 36 07.6	+0.4
	baz=123,slow=13,SNR=23						
USRK				LR	LR	14 39 39.9	
	comp=Z,49nm,19.2s,baz=137,slow=36						
USRK	Ussuriysk Ar.	9.73	311		Pn	14 36 09.1	+1.9
JCJ	Chichijima	11.15	180	P	Pn	14 36 23.2	-3.5
	2.8nm,0.3s,baz=13,slow=20,SNR=6.4						
JCJ				S	Sn	14 38 20.7	-9.3
	2.8nm,0.3s,baz=300,slow=20,SNR=4.3						
KSRS	Korea Array	11.36	270	P	Pn	14 36 33.1	+3.6
	0.2nm,0.3s,baz=79,slow=13,SNR=3.4						
KSRS				LR	LR	14 40 30.6	
	comp=Z,43nm,20.9s,baz=42,slow=35						
KS19	Wonju Array Si	11.40	271	Pn	Pn	14 36 32.4	+2.3
NACB	Ninganchiao	22.51	237	P	P	14 38 47.0	+1.1
NACB				IAmb	IAmb	14 38 47.7	
	comp=Z,21nm,1.0s						
GUMO	Guam	24.70	174	P	P	14 39 06.5	-0.5
YAK	Yakutsk	25.02	346	P	P	14 39 10.1	+0.6
	comp=Z,2.2nm,0.4s,baz=156,slow=1.8,SNR=3.4						
YAK	Yakutsk	25.02	346	P	P	14 39 08.4	-1.1
SEY	Seymchan	25.45	11	P	P	14 39 15.5	+2.1
	comp=Z,2.0nm,0.8s,baz=188,slow=12,SNR=4.4						
SONM	Songino Array	27.67	302	P	P	14 39 34.4	+0.5
	comp=Z,0.7nm,0.5s,baz=109,slow=8.4,SNR=5.5						
SONM	Songino Array	27.67	302	P	P	14 39 34.3	+0.5
H11N2	WAKE ISLAND Hy	28.25	124	T	T	15 10 17.8	
	baz=316,slow=75						
H11N1	WAKE ISLAND Hy	28.26	124	T	T	15 10 05.5	
	baz=316,slow=75						
H11N3	WAKE ISLAND Hy	28.27	124	T	T	15 10 01.8	
	baz=316,slow=75						
H11S1	WAKE ISLAND Hy	29.01	126	T	T	15 11 05.8	
	baz=318,slow=76						
H11S3	WAKE ISLAND Hy	29.01	126	T	T	15 11 05.4	
	baz=318,slow=76						
H11S2	WAKE ISLAND Hy	29.03	126	T	T	15 11 02.7	
	baz=318,slow=76						
TIXI	Tiksi	34.14	352	LR	LR	14 55 23.3	
	comp=Z,17nm,19.9s,baz=256,slow=38						
ZAA0	Zalesovo Array	41.58	311	P	P	14 41 32.9	-0.4
ZALV	Zalesovo Beam	41.58	311	P	P	14 41 32.8	-0.5
	comp=Z,1.7nm,0.5s,baz=81,slow=7.8,SNR=6.9						
TTA	Tatalina	44.02	35	P	P	14 41 52.6	-0.4
TTA				IAmb	IAmb	14 43 25.2	
	comp=Z,19nm,1.8s						
MK31	Makanchi Array	44.03	301	P	P	14 41 53.4	+0.1
MKAR	Makanchi Array	44.03	301	P	P	14 41 52.9	-0.4
	comp=Z,1.2nm,0.6s,baz=87,slow=10,SNR=11						
MKAR	Makanchi Array	44.03	301	P	P	14 41 53.4	+0.1
MAKZ	Makanchi	44.24	301	P	P	14 41 54.8	-0.1
IMAR	Indian Mountai	45.24	31	P	P	14 42 03.5	+0.8
KURK	Kurchatov	45.70	307	P	P	14 42 05.1	-1.3
KURK				IAmb	IAmb	14 42 21.7	
	comp=Z,4.7nm,0.7s						
KDAK	Kodiak Island	45.73	43	P	P	14 42 07.3	+0.8
	comp=Z,4.0nm,0.8s,baz=276,slow=10,SNR=2.4						
KDAK	Kodiak Island	45.73	43	P	P	14 42 06.6	0.0
PPLA	Purkeypile	45.77	36	P	P	14 42 05.4	-1.6
PPLA				IAmb	IAmb	14 43 09.8	
	comp=Z,45nm,1.9s						
ILAR	Eielson Array	48.09	33	P	P	14 42 25.3	+0.4
	comp=Z,0.6nm,0.7s,baz=267,slow=6.1,SNR=9.3						
ILAR	Eielson Array	48.09	33	P	P	14 42 25.6	+0.7
FID	Port Fidalgo	48.59	38	P	P	14 42 28.5	-0.3
KKAR	Karatay Array	53.08	300	P	P	14 43 02.3	-0.6
CHGR	Chuyangaron	55.74	295	P	P	14 43 21.7	-0.6
CHGR				IAmb	IAmb	14 43 30.9	
	comp=Z,8.0nm,1.1s						
SDHHI	Sand Hill	56.83	91	P	P	14 43 28.3	-2.1
ABKAR	Akbulak array	57.65	310	P	P	14 43 34.6	-1.1
WB0	Warramunga Arr	58.20	189	P	P	14 43 39.7	0.0
WB0				IAmb	IAmb	14 44 51.4	
	comp=Z,6.6nm,1.2s						
WRAB	Tennant Creek	58.37	189	P	P	14 43 40.6	-0.3
WRAB				IAmb	IAmb	14 44 02.5	
	comp=Z,9.7nm,1.2s						
WR0	Warramunga Arr	58.38	189	P	P	14 43 40.9	0.0
WR0				IAmb	IAmb	14 43 56.8	
	comp=Z,5.6nm,0.5s						
WB2	Warramunga Arr	58.38	189	P	P	14 43 40.9	-0.1
WB2				IAmb	IAmb	14 45 10.2	
	comp=Z,36nm,2.0s						
WRA	Warramunga Arr	58.38	189	P	P	14 43 41.0	0.0
	comp=Z,1.7nm,0.5s,baz=6.1,slow=7.0,SNR=35						
WRA	Warramunga Arr	58.38	189	P	P	14 43 40.6	-0.4
ASAR	Alice Springs	62.11	189	P	P	14 44 06.7	+0.2
	comp=Z,1.0nm,0.8s,baz=13,slow=10,SNR=24						
ASAR	Alice Springs	62.11	189	P	P	14 44 06.4	-0.1
FINES	FINESS Array B	68.03	332	P	P	14 44 44.2	-0.2
	comp=Z,1.9nm,0.8s,baz=41,slow=9.3,SNR=5.0						
FINES	FINESS Array B	68.03	332	P	P	14 44 44.5	+0.1
HFS	Hagfors	73.23	336	P	P	14 45 16.8	+0.7
	comp=Z,2.5nm,0.9s,baz=26,slow=8.3,SNR=3.4						
AKASG	Malin Array Be	73.72	322	P	P	14 45 18.9	-0.2
	comp=Z,0.5nm,0.4s,baz=48,slow=6.0,SNR=4.0						
PDAR	Pinedale Array	76.32	46	P	P	14 45 35.6	+1.0
	comp=Z,0.4nm,0.4s,baz=294,slow=1.2,SNR=7.4						
PDAR	Pinedale Array	76.32	46	P	P	14 45 33.7	-1.0
TXAR	Lajitas Array	88.84	53	P	P	14 46 40.7	+0.9
	comp=Z,0.4nm,0.5s,baz=302,slow=3.6,SNR=7.9						
TXAR	Lajitas Array	88.84	53	P	P	14 46 40.4	+0.6

*ISCJB **02** 14:45:25.6±0.3, 29°.19S±0°.05×111°.66W±0°.09, h10^{km}, mb4.2/12, MS4.4/18, Error ellipse: s-maj=11.1km s-min=7.1km az=18.2*

*IDC **02** 14:45:25.7±0.6, 29°.35S×111°.33W, h0^{km}, mb4.3/12, mb1 4.5/12, mb1mx4.3/32, mbtmp4.2/12, ML3.4/1, MS4.2/13, Ms1 4.2/13, ms1mx4.1/19, Error ellipse: s-maj=22.5km s-min=19.2km az=99.0*

*GCMT **02** 14:45:26.7±0.2, 29°.78S±0°.02×111°.76W±0°.01, h20^{km}±1^{km}, MW5.0/109, Moment Tensor Solution. s39,c55; s109,c152; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.67±.12; $M_{\theta\theta}$-2.81±.10; $M_{\phi\phi}$3.48±.11; $M_{r\theta}$-1.19±.21; $M_{\theta\phi}$1.66±.08; $M_{\phi r}$-0.25±.19; Best double couple: $M_0$3.79300×10^{16} NP1:ϕ_s57.00000°, δ81.00000°, λ-20.00000°. NP2:ϕ_s150.00000°, δ71.00000°, λ-170.00000°. Principal axes: T 3.9550, Plg7.0000°, Azm105.0000°; N -0.3220, Plg68.0000°, Azm212.0000°; P -3.6300, Plg21.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **02** 14:45:28.7±2.0, 29°.0S±0°.1×111°.91W±0°.05, h10^{km}±1^{km}, mb4.9/68*

*BJI **02** 14:45:29.0±0.0, 29°.10S×111°.70W, h10^{km}, mB5.0/6, Ms5.0/5, Ms7 4.8/4*

ISC 02 14:45:27.2±0.4**, 29°.21S**±0°.10×**111°.85W**±0°.08**, h10^{km}, n135, σ1s.89**/123**, mb4.9**/35**, MS4.4**/18**, 2C-1D, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	3.04	48	Pn	Pn	14 46 12.8	-2.5
	5.8nm,0.3s,baz=236,slow=11,SNR=3.6						
RPN	Rapa Nui	3.04	48	Pn	Pn	14 46 13.5	-1.8
TBI	Tubuai	34.13	271	eS	S	14 57 30.6	-8.0
	106nm,27.5s						
TBI				eLQ	LQ	14 59 35.5	
	628nm,27.0s						
TBI				eLR	LR	15 01 04.6	
	comp=Z,2μm,26.5s,baz=110						
TBI	Tubuai	34.13	271	eT	T	15 28 01.3	
	5.8nm,0.5s						
ROC1	El Roble	35.01	107	P	P	14 52 23.0	+2.7
PLCA	Paso Flores	35.44	120	LR	LR	15 02 58.0	
	comp=Z,567nm,20.8s,baz=302,slow=30						
TIAR	Tiarei	36.17	280	eT	T	15 30 31.8	
	3.0nm,0.3s						
PPT2	Papeete2	36.36	280	eS	S	14 58 07.1	-6.1
	82nm,25.2s						
PPT2				eLR	LR	15 02 05.4	
	comp=Z,2μm,26.2s,baz=111						
PPT	Papeete	36.37	280	P	P	14 52 32.3	+0.5
PB10	IPOC Station P	37.29	91	P	P	14 52 42.5	+2.8
PB10				IAmb	IAmb	14 53 38.0	
	comp=Z,40nm,1.2s						
CFA	Coronel Fontan	37.51	105	P	P	14 52 37.1	-4.3
	comp=Z,8.6nm,1.1s,baz=253,slow=5.5,SNR=6.9						
MNMC	Minye Minye	39.65	85	P	P	14 52 57.6	-2.2
LPAZ	La Paz	42.08	82	P	P	14 53 17.0	-3.3
	comp=Z,3.8nm,1.0s,baz=247,slow=6.9,SNR=7.7						
LPAZ				LR	LR	15 07 13.5	
	comp=Z,401nm,19.7s,baz=236,slow=31						
LPAZ	La Paz	42.08	82	P	P	14 53 19.1	-1.3
CPUP	Villa Florida	47.96	100	LR	LR	15 10 56.6	
	comp=Z,386nm,18.0s,baz=242,slow=32						
SIV	San Ignacio	48.34	86	P	P	14 54 06.3	-3.1
	comp=Z,8.2nm,1.0s,baz=254,slow=16,SNR=11						
ROSC	El Rosal	49.44	53	LR	LR	15 11 49.9	
	comp=Z,212nm,18.6s,baz=178,slow=32						
MXZ	Matakaoa Point	57.72	242	P	P	14 55 19.6	+1.3
833A	Chaparral WMA,	58.44	13	P	P	14 55 21.8	-1.4
833A				IAmb	IAmb	14 56 59.2	
	comp=Z,8.2nm,0.6s						
TX31	Lajitas Ar. Si	58.74	8	P	P	14 55 26.3	+0.8
TX32	Lajitas Array	58.74	8	P	P	14 55 26.2	+0.8
TXAR	Lajitas Array	58.74	8	P	P	14 55 25.9	+0.5
	comp=Z,1.1nm,1.2s,baz=182,slow=7.2,SNR=6.3						
TXAR				LR	LR	15 15 56.9	
	comp=Z,78nm,19.7s,baz=0.0,slow=31						
TXAR	Lajitas Array	58.74	8	P	P	14 55 26.4	+0.9
PLWZ	Palliser	59.08	237	P	P	14 55 30.5	+2.7
MSWZ	Moikau Station	59.12	237	P	P	14 55 30.6	+2.5
BHW	Baring Head	59.40	237	P	P	14 55 31.6	+1.7
BDFB	Brasilia	59.90	92	LR	LR	15 18 04.4	
	comp=Z,188nm,20.7s,baz=281,slow=33						
TUWZ	Tuamarina	60.07	237	P	P	14 55 37.3	+2.7
JCT	Junction City	60.46	12	P	P	14 55 37.8	+0.6
HKT	Hockley	60.78	16	P	P	14 55 40.9	+1.7
MNTX	Cornudas Mount	60.88	6	P	P	14 55 40.8	+0.7
MNTX				IAmb	IAmb	14 55 43.7	
	comp=Z,18nm,1.8s						
VNDA	Vanda	60.91	194	P	P	14 55 38.8	-0.9
	comp=Z,3.8nm,1.1s,baz=134,slow=7.5,SNR=2.3						
VNDA				LR	LR	15 16 13.7	
	comp=Z,238nm,19.7s,baz=86,slow=30						
WHTX	Lake Whitney,	62.38	14	P	P	14 55 51.4	+1.3
ABTX	Abilene, Hawle	62.58	12	P	P	14 55 52.1	+0.7
ABTX				IAmb	IAmb	14 55 56.4	
	comp=Z,14nm,1.1s						
LENM	Lemitar	63.20	5	P	P	14 55 53.3	-2.4
X18A	Snowflake	63.42	2	P	P	14 55 56.5	-0.7
X18A				IAmb	IAmb	14 56 01.8	
	comp=Z,22nm,1.6s						
MSTX	Muleshoe	63.42	8	P	P	14 55 56.3	-0.9
MSTX				IAmb	IAmb	14 56 03.0	
	comp=Z,12nm,1.0s						
WUAZ	Wupatki	64.38	0	P	P	14 56 01.8	-1.7
AMTX	Amarillo	64.47	9	P	P	14 56 04.5	+0.5
AMTX				IAmb	IAmb	14 56 08.5	
	comp=Z,16nm,1.4s						
MSVF	Nonsavu	64.50	263	P	P	14 56 04.9	+0.2
U15A	North Rim	65.29	360	P	P	14 56 08.2	-1.4
SHPR	Sheep Range	65.44	357	P	P	14 56 08.7	-1.7
SHPR				IAmb	IAmb	14 56 22.6	
	comp=Z,22nm,1.9s						
X40A	Basin Creek Fa	65.85	17	P	P	14 56 13.3	+0.4
KNB	Kanab	65.88	359	P	P	14 56 13.5	+0.2
MVCO	Mesa Verde	66.15	3	P	P	14 56 14.6	-0.4
MVCO				IAmb	IAmb	14 56 30.5	
	comp=Z,16nm,1.3s						
PKCU	Pink Cliffs	66.31	360		P	14 56 16.5	+0.4
CCUT	Cedar City	66.43	359	P	P	14 56 15.5	-1.3
VNA3	Neumayer Olymp	66.44	160	P	P	14 56 16.6	+0.3
SZCU	Shurtz Canyon	66.47	359	P	P	14 56 17.3	+0.2
W41B	Gary Mavity, V	66.66	17	P	P	14 56 19.0	+1.0
SDCO	Great Sand Dun	66.87	5	P	P	14 56 19.8	+0.1
SDCO				IAmb	IAmb	14 56 22.9	
	comp=Z,14nm,1.8s						
PV01	Paradox Valley	67.06	3	P	P	14 56 20.2	-0.6
PV01				IAmb	IAmb	14 56 24.5	
	comp=Z,14nm,1.7s						
PV13	Radium Mtn., P	67.08	3	P	P	14 56 21.0	+0.1
PV13				IAmb	IAmb	14 56 24.7	
	comp=Z,12nm,1.5s						
VNA1	Neumayer--Stat	67.09	159	P	P	14 56 21.0	+0.6
PV02	Paradox Valley	67.13	3	P	P	14 56 21.7	+0.5
PV02				IAmb	IAmb	14 57 25.6	
	comp=Z,23nm,1.8s						
PV03	Paradox Valley	67.17	3	P	P	14 56 22.6	+1.1
PV17	East Wray Mesa	67.19	2	P	P	14 56 22.0	+0.4
PV17				IAmb	IAmb	14 56 24.8	
	comp=Z,22nm,1.8s						
PV11	David Mesa, Pa	67.22	3	P	P	14 56 21.9	+0.1
PV11				IAmb	IAmb	14 56 34.6	
	comp=Z,8.5nm,1.2s						
PV16	Nyswonger Mesa	67.23	2	P	P	14 56 20.7	-1.2
PV16				IAmb	IAmb	14 57 42.3	
	comp=Z,11nm,1.6s						
PV12	Saucer Basin,	67.24	3	P	P	14 56 22.5	+0.6
VNA2	Neumayer--Watz	67.25	160	P	P	14 56 21.6	+0.2
	baz=269,slow=4.2						
PV14	Lion Creek, Pa	67.28	2	P	P	14 56 22.5	+0.2
PV14				IAmb	IAmb	14 56 33.2	
	comp=Z,8.2nm,1.1s						
HHAR	Hobbs	67.29	16	P	P	14 56 23.0	+0.9
R11A	Troy Canyon, C	67.30	357	P	P	14 56 21.9	-0.4
R11A				IAmb	IAmb	14 56 27.2	
	comp=Z,12nm,1.8s						
PV04	Paradox Valley	67.31	3	P	P	14 56 22.2	-0.1
PV04				IAmb	IAmb	14 56 38.1	
	comp=Z,8.7nm,1.1s						
PV23	Carpenter Ridg	67.36	2	P	P	14 56 21.7	-1.1
PV23				IAmb	IAmb	14 56 46.2	
	comp=Z,15nm,1.3s						
MSU	Marysvale	67.37	360	P	P	14 56 23.8	+1.0
PSUT	Pine Spring	67.42	358	P	P	14 56 24.8	+1.7
PV22	Blue Mesa, Par	67.45	3	P	P	14 56 24.4	+1.1
PV21	Cone Mtn., Par	67.47	2	P	P	14 56 23.3	-0.1
NVAR	Mina Array Bea	67.56	355	P	P	14 56 24.9	+0.9
	comp=Z,2.9nm,0.9s,baz=179,slow=8.7,SNR=12						
NVAR				LR	LR	15 20 22.7	
	comp=Z,243nm,18.2s,baz=176,slow=31						
NVAR	Mina Array Bea	67.56	355	P	P	14 56 24.0	+0.1
SRU	San Rafael Swe	67.98	1	P	P	14 56 26.3	-0.2
KVN	Kaiserville	68.16	355	P	P	14 56 26.4	-1.3
SNAA	Sanae	68.25	161	P	P	14 56 28.3	+0.4
P17A	Butcher Ranch,	68.34	1	P	P	14 56 30.2	+1.4
KSCO	Kaye Shedlock'	68.41	8	P	P	14 56 30.7	+1.5
MGMO	Mountain Grove	68.52	17	P	P	14 56 30.4	+0.6
MGMO				IAmb	IAmb	14 56 33.9	
	comp=Z,18nm,1.5s						
CBKS	Cedar Bluff	68.61	10	P	P	14 56 29.8	-0.5
NLU	North Lily Min	68.81	360	P	P	14 56 31.4	-0.4
ISCO	Idaho Springs	68.90	5	P	P	14 56 31.3	-1.2
DUG	Dugway, Tooele	69.06	359	P	P	14 56 30.8	-2.5
DUG				IAmb	IAmb	14 56 49.0	
	comp=Z,9.9nm,1.5s						
JLU	Jordanelle	69.46	0	P	P	14 56 36.9	+1.1
CTU	Camp Tracy	69.55	0	P	P	14 56 36.8	+0.5
BW06	Boulder Array	71.65	2	P	P	14 56 49.4	+0.2
BW06				IAmb	IAmb	14 56 51.1	
	comp=Z,13nm,1.6s						
PD31	Pinedale Array	71.65	2	P	P	14 56 49.2	+0.1
PD31				IAmb	IAmb	14 56 51.1	
	comp=Z,15nm,1.7s						
PDAR	Pinedale Array	71.65	2	P	P	14 56 48.6	-0.5
	comp=Z,0.4nm,0.4s,baz=178,slow=5.1,SNR=7.2						
PDAR				LR	LR	15 23 08.2	
	comp=Z,195nm,19.3s,baz=194,slow=32						
PDAR	Pinedale Array	71.65	2	P	P	14 56 49.2	+0.1
K22A	Casper	71.67	4	P	P	14 56 48.4	-0.8
DZM	Mont Dzumac	72.64	254	eLR	LR	15 18 55.7	
	comp=Z,599nm,23.2s						
RSSD	Black Hills	73.33	6	P	P	14 57 00.7	+1.6
YHH	Holmes Hill	73.65	1	P	P	14 57 01.9	+0.8
QLMT	Earthquake Lak	73.69	0	P	P	14 57 03.0	+1.8
MCMT	McKenzie Canyo	73.69	359	P	P	14 57 02.7	+1.4
YHL	Hebgen Lake	73.71	0	P	P	14 57 04.0	+2.6
BMO	Blue Mountains	73.88	356	P	P	14 57 01.8	-0.4
ECSD	EROS Data Cent	73.92	11	P	P	14 57 02.3	0.0
PLID	Pearl Lake	74.04	357	P	P	14 57 04.0	+0.8
O52A	Adamsville	74.40	23	P	P	14 57 05.4	+0.2
G08A	Pilot Rock	74.43	355	P	P	14 57 06.2	+0.8
G08A				IAmb	IAmb	14 57 17.4	
	comp=Z,28nm,1.8s						
SYO	Syowa Base	79.85	170	⇑eP	P	14 57 32.0	-3.5
SYO	Syowa Base	79.85	170	⇓eP	P	14 57 43.0	+7.5
ULM	Lac du Bonnet	80.37	10	P	P	14 57 40.4	+2.0
	comp=Z,2.6nm,0.9s,baz=243,slow=4.5,SNR=3.3						
ULM				LR	LR	15 29 56.4	
	comp=Z,88nm,19.5s,baz=236,slow=33						
ULM	Lac du Bonnet	80.37	10	IAmb	IAmb	14 57 41.1	
	comp=Z,21nm,1.6s						
MAW	Mawson	83.40	178	P	P	14 57 54.3	0.0
	comp=Z,9.0nm,0.9s,baz=178,slow=6.2,SNR=8.2						
MAW				LR	LR	15 32 19.2	
	comp=Z,246nm,18.2s,baz=228,slow=34						
MAW	Mawson	83.40	178	IAmb	IAmb	14 59 04.9	
	comp=Z,15nm,1.8s						
FFC	Flin Flon	84.02	6	P	P	14 57 58.7	+1.3
FFC				IAmb	IAmb	14 58 00.5	
	comp=Z,18nm,1.6s						
YKA	Yellowknife Ar	91.41	359	P	P	14 58 33.7	+0.9
	comp=Z,0.6nm,0.9s,baz=163,slow=4.5,SNR=3.6						
SCHQ	Schefferville	92.20	24	LR	LR	15 38 12.8	
	comp=Z,61nm,18.7s,baz=310,slow=34						
ILAR	Eielson Array	97.58	346	P	Pdif	14 59 01.5	+0.3
	comp=Z,0.4nm,0.9s,baz=191,slow=3.7,SNR=2.9						
ASAR	Alice Springs	97.78	238	P	Pdif	14 59 04.0	+0.7
	comp=Z,0.3nm,0.8s,baz=124,slow=4.6,SNR=3.2						
WRA	Warramunga Arr	99.64	241	LR	LR	15 39 07.7	
	comp=Z,139nm,20.2s,baz=145,slow=32						
NJ2	Nanjing	136.60	287	ePKP	PKiKP	15 04 51.7	+0.1
MODS	Modra-Piesok	136.86	49	ePKP	PKiKP	15 04 51.0	-0.7
LANS	Liptovska Anna	138.17	48	ePDIFF	Pdif	15 02 04.6	+2.4
WHN	Wuhan	140.14	284	PKP	PKPdf	15 04 56.8	+0.4
HHC	Hu-ho-hao-te	142.95	300	PKP	PKiKP	15 05 04.4	-0.1
AKASG	Malin Array Be	143.82	43	PKP	PKPbc	15 05 00.9	+0.9
	comp=Z,0.3nm,0.4s,baz=274,slow=4.1,SNR=5.0						
ULN	Ulaanbaatar	144.79	313		PKPab	15 05 00.7	-2.6
XAN	Xi'an	145.12	289	PKP	PKiKP	15 05 13.0	+3.9
XAN	Xi'an	145.12	289	PKPbc	PKPbc	15 05 02.8	-1.9
XAN	Xi'an	145.12	289		PKPbc	15 05 01.7	-3.0
SONM	Songino Array	145.22	313	PKP	PKPbc	15 05 03.4	-1.3
	comp=Z,0.5nm,0.4s,baz=91,slow=4.0,SNR=5.2						
SONM				PKPbc	pPKPdf	15 05 07.7	+0.2
	comp=Z,2.2nm,0.9s,baz=67,slow=1.8,SNR=11						
SONM	Songino Array	145.22	313		PKPbc	15 05 02.8	-2.0
PBKT	Sadao Pong	147.37	255		PKPab	15 05 13.8	+0.1
CD2	Chengdu	149.22	282	PKPbc	PKPdf	15 05 11.8	-0.4
BRTR	Keskin Array B	149.84	60	PKPbc	PKPdf	15 05 14.9	+1.9
	comp=Z,1.6nm,0.9s,baz=212,slow=4.4,SNR=5.3						
BRTR	Keskin Array B	149.84	60		PKPdf	15 05 14.2	+1.2
CMAR	Chiang Mai Arr	149.96	256	PKPbc	PKiKP	15 05 20.5	+1.1
	comp=Z,7.7nm,1.0s,baz=192,slow=1.8,SNR=6.5						
CMAR	Chiang Mai Arr	149.96	256		PKPdf	15 05 14.9	+1.3
CHTO	Chiang Mai	150.11	257		PKPdf	15 05 15.6	+1.7
GTA	Gaotai	152.06	300	⇑PKPbc	PKPbc	15 05 20.3	-2.7
GTA				PKPab	sPKPab	15 05 37.9	+2.1
GTA				PP	PP	15 09 12.1	+7.4
GTA				SS	SS	15 28 39.9	+6.9
GTA				AMB	AMB		
	comp=Z,41nm,7.8s						
GTA				LR	LR		
	comp=Z,74nm,20.3s						
GTA				LR	LR		
	comp=Z,95nm,20.0s						
GTA				LR	LR		
	comp=Z,110nm,19.0s						
WMQ	Urumqi	158.64	318	ePKP	PKPdf	15 05 26.6	+1.5
WMQ				AMB	AMB		
	comp=Z,120nm,4.7s						
WMQ				LR	LR		
	comp=Z,730nm,28.9s						
WMQ				LR	LR		
	comp=Z,960nm,29.0s						
WMQ				LR	LR		
	comp=Z,87nm,29.2s						
MKAR	Makanchi Array	159.27	332	PKP	PKPdf	15 05 26.2	+0.5
	comp=Z,0.5nm,0.9s,baz=225,slow=1.8,SNR=3.5						
KSH	Kashi	167.87	330	ePKP	PKPdf	15 05 37.3	+3.2

IDC 02 14:48:16.0±1.2**, 11°.52N×142°.50E, h0^{km}, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.4**/44**, mbtmp3.6**/4**, MS2.7**/2**, Ms1 2.8**/2**, ms1mx2.4**/36**, Error ellipse: s-maj=84.0km s-min=22.3km az=100.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	15.50	359	LR	LR	14 56 05.2	
	comp=Z,34nm,21.8s,baz=112,slow=30						
WRA	Warramunga Arr	32.28	194	P	P	14 54 46.2	-0.4
	0.4nm,0.8s,baz=13,slow=9.6,SNR=5.4						
USRK	Ussuriysk Ar.	33.81	346	P	P	14 55 00.2	+0.4
	1.9nm,0.6s,baz=160,slow=6.9,SNR=6.9						
ASAR	Alice Springs	35.96	193	P	P	14 55 19.0	+0.4
	0.3nm,0.8s,baz=18,slow=13,SNR=4.8						
CMAR	Chiang Mai Arr	42.56	285	LR	LR	15 15 07.3	
	comp=Z,8.9nm,18.7s,baz=220,slow=38						
ILAR	Eielson Array	71.42	25	P	P	14 59 37.6	-0.3
	0.7nm,0.6s,baz=247,slow=6.0,SNR=15						

NNC 02 14:48:53.6±5.2**, 36°.92N×70°.79E, h0^{km}, mb3.8, mpv3.5, 2C-2D, Error ellipse: s-maj=49.6km s-min=39.3km az=72.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.18	358	P	Pn	14 50 27.2	+1.1
	0.6nm,0.2s,baz=174,slow=12,SNR=71						
KK31				⇓S	Sn	14 51 38.0	+0.6
	1.8nm,0.6s,baz=188,slow=25,SNR=7.7						
AAK	Ala-Archa	6.38	25	⇑P	Pn	14 50 28.7	-0.3
	2.4nm,0.4s						
AAK				⇑S	Sn	14 51 44.4	+1.7
	10.0nm,1.4s						
TKM2	Tokmak 2	7.04	30	⇓P	Pn	14 50 37.1	-1.0
	1.2nm,0.4s						

*NEIC **02** 14:53:33.5±2.1, 24°.10S±0°.06×66°.62W±0°.07, h187^{km}±7^{km}, mb4.5/11, ML4.8(GUC)*

*ISCJB **02** 14:53:34.2±0.3, 24°.06S±0°.02×66°.84W±0°.03, h208^{km}±3^{km}, mb3.6/7, Error ellipse: s-maj=5.0km s-min=3.6km az=146.9*

*SJA **02** 14:53:34.6±0.8, 24°.05S×66°.78W, h207^{km}±7^{km}, ML3.7, MW3.7*

*IDC **02** 14:53:34.4±1.0, 24°.03S×66°.62W, h189^{km}±9^{km}, mb3.5/7, mb1 3.8/14, mb1mx3.6/27, mbtmp4.1/14, Error ellipse: s-maj=15.6km s-min=11.8km az=57.0*

*GUC **02** 14:53:36.4±0.5, 23°.88S×67°.32W, h245^{km}±6^{km}, ML4.8*

ISC 02 14:53:34.6±0.6**, 24°.07S**±0°.04×**66°.81W**±0°.04**, h202^{km}**±6^{km}**, n75, σ1s.48**/104**, mb3.8**/9**, 13C-6D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.36	119	⇓iP	Pn	14 54 08.7	+1.2
SLA				IAML		14 54 09.2	
	comp=Z,725nm,0.6s						
SLA				eS	Sn	14 54 33.8	+0.8
HJA	Humahuaca	1.55	57	⇓iP	Pn	14 54 10.3	+0.9
HJA				IAML		14 54 13.2	
	comp=Z,540nm,0.5s						
HJA				eS	Sn	14 54 36.9	+0.6
AZAP	Zapla	1.60	96	⇓iP	Pn	14 54 10.1	+0.3
AZAP				IAML		14 54 10.7	
	comp=Z,1μm,0.5s						
FSA	Cafayete	2.17	160	i P	Pn	14 54 16.2	+0.9
FSA				eS	Sn	14 54 46.9	-0.2
YJA	Yavi	2.23	33	i P	Pn	14 54 17.4	+1.2
YJA				eS	Sn	14 54 48.5	0.0
YJA				IAML		14 54 54.1	
	comp=Z,51nm,0.6s						
LVC	Limon Verde	2.41	307	eP	Pn	14 54 19.6	+1.5
LVC				i S	Sn	14 54 53.2	+1.4
LVC	Limon Verde	2.41	307	P	Pn	14 54 19.6	+1.5
	baz=140,slow=4.4						
LVC				S	Sn	14 54 52.6	+0.8
	baz=253,slow=19						
LVC	Limon Verde	2.41	307		Pn	14 54 19.6	+1.5
LVC					Sn	14 54 51.1	-0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.41	307	iP	Pn	14 54 19.6	+1.5
PB15	IPOC Station P	2.58	289	⇑iP	Pn	14 54 21.2	+1.5
PB15				iS	Sn	14 54 55.5	+0.5
PB15	IPOC Station P	2.58	289	iP	Pn	14 54 21.3	+1.5
GO02	Mina Guanaco	2.75	246	⇑iP	Pn	14 54 23.1	+1.3
GO02				iS	Sn	14 54 59.7	+1.1
GO02				IAML		14 55 01.7	
	comp=E,2μm,0.1s						
GO02	Mina Guanaco	2.75	246	Pn	Pn	14 54 23.2	+1.4
GO02					Sn	14 54 58.9	+0.3
PB06	IPOC Station P	2.87	298	⇑iP	Pn	14 54 24.4	+1.3
PB06				iS	Sn	14 55 00.7	-0.2
PB06				IAML		14 55 03.6	
	comp=N,2μm,0.1s						
PB06	IPOC Station P	2.87	298	iP	Pn	14 54 24.2	+1.1
PB06				eS	Sn	14 55 00.5	-0.3
AHML	Horco Molle	3.02	154	⇓iP	Pn	14 54 25.3	+0.7
PB09	IPOC Station P	3.18	315	⇑iP	Pn	14 54 28.3	+1.5
PB09				iS	Sn	14 55 07.5	0.0
PB09				IAML		14 55 09.4	
	comp=N,585nm,0.3s						
PB09	IPOC Station P	3.18	315	eP	Pn	14 54 27.8	+1.1
PB14	IPOC Station P	3.32	260	eP	Pn	14 54 29.6	+1.1
PB05	IPOC Station P	3.34	291	⇑iP	Pn	14 54 29.3	+0.7
PB05				iS	Sn	14 55 09.0	-1.7
PB05				IAML		14 55 14.0	
	comp=N,1μm,0.3s						
PB05	IPOC Station P	3.34	291	iP	Pn	14 54 29.2	+0.7
PB03	IPOC Station P	3.37	306	⇑iP	Pn	14 54 29.8	+0.8
PB03				iS	Sn	14 55 10.4	-1.1
PB03				IAML		14 55 11.3	
	comp=E,1μm,0.2s						
PB10	IPOC Station P	3.47	278	⇑iP	Pn	14 54 31.0	+1.0
PB10				iS	Sn	14 55 12.1	-1.3
PB10	IPOC Station P	3.47	278		Pn	14 54 31.0	+1.0
PB10					Sn	14 55 11.5	-1.8
PB10	IPOC Station P	3.47	278	iP	Pn	14 54 31.2	+1.2
PB04	IPOC Station P	3.52	299	⇑iP	Pn	14 54 31.6	+0.8
PB04				iS	Sn	14 55 13.4	-1.4
PB04	IPOC Station P	3.52	299		Pn	14 54 31.2	+0.4
PB04				Sn	Sn	14 55 13.3	-1.4
PB04	IPOC Station P	3.52	299	iP	Pn	14 54 31.9	+1.1
PB07	IPOC Station P	3.67	309	⇑iP	Pn	14 54 33.2	+0.6
PB07				iS	Sn	14 55 16.4	-1.6
PB01	IPOC Station P	3.89	320	⇑iP	Pn	14 54 35.7	+0.4
PB01				iS	Sn	14 55 21.3	-1.6
PB01	IPOC Station P	3.89	320		Pn	14 54 35.9	+0.5
PB02	IPOC Station P	3.95	313	⇑iP	Pn	14 54 36.4	+0.4
PB02				iS	Sn	14 55 21.9	-2.2
CYA	Choya	4.45	168	iP	Pn	14 54 43.5	+1.4
PB08	IPOC Station P	4.47	331	⇓iP	Pn	14 54 43.2	+0.4
PB08				iS	Sn	14 55 35.4	-0.9
GO03	Copiap	4.67	221		Pn	14 54 44.7	-0.2
GO03					Sn	14 55 38.1	-2.3
GO01	Chusmiza	4.90	333	⇑iP	Pn	14 54 48.8	+0.4
GO01				iS	Sn	14 55 45.3	-1.2
GO01	Chusmiza	4.90	333		Pn	14 54 49.0	+0.6
GO01					Sn	14 55 45.2	-1.2
PB11	IPOC Station P	5.03	328	⇑iP	Pn	14 54 49.1	-0.6
PB11				iS	Sn	14 55 45.7	-3.2
PB11	IPOC Station P	5.03	328		Pn	14 54 49.3	-0.4
PB11					Sn	14 55 46.4	-2.5
MNMC	Minye Minye	5.55	332	iP	Pn	14 54 56.5	0.0
MNMC				iS	Sn	14 55 58.5	-2.6
MNMC	Minye Minye	5.55	332		Pn	14 54 56.6	+0.1
MNMC					Sn	14 55 58.5	-2.6
CFA	Coronel Fontan	7.61	189	P	Pn	14 55 21.9	-1.0
	comp=E,8.7nm,0.3s,baz=340,slow=9.4,SNR=31						
CFA				S	Sn	14 56 42.1	-6.9
	comp=E,21nm,0.3s,baz=179,slow=15,SNR=17						
LPAZ	La Paz	7.84	351	P	Pn	14 55 26.8	+0.3
	comp=E,6.8nm,0.3s,baz=176,slow=9.0,SNR=69						
LPAZ				S	Sn	14 56 53.9	-1.4
	baz=288,slow=13,SNR=1.9						
CPUP	Villa Florida	8.88	107	P	Pn	14 55 37.1	-2.2
	comp=E,0.1nm,0.3s,baz=295,slow=7.5,SNR=4.5						
ROC1	El Roble	9.61	202	Pn	Pn	14 55 48.4	-0.7
SIV	San Ignacio	9.68	35	P	Pn	14 55 47.9	-1.9
	comp=E,1.1nm,0.3s,baz=221,slow=14,SNR=17						
GO05	Huala	11.78	201		Pn	14 56 17.9	+1.3
TRQA	Tornquist	14.54	165	P	Pn	14 56 49.3	-1.8
SAML	Samuel	15.43	14	P	Pn	14 57 00.6	-1.5
SAML				IAmb	IAmb	14 57 03.3	
	comp=Z,11nm,0.8s						
GO06	Curarrehue	15.96	193	P	Pn	14 57 08.3	-0.2
GO06				IAmb	IAmb	14 57 12.4	
	comp=Z,21nm,0.9s						
PLCA	Paso Flores	16.91	190	P	Pn	14 57 20.4	+0.6
	comp=Z,0.5nm,0.3s,baz=50,slow=16,SNR=14						
PLCA	Paso Flores	16.91	190	P	P	14 57 17.6	-0.8
PLCA				IAmb	IAmb	14 57 26.0	
	comp=Z,40nm,1.9s						
BDFB	Brasilia	19.55	68	P	P	14 57 46.8	-0.6
	comp=Z,0.7nm,0.3s,baz=240,slow=13,SNR=4.6						
BDFB	Brasilia	19.55	68	IAmb	IAmb	14 57 48.6	
	comp=Z,8.3nm,1.1s						
EMPR	Esperanza - Ma	42.29	0	P	P	15 01 07.1	-1.4
VNA3	Neumayer Olymp	57.03	161	P	P	15 03 03.3	+4.2
VNA2	Neumayer--Watz	57.60	160	P	P	15 03 06.4	+3.4
	baz=298,slow=8.4						
255A	Hazlehurst	57.66	344	P	P	15 03 03.4	-0.5
SNAA	Sanae	59.23	161	P	P	15 03 13.8	-0.6
SNAA	Sanae	59.23	161	P	P	15 03 15.4	+1.0
	comp=Z,1.3nm,0.6s,baz=308,slow=9.9,SNR=4.0						
WVT	Waverly	63.08	341	P	P	15 03 40.9	+0.4
WVT				IAmb	IAmb	15 03 41.8	
	comp=Z,5.9nm,0.7s						
TXAR	Lajitas Array	63.83	324	P	P	15 03 47.4	+1.6
	comp=Z,0.6nm,0.7s,baz=155,slow=8.6,SNR=7.6						
CCM	Cathedral Cave	65.92	339	P	P	15 03 59.7	+0.8
CCM				IAmb	IAmb	15 04 00.6	
	comp=Z,7.2nm,0.7s						
SYO	Syowa Base	73.42	159	⇓eX	P	15 04 35.0	-9.3
TORD	Torodi Ar. Bea	76.43	69	P	P	15 05 02.3	-0.2
	comp=Z,0.7nm,0.4s,baz=253,slow=5.4,SNR=11						
PDAR	Pinedale Array	77.29	329	P	P	15 05 07.9	+0.9
	comp=Z,0.4nm,0.5s,baz=133,slow=6.6,SNR=5.9						
ULM	Lac du Bonnet	78.34	341	P	P	15 05 13.2	+1.0
	comp=Z,2.7nm,0.6s,baz=146,slow=4.4,SNR=5.4						
NVAR	Mina Array Bea	78.70	321	P	P	15 05 17.2	+2.4
	comp=Z,0.4nm,0.6s,baz=163,slow=6.5,SNR=4.8						
YPP	Pitchstone Pla	79.03	329	P	P	15 05 17.6	+1.1
YKA	Yellowknife Ar	94.25	340	P	P	15 06 31.5	+1.2
	comp=Z,0.8nm,0.6s,baz=136,slow=4.6,SNR=9.2						
ASAR	Alice Springs	128.47	204	PKP	PKiKP	15 12 19.4	+0.7
	comp=Z,0.7nm,0.7s,baz=141,slow=2.2,SNR=14						
WRA	Warramunga Arr	131.64	207	PKP	PKiKP	15 12 25.3	+0.1
	comp=Z,0.4nm,0.5s,baz=155,slow=1.7,SNR=9.4						
MKAR	Makanchi Array	146.47	40	PKPbc	PKPab	15 12 52.2	-1.1
	comp=Z,2.6nm,0.7s,baz=306,slow=2.5,SNR=20						
MKAR	Makanchi Array	146.47	40		PKPab	15 12 52.1	-1.2
CD2	Chengdu	169.21	49	PKP	PKPdf	15 13 15.3	-2.8

IDC 02 14:56:42.4±2.1, 7°.02S×128°.88E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.4/30, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=89.1km s-min=27.7km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.46	196	Pn	Pn	14 59 26.1	-1.3
	0.1nm,0.3s,baz=22,slow=14,SNR=6.3						
FITZ				Sn	Sn	15 01 31.2	-5.0
	0.2nm,0.3s,baz=94,slow=19,SNR=3.1						
WRA	Warramunga Arr	13.89	158	Pn	Pn	15 00 01.7	+0.9
	0.2nm,0.3s,baz=343,slow=13,SNR=6.2						
WRA				Sn	Sn	15 02 29.2	-6.7
	0.1nm,0.3s,baz=336,slow=22,SNR=4.1						
ASAR	Alice Springs	17.24	164	P	Pn	15 00 45.2	+0.4
	0.1nm,0.3s,baz=337,slow=12,SNR=3.5						
ASAR				S	Sn	15 03 51.3	-6.1
	0.0nm,0.3s,baz=359,slow=27,SNR=2.9						
MKAR	Makanchi Array	67.64	327	P	P	15 07 41.3	+0.1
	0.3nm,0.7s,baz=133,slow=5.6,SNR=3.2						

TAP 02 14:57:37.0, 23°.64N×121°.38E, h16km, ML1.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGFH	Guangfu	0.05	54	P	Pg	14 57 39.9	-0.2
	baz=53						
EGFH				S	Sg	14 57 42.1	0.0
	baz=53						
EHY	Hungye	0.14	202	P	Pg	14 57 40.8	-0.2
	baz=199						
EHY				S	Sg	14 57 43.5	-0.1
	baz=199						
HGSD	Ruisui	0.15	165	P	Pg	14 57 41.2	+0.2
	baz=164						
HGSD				eS	Sb	14 57 44.5	+0.2
	baz=164						
ESL	Shilin	0.18	15	eP	Pg	14 57 41.2	-0.3
	baz=17						
ESL				eS	Sg	14 57 44.4	-0.2
	baz=17						
VWDT	VWDT	0.25	298	P	Pg	14 57 42.5	-0.1
	baz=297						
VWDT				S	Sg	14 57 46.6	+0.3
	baz=297						
YULB	Yu-li	0.26	197	P	Pg	14 57 42.4	-0.3
	baz=197						
YULB				S	Sg	14 57 46.2	-0.4
	baz=197						
TWF1	Yuli	0.29	195	eP	Pg	14 57 43.0	-0.4
	baz=193						
TWF1				S	Sb	14 57 48.4	-0.2
	baz=193						
SSLB	Suanglung	0.42	291	eP	Pg	14 57 45.2	-0.3
	baz=290						
SSLB				eS	Sg	14 57 50.4	-1.0
	baz=290						
FULB	Fuli	0.45	190	eS	Sb	14 57 53.5	+0.6
	baz=190						
WHYT	Xinyi Township	0.49	277	eS	Sg	14 57 53.2	-0.1
	baz=276						
ELDTW	Lidau	0.56	217	eS	Sb	14 57 56.0	-0.3
	baz=216						

TAP 02 14:57:38.7, 24°.37N×121°.35E, h6km, ML0.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNSB	Datong	0.07	29	iP	Pg	14 57 40.5	-0.1
	baz=29						
NNSB				S	Sg	14 57 41.6	-0.3
	baz=29						
NNSH	Datong	0.07	29	P	Pg	14 57 40.4	-0.2
	baz=29						
NNSH				eS	Sg	14 57 41.6	-0.3
	baz=29						
NNS	Nan Shan	0.07	19	P	Pg	14 57 40.6	-0.1
	baz=25						
NNS				eS	Sg	14 57 42.0	0.0
	baz=25						
ETLH	Xiulin Townshi	0.20	143	P	Pg	14 57 42.9	+0.1
	baz=142						
ETLH				S	Sg	14 57 45.7	+0.2
	baz=142						
TDCB	Techi	0.21	236	P	Pg	14 57 42.9	0.0
	baz=235						
TDCB				eS	Sg	14 57 45.2	-0.5
	baz=235						
WHF	Hehuan Shan	0.23	199	eS	Sg	14 57 46.7	0.0
	baz=196						
NDT	Datong Townshi	0.28	33	eS	Sg	14 57 47.8	-0.1
	baz=33						
YHNB	Yeheng	0.30	5	eS	Sg	14 57 48.4	-0.3
	baz=5.0						
ENTT	Nioudou	0.34	36	eP	Pg	14 57 45.3	0.0
	baz=37						
CHGB	Renai	0.35	207	eP	Pg	14 57 45.2	-0.3
	baz=335						
CHGB	Renai	0.35	207	eP	Pg	14 57 45.2	-0.3
	baz=207						
ENA	Nanau	0.36	81	eS	Sg	14 57 51.3	+0.7
	baz=81						
NANB	Nanao	0.37	81	eP	Pg	14 57 45.9	-0.1
	baz=81						
WHP	Taichung City	0.38	256	eP	Pg	14 57 46.2	+0.1
	baz=256						
WHP				eS	Sg	14 57 51.2	+0.1
	baz=256						

*IEPN **02** 15:11:42.0, 85°.12N×13°.02E, h15km*

ISC 02 15:11:45.6±3.2, 84°.6N±0°.2×12°.8E±0°.1, h10km, n19, σ0s.83/31, 2D, North of Svalbard

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZFI2	Zemlya Franca-	5.72	113	⇓iP	Pn	15 13 10.0	-0.3
ZFI2				eS	Sn	15 14 14.5	-1.3
	7.5nm,1.4s						
KBS	Kingsbay	5.75	182	Pn	Pn	15 13 10.4	-0.4
KBS				Sn	Sn	15 14 17.1	+0.3
KBS	Kingsbay	5.75	182	eP	Pn	15 13 09.8	-1.0
KBS				eS	Sn	15 14 15.4	-1.4
KBS	Kingsbay	5.75	182	eP	Pn	15 13 09.9	-1.0
KBS				eS	Sn	15 14 15.5	-1.3
KBS				IAML		15 14 18.8	
	comp=Z,4.8nm,0.4s						
SPA0	Spitsbergen Ar	6.53	174	Pn	Pn	15 13 21.0	-0.5
	baz=8.2,slow=14						
SPA0	Spitsbergen Ar	6.53	174	⇓iP	Pn	15 13 21.0	-0.5
SPA0				eS	Sn	15 14 35.4	-0.4
SPA0	Spitsbergen Ar	6.53	174	eP	Pn	15 13 21.0	-0.5
SPA0				eS	Sn	15 14 34.9	-0.9
SPA0				IAML		15 14 53.3	
	comp=Z,2.8nm,0.7s						
BRBB	Barentsburg B	6.59	178	Pn	Pn	15 13 21.7	-0.7
BRBB				Sn	Sn	15 14 36.8	-0.6
BRBB	Barentsburg B	6.59	178	Pn	Pn	15 13 21.7	-0.7
BRBB				Sn	Sn	15 14 36.8	-0.6
HSPB	Hornsund (broa	7.70	175	Pn	Pn	15 13 37.9	+0.4
HSPB	Hornsund (broa	7.70	175	eP	Pn	15 13 38.2	+0.7
HSPB				eS	Sn	15 15 07.0	+2.4
HSPB	Hornsund (broa	7.70	175	eP	Pn	15 13 37.6	+0.1
HOPEN	Hopen	8.38	160	Pn	Pn	15 13 46.7	-0.1
HOPEN				Sn	Sn	15 15 21.5	+0.2
HOPEN	Hopen	8.38	160	eP	Pn	15 13 46.8	-0.1
HOPEN				eS	Sn	15 15 21.3	0.0
HOPEN	Hopen	8.38	160	eP	Pn	15 13 46.7	-0.1
HOPEN				eS	Sn	15 15 22.1	+0.8
ARA0	ARCESS Array S	15.37	163	P	Pn	15 15 21.9	-0.2
	baz=357,slow=10						
ARA0	ARCESS Array S	15.37	163	P	Pn	15 15 21.9	-0.2
	baz=357,slow=10						
APA0	Apatity Array	17.56	154	P	P	15 15 51.8	+0.8
	slow=11						
APA0	Apatity Array	17.56	154	P	P	15 15 51.8	+0.8
	slow=11						

JMA 02 15:26:55.2±0.2, 24°.89N×123°.40E, h33km, M1.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.55	220	P	Pb	15 27 06.2	-0.4
YOJ				eS	Sb	15 27 13.8	-0.7
JYNG	Yonagunijimaku	0.60	224	P	Pn	15 27 07.0	-0.4
JYNG				S	Sb	15 27 14.8	-1.0
IRIF	Iriomote-Funau	0.63	151	P	Pn	15 27 07.3	-0.5
IRIF				S	Sn	15 27 16.6	-0.1
JKRS	Kuro-shima	0.85	139	P	Pn	15 27 11.1	+0.2
JKRS				eS	Sn	15 27 22.2	0.0
JIJ	Ishigaki jima	0.85	128	P	Pn	15 27 10.7	-0.2
JIJ				S	Sn	15 27 21.2	-1.1
JISG	Ishigakijimahi	0.88	110	P	Pn	15 27 11.3	0.0
JISG				eS	Sn	15 27 22.6	-0.3

TAP 02 15:27:35.6, 24°.89N×122°.21E, h10km, ML1.8, D, Taiwan region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.23	301	eP	Pg	15 27 40.6	+0.2
	baz=301						
TWB1				eS	Sg	15 27 44.5	+0.9
	baz=301						
EOS1	EOS1	0.35	192	P	Pb	15 27 43.6	-0.3
	baz=191						
EOS1				S	Sb	15 27 49.2	-0.1
	baz=191						
TIPB	Shuangxi	0.36	283	P	Pb	15 27 43.8	-0.3
	baz=283						
TIPB				eS	Sb	15 27 49.6	-0.1
	baz=283						
TWC	Suao	0.43	229	P	Pb	15 27 45.0	-0.3
	baz=228						
TWC				eS	Sb	15 27 51.9	+0.1
	baz=228						
TWE	Neicheng	0.52	251	eP	Pg	15 27 46.0	+0.2
	baz=250						
TWE				eS	Sb	15 27 54.2	-0.1
	baz=250						
SLBB	Yuanshan	0.54	255	eP	Pg	15 27 46.5	+0.4
	baz=255						
SLBB				eS	Sb	15 27 55.2	+0.2
	baz=255						
NANB	Nanao	0.62	222	eP	Pb	15 27 48.4	-0.2
	baz=222						
NANB				eS	Sb	15 27 57.5	+0.2
	baz=222						
NHDH	Xindian Distri	0.62	277	eP	Pb	15 27 48.9	+0.3
	baz=276						
NHDH				eS	Sb	15 27 58.1	+0.7
	baz=276						
ENA	Nanau	0.63	223	eP	Pb	15 27 48.6	-0.1
	baz=222						
ENA				eS	Sb	15 27 57.9	+0.4
	baz=222						
YM01	YM01	0.63	294	eP	Pb	15 27 48.9	+0.1
	baz=293						
YM01				eS	Sb	15 27 58.4	+0.7
	baz=293						
ENTT	Nioudou	0.63	247	eP	Pb	15 27 49.0	+0.2
	baz=246						
ENTT				eS	Sb	15 27 58.9	+1.1
	baz=246						
YM08	YM08	0.63	298	eP	Pb	15 27 48.7	-0.1
	baz=297						
YM08				eS	Sb	15 27 57.4	-0.3
	baz=297						
YM10	YM10	0.64	294	eP	Pb	15 27 49.3	+0.3
	baz=294						
YM10				eS	Sb	15 27 58.2	+0.2
	baz=294						
NWLT	Wulai	0.65	260	eP	Pb	15 27 48.8	-0.3
	baz=260						
NWLT				eS	Sb	15 27 59.1	+0.9
	baz=260						
TWY	Chenhua	0.67	305	eP	Pb	15 27 49.4	-0.1
	baz=305						
TWY				eS	Sb	15 27 58.7	-0.1
	baz=305						
NDT	Datong Townshi	0.69	246	eP	Pg	15 27 49.4	+0.3
	baz=245						
NDT				eS	Sb	15 27 59.9	+0.5
	baz=245						
PCYT	Pengchaiyu	0.75	351	eP	Pg	15 27 50.2	+0.1
	baz=351						
PCYT				eS	Sb	15 28 01.6	+0.6
	baz=351						
YHNB	Yeheng	0.79	254	eP	Pb	15 27 51.6	+0.2
	baz=253						
YHNB				eS	Sb	15 28 03.0	+0.8
	baz=253						
NSK	Sanguang	0.80	255	eP	Pb	15 27 51.8	+0.1
	baz=254						
NSK				eS	Sb	15 28 02.9	+0.3
	baz=254						
WLTB	Daxi	0.87	268	eP	Pb	15 27 52.8	0.0
	baz=267						
WLTB				eS	Sb	15 28 05.0	+0.6
	baz=267						
NNSH	Datong	0.88	239	eP	Pb	15 27 52.9	-0.1
	baz=238						
NNSH				eS	Sb	15 28 05.5	+0.6
	baz=238						
NNSB	Datong	0.88	239	eP	Pb	15 27 53.5	+0.5
	baz=238						
NNSB				eS	Sb	15 28 05.6	+0.7
	baz=238						
NNS	Nan Shan	0.88	240	eP	Pb	15 27 52.9	-0.2
	baz=239						
NNS				eS	Sb	15 28 05.8	+0.9
	baz=239						
NACB	Ninganchiao	0.91	218	eP	Pg	15 27 52.3	-0.8
	baz=218						
NACB				eS	Sb	15 28 05.8	+0.3
	baz=218						
ETLH	Xiulin Townshi	0.95	224	eP	Pb	15 27 54.4	+0.1
	baz=224						
ETLH				eS	Sn	15 28 08.3	-0.4
	baz=224						
ENLB	Shoufeng	1.13	209	eP	Pn	15 27 57.9	+0.5
	baz=209						
ENLB				eS	Sn	15 28 13.9	+0.9
	baz=209						
TDCB	Techi	1.15	237	eP	Pb	15 27 56.8	-0.8
	baz=236						
TDCB				eS	Sn	15 28 14.0	+0.3
	baz=236						
TWF1	Yuli	1.74	209	eS	Sn	15 28 28.6	+0.5
	baz=208						

IDC 02 15:29:12.3±2.1, 7°.29S×128°.10E, h0km, mb3.7/1, mb1 3.5/4, mb1mx3.3/28, mbtmp3.3/4, ML3.1/3, Error ellipse: s-maj=104.2km s-min=28.6km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.01	192	Pn	Pn	15 31 53.1	+2.0
	0.1nm,0.3s,baz=21,slow=12,SNR=3.2						
WRA	Warramunga Arr	13.96	155	Pn	Pn	15 32 30.5	-1.1
	0.1nm,0.3s,baz=323,slow=13,SNR=3.8						
WRA				Sn	Sn	15 34 58.3	-9.2
	baz=326,slow=23,SNR=2.9						
ASAR	Alice Springs	17.22	162	Pn	Pn	15 33 13.5	-0.9
	0.0nm,0.3s,baz=335,slow=9.9,SNR=8.2						
MKAR	Makanchi Array	67.44	328	P	P	15 40 09.8	0.0
	0.5nm,0.5s,baz=125,slow=8.2,SNR=6.1						

*IDC **02** 15:30:24.5±2.0, 7°.29S×127°.95E, h0km, mb3.8/1, mb1 3.8/4, mb1mx3.4/29, mbtmp3.6/4, ML3.2/3, Error ellipse: s-maj=104.3km s-min=27.5km az=72.0*

*NEIC **02** 15:30:27.3±1.5, 7°.4S±0°.1×128°.0E±0°.2, h35km±2km, mb4.1/2*

ISC 02 15:30:28.2±1.3, 7°.4S±0°.1×128°.3E±0°.1, h35km, n16, σ2s.03/19, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MTN	Manton Dam	6.08	153	Pn	Pn	15 32 00.0	+4.3
KNRA	Kununurra	8.24	177	Pn	Pn	15 32 30.5	+5.2
FITZ	Fitzroy Crossi	10.94	193	Pn	Pn	15 33 04.8	+2.4
	0.0nm,0.3s,baz=6.9,slow=13,SNR=1.8						
FITZ				Sn	Sn	15 35 03.0	-0.6
	0.2nm,0.3s,baz=164,slow=8.6,SNR=3.2						
FITZ	Fitzroy Crossi	10.94	193		Pn	15 33 04.6	+2.2
WB0	Warramunga Arr	13.64	155	Pn	Pn	15 33 40.8	+1.6
WRAB	Tennant Creek	13.77	155	Pn	Pn	15 33 41.3	+0.3
WRA	Warramunga Arr	13.77	155	Pn	Pn	15 33 43.3	+2.2
	0.2nm,0.3s,baz=322,slow=14,SNR=5.9						
WRA				Sn	Sn	15 36 11.4	-1.5
	0.2nm,0.3s,baz=329,slow=22,SNR=4.8						
WRA	Warramunga Arr	13.77	155		Pn	15 33 42.3	+1.2
WRA					Sn	15 36 10.8	-2.1
WB2	Warramunga Arr	13.78	155	Pn	Pn	15 33 41.7	+0.5
WR0	Warramunga Arr	13.87	155	Pn	Pn	15 33 43.8	+1.3
AS31	Alice Springs	17.04	162	P	P	15 34 25.6	+0.1
AS31				IAmb	IAmb	15 34 42.1	
	comp=Z,0.7nm,0.8s						
ASAR	Alice Springs	17.04	162	P	P	15 34 26.5	+1.1
	comp=Z,0.1nm,0.3s,baz=336,slow=9.7,SNR=6.7						
ASAR				S	Sn	15 37 29.0	-3.5
	comp=Z,0.0nm,0.3s,baz=318,slow=17,SNR=2.9						
ASAR	Alice Springs	17.04	162	P	P	15 34 26.3	+0.8
CASY	Casey	60.06	188	P	P	15 40 30.0	-1.4
CASY				IAmb	IAmb	15 42 28.8	
	comp=Z,32nm,1.1s						
MKAR	Makanchi Array	67.65	328	P	P	15 41 21.6	-0.1
	comp=Z,0.5nm,0.5s,baz=126,slow=7.7,SNR=9.4						
MKAR	Makanchi Array	67.65	328	P	P	15 41 20.2	-1.5

*ISCJB **02** 15:39:01.7±0.9, 26°.67N±0°.06×110°.87W±0°.06, h10km, mb3.1/1, MS2.9/2, Error ellipse: s-maj=8.3km s-min=7.0km az=24.3*

IDC **02** *15:39:02.9±1.5, 26°.54N×110°.86W, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.5/39, mbtmp3.3/4, ML3.3/3, MS3.0/8, Ms1 3.0/8, ms1mx2.8/18, Error ellipse: s-maj=20.4km s-min=14.8km az=82.0*
MEX **02** *15:39:04.9±0.5, 26°.63N×110°.80W, h14km±999km, MD3.9*
ISC 02 15:39:02.8±1.3**, 26°.67N**±0°.06×**110°.96W**±0°.06**, h10km, n14, σ1s.87/10, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**1.23**	**4**	*i* P	**Pn**	**15 39 24.5**	**-1.6**
GUYB				*i* S	**Sb**	**15 39 39.4**	**-2.7**
SRIG	**Santa Rosalia**	**1.31**	**300**	*i* P	**Pn**	**15 39 27.0**	**-0.3**
SRIG				*i* S	**Sn**	**15 39 45.4**	**+0.5**
HSIG		**2.34**	**0**	*e*P	**Pn**	**15 39 41.0**	**-0.5**
HSIG				*i* S	**Sn**	**15 40 09.1**	**-1.2**
LPIG	**La Paz**	**2.62**	**167**	Pn	**Pn**	**15 39 43.2**	**-2.1**
	13nm,0.3s,baz=0.0,slow=0.0,SNR=2.9						
LPIG				Lg	Lg	15 40 22.6	
	24nm,0.3s,baz=174,slow=21,SNR=9.6						
LPIG				LR	LR	15 40 44.3	
	comp=Z,220nm,21.5s,baz=21,slow=41						
TXAR	**Lajitas Array**	**6.97**	**66**	Pn	**Pn**	**15 40 45.8**	**+0.6**
	0.2nm,0.3s,baz=240,slow=14,SNR=8.2						
TXAR				Sn	**Sn**	**15 42 05.4**	**+0.8**
	0.6nm,0.3s,baz=246,slow=20,SNR=5.7						
TXAR				Lg	Lg	15 42 43.0	
	0.9nm,0.3s,baz=250,slow=28,SNR=4.7						
PFO	**Pinyon Flats O**	**8.40**	**327**	LR	LR	15 43 54.1	
	comp=Z,60nm,20.7s,baz=163,slow=34						
ANMO	**Albuquerque**	**9.11**	**24**	LR	LR	15 44 21.1	
	comp=Z,94nm,19.6s,baz=121,slow=35						
NVAR	**Mina Array Bea**	**13.26**	**334**	Pn	Pn	15 42 17.5	+6.1
	0.1nm,0.3s,baz=147,slow=40,SNR=3.9						
ELK	**Elko**	**14.48**	**347**	LR	LR	15 48 20.2	
	comp=Z,108nm,18.6s,baz=156,slow=38						
PDAR	**Pinedale Array**	**16.10**	**4**	LR	LR	15 48 22.4	
	comp=Z,31nm,20.9s,baz=164,slow=34						
YBH	**Yreka Blue Hor**	**17.87**	**330**	LR	LR	15 49 13.1	
	comp=Z,45nm,18.4s,baz=157,slow=34						
TEIG	**Tepich**	**21.76**	**102**	LR	LR	15 53 54.3	
	comp=Z,35nm,19.2s,baz=229,slow=41						
JTS	**Las Juntas de**	**29.46**	**119**	LR	LR	15 56 56.9	
	comp=Z,36nm,19.1s,baz=10,slow=37						
ILAR	**Eielson Array**	**44.45**	**339**	P	**P**	**15 47 16.4**	**+2.6**
	0.4nm,0.9s,baz=144,slow=7.8,SNR=4.2						

ISCJB **02** *16:25:37.4±0.3, 23°.02N±0°.01×121°.71E±0°.02, h15km±3km, Error ellipse: s-maj=2.7km s-min=2.1km az=20.2*
JMA **02** *16:25:38.1±0.1, 23°.03N×121°.64E, h30km±3km, M3.1*
TAP **02** *16:25:39.4, 23°.05N×121°.58E, h25km, ML3.2, C*
ISC 02 16:25:38.1±1.1**, 23°.02N**±0°.02×**121°.67E**±0°.02**, h21**km±2km**, n98, σ1s.01/177, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.29**	**286**	*i* P	**Pb**	**16 25 45.0**	**+0.3**
	baz=285						
CHKT				*i* S	**Sb**	**16 25 48.9**	**-0.3**
	baz=285						
FULB	**Fuli**	**0.39**	**298**	*i* P	**Pb**	**16 25 46.3**	**+0.1**
	baz=300						
FULB				*e*S	**Sb**	**16 25 52.3**	**+0.6**
	baz=300						
TWF1	**Yuli**	**0.48**	**314**	P	**Pb**	**16 25 47.9**	**+0.1**
	baz=327						
TWF1				S	**Sb**	**16 25 54.0**	**-0.3**
	baz=327						
YULB	**Yu-li**	**0.50**	**318**	*i* P	**Pb**	**16 25 48.4**	**+0.1**
	baz=329						
YULB				*e*S	**Sb**	**16 25 55.5**	**+0.2**
	baz=329						
HGSD	**Ruisui**	**0.52**	**335**	*i* P	**Pb**	**16 25 48.4**	**-0.2**
	baz=342						
HGSD				*e*S	**Sb**	**16 25 54.7**	**-1.1**
	baz=342						
TTN	**Taitung**	**0.55**	**241**	*e*P	**Pn**	**16 25 50.3**	**-0.3**
	baz=233						
TTN				S	**Sb**	**16 25 56.3**	**-0.2**
	baz=233						
TWGBT	**Beinan**	**0.58**	**250**	P	**Pb**	**16 25 49.4**	**-0.2**
	baz=238						
TWGBT				S	**Sb**	**16 25 57.2**	**-0.3**
	baz=238						
EHY	**Hungye**	**0.58**	**327**	P	**Pb**	**16 25 49.8**	**0.0**
	baz=320						
EHY				*e*S	**Sb**	**16 25 57.3**	**-0.2**
	baz=320						
TWG	**Pinlang**	**0.58**	**250**	*i* P	**Pb**	**16 25 49.5**	**-0.2**
	baz=238						
TWG				S	**Sb**	**16 25 57.2**	**-0.4**
	baz=238						
ELDTW	**Lidau**	**0.62**	**286**	P	**Pb**	**16 25 49.6**	**-0.9**
	baz=285						
ELDTW				S	**Sb**	**16 25 56.9**	**-1.9**
	baz=285						
EGFH	**Guangfu**	**0.68**	**341**	P	**Pb**	**16 25 51.6**	**+0.2**
	baz=356						
EGFH				*e*S	**Sb**	**16 26 00.8**	**+0.4**
	baz=356						
ECL	**Taimali**	**0.78**	**238**	*e*P	**Pb**	**16 25 52.1**	**-0.9**
	baz=231						
ECL				*e*S	**Sb**	**16 26 01.7**	**-1.4**
	baz=231						
YUS	**Yu-Shan**	**0.81**	**306**	P	**Pb**	**16 25 53.2**	**-0.5**
	baz=307						
YUS				*e*S	**Sb**	**16 26 03.3**	**-1.1**
	baz=307						
ESL	**Shilin**	**0.82**	**345**	P	**Pb**	**16 25 53.3**	**-0.4**
	baz=358						
ESL				*e*S	**Sb**	**16 26 03.7**	**-0.7**
	baz=358						
STYT	**Tauyuan**	**0.85**	**280**	*e*P	**Pb**	**16 25 53.5**	**-0.7**
	baz=284						
STYT				*e*S	**Sb**	**16 26 03.6**	**-1.6**
	baz=284						
VWDT	**VWDT**	**0.88**	**327**	P	**Pb**	**16 25 54.5**	**-0.1**
	baz=330						
VWDT				*e*S	**Sb**	**16 26 05.1**	**-0.8**
	baz=330						
ENLB	**Shoufeng**	**0.88**	**356**	*e*P	**Pb**	**16 25 53.6**	**-1.1**
	baz=14						
ENLB				*e*S	**Sb**	**16 26 06.0**	**-0.1**
	baz=14						
SLGT	**Liugui**	**0.94**	**269**	*e*P	**Pb**	**16 25 54.7**	**-1.1**
	baz=264						
SLGT				*e*S	**Sb**	**16 26 07.3**	**-0.4**
	baz=264						
HWA	**Hwalien**	**0.96**	**357**	*e*P	**Pb**	**16 25 55.3**	**-0.7**
	baz=13						
HWA				*e*S	**Sn**	**16 26 09.3**	**0.0**
	baz=13						
LAY	**Lan-yu**	**0.98**	**186**	*e*P	**Pb**	**16 25 55.7**	**-0.8**
	baz=172						
LAY				*e*S	**Sb**	**16 26 08.2**	**-0.7**
	baz=172						
EAST	**Anshuo**	**0.99**	**230**	*e*P	**Pb**	**16 25 55.5**	**-1.1**
	baz=234						
EAST				*e*S	**Sb**	**16 26 07.9**	**-1.1**
	baz=234						
SSD	**Sandimen**	**0.99**	**254**	P	**Pb**	**16 25 55.5**	**-1.1**
	baz=247						
SSD				S	**Sb**	**16 26 06.4**	**-2.9**
	baz=247						
TPUB	**Ta-pu**	**0.99**	**287**	P	**Pb**	**16 25 56.4**	**-0.2**
	baz=292						
TPUB				*e*S	**Sn**	**16 26 09.7**	**-0.6**
	baz=292						
WTP	**Ta-pu**	**0.99**	**283**	*e*P	**Pn**	**16 25 56.8**	**-0.1**
	baz=282						
WTP				*e*S	**Sb**	**16 26 09.1**	**-0.3**
	baz=282						
SGST	**Jiashian**	**1.00**	**274**	*e*P	**Pb**	**16 25 56.0**	**-0.7**
	baz=273						
SGST				*e*S	**Sn**	**16 26 10.2**	**-0.2**
	baz=273						
WHYT	**Xinyi Township**	**1.01**	**312**	*e*P	**Pb**	**16 25 56.9**	**0.0**
	baz=322						
WHYT				S	**Sb**	**16 26 09.3**	**-0.4**
	baz=322						
SSLB	**Suanglung**	**1.01**	**320**	P	**Pb**	**16 25 56.3**	**-0.6**
	baz=331						
SSLB				*e*S	**Sb**	**16 26 08.4**	**-1.4**
	baz=331						
MASBT	**Mashibuluo**	**1.04**	**247**	P	**Pb**	**16 25 56.6**	**-0.7**
	baz=238						
MASBT				*e*S	**Sb**	**16 26 09.1**	**-1.4**
	baz=238						
CHN4	**Tsaushan**	**1.04**	**289**	*e*P	**Pn**	**16 25 57.5**	**0.0**
	baz=295						
CHN4				*e*S	**Sn**	**16 26 11.6**	**+0.2**
	baz=295						
TWD	**Chiawan**	**1.06**	**356**	P	**Pn**	**16 25 57.0**	**-0.8**
	baz=13						
TWD				S	**Sb**	**16 26 10.8**	**-0.4**
	baz=13						
CHN1	**Nanshi**	**1.06**	**279**	*e*P	**Pn**	**16 25 58.0**	**+0.2**
	baz=284						
CHN1				*e*S	**Sn**	**16 26 11.2**	**-0.8**
	baz=284						
CHN5	**Tsauling**	**1.08**	**303**	P	**Pb**	**16 25 58.1**	**0.0**
	baz=303						
CHN5				*e*S	**Sb**	**16 26 11.6**	**-0.2**
	baz=303						
SNST	**Tainan City**	**1.09**	**281**	P	**Pb**	**16 25 58.6**	**+0.2**
	baz=280						
SNST				S	**Sn**	**16 26 12.5**	**-0.3**
	baz=280						
SGLT	**Jiouru**	**1.12**	**255**	*e*S	**Sn**	**16 26 14.1**	**+0.7**
	baz=252						
CHGB	**Renai**	**1.13**	**337**	P	**Pn**	**16 25 58.6**	**-0.3**
	baz=350						
CHGB				*e*S	**Sb**	**16 26 11.2**	**-2.2**
	baz=350						
SSPT	**Xinbi**	**1.15**	**243**	*e*P	**Pb**	**16 25 58.6**	**-0.6**
	baz=239						
NACB	**Ninganchiao**	**1.15**	**357**	P	**Pn**	**16 25 58.2**	**-0.8**
	baz=11						
NACB				*e*S	**Sb**	**16 26 12.9**	**-1.0**
	baz=11						
SCZT	**Fangliau**	**1.16**	**237**	*e*P	**Pn**	**16 25 58.5**	**-0.6**
	baz=228						
SCZT				*e*S	**Sb**	**16 26 13.1**	**-1.0**
	baz=228						
TWM1	**Shoushan**	**1.16**	**261**	*e*P	**Pb**	**16 26 00.1**	**+0.6**
	baz=248						
TWM1				*e*S	**Sn**	**16 26 17.7**	**+3.3**
	baz=248						
WJS	**Zhushan**	**1.18**	**313**	*e*P	**Pb**	**16 26 00.6**	**+0.8**
	baz=315						
WJS				*e*S	**Sn**	**16 26 15.3**	**+0.6**
	baz=315						
WHF	**Hehuan Shan**	**1.18**	**342**	*e*P	**Pn**	**16 25 59.5**	**-0.3**
	baz=345						
WHF				S	**Sb**	**16 26 13.5**	**-1.6**
	baz=345						
ETLH	**Xiulin Townshi**	**1.20**	**352**	*e*P	**Pn**	**16 25 58.3**	**-1.4**
	baz=356						
ETLH				*e*S	**Sb**	**16 26 13.2**	**-2.0**
	baz=356						
CHN3	**Shinhua**	**1.20**	**273**	S	**Sn**	**16 26 19.5**	**+4.2**
	baz=272						
CHN2	**Minshiung**	**1.21**	**295**	*e*P	**Pb**	**16 26 00.8**	**+0.5**
	baz=296						
CHN2				*e*S	**Sn**	**16 26 16.4**	**+0.8**
	baz=296						
WGK	**Gukeng**	**1.21**	**303**	P	**Pb**	**16 26 01.3**	**+0.9**
	baz=319						
WGK				S	**Sn**	**16 26 16.8**	**+1.2**
	baz=319						
DPDB	**Guoxing**	**1.22**	**326**	*e*P	**Pn**	**16 26 00.2**	**+0.3**
	baz=335						
DPDB				*e*S	**Sb**	**16 26 14.9**	**-1.0**
	baz=335						
WDLH	**Douliu**	**1.23**	**303**	*e*P	**Pb**	**16 26 01.9**	**+1.2**
	baz=317						
WDLH				*e*S	**Sb**	**16 26 17.1**	**+0.9**
	baz=317						
CHY	**Chiayi**	**1.24**	**293**	*e*P	**Pb**	**16 26 00.8**	**+0.1**
	baz=293						
CHY				*e*S	**Sb**	**16 26 17.1**	**+0.8**
	baz=293						
WNT	**Mingjian**	**1.24**	**314**	P	**Pb**	**16 26 01.3**	**+0.4**
	baz=315						
WNT				S	**Sb**	**16 26 17.4**	**+0.9**
	baz=315						
SNJT	**Kaohsiung City**	**1.26**	**258**	*e*S	**Sb**	**16 26 20.1**	**+3.3**
	baz=256						
TWT	**Tachien**	**1.31**	**340**	*e*P	**Pn**	**16 26 01.6**	**+0.3**
	baz=342						
TWT				S	**Sn**	**16 26 15.8**	**-2.5**
	baz=342						
TDCB	**Techi**	**1.31**	**339**	*e*P	**Pn**	**16 26 01.6**	**+0.2**
	baz=342						
TDCB				*e*S	**Sn**	**16 26 16.8**	**-1.6**
	baz=342						
TSEB	**Hengchuen, Pin**	**1.32**	**213**	*e*S	**Sb**	**16 26 18.8**	**+0.1**
	baz=210						
HEN	**Hengchun**	**1.32**	**221**	*e*S	**Sb**	**16 26 18.2**	**-0.6**
	baz=216						
TWKBT	**Hengchun**	**1.33**	**217**	*e*P	**Pn**	**16 26 00.8**	**-0.6**
	baz=212						
TWKBT				*e*S	**Sn**	**16 26 17.7**	**-0.8**
	baz=212						
WLGB	**Puzi**	**1.34**	**290**	*e*S	**Sb**	**16 26 20.4**	**+1.3**
	baz=290						
WLCH	**Liuqiu**	**1.36**	**241**	*e*P	**Pb**	**16 26 05.4**	**+2.5**
	baz=238						
CHN8	**Yiju**	**1.38**	**284**	S	**Sb**	**16 26 20.7**	**+0.4**
	baz=284						
ENA	**Nanau**	**1.41**	**3**	P	**Pn**	**16 26 01.8**	**-0.7**
	baz=7.0						
ENA				S	**Sn**	**16 26 19.7**	**-0.7**
	baz=7.0						
NANB	**Nanao**	**1.41**	**3**	P	**Pn**	**16 26 02.0**	**-0.5**
	baz=7.0						
NANB				*e*S	**Sn**	**16 26 19.7**	**-0.7**
	baz=7.0						
WHP	**Taichung City**	**1.42**	**332**	*e*P	**Pb**	**16 26 04.2**	**+0.2**
	baz=343						
NNSB	**Datong**	**1.43**	**350**	*e*P	**Pn**	**16 26 02.2**	**-0.7**
	baz=4.0						
NNSB				*e*S	**Sn**	**16 26 19.5**	**-1.6**
	baz=4.0						
NNSH	**Datong**	**1.43**	**350**	P	**Pn**	**16 26 03.3**	**+0.4**
	baz=4.0						
NNSH				*e*S	**Sn**	**16 26 19.7**	**-1.5**
	baz=4.0						
NNS	**Nan Shan**	**1.44**	**349**	*e*P	**Pn**	**16 26 03.4**	**+0.3**
	baz=4.0						
NNS				*e*S	**Sn**	**16 26 20.3**	**-1.2**
	baz=4.0						
TCU	**Taichung**	**1.45**	**321**	*e*P	**Pb**	**16 26 05.7**	**+1.3**
	baz=310						
TCU				S	**Sb**	**16 26 23.0**	**+0.7**
	baz=310						
WSF	**Szhu**	**1.47**	**295**	*e*P	**Pn**	**16 26 03.7**	**+0.4**
	baz=296						
WSF				S	**Sb**	**16 26 22.4**	**-0.4**
	baz=296						
WCHH	**Zhanghua**	**1.47**	**316**	*e*S	**Sb**	**16 26 23.6**	**+0.7**
	baz=317						
RLNB	**Erlin**	**1.48**	**306**	*e*S	**Sb**	**16 26 22.7**	**-0.6**
	baz=307						
WTCT	**Ta-ch'eng**	**1.53**	**304**	*e*S	**Sb**	**16 26 24.3**	**-0.3**
	baz=305						
EOS1	**EOS1**	**1.58**	**15**	*e*P	**Pn**	**16 26 05.5**	**+0.6**
	baz=30						
EOS1				*e*S	**Sn**	**16 26 23.7**	**-1.0**
	baz=30						
TWC	**Suao**	**1.59**	**6**	*e*P	**Pn**	**16 26 05.1**	**0.0**
	baz=19						
TWC				*e*S	**Sn**	**16 26 24.2**	**-0.8**
	baz=19						
ENTT	**Nioudou**	**1.62**	**357**	P	**Pn**	**16 26 05.5**	**+0.1**
	baz=360						
ENTT				*e*S	**Sn**	**16 26 25.2**	**-0.5**
	baz=360						
NSY	**Sanyi**	**1.62**	**329**	*e*P	**Pb**	**16 26 07.3**	**0.0**
	baz=331						
NSY				S	**Sb**	**16 26 28.6**	**+1.2**
	baz=331						
WDJ	**Dajia District**	**1.62**	**325**	*e*S	**Sb**	**16 26 28.4**	**+1.0**
	baz=326						
YHNB	**Yeheng**	**1.67**	**351**	*e*P	**Pn**	**16 26 05.9**	**-0.3**
	baz=5.0						
YHNB				*e*S	**Sn**	**16 26 25.9**	**-1.1**
	baz=5.0						
PTSB	**Yuanli**	**1.67**	**328**	*e*S	**Sb**	**16 26 29.5**	**+0.6**
	baz=330						
NSK	**Sanguang**	**1.67**	**350**	*e*P	**Pn**	**16 26 07.0**	**+0.8**
	baz=4.0						
NSK				S	**Sn**	**16 26 26.9**	**-0.2**
	baz=4.0						
TWE	**Neicheng**	**1.69**	**0**	*e*P	**Pn**	**16 26 06.4**	**-0.1**
	baz=353						
TWE				*e*S	**Sn**	**16 26 27.2**	**-0.3**
	baz=353						
NMLH	**Miaoli**	**1.71**	**332**	*e*S	**Sb**	**16 26 30.4**	**+0.4**
	baz=334						
NSTT	**Nanjuang**	**1.72**	**339**	*e*P	**Pn**	**16 26 07.6**	**+0.8**
	baz=355						
NSTT				S	**Sb**	**16 26 29.6**	**-0.5**
	baz=355						
LIOB	**Emei**	**1.73**	**340**	*e*P	**Pn**	**16 26 07.9**	**+1.0**
	baz=342						
LIOB				*e*S	**Sb**	**16 26 30.1**	**-0.4**
	baz=342						
SLBB	**Yuanshan**	**1.73**	**359**	*e*P	**Pn**	**16 26 06.3**	**-0.7**
	baz=2.0						
SLBB				*e*S	**Sn**	**16 26 27.4**	**-1.1**
	baz=2.0						
NWLT	**Wulai**	**1.76**	**355**	*e*P	**Pn**	**16 26 07.8**	**+0.4**
	baz=358						
NWLT				*e*S	**Sn**	**16 26 28.4**	**-0.7**
	baz=358						
NTC	**Toucheng**	**1.83**	**5**	*e*P	**Pn**	**16 26 09.1**	**+0.7**
	baz=20						
NTC				*e*S	**Sb**	**16 26 33.5**	**0.0**
	baz=20						
JYNG	**Yonagunijimaku**	**1.85**	**39**	P	**Pn**	**16 26 09.7**	**+1.2**
JYNG				*e*S	**Sn**	**16 26 31.4**	**+0.1**
YOJ	**Yonaguni jima**	**1.89**	**40**	P	**Pn**	**16 26 10.2**	**+1.0**
YOJ				*e*S	**Sn**	**16 26 32.7**	**+0.3**
TIPB	**Shuangxi**	**1.95**	**4**	*e*P	**Pn**	**16 26 11.2**	**+1.2**
	baz=355						
TIPB				*e*S	**Sn**	**16 26 35.2**	**+1.3**
	baz=355						
YM01	**YM01**	**2.12**	**358**	*e*P	**Pb**	**16 26 14.6**	**-1.3**
	baz=360						
YM01				*e*S	**Sn**	**16 26 40.3**	**+2.2**
	baz=360						
HATJ	**Hateruma jima**	**2.22**	**62**	P	**Pn**	**16 26 14.8**	**+1.1**
HATJ				S	**Sn**	**16 26 40.6**	**+0.2**
IRIF	**Iriomote-Funau**	**2.30**	**55**	P	**Pn**	**16 26 16.5**	**+1.7**
IRIF				*e*S	**Sn**	**16 26 43.8**	**+1.3**
JKRS	**Kuro-shima**	**2.47**	**60**	P	**Pn**	**16 26 18.6**	**+1.5**
JKRS				S	**Sn**	**16 26 47.4**	**+0.8**
JIJ	**Ishigaki jima**	**2.63**	**59**	P	**Pn**	**16 26 20.6**	**+1.2**
JIJ				S	**Sn**	**16 26 50.3**	**-0.5**
JISG	**Ishigakijimahi**	**2.88**	**57**	P	**Pn**	**16 26 23.5**	**+0.7**
JISG				*e*S	**Sn**	**16 26 56.1**	**-0.7**
JTJ	**Tarama**	**3.21**	**59**	P	**Pn**	**16 26 28.6**	**+1.2**
JTJ				*e*S	**Sn**	**16 27 05.9**	**+0.9**
JIRB	**Irabujima**	**3.68**	**60**	S	**Sn**	**16 27 16.5**	**0.0**
JMJ2	**Miyako jima3**	**3.76**	**62**	P	**Pn**	**16 26 36.4**	**+1.5**
JMJ2				*e*S	**Sn**	**16 27 18.6**	**0.0**
JIKM	**Ikemajima**	**3.79**	**59**	*e*S	**Sn**	**16 27 18.6**	**-0.5**
JOGS	**Gusukube**	**3.84**	**62**	*e*S	**Sn**	**16 27 21.7**	**+1.3**

GCMT **02** *16:29:26.7±0.2, 35°.45S±0°.02×104°.87W±0°.02, h22km±1km, MW4.9/98, Moment Tensor Solution. s31,c37; s98,c135; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.22±.11; $M_{\theta\theta}$-0.82±.09; $M_{\phi\phi}$1.05±.09; $M_{r\theta}$-0.08±.14; $M_{\theta\phi}$-2.46±.08; $M_{\phi r}$-0.42±.14; Best double couple: $M_0$2.66700×10^{16} NP1:ϕ_s10.00000°, δ89.00000°, λ-9.00000°. NP2: ϕ_s100.00000°, δ81.00000°, λ-179.00000°. Principal axes: T 2.7750, Plg6.0000°, Azm56.0000°; N -0.2150, Plg81.0000°, Azm183.0000°; P -2.5590, Plg7.0000°, Azm325.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISCJB **02** *16:29:27.3±0.9, 34°.8S±0°.1×104°.5W±0°.2, h10km, mb3.8/6, MS3.9/17 Error ellipse: s-maj=28.2km s-min=18.2km az=176.1*
IDC **02** *16:29:29.0±1.1, 34°.66S×104°.21W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/28, mbtmp3.9/6, MS3.9/15, Ms1 3.8/15, ms1mx3.7/19, Error ellipse: s-maj=36.7km s-min=25.4km az=55.0*
NEIC **02** *16:29:29.7±2.2, 34°.69S±0°.08×104°.4W±0°.3, h14km±5km, mb4.6/4*
ISC 02 16:29:29.6±0.9**, 34°.7S**±0°.1×**104°.3W**±0°.2**, h10km, n31, σ0s.99/16, mb3.9/8, MS3.9/17, West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**8.73**	**329**	LR	LR	16 34 10.9	
	comp=Z,898nm,20.6s,baz=119,slow=32						
PLCA	**Paso Flores**	**27.25**	**113**	LR	LR	16 43 03.6	
	comp=Z,113nm,18.2s,baz=308,slow=30						
CFA	**Coronel Fontan**	**30.26**	**94**	LR	LR	16 44 58.8	
	comp=Z,198nm,18.8s,baz=272,slow=31						
LVC	**Limon Verde**	**33.16**	**78**	LR	LR	16 46 15.3	
	comp=Z,235nm,19.3s,baz=241,slow=30						
ATAH	**Atahualpa**	**36.39**	**47**	LR	LR	16 48 00.6	
	comp=Z,274nm,18.9s,baz=219,slow=31						
LPAZ	**La Paz**	**37.20**	**70**	P	**P**	**16 36 42.5**	**+0.6**
	1.4nm,0.6s,baz=258,slow=3.8,SNR=5.6						
LPAZ				LR	LR	16 49 06.9	
	comp=Z,129nm,19.1s,baz=268,slow=32						
LPAZ	**La Paz**	**37.20**	**70**	P	**P**	**16 36 42.6**	**+0.6**
PMSA	**Palmer Station**	**38.57**	**154**	P	**P**	**16 36 52.9**	**+0.7**
	6.3nm,0.7s,baz=141,slow=3.0,SNR=6.6						
PMSA	**Palmer Station**	**38.57**	**154**	P	**P**	**16 36 53.2**	**+1.0**
TBI	**Tubuai**	**40.77**	**274**	*e*LQ	LQ	16 46 10.3	
	505nm,31.0s						
TBI				*e*LR	LR	16 47 49.2	
	comp=Z,180nm,27.0s						
CPUP	**Villa Florida**	**41.02**	**91**	LR	LR	16 51 18.1	
	comp=Z,98nm,20.9s,baz=244,slow=32						
TAOE	**Nuku Hiva Isla**	**41.71**	**300**	*e*LR	LR	16 48 28.7	
	comp=Z,318nm,27.7s						
SIV	**San Ignacio**	**42.92**	**75**	P	**P**	**16 37 28.3**	**-0.4**
	1.4nm,0.6s,baz=245,slow=5.8,SNR=8.6						
PPT2	**Papeete2**	**43.68**	**281**	*e*LQ	LQ	16 47 24.4	
	542nm,26.2s						
ROSC	**El Rosal**	**48.46**	**42**	LR	LR	16 55 19.4	
	comp=Z,241nm,20.7s,baz=205,slow=32						
BDFB	**Brasilia**	**53.68**	**84**	LR	LR	17 00 32.5	
	comp=Z,127nm,18.7s,baz=148,slow=35						
SDV	**Santo Domingo**	**53.83**	**43**	P	**P**	**16 38 52.3**	**-0.7**
SDV				IAmb	IAmb	16 38 53.1	
	comp=Z,4.7nm,0.8s						
QSPA	**South Pole Qui**	**55.47**	**180**	P	**P**	**16 39 02.6**	**-1.7**
QSPA				IAmb	IAmb	16 39 35.4	
	comp=Z,7.8nm,1.2s						
VNDA	**Vanda**	**57.20**	**195**	LR	LR	16 58 47.7	
	comp=Z,105nm,22.0s,baz=128,slow=31						
TXAR	**Lajitas Array**	**63.73**	**1**	P	**P**	**16 40 01.2**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=185,slow=7.2,SNR=2.8						
TXAR				LR	LR	17 03 40.8	
	comp=Z,26nm,18.6s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**63.73**	**1**	P	**P**	**16 40 00.7**	**-0.8**
NVAR	**Mina Array Bea**	**73.95**	**349**	P	**P**	**16 41 05.8**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=179,slow=7.9,SNR=3.5						
NVAR				LR	LR	17 06 56.1	
	comp=Z,34nm,18.6s,baz=131,slow=30						
NVAR	**Mina Array Bea**	**73.95**	**349**	P	**P**	**16 41 05.1**	**-0.1**
DZM	**Mont Dzumac**	**77.17**	**252**	*e*LR	LR	17 04 41.8	
	comp=Z,222nm,28.9s						
PDAR	**Pinedale Array**	**77.28**	**356**	P	**P**	**16 41 24.9**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=160,slow=5.6,SNR=4.9						
PDAR	**Pinedale Array**	**77.28**	**356**	P	**P**	**16 41 23.1**	**-1.1**
STKA	**Stephens Creek**	**89.31**	**231**	LR	LR	17 13 35.2	
	comp=Z,84nm,20.5s,baz=201,slow=30						
SCHQ	**Schefferville**	**94.85**	**21**	LR	LR	17 21 11.8	
	comp=Z,37nm,20.5s,baz=322,slow=33						
ASAR	**Alice Springs**	**99.86**	**232**	LR	LR	17 21 59.3	
	comp=Z,102nm,19.4s,baz=130,slow=32						
SONM	**Songino Array**	**153.67**	**309**	PKP	**PKPdf**	**16 49 21.6**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=50,slow=2.5,SNR=3.1						
SONM				PKPbc	**PKiKP**	**16 49 30.2**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=50,slow=2.3,SNR=3.9						
SONM	**Songino Array**	**153.67**	**309**		**PKPdf**	**16 49 21.4**	**+0.6**

IDC **02** *16:37:35.6±2.2, 8°.12S×129°.26E, h103km±27km, mb3.1/1, mb1 3.6/6, mb1mx3.3/30, mbtmp3.9/6, Error ellipse: s-maj=24.5km s-min=21.2km az=130.0*
ISCJB **02** *16:37:36.0±0.6, 8°.07S±0°.05×129°.11E±0°.06, h150km, mb3.2/1, Error ellipse: s-maj=7.9km s-min=7.6km az=143.0*
NEIC **02** *16:37:37.0±2.4, 8°.02S±0°.10×129°.09E±0°.08, h144km±19km, mb4.5/4*

ISC 02 16:37:35.6±0.8**, 8°.04S**±0°.06×**129°.18E**±0°.07**, h150**km**, n21, σ2ˢ.94**/24**, Timor Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.10**	**89**	Pn	**Pn**	**16 38 14.0**	**+2.1**
MTN	**Manton Dam**	**5.15**	**158**	Pn	**Pn**	**16 38 53.3**	**+2.3**
SOEI	**Soe**	**5.15**	**250**		**Pn**	**16 38 48.3**	**-2.8**
BATI	**Baumata**	**5.86**	**248**	P	**Pn**	**16 39 01.9**	**+1.4**
	5.2nm,0.3s,baz=74,slow=4.2,SNR=22						
BATI				S	**Sn**	**16 40 06.7**	**-0.3**
	8.1nm,0.3s,baz=121,slow=14,SNR=4.2						
FAKI	**Fak Fak**	**5.93**	**31**		**Pn**	**16 38 59.1**	**-2.3**
SIJI	**Sorong**	**7.42**	**16**	P	**Pn**	**16 39 22.2**	**+0.9**
	1.4nm,0.3s,baz=187,slow=21,SNR=14						
SIJI				S	**Sn**	**16 40 39.2**	**-5.1**
	0.4nm,0.3s,baz=37,slow=20,SNR=2.6						
KNRA	**Kununurra**	**7.61**	**183**		**Pn**	**16 39 23.8**	**0.0**
TNTI	**Ternate**	**8.94**	**348**	Pn	**Pn**	**16 39 42.6**	**+1.0**
FITZ	**Fitzroy Crossi**	**10.58**	**199**	P	**Pn**	**16 40 02.0**	**-1.3**
	1.0nm,0.3s,baz=14,slow=8.5,SNR=38						
FITZ				S	Sn	16 41 52.2	-8.2
	4.1nm,0.3s,baz=104,slow=22,SNR=13						
FITZ	**Fitzroy Crossi**	**10.58**	**199**		**Pn**	**16 40 02.6**	**-0.7**
WB0	**Warramunga Arr**	**12.71**	**157**		**Pn**	**16 40 31.9**	**+0.7**
WRAB	**Tennant Creek**	**12.84**	**158**		**Pn**	**16 40 33.4**	**+0.5**
WRA	**Warramunga Arr**	**12.85**	**158**	P	**Pn**	**16 40 32.9**	**0.0**
	1.1nm,0.3s,baz=340,slow=13,SNR=43						
WRA				S	**Sn**	**16 42 49.8**	**-5.3**
	1.3nm,0.3s,baz=330,slow=22,SNR=11						
WB2	**Warramunga Arr**	**12.85**	**158**		**Pn**	**16 40 33.9**	**+0.9**
WR0	**Warramunga Arr**	**12.94**	**157**		**Pn**	**16 40 34.7**	**+0.6**
COEN	**Coen**	**14.94**	**114**	P	**P**	**16 41 04.0**	**+2.7**
COEN				IAmb	IAmb	16 41 11.2	
	comp=Z,32nm,1.3s						
AS31	**Alice Springs**	**16.19**	**164**	P	**P**	**16 41 17.8**	**+2.8**
ASAR	**Alice Springs**	**16.19**	**164**	P	**P**	**16 41 17.7**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=340,slow=9.2,SNR=40						
ASAR				S	**S**	**16 44 07.2**	**-7.6**
	comp=Z,0.3nm,0.3s,baz=350,slow=26,SNR=6.1						
PSA00	**Pilbara Seismi**	**16.19**	**213**		**P**	**16 41 16.6**	**+1.5**
PSA00				IAmb	IAmb	16 41 52.2	
	comp=Z,40nm,1.5s						
BBOO	**Buckleboo**	**25.46**	**166**	P	**P**	**16 42 53.5**	**+3.7**
MKAR	**Makanchi Array**	**68.65**	**327**	P	P	16 48 28.5	+5.8
	comp=Z,0.3nm,0.6s,baz=114,slow=7.3,SNR=2.7						

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*ISCJB **02** 16:59:19.7±0.6, 30°.31N±0°.05×67°.50E±0°.07, h14km, mb3.8/10, MS3.2/2, Error ellipse: s-maj=9.1km s-min=7.2km az=144.5*

*IDC **02** 16:59:20.1±0.8, 30°.37N×67°.38E, h0km, mb3.7/11, mb1 3.9/13, mb1mx3.6/48, mbtmp3.8/13, ML3.8/2, MS3.3/2, Ms1 3.3/2, ms1mx2.5/51, Error ellipse: s-maj=21.5km s-min=18.4km az=91.0*

ISC 02 16:59:21.1±0.6**, 30°.27N**±0°.07×**67°.45E**±0°.06**, h14**km**, n28, σ2ˢ.81**/31**, mb3.7**/10**, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BHUJ	**Bhuj**	**7.26**	**164**	*e*S	**Sn**	**17 02 32.0**	**+3.0**
DHRM	**DHARAMSHALA**	**7.83**	**73**	*e*P	**Pn**	**17 01 16.1**	**+1.3**
DHRM				*e*S	**Sn**	**17 02 36.5**	**-6.9**
DHRM				IAML		17 03 03.7	
	comp=E,58nm,0.5s						
DHRM				IAML		17 03 04.5	
	comp=N,30nm,0.1s						
SMLA	**Simla**	**8.41**	**82**	*e*P	**Pn**	**17 01 24.1**	**+1.5**
SMLA				*e*S	**Sn**	**17 02 54.4**	**-3.0**
SMLA				IAML		17 02 59.2	
	comp=N,17nm,0.1s						
SMLA				IAML		17 02 59.6	
	comp=E,40nm,0.3s						
JOSI	**Joshimath**	**10.46**	**85**	*e*P	**Pn**	**17 01 52.8**	**+1.9**
JOSI				*e*S	**Sn**	**17 03 42.9**	**-5.1**
WSAR	**Wadi Sarin**	**10.53**	**230**	Pn	**Pn**	**17 01 51.5**	**-0.2**
	comp=E,0.4nm,0.3s,baz=45,slow=1.5,SNR=5.3						
WSAR				Sn	**Sn**	**17 03 42.2**	**-7.4**
	comp=E,0.3nm,0.3s,baz=262,slow=19,SNR=3.2						
AAK	**Ala-Archa**	**13.58**	**23**	Pn	**Pn**	**17 02 32.8**	**-0.6**
	comp=E,0.7nm,0.3s,baz=157,slow=9.9,SNR=8.5						
KOLN	**Koldanda**	**14.35**	**96**	*e*P	**Pn**	**17 02 44.4**	**+0.3**
GKN	**Gorkha**	**15.19**	**94**	*e*P	**Pn**	**17 02 52.1**	**-3.4**
	comp=E,9.0nm,0.3s						
KKN	**Kakani**	**15.79**	**95**	*e*P	**Pn**	**17 03 00.4**	**-3.0**
	comp=E,8.5nm,0.4s						
PKIN	**Phulchoki**	**15.95**	**95**	*e*P	**Pn**	**17 03 04.0**	**-1.4**
	comp=E,5.8nm,0.4s						
PKI	**Pulchoki**	**15.96**	**95**	*e*P	**Pn**	**17 03 03.9**	**-1.7**
	comp=E,6.7nm,0.5s						
GUN	**Gumba**	**16.29**	**94**	*e*P	**Pn**	**17 03 06.7**	**-3.1**
	comp=E,74nm,0.8s						
JIRN	**Jiri**	**16.61**	**94**	*e*P	**Pn**	**17 03 11.6**	**-2.4**
	comp=E,22nm,0.4s						
RAMN	**Ramite**	**17.14**	**96**	*e*P	**Pn**	**17 03 20.4**	**-0.2**
	comp=E,11nm,0.4s						
ODAN	**Odare**	**17.84**	**96**	*e*P	**P**	**17 03 31.2**	**+1.2**
	comp=E,20nm,0.8s						
TAPN	**Taplejung**	**17.99**	**94**	*e*P	**P**	**17 03 32.1**	**+0.4**
	comp=E,13nm,0.7s						
MKAR	**Makanchi Array**	**20.12**	**31**	P	**P**	**17 03 53.5**	**-1.1**
	comp=E,1.0nm,0.5s,baz=210,slow=10.0,SNR=20						
MKAR				LR	LR	17 12 37.0	
	comp=E,55nm,18.1s,baz=196,slow=40						
AKTO	**Aktyubinsk**	**21.36**	**343**	P	**P**	**17 04 07.8**	**0.0**
	comp=E,0.8nm,0.8s,baz=148,slow=14,SNR=3.4						
KURBB	**Kurchatov Arra**	**21.97**	**19**	P	**P**	**17 04 14.0**	**-0.4**
	comp=E,1.4nm,0.6s,baz=210,slow=9.6,SNR=10						
BVAR	**Borovoye Array**	**22.84**	**5**	P	**P**	**17 04 22.7**	**-1.1**
	comp=E,1.5nm,0.6s,baz=180,slow=11,SNR=7.8						
ZALV	**Zalesovo Beam**	**26.80**	**23**	P	**P**	**17 05 02.3**	**+1.6**
	comp=E,3.0nm,0.4s,baz=227,slow=11,SNR=16						
CMAR	**Chiang Mai Arr**	**30.90**	**105**	P	**P**	**17 05 40.8**	**+3.3**
	comp=E,0.6nm,0.6s,baz=310,slow=8.0,SNR=3.1						
ARCES	**ARCESS Array B**	**45.91**	**341**	P	**P**	**17 07 43.2**	**+0.2**
	comp=E,2.9nm,0.8s,baz=120,slow=8.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**62.65**	**270**	P	**P**	**17 09 46.5**	**+0.9**
	comp=E,1.7nm,0.7s,baz=63,slow=6.5,SNR=15						
FRB	**Frobisher Bay**	**80.07**	**342**	LR	LR	17 47 50.3	
	comp=E,24nm,19.6s,baz=224,slow=36						
WRA	**Warramunga Arr**	**81.41**	**119**	P	**P**	**17 11 39.1**	**+1.2**
	comp=E,0.4nm,0.6s,baz=320,slow=4.8,SNR=6.9						
ASAR	**Alice Springs**	**83.30**	**122**	P	**P**	**17 11 48.8**	**+1.0**
	comp=E,0.5nm,0.6s,baz=301,slow=5.1,SNR=13						
YKA	**Yellowknife Ar**	**87.55**	**1**	P	**P**	**17 12 10.2**	**+1.9**
	comp=E,0.4nm,0.7s,baz=351,slow=4.9,SNR=3.2						

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*ISCJB **02** 17:06:18.8±1.1, 13°.0N±0°.1×88°.92W±0°.06, h54km±21km, Error ellipse: s-maj=24.0km s-min=5.5km az=20.9*

*SNET **02** 17:06:18.1±1.2, 12°.98N×88°.95W, h52km±16km, ML3.8, MW3.7*

*GCG **02** 17:06:18.9±1.1, 13°.22N×88°.65W, h34km±999km, MD4.1*

*UCR **02** 17:06:18.6±1.1, 13°.01N×88°.93W, h54km±13km, MD3.7, ML3.8*

ISC 02 17:06:20.6±1.6**, 13°.1N**±0°.1×**88°.88W**±0°.05**, h47**km±21km**, n38, σ1ˢ.16**/52**, 5C-2D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.40**	**49**	*e*S	**Sn**	**17 06 39.2**	**+1.7**
ALJI				IAML		17 06 39.7	
	comp=Z,4µm,0.2s						
COEB	**Comit de Eme**	**0.55**	**38**	⇑*i*P	**Pn**	**17 06 32.0**	**-0.4**
COEB				*e*S	**Sn**	**17 06 42.5**	**+1.6**
COEB				IAML		17 06 44.3	
	comp=Z,4µm,0.2s						
TECA	**Tecapa**	**0.56**	**41**	⇓*i*P	**Pn**	**17 06 32.2**	**-0.5**
TECA	**Tecapa**	**0.56**	**41**	⇓*i*P	**Pn**	**17 06 32.2**	**-0.5**
LFRS	**El Faro**	**0.58**	**342**	*e*P	**Pn**	**17 06 31.4**	**-1.4**
JUCU	**Jucuar¡n**	**0.64**	**73**	⇑*i*P	**Pn**	**17 06 32.3**	**-1.3**
JUCU				*e*S	**Sn**	**17 06 42.9**	**0.0**
JUCU				IAML		17 06 44.3	
	comp=Z,2µm,0.4s						
PAVA	**Las Pavas**	**0.65**	**355**	*e*P	**Pn**	**17 06 32.9**	**-0.8**
PAVA				*e*S	**Sn**	**17 06 44.4**	**+1.3**
PAVA				IAML		17 06 45.2	
	comp=Z,5µm,0.2s						
PAVA	**Las Pavas**	**0.65**	**355**	*e*P	**Pn**	**17 06 32.9**	**-0.8**
PAVA				*e*S	**Sn**	**17 06 44.4**	**+1.3**
PAVA				IAML		17 06 45.2	
	comp=Z,5µm,0.2s						
LCY	**Lacayo**	**0.67**	**58**	*e*P	**Pn**	**17 06 33.3**	**-0.7**
LCY	**Lacayo**	**0.67**	**58**	*e*P	**Pn**	**17 06 33.3**	**-0.7**
LBRS	**Las Brisas**	**0.69**	**346**	*e*P	**Pn**	**17 06 33.2**	**-1.0**
VSM	**San Miguel**	**0.69**	**59**	*e*P	**Pn**	**17 06 33.7**	**-0.7**
VSM	**San Miguel**	**0.69**	**59**	*e*P	**Pn**	**17 06 33.7**	**-0.7**
LFU	**La Fuente**	**0.71**	**341**	*e*P	**Pn**	**17 06 33.5**	**-1.1**
LFU				*e*S	**Sn**	**17 06 44.9**	**+0.2**
LFU	**La Fuente**	**0.71**	**341**	*e*P	**Pn**	**17 06 33.5**	**-1.1**
LFU				*e*S	**Sn**	**17 06 44.9**	**+0.2**
BOQS	**Boqueron**	**0.77**	**330**	*e*P	**Pn**	**17 06 34.0**	**-1.4**
FAGO	**Alcalda de S**	**0.98**	**50**	⇑*i*P	**Pn**	**17 06 37.5**	**-0.5**
LCND	**La Caada**	**0.99**	**76**	*e*P	**Pn**	**17 06 37.3**	**-0.9**
LCND				*e*S	**Sn**	**17 06 51.7**	**+0.6**
LCND				IAML		17 06 56.2	
	comp=Z,2µm,0.5s						
LCND	**La Caada**	**0.99**	**76**	*e*P	**Pn**	**17 06 37.3**	**-0.9**
LCND				*e*S	**Sn**	**17 06 51.7**	**+0.6**
LCND				IAML		17 06 56.2	
	comp=Z,2µm,0.5s						
CNCH	**Conchagua**	**1.04**	**78**	*i* P	**Pn**	**17 06 37.6**	**-1.3**
CNCH				*e*S	**Sn**	**17 06 53.1**	**+0.7**
CNCH	**Conchagua**	**1.04**	**78**	*i* P	**Pn**	**17 06 37.6**	**-1.3**
CNCH				*e*S	**Sn**	**17 06 53.1**	**+0.7**
CEVE	**Cerro Verde**	**1.05**	**316**	IAML		17 07 05.0	
	comp=Z,2µm,0.3s						
CEVE	**Cerro Verde**	**1.05**	**316**	IAML		17 07 05.0	
	comp=Z,2µm,0.3s						
SBLS	**San Blas**	**1.06**	**317**	*e*P	**Pn**	**17 06 37.9**	**-1.4**
SBLS	**San Blas**	**1.06**	**317**	*e*P	**Pn**	**17 06 37.9**	**-1.4**
SNJE	**San Jose**	**1.06**	**318**	*e*P	**Pn**	**17 06 37.9**	**-1.5**
SNJE				*e*S	**Sn**	**17 06 51.9**	**-1.3**
SNJE	**San Jose**	**1.06**	**318**	*e*P	**Pn**	**17 06 37.9**	**-1.5**
SNJE				*e*S	**Sn**	**17 06 51.9**	**-1.3**
LLGN	**La Laguna**	**1.09**	**357**	⇑*i*P	**Pn**	**17 06 38.9**	**-0.7**
LLGN	**La Laguna**	**1.09**	**357**	⇑*i*P	**Pn**	**17 06 38.9**	**-0.7**
RTR	**El Retiro**	**1.11**	**318**	*e*P	**Pn**	**17 06 38.7**	**-1.3**
RTR	**El Retiro**	**1.11**	**318**	*e*P	**Pn**	**17 06 38.7**	**-1.3**
UNIC	**Universidad Ca**	**1.12**	**324**	*e*P	**Pn**	**17 06 38.8**	**-1.2**
UNIC				*e*S	**Sn**	**17 06 54.0**	**-0.3**
UNIC	**Universidad Ca**	**1.12**	**324**	*e*P	**Pn**	**17 06 38.8**	**-1.2**
UNIC				*e*S	**Sn**	**17 06 54.0**	**-0.3**
IXG	**Ixpaco**	**1.88**	**306**	*e*P	**Pn**	**17 06 49.5**	**-1.0**
IXG	**Ixpaco**	**1.88**	**306**	*e*P	**Pn**	**17 06 49.5**	**-1.0**
FUG	**Fuego 3**	**2.35**	**306**	*e*P	**Pn**	**17 06 57.5**	**+0.5**
FUG				*e*S	**Sn**	**17 07 27.3**	**+2.6**
FUG	**Fuego 3**	**2.35**	**306**	*e*P	**Pn**	**17 06 57.5**	**+0.5**
FUG				*e*S	**Sn**	**17 07 27.3**	**+2.6**
STG3	**Santiaguito 3,**	**3.08**	**302**	*e*P	**Pn**	**17 07 08.1**	**+1.1**

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*ISCJB **02** 17:11:37.9±0.5, 51°.39N±0°.03×16°.17E±0°.03, h0km, Error ellipse: s-maj=4.2km s-min=2.4km az=23.2*

*IDC **02** 17:11:39.4±1.2, 51°.66N×15°.42E, h0km, mb1 3.4/4, mb1mx3.1/40, mbtmp3.2/4, ML2.9/4, Error ellipse: s-maj=27.3km s-min=9.1km az=123.0*

*PRU **02** 17:11:39.6±0.0, 51°.43N×16°.16E, h0km*

*BGR **02** 17:11:40.3±0.6, 51°.41N×16°.16E, h1km, ML3.0/9, Error ellipse: s-maj=7.8km s-min=3.3km az=15.0*

*VIE **02** 17:11:42.4±0.8, 51°.21N×16°.03E, h0km, mb2.5/3, ml2.9/6, Error ellipse: s-maj=6.0km s-min=5.0km az=56.0 69 km WNW of Wroclaw Suspected Mining induced.*

ISC 02 17:11:37.8±0.8**, 51°.46N**±0°.04×**16°.16E**±0°.02**, h0**km**, n44, σ1ˢ.28**/82**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**172**	*e*Pg	**Pg**	**17 11 50.6**	**+1.0**
KSP				*e*Sg	**Sg**	**17 11 59.0**	**+1.4**
KSP	**Ksiaz**	**0.62**	**172**	*i* Pg	**Pg**	**17 11 50.6**	**+1.0**
KSP				*i* Pg	**Pg**	**17 11 50.6**	**+1.0**
KSP				*e*Sg	**Sg**	**17 11 58.4**	**+0.8**
KSP				*e*Sg	**Sg**	**17 11 58.4**	**+0.8**
CHVC	**Chvalec**	**0.87**	**184**	*e*PG	**Pb**	**17 11 55.5**	**-0.3**
CHVC				*e*SG	**Sb**	**17 12 07.1**	**-0.9**
	comp=Z,66nm,0.4s						
UPC	**Upice**	**0.95**	**186**	*e*PG	**Pb**	**17 11 56.9**	**-0.3**
UPC				*e*SG	**Sb**	**17 12 09.7**	**-0.7**
	comp=Z,141nm,0.4s						
DPC	**Dobruska-Polom**	**1.11**	**175**	*e*Pg	**Pg**	**17 11 59.6**	**+0.5**
DPC	**Dobruska-Polom**	**1.11**	**175**	*e*PG	**Pg**	**17 11 59.5**	**+0.5**
DPC				*e*SG	**Sg**	**17 12 13.9**	**+0.4**
	comp=Z,42nm,0.4s						
PVCC	**Panska Ves**	**1.37**	**228**	*e*PG	**Pb**	**17 12 05.0**	**+0.8**
PVCC				*e*SG	**Sn**	**17 12 23.5**	**+0.6**
	comp=Z,243nm,0.5s						
KRLC	**Kraliky**	**1.44**	**164**	*e*PG	**Pn**	**17 12 05.1**	**0.0**
KRLC				*e*SG	**Sg**	**17 12 24.3**	**+0.4**
BRG	**Berggiesshubel**	**1.51**	**248**	PG	**Pg**	**17 12 07.2**	**+0.4**
BRG				SG	**Sn**	**17 12 28.0**	**+1.5**
	103nm,0.5s						
BRG	**Berggiesshubel**	**1.51**	**248**	*e*Pn	**Pg**	**17 12 07.3**	**+0.5**
BRG				*e*Sg	**Sn**	**17 12 28.4**	**+1.9**
GOPC	**GO Pecny, Ondr**	**1.77**	**210**	*e*PN	**Pn**	**17 12 10.0**	**+0.3**
GOPC				*e*PG	**Pb**	**17 12 11.4**	**+0.2**
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	**Pb**	**17 12 11.7**	**+0.2**
PRU				*e*SG	**Sg**	**17 12 35.2**	**-0.1**
	comp=Z,72nm,0.5s						
FBE	**Freiberg**	**1.84**	**254**	*e*Pg	**Pg**	**17 12 14.6**	**+1.5**
FBE				*e*Sg	**Sg**	**17 12 38.0**	**+1.0**
MORC	**Moravsky Berou**	**1.90**	**152**	*e*Pn	**Pn**	**17 12 11.7**	**+0.3**
MORC	**Moravsky Berou**	**1.90**	**152**	*e*PN	**Pn**	**17 12 11.3**	**-0.2**
MORC				*e*SG	**Sb**	**17 12 37.2**	**-0.4**
CLL	**Collm**	**1.98**	**267**	*e*Pn	**Pn**	**17 12 13.0**	**+0.4**
CLL				*e*Pg	**Pg**	**17 12 16.0**	**+0.2**
CLL				*e*Sg	**Sg**	**17 12 42.0**	**+0.5**
	comp=Z,49nm,0.4s						
OKC	**Ostrava-Krasne**	**2.06**	**141**	*e*Pn	**Pn**	**17 12 14.8**	**+1.2**
OKC	**Ostrava-Krasne**	**2.06**	**141**	*e*SG	**Sg**	**17 12 43.5**	**-0.3**
	comp=Z,50nm,0.6s						
VRAC	**Vranov**	**2.17**	**172**	*e*PN	**Pn**	**17 12 15.0**	**-0.1**
VRAC				*e*SG	**Sb**	**17 12 46.1**	**+0.8**
TREC	**Trest**	**2.21**	**192**	*e*PG	**Pb**	**17 12 19.3**	**+0.8**
KRUC	**Moravsky**	**2.40**	**176**	*e*PN	**Pn**	**17 12 19.9**	**+1.6**
KRUC				*e*SG	**Sg**	**17 12 54.0**	**-0.9**
TANN	**Tannenbergstha**	**2.56**	**247**	*e*Pn	**Pn**	**17 12 21.4**	**+0.8**
OJC	**Ojcow**	**2.62**	**117**	*e*Sg	**Sg**	**17 13 03.0**	**+1.2**
OJC	**Ojcow**	**2.62**	**117**	*e*Pg	**Pg**	**17 12 27.8**	**-0.1**
OJC				*e*Pg	**Pg**	**17 12 27.8**	**-0.1**
OJC				*e*Sg	**Sg**	**17 13 02.4**	**+0.6**
OJC				*e*Sg	**Sg**	**17 13 02.4**	**+0.6**
NKC	**Novy Kostel**	**2.65**	**244**	*e*PN	**Pn**	**17 12 22.7**	**+0.9**
NKC				*e*SG	**Sg**	**17 13 04.8**	**+1.9**
	comp=Z,67nm,0.3s						
JAVC	**Velka Javorina**	**2.77**	**159**	*e*PN	**Pn**	**17 12 24.9**	**+1.4**
JAVC				*e*SG	**Sg**	**17 13 06.4**	**-0.5**
KHC	**Kasperske Hory**	**2.86**	**216**	*e*PN	**Pn**	**17 12 25.4**	**+0.8**
KHC				*e*PG	**Pg**	**17 12 31.4**	**-1.1**
KHC				*e*SN	**Sn**	**17 12 58.1**	**-1.6**
KHC				*e*SG	**Sg**	**17 13 08.2**	**-1.3**
	comp=Z,21nm,0.6s						
MANZ	**Manzenberg**	**2.96**	**242**	*e*Pn	**Pn**	**17 12 27.2**	**+1.1**
MOX	**Moxa**	**2.98**	**256**	*e*Pn	**Pn**	**17 12 27.5**	**+1.2**
ROTZ	**Rotzenmuhle**	**3.03**	**238**	*e*Pn	**Pn**	**17 12 27.7**	**+0.7**
GEC2	**GERESS Array S**	**3.05**	**212**	*e*Pn	**Pn**	**17 12 29.1**	**+1.7**
GERES	**GERESS Array B**	**3.05**	**212**	Pn	**Pn**	**17 12 28.5**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=25,slow=14,SNR=13						
GERES				Pg	**Pb**	**17 12 34.1**	**+1.1**
	comp=Z,3.7nm,0.3s,baz=29,slow=17,SNR=29						
GERES				Sn	**Sn**	**17 13 05.3**	**+0.6**
	comp=Z,3.2nm,0.3s,baz=41,slow=21,SNR=4.5						
GERES				Lg	Lg	17 13 13.9	
	comp=Z,5.8nm,0.3s,baz=30,slow=27,SNR=5.9						
WET	**Wettzell**	**3.13**	**224**	*e*Pn	**Pn**	**17 12 29.4**	**+1.0**
LANS	**Liptovska Anna**	**3.13**	**136**	*e*PG	**Pg**	**17 12 38.0**	**+0.2**
LANS				*e*SG	**Sg**	**17 13 19.0**	**+0.6**
LANS				*e*LG	Lg	17 13 29.6	
MODS	**Modra-Piesok**	**3.17**	**166**	*e*PG	**Pg**	**17 12 37.9**	**-0.6**
MODS				*e*SG	**Sg**	**17 13 22.0**	**+2.5**
MODS				*e*LG	Lg	17 13 23.4	
VYHS	**Vyhne**	**3.43**	**149**	*e*PN	**Pn**	**17 12 29.9**	**-2.6**
VYHS				*e*PG	**Pg**	**17 12 45.1**	**+1.6**
VYHS				*e*SG	**Sg**	**17 13 30.1**	**+2.1**
CONA	**Conrad Observa**	**3.54**	**183**	*e*Pn	**Pn**	**17 12 35.4**	**+1.4**
	comp=Z,0.5nm,0.2s						
CONA				Sg	**Sg**	**17 13 30.9**	**-0.4**
	comp=Z,27nm,0.5s						
MOA	**Molln**	**3.81**	**200**	*e*Pn	**Pn**	**17 12 38.8**	**+1.0**
	comp=Z,1.8nm,0.2s,SNR=7.2						
MOA				Sg	**Sg**	**17 13 39.2**	**-1.1**
	comp=Z,20nm,0.5s						
ARSA	**Arzberg**	**4.23**	**186**	*e*Pn	**Pn**	**17 12 44.5**	**+1.0**
	comp=Z,1.1nm,0.4s						
ARSA				Sg	**Sg**	**17 13 52.0**	**-1.6**
	comp=Z,8.3nm,0.5s						
SQTA	**Sankt Quirin**	**5.33**	**219**	*e*Pn	**Pn**	**17 13 00.4**	**+1.7**
	comp=Z,0.9nm,0.1s						
SQTA				*e*Sg	**Sg**	**17 14 27.0**	**-2.0**
	comp=Z,2.7nm,0.3s						
PTJ	**Puntijarka**	**5.55**	**181**	ePg	**Sg**	**17 14 32.5**	**-3.7**
PTJ				Sg	**Sg**	**17 14 33.9**	**-2.2**
AKASG	**Malin Array Be**	**8.27**	**90**	Pn	**Pn**	**17 13 42.9**	**+4.1**
	comp=Z,0.4nm,0.3s,baz=276,slow=3.5,SNR=3.0						
FINES	**FINESS Array B**	**11.40**	**25**	Pn	**Pn**	**17 14 18.9**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=212,slow=13,SNR=5.4						
ARCES	**ARCESS Array B**	**18.67**	**10**	P	**P**	**17 15 56.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=194,slow=13,SNR=4.8						

IDC 02 17:45:08.8±1.6**, 15°.29S**×**178°.73E, h0**km**, mb3.9**/7**, mb1 4.2**/7**, mb1mx3.9**/25**, mbtmp3.9**/7**, MS3.6**/19**, Ms1 3.6**/19**, ms1mx3.5**/27**, Error ellipse: s-maj=91.6km s-min=20.6km az=147.0, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.29**	**83**	LR	LR	17 50 02.8	
	comp=Z,257nm,19.4s,baz=262,slow=32						
DZM	**Mont Dzumac**	**13.45**	**238**	*e*LQ	LQ	17 50 46.1	
	364nm,22.9s						
DZM				*e*LR	LR	17 51 19.3	
	comp=Z,630nm,25.8s						
DZM	**Mont Dzumac**	**13.45**	**238**	LR	LR	17 52 43.6	
	comp=Z,447nm,19.9s,baz=44,slow=34						
RAO	**Raoul Island**	**14.24**	**168**	LR	LR	17 53 12.0	
	comp=Z,257nm,18.4s,baz=140,slow=34						
HNR	**Honiara**	**19.24**	**285**	LR	LR	17 56 02.7	
	comp=Z,147nm,20.2s,baz=120,slow=34						
RAR	**Rarotonga**	**21.24**	**109**	LR	LR	17 55 41.3	
	comp=Z,108nm,21.2s,baz=272,slow=30						
RPZ	**Rata Peaks**	**29.08**	**191**	LR	LR	18 00 48.6	
	comp=Z,136nm,20.8s,baz=343,slow=32						
PPT	**Papeete**	**30.47**	**99**	LR	LR	18 00 07.1	
	comp=Z,30nm,19.5s,baz=223,slow=30						
PPT2	**Papeete2**	**30.47**	**99**	*e*LQ	LQ	17 57 44.0	
	307nm,23.8s						
PPT2				*e*LR	LR	17 59 04.4	
	comp=Z,107nm,25.5s						
TBI	**Tubuai**	**31.02**	**110**	*e*LR	LR	17 59 21.9	
	comp=Z,214nm,30.8s						
STKA	**Stephens Creek**	**37.60**	**237**	P	P	17 52 25.4	0.0
	5.0nm,0.8s,baz=74,slow=8.2,SNR=12						
STKA				LR	LR	18 05 55.6	
	comp=Z,86nm,20.4s,baz=30,slow=33						
WRA	**Warramunga Arr**	**42.47**	**257**	P	P	17 53 05.0	-1.0
	0.4nm,0.8s,baz=89,slow=8.0,SNR=3.8						
WRA				LR	LR	18 10 22.7	
	comp=Z,56nm,18.5s,baz=20,slow=36						
ASAR	**Alice Springs**	**42.93**	**252**	P	P	17 53 09.8	0.0
	4.6nm,0.9s,baz=86,slow=8.7,SNR=27						
ASAR				LR	LR	18 09 21.3	
	comp=Z,65nm,20.8s,baz=92,slow=34						
VNDA	**Vanda**	**62.83**	**184**	LR	LR	18 19 17.8	
	comp=Z,35nm,18.4s,baz=358,slow=33						
MJAR	**Matsushiro Arr**	**64.18**	**324**	LR	LR	18 18 49.2	
	comp=Z,26nm,21.9s,baz=125,slow=32						
JNU	**Nakatsue**	**66.36**	**317**	LR	LR	18 19 57.8	
	comp=Z,32nm,21.6s,baz=130,slow=32						
KSRS	**Korea Array**	**70.93**	**319**	LR	LR	18 22 21.6	
	comp=Z,31nm,20.6s,baz=120,slow=32						
NVAR	**Mina Array Bea**	**79.50**	**45**	P	P	17 57 16.9	-0.9
	0.1nm,0.3s,baz=228,slow=9.5,SNR=2.0						
NVAR				LR	LR	18 25 19.6	
	comp=Z,85nm,19.1s,baz=260,slow=30						
ILAR	**Eielson Array**	**84.00**	**14**	P	P	17 57 40.2	-0.4
	1.4nm,1.0s,baz=232,slow=5.0,SNR=7.5						
ILAR				LR	LR	18 29 32.7	
	comp=Z,27nm,19.1s,baz=213,slow=32						
CMAR	**Chiang Mai Arr**	**85.41**	**290**	P	P	17 57 49.6	+0.8
	0.5nm,0.7s,baz=122,slow=3.4,SNR=4.2						
TXAR	**Lajitas Array**	**86.95**	**59**	LR	LR	18 30 28.9	
	comp=Z,44nm,18.6s,baz=0.0,slow=31						
PDAR	**Pinedale Array**	**87.38**	**44**	P	P	17 57 59.8	+1.4
	0.6nm,0.8s,baz=175,slow=4.2,SNR=5.4						
PDAR				LR	LR	18 29 48.7	
	comp=Z,58nm,19.8s,baz=264,slow=31						
PLCA	**Paso Flores**	**95.12**	**134**	LR	LR	18 30 52.1	
	comp=Z,27nm,21.1s,baz=200,slow=29						

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*GCG **02** 18:33:22.0±0.3, 13°.10N×89°.97W, h10km, MD3.7*

*SNET **02** 18:33:24.1±1.0, 13°.27N×89°.94W, h33km±5km, ML2.9*

ISC 02 18:33:25.9±2.8**, 13°.3N**±0°.2×**89°.88W**±0°.07**, h35**km**, n9, σ1ˢ.25**/11**, 1C-2D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.61**	**24**	*e*P	**Pn**	**18 33 37.5**	**-0.9**
CEVE				IAML		18 33 59.8	
	comp=Z,548nm,0.2s						
SBLS	**San Blas**	**0.62**	**23**	⇓*i*P	**Pn**	**18 33 37.5**	**-1.0**
RTR	**El Retiro**	**0.67**	**20**	⇓*i*P	**Pn**	**18 33 38.3**	**-0.8**
LFU	**La Fuente**	**0.88**	**57**	*e*P	**Pn**	**18 33 41.5**	**-0.4**
COEG	**Centro de Oper**	**1.03**	**70**	*e*P	**Pn**	**18 33 43.4**	**-0.5**
COEG				*e*S	**Sn**	**18 33 58.1**	**+0.9**
COEG				IAML		18 34 00.0	
	comp=Z,301nm,0.3s						
IXG	**Ixpaco**	**1.06**	**329**	*e*P	**Pn**	**18 33 43.5**	**-0.9**
IXG	**Ixpaco**	**1.06**	**329**	⇑*i*P	**Pn**	**18 33 42.6**	**-1.8**
FUG	**Fuego 3**	**1.50**	**322**	*e*P	**Pn**	**18 33 50.4**	**-0.2**
FUG				*e*S	**Sn**	**18 34 11.1**	**+2.1**
STG3	**Santiaguito 3,**	**2.18**	**311**	*e*P	**Pn**	**18 33 59.4**	**-0.5**

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*ISCJB **02** 18:42:02.6±0.7, 28°.20S±0°.04×69°.54W±0°.06, h125km±10km, Error ellipse: s-maj=8.8km s-min=6.2km az=1.3*

*IDC **02** 18:42:02.8±3.4, 28°.23S×70°.04W, h88km±27km, mb1 3.8/3, mb1mx3.4/25, mbtmp3.9/3, Error ellipse: s-maj=58.3km s-min=27.3km az=90.0*

*SJA **02** 18:42:02.1±1.1, 28°.15S×69°.51W, h127km±9km, ML3.7, MW3.8*

*GUC **02** 18:42:04.2±0.7, 28°.30S×69°.61W, h98km±12km, ML4.0*

ISC 02 18:42:04.8±0.9**, 28°.22S**±0°.04×**69°.55W**±0°.05**, h110**km±8km**, n26, σ1ˢ.38**/34**, 2C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.87**	**316**	*i* P	**Pn**	**18 42 24.4**	**-0.4**
GO03				*i* S	**Sn**	**18 42 39.3**	**-0.6**
GO03				IAML		18 42 41.4	
	comp=N,3µm,0.1s						
GO03	**Copiap**	**0.87**	**316**	*i* P	**Pn**	**18 42 24.4**	**-0.4**
GO03				*e*S	**Sn**	**18 42 40.1**	**+0.2**
VCA	**Vinchina**	**1.29**	**114**	⇑*i*P	**Pn**	**18 42 29.1**	**-0.2**
VCA				*i* S	**Sn**	**18 42 47.2**	**-0.7**
VCA	**Vinchina**	**1.29**	**114**	*i* P	**Pn**	**18 42 29.2**	**-0.2**
VCA				*e*S	**Sn**	**18 42 47.7**	**-0.2**
VCA				IAML		18 42 51.4	
	comp=Z,912nm,0.2s						
AGUA	**GUANDACOL**	**1.56**	**144**	*i* P	**Pn**	**18 42 32.5**	**0.0**
AROD	**Rodeo**	**1.94**	**178**	*i* P	**Pn**	**18 42 38.3**	**+0.9**
ACDV	**Cuesta del Vie**	**1.98**	**169**	*i* P	**Pn**	**18 42 38.4**	**+0.8**
GO04	**Tololo Observa**	**2.23**	**209**	⇑*i*P	**Pn**	**18 42 40.4**	**-0.5**
GO04				*i* S	**Sn**	**18 43 07.6**	**-1.0**
GO04				IAML		18 43 09.2	
	comp=E,2µm,0.6s						
GO04	**Tololo Observa**	**2.23**	**209**	*i* P	**Pn**	**18 42 40.5**	**-0.5**
ACCO	**Cerro Coronel**	**2.39**	**170**	*i* P	**Pn**	**18 42 43.5**	**+0.4**
ACLC	**CERRO LA CRUZ**	**2.58**	**118**	*i* P	**Pn**	**18 42 44.4**	**-1.0**
AMOG	**MOGNA**	**2.86**	**161**	*i* P	**Pn**	**18 42 48.3**	**-0.7**
CO02	**Combarbal**	**3.23**	**203**	*e*P	**Pn**	**18 42 52.6**	**-1.2**
CO02				*i* S	**Sn**	**18 43 30.6**	**-1.2**
CO02				IAML		18 43 31.9	
	comp=E,669nm,0.2s						
RTLL	**Cerro Villicun**	**3.23**	**163**	*i* P	**Pn**	**18 42 53.5**	**-0.4**
RTLL				IAML		18 43 33.9	
	comp=Z,159nm,0.4s						
CYA	**Choya**	**3.31**	**95**	*i* P	**Pn**	**18 42 53.5**	**-1.4**
APLL	**PUNTA DE LOS L**	**3.41**	**130**	*i* P	**Pn**	**18 42 55.1**	**-1.2**
CFA	**Coronel Fontan**	**3.56**	**162**	P	**Pn**	**18 42 57.7**	**-0.6**
	comp=Z,4.8nm,0.3s,baz=344,slow=15,SNR=15						
CFA				S	**Sn**	**18 43 37.0**	**-2.5**
	comp=Z,18nm,0.3s,baz=309,slow=23,SNR=28						
CFA	**Coronel Fontan**	**3.56**	**162**	*i* P	**Pn**	**18 42 57.5**	**-0.7**
RTLS	**Leoncito**	**3.57**	**177**	*i* P	**Pn**	**18 42 58.9**	**+0.2**
RTLS				IAML		18 43 46.8	
	comp=Z,74nm,0.6s						
TCA	**Tanti**	**5.31**	**127**	*i* P	**Pn**	**18 43 19.8**	**-2.0**

LVC	Limon Verde	5.62	6	P	Pn	18 43 24.9	-1.4
	comp=Z,2.5nm,0.3s,baz=185,slow=11,SNR=20						
LVC				S	Sn	18 44 27.0	-2.9
	comp=Z,2.2nm,0.3s,baz=184,slow=12,SNR=4.3						
CPUP	Villa Florida	11.04	83	P	Pn	18 44 43.9	+4.4
	comp=Z,0.4nm,0.3s,baz=257,slow=14,SNR=9.3						
ASAR	Alice Springs	123.67	206	PKP	PKPdf	19 00 49.9	-0.3
	comp=Z,0.2nm,0.4s,baz=139,slow=2.1,SNR=5.4						
WRA	Warramunga Arr	126.83	208	PKP	PKPdf	19 00 56.9	+0.6
	comp=Z,0.4nm,0.5s,baz=154,slow=1.8,SNR=7.6						
ZALV	Zalesovo Beam	148.18	29	PKPbc	PKPbc	19 01 38.6	+1.2
	comp=Z,2.1nm,0.5s,baz=304,slow=3.8,SNR=7.3						
MKAR	Makanchi Array	151.21	42	PKPbc	PKPbc	19 01 45.9	+0.8
	comp=Z,0.9nm,0.5s,baz=316,slow=1.8,SNR=15						

*ISCJB **02** 18:54:00.6±0.4, 1°.18S±0°.06×26°.91E±0°.05, h10km, mb4.2/13, MS3.1/4, Error ellipse: s-maj=8.8km s-min=7.3km az=7.8*
*IDC **02** 18:54:01.7±0.7, 1°.13S×26°.85E, h0km, mb4.1/11, mb1 4.1/13, mb1mx3.9/34, mbtmp4.1/13, ML4.0/2, MS3.2/5, Ms1 3.2/5, ms1mx2.9/36, Error ellipse: s-maj=18.8km s-min=16.1km az=92.0*
*NEIC **02** 18:54:02.1±1.5, 1°.30S±0°.10×26°.84E±0°.06, h10km±1km, mb4.6/7*
ISC 02 18:54:02.5±0.6**, 1°.21S**±0°.08×**26°.91E**±0°.06**, h10**km**, n41,** σ1^s**49**/38**, mb4.3**/15**, MS3.2**/4**, Zaire**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	Mbarara	3.87	81	Pn	Pn	18 55 02.8	+0.5
	52nm,0.3s,baz=259,slow=17,SNR=55						
MBAR				Pg	Pb	18 55 13.5	+2.5
	61nm,0.3s,baz=266,slow=15,SNR=26						
MBAR				Sn	Sn	18 55 45.2	-2.7
	137nm,0.3s,baz=356,slow=21,SNR=6.1						
MBAR				Lg	Lg	18 56 00.2	
	148nm,0.3s,baz=345,slow=23,SNR=6.3						
LODK	Lodwar	9.62	61	*i* P	Pn	18 56 21.8	+0.7
LODK				*e*		18 56 21.9	
	baz=230,slow=16						
LODK				*i* S	Sn	18 58 37.5	+28
LODK				*i* S		18 58 48.3	
KMBO	Kilima Mbogo	10.34	90	Pn	Pn	18 56 32.4	+1.2
	0.2nm,0.3s,baz=268,slow=13,SNR=3.1						
KMBO				Sn	Sn	18 58 21.6	-5.7
	0.6nm,0.3s,baz=240,slow=20,SNR=2.2						
KMBO				Lg	Lg	18 59 21.6	
	0.9nm,0.3s,baz=346,slow=21,SNR=8.8						
KIBK	Kibwezi	11.18	96	*i* P	Pn	18 56 50.3	+7.7
KIBK				*i* S	Sn	18 59 18.5	+31
KIBK				*i* S		18 59 30.7	
VWZMW	Thunduwike	11.91	147	*i* P	Pn	18 56 54.2	+1.7
VWZMW				S		19 00 07.7	
LSZ	Lusaka	14.03	175	Pn	Pn	18 57 20.6	-1.1
	1.0nm,0.3s,baz=53,slow=8.7,SNR=6.9						
LSZ				Sn	Sn	18 59 47.6	-10
	1.3nm,0.3s,baz=29,slow=19,SNR=6.3						
LSZ				Lg	Lg	19 01 22.9	
	0.7nm,0.3s,baz=71,slow=18,SNR=3.2						
LSZ				LR	LR	19 02 44.6	
	comp=Z,144nm,19.6s,baz=326,slow=37						
LSZ	Lusaka	14.03	175		Pn	18 57 20.0	-1.7
TSUM	Tsumeb	20.08	206	S	S	19 02 10.6	-12
	3.6nm,0.7s,baz=294,slow=20,SNR=3.3						
TSUM				Lg	Lg	19 04 31.0	
	9.6nm,0.9s,baz=288,slow=20,SNR=5.4						
ATD	Arta Tunnel	20.27	51	LR	LR	19 06 15.5	
	comp=Z,46nm,18.2s,baz=16,slow=36						
LBTB	Lobatse	23.70	183	P	P	18 59 16.1	+1.4
	2.1nm,0.6s,baz=350,slow=7.8,SNR=4.0						
LBTB	Lobatse	23.70	183	P	P	18 59 14.7	-0.1
LBTB				IAmb	IAmb	18 59 33.9	
	comp=Z,42nm,1.9s						
BOSA	Boshof	27.30	183	P	P	18 59 48.9	+1.4
	comp=Z,3.4nm,1.0s,baz=349,slow=10.0,SNR=3.2						
BOSA	Boshof	27.30	183	P	P	18 59 46.1	-1.4
BOSA				IAmb	IAmb	19 00 20.7	
	comp=Z,14nm,1.3s						
TOA0	Torodi Ar. Sit	28.80	300	P	P	19 00 00.7	-0.3
TOA0				IAmb	IAmb	19 00 20.0	
	comp=Z,5.6nm,0.9s						
TORD	Torodi Ar. Bea	28.80	300	P	P	19 00 00.5	-0.5
	comp=Z,4.1nm,0.5s,baz=112,slow=8.3,SNR=51						
TORD	Torodi Ar. Bea	28.80	300	P	P	18 59 59.0	-2.0
TORD				IAmb	IAmb	19 00 01.4	
	comp=Z,2.6nm,0.7s						
SUR	Sutherland	31.53	190	P	P	19 00 27.1	+1.9
	comp=Z,4.3nm,1.0s,baz=5.7,slow=10,SNR=3.1						
KIC	Kosan Boka	32.48	284	*e*P	P	19 00 33.3	-0.3
	comp=Z,5.7nm,0.4s						
DBIC	Dimbokro	32.66	284	P	P	19 00 35.0	-0.1
	comp=Z,2.3nm,0.4s,baz=88,slow=9.2,SNR=13						
DBIC	Dimbokro	32.66	284	P	P	19 00 34.8	-0.3
DBIC				IAmb	IAmb	19 00 59.2	
	comp=Z,13nm,1.4s						
LIC	Lamto	32.73	283	*e*P	P	19 00 35.2	-0.6
	comp=Z,15nm,0.4s						
TIC	Toumodi	32.81	284	*e*P	P	19 00 36.2	-0.3
BR131	Keskin Array S	41.20	8	P	P	19 01 48.0	+0.4
BR131				IAmb	IAmb	19 02 47.5	
	comp=Z,11nm,1.6s						
BRTR	Keskin Array B	41.20	8	P	P	19 01 48.5	+0.9
	comp=Z,1.4nm,0.6s,baz=185,slow=11,SNR=11						
BRTR	Keskin Array B	41.20	8	P	P	19 01 48.3	+0.8
KBZ	Khabaz	46.98	16	LR	LR	19 22 19.0	
	comp=Z,32nm,18.6s,baz=159,slow=36						
GERES	GERESS Array B	51.15	349	P	P	19 03 05.2	-0.6
	comp=Z,0.5nm,0.6s,baz=156,slow=7.5,SNR=4.6						
GERES	GERESS Array B	51.15	349	P	P	19 03 04.5	-1.3
KKAR	Karatay Array	58.93	36	P	P	19 04 01.4	-0.7
FINES	FINESS Array B	62.49	360	P	P	19 04 26.6	+0.8
	comp=Z,3.4nm,0.9s,baz=175,slow=8.0,SNR=3.9						
FINES	FINESS Array B	62.49	360	P	P	19 04 26.1	+0.2
NOA	NORSAR Array B	63.25	352	P	P	19 04 31.1	0.0
	comp=Z,1.4nm,0.9s,baz=165,slow=6.4,SNR=4.8						
NOA				LR	LR	19 34 30.9	
	comp=Z,10.0nm,18.9s,baz=355,slow=38						
NBO00	NORSAR Array S	63.30	351	P	P	19 04 32.5	+1.1
NC303	NORSAR Array S	63.40	352	P	P	19 04 32.7	+0.7
NC204	NORSAR Array S	63.54	351	P	P	19 04 33.7	+0.7
MK31	Makanchi Array	67.97	38	P	P	19 05 01.8	0.0
MKAR	Makanchi Array	67.97	38	P	P	19 05 01.7	-0.1
	comp=Z,0.4nm,0.6s,baz=251,slow=3.7,SNR=4.3						
ARCES	ARCESS Array B	70.62	359	P	P	19 05 18.7	+0.9
	comp=Z,3.3nm,1.0s,baz=172,slow=6.3,SNR=2.7						
ARCES	ARCESS Array B	70.62	359	P	P	19 05 18.5	+0.8
LPAZ	La Paz	94.51	254	LR	LR	19 46 54.4	
	comp=Z,14nm,21.7s,baz=124,slow=34						
WSPT	Westport, CT	98.51	311	IAmb	IAmb	19 10 33.5	
	comp=Z,216nm,0.9s						

*EAF **02** 19:18:05.9±1.0, 25°.09S×28°.78E, h4km±13km, MD4.1*
*IDC **02** 19:18:05.4±0.6, 24°.94S×28°.59E, h0km, mb4.2/14, mb1 4.3/19, mb1mx4.2/35, mbtmp4.2/19, ML3.6/4, MS3.1/4, Ms1 3.1/4, ms1mx2.8/35, Error ellipse: s-maj=20.6km s-min=15.5km az=96.0*
*NEIC **02** 19:18:06.2±1.4, 24°.93S±0°.06×28°.61E±0°.08, h5km±1km, mb4.8/26*
*BUL **02** 19:18:07.6±1.2, 25°.08S×28°.74E, h3km±13km, MD4.6*
*PRE **02** 19:18:07.7±1.9, 25°.02S×28°.45E, h5km, ML4.0*
*ISCJB **02** 19:18:07.2±1.8, 24°.97S±0°.03×28°.42E±0°.07, h23km±12km, mb4.2/15, MS4.1/2, Error ellipse: s-maj=10.6km s-min=4.5km az=16.8*
*LSZ **02** 19:18:10.4±0.3, 23°.63S×21°.01E, h10km, MD4.6*
ISC 02 19:18:07.0±1.6**, 25°.03S**±0°.04×**28°.49E**±0°.06**, h11**km±10km**, n92,** σ1^s**61**/105**, mb4.6**/25**, 1D, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPM	east rand prop	1.33	190	*e*P	Pn	19 18 32.1	+0.4
ERPM				*e*S	Sg	19 18 48.1	-1.9
ERPM				AML	AML	19 18 52.6	
	comp=Z,2μm,0.3s						
KSR	Koster	1.66	240	*e*P	Pg	19 18 39.4	+0.5
KSR				*e*S	Sg	19 19 01.2	+0.7
PRYS	Parys	2.15	208	*e*P	Pb	19 18 45.9	-0.1
PRYS				*e*S	Sn	19 19 12.4	+2.7
LBTB	Lobatse	2.62	270	*i* P	Pn	19 18 52.3	+2.9
LBTB	Lobatse	2.62	270	*e*P	Pn	19 18 50.8	+1.4
LBTB				*e*S	Sn	19 19 21.7	+0.3
LBTB				AML	AML	19 19 40.8	
	comp=Z,1μm,0.4s						
LBTB	Lobatse	2.62	270	Pn	Pn	19 18 52.0	+2.6
	comp=Z,15nm,0.3s,baz=80,slow=12,SNR=128						
LBTB				Sn	Sn	19 19 24.1	+2.8
	comp=Z,84nm,0.3s,baz=95,slow=19,SNR=5.7						
LBTB				Lg	Lg	19 19 30.6	
	comp=Z,280nm,0.3s,baz=177,slow=23,SNR=13						
LBTB				LR	LR	19 20 04.7	
	comp=Z,292nm,19.6s,baz=84,slow=44						
LBTB	Lobatse	2.62	270	*i* P	Pn	19 18 52.3	+2.9
LBTB	Lobatse	2.62	270	Lg	Lg	19 19 33.3	
MSNA	Messina	3.02	28	*e*P	Pn	19 18 54.8	+0.1
MSNA				*e*S	Sn	19 19 31.1	+0.2
MSNA				AML	AML	19 19 43.4	
	comp=Z,650nm,0.3s						
BOSA	Boshof	4.60	218	*i* P	Pn	19 19 18.0	+1.5
BOSA				*i* S	Sn	19 20 09.2	-0.7
BOSA	Boshof	4.60	218	*i* P	Pn	19 19 18.1	+1.6
BOSA				*i* S	Sn	19 20 09.0	-1.0
BOSA	Boshof	4.60	218	*e*P	Pn	19 19 17.5	+1.0
BOSA				*e*S	Sn	19 20 09.8	-0.2
BOSA				AML	AML	19 20 34.9	
	comp=Z,492nm,0.5s						
BOSA	Boshof	4.60	218	Pn	Pn	19 19 17.7	+1.1
	comp=Z,3.0nm,0.3s,baz=38,slow=13,SNR=64						
BOSA				Sn	Sn	19 20 08.8	-1.2
	comp=Z,52nm,0.3s,baz=324,slow=17,SNR=6.6						
BOSA				Lg	Lg	19 20 29.7	
	comp=Z,31nm,0.3s,baz=311,slow=20,SNR=4.5						
BOSA	Boshof	4.60	218	*i* P	Pn	19 19 18.1	+1.6
BOSA				*i* S	Sn	19 20 09.0	-1.0
BOSA	Boshof	4.60	218	Lg	Lg	19 20 31.7	
BLWY	Bulawayo	4.86	1	*i* P	Pn	19 19 19.7	-0.6
BLWY				*i* S	Sn	19 20 14.8	-1.8
BLWY	Bulawayo	4.86	1	*i* P	Pn	19 19 19.7	-0.6
BLWY				*i* S	Sn	19 20 14.8	-1.8
HVD	Gariep Dam	6.16	205	*e*P	Pn	19 19 39.8	+1.8
HVD				*e*S	Sn	19 20 47.2	-1.3
HVD				AML	AML	19 21 42.5	
	comp=Z,270nm,0.6s						
AUGR	Augrabies	8.10	242	*e*P	Pn	19 20 07.1	+2.4
AUGR				*e*S	Sn	19 21 32.5	-3.8
AUGR				AML	AML	19 21 50.9	
	comp=Z,66nm,0.8s						
ITZ	Itezhi-Tezhi	9.52	345	*i* P	Pn	19 20 21.2	-2.9
ITZ				*i*		19 20 21.9	
	baz=210,slow=22						
ITZ				*i* S	Sn	19 21 56.7	-15
BUFB	Buffelsbos	9.66	199	*e*P	Pn	19 20 27.5	+1.6
BUFB				*e*S	Sn	19 22 11.1	-3.3
BUFB				AML	AML	19 22 29.2	
	comp=Z,42nm,0.4s						
LSZ	Lusaka	9.70	358	*i* P	Pn	19 20 25.1	-1.6
LSZ	Lusaka	9.70	358	Pn	Pn	19 20 24.5	-2.2
	comp=Z,9.7nm,0.3s,baz=176,slow=12,SNR=88						
LSZ				Sn	Sn	19 22 04.8	-11
	comp=Z,13nm,0.3s,baz=68,slow=19,SNR=10.0						
LSZ				Lg	Lg	19 23 07.8	
	comp=Z,14nm,0.3s,baz=93,slow=19,SNR=5.9						
LSZ				LR	LR	19 23 23.7	
	comp=Z,27nm,20.4s,baz=168,slow=33						
LSZ	Lusaka	9.70	358	*i* P	Pn	19 20 25.1	-1.6
LSZ	Lusaka	9.70	358		Pn	19 20 25.1	-1.6
LSZ				Sn	Sn	19 22 05.7	-10
LSZ				Lg	Lg	19 23 06.1	
SUR	Sutherland	9.95	221	*i* P	Pn	19 20 28.4	-1.8
SUR	Sutherland	9.95	221	Pn	Pn	19 20 31.4	+1.3
	comp=Z,3.0nm,0.3s,baz=54,slow=11,SNR=99						
SUR				Sn	Sn	19 22 16.5	-5.4
	comp=Z,11nm,0.3s,baz=44,slow=18,SNR=8.5						
SUR				Lg	Lg	19 23 17.7	
	comp=Z,16nm,0.3s,baz=331,slow=19,SNR=3.9						
SUR	Sutherland	9.95	221	*i* P	Pn	19 20 28.4	-1.8
SUR	Sutherland	9.95	221		Pn	19 20 31.9	+1.8
SUR				Sn	Sn	19 22 16.9	-5.1
SUR				Lg	Lg	19 23 19.3	
KOMG	Komaggas	10.87	242	*e*P	Pn	19 20 44.9	+2.4
KOMG				*e*S	Sn	19 22 39.4	-4.8
KOMG				AML	AML	19 24 11.2	
	comp=Z,123nm,0.5s						
TSUM	Tsumeb	11.65	298	Pn	Pn	19 20 53.2	-0.2
	comp=Z,2.6nm,0.3s,baz=143,slow=12,SNR=12						
TSUM				Sn	Sn	19 22 55.3	-8.3
	comp=Z,1.5nm,0.3s,baz=241,slow=19,SNR=3.2						
TSUM				Lg	Lg	19 24 06.2	
	comp=Z,2.0nm,0.3s,baz=254,slow=20,SNR=3.8						
TSUM				LR	LR	19 25 27.6	
	comp=Z,238nm,18.6s,baz=128,slow=38						
VWZMW	Thunduwike	14.60	20	*i* P	Pn	19 21 28.7	-4.9
VWZMW				S	Sn	19 24 00.6	-15
MBAR	Mbarara	24.38	5	P	P	19 23 25.5	0.0
	comp=Z,1.6nm,0.2s,baz=158,slow=18,SNR=3.3						
MBAR				Lg	Lg	19 30 35.4	
	comp=Z,3.0nm,0.2s,baz=252,slow=20,SNR=2.8						
MBAR	Mbarara	24.38	5		P	19 23 25.6	0.0
KMBO	Kilima Mbogo	25.22	21	Lg	Lg	19 31 04.5	
	comp=Z,3.3nm,1.1s,baz=255,slow=20,SNR=4.8						
SYO	Syowa Base	44.50	174⇓	*e*P	P	19 26 17.6	-0.4
DBIC	Dimbokro	45.23	310	P	P	19 26 23.7	-0.8
	comp=Z,1.6nm,0.8s,baz=121,slow=9.1,SNR=3.8						
DBIC	Dimbokro	45.23	310	P	P	19 26 24.1	-0.4
DBIC				IAmb	IAmb	19 27 35.0	
	comp=Z,26nm,1.6s						
TOA0	Torodi Ar. Sit	46.07	322	P	P	19 26 30.1	-1.1
TOA0				IAmb	IAmb	19 26 38.3	
	comp=Z,5.7nm,0.7s						
TORD	Torodi Ar. Bea	46.07	322	P	P	19 26 30.4	-0.8
	comp=Z,3.2nm,0.6s,baz=135,slow=7.5,SNR=22						
TORD	Torodi Ar. Bea	46.07	322	P	P	19 26 28.8	-2.4
SNAA	Sanae	49.89	192	P	P	19 27 01.2	+1.1
SNAA	Sanae	49.89	192	P	P	19 27 00.9	+0.7
SNAA				IAmb	IAmb	19 27 02.0	
	comp=Z,6.6nm,1.0s						
VNA2	Neumayer--Watz	50.28	195	P	P	19 27 04.2	+1.1
	baz=22,slow=5.9						
VNA1	Neumayer--Stat	50.29	195	P	P	19 27 04.6	+1.6
VNA3	Neumayer Olymp	51.04	195	P	P	19 27 09.0	+0.3
BRTR	Keskin Array B	64.59	4	P	P	19 28 44.4	0.0
	comp=Z,0.8nm,0.8s,baz=155,slow=6.8,SNR=5.0						
QSPA	South Pole Qui	65.15	180	P	P	19 28 48.2	+0.4
	comp=Z,1.2nm,0.4s,baz=256,slow=8.3,SNR=6.4						
QSPA	South Pole Qui	65.15	180	IAmb	IAmb	19 28 56.5	
	comp=Z,6.3nm,1.2s						
VTS	Vitosha	67.48	356	P	P	19 29 03.1	+0.1
VTS				IAmb	IAmb	19 30 26.1	
	comp=Z,26nm,1.9s						
PMSA	Palmer Station	68.72	207	P	P	19 29 11.0	+0.7
NRCA	Norcia	68.99	348	P	P	19 29 12.9	+0.6
MLR	Muntele Rosu	70.22	358	P	P	19 29 20.9	+1.0
PVAQ	Vaqueiros	70.82	330	P	P	19 29 24.9	+1.2
ESBB	Sonseca Array	71.14	334	P	P	19 29 25.9	+0.4
ESDC	Sonseca Array	71.14	334	P	P	19 29 25.6	+0.1
	comp=Z,2.2nm,0.6s,baz=152,slow=6.3,SNR=18						
ESDC	Sonseca Array	71.14	334	P	P	19 29 25.4	-0.1
PAB	San Pablo	71.18	334	P	P	19 29 26.1	+0.3
PAB				IAmb	IAmb	19 31 42.5	
	comp=Z,24nm,1.8s						
BDFB	Brasilia	71.54	261	P	P	19 29 28.8	+0.2
	comp=Z,1.2nm,0.3s,baz=127,slow=10,SNR=3.7						
BDFB	Brasilia	71.54	261	IAmb	IAmb	19 29 42.3	
	comp=Z,24nm,1.7s						
BURAR	Bucovina Array	72.36	358	P	P	19 29 33.2	+0.4
VNDA	Vanda	74.03	171	P	P	19 29 42.8	+0.5
	comp=Z,2.8nm,1.0s,baz=204,slow=6.4,SNR=3.2						
VNDA				LR	LR	20 01 42.6	
	comp=Z,18nm,18.9s,baz=226,slow=35						
GERES	GERESS Array B	74.72	350	P	P	19 29 46.9	+0.3
	comp=Z,0.7nm,0.7s,baz=189,slow=6.2,SNR=3.7						
AKASG	Malin Array Be	75.39	0	P	P	19 29 49.8	-0.5
	comp=Z,0.9nm,0.5s,baz=179,slow=5.4,SNR=3.4						
KK31	Karatay Array	78.04	30	P	P	19 30 05.6	+0.1
KKAR	Karatay Array	78.04	30	P	P	19 30 05.7	+0.2
KKAR	Karatay Array	78.04	30	P	P	19 30 05.7	+0.2
KKAR				IAmb	IAmb	19 30 06.2	
	comp=Z,3.1nm,0.7s						
ABKAR	Akbulak array	79.09	20	P	P	19 30 09.9	-1.2
ABKAR				IAmb	IAmb	19 30 25.5	
	comp=Z,11nm,2.0s						
ABKAR	Akbulak array	79.09	20	P	P	19 30 09.7	-1.5
TARG	Taragay, Kyrgy	80.58	35	P	P	19 30 19.4	-0.5
TARG				IAmb	IAmb	19 30 28.7	
	comp=Z,12nm,1.8s						
CMAR	Chiang Mai Arr	81.04	65	P	P	19 30 21.4	-1.1
	comp=Z,0.4nm,0.3s,baz=260,slow=6.5,SNR=4.2						
CMAR	Chiang Mai Arr	81.04	65	P	P	19 30 21.9	-0.5
LSA	Lhasa	81.08	51	P	P	19 30 22.2	-0.7
CHTO	Chiang Mai	81.22	65	P	P	19 30 23.2	-0.2
CHTO				IAmb	IAmb	19 32 31.5	
	comp=Z,24nm,2.0s						
ROC1	El Roble	84.15	236	P	P	19 30 40.7	+1.9
ARU	Arti	85.05	16	P	P	19 30 41.9	-0.3
ARU				IAmb	IAmb	19 31 02.3	
	comp=Z,22nm,1.7s						
BRVK	Borovoye	85.82	24	P	P	19 30 46.0	-0.1
BRVK				IAmb	IAmb	19 31 48.8	
	comp=Z,14nm,1.9s						
FINES	FINESS Array B	86.18	359	P	P	19 30 47.7	-0.1
	comp=Z,6.8nm,1.1s,baz=146,slow=4.2,SNR=13						
FINES	FINESS Array B	86.18	359	P	P	19 30 48.0	+0.2
MAKZ	Makanchi	86.27	34	P	P	19 30 47.8	-0.8
MAKZ				IAmb	IAmb	19 31 03.1	
	comp=Z,7.9nm,1.6s						
MK31	Makanchi Array	86.42	34	P	P	19 30 48.7	-0.7
MKAR	Makanchi Array	86.42	34	P	P	19 30 48.9	-0.4
	comp=Z,1.0nm,0.7s,baz=222,slow=3.6,SNR=7.7						
WMQ	Urumqi	87.37	38	*e*P	P	19 30 54.5	+0.4
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,61nm,4.9s						
WMQ				LR	LR		
	comp=N,620nm,28.9s						
WMQ				LR	LR		
	comp=E,2μm,29.1s						
WMQ				LR	LR		
	comp=Z,140nm,29.1s						
ASAR	Alice Springs	93.05	118	P	P	19 31 22.0	+0.7
	comp=Z,0.6nm,1.0s,baz=233,slow=4.9,SNR=5.5						
YKA	Yellowknife Ar	135.19	337	PKP	PKPdf	19 37 25.3	-0.6
	comp=Z,0.5nm,0.5s,baz=41,slow=1.5,SNR=5.1						
ILAR	Eielson Array	140.14	357	PKP	PKPdf	19 37 35.2	+0.1
	comp=Z,0.2nm,0.7s,baz=352,slow=4.6,SNR=3.5						
PDAR	Pinedale Array	141.40	308	PKhKP	PKPpre	19 37 32.7	
	comp=Z,0.2nm,0.5s,baz=38,slow=4.6,SNR=3.2						
PDAR				PKP	PKPdf	19 37 40.4	+2.0
	comp=Z,0.3nm,0.6s,baz=100,slow=5.1,SNR=3.5						
KNB	Kanab	144.98	299		PKPab	19 37 44.1	+0.1
MFID	Camas Ranch	145.60	311		PKPdf	19 37 46.0	+0.5
ELK	Elko	146.02	306		PKPdf	19 37 47.1	+0.6
NVAR	Mina Array Bea	148.93	304	PKPbc	PKPbc	19 37 57.1	+1.7
	comp=Z,2.5nm,0.6s,baz=80,slow=4.2,SNR=9.9						
NVAR	Mina Array Bea	148.93	304		PKPbc	19 37 56.6	+1.2

*NIED **02** 19:21:00, 37°.70N×142°.00E, h11km, Mw3.7 Best double couple: M₀3.67000×10^{14} NP1:φs167.00000°, δ43.00000°, λ-82.00000°. NP2:φs336.00000°, δ48.00000°, λ-97.00000°.*
*IDC **02** 19:21:32.1±0.8, 37°.57N×142°.11E, h0km, mb3.7/7, mb1 3.9/12, mb1mx3.7/43, mbtmp3.8/12, ML3.5/4, MS2.9/1, Ms1 2.9/1, ms1mx2.1/45, Error ellipse: s-maj=23.3km s-min=16.8km az=82.0*
*JMA **02** 19:21:35.0±0.1, 37°.65N×142°.01E, h30km±3km, M3.8*
*NEIC **02** 19:21:36.7±1.6, 37°.60N±0°.06×142°.14E±0°.09, h35km±10km, mb4.5/8*
ISC 02 19:21:32.4±1.6**, 37°.62N**±0°.03×**142°.10E**±0°.05**, h8**km±10km**, n52,** σ1^s**64**/63**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.85	324	P	Pb	19 21 49.6	+0.1
JIKH				S	Sg	19 21 59.4	-0.5
JMST	Minamisoumatoc	0.97	276	P	Pg	19 21 51.2	+0.2
JMST				*e*S	Sg	19 22 02.5	-1.1
JFK	Kawauchi	1.01	256	P	Pb	19 21 52.1	-0.1
JFK				S	Sg	19 22 04.2	-0.7
JIO	Ouri	1.02	325	P	Pb	19 21 52.3	-0.1
JIO				*e*S	Sg	19 22 04.3	-1.0
JMM	Marumori	1.07	284	P	Pg	19 21 52.9	0.0
JMM				S	Sg	19 22 05.3	-1.4
ONAJ	Iwakimizuishiy	1.16	244	P	Pg	19 21 54.3	-0.4
ONAJ				*e*S	Sg	19 22 08.4	-1.4
JKMT	Kesennumamotoy	1.28	338	P	Pn	19 21 56.2	-0.5
JKMT				S	Sb	19 22 11.0	-2.6
JOU	Okura	1.36	304	P	Pn	19 21 57.8	+0.1
JOU				*e*S	Sb	19 22 14.0	-1.7
JFT	Otama	1.41	266	P	Pb	19 21 58.8	-0.2
JFT				*e*S	Sb	19 22 15.6	-1.5
JMK	Ichinoseki	1.50	333	P	Pn	19 21 59.7	+0.1
JYS	Shirataka	1.72	291	P	Pb	19 22 03.8	-0.5
JYS				S	Sn	19 22 24.9	0.0
JYK	Kaneyama	1.88	314	P	Pn	19 22 05.3	+0.3
JFY	Yanaizu	1.92	264	P	Pn	19 22 06.3	+0.8
JFY				*e*S	Sn	19 22 29.2	-0.6
JOM	Ohasama	1.95	341	P	Pn	19 22 06.2	+0.3
JOM				*e*S	Sn	19 22 28.9	-1.8
MJAR	Matsushiro Arr	3.29	252	Pn	Pn	19 22 26.0	+1.6
	0.7nm,0.3s,baz=84,slow=17,SNR=32						
MJAR				Sn	Sn	19 23 05.4	+1.6
	0.4nm,0.3s,baz=78,slow=26,SNR=4.5						
MAJO	Matsushiro	3.30	252		Pn	19 22 26.2	+1.7
MAT	Matsushiro	3.30	252	P	Pn	19 22 26.2	+1.8
MAT				*e*S	Sn	19 23 01.5	-2.3
MJB9	Matsu-Tunnel	3.30	252		Pn	19 22 26.0	+1.6
INU	Inuyama	4.68	243		Pn	19 22 45.3	+1.8
JHJ	Hachijo jima 2	4.88	204	Pn	Pn	19 22 46.9	+0.7
	15nm,0.3s,baz=61,slow=18,SNR=9.3						
JHJ				Sn	Sn	19 23 40.0	-2.8
	12nm,0.3s,baz=36,slow=19,SNR=3.3						
ASAJ	Asahikawa	6.50	3	Pn	Pn	19 23 09.4	+1.0
	0.7nm,0.3s,baz=184,slow=20,SNR=5.7						
ASAJ				Sn	Sn	19 24 19.7	-2.9
	0.1nm,0.3s,baz=54,slow=18,SNR=1.8						
JKA	Kamikawa-asahi	6.50	3		Pn	19 23 09.4	+1.0
JKA					Sn	19 24 19.7	-2.9
USRK	Ussuriysk Ar.	10.08	314	Pn	Pn	19 24 00.5	+3.0
	baz=126,slow=14,SNR=2.4						
USRK	Ussuriysk Ar.	10.08	314		Pn	19 24 00.0	+2.5
JCJ	Chichijima	10.50	180	Pn	Pn	19 24 04.1	+0.8
	1.5nm,0.3s,baz=325,slow=19,SNR=3.4						
JCJ				Sn	Sn	19 25 53.6	-7.5
	2.2nm,0.3s,baz=300,slow=20,SNR=3.8						
KLR	Kul'dur	13.81	330	LR	LR	19 30 03.1	
	comp=Z,48nm,18.1s,baz=141,slow=37						
SONM	Songino Array	27.92	303	P	P	19 27 24.1	+1.0
	0.3nm,0.5s,baz=99,slow=9.2,SNR=3.4						
SONM	Songino Array	27.92	303	P	P	19 27 24.0	+0.8
H11N2	WAKE ISLAND Hy	27.99	123	T	T	19 56 54.4	
	baz=315,slow=75,SNR=96						
H11N1	WAKE ISLAND Hy	28.00	123	T	T	19 56 57.2	
	baz=315,slow=75,SNR=136						
H11N3	WAKE ISLAND Hy	28.01	123	T	T	19 56 56.8	
	baz=315,slow=75,SNR=103						
H11S1	WAKE ISLAND Hy	28.73	125	T	T	19 57 48.6	
	baz=317,slow=76,SNR=105						
H11S3	WAKE ISLAND Hy	28.73	125	T	T	19 57 48.3	
	baz=317,slow=76,SNR=114						
H11S2	WAKE ISLAND Hy	28.75	125	T	T	19 57 51.0	
	baz=317,slow=76,SNR=80						
ZALV	Zalesovo Beam	41.93	312	P	P	19 29 23.6	+0.3
	0.7nm,0.6s,baz=94,slow=7.4,SNR=3.6						
ZALV	Zalesovo Beam	41.93	312	P	P	19 29 24.1	+0.7
MKAR	Makanchi Array	44.27	302	P	P	19 29 43.4	+0.9
	0.6nm,1.0s,baz=84,slow=9.2,SNR=3.7						
WB0	Warramunga Arr	57.54	189	P	P	19 31 22.8	+0.3
WRAB	Tennant Creek	57.71	189	P	P	19 31 24.5	+0.8
WRAB				IAmb	IAmb	19 31 25.1	
	comp=Z,4.2nm,0.9s						
WR0	Warramunga Arr	57.72	188	P	P	19 31 24.1	+0.4
WR0				IAmb	IAmb	19 31 30.3	
	comp=Z,9.2nm,1.4s						
WB2	Warramunga Arr	57.72	189	P	P	19 31 23.5	-0.3
WB2				IAmb	IAmb	19 33 01.9	
	comp=Z,15nm,1.5s						
WRA	Warramunga Arr	57.72	189	P	P	19 31 23.0	-0.8
	comp=Z,2.8nm,0.8s,baz=5.7,slow=7.4,SNR=18						
WRA	Warramunga Arr	57.72	189	P	P	19 31 23.6	-0.2
ABKAR	Akbulak array	57.98	310	P	P	19 31 25.3	-0.1
ABKAR				IAmb	IAmb	19 31 26.3	
	comp=Z,1.5nm,0.8s						
ABKAR	Akbulak array	57.98	310	P	P	19 31 25.7	+0.3
AS31	Alice Springs	61.45	189	P	P	19 31 50.1	+0.7
ASAR	Alice Springs	61.45	189	P	P	19 31 50.4	+0.9
	comp=Z,1.6nm,0.7s,baz=7.5,slow=5.7,SNR=27						
ASAR	Alice Springs	61.45	189	P	P	19 31 50.1	+0.6
PDAR	Pinedale Array	76.86	46	P	P	19 33 27.0	+1.6
	comp=Z,0.3nm,0.6s,baz=278,slow=2.6,SNR=3.0						
PDAR	Pinedale Array	76.86	46	P	P	19 33 26.4	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TXAR	**Lajitas Array**	**89.33**	**53**	P	**P**	**19 34 31.1**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=300,slow=2.9,SNR=3.0						
TXAR	**Lajitas Array**	**89.33**	**53**	P	**P**	**19 34 30.2**	**+0.4**

*ISCJB **02** 19:42:41.7±0.4, 4°.94S±0°.04×129°.54E±0°.07, h200km, mb3.4/1, Error ellipse: s-maj=10.2km s-min=4.9km az=176.4*
*NEIC **02** 19:42:42.2±2.5, 4°.8S±0°.1×129°.7E±0°.1, h210km±28km, mb4.0/7*
*DJA **02** 19:42:42.9±0.5, 5°S±5°×12°9E±°, h203km±5km, M4.2/8, mb4.8/2, mB5.5/1, MLv3.9/8, Mw(mB)5.0/1*
*IDC **02** 19:42:44.1±1.6, 4°.71S×129°.78E, h220km±16km, mb3.2/1, mb1 3.7/5, mb1mx3.1/35, mbtmp4.2/5, Error ellipse: s-maj=34.2km s-min=16.3km az=84.0*
ISC 02 19:42:41.7±0.8**, 4°.95S**±0°.05×**129°.57E**±0°.08**, h200**km**, n26,** σ**2s.59**/33**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.54**	**39**	P	**Pn**	**19 43 12.0**	**+3.1**
BNDI				S	**Sn**	**19 43 33.7**	**+3.6**
MSAI	**Masohi**	**1.71**	**338**	P	**Pn**	**19 43 18.5**	**+1.1**
MSAI				S	**Sn**	**19 43 43.0**	**-2.2**
AAI	**Ambon**	**1.85**	**312**	P	**Pn**	**19 43 19.9**	**+1.2**
FAKI	**Fak Fak**	**3.35**	**53**	P	**Pn**	**19 43 36.8**	**+1.2**
FAKI	**Fak Fak**	**3.35**	**53**		**Pn**	**19 43 36.7**	**+1.2**
SIJI	**Sorong**	**4.39**	**23**	P	**Pn**	**19 43 48.1**	**-0.3**
	16nm,0.3s,baz=180,slow=19,SNR=422						
SIJI				S	**Sn**	**19 44 36.2**	**-4.8**
	6.5nm,0.3s,baz=264,slow=23,SNR=9.9						
SWI	**Sorong**	**4.40**	**23**	P	**Pn**	**19 43 48.1**	**-0.4**
SANI	**Sanana**	**4.59**	**309**	P	**Pn**	**19 43 50.6**	**-0.3**
RKPI	**Ransiki, Papua**	**5.73**	**54**	P	**Pn**	**19 44 07.1**	**+1.6**
SOEI	**Soe**	**7.10**	**227**	Pn	**Pn**	**19 44 27.8**	**+4.4**
BATI	**Baumata**	**7.84**	**228**	P	Pn	19 44 40.7	+7.8
	9.8nm,0.3s,baz=88,slow=2.9,SNR=7.9						
MTN	**Manton Dam**	**8.00**	**169**		**Pn**	**19 44 36.9**	**+2.0**
MTN					**Sn**	**19 46 01.6**	**-3.5**
KNRA	**Kununurra**	**10.69**	**184**	Pn	**Pn**	**19 45 11.1**	**+1.2**
FITZ	**Fitzroy Crossi**	**13.62**	**196**	P	**Pn**	**19 45 48.9**	**+1.9**
	1.0nm,0.3s,baz=32,slow=9.5,SNR=25						
FITZ				S	**S**	**19 48 14.2**	**-4.6**
	0.1nm,0.3s,baz=0.0,slow=20,SNR=2.5						
FITZ	**Fitzroy Crossi**	**13.62**	**196**	P	**Pn**	**19 45 49.0**	**+2.1**
WB0	**Warramunga Arr**	**15.46**	**163**	P	**P**	**19 46 10.8**	**+1.1**
WRAB	**Tennant Creek**	**15.61**	**163**	P	**P**	**19 46 12.2**	**+0.9**
WRAB				IAmb	IAmb	19 46 34.9	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**15.61**	**163**	P	**P**	**19 46 12.5**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=342,slow=11,SNR=40						
WRA				S	**S**	**19 48 58.5**	**-6.2**
	comp=Z,0.2nm,0.3s,baz=343,slow=21,SNR=6.6						
WRA	**Warramunga Arr**	**15.61**	**163**	P	**P**	**19 46 11.9**	**+0.5**
WB2	**Warramunga Arr**	**15.62**	**163**	P	**P**	**19 46 12.1**	**+0.6**
WB2				IAmb	IAmb	19 46 37.2	
	comp=Z,5.6nm,1.1s						
WR0	**Warramunga Arr**	**15.69**	**162**	P	**P**	**19 46 13.3**	**+1.1**
WR0				IAmb	IAmb	19 46 27.2	
	comp=Z,21nm,1.9s						
COEN	**Coen**	**16.12**	**125**	P	**P**	**19 46 18.3**	**+1.2**
AS31	**Alice Springs**	**19.07**	**168**	P	**P**	**19 46 52.6**	**+3.4**
AS31				IAmb	IAmb	19 46 53.1	
	comp=Z,2.5nm,0.5s						
ASAR	**Alice Springs**	**19.07**	**168**	P	**P**	**19 46 52.5**	**+3.3**
	comp=Z,0.8nm,0.3s,baz=350,slow=12,SNR=98						
ASAR				S	**S**	**19 50 14.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=347,slow=19,SNR=10						
ASAR				ScP	**ScP**	**19 54 21.3**	**-0.8**
	baz=354,slow=2.3,SNR=3.0						
ASAR	**Alice Springs**	**19.07**	**168**	P	**P**	**19 46 52.0**	**+2.7**
MKAR	**Makanchi Array**	**66.28**	**327**	P	**P**	**19 53 08.2**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=125,slow=7.9,SNR=6.4						

*IDC **02** 20:09:43.8±1.4, 7°.10S×128°.82E, h0km, mb3.6/3, mb1 3.9/8, mb1mx3.7/35, mbtmp3.8/8, ML3.8/5, MS3.2/6, Ms1 3.2/6, ms1mx2.8/27, Error ellipse: s-maj=43.4km s-min=21.6km az=92.0*
*ISCJB **02** 20:09:45.8±0.5, 7°.13S±0°.04×128°.74E±0°.06, h33km, mb3.6/3, MS3.3/3, Error ellipse: s-maj=8.9km s-min=5.5km az=11.9*
*DJA **02** 20:09:49.8±0.7, 7°S±4°×12°9E±°, h158km±26km, M4.1/7, mb4.2/7, mB4.9/1, MLv4.0/7, Mw(mB)4.2/1*
ISC 02 20:09:48.3±0.8**, 7°.24S**±0°.05×**128°.84E**±0°.09**, h35**km**, n21,** σ**1s.91**/19**, mb3.8**/3**, MS3.3**/3**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.55**	**107**	P	Pn	20 10 39.6	+13
AAI	**Ambon**	**3.58**	**350**	P	**Pn**	**20 10 38.9**	**-2.5**
NLAI	**Namlea**	**4.33**	**336**	P	Pn	20 10 46.5	-5.2
SOEI	**Soe**	**5.17**	**241**	P	**Pn**	**20 11 03.0**	**-0.3**
SANI	**Sanana**	**5.88**	**331**	P	**Pn**	**20 11 10.9**	**-2.1**
BATI	**Baumata**	**5.91**	**240**	Pn	**Pn**	**20 11 14.9**	**+1.5**
	6.9nm,0.3s,baz=84,slow=2.9,SNR=14						
BATI				Sn	**Sn**	**20 12 18.8**	**-1.1**
	6.8nm,0.3s,baz=96,slow=18,SNR=4.9						
BATI	**Baumata**	**5.91**	**240**	P	**Pn**	**20 11 16.2**	**+2.8**
	29nm,0.9s,0.1nm						
BBSI	**Bau Bau**	**6.47**	**285**	P	Pn	20 11 37.3	+16
SIJI	**Sorong**	**6.77**	**21**	Pn	**Pn**	**20 11 23.9**	**-1.3**
	0.7nm,0.3s,baz=222,slow=15,SNR=3.3						
SIJI				Sn	**Sn**	**20 12 40.7**	**-0.4**
	baz=246,slow=19,SNR=2.7						
SWI	**Sorong**	**6.77**	**21**	P	Pn	20 11 32.7	+7.5
BNSI	**Bone**	**9.14**	**287**	P	**Pn**	**20 11 55.2**	**-2.5**
FITZ	**Fitzroy Crossi**	**11.24**	**196**	Pn	**Pn**	**20 12 25.9**	**-0.6**
	0.6nm,0.3s,baz=24,slow=10.0,SNR=10						
FITZ				Sn	**Sn**	**20 14 27.7**	**-3.3**
	0.6nm,0.3s,baz=82,slow=18,SNR=4.3						
FITZ				LR	LR	20 16 53.0	
	comp=Z,66nm,18.6s,baz=18,slow=38						
WRA	**Warramunga Arr**	**13.71**	**158**	Pn	**Pn**	**20 13 01.9**	**+1.6**
	0.4nm,0.3s,baz=339,slow=14,SNR=19						
WRA				Sn	**Sn**	**20 15 30.2**	**-1.2**
	0.9nm,0.3s,baz=324,slow=24,SNR=5.8						
WRA				LR	LR	20 19 05.8	
	comp=Z,57nm,20.5s,baz=130,slow=41						
ASAR	**Alice Springs**	**17.05**	**164**	P	**P**	**20 13 46.0**	**+0.4**
	0.2nm,0.3s,baz=341,slow=11,SNR=14						
ASAR				S	**Sn**	**20 16 52.8**	**+0.2**
	0.2nm,0.3s,baz=348,slow=26,SNR=6.6						
ASAR				LR	LR	20 21 12.3	
	comp=Z,83nm,18.9s,baz=310,slow=40						
STKA	**Stephens Creek**	**27.25**	**156**	LR	LR	20 28 27.2	
	comp=Z,83nm,20.6s,baz=25,slow=41						
NWAO	**Narrogin (SRO)**	**27.75**	**201**	LR	LR	20 25 37.2	
	comp=Z,72nm,21.6s,baz=65,slow=34						
CMAR	**Chiang Mai Arr**	**39.01**	**311**	LR	LR	20 37 18.1	
	comp=Z,41nm,18.2s,baz=185,slow=42						
WHN	**Wuhan**	**40.05**	**340**	P	**P**	**20 17 23.7**	**+3.5**
SONM	**Songino Array**	**58.31**	**342**	P	**P**	**20 19 40.1**	**+0.3**
	0.3nm,0.8s,baz=156,slow=5.4,SNR=2.3						
MKAR	**Makanchi Array**	**67.80**	**327**	P	**P**	**20 20 42.4**	**-0.3**
	0.5nm,0.6s,baz=122,slow=7.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**71.29**	**334**	P	**P**	**20 21 03.5**	**-0.5**
	0.4nm,0.3s,baz=122,slow=5.4,SNR=4.5						

*IDC **02** 20:38:00.3±0.9, 15°.17S×173°.32W, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.0/36, mbtmp4.1/8, MS3.3/5, Ms1 3.2/5, ms1mx2.9/41, Error ellipse: s-maj=45.8km s-min=16.9km az=139.0*
*NEIC **02** 20:38:01.7±1.0, 15°.25S±0°.08×173°.3W±0°.1, h10km±4km, mb4.6/38*
*ISCJB **02** 20:38:03.2±0.4, 15°.09S±0°.10×173°.4W±0°.1, h29km, mb4.0/8, MS3.2/5, Error ellipse: s-maj=18.4km s-min=8.8km az=44.2*
ISC 02 20:38:04.4±0.6**, 15°.23S**±0°.08×**173°.1W**±0°.1**, h29**km**, n59,** σ**1s.25**/55**, mb4.6**/26**, MS3.2**/5**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.84**	**45**	Pn	**Pn**	**20 38 34.0**	**-0.2**
	219nm,0.3s,baz=237,slow=17,SNR=105						
AFI				Sn	**Sn**	**20 38 53.0**	**-3.6**
	626nm,0.3s,baz=180,slow=20,SNR=13						
NIUE	**Niue**	**4.89**	**142**		**Pn**	**20 39 14.6**	**-1.5**
KNTN	**Kanton**	**12.45**	**6**	Pn	**Pn**	**20 40 59.6**	**-0.2**
DZM	**Mont Dzumac**	**20.52**	**248**	LR	LR	20 49 20.6	
	comp=Z,125nm,21.1s,baz=36,slow=33						
URZ	**Urewera**	**24.51**	**199**	P	**P**	**20 43 22.0**	**+0.6**
	8.5nm,0.4s,baz=11,slow=2.8,SNR=7.2						
URZ				LR	LR	20 51 41.3	
	comp=Z,60nm,18.0s,baz=350,slow=34						
URZ	**Urewera**	**24.51**	**199**	P	**P**	**20 43 20.8**	**-0.6**
H11S2	**WAKE ISLAND Hy**	**38.96**	**329**	T	T	21 26 03.0	
	baz=146,slow=74						
H11S3	**WAKE ISLAND Hy**	**38.97**	**329**	T	T	21 26 04.2	
	baz=146,slow=74						
H11S1	**WAKE ISLAND Hy**	**38.98**	**329**	T	T	21 26 03.9	
	baz=146						
STKA	**Stephens Creek**	**44.36**	**240**	P	**P**	**20 46 11.0**	**-1.4**
	0.8nm,0.4s,baz=88,slow=12,SNR=4.7						
STKA				LR	LR	21 05 14.6	
	comp=Z,37nm,18.3s,baz=26,slow=37						
WRA	**Warramunga Arr**	**50.15**	**257**	P	**P**	**20 46 56.2**	**-1.6**
	0.3nm,0.4s,baz=91,slow=6.7,SNR=17						
AS31	**Alice Springs**	**50.42**	**252**	P	**P**	**20 46 58.2**	**-1.6**
ASAR	**Alice Springs**	**50.43**	**252**	P	**P**	**20 46 58.0**	**-1.8**
	1.9nm,0.5s,baz=88,slow=7.9,SNR=47						
VNDA	**Vanda**	**63.58**	**186**	LR	LR	21 13 33.1	
	comp=Z,9.2nm,19.3s,baz=318,slow=34						
KDAK	**Kodiak Island**	**74.70**	**11**	P	**P**	**20 49 42.3**	**+1.3**
	3.3nm,0.6s,baz=237,slow=8.4,SNR=4.2						
QSPA	**South Pole Qui**	**74.82**	**180**	P	**P**	**20 49 43.3**	**+1.3**
QSPA				IAmb	IAmb	20 49 43.6	
	comp=Z,8.1nm,1.2s						
TUC	**Tucson**	**76.07**	**51**	P	**P**	**20 49 48.1**	**-1.5**
X16A	**Lo Mia Camp, P**	**76.60**	**48**	P	**P**	**20 49 53.9**	**+1.2**
X16A				IAmb	IAmb	20 49 55.2	
	comp=Z,3.9nm,0.9s						
MTPU	**Mount Pierson**	**77.87**	**45**	P	**P**	**20 49 59.7**	**-0.3**
TMUT	**Trail Mountain**	**79.16**	**44**	P	**P**	**20 50 07.6**	**+0.5**
PLID	**Pearl Lake**	**79.22**	**37**	P	**P**	**20 50 07.8**	**+0.6**
PLID				IAmb	IAmb	20 50 12.8	
	comp=Z,7.7nm,1.4s						
BNM	**Barren Site**	**80.01**	**51**	P	**P**	**20 50 12.8**	**+1.1**
PV19	**Morning Glory**	**80.20**	**46**	P	**P**	**20 50 14.1**	**+1.5**
PV19				IAmb	IAmb	20 52 58.3	
	comp=Z,13nm,1.5s						
PV14	**Lion Creek, Pa**	**80.20**	**46**	P	**P**	**20 50 13.3**	**+0.7**
PV14				IAmb	IAmb	20 50 14.8	
	comp=Z,5.2nm,0.8s						
PV17	**East Wray Mesa**	**80.20**	**46**	P	**P**	**20 50 13.9**	**+1.2**
PV17				IAmb	IAmb	20 50 15.3	
	comp=Z,12nm,1.4s						
PV20	**West Nyswonger**	**80.23**	**46**	P	**P**	**20 50 12.6**	**-0.2**
PV20				IAmb	IAmb	20 50 15.8	
	comp=Z,6.9nm,0.9s						
PV13	**Radium Mtn., P**	**80.24**	**46**	P	**P**	**20 50 14.0**	**+1.1**
PV13				IAmb	IAmb	20 50 15.4	
	comp=Z,14nm,1.6s						
PV16	**Nyswonger Mesa**	**80.25**	**46**	P	**P**	**20 50 12.6**	**-0.3**
PV16				IAmb	IAmb	20 50 14.5	
	comp=Z,5.9nm,1.1s						
PV23	**Carpenter Ridg**	**80.25**	**46**	P	**P**	**20 50 13.8**	**+0.9**
PV23				IAmb	IAmb	20 50 15.2	
	comp=Z,8.4nm,0.8s						
PV03	**Paradox Valley**	**80.27**	**46**	P	**P**	**20 50 12.2**	**-0.8**
PV11	**David Mesa, Pa**	**80.27**	**46**	P	**P**	**20 50 10.9**	**-2.1**
PV11				IAmb	IAmb	20 50 11.5	
	comp=Z,5.6nm,0.8s						
TXAR	**Lajitas Array**	**80.29**	**56**	P	**P**	**20 50 14.1**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=212,slow=4.4,SNR=5.5						
PV04	**Paradox Valley**	**80.29**	**46**	P	**P**	**20 50 14.2**	**+1.1**
PV04				IAmb	IAmb	20 50 15.3	
	comp=Z,4.1nm,0.7s						
PV21	**Cone Mtn., Par**	**80.32**	**46**	P	**P**	**20 50 13.9**	**+0.6**
PV21				IAmb	IAmb	20 50 15.7	
	comp=Z,5.1nm,0.7s						
PV12	**Saucer Basin,**	**80.33**	**46**	P	**P**	**20 50 14.7**	**+1.4**
PV12				IAmb	IAmb	20 50 15.1	
	comp=Z,5.6nm,0.8s						
PV01	**Paradox Valley**	**80.41**	**46**	P	**P**	**20 50 15.0**	**+1.2**
PV01				IAmb	IAmb	20 50 15.7	
	comp=Z,4.1nm,0.8s						
ANMO	**Albuquerque**	**80.48**	**50**	P	**P**	**20 50 15.2**	**+1.1**
S22A	**4UR Ranch, Cre**	**81.45**	**47**	P	**P**	**20 50 20.3**	**+0.8**
S22A				IAmb	IAmb	20 50 22.0	
	comp=Z,6.0nm,1.0s						
FXWY	**Fox Creek**	**81.45**	**40**	P	**P**	**20 50 20.1**	**+0.8**
FLWY	**Flagg Ranch**	**81.88**	**40**	P	**P**	**20 50 23.5**	**+2.0**
HDA	**Harding Lake**	**81.88**	**11**	P	**P**	**20 50 20.5**	**-0.2**
CCB	**Clear Creek Bu**	**81.94**	**11**	P	**P**	**20 50 21.5**	**+0.5**
CCB				IAmb	IAmb	20 50 43.7	
	comp=Z,8.0nm,1.4s						
BW06	**Boulder Array**	**81.95**	**42**	P	**P**	**20 50 22.7**	**+0.8**
PD31	**Pinedale Array**	**81.95**	**42**	P	**P**	**20 50 22.3**	**+0.4**
PDAR	**Pinedale Array**	**81.95**	**42**	P	**P**	**20 50 22.6**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=204,slow=2.0,SNR=5.9						
PDAR				LR	LR	21 18 59.9	
	comp=Z,20nm,21.7s,baz=284,slow=30						
YHL	**Hebgen Lake**	**81.97**	**39**	P	**P**	**20 50 23.6**	**+1.6**
YMR	**Madison River**	**82.02**	**40**	P	**P**	**20 50 20.7**	**-1.5**
BOZ	**Bozeman (W)**	**82.09**	**39**	P	**P**	**20 50 23.5**	**+1.1**
ILAR	**Eielson Array**	**82.22**	**11**	P	**P**	**20 50 22.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=224,slow=6.0,SNR=6.3						
SDCO	**Great Sand Dun**	**82.39**	**48**	P	**P**	**20 50 25.4**	**+1.0**
ISCO	**Idaho Springs**	**83.21**	**46**	P	**P**	**20 50 29.6**	**+1.0**
RLMT	**Red Lodge**	**83.29**	**40**	P	**P**	**20 50 29.4**	**+0.7**
RLMT				IAmb	IAmb	20 50 31.1	
	comp=Z,4.6nm,1.0s						
GCMT	**Greycliff**	**83.37**	**39**	P	**P**	**20 50 30.7**	**+1.6**
EGAK	**Eagle**	**83.39**	**13**	P	**P**	**20 50 29.5**	**+1.0**
AMTX	**Amarillo**	**84.03**	**52**	P	**P**	**20 50 33.4**	**+0.8**
ABTX	**Abilene, Hawle**	**84.74**	**54**	P	**P**	**20 50 37.1**	**+0.9**
GO09	**Cerro Castillo**	**84.85**	**142**	P	**P**	**20 50 38.3**	**+1.9**
WMOK	**Wichita Mounta**	**86.18**	**53**	P	**P**	**20 50 45.0**	**+1.6**
BRTR	**Keskin Array B**	**146.20**	**321**	PKPbc	**PKPab**	**20 57 43.4**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=48,slow=1.0,SNR=6.0						

*ISCJB **02** 20:42:34.6±1.0, 8°.53S±0°.08×76°.5W±0°.1, h150km, mb3.5/1, Error ellipse: s-maj=16.3km s-min=8.7km az=149.4*
*IDC **02** 20:42:35.3±2.1, 8°.41S×76°.36W, h139km±29km, mb3.6/1, mb1 3.5/4, mb1mx3.2/33, mbtmp4.0/4, MS2.6/1, Ms1 2.6/1, ms1mx2.1/24, Error ellipse: s-maj=54.1km s-min=27.0km az=60.0*
ISC 02 20:42:35.4±1.1**, 8°.52S**±0°.09×**76°.6W**±0°.1**, h150**km**, n7,** σ**0s.67**/8**, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.29**	**307**	P	**Pn**	**20 43 15.1**	**+0.7**
	12nm,0.3s,baz=80,slow=3.0,SNR=77						
ATAH				S	**Sn**	**20 43 43.7**	**-0.6**
	16nm,0.3s,baz=100,slow=19,SNR=8.7						
NNA	**Nana**	**3.46**	**185**	P	**Pn**	**20 43 29.3**	**+0.6**
	20nm,0.3s,baz=359,slow=12,SNR=28						
NNA				S	**Sn**	**20 44 09.4**	**-0.7**
	127nm,0.3s,baz=299,slow=19,SNR=40						
SIV	**San Ignacio**	**16.84**	**118**	P	**Pn**	**20 46 22.9**	**+0.4**
	0.4nm,0.3s,baz=303,slow=12,SNR=7.1						
SJG	**San Juan**	**28.39**	**21**	LR	LR	21 00 51.7	
	comp=Z,9.9nm,18.5s,baz=248,slow=39						
TORD	**Torodi Ar. Bea**	**80.62**	**75**	P	**P**	**20 54 31.6**	**-0.5**
	0.8nm,0.7s,baz=263,slow=5.4,SNR=5.5						
ASAR	**Alice Springs**	**136.30**	**222**	PKP	**PKiKP**	**21 01 42.0**	**+0.2**
	0.3nm,0.5s,baz=124,slow=1.7,SNR=4.8						
WRA	**Warramunga Arr**	**138.47**	**227**	PKP	**PKiKP**	**21 01 46.0**	**-0.3**
	0.3nm,0.4s,baz=120,slow=2.0,SNR=8.5						

*ISCJB **02** 21:01:58.0±0.4, 11°.86N±0°.07×141°.32E±0°.07, h51km, mb3.9/9, MS3.2/8, Error ellipse: s-maj=11.8km s-min=6.8km az=136.2*
*NEIC **02** 21:02:01.0±2.8, 11°.8N±0°.1×141°.3E±0°.1, h63km±6km, mb4.3/8*
*IDC **02** 21:02:01.8±2.6, 11°.84N×141°.47E, h66km±26km, mb3.6/8, mb1 3.8/9, mb1mx3.5/44, mbtmp3.9/9, MS3.2/10, Ms1 3.2/10, ms1mx2.9/35, Error ellipse: s-maj=22.9km s-min=13.5km az=112.0*
ISC 02 21:01:59.8±0.6**, 11°.87N**±0°.08×**141°.33E**±0°.08**, h51**km**, n27,** σ**1s.25**/26**, mb4.2**/12**, MS3.1**/8**, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.86**	**63**	P	**Pn**	**21 02 57.0**	**+0.4**
	34nm,0.3s,baz=195,slow=9.4,SNR=13						
GUMO				S	**Sn**	**21 03 40.8**	**+0.1**
	8.6nm,0.3s,baz=156,slow=20,SNR=2.4						
GUMO				LR	LR	21 04 33.1	
	comp=Z,226nm,19.7s,baz=222,slow=40						
GUMO	**Guam**	**3.86**	**63**		**Pn**	**21 02 57.8**	**+1.1**
GUMO					**Sn**	**21 03 39.0**	**-1.8**
ANA2	**Anatahan**	**6.16**	**43**	Pn	**Pn**	**21 03 30.8**	**+2.6**
JAY	**Jayapura**	**14.30**	**183**	P	**Pn**	**21 05 21.2**	**+1.7**
	0.9nm,0.3s,baz=21,slow=8.6,SNR=4.2						
JCJ	**Chichijima**	**15.17**	**3**	LR	LR	21 09 39.7	
	comp=Z,52nm,18.7s,baz=314,slow=30						
FAKI	**Fak Fak**	**17.24**	**212**	Pn	**Pn**	**21 05 55.7**	**-1.4**
LUWI	**Luwuk**	**22.45**	**236**	P	**P**	**21 06 55.3**	**+0.5**
BATI	**Baumata**	**28.09**	**219**	LR	LR	21 18 30.0	
	comp=Z,178nm,18.9s,baz=258,slow=35						
KSRS	**Korea Array**	**28.18**	**337**	LR	LR	21 19 26.7	
	comp=Z,32nm,18.2s,baz=174,slow=37						
SBUM	**Sibu**	**30.32**	**254**	P	**P**	**21 08 06.7**	**-0.1**
SBUM				IAmb	IAmb	21 08 08.3	
	comp=Z,12nm,1.5s						
WRAB	**Tennant Creek**	**32.34**	**192**	P	**P**	**21 08 24.4**	**0.0**
WRAB				IAmb	IAmb	21 08 25.7	
	comp=Z,5.3nm,1.1s						
WRAB				PP	**PP**	**21 09 36.7**	**-1.7**
WRA	**Warramunga Arr**	**32.35**	**192**	P	**P**	**21 08 24.5**	**0.0**
	comp=Z,2.2nm,0.5s,baz=13,slow=9.6,SNR=56						
WRA				PcP	**PcP**	**21 11 12.1**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=6.4,slow=2.6,SNR=4.7						
WRA				LR	LR	21 21 20.2	
	comp=Z,49nm,20.3s,baz=5.0,slow=36						
FITZ	**Fitzroy Crossi**	**33.56**	**208**	P	**P**	**21 08 35.0**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=30,slow=9.2,SNR=3.8						
FITZ				LR	LR	21 23 37.6	
	comp=Z,32nm,18.2s,baz=1.5,slow=39						
FITZ	**Fitzroy Crossi**	**33.56**	**208**	IAmb	IAmb	21 08 36.1	
	comp=Z,3.8nm,0.9s						
ENH	**Enshi**	**34.72**	**307**	P	**P**	**21 08 44.7**	**-0.5**
ENH				IAmb	IAmb	21 08 47.5	
	comp=Z,6.8nm,1.3s						
ASAR	**Alice Springs**	**36.05**	**192**	P	**P**	**21 08 56.9**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=22,slow=12,SNR=20						
ASAR				PcP	**PcP**	**21 11 22.7**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=15,slow=3.8,SNR=3.5						
ASAR				LR	LR	21 23 12.4	
	comp=Z,30nm,20.7s,baz=44,slow=35						
KLR	**Kul'dur**	**38.09**	**350**	P	**P**	**21 09 14.4**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=146,slow=15,SNR=8.2						
MYKOM	**Kota Tinggi**	**38.48**	**258**	P	**P**	**21 09 16.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**41.36**	**284**	P	**P**	**21 09 42.9**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=81,slow=7.4,SNR=4.3						
CMAR				LR	LR	21 24 37.5	
	comp=Z,8.6nm,21.8s,baz=290,slow=33						
STKA	**Stephens Creek**	**43.49**	**180**	LR	LR	21 28 36.7	
	comp=Z,40nm,18.2s,baz=26,slow=37						
SONM	**Songino Array**	**46.24**	**328**	P	**P**	**21 10 21.7**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=139,slow=8.2,SNR=3.6						
KURK	**Kurchatov**	**63.70**	**321**	P	**P**	**21 12 25.1**	**-0.9**
KDAK	**Kodiak Island**	**67.35**	**32**	LR	LR	21 37 36.2	
	comp=Z,24nm,21.6s,baz=260,slow=32						
ILAR	**Eielson Array**	**71.60**	**25**	P	**P**	**21 13 13.9**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=245,slow=5.8,SNR=5.3						
YKA	**Yellowknife Ar**	**85.96**	**27**	P	**P**	**21 14 33.4**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=290,slow=5.2,SNR=3.3						
FINES	**FINESS Array B**	**91.23**	**334**	P	**P**	**21 14 57.4**	**-2.0**
	comp=Z,2.9nm,1.0s,baz=79,slow=4.8,SNR=8.5						
LPAZ	**La Paz**	**151.11**	**102**	PKPbc	**PKiKP**	**21 21 49.6**	**0.0**
	comp=Z,0.8nm,0.3s,baz=205,slow=3.4,SNR=8.0						

*ISCJB **02** 21:10:35.7±0.8, 46°.9N±0°.1×152°.4E±0°.1, h100km, mb3.8/8, Error ellipse: s-maj=19.2km s-min=7.5km az=135.1*
*NEIC **02** 21:10:37.0±2.2, 46°.9N±0°.1×152°.4E±0°.2, h94km±9km, mb4.2/6*
*IDC **02** 21:10:41.2±2.6, 47°.07N×152°.43E, h129km±22km, mb3.5/9, mb1 3.6/13, mb1mx3.3/49, mbtmp3.9/13, Error ellipse: s-maj=24.7km s-min=17.1km az=127.0*
ISC 02 21:10:37.2±0.9**, 46°.9N**±0°.1×**152°.3E**±0°.1**, h100**km**, n30,** σ**1s.38**/23**, mb3.8**/11**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PEA0B	**Petropavlovsk-**	**7.14**	**27**	Pn	**Pn**	**21 12 19.7**	**+0.8**
PETK	**Petropavlovsk-**	**7.14**	**27**	P	**Pn**	**21 12 19.7**	**+0.8**
	0.2nm,0.3s,baz=211,slow=14,SNR=4.6						
PETK				S	**Sn**	**21 13 39.5**	**+1.1**
	0.1nm,0.3s,baz=204,slow=23,SNR=2.6						
JKA	**Kamikawa-asahi**	**7.34**	**251**		Pn	21 12 27.5	+5.9
ASAJ	**Asahikawa**	**7.34**	**251**	P	Pn	21 12 27.5	+5.8
	0.3nm,0.3s,baz=68,slow=19,SNR=2.7						
ERM	**Erimo**	**8.14**	**237**	Pn	**Pn**	**21 12 33.7**	**+1.3**
ERM				Sn	**Sn**	**21 14 00.0**	**-2.7**
USA0B	**Ussuriysk Arra**	**14.46**	**267**	Pn	**Pn**	**21 13 55.8**	**-1.1**
USRK	**Ussuriysk Ar.**	**14.46**	**267**	P	**P**	**21 14 01.1**	**+0.3**
	baz=72,slow=14,SNR=4.5						
SEY	**Seymchan**	**16.08**	**0**	P	**P**	**21 14 18.8**	**+0.2**
	0.5nm,0.3s,baz=173,slow=12,SNR=7.5						
KSRS	**Korea Array**	**20.29**	**251**	P	Pn	21 15 09.7	+2.0
	1.2nm,0.8s,baz=58,slow=10.0,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**29.61**	**151**	T	T	21 48 15.6	
	baz=340,slow=76,SNR=45						
H11N1	**WAKE ISLAND Hy**	**29.63**	**151**	T	T	21 48 24.1	
	baz=340,slow=76,SNR=8.3						
H11N3	**WAKE ISLAND Hy**	**29.63**	**151**	T	T	21 48 22.3	
	baz=340,slow=76,SNR=6.2						
H11S1	**WAKE ISLAND Hy**	**30.69**	**152**	T	T	21 49 34.5	
	baz=342,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.70**	**152**	T	T	21 49 28.8	
	baz=342						
H11S2	**WAKE ISLAND Hy**	**30.71**	**152**	T	T	21 49 25.0	
	baz=342,slow=76						
SEW	**Seward**	**35.86**	**47**	P	**P**	**21 17 23.9**	**-2.9**
EYAK	**Cordova Ski Ar**	**37.64**	**46**	P	**P**	**21 17 39.0**	**-3.0**
ZALV	**Zalesovo Beam**	**42.06**	**305**	P	**P**	**21 18 18.9**	**+0.2**
	0.6nm,0.4s,baz=79,slow=7.5,SNR=3.6						
MK31	**Makanchi Array**	**46.36**	**297**	P	**P**	**21 18 53.6**	**+0.5**
MK31				IAmb	IAmb	21 18 55.2	
	comp=Z,1.8nm,1.1s						
MKAR	**Makanchi Array**	**46.36**	**297**	P	**P**	**21 18 54.0**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=63,slow=7.2,SNR=10						
MAKZ	**Makanchi**	**46.55**	**297**	P	**P**	**21 18 55.5**	**+0.9**
KURK	**Kurchatov**	**46.80**	**303**	P	**P**	**21 18 57.0**	**+0.5**
KURK				IAmb	IAmb	21 18 57.6	
	comp=Z,2.4nm,0.7s						
ARCES	**ARCESS Array B**	**57.53**	**340**	P	**P**	**21 20 15.4**	**-0.2**
	comp=Z,6.6nm,1.1s,baz=46,slow=7.7,SNR=2.4						
CHGR	**Chuyangaron**	**58.86**	**295**	P	**P**	**21 20 26.5**	**+1.1**
CHGR				IAmb	IAmb	21 20 28.5	
	comp=Z,5.4nm,0.8s						
FINES	**FINESS Array B**	**63.67**	**334**	P	**P**	**21 20 56.9**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=23,slow=7.5,SNR=7.5						
NOA	**NORSAR Array B**	**67.91**	**341**	P	**P**	**21 21 25.4**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=29,slow=6.6,SNR=5.4						
AKASG	**Malin Array Be**	**71.11**	**326**	P	**P**	**21 21 44.6**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=31,slow=5.4,SNR=4.7						
ASAR	**Alice Springs**	**72.16**	**198**	P	**P**	**21 21 52.8**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=17,slow=6.8,SNR=4.6						
CLL	**Collm**	**76.10**	**335**	*e*P	**P**	**21 22 13.0**	**-0.6**
TXAR	**Lajitas Array**	**77.93**	**60**	P	**P**	**21 22 24.2**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=288,slow=6.1,SNR=5.3						

*ISCJB **02** 21:14:07.9±0.8, 31°.33S±0°.07×139°.18E±0°.05, h10km, Error ellipse: s-maj=9.7km s-min=6.4km az=14.3*
*AUST **02** 21:14:10.4±1.1, 31°.56S×139°.21E, h10km, Error ellipse: s-maj=22.6km s-min=3.7km az=167.0*
*IDC **02** 21:14:13.8±3.1, 31°.24S×139°.62E, h0km, mb1 3.0/2, mb1mx3.0/34, mbtmp2.7/2, ML2.8/2, Error ellipse: s-maj=64.3km s-min=16.0km az=34.0*
ISC 02 21:14:10.6±1.0**, 31°.49S**±0°.09×**139°.25E**±0°.05**, h10**km**, n6,** σ**2s.78**/12**, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.04**	**102**	P	**Pn**	**21 14 45.5**	**+0.6**
	baz=2.1						
STKA				S	**Sn**	**21 15 11.0**	**+0.5**
	baz=2.1						
STKA	**Stephens Creek**	**2.04**	**102**	Pn	**Pn**	**21 14 45.6**	**+0.6**
	3.1nm,0.3s,baz=289,slow=16,SNR=36						
STKA				Pg	**Pb**	**21 14 47.3**	**-0.4**
	3.1nm,0.3s,baz=285,slow=17,SNR=35						
STKA				Lg	Lg	21 15 10.9	
	4.7nm,0.3s,baz=356,slow=22,SNR=11						
BBOO	**Buckleboo**	**3.01**	**243**	P	**Pn**	**21 14 58.0**	**-0.3**
	baz=2.9						
BBOO				S	**Sn**	**21 15 32.7**	**-1.8**
	baz=2.9						
CMSA	**Cobar Meteorol**	**5.50**	**92**	P	**Pn**	**21 15 32.4**	**-0.2**
	baz=5.5						
CMSA				S	**Sn**	**21 16 32.6**	**-3.4**

	baz=5.5						
ASAR	Alice Springs	9.12	327	Pn	Pn	21 16 26.8	+4.6
	0.1nm,0.3s,baz=151,slow=11,SNR=3.3						
ASAR				Sn	Sn	21 18 03.0	-2.0
	0.1nm,0.3s,baz=148,slow=22,SNR=2.8						
WRA	Warramunga Arr	12.31	338	Pn	Pn	21 17 08.7	+2.6
	0.1nm,0.3s,baz=152,slow=13,SNR=4.7						
WRA				Sn	Sn	21 19 18.7	-4.7
	0.0nm,0.3s,baz=160,slow=25,SNR=2.9						

*MEX **02** 21:16:11.5±0.5, 14.̊77N×92.̊40W, h100km±7km, MD3.9*
*ISCJB **02** 21:16:12.4±1.1, 14.̊87N±0.̊10×92.̊52W±0.̊08, h86km±10km, Error ellipse: s-maj=19.5km s-min=6.2km az=36.8*
*GCG **02** 21:16:12.9±0.7, 15.̊19N×92.̊36W, h27km±6km, MD3.7*
ISC 02 21:16:14.0±1.7**, 14.̊92N**±0.̊10×**92.̊46W**±0.̊08**, h75**km±12km**, n9,** σ1§**18**/15**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		0.19	93	eP	Pn	21 16 24.0	-1.1
THIG				iS	Sn	21 16 34.7	+1.3
STG3	Santiaguito 3,	0.89	103	eP	Pn	21 16 30.0	-1.6
ERG	Entre ros, C	0.99	119	eP	Pn	21 16 31.9	-0.7
PCIG		1.07	317	eP	Pn	21 16 33.1	-0.5
PCIG				iS	Sn	21 16 50.1	+1.8
CCIG	Comitan	1.39	13	eP	Pn	21 16 37.4	-0.5
CCIG				iS	Sn	21 16 56.5	+0.6
FUG	Fuego 3	1.64	106	eP	Pn	21 16 40.7	-0.4
FUG				eS	Sn	21 17 01.7	0.0
TGIG		1.96	341	iP	Pn	21 16 43.9	-1.3
IXG	Ixpaco	2.10	110	eP	Pn	21 16 47.0	-0.2
IXG				eS	Sn	21 17 14.3	+1.8
CMIG	Matias Romero	3.17	313	eP	Pn	21 17 01.3	-0.3
CMIG				iS	Sn	21 17 38.3	-0.1

IDC 02 21:20:33.3±514.0**, 38.̊06N×16.̊60E, h0**km**, Error ellipse: s-maj=215.1km s-min=139.7km az=21.0, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I48TN	KESRA INFRASON	6.25	251	i		21 59 55.0	
	baz=67,slow=322,SNR=2.0						
I26DE	FREYUNG INFRAS	10.99	350	i		23 00 10.0	
	baz=167,slow=311,SNR=0.8						
I43RU	DUBNA INFRASON	23.15	30	i		00 07 20.0	
	baz=226,slow=334,SNR=1.1						
I19DJ	I19DJ	35.57	131	i		00 58 00.0	
	baz=324,slow=316,SNR=0.9						

*NIED **02** 21:26:00, 36.̊30N×140.̊40E, h65km, Mw4.2 Best double couple: $M_0$2.10000×10^15 NP1:ϕ_s50.00000°, δ26.00000°, λ134.00000°. NP2:ϕ_s183.00000°, δ71.00000°, λ71.00000°.*
*BJI **02** 21:26:37.4±0.0, 36.̊20N×140.̊46E, h79km, mb4.7/50, mB4.8/31, Ms4.3/9, Ms7 4.1/4*
*ISCJB **02** 21:26:38.3±0.3, 36.̊24N±0.̊03×140.̊47E±0.̊04, h76km±2km, mb4.4/47, Error ellipse: s-maj=5.2km s-min=4.0km az=28.7*
*NEIC **02** 21:26:39.6±2.2, 36.̊24N±0.̊06×140.̊43E±0.̊08, h72km±7km, mb4.7/36*
*JMA **02** 21:26:39.7±0.1, 36.̊26N×140.̊43E, h63km±1km, M4.1 Broadband fault plane solution: P waves. NP1: ϕ_s178.00000°, δ71.00000°, λ80.00000°. NP2:ϕ_s27.00000°, δ22.00000°, λ117.00000°. Principal axes: T Plg63.0000°, Azm72.0000°; N Plg10.0000°, Azm181.0000°; P Plg25.0000°, Azm276.0000°;*
JMA Felt III J1.
*MOS **02** 21:26:40.2±0.8, 36.̊60N×140.̊31E, h76km, mb4.7/11 Error ellipse: s-maj=9.4km s-min=6.3km az=100.1*
*IDC **02** 21:26:40.7±1.6, 36.̊19N×140.̊37E, h81km±15km, mb4.0/22, mb1 4.1/26, mb1mx4.0/44, mbtmp4.3/26, MS2.9/6, Ms1 3.0/6, ms1mx2.7/38, Error ellipse: s-maj=14.2km s-min=13.2km az=115.0*
ISC 02 21:26:39.2±0.6**, 36.̊26N**±0.̊04×**140.̊45E**±0.̊04**, h69**km±5km**, n168,** σ1§**52**/182**, mb4.5**/57**, 15C-4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.14	54	⇑P	Pn	21 26 49.3	-0.1
JHYU				S	Sn	21 26 56.3	-0.6
JYT	Yasato	0.20	262	⇑P	Pn	21 26 49.5	-0.2
JYT				S	Sn	21 26 56.8	-0.5
JIHU	Itakohorinouch	0.30	167	⇑P	Pn	21 26 50.7	+0.5
JIHU				S	Sn	21 26 59.4	+1.1
JHO	Hitachi	0.37	16	⇑P	Pn	21 26 50.8	0.0
JHO				S	Sn	21 26 58.9	-0.3
JSMT	Sammumatsuo	0.61	180	P	Pn	21 26 53.7	+0.6
JSMT				S	Sn	21 27 04.8	+1.6
JAG	Ashikaga	0.82	282	⇑P	Pn	21 26 55.6	+0.2
JKT	Katashina	1.09	298	⇑P	Pn	21 26 59.6	+0.7
JFK	Kawauchi	1.16	17	P	Pn	21 26 59.7	0.0
JFK				S	Sn	21 27 15.0	-0.1
JFT	Otama	1.26	356	P	Pn	21 27 01.7	+0.7
JFT				S	Sn	21 27 18.2	+0.8
JRY	Ryogami san	1.27	260	⇑P	Pn	21 27 01.7	+0.5
JRY				S	Sn	21 27 17.6	0.0
JFY	Yanaizu	1.29	333	⇓P	Pn	21 27 02.3	+0.9
JFY				S	Sn	21 27 19.6	+1.5
BSO3	Boso 3	1.45	178	P	Pn	21 27 03.5	+0.2
JOD2	Odawara 2	1.48	228	⇓P	Pn	21 27 04.3	+0.4
JOD2				eS	Sn	21 27 22.8	+0.2
MJAR	Matsushiro Arr	1.83	280	P	Pn	21 27 09.5	+1.0
	27nm,0.3s,baz=86,slow=12,SNR=1224						
MJAR				S	Sn	21 27 25.7	-5.1
	14nm,0.3s,baz=112,slow=24,SNR=9.8						
MJAR				LR	LR	21 28 04.7	
	comp=Z,361nm,19.2s,baz=80,slow=48						
MAJO	Matsushiro	1.83	280	d iP	Pn	21 27 09.6	+1.1
MAJO	Matsushiro	1.83	280		Pn	21 27 10.1	+1.6
MAJO				Sn	Sn	21 27 26.6	-4.2
MAT	Matsushiro	1.83	280	P	Pn	21 27 09.2	+0.7
MAT				S	Sn	21 27 26.3	-4.5
MJB9	Matsu-Tunnel	1.83	280	Pn	Pn	21 27 10.1	+1.5
MJB9				Sn	Sn	21 27 26.4	-4.5
INU	Inuyama	2.93	253		Pn	21 27 24.8	+1.4
JHJ	Hachijo jima 2	3.18	190	P	Pn	21 27 26.7	-0.1
	44nm,0.3s,baz=320,slow=18,SNR=30						
JHJ				S	Sn	21 28 02.0	-1.6
	116nm,0.3s,baz=107,slow=19,SNR=7.1						
JHJ2	Mitsune	3.18	190		Pn	21 27 26.9	0.0
JHJ2				Sn	Sn	21 28 00.3	-3.3
ERM	Erimo	6.12	19	iP	Pn	21 28 04.7	-2.3
ERM	Erimo	6.12	19	Pn	Pn	21 28 05.5	-1.6
ERM					Sn	21 29 12.2	-3.4
ASAJ	Asahikawa	8.02	11	P	Pn	21 28 30.4	-2.5
	4.9nm,0.3s,baz=229,slow=9.6,SNR=25						
ASAJ				S	Sn	21 29 58.0	-4.1
	1.3nm,0.3s,baz=254,slow=18,SNR=3.2						
JKA	Kamikawa-asahi	8.02	11		Pn	21 28 30.4	-2.5
JKA					Sn	21 29 58.0	-4.1
NMR	Nemuro--Hokkai	8.18	28	⇓iP	Pn	21 28 31.4	-3.8
NMR				iS	Sn	21 29 56.5	-10
JNU	Nakatsue	8.48	251	P	Pn	21 28 40.7	+1.4
	0.9nm,0.3s,baz=64,slow=4.7,SNR=7.6						
JNU				LR	LR	21 32 08.7	
	comp=Z,148nm,20.5s,baz=62,slow=39						
JNU	Nakatsue	8.48	251		Pn	21 28 40.9	+1.6
JCJ	Chichijima	9.25	170	P	Pn	21 28 45.5	-4.4
	10nm,0.3s,baz=352,slow=22,SNR=18						
JCJ				S	Sn	21 30 20.8	-12
	10nm,0.3s,baz=255,slow=20,SNR=4.1						
JCJ				LR	LR	21 31 38.7	
	comp=Z,16nm,18.8s,baz=294,slow=32						
KSRS	Korea Array	10.11	281	P	Pn	21 29 05.8	+4.3
	0.9nm,0.3s,baz=96,slow=14,SNR=21						
USA0B	Ussuriysk Arra	10.23	323	P	Pn	21 29 05.7	+2.6
USA0B	Ussuriysk Arra	10.23	323	Pn	Pn	21 29 05.7	+2.6
USRK	Ussuriysk Ar.	10.23	323	P	Pn	21 29 05.7	+2.6
	baz=137,slow=13,SNR=38						
USRK				LR	LR	21 32 52.8	
	comp=Z,65nm,21.5s,baz=178,slow=36						
YSS	Yuzh-Sakhalins	10.83	8	eP	Pn	21 29 09.7	-1.5
MDJ	Mudanjiang	11.74	319	P	Pn	21 29 27.8	+4.0
MDJ				pmax	pmax		
	comp=Z,15nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,120nm,5.9s						
CN2	Changchun	13.73	308	eP	Pn	21 29 51.6	+1.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KLR	Kul'dur	14.44	337	iP	Pn	21 29 58.9	-1.0
KLR				pmax	pmax		
	comp=Z,4.0nm,1.5s						
KLR	Kul'dur	14.44	337	P	Pn	21 30 00.3	+0.4
	comp=Z,0.2nm,0.3s,baz=152,slow=18,SNR=6.0						
NJ2	Nanjing	18.35	263	eP	Pn	21 30 48.8	-0.1
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
TIA	Tai'an	18.81	277	P	P	21 30 52.2	-1.0
TIA				pmax	pmax		
	comp=Z,16nm,0.8s						
BJI	Beijing	19.44	289	⇑iP	P	21 30 59.1	-0.9
BJI				pmax	pmax		
	comp=Z,11nm,0.6s						
BJT	Baijiatuau	19.45	288	P	P	21 30 59.8	-0.3
BJT				pmax	pmax		
	comp=Z,19nm,0.7s						
BJT	Baijiatuau	19.45	288	P	P	21 30 59.8	-0.3
PEA0B	Petropavlovsk-	20.75	30	P	P	21 31 13.1	-1.0
PEA0B				pmax	pmax		
	comp=Z,30nm,1.2s						
PEA0B	Petropavlovsk-	20.75	30	P	P	21 31 13.1	-1.0
PETK	Petropavlovsk-	20.75	30	P	P	21 31 15.2	+1.1
	comp=Z,3.8nm,0.8s,baz=213,slow=4.3,SNR=2.9						
PET	Petropavlovsk	21.09	32	iP	P	21 31 17.3	-0.4
WHN	Wuhan	22.48	263	P	P	21 31 36.2	+3.3
HHC	Hu-ho-hao-te	23.00	290	P	P	21 31 36.9	-1.4
MA2	Magadan	24.28	13	iP	P	21 31 49.5	-0.2
MA2				pmax	pmax		
	comp=Z,42nm,1.3s						
MA2	Magadan	24.28	13	P	P	21 31 49.8	+0.1
	comp=Z,26nm,1.0s,baz=187,slow=17,SNR=3.1						
XAN	Xi'an	25.82	274	P	P	21 32 03.4	-0.6
XAN				pmax	pmax		
	comp=Z,13nm,0.6s						
XAN	Xi'an	25.82	274	P	P	21 32 01.3	-2.7
XAN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	Xi'an	25.82	274	P	P	21 32 01.3	-2.7
XAN				IAmb	IAmb	21 32 04.0	
	comp=Z,9.8nm,0.5s						
ENH	Enshi	26.50	266	P	P	21 32 07.3	-2.9
YAK	Yakutsk	26.67	349	iP	P	21 32 10.0	-1.3
ULN	Ulaanbaatar	27.16	306	ceP	P	21 32 15.3	-0.8
ULN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ULN	Ulaanbaatar	27.16	306	P	P	21 32 15.9	-0.3
SONM	Songino Array	27.59	305	P	P	21 32 19.1	-0.8
	comp=Z,3.8nm,0.6s,baz=106,slow=8.9,SNR=36						
SONM				LR	LR	21 43 52.9	
	comp=Z,56nm,19.6s,baz=98,slow=37						
BOD	Bodaibo	27.78	329	eP	P	21 32 21.5	+0.1
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s						
H11N2	WAKE ISLAND Hy	28.44	118	T	T	22 02 34.2	
	baz=312,slow=75,SNR=57						
H11N1	WAKE ISLAND Hy	28.45	118	T	T	22 02 33.8	
	baz=312,slow=75,SNR=72						
H11N3	WAKE ISLAND Hy	28.46	118	T	T	22 02 34.6	
	baz=312,slow=75,SNR=66						
H11S1	WAKE ISLAND Hy	29.12	120	T	T	22 03 25.6	
	baz=314,slow=75,SNR=250						
H11S3	WAKE ISLAND Hy	29.12	120	T	T	22 03 28.8	
	baz=314,slow=75,SNR=137						
H11S2	WAKE ISLAND Hy	29.13	120	T	T	22 03 30.1	
	baz=314,slow=75,SNR=129						
LZH	Lanzhou	29.44	281	eP	P	21 32 37.2	+0.7
LZH				pP	pP	21 32 53.1	+0.1
LZH				sP	sP	21 33 01.7	+0.6
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
GYA	Guiyang	30.32	261	eP	P	21 32 44.3	-0.1
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	Chengdu	30.90	271	P	P	21 32 48.1	-1.3
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
GTA	Gaotai	32.05	288	⇑P	P	21 32 58.6	-0.9
GTA				pP	pP	21 33 18.8	+2.7
GTA				sP	sP	21 33 27.1	+2.9
GTA				S	S	21 38 06.4	-0.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,60nm,6.5s						
KMI	Kunming	34.08	262	P	P	21 33 15.9	-1.5
KMI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KMI	Kunming	34.08	262	P	P	21 33 15.9	-1.5
KMI				IAmb	IAmb	21 33 24.2	
	comp=Z,6.9nm,0.6s						
BILL	Bilibino	34.99	17	⇑eP	P	21 33 25.7	+1.2
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,48nm,15.0s						
TIXI	Tiksi	35.97	354	ceP	P	21 33 32.0	-0.9
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TIXI	Tiksi	35.97	354	P	P	21 33 32.5	-0.4
MIDW	Midway	36.34	90	P	P	21 33 34.6	-2.0
WMQ	Urumqi	40.50	297	eP	P	21 34 12.5	+1.1
WMQ				pP	pP	21 34 29.3	+0.9
WMQ				PcP	PcP	21 36 11.4	-1.3
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,52nm,3.7s						
WMQ				LR	LR		
	comp=Z,610nm,29.3s						
WMQ				LR	LR		
	comp=Z,1μm,29.1s						
WMQ				LR	LR		
	comp=Z,150nm,28.8s						
CMAR	Chiang Mai Arr	40.55	255	LR	LR	21 50 33.0	
	comp=Z,14nm,20.1s,baz=50,slow=35						
LSA	Lhasa	41.51	276	P	P	21 34 20.2	-0.1
LSA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
LSA	Lhasa	41.51	276	P	P	21 34 20.2	-0.1
ZALV	Zalesovo Beam	41.87	313	P	P	21 34 22.5	+0.2
	comp=Z,12nm,0.9s,baz=93,slow=6.1,SNR=37						
MKAR	Makanchi Array	43.88	303	P	P	21 34 38.9	+0.2
	comp=Z,5.0nm,0.6s,baz=90,slow=9.5,SNR=52						
MKAR				LR	LR	21 53 03.6	
	comp=Z,32nm,20.9s,baz=70,slow=36						
MAKZ	Makanchi	44.09	303	P	P	21 34 40.7	+0.3
MAKZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MAKZ	Makanchi	44.09	303	P	P	21 34 40.7	+0.3
MAKZ				IAmb	IAmb	21 34 41.6	
	comp=Z,7.8nm,0.9s						
TAPN	Taplejung	45.22	274	eP	P	21 34 51.1	+1.1
	comp=Z,7.0nm,0.3s						
ODAN	Odare	45.69	274	eP	P	21 34 54.2	+0.6
	comp=Z,6.1nm,0.5s						
KURK	Kurchatov	45.80	309	iP	P	21 34 53.7	-0.2
KURK				pmax	pmax		
	comp=Z,23nm,0.8s						
KURK	Kurchatov	45.80	309	P	P	21 34 54.0	+0.1
RAMN	Ramite	46.28	274	eP	P	21 34 58.3	0.0
	comp=Z,16nm,0.8s						
JIRN	Jiri	46.31	275	eP	P	21 34 59.0	+0.3
	comp=Z,50nm,0.9s						
PDGK	Podgornoye	46.45	298	iP	P	21 34 59.1	-0.2
GUN	Gumba	46.46	276	eP	P	21 34 59.8	0.0
	comp=Z,11nm,0.4s						
PKI	Pulchoki	46.98	276	eP	P	21 35 03.4	-0.5
	comp=Z,8.7nm,0.7s						
PKIN	Phulchoki	46.99	276	eP	P	21 35 03.3	-0.6
	comp=Z,6.4nm,0.6s						
KKN	Kakani	46.99	276	eP	P	21 35 03.7	-0.1
	comp=Z,9.6nm,0.6s						
GKN	Gorkha	47.42	277	eP	P	21 35 07.0	-0.1
	comp=Z,42nm,0.8s						
DANN	Dangsing	47.98	277	eP	P	21 35 11.9	+0.3
	comp=Z,78nm,0.7s						
KDAK	Kodiak Island	48.20	41	iP	P	21 35 13.0	+0.6
KDAK	Kodiak Island	48.20	41	P	P	21 35 13.1	+0.7
	comp=Z,8.4nm,0.5s,baz=284,slow=5.8,SNR=37						
KDAK	Kodiak Island	48.20	41	P	P	21 35 12.3	-0.1
KOLN	Koldanda	48.35	277	eP	P	21 35 14.6	+0.3
MLY	Manley	48.92	32	P	P	21 35 20.3	+2.3
MLY				IAmb	IAmb	21 35 20.5	
	comp=Z,4.0nm,0.7s						
TKM2	Tokmak 2	49.32	299	iP	P	21 35 22.1	+0.5
TKM2				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TKM2	Tokmak 2	49.32	299	P	P	21 35 22.6	+1.1
	SNR=9.6						
NRN	Naryn	49.43	297	P	P	21 35 21.7	-0.9
NRN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NRN	Naryn	49.43	297	P	P	21 35 21.7	-0.9
RND	Reindeer	49.76	34	IAmb	IAmb	21 35 26.2	
	comp=Z,4.7nm,0.8s						
KBK	Karagaybulak	49.85	299	P	P	21 35 26.7	+1.2
	SNR=12						
USP	Ospenovka	50.00	299	P	P	21 35 27.0	+0.4
	SNR=5.4						
KSH	Kashi	50.01	294	P	P	21 35 30.0	+3.2
KSH				PcP	PcP	21 36 48.4	+2.6
KSH				ScP	ScP	21 40 35.6	+0.1
KSH				PcS	PcS	21 40 43.2	+0.2
KSH				S	S	21 42 34.0	+1.3
KSH				SS	SS	21 46 05.6	-0.5
KSH				LR	LR		
	comp=Z,340nm,5.0s						
KSH				LR	LR		
	comp=Z,320nm,5.7s						
WRH	Wood River Hil	50.06	32	P	P	21 35 26.8	+0.2
WRH				IAmb	IAmb	21 35 29.0	
	comp=Z,4.5nm,0.8s						
COLA	College	50.15	32	iP	P	21 35 27.8	+0.6
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	Ala-Archa	50.17	299	iP	P	21 35 28.3	+0.3
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AAK	Ala-Archa	50.17	299	P	P	21 35 28.8	+0.8
	SNR=5.1						
AAK	Ala-Archa	50.17	299	P	P	21 35 28.1	+0.1
HDA	Harding Lake	50.56	32	P	P	21 35 28.5	-1.9
ILAR	Eielson Array	50.57	32	P	P	21 35 31.2	+0.8
	comp=Z,6.5nm,0.7s,baz=268,slow=5.7,SNR=81						
BRVK	Borovoye	50.58	313	iP	P	21 35 30.8	+0.1
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRVK	Borovoye	50.58	313	P	P	21 35 28.9	-1.7
BRVK				IAmb	IAmb	21 35 33.4	
	comp=Z,5.1nm,0.8s						
AML	Almayashu	50.89	298	P	P	21 35 34.9	+1.2
	SNR=19						
PRP	Porcupine Dome	51.10	31	IAmb	IAmb	21 35 37.6	
	comp=Z,6.2nm,1.0s						
SCRK	Sand Creek	51.88	33	IAmb	IAmb	21 35 42.3	
	comp=Z,7.1nm,0.8s						
MENT	Mentasta	52.12	34	P	P	21 35 42.0	-0.1
MENT				IAmb	IAmb	21 35 45.0	
	comp=Z,5.1nm,0.6s						
CRQM	Cirque	52.69	37	P	P	21 35 47.7	+1.2
KKAR	Karatay Array	52.84	300	P	P	21 35 48.3	+0.5
KKAR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KKAR	Karatay Array	52.84	300	P	P	21 35 48.3	+0.5
KKAR				IAmb	IAmb	21 35 49.5	
	comp=Z,8.9nm,1.1s						
NIL	Nilore	54.12	288	P	P	21 35 56.7	-0.6
NIL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NIL	Nilore	54.12	288	P	P	21 35 56.7	-0.6
NIL				IAmb	IAmb	21 36 01.1	
	comp=Z,5.6nm,0.7s						
GAR	Garm	54.33	296	IAmb	IAmb	21 36 09.6	
	comp=Z,6.4nm,0.7s						
SVE	Sverdlovsk	55.22	319	eP	P	21 36 04.7	-0.1
INK	Inuvik	55.43	27	P	P	21 36 07.3	+1.2
	comp=Z,6.0nm,0.6s,baz=298,slow=7.3,SNR=25						
INK	Inuvik	55.43	27	IAmb	IAmb	21 36 08.2	
	comp=Z,6.0nm,0.7s						
WRA	Warramunga Arr	56.19	187	iP	P	21 36 11.6	-0.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	56.19	187	P	P	21 36 10.9	-1.2
	comp=Z,1.0nm,0.6s,baz=1.7,slow=7.4,SNR=14						
ARU	Arti	56.43	319	c iP	P	21 36 13.7	+0.3
ARU						21 38 18.1	
ARU				S	S	21 44 01.5	+2.6
ARU				SS	SS	21 47 46.2	-0.1
ARU				pmax	pmax		
	comp=Z,28nm,2.6s						
ARU	Arti	56.43	319	P	P	21 36 13.2	-0.2
ARU				IAmb	IAmb	21 36 16.9	
	comp=Z,5.9nm,0.7s						
ABKAR	Akbulak array	57.84	310	IAmb	IAmb	21 36 24.2	
	comp=Z,5.6nm,0.7s						
ASAR	Alice Springs	59.92	187	P	P	21 36 38.6	+0.5
	comp=Z,0.4nm,0.4s,baz=1.4,slow=4.7,SNR=5.8						
GEYT	Alibeck	63.53	299	P	P	21 37 02.7	+0.3
	comp=Z,1.9nm,0.7s,baz=41,slow=4.6,SNR=3.4						
ARCES	ARCESS Array B	64.45	339	P	P	21 37 08.5	+0.6
	comp=Z,2.5nm,0.9s,baz=40,slow=6.8,SNR=7.4						
YKA	Yellowknife Ar	64.87	30	P	P	21 37 11.2	+0.5
	comp=Z,1.7nm,0.8s,baz=305,slow=6.8,SNR=6.7						
OBN	Obninsk	68.25	323	iP	P	21 37 31.1	-1.2
AKT	Akhty	68.91	306	eP	P	21 37 37.2	+0.3
AKT				e		21 38 02.0	
AKT				pmax	pmax		
	comp=Z,7.0nm,0.5s						
FINES	FINESS Array B	69.14	332	P	P	21 37 38.0	+0.2
FINES	FINESS Array B	69.14	332	P	P	21 37 38.0	+0.2
	comp=Z,0.9nm,0.4s,baz=59,slow=5.9,SNR=14						
VSU	Vasula	70.73	329	iP	P	21 37 47.1	-0.4
VSU				pmax	pmax		
	comp=Z,57nm,1.1s						
KBZ	Khabaz	70.81	310	P	P	21 37 48.9	+0.5
	comp=Z,2.1nm,0.7s,baz=93,slow=3.3,SNR=5.9						
KIV	Kislovodsk	70.82	311	eP	P	21 37 49.1	+0.5
KIV				pmax	pmax		
	comp=Z,29nm,1.0s						
KIV				MLR	MLR		
	comp=Z,75nm,18.0s						
AKASG	Malin Array Be	74.43	322	P	P	21 38 09.6	-0.2
	comp=Z,2.8nm,0.5s,baz=47,slow=6.4,SNR=17						
NB2	NORSAR Subarra	74.60	337	P	P	21 38 10.8	+0.2
	comp=Z,4.2nm,1.0s,baz=42,slow=5.9						
NOA	NORSAR Array B	74.60	337	P	P	21 38 10.8	+0.2
	comp=Z,0.3nm,0.6s,baz=38,slow=5.9,SNR=6.1						
FFC	Flin Flon	74.78	32	iP	P	21 38 12.9	+1.2
FFC	Flin Flon	74.78	32	P	P	21 38 12.6	+0.9
FFC				IAmb	IAmb	21 38 13.7	
	comp=Z,14nm,1.4s						
NVAR	Mina Array Bea	76.08	53	P	P	21 38 20.6	+0.9
	comp=Z,2.1nm,0.9s,baz=262,slow=5.4,SNR=3.9						
PDAR	Pinedale Array	78.77	45	P	P	21 38 35.4	+0.7
	comp=Z,0.6nm,0.6s,baz=260,slow=3.6,SNR=7.5						
BRTR	Keskin Array B	78.78	311	ceP	P	21 38 35.0	+0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	78.78	311	P	P	21 38 35.0	+0.3
	comp=Z,1.2nm,0.8s,baz=98,slow=6.0,SNR=7.4						
RAYN	Ar Rayn	80.23	292	P	P	21 38 41.9	-0.8
RAYN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
RAYN	Ar Rayn	80.23	292	P	P	21 38 41.9	-0.8
PV05	Paradox Valley	82.03	48	P	P	21 38 52.7	+0.5
PV05				IAmb	IAmb	21 38 54.6	
	comp=Z,9.6nm,1.2s						
PV13	Radium Mtn., P	82.14	48	P	P	21 38 54.1	+1.3
GERES	GERESS Array B	82.96	328	P	P	21 38 56.8	+0.1
	comp=Z,0.4nm,0.4s,baz=39,slow=6.8,SNR=7.9						
ANMO	Albuquerque	85.68	49	ceP	P	21 39 11.4	+0.5
ANMO				pmax	pmax		
	comp=Z,6.0nm,2.5s						
TXAR	Lajitas Array	91.21	52	P	P	21 39 37.6	+0.5
	comp=Z,1.1nm,0.7s,baz=318,slow=3.5,SNR=5.2						
SNAA	Sanae	139.78	197	PKPdf	PKPdf	21 45 59.0	+0.7
VNA2	Neumayer--Watz	141.36	196	PKPdf	PKPdf	21 46 00.2	-0.8
LPA	La Plata	164.98	90	PKIKP	PKPdf	21 46 27.4	-7.9
LPA	La Plata	164.98	90	PKP	PKPab	21 47 30.8	-1.5
LPA				SKIKP		21 49 47.2	
LPA				PP	PP	21 51 08.3	-11
LPA				pPP		21 54 03.1	
LPA				PPP	PPP	21 55 03.1	

*NIED **02** 21:35:00, 45.̊50N×151.̊60E, h26km, Mw3.9 Best double couple: $M_0$7.64000×10^14 NP1:ϕ_s255.00000°, δ38.00000°, λ141.00000°. NP2:ϕ_s18.00000°, δ67.00000°, λ59.00000°.*

JMA ***02*** *21:35:53.9±0.6, 45°.51N×151°.58E, h30km, M4.4*
SKHL ***02*** *21:35:54.7±0.8, 44°.92N×151°.70E, h35km±5km, mb4.4/1*
ISCJB ***02*** *21:35:54.1±0.4, 45°.25N±0°.06×151°.45E±0°.05, h32km, mb3.8/12, MS3.3/2, Error ellipse: s-maj=9.8km s-min=3.3km az=150.9*
NEIC ***02*** *21:35:58.4±1.7, 45°.37N±0°.09×151°.4E±0°.1, h51km±7km, mb4.4/30*
IDC ***02*** *21:35:58.4±2.7, 45°.38N×151°.46E, h49km±24km, mb3.7/12, mb1 3.8/16, mb1mx3.6/40, mbtmp3.9/16, ML3.5/3, MS3.0/8, Ms1 3.0/8, ms1mx2.7/53, Error ellipse: s-maj=25.0km s-min=17.4km az=115.0*
ISC 02 21:35:55.3±0.6, **45°.13N**±0°.07×**151°.58E**±0°.07, **h32km, n96,** σ1.55s/97, **mb4.2**/26, **1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.62**	**274**	⇓*i*P	**Pn**	**21 36 36.6**	**+1.2**
KUR				AMB	AMB	21 36 36.9	
	60nm,0.3s						
KUR				AMB	AMB	21 36 36.9	
	40nm,0.3s						
KUR				AMB	AMB	21 36 36.9	
	50nm,0.3s						
KUR				*e*S	**Sn**	**21 37 07.4**	**+1.2**
KUR				A	A	21 37 13.3	
	470nm,0.6s						
KUR				A	A	21 37 13.3	
	160nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.23**	**257**	*e*S	**Sn**	**21 37 46.2**	**+0.6**
YUK				A	A	21 37 48.1	
	310nm,0.8s						
NEM2	**Nemuro 2**	**4.54**	**249**	P	**Pn**	**21 37 01.9**	**+0.1**
NEM2				*e*S	**Sn**	**21 37 51.7**	**-1.8**
JRA	**Rausu**	**4.76**	**258**	P	**Pn**	**21 37 06.7**	**+1.9**
JNK	**Nakash**	**5.15**	**255**	P	**Pn**	**21 37 11.5**	**+1.3**
JNK				*e*S	**Sn**	**21 38 08.6**	**+0.1**
JAK	**Akkeshi**	**5.39**	**249**	P	**Pn**	**21 37 13.3**	**-0.2**
JAK				*e*S	**Sn**	**21 38 12.8**	**-1.6**
JTKR	**Abashiri--Toko**	**5.60**	**261**	P	**Pn**	**21 37 18.2**	**+1.9**
JAR	**Ashorobuto**	**5.90**	**255**	P	**Pn**	**21 37 21.4**	**+0.9**
JAR				*e*S	**Sn**	**21 38 27.4**	**+0.5**
JMP	**Maruseppu**	**5.98**	**262**	P	**Pn**	**21 37 23.4**	**+1.9**
JOB	**Onbets**	**6.01**	**251**	P	**Pn**	**21 37 22.7**	**+0.8**
JOB				*e*S	**Sn**	**21 38 28.7**	**-0.8**
YSS	**Yuzh-Sakhalins**	**6.41**	**290**	Pn	**Pn**	**21 37 25.1**	**-2.3**
YSS					**Sn**	**21 38 36.9**	**-2.5**
JCH	**Churui**	**6.45**	**250**	P	**Pn**	**21 37 28.1**	**+0.2**
JCH				*e*S	**Sn**	**21 38 37.2**	**-3.1**
JKA	**Kamikawa-asahi**	**6.49**	**264**		**Pn**	**21 37 30.9**	**+2.4**
ASAJ	**Asahikawa**	**6.49**	**264**	P	**Pn**	**21 37 30.8**	**+2.3**
ASAJ	**Asahikawa**	**6.49**	**264**	P	**Pn**	**21 37 30.9**	**+2.3**
	2.7nm,0.3s,baz=67,slow=20,SNR=16						
ASAJ				LR	LR	21 40 12.6	
	comp=Z,123nm,18.5s,baz=5.5,slow=40						
ERM	**Erimo**	**6.86**	**246**	Pn	**Pn**	**21 37 36.2**	**+2.6**
ERM				Sn	**Sn**	**21 38 50.0**	**-0.6**
JNBK	**Urakawa-nobuka**	**7.00**	**249**	P	**Pn**	**21 37 35.6**	**+0.1**
JNBK				*e*S	**Sn**	**21 38 51.8**	**-2.1**
JBT2	**Biratori 2**	**7.05**	**254**	P	**Pn**	**21 37 36.6**	**+0.4**
JNB	**Noboribetsu**	**8.07**	**254**	P	**Pn**	**21 37 51.5**	**+1.3**
JKB	**Kayabe**	**8.32**	**251**	P	**Pn**	**21 37 53.5**	**-0.1**
JKB				*e*S	**Sn**	**21 39 21.4**	**-5.0**
JYM2	**Yakumo 2**	**8.67**	**254**	P	**Pn**	**21 37 59.0**	**+0.6**
JANG	**Nango**	**8.79**	**241**	P	**Pn**	**21 37 58.3**	**-1.8**
JANG				*e*S	Sn	21 39 30.2	-7.9
JTH	**Tanohata**	**8.85**	**238**	*e*S	Sn	21 39 31.5	-7.9
PEA0B	**Petropavlovsk-**	**8.94**	**24**	Pn	**Pn**	**21 38 00.8**	**-1.2**
PETK	**Petropavlovsk-**	**8.94**	**24**	P	**Pn**	**21 38 03.1**	**+1.0**
	0.1nm,0.3s,baz=208,slow=12,SNR=3.2						
JOSM	**Okushiri--Mats**	**9.29**	**255**	P	**Pn**	**21 38 07.7**	**+0.8**
OFUJ	**Ofunato**	**9.52**	**234**	*e*S	**Sn**	**21 39 49.3**	**-6.6**
MJAR	**Matsushiro Arr**	**13.25**	**234**	LR	LR	21 45 10.3	
	comp=Z,25nm,19.8s,baz=30,slow=41						
USA0B	**Ussuriysk Arra**	**13.97**	**273**	Pn	**Pn**	**21 39 12.1**	**+1.2**
USRK	**Ussuriysk Ar.**	**13.97**	**273**	P	**Pn**	**21 39 11.1**	**+0.1**
	baz=70,slow=13,SNR=8.6						
USRK				LR	LR	21 44 51.1	
	comp=Z,80nm,19.9s,baz=301,slow=38						
KLR	**Kul'dur**	**14.09**	**294**	LR	LR	21 44 17.3	
	comp=Z,56nm,19.6s,baz=122,slow=36						
JHJ2	**Mitsune**	**15.05**	**221**		**P**	**21 39 31.9**	**+1.3**
MDJ	**Mudanjiang**	**15.59**	**276**	Pn	**Pn**	**21 39 33.8**	**+1.2**
KSRS	**Korea Array**	**19.31**	**255**	P	**P**	**21 40 18.1**	**+0.6**
	0.1nm,0.3s,baz=61,slow=12,SNR=3.4						
KSRS				LR	LR	21 46 37.4	
	comp=Z,27nm,20.7s,baz=50,slow=33						
JNU	**Nakatsue**	**19.97**	**240**	LR	LR	21 49 03.1	
	comp=Z,39nm,19.0s,baz=45,slow=39						
JNU	**Nakatsue**	**19.97**	**240**	P	**Pn**	**21 40 27.2**	**+0.5**
JNU				IAmb	IAmb	21 40 28.4	
	comp=Z,21nm,1.2s						
INCN	**Inchon**	**20.18**	**257**	P	**P**	**21 40 27.0**	**-0.1**
INCN				IAmb	IAmb	21 40 37.3	
	comp=Z,15nm,1.1s						
BJT	**Baijiatuau**	**26.43**	**271**	P	**P**	**21 41 28.6**	**-0.4**
BJT				IAmb	IAmb	21 41 33.3	
	comp=Z,4.0nm,0.5s						
SSE	**Sheshan**	**27.52**	**250**	P	**P**	**21 41 40.8**	**+1.9**
H11N2	**WAKE ISLAND Hy**	**28.33**	**148**	T	T	22 12 30.7	
	baz=338,slow=76,SNR=28						
H11N1	**WAKE ISLAND Hy**	**28.35**	**148**	T	T	22 12 34.3	
	baz=338,slow=76,SNR=27						
H11N3	**WAKE ISLAND Hy**	**28.35**	**148**	T	T	22 12 38.6	
	baz=338,slow=76,SNR=17						
H11S1	**WAKE ISLAND Hy**	**29.39**	**150**	T	T	22 13 58.2	
	baz=339,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**29.39**	**150**	T	T	22 13 56.3	
	baz=339,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**29.40**	**150**	T	T	22 13 57.8	
	baz=339,slow=76,SNR=21						
SONM	**Songino Array**	**30.89**	**291**	P	**P**	**21 42 09.4**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=75,slow=8.1,SNR=3.9						
SKT	**Skwentna**	**36.37**	**42**	P	**P**	**21 42 54.6**	**-1.6**
SKT				IAmb	IAmb	21 43 07.9	
	comp=Z,4.1nm,1.2s						
BPAW	**Bear Paw Mtn.**	**36.69**	**38**	P	**P**	**21 43 00.7**	**+1.8**
BPAW				IAmb	IAmb	21 43 15.9	
	comp=Z,5.0nm,1.3s						
TRF	**Thorofare Moun**	**36.98**	**39**	P	**P**	**21 43 02.8**	**+1.4**
TRF				IAmb	IAmb	21 43 17.4	
	comp=Z,4.1nm,1.2s						
ILAR	**Eielson Array**	**38.49**	**37**	P	**P**	**21 43 13.8**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=260,slow=7.2,SNR=4.5						
SUCK	**Suckling Hills**	**40.26**	**45**	P	**P**	**21 43 30.2**	**+1.3**
VRDI	**Verde Repeater**	**40.27**	**43**	P	**P**	**21 43 29.1**	**0.0**
ZALV	**Zalesovo Beam**	**42.71**	**307**	PcP	**PcP**	**21 45 40.8**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=83,slow=4.8,SNR=3.3						
INK	**Inuvik**	**43.59**	**31**	P	**P**	**21 43 55.3**	**-0.6**
MK31	**Makanchi Array**	**46.75**	**298**	P	**P**	**21 44 20.0**	**-1.3**
MKAR	**Makanchi Array**	**46.75**	**298**	P	**P**	**21 44 20.8**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=64,slow=6.0,SNR=7.5						
MKAR				PcP	**PcP**	**21 45 55.1**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=84,slow=1.1,SNR=4.1						
TARG	**Taragay, Kyrgy**	**51.94**	**294**	P	**P**	**21 45 02.2**	**+0.7**
TARG				IAmb	IAmb	21 45 06.8	
	comp=Z,2.7nm,0.9s						
TAPN	**Taplejung**	**53.12**	**273**	*e*P	**P**	**21 45 11.6**	**+1.3**
	comp=Z,6.6nm,0.7s						
AAK	**Ala-Archa**	**53.60**	**297**	P	**P**	**21 45 14.1**	**+0.7**
JIRN	**Jiri**	**54.01**	**275**	*e*P	**P**	**21 45 18.1**	**+1.3**
	comp=Z,8.0nm,0.5s						
RAMN	**Ramite**	**54.15**	**274**	*e*P	**P**	**21 45 18.3**	**+0.6**
KKN	**Kakani**	**54.57**	**275**	*e*P	**P**	**21 45 22.0**	**+1.3**
	comp=Z,7.9nm,0.7s						
PKI	**Pulchoki**	**54.61**	**275**	*e*P	**P**	**21 45 22.1**	**+0.9**
DMN	**Daman**	**54.80**	**275**	*e*P	**P**	**21 45 23.4**	**+0.9**
GKN	**Gorkha**	**54.90**	**276**	*e*P	**P**	**21 45 23.9**	**+0.9**
	comp=Z,6.2nm,0.6s						
DANN	**Dangsing**	**55.30**	**277**	*e*P	**P**	**21 45 27.5**	**+1.4**
	comp=Z,10nm,0.6s						
KK31	**Karatay Array**	**55.85**	**299**	P	**P**	**21 45 28.5**	**-1.0**
KKAR	**Karatay Array**	**55.85**	**299**	P	**P**	**21 45 28.9**	**-0.6**
GAR	**Garm**	**58.23**	**295**	P	**P**	**21 45 46.2**	**-0.4**
GAR				IAmb	IAmb	21 45 47.3	
	comp=Z,6.4nm,0.8s						
ABKAR	**Akbulak array**	**58.64**	**310**	P	**P**	**21 45 48.5**	**-0.6**
ABKAR				IAmb	IAmb	21 45 49.1	
	comp=Z,1.5nm,0.5s						
ARCES	**ARCESS Array B**	**59.03**	**341**	P	**P**	**21 45 50.4**	**-1.1**
	comp=Z,6.4nm,1.1s,baz=43,slow=8.0,SNR=2.3						
CHGR	**Chuyangaron**	**59.17**	**295**	P	**P**	**21 45 53.0**	**-0.1**
NIL	**Nilore**	**59.40**	**288**	P	**P**	**21 45 54.6**	**0.0**
NIL				IAmb	IAmb	21 45 56.4	
	comp=Z,8.0nm,0.8s						
PLID	**Pearl Lake**	**61.49**	**54**	P	**P**	**21 46 09.4**	**+0.4**
PLID				IAmb	IAmb	21 46 15.5	
	comp=Z,2.7nm,1.2s						
SUMG	**Summit**	**62.39**	**3**	P	**P**	**21 46 14.3**	**-0.5**
SUMG				IAmb	IAmb	21 46 23.7	
	comp=Z,2.5nm,0.8s						
MFID	**Camas Ranch**	**62.59**	**55**	P	**P**	**21 46 16.4**	**+0.1**
MFID				IAmb	IAmb	21 46 20.5	
	comp=Z,2.0nm,0.6s						
GCMT	**Greycliff**	**64.58**	**50**	P	**P**	**21 46 28.1**	**-1.3**
FINES	**FINESS Array B**	**65.05**	**334**	P	**P**	**21 46 30.6**	**-1.4**
	comp=Z,4.0nm,0.9s,baz=48,slow=6.9,SNR=12						
HRA	**Herat**	**66.18**	**295**	P	**P**	**21 46 35.9**	**-4.1**
HRA				IAmb	IAmb	21 46 36.2	
	comp=Z,2.0nm,0.7s						
GEYT	**Alibeck**	**66.51**	**301**	P	**P**	**21 46 42.3**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=27,slow=6.8,SNR=3.3						
PDAR	**Pinedale Array**	**66.58**	**52**	LR	LR	22 13 27.8	
	comp=Z,14nm,21.7s,baz=46,slow=34						
WB2	**Warramunga Arr**	**66.63**	**198**	P	**P**	**21 46 42.9**	**+0.3**
WB2				IAmb	IAmb	21 46 56.7	
	comp=Z,6.5nm,1.2s						
WRA	**Warramunga Arr**	**66.63**	**198**	P	**P**	**21 46 44.6**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=14,slow=6.7,SNR=5.0						
WRA				pP	**pwP**	**21 46 58.4**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=18,slow=6.6,SNR=2.7						
NC405	**NORSAR Array S**	**69.23**	**340**	P	**P**	**21 46 57.3**	**-1.2**
NC204	**NORSAR Array S**	**69.31**	**341**	P	**P**	**21 46 58.4**	**-0.7**
NB201	**NORSAR Array S**	**69.38**	**341**	P	**P**	**21 46 58.7**	**-0.8**
NB2	**NORSAR Subarra**	**69.41**	**341**	P	**P**	**21 46 58.5**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**69.41**	**341**	P	**P**	**21 46 58.8**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=29,slow=6.6,SNR=7.6						
ASAR	**Alice Springs**	**70.33**	**197**	P	**P**	**21 47 08.4**	**+2.7**
	comp=Z,0.3nm,0.6s,baz=17,slow=6.8,SNR=3.8						
KBZ	**Khabaz**	**71.21**	**313**	P	**P**	**21 47 11.7**	**+0.8**
	comp=Z,4.9nm,0.8s,baz=98,slow=5.0,SNR=7.8						
EYMN	**Ely**	**72.10**	**39**	P	**P**	**21 47 16.2**	**-0.1**
AKASG	**Malin Array Be**	**72.29**	**326**	P	**P**	**21 47 16.2**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=34,slow=6.0,SNR=5.3						
BUR08	**Bucovina Ar. S**	**76.32**	**326**	P	**P**	**21 47 40.9**	**-0.1**
BUR08				IAmb	IAmb	21 47 41.6	
	comp=Z,4.1nm,0.6s						
CLL	**Collm**	**77.49**	**335**	*e*P	**P**	**21 47 47.0**	**-0.3**
GERES	**GERESS Array B**	**79.43**	**333**	P	**P**	**21 47 57.5**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=40,slow=8.3,SNR=3.1						
MMAI	**Mount Meron Ar**	**83.07**	**311**	LR	LR	22 30 32.8	
	comp=Z,18nm,18.1s,baz=195,slow=40						

ISCJB ***02*** *21:41:40.0±0.3, 21°.41S±0°.02×66°.56W±0°.03, h244km±4km, mb3.8/5, Error ellipse: s-maj=5.1km s-min=3.9km az=6.8*
SJA ***02*** *21:41:39.0±0.5, 21°.37S×66°.48W, h256km±4km, ML3.8, MW4.1*
IDC ***02*** *21:41:40.3±1.2, 21°.40S×66°.34W, h234km±13km, mb3.6/5, mb1 3.8/12, mb1mx3.6/28, mbtmp4.3/12, Error ellipse: s-maj=18.8km s-min=16.2km az=33.0*
NEIC ***02*** *21:41:40.1±2.9, 21°.40S±0°.04×66°.50W±0°.09, h236km±8km, mb4.0/2*
SCB ***02*** *21:41:40.5±1.2, 21°.45S×66°.49W, h252km±11km, ML3.8/3, Error ellipse: s-maj=9.0km s-min=7.3km az=1.0*
ISC 02 21:41:39.9±0.6, **21°.40S**±0°.04×**66°.54W**±0°.04, **h237km**±6km, **n81,** σ1.69s/108, **mb4.0**/5, **4C-6D, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.22**	**129**	P	**Pn**	**21 42 17.3**	**+1.7**
YJA	**Yavi**	**1.22**	**129**	*i*P	**Pn**	**21 42 17.3**	**+1.7**
YJA				IAML		21 42 18.4	
	comp=Z,267nm,0.1s						
YJA				*e*S	**S**	**21 42 45.0**	**+1.6**
LVC	**Limon Verde**	**2.51**	**241**	P	**Pn**	**21 42 28.3**	**+1.5**
	comp=Z,19nm,0.3s,baz=45,slow=6.9,SNR=182						
LVC				S	**S**	**21 43 03.7**	**+0.1**
	comp=Z,48nm,0.3s,baz=166,slow=19,SNR=30						
LVC	**Limon Verde**	**2.51**	**241**	*i*P	**Pn**	**21 42 28.3**	**+1.5**
LVC				*e*S	**S**	**21 43 04.9**	**+1.3**
LVC				IAML		21 43 05.2	
	comp=Z,76nm,0.2s						
PB09	**IPOC Station P**	**2.55**	**261**	⇑*i*P	**Pn**	**21 42 28.5**	**+1.6**
PB09				*i*S	**S**	**21 43 04.4**	**+0.5**
PB09				IAML		21 43 12.1	
	comp=E,544nm,0.7s						
PB09	**IPOC Station P**	**2.55**	**261**	*i*P	**Pn**	**21 42 28.6**	**+1.6**
PB09				IAML		21 43 07.2	
	comp=Z,474nm,0.5s						
PB08	**IPOC Station P**	**2.75**	**297**	⇓*i*P	**Pn**	**21 42 30.8**	**+1.4**
PB08				*i*S	**S**	**21 43 08.1**	**-0.1**
PB08				IAML		21 43 11.4	
	comp=E,410nm,0.6s						
PB08	**IPOC Station P**	**2.75**	**297**	P	**Pn**	**21 42 30.7**	**+1.4**
PB08	**IPOC Station P**	**2.75**	**297**	*i*P	**Pn**	**21 42 30.8**	**+1.4**
PB01	**IPOC Station P**	**2.78**	**277**	*e*P	**Pn**	**21 42 30.4**	**+1.0**
PB01				⇓*i*S	**S**	**21 43 07.2**	**-0.9**
PB01				IAML		21 43 10.2	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**2.78**	**277**	P	**Pn**	**21 42 30.6**	**+1.3**
PB01	**IPOC Station P**	**2.78**	**277**		**Pn**	**21 42 30.7**	**+1.3**
BS03	**Mojotorillo**	**2.90**	**45**	P	**Pn**	**21 42 31.1**	**0.0**
BS03				S	**S**	**21 43 08.0**	**-3.2**
BS03				AML	AML	21 43 09.3	
	comp=E,88nm,0.5s						
GO01	**Chusmiza**	**3.03**	**304**	⇓*i*P	**Pn**	**21 42 33.5**	**+1.0**
GO01				*e*S	**S**	**21 43 14.1**	**+0.2**
GO01				IAML		21 43 20.8	
	comp=N,948nm,0.1s						
GO01	**Chusmiza**	**3.03**	**304**		**Pn**	**21 42 33.6**	**+1.0**
GO01				S	**S**	**21 43 08.5**	**-5.4**
PB03	**IPOC Station P**	**3.06**	**257**	*i*P	**Pn**	**21 42 33.6**	**+1.1**
PB03				*i*S	**S**	**21 43 12.6**	**-1.3**
PB03				IAML		21 43 14.0	
	comp=E,1μm,0.2s						
PB03	**IPOC Station P**	**3.06**	**257**	*i*P	**Pn**	**21 42 33.8**	**+1.3**
PB06	**IPOC Station P**	**3.10**	**245**	*e*P	**Pn**	**21 42 34.3**	**+1.3**
PB06				*i*S	**S**	**21 43 14.0**	**-0.7**
PB06	**IPOC Station P**	**3.10**	**245**	P	**Pn**	**21 42 34.9**	**+2.0**
PB06	**IPOC Station P**	**3.10**	**245**	*i*P	**Pn**	**21 42 34.3**	**+1.3**
AZAP	**Zapla**	**3.12**	**155**	*i*P	**Pn**	**21 42 34.4**	**+1.2**
AZAP				IAML		21 42 35.7	
	comp=Z,73nm,0.6s						
BS06	**Camiri**	**3.13**	**65**	P	**Pn**	**21 42 33.7**	**+0.5**
BS06				S	**S**	**21 43 11.9**	**-3.3**
BS06				AML	AML	21 43 13.9	
	comp=Z,108nm,0.5s						
PB02	**IPOC Station P**	**3.13**	**271**	P	**Pn**	**21 42 33.8**	**+0.5**
PB02	**IPOC Station P**	**3.13**	**271**	*i*P	**Pn**	**21 42 34.3**	**+1.1**
PB07	**IPOC Station P**	**3.14**	**263**	⇑*i*P	**Pn**	**21 42 33.8**	**+0.4**
PB07				*i*S	**S**	**21 43 13.9**	**-1.5**
PB07				IAML		21 43 14.7	
	comp=N,1μm,0.4s						
PB07	**IPOC Station P**	**3.14**	**263**	*i*P	**Pn**	**21 42 34.6**	**+1.2**
PB15	**IPOC Station P**	**3.26**	**236**	⇑*i*P	**Pn**	**21 42 36.0**	**+1.2**
PB15				*i*S	**S**	**21 43 17.9**	**-0.1**
PB15	**IPOC Station P**	**3.26**	**236**	*i*P	**Pn**	**21 42 36.0**	**+1.2**
PB11	**IPOC Station P**	**3.35**	**299**	⇓*i*P	**Pn**	**21 42 36.2**	**+0.5**
PB11				*i*S	**S**	**21 43 18.1**	**-1.7**
PB11				IAML		21 43 21.2	
	comp=N,2μm,0.4s						
PB11	**IPOC Station P**	**3.35**	**299**	P	**Pn**	**21 42 36.3**	**+0.5**
PB11	**IPOC Station P**	**3.35**	**299**		**Pn**	**21 42 36.2**	**+0.5**
PB11	**IPOC Station P**	**3.35**	**299**	*i*P	**Pn**	**21 42 36.3**	**+0.5**
SLA	**San Lorenzo**	**3.44**	**164**	*i*P	**Pn**	**21 42 37.8**	**+1.0**
PB04	**IPOC Station P**	**3.48**	**254**	⇑*i*P	**Pn**	**21 42 38.2**	**+0.9**
PB04				*e*S	**S**	**21 43 20.4**	**-2.1**
PB04				IAML		21 43 23.2	
	comp=N,732nm,0.4s						
PB04	**IPOC Station P**	**3.48**	**254**	P	**Pn**	**21 42 37.9**	**+0.6**
PB04	**IPOC Station P**	**3.48**	**254**		**Pn**	**21 42 38.3**	**+1.0**
PB04				S	**S**	**21 43 20.7**	**-1.8**
PB04	**IPOC Station P**	**3.48**	**254**	*i*P	**Pn**	**21 42 38.4**	**+1.0**
PB04				IAML		21 43 25.7	
	comp=Z,537nm,0.4s						
TA01	**Diego Aracena**	**3.51**	**283**	⇓*i*P	**Pn**	**21 42 37.4**	**0.0**
TA01				*i*S	**S**	**21 43 19.7**	**-3.0**
TA01				IAML		21 43 20.7	
	comp=E,1μm,0.4s						
MNMC	**Minye Minye**	**3.66**	**308**	⇓*i*P	**Pn**	**21 42 40.3**	**+0.8**
MNMC				*i*S	**S**	**21 43 25.5**	**-0.9**
MNMC				IAML		21 43 30.3	
	comp=N,1μm,0.5s						
MNMC	**Minye Minye**	**3.66**	**308**	P	**Pn**	**21 42 40.3**	**+0.8**
MNMC	**Minye Minye**	**3.66**	**308**		**Pn**	**21 42 40.2**	**+0.8**
PB05	**IPOC Station P**	**3.69**	**246**	*i*P	**Pn**	**21 42 40.8**	**+1.1**
PSGC	**Pisagua**	**3.81**	**297**	*i*P	**Pn**	**21 42 40.6**	**-0.5**
PSGC				*i*S	**S**	**21 43 25.7**	**-3.7**
PSGC				IAML		21 43 28.3	
	comp=E,472nm,0.6s						
PSGC	**Pisagua**	**3.81**	**297**	P	**Pn**	**21 42 40.8**	**-0.3**
PB10	**IPOC Station P**	**4.27**	**240**	P	**Pn**	**21 42 46.9**	**+0.5**
PB10	**IPOC Station P**	**4.27**	**240**		**Pn**	**21 42 46.9**	**+0.5**
PB10				S	**S**	**21 43 34.1**	**-4.9**
PB10	**IPOC Station P**	**4.27**	**240**	*i*P	**Pn**	**21 42 47.0**	**+0.5**
BS05	**Cuyupaya**	**4.38**	**355**	P	**Pn**	**21 42 49.7**	**+1.4**
BS05				S	**S**	**21 43 41.0**	**-1.4**
BS05				AML	AML	21 43 44.6	
	comp=E,118nm,0.7s						
BBOJ	**La Paz, Jacaqu**	**4.67**	**340**	P	**Pn**	**21 42 54.4**	**+2.5**
GO02	**Mina Guanaco**	**4.68**	**216**		**Pn**	**21 42 53.0**	**+1.3**
FSA	**Cafayete**	**4.72**	**174**	*i*P	**Pn**	**21 42 55.0**	**+3.0**
BBOE	**La Paz, Chanca**	**4.77**	**343**	P	**Pn**	**21 42 55.1**	**+2.0**
PB14	**IPOC Station P**	**4.80**	**227**	*i*P	**Pn**	**21 42 54.2**	**+1.1**
BBOD	**La Paz, Gloria**	**5.12**	**337**	P	**Pn**	**21 42 59.0**	**+1.5**
LPAZ	**La Paz**	**5.31**	**343**	P	**Pn**	**21 43 00.6**	**+0.7**
	comp=E,7.8nm,0.3s,baz=143,slow=6.9,SNR=90						
LPAZ				S	**S**	**21 44 01.9**	**-1.3**
	comp=E,1.8nm,0.3s,baz=58,slow=19,SNR=16						
BBOB	**La Paz, Bander**	**5.45**	**344**	P	**Pn**	**21 43 02.3**	**+0.8**
BS09	**Huarina**	**5.55**	**339**	P	**Pn**	**21 43 03.8**	**+1.1**
GO03	**Copiap**	**7.03**	**208**		**Pn**	**21 43 20.4**	**-0.4**
SIV	**San Ignacio**	**7.47**	**45**	P	**Pn**	**21 43 25.6**	**-0.9**
	comp=E,14nm,0.3s,baz=239,slow=12,SNR=452						
SIV				S	**S**	**21 44 49.3**	**-2.7**
	comp=E,0.2nm,0.3s,baz=163,slow=19,SNR=2.5						
ACLC	**CERRO LA CRUZ**	**8.00**	**183**	*i*P	**Pn**	**21 43 33.6**	**+0.3**
APLL	**PUNTA DE LOS L**	**8.96**	**180**	*i*P	**Pn**	**21 43 45.2**	**-0.2**
ACCO	**Cerro Coronel**	**9.43**	**193**	*i*P	**Pn**	**21 43 52.3**	**+0.6**
GO04	**Tololo Observa**	**9.54**	**203**	Pn	**Pn**	**21 43 52.5**	**-0.5**
GO04					**S**	**21 45 36.1**	**-4.4**
AMOG	**MOGNA**	**9.66**	**190**	*i*P	**Pn**	**21 43 54.4**	**+0.1**
CPUP	**Villa Florida**	**9.75**	**122**	P	**Pn**	**21 43 55.5**	**0.0**
	comp=E,0.3nm,0.3s,baz=305,slow=14,SNR=5.0						
CFA	**Coronel Fontan**	**10.28**	**188**	P	**Pn**	**21 44 01.8**	**-0.3**
	comp=E,0.9nm,0.3s,baz=22,slow=14,SNR=27						
CFA				S	**S**	**21 45 50.6**	**-6.9**
	comp=E,3.0nm,0.3s,baz=144,slow=19,SNR=13						
ACAN	**Cantantal**	**10.85**	**183**	*i*P	**Pn**	**21 44 09.4**	**0.0**
ROC1	**El Roble**	**12.20**	**198**	Pn	**Pn**	**21 44 27.4**	**+1.0**
SAML	**Samuel**	**12.80**	**15**		**Pn**	**21 44 32.1**	**-1.7**
NNA	**Nana**	**13.60**	**312**	P	**P**	**21 44 45.8**	**+0.6**
	comp=E,4.4nm,0.3s,baz=138,slow=9.1,SNR=8.1						
NNA	**Nana**	**13.60**	**312**		**Pn**	**21 44 42.3**	**-1.4**
GO05	**Huala**	**14.36**	**198**		**P**	**21 44 53.7**	**+0.3**
TRQA	**Tornquist**	**17.06**	**168**	P	**Pn**	**21 45 24.6**	**-0.4**
TRQA				IAmb	IAmb	21 45 32.4	
	comp=Z,2.2nm,0.8s						
ATAH	**Atahualpa**	**18.24**	**319**	P	**Pn**	**21 45 39.9**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=152,slow=5.5,SNR=5.1						
BDFB	**Brasilia**	**18.47**	**75**		**Pn**	**21 45 41.9**	**0.0**
BDFB				IAmb	IAmb	21 45 42.8	
	comp=Z,5.9nm,0.5s						
MDP	**Montagnes des**	**29.65**	**29**	P	**P**	**21 47 22.9**	**-0.9**
	comp=Z,4.4nm,0.6s,baz=204,slow=7.9,SNR=7.6						
TXAR	**Lajitas Array**	**61.84**	**323**	P	**P**	**21 51 35.5**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=139,slow=8.4,SNR=3.3						
PDAR	**Pinedale Array**	**75.15**	**329**	P	**P**	**21 52 57.9**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=106,slow=5.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**75.25**	**69**	P	**P**	**21 52 57.1**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=257,slow=5.2,SNR=19						
TORD				pP	**pP**	**21 53 54.9**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=254,slow=5.7,SNR=3.4						
YKA	**Yellowknife Ar**	**91.84**	**340**	P	**P**	**21 54 22.1**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=126,slow=4.0,SNR=8.1						
MKAR	**Makanchi Array**	**144.23**	**37**	PKP	**PKPdf**	**22 00 48.0**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=330,slow=2.4,SNR=4.8						

JMA ***02*** *21:42:33.6±0.2, 24°.80N×122°.59E, h20km±3km, M2.3*
TAP ***02*** *21:42:37.8, 24°.80N×122°.22E, h3km±2km, ML2.8, D*
ISC 02 21:42:32.2±1.3, **24°.86N**±0°.04×**122°.57E**±0°.03, **h4km**±15km, **n58,** σ0.85s/69, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.51**	**233**	P	**Pb**	**21 42 44.1**	**+0.5**
	baz=198						
EOS1				S	**Sg**	**21 42 48.3**	**-0.1**
	baz=198						
JYNG	**Yonagunijimaku**	**0.53**	**140**	P	**Pg**	**21 42 43.0**	**+0.6**
JYNG				*e*S	**Sg**	**21 42 49.9**	**+0.7**
TWB1	**Santiao Chiao**	**0.55**	**286**	*e*P	**Pb**	**21 42 44.2**	**-0.2**
	baz=315						
TWB1				*e*S	**Sg**	**21 42 49.4**	**-0.6**
	baz=315						
YOJ	**Yonaguni jima**	**0.56**	**134**	P	**Pg**	**21 42 43.6**	**+0.6**
YOJ				*e*S	**Sg**	**21 42 50.5**	**+0.2**
NTC	**Toucheng**	**0.67**	**270**	P	**Pb**	**21 42 46.2**	**-0.2**
	baz=278						
NTC				*e*S	**Sg**	**21 42 52.3**	**-1.6**
	baz=278						
TIPB	**Shuangxi**	**0.69**	**280**	*e*P	**Pb**	**21 42 46.8**	**0.0**
	baz=295						
TIPB				*e*S	**Sg**	**21 42 52.3**	**-2.0**
	baz=295						
TWC	**Suao**	**0.70**	**250**	*e*P	**Pb**	**21 42 46.9**	**-0.1**
	baz=239						
NWF	**Wu-fen Shan**	**0.75**	**287**	*e*P	**Pb**	**21 42 48.5**	**+0.7**
	baz=304						
NWF				*e*S	**Sg**	**21 42 55.7**	**-0.6**
	baz=304						
WFSB	**Wu-fen Shan**	**0.75**	**287**	P	**Pb**	**21 42 48.5**	**+0.7**
	baz=304						
WFSB				*e*S	**Sg**	**21 42 54.0**	**-2.3**
	baz=304						
TWE	**Neicheng**	**0.83**	**261**	P	**Pb**	**21 42 49.4**	**+0.2**
	baz=260						
SLBB	**Yuanshan**	**0.85**	**263**	P	**Pb**	**21 42 49.5**	**-0.1**
	baz=264						
NANB	**Nanao**	**0.86**	**240**	*e*P	**Pb**	**21 42 49.6**	**-0.1**
	baz=228						
NANB				*e*S	**Sg**	**21 42 59.5**	**-0.4**
	baz=228						
ENA	**Nanau**	**0.87**	**241**	*e*P	**Pb**	**21 42 49.2**	**-0.6**
	baz=228						
ENA				*e*S	**Sg**	**21 42 59.3**	**-0.8**
	baz=228						
ENTT	**Nioudou**	**0.94**	**257**	P	**Pb**	**21 42 51.3**	**+0.2**
	baz=254						
YM08	**YM08**	**0.95**	**291**	*e*P	**Pn**	**21 42 52.4**	**+0.1**
	baz=303						
YM01	**YM01**	**0.95**	**288**	*e*P	**Pg**	**21 42 50.9**	**+0.4**
	baz=300						
YM11	**YM11**	**0.95**	**289**	P	**Pn**	**21 42 52.9**	**+0.4**
	baz=301						
YM05	**YM05**	**0.96**	**289**	*e*P	**Pn**	**21 42 52.5**	**-0.1**
	baz=301						
YM10	**YM10**	**0.96**	**288**	P	**Pn**	**21 42 53.1**	**+0.5**
	baz=300						
NWLT	**Wulai**	**0.97**	**266**	*e*P	**Pg**	**21 42 50.6**	**-0.3**
	baz=267						
TWY	**Chenhua**	**0.97**	**296**	*e*P	**Pn**	**21 42 52.8**	**+0.2**
	baz=310						
YM04	**YM04**	**0.98**	**288**	*e*P	**Pg**	**21 42 51.1**	**+0.1**
	baz=299						
NDT	**Datong Townshi**	**0.99**	**256**	*e*P	**Pn**	**21 42 52.3**	**-0.6**
	baz=252						
ANP	**Anpu**	**1.01**	**289**	*e*P	**Pn**	**21 42 54.2**	**+1.1**
	baz=301						
YHNB	**Yeheng**	**1.10**	**261**	P	**Pn**	**21 42 54.6**	**+0.2**
	baz=260						
NSK	**Sanguang**	**1.12**	**261**	P	**Pn**	**21 42 54.6**	**-0.1**
	baz=260						
NACB	**Ninganchiao**	**1.12**	**233**	*e*P	**Pn**	**21 42 54.2**	**-0.4**
	baz=222						
NNSB	**Datong**	**1.16**	**249**	P	**Pn**	**21 42 55.1**	**-0.2**
	baz=244						
NNSH	**Datong**	**1.16**	**249**	P	**Pn**	**21 42 55.8**	**+0.5**
	baz=244						
NNS	**Nan Shan**	**1.17**	**249**	P	**Pn**	**21 42 55.3**	**-0.1**
	baz=244						
IRIF	**Iriomote-Funau**	**1.18**	**116**	P	**Pn**	**21 42 54.1**	**-1.3**
TWD	**Chiawan**	**1.18**	**229**	*e*P	**Pn**	**21 42 55.3**	**-0.1**
	baz=218						
ETLH	**Xiulin Townshi**	**1.18**	**237**	*e*P	**Pb**	**21 42 55.0**	**-0.2**
	baz=228						
HATJ	**Hateruma jima**	**1.38**	**125**	P	**Pn**	**21 42 57.7**	**-0.5**
WHF	**Hehuan Shan**	**1.38**	**240**	P	**Pg**	**21 42 59.6**	**+0.8**
	baz=232						
TDCB	**Techi**	**1.42**	**245**	*e*P	**Pg**	**21 43 00.6**	**+1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=240						
LIOB	Emei	1.43	262	eP	Pg	21 43 01.6	+2.0
	baz=262						
NSTT	Nanjuang	1.44	261	eP	Pg	21 43 01.7	+1.8
	baz=261						
JKRS	Kuro-shima	1.45	115	P	Pn	21 42 58.4	-0.7
ESL	Shilin	1.47	225	eP	Pg	21 43 00.8	+0.5
	baz=215						
CHGB	Renai	1.50	238	P	Pg	21 43 00.8	-0.1
	baz=232						
JIJ	Ishigaki jima	1.51	109	P	Pn	21 42 58.5	-1.6
WHP	Taichung City	1.59	249	P	Pg	21 43 03.4	+0.8
	baz=245						
JISG	Ishigakijimahi	1.60	99	P	Pn	21 43 01.9	+0.6
NMLH	Miaoli	1.65	259	eP	Pg	21 43 04.2	+0.4
	baz=258						
VWDT	VWDT	1.70	230	eP	Pb	21 43 03.7	-0.4
	baz=223						
VWDT				eS	Sg	21 43 26.0	-1.0
	baz=223						
DPDB	Guoxing	1.71	242	P	Pg	21 43 05.1	+0.1
	baz=237						
TWQ1	Liyutan	1.71	253	eP	Pg	21 43 05.3	+0.3
	baz=251						
HGSD	Ruisui	1.71	218	eP	Pg	21 43 07.3	+2.2
	baz=209						
EHY	Hungye	1.76	221	eP	Pg	21 43 07.3	+1.3
	baz=212						
SMLT	Sun Moon Lake	1.81	238	P	Pg	21 43 06.6	-0.2
	baz=232						
SSLB	Suanglung	1.82	235	P	Pg	21 43 07.3	+0.2
	baz=228						
TYC	Yuchr	1.83	239	P	Pb	21 43 06.1	-0.1
	baz=234						
YULB	Yu-li	1.86	219	eP	Pb	21 43 06.2	-0.6
	baz=211						
TWF1	Yuli	1.90	218	eP	Pb	21 43 06.8	-0.6
	baz=210						
FULB	Fuli	2.02	216	eP	Pg	21 43 11.2	+0.2
	baz=207						
CHN5	Tsauling	2.13	234	eP	Pb	21 43 12.1	+0.6
	baz=229						
VWUC	VWUC	2.84	273	eP	Pn	21 43 20.1	+1.8
	baz=274						

*MDD **02** 21:53:07.9±2.2, 37°.15N×13°.33W, h0km, mb3.8/2, Error ellipse: s-maj=20.9km s-min=17.5km az=15.0, PRXIMO*
*INMG **02** 21:53:09.4±0.7, 36°.97N×13°.71W, h10km, ML2.2, Error ellipse: s-maj=4.9km s-min=4.1km az=85.0*
ISC 02 21:53:07.2±3.8**, 37°.2N**±0°.1×**13°.3W**±0°.2**, h10**km**, n39, σ1s.54**/61**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	3.59	90	eP	Pn	21 54 03.7	+0.8
PFVI				eS	Sn	21 54 44.0	-1.4
PFVI				A	A	21 54 49.2	
	7.1nm,0.8s						
PFVI	Vila Bisbo	3.59	90	P	Pn	21 54 03.6	+0.8
	0.9nm,0.1s,SNR=7.9						
PFVI				S	Sn	21 54 44.0	-1.4
	6.2nm,0.1s,SNR=7.4						
PMAFR	Mafra	3.62	60	eP	Pn	21 54 05.2	+1.8
PMAFR				eS	Sn	21 54 46.7	+0.5
PMAFR				A	A	21 54 57.4	
	10nm,0.6s						
PMAFR	Mafra	3.62	60	P	Pn	21 54 05.2	+1.8
	1.5nm,0.1s,SNR=7.9						
PMAFR				S	Sn	21 54 45.7	-0.6
	8.6nm,0.2s,SNR=7.9						
MORF	Marmelete	3.73	87	eS	Sn	21 54 47.6	-1.2
MORF				A	A	21 54 52.6	
	4.9nm,0.5s						
MORF	Marmelete	3.73	87	S	Sn	21 54 47.6	-1.2
	4.9nm,0.5s						
PNCL	Nicolau / Gran	3.91	75	eP	Pn	21 54 08.4	+1.2
PNCL				eS	Sn	21 54 52.4	-0.7
PNCL				A	A	21 54 59.1	
	1.5nm,0.2s						
PNCL	Nicolau / Gran	3.91	75	P	Pn	21 54 08.4	+1.2
PNCL				S	Sn	21 54 52.4	-0.7
	1.5nm,0.2s						
PCVE	Castro Verde	4.22	83	eP	Pn	21 54 12.7	+1.1
PCVE				eS	Sn	21 54 59.4	-1.6
PCVE				A	A	21 55 04.0	
	2.0nm,0.6s						
PCVE	Castro Verde	4.22	83	P	Pn	21 54 12.7	+1.1
PCVE				S	Sn	21 54 59.4	-1.6
	2.0nm,0.6s						
PBDV	Barranco-do-Ve	4.30	88	eP	Pn	21 54 13.3	+0.6
PBDV				eS	Sn	21 55 01.4	-1.6
PBDV				A	A	21 55 06.5	
	3.3nm,0.7s						
PBDV	Barranco-do-Ve	4.30	88	P	Pn	21 54 13.3	+0.6
PBDV				S	Sn	21 55 01.4	-1.6
	3.3nm,0.7s						
PBEJ	Beja	4.41	78	eS	Sn	21 55 06.2	+0.8
PBEJ	Beja	4.41	78	S	Sn	21 55 06.2	+0.8
PMTG	Montargil	4.42	64	eP	Pn	21 54 15.6	+1.3
PMTG				eS	Sn	21 55 06.3	+0.5
PMTG				A	A	21 55 06.6	
	1.6nm,0.8s						
PMTG	Montargil	4.42	64	P	Pn	21 54 15.6	+1.3
PMTG				S	Sn	21 55 06.3	+0.5
	1.6nm,0.8s						
PVAQ	Vaqueiros	4.47	86	eP	Pn	21 54 15.5	+0.5
PVAQ				eS	Sn	21 55 05.2	-1.9
PVAQ				A	A	21 55 09.1	
	2.8nm,0.3s						
PVAQ	Vaqueiros	4.47	86	P	Pn	21 54 15.5	+0.5
PVAQ				S	Sn	21 55 05.2	-1.9
	2.8nm,0.3s						
PTOM	Tomar	4.54	57	eS	Sn	21 55 09.9	+1.2
PTOM				A	A	21 55 16.9	
	3.4nm,0.7s						
PTOM	Tomar	4.54	57	S	Sn	21 55 09.9	+1.2
	1.7nm,0.7s						
EGRO	El Granado	4.66	84	S	Sn	21 55 10.0	-1.8
	1.0nm,0.1s,SNR=7.9						
PCAS	Casmilo, Conde	4.71	52	eP	Pn	21 54 20.0	+1.6
PCAS				eS	Sn	21 55 13.0	-0.1
PCAS				A	A	21 55 33.1	
	1.5nm,0.6s						
PCAS	Casmilo, Conde	4.71	52	P	Pn	21 54 20.0	+1.6
PCAS				S	Sn	21 55 13.0	-0.1
	1.5nm,0.6s						
PESTR	Estremoz	4.81	68	eS	Sn	21 55 14.6	-0.9
PESTR				A	A	21 55 26.6	
	1.7nm,0.6s						
PMRV	Marv??o	5.16	63	eP	Pn	21 54 25.9	+1.5
PMRV				eS	Sn	21 55 23.2	-0.8
PMRV				A	A	21 55 25.7	
	1.7nm,0.5s						
PMRV	Marv??o	5.16	63	P	Pn	21 54 25.9	+1.5
PMRV				S	Sn	21 55 23.2	-0.8
	1.7nm,0.5s						
EBAD	Badajoz	5.21	71	S	Sn	21 55 23.4	-2.0
	1.5nm,0.1s,SNR=5.8						
PCBR	Castelo Branco	5.27	59	eP	Pn	21 54 27.5	+1.5
PCBR				eS	Sn	21 55 26.7	-0.2
PCBR	Castelo Branco	5.27	59	P	Pn	21 54 27.5	+1.5
PCBR				S	Sn	21 55 26.7	-0.2
EMIN	Mina Concepcio	5.32	82	P	Pn	21 54 29.4	+2.8
	0.1nm,0.1s,SNR=4.0						
EMIN				S	Sn	21 55 26.3	-1.6
	0.5nm,0.1s,SNR=7.9						
POLO	Lamas de Olo	5.96	44	eP	Pn	21 54 36.6	+1.0
POLO	Lamas de Olo	5.96	44	P	Pn	21 54 36.6	+1.0
ESPR	Espera	5.98	91	S	Sn	21 55 44.5	+0.2
	3.3nm,0.3s,SNR=7.9						
ELOB	Lobios	6.17	40	P	Pn	21 54 38.6	+0.2
	0.4nm,0.2s,SNR=7.9						
ELOB				S	Sn	21 55 45.7	-3.2
	0.5nm,0.1s,SNR=7.9						
MVO	Moncorvo	6.27	49	eS	Sn	21 55 50.1	-1.5
ECAB	El Cabril	6.33	80	S	Sn	21 55 50.9	-2.0
	0.7nm,0.3s,SNR=7.9						
EPLA	Plasencia	6.34	61	S	Sn	21 55 51.8	-1.3
	0.7nm,0.2s,SNR=7.9						
EAGO	Agolada(Pontev	6.87	34	S	Sn	21 56 00.9	-5.3
	0.7nm,0.1s,SNR=7.9						
EADA	Adamuz	7.00	80	S	Sn	21 56 06.6	-2.8
	0.4nm,0.2s,SNR=7.9						

IDC 02 22:05:11.8±1.9**, 6°.74S**×**129°.88E, h162**km±21km**, mb3.3**/1**, mb1 3.5**/5**, mb1mx3.1**/43**, mbtmp3.9**/5**, Error ellipse: s-maj=35.2km s-min=16.4km az=99.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	6.00	13	P	Pn	22 06 38.9	+0.2
	2.2nm,0.3s,baz=190,slow=23,SNR=28						
SIJI				S	Sn	22 07 47.4	+0.6
	1.6nm,0.3s,baz=232,slow=23,SNR=5.8						
BATI	Baumata	7.05	240	P	Pn	22 06 52.5	-0.1
	6.2nm,0.3s,baz=58,slow=19,SNR=7.1						
BATI				S	Sn	22 08 04.1	-7.7
	5.9nm,0.3s,baz=65,slow=19,SNR=4.4						
FITZ	Fitzroy Crossi	12.02	200	P	Pn	22 07 53.1	-4.9
	0.9nm,0.3s,baz=25,slow=11,SNR=42						
FITZ				S	Sn	22 09 57.1	-14
	0.3nm,0.3s,baz=110,slow=1.9,SNR=3.8						
WRA	Warramunga Arr	13.82	162	P	Pn	22 08 19.2	-1.9
	0.5nm,0.3s,baz=346,slow=13,SNR=19						
WRA				S	Sn	22 10 45.4	-9.1
	1.2nm,0.3s,baz=330,slow=22,SNR=9.4						
ASAR	Alice Springs	17.27	167	P	Pn	22 09 04.2	+0.8
	0.4nm,0.3s,baz=343,slow=9.3,SNR=33						
ASAR				S	S	22 12 08.5	-5.5
	0.3nm,0.3s,baz=319,slow=17,SNR=5.9						
MKAR	Makanchi Array	67.95	327	P	P	22 15 53.1	-0.1
	0.3nm,0.4s,baz=119,slow=7.5,SNR=12						

JMA 02 22:16:39.5, 35°.06N×135°.83E, h12km, M2.7, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JWT	Wachi	0.41	302	P	Pg	22 16 47.7	0.0
JWT				S	Sg	22 16 53.0	-0.3
JHE	Heguri	0.42	196	P	Pg	22 16 47.8	-0.1
JHE				S	Sg	22 16 53.4	-0.1
TSUJ	Tsu 2	0.60	126	P	Pg	22 16 50.7	-0.4
TSUJ				S	Sg	22 16 58.7	-0.3
JKS	Kasai	0.81	265	P	Pg	22 16 54.8	-0.4
JKS				S	Sg	22 17 05.4	-0.5
JKY	Yasaka	0.82	314	P	Pg	22 16 55.0	-0.4
JKY				S	Sg	22 17 06.0	-0.1
JWY	Kouya	0.86	193	P	Pg	22 16 55.6	-0.6
JWY				S	Sg	22 17 06.6	-0.8
JKN2	Miekihoku	0.90	156	P	Pg	22 16 55.8	-1.0
JKN2				S	Sg	22 17 07.4	-1.1
JYTA	Yamagatataniai	0.91	54	P	Pg	22 16 56.6	-0.5
JYTA				S	Sg	22 17 08.4	-0.6
JAJ2	Tsuna	1.01	231	P	Pb	22 16 58.0	-0.9
JAJ2				S	Sg	22 17 11.3	-0.7
MAT	Matsushiro	2.43	52	P	Pn	22 17 19.1	0.0
MAT				S	Sn	22 17 49.7	+0.9

*NEIC **02** 22:18:42.0±2.6, 37°.42N±0°.05×143°.8E±0°.1, h10km±1km, mb4.3/5*
*IDC **02** 22:18:42.2±1.9, 37°.35N×143°.70E, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.5/57, mbtmp3.9/7, ML3.3/3, Error ellipse: s-maj=39.3km s-min=22.2km az=81.0*
*JMA **02** 22:18:43.7±0.2, 37°.87N×143°.54E, h46km, M3.4*
ISC 02 22:18:42.8±3.2**, 37°.80N**±0°.04×**143°.63E**±0°.05**, h28**km±26km**, n39, σ1s.66**/36**, mb3.9**/6**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.78	287	P	Pn	22 19 11.6	-0.1
JIKH				S	Sn	22 19 32.2	-1.2
JIO	Ouri	1.91	291	P	Pn	22 19 13.4	-0.1
JIO				eS	Sn	22 19 35.4	-1.2
JKMT	Kesennumamotoy	1.97	301	P	Pn	22 19 14.2	-0.1
JKMT				S	Sn	22 19 36.4	-1.7
OFUJ	Ofunato	2.00	310	P	Pn	22 19 14.6	-0.1
JMK	Ichinoseki	2.21	302	P	Pn	22 19 17.8	+0.2
JOM	Ohasama	2.48	313	P	Pn	22 19 21.7	+0.4
JOM				eS	Sn	22 19 49.6	-1.0
JFT	Otama	2.62	265	P	Pn	22 19 24.1	+0.8
JFT				S	Sn	22 19 53.8	-0.5
JYK	Kaneyama	2.80	294	P	Pn	22 19 26.6	+0.9
JYK				eS	Sn	22 19 58.7	+0.1
JANG	Nango	3.05	328	P	Pn	22 19 29.6	+0.4
JANG				eS	Sn	22 20 02.3	-2.5
JAG	Ashikaga	3.60	249	P	Pn	22 19 37.3	+0.5
JAG				S	Sn	22 20 17.8	-0.7
BSO1	Boso 1	3.80	215	P	Pn	22 19 38.6	-0.4
BSO1				eS	Sn	22 20 21.4	-1.1
JRY	Ryogami san	4.18	246	P	Pn	22 19 45.1	+0.3
JRY				S	Sn	22 20 30.7	-2.1
ERM	Erimo	4.22	355	Pn	Pn	22 19 49.9	+4.6
JOD2	Odawara 2	4.44	237	eS	Sn	22 20 36.4	-2.8
MJAR	Matsushiro Arr	4.50	255	Pn	Pn	22 19 51.2	+2.0
	0.4nm,0.3s,baz=75,slow=14,SNR=7.3						
MJAR				Sn	Sn	22 20 43.5	+2.9
	0.2nm,0.3s,baz=68,slow=16,SNR=4.1						
MAJO	Matsushiro	4.50	255	Pn	Pn	22 19 51.4	+2.2
MAT	Matsushiro	4.50	255	P	Pn	22 19 51.4	+2.2
MAT				eS	Sn	22 20 42.1	+1.4
MJB9	Matsu-Tunnel	4.51	256	Pn	Pn	22 19 51.6	+2.3
JCH	Churui	4.81	358	P	Pn	22 19 52.8	-0.6
JCH				eS	Sn	22 20 44.6	-3.6
JHJ2	Mitsune	5.62	215	Pn	Pn	22 19 59.6	-4.8
JHJ2				Sn	Sn	22 20 56.4	-12
JHJ	Hachijo jima 2	5.62	215	Pn	Pn	22 20 04.1	-0.5
	2.3nm,0.3s,baz=33,slow=17,SNR=3.9						
JHJ				Sn	Sn	22 21 02.9	-5.4
	11nm,0.3s,baz=88,slow=23,SNR=6.4						
INU	Inuyama	5.85	247	Pn	Pn	22 20 09.2	+1.5
JCJ	Chichijima	10.74	187	Pn	Pn	22 21 11.8	-3.0
	1.2nm,0.3s,baz=345,slow=20,SNR=3.7						
JNU	Nakatsue	11.39	250	Pn	Pn	22 21 25.4	+1.7
JOW	Kunigami	16.94	234	Pn	Pn	22 22 37.6	-0.2
JOW				IAmb	IAmb	22 22 41.5	
	comp=Z,21nm,1.2s						
H11N2	WAKE ISLAND Hy	27.09	125	T	T	22 51 28.3	
	baz=317,slow=75,SNR=11						
H11N1	WAKE ISLAND Hy	27.10	125	T	T	22 51 31.0	
	baz=317,slow=75,SNR=7.6						
H11N3	WAKE ISLAND Hy	27.11	125	T	T	22 51 29.9	
	baz=317,slow=75,SNR=8.3						
H11S1	WAKE ISLAND Hy	27.86	127	T	T	22 52 31.8	
	baz=322						
H11S3	WAKE ISLAND Hy	27.86	127	T	T	22 52 33.7	
	baz=322						
H11S2	WAKE ISLAND Hy	27.87	127	T	T	22 52 29.7	
	baz=322						
ZALV	Zalesovo Beam	42.71	312	P	P	22 26 44.1	+7.0
	comp=Z,0.4nm,0.4s,baz=94,slow=7.7,SNR=3.5						
MKAR	Makanchi Array	45.21	302	P	P	22 27 03.1	+5.8
	comp=Z,0.5nm,0.9s,baz=86,slow=9.7,SNR=2.9						
MAKZ	Makanchi	45.41	302	P	P	22 27 00.4	+1.4
KURBB	Kurchatov Arra	46.92	308	P	P	22 27 16.0	+5.3
	comp=Z,0.9nm,0.6s,baz=81,slow=8.3,SNR=5.8						
VRDI	Verde Repeater	49.71	37	P	P	22 27 35.2	+2.9
VRDI				IAmb	IAmb	22 27 48.4	
	comp=Z,6.0nm,1.4s						
WRA	Warramunga Arr	58.09	190	P	P	22 28 33.8	+0.1
	comp=Z,0.7nm,0.8s,baz=7.5,slow=7.2,SNR=6.3						
PV20	West Nyswonger	79.01	50	P	P	22 30 44.3	-0.2
PV20				IAmb	IAmb	22 30 50.0	
	comp=Z,3.0nm,0.8s						
PV11	David Mesa, Pa	79.09	50	P	P	22 30 44.6	-0.4

*IDC **02** 22:18:42.5±1.0, 32°.07N×69°.90E, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.6/58, mbtmp3.8/12, ML3.2/3, Error ellipse: s-maj=27.1km s-min=20.1km az=78.0*
*ISCJB **02** 22:18:45.7±0.9, 32°.21N±0°.09×69°.9E±0°.2, h29km, mb3.8/7, Error ellipse: s-maj=19.9km s-min=11.6km az=17.4*
ISC 02 22:18:47.0±1.1**, 32°.1N**±0°.1×**69°.9E**±0°.2**, h29**km**, n12, σ0s.85**/12**, mb3.8**/7**, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	Ala-Archa	11.13	18	Pn	Pn	22 21 24.5	+0.3
	0.3nm,0.3s,baz=187,slow=6.1,SNR=22						
AAK				Sn	Sn	22 23 27.2	-0.5
	0.1nm,0.3s,baz=317,slow=23,SNR=1.6						
MKAR	Makanchi Array	17.48	29	P	Pn	22 22 48.4	-0.1
	0.1nm,0.3s,baz=208,slow=12,SNR=10						
KURBB	Kurchatov Arra	19.57	17	P	P	22 23 11.3	-1.1
	0.0nm,0.3s,baz=207,slow=10,SNR=4.4						
AKTO	Aktyubinsk	20.33	338	P	P	22 23 21.8	+1.0
	3.3nm,0.8s,baz=150,slow=12,SNR=13						
BVAR	Borovoye Array	20.91	1	P	Pn	22 23 28.2	-1.4
	1.9nm,0.6s,baz=163,slow=11,SNR=7.4						
ZALV	Zalesovo Beam	24.30	22	P	P	22 24 01.1	-0.7
	0.8nm,0.6s,baz=216,slow=7.3,SNR=4.3						
AKASG	Malin Array Be	35.17	314	P	P	22 25 38.9	+0.8
	0.8nm,0.6s,baz=97,slow=8.1,SNR=4.1						
ARCES	ARCESS Array B	44.90	340	P	P	22 26 58.5	-0.1
	3.5nm,1.0s,baz=104,slow=6.9,SNR=3.5						
TORD	Torodi Ar. Bea	64.76	270	P	P	22 29 21.8	-1.4
	0.4nm,0.8s,baz=49,slow=6.0,SNR=3.5						
INK	Inuvik	78.38	9	P	P	22 30 44.9	+0.6
	1.1nm,0.5s,baz=4.1,slow=6.8,SNR=4.9						
WRA	Warramunga Arr	80.49	121	P	P	22 30 57.2	+0.7
	0.9nm,0.6s,baz=321,slow=5.0,SNR=14						
ASAR	Alice Springs	82.53	124	P	P	22 31 07.2	0.0
	0.2nm,0.3s,baz=312,slow=5.4,SNR=4.1						

*SOME **02** 22:30:35.3, 39°.43N×73°.35E, h5km*
*KRNET **02** 22:30:36.9±0.1, 39°.23N×73°.59E, mb4.1*
*IDC **02** 22:30:38.0±0.8, 39°.29N×73°.53E, h0km, mb3.9/14, mb1 4.0/22, mb1mx3.8/51, mbtmp3.8/22, ML2.9/8, MS3.0/4, Ms1 3.0/4, ms1mx2.6/37, Error ellipse: s-maj=13.6km s-min=11.3km az=114.0*
*BJI **02** 22:30:37.8±0.0, 39°.46N×73°.39E, h7km, mb4.0/12, mB4.5/10, ML4.0/5, Ms3.7/5, Ms7 3.6/5*
*NNC **02** 22:30:40.0±1.0, 39°.62N×73°.33E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=8.3km s-min=4.6km az=175.0*
*MOS **02** 22:30:42.7±1.7, 39°.48N×73°.50E, h31km, mb4.3/7, Error ellipse: s-maj=10.7km s-min=7.1km az=87.4*
ISC 02 22:30:42.4±1.1**, 39°.40N**±0°.04×**73°.39E**±0°.03**, h23**km±8km**, n148, σ2s.58**/186**, mb4.0**/18**, MS3.1**/4**, 46C-24D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARSB	Arslanbob	1.94	351	⇓iP	Pb	22 31 15.4	-1.8
	baz=48						
ARSB				⇓iS	Sb	22 31 43.8	+2.7
	baz=48						
KSH	Kashi	2.00	86	Pn	Pn	22 31 08.1	-6.8
KSH				Sn	Sn	22 31 30.7	-8.5
KSH				smax	smax		
	comp=N,9μm,0.6s						
KSH				smax	smax		
	comp=E,12μm,0.5s						
BTK	Batken	2.09	289	⇑eP	Pn	22 31 17.7	+1.6
	baz=92						
BTK				⇑iS	Sb	22 31 47.5	+2.3
	baz=92						
ARLS	Aral	2.56	16	⇑iP	Pn	22 31 23.2	+0.7
	baz=12						
ARLS				⇑iS	Sb	22 31 56.9	-1.8
	baz=12						
ARK	Arkit	2.63	336	⇑iP	Pn	22 31 25.5	+2.0
	baz=35						
ARK				⇑iS	Sb	22 32 00.8	+0.1
	baz=35						
AML	Almayashu	2.73	5	⇑iP	Pn	22 31 26.4	+1.2
	baz=2.0						
AML				⇑iS	Sb	22 32 02.2	-1.8
	baz=2.0						
AML	Almayashu	2.73	5	P	Pn	22 31 26.7	+1.5
	SNR=74						
NRN	Naryn	2.84	44	⇑iP	Pn	22 31 25.3	-1.3
	baz=39						
NRN				⇑iS	Sb	22 32 00.8	-6.2
	baz=39						
UCH	Uchtor	2.95	16	⇓iP	Pn	22 31 28.6	+0.4
	baz=13						
UCH				⇓iS	Sb	22 32 06.6	-3.6
	baz=13						
UCH	Uchtor	2.95	16	P	Pn	22 31 29.7	+1.5
	SNR=38						
KZA	Kyzart	3.02	27	⇓iP	Pn	22 31 29.2	0.0
	baz=23						
KZA				⇓iS	Sb	22 32 07.6	-4.7
	baz=23						
KZA	Kyzart	3.02	27	P	Pb	22 31 30.9	-4.8
	SNR=12						
EKS2	Erkin-Say	3.27	5	⇑iP	Pn	22 31 33.2	+0.9
	baz=2.0						
EKS2				⇑iS	Sb	22 32 14.6	-4.5
	baz=2.0						
EKS2	Erkin-Say	3.27	5	P	Pn	22 31 34.7	+2.4
	SNR=12						
AAK	Ala-Archa	3.34	14	Pn	Pb	22 31 35.8	-5.1
	5.3nm,0.3s,baz=181,slow=8.0,SNR=94						
AAK				Pg	Pn	22 31 40.3	+7.0
	11nm,0.3s,baz=175,slow=10.0,SNR=28						
AAK				Sn	Sb	22 32 18.9	-2.2
	7.3nm,0.3s,baz=291,slow=17,SNR=12						
AAK				Lg	Lg	22 32 24.9	
	17nm,0.3s,baz=295,slow=17,SNR=5.0						
AAK				LR	LR	22 33 02.6	
	comp=Z,153nm,18.6s,baz=184,slow=42						
AAK	Ala-Archa	3.34	14	⇑iP	Pn	22 31 33.9	+0.6
	baz=11						
AAK				⇑iS	Sb	22 32 15.4	-5.7
	baz=11						
AAK	Ala-Archa	3.34	14	P	Pn	22 31 35.6	+2.3
	SNR=36						
AAK	Ala-Archa	3.34	14	⇓Pn	Pn	22 31 31.8	-1.5
	19nm,0.6s						
AAK				⇑Pg	Pb	22 31 38.9	-2.0
	42nm,0.7s						
AAK				⇑Lg	Lg	22 32 21.1	
	308nm,0.8s						
MRKS	Merke	3.34	358	eP	Pb	22 31 36.7	-4.2
	24nm,0.3s						
MRKS				eS	Sb	22 32 22.0	+0.8
	153nm,0.6s						
MRKS	Merke	3.34	358	Pg	Pn	22 31 35.3	+2.0
	24nm,0.3s						
MRKS				Lg	Lg	22 32 18.8	
	153nm,0.6s						
KBK	Karagaybulak	3.46	19	⇓eP	Pn	22 31 35.4	+0.5
	baz=16						
KBK				⇓eS	Sb	22 32 18.4	-6.2
	baz=16						
KBK	Karagaybulak	3.46	19	P	Pb	22 31 38.0	-4.9
	SNR=33						
FRU1	Bishkek	3.53	15	⇑iP	Pn	22 31 36.6	+0.8
	baz=12						
FRU1				⇑eS	Sb	22 32 20.2	-6.4
	baz=12						
ULHL	Ulahol	3.57	36	⇑iP	Pn	22 31 36.4	-0.1
	baz=33						
ULHL				⇑eS	Sn	22 32 19.8	+1.8
	baz=33						
ULHL	Ulahol	3.57	36	P	Pb	22 31 39.7	-5.2
	SNR=14						
TAS	Tashkent	3.68	303	⇑iP	Pn	22 31 39.8	+1.9
	baz=4.0						
TAS				⇑iS	Sn	22 32 25.4	+4.9
	baz=4.0						
CHMS	Chumysh	3.73	15	⇑iP	Pn	22 31 39.6	+1.0
	baz=13						
CHMS				⇑iS	Sb	22 32 24.7	-7.8
	baz=13						
CHMS	Chumysh	3.73	15	P	Pb	22 31 41.9	-5.7
	SNR=14						
IUG	Iuzhnay	3.75	318	eP	Pn	22 31 42.0	+3.2
	19nm,0.9s						
IUG				eS	Sb	22 32 30.3	-2.6
	282nm,1.0s						
IUG	Iuzhnay	3.75	318	Pg	Pn	22 31 42.0	+3.2
	19nm,0.9s						
IUG				Lg	Lg	22 32 30.3	
	282nm,1.0s						
DZA	Taraz	3.82	337	eP	Pn	22 31 43.1	+3.4
	34nm,0.2s						
DZA				eS	Sb	22 32 32.6	-2.3
	154nm,0.5s						
DZA	Taraz	3.82	337	Pg	Pn	22 31 43.1	+3.4
	34nm,0.2s						
DZA				Lg	Lg	22 32 32.6	
	154nm,0.5s						
TKM2	Tokmak 2	3.89	25	⇑eP	Pn	22 31 41.5	+0.6
	baz=22						
TKM2				⇑iS	Sn	22 32 28.2	+2.3
	baz=22						
TKM2	Tokmak 2	3.89	25	P	Pn	22 31 42.5	+1.6
	SNR=13						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TKM2	Tokmak 2	3.89	25	⇓Pn	Pn	22 31 40.2	-0.7
	10nm,0.8s						
TKM2				⇑Pg	Pb	22 31 49.4	-0.9
	37nm,0.8s						
TKM2				⇑Lg	Lg	22 32 39.7	
	256nm,0.8s						
USP	Ospenovka	3.95	12	⇑eP	Pn	22 31 42.3	+0.7
	baz=9.0						
USP				⇑iS	Sb	22 32 30.4	-8.2
	baz=9.0						
USP	Ospenovka	3.95	12	P	Pn	22 31 43.7	+2.1
	SNR=6.2						
KDJ	Kajisay	3.96	45	⇑eP	Pn	22 31 41.1	-0.8
	baz=42						
KDJ				⇑iS	Sn	22 32 28.3	+0.6
	baz=42						
CHM	Chimkent	4.09	317	eP	Pb	22 31 51.3	-2.4
	28nm,0.2s						
CHM				eS	Sb	22 32 46.1	+3.4
	431nm,0.7s						
KST	Kastek	4.12	27	eP	Pb	22 31 51.3	-2.9
	42nm,0.7s						
KST				eS	Sb	22 32 46.2	+2.6
	146nm,0.8s						
KST	Kastek	4.12	27	Pg	Pb	22 31 51.3	-2.9
	42nm,0.7s						
KST				Lg	Lg	22 32 46.2	
	146nm,0.8s						
SGDS	Sogindy	4.15	13	Pg	Pb	22 31 52.6	-2.1
	26nm,0.7s						
SGDS				Lg	Lg	22 32 48.5	
	126nm,0.8s						
KK31	Karatay Array	4.29	330	⇓Pn	Pn	22 31 45.0	-1.2
	3.6nm,0.3s,baz=136,slow=11,SNR=76						
KK31				⇑Pg	Pb	22 31 53.8	-3.2
	9.1nm,0.5s,baz=143,slow=14,SNR=9.4						
KK31				⇓Lg	Lg	22 32 49.5	
	20nm,0.5s,baz=134,slow=30,SNR=3.6						
IZV	Izvestkoviy	4.37	33	eP	Pb	22 31 56.8	-1.7
	35nm,0.7s						
IZV				eS	Sb	22 32 55.9	+5.2
	238nm,0.6s						
IZV	Izvestkoviy	4.37	33	Pg	Pb	22 31 56.8	-1.7
	35nm,0.7s						
IZV				Lg	Lg	22 32 55.9	
	238nm,0.6s						
MTBS	Maitube	4.37	31	eP	Pb	22 31 56.0	-2.5
	44nm,0.6s						
MTBS				eS	Sb	22 32 54.7	+4.0
	76nm,0.5s						
MTBS	Maitube	4.37	31	Pg	Pb	22 31 56.0	-2.5
	44nm,0.6s						
MTBS				Lg	Lg	22 32 54.7	
	76nm,0.5s						
BRLS	Borolday	4.51	325	eP	Pb	22 31 55.3	-5.5
	0.6nm,0.1s						
BRLS				eS	Sb	22 32 53.4	-1.3
	58nm,0.6s						
BRLS	Borolday	4.51	325	Pg	Pb	22 31 55.3	-5.5
	0.6nm,0.1s						
BRLS				Lg	Lg	22 32 53.4	
	58nm,0.6s						
TNSS	Tian-Shan	4.51	35	eP	Pb	22 31 58.1	-3.0
	40nm,0.6s						
TNSS				eS	Sb	22 32 58.2	+3.1
	106nm,0.5s						
TNSS	Tian-Shan	4.51	35	Pg	Pb	22 31 58.1	-3.0
	40nm,0.6s						
TNSS				Lg	Lg	22 32 58.2	
	106nm,0.5s						
AAA	Alma-Ata	4.63	34	eP	Pb	22 32 01.2	-1.8
	19nm,0.1s						
AAA				eS	Sb	22 33 03.6	+5.2
	177nm,0.7s						
AAA	Alma-Ata	4.63	34	ePN	Pb	22 32 02.8	-0.2
AAA	Alma-Ata	4.63	34	Pg	Pb	22 32 01.2	-1.8
	19nm,0.1s						
AAA				Lg	Lg	22 33 03.6	
	177nm,0.7s						
MDOK	Medeo	4.66	35	eP	Pb	22 32 02.0	-1.4
	22nm,1.0s						
MDOK				eS	Sb	22 33 04.3	+5.2
	152nm,1.0s						
MDOK	Medeo	4.66	35	⇓Pn	Pn	22 31 51.3	-0.1
	7.0nm,0.6s						
MDOK				⇑Pg	Pb	22 32 02.1	-1.4
	54nm,1.1s						
MDOK				⇓Lg	Lg	22 33 03.4	
	452nm,1.4s						
KNDC	Almaty	4.66	34	⇑Pn	Pn	22 31 50.4	-1.0
	22nm,0.7s						
KNDC				⇑Pg	Pb	22 32 02.8	-0.7
	84nm,0.8s						
KNDC				⇓Lg	Lg	22 33 03.4	
	571nm,1.1s						
ANVS	Anan'yevo	4.67	42	⇑eP	Pn	22 31 51.2	-0.4
	baz=40						
ANVS				⇑iS	Sn	22 32 45.6	+0.4
	baz=40						
KOTS	Kotyrbulak	4.74	35	eP	Pb	22 32 02.3	-2.6
	80nm,0.7s						
KOTS				eS	Sb	22 33 05.4	+3.8
	555nm,0.6s						
KOTS	Kotyrbulak	4.74	35	Pg	Pb	22 32 02.3	-2.6
	80nm,0.7s						
KOTS				Lg	Lg	22 33 05.4	
	555nm,0.6s						
PRZ	Przheval'sk	4.88	49	⇓iP	Pn	22 31 53.4	-1.1
	baz=47						
PRZ				⇓eS	Sn	22 32 49.6	-0.8
	baz=47						
KTBS	Karatobe	4.96	29	eP	Pb	22 32 07.6	-0.9
	21nm,0.6s						
KTBS				eS	Sb	22 33 14.3	+6.6
	173nm,0.9s						
KTBS	Karatobe	4.96	29	Pg	Pb	22 32 07.6	-0.9
	21nm,0.6s						
KTBS				Lg	Lg	22 33 14.3	
	173nm,0.9s						
KUU	Kurty	5.00	25	eP	Pb	22 32 07.8	-1.4
	19nm,0.7s						
KUU				eS	Sb	22 33 14.7	+6.0
	152nm,1.1s						
KUU	Kurty	5.00	25	Pg	Pb	22 32 07.8	-1.4
	19nm,0.7s						
KUU				Lg	Lg	22 33 14.7	
	152nm,1.1s						
CHKK	Chushkaly	5.20	30	eP	Pb	22 32 12.5	-0.1
	12nm,0.5s						
CHKK				eS	Sb	22 33 23.1	+8.6
	71nm,0.6s						
CHKK	Chushkaly	5.20	30	Pg	Pb	22 32 12.5	-0.1
	12nm,0.5s						
CHKK				Lg	Lg	22 33 23.1	
	71nm,0.6s						
SATY	Saty	5.25	44	eP	Pb	22 32 12.0	-1.6
	22nm,0.6s						
SATY				eS	Sb	22 33 21.5	+5.2
	100nm,1.2s						
SATY	Saty	5.25	44	Pg	Pb	22 32 11.0	-2.5
	77nm,1.0s						
SATY				Lg	Lg	22 33 20.6	
	114nm,1.1s						
ZHN	Zhinishke	5.34	44	Pg	Pb	22 32 13.6	-1.5
	17nm,0.9s						
ZHN				Lg	Lg	22 33 24.7	
	47nm,0.3s						
KURS	Kuram	5.43	40	eP	Pb	22 32 15.3	-1.3
	24nm,1.0s						
KURS				eS	Sb	22 33 27.5	+6.2
	102nm,1.3s						
KURS	Kuram	5.43	40	Pg	Pb	22 32 15.3	-1.3
	24nm,1.0s						
KURS				Lg	Lg	22 33 27.5	
	102nm,1.3s						
UZB	Uzynbulak	5.65	47	eP	Pb	22 32 19.9	-0.5
	18nm,1.0s						
UZB				eS	Sb	22 33 34.9	+7.2
	52nm,1.2s						
UZB	Uzynbulak	5.65	47	Pg	Pb	22 32 19.7	-0.6
	18nm,1.1s						
UZB				Lg	Lg	22 33 35.4	
	52nm,1.1s						
BTLS	Baital	5.66	5	eP	Pb	22 32 18.7	-1.6
	2.5nm,0.4s						
BTLS				eS	Sb	22 33 33.6	+6.0
	30nm,0.6s						
BTLS	Baital	5.66	5	Pg	Pb	22 32 18.7	-1.6
	2.5nm,0.4s						
BTLS				Lg	Lg	22 33 33.6	
	30nm,0.6s						
KPKS	Kokpek	5.68	43	eP	Pb	22 32 18.7	-2.1
	22nm,0.7s						
KPKS				eS	Sb	22 33 33.0	+4.5
	56nm,0.9s						
ARXS	Arharly	5.84	33	eP	Pb	22 32 24.3	+0.9
	28nm,0.7s						
ARXS				eS	Sb	22 33 43.2	+10
	67nm,0.7s						
ARXS	Arharly	5.84	33	Pg	Pb	22 32 24.3	+0.9
	28nm,0.7s						
ARXS				Lg	Lg	22 33 43.3	
	67nm,0.7s						
SHLS	Shalkode	5.91	49	Pg	Pb	22 32 29.3	+4.6
	3.8nm,0.5s						
SHLS				Lg	Lg	22 33 51.8	
	91nm,1.1s						
MNBS	Baschi	5.99	37	Pg	Pb	22 32 25.4	-0.7
	52nm,0.7s						
MNBS				Lg	Lg	22 33 45.4	
	102nm,0.7s						
PDGK	Podgornoye	6.03	48	i PN	Pn	22 32 10.0	-0.3
PDGK	Podgornoye	6.03	48	Pg	Pb	22 32 26.5	-0.3
	9.2nm,0.9s						
PDGK				Lg	Lg	22 33 46.9	
	20nm,0.8s						
PDGK	Podgornoye	6.03	48	⇓Pn	Pn	22 32 10.2	-0.1
	7.0nm,0.8s						
PDGK				⇑Pg	Pb	22 32 28.2	+1.3
	30nm,1.1s						
PDGK				⇓Lg	Lg	22 33 48.2	
	68nm,0.9s						
TDK	Taldyqorghan	6.72	32	Pg	Pb	22 32 37.0	-1.4
	18nm,0.7s						
TDK				Lg	Lg	22 34 05.0	
	137nm,0.8s						
DJR	Jarkent	6.86	42	Pg	Pb	22 32 41.9	+1.1
	16nm,1.2s						
DJR				Lg	Lg	22 34 13.7	
	42nm,1.6s						
KAPS	Kapalarasan	7.35	35	Pg	Pb	22 32 49.7	+0.5
	6.8nm,0.8s						
KAPS				Lg	Lg	22 34 26.9	
	27nm,0.8s						
DHRM	DHARAMSHALA	7.52	161	eP	Pn	22 32 31.3	+0.5
DHRM				eP	Pn	22 32 31.3	+0.5
DHRM				eS	Sn	22 33 56.8	+1.4
DHRM				eS	Sn	22 33 56.8	+1.4
DHRM				IAML		22 34 06.2	
	comp=N,52nm,0.8s						
DHRM				IAML		22 34 06.2	
	comp=N,52nm,0.8s						
DHRM				IAML		22 34 06.3	
	comp=E,57nm,0.6s						
DHRM				IAML		22 34 06.3	
	comp=E,57nm,0.6s						
SMLA	Simla	8.81	158	eP	Pn	22 32 50.2	+1.9
SMLA				eP	Pn	22 32 50.2	+1.9
SMLA				eS	Sn	22 34 25.8	-1.1
SMLA				eS	Sn	22 34 25.8	-1.1
SMLA				IAML		22 34 33.1	
	comp=N,21nm,0.3s						
SMLA				IAML		22 34 33.1	
	comp=N,21nm,0.3s						
SMLA				IAML		22 34 33.4	
	comp=E,13nm,0.3s						
SMLA				IAML		22 34 33.4	
	comp=E,13nm,0.3s						
MAKZ	Makanchi	9.70	37	P	Pn	22 33 02.0	+1.6
MAKZ	Makanchi	9.70	37	⇑Pn	Pn	22 33 00.7	+0.2
	comp=E,6.5nm,1.2s						
MAKZ				⇑Pg		22 33 34.8	
	comp=E,6.4nm,1.1s						
MAKZ				⇓Lg	Lg	22 35 43.2	
	comp=E,26nm,1.4s						
MK31	Makanchi Array	9.84	38	i P	Pn	22 33 03.1	+0.8
MK31	Makanchi Array	9.84	38	⇑Pn	Pn	22 33 01.1	-1.2
	comp=E,2.3nm,0.8s,baz=208,slow=12,SNR=10						
MK31				⇓Pg		22 33 38.0	
	comp=E,2.1nm,0.7s,baz=226,slow=14,SNR=2.9						
MK31				⇓Lg	Lg	22 35 50.1	
	comp=E,18nm,1.4s,baz=240,slow=27,SNR=4.3						
MKAR	Makanchi Array	9.84	38	Pn	Pn	22 33 03.5	+1.1
	comp=E,0.0nm,0.3s,baz=217,slow=10.0,SNR=9.2						
MKAR				Lg	Lg	22 35 47.1	
	comp=E,0.1nm,0.3s,baz=236,slow=26,SNR=3.4						
JOSI	Joshimath	10.17	148	eP	Pn	22 33 06.6	-0.6
JOSI				eS	Sn	22 34 58.4	-2.1
WMQ	Urumqi	11.58	63	eP	Pn	22 33 25.0	-1.2
WMQ				PP	PnPn	22 33 34.5	+0.7
WMQ				pmax	pmax		
	comp=E,10.0nm,1.1s						
WMQ				pmax	pmax		
	comp=E,59nm,3.6s						
KURBB	Kurchatov Arra	11.79	16	Pn	Pn	22 33 28.6	-0.3
	comp=E,0.0nm,0.3s,baz=206,slow=12,SNR=4.1						
KURBB				Lg	Lg	22 36 47.4	
	comp=E,0.0nm,0.3s,baz=201,slow=26,SNR=13						
KURBB	Kurchatov Arra	11.79	16	⇑Lg	Lg	22 36 50.5	
	comp=E,110nm,1.6s						
KURK	Kurchatov	11.89	16	i P	Pn	22 33 29.0	-1.4
GEYT	Alibeck	12.04	268	Pn	Pn	22 33 31.4	-1.1
	comp=E,0.3nm,0.3s,baz=83,slow=12,SNR=3.1						
GEYT				Sn	Sn	22 35 46.1	+0.2
	comp=E,0.1nm,0.3s,baz=84,slow=32,SNR=2.6						
AB31	Akbulak array	13.75	320	⇑Pn	Pn	22 33 54.5	-1.3
	comp=E,2.0nm,0.7s,baz=132,slow=12,SNR=21						
AB31				⇓Sn	Sn	22 36 29.2	+1.5
	comp=E,5.2nm,0.9s						
BVAR	Borovoye Array	13.78	352	Pn	Pn	22 33 54.3	-1.8
	comp=E,0.4nm,0.3s,baz=147,slow=8.6,SNR=5.1						
BRVK	Borovoye	13.82	352	i P	Pn	22 33 58.2	+1.4
DANN	Dangsing	13.98	139	eP	Pn	22 33 53.8	-5.4
	comp=E,32nm,0.9s						
KOLN	Koldanda	14.37	141	eP	Pn	22 33 57.7	-6.9
	comp=E,42nm,1.1s						
GKN	Gorkha	14.71	137	eP	Pn	22 34 04.3	-4.8
PKIN	Phulchoki	15.45	136	eP	Pn	22 34 14.4	-4.7
	comp=E,14nm,1.0s						
PKI	Pulchoki	15.46	136	eP	Pn	22 34 14.4	-4.9
	comp=E,11nm,0.8s						
AKTO	Aktyubinsk	15.47	321	Pn	Pn	22 34 17.4	-1.5
	comp=E,0.2nm,0.3s,baz=128,slow=12,SNR=6.8						
AKTO				Sn	Sn	22 37 04.4	-5.0
	comp=E,0.1nm,0.3s,baz=88,slow=6.7,SNR=2.4						
AKTO	Aktyubinsk	15.47	321	⇓Pn	Pn	22 34 18.9	0.0
	comp=E,12nm,0.8s						
JIRN	Jiri	15.82	134	eP	Pn	22 34 18.6	-5.4
	comp=E,12nm,0.5s						
ZALV	Zalesovo Beam	16.49	24	eP	P	22 34 34.0	-0.5
ZALV	Zalesovo Beam	16.49	24	Pn	Pn	22 34 30.3	-1.7
	comp=E,0.1nm,0.3s,baz=191,slow=13,SNR=7.4						
ZALV				Lg	Lg	22 39 18.8	
	comp=E,0.2nm,0.3s,baz=232,slow=28,SNR=3.2						
ZALV				LR	LR	22 41 04.9	
	comp=E,44nm,18.5s,baz=334,slow=38						
RAMN	Ramite	16.60	134	eP	Pn	22 34 26.9	-7.0
	comp=E,8.0nm,0.6s						
SVE	Sverdlovsk	19.34	339	eP	P	22 35 02.2	-3.7
ARU	Arti	19.65	335c	iP	Pn	22 35 10.5	-0.2
ARU				S	Sn	22 38 51.9	+1.4
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARU	Arti	19.65	335	P	Pn	22 35 09.8	-0.9
	comp=Z,0.0nm,0.3s,baz=144,slow=7.1,SNR=11						
GTA	Gaotai	20.40	82	⇑P	Pn	22 35 17.6	-2.3
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,54nm,6.8s						
GTA				LR	LR		
	comp=Z,77nm,14.3s						
GTA				LR	LR		
	comp=Z,46nm,14.9s						
GTA				LR	LR		
	comp=Z,98nm,16.2s						
WSAR	Wadi Sarin	20.42	222	LR	LR	22 43 00.4	
	comp=Z,28nm,18.9s,baz=351,slow=36						
GNI	Garni	22.00	281	i P	P	22 35 37.9	+2.9
GNI				pmax	pmax		
	comp=Z,69nm,1.2s						
NCK	Nalchik	22.64	290	i P	P	22 35 42.3	+0.6
NCK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBZ	Khabaz	23.15	291	i P	P	22 35 50.1	+3.2
KBZ	Khabaz	23.15	291	P	P	22 35 47.8	+0.9
	comp=Z,2.0nm,1.0s,baz=94,slow=11,SNR=2.2						
NEY	Neytrino	23.28	289	i P	P	22 35 51.3	+2.8
NEY				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KIV	Kislovodsk	23.31	291	eP	P	22 35 49.1	+0.5
KIV				pmax	pmax		
	comp=Z,21nm,1.0s						
KIV				MLR	MLR		
	comp=Z,42nm,14.0s						
SONM	Songino Array	25.18	60	eP	P	22 36 06.5	+0.4
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM	Songino Array	25.18	60	P	P	22 36 05.7	-0.3
	comp=Z,1.9nm,0.6s,baz=258,slow=9.4,SNR=10						
SONM				LR	LR	22 46 51.4	
	comp=Z,95nm,21.8s,baz=310,slow=39						
VSR	Storozhevoye	26.57	308	i P	P	22 36 21.1	+2.7
VSR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BRTR	Keskin Array B	30.48	283	P	P	22 36 55.0	+1.4
	comp=Z,1.0nm,0.8s,baz=93,slow=9.0,SNR=3.8						
WHN	Wuhan	34.46	92	P	P	22 37 37.6	+9.3
FINES	FINESS Array B	36.21	323	P	P	22 37 43.8	+0.8
	comp=Z,4.5nm,0.9s,baz=123,slow=9.8,SNR=8.3						
ARCES	ARCESS Array B	39.23	336	P	P	22 38 09.2	+0.7
	comp=Z,3.5nm,0.8s,baz=103,slow=7.8,SNR=3.3						
VYHS	Vyhne	39.56	302	eP	P	22 38 12.8	+1.3
VYHS	Vyhne	39.56	302	eP	P	22 38 12.8	+1.3
GERES	GERESS Array B	42.87	303	eP	P	22 38 40.4	+1.6
NB2	NORSAR Subarra	43.26	321	P	P	22 38 40.9	-0.8
	comp=Z,0.5nm,0.5s,baz=91,slow=7.9						
NOA	NORSAR Array B	43.26	321	P	P	22 38 41.8	+0.1
	comp=Z,1.8nm,0.9s,baz=92,slow=7.6,SNR=3.2						
MJAR	Matsushiro Arr	50.18	72	P	P	22 39 33.8	-2.5
	comp=Z,0.7nm,0.4s,baz=304,slow=9.0,SNR=3.4						
MJA0	Matsu Arr-Jizo	50.21	72	eP	P	22 39 40.3	+3.8
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ESDC	Sonseca Array	57.80	297	P	P	22 40 32.0	+0.2
	comp=Z,0.5nm,0.8s,baz=55,slow=6.8,SNR=4.3						
TORD	Torodi Ar. Bea	67.67	269	P	P	22 41 37.0	-0.9
	comp=Z,0.7nm,0.7s,baz=59,slow=5.6,SNR=4.3						
INK	Inuvik	70.73	10	P	P	22 41 55.6	-0.3
	comp=Z,1.1nm,0.6s,baz=9.7,slow=4.8,SNR=5.6						
ILAR	Eielson Array	71.46	17	P	P	22 42 00.1	-0.4
	comp=Z,1.0nm,0.9s,baz=320,slow=5.6,SNR=12						
YKA	Yellowknife Ar	78.25	4	P	P	22 42 39.4	-0.4
	comp=Z,1.3nm,0.9s,baz=349,slow=5.5,SNR=4.5						
WRA	Warramunga Arr	81.97	124	i P	P	22 42 59.7	-0.8
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	Warramunga Arr	81.97	124	P	P	22 42 58.7	-1.7
	comp=Z,1.2nm,0.8s,baz=325,slow=5.2,SNR=11						
ASAR	Alice Springs	84.41	127	P	P	22 43 12.0	-1.0
ASAR	Alice Springs	84.41	127	P	P	22 43 11.9	-1.0
	comp=Z,0.5nm,0.5s,baz=304,slow=4.0,SNR=6.4						

*SJA **02** 22:32:37.8±0.9, 33°.44S×73°.60W, h29km±43km, ML3.3, MW3.6*
*GUC **02** 22:32:48.7±0.6, 33°.32S×72°.79W, h29km±4km, ML3.1*
ISC 02 22:32:43.7±2.0**, 33°.34S**±0°.07×**73°.2W**±0°.1**, h22**km±8km**, n27,** σ**2s.07**/33**, 5C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VA01	Torpederas	1.31	76	⇑iP	Pn	22 33 06.3	-0.4
VA01				i S	Sn	22 33 19.9	-3.6
VA01				IAML		22 33 21.2	
	comp=N,400nm,0.1s						
ROC1	El Roble	1.84	79	i P	Pn	22 33 14.5	+0.3
ROC1				eS	Sb	22 33 42.7	+3.3
ROCH	El Roble	1.84	79	IAML		22 33 36.2	
	comp=N,334nm,0.4s						
GO05	Huala	1.95	149	⇑iP	Pb	22 33 19.6	+1.0
GO05				i S	Sb	22 33 41.5	-1.0
GO05				IAML		22 33 42.4	
	comp=N,411nm,0.3s						
PEL	Peldehue	2.08	85	⇑iP	Pn	22 33 18.8	+1.4
PEL				i S	Sn	22 33 42.3	-0.4
PEL				IAML		22 33 44.4	
	comp=N,226nm,0.1s						
PEL	Peldehue	2.08	85	i P	Pn	22 33 18.8	+1.4
PEL				eS	Sb	22 33 49.0	+2.7
ANTU	Antumapu	2.12	97	IAML		22 33 46.2	
	comp=N,248nm,0.2s						
CLCH	Cerro Calan	2.19	92	⇑iP	Pb	22 33 20.8	-2.0
CLCH				i S	Sn	22 33 45.3	-0.3
CLCH				IAML		22 33 48.9	
	comp=E,339nm,0.3s						
FCH	Farellones	2.40	90	⇑iP	Pn	22 33 23.8	+1.8
FCH				i S	Sn	22 33 51.0	0.0
FCH				IAML		22 33 53.0	
	comp=N,186nm,0.3s						
LMEL	Las Melosas	2.52	102	i P	Pb	22 33 25.7	-2.7
LMEL				i S	Sn	22 33 53.8	+0.2
LMEL				IAML		22 33 58.1	
	comp=N,336nm,0.3s						
COIS	El Sosneado	3.44	122	i P	Pb	22 33 41.3	-2.7
RTLS	Leoncito	3.61	66	i P	Pn	22 33 41.1	+2.5
RTLS				IAML		22 34 49.2	
	comp=Z,22nm,1.0s						
GO04	Tololo Observa	3.75	33	i P	Pn	22 33 40.8	+0.3
RFA	San Rafael	4.15	111	i P	Pb	22 33 53.5	-2.6
RFA				IAML		22 35 11.8	
	comp=Z,14nm,2.2s						
RTCV	Cerro Valdivia	4.17	70	i P	Pn	22 33 48.7	+2.6
RTCV				IAML		22 35 04.1	
	comp=Z,16nm,1.7s						
ACCO	Cerro Coronel	4.43	53	i P	Pn	22 33 52.8	+2.8
ACCO				IAML		22 35 10.7	
	comp=Z,14nm,0.8s						
RTLL	Cerro Villicun	4.45	64	i P	Pn	22 33 52.6	+2.7
RTLL				IAML		22 35 13.9	
	comp=Z,11nm,0.4s						
AROD	Rodeo	4.46	46	i P	Pn	22 33 52.5	+2.1
CFA	Coronel Fontan	4.51	69	i P	Pn	22 33 53.2	+2.5
ACAN	Cantantal	5.14	80	i P	Pn	22 34 01.8	+2.3
ACAN				IAML		22 36 13.4	
	comp=Z,98nm,2.2s						
VCA	Vinchina	6.26	44	i P	Pn	22 34 17.6	+2.6
VCA				IAML		22 36 23.0	
	comp=Z,12nm,0.8s						
GO03	Copiap	6.26	25	i P	Pn	22 34 15.4	+0.5
MRA	San Martin	6.33	84	i P	Pn	22 34 17.5	+1.6
MRA				IAML		22 36 25.8	
	comp=Z,5.8nm,2.6s						
APLL	PUNTA DE LOS L	6.36	64	i P	Pn	22 34 17.5	+1.3
ACLC	CERRO LA CRUZ	6.59	55	i P	Pn	22 34 20.4	+0.9
TCA	Tanti	7.52	77	i P	Pn	22 34 32.8	+0.6
CYA	Choya	7.99	54	i P	Pn	22 34 37.4	-1.2

*ISCJB **02** 22:38:18.2±0.5, 8°.3N±0°.1×37°.96W±0°.08, h10km, mb3.8/8, MS3.4/11, Error ellipse: s-maj=16.3km s-min=11.1km az=159.4*
*IDC **02** 22:38:18.9±0.9, 8°.24N×37°.97W, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.7/38, mbtmp3.9/8, MS3.4/12, Ms1 3.3/12, ms1mx3.1/32, Error ellipse: s-maj=29.2km s-min=22.4km az=166.0*
*NEIC **02** 22:38:20.0±1.1, 8°.23N±0°.07×38°.0W±0°.1, h10km±1km, mb4.5/9*
ISC 02 22:38:19.9±0.7**, 8°.3N**±0°.1×**37°.93W**±0°.10**, h10**km**, n30,** σ**1s.19**/17**, mb4.0**/12**, MS3.4**/11**, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RCBR	Riachuelo	14.21	172	Pn	Pn	22 41 36.2	-5.1
MDP	Montagnes des	14.96	259	LR	LR	22 46 20.4	
	comp=Z,136nm,21.6s,baz=82,slow=32						
SACV	Santiago Islan	15.49	63	Pn	Pn	22 41 56.0	-2.7
SACV				IAmb	IAmb	22 41 58.0	
	comp=Z,29nm,1.1s						
H05S1	Guadeloupe/Mar	23.25	287	T	T	23 07 36.0	
	SNR=16						
BDFB	Brasilia	25.82	203	P	P	22 43 51.4	-0.3
	comp=Z,1.2nm,0.4s,baz=32,slow=14,SNR=3.1						
H10N3	ASCENSION HYDR	28.34	124	T	T	23 13 45.9	
	baz=303,slow=75,SNR=73						
H10N2	ASCENSION HYDR	28.34	124	T	T	23 13 46.3	
	baz=303,slow=75,SNR=91						
H10N1	ASCENSION HYDR	28.36	124	T	T	23 13 47.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=303,slow=75,SNR=77						
IGPR	InterUniversit	29.02	292	P	P	22 44 19.2	-1.1
SJG	San Juan	29.10	292	LR	LR	22 53 30.4	
	comp=Z,90nm,21.7s,baz=93,slow=31						
SAML	Samuel	30.46	236	P	P	22 44 32.4	-0.6
SAML				IAmb	IAmb	22 44 35.5	
	comp=Z,5.7nm,1.0s						
DBIC	Dimbokro	32.83	91	P	P	22 44 55.4	+1.4
	comp=Z,6.0nm,1.2s,baz=240,slow=6.1,SNR=2.9						
DBIC				LR	LR	22 55 41.9	
	comp=Z,62nm,19.2s,baz=257,slow=32						
DBIC	Dimbokro	32.83	91	P	P	22 44 54.9	+0.9
ROSC	El Rosal	36.31	267	LR	LR	22 59 53.0	
	comp=Z,61nm,21.1s,baz=66,slow=36						
LPAZ	La Paz	38.62	231	P	P	22 45 44.0	-0.5
	comp=Z,3.5nm,0.8s,baz=53,slow=7.2,SNR=12						
LPAZ				LR	LR	23 01 03.8	
	comp=Z,23nm,19.9s,baz=74,slow=35						
LPAZ	La Paz	38.62	231	IAmb	IAmb	22 45 46.9	
	comp=Z,4.7nm,1.0s						
TOA0	Torodi Ar. Sit	39.19	79	P	P	22 45 49.0	+0.4
TORD	Torodi Ar. Bea	39.19	79	P	P	22 45 49.2	+0.7
	comp=Z,0.8nm,0.6s,baz=271,slow=8.7,SNR=7.7						
TORD				LR	LR	23 00 19.0	
	comp=Z,94nm,19.8s,baz=305,slow=34						
CPUP	Villa Florida	39.27	208	LR	LR	23 01 57.8	
	comp=Z,33nm,18.5s,baz=42,slow=36						
PVAQ	Vaqueiros	39.82	39	P	P	22 45 53.0	-0.5
GO02	Mina Guanaco	45.38	222	P	P	22 46 38.6	-0.5
GO02				IAmb	IAmb	22 46 40.2	
	comp=Z,13nm,1.2s						
SDMD	Soldier's Deli	46.57	318	P	P	22 46 47.5	-0.6
SDMD				IAmb	IAmb	22 46 58.0	
	comp=Z,4.8nm,1.1s						
TSUM	Tsumeb	61.15	117	LR	LR	23 09 02.5	
	comp=Z,61nm,20.6s,baz=334,slow=30						
TXAR	Lajitas Array	64.84	298	P	P	22 48 59.8	+0.2
	comp=Z,0.2nm,0.5s,baz=105,slow=7.0,SNR=3.8						
TXAR				LR	LR	23 19 35.9	
	comp=Z,5.6nm,18.7s,baz=0.0,slow=38						
T25A	Trinidad	66.29	307	P	P	22 49 09.4	+0.4
T25A				IAmb	IAmb	22 49 16.2	
	comp=Z,4.9nm,0.8s						
PDAR	Pinedale Array	70.91	312	LR	LR	23 17 04.3	
	comp=Z,38nm,21.9s,baz=106,slow=33						
BOSA	Boshof	71.10	124	LR	LR	23 14 35.6	
	comp=Z,34nm,18.4s,baz=298,slow=31						
YKA	Yellowknife Ar	76.51	332	P	P	22 50 09.8	-0.1
	comp=Z,1.0nm,0.9s,baz=89,slow=5.5,SNR=4.5						
NVAR	Mina Array Bea	77.35	307	P	P	22 50 17.9	+2.4
	comp=Z,0.4nm,0.3s,baz=122,slow=6.5,SNR=2.2						
NVAR				LR	LR	23 24 34.7	
	comp=Z,13nm,18.1s,baz=94,slow=36						
ILAR	Eielson Array	90.45	336	P	P	22 51 22.4	+0.8
	comp=Z,0.2nm,0.5s,baz=54,slow=4.6,SNR=3.7						

UCR 02 22:50:51.1±1.2**, 9°.16N×84°.77W, h21**^{km}±4^{km}**, MD4.1, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	Dominical	0.90	84	eP	Pb	22 51 07.4	-0.6
LCR2	La Lucha 2	0.95	52	eP	Pb	22 51 08.5	-0.5
LCR2				eS	Sn	22 51 22.6	+0.1
HDC	Heredia	1.06	37	eP	Pb	22 51 10.5	-0.3
JTS	Las Juntas de	1.14	351	eP	Pn	22 51 10.7	-1.2
JTS				eS	Sn	22 51 27.1	+0.2
CASO	Castillo	1.27	1	i P	Pn	22 51 13.3	-0.4
ARE1	Arenal 1	1.30	2	eP	Pn	22 51 14.3	+0.3
CEDE	Laguna Cedeo	1.32	3	i P	Pn	22 51 14.6	+0.1
AMAS	Alto Masis	1.46	351	i P	Pn	22 51 15.6	-0.8
AMAS				i S	Sb	22 51 35.7	-0.3
ACAL	Aguas Claras	1.49	350	i P	Pn	22 51 16.6	-0.2
DRK0	Durika	1.51	86	eP	Pn	22 51 16.7	-0.3
DRK0				eS	Sb	22 51 37.4	+0.2
GB1A	Borinquen Arri	1.77	339	eP	Pn	22 51 21.6	+1.1
BRU2	Volcan	2.08	100	eP	Pn	22 51 25.7	+0.8

*ISCJB **02** 23:08:59.7±0.4, 36°.32N±0°.03×71°.20E±0°.05, h100km, mb3.6/11, Error ellipse: s-maj=6.5km s-min=3.8km az=154.0*

*IDC **02** 23:09:00.8±2.3, 36°.33N×71°.22E, h86km±20km, mb3.5/12, mb1 3.7/18, mb1mx3.5/49, mbtmp3.9/18, Error ellipse: s-maj=18.2km s-min=14.5km az=49.0*

*NNC **02** 23:09:04.5±1.5, 36°.75N×70°.80E, h106km±31km, mb3.7, mpv4.4, Error ellipse: s-maj=13.8km s-min=7.9km az=161.0*

ISC 02 23:09:01.3±0.5**, 36°.43N**±0°.05×**71°.13E**±0°.05**, h100**^{km}**, n60, σ2°.78**/71**, mb3.6**/11**, 9C-9D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.68	166	P	Pn	23 09 46.0	+3.1
CEP				S	Sn	23 10 19.0	+4.2
CHCP	Chirah Chowk	3.27	147	P	Pn	23 09 53.7	+2.9
THW	Thamme Wali	3.66	172	P	Pn	23 09 58.6	+2.6
JMU	Jammu	4.84	139	ex	Pn	23 10 10.0	-1.8
JMU				ex	x	23 11 03.0	
DHRM	DHARAMSHALA	5.97	133	eP	Pn	23 10 28.2	+0.7
DHRM				eS	Sn	23 11 31.8	-2.8
DHRM				IAML		23 11 35.7	
	comp=E,322nm,0.5s						
DHRM				IAML		23 11 36.4	
	comp=N,203nm,0.1s						
AML	Almayashu	6.03	18	P	Pn	23 10 29.5	+1.1
	SNR=140						
UCH	Uchtor	6.36	23	P	Pn	23 10 34.1	+1.3
	SNR=36						
KZA	Kyzart	6.48	28	P	Pn	23 10 35.5	+1.0
	SNR=12						
EKS2	Erkin-Say	6.55	17	P	Pn	23 10 36.6	+1.4
	SNR=37						
BHK	Bhakra	6.66	137	eP	Pn	23 10 37.2	+0.7
KK31	Karatay Array	6.68	356	⇑P	Pn	23 10 37.0	+0.1
	comp=N,22nm,0.4s,baz=185,slow=15,SNR=339						
KK31				⇓S	Sn	23 11 46.8	-4.7
	comp=N,40nm,0.5s,baz=186,slow=23,SNR=5.1						
AAK	Ala-Archa	6.72	22	P	Pn	23 10 39.1	+1.5
	comp=N,11nm,0.3s,baz=176,slow=6.1,SNR=158						
AAK				S	Sn	23 11 50.3	-2.3
	comp=N,3.9nm,0.3s,baz=138,slow=14,SNR=16						
AAK	Ala-Archa	6.72	22	P	Pn	23 10 38.8	+1.3
	SNR=49						
AAK	Ala-Archa	6.72	22	⇓P	Pn	23 10 38.8	+1.3
	comp=N,12nm,0.3s						
AAK				⇑S	Sn	23 11 51.5	-1.2
	comp=N,52nm,0.7s						
KBK	Karagaybulak	6.88	24	P	Pn	23 10 41.6	+1.9
	SNR=12						
ULHL	Ulahol	7.03	33	P	Pn	23 10 43.0	+1.3
	SNR=22						
CHMS	Chumysh	7.13	22	P	Pn	23 10 44.1	+1.2
	SNR=18						
SMLA	Simla	7.29	135	eP	Pn	23 10 45.5	+0.4
SMLA				eS	Sn	23 12 01.6	-4.8
SMLA				IAML		23 12 06.5	
	comp=N,115nm,0.2s						
SMLA				IAML		23 12 06.8	
	comp=E,89nm,0.2s						
USP	Ospenovka	7.30	20	P	Pn	23 10 46.2	+0.9
	SNR=23						
TKM2	Tokmak 2	7.34	27	P	Pn	23 10 47.1	+1.2
	SNR=28						
TKM2	Tokmak 2	7.34	27	⇑P	Pn	23 10 46.9	+1.0
	comp=E,11nm,0.6s						
TKM2				⇑S	Sn	23 12 07.5	-0.2
	comp=E,16nm,0.8s						
MDOK	Medeo	8.12	32	⇓P	Pn	23 10 57.8	+1.3
	comp=E,7.7nm,0.6s						
JOSI	Joshimath	9.15	127	eP	Pn	23 11 09.2	-1.5
JOSI				eS	Sn	23 12 43.5	-8.5
PDGK	Podgornoye	9.42	40	⇓P	Pn	23 11 14.3	+0.2
	comp=E,7.1nm,1.0s						
PDGK				⇑S	Sn	23 13 02.4	+4.2
	comp=E,8.7nm,0.9s						
GEYT	Alibeck	10.49	282	P	Pn	23 11 27.7	-1.0
	comp=E,1.1nm,0.3s,baz=108,slow=14,SNR=22						
GEYT				S	Sn	23 13 18.5	-5.7
	comp=E,1.9nm,0.3s,baz=129,slow=29,SNR=8.4						
GYA0B	ALIBECK ARRAY	10.49	282	⇑P	Pn	23 11 27.5	-1.2
GYA0B				⇑S	Sn	23 13 19.8	-4.4
MK31	Makanchi Array	13.29	35	⇓P	Pn	23 12 05.8	-0.1
	comp=E,2.4nm,0.6s,baz=221,slow=11,SNR=25						
MKAR	Makanchi Array	13.29	35	P	Pn	23 12 05.4	-0.5
	comp=E,0.1nm,0.3s,baz=224,slow=14,SNR=7.9						
DANN	Dangsing	13.36	123	eP	Pn	23 12 04.3	-2.9
	comp=E,21nm,0.3s						
GKN	Gorkha	14.18	123	eP	Pn	23 12 15.0	-2.7
DMN	Daman	14.75	123	eP	Pn	23 12 21.3	-3.8
KKN	Kakani	14.75	122	eP	Pn	23 12 21.5	-3.6
	comp=E,26nm,0.5s						
PKIN	Phulchoki	14.97	122	eP	Pn	23 12 25.2	-2.7
	comp=E,21nm,0.5s						
PKI	Pulchoki	14.98	122	eP	Pn	23 12 25.0	-3.1
GUN	Gumba	15.09	120	eP	Pn	23 12 26.3	-3.2
KURBB	Kurchatov Arra	15.16	18	P	Pn	23 12 31.0	+1.2
	comp=E,0.2nm,0.3s,baz=207,slow=9.3,SNR=11						
KURBB	Kurchatov Arra	15.16	18	⇓P	Pn	23 12 30.2	+0.4
	comp=E,5.3nm,0.7s						
AB31	Akbulak array	15.20	331	⇑P	Pn	23 12 29.4	-1.0
	comp=E,0.5nm,0.2s,baz=138,slow=12,SNR=70						
AB31				⇓S	Sn	23 15 11.4	-6.6
	comp=E,4.2nm,0.6s,baz=148,slow=23,SNR=9.9						
JIRN	Jiri	15.46	120	eP	Pn	23 12 31.0	-3.2
	comp=E,50nm,0.3s						
RAMN	Ramite	16.19	121	eP	Pn	23 12 39.6	-3.6
	comp=E,39nm,0.6s						
BVAR	Borovoye Array	16.60	358	P	Pn	23 12 48.2	+0.3
	comp=E,0.6nm,0.3s,baz=174,slow=12,SNR=8.4						
BVAR				S	Sn	23 15 42.2	-10
	comp=E,0.3nm,0.3s,baz=172,slow=26,SNR=5.3						
BRVK	Borovoye	16.64	358	⇓P	Pn	23 12 47.9	-0.3
	comp=E,2.3nm,0.6s						
TAPN	Taplejung	16.72	118	eP	Pn	23 12 47.2	-2.6
	comp=E,34nm,0.6s						
ODAN	Odare	16.79	120	eP	Pn	23 12 47.9	-2.7
	comp=E,22nm,0.6s						
AKTO	Aktyubinsk	16.89	330	P	P	23 12 53.2	+1.4
	comp=E,0.4nm,0.3s,baz=136,slow=17,SNR=15						
AKTO				S	Sn	23 15 49.5	-9.4
	comp=E,0.4nm,0.3s,baz=132,slow=12,SNR=6.1						
AKTO	Aktyubinsk	16.89	330	⇑P	Pn	23 12 49.5	-1.9
	comp=E,6.9nm,0.9s						
AKTO				⇓S	Sn	23 15 52.0	-6.9
	comp=E,7.8nm,0.7s						
ZALV	Zalesovo Beam	19.94	24	P	P	23 13 25.4	+0.4
	comp=E,4.5nm,0.5s,baz=227,slow=11,SNR=22						
SHL	Shillong	20.78	116	eP	Pn	23 13 37.0	-0.9
ARU	Arti	21.73	341	P	P	23 13 46.5	+2.3
	comp=E,1.2nm,0.5s,baz=320,slow=23,SNR=6.9						
ARU				S	S	23 17 42.7	+4.0
	comp=E,0.3nm,0.4s,baz=225,slow=7.0,SNR=4.7						
SONM	Songino Array	28.29	55	P	P	23 14 46.6	+1.3
	comp=E,0.4nm,0.8s,baz=258,slow=7.1,SNR=3.0						
AKASG	Malin Array Be	33.07	309	P	P	23 15 29.7	+2.5
	comp=E,1.1nm,0.5s,baz=84,slow=6.7,SNR=7.3						
FINES	FINESS Array B	37.60	326	P	P	23 16 08.6	+2.7
	comp=E,2.7nm,0.8s,baz=121,slow=9.2,SNR=6.2						
ARCES	ARCESS Array B	41.25	338	P	P	23 16 38.7	+2.7
	comp=E,3.7nm,0.8s,baz=111,slow=9.2,SNR=11						
NB2	NORSAR Subarra	44.50	323	P	P	23 17 05.2	+2.7
	comp=Z,1.0nm,0.5s,baz=96,slow=7.9						
NOA	NORSAR Array B	44.50	323	P	P	23 17 04.8	+2.4
	comp=Z,1.1nm,0.7s,baz=107,slow=7.2,SNR=4.2						
TORD	Torodi Ar. Bea	65.82	269	P	P	23 19 37.4	+1.1
	comp=Z,0.4nm,0.5s,baz=48,slow=4.8,SNR=8.9						
INK	Inuvik	73.96	9	P	P	23 20 25.7	+0.5
	comp=Z,0.6nm,0.5s,baz=348,slow=10.0,SNR=4.6						
YKA	Yellowknife Ar	81.31	3	P	P	23 21 07.9	+1.7
	comp=Z,0.5nm,0.6s,baz=351,slow=5.3,SNR=7.1						
WRA	Warramunga Arr	81.86	122	P	P	23 21 10.0	+0.3
	comp=Z,0.6nm,1.1s,baz=306,slow=8.0,SNR=4.2						
ASAR	Alice Springs	84.13	125	P	P	23 21 21.9	+0.5
	comp=Z,0.2nm,0.3s,baz=329,slow=6.5,SNR=4.3						

IDC 02 23:18:39.5±6.2**, 2°.49N×95°.70E, h0**^{km}**, mb3.6**/3**, mb1 3.6**/5**, mb1mx3.3**/32**, mbtmp3.5**/5**, ML3.4**/2**, MS3.3**/2**, Ms1 3.3**/2**, ms1mx2.5**/35**, Error ellipse: s-maj=124.2km s-min=38.7km az=24.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.24	84	Pn	Pn	23 19 32.0	+0.2
	0.6nm,0.3s,baz=262,slow=14,SNR=2.6						
CMAR	Chiang Mai Arr	16.18	11	Pn	Pn	23 22 29.4	+0.9
	0.2nm,0.3s,baz=205,slow=10,SNR=6.8						
H08S2	Diego Garcia H	25.25	246	T	T	23 50 13.0	
	baz=66,slow=76,SNR=79						
H08S3	Diego Garcia H	25.25	246	T	T	23 50 12.4	
	baz=66,slow=76,SNR=83						
H08S1	Diego Carcia H	25.27	246	T	T	23 50 11.3	
	baz=66,slow=76,SNR=44						
H01W3	Cape Leeuwin H	41.01	157	T	T	00 10 17.2	
	baz=328						
H01W2	Cape Leeuwin H	41.02	157	T	T	00 10 11.7	
	baz=328						
H01W1	Cape Leeuwin H	41.02	157	T	T	00 10 15.5	
	baz=328						
MKAR	Makanchi Array	45.65	347	P	P	23 27 02.4	+0.5
	1.1nm,0.8s,baz=155,slow=8.7,SNR=9.2						
SONM	Songino Array	46.10	10	P	P	23 27 04.6	-1.0
	0.5nm,0.9s,baz=194,slow=9.6,SNR=2.7						
ZALV	Zalesovo Beam	52.06	352	P	P	23 27 51.0	-0.1
	0.5nm,0.4s,baz=177,slow=5.9,SNR=4.8						
KMBO	Kilima Mbogo	58.54	267	LR	LR	23 51 20.2	
	comp=Z,20nm,18.2s,baz=94,slow=34						
HNR	Honiara	65.09	102	LR	LR	23 59 45.8	
	comp=Z,26nm,18.4s,baz=286,slow=38						

*ISCJB **02** 23:32:60.0±0.3, 55°.87N±0°.05×161°.43W±0°.07, h173km, mb3.5/6, Error ellipse: s-maj=7.8km s-min=2.8km az=142.6*

*NEIC **02** 23:33:00.8±3.3, 55°.81N±0°.10×161°.27W±0°.07, h171km±8km*

*AEIC **02** 23:33:00.4±3.4, 55°.72N±0°.09×161°.3W±0°.1, h178km±6km, ML3.4, mb3.8/2(NEIC)*

*IDC **02** 23:33:00.8±4.7, 56°.25N×161°.50W, h141km±34km, mb3.3/6, mb1 3.4/9, mb1mx3.2/49, mbtmp3.7/9, Error ellipse: s-maj=40.2km s-min=22.5km az=30.0*

ISC 02 23:33:01.0±0.6**, 55°.89N**±0°.08×**161°.35W**±0°.06**, h173**^{km}**, n86, σ2°.60**/113**, mb3.5**/6**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLHA	Black Hill	0.45	245		Pn	23 33 23.9	-0.8
PN6	Pavlof North-6	0.55	217		Pn	23 33 24.8	-0.5
SDPT	Sand Point	0.73	137	Pn	Pn	23 33 25.3	-0.8
SDPT				Sn	Sn	23 33 43.9	-1.5
VNWF	Veniaminof 8	1.04	75		Pn	23 33 28.9	+0.5
VNFG	Fog Glacier, M	1.08	68		Pn	23 33 29.3	+0.6
VNSS	Veniaminof 8	1.11	72		Pn	23 33 29.6	+0.6
VNNF	Veniaminof 3	1.21	70		Pn	23 33 30.4	+0.7
VNSG	Veniaminof 6	1.29	79		Pn	23 33 30.9	+0.5
CNBA	Chernabura Isl	1.47	136	Pn	Pn	23 33 30.9	-1.1
CNBA				Sn	Sn	23 33 50.4	-5.6
FALS	False Pass	1.57	230	Pn	Pn	23 33 32.0	-1.0
FALS				Sn	Sn	23 33 55.0	-2.7
SSBA	Shishaldin	1.94	236		Pn	23 33 36.2	-0.7
AKSA	Akutan Strait	3.06	237		Sn	23 34 26.9	-1.1
AKUT	Akutan	3.10	237	Pn	Pn	23 33 50.5	+0.2
AKUT					Sn	23 34 24.1	-4.7
CHIR	Chirikof Islan	3.23	89	Pn	Pn	23 33 52.3	+0.3
CHIR				Sn	Sn	23 34 27.8	-4.1
UNV	Unalaska Valle	3.62	238	Pn	Pn	23 33 56.7	-0.2
UNV	Unalaska Valle	3.62	238		Sn	23 34 37.6	-2.9
MSW	Makushin Switc	3.71	240		Pn	23 33 58.0	-0.1
MSW					Sn	23 34 40.7	-2.0
MREP	Makushin Rep't	3.75	238		Pn	23 33 58.6	0.0
ANCK	Angle Creek	3.95	52		Pn	23 34 03.4	+2.3
SII	Sitkinak Islan	4.06	78		Sn	23 34 49.0	-1.5
SII	Sitkinak Islan	4.06	78	Pn	Pn	23 34 02.3	-0.2
KAHC	Katmai Hardscr	4.42	49		Pn	23 34 09.3	+2.1
OHAK	Old Harbor	4.66	70	Pn	Pn	23 34 10.2	0.0
OHAK					Sn	23 35 00.6	-3.8
KDAK	Kodiak Island	5.17	65	P	Pn	23 34 16.8	-0.1
	2.0nm,0.3s,baz=212,slow=3.7,SNR=94						
KDAK				S	Sn	23 35 12.2	-4.2
	2.9nm,0.3s,baz=240,slow=6.6,SNR=13						
KDAK	Kodiak Island	5.17	65		Pn	23 34 17.1	+0.2
KDAK				Sn	Sn	23 35 14.1	-2.4
NIKH	Nikolski High	5.27	239	Pn	Pn	23 34 15.9	-2.2
NIKH					Sn	23 35 15.6	-3.1
SVW2	Sparrevohn	6.03	28	Pn	Pn	23 34 29.5	+1.3
RSO	Redoubt South	6.45	41	Pn	Pn	23 34 36.4	+2.5
CNPM	China Poot	6.53	52	Pn	Pn	23 34 35.5	+0.8
CNPM				Sn	Sn	23 35 44.7	-3.9
DFR	Drift River	6.56	41		Pn	23 34 36.5	+1.2
BRLK	Bradley Lake	6.80	51	Pn	Pn	23 34 38.3	-0.1
BRLK					Sn	23 35 51.2	-3.8
BRSE	Bradley Lake S	6.86	51		Pn	23 34 39.2	+0.2
SPNN	North Nagishla	7.11	36		Pn	23 34 45.1	+2.6
SLKM	Skilak Lake	7.48	47		Pn	23 34 48.2	+1.0
TT01	Tatalina	7.54	19		Pn	23 34 49.3	+1.3
SEW	Seward	7.60	51	Pn	Pn	23 34 49.6	+0.8
SEW				Sn	Sn	23 36 09.3	-4.6
SUA	Susitna One	7.85	40	Pn	Pn	23 34 53.8	+1.5
SUA				Sn	Sn	23 36 16.2	-4.0
SKT	Skwentna	7.94	36	Pn	Pn	23 34 55.7	+2.4
SKT				Sn	Sn	23 36 18.8	-3.2
RC01	Rabbit Creek A	8.01	45	Pn	Pn	23 34 54.8	+0.6
RC01				Sn	Sn	23 36 18.6	-5.1
PPLA	Purkeypile	8.43	30	Pn	Pn	23 35 03.3	+3.4
PWL	Port Wells	8.45	49		Pn	23 34 59.6	-0.5
KNK	Knik Glacier	8.70	45	Pn	Pn	23 35 03.8	+0.5
KNK				Sn	Sn	23 36 35.5	-4.8
GHO	Glory Hole Cre	8.72	42	Pn	Pn	23 35 02.4	-1.3
ANM	Nome	8.93	349	Pn	Pn	23 35 06.3	0.0
GLI	Glacier Island	8.99	50	Pn	Pn	23 35 07.0	-0.1
HIN	Hinchinbrook I	9.05	54	Pn	Pn	23 35 08.1	+0.1
HIN				Sn	Sn	23 36 43.1	-5.6
FID	Port Fidalgo	9.21	52	Pn	Pn	23 35 09.4	-0.6
SCM	Sheep Creek Mo	9.38	45	Pn	Pn	23 35 12.3	0.0
SCM				Sn	Sn	23 36 51.8	-4.9
TRF	Thorofare Moun	9.41	32	Pn	Pn	23 35 13.3	+0.5
TRF				Sn	Sn	23 36 54.8	-2.6
EYAK	Cordova Ski Ar	9.45	54	Pn	Pn	23 35 13.0	-0.2
EYAK				Sn	Sn	23 36 52.5	-5.7
WAT1	Susitna Watana	9.53	38		Pn	23 35 13.3	-1.0
WAT2	Susitna Watana	9.61	37		Pn	23 35 14.5	-0.8
BPAW	Bear Paw Mtn.	9.72	28	Pn	Pn	23 35 17.3	+0.6
RND	Reindeer	9.82	35	Pn	Pn	23 35 18.3	+0.2
RAGM	Ragged Mountai	9.89	56	Pn	Pn	23 35 19.3	+0.3
RAGM					Sn	23 37 02.6	-6.2
HMT	Hamilton	10.07	57	Pn	Pn	23 35 22.1	+0.7
DHY	Denali Highway	10.10	39	Pn	Pn	23 35 21.3	-0.5
DHY					Sn	23 37 08.4	-5.5
SUCK	Suckling Hills	10.22	59	Pn	Pn	23 35 24.7	+1.4
GLB	Gilahina Butte	10.68	51	Pn	Pn	23 35 29.7	+0.5
GLB					Sn	23 37 22.9	-4.7
CRQM	Cirque	10.73	56	Pn	Pn	23 35 30.8	+0.7
PAX	Paxson	10.73	42	Pn	Pn	23 35 31.9	+1.8
VRDI	Verde Repeater	10.75	53		Pn	23 35 31.6	+1.2
VRDI					Sn	23 37 24.1	-5.6
WAX	Waxell Ridge	10.77	57	Pn	Pn	23 35 32.1	+1.6
WRH	Wood River Hil	10.82	32	Pn	Pn	23 35 29.8	-1.3
TGL	Tana Glacier	10.87	56	Pn	Pn	23 35 33.1	+1.2
MCARA	McCarthy VSAT	11.00	52	Pn	Pn	23 35 35.1	+1.7
CCB	Clear Creek Bu	11.03	32	Pn	Pn	23 35 32.9	-0.9
BALM	Baldy	11.19	55	Pn	Pn	23 35 37.1	+1.1
BALM					Sn	23 37 34.0	-6.0
YAH	Yahtse	11.27	59	Pn	Pn	23 35 36.0	-1.2
MENT	Mentasta	11.39	45	Pn	Pn	23 35 38.5	0.0
ILAR	Eielson Array	11.40	33	P	Pn	23 35 37.0	-1.6
	0.1nm,0.3s,baz=222,slow=13,SNR=3.6						
ILAR				S	Sn	23 37 36.8	-8.0
	0.1nm,0.3s,baz=223,slow=31,SNR=3.6						
BARN	Barnard Glacie	11.51	55	Pn	Pn	23 35 41.5	+1.2
BARN					Sn	23 37 42.9	-5.0
CTGM	Chitina Glacie	11.63	56	Pn	Pn	23 35 42.7	+1.0
CTGM				Sn	Sn	23 37 43.5	-7.2
SCRK	Sand Creek	11.86	40		Pn	23 35 43.9	-0.7
PRP	Porcupine Dome	12.33	32		Pn	23 35 52.8	+2.1
DAWY	Dawson	13.64	44	P	Pn	23 36 09.1	+1.9
INK	Inuvik	17.78	35	P	P	23 36 54.7	-1.1
	0.2nm,0.3s,baz=235,slow=15,SNR=7.8						
INK	Inuvik	17.78	35	IAmb	IAmb	23 37 07.9	
	comp=Z,5.8nm,1.4s						
YKA	Yellowknife Ar	24.36	55	P	P	23 38 05.1	+2.6
	comp=Z,1.0nm,0.5s,baz=273,slow=9.7,SNR=14						
PDAR	Pinedale Array	35.36	90	P	P	23 39 44.2	+4.4
	comp=Z,0.3nm,0.3s,baz=326,slow=2.7,SNR=6.0						
TXAR	Lajitas Array	48.27	99	P	P	23 41 27.2	+2.8
	comp=Z,0.4nm,0.8s,baz=289,slow=3.8,SNR=4.0						
SCHQ	Schefferville	49.59	49	P	P	23 41 35.7	+1.6
	comp=Z,1.9nm,0.8s,baz=301,slow=18,SNR=3.1						
FINES	FINESS Array B	62.86	356	P	P	23 43 08.7	+0.9
	comp=Z,2.6nm,0.8s,baz=23,slow=6.2,SNR=4.9						
MKAR	Makanchi Array	64.63	317	P	P	23 43 20.6	+1.0
	comp=Z,0.5nm,0.8s,baz=47,slow=4.4,SNR=5.3						
MKAR	Makanchi Array	64.63	317	P	P	23 43 19.9	+0.2
BOSA	Boshof	152.33	347	PKPbc	PKiKP	23 52 37.4	+1.2
	comp=Z,2.1nm,0.8s,baz=35,slow=2.6,SNR=5.1						

IDC 02 23:43:12.0±2.4**, 6°.06S×130°.41E, h0**^{km}**, mb3.7**/1**, mb1 3.6**/4**, mb1mx3.4**/28**, mbtmp3.4**/4**, ML3.3**/3**, Error ellipse: s-maj=107.6km s-min=28.3km az=77.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.84	201	Pn	Pn	23 46 15.8	-0.2
	0.2nm,0.3s,baz=26,slow=10,SNR=8.3						
FITZ				Sn	Sn	23 48 18.7	-21
	0.2nm,0.3s,baz=95,slow=11,SNR=3.6						
WRA	Warramunga Arr	14.32	165	Pn	Pn	23 46 36.4	+0.2
	0.1nm,0.3s,baz=349,slow=12,SNR=5.8						
WRA				Sn	Sn	23 49 02.9	-13
	0.4nm,0.3s,baz=335,slow=23,SNR=10						
ASAR	Alice Springs	17.83	169	P	Pn	23 47 21.7	0.0
	0.3nm,0.3s,baz=346,slow=9.6,SNR=6.2						
MKAR	Makanchi Array	67.67	326	P	P	23 54 11.0	0.0
	0.3nm,0.4s,baz=114,slow=8.0,SNR=7.1						

*IDC **02** 23:52:15.7±1.3, 8°.17S×109°.52W, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.1/29, mbtmp4.0/12, MS3.3/9, Ms1 3.3/9, ms1mx3.2/17, Error ellipse: s-maj=35.4km s-min=23.3km az=45.0*

*ISCJB **02** 23:52:16.9±0.9, 7°.9S±0°.1×109°.3W±0°.1, h10km, mb3.9/12, MS3.3/9, Error ellipse: s-maj=19.9km s-min=11.4km az=138.4*

*NEIC **02** 23:52:18.2±2.0, 7°.9S±0°.1×109°.3W±0°.2, h10km±1km, mb4.4/32*

ISC 02 23:52:18.0±0.9**, 7°.9S**±0°.1×**109°.3W**±0°.2**, h10**^{km}**, n61, σ1°.23**/44**, mb4.3**/27**, MS3.4**/9**, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	Puerto Ayora	20.28	70	P	P	23 56 53.0	-1.0
TLIG	Tlapa	27.47	23	P	P	23 58 05.1	+0.4
TLIG				IAmb	IAmb	23 58 17.1	
	comp=Z,17nm,1.4s						
CMIG	Matias Romero	28.67	30	P	P	23 58 18.2	+3.0
	comp=Z,1.7nm,0.8s,baz=174,slow=9.2,SNR=3.6						
APG	El Apazote	29.47	39	P	P	23 58 25.1	+2.5
	comp=Z,4.4nm,0.3s,baz=246,slow=15,SNR=4.1						
APG				LR	LR	00 07 33.3	
	comp=Z,27nm,21.9s,baz=194,slow=31						
JTS	Las Juntas de	30.26	54	LR	LR	00 07 39.3	
	comp=Z,88nm,19.4s,baz=290,slow=30						
JTS	Las Juntas de	30.26	54	P	P	23 58 29.1	-0.4
ATAH	Atahualpa	30.65	91	LR	LR	00 07 52.5	
	comp=Z,98nm,18.3s,baz=275,slow=30						
TGUH	Tegucigalpa,Un	30.91	45	P	P	23 58 34.2	-1.1
HSIG		36.78	358	P	P	23 59 27.3	+1.4
HSIG				IAmb	IAmb	23 59 29.3	
	comp=Z,14nm,1.3s						
TXAR	Lajitas Array	37.45	8	P	P	23 59 34.4	+2.5
	comp=Z,0.7nm,0.8s,baz=201,slow=9.7,SNR=8.3						
TXAR				LR	LR	00 12 06.8	
	comp=Z,16nm,18.3s,baz=0.0,slow=32						
TXAR	Lajitas Array	37.45	8	P	P	23 59 31.4	-0.5
MNTX	Cornudas Mount	39.59	5	P	P	23 59 50.9	+1.2
MNTX				IAmb	IAmb	23 59 53.1	
	comp=Z,8.0nm,1.1s						
214A	Organ Pipe Nat	39.81	355	P	P	23 59 50.9	-0.6
TUC	Tucson	40.05	358	P	P	23 59 54.3	+0.7
PPT	Papeete	40.35	252	LR	LR	00 11 17.8	
	comp=Z,52nm,21.7s,baz=164,slow=28						
LPAZ	La Paz	41.03	106	LR	LR	00 13 42.3	
	comp=Z,34nm,18.1s,baz=278,slow=31						
109C	Camp Elliot, M	41.28	350	P	P	00 00 03.4	-0.1
109C				IAmb	IAmb	00 00 07.5	
	comp=Z,15nm,1.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WHTX	Lake Whitney,	41.29	15	P	P	00 00 05.1	+1.4
WHTX				IAmb	IAmb	00 00 06.5	
	comp=Z,7.7nm,0.8s						
ABTX	Abilene, Hawle	41.38	12	P	P	00 00 05.2	+0.8
ABTX				IAmb	IAmb	00 00 06.9	
	comp=Z,7.3nm,0.9s						
LENM	Lemitar	41.93	3	P	P	00 00 09.7	+0.5
SDV	Santo Domingo	42.00	67	P	P	00 00 10.7	+0.7
	comp=Z,1.9nm,0.2s,baz=266,slow=9.1,SNR=3.9						
SDV				PcP	PcP	00 02 05.0	-0.4
	comp=Z,3.5nm,0.9s,baz=288,slow=3.2,SNR=3.7						
MSTX	Muleshoe	42.14	8	P	P	00 00 10.3	-0.5
X16A	Lo Mia Camp, P	42.17	357	P	P	00 00 10.2	-1.0
X18A	Snowflake	42.24	359	P	P	00 00 09.9	-1.8
ANMO	Albuquerque	42.74	3	P	P	00 00 17.8	+2.1
	comp=Z,1.9nm,0.8s,baz=155,slow=7.2,SNR=5.5						
W18A	Petrified Fore	42.83	359	P	P	00 00 16.5	0.0
W18A				IAmb	IAmb	00 00 22.4	
	comp=Z,5.6nm,0.9s						
W13A	Hualapai Mount	43.02	354	P	P	00 00 17.7	-0.4
W13A				IAmb	IAmb	00 00 21.4	
	comp=Z,9.0nm,1.4s						
WMOK	Wichita Mounta	43.60	13	P	P	00 00 22.6	+0.1
MIAR	Mount Ida	44.80	19	P	P	00 00 31.9	-0.2
MIAR				IAmb	IAmb	00 00 34.7	
	comp=Z,5.4nm,0.9s						
S22A	4UR Ranch, Cre	45.51	3	P	P	00 00 37.1	-0.9
SDCO	Great Sand Dun	45.59	4	P	P	00 00 37.1	-1.6
SDCO				IAmb	IAmb	00 00 41.7	
	comp=Z,4.1nm,1.1s						
SAML	Samuel	45.61	95	P	P	00 00 38.5	-0.4
SAML				IAmb	IAmb	00 00 41.9	
	comp=Z,4.9nm,0.9s						
HHAR	Hobbs	46.30	17	IAmb	IAmb	00 00 46.7	
	comp=Z,3.8nm,0.9s						
U40A	Yellville	46.70	18	IAmb	IAmb	00 00 49.5	
	comp=Z,4.9nm,0.9s						
NVAR	Mina Array Bea	46.89	350	P	P	00 00 50.8	+2.0
	comp=Z,1.0nm,0.7s,baz=179,slow=9.9,SNR=6.4						
NVAR	Mina Array Bea	46.89	350	P	P	00 00 49.0	+0.2
PLCA	Paso Flores	47.45	140	LR	LR	00 15 41.7	
	comp=Z,39nm,19.2s,baz=334,slow=30						
SIV	San Ignacio	47.76	104	P	P	00 00 57.1	+1.3
	comp=Z,0.6nm,0.6s,baz=274,slow=14,SNR=4.0						
PDAR	Pinedale Array	50.46	360	P	P	00 01 15.5	-0.8
	comp=Z,0.3nm,0.6s,baz=198,slow=8.5,SNR=3.7						
CPUP	Villa Florida	52.54	117	LR	LR	00 20 00.6	
	comp=Z,40nm,20.8s,baz=256,slow=32						
BDFB	Brasilia	60.32	103	P	P	00 02 27.7	0.0
	comp=Z,1.7nm,0.7s,baz=244,slow=5.3,SNR=3.0						
BDFB				LR	LR	00 25 57.9	
	comp=Z,30nm,18.7s,baz=187,slow=33						
BDFB	Brasilia	60.32	103	IAmb	IAmb	00 02 33.8	
	comp=Z,1.7nm,1.0s						
YKA	Yellowknife Ar	70.34	357	P	P	00 03 31.1	-0.5
	comp=Z,1.0nm,1.0s,baz=161,slow=5.9,SNR=6.9						
BCAR	Beaver Creek A	75.03	345	P	P	00 03 59.9	+0.3
DAWY	Dawson	75.31	347	IAmb	IAmb	00 04 02.8	
	comp=Z,4.1nm,1.1s						
ILAR	Eielson Array	77.74	344	P	P	00 04 14.8	-0.1
	comp=Z,1.0nm,0.8s,baz=163,slow=5.8,SNR=7.0						
INK	Inuvik	77.97	351	P	P	00 04 15.3	-0.7
	comp=Z,2.2nm,0.9s,baz=155,slow=5.8,SNR=7.9						
INK	Inuvik	77.97	351	IAmb	IAmb	00 04 17.6	
	comp=Z,3.7nm,1.1s						
PRP	Porcupine Dome	77.98	345	IAmb	IAmb	00 04 17.7	
	comp=Z,5.6nm,1.0s						
QSPA	South Pole Qui	82.13	180	P	P	00 04 40.1	+1.3
H11S2	WAKE ISLAND Hy	86.84	289	T	T	01 40 39.4	
	baz=100,slow=75,SNR=44						
H11S1	WAKE ISLAND Hy	86.85	289	T	T	01 40 37.1	
	baz=100,slow=75,SNR=39						
H11N3	WAKE ISLAND Hy	86.85	290	T	T	01 40 37.2	
	baz=100,slow=74,SNR=20						
H11S3	WAKE ISLAND Hy	86.86	289	T	T	01 40 40.3	
	baz=100,slow=75,SNR=39						
H11N2	WAKE ISLAND Hy	86.86	290	T	T	01 40 36.8	
	baz=100,slow=74,SNR=22						
H11N1	WAKE ISLAND Hy	86.87	290	T	T	01 40 40.3	
	baz=100,slow=74,SNR=10						
MKAR	Makanchi Array	140.03	348	PKP	PKPdf	00 11 45.7	-1.3
	comp=Z,0.8nm,0.9s,baz=33,slow=3.4,SNR=4.0						
MKAR	Makanchi Array	140.03	348	PKPdf	PKPdf	00 11 45.0	-2.0
GEYT	Alibeck	148.05	19	PKPbc	PKPbc	00 12 03.1	-1.2
	comp=Z,2.9nm,0.9s,baz=298,slow=3.2,SNR=6.3						
GEYT	Alibeck	148.05	19		PKPbc	00 12 03.0	-1.3
CMAR	Chiang Mai Arr	150.63	294	PKPbc	PKiKP	00 12 11.8	-0.2
	comp=Z,1.7nm,0.4s,baz=337,slow=0.3,SNR=14						

*THR **02** 23:52:56.9, 27.°75N×56.°55E, h14km, ML3.5*
*DSN **02** 23:52:58.6±1.2, 27.°96N×56.°58E, h10km, ML3.5/9, Error ellipse: s-maj=35.8km s-min=11.6km az=102.0*
*ISCJB **02** 23:53:00.3±0.3, 27.°77N±0.°02×56.°77E±0.°05, h10km, MS3.0/1, Error ellipse: s-maj=6.2km s-min=3.3km az=179.2*
*TEH **02** 23:53:00.3, 27.°77N×56.°76E, h10km, ML3.7*
*OMAN **02** 23:53:01.2±1.8, 27.°84N×56.°99E, h18km±120km, ml3.3/12, Error ellipse: s-maj=239.6km s-min=16.9km az=3.0*
*IDC **02** 23:53:22.9±7.9, 27.°30N×52.°70E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/39, mbtmp3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/48, Error ellipse: s-maj=183.9km s-min=45.0km az=68.0*

ISC 02 23:52:59.8±0.8**, 27.°78N**±0.°03×**56.°75E**±0.°04**, h10**km**, n62, σ1.°74**/63**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	Nian	0.23	160	ePg	Pg	23 53 05.3	+0.6
GENO	Geno	0.64	233	ePg	Pg	23 53 12.9	+0.7
BNDS	Bandar-Abbas	0.64	233	ePg	Pg	23 53 06.5	-5.7
BNDS	Bandar-Abbas	0.64	233	ePg	Pg	23 53 06.5	-5.7
KHNJ	Kahnooj	0.87	79	ePg	Pg	23 53 16.8	+0.3
SHME	Shamm	1.81	198	eP	Pn	23 53 31.9	+0.8
	SNR=14						
SHME				S	Sg	23 53 57.2	-0.8
SHME	Shamm	1.81	198	ePn	Pn	23 53 32.2	+1.1
NGRK	Negar Kerman	1.86	360	ePn	Pn	23 53 33.4	+1.3
NGRK				IAMB	IAmb	23 54 00.5	
	comp=Z,0.0nm,0.2s						
BANOM	Banah	1.89	192	P	Pn	23 53 33.0	+0.8
BANOM	Banah	1.89	192	P	Pn	23 53 33.4	+1.2
	SNR=24						
BANOM				S	Sg	23 54 01.9	+1.2
CHMN	Cheshme madani	2.19	18	ePn	Pn	23 53 38.7	+2.1
CHMN				IAMB	IAmb	23 54 18.1	
	comp=Z,0.0nm,0.4s						
KRBR	Kerman	2.19	0	ePn	Pn	23 53 36.0	-0.7
KRBR	Kerman	2.19	0	eSg	Sb	23 54 07.2	0.0
KRBR	Kerman	2.19	0	eAML	AML	23 54 10.4	
	comp=N,287nm,0.4s						
KRBR				eAML	AML	23 54 09.6	
	comp=E,283nm,0.2s						
KRBR	Kerman	2.19	0	ePn	Pn	23 53 36.0	-0.7
TVBK	TV Kerman	2.20	0	ePn	Pn	23 53 38.9	+2.2
TVBK				IAMB	IAmb	23 53 40.4	
	comp=Z,0.0nm,0.3s						
JSK1	Jask	2.32	157	ePn	Pb	23 53 40.7	-1.1
MSFE	Esma-Masafi	2.47	192	eP	Pn	23 53 40.6	+0.4
	SNR=9.8						
MSFE	Esma-Masafi	2.47	192	ePn	Pn	23 53 41.4	+1.2
MDH	Madha	2.50	189	P	Pn	23 53 41.2	+0.6
MDH	Madha	2.50	189	P	Pb	23 53 43.4	-1.5
MDH	Madha	2.50	189	ePn	Pn	23 53 42.2	+1.6
KHGB	Koh Gabri	2.60	355	ePn	Pn	23 53 44.4	+2.3
KHGB				IAMB	IAmb	23 53 51.3	
	comp=Z,0.0nm,0.5s						
UOSS	Minazif	2.87	190	P	Pn	23 53 46.9	+1.3
JHRM	Jahrom	2.89	285	ePn	Pn	23 53 48.6	+2.6
NAZ	Nazwa, Dubai	2.95	200	P	Pn	23 53 46.7	-0.1
NAZ	Nazwa, Dubai	2.95	200	P	Pn	23 53 49.1	+2.4
NAZ	Nazwa, Dubai	2.95	200	ePn	Pn	23 53 48.7	+2.0
HATD	Hatta, Dubai	2.99	191	P	Pn	23 53 48.5	+1.1
HATD	Hatta, Dubai	2.99	191	P	Pn	23 53 50.4	+3.0
HATD	Hatta, Dubai	2.99	191	ePn	Pn	23 53 49.2	+1.8
ASHO	Ashiyiah	3.15	191	P	Pn	23 53 51.6	+2.1
ASHO	Ashiyiah	3.15	191	P	Pn	23 53 51.8	+2.3
ASHO	Ashiyiah	3.15	191	ePn	Pn	23 53 50.9	+1.4
ASUD	Al Ashush, Dub	3.39	202	i P	Pn	23 53 52.5	-0.3
	SNR=30						
ASUD	Al Ashush, Dub	3.39	202	P	Pn	23 53 54.9	+2.1
	SNR=30						
ASUD	Al Ashush, Dub	3.39	202	ePn	Pn	23 53 54.7	+1.9
ISRV	Sarvestan	3.57	297	ePn	Pn	23 53 57.2	+1.6
AJN	Ajban	3.57	207	i P	Pn	23 53 56.5	+1.2
	SNR=19						
AJN	Ajban	3.57	207	P	Pn	23 53 57.4	+2.1
	SNR=19						
AJN				S	Sn	23 54 40.2	+2.5
AJN	Ajban	3.57	207	ePn	Pn	23 53 57.6	+2.3
ALNE	Al Ain	3.82	194	ePn	Pn	23 54 00.0	+1.3
CHBR	Chabahar	3.99	122	ePn	Pn	23 54 01.4	+0.3
CHBR	Chabahar	3.99	122	ePn	Pn	23 54 01.4	+0.3
IMEH	Mehriz	4.05	333	ePn	Pn	23 54 03.7	+1.6
HOQ	Hoqain	4.21	173	P	Pn	23 54 06.0	+1.9
	SNR=7.2						
NHDN	Nehbandan	4.61	38	ePn	Pn	23 54 12.9	+3.2
IKAZ	Kazeroun	4.74	296	ePn	Pn	23 54 13.4	+1.6
WSAR	Wadi Sarin	4.83	159	P	Pn	23 54 13.4	+0.7
	SNR=76						
SMDO	Samad	4.85	166	P	Pn	23 54 13.8	+0.8
SMDO				S	Sn	23 55 09.4	+0.2
IKOO	Kooshah	5.02	22	ePn	Pn	23 54 19.8	+4.3
BSY	Bisya	5.03	175	P	Pn	23 54 17.0	+1.6
TPRV	Parvadeh(Tabas	5.23	359	ePn	Pn	23 54 19.8	+1.6
IRAM	Ramesheh	5.52	318	ePn	Pn	23 54 22.3	-0.1
JMDO	Jabal Madar	5.53	167	P	Pn	23 54 23.5	+1.3
JMDO				S	Sn	23 55 29.4	+3.5
WBK	Wadi Bani Khal	5.53	158	P	Pn	23 54 23.0	+0.7
	SNR=20						
WBK				S	Sn	23 55 24.7	-1.2
TNSJ	Nastanj	6.16	359	ePn	Pn	23 54 33.8	+2.7
IZEF	Zefreh	6.37	324	ePn	Pn	23 54 34.2	+0.2
BRTR	Keskin Array B	22.54	308	P	P	23 57 58.3	-1.8
	comp=Z,0.3nm,0.6s,baz=124,slow=12,SNR=2.2						
OPO	Ambohidratompo	47.00	192	LR	LR	00 19 30.0	
	comp=Z,15nm,18.6s,baz=320,slow=34						
TORD	Torodi Ar. Bea	53.19	266	P	P	00 02 15.9	-2.6
	comp=Z,0.4nm,0.5s,baz=62,slow=7.3,SNR=10						
BOSA	Boshof	63.68	211	P	P	00 03 41.8	+10
	comp=Z,5.1nm,1.1s,baz=30,slow=8.1,SNR=2.1						

*IDC **02** 23:54:55.9±0.9, 7.°08S×128.°78E, h0km, mb3.9/5, mb1 4.2/11, mb1mx4.0/39, mbtmp4.1/11, ML4.2/6, MS3.1/2, Ms1 3.1/2, ms1mx2.5/34, Error ellipse: s-maj=30.2km s-min=18.1km az=80.0*
*ISCJB **02** 23:54:59.1±0.3, 7.°19S±0.°03×128.°64E±0.°04, h33km, mb3.8/5, MS3.2/1, Error ellipse: s-maj=5.6km s-min=4.7km az=169.3*
*NEIC **02** 23:55:01.0±2.7, 7.°14S±0.°07×128.°67E±0.°05, h35km±2km, mb4.4/18*
*DJA **02** 23:55:05.4±0.5, 7°S±3°×12°8E±°, h201km±18km, M4.3/5, mb4.1/5, MLv4.3/4*

ISC 02 23:55:00.9±0.5**, 7.°20S**±0.°05×**128.°67E**±0.°06**, h35**km**, n55, σ1.°98**/57**, mb4.3**/11**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.72	107	P	Pn	23 55 54.8	+13
SAUI	Saumlaki	2.72	107		Pn	23 55 51.4	+9.2
BNDI	Bandanaira	2.94	25	P	Pn	23 55 48.3	+3.2
NLAI	Namlea	4.24	338	P	Pn	23 56 02.2	-0.8
SOEI	Soe	5.04	239	P	Pn	23 56 13.3	-0.8
SOEI	Soe	5.04	239		Pn	23 56 13.5	-0.7
FAKI	Fak Fak	5.55	40		Pn	23 56 23.5	+2.3
SANI	Sanana	5.77	332	P	Pn	23 56 32.5	+8.3
BATI	Baumata	5.78	239	Pn	Pn	23 56 26.2	+2.0
	13nm,0.3s,baz=71,slow=2.1,SNR=18						
BATI				Sn	Sn	23 57 31.9	+2.6
	8.4nm,0.3s,baz=103,slow=22,SNR=5.0						
BATI	Baumata	5.78	239	P	Pn	23 56 28.6	+4.4
BATI				S	Sn	23 57 31.3	+2.0
MTN	Manton Dam	6.11	157		Pn	23 56 33.9	+5.1
LBMI	Labuha	6.62	350	P	Pn	23 56 50.5	+15
SIJI	Sorong	6.81	23	Pn	Pn	23 56 35.6	-2.7
	3.2nm,0.3s,baz=288,slow=22,SNR=4.4						
SWI	Sorong	6.81	22	P	Pn	23 56 43.7	+5.3
	20nm,0.6s						
KNRA	Kununurra	8.42	179		Pn	23 57 03.0	+2.5
WSI	Waingapu	8.63	253	P	Pn	23 57 10.3	+6.8
BNSI	Bone	8.96	288	P	Pn	23 57 05.0	-2.9
KAPI	Kappang	9.13	283	Pn	Pn	23 57 10.5	+0.3
	1.4nm,0.3s,baz=76,slow=16,SNR=4.5						
SPSI	Sidrap Palu	9.42	289	P	Pn	23 57 13.0	-1.3
FITZ	Fitzroy Crossi	11.22	195	Pn	Pn	23 57 38.2	-0.8
	1.5nm,0.3s,baz=7.3,slow=10,SNR=29						
FITZ				Sn	Sn	23 59 39.0	-4.2
	1.6nm,0.3s,baz=315,slow=20,SNR=3.8						
FITZ	Fitzroy Crossi	11.22	195		Pn	23 57 38.8	-0.2
WB0	Warramunga Arr	13.67	157		Pn	23 58 13.3	+0.8
WB0				Sn	Sn	00 00 41.0	-2.2
WRAB	Tennant Creek	13.80	157		Pn	23 58 14.6	+0.3
WRAB					Sn	00 00 45.3	-1.1
WRA	Warramunga Arr	13.81	157	Pn	Pn	23 58 14.0	-0.3
	1.5nm,0.3s,baz=332,slow=14,SNR=69						
WRA				Sn	Sn	00 00 43.9	-2.6
	2.0nm,0.3s,baz=331,slow=22,SNR=12						
WRA				LR	LR	00 04 07.1	
	comp=Z,57nm,20.6s,baz=330,slow=40						
WRA	Warramunga Arr	13.81	157		Pn	23 58 14.9	+0.5
WR0	Warramunga Arr	13.90	156		Pn	23 58 16.8	+1.2
WR0					Sn	00 00 52.6	+3.8
COEN	Coen	15.76	116	Pn	Pn	23 58 40.8	+0.4
COEN				IAmb	IAmb	23 58 57.1	
	comp=Z,13nm,0.9s						
PSA00	Pilbara Seismi	16.63	210	Pn	Pn	23 58 49.5	-2.0
PSA00				IAmb	IAmb	23 58 54.9	
	comp=Z,15nm,1.1s						
AS31	Alice Springs	17.12	163	P	P	23 58 59.2	+0.1
ASAR	Alice Springs	17.12	163	Pn	P	23 58 58.5	-0.6
	comp=Z,0.5nm,0.3s,baz=338,slow=8.9,SNR=18						
ASAR				S	Sn	00 02 02.0	-5.2
	comp=Z,0.4nm,0.3s,baz=338,slow=24,SNR=6.0						
ASAR	Alice Springs	17.12	163	P	P	23 58 59.6	+0.5
CTAO	Charters Tower	21.33	129	P	P	23 59 43.9	-1.2
CTAO				IAmb	IAmb	23 59 43.9	
	comp=Z,15nm,0.5s						
BBOO	Buckleboo	26.39	166	P	P	00 00 36.5	+2.3
BBOO				IAmb	IAmb	00 00 45.3	
	comp=Z,9.9nm,1.0s						
STKA	Stephens Creek	27.35	156	P	P	00 00 43.8	+1.0
	comp=Z,1.2nm,0.4s,baz=330,slow=9.5,SNR=6.9						
STKA				LR	LR	00 12 35.6	
	comp=Z,61nm,19.6s,baz=21,slow=39						
JHJ2	Mitsune	41.47	14	P	P	00 02 42.7	-1.9
MJAR	Matsushiro Arr	44.43	11	P	P	00 03 08.7	+0.2
MAJO	Matsushiro	44.43	11	P	P	00 03 10.1	+1.6
MJB9	Matsu-Tunnel	44.43	11	P	P	00 03 10.1	+1.6
BJT	Baijiatuau	48.38	347	P	P	00 03 37.1	-2.3
BJT				IAmb	IAmb	00 03 45.6	
	comp=Z,5.4nm,1.0s						
FUNA	Funafuti	50.05	95	P	P	00 03 51.3	-1.3
SONM	Songino Array	58.23	343	P	P	00 04 52.3	+0.5
	comp=Z,0.5nm,0.8s,baz=155,slow=7.9,SNR=2.4						
SONM	Songino Array	58.23	343	IAmb	IAmb	00 04 59.2	
	comp=Z,1.3nm,1.0s						
KSH	Kashi	67.28	318	P	P	00 05 55.8	+3.4
KSH				PcP	PcP	00 06 23.3	+3.3
KSH				S	S	00 14 47.1	+1.8
KSH				ScS	ScS	00 15 48.4	+0.4
KSH	Kashi	67.28	318	SS	SS	00 19 08.4	+2.7
KSH				pmax	pmax		
	comp=Z,190nm,6.0s						
KSH				LR	LR		
	comp=N,280nm,5.5s						
KSH				LR	LR		
	comp=E,370nm,5.2s						
MKAR	Makanchi Array	67.68	327	P	P	00 05 54.9	+0.3
	comp=E,1.0nm,0.5s,baz=122,slow=8.2,SNR=32						
MKAR	Makanchi Array	67.68	327	P	P	00 05 53.2	-1.4
AAK	Ala-Archa	69.85	320	P	P	00 06 09.7	+1.3
AAK				IAmb	IAmb	00 06 16.4	
	comp=Z,4.1nm,1.2s						
GAR	Garm	70.88	315	P	P	00 06 14.8	+0.1
BTK	Batken	71.01	317	P	P	00 06 15.1	-0.4
BTK				IAmb	IAmb	00 06 22.2	
	comp=Z,5.1nm,1.4s						
ZALV	Zalesovo Beam	71.19	334	P	P	00 06 14.6	-1.5
	comp=Z,0.8nm,0.5s,baz=134,slow=8.5,SNR=4.7						
ZALV	Zalesovo Beam	71.19	334	P	P	00 06 16.3	+0.2
KURK	Kurchatov	72.01	329	P	P	00 06 21.7	+0.6
KURK				IAmb	IAmb	00 06 28.8	
	comp=Z,9.4nm,1.2s						
KKAR	Karatay Array	72.62	319	P	P	00 06 24.6	-0.4
KKAR	Karatay Array	72.62	319	P	P	00 06 25.1	+0.1
KKAR				IAmb	IAmb	00 06 33.4	
	comp=Z,1.6nm,0.9s						
ILAR	Eielson Array	94.09	25	P	P	00 08 14.8	-0.7
	comp=Z,0.3nm,0.9s,baz=254,slow=6.4,SNR=2.9						

JMA 03 00:02:38.6, 34.°84N×137.°26E, h34km, M2.6, 3C-1D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSSY	Shinshiroyabe	0.22	70	P	Pb	00 02 45.3	-0.2
JSSY				S	Sb	00 02 50.0	-0.1
JAA	Atsumi	0.23	205	⇑P	Pb	00 02 45.3	-0.3
JAA				S	Sb	00 02 50.0	-0.3
JIE	Ise	0.64	226	⇑P	Pn	00 02 50.8	-0.4
JIE				S	Sn	00 02 59.7	-0.5
TK04	Tokai 4	0.68	132	P	Pn	00 02 51.8	+0.1
TSUJ	Tsu 2	0.70	260	P	Pn	00 02 51.8	-0.3
TSUJ				S	Sn	00 03 01.9	+0.1
SHZ3	Shizuoka 3	0.81	74	P	Pn	00 02 53.2	-0.5
JYTA	Yamagatataniai	0.87	330	⇓P	Pn	00 02 54.7	+0.3
JYTA				S	Sb	00 03 06.6	0.0
JKN2	Miekihoku	1.01	234	⇑P	Pn	00 02 55.9	-0.5
JKN2				S	Sn	00 03 08.9	-0.5
MAT	Matsushiro	1.87	24	P	Pb	00 03 10.6	-1.5
MAT				S	Sb	00 03 34.3	-0.8

IDC 03 00:12:31.6±4.0**, 4.°77S×102.°15E, h0**km**, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.4**/43**, mbtmp3.6**/5**, Error ellipse: s-maj=174.5km s-min=21.7km az=54.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	34.77	118	P	P	00 19 23.7	-0.5
	0.4nm,0.8s,baz=305,slow=8.6,SNR=5.5						
ASAR	Alice Springs	35.91	125	P	P	00 19 34.2	+0.2
	0.2nm,0.3s,baz=296,slow=8.2,SNR=3.4						
SONM	Songino Array	52.52	4	P	P	00 21 46.8	+0.1
	0.5nm,0.6s,baz=191,slow=6.9,SNR=3.9						
MKAR	Makanchi Array	54.27	343	P	P	00 21 59.8	+0.2
	0.5nm,0.4s,baz=148,slow=8.6,SNR=10.0						
ZALV	Zalesovo Beam	60.29	348	P	P	00 22 41.2	-0.6
	1.3nm,0.4s,baz=161,slow=5.6,SNR=7.8						
TXAR	Lajitas Array	145.45	42	PKPbc	PKPbc	00 32 11.8	-0.7
	0.2nm,0.5s,baz=272,slow=2.6,SNR=3.4						

WEL 03 00:13:02.3, 40°S±2°×**17°7E**±°**, h43**km±2km**, M3.3**/19**, ML3.6**/12**, MLv3.3**/19**, Error ellipse: s-maj=0.0km s-min=0.0km az=69.4, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHZ	Kahuranaki	0.08	213	P	Pn	00 13 09.5	+0.2
KAHZ				S	Sn	00 13 15.3	+1.1
CKHZ	Cape Kidnapper	0.13	58	P	Pn	00 13 09.6	+0.2
CKHZ				S	Sn	00 13 15.3	+0.8
PXZ	Pawanui	0.30	190	P	Pn	00 13 11.3	+0.4
PXZ				S	Sn	00 13 18.2	+1.3
MCHZ	McNeill Hill	0.34	328	P	Pn	00 13 11.5	+0.3
MCHZ				S	Sn	00 13 18.6	+1.1
KRHZ	Kereru	0.44	281	P	Pn	00 13 12.5	0.0
KRHZ				S	Sn	00 13 20.1	+0.4
ARHZ	Aropaoanui	0.47	6	P	Pn	00 13 13.2	+0.4
ARHZ				S	Sn	00 13 21.7	+1.5
KWHZ	Kaweka Forest	0.50	308	P	Pn	00 13 13.2	0.0
KWHZ				S	Sn	00 13 21.5	+0.5
WPHZ	Waipukurau	0.50	228	P	Pn	00 13 13.9	+0.7
WPHZ				S	Sn	00 13 22.8	+1.8
PRHZ	Porangahau	0.58	203	P	Pn	00 13 14.7	+0.4
PRHZ				S	Sn	00 13 24.1	+1.3
PNHZ	Pukenui	0.59	252	P	Pn	00 13 14.6	+0.2
PNHZ				S	Sn	00 13 24.1	+1.0
NMHZ	Naumai	0.64	351	P	Pn	00 13 15.5	+0.4
BKZ	Black Stump Fm	0.66	329	P	Pn	00 13 15.4	+0.1
WHHZ	Waihua	0.69	20	P	Pn	00 13 16.1	+0.4
WHHZ				S	Sn	00 13 26.9	+1.5
BHHZ	Black Hill Sta	0.71	289	P	Pn	00 13 16.2	+0.1
ANWZ	Angora Road	0.81	205	P	Pn	00 13 17.5	+0.2
TSZ	Takapari Road	0.81	246	P	Pn	00 13 17.6	+0.2
DVHZ	Dannevirke	0.82	226	P	Pn	00 13 17.7	+0.3
RAHZ	Arahi	0.82	8	P	Pn	00 13 17.8	+0.3
MTHZ	Maungataniwha	0.88	355	P	Pn	00 13 18.4	+0.1
KNZ	Kokohu	0.91	39	P	Pn	00 13 18.6	-0.1
MHGZ	Mahia Peninsul	0.95	53	P	Pn	00 13 19.3	+0.1
MOVZ	Moawhango	0.97	289	P	Pn	00 13 20.2	+0.7
MRHZ	Matea Rd	0.98	336	P	Pn	00 13 20.4	+0.7
SNGZ	Shannon Statio	1.00	19	P	Pn	00 13 20.1	+0.1
HATZ	Hinemaiaia	1.06	322	P	Pn	00 13 21.6	+0.9
BFZ	Birch Farm	1.09	209	P	Pn	00 13 20.9	-0.2
TUVZ	Tukino	1.09	295	P	Pn	00 13 22.8	+1.6
PRGZ	Paritu Road	1.09	43	P	Pn	00 13 21.1	-0.1
PRGZ				S	Sn	00 13 35.7	+0.6
PRWZ	Pori Road	1.10	221	P	Pn	00 13 21.9	+0.5
POWZ	Post Office Ro	1.11	233	P	Pn	00 13 21.8	+0.4
RTZ	Ruatahuna	1.11	2	P	Pn	00 13 21.7	+0.2
RTZ				S	Sn	00 13 36.6	+0.9
RITZ	Rihia Road	1.12	312	P	Pn	00 13 22.8	+1.2
WHVZ	Whangaehu Hut	1.13	293	P	Pn	00 13 23.0	+1.1
DRZ	Dome Shelter	1.15	293	P	Pn	00 13 23.9	+1.6
DRZ				S	Sn	00 13 38.0	+1.0
TRVZ	Turoa	1.15	291	P	Pn	00 13 23.3	+1.1
TRVZ				S	Sn	00 13 37.7	+0.7
FWVZ	Far West T-bar	1.17	294	P	Pn	00 13 23.3	+0.9
NGZ	Ngauruhoe	1.17	298	P	Pn	00 13 23.4	+1.1
MTVZ	Mangateitei	1.18	287	P	Pn	00 13 23.6	+1.2
WTVZ	West Tongariro	1.21	300	P	Pn	00 13 24.0	+1.1
RIGZ	Rimuhau	1.21	33	P	Pn	00 13 22.8	-0.1
KATZ	Kakaramea	1.22	308	P	Pn	00 13 24.6	+1.6
RATZ	Rangitukua	1.25	313	P	Pn	00 13 24.5	+1.2
ALRZ	Allen Road	1.25	338	P	Pn	00 13 23.9	+0.5
MUGZ	Murupara	1.26	354	P	Pn	00 13 23.6	+0.2
RAGZ	Rawiri	1.29	17	P	Pn	00 13 23.8	-0.2
PRRZ	Plateau Road	1.30	341	P	Pn	00 13 24.4	+0.4
PKVZ	Pokaka	1.30	289	P	Pn	00 13 25.4	+1.3
CPWZ	Castlepoint	1.30	205	P	Pn	00 13 24.1	0.0
TIWZ	Tintock	1.32	217	P	Pn	00 13 24.2	-0.1
OHWZ	Ohakea	1.33	249	P	Pn	00 13 26.2	+1.8
TWVZ	Taurewa	1.33	299	P	Pn	00 13 25.7	+1.1
WPRZ	Whakapapatarin	1.35	333	P	Pn	00 13 25.1	+0.4
MRZ	Mangatainoka R	1.39	228	P	Pn	00 13 25.1	-0.2
HRRZ	Handcock Road	1.43	339	P	Pn	00 13 25.9	+0.1
MWZ	Matawai	1.47	19	P	Pn	00 13 25.9	-0.5
URZ	Urewera	1.48	6	P	Pn	00 13 26.0	-0.4
WAZ	Wanganui	1.50	268	P	Pn	00 13 28.8	+2.0
TARZ	Mount Tarawera	1.53	347	P	Pn	00 13 27.8	+0.5
TMWZ	Te Maipa	1.59	210	P	Pn	00 13 27.1	-0.9
HOWZ	Holdsworth Sta	1.59	222	P	Pn	00 13 27.4	-0.6
OGWZ	Otaki Gorge	1.73	231	P	Pn	00 13 29.7	-0.2
TLZ	Tolley Road	1.77	322	P	Pn	00 13 30.7	+0.2
VRZ	Vera Road	1.79	289	P	Pn	00 13 31.8	+1.1
MTW	Mount Morrison	1.80	217	P	Pn	00 13 29.6	-1.2
RUGZ	Raukumara Rang	1.86	19	P	Pn	00 13 31.3	-0.5
WHRZ	Whale Island	1.87	1	P	Pn	00 13 31.7	-0.2
KIW	Kapiti Island	1.92	233	P	Pn	00 13 32.1	-0.4
TRWZ	Traveller	1.92	209	P	Pn	00 13 31.2	-1.2
CAW	Cannon Point	1.98	225	P	Pn	00 13 32.6	-0.8
PAWZ	Paruwai Farm	2.01	214	P	Pn	00 13 32.4	-1.3
HIZ	Hauiti	2.02	306	P	Pn	00 13 34.5	+0.6
HAZ	Te Kaha	2.08	19	P	Pn	00 13 34.2	-0.5
MSWZ	Moikau Station	2.12	217	P	Pn	00 13 33.2	-2.0
PREZ	Palmer Road	2.18	279	P	Pn	00 13 38.3	+2.2
WMGZ	Waiomatatini S	2.23	32	P	Pn	00 13 35.9	-0.9
PLWZ	Palliser	2.24	214	P	Pn	00 13 34.9	-2.0
TOZ	Tahuroa Road	2.29	330	P	Pn	00 13 36.6	-1.0
PKE	Pukeiti	2.34	282	P	Pn	00 13 40.7	+2.4
MXZ	Matakaoa Point	2.42	27	P	Pn	00 13 39.0	-0.3
TCW	Tory Channel	2.51	233	P	Pn	00 13 39.4	-1.1
DUWZ	D'Urville Isla	2.54	244	P	Pn	00 13 40.4	-0.7
TUWZ	Tuamarina	2.84	232	P	Pn	00 13 43.7	-1.4
QRZ	Quartz Range	3.54	251	P	Pn	00 13 53.7	-1.1
THZ	Tophouse	3.67	235	P	Pn	00 13 54.9	-1.7
KHZ	Kahutara	3.71	223	P	Pn	00 13 55.7	-1.4
GVZ	Greta Valley S	4.37	221	P	Pn	00 14 04.4	-1.7
OKCZ	Okains Bay	4.93	215	P	Pn	00 14 11.2	-2.7
MQZ	McQueen's Vall	5.10	217	P	Pn	00 14 13.0	-3.1
AKCZ	Akaroa Harbour	5.11	215	P	Pn	00 14 14.4	-2.0
CTZ	Chatham Island	6.27	132	P	Pn	00 14 32.5	+0.3

UCR 03 00:25:21.2±1.5**,9°.11N**×**84°.77W,h18**km±6km**,MD4.1, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EDDO	**Dominical**	**0.90**	**81**	*e*P	Pb	00 25 37.9	-0.4
EDDO				*e*S	Sn	00 25 51.7	+0.1
LCR2	**La Lucha 2**	**0.98**	**50**	*e*P	Pb	00 25 39.2	-0.6
LCR2				*e*S	Sg	00 25 53.1	-0.2
JTS	**Las Juntas de**	**1.19**	**351**	*e*P	Pn	00 25 41.6	-1.3
JTS				*e*S	Sb	00 25 57.7	-0.6
ARE1	**Arenal 1**	**1.34**	**2**	*e*P	Pn	00 25 45.0	0.0
ARE1				*e*S	Sg	00 26 03.9	-0.9
PLVR	**Palo Verde**	**1.36**	**335**	*e*P	Pn	00 25 45.6	+0.1
CEDE	**Laguna Cedeo**	**1.37**	**3**	*e*P	Pb	00 25 46.0	-0.4
AMAS	**Alto Masis**	**1.51**	**352**	*i* P	Pn	00 25 47.0	-0.5
DRK0	**Durika**	**1.51**	**84**	*e*P	Pn	00 25 47.2	-0.3
DRK0				*e*S	Sn	00 26 07.2	+0.4
ACAL	**Aguas Claras**	**1.54**	**350**	*i* P	Pn	00 25 48.1	+0.3

*IDC **03** 00:26:45.3±3.0, 9°.01S×117°.04E, h104km±26km, mb3.1/3, mb1 3.2/7, mb1mx3.1/32, mbtmp3.5/7, Error ellipse: s-maj=27.8km s-min=12.8km az=54.0*
*ISCJB **03** 00:26:47.3±0.7, 9°.79S±0°.06×117°.24E±0°.05, h35km, Error ellipse: s-maj=9.2km s-min=5.8km az=38.6*
*DJA **03** 00:26:51.0±1.1, 8°S±5°×11°7E±°, h32km±16km, M3.9/7, MLv3.9/7*
ISC 03 00:26:50.1±0.9**,9°.62S**±0°.07×**117°.33E**±0°.05**,h35**km**,n13, σ2§47**/16**,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.90**	**29**	P	**Pn**	**00 27 06.2**	**-0.1**
PLAI				S	**Sn**	**00 27 19.6**	**+1.5**
TWSI	**Taliwang, Sumb**	**0.98**	**333**	P	**Pn**	**00 27 07.9**	**+0.5**
TWSI				S	**Sn**	**00 27 21.8**	**+1.7**
IGBI	**Denpasar**	**2.30**	**290**	P	**Pn**	**00 27 27.5**	**+1.9**
IGBI				S	**Sn**	**00 27 55.3**	**+2.6**
SRBI	**Singaraja**	**2.59**	**306**	P	**Pn**	**00 27 26.8**	**-2.7**
JAGI	**Jajag, Banyuwa**	**3.34**	**290**	P	**Pn**	**00 27 38.7**	**-1.2**
GMJI	**Gumukmas**	**4.07**	**289**	P	**Pn**	**00 27 48.1**	**-1.8**
KAPI	**Kappang**	**5.16**	**28**	P	Pn	00 27 55.3	-10
	0.7nm,0.3s,baz=256,slow=23,SNR=4.3						
KAPI				S	Sn	00 28 51.5	-12
	1.2nm,0.3s,baz=337,slow=12,SNR=2.8						
BATI	**Baumata**	**6.26**	**96**	P	**Pn**	**00 28 21.3**	**+1.2**
	2.9nm,0.3s,baz=47,slow=2.1,SNR=1.7						
BATI				S	**Sn**	**00 29 32.4**	**+1.9**
	5.1nm,0.3s,baz=128,slow=15,SNR=2.5						
FITZ	**Fitzroy Crossi**	**11.66**	**137**	P	**Pn**	**00 29 37.1**	**+3.0**
	0.1nm,0.3s,baz=326,slow=11,SNR=4.3						
FITZ				S	**Sn**	**00 31 44.8**	**+1.7**
	0.3nm,0.3s,baz=343,slow=23,SNR=8.6						
WRA	**Warramunga Arr**	**19.36**	**124**	P	**P**	**00 31 08.6**	**-4.3**
	0.1nm,0.3s,baz=302,slow=12,SNR=12						
WRA				S	**S**	**00 34 49.2**	**-1.0**
	0.1nm,0.3s,baz=304,slow=25,SNR=2.9						
ASAR	**Alice Springs**	**21.11**	**133**	P	**P**	**00 31 28.1**	**-3.8**
	0.4nm,0.5s,baz=308,slow=8.9,SNR=6.7						
STKA	**Stephens Creek**	**31.56**	**138**	P	P	00 33 05.3	-4.0
	0.8nm,0.5s,baz=304,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**64.27**	**334**	P	P	00 37 04.3	-18
	0.3nm,0.7s,baz=146,slow=7.9,SNR=3.2						

*IDC **03** 00:41:31.6±1.2, 0°.77N×127°.00E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.6/41, mbtmp3.8/6, ML3.5/1, MS3.2/4, Ms1 3.2/4, ms1mx2.7/47, Error ellipse: s-maj=46.2km s-min=19.9km az=69.0*
*ISCJB **03** 00:41:33.6±1.6, 0°.98N±0°.08×127°.38E±0°.05, h11km±9km, mb3.8/5, MS3.1/4, Error ellipse: s-maj=14.4km s-min=8.2km az=14.0*
*DJA **03** 00:41:34.3±0.3, 1°N±3°×12°7E±°, h10km, M3.9/9, mb4.1/6, mB4.4/1, MLv3.8/9, Mw(mB)3.6/1*
ISC 03 00:41:34.1±2.2**,1°.0N**±0°.1×**127°.38E**±0°.09**,h8**km±14km**,n20, σ1§84**/18**,mb3.9**/5**,MS3.1**/4**,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.19**	**184**	P	**Pg**	**00 41 37.2**	**-0.9**
TNTI				S	**Sg**	**00 41 41.4**	**+0.6**
LBMI	**Labuha**	**1.60**	**176**	P	**Pg**	**00 42 04.3**	**-0.5**
SANI	**Sanana**	**3.30**	**205**	P	**Pn**	**00 42 26.9**	**+0.8**
NLAI	**Namlea**	**4.19**	**184**	P	**Pn**	**00 42 40.1**	**+1.9**
SWI	**Sorong**	**4.29**	**115**	P	**Pn**	**00 42 40.7**	**+1.1**
SIJI	**Sorong**	**4.29**	**115**	Pn	**Pn**	**00 42 41.4**	**+1.7**
	2.2nm,0.3s,baz=314,slow=7.2,SNR=8.9						
SIJI				Sn	**Sn**	**00 43 30.3**	**+0.2**
	2.0nm,0.3s,baz=260,slow=23,SNR=2.7						
MRSI	**Marisa**	**5.46**	**265**	P	**Pn**	**00 42 57.1**	**+1.3**
	6.6nm,0.6s						
APSI	**Ampana**	**6.03**	**252**	P	**Pn**	**00 43 05.6**	**+2.1**
	12nm,0.6s						
TTSI	**Tana Toraja**	**8.54**	**242**	P	**Pn**	**00 43 40.1**	**+2.0**
	8.3nm,0.6s						
BNSI	**Bone**	**9.01**	**234**	P	Pn	00 43 39.9	-4.7
SPSI	**Sidrap Palu**	**9.05**	**237**	P	**Pn**	**00 43 45.3**	**+0.3**
	8.0nm,0.5s,184nm						
BKSI	**Bulukumba**	**9.57**	**229**	P	**Pn**	**00 43 54.5**	**+2.3**
GUMO	**Guam**	**21.38**	**53**	LR	LR	00 53 15.5	
	comp=Z,74nm,20.3s,baz=100,slow=32						
WRA	**Warramunga Arr**	**21.87**	**162**	P	**P**	**00 46 24.2**	**-3.4**
	1.4nm,0.6s,baz=341,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**25.29**	**166**	P	**P**	**00 47 00.1**	**-1.1**
	2.4nm,0.9s,baz=346,slow=9.8,SNR=14						
PSI	**Prapat**	**28.50**	**274**	LR	LR	01 00 00.9	
	comp=Z,103nm,18.5s,baz=335,slow=39						
MJAR	**Matsushiro Arr**	**36.79**	**15**	P	**P**	**00 48 44.0**	**+1.6**
	1.1nm,0.4s,baz=172,slow=9.5,SNR=4.5						
MJAR				LR	LR	01 03 21.2	
	comp=Z,17nm,20.4s,baz=160,slow=35						
SONM	**Songino Array**	**50.11**	**342**	P	**P**	**00 50 30.3**	**+0.5**
	0.8nm,0.9s,baz=144,slow=8.4,SNR=3.1						
TLY	**Talaya**	**54.34**	**342**	LR	LR	01 17 14.9	
	comp=Z,16nm,18.2s,baz=129,slow=39						
MKAR	**Makanchi Array**	**60.19**	**326**	P	**P**	**00 51 39.9**	**-2.7**
	0.4nm,0.4s,baz=121,slow=8.2,SNR=6.0						

*ISCJB **03** 01:19:47.8±0.9, 15°.55N±0°.08×95°.81W±0°.04, h19km±9km, Error ellipse: s-maj=13.1km s-min=5.2km az=15.6*
*NEIC **03** 01:19:47.7±3.9, 15°.5N±0°.1×95°.83W±0°.04, h21km±12km*
*MEX **03** 01:19:49.4±0.3, 15°.57N×95°.86W, h3km±4km, MD4.1*
ISC 03 01:19:47.6±1.3**,15°.54N**±0°.07×**95°.80W**±0°.03**,h13**km±9km**, n22,**σ**1§47**/42**,1D,Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.38**	**307**	*e*P	**Pg**	**01 19 55.2**	**0.0**
HUIG				*i* S	**Sg**	**01 19 59.6**	**-0.7**
HUIG	**Huatulco**	**0.38**	**307**		**Pg**	**01 19 55.2**	**0.0**
HUIG					**Sg**	**01 19 59.6**	**-0.7**
PANG	**Puerto Angel**	**0.66**	**281**	*i* P	**Pg**	**01 20 00.6**	**+0.1**
PANG				*i* S	**Sg**	**01 20 09.5**	**+0.2**
PANG	**Puerto Angel**	**0.66**	**281**		**Pg**	**01 20 00.6**	**+0.1**
PANG					**Sg**	**01 20 09.5**	**+0.2**
OXBJ	**Oaxaca**	**1.76**	**330**	*i* P	**Pb**	**01 20 20.1**	**+0.3**
OXBJ				*i* S	**Sn**	**01 20 39.5**	**-0.8**
OXBJ	**Oaxaca**	**1.76**	**330**		**Pb**	**01 20 20.1**	**+0.3**
OXBJ					**Sn**	**01 20 39.5**	**-0.8**
VHO	**Vista Hermosa**	**1.77**	**330**	*i* P	**Pn**	**01 20 16.7**	**-1.4**
VHO				*e*S	**Sn**	**01 20 38.0**	**-2.5**
CMIG	**Matias Romero**	**1.77**	**30**	*e*P	**Pn**	**01 20 17.8**	**-0.2**
CMIG				*e*S	**Sn**	**01 20 39.8**	**-0.6**
CMIG	**Matias Romero**	**1.77**	**30**		**Pn**	**01 20 17.8**	**-0.2**
CMIG					**Sn**	**01 20 39.8**	**-0.6**
PNIG	**Pinotepa**	**2.40**	**291⇓**	*e*P	**Pn**	**01 20 25.7**	**-0.8**
PNIG				*i* S	**Sn**	**01 20 53.2**	**-2.5**
PNIG	**Pinotepa**	**2.40**	**291**		**Pn**	**01 20 25.7**	**-0.8**
PNIG					**Sn**	**01 20 53.2**	**-2.5**
PCIG		**2.49**	**86**	*e*P	**Pn**	**01 20 27.9**	**+0.1**
PCIG				*e*S	**Sn**	**01 20 58.5**	**+0.5**
PCIG		**2.49**	**86**		**Pn**	**01 20 27.9**	**+0.1**
PCIG					**Sn**	**01 20 58.5**	**+0.5**
TGIG		**2.85**	**64**	*e*P	**Pn**	**01 20 33.0**	**+0.2**
TGIG				*i* S	**Sb**	**01 21 13.0**	**-0.2**
TGIG		**2.85**	**64**		**Pn**	**01 20 33.0**	**+0.2**
TGIG					**Sb**	**01 21 13.0**	**-0.2**
TPIG	**Tehuac#an**	**3.23**	**333**	*e*P	**Pn**	**01 20 39.9**	**+1.8**
TPIG				*e*S	**Sn**	**01 21 19.2**	**+2.6**
TPIG	**Tehuac#an**	**3.23**	**333**		**Pn**	**01 20 39.9**	**+1.8**
TPIG					**Sn**	**01 21 19.2**	**+2.6**
TLIG	**Tlapa**	**3.33**	**308**		**Pn**	**01 20 40.8**	**+1.3**
TLIG				Sn	**Sn**	**01 21 19.9**	**+0.9**
CCIG	**Comitan**	**3.60**	**78**	*e*S	**Sn**	**01 21 22.6**	**-3.1**
CCIG	**Comitan**	**3.60**	**78**		**Sn**	**01 21 22.6**	**-3.1**
CCIG	**Comitan**	**3.60**	**78**	Pn	**Pn**	**01 20 46.0**	**+2.8**
CCIG				Sn	**Sn**	**01 21 27.7**	**+2.0**
TEIG	**Tepich**	**8.54**	**56**	Pn	**Pn**	**01 21 50.6**	**-0.4**
TEIG				Sn	**Sn**	**01 23 25.7**	**-1.5**

*THE **03** 01:21:47.6, 37°.74N×29°.39E, h0km±5km, ML3.2/1, Error ellipse: s-maj=11.8km s-min=1.6km az=49.0*
*ATH **03** 01:21:48.9, 37°.74N×29°.04E, h6km±2km, ML3.1/3, Error ellipse: s-maj=3.0km s-min=1.1km az=46.0*
*ISCJB **03** 01:21:48.8±0.4, 37°.74N±0°.01×29°.22E±0°.02, h3km±3km, mb3.8/1, Error ellipse: s-maj=2.4km s-min=2.2km az=146.1*
*IDC **03** 01:21:48.8±1.5, 37°.61N×29°.38E, h0km, mb3.7/1, mb1 3.6/5, mb1mx3.2/55, mbtmp3.5/5, ML3.5/4, Error ellipse: s-maj=22.6km s-min=20.7km az=174.0*
*DDA **03** 01:21:48.3, 37°.74N×29°.23E, h2km±1km, ML2.9*
*ISK **03** 01:21:48.2, 37°.72N×29°.21E, h2km, ML3.5/23*
ISC 03 01:21:49.1±1.0**,37°.74N**±0°.02×**29°.22E**±0°.02**,h5**km±8km**, n70,**σ**1§21**/116**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.15**	**277**	PG	**Pg**	**01 21 51.9**	**-0.3**
DENT				SG	**Sg**	**01 21 54.8**	**+0.5**
TAVA	**DENIZLI_Tavas**	**0.37**	**223**	*i* PA	**Pg**	**01 21 55.6**	**-0.7**
TAVA				*i* S	**Sg**	**01 22 00.7**	**-0.4**
TAVA				IAML		01 22 04.0	
	comp=N,1μm,0.3s						
TAVA				IAML		01 22 04.0	
	comp=E,1μm,0.4s						
GOLH	**Golhisar**	**0.57**	**152**	*i* PA	**Pg**	**01 21 59.3**	**-0.7**
GOLH				*i* S	**Sb**	**01 22 08.9**	**-1.2**
GOLH				IAML		01 22 12.0	
	comp=N,1μm,0.5s						
GLHS	**Glhisar (BURDU**	**0.62**	**159**	PG	**Pg**	**01 22 00.5**	**-0.6**
GLHS				SG	**Sb**	**01 22 10.6**	**-1.0**
KHL	**Karahalli**	**0.63**	**22**	PG	**Pg**	**01 22 01.8**	**+0.5**
KHL				SG	**Sb**	**01 22 11.4**	**-0.6**
KHAL	**Karahalli**	**0.67**	**18**	*i* P	**Pg**	**01 22 00.9**	**-1.1**
KHAL				*i* S	**Sg**	**01 22 10.4**	**-0.2**
KHAL				IAML		01 22 12.0	
	comp=E,606nm,0.3s						
KHAL				IAML		01 22 13.0	
	comp=N,954nm,0.6s						
BASM	**Basmaki-Afyon**	**0.68**	**74**	PG	**Pg**	**01 22 02.2**	**0.0**
BASM				SG	**Sb**	**01 22 12.5**	**-0.8**
KZIL	**AFYON_Kizioren**	**0.89**	**54**	*i* P	**Pg**	**01 22 05.6**	**-0.7**
KZIL				*i* S	**Sg**	**01 22 16.9**	**-1.0**
KZIL				IAML		01 22 23.0	
	comp=E,460nm,0.5s						
KZIL				IAML		01 22 27.0	
	comp=N,392nm,0.7s						
MANT	**Manisa**	**0.92**	**325**	*i* P	**Pg**	**01 22 06.5**	**-0.3**
MANT				*i* S	**Sb**	**01 22 20.4**	**+0.1**
MANT				IAML		01 22 25.0	
	comp=N,542nm,0.8s						
MANT				IAML		01 22 26.0	
	comp=E,515nm,0.5s						
YER	**Yerkesik**	**0.96**	**232**	P	**Pg**	**01 22 07.1**	**-0.5**
YER				S	**Sn**	**01 22 23.9**	**+0.5**
YER	**Yerkesik**	**0.96**	**232**	PG	**Pg**	**01 22 06.9**	**-0.7**
USAK	**Uak-Merkez**	**0.99**	**351**	*i* P	**Pg**	**01 22 07.5**	**-0.6**
USAK				*i* S	**Sb**	**01 22 21.5**	**-0.7**
USAK				IAML		01 22 29.0	
	comp=E,407nm,0.6s						
USAK				IAML		01 22 36.0	
	comp=N,241nm,0.6s						
TURN	**Turunc**	**0.99**	**210**	*i* P	**Pn**	**01 22 12.1**	**+2.4**
TURN				*i* S	**Sn**	**01 22 31.2**	**+7.0**
TURN				IAML		01 22 39.0	
	comp=N,332nm,0.7s						
TURN				IAML		01 22 41.0	
	comp=E,244nm,0.5s						
TURN	**Turunc**	**0.99**	**210**	PN	**Pn**	**01 22 12.2**	**+2.5**
DALY	**Dalyan (Mula)**	**1.02**	**207**	*i* PA	**Pg**	**01 22 07.9**	**-0.9**
DALY				*i* S	**Sn**	**01 22 25.2**	**+0.3**
DALY				IAML		01 22 30.0	
	comp=E,655nm,0.7s						
DALY				IAML		01 22 34.0	
	comp=N,670nm,0.7s						
DALY	**Dalyan (Mula)**	**1.02**	**207**	PG	**Pg**	**01 22 08.3**	**-0.5**
AYDN	**Tasoluk**	**1.07**	**266**	*i* PA	**Pg**	**01 22 09.8**	**+0.1**
AYDN				*i* S	**Sg**	**01 22 23.0**	**-0.6**
AYDN				IAML		01 22 27.0	
	comp=E,768nm,0.3s						
AYDN				IAML		01 22 30.0	
	comp=N,931nm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**1.08**	**282**	PG	**Pg**	**01 22 09.6**	**-0.2**
FETY	**Fethiye**	**1.10**	**186**	P	**Pg**	**01 22 08.9**	**-1.4**
FETY				S	**Sn**	**01 22 26.0**	**-1.0**
FETY	**Fethiye**	**1.10**	**186**	*i* P	**Pg**	**01 22 09.6**	**-0.7**
FETY				*i* S	**Sb**	**01 22 25.8**	**+0.3**
FETY				IAML		01 22 31.0	
	comp=E,245nm,0.5s						
FETY				IAML		01 22 32.0	
	comp=N,148nm,0.6s						
FETY	**Fethiye**	**1.10**	**186**	PN	**Pg**	**01 22 09.7**	**-0.7**
BCK	**Bucak**	**1.12**	**104**	PN	**Pg**	**01 22 10.6**	**0.0**
BCK				SN	**Sn**	**01 22 27.5**	**+0.1**
ELL	**Elmali**	**1.13**	**151**	PN	**Pg**	**01 22 10.5**	**-0.3**
ELL				SN	**Sn**	**01 22 27.0**	**-0.7**
KORT	**Korkueli**	**1.16**	**129**	*i* P	**Pg**	**01 22 11.4**	**0.0**
KORT				*i* S	**Sn**	**01 22 30.2**	**+1.7**
KORT				IAML		01 22 33.0	
	comp=N,224nm,0.8s						
KORT				IAML		01 22 33.0	
	comp=E,380nm,0.7s						
KORT	**Korkueli**	**1.16**	**129**	PN	**Pg**	**01 22 10.8**	**-0.6**
KORT				SN	**Sn**	**01 22 27.9**	**-0.6**
MLSB	**Milas**	**1.23**	**250**	PN	**Pg**	**01 22 12.1**	**-0.7**
MLSB				SN	**Sn**	**01 22 30.2**	**+0.1**
BAGO	**Egridir - ISPA**	**1.26**	**78**	*i* P	**Pg**	**01 22 12.7**	**-0.7**
BAGO				*i* S	**Sn**	**01 22 30.8**	**-0.2**
BAGO				IAML		01 22 35.0	
	comp=E,86nm,0.7s						
SHAP	**Saphane-Kutahy**	**1.28**	**360**	PN	**Pb**	**01 22 13.9**	**0.0**
MRSB	**Marmaris-Mugla**	**1.31**	**219**	PN	**Pn**	**01 22 13.7**	**-0.4**
GEDZ	**Gediz**	**1.31**	**6**	PN	**Pg**	**01 22 14.6**	**+0.2**
SHUT	**Suhut-Afyon**	**1.33**	**52**	PN	**Pg**	**01 22 14.7**	**+0.1**
AFYO	**Afyonkarahisar**	**1.35**	**39**	*i* P	**Pg**	**01 22 15.1**	**+0.1**
AFYO				*i* S	**Sn**	**01 22 35.2**	**+2.1**
AFYO				IAML		01 22 41.0	
	comp=E,596nm,1.2s						
AFYO				IAML		01 22 48.0	
	comp=N,618nm,0.8s						
DEMI	**Demirci**	**1.36**	**343**	*i* P	**Pn**	**01 22 14.3**	**-0.6**
DEMI				*i* S	**Sn**	**01 22 33.5**	**+0.1**
DEMI				IAML		01 22 41.0	
	comp=N,126nm,0.4s						
DEMI				IAML		01 22 44.0	
	comp=E,200nm,0.7s						
GDZ	**Gediz**	**1.37**	**8**	*i* P	**Pn**	**01 22 14.6**	**-0.5**
GDZ				*i* S	**Sn**	**01 22 33.4**	**-0.2**
GDZ				IAML		01 22 38.0	
	comp=E,74nm,1.2s						
GDZ				IAML		01 22 41.0	
	comp=N,96nm,0.7s						
ANTB	**Antalya**	**1.41**	**126**	PN	**Pn**	**01 22 15.5**	**0.0**
GOMA	**Golmarmara-Man**	**1.41**	**314**	PN	**Pb**	**01 22 15.8**	**-0.2**
AKAS	**Kas**	**1.53**	**168**	*i* P	**Pg**	**01 22 18.5**	**0.0**
AKAS				*i* S	**Sg**	**01 22 41.5**	**+3.1**
AKAS				IAML		01 22 50.0	
	comp=N,261nm,0.7s						
AKAS				IAML		01 22 50.0	
	comp=E,123nm,0.4s						
AKAS	**Kas**	**1.53**	**168**	PN	**Pn**	**01 22 16.9**	**-0.4**
GCAM	**G?zelcaml?**	**1.58**	**269**	*i* P	**Pn**	**01 22 17.7**	**-0.1**
GCAM				*i* S	**Sb**	**01 22 38.9**	**-0.2**
GCAM				IAML		01 22 47.0	
	comp=N,336nm,0.7s						
GCAM				IAML		01 22 48.0	
	comp=E,264nm,0.4s						
GCAM	**G?zelcaml?**	**1.58**	**269**	PN	**Pb**	**01 22 18.1**	**-0.7**
DATC	**Datca-Mugla**	**1.58**	**232**	PN	**Pn**	**01 22 17.9**	**0.0**
KSL	**Kastellorizon**	**1.61**	**170**	P	**Pg**	**01 22 19.6**	**-0.4**
KSL				S	**Sg**	**01 22 42.2**	**+1.3**
KSL				AML	AML	01 22 48.5	
	comp=N,875μm,0.5s						
KSL				AML	AML	01 22 51.7	
	comp=E,755μm,0.8s						
DAT	**Datca**	**1.65**	**233**	*i* P	**Pb**	**01 22 19.7**	**-0.5**
DAT				*i* S	**Sg**	**01 22 43.1**	**+0.8**
DAT				IAML		01 22 51.0	
	comp=E,77nm,0.6s						
DAT				IAML		01 22 53.0	
	comp=N,70nm,0.8s						
DAT	**Datca**	**1.65**	**233**	PN	**Pn**	**01 22 18.9**	**-0.1**
BODT	**Bodrum**	**1.67**	**247**	P	**Pn**	**01 22 19.0**	**-0.1**
BODT				S	**Sg**	**01 22 42.4**	**-0.3**
BODT	**Bodrum**	**1.67**	**247**	PN	**Pn**	**01 22 18.9**	**-0.1**
AKUM	**Antalya-Kumluc**	**1.67**	**147**	*i* P	**Pg**	**01 22 21.7**	**+0.6**
AKUM				*i* S	**Sg**	**01 22 45.0**	**+2.1**
AKUM				IAML		01 22 52.0	
	comp=E,158nm,1.3s						
AKUM				IAML		01 22 56.0	
	comp=N,129nm,0.5s						
BOLV	**Bolvadin**	**1.68**	**54**	*i* P	**Pb**	**01 22 19.9**	**-0.7**
BOLV				*i* S	**Sg**	**01 22 44.8**	**+1.8**
BOLV				IAML		01 22 47.0	
	comp=N,253nm,0.6s						
BOLV				IAML		01 22 51.0	
	comp=E,210nm,0.4s						
AUKIR	**Kırka- Seyitga**	**1.85**	**33**	*i* P	**Pg**	**01 22 24.1**	**-0.5**
AUKIR				*i* S	**Sg**	**01 22 50.7**	**+2.1**
AUKIR				IAML		01 22 57.0	
	comp=N,196nm,0.7s						
AUKIR				IAML		01 23 00.0	
	comp=E,134nm,0.5s						
DGB	**zmir**	**1.88**	**280**	*i* P	**Pn**	**01 22 22.5**	**+0.6**
DGB				*i* S	**Sg**	**01 22 48.8**	**-0.8**
DGB				IAML		01 22 58.0	
	comp=N,108nm,0.7s						
DGB				IAML		01 23 00.0	
	comp=E,114nm,0.7s						
SMG	**Samos**	**1.89**	**270**	P	**Pn**	**01 22 21.7**	**-0.5**
SMG				S	**Sb**	**01 22 47.2**	**-1.0**
	comp=E,402nm,0.5s						
SMG	**Samos**	**1.89**	**270**	P	**Pn**	**01 22 21.7**	**-0.5**
SMG				S	**Sn**	**01 22 45.5**	**-0.9**
SMG				AML	AML	01 23 01.8	
	comp=E,757μm,0.4s						
SMG				AML	AML	01 23 02.1	
	comp=N,816μm,0.6s						
DOGA	**KONYA_Doganhis**	**1.97**	**78**	*i* P	**Pn**	**01 22 23.8**	**+0.5**
DOGA				*i* S	**Sn**	**01 22 48.2**	**-0.3**
DOGA				IAML		01 23 03.0	
	comp=E,48nm,0.7s						
DOGA				IAML		01 23 09.0	
	comp=N,51nm,0.7s						
NISR	**Nisiros**	**2.02**	**237**	P	**Pn**	**01 22 23.9**	**+0.1**
KEPZ	**Antalya-Kepez**	**2.07**	**113**	*i* P	**Pn**	**01 22 24.9**	**+0.3**
KEPZ				*i* S	**Sb**	**01 22 52.3**	**-1.1**
KEPZ				IAML		01 23 08.0	
	comp=E,36nm,0.8s						
KEPZ				IAML		01 23 11.0	
	comp=N,86nm,0.9s						
ZEDA	**zmir-Bergama**	**2.09**	**307**	*i* P	**Pn**	**01 22 24.2**	**-0.6**
ZEDA				*i* S	**Sn**	**01 22 51.1**	**-0.1**
ZEDA				IAML		01 23 00.0	
	comp=E,59nm,0.5s						
ZEDA				IAML		01 23 03.0	
	comp=N,95nm,1.2s						
IGD	**Bursa**	**2.52**	**360**	*i* P	**Pg**	**01 22 36.2**	**-1.4**
IGD				*i* S	**Sb**	**01 23 07.5**	**+1.2**
IGD				IAML		01 23 22.0	
	comp=E,39nm,1.2s						
SRCK	**Saricakaya, Es**	**2.55**	**25**	*i* P	**Pn**	**01 22 31.3**	**+0.1**
SRCK				*i* S	**Sn**	**01 23 01.9**	**-0.7**
SRCK				IAML		01 23 23.0	
	comp=E,51nm,0.7s						
CHOS	**Chios island**	**2.58**	**286**	P	**Pn**	**01 22 31.4**	**-0.3**
CHOS				S	**Sn**	**01 23 03.1**	**-0.5**
KARP	**Karpathos**	**2.74**	**218**	P	**Pn**	**01 22 34.9**	**+1.1**
KARP				S	**Sn**	**01 23 08.1**	**+0.7**
KARP				AML	AML	01 23 20.0	
	comp=N,708μm,0.6s						
KARP				AML	AML	01 23 20.2	
	comp=E,458μm,0.5s						
PRK	**Paraskevi**	**2.76**	**304**	P	**Pn**	**01 22 34.9**	**+0.8**
ZKR	**Zakros**	**3.57**	**224**	P	**Pn**	**01 22 45.7**	**+0.5**
NPS	**Neapolis**	**3.81**	**231**	P	**Pn**	**01 22 49.5**	**+0.9**
BRTR	**Keskin Array B**	**3.98**	**59**	Pn	**Pn**	**01 22 51.3**	**+0.3**
	comp=E,0.5nm,0.3s,baz=234,slow=13,SNR=20						
BRTR				Sn	**Sn**	**01 23 40.1**	**+1.9**
	comp=E,0.4nm,0.3s,baz=237,slow=26,SNR=5.5						
MMAI	**Mount Meron Ar**	**6.90**	**131**	Pn	**Pn**	**01 23 30.9**	**-0.1**
	comp=E,5.9nm,0.3s,baz=312,slow=12,SNR=48						
MMAI				Sn	**Sn**	**01 24 46.4**	**-3.6**
	comp=E,0.6nm,0.3s,baz=310,slow=22,SNR=2.7						
ASF	**Jabal al Asfar**	**8.39**	**129**	Pn	**Pn**	**01 23 52.8**	**+1.3**
	comp=E,0.2nm,0.3s,baz=325,slow=16,SNR=2.6						
ASF				Sn	**Sn**	**01 25 27.2**	**+0.5**
	comp=E,0.2nm,0.3s,baz=34,slow=3.9,SNR=2.3						
EIL	**Elat**	**9.35**	**148**	Pn	**Pn**	**01 24 04.3**	**-0.3**
	comp=E,0.2nm,0.3s,baz=349,slow=14,SNR=3.3						
EIL				Sn	**Sn**	**01 25 45.8**	**-4.3**
	comp=E,0.2nm,0.3s,baz=166,slow=22,SNR=2.4						
VYHS	**Vyhne**	**13.14**	**328**	*e*PN	Pn	01 24 48.0	-8.4
GERES	**GERESS Array B**	**15.81**	**320**	Pn	**P**	**01 25 37.7**	**+1.3**
	comp=E,0.1nm,0.3s,baz=123,slow=14,SNR=3.4						
TORD	**Torodi Ar. Bea**	**34.65**	**232**	P	**P**	**01 28 39.5**	**-0.2**
	comp=E,0.7nm,0.5s,baz=35,slow=9.1,SNR=11						

*KRNET **03** 01:25:02.1±0.1, 40°.42N×77°.16E, h13km, mb3.1*
*SOME **03** 01:25:02.2, 40°.33N×77°.17E, h20km*
*NNC **03** 01:25:03.9±1.7, 40°.45N×77°.17E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=11.3km s-min=8.9km az=157.0*
ISC 03 01:25:04.6±1.8**,40°.39N**±0°.08×**77°.14E**±0°.04**,h10**km**,n60, σ1§68**/94**,23C-8D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.35**	**321**	⇑*i*P	**Pn**	**01 25 27.3**	**-2.6**
	baz=18						
NRN				⇑*i*S	**Sb**	**01 25 46.0**	**-1.8**
	baz=18						
TARG	**Taragay, Kyrgy**	**1.43**	**20**	⇓*i*P	**Pn**	**01 25 28.5**	**-2.5**
	baz=20						
TARG				⇓*i*S	**Sn**	**01 25 47.9**	**-2.1**
	baz=20						
KDJ	**Kajisay**	**1.74**	**1**	⇑*i*P	**Pn**	**01 25 34.3**	**-0.7**
	baz=1.0						
KDJ				⇑*i*S	**Sn**	**01 25 57.2**	**-0.1**
	baz=1.0						
ULHL	**Ulahol**	**1.97**	**340**	⇑*i*P	**Pn**	**01 25 38.5**	**+0.2**
	baz=40						
ULHL				⇑*i*S	**Sb**	**01 26 04.5**	**-1.0**
	baz=40						
ULHL	**Ulahol**	**1.97**	**340**	P	**Pn**	**01 25 39.0**	**+0.6**
	SNR=25						
KZA	**Kyzart**	**2.21**	**320**	⇑*i*P	**Pn**	**01 25 42.3**	**+0.6**
	baz=20						
KZA				⇑*i*S	**Sb**	**01 26 11.0**	**-1.4**
	baz=20						
KZA	**Kyzart**	**2.21**	**320**	P	**Pb**	**01 25 43.1**	**-1.7**
	SNR=9.8						
PRZ	**Przheval'sk**	**2.29**	**24**	⇓*i*P	**Pn**	**01 25 42.7**	**0.0**
	baz=24						
PRZ				⇓*i*S	**Sn**	**01 26 12.5**	**+1.4**
	baz=24						
ANVS	**Anan'yevo**	**2.42**	**9**	⇑*i*P	**Pn**	**01 25 44.5**	**0.0**
	baz=9.0						
ANVS				⇑*i*S	**Sn**	**01 26 15.4**	**+1.2**
	baz=9.0						
ARLS	**Aral**	**2.58**	**305**	⇓*i*P	**Pn**	**01 25 46.9**	**+0.2**
	baz=5.0						
ARLS				⇓*i*S	**Sn**	**01 26 19.6**	**+1.3**
	baz=5.0						
TNSS	**Tian-Shan**	**2.65**	**357**	*e*P	**Pb**	**01 25 51.3**	**-1.1**
	18nm,0.6s						
TNSS				*e*S	**Sb**	**01 26 26.9**	**+1.8**
	48nm,0.6s						
TNSS	**Tian-Shan**	**2.65**	**357**	Pg	**Pb**	**01 25 51.2**	**-1.1**
	25nm,0.6s						
TNSS				Lg	Lg	01 26 26.9	
	41nm,0.6s						
IZV	**Izvestkoviy**	**2.67**	**352**	*e*P	**Pb**	**01 25 51.6**	**-1.0**
	18nm,0.7s						
IZV				*e*S	**Sb**	**01 26 27.4**	**+1.9**
	70nm,0.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
IZV	**Izvestkoviy** 18nm,0.7s	**2.67**	**352**	Pg	**Pb**	**01 25 51.6**	**-1.0**
IZV	70nm,0.6s			Lg	Lg	01 26 27.8	
UCH	**Uchtor** baz=13	**2.70**	**314**	⇑*i*P	**Pn**	**01 25 48.9**	**+0.4**
UCH	baz=13			⇑*i*S	**Sn**	**01 26 23.0**	**+1.5**
UCH	**Uchtor** SNR=20	**2.70**	**314**	P	**Pn**	**01 25 50.0**	**+1.4**
MDOK	**Medeo** 5.9nm,0.8s	**2.77**	**359**	*e*P	**Pb**	**01 25 53.2**	**-1.1**
MDOK	70nm,0.8s			*e*S	**Sb**	**01 26 30.2**	**+1.9**
MDOK	**Medeo** 8.3nm,0.5s	**2.77**	**359**	Pg	**Pg**	**01 25 56.5**	**-1.2**
MDOK	78nm,0.7s			Lg	Lg	01 26 30.3	
MDOK	**Medeo** 11nm,0.6s	**2.77**	**359**	Pg	**Pb**	**01 25 53.2**	**-1.1**
MDOK	60nm,0.7s			Lg	Lg	01 26 30.3	
TKM2	**Tokmak 2** SNR=7.5	**2.78**	**336**	P	**Pn**	**01 25 50.6**	**+1.2**
TKM2	**Tokmak 2** 5.1nm,0.6s	**2.78**	**336**	⇓Pg	**Pg**	**01 25 56.5**	**-1.4**
TKM2	10nm,0.5s			⇑Lg	Lg	01 26 31.4	
KST	**Kastek** 7.3nm,0.5s	**2.79**	**342**	*e*P	**Pb**	**01 25 53.5**	**-1.2**
KST	29nm,0.8s			*e*S	**Sb**	**01 26 30.9**	**+1.9**
KST	**Kastek** 7.5nm,0.5s	**2.79**	**342**	Pg	**Pb**	**01 25 53.5**	**-1.2**
KST	23nm,0.8s			Lg	Lg	01 26 31.0	
KBK	**Karagaybulak** SNR=13	**2.80**	**325**	P	**Pn**	**01 25 50.9**	**+1.3**
AAA	**Alma-Ata** 8.5nm,0.1s	**2.82**	**357**	*e*P	**Pb**	**01 25 55.0**	**-0.2**
AAA	68nm,0.5s			*e*S	**Sg**	**01 26 33.0**	**-2.1**
AAA	**Alma-Ata** 20nm,0.1s	**2.82**	**357**	Pg	**Pb**	**01 25 55.0**	**-0.2**
AAA	64nm,0.4s			Lg	Lg	01 26 33.0	
SATY	**Saty** 14nm,0.5s	**2.83**	**19**	*e*P	**Pb**	**01 25 53.3**	**-2.0**
SATY	41nm,0.6s			*e*S	**Sb**	**01 26 30.2**	**+0.2**
SATY	**Saty** 12nm,0.4s	**2.83**	**19**	Pg	**Pb**	**01 25 53.3**	**-2.0**
SATY	36nm,0.6s			Lg	Lg	01 26 30.0	
KOTS	**Kotyrbulak** 27nm,0.4s	**2.84**	**360**	*e*P	**Pb**	**01 25 54.5**	**-1.0**
KOTS	340nm,0.6s			*e*S	**Sb**	**01 26 32.7**	**+2.3**
KOTS	**Kotyrbulak** 27nm,0.4s	**2.84**	**360**	Pg	**Pb**	**01 25 54.5**	**-1.0**
KOTS	340nm,0.6s			Lg	Lg	01 26 32.9	
ZHN	**Zhinishke** 2.7nm,0.2s	**2.94**	**19**	*e*P	**Pb**	**01 25 56.5**	**-0.6**
ZHN	13nm,0.3s			*e*S	**Sb**	**01 26 35.6**	**+2.5**
AAK	**Ala-Archa** baz=19	**3.00**	**319**	⇑*i*P	**Pn**	**01 25 52.7**	**+0.3**
AAK	baz=19			⇑*i*S	**Sn**	**01 26 30.3**	**+1.9**
AAK	**Ala-Archa** SNR=22	**3.00**	**319**	P	**Pn**	**01 25 54.4**	**+2.0**
AAK	**Ala-Archa** 16nm,0.7s	**3.00**	**319**	⇑Pg	**Pb**	**01 25 58.0**	**-0.2**
AAK	24nm,0.7s			⇑Lg	Lg	01 26 37.9	
DGS	**Degeres** 5.1nm,0.5s	**3.02**	**341**	*e*P	**Pb**	**01 25 57.5**	**-1.2**
DGS	21nm,0.8s			*e*S	**Sb**	**01 26 37.4**	**+1.7**
DGS	**Degeres** 9.9nm,0.4s	**3.02**	**341**	Pg	**Pb**	**01 25 57.5**	**-1.2**
DGS	18nm,0.4s			Lg	Lg	01 26 37.9	
FRU1	**Bishkek** baz=22	**3.06**	**323**	⇑*i*P	**Pn**	**01 25 53.6**	**+0.4**
FRU1	baz=22			⇑*i*S	**Sn**	**01 26 31.3**	**+1.4**
UZB	**Uzynbulak** 2.2nm,0.5s	**3.09**	**26**	*e*P	**Pb**	**01 25 58.3**	**-1.5**
UZB	13nm,0.6s			*e*S	**Sb**	**01 26 38.6**	**+1.0**
UZB	**Uzynbulak** 2.9nm,0.6s	**3.09**	**26**	Pg	**Pb**	**01 25 58.3**	**-1.5**
UZB	13nm,0.6s			Lg	Lg	01 26 39.3	
AML	**Almayashu** baz=4.0	**3.12**	**305**	⇑*i*P	**Pn**	**01 25 54.7**	**+0.4**
AML	baz=4.0			⇑*i*S	**Sn**	**01 26 33.6**	**+1.7**
AML	**Almayashu** SNR=12	**3.12**	**305**	P	**Pn**	**01 25 55.9**	**+1.6**
KURS	**Kuram** 7.9nm,0.7s	**3.19**	**14**	*e*P	**Pb**	**01 26 00.5**	**-0.9**
KURS	21nm,0.9s			*e*S	**Sb**	**01 26 42.4**	**+2.1**
SHLS	**Shalkode** 2.3nm,0.8s	**3.26**	**31**	*e*P	**Pg**	**01 26 05.7**	**-1.4**
SHLS	29nm,0.8s			*e*S	**Sg**	**01 26 51.4**	**+2.0**
KPKS	**Kokpek** 7.4nm,0.3s	**3.28**	**20**	*e*P	**Pb**	**01 26 02.6**	**-0.4**
KPKS	55nm,0.9s			*e*S	**Sb**	**01 26 46.0**	**+3.0**
ARSB	**Arslanbob** baz=87	**3.29**	**288**	⇑*i*P	**Pn**	**01 25 57.0**	**+0.6**
ARSB	baz=87			⇑*i*S	**Sn**	**01 26 36.8**	**+1.2**
KTBS	**Karatobe** 13nm,0.5s	**3.33**	**354**	*e*P	**Pb**	**01 26 03.0**	**-0.9**
KTBS	54nm,0.6s			*e*S	**Sb**	**01 26 46.4**	**+1.9**
KTBS	**Karatobe** 13nm,0.5s	**3.33**	**354**	Pg	**Pb**	**01 26 03.0**	**-0.9**
KTBS	54nm,0.6s			Lg	Lg	01 26 47.4	
EKS2	**Erkin-Say** SNR=9.1	**3.39**	**313**	P	**Pn**	**01 26 00.1**	**+2.4**
CHKK	**Chushkaly** 6.0nm,0.4s	**3.46**	**358**	*e*P	**Pb**	**01 26 05.5**	**-0.5**
CHKK	34nm,0.7s			*e*S	**Sb**	**01 26 50.8**	**+2.7**
USP	**Ospenovka** SNR=5.5	**3.48**	**326**	P	**Pg**	**01 26 10.9**	**-0.5**
KUU	**Kurty** 2.7nm,0.8s	**3.55**	**351**	*e*P	**Pb**	**01 26 07.1**	**-0.4**
KUU	33nm,0.8s			*e*S	**Sb**	**01 26 53.6**	**+3.0**
MRKS	**Merke** 6.9nm,0.6s	**3.76**	**310**	*e*P	**Pb**	**01 26 10.6**	**-0.6**
MRKS	6.7nm,0.5s			*e*S	**Sb**	**01 26 59.9**	**+3.0**
MRKS	**Merke** 6.9nm,0.6s	**3.76**	**310**	Pg	**Pb**	**01 26 10.6**	**-0.6**
MRKS	6.7nm,0.5s			Lg	Lg	01 26 59.8	
MNBS	**Baschi** 15nm,0.2s	**3.80**	**14**	*e*P	**Pb**	**01 26 11.9**	**0.0**
MNBS	34nm,0.8s			*e*S	**Sb**	**01 27 01.9**	**+3.9**
MNBS	**Baschi** 7.5nm,0.5s	**3.80**	**14**	Pg	**Pb**	**01 26 11.9**	**0.0**
MNBS	30nm,0.6s			Lg	Lg	01 27 02.5	
ARXS	**Arharly** 5.9nm,0.5s	**3.85**	**7**	*e*P	**Pb**	**01 26 12.7**	**0.0**
ARXS	27nm,0.6s			*e*S	**Sb**	**01 27 03.5**	**+4.1**
ARXS	**Arharly** 5.5nm,0.6s	**3.85**	**7**	Pg	**Pb**	**01 26 12.7**	**0.0**
ARXS	24nm,0.5s			Lg	Lg	01 27 03.6	
DJR	**Jarkent** 0.8nm,0.1s	**4.40**	**26**	*e*P	**Pb**	**01 26 21.9**	**-0.1**
DJR	6.8nm,0.4s			*e*S	**Sb**	**01 27 19.0**	**+3.8**
KAPS	**Kapalarasan** 1.4nm,0.8s	**5.15**	**18**	*e*P	**Pb**	**01 26 37.4**	**+2.5**
KAPS	6.6nm,0.7s			*e*S	**Sg**	**01 27 45.5**	**-4.5**
KK31	**Karatay Array** 0.9nm,0.6s,baz=119,slow=15,SNR=6.9	**5.65**	**301**	Pg	**Pg**	**01 26 50.9**	**-1.9**
KK31	1.3nm,0.5s,baz=104,slow=26,SNR=3.8			⇓Lg	Lg	01 28 00.9	

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*KRNET **03** 01:33:04.4±0.1, 40.°43N×77.°13E, h16km, mb2.8*
*SOME **03** 01:33:04.0, 40.°38N×77.°17E, h5km*
*NNC **03** 01:33:06.1±1.9, 40.°46N×77.°21E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=12.4km s-min=9.1km az=168.0*
ISC 03 01:33:02.4±2.2**, 40.°35N**±0.°09×**77.°07E**±0.°03**, h8**km±16km**,** **n53,** σ**1^{s}49**/85**, 22C-8D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NRN	**Naryn** baz=19	**1.35**	**323**	⇓*i*P	**Pb**	**01 33 29.1**	**+0.9**
NRN	baz=19			⇓*i*S	**Sg**	**01 33 47.2**	**+1.3**
TARG	**Taragay, Kyrgy** baz=21	**1.48**	**22**	⇑*i*P	**Pg**	**01 33 30.8**	**-0.1**
TARG	baz=21			⇑*i*S	**Sg**	**01 33 49.8**	**-0.3**
KDJ	**Kajisay** baz=2.0	**1.78**	**3**	⇑*i*P	**Pb**	**01 33 36.1**	**+0.7**
KDJ	baz=2.0			⇑*i*S	**Sg**	**01 33 59.3**	**-0.3**
ULHL	**Ulahol** baz=40	**1.99**	**342**	⇑*i*P	**Pb**	**01 33 40.1**	**+1.0**
ULHL	baz=40			⇑*i*S	**Sg**	**01 34 06.2**	**-0.2**
ULHL	**Ulahol** SNR=5.9	**1.99**	**342**	P	**Pg**	**01 33 41.5**	**+0.9**
KZA	**Kyzart** baz=20	**2.21**	**322**	⇓*i*P	**Pb**	**01 33 43.8**	**+1.0**
KZA	baz=20			⇓*i*S	**Sg**	**01 34 12.4**	**-0.9**
KZA	**Kyzart** SNR=7.1	**2.21**	**322**	P	**Pg**	**01 33 46.2**	**+1.6**
PRZ	**Przheval'sk** baz=25	**2.35**	**25**	⇑*i*P	**Pb**	**01 33 44.5**	**-0.7**
PRZ	baz=25			⇑*i*S	**Sb**	**01 34 14.4**	**0.0**
ANVS	**Anan'yevo** baz=10.0	**2.47**	**10**	⇓*i*P	**Pb**	**01 33 46.6**	**-0.6**
ANVS	baz=10.0			⇓*i*S	**Sb**	**01 34 17.5**	**-0.3**
ARLS	**Aral** baz=5.0	**2.57**	**307**	⇑*i*P	**Pb**	**01 33 48.9**	**+0.1**
ARLS	baz=5.0			⇑*i*S	**Sb**	**01 34 21.6**	**+1.0**
TNSS	**Tian-Shan** 23nm,0.7s	**2.69**	**358**	*e*P	**Pg**	**01 33 53.4**	**-0.4**
TNSS	45nm,0.5s			*e*S	**Sg**	**01 34 29.4**	**+0.7**
TNSS	**Tian-Shan** 23nm,0.7s	**2.69**	**358**	Pg	**Pg**	**01 33 53.4**	**-0.4**
TNSS	45nm,0.5s			Lg	Lg	01 34 29.6	
UCH	**Uchtor** baz=13	**2.69**	**315**	⇑*e*P	**Pb**	**01 33 50.8**	**-0.3**
UCH	baz=13			⇑*i*S	**Sb**	**01 34 24.3**	**-0.1**
UCH	**Uchtor** SNR=6.3	**2.69**	**315**	P	**Pb**	**01 33 52.3**	**+1.3**
IZV	**Izvestkoviy** 12nm,0.5s	**2.70**	**353**	*e*P	**Pg**	**01 33 53.5**	**-0.7**
IZV	47nm,0.6s			*e*S	**Sg**	**01 34 29.5**	**+0.2**
IZV	**Izvestkoviy** 12nm,0.5s	**2.70**	**353**	Pg	**Pg**	**01 33 53.5**	**-0.7**
IZV	44nm,0.6s			Lg	Lg	01 34 29.7	
TKM2	**Tokmak 2** 5.1nm,0.7s	**2.79**	**337**	⇑Pg	**Pg**	**01 33 56.7**	**+0.8**
TKM2	10nm,0.6s			⇑Lg	Lg	01 34 33.6	
KBK	**Karagaybulak** baz=24	**2.80**	**326**	⇑*i*P	**Pb**	**01 33 52.2**	**-0.6**
KBK	baz=24			⇑*i*S	**Sb**	**01 34 26.4**	**-1.0**
MDOK	**Medeo** 11nm,0.8s	**2.81**	**360**	*e*P	**Pg**	**01 33 55.3**	**-0.9**
MDOK	57nm,0.7s			*e*S	**Sg**	**01 34 32.5**	**-0.1**
MDOK	**Medeo** 6.6nm,0.6s	**2.81**	**360**	Pg	**Pg**	**01 33 55.3**	**-0.9**
MDOK	45nm,0.6s			Lg	Lg	01 34 32.5	
KST	**Kastek** 6.0nm,0.3s	**2.81**	**343**	*e*P	**Pg**	**01 33 56.0**	**-0.3**
KST	46nm,0.7s			*e*S	**Sg**	**01 34 33.6**	**+0.8**
KST	**Kastek** 5.5nm,0.3s	**2.81**	**343**	Pg	**Pg**	**01 33 56.0**	**-0.3**
KST	45nm,0.6s			Lg	Lg	01 34 33.6	
MTBS	**Maitube** 13nm,0.4s	**2.82**	**350**	*e*P	**Pg**	**01 33 55.8**	**-0.6**
MTBS	27nm,0.6s			*e*S	**Sg**	**01 34 33.0**	**+0.1**
AAA	**Alma-Ata** 8.9nm,0.1s	**2.86**	**358**	*e*P	**Pg**	**01 33 57.2**	**0.0**
AAA	40nm,0.3s			*e*S	**Sg**	**01 34 35.6**	**+1.4**
AAA	**Alma-Ata** 24nm,0.3s	**2.86**	**358**	Pg	**Pg**	**01 33 57.2**	**0.0**
AAA	35nm,0.2s			Lg	Lg	01 34 35.6	
KOTS	**Kotyrbulak** 24nm,0.5s	**2.88**	**1**	*e*P	**Pg**	**01 33 57.0**	**-0.6**
KOTS	166nm,0.6s			*e*S	**Sg**	**01 34 35.4**	**+0.5**
KOTS	**Kotyrbulak** 22nm,0.6s	**2.88**	**1**	Pg	**Pg**	**01 33 56.9**	**-0.6**
KOTS	135nm,0.6s			Lg	Lg	01 34 35.3	
SATY	**Saty** 11nm,0.6s	**2.88**	**20**	*e*P	**Pb**	**01 33 55.9**	**+1.7**
SATY	50nm,0.6s			*e*S	**Sg**	**01 34 33.7**	**-1.3**
SATY	**Saty** 10nm,0.4s	**2.88**	**20**	Pg	**Pb**	**01 33 55.9**	**+1.7**
SATY	36nm,0.5s			Lg	Lg	01 34 33.7	
ZHN	**Zhinishke** 2.9nm,0.2s	**2.99**	**19**	*e*P	**Pb**	**01 33 57.9**	**+1.9**
ZHN	12nm,0.4s			*e*S	**Sg**	**01 34 36.8**	**-1.7**
AAK	**Ala-Archa** 8.6nm,0.7s	**2.99**	**321**	⇑Pg	**Pg**	**01 34 03.2**	**+3.5**
AAK	50nm,0.8s			⇑Lg	Lg	01 34 40.1	
DGS	**Degeres** 4.9nm,0.6s	**3.05**	**342**	*e*P	**Pg**	**01 34 00.1**	**-0.7**
DGS	26nm,0.6s			*e*S	**Sg**	**01 34 40.6**	**+0.4**
DGS	**Degeres** 6.7nm,0.4s	**3.05**	**342**	Pg	**Pg**	**01 34 00.1**	**-0.7**
DGS	24nm,0.7s			Lg	Lg	01 34 40.6	
AML	**Almayashu** SNR=7.2	**3.11**	**306**	P	**Pb**	**01 33 58.1**	**0.0**
UZB	**Uzynbulak** 4.8nm,0.8s	**3.15**	**27**	*e*P	**Pb**	**01 34 00.7**	**+2.0**
UZB	11nm,0.8s			*e*S	**Sg**	**01 34 42.0**	**-1.6**
UZB	**Uzynbulak** 2.7nm,0.8s	**3.15**	**27**	Pg	**Pb**	**01 34 00.7**	**+2.0**
UZB	8.3nm,0.8s			Lg	Lg	01 34 42.0	
KURS	**Kuram** 5.4nm,1.1s	**3.24**	**14**	*e*P	**Pg**	**01 34 02.8**	**-1.6**
KURS	24nm,0.8s			*e*S	**Sg**	**01 34 45.1**	**-1.2**
ARSB	**Arslanbob** baz=87	**3.25**	**289**	⇓*i*P	**Pb**	**01 33 58.7**	**-1.8**
ARSB	baz=87			⇓*i*S	**Sb**	**01 34 38.6**	**-1.7**
SHLS	**Shalkode** 16nm,0.4s	**3.32**	**32**	*e*P	**Pg**	**01 34 07.6**	**+1.5**
SHLS	22nm,0.7s			*e*S	**Sg**	**01 34 53.2**	**+4.1**
KPKS	**Kokpek** 5.8nm,0.3s	**3.34**	**21**	*e*P	**Pg**	**01 34 04.6**	**-1.7**
KPKS	44nm,0.5s			*e*S	**Sg**	**01 34 48.0**	**-1.5**
KTBS	**Karatobe** 7.5nm,0.6s	**3.37**	**355**	*e*P	**Pb**	**01 34 04.5**	**+2.1**
KTBS	32nm,0.5s			*e*S	**Sg**	**01 34 48.7**	**-1.9**
KTBS	**Karatobe** 7.5nm,0.5s	**3.37**	**355**	Pg	**Pb**	**01 34 04.5**	**+2.1**
KTBS	31nm,0.6s			Lg	Lg	01 34 48.7	
EKS2	**Erkin-Say** SNR=6.7	**3.38**	**314**	P	**Pb**	**01 34 03.0**	**+0.3**
PDGK	**Podgornoye** 3.6nm,0.6s	**3.48**	**30**	⇑Pg	**Pg**	**01 34 08.4**	**-0.7**
PDGK	13nm,0.6s			⇑Lg	Lg	01 34 44.2	
CHKK	**Chushkaly** 7.0nm,0.6s	**3.50**	**359**	*e*P	**Pg**	**01 34 07.9**	**-1.5**
CHKK	29nm,0.8s			*e*S	**Sg**	**01 34 53.8**	**-1.0**
KUU	**Kurty** 3.4nm,0.8s	**3.58**	**351**	*e*P	**Pg**	**01 34 09.0**	**-1.9**
KUU	34nm,0.9s			*e*S	**Sg**	**01 34 55.7**	**-1.6**
MRKS	**Merke** 3.2nm,0.4s	**3.75**	**311**	*e*P	**Pb**	**01 34 12.7**	**+3.8**
MRKS	9.6nm,0.7s			*e*S	**Sg**	**01 35 02.4**	**-0.4**
MRKS	**Merke** 3.2nm,0.4s	**3.75**	**311**	Pg	**Pb**	**01 34 12.7**	**+3.8**
MRKS	9.6nm,0.7s			Lg	Lg	01 35 02.4	
MNBS	**Baschi** 9.6nm,0.5s	**3.85**	**14**	*e*P	**Pb**	**01 34 13.4**	**+2.7**
MNBS	31nm,0.8s			*e*S	**Sg**	**01 35 03.7**	**-2.4**
MNBS	**Baschi** 9.6nm,0.5s	**3.85**	**14**	Pg	**Pb**	**01 34 13.4**	**+2.7**
MNBS	31nm,0.8s			Lg	Lg	01 35 04.1	
BTLS	**Baital** 1.6nm,1.0s	**5.19**	**336**	*e*P	**Pg**	**01 34 39.3**	**-2.5**
BTLS	5.6nm,1.0s			*e*S	**Sg**	**01 35 47.5**	**-1.5**
KAPS	**Kapalarasan** 1.7nm,0.9s	**5.21**	**18**	*e*P	**Pg**	**01 34 40.2**	**-1.9**
KAPS	5.0nm,1.5s			*e*S	**Sg**	**01 35 49.2**	**-0.4**
KK31	**Karatay Array** 0.4nm,0.5s,baz=124,slow=17,SNR=3.6	**5.63**	**301**	⇑Pg	**Pg**	**01 34 48.6**	**-1.5**
KK31	2.1nm,0.7s,baz=120,slow=26,SNR=6.7			⇑Lg	Lg	01 36 02.7	

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*ISCJB **03** 01:39:30.0±0.4, 36.°82N±0.°03×27.°47E±0.°02, h10km±3km, Error ellipse: s-maj=4.5km s-min=3.3km az=4.7*
*ATH **03** 01:39:29.2, 36.°80N×27.°46E, h31km±1km, ML2.6/2, Error ellipse: s-maj=3.6km s-min=1.5km az=258.0*
*ISK **03** 01:39:29.2, 36.°81N×27.°45E, h6km, ML3.0/18*
*THE **03** 01:39:30.1, 36.°84N×27.°49E, h8km±1km, ML2.5/3, Error ellipse: s-maj=1.8km s-min=0.5km az=296.0*
ISC 03 01:39:29.6±0.8**, 36.°81N**±0.°02×**27.°46E**±0.°02**, h14**km±6km**,** **n29,** σ**0^{s}56**/43**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAT	**Datca**	**0.12**	**131**	PG	**Pg**	**01 39 33.2**	**+0.1**
DAT				SG	**Sg**	**01 39 35.4**	**-0.1**
DATC	**Datca-Mugla**	**0.17**	**107**	PG	**Pg**	**01 39 33.5**	**-0.1**
DATC				SG	**Sg**	**01 39 36.3**	**0.0**
BODT	**Bodrum**	**0.28**	**334**	P	**Pb**	**01 39 35.7**	**-0.8**
BODT				S	**Sg**	**01 39 40.0**	**+0.4**
BODT	**Bodrum**	**0.28**	**334**	PG	**Pb**	**01 39 35.7**	**-0.8**
BODT				SG	**Sg**	**01 39 39.9**	**+0.4**
NISR	**Nisiros**	**0.33**	**234**	P	**Pb**	**01 39 37.6**	**+0.2**
NISR	1μm,0.2s			S	**Sb**	**01 39 43.5**	**+1.0**
NISR	**Nisiros**	**0.33**	**234**	P	**Pb**	**01 39 37.5**	**+0.1**
NISR				S	**Sb**	**01 39 42.5**	**-0.1**
NISR	comp=N,1379μm,0.2s			AML	AML	01 39 46.1	
NISR	comp=E,2989μm,0.2s			AML	AML	01 39 46.4	
KOSK	**Kos Island**	**0.39**	**262**	P	**Pb**	**01 39 38.6**	**+0.2**
KOSK	comp=E,572nm,0.4s			S	**Sb**	**01 39 44.7**	**+0.4**
MLSB	**Milas**	**0.55**	**27**	PG	**Pg**	**01 39 40.1**	**-0.3**
MRSB	**Marmaris-Mugla**	**0.60**	**99**	PG	**Pb**	**01 39 41.4**	**-0.5**
MRSB				SG	**Sb**	**01 39 50.1**	**-0.1**
YER	**Yerkesik**	**0.73**	**63**	P	**Pg**	**01 39 43.2**	**-0.7**
YER				S	**Sb**	**01 39 54.7**	**+0.5**
YER	**Yerkesik**	**0.73**	**63**	PG	**Pg**	**01 39 43.7**	**-0.2**
GCAM	**G?zelcaml?**	**0.91**	**348**	PG	**Pb**	**01 39 47.2**	**0.0**
TURN	**Turunc**	**0.92**	**86**	PG	Pg	01 39 41.1	-6.3
DALY	**Dalyan (Mula)**	**0.96**	**89**	PG	**Pb**	**01 39 47.9**	**-0.1**
SMG	**Samos**	**1.03**	**331**	P	**Pg**	**01 39 49.1**	**-0.4**
SMG	comp=E,345nm,0.3s			S	**Sb**	**01 40 03.1**	**+0.5**
SMG	**Samos**	**1.03**	**331**	P	**Pg**	**01 39 48.7**	**-0.8**
SMG				S	**Sb**	**01 40 03.2**	**+0.5**
SMG	comp=N,654μm,0.3s			AML	AML	01 40 07.5	
SMG	comp=E,724μm,0.4s			AML	AML	01 40 09.3	
AYDB	**Zeytinkoy-Aydi**	**1.19**	**17**	PN	**Pn**	**01 39 52.3**	**+0.3**
AMGA	**Amorgos Island**	**1.26**	**272**	P	**Pn**	**01 39 52.5**	**-0.4**
AMGA				S	**Sn**	**01 40 10.0**	**+0.4**
KARP	**Karpathos**	**1.28**	**191**	P	**Pn**	**01 39 53.2**	**0.0**
KARP				S	**Sg**	**01 40 10.5**	**-0.5**
KARP	**Karpathos**	**1.28**	**191**	P	**Pn**	**01 39 52.8**	**-0.4**
KARP				S	**Sb**	**01 40 09.9**	**-0.1**
KARP	**Karpathos**	**1.28**	**191**	PN	**Pn**	**01 39 53.1**	**-0.1**
FETY	**Fethiye**	**1.31**	**97**	PN	**Pg**	**01 39 54.7**	**-0.2**
APE	**Apeiranthos**	**1.57**	**280**	P	**Pn**	**01 39 56.7**	**-0.5**
APE	**Apeiranthos**	**1.57**	**280**	PN	**Pn**	**01 39 57.8**	**+0.6**
GLHS	**Glhisar (BURDU**	**1.67**	**77**	PN	**Pb**	**01 39 59.8**	**-0.4**
GLHS				SN	**Sb**	**01 40 22.0**	**+0.9**
URLA	**Izmir**	**1.69**	**336**	PN	**Pb**	**01 40 00.3**	**-0.3**
AKAS	**Kas**	**1.82**	**108**	PN	**Pb**	**01 40 02.0**	**-0.8**
ELL	**Elmali**	**1.96**	**91**	PN	**Pb**	**01 40 04.3**	**-1.0**
KORT	**Korkueli**	**2.32**	**84**	PN	**Pn**	**01 40 09.2**	**+1.6**

IDC 03 02:16:26.0±2.1**, 6.°70S**×**129.°15E, h0**km**, mb3.5**/1**, mb1 3.5**/3**, mb1mx3.3**/22**, mbtmp3.3**/3**, ML3.2**/2**, Error ellipse: s-maj=130.8km s-min=31.3km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=338,slow=13,SNR=5.3	**14.09**	**160**	Pn	Pn	02 19 46.4	-0.6
WRA	0.3nm,0.3s,baz=329,slow=22,SNR=7.5			Sn	Sn	02 22 13.8	-10
ASAR	**Alice Springs** 0.1nm,0.3s,baz=342,slow=12,SNR=4.4	**17.48**	**165**	P	Pn	02 20 31.7	+0.4
ASAR	0.1nm,0.3s,baz=222,slow=38,SNR=4.1			S	Sn	02 23 36.2	-10
MKAR	**Makanchi Array** 0.5nm,0.8s,baz=111,slow=8.2,SNR=3.6	**67.52**	**327**	P	P	02 27 24.1	0.0

ASRS 03 02:36:38.1±0.4**, 50°N**±3°×**9°7E**±°**, h5**km**, MLh4.4**/10**, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TDJR	**Todzha**	**2.86**	**347**	P	Pn	02 37 23.9	-0.5
TDJR				S	Sb	02 38 02.2	-2.7
MOY	**Mondy**	**3.17**	**48**	P	Pn	02 37 27.7	-0.9
MOY				S	Sn	02 38 08.1	+1.3
ZAK	**Zakamensk**	**4.00**	**77**	P	Pn	02 37 39.1	-1.0
ZAK				S	Sn	02 38 28.2	+0.8
TLY	**Talaya**	**4.59**	**61**	P	Pn	02 37 53.6	+5.5
TLY				S	Sb	02 38 50.2	-4.5
TEL	**Teeli**	**4.69**	**290**	P	Pn	02 37 48.7	-0.9
TEL				S	Sn	02 38 44.2	-0.1
ABNR	**Abakan**	**5.44**	**321**	P	Pn	02 37 59.3	-0.5
ABNR				S	Sn	02 39 02.2	-0.5
MINR	**Mina**	**5.59**	**342**	P	Pb	02 38 15.5	-0.5
MINR				S	Sn	02 39 10.4	+4.1
VEH	**Verkhnyaya Baz**	**5.62**	**313**	P	Pn	02 38 01.3	-1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VEH				S	Sn	02 39 09.1	+1.8
ULGR	Ulagan, Altay	6.02	283	P	Pb	02 38 16.6	-6.8
ULGR				S	Sn	02 39 17.5	+0.4
AKAR	Aktash	6.21	280	P	Pb	02 38 18.6	-8.1
AKAR				S	Sn	02 39 24.9	+3.0
CHBI	Chibit, Altay	6.29	280	P	Pn	02 38 12.6	+1.1
CHBI				S	Sn	02 39 24.0	+0.3
DGZ	Jazzator, Alta	6.34	274	P	Pb	02 38 21.8	-7.1
DGZ				S	Sn	02 39 26.0	+1.1
LUZB	Luzhba, Kemero	6.55	311	P	Pn	02 38 14.1	-0.9
LUZB				S	Sn	02 39 29.7	-0.3
TASR	Tashtagol	6.64	302	P	Pn	02 38 19.0	+2.8
TASR				S	Sn	02 39 33.4	+1.2
ARTR	Artybash	6.66	293	P	Pn	02 38 16.0	-0.4
ULN	Ulaanbaatar	6.76	101	P	Pn	02 38 17.8	-0.2
SHTK	Zheleznogorsk-	7.06	344	P	Pn	02 38 24.8	+3.0

*SJA **03** 03:04:12.4±0.8, 28°.59S×72°.09W, h10km, ML4.3, MW4.0*
*NEIC **03** 03:04:18.6±1.5, 28°.60S±0°.04×71°.65W±0°.09, h26km±4km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr1.08; Mθθ0.15; Mφφ-1.23; Mrθ0.33; Mθφ0.07; Mφr-0.40; Fault plane solution: M0 1.28000×10^15 NP1: φs161.81000°, δ56.81000°, λ71.83000°. NP2: φs12.75000°, δ37.33000°, λ115.49000°. Principal axes: T 1.2417, Plg72.0000°, Azm27.0000°; N 0.0701, Plg15.0000°, Azm172.0000°; P -1.3119, Plg10.0000°, Azm265.0000°;*
*GUC **03** 03:04:18.4±0.7, 28°.70S×71°.54W, h50km±10km, ML4.6*
*IDC **03** 03:04:24.0±2.8, 28°.60S×71°.24W, h47km±23km, mb3.9/9, mb1 4.0/12, mb1mx3.9/27, mbtmp4.1/12, ML4.0/3, MS3.2/7, Ms1 3.2/7, ms1mx3.0/22, Error ellipse: s-maj=27.8km s-min=17.9km az=63.0*
ISC 03 03:04:15.3±3.0**, 28°.61S**±0°.04×**71°.76W**±0°.07**, h2**km±18km**, n84, σ1s.61**/91**, mb4.4**/10**, 1C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GO03	Copiap	1.69	53	eP	Pn	03 04 47.0	+1.1
GO03				i S	Sb	03 05 08.3	-0.4
GO03				IAML		03 05 09.7	
	comp=N,9μm,0.4s						
GO03	Copiap	1.69	53		Pn	03 04 45.6	-0.2
GO03				Sn	Sn	03 05 06.4	-1.6
GO03	Copiap	1.69	53	i P	Pb	03 04 47.5	+0.5
GO04	Tololo Observa	1.77	152	⇓eP	Pn	03 04 46.8	-0.3
GO04				i S	Sn	03 05 08.0	-2.3
GO04				IAML		03 05 13.8	
	comp=N,12μm,0.5s						
GO04	Tololo Observa	1.77	152		Pn	03 04 47.8	+0.7
GO04				Sn	Sn	03 05 07.9	-2.4
GO04	Tololo Observa	1.77	152	i P	Pn	03 04 47.3	+0.2
GO04				eS	Sn	03 05 08.4	-1.9
AROD	Rodeo	2.53	128	i P	Pn	03 04 59.8	+2.1
AROD				eS	Sn	03 05 30.8	+1.7
CO02	Combarbal	2.67	166	eP	Pn	03 04 59.8	+0.4
CO02				eS	Sn	03 05 30.6	-1.7
CO02				IAML		03 05 41.3	
	comp=N,3μm,0.6s						
ACCO	Cerro Coronel	3.06	131	i P	Pn	03 05 08.1	+3.1
ACCO				IAML		03 06 00.3	
	comp=Z,558nm,0.6s						
AMOG	MOGNA	3.67	130	i P	Pn	03 05 16.4	+3.3
AMOG				IAML		03 06 23.9	
	comp=Z,533nm,0.6s						
RTLS	Leoncito	3.83	147	i P	Pn	03 05 19.0	+3.5
RTLS				IAML		03 06 22.1	
	comp=Z,591nm,0.9s						
RTLL	Cerro Villicun	3.93	134	i P	Pn	03 05 19.5	+2.8
RTLL				IAML		03 06 26.7	
	comp=Z,245nm,0.6s						
GO02	Mina Guanaco	3.94	30	⇑eP	Pn	03 05 18.8	+1.7
GO02	Mina Guanaco	3.94	30		Pn	03 05 16.6	-0.5
GO02				Sn	Sn	03 06 02.5	-1.6
PB14	IPOC Station P	4.15	17	i P	Pn	03 05 20.9	+0.9
PB14				IAML		03 06 39.0	
	comp=Z,431nm,0.7s						
CFA	Coronel Fontan	4.27	135	P	Pn	03 05 23.4	+2.1
	comp=Z,11nm,0.3s,baz=316,slow=13,SNR=116						
CFA				S	Sn	03 06 13.3	+1.6
	comp=Z,32nm,0.3s,baz=90,slow=20,SNR=5.3						
RTCV	Cerro Valdivia	4.27	140	⇓iP	Pn	03 05 24.1	+2.7
RTCV				IAML		03 06 38.3	
	comp=Z,198nm,2.4s						
ROC1	El Roble	4.40	172		Pn	03 05 24.4	+1.1
ROC1				Sn	Sn	03 06 14.8	-0.5
ROC1	El Roble	4.40	172	⇑iP	Pn	03 05 24.2	+0.9
PEL	Peldehue	4.61	169		Pn	03 05 27.4	+1.3
PB10	IPOC Station P	5.19	12	Pn	Pn	03 05 34.5	+0.5
PB10				Sn	Sn	03 06 33.2	-1.2
PB10	IPOC Station P	5.19	12	i P	Pn	03 05 34.4	+0.4
PB10				IAML		03 07 11.2	
	comp=Z,103nm,0.6s						
ACAN	Cantantal	5.38	134	i P	Pn	03 05 38.6	+2.0
PB15	IPOC Station P	5.76	21	i P	Pn	03 05 43.7	+1.7
PB05	IPOC Station P	5.90	14	i P	Pn	03 05 43.9	0.0
AHML	Horco Molle	5.98	74	i P	Pn	03 05 47.4	+2.6
PB06	IPOC Station P	6.20	19	i P	Pn	03 05 48.4	+0.4
GO05	Huala	6.38	181	Pn	Pn	03 05 49.8	-0.5
GO05				Sn	Sn	03 07 03.2	-0.6
GO05	Huala	6.38	181	i P	Pn	03 05 49.6	-0.7
PB04	IPOC Station P	6.42	13		Pn	03 05 50.5	-0.5
PB04				Sn	Sn	03 07 02.5	-2.5
PB04	IPOC Station P	6.42	13	i P	Pn	03 05 50.9	-0.1
MRA	San Martin	6.45	128	⇑iP	Pn	03 05 51.8	+0.5
LVC	Limon Verde	6.50	24	P	Pn	03 05 53.4	+1.1
	comp=Z,1.5nm,0.3s,baz=183,slow=8.2,SNR=24						
LVC				S	Sn	03 07 06.7	-0.7
	comp=Z,6.1nm,0.3s,baz=339,slow=23,SNR=4.5						
LVC				Lg	Lg	03 07 31.1	
	comp=Z,13nm,0.3s,baz=54,slow=19,SNR=7.8						
LVC				LR	LR	03 08 27.3	
	comp=Z,330nm,18.6s,baz=211,slow=38						
LVC	Limon Verde	6.50	24		Pn	03 05 53.1	+0.8
LVC					Sn	03 07 05.4	-1.9
LVC	Limon Verde	6.50	24	i P	Pn	03 05 53.6	+1.2
PB09	IPOC Station P	7.16	19	i P	Pn	03 06 02.1	+0.9
PB01	IPOC Station P	7.81	16	Pn	Pn	03 06 09.9	-0.2
PB11	IPOC Station P	9.02	13	Pn	Pn	03 06 26.2	-0.4
GO01	Chusmiza	9.21	15	Pn	Pn	03 06 30.3	+0.8
MNMC	Minye Minye	9.64	12		Pn	03 06 34.8	-0.6
PLCA	Paso Flores	12.13	176	LR	LR	03 11 50.7	
	comp=Z,145nm,20.1s,baz=19,slow=37						
TRQA	Tornquist	12.46	142		Pn	03 07 12.8	-0.9
TRQA				Sn	Sn	03 09 31.7	-1.5
LPAZ	La Paz	12.71	16	P	Pn	03 07 17.8	+0.1
	comp=Z,0.3nm,0.3s,baz=210,slow=4.3,SNR=7.4						
LPAZ				LR	LR	03 12 36.9	
	comp=Z,94nm,20.4s,baz=132,slow=39						
LPAZ	La Paz	12.71	16		Pn	03 07 17.4	-0.4
CPUP	Villa Florida	13.01	83	P	Pn	03 07 20.2	-1.0
	comp=Z,0.4nm,0.3s,baz=251,slow=13,SNR=11						
CPUP				LR	LR	03 12 58.0	
	comp=Z,170nm,20.0s,baz=272,slow=41						
CPUP	Villa Florida	13.01	83		Pn	03 07 20.5	-0.7
SIV	San Ignacio	15.97	40	P	Pn	03 07 56.8	-4.4
	comp=Z,0.2nm,0.3s,baz=242,slow=13,SNR=5.1						
SIV				LR	LR	03 15 11.4	
	comp=Z,89nm,21.8s,baz=260,slow=41						
NNA	Nana	17.21	343	LR	LR	03 13 34.9	
	comp=Z,38nm,20.6s,baz=159,slow=32						
SAML	Samuel	21.16	24	P	P	03 09 00.7	-1.1
BDFB	Brasilia	25.44	65	P	P	03 09 43.1	-1.6
	comp=Z,2.4nm,0.8s,baz=244,slow=12,SNR=3.2						
BDFB				LR	LR	03 20 41.8	
	comp=Z,73nm,18.3s,baz=127,slow=39						
BDFB	Brasilia	25.44	65	P	P	03 09 43.2	-1.6
BDFB				IAmb	IAmb	03 09 56.5	
	comp=Z,6.8nm,0.9s						
PMSA	Palmer Station	36.51	174	P	P	03 11 22.1	+0.4
CBYP	Canovanas	46.95	8	P	P	03 12 47.8	+0.1
TXAR	Lajitas Array	65.19	329	P	P	03 15 02.4	+4.2
	comp=Z,0.4nm,0.5s,baz=158,slow=10.0,SNR=9.7						
TXAR	Lajitas Array	65.19	329	P	P	03 14 57.7	-0.5
DBIC	Dimbokro	73.28	73	P	P	03 15 48.7	+0.1
	comp=Z,2.6nm,0.7s,baz=210,slow=7.8,SNR=4.5						
DBIC	Dimbokro	73.28	73	P	P	03 15 48.1	-0.5
DBIC				IAmb	IAmb	03 15 55.5	
	comp=Z,5.2nm,1.1s						
ECSD	EROS Data Cent	75.51	342	P	P	03 16 01.1	+0.2
HWUT	Hardware Ranch	78.97	331	P	P	03 16 20.0	-0.6
HWUT				IAmb	IAmb	03 16 25.3	
	comp=Z,3.9nm,0.8s						
PDAR	Pinedale Array	79.09	333	P	P	03 16 24.6	+3.3
	comp=Z,0.5nm,0.6s,baz=136,slow=7.3,SNR=6.3						
PDAR	Pinedale Array	79.09	333	P	P	03 16 22.3	+1.0
NVAR	Mina Array Bea	79.62	325	P	P	03 16 28.6	+4.3
	comp=Z,0.2nm,0.5s,baz=165,slow=7.1,SNR=2.8						
NVAR	Mina Array Bea	79.62	325	P	P	03 16 25.3	+1.0
ULM	Lac du Bonnet	81.38	345	P	P	03 16 36.0	+2.9
	comp=Z,1.7nm,0.5s,baz=165,slow=2.0,SNR=5.5						
TOA0	Torodi Ar. Sit	82.17	70	P	P	03 16 37.6	-0.6
TOA0				IAmb	IAmb	03 16 39.3	
	comp=Z,4.0nm,0.6s						
TORD	Torodi Ar. Bea	82.17	70	P	P	03 16 38.3	+0.1
	comp=Z,3.5nm,0.6s,baz=272,slow=5.2,SNR=44						
BOSA	Boshof	82.38	118	P	P	03 16 39.3	0.0
	comp=Z,3.0nm,0.9s,baz=266,slow=1.7,SNR=4.0						
BOSA	Boshof	82.38	118	P	P	03 16 37.7	-1.7
BOSA				IAmb	IAmb	03 16 39.6	
	comp=Z,4.7nm,0.9s						
YKA	Yellowknife Ar	97.04	341	P	Pdif	03 17 50.0	+1.8
	comp=Z,0.4nm,0.7s,baz=139,slow=4.6,SNR=4.3						
ASAR	Alice Springs	122.44	208	PKP	PKiKP	03 23 13.6	+0.5
	comp=Z,0.6nm,0.5s,baz=133,slow=1.6,SNR=8.4						
ASAR	Alice Springs	122.44	208		PKPdf	03 23 12.4	-0.4
WRA	Warramunga Arr	125.54	211	PKP	PKiKP	03 23 20.2	+1.0
	comp=Z,1.3nm,0.5s,baz=159,slow=1.7,SNR=5.2						
H11S2	WAKE ISLAND Hy	125.92	273	T	T	05 42 20.2	
	baz=105,slow=74,SNR=11						
H11S1	WAKE ISLAND Hy	125.93	273	T	T	05 42 11.8	
	baz=105,slow=74,SNR=9.7						
H11S3	WAKE ISLAND Hy	125.93	273	T	T	05 42 14.8	
	baz=105,slow=74,SNR=12						
H11N3	WAKE ISLAND Hy	126.19	274	T	T	05 42 32.4	
	baz=113,slow=75,SNR=11						
H11N1	WAKE ISLAND Hy	126.21	274	T	T	05 42 33.5	
	baz=113,slow=75,SNR=5.4						
H11N2	WAKE ISLAND Hy	126.21	274	T	T	05 42 32.3	
	baz=113,slow=75,SNR=17						
KK31	Karatay Array	146.48	54	PKPdf	PKPdf	03 23 55.7	-1.0
KKAR	Karatay Array	146.48	54		PKPdf	03 23 56.8	+0.2
KKAR	Karatay Array	146.48	54		PKPdf	03 23 57.2	+0.6
ZALV	Zalesovo Beam	149.44	28	PKPbc	PKiKP	03 24 07.5	+0.9
	comp=Z,6.1nm,0.5s,baz=304,slow=3.7,SNR=3.9						
MKAR	Makanchi Array	152.79	41	PKPbc	PKiKP	03 24 14.8	+1.0
	comp=Z,1.8nm,0.7s,baz=340,slow=2.1,SNR=14						
MKAR	Makanchi Array	152.79	41		PKPbc	03 24 12.5	-1.2

*ISCJB **03** 03:10:42.1±0.6, 6°.82S±0°.04×130°.68E±0°.09, h78km, mb3.5/1, Error ellipse: s-maj=12.1km s-min=5.0km az=0.9*
*NEIC **03** 03:10:43.4±1.6, 6°.84S±0°.06×130°.7E±0°.1, h79km±14km, mb4.3/4*
*IDC **03** 03:10:44.1±2.8, 6°.80S×130°.58E, h62km±37km, mb3.4/1, mb1 4.0/5, mb1mx3.5/32, mbtmp4.0/5, ML4.1/4, Error ellipse: s-maj=72.2km s-min=23.8km az=90.0*
ISC 03 03:10:42.7±0.7**, 6°.80S**±0°.04×**130°.62E**±0°.09**, h78**km**, n19, σ2s.28**/28**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.35	150	Pn	Pn	03 11 05.4	-0.7
SAUI				Sn	Sn	03 11 22.9	-0.8
FAKI	Fak Fak	4.18	23	Pn	Pn	03 11 46.0	+1.8
FAKI				Sn	Sn	03 12 30.7	-1.2
SIJI	Sorong	5.93	6	P	Pn	03 12 09.3	+1.3
	4.4nm,0.3s,baz=213,slow=22,SNR=10.0						
SIJI				S	Sn	03 13 09.0	-5.6
	3.0nm,0.3s,baz=287,slow=23,SNR=8.7						
MTN	Manton Dam	6.03	175	Pn	Pn	03 12 10.7	+1.4
MTN				Sn	Sn	03 13 16.8	-0.1
KNRA	Kununurra	9.01	192		Pn	03 12 52.2	+2.2
KNRA				Sn	Sn	03 14 30.0	+0.2
FITZ	Fitzroy Crossi	12.23	203	P	Pn	03 13 34.7	+0.7
	0.8nm,0.3s,baz=28,slow=11,SNR=21						
FITZ				S	Sn	03 15 44.5	-4.0
	0.8nm,0.3s,baz=140,slow=23,SNR=6.7						
FITZ	Fitzroy Crossi	12.23	203		Pn	03 13 34.5	+0.5
WB0	Warramunga Arr	13.40	164	Pn	Pn	03 13 50.5	+0.8
WB0				Sn	Sn	03 16 13.8	-3.1
WRA	Warramunga Arr	13.55	165	P	Pn	03 13 52.2	+0.5
	1.1nm,0.3s,baz=349,slow=13,SNR=7.1						
WRA				S	Sn	03 16 16.5	-4.2
	0.6nm,0.3s,baz=346,slow=26,SNR=3.6						
WB2	Warramunga Arr	13.56	165	Pn	Pn	03 13 52.2	+0.5
WR0	Warramunga Arr	13.62	164	Pn	Pn	03 13 53.3	+0.7
JAGI	Jajag, Banyuwa	16.41	263	Pn	Pn	03 14 29.7	+1.4
AS31	Alice Springs	17.06	170	P	Pn	03 14 37.1	+0.8
ASAR	Alice Springs	17.06	170	P	P	03 14 40.4	+3.4
	0.7nm,0.3s,baz=344,slow=9.4,SNR=47						
ASAR				S	Sn	03 17 43.1	-2.7
	0.2nm,0.3s,baz=356,slow=27,SNR=5.0						
ASAR	Alice Springs	17.06	170	P	Pn	03 14 36.0	-0.4
KKM	Kota Kinabalu	19.22	311	P	P	03 14 58.3	-2.6
KKM				IAmb	IAmb	03 15 14.5	
	comp=Z,24nm,1.1s						
BBOO	Buckleboo	26.37	170	P	P	03 16 12.2	+0.5
BBOO				IAmb	IAmb	03 16 27.9	
	comp=Z,12nm,1.1s						
MKAR	Makanchi Array	68.40	326	P	P	03 21 39.2	+3.0
	comp=Z,0.3nm,0.3s,baz=119,slow=7.4,SNR=7.8						
MKAR	Makanchi Array	68.40	326	P	P	03 21 37.2	+1.0

JMA 03 03:20:27.9±0.1**, 22°.86N**×**123°.06E, h62**km**, M2.7, Southeast of Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	1.37	30	P	Pn	03 20 51.4	+0.5
HATJ				S	Sn	03 21 08.5	+0.3
JYNG	Yonagunijimaku	1.59	356	P	Pn	03 20 54.3	+0.5
JYNG				S	Sn	03 21 13.7	+0.3
IRIF	Iriomote-Funau	1.59	23	P	Pn	03 20 54.7	+0.8
IRIF				S	Sn	03 21 13.8	+0.3
YOJ	Yonaguni jima	1.59	358	P	Pn	03 20 54.8	+0.9
YOJ				S	Sn	03 21 14.0	+0.5
JKRS	Kuro-shima	1.62	32	P	Pn	03 20 55.2	+0.9
JKRS				S	Sn	03 21 14.5	+0.2
JIJ	Ishigaki jima	1.80	33	P	Pn	03 20 57.0	+0.4
JIJ				eS	Sn	03 21 18.2	-0.2
JISG	Ishigakijimahi	2.07	33	P	Pn	03 21 00.9	+0.6
JISG				eS	Sn	03 21 25.5	+0.5
JTJ	Tarama	2.33	40	P	Pn	03 21 04.4	+0.6
JTJ				eS	Sn	03 21 32.2	+0.9
JIRB	Irabujima	2.75	44	eS	Sn	03 21 42.5	+0.8

TAP 03 03:21:14.8, 24°.16N×**121°.58E, h24**km±1km**, ML1.5, B, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.02	54	P	Pb	03 21 18.7	-0.2
	baz=52						
NACB				S	Sb	03 21 22.4	+0.8
	baz=52						
TWD	Chiawan	0.08	168	eP	Pb	03 21 19.6	+0.5
	baz=162						
TWD				S	Sb	03 21 23.0	+0.9
	baz=162						
ETLH	Xiulin Townshi	0.10	297	eP	Pb	03 21 19.7	+0.3
	baz=297						
WHF	Hehuan Shan	0.29	267	eS	Sb	03 21 26.6	0.0
	baz=266						
NANB	Nanao	0.31	31	eP	Pb	03 21 22.3	+0.4
	baz=30						
NNSH	Datong	0.32	326	eS	Sb	03 21 28.0	+0.9
	baz=326						
NNS	Nan Shan	0.33	326	eS	Sb	03 21 28.9	+1.4
	baz=326						
TWT	Tachien	0.38	284	eP	Pn	03 21 24.2	-0.8
	baz=282						
TWT				eS	Sb	03 21 29.2	+0.5
	baz=282						

*IDC **03** 03:41:39.5±0.7, 1°.99N×127°.48E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.7/45, mbtmp4.1/8, Error ellipse: s-maj=52.7km s-min=14.8km az=75.0*
*ISCJB **03** 03:41:50.1±0.4, 1°.91N±0°.04×127°.42E±0°.06, h112km, mb4.0/7, Error ellipse: s-maj=9.1km s-min=4.8km az=168.1*
*NEIC **03** 03:41:51.2±1.2, 1°.90N±0°.09×127°.5E±0°.1, h109km±8km, mb4.2/22*
ISC 03 03:41:51.8±0.5**, 1°.89N**±0°.05×**127°.46E**±0°.09**, h112**km**, n40, σ0s.95**/47**, mb4.1**/18**, 1C, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.11	185	Pn	Pn	03 42 13.5	-0.9
TNTI				Sn	Sn	03 42 30.5	-0.9
LUWI	Luwuk	5.51	238	Pn	Pn	03 43 11.6	-0.1
LUWI					Sn	03 44 12.9	-1.0
KCP	Kidapawan	5.61	335	⇑P	Pn	03 43 11.6	-1.3
KCP				S	Sn	03 44 15.2	-1.0
FAKI	Fak Fak	6.76	135	Pn	Pn	03 43 28.2	-0.3
KNRA	Kununurra	17.50	176	P	P	03 45 48.0	-0.4
FITZ	Fitzroy Crossi	19.94	185	P	P	03 46 15.6	+0.5
	1.7nm,0.5s,baz=24,slow=8.9,SNR=9.6						
FITZ	Fitzroy Crossi	19.94	185	P	P	03 46 14.8	-0.2
WB0	Warramunga Arr	22.57	163	P	P	03 46 43.3	+0.3
WB0				IAmb	IAmb	03 47 01.8	
	comp=Z,9.9nm,1.1s						
WRAB	Tennant Creek	22.72	163	P	P	03 46 44.7	+0.3
WRAB				IAmb	IAmb	03 46 45.3	
	comp=Z,5.8nm,0.8s						
WRA	Warramunga Arr	22.72	163	P	P	03 46 45.0	+0.5
	comp=Z,3.5nm,0.5s,baz=344,slow=11,SNR=13						
WRA	Warramunga Arr	22.72	163	P	P	03 46 44.2	-0.2
WB2	Warramunga Arr	22.73	163	P	P	03 46 44.9	+0.5
WB2				IAmb	IAmb	03 46 47.7	
	comp=Z,5.8nm,0.9s						
YOJ	Yonaguni jima	22.85	350	P	P	03 46 44.2	-1.4
QIZ	Qiongzhong	24.24	316	P	P	03 46 57.9	-0.6
QIZ				IAmb	IAmb	03 47 03.8	
	comp=Z,24nm,1.1s						
PSAD1	Pilbara Seismi	24.37	197	P	P	03 46 59.4	-0.2
PSAD1				IAmb	IAmb	03 47 10.4	
	comp=Z,8.9nm,0.9s						
PSAA3	Pilbara Seismi	24.48	197	P	P	03 46 59.7	-0.9
PSAA3				IAmb	IAmb	03 47 03.7	
	comp=Z,7.2nm,1.0s						
PSAD3	Pilbara Seismi	24.56	197	P	P	03 47 00.0	-1.3
PSAD3				IAmb	IAmb	03 47 02.4	
	comp=Z,14nm,1.1s						
AS31	Alice Springs	26.16	166	P	P	03 47 16.7	+0.8
ASAR	Alice Springs	26.16	166	P	P	03 47 16.5	+0.6
	comp=Z,1.5nm,0.5s,baz=349,slow=7.4,SNR=21						
ASAR				PcP	PcP	03 50 41.6	+1.2
	comp=Z,0.6nm,0.6s,baz=356,slow=2.3,SNR=5.9						
ASAR	Alice Springs	26.16	166	P	P	03 47 16.1	+0.3
BBOO	Buckleboo	35.46	167	P	P	03 48 38.0	+0.6
MAJO	Matsushiro	35.89	15	P	P	03 48 40.7	-0.4
MAJO				IAmb	IAmb	03 48 42.9	
	comp=Z,3.8nm,0.6s						
MJAR	Matsushiro Arr	35.89	15	P	P	03 48 40.8	-0.3
	comp=Z,1.4nm,0.4s,baz=195,slow=8.9,SNR=6.5						
MJAR	Matsushiro Arr	35.89	15	P	P	03 48 40.0	-1.1
NWAO	Narrogin (SRO)	35.95	195	P	P	03 48 40.5	-1.1
STKA	Stephens Creek	36.16	159	P	P	03 48 44.9	+1.4
	comp=Z,4.8nm,0.4s,baz=332,slow=8.4,SNR=16						
STKA	Stephens Creek	36.16	159	P	P	03 48 43.2	-0.2
SONM	Songino Array	49.26	341	P	P	03 50 30.6	+1.4
	comp=Z,0.4nm,0.5s,baz=151,slow=9.9,SNR=2.5						
SONM	Songino Array	49.26	341	P	P	03 50 29.5	+0.3
MK31	Makanchi Array	59.47	326	P	P	03 51 42.7	-0.3
MK31				IAmb	IAmb	03 51 44.7	
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	59.47	326	P	P	03 51 44.5	+1.5
	comp=Z,0.9nm,0.4s,baz=118,slow=8.3,SNR=15						
MKAR	Makanchi Array	59.47	326	P	P	03 51 43.3	+0.2
MAKZ	Makanchi	59.66	325	P	P	03 51 44.0	-0.4
MAKZ				IAmb	IAmb	03 51 49.5	
	comp=Z,2.1nm,0.9s						
KSH	Kashi	59.85	316	P	P	03 51 47.1	+1.2
KSH				PP	PP	03 54 02.4	+3.1
KSH				PcS	PcS	03 56 33.5	-0.3
KSH				S	S	03 59 49.8	+0.7
KSH				sS	sS	04 00 31.7	-4.0
KSH				pmax	pmax		
	comp=Z,200nm,5.1s						
KSH				LR	LR		
	comp=N,270nm,5.2s						
KSH				LR	LR		
	comp=E,320nm,5.2s						
LTZ	Lake Taylor	60.01	143	P	P	03 51 46.5	-0.3
KURBB	Kurchatov Arra	63.67	328	P	P	03 52 11.8	+0.6
	comp=E,1.2nm,0.5s,baz=128,slow=6.0,SNR=8.3						
KURK	Kurchatov	63.67	328	P	P	03 52 11.6	+0.5
KURK				IAmb	IAmb	03 52 13.2	
	comp=Z,3.6nm,1.1s						
TXAR	Lajitas Array	122.13	53	PKP	PKiKP	04 00 36.0	+1.6
	comp=Z,0.3nm,0.7s,baz=188,slow=2.6,SNR=4.4						
TORD	Torodi Ar. Bea	124.17	287	PKP	PKiKP	04 00 39.0	+0.4
	comp=Z,0.3nm,0.6s,baz=77,slow=2.0,SNR=6.1						
TORD	Torodi Ar. Bea	124.17	287		PKPdf	04 00 37.5	-0.8

MEX 03 04:15:55.9±0.4**, 16°.99N**×**96°.66W, h72**km±3km**, MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OXBJ	Oaxaca	0.10	320	i P	Pn	04 16 04.6	-2.1
OXBJ				i S	Sn	04 16 11.7	-2.8
VHO	Vista Hermosa	0.11	318	eP	Pn	04 16 05.3	-1.4
VHO				i S	Sn	04 16 12.6	-1.9
HUIG	Huatulco	1.32	156	eP	Pn	04 16 18.1	-0.6
HUIG				i S	Sn	04 16 34.1	-1.7
PNIG	Pinotepa	1.53	247	eP	Pn	04 16 20.0	-1.4
PNIG				i S	Sn	04 16 39.0	-1.5
TPIG	Tehuac#an	1.57	335	i S	Sn	04 16 43.0	+1.2
CMIG	Matias Romero	1.70	86	eP	Pn	04 16 22.0	-1.6
CMIG				i S	Sn	04 16 42.6	-2.0

*IDC **03** 04:18:50.0±1.5, 6°.41S×104°.39E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/39, mbtmp3.8/5, ML4.3/1, MS3.1/3, Ms1 3.1/3, ms1mx2.6/37, Error ellipse: s-maj=64.3km s-min=20.2km az=33.0*
*ISCJB **03** 04:18:52.3±0.5, 6°.49S±0°.05×104°.59E±0°.06, h40km, mb3.7/4, MS3.2/2, Error ellipse: s-maj=9.5km s-min=4.5km az=140.8*
*DJA **03** 04:18:53.3±0.7, 6°S±9°×10°5E±°, h10km, M4.4/16, MLv4.3/13, MLv4.4/16*
*NEIC **03** 04:18:55.2±1.2, 6°.57S±0°.04×104°.53E±0°.07, h52km±8km, mb4.3/11*
ISC 03 04:18:54.5±0.7**, 6°.43S**±0°.06×**104°.68E**±0°.06**, h40**km**, n46, σ1s.56**/41**, mb4.1**/9**, Sunda Strait**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KASI	Kota Agung	0.92	349	P	Pn	04 19 09.2	-1.8
BLSI	Bandar Lampung	1.20	28	P	Pn	04 19 12.7	-2.1
LWLI	Liwa	1.54	336	P	Pn	04 19 20.7	+1.1
KLSI		1.73	2	P	Pn	04 19 22.4	+0.2
SKJI	Sukabumi	1.95	107	P	Pn	04 19 24.4	-0.7
MNAI	Manna	2.68	320	P	Pn	04 19 36.9	+1.7
MNAI	Manna	2.68	320		Pn	04 19 36.1	+0.9
MNAI				Sn	Sn	04 20 07.9	+1.4
LHSI	Lahat	2.83	336	P	Pn	04 19 39.8	+2.5
LEM	Lembang	2.94	98	Pn	Pn	04 19 44.1	+5.1
	32nm,0.3s,baz=230,slow=8.4,SNR=12						
LEM				Sn	Sn	04 20 22.1	+9.0
	14nm,0.3s,baz=17,slow=19,SNR=3.0						
LEM				LR	LR	04 21 00.6	
	comp=Z,154nm,18.2s,baz=10,slow=40						
LEM	Lembang	2.94	98	P	Pn	04 19 37.0	-2.0
CISI	Cisompet, Garu	3.31	110	P	Pn	04 19 43.1	-0.7
CISI	Cisompet, Garu	3.31	110		Pn	04 19 45.5	+1.6
CISI				Sn	Sn	04 20 25.5	+3.6
PMBI	Palembang	3.48	2	P	Pn	04 19 46.4	+0.1
JCJI	Jatiwangi	3.57	91	P	Pn	04 19 45.9	-1.5
XMIS	Christmas Isla	4.13	167	Pn	Pn	04 19 54.2	-1.0
XMIS				Sn	Sn	04 20 40.9	-1.4
KPJI	Karang Pucung	4.31	102	P	Pn	04 19 56.6	-1.0
DSRI	Dabo	5.92	359	P	Pn	04 20 06.7	-13
UGM	Wanagama	5.98	105	Pn	Pn	04 20 23.2	+2.7
GSI	Gunungsitoli	10.46	317	Pn	Pn	04 21 22.1	+0.1
KDI	Kendari	18.03	83	P	P	04 23 02.8	+0.4
SOEI	Soe	19.67	101	P	Pn	04 23 21.7	-0.4
SOEI				IAmb	IAmb	04 23 38.5	
	comp=Z,20nm,0.7s						
FITZ	Fitzroy Crossi	23.50	121	P	P	04 24 01.2	+0.2
KNRA	Kununurra	25.33	113	P	P	04 24 17.9	0.0
KNRA				IAmb	IAmb	04 24 34.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,9.2nm,0.9s						
WB0	**Warramunga Arr**	**31.75**	**118**	P	**P**	**04 25 15.4**	**+0.2**
WB0				IAmb	IAmb	04 25 21.9	
	comp=Z,3.8nm,1.1s						
WRA	**Warramunga Arr**	**31.77**	**118**	P	**P**	**04 25 17.7**	**+2.4**
	comp=Z,0.3nm,0.5s,baz=286,slow=12,SNR=5.7						
WRA	**Warramunga Arr**	**31.77**	**118**	P	**P**	**04 25 17.1**	**+1.8**
WB2	**Warramunga Arr**	**31.78**	**118**	P	**P**	**04 25 15.7**	**+0.3**
WB2				IAmb	IAmb	04 25 19.4	
	comp=Z,3.8nm,1.1s						
WR0	**Warramunga Arr**	**31.95**	**118**	P	**P**	**04 25 18.0**	**+1.1**
H08S2	**Diego Garcia H**	**31.96**	**266**	T	T	04 58 53.2	
	baz=89,slow=75,SNR=132						
H08S3	**Diego Garcia H**	**31.97**	**266**	T	T	04 58 52.0	
	baz=89,slow=75,SNR=134						
H08S1	**Diego Carcia H**	**31.98**	**266**	T	T	04 58 54.6	
	baz=89,slow=75,SNR=105						
ASAR	**Alice Springs**	**32.90**	**124**	P	**P**	**04 25 28.2**	**+3.0**
	comp=Z,0.4nm,0.5s,baz=292,slow=7.6,SNR=5.5						
STKA	**Stephens Creek**	**42.74**	**131**	LR	LR	04 45 06.5	
	comp=Z,28nm,19.4s,baz=28,slow=37						
KBL	**Kabul**	**52.85**	**323**	P	**P**	**04 28 04.0**	**-2.6**
USRK	**Ussuriysk Ar.**	**56.10**	**23**	LR	LR	04 52 59.5	
	comp=Z,24nm,19.1s,baz=327,slow=36						
MK31	**Makanchi Array**	**56.60**	**342**	P	**P**	**04 28 32.9**	**-0.5**
MKAR	**Makanchi Array**	**56.60**	**342**	P	**P**	**04 28 32.5**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=164,slow=9.0,SNR=8.8						
MKAR	**Makanchi Array**	**56.60**	**342**	P	**P**	**04 28 32.3**	**-1.0**
MAKZ	**Makanchi**	**56.71**	**342**	P	**P**	**04 28 32.9**	**-1.2**
MAKZ				IAmb	IAmb	04 28 40.7	
	comp=Z,2.2nm,1.1s						
TLY	**Talaya**	**57.89**	**359**	P	**P**	**04 28 41.7**	**-0.6**
ZALV	**Zalesovo Beam**	**62.44**	**347**	P	**P**	**04 29 12.1**	**-1.3**
ABKAR	**Akbulak array**	**67.76**	**330**	P	**P**	**04 29 48.2**	**+0.1**
ABKAR				IAmb	IAmb	04 29 49.1	
	comp=Z,3.5nm,0.6s						
BRTR	**Keskin Array B**	**79.74**	**312**	P	**P**	**04 31 00.2**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=137,slow=8.3,SNR=5.1						
BRTR	**Keskin Array B**	**79.74**	**312**	P	**P**	**04 30 57.6**	**-1.1**
TXAR	**Lajitas Array**	**144.88**	**46**	PKPbc	**PKPdf**	**04 38 29.6**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=284,slow=3.6,SNR=5.7						
TXAR	**Lajitas Array**	**144.88**	**46**		PKPbc	04 38 27.6	+0.3

*IDC **03** 04:24:53.1±1.0, 9°.78N×123°.56E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/37, mbtmp3.8/6, MS2.7/2, Ms1 2.7/2, ms1mx2.3/40, Error ellipse: s-maj=58.0km s-min=22.6km az=75.0*
*NEIC **03** 04:24:54.2±1.4, 9°.61N±0°.09×123°.7E±0°.2, h10km±1km, mb4.3/7*
*MAN **03** 04:24:56.1, 9°.71N×123°.68E, h15km, MS3.7*
MAN Intensity III - Maribojoc Bohol; Intensity II - Argao Cebu; Tagbilaran City; Intensity I - Lapu-Lapu City.
ISC 03 04:24:54.9±2.1, **9°.73N**±0°.03×**123°.65E**±0°.05, **h17**km±14km, **n29**, σ1**s50**/38, **mb4.0**/9, **2C-3D, Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.56**	**226**	⇓P	**Pn**	**04 25 08.2**	**0.0**
SNPH				S	**Sn**	**04 25 16.5**	**-0.6**
LLP	**Lapu-Lapu**	**0.66**	**28**	⇑P	**Pn**	**04 25 09.0**	**-0.5**
LLP				S	**Sn**	**04 25 18.9**	**-0.7**
GUIM	**Jordan**	**1.37**	**311**	P	**Pb**	**04 25 20.9**	**+0.8**
GUIM				S	**Sg**	**04 25 40.0**	**+0.8**
CGP	**Cagayan de Oro**	**1.64**	**141**	⇓P	**Pn**	**04 25 22.7**	**-0.2**
CGP				S	**Sb**	**04 25 44.9**	**-0.1**
PAGZ	**Pagadian**	**1.89**	**188**	P	**Pn**	**04 25 26.9**	**+0.5**
PAGZ				S	**Sb**	**04 25 52.6**	**+0.4**
RCP	**Roxas**	**2.02**	**334**	⇑P	**Pb**	**04 25 31.0**	**-0.2**
RCP				S	**Sb**	**04 25 57.7**	**+1.6**
BESP	**Borongan**	**2.56**	**43**	P	**Pn**	**04 25 37.0**	**+1.3**
BESP				S	**Sb**	**04 26 10.0**	**-1.6**
CTBH	**Cotabato--PC H**	**2.56**	**167**	P	**Pn**	**04 25 37.6**	**+1.9**
CTBH				S	**Sb**	**04 26 09.2**	**-2.6**
KCP	**Kidapawan**	**3.06**	**152**	⇓P	**Pn**	**04 25 44.5**	**+2.0**
DAV	**Davao City (W)**	**3.26**	**144**	LR	LR	04 26 59.5	
	comp=Z,67nm,20.8s,baz=278,slow=38						
SJMP	**San Jose**	**3.68**	**318**	P	**Pb**	**04 25 56.1**	**-3.3**
SJMP				S	**Sn**	**04 26 32.2**	**-1.8**
SOEI	**Soe**	**19.37**	**178**	P	**P**	**04 29 19.3**	**-0.8**
SOEI				IAmb	IAmb	04 29 28.4	
	comp=Z,10.0nm,0.9s						
GUMO	**Guam**	**21.13**	**78**	LR	LR	04 36 56.6	
	comp=Z,34nm,21.6s,baz=122,slow=34						
FITZ	**Fitzroy Crossi**	**27.72**	**176**	P	**P**	**04 30 43.5**	**+0.9**
	comp=Z,1.9nm,0.9s,baz=8.1,slow=7.1,SNR=3.1						
FITZ	**Fitzroy Crossi**	**27.72**	**176**	P	**P**	**04 30 42.6**	**0.0**
FITZ				IAmb	IAmb	04 30 45.8	
	comp=Z,3.6nm,1.1s						
PSAA3	**Pilbara Seismi**	**31.34**	**187**	P	**P**	**04 31 12.2**	**-2.5**
PSAA3				IAmb	IAmb	04 31 15.1	
	comp=Z,5.3nm,0.9s						
ASAR	**Alice Springs**	**34.67**	**163**	P	**P**	**04 31 45.6**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=335,slow=6.2,SNR=4.7						
HNR	**Honiara**	**40.84**	**117**	P	**P**	**04 32 35.5**	**-0.7**
ARMA	**Armidale**	**48.13**	**147**	P	**P**	**04 33 34.6**	**+0.3**
MK31	**Makanchi Array**	**50.92**	**324**	P	**P**	**04 33 56.3**	**+1.0**
MKAR	**Makanchi Array**	**50.92**	**324**	P	**P**	**04 33 55.0**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=110,slow=9.0,SNR=11						
MKAR				PcP	**PcP**	**04 35 12.6**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=141,slow=4.4,SNR=3.8						
MKAR	**Makanchi Array**	**50.92**	**324**	P	**P**	**04 33 57.3**	**+2.0**
MKAR					**PcP**	**04 35 07.8**	**-3.9**
ZALV	**Zalesovo Beam**	**53.89**	**333**	P	**P**	**04 34 18.1**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=123,slow=5.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**53.89**	**333**	P	**P**	**04 34 18.0**	**+0.8**
KURK	**Kurchatov**	**55.07**	**327**	P	**P**	**04 34 27.1**	**+1.3**
KURK				IAmb	IAmb	04 34 29.8	
	comp=Z,3.6nm,1.0s						
ILAR	**Eielson Array**	**81.05**	**26**	P	**P**	**04 37 09.6**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=251,slow=5.6,SNR=7.8						
ILAR	**Eielson Array**	**81.05**	**26**	P	**P**	**04 37 08.8**	**0.0**
INK	**Inuvik**	**85.73**	**21**	P	**P**	**04 37 33.8**	**+1.1**
INK				IAmb	IAmb	04 37 36.1	
	comp=Z,3.6nm,1.1s						
YKA	**Yellowknife Ar**	**95.28**	**23**	P	**P**	**04 38 18.8**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=299,slow=4.3,SNR=4.5						

*ISCJB **03** 05:13:41.2±0.5, 51°.41N±0°.03×16°.10E±0°.03, h0km, Error ellipse: s-maj=3.7km s-min=2.6km az=17.8*
*VIE **03** 05:13:44.2±0.9, 51°.32N×16°.22E, h0km, mb2.3/2, ml2.6/5, Error ellipse: s-maj=8.6km s-min=5.8km az=68.0 60 km WNW of Wroclaw Suspected Mining induced.*
ISC 03 05:13:41.8±0.9, **51°.51N**±0°.03×**16°.05E**±0°.02, **h0**km, **n29**, σ1**s21**/70, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**167**	*i* Pg	**Pg**	**05 13 54.8**	**0.0**
KSP				*i* Pg	**Pg**	**05 13 54.8**	**0.0**
KSP				*e*Sg	**Sg**	**05 14 03.3**	**-0.4**
KSP				*e*Sg	**Sg**	**05 14 03.3**	**-0.4**
CHVC	**Chvalec**	**0.92**	**180**	*e*PG	**Pg**	**05 13 59.4**	**0.0**
CHVC				*e*SG	**Sg**	**05 14 10.5**	**-0.9**
	comp=Z,28nm,0.5s						
UPC	**Upice**	**1.00**	**181**	*e*PG	**Pg**	**05 14 00.7**	**-0.3**
UPC				*e*SG	**Sg**	**05 14 12.6**	**-1.4**
	comp=Z,77nm,0.5s						
DPC	**Dobruska-Polom**	**1.17**	**172**	*e*PG	**Pg**	**05 14 03.4**	**-0.8**
DPC				*e*SG	**Sg**	**05 14 18.0**	**-1.4**
	comp=Z,33nm,0.8s						
PVCC	**Panska Ves**	**1.36**	**224**	*e*PG	**Pg**	**05 14 07.9**	**+0.1**
PVCC				*e*SG	**Sb**	**05 14 25.6**	**-0.3**
	comp=Z,87nm,0.2s						
BRG	**Berggiesshubel**	**1.47**	**245**	PN	**Pn**	**05 14 10.0**	**+0.5**
BRG				PG	**Pb**	**05 14 11.1**	**+1.2**
BRG				SG	**Sn**	**05 14 30.4**	**+1.0**
	83nm,0.5s						
KRLC	**Kraliky**	**1.51**	**162**	*e*PG	**Pn**	**05 14 09.2**	**-0.9**
KRLC				*e*SG	**Sg**	**05 14 27.4**	**-2.8**
	comp=Z,35nm,0.4s						
PRA	**Prague**	**1.77**	**216**	*e*PN	**Pn**	**05 14 13.4**	**-0.2**
PRA				*e*PG	**Pb**	**05 14 15.1**	**0.0**
PRA				*e*SG	**Sg**	**05 14 38.9**	**+0.3**
	comp=Z,12nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.79**	**207**	*e*PG	**Pn**	**05 14 14.1**	**+0.2**
GOPC				*e*SG	**Sg**	**05 14 38.8**	**-0.4**
	comp=Z,11nm,0.3s						
PRU	**Pruhonice**	**1.80**	**213**	*e*PN	**Pn**	**05 14 13.7**	**-0.3**
PRU				*e*PG	**Pb**	**05 14 15.0**	**-0.6**
PRU				*e*SG	**Sg**	**05 14 39.5**	**-0.1**
	comp=Z,22nm,0.9s						
CLL	**Collm**	**1.92**	**265**	*e*Pn	**Pn**	**05 14 16.0**	**+0.3**
CLL				*e*Pg	**Pg**	**05 14 19.0**	**+0.5**
CLL				*i* Sg	**Sg**	**05 14 44.6**	**+1.2**
	comp=Z,16nm,0.4s						
MORC	**Moravsky Berou**	**1.98**	**151**	*e*PN	**Pn**	**05 14 15.6**	**-0.9**
MORC				*e*SG	**Sn**	**05 14 40.9**	**-1.1**
OKC	**Ostrava-Krasne**	**2.14**	**141**	*e*PG	**Pn**	**05 14 20.5**	**+1.8**
OKC				*e*SG	**Sn**	**05 14 47.6**	**+1.6**
	comp=Z,22nm,0.6s						
VRAC	**Vranov**	**2.23**	**171**	*e*PN	**Pn**	**05 14 19.7**	**-0.3**
VRAC				*e*SG	**Sb**	**05 14 50.0**	**-1.1**
TREC	**Trest**	**2.25**	**189**	*e*PN	**Pn**	**05 14 21.2**	**+1.0**
TREC				*e*PG	**Pb**	**05 14 23.3**	**+0.1**
TREC				*e*SG	**Sg**	**05 14 52.7**	**-1.2**
	comp=Z,16nm,0.4s						
PBCC	**Pribram**	**2.25**	**216**	*e*PG	**Pb**	**05 14 23.4**	**+0.2**
PBCC				*e*SG	**Sg**	**05 14 53.0**	**-0.9**
	comp=Z,4.1nm,0.8s						
KRUC	**Moravsky**	**2.46**	**175**	*e*PN	**Pn**	**05 14 23.7**	**+0.6**
KRUC				*e*SG	**Sb**	**05 14 58.2**	**+0.5**
NKC	**Novy Kostel**	**2.62**	**242**	*e*PN	**Pn**	**05 14 26.1**	**+0.8**
NKC				*e*PG	**Pb**	**05 14 30.4**	**+0.9**
NKC				*e*SG	**Sg**	**05 15 06.7**	**+0.9**
	comp=Z,26nm,0.3s						
OJC	**Ojcow**	**2.70**	**117**	*e*Pg	**Pb**	**05 14 33.2**	**+2.2**
OJC				*e*Pg	**Pb**	**05 14 33.2**	**+2.2**
OJC				*e*Sg	**Sg**	**05 15 08.0**	**-0.5**
OJC				*e*Sg	**Sg**	**05 15 08.0**	**-0.5**
JAVC	**Velka Javorina**	**2.85**	**158**	*e*PN	**Pn**	**05 14 28.9**	**+0.4**
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	**Pn**	**05 14 28.9**	**+0.2**
KHC				*e*PG	**Pb**	**05 14 34.5**	**+0.8**
KHC				*e*SN	**Sn**	**05 15 03.7**	**-0.1**
KHC				*e*SG	**Sg**	**05 15 13.2**	**-0.4**
	comp=Z,14nm,0.7s						
SMOL	**Smolenice**	**3.13**	**163**	*e*PG	**Pg**	**05 14 42.7**	**+1.0**
SMOL				*e*SG	**Sg**	**05 15 24.7**	**+2.5**
SMOL				*e*LG	Lg	05 15 27.5	
LANS	**Liptovska Anna**	**3.22**	**136**	*e*PN	Pn	05 14 27.8	-5.8
LANS				*e*PG	**Pg**	**05 14 45.4**	**+2.0**
LANS				*e*SG	**Sg**	**05 15 26.5**	**+1.3**
LANS				*e*LG	Lg	05 15 29.8	
MODS	**Modra-Piesok**	**3.24**	**165**	*e*PG	**Pg**	**05 14 44.1**	**+0.3**
MODS				*e*SN	Sn	05 15 00.9	-12
MODS				*e*SG	**Sg**	**05 15 26.0**	**+0.3**
VYHS	**Vyhne**	**3.51**	**148**	*e*PN	**Pn**	**05 14 35.7**	**-1.9**
VYHS				*e*PG	**Pg**	**05 14 48.2**	**-0.9**
VYHS				*e*SG	**Sg**	**05 15 32.5**	**-2.1**
CONA	**Conrad Observa**	**3.59**	**182**	*e*Pn	**Pn**	**05 14 39.4**	**+0.7**
	comp=Z,0.5nm,0.2s						
CONA				*e*Pg	**Pg**	**05 14 49.2**	**-1.3**
	comp=Z,2.5nm,0.2s						
CONA				*e*Sg	**Sg**	**05 15 35.5**	**-1.4**
	comp=Z,5.0nm,0.3s						
BSD	**Bornholm Skovb**	**3.67**	**350**	*i* P	**Pn**	**05 14 39.3**	**-0.5**
BSD				*i* S	**Sn**	**05 15 18.8**	**-5.0**
MOA	**Molln**	**3.84**	**198**	*e*Pn	**Pn**	**05 14 42.6**	**+0.5**
	comp=Z,0.7nm,0.2s						
MOA				Sg	**Sg**	**05 15 45.4**	**+0.3**
	comp=Z,4.0nm,0.3s						
ARSA	**Arzberg**	**4.28**	**185**	Sg	**Sg**	**05 15 59.3**	**+0.2**
	comp=Z,1.4nm,0.2s						

IDC 03 05:15:00.1±3.1, **30°.43S**×**138°.37E**, **h0**km, **mb1 3.3**/4, **mb1mx3.2**/32, **mbtmp3.1**/4, **ML3.0**/4, **Error ellipse: s-maj=83.4km s-min=14.9km az=40.0, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.12**	**118**	Pn	Pn	05 15 50.4	-0.2
	0.5nm,0.3s,baz=307,slow=10,SNR=7.1						
STKA				Pg	Pg	05 15 58.5	-1.5
	2.0nm,0.3s,baz=302,slow=13,SNR=20						
STKA				Sn	Sn	05 16 27.8	-0.7
	1.6nm,0.3s,baz=108,slow=4.0,SNR=4.6						
STKA				Lg	Lg	05 16 38.3	
	2.8nm,0.3s,baz=39,slow=17,SNR=5.9						
ASAR	**Alice Springs**	**7.82**	**328**	Pn	Pn	05 16 55.1	-0.2
	0.2nm,0.3s,baz=153,slow=11,SNR=9.8						
ASAR				Sn	Sn	05 18 25.4	+0.8
	0.2nm,0.3s,baz=153,slow=22,SNR=5.0						
WRA	**Warramunga Arr**	**11.06**	**340**	Pn	Pn	05 17 40.1	+0.5
	0.1nm,0.3s,baz=152,slow=13,SNR=4.6						
FITZ	**Fitzroy Crossi**	**16.87**	**314**	Pn	Pn	05 18 57.3	-0.5
	0.1nm,0.3s,baz=132,slow=14,SNR=3.0						

*ISCJB **03** 05:25:18.7±0.7, 51°.04N±0°.07×170°.13W±0°.05, h35km, mb3.2/4, Error ellipse: s-maj=10.3km s-min=4.2km az=163.7*
*AEIC **03** 05:25:20.8±2.8, 51°.2N±0°.1×170°.2W±0°.1, h26km±8km, ML2.9, mb3.9/26(NEIC)*
*NEIC **03** 05:25:20.6±2.4, 51°.1N±0°.1×170°.2W±0°.1, h37km±14km*
*IDC **03** 05:25:25.8±6.1, 51°.38N×168°.45W, h0km, mb3.4/4, mb1 3.9/6, mb1mx3.5/61, mbtmp3.6/6, ML3.9/2, Error ellipse: s-maj=109.2km s-min=42.6km az=82.0*
ISC 03 05:25:21.4±1.1, **51°.2N**±0°.1×**170°.24W**±0°.06, **h35**km, **n58**, σ1**s27**/62, **mb3.1**/4, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**2.02**	**25**		**Pn**	**05 25 52.3**	**-0.5**
NIKH					**Sn**	**05 26 17.1**	**+0.3**
OKSP	**Okmok Steeple**	**2.42**	**29**		**Pn**	**05 25 58.1**	**-0.4**
OKTU	**Okmok Mt. Tuli**	**2.62**	**30**		**Pn**	**05 26 01.1**	**0.0**
KOSE	**Korovin Southe**	**2.65**	**298**		**Pn**	**05 26 03.4**	**+1.8**
ATKA	**Atka Island**	**2.68**	**295**		**Pn**	**05 26 02.4**	**+0.5**
OKFG	**Magazine Ridge**	**2.68**	**31**		**Pn**	**05 26 01.9**	**0.0**
OKFG					**Sn**	**05 26 33.2**	**0.0**
MREP	**Makushin Rep't**	**3.42**	**37**		**Pn**	**05 26 12.5**	**+0.3**
MSW	**Makushin Switc**	**3.48**	**36**		**Pn**	**05 26 13.5**	**+0.5**
MSW					**Sn**	**05 26 53.8**	**+0.8**
UNV	**Unalaska Valle**	**3.54**	**39**		**Pn**	**05 26 13.7**	**0.0**
GSTR	**Great Sitkin T**	**3.75**	**287**	Pn	**Pn**	**05 26 17.7**	**+1.1**
GSTR				Sn	**Sn**	**05 27 00.2**	**+0.7**
GSTD	**Great Sitkin T**	**3.79**	**286**		**Pn**	**05 26 17.8**	**+0.5**
AKUT	**Akutan**	**4.04**	**41**	Pn	**Pn**	**05 26 20.0**	**-0.7**
ADK	**Adak**	**4.09**	**283**		**Pn**	**05 26 21.2**	**-0.1**
ADK	**Adak**	**4.09**	**283**	Pn	**Pn**	**05 26 21.1**	**-0.2**
ADK				Sn	**Sn**	**05 27 05.8**	**-2.1**
KIWB	**Kanaga Island**	**4.37**	**282**	Pn	**Pn**	**05 26 23.8**	**-1.4**
TASE	**Tanaga Southea**	**4.92**	**281**		**Pn**	**05 26 33.8**	**+1.0**
SDPT	**Sand Point**	**7.21**	**51**	Pn	**Pn**	**05 27 04.0**	**-0.1**
CHIR	**Chirikof Islan**	**9.88**	**56**	Pn	**Pn**	**05 27 40.6**	**-0.2**
SII	**Sitkinak Islan**	**10.91**	**54**	Pn	**Pn**	**05 27 54.8**	**0.0**
OHAK	**Old Harbor**	**11.63**	**52**	Pn	**Pn**	**05 28 03.5**	**-1.1**
KDAK	**Kodiak Island**	**12.21**	**50**	Pn	**Pn**	**05 28 10.6**	**-1.9**
	2.4nm,0.3s,baz=244,slow=6.6,SNR=22						
KDAK				Sn	Sn	05 30 12.4	-15
	baz=324,slow=19,SNR=3.9						
KDAK	**Kodiak Island**	**12.21**	**50**		**Pn**	**05 28 11.1**	**-1.5**
CNPM	**China Poot**	**13.64**	**45**	Pn	**Pn**	**05 28 31.3**	**-0.8**
BRLK	**Bradley Lake**	**13.92**	**44**	Pn	**Pn**	**05 28 34.8**	**-1.0**
SEW	**Seward**	**14.71**	**44**	Pn	**Pn**	**05 28 44.7**	**-1.9**
SUA	**Susitna One**	**14.89**	**39**	Pn	**Pn**	**05 28 48.0**	**-1.1**
SUA					**P**	**05 28 54.9**	**+0.4**
SKT	**Skwentna**	**14.90**	**36**	Pn	**Pn**	**05 28 49.6**	**+0.5**
RC01	**Rabbit Creek A**	**15.09**	**41**	Pn	**Pn**	**05 28 49.9**	**-1.7**
PPLA	**Purkeypile**	**15.26**	**33**	Pn	**Pn**	**05 28 54.9**	**+0.8**
GHO	**Glory Hole Cre**	**15.79**	**39**	Pn	**Pn**	**05 28 58.9**	**-1.9**
KNK	**Knik Glacier**	**15.79**	**41**	Pn	**Pn**	**05 28 59.2**	**-1.6**
KNK				IAmb	IAmb	05 29 06.0	
	comp=Z,5.1nm,0.6s						
GLI	**Glacier Island**	**16.11**	**44**	Pn	**Pn**	**05 29 03.0**	**-1.8**
KTH	**Kantishna Hill**	**16.13**	**32**	Pn	**P**	**05 29 05.9**	**-2.2**
KTH				IAmb	IAmb	05 29 09.4	
	comp=Z,16nm,1.5s						
HIN	**Hinchinbrook I**	**16.16**	**46**	Pn	**Pn**	**05 29 03.2**	**-2.4**
FID	**Port Fidalgo**	**16.32**	**45**	Pn	**Pn**	**05 29 05.1**	**-2.5**
SCM	**Sheep Creek Mo**	**16.47**	**41**	P	**Pn**	**05 29 07.5**	**-2.0**
SCM				IAmb	IAmb	05 29 13.4	
	comp=Z,11nm,0.8s						
BPAW	**Bear Paw Mtn.**	**16.47**	**31**		**P**	**05 29 10.3**	**-1.5**
BPAW				IAmb	IAmb	05 29 14.0	
	comp=Z,10nm,0.8s						
EYAK	**Cordova Ski Ar**	**16.57**	**46**	Pn	**Pn**	**05 29 07.8**	**-2.8**
EYAK				IAmb	IAmb	05 29 25.5	
	comp=Z,14nm,1.2s						
RND	**Reindeer**	**16.75**	**35**		**P**	**05 29 14.4**	**-0.6**
RND				IAmb	IAmb	05 29 29.4	
	comp=Z,18nm,1.8s						
IMAR	**Indian Mountai**	**17.09**	**23**		**P**	**05 29 19.5**	**+0.9**
MLY	**Manley**	**17.20**	**29**	P	**P**	**05 29 19.3**	**-0.6**
MLY				IAmb	IAmb	05 29 23.0	
	comp=Z,11nm,1.3s						
GLB	**Gilahina Butte**	**17.79**	**44**	P	**Pn**	**05 29 24.2**	**-1.7**
CRQM	**Cirque**	**17.84**	**47**	Sn	**Sn**	**05 32 42.9**	**-1.3**
WAX	**Waxell Ridge**	**17.86**	**48**	P	**P**	**05 29 26.7**	**-0.6**
VRDI	**Verde Repeater**	**17.86**	**45**	P	**P**	**05 29 26.1**	**-1.3**
VRDI				IAmb	IAmb	05 29 43.8	
	comp=Z,15nm,1.7s						
IL31		**18.27**	**33**	IAmb	IAmb	05 30 12.2	
	comp=Z,16nm,1.9s						
ILAR	**Eielson Array**	**18.27**	**33**	P	**P**	**05 29 30.2**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=237,slow=10,SNR=15						
BALM	**Baldy**	**18.30**	**47**	P	**Pn**	**05 29 31.2**	**-0.9**
BALM				IAmb	IAmb	05 30 18.0	
	comp=Z,15nm,1.7s						
YAH	**Yahtse**	**18.36**	**49**	P	**Pn**	**05 29 33.6**	**+0.5**
YAH				IAmb	IAmb	05 30 04.9	
	comp=Z,22nm,1.4s						
BARN	**Barnard Glacie**	**18.62**	**47**	P	**Pn**	**05 29 36.4**	**+0.2**
BARN				IAmb	IAmb	05 30 21.2	
	comp=Z,18nm,1.8s						
CTGM	**Chitina Glacie**	**18.74**	**47**	P	**Pn**	**05 29 37.3**	**-0.3**
BMAR	**Burnt Mountain**	**20.66**	**28**	P	**P**	**05 29 57.6**	**-0.2**
DAWY	**Dawson**	**20.71**	**40**	P	Pn	05 29 59.6	-1.2
DAWY				IAmb	IAmb	05 30 58.3	
	comp=Z,12nm,1.9s						
INK	**Inuvik**	**24.67**	**32**	P	**P**	**05 30 40.8**	**+2.4**
	comp=Z,2.5nm,0.5s,baz=249,slow=8.5,SNR=32						
INK	**Inuvik**	**24.67**	**32**	P	**P**	**05 30 39.5**	**+1.2**
INK				IAmb	IAmb	05 30 42.1	
	comp=Z,3.3nm,0.6s						
YKA	**Yellowknife Ar**	**31.46**	**47**	P	**P**	**05 31 40.7**	**+1.6**
	comp=Z,0.1nm,0.6s,baz=274,slow=7.3,SNR=3.5						
NVAR	**Mina Array Bea**	**38.21**	**89**	P	**P**	**05 32 38.4**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=300,slow=8.2,SNR=2.7						
TXAR	**Lajitas Array**	**53.33**	**87**	P	**P**	**05 34 37.4**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=285,slow=4.8,SNR=3.5						

*IDC **03** 05:31:22.5±0.8, 0°.72N×125°.94E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.8/39, mbtmp4.0/9, MS3.2/1, Ms1 3.2/1, ms1mx2.3/46, Error ellipse: s-maj=56.2km s-min=16.3km az=74.0*
*DJA **03** 05:31:25.2±0.3, 1°N±5°×12°6E±°, h10km, M4.0/6, MLv4.0/6*
*ISCJB **03** 05:31:26.8±0.5, 0°.79N±0°.07×126°.16E±0°.06, h44km, mb4.0/9, Error ellipse: s-maj=11.1km s-min=7.3km az=24.8*
*NEIC **03** 05:31:28.5±0.6, 0°.84N±0°.06×126°.26E±0°.07, h41km±13km, mb4.4/3*
ISC 03 05:31:28.9±0.7, **0°.88N**±0°.08×**126°.23E**±0°.07, **h44**km, **n23**, σ1**s51**/23, **mb4.2**/11, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.14**	**95**	P	**Pn**	**05 31 47.5**	**-0.9**
TNTI				S	**Sn**	**05 32 02.9**	**0.0**
TNTI	**Ternate**	**1.14**	**95**	Pn	**Pn**	**05 31 47.5**	**-0.9**
LBMI	**Labuha**	**1.97**	**140**	P	**Pn**	**05 32 00.4**	**+0.6**
LBMI				S	**Sn**	**05 32 27.0**	**+3.6**
LUWI	**Luwuk**	**3.95**	**241**	P	**Pn**	**05 32 23.9**	**-3.1**
LUWI	**Luwuk**	**3.95**	**241**	Pn	**Pn**	**05 32 27.0**	**0.0**
FAKI	**Fak Fak**	**7.10**	**122**	Pn	**Pn**	**05 33 09.1**	**-1.2**
WSI	**Waingapu**	**12.03**	**209**	P	Pn	05 34 08.7	-9.1
JAY	**Jayapura**	**14.86**	**103**	LR	LR	05 41 52.7	
	comp=Z,88nm,18.6s,baz=298,slow=42						
WRA	**Warramunga Arr**	**22.17**	**159**	P	**P**	**05 36 19.5**	**-1.8**
	5.1nm,0.6s,baz=337,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**25.52**	**163**	P	**P**	**05 36 54.0**	**+0.5**
	1.7nm,0.4s,baz=347,slow=13,SNR=5.7						
STKA	**Stephens Creek**	**35.69**	**157**	P	**P**	**05 38 21.2**	**-1.9**
	1.7nm,0.6s,baz=335,slow=10,SNR=4.6						
KSRS	**Korea Array**	**36.43**	**2**	P	**P**	**05 38 31.7**	**+2.4**
	0.6nm,0.3s,baz=181,slow=8.9,SNR=2.5						
USRK	**Ussuriysk Ar.**	**43.44**	**6**	P	**P**	**05 39 29.4**	**+2.0**
	1.5nm,0.6s,baz=181,slow=8.5,SNR=5.1						
SONM	**Songino Array**	**49.84**	**343**	P	**P**	**05 40 18.0**	**+0.3**
	0.6nm,0.6s,baz=154,slow=9.1,SNR=4.1						
MK31	**Makanchi Array**	**59.62**	**326**	P	**P**	**05 41 28.7**	**+0.3**
MK31				IAmb	IAmb	05 41 32.4	
	comp=Z,3.4nm,1.2s						
MKAR	**Makanchi Array**	**59.62**	**326**	P	**P**	**05 41 28.6**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=121,slow=8.0,SNR=36						
MKAR	**Makanchi Array**	**59.62**	**326**	P	**P**	**05 41 28.4**	**0.0**
MAKZ	**Makanchi**	**59.80**	**326**	P	**P**	**05 41 29.9**	**+0.2**
MAKZ				IAmb	IAmb	05 41 33.1	
	comp=Z,2.3nm,0.7s						
ZALV	**Zalesovo Beam**	**62.90**	**334**	P	**P**	**05 41 49.1**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=140,slow=6.6,SNR=3.2						
KURK	**Kurchatov**	**63.88**	**328**	P	**P**	**05 41 57.4**	**+0.4**
ABKAR	**Akbulak array**	**74.04**	**321**	P	**P**	**05 43 00.0**	**-0.1**
ILAR	**Eielson Array**	**87.87**	**25**	P	**P**	**05 44 13.2**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=256,slow=4.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**123.28**	**286**	PKP	**PKiKP**	**05 50 22.1**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=107,slow=1.5,SNR=2.8						

IDC 03 05:32:16.1±1.6, **6°.99S**×**128°.95E**, **h0**km, **mb4.1**/2, **mb1 4.2**/6, **mb1mx3.8**/36, **mbtmp4.1**/6, **ML4.0**/4, **Error ellipse: s-maj=50.6km s-min=24.5km az=83.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.13**	**238**	Pn	Pn	05 33 48.0	0.0
	10nm,0.3s,baz=122,slow=2.6,SNR=8.1						
BATI				Sn	Sn	05 34 55.4	-3.6
	7.8nm,0.3s,baz=273,slow=23,SNR=4.4						
FITZ	**Fitzroy Crossi**	**11.50**	**196**	Pn	Pn	05 35 00.8	-1.0
	0.7nm,0.3s,baz=18,slow=10,SNR=18						
FITZ				Sn	Sn	05 36 59.5	-12
	0.8nm,0.3s,baz=288,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**13.89**	**158**	Pn	Pn	05 35 35.1	+0.7
	0.7nm,0.3s,baz=342,slow=12,SNR=11						
WRA				Sn	Sn	05 38 05.6	-4.0
	1.6nm,0.3s,baz=336,slow=22,SNR=8.4						
ASAR	**Alice Springs**	**17.25**	**165**	P	Pn	05 36 19.0	+0.4
	0.3nm,0.3s,baz=343,slow=10,SNR=12						
ASAR				S	Sn	05 39 26.0	-5.3
	0.5nm,0.3s,baz=318,slow=18,SNR=9.2						
MKAR	**Makanchi Array**	**67.65**	**327**	P	P	05 43 15.1	+0.1
	1.5nm,0.6s,baz=121,slow=8.2,SNR=11						
ZALV	**Zalesovo Beam**	**71.12**	**334**	P	P	05 43 36.3	0.0
	1.0nm,0.6s,baz=133,slow=6.3,SNR=3.9						

*ISCJB **03** 05:55:17.6±0.5, 9°.83N±0°.04×84°.02W±0°.04, h7km±3km, Error ellipse: s-maj=9.6km s-min=3.0km az=44.6*
*UCR **03** 05:55:17.2±1.5, 9°.83N×84°.03W, h3km±2km, MD3.9*
*UPA **03** 05:55:20.5±1.8, 10°.12N×83°.50W, h0km±93km, MW3.4*
ISC 03 05:55:16.5±0.9, **9°.90N**±0°.06×**83°.93W**±0°.04, **h11**km±7km, **n23**, σ1**s14**/38, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	**Escuela Geolog**	**0.13**	**290**	*e*P	**Pg**	**05 55 20.0**	**+0.3**
SJS				*e*S	**Sg**	**05 55 22.3**	**+0.3**
LCR2	**La Lucha 2**	**0.17**	**204**	*e*P	**Pg**	**05 55 19.8**	**-0.6**
LCR2				*e*S	**Sg**	**05 55 21.7**	**-1.4**
HDC	**Heredia**	**0.21**	**301**	*e*P	**Pg**	**05 55 21.4**	**+0.4**
HDC				*e*S	**Sg**	**05 55 25.4**	**+1.4**
SRA1	**San Ramn**	**0.57**	**289**	*e*P	**Pg**	**05 55 27.5**	**-0.1**
EDDO	**Dominical**	**0.64**	**174**	*e*P	**Pg**	**05 55 29.3**	**+0.3**
CASO	**Castillo**	**0.95**	**304**	*i* P	**Pb**	**05 55 34.5**	**-0.6**
CASO				*i* S	**Sb**	**05 55 47.6**	**-0.1**
ARE1	**Arenal 1**	**0.95**	**306**	*e*P	**Pn**	**05 55 35.1**	**-0.9**
ARE1				*e*S	**Sb**	**05 55 48.6**	**+0.7**
CEDE	**Laguna Cedeo**	**0.96**	**308**	*e*P	**Pn**	**05 55 35.8**	**-0.2**
CEDE				*e*S	**Sb**	**05 55 48.9**	**+0.9**
JTS	**Las Juntas de**	**1.08**	**291**	*e*P	**Pg**	**05 55 36.4**	**-0.8**
JTS				*e*S	**Sg**	**05 55 50.7**	**-0.7**
ACAL	**Aguas Claras**	**1.31**	**304**	*i* P	**Pb**	**05 55 40.9**	**-0.3**
CUI	**Cuipilapa**	**1.43**	**302**	*i* P	**Pg**	**05 55 43.0**	**-1.0**
CUI				*i* S	**Sn**	**05 56 03.6**	**+2.3**
PLVR	**Palo Verde**	**1.47**	**288**	*e*P	**Pn**	**05 55 43.0**	**-0.2**
PLVR				*e*S	**Sn**	**05 56 01.8**	**-0.6**
GUAB	**Guayabo de Bag**	**1.51**	**302**	*i* P	**Pg**	**05 55 45.1**	**-0.4**
CNI2	**El Empalme, Bo**	**1.52**	**108**	*e*P	**Pb**	**05 55 43.8**	**-0.9**
BRU2	**Volcan**	**1.64**	**132**	*e*P	**Pg**	**05 55 48.3**	**+0.1**
BRU2				*e*S	**Sg**	**05 56 10.5**	**+1.0**
BRU2	**Volcan**	**1.64**	**132**	*e*P	**Pg**	**05 55 48.3**	**+0.1**
BRU2				*e*S	**Sg**	**05 56 10.5**	**+1.0**
BUEV	**Buena Vista**	**1.70**	**302**	*e*P	**Pg**	**05 55 47.7**	**-1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GBS3	**Finca Las Img**	**1.74**	**301**	*i* P	**Pb**	**05 55 48.0**	**-0.5**
BCO2	**Palmira**	**1.81**	**130**	*e*P	**Pg**	**05 55 50.1**	**-1.3**
BCO2				*e*S	**Sg**	**05 56 14.4**	**-0.6**
CHGR2	**Aguacate**	**2.01**	**118**	*e*P	**Pg**	**05 55 52.6**	**-2.5**
CHGR2				*e*S	**Sn**	**05 56 15.5**	**-0.1**
DVD	**David**	**2.06**	**135**	*e*P	**Pb**	**05 55 52.4**	**-1.6**
DVD				*e*S	**Sb**	**05 56 20.6**	**+0.9**
DVD	**David**	**2.06**	**135**	*e*P	**Pb**	**05 55 52.4**	**-1.6**
DVD				*e*S	**Sb**	**05 56 20.6**	**+0.9**
CACAO	**El Cacao, Vera**	**3.96**	**130**	*e*P	**Pn**	**05 56 20.2**	**+2.9**

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*ISCJB **03** 06:37:29.7±0.6, 2°.06S±0°.04×78°.92W±0°.06, h123km±6km, Error ellipse: s-maj=10.3km s-min=6.0km az=21.8*
*IGQ **03** 06:37:32.1±0.3, 2°S±2°×7°9W±°, h88km, MLv3.7*
ISC 03 06:37:29.1±1.6, **2°.05S**±0°.05×**78°.90W**±0°.06, **h125**km±10km, **n53**, σ1.**29**/59, **Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMAS	**Trigal station**	**0.69**	**38**	P	**Pn**	**06 37 48.9**	**-0.5**
BMAS				S	**Sn**	**06 38 03.2**	**-1.4**
BPAT	**Tungurahua Vol**	**0.71**	**40**	P	**Pn**	**06 37 49.5**	**-0.2**
BPAT				S	**Sn**	**06 38 04.0**	**-1.2**
BULB	**Ulba Tungurahu**	**0.78**	**39**	P	**Pn**	**06 37 49.8**	**-0.3**
BULB				S	**Sn**	**06 38 04.9**	**-1.1**
BRUN	**Tungurahua Vol**	**0.79**	**38**	P	**Pn**	**06 37 49.8**	**-0.3**
SAGO	**Sagoatoa**	**0.92**	**15**	P	**Pn**	**06 37 51.6**	**+0.1**
APUY	**Puyo**	**1.08**	**57**	P	**Pn**	**06 37 53.1**	**+0.7**
APUY				S	**Sn**	**06 38 11.0**	**+0.8**
PIS1	**Pisayambo**	**1.11**	**27**	P	**Pn**	**06 37 53.9**	**+0.6**
PIS1				S	**Sn**	**06 38 11.8**	**+0.3**
PISA	**Pisayambo**	**1.11**	**27**	P	**Pn**	**06 37 54.1**	**+0.8**
BOSC	**San Juan Bosco**	**1.16**	**160**	P	**Pn**	**06 37 55.2**	**+1.7**
BOSC				S	**Sn**	**06 38 13.3**	**+1.4**
BNAS	**Cotopaxi Volca**	**1.43**	**17**	P	**Pn**	**06 37 57.6**	**+0.9**
BREF	**Cotopaxi Volca**	**1.45**	**18**	P	**Pn**	**06 37 59.1**	**+2.1**
BTAM	**Cotopaxi Volca**	**1.46**	**20**	P	**Pn**	**06 37 57.8**	**+0.8**
BVC2	**Cotopaxi Volca**	**1.47**	**19**	P	**Pn**	**06 37 57.9**	**+0.8**
VC1	**Cotopaxi 1**	**1.48**	**19**	P	**Pn**	**06 37 58.4**	**+1.1**
ATEN	**Tena**	**1.50**	**46**	P	**Pn**	**06 37 56.1**	**-0.9**
MORR	**Playas El Morr**	**1.55**	**248**	P	**Pn**	**06 37 57.2**	**-0.3**
NINA	**Atacazo Ninahu**	**1.67**	**10**	P	**Pn**	**06 38 00.8**	**+1.4**
GGPC	**Guagua Pichinc**	**1.88**	**9**	P	**Pn**	**06 38 03.0**	**+0.9**
TERV	**Terraza Guagua**	**1.89**	**9**	P	**Pn**	**06 38 03.9**	**+1.8**
YANA	**Yana**	**1.95**	**10**	P	**Pn**	**06 38 03.8**	**+1.1**
SALI	**Salinas**	**2.10**	**266**	P	**Pn**	**06 38 03.9**	**-0.1**
PULU	**Pululahua**	**2.10**	**11**	P	**Pn**	**06 38 06.0**	**+1.5**
JAMA	**Jama**	**2.21**	**324**	P	**Pn**	**06 38 04.3**	**-1.2**
GONZ	**Gonzanam**	**2.23**	**193**	P	**Pn**	**06 38 06.8**	**+0.7**
CAYA	**Cayambe**	**2.30**	**23**	P	**Pn**	**06 38 08.3**	**+1.2**
PAC1	**Pacto, Paraso**	**2.30**	**3**	P	**Pn**	**06 38 07.7**	**+0.8**
ISPT	**Isla de la Pla**	**2.31**	**290**	P	**Pn**	**06 38 06.4**	**-0.4**
OTAV	**Otavalo**	**2.32**	**11**	*e*P	**Pn**	**06 38 08.6**	**+1.4**
OTAV	**Otavalo**	**2.32**	**11**	*e*P	**Pn**	**06 38 08.6**	**+1.4**
OTAV	**Otavalo**	**2.32**	**11**	P	**Pn**	**06 38 09.0**	**+1.8**
CUSW	**Cuicocha Oeste**	**2.38**	**13**	P	**Pn**	**06 38 09.8**	**+1.8**
CUSE	**Cuicocha Este**	**2.39**	**12**	P	**Pn**	**06 38 09.7**	**+1.5**
CUIC	**Cuicocha-Domo**	**2.40**	**13**	P	**Pn**	**06 38 10.2**	**+1.9**
IMBA	**Imbabura, San**	**2.42**	**17**	P	**Pn**	**06 38 10.7**	**+2.2**
YAHU	**Yahuarcocha**	**2.54**	**19**	P	**Pn**	**06 38 11.3**	**+1.2**
URCU	**Urcuqui**	**2.56**	**15**	P	**Pn**	**06 38 11.7**	**+1.4**
ZUMB	**Zumba**	**2.81**	**185**	P	**Pn**	**06 38 14.5**	**+1.3**
BBAC	**Balboa, Cauca**	**4.37**	**22**	*e*P	**Pn**	**06 38 34.1**	**+0.2**
BBAC	**Balboa, Cauca**	**4.37**	**22**	*e*P	**Pn**	**06 38 34.1**	**+0.2**
PTLC	**Puerto Leguiza**	**4.66**	**62**	*e*P	**Pn**	**06 38 35.4**	**-2.1**
PTLC	**Puerto Leguiza**	**4.66**	**62**	*e*P	**Pn**	**06 38 35.4**	**-2.1**
FLOC	**Florencia**	**4.85**	**42**	*e*P	**Pn**	**06 38 40.2**	**-0.1**
FLOC	**Florencia**	**4.85**	**42**	*e*P	**Pn**	**06 38 40.2**	**-0.1**
PCON	**Cinco Dias**	**5.02**	**30**	*e*P	**Pn**	**06 38 45.3**	**+2.4**
PCON	**Cinco Dias**	**5.02**	**30**	*e*P	**Pn**	**06 38 45.3**	**+2.4**
YOTC	**Yotoco, Valle**	**6.51**	**23**	*e*P	**Pn**	**06 39 00.6**	**-2.1**
YOTC	**Yotoco, Valle**	**6.51**	**23**	*e*P	**Pn**	**06 39 00.6**	**-2.1**
MACC	**Macarena, Meta**	**6.55**	**50**	*e*P	**Pn**	**06 39 02.7**	**-0.3**
MACC	**Macarena, Meta**	**6.55**	**50**	*e*P	**Pn**	**06 39 02.7**	**-0.3**
ORTC	**Ortega, Tolima**	**6.96**	**32**	*e*P	**Pn**	**06 39 08.0**	**-0.5**
ORTC	**Ortega, Tolima**	**6.96**	**32**	*e*P	**Pn**	**06 39 08.0**	**-0.5**
PRAC	**Prado**	**6.99**	**35**	*e*P	**Pn**	**06 39 09.8**	**+0.7**
PRAC	**Prado**	**6.99**	**35**	*e*P	**Pn**	**06 39 09.8**	**+0.7**

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*NIED **03** 06:53:00, 35°.80N×141°.00E, h11km, Mw3.3 Best double couple: M0 1.17000×10^14 NP1:φs341.00000°, δ35.00000°, λ-125.00000°. NP2:φs202.00000°, δ62.00000°, λ-68.00000°.*
JMA 03 06:53:54.7±0.1, **35°.79N**×**140°.91E**, **h13**km±1km, **M3.5**, **5C**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.10**	**206**	⇑P	Pg	06 53 57.6	0.0
CHOJ				S	Sg	06 53 59.4	-0.3
JIHU	**Itakohorinouch**	**0.36**	**299**	P	Pb	06 54 02.5	-0.4
JIHU				S	Sb	06 54 08.5	0.0
JSMT	**Sammumatsuo**	**0.40**	**249**	⇑P	Pg	06 54 03.2	+0.5
JHYU	**Hitachinakayam**	**0.61**	**335**	⇑P	Pb	06 54 07.0	-0.2
JHYU				S	Sb	06 54 15.2	-0.5
JCN	**Nagara**	**0.69**	**237**	P	Pb	06 54 08.9	+0.4
JCN				S	Sn	06 54 19.5	-1.1
JYT	**Yasato**	**0.73**	**307**	⇑P	Pg	06 54 08.3	-0.5
JYT				S	Sg	06 54 17.6	-0.8
JKUC	**kamogawauchiur**	**0.86**	**223**	P	Pg	06 54 11.2	-0.1
JHO	**Hitachi**	**0.86**	**341**	⇑P	Pg	06 54 10.6	-0.8
JHO				S	Sg	06 54 22.7	-0.1
BSO4	**Boso 4**	**0.93**	**211**	P	Pg	06 54 12.7	+0.2
TOK	**Tokyo**	**0.94**	**264**	P	Pg	06 54 13.1	+0.2
BSO3	**Boso 3**	**1.04**	**198**	P	Pb	06 54 14.0	-0.4
MAT	**Matsushiro**	**2.31**	**290**	P	Pn	06 54 32.1	-0.4
MAT				*e*S	Sn	06 55 01.5	+0.7

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*NIED **03** 06:58:00, 35°.80N×141°.00E, h8km, Mw4.4 Best double couple: M0 5.10000×10^15 NP1:φs340.00000°, δ27.00000°, λ-132.00000°. NP2:φs206.00000°, δ70.00000°, λ-71.00000°.*
*IDC **03** 06:58:13.3±0.5, 35°.65N×140°.81E, h0km, mb4.3/18, mb1 4.4/23, mb1mx4.3/41, mbtmp4.3/23, ML3.8/5, MS3.5/13, Ms1 3.5/13, ms1mx3.2/41, Error ellipse: s-maj=16.0km s-min=11.9km az=92.0*
*ISCJB **03** 06:58:14.6±0.4, 35°.74N±0°.02×140°.90E±0°.04, h17km±3km, mb4.5/41, MS3.8/16, Error ellipse: s-maj=5.0km s-min=3.6km az=176.7*
*JMA **03** 06:58:14.8±0.2, 35°.78N×140°.91E, h12km±1km, M4.5 Broadband fault plane solution: P waves. NP1: φs218.00000°, δ70.00000°, λ-51.00000°. NP2: φs330.00000°, δ43.00000°, λ-150.00000°. Principal axes: T Plg16.0000°, Azm280.0000°; N Plg37.0000°, Azm22.0000°; P Plg49.0000°, Azm171.0000°;*
JMA Felt IV J1.
*BJI **03** 06:58:15.2±0.0, 35°.86N×140°.90E, h21km, mb4.6/42, mB4.9/29, Ms4.2/17, Ms7 4.0/10*
*NEIC **03** 06:58:16±2.1, 35°.73N±0°.05×140°.90E±0°.07, h16km±4km, mb4.6/44*
*MOS **03** 06:58:17.2±1.9, 35°.83N×140°.76E, h33km, mb4.8/18, Error ellipse: s-maj=9.8km s-min=6.1km az=111.5*
ISC 03 06:58:14.3±1.0, **35°.77N**±0°.03×**140°.97E**±0°.04, **h5**km±6km, **n173**, σ1.**86**/166, **mb4.5**/57, **MS3.8**/17, **14C-10D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.12**	**233**	⇑P	**Pg**	**06 58 17.6**	**+0.9**
CHOJ				S	**Sg**	**06 58 19.5**	**+1.2**
JIHU	**Itakohorinouch**	**0.41**	**298**	⇑P	**Pg**	**06 58 22.7**	**+0.4**
JIHU				S	**Sg**	**06 58 28.5**	**+0.9**
JSMT	**Sammumatsuo**	**0.45**	**253**	⇑P	**Pg**	**06 58 23.3**	**+0.4**
JHYU	**Hitachinakayam**	**0.65**	**331**	⇓P	**Pg**	**06 58 27.0**	**+0.2**
JHYU				S	**Sg**	**06 58 35.4**	**+0.2**
I30JP	**ISUMI INFRASON**	**0.71**	**229**	Pg	**Pg**	**06 58 28.6**	**+0.7**
	baz=54,slow=16						
I30JP				Lg	Lg	06 58 38.3	
	baz=69,slow=106						
JCN	**Nagara**	**0.72**	**241**	⇑P	**Pg**	**06 58 28.9**	**+0.8**
JYT	**Yasato**	**0.78**	**306**	⇑P	**Pg**	**06 58 28.4**	**-0.9**
JYT				S	**Sg**	**06 58 38.2**	**-1.2**
JKUC	**kamogawauchiur**	**0.88**	**226**	⇑P	**Pb**	**06 58 31.0**	**-1.0**
JHO	**Hitachi**	**0.90**	**339**	⇑P	**Pb**	**06 58 30.6**	**-1.8**
JHO				S	**Sb**	**06 58 42.5**	**-2.2**
BSO4	**Boso 4**	**0.94**	**214**	P	**Pb**	**06 58 32.8**	**-0.2**
BSO3	**Boso 3**	**1.04**	**201**	⇓P	**Pb**	**06 58 33.9**	**-0.7**
BSO1	**Boso 1**	**1.12**	**180**	⇓P	**Pb**	**06 58 34.4**	**-1.4**
MJAR	**Matsushiro Arr**	**2.36**	**290**	Pn	**Pn**	**06 58 51.6**	**-2.2**
	6.7nm,0.3s,baz=93,slow=12,SNR=226						
MJAR				LR	LR	06 59 18.7	
	comp=Z,404nm,18.4s,baz=120,slow=29						
MJAR				Sn	**Sn**	**06 59 25.4**	**+2.1**
	12nm,0.3s,baz=39,slow=27,SNR=5.7						
MAJO	**Matsushiro**	**2.37**	**290***c*	*i*P	**Pn**	**06 58 52.1**	**-1.7**
MAJO	**Matsushiro**	**2.37**	**290**		**Pn**	**06 58 52.2**	**-1.6**
MAT	**Matsushiro**	**2.37**	**290**	P	**Pn**	**06 58 52.0**	**-1.8**
MAT				S	**Sn**	**06 59 17.0**	**-6.3**
MJB9	**Matsu-Tunnel**	**2.37**	**290**		**Pn**	**06 58 52.2**	**-1.7**
JHJ2	**Mitsune**	**2.82**	**200**		**Pn**	**06 58 59.0**	**-1.0**
JHJ	**Hachijo jima 2**	**2.82**	**201**	Pn	**Pn**	**06 58 59.1**	**-0.9**
	34nm,0.3s,baz=148,slow=23,SNR=16						
JHJ				Sn	**Sn**	**06 59 30.9**	**-3.6**
	96nm,0.3s,baz=41,slow=22,SNR=3.6						
JHJ				LR	LR	06 59 47.0	
	comp=Z,195nm,18.9s,baz=62,slow=35						
INU	**Inuyama**	**3.25**	**264**	Pn	**Pn**	**06 59 06.5**	**+0.5**
ERM	**Erimo**	**6.46**	**15**	⇓*e*P	**Pn**	**06 59 49.9**	**-0.2**
ERM	**Erimo**	**6.46**	**15**	Pn	**Pn**	**06 59 49.7**	**-0.4**
ASAJ	**Asahikawa**	**8.43**	**8**	Pn	**Pn**	**07 00 16.6**	**-0.5**
	2.7nm,0.3s,baz=190,slow=15,SNR=6.3						
JKA	**Kamikawa-asahi**	**8.43**	**8**		**Pn**	**07 00 16.6**	**-0.5**
NMR	**Nemuro--Hokkai**	**8.43**	**24**	⇑*i*P	**Pn**	**07 00 14.6**	**-2.4**
NMR				*e*S	**Sn**	**07 01 45.7**	**-6.8**
JCJ	**Chichijima**	**8.71**	**173**	Pn	**Pn**	**07 00 18.5**	**-2.5**
	6.4nm,0.3s,baz=94,slow=22,SNR=5.1						
JCJ				Sn	**Sn**	**07 02 00.3**	**+0.6**
	4.9nm,0.3s,baz=294,slow=20,SNR=2.3						
JNU	**Nakatsue**	**8.75**	**255**	Pn	Pn	07 00 25.6	+4.1
	0.5nm,0.3s,baz=106,slow=4.8,SNR=5.4						
JNU				LR	LR	07 04 19.0	
	comp=Z,830nm,18.1s,baz=78,slow=43						
JNU	**Nakatsue**	**8.75**	**255**	Pn	**Pn**	**07 00 21.3**	**-0.2**
TEY	**Ternei**	**9.83**	**342**	*e*P	Pn	07 00 43.2	+6.9
KSRS	**Korea Array**	**10.62**	**283**	Pn	**Pn**	**07 00 47.4**	**+0.2**
	0.2nm,0.3s,baz=86,slow=16,SNR=4.0						
KSRS				LR	LR	07 04 52.7	
	comp=Z,158nm,21.2s,baz=90,slow=38						
KSAR	**Wonju Array Be**	**10.65**	**283**	P	**Pn**	**07 00 47.5**	**-0.1**
KSAR	**Wonju Array Be**	**10.65**	**283**	Pn	**Pn**	**07 00 47.5**	**-0.1**
USRK	**Ussuriysk Ar.**	**10.87**	**323**	P	**Pn**	**07 00 48.5**	**-2.0**
USRK	**Ussuriysk Ar.**	**10.87**	**323**	Pn	**Pn**	**07 00 52.8**	**+2.3**
	baz=125,slow=12,SNR=15						
USRK	**Ussuriysk Ar.**	**10.87**	**323**	Pn	**Pn**	**07 00 48.5**	**-2.0**
USA0B	**Ussuriysk Arra**	**10.87**	**323**	P	**Pn**	**07 00 48.1**	**-2.4**
USA0B	**Ussuriysk Arra**	**10.87**	**323**	Pn	**Pn**	**07 00 48.1**	**-2.4**
YSS	**Yuzh-Sakhalins**	**11.25**	**6**	⇑*e*P	**Pn**	**07 00 56.9**	**+1.2**
YSS				*e*S	**Sn**	**07 03 01.0**	**-0.8**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YSS				MLR	MLR		
	comp=Z,400nm,13.0s						
YSS				MLR	MLR		
	comp=N,300nm,17.0s						
YSS				MLR	MLR		
	comp=E,100nm,15.0s						
MDJ	**Mudanjiang**	**12.39**	**319**	Pn	**Pn**	**07 01 12.7**	**+1.4**
JOW	**Kunigami**	**14.03**	**234**	Pn	**Pn**	**07 01 31.2**	**-2.6**
CN2	**Changchun**	**14.36**	**309**	*e*P	**Pn**	**07 01 39.9**	**+1.6**
CN2				*e*S	**Sn**	**07 04 21.2**	**+3.3**
CN2				pmax	pmax		
	comp=E,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=E,200nm,4.0s						
CN2				LR	LR		
	comp=E,250nm,15.0s						
CN2				LR	LR		
	comp=E,230nm,15.0s						
SNY	**Shenyang**	**14.84**	**299**	⇓P	**P**	**07 01 49.2**	**-1.5**
SNY				pmax	pmax		
	comp=E,12nm,0.6s						
SNY				LR	LR		
	comp=E,300nm,15.9s						
SNY				LR	LR		
	comp=E,200nm,13.3s						
DL2	**Dalian**	**15.70**	**287**	P	**P**	**07 02 02.6**	**+2.3**
DL2				S	**S**	**07 05 00.6**	**-5.1**
DL2				pmax	pmax		
	comp=Z,28nm,0.8s						
DL2				pmax	pmax		
	comp=Z,120nm,4.1s						
DL2				LR	LR		
	comp=N,230nm,14.2s						
DL2				LR	LR		
	comp=E,230nm,13.3s						
DL2				LR	LR		
	comp=Z,230nm,16.5s						
NJ2	**Nanjing**	**18.72**	**265**	*e*P	**P**	**07 02 32.2**	**-1.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BJT	**Baijiatuau**	**20.01**	**290**	P	**P**	**07 02 45.6**	**-2.2**
BJT				pmax	pmax		
	comp=Z,13nm,1.1s						
BJT	**Baijiatuau**	**20.01**	**290**	P	**P**	**07 02 45.6**	**-2.2**
ZEA	**Zeya**	**20.37**	**336**	*e*P	**P**	**07 02 51.3**	**-0.3**
ZEA				pmax	pmax		
	comp=Z,20nm,0.7s						
ZEA				MLR	MLR		
	comp=Z,300nm,14.0s						
PETK	**Petropavlovsk-**	**20.96**	**29**	P	**P**	**07 02 59.6**	**+1.6**
	comp=Z,6.8nm,1.0s,baz=211,slow=11,SNR=3.4						
HHC	**Hu-ho-hao-te**	**23.57**	**291**	P	**P**	**07 03 25.3**	**-0.5**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MA2	**Magadan**	**24.66**	**12**	LR	LR	07 13 47.6	
	comp=Z,69nm,18.8s,baz=228,slow=38						
XAN	**Xi'an**	**26.28**	**276**	P	**P**	**07 03 51.1**	**+0.3**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,120nm,4.6s						
YAK	**Yakutsk**	**27.23**	**348**	P	**P**	**07 04 00.1**	**+1.2**
ULN	**Ulaanbaatar**	**27.79**	**306**	⇓*e*P	**P**	**07 04 04.0**	**-0.3**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**27.84**	**118**	T	T	07 33 02.6	
	baz=311,slow=75,SNR=246						
H11N1	**WAKE ISLAND Hy**	**27.85**	**118**	T	T	07 33 08.9	
	baz=311,slow=75,SNR=224						
H11N3	**WAKE ISLAND Hy**	**27.86**	**118**	T	T	07 32 59.3	
	baz=311,slow=75,SNR=185						
SONM	**Songino Array**	**28.22**	**306**	P	**P**	**07 04 08.0**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=100,slow=8.4,SNR=12						
SONM				LR	LR	07 15 24.4	
	comp=Z,94nm,19.1s,baz=298,slow=37						
SONM	**Songino Array**	**28.22**	**306**	P	**P**	**07 04 06.8**	**-1.4**
H11S1	**WAKE ISLAND Hy**	**28.50**	**120**	T	T	07 33 53.4	
	baz=312,slow=75,SNR=431						
H11S3	**WAKE ISLAND Hy**	**28.50**	**120**	T	T	07 33 51.8	
	baz=312,slow=75,SNR=349						
H11S2	**WAKE ISLAND Hy**	**28.52**	**120**	T	T	07 33 52.8	
	baz=312,slow=75,SNR=272						
LZH	**Lanzhou**	**29.95**	**282**	*e*P	**P**	**07 04 24.1**	**+0.4**
LZH				pP	pP	07 04 27.9	+2.8
LZH				sP	sP	07 04 30.1	+4.4
LZH				*e*PP	**PnPn**	**07 05 20.3**	**+0.6**
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				pmax	pmax		
	comp=Z,110nm,5.0s						
LZH				LR	LR		
	comp=Z,320nm,12.8s						
LZH				LR	LR		
	comp=Z,340nm,13.0s						
LZH				LR	LR		
	comp=Z,460nm,16.5s						
TLY	**Talaya**	**30.91**	**313**	⇓*i*P	**P**	**07 04 31.3**	**-0.5**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CD2	**Chengdu**	**31.34**	**272**	*e*P	**P**	**07 04 35.5**	**-0.4**
CD2				S	**S**	**07 09 41.3**	**-2.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,210nm,12.8s						
CD2				LR	LR		
	comp=Z,300nm,7.5s						
GTA	**Gaotai**	**32.61**	**289**	⇑P	**P**	**07 04 46.9**	**-0.2**
GTA				pP	pP	07 04 51.6	+3.1
GTA				sP	sP	07 04 54.1	+5.0
GTA				S	**S**	**07 09 59.7**	**-3.7**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,24nm,7.9s						
GTA				LR	LR		
	comp=Z,200nm,14.6s						
GTA				LR	LR		
	comp=Z,250nm,16.8s						
GTA				LR	LR		
	comp=Z,99nm,15.6s						
BILL	**Bilibino**	**35.34**	**16**	*e*P	**P**	**07 05 10.7**	**+0.5**
BILL				*e*		07 06 29.0	
BILL				pmax	pmax		
	comp=Z,11nm,1.7s						
TIXI	**Tiksi**	**36.50**	**354**	P	**P**	**07 05 20.2**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=172,slow=5.2,SNR=5.4						
CMAR	**Chiang Mai Arr**	**40.84**	**256**	LR	LR	07 24 33.2	
	comp=Z,44nm,18.4s,baz=58,slow=39						
WMQ	**Urumqi**	**41.10**	**298**	*e*P	**P**	**07 06 01.7**	**+2.5**
WMQ				pmax	pmax		
	comp=Z,14nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,100nm,5.1s						
WMQ				LR	LR		
	comp=Z,600nm,29.0s						
WMQ				LR	LR		
	comp=Z,990nm,29.2s						
WMQ	**Urumqi**	**41.10**	**298**	P	**P**	**07 05 59.2**	**0.0**
WMQ				pmax	pmax		
	comp=Z,19nm,1.1s						
WMQ	**Urumqi**	**41.10**	**298**	P	**P**	**07 05 59.2**	**0.0**
WMQ				IAmb	IAmb	07 06 06.7	
	comp=Z,19nm,1.1s						
ZAA0	**Zalesovo Array**	**42.51**	**313**	P	**P**	**07 06 09.8**	**-0.7**
ZAA0				IAmb	IAmb	07 06 14.4	
	comp=Z,7.8nm,0.8s						
ZALV	**Zalesovo Beam**	**42.51**	**313**	P	**P**	**07 06 10.2**	**-0.3**
	comp=Z,6.6nm,0.8s,baz=101,slow=7.7,SNR=15						
ZALV	**Zalesovo Beam**	**42.51**	**313**	P	**P**	**07 06 09.7**	**-0.8**
NRIK	**Noril'sk**	**44.27**	**336**	P	**P**	**07 06 24.5**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=97,slow=14,SNR=3.6						
MK31	**Makanchi Array**	**44.50**	**303**	P	**P**	**07 06 26.3**	**-0.4**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MK31	**Makanchi Array**	**44.50**	**303**	P	**P**	**07 06 26.3**	**-0.4**
MKAR	**Makanchi Array**	**44.50**	**303**	P	**P**	**07 06 26.2**	**-0.4**
	comp=Z,4.2nm,0.7s,baz=90,slow=8.8,SNR=23						
MKAR				LR	LR	07 25 30.2	
	comp=Z,80nm,18.2s,baz=96,slow=37						
MKAR	**Makanchi Array**	**44.50**	**303**	P	**P**	**07 06 26.1**	**-0.6**
MAKZ	**Makanchi**	**44.71**	**303**	P	**P**	**07 06 28.0**	**-0.3**
MAKZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MAKZ	**Makanchi**	**44.71**	**303**	P	**P**	**07 06 27.9**	**-0.3**
MAKZ				IAmb	IAmb	07 06 36.2	
	comp=Z,7.9nm,1.0s						
KURK	**Kurchatov**	**46.44**	**309***c*	*e*P	**P**	**07 06 42.3**	**+0.4**
KURK				pmax	pmax		
	comp=Z,20nm,0.9s						
KURK	**Kurchatov**	**46.44**	**309**	P	**P**	**07 06 41.2**	**-0.7**
SVW2	**Sparrevohn**	**46.74**	**37**	P	**P**	**07 06 45.2**	**+1.1**
SVW2				IAmb	IAmb	07 06 50.8	
	comp=Z,7.0nm,0.8s						
OHAK	**Old Harbor**	**47.93**	**42**	P	**P**	**07 06 53.7**	**+0.4**
KDAK	**Kodiak Island**	**48.28**	**41**	*i* P	**P**	**07 07 00.5**	**+4.4**
KDAK	**Kodiak Island**	**48.28**	**41**	P	**P**	**07 06 58.8**	**+2.7**
	comp=Z,12nm,0.8s,baz=276,slow=5.5,SNR=11						
KDAK	**Kodiak Island**	**48.28**	**41**	P	**P**	**07 06 56.8**	**+0.7**
PPLA	**Purkeypile**	**48.41**	**34**	P	**P**	**07 06 58.8**	**+1.6**
SKT	**Skwentna**	**48.70**	**36**	P	**P**	**07 07 00.5**	**+1.1**
KTH	**Kantishna Hill**	**48.99**	**33**	P	**P**	**07 07 03.4**	**+1.8**
BRLK	**Bradley Lake**	**49.07**	**38**	P	**P**	**07 07 03.9**	**+1.7**
SUA	**Susitna One**	**49.08**	**36**	P	**P**	**07 07 03.4**	**+1.0**
MLY	**Manley**	**49.11**	**31**	P	**P**	**07 07 03.8**	**+1.3**
MLY				IAmb	IAmb	07 07 08.9	
	comp=Z,6.0nm,0.9s						
TRF	**Thorofare Moun**	**49.28**	**34**	P	**P**	**07 07 04.5**	**+0.5**
COEN	**Coen**	**49.50**	**177**	P	**P**	**07 07 04.6**	**-1.3**
COEN				IAmb	IAmb	07 07 17.8	
	comp=Z,9.3nm,1.1s						
RC01	**Rabbit Creek A**	**49.58**	**37**	P	**P**	**07 07 06.6**	**+0.5**
RC01				IAmb	IAmb	07 07 11.3	
	comp=Z,7.2nm,1.0s						
SEW	**Seward**	**49.77**	**38**	P	**P**	**07 07 06.8**	**-0.7**
GHO	**Glory Hole Cre**	**49.94**	**36**	P	**P**	**07 07 09.6**	**+0.6**
GHO				IAmb	IAmb	07 07 14.4	
	comp=Z,8.3nm,1.0s						
KNK	**Knik Glacier**	**50.18**	**36**	P	**P**	**07 07 11.8**	**+1.1**
KNK				IAmb	IAmb	07 07 18.3	
	comp=Z,6.4nm,1.0s						
WRH	**Wood River Hil**	**50.24**	**32**	P	**P**	**07 07 12.2**	**+1.1**
COLA	**College**	**50.34**	**32**	⇑*e*P	**P**	**07 07 13.0**	**+1.3**
COLA				pmax	pmax		
	comp=Z,15nm,2.2s						
DHY	**Denali Highway**	**50.60**	**34**	P	**P**	**07 07 14.5**	**+0.5**
KSH	**Kashi**	**50.60**	**295**	P	**P**	**07 07 17.8**	**+3.5**
KSH				PP	**PP**	**07 09 14.2**	**+4.2**
KSH				PcS	**PcS**	**07 12 31.5**	**+2.1**
KSH				S	**S**	**07 14 30.3**	**+0.8**
KSH				pmax	pmax		
	comp=Z,260nm,5.1s						
SCM	**Sheep Creek Mo**	**50.70**	**36**	P	**P**	**07 07 15.8**	**+1.2**
SCM				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SCM	**Sheep Creek Mo**	**50.70**	**36**	P	**P**	**07 07 15.8**	**+1.2**
SCM				IAmb	IAmb	07 07 20.3	
	comp=Z,9.8nm,1.0s						
IL31		**50.75**	**32**	P	**P**	**07 07 15.2**	**+0.3**
IL31				IAmb	IAmb	07 07 20.0	
	comp=Z,5.6nm,0.8s						
ILAR	**Eielson Array**	**50.75**	**32**	P	**P**	**07 07 15.3**	**+0.4**
	comp=Z,4.5nm,0.8s,baz=269,slow=6.2,SNR=37						
ILAR	**Eielson Array**	**50.75**	**32**	P	**P**	**07 07 14.6**	**-0.3**
AAK	**Ala-Archa**	**50.78**	**299**		pP	07 07 20.8	+3.6
BRVK	**Borovoye**	**51.22**	**313**	⇓*e*P	**P**	**07 07 20.0**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PRP	**Porcupine Dome**	**51.30**	**31**	P	**P**	**07 07 21.4**	**+2.2**
BMAR	**Burnt Mountain**	**51.61**	**28**	P	**P**	**07 07 22.1**	**+0.8**
SCRK	**Sand Creek**	**52.06**	**33**	IAmb	IAmb	07 07 30.2	
	comp=Z,6.9nm,0.9s						
ARSB	**Arslanbob**	**52.24**	**298**	IAmb	IAmb	07 07 43.6	
	comp=Z,8.6nm,0.8s						
KNRA	**Kununurra**	**52.46**	**195**	P	**P**	**07 07 28.2**	**+0.1**
VRDI	**Verde Repeater**	**52.60**	**36**	P	**P**	**07 07 30.0**	**+1.0**
VRDI				IAmb	IAmb	07 07 38.9	
	comp=Z,6.0nm,1.0s						
MCARA	**McCarthy VSAT**	**52.79**	**36**	P	**P**	**07 07 33.9**	**+3.7**
TGL	**Tana Glacier**	**52.97**	**37**	IAmb	IAmb	07 07 37.7	
	comp=Z,11nm,1.0s						
DAWY	**Dawson**	**54.05**	**32**	P	**P**	**07 07 41.7**	**+2.2**
FITZ	**Fitzroy Crossi**	**55.51**	**198**	P	**P**	**07 07 49.3**	**-1.1**
FITZ				IAmb	IAmb	07 08 00.8	
	comp=Z,4.7nm,0.9s						
WB0	**Warramunga Arr**	**55.59**	**188**	P	**P**	**07 07 49.5**	**-1.4**
WB0				IAmb	IAmb	07 08 03.6	
	comp=Z,5.2nm,0.6s						
INK	**Inuvik**	**55.67**	**27**	IAmb	IAmb	07 07 57.7	
	comp=Z,4.7nm,0.9s						
WRAB	**Tennant Creek**	**55.76**	**188**	⇓*e*P	**P**	**07 07 54.0**	**+1.8**
WRAB				pmax	pmax		
	comp=Z,16nm,1.8s						
WB2	**Warramunga Arr**	**55.76**	**188**	P	**P**	**07 07 51.1**	**-1.2**
WB2				IAmb	IAmb	07 08 04.9	
	comp=Z,4.7nm,0.6s						
WRA	**Warramunga Arr**	**55.77**	**188**	P	**P**	**07 07 50.5**	**-1.7**
WRA	**Warramunga Arr**	**55.77**	**188**	P	**P**	**07 07 50.3**	**-2.0**
	comp=Z,2.8nm,0.7s,baz=3.6,slow=7.4,SNR=20						
WRA	**Warramunga Arr**	**55.77**	**188**	P	**P**	**07 07 50.5**	**-1.7**
ARU	**Arti**	**57.07**	**319***c*	*i*P	**P**	**07 08 04.1**	**+2.9**
ARU						07 10 09.8	
ARU				S	**S**	**07 16 00.9**	**+4.5**
ARU				SS	**SS**	**07 19 46.4**	**+2.0**
ARU				pmax	pmax		
	comp=Z,14nm,0.9s						
ABKAR	**Akbulak array**	**58.48**	**311**	P	**P**	**07 08 10.4**	**-0.8**
ABKAR	**Akbulak array**	**58.48**	**311**	IAmb	IAmb	07 08 19.4	
	comp=Z,4.9nm,0.9s						
ASAR	**Alice Springs**	**59.49**	**188**	P	**P**	**07 08 16.8**	**-1.7**
	comp=Z,1.6nm,0.7s,baz=13,slow=8.5,SNR=11						
DZM	**Mont Dzumac**	**62.38**	**153**	*e*P	**P**	**07 08 37.7**	**-0.5**
	comp=Z,41nm,1.4s						
DZM	**Mont Dzumac**	**62.38**	**153**	*e*LR	LR	07 26 18.0	

comp=Z,60nm,23.1s
GEYT Alibeck 64.14 299 LR LR 07 38 28.4
comp=Z,44nm,18.2s,baz=160,slow=38
ARCES ARCESS Array B 65.05 340 P **P 07 08 58.1 +2.9**
comp=Z,5.1nm,0.9s,baz=49,slow=9.7,SNR=7.3
YKA Yellowknife Ar 65.08 30 P **P 07 08 55.3 -0.1**
comp=Z,2.1nm,0.9s,baz=296,slow=6.8,SNR=6.3
STKA Stephens Creek 67.30 179 P **P 07 09 08.8 -1.2**
comp=Z,3.0nm,0.8s,baz=351,slow=10,SNR=6.7
OBN Obninsk 68.89 323 *e*P **P 07 09 19.4 -0.4**
OBN *e* 07 09 46.7
OBN pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 69.76 332 *i* P **P 07 09 28.2 +3.1**
FINES pmax pmax
comp=Z,6.0nm,1.0s
FINES FINESS Array B 69.76 332 P **P 07 09 25.8 +0.7**
comp=Z,6.3nm,1.0s,baz=46,slow=7.5,SNR=11
VSU Vasula 71.36 330 *i* P **P 07 09 37.6 +2.7**
YBH Yreka Blue Hor 71.40 52 P **P 07 09 36.0 +0.4**
YBH Yreka Blue Hor 71.40 52 P **P 07 09 36.0 +0.4**
KBZ Khabaz 71.45 311 LR LR 07 44 31.0
comp=Z,48nm,18.2s,baz=200,slow=39
KIV Kislovodsk 71.46 311 *e*P **P 07 09 38.4 +2.4**
KIV pmax pmax
comp=Z,50nm,1.1s
ILULI Ilulissat 74.94 4 P **P 07 09 53.7 -2.2**
ILULI pmax pmax
comp=Z,25nm,0.7s
ILULI Ilulissat 74.94 4 P **P 07 09 53.7 -2.2**
AKASG Malin Array Be 75.08 322 *i* P **P 07 09 59.5 +2.5**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 75.08 322 P **P 07 09 56.1 -0.9**
comp=Z,1.5nm,0.5s,baz=47,slow=6.1,SNR=7.9
AKASG LR LR 07 46 01.5
comp=Z,68nm,18.3s,baz=50,slow=38
HRY Holter Researc 75.12 43 P **P 07 09 59.8 +2.3**
NC204 NORSAR Array S 75.17 338 P **P 07 09 59.0 +1.6**
NB201 NORSAR Array S 75.18 337 P **P 07 10 00.6 +3.1**
NB2 NORSAR Subarra 75.21 337 P **P 07 10 00.7 +3.0**
comp=Z,4.8nm,0.8s,baz=41,slow=5.9
NOA NORSAR Array B 75.21 337 P **P 07 09 57.4 -0.3**
comp=Z,1.2nm,0.5s,baz=40,slow=5.7,SNR=6.2
NOA LR LR 07 45 51.0
comp=Z,44nm,20.5s,baz=25,slow=38
NVAR Mina Array Bea 76.03 53 P **P 07 10 04.4 +1.4**
comp=Z,1.7nm,0.8s,baz=291,slow=5.4,SNR=7.6
NVAR Mina Array Bea 76.03 53 P **P 07 10 03.9 +0.8**
PD31 Pinedale Array 78.81 45 pP 07 10 23.0 +2.8
PDAR Pinedale Array 78.81 45 P **P 07 10 18.7 +0.2**
comp=Z,1.3nm,0.6s,baz=279,slow=1.9,SNR=12
SRU San Rafael Swe 80.51 48 pP 07 10 32.4 +3.0
VYHS Vyhne 81.56 325 *e*P P 07 10 40.1 +7.1
VYHS Vyhne 81.56 325 *e*P P 07 10 40.1 +7.1
CLL Collm 82.01 330 *e*P **P 07 10 32.0 -3.3**
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 82.01 330 *e*P **P 07 10 32.0 -3.3**
comp=Z,5.0nm,0.7s
PMOR Pomariorio Ree 84.01 113 *e*T T 08 42 57.4
comp=Z,7.0nm,0.2s
PPT Papeete 84.39 116 LR LR 07 38 32.0
comp=Z,28nm,21.4s,baz=312,slow=29
PPT2 Papeete2 84.41 116 *e*LR LR 07 37 08.6
comp=Z,72nm,26.2s
PPT2 Papeete2 84.41 116 *e*T T 08 43 27.9
comp=Z,1.2nm,0.3s
ANMO Albuquerque 85.67 50⇓*e*P **P 07 10 56.2 +1.6**
ANMO pmax pmax
comp=Z,5.0nm,2.5s
TAOE Nuku Hiva Isla 86.22 104 *e*LR LR 07 37 59.2
comp=Z,82nm,26.6s
TXAR Lajitas Array 91.17 52 P **P 07 11 22.4 +1.6**
comp=Z,0.4nm,0.5s,baz=298,slow=3.0,SNR=10
LPAZ La Paz 147.63 61 PKPbc **PKPbc 07 18 01.7 +0.6**
comp=Z,2.8nm,0.7s,baz=354,slow=5.0,SNR=11
LPAZ La Paz 147.63 61 **PKPbc 07 18 01.4 +0.3**

NNC 03 07:21:59.2±0.3**, 50°.01N×78°.73E, h0^{km}, mb3.6, mpv3.2, 18C-6D, Error ellipse: s-maj=3.3km s-min=1.7km az=66.0, Suspected Mining explosion., Eastern Kazakhstan**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KUR07 Kurchatov Arra 0.59 347 ⇑P Pg 07 22 10.6 +0.2
KUR07 ⇑S Sg 07 22 19.3 +1.3
KUR06 Kurchatov Arra 0.61 348 ⇑P Pg 07 22 10.9 +0.1
KUR06 ⇓S Sg 07 22 19.8 +1.1
KUR14 Kurchatov Arra 0.61 352 ⇓P Pg 07 22 10.8 0.0
KUR14 ⇑S Sg 07 22 19.8 +1.1
KUR15 Kurchatov Arra 0.62 350 ⇑P Pg 07 22 11.0 0.0
KUR15 ⇑S Sg 07 22 20.4 +1.4
KURBB Kurchatov Arra 0.62 348 ⇑P Pg 07 22 11.3 +0.2
37nm,0.4s
KURBB ⇑S Sg 07 22 19.9 +0.7
80nm,0.8s
KUR16 Kurchatov Arra 0.63 347 ⇑P Pg 07 22 11.4 +0.1
KUR16 ⇑S Sg 07 22 20.5 +1.0
KUR17 Kurchatov Arra 0.64 345 ⇑P Pg 07 22 11.8 +0.3
KUR17 ⇓S Sg 07 22 21.1 +1.3
KUR05 Kurchatov Arra 0.64 349 ⇑P Pg 07 22 11.5 0.0
KUR05 ⇓S Sg 07 22 20.4 +0.6
KUR04 Kurchatov Arra 0.66 350 ⇑P Pg 07 22 11.9 0.0
KUR04 ⇑S Sg 07 22 21.2 +0.8
KURK Kurchatov 0.71 354 ⇑P Pg 07 22 12.6 -0.1
15nm,0.4s
KURK ⇑S Sg 07 22 23.0 +1.2
21nm,0.6s
SEM Semipalatinsk 1.05 67 P Pg 07 22 19.7 +0.3
12nm,0.4s
SEM S Sb 07 22 34.1 -0.8
126nm,0.4s
MAKZ Makanchi 3.87 145 ⇓Pg Pb 07 23 10.5 +2.2
1.5nm,0.5s
MAKZ ⇑Lg Lg 07 23 57.5
7.4nm,0.6s
BRZS Berezniki 3.90 272 Pg Pb 07 23 11.2 +2.3
BRZS Lg Lg 07 24 03.1
MK31 Makanchi Array 4.00 142 ⇑Pn Pn 07 23 03.4 +1.7
0.1nm,0.1s,baz=325,slow=10,SNR=31
MK31 ⇓Pg Pg 07 23 13.3 -2.5
1.1nm,0.4s,baz=331,slow=13,SNR=10
MK31 Lg Lg 07 24 04.9
14nm,0.5s,baz=331,slow=25,SNR=20
KAPS Kapalarasan 4.75 175 Pg Pb 07 23 25.0 +1.7
1.5nm,0.3s
KAPS Lg Lg 07 24 27.0
15nm,0.5s
ZSN Zaisan 4.80 120 Pg Pg 07 23 27.8 -3.3
3.8nm,0.3s
ZSN Lg Lg 07 24 31.6
15nm,0.4s
BTLS Baital 5.90 214 Pg Pg 07 23 48.6 -3.5
2.0nm,0.7s
BTLS Lg Lg 07 25 06.7
4.2nm,0.5s
KTBS Karatobe 6.46 193 Pg Pb 07 23 57.5 +5.2
0.7nm,0.4s
KTBS Lg Lg 07 25 21.9
18nm,0.5s
KOTS Kotyrbulak 6.87 190 Pg Pb 07 24 04.3 +4.8
4.1nm,0.4s
KOTS Lg Lg 07 25 34.9
27nm,0.8s
DGS Degeres 7.07 198 Pg Pg 07 24 10.0 -4.6
3.0nm,0.4s
DGS Lg Lg 07 25 43.6
18nm,0.5s

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*IDC **03** 07:38:47.7±1.0, 5°.77S×153°.71E, h0^{km}, mb4.2/13, mb1 4.3/15, mb1mx4.2/40, mbtmp4.2/15, ML3.1/2, MS3.2/12, Ms1 3.2/12, ms1mx3.0/32, Error ellipse: s-maj=31.5km s-min=15.6km az=109.0*
*ISCJB **03** 07:38:52.2±0.3, 5°.60S±0°.05×153°.45E±0°.05, h43^{km}, mb4.1/13, MS3.2/11, Error ellipse: s-maj=8.4km s-min=6.2km az=34.0*
*NEIC **03** 07:38:53.0±1.4, 5°.55S±0°.08×153°.39E±0°.08, h35^{km}±2^{km}, mb4.5/28*
ISC 03 07:38:54.0±0.5**, 5°.65S**±0°.06×**153°.48E**±0°.07**, h43^{km}, n68, σ1^{s}25**/63**, mb4.4**/25**, MS3.1**/11**, New Ireland region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KRVT Keravat (AS076 1.97 313 Pn **Pn 07 39 25.8 +0.9**
36nm,0.3s,baz=133,slow=4.9,SNR=7.0
KRVT Sn **Sn 07 39 51.8 +3.3**
124nm,0.3s,baz=119,slow=23,SNR=16
KRVT LR LR 07 40 10.8
comp=Z,311nm,19.7s,baz=87,slow=38
PMG Port Moresby 7.30 239 Pn **Pn 07 40 39.7 +1.6**
3.8nm,0.3s,baz=37,slow=3.6,SNR=6.8
PMG Sn **Sn 07 42 00.8 +1.1**
3.2nm,0.3s,baz=235,slow=16,SNR=5.9
PMG Port Moresby 7.30 239 **Pn 07 40 37.0 -1.1**
PMG Sn **Sn 07 41 58.5 -1.2**
HNR Honiara 7.43 121 Pn **Pn 07 40 41.5 +1.6**
PATS Pohnpei 13.31 21 Pn **Pn 07 41 58.7 -1.8**
KWAJ Kwajalein Atol 20.11 45 P **P 07 43 22.9 -1.5**
DZM Mont Dzumac 20.58 144 P Pn 07 43 32.5 +0.4
7.8nm,0.8s,baz=274,slow=15,SNR=5.9
DZM Mont Dzumac 20.58 144 P **P 07 43 30.2 +0.6**
DZM IAmb IAmb 07 43 49.5
comp=Z,16nm,1.1s
GUMO Guam 20.94 336 LR LR 07 51 48.3
comp=Z,43nm,18.6s,baz=116,slow=37
SIJI Sorong 22.68 281 LR LR 07 54 11.7
comp=Z,67nm,18.1s,baz=218,slow=40
WRAB Tennant Creek 23.40 231 P **P 07 43 58.5 -0.8**
WB2 Warramunga Arr 23.41 231 P **P 07 43 58.5 -0.8**
WRA Warramunga Arr 23.42 231 P **P 07 43 59.1 -0.4**
comp=Z,5.6nm,0.4s,baz=68,slow=11,SNR=35
WRA PcP **PcP 07 47 48.1 +3.0**
comp=Z,0.3nm,0.6s,baz=53,slow=2.7,SNR=5.0
WRA LR LR 07 53 33.7
comp=Z,78nm,18.7s,baz=85,slow=38
WRA Warramunga Arr 23.42 231 P **P 07 43 58.6 -0.9**
ARMA Armidale 24.70 184 P **P 07 44 11.3 -0.1**
ARMA IAmb IAmb 07 44 28.0
comp=Z,17nm,1.4s
ASAR Alice Springs 26.00 224 P **P 07 44 22.6 -0.6**
comp=Z,2.9nm,0.8s,baz=56,slow=9.1,SNR=27
ASAR PcP **PcP 07 47 53.4 +2.6**
comp=Z,0.6nm,0.6s,baz=62,slow=2.7,SNR=4.9
ASAR LR LR 07 54 55.0
comp=Z,98nm,18.4s,baz=66,slow=37
KNRA Kununurra 26.23 246 P **P 07 44 25.3 +0.1**
KNRA IAmb IAmb 07 44 35.8
comp=Z,21nm,1.4s
H11S3 WAKE ISLAND Hy 27.30 28 T T 08 12 54.3
baz=208,slow=73,SNR=12
H11S2 WAKE ISLAND Hy 27.30 28 T T 08 12 52.0
baz=208,slow=73,SNR=8.8
H11S1 WAKE ISLAND Hy 27.32 28 T T 08 13 00.2
baz=208,slow=73,SNR=4.9
WAKE Wake Island 27.96 27 P **P 07 44 39.9 -0.8**
STKA Stephens Creek 28.37 202 P **P 07 44 42.9 -1.3**
comp=Z,1.3nm,0.6s,baz=40,slow=10,SNR=3.6
STKA LR LR 07 56 27.4
comp=Z,45nm,18.9s,baz=20,slow=37
STKA Stephens Creek 28.37 202 P **P 07 44 42.8 -1.5**
FITZ Fitzroy Crossi 29.87 243 P **P 07 44 56.7 -1.0**
comp=Z,2.1nm,0.6s,baz=45,slow=9.5,SNR=8.0
FITZ LR LR 07 57 53.1
comp=Z,36nm,18.4s,baz=84,slow=38
FITZ Fitzroy Crossi 29.87 243 P **P 07 44 57.0 -0.7**
MMRI Maumere 31.14 263 P **P 07 45 07.7 -1.3**
URZ Urewera 38.91 150 P **P 07 46 17.1 +1.5**
URZ IAmb IAmb 07 46 23.1
comp=Z,14nm,1.1s
SNZO South Karori 40.25 155 P **P 07 46 28.1 +1.4**
JNU Nakatsue 44.12 332 P **P 07 46 59.4 +1.0**
comp=Z,14nm,0.9s,baz=272,slow=1.5,SNR=6.1
JNU Nakatsue 44.12 332 P **P 07 46 58.5 +0.1**
JNU IAmb IAmb 07 47 00.3
comp=Z,13nm,0.8s
MJAR Matsushiro Arr 44.34 342 LR LR 08 02 10.5
comp=Z,18nm,21.7s,baz=195,slow=32
KSRS Korea Array 49.06 333 P **P 07 47 39.2 +2.3**
comp=Z,1.3nm,0.8s,baz=146,slow=8.8,SNR=4.9
USRK Ussuriysk Ar. 53.27 341 P **P 07 48 09.4 +1.0**
comp=Z,1.0nm,0.5s,baz=134,slow=5.9,SNR=4.5
USRK Ussuriysk Ar. 53.27 341 P **P 07 48 08.1 -0.3**
PEA0B Petropavlovsk- 58.64 3 P **P 07 48 45.5 -1.3**
PETK Petropavlovsk- 58.64 3 P **P 07 48 46.8 +0.1**
comp=Z,1.5nm,0.5s,baz=122,slow=7.7,SNR=11
PETK LR LR 08 11 11.5
comp=Z,11nm,20.0s,baz=240,slow=33
PETK Petropavlovsk- 58.64 3 P **P 07 48 46.0 -0.8**
CMAR Chiang Mai Arr 58.85 295 P **P 07 48 50.8 +2.0**
comp=Z,0.7nm,0.3s,baz=128,slow=7.0,SNR=3.1
CMAR Chiang Mai Arr 58.85 295 P **P 07 48 47.4 -1.5**
HIA Hailar 62.08 336 P **P 07 49 08.9 -1.5**
ULN Ulaanbaatar 67.07 328 P **P 07 49 43.4 +0.2**
ULN IAmb IAmb 07 49 46.5
comp=Z,5.5nm,1.3s
SONM Songino Array 67.40 328 P **P 07 49 47.4 +2.2**
comp=Z,1.4nm,0.5s,baz=142,slow=5.5,SNR=9.3
SONM Songino Array 67.40 328 P **P 07 49 44.2 -1.0**
SUA Susitna One 79.45 24 P **P 07 50 55.6 -0.2**
SUA IAmb IAmb 07 51 05.0
comp=Z,7.1nm,1.3s
IMAR Indian Mountai 80.95 19 P **P 07 51 03.6 -0.1**
RND Reindeer 81.24 23 P **P 07 51 05.2 -0.1**
RND IAmb IAmb 07 51 14.6
comp=Z,3.2nm,1.0s
MK31 Makanchi Array 81.41 319 P **P 07 51 06.4 -0.1**
MKAR Makanchi Array 81.41 319 P **P 07 51 08.2 +1.6**
comp=Z,3.5nm,0.8s,baz=99,slow=6.2,SNR=24
MKAR Makanchi Array 81.41 319 P **P 07 51 06.4 -0.1**
MAKZ Makanchi 81.62 319 P **P 07 51 06.7 -0.9**
MAKZ IAmb IAmb 07 51 09.8
comp=Z,2.5nm,0.8s
ZAA0 Zalesovo Array 82.23 326 P **P 07 51 10.0 -0.6**
ZAA0 IAmb IAmb 07 51 13.2
comp=Z,2.1nm,0.6s
ZALV Zalesovo Beam 82.23 326 P **P 07 51 10.8 +0.1**
comp=Z,2.4nm,0.5s,baz=119,slow=5.1,SNR=8.0
ZALV Zalesovo Beam 82.23 326 P **P 07 51 10.4 -0.2**
VRDI Verde Repeater 82.38 26 P **P 07 51 11.4 -0.2**
ILAR Eielson Array 82.69 22 P **P 07 51 11.4 -1.4**
comp=Z,0.4nm,0.7s,baz=232,slow=6.0,SNR=5.8
ILAR Eielson Array 82.69 22 P **P 07 51 11.6 -1.2**
BCAR Beaver Creek A 83.89 24 P **P 07 51 18.9 -0.2**
QSPA South Pole Qui 84.32 180 P **P 07 51 21.2 -0.2**
QSPA IAmb IAmb 07 51 37.9
comp=Z,8.7nm,1.2s
BOOM Boomskoye usch 84.67 314 P **P 07 51 22.8 -0.9**
BOOM IAmb IAmb 07 51 27.8
comp=Z,4.2nm,0.8s
KURK Kurchatov 84.85 322 P **P 07 51 23.5 -0.6**
KURK IAmb IAmb 07 51 30.7
comp=Z,2.4nm,0.8s
NRIK Noril'sk 86.98 341 LR LR 08 29 48.4
comp=Z,23nm,20.2s,baz=76,slow=35
KKAR Karatay Array 88.70 313 P **P 07 51 42.4 -0.7**
KKAR Karatay Array 88.70 313 P **P 07 51 41.6 -1.5**
KKAR IAmb IAmb 07 51 45.7
comp=Z,1.6nm,1.0s
GEYT Alibeck 97.67 307 LR LR 08 39 23.6
comp=Z,12nm,18.2s,baz=230,slow=37
PDAR Pinedale Array 98.91 48 LR LR 08 33 28.4
comp=Z,30nm,18.6s,baz=296,slow=33
GERES GERESS Array B 125.13 329 PKP **PKiKP 07 57 51.1 +0.7**
comp=Z,0.2nm,0.2s,baz=48,slow=1.5,SNR=4.0
TORD Torodi Ar. Bea 151.21 287 PKPbc **PKiKP 07 58 44.6 +0.3**
comp=Z,2.7nm,0.6s,baz=68,slow=2.3,SNR=18
TORD Torodi Ar. Bea 151.21 287 **PKPbc 07 58 42.8 -1.0**

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*ISCJB **03** 07:48:20.3±0.7, 4°.36S±0°.06×127°.34E±0°.04, h33^{km}, mb4.0/2, MS2.8/1, Error ellipse: s-maj=8.4km s-min=4.9km az=166.4*
*DJA **03** 07:48:21.4±1.0, 4°S±5°×12°7E±°, h24^{km}±10^{km}, M4.1/7, mb4.5/6, mB4.9/1, MLv3.9/7, Mw(mB)4.2/1*
*IDC **03** 07:48:24.1±2.3, 4°.30S×127°.40E, h49^{km}±29^{km}, mb3.7/3, mb1 4.1/5, mb1mx3.6/35, mbtmp4.1/5, ML4.2/2, MS2.9/2, Ms1 3.0/2, ms1mx2.5/29, Error ellipse: s-maj=27.5km s-min=19.8km az=138.0*
ISC 03 07:48:21.7±0.9**, 4°.38S**±0°.08×**127°.40E**±0°.05**, h35^{km}, n13, σ1^{s}58**/20**, Banda Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AAI Ambon 1.05 49 P **Pn 07 48 39.6 -0.4**
AAI S **Sn 07 48 53.6 +0.2**
NLAI Namlea 1.17 345 P **Pn 07 48 40.7 -0.9**
NLAI S **Sn 07 48 55.0 -1.3**
MSAI Masohi 1.84 56 P **Pn 07 48 50.4 -0.4**
MSAI S **Sn 07 49 13.4 +0.5**
SANI Sanana 2.71 329 P **Pn 07 49 02.2 -0.5**
SANI S **Sn 07 49 33.3 -1.0**
SWI Sorong 5.20 48 P **Pn 07 49 36.4 -0.7**
46nm,0.7s,0.2nm
SWI S **Sn 07 50 34.6 -1.4**
46nm,0.7s,0.2nm
SIJI Sorong 5.21 48 P **Pn 07 49 38.5 +1.3**
4.6nm,0.3s,baz=251,slow=8.2,SNR=4.9
SIJI S **Sn 07 50 37.8 +1.8**
1.2nm,0.3s,baz=68,slow=19,SNR=4.9
APSI Ampana 6.69 301 P **Pn 07 49 57.7 +0.1**
47nm,1.0s
MRSI Marisa 7.28 311 P **Pn 07 50 05.9 +0.3**
89nm,0.6s,876nm0.3nm
KAPI Kappang 7.64 265 P **Pn 07 50 12.6 +1.9**
5.7nm,0.3s,baz=115,slow=5.5,SNR=26
KAPI S **Sn 07 51 35.9 -0.2**
0.9nm,0.3s,baz=236,slow=18,SNR=2.5
KAPI LR LR 07 52 56.4
comp=Z,84nm,21.4s,baz=115,slow=36
WRA Warramunga Arr 16.89 157 P **Pn 07 52 11.2 -4.3**
0.1nm,0.3s,baz=345,slow=12,SNR=4.6
ASAR Alice Springs 20.18 162 P **P 07 52 55.7 +2.3**
1.7nm,0.7s,baz=344,slow=11,SNR=25
CMAR Chiang Mai Arr 36.07 310 P **P 07 55 22.1 +1.8**
0.9nm,0.3s,baz=128,slow=7.3,SNR=4.8
CMAR LR LR 08 14 05.9
comp=Z,16nm,18.4s,baz=185,slow=43
MKAR Makanchi Array 64.63 327 P **P 07 58 55.5 -0.3**
0.5nm,0.4s,baz=121,slow=8.6,SNR=7.0

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*NEIC **03** 08:16:05.1±1.1, 13°.83N±0°.09×93°.3W±0°.1, h37^{km}±48^{km}*
MEX 03 08:16:06.5±0.6**, 13°.91N×93°.22W, h20^{km}**±33^{km}**, MD4.0, Off coast of Chiapas**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
THIG 1.36 43 *e*P Pn 08 16 27.1 -3.3
THIG *i* S Sn 08 16 43.4 -4.4
PCIG 1.79 360 *i* P Pn 08 16 32.9 -3.4
PCIG *i* S Sn 08 16 54.5 -3.9
CCIG Comitan 2.58 24 *e*P Pn 08 16 45.8 -1.6
CCIG *i* S Sn 08 17 15.0 -3.3
CCIG Comitan 2.58 24 Pn Pn 08 16 46.3 -1.1
CCIG Sn Sn 08 17 17.8 -0.5
TGIG 2.86 2 *e*P Pn 08 16 49.0 -2.0
TGIG *i* S Sn 08 17 24.1 -0.8
TEIG Tepich 7.86 36 Pn Pn 08 17 57.5 -2.3

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*IDC **03** 08:19:18.8±0.7, 19°.68S×67°.51W, h189^{km}±6^{km}, mb3.5/8, mb1 3.8/13, mb1mx3.6/34, mbtmp4.1/13, Error ellipse: s-maj=14.2km s-min=7.8km az=99.0*
*GUC **03** 08:19:19.6±1.0, 19°.75S×68°.00W, h227^{km}±9^{km}, ML4.2*
*ISCJB **03** 08:19:19.5±0.3, 19°.77S±0°.02×67°.78W±0°.04, h216^{km}±3^{km}, mb3.6/8, Error ellipse: s-maj=6.1km s-min=3.4km az=175.7*
*NEIC **03** 08:19:19.2±2.1, 19°.75S±0°.04×67°.61W±0°.09, h199^{km}±5^{km}, mb4.1/9*
*SJA **03** 08:19:19.7±0.7, 19°.74S×67°.79W, h218^{km}±8^{km}, ML4.1, MW4.1*
*SCB **03** 08:19:19.9±2.1, 19°.74S×67°.78W, h233^{km}±46^{km}, ML3.7/1, Error ellipse: s-maj=5.7km s-min=3.5km az=1.0*
ISC 03 08:19:19.5±0.6**, 19°.74S**±0°.04×**67°.70W**±0°.04**, h207^{km}**±6^{km}**, n108, σ1^{s}56**/142**, mb4.0**/10**, 3C-6D, Southern Bolivia**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GO01 Chusmiza 1.41 272⇓*i*P **Pn 08 19 54.0 +0.4**
GO01 *i* S **S 08 20 21.7 +2.0**
GO01 IAML 08 20 30.9
comp=E,2μm,0.1s
GO01 Chusmiza 1.41 272 **Pn 08 19 54.0 +0.4**
GO01 Sn **S 08 20 20.1 +0.4**
PB08 IPOC Station P 1.43 253⇓*i*P **Pn 08 19 54.5 +1.0**
PB08 *i* S **S 08 20 20.9 +1.1**
PB08 IAML 08 20 26.9
comp=N,974nm,0.3s
PB08 IPOC Station P 1.43 253 P **Pn 08 19 54.6 +1.0**
PB11 IPOC Station P 1.85 269⇓*i*P **Pn 08 19 57.2 +0.1**
PB11 *i* S **S 08 20 25.6 -0.3**
PB11 IAML 08 20 27.1
comp=E,4μm,0.3s
PB11 IPOC Station P 1.85 269 P **Pn 08 19 57.2 +0.1**
PB11 IPOC Station P 1.85 269 **Pn 08 19 57.2 +0.1**
PB11 Sn **S 08 20 25.5 -0.5**
MNMC Minye Minye 1.89 288⇓*i*P **Pn 08 19 58.1 +0.3**
MNMC *i* S **S 08 20 27.3 +0.3**
MNMC IAML 08 20 30.4
comp=E,2μm,0.4s
MNMC Minye Minye 1.89 288 P **Pn 08 19 58.1 +0.3**
MNMC Minye Minye 1.89 288 **Pn 08 19 58.0 +0.3**
MNMC Sn **S 08 20 27.0 0.0**
MNMCX Minye Minye 1.89 288 *i* P **Pn 08 19 58.1 +0.3**
MNMCX *i* S **S 08 20 27.2 +0.2**
PB01 IPOC Station P 2.13 232 P **Pn 08 20 00.4 +0.5**
PB01 IPOC Station P 2.13 232 **Pn 08 20 00.3 +0.4**
PB01 Sn **S 08 20 30.9 0.0**
PB16 IPOC Station P 2.21 309⇓*i*P **Pn 08 20 02.0 +0.8**
PB16 *i* S **S 08 20 34.4 +1.1**
PB16 IAML 08 20 36.2
comp=N,293nm,0.4s
PSGC Pisagua 2.29 273 P **Pn 08 20 01.2 -0.4**
MOCB Mochara 2.45 128 P **Pn 08 20 05.3 +1.6**
MOCB S **S 08 20 38.7 +1.0**
TA01 Diego Aracena 2.48 250⇑*i*P **Pn 08 20 03.4 -0.1**
TA01 *i* S **S 08 20 35.5 -1.9**
PB09 IPOC Station P 2.51 215⇑*i*P **Pn 08 20 05.3 +1.2**
PB09 *i* S **S 08 20 40.5 +2.1**
PB09 IPOC Station P 2.51 215 *i* P **Pn 08 20 05.7 +1.6**
PB09 IAML 08 20 45.6
comp=Z,573nm,0.5s
PB02 IPOC Station P 2.60 232 P **Pn 08 20 05.4 +0.5**
PB02 IPOC Station P 2.60 232 *i* P **Pn 08 20 05.9 +1.0**
PB02 *e*S **S 08 20 39.2 -0.8**
PB02 *i* S S 08 20 39.9 -0.2
BBOJ La Paz, Jacaqu 2.79 350 P **Pn 08 20 08.5 +0.9**
BS05 Cuyupaya 2.80 15 P **Pn 08 20 07.8 +0.1**
PB07 IPOC Station P 2.85 226 *i* P **Pn 08 20 08.6 +0.7**
PB07 *i* S **S 08 20 44.6 -0.7**
BBOE La Paz, Chanca 2.92 355 P **Pn 08 20 10.3 +1.1**
PB03 IPOC Station P 3.00 220 *i* P **Pn 08 20 10.4 +0.8**
PB03 *i* S **S 08 20 47.5 -0.9**
LVC Limon Verde 3.08 201⇓*i*P **Pn 08 20 12.2 +1.4**
LVC *i* S **S 08 20 51.4 +0.9**
LVC Limon Verde 3.08 201 P **Pn 08 20 12.1 +1.4**
comp=Z,101nm,0.3s,baz=25,slow=9.3,SNR=967
LVC S **S 08 20 50.4 0.0**
comp=Z,34nm,0.3s,baz=136,slow=22,SNR=23
LVC Limon Verde 3.08 201 **Pn 08 20 12.0 +1.3**
LVC Sn **S 08 20 51.0 +0.6**
LVC Limon Verde 3.08 201 *i* P **Pn 08 20 12.0 +1.3**
LVC *e*S **S 08 20 50.0 -0.4**
LVC IAML 08 20 56.9
comp=Z,191nm,0.2s
YJA Yavi 3.17 140 P **Pn 08 20 13.2 +1.3**
YJA Yavi 3.17 140 *i* P **Pn 08 20 13.2 +1.3**
YJA IAML 08 21 01.6
comp=Z,30nm,0.5s
BBOD La Paz, Gloria 3.20 344 P **Pn 08 20 13.3 +0.9**
BBOD S **S 08 20 52.8 -0.5**
comp=Z,116nm,0.7s
PB06 IPOC Station P 3.44 210 P **Pn 08 20 15.6 +0.9**
PB06 IPOC Station P 3.44 210 *i* P **Pn 08 20 15.6 +0.9**
PB06 *i* S **S 08 20 57.2 -0.5**
LPAZ La Paz 3.45 353⇑*i*P **Pn 08 20 15.6 +0.1**
LPAZ *i* S **S 08 20 56.5 -2.4**
LPAZ La Paz 3.45 353 P **Pn 08 20 15.6 +0.1**
LPAZ La Paz 3.45 353 P **Pn 08 20 15.7 +0.1**
comp=Z,19nm,0.3s,baz=166,slow=8.4,SNR=364
LPAZ S **S 08 20 56.9 -2.0**
comp=Z,3.3nm,0.3s,baz=284,slow=20,SNR=8.4
LPAZ La Paz 3.45 353 **Pn 08 20 15.5 0.0**
LPAZ Sn **S 08 20 57.2 -1.7**
PB04 IPOC Station P 3.46 221 P **Pn 08 20 15.7 +0.7**
PB04 IPOC Station P 3.46 221 Pn **Pn 08 20 15.8 +0.7**
PB04 Sn **S 08 20 56.5 -1.7**

PB04	IPOC Station P	3.46	221	*i* P	Pn	08 20 15.7	+0.7
PB04				*i* S	S	08 20 56.8	-1.3
PB04				IAML		08 21 00.8	
	comp=Z,935nm,0.5s						
BBOB	La Paz, Bander	3.60	353	P	Pn	08 20 17.2	0.0
BS09	Huarina	3.63	346	P	Pn	08 20 18.2	+0.6
PB15	IPOC Station P	3.83	205	*i* P	Pn	08 20 20.8	+1.2
PB05	IPOC Station P	3.88	217	*i* P	Pn	08 20 20.6	+0.5
HJA	Humahuaca	4.06	149	*i* P	Pn	08 20 24.8	+2.2
HJA				IAML		08 20 25.6	
	comp=Z,540nm,0.4s						
PB10	IPOC Station P	4.61	215	P	Pn	08 20 28.8	-0.2
PB10	IPOC Station P	4.61	215		Pn	08 20 28.9	-0.1
PB10				Sn	S	08 21 19.6	-3.9
PB10	IPOC Station P	4.61	215	*i* P	Pn	08 20 28.9	-0.2
SLA	San Lorenzo	5.36	158	P	Pn	08 20 40.3	+1.5
GO02	Mina Guanaco	5.68	198		Pn	08 20 43.2	+0.3
GO02				Sn	S	08 21 46.4	-2.4
SIV	San Ignacio	7.32	60	P	Pn	08 21 01.5	-2.6
	comp=Z,3.0nm,0.3s,baz=260,slow=11,SNR=153						
SIV				S	S	08 22 21.8	-5.3
	comp=Z,0.3nm,0.3s,baz=292,slow=14,SNR=8.4						
AHML	Horco Molle	7.34	163	P	Pn	08 21 04.9	+0.7
AHML	Horco Molle	7.34	163	*i* P	Pn	08 21 05.4	+1.1
GO03	Copiap	8.16	196		Pn	08 21 13.7	-1.1
GO03				Sn	S	08 22 42.7	-4.2
CYA	Choya	8.84	169	*i* P	Pn	08 21 24.3	+0.7
VCA	Vinchina	8.97	183	*i* P	Pn	08 21 27.1	+1.7
GO04	Tololo Observa	10.77	195	Pn	Pn	08 21 47.4	-1.3
GO04				Sn	S	08 23 44.6	-4.6
GO04	Tololo Observa	10.77	195	*i* P	Pn	08 21 46.8	-1.8
ACCO	Cerro Coronel	10.88	186	*i* P	Pn	08 21 50.6	+0.4
AMOG	MOGNA	11.18	184	*i* P	Pn	08 21 54.6	+0.8
RTLL	Cerro Villicun	11.57	183	*i* P	Pn	08 21 58.9	+0.2
SAML	Samuel	11.58	23		Pn	08 21 56.2	-2.7
CPUP	Villa Florida	11.58	126	P	Pn	08 22 01.1	+2.3
	comp=Z,0.2nm,0.3s,baz=304,slow=14,SNR=3.5						
CPUP	Villa Florida	11.58	126		Pn	08 21 58.6	-0.3
NNA	Nana	11.69	310	S	S	08 24 05.7	-4.5
	comp=Z,0.6nm,0.3s,baz=246,slow=19,SNR=3.4						
CFA	Coronel Fontan	11.83	182	P	Pn	08 22 01.0	-1.0
	comp=Z,1.7nm,0.3s,baz=3.8,slow=8.6,SNR=22						
CFA				S	S	08 24 06.6	-6.7
	comp=Z,0.8nm,0.3s,baz=220,slow=17,SNR=5.1						
CFA	Coronel Fontan	11.83	182	*i* P	Pn	08 22 02.9	+0.9
TCA	Tanti	11.89	167	*i* P	Pn	08 22 02.1	-0.7
RTCV	Cerro Valdivia	12.10	183	*i* P	Pn	08 22 05.2	-0.2
MRA	San Martin	12.76	172	*i* P	Pn	08 22 12.8	-0.9
ROC1	El Roble	13.52	192		P	08 22 24.9	-0.8
PEL	Peldehue	13.62	191	Pn	Pn	08 22 24.8	+0.4
ATAH	Atahualpa	16.27	319	P	Pn	08 23 00.8	+3.5
	comp=Z,0.2nm,0.3s,baz=126,slow=14,SNR=2.5						
TRQA	Tornquist	18.92	166	P	P	08 23 24.1	-0.7
BDFB	Brasilia	19.19	81	P	P	08 23 27.4	-0.5
	comp=Z,0.7nm,0.3s,baz=236,slow=18,SNR=3.2						
BDFB	Brasilia	19.19	81	P	P	08 23 26.3	-1.6
GO06	Curarrehue	20.05	189	P	P	08 23 37.7	+0.8
PLCA	Paso Flores	21.07	186	P	P	08 23 50.5	+2.7
	comp=Z,2.9nm,0.8s,baz=31,slow=12,SNR=8.5						
PLCA	Paso Flores	21.07	186	P	P	08 23 48.7	+0.9
PLCA				IAmb	IAmb	08 24 04.8	
	comp=Z,12nm,1.5s						
OTAV	Otavalo	22.48	331	P	P	08 24 02.7	+0.6
SDV	Santo Domingo	28.59	354	P	P	08 24 57.6	+0.9
SDV				IAmb	IAmb	08 25 07.6	
	comp=Z,5.0nm,1.3s						
TXAR	Lajitas Array	59.86	324	P	P	08 29 04.5	+0.8
	comp=Z,0.4nm,0.6s,baz=147,slow=8.0,SNR=5.9						
TXAR	Lajitas Array	59.86	324	P	P	08 29 04.2	+0.6
SNAA	Sanae	63.57	161	P	P	08 29 29.5	+1.8
	comp=Z,0.3nm,0.4s,baz=269,slow=9.9,SNR=5.8						
SNAA	Sanae	63.57	161	P	P	08 29 29.0	+1.2
SNAA				IAmb	IAmb	08 29 43.4	
	comp=Z,4.4nm,1.3s						
SDCO	Great Sand Dun	67.33	328	P	P	08 29 54.0	+1.4
SDCO				IAmb	IAmb	08 29 55.1	
	comp=Z,3.0nm,0.7s						
PDAR	Pinedale Array	73.17	329	P	P	08 30 28.9	+1.1
	comp=Z,0.3nm,0.5s,baz=119,slow=9.4,SNR=4.3						
PDAR	Pinedale Array	73.17	329	P	P	08 30 28.6	+0.8
ULM	Lac du Bonnet	74.00	342	P	P	08 30 32.2	+0.1
	comp=Z,2.6nm,0.5s,baz=162,slow=6.1,SNR=4.8						
NVAR	Mina Array Bea	74.83	321	P	P	08 30 40.2	+2.8
	comp=Z,0.2nm,0.4s,baz=148,slow=8.6,SNR=2.9						
TORD	Torodi Ar. Bea	75.69	70	P	P	08 30 42.0	-0.6
	comp=Z,5.4nm,0.6s,baz=252,slow=5.5,SNR=29						
TORD	Torodi Ar. Bea	75.69	70	P	P	08 30 41.9	-0.7
YKA	Yellowknife Ar	89.91	340	P	P	08 31 55.4	+0.9
	comp=Z,2.2nm,0.7s,baz=131,slow=4.6,SNR=25						
YKA	Yellowknife Ar	89.91	340	P	P	08 31 55.7	+1.1
ASAR	Alice Springs	131.99	207	PKP	PKiKP	08 38 10.3	+0.2
	comp=Z,0.3nm,0.5s,baz=126,slow=1.9,SNR=5.4						
WRA	Warramunga Arr	135.04	210	PKP	PKiKP	08 38 16.4	0.0
	comp=Z,0.4nm,0.5s,baz=158,slow=1.6,SNR=6.7						
WRA	Warramunga Arr	135.04	210		PKiKP	08 38 15.6	-0.8
ZALV	Zalesovo Beam	139.88	25	PKP	PKiKP	08 38 24.3	-0.8
	comp=Z,0.9nm,0.4s,baz=270,slow=1.4,SNR=5.6						
ZALV	Zalesovo Beam	139.88	25		PKiKP	08 38 24.0	-1.1
KSH	Kashi	143.10	50	PKP	PKPdf	08 38 27.0	-2.1
KSH				PP	PP	08 41 43.7	+2.2
KSH				SKKS		08 48 08.8	
KSH				AMB	AMB		
	comp=Z,540nm,5.6s						
MKAR	Makanchi Array	143.54	35	PKP	PKPdf	08 38 28.7	-0.8
	comp=Z,0.5nm,0.8s,baz=298,slow=2.6,SNR=5.0						
MKAR	Makanchi Array	143.54	35		PKPdf	08 38 29.9	+0.4
JKA	Kamikawa-asahi	144.95	321		PKiKP	08 38 33.6	-2.2
ASAJ	Asahikawa	144.95	321	PKPbc	PKiKP	08 38 33.6	-2.2
	comp=Z,6.8nm,0.8s,baz=34,slow=11,SNR=3.1						
USRK	Ussuriysk Ar.	150.59	330	PKPbc	PKiKP	08 38 48.3	+0.8
	comp=Z,2.6nm,0.8s,baz=14,slow=2.2,SNR=4.9						
SONM	Songino Array	151.56	8	PKPbc	PKiKP	08 38 50.8	+1.2
	comp=Z,2.7nm,0.7s,baz=313,slow=1.4,SNR=14						

IDC 03 08:22:20.4±8.4, 6°.97S×129°.53E, h166km±88km, mb3.4/1, mb1 3.5/5, mb1mx3.2/44, mbtmp4.0/5, Error ellipse: s-maj=77.0km s-min=26.4km az=39.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Baumata	6.63	241	P	Pn	08 23 56.9	+1.2
	3.7nm,0.3s,baz=323,slow=15,SNR=1.6						
BATI				S	Sn	08 25 10.4	-0.2
	6.1nm,0.3s,baz=86,slow=19,SNR=1.9						
FITZ	Fitzroy Crossi	11.69	199	P	Pn	08 25 01.4	-0.9
	0.3nm,0.3s,baz=20,slow=11,SNR=12						
FITZ				S	Sn	08 27 03.8	-8.1
	0.4nm,0.3s,baz=102,slow=5.0,SNR=5.3						
WRA	Warramunga Arr	13.71	161	P	Pn	08 25 26.6	-1.6
	0.5nm,0.3s,baz=340,slow=12,SNR=4.7						
WRA				S	Sn	08 27 52.0	-8.6
	0.5nm,0.3s,baz=328,slow=22,SNR=5.1						
ASAR	Alice Springs	17.13	166	P	Pn	08 26 10.9	+0.8
	0.7nm,0.3s,baz=346,slow=10,SNR=57						
ASAR				S	S	08 29 14.6	-4.7
	0.1nm,0.3s,baz=350,slow=26,SNR=2.0						
MKAR	Makanchi Array	67.94	327	P	P	08 33 01.4	0.0
	0.4nm,0.4s,baz=121,slow=8.0,SNR=7.3						

*NEIC **03** 08:25:44.9±0.7, 40°.32N±0°.01×124°.69W±0°.08, h28km±9km*
*ANF **03** 08:25:46.5±1.2, 40°.52N×124°.32W, h6km±9km, ML2.1/2, Error ellipse: s-maj=8.9km s-min=5.8km az=43.0*
*NCEDC **03** 08:25:46.7, 40°.32N×124°.57W, h21km*
ISC 03 08:25:45.0±1.5, 40°.31N±0°.03×124°.68W±0°.07, h33km±6km, n64, σ0s.78/79, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCTM	Capetown	0.31	57		Pb	08 25 53.4	+0.5
KCTM					Sb	08 25 58.8	+0.6
KSMM	Slide Mountain	0.40	107		Pb	08 25 54.0	-0.2
KMPM	Mount Pierce	0.44	75		Pb	08 25 54.8	+0.1
KMPM					Sb	08 26 01.1	-0.3
KCRM	Chalk Rock	0.67	79		Pb	08 25 58.2	-0.2
JCC	Jacoby Creek,	0.71	44	Pn	Pb	08 25 58.2	-0.7
JCC					Sb	08 26 06.9	-1.6
KMRM	Mail Ridge	0.75	96		Pb	08 26 00.0	+0.4
KMRM				Sn	Sn	08 26 10.4	+0.8
KBSM	Bell Springs	0.92	115		Pn	08 26 01.9	+0.2
KHMM	Horse Mountain	0.92	52		Pn	08 26 01.8	0.0
KHMM					Sb	08 26 13.1	-1.4
KCSM	Cold Springs	0.92	75		Pn	08 26 01.9	+0.1
KRPM	Rodgers	0.98	30		Pn	08 26 02.6	0.0
KPPM	Pickett Peak	1.01	87		Pn	08 26 03.6	+0.6
KCPM	Cahto Peak	1.04	126		Pn	08 26 03.7	+0.2
KIPM	Iron Peak	1.04	118		Pn	08 26 03.8	+0.3
KHBM	Hayfork Bally	1.17	72		Pn	08 26 05.3	+0.1
KFPM	Farley Peak	1.17	124		Pn	08 26 05.4	+0.2
KBNM	Bluenose Ridge	1.21	110		Pn	08 26 06.3	+0.5
GTC	Three Chop Rid	1.25	136		Pn	08 26 06.4	+0.2
KOMM	Orleans Mounta	1.34	43		Pn	08 26 07.8	+0.2
KRMB	Red Mountain	1.35	25		Pn	08 26 07.8	+0.1
GNAM	Navarro Ridge	1.37	144		Pn	08 26 08.1	+0.3
LBPM	Beegum Peak	1.37	89		Pn	08 26 08.4	+0.4
O02D	Mt. Diablo Mer	1.45	95	P	Pn	08 26 09.6	+0.6
	baz=276,SNR=105						
O02D				S	Sn	08 26 27.0	0.0
	baz=276						
O02D	Mt. Diablo Mer	1.45	95		Pn	08 26 09.6	+0.6
LGPM	Granite Peak	1.53	66		Pn	08 26 10.5	+0.4
GHOM	Hamilton Openi	1.54	145		Pn	08 26 10.4	+0.2
GROM	Round Mountain	1.59	104		Pn	08 26 12.1	+1.2
GVV	Valley View	1.63	108		Pn	08 26 12.4	+0.9
KSXB	Camp Six Broad	1.64	21		Pn	08 26 11.8	+0.2
GASB	Alder Springs	1.64	113		Pn	08 26 12.1	+0.4
N02D	Trinity Center	1.64	65	P	Pn	08 26 11.8	+0.2
	baz=246,SNR=73						
N02D				S	Sn	08 26 30.6	-1.0
	baz=246						
N02D	Trinity Center	1.64	65		Pn	08 26 11.9	+0.3
WDC	Whiskeytown Da	1.65	80	Pn	Pn	08 26 12.1	+0.4
GGUM	Gualala	1.71	147		Pn	08 26 12.8	+0.2
LBKM	Bonanza King	1.71	62		Pn	08 26 13.2	+0.5
M02C	Callahan	1.76	51	P	Pn	08 26 13.6	+0.3
	baz=231,SNR=63						
M02C				S	Sn	08 26 33.7	-0.8
	baz=231						
GSNM	Snow Mountain	1.78	139		Pn	08 26 13.9	+0.3
GHLM	Highland Sprin	1.80	134		Pn	08 26 14.2	+0.4
HOPS	Hopland Field	1.81	136		Pn	08 26 14.2	+0.4
GDCM	Dry Creek	1.90	144		Pn	08 26 15.7	+0.5
KBO	Bosley Butte	1.93	10	Pn	Pn	08 26 15.7	0.0
LTCM	Tuscan Springs	1.96	92		Pn	08 26 16.8	+1.0
GPMM	Pine Mountain	1.98	137		Pn	08 26 16.9	+0.6
GACM	Adobe Creek	2.00	135		Pn	08 26 17.3	+0.7
L02E	Cave Junction	2.02	23	P	Pn	08 26 17.2	+0.4
	baz=202,SNR=530						
L02E				S	Sn	08 26 40.8	-0.1
	baz=202						
L02E	Cave Junction	2.02	23		Pn	08 26 17.4	+0.6
GHCM	House Creek	2.05	146		Pn	08 26 17.7	+0.5
YBH	Yreka Blue Hor	2.06	46	Pn	Pn	08 26 17.9	+0.5
YBH					Sn	08 26 42.4	+0.4
LSHM	Sage Hen Hill	2.07	76		Pn	08 26 18.4	+0.9
NMCNC	Mill Creek, So	2.19	141		Pn	08 26 19.3	+0.2
O03E	Paynes Creek	2.20	89	P	Pn	08 26 19.4	+0.1
	baz=272,SNR=44						
O03E				S	Sn	08 26 44.4	-1.1
	baz=272						
O03E	Paynes Creek	2.20	89		Pn	08 26 19.6	+0.2
LDBM	Digger Butte	2.21	86		Pn	08 26 19.8	+0.2
LBFM	Black Fox Moun	2.36	63		Pn	08 26 23.6	+2.0
SUTB	Sutter Butte	2.48	115		Pn	08 26 20.2	-2.8
K02D	Willamette Mer	2.50	17	P	Pn	08 26 24.6	+1.1
	baz=196,SNR=50						
K02D				S	Sn	08 26 51.9	-1.1
	baz=196						
ORV	Oroville	2.56	106	Pn	Pn	08 26 24.3	+0.2
ORV					Sn	08 26 54.2	+0.1
MCCM	Marconi Confer	2.57	147		Pn	08 26 24.6	+0.3
L04D	Klamath Falls	2.62	42	Pb	Pn	08 26 27.3	+2.2
	baz=223,SNR=20						
L04D				Sb	Sn	08 26 57.3	+1.5
	baz=223						
HUMO	Hull Mountain	2.64	29	Pn	Pn	08 26 26.2	+0.9
HUMO				Sn	Sn	08 26 56.7	+0.6
NPRM	Point Reyes	2.65	150		Pn	08 26 25.9	+0.6
NOLM	Olema	2.70	147		Pn	08 26 26.2	+0.1
JSBM	San Bruno Moun	3.17	145		Pn	08 26 32.5	0.0
SAC	San Andreas	3.24	146		Pn	08 26 34.1	+0.5
BEKR	Beckworth	3.34	96		Pn	08 26 37.0	+1.8

*GRAL **03** 08:46:30.8±0.3, 32°.76N×35°.66E, h10km±1km, MD3.1*
*ISCJB **03** 08:46:31.3±0.3, 32°.84N±0°.02×35°.60E±0°.03, h8km±4km, Error ellipse: s-maj=5.1km s-min=2.6km az=15.5*
*JSO **03** 08:46:31.7±0.6, 33°N±3°×3°6E±°, h0km, M2.7/8, Mjma2.8/8, ML2.2/5, MLv3.0/8*
*GII **03** 08:46:31.0±0.0, 32°.86N×35°.58E, h5km, MD2.5/3*
ISC 03 08:46:31.4±0.9, 32°.86N±0°.02×35°.59E±0°.03, h14km±8km, n25, σ0s.43/41, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHMJ	Saham	0.20	132	P	Pg	08 46 35.4	-0.6
MMA0B	Mount Meron ar	0.22	315	Pg	Pg	08 46 35.8	-0.6
MMA0B				Sg	Sg	08 46 40.2	+0.5
KSHT	Keshet	0.23	57	Pg	Pg	08 46 36.6	+0.1
KSDI	Kefar Szold	0.34	10	Pg	Pg	08 46 38.2	-0.2
KSDI				Sg	Sb	08 46 44.1	-0.4
KSDI	Kefar Szold	0.34	10	P	Pg	08 46 38.2	-0.2
BLGI	Bet Lehem HaGe	0.36	249	Pg	Pg	08 46 38.3	-0.4
BLGI				Sg	Sg	08 46 44.0	+0.4
GEM	Giv'at Ha'Em	0.36	10	Pg	Pg	08 46 38.5	-0.2
GEM				Sg	Sb	08 46 44.5	-0.5
HNTI	Hanita	0.41	303	Pg	Pg	08 46 39.6	-0.1
HNTI				Sg	Sb	08 46 46.6	0.0
NATI	Neve Ativ	0.42	17	Pg	Pg	08 46 39.6	-0.3
NATI				Sg	Sb	08 46 46.9	+0.1
MMLI	Mount Malkishu	0.44	198	Pg	Pg	08 46 39.8	-0.5
MMLI				Sg	Sg	08 46 46.4	+0.1
MMLI	Mount Malkishu	0.44	198	P	Pg	08 46 39.9	-0.4
SHBL	Chebaa	0.51	15	*e*P	Pg	08 46 41.5	0.0
SHBL				*e*S	Sb	08 46 49.4	-0.1
OFRI	`Ofer	0.56	245	Pg	Pg	08 46 42.3	-0.2
OFRI				Sg	Sb	08 46 50.5	-0.4
HMDT	Nahal Hemdat	0.61	185	Pg	Pg	08 46 42.9	-0.4
HMDT				Sg	Sb	08 46 52.2	0.0
RCY	Rachaya	0.67	18	*e*P	Pg	08 46 44.2	-0.3
RCY				*e*S	Sb	08 46 54.2	0.0
SLTI	Sal'it	0.77	217	Pg	Pg	08 46 45.9	-0.5
SLTI				Sg	Sb	08 46 57.2	+0.3
DQRL	Deir Qamar	0.84	359	*e*P	Pg	08 46 47.5	-0.4
DQRL				*e*S	Sb	08 46 59.7	+0.6
HSUJ	Al Zarqa	0.91	146	P	Pb	08 46 49.0	0.0
BHL	Bhannes	1.04	3	*e*P	Pg	08 46 50.5	-1.1
DSI	Dead Sea	1.30	188	Pg	Pn	08 46 54.7	-0.4
DSI				Sg	Sg	08 47 12.6	-0.7
ASF	Jabal al Asfar	1.30	121	P	Pn	08 46 55.6	+0.3
WALJ	Wala	1.31	172	P	Pn	08 46 55.3	+0.1
YTIR	Yattir	1.54	195	Pn	Pn	08 46 58.9	+0.3
YTIR				Sn	Sb	08 47 20.2	+0.9
MZDA	Masada	1.56	187	Pn	Pn	08 46 59.0	+0.4
MZDA				Sn	Sb	08 47 20.1	+0.6
LISJ	El Lisan	1.62	183	P	Pb	08 47 01.3	+0.3

TRN 03 09:00:42.0, 15°.09N×61°.19W, h153km, MD3.5, 2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SVN	Savane Anatole	0.25	175	*e*P	Pn	09 01 04.2	+1.2
PCM	Pelee Case Pet	0.27	184	*e*P	Pn	09 01 04.0	+1.0
PCM	Pelee Case Pet	0.27	184	*e*P	Pn	09 01 04.3	+1.3
BAMF	Morne Balai	0.27	171	*e*P	Pn	09 01 04.3	+1.3
CXM	Morne La Croix	0.28	175	*e*P	Pn	09 01 04.4	+1.3
GBMF	Grand Be	0.29	175	*e*P	Pn	09 01 04.3	+1.2
PML	Morne Lenard	0.30	179	*e*P	Pn	09 01 04.5	+1.4
FDF	Fort de France	0.35	174	*e*P	Pn	09 01 04.3	+1.1
FDF				*e*S	Sn	09 01 20.4	+1.0
ILAM	Ilet Lapin Mar	0.44	135	*e*P	Pn	09 01 04.2	+0.8
DWS	Wesley	0.49	346	*e*P	Pn	09 01 05.2	+1.4
DWS				*e*S	Sn	09 01 20.9	+0.5
BBL	Barber's Block	0.51	328	*e*P	Pn	09 01 05.4	+1.6
BBL				*e*S	Sn	09 01 21.5	+0.9
ZAM	Aeronautique	0.54	163	*e*P	Pn	09 01 04.7	+0.8
MDPO	Dominica; Chan	0.55	333	*e*P	Pn	09 01 05.4	+1.4
MDPO				*e*S	Sn	09 01 21.8	+1.0
LPMF	Morne Lapointe	0.56	157	⇑*e*P	Pn	09 01 04.5	+0.4
TRMF	Trois Ilets	0.56	166	*e*P	Pn	09 01 05.3	+1.2
BIM	Bigot	0.58	168	*e*P	Pn	09 01 05.3	+1.1
MVM	Montagne Vaucl	0.60	152	*e*P	Pn	09 01 05.1	+0.7
MPOM	Morne Pois Mar	0.72	153	⇑*e*P	Pn	09 01 05.8	+0.7
TDBA	Terre de Bas,	0.87	331	*e*P	Pn	09 01 07.7	+1.6
CBE	Ff, Capester	1.05	338	*e*P	Pn	09 01 09.4	+1.8
SLBI	Saint Lucia, B	1.08	169	*e*P	Pn	09 01 08.5	+0.7
SLBI				*e*S	Sn	09 01 26.9	-0.6
DEG	La Desirade	1.23	6	*e*P	Pn	09 01 10.9	+1.7
SLPA	Patience	1.25	168	*e*P	Pn	09 01 10.6	+1.2
SLPA				*e*S	Sn	09 01 31.2	+0.8
SLB	Belfond	1.26	173	*e*S	Sn	09 01 32.0	+1.4
SLDE	Delcer	1.28	174	*e*P	Pn	09 01 10.4	+0.7
SLDE				*e*S	Sn	09 01 31.8	+0.8
MCLT	Moule a Chique	1.39	170	*e*P	Pn	09 01 12.1	+1.3
MCLT				*e*S	Sn	09 01 33.8	+0.9
ABD	La Joyeuse, An	1.41	348	*e*P	Pn	09 01 12.2	+1.3
SVB	Belmont	1.81	182	*e*P	Pn	09 01 16.4	+1.1
SVB				*e*S	Sn	09 01 41.7	+1.0
SVCV	St. Vincent, C	1.81	179	*e*P	Pn	09 01 16.1	+0.9
SVCV				*e*S	Sn	09 01 41.0	+0.3
MLYT	Lee's Yard	1.89	329	*e*P	Pn	09 01 17.3	+1.2
MLYT				*e*S	Sn	09 01 42.3	0.0
BPA	Boggy Peak	2.05	342	*e*P	Pn	09 01 18.2	+0.2
BPA				*e*S	Sn	09 01 45.8	+0.1
BCHC	Barbados, Cave	2.46	142	*e*P	Pn	09 01 23.9	+1.0
BCHC				*e*S	Sn	09 01 54.6	+0.2
BBGH	Gun Hill	2.50	140	*e*P	Pn	09 01 24.7	+1.4
BBGH				*e*S	Sn	09 01 56.0	+0.8
BBSP	Saint Philip	2.59	139	*e*S	Sn	09 01 58.3	+1.1
ANWB	Willy Bob	2.63	348	*e*P	Pn	09 01 25.7	+0.8
ANWB				*e*S	Sn	09 01 57.0	-1.0
SKI	Saint Kitts	2.68	327	*e*P	Pn	09 01 26.2	+0.6
SKI				*e*S	Sn	09 01 59.9	+0.6
GRGR	Grenville	2.97	189	*e*P	Pn	09 01 30.6	+1.4
GRGR				*e*S	Sn	09 02 05.3	-0.4

*JMA **03** 09:15:23.5, 24°.04N×121°.66E, h46km±1km, M3.5*
*ISCJB **03** 09:15:24.5±0.2, 24°.08N±0°.01×121°.73E±0°.01, h45km±3km, Error ellipse: s-maj=2.2km s-min=1.5km az=43.5*
*TAP **03** 09:15:24.7, 24°.11N×121°.68E, h39km, ML3.8, B*
ISC 03 09:15:25.1±0.9, 24°.08N±0°.02×121°.70E±0°.02, h33km±2km, n132, σ0s.90/231, 4C-22D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWD	Chiawan	0.09	269	P	Pb	09 15 31.6	+0.8
	baz=247						
TWD				S	Sb	09 15 36.6	+1.8
	baz=247						
NACB	Ninganchiao	0.13	314	⇑P	Pb	09 15 31.6	+0.4
	baz=311						
NACB				S	Sb	09 15 36.3	+1.0
	baz=311						
HWA	Hwalien	0.14	219	P	Pb	09 15 32.4	+1.2
	baz=203						
HWA				*e*S	Sb	09 15 38.3	+3.0
	baz=203						
ENLB	Shoufeng	0.20	207	P	Pn	09 15 31.8	+0.8
	baz=198						
ENLB				S	Sb	09 15 38.7	+2.5
	baz=198						
ETLH	Xiulin Townshi	0.23	302	P	Pn	09 15 32.4	+0.5
	baz=299						
ETLH				S	Sb	09 15 38.0	+0.9
	baz=299						
ENA	Nanau	0.35	6	⇑*i*P	Pb	09 15 33.5	0.0
	baz=11						
ENA				S	Sb	09 15 40.7	+1.5
	baz=11						
NANB	Nanao	0.35	8	⇑*i*P	Pb	09 15 33.5	0.0
	baz=12						
NANB				S	Sn	09 15 40.1	+0.7
	baz=12						
ESL	Shilin	0.36	222	⇓*i*P	Pb	09 15 33.2	-0.5
	baz=216						
ESL				*i* S	Sn	09 15 39.2	-0.6
	baz=216						
WHF	Hehuan Shan	0.40	279	⇓*i*P	Pb	09 15 34.5	-0.2
	baz=275						
WHF				S	Sn	09 15 41.5	+0.1
	baz=275						
NNSB	Datong	0.45	320	⇓P	Pb	09 15 34.8	-0.3
	baz=320						
NNSB				S	Sb	09 15 41.9	0.0
	baz=320						
NNSH	Datong	0.45	320	⇓*i*P	Pb	09 15 34.8	-0.3
	baz=320						
NNSH				*i* S	Sb	09 15 41.8	-0.1
	baz=320						
NNS	Nan Shan	0.46	320	⇓*i*P	Pb	09 15 35.0	-0.3
	baz=320						
NNS				S	Sb	09 15 42.1	-0.2
	baz=320						
CHGB	Renai	0.48	267	⇓P	Pb	09 15 35.5	0.0
	baz=264						
CHGB				S	Sb	09 15 42.9	+0.1
	baz=264						
EGFH	Guangfu	0.48	211	*e*P	Pb	09 15 34.6	-0.8
	baz=207						
EGFH				*e*S	Sb	09 15 41.9	-0.6
	baz=207						
OWD	Renai	0.49	255	*e*P	Pb	09 15 35.5	-0.2
	baz=251						
OWD				S	Sb	09 15 42.7	-0.3
	baz=251						
TWT	Tachien	0.51	290	⇓*i*P	Pb	09 15 36.0	+0.1
	baz=286						
TWT				S	Sb	09 15 43.7	+0.2
	baz=286						
TDCB	Techi	0.52	289	⇓P	Pn	09 15 36.1	-0.2
	baz=286						
TDCB				S	Sb	09 15 43.4	-0.4
	baz=286						
TWC	Suao	0.54	15	*e*P	Pn	09 15 36.6	+0.1
	baz=18						
TWC				S	Sb	09 15 45.4	+1.2
	baz=18						
NDT	Datong Townshi	0.55	342	⇓P	Pn	09 15 36.0	-0.5
	baz=343						
NDT				S	Sn	09 15 43.9	-0.6
	baz=343						
ENTT	Nioudou	0.57	348	*i* P	Pn	09 15 36.3	-0.6
	baz=350						
ENTT				*i* S	Sn	09 15 44.5	-0.6
	baz=350						
VWDT	VWDT	0.61	237	⇓P	Pn	09 15 37.1	-0.2
	baz=234						
VWDT				S	Sn	09 15 45.5	-0.5
	baz=234						
EOS1	EOS1	0.61	40	⇓P	Pn	09 15 38.1	+0.8
	baz=43						
EOS1				*e*S	Sb	09 15 48.3	+2.4
	baz=43						
TWE	Neicheng	0.64	357	*e*P	Pn	09 15 37.2	-0.6
TWE				S	Sn	09 15 46.5	-0.2
HGSD	Ruisui	0.64	203	*e*P	Pn	09 15 37.2	-0.6
	baz=200						
HGSD				*e*S	Sn	09 15 47.4	+0.6
	baz=200						
YHNB	Yeheng	0.66	333	⇓P	Pn	09 15 37.6	-0.5
	baz=333						
YHNB				S	Sn	09 15 46.1	-1.2
	baz=333						
NSK	Sanguang	0.67	332	⇓*i*P	Pn	09 15 37.7	-0.6
	baz=333						
NSK				S	Sn	09 15 46.4	-1.2
	baz=333						
EHY	Hungye	0.67	211	*e*P	Pn	09 15 36.5	-1.8
	baz=207						
SLBB	Yuanshan	0.67	355	*e*P	Pn	09 15 37.0	-1.3
	baz=356						
ILA	Ilan	0.68	4	*e*P	Pn	09 15 38.6	+0.2
	baz=6.0						
DPDB	Guoxing	0.71	266	⇓*i*P	Pn	09 15 38.6	-0.2
	baz=263						
DPDB				S	Sn	09 15 48.6	0.0
	baz=263						
NWLT	Wulai	0.71	346	*e*P	Pn	09 15 38.3	-0.6
	baz=346						
WHP	Taichung City	0.71	286	*e*P	Pn	09 15 39.0	0.0
	baz=284						
WHP				S	Sn	09 15 48.9	0.0
	baz=284						
SSLB	Suanglung	0.74	247	⇓P	Pn	09 15 38.7	-0.6
	baz=244						
SSLB				*e*S	Sn	09 15 48.6	-0.8
	baz=244						

NTC	Toucheng	0.78	9	eP	Pn	09 15 39.8	0.0
	baz=10.0						
NTC				eS	Sb	09 15 51.5	+0.9
	baz=10.0						
YULB	Yu-li	0.78	208	⇓eP	Pn	09 15 37.9	-1.9
	baz=205						
EGS		0.79	16	eP	Pn	09 15 40.4	+0.5
	baz=18						
EGS				eS	Sb	09 15 51.8	+0.9
	baz=18						
TYC	Yuchr	0.79	257	eP	Pn	09 15 39.6	-0.3
	baz=254						
TWF1	Yuli	0.81	207	eP	Pn	09 15 38.4	-1.9
	baz=204						
LIOB	Emei	0.84	312	⇓iP	Pn	09 15 41.0	+0.4
	baz=311						
LIOB				S	Sn	09 15 52.3	+0.5
	baz=311						
NSTT	Nanjuang	0.84	311	⇓iP	Pn	09 15 40.9	+0.3
	baz=310						
NSTT				S	Sn	09 15 51.8	0.0
	baz=310						
WHYT	Xinyi Township	0.86	244	eP	Pn	09 15 41.0	0.0
	baz=241						
WLTB	Daxi	0.87	332	P	Pn	09 15 41.2	+0.2
	baz=332						
WLTB				S	Sn	09 15 52.7	+0.2
	baz=332						
TWQ1	Liyutan	0.89	288	⇓P	Pn	09 15 41.5	+0.2
	baz=286						
TWQ1				eS	Sn	09 15 53.6	+0.6
	baz=286						
NHDH	Xindian Distri	0.89	350	eP	Pn	09 15 41.0	-0.3
	baz=350						
NHDH				eS	Sn	09 15 53.0	-0.1
	baz=350						
TIPB	Shuangxi	0.89	7	eP	Pn	09 15 41.2	-0.1
	baz=9.0						
TIPB				eS	Sn	09 15 53.8	+0.6
	baz=9.0						
TWA	Mucha	0.90	353	⇑P	Pn	09 15 41.1	-0.4
	baz=354						
TWA				S	Sn	09 15 52.9	-0.5
	baz=354						
TATO	Taipei	0.91	348	eP	Pn	09 15 41.0	-0.5
	baz=349						
TATO				eS	Sn	09 15 52.9	-0.7
	baz=349						
NSY	Sanyi	0.92	291	⇓P	Pn	09 15 42.1	+0.4
	baz=290						
NSY				eS	Sn	09 15 54.7	+1.0
	baz=290						
WJS	Zhushan	0.93	254	eP	Pn	09 15 42.6	+0.8
	baz=251						
WJS				eS	Sb	09 15 55.9	+1.2
	baz=251						
TCU	Taichung	0.94	274	eP	Pn	09 15 42.4	+0.5
	baz=272						
TCU				eS	Sn	09 15 55.5	+1.3
	baz=272						
NMLH	Miaoli	0.94	299	eP	Pn	09 15 42.2	+0.1
	baz=297						
NMLH				eS	Sn	09 15 54.9	+0.6
	baz=297						
WNT	Mingjian	0.95	258	⇓P	Pn	09 15 42.9	+0.8
	baz=255						
WNT				eS	Sn	09 15 56.0	+1.4
	baz=255						
FULB	Fuli	0.95	203	eP	Pn	09 15 41.2	-1.0
	baz=201						
TWB1	Santiao Chiao	0.96	16	eP	Pn	09 15 42.6	+0.4
	baz=18						
TWB1				eS	Sn	09 15 55.6	+0.8
	baz=18						
SBCB	Hsinchu	0.96	318	eP	Pn	09 15 42.5	+0.2
	baz=317						
SBCB				eS	Sn	09 15 55.2	+0.4
	baz=317						
TAP1	Taipei	0.97	351	eP	Pn	09 15 42.2	-0.1
	baz=350						
TAP1				eS	Sn	09 15 54.1	-0.8
	baz=350						
TAP	Taipei	0.97	350	eP	Pn	09 15 42.3	-0.1
	baz=350						
TAP				eS	Sn	09 15 54.5	-0.5
	baz=350						
HSN	Hsinchu	0.98	317	eP	Pn	09 15 42.1	-0.4
	baz=319						
HSN				eS	Sn	09 15 55.5	+0.3
	baz=319						
PTSB	Yuanli	0.98	292	eP	Pn	09 15 42.4	-0.1
	baz=290						
NWF	Wu-fen Shan	0.99	4	eP	Pn	09 15 42.7	-0.1
	baz=5.0						
NWF				eS	Sn	09 15 56.2	+0.6
	baz=5.0						
WFSB	Wu-fen Shan	0.99	4	eP	Pn	09 15 42.6	-0.1
	baz=5.0						
WFSB				eS	Sn	09 15 55.9	+0.5
	baz=5.0						
NCUH	Zhongli	1.00	332	eP	Pn	09 15 42.9	+0.1
	baz=332						
NCUH				eS	Sn	09 15 57.0	+1.2
	baz=332						
NCU	National Centr	1.00	332	P	Pn	09 15 42.6	-0.2
	baz=332						
NCU				S	Sn	09 15 56.6	+0.9
	baz=332						
WDJ	Dajia District	1.00	286	P	Pn	09 15 43.0	+0.1
	baz=284						
WDJ				eS	Sn	09 15 56.5	+0.7
	baz=284						
CHKT	Chengkung	1.02	197	eP	Pn	09 15 42.7	-0.5
	baz=195						
CHKT				eS	Sn	09 15 55.7	-0.7
	baz=195						
WCHH	Zhanghua	1.04	270	eP	Pn	09 15 43.6	+0.3
	baz=268						
WCHH				S	Sn	09 15 57.5	+0.7
	baz=268						
TWS1	Kuangyinshan	1.05	346	eP	Pn	09 15 43.3	-0.2
	baz=346						
TWS1				eS	Sn	09 15 57.6	+0.7
	baz=346						
CHN5	Tsauling	1.05	243	P	Pn	09 15 44.0	+0.3
	baz=240						
CHN5				eS	Sn	09 15 58.4	+1.2
	baz=240						
YM01	YM01	1.07	354	eP	Pn	09 15 43.2	-0.6
	baz=354						
YM01				eS	Sn	09 15 56.6	-0.9
	baz=354						
YM10	YM10	1.08	353	eP	Pn	09 15 43.5	-0.5
	baz=354						
YM10				eS	Sn	09 15 56.7	-1.0
	baz=354						
YM11	YM11	1.08	354	eP	Pn	09 15 43.0	-1.1
	baz=354						
ELDTW	Lidau	1.09	215	eP	Pn	09 15 43.2	-0.9
	baz=213						
NTST	Danshui	1.10	348	eP	Pn	09 15 44.2	0.0
	baz=348						
YM08	YM08	1.10	355	eP	Pn	09 15 43.2	-1.1
	baz=355						
WGK	Gukeng	1.11	249	eP	Pn	09 15 44.7	+0.4
	baz=247						
WGK				eS	Sb	09 16 00.6	+0.5
	baz=247						
WDLH	Douliu	1.13	250	eP	Pn	09 15 45.2	+0.6
	baz=248						
WDLH				eS	Sb	09 16 01.7	+1.1
	baz=248						
TWY	Chenhua	1.19	356	eP	Pn	09 15 45.0	-0.4
	baz=356						
TWY				S	Sn	09 16 00.2	-0.3
	baz=356						
JYNG	Yonagunijimaku	1.20	72	P	Pn	09 15 45.1	-0.4
JYNG				S	Sn	09 16 00.4	-0.2
RLNB	Erlin	1.24	261	eP	Pn	09 15 46.4	+0.3
	baz=259						
RLNB				eS	Sn	09 16 02.7	+1.1
	baz=259						
CHN2	Minshiung	1.25	244	eP	Pn	09 15 47.5	+1.3
	baz=242						
CHN2				eS	Sb	09 16 04.4	+0.5
	baz=242						
TPUB	Ta-pu	1.25	232	P	Pn	09 15 46.9	+0.6
	baz=230						
TPUB				eS	Sn	09 16 03.4	+1.4
	baz=230						
YOJ	Yonaguni jima	1.26	72	P	Pn	09 15 45.9	-0.4
YOJ				eS	Sn	09 16 02.2	+0.1
YOJ	Yonaguni jima	1.26	72	⇓P	Pn	09 15 45.9	-0.4
	baz=73						
YOJ				eS	Sn	09 16 02.0	0.0
	baz=73						
WTP	Ta-pu	1.30	230	eP	Pn	09 15 47.4	+0.5
	baz=228						
WTP				eS	Sn	09 16 04.7	+1.6
	baz=228						
CHY	Chiayi	1.30	244	eP	Pn	09 15 47.6	+0.6
	baz=241						
CHY				eS	Sb	09 16 05.9	+0.3
	baz=241						
WTCT	Ta-ch'eng	1.31	261	eP	Pn	09 15 47.2	+0.1
	baz=259						
WTCT				S	Sn	09 16 04.8	+1.3
	baz=259						
TWK	Hsinying	1.38	234	eP	Pn	09 15 48.5	+0.5
	baz=232						
TWK				eS	Sn	09 16 06.5	+1.4
	baz=232						
TWG	Pinlang	1.38	205	eP	Pn	09 15 47.1	-0.9
	baz=203						
TWG				eS	Sn	09 16 02.4	-2.8
	baz=203						
TWGBT	Beinan	1.38	204	eP	Pn	09 15 46.3	-1.8
	baz=203						
TWGBT				eS	Sn	09 16 02.8	-2.4
	baz=203						
TWH	Lutao	1.38	189	eP	Pn	09 15 46.7	-1.3
	baz=187						
CHN1	Nanshi	1.40	230	eP	Pn	09 15 48.8	+0.5
	baz=228						
CHN1				S	Sn	09 16 07.4	+1.8
	baz=228						
SNST	Tainan City	1.40	232	eP	Pn	09 15 48.8	+0.5
	baz=230						
SNST				eS	Sn	09 16 07.4	+1.9
	baz=230						
WLGB	Puzi	1.42	245	eP	Pn	09 15 49.0	+0.5
	baz=243						
WLGB				eS	Sb	09 16 08.4	-0.3
	baz=243						
WSF	Szhu	1.42	252	eP	Pn	09 15 49.0	+0.4
	baz=250						
WSF				eS	Sb	09 16 08.5	-0.3
	baz=250						
SGST	Jiashian	1.43	226	eP	Pn	09 15 48.6	-0.1
	baz=224						
SGST				eS	Sn	09 16 07.7	+1.4
	baz=224						
SLGT	Liugui	1.45	222	eP	Pn	09 15 50.2	+1.1
	baz=220						
CHN8	Yiju	1.55	242	eP	Pn	09 15 50.7	+0.4
	baz=240						
CHN8				eS	Sn	09 16 11.3	+2.0
	baz=240						
PCYT	Pengchaiyu	1.58	12	eP	Pn	09 15 51.0	+0.2
	baz=13						
PCYT				eS	Sn	09 16 10.8	+0.8
	baz=13						
ECL	Taimali	1.63	205	eP	Pn	09 15 51.0	-0.5
	baz=203						
SCLT	Jiali	1.65	237	eP	Pn	09 15 51.5	-0.2
	baz=235						
SCLT				eS	Sn	09 16 13.9	+2.1
	baz=235						
SSD	Sandimen	1.65	217	eP	Pn	09 15 52.6	+0.8
	baz=215						
TWM1	Shoushan	1.72	223	eP	Pn	09 15 53.6	+0.9
	baz=221						
MASBT	Mashibuluo	1.76	214	eP	Pn	09 15 53.7	+0.4
	baz=212						
IRIF	Iriomote-Funau	1.87	82	P	Pn	09 15 54.2	-0.6
IRIF				eS	Sn	09 16 16.2	-1.1
HATJ	Hateruma jima	1.93	90	P	Pn	09 15 55.5	0.0
HATJ				S	Sn	09 16 18.7	+0.1
SCZT	Fangliau	1.97	210	eP	Pn	09 15 56.9	+0.8
	baz=209						
PHUB	P'eng-hu	2.03	254	P	Pn	09 15 55.9	-1.0
	baz=252						
PHUB				eS	Sn	09 16 19.9	-1.3
	baz=252						
PNG	Penghu	2.03	256	eP	Pn	09 15 55.9	-1.0
	baz=254						
PNG				eS	Sn	09 16 19.9	-1.3
	baz=254						
LAY	Lan-yu	2.04	184	eP	Pn	09 15 56.5	-0.7
	baz=183						
WDGT	Dungji	2.04	247	eP	Pn	09 15 56.7	-0.4
	baz=245						
WDGT				eS	Sn	09 16 20.7	-0.8
	baz=245						
JKRS	Kuro-shima	2.12	85	P	Pn	09 15 58.5	+0.3
JKRS				eS	Sn	09 16 23.8	+0.5
VWUC	VWUC	2.24	294	eP	Pn	09 15 58.4	-1.4
	baz=293						
JIJ	Ishigaki jima	2.25	82	P	Pn	09 15 59.4	-0.6
JIJ				S	Sn	09 16 25.6	-1.0
PTTC	Pingtan	2.25	309	eP	Pn	09 15 58.5	-1.6
	baz=308						
TWK1	Hengchun	2.28	201	eP	Pn	09 16 00.8	+0.3
	baz=200						
TWK1				eS	Sn	09 16 27.2	-0.2
	baz=200						
TWKBT	Hengchun	2.28	201	eP	Pn	09 16 00.6	+0.1
	baz=200						
TWKBT				eS	Sn	09 16 27.2	-0.2
	baz=200						
JISG	Ishigakijimahi	2.44	78	P	Pn	09 16 01.8	-0.7
JISG				eS	Sn	09 16 29.4	-1.8
PTMZ	Houxiangcun	2.53	293	eP	Pn	09 16 02.5	-1.4
	baz=291						
MATB	Ma-tsu	2.60	323	eP	Pn	09 16 03.2	-1.7
	baz=321						
JTJ	Tarama	2.79	78	P	Pn	09 16 07.5	0.0
JTJ				eS	Sn	09 16 39.2	-0.9
LYJJ	Jianjiangzhen	3.02	325	eP	Pn	09 16 09.5	-1.1
	baz=324						
KNMB	Chin-men Tao	3.04	278	eP	Pn	09 16 09.6	-1.3
	baz=276						
MHZQ	Yeshan	3.15	310	eP	Pn	09 16 11.0	-1.3
	baz=309						
XPSS	Dashiqiu	3.15	335	eP	Pn	09 16 10.4	-1.9
	baz=334						
JIRB	Irabujima	3.25	76	P	Pn	09 16 13.5	-0.3
JIRB				eS	Sn	09 16 51.1	-0.2
JIKM	Ikemajima	3.34	75	P	Pn	09 16 15.3	+0.3
JIKM				S	Sn	09 16 53.6	+0.1
JMJ	Miyako jima 2	3.36	77	eP	Pn	09 16 15.4	+0.2
	baz=77						
JMJ				eS	Sn	09 16 53.6	-0.3
	baz=77						
JMJ2	Miyako jima3	3.37	78	P	Pn	09 16 15.7	+0.3
JMJ2				S	Sn	09 16 54.1	-0.2
JOGS	Gusukube	3.45	78	P	Pn	09 16 17.2	+0.7
JOGS				S	Sn	09 16 56.4	+0.2
AXDP	Jialang	3.49	284	eP	Pn	09 16 15.7	-1.4
	baz=283						
ZPLA	Ao Xicun	3.61	268	eP	Pn	09 16 17.3	-1.5
	baz=267						
ZZJH	Jiuhuzhen	3.73	277	eP	Pn	09 16 18.7	-1.7
	baz=275						

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*NIED **03** 09:16:00, 36°60N×141°50E, h23km, Mw5.3 Best double couple: $M_0$1.03000×10^17 NP1:ϕ_s356.00000°, δ11.00000°, λ-110.00000°. NP2:ϕ_s196.00000°, δ80.00000°, λ-86.00000°.*

*BJI **03** 09:16:40.1±0.0, 36°56N×141°73E, h15km, mb5.5/78, mB5.1/61, Ms5.3/89, Ms7 5.2/83*

*IDC **03** 09:16:40.8±0.4, 36°48N×141°73E, h0km, mb5.2/38, mb1 5.3/43, mb1mx5.3/47, mbtmp5.2/43, ML5.0/5, MS4.8/29, Ms1 4.8/29, ms1mx4.7/37, Error ellipse: s-maj=12.2km s-min=9.9km az=87.0*

*ISCJB **03** 09:16:42.3±0.5, 36°48N±0°01×141°70E±0°02, h18km±3km, mb5.4/209, MS5.1/106, Error ellipse: s-maj=2.5km s-min=1.8km az=147.4*

*MOS **03** 09:16:43.7±1.2, 36°61N×141°72E, h33km, mb5.5/135, MS5.1/66, Error ellipse: s-maj=5.8km s-min=4.2km az=107.3*

*NEIC **03** 09:16:43.5±1.8, 36°49N±0°05×141°71E±0°07, h18km±2km, mb5.4/471, Ms_20 5.0/242, Mwb5.1, Mwr5.1, Mwc5.3(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^16Nm; M_{rr}-3.05; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$3.11; $M_{r\theta}$2.62; $M_{\theta\phi}$0.34; $M_{\phi r}$3.95; Fault plane solution: $M_0$5.66000×10^16 NP1:ϕ_s349.20000°, δ19.90000°, λ-127.28000°. NP2:ϕ_s208.19000°, δ74.29000°, λ-77.64000°. Principal axes: T 5.4563, Plg28.0000°, Azm288.0000°; N 0.3881, Plg12.0000°, Azm25.0000°; P -5.8443, Plg59.0000°, Azm135.0000°; Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; M_{rr}-3.08; $M_{\theta\theta}$-1.76; $M_{\phi\phi}$4.84; $M_{r\theta}$3.56; $M_{\theta\phi}$1.90; $M_{\phi r}$1.74; Fault plane solution: $M_0$6.11000×10^16 NP1:ϕ_s341.80000°, δ40.67000°, λ-149.29000°. NP2:ϕ_s227.55000°, δ70.56000°, λ-53.54000°. Principal axes: T 6.1752, Plg18.0000°, Azm291.0000°; N -0.1312, Plg34.0000°, Azm34.0000°; P -6.0440, Plg51.0000°, Azm179.0000°;*

*GCMT **03** 09:16:45.5±0.2, 36°57N±0°01×141°68E±0°01, h25km, MW5.3/119, Moment Tensor Solution. s90,c132; s119,c209; Duration: 1s0 Moment tensor: Scale 10^17 Nm; M_{rr}-0.29±.01; $M_{\theta\theta}$-0.25±.01; $M_{\phi\phi}$0.53±.01; $M_{r\theta}$0.63±.04; $M_{\theta\phi}$0.17±.01; $M_{\phi r}$0.57±.03; Best double couple: $M_0$0.98800×10^17 NP1:ϕ_s225.00000°, δ80.00000°, λ-66.00000°. NP2:ϕ_s336.00000°, δ25.00000°, λ-157.00000°. Principal axes: T 1.0090, Plg31.0000°, Azm295.0000°; N -0.0420, Plg23.0000°, Azm41.0000°; P -0.9670, Plg49.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*JMA **03** 09:16:45.8±0.1, 36°56N×141°49E, h47km±3km, M5.5*
JMA Felt III J1.

*NEIC **03** 09:16:46, 36°58N×141°69E, h28km, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; M_{rr}-4.52; $M_{\theta\theta}$-2.13; $M_{\phi\phi}$6.65; $M_{r\theta}$4.94; $M_{\theta\phi}$1.93; $M_{\phi r}$3.91; Fault plane solution: $M_0$8.83000×10^16 NP1:ϕ_s341.00000°, δ34.00000°, λ-146.00000°. NP2:ϕ_s221.00000°, δ72.00000°, λ-61.00000°. Principal axes: T 8.9927, Plg22.0000°, Azm290.0000°; N -0.3299, Plg27.0000°, Azm32.0000°; P -8.6629, Plg54.0000°, Azm167.0000°;*

ISC 03 09:16:43.5±0.4, **36°52N**±0°02×**141°73E**±0°03, **h19**km±1km, **h19**km**:pP-P, n1714,** σ**1s34**/1742, **mb5.4**/403, **MS5.0**/212, **95C-30D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.94	276	⇑P	Pb	09 17 00.1	-1.1
JHO				eS	Sb	09 17 10.5	-2.8
JHYU	Hitachinakayam	0.94	259	⇑P	Pb	09 17 00.5	-0.7
JHYU				eS	Sb	09 17 10.7	-2.6
ONAJ	Iwakimizuishiy	0.94	308	⇑P	Pb	09 17 00.3	-1.1
JFK	Kawauchi	1.09	321	⇑P	Pb	09 17 02.7	-1.1
JFFD	Fukushimafurud	1.10	301	⇑P	Pb	09 17 02.3	-1.6
JFFD				eS	Sb	09 17 14.6	-3.3
JMST	Minamisoumatoc	1.38	331	⇑P	Pn	09 17 06.8	-1.0
JFT	Otama	1.49	312	⇑P	Pn	09 17 09.3	-0.1
JSB	Shiboa	1.52	288	⇑P	Pn	09 17 09.7	-0.1
JMM	Marumori	1.54	331	⇑P	Pn	09 17 09.3	-0.7
JMM				eS	Sn	09 17 26.8	-2.6
I30JP	ISUMI INFRASON	1.67	224	Pn	Pb	09 17 13.6	-0.1
	baz=62,slow=19,SNR=0.5						
I30JP				Sn	Sg	09 17 37.4	-0.1
	baz=100,slow=254						
JIKH	Ishinomakikobu	1.80	353	⇑P	Pn	09 17 12.5	-1.0
JAG	Ashikaga	1.84	268	⇑P	Pn	09 17 13.1	-1.0
JKUC	kamogawauchiur	1.84	223	P	Pn	09 17 15.3	+1.1
JFY	Yanaizu	1.85	299	⇑P	Pn	09 17 14.2	-0.1
JIO	Ouri	1.95	351	⇑P	Pn	09 17 15.0	-0.7
JIO				eS	Sn	09 17 37.7	-2.0
BSO1	Boso 1	1.96	198	⇓P	Pn	09 17 15.8	+0.5
BSO3	Boso 3	1.98	210	P	Pn	09 17 16.7	+0.8
JKT	Katashina	2.01	278	⇑P	Pn	09 17 16.3	-0.3
JOU	Okura	2.03	336	⇑P	Pn	09 17 17.3	+0.6
JSGW	Sagamiharawaka	2.24	247	P	Pn	09 17 19.5	-0.2
JHK	Hiroka	2.29	289	⇑P	Pn	09 17 20.7	+0.3
JKMT	Kesennumamotoy	2.29	355	⇑P	Pn	09 17 19.9	-0.5
JNS	Sasagawa	2.32	305	⇑P	Pn	09 17 21.6	+0.8
JRY	Ryogami san	2.34	258	⇑P	Pn	09 17 20.4	-0.7
JOD2	Odawara 2	2.49	240	P	Pn	09 17 24.1	+1.0
OFUJ	Ofunato	2.55	359	P	Pn	09 17 23.6	-0.4
JIM2	Oshima 3	2.60	227	P	Pn	09 17 24.7	+0.1
JYK	Kaneyama	2.63	336	⇑P	Pn	09 17 25.4	+0.4
JHTM	Izuhatsuma	2.71	236	⇓P	Pn	09 17 26.9	+0.8
JYN	Shimob	2.78	249	P	Pn	09 17 27.7	+0.6
MJAR	Matsushiro Arr	2.84	271	P	Pn	09 17 27.4	-0.5
MJAR						09 17 58.9	
MJAR	Matsushiro Arr	2.84	271	Pn	Pn	09 17 29.0	+1.1
	97nm,0.3s,baz=76,slow=9.1,SNR=1233						
MJAR				Sn	Sn	09 18 05.0	+3.4
	57nm,0.3s,baz=198,slow=31,SNR=7.6						
MJAR				LR	LR	09 18 44.3	
	comp=Z,19µm,18.3s,baz=115,slow=44						
MJAR	Matsushiro Arr	2.84	271		Pn	09 17 27.4	-0.5
MJAR					Sn	09 17 58.9	-2.6
MAJO	Matsushiro	2.84	271	c iP	Pn	09 17 28.8	+0.9
MAJO	Matsushiro	2.84	271		Pn	09 17 28.4	+0.5
MAJO				Sn	Sn	09 17 59.5	-2.1
MAT	Matsushiro	2.84	271	P	Pn	09 17 28.9	+1.0
MAT				S	Sn	09 18 03.0	+1.4
MAT	Matsushiro	2.84	271	P	Pn	09 17 28.8	+0.9
MJB9	Matsu-Tunnel	2.84	272		Pn	09 17 27.8	-0.2
MJB9				Sn	Sn	09 17 58.9	-2.8
JJN	Nakama	2.92	282	⇑P	Pn	09 17 30.2	+1.2
JNG	Nsakai	2.93	269	⇑P	Pn	09 17 29.9	+0.7
JIZS	Izushimoda	2.94	233	P	Pn	09 17 29.8	+0.5
JOM	Ohasama	2.97	353	⇑P	Pn	09 17 29.8	+0.2
JNT	Takato	2.98	259	⇑P	Pn	09 17 30.7	+0.8
JRG	Rokugo	3.00	344	⇑P	Pn	09 17 30.8	+0.7
JKO	Kozu shima	3.15	223	P	Pn	09 17 33.1	+0.9
JTH	Tanohata	3.41	2	P	Pn	09 17 35.7	-0.1
JGN	Niukaw	3.58	267	P	Pn	09 17 39.3	+1.2
JHJ2	Mitsune	3.75	205	P	Pn	09 17 40.4	0.0
JHJ2	Mitsune	3.75	205		Pn	09 17 39.9	-0.5
JHJ2				Sn	Sn	09 18 23.8	-0.2
JHJ	Hachijo jima 2	3.75	206	Pn	Pn	09 17 40.5	0.0
	696nm,0.3s,baz=99,slow=5.4,SNR=214						
JHJ				Sn	Sn	09 18 22.2	-1.9
	598nm,0.3s,baz=77,slow=23,SNR=8.4						
JHJ				LR	LR	09 19 22.3	
	comp=Z,6µm,20.8s,baz=54,slow=44						
JAH	Hinai	3.76	347	P	Pn	09 17 41.6	+1.1
JSSY	Shinshiroyabe	3.79	246	P	Pn	09 17 43.4	+2.4
INU	Inuyama	4.00	254		Pn	09 17 45.1	+1.3
INU				Sn	Sn	09 18 28.8	-1.4
JHG	Hegura jima	4.06	290	P	Pn	09 17 46.4	+1.7
JYTA	Yamagatataniai	4.15	259	P	Pn	09 17 47.7	+1.8
TSUJ	Tsu 2	4.69	249	P	Pn	09 17 55.6	+2.3
ERM	Erimo	5.59	11	c iP	Pn	09 18 04.8	-0.9
ERM				pmax	pmax		
	comp=Z,100nm,0.6s						
ERM	Erimo	5.59	11		Pn	09 18 04.8	-0.9
ERM				Sn	Sn	09 19 05.5	-3.9
JKS	Kasai	5.81	257	P	Pn	09 18 10.7	+2.0
JAR	Ashorobuto	6.95	12	P	Pn	09 18 22.1	-2.2
NMR	Nemuro--Hokkai	7.50	23	⇑iP	Pn	09 18 29.4	-2.4
NMR				i S	Sn	09 19 47.3	-8.9
NEM2	Nemuro 2	7.50	23	P	Pn	09 18 29.4	-2.4
ASAJ	Asahikawa	7.61	5	P	Pn	09 18 32.8	-0.7
ASAJ	Asahikawa	7.61	5	Pn	Pn	09 18 32.8	-0.7
	comp=Z,25nm,0.3s,baz=207,slow=10,SNR=38						
ASAJ				Sn	Sn	09 19 55.2	-3.9
	comp=Z,7.5nm,0.3s,baz=53,slow=20,SNR=2.2						
JKA	Kamikawa-asahi	7.61	5		Pn	09 18 32.8	-0.7
JKA					Sn	09 19 55.2	-3.9
GLVR	Golovnino	7.77	21	d iP	Pn	09 18 33.6	-2.0
GLVR				i S	Sn	09 19 56.0	-7.0
GLVR				pmax	pmax		
	comp=Z,568nm,0.5s						
GLVR				pmax	pmax		
	comp=N,277nm,0.3s						
GLVR				pmax	pmax		
	comp=E,217nm,0.3s						
GLVR				MLR	MLR		
	comp=Z,2µm,12.0s						
GRPR	Tuman	8.07	21	⇑iP	Pn	09 18 37.1	-2.7
GRPR				i S	Sn	09 20 01.9	-8.6
GRPR				pmax	pmax		
	comp=Z,703nm,0.4s						

GRPR pmax pmax
comp=Z,608nm,2.7s
GRPR MLR MLR
comp=Z,3μm,16.0s
YUK Yuzh-Kuril'sk 8.14 22⇑ *i*P Pn 09 18 38.2 -2.4
YUK *i* S **Sn 09 20 04.4 -7.7**
YUK pmax pmax
comp=Z,894nm,1.5s
YUK pmax pmax
comp=Z,525nm,0.4s
YUK pmax pmax
comp=E,148nm,0.2s
YUK pmax pmax
comp=N,484nm,0.4s
YUK MLR MLR
comp=Z,3μm,15.0s
YUK MLR MLR
comp=N,3μm,12.0s
YUK MLR MLR
comp=E,5μm,15.0s
TEY Ternei 9.35 337⇓ *e*P Pn 09 18 58.5 +1.3
TEY *e*S **Sn 09 20 41.5 -0.3**
TEY pmax pmax
comp=N,20nm,0.9s
TEY pmax pmax
comp=Z,30nm,0.9s
TEY pmax pmax
comp=E,20nm,0.9s
TEY pmax pmax
comp=N,460nm,0.7s
TEY pmax pmax
comp=E,240nm,0.7s
TEY pmax pmax
comp=Z,360nm,0.8s
TEY pmax pmax
comp=Z,180nm,1.3s
TEY pmax pmax
comp=E,190nm,1.3s
TEY pmax pmax
comp=N,160nm,2.0s
TEY MLR MLR
comp=E,4μm,14.0s
TEY MLR MLR
comp=N,6μm,16.0s
TEY MLR MLR
comp=Z,6μm,14.0s
JCJ Chichijima 9.41 178 Pn Pn 09 18 55.2 -2.9
comp=Z,87nm,0.3s,baz=292,slow=21,SNR=50
JCJ Sn Sn 09 20 32.0 -11
comp=Z,81nm,0.3s,baz=307,slow=22,SNR=6.2
JNU Nakatsue 9.54 252 Pn Pn 09 19 02.5 +2.5
comp=Z,3.6nm,0.3s,baz=68,slow=7.5,SNR=49
JNU LR LR 09 22 58.6
comp=Z,7μm,18.9s,baz=70,slow=40
JNU Nakatsue 9.54 252 Pn 09 19 01.3 +1.3
KUR Kuril'sk 9.86 26*c i*P Pn 09 19 03.4 -0.8
KUR *i* S **Sn 09 20 46.3 -8.0**
KUR pmax pmax
comp=Z,273nm,0.5s
KUR pmax pmax
comp=N,161nm,0.4s
KUR pmax pmax
comp=E,111nm,0.5s
KUR pmax pmax
comp=Z,607nm,1.6s
KUR MLR MLR
comp=Z,2μm,14.0s
KUR MLR MLR
comp=E,4μm,15.0s
KUR MLR MLR
comp=N,3μm,14.0s
VLA Vladivostok 10.03 314*d i*P Pn 09 19 11.4 +4.8
MSHR Mys Shultsa 10.16 310*ce*P Pn 09 19 10.6 +2.3
YSS Yuzh-Sakhalins 10.45 4⇓ *i*P Pn 09 19 12.4 +0.1
YSS *e*S **Sn 09 21 03.9 -4.9**
YSS pmax pmax
comp=Z,100nm,0.6s
YSS smax smax
comp=E,800nm,3.4s
YSS MLR MLR
comp=Z,5μm,16.0s
YSS MLR MLR
comp=N,4μm,13.0s
YSS MLR MLR
comp=E,4μm,14.0s
YSS Yuzh-Sakhalins 10.45 4 Pn 09 19 12.8 +0.5
USRK Ussuriysk Ar. 10.67 319 P Pn 09 19 17.4 +2.0
USRK Ussuriysk Ar. 10.67 319 Pn **Pn 09 19 18.6 +3.3**
baz=136,slow=13,SNR=150
USRK LR LR 09 23 17.9
comp=E,12μm,18.0s,baz=123,slow=37
USRK Ussuriysk Ar. 10.67 319 Pn 09 19 17.4 +2.0
USA0B Ussuriysk Arra 10.67 319 P Pn 09 19 17.1 +1.7
USA0B Ussuriysk Arra 10.67 319 Pn 09 19 17.1 +1.7
KSRS Korea Array 11.09 279 Pn **Pn 09 19 25.4 +4.4**
comp=E,5.5nm,0.3s,baz=96,slow=14,SNR=80
KSRS LR LR 09 23 44.9
comp=E,9μm,18.1s,baz=87,slow=38
KSRS PcP **PcP 09 25 18.8 +1.0**
comp=E,0.1nm,0.3s,baz=94,slow=0.8,SNR=6.1
KSAR Wonju Array Be 11.12 279 P Pn 09 19 20.4 -1.1
KSAR Wonju Array Be 11.12 279 Pn 09 19 20.4 -1.1
KS19 Wonju Array Si 11.13 279 Pn 09 19 22.0 +0.4
TJN Taejon 11.57 274*c i*P Pn 09 19 31.2 +3.5
INCN Inchon 12.11 279 P Pn 09 19 34.0 -1.1
INCN Inchon 12.11 279 Pn 09 19 34.0 -1.1
MDJ Mudanjiang 12.26 315 P Pn 09 19 41.9 +4.8
MDJ pmax pmax
comp=E,870nm,3.7s
MDJ LR LR
comp=E,5μm,18.3s
MDJ LR LR
comp=E,6μm,17.0s
MDJ LR LR
comp=E,11μm,16.2s
MDJ Mudanjiang 12.26 315 Pn 09 19 36.8 -0.2
UGL Uglegorsk 12.55 1 P Pn 09 19 36.8 -4.2
UGL *e*S **Sn 09 21 52.4 -7.8**
UGL pmax pmax
comp=Z,114nm,1.3s
UGL MLR MLR
comp=Z,4μm,12.0s
UGL MLR MLR
comp=N,4μm,13.0s
UGL MLR MLR
comp=E,6μm,18.0s
JTK Tokunoshima 13.88 235 P Pn 09 19 58.8 -0.5
TYV Tymovskoe 14.35 2 *e*P Pn 09 20 05.7 +0.1
TYV *e*S **Sn 09 22 47.2 +3.1**
TYV pmax pmax
comp=Z,29nm,0.8s
TYV smax smax
comp=N,17nm,1.1s
TYV MLR MLR
comp=E,5μm,14.0s
TYV MLR MLR
comp=Z,4μm,14.0s
CN2 Changchun 14.40 305 *e*P Pn 09 20 05.9 -0.5
CN2 *e*S **Sn 09 22 47.3 +1.8**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,5μm,15.0s
CN2 LR LR
comp=Z,7μm,15.0s
CN2 LR LR
comp=Z,9μm,16.0s
KLR Kul'dur 14.64 333*d i*P Pn 09 20 08.2 -1.3
KLR pmax pmax
comp=Z,10.0nm,0.6s
KLR Kul'dur 14.64 333 Pn **Pn 09 20 08.1 -1.5**
comp=Z,1.8nm,0.3s,baz=140,slow=10,SNR=34
KLR LR LR 09 25 45.3
comp=Z,6μm,18.5s,baz=150,slow=37
JYRO Yoronjima 14.72 234 P Pn 09 20 09.8 -1.0
GRNR Gornyy 14.74 347⇓ *i*P Pn 09 20 02.4 -8.6
GRNR *e*SS **Sn 09 22 51.4 -2.3**
GRNR pmax pmax
comp=Z,50nm,0.7s
GRNR MLR MLR
comp=N,3μm,16.0s
GRNR MLR MLR
comp=Z,5μm,16.0s
JOW Kunigami 14.97 234 P Pn 09 20 12.6 -1.6
JOW Kunigami 14.97 234 Pn **Pn 09 20 12.9 -1.3**
SNY Shenyang 15.04 296 ⇑P Pn 09 20 14.6 -0.3
SNY S **Sn 09 23 08.2 +7.3**
SNY pmax pmax
comp=Z,350nm,4.1s
SNY LR LR
comp=Z,6μm,15.7s
SNY LR LR
comp=Z,10μm,15.5s
SNY LR LR
comp=Z,13μm,15.3s
JAGN Aguni-jima 15.81 235 P P 09 20 30.7 +1.8
DL2 Dalian 16.09 285⇑ *i*P Pn 09 20 29.0 +0.4
DL2 S **Sn 09 23 29.3 +2.8**
DL2 pmax pmax
comp=Z,320nm,0.6s
DL2 pmax pmax
comp=Z,720nm,4.6s
DL2 LR LR
comp=Z,2μm,14.2s
DL2 LR LR
comp=Z,7μm,16.0s
DL2 LR LR
comp=Z,9μm,16.2s
JKE Kume jima 2 16.29 236 P P 09 20 33.9 -0.3
OKH Okha 17.05 2*de*P Pn 09 20 37.0 -3.7
OKH *e*S **Sn 09 23 48.1 -1.5**
OKH pmax pmax
comp=Z,100nm,17.0s
OKH smax smax
comp=E,200nm,12.5s
OKH MLR MLR
comp=Z,4μm,16.0s
SKR Severo-Kuril's 17.53 32 *e*P Pn 09 20 41.6 -5.1
SKR pmax pmax
comp=Z,700nm,3.1s
SKR pmax pmax
comp=Z,91nm,0.9s
SKR MLR MLR
comp=Z,700nm,15.0s
SSE Sheshan 17.90 258 P P 09 20 55.4 +3.4
SSE S **Sn 09 24 08.7 -1.8**
SSE pmax pmax
comp=Z,43nm,1.2s
SSE pmax pmax
comp=Z,200nm,4.7s
SSE LR LR
comp=Z,1μm,14.4s
SSE LR LR
comp=Z,2μm,14.6s
JTJ Tarama 18.81 236 P P 09 21 00.7 -1.4
JISG Ishigakijimahi 19.11 236 P P 09 21 03.1 -2.2
JIJ Ishigaki jima 19.37 236 P P 09 21 06.4 -1.8
NJ2 Nanjing 19.41 263 *e*P P 09 21 07.3 -1.3
NJ2 pP **sP 09 21 15.3 0.0**
NJ2 PP **PnPn 09 21 24.7 +1.7**
NJ2 S **S 09 24 48.6 +1.3**
NJ2 pmax pmax
comp=Z,17nm,0.5s
NJ2 pmax pmax
comp=Z,400nm,5.0s
NJ2 LR LR
comp=Z,2μm,18.5s
NJ2 LR LR
comp=Z,4μm,18.5s
NJ2 LR LR
comp=Z,6μm,12.8s
TIA Tai'an 19.81 276 P P 09 21 11.1 -1.9
TIA S **S 09 24 46.5 -8.8**
TIA pmax pmax
comp=Z,120nm,2.9s
TIA LR LR
comp=Z,4μm,15.7s
TIA LR LR
comp=Z,3μm,16.4s
TIA LR LR
comp=Z,4μm,15.7s
ZEA Zeya 19.95 334 *e*P P 09 21 12.2 -2.1
ZEA pmax pmax
comp=N,60nm,0.7s
ZEA pmax pmax
comp=E,35nm,0.7s
ZEA pmax pmax
comp=Z,110nm,0.7s
ZEA pmax pmax
comp=Z,300nm,6.0s
ZEA pmax pmax
comp=Z,700nm,8.0s
ZEA MLR MLR
comp=N,5μm,15.0s
ZEA MLR MLR
comp=E,3μm,15.0s
ZEA MLR MLR
comp=Z,8μm,15.0s
PEA0B Petropavlovsk- 20.00 29*de*P Pn 09 21 16.1 -0.6
PEA0B Petropavlovsk- 20.00 29 P P 09 21 13.9 -1.0
PETK Petropavlovsk- 20.00 29 P Pn 09 21 16.4 -0.3
PETK Petropavlovsk- 20.00 29 P Pn 09 21 16.4 -0.4
comp=Z,22nm,0.7s,baz=198,slow=8.9,SNR=20
PETK Petropavlovsk- 20.00 29 P P 09 21 14.5 -0.5
SARN Sarigan 20.07 169 P P 09 21 15.5 -0.4
YOJ Yonaguni jima 20.08 238 P P 09 21 14.3 -1.6
YOJ pmax pmax
comp=Z,45nm,0.6s
YOJ MLR MLR
comp=Z,3μm,20.0s
YOJ Yonaguni jima 20.08 238 P P 09 21 14.3 -1.6
PET Petropavlovsk 20.32 30 *e*P P 09 21 19.2 +0.9
PET *e*S **S 09 25 01.8 -3.4**
PET pmax pmax
comp=Z,180nm,1.5s
PET pmax pmax
comp=Z,100nm,11.3s
PET MLR MLR
comp=Z,2μm,14.0s
PET MLR MLR
comp=Z,2μm,16.0s
PET Petropavlovsk 20.32 30 P P 09 21 19.2 +0.9
BJI Beijing 20.34 288 P P 09 21 15.5 -3.2
BJI S **S 09 24 58.1 -7.8**
BJI LR LR
comp=Z,2μm,12.5s
BJI LR LR
comp=Z,2μm,15.5s
BJI LR LR
comp=Z,1μm,15.7s
BJT Baijiatuau 20.35 288 P P 09 21 17.1 -1.7
BJT pmax pmax
comp=Z,117nm,0.8s
BJT MLR MLR
comp=Z,2μm,19.0s
BJT Baijiatuau 20.35 288 P P 09 21 17.1 -1.7
BJT IAmb IAmb 09 21 24.5
comp=Z,117nm,0.8s
HIA Hailar 20.45 315 P P 09 21 16.8 -3.0
HIA pmax pmax
comp=Z,34nm,0.7s
HIA MLR MLR
comp=Z,6μm,18.0s
HIA Hailar 20.45 315 P P 09 21 16.8 -3.0
HIA Hailar 20.45 315 IAMs_20 IAMs_20 09 29 22.1
comp=Z,6μm,18.0s
YHNB Yeheng 21.08 242 P P 09 21 24.9 -2.1
NACB Ninganchiao 21.24 240 P P 09 21 27.0 -1.5
SSLB Suanglung 21.94 240 P P 09 21 33.8 -2.3
YULB Yu-li 21.96 239 P P 09 21 32.9 -3.4
TPUB Ta-pu 22.48 240 P P 09 21 38.8 -3.1
TWG Pinlang 22.49 238 P P 09 21 40.7 -1.3
TWG IAmb IAmb 09 21 44.9
comp=Z,126nm,0.7s
TWG IAMs_20 IAMs_20 09 30 43.6
comp=Z,5μm,22.0s
QZH Quanzhou 22.93 246⇓ *i*P P 09 21 44.0 -2.6
QZH S **S 09 25 49.0 -6.8**
QZH pmax pmax
comp=Z,60nm,0.8s
QZH LR LR
comp=Z,2μm,13.9s
QZH LR LR
comp=Z,2μm,13.7s
QZH LR LR
comp=Z,3μm,14.1s
GUMO Guam 23.01 172 P P 09 21 46.7 -0.7
GUMO Guam 23.01 172 P P 09 21 46.7 -0.7
comp=Z,104nm,0.8s,baz=185,slow=0.5,SNR=4.6
GUMO LR LR 09 31 10.5
comp=Z,522nm,20.1s,baz=20,slow=38
GUMO Guam 23.01 172 P P 09 21 45.3 -2.1
GUMO IAmb IAmb 09 21 48.3
comp=Z,144nm,1.0s
TIY Taiyuan 23.35 282 *e*P P 09 21 49.8 -1.1
TIY S **S 09 25 57.3 -5.6**
TIY LR LR
comp=Z,4μm,15.7s
TIY LR LR
comp=Z,6μm,13.7s
TIY LR LR
comp=Z,7μm,16.1s
WHN Wuhan 23.55 263 ⇓P P 09 21 51.5 -1.2
WHN S **S 09 26 01.2 -4.7**
WHN pmax pmax
comp=Z,140nm,0.7s
WHN LR LR
comp=Z,4μm,15.7s
WHN LR LR
comp=Z,14μm,14.4s
WHN LR LR
comp=Z,14μm,14.3s
MA2 Magadan 23.80 11⇓ *e*P P 09 21 55.2 +0.3
MA2 pmax pmax
comp=Z,183nm,2.0s
MA2 MLR MLR
comp=Z,1μm,15.0s
MA2 Magadan 23.80 11 P P 09 21 55.6 +0.6
comp=Z,46nm,0.7s,baz=199,slow=10.0,SNR=17
MA2 LR LR 09 31 56.9
comp=Z,751nm,18.7s,baz=190,slow=38
MA2 Magadan 23.80 11 P P 09 21 55.5 +0.6
MA2 IAmb IAmb 09 22 01.4
comp=Z,79nm,0.9s
HHC Hu-ho-hao-te 23.88 290 P P 09 22 00.6 +4.6
HHC pmax pmax
comp=Z,26nm,0.9s
HHC pmax pmax
comp=Z,29nm,4.9s
BTO Baotou 25.05 289 *e*P P 09 22 07.2 +0.5
BTO S **S 09 26 31.2 +1.0**
CIT Chita 25.22 317 *e*P P 09 22 07.9 -0.2
CIT *e* 09 22 19.7
CIT *e* 09 22 47.8
CIT *e* 09 22 57.5
CIT pmax pmax
comp=Z,156nm,1.6s
YAK Yakutsk 26.62 347 *e*P P 09 22 20.0 -0.6
YAK *e**PP **pwP 09 22 30.1 +2.0**
YAK *e*PPP PPP 09 23 05.4
YAK *e* 09 25 43.8
YAK *e*S **S 09 26 51.0 -3.3**
YAK *e**SS **sS 09 27 07.8 +5.2**
YAK *e*SS **SnSn 09 27 58.0 +0.7**
YAK *e*SSS SSS 09 28 19.2
YAK pmax pmax
comp=Z,183nm,0.9s
YAK pmax pmax
comp=E,29nm,0.9s
YAK pmax pmax
comp=N,101nm,1.1s
YAK pmax pmax
comp=Z,137nm,0.8s
YAK pmax pmax
comp=N,238nm,1.1s
YAK pmax pmax
comp=E,51nm,0.9s
YAK smax smax
comp=E,702nm,2.3s
YAK smax smax
comp=N,2μm,3.0s
YAK MLR MLR
comp=Z,5μm,15.0s
YAK MLR MLR
comp=E,2μm,12.0s
YAK MLR MLR
comp=N,4μm,13.0s
YAK Yakutsk 26.62 347 S **S 09 26 50.7 -3.6**
comp=N,3.6nm,0.3s,baz=65,slow=1.3,SNR=3.6
YAK Yakutsk 26.62 347 P **P 09 22 19.9 -0.6**
YAK IAMs_20 IAMs_20 09 33 03.7
comp=Z,4μm,18.0s
XAN Xi'an 26.83 274 P **P 09 22 22.2 -0.6**
XAN PP **PnPn 09 23 07.4 +2.9**
XAN PcP **PcP 09 25 43.9 -1.3**
XAN S **S 09 26 50.6 -7.7**
XAN pmax pmax
comp=Z,24nm,0.5s
XAN pmax pmax
comp=Z,220nm,5.1s
XAN LR LR
comp=Z,2μm,15.2s
XAN LR LR
comp=Z,2μm,16.7s
XAN LR LR
comp=Z,2μm,12.7s
XAN Xi'an 26.83 274 P **P 09 22 21.0 -1.8**
XAN pmax pmax
comp=Z,36nm,0.7s
XAN MLR MLR
comp=Z,3μm,18.0s
XAN Xi'an 26.83 274 P **P 09 22 21.0 -1.8**
XAN Xi'an 26.83 274 IAMs_20 IAMs_20 09 33 29.7
comp=Z,3μm,18.0s
SEY Seymchan 27.24 11⇑ *e*P P 09 22 28.1 +1.9
SEY Seymchan 27.24 11 P **P 09 22 27.2 +1.1**
comp=Z,34nm,0.6s,baz=194,slow=6.7,SNR=51
ENH Enshi 27.55 266 P **P 09 22 28.0 -1.3**
ENH IAMs_20 IAMs_20 09 35 04.5
comp=Z,3μm,19.0s
H11N2 WAKE ISLAND Hy 27.67 120 T T 09 51 53.2
baz=313,slow=75,SNR=197
H11N1 WAKE ISLAND Hy 27.68 120 T T 09 51 53.7
baz=313,slow=75,SNR=199
H11N3 WAKE ISLAND Hy 27.69 120 T T 09 51 54.5
baz=313,slow=75,SNR=163
WAKE Wake Island 27.80 121 IAMs_20 IAMs_20 09 31 39.8
comp=Z,3μm,20.0s
ULN Ulaanbaatar 27.85 305 P **P 09 22 32.9 +0.9**
SNR=47
ULN Ulaanbaatar 27.85 305*c i*P P 09 22 32.1 +0.1
ULN pmax pmax
comp=Z,66nm,0.7s
ULN MLR MLR
comp=Z,4μm,15.0s
ULN Ulaanbaatar 27.85 305 P **P 09 22 31.8 -0.2**
ULN Ulaanbaatar 27.85 305 IAMs_20 IAMs_20 09 34 00.9
comp=Z,3μm,19.0s
BOD Bodaibo 28.10 328 *e*P P 09 22 33.7 -0.2
BOD pmax pmax
comp=Z,90nm,0.8s
SONM Songino Array 28.28 305 P **P 09 22 35.3 -0.5**
SONM Songino Array 28.28 305 P **P 09 22 35.3 -0.5**
comp=Z,45nm,0.5s,baz=105,slow=8.8,SNR=120
SONM LR LR 09 34 26.2
comp=Z,2μm,18.1s,baz=102,slow=38
SONM Songino Array 28.28 305 P **P 09 22 35.2 -0.5**
H11S1 WAKE ISLAND Hy 28.37 123 T T 09 53 33.7
baz=319
H11S3 WAKE ISLAND Hy 28.37 123 T T 09 53 00.0
baz=319,slow=74
H11S2 WAKE ISLAND Hy 28.39 123 T T 09 53 05.9
baz=319,slow=74
LZH Lanzhou 30.41 281 *e*P P 09 22 54.7 -0.1
LZH pP pwP 09 23 04.4 +2.1
LZH S **S 09 27 51.8 -3.0**
LZH sS sS 09 28 05.4 +2.9
LZH pmax pmax
comp=Z,130nm,1.1s
LZH pmax pmax
comp=Z,340nm,5.2s
LZH LR LR
comp=Z,4μm,14.6s
LZH LR LR
comp=Z,6μm,15.2s
LZH LR LR
comp=Z,8μm,16.5s
ZAK Zakamensk 30.79 309 *e*P P 09 22 55.1 -2.8
ZAK pmax pmax
comp=Z,28nm,1.1s
TLY Talaya 30.86 312 P **P 09 22 59.3 +0.9**
SNR=11
TLY Talaya 30.86 312 *e*P P 09 22 56.9 -1.6
TLY *e*S **S 09 28 02.1 +0.8**
TLY pmax pmax
comp=Z,57nm,0.6s

TLY MLR MLR
comp=Z,13µm,15.0s
TLY Talaya 30.86 312 P **P** **09 22 56.4 -2.1**
TLY IAmb IAmb 09 23 00.7
comp=Z,27nm,0.7s
TLY IAMs_20 IAMs_20 09 35 56.1
comp=Z,4µm,18.0s
GYA Guiyang 31.39 261 ⇓ *i* P **P** **09 23 02.9 -0.6**
GYA PP **PnPn** **09 24 03.9 -2.3**
GYA S **S** **09 28 03.0 -7.2**
GYA pmax pmax
comp=Z,40nm,0.8s
GYA LR LR
comp=Z,1µm,19.6s
GYA LR LR
comp=Z,1µm,18.0s
GYA LR LR
comp=Z,2µm,19.9s
CD2 Chengdu 31.93 271 P **P** **09 23 07.5 -0.7**
CD2 S **S** **09 28 15.0 -3.5**
CD2 sS sS 09 28 29.9 +3.4
CD2 PcS **PcS** **09 29 40.2 -2.9**
CD2 pmax pmax
comp=Z,70nm,0.5s
CD2 pmax pmax
comp=Z,240nm,12.2s
CD2 LR LR
comp=Z,5µm,12.6s
CD2 LR LR
comp=Z,9µm,17.3s
CD2 LR LR
comp=Z,11µm,14.9s
MOY Mondy 32.46 311 *e*P **P** **09 23 12.7 0.0**
MOY pmax pmax
comp=Z,32nm,2.2s
QIZ Qiongzhong 32.96 247 P **P** **09 23 16.8 -0.4**
QIZ S **S** **09 28 34.4 -0.1**
QIZ pmax pmax
comp=Z,240nm,6.1s
QIZ LR LR
comp=Z,1µm,19.6s
QIZ LR LR
comp=Z,1µm,18.0s
QIZ LR LR
comp=Z,1µm,17.7s
GTA Gaotai 32.96 288 ⇓ P **P** **09 23 16.9 -0.3**
GTA pP pP 09 23 22.2 -0.2
GTA sP pwP 09 23 25.8 +1.1
GTA PP **PnPn** **09 24 28.5 +2.2**
GTA PcP **PcP** **09 26 02.4 +1.4**
GTA S **S** **09 28 32.7 -1.8**
GTA sS sS 09 28 49.6 +7.6
GTA ScP **ScP** **09 29 43.3 -0.9**
GTA SS **SnSn** **09 30 33.3 +1.1**
GTA ScS **ScS** **09 33 42.4 -2.0**
GTA pmax pmax
comp=Z,26nm,0.8s
GTA pmax pmax
comp=Z,180nm,8.1s
GTA LR LR
comp=Z,1µm,15.2s
GTA LR LR
comp=Z,2µm,15.6s
GTA LR LR
comp=Z,2µm,15.9s
ADK Adak 33.02 49 P **P** **09 23 17.3 -0.1**
ADK pmax pmax
comp=Z,30nm,1.0s
ADK Adak 33.02 49 P **P** **09 23 17.3 -0.1**
KCP Kidapawan 33.08 211 ⇑ P **P** **09 23 19.1 +0.8**
PATS Pohnpei 33.21 149 IAMs_20 IAMs_20 09 33 05.1
comp=Z,2µm,20.0s
BILL Bilibino 34.45 16 *d i* P **P** **09 23 29.7 +0.1**
BILL *e* *PP **sP** **09 23 35.8 -1.0**
BILL *e* 09 24 45.0
BILL *e* PPP PPP 09 24 56.4
BILL *e* S **S** **09 28 59.0 +2.4**
BILL *e* SS **SnSn** **09 31 10.6 +3.3**
BILL pmax pmax
comp=Z,32nm,1.3s
BILL MLR MLR
comp=Z,980nm,16.0s
BILL Bilibino 34.45 16 P **P** **09 23 29.4 -0.1**
KMI Kunming 35.14 262 P **P** **09 23 36.5 +0.1**
KMI pP pP 09 23 41.1 -0.5
KMI sP pwP 09 23 43.4 -0.4
KMI PP **PP** **09 24 59.2 +3.1**
KMI S **S** **09 29 05.0 -3.6**
KMI sS pS 09 29 13.8 -1.0
KMI SS SS 09 31 23.7 -18
KMI pmax pmax
comp=Z,53nm,0.8s
KMI pmax pmax
comp=Z,160nm,4.2s
KMI LR LR
comp=Z,2µm,15.6s
KMI LR LR
comp=Z,3µm,16.0s
KMI LR LR
comp=Z,3µm,15.8s
KMI Kunming 35.14 262 P **P** **09 23 35.2 -1.2**
KMI pmax pmax
comp=Z,50nm,0.9s
KMI MLR MLR
comp=Z,3µm,19.0s
KMI Kunming 35.14 262 P **P** **09 23 35.2 -1.2**
KMI IAmb IAmb 09 23 41.7
comp=Z,50nm,0.9s
KMI Kunming 35.14 262 IAMs_20 IAMs_20 09 38 48.8
comp=Z,3µm,19.0s
TIXI Tiksi 35.83 353 ⇓ *i* P **P** **09 23 41.6 +0.2**
TIXI pmax pmax
comp=Z,41nm,1.7s
TIXI MLR MLR
comp=Z,3µm,16.0s
TIXI Tiksi 35.83 353 P **P** **09 23 41.6 +0.2**
comp=Z,11nm,0.5s,baz=180,slow=24,SNR=24
TIXI Tiksi 35.83 353 P **P** **09 23 41.4 0.0**
TIXI IAMs_20 IAMs_20 09 39 18.0
comp=Z,3µm,18.0s
SGSI Sangihe 35.92 208 P P 09 23 55.4 +13
SLVN Son La 36.15 256 P **P** **09 23 44.3 -0.5**
SLVN IAMs_20 IAMs_20 09 40 39.8
comp=Z,3µm,18.0s
TNTI Ternate 37.98 204 P **P** **09 24 00.9 +0.6**
comp=Z,221nm,1.6s,comp=Z,3µm
TNTI Ternate 37.98 204 P **P** **09 24 00.1 -0.3**
TNTI IAmb IAmb 09 24 04.3
comp=Z,61nm,0.9s
UBPT Khong Chiam 38.55 246 P **P** **09 24 06.4 +1.2**
comp=Z,54nm,1.3s
UBPT Khong Chiam 38.55 246 P **P** **09 24 02.3 -2.9**
UBPT IAmb IAmb 09 24 07.6
comp=Z,82nm,1.1s
NONG Nongkai 38.59 252 P **P** **09 24 06.3 +0.8**
comp=Z,4.0nm,0.9s,comp=Z,66nm
SKNT Sakolnakorn 38.60 250 P **P** **09 24 06.5 +0.9**
comp=Z,136nm,1.0s,comp=Z,4µm
DLV T Lat 38.63 239 P **P** **09 24 06.0 -0.1**
DLV IAmb IAmb 09 24 08.2
comp=Z,48nm,0.6s
MANU Manus Island 38.73 171 P **P** **09 24 04.9 -1.7**
AKUT Akutan 39.85 47 P **P** **09 24 16.0 +0.3**
AKUT IAmb IAmb 09 24 22.3
comp=Z,95nm,1.0s
MRSI Marisa 40.29 212 P **P** **09 24 20.0 +0.4**
comp=Z,365nm,1.2s,comp=Z,4µm
PAYA Payao 40.39 257 P **P** **09 24 21.6 +1.1**
comp=Z,34µm,0.7s
PHRA Phrae 40.59 255 P **P** **09 24 22.7 +0.5**
comp=Z,8.6nm,1.0s
CHAI Chaiyaphum 40.77 250 P **P** **09 24 23.8 +0.1**
comp=Z,275µm,1.0s
UTTA Uttaradit 40.77 254 P **P** **09 24 24.1 +0.5**
comp=Z,100µm,0.8s,comp=Z,697µm
LAMP Lampang 41.04 256 P **P** **09 24 27.0 +1.1**
comp=Z,101µm,0.8s
SANI Sanana 41.08 204 P **P** **09 24 25.1 -1.1**
comp=Z,370nm,0.9s,comp=Z,4µm
PBKT Sadao Pong 41.14 252 P **P** **09 24 27.2 +0.5**
comp=Z,65nm,1.0s,comp=Z,3µm
PBKT Sadao Pong 41.14 252 P **P** **09 24 27.5 +0.8**
PBKT IAmb IAmb 09 24 28.3
comp=Z,83nm,0.8s
ZIRO ZIRO 41.22 272 *e*P **P** **09 24 26.8 -0.7**

WMQ Urumqi 41.30 297 *e*P **P** **09 24 29.0 +1.2**
WMQ pP pP 09 24 33.0 -0.2
WMQ sP pwP 09 24 35.3 0.0
WMQ PP **PnPn** **09 26 08.5 +0.7**
WMQ PcP **PcP** **09 26 30.7 +4.5**
WMQ ScP **ScP** **09 30 16.2 +1.1**
WMQ S **S** **09 30 42.1 +1.0**
WMQ sS sS 09 30 57.0 +8.3
WMQ ScS **ScS** **09 34 27.6 -3.4**
WMQ pmax pmax
comp=Z,71nm,0.7s
WMQ pmax pmax
comp=Z,190nm,3.8s
WMQ LR LR
comp=Z,1µm,16.3s
WMQ LR LR
comp=Z,1µm,17.5s
WMQ LR LR
comp=Z,2µm,18.7s
WMQ Urumqi 41.30 297 P **P** **09 24 27.5 -0.4**
WMQ pmax pmax
comp=Z,142nm,0.8s
WMQ MLR MLR
comp=Z,2µm,18.0s
WMQ Urumqi 41.30 297 P **P** **09 24 27.5 -0.4**
WMQ Urumqi 41.30 297 IAMs_20 IAMs_20 09 42 15.0
comp=Z,2µm,18.0s
LUWI Luwuk 41.32 209 P **P** **09 24 27.6 -0.6**
comp=Z,113nm,0.9s
LUWI Luwuk 41.32 209 P **P** **09 24 26.6 -1.5**
LUWI IAmb IAmb 09 24 30.4
comp=Z,84nm,0.9s
CMMT Chiang Mai 41.41 257 P **P** **09 24 29.3 +0.3**
comp=Z,19nm,0.9s
CHTO Chiang Mai 41.42 257 P **P** **09 24 29.5 +0.5**
SNR=6.7
CHTO P **P** **09 24 29.5 +0.5**
SNR=6.7
CHTO Chiang Mai 41.42 257 P **P** **09 24 29.5 +0.5**
CHTO pmax pmax
comp=Z,28nm,0.8s
CHTO MLR MLR
comp=Z,2µm,21.0s
CHTO Chiang Mai 41.42 257 P **P** **09 24 29.5 +0.5**
CHTO Chiang Mai 41.42 257 IAMs_20 IAMs_20 09 43 44.3
comp=Z,2µm,21.0s
ITAN ITANAGAR 41.48 271 *e*P **P** **09 24 29.2 -0.3**
CM31 Chiang Mai Arr 41.62 256 P **P** **09 24 31.8 +1.2**
SNR=8.0
CM31 Chiang Mai Arr 41.62 256 P **P** **09 24 31.0 +0.4**
CMAR Chiang Mai Arr 41.62 256 *i* P **P** **09 24 31.2 +0.6**
CMAR pmax pmax
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 41.62 256 P **P** **09 24 31.2 +0.6**
comp=Z,14nm,0.8s,baz=46,slow=6.5,SNR=70
CMAR PcP **PcP** **09 26 28.4 +0.8**
comp=Z,3.8nm,0.6s,baz=9.3,slow=2.6,SNR=4.6
CMAR ScP **ScP** **09 30 16.9 +0.3**
comp=Z,1.3nm,0.3s,baz=1.4,slow=5.7,SNR=4.8
CMAR LR LR 09 44 09.2
comp=Z,1µm,18.1s,baz=53,slow=40
CMAR Chiang Mai Arr 41.62 256 P **P** **09 24 30.4 -0.2**
ANM Nome 41.90 31 P **P** **09 24 32.5 +0.1**
ANM pmax pmax
comp=Z,20nm,0.9s
ANM Nome 41.90 31 P **P** **09 24 32.5 +0.1**
ZAA0 Zalesovo Array 42.45 313 P **P** **09 24 37.6 +0.6**
ZAA0 IAmb IAmb 09 24 41.6
comp=Z,118nm,1.0s
ZALV Zalesovo Beam 42.45 313 P **P** **09 24 37.4 +0.4**
ZALV Zalesovo Beam 42.45 313 P **P** **09 24 37.2 +0.2**
comp=Z,65nm,0.5s,baz=95,slow=6.7,SNR=229
ZALV PcP **PcP** **09 26 30.2 +0.6**
comp=Z,16nm,0.8s,baz=116,slow=3.4,SNR=4.6
ZALV LR LR 09 42 58.7
comp=Z,2µm,20.1s,baz=86,slow=37
ZALV Zalesovo Beam 42.45 313 P **P** **09 24 37.4 +0.4**
LSA Lhasa 42.51 276 *i* P **P** **09 24 40.0 +1.6**
SNR=7.3
LSA Lhasa 42.51 276 P **P** **09 24 38.3 -0.1**
LSA pmax pmax
comp=Z,22nm,0.6s
LSA MLR MLR
comp=Z,2µm,18.0s
LSA Lhasa 42.51 276 P **P** **09 24 38.3 -0.1**
LSA IAMs_20 IAMs_20 09 43 48.8
comp=Z,2µm,18.0s
MHMT Maesarieng 42.57 257 P **P** **09 24 39.8 +1.4**
comp=Z,86nm,0.9s
ZSN Zaisan 42.77 303 *e*P **P** **09 24 40.3 +0.5**
comp=Z,55nm,1.1s
ZSN *e*LR LR 09 43 01.7
ZSN Zaisan 42.77 303 *e*P **P** **09 24 40.3 +0.5**
ZSN pmax pmax
comp=Z,55nm,1.1s
UTHA Uthaitani 42.92 252 P **P** **09 24 42.4 +1.2**
comp=Z,62µm,0.8s,comp=Z,585µm
UMPA Umpang Tak 42.98 253 P **P** **09 24 44.2 +2.4**
comp=Z,105µm,1.0s
PATY Pattaya 43.48 248 P **P** **09 24 48.6 +2.8**
comp=Z,78µm,0.8s
SBUM Sibu 43.48 226 P **P** **09 24 47.0 +1.2**
SBUM Sibu 43.48 226 P **P** **09 24 45.3 -0.5**
GUWA GUWAHATI 43.53 271 IAMs_20 IAMs_20 09 44 28.0
comp=Z,1µm,19.1s
SHL Shillong 43.66 270 P **P** **09 24 45.8 -1.6**
SHL pmax pmax
comp=Z,25nm,0.6s
SHL MLR MLR
comp=Z,2µm,18.0s
SHL Shillong 43.66 270 *e*P **P** **09 24 46.9 -0.5**
SHL IAMs_20 IAMs_20 09 44 12.9
comp=Z,1µm,13.8s
SHL Shillong 43.66 270 P **P** **09 24 45.8 -1.6**
SHL IAmb IAmb 09 24 53.3
comp=Z,25nm,0.6s
SHL IAMs_20 IAMs_20 09 45 06.3
comp=Z,2µm,18.0s
NRIK Noril'sk 43.84 335 P **P** **09 24 47.8 -0.2**
NRIK Noril'sk 43.84 335 P **P** **09 24 47.8 -0.2**
comp=Z,11nm,0.7s,baz=116,slow=7.0,SNR=14
NRIK LR LR 09 46 24.9
comp=Z,2µm,18.0s,baz=100,slow=41
RDOG Red Dog Mine 43.85 27 P **P** **09 24 47.5 -0.6**
AZL Aizawl 43.86 267 *e*P **P** **09 24 48.3 -0.6**
AZL IAmb IAmb 09 24 58.6
comp=Z,546nm,0.1s
AZL IAMs_20 IAMs_20 09 45 21.8
comp=Z,3µm,18.8s
SRDT SRDT 43.90 251 P **P** **09 24 50.3 +1.1**
comp=Z,39nm,1.2s,comp=Z,2µm
BKB Balikpapan 44.12 217 P **P** **09 24 52.2 +1.3**
comp=Z,292nm,1.1s,comp=Z,3µm
BKB Balikpapan 44.12 217 P **P** **09 24 49.2 -1.6**
SAIH SAIHA 44.22 265 *e*P **P** **09 24 51.0 -0.8**
SAIH IAMs_20 IAMs_20 09 45 05.1
comp=Z,2µm,20.1s
PHET Kaeng Krachan 44.41 249 P **P** **09 24 54.5 +1.2**
comp=Z,180µm,0.8s
MK31 Makanchi Array 44.61 303 *i* P **P** **09 24 54.8 +0.3**
MK31 pmax pmax
comp=Z,85nm,0.8s
MK31 Makanchi Array 44.61 303 P **P** **09 24 54.8 +0.3**
MK31 IAmb IAmb 09 24 57.4
comp=Z,54nm,0.8s
MKAR Makanchi Array 44.61 303 P **P** **09 24 54.8 +0.3**
MKAR Makanchi Array 44.61 303 P **P** **09 24 54.7 +0.1**
comp=Z,55nm,0.7s,baz=87,slow=9.8,SNR=254
MKAR ScP **ScP** **09 30 27.8 -0.6**
comp=Z,2.9nm,0.9s,baz=63,slow=5.6,SNR=4.5
MKAR LR LR 09 44 16.1
comp=Z,1µm,18.5s,baz=82,slow=37
MKAR Makanchi Array 44.61 303 P **P** **09 24 54.8 +0.3**
MAKZ Makanchi 44.82 303 P **P** **09 24 56.3 +0.1**
MAKZ pmax pmax
comp=Z,53nm,0.7s
MAKZ Makanchi 44.82 303 P **P** **09 24 56.5 +0.3**
MAKZ IAmb IAmb 09 24 59.2
comp=Z,55nm,0.7s
MAKZ IAMs_20 IAMs_20 09 44 11.9
comp=Z,1µm,19.0s
SAUI Saumlaki 45.34 195 P **P** **09 25 02.0 +1.4**
TARA Tarawa 45.35 133 P **P** **09 25 00.7 0.0**
TARA Tarawa 45.35 133 IAMs_20 IAMs_20 09 39 32.7
comp=Z,2µm,21.0s
KSM Kuching 45.39 227 P **P** **09 25 00.7 -0.3**

KSM IAmb IAmb 09 25 03.2
comp=Z,51nm,0.8s
SEM Semipalatinsk 45.45 308 *e*P **P** **09 25 00.1 -1.4**
SEM *e*LR LR 09 44 12.6
comp=Z,2µm,15.3s
SEM Semipalatinsk 45.45 308 *e*P **P** **09 25 00.0 -1.4**
SEM MLR MLR
comp=Z,2µm,15.0s
BBSI Bau Bau 45.48 207 P **P** **09 25 04.4 +2.7**
comp=Z,30nm,1.1s,comp=Z,436nm
GTK Tadong 45.53 274 *e*P **P** **09 25 02.9 +0.7**
GTK IAmb IAmb 09 25 08.2
comp=Z,34nm,0.7s
SVW2 Sparrevohn 45.77 37 P **P** **09 25 04.5 +0.9**
PMG Port Moresby 45.97 173 *d i* P **P** **09 25 05.9 +0.4**
PMG pmax pmax
comp=Z,450nm,1.1s
PMG MLR MLR
comp=Z,968nm,17.0s
PMG Port Moresby 45.97 173 P **P** **09 25 06.3 +0.8**
KAPI Kappang 46.16 211 P **P** **09 25 07.9 +0.8**
SNR=41
KAPI P **P** **09 25 07.9 +0.8**
SNR=41
KAPI Kappang 46.16 211 P **P** **09 25 05.9 -1.1**
KAPI pmax pmax
comp=Z,4.0nm,1.0s
KAPI MLR MLR
comp=Z,600nm,21.0s
KAPI Kappang 46.16 211 P **P** **09 25 05.9 -1.1**
TAPN Taplejung 46.23 275 *e*P **P** **09 25 08.6 +0.6**
comp=Z,126nm,0.6s
KURK Kurchatov 46.45 309 P **P** **09 25 09.0 0.0**
SNR=54
KURK P **P** **09 25 09.0 0.0**
SNR=54
KURK Kurchatov 46.45 309 *c i* P **P** **09 25 08.8 -0.2**
KURK pmax pmax
comp=Z,140nm,0.8s
KURK MLR MLR
comp=Z,3µm,16.0s
KURK Kurchatov 46.45 309 P **P** **09 25 09.0 0.0**
ODAN Odare 46.70 274 *e*P **P** **09 25 12.1 +0.5**
comp=Z,191nm,0.6s
OHAK Old Harbor 46.96 42 P **P** **09 25 11.8 -1.1**
OHAK IAmb IAmb 09 25 13.8
comp=Z,29nm,1.0s
IMAR Indian Mountai 46.96 30 P **P** **09 25 13.7 +0.9**
RSO Redoubt South 47.15 38 P **P** **09 25 15.7 +1.1**
PDGK Podgornoye 47.24 298 P **P** **09 25 15.7 +0.2**
PDGK pmax pmax
comp=Z,112nm,1.0s
JOHN Johnston Islan 47.27 101 P **P** **09 25 15.7 -0.1**
RAMN Ramite 47.30 275 *e*P **P** **09 25 16.8 +0.5**
comp=Z,347nm,0.7s
KDAK Kodiak Island 47.31 42 *i* P **P** **09 25 15.9 +0.3**
KDAK Kodiak Island 47.31 42 P **P** **09 25 15.8 +0.3**
KDAK IAmb IAmb 09 25 18.0
comp=Z,46nm,0.9s
JIRN Jiri 47.32 276 *e*P **P** **09 25 17.4 +0.8**
comp=Z,269nm,0.7s
PPLA Purkeypile 47.44 35 P **P** **09 25 18.2 +1.5**
PPLA IAmb IAmb 09 25 19.4
comp=Z,21nm,0.9s
GUN Gumba 47.46 276 *e*P **P** **09 25 18.3 +0.6**
comp=Z,108nm,0.5s
SURT Suratani 47.60 246 P **P** **09 25 19.7 +1.3**
comp=Z,53nm,0.8s
TDK Taldyqorghan 47.61 301 *e*LR LR 09 45 24.7
comp=Z,3µm,16.9s
UZB Uzynbulak 47.62 298 *e*P **P** **09 25 18.4 0.0**
comp=Z,27nm,0.7s
UZB Uzynbulak 47.62 298 *e*P **P** **09 25 18.4 0.0**
UZB pmax pmax
comp=Z,27nm,0.7s
TRTT Trang 47.70 244 P **P** **09 25 21.0 +1.8**
comp=Z,50nm,2.5s
SKT Skwentna 47.73 36 P **P** **09 25 19.8 +0.9**
KPKS Kokpek 47.78 299 *e*P **P** **09 25 19.6 -0.1**
comp=Z,18nm,0.5s
KPKS *e*LR LR 09 45 47.9
comp=Z,2µm,16.8s
KPKS Kokpek 47.78 299 *e*P **P** **09 25 19.5 -0.1**
KPKS pmax pmax
comp=Z,18nm,0.5s
KPKS MLR MLR
comp=Z,2µm,17.0s
CNPM China Poot 47.93 39 P **P** **09 25 19.6 -0.9**
PKI Pulchoki 47.98 276 *e*P **P** **09 25 21.8 +0.1**
comp=Z,72nm,0.5s
PKIN Phulchoki 47.99 276 *e*P **P** **09 25 21.7 0.0**
comp=Z,55nm,0.5s
KKN Kakani 47.99 276 *e*P **P** **09 25 22.2 +0.6**
comp=Z,139nm,0.7s
BPAW Bear Paw Mtn. 48.01 33 P **P** **09 25 21.7 +0.6**
KTH Kantishna Hill 48.03 34 P **P** **09 25 22.1 +0.9**
KTH IAmb IAmb 09 25 23.4
comp=Z,28nm,1.0s
SATY Saty 48.07 298 *e*P **P** **09 25 22.2 +0.2**
comp=Z,26nm,1.0s
SATY *e*LR LR 09 46 03.3
SATY Saty 48.07 298 *e*P **P** **09 25 22.2 +0.2**
SATY pmax pmax
comp=Z,26nm,1.0s
BRLK Bradley Lake 48.10 39 P **P** **09 25 21.6 -0.2**
SUA Susitna One 48.11 37 P **P** **09 25 22.4 +0.4**
SUA IAmb IAmb 09 25 25.9
comp=Z,27nm,0.9s
MLY Manley 48.15 32 P **P** **09 25 23.9 +1.8**
MLY IAmb IAmb 09 25 24.5
comp=Z,26nm,0.9s
DMN Daman 48.21 276 *e*P **P** **09 25 23.7 +0.3**
comp=Z,24nm,0.4s
PRZ Przheval'sk 48.23 298 P **P** **09 25 23.6 +0.4**
PRZ pmax pmax
comp=Z,58nm,0.8s
PRZ MLR MLR
comp=Z,2µm,22.0s
PRZ Przheval'sk 48.23 298 P **P** **09 25 23.6 +0.4**
PRZ IAMs_20 IAMs_20 09 45 53.5
comp=Z,2µm,22.0s
TRF Thorofare Moun 48.31 34 P **P** **09 25 24.9 +1.3**
GKN Gorkha 48.42 277 *e*P **P** **09 25 25.3 +0.5**
comp=Z,228nm,0.6s
COLD Coldfoot 48.48 29 P **P** **09 25 24.5 -0.1**
MMRI Maumere 48.51 206 P **P** **09 25 25.3 -0.1**
RC01 Rabbit Creek A 48.61 37 P **P** **09 25 26.2 +0.5**
RC01 IAmb IAmb 09 25 28.2
comp=Z,24nm,0.9s
PKDT Phuket 48.65 245 P **P** **09 25 28.1 +1.6**
comp=Z,109nm,0.8s
BWN Browne 48.68 33 P **P** **09 25 28.0 +1.8**
KULM Kulim 48.78 240 P **P** **09 25 28.0 +0.4**
KULM Kulim 48.78 240 P **P** **09 25 28.2 +0.7**
SEW Seward 48.80 38 P **P** **09 25 27.6 +0.4**
SEW IAmb IAmb 09 25 29.5
comp=Z,47nm,1.1s
HNR Honiara 48.82 156 IAMs_20 IAMs_20 09 43 21.5
comp=Z,1µm,18.0s
NEA Nenana 48.85 32 P **P** **09 25 28.8 +1.3**
NEA IAmb IAmb 09 25 29.6
comp=Z,41nm,1.2s
TARG Taragay, Kyrgy 48.86 297 P **P** **09 25 28.9 +0.6**
TARG IAMs_20 IAMs_20 09 46 55.0
comp=Z,2µm,18.0s
SOEI Soe 48.88 203 P **P** **09 25 27.5 -0.8**
PMR Palmer 48.88 36 P **P** **09 25 28.1 +0.4**
PMR pmax pmax
comp=Z,17nm,0.8s
PMR Palmer 48.88 36 P **P** **09 25 28.1 +0.4**
MCK McKinley 48.92 34 P **P** **09 25 27.9 -0.1**
MCK pmax pmax
comp=Z,14nm,0.8s
MCK McKinley 48.92 34 P **P** **09 25 27.9 -0.1**
RND Reindeer 48.96 34 P **P** **09 25 28.7 +0.3**
RND pmax pmax
comp=Z,26nm,0.8s
RND MLR MLR
comp=Z,500nm,21.0s
RND Reindeer 48.96 34 P **P** **09 25 28.7 +0.3**
RND IAmb IAmb 09 25 31.0
comp=Z,26nm,0.8s
DANN Dangsing 48.97 278 *e*P **P** **09 25 30.0 +0.7**
comp=Z,568nm,0.7s
GHO Glory Hole Cre 48.98 36 P **P** **09 25 28.4 -0.1**
GHO IAmb IAmb 09 25 31.4

comp=Z,58nm,1.0s
MDOK Medeo 49.01 299 *e*P **P** **09 25 29.5 +0.2**
MDOK eLR LR 09 46 22.6
comp=Z,3μm,18.0s
MDOK Medeo 49.01 299 *e*P **P** **09 25 29.4 +0.2**
MDOK MLR MLR
comp=Z,3μm,18.0s
IPM Ipoh 49.10 239 P **P** **09 25 30.0 0.0**
IPM Ipoh 49.10 239 P **P** **09 25 29.3 -0.7**
IPM IAmb IAmb 09 25 31.0
comp=Z,40nm,0.9s
IPM IAMs_20 IAMs_20 09 48 20.0
comp=Z,945nm,18.0s
TNSS Tian-Shan 49.11 299 *e*P **P** **09 25 31.2 +0.8**
TNSS Tian-Shan 49.11 299 *e*P **P** **09 25 31.1 +0.8**
MYKOM **Kota Tinggi 49.17 234** P **P** **09 25 32.0 +1.5**
MDM Murphy Dome 49.21 32 P **P** **09 25 31.5 +1.2**
MDM IAmb IAmb 09 25 32.5
comp=Z,36nm,0.9s
KNK Knik Glacier 49.21 37 P **P** **09 25 30.1 -0.2**
KNK IAmb IAmb 09 25 33.8
comp=Z,26nm,0.8s
SML Sawmill 49.25 36 P **P** **09 25 31.3 +0.6**
SML IAmb IAmb 09 25 33.6
comp=Z,32nm,0.7s
WRH Wood River Hil 49.28 33 P **P** **09 25 31.3 +0.6**
BOK Bokaro 49.31 271 *e*P **P** **09 25 32.3 +0.7**
BOK IAMs_20 IAMs_20 09 48 05.3
comp=Z,1μm,18.1s
KOLN Koldanda 49.34 277 *e*P **P** **09 25 32.5 +0.5**
comp=Z,63nm,0.7s
TCOL CIGO, UAF Yank 49.37 32 P **P** **09 25 32.6 +1.1**
baz=271,SNR=8.8
COLA College 49.38 32 *d*/P **P** **09 25 32.4 +1.0**
COLA pmax pmax
comp=Z,29nm,0.9s
COLA MLR MLR
comp=Z,366nm,18.0s
COLA College 49.38 32 P **P** **09 25 31.9 +0.5**
COLA IAmb IAmb 09 25 34.4
comp=Z,26nm,0.8s
DGPR DIGLIPUR 49.38 255 *e*P **P** **09 25 33.1 +1.0**
CCB Clear Creek Bu 49.40 32 P **P** **09 25 32.2 +0.6**
MTBS Maitube 49.45 299 *e*P **P** **09 25 32.9 +0.4**
MTBS Maitube 49.45 299 *e*P **P** **09 25 32.9 +0.4**
POKR Poker Plat Res 49.55 32 P **P** **09 25 34.4 +1.5**
baz=271,SNR=31
SCM Sheep Creek Mo 49.73 36 P **P** **09 25 34.5 +0.2**
SCM pmax pmax
comp=Z,26nm,0.8s
SCM Sheep Creek Mo 49.73 36 P **P** **09 25 34.5 +0.2**
SCM IAmb IAmb 09 25 36.0
comp=Z,26nm,0.8s
HDA Harding Lake 49.77 33 P **P** **09 25 34.7 +0.2**
baz=272,SNR=25
HDA Harding Lake 49.77 33 P **P** **09 25 34.3 -0.3**
IL31 49.79 32 P **P** **09 25 35.0 +0.4**
IL31 IAmb IAmb 09 25 38.1
comp=Z,25nm,0.9s
ILAR Eielson Array 49.79 32 P **P** **09 25 35.2 +0.5**
ILAR Eielson Array 49.79 32 P **P** **09 25 35.0 +0.4**
comp=Z,12nm,0.7s,baz=266,slow=6.3,SNR=155
ILAR LR LR 09 46 46.2
comp=Z,344nm,22.0s,baz=280,slow=36
ILAR Eielson Array 49.79 32 P **P** **09 25 35.2 +0.5**
ULHL Ulahol 49.83 298 P **P** **09 25 36.4 +0.9**
SNR=5.9
GLI Glacier Island 49.91 37 P **P** **09 25 36.8 +1.2**
GLI IAmb IAmb 09 25 36.9
comp=Z,24nm,0.9s
BOOM Boomskoye usch 49.98 298 P **P** **09 25 37.2 +0.6**
BOOM pmax pmax
comp=Z,37nm,0.6s
BOOM MLR MLR
comp=Z,3μm,19.0s
BOOM Boomskoye usch 49.98 298 P **P** **09 25 37.2 +0.6**
BOOM IAmb IAmb 09 25 40.5
comp=Z,37nm,0.6s
TKM2 Tokmak 2 50.10 299 P **P** **09 25 38.4 +0.8**
TKM2 pmax pmax
comp=Z,108nm,0.7s
TKM2 Tokmak 2 50.10 299 P **P** **09 25 38.7 +1.1**
SNR=79
MTN Manton Dam 50.11 194 P **P** **09 25 37.5 -0.1**
FID Port Fidalgo 50.22 37 P **P** **09 25 36.3 -1.7**
FID IAmb IAmb 09 25 41.6
comp=Z,25nm,0.9s
COEN Coen 50.23 178 P **P** **09 25 37.6 -0.8**
NRN Naryn 50.24 297 P **P** **09 25 39.4 +0.6**
NRN pmax pmax
comp=Z,33nm,0.7s
NRN MLR MLR
comp=Z,2μm,22.0s
NRN Naryn 50.24 297 P **P** **09 25 39.4 +0.6**
NRN IAmb IAmb 09 25 46.9
comp=Z,32nm,0.7s
NRN IAMs_20 IAMs_20 09 47 12.1
comp=Z,2μm,22.0s
HIN Hinchinbrook I 50.25 38 P **P** **09 25 37.3 -0.9**
HIN IAmb IAmb 09 25 41.4
comp=Z,40nm,0.9s
BRZS Berezniki 50.32 308 *e*P **P** **09 25 38.6 -0.4**
comp=Z,41nm,0.5s
BRZS eLR LR 09 47 10.3
BRZS Berezniki 50.32 308 *e*P **P** **09 25 38.5 -0.4**
BRZS pmax pmax
comp=Z,41nm,0.5s
PRP Porcupine Dome 50.34 31 P **P** **09 25 39.8 +0.8**
FYU Fort Yukon 50.42 30 P **P** **09 25 41.4 +2.0**
FYU IAmb IAmb 09 25 42.3
comp=Z,33nm,1.0s
PAX Paxson 50.51 34 P **P** **09 25 41.5 +1.2**
PAX Paxson 50.51 34 P **P** **09 25 41.5 +1.2**
KZA Kyzart 50.59 298 P **P** **09 25 43.0 +1.5**
SNR=48
BTLS Baital 50.60 302 *e*P **P** **09 25 40.8 -0.3**
comp=Z,8.3nm,0.5s
BTLS eLR LR 09 47 48.2
BTLS Baital 50.60 302 *e*P **P** **09 25 40.8 -0.3**
BTLS pmax pmax
comp=Z,8.0nm,0.5s
EYAK Cordova Ski Ar 50.60 38 P **P** **09 25 42.0 +1.2**
EYAK IAmb IAmb 09 25 42.9
comp=Z,22nm,0.8s
SGDS Sogindy 50.63 300 *e*P **P** **09 25 41.6 +0.1**
SGDS eLR LR 09 47 45.1
KBK Karagaybulak 50.63 299 P **P** **09 25 42.5 +0.9**
SNR=57
BMAR Burnt Mountain 50.66 29 P **P** **09 25 42.9 +1.6**
CHMS Chumysh 50.67 299 P **P** **09 25 42.2 +0.5**
SNR=10
RIDG Independent Ri 50.73 33 P **P** **09 25 39.7 -2.1**
USP Ospenovka 50.77 300 P **P** **09 25 42.8 +0.3**
SNR=20
FRU1 Bishkek 50.81 299 P **P** **09 25 42.8 0.0**
FRU1 pmax pmax
comp=Z,123nm,1.2s
FRU1 MLR MLR
comp=Z,4μm,19.0s
FRU1 Bishkek 50.81 299 P **P** **09 25 42.8 0.0**
KSH Kashi 50.85 295 P **P** **09 25 47.6 +4.4**
KSH PP **PP** **09 27 45.7 +6.4**
KSH PcS **PcS** **09 30 59.4 +2.1**
KSH S **S** **09 33 03.4 +4.9**
KSH SS **SS** **09 36 36.7 +3.8**
KSH pmax pmax
comp=Z,30nm,0.6s
KSH pmax pmax
comp=Z,690nm,4.1s
KSH LR LR
comp=Z,7μm,15.9s
KSH LR LR
comp=Z,5μm,15.9s
KSH LR LR
comp=Z,8μm,16.1s
SRBI Singaraja 50.88 215 P **P** **09 25 44.1 +0.7**
comp=Z,170nm,0.7s,comp=Z,3μm
AAK Ala-Archa 50.96 299 *i*P **P** **09 25 44.6 +0.6**
SNR=31
AAK Ala-Archa 50.96 299 P **P** **09 25 44.5 +0.4**
SNR=29
AAK P **P** **09 25 44.5 +0.4**
SNR=29
AAK Ala-Archa 50.96 299 P **P** **09 25 44.3 +0.3**
AAK pmax pmax
comp=Z,62nm,0.8s
AAK Ala-Archa 50.96 299 P **P** **09 25 44.6 +0.6**
SNR=25
AAK Ala-Archa 50.96 299 P **P** **09 25 44.4 +0.4**
AAK IAmb IAmb 09 25 50.3
comp=Z,30nm,0.8s
UCH Uchtor 51.06 298 P **P** **09 25 46.4 +1.3**
SNR=16
DOT Dot Lake 51.09 33 P **P** **09 25 44.6 +0.1**
SCRK Sand Creek 51.09 33 P **P** **09 25 45.2 +0.5**
RAGM Ragged Mountai 51.15 38 P **P** **09 25 45.3 +0.3**
BRVK Borovoye 51.16 313 P **P** **09 25 45.6 +0.5**
SNR=15
BRVK P **P** **09 25 45.6 +0.5**
SNR=15
BRVK Borovoye 51.16 313 *c*/P **P** **09 25 45.3 +0.1**
BRVK pmax pmax
comp=Z,28nm,0.8s
BRVK MLR MLR
comp=Z,3μm,16.0s
BRVK Borovoye 51.16 313 P **P** **09 25 44.6 -0.6**
BRVK IAmb IAmb 09 25 49.7
comp=Z,28nm,0.6s
GRJI Gresik 51.18 219 P **P** **09 25 46.2 +0.5**
comp=Z,308nm,0.7s,comp=Z,2μm
MENT Mentasta 51.31 34 P **P** **09 25 44.7 -1.5**
HMT Hamilton 51.36 38 P **P** **09 25 44.9 -1.7**
GLB Gilahina Butte 51.44 36 P **P** **09 25 46.4 -0.8**
EKS2 Erkin-Say 51.45 299 P **P** **09 25 48.2 +0.5**
SNR=30
SUCK Suckling Hills 51.63 38 P **P** **09 25 49.7 +1.1**
SUCK IAmb IAmb 09 25 51.8
comp=Z,47nm,1.1s
VRDI Verde Repeater 51.64 37 P **P** **09 25 49.7 +0.9**
AML Almayashu 51.67 298 P **P** **09 25 50.8 +1.1**
SNR=90
JAGI Jajag, Banyuwa 51.71 216 P **P** **09 25 48.8 -0.9**
JAGI IAmb IAmb 09 25 49.8
comp=Z,70nm,1.0s
PSI Prapat 51.75 240 P **P** **09 25 50.0 -0.2**
PSI pmax pmax
comp=Z,23nm,0.9s
PSI MLR MLR
comp=Z,600nm,19.0s
MCARA **McCarthy VSAT 51.82 36** P **P** **09 25 51.4 +1.4**
RPSI Rantau Prapat 51.83 240 P **P** **09 25 50.0 -0.7**
CRQM Cirque 51.85 37 P **P** **09 25 51.8 +1.3**
CRQM IAmb IAmb 09 25 52.7
comp=Z,41nm,1.0s
TGL Tana Glacier 52.00 37 P **P** **09 25 52.8 +1.3**
TGL IAmb IAmb 09 25 55.0
comp=Z,47nm,1.2s
WAX Waxell Ridge 52.04 37 P **P** **09 25 53.1 +1.4**
WAX IAmb IAmb 09 25 53.9
comp=Z,36nm,1.2s
BKNI Bangkinang 52.11 236 P P 09 26 07.5 +15
BKNI Bangkinang 52.11 236 P **P** **09 25 52.9 +0.2**
BCAR Beaver Creek A 52.17 34 P **P** **09 25 54.0 +1.4**
BALM Baldy 52.20 37 P **P** **09 25 53.5 +0.6**
EGAK Eagle 52.24 32 P **P** **09 25 53.1 +0.1**
SMRI Semarang 52.34 221 P **P** **09 25 54.7 +0.3**
ARSB Arslanbob 52.43 298 P **P** **09 25 56.1 +1.1**
MLSI Meulaboh, Aceh 52.51 243 P P 09 26 06.4 +11
BARN Barnard Glacie 52.52 37 P **P** **09 25 56.5 +1.0**
MESA MESA 52.52 38 P **P** **09 25 57.0 +1.6**
MESA IAmb IAmb 09 25 58.1
comp=Z,30nm,1.0s
YAH Yahtse 52.59 37 P **P** **09 25 56.9 +0.9**
YAH IAmb IAmb 09 25 58.7
comp=Z,46nm,1.1s
CTGM Chitina Glacie 52.69 37 P **P** **09 25 54.8 -1.9**
SMLA Simla 53.02 284 *e*P **P** **09 25 59.4 +0.1**
UGM Wanagama 53.03 220 P **P** **09 25 57.6 -1.9**
DAWY Dawson 53.09 33 P **P** **09 25 58.7 -0.8**
DZA Taraz 53.10 300 *e*P **P** **09 26 02.7 +2.9**
DZA Taraz 53.10 300 *e*P **P** **09 26 02.7 +2.9**
DHRM DHARAMSHALA 53.24 286 *e*P **P** **09 26 01.4 +0.2**
KNRA Kununurra 53.34 196 P **P** **09 25 58.0 -3.6**
PCA Pinnacle 53.37 38 P **P** **09 26 02.5 +0.9**
KK31 Karatay Array 53.60 301 *i*/P **P** **09 26 03.1 -0.4**
KK31 pmax pmax
comp=Z,130nm,1.1s
KK31 Karatay Array 53.60 301 P **P** **09 26 03.4 -0.1**
KK31 IAmb IAmb 09 26 10.0
comp=Z,22nm,0.7s
KKAR Karatay Array 53.60 301 P **P** **09 26 03.5 0.0**
KKAR Karatay Array 53.60 301 P **P** **09 26 03.2 -0.3**
KKAR IAmb IAmb 09 26 10.0
comp=Z,22nm,0.7s
KKAR Karatay Array 53.60 301 P **P** **09 26 03.5 0.0**
KLSI 53.62 228 P **P** **09 26 04.5 +0.6**
comp=Z,48nm,1.3s
BCPM Bancas Point 53.70 38 P **P** **09 26 04.9 +1.0**
BCPM IAmb IAmb 09 26 06.6
comp=Z,48nm,1.0s
GSI Gunungsitoli 53.76 240 P **P** **09 26 05.8 +0.9**
comp=Z,152nm,1.2s,comp=Z,3μm
GSI Gunungsitoli 53.76 240 P **P** **09 26 05.3 +0.4**
EPYK Eagle Plains 53.84 30 P **P** **09 26 06.8 +1.8**
baz=279,SNR=85
EPYK Eagle Plains 53.84 30 P **P** **09 26 06.8 +1.8**
OPA Opana 53.89 88 P **P** **09 26 06.8 +1.0**
OPA pmax pmax
comp=Z,160nm,1.1s
OPA Opana 53.89 88 P **P** **09 26 06.8 +1.0**
KIP Kipapa 54.02 89‖ *e*P **P** **09 26 07.7 +1.0**
KIP pmax pmax
comp=Z,145nm,1.7s
BTK Batken 54.41 297 P **P** **09 26 08.7 -0.8**
BTK pmax pmax
comp=Z,14nm,0.5s
BTK MLR MLR
comp=Z,3μm,19.0s
BTK Batken 54.41 297 P **P** **09 26 08.7 -0.8**
BTK IAmb IAmb 09 26 15.9
comp=Z,14nm,0.5s
KASI Kota Agung 54.43 228 P **P** **09 26 10.6 +0.9**
comp=Z,57nm,1.0s
INK Inuvik 54.72 27 P **P** **09 26 11.0 -0.2**
INK pmax pmax
comp=Z,35nm,0.8s
INK MLR MLR
comp=Z,700nm,20.0s
INK Inuvik 54.72 27 P **P** **09 26 11.0 -0.2**
INK IAmb IAmb 09 26 13.5
comp=Z,35nm,0.8s
NIL Nilore 55.02 289 P **P** **09 26 14.9 +1.0**
NIL P **P** **09 26 14.9 +1.0**
NIL Nilore 55.02 289 P **P** **09 26 14.4 +0.5**
NIL pmax pmax
comp=Z,53nm,0.6s
NIL MLR MLR
comp=Z,1μm,18.0s
NIL Nilore 55.02 289 P **P** **09 26 14.4 +0.5**
NIL Nilore 55.02 289 IAMs_20 IAMs_20 09 51 57.7
comp=Z,977nm,18.0s
TAS Tashkent 55.05 299 P **P** **09 26 14.8 +0.8**
TAS pmax pmax
comp=Z,66nm,0.8s
TAS MLR MLR
comp=Z,3μm,18.0s
TAS Tashkent 55.05 299 P **P** **09 26 14.8 +0.8**
GAR Garm 55.15 296 P **P** **09 26 15.2 +0.2**
SVE Sverdlovsk 55.70 319‖ *e*P **P** **09 26 19.4 +1.0**
SVE *e*S **S** **09 34 03.7 0.0**
SVE pmax pmax
comp=Z,80nm,0.8s
SVE MLR MLR
comp=Z,3μm,16.0s
SKAG Skagway 55.94 38 P **P** **09 26 22.4 +2.3**
SKAG IAmb IAmb 09 26 23.5
comp=Z,45nm,1.1s
NGP Nagpur 56.11 272 *e*P **P** **09 26 21.8 -0.1**
NGP *ex* x 09 26 21.9
NGP *ex* x 09 26 34.2
CHGR Chuyangaron 56.12 296 P **P** **09 26 22.0 +0.1**
BHPL Bhopal 56.38 275 IAMs_20 IAMs_20 09 53 21.9
comp=Z,1μm,8.6s
WB0 Warramunga Arr 56.41 188 P **P** **09 26 22.9 -0.9**
FITZ Fitzroy Crossi 56.41 198 P **P** **09 26 23.9 +0.1**
BESE Bessie Mountai 56.42 39 P **P** **09 26 23.6 -0.1**
BESE IAmb IAmb 09 26 26.7
comp=Z,51nm,1.1s
WRAB Tennant Creek 56.58 188 *d*/P **P** **09 26 24.2 -0.8**
WRAB pmax pmax
comp=Z,281nm,1.3s
WRAB MLR MLR
comp=Z,393nm,19.0s
WRAB Tennant Creek 56.58 188 P **P** **09 26 24.2 -0.8**
WR0 Warramunga Arr 56.59 188 P **P** **09 26 24.4 -0.7**
WB2 Warramunga Arr 56.59 188 P **P** **09 26 23.8 -1.3**
WRA Warramunga Arr 56.59 188 *i*/P **P** **09 26 22.2 -2.9**
WRA pmax pmax
comp=Z,165nm,1.0s
WRA Warramunga Arr 56.59 188 P **P** **09 26 24.4 -0.8**
comp=Z,165nm,1.1s,baz=5.5,slow=7.2,SNR=102
WRA LR LR 09 50 48.7
comp=Z,274nm,20.1s,baz=350,slow=36
WRA Warramunga Arr 56.59 188 P **P** **09 26 23.6 -1.6**
JIS Juneau Island 56.74 39 P **P** **09 26 27.6 +1.8**
JIS IAmb IAmb 09 26 29.1
comp=Z,64nm,1.0s
ARU Arti 56.91 319 *c*/P **P** **09 26 27.1 0.0**
ARU 09 27 21.0
ARU S **S** **09 34 23.1 +3.3**
ARU SS **SS** **09 38 11.6 +4.0**
ARU pmax pmax
comp=Z,82nm,0.8s
ARU MLR MLR
comp=Z,3μm,17.0s
ARU Arti 56.91 319 P **P** **09 26 27.0 -0.1**
HMH Humu'ula Sheep 56.98 89 P **P** **09 26 28.7 +0.3**
KHU Kahuku 57.06 90 P **P** **09 26 30.2 +1.2**
KHU pmax pmax
comp=Z,122nm,1.2s
KHU Kahuku 57.06 90 P **P** **09 26 30.2 +1.2**
MLH Mauna Loa 57.12 89 P **P** **09 26 30.2 +0.8**
AIN Ainahou 57.12 89 P **P** **09 26 29.5 +0.1**
C36M Paulatuk 57.79 25 P **P** **09 26 33.9 +0.9**
baz=288,SNR=61
KBL Kabul 57.84 291 P **P** **09 26 33.6 -0.6**
KBL pmax pmax
comp=Z,27nm,1.0s
KBL MLR MLR
comp=Z,1μm,18.0s
KBL Kabul 57.84 291 P **P** **09 26 33.6 -0.6**
KBL IAmb IAmb 09 26 38.9
comp=Z,27nm,1.0s
KBL IAMs_20 IAMs_20 09 53 07.6
comp=Z,982nm,18.0s
KNTN Kanton 58.34 122 P **P** **09 26 38.5 +0.8**
WRAK Wrangell Islan 58.37 41 P **P** **09 26 39.5 +2.2**
HYB Hyderabad 58.45 269 *i*/P **P** **09 26 37.0 -1.5**
HYB *e*PcP **PcP** **09 27 27.0 -2.1**
HYB Hyderabad 58.45 269 *e*P **P** **09 26 38.7 +0.2**
AB31 Akbulak array 58.46 310 *i*/P **P** **09 26 37.7 -0.4**
AB31 pmax pmax
comp=Z,29nm,0.6s
ABKAR **Akbulak array 58.46 310** P **P** **09 26 37.9 -0.2**
ABKAR **Akbulak array 58.46 310** P **P** **09 26 38.0 -0.1**
ABKAR IAmb IAmb 09 26 39.3
comp=Z,38nm,0.6s
AKTO Aktyubinsk 59.21 312 P **P** **09 26 43.2 -0.1**
AKTO pmax pmax
comp=Z,30nm,0.8s
ASAR Alice Springs 60.32 188 P **P** **09 26 51.0 -0.2**
ASAR Alice Springs 60.32 188 P **P** **09 26 51.0 -0.2**
comp=Z,68nm,0.8s,baz=11,slow=6.0,SNR=287
ASAR LR LR 09 55 01.6
comp=Z,92nm,18.4s,baz=8.5,slow=38
ASAR PKPPKP P'P'df 09 56 15.3 +8.8
comp=Z,0.3nm,0.8s,baz=47,slow=15,SNR=4.1
ASAR PKP2bc 09 56 24.0
comp=Z,2.4nm,0.9s,baz=178,slow=1.8,SNR=15
ASAR PKP2ab 09 56 31.2
comp=Z,3.5nm,1.0s,baz=176,slow=2.9,SNR=7.5
HOPEN **Hopen 60.60 346** *e*P **P** **09 26 53.3 +0.9**
MBWA Marble Bar 61.02 204 P **P** **09 26 55.3 -0.6**
SPA0 Spitsbergen Ar 61.07 349 *e*P **P** **09 26 56.0 +0.3**
KBS Kingsbay 61.20 350 P **P** **09 26 58.3 +1.8**
KBS pmax pmax
comp=Z,33nm,1.1s
KBS Kingsbay 61.20 350 *e*P **P** **09 26 57.5 +1.0**
KBS Kingsbay 61.20 350 P **P** **09 26 58.2 +1.8**
KBS IAmb IAmb 09 27 03.6
comp=Z,33nm,1.1s
PSAD1 Pilbara Seismi 61.27 203 P **P** **09 26 57.4 -0.2**
PRGR Permogore 61.33 327 *e*P **P** **09 26 57.2 -0.4**
PRGR *e* 09 29 12.3
PRGR pmax pmax
comp=Z,41nm,0.9s
PSAC2 Pilbara Seismi 61.34 203 P **P** **09 26 58.0 -0.1**
PSAC1 Pilbara Seismi 61.35 203 P **P** **09 26 57.9 -0.2**
PSAB2 Pilbara Seismi 61.35 203 P **P** **09 26 58.1 -0.1**
PSAA2 Pilbara Seismi 61.36 203 P **P** **09 26 57.5 -0.7**
PSA00 Pilbara Seismi 61.37 203 P **P** **09 26 57.5 -0.7**
PSA00 Pilbara Seismi 61.37 203 P **P** **09 26 57.3 -1.0**
PSA00 IAmb IAmb 09 26 58.8
comp=Z,25nm,0.8s
PSAA3 Pilbara Seismi 61.37 203 P **P** **09 26 57.5 -0.8**
PSAA3 IAMs_20 IAMs_20 09 52 53.6
comp=Z,1μm,20.0s
PSAB1 Pilbara Seismi 61.38 203 P **P** **09 26 57.4 -0.9**
PSAD2 Pilbara Seismi 61.38 203 P **P** **09 26 57.6 -0.8**
PSAA1 Pilbara Seismi 61.38 203 P **P** **09 26 57.7 -0.6**
PSAA1 IAMs_20 IAMs_20 09 57 55.7
comp=Z,633nm,19.0s
PSAB3 Pilbara Seismi 61.39 203 P **P** **09 26 57.5 -0.9**
PSAC3 Pilbara Seismi 61.42 203 P **P** **09 26 58.3 -0.3**
PSAD3 Pilbara Seismi 61.46 203 P **P** **09 26 58.1 -0.8**
PSAD3 IAMs_20 IAMs_20 09 51 30.8
comp=Z,761nm,20.0s
HSPB Hornsund (broa 62.00 348 *e*P **P** **09 27 02.5 +0.7**
KAD Karad 62.02 271 *e*P **P** **09 27 03.1 +0.1**
EIDS Eidsvold 62.19 170 P **P** **09 27 02.9 -0.8**
EIDS IAmb IAmb 09 27 04.8
comp=Z,33nm,0.8s
BHUJ Bhuj 62.57 280 IAMs_20 IAMs_20 09 56 48.2
comp=Z,1μm,11.5s
LVZ Lovozero 62.68 336‖↓ *i*/P **P** **09 27 07.0 +0.4**
LVZ pmax pmax
comp=Z,60nm,1.5s
LVZ MLR MLR
comp=Z,2μm,17.0s
LVZ Lovozero 62.68 336 P **P** **09 27 06.6 0.0**
LVZ IAmb IAmb 09 27 09.9
comp=Z,19nm,0.8s
DZM Mont Dzumac 62.78 154 *e*P **P** **09 27 09.4 +1.6**
comp=Z,130nm,1.2s
DZM *e*S **S** **09 35 40.2 +4.1**
comp=Z,809nm,27.1s
DZM Mont Dzumac 62.78 154 *e*LR LR 09 46 05.5
comp=Z,2μm,21.1s
DZM Mont Dzumac 62.78 154 P **P** **09 27 08.9 +1.1**
HRA Herat 62.95 294 P **P** **09 27 08.5 -0.8**
HRA IAmb IAmb 09 27 14.4
comp=Z,18nm,0.7s
HRA IAMs_20 IAMs_20 09 56 04.0
comp=Z,1μm,22.0s
APA Apatity 63.26 336‖ *i*/P **P** **09 27 10.4 0.0**
APA pmax pmax
comp=Z,15nm,1.0s
APA MLR MLR
comp=Z,4μm,15.0s
TMCR Tamitsa 63.31 332 *e*P **P** **09 27 10.1 -0.7**
TMCR pmax pmax
comp=Z,29nm,0.7s
MSVF Nonsavu 63.95 141 P **P** **09 27 16.0 +0.4**
MSVF pmax pmax
comp=Z,49nm,0.9s
MSVF Nonsavu 63.95 141 P **P** **09 27 16.0 +0.4**
MSVF IAMs_20 IAMs_20 09 47 25.9
comp=Z,941nm,20.0s
KEV Kevo 64.01 339 P **P** **09 27 15.2 -0.1**
KEV pmax pmax
comp=Z,20nm,0.7s
KEV Kevo 64.01 339 P **P** **09 27 15.2 -0.1**
KEV IAmb IAmb 09 27 22.1
comp=Z,20nm,0.7s
YKW3 Yellowknife Ar 64.08 30 P **P** **09 27 16.3 +0.4**
YKW3 IAmb IAmb 09 27 17.6
comp=Z,31nm,0.9s
ASHT Ashkhabad 64.11 299 IAMs_20 IAMs_20 10 00 02.3
comp=Z,721nm,20.0s
YKA Yellowknife Ar 64.12 30 P **P** **09 27 16.7 +0.6**
YKA Yellowknife Ar 64.12 30 P **P** **09 27 16.7 +0.6**
comp=Z,25nm,0.7s,baz=302,slow=6.7,SNR=175
YKA PKPPKP **P'P'df** **09 56 07.1 -7.0**
comp=Z,0.8nm,0.8s,baz=117,slow=2.8,SNR=6.1

YKA PKP2bc 09 56 18.3
comp=Z,1.5nm,1.1s,baz=116,slow=2.8,SNR=5.1
YKA Yellowknife Ar 64.12 30 P **P** **09 27 15.7 -0.4**
GEYT Alibeck 64.31 299 P **P** **09 27 18.2 +0.4**
comp=Z,20nm,0.6s,baz=29,slow=3.4,SNR=28
GEYT LR LR 09 56 44.8
comp=Z,588nm,19.3s,baz=30,slow=37
GEYT Allbeck 64.31 299 P **P** **09 27 18.3 +0.4**
GYA0B ALIBECK ARRAY 64.31 299 P **P** **09 27 18.0 +0.1**
GYA0B IAmb IAmb 09 27 24.5
comp=Z,27nm,0.8s
GYA0B IAMs_20 IAMs_20 09 57 07.4
comp=Z,870nm,18.0s
HAMF Hammerfest 64.38 341 *e*P **P** **09 27 18.3 +0.5**
ARCES ARCESS Array B 64.56 340 P **P** **09 27 19.6 +0.6**
ARCES ARCESS Array B 64.56 340 P **P** **09 27 19.7 +0.6**
comp=Z,6.3nm,0.5s,baz=56,slow=7.8,SNR=17
ARCES LR LR 10 01 40.5
comp=Z,933nm,19.4s,baz=82,slow=42
ARE0 ARCESS Array S 64.56 340 *e*P **P** **09 27 18.7 -0.3**
ARE0 ARCESS Array S 64.56 340 P **P** **09 27 18.0 -1.0**
KTK1 Kautokeino 65.52 340 *e*P **P** **09 27 25.7 +0.5**
TULEG Thule 65.57 8 P **P** **09 27 25.6 +0.2**
TULEG IAmb IAmb 09 27 32.0
comp=Z,25nm,1.0s
TULEG IAMs_20 IAMs_20 09 58 27.6
comp=Z,878nm,20.0s
TRO Tromso 66.28 341 *e*P **P** **09 27 30.2 +0.2**
DAG Danmarks Havn 66.30 355 *i* P **P** **09 27 30.9 +0.8**
DAG pmax pmax
comp=Z,17nm,1.0s
DAG Danmarks Havn 66.30 355 *i* P **P** **09 27 30.9 +0.8**
comp=Z,17nm,1.0s
NLWA Neilton Lookou 66.87 47 P **P** **09 27 33.9 -0.4**
A04D Lummi Island 66.90 46 P **P** **09 27 36.2 +1.8**
baz=299
ARMA Armidale 67.23 171 P **P** **09 27 36.6 0.0**
D03D Eldon 67.26 47 P **P** **09 27 39.0 +2.3**
baz=300,SNR=16
E03A Lebam 67.47 48 P **P** **09 27 38.8 +0.8**
B05A Bryant 67.48 46 P **P** **09 27 39.6 +1.5**
baz=300,SNR=7.4
D04E Lakebay 67.63 47 P **P** **09 27 41.3 +2.3**
baz=300
B06A Marblemount 67.71 46 P **P** **09 27 38.7 -0.8**
B06A IAmb IAmb 09 27 41.3
comp=Z,25nm,0.8s
MOS Moscow 67.81 324 *e*P **P** **09 27 39.2 -0.8**
MOS *e* 09 30 11.9
MOS *e*S **S** **09 36 34.8 -2.1**
MOS pmax pmax
comp=Z,63nm,1.0s
MOS MLR MLR
comp=Z,2µm,17.0s
F04D Rainier, OR 68.03 48 P **P** **09 27 43.4 +1.8**
baz=300
STKA Stephens Creek 68.04 180 P **P** **09 27 41.5 -0.1**
STKA pmax pmax
comp=Z,10.0nm,0.9s
STKA Stephens Creek 68.04 180 P **P** **09 27 41.8 +0.2**
comp=Z,37nm,0.8s,baz=346,slow=7.1,SNR=80
STKA LR LR 09 56 49.7
comp=Z,350nm,21.7s,baz=5.7,slow=35
STKA Stephens Creek 68.04 180 P **P** **09 27 41.5 -0.1**
E04D Cinebar 68.06 48 P **P** **09 27 43.9 +2.1**
baz=300,SNR=10
D05A Enumclaw 68.08 47 P **P** **09 27 44.2 +2.3**
VRH Novokhopyorsk 68.13 318 *e*P **P** **09 27 41.1 -1.0**
VRH pmax pmax
comp=Z,30nm,0.6s
VRH MLR MLR
comp=Z,3µm,14.0s
FORT Forrest 68.17 193 P **P** **09 27 42.8 +0.4**
G03D McMinnville, O 68.32 49 P **P** **09 27 44.6 +1.2**
baz=300
C06D Leavenworth 68.35 46 P **P** **09 27 45.0 +1.4**
baz=301,SNR=7.1
LON Longmire 68.41 47 P **P** **09 27 45.3 +1.2**
LON pmax pmax
comp=Z,14nm,0.9s
LON Longmire 68.41 47 P **P** **09 27 45.3 +1.2**
F04A Amboy 68.46 48 P **P** **09 27 45.5 +1.2**
I02D Swisshome 68.52 51 P **P** **09 27 46.2 +1.5**
baz=300
COR Corvallis 68.61 50 P **P** **09 27 46.9 +1.7**
COR pmax pmax
comp=Z,105nm,1.0s
COR Corvallis 68.61 50 P **P** **09 27 46.9 +1.7**
OBN Obninsk 68.66 323 *de*P **P** **09 27 45.5 +0.2**
OBN *e* 09 28 00.2
OBN *e* 09 30 16.8
OBN *e*PPP PPP 09 31 55.1
OBN *e*S **S** **09 36 49.6 +2.6**
OBN *e*SS **SS** **09 41 15.0 +4.3**
OBN pmax pmax
comp=Z,33nm,0.6s
OBN MLR MLR
comp=Z,2µm,16.0s
OBN Obninsk 68.66 323 P **P** **09 27 45.9 +0.6**
comp=Z,8.0nm,0.5s,baz=102,slow=8.2,SNR=8.9
OBN Obninsk 68.66 323 P **P** **09 27 44.9 -0.4**
OBN IAmb IAmb 09 27 46.6
comp=Z,40nm,0.8s
PUL Pulkovo 68.75 330⇑ *e*P **P** **09 27 46.8 +1.0**
PUL pmax pmax
comp=Z,42nm,0.8s
PUL MLR MLR
comp=Z,2µm,17.0s
LTY Liberty 68.82 46 P **P** **09 27 46.9 +0.3**
LTY IAmb IAmb 09 27 48.3
comp=Z,31nm,0.8s
LPSR Galich'ya Gora 68.86 320 *e*P **P** **09 27 46.3 -0.3**
LPSR pmax pmax
comp=Z,30nm,0.6s
LPSR MLR MLR
comp=Z,4µm,16.0s
J01E Myrtle Point 68.94 51 P **P** **09 27 48.9 +1.6**
baz=301
H04D Lebanon 68.99 50 P **P** **09 27 49.0 +1.4**
baz=301,SNR=5.4
B08A Colville Reser 69.02 45 P **P** **09 27 48.5 +0.7**
B08A IAmb IAmb 09 27 49.5
comp=Z,28nm,0.9s
I03D Drain, OR 69.03 51 P **P** **09 27 50.0 +2.1**
baz=301,SNR=5.3
F05D White Salmon 69.06 48 P **P** **09 27 50.0 +1.9**
baz=301
BBOO Buckleboo 69.18 185 P **P** **09 27 46.7 -2.0**
K02D Willamette Mer 69.35 52 P **P** **09 27 51.4 +1.4**
baz=301,SNR=7.3
FIA1 FINESS Array S 69.38 332 P **P** **09 27 50.2 +0.5**
FIA1 IAmb IAmb 09 27 51.2
comp=Z,36nm,0.8s
FINES FINESS Array B 69.38 332 *i* P **P** **09 27 50.2 +0.4**
FINES pmax pmax
comp=Z,26nm,0.6s
FINES FINESS Array B 69.38 332 P **P** **09 27 50.1 +0.4**
comp=Z,26nm,0.7s,baz=58,slow=7.9,SNR=48
FINES LR LR 10 00 30.5
comp=Z,1µm,18.5s,baz=36,slow=38
VSR Storozhevoye 69.48 319 *e*P **P** **09 27 49.6 -0.9**
VSR pmax pmax
comp=Z,20nm,0.5s
VSR MLR MLR
comp=Z,4µm,15.0s
G05D Wamic, OR 69.48 48 P **P** **09 27 52.2 +1.5**
baz=302,SNR=8.5
VORD Divnogorie 69.55 319 *e*P **P** **09 27 50.5 -0.4**
VORD pmax pmax
comp=Z,30nm,1.3s
I04A Tendick Farm, 69.57 50 P **P** **09 27 52.5 +1.2**
baz=301,SNR=11
MORW Morawa 69.57 204 P **P** **09 27 50.3 -0.9**
AKT Akhty 69.59 307 *e*P **P** **09 27 51.7 +0.2**
AKT *e* 09 28 11.8
AKT pmax pmax
comp=Z,66nm,0.9s
E07A Sunnyside 69.66 47 P **P** **09 27 52.4 +0.6**
L02E Cave Junction 69.67 52 P **P** **09 27 53.5 +1.6**
baz=301,SNR=7.7
KRMB Red Mountain 69.80 53 P **P** **09 27 55.2 +2.4**
KRMB IAmb IAmb 09 27 55.9
comp=Z,41nm,1.2s
HUMO Hull Mountain 69.84 52 P **P** **09 27 53.3 +0.4**
C09A Chrisman Ranch 69.92 45 P **P** **09 27 54.6 +1.3**

MOR8 Moi Rana 69.93 340 *e*P **P** **09 27 52.4 -0.6**
HAWA Hanford 69.94 47 P **P** **09 27 54.6 +1.2**
HAWA IAmb IAmb 09 27 56.0
comp=Z,45nm,1.1s
I05D Terrebonne, OR 69.94 49 P **P** **09 27 55.1 +1.5**
baz=302,SNR=12
F07A Phinny Hill Vi 69.97 47 P **P** **09 27 54.7 +1.0**
J04D Umpqua Nationa 70.04 51 P **P** **09 27 56.1 +1.7**
baz=302,SNR=15
KONS Konsvik 70.05 341 *e*P **P** **09 27 54.2 +0.5**
JCC Jacoby Creek, 70.08 54 P **P** **09 27 54.4 0.0**
JCC IAmb IAmb 09 27 56.8
comp=Z,39nm,1.0s
E08A Dider Farm, El 70.17 46 P **P** **09 27 56.0 +1.2**
KHMM Horse Mountain 70.25 53 P **P** **09 27 56.9 +1.3**
KHMM IAmb IAmb 09 27 58.9
comp=Z,54nm,1.1s
NEW Newport 70.32 44 P **P** **09 27 56.8 +1.0**
baz=303,SNR=25
NEW Newport 70.32 44 P **P** **09 27 56.5 +0.7**
NEW pmax pmax
comp=Z,37nm,0.9s
NEW Newport 70.32 44 P **P** **09 27 56.5 +0.7**
NEW IAmb IAmb 09 27 58.0
comp=Z,37nm,0.8s
YBH Yreka Blue Hor 70.45 52 P **P** **09 27 56.7 -0.1**
YBH pmax pmax
comp=Z,47nm,1.1s
YBH Yreka Blue Hor 70.45 52 P **P** **09 27 56.7 -0.1**
YBH IAmb IAmb 09 27 59.9
comp=Z,47nm,1.1s
L04D Klamath Falls 70.46 52 P **P** **09 27 58.2 +1.3**
baz=302,SNR=16
PINE Pine Mountain 70.47 50 P **P** **09 27 57.9 +0.9**
M02C Callahan 70.54 53 P **P** **09 27 59.3 +2.0**
baz=302,SNR=11
J05D Fort Rock, OR 70.56 50 P **P** **09 27 59.4 +1.9**
baz=302,SNR=23
K04D Chiloquin, OR 70.59 51 P **P** **09 27 59.5 +1.8**
baz=302,SNR=6.3
KMRM Mail Ridge 70.60 54 P **P** **09 27 59.7 +1.9**
KMRM IAmb IAmb 09 28 00.3
comp=Z,32nm,1.0s
E09A Wood Farm, Sta 70.68 46 P **P** **09 27 58.6 +0.6**
N02D Trinity Center 70.86 53 P **P** **09 28 01.1 +1.9**
baz=302,SNR=17
G08A Pilot Rock 70.87 48 P **P** **09 28 00.6 +1.2**
G08A IAmb IAmb 09 28 01.2
comp=Z,21nm,0.9s
KCPM Cahto Peak 70.97 54 P **P** **09 28 01.6 +1.6**
M04C Macdoel 70.98 52 P **P** **09 28 01.6 +1.5**
baz=302,SNR=19
VSU Vasula 71.02 330⇓ *i*P **P** **09 28 00.4 +0.6**
VSU pmax pmax
comp=Z,73nm,0.7s
VSU MLR MLR
comp=Z,3µm,16.0s
NCK Nalchik 71.13 310⇓ *e*P **P** **09 28 03.7 +2.9**
NCK pmax pmax
comp=Z,23nm,0.5s
NCK MLR MLR
comp=Z,1µm,17.0s
WDC Whiskeytown Da 71.17 53 P **P** **09 28 02.5 +1.4**
WDC pmax pmax
comp=Z,48nm,1.1s
WDC Whiskeytown Da 71.17 53 P **P** **09 28 02.5 +1.4**
WDC IAmb IAmb 09 28 03.8
comp=Z,48nm,1.1s
SUMG Summit 71.19 0 *i* P **P** **09 28 02.0 +0.8**
SUMG pmax pmax
comp=Z,60nm,1.0s
SUMG Summit 71.19 0 *i* P **P** **09 28 02.0 +0.8**
comp=Z,60nm,1.0s
SUMG Summit 71.19 0 P **P** **09 28 01.7 +0.5**
SUMG IAmb IAmb 09 28 08.5
comp=Z,22nm,0.8s
O02D Mt. Diablo Mer 71.23 54 P **P** **09 28 03.4 +1.9**
baz=302,SNR=20
WSAR Wadi Sarin 71.25 285 P **P** **09 28 03.0 +1.2**
WBK Wadi Bani Khal 71.32 285 P **P** **09 28 03.3 +1.0**
WBK P **P** **09 28 03.3 +1.0**
ZEI Tsey 71.32 310 *e*P **P** **09 28 01.3 -0.9**
ZEI pmax pmax
comp=Z,13nm,0.8s
KBZ Khabaz 71.43 311 P **P** **09 28 03.7 +1.2**
KBZ Khabaz 71.43 311 P **P** **09 28 03.7 +1.2**
comp=Z,17nm,0.9s,baz=71,slow=4.2,SNR=18
KBZ LR LR 10 03 16.9
comp=Z,696nm,18.7s,baz=52,slow=39
KVAR Kislovodsk Arr 71.43 311 P **P** **09 28 04.9 +2.2**
comp=Z,11nm,0.6s,baz=59,slow=12,SNR=5.4
KIV Kislovodsk 71.43 311 P **P** **09 28 03.6 +0.9**
KIV Kislovodsk 71.43 311 P **P** **09 28 04.1 +1.4**
KIV P **P** **09 28 04.1 +1.4**
KIV Kislovodsk 71.43 311 P **P** **09 28 02.2 -0.5**
KIV pmax pmax
comp=Z,39nm,0.8s
KIV MLR MLR
comp=Z,1µm,18.0s
KIV Kislovodsk 71.43 311 ⇑P **P** **09 28 04.1 +1.4**
KIV mb 09 28 19.9
KIV Kislovodsk 71.43 311 P **P** **09 28 02.2 -0.5**
KIV IAmb IAmb 09 28 09.0
comp=Z,39nm,0.8s
KIV IAMs_20 IAMs_20 10 03 39.5
comp=Z,1µm,18.0s
BIDO Bidbid 71.49 286 P **P** **09 28 04.8 +1.6**
SNR=6.9
F10A Beach Ranch, E 71.51 46 P **P** **09 28 04.2 +1.0**
F10A IAmb IAmb 09 28 05.6
comp=Z,24nm,0.9s
BANOM Banah 71.61 289 *i* P **P** **09 28 04.8 +0.8**
SNR=14
BANOM Banah 71.61 289 P **P** **09 28 04.9 +0.9**
SNR=11
WALA Waterton Lakes 71.64 42 P **P** **09 28 04.0 +0.1**
WALA IAmb IAmb 09 28 06.2
comp=Z,28nm,0.8s
SHME Shamm 71.67 289 *i* P **P** **09 28 04.9 +0.5**
SNR=19
SMDO Samad 71.79 285 P **P** **09 28 06.5 +1.3**
SNR=8.6
SMDO P **P** **09 28 06.5 +1.3**
SNR=8.6
NEY Neytrino 71.80 311⇓ *e*P **P** **09 28 05.5 +0.5**
NEY pmax pmax
comp=Z,8.0nm,1.3s
NEY MLR MLR
comp=Z,384nm,15.0s
CAN Canberra 71.80 174 P **P** **09 28 05.5 +0.8**
CAN pmax pmax
comp=Z,28nm,0.9s
CAN Canberra 71.80 174 P **P** **09 28 05.5 +0.8**
CAN IAmb IAmb 09 28 06.1
comp=Z,28nm,0.9s
O03E Paynes Creek 71.80 53 P **P** **09 28 05.7 +0.7**
baz=303,SNR=30
NSS Namsos 71.85 340 *e*P **P** **09 28 05.1 +0.4**
MOD Modoc Plateau 71.88 51 P **P** **09 28 06.4 +0.9**
MOD IAmb IAmb 09 28 08.1
comp=Z,34nm,0.9s
MDH Madha 71.95 288 P **P** **09 28 05.7 -0.3**
GDXM Geysers 71.95 55 P **P** **09 28 06.8 +0.9**
GDXM IAmb IAmb 09 28 09.0
comp=Z,46nm,1.1s
MSFE Esma-Masafi 72.02 288 *i* P **P** **09 28 07.0 +0.6**
SNR=12
HOQ Hoqain 72.09 286 P **P** **09 28 07.7 +0.8**
SNR=10
HOQ P **P** **09 28 07.7 +0.8**
SNR=10
BMO Blue Mountains 72.09 47 P **P** **09 28 07.8 +1.1**
BMO pmax pmax
comp=Z,44nm,0.9s
BMO Blue Mountains 72.09 47 P **P** **09 28 07.8 +1.1**
BMO IAmb IAmb 09 28 09.1
comp=Z,44nm,0.9s
JMDO Jabal Madar 72.12 285 P **P** **09 28 07.7 +0.6**
JMDO P **P** **09 28 07.7 +0.6**
JTMT Jette 72.19 43 P **P** **09 28 07.7 +0.5**
UOSS Minazif 72.21 288 P **P** **09 28 08.2 +0.6**
UOSS P **P** **09 28 08.2 +0.6**
UOSS Minazif 72.21 288 P **P** **09 28 07.0 -0.6**
UOSS IAmb IAmb 09 28 08.7
comp=Z,20nm,0.7s

GNI Garni 72.22 307⇓ *e*P **P** **09 28 07.6 0.0**
GNI pmax pmax
comp=Z,139nm,2.2s
GNI MLR MLR
comp=Z,3µm,16.0s
GNI Garni 72.22 307 IAMs_20 IAMs_20 10 02 30.4
comp=Z,980nm,18.0s
AKH Akhalkalaki 72.32 309 P **P** **09 28 08.9 +0.7**
AKH pmax pmax
comp=Z,14nm,0.7s
AKH MLR MLR
comp=Z,900nm,20.0s
AKH Akhalkalaki 72.32 309 P **P** **09 28 08.9 +0.7**
AKH IAMs_20 IAMs_20 10 02 00.1
comp=Z,950nm,20.0s
HATD Hatta, Dubai 72.33 288 *i* P **P** **09 28 09.2 +0.9**
SNR=15
HATD Hatta, Dubai 72.33 288 P **P** **09 28 09.4 +1.1**
SNR=20
HATD P **P** **09 28 09.4 +1.1**
SNR=20
ORV Oroville 72.40 54 P **P** **09 28 09.1 +0.6**
ORV pmax pmax
comp=Z,46nm,1.1s
ORV Oroville 72.40 54 P **P** **09 28 09.1 +0.6**
ORV IAmb IAmb 09 28 10.4
comp=Z,46nm,1.1s
ASHO Ashiyiah 72.46 288 *i* P **P** **09 28 09.7 +0.6**
SNR=11
ASHO Ashiyiah 72.46 288 P **P** **09 28 09.9 +0.7**
SNR=14
NAZ Nazwa, Dubai 72.60 288 P **P** **09 28 10.6 +0.7**
BSY Bisya 72.62 286 P **P** **09 28 10.8 +0.7**
SNR=7.6
BSY P **P** **09 28 10.8 +0.7**
SNR=7.6
WVOR Wild Horse Val 72.63 50 P **P** **09 28 10.9 +0.9**
WVOR pmax pmax
comp=Z,29nm,1.1s
WVOR Wild Horse Val 72.63 50 P **P** **09 28 10.9 +0.9**
WVOR IAmb IAmb 09 28 12.0
comp=Z,29nm,1.1s
SCO Scoresbysund 72.65 354 *i* P **P** **09 28 10.9 +1.6**
SCO pmax pmax
comp=Z,19nm,1.1s
SCO Scoresbysund 72.65 354 *i* P **P** **09 28 10.9 +1.6**
comp=Z,19nm,1.1s
SCO Scoresbysund 72.65 354 P **P** **09 28 11.0 +1.6**
PLID Pearl Lake 72.72 46 P **P** **09 28 10.5 -0.1**
PLID IAmb IAmb 09 28 13.4
comp=Z,27nm,0.8s
NWAO Narrogin (SRO) 72.79 201 P **P** **09 28 09.6 -1.0**
NWAO pmax pmax
comp=Z,71nm,1.1s
NWAO Narrogin (SRO) 72.79 201 P **P** **09 28 09.8 -0.8**
NWAO Narrogin (SRO) 72.79 201 P **P** **09 28 09.6 -1.0**
NWAO IAmb IAmb 09 28 12.1
comp=Z,71nm,1.1s
ARQ Araqi 72.83 287 P **P** **09 28 12.2 +0.9**
SNR=10
ARQ P **P** **09 28 12.2 +0.9**
SNR=10
MSO Missoula 72.91 44 P **P** **09 28 12.4 +0.8**
baz=305,SNR=23
MSO Missoula 72.91 44 P **P** **09 28 11.7 +0.2**
MSO IAmb IAmb 09 28 13.5
comp=Z,42nm,1.1s
BEKR Beckworth 72.96 53 P **P** **09 28 11.9 -0.1**
IZAR Zarasai 72.97 328 *e*P **P** **09 28 13.2 +1.6**
IZAR IAmb IAmb 09 28 13.6
comp=Z,14nm,0.7s
ALNE Al Ain 73.03 288 P **P** **09 28 12.8 +0.2**
IDID Didziasalis 73.04 327 *e*P **P** **09 28 13.5 +1.6**
ASUD Al Ashush, Dub 73.05 288 *i* P **P** **09 28 13.2 +0.6**
SNR=12
MICGM Minsk 73.06 326 *e* **P** **09 28 14.0 +1.9**
MICGM *e*LR LR 10 02 18.0
MNK Minsk 73.06 326 *e*P **P** **09 28 14.0 +1.9**
AFDM Forest Hills D 73.07 54 P **P** **09 28 13.5 +1.0**
AFDM IAmb IAmb 09 28 14.9
comp=Z,35nm,1.2s
ISAL Salakas 73.14 328 *e*P **P** **09 28 13.8 +1.2**
ISAL IAmb IAmb 09 28 14.8
comp=Z,24nm,0.7s
NACGM Naroch 73.29 327 *e* **P** **09 28 14.0 +0.5**
NACGM *e*LQ LQ 09 55 14.0
NACGM *e*LR LR 10 02 48.0
TBLU Trondheim 73.32 339 *e*P **P** **09 28 13.1 -0.4**
SOC Sochi 73.43 312 *c* P **P** **09 28 14.0 -0.5**
SOC *e* 09 31 02.6
SOC *e*S **S** **09 37 43.7 +0.9**
SOC *e*SSS SSS 09 45 41.7
SOC pmax pmax
comp=Z,41nm,0.7s
PAHR Pah Rah Range 73.68 53 P **P** **09 28 17.3 +1.1**
PAHR IAmb IAmb 09 28 18.7
comp=Z,65nm,1.1s
VCNR Virginia City 73.73 53 P **P** **09 28 18.4 +1.7**
VCNR IAmb IAmb 09 28 18.7
comp=Z,24nm,0.9s
MFID Camas Ranch 73.78 48 P **P** **09 28 17.9 +1.2**
MFID IAmb IAmb 09 28 18.8
comp=Z,35nm,1.0s
TOO Toolangi 73.81 177 P **P** **09 28 17.3 +0.7**
TOO pmax pmax
comp=Z,23nm,1.0s
TOO Toolangi 73.81 177 P **P** **09 28 17.3 +0.7**
TOO IAmb IAmb 09 28 18.0
comp=Z,23nm,0.9s
PNTR Pine Nut 73.88 53 P **P** **09 28 18.4 +0.9**
PNTR IAmb IAmb 09 28 19.7
comp=Z,38nm,0.9s
DQM DQM 73.89 283 P **P** **09 28 17.9 +0.3**
SNR=7.8
DQM P **P** **09 28 17.9 +0.3**
SNR=7.8
CMB Columbia Colle 73.96 54 P **P** **09 28 18.5 +0.7**
CMB pmax pmax
comp=Z,34nm,0.9s
CMB Columbia Colle 73.96 54 P **P** **09 28 18.4 +0.7**
CMB IAmb IAmb 09 28 19.7
comp=Z,34nm,0.8s
SAO San Andreas Ge 73.96 56 P **P** **09 28 18.3 +0.5**
SAO pmax pmax
comp=Z,12nm,0.9s
SAO San Andreas Ge 73.96 56 P **P** **09 28 18.3 +0.5**
FFC Flin Flon 74.00 33 *i* P **P** **09 28 18.2 +0.6**
FFC Flin Flon 74.00 33 P **P** **09 28 17.6 0.0**
PABE Paberze 74.11 328 *e*P **P** **09 28 18.9 +0.7**
HRY Holter Researc 74.15 43 P **P** **09 28 17.4 -1.5**
YERR Yerington 74.17 53 P **P** **09 28 20.0 +0.8**
WAKR Walker 74.31 54 P **P** **09 28 21.7 +1.6**
WAKR IAmb IAmb 09 28 22.9
comp=Z,41nm,1.0s
EGMT Eagleton 74.48 41 P **P** **09 28 21.6 +0.9**
baz=308,SNR=14
EGMT Eagleton 74.48 41 P **P** **09 28 21.3 +0.5**
EGMT IAmb IAmb 09 28 22.9
comp=Z,59nm,1.1s
DLMT Dillon 74.52 45 P **P** **09 28 21.2 +0.1**
NC405 NORSAR Array S 74.54 337 P **P** **09 28 21.3 +0.6**
NC303 NORSAR Array S 74.56 338 P **P** **09 28 19.9 -0.9**
NC303 IAmb IAmb 09 28 27.6
comp=Z,58nm,0.9s
DOMB Dombas 74.61 339 *e*P **P** **09 28 22.1 +1.0**
MOL Molde 74.62 340 *e*P **P** **09 28 22.0 +0.9**
BMN Battle Mountai 74.64 51 P **P** **09 28 23.2 +1.4**
BMN pmax pmax
comp=Z,34nm,0.8s
BMN Battle Mountai 74.64 51 P **P** **09 28 23.2 +1.4**
BMN IAmb IAmb 09 28 24.2
comp=Z,34nm,0.8s
HFS Hagfors 74.66 336 P **P** **09 28 21.5 +0.1**
HFS Hagfors 74.66 336 P **P** **09 28 21.5 +0.1**
comp=Z,17nm,0.7s,baz=54,slow=7.5,SNR=22
MCMT McKenzie Canyo 74.70 45 P **P** **09 28 23.0 +0.8**
PMPB Monarch Peak 74.70 56 P **P** **09 28 21.8 -0.4**
PMPB IAmb IAmb 09 28 24.1
comp=Z,41nm,1.1s
NC204 NORSAR Array S 74.71 338 P **P** **09 28 22.4 +0.7**
NB201 NORSAR Array S 74.72 337 P **P** **09 28 22.5 +0.7**
NB2 NORSAR Subarra 74.75 337 P **P** **09 28 22.6 +0.7**
comp=Z,21nm,0.7s,baz=38,slow=5.9
NB2 NORSAR Subarra 74.75 337 P **P** **09 28 22.6 +0.7**
baz=38,slow=5.9

NOA	NORSAR Array B	74.75	337	P	P	09 28 22.7	+0.7
NOA	NORSAR Array B	74.75	337	P	P	09 28 22.6	+0.7
	comp=Z,24nm,0.7s,baz=39,slow=5.8,SNR=113						
NOA				PP	PP	09 31 11.8	+3.3
	comp=Z,3.0nm,0.7s,baz=41,slow=8.3,SNR=4.7						
NOA				LR	LR	10 04 45.2	
	comp=Z,1µm,19.0s,baz=40,slow=39						
RYN	Ryan	74.84	53	P	P	09 28 24.5	+1.5
RYN				IAmb	IAmb	09 28 25.7	
	comp=Z,60nm,1.1s						
AKASG	Malin Array Be	74.86	323	i P	P	09 28 22.7	0.0
AKASG				pmax	pmax		
	comp=Z,17nm,0.5s						
AKASG	Malin Array Be	74.86	323	P	P	09 28 22.8	0.0
	comp=Z,16nm,0.5s,baz=46,slow=6.0,SNR=83						
AKASG				LR	LR	10 04 11.3	
	comp=Z,1µm,19.9s,baz=55,slow=38						
AKASG	Malin Array Be	74.86	323	P	P	09 28 22.7	0.0
AKBB	Malin Array Si	74.86	323	P	P	09 28 22.8	+0.1
AKBB				pmax	pmax		
	comp=Z,32nm,0.8s						
AKBB				MLR	MLR		
	comp=Z,2µm,20.0s						
AKBB	Malin Array Si	74.86	323	P	P	09 28 22.8	+0.1
AKBB				IAmb	IAmb	09 28 23.7	
	comp=Z,32nm,0.8s						
KVN	Kaiserville	74.87	53	P	P	09 28 24.8	+1.5
KVN				pmax	pmax		
	comp=Z,84nm,1.1s						
KVN	Kaiserville	74.87	53	P	P	09 28 24.8	+1.5
NC602	NORSAR Array S	74.89	337	eP	P	09 28 23.1	+0.4
NC602	NORSAR Array S	74.89	337	P	P	09 28 22.9	+0.2
NBO00	NORSAR Array S	74.90	338	P	P	09 28 23.5	+0.7
BOZ	Bozeman (W)	74.93	44	P	P	09 28 24.6	+1.2
	baz=307,SNR=43						
BOZ	Bozeman (W)	74.93	44	P	P	09 28 24.6	+1.2
BOZ				pmax	pmax		
	comp=Z,42nm,1.0s						
BOZ	Bozeman (W)	74.93	44	P	P	09 28 24.6	+1.2
BOZ				IAmb	IAmb	09 28 25.8	
	comp=Z,42nm,1.0s						
NAO01	NORSAR Array S	75.01	337	P	P	09 28 24.0	+0.6
NAO01				IAmb	IAmb	09 28 30.3	
	comp=Z,60nm,0.9s						
AKN	Aaknes	75.09	340	eP	P	09 28 24.3	+0.4
NVAR	Mina Array Bea	75.09	53	P	P	09 28 26.0	+1.4
	comp=Z,36nm,0.8s,baz=286,slow=5.9,SNR=168						
NVAR	Mina Array Bea	75.09	53	P	P	09 28 25.6	+1.0
OMMB	Old Mammoth Mi	75.10	54	P	P	09 28 26.3	+1.5
NV11	Mina Array Sit	75.18	53	P	P	09 28 26.4	+1.4
NV11				IAmb	IAmb	09 28 27.1	
	comp=Z,25nm,0.9s						
MLAC	Mammoth, Mammo	75.20	54	P	P	09 28 26.7	+1.5
	baz=305						
PAGB	Antelope Grade	75.34	56	P	P	09 28 25.1	-0.7
SUW	Suwalki	75.45	328	P	P	09 28 26.1	+0.1
SUW				pmax	pmax		
	comp=Z,68nm,1.0s						
SUW	Suwalki	75.45	328	P	P	09 28 26.1	+0.1
QLMT	Earthquake Lak	75.50	45	P	P	09 28 28.3	+1.4
VOG	Valley Oaks Go	75.58	55	P	P	09 28 27.7	+0.6
	baz=305						
YHL	Hebgen Lake	75.63	45	P	P	09 28 29.3	+1.6
ELK	Elko	75.68	50	P	P	09 28 28.7	+0.7
ELK				pmax	pmax		
	comp=Z,20nm,1.0s						
ELK	Elko	75.68	50	P	P	09 28 28.7	+0.7
YHB	Horse Butte	75.69	45	P	P	09 28 28.7	+0.8
SMMC	Simmler	75.75	57	P	P	09 28 29.8	+1.6
	baz=305						
OSL	Oslo	75.77	337	eP	P	09 28 29.4	+1.6
YHH	Holmes Hill	75.86	44	P	P	09 28 29.1	+0.1
YMR	Madison River	75.87	45	P	P	09 28 28.9	-0.1
SIM	Simferopol'	75.87	316	eP	P	09 28 29.8	+1.2
SIM				pmax	pmax		
	comp=Z,34nm,0.8s						
SIM				MLR	MLR		
	comp=Z,550nm,17.1s						
GCMT	Greycliff	75.90	43	P	P	09 28 27.6	-1.4
SKAR	Skarslia	75.92	338	eP	P	09 28 29.0	+0.3
TIN	Tinemaha, Big	75.92	54	P	P	09 28 30.8	+1.6
	baz=305,SNR=6.4						
YNM	Yellowstone No	75.98	44	P	P	09 28 29.5	-0.1
YNR	Norris Junctio	76.00	44	P	P	09 28 31.7	+1.9
VES	Vestal, Richgr	76.06	56	P	P	09 28 30.2	+0.4
	baz=305,SNR=15						
YUF	Upper Falls	76.09	44	P	P	09 28 29.4	-0.9
PKM	Mcpherson Peak	76.11	57	P	P	09 28 32.1	+1.6
	baz=305,SNR=6.6						
HYA	Hoyanger	76.14	340	eP	P	09 28 30.6	+0.8
YNE	Yellowstone No	76.20	44	P	P	09 28 30.9	0.0
YPP	Pitchstone Pla	76.20	45	P	P	09 28 32.5	+1.6
LKWY	Lake	76.25	44	P	P	09 28 30.6	-0.5
LKWY				pmax	pmax		
	comp=Z,22nm,1.0s						
LKWY	Lake	76.25	44	P	P	09 28 30.6	-0.5
LKWY				IAmb	IAmb	09 28 36.1	
	comp=Z,22nm,1.0s						
H17A	Grant Village	76.25	45	P	P	09 28 34.2	+3.0
	baz=308,SNR=36						
H17A	Grant Village	76.25	45	P	P	09 28 33.5	+2.3
YMP	Mirror Lake Pl	76.28	44	P	P	09 28 31.6	+0.2
KONO	Kongsberg	76.35	337	eP	P	09 28 32.0	+1.0
IMW	Indian Meadow	76.35	45	P	P	09 28 33.0	+1.2
IMW				IAmb	IAmb	09 28 34.5	
	comp=Z,28nm,0.9s						
SFJD	Kangerlussuaq	76.37	5	i P	P	09 28 31.7	+0.6
SFJD	Kangerlussuaq	76.37	5	i P	P	09 28 31.7	+0.6
SFJD	Kangerlussuaq	76.37	5	P	P	09 28 32.0	+1.0
SFJD				IAmb	IAmb	09 28 32.9	
	comp=Z,29nm,0.8s						
FLWY	Flagg Ranch	76.38	45	P	P	09 28 33.4	+1.6
CWC	Cottonwood Cre	76.38	55	P	P	09 28 32.9	+1.0
	baz=306						
SBC	Santa Barbara	76.44	57	P	P	09 28 33.6	+1.5
	baz=305						
SHAO	Shalim	76.45	282	P	P	09 28 33.0	+0.6
SHAO				P	P	09 28 33.0	+0.6
FXWY	Fox Creek	76.46	45	P	P	09 28 33.9	+1.5
GRAC	Grapevine Rang	76.52	54	P	P	09 28 34.0	+1.4
	baz=306,SNR=20						
RLMT	Red Lodge	76.54	43	P	P	09 28 34.1	+1.4
	baz=309,SNR=8.4						
RLMT	Red Lodge	76.54	43	P	P	09 28 31.6	-1.1
RLMT				IAmb	IAmb	09 28 35.6	
	comp=Z,30nm,1.0s						
MOOW	Moose Ponds	76.55	45	P	P	09 28 34.3	+1.4
HVU	Hansel Valley	76.56	48	P	P	09 28 34.5	+1.6
HVU				pmax	pmax		
	comp=Z,25nm,0.9s						
HVU	Hansel Valley	76.56	48	P	P	09 28 34.5	+1.6
ISA	Isabella, Lake	76.56	56	P	P	09 28 33.2	+0.4
	baz=305,SNR=13						
TPAW	Teton Pass	76.59	46	P	P	09 28 35.1	+1.9
TPAW				IAmb	IAmb	09 28 35.7	
	comp=Z,23nm,0.9s						
ARVC	Arvin	76.64	56	P	P	09 28 34.0	+0.9
	baz=305						
SNOW	Snow King Moun	76.72	46	P	P	09 28 31.3	-2.6
REDW	Red Top Meadow	76.73	46	P	P	09 28 34.4	+0.6
SCZ2	Santa Cruz Isl	76.74	58	P	P	09 28 35.0	+1.2
	baz=305						
DAC	Darwin (Calif)	76.79	55	P	P	09 28 34.2	-0.1
DAC				pmax	pmax		
	comp=Z,19nm,0.8s						
DAC	Darwin (Calif)	76.79	55	P	P	09 28 34.2	-0.1
DAC				IAmb	IAmb	09 28 38.1	
	comp=Z,19nm,0.8s						
R11A	Troy Canyon, C	76.88	52	P	P	09 28 36.2	+1.5
	baz=306,SNR=64						
R11A	Troy Canyon, C	76.88	52	P	P	09 28 35.9	+1.2
R11A				IAmb	IAmb	09 28 36.7	
	comp=Z,34nm,0.9s						
BGU	Big Grassy Mou	76.92	49	P	P	09 28 36.5	+1.6
SORM	Soroca	76.95	321	⇑P	P	09 28 35.0	+0.4
AHID	Auburn Hatcher	76.95	46	P	P	09 28 35.1	+0.1
ASK	Askoy	76.98	340	eP	P	09 28 35.0	+0.4
MPMC	Manual Prospec	76.99	55	P	P	09 28 36.4	+1.0
	baz=306,SNR=29						
OSI	Osito Audit: C	77.00	57	P	P	09 28 36.6	+1.3
	baz=306						
BER	Bergen	77.02	339	eP	P	09 28 35.4	+0.6
ODD1	Odda	77.04	339	eP	P	09 28 36.1	+1.1
BLG	Laguna Peak, P	77.06	57	P	P	09 28 36.3	+0.7
	baz=305						
DGMT	Dagmar	77.08	39	P	P	09 28 36.0	+0.5
	baz=311,SNR=8.7						
DGMT	Dagmar	77.08	39	P	P	09 28 34.0	-1.5
DGMT				IAmb	IAmb	09 28 36.7	
	comp=Z,29nm,0.9s						
DMTO	DMTO	77.16	283	P	P	09 28 36.5	+0.1
DMTO				P	P	09 28 36.5	+0.1
FURC	Furnace Creek,	77.16	54	P	P	09 28 37.4	+1.3
	baz=306,SNR=24						
LAO	LASA Array	77.19	41	P	P	09 28 37.4	+1.2
	baz=310,SNR=8.5						
LAO	LASA Array	77.19	41	P	P	09 28 36.0	-0.2
LAO				IAmb	IAmb	09 28 38.1	
	comp=Z,47nm,1.0s						
SNCC	San Nicolas Is	77.25	58	P	P	09 28 37.9	+1.2
	baz=305						
TPNV	Topopah Spring	77.28	53	P	P	09 28 38.1	+1.1
	baz=306,SNR=31						
TPNV	Topopah Spring	77.28	53	P	P	09 28 38.0	+1.1
TPNV				pmax	pmax		
	comp=Z,34nm,0.8s						
TPNV	Topopah Spring	77.28	53	P	P	09 28 38.0	+1.1
TPNV				IAmb	IAmb	09 28 38.8	
	comp=Z,34nm,0.8s						
EDW2	Edwards Air Fo	77.34	56	P	P	09 28 38.3	+1.1
	baz=306,SNR=26						
HWUT	Hardware Ranch	77.39	47	P	P	09 28 39.0	+1.4
DECC	Green Verdugo	77.47	57	P	P	09 28 38.8	+0.8
	baz=306						
BLS5	Blasjo	77.49	338	eP	P	09 28 38.0	+0.5
DUG	Dugway, Tooele	77.50	49	P	P	09 28 39.7	+1.6
	baz=307,SNR=36						
DUG	Dugway, Tooele	77.50	49	P	P	09 28 39.3	+1.2
DUG				pmax	pmax		
	comp=Z,66nm,1.1s						
DUG	Dugway, Tooele	77.50	49	P	P	09 28 39.3	+1.2
DUG				IAmb	IAmb	09 28 40.9	
	comp=Z,66nm,1.1s						
PASC	Pasadena Art C	77.62	57	P	P	09 28 39.7	+1.0
PASC	Pasadena Art C	77.62	57	IAMs_20	IAMs_20	09 56 09.6	
	comp=Z,568nm,20.0s						
TCUT	Toone Canyon	77.78	48	P	P	09 28 41.0	+1.2
FMP	Fort Macarthur	77.82	57	P	P	09 28 40.6	+0.8
	baz=306						
CTU	Camp Tracy	77.84	48	P	P	09 28 40.5	+0.5
BW06	Boulder Array	77.84	46	P	P	09 28 40.8	+0.6
	baz=309,SNR=10						
BW06	Boulder Array	77.84	46	P	P	09 28 40.5	+0.4
PD31	Pinedale Array	77.84	46	P	P	09 28 40.0	-0.1
PDAR	Pinedale Array	77.84	46	P	P	09 28 40.8	+0.6
	comp=Z,5.3nm,0.6s,baz=276,slow=2.9,SNR=22						
PDAR	Pinedale Array	77.84	46	P	P	09 28 40.1	0.0
PSUT	Pine Spring	77.86	51	P	P	09 28 41.3	+1.0
RBK	Rabkut	77.86	283	P	P	09 28 40.1	-0.3
RBK				P	P	09 28 40.1	-0.3
SHOC	Shoshone, Teco	77.88	54	P	P	09 28 40.9	+0.8
	baz=306,SNR=9.4						
GSC	Goldstone, Bar	77.88	55	P	P	09 28 41.1	+0.8
	baz=306,SNR=8.9						
CIS	Catalina Islan	77.92	57	P	P	09 28 41.1	+0.7
	baz=306,SNR=6.6						
BFSC	Mount Baldy Ra	77.94	56	P	P	09 28 41.3	+0.6
	baz=306,SNR=12						
LVV	L'vov	77.94	324	eP	P	09 28 40.5	+0.3
LVV				e		09 31 34.1	
LVV				eS	S	09 38 27.5	-5.0
LVV				e		09 46 49.2	
LVV				MLR	MLR		
	comp=N,1µm,16.0s						
LVV				MLR	MLR		
	comp=E,2µm,16.0s						
LVV				MLR	MLR		
	comp=Z,2µm,16.0s						
WHFO	Wadi Hawf	77.97	283	P	P	09 28 40.3	-0.7
WHFO				P	P	09 28 40.3	-0.7
RRX	Edison Barstow	78.00	56	P	P	09 28 41.9	+1.1
	baz=306						
BSD	Bornholm Skovb	78.01	332	i P	P	09 28 40.0	-0.5
BSD				pmax	pmax		
	comp=Z,51nm,1.0s						
BSD	Bornholm Skovb	78.01	332	i P	P	09 28 40.0	-0.5
	comp=Z,51nm,1.0s						
JLU	Jordanelle	78.07	48	P	P	09 28 42.2	+0.7
NLU	North Lily Min	78.09	49	P	P	09 28 42.5	+0.9
SNART	Snartemo	78.14	337	eP	P	09 28 41.7	+0.6
SHPR	Sheep Range	78.24	53	P	P	09 28 43.6	+1.2
SHPR				IAmb	IAmb	09 28 44.5	
	comp=Z,24nm,0.9s						
MPU	Maple Canyon	78.32	49	P	P	09 28 44.3	+1.5
TUQ	Turquoise Moun	78.38	55	P	P	09 28 44.1	+1.0
	baz=307,SNR=7.7						
BBRC	Big Bear Solar	78.42	56	P	P	09 28 44.2	+0.8
	baz=306						
HEC	Hector,Ludlow	78.47	55	P	P	09 28 44.6	+1.1
	baz=307						
MURC	Murrieta	78.62	57	P	P	09 28 44.8	+0.4
	baz=306,SNR=11						
ABTO	Aybut	78.66	283	P	P	09 28 44.6	-0.2
	SNR=5.1						
ABTO				P	P	09 28 44.6	-0.2
	SNR=5.1						
TCRU	Three Creeks R	78.69	50	P	P	09 28 46.0	+1.1
KWP	Kalwaria Pacla	78.69	325	eP	P	09 28 46.0	+1.6
KWP	Kalwaria Pacla	78.69	325	eP	P	09 28 46.0	+1.6
KWP				eP	P	09 28 46.0	+1.6
KWP	Kalwaria Pacla	78.69	325	P	P	09 28 46.0	+1.6
GAZ	Gaziantep	78.74	308	P	P	09 28 44.2	-0.8
GAZ				IAmb	IAmb	09 28 47.3	
	comp=Z,25nm,0.8s						
CCUT	Cedar City	78.76	52	P	P	09 28 46.8	+1.5
BUR08	Bucovina Ar. S	78.86	322	P	P	09 28 46.3	+0.8
BUR08				IAmb	IAmb	09 28 53.1	
	comp=Z,18nm,0.7s						
BURAR	Bucovina Array	78.87	322	⇑P	P	09 28 46.7	+1.2
BURAR				mb		09 28 52.9	
BURAR	Bucovina Array	78.87	322	P	P	09 28 46.1	+0.5
BIZ	Bicaz	78.88	321	⇑P	P	09 28 46.9	+1.5
TESR	Tescani	78.89	320	⇑P	P	09 28 46.6	+1.1
SZCU	Shurtz Canyon	78.91	51	P	P	09 28 46.1	+0.1
MSU	Marysvale	78.91	50	P	P	09 28 47.9	+1.8
MSU	Marysvale	78.91	50	P	P	09 28 47.9	+1.8
GMRC	Granite Mounta	78.94	55	P	P	09 28 47.1	+0.8
	baz=307,SNR=18						
CFR	Carcaliu	79.00	319	⇑P	P	09 28 46.8	+0.7
MUD	Monsted U'grnd	79.02	335	i P	P	09 28 46.0	0.0
MUD	Monsted U'grnd	79.02	335	i P	P	09 28 46.0	0.0
TMUT	Trail Mountain	79.02	49	P	P	09 28 48.2	+1.4
TOPG	Topolog	79.07	318	⇑P	P	09 28 47.6	+1.1
109C	Camp Elliot, M	79.11	57	P	P	09 28 47.8	+0.8
	baz=306,SNR=5.8						
109C	Camp Elliot, M	79.11	57	P	P	09 28 46.5	-0.4
109C				IAmb	IAmb	09 28 48.5	
	comp=Z,24nm,0.8s						
PFO	Pinyon Flats O	79.11	56	P	P	09 28 47.8	+0.6
	baz=307,SNR=12						
PFO	Pinyon Flats O	79.11	56	i P	P	09 28 48.2	+1.1
PFO	Pinyon Flats O	79.11	56	P	P	09 28 47.1	-0.1
PFO				IAmb	IAmb	09 28 50.0	
	comp=Z,25nm,0.9s						
PFO	Pinyon Flats O	79.11	56	IAMs_20	IAMs_20	09 58 27.1	
	comp=Z,603nm,20.0s						
LCMT	Little Creek M	79.16	52	P	P	09 28 48.6	+1.3
BELC	Belle Mtn. Jos	79.19	56	P	P	09 28 47.8	+0.3
	baz=307,SNR=5.3						
MTPU	Mount Pierson	79.20	51	P	P	09 28 49.9	+2.1
P17A	Butcher Ranch,	79.20	49	P	P	09 28 48.7	+1.1
EML	El Monte Cty P	79.28	57	P	P	09 28 47.1	-0.7
VRI	Vrincioaia	79.28	320	⇑P	P	09 28 49.1	+1.4
SDRC	San Diego Road	79.31	57	P	P	09 28 48.0	0.0
PLOR	Plostina	79.33	320	⇑P	P	09 28 49.5	+1.5
BRTR	Keskin Array B	79.38	312	i P	P	09 28 49.0	+0.5
BRTR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BRTR	Keskin Array B	79.38	312	P	P	09 28 49.0	+0.5
	comp=Z,8.5nm,0.8s,baz=83,slow=4.4,SNR=22						
BRTR	Keskin Array B	79.38	312	P	P	09 28 47.8	-0.8
KOLS	Kolonicke sedl	79.38	324	eP	P	09 28 49.4	+1.2
KOLS				pmax	pmax		
	comp=Z,24nm,1.0s						
KOLS	Kolonicke sedl	79.38	324	eP	P	09 28 49.4	+1.2
OLP	Otay Lakes Par	79.39	57	P	P	09 28 48.9	+0.4
OLP				IAmb	IAmb	09 28 49.9	
	comp=Z,23nm,0.7s						
KNB	Kanab	79.43	52	P	P	09 28 50.6	+1.7
KNB				pmax	pmax		
	comp=Z,46nm,1.0s						
KNB	Kanab	79.43	52	P	P	09 28 50.6	+1.7
TLB	Topalu	79.44	318	⇑P	P	09 28 49.5	+0.9
PKCU	Pink Cliffs	79.49	51	P	P	09 28 49.9	+0.5
BAR	Barrett	79.52	57	P	P	09 28 49.3	+0.1
BAR				IAmb	IAmb	09 28 50.7	
	comp=Z,22nm,0.8s						
STHS	Stebnicka Huta	79.52	325	eP	P	09 28 50.4	+1.4
STHS				pmax	pmax		
	comp=Z,22nm,0.9s						
STHS	Stebnicka Huta	79.52	325	eP	P	09 28 50.4	+1.4
SRU	San Rafael Swe	79.56	49	P	P	09 28 50.5	+0.9
SRU				pmax	pmax		
	comp=Z,38nm,0.7s						
SRU	San Rafael Swe	79.56	49	P	P	09 28 50.5	+0.9
MONP2	Monument Peak	79.56	57	P	P	09 28 50.5	+0.8
	baz=307,SNR=10						
MONP2	Monument Peak	79.56	57	P	P	09 28 49.5	-0.3
UZH	Uzhgorod	79.59	324	eP	P	09 28 48.9	-0.4
UZH				i		09 28 56.9	
OJC	Ojcow	79.61	326	eP	P	09 28 50.0	+0.6
OJC	Ojcow	79.61	326	eP	P	09 28 50.0	+0.6
OJC				eP	P	09 28 50.0	+0.6
OJC	Ojcow	79.61	326	P	P	09 28 49.7	+0.3
OJC				IAmb	IAmb	09 28 56.8	
	comp=Z,51nm,1.1s						
OZUR		79.61	320	⇑P	P	09 28 51.4	+1.8
NEE2	Needles Airpor	79.64	54	P	P	09 28 50.6	+0.8
	baz=307						
K22A	Casper	79.64	44	P	P	09 28 50.6	+0.7
	baz=311,SNR=11						
K22A	Casper	79.64	44	P	P	09 28 49.9	0.0
IRM	Iron Mountain	79.66	55	P	P	09 28 51.1	+1.1
	baz=307,SNR=12						
ARCR	ARCALIA	79.66	322	⇑P	P	09 28 51.8	+2.1
BC3	Big Chuckawall	79.76	56	P	P	09 28 51.5	+0.9
	baz=307,SNR=14						
MDND	Maddock	79.77	37	P	P	09 28 51.1	+0.8
	baz=314,SNR=5.1						
MDND	Maddock	79.77	37	P	P	09 28 50.1	-0.1
MDND				IAmb	IAmb	09 28 51.6	
	comp=Z,42nm,0.8s						
ULM	Lac du Bonnet	79.79	33	P	P	09 28 50.4	+0.1
ULM	Lac du Bonnet	79.79	33	P	P	09 28 50.4	+0.1
	comp=Z,13nm,0.8s,baz=311,slow=6.3,SNR=20						
ULM	Lac du Bonnet	79.79	33	P	P	09 28 50.5	+0.1
ANTO	Ankara	79.80	312	P	P	09 28 49.7	-1.0
ANTO				pmax	pmax		
	comp=Z,22nm,0.9s						
ANTO	Ankara	79.80	312	⇓P	P	09 28 51.5	+0.8
ANTO	Ankara	79.80	312	P	P	09 28 49.7	-1.0
ANTO				IAmb	IAmb	09 28 52.5	
	comp=Z,22nm,0.8s						
TRPA	Tarpa	79.82	324	eP	P	09 28 51.0	+0.5
RWWY	Rawlins	79.87	45	P	P	09 28 51.4	+0.1
ISR	Istrita	79.88	319	⇑P	P	09 28 52.7	+1.7
DOPR	Dopca	79.90	321	⇑P	P	09 28 52.8	+1.7
W13A	Hualapai Mount	79.92	54	P	P	09 28 52.3	+0.7
IKP	In-Ko-Pah, Jac	79.92	57	P	P	09 28 52.5	+1.0
	baz=307,SNR=10						
IKP	In-Ko-Pah, Jac	79.92	57	P	P	09 28 52.3	+0.8
IKP				IAmb	IAmb	09 28 53.7	
	comp=Z,42nm,1.2s						
MLR	Muntele Rosu	79.94	320	P	P	09 28 51.6	+0.2
MLR	Muntele Rosu	79.94	320	P	P	09 28 52.4	+0.9
	comp=Z,2.9nm,0.4s,baz=322,slow=7.7,SNR=4.1						
MLR	Muntele Rosu	79.94	320	⇑P	P	09 28 53.0	+1.6
MLR	Muntele Rosu	79.94	320	P	P	09 28 51.6	+0.2
SWSC	Sam W. Stewart	79.95	56	P	P	09 28 52.3	+0.7
	baz=307,SNR=8.7						
SWSC	Sam W. Stewart	79.95	56	P	P	09 28 52.1	+0.6
NIE	Niedzica	79.95	326	eP	P	09 28 53.0	+1.7
NIE	Niedzica	79.95	326	eP	P	09 28 53.0	+1.7
NIE				eP	P	09 28 53.0	+1.7
RSSD	Black Hills	80.04	42	P	P	09 28 52.5	+0.3
	baz=312						
RSSD	Black Hills	80.04	42	P	P	09 28 52.0	-0.1
RSSD				pmax	pmax		
	comp=Z,14nm,1.2s						
RSSD	Black Hills	80.04	42	P	P	09 28 52.0	-0.1
WESC	Westside Schoo	80.11	57	P	P	09 28 54.2	+1.9
U15A	North Rim	80.12	52	P	P	09 28 53.5	+0.7
U15A				IAmb	IAmb	09 28 55.1	
	comp=Z,28nm,0.8s						
O20A	White River Ci	80.27	47	P	P	09 28 54.1	+0.7
	baz=310,SNR=23						
O20A	White River Ci	80.27	47	P	P	09 28 53.6	+0.1
O20A				IAmb	IAmb	09 28 54.9	
	comp=Z,27nm,1.0s						
Y12C	Blythe	80.32	55	P	P	09 28 54.6	+1.1
	baz=308,SNR=17						
Y12C	Blythe	80.32	55	P	P	09 28 54.5	+1.0
Y12C				IAmb	IAmb	09 28 55.3	
	comp=Z,26nm,0.8s						
Y12C				IAMs_20	IAMs_20	09 58 48.7	
	comp=Z,651nm,22.0s						
LANS	Liptovska Anna	80.53	326	eP	P	09 28 55.9	+1.5
LANS				pmax	pmax		
	comp=Z,12nm,0.7s						
LANS	Liptovska Anna	80.53	326	eP	P	09 28 55.9	+1.5
GLA	Glamis	80.54	56	P	P	09 28 55.9	+1.1
	baz=308,SNR=9.3						
GLA	Glamis	80.54	56	P	P	09 28 54.9	+0.1
GLA				pmax	pmax		
	comp=Z,40nm,0.9s						
GLA	Glamis	80.54	56	P	P	09 28 54.9	+0.1
GLA				IAmb	IAmb	09 28 57.1	
	comp=Z,40nm,0.9s						
OKC	Ostrava-Krasne	80.61	327	AMS	AMS	10 07 40.0	
	comp=Z,2µm,18.6s						
KSP	Ksiaz	80.67	328	eP	P	09 28 56.1	+1.0
KSP	Ksiaz	80.67	328	eP	P	09 28 56.1	+1.0
KSP				eP	P	09 28 56.1	+1.0
DRGR		80.67	322	⇑P	P	09 28 56.5	+1.2
HIZ	Hauiti	80.69	154	P	P	09 28 55.5	+0.4
ARR	Arges	80.70	321	⇑P	P	09 28 57.6	+2.1
PV09	Paradox Valley	80.78	49	P	P	09 28 57.0	+0.7
PV21	Cone Mtn., Par	80.84	49	IAMs_20	IAMs_20	10 07 20.2	
	comp=Z,495nm,21.0s						
MORC	Moravsky Berou	80.92	327	P	P	09 28 57.3	+0.8
MORC				pmax	pmax		
	comp=Z,25nm,1.1s						
MORC	Moravsky Berou	80.92	327	⇑P	P	09 28 58.0	+1.4
MORC				mb		09 29 07.8	
MORC	Moravsky Berou	80.92	327	eP	P	09 28 57.4	+0.8
MORC	Moravsky Berou	80.92	327	P	P	09 28 57.3	+0.8
CHVC	Chvalec	80.96	328	eP	P	09 28 57.8	+1.1
CHVC				ex	x	09 29 07.2	
CHVC				AMS	AMS	10 07 40.0	
	comp=Z,2µm,15.2s						
PV22	Blue Mesa, Par	80.97	48	P	P	09 28 58.3	+1.1
PV22				IAmb	IAmb	09 29 00.4	
	comp=Z,39nm,1.0s						
PV04	Paradox Valley	80.99	49	P	P	09 28 58.7	+1.4
PV04				IAmb	IAmb	09 29 00.7	
	comp=Z,50nm,0.9s						
PV04				IAMs_20	IAMs_20	10 06 55.4	
	comp=Z,826nm,20.0s						
DPC	Dobruska-Polom	81.03	328	eP	P	09 28 58.1	+1.0
DPC				MLR	MLR		
	comp=Z,2µm,18.6s						
DPC	Dobruska-Polom	81.03	328	eP	P	09 28 58.1	+1.0
DPC				epP	pP	09 29 02.8	+0.2
DPC				AMS	AMS	10 08 00.0	
	comp=Z,2µm,18.6s						
KRLC	Kraliky	81.03	328	eP	P	09 28 58.3	+1.2
KRLC				MLR	MLR		
	comp=Z,2µm,16.9s						
KRLC	Kraliky	81.03	328	eP	P	09 28 58.3	+1.2
KRLC				epP	pP	09 29 01.8	-0.8
KRLC				AMS	AMS	10 07 50.0	
	comp=Z,2µm,16.9s						
UPC	Upice	81.04	328	eP	P	09 28 58.2	+1.1
UPC				e		09 29 08.4	
UPC				MLR	MLR		
	comp=Z,2µm,15.9s						
UPC	Upice	81.04	328	eP	P	09 28 58.2	+1.1
UPC				ex	x	09 29 08.4	
UPC				AMS	AMS	10 07 50.0	
	comp=Z,2µm,15.9s						
SOCY	Socotra	81.06	279	P	P	09 28 56.8	-1.1
SOCY	Socotra	81.06	279	P	P	09 28 56.8	-1.1
SOCY				IAmb	IAmb	09 28 57.4	

comp=Z,44nm,0.8s
PV11 David Mesa, Pa 81.07 49 P P 09 28 58.9 +1.2
PV11 IAmb IAmb 09 28 59.8
comp=Z,52nm,0.9s
RAYN Ar Rayn 81.09 293 P P 09 28 57.6 -0.2
RAYN pmax pmax
comp=Z,10.0nm,0.8s
RAYN MLR MLR
comp=Z,1µm,20.0s
RAYN Ar Rayn 81.09 293 P P 09 28 57.6 -0.2
RAYN IAMs_20 IAMs_20 10 09 23.7
comp=Z,1µm,20.0s
N23A Red Feather La 81.11 45 P P 09 28 59.5 +1.5
baz=311,SNR=17
N23A Red Feather La 81.11 45 P P 09 28 59.6 +1.5
N23A IAmb IAmb 09 29 04.2
comp=Z,38nm,1.1s
PHWY Pilot Hill 81.12 45 P P 09 28 57.3 -0.8
Y14A Wickenburg 81.20 54 P P 09 28 59.4 +1.0
Y14A IAmb IAmb 09 29 00.6
comp=Z,28nm,0.9s
AGMN Agassiz Nation 81.21 35 P P 09 28 57.7 -0.3
baz=317,SNR=7.5
AGMN Agassiz Nation 81.21 35 P P 09 28 57.5 -0.5
PSZ Piszkesteto 81.22 325 P P 09 28 58.1 -0.1
PSZ pmax pmax
comp=Z,32nm,1.0s
PSZ MLR MLR
comp=Z,2µm,19.0s
PSZ Piszkesteto 81.22 325 ⇑P P 09 28 59.7 +1.5
PSZ mb 09 29 00.4
PSZ Piszkesteto 81.22 325 eP P 09 28 59.1 +0.9
PSZ Piszkesteto 81.22 325 P P 09 28 58.1 -0.1
PSZ IAmb IAmb 09 29 00.3
comp=Z,32nm,1.0s
COPA Copaceanca 81.24 319 ⇑P P 09 28 59.5 +1.3
WUAZ Wupatki 81.27 52 P P 09 29 00.1 +1.3
baz=309,SNR=14
WUAZ Wupatki 81.27 52 P P 09 28 59.6 +0.8
WUAZ IAmb IAmb 09 29 01.5
comp=Z,49nm,1.0s
URZ Urewera 81.28 153 P P 09 28 56.9 -1.4
URZ IAmb IAmb 09 28 58.2
comp=Z,46nm,1.1s
VYHS Vyhne 81.29 326 eP P 09 28 59.9 +1.4
VYHS pmax pmax
comp=Z,19nm,1.1s
VYHS Vyhne 81.29 326 eP P 09 28 59.9 +1.4
113A Mohawk Valley, 81.42 56 P P 09 28 59.1 -0.2
113A IAMs_20 IAMs_20 10 03 32.8
comp=Z,495nm,18.0s
D32A Dogwood Acres, 81.51 36 P P 09 28 58.7 -1.0
JAVC Velka Javorina 81.55 326 eP P 09 29 02.0 +2.1
SIRR Siria 81.56 323 ⇑P P 09 29 01.2 +1.3
BRG Berggiesshubel 81.62 330 i P P 09 29 00.6 +0.5
comp=Z,16nm,0.9s
BRG ePCP pP 09 29 05.2 -0.5
comp=Z,15nm,1.0s
BRG i PP PP 09 32 03.5 -2.6
comp=Z,13nm,1.4s
comp=N,1µm,13.5s
comp=E,668nm,14.5s
comp=Z,1µm,13.5s
BRG Berggiesshubel 81.62 330 i P P 09 29 00.6 +0.5
BRG i 09 32 03.5
BRG pmax pmax
comp=Z,16nm,0.9s
BRG pmax pmax
comp=Z,15nm,1.0s
BRG pmax pmax
comp=Z,13nm,1.4s
BRG MLR MLR
comp=N,1µm,13.5s
BRG MLR MLR
comp=E,668nm,14.5s
BRG MLR MLR
comp=Z,1µm,13.5s
GZR Gura Zlata 81.62 321 ⇑P P 09 29 01.4 +1.0
PVCC Panska Ves 81.63 329 AMS AMS 10 08 00.0
comp=Z,2µm,16.0s
CLL Collm 81.67 330 ⇓iP P 09 29 00.7 +0.3
CLL eS S 09 39 12.0 +0.3
CLL pmax pmax
comp=Z,27nm,0.8s
CLL MLR MLR
comp=Z,1µm,18.0s
CLL Collm 81.67 330 ⇓iP P 09 29 00.7 +0.3
comp=Z,27nm,0.8s
CLL iP pP 09 29 05.2 -0.7
CLL iPPcP 09 29 12.2
CLL ePP PP 09 32 07.0 +0.6
CLL eS S 09 39 12.0 +0.3
CLL eSS SS 09 44 36.0 +8.1
CLL eSSS SSS 09 47 54.0
CLL e 09 49 00.0
CLL LmH 10 05 00.0
comp=N,700nm,18.9s
CLL LmH 10 05 00.0
comp=E,1µm,21.2s
CLL LmV 10 13 00.0
comp=Z,1µm,18.0s
CLL Collm 81.67 330 P P 09 29 00.4 +0.1
CLL IAmb IAmb 09 29 01.6
comp=Z,25nm,0.8s
VRAC Vranov 81.69 327 P P 09 29 01.9 +1.4
VRAC Vranov 81.69 327 P P 09 29 01.9 +1.4
comp=Z,15nm,0.9s,baz=44,slow=5.3,SNR=10
VRAC Vranov 81.69 327 ⇑P P 09 29 02.0 +1.4
VRAC mb 09 29 02.7
VRAC Vranov 81.69 327 eP P 09 29 01.7 +1.1
ELND Elena 81.71 318 ⇑P P 09 29 02.0 +1.2
BKZ Black Stump Fm 81.85 153 P P 09 29 00.8 -0.5
BKZ IAmb IAmb 09 29 02.0
comp=Z,34nm,1.2s
SMOL Smolenice 81.91 326 eP P 09 29 03.4 +1.7
SMOL pmax pmax
comp=Z,19nm,0.9s
SMOL Smolenice 81.91 326 eP P 09 29 03.4 +1.7
X16A Lo Mia Camp, P 81.92 53 P P 09 29 03.6 +1.4
X16A IAmb IAmb 09 29 05.0
comp=Z,27nm,0.9s
KRUC Moravsky 81.96 327 eP P 09 29 02.9 +0.9
MVCO Mesa Verde 81.99 49 P P 09 29 03.8 +1.1
baz=310,SNR=27
MVCO Mesa Verde 81.99 49 P P 09 29 03.9 +1.1
MVCO IAmb IAmb 09 29 04.5
comp=Z,24nm,0.9s
QRZ Quartz Range 82.00 157 P P 09 29 02.8 +0.8
QRZ IAmb IAmb 09 29 03.8
comp=Z,52nm,0.8s
ASF Jabal al Asfar 82.00 304 P P 09 29 03.5 +0.9
ASF Jabal al Asfar 82.00 304 P P 09 29 03.5 +0.9
comp=Z,6.3nm,0.7s,baz=339,slow=4.5,SNR=9.4
GOPC GO Pecny, Ondr 82.00 329 eP P 09 29 03.0 +0.8
GOPC e 09 29 18.2
GOPC MLR MLR
comp=Z,2µm,16.3s
GOPC GO Pecny, Ondr 82.00 329 eP P 09 29 03.0 +0.8
GOPC epP pP 09 29 07.0 -0.8
GOPC ex x 09 29 18.2
GOPC AMS AMS 10 08 20.0
comp=Z,2µm,16.3s
ISCO Idaho Springs 82.02 46 P P 09 29 04.2 +1.3
baz=312,SNR=19
ISCO Idaho Springs 82.02 46 P P 09 29 04.2 +1.3
ISCO pmax pmax
comp=Z,12nm,0.9s
ISCO Idaho Springs 82.02 46 P P 09 29 04.2 +1.3
PRA Prague 82.03 329 AMS AMS 10 08 20.0
comp=Z,2µm,16.4s
BZS Buzias 82.04 322 ⇑P P 09 29 03.3 +0.8
PRU Pruhonice 82.05 329 eP P 09 29 03.5 +1.1
PRU MLR MLR
comp=Z,2µm,17.2s
PRU Pruhonice 82.05 329 eP P 09 29 03.5 +1.1
PRU epP pP 09 29 07.3 -0.7
PRU AMS AMS 10 08 30.0
comp=Z,2µm,17.2s
MODS Modra-Piesok 82.08 326 eP P 09 29 03.4 +0.7
MODS pmax pmax
comp=Z,31nm,1.1s
MODS Modra-Piesok 82.08 326 eP P 09 29 03.4 +0.7
HERR Herculane 82.16 321 ⇑P P 09 29 03.9 +0.7
TREC Trest 82.18 328 eP P 09 29 04.0 +0.9
TREC MLR MLR
comp=Z,2µm,15.8s
TREC Trest 82.18 328 eP P 09 29 04.0 +0.9
TREC epP pP 09 29 08.4 -0.3
TREC AMS AMS 10 08 40.0
comp=Z,2µm,15.8s
KAC Achnashellach 82.30 343⇑eP P 09 29 04.8 +1.2
CSKK Cskako 82.38 325 eP P 09 29 06.0 +1.8
SHMJ Saham 82.41 305 P P 09 29 06.1 +1.4
MMAI Mount Meron Ar 82.47 306 P P 09 29 06.1 +1.0
comp=Z,10nm,0.6s,baz=51,slow=6.6,SNR=15
SUSD Miller 82.47 39 P P 09 29 05.0 +0.3
baz=315,SNR=7.4
SUSD Miller 82.47 39 P P 09 29 03.9 -0.9
PBCC Pribram 82.51 329 eP P 09 29 05.6 +0.7
PBCC AMS AMS 10 08 40.0
comp=Z,500nm,14.5s
KPL Plockton 82.53 343⇑eP P 09 29 06.2 +1.4
KPL IAmb IAmb 09 29 07.5
comp=Z,48nm,0.8s
214A Organ Pipe Nat 82.55 56 P P 09 29 06.4 +0.9
baz=309,SNR=9.1
214A Organ Pipe Nat 82.55 56 P P 09 29 06.3 +0.9
W18A Petrified Fore 82.56 52 P P 09 29 07.0 +1.3
baz=310
CSS Mathiatis 82.58 308 P P 09 29 06.4 +0.9
CSS Mathiatis 82.58 308 P P 09 29 05.3 -0.2
CSS IAmb IAmb 09 29 10.6
comp=Z,26nm,0.8s
CSS IAMs_20 IAMs_20 10 09 33.9
comp=Z,853nm,21.0s
MDVR Moldovita 82.59 322 ⇑P P 09 29 06.2 +0.8
NNZ Nelson 82.62 156 P P 09 29 05.3 0.0
S22A 4UR Ranch, Cre 82.66 48 P P 09 29 07.9 +1.7
baz=311,SNR=26
S22A 4UR Ranch, Cre 82.66 48 P P 09 29 07.5 +1.3
S22A IAmb IAmb 09 29 08.6
comp=Z,19nm,0.9s
NKC Novy Kostel 82.72 330 eP P 09 29 06.8 +0.8
NKC MLR MLR
comp=Z,2µm,15.3s
NKC Novy Kostel 82.72 330 eP P 09 29 06.8 +0.8
NKC epP PcP 09 29 10.9 0.0
NKC AMS AMS 10 09 00.0
comp=Z,2µm,15.3s
X18A Snowflake 82.80 52 P P 09 29 05.7 -1.2
MMLI Mount Malkishu 82.82 305 P P 09 29 07.8 +1.0
Q24A Divide 82.85 46 P P 09 29 08.1 +0.9
baz=312
MPLH Magyarpolny 82.86 325 eP P 09 29 07.0 +0.3
SOP Sopron 82.92 326 eP P 09 28 55.1 -12
INVG Invergeldie, C 82.95 342⇑eP P 09 29 07.7 +0.7
INVG IAmb IAmb 09 29 09.6
comp=Z,25nm,0.7s
THZ Tophouse 82.97 157 P P 09 29 07.2 +0.1
TUWZ Tuamarina 83.00 156 P P 09 29 06.0 -1.2
CONA Conrad Observa 83.04 327 ePcP P 09 29 09.2 +1.4
comp=Z,17nm,1.0s,SNR=7.5
WALJ Walaa 83.11 304 P P 09 29 09.6 +1.4
BFZ Birch Farm 83.11 154 P P 09 29 06.8 -0.9
KHC Kasperske Hory 83.11 329 eP P 09 29 08.9 +0.9
KHC e 09 29 16.0
KHC MLR MLR
comp=Z,2µm,19.7s
KHC Kasperske Hory 83.11 329 eP P 09 29 08.9 +0.9
KHC epP PcP 09 29 12.7 +0.1
KHC esP pwP 09 29 16.0 -0.3
KHC AMS AMS 10 09 10.0
comp=Z,2µm,19.7s
KHC Kasperske Hory 83.11 329 P P 09 29 08.1 0.0
KHC IAMs_20 IAMs_20 10 09 23.9
comp=Z,763nm,19.0s
SWQJ Swaqa 83.14 304 P P 09 29 09.2 +0.6
SNZO South Karori 83.14 156 P P 09 29 07.6 -0.3
BSWZ Blackbirch Sta 83.23 156 P P 09 29 08.2 -0.2
EAB Aberfoyle 83.24 342 eP P 09 29 09.4 +0.9
FRGS Fruska Gora 83.26 323 eP P 09 29 19.1 +10
OGNE Ogallala 83.28 43 P P 09 29 09.5 +0.4
baz=313
OGNE Ogallala 83.28 43 P P 09 29 08.4 -0.7
OGNE IAmb IAmb 09 29 10.2
comp=Z,31nm,1.1s
GEC2 GERESS Array S 83.28 328 P P 09 29 08.9 0.0
GERES GERESS Array B 83.28 328 P P 09 29 09.1 +0.1
GERES GERESS Array B 83.28 328 P P 09 29 09.3 +0.3
comp=Z,8.4nm,0.7s,baz=33,slow=5.1,SNR=50
GERES PKKPbc **PKKPbc 09 47 26.9 -1.5**
comp=Z,0.3nm,0.4s,baz=180,slow=3.5,SNR=3.9
GERES LR LR 10 09 39.6
comp=Z,1µm,18.2s,baz=28,slow=38
GERES GERESS Array B 83.28 328 P P 09 29 09.1 +0.1
VTS Vitosha 83.33 319 P P 09 29 09.4 0.0
VTS pmax pmax
comp=Z,19nm,1.0s
VTS MLR MLR
comp=Z,1µm,18.0s
VTS Vitosha 83.33 319 ⇑P P 09 29 11.0 +1.6
VTS mb 09 29 12.6
VTS Vitosha 83.33 319 P P 09 29 09.4 0.0
VTS IAmb IAmb 09 29 16.5
comp=Z,19nm,1.0s
MSWZ Moikau Station 83.42 155 P P 09 29 09.0 -0.4
EYMN Ely 83.43 33 P P 09 29 09.8 +0.1
baz=320,SNR=7.0
EYMN Ely 83.43 33 P P 09 29 09.5 -0.2
EYMN IAmb IAmb 09 29 10.9
comp=Z,27nm,1.0s
SDCO Great Sand Dun 83.45 47 P P 09 29 11.5 +1.2
baz=312,SNR=22
SDCO Great Sand Dun 83.45 47 P P 09 29 11.5 +1.2
LISJ El Lisan 83.53 304 P P 09 29 12.1 +1.7
ELL Elmali 83.54 311 P P 09 29 10.5 -0.1
ELL pmax pmax
comp=Z,88nm,0.7s
ELL Elmali 83.54 311 P P 09 29 10.5 -0.1
PGBU Glenifferbraes 83.62 342⇑eP P 09 29 11.5 +1.1
PGBU IAmb IAmb 09 29 13.7
comp=Z,60nm,0.9s
GRA1 Grafenberg Arr 83.64 330 P P 09 29 10.3 -0.4
GRA1 IAmb IAmb 09 29 12.9
comp=Z,40nm,1.0s
GRA1 IAMs_20 IAMs_20 10 09 28.5
comp=Z,839nm,18.0s
GRF Grafenberg Arr 83.64 330 P P 09 29 10.3 -0.4
GRF pmax pmax
comp=Z,40nm,1.0s
GRF MLR MLR
comp=Z,800nm,18.0s
TUC Tucson 83.67 54 P P 09 29 12.3 +1.1
baz=310
TUC Tucson 83.67 54 P P 09 29 11.7 +0.4
TUC pmax pmax
comp=Z,16nm,1.0s
TUC Tucson 83.67 54 P P 09 29 11.7 +0.4
TUC IAmb IAmb 09 29 13.0
comp=Z,16nm,0.9s
TUC Tucson 83.67 54 IAMs_20 IAMs_20 10 00 00.4
comp=Z,439nm,19.0s
FOZ Fox Glacier 83.67 160 P P 09 29 10.7 +0.1
EKA Eskdalemuir Ar 83.70 341 P P 09 29 11.1 +0.2
EKA Eskdalemuir Ar 83.70 341 P P 09 29 11.1 +0.2
comp=Z,8.5nm,0.7s,baz=27,slow=5.2,SNR=20
LTZ Lake Taylor 83.70 158 P P 09 29 10.0 -0.9
LTZ IAmb IAmb 09 29 13.6
comp=Z,22nm,0.7s
ARSA Arzberg 83.71 326 i PcP P 09 29 12.1 +0.9
comp=Z,11nm,1.0s
AMAZ Amatzia 83.72 305 P P 09 29 12.7 +1.2
JDRJ Daraweish 83.72 304 P P 09 29 12.2 +0.5
ESK Eskdalemuir 83.72 341⇑eP P 09 29 11.9 +1.0
ESK Eskdalemuir 83.72 341 P P 09 29 12.0 +1.0
ESK pmax pmax
comp=Z,19nm,1.0s
ESK Eskdalemuir 83.72 341 P P 09 29 12.0 +1.0
ESK IAmb IAmb 09 29 14.8
comp=Z,19nm,1.0s
PMOR Pomariorio Ree 83.74 114 eT T 11 01 24.6
comp=Z,18nm,0.2s
KHZ Kahutara 83.76 157 P P 09 29 10.3 -0.8
KHZ IAmb IAmb 09 29 11.3
comp=Z,31nm,0.8s
MOA Molln 83.80 327 ePcP P 09 29 12.3 +0.7
comp=Z,16nm,1.2s
TEKS Tekeris 83.84 323 eP P 09 29 12.5 +0.7
DIVS Divibare 83.94 322 eP P 09 29 13.0 +0.6
HSNJ Maan 84.00 303 P P 09 29 14.6 +1.5
OXZ Oxford 84.12 158 P P 09 29 12.8 -0.1
ECSD EROS Data Cent 84.16 38 P P 09 29 13.5 0.0
baz=316,SNR=19
ECSD EROS Data Cent 84.16 38 P P 09 29 13.7 +0.2
ECSD IAmb IAmb 09 29 14.2
comp=Z,19nm,0.8s
PPT Papeete 84.18 117 LR LR 09 59 48.1
comp=Z,578nm,20.4s,baz=298,slow=31
PPT2 Papeete2 84.19 117 eP P 09 29 15.9 +1.9
comp=Z,45nm,1.4s
PPT2 Papeete2 84.19 117 eS S 09 39 40.4 +2.0
comp=Z,124nm,24.2s
PPT2 Papeete2 84.19 117 eLR LR 09 55 52.3
comp=Z,974nm,21.5s,baz=313
PPT2 Papeete2 84.19 117 eT T 11 01 58.8
comp=Z,3.1nm,0.3s
RPZ Rata Peaks 84.19 159 P P 09 29 12.8 -0.5
RPZ IAmb IAmb 09 29 16.6
comp=Z,36nm,0.9s
PAE Paea 84.24 117 eP P 09 29 15.7 +1.6
comp=Z,6.3nm,1.2s
PAE Paea 84.24 117 eT T 11 02 01.3
comp=Z,1.1nm,0.3s
KSCO Kaye Shedlock' 84.27 45 P P 09 29 14.7 +0.5
baz=313,SNR=6.7
KSCO Kaye Shedlock' 84.27 45 P P 09 29 14.6 +0.3
SOKA Soboth 84.36 326 ePcP P 09 29 15.3 +0.7
comp=Z,20nm,0.9s
BBLS Lazići 84.40 322 eP P 09 29 15.4 +0.6
KZIT Kziot 84.46 304 P P 09 29 15.9 +0.7
HAPS Han Pijesak,Bl 84.46 323 eP P 09 29 15.1 0.0
T25A Trinidad 84.50 47 P P 09 29 16.8 +1.2
baz=312,SNR=25
T25A Trinidad 84.50 47 P P 09 29 16.5 +0.9
T25A IAmb IAmb 09 29 17.4
comp=Z,31nm,0.9s
GAL1 Galloway 84.52 341⇑eP P 09 29 15.9 +0.9
GAL1 IAmb IAmb 09 29 16.1
comp=Z,37nm,0.9s
STIP Stip 84.54 319 i P P 09 29 15.4 -0.1
LBZ Lake Benmore 84.56 160 P P 09 29 15.3 +0.2
HRFI Mount Harif 84.58 303 P P 09 29 16.3 +0.4
VAY Valandovo 84.60 319 i P P 09 29 16.8 +1.0
OBKA Obir 84.70 326 ePcP P 09 29 17.4 +1.1
comp=Z,5.8nm,0.7s
ANMO Albuquerque 84.72 50 P P 09 29 18.1 +1.3
baz=311
ANMO Albuquerque 84.72 50 P P 09 29 17.9 +1.2
ANMO pmax pmax
comp=Z,28nm,1.1s
ANMO Albuquerque 84.72 50 P P 09 29 17.9 +1.2
ANMO IAmb IAmb 09 29 19.4
comp=Z,28nm,1.1s
AQBJ Aqaba 84.77 303 P P 09 29 17.8 +1.0
DCZ Deep Cove 84.78 162 P P 09 29 16.0 -0.2
KBA Koelnbreinsper 84.80 327 ePcP P 09 29 17.3 +0.4
comp=Z,11nm,0.8s
CRES Cresnjev 84.82 326 eP P 09 29 17.0 +0.2
BLY Banja Luka 84.82 324 IAMs_20 IAMs_20 10 09 36.5
comp=Z,883nm,22.0s
EIL Elat 84.87 303 P P 09 29 18.0 +0.7
comp=Z,15nm,0.8s,baz=334,slow=5.7,SNR=15
EIL Elat 84.87 303 P P 09 29 17.8 +0.5
WACR West Acre 84.89 337⇑eP P 09 29 17.7 +0.8
WACR IAmb IAmb 09 29 18.2
comp=Z,82nm,0.8s
SPMN Marine on St. 84.90 35 P P 09 29 17.1 -0.1
baz=319,SNR=6.1
SPMN Marine on St. 84.90 35 P P 09 29 16.4 -0.8
SPMN IAmb IAmb 09 29 17.9
comp=Z,20nm,1.1s
LENM Lemitar 84.91 51 P P 09 29 18.3 +0.6
LBWR Ladybower, Pea 85.00 339⇑eP P 09 29 18.2 +0.6
LBWR IAmb IAmb 09 29 19.7
comp=Z,68nm,0.9s
Y22D IRIS PASSCAL I 85.01 51 P P 09 29 19.4 +1.3
baz=311
MYKA Terra Mystica 85.01 327 ePcP P 09 29 17.8 0.0
comp=Z,11nm,0.7s
LPM Los Pinos Moun 85.03 51 P P 09 29 19.3 +1.0
BGNE Belgrade 85.04 41 P P 09 29 18.1 +0.1
baz=316,SNR=5.8
BGNE Belgrade 85.04 41 P P 09 29 17.8 -0.2
MGRS Mrkonjic Grad 85.12 324⇑iP P 09 29 19.6 +1.3
BNM Barren Site 85.14 51 P P 09 29 19.8 +0.9
319A Douglas 85.25 54 P P 09 29 20.4 +1.0
319A IAmb IAmb 09 29 21.6
comp=Z,38nm,1.0s
319A IAMs_20 IAMs_20 10 05 51.2
comp=Z,508nm,19.0s
ODZ Otahua Downs 85.30 160 P P 09 29 20.1 +1.3
ODZ IAmb IAmb 09 29 20.6
comp=Z,35nm,1.0s
CEY Cerknica 85.35 326⇑iP P 09 29 19.3 -0.2
WATA Walderalm 85.35 329 ePcP P 09 29 21.4 +1.8
comp=Z,7.0nm,0.7s
WTTA Wattenberg 85.38 328 ePcP P 09 29 20.2 +0.4
comp=Z,5.5nm,0.7s
GMM Mts of Mourne 85.40 342 eP P 09 29 20.1 +0.7
ABTA Abfaltersbach 85.41 328 i PcP P 09 29 19.5 -0.3
comp=Z,8.1nm,1.0s
CWF Charnwood Fore 85.46 338 eP P 09 29 20.2 +0.4
CWF IAmb IAmb 09 29 21.1
comp=Z,28nm,1.0s
121A Cookes Peak, D 85.47 53 P P 09 29 21.6 +1.1
baz=311,SNR=14
121A Cookes Peak, D 85.47 53 P P 09 29 21.6 +1.1
121A IAmb IAmb 09 29 23.1
comp=Z,37nm,1.1s
PDG Podgorica 85.52 321⇑iP P 09 29 20.8 +0.5
PDG Podgorica 85.52 321 ⇑P P 09 29 21.2 +0.9
BRY Bratogost 85.53 322 eP P 09 29 20.8 +0.2
MOTA Moosalm 85.54 329 i PcP P 09 29 21.1 +0.6
comp=Z,11nm,1.1s
RETA Reutte 85.57 329 ePcP P 09 29 21.3 +0.7
comp=Z,14nm,0.8s
SQTA Sankt Quirin 85.59 329 ePcP P 09 29 21.1 +0.3
comp=Z,7.5nm,0.8s
HSIG 85.64 57 P P 09 29 21.5 +0.3
HSIG IAmb IAmb 09 29 23.2
comp=Z,23nm,1.0s
HSIG IAMs_20 IAMs_20 10 05 18.9
comp=Z,376nm,20.0s
STAL STALIGIAL 85.71 327 P P 09 29 20.3 -0.9
DRME Dracevica, Mon 85.73 321 eP P 09 29 21.5 +0.1
SCHQ Schefferville 85.76 16 P P 09 29 21.3 0.0
comp=Z,13nm,0.8s,baz=357,slow=5.5,SNR=9.7
SCHQ LR LR 10 09 25.1
comp=Z,278nm,20.3s,baz=346,slow=37
TAOE Nuku Hiva Isla 85.80 104 eLR LR 09 56 18.5
comp=Z,1µm,22.5s,baz=315
BFO Black Forest 85.87 331 i P P 09 29 22.5 +0.5
BFO Black Forest 85.87 331 P P 09 29 21.3 -0.7
BFO IAmb IAmb 09 29 23.2
comp=Z,28nm,0.9s
FOEL Foel Wylfa 85.88 340⇑eP P 09 29 22.9 +1.0
FOEL IAmb IAmb 09 29 23.7
comp=Z,53nm,0.8s
FETA Feichten 85.95 329 ePcP P 09 29 23.1 +0.4
comp=Z,6.4nm,0.8s
CBKS Cedar Bluff 86.03 43 P P 09 29 22.8 -0.1
baz=315,SNR=8.9
CBKS Cedar Bluff 86.03 43 P P 09 29 22.9 -0.1
CBKS pmax pmax
comp=Z,18nm,0.9s
CBKS Cedar Bluff 86.03 43 P P 09 29 22.9 -0.1
CBKS IAmb IAmb 09 29 23.4
comp=Z,18nm,0.9s
LLW Llanuwchllyn 86.04 340⇑eP P 09 29 23.5 +0.8
LLW IAmb IAmb 09 29 23.7
comp=Z,21nm,1.1s
DAVA Damuels 86.09 329 i PcP P 09 29 23.8 +0.5
comp=Z,18nm,0.9s
HLM1 Long Mynd 86.11 339⇑eP P 09 29 23.7 +0.6
HLM1 IAmb IAmb 09 29 24.4
comp=Z,17nm,0.9s
DSB Dublin 86.41 341 IAMs_20 IAMs_20 10 11 32.9
comp=Z,865nm,18.0s
ECH Echery 86.42 331 P P 09 29 24.4 -0.3
ECH pmax pmax
comp=Z,17nm,0.9s
ECH MLR MLR
comp=Z,800nm,18.0s
ECH Echery 86.42 331 P P 09 29 24.4 -0.3
ECH IAmb IAmb 09 29 25.8
comp=Z,17nm,0.9s

ECH IAMs_20 IAMs_20 10 12 00.3
comp=Z,834nm,18.0s
FUORN Ofenpass-Fuorn 86.47 329 P **P** **09 29 25.2 -0.1**
FUORN IAmb IAmb 09 29 26.7
comp=Z,20nm,1.0s
STRD Stroud 86.56 338⇑ *e*P **P** **09 29 26.1 +0.9**
STRD IAmb IAmb 09 29 27.1
comp=Z,104nm,0.6s
MCH1 Michaelchurch 86.61 339⇑ *e*P **P** **09 29 26.2 +0.7**
MCH1 IAmb IAmb 09 29 26.9
comp=Z,52nm,0.7s
SWN1 Swindon 86.69 338⇑ *e*P **P** **09 29 27.1 +1.2**
SWN1 IAmb IAmb 09 29 27.5
comp=Z,88nm,0.8s
MONM Monmouth 86.69 339⇑ *e*P **P** **09 29 26.7 +0.8**
MONM IAmb IAmb 09 29 27.4
comp=Z,58nm,0.8s
E44A Grand Marais A 86.83 31 P **P** **09 29 27.0 +0.3**
baz=324
RSBS Rosebush, Pemb 87.14 340⇑ *e*P **P** **09 29 28.1 0.0**
RSBS IAmb IAmb 09 29 29.5
comp=Z,17nm,1.1s
SCIA State Center 87.19 38 P **P** **09 29 29.1 +0.6**
baz=319,SNR=5.6
SCIA State Center 87.19 38 P **P** **09 29 28.8 +0.3**
DAMY Dhamar 87.22 286 IAMs_20 IAMs_20 10 14 17.5
comp=Z,666nm,20.0s
MATQ Matagami 87.30 24 P **P** **09 29 28.5 -0.4**
baz=329,SNR=7.3
D46A Sault St. Mari 87.37 29 P **P** **09 29 29.3 0.0**
baz=325
KSU1 Kansas State U 87.52 42 P **P** **09 29 30.2 0.0**
baz=317,SNR=5.5
MNTX Cornudas Mount 87.55 52 P **P** **09 29 30.8 +0.3**
baz=312,SNR=11
MNTX Cornudas Mount 87.55 52 P **P** **09 29 30.6 +0.1**
MSTX Muleshoe 87.63 49 P **P** **09 29 31.2 +0.2**
baz=313
MSTX Muleshoe 87.63 49 P **P** **09 29 30.3 -0.7**
AMTX Amarillo 87.65 47 P **P** **09 29 32.0 +0.9**
baz=314
AMTX Amarillo 87.65 47 P **P** **09 29 31.3 +0.3**
AMTX IAmb IAmb 09 29 32.7
comp=Z,28nm,0.9s
F45A CMU Biological 87.75 31 P **P** **09 29 31.7 +0.5**
baz=324
JFWS Jewell Farm 87.85 35 P **P** **09 29 31.5 -0.2**
baz=321
JFWS Jewell Farm 87.85 35 P **P** **09 29 31.7 0.0**
JFWS pmax pmax
comp=Z,16nm,0.9s
JFWS Jewell Farm 87.85 35 P **P** **09 29 31.7 0.0**
JFWS IAmb IAmb 09 29 32.1
comp=Z,16nm,0.8s
SENIN Lac Senin/Sane 87.88 330 IAMs_20 IAMs_20 10 13 15.0
comp=Z,785nm,18.0s
ITM Ithomi 87.89 316 P **P** **09 29 31.4 -0.7**
ITM IAmb IAmb 09 29 31.8
comp=Z,24nm,0.7s
D48A Paudash Townsh 88.00 28 P **P** **09 29 32.3 -0.1**
baz=326
E47A Iron Bridge 88.03 29 P **P** **09 29 32.3 -0.2**
baz=325,SNR=7.8
TBI Tubuai 88.05 121 *e*S **S** **09 40 17.2 +1.5**
comp=Z,103nm,28.5s
TBI Tubuai 88.05 121 *e*LR LR 09 57 46.4
comp=Z,1µm,23.2s,baz=307
TBI Tubuai 88.05 121 *e*T T 11 06 46.6
comp=Z,38nm,0.3s
D49A Beulah Townshi 88.09 28 P **P** **09 29 32.6 -0.2**
baz=327
LSQQ Lebel-sur-Quev 88.12 24 P **P** **09 29 33.0 +0.1**
baz=330
CHGQ Chibougamau 88.21 22 P **P** **09 29 33.2 -0.1**
baz=332
G45A Suttons Bay 88.21 31 P **P** **09 29 33.9 +0.6**
baz=324
G46A Petoskey 88.32 31 P **P** **09 29 34.1 +0.2**
baz=324,SNR=5.9
H45A Beulah 88.38 32 P **P** **09 29 34.8 +0.6**
baz=324
E48A Lockeyer 88.44 29 P **P** **09 29 34.7 +0.2**
baz=326
OSSC Osservatorio P 88.50 326 IAMs_20 IAMs_20 10 12 02.5
comp=Z,843nm,22.0s
I45A Fountain 88.77 32 P **P** **09 29 36.4 +0.4**
baz=323
F48A Evansville 88.81 29 P **P** **09 29 36.1 -0.1**
baz=326,SNR=5.1
H46A Fife Lake 88.81 32 P **P** **09 29 36.8 +0.6**
baz=324,SNR=5.7
GLMI Grayling 88.82 31 P **P** **09 29 36.9 +0.6**
baz=324
GLMI Grayling 88.82 31 P **P** **09 29 34.5 -1.8**
JSA Saint Aubin 88.84 337 *e*P **P** **09 29 36.5 +0.3**
G47A Hillman 88.85 30 P **P** **09 29 36.8 +0.4**
baz=325,SNR=5.4
D51A Lot 18 Range I 88.97 27 P **P** **09 29 36.5 -0.4**
baz=328,SNR=6.0
E50A Wahnapitae 89.03 28 P **P** **09 29 37.4 +0.2**
baz=327,SNR=6.0
F49A Sandfield 89.08 29 P **P** **09 29 37.9 +0.4**
baz=326,SNR=5.3
H47A Mio 89.17 31 P **P** **09 29 38.9 +0.9**
baz=325,SNR=5.8
I46A Reed City 89.19 32 P **P** **09 29 38.8 +0.8**
baz=324
E51A G1948 Merrick 89.40 27 P **P** **09 29 38.9 -0.1**
baz=328,SNR=6.8
H48A Harrisville 89.45 30 P **P** **09 29 40.0 +0.8**
baz=325
H48A Harrisville 89.45 30 P **P** **09 29 39.8 +0.6**
H48A IAmb IAmb 09 29 40.6
comp=Z,28nm,0.8s
WMOK Wichita Mounta 89.45 46 P **P** **09 29 39.7 +0.2**
baz=316,SNR=11
L44A Lake County Fo 89.50 35 P **P** **09 29 39.5 0.0**
baz=322
I47A Gladwin 89.52 31 P **P** **09 29 40.2 +0.6**
baz=324,SNR=5.4
I47A Gladwin 89.52 31 P **P** **09 29 40.5 +1.0**
I47A IAmb IAmb 09 29 42.4
comp=Z,38nm,1.1s
J46A Howard City 89.58 32 P **P** **09 29 40.3 +0.5**
baz=324
D53A Lac Vacive, Po 89.58 26 P **P** **09 29 39.7 -0.1**
baz=329
D53A Lac Vacive, Po 89.58 26 P **P** **09 29 39.9 +0.1**
D53A IAmb IAmb 09 29 40.4
comp=Z,13nm,0.9s
I48A Sherman Twp 89.72 31 P **P** **09 29 41.0 +0.5**
baz=325,SNR=5.6
F51A Arnstein 89.76 28 P **P** **09 29 40.9 +0.3**
baz=328
FNO Franklin 89.87 45 P **P** **09 29 43.0 +1.6**
D54A Lac Fusel, La 89.88 25 P **P** **09 29 40.7 -0.5**
baz=330,SNR=5.3
E52A Mattawa 89.92 27 P **P** **09 29 41.1 -0.3**
baz=329
J47A Sunmer 90.02 32 P **P** **09 29 42.8 +0.9**
baz=324
J47A Sunmer 90.02 32 P **P** **09 29 41.8 -0.1**
J47A IAmb IAmb 09 29 43.4
comp=Z,32nm,1.1s
K46A Dorr 90.05 33 P **P** **09 29 42.3 +0.2**
baz=324
F52A Sundridge 90.09 27 P **P** **09 29 42.5 +0.3**
baz=328
X34A Smith Ranch, M 90.09 45 P **P** **09 29 42.5 +0.1**
HDIL Hopedale 90.13 36 P **P** **09 29 42.9 +0.4**
baz=321
HDIL Hopedale 90.13 36 P **P** **09 29 41.4 -1.1**
HDIL IAmb IAmb 09 29 44.0
comp=Z,30nm,0.9s
E53A Dumoine, Ponti 90.19 26 P **P** **09 29 42.6 -0.1**
baz=329
TX31 Lajitas Ar. Si 90.23 53 P **P** **09 29 43.9 +0.6**
TX32 Lajitas Array 90.23 53 P **P** **09 29 44.0 +0.8**
TX32 IAmb IAmb 09 29 45.2
comp=Z,13nm,0.8s
TXAR Lajitas Array 90.23 53 P **P** **09 29 43.3 0.0**
TXAR Lajitas Array 90.23 53 P **P** **09 29 44.0 +0.7**
comp=Z,10.0nm,0.8s,baz=295,slow=3.4,SNR=120
TXAR PKKPbc **PKKPbc** **09 47 11.8 +0.4**
comp=Z,0.2nm,0.5s,baz=154,slow=7.3,SNR=6.2
TXAR LR LR 10 08 25.1
comp=Z,156nm,19.1s,baz=0.0,slow=34

TXAR Lajitas Array 90.23 53 P **P** **09 29 43.4 0.0**
W35A Tecumseh 90.24 44 P **P** **09 29 42.7 -0.4**
ATD Arta Tunnel 90.24 284 IAMs_20 IAMs_20 10 13 37.7
comp=Z,381nm,20.0s
I49A Point Hope 90.28 30 P **P** **09 29 43.8 +0.7**
baz=326
TUL1 Leonard 90.29 43 P **P** **09 29 43.7 +0.3**
baz=317,SNR=11
TUL1 Leonard 90.29 43 P **P** **09 29 42.4 -0.9**
TUL1 IAmb IAmb 09 29 44.4
comp=Z,20nm,0.8s
D55A Sainte-Anne-du 90.39 24 P **P** **09 29 43.7 +0.2**
baz=331
K47A Vermontville 90.40 32 P **P** **09 29 43.4 -0.3**
baz=324
J48A Bridge Port 90.41 31 P **P** **09 29 44.8 +1.1**
baz=325,SNR=5.2
J48A Bridge Port 90.41 31 P **P** **09 29 44.0 +0.3**
J48A IAmb IAmb 09 29 45.8
comp=Z,27nm,0.8s
ALGO Algonquin Park 90.42 27 P **P** **09 29 43.7 -0.1**
baz=329
ABTX Abilene, Hawle 90.44 48 P **P** **09 29 44.9 +0.8**
baz=315,SNR=6.0
ABTX Abilene, Hawle 90.44 48 P **P** **09 29 43.1 -1.0**
ABTX IAmb IAmb 09 29 45.5
comp=Z,21nm,1.0s
HPIG 90.54 56 P **P** **09 29 44.2 -0.7**
HPIG IAmb IAmb 09 29 48.2
comp=Z,14nm,0.9s
HPIG IAMs_20 IAMs_20 10 09 35.4
comp=Z,437nm,20.0s
J49A Marlette 90.63 31 P **P** **09 29 45.3 +0.5**
baz=326
K48A Perry 90.67 32 P **P** **09 29 45.0 0.0**
baz=325
E55A Montcerf-Lytto 90.69 25 P **P** **09 29 45.0 0.0**
baz=330
H52A Wyvale 90.86 28 P **P** **09 29 45.5 -0.2**
baz=328,SNR=6.7
L47A Sherwood 90.88 33 P **P** **09 29 46.0 0.0**
baz=324
G54A Lake Saint Pet 90.88 27 P **P** **09 29 45.6 -0.3**
baz=329,SNR=5.3
G53A Haliburton 90.92 27 P **P** **09 29 46.2 +0.1**
baz=329
LATQ La Tuque 90.94 23 P **P** **09 29 46.1 0.0**
baz=333
E56A St. Veronique 90.95 24 P **P** **09 29 46.2 0.0**
baz=331
K49A Clarkson 90.97 31 P **P** **09 29 46.7 +0.3**
baz=325
HHAR Hobbs 91.03 42 P **P** **09 29 46.5 -0.3**
HHAR IAmb IAmb 09 29 47.8
comp=Z,17nm,0.9s
CCM Cathedral Cave 91.10 39 P **P** **09 29 47.2 +0.1**
baz=320
CCM Cathedral Cave 91.10 39 P **P** **09 29 47.1 +0.1**
CCM pmax pmax
comp=Z,26nm,1.0s
CCM Cathedral Cave 91.10 39 P **P** **09 29 47.1 +0.1**
CCM IAmb IAmb 09 29 48.4
comp=Z,26nm,0.9s
I51A Listowel 91.12 29 P **P** **09 29 45.2 -1.8**
baz=327
F55A Otter Lake 91.12 26 P **P** **09 29 46.4 -0.6**
baz=330
D58A Chemin du LacG 91.16 23 P **P** **09 29 47.4 +0.2**
baz=333,SNR=5.2
M47A Cromwell 91.19 34 P **P** **09 29 47.3 -0.1**
baz=324
L48A N Adams 91.24 33 P **P** **09 29 48.1 +0.5**
baz=325,SNR=6.1
MGMO Mountain Grove 91.26 40 P **P** **09 29 47.5 -0.3**
MGMO IAmb IAmb 09 29 48.8
comp=Z,24nm,0.9s
SFIN Lafayette 91.30 35 P **P** **09 29 48.2 +0.3**
baz=323
K50A Casco 91.33 31 P **P** **09 29 48.3 +0.3**
baz=326
L49A Milan 91.39 32 P **P** **09 29 48.7 +0.4**
baz=325
H53A Bobcaygeon 91.41 28 P **P** **09 29 48.3 0.0**
baz=329,SNR=5.6
M48A Edgerton 91.49 33 P **P** **09 29 48.6 -0.1**
baz=324
G55A Calabogie 91.50 26 P **P** **09 29 48.8 +0.1**
baz=330
N47A Urbana 91.54 34 P **P** **09 29 49.0 -0.1**
baz=324
U40A Yellville 91.55 41 P **P** **09 29 49.4 +0.2**
baz=319,SNR=42
U40A Yellville 91.55 41 P **P** **09 29 49.4 +0.2**
D59A Saint-Raymond 91.56 22 P **P** **09 29 49.5 +0.5**
baz=334
E58A La Victoria 91.68 23 P **P** **09 29 49.9 +0.4**
baz=333
DELO Deloro Mine 91.81 27 IAMs_20 IAMs_20 10 19 07.9
comp=Z,373nm,18.0s
M49A Liberty Center 91.82 33 P **P** **09 29 50.5 +0.2**
baz=325
E59A St. Maurice 91.83 23 P **P** **09 29 50.4 +0.2**
baz=333
K51A Iona Station 91.83 30 P **P** **09 29 51.0 +0.6**
baz=327
L50A Kingsville 91.85 32 P **P** **09 29 50.2 -0.2**
baz=326
P46A Rosedale 91.86 36 P **P** **09 29 50.8 +0.3**
baz=323
JCT Junction City 91.86 49 P **P** **09 29 51.1 +0.3**
baz=315,SNR=6.3
JCT Junction City 91.86 49 P **P** **09 29 50.3 -0.4**
JCT pmax pmax
comp=Z,12nm,0.8s
JCT Junction City 91.86 49 P **P** **09 29 50.3 -0.4**
JCT IAmb IAmb 09 29 52.6
comp=Z,12nm,0.8s
N48A Decatur 91.86 34 P **P** **09 29 50.7 +0.2**
baz=324
D61A St Aubert, Com 91.88 21 P **P** **09 29 50.9 +0.5**
baz=335
D60A Saint Jean D'O 91.92 22 P **P** **09 29 50.6 0.0**
baz=334
W39A Magazine 91.92 42 P **P** **09 29 50.7 -0.1**
baz=318,SNR=7.1
W39A Magazine 91.92 42 P **P** **09 29 50.9 0.0**
CORL Corleone 91.93 322 IAMs_20 IAMs_20 10 17 02.5
comp=Z,856nm,20.0s
H55A Tweed 91.94 27 P **P** **09 29 50.9 +0.1**
baz=330
I55A Frankford 92.05 27 P **P** **09 29 51.4 +0.1**
baz=329
K52A Tillsonburg 92.10 30 P **P** **09 29 52.0 +0.5**
baz=327
OLIL Olney 92.13 37 P **P** **09 29 50.9 -0.9**
OLIL IAmb IAmb 09 29 53.5
comp=Z,32nm,1.1s
OLIL IAMs_20 IAMs_20 10 14 50.1
comp=Z,310nm,20.0s
N49A Columbus Grove 92.18 33 P **P** **09 29 52.2 +0.3**
baz=325
N49A Columbus Grove 92.18 33 P **P** **09 29 52.4 +0.4**
N49A IAmb IAmb 09 29 53.4
comp=Z,14nm,0.8s
WHTX Lake Whitney, 92.19 47 P **P** **09 29 52.7 +0.5**
baz=316,SNR=17
WHTX Lake Whitney, 92.19 47 P **P** **09 29 52.5 +0.4**
WHTX IAMs_20 IAMs_20 10 15 14.4
comp=Z,320nm,18.0s
G57A Newington 92.23 25 P **P** **09 29 51.3 -0.8**
baz=331,SNR=5.8
H56A Elgin 92.23 26 P **P** **09 29 52.2 +0.1**
baz=330
E60A Ste Agathe de 92.25 22 P **P** **09 29 52.4 +0.2**
baz=394
M50A Fremont 92.28 32 P **P** **09 29 52.4 -0.1**
baz=326
O48A Farmland 92.29 34 P **P** **09 29 52.3 -0.2**
baz=324
FCAR Ozark Folk Cen 92.29 41 P **P** **09 29 52.1 -0.5**
FCAR IAmb IAmb 09 29 53.5
comp=Z,22nm,0.9s
D62A Allapoint, All 92.31 20 P **P** **09 29 52.6 +0.2**
baz=336,SNR=5.2
S44A Carbondale 92.38 38 P **P** **09 29 53.0 +0.1**
baz=321
SIUC Southern Illin 92.38 38 P **P** **09 29 52.4 -0.5**

SIUC IAmb IAmb 09 29 54.4
comp=Z,20nm,0.9s
F60A Warwick 92.46 23 P **P** **09 29 53.0 -0.1**
baz=334
PBMO Poplar Bluff 92.49 39 P **P** **09 29 53.0 -0.5**
PBMO IAmb IAmb 09 29 54.9
comp=Z,21nm,0.9s
J54A Appleton 92.49 28 IAMs_20 IAMs_20 10 16 48.1
comp=Z,460nm,20.0s
G58A Ormstown 92.51 24 P **P** **09 29 53.8 +0.4**
baz=332,SNR=5.4
MIAR Mount Ida 92.52 43 P **P** **09 29 54.1 +0.4**
baz=319,SNR=22
MIAR Mount Ida 92.52 43 P **P** **09 29 54.4 +0.7**
MIAR pmax pmax
comp=Z,38nm,1.0s
MIAR Mount Ida 92.52 43 P **P** **09 29 54.4 +0.7**
MIAR IAMs_20 IAMs_20 10 19 01.9
comp=Z,341nm,19.0s
E62A Clayton Lake 92.60 21 P **P** **09 29 54.1 +0.2**
baz=335
D63A Stockholm 92.62 20 P **P** **09 29 54.0 +0.1**
baz=336
H57A Richville 92.65 26 P **P** **09 29 54.2 +0.1**
baz=331
WHAR Wooly Hollow 92.66 42 P **P** **09 29 54.4 +0.1**
LCAR Lake Charles 92.66 40 P **P** **09 29 54.7 +0.4**
M51A Elyria 92.70 32 P **P** **09 29 54.3 -0.1**
baz=326
O49A Covington 92.71 34 P **P** **09 29 54.3 -0.2**
baz=325
O49A Covington 92.71 34 P **P** **09 29 54.8 +0.3**
O49A IAmb IAmb 09 29 55.8
comp=Z,9.3nm,0.9s
F61A St Evariste 92.75 22 P **P** **09 29 55.6 +1.0**
baz=334,SNR=6.3
N50A Nevada 92.75 32 P **P** **09 29 54.7 +0.1**
baz=325
W41B Gary Mavity, V 92.77 42 P **P** **09 29 54.7 0.0**
baz=319,SNR=6.2
W41B Gary Mavity, V 92.77 42 P **P** **09 29 54.4 -0.4**
W41B IAmb IAmb 09 29 56.0
comp=Z,14nm,0.9s
LONY Lake Ozonia 92.79 25 P **P** **09 29 54.7 -0.1**
baz=332
LONY Lake Ozonia 92.79 25 IAMs_20 IAMs_20 10 16 35.8
comp=Z,410nm,20.0s
P48A Milroy 92.81 35 P **P** **09 29 54.8 -0.2**
baz=324
J55A Hilton 92.81 28 IAMs_20 IAMs_20 10 17 12.5
comp=Z,457nm,18.0s
M52A Chesterland 92.87 31 P **P** **09 29 55.5 +0.3**
baz=327
M52A Chesterland 92.87 31 IAMs_20 IAMs_20 10 19 11.7
comp=Z,386nm,19.0s
FRNY Flat Rock 92.94 24 IAMs_20 IAMs_20 10 19 12.6
comp=Z,506nm,18.0s
ERPA Erie 92.95 30 P **P** **09 29 56.0 +0.5**
baz=328
X40A Basin Creek Fa 92.97 42 P **P** **09 29 56.1 +0.4**
baz=319,SNR=7.6
X40A Basin Creek Fa 92.97 42 P **P** **09 29 54.4 -1.4**
X40A IAmb IAmb 09 29 57.5
comp=Z,18nm,1.1s
X40A IAMs_20 IAMs_20 10 14 02.7
comp=Z,292nm,19.0s
L53A Girard 92.98 30 P **P** **09 29 56.2 +0.6**
baz=328
PQI Presque Isle 92.98 20 P **P** **09 29 55.6 +0.1**
PQI IAmb IAmb 09 29 56.5
comp=Z,14nm,0.9s
435B Jarrell 92.98 48 P **P** **09 29 56.3 +0.4**
baz=316
I57A Carthage 93.02 26 P **P** **09 29 55.8 0.0**
baz=331
UALR University of 93.02 42 P **P** **09 29 55.7 -0.3**
K54A Basiliko Farm, 93.04 29 P **P** **09 29 56.1 +0.2**
baz=329
O50A Cable 93.06 33 P **P** **09 29 56.3 +0.2**
baz=325
P49A Miami Univ. Ec 93.07 34 P **P** **09 29 55.9 -0.2**
baz=324
H59A Cadyville 93.07 24 P **P** **09 29 56.0 0.0**
baz=332
E63A Oxbow 93.09 20 P **P** **09 29 56.3 +0.2**
baz=336
E63A Oxbow 93.09 20 P **P** **09 29 55.6 -0.5**
E63A IAmb IAmb 09 29 59.8
comp=Z,21nm,1.1s
Q48A North Vernon 93.09 35 P **P** **09 29 56.2 -0.1**
baz=324
H58A Gabriels 93.11 25 P **P** **09 29 56.4 +0.1**
baz=332
L54A Sinclairville 93.11 29 P **P** **09 29 56.5 +0.2**
baz=328
F62A Pittston Farm, 93.12 22 P **P** **09 29 56.8 +0.6**
baz=335,SNR=5.5
F62A Pittston Farm, 93.12 22 P **P** **09 29 57.2 +1.0**
F62A IAmb IAmb 09 29 58.2
comp=Z,19nm,0.9s
F62A IAMs_20 IAMs_20 10 16 23.8
comp=Z,702nm,20.0s
J56A Wolcott 93.16 27 IAMs_20 IAMs_20 10 15 25.8
comp=Z,434nm,20.0s
K55A Perry 93.18 28 P **P** **09 29 56.7 +0.2**
baz=329
G61A St-Isidore-de- 93.20 23 P **P** **09 29 57.3 +0.6**
baz=334
WVNY West Valley, N 93.25 29 P **P** **09 29 57.3 +0.4**
WVNY IAmb IAmb 09 29 57.9
comp=Z,13nm,1.1s
E64A Bridgewater 93.26 20 P **P** **09 29 57.2 +0.4**
baz=337,SNR=5.9
ACSO Alum Creek Sta 93.27 33 P **P** **09 29 57.2 +0.2**
baz=326
ACSO Alum Creek Sta 93.27 33 P **P** **09 29 57.2 +0.2**
ACSO IAmb IAmb 09 29 58.3
comp=Z,14nm,0.8s
N52A McGinn's Farm, 93.34 32 P **P** **09 29 57.6 +0.2**
baz=326
J57A Williamstown 93.36 27 P **P** **09 29 57.5 +0.2**
baz=330
J57A Williamstown 93.36 27 IAMs_20 IAMs_20 10 17 55.2
comp=Z,379nm,18.0s
WCI Wyandotte Cave 93.39 36 P **P** **09 29 57.7 +0.1**
baz=323
WCI Wyandotte Cave 93.39 36 P **P** **09 29 58.3 +0.7**
WCI pmax pmax
comp=Z,13nm,1.0s
WCI Wyandotte Cave 93.39 36 P **P** **09 29 58.3 +0.7**
WCI IAmb IAmb 09 29 58.4
comp=Z,13nm,0.9s
Q49A Aurora 93.42 35 P **P** **09 29 58.0 +0.3**
baz=324
WLAR White Oak Lake 93.42 43 P **P** **09 29 58.2 +0.4**
WLAR IAmb IAmb 09 29 59.7
comp=Z,32nm,1.1s
P50A Jamestown 93.42 34 P **P** **09 29 58.0 +0.2**
baz=325
I58A Old Forge 93.47 26 P **P** **09 29 58.4 +0.4**
baz=331
K56A Middlesex 93.48 28 P **P** **09 29 58.3 +0.3**
baz=330
NCB Newcomb 93.49 25 IAMs_20 IAMs_20 10 17 44.1
comp=Z,382nm,18.0s
L55A Hinsdale 93.50 29 P **P** **09 29 58.4 +0.3**
baz=329
O51A Pataskala 93.50 32 P **P** **09 29 58.4 +0.3**
baz=326
F63A Nahmakanta, Br 93.55 21 P **P** **09 29 58.5 +0.3**
baz=336
G62A West of Eustis 93.57 22 P **P** **09 29 58.9 +0.6**
baz=335
G62A West of Eustis 93.57 22 IAMs_20 IAMs_20 10 16 52.7
comp=Z,551nm,18.0s
M54A Oil Creek Stat 93.59 30 P **P** **09 29 58.8 +0.3**
baz=328
M54A Oil Creek Stat 93.59 30 IAMs_20 IAMs_20 10 19 48.6
comp=Z,379nm,19.0s
F64A Sherman 93.62 21 P **P** **09 29 58.6 +0.1**
baz=336
833A Chaparral WMA, 93.63 51 IAMs_20 IAMs_20 10 11 48.1
comp=Z,345nm,20.0s
J58A Remsen 93.65 26 P **P** **09 29 58.6 -0.2**
baz=331
N53A Lisbon 93.70 31 P **P** **09 29 59.0 -0.1**
baz=327

Code	Station Name	Δ	AZ	Op	ISC	Time	Res
N53A	**Lisbon**	**93.70**	**31**	P	**P**	**09 29 58.7**	**-0.3**
N53A				IAmb	IAmb	09 30 00.4	
	comp=Z,9.4nm,0.9s						
K57A	**Scipio Center**	**93.75**	**27**	P	**P**	**09 29 59.2**	**0.0**
	baz=330						
I59A	**Olmsteadville**	**93.76**	**25**	P	**P**	**09 29 59.5**	**+0.3**
	baz=332						
J59A	**Piesco**	**93.84**	**26**	P	**P**	**09 29 59.4**	**-0.2**
	baz=332						
J59A	**Piesco**	**93.84**	**26**	IAMs_20	IAMs_20	10 19 38.4	
	comp=Z,465nm,18.0s						
P51A	**Williamsport**	**93.85**	**33**	P	**P**	**09 29 59.8**	**+0.1**
	baz=326						
O52A	**Adamsville**	**93.86**	**32**	P	**P**	**09 30 00.2**	**+0.4**
	baz=326						
O52A	**Adamsville**	**93.86**	**32**	IAMs_20	IAMs_20	10 20 14.5	
	comp=Z,447nm,20.0s						
R49A	**Shelbyville**	**93.87**	**35**	P	**P**	**09 29 59.9**	**+0.1**
	baz=324						
L56A	**Greenwood**	**93.88**	**28**	P	**P**	**09 29 59.9**	**0.0**
	baz=329						
PKME	**Peaks-Kenny Pk**	**93.90**	**21**	P	**P**	**09 29 59.9**	**+0.2**
	baz=336						
Z41A	**Richland Creek**	**93.91**	**43**	P	**P**	**09 30 00.4**	**+0.3**
	baz=319						
I60A	**Shoreham**	**93.92**	**25**	P	**P**	**09 30 00.5**	**+0.6**
	baz=332						
N54A	**Moraine State**	**93.92**	**30**	P	**P**	**09 29 60.0**	**-0.1**
	baz=328						
N54A	**Moraine State**	**93.92**	**30**	P	**P**	**09 30 00.8**	**+0.8**
N54A				IAmb	IAmb	09 30 01.4	
	comp=Z,12nm,1.1s						
G63A	**Kingsbury**	**93.94**	**22**	P	**P**	**09 30 00.3**	**+0.3**
	baz=335						
H62A	**Milan**	**93.96**	**23**	P	**P**	**09 30 00.3**	**+0.2**
	baz=334						
Q50A	**Georgetown**	**93.96**	**34**	P	**P**	**09 30 00.4**	**+0.1**
	baz=325						
CCAR	**Cane Creek**	**93.97**	**42**	IAMs_20	IAMs_20	10 15 12.3	
	comp=Z,420nm,22.0s						
M55A	**Ridgway**	**93.98**	**29**	P	**P**	**09 30 00.5**	**+0.1**
	baz=328						
T47A	**Sharon Grove**	**93.99**	**37**	P	**P**	**09 30 00.7**	**+0.3**
	baz=323,SNR=5.3						
T47A	**Sharon Grove**	**93.99**	**37**	P	**P**	**09 30 00.8**	**+0.4**
T47A				IAmb	IAmb	09 30 01.8	
	comp=Z,13nm,0.8s						
O53A	**New Philadelph**	**94.01**	**32**	P	**P**	**09 30 00.3**	**-0.1**
	baz=327						
G64A	**Maxfield**	**94.06**	**21**	P	**P**	**09 30 00.3**	**-0.3**
	baz=336						
Q51A	**Peebles**	**94.10**	**34**	P	**P**	**09 30 00.9**	**0.0**
	baz=325						
Q51A	**Peebles**	**94.10**	**34**	P	**P**	**09 30 01.2**	**+0.3**
Q51A				IAmb	IAmb	09 30 02.2	
	comp=Z,17nm,0.9s						
P52A	**Corning**	**94.13**	**32**	P	**P**	**09 30 00.9**	**-0.1**
	baz=326						
I61A	**Oroboro, Fairl**	**94.19**	**24**	P	**P**	**09 30 00.9**	**-0.3**
	baz=333						
M56A	**Emporium**	**94.20**	**29**	P	**P**	**09 30 01.2**	**-0.1**
	baz=329						
S49A	**Springfield**	**94.22**	**36**	P	**P**	**09 30 01.5**	**+0.1**
	baz=324						
L57A	**Andrews Acres**	**94.26**	**28**	P	**P**	**09 30 01.6**	**-0.1**
	baz=330						
R50A	**Paris**	**94.26**	**35**	P	**P**	**09 30 01.6**	**0.0**
	baz=325						
R50A	**Paris**	**94.26**	**35**	P	**P**	**09 30 01.8**	**+0.2**
R50A				IAmb	IAmb	09 30 03.0	
	comp=Z,12nm,0.9s						
WVT	**Waverly**	**94.31**	**38**	P	**P**	**09 30 01.9**	**+0.1**
	baz=322						
WVT	**Waverly**	**94.31**	**38**	P	**P**	**09 30 02.0**	**+0.1**
WVT				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WVT	**Waverly**	**94.31**	**38**	P	**P**	**09 30 02.0**	**+0.1**
K59A	**Cooperstown**	**94.32**	**26**	P	**P**	**09 30 02.1**	**+0.3**
	baz=331						
O54A	**Avella**	**94.42**	**31**	P	**P**	**09 30 02.2**	**-0.1**
	baz=327						
O54A	**Avella**	**94.42**	**31**	P	**P**	**09 30 03.1**	**+0.8**
O54A				IAmb	IAmb	09 30 03.3	
	comp=Z,12nm,1.0s						
G65A	**Princeton**	**94.45**	**20**	P	**P**	**09 30 02.4**	**+0.1**
	baz=337						
N55A	**Marion Center**	**94.48**	**30**	P	**P**	**09 30 02.6**	**0.0**
	baz=328						
H64A	**Troy**	**94.49**	**22**	P	**P**	**09 30 02.4**	**-0.1**
	baz=336						
I62A	**Tamworth**	**94.53**	**23**	P	**P**	**09 30 02.5**	**-0.3**
	baz=334						
P53A	**Whipple**	**94.57**	**32**	P	**P**	**09 30 03.0**	**-0.1**
	baz=327						
R51A	**Hillsboro**	**94.59**	**34**	P	**P**	**09 30 03.1**	**0.0**
	baz=325						
L58A	**Harry Jones Me**	**94.60**	**27**	P	**P**	**09 30 03.2**	**+0.1**
	baz=331						
J61A	**Chester**	**94.60**	**24**	P	**P**	**09 30 03.0**	**-0.1**
	baz=333						
HKT	**Hockley**	**94.62**	**47**	P	**P**	**09 30 04.7**	**+1.3**
HKT				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HKT	**Hockley**	**94.62**	**47**	P	**P**	**09 30 04.7**	**+1.3**
Q52A	**Bidwell**	**94.63**	**33**	P	**P**	**09 30 03.2**	**-0.1**
	baz=326						
N56A	**West Decatur**	**94.64**	**29**	P	**P**	**09 30 03.2**	**-0.1**
	baz=329						
T49A	**Edmonton**	**94.65**	**36**	P	**P**	**09 30 03.3**	**-0.1**
	baz=324						
T49A	**Edmonton**	**94.65**	**36**	P	**P**	**09 30 03.2**	**-0.3**
S50A	**Richmond**	**94.72**	**35**	P	**P**	**09 30 03.7**	**-0.1**
	baz=324						
M57A	**Sunshine Farm,**	**94.73**	**28**	P	**P**	**09 30 03.9**	**+0.1**
	baz=330						
M57A	**Sunshine Farm,**	**94.73**	**28**	P	**P**	**09 30 04.4**	**+0.6**
L59A	**Walton**	**94.76**	**27**	P	**P**	**09 30 02.4**	**-1.5**
	baz=331						
OXF	**Oxford**	**94.77**	**40**	P	**P**	**09 30 03.8**	**-0.2**
	baz=321						
OXF	**Oxford**	**94.77**	**40**	P	**P**	**09 30 04.3**	**+0.3**
OXF				pmax	pmax		
	comp=Z,34nm,1.2s						
OXF	**Oxford**	**94.77**	**40**	P	**P**	**09 30 04.3**	**+0.3**
O55A	**Ligonier**	**94.84**	**30**	P	**P**	**09 30 02.4**	**-1.9**
	baz=328						
P54A	**Burton**	**94.86**	**31**	P	**P**	**09 30 03.4**	**-1.0**
	baz=327						
EMMW	**East Machias**	**94.93**	**20**	IAMs_20	IAMs_20	10 18 07.6	
	comp=Z,420nm,19.0s						
U49A	**Red Boiling Sp**	**95.01**	**37**	P	**P**	**09 30 05.2**	**+0.1**
	baz=324						
Q53A	**Leroy**	**95.04**	**32**	P	**P**	**09 30 05.1**	**-0.1**
	baz=326,SNR=5.2						
T50A	**Nancy**	**95.05**	**36**	P	**P**	**09 30 05.2**	**-0.1**
	baz=324						
N57A	**Milroy**	**95.07**	**29**	P	**P**	**09 30 05.4**	**+0.1**
	baz=329						
CLTN	**Cedars of Leba**	**95.08**	**37**	P	**P**	**09 30 05.0**	**-0.4**
MCWV	**Mont Chateau**	**95.08**	**31**	P	**P**	**09 30 05.6**	**+0.2**
	baz=328						
O56A	**Blue Knob Stat**	**95.08**	**30**	P	**P**	**09 30 05.5**	**+0.1**
	baz=329						
O56A	**Blue Knob Stat**	**95.08**	**30**	P	**P**	**09 30 06.2**	**+0.8**
FURI	**Furi**	**95.09**	**285**	IAMs_20	IAMs_20	10 18 33.6	
	comp=Z,711nm,20.0s						
V48A	**Smith Brothers**	**95.12**	**38**	P	**P**	**09 30 05.7**	**+0.1**
	baz=323						
V48A	**Smith Brothers**	**95.12**	**38**	P	**P**	**09 30 05.7**	**+0.1**
S51A	**Beattyville**	**95.12**	**35**	P	**P**	**09 30 05.4**	**-0.2**
	baz=325						
M59A	**Waymart**	**95.19**	**27**	P	**P**	**09 30 04.7**	**-1.1**
	baz=331						
P55A	**Reedsville**	**95.21**	**31**	P	**P**	**09 30 05.9**	**-0.1**
	baz=328						
Q54A	**Coxs Mills**	**95.23**	**32**	P	**P**	**09 30 06.2**	**+0.2**
Q54A				IAmb	IAmb	09 30 09.8	
	comp=Z,17nm,1.1s						
R53A	**Hurricane**	**95.29**	**33**	P	**P**	**09 30 06.0**	**-0.4**
	baz=326						
S52A	**Salyersville**	**95.32**	**34**	P	**P**	**09 30 06.1**	**-0.4**
	baz=325						
ZAIG	**Zacatecas**	**95.42**	**57**	P	**P**	**09 30 08.1**	**+0.5**
ZAIG				IAmb	IAmb	09 30 09.6	
	comp=Z,11nm,0.9s						
ZAIG				IAMs_20	IAMs_20	10 12 34.3	
	comp=Z,353nm,19.0s						
T51A	**Gray**	**95.51**	**35**	P	**P**	**09 30 07.2**	**-0.2**
	baz=325						
U50A	**Jamestown**	**95.53**	**36**	P	**P**	**09 30 07.1**	**-0.4**
	baz=324						
Q55A	**Buckhannon**	**95.54**	**31**	P	**P**	**09 30 07.3**	**-0.2**
	baz=328						
V49A	**McMinnville**	**95.55**	**37**	P	**P**	**09 30 06.8**	**-0.8**
	baz=323						
KEST	**Kesra**	**95.58**	**323**	LR	LR	10 18 24.0	
	comp=Z,932nm,18.3s,baz=354,slow=39						
N59A	**State Game Lan**	**95.61**	**28**	P	**P**	**09 30 06.7**	**-1.1**
	baz=331						
P56A	**Dayton Farm, R**	**95.62**	**30**	P	**P**	**09 30 07.2**	**-0.6**
	baz=328						
M60A	**Port Jervis**	**95.67**	**27**	P	**P**	**09 30 07.2**	**-0.8**
	baz=331						
HRV	**Adam Dziewonsk**	**95.68**	**24**	IAMs_20	IAMs_20	10 18 17.6	
	comp=Z,462nm,19.0s						
R54A	**Victor**	**95.83**	**33**	P	**P**	**09 30 08.6**	**-0.3**
	baz=327						
T52A	**Hallie**	**95.83**	**34**	P	**P**	**09 30 08.5**	**-0.4**
	baz=325						
WES	**Weston**	**95.87**	**24**	IAMs_20	IAMs_20	10 17 25.5	
	comp=Z,470nm,19.0s						
W49A	**Belvidere**	**95.89**	**38**	P	**P**	**09 30 08.8**	**-0.3**
	baz=323						
U51A	**La Follette**	**95.95**	**36**	P	**P**	**09 30 08.8**	**-0.6**
	baz=325						
S54A	**Dingess, Beckl**	**96.01**	**33**	P	**P**	**09 30 08.8**	**-0.9**
	baz=327						
HAL	**Halifax**	**96.02**	**18**	IAMs_20	IAMs_20	09 59 10.4	
	comp=Z,480nm,22.0s						
X48A	**Hartselle**	**96.03**	**39**	P	**P**	**09 30 09.2**	**-0.5**
	baz=323						
R55A	**Marlinton**	**96.12**	**32**	P	**P**	**09 30 10.0**	**-0.2**
	baz=327,SNR=6.1						
PAL	**Palisades**	**96.21**	**26**	IAMs_20	IAMs_20	10 21 10.7	
	comp=Z,610nm,18.0s						
U52A	**Thorn Hill**	**96.24**	**35**	P	**P**	**09 30 10.1**	**-0.6**
	baz=325						
BRNJ	**Basking Ridge**	**96.25**	**27**	IAMs_20	IAMs_20	10 17 57.7	
	comp=Z,385nm,20.0s						
V51A	**Loudon**	**96.26**	**36**	P	**P**	**09 30 09.8**	**-1.0**
	baz=324						
YLE	**Yale**	**96.28**	**26**	IAMs_20	IAMs_20	10 13 36.4	
	comp=Z,750nm,19.0s						
W50A	**Signal Mountai**	**96.29**	**37**	P	**P**	**09 30 09.5**	**-1.5**
	baz=324						
R56A	**Bull Pasture M**	**96.32**	**31**	P	**P**	**09 30 09.8**	**-1.3**
	baz=328						
CPCT	**Cooper Cave**	**96.47**	**36**	IAMs_20	IAMs_20	10 18 02.2	
	comp=Z,322nm,20.0s						
P59A	**Jarrettsville**	**96.49**	**29**	P	**P**	**09 30 11.9**	**+0.2**
	baz=330						
T54A	**Tazewell**	**96.51**	**34**	P	**P**	**09 30 11.7**	**-0.3**
	baz=326						
W51A	**Cleveland**	**96.59**	**37**	P	**P**	**09 30 11.1**	**-1.2**
	baz=324						
V52A	**Sevierville**	**96.59**	**36**	P	**P**	**09 30 11.7**	**-0.6**
	baz=325						
V52A	**Sevierville**	**96.59**	**36**	P	**P**	**09 30 12.3**	**0.0**
P60A	**Greenville**	**96.62**	**28**	IAMs_20	IAMs_20	10 20 35.2	
	comp=Z,519nm,18.0s						
U53A	**Fall Branch**	**96.63**	**35**	P	**P**	**09 30 11.5**	**-1.1**
	baz=326						
T55A	**Pulaski**	**96.81**	**33**	P	**P**	**09 30 11.4**	**-1.9**
	baz=327						
Y49A	**Blount Mountai**	**96.82**	**39**	P	**P**	**09 30 12.0**	**-1.4**
	baz=323						
U54A	**Nelsons Funny**	**96.84**	**34**	P	**P**	**09 30 12.8**	**-0.7**
	baz=326						
U54A	**Nelsons Funny**	**96.84**	**34**	IAMs_20	IAMs_20	10 21 56.7	
	comp=Z,370nm,19.0s						
BLA	**Blacksburg**	**96.89**	**33**	IAMs_20	IAMs_20	10 21 55.8	
	comp=Z,481nm,19.0s						
R58A	**Rapidan**	**96.99**	**30**	P	**P**	**09 30 13.2**	**-0.8**
	baz=329						
S57A	**Dark Hollow, R**	**97.05**	**31**	P	**P**	**09 30 12.0**	**-2.3**
	baz=328						
V53A	**Saluda**	**97.09**	**35**	P	**P**	**09 30 14.6**	**-0.1**
	baz=325						
V53A	**Saluda**	**97.09**	**35**	P	**P**	**09 30 14.4**	**-0.2**
U55A	**TA2, Sparta**	**97.21**	**33**	P	**P**	**09 30 13.0**	**-2.2**
	baz=327						
CBN	**Corbin Frederi**	**97.33**	**30**	IAMs_20	IAMs_20	10 20 07.7	
	comp=Z,360nm,19.0s						
R58B	**Mineral**	**97.33**	**31**	IAMs_20	IAMs_20	10 20 40.5	
	comp=Z,352nm,19.0s						
W53A	**Cullowhee**	**97.34**	**36**	P	**P**	**09 30 15.1**	**-0.8**
	baz=325						
X52A	**Dahlonega**	**97.45**	**36**	P	**P**	**09 30 15.8**	**-0.5**
	baz=325						
Y51A	**Rockmart**	**97.45**	**38**	P	**P**	**09 30 15.4**	**-0.8**
	baz=324						
Z50A	**Ashland**	**97.54**	**39**	P	**P**	**09 30 16.3**	**-0.4**
	baz=323						
Z50A	**Ashland**	**97.54**	**39**	P	**P**	**09 30 16.7**	**0.0**
Q61A	**Milford**	**97.55**	**28**	P	**P**	**09 30 15.9**	**-0.7**
	baz=331						
S58A	**Poland Farm, P**	**97.56**	**31**	IAMs_20	IAMs_20	10 20 41.6	
	comp=Z,355nm,19.0s						
T57A	**Hurt**	**97.57**	**32**	IAMs_20	IAMs_20	10 17 23.8	
	comp=Z,292nm,20.0s						
BG3	**Lake Jocassee**	**97.59**	**36**	P	Pdif	09 30 17.2	+0.3
U56A	**King**	**97.63**	**33**	IAMs_20	IAMs_20	10 22 22.4	
	comp=Z,382nm,19.0s						
V55A	**Taylorsville**	**97.67**	**34**	IAMs_20	IAMs_20	10 23 05.6	
	comp=Z,590nm,19.0s						
X53A	**Estanollee**	**97.82**	**36**	P	**P**	**09 30 17.4**	**-0.4**
	baz=325						
ESDC	**Sonseca Array**	**97.86**	**334**	P	**P**	**09 30 17.6**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=16,slow=4.7,SNR=6.7						
ESDC				LR	LR	10 19 01.5	
	comp=Z,914nm,20.1s,baz=25,slow=38						
ESDC	**Sonseca Array**	**97.86**	**334**	P	**P**	**09 30 18.1**	**0.0**
W54A	**Cherokee Point**	**97.86**	**35**	P	**P**	**09 30 17.6**	**-0.5**
	baz=326						
Y52A	**Lilburn**	**97.97**	**37**	P	**P**	**09 30 17.5**	**-1.1**
	baz=324						
KMSC	**Kings Mountain**	**98.21**	**34**	P	**P**	**09 30 18.7**	**-0.9**
	baz=326						
KMSC	**Kings Mountain**	**98.21**	**34**	IAMs_20	IAMs_20	10 23 17.8	
	comp=Z,531nm,19.0s						
X54A	**Belton**	**98.22**	**35**	P	**P**	**09 30 19.4**	**-0.2**
	baz=326						
PAULI	**Pauline**	**98.25**	**35**	IAMs_20	IAMs_20	10 23 39.0	
	comp=Z,516nm,19.0s						
T59A	**Double "B" Far**	**98.31**	**31**	IAMs_20	IAMs_20	10 20 53.5	
	comp=Z,331nm,19.0s						
Y54A	**Tignall**	**98.63**	**36**	P	**P**	**09 30 20.2**	**-1.3**
	baz=325						
V58A	**Windy Hill, Pi**	**98.65**	**33**	IAMs_20	IAMs_20	10 16 35.6	
	comp=Z,290nm,21.0s						
U59A	**Littleton**	**98.74**	**31**	IAMs_20	IAMs_20	10 21 30.8	
	comp=Z,465nm,19.0s						
X56A	**White Oak**	**98.89**	**35**	P	**P**	**09 30 21.3**	**-1.3**
	baz=326						
BIRD	**Birdtown, Kers**	**99.02**	**34**	IAMs_20	IAMs_20	10 23 24.2	
	comp=Z,449nm,19.0s						
V60A	**Jim Taylor Roa**	**99.46**	**31**	IAMs_20	IAMs_20	10 21 58.1	
	comp=Z,386nm,19.0s						
Y57A	**Sumter**	**99.57**	**34**	IAMs_20	IAMs_20	10 23 44.9	
	comp=Z,488nm,19.0s						
Z56A	**Williston**	**99.70**	**35**	IAMs_20	IAMs_20	10 23 44.3	
	comp=Z,416nm,21.0s						
PESTR	**Estremoz**	**99.82**	**336**	IAMs_20	IAMs_20	10 20 38.7	
	comp=Z,646nm,18.0s						
Y60A	**Bolivia**	**100.55**	**33**	IAMs_20	IAMs_20	10 17 32.8	
	comp=Z,369nm,19.0s						
KMBO	**Kilima Mbogo**	**102.29**	**278**	IAMs_20	IAMs_20	10 18 52.3	
	comp=Z,352nm,21.0s						
TAM	**Tamanrasset**	**107.96**	**318**	IAMs_20	IAMs_20	10 26 21.2	
	comp=Z,380nm,19.0s						
TOA0	**Torodi Ar. Sit**	**117.87**	**315**		**PKPdf**	**09 35 28.4**	**-1.0**
TORD	**Torodi Ar. Bea**	**117.87**	**315**	PKP	**PKPdf**	**09 35 28.2**	**-1.2**
	comp=Z,2.4nm,1.0s,baz=20,slow=0.7,SNR=9.2						
TORD				PP	**PP**	**09 36 40.5**	**-1.8**
	comp=Z,4.1nm,0.8s,baz=35,slow=7.1,SNR=7.7						
TORD				PKKPbc	**PKKPbc**	**09 45 48.2**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=217,slow=3.2,SNR=6.9						
TORD	**Torodi Ar. Bea**	**117.87**	**315**		**PKPdf**	**09 35 28.0**	**-1.4**
TOB5	**Torodi Ar. Sit**	**117.88**	**315**	IAMs_20	IAMs_20	10 36 10.0	
	comp=Z,518nm,20.0s						
TOB4	**Torodi Ar. Sit**	**117.89**	**315**	IAMs_20	IAMs_20	10 36 19.4	
	comp=Z,540nm,20.0s						
TOC4	**Torodi Ar. Sit**	**117.89**	**315**	IAMs_20	IAMs_20	10 36 19.5	
	comp=Z,544nm,20.0s						
TOC5	**Torodi Ar. Sit**	**117.90**	**315**	IAMs_20	IAMs_20	10 36 19.8	
	comp=Z,575nm,20.0s						
MAW	**Mawson**	**119.19**	**206**	PKIKP	**PKiKP**	**09 35 31.1**	**+0.8**
MAW	**Mawson**	**119.19**	**206**	PKP	**PKiKP**	**09 35 31.1**	**+0.8**
	comp=Z,4.2nm,0.7s,baz=174,slow=0.6,SNR=7.6						
SABA	**Saba**	**121.20**	**28**	IAMs_20	IAMs_20	10 24 10.5	
	comp=Z,271nm,19.0s						
SEUS	**St. Eustatius**	**121.42**	**28**	IAMs_20	IAMs_20	10 26 14.2	
	comp=Z,316nm,18.0s						
SKI	**Saint Kitts**	**121.66**	**28**	IAMs_20	IAMs_20	10 34 34.3	
	comp=Z,300nm,20.0s						
OCAC	**Ocana**	**124.64**	**44**	*e*P	**PKPdf**	**09 35 42.5**	**-0.1**
OCAC	**Ocana**	**124.64**	**44**	*e*P	**PKPdf**	**09 35 42.5**	**-0.1**
LBTB	**Lobatse**	**124.83**	**263**	PKIKP	**PKPdf**	**09 35 42.5**	**0.0**
LBTB	**Lobatse**	**124.83**	**263**		**PKPdf**	**09 35 42.5**	**0.0**
CBOC	**Ciudad Bolivar**	**125.00**	**48**	*e*P	**PKPdf**	**09 35 43.3**	**0.0**
CBOC	**Ciudad Bolivar**	**125.00**	**48**	*e*P	**PKPdf**	**09 35 43.3**	**0.0**
SDV	**Santo Domingo**	**125.55**	**41**		**PKPdf**	**09 35 43.8**	**-0.6**
SDV				IAMs_20	IAMs_20	10 38 07.8	
	comp=Z,272nm,21.0s						
GUY2C	**Guyana, Caldas**	**125.89**	**48**	*e*P	**PKPdf**	**09 35 44.9**	**-0.5**
GUY2C	**Guyana, Caldas**	**125.89**	**48**	*e*P	**PKPdf**	**09 35 44.9**	**-0.5**
QSPA	**South Pole Qui**	**126.27**	**180**	PKP	**PKPdf**	**09 35 43.3**	**-0.7**
	comp=Z,16nm,1.1s,baz=354,slow=0.6						
QSPA				PP	**PP**	**09 37 38.8**	**-0.6**
	comp=Z,11nm,1.1s,baz=49,slow=2.8,SNR=3.8						
QSPA	**South Pole Qui**	**126.27**	**180**		**PKPdf**	**09 35 42.8**	**-1.1**
YOTC	**Yotoco, Valle**	**126.28**	**50**	*e*P	**PKPdf**	**09 35 45.0**	**-0.7**
YOTC	**Yotoco, Valle**	**126.28**	**50**	*e*P	**PKPdf**	**09 35 45.0**	**-0.7**
SPBC	**San Pablo de B**	**126.31**	**46**	*e*P	**PKPdf**	**09 35 45.7**	**-0.1**
SPBC	**San Pablo de B**	**126.31**	**46**	*e*P	**PKPdf**	**09 35 45.7**	**-0.1**
BOSA	**Boshof**	**126.73**	**259**	PKIKP	**PKPdf**	**09 35 46.3**	**+0.2**
BOSA	**Boshof**	**126.73**	**259**	PKP	**PKPdf**	**09 35 46.4**	**+0.2**
	comp=Z,9.3nm,0.8s,baz=86,slow=3.3,SNR=14						
BOSA				PKiKP	**pPKPdf**	**09 35 50.9**	**-0.9**
	comp=Z,3.3nm,0.9s,baz=292,slow=5.4,SNR=3.2						
ROSC	**El Rosal**	**126.82**	**47**	PKP	**PKiKP**	**09 35 48.4**	**+0.8**
	comp=Z,12nm,0.8s,baz=74,slow=5.7,SNR=6.8						
ROSC	**El Rosal**	**126.82**	**47**		**PKiKP**	**09 35 48.1**	**+0.5**
DBIC	**Dimbokro**	**126.84**	**317**	PKIKP	**PKPdf**	**09 35 46.2**	**-0.4**
DBIC	**Dimbokro**	**126.84**	**317**	PKP	**PKPdf**	**09 35 46.1**	**-0.4**
	comp=Z,3.2nm,0.7s,baz=134,slow=4.7,SNR=3.8						
DBIC				PKiKP	**pPKPdf**	**09 35 51.9**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=298,slow=5.5,SNR=3.5						
DBIC				PP	**PP**	**09 37 42.9**	**-0.2**
	comp=Z,6.8nm,1.1s,baz=20,slow=7.0,SNR=3.6						
TIC	**Toumodi**	**126.95**	**317**	*e*PKP1	**PKPdf**	**09 35 45.8**	**-1.1**
TIC	**Toumodi**	**126.95**	**317**	PKIKP	**PKPdf**	**09 35 45.8**	**-1.1**
TIC	**Toumodi**	**126.95**	**317**		**PKPdf**	**09 35 45.8**	**-1.1**
ORTC	**Ortega, Tolima**	**127.01**	**49**	*e*P	**PKPdf**	**09 35 46.4**	**-0.7**
ORTC	**Ortega, Tolima**	**127.01**	**49**	*e*P	**PKPdf**	**09 35 46.4**	**-0.7**
KIC	**Kosan Boka**	**127.03**	**317**	*e*PKP1	**PKPdf**	**09 35 45.7**	**-1.3**
	comp=Z,52nm,1.4s						
BBAC	**Balboa, Cauca**	**127.23**	**52**	*e*P	**PKPdf**	**09 35 46.9**	**-0.8**
BBAC	**Balboa, Cauca**	**127.23**	**52**	*e*P	**PKPdf**	**09 35 46.9**	**-0.8**
LIC	**Lamto**	**127.30**	**317**	*e*PKP1	**PKPdf**	**09 35 46.5**	**-1.0**
	comp=Z,24nm,0.7s						
LIC	**Lamto**	**127.30**	**317**		**PKPdf**	**09 35 46.5**	**-1.0**
CHIC	**Chingaza**	**127.33**	**47**	*e*P	**PKPdf**	**09 35 48.1**	**-0.1**
CHIC	**Chingaza**	**127.33**	**47**	*e*P	**PKPdf**	**09 35 48.1**	**-0.1**
PRAC	**Prado**	**127.38**	**49**	*e*P	**PKPdf**	**09 35 46.9**	**-0.9**
PRAC	**Prado**	**127.38**	**49**	*e*P	**PKPdf**	**09 35 46.9**	**-0.9**
SOTA	**Rioblanco**	**127.55**	**51**	*e*P	**PKPdf**	**09 35 47.2**	**-1.4**
SOTA	**Rioblanco**	**127.55**	**51**	*e*P	**PKPdf**	**09 35 47.2**	**-1.4**
OTAV	**Otavalo**	**127.81**	**55**	PKIKP	**PKiKP**	**09 35 49.6**	**0.0**
OTAV	**Otavalo**	**127.81**	**55**		**PKiKP**	**09 35 49.6**	**0.0**
OTAV	**Otavalo**	**127.81**	**55**	IAMs_20	IAMs_20	10 19 10.8	
	comp=Z,188nm,19.0s						
SYO	**Syowa Base**	**127.86**	**207**	⇑*e*X	**PKPdf**	**09 35 45.0**	**-1.8**
SYO	**Syowa Base**	**127.86**	**207**	⇓*i*PKiKP	**PKPdf**	**09 35 47.2**	**+0.4**
MACC	**Macarena, Meta**	**129.25**	**49**	*e*P	**PKPdf**	**09 35 50.4**	**-0.9**
MACC	**Macarena, Meta**	**129.25**	**49**	*e*P	**PKPdf**	**09 35 50.4**	**-0.9**
MDP	**Montagnes des**	**136.46**	**21**	PKP	**PKiKP**	**09 36 06.6**	**+0.1**
	comp=Z,18nm,1.0s,baz=21,slow=5.9,SNR=2.7						
NNA	**Nana**	**137.60**	**65**	IAMs_20	IAMs_20	10 35 25.4	
	comp=Z,390nm,18.0s						
SNAA	**Sanae**	**140.33**	**197**	PKPdf	PKPdf	09 36 02.0	-8.2
SNAA	**Sanae**	**140.33**	**197**	PKIKP	**PKPdf**	**09 36 10.5**	**+0.3**
SNAA	**Sanae**	**140.33**	**197**	PKPdf	**PKPdf**	**09 36 10.5**	**+0.3**
VNA2	**Neumayer--Watz**	**141.90**	**196**	PKPdf	**PKPdf**	**09 36 07.0**	**-6.0**
	baz=113,slow=4.5						
VNA3	**Neumayer Olymp**	**142.14**	**195**	PKPdf	**PKPdf**	**09 36 08.2**	**-5.2**
VNA1	**Neumayer--Stat**	**142.30**	**196**	PKPdf	**PKPdf**	**09 36 10.4**	**-3.2**
SAML	**Samuel**	**144.43**	**46**	PKIKP	**PKPab**	**09 36 17.5**	**+0.2**
SAML	**Samuel**	**144.43**	**46**		**PKPab**	**09 36 17.5**	**+0.2**
SAML				IAMs_20	IAMs_20	10 50 16.5	
	comp=Z,256nm,19.0s						
LPAZ	**La Paz**	**146.73**	**61**	PKP2	**PKPbc**	**09 36 24.9**	**-0.5**
LPAZ	**La Paz**	**146.73**	**61**	PKPbc	**PKPbc**	**09 36 25.7**	**+0.3**
	comp=Z,45nm,0.6s,baz=344,slow=3.4,SNR=50						
LPAZ	**La Paz**	**146.73**	**61**	PKPbc	**PKPbc**	**09 36 24.9**	**-0.5**
PMSA	**Palmer Station**	**147.80**	**160**	PKPbc	**PKPbc**	**09 36 26.2**	**0.0**
	baz=184,slow=2.3						
PMSA	**Palmer Station**	**147.80**	**160**		**PKPbc**	**09 36 26.6**	**+0.4**
PB04	**IPOC Station P**	**149.00**	**72**		**PKPbc**	**09 36 31.4**	**+0.5**
PB10	**IPOC Station P**	**149.34**	**74**		**PKPbc**	**09 36 32.2**	**+0.7**
RCBR	**Riachuelo**	**149.37**	**355**	PKP2	**PKPbc**	**09 36 30.2**	**-1.7**
RCBR	**Riachuelo**	**149.37**	**355**		**PKPbc**	**09 36 30.2**	**-1.7**
LVC	**Limon Verde**	**150.10**	**71**	PKIKP	**PKPdf**	**09 36 31.0**	**+2.2**
LVC	**Limon Verde**	**150.10**	**71**		**PKPdf**	**09 36 31.0**	**+2.2**
GO02	**Mina Guanaco**	**150.94**	**76**		**PKPbc**	**09 36 35.8**	**+0.1**
SIV	**San Ignacio**	**151.22**	**51**	PKPbc	**PKPbc**	**09 36 36.6**	**+0.4**
	comp=Z,49nm,0.9s,baz=330,slow=2.0,SNR=9.3						
GO03	**Copiap**	**151.59**	**81**		**PKPbc**	**09 36 36.8**	**-0.1**
GO04	**Tololo Observa**	**152.19**	**86**		**PKPbc**	**09 36 38.2**	**-0.1**
ROC1	**El Roble**	**152.93**	**92**		**PKPbc**	**09 36 39.3**	**-0.6**
PEL	**Peldehue**	**153.25**	**92**	PKIKP	**PKPbc**	**09 36 39.5**	**-0.9**
PEL						09 36 52.1	
PEL	**Peldehue**	**153.25**	**92**	PKPbc	**PKPbc**	**09 36 39.5**	**-0.9**
PEL					**PKPab**	**09 36 52.1**	**-0.1**
PLCA	**Paso Flores**	**154.51**	**109**	PKIKP	**PKPbc**	**09 36 42.3**	**-0.5**
PLCA						09 36 57.2	
PLCA	**Paso Flores**	**154.51**	**109**	PKPbc	**PKPbc**	**09 36 42.1**	**-0.7**
	comp=Z,6.1nm,1.0s,baz=228,slow=7.6,SNR=5.5						
PLCA				PKPab	**PKPab**	**09 36 57.9**	**+0.4**
	comp=Z,15nm,0.8s,baz=273,slow=3.2,SNR=13						
PLCA	**Paso Flores**	**154.51**	**109**		**PKPbc**	**09 36 42.4**	**-0.5**
PLCA					**PKPab**	**09 36 57.2**	**-0.3**
BDFB	**Brasilia**	**157.47**	**25**	PP	PP	09 40 47.1	-1.5
	comp=Z,3.3nm,0.7s,baz=177,slow=6.6,SNR=3.5						
CPUP	**Villa Florida**	**160.85**	**63**	PKP2	**PKPab**	**09 37 25.2**	**+0.1**
CPUP	**Villa Florida**	**160.85**	**63**	PKP	**PKPdf**	**09 36 42.6**	**-0.1**
	comp=Z,2.6nm,1.0s,baz=18,slow=3.2,SNR=2.3						
CPUP				PKPab	**PKPab**	**09 37 25.7**	**+0.6**
	comp=Z,4.2nm,0.8s,baz=336,slow=2.8,SNR=5.4						
CPUP	**Villa Florida**	**160.85**	**63**		**PKPab**	**09 37 25.2**	**+0.1**

WEL 03 09:35:16.1, 37°S±15°×**17°8E**±1°0**, h5**km**, M3.3**/20**, ML3.6**/12**, MLv3.3**/20**, Error ellipse: s-maj=0.0km s-min=0.0km az=166.5, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.63**	**141**	P	Pg	09 35 28.6	+0.3
MXZ				S	Sg	09 35 37.6	+1.1
WIZ	**White Island**	**0.67**	**227**	P	Pn	09 35 31.6	-0.7
HAZ	**Te Kaha**	**0.69**	**182**	P	Pb	09 35 30.4	-0.2
PKGZ	**Pakihiroa**	**0.84**	**166**	P	Pb	09 35 33.5	+0.1
WMGZ	**Waiomatatini S**	**0.89**	**147**	P	Pb	09 35 33.9	-0.2
RUGZ	**Raukumara Rang**	**0.90**	**187**	P	Pb	09 35 34.6	+0.2
RUGZ				S	Sn	09 35 49.2	+0.2
PUZ	**Puketiti**	**1.06**	**161**	P	Pn	09 35 38.0	+0.3
PUZ				S	Sn	09 35 54.0	+1.2
OPRZ	**Ohinepanea**	**1.26**	**232**	P	Pg	09 35 40.0	-0.3
MWZ	**Matawai**	**1.28**	**190**	P	Pb	09 35 40.9	+0.1
MARZ	**Manawahe**	**1.28**	**224**	P	Pg	09 35 40.7	-0.1
MARZ				S	Sb	09 35 57.9	+0.2
URZ	**Urewera**	**1.31**	**205**	P	Pn	09 35 41.0	-0.1
URZ				S	Sb	09 35 58.5	+0.1
TKGZ	**Te Karaka**	**1.37**	**179**	P	Pg	09 35 44.5	+2.1
TGRZ	**Tauranga**	**1.40**	**241**	P	Pn	09 35 42.3	0.0
CNGZ	**Carnagh Statio**	**1.45**	**168**	P	Pg	09 35 45.1	+1.2
RAGZ	**Rawiri**	**1.46**	**192**	P	Pg	09 35 45.1	+1.0
KARZ	**Kaharoa**	**1.56**	**232**	P	Pg	09 35 46.3	+0.2
MUGZ	**Murupara**	**1.63**	**210**	P	Pn	09 35 46.0	+0.5
MUGZ				S	Sb	09 36 07.4	-0.1
RRRZ	**Republican Roa**	**1.63**	**219**	P	Pb	09 35 46.9	+0.2
RIGZ	**Rimuhau**	**1.63**	**181**	P	Pg	09 35 47.7	+0.2
RTZ	**Ruatahuna**	**1.68**	**203**	P	Pn	09 35 46.2	0.0
KUZ	**Kuaotunu**	**1.71**	**280**	P	Pn	09 35 45.2	-1.3
KUZ				S	Sn	09 36 06.0	-2.7
SNGZ	**Shannon Statio**	**1.75**	**192**	P	Pg	09 35 50.4	+0.7
SNGZ				S	Sg	09 36 12.0	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRRZ	Plateau Road	1.82	218	P	Pb	09 35 50.1	+0.2
PRGZ	Paritu Road	1.85	178	P	Pb	09 35 50.2	-0.3
ALRZ	Allen Road	1.89	217	P	Pb	09 35 50.3	-0.8
RAHZ	Arahi	1.93	197	P	Pb	09 35 52.4	+0.6
MTHZ	Maungataniwha	1.94	203	P	Pn	09 35 50.4	+0.7
TOZ	Tahuroa Road	1.95	250	P	Pn	09 35 50.2	+0.3
WHHZ	Waihua	2.06	193	P	Pg	09 35 55.1	-0.4
MRHZ	Matea Rd	2.08	212	P	Pn	09 35 53.0	+1.3
MHGZ	Mahia Peninsul	2.08	178	P	Pb	09 35 53.2	-1.2
MKAZ	Moumakai	2.12	268	P	Pn	09 35 52.1	-0.1
NMHZ	Naumai	2.17	201	P	Pb	09 35 55.9	-0.1
TLZ	Tolley Road	2.20	234	P	Pn	09 35 54.5	+1.1
ARHZ	Aropaoanui	2.28	196	P	Pb	09 35 57.3	-0.5
BKZ	Black Stump Fm	2.34	206	P	Pn	09 35 55.7	+0.4
RITZ	Rihia Road	2.45	218	P	Pb	09 36 00.4	-0.3
MCHZ	McNeill Hill	2.53	200	P	Pb	09 36 00.9	-1.1
AWAZ	Awhitu Peninsu	2.53	269	P	Pn	09 35 58.8	+0.9
KWHZ	Kaweka Forest	2.59	204	P	Pb	09 36 01.2	-2.0
NGZ	Ngauruhoe	2.73	219	P	Pb	09 36 05.0	-0.5
HIZ	Hauiti	2.75	237	P	Pn	09 36 02.2	+1.3
BHHZ	Black Hill Sta	2.78	209	P	Pn	09 36 03.8	+2.5
KRHZ	Kereru	2.81	203	P	Pn	09 36 03.8	+2.1
FWVZ	Far West T-bar	2.81	218	P	Pb	09 36 06.0	-1.1
KAHZ	Kahuranaki	2.82	195	P	Pn	09 36 03.6	+1.8
TRVZ	Turoa	2.85	218	P	Pb	09 36 06.5	-1.1
MTVZ	Mangateitei	2.96	218	P	Pb	09 36 07.6	-1.7
PXZ	Pawanui	3.05	194	P	Pn	09 36 05.6	+0.7
PNHZ	Pukenui	3.11	203	P	Pn	09 36 07.3	+1.5
VRZ	Vera Road	3.16	229	P	Pn	09 36 08.9	+2.3
TSZ	Takapari Road	3.32	205	P	Pn	09 36 09.9	+1.1
PRHZ	Porangahau	3.32	196	P	Pn	09 36 09.3	+0.5
WAZ	Wanganui	3.48	219	P	Pb	09 36 14.8	-3.5
BFZ	Birch Farm	3.81	198	P	Pn	09 36 15.7	+0.3
OUZ	Omahuta	3.88	297	P	Pn	09 36 15.9	-0.4
MRZ	Mangatainoka R	3.99	205	P	Pn	09 36 17.9	+0.1
TIWZ	Tintock	3.99	201	P	Pn	09 36 18.2	+0.2
HOWZ	Holdsworth Sta	4.22	204	P	Pn	09 36 23.7	+2.6
OGWZ	Otaki Gorge	4.27	208	P	Pn	09 36 22.3	+0.5
TMWZ	Te Maipa	4.30	200	P	Pn	09 36 21.4	-0.8
KIW	Kapiti Island	4.41	210	P	Pn	09 36 24.1	+0.4
CAW	Cannon Point	4.56	207	P	Pn	09 36 25.3	-0.5
TUWZ	Tuamarina	5.29	213	P	Pn	09 36 35.9	+0.2
NNZ	Nelson	5.39	218	P	Pn	09 36 39.0	+2.0
BSWZ	Blackbirch Sta	5.55	212	P	Pn	09 36 39.7	+0.3
QRZ	Quartz Range	5.57	226	P	Pn	09 36 40.5	+0.9
CTZ	Chatham Island	7.90	149	P	Pn	09 37 12.1	+0.5

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*ASRS **03** 09:57:03.0, 53°.55N×87°.91E, M2.7, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

NNC 03 09:57:09.9±2.5**, 53°.40N×87°.40E, h0km, mb3.5, mpv3.2, 5C-3D, Error ellipse: s-maj=19.1km s-min=16.3km az=31.0, Suspected Mining explosion., Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	6.05	247	⇓Pn	Pn	09 58 40.8	+0.3
	1.6nm,0.5s						
KURK				⇓Sn	Sn	09 59 50.7	+0.3
	2.0nm,0.5s						
KURK				⇑Lg	Lg	10 00 25.5	
	8.4nm,0.7s						
MK31	Makanchi Array	7.38	208	⇑Pn	Pn	09 58 58.8	-0.1
	0.3nm,0.3s,baz=29,slow=13,SNR=42						
MK31				Sn	Sn	10 00 24.7	+1.4
	0.7nm,0.5s,baz=28,slow=26,SNR=4.5						
MK31				⇓Lg	Lg	10 01 02.9	
	3.8nm,0.7s,baz=45,slow=33,SNR=5.2						
MAKZ	Makanchi	7.46	210	⇑Pn	Pn	09 59 00.0	+0.1
	0.6nm,0.3s						
MAKZ				⇑Sn	Sn	10 00 27.1	+1.8
	1.8nm,0.6s						
MAKZ				⇑Lg	Lg	10 01 05.9	
	5.1nm,0.8s						

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*ISCJB **03** 10:02:57.9±0.4, 22°.92N±0°.07×96°.10E±0°.07, h32km, mb3.4/3, Error ellipse: s-maj=12.8km s-min=4.2km az=135.1*

*IDC **03** 10:02:57.6±1.5, 22°.89N×96°.01E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/41, mbtmp3.5/4, ML4.1/1, Error ellipse: s-maj=41.1km s-min=19.1km az=61.0*

*NEIC **03** 10:02:58.2±1.5, 23°.02N±0°.09×96°.2E±0°.1, h17km±6km, mb4.1/8*

ISC 03 10:03:00.4±0.6**, 23°.01N**±0°.08×**96°.14E**±0°.08**, h32km, n32, σ1s31**/38**, mb3.8**/8**, 1D, Myanmar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMP	Imphal	2.71	313	eP	Pn	10 03 43.5	+1.7
IMP				eS	Sb	10 04 19.6	-1.4
IMP				IAML		10 04 23.4	
	comp=N,37nm,0.7s						
IMP				IAML		10 04 24.8	
	comp=E,35nm,0.7s						
SAIH	SAIHA	2.95	261	ex	Pn	10 03 45.8	+0.6
SAIH				IAML		10 04 24.2	
	comp=N,54nm,0.2s						
SAIH				IAML		10 04 25.0	
	comp=E,106nm,0.7s						
AZL	Aizawl	3.25	284	eP	Pn	10 03 49.8	+0.5
AZL				eS	Sn	10 04 27.3	+0.3
AZL				IAML		10 04 33.4	
	comp=N,52nm,0.2s						
AZL				IAML		10 04 34.6	
	comp=E,50nm,0.5s						
KOHI	KOHIMA	3.27	326	eS	Pn	10 03 44.3	-5.4
KOHI				IAML		10 03 57.0	
	comp=E,53nm,0.3s						
KOHI				IAML		10 03 57.7	
	comp=N,43nm,0.6s						
SHL	Shillong	4.64	304	⇓iPN	Pn	10 04 09.0	+0.5
SHL				eP	Pb	10 04 21.9	+0.6
SHL	Shillong	4.64	304		Pn	10 04 08.2	-0.3
CHTO	Chiang Mai	4.93	147		Pn	10 04 10.9	-1.4
CHTO				Sn	Sn	10 05 06.0	-2.3
ZIRO	ZIRO	4.95	336	eP	Pb	10 04 25.1	-1.4
ZIRO				IAML		10 04 46.7	
	comp=E,903nm,0.3s						
ZIRO				IAML		10 04 47.0	
	comp=N,1µm,0.6s						
GUWA	GUWAHATI	5.14	309	eP	Pn	10 04 14.8	-0.4
GUWA				eS	Pb	10 04 27.1	-2.6
GUWA				IAML		10 04 28.1	
	comp=N,572nm,0.1s						
GUWA				IAML		10 04 28.2	
	comp=E,390nm,0.1s						
CMAR	Chiang Mai Arr	5.23	149	Pn	Pn	10 04 15.4	-1.0
	comp=E,1.6nm,0.3s,baz=323,slow=13,SNR=18						
CMAR				Pg	Pb	10 04 32.8	+1.6
	comp=E,5.4nm,0.3s,baz=328,slow=18,SNR=26						
CMAR				Lg	Lg	10 05 39.8	
	comp=E,8.4nm,0.3s,baz=321,slow=29,SNR=10						
CMAR	Chiang Mai Arr	5.23	149		Pn	10 04 15.4	-1.0
CMAR				Sn	Sn	10 05 14.6	-1.1
PBKT	Sadao Pong	7.85	144		Pn	10 04 51.5	-1.0
LSA	Lhasa	8.03	327	Pn	Pn	10 04 54.3	-0.9
TAPN	Taplejung	8.77	301	eP	Pn	10 05 04.9	-0.4
	comp=E,8.8nm,0.3s						
RAMN	Ramite	9.50	296	eP	Pn	10 05 14.3	-1.0
	comp=E,7.6nm,0.3s						
JIRN	Jiri	10.12	299	eP	Pn	10 05 23.7	-0.2
	comp=E,19nm,0.3s						
GUN	Gumba	10.47	300	eP	Pn	10 05 28.7	0.0
PKIN	Phulchoki	10.73	297	eP	Pn	10 05 31.3	-0.8
GKN	Gorkha	11.51	298	eP	Pn	10 05 41.7	-1.1
	comp=E,7.1nm,0.2s						
KDJ	Kajisay	24.78	325	P	P	10 08 19.8	+0.3
KDJ				IAmb	IAmb	10 08 23.6	
	comp=Z,9.9nm,1.3s						
MK31	Makanchi Array	26.23	338	P	P	10 08 31.6	-0.8
MKAR	Makanchi Array	26.23	338	P	P	10 08 34.0	+1.6
	comp=Z,0.5nm,0.5s,baz=144,slow=12,SNR=6.3						
MKAR	Makanchi Array	26.23	338	P	P	10 08 32.7	+0.3
ULN	Ulaanbaatar	26.30	17		P	10 08 32.4	-0.8
ULN				IAmb	IAmb	10 08 46.3	
	comp=Z,2.3nm,1.1s						
ABKAR	Akbulak array	38.67	322	P	P	10 10 21.5	+0.5
ABKAR	Akbulak array	38.67	322	P	P	10 10 21.2	+0.2
ABKAR				IAmb	IAmb	10 10 33.1	
	comp=Z,2.3nm,1.3s						
TIXI	Tiksi	52.11	13	P	P	10 12 09.1	+2.0
TIXI				IAmb	IAmb	10 12 11.1	
	comp=Z,2.0nm,0.4s						
WB0	Warramunga Arr	56.58	136	P	P	10 12 40.2	-0.1
WRA	Warramunga Arr	56.67	136	P	P	10 12 43.3	+2.3
	comp=Z,0.4nm,0.7s,baz=324,slow=7.7,SNR=5.0						
WRA	Warramunga Arr	56.67	136	P	P	10 12 42.5	+1.5
WRAB	Tennant Creek	56.67	136	P	P	10 12 39.3	-1.7
WRAB				IAmb	IAmb	10 12 48.7	
	comp=Z,3.9nm,1.1s						
ASAR	Alice Springs	59.16	139	P	P	10 13 01.2	+2.8
	comp=Z,0.2nm,0.6s,baz=327,slow=7.8,SNR=2.6						

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*SJA **03** 10:08:57.4±0.6, 21°.14S×69°.08W, h118km±4km, ML2.1, MW2.6*

*ISCJB **03** 10:08:58.3±0.8, 21°.15S±0°.03×69°.11W±0°.07, h118km±8km, Error ellipse: s-maj=11.1km s-min=4.7km az=174.8*

*GUC **03** 10:08:58.1±0.8, 21°.13S×69°.01W, h110km±5km, ML2.8*

ISC 03 10:08:59.2±1.6**, 21°.14S**±0°.03×**69°.10W**±0°.06**, h111km**±12km**, n19, σ0s56**/34**, 10C, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.37	285	⇑iP	Pn	10 09 15.0	-0.5
PB01				i S	Sn	10 09 27.5	-0.2
PB09	IPOC Station P	0.67	191	⇑iP	Pn	10 09 17.0	-0.6
PB09				i S	Sn	10 09 32.0	+0.7
PB09				IAML		10 09 34.1	
	comp=E,241nm,0.3s						
PB09	IPOC Station P	0.67	191	i P	Pn	10 09 17.0	-0.6
PB09				eS	Sn	10 09 32.1	+0.7
PB02	IPOC Station P	0.76	256	⇑iP	Pn	10 09 18.4	+0.1
PB02				i S	Sn	10 09 33.7	+1.1
PB02				IAML		10 09 34.4	
	comp=N,545nm,0.3s						
PB07	IPOC Station P	0.94	231	⇑iP	Pn	10 09 19.7	-0.3
PB07				i S	Sn	10 09 36.5	+0.8
PB07				IAML		10 09 37.2	
	comp=N,150nm,0.1s						
PB03	IPOC Station P	1.09	214	⇑iP	Pn	10 09 21.1	-0.5
PB03				i S	Sn	10 09 38.1	-0.3
PB03				IAML		10 09 39.1	
	comp=N,140nm,0.3s						
TA01	Diego Aracena	1.16	299	⇑iP	Pn	10 09 22.1	0.0
TA01				i S	Sn	10 09 40.2	+0.8
TA01				IAML		10 09 42.1	
	comp=N,237nm,0.5s						
GO01	Chusmiza	1.47	357	eP	Pn	10 09 26.0	-0.2
GO01				i S	Sn	10 09 46.9	+0.4
GO01				IAML		10 09 48.5	
	comp=N,263nm,0.1s						
PB11	IPOC Station P	1.47	339	⇑iP	Pn	10 09 25.4	-0.4
PB11				i S	Sn	10 09 46.2	+0.2
PB11				IAML		10 09 47.4	
	comp=E,287nm,0.3s						
LVC	Limon Verde	1.48	173	i P	Pn	10 09 25.7	-0.4
LVC				eS	Sn	10 09 46.5	0.0
LVC				IAML		10 09 48.9	
	comp=Z,29nm,0.2s						
PB04	IPOC Station P	1.54	219	⇑iP	Pn	10 09 27.2	+0.5
PB04				i S	Sn	10 09 47.6	+0.1
PB04				IAML		10 09 49.9	
	comp=E,87nm,0.4s						
PB04	IPOC Station P	1.54	219	i P	Pn	10 09 26.3	-0.3
PB04				eS	Sn	10 09 47.8	+0.2
PB06	IPOC Station P	1.62	196	i P	Pn	10 09 27.4	-0.2
PB06				eS	Sn	10 09 49.1	-0.2
PSGC	Pisagua	1.81	328	⇑iP	Pn	10 09 28.9	-1.0
PSGC				i S	Sn	10 09 52.6	-0.7
PB05	IPOC Station P	1.99	211	i P	Pn	10 09 31.7	-0.5
MNMC	Minye Minye	2.05	347	⇑iP	Pn	10 09 32.9	-0.3
MNMC				i S	Sn	10 10 00.3	+1.3
MNMC				IAML		10 10 02.0	
	comp=E,142nm,0.1s						
PB15	IPOC Station P	2.09	189	i P	Pn	10 09 33.6	0.0
YJA	Yavi	3.49	108	i P	Pn	10 09 52.0	-0.2
YJA				IAML		10 09 54.9	
	comp=Z,2.5nm,0.7s						
HJA	Humahuaca	3.99	122	i P	Pn	10 09 59.0	+0.2

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*ISCJB **03** 10:14:35.1±0.9, 7°.17S±0°.06×128°.49E±0°.08, h33km, mb3.6/1, Error ellipse: s-maj=11.6km s-min=8.8km az=15.3*

*IDC **03** 10:14:37.9±2.5, 7°.19S×128°.66E, h43km±32km, mb3.3/1, mb1 3.8/6, mb1mx3.5/29, mbtmp3.8/6, ML3.8/5, Error ellipse: s-maj=36.2km s-min=20.2km az=89.0*

ISC 03 10:14:37.1±1.0**, 7°.19S**±0°.07×**128°.61E**±0°.10**, h35km, n6, σ1s67**/10**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	Baumata	5.73	238	P	Pn	10 16 00.6	+0.8
	11nm,0.3s,baz=135,slow=3.9,SNR=7.2						
BATI				S	Sn	10 17 02.3	-2.1
	3.0nm,0.3s,baz=328,slow=13,SNR=2.2						
SIJI	Sorong	6.82	23	P	Pn	10 16 14.4	-0.2
	2.1nm,0.3s,baz=201,slow=23,SNR=4.1						
FITZ	Fitzroy Crossi	11.22	195	P	Pn	10 17 17.6	+2.5
	0.4nm,0.3s,baz=8.0,slow=14,SNR=8.0						
FITZ				S	Sn	10 19 19.4	+0.1
	0.3nm,0.3s,baz=81,slow=19,SNR=4.4						
WRA	Warramunga Arr	13.84	157	P	Pn	10 17 51.8	+0.8
	0.3nm,0.3s,baz=328,slow=13,SNR=17						
WRA				S	Sn	10 20 21.1	-2.5
	0.7nm,0.3s,baz=330,slow=21,SNR=16						
ASAR	Alice Springs	17.16	163	P	P	10 18 36.0	+0.5
	0.1nm,0.3s,baz=338,slow=9.0,SNR=11						
ASAR				S	Sn	10 21 43.1	-1.0
	0.1nm,0.3s,baz=348,slow=27,SNR=4.0						
MKAR	Makanchi Array	67.63	328	P	P	10 25 30.6	+0.1
	0.3nm,0.5s,baz=128,slow=6.0,SNR=3.5						

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*ISCJB **03** 10:38:52.1±0.3, 26°.44N±0°.04×133°.45W±0°.04, h10km, mb4.3/22, MS3.6/13, Error ellipse: s-maj=5.5km s-min=4.2km az=31.7*

*IDC **03** 10:38:52.3±0.8, 26°.58N×133°.72W, h0km, mb4.2/18, mb1 4.4/21, mb1mx4.3/41, mbtmp4.2/21, ML4.2/3, MS3.5/15, Ms1 3.5/15, ms1mx3.3/38, Error ellipse: s-maj=20.9km s-min=17.2km az=27.0*

*NEIC **03** 10:38:54.8±1.6, 26°.6N±0°.1×133°.4W±0°.1, h10km±1km, mb4.5/201*

ISC 03 10:38:54.6±0.6**, 26°.62N**±0°.09×**133°.44W**±0°.08**, h10km, n551, σ0s87**/545**, mb4.5**/98**, MS3.5**/13**, North Pacific Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNCC	San Nicolas Is	13.75	58	P	Pn	10 42 09.0	-0.6
	baz=245						
SCZ2	Santa Cruz Isl	14.00	55	P	Pn	10 42 12.0	-1.0
	baz=242						
SBC	Santa Barbara	14.16	53	P	Pn	10 42 14.8	-0.4
	baz=240						
PKM	Mcpherson Peak	14.31	52	P	Pn	10 42 18.2	+0.7
	baz=238						
SAO	San Andreas Ge	14.36	42	Pn	Pn	10 42 18.3	+0.4
PMPB	Monarch Peak	14.41	45	Pn	Pn	10 42 19.2	+0.5
SMMC	Simmler	14.41	50	P	Pn	10 42 19.1	+0.3
	baz=236						
PAGB	Antelope Grade	14.48	48	Pn	Pn	10 42 18.1	-1.5
MCCM	Marconi Confer	14.54	35	Pn	Pn	10 42 20.0	-0.3
CIS	Catalina Islan	14.66	59	P	Pn	10 42 23.1	+1.0
	baz=246						
HOPS	Hopland Field	15.09	33	Pn	Pn	10 42 29.8	+1.9
ARVC	Arvin	15.13	52	P	Pn	10 42 29.9	+1.5
	baz=240						
VES	Vestal, Richgr	15.32	50	P	Pn	10 42 32.8	+1.9
	baz=237						
KCPM	Cahto Peak	15.41	30	Pn	Pn	10 42 31.5	-0.7
KCPM				IAmb	IAmb	10 42 47.7	
	comp=Z,42nm,1.2s						
SDRC	San Diego Road	15.57	63		Pn	10 42 33.8	-0.4
BFSC	Mount Baldy Ra	15.58	57	P	Pn	10 42 35.8	+1.4
	baz=245						
EDW2	Edwards Air Fo	15.61	54	P	Pn	10 42 36.4	+1.6
	baz=242						
ISA	Isabella, Lake	15.65	51	P	Pn	10 42 36.2	+0.8
	baz=239						
MURC	Murrieta	15.68	60	P	Pn	10 42 36.6	+1.0
	baz=248						
EML	El Monte Cty P	15.70	63		Pn	10 42 36.4	+0.5
BAR	Barrett	15.77	64		Pn	10 42 36.9	0.0
KMRM	Mail Ridge	15.80	28		Pn	10 42 37.4	+0.2
CMB	Columbia Colle	15.83	41		Pn	10 42 39.5	+1.9
MONP2	Monument Peak	16.04	63	P	Pn	10 42 40.5	+0.1
	baz=251						
MONP2	Monument Peak	16.04	63	Pn	Pn	10 42 40.0	-0.4
AFDM	Forest Hills D	16.14	37		Pn	10 42 39.6	-1.9
O02D	Mt. Diablo Mer	16.17	31	P	Pn	10 42 43.5	+1.6
	baz=216						
IKP	In-Ko-Pah, Jac	16.21	64	P	Pn	10 42 43.7	+1.1
	baz=252						
IKP	In-Ko-Pah, Jac	16.21	64		Pn	10 42 42.6	0.0
PFO	Pinyon Flats O	16.25	61	Pn	P	10 42 45.4	-0.8
	comp=Z,0.5nm,0.3s,baz=240,slow=12,SNR=5.5						
PFO				LR	LR	10 47 22.5	
	comp=Z,125nm,18.6s,baz=355,slow=31						
PFO	Pinyon Flats O	16.25	61		Pn	10 42 43.2	+0.1
TPFO	Pinon Flats	16.25	61	P	Pn	10 42 43.1	0.0
	baz=249						
CWC	Cottonwood Cre	16.33	49	P	Pn	10 42 45.0	+0.8
	baz=237						
KHMM	Horse Mountain	16.33	27		P	10 42 46.1	-1.0
KHMM				IAmb	IAmb	10 42 57.4	
	comp=Z,33nm,1.3s						
MDPB	Devils Postpil	16.37	44		P	10 42 47.3	-0.3
MDPB				IAmb	IAmb	10 43 45.5	
	comp=Z,32nm,0.8s						
MPMC	Manual Prospec	16.54	51	P	Pn	10 42 47.6	+0.7
	baz=240						
SWSC	Sam W. Stewart	16.55	63	P	Pn	10 42 48.0	+1.2
	baz=252						
WDC	Whiskeytown Da	16.60	30		Pn	10 42 48.3	+0.9
WDC				IAmb	IAmb	10 43 00.3	
	comp=Z,52nm,1.9s						
GSC	Goldstone, Bar	16.67	55	P	Pn	10 42 48.8	+0.4
	baz=243						
WAKR	Walker	16.70	41	P	P	10 42 50.6	-0.6
O03E	Paynes Creek	16.72	32	P	Pn	10 42 50.2	+1.2
	baz=218						
KRMB	Red Mountain	16.82	25	P	Pn	10 42 51.1	+0.8
KRMB				IAmb	IAmb	10 43 14.8	
	comp=Z,72nm,1.7s						
N02D	Trinity Center	16.85	29	P	Pn	10 42 51.7	+1.0
	baz=215,SNR=5.5						
PNTR	Pine Nut	17.00	40	P	P	10 42 53.9	-0.6
BC3	Big Chuckawall	17.05	61	P	Pn	10 42 53.5	+0.2
	baz=250						
GRAC	Grapevine Rang	17.11	49	P	Pn	10 42 54.4	+0.5
	baz=237						
M02C	Callahan	17.13	28	P	P	10 42 56.7	+0.9
	baz=214,SNR=6.7						
YERR	Yerington	17.14	40	P	P	10 42 55.6	-0.4
FURC	Furnace Creek,	17.18	51	P	P	10 42 55.9	-0.4
	baz=240						
KBO	Bosley Butte	17.30	24	P	P	10 42 58.1	+0.4
GMRC	Granite Mounta	17.30	58	P	P	10 42 57.5	-0.4
	baz=246						
NVAR	Mina Array Bea	17.34	43	P	P	10 43 00.0	+1.7
	comp=Z,0.2nm,0.3s,baz=224,slow=13,SNR=20						
NVAR				LR	LR	10 48 32.5	
	comp=Z,85nm,18.2s,baz=258,slow=33						
NVAR	Mina Array Bea	17.34	43	P	P	10 42 58.9	+0.6
GLA	Glamis	17.36	64	P	P	10 42 58.3	-0.1
	baz=253						
IRM	Iron Mountain	17.47	60	P	P	10 42 59.3	-0.2
	baz=249						
YBH	Yreka Blue Hor	17.47	28	P	P	10 43 00.8	+1.2
	comp=Z,1.5nm,0.3s,baz=236,slow=7.1,SNR=45						
YBH				LR	LR	10 47 33.0	
	comp=Z,96nm,20.2s,baz=219,slow=30						
TPNV	Topopah Spring	17.85	51	P	P	10 43 04.9	+1.0
	baz=239						
TPNV	Topopah Spring	17.85	51	P	P	10 43 03.7	-0.2
KVN	Kaiserville	17.85	42	P	Pn	10 43 03.2	0.0
L04D	Klamath Falls	18.04	28	P	P	10 43 07.8	+1.8
	baz=214						
J01E	Myrtle Point	18.23	23	P	P	10 43 10.2	+2.4
	baz=208						
SHPR	Sheep Range	18.41	53	P	P	10 43 09.8	-0.3
K04D	Chiloquin, OR	18.61	28	P	Pn	10 43 14.2	+1.8
	baz=214						
MOD	Modoc Plateau	18.68	32	P	Pn	10 43 14.3	+1.0
214A	Organ Pipe Nat	18.75	69	P	P	10 43 12.6	-1.2
W13A	Hualapai Mount	18.77	59	P	P	10 43 13.4	-0.7
I03D	Drain, OR	18.91	23	P	Pn	10 43 17.5	+1.6
	baz=209						
SRIG	Santa Rosalia	18.91	83	P	P	10 43 14.3	-1.2
SRIG				IAmb	IAmb	10 43 26.1	
	comp=Z,17nm,0.7s						
R11A	Troy Canyon, C	19.03	48	P	Pn	10 43 18.7	+1.0
	baz=237						
Y14A	Wickenburg	19.08	63	P	P	10 43 16.7	-0.6
I02D	Swisshome	19.10	22	P	Pn	10 43 20.1	+1.9
	baz=207						
BMN	Battle Mountai	19.26	40	P	P	10 43 18.6	-0.8
I04A	Tendick Farm,	19.33	25	P	Pn	10 43 22.8	+1.7
	baz=211						
J05D	Fort Rock, OR	19.37	28	P	Pn	10 43 22.9	+1.2
	baz=214						
H04D	Lebanon	19.84	23	P	Pn	10 43 28.0	+0.9
	baz=209						
WVOR	Wild Horse Val	19.89	34	P	P	10 43 26.6	+0.4
WVOR				IAmb	IAmb	10 43 35.2	
	comp=Z,17nm,1.1s						
PINE	Pine Mountain	19.91	27	P	Pn	10 43 28.3	+0.1
LCMT	Little Creek M	20.01	54	P	Pn	10 43 29.0	-0.3
CCUT	Cedar City	20.16	52	P	P	10 43 29.9	+0.5
I05D	Terrebonne, OR	20.20	26	P	Pn	10 43 31.2	-0.2
	baz=213						
G03D	McMinnville, O	20.27	21	P	Pn	10 43 32.3	+0.1
	baz=207						
PSUT	Pine Spring	20.29	49	P	P	10 43 30.2	-0.5
KNB	Kanab	20.32	54	P	P	10 43 30.7	-0.3
SZCU	Shurtz Canyon	20.38	53	P	P	10 43 29.5	-2.2
X16A	Lo Mia Camp, P	20.46	62	P	P	10 43 30.4	-2.1
U15A	North Rim	20.47	56	P	P	10 43 31.4	-1.3
TUC	Tucson	20.51	69	P	P	10 43 33.2	+0.2
	baz=260						
TUC	Tucson	20.51	69	P	P	10 43 31.8	-1.2
TUC				IAmb	IAmb	10 43 41.6	
	comp=Z,16nm,1.1s						
ELK	Elko	20.63	42	P	Pn	10 43 35.9	-0.8
	comp=Z,5.1nm,0.8s,baz=244,slow=8.4,SNR=22						
ELK	Elko	20.63	42	P	P	10 43 34.1	-0.3
WUAZ	Wupatki	20.84	59	P	P	10 43 37.6	+0.9
	baz=251						
WUAZ	Wupatki	20.84	59	P	P	10 43 37.1	+0.4
WUAZ				IAmb	IAmb	10 43 43.4	
	comp=Z,19nm,1.2s						
PKCU	Pink Cliffs	20.87	54	P	P	10 43 36.6	-0.5
G05D	Wamic, OR	20.97	24	P	Pn	10 43 40.1	-0.4
	baz=211						
LPIG	La Paz	21.05	92	P	P	10 43 40.5	+1.7
	comp=Z,9.0nm,0.3s,baz=270,slow=3.0,SNR=2.5						
LPIG				LR	LR	10 49 45.5	
	comp=Z,113nm,18.1s,baz=319,slow=31						
F04D	Rainier, OR	21.13	20	P	P	10 43 41.4	+1.9
	baz=206						
MTPU	Mount Pierson	21.22	52	P	P	10 43 40.5	-0.4
TCRU	Three Creeks R	21.29	51	P	P	10 43 39.8	-1.8
MSU	Marysvale	21.43	51	P	P	10 43 41.9	-1.2
F05D	White Salmon	21.47	23	P	P	10 43 44.7	+1.5
	baz=210						
319A	Douglas	21.64	72	P	P	10 43 43.0	-2.2
319A				IAmb	IAmb	10 43 53.7	
	comp=Z,15nm,1.1s						
X18A	Snowflake	21.67	63	P	P	10 43 42.8	-2.9
E04D	Cinebar	21.69	21	P	P	10 43 47.2	+1.7
	baz=207						
DUG	Dugway, Tooele	21.84	47	P	P	10 43 48.0	+0.7
	baz=238,SNR=14						
DUG	Dugway, Tooele	21.84	47	P	P	10 43 47.7	+0.4
DUG				IAmb	IAmb	10 43 56.3	
	comp=Z,15nm,1.0s						
G08A	Pilot Rock	21.95	28	P	P	10 43 49.4	+1.0
G08A				IAmb	IAmb	10 43 51.0	
	comp=Z,21nm,1.2s						
MFID	Camas Ranch	22.04	36	P	P	10 43 50.6	+1.2
F07A	Phinny Hill Vi	22.05	26	P	P	10 43 51.5	+2.1
F07A				IAmb	IAmb	10 43 57.4	
	comp=Z,39nm,1.5s						
BGU	Big Grassy Mou	22.09	45	P	P	10 43 50.5	+0.4
D04E	Lakebay	22.18	20	P	P	10 43 52.7	+1.9
	baz=206						

NLU	**North Lily Min**	**22.20**	**48**	P	**P**	**10 43 52.0**	**+0.7**
BMO	**Blue Mountains**	**22.34**	**31**	P	**P**	**10 43 53.1**	**+0.4**
D03D	**Eldon**	**22.41**	**19**	P	**P**	**10 43 55.7**	**+2.5**
	baz=205						
TMUT	**Trail Mountain**	**22.46**	**50**	P	**P**	**10 43 56.1**	**+1.8**
MPU	**Maple Canyon**	**22.52**	**48**	P	**P**	**10 43 55.4**	**+0.7**
HAWA	**Hanford**	**22.62**	**26**	P	**P**	**10 43 56.1**	**+0.7**
HAWA				IAmb	IAmb	10 44 04.5	
	comp=Z,21nm,1.1s						
E07A	**Sunnyside**	**22.63**	**25**	P	**P**	**10 43 55.6**	**0.0**
E07A				IAmb	IAmb	10 44 10.0	
	comp=Z,12nm,1.0s						
HVU	**Hansel Valley**	**22.74**	**43**	P	**P**	**10 43 58.8**	**+1.8**
CTU	**Camp Tracy**	**22.79**	**47**	P	**P**	**10 43 57.4**	**-0.2**
SRU	**San Rafael Swe**	**22.86**	**51**	P	**P**	**10 44 00.2**	**+2.0**
P17A	**Butcher Ranch,**	**22.87**	**50**	P	**P**	**10 44 00.4**	**+2.0**
LTY	**Liberty**	**22.93**	**23**	P	**P**	**10 43 60.0**	**+1.1**
LTY				IAmb	IAmb	10 44 07.3	
	comp=Z,14nm,1.1s						
JLU	**Jordanelle**	**22.94**	**47**	P	**P**	**10 44 01.0**	**+1.8**
121A	**Cookes Peak, D**	**23.05**	**69**	P	**P**	**10 43 59.8**	**-0.5**
	baz=262						
121A	**Cookes Peak, D**	**23.05**	**69**	P	**P**	**10 44 01.3**	**+0.9**
PLID	**Pearl Lake**	**23.14**	**33**	P	**P**	**10 44 01.9**	**+0.7**
TCUT	**Toone Canyon**	**23.23**	**46**	P	**P**	**10 44 03.2**	**+1.0**
F10A	**Beach Ranch, E**	**23.24**	**30**	P	**P**	**10 44 02.1**	**+0.1**
F10A				IAmb	IAmb	10 44 04.2	
	comp=Z,30nm,1.5s						
B05A	**Bryant**	**23.36**	**19**	P	**P**	**10 44 05.4**	**+2.3**
	baz=206						
HWUT	**Hardware Ranch**	**23.39**	**45**	P	**P**	**10 44 04.7**	**+1.0**
C06D	**Leavenworth**	**23.43**	**22**	P	**P**	**10 44 06.5**	**+2.7**
	baz=209						
MVCO	**Mesa Verde**	**23.59**	**57**	P	**P**	**10 44 06.2**	**+0.4**
	baz=250						
A04D	**Lummi Island**	**23.60**	**18**	P	**P**	**10 44 07.9**	**+2.5**
	baz=204						
PV14	**Lion Creek, Pa**	**23.62**	**54**	P	**P**	**10 44 04.4**	**-1.7**
PV16	**Nyswonger Mesa**	**23.68**	**54**	P	**P**	**10 44 07.0**	**+0.4**
PV22	**Blue Mesa, Par**	**23.85**	**54**	P	**P**	**10 44 09.0**	**+0.7**
PV22				IAmb	IAmb	10 44 14.8	
	comp=Z,13nm,1.4s						
LENM	**Lemitar**	**23.99**	**65**	P	**P**	**10 44 11.0**	**+1.4**
C09A	**Chrisman Ranch**	**24.27**	**25**	P	**P**	**10 44 12.2**	**+0.3**
C09A				IAmb	IAmb	10 44 17.6	
	comp=Z,15nm,1.1s						
BNM	**Barren Site**	**24.27**	**66**	P	**P**	**10 44 13.6**	**+1.3**
AHID	**Auburn Hatcher**	**24.32**	**43**	P	**P**	**10 44 13.3**	**+0.6**
AHID				IAmb	IAmb	10 44 26.2	
	comp=Z,26nm,1.8s						
B08A	**Colville Reser**	**24.34**	**23**	P	**P**	**10 44 12.4**	**-0.1**
B08A				IAmb	IAmb	10 44 20.7	
	comp=Z,14nm,1.0s						
ANMO	**Albuquerque**	**24.57**	**64**	P	**P**	**10 44 16.0**	**+1.1**
	baz=258						
ANMO	**Albuquerque**	**24.57**	**64**	P	**P**	**10 44 16.5**	**+1.5**
	comp=Z,1.6nm,0.9s,baz=283,slow=6.7,SNR=6.8						
ANMO				LR	LR	10 52 14.0	
	comp=Z,87nm,18.1s,baz=7.5,slow=32						
ANMO	**Albuquerque**	**24.57**	**64**	P	**P**	**10 44 16.3**	**+1.4**
HPIG		**24.78**	**83**	P	**P**	**10 44 18.7**	**+1.8**
HPIG				IAmb	IAmb	10 44 26.4	
	comp=Z,20nm,1.6s						
REDW	**Red Top Meadow**	**24.81**	**42**	P	**P**	**10 44 17.5**	**+0.4**
REDW				IAmb	IAmb	10 44 32.3	
	comp=Z,9.6nm,1.1s						
TPAW	**Teton Pass**	**24.82**	**42**	P	**P**	**10 44 16.4**	**-0.8**
TPAW				IAmb	IAmb	10 44 36.5	
	comp=Z,7.3nm,0.9s						
FXWY	**Fox Creek**	**24.86**	**41**	P	**P**	**10 44 18.0**	**+0.4**
FXWY				IAmb	IAmb	10 44 24.8	
	comp=Z,13nm,1.4s						
O20A	**White River Ci**	**24.89**	**51**	P	**P**	**10 44 19.5**	**+1.7**
	baz=245						
O20A	**White River Ci**	**24.89**	**51**	P	**P**	**10 44 16.9**	**-0.9**
O20A				IAmb	IAmb	10 44 26.6	
	comp=Z,9.1nm,0.9s						
MNTX	**Cornudas Mount**	**24.98**	**72**	P	**P**	**10 44 20.0**	**+1.4**
	baz=265						
MNTX	**Cornudas Mount**	**24.98**	**72**	P	**P**	**10 44 18.7**	**+0.2**
MNTX				IAmb	IAmb	10 44 29.0	
	comp=Z,14nm,1.4s						
S22A	**4UR Ranch, Cre**	**25.02**	**57**	P	**P**	**10 44 20.2**	**+1.0**
	baz=251,SNR=5.6						
S22A	**4UR Ranch, Cre**	**25.02**	**57**	P	**P**	**10 44 20.1**	**+1.0**
S22A				IAmb	IAmb	10 44 29.7	
	comp=Z,10nm,1.4s						
DLMT	**Dillon**	**25.06**	**36**	P	**P**	**10 44 19.4**	**+0.2**
DLMT				IAmb	IAmb	10 44 28.7	
	comp=Z,12nm,0.9s						
IMW	**Indian Meadow**	**25.07**	**41**	P	**P**	**10 44 21.0**	**+1.5**
IMW				IAmb	IAmb	10 44 23.0	
	comp=Z,8.6nm,1.1s						
NEW	**Newport**	**25.09**	**26**	P	**P**	**10 44 20.3**	**+1.0**
	baz=216						
NEW	**Newport**	**25.09**	**26**	P	**P**	**10 44 19.8**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=207,slow=5.0,SNR=5.0						
NEW	**Newport**	**25.09**	**26**	P	**P**	**10 44 19.2**	**-0.1**
NEW				IAmb	IAmb	10 44 30.7	
	comp=Z,14nm,1.4s						
BW06	**Boulder Array**	**25.27**	**44**	P	**P**	**10 44 21.4**	**+0.1**
	baz=238						
BW06	**Boulder Array**	**25.27**	**44**	P	**P**	**10 44 23.7**	**+2.4**
BW06				IAmb	IAmb	10 44 24.5	
	comp=Z,22nm,1.8s						
PD31	**Pinedale Array**	**25.27**	**44**	P	**P**	**10 44 21.0**	**-0.3**
PD31				IAmb	IAmb	10 44 24.5	
	comp=Z,18nm,1.8s						
PDAR	**Pinedale Array**	**25.27**	**44**	P	**P**	**10 44 21.8**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=198,slow=6.0,SNR=16						
PDAR				PcP	**PcP**	**10 47 54.4**	**0.0**
	comp=Z,0.5nm,0.9s,baz=201,slow=4.5,SNR=3.5						
PDAR				LR	LR	10 53 07.0	
	comp=Z,73nm,18.7s,baz=1.5,slow=34						
PDAR	**Pinedale Array**	**25.27**	**44**	P	**P**	**10 44 20.5**	**-0.8**
FLWY	**Flagg Ranch**	**25.32**	**41**	P	**P**	**10 44 21.2**	**-0.5**
FLWY				IAmb	IAmb	10 44 31.4	
	comp=Z,7.6nm,0.9s						
QLMT	**Earthquake Lak**	**25.35**	**39**	P	**P**	**10 44 23.4**	**+1.5**
MSO	**Missoula**	**25.39**	**32**	P	**P**	**10 44 23.0**	**+0.8**
	baz=224,SNR=11						
MSO	**Missoula**	**25.39**	**32**	P	**P**	**10 44 22.9**	**+0.7**
MSO				IAmb	IAmb	10 44 29.1	
	comp=Z,8.6nm,0.9s						
YHB	**Horse Butte**	**25.43**	**39**	P	**P**	**10 44 24.6**	**+1.8**
YHL	**Hebgen Lake**	**25.50**	**39**	P	**P**	**10 44 22.9**	**-0.5**
YMR	**Madison River**	**25.51**	**39**	P	**P**	**10 44 23.7**	**+0.3**
YHH	**Holmes Hill**	**25.65**	**39**	P	**P**	**10 44 25.6**	**+0.8**
BOZ	**Bozeman (W)**	**25.73**	**37**	P	**P**	**10 44 26.0**	**+0.7**
	baz=230						
BOZ	**Bozeman (W)**	**25.73**	**37**	P	**P**	**10 44 25.2**	**-0.1**
BBB	**Bella Bella**	**25.85**	**8**	LR	LR	10 52 17.5	
	comp=Z,147nm,18.1s,baz=211,slow=31						
YMP	**Mirror Lake Pl**	**26.02**	**40**	P	**P**	**10 44 29.2**	**+1.0**
SDCO	**Great Sand Dun**	**26.02**	**58**	P	**P**	**10 44 28.5**	**+0.3**
	baz=253,SNR=6.9						
SDCO	**Great Sand Dun**	**26.02**	**58**	P	**P**	**10 44 29.6**	**+1.4**
YNE	**Yellowstone No**	**26.26**	**40**	P	**P**	**10 44 31.8**	**+1.6**
TX31	**Lajitas Ar. Si**	**26.40**	**77**	P	**P**	**10 44 31.9**	**+0.5**
TX32	**Lajitas Array**	**26.40**	**77**	P	**P**	**10 44 31.5**	**0.0**
TX32				IAmb	IAmb	10 45 01.8	
	comp=Z,17nm,1.8s						
TXAR	**Lajitas Array**	**26.40**	**77**	P	**P**	**10 44 33.4**	**+1.9**
	comp=Z,1.9nm,0.7s,baz=260,slow=9.7,SNR=30						
TXAR				PcP	**PcP**	**10 47 57.9**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=216,slow=4.5,SNR=4.1						
TXAR				LR	LR	10 52 35.5	
	comp=Z,58nm,20.4s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**26.40**	**77**	P	**P**	**10 44 31.3**	**-0.2**
ISCO	**Idaho Springs**	**26.61**	**53**	P	**P**	**10 44 34.3**	**+0.7**
	baz=249						
RLMT	**Red Lodge**	**26.75**	**40**	P	**P**	**10 44 35.6**	**+0.9**
	baz=234						
RLMT	**Red Lodge**	**26.75**	**40**	P	**P**	**10 44 38.5**	**+3.9**
N23A	**Red Feather La**	**26.80**	**51**	P	**P**	**10 44 35.5**	**+0.4**
	baz=246						
EGMT	**Eagleton**	**28.28**	**35**	P	**P**	**10 44 49.0**	**+0.8**
	baz=229,SNR=9.9						
EGMT	**Eagleton**	**28.28**	**35**	P	**P**	**10 44 47.8**	**-0.4**
RSSD	**Black Hills**	**29.44**	**46**	P	**P**	**10 44 59.0**	**+0.3**
	baz=243						
CBKS	**Cedar Bluff**	**30.68**	**58**	P	**P**	**10 45 09.8**	**+0.3**
	baz=257						
DGMT	**Dagmar**	**31.52**	**38**	P	**P**	**10 45 17.5**	**+0.8**
	baz=237						
DGMT	**Dagmar**	**31.52**	**38**	P	**P**	**10 45 18.2**	**+1.5**
DGMT				IAmb	IAmb	10 45 19.2	
	comp=Z,9.0nm,1.0s						
WHTX	**Lake Whitney,**	**31.73**	**72**	P	**P**	**10 45 19.5**	**+0.6**
	baz=270						
WHTX	**Lake Whitney,**	**31.73**	**72**	P	**P**	**10 45 19.5**	**+0.6**
WHTX				IAmb	IAmb	10 45 43.5	
	comp=Z,9.4nm,1.3s						
KSU1	**Kansas State U**	**33.13**	**59**	P	**P**	**10 45 31.3**	**+0.3**
	baz=259						
MDND	**Maddock**	**33.88**	**42**	P	**P**	**10 45 38.0**	**+0.6**
	baz=243						
ECSD	**EROS Data Cent**	**34.27**	**51**	P	**P**	**10 45 41.1**	**+0.2**
	baz=252						
HHAR	**Hobbs**	**34.84**	**64**	P	**P**	**10 45 45.6**	**-0.3**
HHAR				IAmb	IAmb	10 45 48.0	
	comp=Z,16nm,1.4s						
W39A	**Magazine**	**34.90**	**66**	P	**P**	**10 45 46.5**	**+0.2**
	baz=267						
MIAR	**Mount Ida**	**35.04**	**67**	P	**P**	**10 45 47.2**	**-0.4**
	baz=268						
CNPM	**China Poot**	**35.13**	**344**	P	**P**	**10 45 47.8**	**-0.3**
Z41A	**Richland Creek**	**35.66**	**69**	P	**P**	**10 45 52.8**	**-0.1**
	baz=270						
U40A	**Yellville**	**35.73**	**64**	P	**P**	**10 45 53.3**	**-0.2**
	baz=266						
W41B	**Gary Mavity, V**	**36.15**	**66**	P	**P**	**10 45 57.5**	**+0.4**
	baz=268						
SCIA	**State Center**	**36.22**	**55**	P	**P**	**10 45 58.0**	**+0.3**
	baz=258						
RSO	**Redoubt South**	**36.32**	**344**	P	**P**	**10 45 59.3**	**+0.8**
PMR	**Palmer**	**36.53**	**347**	P	**P**	**10 45 59.6**	**-0.4**
PMR				IAmb	IAmb	10 46 35.3	
	comp=Z,18nm,1.6s						
GHO	**Glory Hole Cre**	**36.66**	**348**	P	**P**	**10 46 01.6**	**+0.4**
GHO				IAmb	IAmb	10 46 15.7	
	comp=Z,16nm,1.0s						
BCAR	**Beaver Creek A**	**36.86**	**354**	P	**P**	**10 46 03.6**	**+0.7**
CMIG	**Matias Romero**	**36.90**	**97**	P	**P**	**10 46 05.6**	**+1.9**
	comp=Z,3.5nm,0.8s,baz=288,slow=8.1,SNR=4.6						
ULM	**Lac du Bonnet**	**37.13**	**40**	P	**P**	**10 46 05.4**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=266,slow=11,SNR=4.7						
SPMN	**Marine on St.**	**37.31**	**49**	P	**P**	**10 46 07.2**	**+0.3**
	baz=254						
HBAR	**Harrisburg**	**37.47**	**66**	P	**P**	**10 46 06.3**	**-2.0**
SVW2	**Sparrevohn**	**37.59**	**343**	P	**P**	**10 46 09.3**	**+0.2**
SVW2				IAmb	IAmb	10 46 16.1	
	comp=Z,6.4nm,0.7s						
DAWY	**Dawson**	**37.65**	**356**	P	**P**	**10 46 10.1**	**+0.6**
PBMO	**Poplar Bluff**	**37.70**	**64**	P	**P**	**10 46 10.1**	**-0.2**
PBMO				IAmb	IAmb	10 46 11.7	
	comp=Z,15nm,1.4s						
RIDG	**Independent Ri**	**37.86**	**352**	P	**P**	**10 46 11.8**	**+0.4**
RIDG				IAmb	IAmb	10 47 16.2	
	comp=Z,32nm,2.0s						
YKA	**Yellowknife Ar**	**37.99**	**14**	P	**P**	**10 46 12.0**	**-0.4**
	comp=Z,4.0nm,0.7s,baz=206,slow=8.6,SNR=21						
YKA				PcP	**PcP**	**10 48 26.8**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=203,slow=3.7,SNR=6.2						
YKA	**Yellowknife Ar**	**37.99**	**14**	P	**P**	**10 46 11.2**	**-1.2**
YKW3	**Yellowknife Ar**	**38.05**	**14**	P	**P**	**10 46 12.7**	**-0.2**
RND	**Reindeer**	**38.15**	**349**	P	**P**	**10 46 14.7**	**+0.8**
RND				IAmb	IAmb	10 46 30.4	
	comp=Z,10nm,1.5s						
PPLA	**Purkeypile**	**38.33**	**346**	P	**P**	**10 46 14.1**	**-1.3**
TRF	**Thorofare Moun**	**38.45**	**348**	P	**P**	**10 46 17.1**	**+0.6**
TRF				IAmb	IAmb	10 46 34.3	
	comp=Z,7.6nm,1.0s						
OXF	**Oxford**	**38.48**	**67**	P	**P**	**10 46 16.7**	**-0.2**
	baz=270						
OXF	**Oxford**	**38.48**	**67**	P	**P**	**10 46 16.5**	**-0.4**
OXF				IAmb	IAmb	10 46 18.9	
	comp=Z,24nm,1.1s						
KTH	**Kantishna Hill**	**38.67**	**348**	P	**P**	**10 46 18.5**	**+0.3**
KTH				IAmb	IAmb	10 46 27.5	
	comp=Z,16nm,1.4s						
S44A	**Carbondale**	**38.69**	**62**	P	**P**	**10 46 18.6**	**0.0**
	baz=266						
HDA	**Harding Lake**	**38.79**	**351**	P	**P**	**10 46 21.2**	**+2.1**
	baz=160						
HDA	**Harding Lake**	**38.79**	**351**	P	**P**	**10 46 19.3**	**+0.2**
HDIL	**Hopedale**	**38.91**	**58**	P	**P**	**10 46 21.3**	**+0.8**
	baz=263						
WRH	**Wood River Hil**	**39.02**	**350**	P	**P**	**10 46 21.0**	**0.0**
G40A	**Rib Lake**	**39.10**	**50**	P	**P**	**10 46 22.1**	**+0.1**
G40A				IAmb	IAmb	10 47 06.2	
	comp=Z,20nm,1.3s						
IL31		**39.12**	**351**	P	**P**	**10 46 22.5**	**+0.7**
IL31				IAmb	IAmb	10 46 35.3	
	comp=Z,19nm,1.8s						
ILAR	**Eielson Array**	**39.12**	**351**	P	**P**	**10 46 21.6**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=161,slow=8.5,SNR=14						
ILAR				PcP	**PcP**	**10 48 30.4**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=200,slow=2.8,SNR=13						
ILAR	**Eielson Array**	**39.12**	**351**	P	**P**	**10 46 22.1**	**+0.2**
ILAR					**PcP**	**10 48 30.6**	**-0.8**
CCB	**Clear Creek Bu**	**39.14**	**350**	P	**P**	**10 46 22.4**	**+0.4**
CCB				IAmb	IAmb	10 46 26.6	
	comp=Z,7.4nm,1.0s						
BPAW	**Bear Paw Mtn.**	**39.17**	**348**	P	**P**	**10 46 23.0**	**+0.6**
BPAW				IAmb	IAmb	10 46 26.6	
	comp=Z,17nm,1.4s						
TCOL	**CIGO, UAF Yank**	**39.36**	**350**	P	**P**	**10 46 26.1**	**+2.3**
	baz=159						
PLAL	**Pickwick Lake**	**39.57**	**67**	P	**P**	**10 46 26.4**	**+0.3**
PLAL				IAmb	IAmb	10 46 27.3	
	comp=Z,8.7nm,0.9s						
PRP	**Porcupine Dome**	**39.66**	**352**	P	**P**	**10 46 27.0**	**+0.5**
OLIL	**Olney**	**39.66**	**61**	P	**P**	**10 46 26.6**	**-0.1**
OLIL				IAmb	IAmb	10 46 27.9	
	comp=Z,10.0nm,0.7s						
WVT	**Waverly**	**39.77**	**65**	P	**P**	**10 46 27.3**	**-0.4**
	baz=269						
WVT	**Waverly**	**39.77**	**65**	P	**P**	**10 46 27.2**	**-0.5**
COWI	**Conover**	**40.02**	**49**	P	**P**	**10 46 29.7**	**0.0**
COWI				IAmb	IAmb	10 47 34.1	
	comp=Z,29nm,1.3s						
T47A	**Sharon Grove**	**40.37**	**63**	P	**P**	**10 46 32.7**	**+0.1**
	baz=269						
T47A	**Sharon Grove**	**40.37**	**63**	P	**P**	**10 46 33.3**	**+0.7**
T47A				IAmb	IAmb	10 46 34.2	
	comp=Z,10nm,0.7s						
P46A	**Rosedale**	**40.42**	**59**	P	**P**	**10 46 32.6**	**-0.4**
	baz=266						
X48A	**Hartselle**	**40.43**	**67**	P	**P**	**10 46 33.3**	**+0.1**
	baz=272						
X48A	**Hartselle**	**40.43**	**67**	P	**P**	**10 46 32.8**	**-0.4**
X48A				IAmb	IAmb	10 46 34.4	
	comp=Z,13nm,1.2s						
LRAL	**Lakeview Retre**	**40.54**	**69**	P	**P**	**10 46 34.0**	**-0.1**
	baz=273						
SFIN	**Lafayette**	**40.56**	**58**	P	**P**	**10 46 34.2**	**-0.1**
	baz=265						
SFIN	**Lafayette**	**40.56**	**58**	P	**P**	**10 46 34.4**	**+0.1**
SFIN				IAmb	IAmb	10 46 35.5	
	comp=Z,12nm,0.8s						
V48A	**Smith Brothers**	**40.59**	**65**	P	**P**	**10 46 33.6**	**-0.9**
	baz=270						
FYU	**Fort Yukon**	**40.63**	**353**	P	**P**	**10 46 34.6**	**+0.2**
BLO	**Bloomington**	**40.92**	**60**	P	**P**	**10 46 36.7**	**-0.4**
Y49A	**Blount Mountai**	**40.98**	**68**	P	**P**	**10 46 37.5**	**-0.3**
	baz=273						
Y49A	**Blount Mountai**	**40.98**	**68**	P	**P**	**10 46 38.5**	**+0.7**
Y49A				IAmb	IAmb	10 46 38.7	
	comp=Z,5.8nm,0.7s						
CLTN	**Cedars of Leba**	**40.99**	**65**	P	**P**	**10 46 37.5**	**-0.2**
WCI	**Wyandotte Cave**	**41.05**	**62**	P	**P**	**10 46 37.6**	**-0.7**
	baz=268						
W49A	**Belvidere**	**41.06**	**66**	P	**P**	**10 46 38.3**	**-0.1**
	baz=271						
250A	**Grady**	**41.23**	**71**	P	**P**	**10 46 39.9**	**+0.1**
	baz=275						
L46A	**Eue Claire**	**41.33**	**56**	P	**P**	**10 46 41.2**	**+0.7**
	baz=264						
V49A	**McMinnville**	**41.34**	**65**	P	**P**	**10 46 41.0**	**+0.3**
	baz=271						
IMAR	**Indian Mountai**	**41.39**	**348**	P	**P**	**10 46 40.5**	**-0.2**
BMAR	**Burnt Mountain**	**41.40**	**354**	P	**P**	**10 46 40.4**	**-0.3**
Z50A	**Ashland**	**41.42**	**69**	P	**P**	**10 46 41.3**	**-0.2**
	baz=274,SNR=14						
Z50A	**Ashland**	**41.42**	**69**	P	**P**	**10 46 42.1**	**+0.7**
Q48A	**North Vernon**	**41.52**	**61**	P	**P**	**10 46 41.8**	**-0.4**
	baz=267						
FPAL	**Fort Paine**	**41.61**	**67**	P	**P**	**10 46 43.4**	**+0.4**
FPAL				IAmb	IAmb	10 46 44.2	
	comp=Z,6.7nm,0.9s						
T49A	**Edmonton**	**41.63**	**63**	P	**P**	**10 46 42.5**	**-0.5**
	baz=270						
T49A	**Edmonton**	**41.63**	**63**	P	**P**	**10 46 43.5**	**+0.5**
T49A				IAmb	IAmb	10 46 44.8	
	comp=Z,8.5nm,0.9s						
INK	**Inuvik**	**41.71**	**360**	P	**P**	**10 46 43.8**	**+0.6**
	comp=Z,2.1nm,1.1s,baz=181,slow=10,SNR=3.8						
INK				PcP	**PcP**	**10 48 38.2**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=153,slow=4.5,SNR=3.8						
INK	**Inuvik**	**41.71**	**360**	P	**P**	**10 46 43.6**	**+0.4**
INK					**PcP**	**10 48 38.5**	**-1.0**
P48A	**Milroy**	**41.78**	**60**	P	**P**	**10 46 44.2**	**0.0**
	baz=267						
S49A	**Springfield**	**41.83**	**62**	P	**P**	**10 46 44.1**	**-0.6**
	baz=269						
W50A	**Signal Mountai**	**41.83**	**66**	P	**P**	**10 46 44.6**	**-0.2**
	baz=272						
W50A	**Signal Mountai**	**41.83**	**66**	P	**P**	**10 46 45.4**	**+0.6**
W50A				IAmb	IAmb	10 46 45.8	
	comp=Z,7.3nm,0.7s						
V50A	**Pikevile**	**41.99**	**65**	P	**P**	**10 46 46.0**	**0.0**
	baz=271						
Z51A	**Franklin**	**42.04**	**69**	P	**P**	**10 46 46.2**	**-0.3**
	baz=274,SNR=5.5						
Y51A	**Rockmart**	**42.10**	**68**	P	**P**	**10 46 46.4**	**-0.5**
	baz=273						
Q49A	**Aurora**	**42.17**	**60**	P	**P**	**10 46 47.8**	**+0.3**
	baz=268						
T50A	**Nancy**	**42.18**	**63**	P	**P**	**10 46 47.3**	**-0.3**
	baz=270						
U50A	**Jamestown**	**42.19**	**64**	P	**P**	**10 46 47.6**	**0.0**
	baz=271						
X51A	**Calhoun**	**42.23**	**67**	P	**P**	**10 46 47.5**	**-0.5**
	baz=273						
W51A	**Cleveland**	**42.29**	**66**	P	**P**	**10 46 48.7**	**+0.2**
	baz=272						
352A	**Blakely**	**42.42**	**72**	P	**P**	**10 46 49.5**	**-0.1**
	baz=276						
352A	**Blakely**	**42.42**	**72**	P	**P**	**10 46 50.2**	**+0.7**
CPCT	**Cooper Cave**	**42.47**	**66**	P	**P**	**10 46 50.5**	**+0.5**
CPCT				IAmb	IAmb	10 46 51.2	
	comp=Z,13nm,0.9s						
152A	**Waverly Hall**	**42.48**	**70**	P	**P**	**10 46 49.9**	**-0.2**
	baz=275,SNR=7.2						
152A	**Waverly Hall**	**42.48**	**70**	P	**P**	**10 46 50.4**	**+0.3**
152A				IAmb	IAmb	10 46 51.5	
	comp=Z,14nm,0.9s						
252A	**Lumpkin**	**42.52**	**71**	P	**P**	**10 46 50.3**	**-0.2**
	baz=276						
S50A	**Richmond**	**42.53**	**62**	P	**P**	**10 46 50.1**	**-0.3**
	baz=270						
J47A	**Sunmer**	**42.55**	**54**	P	**P**	**10 46 50.5**	**0.0**
	baz=263						
R50A	**Paris**	**42.60**	**62**	P	**P**	**10 46 50.9**	**-0.1**
	baz=269,SNR=5.5						
R50A	**Paris**	**42.60**	**62**	P	**P**	**10 46 51.1**	**+0.2**
R50A				IAmb	IAmb	10 46 52.4	
	comp=Z,14nm,1.0s						
V51A	**Loudon**	**42.60**	**65**	P	**P**	**10 46 51.1**	**+0.1**
	baz=272,SNR=5.7						
V51A	**Loudon**	**42.60**	**65**	P	**P**	**10 46 51.3**	**+0.3**
V51A				IAmb	IAmb	10 46 52.2	
	comp=Z,13nm,0.8s						
O49A	**Covington**	**42.66**	**59**	P	**P**	**10 46 50.9**	**-0.5**
	baz=267						
O49A	**Covington**	**42.66**	**59**	P	**P**	**10 46 50.8**	**-0.6**
Z52A	**Williamson**	**42.69**	**69**	P	**P**	**10 46 51.8**	**+0.1**
	baz=274						
N49A	**Columbus Grove**	**42.82**	**58**	P	**P**	**10 46 52.7**	**0.0**
	baz=266						
U51A	**La Follette**	**42.85**	**64**	P	**P**	**10 46 53.0**	**0.0**
	baz=271,SNR=6.3						
I47A	**Gladwin**	**42.87**	**53**	P	**P**	**10 46 52.9**	**-0.1**
	baz=263						
T51A	**Gray**	**42.90**	**63**	P	**P**	**10 46 53.5**	**+0.1**
	baz=271						
Y52A	**Lilburn**	**42.93**	**68**	P	**P**	**10 46 54.2**	**+0.5**
	baz=274,SNR=5.7						
Y52A	**Lilburn**	**42.93**	**68**	P	**P**	**10 46 53.3**	**-0.4**
Y52A				IAmb	IAmb	10 46 55.1	
	comp=Z,15nm,0.7s						
W52A	**Murphy**	**42.97**	**66**	P	**P**	**10 46 54.1**	**0.0**
	baz=273						
W52A	**Murphy**	**42.97**	**66**	P	**P**	**10 46 54.4**	**+0.4**
W52A				IAmb	IAmb	10 46 54.7	
	comp=Z,7.1nm,0.9s						
453A	**Whigham**	**43.01**	**72**	P	**P**	**10 46 54.1**	**-0.2**
	baz=277						
M49A	**Liberty Center**	**43.01**	**57**	P	**P**	**10 46 54.8**	**+0.6**
	baz=266						
X52A	**Dahlonega**	**43.02**	**67**	P	**P**	**10 46 54.1**	**-0.4**
	baz=273						
253A	**Americus**	**43.03**	**71**	P	**P**	**10 46 54.6**	**+0.1**
	baz=276						
253A	**Americus**	**43.03**	**71**	P	**P**	**10 46 55.1**	**+0.6**
353A	**Camilla**	**43.03**	**72**	P	**P**	**10 46 55.1**	**+0.5**
	baz=277						
P50A	**Jamestown**	**43.04**	**60**	P	**P**	**10 46 54.2**	**-0.4**
	baz=268						
C36M	**Paulatuk**	**43.11**	**5**	P	**P**	**10 46 55.8**	**+1.2**
	baz=192						
S51A	**Beattyville**	**43.17**	**62**	P	**P**	**10 46 55.3**	**-0.3**
	baz=270						
S51A	**Beattyville**	**43.17**	**62**	P	**P**	**10 46 56.0**	**+0.4**
S51A				IAmb	IAmb	10 46 56.6	
	comp=Z,10nm,0.9s						
R51A	**Hillsboro**	**43.18**	**62**	P	**P**	**10 46 56.0**	**+0.3**
	baz=270						
O50A	**Cable**	**43.20**	**59**	P	**P**	**10 46 55.6**	**-0.3**
	baz=268						
V52A	**Sevierville**	**43.21**	**65**	P	**P**	**10 46 55.7**	**-0.3**
	baz=272						
V52A	**Sevierville**	**43.21**	**65**	P	**P**	**10 46 56.2**	**+0.3**
V52A				IAmb	IAmb	10 46 58.3	
	comp=Z,21nm,1.5s						
TZTN	**Tazewell**	**43.23**	**64**	P	**P**	**10 46 56.2**	**+0.1**
	baz=271						
TZTN	**Tazewell**	**43.23**	**64**	P	**P**	**10 46 56.1**	**+0.1**
TZTN				IAmb	IAmb	10 46 57.2	
	comp=Z,13nm,0.8s						
J48A	**Bridge Port**	**43.31**	**54**	P	**P**	**10 46 56.8**	**+0.2**
	baz=264						
J48A	**Bridge Port**	**43.31**	**54**	P	**P**	**10 46 56.5**	**-0.1**
J48A				IAmb	IAmb	10 46 56.7	
	comp=Z,22nm,1.2s						
Y53A	**Monroe**	**43.33**	**68**	P	**P**	**10 46 57.2**	**+0.3**
	baz=274						
U52A	**Thorn Hill**	**43.38**	**64**	P	**P**	**10 46 57.0**	**-0.3**
	baz=272,SNR=5.8						
Q51A	**Peebles**	**43.38**	**60**	P	**P**	**10 46 56.9**	**-0.4**
	baz=269						
Q51A	**Peebles**	**43.38**	**60**	P	**P**	**10 46 55.9**	**-1.4**
Q51A				IAmb	IAmb	10 46 58.4	
	comp=Z,13nm,0.7s						
Z53A	**Monticello**	**43.39**	**69**	P	**P**	**10 46 57.1**	**-0.3**
	baz=275,SNR=7.7						
GOGA	**Godfrey**	**43.46**	**69**	P	**P**	**10 46 58.0**	**0.0**
	baz=275,SNR=9.3						
GOGA	**Godfrey**	**43.46**	**69**	P	**P**	**10 46 58.4**	**+0.4**
I48A	**Sherman Twp**	**43.47**	**53**	P	**P**	**10 46 58.1**	**+0.2**
	baz=263						
G47A	**Hillman**	**43.49**	**51**	P	**P**	**10 46 57.7**	**-0.3**
	baz=262						
X53A	**Estanollee**	**43.52**	**67**	P	**P**	**10 46 58.2**	**-0.3**
	baz=274,SNR=7.6						
S52A	**Salyersville**	**43.58**	**62**	P	**P**	**10 46 58.6**	**-0.3**
	baz=270						
N50A	**Nevada**	**43.59**	**58**	P	**P**	**10 46 59.0**	**+0.1**
	baz=267						
W53A	**Cullowhee**	**43.59**	**66**	P	**P**	**10 46 58.7**	**-0.5**
	baz=273						
454A	**Quitman**	**43.61**	**73**	P	**P**	**10 46 58.6**	**-0.6**
	baz=278						
P51A	**Williamsport**	**43.61**	**60**	P	**P**	**10 46 58.9**	**-0.3**
	baz=268						
P51A	**Williamsport**	**43.61**	**60**	P	**P**	**10 46 59.1**	**0.0**
P51A				IAmb	IAmb	10 47 00.2	
	comp=Z,11nm,0.7s						
D46A	**Sault St. Mari**	**43.63**	**49**	P	**P**	**10 46 58.9**	**-0.3**
	baz=260						
T52A	**Hallie**	**43.67**	**63**	P	**P**	**10 46 58.7**	**-0.9**
	baz=271						
T52A	**Hallie**	**43.67**	**63**	P	**P**	**10 47 00.1**	**+0.4**
ACSO	**Alum Creek Sta**	**43.69**	**59**	P	**P**	**10 46 59.2**	**-0.6**
	baz=268						
ACSO	**Alum Creek Sta**	**43.69**	**59**	P	**P**	**10 46 59.3**	**-0.5**
254A	**Abbeville**	**43.75**	**71**	P	**P**	**10 46 59.3**	**-1.1**

baz=276,SNR=6.7
BG3 Lake Jocassee 43.79 66 P P 10 47 01.5 +0.9
BG3 IAmb IAmb 10 47 02.0
comp=Z,5.5nm,0.7s
154A Montrose 43.84 70 P P 10 47 01.0 0.0
V53A Saluda 43.85 65 P P 10 47 00.8 -0.4
baz=273
V53A Saluda 43.85 65 P P 10 47 01.4 +0.2
V53A IAmb IAmb 10 47 02.2
comp=Z,5.4nm,0.8s
O51A Pataskala 43.98 59 P P 10 47 02.6 +0.5
baz=268
Z54A Sparta 44.00 69 P P 10 47 01.8 -0.5
baz=275,SNR=5.3
U53A Fall Branch 44.02 64 P P 10 47 01.5 -1.0
baz=272,SNR=5.4
T53A Wise 44.03 63 P P 10 47 02.3 -0.3
baz=272
I49A Point Hope 44.07 53 P P 10 47 01.8 -0.9
baz=264
E47A Iron Bridge 44.07 50 P P 10 47 02.3 -0.4
baz=261
Y54A Tignall 44.07 68 P P 10 47 02.4 -0.5
baz=275
455A Stateville 44.12 72 P P 10 47 02.8 -0.5
baz=278
N51A Ashland 44.18 58 P P 10 47 02.9 -0.8
Q52A Bidwell 44.22 61 P P 10 47 03.6 -0.4
baz=270
X54A Belton 44.28 67 P P 10 47 03.8 -0.7
baz=274
P52A Corning 44.33 60 P P 10 47 04.4 -0.5
baz=269
155A Kite 44.37 70 P P 10 47 05.1 -0.2
baz=276
W54A Cherokee Point 44.40 66 P P 10 47 05.2 -0.3
baz=274
HODGE Hodges 44.40 67 P P 10 47 05.8 +0.3
R53A Hurricane 44.47 61 P P 10 47 05.9 -0.1
baz=270
R53A Hurricane 44.47 61 P P 10 47 06.2 +0.2
V54A Nebo 44.55 65 P P 10 47 06.3 -0.4
baz=273
O52A Adamsville 44.57 59 P P 10 47 06.2 -0.6
baz=269
O52A Adamsville 44.57 59 P P 10 47 07.0 +0.1
O52A IAmb IAmb 10 47 07.6
comp=Z,12nm,0.9s
Z55A Blythe 44.59 69 P P 10 47 06.5 -0.5
baz=276
U54A Nelsons Funny 44.62 64 P P 10 47 06.8 -0.6
baz=272
656A Willston 44.75 74 P P 10 47 07.7 -0.7
baz=279
Y55A Saluda 44.75 68 P P 10 47 08.3 -0.1
baz=275
T54A Tazewell 44.79 63 P P 10 47 08.3 -0.4
baz=272
Q53A Leroy 44.80 61 P P 10 47 08.1 -0.5
baz=270
356A Blackshear 44.81 71 P P 10 47 08.6 -0.2
baz=278
F49A Sandfield 44.83 51 P P 10 47 08.6 -0.2
baz=263
X55A Gracelyn & Ava 44.90 67 P P 10 47 09.3 -0.2
baz=274
256A Glennville 44.93 70 P P 10 47 09.4 -0.4
baz=277
M52A Chesterland 44.98 57 P P 10 47 09.8 -0.3
baz=268
M52A Chesterland 44.98 57 P P 10 47 08.9 -1.1
456A Hilliard 44.98 72 P P 10 47 09.9 -0.3
baz=278
S54A Dingess, Beckl 44.98 62 P P 10 47 10.1 -0.1
baz=271
S54A Dingess, Beckl 44.98 62 P P 10 47 10.0 -0.2
S54A IAmb IAmb 10 47 11.1
comp=Z,10nm,0.8s
O53A New Philadelph 45.05 59 P P 10 47 10.6 -0.1
baz=269
KMSC Kings Mountain 45.09 66 P P 10 47 10.6 -0.4
baz=274
KMSC Kings Mountain 45.09 66 P P 10 47 10.6 -0.4
KMSC IAmb IAmb 10 47 11.5
comp=Z,9.3nm,0.8s
V55A Taylorsville 45.14 65 P P 10 47 10.8 -0.6
baz=273
V55A Taylorsville 45.14 65 P P 10 47 11.0 -0.5
D48A Paudash Townsh 45.18 49 P P 10 47 12.0 +0.5
baz=262
Z56A Williston 45.22 68 P P 10 47 12.4 +0.4
baz=276
Z56A Williston 45.22 68 P P 10 47 12.0 0.0
JSC Jenkinsville 45.22 67 P P 10 47 12.2 +0.2
JSC IAmb IAmb 10 47 12.8
comp=Z,7.8nm,0.8s
U55A TA2, Sparta 45.24 64 P P 10 47 11.8 -0.5
baz=273
Q54A Coxs Mills 45.34 61 P P 10 47 12.8 -0.1
baz=270
Q54A Coxs Mills 45.34 61 P P 10 47 13.0 0.0
N53A Lisbon 45.34 58 P P 10 47 12.9 -0.1
baz=269
X56A White Oak 45.39 67 P P 10 47 12.9 -0.5
baz=275
T55A Pulaski 45.42 63 P P 10 47 13.5 -0.2
baz=272
M53A WI Miller and 45.48 57 P P 10 47 14.3 +0.2
baz=268
D49A Beulah Townshi 45.49 49 P P 10 47 14.2 +0.1
baz=262
K52A Tillsonburg 45.51 55 P P 10 47 14.3 0.0
baz=267
157A Early Branch 45.60 69 P P 10 47 15.7 +0.6
baz=277
P54A Burton 45.61 60 P P 10 47 14.8 -0.3
baz=270
S55A Lewisburg 45.62 62 P P 10 47 14.2 -1.1
baz=272
O54A Avella 45.69 59 P P 10 47 15.7 0.0
baz=270
O54A Avella 45.69 59 P P 10 47 15.9 +0.2
V56A Mocksville 45.73 65 P P 10 47 15.9 -0.2
baz=274
Z57A Bowman 45.77 68 P P 10 47 16.3 -0.2
baz=276
E50A Wahnapitae 45.81 50 P P 10 47 16.8 +0.2
baz=263
658A Bunnell 45.84 74 P P 10 47 17.3 +0.3
baz=280
BIRD Birdtown, Kers 45.84 67 P P 10 47 16.7 -0.3
R55A Marlinton 45.91 61 P P 10 47 17.9 +0.4
baz=272
R55A Marlinton 45.91 61 P P 10 47 17.7 +0.1
N54A Moraine State 45.99 58 P P 10 47 18.7 +0.6
baz=269
N54A Moraine State 45.99 58 P P 10 47 19.0 +0.9
T56A Rocky Mt 46.03 63 P P 10 47 18.5 +0.1
baz=273
P55A Reedsville 46.11 60 P P 10 47 18.9 -0.2
baz=271
X57A Johnson Farm, 46.16 67 P P 10 47 19.3 -0.2
baz=275
NHSC New Hope 46.23 69 P P 10 47 18.9 -1.2
baz=277
NHSC New Hope 46.23 69 P P 10 47 19.8 -0.3
M54A Oil Creek Stat 46.25 57 P P 10 47 20.5 +0.4
baz=269
R56A Bull Pasture M 46.47 61 P P 10 47 22.2 +0.2
baz=272
O55A Ligonier 46.51 59 P P 10 47 22.2 0.0
baz=270
Z58A St. Stephen 46.51 68 P P 10 47 22.4 +0.2
baz=276
Y58A Scranton 46.57 67 P P 10 47 22.1 -0.6
baz=276
Q56A Snyder Ridge, 46.62 60 P P 10 47 24.4 +1.4
U57A Blanch 46.62 64 P P 10 47 22.4 -0.7
baz=274
PPT Papeete 46.64 201 LR LR 11 02 30.3
comp=Z,71nm,18.5s,baz=20,slow=30
T57A Hurt 46.65 63 P P 10 47 22.6 -0.7
baz=273
T57A Hurt 46.65 63 P P 10 47 23.6 +0.2
T57A IAmb IAmb 10 48 48.2
comp=Z,13nm,1.4s
E51A G1948 Merrick 46.67 50 P P 10 47 23.5 +0.1
baz=264
F52A Sundridge 46.72 51 P P 10 47 23.4 -0.4
baz=265
N55A Marion Center 46.75 58 P P 10 47 23.9 -0.2
baz=270
061Z Ochoppi 46.84 79 P P 10 47 24.5 -0.4
baz=283
V58A Windy Hill, Pi 46.85 65 P P 10 47 24.6 -0.3
baz=274
S57A Dark Hollow, R 46.85 62 P P 10 47 25.0 +0.1
baz=273
P56A Dayton Farm, R 46.88 60 P P 10 47 25.4 +0.4
baz=271
M55A Ridgway 46.92 57 P P 10 47 25.6 +0.1
baz=269
M55A Ridgway 46.92 57 P P 10 47 25.7 +0.3
WVNY West Valley, N 47.06 56 P P 10 47 27.3 +0.8
O56A Blue Knob Stat 47.07 59 P P 10 47 26.9 +0.2
baz=271
O56A Blue Knob Stat 47.07 59 P P 10 47 25.4 -1.3
O56A IAmb IAmb 10 47 28.1
comp=Z,6.3nm,0.8s
H53A Bobcaygeon 47.16 53 P P 10 47 27.3 +0.1
baz=267
R57A Stanardsville 47.16 61 P P 10 47 27.2 -0.1
baz=272
L55A Hinsdale 47.17 56 P P 10 47 26.9 -0.5
baz=269
E52A Mattawa 47.23 51 P P 10 47 27.6 -0.1
baz=265
T58A Grand View Acr 47.23 63 P P 10 47 26.8 -1.0
baz=274
U58A Oxford 47.26 64 P P 10 47 28.0 0.0
baz=274
N56A West Decatur 47.27 58 P P 10 47 27.9 -0.3
baz=270
K55A Perry 47.46 55 P P 10 47 29.5 -0.1
baz=269
P57A Homestead Farm 47.52 60 P P 10 47 29.7 -0.3
baz=272
G54A Lake Saint Pet 47.56 52 P P 10 47 30.4 +0.1
baz=266
V59A Middlesex 47.56 65 P P 10 47 29.9 -0.5
baz=275
SSPA Standing Stone 47.59 58 P P 10 47 31.1 +0.5
J55A Hilton 47.66 55 P P 10 47 30.7 -0.3
baz=268
R58B Mineral 47.69 62 P P 10 47 31.1 -0.3
baz=273
R58B Mineral 47.69 62 P P 10 47 31.5 +0.1
R58B IAmb IAmb 10 47 32.4
comp=Z,7.5nm,1.0s
Y60A Bolivia 47.76 67 P P 10 47 30.8 -1.2
O57A Amberson 47.79 59 P P 10 47 32.1 -0.1
baz=271
Q58A Fox Den Farm, 47.79 60 P P 10 47 31.3 -0.9
baz=272
L56A Greenwood 47.83 56 P P 10 47 32.8 +0.3
baz=270
N57A Milroy 47.84 58 P P 10 47 32.7 +0.1
baz=271
U59A Littleton 47.87 64 P P 10 47 32.9 +0.1
baz=275
E53A Dumoine, Ponti 47.92 50 P P 10 47 32.5 -0.6
baz=266
D53A Lac Vacive, Po 47.95 50 P P 10 47 33.2 -0.1
baz=265
D53A Lac Vacive, Po 47.95 50 P P 10 47 34.0 +0.6
T59A Double "B" Far 48.01 63 P P 10 47 33.8 -0.1
baz=274
T59A Double "B" Far 48.01 63 P P 10 47 33.9 0.0
M57A Sunshine Farm, 48.15 57 P P 10 47 35.2 +0.3
baz=271
O58A Lewisberry 48.34 59 P P 10 47 36.5 +0.1
baz=272
U60A Pendleton 48.37 64 P P 10 47 36.4 -0.2
baz=275
N58A Sunbury 48.47 58 P P 10 47 37.7 +0.3
baz=271
K57A Scipio Center 48.60 55 P P 10 47 38.6 +0.2
baz=270
LSQQ Lebel-sur-Quev 48.62 47 P P 10 47 38.8 +0.4
baz=264
W61A Ground Anchor 48.63 65 P P 10 47 38.9 +0.2
baz=276
T60A Surry 48.65 63 P P 10 47 39.5 +0.7
baz=275
D54A Lac Fusel, La 48.67 50 P P 10 47 39.0 +0.2
baz=266
P59A Jarrettsville 48.73 60 P P 10 47 39.7 +0.2
baz=273
J57A Williamstown 48.99 54 P P 10 47 41.3 0.0
baz=270
J57A Williamstown 48.99 54 P P 10 47 41.5 +0.2
BINY Binghamton 49.00 56 P P 10 47 41.4 -0.1
baz=271
N59A State Game Lan 49.19 58 P P 10 47 43.1 +0.1
baz=272
I57A Carthage 49.23 54 P P 10 47 43.3 +0.1
baz=269
K58A Earlville 49.24 55 P P 10 47 43.4 0.0
baz=270
H57A Richville 49.44 53 P P 10 47 45.0 +0.3
baz=269
D55A Sainte-Anne-du 49.47 50 P P 10 47 45.1 +0.2
baz=267
O60A Telford 49.49 59 P P 10 47 45.1 -0.1
baz=273
J58A Remsen 49.51 55 P P 10 47 45.1 -0.3
baz=270
L59A Walton 49.70 56 P P 10 47 46.6 -0.2
baz=271
I58A Old Forge 49.73 54 P P 10 47 46.9 -0.2
baz=270
E56A St. Veronique 49.74 50 P P 10 47 46.5 -0.6
baz=268
H58A Gabriels 50.30 53 P P 10 47 50.8 -0.6
baz=270
L60A Shokan 50.31 56 P P 10 47 51.3 -0.2
baz=272
CHGQ Chibougamau 50.39 46 P P 10 47 51.6 -0.3
baz=265
PAL Palisades 50.59 58 P P 10 47 53.1 -0.5
baz=273
H59A Cadyville 50.65 53 P P 10 47 53.8 -0.2
baz=270
D58A Chemin du LacG 51.24 50 P P 10 47 58.2 -0.2
baz=269
H60A Morristown 51.36 53 P P 10 47 58.4 -1.0
baz=271
G60A Masonville 51.61 52 P P 10 48 01.0 -0.3
baz=271
H61A Lyndonville 51.91 53 P P 10 48 03.2 -0.3
baz=271
L64A Middleborough 52.84 56 P P 10 48 09.6 -0.7
baz=274
D61A St Aubert, Com 53.08 50 P P 10 48 10.8 -1.2
baz=271
D62A Allapoint, All 53.86 50 P P 10 48 17.3 -0.4
baz=272
RAR Rarotonga 53.96 211 LR LR 11 05 30.9
comp=Z,38nm,18.4s,baz=233,slow=30
E63A Oxbow 54.31 51 P P 10 48 20.8 -0.3
baz=272
H11N3 WAKE ISLAND Hy 54.86 276 T T 11 47 38.5
baz=60
H11N2 WAKE ISLAND Hy 54.87 276 T T 11 47 38.8
baz=60
H11N1 WAKE ISLAND Hy 54.88 276 T T 11 47 40.9
baz=60
SCHQ Schefferville 55.31 40 P P 10 48 28.1 -0.1
comp=Z,5.0nm,0.9s,baz=269,slow=3.0,SNR=5.6
SCHQ Schefferville 55.31 40 P P 10 48 28.4 +0.2
PETK Petropavlovsk- 56.62 318 P P 10 48 40.5 +2.9
comp=Z,7.8nm,0.9s,baz=96,slow=15,SNR=5.2
PETK LR LR 11 08 34.2
comp=Z,43nm,20.9s,baz=58,slow=32
PETK Petropavlovsk- 56.62 318 P P 10 48 40.1 +2.4
SDV Santo Domingo 61.79 94 P P 10 49 15.1 +0.9
SDV IAmb IAmb 10 49 15.7
comp=Z,4.9nm,0.9s
SUMG Summit 66.33 19 *i* P P 10 49 42.3 -1.1
comp=Z,2.2nm,0.5s
SUMG Summit 66.33 19 P P 10 49 42.6 -0.8
TIXI Tiksi 67.37 340 P P 10 49 48.3 -1.2
TIXI IAmb IAmb 10 49 54.1
comp=Z,3.6nm,0.8s
ASAJ Asahikawa 67.86 309 LR LR 11 15 47.4
comp=Z,36nm,19.1s,baz=311,slow=33
MJAR Matsushiro Arr 73.45 303 LR LR 11 16 57.6
comp=Z,36nm,21.5s,baz=40,slow=31
HNR Honiara 73.86 251 LR LR 11 15 33.9
comp=Z,123nm,21.1s,baz=79,slow=30
USRK Ussuriysk Ar. 75.03 312 P P 10 50 35.5 -0.9
comp=Z,2.5nm,0.8s,baz=31,slow=6.7,SNR=6.1
USRK Ussuriysk Ar. 75.03 312 P P 10 50 36.7 +0.3
USA0B Ussuriysk Arra 75.03 312 P P 10 50 37.3 +0.8
USA0B IAmb IAmb 10 50 39.6
comp=Z,5.4nm,1.0s
LPAZ La Paz 76.41 116 P P 10 50 46.4 +0.9
comp=Z,2.5nm,0.9s,baz=13,slow=12,SNR=6.5
LPAZ La Paz 76.41 116 P P 10 50 44.5 -0.9
LPAZ IAmb IAmb 10 50 59.0
comp=Z,4.3nm,1.1s
SAML Samuel 76.71 107 P P 10 50 45.7 -0.7
SAML IAmb IAmb 10 50 46.4
comp=Z,5.2nm,0.8s
GO01 Chusmiza 77.44 120 P P 10 50 49.3 -1.7
PB01 IPOC Station P 77.99 121 P P 10 50 54.8 +1.3
BKZ Black Stump Fm 80.42 217 P P 10 51 07.9 +1.4
KSRS Korea Array 80.63 307 P P 10 51 10.6 +2.9
comp=Z,0.8nm,0.5s,baz=86,slow=5.3,SNR=4.9
KSRS LR LR 11 24 47.2
comp=Z,30nm,18.6s,baz=356,slow=34
ARCES ARCESS Array B 82.92 7 P P 10 51 17.7 -1.5
comp=Z,2.6nm,0.6s,baz=350,slow=5.3,SNR=6.8
ARCES ARCESS Array B 82.92 7 P P 10 51 17.8 -1.4
SONM Songino Array 88.50 324 P P 10 51 46.3 -1.3
comp=Z,3.9nm,0.8s,baz=48,slow=4.2,SNR=13
SONM Songino Array 88.50 324 P P 10 51 45.9 -1.6
PLCA Paso Flores 88.83 137 P P 10 51 49.1 +0.2
comp=Z,3.1nm,0.9s,baz=359,slow=4.2,SNR=4.4
PLCA Paso Flores 88.83 137 P P 10 51 49.3 +0.4
HHC Hu-ho-hao-te 89.81 317 P P 10 51 53.6 -0.2
HHC pmax pmax
comp=Z,4.0nm,0.8s
HHC pmax pmax
comp=Z,8.0nm,5.5s
ZALV Zalesovo Beam 93.21 338 P P 10 52 07.6 -1.5
comp=Z,0.5nm,0.3s,baz=10,slow=8.8,SNR=3.1
ZALV Zalesovo Beam 93.21 338 P P 10 52 07.3 -1.8
LZH Lanzhou 97.50 317 *e*P P 10 52 29.0 -0.3
LZH pP sP 10 52 32.3 +0.5
LZH sP pP 10 52 33.8 +2.7
LZH pmax pmax
comp=Z,17nm,1.4s
LZH pmax pmax
comp=Z,79nm,6.3s
WMQ Urumqi 100.40 331 *e*P Pdif P 10 52 43.6 +1.6
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,88nm,5.3s
WMQ LR LR
comp=N,560nm,29.2s
WMQ LR LR
comp=E,1μm,28.8s
WMQ LR LR
comp=Z,110nm,29.1s
CD2 Chengdu 100.90 313 *e*P Pdif P 10 52 43.4 -1.0
TORD Torodi Ar. Bea 121.15 53 PKP PKPdf P 10 57 47.2 -1.2
comp=Z,0.6nm,0.6s,baz=332,slow=3.5,SNR=5.1
TORD Torodi Ar. Bea 121.15 53 PKPdf PKPdf P 10 57 47.5 -1.0
KMBO Kilima Mbogo 153.12 21 PKPbc PKPbc P 10 58 53.8 0.0
comp=Z,0.9nm,0.3s,baz=10,slow=4.9,SNR=4.1
BOSA Boshof 161.02 101 PKPab PKPab P 10 59 37.4 -1.3
comp=Z,4.2nm,1.0s,baz=318,slow=6.8,SNR=3.7
BOSA Boshof 161.02 101 PKPdf PKPdf P 10 58 52.9 -2.8
BOSA PKPab PKPab P 10 59 37.8 -1.0

*NEIC **03** 10:56:47.9±1.9, 4°.8N±0°.1×126°.8E±0°.2, h10km±1km, mb4.3/14*
*IDC **03** 10:56:47.5±1.2, 4°.81N×126°.99E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/38, mbtmp3.8/6, Error ellipse: s-maj=92.0km s-min=20.2km az=72.0*
ISC 03 10:56:48.3±0.7, 4°.7N±0°.1×126°.7E±0°.2, h10km, n27, σ1§22/30, mb4.2/12, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.56**	**335**	Sn	**Sg**	**10 58 12.2**	**+1.5**
	64nm,0.3s,baz=270,slow=3.0,SNR=2.8						
KCP	**Kidapawan**	**2.75**	**326**	iP	**Pb**	**10 57 36.6**	**-1.0**
KCP				S	**Sb**	**10 58 11.1**	**-0.4**
TNTI	**Ternate**	**3.99**	**170**	Pn	**Pn**	**10 57 48.3**	**-1.3**
TNTI				Sn	**Sn**	**10 58 38.1**	**+1.6**
MTN	**Manton Dam**	**18.01**	**166**	P	**Pn**	**11 00 59.0**	**+0.1**
KNRA	**Kununurra**	**20.38**	**174**	P	**P**	**11 01 25.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**22.70**	**182**	P	**P**	**11 01 52.8**	**+2.5**
	1.2nm,0.5s,baz=359,slow=8.3,SNR=6.9						
FITZ	**Fitzroy Crossi**	**22.70**	**182**	P	**P**	**11 01 53.2**	**+2.9**
FITZ				IAmb	IAmb	11 01 56.1	
	comp=Z,8.8nm,1.4s						
WB0	**Warramunga Arr**	**25.50**	**163**	P	**P**	**11 02 17.6**	**+0.5**
WB0				IAmb	IAmb	11 02 19.4	
	comp=Z,5.9nm,0.6s						
WRAB	**Tennant Creek**	**25.65**	**163**	P	**P**	**11 02 17.7**	**-0.7**
WRAB				IAmb	IAmb	11 02 21.3	
	comp=Z,6.8nm,1.0s						
WRA	**Warramunga Arr**	**25.65**	**163**	P	**P**	**11 02 18.8**	**+0.4**
	comp=Z,3.0nm,0.5s,baz=343,slow=10,SNR=29						
WRA	**Warramunga Arr**	**25.65**	**163**	P	**P**	**11 02 18.9**	**+0.5**
WB2	**Warramunga Arr**	**25.66**	**163**	P	**P**	**11 02 18.9**	**+0.4**
WB2				IAmb	IAmb	11 02 21.3	
	comp=Z,6.1nm,0.9s						
WR0	**Warramunga Arr**	**25.73**	**163**	P	**P**	**11 02 18.1**	**-1.0**
WR0				IAmb	IAmb	11 02 22.7	
	comp=Z,5.7nm,1.1s						
PSA00	**Pilbara Seismi**	**26.97**	**194**	P	**P**	**11 02 32.4**	**+2.0**
PSAA3	**Pilbara Seismi**	**26.98**	**194**	P	**P**	**11 02 31.4**	**+1.0**
PSAB3	**Pilbara Seismi**	**26.99**	**194**	P	**P**	**11 02 29.8**	**-0.8**
ASAR	**Alice Springs**	**29.09**	**166**	P	**P**	**11 02 49.9**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=348,slow=7.5,SNR=13						
ASAR				PcP	**PcP**	**11 05 57.5**	**0.0**
	comp=Z,0.3nm,0.5s,baz=358,slow=2.5,SNR=5.8						
STKA	**Stephens Creek**	**39.08**	**160**	P	**P**	**11 04 16.1**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=330,slow=14,SNR=5.4						
STKA	**Stephens Creek**	**39.08**	**160**	P	**P**	**11 04 14.9**	**-0.9**
SONM	**Songino Array**	**46.34**	**341**	P	**P**	**11 05 16.6**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=163,slow=10,SNR=1.9						
MKAR	**Makanchi Array**	**56.70**	**325**	P	**P**	**11 06 33.0**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=128,slow=5.7,SNR=2.8						
MKAR	**Makanchi Array**	**56.70**	**325**	P	**P**	**11 06 32.4**	**+0.3**
KKAR	**Karatay Array**	**62.46**	**317**	P	**P**	**11 07 10.3**	**-1.6**
KKAR	**Karatay Array**	**62.46**	**317**	P	**P**	**11 07 11.0**	**-0.9**
KKAR				IAmb	IAmb	11 07 22.0	
	comp=Z,4.5nm,1.5s						
ABKAR	**Akbulak array**	**71.34**	**321**	P	**P**	**11 08 08.1**	**-0.2**
ABKAR	**Akbulak array**	**71.34**	**321**	P	**P**	**11 08 07.8**	**-0.6**
ABKAR				IAmb	IAmb	11 08 16.2	
	comp=Z,3.1nm,1.4s						
IMAR	**Indian Mountai**	**81.47**	**24**	P	**P**	**11 09 05.4**	**-0.2**

*IDC **03** 10:57:03.7±1.1, 19°.83N×122°.43E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/42, mbtmp3.8/5, MS2.9/3, Ms1 3.0/3, ms1mx2.6/43, Error ellipse: s-maj=42.4km s-min=21.9km az=62.0*
*ISCJB **03** 10:57:06.8±0.5, 19°.88N±0°.04×122°.50E±0°.10, h36km, mb3.7/6, MS2.9/1, Error ellipse: s-maj=13.7km s-min=4.7km az=165.9*
*NEIC **03** 10:57:06.6±1.5, 19°.8N±0°.1×122°.4E±0°.1, h21km±3km, mb4.2/11*
ISC 03 10:57:08.7±0.8, 19°.84N±0°.08×122°.4E±0°.1, h36km, n39, σ1§16/38, mb4.1/12, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWG	**Pinlang**	**3.23**	**337**	Pn	**Pn**	**10 57 55.0**	**-1.8**
TWG				Sn	**Sn**	**10 58 33.9**	**-0.1**
YULB	**Yu-li**	**3.69**	**344**	Pn	**Pn**	**10 58 01.6**	**-1.6**
YULB				Sn	**Sn**	**10 58 44.8**	**-0.7**
TPUB	**Ta-pu**	**3.83**	**334**		**Pn**	**10 58 02.6**	**-2.6**
TPUB				Sn	**Sn**	**10 58 51.5**	**+2.5**
SSLB	**Suanglung**	**4.16**	**341**		**Pn**	**10 58 10.4**	**+0.7**
SSLB				Sn	**Sn**	**10 58 58.1**	**+0.9**
NACB	**Ninganchiao**	**4.38**	**350**	Pn	**Pn**	**10 58 12.9**	**+0.1**
NACB				Sn	**Sn**	**10 59 01.0**	**-1.5**
YOJ	**Yonaguni jima**	**4.63**	**7**	Pn	**Pn**	**10 58 16.2**	**0.0**
YOJ				Sn	**Sn**	**10 59 07.1**	**-1.6**

YHNB	Yeheng	4.91	349		Pn	10 58 19.9	-0.1
YHNB				Sn	Sn	10 59 14.5	-1.1
DAV	Davao City (W)	13.06	166	LR	LR	11 04 50.5	
	comp=Z,61nm,19.8s,baz=328,slow=36						
KSRS	Korea Array	18.19	14	LR	LR	11 07 59.7	
	comp=Z,33nm,20.9s,baz=292,slow=36						
CMAR	Chiang Mai Arr	22.23	270	P	P	11 02 02.7	+0.3
	0.7nm,0.3s,baz=68,slow=9.8,SNR=4.4						
CMAR				LR	LR	11 10 31.8	
	comp=Z,42nm,18.7s,baz=192,slow=36						
WRAB	Tennant Creek	41.22	163	P	P	11 04 49.6	-0.6
WRA	Warramunga Arr	41.22	163	P	P	11 04 50.2	-0.1
	0.6nm,0.6s,baz=345,slow=8.9,SNR=5.2						
WRA	Warramunga Arr	41.22	163	P	P	11 04 47.6	-2.6
WB2	Warramunga Arr	41.23	163	P	P	11 04 50.2	-0.1
WB2				IAmb	IAmb	11 04 51.5	
	comp=Z,7.7nm,1.3s						
WR0	Warramunga Arr	41.29	163	P	P	11 04 48.2	-2.7
WR0				IAmb	IAmb	11 04 52.6	
	comp=Z,4.6nm,1.1s						
H11S3	WAKE ISLAND Hy	41.74	84	T	T	11 50 01.8	
	baz=280,slow=75,SNR=20						
H11N1	WAKE ISLAND Hy	41.74	82	T	T	11 50 03.1	
	baz=278,slow=75,SNR=29						
H11S1	WAKE ISLAND Hy	41.75	84	T	T	11 50 02.1	
	baz=280,slow=75,SNR=25						
H11N2	WAKE ISLAND Hy	41.75	82	T	T	11 50 04.3	
	baz=278,slow=75,SNR=19						
H11S2	WAKE ISLAND Hy	41.76	84	T	T	11 50 03.2	
	baz=280,slow=75,SNR=27						
H11N3	WAKE ISLAND Hy	41.76	82	T	T	11 50 04.3	
	baz=278,slow=75,SNR=25						
MK31	Makanchi Array	42.30	319	P	P	11 04 59.4	+0.5
MKAR	Makanchi Array	42.30	319	P	P	11 04 59.1	+0.2
	comp=Z,0.9nm,0.5s,baz=115,slow=9.6,SNR=11						
MKAR	Makanchi Array	42.30	319	P	P	11 04 58.9	-0.1
MAKZ	Makanchi	42.51	319	P	P	11 05 01.2	+0.7
ZAA0	Zalesovo Array	44.53	329	P	P	11 05 16.3	-0.4
ZAA0				IAmb	IAmb	11 05 16.9	
	comp=Z,1.8nm,0.6s						
ZALV	Zalesovo Beam	44.53	329	P	P	11 05 16.4	-0.3
	comp=Z,1.9nm,0.5s,baz=120,slow=8.3,SNR=8.0						
ZALV	Zalesovo Beam	44.53	329	P	P	11 05 16.0	-0.7
ASAR	Alice Springs	44.66	165	P	P	11 05 18.2	0.0
	comp=Z,0.7nm,1.0s,baz=353,slow=6.8,SNR=3.0						
KK31	Karatay Array	49.08	310	P	P	11 05 52.8	+0.2
KK31				IAmb	IAmb	11 05 55.5	
	comp=Z,3.1nm,1.4s						
KKAR	Karatay Array	49.08	310	P	P	11 05 52.9	+0.4
KKAR	Karatay Array	49.08	310	P	P	11 05 52.8	+0.2
KKAR				IAmb	IAmb	11 05 55.5	
	comp=Z,3.1nm,1.4s						
ABKAR	Akbulak array	57.33	316	P	P	11 06 53.2	+0.1
ABKAR	Akbulak array	57.33	316	P	P	11 06 53.1	+0.1
ABKAR				IAmb	IAmb	11 07 03.7	
	comp=Z,5.1nm,1.5s						
IMAR	Indian Mountai	69.56	26	P	P	11 08 14.3	+0.7
RND	Reindeer	71.89	28	P	P	11 08 28.5	+0.5
RND				IAmb	IAmb	11 08 47.5	
	comp=Z,3.4nm,1.3s						
BMAR	Burnt Mountain	73.01	24	P	P	11 08 35.6	+1.1
ARCES	ARCESS Array B	73.98	339	P	P	11 08 40.4	+0.3
YKA	Yellowknife Ar	86.50	23	P	P	11 09 48.8	+1.2
	comp=Z,0.6nm,0.7s,baz=312,slow=4.9,SNR=6.4						

IDC 03 11:03:13.3±10.0**, 49°.63S**×**123°.03E, h0**km**, mb3.7**/2**, mb1 4.0**/2**, mb1mx3.6**/30**, mbtmp3.7**/2**, MS3.1**/3**, Ms1 3.1**/3**, ms1mx2.9**/18**, Error ellipse: s-maj=848.3km s-min=67.3km az=100.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	16.11	333	T	T	11 23 08.0	
	baz=161						
H01W2	Cape Leeuwin H	16.11	333	T	T	11 23 09.5	
	baz=161,slow=74						
H01W3	Cape Leeuwin H	16.12	333	T	T	11 23 08.6	
	baz=161,slow=74						
STKA	Stephens Creek	22.53	45	LR	LR	11 15 27.2	
	comp=Z,24nm,20.2s,baz=208,slow=33						
ASAR	Alice Springs	27.29	22	P	P	11 08 59.3	-0.2
	1.4nm,1.0s,baz=190,slow=10,SNR=4.7						
ASAR				LR	LR	11 18 15.8	
	comp=Z,54nm,21.3s,baz=152,slow=33						
WRA	Warramunga Arr	30.97	21	P	P	11 09 32.3	+0.1
	0.2nm,0.3s,baz=200,slow=8.0,SNR=8.8						
DZM	Mont Dzumac	43.78	67	LR	LR	11 27 51.1	
	comp=Z,43nm,21.5s,baz=260,slow=34						
YKA	Yellowknife Ar	146.57	45	PKPbc	PKPdf	11 22 54.5	+0.7
	1.2nm,0.7s,baz=267,slow=2.6,SNR=12						

*SOME **03** 12:04:17.8, 41°.50N×72°.23E, h0km*
*NNC **03** 12:04:18.2±3.2, 41°.36N×72°.26E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=31.0km s-min=11.4km az=172.0*
*KRNET **03** 12:04:18.1±0.1, 41°.46N×72°.25E, h10km, mb2.4*
ISC 03 12:04:18.2±1.3**, 41°.49N**±0°.04×**72°.26E**±0°.02**, h0**km±15km**, n22,** σ**1.06**/41**, 16C-4D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARK	Arkit	0.38	324	⇑iP	Pg	12 04 25.7	+0.2
	baz=28						
ARK				⇑iS	Sg	12 04 31.3	+0.8
	baz=28						
ARSB	Arslanbob	0.56	107	⇑iP	Pg	12 04 29.3	+0.2
	baz=3.0						
ARSB				⇑iS	Sg	12 04 37.4	+1.0
	baz=3.0						
AML	Almayashu	1.25	59	⇑iP	Pg	12 04 41.8	-0.3
	baz=58						
AML				⇑iS	Sb	12 05 00.7	+1.1
	baz=58						
MRKS	Merke	1.44	29	eP	Pn	12 04 45.5	-0.3
	1.4nm,0.1s						
MRKS				eS	Sg	12 05 05.4	+0.8
	5.4nm,0.3s						
MRKS	Merke	1.44	29	P	Pn	12 04 45.5	-0.3
	1.4nm,0.1s						
MRKS				S	Sg	12 05 05.4	+0.8
	5.4nm,0.3s						
ARLS	Aral	1.59	76	⇓iP	Pb	12 04 48.6	+0.1
	baz=74						
ARLS				⇓iS	Sg	12 05 10.7	+1.5
	baz=74						
EKS2	Erkin-Say	1.62	43	⇑iP	Pn	12 04 48.9	+0.7
	baz=43						
EKS2				⇑iS	Sg	12 05 11.3	+0.9
	baz=43						
IUG	Iuzhnay	1.79	292	eP	Pb	12 04 52.1	+0.1
	1.5nm,0.1s						
IUG				eS	Sg	12 05 16.6	+0.7
	17nm,0.5s						
IUG	Iuzhnay	1.79	292	P	Pb	12 04 52.1	+0.1
	1.5nm,0.1s						
IUG				S	Sg	12 05 16.6	+0.7
	17nm,0.5s						
BTK	Batken	1.81	218	⇑iP	Pn	12 04 50.7	0.0
	baz=18						
BTK				⇑iS	Sg	12 05 16.0	-0.2
	baz=18						
UCH	Uchtor	1.83	66	⇑iP	Pb	12 04 52.9	0.0
	baz=65						
UCH				⇑iS	Sg	12 05 19.8	+2.6
	baz=65						
AAK	Ala-Archa	2.02	55	⇓eP	Pb	12 04 55.7	-0.2
	baz=54						
AAK				⇓iS	Sg	12 05 23.2	+0.2
	baz=54						
AAK	Ala-Archa	2.02	55	Pn	Pb	12 04 56.5	+0.6
	1.5nm,0.3s						
AAK				Sn	Sg	12 05 24.3	+1.2
	4.7nm,0.7s						
KK31	Karatay Array	2.07	322	Pn	Pb	12 04 56.3	-0.4
	3.4nm,0.6s,baz=144,slow=14,SNR=19						
KK31				Sn	Sg	12 05 25.1	+0.4
	3.8nm,0.4s,baz=151,slow=28,SNR=18						
KZA	Kyzart	2.31	74	⇑iP	Pb	12 05 00.7	-0.3
	baz=74						
KZA				⇑iS	Sg	12 05 31.9	-0.5
	baz=74						
TKM2	Tokmak 2	2.86	59	⇑Pn	Pn	12 05 03.2	-2.0
	2.1nm,0.5s						
TKM2				⇑Sn	Sb	12 05 45.9	+0.1

	1.0nm,0.3s						
DGS	Degeres	3.13	55	eP	Pb	12 05 16.5	+1.6
	1.1nm,0.4s						
DGS				eS	Sg	12 05 58.4	-0.5
	4.6nm,0.4s						
DGS	Degeres	3.13	55	Pg	Pb	12 05 16.5	+1.6
	1.1nm,0.4s						
DGS				Lg	Lg	12 05 58.4	
	4.6nm,0.4s						
KST	Kastek	3.15	59	eP	Pb	12 05 16.5	+1.3
	1.1nm,0.3s						
KST				eS	Sg	12 05 58.4	-1.1
	4.5nm,0.6s						
KST	Kastek	3.15	59	Pg	Pb	12 05 16.5	+1.3
	1.1nm,0.3s						
KST				Lg	Lg	12 05 58.4	
	4.5nm,0.6s						
KTBS	Karatobe	3.94	54	eP	Pg	12 05 31.7	-2.1
	0.9nm,0.8s						
KTBS				eS	Sg	12 06 24.5	-0.5
	12nm,0.5s						
KTBS	Karatobe	3.94	54	Pg	Pg	12 05 31.7	-2.1
	0.9nm,0.8s						

*IDC **03** 12:11:24.0±8.6, 18°.15S×169°.25E, h179km±54km, mb3.7/4, mb1 3.7/5, mb1mx3.3/27, mbtmp4.1/5, Error ellipse: s-maj=105.2km s-min=71.3km az=103.0*
*NEIC **03** 12:11:28.6±0.7, 18°.6S±0°.2×169°.1E±0°.3, h213km±11km, mb4.3/13*
ISC 03 12:11:25.3±3.6**, 18°.5S**±0°.2×**169°.4E**±0°.5**, h201**km**, n19,** σ**0.97**/21**, mb4.1**/10**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.54	218	P	Pn	12 12 34.6	+0.6
	2.7nm,0.3s,baz=143,slow=19,SNR=40						
DZM				S	S	12 13 29.3	+1.8
	0.3nm,0.3s,baz=251,slow=18,SNR=1.3						
DZM	Mont Dzumac	4.54	218	Pn	Pn	12 12 34.4	+0.5
DZM					S	12 13 26.1	-1.4
CTA	Charters Tower	21.95	262	P	P	12 16 03.9	+0.9
	2.4nm,0.8s,baz=98,slow=15,SNR=2.3						
STKA	Stephens Creek	28.41	237	P	P	12 17 01.7	+0.5
	1.2nm,0.6s,baz=90,slow=6.1,SNR=3.6						
STKA	Stephens Creek	28.41	237	P	P	12 17 01.5	+0.3
WR0	Warramunga Arr	32.96	262	P	P	12 17 40.5	-0.8
WR0				IAmb	IAmb	12 17 49.3	
	comp=Z,5.5nm,1.2s						
WB0	Warramunga Arr	33.11	262	P	P	12 17 41.9	-0.6
WB2	Warramunga Arr	33.13	262	P	P	12 17 42.1	-0.7
WB2				IAmb	IAmb	12 17 59.4	
	comp=Z,7.8nm,1.4s						
WRAB	Tennant Creek	33.14	262	P	P	12 17 42.2	-0.6
WRAB				IAmb	IAmb	12 17 55.5	
	comp=Z,5.7nm,1.2s						
BBOO	Buckleboo	33.14	238	P	P	12 17 42.8	+0.1
BBOO				IAmb	IAmb	12 17 55.6	
	comp=Z,16nm,1.4s						
WRA	Warramunga Arr	33.15	262	P	P	12 17 42.3	-0.6
	comp=Z,0.5nm,0.3s,baz=89,slow=9.1,SNR=16						
WRA	Warramunga Arr	33.15	262	P	P	12 17 42.4	-0.6
AS31	Alice Springs	33.50	255	P	P	12 17 45.8	-0.2
ASAR	Alice Springs	33.50	255	P	P	12 17 45.6	-0.4
	comp=Z,6.9nm,0.4s,baz=81,slow=8.7,SNR=272						
KNRA	Kununurra	38.93	268	P	P	12 18 32.2	+0.2
KNRA				IAmb	IAmb	12 18 32.2	
	comp=Z,4.7nm,0.8s						
FITZ	Fitzroy Crossi	41.52	263	P	P	12 18 54.0	+0.9
NWAO	Narrogin (SRO)	48.73	242	P	P	12 19 48.1	-1.7
NWAO	Narrogin (SRO)	48.73	242	P	P	12 19 48.0	-1.7
NWAO				IAmb	IAmb	12 19 48.9	
	comp=Z,43nm,1.4s						
ENH	Enshi	75.35	309	P	P	12 22 47.8	+0.9

ISC 03 12:15:06.5±1.6**, 49°.63N**±0°.04×**17°.69E**±0°.05**, h3**km±14km**, n10,** σ**1.18**/18**, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MORC	Moravsky Berou	0.18	327	ePG	Pg	12 15 09.9	-0.1
MORC				eSG	Sg	12 15 12.4	+0.1
JAVC	Velka Javorina	0.77	181	ePG	Pn	12 15 24.0	-0.3
VRAC	Vranov	0.79	246	ePG	Pg	12 15 23.0	+1.5
VRAC				eSG	Sb	12 15 34.5	+0.7
KRUC	Moravsky	1.02	237	ePG	Pg	12 15 27.2	+1.2
KRUC				eSG	Sb	12 15 41.6	+1.0
LANS	Liptovska Anna	1.25	112	ePG	Pn	12 15 30.9	0.0
LANS				eSG	Sn	12 15 48.8	+0.5
LANS				eLG	Lg	12 15 52.6	
MODS	Modra-Piesok	1.28	192	ePG	Pn	12 15 28.3	-3.0
VYHS	Vyhne	1.36	146	ePG	Pn	12 15 32.1	-0.3
VYHS				eSG	Sb	12 15 50.3	-0.1
KSP	Ksiaz	1.51	324	ePg	Pn	12 15 34.6	+0.1
KSP				ePg	Pn	12 15 34.6	+0.1
KSP				eSg	Sb	12 15 55.0	+0.2
KSP				eSg	Sb	12 15 55.0	+0.2
BRG	Berggiesshubel	2.71	299	SG	Sg	12 16 32.3	-1.2
	3.0nm,0.5s						
CLL	Collm	3.44	301	eSg	Sg	12 16 55.0	-1.8

*ISCJB **03** 12:17:07.5±0.6, 15°.89N±0°.06×95°.50W±0°.03, h49km±9km, Error ellipse: s-maj=10.3km s-min=4.5km az=179.6*
*NEIC **03** 12:17:07.9±3.4, 15°.89N±0°.09×95°.51W±0°.03, h33km±9km*
*MEX **03** 12:17:09.8±0.4, 15°.89N×95°.52W, h46km±8km, MD4.3*
ISC 03 12:17:08.3±2.4**, 15°.90N**±0°.05×**95°.52W**±0°.03**, h36**km±3km**, n23,** σ**1.38**/43**, mb4.3**/3**, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.59	257	eP	Pn	12 17 20.2	0.0
HUIG				i S	Sn	12 17 28.7	+0.1
HUIG	Huatulco	0.59	257		Pn	12 17 20.2	0.0
HUIG					Sn	12 17 28.7	+0.1
PANG	Puerto Angel	0.95	256	i P	Pn	12 17 25.0	-0.1
PANG				i S	Sn	12 17 37.2	-0.3
PANG	Puerto Angel	0.95	256		Pn	12 17 25.0	-0.1
PANG					Sn	12 17 37.2	-0.3
CMIG	Matias Romero	1.33	27	eP	Pn	12 17 30.4	+0.1
CMIG				eS	Sn	12 17 46.7	-0.1
CMIG	Matias Romero	1.33	27		Pn	12 17 30.4	+0.1
CMIG					Sn	12 17 46.7	-0.1
VHO	Vista Hermosa	1.65	315	i P	Pn	12 17 36.0	+1.0
VHO				i S	Sn	12 17 54.6	-0.4
PCIG		2.22	95	eP	Pn	12 17 42.1	-0.4
PCIG				i S	Sn	12 18 07.6	-1.1
PCIG		2.22	95		Pn	12 17 42.1	-0.4
PCIG					Sn	12 18 07.6	-1.1
TGIG		2.46	69	i P	Pn	12 17 47.0	+1.1
TGIG				i S	Sn	12 18 16.0	+1.2
TGIG		2.46	69		Pn	12 17 47.0	+1.1
TGIG					Sn	12 18 16.0	+1.2
PNIG	Pinotepa	2.56	281	eP	Pn	12 17 47.9	+0.7
PNIG				i S	Sn	12 18 16.3	-0.9
PNIG	Pinotepa	2.56	281		Pn	12 17 47.9	+0.7
PNIG					Sn	12 18 16.3	-0.9
TPIG	Tehuac#an	3.06	325	i P	Pn	12 17 53.3	-1.1
TPIG				i S	Sn	12 18 27.2	-2.7
TPIG	Tehuac#an	3.06	325		Pn	12 17 53.3	-1.1
TPIG					Sn	12 18 27.2	-2.7
CCIG	Comitan	3.27	83	eP	Pn	12 17 57.8	+0.6
CCIG				i S	Sn	12 18 32.2	-2.7
CCIG	Comitan	3.27	83		Pn	12 17 57.8	+0.6
CCIG					Sn	12 18 32.2	-2.7
CCIG	Comitan	3.27	83	Pn	Pn	12 17 58.5	+1.3
CCIG				Sn	Sn	12 18 36.1	+1.1
TLIG	Tlapa	3.36	300	Pn	Pn	12 18 01.3	+2.9
TLIG				Sn	Sn	12 18 39.5	+2.4
TEIG	Tepich	8.12	57		Pn	12 19 03.5	-0.1
TEIG				Sn	Sn	12 20 31.0	-3.2
PV12	Saucer Basin,	25.21	335	P	P	12 22 31.3	+0.3
PV12				IAmb	IAmb	12 22 52.8	
	comp=Z,16nm,2.0s						
PV07	Paradox Valley	25.25	335	P	P	12 22 31.0	-0.3
PV07				IAmb	IAmb	12 22 31.1	
	comp=Z,2.3nm,0.6s						
PV19	Morning Glory	25.28	335	P	P	12 22 30.3	-1.2
PV19				IAmb	IAmb	12 22 32.8	
	comp=Z,10nm,0.6s						

IDC 03 12:30:45.4±2.0**, 1°.60N**×**126°.34E, h0**km**, mb3.5**/3**, mb1 3.8**/3**, mb1mx3.5**/29**, mbtmp3.6**/3**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.3**/27**, Error ellipse: s-maj=162.6km s-min=26.0km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.80	160	P	P	12 35 49.5	-0.6
	1.2nm,0.5s,baz=339,slow=11,SNR=35						
ASAR	Alice Springs	26.17	164	P	P	12 36 22.3	+0.5
	0.4nm,0.3s,baz=350,slow=15,SNR=9.0						
PSI	Prapat	27.42	273	LR	LR	12 48 42.8	
	comp=Z,58nm,18.6s,baz=340,slow=39						
MKAR	Makanchi Array	59.08	326	P	P	12 40 47.5	-0.1
	0.3nm,0.4s,baz=120,slow=8.1,SNR=4.6						

*ISCJB **03** 13:10:04.9±0.7, 34°.63S±0°.05×71°.96W±0°.09, h100km, Error ellipse: s-maj=11.4km s-min=5.1km az=23.0*
*GUC **03** 13:10:04.3±0.8, 34°.73S×71°.80W, h109km±8km, ML3.7*
*SJA **03** 13:10:06.3±0.9, 34°.55S×71°.82W, h59km±8km, ML3.4, MW3.6*
ISC 03 13:10:04.8±1.4**, 34°.64S**±0°.05×**72°.01W**±0°.08**, h100**km**, n22,** σ**1.39**/29**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COCH	Cobquecura	1.62	203	eP	Pn	13 10 31.9	-0.7
COCH				i S	Sn	13 10 53.6	0.0
LMEL	Las Melosas	1.69	63	eP	Pn	13 10 32.1	-1.5
LMEL				i S	Sn	13 10 53.6	-1.8
LMEL				IAML		13 10 55.6	
	comp=N,2μm,0.2s						
CLCH	Cerro Calan	1.74	45	eP	Pn	13 10 33.3	-0.8
CLCH				i S	Sn	13 10 55.1	-1.3
PEL	Peldehue	1.85	37	eP	Pn	13 10 34.9	-0.6
PEL				i S	Sn	13 10 58.6	-0.3
PEL				IAML		13 11 04.4	
	comp=N,505nm,0.3s						
PEL	Peldehue	1.85	37	i P	Pn	13 10 36.0	+0.4
PEL				eS	Sn	13 10 56.7	-2.3
ROC1	El Roble	1.85	27	i P	Pn	13 10 35.6	-0.2
ROC1				eS	Sn	13 10 57.1	-2.2
ROCH	El Roble	1.86	27	eP	Pn	13 10 35.6	-0.1
ROCH				i S	Sn	13 11 00.1	+0.8
ROCH				IAML		13 11 03.5	
	comp=N,892nm,0.4s						
FCH	Farellones	1.93	48	eP	Pn	13 10 36.0	-0.8
FCH				i S	Sn	13 10 60.0	-1.3
CCHI	Chillan	1.96	182	i P	Pn	13 10 40.2	+3.4
PUMA	Malargue	2.26	113	i P	Pn	13 10 41.7	+0.9
EDS3	Malargue	2.41	119	i P	Pn	13 10 44.3	+1.4
RFA	San Rafael	2.92	94	i P	Pn	13 10 49.6	+0.1
RTLS	Leoncito	3.63	39	i P	Pn	13 11 01.5	+2.2
RTLS				IAML		13 12 03.3	
	comp=Z,58nm,0.7s						
RTCV	Cerro Valdivia	4.01	47	i P	Pn	13 11 05.7	+1.5
CFA	Coronel Fontan	4.38	47	i P	Pn	13 11 10.4	+1.3
RTLL	Cerro Villicun	4.44	43	i P	Pn	13 11 10.7	+0.7
RTLL				IAML		13 12 17.0	
	comp=Z,45nm,0.5s						
GO04	Tololo Observa	4.57	13	i P	Pn	13 11 12.8	+0.9
AMOG	MOGNA	4.73	40	i P	Pn	13 11 14.9	+1.0
ACCO	Cerro Coronel	4.74	32	i P	Pn	13 11 15.8	+1.5
AROD	Rodeo	4.95	26	i P	Pn	13 11 19.4	+2.3
MRA	San Martin	5.70	69	i P	Pn	13 11 29.1	+2.0
AGUA	GUANDACOL	5.94	31	i P	Pn	13 11 32.1	+1.8

*IDC **03** 13:17:01.5±2.1, 2°.91N×96°.24E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/39, mbtmp3.6/7, ML3.5/2, Error ellipse: s-maj=64.6km s-min=21.0km az=56.0*
ISC 03 13:17:07.6±1.7**, 3°.1N**±0°.2×**96°.7E**±0°.1**, h31**km**, n7,** σ**0.63**/8**, mb3.6**/5**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	2.24	98	Pn	Pb	13 17 46.8	-0.8
	5.2nm,0.3s,baz=313,slow=8.5,SNR=18						
PSI				Sn	Sb	13 18 15.4	+0.5
	11nm,0.3s,baz=242,slow=12,SNR=7.8						
CMAR	Chiang Mai Arr	15.40	8	Pn	Pn	13 20 43.3	+0.5
	0.1nm,0.3s,baz=194,slow=11,SNR=3.2						
WRA	Warramunga Arr	43.48	123	P	P	13 25 08.8	+0.3
	0.7nm,0.5s,baz=302,slow=9.3,SNR=14						
ASAR	Alice Springs	44.95	128	P	P	13 25 20.6	+0.5
	0.3nm,0.4s,baz=300,slow=8.2,SNR=7.4						
MKAR	Makanchi Array	45.27	346	P	P	13 25 22.1	-0.2
	0.2nm,0.3s,baz=165,slow=9.6,SNR=3.8						
SONM	Songino Array	45.32	9	P	P	13 25 23.1	+0.2
	0.4nm,0.5s,baz=196,slow=9.8,SNR=3.0						
ZALV	Zalesovo Beam	51.60	351	P	P	13 26 10.2	-0.7
	0.5nm,0.4s,baz=181,slow=6.3,SNR=2.4						

TAP 03 13:58:44.2, 23°.71N×**121°.43E, h15**km**, ML2.4, 4C-3D, C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGFH	Guangfu	0.04	185	⇑iP	Pg	13 58 47.6	+0.7
	baz=185						
EGFH				i S	Sg	13 58 49.5	+0.8
	baz=185						
ESL	Shilin	0.11	1	P	Pb	13 58 48.2	+0.2
	baz=5.0						
ESL				i S	Sb	13 58 50.4	-0.2
	baz=5.0						
HGSD	Ruisui	0.21	182	P	Pb	13 58 50.4	+0.5
	baz=181						
EHY	Hungye	0.23	206	⇑iP	Pb	13 58 49.8	-0.3
	baz=204						
EHY				i S	Sb	13 58 53.5	-0.5
	baz=204						
ENLB	Shoufeng	0.25	39	P	Pg	13 58 49.9	+0.2
	baz=38						
ENLB				S	Sb	13 58 55.0	+0.3
	baz=38						
VWDT	VWDT	0.27	280	⇓P	Pb	13 58 51.2	+0.4
	baz=279						
VWDT				S	Sb	13 58 55.5	+0.3
	baz=279						
HWA	Hwalien	0.31	31	eP	Pb	13 58 52.0	+0.5
	baz=32						
HWA				eS	Sb	13 58 57.1	+0.7
	baz=32						
YULB	Yu-li	0.34	201	P	Pg	13 58 51.5	+0.3
	baz=201						
YULB				S	Sb	13 58 57.1	-0.1
	baz=201						
OWD	Renai	0.34	316	P	Pb	13 58 52.5	+0.4
	baz=316						
OWD				S	Sb	13 58 56.9	-0.5
	baz=316						
TWF1	Yuli	0.38	199	⇑iP	Pb	13 58 52.4	-0.2
	baz=198						
TWF1				S	Sb	13 58 58.5	+0.2
	baz=198						
TWF1	Yuli	0.38	199	P	Sb	13 58 58.8	+0.5
	baz=78						
TWD	Chiawan	0.40	22	i P	Pb	13 58 53.4	+0.3
	baz=23						
TWD				i S	Sb	13 58 58.5	-0.5
	baz=23						
CHGB	Renai	0.42	326	⇓P	Pb	13 58 53.9	+0.3
	baz=326						
CHGB				S	Sb	13 58 59.6	-0.3
	baz=326						
SSLB	Suanglung	0.44	280	P	Pb	13 58 54.1	+0.3
	baz=280						
SSLB				S	Sg	13 58 59.7	+0.5
	baz=280						
WHF	Hehuan Shan	0.46	341	⇑iP	Pb	13 58 54.3	-0.1
	baz=341						
WHF				i S	Sg	13 59 00.4	+0.5
	baz=341						
NACB	Ninganchiao	0.49	18	P	Pb	13 58 54.6	+0.1
	baz=17						
NACB				S	Sb	13 59 01.2	-0.4
	baz=17						
YUS	Yu-Shan	0.49	244	i P	Pb	13 58 55.4	+0.5
	baz=243						
YUS				i S	Sb	13 59 01.9	-0.2
	baz=243						
YUS	Yu-Shan	0.49	244	i S	Sb	13 59 01.9	-0.2
	baz=345						

ETLH	**Xiulin Townshi**	**0.50**	**5**	P	Pb	13 58 54.8	0.0
	baz=5.0						
ETLH				S	Sb	13 59 01.6	-0.4
	baz=5.0						
SMLT	**Sun Moon Lake**	**0.52**	**290**	*i* P	Pb	13 58 55.5	+0.4
	baz=289						
SMLT				*i* S	Sb	13 59 02.8	+0.3
	baz=289						
FULB	**Fuli**	**0.52**	**194**	P	Pb	13 58 55.9	+0.8
	baz=193						
FULB				S	Sb	13 59 02.1	-0.4
	baz=193						
WHYT	**Xinyi Township**	**0.53**	**269**	*e*P	Pb	13 58 55.8	+0.5
	baz=268						
WHYT				S	Sb	13 59 03.2	+0.4
	baz=268						
TYC	**Yuchr**	**0.56**	**290**	P	Pb	13 58 55.9	+0.1
	baz=290						
TYC				S	Sb	13 59 04.1	+0.5
	baz=290						
DPDB	**Guoxing**	**0.56**	**305**	P	Pb	13 58 56.5	+0.6
	baz=304						
DPDB				S	Sb	13 59 04.2	+0.4
	baz=304						
TDCB	**Techi**	**0.60**	**335**	⇓P	Pb	13 58 57.0	+0.4
	baz=335						
TDCB				S	Sb	13 59 04.5	-0.4
	baz=335						
CHKT	**Chengkung**	**0.61**	**186**	*e*S	Sb	13 59 05.6	+0.6
	baz=185						
ELDTW	**Lidau**	**0.64**	**216**	P	Pg	13 58 57.0	+0.2
	baz=215						
ELDTW				*e*S	Sb	13 59 06.6	+0.6
	baz=215						
CHN5	**Tsauling**	**0.70**	**261**	*e*P	Pn	13 58 59.2	-0.5
	baz=260						
CHN5				*i* S	Sb	13 59 09.0	+1.3
	baz=260						
CHN5	**Tsauling**	**0.70**	**261**	*e*S	Sb	13 59 08.9	+1.2
	baz=315						
NNSB	**Datong**	**0.72**	**356**	P	Pb	13 58 58.9	+0.3
	baz=356						
NNSB				S	Sb	13 59 08.4	+0.1
	baz=356						
NNSH	**Datong**	**0.72**	**357**	*e*P	Pb	13 58 58.9	+0.3
	baz=356						
NNSH				*e*S	Sb	13 59 08.2	-0.1
	baz=356						
WHP	**Taichung City**	**0.72**	**322**	*e*P	Pn	13 58 59.4	-0.7
	baz=321						
WHP				*e*S	Sb	13 59 08.9	+0.6
	baz=321						
NNS	**Nan Shan**	**0.73**	**356**	*e*P	Pn	13 58 59.6	-0.6
	baz=356						
NNS				S	Sb	13 59 09.0	+0.3
	baz=356						
ENA	**Nanau**	**0.77**	**22**	P	Pb	13 58 59.6	+0.2
	baz=22						
ENA				S	Sb	13 59 10.8	+1.1
	baz=22						
NANB	**Nanao**	**0.77**	**22**	*e*P	Pb	13 58 59.8	+0.4
	baz=22						
NANB				*e*S	Sb	13 59 10.9	+1.1
	baz=22						
TCU	**Taichung**	**0.82**	**302**	*e*P	Pg	13 58 59.8	-0.3
	baz=302						
WDLH	**Douliu**	**0.82**	**269**	*e*P	Pn	13 59 00.9	-0.4
	baz=268						
WDLH				*e*S	Sn	13 59 13.2	+0.1
	baz=268						
STYT	**Tauyuan**	**0.82**	**229**	*e*P	Pg	13 59 00.2	0.0
	baz=228						
STYT	**Tauyuan**	**0.82**	**229**	*i* P	Pg	13 59 00.1	-0.2
	baz=238						
TPUB	**Ta-pu**	**0.84**	**241**	*e*P	Pn	13 59 01.3	-0.3
	baz=241						
TPUB				*e*S	Sn	13 59 13.2	-0.5
	baz=241						
CHN4	**Tsaushan**	**0.85**	**245**	*e*P	Pn	13 59 01.4	-0.2
	baz=245						
CHN4				*e*S	Sn	13 59 12.9	-0.9
	baz=245						
TWQ1	**Liyutan**	**0.88**	**317**	*e*P	Pn	13 59 01.7	-0.4
	baz=316						
WCHH	**Zhanghua**	**0.88**	**295**	*e*S	Sg	13 59 13.7	+0.8
	baz=294						
NDT	**Datong Townshi**	**0.89**	**5**	P	Pn	13 59 02.4	+0.1
	baz=4.0						
NDT				*e*S	Sn	13 59 15.0	-0.1
	baz=4.0						
NSY	**Sanyi**	**0.93**	**319**	*e*P	Pb	13 59 01.7	-0.4
	baz=319						
ENTT	**Nioudou**	**0.94**	**8**	*e*P	Pb	13 59 02.2	0.0
	baz=7.0						
ENTT				*e*S	Sn	13 59 15.4	-0.7
	baz=7.0						
TWG	**Pinlang**	**0.94**	**201**	*e*S	Sn	13 59 16.0	-0.2
	baz=200						
YHNB	**Yeheng**	**0.96**	**357**	*e*P	Pn	13 59 03.6	+0.3
	baz=356						
YHNB				*e*S	Sg	13 59 16.0	+0.6
	baz=356						
NSK	**Sanguang**	**0.97**	**356**	*e*P	Pn	13 59 03.2	-0.1
	baz=356						
NSK				S	Sg	13 59 15.6	0.0
	baz=356						
CHN1	**Nanshi**	**0.98**	**238**	*e*P	Pn	13 59 04.0	+0.5
	baz=237						
CHN1				*e*S	Sn	13 59 17.3	+0.1
	baz=237						
SGST	**Jiashian**	**1.00**	**232**	*e*P	Pb	13 59 02.4	-0.9
	baz=231						
SGST				*e*S	Sn	13 59 18.0	+0.4
	baz=231						
SGST	**Jiashian**	**1.00**	**232**	P	Pb	13 59 02.5	-0.7
	baz=240						
NSTT	**Nanjuang**	**1.00**	**337**	*e*P	Pn	13 59 03.7	-0.1
	baz=337						
NSTT				*e*S	Sn	13 59 18.0	+0.4
	baz=337						
LIOB	**Emei**	**1.01**	**338**	*e*P	Pn	13 59 03.9	0.0
	baz=337						
LIOB				*e*S	Sn	13 59 18.2	+0.3
	baz=337						
TWE	**Neicheng**	**1.03**	**12**	*e*S	Sn	13 59 18.6	+0.2
	baz=12						
EOS1	**EOS1**	**1.05**	**37**	*e*S	Sn	13 59 18.6	-0.2
	baz=37						
SLBB	**Yuanshan**	**1.06**	**10**	*e*P	Pg	13 59 04.8	+0.1
	baz=10.0						
SLBB				*e*S	Sn	13 59 19.5	+0.4
	baz=10.0						
NWLT	**Wulai**	**1.07**	**3**	*e*P	Pg	13 59 05.2	+0.3
	baz=3.0						
NWLT				*e*S	Sn	13 59 19.7	+0.4
	baz=3.0						
ILA	**Ilan**	**1.09**	**15**	*e*S	Sn	13 59 20.2	+0.3
	baz=15						

TAP 03 13:58:52.6, 23°.30N×121°.00E, h18km±1km, ML1.9, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.11**	**174**	*i* P	Pg	13 58 57.9	+1.5
	baz=169						
ELDTW				*i* S	Sg	13 58 59.7	+0.7
	baz=169						
YUS	**Yu-Shan**	**0.20**	**346**	P	Pg	13 58 57.9	-0.1
	baz=345						
STYT	**Tauyuan**	**0.26**	**240**	*i* S	Sb	13 59 03.6	+0.5
	baz=238						
FULB	**Fuli**	**0.28**	**110**	P	Pb	13 59 00.1	+0.8
	baz=109						
FULB				S	Sb	13 59 04.3	+0.6
	baz=109						
YULB	**Yu-li**	**0.29**	**70**	P	Pb	13 58 59.8	+0.5
	baz=70						
YULB				S	Sb	13 59 04.5	+0.7
	baz=70						
EHY	**Hungye**	**0.36**	**54**	P	Pb	13 59 01.2	+0.6
	baz=55						
EHY				*e*S	Sb	13 59 06.8	+0.8
	baz=55						
CHKT	**Chengkung**	**0.39**	**120**	*e*P	Pb	13 59 01.3	+0.4
	baz=119						
CHKT				*e*S	Sb	13 59 07.6	+1.0
	baz=119						

CHN5	**Tsauling**	**0.42**	**315**	P	Pb	13 59 01.8	+0.1
	baz=315						
SGST	**Jiashian**	**0.44**	**241**	S	Sb	13 59 08.7	+0.4
	baz=240						
SLGT	**Liugui**	**0.45**	**228**	*e*P	Pb	13 59 01.9	-0.1
	baz=227						
SLGT				*e*S	Sb	13 59 09.1	+0.7
	baz=227						
VWDT	**VWDT**	**0.47**	**15**	*e*S	Sb	13 59 10.3	+1.1
	baz=15						
TWG	**Pinlang**	**0.48**	**172**	*e*S	Sb	13 59 10.4	+1.1
	baz=171						

IDC 03 14:05:23.0±25.0, 25°.62S×69°.81E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/36, mbtmp3.6/3, Error ellipse: s-maj=840.0km s-min=47.2km az=51.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.05**	**9**	T	T	14 27 41.9	
	baz=188,slow=76,SNR=12						
H08S2	**Diego Garcia H**	**18.06**	**9**	T	T	14 27 42.1	
	baz=188,slow=76,SNR=21						
H08S3	**Diego Garcia H**	**18.07**	**9**	T	T	14 27 43.3	
	baz=188,slow=76,SNR=14						
ASAR	**Alice Springs**	**57.77**	**103**	P	P	14 15 16.5	+0.2
	0.5nm,0.7s,baz=253,slow=6.6,SNR=5.6						
WRA	**Warramunga Arr**	**59.26**	**99**	P	P	14 15 26.4	-0.4
	0.5nm,1.0s,baz=254,slow=6.7,SNR=3.4						
MKAR	**Makanchi Array**	**72.95**	**9**	P	P	14 16 54.1	+0.1
	0.5nm,0.7s,baz=193,slow=5.9,SNR=2.8						

UCR 03 14:16:59.5±1.6, 9°.53N×83°.89W, h70km±5km, MD3.9, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.24**	**332**	*e*P	Pn	14 17 10.4	-0.2
LCR2				*e*S	Sn	14 17 18.7	0.0
EDDO	**Dominical**	**0.28**	**175**	*e*P	Pn	14 17 10.8	+0.3
EDDO				*e*S	Sn	14 17 19.7	+1.1
EDLM	**Las Mercedes**	**0.39**	**130**	*e*P	Pn	14 17 11.8	+0.4
EDLM				*e*S	Sn	14 17 21.3	+1.2
HDC	**Heredia**	**0.52**	**334**	*e*P	Pn	14 17 12.7	+0.1
HDC				*e*S	Sn	14 17 23.0	+0.7
DRK0	**Durika**	**0.69**	**113**	*e*P	Pn	14 17 14.2	-0.3
DRK0				*e*S	Sn	14 17 25.6	+0.1
ARE1	**Arenal 1**	**1.23**	**319**	*e*P	Pn	14 17 21.5	+0.5
ARE1				*e*S	Sn	14 17 39.5	+2.3
CEDE	**Laguna Cedeo**	**1.24**	**320**	*e*P	Pn	14 17 21.8	+0.6
CEDE				*e*S	Sn	14 17 39.5	+2.1
JTS	**Las Juntas de**	**1.29**	**306**	*e*P	Pn	14 17 21.8	+0.1
JTS				*e*S	Sn	14 17 39.2	+0.7
BRU2	**Volcan**	**1.39**	**122**	*e*P	Pn	14 17 23.3	+0.1
CUI	**Cuipilapa**	**1.68**	**312**	*e*P	Pn	14 17 27.2	+0.3
CUI				*i* S	Sn	14 17 47.5	-0.3
HORNC	**Hornillas**	**1.73**	**313**	*i* P	Pn	14 17 27.7	0.0

*IDC **03** 14:20:45.8±0.8, 3°.83N×126°.56E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.7/42, mbtmp3.9/9, ML3.9/1, MS3.1/6, Ms1 3.1/6, ms1mx2.8/31, Error ellipse: s-maj=45.6km s-min=14.7km az=64.0*

*NEIC **03** 14:20:49.8±0.9, 3°.80N±0°.08×126°.46E±0°.10, h33km±6km, mb4.5/17*

*ISCJB **03** 14:20:51.0±0.4, 3°.72N±0°.05×126°.68E±0°.07, h53km, mb3.8/8, Error ellipse: s-maj=11.6km s-min=3.9km az=150.5*

*DJA **03** 14:20:56.1±1.4, 3°N±15°×12°7E±°, h10km, M4.3/7, mb4.8/4, mB5.1/3, MLv4.0/7, Mw(mB)4.5/3*

ISC 03 14:20:52.2±0.6, 3°.77N±0°.05×126°.71E±0°.09, h53km, n42, σ1§99/40, mb4.1/13, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.18**	**266**	P	Pn	14 21 20.0	+7.6
GSPH	**General Santos**	**2.89**	**323**	⇓p	**Pn**	**14 21 36.9**	**+0.9**
GSPH				S	**Sn**	**14 22 09.9**	**+0.2**
TNTI	**Ternate**	**3.05**	**167**	P	**Pn**	**14 21 39.8**	**+1.8**
TNTI	**Ternate**	**3.05**	**167**	Pn	**Pn**	**14 21 37.0**	**-1.0**
KCP	**Kidapawan**	**3.60**	**334**	⇑P	**Pn**	**14 21 47.1**	**+1.5**
KCP				S	**Sn**	**14 22 29.2**	**+2.2**
CTBH	**Cotabato--PC H**	**4.21**	**325**	P	**Pn**	**14 21 56.9**	**+2.9**
CTBH				S	**Sn**	**14 22 44.9**	**+2.9**
MRSI	**Marisa**	**5.78**	**236**	P	**Pn**	**14 22 17.4**	**+2.0**
	50nm,0.7s,612nm						
SANI	**Sanana**	**5.82**	**187**	P	Pn	14 22 26.5	+10
SIJI	**Sorong**	**6.48**	**135**	Pn	**Pn**	**14 22 26.4**	**+1.3**
	2.6nm,0.3s,baz=293,slow=23,SNR=13						
SIJI				Sn	**Sn**	**14 23 40.4**	**+2.6**
	0.8nm,0.3s,baz=0.0,slow=19,SNR=2.7						
SIJI				LR	LR	14 25 19.6	
	comp=Z,125nm,19.5s,baz=328,slow=41						
FAKI	**Fak Fak**	**8.65**	**140**	Pn	**Pn**	**14 22 55.6**	**+0.7**
KAPI	**Kappang**	**11.15**	**219**	LR	LR	14 28 21.0	
	comp=Z,83nm,19.5s,baz=94,slow=41						
SOEI	**Soe**	**13.65**	**190**	Pn	**Pn**	**14 24 01.4**	**-1.9**
JAY	**Jayapura**	**15.32**	**114**	LR	LR	14 29 14.9	
	comp=Z,106nm,18.3s,baz=346,slow=33						
KNRA	**Kununurra**	**19.43**	**174**	P	**P**	**14 25 14.5**	**+0.1**
SMRI	**Semarang**	**19.47**	**237**	P	**P**	**14 25 11.7**	**-3.2**
SMRI				IAmb	IAmb	14 25 21.1	
	comp=Z,138nm,1.7s						
YULB	**Yu-li**	**20.20**	**345**	P	**P**	**14 25 19.7**	**-3.0**
YULB				IAmb	IAmb	14 26 13.2	
	comp=Z,52nm,1.8s						
TPUB	**Ta-pu**	**20.29**	**344**	P	**P**	**14 25 22.0**	**-1.7**
TPUB				IAmb	IAmb	14 25 51.3	
	comp=Z,118nm,1.9s						
GUMO	**Guam**	**20.42**	**60**	LR	LR	14 31 59.9	
	comp=Z,50nm,20.6s,baz=187,slow=33						
GUMO	**Guam**	**20.42**	**60**	Pn	Pn	14 25 28.0	+0.3
TNG	**Tangerang**	**22.33**	**244**	P	**P**	**14 25 51.9**	**+6.1**
WB0	**Warramunga Arr**	**24.58**	**162**	P	**P**	**14 26 07.0**	**-0.4**
WB0				IAmb	IAmb	14 26 23.2	
	comp=Z,7.1nm,0.8s						
WRAB	**Tennant Creek**	**24.72**	**163**	P	**P**	**14 26 08.5**	**-0.3**
WRAB				IAmb	IAmb	14 26 24.4	
	comp=Z,6.5nm,0.7s						
WRA	**Warramunga Arr**	**24.73**	**163**	P	**P**	**14 26 08.5**	**-0.4**
	comp=Z,4.2nm,1.0s,baz=343,slow=10,SNR=14						
WRA	**Warramunga Arr**	**24.73**	**163**	P	**P**	**14 26 07.8**	**-1.0**
WB2	**Warramunga Arr**	**24.73**	**163**	P	**P**	**14 26 08.4**	**-0.5**
WB2				IAmb	IAmb	14 26 24.4	
	comp=Z,7.7nm,0.8s						
WR0	**Warramunga Arr**	**24.80**	**162**	P	**P**	**14 26 10.0**	**+0.4**
ASAR	**Alice Springs**	**28.16**	**166**	P	**P**	**14 26 42.7**	**+2.9**
	comp=Z,0.3nm,0.4s,baz=352,slow=14,SNR=6.0						
CMAR	**Chiang Mai Arr**	**30.83**	**300**	P	**P**	**14 27 03.5**	**0.0**
	comp=Z,0.5nm,0.5s,baz=114,slow=6.0,SNR=4.2						
CMAR	**Chiang Mai Arr**	**30.83**	**300**	P	**P**	**14 27 00.3**	**-3.2**
KSRS	**Korea Array**	**33.54**	**2**	P	**P**	**14 27 27.4**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=171,slow=8.3,SNR=3.8						
KSRS				LR	LR	14 41 55.9	
	comp=Z,11nm,20.1s,baz=310,slow=38						
BBOO	**Buckleboo**	**37.44**	**167**	P	**P**	**14 28 00.9**	**+0.4**
NWAO	**Narrogin (SRO)**	**37.58**	**193**	P	**P**	**14 28 01.3**	**-0.4**
STKA	**Stephens Creek**	**38.17**	**159**	P	**P**	**14 28 07.6**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=324,slow=10,SNR=5.3						
SONM	**Songino Array**	**47.25**	**341**	P	**P**	**14 29 19.7**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=166,slow=9.0,SNR=4.9						
SONM				LR	LR	14 49 23.8	
	comp=Z,41nm,18.1s,baz=166,slow=36						
SONM	**Songino Array**	**47.25**	**341**	P	**P**	**14 29 19.4**	**-0.9**
MK31	**Makanchi Array**	**57.51**	**325**	P	**P**	**14 30 34.9**	**-1.3**
MK31				IAmb	IAmb	14 32 13.9	
	comp=Z,5.2nm,1.4s						
MKAR	**Makanchi Array**	**57.51**	**325**	P	**P**	**14 30 34.9**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=122,slow=7.4,SNR=11						
KSH	**Kashi**	**58.00**	**315**	*e*P	**P**	**14 30 42.5**	**+2.6**
KSH				S	**S**	**14 38 38.6**	**+1.8**
KSH				sS	sS	14 39 05.4	+5.8
KSH	**Kashi**	**58.00**	**315**	SS	SS	14 42 32.9	+4.2
KSH				pmax	pmax		
	comp=Z,540nm,5.4s						
KSH				LR	LR		
	comp=N,480nm,6.2s						
KSH				LR	LR		
	comp=E,600nm,6.3s						
KDJ	**Kajisay**	**58.30**	**318**	P	**P**	**14 30 40.8**	**-1.3**
KDJ				IAmb	IAmb	14 30 51.8	

	comp=Z,2.8nm,0.8s						
NRIK	**Noril'sk**	**70.39**	**346**	P	**P**	**14 32 00.6**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=128,slow=5.0,SNR=3.9						
ABKAR	**Akbulak array**	**72.11**	**321**	P	**P**	**14 32 09.4**	**-1.7**

*ISCJB **03** 14:23:27.2±0.3, 21°.68N±0°.03×143°.09E±0°.07, h311km, mb3.7/19, Error ellipse: s-maj=8.7km s-min=3.7km az=173.4*

*JMA **03** 14:23:27.6±0.3, 21°.78N×143°.42E, h319km±2km, M4.5*

*NEIC **03** 14:23:28.2±1.2, 21°.65N±0°.05×143°.1E±0°.1, h308km±7km, mb4.3/35*

*IDC **03** 14:23:28.1±1.4, 21°.64N×143°.12E, h304km±13km, mb3.5/20, mb1 3.6/25, mb1mx3.5/46, mbtmp4.2/25, Error ellipse: s-maj=15.2km s-min=8.7km az=88.0*

ISC 03 14:23:28.4±0.4, 21°.71N±0°.05×143°.09E±0°.09, h311km, n89, σ1§47/100, mb4.1/30, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**4.97**	**351**	P	**Pn**	**14 24 45.7**	**-0.2**
JHH2				*e*S	**S**	**14 25 47.2**	**-1.1**
CBIJ	**Chichi jima**	**5.42**	**351**	P	**Pn**	**14 24 51.4**	**+0.2**
CBIJ				*e*S	**S**	**14 25 56.7**	**-1.2**
JCJ	**Chichijima**	**5.42**	**351**	P	**Pn**	**14 24 51.5**	**+0.4**
	19nm,0.3s,baz=211,slow=8.9,SNR=50						
JCJ				S	**S**	**14 25 59.0**	**+1.2**
	9.1nm,0.3s,baz=318,slow=21,SNR=6.3						
ANA2	**Anatahan**	**5.89**	**155**	Pn	**Pn**	**14 24 55.0**	**-1.9**
GUMO	**Guam**	**8.26**	**168**	P	**Pn**	**14 25 23.3**	**-2.0**
	2.4nm,0.3s,baz=174,slow=19,SNR=1.7						
JHJ2	**Mitsune**	**11.72**	**346**	Pn	**Pn**	**14 26 07.5**	**+0.3**
JHJ	**Hachijo jima 2**	**11.73**	**346**	P	**Pn**	**14 26 07.5**	**+0.1**
	5.3nm,0.3s,baz=96,slow=22,SNR=5.4						
JMKN	**Mikurajimanish**	**12.52**	**346**	P	**Pn**	**14 26 16.7**	**-0.2**
BSO3	**Boso 3**	**13.23**	**351**	P	**P**	**14 26 25.6**	**+0.5**
BSO3				*e*S	**S**	**14 28 47.7**	**-3.3**
JOD2	**Odawara 2**	**13.95**	**346**	P	**Pn**	**14 26 34.5**	**+0.5**
JOD2				*e*S	**S**	**14 29 01.8**	**-5.0**
JTO	**Tosashimizu**	**14.37**	**323**	P	**Pn**	**14 26 41.6**	**+2.6**
JOW	**Kunigami**	**14.43**	**294**	P	**P**	**14 26 37.3**	**-1.5**
JHU	**Hanno**	**14.47**	**348**	P	**P**	**14 26 40.2**	**+1.1**
JHU				*e*S	**S**	**14 29 11.7**	**-5.7**
JYT	**Yasato**	**14.68**	**351**	P	**Pn**	**14 26 43.1**	**+0.5**
JYT				*e*S	**S**	**14 29 18.4**	**-3.1**
JRY	**Ryogami san**	**14.71**	**347**	P	**P**	**14 26 42.7**	**+1.0**
JRY				*e*S	**S**	**14 29 18.0**	**-4.2**
JAG	**Ashikaga**	**15.00**	**349**	P	**P**	**14 26 45.7**	**+0.9**
JAG				*e*S	**S**	**14 29 22.7**	**-5.1**
MJAR	**Matsushiro Arr**	**15.37**	**345**	P	**P**	**14 26 49.8**	**+0.9**
	0.1nm,0.3s,baz=264,slow=1.3,SNR=4.3						
MJAR	**Matsushiro Arr**	**15.37**	**345**	P	**P**	**14 26 49.0**	**+0.1**
MAJO	**Matsushiro**	**15.38**	**345**	P	**P**	**14 26 49.4**	**+0.5**
MAJO				IAmb	IAmb	14 26 53.7	
	comp=Z,37nm,2.0s						
MJB9	**Matsu-Tunnel**	**15.38**	**345**	P	**P**	**14 26 49.4**	**+0.4**
MJB9				IAmb	IAmb	14 26 53.7	
	comp=Z,39nm,2.0s						
JSJ	**Shimokoshiki**	**15.52**	**313**	P	**P**	**14 26 52.0**	**+1.4**
JNU	**Nakatsue**	**15.69**	**319**	P	**Pn**	**14 26 54.5**	**0.0**
	comp=Z,0.4nm,0.3s,baz=7.1,slow=8.1,SNR=3.9						
JNU	**Nakatsue**	**15.69**	**319**	Pn	**Pn**	**14 26 54.9**	**+0.4**
JHS	**Saijyo**	**15.87**	**329**	P	**Pn**	**14 26 56.7**	**+0.2**
JMK	**Ichinoseki**	**17.26**	**355**	P	**P**	**14 27 10.6**	**+1.3**
ERM	**Erimo**	**20.24**	**0**	P	**P**	**14 27 43.3**	**+2.3**
ERM				IAmb	IAmb	14 28 27.7	
	comp=Z,23nm,1.0s						
KSRS	**Korea Array**	**20.45**	**323**	P	**P**	**14 27 44.1**	**+1.0**
	comp=Z,4.4nm,0.6s,baz=146,slow=8.7,SNR=21						
KSAR	**Wonju Array Be**	**20.46**	**323**	P	**P**	**14 27 44.4**	**+1.2**
KS19	**Wonju Array Si**	**20.51**	**323**	P	**P**	**14 27 44.2**	**+0.5**
KS19				IAmb	IAmb	14 27 47.3	
	comp=Z,11nm,1.1s						
ASAJ	**Asahikawa**	**22.35**	**359**	P	**P**	**14 28 02.2**	**+1.6**
	comp=Z,2.1nm,0.6s,baz=3.2,slow=18,SNR=3.3						
JKA	**Kamikawa-asahi**	**22.35**	**359**	P	**P**	**14 28 02.2**	**+1.7**
USRK	**Ussuriysk Ar.**	**24.23**	**340**	P	**P**	**14 28 19.0**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=154,slow=9.0,SNR=5.3						
USRK	**Ussuriysk Ar.**	**24.23**	**340**	P	**P**	**14 28 16.5**	**-1.1**
USA0B	**Ussuriysk Arra**	**24.24**	**340**	P	**P**	**14 28 16.8**	**-0.9**
KLR	**Kul'dur**	**28.90**	**345**	P	**P**	**14 29 00.1**	**+1.0**
	comp=Z,7.1nm,0.6s,baz=163,slow=8.4,SNR=38						
COEN	**Coen**	**35.45**	**180**	P	**P**	**14 29 56.5**	**+0.4**
COEN				IAmb	IAmb	14 30 42.3	
	comp=Z,29nm,1.5s						
SBUM	**Sibu**	**35.60**	**242**	P	**P**	**14 29 58.8**	**+1.3**
SBUM				IAmb	IAmb	14 30 42.8	
	comp=Z,11nm,1.7s						
SONM	**Songino Array**	**39.27**	**321**	P	**P**	**14 30 29.1**	**+1.3**
	comp=Z,0.6nm,0.4s,baz=126,slow=6.5,SNR=5.8						
SONM	**Songino Array**	**39.27**	**321**	IAmb	IAmb	14 30 32.6	
	comp=Z,0.7nm,0.6s						
KNRA	**Kununurra**	**39.73**	**202**	P	**P**	**14 30 31.7**	**0.0**
KNRA				IAmb	IAmb	14 31 36.8	
	comp=Z,17nm,1.3s						
YAK	**Yakutsk**	**41.34**	**350**	P	**P**	**14 30 43.5**	**-0.7**
YAK				IAmb	IAmb	14 30 45.4	
	comp=Z,13nm,1.0s						
CMAR	**Chiang Mai Arr**	**41.48**	**274**	P	**P**	**14 30 47.0**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=83,slow=6.1,SNR=4.5						
SEY	**Seymchan**	**41.68**	**6**	P	**P**	**14 30 47.5**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=189,slow=19,SNR=3.0						
WB0	**Warramunga Arr**	**42.09**	**192**	P	**P**	**14 30 50.4**	**-0.4**
WR0	**Warramunga Arr**	**42.25**	**192**	P	**P**	**14 30 52.2**	**+0.1**
WRAB	**Tennant Creek**	**42.26**	**192**	P	**P**	**14 30 51.9**	**-0.3**
WRAB				IAmb	IAmb	14 31 48.2	
	comp=Z,25nm,1.9s						
WB2	**Warramunga Arr**	**42.27**	**192**	P	**P**	**14 30 51.6**	**-0.7**
WB2				IAmb	IAmb	14 30 57.1	
	comp=Z,28nm,1.9s						
WRA	**Warramunga Arr**	**42.27**	**192**	P	**P**	**14 30 52.0**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=16,slow=9.0,SNR=37						
WRA	**Warramunga Arr**	**42.27**	**192**	P	**P**	**14 30 51.9**	**-0.4**
ASAR	**Alice Springs**	**45.98**	**192**	P	**P**	**14 31 21.0**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=13,slow=6.8,SNR=22						
BILL	**Bilibino**	**48.52**	**11**	P	**P**	**14 31 41.0**	**+0.7**
UNV	**Unalaska Valle**	**49.65**	**37**	P	**P**	**14 31 50.0**	**+1.0**
AKUT	**Akutan**	**50.16**	**37**	P	**P**	**14 31 54.0**	**+1.3**
STKA	**Stephens Creek**	**53.30**	**182**	P	**P**	**14 32 15.6**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=356,slow=6.9,SNR=4.9						
STKA	**Stephens Creek**	**53.30**	**182**	P	**P**	**14 32 15.7**	**-0.5**
ZALV	**Zalesovo Beam**	**54.14**	**322**	P	**P**	**14 32 22.0**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=95,slow=7.4,SNR=5.2						
ZALV				PcP	**PcP**	**14 33 21.9**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=117,slow=3.6,SNR=4.5						
MK31	**Makanchi Array**	**54.62**	**313**	P	**P**	**14 32 26.1**	**+0.5**
MKAR	**Makanchi Array**	**54.62**	**313**	P	**P**	**14 32 26.5**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=88,slow=10.0,SNR=7.1						
MKAR				PcP	**PcP**	**14 33 24.7**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=83,slow=4.2,SNR=5.5						
MKAR	**Makanchi Array**	**54.62**	**313**	P	**P**	**14 32 26.1**	**+0.5**
MKAR					**PcP**	**14 33 24.2**	**-0.1**
MAKZ	**Makanchi**	**54.84**	**313**	P	**P**	**14 32 27.7**	**+0.6**
SVW2	**Sparrevohn**	**57.44**	**30**	P	**P**	**14 32 46.5**	**+1.5**
KDAK	**Kodiak Island**	**58.24**	**35**	P	**P**	**14 32 51.7**	**+1.0**
	comp=Z,3.2nm,0.9s,baz=355,slow=2.0,SNR=5.5						
CNPM	**China Poot**	**59.23**	**33**	P	**P**	**14 32 58.0**	**+0.7**
PPLA	**Purkeypile**	**59.41**	**29**	P	**P**	**14 33 00.4**	**+1.7**
BRLK	**Bradley Lake**	**59.44**	**32**	P	**P**	**14 32 58.9**	**0.0**
BRLK				IAmb	IAmb	14 34 07.2	
	comp=Z,23nm,1.4s						
IMAR	**Indian Mountai**	**59.51**	**25**	P	**P**	**14 33 00.8**	**+1.6**
SKT	**Skwentna**	**59.52**	**30**	P	**P**	**14 33 00.0**	**+0.6**
SKT				IAmb	IAmb	14 34 11.4	
	comp=Z,35nm,2.0s						
NWAO	**Narrogin (SRO)**	**59.68**	**205**	P	**P**	**14 32 58.4**	**-2.4**
SUA	**Susitna One**	**59.80**	**31**	P	**P**	**14 33 02.1**	**+0.8**
ILAR	**Eielson Array**	**62.06**	**27**	P	**P**	**14 33 16.1**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=261,slow=5.3,SNR=22						
BRVK	**Borovoye**	**62.66**	**320**	P	**P**	**14 33 21.4**	**+0.9**
BRVK				IAmb	IAmb	14 33 22.0	
	comp=Z,3.9nm,0.6s						
KK31	**Karatay Array**	**62.98**	**308**	P	**P**	**14 33 23.8**	**+1.0**
KKAR	**Karatay Array**	**62.98**	**308**	P	**P**	**14 33 23.7**	**+1.0**
SCRK	**Sand Creek**	**63.22**	**28**	P	**P**	**14 33 24.9**	**+0.8**
SCRK				IAmb	IAmb	14 33 25.3	
	comp=Z,18nm,1.9s						
INK	**Inuvik**	**67.59**	**24**	P	**P**	**14 33 52.3**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=276,slow=6.2,SNR=7.1						
INK	**Inuvik**	**67.59**	**24**	P	**P**	**14 33 52.3**	**+0.7**
INK				IAmb	IAmb	14 35 01.3	
	comp=Z,16nm,1.9s						
ABKAR	**Akbulak array**	**69.47**	**316**	P	**P**	**14 34 03.8**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABKAR				IAmb	IAmb	14 34 04.7	
	comp=Z,4.5nm,0.6s						
YKA	Yellowknife Ar	76.48	28	P	P	14 34 44.8	+0.7
	comp=Z,2.1nm,0.6s,baz=292,slow=6.0,SNR=16						
YKA	Yellowknife Ar	76.48	28	P	P	14 34 44.4	+0.3
ARCES	ARCESS Array B	78.88	341	P	P	14 34 58.1	+0.9
	comp=Z,4.1nm,0.6s,baz=73,slow=8.2,SNR=9.1						
KBZ	Khabaz	82.29	314	P	P	14 35 16.4	+0.8
	comp=Z,6.1nm,1.0s,baz=116,slow=8.8,SNR=3.8						
FINES	FINESS Array B	83.13	334	P	P	14 35 19.2	-0.4
	comp=Z,2.8nm,0.5s,baz=65,slow=4.7,SNR=27						
FINES	FINESS Array B	83.13	334	P	P	14 35 19.1	-0.5
NVAR	Mina Array Bea	83.20	51	P	P	14 35 22.2	+1.5
	comp=Z,1.2nm,0.7s,baz=267,slow=4.9,SNR=7.3						
NVAR	Mina Array Bea	83.20	51	P	P	14 35 20.2	-0.6
PLCA	Paso Flores	145.83	131	PKPbc	PKPab	14 42 32.4	-0.3
	comp=Z,1.2nm,0.8s,baz=301,slow=5.9,SNR=2.8						
PLCA	Paso Flores	145.83	131		PKPbc	14 42 31.8	+0.2
LPAZ	La Paz	150.03	85	PKPbc	PKPbc	14 42 43.6	-0.3
	comp=Z,1.3nm,0.6s,baz=230,slow=2.5,SNR=4.3						
LPAZ	La Paz	150.03	85		PKPbc	14 42 42.5	-1.4

*ISCJB **03** 14:38:23.4±0.2, 44.°49N±0.°01×7.°18E±0.°02, h14km±2km, Error ellipse: s-maj=2.4km s-min=1.7km az=141.5*
*ROM **03** 14:38:23.4±0.1, 44.°490N±0.°008×7.°21E±0.°02, h9km, ML2.6/23, Error ellipse: s-maj=1.3km s-min=0.3km az=241.0*
*GEN **03** 14:38:23.9, 44.°50N×7.°22E, h6km, Ml2.6*
*STR **03** 14:38:23.8±0.3, 45°N±1°×°±°, h9km±3km, MLv2.8/6*
*LDG **03** 14:38:23.9±0.0, 44.°51N×7.°23E, h6km, Md3.1/3, Ml2.9/45, Error ellipse: s-maj=0.8km s-min=0.5km az=59.0*
ISC 03 14:38:23.3±0.8**, 44.°51N**±0.°01×**7.°21E**±0.°01**, h13**km±4km**, n129,** σ1s**70**/221**, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	San Damiano	0.03	107	P	Pg	14 38 25.4	-0.3
DOI				S	Sg	14 38 26.2	-1.2
PZZ	Stroppo	0.07	266	P	Pg	14 38 26.1	0.0
PZZ				S	Sg	14 38 27.4	-0.7
PZZ	Stroppo	0.07	266	P	Pg	14 38 26.1	0.0
PZZ				S	Sg	14 38 27.4	-0.7
PZZ				AML	AML		
	comp=E,49100µm,0.3s						
PZZ				AML	AML		
	comp=N,24450µm,0.1s						
PZZ				AML	AML		
	comp=E,49100µm,0.3s						
STV	Sant Anna di V	0.28	163	P	Pg	14 38 29.3	+0.1
STV				S	Sg	14 38 32.7	-0.4
STV	Sant Anna di V	0.28	163	P	Pg	14 38 29.3	+0.1
STV				S	Sg	14 38 32.7	-0.4
STV				AML	AML		
	comp=E,1155µm,0.6s						
STV				AML	AML		
	comp=N,1212µm,0.3s						
STV				AML	AML		
	comp=E,1150µm,0.6s						
SURF	Saint Ours	0.29	264	Pg	Pg	14 38 29.9	+0.5
ENR	Entracque	0.32	152	P	Pg	14 38 30.1	+0.1
ENR				S	Sg	14 38 34.1	-0.2
ENR	Entracque	0.32	152	P	Pg	14 38 30.1	+0.1
ENR				S	Sg	14 38 34.2	-0.2
ENR				AML	AML		
	comp=N,1850µm,0.6s						
ENR				AML	AML		
	comp=E,1805µm,0.4s						
BHB	Bricherasio	0.33	7	P	Pg	14 38 30.7	+0.6
BHB				S	Sg	14 38 35.0	+0.3
BHB	Bricherasio	0.33	7	P	Pg	14 38 30.7	+0.6
BHB				S	Sg	14 38 35.0	+0.3
BHB				AML	AML		
	comp=E,1745µm,0.5s						
BHB				AML	AML		
	comp=N,1470µm,0.1s						
ISO	Isola	0.35	199	Pg	Pg	14 38 30.8	+0.4
ISO				Sg	Sg	14 38 35.1	0.0
MBDF	Montbardon	0.38	305	*e*Pg	Pg	14 38 31.5	+0.5
	SNR=1.0						
MBDF	Montbardon	0.38	305	*e*P	Pb	14 38 32.8	+0.7
MBDF				*e*Sg	Sg	14 38 36.9	+0.7
	comp=N,444nm,0.3s						
OGAG	Argentiere	0.48	263	Pg	Pb	14 38 35.0	+1.2
OGAG				Sg	Sb	14 38 42.7	+1.9
RRL	Rocca Remolon	0.51	324	P	Pg	14 38 33.8	+0.5
RRL				S	Sg	14 38 41.3	+1.2
RRL	Rocca Remolon	0.51	324	P	Pg	14 38 33.9	+0.6
RRL				S	Sg	14 38 41.4	+1.2
RRL				AML	AML		
	comp=E,440µm,1.1s						
RRL				AML	AML		
	comp=N,360µm,1.6s						
GBOS	Grotte di Boss	0.53	121	P	Pg	14 38 33.7	+0.1
GBOS				S	Sg	14 38 40.5	-0.2
GBOS	Grotte di Boss	0.53	121	P	Pg	14 38 33.8	+0.1
GBOS				S	Sg	14 38 40.5	-0.2
GBOS				AML	AML		
	comp=N,948µm,0.2s						
GBOS				AML	AML		
	comp=E,1185µm,0.2s						
TURF	col de Turini	0.55	166	Pg	Pg	14 38 34.5	+0.3
TURF				Sg	Sg	14 38 41.7	+0.1
SAOF	Saorge	0.58	155	Pg	Pg	14 38 34.9	+0.3
SAOF				Sg	Sg	14 38 41.8	-0.6
SAOF	Saorge	0.58	155	P	Pg	14 38 35.0	+0.3
SAOF				S	Sg	14 38 42.2	-0.2
SAOF				AML	AML		
	comp=E,632µm,0.3s						
SAOF				AML	AML		
	comp=N,352µm,0.5s						
MGRO	Montegrosso	0.64	137	P	Pg	14 38 35.7	0.0
MGRO				S	Sg	14 38 44.2	0.0
MGRO	Montegrosso	0.64	137	P	Pg	14 38 36.0	+0.2
MGRO				S	Sg	14 38 44.4	+0.2
MGRO				AML	AML		
	comp=E,584µm,0.3s						
MGRO				AML	AML		
	comp=N,905µm,0.4s						
RSP	Reno Superiore	0.64	4	P	Pg	14 38 35.7	-0.1
RSP				S	Sg	14 38 44.6	+0.3
RSP	Reno Superiore	0.64	4	P	Pg	14 38 35.7	-0.1
RSP				S	Sg	14 38 44.8	+0.5
RSP				AML	AML		
	comp=E,732µm,1.4s						
RSP				AML	AML		
	comp=N,688µm,0.5s						
BNI	Bardonecchia	0.66	325	P	Pg	14 38 36.8	+0.6
BNI				S	Sg	14 38 46.4	+1.5
BNI				AML	AML		
	comp=E,192µm,1.0s						
BNI				AML	AML		
	comp=N,118µm,0.8s						
SBF	Sospel	0.67	166	*e*Pg	Pg	14 38 36.4	+0.1
	SNR=1.0						
SBF	Sospel	0.67	166	*e*P	Pb	14 38 37.8	+0.9
SBF				*e*Sg	Sg	14 38 45.0	-0.2
	comp=N,196nm,0.2s,SNR=1.0						
RORO	Rocca Rossa	0.73	123	P	Pg	14 38 37.4	-0.1
RORO				S	Sg	14 38 46.3	-0.8
RORO	Rocca Rossa	0.73	123	P	Pg	14 38 37.6	0.0
RORO				S	Sg	14 38 46.9	-0.3
RORO				AML	AML		
	comp=N,755µm,0.4s						
RORO				AML	AML		
	comp=E,792µm,0.5s						
NEGI	Seborga	0.75	152	P	Pg	14 38 38.1	+0.2
NEGI				S	Sg	14 38 47.8	0.0
NEGI	Seborga	0.75	152	P	Pg	14 38 38.3	+0.3
NEGI				S	Sg	14 38 47.8	0.0
NEGI				AML	AML		
	comp=N,641µm,0.2s						
NEGI				AML	AML		
	comp=E,806µm,0.2s						
MONC	Moncucco Torin	0.76	42	P	Pb	14 38 39.6	+1.2
MONC				AML	AML		
	comp=E,829µm,0.6s						
MONC				AML	AML		
	comp=N,991µm,0.3s						
OGDI	Digne	0.77	239	Pg	Pn	14 38 41.0	+1.1
OGDI				Sg	Sn	14 38 52.4	+1.0
IMI	Imperia	0.78	141	P	Pg	14 38 38.4	0.0
IMI				S	Sg	14 38 47.8	-0.8
IMI	Imperia	0.78	141	P	Pg	14 38 38.4	0.0
IMI				S	Sg	14 38 48.6	0.0
IMI				AML	AML		
	comp=N,756µm,1.1s						
IMI				AML	AML		
	comp=E,585µm,1.3s						
CALF	Calern	0.79	195	Pg	Pg	14 38 39.2	+0.6
CALF				Sg	Sg	14 38 49.4	+0.5
MON	Monaco	0.80	169	Pg	Pb	14 38 39.7	+0.7
MON				Sg	Sg	14 38 49.9	+0.7
QLNO	Quiliano	0.83	103	P	Pg	14 38 39.8	+0.3
QLNO				S	Sg	14 38 50.7	+0.2
QLNO				AML	AML		
	comp=N,608µm,1.1s						
QLNO				AML	AML		
	comp=E,592µm,0.3s						
FINB	Finale Ligure	0.87	112	P	Pg	14 38 39.9	-0.2
FINB				AML	AML		
	comp=E,477µm,0.2s						
FINB				AML	AML		
	comp=N,540µm,0.3s						
ROTM	Rocchetta Tana	0.88	67	P	Pb	14 38 41.5	+1.0
ROTM				S	Sb	14 38 53.6	+1.4
ROTM	Rocchetta Tana	0.88	67	P	Pn	14 38 41.8	+0.3
ROTM				S	Sn	14 38 54.7	+0.5
ROTM				AML	AML		
	comp=E,1970µm,0.6s						
ROTM				AML	AML		
	comp=N,2630µm,0.5s						
LSD	Lago del Serru	0.95	357	P	Pg	14 38 41.9	+0.2
LSD				S	Sg	14 38 53.3	-0.8
LSD	Lago del Serru	0.95	357	P	Pg	14 38 41.9	+0.2
LSD				S	Sg	14 38 54.4	+0.3
LSD				AML	AML		
	comp=N,439µm,0.3s						
LSD				AML	AML		
	comp=E,708µm,1.1s						
PCP	Piancastagn	0.96	88	P	Pg	14 38 41.8	0.0
PCP				S	Sg	14 38 54.0	-0.3
PCP	Piancastagn	0.96	88	P	Pg	14 38 41.8	0.0
PCP				S	Sb	14 38 54.6	+0.2
PCP				AML	AML		
	comp=E,722µm,0.3s						
PCP				AML	AML		
	comp=N,649µm,0.2s						
EILF	Villa Eilenroc	0.96	183	Pg	Pg	14 38 41.9	0.0
EILF				Sg	Sg	14 38 54.9	+0.3
BLAF	les Blancs	1.01	237	Pg	Pb	14 38 43.9	+1.3
BLAF				Sg	Sn	14 39 01.3	+3.9
ORIF	Oris-en-Rattie	1.03	294	*e*Pg	Pg	14 38 43.7	+0.5
	SNR=1.0						
ORIF	Oris-en-Rattie	1.03	294	*e*P	Pn	14 38 45.3	+1.7
ORIF				*e*Sg	Sg	14 38 57.3	+0.6
	comp=N,51nm,0.2s						
ORIF	Oris-en-Rattie	1.03	294	Pg	Pg	14 38 43.9	+0.7
FRF	La Foret Royal	1.03	203	*e*Pg	Pg	14 38 43.3	+0.1
	SNR=1.0						
FRF	La Foret Royal	1.03	203	*e*P	Pn	14 38 45.0	+1.4
FRF				*e*Sn	Sg	14 38 57.0	+0.3
	comp=N,122nm,0.2s,SNR=1.0						
LPG	La Plagne	1.04	342	*e*Pg	Pg	14 38 43.8	+0.4
	SNR=1.0						
LPG	La Plagne	1.04	342	*e*P	Pn	14 38 45.4	+1.5
LPG				*e*Sg	Sg	14 38 57.5	+0.5
	comp=N,84nm,0.3s,SNR=1.0						
GDM	Grand'Maison	1.04	312	Pg	Pb	14 38 44.5	+1.1
LPL	La Plagne	1.06	342	*e*Pg	Pg	14 38 44.1	+0.3
	SNR=1.0						
LPL	La Plagne	1.06	342	*e*P	Pn	14 38 45.8	+1.6
LPL				*e*Sg	Sg	14 38 58.3	+0.7
	comp=N,104nm,0.3s						
TRAV	Traversella	1.07	21	P	Pg	14 38 42.6	-1.4
TRAV	Traversella	1.07	21	P	Pg	14 38 42.6	-1.4
TRAV				AML	AML		
	comp=N,177µm,0.2s						
TRAV				AML	AML		
	comp=E,172µm,1.3s						
CIRO	Champorcher	1.12	13	P	Pg	14 38 43.1	-1.9
CIRO				AML	AML		
	comp=E,96µm,0.4s						
CIRO				AML	AML		
	comp=N,73µm,0.7s						
MLYF	Mely	1.16	244	Pg	Pn	14 38 47.3	+1.9
RSL	Roselend	1.25	341	Pg	Pg	14 38 48.7	+1.4
LMR	La Mourre	1.28	204	*e*Pg	Pn	14 38 47.8	+0.8
	SNR=1.0						
LMR				*e*Sg	Sb	14 39 04.4	+0.7
	comp=N,112nm,0.2s,SNR=1.0						
BSTF	la Bastide-des	1.29	241	Pg	Pg	14 38 49.9	+1.7
SMRF	Simiane la Rot	1.29	246	*e*P	Pg	14 38 49.3	+1.1
	SNR=1.0						
SMRF				*e*Sg	Sb	14 39 05.0	+1.0
	comp=N,113nm,0.3s,SNR=1.0						
REMY	Saint-Rhmy-en	1.33	358	P	Pn	14 38 48.9	+1.0
REMY				AML	AML		
	comp=E,191µm,1.0s						
REMY				AML	AML		
	comp=N,244µm,0.9s						
RUSF	Rustrel	1.37	246	Pg	Pg	14 38 50.8	+1.2
RUSF				Sg	Sg	14 39 10.2	+2.9
ARTF	Artigues	1.37	228	Pg	Pg	14 38 50.2	+0.5
ARTF				Sg	Sg	14 39 09.8	+2.3
OGSM	Saint Maurice	1.53	316	Pn	Pg	14 38 54.4	+1.6
OGSM				Sn	Sg	14 39 16.7	+4.0
VIVF	Saint-Julien-l	1.84	282	*e*P	Pn	14 38 56.8	+2.1
VIVF	Saint-Julien-l	1.84	282	*e*Pg	Pb	14 38 58.5	+1.6
	SNR=1.0						
VIVF				*e*Sn	Sn	14 39 16.8	-1.1
	comp=N,11nm,0.2s,SNR=1.0						
VIVF				*e*Sg	Sg	14 39 22.7	+0.1
	comp=N,18nm,0.3s,SNR=1.0						
ASEAF	Site Antares,	1.88	204	Pn	Pn	14 38 56.7	+1.8
OG35	Corcelles	1.92	324	Pn	Pb	14 38 58.9	+0.6
GIMEL	St. Georges /	2.13	342	P	Pb	14 39 01.9	+0.1
GIMEL				AML	AML		
	comp=N,34µm,1.5s						
GIMEL				AML	AML		
	comp=E,49µm,1.5s						
CAPR	Capriolo	2.23	59	P	Pg	14 39 07.4	+1.3
CABF	La Chapelle	2.24	340	*e*P	Pb	14 39 03.2	-0.6
CABF	La Chapelle	2.24	340	*e*Pg	Pg	14 39 06.3	0.0
	SNR=1.0						
CABF				*e*Sn	Sn	14 39 26.5	-1.4
	comp=E,26nm,0.6s,SNR=1.0						
CABF				*e*Sg	Sg	14 39 34.6	-0.8
	comp=E,16nm,0.4s						
ERBM	Eremo	2.29	91	P	Pb	14 39 03.9	-0.7
PGF	Pioggiola	2.35	146	*e*Pn	Pn	14 39 01.1	-0.7
	SNR=1.0						
PGF				*e*Sn	Sn	14 39 28.7	-2.0
	comp=E,11nm,0.2s,SNR=1.0						
PGF	Pioggiola	2.35	146	Pn	Pn	14 39 01.1	-0.7
PGF				Sn	Sn	14 39 27.8	-2.8
LASF	Ste Croix	2.45	261	*e*Pn	Pn	14 39 02.5	-0.5
	SNR=1.0						
LASF	Ste Croix	2.45	261	*e*P	Pn	14 39 04.9	+1.9
LASF	Ste Croix	2.45	261	*e*Pg	Pb	14 39 09.6	+2.4
LASF				*e*Sn	Sn	14 39 30.8	-2.0
	comp=E,5.5nm,0.2s						
LASF				*e*Sg	Sg	14 39 41.1	-0.8
	comp=E,5.7nm,0.3s						
CHMF	Charmoille	2.76	352	Pn	Pn	14 39 09.2	+1.8
SMPL	Sampolo	2.85	147	Pn	Pn	14 39 08.5	0.0
SMPL				Sn	Sn	14 39 41.0	-1.8
TRIF	Trifonti	3.02	116	P	Pg	14 39 21.6	+0.5
SMF	Signal de Mont	3.19	313	*e*Pn	Pn	14 39 13.2	0.0
	SNR=1.0						
SMF	Signal de Mont	3.19	313	*e*P	Pn	14 39 16.3	+3.1
SMF				*e*Sn	Sn	14 39 48.9	-2.1
	comp=E,3.0nm,0.2s						
SMF				*e*Sg	Sg	14 40 04.0	-1.6
	comp=E,6.8nm,0.3s						
HINF	Hinteralfeld	3.31	356	*e*Pn	Pn	14 39 14.3	-0.7
HINF	Hinteralfeld	3.31	356	*e*P	Pn	14 39 16.7	+1.7
HINF				*e*Sn	Sn	14 39 52.2	-2.1
	comp=E,6.5nm,0.2s,SNR=1.0						
HINF				*e*Sg	Sg	14 40 08.2	-1.6
	comp=E,5.2nm,0.2s						
DAVA	Damuels	3.34	33	*e*Pn	Pn	14 39 18.5	+3.0
	comp=E,0.5nm,0.1s						
DAVA				*e*Sn	Sn	14 39 56.8	+1.7
	comp=E,6.4nm,0.2s						
APPI	Appiano	3.44	54	S	Sn	14 40 02.0	+4.5
FETA	Feichten	3.52	43	Pn	Pn	14 39 19.6	+1.8
	comp=E,1.3nm,0.4s						
AVF	Avril sur Loir	3.54	311	*e*Pn	Pn	14 39 18.3	+0.3
	SNR=1.0						
AVF	Avril sur Loir	3.54	311	*e*P	Pn	14 39 21.6	+3.6
AVF				*e*Sn	Sn	14 39 57.4	-2.2
	comp=E,1.0nm,0.2s						
AVF				*e*Sg	Sg	14 40 15.0	-1.9
	comp=E,3.6nm,0.4s						
HAU	Haudompre	3.54	351	*e*P	Pn	14 39 20.1	+2.0
HAU				*e*Sn	Sn	14 39 57.6	-2.3
	comp=E,13nm,0.3s,SNR=1.0						
LOR	Lormes	3.62	321	*e*Pn	Pn	14 39 18.4	-0.7
	baz=140,SNR=1.0						
LOR	Lormes	3.62	321	*e*Pg	Pg	14 39 31.0	-1.6
	baz=140						
LOR				*e*Sn	Sn	14 39 59.4	-2.2
	comp=E,4.3nm,0.3s,baz=141,SNR=1.0						
LOR				*e*Sg	Sg	14 40 17.9	-1.5
	comp=E,4.3nm,0.3s,baz=134						
SSF	Saint Saulge	3.63	316	*e*Pn	Pn	14 39 18.5	-0.8
	SNR=1.0						
SSF	Saint Saulge	3.63	316	*e*Pg	Pg	14 39 31.4	-1.5
SSF				*e*Sn	Sn	14 40 00.1	-2.0
	comp=E,4.1nm,0.4s						
SSF				*e*Sg	Sg	14 40 18.4	-1.6
	comp=E,3.1nm,0.3s						
BGF	Bois d'Agland	3.69	305	*e*P	Pn	14 39 22.9	+2.9
BGF				*e*Sn	Sn	14 40 00.9	-2.5
BGF				*e*Sg	Sg	14 40 20.0	-1.6
	comp=E,19nm,0.4s						
CAF	Calviac	3.69	278	*e*P	Pn	14 39 23.0	+2.9
CAF				*e*Sn	Sn	14 40 01.0	-2.5
	comp=E,2.9nm,0.2s						
CAF				*e*Sg	Sg	14 40 19.8	-2.0
	comp=E,1.5nm,0.2s						
MTLF	Montolieu	3.79	254	*e*Pn	Pn	14 39 21.3	-0.2
	SNR=1.0						
MTLF	Montolieu	3.79	254	*e*P	Pn	14 39 24.4	+2.9
MTLF	Montolieu	3.79	254	*e*Pg	Pg	14 39 34.2	-1.7
MTLF				*e*Sn	Sn	14 40 03.2	-2.8
	comp=E,2.1nm,0.2s,SNR=1.0						
MTLF				*e*Sg	Sg	14 40 23.3	-1.7
	comp=E,2.5nm,0.3s						
CDF	Champ du Feu	3.90	1	*e*Pn	Pn	14 39 23.0	-0.1
	SNR=1.0						
CDF	Champ du Feu	3.90	1	*e*P	Pn	14 39 26.2	+3.1
CDF				*e*Sn	Sn	14 40 06.0	-2.8
	comp=E,3.7nm,0.2s,SNR=1.0						
MOTA	Moosalm	3.92	42	*e*Pn	Pn	14 39 24.8	+1.3
	comp=E,1.7nm,0.3s						
TCF	Toulx Ste Croi	3.94	299	*e*Pn	Pn	14 39 23.3	-0.3
	SNR=1.0						
TCF	Toulx Ste Croi	3.94	299	*e*P	Pn	14 39 26.5	+2.9
TCF				*e*Sn	Sn	14 40 07.6	-2.2
TCF				*e*Sg	Sg	14 40 28.3	-1.6
SFTF	Sexfontaines	3.99	339	*e*P	Pn	14 39 27.1	+2.9
	baz=150						
SFTF				*e*Sn	Sn	14 40 08.0	-2.8
	comp=E,4.7nm,0.2s,baz=159						
RJF	Les Rejaudoux	4.12	283	*e*Pn	Pn	14 39 25.5	-0.5
RJF	Les Rejaudoux	4.12	283	*e*Pg	Pg	14 39 41.0	-1.3
RJF				*e*Sn	Sn	14 40 11.2	-2.9
RJF				*e*Sg	Sg	14 40 33.3	-2.3
WTTA	Wattenberg	4.14	47	Pn	Pn	14 39 29.8	+3.4
	comp=E,1.5nm,0.3s						
PAGF	Fort de Pagny	4.17	346	*e*Pn	Pn	14 39 26.2	-0.5
	baz=164						
PAGF	Fort de Pagny	4.17	346	*e*P	Pn	14 39 29.8	+3.1
PAGF				*e*Sn	Sn	14 40 12.4	-2.9
	comp=E,2.5nm,0.2s,baz=162						
HYF	Humbligny	4.22	312	*e*P	Pn	14 39 30.6	+3.3
MEZF	Maizieres J'vi	4.26	340	*e*P	Pn	14 39 31.1	+3.2
	baz=162						
ABTA	Abfaltersbach	4.34	57	*e*Pn	Pn	14 39 30.7	+1.6
	comp=E,2.2nm,0.6s						
LFF	La Frestale	4.63	278	*e*Sn	Sn	14 40 22.7	-3.9
	comp=E,5.7nm,0.3s						
LFF				*e*Sg	Sg	14 40 49.0	-2.9
	comp=E,5.5nm,0.3s						
EPF	Esparros	5.19	256	*e*P	Pn	14 39 43.7	+2.9
EPF	Esparros	5.19	256	*e*Pg	Pg	14 40 00.0	-2.7
EPF				*e*Sn	Sn	14 40 36.8	-3.7
	comp=E,0.8nm,0.2s						
MFF	Saint Martin d	5.57	295	*e*Pn	Pn	14 39 47.8	+1.9
MFF	Saint Martin d	5.57	295	*e*Pg	Pg	14 40 07.7	-2.3
MFF				*e*Sn	Sn	14 40 46.1	-3.7
ETSF	Etsaut	5.86	257	*e*Pn	Pn	14 39 48.7	-1.2
ETSF	Etsaut	5.86	257	*e*P	Pn	14 39 54.7	+4.8
ETSF	Etsaut	5.86	257	*e*Pg	Pg	14 40 13.6	-1.9
ETSF				*e*Sn	Sn	14 40 52.8	-4.2
	comp=E,0.7nm,0.2s						
ETSF				*e*Sg	Sg	14 41 27.4	-3.9
SJPF	Ste Jean	6.26	260	*e*P	Pn	14 39 59.3	+3.9
SJPF				*e*Sn	Sn	14 41 02.4	-4.4
	comp=E,0.3nm,0.1s,SNR=1.0						

*TEH **03** 14:55:46.7, 29.°29N×51.°28E, h8km, ML3.5*
*THR **03** 14:55:47.0, 29.°19N×51.°36E, h34km, ML3.1*
*ISCJB **03** 14:55:48.7±1.0, 29.°27N±0.°07×51.°28E±0.°08, h20km, Error ellipse: s-maj=12.0km s-min=6.9km az=136.8*
ISC 03 14:55:49.8±1.6**, 29.°31N**±0.°07×**51.°38E**±0.°08**, h20**km**, n23,** σ1s**40**/23**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	Kazeroun	0.61	41	*e*Pg	Pb	14 55 59.4	-2.7
IKAZ				IAMB	IAmb	14 56 11.9	
	comp=Z,25µm,0.3s						
SHI	Shiraz	1.04	71	*e*Sg	Sn	14 56 25.1	+1.6
SHI				*e*Pg	Pn	14 56 08.4	-1.0
ISRV	Sarvestan	1.52	87	*e*Pn	Pb	14 56 17.8	+0.4
ISRV				IAMB	IAmb	14 56 45.4	
	comp=Z,6µm,0.4s						
KLNJ	Kolanjah	1.70	6	*e*Pn	Pb	14 56 19.5	-1.1
KLNJ				IAMB	IAmb	14 56 47.5	
	comp=Z,0.0nm,0.4s						
JHRM	Jahrom	2.09	112	*e*Pn	Pb	14 56 25.7	-1.3
JHRM				IAMB	IAmb	14 56 53.5	
	comp=Z,0.0nm,0.3s						
LMD1	Lamerd	2.52	141	*e*Pn	Pn	14 56 29.9	+0.3
LMD1				IAMB	IAmb	14 56 57.3	
	comp=Z,0.0nm,0.2s						
IRAM	Ramesheh	2.63	19	*e*Pn	Pn	14 56 32.5	+1.1
ZNGN	Zangian	2.83	351	*e*Pn	Pn	14 56 34.9	+0.7
JHBN	Jahan bin	2.97	348	*e*Pn	Pn	14 56 37.0	+0.9
ROKH	ROKH	3.04	354	*e*Pn	Pn	14 56 37.6	+0.7
ISAD	Sadrabad	3.27	37	*e*Pn	Pn	14 56 42.7	+2.6
IMEH	Mehriz	3.48	53	*e*Pn	Pn	14 56 45.3	+2.3
ICHK	Chekchek	3.91	41	*e*Pn	Pn	14 56 50.6	+1.6
YZKH	Yazd	4.13	41	*e*Pn	Pn	14 56 51.4	-0.3
YZKH	Yazd	4.13	41	*e*Pn	Pn	14 56 51.4	-0.3
KHGB	Koh Gabri	4.55	75	*e*Pn	Pn	14 56 58.9	+1.2
GENO	Geno	4.63	113	*e*Pn	Pn	14 57 00.1	+1.3
KRBR	Kerman	4.73	81	*e*Pn	Pn	14 56 58.9	-1.3
KRBR	Kerman	4.73	81	*e*Pn	Pn	14 56 58.9	-1.3
ASAO	Ashtian	5.34	348	*e*Pn	Pn	14 57 08.4	-0.2
ASAO	Ashtian	5.34	348	*e*Pn	Pn	14 57 08.4	-0.2
ASAO	Ashtian	5.34	348	*e*AML	AML	14 58 18.8	
	comp=Z,8.0nm,0.4s						
KHNJ	Kahnooj	5.72	102	*e*Pn	Pn	14 57 14.4	+0.7

*NORS **03** 15:17:51.8±0.0, 42.°80N×44.°93E, h15km, MPVA3.3*
ISC 03 15:17:54.8±0.9**, 42.°87N**±0.°03×**44.°89E**±0.°03**, h16**km±7km**, n13,** σ1s**37**/28**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLKR	Vladikavkaz	0.24	319	*e*Pg	Pb	15 17 59.5	-1.4
VLKR				*e*Pg	Pg	15 17 59.6	-0.6
VLKR				*e*Sg	Sg	15 18 05.2	+1.4
VLKR				*e*Sg	Sg	15 18 05.2	+1.4
LACR	Lac	0.44	265	*i* Pg	Pg	15 18 01.7	-2.0
LACR				*e*Sg	Sg	15 18 09.3	-0.4
GUDG	Gudauri	0.50	217	P	Pb	15 18 03.5	-1.9
GUDG				S	Sg	15 18 13.2	+1.4
KORR	Kora	0.64	290	*e*Pg	Pn	15 18 09.1	-0.3
KORR				*e*Sg	Sn	15 18 20.4	+1.1
ZEI	Tsey	0.73	264	*e*Pg	Pb	15 18 09.2	-0.1
ZEI				*e*Sg	Sn	15 18 21.7	-0.1
GROC	Groznyy	0.74	63	*e*Pg	Pb	15 18 06.7	-2.8
GROC				*e*Sg	Sg	15 18 20.2	+1.0
STDR	Stavd-Durt	0.79	310	*e*Pg	Pg	15 18 10.9	+0.7
STDR				*e*Sg	Sn	15 18 22.8	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DIGR	Digorskoe uzhe	0.96	272	ePg	Pb	15 18 11.9	-1.4
DIGR				eSg	Sg	15 18 27.1	+0.9
NCK	Nalchik	1.14	304	ePg	Pb	15 18 16.7	+0.5
NCK				eSg	Sg	15 18 34.0	+2.3
DGRG	David-gareji	1.46	166	P	Pb	15 18 21.5	-0.1
DGRG				S	Sg	15 18 44.7	+2.8
KZRT	Kazreti	1.52	194	P	Pn	15 18 21.4	-0.1
KZRT				S	Sg	15 18 44.6	+0.7
GNBR	Gunib	1.60	107	ePg	Pn	15 18 23.0	+0.4
GNBR				eSg	Sb	15 18 45.2	+1.0
NEY	Neytrino	1.63	284	ePg	Pb	15 18 24.2	-0.5
NEY				eSg	Sg	15 18 47.0	-0.6

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*AZER **03** 15:20:28.8±0.1, 41.°54N×46.°70E, h14km, ml3.3/30, Error ellipse: s-maj=1.7km s-min=1.1km az=357.0*
*MOS **03** 15:20:28.9±0.0, 41.°51N×46.°76E, h9km, MPVA4.4*
*TIF **03** 15:20:29.3, 41.°53N×46.°69E, h5km±3km*
*DRS **03** 15:20:30.4±0.0, 41.°47N×46.°67E, h15km*
*NORS **03** 15:20:30.0±0.0, 41.°51N×46.°81E, h1km, MPVA4.3*
*NNC **03** 15:20:39.8±5.7, 42.°26N×47.°07E, h0km, mb3.8, Error ellipse: s-maj=209.9km s-min=49.0km az=127.0*
ISC 03 15:20:30.3±0.9**, 41.°50N**±0.°01×**46.°74E**±0.°01**, h8**km±7km**, n100,** σ**1.°21**/179**, 17C-6D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKTA	Zakatala	0.16	327	P	Pg	15 20 33.7	-0.1
	SNR=447						
ZKTA				S	Sg	15 20 36.6	+0.5
SEKA	Sheki	0.45	130	PG	Pg	15 20 38.7	-0.4
SEKA	Sheki	0.45	130	Pg	Pg	15 20 38.8	-0.4
	SNR=80						
SEKA				Sg	Sb	15 20 46.6	-0.9
DDFL	Dedoflistskaro	0.47	263	P	Pn	15 20 42.3	-1.1
DDFL	Dedoflistskaro	0.47	263	PG	Pn	15 20 42.3	-1.1
KMKR	Kumukh	0.68	23	⇑iPG	Pg	15 20 43.5	0.0
KMKR				i S	Sb	15 20 54.0	-0.3
KMKR				pmax	pmax		
	comp=Z,411nm,0.2s						
KMKR	Kumukh	0.68	23	i Pg	Pg	15 20 43.5	0.0
KMKR				i Sg	Sb	15 20 54.0	-0.3
AKT	Akhty	0.74	91	ePG	Pg	15 20 43.8	-0.8
AKT				eS	Sg	15 20 54.2	-0.2
AKT				pmax	pmax		
	comp=Z,250nm,0.3s						
AKT	Akhty	0.74	91	ePg	Pg	15 20 43.9	-0.8
AKT				eSg	Sg	15 20 54.2	-0.2
MNGR	Mingechevir, A	0.77	160	PG	Pg	15 20 44.8	-0.4
MNGR	Mingechevir, A	0.77	160	P	Pb	15 20 46.3	+0.3
MNGR				S	Sn	15 20 58.8	-0.4
GNBR	Gunib	0.90	11	cePG	Pg	15 20 47.3	-0.4
GNBR	Gunib	0.90	11	ePg	Pg	15 20 47.6	-0.1
GNBR				eSg	Sb	15 21 00.6	+0.2
GANJ	Ganja	0.91	200	PG	Pg	15 20 47.0	-0.8
GANJ	Ganja	0.91	200	P	Pg	15 20 47.1	-0.7
	SNR=21						
GANJ				S	Sg	15 20 60.0	+0.3
URKR	Urkarakh	0.94	45	ePG	Pg	15 20 48.3	-0.1
URKR				eS	Sb	15 21 01.6	0.0
URKR	Urkarakh	0.94	45	ePg	Pg	15 20 48.4	-0.1
URKR				eSg	Sb	15 21 02.1	+0.5
QBL	Gabala	1.00	124	P	Pg	15 20 49.1	-0.4
	SNR=14						
QBL				S	Sn	15 21 04.1	-0.8
KSMR	Kasumkent	1.05	84	⇓iPG	Pb	15 20 50.5	-0.2
KSMR				i S	Sn	15 21 06.0	-0.2
KSMR				pmax	pmax		
	comp=Z,151nm,0.2s						
KSMR	Kasumkent	1.05	84	i Pg	Pb	15 20 50.5	-0.2
KSMR				i Sg	Sn	15 21 06.0	-0.2
GDB	GEDABAY	1.08	224	P	Pg	15 20 49.6	-1.5
	SNR=32						
GDB				S	Sg	15 21 04.4	-0.6
XNQ	Khinaliq	1.11	107	P	Pg	15 20 50.7	-0.9
	SNR=26						
XNQ				S	Sn	15 21 07.0	-0.8
ARKR	Arakani	1.12	10	ePG	Pg	15 20 51.5	-0.2
ARKR				eS	Sn	15 21 07.7	-0.1
ARKR				pmax	pmax		
	comp=Z,206nm,0.4s						
ARKR	Arakani	1.12	10	ePg	Pg	15 20 51.5	-0.2
ARKR				eSg	Sn	15 21 07.7	-0.1
QZX	Qazax, Azerbai	1.12	247	P	Pg	15 20 51.0	-0.9
	SNR=42						
QZX				S	Sb	15 21 06.6	-0.1
QSAR	Qusar	1.15	89	P	Pg	15 20 52.0	-0.3
	SNR=31						
QSAR				S	Sn	15 21 08.1	-0.4
UNCR	Uncukul	1.21	2	⇓iPG	Pb	15 20 53.0	-0.5
UNCR				i S	Sn	15 21 11.0	+0.8
UNCR				pmax	pmax		
	comp=Z,342nm,0.3s						
UNCR	Uncukul	1.21	2	i Pg	Pb	15 20 53.0	-0.5
UNCR				i Sg	Sn	15 21 11.0	+0.8
BTLR	Botlikh	1.22	342	ePG	Pb	15 20 53.2	-0.5
BTLR				eS	Sn	15 21 09.9	-0.6
BTLR				pmax	pmax		
	comp=Z,141nm,0.5s						
BTLR	Botlikh	1.22	342	ePg	Pb	15 20 53.3	-0.5
BTLR				eSg	Sn	15 21 10.0	-0.6
BRDA	Brd	1.28	165	Pn	Pn	15 20 53.3	-1.2
BRDA				Sn	Sn	15 21 13.3	+1.5
IML	Ismayilli	1.30	123	Pn	Pn	15 20 53.9	-0.9
	SNR=12						
IML				Sn	Sb	15 21 11.9	0.0
DRN	Derbent	1.30	66	⇓iPG	Pg	15 20 55.3	+0.1
DRN				eS	Sn	15 21 14.1	+1.9
DRN				pmax	pmax		
	comp=Z,773nm,0.4s						
DRN	Derbent	1.30	66	i Pg	Pg	15 20 55.4	+0.1
DRN				eSg	Sn	15 21 14.2	+1.9
QUBA	Quba, Azerbaij	1.33	96	Pn	Pn	15 20 54.9	-0.3
	SNR=7.1						
QUBA				Sn	Sg	15 21 13.1	+0.1
KRNR	Karanay	1.33	5	⇑iPG	Pn	15 20 55.0	-0.3
KRNR				eS	Sn	15 21 15.0	+1.8
KRNR				pmax	pmax		
	comp=Z,122nm,0.5s						
KRNR	Karanay	1.33	5	i Pg	Pn	15 20 55.0	-0.3
KRNR				eSg	Sn	15 21 15.0	+1.8
BUJR	Buynaksk	1.35	12	ePG	Pn	15 20 54.1	-1.3
BUJR				eS	Sb	15 21 12.0	-1.2
BUJR	Buynaksk	1.35	12	ePg	Pn	15 20 54.1	-1.3
BUJR				eSg	Sb	15 21 12.1	-1.2
ZRD	Zardab	1.42	149	Pn	Pn	15 20 55.6	-0.7
ZRD				Sn	Sg	15 21 18.0	+2.1
AGDM	Agdam	1.42	168	Pn	Pn	15 20 56.1	-0.3
	SNR=17						
AGDM				Sn	Sg	15 21 16.8	+0.8
BTNK	Botanikuri	1.47	278	P	Pn	15 20 56.7	-0.4
BTNK				S	Sg	15 21 17.4	-0.1
BTNK	Botanikuri	1.47	278	PG	Pn	15 20 56.7	-0.4
BTNK				S	Sg	15 21 17.4	-0.1
SEAG	Tbilisi Sea	1.47	281	P	Pn	15 20 56.9	-0.2
SEAG				S	Sg	15 21 17.2	-0.5
SEAG	Tbilisi Sea	1.47	281	PG	Pn	15 20 56.9	-0.2
SEAG				S	Sg	15 21 17.2	-0.5
TBLG	Delisi	1.52	279	P	Pn	15 20 57.8	+0.1
TBLG				S	Sg	15 21 18.8	-0.3
TBLG	Delisi	1.52	279	PG	Pn	15 20 57.8	+0.1
TBLG				S	Sg	15 21 18.8	-0.3
MAK	Makhachkala	1.56	21	ePG	Pn	15 20 57.0	-1.4
MAK				e		15 21 20.2	
MAK				pmax	pmax		
	comp=Z,157nm,0.5s						
MAK				smax	smax		
	comp=E,355nm,0.6s						
MAK				smax	smax		
	comp=N,501nm,0.4s						
KDMR	Kurdemir	1.57	135	Pn	Pn	15 20 57.7	-0.7
	SNR=3.1						
KDMR				Sn	Sg	15 21 21.9	+1.1
PQL	Pirkuli	1.57	116	Pn	Pn	15 20 58.9	+0.3
	SNR=9.4						
PQL				Sn	Sg	15 21 21.3	+0.5
SIZA	Siyzn	1.68	104	Pn	Pb	15 21 01.0	-0.6
	SNR=8.0						
SIZA				Sn	Sg	15 21 24.4	0.0
KZRT	Kazreti	1.76	267	P	Pn	15 21 00.3	-0.8
KZRT				S	Sn	15 21 23.8	0.0
KZRT	Kazreti	1.76	267	PN	Pn	15 21 00.3	-0.8
ATGJ	Altiaghaj	1.78	110	Pg	Pb	15 21 02.6	-0.6
	SNR=8.3						
ATGJ				Sg	Sg	15 21 29.7	+2.2
STEZ	Stepenevan	1.83	255	eP	Pn	15 21 02.6	+0.4
STEZ				eS	Sn	15 21 25.0	-0.7
GROC	Groznyy	1.84	338	ePN	Pg	15 21 05.1	-0.4
GROC				e		15 21 31.1	
GROC				pmax	pmax		
	comp=Z,117nm,0.3s						
GROC				smax	smax		
	comp=N,100nm,0.5s						
GROC				smax	smax		
	comp=E,150nm,0.4s						
GROC				smax	smax		
	comp=E,163nm,0.4s						
GROC	Groznyy	1.84	338	ePg	Pg	15 21 05.2	-0.4
GROC				eSg	Sg	15 21 30.8	+1.4
BLQ	Beylaqan	1.89	160	Pn	Pn	15 21 02.7	-0.1
BLQ				Sn	Sb	15 21 29.1	+0.5
GBS	Qobustan	1.93	119	Pn	Pb	15 21 04.5	-1.2
GBS				Sn	Sn	15 21 28.7	+0.8
GUDG	Gudauri	1.94	300	P	Pn	15 21 04.6	+0.8
GUDG				S	Sb	15 21 31.2	+0.7
GUDG	Gudauri	1.94	300	PN	Pn	15 21 04.6	+0.8
GUDG	Gudauri	1.94	300	i Pg	Pb	15 21 04.7	-1.3
GUDG				eSg	Sb	15 21 31.0	+0.5
KAPZ	Kaputan	1.94	233	⇑iP	Pn	15 21 04.8	+1.1
KAPZ				⇑iS	Sb	15 21 30.4	-0.1
GNI	Garni	2.03	229	cePN	Pb	15 21 06.7	-0.8
GNI	Garni	2.03	229	⇑iP	Pb	15 21 06.8	-0.8
GNI				⇑iS	Sb	15 21 34.2	+1.2
QRD	Qoradiz	2.09	168	Pn	Pn	15 21 05.2	-0.3
	SNR=6.6						
QRD				Sn	Sb	15 21 34.1	-0.3
NRKZ	NAREK	2.18	227	⇑iP	Pn	15 21 06.7	-0.3
NRKZ				⇑iS	Sn	15 21 35.0	+0.9
LACR	Lac	2.25	307	ePN	Pn	15 21 09.3	+1.4
LACR				eS	Sb	15 21 40.4	+1.2
LACR	Lac	2.25	307	ePn	Pb	15 21 09.5	-1.7
LACR				eSn	Sb	15 21 40.1	+1.0
HYR	Heyderabad	2.29	219	Pg	Pn	15 21 10.0	+1.6
HYR				Sg	Sb	15 21 42.1	+1.8
SBZ	Shahbuz	2.29	204	Pn	Pb	15 21 10.3	-1.6
	SNR=6.9						
SBZ				Sn	Sb	15 21 41.0	+0.6
ALIB	Äli-Bayra	2.31	131	Pg	Pb	15 21 10.8	-1.4
ALIB				Sg	Sg	15 21 43.5	-1.1
METS	Metsamor	2.43	237	i P	Pb	15 21 14.3	+0.1
METS				i S	Sb	15 21 46.2	+1.9
AKH	Akhalkalaki	2.44	269	P	Pn	15 21 12.4	+1.7
AKH				S	Sb	15 21 43.7	-1.1
AKH	Akhalkalaki	2.44	269	PN	Pn	15 21 12.3	+1.7
AKH				S	Sb	15 21 43.7	-1.1
AKH	Akhalkalaki	2.44	269	ePn	Pn	15 21 12.0	+1.4
AKH				eSn	Sb	15 21 44.0	-0.9
ZEI	Tsey	2.47	302	ePn	Pb	15 21 12.9	-2.1
ZEI				eSn	Sb	15 21 46.3	+0.6
NAX	Nakhchivan	2.51	203	PN	Pn	15 21 12.7	+1.3
NAX	Nakhchivan	2.51	203	Pg	Pn	15 21 12.8	+1.3
NAX				Sg	Sg	15 21 49.9	-1.1
KORR	Kora	2.54	310	ePN	Pb	15 21 15.1	-1.0
KORR				eS	Sb	15 21 45.9	-1.5
KORR	Kora	2.54	310	ePn	Pb	15 21 14.7	-1.3
KORR				eSn	Sb	15 21 48.7	+1.3
GLBA	Clilabad	2.59	150	Pn	Pn	15 21 13.2	+0.8
GLBA				Sn	Sn	15 21 44.0	0.0
ORD	Ordubad	2.63	193	Pn	Pn	15 21 13.6	+0.4
	SNR=3.7						
ORD				Sn	Sb	15 21 48.6	-1.7
DIGR	Digorskoe uzhe	2.73	302	ePn	Pn	15 21 16.2	+1.7
DIGR				eSn	Sb	15 21 50.9	-2.3
YRD	Yardimli	2.83	156	Pn	Pn	15 21 15.7	-0.3
	SNR=11						
YRD				Sn	Sn	15 21 50.1	-0.1
TKB	Tkibuli	2.92	288	P	Pn	15 21 18.4	+1.4
TKB				S	Sb	15 21 55.2	-3.3
TKB	Tkibuli	2.92	288	PN	Pn	15 21 18.4	+1.4
TKB				S	Sb	15 21 55.2	-3.3
NCK	Nalchik	3.06	312	⇓ePN	Pn	15 21 20.4	+1.4
LRK	Lerik	3.11	156	Pn	Pn	15 21 19.7	0.0
	SNR=6.4						
LRK				Sn	Sn	15 21 57.9	+0.7
ASTR	Astara	3.33	151	Pn	Pn	15 21 22.4	-0.3
ASTR				Sn	Sn	15 22 03.4	+0.9
VSR	Storozhevoye	11.03	334	⇓eP	Pn	15 23 08.9	+0.7
VSR				pmax	pmax		
	comp=Z,24nm,2.3s						
AKTO	Aktyubinsk	11.88	37	⇑Pn	Pn	15 23 19.4	-0.4
	comp=Z,2.8nm,0.6s						
AKTO				⇑Sn	Sn	15 25 26.5	-5.9
	comp=Z,1.7nm,0.7s						
AB31	Akbulak array	12.08	46	Pn	Pn	15 23 25.2	+2.6
	comp=Z,0.5nm,0.4s,baz=229,slow=12,SNR=19						
AB31				⇑Sn	Sn	15 25 32.3	-5.2
	comp=Z,1.1nm,0.6s,baz=227,slow=21,SNR=3.6						
OBN	Obninsk	15.18	337	eP	Pn	15 24 06.2	+1.4
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRVK	Borovoye	19.61	46	⇓eP	P	15 24 59.2	+0.3
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BVA3	Borovoye Array	19.65	46	⇑P	Pn	15 25 01.9	+1.1
	comp=Z,2.0nm,0.7s						
AAK	Ala-Archa	20.61	78	⇑eP	P	15 25 09.2	-0.7
AAK				pmax	pmax		
	comp=Z,16nm,4.1s						
SMOL	Smolenice	21.79	299	eSG	S	15 29 26.9	+3.5
SMOL				eLG	Lg	15 29 33.6	
KLNR	Kaliningrad	21.89	316	⇑eP	P	15 25 26.2	+2.8
KLNR				pmax	pmax		
	comp=Z,236nm,1.6s						
KURK	Kurchatov	23.79	56	⇑eP	P	15 25 44.1	+0.9
KURK				pmax	pmax		
	comp=Z,5.0nm,1.9s						

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*BJI **03** 15:31:41.6±0.0, 2.°25N×128.°51E, h27km, mb4.6/36, mB5.0/27, Ms4.7/15, Ms7 4.4/9*
*GCMT **03** 15:31:44.8±0.2, 2.°68N±0.°01×128.°20E±0.°02, h19km±1km, MW5.0/108, Moment Tensor Solution. s52,c61; s108,c158; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.23±.12; $M_{\theta\theta}$-1.47±.10; $M_{\phi\phi}$1.24±.10; $M_{r\theta}$-1.44±.24; $M_{\theta\phi}$-3.08±.09; $M_{\phi r}$-1.14±.22; Best double couple: $M_0$3.74500×10^{16} NP1:ϕ_s10.00000°, δ77.00000°, λ-19.00000°. NP2:ϕ_s104.00000°, δ72.00000°, λ-167.00000°. Principal axes: T 3.2610, Plg4.0000°, Azm58.0000°; N 0.9730, Plg67.0000°, Azm157.0000°; P -4.2300, Plg22.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*ISCJB **03** 15:31:44.5±0.2, 2.°54N±0.°02×128.°40E±0.°03, h33km, mb4.6/61, MS4.2/16 Error ellipse: s-maj=4.2km s-min=3.2km az=164.4*
*MOS **03** 15:31:45.3±0.7, 2.°51N×128.°33E, h43km, mb4.9/30, Error ellipse: s-maj=12.5km s-min=6.2km az=96.9*
*DJA **03** 15:31:45.3±0.4, 3.°N±5.°×12.°8E±.°, h10km, M4.9/19, mb4.9/19, mB5.4/10, MLv5.0/11, Mw(mB)4.9/10, Mwp4.9/3*
*NEIC **03** 15:31:46.8±1.5, 2.°53N±0.°07×128.°37E±0.°07, h41km±6km, mb4.8/73*
*IDC **03** 15:31:47.4±2.0, 2.°52N×128.°48E, h46km±22km, mb4.2/26, mb1 4.3/28, mb1mx4.1/48, mbtmp4.4/28, ML4.6/2, MS4.0/8, Ms1 4.0/8, ms1mx3.6/46, Error ellipse: s-maj=15.8km s-min=11.5km az=69.0*
ISC 03 15:31:46.5±0.3**, 2.°54N**±0.°04×**128.°46E**±0.°05**, h35**km**, n234,** σ**1.°63**/220**, mb4.7**/79**, MS4.1**/16**, 11C-8D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.07	212	P	Pn	15 32 17.3	-1.5
TNTI	Ternate	2.07	212		Pn	15 32 17.6	-1.1
SGSI	Sangihe	3.14	291	P	Pn	15 32 31.4	-2.1
LBMI	Labuha	3.30	197	P	Pn	15 32 41.8	+6.1
SWI	Sorong	4.39	140	P	Pn	15 32 51.7	+1.0
SIJI	Sorong	4.40	140	P	Pn	15 32 51.7	+0.9
	46nm,0.3s,baz=113,slow=7.1,SNR=238						
SIJI				S	Sn	15 33 42.1	+1.2
	20nm,0.3s,baz=174,slow=22,SNR=6.0						
SIJI				LR	LR	15 34 32.0	
	comp=Z,2µm,21.1s,baz=307,slow=38						
GSPH	General Santos	4.96	315	⇓p	Pn	15 32 58.5	-0.2
SANI	Sanana	5.19	208	P	Pn	15 33 01.0	-0.7
	90nm,1.1s,1µm2µm0.4nm						
DAV	Davao City (W)	5.34	328	P	Pn	15 33 08.0	+4.3
	65nm,0.3s,baz=174,slow=5.8,SNR=4.1						
DAV				S	Sn	15 34 10.3	+6.4
	50nm,0.3s,baz=267,slow=19,SNR=2.5						
DAV	Davao City (W)	5.34	328	⇑eP	Pn	15 33 06.1	+2.3
KCP	Kidapawan	5.56	323	⇓P	Pn	15 33 06.7	-0.2
KCP				S	Sn	15 34 15.4	+5.7
NLAI	Namlea	5.90	193	P	Pn	15 33 17.5	+6.0
AAI	Ambon	6.19	182	P	Pn	15 33 21.2	+5.7
CTBH	Cotabato--PC H	6.26	318	P	Pn	15 33 15.4	-1.1
FAKI	Fak Fak	6.62	145	P	Pn	15 33 23.3	+2.0
	143nm,1.0s,1µm3µm0.4nm						
FAKI	Fak Fak	6.62	145		Pn	15 33 22.5	+1.2
LUWI	Luwuk	6.71	238	P	Pn	15 33 27.1	+4.5
LUWI	Luwuk	6.71	238		Pn	15 33 22.4	-0.2
MRSI	Marisa	6.83	253	P	Pn	15 33 23.0	-1.3
	204nm,0.6s,3µm						
CGP	Cagayan de Oro	6.97	328	⇓P	Pn	15 33 29.1	+3.0
RKPI	Ransiki, Papua	6.99	125	P	Pn	15 33 32.1	+5.6
	201nm,0.7s,2µm1.0nm						
KDI	Kendari	8.70	222	P	Pn	15 33 50.5	+0.5
	85nm,0.7s,23µm0.3nm						
KAPI	Kappang	11.49	229	P	Pn	15 34 27.8	-0.4
	2.8nm,0.3s,baz=48,slow=6.0,SNR=7.6						
KAPI				S	Sn	15 36 36.7	+1.4
	4.7nm,0.3s,baz=186,slow=14,SNR=4.1						
KAPI	Kappang	11.49	229		Pn	15 34 27.4	-0.7
KKM	Kota Kinabalu	12.70	286	Pn	Pn	15 34 44.0	-0.7
MMRI	Maumere	12.72	209	P	P	15 34 54.3	-1.4
GENI	Genyem	12.77	113	P	P	15 35 04.6	+8.4
WSI	Waingapu	14.60	214	P	P	15 35 19.6	+3.0
MTN	Manton Dam	15.51	170		Pn	15 35 23.1	+0.3
PLAI	Plampang	15.52	223	P	P	15 35 31.8	+4.9
TWSI	Taliwang, Sumb	16.09	226	P	P	15 35 38.6	+5.5
SBUM	Sibu	16.23	270	P	Pn	15 35 32.5	+0.6
STKI	Sintang	17.15	262	P	P	15 35 46.8	+1.8
	23nm,0.5s,8µm						
JAGI	Jajag, Banyuwa	17.98	232	P	Pn	15 35 54.2	+0.4
KNRA	Kununurra	18.11	179	P	Pn	15 35 55.3	0.0
KSM	Kuching	18.17	267		Pn	15 35 55.4	-0.8
GMJI	Gumukmas	18.43	234	P	Pn	15 36 09.0	+10
MANU	Manus Island	19.44	103	P	P	15 36 09.7	-0.5
PWJI	Pagerwojo	19.65	238	P	Pn	15 36 14.5	+0.5
	64nm,0.8s						
KPJI	Karang Pucung	21.82	243	P	P	15 36 41.3	+5.4
YULB	Yu-li	21.86	342	P	P	15 36 33.2	-3.0
YULB				IAmb	IAmb	15 37 04.2	
	comp=Z,76nm,1.8s						
DLV	T Lat	21.89	296	P	P	15 36 35.1	-1.7
DLV				IAmb	IAmb	15 36 52.0	
	comp=Z,63nm,1.2s						
COEN	Coen	21.95	139	P	P	15 36 39.6	+2.3
TPUB	Ta-pu	21.99	340	P	P	15 36 35.4	-2.3
TPUB				IAmb	IAmb	15 37 08.8	
	comp=Z,58nm,1.1s						
PMG	Port Moresby	22.09	123	P	P	15 36 47.0	+8.2
	comp=Z,29nm,0.9s,baz=301,slow=6.7,SNR=5.4						
SSLB	Suanglung	22.33	342	P	P	15 36 41.5	+0.1
NACB	Ninganchiao	22.50	343	P	P	15 36 43.4	+0.2
CISI	Cisompet, Garu	22.91	244	P	P	15 36 46.7	-0.9
WB0	Warramunga Arr	22.92	166	P	P	15 36 47.2	-0.4
WB0				IAmb	IAmb	15 36 55.2	
	comp=Z,45nm,0.8s						
WRAB	Tennant Creek	23.07	166	P	P	15 36 48.5	-0.7
WRAB				pmax	pmax		
	comp=Z,38nm,1.0s						
WRAB	Tennant Creek	23.07	166	P	P	15 36 48.5	-0.7
WRAB				IAmb	IAmb	15 37 00.9	
	comp=Z,38nm,1.0s						
WRA	Warramunga Arr	23.08	166	P	P	15 36 48.9	-0.4
	comp=Z,5.3nm,0.4s,baz=343,slow=9.8,SNR=69						
WRA				LR	LR	15 47 20.5	
	comp=Z,729nm,20.8s,baz=355,slow=40						
WRA	Warramunga Arr	23.08	166	P	P	15 36 48.4	-0.8
WB2	Warramunga Arr	23.08	166	P	P	15 36 48.6	-0.6
WB2				IAmb	IAmb	15 37 01.0	
	comp=Z,51nm,1.1s						
WR0	Warramunga Arr	23.14	165	P	P	15 36 49.2	-0.7
WR0				IAmb	IAmb	15 37 02.6	
	comp=Z,29nm,1.0s						
QZH	Quanzhou	24.22	338	⇓iP	P	15 37 03.8	+3.7
QZH				eS	S	15 41 14.6	-1.7
QZH				LR	LR		
	comp=Z,2µm,16.1s						
QZH				LR	LR		
	comp=Z,1µm,18.0s						
KRVT	Keravat (AS076	24.51	106	P	P	15 37 01.0	-1.9
	comp=Z,13nm,0.6s,baz=211,slow=12,SNR=2.3						
KLSI		24.77	253	P	P	15 37 15.5	+10
MDSI	Maura Dua	25.25	254	P	P	15 37 19.4	+10
PSA00	Pilbara Seismi	25.41	199	P	P	15 37 11.4	+0.5
PSA00				IAmb	IAmb	15 37 24.9	
	comp=Z,60nm,1.6s						
UBPT	Khong Chiam	25.96	301	P	P	15 37 23.5	+7.5
AS31	Alice Springs	26.58	169	P	P	15 37 20.6	-1.0
ASAR	Alice Springs	26.59	169	P	P	15 37 20.9	-0.7
	comp=Z,2.2nm,0.4s,baz=348,slow=7.5,SNR=53						
ASAR				PcP	PcP	15 40 45.5	-0.1
	comp=Z,2.2nm,0.5s,baz=353,slow=2.2,SNR=11						
ASAR				LR	LR	15 50 05.0	
	comp=Z,485nm,18.4s,baz=339,slow=41						
ASAR	Alice Springs	26.59	169	P	P	15 37 20.3	-1.3
SKNT	Sakolnakorn	28.00	302	P	P	15 37 41.7	+7.3
CHAI	Chaiyaphum	29.25	299	P	P	15 37 56.9	+11
PBKT	Sadao Pong	30.41	299	P	P	15 37 55.7	0.0
JNU	Nakatsue	30.50	4	P	P	15 37 55.5	-1.0
	comp=Z,12nm,1.0s,baz=109,slow=4.6,SNR=4.5						
JNU				LR	LR	15 49 15.6	
	comp=Z,300nm,21.9s,baz=188,slow=34						
JNU	Nakatsue	30.50	4	P	P	15 37 51.8	-4.6
JNU				IAmb	IAmb	15 37 57.3	
	comp=Z,17nm,1.1s						
PHRA	Phrae	31.88	302	P	P	15 38 09.3	+0.6
	comp=Z,2.4nm,0.9s,comp=Z,422nm						
CMAR	Chiang Mai Arr	32.96	301	P	P	15 38 17.9	-0.2
	comp=Z,2.1nm,0.8s,baz=111,slow=6.9,SNR=13						
CMAR	Chiang Mai Arr	32.96	301	P	P	15 38 17.5	-0.7
CMMT	Chiang Mai	33.11	301	P	P	15 38 19.8	+0.3
	comp=Z,5.0nm,1.0s						
CHTO	Chiang Mai	33.11	301	P	P	15 38 18.4	-1.1
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CHTO	Chiang Mai	33.11	301	P	P	15 38 18.4	-1.1
KMI	Kunming	33.44	314	P	P	15 38 24.4	+1.9
KMI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
INU	Inuyama	33.59	13	P	P	15 38 22.9	-0.6
TJN	Taejon	33.68	358	⇑iP	P	15 38 24.6	+0.4
MHMT	Maesarieng	33.72	300	P	P	15 38 33.8	+9.0
KSAR	Wonju Array Be	34.73	359	P	P	15 38 32.8	-0.5
KSAR	Wonju Array Be	34.73	359	P	P	15 38 32.8	-0.5
KSRS	Korea Array	34.75	359	P	P	15 38 33.8	+0.3
	comp=Z,10nm,0.9s,baz=176,slow=10.0,SNR=24						
KSRS				LR	LR	15 51 23.5	
	comp=Z,236nm,21.9s,baz=190,slow=34						
KS19	Wonju Array Si	34.80	359	P	P	15 38 32.5	-1.4
KS19				IAmb	IAmb	15 38 38.1	
	comp=Z,19nm,1.2s						
MJAR	Matsushiro Arr	35.01	14	P	P	15 38 35.2	-0.6
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MJAR	Matsushiro Arr	35.01	14	P	P	15 38 35.2	-0.6
	comp=Z,3.7nm,0.7s,baz=182,slow=9.2,SNR=10						
MAJO	Matsushiro	35.01	14	⇓eP	P	15 38 36.1	+0.3
MAJO				pmax	pmax		
	comp=Z,13nm,1.4s						
MJA0	Matsu Arr-Jizo	35.02	14	eP	P	15 38 37.3	+1.4
MJA0				pmax	pmax		
	comp=Z,4.0nm,0.7s						
EIDS	Eidsvold	35.36	143	P	P	15 38 39.1	+0.1
EIDS				IAmb	IAmb	15 38 47.2	
	comp=Z,22nm,1.2s						
BBOO	Buckleboo	35.89	169	P	P	15 38 42.6	-0.7
XAN	Xi'an	36.26	332	P	P	15 38 46.5	-0.1
XAN				PcP	PcP	15 41 09.2	-2.1
XAN				S	S	15 44 18.0	-6.9
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XAN				LR	LR		
	comp=Z,470nm,16.7s						
XAN				LR	LR		

comp=Z,280nm,17.2s
XAN LR LR
comp=Z,600nm,17.2s
XAN Xi'an 36.26 332 P **P** **15 38 45.5 -1.0**
XAN pmax pmax
comp=Z,14nm,0.9s
XAN Xi'an 36.26 332 P **P** **15 38 45.5 -1.0**
XAN IAmb IAmb 15 38 51.6
comp=Z,14nm,0.9s
STKA Stephens Creek 36.43 161 P **P** **15 38 47.9 -0.1**
comp=Z,5.3nm,0.6s,baz=333,slow=8.7,SNR=17
STKA LR LR 15 55 20.6
comp=Z,217nm,19.4s,baz=336,slow=39
STKA Stephens Creek 36.43 161 P **P** **15 38 47.7 -0.3**
CD2 Chengdu 36.62 323 *e*P **P** **15 38 49.0 -0.7**
NWAO Narrogin (SRO) 36.84 196 P **P** **15 38 49.9 -1.6**
NWAO pmax pmax
comp=Z,112nm,1.8s
NWAO Narrogin (SRO) 36.84 196 LR LR 15 55 39.8
comp=Z,158nm,18.1s,baz=324,slow=39
NWAO Narrogin (SRO) 36.84 196 P **P** **15 38 49.9 -1.6**
BJT Baijiatuan 38.94 345 P **P** **15 39 09.4 +0.3**
BJT pmax pmax
comp=Z,15nm,0.9s
BJT Baijiatuan 38.94 345 P **P** **15 39 09.4 +0.3**
BJT IAmb IAmb 15 39 14.4
comp=Z,15nm,0.9s
ARMA Armidale 39.54 148 P **P** **15 39 14.6 +0.3**
ARMA IAmb IAmb 15 39 29.7
comp=Z,22nm,1.3s
MSHR Mys Shultsa 39.94 3⇓ *e*P **P** **15 39 17.8 +0.5**
H11S3 WAKE ISLAND Hy 40.65 64 T T 16 22 45.3
baz=252,slow=75,SNR=382
H11S2 WAKE ISLAND Hy 40.67 64 T T 16 22 56.2
baz=252,slow=75,SNR=284
H11S1 WAKE ISLAND Hy 40.67 64 T T 16 22 55.9
baz=252,slow=75,SNR=270
HHC Hu-ho-hao-te 41.07 340 P **P** **15 39 29.0 +2.1**
HHC pmax pmax
comp=Z,2.0nm,0.8s
H11N1 WAKE ISLAND Hy 41.23 63 T T 16 23 19.3
baz=250,slow=75,SNR=312
H11N2 WAKE ISLAND Hy 41.24 63 T T 16 23 16.7
baz=250,slow=75,SNR=126
H11N3 WAKE ISLAND Hy 41.25 63 T T 16 23 17.0
baz=250,slow=75,SNR=352
USA0B Ussuriysk Arra 41.60 4 P **P** **15 39 30.1 -0.9**
USA0B pmax pmax
comp=Z,13nm,0.8s
USA0B Ussuriysk Arra 41.60 4 P **P** **15 39 30.1 -0.9**
USA0B IAmb IAmb 15 39 36.6
comp=Z,13nm,0.8s
USRK Ussuriysk Ar. 41.60 4 P **P** **15 39 31.5 +0.5**
comp=Z,14nm,0.8s,baz=185,slow=7.5,SNR=32
USRK Ussuriysk Ar. 41.60 4 P **P** **15 39 30.2 -0.8**
MDJ Mudanjiang 41.91 1 P **P** **15 39 34.9 +1.3**
MDJ pmax pmax
comp=Z,12nm,1.2s
MDJ pmax pmax
comp=Z,110nm,5.8s
MDJ Mudanjiang 41.91 1 P **P** **15 39 32.4 -1.2**
MDJ IAmb IAmb 15 39 50.4
comp=Z,16nm,1.0s
SHL Shillong 41.97 306 P **P** **15 39 33.4 -1.2**
SHL pmax pmax
comp=Z,16nm,0.6s
SHL Shillong 41.97 306 *e*P **P** **15 39 35.0 +0.4**
SHL Shillong 41.97 306 P **P** **15 39 33.4 -1.2**
SHL IAmb IAmb 15 39 49.7
comp=Z,16nm,0.6s
TEY Ternei 42.92 8⇑ *e*P **P** **15 39 46.4 +4.6**
TEY pmax pmax
comp=Z,10.0nm,1.0s
ASAJ Asahikawa 43.25 15 P **P** **15 39 44.6 +0.1**
comp=Z,8.9nm,1.0s,baz=223,slow=10,SNR=13
JKA Kamikawa-asahi 43.25 15 P **P** **15 39 44.6 +0.1**
DZM Mont Dzumac 44.44 125 *e*LQ LQ 15 51 08.0
comp=Z,482nm,27.1s
DZM *e*LR LR 15 53 19.0
comp=Z,273nm,23.2s
LSA Lhasa 44.52 311 P **P** **15 39 57.2 +1.7**
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA Lhasa 44.52 311 P **P** **15 39 57.2 +1.7**
LSA IAmb IAmb 15 40 13.6
comp=Z,8.3nm,0.7s
GTA Gaotai 45.00 328 ⇑P **P** **15 39 58.5 -0.3**
GTA pP pP 15 40 05.6 -3.3
GTA sP sP 15 40 08.6 -4.4
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,73nm,6.8s
GTA LR LR
comp=Z,380nm,20.3s
GTA LR LR
comp=Z,290nm,16.5s
GTA LR LR
comp=Z,770nm,17.8s
YSS Yuzh-Sakhalins 45.95 14⇑ *e*P **P** **15 40 10.2 +4.2**
YSS *e* 15 40 21.6
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,200nm,21.0s
TAPN Taplejung 46.11 306 *e*P **P** **15 40 07.7 -0.2**
comp=Z,35nm,1.1s
ODAN Odare 46.16 306 *e*P **P** **15 40 08.4 +0.1**
comp=Z,22nm,0.6s
KLR Kul'dur 46.60 3⇑ *e*P **P** **15 40 11.0 -0.1**
KLR pmax pmax
comp=Z,5.0nm,1.2s
KLR Kul'dur 46.60 3 P **P** **15 40 10.6 -0.5**
comp=Z,1.5nm,0.7s,baz=222,slow=6.2,SNR=7.3
RAMN Ramite 46.84 305 *e*P **P** **15 40 13.6 0.0**
JIRN Jiri 47.46 306 *e*P **P** **15 40 18.4 -0.2**
comp=Z,36nm,0.8s
GUN Gumba 47.82 306 *e*P **P** **15 40 20.8 -0.5**
comp=Z,53nm,0.9s
PKI Pulchoki 48.06 305 *e*P **P** **15 40 22.7 -0.5**
comp=Z,9.3nm,0.7s
PKIN Phulchoki 48.07 305 *e*P **P** **15 40 22.7 -0.5**
comp=Z,8.3nm,0.6s
KKN Kakani 48.25 306 *e*P **P** **15 40 24.3 -0.3**
DMN Daman 48.32 305 *e*P **P** **15 40 25.4 +0.2**
comp=Z,27nm,0.9s
ULN Ulaanbaatar 48.79 341⇑ *i*P **P** **15 40 28.2 -0.1**
ULN pmax pmax
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 48.79 341 P **P** **15 40 27.5 -0.8**
ULN IAmb IAmb 15 40 40.1
comp=Z,7.6nm,0.9s
GKN Gorkha 48.86 306 *e*P **P** **15 40 29.2 0.0**
SONM Songino Array 48.98 340 P **P** **15 40 29.6 -0.1**
comp=Z,1.4nm,0.6s,baz=126,slow=5.1,SNR=7.0
SONM Songino Array 48.98 340 P **P** **15 40 29.1 -0.6**
KOLN Koldanda 49.62 305 *e*P **P** **15 40 34.9 -0.1**
comp=Z,47nm,0.7s
DANN Dangsing 49.71 306 *e*P **P** **15 40 35.8 0.0**
comp=Z,73nm,0.7s
WMQ Urumqi 54.68 325 *e*P **P** **15 41 13.9 +1.6**
WMQ pP pP 15 41 18.6 -4.1
WMQ sP sP 15 41 26.7 -0.1
WMQ pmax pmax
comp=Z,13nm,1.1s
WMQ pmax pmax
comp=Z,51nm,4.7s
WMQ LR LR
comp=Z,570nm,28.5s
WMQ LR LR
comp=Z,1μm,29.2s
WMQ LR LR
comp=Z,490nm,26.9s
PEA0B Petropavlovsk- 55.90 21 P **P** **15 41 22.0 +1.3**
PEA0B pmax pmax
comp=Z,160nm,1.9s
PEA0B Petropavlovsk- 55.90 21 P **P** **15 41 22.0 +1.3**
PETK Petropavlovsk- 55.90 21 P **P** **15 41 21.2 +0.5**
PETK Petropavlovsk- 55.90 21 P **P** **15 41 21.9 +1.2**
comp=Z,6.2nm,0.7s,baz=172,slow=6.4,SNR=7.4
PETK Petropavlovsk- 55.90 21 P **P** **15 41 21.2 +0.5**
YAK Yakutsk 59.35 1 *e*P **P** **15 41 41.1 -3.7**
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK Yakutsk 59.35 1 P **P** **15 41 44.6 -0.2**
MA2 Magadan 59.45 13 P **P** **15 41 44.9 -0.7**
MA2 pmax pmax
comp=Z,91nm,1.6s
MA2 Magadan 59.45 13 P **P** **15 41 44.9 -0.7**
comp=Z,14nm,1.0s,baz=141,slow=15,SNR=3.0
MK31 Makanchi Array 59.51 325 P **P** **15 41 45.6 -0.7**
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 59.51 325 P **P** **15 41 45.6 -0.7**
MK31 IAmb IAmb 15 42 12.9
comp=Z,5.2nm,0.8s
MKAR Makanchi Array 59.51 325 P **P** **15 41 45.8 -0.5**
comp=Z,2.7nm,0.5s,baz=115,slow=7.0,SNR=22
MKAR Makanchi Array 59.51 325 P **P** **15 41 45.4 -0.9**
MAKZ Makanchi 59.70 325 P **P** **15 41 47.8 +0.2**
MAKZ pmax pmax
comp=Z,10.0nm,0.8s
MAKZ Makanchi 59.70 325 P **P** **15 41 47.8 +0.2**
PRZ Przheval'sk 59.73 319 P **P** **15 41 46.8 -1.3**
PRZ pmax pmax
comp=Z,18nm,1.2s
PRZ Przheval'sk 59.73 319 P **P** **15 41 46.9 -1.3**
KSH Kashi 60.10 315 P **P** **15 41 52.2 +1.6**
KSH PcP **PcP** **15 42 37.1 +0.9**
KSH PcS **PcS** **15 46 38.0 -0.7**
KSH S **S** **15 50 03.3 +1.7**
KSH SS **SS** **15 54 02.6 +3.6**
KSH pmax pmax
comp=Z,350nm,5.6s
KSH LR LR
comp=Z,660nm,5.8s
KSH LR LR
comp=Z,520nm,6.7s
AAK Ala-Archa 62.39 318⇓ *e*P **P** **15 42 07.1 +1.0**
AAK pmax pmax
comp=Z,8.0nm,1.6s
AAK Ala-Archa 62.39 318 P **P** **15 42 06.9 +0.8**
comp=Z,1.7nm,0.7s,baz=93,slow=2.7,SNR=4.5
AAK Ala-Archa 62.39 318 P **P** **15 42 05.3 -0.8**
ZAA0 Zalesovo Array 62.43 333 P **P** **15 42 05.3 -0.6**
ZALV Zalesovo Beam 62.43 333 P **P** **15 42 06.4 +0.5**
comp=Z,1.7nm,0.5s,baz=107,slow=8.2,SNR=7.3
ZALV Zalesovo Beam 62.43 333 P **P** **15 42 05.4 -0.5**
SEY Seymchan 62.81 12⇑ *e*P **P** **15 42 09.6 +1.3**
KURBB Kurchatov Arra 63.67 327 P **P** **15 42 13.2 -0.9**
comp=Z,4.8nm,0.7s,baz=125,slow=5.9,SNR=31
KURK Kurchatov 63.67 327 *ce*P **P** **15 42 14.3 +0.1**
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 63.67 327 P **P** **15 42 13.0 -1.2**
KK31 Karatay Array 65.27 317 P **P** **15 42 24.5 -0.4**
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KK31 Karatay Array 65.27 317 P **P** **15 42 24.5 -0.4**
KK31 IAmb IAmb 15 42 42.2
comp=Z,6.4nm,0.8s
KKAR Karatay Array 65.27 317 P **P** **15 42 24.5 -0.4**
KKAR pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 65.27 317 P **P** **15 42 24.5 -0.4**
KKAR IAmb IAmb 15 42 42.2
comp=Z,6.4nm,0.8s
KKAR Karatay Array 65.27 317 P **P** **15 42 24.4 -0.6**
TIXI Tiksi 69.01 0⇓ *e*P **P** **15 42 47.1 -1.0**
TIXI pmax pmax
comp=Z,4.0nm,0.6s
TIXI Tiksi 69.01 0 P **P** **15 42 47.6 -0.4**
comp=Z,6.2nm,0.5s,baz=180,slow=24,SNR=35
TIXI Tiksi 69.01 0 P **P** **15 42 47.0 -1.0**
TIXI IAmb IAmb 15 42 52.0
comp=Z,15nm,1.4s
BVAR Borovoye Array 69.25 327 P **P** **15 42 49.4 -0.5**
comp=Z,5.0nm,0.9s,baz=116,slow=6.8,SNR=15
BRVK Borovoye 69.32 327⇑ *i*P **P** **15 42 51.4 +1.1**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 69.32 327 P **P** **15 42 48.7 -1.7**
BILL Bilibino 70.26 14 *e*P **P** **15 42 57.0 +1.2**
BILL pmax pmax
comp=Z,8.0nm,1.5s
NRIK Noril'sk 71.99 346 P **P** **15 43 05.3 -0.9**
comp=Z,4.2nm,0.6s,baz=146,slow=5.0,SNR=12
GEYT Alibeck 72.98 309 P **P** **15 43 13.5 +0.6**
comp=Z,1.0nm,0.5s,baz=116,slow=16,SNR=2.7
ABKAR Akbulak array 74.16 321 P **P** **15 43 17.6 -1.9**
ABKAR Akbulak array 74.16 321 P **P** **15 43 18.6 -0.9**
ABKAR IAmb IAmb 15 43 31.9
comp=Z,20nm,1.9s
AKTO Aktyubinsk 75.66 322 P **P** **15 43 27.6 -0.5**
comp=Z,2.2nm,0.8s,baz=84,slow=13,SNR=4.6
SVE Sverdlovsk 75.87 328 *e*P **P** **15 43 28.6 -0.6**
ARU Arti 76.86 328 *c i*P **P** **15 43 35.8 +1.0**
ARU S **S** **15 53 20.1 +0.1**
ARU SS **SS** **15 58 10.7 -6.0**
ARU pmax pmax
comp=Z,19nm,1.9s
ARU Arti 76.86 328 P **P** **15 43 35.5 +0.7**
comp=Z,1.5nm,0.7s,baz=169,slow=5.5,SNR=5.8
ARU Arti 76.86 328 IAmb IAmb 15 43 56.6
comp=Z,7.4nm,1.0s
KDAK Kodiak Island 81.97 32 *i*P **P** **15 44 03.6 +1.0**
RSO Redoubt South 82.27 29 P **P** **15 44 04.6 +0.2**
IMAR Indian Mountai 82.72 24 P **P** **15 44 07.2 +0.8**
SKT Skwentna 83.07 28 P **P** **15 44 08.2 -0.2**
PPT2 Papeete2 83.11 108 *e*LQ LQ 16 06 47.7
comp=Z,468nm,31.2s
PPT2 *e*LR LR 16 11 09.0
comp=Z,147nm,24.8s
MAW Mawson 83.25 201 LR LR 16 20 01.3
comp=Z,55nm,19.8s,baz=60,slow=35
SUA Susitna One 83.37 29 P **P** **15 44 09.8 -0.3**
SUA IAmb IAmb 15 44 11.3
comp=Z,8.6nm,0.9s
BPAW Bear Paw Mtn. 83.59 26 P **P** **15 44 11.8 +0.8**
TBI Tubuai 83.73 114 *e*LQ LQ 16 07 50.5
comp=Z,232nm,29.0s
TBI *e*LR LR 16 11 41.9
comp=Z,252nm,25.8s
RC01 Rabbit Creek A 83.82 29 P **P** **15 44 12.1 0.0**
RC01 IAmb IAmb 15 44 16.1
comp=Z,11nm,1.0s
MLY Manley 83.82 25 P **P** **15 44 12.7 +0.6**
MLY IAmb IAmb 15 44 14.4
comp=Z,9.6nm,1.2s
TRF Thorofare Moun 83.82 27 P **P** **15 44 12.3 -0.1**
SEW Seward 83.86 30 P **P** **15 44 13.2 +0.8**
PMR Palmer 84.16 28 P **P** **15 44 13.7 -0.1**
PMR pmax pmax
comp=Z,8.0nm,0.8s
PMR Palmer 84.16 28 P **P** **15 44 13.7 -0.1**
PMR IAmb IAmb 15 44 18.9
comp=Z,8.4nm,0.8s
COLD Coldfoot 84.31 23 P **P** **15 44 15.7 +1.2**
COLD IAmb IAmb 15 44 29.9
comp=Z,5.8nm,1.0s
MCK McKinley 84.45 26 P **P** **15 44 15.5 +0.1**
MCK pmax pmax
comp=Z,12nm,1.1s
MCK McKinley 84.45 26 P **P** **15 44 15.5 +0.1**
MCK IAmb IAmb 15 44 29.4
comp=Z,12nm,1.1s
RND Reindeer 84.46 27 P **P** **15 44 15.2 -0.3**
RND pmax pmax
comp=Z,9.0nm,0.8s
RND Reindeer 84.46 27 P **P** **15 44 15.2 -0.3**
RND IAmb IAmb 15 44 16.7
comp=Z,9.3nm,0.8s
KNK Knik Glacier 84.46 29 P **P** **15 44 15.8 +0.3**
SML Sawmill 84.56 28 P **P** **15 44 16.3 +0.3**
WRH Wood River Hil 84.89 26 P **P** **15 44 17.7 +0.2**
WRH IAmb IAmb 15 44 39.0
comp=Z,12nm,1.5s
SCM Sheep Creek Mo 85.03 28 P **P** **15 44 18.9 +0.5**
SCM pmax pmax
comp=Z,17nm,0.8s
SCM Sheep Creek Mo 85.03 28 P **P** **15 44 18.9 +0.5**
KIV Kislovodsk 85.20 314 *e*P **P** **15 44 19.3 -0.4**
KIV pmax pmax
comp=Z,39nm,1.1s
ILAR Eielson Array 85.43 25 P **P** **15 44 19.4 -0.8**
comp=Z,0.5nm,0.5s,baz=247,slow=5.2,SNR=8.1
PAX Paxson 85.96 27 P **P** **15 44 23.9 +0.9**
PAX pmax pmax
comp=Z,4.0nm,0.8s
PAX Paxson 85.96 27 P **P** **15 44 23.9 +0.9**
BMAR Burnt Mountain 86.50 23 P **P** **15 44 26.2 +0.6**
GLB Gilahina Butte 86.69 29 P **P** **15 44 27.6 +0.9**
GLB IAmb IAmb 15 44 29.1
comp=Z,6.1nm,1.0s
BCAR Beaver Creek A 87.64 27 P **P** **15 44 31.3 +0.2**
OBN Obninsk 89.02 325 *e*P **P** **15 44 36.9 -0.8**
OBN pmax pmax
comp=Z,2.0nm,0.8s
INK Inuvik 90.62 22 P **P** **15 44 43.7 -1.3**
INK pmax pmax
comp=Z,11nm,1.8s
INK Inuvik 90.62 22 P **P** **15 44 43.7 -1.3**
comp=Z,0.9nm,0.6s,baz=307,slow=3.4,SNR=5.2
INK Inuvik 90.62 22 IAmb IAmb 15 47 41.4
comp=Z,11nm,1.8s
TAOE Nuku Hiva Isla 91.76 99 *e*LR LR 16 15 27.4
comp=Z,324nm,24.2s
H02S1 DAWSON INLET T 93.41 37 T T 17 28 53.8
SNR=14
VYHS Vyhne 100.97 320 *e*P **Pdif** **15 45 34.1 +1.6**
TORD Torodi Ar. Bea 124.93 288 PKP **PKPdf** **15 50 42.8 -1.2**
comp=Z,0.2nm,0.3s,baz=288,slow=1.4,SNR=3.5

*ISCJB **03** 15:34:14.3±0.4, 7°72S±0°.04×123°.52E±0°.07, h250km, mb3.9/5, Error ellipse: s-maj=10.1km s-min=5.2km az=171.9*
*IDC **03** 15:34:14.4±1.1, 7°.61S×123°.42E, h226km±15km, mb3.7/5, mb1 3.8/8, mb1mx3.3/49, mbtmp4.3/8, Error ellipse: s-maj=47.6km s-min=10.7km az=68.0*
*NEIC **03** 15:34:15.2±0.8, 7°.69S±0°.07×123°.5E±0°.1, h240km±7km, mb4.8/23*
ISC 03 15:34:15.7±0.6, 7°72S±0°.06×123°48E±0°.09, h250km, n43, σ1$65/45, mb4.8/11, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.53**	**233**	Pn	**Pn**	**15 34 53.4**	**-0.8**
SOEI	**Soe**	**2.17**	**159**	P	**Pn**	**15 34 58.7**	**-1.2**
SOEI	**Soe**	**2.17**	**159**		**Pn**	**15 34 59.0**	**-0.9**
BATI	**Baumata**	**2.48**	**176**	P	**Pn**	**15 35 02.3**	**-0.5**
BATI	631nm,0.3s,baz=16,slow=2.3,SNR=911			S	**S**	**15 35 38.4**	**-1.7**
	160nm,0.3s,baz=293,slow=23,SNR=25						
BATI	**Baumata**	**2.48**	**176**	P	**Pn**	**15 35 02.0**	**-0.8**
MTN	**Manton Dam**	**9.09**	**125**	Pn	**Pn**	**15 36 21.7**	**-1.2**
KNRA	**Kununurra**	**9.45**	**147**	Pn	**Pn**	**15 36 26.6**	**-0.8**
FAKI	**Fak Fak**	**9.95**	**62**	Pn	**Pn**	**15 36 32.3**	**-1.4**
FITZ	**Fitzroy Crossi**	**10.53**	**169**	P	**Pn**	**15 36 41.5**	**+0.5**
FITZ	baz=12,slow=11			S	**S**	**15 38 35.1**	**-4.1**
	2.3nm,0.3s,baz=150,slow=3.3,SNR=6.8						
FITZ	**Fitzroy Crossi**	**10.53**	**169**		**Pn**	**15 36 41.2**	**+0.2**
GSPH	**General Santos**	**13.79**	**6**⇑	p	**P**	**15 37 21.5**	**-0.9**
KCP	**Kidapawan**	**14.72**	**6**⇑	P	**Pn**	**15 37 34.5**	**+1.8**
DAV	**Davao City (W)**	**14.84**	**8**	P	**P**	**15 37 32.8**	**-1.1**
CISI	**Cisompet, Garu**	**15.53**	**270**	P	**P**	**15 37 41.1**	**-0.5**
WB0	**Warramunga Arr**	**15.98**	**140**	P	**P**	**15 37 46.0**	**-0.5**
WB0	comp=Z,17nm,0.9s				IAmb IAmb	15 37 53.4	
WRA	**Warramunga Arr**	**16.08**	**140**	P	**Pn**	**15 37 47.5**	**-1.4**
	comp=Z,1.9nm,0.3s,baz=305,slow=12,SNR=8.9						
WRA				S	**S**	**15 40 46.3**	**+2.8**
	comp=Z,0.7nm,0.3s,baz=314,slow=22,SNR=4.9						
WRA	**Warramunga Arr**	**16.08**	**140**		IAmb IAmb	15 37 51.4	
	comp=Z,0.4nm,0.7s						
WRAB	**Tennant Creek**	**16.08**	**140**	P	**P**	**15 37 47.4**	**-0.1**
WRAB					IAmb IAmb	15 37 48.0	
	comp=Z,14nm,0.8s						
WB2	**Warramunga Arr**	**16.09**	**140**	P	**P**	**15 37 47.3**	**-0.3**
WB2					IAmb IAmb	15 37 48.1	
	comp=Z,14nm,0.6s						
WR0	**Warramunga Arr**	**16.22**	**140**	P	**P**	**15 37 48.9**	**-0.2**
AS31	**Alice Springs**	**18.75**	**149**	P	**P**	**15 38 17.1**	**+0.6**
ASAR	**Alice Springs**	**18.75**	**149**	P	**P**	**15 38 17.8**	**+1.2**
	comp=Z,3.7nm,0.3s,baz=334,slow=14,SNR=16						
ASAR				S	**S**	**15 41 44.5**	**+8.0**
	comp=Z,0.2nm,0.3s,baz=325,slow=23,SNR=5.4						
COEN	**Coen**	**20.31**	**109**	P	**P**	**15 38 32.3**	**-0.9**
COEN					IAmb IAmb	15 39 23.4	
	comp=Z,31nm,1.5s						
MORW	**Morawa**	**22.36**	**197**	P	**P**	**15 38 53.4**	**+0.3**
MORW					IAmb IAmb	15 39 38.0	
	comp=Z,96nm,2.0s						
FORT	**Forrest**	**23.34**	**170**	P	**P**	**15 39 01.8**	**-0.2**
FORT					IAmb IAmb	15 40 00.7	
	comp=Z,38nm,1.1s						
NWAO	**Narrogin (SRO)**	**25.75**	**192**	P	**P**	**15 39 23.4**	**-0.2**
BBOO	**Buckleboo**	**27.56**	**157**	P	**P**	**15 39 39.7**	**-0.1**
BBOO					IAmb IAmb	15 39 47.1	
	comp=Z,44nm,1.6s						
STKA	**Stephens Creek**	**29.37**	**147**	P	**P**	**15 39 56.5**	**+0.6**
	comp=Z,3.4nm,0.4s,baz=328,slow=9.4,SNR=5.0						
STKA	**Stephens Creek**	**29.37**	**147**	P	**P**	**15 39 56.2**	**+0.4**
MAJO	**Matsushiro**	**46.15**	**16**	P	**P**	**15 42 15.5**	**0.0**
MJAR	**Matsushiro Arr**	**46.15**	**16**	P	**P**	**15 42 15.5**	**0.0**
	comp=Z,1.4nm,0.4s,baz=190,slow=8.1,SNR=8.0						
MJB9	**Matsu-Tunnel**	**46.15**	**16**	P	**P**	**15 42 15.5**	**-0.1**
USRK	**Ussuriysk Ar.**	**52.24**	**8**	P	**P**	**15 43 02.1**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=189,slow=7.1,SNR=5.9						
QRZ	**Quartz Range**	**54.56**	**135**	P	**P**	**15 43 19.6**	**+1.2**
QRZ					IAmb IAmb	15 44 36.1	
	comp=Z,77nm,1.6s						
RPZ	**Rata Peaks**	**54.78**	**139**	P	**P**	**15 43 20.7**	**+0.7**
	comp=Z,10nm,0.9s,baz=244,slow=3.3,SNR=5.2						
RPZ	**Rata Peaks**	**54.78**	**139**	IAmb	IAmb	15 44 58.2	
	comp=Z,66nm,1.5s						
THZ	**Tophouse**	**55.20**	**136**	P	**P**	**15 43 23.1**	**+0.2**
THZ					IAmb IAmb	15 43 57.8	
	comp=Z,108nm,1.9s						
OXZ	**Oxford**	**55.26**	**138**	P	**P**	**15 43 23.5**	**+0.1**
NNZ	**Nelson**	**55.31**	**135**	P	**P**	**15 43 23.8**	**+0.1**
NNZ					IAmb IAmb	15 45 18.4	
	comp=Z,67nm,1.6s						
TUWZ	**Tuamarina**	**55.78**	**135**	P	**P**	**15 43 27.7**	**+0.6**
MQZ	**McQueen's Vall**	**55.83**	**138**	P	**P**	**15 43 28.1**	**+0.8**
KHZ	**Kahutara**	**55.89**	**137**	P	**P**	**15 43 28.2**	**+0.4**
MKAR	**Makanchi Array**	**65.45**	**330**	P	**P**	**15 44 32.7**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=140,slow=6.5,SNR=4.1						

*MAN **03** 15:36:34.6, 3°75N×126°.70E, h8km, MS4.9*
*MOS **03** 15:36:34.8±1.0, 3°.76N×126°.53E, h40km, mb5.3/34, Error ellipse: s-maj=10.8km s-min=5.6km az=107.4*
*BJI **03** 15:36:36.0±0.0, 3°.90N×126°.70E, h43km, mb4.9/40, mB5.1/39, Ms4.5/31, Ms7.4.4/31*
*KLM **03** 15:36:36.0, 3.84N×127°.08E, h40km, mb5.2*
*IDC **03** 15:36:37.0±0.3, 3°.70N×126°.54E, h45km±2km, mb4.3/38, mb1 4.4/38, mb1mx4.3/52, mbtmp4.5/38, MS4.2/28, Ms1 4.2/28, ms1mx4.0/47, Error ellipse: s-maj=12.1km s-min=6.0km az=69.0*
*ISCJB **03** 15:36:37.5±0.4, 3°.75N±0°.02×126°.63E±0°.03, h64km±4km, mb4.9/93, Error ellipse: s-maj=4.8km s-min=3.2km az=158.3*
*NEIC **03** 15:36:37.5±1.9, 3°.73N±0°.05×126°.61E±0°.07, h52km±2km, mb5.1/111*
*DJA **03** 15:36:40.2±0.5, 4°N±4°×12°7E±°, h56km±5km, M5.1/53, mB5.5/26, mb5.2/53, MLv5.4/12, Mw(mB)5.0/26, Mwp5.5/3*
*GCMT **03** 15:36:47.5±0.2, 3°.85N±0°.01×126°.58E±0°.01, h25km, MW5.3/109, Moment Tensor Solution. s67,c79; s109,c171; Duration: 1$1 Moment tensor: Scale 10^17 Nm; Mr0.22±.01; Mθθ0.04±.01; Mϕϕ-0.25±.01; Mrθ0.02±.02; Mθϕ-0.06±.01; Mϕr1.00±.02; Best double couple: M◎1.02700×10^17 NP1:ϕ◎1.00000°, δ83.00000°, λ87.00000°. NP2:ϕ◎206.00000°, δ7.00000°, λ115.00000°. Principal axes: T 1.0080, Plg52.0000°, Azm268.0000°; N 0.0380, Plg3.0000°, Azm2.0000°; P -1.0460, Plg38.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 15:36:37.6±0.3, 3.77N±0°.03×126°.63E±0°.04, h51km±2km, h51km:pP-P, n369, σ1$50/387, mb5.1/124, MS4.2/36, 24C-17D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.10**	**266**	P	**Pn**	**15 36 56.4**	**-0.3**

DDMP Don Marcelino, 2.49 339 P Pn 15 37 12.7 -3.1
DDMP S Sn 15 37 55.4 +10
TNTI Ternate 3.07 166 P Pn **15 37 24.4 +0.7**
TNTI Ternate 3.07 166 Pn **15 37 23.8 +0.1**
MATI Mati 3.18 353 P Pn **15 37 25.1 -0.1**
MATI S Sn 15 38 41.0 +39
DAV Davao City (W) 3.44 342 P Pn **15 37 31.8 +3.0**
17nm,0.3s,baz=76,slow=19,SNR=3.4
DAV S **Sn** **15 38 10.9 +2.5**
91nm,0.3s,baz=77,slow=22,SNR=5.6
DAV Davao City (W) 3.44 342 Pn **15 37 31.1 +2.3**
DMPH Davao City--Mi 3.48 341 ⇑P Pn **15 37 31.3 +2.0**
DMPH S Sn 15 38 19.1 +10
CTBH Cotabato--PC H 4.17 325 P Pn **15 37 40.5 +1.7**
CTBH S **Sn** **15 38 32.0 +5.8**
CGP Cagayan de Oro 5.04 338 ⇓P Pn 15 37 55.4 +4.7
PAGZ Pagadian 5.18 322 P Pn **15 37 54.9 +2.3**
PAGZ S **Sn** **15 38 46.7 -4.5**
ZCP Zamboanga City 5.51 305 ⇓P Pn **15 37 57.8 +0.6**
ZCP S **Sn** **15 38 58.2 -1.1**
ZCP Zamboanga City 5.51 305 ⇓P Pn **15 37 57.8 +0.6**
ZCP S **Sn** **15 38 58.2 -1.1**
MRSI Marisa 5.71 235 P Pn **15 38 02.3 +2.4**
727nm,0.6s,8μm2.7nm
DCPH Dipolog City 5.78 326 ⇓P Pn 15 38 13.7 +13
SANI Sanana 5.81 186 P Pn **15 37 59.7 -1.7**
116nm,0.6s,3μm0.8nm
LUWI Luwuk 6.14 219 P Pn 15 38 10.8 +5.0
1μm,1.1s,14μm5.4nm
LUWI Luwuk 6.14 219 Pn **15 38 07.2 +1.5**
SNPH Sibulan 6.48 329 P Pn 15 38 21.6 +11
SWI Sorong 6.53 135 P Pn **15 38 12.1 +0.9**
532nm,0.9s,7μm2.2nm
SIJI Sorong 6.54 135 P Pn **15 38 12.1 +0.8**
36nm,0.3s,baz=328,slow=13,SNR=58
SIJI sP 15 38 25.1
60nm,0.3s,baz=321,slow=18,SNR=22
SIJI S **Sn** **15 39 23.1 -1.5**
baz=180,slow=20,SNR=1.8
NLAI Namlea 6.98 176 P Pn **15 38 16.9 -0.4**
79nm,0.6s,9μm1.2nm
LLP Lapu-Lapu 7.02 338 P Pn 15 38 24.1 +6.2
LLP S Sn 15 39 54.3 +18
MSAI Masohi 7.43 162 P Pn **15 38 27.6 +4.0**
49nm,1.0s,732nm0.2nm
AAI Ambon 7.57 168 P Pn **15 38 26.3 +0.8**
135nm,0.8s,2μm0.6nm
RCP Roxas 8.64 334 ⇓P Pn **15 38 44.1 +4.0**
KDI Kendari 8.66 208 P Pn **15 38 42.3 +2.0**
91nm,1.4s,6μm
FAKI Fak Fak 8.70 140 P Pn **15 38 41.6 +0.6**
209nm,0.9s
FAKI Fak Fak 8.70 140 Pn **15 38 41.0 +0.1**
RKPI Ransiki, Papua 9.19 125 P Pn **15 38 51.1 +3.4**
104nm,0.7s,2μm
TTSI Tana Toraja 9.60 225 P Pn **15 38 57.5 +4.3**
142nm,1.4s,1μm
SPMM Sapulut 10.18 276 P Pn **15 39 05.0 +3.8**
BNSI Bone 10.40 219 P Pn 15 39 09.4 +5.1
97nm,1.2s,1μm
KKM Kota Kinabalu 10.62 283 Pn **15 39 09.2 +2.0**
BAKI Biak 10.68 117 P Pn **15 39 12.1 +4.0**
KAPI Kappang 11.10 218 P Pn 15 39 20.3 +6.5
3.1nm,0.3s,baz=71,slow=7.2,SNR=4.4
LQP Lukban 11.44 334 ⇑P Pn 15 39 29.5 +11
TGY Tagaytay City 11.70 332 LR LR 15 44 45.0
comp=Z,3μm,18.7s,baz=138,slow=42
SMPI Sarmi 13.37 115 P **Pn** **15 39 46.1 +1.3**
107nm,1.4s
SBUM Sibu 14.44 265 P **P** **15 40 03.3 -1.6**
GENI Genyem 14.94 115 P **P** **15 40 10.8 +0.4**
848nm,1.0s,8μm
PLAI Plampang 15.31 215 P **P** **15 40 15.0 +0.5**
156nm,1.1s,2μm
JAY Jayapura 15.39 114 P **P** **15 40 16.0 +0.5**
JAY Jayapura 15.39 114 P **P** **15 40 15.9 +0.5**
4.9nm,0.3s,baz=274,slow=4.4,SNR=26
JAY sP **pwP** **15 40 28.9 -0.4**
4.7nm,0.3s,baz=294,slow=7.1,SNR=20
JAY LR LR 15 45 26.4
comp=Z,1μm,21.7s,baz=298,slow=34
JAY Jayapura 15.39 114 P **P** **15 40 15.7 +0.2**
115nm,1.0s,1μm
STKI Sintang 15.58 257 P **P** **15 40 18.4 +0.9**
90nm,1.4s,7μm
TWSI Taliwang, Sumb 15.77 218 P **P** **15 40 21.8 +2.2**
110nm,0.7s,1μm
KSM Kuching 16.46 262 P **P** **15 40 29.0 +1.8**
KSM Kuching 16.46 262 P **P** **15 40 28.2 +0.9**
MTN Manton Dam 17.10 165 Pn **Pn** **15 40 30.3 -2.9**
MTN IAmb IAmb 15 40 48.9
comp=Z,71nm,0.6s
JAGI Jajag, Banyuwa 17.39 226 P **P** **15 40 38.9 +1.3**
GMJI Gumukmas 17.77 228 P **P** **15 40 43.0 +1.2**
comp=Z,120nm,1.0s,comp=Z,7μm
NGJI Ngawi 18.75 234 P **Pn** **15 40 56.9 +3.5**
comp=Z,71nm,1.0s
PWJI Pagerwojo 18.86 232 P **Pn** **15 40 58.2 +3.4**
comp=Z,48nm,0.6s
KNRA Kununurra 19.44 174 P **P** **15 40 59.5 -0.5**
KNRA IAmb IAmb 15 41 33.2
comp=Z,105nm,0.8s
WOJI Wonogiri, Jawa 19.45 234 P **Pn** **15 41 04.7 +2.9**
comp=Z,51nm,1.4s,comp=Z,5μm
PCJI Pacitan 19.46 232 P **Pn** **15 41 02.4 +0.5**
comp=Z,84nm,1.1s
TWG Pinlang 19.69 345 P **P** **15 41 00.7 -2.0**
DLV T Lat 19.70 295 P **P** **15 41 03.2 0.0**
UGM Wanagama 19.82 234 P **P** **15 41 04.5 +0.2**
TPI Tanjungpandan 20.04 251 P Pn 15 41 11.4 +2.6
comp=Z,57nm,1.1s
YULB Yu-li 20.18 346 P **P** **15 41 05.4 -2.6**
TPUB Ta-pu 20.26 344 P **P** **15 41 07.4 -1.6**
TPUB IAmb IAmb 15 41 21.2
comp=Z,83nm,0.9s
GUMO Guam 20.49 60 LR LR 15 48 09.5
comp=Z,622nm,21.2s,baz=226,slow=34
KPJI Karang Pucung 20.82 238 P Pn 15 41 18.8 +0.8
comp=Z,82nm,1.0s
YOJ Yonaguni jima 20.87 351 P **P** **15 41 16.0 +0.5**
YOJ pmax pmax
comp=Z,80nm,0.8s
YOJ Yonaguni jima 20.87 351 P **P** **15 41 16.0 +0.5**
YOJ IAmb IAmb 15 41 54.4
comp=Z,80nm,0.8s
LEM Lembang 21.70 241 LR LR 15 51 55.8
comp=Z,948nm,18.1s,baz=48,slow=43
FITZ Fitzroy Crossi 21.75 183 P **P** **15 41 24.4 -0.5**
baz=12,slow=13
FITZ ScP **ScP** **15 48 54.5 -2.9**
comp=Z,4.2nm,0.4s,baz=28,slow=4.6,SNR=5.0
FITZ pScP 15 49 07.3
comp=Z,5.6nm,0.3s,baz=246,slow=0.7,SNR=6.7
FITZ Fitzroy Crossi 21.75 183 P **P** **15 41 24.0 -0.9**
CISI Cisompet, Garu 21.88 239 P **P** **15 41 26.3 -0.2**
CISI IAmb IAmb 15 41 49.6
comp=Z,65nm,0.9s
KNMB Chin-men Tao 22.05 340 P **P** **15 41 28.4 +0.1**
KNMB IAmb IAmb 15 42 02.2
comp=Z,52nm,0.8s
QIZ Qiongzhong 22.34 314 P **P** **15 41 31.7 +0.3**
QIZ S **S** **15 45 33.4 -0.5**
QIZ pmax pmax
comp=Z,280nm,4.5s
QIZ LR LR
comp=Z,640nm,12.8s
QIZ LR LR
comp=Z,730nm,16.7s
QIZ LR LR
comp=Z,770nm,34.3s
QIZ Qiongzhong 22.34 314 P **P** **15 41 31.3 -0.1**
MYKOM Kota Tinggi 22.83 266 P **P** **15 41 38.0 +1.3**
MYKOM Kota Tinggi 22.83 266 P **P** **15 41 36.7 +0.1**
JOW Kunigami 22.99 4 P **P** **15 41 37.9 -0.2**
JOW IAmb IAmb 15 42 11.9
comp=Z,47nm,0.8s
BLSI Bandar Lampung 23.20 247 P **P** **15 41 42.7 +2.3**
comp=Z,115nm,0.4s
KLSI 23.43 249 P **P** **15 41 48.4 +5.8**
comp=Z,31nm,0.9s
UBPT Khong Chiam 23.76 300 P **P** **15 41 45.1 -0.5**
UBPT IAmb IAmb 15 41 59.0
comp=Z,83nm,0.8s
MDSI Maura Dua 23.88 250 P **P** **15 41 49.7 +3.0**
comp=Z,48nm,1.1s

COEN Coen 24.08 137 P **P** **15 41 47.4 -1.1**
JRMM Jerantut 24.09 271 P **P** **15 41 54.0 +5.3**
LWLI Liwa 24.17 249 P **P** **15 41 51.6 +2.0**
comp=Z,53nm,0.5s,comp=Z,7μm
PMG Port Moresby 24.29 123 LR LR 15 52 22.0
comp=Z,704nm,20.4s,baz=313,slow=39
WB0 Warramunga Arr 24.60 162 P **P** **15 41 52.3 -1.0**
WRAB Tennant Creek 24.75 162 P **P** **15 41 53.5 -1.1**
WRAB IAmb IAmb 15 42 08.8
comp=Z,104nm,0.9s
WRA Warramunga Arr 24.75 162 P **P** **15 41 54.2 -0.4**
comp=Z,53nm,1.0s,baz=340,slow=10,SNR=28
WRA pP **pP** **15 42 07.1 +0.1**
comp=Z,65nm,0.7s,baz=339,slow=10,SNR=16
WRA S **S** **15 46 12.0 -1.5**
comp=Z,3.2nm,1.0s,baz=338,slow=18,SNR=4.3
WRA Warramunga Arr 24.75 162 P **P** **15 41 53.4 -1.3**
WB2 Warramunga Arr 24.76 162 P **P** **15 41 53.4 -1.3**
WR0 Warramunga Arr 24.83 162 P **P** **15 41 54.5 -0.8**
WR0 IAmb IAmb 15 42 29.8
comp=Z,73nm,0.9s
IPM Ipoh 25.54 272 P **P** **15 42 04.0 +2.1**
IPM Ipoh 25.54 272 P **P** **15 42 03.5 +1.6**
IPM IAmb IAmb 15 42 21.9
comp=Z,86nm,1.2s
BKNI Bangkinang 25.79 263 P **P** **15 42 08.5 +4.3**
comp=Z,97nm,1.1s,comp=Z,2μm
PSA00 Pilbara Seismi 26.05 194 P **P** **15 42 06.7 +0.4**
PSA00 IAmb IAmb 15 42 21.0
comp=Z,52nm,0.7s
PSA00 Pilbara Seismi 26.05 194 P **P** **15 42 05.9 -0.5**
PSA00 IAmb IAmb 15 42 21.1
comp=Z,36nm,0.8s
KRVT Keravat (AS076 26.62 107 LR LR 15 50 53.5
comp=Z,2μm,21.6s,baz=285,slow=32
NONG Nongkai 27.02 303 P pP 15 42 26.8 -0.4
comp=Z,296nmcomp=Z,0.7nm,0.9s
JCJ Chichijima 27.56 31 P **P** **15 42 18.8 -1.1**
comp=Z,48nm,0.8s,baz=202,slow=7.7,SNR=4.9
JCJ pP **pP** **15 42 34.5 +1.6**
comp=Z,53nm,0.7s,baz=282,slow=13,SNR=2.6
JCJ LR LR 15 51 49.8
comp=Z,418nm,21.4s,baz=275,slow=33
PSI Prapat 27.67 269 P **P** **15 42 21.4 +0.2**
PSI pmax pmax
comp=Z,21nm,1.0s
RPSI Rantau Prapat 27.68 269 P **P** **15 42 21.4 +0.3**
AS31 Alice Springs 28.18 166 P **P** **15 42 25.8 +0.3**
ASAR Alice Springs 28.18 166 P **P** **15 42 24.7 -0.8**
ASAR S **S** **15 47 04.7 -3.0**
ASAR Alice Springs 28.18 166 P **P** **15 42 25.1 -0.5**
comp=Z,3.0nm,0.6s,baz=351,slow=7.7,SNR=9.2
ASAR S **S** **15 47 04.7 -3.0**
comp=Z,1.4nm,1.0s,baz=347,slow=16,SNR=1.9
ASAR pScP 15 49 28.9
comp=Z,1.7nm,1.0s,baz=356,slow=3.8,SNR=4.4
ASAR Alice Springs 28.18 166 P **P** **15 42 24.7 -0.8**
PBKT Sadao Pong 28.22 299 P pP 15 42 39.5 +1.5
comp=Z,16nm,1.0s
PBKT Sadao Pong 28.22 299 P **P** **15 42 25.7 -0.2**
WHN Wuhan 29.05 338 P P 15 42 46.0 +13
WHN pP sP 15 42 57.4 +5.6
WHN S S 15 47 34.4 +13
WHN pmax pmax
comp=Z,52nm,0.7s
WHN LR LR
comp=Z,2μm,18.3s
NJ2 Nanjing 29.07 346 *e*P **P** **15 42 34.4 +1.1**
NJ2 pP **pP** **15 42 46.7 +0.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
UTTA Uttaradit 29.07 300 P pP 15 42 46.9 +1.4
comp=Z,360μmcomp=Z,41μm,1.0s
GSI Gunungsitoli 29.12 266 P **P** **15 42 33.0 -1.0**
GSI IAmb IAmb 15 42 46.3
comp=Z,36nm,0.8s
UTHA Uthaitani 29.19 296 P pP 15 42 49.4 +2.7
comp=Z,270μmcomp=Z,26μm,0.8s
JNU Nakatsue 29.47 7 P **P** **15 42 36.7 -0.2**
comp=Z,5.2nm,0.7s,baz=221,slow=16,SNR=4.6
JNU Nakatsue 29.47 7 P **P** **15 42 36.8 -0.1**
LAMP Lampang 30.20 301 P pP 15 42 58.1 +2.5
comp=Z,37μm,0.9s
CMAR Chiang Mai Arr 30.76 300 P **P** **15 42 49.4 +0.9**
comp=Z,0.8nm,0.3s,baz=114,slow=8.4,SNR=8.3
CMAR pP **pP** **15 43 01.9 +1.3**
comp=Z,7.1nm,0.8s,baz=119,slow=7.6,SNR=12
CMAR ScP **ScP** **15 49 26.3 +2.4**
comp=Z,1.1nm,0.8s,baz=172,slow=2.0,SNR=4.9
CMAR pScP 15 49 38.7
comp=Z,5.1nm,1.0s,baz=142,slow=1.5,SNR=13
CMAR LR LR 15 56 06.5
comp=Z,331nm,19.9s,baz=126,slow=38
CMAR Chiang Mai Arr 30.76 300 P **P** **15 42 48.5 0.0**
CHTO Chiang Mai 30.91 301 P **P** **15 42 49.5 -0.3**
CHTO pmax pmax
comp=Z,21nm,1.1s
CHTO Chiang Mai 30.91 301 P **P** **15 42 49.5 -0.3**
ENH Enshi 30.94 330 P **P** **15 42 49.6 -0.4**
ENH IAmb IAmb 15 43 31.6
comp=Z,24nm,0.8s
KMI Kunming 31.28 315 P P 15 42 58.1 +4.9
KMI pP sP 15 43 11.0 +0.2
KMI pmax pmax
comp=Z,8.0nm,0.9s
KMI LR LR
comp=Z,210nm,18.3s
KMI LR LR
comp=Z,530nm,23.3s
KMI LR LR
comp=Z,720nm,24.2s
JHJ Hachijo jima 2 31.69 21 LR LR 15 53 50.9
comp=Z,500nm,21.6s,baz=220,slow=32
KSAR Wonju Array Be 33.53 2 P **P** **15 43 12.3 -0.2**
KSAR Wonju Array Be 33.53 2 P **P** **15 43 12.2 -0.2**
KSRS Korea Array 33.55 2 P **P** **15 43 13.2 +0.7**
comp=Z,6.3nm,0.5s,baz=179,slow=10,SNR=31
KSRS pP **pP** **15 43 26.6 +0.9**
comp=Z,9.7nm,0.7s,baz=181,slow=9.7,SNR=14
KS19 Wonju Array Si 33.59 2 P **P** **15 43 12.3 -0.8**
MORW Morawa 34.20 197 P **P** **15 43 17.5 -0.8**
MORW IAmb IAmb 15 44 11.5
comp=Z,41nm,1.2s
MAJO Matsushiro 34.31 17 ⇓*e*P **P** **15 43 18.5 -0.9**
MJAR Matsushiro Arr 34.31 17 P **P** **15 43 18.8 -0.6**
MJAR *PP **pP** **15 43 30.8 -1.8**
MJAR pmax pmax
comp=Z,2.0nm,1.0s
MJAR Matsushiro Arr 34.31 17 P **P** **15 43 20.0 +0.6**
comp=Z,0.7nm,0.5s,baz=170,slow=8.4,SNR=3.9
MJAR pP **pP** **15 43 30.8 -1.8**
comp=Z,1.9nm,0.7s,baz=172,slow=8.4,SNR=3.5
MJAR LR LR 15 55 47.4
comp=Z,384nm,22.0s,baz=205,slow=33
MJAR Matsushiro Arr 34.31 17 P **P** **15 43 18.8 -0.6**
XAN Xi'an 34.33 333 ScS ScS 15 53 43.9 +5.4
XAN pmax pmax
comp=Z,36nm,0.9s
XAN pmax pmax
comp=Z,130nm,4.9s
XAN LR LR
comp=N,570nm,17.6s
XAN LR LR
comp=E,180nm,18.1s
XAN LR LR
comp=Z,570nm,19.6s
XAN Xi'an 34.33 333 P **P** **15 43 18.6 -1.0**
XAN pmax pmax
comp=Z,34nm,0.9s
XAN Xi'an 34.33 333 P **P** **15 43 18.6 -1.0**
XAN IAmb IAmb 15 43 58.4
comp=Z,34nm,0.9s
FORT Forrest 34.38 178 P **P** **15 43 19.4 -0.5**
CD2 Chengdu 34.55 324 P **P** **15 43 22.0 +0.5**
CD2 pP pP 15 43 34.6 +0.6
CD2 S **S** **15 48 48.8 +1.7**
CD2 ScS **ScS** **15 53 33.9 -5.9**
CD2 pmax pmax
comp=Z,30nm,0.4s
CD2 pmax pmax
comp=Z,150nm,3.9s
CD2 LR LR
comp=Z,1μm,16.1s
CD2 LR LR
comp=Z,1μm,19.0s
CD2 LR LR

comp=Z,1μm,18.2s
HNR Honiara 35.70 112 LR LR 15 57 39.1
comp=Z,325nm,20.2s,baz=292,slow=35
BJT Baijiatuau 37.30 347 P **P** **15 43 44.9 0.0**
BJT *PP **pP** **15 43 58.7 +1.1**
BJT pmax pmax
comp=Z,54nm,0.8s
BJT Baijiatuau 37.30 347 P **P** **15 43 44.9 0.0**
BJT pP **pP** **15 43 58.7 +1.1**
EIDS Eidsvold 37.45 142 P **P** **15 43 45.8 -0.5**
EIDS pP **pP** **15 43 58.9 -0.3**
EIDS lAmb lAmb 15 44 01.7
comp=Z,22nm,0.7s
BBOO Buckleboo 37.46 167 P **P** **15 43 46.3 0.0**
BBOO lAmb lAmb 15 44 03.9
comp=Z,24nm,0.9s
NWAO Narrogin (SRO) 37.57 193 P **P** **15 43 47.1 -0.1**
NWAO pmax pmax
comp=Z,152nm,2.0s
NWAO Narrogin (SRO) 37.57 193 P **P** **15 43 47.0 -0.1**
comp=Z,6.4nm,0.5s,baz=15,slow=9.1,SNR=10
NWAO Narrogin (SRO) 37.57 193 P **P** **15 43 47.1 -0.1**
NWAO Narrogin (SRO) 37.57 193 P **P** **15 43 47.1 -0.1**
NWAO lAmb lAmb 15 43 51.7
comp=Z,152nm,2.0s
STKA Stephens Creek 38.20 159 P **P** **15 43 52.2 -0.4**
STKA *PP **pP** **15 44 05.3 0.0**
STKA 15 46 06.7
STKA pmax pmax
comp=Z,6.0nm,0.8s
STKA Stephens Creek 38.20 159 P **P** **15 43 52.9 +0.3**
comp=Z,12nm,0.4s,baz=337,slow=8.2,SNR=50
STKA pP **pP** **15 44 05.2 0.0**
comp=Z,15nm,0.4s,baz=324,slow=9.3,SNR=12
STKA PcP **PcP** **15 46 06.7 +0.3**
comp=Z,9.2nm,0.6s,baz=21,slow=2.2,SNR=2.9
STKA Stephens Creek 38.20 159 P **P** **15 43 52.2 -0.4**
BRDH Bariadhala 38.73 302 P **P** **15 43 58.4 +1.3**
comp=Z,0.7nm,0.5s,baz=268,slow=24,SNR=8.2
HHC Hu-ho-hao-te 39.33 342 P **P** **15 44 04.0 +2.0**
HHC pmax pmax
comp=Z,5.0nm,0.8s
SHL Shillong 39.77 306 P **P** **15 44 04.8 -1.2**
SHL pmax pmax
comp=Z,69nm,0.6s
SHL Shillong 39.77 306 *e*P **P** **15 44 05.0 -1.0**
SHL *i* S S 15 49 58.0 -8.9
SHL Shillong 39.77 306 P **P** **15 44 04.8 -1.2**
CN2 Changchun 39.88 359 *e*P **P** **15 44 06.8 +0.4**
CN2 *e*S **S** **15 50 05.9 -1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,190nm,15.0s
CN2 LR LR
comp=Z,240nm,15.0s
CN2 LR LR
comp=Z,240nm,17.0s
USA0B Ussuriysk Arra 40.54 6 P **P** **15 44 12.5 +0.6**
USA0B Ussuriysk Arra 40.54 6 P **P** **15 44 12.5 +0.6**
USRK Ussuriysk Ar. 40.54 6 P **P** **15 44 12.5 +0.6**
comp=Z,3.3nm,0.5s,baz=185,slow=7.5,SNR=24
USRK pP **pP** **15 44 24.4 -0.7**
comp=Z,5.7nm,0.7s,baz=187,slow=6.6,SNR=5.7
USRK sP **sP** **15 44 30.9 -0.1**
comp=Z,8.5nm,0.6s,baz=176,slow=6.5,SNR=9.5
MDJ Mudanjiang 40.76 3 P **P** **15 44 14.9 +1.2**
MDJ pmax pmax
comp=Z,17nm,0.7s
MDJ pmax pmax
comp=Z,120nm,6.6s
MDJ Mudanjiang 40.76 3 P **P** **15 44 14.1 +0.4**
MDJ pP **pP** **15 44 27.4 +0.3**
MDJ lAmb lAmb 15 44 28.8
comp=Z,34nm,0.9s
ARMA Armidale 41.56 147 P **P** **15 44 21.2 +0.7**
ARMA lAmb lAmb 15 44 36.5
comp=Z,118nm,1.8s
H11S3 WAKE ISLAND Hy 41.81 66 T T 16 29 50.5
baz=252,slow=75,SNR=5.6
H11S1 WAKE ISLAND Hy 41.83 66 T T 16 29 53.9
baz=252,slow=75,SNR=4.6
H11S2 WAKE ISLAND Hy 41.83 66 T T 16 29 56.7
baz=252,slow=75,SNR=4.4
TEY Ternei 42.02 11 ⇓*e*P **P** **15 44 24.8 +0.8**
TEY *e* 15 44 37.7
TEY pmax pmax
comp=Z,20nm,0.6s
LSA Lhasa 42.33 311 P **P** **15 44 27.6 +0.2**
LSA *PP **pP** **15 44 40.9 +0.8**
LSA pmax pmax
comp=Z,18nm,0.8s
LSA Lhasa 42.33 311 P **P** **15 44 27.6 +0.2**
LSA pP **pP** **15 44 40.9 +0.8**
ASAJ Asahikawa 42.59 17 P **P** **15 44 30.2 +1.6**
comp=Z,6.1nm,0.8s,baz=237,slow=9.9,SNR=7.9
ASAJ pP **pP** **15 44 42.8 +0.6**
comp=Z,12nm,0.7s,baz=225,slow=8.8,SNR=4.5
JKA Kamikawa-asahi 42.59 17 P **P** **15 44 30.2 +1.6**
JKA pP **pP** **15 44 42.8 +0.6**
GTA Gaotai 43.01 329 *e*P **P** **15 44 32.6 +0.3**
GTA pP pP 15 44 45.8 +0.9
GTA sP sP 15 44 51.1 +0.7
GTA S **S** **15 50 52.9 -1.5**
GTA SS **SS** **15 54 02.0 -6.1**
GTA pmax pmax
comp=Z,74nm,7.5s
GTA LR LR
comp=Z,290nm,18.4s
GTA LR LR
comp=Z,570nm,18.7s
GTA LR LR
comp=Z,1μm,20.6s
TAPN Taplejung 43.91 306 *e*P **P** **15 44 38.8 -1.2**
comp=Z,11nm,0.4s
ODAN Odare 43.96 306 *e*P **P** **15 44 39.1 -1.2**
comp=Z,14nm,0.3s
CAN Canberra 44.19 153 P **P** **15 44 42.4 +0.6**
CAN *PP **pP** **15 44 56.4 +1.7**
CAN pmax pmax
comp=Z,30nm,0.9s
CAN Canberra 44.19 153 P **P** **15 44 42.4 +0.6**
CAN pP **pP** **15 44 56.4 +1.7**
CAN lAmb lAmb 15 44 57.3
comp=Z,30nm,0.9s
RAMN Ramite 44.64 305 *e*P **P** **15 44 44.8 -1.0**
comp=Z,14nm,0.5s
TOO Toolangi 44.71 159 P **P** **15 44 46.9 +1.0**
TOO pmax pmax
comp=Z,29nm,1.3s
TOO Toolangi 44.71 159 P **P** **15 44 46.9 +1.0**
YSS Yuzh-Sakhalins 45.23 16 ⇓*e*P **P** **15 44 50.0 +0.2**
YSS *e* 15 45 11.0
YSS Yuzh-Sakhalins 45.23 16 P **P** **15 44 50.1 +0.2**
YSS lAmb lAmb 15 45 23.6
comp=Z,26nm,0.9s
JIRN Jiri 45.26 306 *e*P **P** **15 44 49.6 -1.3**
comp=Z,15nm,0.3s
KLR Kul'dur 45.51 5 P **P** **15 44 52.3 +0.3**
comp=Z,6.7nm,0.5s,baz=195,slow=5.7,SNR=38
KLR pP **pP** **15 45 05.3 -0.1**
comp=Z,14nm,0.8s,baz=170,slow=7.0,SNR=11
GUN Gumba 45.62 306 *e*P **P** **15 44 52.4 -1.2**
comp=Z,21nm,0.4s
HIA Hailar 45.71 354 ⇓*e*P **P** **15 44 55.1 +1.5**
HIA pmax pmax
comp=Z,60nm,1.2s
HIA Hailar 45.71 354 P **P** **15 44 54.4 +0.8**
HIA lAmb lAmb 15 45 13.8
comp=Z,42nm,1.2s
PKI Pulchoki 45.86 305 *e*P **P** **15 44 53.7 -1.8**
comp=Z,5.0nm,0.3s
PKIN Phulchoki 45.87 305 *e*P **P** **15 44 53.6 -2.0**
comp=Z,6.3nm,0.4s
KKN Kakani 46.05 306 *e*P **P** **15 44 55.3 -1.6**
comp=Z,10nm,0.4s
DMN Daman 46.12 305 *e*P **P** **15 44 56.6 -0.9**
comp=Z,33nm,0.9s
DZM Mont Dzumac 46.64 125 P **P** **15 45 03.1 +1.7**
comp=Z,16nm,0.8s,baz=189,slow=23,SNR=19
DZM pP **pP** **15 45 15.3 +0.7**
comp=Z,32nm,0.9s,baz=277,slow=7.4,SNR=9.8
DZM Mont Dzumac 46.64 125 P **P** **15 45 02.6 +1.2**

GKN Gorkha 46.66 306 *e*P P **15 44 59.6 -2.0**
comp=Z,17nm,0.4s
ULN Ulaanbaatar 47.05 342⇑ *e*P P **15 45 06.5 +2.2**
ULN pmax pmax
comp=Z,16nm,2.5s
ULN Ulaanbaatar 47.05 342 P P **15 45 05.2 +0.9**
ULN IAmb IAmb 15 45 36.6
comp=Z,15nm,0.8s
SONM Songino Array 47.23 341 P P **15 45 05.8 +0.1**
SONM *PP **pP** **15 45 18.5 -0.4**
SONM pmax pmax
comp=Z,7.0nm,0.8s
SONM Songino Array 47.23 341 P P **15 45 06.6 +0.9**
comp=Z,1.6nm,0.5s,baz=168,slow=7.3,SNR=7.2
SONM pP **pP** **15 45 18.5 -0.4**
comp=Z,8.4nm,0.7s,baz=157,slow=8.9,SNR=12
SONM LR LR 16 06 42.5
comp=Z,269nm,19.9s,baz=152,slow=38
SONM Songino Array 47.23 341 P P **15 45 05.8 +0.1**
KOLN Koldanda 47.41 305 *e*P P **15 45 06.4 -1.2**
comp=Z,28nm,0.3s
DANN Dangsing 47.51 306 *e*P P **15 45 06.9 -1.5**
comp=Z,46nm,0.5s
GRNR Gornyy 47.56 8 *e*P P **15 45 07.6 -0.4**
HYB Hyderabad 49.00 290 *i* P P **15 45 19.0 -0.8**
ZEA Zeya 49.81 0 *e*P P 15 45 37.2 +12
ZEA pmax pmax
comp=Z,17nm,1.0s
ZEA MLR MLR
comp=N,400nm,17.0s
ZEA MLR MLR
comp=Z,400nm,17.0s
TLY Talaya 51.46 342 *e*P P 15 45 49.8 +12
TLY pmax pmax
comp=Z,27nm,0.9s
TLY MLR MLR
comp=Z,407nm,15.0s
MOY Mondy 52.31 340 *e*P P 15 45 50.3 +6.1
MOY pmax pmax
comp=Z,27nm,1.6s
WMQ Urumqi 52.63 325 *e*P P **15 45 47.0 +0.3**
WMQ pP pP 15 45 59.3 -0.3
WMQ pmax pmax
comp=Z,8.0nm,1.3s
WMQ pmax pmax
comp=Z,52nm,4.7s
WMQ LR LR
comp=Z,560nm,17.9s
WMQ LR LR
comp=Z,160nm,23.5s
WMQ LR LR
comp=Z,510nm,23.5s
POO Poona 53.60 290 *e*P P 15 46 03.5 +9.3
BOD Bodaibo 54.81 352 *e*P P **15 46 03.3 +1.0**
MSVF Nonsavu 55.02 115 P P **15 46 04.7 +0.1**
MSVF pmax pmax
comp=Z,45nm,1.0s
MSVF Nonsavu 55.02 115 P P **15 46 04.7 +0.1**
PETK Petropavlovsk- 55.43 22 P P **15 46 07.8 +1.0**
comp=Z,7.7nm,0.7s,baz=194,slow=4.2,SNR=25
PETK pP **pP** **15 46 21.0 +0.1**
comp=Z,9.3nm,0.9s,baz=191,slow=2.7,SNR=5.2
PETK LR LR 16 06 47.5
comp=Z,126nm,22.0s,baz=239,slow=33
MK31 Makanchi Array 57.46 325 P P **15 46 20.2 -1.3**
MK31 pmax pmax
comp=Z,25nm,1.4s
MK31 Makanchi Array 57.46 325 P P **15 46 20.2 -1.3**
MK31 IAmb IAmb 15 46 35.8
comp=Z,24nm,1.4s
MKAR Makanchi Array 57.46 325 P P **15 46 20.4 -1.1**
comp=Z,4.0nm,0.4s,baz=117,slow=7.2,SNR=52
MKAR pP **pP** **15 46 33.6 -0.8**
comp=Z,8.0nm,0.4s,baz=118,slow=8.1,SNR=18
MKAR ScP **ScP** **15 51 13.6 +3.0**
comp=Z,0.7nm,0.7s,baz=106,slow=2.5,SNR=2.8
MKAR LR LR 16 13 07.6
comp=Z,316nm,19.1s,baz=116,slow=38
MKAR Makanchi Array 57.46 325 P P **15 46 21.1 -0.3**
PRZ Przheval'sk 57.61 319 P P **15 46 23.2 +0.4**
PRZ pmax pmax
comp=Z,31nm,0.7s
PRZ Przheval'sk 57.61 319 P P **15 46 23.2 +0.4**
MAKZ Makanchi 57.65 325 P P **15 46 23.0 +0.2**
MAKZ pmax pmax
comp=Z,34nm,1.3s
MAKZ Makanchi 57.65 325 P P **15 46 23.0 +0.2**
MAKZ IAmb IAmb 15 46 37.1
comp=Z,34nm,1.3s
TARG Taragay, Kyrgy 57.65 318 P P **15 46 23.5 +0.1**
TARG IAmb IAmb 15 46 47.3
comp=Z,46nm,1.7s
NIL Nilore 57.82 308 P P **15 46 23.8 -0.4**
NIL pmax pmax
comp=Z,46nm,1.1s
NIL Nilore 57.82 308 P P **15 46 23.8 -0.4**
KSH Kashi 57.94 315 P P **15 46 28.0 +2.9**
KSH pP sP 15 46 44.1 +0.4
KSH S **S** **15 54 24.2 +2.4**
KSH ScS **ScS** **15 56 09.4 -1.2**
KSH SS **SS** **15 58 18.3 +4.8**
KSH pmax pmax
comp=Z,420nm,4.6s
KSH LR LR
comp=Z,310nm,8.2s
YAK Yakutsk 58.17 2 *e*P P 15 46 36.1 +10
YAK *e**PP sP 15 46 56.4 +11
YAK *e* 15 48 40.1
YAK *e*S S 15 54 41.9 +18
YAK pmax pmax
comp=Z,49nm,1.3s
YAK pmax pmax
comp=N,22nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK pmax pmax
comp=Z,233nm,3.5s
YAK pmax pmax
comp=N,224nm,2.5s
YAK Yakutsk 58.17 2 P P **15 46 25.9 -0.2**
MA2 Magadan 58.69 14⇓ *e*P P **15 46 31.8 +2.0**
MA2 pmax pmax
comp=Z,43nm,1.3s
NRN Naryn 58.73 317 P P **15 46 30.4 -0.4**
NRN pmax pmax
comp=Z,12nm,0.7s
NRN Naryn 58.73 317 P P **15 46 30.4 -0.4**
NRN IAmb IAmb 15 46 44.6
comp=Z,12nm,0.7s
AAK Ala-Archa 60.26 318⇓ *e*P P **15 46 41.5 +0.4**
AAK pmax pmax
comp=Z,7.0nm,1.6s
AAK Ala-Archa 60.26 318 P P **15 46 41.6 +0.5**
comp=Z,0.8nm,0.3s,baz=107,slow=7.7,SNR=4.9
AAK pP **pP** **15 46 54.6 +0.3**
comp=Z,5.6nm,0.7s,baz=104,slow=4.3,SNR=11
AAK Ala-Archa 60.26 318 P P **15 46 41.3 +0.2**
AAK IAmb IAmb 15 46 55.8
comp=Z,35nm,1.6s
ZAA0 Zalesovo Array 60.51 333 P P **15 46 40.8 -1.6**
ZALV Zalesovo Beam 60.51 333 P P **15 46 40.5 -1.9**
comp=Z,1.4nm,0.3s,baz=116,slow=6.5,SNR=4.5
ZALV pP **pP** **15 46 53.7 -2.2**
comp=Z,2.9nm,0.4s,baz=127,slow=7.0,SNR=5.0
ZALV Zalesovo Beam 60.51 333 P P **15 46 40.2 -2.1**
ARSB Arslanbob 60.76 316 P P **15 46 44.4 -0.2**
KBL Kabul 61.41 307 P P **15 46 48.2 -1.0**
KBL pmax pmax
comp=Z,21nm,0.8s
KBL Kabul 61.41 307 P P **15 46 48.2 -1.0**
KURBB Kurchatov Arra 61.65 327 P P **15 46 48.7 -1.5**
comp=Z,5.1nm,0.4s,baz=129,slow=6.4,SNR=55
KURBB pP **pP** **15 47 03.1 -0.8**
comp=Z,13nm,0.5s,baz=130,slow=6.8,SNR=23
KURK Kurchatov 61.65 328 P P **15 46 49.9 -0.3**
KURK *PP **pP** **15 47 03.1 -0.8**
KURK Kurchatov 61.65 328 P P **15 46 49.9 -0.3**
KURK Kurchatov 61.65 328 pP 15 47 03.1 -0.8
LBZ Lake Benmore 61.77 146 P P **15 46 51.2 +0.1**
BTK Batken 61.82 314 P P **15 46 51.0 -0.6**
BTK pmax pmax
comp=Z,100nm,1.7s
BTK Batken 61.82 314 P P **15 46 51.0 -0.6**
GAR Garm 61.82 313 P P **15 46 51.2 -0.5**
RPZ Rata Peaks 61.85 145 P P **15 46 52.1 +0.4**
comp=Z,7.3nm,0.6s,baz=3.5,slow=8.3,SNR=8.1
SEY Seymchan 62.02 13⇑ *e*P P **15 46 51.1 -1.3**
CHGR Chuyangaron 62.56 312 P P **15 46 56.2 -0.5**
BKZ Black Stump Fm 62.68 138 P P **15 46 57.1 -0.3**
KKAR Karatay Array 63.13 317 P P **15 46 59.3 -1.0**
KKAR Karatay Array 63.13 317 P P **15 46 59.3 -1.0**
BVAR Borovoye Array 67.23 327 P P **15 47 26.6 0.0**
comp=Z,1.6nm,0.3s,baz=94,slow=4.4,SNR=24
BVAR pP **pP** **15 47 39.9 -0.7**
comp=Z,25nm,0.9s,baz=116,slow=6.9,SNR=24
BRVK Borovoye 67.30 327 *ce*P P **15 47 28.1 +1.0**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 67.30 327 P P **15 47 26.2 -0.8**
BRVK IAmb IAmb 15 47 41.7
comp=Z,30nm,0.8s
TIXI Tiksi 67.81 1⇑ *e*P P **15 47 29.5 -0.3**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
TIXI Tiksi 67.81 1 P P **15 47 30.0 +0.2**
comp=Z,3.0nm,0.3s,baz=360,slow=24,SNR=20
TIXI Tiksi 67.81 1 P P **15 47 29.6 -0.3**
WSAR Wadi Sarin 68.31 293 LR LR 16 20 01.6
comp=Z,41nm,19.1s,baz=108,slow=38
BILL Bilibino 69.54 15 *e*P P **15 47 41.7 +0.9**
BILL *e* 15 50 16.4
BILL pmax pmax
comp=Z,2.0nm,1.2s
NRIK Noril'sk 70.37 346 P P **15 47 46.5 +0.7**
comp=Z,5.1nm,0.6s,baz=131,slow=6.9,SNR=8.7
NRIK pP **pP** **15 47 59.3 -0.1**
comp=Z,21nm,0.7s,baz=135,slow=5.6,SNR=14
NRIK LR LR 16 23 03.5
comp=Z,185nm,19.2s,baz=142,slow=40
GEYT Alibeck 70.79 309 P P **15 47 49.4 +0.3**
comp=Z,0.8nm,0.5s,baz=168,slow=15,SNR=2.6
GEYT pP **pP** **15 48 02.8 +0.3**
comp=Z,4.7nm,0.8s,baz=108,slow=4.8,SNR=7.2
GEYT LR LR 16 21 40.1
comp=Z,132nm,20.8s,baz=345,slow=38
GEYT Alibeck 70.79 309 P P **15 47 48.3 -0.8**
ABKAR Akbulak array 72.05 321 P P **15 47 55.4 -1.0**
ABKAR Akbulak array 72.05 321 P P **15 47 55.1 -1.3**
ABKAR IAmb IAmb 15 48 10.6
comp=Z,16nm,0.7s
AKTO Aktyubinsk 73.56 322 P P **15 48 04.8 -0.5**
comp=Z,3.4nm,0.5s,baz=99,slow=7.0,SNR=13
AKTO pP **pP** **15 48 18.2 -0.8**
comp=Z,22nm,0.7s,baz=101,slow=7.1,SNR=29
ARU Arti 74.85 328 *c i*P P **15 48 11.9 -0.8**
ARU **15 48 25.1**
ARU *PP **pwP** **15 48 29.5 +0.7**
ARU S **S** **15 57 44.9 -0.8**
ARU pmax pmax
comp=Z,7.0nm,0.8s
ARU Arti 74.85 328 P P **15 48 12.2 -0.5**
comp=Z,2.4nm,0.3s,baz=54,slow=4.0,SNR=12
ARU pP **pP** **15 48 25.5 -1.2**
comp=Z,4.6nm,0.5s,baz=114,slow=5.8,SNR=9.7
ARU LR LR 16 22 03.6
comp=Z,137nm,19.4s,baz=122,slow=36
ARU Arti 74.85 328 P P **15 48 11.8 -0.9**
ARU IAmb IAmb 15 48 27.6
comp=Z,21nm,0.8s
RAYN Ar Rayn 80.37 293 P P **15 48 42.1 -2.1**
RAYN pmax pmax
comp=Z,8.0nm,0.9s
RAYN Ar Rayn 80.37 293 P P **15 48 42.1 -2.1**
GNI Garni 81.38 310 LR LR 16 29 41.3
comp=Z,41nm,20.5s,baz=68,slow=39
KDAK Kodiak Island 81.91 32 *i* P P **15 48 52.7 +1.1**
IMAR Indian Mountai 82.35 24 P P **15 48 54.6 +0.8**
PRGR Permogore 82.42 332 *e*P P **15 48 54.7 +0.5**
PRGR pmax pmax
comp=Z,29nm,0.6s
SKT Skwentna 82.85 28 P P **15 48 56.5 0.0**
KBZ Khabaz 82.88 313 P P **15 48 58.8 +1.8**
comp=Z,4.1nm,1.0s,baz=104,slow=14,SNR=3.4
KBZ LR LR 16 29 48.9
comp=Z,86nm,19.1s,baz=74,slow=38
NEY Neytrino 82.99 313⇓ *e*P P **15 48 58.0 +0.2**
NEY pmax pmax
comp=Z,8.0nm,1.4s
KIV Kislovodsk 83.03 314 *e*P P **15 48 56.9 -1.0**
KIV pmax pmax
comp=Z,36nm,1.1s
SUA Susitna One 83.18 29 P P **15 48 58.0 -0.3**
SUA IAmb IAmb 15 49 15.0
comp=Z,20nm,0.8s
KTH Kantishna Hill 83.28 27 P P **15 48 59.4 +0.6**
KTH IAmb IAmb 15 49 22.7
comp=Z,28nm,1.4s
BPAW Bear Paw Mtn. 83.30 26 P P **15 48 59.7 +0.9**
VNDA Vanda 83.48 173 P P **15 48 60.0 +0.6**
comp=Z,1.2nm,0.6s,baz=325,slow=7.7,SNR=4.3
MLY Manley 83.49 25 P P **15 49 00.7 +1.0**
MLY IAmb IAmb 15 49 22.9
comp=Z,15nm,0.8s
TRF Thorofare Moun 83.55 27 P P **15 49 00.8 +0.5**
TRF IAmb IAmb 15 49 42.8
comp=Z,20nm,1.1s
RC01 Rabbit Creek A 83.64 29 P P **15 49 00.5 -0.1**
SEW Seward 83.72 30 P P **15 49 01.4 +0.5**
SEW IAmb IAmb 15 49 51.7
comp=Z,29nm,1.3s
VRH Novokhopyorsk 83.89 321 *e*P P 15 49 09.9 +7.9
VRH pmax pmax
comp=Z,10.0nm,0.6s
COLD Coldfoot 83.90 23 P P **15 49 01.9 +0.1**
PMR Palmer 83.96 29 P P **15 49 02.5 +0.4**
PMR pmax pmax
comp=Z,17nm,1.0s
PMR Palmer 83.96 29 P P **15 49 02.5 +0.4**
PMR IAmb IAmb 15 49 36.8
comp=Z,17nm,1.0s
BWN Browne 83.97 26 P P **15 49 03.5 +1.3**
BWN IAmb IAmb 15 49 38.6
comp=Z,25nm,1.0s
MCK McKinley 84.17 26 P P **15 49 03.7 +0.4**
MCK pmax pmax
comp=Z,28nm,1.2s
MCK McKinley 84.17 26 P P **15 49 03.7 +0.4**
MCK IAmb IAmb 15 49 24.9
comp=Z,28nm,1.2s
RND Reindeer 84.19 27 P P **15 49 03.8 +0.4**
RND pmax pmax
comp=Z,30nm,1.6s
RND Reindeer 84.19 27 P P **15 49 03.8 +0.4**
RND IAmb IAmb 15 49 28.7
comp=Z,30nm,1.6s
KNK Knik Glacier 84.27 29 P P **15 49 04.5 +0.7**
KNK IAmb IAmb 15 49 27.2
comp=Z,23nm,1.0s
SML Sawmill 84.35 28 P P **15 49 04.7 +0.4**
SML IAmb IAmb 15 49 27.4
comp=Z,20nm,0.9s
WRH Wood River Hil 84.58 26 P P **15 49 05.7 +0.5**
WRH IAmb IAmb 15 49 38.8
comp=Z,25nm,1.3s
CCB Clear Creek Bu 84.72 26 P P **15 49 06.0 +0.1**
CCB IAmb IAmb 15 49 27.9
comp=Z,15nm,1.2s
SCM Sheep Creek Mo 84.83 28 P P **15 49 07.5 +0.8**
SCM pmax pmax
comp=Z,28nm,1.2s
SCM Sheep Creek Mo 84.83 28 P P **15 49 07.5 +0.8**
SCM IAmb IAmb 15 49 52.0
comp=Z,28nm,1.2s
GLI Glacier Island 84.92 29 P P **15 49 07.9 +0.9**
GLI IAmb IAmb 15 49 22.2
comp=Z,18nm,0.7s
HDA Harding Lake 85.08 26 P P **15 49 07.9 +0.2**
IL31 85.11 25 P P **15 49 07.7 -0.2**
ILAR Eielson Array 85.11 25 P P **15 49 07.6 -0.3**
ILAR Eielson Array 85.11 25 P P **15 49 07.9 0.0**
comp=Z,0.8nm,0.5s,baz=248,slow=5.0,SNR=19
ILAR Eielson Array 85.11 25 P P **15 49 07.6 -0.3**
PPT Papeete 85.23 108 LR LR 16 22 50.0
comp=Z,41nm,20.2s,baz=266,slow=32
VSR Storozhevoye 85.49 321 *e*P P 15 49 15.3 +5.2
VSR pmax pmax
comp=Z,20nm,1.1s
LPSR Galich'ya Gora 85.63 322 *e*P P 15 49 18.0 +7.3
LPSR pmax pmax
comp=Z,40nm,1.0s
PAX Paxson 85.71 27 P P **15 49 11.8 +0.7**
PAX pmax pmax
comp=Z,16nm,1.4s
PAX Paxson 85.71 27 P P **15 49 11.8 +0.7**
PAX IAmb IAmb 15 49 45.5
comp=Z,16nm,1.4s
FYU Fort Yukon 85.83 24 P P **15 49 11.7 +0.3**
BMAR Burnt Mountain 86.08 23 P P **15 49 14.1 +1.3**
SCRK Sand Creek 86.37 26 P P **15 49 13.9 -0.4**
GLB Gilahina Butte 86.51 29 P P **15 49 15.0 0.0**
GLB IAmb IAmb 15 50 00.5
comp=Z,8.3nm,0.8s
OBN Obninsk 86.97 325 *e*P P **15 49 17.1 -0.1**
OBN *e* 15 49 27.7
OBN *e* 15 52 38.4
OBN pmax pmax
comp=Z,4.0nm,1.0s
OBN Obninsk 86.97 325 LR LR 16 30 32.0
comp=Z,52nm,19.3s,baz=46,slow=37
BCAR Beaver Creek A 87.39 27 P P **15 49 19.9 +0.6**
CTGM Chitina Glacie 87.73 29 P P **15 49 22.1 +1.1**
CTGM IAmb IAmb 15 49 25.8
comp=Z,8.6nm,0.7s
KMBO Kilima Mbogo 89.45 269 P P **15 49 30.8 +0.5**
comp=Z,1.3nm,0.4s,baz=74,slow=9.1,SNR=4.0
KMBO pP **pP** **15 49 43.8 -0.3**
comp=Z,6.0nm,1.0s,baz=49,slow=6.5,SNR=4.9
KMBO LR LR 16 25 51.1
comp=Z,99nm,21.8s,baz=90,slow=33
BR131 Keskin Array S 89.92 310 P P **15 49 30.6 -1.2**
BR131 pmax pmax
comp=Z,8.0nm,0.8s
BR131 Keskin Array S 89.92 310 P P **15 49 30.6 -1.2**
BR131 IAmb IAmb 15 49 45.1
comp=Z,8.3nm,0.8s
BRTR Keskin Array B 89.92 310 P P **15 49 30.8 -1.1**
comp=Z,0.7nm,0.4s,baz=124,slow=3.2,SNR=5.3
BRTR pP **pP** **15 49 43.6 -2.4**
comp=Z,7.2nm,0.9s,baz=109,slow=5.1,SNR=14
INK Inuvik 90.16 21 P P **15 49 32.1 0.0**
INK pmax pmax
comp=Z,15nm,1.4s
INK Inuvik 90.16 21 P P **15 49 32.0 0.0**
comp=Z,2.2nm,0.7s,baz=287,slow=4.4,SNR=7.7
INK pP **pP** **15 49 44.2 -2.8**
comp=Z,3.7nm,0.8s,baz=262,slow=5.9,SNR=8.0
INK LR LR 16 30 13.5
comp=Z,62nm,21.5s,baz=267,slow=36
INK Inuvik 90.16 21 P P **15 49 32.1 0.0**
INK IAmb IAmb 15 49 53.4
comp=Z,15nm,1.4s
ARCES ARCESS Array B 90.38 340 P P **15 49 32.1 -1.0**
comp=Z,2.5nm,0.6s,baz=304,slow=24,SNR=6.1
ARCES LR LR 16 33 25.9
comp=Z,339nm,18.7s,baz=63,slow=38
FINES FINESS Array B 91.75 332 *i* P P **15 49 40.5 +0.9**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 91.75 332 P P **15 49 39.6 0.0**
comp=Z,3.8nm,0.8s,baz=66,slow=4.5,SNR=9.9
FINES LR LR 16 32 46.3
comp=Z,105nm,19.8s,baz=66,slow=37
AKASG Malin Array Be 91.80 321 P P **15 49 38.7 -1.4**
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKASG Malin Array Be 91.80 321 P P **15 49 38.9 -1.2**
comp=Z,0.5nm,0.4s,baz=65,slow=4.9,SNR=5.1
AKASG pP **pP** **15 49 51.6 -2.5**
comp=Z,5.9nm,0.6s,baz=66,slow=4.7,SNR=14
AKASG LR LR 16 34 30.6
comp=Z,72nm,18.0s,baz=330,slow=38
AKASG Malin Array Be 91.80 321 P P **15 49 38.7 -1.4**
SYO Syowa Base 92.42 201⇑ *e*P P **15 49 42.6 +0.1**
SYO Syowa Base 92.42 201⇑ *es*P sP 15 50 04.2 +2.2
SORM Soroca 92.73 318⇑P P **15 49 45.9 +1.4**
SORM Soroca 92.73 318⇑P P **15 49 45.9 +1.4**
TESR Tescani 94.14 317⇓P P **15 49 51.1 +0.1**
VRI Vrincioaia 94.19 316⇓P P **15 49 52.2 +0.9**
VRI Vrincioaia 94.19 316⇓P P **15 49 52.2 +0.9**
PLOR Plostina 94.25 316⇑P P **15 49 54.5 +2.9**
PLOR Plostina 94.25 316⇑P P **15 49 54.5 +2.9**
MLR Muntele Rosu 94.80 316⇑P P **15 49 57.2 +3.0**
MLR Muntele Rosu 94.80 316⇑P P **15 49 57.2 +3.0**
SUW Suwalki 94.83 325 pP pP 15 50 06.4 -1.6
BURAR Bucovina Array 94.90 318⇑P P **15 49 54.6 0.0**
BURAR Bucovina Array 94.90 318⇑P P **15 49 54.6 0.0**
BURAR Bucovina Array 94.90 318 P P **15 49 53.5 -1.1**
BURAR pP **pP** **15 50 07.7 -1.5**
BUR08 Bucovina Ar. S 94.91 318 P P **15 49 53.9 -0.8**
BUR08 pP **pP** **15 50 07.1 -1.6**
BUR08 IAmb IAmb 15 50 08.1
comp=Z,11nm,0.8s
DOPR Dopca 95.10 317⇓P P **15 49 56.1 +0.7**
TRPA Tarpa 96.56 319⇑P P **15 50 03.5 +1.6**
UZH Uzhgorod 96.60 320 *e*P P **15 50 04.4 +2.2**
UZH *i* 15 50 13.8
UZH *i* 15 50 20.0
GZR Gura Zlata 97.00 316⇑P Pdif 15 50 05.4 +1.1
GZR Gura Zlata 97.00 316⇑P Pdif 15 50 05.4 +1.2
HERR Herculane 97.37 316⇓P Pdif 15 50 06.1 +0.3
SIRR Siria 97.57 317⇑P P **15 50 06.1 -0.5**
BZS Buzias 97.75 317⇑P Pdif 15 50 09.5 +2.0
BZS Buzias 97.75 317⇑P Pdif 15 50 09.5 +2.0
MDVR Moldovita 97.88 316⇑P Pdif 15 50 11.4 +3.2
NB2 NORSAR Subarra 98.70 334 P P **15 50 11.1 -0.3**
comp=Z,1.3nm,0.9s,baz=65,slow=4.6
NOA NORSAR Array B 98.70 334 P P **15 50 10.8 -0.7**
comp=Z,1.7nm,1.0s,baz=62,slow=4.6,SNR=4.1
NOA pP **pP** **15 50 23.2 -2.3**
comp=Z,1.7nm,0.6s,baz=66,slow=4.5,SNR=5.2
NOA LR LR 16 38 41.3
comp=Z,138nm,19.8s,baz=5.0,slow=38
YKA Yellowknife Ar 99.51 24 P **Pdif** **15 50 15.5 +0.7**
comp=Z,0.5nm,0.7s,baz=297,slow=4.1,SNR=2.9
BRG Berggiesshubel 101.14 323 *e*P pP 15 50 36.4 -0.3
comp=Z,6.2nm,1.0s
GERES GERESS Array B 101.99 322 pP pPdif 15 50 39.0 -1.5
comp=Z,0.9nm,0.8s,baz=64,slow=6.1,SNR=4.7
TXAR Lajitas Array 121.66 52 PKP **PKPdf** **15 55 26.8 +0.2**
comp=Z,0.5nm,0.6s,baz=37,slow=1.6,SNR=3.8
TORD Torodi Ar. Bea 122.81 288 PKP **PKPdf** **15 55 28.0 -1.1**
comp=Z,0.8nm,0.4s,baz=94,slow=1.8,SNR=7.0
TORD pPKP **pPKPdf** **15 55 41.9 -1.6**
comp=Z,2.1nm,0.6s,baz=64,slow=2.1,SNR=9.7
TORD PKKPbc **PKKPab** **16 05 23.5 +1.4**
comp=Z,0.4nm,0.5s,baz=253,slow=2.4,SNR=5.2
TORD Torodi Ar. Bea 122.81 288 **PKPdf** **15 55 27.6 -1.4**
PLCA Paso Flores 140.08 160 PKhKP PKPpre 15 55 54.0
comp=Z,1.9nm,0.9s,baz=284,slow=8.3,SNR=3.0
ESTN Estel 143.20 62 PKPpre 15 56 00.2
ACON Acoyapa 144.73 63 **PKPab** **15 56 07.8 -1.0**
CFA Coronel Fontan 148.98 155 PKPbc **PKPbc** **15 56 20.0 -0.7**
comp=Z,6.6nm,0.5s,baz=208,slow=3.9,SNR=4.1
CPUP Villa Florida 157.25 171 pPKP **pPKPdf** **15 56 41.4 -2.0**
comp=Z,1.9nm,0.7s,baz=147,slow=4.5,SNR=2.7
CPUP PKPab **PKPab** **15 57 01.0 +1.5**
comp=Z,3.9nm,0.9s,baz=227,slow=3.2,SNR=4.0

TAP 03 15:40:36.3, 21.72N×121.37E, h123km, ML3.0, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LAY	**Lan-yu** baz=36	**0.36**	**28**	P		Pn	15 40 53.8	-0.1
LAY				*e*S		Sn	15 41 06.5	-0.7
TWKBT	**Hengchun** baz=285	**0.56**	**293**	*e*P		Pn	15 40 55.5	+0.6
TWKBT				*e*S		Sn	15 41 09.9	+0.9
TWK1	**Hengchun** baz=287	**0.57**	**293**	*e*P		Pn	15 40 54.4	-0.5
EAST	**Anshuo** baz=326	**0.82**	**324**	*e*P		Pn	15 40 58.3	+1.3
EAST				*e*S		Sn	15 41 12.2	-0.4
SCZT	**Fangliau** baz=317	**0.95**	**313**	*e*P		Pn	15 40 58.9	+0.8
SCZT				*e*S		Sn	15 41 13.8	-0.8
ECL	**Taimali** baz=340	**0.95**	**336**	*e*P		Pn	15 40 58.0	-0.1
ECL				*e*S		Sn	15 41 13.8	-0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MASBT	Mashibuluo	1.12	323	eP	Pn	15 40 59.8	+0.1
	baz=327						
MASBT				eS	Sn	15 41 17.5	-0.1
	baz=327						
TWGBT	Beinan	1.12	346	eP	Pn	15 41 00.1	+0.2
	baz=339						
TWG	Pinlang	1.13	346	eP	Pn	15 41 00.1	+0.3
	baz=340						
SSD	Sandimen	1.23	326	eP	Pn	15 41 01.8	+0.9
	baz=327						
TWM1	Shoushan	1.41	322	eP	Pn	15 41 02.1	-0.8
	baz=314						
SLGT	Liugui	1.43	332	eP	Pn	15 41 04.5	+1.3
	baz=332						
FULB	Fuli	1.47	357	eP	Pn	15 41 03.8	+0.1
	baz=350						
ELDTW	Lidau	1.50	348	eP	Pn	15 41 04.9	+0.9
	baz=348						
SGST	Jiashian	1.54	332	eP	Pn	15 41 05.1	+0.7
	baz=332						
TWF1	Yuli	1.63	358	eP	Pn	15 41 05.7	+0.3
	baz=355						
CHN1	Nanshi	1.65	332	eP	Pn	15 41 07.0	+1.3
	baz=332						
YULB	Yu-li	1.67	358	eP	Pn	15 41 04.9	-1.0
	baz=353						
YULB				eS	Sn	15 41 26.9	-1.5
	baz=353						
WTP	Ta-pu	1.67	335	eP	Pn	15 41 06.3	+0.3
	baz=336						
TPUB	Ta-pu	1.72	337	eP	Pn	15 41 06.7	+0.2
	baz=337						
HGSD	Ruisui	1.77	2	eP	Pn	15 41 07.3	+0.3
	baz=6.0						
CHN4	Tsaushan	1.77	336	eP	Pn	15 41 08.0	+0.9
	baz=336						
CHN5	Tsauling	1.98	341	eP	Pn	15 41 10.2	+0.5
	baz=341						
CHN5				eS	Sn	15 41 33.7	-1.5
	baz=341						
WHYT	Xinyi Township	2.02	347	eP	Pn	15 41 10.3	+0.1
	baz=340						
VWDT	VWDT	2.04	354	eP	Pn	15 41 10.8	+0.5
	baz=345						
ESL	Shilin	2.09	2	eP	Pn	15 41 10.1	-0.9
	baz=356						
SSLB	Suanglung	2.09	350	eP	Pn	15 41 11.6	+0.5
	baz=350						
SSLB	Suanglung	2.09	350	P	Pn	15 41 11.7	+0.6
WJS	Zhushan	2.17	344	eP	Pn	15 41 12.3	+0.2
	baz=338						
TYC	Yuchr	2.23	348	eP	Pn	15 41 13.5	+0.8
	baz=348						
WNT	Mingjian	2.24	344	eP	Pn	15 41 13.3	+0.4
	baz=336						
CHGB	Renai	2.34	356	eP	Pn	15 41 14.3	-0.1
	baz=348						
CHGB				eS	Sn	15 41 41.8	-1.7
	baz=348						
DPDB	Guoxing	2.34	350	eP	Pn	15 41 14.1	-0.1
	baz=350						
WHF	Hehuan Shan	2.42	358	eP	Pn	15 41 14.4	-1.2
	baz=352						
NACB	Ninganchiao	2.45	5	eP	Pn	15 41 14.1	-1.5
	baz=358						
TWT	Tachien	2.53	356	eP	Pn	15 41 16.8	0.0
	baz=349						
TDCB	Techi	2.53	356	eP	Pn	15 41 16.0	-0.8
	baz=349						
NNSB	Datong	2.70	0	eP	Pn	15 41 17.1	-1.7
NNS	Nan Shan	2.71	0	eP	Pn	15 41 17.6	-1.4
ENTT	Nioudou	2.91	4	eP	Pn	15 41 20.8	-0.7
	baz=9.0						
YHNB	Yeheng	2.94	0	eP	Pn	15 41 20.2	-1.7
YHNB	Yeheng	2.94	0	P	Pn	15 41 20.0	-2.0

*IDC **03** 15:41:46.4±1.1, 3.°87N×126.°54E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.6/49, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=80.8km s-min=19.3km az=60.0*

*ISCJB **03** 15:41:50.1±0.6, 3.°9N±0.°1×126.°7E±0.°2, h45km, mb3.9/5, Error ellipse: s-maj=32.8km s-min=7.1km az=147.0*

*NEIC **03** 15:41:51.8±1.3, 3.°9N±0.°1×126.°5E±0.°2, h42km±11km, mb4.6/5*

ISC 03 15:41:52.1±0.8**, 3.°8N**±0.°1×**126.°5E**±0.°2**, h45km, n13, σ0.s64**/13**, mb4.1**/7**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	3.15	164	Pn	Pn	15 42 39.0	-0.2
SIJI	Sorong	6.65	134	Pn	Pn	15 43 27.4	+0.1
	2.3nm,0.3s,baz=300,slow=24,SNR=5.6						
SIJI				Sn	Sn	15 44 41.2	-0.7
	1.1nm,0.3s,baz=156,slow=20,SNR=3.1						
FAKI	Fak Fak	8.81	139	Pn	Pn	15 43 57.4	+0.4
TPUB	Ta-pu	20.18	344	P	P	15 46 22.4	-0.7
TPUB				IAmb	IAmb	15 46 42.0	
	comp=Z,118nm,2.0s						
WRA	Warramunga Arr	24.84	162	P	P	15 47 10.8	+0.3
	comp=Z,1.8nm,0.8s,baz=344,slow=9.6,SNR=2.7						
XAN	Xi'an	34.24	333	P	P	15 48 32.8	-1.0
XAN				IAmb	IAmb	15 48 56.2	
	comp=Z,8.0nm,1.1s						
SONM	Songino Array	47.14	342	P	P	15 50 20.2	+0.2
	comp=Z,0.5nm,0.6s,baz=150,slow=8.5,SNR=2.6						
SONM	Songino Array	47.14	342	P	P	15 50 19.7	-0.3
MKAR	Makanchi Array	57.36	325	P	P	15 51 35.7	-0.1
	comp=Z,1.2nm,0.7s,baz=115,slow=7.4,SNR=4.6						
KURBB	Kurchatov Arra	61.55	327	P	P	15 52 05.1	+0.6
	comp=Z,0.7nm,0.5s,baz=133,slow=6.2,SNR=6.4						
KURK	Kurchatov	61.55	328	P	P	15 52 05.1	+0.6
KURK	Kurchatov	61.55	328	IAmb	IAmb	15 52 42.0	
	comp=Z,6.2nm,1.4s						
NRIK	Noril'sk	70.29	346	P	P	15 53 01.5	+1.1
	comp=Z,1.5nm,0.6s,baz=156,slow=10.0,SNR=4.0						

*IDC **03** 15:43:56.1±0.9, 3.°95N×126.°70E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.7/43, mbtmp3.9/7, ML4.2/1, Error ellipse: s-maj=73.7km s-min=17.8km az=69.0*

*ISCJB **03** 15:43:58.3±0.4, 4.°02N±0.°06×127.°0E±0.°1, h36km, mb3.8/6, Error ellipse: s-maj=16.5km s-min=6.5km az=160.2*

*NEIC **03** 15:44:00.4±1.3, 3.°9N±0.°1×126.°8E±0.°2, h37km±11km, mb4.6/15*

ISC 03 15:44:00.6±0.7**, 3.°93N**±0.°09×**126.°9E**±0.°1**, h36km, n23, σ1.s08**/21**, mb4.4**/12**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	3.18	171	Pn	Pn	15 44 48.1	0.0
SIJI	Sorong	6.49	137	Pn	Pn	15 45 33.4	-0.3
	4.6nm,0.3s,baz=169,slow=23,SNR=17						
FAKI	Fak Fak	8.68	142	Pn	Pn	15 46 03.8	+0.1
MTN	Manton Dam	17.20	166	Pn	Pn	15 47 57.1	-1.1
JAGI	Jajag, Banyuwa	17.68	226	P	P	15 48 05.5	+0.7
YULB	Yu-li	20.08	345	P	P	15 48 29.3	-1.8
TPUB	Ta-pu	20.18	343	P	P	15 48 32.1	-0.1
SSLB	Suanglung	20.55	344	P	P	15 48 35.4	-0.9
SSLB				IAmb	IAmb	15 49 32.2	
	comp=Z,54nm,1.6s						
YOJ	Yonaguni jima	20.75	350	P	P	15 48 37.3	-1.1
MYKOM	Kota Tinggi	23.08	265	P	P	15 49 02.9	-0.5
MYKOM				IAmb	IAmb	15 49 05.1	
	comp=Z,65nm,1.5s						
WB0	Warramunga Arr	24.68	163	P	P	15 49 18.1	-0.4
WB0				IAmb	IAmb	15 49 43.9	
	comp=Z,22nm,1.4s						
WRAB	Tennant Creek	24.83	163	P	P	15 49 19.7	-0.1
WRAB				IAmb	IAmb	15 49 20.2	
	comp=Z,18nm,1.4s						
WRA	Warramunga Arr	24.84	163	P	P	15 49 19.6	-0.2
	comp=Z,1.6nm,0.7s,baz=339,slow=11,SNR=5.3						
WRA	Warramunga Arr	24.84	163	IAmb	IAmb	15 49 20.2	
	comp=Z,0.4nm,0.9s						
WB2	Warramunga Arr	24.84	163	P	P	15 49 19.9	+0.1
WB2				IAmb	IAmb	15 49 28.2	
	comp=Z,16nm,1.3s						
WR0	Warramunga Arr	24.91	163	P	P	15 49 19.9	-0.6
WR0				IAmb	IAmb	15 49 33.7	
	comp=Z,20nm,1.6s						
ASAR	Alice Springs	28.27	166	P	P	15 49 53.8	+3.1
	comp=Z,0.9nm,0.9s,baz=344,slow=12,SNR=3.2						
SONM	Songino Array	47.15	341	P	P	15 52 29.9	+0.3
	comp=Z,0.6nm,0.6s,baz=156,slow=8.3,SNR=3.8						
SONM	Songino Array	47.15	341	IAmb	IAmb	15 52 32.2	
	comp=Z,0.7nm,0.7s						
MK31	Makanchi Array	57.47	325	P	P	15 53 45.3	-0.8
MK31				IAmb	IAmb	15 54 25.6	
	comp=Z,7.8nm,1.5s						
MKAR	Makanchi Array	57.47	325	P	P	15 53 45.4	-0.7
	comp=Z,0.5nm,0.4s,baz=119,slow=7.4,SNR=9.0						
TIXI	Tiksi	67.64	1	P	P	15 54 54.2	+0.7
	comp=Z,0.8nm,0.7s,baz=195,slow=12,SNR=3.1						
NRIK	Noril'sk	70.27	346	P	P	15 55 11.4	+1.6
	comp=Z,2.1nm,0.6s,baz=137,slow=5.4,SNR=5.2						

*IDC **03** 16:05:05.0±1.0, 35.°63N×27.°01E, h0km, mb3.9/7, mb1 4.0/13, mb1mx3.8/56, mbtmp3.9/13, ML3.8/6, MS2.9/1, Ms1 2.9/1, ms1mx2.2/43, Error ellipse: s-maj=20.0km s-min=16.5km az=180.0*

*ATH **03** 16:05:07.8, 35.°61N×27.°05E, h28km±1km, ML4.0/11, Error ellipse: s-maj=2.5km s-min=0.6km az=133.0*

*ISK **03** 16:05:07.8, 35.°59N×27.°03E, h24km, ML4.1/36*

*ISCJB **03** 16:05:08.2±0.2, 35.°47N±0.°02×27.°15E±0.°02, h42km±4km, mb3.9/10, MS3.5/2, Error ellipse: s-maj=3.0km s-min=2.2km az=19.8*

*NEIC **03** 16:05:08.2±2.1, 35.°39N±0.°06×27.°00E±0.°06, h20km±7km, mb4.5/9*

*NIC **03** 16:05:08.6±0.0, 35.°59N×27.°02E, h21km, Ml4.6/6*

*HLW **03** 16:05:08.1, 35.°46N×27.°24E, h10km±18km, Md4.6*

*THE **03** 16:05:09.6, 35.°63N×26.°99E, h5km±3km, ML4.0/10, Error ellipse: s-maj=4.3km s-min=0.9km az=133.0*

*GII **03** 16:05:13.7±1.6, 35.°15N×27.°31E, h31km±3km, mb4.0/4, MD3.8/8*

ISC 03 16:05:08.6±0.7**, 35.°49N**±0.°03×**27.°10E**±0.°03**, h26km**±4km**, n202, σ1.s55**/243**, mb4.0**/12**, 7C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.08	41	P	Pb	16 05 13.1	-0.2
KARP				S	Sb	16 05 16.1	-0.4
KARP	Karpathos	0.08	41	PG	Pb	16 05 13.1	-0.2
KARP				SG	Sb	16 05 16.1	-0.4
KARP	Karpathos	0.08	41	⇑P	Pb	16 05 13.1	-0.2
KARP				AML	AML	16 05 15.9	
	699nm,0.4s						
KARP				AML	AML	16 05 15.9	
	699nm,0.4s						
KARP				AML	AML	16 05 16.0	
	806nm,0.3s						
KARP				AML	AML	16 05 16.0	
	806nm,0.3s						
KARP				S	Sb	16 05 16.3	-0.2
KARP	Karpathos	0.08	41		Pb	16 05 12.8	-0.6
ZKR	Zakros	0.81	243	P	Pn	16 05 24.7	+0.3
ZKR				S	Sn	16 05 36.1	+0.5
ZKR				AML	AML	16 05 45.2	
	comp=E,32363μm,0.6s						
ZKR				AML	AML	16 05 45.4	
	comp=N,12303μm,0.4s						
ZKR	Zakros	0.81	243	PG	Pn	16 05 24.8	+0.3
ZKR				SG	Sn	16 05 36.1	+0.5
ZKR	Zakros	0.81	243	⇑P	Pn	16 05 24.7	+0.3
ZKR				S	Sn	16 05 36.2	+0.5
ZKR				AML	AML	16 05 44.8	
	comp=N,12nm,0.4s						
ZKR				AML	AML	16 05 44.8	
	comp=N,12nm,0.4s						
ZKR				AML	AML	16 05 44.9	
	comp=N,32nm,0.6s						
ZKR				AML	AML	16 05 44.9	
	comp=N,32nm,0.6s						
STIA	Sitia Lasithi	0.87	251	P	Pn	16 05 25.6	+0.4
STIA				S	Sn	16 05 39.0	+1.9
NISR	Nisiros	1.12	1	P	Pn	16 05 27.3	-1.3
NISR				S	Sn	16 05 43.2	0.0
	comp=N,7μm,0.2s						
NISR	Nisiros	1.12	1	P	Pn	16 05 27.3	-1.3
NISR				AML	AML	16 05 46.8	
	comp=N,9426μm,0.2s						
NISR				AML	AML	16 05 47.4	
	comp=E,19772μm,0.2s						
FRMA	Ierapetra Chan	1.21	247	P	Pn	16 05 30.0	+0.1
FRMA				S	Sb	16 05 46.7	+0.5
	comp=E,4μm,0.9s						
NPS	Neapolis	1.24	260	P	Pb	16 05 30.9	-0.4
NPS				S	Sb	16 05 47.3	+0.4
	comp=E,7μm,0.2s						
NPS	Neapolis	1.24	260	P	Pb	16 05 30.9	-0.4
NPS				S	Sb	16 05 47.3	+0.4
NPS				AML	AML	16 05 50.5	
	comp=N,13038μm,0.2s						
NPS				AML	AML	16 05 50.7	
	comp=E,15561μm,0.4s						
KOSK	Kos Island	1.26	356	P	Pn	16 05 29.5	-1.1
KOSK				S	Sb	16 05 47.8	+0.2
	comp=E,4μm,0.4s						
DAT	Datca	1.30	17	PN	Pn	16 05 30.3	-0.9
DAT				SN	Sn	16 05 46.1	-1.7
DATC	Datca-Mugla	1.35	20	PN	Pn	16 05 31.0	-0.8
DATC				SN	Sn	16 05 47.2	-1.6
MRSB	Marmaris-Mugla	1.51	36	PN	Pn	16 05 33.9	-0.2
MRSB				SN	Sn	16 05 52.4	-0.6
BODT	Bodrum	1.58	6	P	Pn	16 05 33.8	-1.2
BODT	Bodrum	1.58	6	PN	Pn	16 05 33.6	-1.4
SANT	Santorini	1.60	304	P	Pn	16 05 34.8	-0.4
SANT				S	Sn	16 05 54.2	-0.8
	comp=E,4μm,0.3s						
SANT	Santorini	1.60	304	P	Pn	16 05 34.9	-0.3
SANT				AML	AML	16 06 00.0	
	comp=N,3055μm,0.3s						
SANT				AML	AML	16 06 01.4	
	comp=E,9030μm,0.3s						
SANT	Santorini	1.60	304	PN	Pn	16 05 34.1	-1.1
SANT	Santorini	1.60	304		Pn	16 05 34.8	-0.4
SANT				Sn	Sn	16 05 53.8	-1.3
SAP2K	Karterados	1.63	305	P	Pn	16 05 35.6	0.0
SAP2K				S	Sn	16 05 54.5	-1.2
	comp=E,17μm,0.7s						
THR6	Thira Island,	1.63	303	P	Pn	16 05 35.5	-0.1
SAP1	Santorini-Akro	1.63	303	P	Pn	16 05 35.6	-0.1
SAP1				S	Sn	16 05 55.1	-0.7
	comp=E,14μm,0.6s						
HRKL	Herakleio	1.64	264	P	Pn	16 05 36.4	+0.6
SFIR	Foira Santorin	1.65	305	P	Pn	16 05 36.0	+0.1
THR3	Thira Island,	1.66	304	P	Pn	16 05 35.9	-0.1
THT2	Imerovigli	1.66	305	P	Pn	16 05 35.9	-0.1
AMGA	Amorgos Island	1.66	324	P	Pn	16 05 35.3	-0.8
AMGA				S	Sn	16 05 54.9	-1.6
	comp=E,3μm,0.4s						
AMGA	Amorgos Island	1.66	324	P	Pn	16 05 35.3	-0.8
AMGA				AML	AML	16 06 01.1	
	comp=N,5848μm,0.5s						
AMGA				AML	AML	16 06 01.8	
	comp=E,5686μm,0.4s						
IACM	Heraklion	1.67	264	P	Pn	16 05 36.4	+0.3
CMBO	Columbo, Santo	1.69	306	P	Pn	16 05 36.2	-0.2
CMBO				S	Sn	16 05 56.1	-1.1
	comp=E,8μm,0.8s						
CMBO	Columbo, Santo	1.69	306	P	Pn	16 05 36.2	-0.2
CMBO				AML	AML	16 06 03.7	
	comp=N,17741μm,0.7s						
CMBO				AML	AML	16 06 08.2	
	comp=E,13591μm,0.9s						
THR5	Thira Island,	1.70	304	P	Pn	16 05 36.4	-0.2
DALY	Dalyan (Mula)	1.83	43	PN	Pn	16 05 38.8	+0.5
MLSB	Milas	1.88	17	PN	Pn	16 05 38.4	-0.8
YER	Yerkesik	1.90	30	P	Pn	16 05 39.5	0.0
YER	Yerkesik	1.90	30	PN	Pn	16 05 39.4	0.0
SIVA	Sivas	1.93	257	P	Pb	16 05 42.2	-0.9
SIVA	Sivas	1.93	257	P	Pb	16 05 41.7	-1.4
SIVA				AML	AML	16 06 16.4	
	comp=N,5813μm,0.6s						
SIVA				AML	AML	16 06 18.0	
	comp=E,6398μm,0.4s						
FETY	Fethiye	1.97	54	P	Pn	16 05 41.9	+1.5
FETY	Fethiye	1.97	54	PN	Pn	16 05 41.1	+0.7
APE	Apeiranthos	2.02	322	P	Pn	16 05 40.5	-0.6
APE				S	Sn	16 06 04.3	-1.3
	comp=E,5μm,0.3s						
APE	Apeiranthos	2.02	322	P	Pn	16 05 40.6	-0.6
APE				AML	AML	16 06 04.9	
	comp=N,9765μm,0.2s						
APE				AML	AML	16 06 04.9	
	comp=E,8558μm,0.2s						
APE	Apeiranthos	2.02	322	PN	Pn	16 05 39.8	-1.3
APE	Apeiranthos	2.02	322	⇑P	Pn	16 05 40.5	-0.6
APE				S	Sn	16 06 03.9	-1.7
APE				AML	AML	16 06 04.4	
	comp=E,9.7nm,0.2s						
APE				AML	AML	16 06 04.4	
	comp=E,9.7nm,0.2s						
APE				AML	AML	16 06 04.5	
	comp=E,8.6nm,0.2s						
APE				AML	AML	16 06 04.5	
	comp=E,8.6nm,0.2s						
KSL	Kastellorizon	2.12	71	P	Pn	16 05 44.4	+2.0
KSL	Kastellorizon	2.12	71	P	Pn	16 05 44.3	+1.8
KSL				AML	AML	16 06 14.0	
	comp=N,966μm,1.0s						
KSL				AML	AML	16 06 32.4	
	comp=E,1541μm,1.2s						
KSL	Kastellorizon	2.12	71	⇑P	Pn	16 05 44.5	+2.0
KSL				S	Sb	16 06 11.3	-1.0
SMG	Samos	2.23	355	P	Pn	16 05 42.6	-1.2
VAM	Vamos	2.37	269	P	Pn	16 05 46.0	+0.2
VAM	Vamos	2.37	269	P	Pn	16 05 46.0	+0.2
MHLO	Agia Marina, M	2.49	300	P	Pn	16 05 47.9	+0.4
AYDB	Zeytinkoy-Aydi	2.53	14	PN	Pn	16 05 47.6	-0.6
IMMV	Iera Moni Meta	2.54	270	P	Pn	16 05 48.3	+0.1
IMMV	Iera Moni Meta	2.54	270	P	Pn	16 05 48.2	-0.1
IMMV	Iera Moni Meta	2.54	270	PN	Pn	16 05 47.9	-0.3
GVD	Gavdhos	2.55	256	P	Pb	16 05 52.1	-1.6
GVD	Gavdhos	2.55	256	P	Pb	16 05 51.6	-2.2
GVD	Gavdhos	2.55	256	PN	Pn	16 05 48.7	+0.4
GLHS	Glhisar (BURDU	2.55	49	PN	Pn	16 05 48.3	-0.2
TNSA	Tinos	2.57	323	P	Pn	16 05 49.3	+0.7
TNSA				AML	AML	16 06 19.1	
	comp=N,2791μm,0.1s						
TNSA				AML	AML	16 06 20.1	
	comp=E,1882μm,0.2s						
ELL	Elmali	2.60	60	PN	Pn	16 05 49.5	+0.4
ELL	Elmali	2.60	60		Pn	16 05 51.5	+2.4
DENT	Denizli	2.74	34	PN	Pn	16 05 51.1	+0.1
CHOS	Chios island	3.01	344	P	Pn	16 05 54.2	-0.6
CHOS	Chios island	3.01	344	PN	Pn	16 05 53.6	-1.1
ANTB	Antalya	3.20	63	PN	Pn	16 05 58.3	+1.1
KTHA	Kythira Island	3.37	284	P	Pn	16 06 00.3	+0.8
KTHA	Kythira Island	3.37	284	PN	Pn	16 05 59.2	-0.4
BASM	Basmaki-Afyon	3.39	43	PN	Pn	16 06 00.5	+0.5
BCK	Bucak	3.43	54	PN	Pn	16 06 01.4	+0.9
DKL	Dikili	3.58	358	PN	Pn	16 06 01.9	-0.5
VLI	Veliai	3.59	291	P	Pn	16 06 03.1	+0.5
VLI	Veliai	3.59	291	P	Pn	16 06 03.2	+0.7
VLI				AML	AML	16 06 45.4	
	comp=E,1313μm,0.4s						
VLI				AML	AML	16 06 47.2	
	comp=N,1243μm,0.4s						
ATHU	Athens Univers	3.63	314	P	Pn	16 06 03.9	+0.7
KRND	KRANIDI	3.70	302	P	Pn	16 06 04.6	+0.5
DID	Didima	3.71	304	P	Pn	16 06 05.0	+0.8
DID	Didima	3.71	304	P	Pn	16 06 03.5	-0.7
SIGR	SIGRI	3.85	345	P	Pn	16 06 05.5	-0.6
SIGR	SIGRI	3.85	345	PN	Pn	16 06 05.2	-0.9
EREA	Eretria	3.87	320	P	Pn	16 06 07.5	+1.0
DYR	Agios Nikonas	4.06	290	P	Pn	16 06 11.0	+1.9
SHUT	Suhut-Afyon	4.12	41	PN	Pn	16 06 10.8	+0.8
ALAN	Alanya-ANTALYA	4.14	74	PN	Pn	16 06 11.5	+1.4
LTK	Loutraki	4.17	309	P	Pn	16 06 12.2	+1.6
BALB	Balikesir	4.19	8	PN	Pn	16 06 10.7	-0.1
SLUM	Salum	4.29	202	P	Pn	16 06 13.1	+0.9
	baz=204						
AKMS	Akamas	4.31	95	P	Pn	16 06 14.1	+1.6
AKMS				AML	AML	16 07 07.5	
	comp=N,2.2nm,0.6s						
EZN	Ezine	4.37	352	PN	Pn	16 06 13.3	0.0
TVSB	Tavsanli	4.38	25	PN	Pn	16 06 13.8	+0.3
AOS	Alonnisos	4.48	326	PN	Pn	16 06 14.5	-0.3
ITM	Ithomi	4.50	294	PN	Pn	16 06 14.9	-0.3
ITM	Ithomi	4.50	294		Pn	16 06 17.9	+2.7
ALFC	Alefka	4.51	93	⇑P	Pn	16 06 17.4	+2.2
NATA	Nata	4.54	97	P	Pn	16 06 17.9	+2.3
NATA				S	Sn	16 07 12.7	+5.1
PYL	PYLOS	4.55	290	P	Pn	16 06 17.1	+1.2
SKIA	Skiathos	4.67	323	P	Pn	16 06 18.3	+0.8
KLV	Kalavryta, Ach	4.72	304	P	Pn	16 06 19.1	+0.9
LEF	Lefka	4.75	93	PN	Pn	16 06 19.7	+1.2
SZAC	Souni	4.80	97	P	Pn	16 06 21.5	+2.3
SZAC				AML	AML	16 07 19.6	
	comp=N,1.7nm,0.4s						
SZAC				AML	AML	16 07 20.4	
	comp=N,1.7nm,0.7s						
KONT	Konya--Tatoy	4.89	58	PN	Pn	16 06 22.2	+1.8
KALE	Kalithea	4.92	308	P	Pn	16 06 22.6	+1.7
GELI	Tayfur-Gelibol	4.93	354	PN	Pn	16 06 21.2	+0.3
TEKE	Tekeli-Mersin	4.93	81	PN	Pn	16 06 23.2	+2.2
LAKA	Lakka	4.94	305	P	Pn	16 06 22.9	+1.7
DRO	Drossia	4.98	301	P	Pn	16 06 23.6	+1.9
SERG	Sergoula	4.98	307	P	Pn	16 06 23.6	+1.8
CIFT	Cifteler, Eski	4.99	38	PN	Pn	16 06 23.1	+1.2
LADK	Ladik-KONYA	5.01	56	PN	Pn	16 06 23.6	+1.3
BERE	Bereket-Mersin	5.04	78	PN	Pn	16 06 23.8	+1.1
ASGA	Asgata	5.09	96	P	Pn	16 06 25.0	+1.8
ASGA				S	Sn	16 07 25.7	+4.7
ASGA				AML	AML	16 07 37.3	
	comp=N,1.1nm,0.6s						
ASGA				AML	AML	16 07 37.3	
	comp=N,1.1nm,0.6s						
KIZT	Kizilcal	5.10	47	PN	Pn	16 06 25.1	+1.6
BORA	Eskisehir	5.13	30	PN	Pn	16 06 25.1	+1.3
CSS	Mathiatis	5.13	94	Pn	Pn	16 06 24.3	+0.5
CSS	Mathiatis	5.13	94	P	Pn	16 06 24.3	+0.5
CSS	Mathiatis	5.13	94	PN	Pn	16 06 24.3	+0.5
CSS	Mathiatis	5.13	94	⇑P	Pn	16 06 25.5	+1.8
CSS	Mathiatis	5.13	94		Pn	16 06 24.5	+0.8
AGG	Agios Georgios	5.19	314	P	Pn	16 06 26.4	+1.8
AGG	Agios Georgios	5.19	314		Pn	16 06 26.5	+1.9
MVOU	Mavrovouni	5.37	93	⇑P	Pn	16 06 28.8	+1.8
ALN	Alexandroupoli	5.46	352	Pn	Pn	16 06 28.3	0.0
LIT	Litokhoron	5.88	323	Pn	Pn	16 06 35.1	+1.1
ANTO	Ankara	6.29	44	Pn	Pn	16 06 42.2	+2.5
SWA2		6.38	193	P	Pn	16 06 42.5	+1.6
	baz=195						
SWA2				S	Sn	16 07 50.8	-2.2
	baz=195						
HMYD	Mayadein	6.48	150	P	Pn	16 06 42.9	+0.6
	baz=151						
HNAT	Natroun	6.55	152	P	Pn	16 06 43.8	+0.5
	baz=152						
BRTR	Keskin Array B	6.69	49	Pn	Pn	16 06 47.0	+1.6
	comp=N,0.7nm,0.3s,baz=222,slow=15,SNR=19						
BRTR				Sn	Sn	16 08 00.1	-0.8
	baz=277,slow=26,SNR=2.3						
BRTR	Keskin Array B	6.69	49		Pn	16 06 47.3	+1.9
BR131	Keskin Array S	6.70	49		Pn	16 06 46.9	+1.6
KOT	Kottamia	6.83	143	P	Pn	16 06 47.1	0.0
	baz=143						
FNA	Florina	6.95	321		Pn	16 06 51.0	+2.2
HNTI	Hanita	7.10	107	Pn	Pn	16 06 51.9	+1.0
HNTI				Sn	Sn	16 08 07.7	-3.0
MMA0B	Mount Meron ar	7.30	107	Pn	Pn	16 06 53.0	-0.7
MMAI	Mount Meron Ar	7.30	107	Pn	Pn	16 06 53.5	-0.2
	comp=N,5.0nm,0.3s,baz=308,slow=13,SNR=14						
MMAI				Sn	Sn	16 08 13.9	-1.9
	comp=N,13nm,0.3s,baz=298,slow=28,SNR=12						
GEM	Giv'at Ha'Em	7.44	105	Pn	Pn	16 06 55.6	+0.1
GEM				Sn	Sn	16 08 16.7	-2.3
KSDI	Kefar Szold	7.44	105	Pn	Pn	16 06 55.7	+0.2
KSDI				Sn	Sn	16 08 16.9	-2.2
NATI	Neve Ativ	7.48	105	Pn	Pn	16 06 56.5	+0.5
NATI				Sn	Sn	16 08 17.2	-2.7
MMLI	Mount Malkishu	7.55	111	Pn	Pn	16 06 57.1	0.0
AMAZ	Amatzia	7.63	119	Pn	Pn	16 06 58.2	+0.1
AMAZ				Sn	Sn	16 08 20.4	-3.3
AMAZ	Amatzia	7.63	119	P	Pn	16 06 57.6	-0.5
	comp=N,71nm,0.8s,comp=N,0.7nm						
KZIT	Kziot	7.63	125	Pn	Pn	16 06 57.8	-0.4
KZIT				Sn	Sn	16 08 19.7	-4.1
KZIT	Kziot	7.63	125	P	Pn	16 06 57.8	-0.4
	comp=N,33nm,0.8s,comp=N,0.6nm						
SHMJ	Saham	7.70	109	P	Pn	16 07 00.3	+1.3
SHMJ	Saham	7.70	109	P	Sn	16 08 24.6	-0.8
HMDT	Nahal Hemdat	7.71	112	Pn	Pn	16 06 58.8	-0.5
HMDT				Sn	Sn	16 08 23.4	-2.4
VTS	Vitosha	7.73	338		Pn	16 07 00.5	+0.9
YTIR	Yattir	7.86	119	Pn	Pn	16 07 01.0	-0.4
YTIR				Sn	Sn	16 08 25.5	-4.1
DSI	Dead Sea	7.94	117	Pn	Pn	16 07 03.2	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MZDA	Masada	8.07	119	Pn	Pn	16 07 04.2	+0.1
MZDA				Sn	Sn	16 08 31.2	-3.2
LISJ	El Lisan	8.19	119	P	Pn	16 07 06.3	+0.6
	comp=N,17nm,0.7s						
LISJ	El Lisan	8.19	119	P	Sn	16 08 34.3	-3.1
WALJ	Wala	8.26	116	P	Pn	16 07 06.3	-0.4
WALJ	Wala	8.26	116	P	Sn	16 08 38.8	-0.4
KRMI	Paran Flat	8.36	128	Pn	Pn	16 07 07.8	-0.3
KRMI				Sn	Sn	16 08 36.2	-5.5
HFRF	Wahat Farafira	8.38	173	P	Pn	16 07 08.9	+0.5
	baz=173						
PRNI	Paran	8.39	125	Pn	Pn	16 07 08.1	-0.4
PRNI				Sn	Sn	16 08 37.7	-4.7
JDRJ	Daraweish	8.61	121	P	Pn	16 07 18.0	+6.3
HRFI	Mount Harif	8.61	127	Pn	Pn	16 07 11.4	-0.2
HRFI				Sn	Sn	16 08 43.4	-4.6
GRB	Gharib	8.67	145	P	Pn	16 07 12.3	-0.1
	baz=145						
MBRI	Mt Berech	8.70	129	Pn	Pn	16 07 13.7	+0.9
ASF	Jabal al Asfar	8.80	109	Pn	Pn	16 07 14.7	+0.5
	comp=N,0.5nm,0.3s,baz=257,slow=7.8,SNR=3.8						
EIL	Elat	8.80	129	Pn	Pn	16 07 13.7	-0.5
EIL				Sn	Sn	16 08 47.4	-5.2
EIL	Elat	8.80	129	Pn	Pn	16 07 14.1	-0.1
	comp=N,1.5nm,0.3s,baz=355,slow=4.8,SNR=28						
EIL				Sn	Sn	16 08 47.1	-5.5
	comp=N,5.2nm,0.3s,baz=72,slow=16,SNR=10						
AQBJ	Aqaba	8.83	128	P	Pn	16 07 15.6	+1.1
TIRR	Tirgusor	9.02	6	Pn	Pn	16 07 18.9	+1.9
PDG	Podgorica	9.24	321	Pn	Pn	16 07 20.9	+0.8
MLR	Muntele Rosu	10.03	355	Pn	Pn	16 07 29.8	-1.3
	comp=N,0.3nm,0.3s,baz=270,slow=14,SNR=2.4						
ACER	Acerenza	10.25	304	Pn	Pn	16 07 33.6	-0.5
RAFF	Raffo Rosso	10.42	283		Pn	16 07 34.9	-1.4
SGRT	San Giovanni R	10.86	309	Pn	Pn	16 07 43.2	+0.8
CORL	Corleone	11.33	286	Pn	Pn	16 07 49.1	+0.2
BURAR	Bucovina Array	12.20	354	Pn	Pn	16 08 01.8	+1.1
BUR08	Bucovina Ar. S	12.23	354	Pn	Pn	16 08 03.0	+1.8
VYHS	Vyhne	14.36	337	*e*PN	Pn	16 08 30.3	+0.1
KEST	Kesra	14.45	276	Pn	P	16 08 37.4	-0.6
	comp=N,0.4nm,0.3s,baz=5.9,slow=3.1,SNR=4.5						
GERES	GERESS Array B	16.60	328	Pn	Pn	16 08 57.4	-2.1
	comp=N,0.2nm,0.3s,baz=191,slow=15,SNR=3.4						
GERES	GERESS Array B	16.60	328	Pn	P	16 09 00.9	-0.9
KHC	Kasperske Hory	16.87	328	*e*P	P	16 09 04.0	-0.8
KHC	Kasperske Hory	16.87	328	P	P	16 09 05.5	+0.7
BNI	Bardonecchia	18.23	308		P	16 09 21.6	+1.6
BNI				IAmb	IAmb	16 10 04.8	
	comp=Z,38nm,1.7s						
SENIN	Lac Senin/Sane	18.44	312	P	P	16 09 21.3	-0.9
SENIN				IAmb	IAmb	16 10 05.4	
	comp=Z,24nm,1.7s						
CLL	Collm	18.79	332	*e*P	Pn	16 09 27.0	+0.6
CLL				*e*PPP	PPP	16 09 47.0	
CLL				Lm	MLR	16 35 00.0	
	comp=N,100nm,21.7s						
CLL				Lm	MLR	16 35 00.0	
	comp=E,300nm,19.3s						
ESDC	Sonseca Array	24.90	289	P	P	16 10 28.1	-1.3
	comp=E,1.3nm,0.5s,baz=80,slow=10,SNR=9.5						
FINES	FINESS Array B	25.98	359	P	P	16 10 37.3	-1.6
	comp=E,3.5nm,0.9s,baz=153,slow=16,SNR=4.1						
MDT	Midelt	26.32	273	P	P	16 10 44.4	+2.0
	comp=E,0.5nm,0.3s,baz=100,slow=10,SNR=3.6						
MDT				LR	LR	16 21 54.0	
	comp=E,26nm,21.1s,baz=13,slow=38						
AKTO	Aktyubinsk	26.87	47	P	P	16 10 51.5	+4.4
	comp=E,1.4nm,0.6s,baz=209,slow=6.8,SNR=6.6						
ABKAR	Akbulak array	27.64	50	P	P	16 10 56.3	+2.3
TOA0	Torodi Ar. Sit	31.93	232	P	P	16 11 32.8	+0.5
TOA0				IAmb	IAmb	16 12 14.4	
	comp=Z,16nm,1.8s						
TORD	Torodi Ar. Bea	31.93	232	P	P	16 11 33.3	+1.0
	comp=Z,1.0nm,0.5s,baz=33,slow=8.9,SNR=13						
TORD	Torodi Ar. Bea	31.93	232	P	P	16 11 31.6	-0.7
MKAR	Makanchi Array	42.27	57	P	P	16 13 01.3	+1.5
	comp=Z,0.2nm,0.3s,baz=268,slow=8.4,SNR=4.1						
MKAR	Makanchi Array	42.27	57	P	P	16 13 02.2	+2.4
ZALV	Zalesovo Beam	43.63	46	P	P	16 13 10.6	0.0
	comp=Z,0.4nm,0.3s,baz=321,slow=3.7,SNR=2.9						
WMQ	Urumqi	46.47	60	*e*P	P	16 13 37.6	+4.2
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,160nm,3.9s						
WMQ				LR	LR		
	comp=N,560nm,29.0s						
WMQ				LR	LR		
	comp=E,1μm,28.8s						
WMQ				LR	LR		
	comp=Z,110nm,29.2s						
SUMG	Summit	49.24	339	P	P	16 13 55.1	+0.2
SUMG				IAmb	IAmb	16 15 42.9	
	comp=Z,48nm,2.0s						
SCHQ	Schefferville	63.96	320	P	P	16 15 38.5	-0.9
	comp=Z,2.5nm,0.4s,baz=67,slow=4.8,SNR=7.7						
INK	Inuvik	75.50	353	P	P	16 16 50.5	+0.3
	comp=Z,0.3nm,0.3s,baz=40,slow=2.2						
INK	Inuvik	75.50	353	IAmb	IAmb	16 19 26.8	
	comp=Z,14nm,1.9s						

*IDC **03** 16:15:51.2±1.6, 3.°37N×125.°80E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.4/49, mbtmp3.6/5, ML3.9/1, Error ellipse: s-maj=87.3km s-min=25.3km az=59.0*
*NEIC **03** 16:15:55.9±1.4, 3.°6N±0.°1×126.°2E±0.°3, h39km±11km, mb4.2/7*
ISC 03 16:15:57.0±0.9**, 3.°3N**±0.°1×**125.°8E**±0.°3**, h35**km**, n14, σ1**s**59**/15**, mb3.9**/6**, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.92	149	Pn	Pn	16 16 44.0	+3.0
KCP	Kidapawan	3.78	349	⇑P	Pn	16 16 54.0	+1.1
KCP				S	Sn	16 17 38.9	+2.7
SIJI	Sorong	6.81	127	Pn	Pn	16 17 32.2	-2.3
	2.1nm,0.3s,baz=249,slow=23,SNR=8.7						
MTN	Manton Dam	16.86	162	Pn	Pn	16 19 50.4	-0.1
MTN				IAmb	IAmb	16 20 11.5	
	comp=Z,30nm,1.9s						
KNRA	Kununurra	19.06	171	P	P	16 20 16.5	+0.1
KNRA				IAmb	IAmb	16 20 38.8	
	comp=Z,24nm,1.6s						
WB0	Warramunga Arr	24.40	160	P	P	16 21 12.2	-0.1
WB0				IAmb	IAmb	16 21 38.5	
	comp=Z,5.5nm,0.9s						
WRA	Warramunga Arr	24.54	160	P	P	16 21 13.7	0.0
	comp=Z,1.3nm,0.6s,baz=336,slow=11,SNR=18						
WRA	Warramunga Arr	24.54	160	P	P	16 21 13.1	-0.5
WB2	Warramunga Arr	24.55	160	P	P	16 21 13.5	-0.2
WB2				IAmb	IAmb	16 21 42.0	
	comp=Z,14nm,1.6s						
WR0	Warramunga Arr	24.63	160	P	P	16 21 14.8	+0.4
ASAR	Alice Springs	27.91	164	P	P	16 21 44.9	+0.8
	comp=Z,0.1nm,0.5s,baz=345,slow=7.2,SNR=4.6						
STKA	Stephens Creek	38.04	158	P	P	16 23 12.4	+0.2
	comp=Z,3.0nm,0.9s,baz=331,slow=19,SNR=4.0						
MKAR	Makanchi Array	57.42	326	P	P	16 25 40.8	-1.5
	comp=Z,0.5nm,0.7s,baz=113,slow=8.0,SNR=4.0						
MKAR	Makanchi Array	57.42	326	P	P	16 25 40.3	-2.0

*IDC **03** 16:18:08.3±7.4, 15.°65N×104.°30W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.8/37, mbtmp3.6/6, ML3.9/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/31, Error ellipse: s-maj=158.7km s-min=97.1km az=121.0*
*ISCJB **03** 16:18:21.5±0.8, 16.°6N±0.°1×105.°2W±0.°1, h33km, mb3.7/5, MS3.9/2, Error ellipse: s-maj=20.5km s-min=12.2km az=147.6*
*NEIC **03** 16:18:25.8±1.8, 16.°7N±0.°1×105.°2W±0.°2, h52km±7km, mb4.2/20*
ISC 03 16:18:23.5±1.1**, 16.°6N**±0.°1×**105.°2W**±0.°2**, h35**km**, n38, σ1**s**40**/31**, mb4.1**/13**, Off coast of Michoacan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H06E1	SOCORRO T-PHAS	5.85	293	T	T	16 25 35.1	
	SNR=27						
H06S1	SOCORRO T	5.86	292	T	T	16 25 37.2	
	SNR=14						
LPIG	La Paz	8.85	328	LR	LR	16 23 04.8	
	comp=Z,311nm,19.2s,baz=200,slow=29						
CMIG	Matias Romero	9.91	86	LR	LR	16 24 12.4	
	comp=Z,76nm,20.0s,baz=202,slow=40						
TXAR	Lajitas Array	12.75	6	Pn	Pn	16 21 24.3	+1.9
	0.1nm,0.3s,baz=194,slow=11,SNR=4.9						
TXAR	Lajitas Array	12.75	6		Pn	16 21 24.1	+1.8
TEIG	Tepich	16.48	75	LR	LR	16 29 03.8	
	comp=Z,56nm,20.4s,baz=47,slow=41						
KNB	Kanab	21.41	343	P	P	16 23 10.8	+2.3
SHPR	Sheep Range	21.69	338	P	P	16 23 13.0	+1.4
PV18	Skein Mesa, Pa	21.80	352	P	P	16 23 14.8	+2.2
PV18				IAmb	IAmb	16 23 16.0	
	comp=Z,5.9nm,0.9s						
CCUT	Cedar City	22.06	343	P	P	16 23 17.5	+1.9
PV22	Blue Mesa, Par	22.07	353	P	P	16 23 16.4	+0.9
PV22				IAmb	IAmb	16 23 36.6	
	comp=Z,16nm,1.8s						
PV21	Cone Mtn., Par	22.12	352	P	P	16 23 16.6	+0.4
DAC	Darwin (Calif)	22.46	333	P	P	16 23 22.6	+2.8
DAC				IAmb	IAmb	16 23 25.5	
	comp=Z,11nm,1.4s						
SRU	San Rafael Swe	22.89	349	P	P	16 23 24.9	+0.5
DUG	Dugway, Tooele	24.41	346	P	P	16 23 39.5	+0.6
NVAR	Mina Array Bea	24.58	335	P	P	16 23 41.7	+1.2
	comp=Z,1.6nm,0.9s,baz=150,slow=8.8,SNR=5.2						
NVAR	Mina Array Bea	24.58	335	P	P	16 23 41.4	+0.9
KVN	Kaiserville	25.04	336	P	P	16 23 44.6	0.0
KVN				IAmb	IAmb	16 24 24.1	
	comp=Z,7.2nm,1.4s						
BMN	Battle Mountai	25.92	339	P	P	16 23 52.7	+0.2
PDAR	Pinedale Array	26.33	353	P	P	16 23 56.6	+0.2
	comp=Z,0.6nm,0.8s,baz=171,slow=12,SNR=4.7						
PDAR	Pinedale Array	26.33	353	P	P	16 23 56.4	0.0
MTDJ	Mount Denham	26.46	82	P	P	16 23 58.0	+0.4
MTDJ				IAmb	IAmb	16 24 43.1	
	comp=Z,79nm,1.8s						
AHID	Auburn Hatcher	26.55	350	P	P	16 23 57.8	-0.5
FXWY	Fox Creek	27.39	351	P	P	16 24 05.3	-0.6
FXWY				IAmb	IAmb	16 25 03.7	
	comp=Z,9.5nm,2.0s						
WDC	Whiskeytown Da	28.21	331	P	P	16 24 11.4	-1.5
WDC				IAmb	IAmb	16 24 21.6	
	comp=Z,22nm,1.9s						
J45A	Montague	31.17	27	P	P	16 24 37.2	-1.9
FDF	Fort de France	42.41	86	P	P	16 26 15.8	+0.6
RPN	Rapa Nui	43.66	185	P	P	16 26 26.0	+1.2
YKA	Yellowknife Ar	46.30	354	P	P	16 26 43.6	-1.9
	comp=Z,0.8nm,0.8s,baz=164,slow=6.9,SNR=3.9						
BCAR	Beaver Creek A	52.87	340	P	P	16 27 34.6	-1.0
INK	Inuvik	54.72	348	P	P	16 27 47.7	-1.2
	comp=Z,1.1nm,0.9s,baz=119,slow=8.4,SNR=3.5						
PPT	Papeete	55.33	234	LR	LR	16 45 49.1	
	comp=Z,56nm,18.6s,baz=46,slow=30						
IL31		55.69	340	P	P	16 27 55.1	-0.9
IL31				IAmb	IAmb	16 27 56.9	
	comp=Z,4.7nm,1.1s						
ILAR	Eielson Array	55.69	340	P	P	16 27 54.2	-1.8
	comp=Z,1.7nm,1.0s,baz=155,slow=4.6,SNR=14						
ILAR	Eielson Array	55.69	340	P	P	16 27 54.6	-1.5
TRF	Thorofare Moun	56.08	337	P	P	16 27 58.6	-0.4
PLCA	Paso Flores	65.51	152	LR	LR	16 49 18.7	
	comp=Z,104nm,20.4s,baz=198,slow=29						

*IDC **03** 16:18:45.5±7.4, 36.°43N×71.°18E, h177km±64km, mb2.9/1, mb1 3.0/7, mb1mx2.8/53, mbtmp3.6/7, Error ellipse: s-maj=61.7km s-min=39.6km az=44.0*
*ISCJB **03** 16:18:49.7±1.9, 36.°9N±0.°1×70.°9E±0.°2, h200km, mb2.9/1, Error ellipse: s-maj=20.3km s-min=16.7km az=145.7*
*NNC **03** 16:18:49.0±9.9, 37.°10N×70.°75E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=103.6km s-min=66.0km az=143.0*
ISC 03 16:18:47.5±1.6**, 36.°7N**±0.°1×**71.°1E**±0.°1**, h200**km**, n10, σ1**s**71**/13**, 3C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.42	356	⇓Pn	Pn	16 20 20.4	+0.2
	0.4nm,0.2s,baz=171,slow=12,SNR=22						
KK31				⇓Sn	Sn	16 21 30.4	-3.2
	4.5nm,0.5s,baz=190,slow=24,SNR=7.0						
AAK	Ala-Archa	6.50	23	P	Pn	16 20 22.7	+1.4
	1.7nm,0.3s,baz=166,slow=2.7,SNR=23						
AAK				S	Sn	16 21 35.9	+0.2
	0.4nm,0.3s,baz=299,slow=23,SNR=11						
AAK	Ala-Archa	6.50	23	⇑Pn	Pn	16 20 22.7	+1.4
	1.0nm,0.3s						
AAK				⇑Sn	Sn	16 21 35.1	-0.6
	3.1nm,0.7s						
MKAR	Makanchi Array	13.10	36	P	P	16 21 48.1	-1.1
	0.1nm,0.3s,baz=211,slow=11,SNR=4.0						
KURBB	Kurchatov Arra	14.92	19	P	P	16 22 11.8	+2.5
	0.1nm,0.3s,baz=212,slow=8.3,SNR=1.9						
AB31	Akbulak array	14.95	331	⇑P	P	16 22 10.7	+1.0
	0.3nm,0.3s,baz=164,slow=11,SNR=8.6						
BVAR	Borovoye Array	16.34	359	P	Pn	16 22 27.4	+1.7
	0.2nm,0.3s,baz=161,slow=9.9,SNR=4.3						
AKTO	Aktyubinsk	16.65	330	P	Pn	16 22 29.9	+0.5
	0.1nm,0.3s,baz=152,slow=17,SNR=2.9						
ZALV	Zalesovo Beam	19.71	25	P	Pn	16 23 04.0	-1.6
	0.2nm,0.3s,baz=219,slow=13,SNR=5.3						
WRA	Warramunga Arr	82.03	122	P	P	16 30 44.7	-0.8
	0.3nm,0.9s,baz=323,slow=4.6,SNR=3.1						

IDC 03 16:27:24.9±1.8**, 0.°84N**×**125.°51E, h0**km**, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.3**/30**, mbtmp3.5**/4**, Error ellipse: s-maj=193.9km s-min=23.5km az=64.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.39	158	P	P	16 32 24.1	-1.1
	0.6nm,0.7s,baz=336,slow=11,SNR=6.0						
ASAR	Alice Springs	25.69	162	P	P	16 32 56.9	-0.1
	0.3nm,0.9s,baz=347,slow=7.7,SNR=4.5						
STKA	Stephens Creek	35.93	156	P	P	16 34 27.9	+0.7
	4.6nm,1.1s,baz=325,slow=12,SNR=2.4						
MKAR	Makanchi Array	59.26	327	P	P	16 37 28.2	-0.1
	0.3nm,0.6s,baz=133,slow=6.3,SNR=3.7						

DJA 03 16:30:20.6±0.7**, 4.°S**±7.°×**12.°3E**±.°**, h10**km**, M4.0**/5**, mb4.6**/1**, mB4.6**/1**, MLv3.6**/5**, Mw(mB)3.9**/1**, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KDI	Kendari	0.12	360	P	Pg	16 30 22.8	-0.7
BNSI	Bone	2.53	263	P	Pn	16 31 03.8	+2.1
LUWI	Luwuk	3.02	3	P	Pb	16 31 15.2	+0.7
SANI	Sanana	3.92	59	P	Pn	16 31 20.6	-0.3
SGSI	Sangihe	8.24	21	P	Pb	16 32 33.5	-10

*ISCJB **03** 17:13:27.6±0.4, 6.°28S±0.°05×153.°29E±0.°06, h29km, mb3.9/14, MS3.0/4, Error ellipse: s-maj=8.8km s-min=6.1km az=32.3*
*IDC **03** 17:13:30.5±3.3, 6.°30S×153.°32E, h39km±28km, mb3.7/14, mb1 3.9/16, mb1mx3.7/53, mbtmp4.0/16, ML2.6/2, MS3.1/4, Ms1 3.1/4, ms1mx2.8/25, Error ellipse: s-maj=27.6km s-min=18.0km az=106.0*
*NEIC **03** 17:13:31.1±1.5, 6.°34S±0.°10×153.°3E±0.°1, h46km±9km, mb4.5/22*
ISC 03 17:13:29.3±0.6**, 6.°24S**±0.°07×**153.°35E**±0.°09**, h29**km**, n51, σ1**s**08**/49**, mb4.3**/23**, MS3.0**/4**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	2.33	326	Pn	Pn	17 14 05.1	-0.6
	9.6nm,0.3s,baz=163,slow=1.8,SNR=40						
KRVT				Sn	Sn	17 14 31.7	-1.7
	14nm,0.3s,baz=340,slow=22,SNR=7.9						
PMG	Port Moresby	6.89	242	Pn	Pn	17 15 09.1	+0.7
	1.9nm,0.3s,baz=51,slow=14,SNR=9.0						
PMG				Sn	Sn	17 16 28.1	+2.2
	0.5nm,0.3s,baz=336,slow=20,SNR=2.7						
PMG	Port Moresby	6.89	242		Pn	17 15 08.3	0.0
PMG					Sn	17 16 25.4	-0.5
DZM	Mont Dzumac	20.19	142	P	Pn	17 18 03.4	-0.6
	10nm,1.2s,baz=297,slow=13,SNR=3.1						
DZM				LR	LR	17 25 11.6	
	comp=Z,50nm,18.9s,baz=346,slow=35						
DZM	Mont Dzumac	20.19	142	P	P	17 18 01.1	-0.8
KWAJ	Kwajalein Atol	20.63	44	P	P	17 18 06.9	+0.3
WB0	Warramunga Arr	22.80	232	P	P	17 18 29.3	-0.7
WRAB	Tennant Creek	22.93	232	P	P	17 18 30.4	-0.9
WB2	Warramunga Arr	22.93	232	P	P	17 18 29.0	-2.3
WRA	Warramunga Arr	22.94	232	P	P	17 18 30.3	-1.1
	2.2nm,0.9s,baz=56,slow=10,SNR=10						
WRA	Warramunga Arr	22.94	232	P	P	17 18 29.4	-2.0
ARMA	Armidale	24.10	184	P	P	17 18 41.7	-1.0
ARMA				IAmb	IAmb	17 19 00.9	
	comp=Z,24nm,1.4s						
AS31	Alice Springs	25.49	225	P	P	17 18 54.6	-0.7
ASAR	Alice Springs	25.49	225	P	P	17 18 54.1	-1.1
	comp=Z,1.7nm,0.8s,baz=59,slow=9.7,SNR=17						
ASAR				LR	LR	17 28 24.6	
	comp=Z,68nm,18.4s,baz=40,slow=35						
ASAR	Alice Springs	25.49	225	P	P	17 18 53.4	-1.9
KNRA	Kununurra	25.86	247	P	P	17 18 57.2	-1.5
KNRA				IAmb	IAmb	17 19 11.7	
	comp=Z,9.0nm,0.9s						
STKA	Stephens Creek	27.77	202	LR	LR	17 29 22.5	
	comp=Z,37nm,21.7s,baz=29,slow=34						
H11S3	WAKE ISLAND Hy	27.88	28	T	T	17 48 40.6	
	baz=209,slow=76,SNR=6.8						
H11S2	WAKE ISLAND Hy	27.89	28	T	T	17 48 39.1	
	baz=209,slow=76,SNR=9.4						
H11S1	WAKE ISLAND Hy	27.90	28	T	T	17 48 44.1	
	baz=209,slow=76,SNR=7.9						
MORW	Morawa	41.89	233	P	P	17 21 17.0	-0.3
KLR	Kul'dur	58.37	344	P	P	17 23 22.3	+0.4
	comp=Z,1.1nm,0.7s,baz=123,slow=8.4,SNR=4.3						
CMAR	Chiang Mai Arr	58.98	296	P	P	17 23 27.5	+0.8
	comp=Z,0.5nm,0.7s,baz=120,slow=6.4,SNR=3.7						
CMAR	Chiang Mai Arr	58.98	296	P	P	17 23 27.2	+0.4
PETK	Petropavlovsk-	59.24	3	P	P	17 23 28.9	+1.1
	comp=Z,3.2nm,0.8s,baz=141,slow=5.2,SNR=3.4						
PETK				LR	LR	17 43 13.7	
	comp=Z,16nm,21.0s,baz=58,slow=30						
PETK	Petropavlovsk-	59.24	3	P	P	17 23 28.5	+0.7
GTA	Gaotai	67.08	317	*e*P	P	17 24 21.5	+1.2
GTA				pP	sP	17 24 31.0	+0.7
GTA				sP	pwP	17 24 34.6	-0.6
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM	Songino Array	67.83	328	P	P	17 24 26.3	+1.4
	comp=Z,1.2nm,0.9s,baz=140,slow=5.0,SNR=7.4						
SONM	Songino Array	67.83	328	P	P	17 24 25.4	+0.6
SVW2	Sparrevohn	77.93	23	P	P	17 25 26.1	+1.7
TIXI	Tiksi	79.39	352	P	P	17 25 33.2	+1.0
	comp=Z,0.5nm,0.2s,baz=180,slow=24,SNR=3.5						
TIXI	Tiksi	79.39	352	P	P	17 25 32.8	+0.6
TIXI				IAmb	IAmb	17 25 35.3	
	comp=Z,6.6nm,1.4s						
KTH	Kantishna Hill	81.14	22	P	P	17 25 42.0	+0.2
KTH				IAmb	IAmb	17 25 46.1	
	comp=Z,7.8nm,1.3s						
TRF	Thorofare Moun	81.32	22	P	P	17 25 42.1	-0.8
TRF				IAmb	IAmb	17 25 57.2	
	comp=Z,4.4nm,1.2s						
IMAR	Indian Mountai	81.56	19	P	P	17 25 44.7	+0.8
MKAR	Makanchi Array	81.76	319	P	P	17 25 45.0	-0.4
	comp=Z,1.2nm,1.0s,baz=72,slow=9.3,SNR=3.8						
RND	Reindeer	81.84	23	P	P	17 25 45.5	0.0
RND				IAmb	IAmb	17 25 50.4	
	comp=Z,5.4nm,1.4s						
BWN	Browne	82.02	22	P	P	17 25 46.9	+0.5
MLY	Manley	82.03	21	P	P	17 25 46.7	+0.2
MLY				IAmb	IAmb	17 26 03.6	
	comp=Z,7.1nm,1.7s						
HMT	Hamilton	82.22	26	P	P	17 25 49.3	+1.8
ZALV	Zalesovo Beam	82.65	326	P	P	17 25 48.5	-1.3
	comp=Z,0.4nm,0.4s,baz=112,slow=4.9,SNR=3.6						
ZALV	Zalesovo Beam	82.65	326	P	P	17 25 49.0	-0.9
GLB	Gilahina Butte	82.92	26	P	P	17 25 51.4	+0.2
GLB				IAmb	IAmb	17 26 10.5	
	comp=Z,13nm,1.7s						
ILAR	Eielson Array	83.28	22	P	P	17 25 51.8	-1.2
	comp=Z,0.8nm,0.8s,baz=249,slow=5.2,SNR=9.2						
KURK	Kurchatov	85.23	322	P	P	17 26 02.7	-0.4
KURK				IAmb	IAmb	17 26 25.1	
	comp=Z,6.3nm,1.6s						
KURBB	Kurchatov Arra	85.26	322	P	P	17 26 02.8	-0.5
	comp=Z,0.3nm,0.5s,baz=112,slow=4.3,SNR=3.4						
EPYK	Eagle Plains	87.79	22	P	P	17 26 16.0	+0.6
EPYK				IAmb	IAmb	17 26 16.8	
	comp=Z,5.4nm,0.9s						
INK	Inuvik	89.60	21	P	P	17 26 23.1	-0.7
	comp=Z,1.4nm,1.0s,baz=206,slow=8.9,SNR=3.2						
BVAR	Borovoye Array	90.72	323	P	P	17 26 28.9	-0.5
	comp=Z,1.3nm,0.9s,baz=104,slow=6.3,SNR=5.9						
TORD	Torodi Ar. Bea	151.25	286	PKPbc	PKPbc	17 33 20.2	-0.8
	comp=Z,2.5nm,0.8s,baz=80,slow=2.2,SNR=14						
TORD	Torodi Ar. Bea	151.25	286		PKPbc	17 33 19.7	-1.4

*IDC **03** 17:18:57.9±2.1, 4.°93N×125.°03E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.1/52, mbtmp3.3/3, Error ellipse: s-maj=204.4km s-min=25.6km az=64.0*
*ISCJB **03** 17:19:01.4±0.9, 4.°86N±0.°06×125.°1E±0.°2, h33km, mb3.1/3, Error ellipse: s-maj=24.6km s-min=7.4km az=173.0*
ISC 03 17:19:03.2±1.3**, 4.°92N**±0.°09×**125.°1E**±0.°2**, h35**km**, n7, σ1**s**30**/11**, mb3.1**/3**, 2C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSPH	General Santos	1.17	353	⇑p	Pn	17 19 22.0	-1.2
GSPH				S	Sn	17 19 35.6	-2.5
KCP	Kidapawan	2.08	360	⇓P	Pn	17 19 36.3	+0.6
KCP				S	Sn	17 20 01.2	+0.8
DMPH	Davao City--Mi	2.19	11	⇑P	Pn	17 19 38.2	+1.0
DMPH				S	Sn	17 20 02.9	-0.1
CTBH	Cotabato--PC H	2.44	340	P	Pn	17 19 41.4	+0.9
CTBH				S	Sn	17 20 10.9	+1.7
WRA	Warramunga Arr	26.32	160	P	P	17 24 36.0	+0.1
	0.4nm,0.8s,baz=339,slow=10,SNR=6.6						
ASAR	Alice Springs	29.68	164	P	P	17 25 05.9	0.0
	0.1nm,0.6s,baz=340,slow=7.3,SNR=3.8						
MKAR	Makanchi Array	55.66	326	P	P	17 28 35.4	-0.5
	0.3nm,0.5s,baz=117,slow=7.6,SNR=3.3						

*SJA **03** 17:30:27.9±0.5, 31.°52S×71.°72W, h10km±5km, ML3.3, MW3.0*
*GUC **03** 17:30:27.4±0.8, 31.°53S×71.°90W, h33km±5km, ML3.8*
ISC 03 17:30:24.5±3.0**, 31.°52S**±0.°05×**72.°1W**±0.°1**, h2**km±15km**, n15, σ1**s**16**/22**, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CO02	Combarbal	0.96	71	*e*P	Pg	17 30 43.2	+0.3
CO02				*i* S	Sg	17 30 54.1	-1.2
ROCH	El Roble	1.70	149	*e*P	Pn	17 30 55.5	0.0
ROCH				*i* S	Sn	17 31 16.7	-1.2
GO04	Tololo Observa	1.72	39	*e*P	Pn	17 30 55.3	-0.5
GO04				*i* S	Sn	17 31 18.0	-0.6
GO04				IAML		17 31 23.8	
	comp=N,4μm,0.4s						
GO04	Tololo Observa	1.72	39	*i* P	Pn	17 30 57.3	+1.5
PEL	Peldehue	2.00	145	*e*P	Pn	17 30 59.8	+0.4
PEL				*i* S	Sn	17 31 24.2	-0.7
PEL				IAML		17 31 29.3	
	comp=E,686nm,0.8s						
FCH	Farellones	2.34	141	*e*P	Pn	17 31 05.0	+0.6
FCH				*i* S	Sn	17 31 34.0	0.0
RTLS	Leoncito	2.37	97	*i* P	Pn	17 31 05.8	+1.0
RTLS				*i* Sg	Sb	17 31 36.4	-1.7
RTLS				IAML		17 31 42.4	
	comp=Z,264nm,0.6s						
LMEL	Las Melosas	2.80	147	*e*P	Pn	17 31 11.0	+0.4
ASAL	Salagasta	2.94	112	*i* P	Pn	17 31 13.9	+1.5
ASAL				*i* Sg	Sb	17 31 53.7	-0.5
ARCO	CERRO ARCO	2.96	117	IAML		17 32 05.6	
	comp=Z,106nm,0.5s						
RTCV	Cerro Valdivia	3.02	97	*i* P	Pn	17 31 14.5	+1.1
AMOG	MOGNA	3.11	80	*i* P	Pn	17 31 15.3	+0.6
AAGR	Agrelo	3.15	121	*i* P	Pn	17 31 16.8	+1.5
AAGR				*i* Sg	Sb	17 32 00.8	+0.5
ACAN	Cantantal	4.21	102	*i* P	Pn	17 31 31.5	+1.7
MRA	San Martin	5.46	101	*i* P	Pn	17 31 49.1	+2.0

*ISCJB **03** 17:48:59.2±0.4, 43.°32N±0.°02×77.°80E±0.°02, h2km±3km, Error ellipse: s-maj=3.4km s-min=2.2km az=170.4*
*NNC **03** 17:48:59.1±0.2, 43.°33N×77.°81E, h0km, mb2.6, mpv2.9, Error ellipse: s-maj=2.6km s-min=1.1km az=174.0*
*SOME **03** 17:48:59.7, 43.°32N×77.°82E, h25km*
*KRNET **03** 17:49:00.7±0.1, 43.°27N×77.°74E, h19km, mb2.2*
ISC 03 17:48:59.7±0.9**, 43.°32N**±0.°02×**77.°78E**±0.°01**, h14**km±8km**,**

n49,σ1ˢ53/95,13C-5D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURS	Kuram	0.33	60	eP	Pg	17 49 06.2	-0.3
	7.3nm,0.1s						
KURS				eS	Sg	17 49 10.7	-0.4
	26nm,0.2s						
KURS	Kuram	0.33	60	P	Pg	17 49 06.2	-0.3
	2.5nm,0.1s						
KURS				S	Sg	17 49 10.7	-0.4
	14nm,0.2s						
KOTS	Kotyrbulak	0.49	260	eP	Pg	17 49 10.1	+0.6
	42nm,0.2s						
KOTS				eS	Sb	17 49 17.6	+0.2
	162nm,0.3s						
KOTS	Kotyrbulak	0.49	260	P	Pg	17 49 10.1	+0.6
	41nm,0.2s						
KOTS				S	Sb	17 49 17.6	+0.2
	167nm,0.3s						
ZHN	Zhinishke	0.51	107	eP	Pg	17 49 08.9	-0.7
	10nm,0.1s						
ZHN				eS	Sg	17 49 15.6	-0.8
	28nm,0.2s						
ZHN	Zhinishke	0.51	107	P	Pg	17 49 08.9	-0.7
	5.8nm,0.2s						
ZHN				S	Sg	17 49 15.6	-0.8
	30nm,0.2s						
SATY	Saty	0.53	119	eP	Pg	17 49 09.6	-0.5
	41nm,0.1s						
SATY				eS	Sg	17 49 16.7	-0.5
	226nm,0.1s						
SATY	Saty	0.53	119	P	Pg	17 49 09.6	-0.5
	27nm,0.1s						
SATY				S	Sg	17 49 16.7	-0.5
	196nm,0.1s						
ANVS	Anan'yevo	0.54	189	⇓iP	Pb	17 49 10.1	-1.0
	baz=86						
ANVS				⇓iS	Sg	17 49 17.3	-0.4
	baz=86						
MDOK	Medeo	0.56	254	eP	Pb	17 49 10.9	-0.4
	2.7nm,0.2s						
MDOK				eS	Sb	17 49 18.9	-0.3
	12nm,0.5s						
MDOK	Medeo	0.56	254	P	Pb	17 49 10.6	-0.7
	0.4nm,0.2s						
MDOK				S	Sb	17 49 18.6	-0.6
	4.6nm,0.4s						
MDOK	Medeo	0.56	254	Pg	Pb	17 49 10.9	-0.4
	2.9nm,0.2s						
MDOK				Lg	Lg	17 49 18.9	
	9.7nm,0.2s						
TNSS	Tian-Shan	0.67	245	eP	Pb	17 49 12.9	-0.5
	1.9nm,0.1s						
TNSS				eS	Sb	17 49 22.4	-0.4
	14nm,0.2s						
TNSS	Tian-Shan	0.67	245	P	Pb	17 49 12.9	-0.5
	4.4nm,0.1s						
TNSS				S	Sb	17 49 22.3	-0.4
	12nm,0.2s						
KPKS	Kokpek	0.68	77	eP	Pb	17 49 12.2	-1.2
	51nm,0.1s						
KPKS				eS	Sb	17 49 21.0	-1.6
	63nm,0.2s						
CHKK	Chushkaly	0.78	313	eP	Pb	17 49 14.7	-0.5
	5.8nm,0.1s						
CHKK				eS	Sb	17 49 25.3	-0.3
	42nm,0.3s						
KTBS	Karatobe	0.89	297	eP	Pb	17 49 16.6	-0.3
	6.5nm,0.1s						
KTBS				eS	Sb	17 49 28.8	+0.2
	24nm,0.2s						
KTBS	Karatobe	0.89	297	P	Pb	17 49 16.6	-0.3
	7.2nm,0.2s						
KTBS				S	Sb	17 49 28.8	+0.2
	23nm,0.3s						
ARXS	Arharly	0.89	2	eP	Pb	17 49 16.3	-0.8
	3.8nm,0.1s						
ARXS				eS	Sb	17 49 28.3	-0.6
	25nm,0.1s						
ARXS	Arharly	0.89	2	P	Pb	17 49 16.3	-0.8
	3.0nm,0.2s						
ARXS				S	Sb	17 49 28.3	-0.6
	24nm,0.1s						
IZV	Izvestkoviy	0.90	252	eP	Pb	17 49 17.1	-0.1
	3.9nm,0.1s						
IZV				eS	Sg	17 49 29.5	+0.7
	15nm,0.1s						
IZV	Izvestkoviy	0.90	252	P	Pb	17 49 17.1	-0.1
	3.7nm,0.2s						
IZV				S	Sg	17 49 29.5	+0.7
	13nm,0.2s						
UZB	Uzynbulak	0.93	100	eP	Pb	17 49 16.5	-1.2
	22nm,0.2s						
UZB				eS	Sb	17 49 28.4	-1.5
	9.5nm,0.1s						
UZB	Uzynbulak	0.93	100	P	Pb	17 49 16.5	-1.2
	14nm,0.2s						
UZB				S	Sb	17 49 28.4	-1.5
	8.7nm,0.1s						
MTBS	Maitube	1.00	259	eP	Pb	17 49 18.8	-0.1
	11nm,0.1s						
MTBS				eS	Sb	17 49 32.5	+0.4
	11nm,0.3s						
KUU	Kurty	1.19	299	eP	Pn	17 49 21.8	-0.2
	7.3nm,0.1s						
KUU				eS	Sn	17 49 37.6	-0.4
	17nm,0.2s						
SHLS	Shalkode	1.24	97	eP	Pg	17 49 27.7	+4.1
	7.3nm,0.8s						
SHLS				eS	Sg	17 49 47.8	+8.0
	5.6nm,0.3s						
SHLS	Shalkode	1.24	97	P	Pg	17 49 27.7	+4.1
	2.1nm,0.2s						
SHLS				S	Sg	17 49 47.8	+8.0
	5.1nm,0.2s						
PDGK	Podgornoye	1.25	89	P	Pb	17 49 22.2	-0.9
	1.3nm,0.2s						
PDGK				S	Sn	17 49 38.4	-1.2
	1.7nm,0.2s						
PDGK	Podgornoye	1.25	89	⇓P	Pn	17 49 22.0	-0.9
	0.4nm,0.2s						
PDGK				⇑S	Sn	17 49 38.2	-1.4
	1.3nm,0.3s						
KDJ	Kajisay	1.27	200	⇑iP	Pb	17 49 23.2	-0.3
	baz=99						
KDJ				⇑iS	Sn	17 49 39.4	-0.8
	baz=99						
KST	Kastek	1.36	259	eP	Pb	17 49 24.8	-0.2
	6.1nm,0.3s						
KST				eS	Sb	17 49 43.1	+0.8
	11nm,0.5s						
KST	Kastek	1.36	259	P	Pb	17 49 24.8	-0.2
	5.4nm,0.3s						
KST				S	Sb	17 49 43.1	+0.8
	10nm,0.4s						
DGS	Degeres	1.47	268	eP	Pb	17 49 26.6	-0.2
	3.6nm,0.3s						
DGS				eS	Sb	17 49 46.0	+0.6
	9.3nm,0.4s						
DGS	Degeres	1.47	268	P	Pb	17 49 26.6	-0.2
	3.1nm,0.2s						
DGS				S	Sb	17 49 46.0	+0.6
	7.0nm,0.3s						
ULHL	Ulahol	1.56	227	⇑iP	Pb	17 49 28.7	+0.2
	baz=27						
ULHL				⇑iS	Sb	17 49 48.4	+0.2
	baz=27						
BOOM	Boomskoye usch	1.58	239	⇑iP	Pb	17 49 28.7	-0.2
	baz=40						
BOOM				⇑iS	Sb	17 49 49.1	+0.3
	baz=40						
TARG	Taragay, Kyrgy	1.59	179	⇑iP	Pb	17 49 29.0	-0.1
	baz=78						
TARG				⇑iS	Sb	17 49 49.6	+0.3
	baz=78						
TKM2	Tokmak 2	1.65	257	⇑iP	Pb	17 49 29.7	-0.2
	baz=58						
TKM2				⇑iS	Sb	17 49 51.5	+0.9
	baz=58						
TKM2	Tokmak 2	1.65	257	⇑P	Pb	17 49 29.8	-0.1
	0.7nm,0.3s						
TKM2				⇑S	Sg	17 49 52.1	-0.6
	3.6nm,0.3s						
DJR	Jarkent	1.77	55	eP	Pb	17 49 31.5	-0.5
	1.2nm,0.1s						
DJR				eS	Sb	17 49 54.5	+0.3
	8.7nm,0.3s						
DJR	Jarkent	1.77	55	P	Pb	17 49 31.5	-0.5
	1.3nm,0.2s						
DJR				S	Sb	17 49 54.5	+0.3
	7.8nm,0.3s						
KTMS	Ketmen	1.88	85	eP	Pb	17 49 32.9	-1.0
	4.1nm,0.1s						
KTMS				eS	Sb	17 49 57.0	-0.4
	11nm,0.2s						
KTMS	Ketmen	1.88	85	P	Pb	17 49 32.9	-1.0
	2.7nm,0.1s						
KTMS				S	Sb	17 49 57.4	0.0
	10.0nm,0.4s						
KBK	Karagaybulak	2.18	253	⇓iP	Pb	17 49 38.2	-0.8
	baz=54						
KBK				⇓iS	Sb	17 50 04.9	-1.1
	baz=54						
KAPS	Kapalarasan	2.27	29	eP	Pb	17 49 39.8	-0.6
	2.2nm,0.3s						
KAPS				eS	Sb	17 50 08.8	+0.4
	3.0nm,0.4s						
KAPS	Kapalarasan	2.27	29	Pg	Pb	17 49 39.8	-0.6
	2.1nm,0.3s						
KAPS				Lg	Lg	17 50 08.8	
	2.8nm,0.2s						
SGDS	Sogindy	2.30	274	Pg	Pb	17 49 40.7	-0.3
	1.5nm,0.3s						
SGDS				Lg	Lg	17 50 10.3	
	1.3nm,0.2s						
MRKS	Merke	3.39	262	eP	Pb	17 50 01.2	+1.7
	1.7nm,0.4s						
MRKS				eS	Sg	17 50 45.2	-3.2
	2.9nm,0.7s						

ISCJB **03** *17:49:27.8±1.8, 13.°19N±0.°08×90.°48W±0.°05, h25km±10km, Error ellipse: s-maj=14.4km s-min=6.2km az=27.6*
UCR **03** *17:49:29.2±2.0, 13.°30N×90.°44W, h25km±7km, MD3.1, ML3.1*
SNET **03** *17:49:30.3±1.8, 13.°31N×90.°35W, h19km±10km, ML3.2*
GCG **03** *17:49:30.3±0.6, 13.°36N×90.°62W, h22km±3km, MD3.5*
ISC 03 17:49:26.3±2.6, **13.°19N**±0.°10×**90.°49W**±0.°06, **h13**km±11km, **n28,σ0ˢ75**/41, **8C-5D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.98	3	eP	Pg	17 49 45.9	+0.6
IXG	Ixpaco	0.98	3	eP	Pg	17 49 45.9	+0.6
CEVE	Cerro Verde	1.05	53	⇑iP	Pg	17 49 46.9	+0.1
CEVE				eS	Sg	17 50 00.9	+0.3
CEVE	Cerro Verde	1.05	53	⇑iP	Pg	17 49 46.9	+0.1
CEVE				eS	Sg	17 50 00.9	+0.3
SBLS	San Blas	1.06	52	⇑iP	Pg	17 49 46.9	0.0
SBLS	San Blas	1.06	52	⇑iP	Pg	17 49 46.9	0.0
RTR	El Retiro	1.08	49	⇑iP	Pg	17 49 47.2	-0.1
RTR	El Retiro	1.08	49	⇑iP	Pg	17 49 47.2	-0.1
SNJE	San Jose	1.09	52	⇑iP	Pg	17 49 47.4	-0.1
SNJE				eS	Sg	17 50 00.7	-1.1
SNJE	San Jose	1.09	52	⇑iP	Pg	17 49 47.4	-0.1
SNJE				eS	Sg	17 50 00.7	-1.1
PCG	Pacaya	1.21	354	eP	Pn	17 49 49.4	+0.2
PCG	Pacaya	1.21	354	eP	Pn	17 49 49.4	+0.2
FUG	Fuego 3	1.30	345	eP	Pn	17 49 50.9	+0.5
FUG				eS	Sb	17 50 06.5	-1.0
FUG	Fuego 3	1.30	345	eP	Pn	17 49 50.9	+0.5
FUG				eS	Sb	17 50 06.5	-1.0
NBG	Las Nubes	1.40	6	eP	Pn	17 49 53.4	+1.5
NBG				eS	Sn	17 50 11.3	+0.9
NBG	Las Nubes	1.40	6	eP	Pn	17 49 53.4	+1.5
NBG				eS	Sn	17 50 11.3	+0.9
LFRS	El Faro	1.45	72	eP	Pn	17 49 52.7	+0.2
LBRS	Las Brisas	1.51	68	⇓iP	Pn	17 49 54.2	+1.0
PAVA	Las Pavas	1.60	71	⇓eP	Pn	17 49 55.6	+1.2
PAVA	Las Pavas	1.60	71	⇓eP	Pn	17 49 55.6	+1.2
COEG	Centro de Oper	1.62	74	eP	Pn	17 49 55.5	+0.8
MTO3	Montecristo	1.63	42	⇓iP	Pn	17 49 55.2	+0.2
MTO3	Montecristo	1.63	42	⇓iP	Pn	17 49 55.2	+0.2
STG3	Santiaguito 3,	1.84	325	eP	Pn	17 49 58.4	+0.5
STG3				eS	Sn	17 50 19.9	-1.4
VICT	Victoria	1.96	67	eP	Pn	17 49 59.9	+0.5
VICT				eS	Sn	17 50 23.9	0.0
VICT	Victoria	1.96	67	eP	Pn	17 49 59.9	+0.5
VICT				eS	Sn	17 50 23.9	0.0
LCND	La Caada	2.53	87	eP	Pn	17 50 08.1	+0.8
LCND				eS	Sn	17 50 37.4	-0.6
LCND				IAML		17 50 44.1	
	comp=Z,122nm,0.3s						
LCND	La Caada	2.53	87	eP	Pn	17 50 08.1	+0.8
LCND				eS	Sn	17 50 37.4	-0.6
LCND				IAML		17 50 44.1	
	comp=Z,122nm,0.3s						

NEIC **03** *17:57:42.9±0.6, 17.°44N±0.°09×67.°79W±0.°05, h36km±77km*
OSPL **03** *17:57:42.8±1.4, 17.°30N×67.°76W, h31km±32km, ML3.6*
RSPR **03** *17:57:43.5, 17.°39N×67.°80W, h27km±8km, MD3.5/11*
ISC 03 17:57:40.9±1.8, **17.°42N**±0.°07×**67.°83W**±0.°03, **h23**km±16km, **n71,σ0ˢ69**/91, **10C-14D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	Cabo Rojo, PR	0.90	49	⇓iP	Pn	17 57 58.2	+0.1
CRPR	Cabo Rojo, PR	0.90	49	⇓iP	Pn	17 57 58.2	+0.1
CRPR	Cabo Rojo, PR	0.90	49		Pn	17 57 58.1	+0.1
MLPR	Magueyes Islan	0.93	54	⇓iP	Pn	17 57 58.5	+0.1
MLPR	Magueyes Islan	0.93	54	eS	Sb	17 58 10.6	+0.4
MLPR	Magueyes Islan	0.93	54	Pn	Pn	17 57 58.5	+0.1
MLPR					Sb	17 58 10.4	+0.3
IDE	Isla Desecheo	1.02	19	⇓eP	Pn	17 58 00.1	+0.3
IDE	Isla Desecheo	1.02	19	⇓eP	Pn	17 58 00.1	+0.3
IDE				eS	Sn	17 58 13.4	0.0
IDE	Isla Desecheo	1.02	19		Pn	17 58 00.1	+0.3
IDE					Sn	17 58 13.4	0.0
MPR	Mayaguez	1.02	40	i P	Pn	17 57 60.0	+0.2
MPR				eS	Sn	17 58 12.1	-1.3
MPR	Mayaguez	1.02	40		Pn	17 58 00.1	+0.2
LSP	Las Mesas	1.03	43	⇓eP	Pn	17 58 00.3	+0.4
LSP	Las Mesas	1.03	43	⇓eP	Pn	17 58 00.3	+0.4
LSP	Las Mesas	1.03	43		Pn	17 58 00.3	+0.4
PCDR	Punta Cana, DR	1.21	334	⇓eP	Pn	17 58 03.2	+0.8
PCDR	Punta Cana, DR	1.21	334	⇓eP	Pn	17 58 03.2	+0.8
PCDR	Punta Cana, DR	1.21	334	i P	Pn	17 58 03.1	+0.8
PCDR	Punta Cana, DR	1.21	334		Pn	17 58 03.2	+0.8
AGPR	Aguadilla, PR	1.25	33	eS	Sn	17 58 18.6	-0.3
AGPR	Aguadilla, PR	1.25	33	eS	Sn	17 58 18.6	-0.3
AGPR	Aguadilla, PR	1.25	33	Pn	Pn	17 58 03.5	+0.6
AGPR					Sn	17 58 18.5	-0.3
OBIP	Obispado Ponce	1.32	62	⇓iP	Pn	17 58 04.2	+0.3
OBIP	Obispado Ponce	1.32	62	⇓iP	Pn	17 58 04.2	+0.3
OBIP				eS	Sn	17 58 20.2	-0.5
OBIP	Obispado Ponce	1.32	62		Pn	17 58 04.1	+0.3
OBIP					Sn	17 58 20.1	-0.5
ICMP	Isla Caja de M	1.32	69	eS	Sn	17 58 20.3	-0.5
ICMP	Isla Caja de M	1.32	69	⇓iP	Pn	17 58 04.1	+0.2
ICMP	Isla Caja de M	1.32	69	Pn	Pn	17 58 04.1	+0.2
ICMP					Sn	17 58 20.2	-0.5
CELP	Cerrillos	1.35	61	⇓iP	Pn	17 58 04.7	+0.3
CELP	Cerrillos	1.35	61	⇓iP	Pn	17 58 04.7	+0.3
CELP	Cerrillos	1.35	61		Pn	17 58 04.7	+0.3
AOPR	Arecibo Observ	1.38	48	eS	Sn	17 58 21.7	-0.6
AOPR	Arecibo Observ	1.38	48	eS	Sn	17 58 21.7	-0.6
AOPR	Arecibo Observ	1.38	48	Pn	Pn	17 58 05.2	+0.5
AOPR					Sn	17 58 21.4	-0.8
EMPR	Esperanza - Ma	1.62	49	eS	Sn	17 58 28.5	+0.2
EMPR	Esperanza - Ma	1.62	49	Pn	Pn	17 58 09.3	+1.2
EMPR					Pb	17 58 09.4	-0.7
EMPR					Sn	17 58 28.4	+0.2
IGPR	InterUniversit	1.73	71	eS	Sn	17 58 29.9	-0.9
IGPR	InterUniversit	1.73	71	Pn	Pn	17 58 09.8	+0.3
SJG	San Juan	1.74	66		Pn	17 58 10.0	+0.4
PDPR	Patillas Dam,	1.82	71	Pn	Pn	17 58 10.8	0.0
GCPR	Guaynabo City	1.88	62	Pn	Pn	17 58 11.9	+0.3
GCPR					Sn	17 58 33.8	-0.9
DR12	Loma Pena Alta	2.01	313		Pn	17 58 13.1	-0.3
HUMP	Col San Antoni	2.02	69	eS	Sn	17 58 37.6	-0.4
HUMP	Col San Antoni	2.02	69	eS	Sn	17 58 37.6	-0.4
HUMP	Col San Antoni	2.02	69	Pn	Pn	17 58 13.6	+0.1
HUMP					Sn	17 58 37.3	-0.6
CBYP	Canovanas	2.06	65	⇑eP	Pn	17 58 14.7	+0.6
CBYP	Canovanas	2.06	65	⇑eP	Pn	17 58 14.7	+0.6
CBYP	Canovanas	2.06	65		Pn	17 58 14.5	+0.4
SDD	Santo Domingo	2.24	298	eS	Sn	17 58 41.7	-1.8
SDD	Santo Domingo	2.24	298	Pn	Pn	17 58 18.7	+2.2
MTP	Monte Pirata	2.27	72	⇑eP	Pn	17 58 17.3	+0.3
MTP	Monte Pirata	2.27	72	⇑eP	Pn	17 58 17.3	+0.3
MTP				eS	Sn	17 58 43.8	-0.4
MTP	Monte Pirata	2.27	72		Pn	17 58 17.2	+0.3
MTP					Sn	17 58 44.4	+0.2
CUPR	Culebra, Puert	2.58	70	eS	Sn	17 58 51.8	-0.1
CUPR	Culebra, Puert	2.58	70	Pn	Pn	17 58 21.8	+0.6
CUPR					Sn	17 58 51.9	+0.1
BANI	BANI	2.60	292	Pn	Pn	17 58 22.4	+0.8
BON1	Bonao	2.88	302	eS	Sn	17 58 58.8	-0.4
STVI	Saint Thomas	2.89	71	⇑eP	Pn	17 58 26.2	+0.8
STVI	Saint Thomas	2.89	71	⇑eP	Pn	17 58 26.2	+0.8
STVI				eS	Sn	17 58 59.4	-0.1
STVI	Saint Thomas	2.89	71		Sn	17 58 59.4	-0.1
STVI	Saint Thomas	2.89	71		Pn	17 58 26.0	+0.6
STVI					Pb	17 58 26.4	-5.3
LOBA1	Barahona	3.17	283	eS	Sn	17 59 04.5	-2.1
LOBA1				IAML		17 59 05.9	
	comp=Z,508nm,0.4s						
TBVI	Tortola	3.21	72	⇑eP	Pn	17 58 30.9	+0.9
TBVI	Tortola	3.21	72	⇑eP	Pn	17 58 30.9	+0.9
TBVI				eS	Sn	17 59 07.4	-0.1
TBVI	Tortola	3.21	72		Pn	17 58 30.9	+0.9
TBVI					Sn	17 59 07.4	-0.1
ABV	Anegada	3.57	68	⇑eP	Pn	17 58 35.6	+0.8
ABV	Anegada	3.57	68	⇑eP	Pn	17 58 35.6	+0.8
ABV				eS	Sn	17 59 16.6	+0.2
ABVI	Anegada Island	3.57	68		Sn	17 59 16.6	+0.3
ABVI	Anegada Island	3.57	68		Pn	17 58 35.5	+0.6
ABVI					Pb	17 58 36.1	-7.3
SDDR	Presa de Saban	3.64	296	eS	Sn	17 59 16.7	-1.4
SDDR				IAML		17 59 27.3	
	comp=Z,35nm,0.4s						
SDDR	Presa de Saban	3.64	296	Pn	Pn	17 58 37.9	+2.1
SABA	Saba	4.38	87		Pn	17 58 46.4	+0.4

ISCJB **03** *18:11:01.9±0.3, 67.°07N±0.°02×20.°99E±0.°06, h0km, Error ellipse: s-maj=3.3km s-min=2.4km az=178.1*
UPP **03** *18:11:02.2±0.1, 67.°07N×20.°88E, h0km, ML2.2, Explosion*
NAO **03** *18:11:03.5±0.8, 67.°08N×21.°19E, ML2.8*
HEL **03** *18:11:03.2±0.1, 67.°08N×20.°92E, h0km, ML2.2, ML2.2(UPP), Explosion*
IDC **03** *18:11:03.3±0.9, 67.°09N×21.°09E, h0km, mb1 3.2/4, mb1mx3.0/43, mbtmp3.1/4, ML2.1/4, Error ellipse: s-maj=16.5km s-min=8.1km az=109.0*
BER **03** *18:11:05.3±4.1, 67.°02N×20.°99E, h0km, ML1.6, ML2.8(NAO), Suspected explosion*
ISC 03 18:11:02.5±0.7, **67.°09N**±0.°02×**20.°90E**±0.°02, **h0**km, **n57, σ1ˢ06**/85, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	Masugnsbyn	0.56	49	P	Pg	18 11 13.4	+0.2
MASU	Masugnsbyn	0.56	49	i P	Pg	18 11 13.4	+0.2
ERTU	Ertsjaerv	0.74	136	P	Pg	18 11 15.9	-0.8
ERTU				S	Sg	18 11 26.2	-0.1
ERTU	Ertsjaerv	0.74	136	i P	Pg	18 11 15.9	-0.8
ERTU				i S	Sg	18 11 26.2	-0.1
PAJU	Pajala	0.87	93	P	Pg	18 11 18.3	-0.8
PAJU	Pajala	0.87	93	i P	Pg	18 11 18.3	-0.8
RATU	Laukkuluspa	0.89	326	P	Pg	18 11 19.1	-0.5
RATU				S	Sb	18 11 32.0	-1.3
RATU	Laukkuluspa	0.89	326	eP	Pg	18 11 19.1	-0.5
RATU				eS	Sb	18 11 32.0	-1.3
HARU	Harads	0.93	178	P	Pg	18 11 19.4	-0.9
HARU	Harads	0.93	178	eP	Pg	18 11 19.4	-0.9
LANU	Lannavaara	1.05	23	P	Pg	18 11 21.5	-1.1
LANU	Lannavaara	1.05	23	eP	Pg	18 11 21.6	-0.9
	baz=202						
LANU				eSB	Sb	18 11 38.3	+0.5
KALU	Kalix	1.58	140	P	Pn	18 11 31.0	-0.7
KALU	Kalix	1.58	140	eP	Pn	18 11 30.8	-0.9
HEF	Hetta	1.69	37	Pg	Pn	18 11 32.9	-0.3
HEF				Lg	Lg	18 11 55.1	
HEF	Hetta	1.69	37	eP	Pn	18 11 32.9	-0.3
	baz=217						
HEF				MSG		18 11 53.9	
	comp=Z,17nm,0.2s						
HEF				eSN	Sb	18 11 56.1	0.0
HEF	Hetta	1.69	37	eP	Pn	18 11 33.0	-0.3
HEF				eS	Sg	18 11 56.6	-0.1
TOF	Tornio	1.70	125	eP	Pn	18 11 33.2	-0.2
	baz=302						
TOF				MSG		18 11 53.4	
	comp=Z,27nm,0.2s						
TOF				eSN	Sn	18 11 56.4	+0.5
KIF	Kilpisjarvi	1.92	359	Pn	Pb	18 11 38.6	+0.2
KIF				Lg	Lg	18 12 05.2	
KIF	Kilpisjarvi	1.92	359	ePB	Pb	18 11 37.8	-0.5
KIF				MSG		18 12 01.6	
	comp=Z,32nm,0.2s						
KIF				eSG	Sg	18 12 04.7	+0.5
KIF	Kilpisjarvi	1.92	359	eP	Pb	18 11 37.9	-0.5
KIF				eS	Sg	18 12 04.7	+0.5
RNF	Rovaniemi	2.08	101	eP	Pn	18 11 39.1	+0.6
RNF				eSG	Sb	18 12 07.2	-0.1
KTK1	Kautokeino	2.12	23	eP	Pb	18 11 40.7	-1.0
KTK1				eS	Sb	18 12 08.8	+0.2
KTK1				IAML		18 12 13.6	
	comp=Z,8.9nm,0.3s						
SGF	Sodankyl	2.21	78	eP	Pn	18 11 41.0	+0.6
SGF				eSG	Sb	18 12 11.4	+0.2
STEI	Steigen	2.33	294	eP	Pn	18 11 43.2	+1.2
STEI				eS	Sb	18 12 14.8	+0.2
STEI				IAML		18 12 22.1	
	comp=Z,5.9nm,0.4s						
BURU	Burvik	2.53	175	eP	Pn	18 11 45.3	+0.6
OUL	Oulu	2.86	132	ePB	Pb	18 11 52.3	-2.1
OUL				eSG	Sb	18 12 31.7	+1.8
OBF0	Syolatti, Pyha	2.94	151	ePB	Pb	18 11 53.7	-2.1
ARA0	ARCESS Array S	2.99	33	Pn	Pn	18 11 51.2	+0.1
	baz=206,slow=16						
ARA0				Sn	Sn	18 12 27.9	+0.2
	baz=205,slow=16						
ARA0	ARCESS Array S	2.99	33	Pn	Pn	18 11 51.2	+0.1
	baz=206,slow=16						
ARA0				Sn	Sn	18 12 27.9	+0.2
	baz=205,slow=16						
ARCES	ARCESS Array B	2.99	33	Pn	Pn	18 11 51.4	+0.3
	comp=Z,0.4nm,0.3s,baz=208,slow=14,SNR=22						
ARCES				Sn	Sn	18 12 28.9	+1.3
	comp=Z,1.3nm,0.3s,baz=222,slow=21,SNR=11						
ARE0	ARCESS Array S	2.99	33	eP	Pn	18 11 51.9	+0.8
ARE0				eS	Sn	18 12 26.2	-1.4
KONS	Konsvik	3.14	263	eP	Pn	18 11 55.0	+1.9
KONS				eS	Sn	18 12 30.7	-0.5
KONS				IAML		18 12 53.1	
	comp=Z,5.6nm,0.6s						
OUF	Merijarvi	3.16	148	eP	Pn	18 11 54.5	+1.1
	baz=335						
OUF				MSG		18 12 34.5	
	comp=Z,3.5nm,0.2s						
VRF	Varrio	3.42	75	ePB	Pn	18 11 59.8	+2.7
VRF				eSG	Sb	18 12 48.9	+2.8
MSF	Maaselka	3.47	106	eP	Pn	18 11 59.5	+1.8
MSF				eSG	Sb	18 12 49.4	+2.0
KEV	Kevo	3.50	37	Pn	Pn	18 11 58.0	-0.1
KEV				Sn	Sn	18 12 41.3	+1.2
KEV	Kevo	3.50	37	Pn	Pn	18 11 58.0	-0.1
KEV				Sn	Sn	18 12 41.3	+1.2
KU6	Riekki	3.75	102	eP	Pn	18 12 03.2	+1.7
	baz=294						
HUSU	Husum	3.83	191	eP	Pn	18 12 03.9	+1.3
HUSU				eS	Sn	18 12 50.8	+2.5
VAF	Ylistaro	4.13	169	eP	Pn	18 12 07.4	+0.6
	baz=348						
HEMU	Hemsoen	4.60	197	eP	Pn	18 12 15.0	+1.8
APA0	Apatity Array	4.70	78	Pn	Pn	18 12 14.3	-0.3
APA0				Sn	Sn	18 13 10.2	+0.4
	baz=293,slow=37						
APA0	Apatity Array	4.70	78	Pn	Pn	18 12 14.3	-0.3
APA0				Sn	Sn	18 13 10.2	+0.4
	baz=293,slow=37						
FIA0	FINESS Array S	6.10	156	Pn	Pn	18 12 35.0	+1.3
	baz=340,slow=16						
FIA0	FINESS Array S	6.10	156	Pn	Pn	18 12 35.0	+1.3
	baz=340,slow=16						
FINES	FINESS Array B	6.10	156	Pn	Pn	18 12 33.9	+0.1
	comp=Z,0.1nm,0.3s,baz=339,slow=11,SNR=14						
FINES				Sn	Sn	18 13 45.1	+1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.3nm,0.3s,baz=0.4,slow=21,SNR=8.6						
FINES				Lg	Lg	18 14 14.1	
	comp=Z,0.3nm,0.3s,baz=346,slow=27,SNR=3.6						
NB2	NORSAR Subarra	7.40	219	Pn	Pn	18 12 51.5	-0.2
	baz=22,slow=14						
NB2	NORSAR Subarra	7.40	219	Pn	Pn	18 12 51.5	-0.2
	baz=22,slow=14						
NOA	NORSAR Array B	7.40	219	Pn	Pn	18 12 52.2	+0.5
	comp=Z,0.0nm,0.3s,baz=22,slow=18,SNR=7.5						
NRA0	NORESS Array S	7.59	217	Pn	Pn	18 12 56.1	+1.9
	baz=36,slow=12						
NRA0	NORESS Array S	7.59	217	Pn	Pn	18 12 56.1	+1.9
	baz=36,slow=12						
HFS	Hagfors	7.68	208	Pn	Pn	18 12 54.9	-0.6
	baz=18,slow=12						
HFS	Hagfors	7.68	208	Pn	Pn	18 12 54.6	-0.8
	comp=Z,0.1nm,0.3s,baz=24,slow=13,SNR=11						
HFS				Lg	Lg	18 15 05.5	
	comp=Z,0.2nm,0.3s,baz=41,slow=27,SNR=3.2						
HFS	Hagfors	7.68	208	Pn	Pn	18 12 54.9	-0.6
	baz=18,slow=12						
SPA0	Spitsbergen Ar	11.22	355	Pn	Pn	18 13 43.9	+0.1
	baz=156,slow=18						
SPA0	Spitsbergen Ar	11.22	355	Pn	Pn	18 13 43.9	+0.1
	baz=156,slow=18						

*IDC **03** 18:11:59.1±1.3, 3°.29N×125°.06E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/37, mbtmp3.4/4, Error ellipse: s-maj=156.9km s-min=21.5km az=67.0*

ISC 03 18:12:00.8±1.2**, 3°.35N**±0°.10×**125°.2E**±0°.5**, h10km, n5, σ1s.48**/6**, mb3.5**/4**, 1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	3.64	359	⇓P	Pb	18 13 06.0	+0.6
KCP				S	Sb	18 13 49.4	-0.2
WRA	Warramunga Arr	24.84	159	P	P	18 17 21.8	-1.8
	0.8nm,0.9s,baz=334,slow=11,SNR=11						
ASAR	Alice Springs	28.17	163	P	P	18 17 54.8	+1.2
	0.3nm,0.9s,baz=352,slow=13,SNR=3.7						
SONM	Songino Array	47.18	343	P	P	18 20 32.6	-1.1
	0.3nm,0.6s,baz=160,slow=4.6,SNR=3.5						
MKAR	Makanchi Array	56.98	326	P	P	18 21 47.1	+0.4
	0.3nm,0.4s,baz=119,slow=7.3,SNR=8.9						

IDC 03 18:27:26.1±1.4**, 3°.63N×125°.94E, h0km, mb3.4**/4**, mb1 3.5**/4**, mb1mx3.3**/38**, mbtmp3.4**/4**, MS2.5**/1**, Ms1 2.5**/1**, ms1mx2.2**/17**, 1D, Error ellipse: s-maj=156.3km s-min=21.2km az=69.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	3.46	346	⇓P	Pg	18 28 32.9	+0.4
KCP				S	Sg	18 29 17.4	-0.1
FITZ	Fitzroy Crossi	21.59	181	LR	LR	18 40 50.5	
	comp=Z,14nm,21.2s,baz=217,slow=37						
WRA	Warramunga Arr	24.84	161	P	P	18 32 49.5	-0.9
	1.0nm,0.9s,baz=342,slow=10,SNR=5.3						
ASAR	Alice Springs	28.22	164	P	P	18 33 21.7	+0.8
	0.2nm,0.6s,baz=346,slow=11,SNR=3.4						
SONM	Songino Array	47.15	342	P	P	18 36 01.2	+0.9
	0.2nm,0.5s,baz=168,slow=7.4,SNR=3.4						
MKAR	Makanchi Array	57.19	326	P	P	18 37 14.1	-0.9
	0.3nm,0.4s,baz=116,slow=6.9,SNR=13						

JMA 03 18:39:53.5±0.1**, 31°.85N×131°.18E, h12km±1km, M-0.3, Kyushu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTZ	Takazaki	0.09	303	P	Pg	18 39 56.3	0.0
JTZ				S	Sg	18 39 58.6	+0.3
JNKG	Nichinankitago	0.25	138	P	Pg	18 39 58.6	-0.1
JNAR	Kushima--Naru	0.33	166	P	Pg	18 40 00.2	0.0
JNAR				S	Sg	18 40 05.3	+0.6

JMA 03 18:41:58.1, 36°.47N×137°.89E, h6km±1km, M0.2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNG	Nsakai	0.18	110	P	Pg	18 42 01.7	0.0
JNG				S	Sg	18 42 04.4	+0.2
MAT	Matsushiro	0.27	74	P	Pg	18 42 03.0	-0.3
MAT				S	Sg	18 42 06.8	0.0
MAT	Matsushiro	0.27	74	P	Pg	18 42 03.0	-0.3
MAT				S	Sg	18 42 06.8	0.0

JMA 03 19:08:49.0±0.3**, 37°.35N×144°.50E, h35km, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.59	293	P	Pn	19 09 30.3	+2.0
JIKH				S	Sn	19 10 00.4	+1.9
JIO	Ouri	2.73	295	P	Pn	19 09 32.1	+1.9
JIO				eS	Sn	19 10 04.0	+2.0
JKMT	Kesennumamotoy	2.80	302	P	Pn	19 09 33.1	+1.9
JKMT				S	Sn	19 10 05.8	+2.1
OFUJ	Ofunato	2.82	309	P	Pn	19 09 33.2	+1.6
OFUJ				eS	Sn	19 10 06.0	+1.7
JMK	Ichinoseki	3.04	303	P	Pn	19 09 36.7	+2.1
JMK				eS	Sn	19 10 12.0	+2.3
JOU	Okura	3.20	290	P	Pn	19 09 39.5	+2.7
JOM	Ohasama	3.29	311	P	Pn	19 09 40.2	+2.1
JOM				eS	Sn	19 10 19.0	+3.0
JFT	Otama	3.32	274	P	Pn	19 09 41.2	+2.8
JFT				eS	Sn	19 10 20.5	+3.9
JYK	Kaneyama	3.62	297	P	Pn	19 09 45.5	+2.9
JRG	Rokugo	3.66	305	P	Pn	19 09 46.4	+3.3
JRG				eS	Sn	19 10 29.2	+4.1
JRY	Ryogami san	4.69	255	P	Pn	19 09 58.4	+1.1
JRY				eS	Sn	19 10 50.1	-0.5
JCH	Churui	5.33	351	P	Pn	19 10 06.1	+0.1
JCH				eS	Sn	19 11 03.9	-2.3
NEM2	Nemuro 2	6.08	9	P	Pn	19 10 13.7	-2.6
NEM2				eS	Sn	19 11 18.5	-6.2
JTKR	Abashiri--Toko	6.63	356	P	Pn	19 10 23.9	+0.1
JTKR				eS	Sn	19 11 34.6	-3.5

*ISCJB **03** 19:34:46.8±0.4, 37°.13N±0°.04×54°.99E±0°.03, h15km, Error ellipse: s-maj=5.5km s-min=3.2km az=27.8*
*TEH **03** 19:34:46.2, 36°.89N×55°.10E, h10km, ML3.2*
*THR **03** 19:34:48.7, 36°.86N×55°.31E, h15km, ML3.2*
*AZER **03** 19:34:50.0±4.2, 36°.92N×54°.72E, h15km, ml3.5/1, Error ellipse: s-maj=42.2km s-min=23.0km az=61.0*

ISC 03 19:34:47.0±0.9**, 36°.96N**±0°.05×**55°.07E**±0°.03**, h15km, n43, σ1s.74**/46**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMND	Minoodasht	0.41	42	ePg	Pg	19 34 53.5	-1.7
IMND				IAMB	IAmb	19 34 54.4	
	comp=Z,0.0nm,0.2s						
IGLO	Ghaloghah	1.09	246	IAMB	IAmb	19 35 31.3	
	comp=Z,0.0nm,0.4s						
IGLO				ePg	Pb	19 35 07.0	-0.7
SHRO	Shahrood	1.23	141	ePg	Pn	19 35 07.9	-1.8
SHRO	Shahrood	1.23	141	ePg	Pn	19 35 07.9	-1.8
IKIA	Kiasar	1.34	236	ePg	Pb	19 35 12.0	0.0
IANJ	Anjilo	1.75	212	ePn	Pn	19 35 18.1	+1.0
ISHM	Shahmirzad	1.83	232	ePn	Pb	19 35 20.6	+0.2
ISHM				IAMB	IAmb	19 35 24.2	
	comp=Z,3μm,0.2s						
BJRD	Bojnurd	2.01	68	ePn	Pb	19 35 22.9	-0.4
BJRD	Bojnurd	2.01	68	ePg	Pb	19 35 22.9	-0.4
IALA	Alasht	2.02	245	ePn	Pb	19 35 22.9	-0.6
SBZV	Sabzevar	2.12	105	ePn	Pb	19 35 23.4	-1.9
IFIR	Firoozkooh	2.28	236	ePn	Pb	19 35 27.3	-0.7
IFIR				IAMB	IAmb	19 36 02.1	
	comp=Z,0.0nm,0.3s						
IPRN	Peran	2.31	253	ePn	Pn	19 35 26.4	+1.8
ILAS	Lasjerd	2.32	228	ePn	Pb	19 35 27.9	-0.7
ILAS				IAMB	IAmb	19 36 14.7	
	comp=Z,723nm,0.3s						
ISFR	Sfrayin	2.35	87	ePn	Pn	19 35 26.9	+1.6
ISFR				IAMB	IAmb	19 36 13.3	
	comp=Z,1μm,0.5s						
IKRD	Kardeh	2.77	93	ePn	Pg	19 35 43.8	+3.7
IKRD				IAMB	IAmb	19 36 52.6	
	comp=Z,157nm,0.5s						
IDMV	Damavand	2.81	242	ePn	Pb	19 35 35.2	-1.9
IDMV				IAMB	IAmb	19 35 45.5	
	comp=Z,0.0nm,0.5s						
DAMV	Damavand	2.83	243	ePn	Pb	19 35 37.5	+0.1
DAMV	Damavand	2.83	243	ePn	Pb	19 35 37.5	+0.1
DAMV	Damavand	2.83	243	eAML	AML	19 36 19.9	
	comp=Z,71nm,0.4s						
IEMG	Emamgholi	2.90	80	ePn	Pn	19 35 34.8	+1.9
IEMG				IAMB	IAmb	19 35 50.4	
	comp=Z,364nm,0.3s						
IPAY	Payeh	3.20	98	ePn	Pn	19 35 38.8	+1.9
TNSJ	Nastanj	3.24	157	ePn	Pn	19 35 37.9	+0.5
IVRN	Varamin	3.34	235	ePn	Pn	19 35 41.7	+3.0
QALM	Alamut, Qazvin	3.59	263	ePn	Pn	19 35 44.8	+2.5
KRSH	Karshahi	3.82	220	ePn	Pn	19 35 46.5	+1.0
IMYA	Miami	4.10	97	ePn	Pn	19 35 50.7	+1.5
JRKH	Jarkhoshk	4.39	102	ePn	Pn	19 35 54.7	+1.5
LRK	Lerik	5.59	290	P	Pn	19 36 08.9	-0.8
LRK				S	Sn	19 37 11.8	-1.8
GLBA	Clilabad	5.74	295	P	Pn	19 36 11.2	-0.3
GLBA				S	Sn	19 37 15.3	-1.8
YRD	Yardimli	5.74	292	P	Pn	19 36 11.1	-0.7
YRD				S	Sn	19 37 15.6	-1.9
ATGJ	Altiaghaj	6.17	311	S	Sn	19 37 27.2	-0.6
SIZA	Siyzn	6.32	312	S	Sn	19 37 32.0	+0.3
PQL	Pirkuli	6.33	309	S	Sn	19 37 32.1	0.0
QRD	Qoradiz	6.59	295	S	Sn	19 37 36.1	-2.1
IML	Ismayilli	6.60	308	P	Pn	19 36 24.2	+0.7
IML				S	Sn	19 37 35.7	-2.7
QUBA	Quba, Azerbaij	6.74	313	S	Sn	19 37 41.5	-0.3
XNQ	Khinaliq	6.84	310	S	Sn	19 37 43.2	-1.3
QSAR	Qusar	6.97	313	S	Sn	19 37 48.4	+0.9
SEKA	Sheki	7.45	307	S	Sn	19 37 57.4	-2.0
GANJ	Ganja	7.76	301	S	Sn	19 38 02.7	-4.2
ZKTA	Zakatala	8.04	308	S	Sn	19 38 14.8	+0.9
GDB	GEDABAY	8.18	300	S	Sn	19 38 13.8	-3.7

*NIED **03** 19:55:00, 38°.60N×141°.90E, h53km, Mw4.2 Best double couple: $M_0$2.02000×10¹⁵ NP1:ϕ_s192.00000°, δ20.00000°, λ79.00000°. NP2:ϕ_s24.00000°, δ70.00000°, λ94.00000°.*
*BJI **03** 19:55:48.4±0.0, 38°.52N×142°.07E, h61km, mb4.5/47, mB4.9/33, Ms4.2/10, Ms7 4.2/10*
*MOS **03** 19:55:48.8±1.0, 38°.66N×142°.00E, h47km, mb4.4/14, Error ellipse: s-maj=7.7km s-min=5.2km az=97.0*
*ISCJB **03** 19:55:49.2±0.4, 38°.61N±0°.03×141°.98E±0°.04, h54km±2km, mb4.3/48, Error ellipse: s-maj=6.3km s-min=3.3km az=29.0*
*JMA **03** 19:55:50.9, 38°.62N×141°.90E, h49km±1km, M4.2 Broadband fault plane solution: P waves. NP1: ϕ_s22.00000°, δ62.00000°, λ88.00000°. NP2:ϕ_s207.00000°, δ28.00000°, λ94.00000°. Principal axes: T Plg73.0000°, Azm287.0000°; N Plg2.0000°, Azm23.0000°; P Plg17.0000°, Azm114.0000°;*
JMA Felt III J1.
*NEIC **03** 19:55:52.0±1.9, 38°.58N±0°.06×141°.9E±0°.1, h64km±7km, mb4.7/45*
*IDC **03** 19:55:52.7±2.0, 38°.64N×141°.84E, h65km±17km, mb3.9/23, mb1 4.0/29, mb1mx3.9/55, mbtmp4.2/29, MS3.0/12, Ms1 3.0/12, ms1mx2.8/42, Error ellipse: s-maj=16.8km s-min=12.1km az=106.0*

ISC 03 19:55:50.0±0.7**, 38°.58N**±0°.04×**142°.03E**±0°.04**, h46km±6km, n201, σ1s.47**/226**, mb4.5**/62**, 7C-18D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKMT	Kesennumamotoy	0.49	298	⇓P	Pn	19 56 00.8	-0.1
JKMT				S	Sn	19 56 07.6	-1.0
JIKH	Ishinomakikobu	0.52	238	P	Pn	19 56 01.5	+0.2
JIKH				S	Sn	19 56 08.8	-0.5
JIO	Ouri	0.55	256	⇓P	Pn	19 56 01.6	0.0
JIO				S	Sn	19 56 08.8	-1.1
OFUJ	Ofunato	0.57	331	⇓P	Pn	19 56 02.1	+0.2
OFUJ				S	Sn	19 56 09.8	-0.7
JMK	Ichinoseki	0.73	301	⇓P	Pn	19 56 03.8	-0.2
JMK				S	Sn	19 56 13.0	-1.1
JOM	Ohasama	1.05	327	⇓P	Pn	19 56 08.5	+0.1
JOM				eS	Sn	19 56 21.5	-0.5
JOU	Okura	1.09	259	⇓P	Pn	19 56 08.7	-0.2
JOU				S	Sn	19 56 21.9	-1.0
JMM	Marumori	1.21	234	⇓P	Pn	19 56 10.2	-0.3
JMM				S	Sn	19 56 24.5	-1.2
JYK	Kaneyama	1.34	285	⇓P	Pn	19 56 12.1	-0.3
JRG	Rokugo	1.35	307	⇓P	Pn	19 56 12.2	-0.3
JFK	Kawauchi	1.52	217	⇓P	Pn	19 56 15.0	+0.2
JFK				eS	Sn	19 56 32.6	-0.8
JYS	Shirataka	1.58	257	P	Pn	19 56 15.7	+0.1
JYS				eS	Sn	19 56 34.3	-0.6
ERM	Erimo	3.54	14	ceP	Pn	19 56 43.4	+1.1
ERM	Erimo	3.54	14		Pn	19 56 43.5	+1.1
ERM				Sn	Sn	19 57 26.6	+3.8
MJA0	Matsu Arr-Jizo	3.63	237	eP	Pn	19 56 45.9	+2.2
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MAJO	Matsushiro	3.65	237	deP	Pn	19 56 45.8	+1.7
MAJO	Matsushiro	3.65	237		Pn	19 56 45.5	+1.5
MAT	Matsushiro	3.65	237	P	Pn	19 56 45.8	+1.7
MAT				S	Sn	19 57 26.6	+0.7
MJAR	Matsushiro Arr	3.65	237	P	Pn	19 56 44.7	+0.6
MJAR	Matsushiro Arr	3.65	237	P	Pn	19 56 45.8	+1.7
	comp=Z,2.0nm,0.3s,baz=43,slow=13,SNR=90						
MJAR				LR	LR	19 58 21.0	
	comp=Z,157nm,20.7s,baz=20,slow=42						
MJAR	Matsushiro Arr	3.65	237		Pn	19 56 44.7	+0.6
MJB9	Matsu-Tunnel	3.66	237		Pn	19 56 45.9	+1.9
INU	Inuyama	5.15	233		Pn	19 57 06.6	+2.1
NMR	Nemuro--Hokkai	5.54	29	d iP	Pn	19 57 09.1	-0.8
NMR				iS	Sn	19 58 08.5	-3.7
ASAJ	Asahikawa	5.54	4	P	Pn	19 57 10.7	+0.8
	comp=Z,2.9nm,0.3s,baz=212,slow=9.4,SNR=24						
ASAJ				S	Sn	19 58 13.2	+0.8
	comp=Z,2.9nm,0.3s,baz=138,slow=21,SNR=5.3						
JKA	Kamikawa-asahi	5.54	4		Pn	19 57 10.7	+0.8
JKA					Sn	19 58 13.2	+0.9
JHJ2	Mitsune	5.75	199	Pn	Pn	19 57 14.1	+1.3
JHJ2					Sn	19 58 14.1	-3.3
GLVR	Golovnino	5.79	26	eP	Pn	19 57 13.2	0.0
GLVR				iS	Sn	19 58 15.7	-2.5
GLVR				pmax	pmax		
	comp=Z,161nm,0.6s						
GLVR				smax	smax		
	comp=E,287nm,0.7s						
GLVR				smax	smax		
	comp=N,329nm,0.6s						
GRPR	Tuman	6.09	26	eP	Pn	19 57 17.3	-0.2
GRPR				eS	Sn	19 58 21.8	-4.1
GRPR				pmax	pmax		
	comp=Z,104nm,0.3s						
GRPR				smax	smax		
	comp=N,354nm,0.3s						
GRPR				smax	smax		
	comp=E,114nm,0.3s						
YUK	Yuzh-Kuril'sk	6.16	27	eP	Pn	19 57 18.0	-0.4
YUK				iS	Sn	19 58 24.5	-3.0
YUK				pmax	pmax		
	comp=Z,97nm,0.3s						
YUK				pmax	pmax		
	comp=N,25nm,0.2s						
YUK				pmax	pmax		
	comp=E,50nm,0.2s						
YUK				smax	smax		
	comp=N,387nm,0.3s						
YUK				smax	smax		
	comp=E,166nm,0.4s						
TEY	Ternei	7.61	330	⇑eP	Pn	19 57 43.5	+5.2
TEY				pmax	pmax		
	comp=E,40nm,0.9s						
TEY				pmax	pmax		
	comp=N,50nm,0.7s						
TEY				pmax	pmax		
	comp=Z,50nm,0.6s						
KUR	Kuril'sk	7.94	31	eP	Pn	19 57 41.1	-1.7
KUR				iS	Sn	19 59 07.0	-4.2
KUR				pmax	pmax		
	comp=Z,28nm,0.6s						
KUR				pmax	pmax		
	comp=N,20nm,0.4s						
KUR				pmax	pmax		
	comp=E,13nm,0.4s						
YSS	Yuzh-Sakhalins	8.38	3	eP	Pn	19 57 49.1	+0.3
YSS				e		19 59 23.9	
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS	Yuzh-Sakhalins	8.38	3		Pn	19 57 49.3	+0.5
MSHR	Mys Shultsa	9.18	299	⇑iP	Pn	19 58 00.1	+0.3
USA0B	Ussuriysk Arra	9.40	310	P	Pn	19 58 03.3	+0.6
USA0B	Ussuriysk Arra	9.40	310		Pn	19 58 03.3	+0.6
USRK	Ussuriysk Ar.	9.40	310	P	Pn	19 58 03.2	+0.5
	baz=115,slow=14,SNR=17						
USRK				LR	LR	20 01 39.4	
	comp=Z,97nm,20.0s,baz=125,slow=38						
JNU	Nakatsue	10.56	242	P	Pn	19 58 19.9	+1.2
	comp=Z,0.6nm,0.3s,baz=82,slow=9.2,SNR=7.8						
JNU				LR	LR	20 02 51.5	
	comp=Z,99nm,18.8s,baz=37,slow=40						
MDJ	Mudanjiang	11.08	307	P	Pn	19 58 29.3	+3.5
MDJ				pmax	pmax		
	comp=Z,11nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,65nm,4.8s						
MDJ	Mudanjiang	11.08	307		Pn	19 58 26.7	+0.9
KSRS	Korea Array	11.18	269	P	Pn	19 58 28.6	+1.4
	comp=Z,0.6nm,0.3s,baz=74,slow=14,SNR=10						
KSRS				LR	LR	20 02 23.2	
	comp=Z,107nm,19.2s,baz=70,slow=35						
JCJ	Chichijima	11.46	179	P	Pn	19 58 29.9	-1.2
	comp=Z,2.4nm,0.3s,baz=292,slow=19,SNR=4.1						
JCJ				S	Sn	20 00 26.6	-11
	comp=Z,4.2nm,0.3s,baz=307,slow=20,SNR=3.1						
KLR	Kul'dur	12.95	329	P	Pn	19 58 52.9	+1.6
	comp=Z,0.2nm,0.3s,baz=152,slow=14,SNR=3.9						
KLR				LR	LR	20 03 46.1	
	comp=Z,74nm,21.5s,baz=130,slow=37						
DL2	Dalian	15.92	278	eP	Pn	19 59 27.8	-3.0
DL2				eS	Sn	20 02 19.7	-6.4
DL2				pmax	pmax		
	comp=Z,24nm,1.1s						
DL2				LR	LR		
	comp=Z,140nm,16.6s						
DL2				LR	LR		
	comp=Z,190nm,13.5s						
ZEA	Zeya	18.23	331	eP	P	19 59 57.1	-2.0
ZEA				pmax	pmax		
	comp=Z,24nm,0.9s						
TIA	Tai'an	19.91	271	P	P	20 00 16.4	-1.3
TIA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NJ2	Nanjing	19.97	258	eP	Pn	20 00 20.4	0.0
NJ2				pmax	pmax		
	comp=Z,12nm,0.7s						
MA2	Magadan	21.74	12	LR	LR	20 08 31.7	
	comp=Z,31nm,20.6s,baz=259,slow=35						
NACB	Ninganchiao	22.53	236	P	P	20 00 43.1	-2.8
NACB				IAmb	IAmb	20 00 44.4	
	comp=Z,19nm,0.9s						
SSLB	Suanglung	23.21	237	P	P	20 00 49.6	-3.5
YULB	Yu-li	23.27	235	P	P	20 00 53.2	-0.3
HHC	Hu-ho-hao-te	23.49	285	P	P	20 00 55.2	-0.4
HHC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TPUB	Ta-pu	23.77	236	P	P	20 00 55.1	-3.1
TPUB				IAmb	IAmb	20 01 18.6	
	comp=Z,61nm,1.5s						
TWG	Pinlang	23.82	235	P	P	20 00 57.5	-1.3
YAK	Yakutsk	24.68	346	eP	P	20 01 04.2	-2.0
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK	Yakutsk	24.68	346	P	P	20 01 05.1	-1.1
	comp=N,5.9nm,0.4s,baz=116,slow=1.4,SNR=6.4						
YAK	Yakutsk	24.68	346	P	P	20 01 05.2	-1.0
SEY	Seymchan	25.18	11	d iP	P	20 01 12.7	+2.0
SEY	Seymchan	25.18	11	P	P	20 01 12.5	+1.8
	comp=N,6.7nm,0.8s,baz=198,slow=7.1,SNR=12						
BOD	Bodaibo	26.50	326	eP	P	20 01 21.9	-0.9
BOD				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ULN	Ulaanbaatar	26.92	302	⇑eP	P	20 01 27.4	+0.5
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ULN	Ulaanbaatar	26.92	302	P	P	20 01 26.5	-0.4
SONM	Songino Array	27.36	301	P	P	20 01 29.8	-1.0
	comp=Z,1.2nm,0.6s,baz=100,slow=9.6,SNR=9.4						
SONM				PcP	PcP	20 04 49.6	+0.7
	comp=Z,0.4nm,0.5s,baz=109,slow=4.6,SNR=3.3						
SONM	Songino Array	27.36	301	P	P	20 01 28.5	-2.3
ENH	Enshi	27.98	263	P	P	20 01 34.6	-1.8
ENH				IAmb	IAmb	20 01 41.0	
	comp=Z,23nm,0.7s						
H11N2	WAKE ISLAND Hy	28.57	124	T	T	20 32 06.6	
	baz=316,slow=75,SNR=2161						
H11N1	WAKE ISLAND Hy	28.58	124	T	T	20 32 01.2	
	baz=316,slow=75,SNR=2335						
H11N3	WAKE ISLAND Hy	28.59	124	T	T	20 32 01.9	
	baz=316,slow=75,SNR=2166						
H11S1	WAKE ISLAND Hy	29.34	126	T	T	20 32 59.7	
	baz=318,slow=76,SNR=482						
H11S3	WAKE ISLAND Hy	29.34	126	T	T	20 32 56.8	
	baz=318,slow=76,SNR=720						
H11S2	WAKE ISLAND Hy	29.35	126	T	T	20 32 56.0	
	baz=318,slow=76,SNR=171						
TLY	Talaya	29.71	309	P	P	20 01 51.3	-0.2
TLY				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TLY	Talaya	29.71	309	P	P	20 01 52.1	+0.6
	comp=Z,3.6nm,0.7s,baz=70,slow=12,SNR=3.0						
TLY				LR	LR	20 13 18.4	
	comp=Z,54nm,18.5s,baz=140,slow=35						
TLY	Talaya	29.71	309	P	P	20 01 51.3	-0.2
LZH	Lanzhou	30.32	277	eP	P	20 01 57.6	+0.4
LZH				pP	sP	20 02 13.7	-1.2
LZH				sP	pP	20 02 21.5	+12
LZH				ePP	PnPn	20 02 57.4	+0.9
LZH				pmax	pmax		
	comp=Z,24nm,1.2s						
LZH				pmax	pmax		
	comp=Z,79nm,4.9s						
LZH				LR	LR		
	comp=Z,310nm,13.2s						
LZH				LR	LR		
	comp=Z,320nm,13.0s						
LZH				LR	LR		
	comp=Z,440nm,16.4s						
GYA	Guiyang	31.98	258	⇓iP	P	20 02 12.3	+0.4
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	Chengdu	32.18	268	P	P	20 02 12.3	-1.3
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
BILL	Bilibino	32.41	17	⇓eP	P	20 02 16.1	+1.1
BILL				e		20 03 23.8	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA	Gaotai	32.60	285	eP	P	20 02 20.1	+2.9
GTA				pP	sP	20 02 34.4	-0.6
GTA				sP	pP	20 02 42.1	+13
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GTA				pmax	pmax		
	comp=Z,41nm,6.2s						
GTA				LR	LR		
	comp=Z,91nm,14.9s						
GTA				LR	LR		
	comp=Z,140nm,16.5s						
GTA				LR	LR		
	comp=Z,120nm,17.5s						
TIXI	Tiksi	33.81	353	⇓iP	P	20 02 26.8	-0.4
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s						
TIXI	Tiksi	33.81	353	P	P	20 02 26.5	-0.7
WMQ	Urumqi	40.59	295	eP	P	20 03 26.2	+1.1
WMQ	Urumqi	40.59	295	P	P	20 03 25.3	+0.1
WMQ				pmax	pmax		
	comp=Z,15nm,1.0s						
WMQ	Urumqi	40.59	295	P	P	20 03 25.2	+0.1
WMQ				IAmb	IAmb	20 03 27.8	
	comp=Z,15nm,1.0s						
MANU	Manus Island	40.73	172	P	P	20 03 26.9	+0.5
MANU				IAmb	IAmb	20 03 60.0	

comp=Z,7.2nm,0.8s
ZAA0 Zalesovo Array 41.25 311 P **P** **20 03 29.1 -1.1**
ZAA0 IAmb IAmb 20 03 31.3
comp=Z,6.6nm,0.7s
ZALV Zalesovo Beam 41.25 311 P **P** **20 03 30.2 0.0**
comp=Z,5.3nm,0.5s,baz=90,slow=7.3,SNR=28
ZALV PcP **PcP** **20 05 28.1 -0.2**
comp=Z,1.5nm,0.3s,baz=118,slow=2.5,SNR=5.5
ZALV LR LR 20 20 59.1
comp=Z,39nm,18.9s,baz=353,slow=37
ZALV Zalesovo Beam 41.25 311 P **P** **20 03 29.4 -0.8**
ZALV **PcP** **20 05 27.9 -0.4**
NRIK Noril'sk 42.07 334 P **P** **20 03 36.6 -0.2**
comp=Z,1.4nm,0.3s,baz=124,slow=3.6,SNR=4.0
NRIK LR LR 20 21 03.1
comp=Z,35nm,18.4s,baz=21,slow=36
CHTO Chiang Mai 42.16 255 P **P** **20 03 39.9 +1.8**
CHTO pmax pmax
comp=Z,4.0nm,0.6s
CHTO Chiang Mai 42.16 255 P **P** **20 03 39.9 +1.8**
CMAR Chiang Mai Arr 42.37 254 P **P** **20 03 40.1 +0.2**
comp=Z,0.5nm,0.5s,baz=43,slow=6.9,SNR=2.7
CMAR LR LR 20 23 14.8
comp=Z,12nm,18.4s,baz=350,slow=39
CMAR Chiang Mai Arr 42.37 254 P **P** **20 03 38.1 -1.8**
MK31 Makanchi Array 43.72 301 P **P** **20 03 50.3 -0.3**
MK31 pmax pmax
comp=Z,16nm,1.7s
MK31 Makanchi Array 43.72 301 P **P** **20 03 50.3 -0.3**
MK31 IAmb IAmb 20 03 54.1
comp=Z,16nm,1.6s
MKAR Makanchi Array 43.72 301 P **P** **20 03 50.4 -0.2**
comp=Z,5.7nm,0.9s,baz=84,slow=10,SNR=26
MKAR PcP **PcP** **20 05 36.7 0.0**
comp=Z,1.2nm,0.8s,baz=72,slow=4.7,SNR=3.2
MKAR Makanchi Array 43.72 301 P **P** **20 03 49.7 -0.8**
SVW2 Sparrevohn 44.00 38 P **P** **20 03 55.6 +3.0**
KURK Kurchatov 45.37 307*c i*P **P** **20 04 03.1 -0.5**
KURK pmax pmax
comp=Z,30nm,1.0s
KURK Kurchatov 45.37 307 P **P** **20 04 03.1 -0.5**
RSO Redoubt South 45.39 39 P **P** **20 04 01.8 -2.0**
TAPN Taplejung 46.33 273 *e*P **P** **20 04 11.7 -0.1**
comp=Z,7.0nm,0.4s
ODAN Odare 46.82 272 *e*P **P** **20 04 15.4 -0.1**
comp=Z,12nm,0.7s
JIRN Jiri 47.38 274 *e*P **P** **20 04 20.1 +0.1**
comp=Z,18nm,0.6s
RAMN Ramite 47.39 273 *e*P **P** **20 04 19.9 -0.1**
comp=Z,38nm,0.8s
SAUI Saumlaki 47.39 195 P **P** **20 04 17.4 -2.3**
GUN Gumba 47.50 275 *e*P **P** **20 04 20.9 -0.1**
IL31 47.93 33 P **P** **20 04 24.2 +0.9**
IL31 IAmb IAmb 20 04 42.1
comp=Z,12nm,1.7s
ILAR Eielson Array 47.93 33 P **P** **20 04 25.3 +1.9**
ILAR 20 05 49.8
ILAR Eielson Array 47.93 33 P **P** **20 04 24.9 +1.4**
comp=Z,0.9nm,0.7s,baz=269,slow=6.5,SNR=8.7
ILAR Eielson Array 47.93 33 P **P** **20 04 25.2 +1.9**
ILAR PcP **PcP** **20 05 49.8 -1.2**
KKN Kakani 48.02 275 *e*P **P** **20 04 24.9 0.0**
comp=Z,20nm,0.8s
PKI Pulchoki 48.03 274 *e*P **P** **20 04 24.6 -0.5**
comp=Z,8.0nm,0.6s
PKIN Phulchoki 48.03 274 *e*P **P** **20 04 24.5 -0.5**
comp=Z,4.6nm,0.4s
KAPI Kappang 48.04 211 LR LR 20 24 35.0
comp=Z,10nm,18.4s,baz=119,slow=36
TARG Taragay, Kyrgy 48.16 295 P **P** **20 04 26.8 +0.7**
TARG IAmb IAmb 20 04 27.7
comp=Z,6.3nm,0.8s
DMN Daman 48.25 275 *e*P **P** **20 04 26.5 -0.2**
GKN Gorkha 48.43 275 *e*P **P** **20 04 27.4 -0.5**
comp=Z,16nm,0.6s
KDJ Kajisay 48.48 296 P **P** **20 04 28.4 +0.2**
KDJ pmax pmax
comp=Z,4.0nm,0.9s
KDJ Kajisay 48.48 296 P **P** **20 04 28.4 +0.2**
HIN Hinchinbrook I 48.49 39 P P 20 04 33.0 +5.3
DANN Dangsing 48.95 276 *e*P **P** **20 04 32.3 +0.2**
comp=Z,15nm,0.3s
KOLN Koldanda 49.34 276 *e*P **P** **20 04 35.0 0.0**
SUCK Suckling Hills 49.88 39 P **P** **20 04 37.2 -1.2**
BRVK Borovoye 49.95 312 P **P** **20 04 38.8 -0.3**
BRVK 20 05 59.0
BRVK pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 49.95 312 P **P** **20 04 38.8 -0.3**
BRVK IAmb IAmb 20 04 40.5
comp=Z,3.7nm,0.7s
BRVK PcP **PcP** **20 05 59.0 +0.4**
MCARA McCarthy VSAT 50.03 37 P **P** **20 04 42.0 +2.4**
MCARA IAmb IAmb 20 05 18.6
comp=Z,7.1nm,0.7s
CRQM Cirque 50.08 38 P **P** **20 04 41.1 +1.0**
AAK Ala-Archa 50.19 297⇓*e*P **P** **20 04 40.8 -0.4**
AAK pmax pmax
comp=Z,1.0nm,0.5s
TGL Tana Glacier 50.23 38 P **P** **20 04 42.0 +0.8**
TGL IAmb IAmb 20 04 43.7
comp=Z,9.1nm,0.7s
TGL PcP **PcP** **20 05 59.5 -0.1**
KSH Kashi 50.23 293 P **P** **20 04 45.1 +3.6**
KSH PP **PP** **20 06 42.4 +5.5**
KSH ScP **ScP** **20 09 52.3 +0.3**
KSH PcS **PcS** **20 09 59.9 +2.6**
KSH S **S** **20 11 53.3 +2.8**
KSH sS sS 20 12 20.4 +8.7
KSH ScS **ScS** **20 14 27.9 -0.9**
KSH SS **SS** **20 15 24.4 +0.4**
KSH pmax pmax
comp=Z,550nm,6.1s
IPM Ipoh 50.37 238 P **P** **20 04 42.6 0.0**
BATI Baumata 51.47 203 P **P** **20 04 52.4 +1.6**
comp=Z,7.0nm,0.6s,baz=68,slow=18,SNR=2.3
ARSB Arslanbob 51.71 296 P **P** **20 04 52.2 -0.4**
ARSB IAmb IAmb 20 04 54.9
comp=Z,7.0nm,1.1s
KK31 Karatay Array 52.78 299 P **P** **20 05 00.0 -0.4**
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KK31 Karatay Array 52.78 299 P **P** **20 04 60.0 -0.4**
KK31 IAmb IAmb 20 05 00.9
comp=Z,3.5nm,0.7s
KKAR Karatay Array 52.78 299 P **P** **20 04 59.6 -0.8**
KKAR Karatay Array 52.78 299 P **P** **20 04 59.5 -0.8**
KKAR Karatay Array 52.78 299 P **P** **20 04 59.6 -0.8**
INK Inuvik 52.79 28 P **P** **20 05 01.2 +1.2**
INK pmax pmax
comp=Z,11nm,1.8s
INK Inuvik 52.79 28 P **P** **20 05 01.1 +1.1**
comp=Z,0.9nm,0.5s,baz=262,slow=5.0,SNR=7.3
INK Inuvik 52.79 28 P **P** **20 05 01.2 +1.2**
INK IAmb IAmb 20 05 27.2
comp=Z,11nm,1.8s
SVE Sverdlovsk 54.31 318 *e*P **P** **20 05 11.5 +0.1**
SVE pmax pmax
comp=Z,17nm,1.1s
GAR Garm 54.48 295 P **P** **20 05 12.4 -0.6**
GAR IAmb IAmb 20 05 25.5
comp=Z,22nm,1.7s
NIL Nilore 54.60 287 P **P** **20 05 13.8 -0.1**
NIL pmax pmax
comp=Z,15nm,1.3s
NIL Nilore 54.60 287 P **P** **20 05 13.8 -0.1**
NIL IAmb IAmb 20 05 15.1
comp=Z,15nm,1.2s
CHGR Chuyangaron 55.45 295 P **P** **20 05 19.5 -0.5**
CHGR IAmb IAmb 20 05 23.6
comp=Z,7.5nm,0.7s
ARU Arti 55.53 318*c i*P **P** **20 05 19.7 -0.4**
ARU 20 07 19.7
ARU S **S** **20 13 00.8 -1.1**
ARU SS **SS** **20 16 42.8 -3.9**
ARU pmax pmax
comp=Z,73nm,4.6s
ARU Arti 55.53 318 P **P** **20 05 20.3 +0.2**
ARU IAmb IAmb 20 05 21.2
comp=Z,21nm,1.4s
ABKAR Akbulak array 57.32 310 P **P** **20 05 32.2 -0.8**
ABKAR Akbulak array 57.32 310 P **P** **20 05 32.5 -0.5**
ABKAR IAmb IAmb 20 05 33.2
comp=Z,4.7nm,0.7s
KBL Kabul 57.32 290 P **P** **20 05 32.8 -0.7**
KBL pmax pmax
comp=Z,4.0nm,1.0s
KBL Kabul 57.32 290 P **P** **20 05 32.8 -0.7**
WRAB Tennant Creek 58.65 188 P **P** **20 05 42.8 +0.2**
WRAB pmax pmax
comp=Z,9.0nm,1.3s
WRAB Tennant Creek 58.65 188 P **P** **20 05 42.8 +0.2**
WRAB IAmb IAmb 20 06 10.3
comp=Z,8.8nm,1.3s
WRA Warramunga Arr 58.66 188 *i* P **P** **20 05 42.7 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRA Warramunga Arr 58.66 188 P **P** **20 05 42.6 0.0**
comp=Z,1.3nm,0.6s,baz=5.2,slow=4.7,SNR=23
WRA Warramunga Arr 58.66 188 P **P** **20 05 42.3 -0.3**
ASAR Alice Springs 62.39 188 P **P** **20 06 08.7 +0.6**
comp=Z,0.9nm,0.8s,baz=12,slow=5.9,SNR=8.3
ASAR Alice Springs 62.39 188 P **P** **20 06 07.6 -0.4**
GEYT Alibeck 63.52 299 P **P** **20 06 15.2 -0.4**
comp=Z,2.0nm,0.8s,baz=55,slow=5.6,SNR=4.8
GEYT Alibeck 63.52 299 P **P** **20 06 14.6 -0.9**
KEBM Edson Butte 67.39 53 P **P** **20 06 42.8 +2.2**
FIA1 FINESS Array S 67.67 332 P **P** **20 06 41.8 -0.1**
FINES FINESS Array B 67.67 332 P **P** **20 06 41.7 -0.2**
FINES FINESS Array B 67.67 332 P **P** **20 06 41.4 -0.5**
comp=Z,4.0nm,0.8s,baz=29,slow=12,SNR=8.8
FINES FINESS Array B 67.67 332 P **P** **20 06 41.7 -0.2**
KIV Kislovodsk 70.26 311 *e*P **P** **20 06 59.7 +1.3**
KIV pmax pmax
comp=Z,30nm,1.0s
KBZ Khabaz 70.26 310 *e*P **P** **20 07 00.1 +1.9**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 70.26 310 P **P** **20 06 57.8 -0.4**
comp=Z,4.7nm,0.9s,baz=28,slow=7.5,SNR=5.3
NEY Neytrino 70.64 310⇑*e*P **P** **20 07 02.8 +2.0**
NEY pmax pmax
comp=Z,7.0nm,1.3s
NB2 NORSAR Subarra 72.94 337 P **P** **20 07 13.6 -0.6**
comp=Z,1.2nm,0.6s,baz=39,slow=6.2
NOA NORSAR Array B 72.94 337 *e*P **P** **20 07 14.3 +0.1**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 72.94 337 P **P** **20 07 13.7 -0.5**
comp=Z,1.9nm,0.7s,baz=38,slow=6.0,SNR=7.1
AKASG Malin Array Be 73.37 322 P **P** **20 07 16.2 -0.6**
comp=Z,1.9nm,0.6s,baz=45,slow=6.0,SNR=10
PDAR Pinedale Array 76.24 46 P **P** **20 07 35.1 +1.2**
comp=Z,0.6nm,0.6s,baz=266,slow=1.3,SNR=8.0
PDAR LR LR 20 40 30.7
comp=Z,5.6nm,21.0s,baz=36,slow=35
PDAR Pinedale Array 76.24 46 P **P** **20 07 35.2 +1.4**
BRTR Keskin Array B 78.19 312 P **P** **20 07 44.2 -0.5**
comp=Z,0.5nm,0.4s,baz=77,slow=3.1,SNR=7.1
BRTR Keskin Array B 78.19 312 P **P** **20 07 44.1 -0.6**
LANS Liptovska Anna 78.96 326 *e*P **P** **20 07 50.4 +1.8**
LANS pmax pmax
comp=Z,1.0nm,0.7s
LANS Liptovska Anna 78.96 326 *e*P **P** **20 07 50.4 +1.8**
LANS *e* 20 30 21.2
LANS *e* 20 34 15.2
LANS *e* 20 34 23.4
VYHS Vyhne 79.72 326 *e*P **P** **20 07 52.2 -0.6**
VYHS Vyhne 79.72 326 *e*P **P** **20 07 52.2 -0.6**
CLL Collm 79.99 330 *e*P **P** **20 07 54.0 -0.2**
CLL Collm 79.99 330 *e*P **P** **20 07 54.0 -0.2**
KHC Kasperske Hory 81.47 329*de*P **P** **20 08 03.1 +0.9**
KHC pmax pmax
comp=Z,6.0nm,1.0s
KHC Kasperske Hory 81.47 329 *e*P **P** **20 08 02.5 +0.3**
GERES GERESS Array B 81.65 328 *e*P **P** **20 08 03.3 +0.1**
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES GERESS Array B 81.65 328 P **P** **20 08 03.0 -0.2**
comp=Z,0.8nm,0.5s,baz=38,slow=6.2,SNR=7.3
GERES GERESS Array B 81.65 328 P **P** **20 08 02.8 -0.4**
SCHQ Schefferville 83.72 16 P **P** **20 08 13.1 -0.6**
comp=Z,2.9nm,0.7s,baz=270,slow=10,SNR=3.3
SCHQ Schefferville 83.72 16 P **P** **20 08 13.5 -0.2**
SCHQ IAmb IAmb 20 08 41.6
comp=Z,5.9nm,1.1s
BFO Black Forest 84.19 331 *i* P **P** **20 08 17.7 +1.4**
TXAR Lajitas Array 88.80 53 P **P** **20 08 39.8 +0.5**
comp=Z,0.3nm,0.3s,baz=256,slow=10,SNR=3.2
TORD Torodi Ar. Bea 116.57 316 PKP **PKiKP** **20 14 29.6 +0.3**
comp=Z,1.5nm,1.3s,baz=39,slow=1.4,SNR=4.0
SNAA Sanae 142.37 197 PKPdf **PKPdf** **20 15 11.5 -4.9**
VNA2 Neumayer--Watz 143.94 197 PKPdf PKPbc 20 15 17.1 +0.1
VNA3 Neumayer Olymp 144.19 195 PKPdf PKPbc 20 15 18.2 +0.4
VNA1 Neumayer--Stat 144.34 196 PKPdf **PKPab** **20 15 16.4 -1.5**
LPAZ La Paz 145.48 58 PKPbc **PKPab** **20 15 25.4 +1.0**
comp=Z,0.8nm,0.5s,baz=4.8,slow=0.6,SNR=3.6

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*IDC **03** 20:04:03.8±1.8, 45°.52S×167°.10E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.5/38, mbtmp3.5/3, ML4.2/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/15, Error ellipse: s-maj=53.5km s-min=32.4km az=0.0*
*ISCJB **03** 20:04:14.2±0.6, 44°.94S±0°.04×167°.64E±0°.07, h112km±5km, mb3.3/2, Error ellipse: s-maj=9.4km s-min=6.1km az=33.1*
*WEL **03** 20:04:16.1, 45°S±5°×16°8E±°, h99km±7km, M3.8/14, MLv3.8/14, Error ellipse: s-maj=0.0km s-min=0.0km az=65.1*
ISC 03 20:04:14.6±1.0**, 44°.94S**±0°.05×**167°.59E**±0°.06**, h113**km±7km**, n41, σ1§01**/43**, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.36**	**42**	P	**Pn**	**20 04 31.8**	**+0.8**
MSZ				S	**Sn**	**20 04 42.9**	**-0.3**
MLZ	**Mavora Lakes**	**0.57**	**139**	P	**Pn**	**20 04 32.7**	**+0.5**
MLZ				S	**Sn**	**20 04 44.9**	**-0.6**
DCZ	**Deep Cove**	**0.61**	**210**	P	**Pn**	**20 04 32.1**	**-0.3**
DCZ				S	**Sn**	**20 04 44.0**	**-1.9**
WHZ	**Wether Hill Ro**	**0.98**	**165**	P	**Pn**	**20 04 36.2**	**+0.4**
WHZ				S	**Sn**	**20 04 50.6**	**-1.3**
WKZ	**Wanaka**	**1.02**	**84**	P	**Pn**	**20 04 37.7**	**+1.5**
JCZ	**Jackson Bay**	**1.22**	**45**	P	**Pn**	**20 04 39.3**	**+0.9**
JCZ				S	**Sn**	**20 04 56.0**	**-0.5**
EAZ	**Earnscleugh**	**1.25**	**104**	P	**Pn**	**20 04 40.0**	**+1.3**
EAZ				S	**Sn**	**20 04 56.5**	**-0.4**
TUZ	**Tuapeka**	**1.76**	**126**	P	**Pn**	**20 04 45.9**	**+1.3**
TUZ				S	**Sn**	**20 05 06.2**	**-1.3**
APZ	**The Paps**	**1.91**	**172**	P	**Pn**	**20 04 46.8**	**+0.3**
APZ				S	**Sn**	**20 05 09.5**	**-1.5**
SYZ	**Scrubby Hill**	**1.93**	**146**	P	**Pn**	**20 04 47.7**	**+1.0**
LBZ	**Lake Benmore**	**1.93**	**74**	P	**Pn**	**20 04 47.3**	**+0.5**
FOZ	**Fox Glacier**	**2.13**	**49**	P	**Pn**	**20 04 49.7**	**+0.3**
ODZ	**Otahua Downs**	**2.17**	**94**	P	**Pn**	**20 04 50.6**	**+0.8**
HHSZ	**Highcliff Hill**	**2.32**	**115**	P	**Pn**	**20 04 53.1**	**+1.4**
RPZ	**Rata Peaks**	**2.77**	**65**	Pn	**Pn**	**20 04 57.5**	**-0.1**
	24nm,0.3s,baz=229,slow=7.8,SNR=115						
RPZ				Sn	**Sn**	**20 05 28.5**	**-2.3**
	37nm,0.3s,baz=150,slow=20,SNR=18						
RPZ	**Rata Peaks**	**2.77**	**65**	P	**Pn**	**20 04 57.5**	**-0.1**
WVZ	**Waitaha Valley**	**2.94**	**52**	P	**Pn**	**20 04 59.6**	**-0.2**
INZ	**Inchbonnie**	**3.56**	**53**	P	**Pn**	**20 05 08.1**	**0.0**
OXZ	**Oxford**	**3.59**	**65**	P	**Pn**	**20 05 07.7**	**-0.7**
MQZ	**McQueen's Vall**	**3.84**	**73**	P	**Pn**	**20 05 11.5**	**-0.3**
AKCZ	**Akaroa Harbour**	**3.96**	**76**	P	**Pn**	**20 05 13.7**	**+0.3**
LTZ	**Lake Taylor**	**4.02**	**59**	P	**Pn**	**20 05 13.4**	**-0.8**
AMCZ	**Amberley**	**4.05**	**66**	P	**Pn**	**20 05 14.1**	**-0.5**
OKCZ	**Okains Bay**	**4.11**	**75**	P	**Pn**	**20 05 15.7**	**+0.3**
GVZ	**Greta Valley S**	**4.40**	**65**	P	**Pn**	**20 05 19.1**	**-0.1**
DSZ	**Denniston Nort**	**4.43**	**45**	P	**Pn**	**20 05 19.6**	**-0.2**
KHZ	**Kahutara**	**5.00**	**62**	P	**Pn**	**20 05 27.1**	**-0.3**
THZ	**Tophouse**	**5.01**	**53**	P	**Pn**	**20 05 27.0**	**-0.6**
QRZ	**Quartz Range**	**5.49**	**43**	P	**Pn**	**20 05 34.1**	**+0.2**
NNZ	**Nelson**	**5.64**	**51**	P	**Pn**	**20 05 37.1**	**+1.1**
DUWZ	**D'Urville Isla**	**6.22**	**51**	P	**Pn**	**20 05 45.0**	**+1.1**
ASAR	**Alice Springs**	**34.63**	**297**	P	**P**	**20 10 54.4**	**+1.4**
	0.2nm,0.4s,baz=130,slow=7.5,SNR=5.3						
AFI	**Afiamalu**	**35.55**	**36**	LR	LR	20 23 55.2	
	comp=Z,152nm,19.8s,baz=212,slow=33						
WRA	**Warramunga Arr**	**37.11**	**301**	P	**P**	**20 11 15.9**	**+1.8**
	0.2nm,0.4s,baz=136,slow=7.9,SNR=9.7						
H01W1	**Cape Leeuwin H**	**41.52**	**265**	T	T	20 55 52.6	
	baz=120						
H01W2	**Cape Leeuwin H**	**41.53**	**265**	T	T	20 55 52.5	
	baz=120						
H01W3	**Cape Leeuwin H**	**41.54**	**265**	T	T	20 55 54.3	
	baz=120						
H08S2	**Diego Garcia H**	**88.25**	**261**	T	T	21 54 40.5	
	baz=134,slow=76,SNR=17						
H08S1	**Diego Carcia H**	**88.27**	**261**	T	T	21 54 41.0	
	baz=134,slow=76,SNR=9.2						
H08S3	**Diego Garcia H**	**88.27**	**261**	T	T	21 54 42.7	
	baz=134,slow=76,SNR=16						
TORD	**Torodi Ar. Bea**	**146.11**	**205**	PKPbc	**PKiKP**	**20 23 43.0**	**-1.9**
	0.3nm,0.5s,baz=170,slow=1.5,SNR=3.2						

WEL 03 20:11:57.6, 40°S±1°×**17°6E**±°**, h22**km±2km**, M3.2**/20**, ML3.5**/11**, MLv3.2**/20**, Error ellipse: s-maj=0.0km s-min=0.0km az=73.7, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRWZ	**Pori Road**	**0.11**	**186**	P	Pb	20 12 02.6	-0.8
PRWZ				S	Sb	20 12 06.3	-1.1
POWZ	**Post Office Ro**	**0.17**	**287**	P	Pb	20 12 03.3	+0.1
DVHZ	**Dannevirke**	**0.20**	**44**	P	Pb	20 12 03.0	-0.3
DVHZ				S	Sb	20 12 06.9	-0.4
BFZ	**Birch Farm**	**0.31**	**140**	P	Pb	20 12 04.9	+0.4
BFZ				S	Sb	20 12 09.9	+0.7
TIWZ	**Tintock**	**0.34**	**193**	P	Pb	20 12 05.7	+0.7
TIWZ				S	Sb	20 12 11.6	+1.6
ANWZ	**Angora Road**	**0.37**	**93**	P	Pb	20 12 06.1	+0.7
ANWZ				S	Sn	20 12 13.0	-1.2
MRZ	**Mangatainoka R**	**0.38**	**235**	P	Pb	20 12 06.0	+0.5
MRZ				S	Sb	20 12 12.1	+1.2
TSZ	**Takapari Road**	**0.39**	**357**	P	Pb	20 12 06.2	+0.5
TSZ				S	Sb	20 12 12.4	+1.2
CPWZ	**Castlepoint**	**0.49**	**161**	P	Pn	20 12 08.7	-0.6
WPHZ	**Waipukurau**	**0.52**	**43**	P	Pb	20 12 08.6	+0.7
PRHZ	**Porangahau**	**0.53**	**71**	P	Pb	20 12 08.8	+0.7
PNHZ	**Pukenui**	**0.55**	**17**	P	Pb	20 12 09.1	+0.4
PNHZ				S	Sn	20 12 17.6	-1.1
OHWZ	**Ohakea**	**0.56**	**295**	P	Pn	20 12 10.2	0.0
HOWZ	**Holdsworth Sta**	**0.58**	**218**	P	Pb	20 12 09.5	+0.4
HOWZ				S	Sb	20 12 17.9	+1.0
TMWZ	**Te Maipa**	**0.67**	**186**	P	Pb	20 12 10.8	+0.3
PXZ	**Pawanui**	**0.79**	**59**	P	Pb	20 12 12.7	+0.1
PXZ				S	Sn	20 12 25.8	+1.4
MTW	**Mount Morrison**	**0.80**	**207**	P	Pb	20 12 12.6	-0.2
MTW				S	Sb	20 12 24.0	+0.7
KRHZ	**Kereru**	**0.85**	**20**	P	Pn	20 12 14.1	-0.2
KRHZ				S	Sn	20 12 27.0	+0.9
KAHZ	**Kahuranaki**	**0.94**	**47**	P	Pb	20 12 15.3	0.0
BHHZ	**Black Hill Sta**	**0.95**	**4**	P	Pn	20 12 15.9	+0.2
BHHZ				S	Sn	20 12 28.8	+0.2
TRWZ	**Traveller**	**0.98**	**193**	P	Pb	20 12 14.9	-0.9
TRWZ				S	Sb	20 12 28.3	-0.1
WAZ	**Wanganui**	**1.03**	**312**	P	Pn	20 12 18.5	+1.8
MOVZ	**Moawhango**	**1.05**	**350**	P	Pb	20 12 17.7	+0.6
KWHZ	**Kaweka Forest**	**1.07**	**18**	P	Pb	20 12 17.4	0.0
MSWZ	**Moikau Station**	**1.12**	**210**	P	Pn	20 12 16.6	-1.4
MTVZ	**Mangateitei**	**1.13**	**339**	P	Pb	20 12 19.3	+0.9
MCHZ	**McNeill Hill**	**1.14**	**29**	P	Pn	20 12 18.0	-0.1
CKHZ	**Cape Kidnapper**	**1.15**	**47**	P	Pn	20 12 17.8	-0.5
TRVZ	**Turoa**	**1.19**	**343**	P	Pb	20 12 20.0	+0.5
WHVZ	**Whangaehu Hut**	**1.20**	**345**	P	Pb	20 12 20.4	+0.7
TUVZ	**Tukino**	**1.20**	**348**	P	Pb	20 12 20.4	+0.7
DRZ	**Dome Shelter**	**1.21**	**344**	P	Pn	20 12 19.5	0.0
FWVZ	**Far West T-bar**	**1.23**	**344**	P	Pb	20 12 20.7	+0.4
PLWZ	**Palliser**	**1.25**	**206**	P	Pn	20 12 18.2	-1.6
BHW	**Baring Head**	**1.28**	**221**	P	Pn	20 12 19.0	-1.2
NGZ	**Ngauruhoe**	**1.30**	**347**	P	Pb	20 12 21.8	+0.4
BKZ	**Black Stump Fm**	**1.33**	**17**	P	Pn	20 12 21.1	+0.2
WTVZ	**West Tongariro**	**1.36**	**347**	P	Pb	20 12 22.6	+0.2
KRVZ	**Karewarewa**	**1.37**	**349**	P	Pb	20 12 23.0	+0.4
ARHZ	**Aropaoanui**	**1.41**	**34**	P	Pn	20 12 22.2	+0.2
TCW	**Tory Channel**	**1.51**	**239**	P	Pn	20 12 22.4	-0.8
LREZ	**Lake Rotokare**	**1.56**	**308**	P	Pb	20 12 26.5	+0.7
RATZ	**Rangitukua**	**1.58**	**354**	P	Pb	20 12 27.4	+1.2
DUWZ	**D'Urville Isla**	**1.61**	**256**	P	Pn	20 12 24.6	-0.2
VRZ	**Vera Road**	**1.62**	**324**	P	Pb	20 12 26.9	+0.1
MRHZ	**Matea Rd**	**1.64**	**12**	P	Pn	20 12 25.4	+0.2
MTHZ	**Maungataniwha**	**1.72**	**23**	P	Pn	20 12 26.7	+0.4
TUWZ	**Tuamarina**	**1.83**	**237**	P	Pn	20 12 26.4	-1.3
KHEZ	**Kahui Hut**	**1.90**	**306**	P	Pb	20 12 31.5	-0.1
NMEZ	**Namu Road**	**1.92**	**302**	P	Pb	20 12 31.5	-0.3
RTZ	**Ruatahuna**	**1.98**	**23**	P	Pn	20 12 29.0	-0.8
NBEZ	**Newall Road No**	**2.01**	**305**	P	Pb	20 12 33.9	+0.5
BSWZ	**Blackbirch Sta**	**2.04**	**231**	P	Pn	20 12 29.2	-1.4
HIZ	**Hauiti**	**2.12**	**335**	P	Pb	20 12 34.6	-0.6
NNZ	**Nelson**	**2.12**	**248**	P	Pn	20 12 31.6	-0.1
MWZ	**Matawai**	**2.42**	**30**	P	Pn	20 12 34.0	-1.9
QRZ	**Quartz Range**	**2.66**	**261**	P	Pn	20 12 38.7	-0.4
THZ	**Tophouse**	**2.67**	**239**	P	Pn	20 12 37.8	-1.6
KHZ	**Kahutara**	**2.70**	**222**	P	Pn	20 12 37.1	-2.5
RUGZ	**Raukumara Rang**	**2.80**	**29**	P	Pn	20 12 40.0	-1.2
GVZ	**Greta Valley S**	**3.35**	**220**	P	Pn	20 12 45.7	-3.0
LTZ	**Lake Taylor**	**3.63**	**229**	P	Pn	20 12 50.0	-2.6
OKCZ	**Okains Bay**	**3.94**	**213**	P	Pn	20 12 53.2	-3.4
AKCZ	**Akaroa Harbour**	**4.12**	**213**	P	Pn	20 12 57.4	-1.8
ODZ	**Otahua Downs**	**6.05**	**219**	P	Pn	20 13 22.0	-3.7

IDC 03 20:12:33.9±1.7**, 2°.47N**×**128°.40E, h0**km**, mb3.6**/3**, mb1 3.8**/4**, mb1mx3.4**/44**, mbtmp3.6**/4**, ML3.5**/1**, MS3.0**/2**, Ms1 3.0**/2**, ms1mx2.4**/39**, 1C, Error ellipse: s-maj=107.6km s-min=23.5km az=63.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.38**	**139**	Pn	Pn	20 13 41.8	0.0
	2.5nm,0.3s,baz=288,slow=20,SNR=17						
SIJI				Sn	Sn	20 14 30.5	-3.1
	1.1nm,0.3s,baz=275,slow=8.4,SNR=2.7						
KCP	**Kidapawan**	**5.59**	**324**	⇑P	Pn	20 13 59.1	+0.6
KCP				S	Sn	20 15 07.6	+4.1
WRA	**Warramunga Arr**	**23.02**	**166**	P	P	20 17 39.6	-1.2
	1.4nm,0.7s,baz=345,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**26.52**	**169**	P	P	20 18 14.2	+0.7
	0.7nm,0.9s,baz=349,slow=9.5,SNR=4.3						
ASAR				LR	LR	20 28 43.4	
	comp=Z,45nm,20.3s,baz=182,slow=37						
MJAR	**Matsushiro Arr**	**35.09**	**14**	LR	LR	20 34 38.6	
	comp=Z,13nm,18.7s,baz=260,slow=38						
H11S3	**WAKE ISLAND Hy**	**40.73**	**64**	T	T	21 03 28.0	
	baz=252,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**40.75**	**64**	T	T	21 03 28.0	
	baz=252,slow=75,SNR=8.4						
H11S1	**WAKE ISLAND Hy**	**40.75**	**64**	T	T	21 03 27.4	
	baz=252,slow=75,SNR=5.8						
H11N1	**WAKE ISLAND Hy**	**41.31**	**63**	T	T	21 04 02.8	
	baz=250,slow=75,SNR=27						
H11N2	**WAKE ISLAND Hy**	**41.32**	**63**	T	T	21 04 05.1	
	baz=250,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**41.33**	**63**	T	T	21 04 04.0	
	baz=250,slow=75,SNR=22						
MKAR	**Makanchi Array**	**59.54**	**325**	P	P	20 22 39.4	+0.1
	0.8nm,0.9s,baz=119,slow=7.9,SNR=2.5						

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*IDC **03** 20:17:33.1±1.2, 13°.96N×92°.76W, h0km, mb3.9/8, mb1 4.1/12, mb1mx3.9/40, mbtmp3.9/12, ML4.0/4, MS3.1/7, Ms1 3.1/7, ms1mx2.7/42, Error ellipse: s-maj=29.1km s-min=18.2km az=31.0*
*MEX **03** 20:17:35.5±0.7, 13°.82N×92°.80W, h10km, MD4.1*
*ISCJB **03** 20:17:35.7±0.5, 13°.91N±0°.05×92°.84W±0°.04, h37km, mb3.9/8, MS3.0/5, Error ellipse: s-maj=8.0km s-min=4.1km az=31.4*
*NEIC **03** 20:17:37.4±2.3, 14°.07N±0°.04×92°.78W±0°.05, h27km±2km*
*SNET **03** 20:17:39.3±3.2, 13°.88N×92°.49W, h21km±124km, ML4.0*
*UCR **03** 20:17:40.9±2.6, 14°.26N×92°.38W, h20km±999km, ML3.6, mb4.3(NEIC)*
ISC 03 20:17:37.5±0.8**, 13°.92N**±0°.07×**92°.82W**±0°.06**, h37**km**, n60, σ1§67**/71**, mb3.9**/11**, MS3.0**/5**, 2D, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.12**	**29**	*e*P	**Pn**	**20 17 54.7**	**-1.9**
THIG				*e*P	**Pn**	**20 17 55.1**	**-1.5**
THIG		**1.12**	**29**		**Pn**	**20 17 55.1**	**-1.5**
PCIG		**1.81**	**348**	*e*P	**Pn**	**20 18 03.4**	**-2.8**
PCIG				*i* S	**Sn**	**20 18 25.4**	**-2.6**
PCIG		**1.81**	**348**		**Pn**	**20 18 03.4**	**-2.8**
PCIG					**Sn**	**20 18 25.4**	**-2.6**
CCIG	**Comitan**	**2.44**	**16**	*i* P	**Pn**	**20 18 15.7**	**+0.8**
CCIG				*e*S	**Sn**	**20 18 45.5**	**+1.8**
CCIG	**Comitan**	**2.44**	**16**		**Pn**	**20 18 15.3**	**+0.3**
CCIG	**Comitan**	**2.44**	**16**		**Pn**	**20 18 15.7**	**+0.8**

CCIG					Sn	20 18 45.5	+1.8
APG	El Apazote	2.53	64	Pn	Pn	20 18 16.3	+0.1
	14nm,0.3s,baz=252,slow=8.0,SNR=110						
APG				Sn	Sn	20 18 46.7	+0.8
	21nm,0.3s,baz=289,slow=16,SNR=3.7						
APG				LR	LR	20 19 28.1	
	comp=Z,287nm,19.4s,baz=260,slow=47						
TGIG		2.86	354	*i* P	Pn	20 18 20.1	-0.5
TGIG				*e*S	Sn	20 18 53.9	+0.1
TGIG		2.86	354		Pn	20 18 20.1	-0.5
TGIG					Sn	20 18 53.9	+0.1
RTR	El Retiro	3.09	90	*e*P	Pn	20 18 22.6	-1.2
RTR	El Retiro	3.09	90	*e*P	Pn	20 18 22.6	-1.2
CEVE	Cerro Verde	3.11	91	*e*P	Pn	20 18 24.1	-0.1
CEVE				*e*S	Sn	20 18 56.5	-3.7
CEVE				IAML		20 19 06.6	
	comp=Z,425nm,0.2s						
CEVE	Cerro Verde	3.11	91	*e*P	Pn	20 18 24.1	-0.1
CEVE				*e*S	Sn	20 18 56.5	-3.7
CEVE				IAML		20 19 06.6	
	comp=Z,425nm,0.2s						
SBLS	San Blas	3.11	91	*e*P	Pn	20 18 24.5	+0.3
SBLS	San Blas	3.11	91	*e*P	Pn	20 18 24.5	+0.3
SNJE	San Jose	3.13	91	*e*P	Pn	20 18 25.1	+0.7
SNJE	San Jose	3.13	91	*e*P	Pn	20 18 25.1	+0.7
MTO3	Montecristo	3.39	82	⇓*i*P	Pn	20 18 27.4	-0.7
MTO3	Montecristo	3.39	82	⇓*i*P	Pn	20 18 27.4	-0.7
BOQS	Boqueron	3.45	93	*e*P	Pn	20 18 29.2	+0.3
SNET	Serv Nac Est T	3.50	93	Pn	Pn	20 18 28.9	-0.5
LFRS	El Faro	3.67	94	*e*P	Pn	20 18 29.4	-2.3
CMIG	Matias Romero	3.73	328	Pn	Pn	20 18 31.0	-1.4
	comp=Z,2.6nm,0.3s,baz=138,slow=11,SNR=30						
CMIG				Sn	Sn	20 19 12.1	-3.0
	comp=Z,6.7nm,0.3s,baz=117,slow=18,SNR=5.7						
CNCH	Conchagua	4.89	97	*e*P	Pn	20 18 45.0	-3.7
CNCH				IAML		20 18 58.8	
	comp=Z,150nm,0.4s						
CNCH				*e*S	Sn	20 19 43.2	-0.9
CNCH	Conchagua	4.89	97	*e*P	Pn	20 18 45.0	-3.7
CNCH				IAML		20 18 58.8	
	comp=Z,150nm,0.4s						
CNCH				*e*S	Sn	20 19 43.2	-0.9
TGUH	Tegucigalpa,Un	5.39	88	Pn	Pn	20 18 56.3	+0.8
ESTN	Estel	6.33	97	Pn	Pn	20 19 10.1	+1.7
TLIG	Tlapa	6.61	304	Pn	Pn	20 19 11.9	-0.3
TEIG	Tepich	7.63	34	Pn	Pn	20 19 25.0	-1.2
	comp=Z,11nm,0.3s,baz=139,slow=0.3,SNR=20						
TEIG				Sn	Sn	20 20 46.4	-4.9
	baz=319,slow=20,SNR=2.7						
TEIG				LR	LR	20 22 43.1	
	comp=Z,292nm,20.1s,baz=226,slow=41						
TEIG	Tepich	7.63	34		Pn	20 19 24.2	-1.9
H06E1	SOCORRO T-PHAS	18.03	288	T	T	20 40 08.9	
	SNR=4.7						
656A	Willston	18.09	30	P	Pn	20 21 45.9	+0.1
656A				IAmb	IAmb	20 21 57.9	
	comp=Z,39nm,0.8s						
TXAR	Lajitas Array	18.33	329	Pn	Pn	20 21 51.6	+2.6
	comp=Z,0.3nm,0.3s,baz=147,slow=12,SNR=5.0						
TXAR	Lajitas Array	18.33	329	P	Pn	20 21 50.7	+1.7
TX31	Lajitas Ar. Si	18.34	329	P	Pn	20 21 49.9	+0.9
TX32	Lajitas Array	18.34	329	P	Pn	20 21 49.7	+0.7
SDV	Santo Domingo	22.31	101	P	P	20 22 31.2	-1.1
	comp=Z,1.4nm,0.4s,baz=317,slow=19,SNR=3.3						
SDV				LR	LR	20 30 36.8	
	comp=Z,20nm,20.4s,baz=252,slow=35						
TKL	Tuckaleechee C	23.13	19	P	P	20 22 40.0	-0.4
	comp=Z,3.2nm,0.8s,baz=162,slow=9.6,SNR=3.3						
TKL				LR	LR	20 32 18.1	
	comp=Z,59nm,20.6s,baz=178,slow=38						
TUC	Tucson	24.59	321	P	P	20 22 54.6	+0.3
TUC				IAmb	IAmb	20 23 17.5	
	comp=Z,14nm,1.8s						
SJG	San Juan	25.96	77	LR	LR	20 32 56.5	
	comp=Z,41nm,19.6s,baz=264,slow=36						
PFO	Pinyon Flats O	29.07	316	LR	LR	20 35 30.7	
	comp=Z,37nm,19.8s,baz=208,slow=37						
PDAR	Pinedale Array	32.17	337	P	P	20 24 03.3	+1.3
	comp=Z,0.4nm,0.7s,baz=142,slow=8.0,SNR=3.3						
PDAR				PcP	PcP	20 26 52.8	+2.4
	comp=Z,0.3nm,0.8s,baz=135,slow=3.5,SNR=2.8						
SADO	Sadowa	32.88	18	LR	LR	20 37 47.8	
	comp=Z,43nm,18.2s,baz=222,slow=37						
REDW	Red Top Meadow	33.18	336	P	P	20 24 10.6	-0.2
REDW				IAmb	IAmb	20 24 24.2	
	comp=Z,3.5nm,0.8s						
SNOW	Snow King Moun	33.23	336	P	P	20 24 10.6	-0.6
NVAR	Mina Array Bea	33.24	322	P	P	20 24 14.1	+2.7
	comp=Z,0.9nm,0.6s,baz=112,slow=8.8,SNR=5.9						
NVAR	Mina Array Bea	33.24	322	P	P	20 24 12.7	+1.4
MCMT	McKenzie Canyo	35.20	335	P	P	20 24 29.1	+0.8
F10A	Beach Ranch, E	38.00	332	P	P	20 24 52.1	0.0
F10A				IAmb	IAmb	20 25 02.2	
	comp=Z,4.8nm,1.0s						
SIV	San Ignacio	43.22	132	P	P	20 25 36.3	+0.9
	comp=Z,1.0nm,0.7s,baz=311,slow=9.5,SNR=5.4						
YKA	Yellowknife Ar	50.92	347	P	P	20 26 34.7	-0.1
	comp=Z,4.3nm,0.8s,baz=149,slow=7.5,SNR=20						
YKA	Yellowknife Ar	50.92	347	P	P	20 26 34.2	-0.6
INK	Inuvik	60.29	344	P	P	20 27 42.4	+0.5
ILAR	Eielson Array	62.60	337	P	P	20 27 58.0	+0.4
	comp=Z,0.5nm,0.6s,baz=127,slow=3.7,SNR=6.4						
ILAR	Eielson Array	62.60	337	P	P	20 27 57.7	0.0
BMAR	Burnt Mountain	63.09	340	P	P	20 28 01.6	+0.7
TIXI	Tiksi	90.17	348	P	P	20 30 33.5	0.0
	comp=Z,0.8nm,0.5s,baz=5.1,slow=3.7,SNR=4.2						
CMAR	Chiang Mai Arr	145.80	340	PKPbc	PKPab	20 37 14.5	+0.6
	comp=Z,1.7nm,0.8s,baz=331,slow=3.0,SNR=11						
CMAR	Chiang Mai Arr	145.80	340		PKPab	20 37 14.3	+0.4

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*ISCJB **03** 20:21:60.0±0.6, 16°.29S±0°.07×173°.07W±0°.09, h35km, mb3.8/3, MS2.7/1, Error ellipse: s-maj=14.6km s-min=8.2km az=34.3*

*IDC **03** 20:22:00.4±3.1, 15°.55S×173°.84W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/36, mbtmp3.7/4, ML3.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/23, Error ellipse: s-maj=152.7km s-min=24.9km az=145.0*

*NEIC **03** 20:22:02.7±1.2, 16°.35S±0°.06×172°.9W±0°.2, h55km±19km, mb4.7/7*

ISC 03 20:22:01.7±0.8**, 16°.35S**±0°.06×**172°.9W**±0°.1**, h35**km**, n21, σ1§46**/17**, mb4.5**/8**, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.66	24	Pn	Pn	20 22 43.5	+1.3
	5.3nm,0.3s,baz=237,slow=11,SNR=6.3						
AFI				Sn	Sn	20 23 11.3	-2.0
	34nm,0.3s,baz=263,slow=17,SNR=6.2						
AFI	Afiamalu	2.66	24		Pn	20 22 43.6	+1.3
AFI					Sn	20 23 12.0	-1.3
NIUE	Niue	3.92	134		Pn	20 23 01.0	+1.5
NIUE				Sn	Sn	20 23 41.8	-2.5
PPT	Papeete	22.34	96	LR	LR	20 33 20.0	
	comp=Z,31nm,20.5s,baz=233,slow=29						
QRZ	Quartz Range	27.46	204	P	P	20 27 45.0	+0.6
LTZ	Lake Taylor	29.23	203	P	P	20 28 01.5	+1.2
LTZ				IAmb	IAmb	20 28 19.0	
	comp=Z,39nm,1.7s						
H11S2	WAKE ISLAND Hy	40.02	329	T	T	21 12 08.4	
	baz=149						
H11S3	WAKE ISLAND Hy	40.03	329	T	T	21 12 04.4	
	baz=149						
H11S1	WAKE ISLAND Hy	40.04	329	T	T	21 12 01.9	
	baz=149						
H11N3	WAKE ISLAND Hy	40.97	330	T	T	21 13 10.5	
	baz=148						
H11N1	WAKE ISLAND Hy	40.98	330	T	T	21 13 14.7	
	baz=148						
H11N2	WAKE ISLAND Hy	40.99	330	T	T	21 13 15.0	
	baz=148						
WR0	Warramunga Arr	49.91	257	P	P	20 30 51.2	-1.1
WR0				IAmb	IAmb	20 30 51.3	
	comp=Z,6.0nm,1.4s						
WB0	Warramunga Arr	50.06	258	P	P	20 30 52.4	-1.1
WB0				IAmb	IAmb	20 30 53.3	
	comp=Z,11nm,1.6s						
WB2	Warramunga Arr	50.09	257	P	P	20 30 52.3	-1.4
WB2				IAmb	IAmb	20 31 12.4	
	comp=Z,7.1nm,1.4s						
WRAB	Tennant Creek	50.09	258	P	P	20 30 52.4	-1.3
WRA	Warramunga Arr	50.10	257	P	P	20 30 52.9	-0.9
	comp=Z,0.2nm,0.4s,baz=94,slow=7.7,SNR=6.4						
ASAR	Alice Springs	50.28	253	P	P	20 30 53.9	-1.2
	comp=Z,2.0nm,0.7s,baz=87,slow=8.4,SNR=22						
ASAR	Alice Springs	50.28	253	P	P	20 30 54.0	-1.1
SOEI	Soe	61.36	268	P	P	20 32 14.5	-0.3
SOEI				IAmb	IAmb	20 32 17.8	
	comp=Z,16nm,1.2s						
ILAR	Eielson Array	83.28	11	P	P	20 34 25.3	+1.0
	comp=Z,0.4nm,0.8s,baz=218,slow=5.5,SNR=2.5						

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*ISCJB **03** 21:05:25.2±0.2, 30°.22S±0°.02×179°.67W±0°.06, h400km, mb4.5/38, Error ellipse: s-maj=7.4km s-min=2.6km az=13.4*

*NEIC **03** 21:05:26±2.4, 30°.21S±0°.09×179°.5W±0°.1, h411km±5km, mb4.6/45*

*MOS **03** 21:05:26.8±1.3, 30°.13S×179°.61W, h416km, mb4.9/8, Error ellipse: s-maj=13.1km s-min=11.4km az=104.9*

*IDC **03** 21:05:27.5±0.9, 30°.03S×179°.65W, h409km±8km, mb4.1/21, mb1 4.2/22, mb1mx4.1/34, mbtmp4.8/22, Error ellipse: s-maj=11.7km s-min=11.1km az=148.0*

ISC 03 21:05:26.2±0.3**, 30°.19S**±0°.04×**179°.61W**±0°.06**, h400**km**, n339, σ1§66**/355**, mb4.6**/45**, 38C-15D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.74	58	P	Pn	21 06 23.3	+2.6
GLKZ				S	S	21 07 02.8	-1.7
RIZ	Raoul Island	1.74	58	P	Pn	21 06 23.5	+2.8
RIZ				S	S	21 07 01.5	-3.0
RAO	Raoul Island	1.75	58	P	Pn	21 06 23.2	+2.5
RAO	Raoul Island	1.75	58	P	Pn	21 06 22.7	+2.1
	366nm,0.3s,baz=323,slow=20,SNR=13						
RAO				S	S	21 06 55.5	-9.2
	687nm,0.3s,baz=179,slow=14,SNR=8.4						
RAO	Raoul Island	1.75	58	P	Pn	21 06 23.2	+2.5
RAO					S	21 06 53.5	-11
MXZ	Matakaoa Point	7.55	193	P	Pn	21 07 15.9	0.0
MXZ					S	21 08 39.6	-6.2
OUZ	Omahuta	7.61	227	P	P	21 07 21.3	+4.2
RUGZ	Raukumara Rang	8.07	195	P	Pn	21 07 22.3	+0.3
RUGZ				S	S	21 08 53.7	-3.2
WHRZ	Whale Island	8.15	199	P	P	21 07 27.6	+4.4
WHRZ				S	S	21 08 59.7	+1.3
TGRZ	Tauranga	8.26	203	P	P	21 07 27.3	+3.0
OPRZ	Ohinepanea	8.27	202	P	Pn	21 07 27.0	+2.9
MWZ	Matawai	8.46	195	P	Pn	21 07 26.8	+0.4
MWZ				S	S	21 09 00.5	-4.4
CNGZ	Carnagh Statio	8.47	192	P	Pn	21 07 26.6	+0.3
TKGZ	Te Karaka	8.49	194	P	Pn	21 07 27.4	+0.7
TKGZ				S	S	21 09 01.6	-3.9
URZ	Urewera	8.49	198	P	Pn	21 07 26.9	+0.2
	115nm,0.3s,baz=12,slow=10,SNR=127						
URZ				S	S	21 09 02.9	-2.6
	160nm,0.3s,baz=70,slow=23,SNR=29						
URZ	Urewera	8.49	198	P	Pn	21 07 26.7	+0.1
URZ				S	S	21 09 02.9	-2.6
URZ	Urewera	8.49	198	P	Pn	21 07 26.6	0.0
URZ					S	21 08 59.2	-6.3
TOZ	Tahuroa Road	8.54	207	P	P	21 07 32.6	+5.1
OMRZ	Omania	8.57	202	P	P	21 07 31.8	+4.1
RAGZ	Rawiri	8.64	196	P	Pn	21 07 28.8	+0.3
RAGZ				S	S	21 09 06.6	-2.2
TARZ	Mount Tarawera	8.64	201	P	P	21 07 32.3	+3.6
UTU	Utuhina	8.69	202	P	P	21 07 34.2	+5.1
HLRZ	Highlands Stat	8.71	201	P	P	21 07 32.9	+3.6
RRRZ	Republican Roa	8.74	200	P	P	21 07 33.0	+3.3
RIGZ	Rimuhau	8.77	194	P	Pn	21 07 30.5	+0.6
MUGZ	Murupara	8.79	199	P	Pn	21 07 29.9	-0.2
HSRZ	Hossack Road	8.80	202	P	P	21 07 34.7	+4.4
HRRZ	Handcock Road	8.86	201	P	P	21 07 34.2	+3.2
SNGZ	Shannon Statio	8.93	196	P	P	21 07 30.7	-1.1
ALRZ	Allen Road	8.99	201	P	P	21 07 34.8	+2.3
TLZ	Tolley Road	9.06	205	P	Pn	21 07 36.6	+3.4
RAHZ	Arahi	9.12	196	P	P	21 07 33.7	-0.2
MHGZ	Mahia Peninsul	9.17	192	P	P	21 07 36.1	+1.7
MRHZ	Matea Rd	9.22	200	P	P	21 07 35.8	+0.7
ARHZ	Aropaoanui	9.47	196	P	P	21 07 37.8	0.0
HIZ	Hauiti	9.48	207	P	Pn	21 07 41.8	+3.8
HIZ	Hauiti	9.48	207	P	P	21 07 40.5	+2.6
BKZ	Black Stump Fm	9.51	199	P	P	21 07 38.4	+0.1
BKZ	Black Stump Fm	9.51	199	P	P	21 07 37.4	-0.8
KATZ	Kakaramea	9.58	203	P	P	21 07 42.0	+2.9
KRVZ	Karewarewa	9.70	202	P	P	21 07 41.8	+1.3
WTVZ	West Tongariro	9.74	203	P	P	21 07 42.0	+1.1
NGZ	Ngauruhoe	9.79	202	P	P	21 07 42.0	+0.5
TUVZ	Tukino	9.86	202	P	P	21 07 43.4	+1.2
FWVZ	Far West T-bar	9.88	202	P	P	21 07 42.0	-0.5
WHVZ	Whangaehu Hut	9.89	202	P	P	21 07 43.4	+0.7
DRZ	Dome Shelter	9.89	202	P	P	21 07 44.4	+1.6
TRVZ	Turoa	9.92	202	P	P	21 07 43.7	+0.7
BHHZ	Black Hill Sta	9.93	200	P	P	21 07 40.9	-2.1
MOVZ	Moawhango	9.95	201	P	P	21 07 43.0	-0.1
PKVZ	Pokaka	9.98	203	P	P	21 07 44.4	+1.0
KAHZ	Kahuranaki	10.01	196	P	P	21 07 44.2	+0.5
MTVZ	Mangateitei	10.02	202	P	P	21 07 45.0	+1.1
VRZ	Vera Road	10.04	206	P	P	21 07 46.5	+2.4
PXZ	Pawanui	10.23	195	P	P	21 07 47.3	+1.1
PNHZ	Pukenui	10.29	198	P	P	21 07 45.1	-1.8
WPHZ	Waipukurau	10.37	197	P	P	21 07 48.6	+0.9
LREZ	Lake Rotokare	10.47	206	P	P	21 07 51.5	+2.7
TSZ	Takapari Road	10.49	199	P	P	21 07 48.0	-1.1
PRHZ	Porangahau	10.51	196	P	P	21 07 49.4	+0.1
WAZ	Wanganui	10.52	203	P	P	21 07 50.4	+1.0
DVHZ	Dannevirke	10.66	198	P	P	21 07 51.4	+0.5
ANWZ	Angora Road	10.73	196	P	P	21 07 52.8	+1.1
POWZ	Post Office Ro	10.85	199	P	P	21 07 53.6	+0.5
PRWZ	Pori Road	10.95	198	P	P	21 07 54.8	+0.7
BFZ	Birch Farm	11.00	197	P	P	21 07 54.1	-0.6
BFZ	Birch Farm	11.00	197	P	P	21 07 54.3	-0.4
MSWZ	Moikau Station	11.95	199	P	P	21 08 04.8	-0.3
MSWZ					S	21 10 10.0	-6.5
SNZO	South Karori	12.01	201	P	P	21 08 04.7	-1.1
SNZO					S	21 10 13.3	-4.4
BHW	Baring Head	12.05	200	P	P	21 08 05.2	-1.0
BHW					S	21 10 08.7	-10
PLWZ	Palliser	12.09	199	P	P	21 08 06.1	-0.6
PLWZ					S	21 10 15.0	-4.5
TUWZ	Tuamarina	12.37	203	P	P	21 08 08.5	-1.3
NNZ	Nelson	12.38	205	P	P	21 08 08.9	-1.0
QRZ	Quartz Range	12.39	209	P	P	21 08 10.0	+0.1
QRZ				S	S	21 10 24.0	-1.4
CMWZ	Cape Campbell	12.57	202	P	P	21 08 12.6	+0.6
CMWZ					S	21 10 25.3	-3.7
MSVF	Nonsavu	12.58	350	⇑*e*P	Pn	21 08 13.1	-1.2
MSVF	Nonsavu	12.58	350	P	Pn	21 08 13.3	-1.1
BSWZ	Blackbirch Sta	12.65	203	P	P	21 08 13.2	+0.4
BSWZ					S	21 10 26.2	-4.4
THZ	Tophouse	13.03	206	P	P	21 08 16.5	-0.6
KHZ	Kahutara	13.39	202	P	P	21 08 19.3	-1.6
NIUE	Niue	14.13	41	P	P	21 08 29.9	+0.6
LTZ	Lake Taylor	14.15	205	P	P	21 08 28.2	-1.1
OXZ	Oxford	14.71	205	P	P	21 08 33.6	-1.7
MQZ	McQueen's Vall	14.83	202	P	P	21 08 35.6	-1.0
MQZ				S	S	21 11 10.7	-3.5
DZM	Mont Dzumac	14.90	300	P	P	21 08 40.7	+2.9
	2.1nm,0.3s,baz=125,slow=7.8,SNR=21						
DZM	Mont Dzumac	14.90	300	P	P	21 08 40.8	+3.1
RPZ	Rata Peaks	15.41	206	P	P	21 08 41.3	-1.6
	1.9nm,0.3s,baz=317,slow=1.5,SNR=14						
RPZ				S	S	21 11 23.4	-2.4
	1.3nm,0.3s,baz=29,slow=19,SNR=5.7						
RPZ	Rata Peaks	15.41	206	P	P	21 08 41.5	-1.4
RPZ				IAmb	IAmb	21 08 47.5	
	comp=Z,21nm,0.6s						
FOZ	Fox Glacier	15.76	209	P	P	21 08 45.7	-0.9
FOZ				IAmb	IAmb	21 08 49.8	
	comp=Z,26nm,0.8s						
FOZ					S	21 11 31.2	-1.3
LBZ	Lake Benmore	16.31	207	P	P	21 08 50.9	-1.7
LBZ				IAmb	IAmb	21 09 03.2	
	comp=Z,24nm,1.2s						
LBZ				S	S	21 11 41.7	-1.8
ODZ	Otahua Downs	16.70	205	P	P	21 08 55.6	-1.1
WKZ	Wanaka	17.14	208	P	P	21 08 58.7	-2.8
WKZ				IAmb	IAmb	21 09 16.5	
	comp=Z,43nm,1.2s						
AFI	Afiamalu	17.74	26	P	P	21 09 09.4	+1.2
AFI				S	S	21 12 10.7	-1.3
AFI				pmax	pmax		
	comp=Z,122nm,1.3s						
AFI	Afiamalu	17.74	26	P	P	21 09 09.0	+0.8
	comp=Z,6.9nm,0.3s,baz=294,slow=20,SNR=7.6						
AFI				S	S	21 12 10.6	-1.3
	comp=Z,5.1nm,0.3s,baz=254,slow=19,SNR=2.4						
AFI	Afiamalu	17.74	26	P	P	21 09 09.4	+1.2
MLZ	Mavora Lakes	17.96	209	P	P	21 09 09.0	-1.1
MLZ				IAmb	IAmb	21 09 14.5	
	comp=Z,23nm,0.6s						
DCZ	Deep Cove	18.45	211	P	P	21 09 13.7	-1.5
DCZ				IAmb	IAmb	21 09 17.7	
	comp=Z,19nm,0.9s						
WHZ	Wether Hill Ro	18.45	208	IAmb	IAmb	21 09 20.3	
	comp=Z,25nm,0.6s						
FUNA	Funafuti	21.58	357	P	P	21 09 44.0	-1.2
ARMA	Armidale	24.80	262	IAmb	IAmb	21 10 18.1	
	comp=Z,17nm,1.1s						
TAU	Tasmania Unive	29.25	235	P	P	21 10 53.8	+0.6
TAU				pmax	pmax		
	comp=Z,53nm,0.9s						
TAU	Tasmania Unive	29.25	235	P	P	21 10 53.9	+0.6
TOO	Toolangi	29.77	246	P	P	21 10 59.6	+1.7
TOO				pmax	pmax		
	comp=Z,34nm,1.0s						
TOO	Toolangi	29.77	246	P	P	21 10 59.6	+1.7
TOO				IAmb	IAmb	21 11 01.0	
	comp=Z,34nm,0.9s						
CTA	Charters Tower	32.39	280	P	P	21 11 21.7	+0.9
	comp=Z,10nm,0.5s,baz=103,slow=11,SNR=33						
STKA	Stephens Creek	33.17	257	P	P	21 11 28.4	+1.1
STKA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
STKA	Stephens Creek	33.17	257	P	P	21 11 28.7	+1.4
	comp=Z,21nm,0.6s,baz=95,slow=9.1,SNR=49						
STKA	Stephens Creek	33.17	257	P	P	21 11 28.4	+1.1
KRVT	Keravat (AS076	37.15	308	P	P	21 12 00.5	-0.5
	comp=Z,559nm,0.6s,baz=50,slow=1.1,SNR=52						
PMG	Port Moresby	37.26	297	P	P	21 12 02.0	+0.1
PMG				pmax	pmax		
	comp=Z,22nm,1.2s						
PMG	Port Moresby	37.26	297	P	P	21 12 02.0	+0.1
	comp=Z,8.4nm,0.7s,baz=155,slow=18,SNR=3.2						
PMG	Port Moresby	37.26	297	IAmb	IAmb	21 12 12.5	
	comp=Z,22nm,1.1s						
BBOO	Buckleboo	37.68	254	P	P	21 12 05.7	+0.4
ASAR	Alice Springs	41.73	267	P	P	21 12 38.6	+0.3
	comp=Z,21nm,0.7s,baz=102,slow=7.5,SNR=222						
ASAR				PP	PP	21 14 20.0	-5.0
	comp=Z,6.0nm,0.9s,baz=110,slow=8.3,SNR=7.2						
ASAR				ScP	ScP	21 17 36.2	-1.3
	comp=Z,3.5nm,1.0s,baz=117,slow=4.4,SNR=7.9						
ASAR				S	S	21 18 20.3	-4.8
	comp=Z,3.7nm,1.0s,baz=101,slow=15,SNR=8.6						
WR0	Warramunga Arr	42.51	273	IAmb	IAmb	21 12 45.7	
	comp=Z,22nm,0.9s						
WRAB	Tennant Creek	42.69	273	*c i*P	P	21 12 46.2	+0.2
WRAB				pmax	pmax		
	comp=Z,38nm,0.8s						
WRAB	Tennant Creek	42.69	273	P	P	21 12 45.7	-0.2
WRAB				IAmb	IAmb	21 12 47.0	
	comp=Z,34nm,0.8s						
WRA	Warramunga Arr	42.70	273	P	P	21 12 46.2	+0.2
	comp=Z,40nm,0.8s,baz=112,slow=7.5,SNR=245						
WRA				PP	PcP	21 14 27.7	-1.7
	comp=Z,5.4nm,0.7s,baz=114,slow=7.3,SNR=5.4						
WRA				ScP	ScP	21 17 40.4	-1.0
	comp=Z,3.2nm,1.1s,baz=109,slow=4.7,SNR=5.2						
WRA				S	S	21 18 31.9	-7.3
	comp=Z,3.2nm,1.2s,baz=108,slow=11,SNR=5.0						
WB0	Warramunga Arr	42.72	273	IAmb	IAmb	21 12 47.3	
	comp=Z,37nm,0.8s						
FORT	Forrest	44.75	255	P	P	21 13 02.1	+0.1
VNDA	Vanda	48.17	185	P	P	21 13 29.7	+2.3
	comp=Z,3.2nm,1.0s,baz=6.3,slow=9.9,SNR=6.3						
VNDA				ScP	ScP	21 18 03.2	+0.1
	comp=Z,3.5nm,0.9s,baz=3.3,slow=5.5,SNR=5.4						
KNRA	Kununurra	49.30	275	IAmb	IAmb	21 13 38.3	
	comp=Z,13nm,0.8s						
FITZ	Fitzroy Crossi	50.96	271	P	P	21 13 49.4	+0.2
	comp=Z,20nm,0.9s,baz=144,slow=6.5,SNR=26						
FITZ	Fitzroy Crossi	50.96	271	IAmb	IAmb	21 13 50.7	
	comp=Z,21nm,0.9s						
NWAO	Narrogin (SRO)	53.16	250	P	P	21 14 04.4	-0.6
	comp=Z,5.9nm,0.4s,baz=129,slow=8.8,SNR=8.4						
NWAO	Narrogin (SRO)	53.16	250	IAmb	IAmb	21 14 05.5	
	comp=Z,52nm,1.5s						
QSPA	South Pole Qui	59.92	180	P	P	21 14 53.8	+2.3
	comp=Z,14nm,0.7s,baz=47,slow=1.4,SNR=44						
QSPA				pP	pP	21 16 18.2	+3.4
	comp=Z,3.6nm,0.8s,baz=109,slow=5.2,SNR=2.7						
QSPA	South Pole Qui	59.92	180	P	P	21 14 53.8	+2.3
QSPA				IAmb	IAmb	21 14 54.8	
	comp=Z,18nm,0.8s						
MAW	Mawson	72.01	201	P	P	21 16 08.1	+0.8
MAW				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MAW	Mawson	72.01	201	P	P	21 16 08.1	+0.8
	comp=Z,5.7nm,0.7s,baz=109,slow=6.8,SNR=4.6						
MAW	Mawson	72.01	201	IAmb	IAmb	21 16 09.0	
	comp=Z,1.9nm,1.1s						
SYO	Syowa Base	77.00	194	⇑*e*P	P	21 16 34.0	-1.6
MJAR	Matsushiro Arr	77.28	326	P	P	21 16 36.4	-1.2
	comp=Z,8.1nm,1.1s,baz=159,slow=5.4,SNR=11						
MAJO	Matsushiro	77.29	326	*de*P	P	21 16 36.9	-0.8
MAJO				pmax	pmax		
	comp=Z,14nm,1.1s						
MAJO	Matsushiro	77.29	326	P	P	21 16 36.8	-0.8
MAJO				IAmb	IAmb	21 16 38.0	
	comp=Z,11nm,1.0s						
MAT	Matsushiro	77.29	326	P	P	21 16 36.7	-1.0
MJB9	Matsu-Tunnel	77.29	326	P	P	21 16 36.5	-1.2
MJB9				IAmb	IAmb	21 16 38.0	
	comp=Z,12nm,1.0s						
SNAA	Sanae	78.40	179	P	P	21 16 44.3	+1.0
SNAA	Sanae	78.40	179	⇓*i*P	P	21 16 44.6	+1.3
SNAA	Sanae	78.40	179	P	P	21 16 44.5	+1.1
VNA3	Neumayer Olymp	78.60	177	P	P	21 16 45.3	+0.9
VNA2	Neumayer--Watz	79.02	177	P	P	21 16 47.3	+0.7
	baz=180,slow=4.0						
VNA1	Neumayer--Stat	79.26	177	P	P	21 16 49.1	+1.2
TJN	Taejon	82.83	319	⇑*e*P	P	21 17 07.5	+0.6
KSRS	Korea Array	83.29	321	P	P	21 17 08.9	-0.3
	comp=Z,5.6nm,0.8s,baz=152,slow=5.7,SNR=21						
KS19	Wonju Array Si	83.36	321	P	P	21 17 07.9	-1.7
KS19				IAmb	IAmb	21 17 10.4	
	comp=Z,9.9nm,0.8s						
PLCA	Paso Flores	83.67	134	P	P	21 17 09.8	-1.6
PLCA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
PLCA	Paso Flores	83.67	134	P	P	21 17 12.5	+1.1
	comp=Z,4.0nm,0.9s,baz=332,slow=3.5,SNR=4.2						
PLCA	Paso Flores	83.67	134	P	P	21 17 09.8	-1.6
YSS	Yuzh-Sakhalins	83.96	335	⇓*i*P	P	21 17 13.6	+1.3
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	Yuzh-Sakhalins	83.96	335	P	P	21 17 11.9	-0.4
NJ2	Nanjing	85.06	311	*e*P	P	21 17 19.2	+1.1
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PETK	Petropavlovsk-	85.27	347	P	P	21 17 19.0	+0.3
PETK	Petropavlovsk-	85.27	347	P	P	21 17 18.9	+0.3
	comp=Z,14nm,0.7s,baz=138,slow=7.2,SNR=18						
MSHR	Mys Shultsa	85.39	326	⇓*e*P	P	21 17 20.2	+0.7
USA0B	Ussuriysk Arra	86.22	327	P	P	21 17 22.6	-0.9
USA0B				pmax	pmax		
	comp=Z,32nm,1.4s						
USA0B	Ussuriysk Arra	86.22	327	P	P	21 17 22.6	-0.9
USRK	Ussuriysk Ar.	86.22	327	P	P	21 17 24.2	+0.8
	comp=Z,8.9nm,1.0s,baz=129,slow=3.8,SNR=17						
PFO	Pinyon Flats O	87.10	48	⇓*e*P	P	21 17 28.3	+0.2
PFO				pmax	pmax		
	comp=Z,19nm,1.5s						
ISA	Isabella, Lake	87.14	46	IAmb	IAmb	21 17 30.8	
	comp=Z,10nm,1.1s						
TYV	Tymovskoe	87.31	337	*e*P	P	21 17 29.5	+1.0
TYV				pmax	pmax		
	comp=Z,18nm,1.3s						
MDJ	Mudanjiang	87.67	326	IAmb	IAmb	21 17 32.3	
	comp=Z,14nm,1.1s						
NVAR	Mina Array Bea	89.04	44	P	P	21 17 38.1	+0.9
	comp=Z,3.0nm,0.9s,baz=224,slow=7.6,SNR=12						
CN2	Changchun	89.14	324	*e*P	P	21 17 36.6	-0.6
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
KVN	Kaiserville	89.56	43	P	P	21 17 40.1	+0.5
KVN				pmax	pmax		
	comp=Z,7.0nm,1.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KVN	**Kaiserville**	**89.56**	**43**	P	**P**	**21 17 40.1**	**+0.5**
KLR	**Kul'dur**	**90.16**	**331**	⇓eP	**P**	**21 17 41.8**	**0.0**
KLR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KLR	**Kul'dur**	**90.16**	**331**	P	**P**	**21 17 42.2**	**+0.4**
	comp=Z,6.1nm,0.7s,baz=126,slow=2.4,SNR=27						
ENH	**Enshi**	**90.34**	**305**	P	**P**	**21 17 42.9**	**-0.3**
CFA	**Coronel Fontan**	**90.48**	**127**	P	**P**	**21 17 44.5**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=240,slow=7.2,SNR=3.6						
CMAR	**Chiang Mai Arr**	**92.02**	**290**	P	**P**	**21 17 51.8**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=141,slow=1.8,SNR=6.1						
CMAR				pP	**pwP**	**21 19 30.9**	**+3.6**
	comp=Z,0.4nm,0.5s,baz=154,slow=3.0,SNR=2.9						
ELK	**Elko**	**92.34**	**43**	P	**P**	**21 17 52.0**	**-0.5**
ELK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ELK	**Elko**	**92.34**	**43**	P	**P**	**21 17 52.0**	**-0.5**
XAN	**Xi'an**	**92.88**	**308**	P	**P**	**21 17 53.0**	**-1.9**
XAN				pP	pP	21 19 27.5	+1.3
XAN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CD2	**Chengdu**	**94.80**	**303**	P	**P**	**21 18 03.9**	**+0.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**95.09**	**315**	P	**P**	**21 18 06.3**	**+1.4**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,6.0nm,5.1s						
SEY	**Seymchan**	**95.46**	**348**	⇓eP	**P**	**21 18 06.5**	**+0.7**
SEY	**Seymchan**	**95.46**	**348**	P	**P**	**21 18 05.2**	**-0.6**
	comp=Z,4.2nm,0.8s,baz=171,slow=13,SNR=5.3						
LZH	**Lanzhou**	**97.48**	**307**	⇓P	Pdif	21 18 18.3	+2.4
LZH				pP	pwP	21 19 51.8	0.0
LZH				sP	sP	21 20 32.5	+4.2
LZH				PP	**PP**	**21 22 25.0**	**+5.4**
LZH				pmax	pmax		
	comp=Z,23nm,1.4s						
LZH				pmax	pmax		
	comp=Z,130nm,6.5s						
COLA	**College**	**97.94**	**13**	⇓eP	**P**	**21 18 14.1**	**-2.8**
COLA				pmax	pmax		
	comp=Z,18nm,3.3s						
ILAR	**Eielson Array**	**98.04**	**14**	P	Pdif	21 18 16.2	-1.2
	comp=Z,0.4nm,0.6s,baz=236,slow=6.0,SNR=9.0						
BILL	**Bilibino**	**98.50**	**355**	⇓eP	Pdif	21 18 18.6	-0.8
BILL				e*PP	pwP	21 19 56.1	+4.0
BILL				e		21 22 22.3	
BILL				pmax	pmax		
	comp=Z,10.0nm,2.1s						
V58A	**Windy Hill, Pi**	**114.81**	**62**		PKPdf	21 23 18.2	-1.8
S58A	**Poland Farm, P**	**116.22**	**60**		**PKPdf**	**21 23 19.1**	**-3.6**
R58B	**Mineral**	**116.47**	**60**		**PKPdf**	**21 23 21.7**	**-1.5**
MKAR	**Makanchi Array**	**116.57**	**310**	PKP	**PKPdf**	**21 23 21.8**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=195,slow=1.4,SNR=11						
ZALV	**Zalesovo Beam**	**116.95**	**319**	PKP	**PKPdf**	**21 23 21.8**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=229,slow=1.6,SNR=4.2						
NRIK	**Noril'sk**	**118.88**	**336**	PKP	**PKPdf**	**21 23 25.7**	**-1.2**
	comp=Z,2.1nm,0.6s,baz=62,slow=5.3,SNR=4.7						
KSH	**Kashi**	**118.94**	**301**	ePKP	**PKPdf**	**21 23 28.2**	**+0.1**
KURK	**Kurchatov**	**119.90**	**314**	⇑iPKIKP	**PKPdf**	**21 23 28.6**	**-0.7**
KURK	**Kurchatov**	**119.90**	**314**		**PKPdf**	**21 23 28.4**	**-0.9**
KURBB	**Kurchatov Arra**	**119.94**	**314**	PKP	**PKPdf**	**21 23 28.2**	**-1.2**
	comp=Z,4.5nm,0.8s,baz=110,slow=1.9,SNR=5.0						
AAK	**Ala-Archa**	**120.84**	**304**	⇑iPKIKP	**PKPdf**	**21 23 31.5**	**-0.2**
AAK	**Ala-Archa**	**120.84**	**304**	PKP	**PKPdf**	**21 23 30.8**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=170,slow=4.4,SNR=8.7						
AAK	**Ala-Archa**	**120.84**	**304**		**PKPdf**	**21 23 30.3**	**-1.4**
KBL	**Kabul**	**122.86**	**294**	PKIKP	**PKPdf**	**21 23 34.2**	**-1.7**
KBL	**Kabul**	**122.86**	**294**		**PKPdf**	**21 23 34.2**	**-1.7**
BVAR	**Borovoye Array**	**125.28**	**316**	PKP	**PKPdf**	**21 23 39.3**	**-0.4**
	comp=Z,5.0nm,0.7s,baz=100,slow=1.8,SNR=22						
BRVK	**Borovoye**	**125.35**	**316**	⇑iPKIKP	**PKPdf**	**21 23 39.3**	**-0.4**
BRVK	**Borovoye**	**125.35**	**316**		**PKPdf**	**21 23 37.3**	**-2.4**
SPITS	**Spitsbergen Ar**	**131.39**	**356**	PKP	**PKPdf**	**21 23 49.6**	**-1.0**
	comp=Z,17nm,1.0s,baz=64,slow=6.6,SNR=5.8						
ARU	**Arti**	**132.04**	**321**	⇓iPKIKP	**PKPdf**	**21 23 53.3**	**+0.9**
ARU	**Arti**	**132.04**	**321**	PKP	**PKPdf**	**21 23 51.2**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=88,slow=1.0,SNR=8.6						
ARU				SKPbc	**SKPbc**	**21 26 40.1**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=63,slow=6.8,SNR=5.4						
GEYT	**Alibeck**	**132.21**	**295**	PKP	**PKPdf**	**21 23 52.6**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=186,slow=1.5,SNR=6.3						
GEYT				SKPbc	**SKPbc**	**21 26 41.7**	**0.0**
	comp=Z,2.1nm,0.8s,baz=36,slow=5.4,SNR=5.1						
AKTO	**Aktyubinsk**	**132.93**	**312**	PKP	**PKPdf**	**21 23 53.9**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=90,slow=4.0,SNR=7.7						
KMBO	**Kilima Mbogo**	**133.06**	**235**	PKP	**PKPdf**	**21 23 56.6**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=68,slow=8.6,SNR=4.4						
KMBO				SKPbc	**SKPbc**	**21 26 44.0**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=54,slow=4.0,SNR=6.1						
ARCES	**ARCESS Array B**	**138.08**	**347**	PKhKP	PKPpre	21 23 53.9	
	comp=Z,4.6nm,0.8s,baz=8.5,slow=2.5,SNR=5.3						
ARCES				PKP	**PKPdf**	**21 24 04.3**	**+1.0**
	comp=Z,7.8nm,0.8s,baz=38,slow=2.2,SNR=5.5						
VRH	**Novokhopyorsk**	**142.93**	**316**	ePKHKP	PKPpre	21 24 08.7	
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NCK	**Nalchik**	**143.36**	**303**	⇑ePKIKP	PKPab	21 24 12.0	+0.8
AKH	**Akhalkalaki**	**143.63**	**300**	PKIKP	PKPab	21 24 12.6	+0.1
AKH	**Akhalkalaki**	**143.63**	**300**		PKPab	21 24 12.6	+0.1
KBZ	**Khabaz**	**143.84**	**304**	PKP	PKPab	21 24 12.8	-0.1
	comp=Z,7.5nm,0.7s,baz=203,slow=5.2,SNR=12						
KIV	**Kislovodsk**	**143.96**	**304**	ePKIKP	PKPbc	21 24 14.9	+1.4
KIV				pmax	pmax		
	comp=Z,57nm,1.1s						
NEY	**Neytrino**	**144.02**	**303**	⇓iPKIKP	**PKPdf**	**21 24 15.7**	**+0.7**
LPSR	**Galich'ya Gora**	**144.05**	**320**	ePKIKP	PKPab	21 24 12.6	-0.8
LPSR				pmax	pmax		
	comp=Z,30nm,0.8s						
OBN	**Obninsk**	**144.20**	**325**	ePKIKP	PKPbc	21 24 13.4	-0.3
OBN				e		21 27 30.3	
OBN				pmax	pmax		
	comp=Z,107nm,1.5s						
OBN	**Obninsk**	**144.20**	**325**	PKP	PKPbc	21 24 13.2	-0.6
	comp=Z,12nm,0.6s,baz=340,slow=2.5,SNR=11						
OBN	**Obninsk**	**144.20**	**325**		PKPbc	21 24 12.4	-1.4
PUL	**Pulkovo**	**144.21**	**334**	⇓ePKIKP	PKPbc	21 24 11.3	-2.4
VSR	**Storozhevoye**	**144.44**	**317**	ePKIKP	PKPbc	21 24 12.9	-1.8
VSR				pmax	pmax		
	comp=Z,50nm,0.9s						
FIA1	**FINESS Array S**	**144.46**	**339**		PKPbc	21 24 13.9	-0.5
FINES	**FINESS Array B**	**144.46**	**339**	PKP	PKPbc	21 24 13.8	-0.6
	comp=Z,63nm,0.7s,baz=58,slow=3.6,SNR=277						
NSS	**Namsos**	**144.88**	**351**	ePKPdf	PKPbc	21 24 15.2	-0.4
VSU	**Vasula**	**146.46**	**335**	d iPKP2	**PKPdf**	**21 24 19.9**	**+1.6**
MOL	**Molde**	**147.28**	**354**	ePKPbc	**PKPdf**	**21 24 21.6**	**+2.1**
DOMB	**Dombas**	**147.64**	**352**	ePKPbc	**PKPbc**	**21 24 23.2**	**-0.4**
AKN	**Aaknes**	**147.71**	**354**	ePKPbc	**PKPbc**	**21 24 24.0**	**+0.2**
NC303	**NORSAR Array S**	**148.12**	**350**		**PKPdf**	**21 24 23.4**	**+2.3**
NC303				PKPab	**PKPab**	**21 24 29.0**	**-0.1**
NC405	**NORSAR Array S**	**148.17**	**350**		**PKPdf**	**21 24 23.9**	**+2.7**
NC405				PKPab	**PKiKP**	**21 24 28.0**	**+1.6**
NB201	**NORSAR Array S**	**148.30**	**350**		**PKPdf**	**21 24 23.0**	**+1.6**
NB201				PKPab	**PKiKP**	**21 24 29.0**	**+2.4**
NB2	**NORSAR Subarra**	**148.32**	**350**	PKP	**PKPbc**	**21 24 24.5**	**-0.9**
	comp=Z,8.6nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.32**	**350**	PKPbc	**PKPbc**	**21 24 24.7**	**-0.7**
	comp=Z,10nm,0.7s,baz=15,slow=4.2,SNR=36						
NC602	**NORSAR Array S**	**148.56**	**350**	ePKPbc	**PKPbc**	**21 24 25.2**	**-0.7**
HYA	**Hoyanger**	**148.78**	**355**	ePKPbc	**PKPbc**	**21 24 26.5**	**+0.1**
NACGM	**Naroch**	**148.91**	**330**	e	**PKPbc**	**21 24 27.0**	**0.0**
SUE	**Sulen**	**148.99**	**356**	ePKPbc	**PKPbc**	**21 24 26.4**	**-0.5**
SKAR	**Skarslia**	**149.05**	**352**	ePKPbc	**PKPbc**	**21 24 27.4**	**+0.1**
SIM	**Simferopol'**	**149.73**	**309**	i PKP2	**PKPbc**	**21 24 30.2**	**+0.9**
SIM				pmax	pmax		
	comp=Z,15nm,0.9s						
KONO	**Kongsberg**	**149.89**	**351**	c iPKP2	**PKPbc**	**21 24 29.6**	**+0.4**
KONO				pmax	pmax		
	comp=Z,110nm,2.5s						
KONO	**Kongsberg**	**149.89**	**351**	ePKPbc	**PKPbc**	**21 24 29.2**	**0.0**
ODD1	**Odda**	**149.98**	**354**	ePKPbc	**PKPbc**	**21 24 29.6**	**+0.2**
AKASG	**Malin Array Be**	**150.28**	**322**	PKPbc	**PKPbc**	**21 24 30.0**	**-0.4**
	comp=Z,14nm,0.6s,baz=51,slow=2.8,SNR=59						
AKASG				PKPab	**PKPab**	**21 24 37.5**	**-0.8**
	comp=Z,7.4nm,0.8s,baz=49,slow=4.3,SNR=9.5						
AKBB	**Malin Array Si**	**150.28**	**322**	PKIKP	**PKPdf**	**21 24 27.8**	**+3.0**
AKBB	**Malin Array Si**	**150.28**	**322**		**PKPdf**	**21 24 27.8**	**+3.0**
BLS5	**Blasjo**	**150.48**	**354**	ePKPbc	**PKPbc**	**21 24 30.8**	**+0.2**
KMY	**Karmoy**	**150.79**	**355**	ePKPbc	**PKPbc**	**21 24 31.4**	**+0.1**
SUW	**Suwalki**	**151.04**	**332**	PKIKP	**PKPbc**	**21 24 31.6**	**-0.5**
SUW						21 24 40.4	
SUW	**Suwalki**	**151.04**	**332**	ePKP	**PKPbc**	**21 24 31.8**	**-0.3**
SUW				ePKP	**PKPbc**	**21 24 31.8**	**-0.3**
SUW	**Suwalki**	**151.04**	**332**		**PKPbc**	**21 24 31.6**	**-0.5**
SUW				PKPab	**PKPab**	**21 24 40.4**	**-1.0**
BR131	**Keskin Array S**	**151.27**	**298**	PKIKP	**PKPdf**	**21 24 24.1**	**-2.8**
BR131						21 24 42.0	
BR131	**Keskin Array S**	**151.27**	**298**	PKPdf	**PKPdf**	**21 24 24.1**	**-2.8**
BR131					**PKPbc**	**21 24 32.3**	**-1.0**
BR131				PKPab	**PKPab**	**21 24 42.0**	**-1.1**
BRTR	**Keskin Array B**	**151.27**	**298**	PKPbc	**PKPbc**	**21 24 32.7**	**-0.6**
	comp=Z,4.2nm,0.8s,baz=141,slow=4.9,SNR=13						
BRTR				PKPab	**PKPab**	**21 24 42.5**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=86,slow=5.1,SNR=6.5						
HOMB	**Homborsund**	**151.37**	**351**	ePKPbc	**PKPbc**	**21 24 32.7**	**0.0**
SNART	**Snartemo**	**151.47**	**352**	ePKPbc	**PKPbc**	**21 24 32.8**	**-0.1**
SORM	**Soroca**	**152.10**	**318**	⇑PKIKP	**PKPbc**	**21 24 33.5**	**-1.1**
SORM	**Soroca**	**152.10**	**318**	⇑P	**PKPbc**	**21 24 33.5**	**-1.1**
MILM	**Milestii Mici**	**152.41**	**315**	⇑P	**PKPbc**	**21 24 34.9**	**-0.5**
TSSL	**Sulina**	**152.57**	**311**	⇑P	PKPab	21 24 56.4	+8.2
BSD	**Bornholm Skovb**	**153.01**	**341**	i PKIKP	**PKPbc**	**21 24 36.2**	**-0.2**
BSD				pmax	pmax		
	comp=Z,4.0nm,0.3s						
BSD	**Bornholm Skovb**	**153.01**	**341**	i P	**PKPbc**	**21 24 36.2**	**-0.2**
	comp=Z,3.7nm,0.3s						
TOPG	**Topolog**	**153.56**	**311**	⇑P	**PKPab**	**21 24 53.1**	**+0.7**
CFR	**Carcaliu**	**153.59**	**312**	⇑PKP2	**PKPab**	**21 24 52.3**	**-0.2**
CFR	**Carcaliu**	**153.59**	**312**	⇑P	**PKPab**	**21 24 52.3**	**-0.2**
TESR	**Tescani**	**153.91**	**316**	⇑P	**PKPab**	**21 24 54.0**	**+0.1**
HARR	**Harsova**	**153.93**	**311**	⇑PKP2	**PKPab**	**21 24 54.3**	**+0.3**
HARR	**Harsova**	**153.93**	**311**	⇑P	**PKPab**	**21 24 54.3**	**+0.3**
BUR08	**Bucovina Ar. S**	**154.16**	**319**		**PKPdf**	**21 24 28.6**	**-2.1**
BUR08				PKPab	**PKPab**	**21 24 53.6**	**-1.4**
BURAR	**Bucovina Array**	**154.17**	**319**	⇑PKP2	**PKPab**	**21 24 55.3**	**+0.3**
BURAR	**Bucovina Array**	**154.17**	**319**	⇑P	**PKPab**	**21 24 55.3**	**+0.3**
VRI	**Vrincioaia**	**154.17**	**315**	⇑PKP2	**PKPab**	**21 24 55.4**	**+0.4**
VRI	**Vrincioaia**	**154.17**	**315**	⇑P	**PKPab**	**21 24 55.4**	**+0.4**
PLOR	**Plostina**	**154.23**	**315**	⇑PKP2	**PKPab**	**21 24 55.5**	**+0.2**
PLOR	**Plostina**	**154.23**	**315**	⇑P	**PKPab**	**21 24 55.5**	**+0.3**
KWP	**Kalwaria Pacla**	**154.28**	**325**	PKIKP	**PKPdf**	**21 24 29.1**	**-1.7**
KWP	**Kalwaria Pacla**	**154.28**	**325**	ePKP	**PKPab**	**21 24 56.0**	**+0.7**
KWP				ePKP	**PKPab**	**21 24 56.0**	**+0.7**
KWP	**Kalwaria Pacla**	**154.28**	**325**	PKPdf	**PKPdf**	**21 24 29.1**	**-1.7**
DOPR	**Dopca**	**154.94**	**316**	⇑P	**PKPab**	**21 24 59.1**	**+0.8**
STHS	**Stebnicka Huta**	**155.13**	**326**	ePKP2	**PKPab**	**21 24 59.1**	**+0.1**
STHS	**Stebnicka Huta**	**155.13**	**326**	ePKP	**PKPab**	**21 24 59.1**	**+0.1**
MTUR	**Matau**	**155.51**	**315**	⇑PKIKP	**PKPdf**	**21 24 29.9**	**-2.8**
MTUR	**Matau**	**155.51**	**315**	⇑P	**PKPdf**	**21 24 29.9**	**-2.8**
NIE	**Niedzica**	**155.58**	**327**	ePKP2	**PKPab**	**21 25 01.7**	**+0.8**
NIE	**Niedzica**	**155.58**	**327**	ePKP	**PKPab**	**21 25 01.7**	**+0.8**
NIE				ePKP	**PKPab**	**21 25 01.7**	**+0.8**
ARR	**Arges**	**155.70**	**315**	⇑P	**PKPab**	**21 25 02.5**	**+0.9**
HUMR	**Humele**	**155.89**	**313**	⇑P	**PKPab**	**21 25 01.9**	**-0.5**
DRGR		**156.04**	**320**	⇑PKP2	**PKPab**	**21 25 03.4**	**+0.3**
DRGR		**156.04**	**320**	⇑P	**PKPab**	**21 25 03.4**	**+0.3**
LANS	**Liptovska Anna**	**156.15**	**328**	ePKP2	**PKPab**	**21 25 04.2**	**+0.8**
LANS	**Liptovska Anna**	**156.15**	**328**	ePKP	**PKPab**	**21 25 04.2**	**+0.8**
KSP	**Ksiaz**	**156.18**	**335**	ePKP2	**PKPab**	**21 25 03.9**	**+0.5**
KSP	**Ksiaz**	**156.18**	**335**	ePKP	**PKPab**	**21 25 03.9**	**+0.5**
KSP				ePKP	**PKPab**	**21 25 03.9**	**+0.5**
CHVC	**Chvalec**	**156.48**	**334**	ePKPAB	**PKPab**	**21 25 04.8**	**+0.1**
UPC	**Upice**	**156.56**	**334**	ePKP2	**PKPab**	**21 25 05.4**	**+0.3**
UPC	**Upice**	**156.56**	**334**	ePKPAB	**PKPab**	**21 25 05.4**	**+0.3**
DPC	**Dobruska-Polom**	**156.57**	**334**	ePKP2	**PKPab**	**21 25 05.4**	**+0.2**
DPC	**Dobruska-Polom**	**156.57**	**334**	ePKPAB	**PKPab**	**21 25 05.4**	**+0.2**
KRLC	**Kraliky**	**156.61**	**333**	ePKP2	**PKPab**	**21 25 05.1**	**-0.2**
KRLC	**Kraliky**	**156.61**	**333**	ePKPAB	**PKPab**	**21 25 05.1**	**-0.2**
PLVB	**Pleven**	**156.65**	**311**	⇓P	**PKPab**	**21 25 05.3**	**-0.4**
CLL	**Collm**	**156.90**	**340**	⇑iPKP2	**PKPab**	**21 25 06.3**	**-0.2**
CLL				pmax	pmax		
	comp=Z,11nm,0.7s						
CLL	**Collm**	**156.90**	**340**	⇑iPKPab	**PKPab**	**21 25 06.3**	**-0.2**
	comp=Z,11nm,0.7s						
CLL	**Collm**	**156.90**	**340**	PKPdf	**PKPdf**	**21 24 30.4**	**-3.7**
VYHS	**Vyhne**	**156.92**	**328**	ePKP2	**PKPab**	**21 25 07.0**	**+0.3**
VYHS	**Vyhne**	**156.92**	**328**	ePKP	**PKPab**	**21 25 07.0**	**+0.3**
BRG	**Berggiesshubel**	**156.98**	**338**	ePKP	**PKPab**	**21 25 06.9**	**0.0**
	comp=Z,14nm,1.0s						
BRG	**Berggiesshubel**	**156.98**	**338**	ePKP2	**PKPab**	**21 25 06.9**	**0.0**
BRG				pmax	pmax		
	comp=Z,14nm,1.0s						
PVCC	**Panska Ves**	**157.06**	**336**	ePKP2	**PKPab**	**21 25 07.2**	**0.0**
PVCC	**Panska Ves**	**157.06**	**336**	ePKPAB	**PKPab**	**21 25 07.2**	**0.0**
HERR	**Herculane**	**157.29**	**316**	⇑P	**PKPab**	**21 25 08.7**	**+0.2**
SMOL	**Smolenice**	**157.54**	**329**	ePKP2	**PKPab**	**21 25 10.2**	**+0.8**
SMOL	**Smolenice**	**157.54**	**329**	ePKP	**PKPab**	**21 25 10.2**	**+0.8**
MODS	**Modra-Piesok**	**157.71**	**329**	ePKP2	**PKPab**	**21 25 11.7**	**+1.6**
MODS	**Modra-Piesok**	**157.71**	**329**	ePKP	**PKPab**	**21 25 11.7**	**+1.6**
MDVR	**Moldovita**	**157.76**	**317**	⇑P	**PKPab**	**21 25 10.3**	**-0.2**
VTS	**Vitosha**	**157.90**	**310**	⇑PKP2	**PKPab**	**21 25 12.0**	**+0.6**
VTS	**Vitosha**	**157.90**	**310**	⇑P	**PKPab**	**21 25 12.0**	**+0.7**
NKC	**Novy Kostel**	**158.02**	**339**	ePKP2	**PKPab**	**21 25 11.7**	**+0.3**
NKC	**Novy Kostel**	**158.02**	**339**	ePKPAB	**PKPab**	**21 25 11.7**	**+0.3**
KHC	**Kasperske Hory**	**158.59**	**336**	PKIKP	**PKPdf**	**21 24 33.2**	**-3.1**
KHC	**Kasperske Hory**	**158.59**	**336**	ePKPAB	**PKPab**	**21 25 13.8**	**-0.1**
KHC	**Kasperske Hory**	**158.59**	**336**	PKPdf	**PKPdf**	**21 24 33.2**	**-3.1**
CONA	**Conrad Observa**	**158.67**	**330**	PKPab	**PKPab**	**21 25 14.8**	**+0.4**
	comp=Z,6.5nm,0.7s						
GERES	**GERESS Array B**	**158.78**	**335**	PKPab	**PKPab**	**21 25 13.8**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=46,slow=5.8,SNR=12						
HGN	**Heimansgroeve**	**159.03**	**350**	ePKP	**PKPab**	**21 25 15.2**	**-0.4**
	comp=Z,17nm,0.8s						
MEM	**Membach**	**159.17**	**350**	PKPab	**PKPab**	**21 25 17.1**	**+0.8**
BCLA	**Clavier**	**159.46**	**351**	PKPab	**PKPab**	**21 25 16.9**	**-0.7**
BMRD	**Maredsous**	**159.64**	**352**	PKPab	**PKPab**	**21 25 17.9**	**-0.5**
WLF	**Walferdange**	**160.06**	**349**	PKPab	**PKPab**	**21 25 20.4**	**+0.2**
WTTA	**Wattenberg**	**160.86**	**336**	ePKPab	**PKPab**	**21 25 24.1**	**+0.1**
	comp=Z,5.5nm,0.9s						
RETA	**Reutte**	**160.96**	**338**	ePKPab	**PKPab**	**21 25 24.7**	**+0.3**
	comp=Z,6.2nm,0.8s,SNR=8.1						
MOTA	**Moosalm**	**160.97**	**337**	ePKPab	**PKPab**	**21 25 24.6**	**0.0**
	comp=Z,4.6nm,0.8s,SNR=4.6						
ABTA	**Abfaltersbach**	**160.97**	**334**	ePKPab	**PKPab**	**21 25 24.4**	**-0.1**
	comp=Z,9.5nm,1.1s						
SQTA	**Sankt Quirin**	**161.05**	**337**	ePKPab	**PKPab**	**21 25 24.8**	**0.0**
	comp=Z,6.0nm,0.7s,SNR=4.4						
FETA	**Feichten**	**161.38**	**337**	ePKPab	**PKPab**	**21 25 26.5**	**+0.2**
	comp=Z,9.0nm,1.1s,SNR=4.3						
DAVA	**Damuels**	**161.42**	**339**	ePKPab	**PKPab**	**21 25 26.7**	**+0.2**
	comp=Z,5.7nm,0.7s,SNR=4.6						
FUORN	**Ofenpass-Fuorn**	**161.89**	**338**	PKPdf	**PKPdf**	**21 24 37.7**	**-2.6**
FUORN					**PKPab**	**21 25 27.0**	**-1.7**
SENIN	**Lac Senin/Sane**	**162.98**	**343**	PKPdf	**PKPdf**	**21 24 39.4**	**-1.9**
SENIN					**PKPab**	**21 25 31.2**	**-2.2**
TORD	**Torodi Ar. Bea**	**163.00**	**184**	PKP	**PKPdf**	**21 24 41.6**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=207,slow=0.9,SNR=7.9						
TORD				pPKPab	**pPKPab**	**21 27 09.5**	**+3.5**
	comp=Z,2.9nm,0.9s,baz=142,slow=1.6,SNR=7.3						
ESDC	**Sonseca Array**	**169.89**	**19**	PKP	**PKPdf**	**21 24 46.7**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=340,slow=3.8,SNR=6.1						
ESDC				PKPab	**PKPab**	**21 26 03.9**	**0.0**
	comp=Z,1.5nm,0.9s,baz=332,slow=4.8,SNR=6.7						

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*IDC **03** 21:08:01.8±2.8, 19.°06S×72.°86W, h0km, mb3.6/1, mb1 3.9/3, mb1mx3.6/32, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=228.2km s-min=44.8km az=153.0*

*GUC **03** 21:08:17.7±0.5, 17.°79S×72.°13W, h49km±999km, ML3.3*

ISC 03 21:08:14.2±2.2**, 17.°80S**±0.°09×**72.°4W**±0.°1**, h35**km**, n18, σ1.s89**/19**, 2C-1D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**2.83**	**130**	⇓iP	**Pn**	**21 08 58.8**	**+1.7**
PSGC				i S	**Sn**	**21 09 30.0**	**-0.1**
PSGC				IAML		21 09 34.0	
	comp=N,57nm,0.5s						
PSGC				IAML		21 09 38.6	
	comp=E,47nm,0.2s						
PB16	**IPOC Station P**	**2.84**	**101**	⇑iP	**Pn**	**21 08 58.9**	**+1.2**
PB16				i S	**Sn**	**21 09 29.9**	**-1.0**
PB16				IAML		21 09 30.8	
	comp=N,114nm,0.2s						
MNMC	**Minye Minye**	**3.01**	**117**	eP	**Pn**	**21 09 01.5**	**+1.8**
MNMC				eS	**Sn**	**21 09 34.4**	**-0.3**
MNMC				IAML		21 09 37.1	
	comp=E,313nm,0.2s						
PB11	**IPOC Station P**	**3.28**	**127**	eP	**Pn**	**21 09 05.2**	**+1.9**
PB11				i S	**Sn**	**21 09 41.0**	**-0.3**
PB11				IAML		21 09 44.2	
	comp=E,132nm,0.4s						
TA01	**Diego Aracena**	**3.49**	**143**	eP	**Pn**	**21 09 08.3**	**+2.4**
TA01				i S	**Sn**	**21 09 44.5**	**-1.6**
TA01				IAML		21 09 45.8	
	comp=N,77nm,0.4s						
PB08	**IPOC Station P**	**3.89**	**127**	eP	**Pn**	**21 09 14.0**	**+2.1**
PB08				i S	**Sn**	**21 09 57.0**	**+0.5**
PB08				IAML		21 09 58.6	
	comp=N,64nm,0.1s						
PB01	**IPOC Station P**	**4.27**	**140**	eP	**Pn**	**21 09 18.9**	**+2.0**
PB01				i S	**Sn**	**21 10 03.4**	**-2.1**
LPAZ	**La Paz**	**4.39**	**71**	Pn	**Pn**	**21 09 21.9**	**+3.0**
	comp=N,1.2nm,0.3s,baz=253,slow=10,SNR=27						
PB04	**IPOC Station P**	**5.00**	**155**	⇑iP	**Pn**	**21 09 29.7**	**+2.6**
PB04				i S	**Sn**	**21 10 22.2**	**-1.5**
SIV	**San Ignacio**	**11.03**	**82**	Pn	**Pn**	**21 10 48.8**	**-0.8**
	baz=284,slow=13						
TORD	**Torodi Ar. Bea**	**79.34**	**72**	P	**P**	**21 20 14.9**	**-2.1**
	comp=N,0.6nm,1.0s,baz=248,slow=6.7,SNR=3.8						
H11N3	**WAKE ISLAND Hyl**	**24.02**	**282**	T	T	23 43 45.0	
	baz=98						
H11S2	**WAKE ISLAND Hyl**	**24.02**	**281**	T	T	23 43 51.0	
	baz=101						
H11S1	**WAKE ISLAND Hyl**	**24.03**	**281**	T	T	23 44 07.4	
	baz=101						
H11N2	**WAKE ISLAND Hyl**	**24.03**	**282**	T	T	23 43 36.3	
	baz=98						
H11N1	**WAKE ISLAND Hyl**	**24.03**	**282**	T	T	23 43 37.0	
	baz=98						
H11S3	**WAKE ISLAND Hyl**	**24.04**	**281**	T	T	23 44 09.4	
	baz=101						
WRA	**Warramunga Arr**	**134.20**	**216**	PKP	PKPdf	21 27 18.9	-10
	comp=N,0.2nm,0.7s,baz=136,slow=2.6,SNR=2.7						

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*ISCJB **03** 21:09:56.2±0.6, 18.°0S±0.°1×178.°2W±0.°1, h590km, mb3.8/12, Error ellipse: s-maj=16.5km s-min=14.5km az=176.5*

*IDC **03** 21:09:59.3±3.0, 18.°05S×178.°18W, h610km±34km, mb3.3/12, mb1 3.4/13, mb1mx3.2/45, mbtmp4.3/13, Error ellipse: s-maj=20.6km s-min=17.2km az=152.0*

ISC 03 21:09:57.1±0.6**, 18.°0S**±0.°1×**178.°1W**±0.°1**, h590**km**, n23, σ0.s78**/25**, mb3.9**/12**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.04**	**252**	P	**P**	**21 13 06.1**	**-0.1**
	0.4nm,0.3s,baz=90,slow=20,SNR=4.5						
PPT2	**Papeete2**	**27.19**	**94**	eLR	LR	21 15 23.3	
	comp=Z,58nm,26.5s						
STKA	**Stephens Creek**	**38.81**	**241**	P	**P**	**21 16 34.0**	**+1.3**
	2.3nm,0.9s,baz=109,slow=18,SNR=2.7						
WRA	**Warramunga Arr**	**44.87**	**260**	P	**P**	**21 17 20.6**	**+0.2**
	1.3nm,0.5s,baz=96,slow=7.4,SNR=8.4						
WRA				PcP	**PcP**	**21 18 49.7**	**+0.5**
	1.1nm,0.9s,baz=90,slow=3.7,SNR=5.5						
ASAR	**Alice Springs**	**45.02**	**254**	P	**P**	**21 17 22.1**	**+0.5**
	5.2nm,0.6s,baz=88,slow=8.6,SNR=21						
ASAR				PcP	**PcP**	**21 18 50.1**	**+0.3**
	1.2nm,0.4s,baz=104,slow=4.0,SNR=6.5						
ASAR				S	**S**	**21 23 17.5**	**-0.9**
	0.6nm,0.8s,baz=86,slow=16,SNR=4.5						
SIJI	**Sorong**	**52.50**	**283**	P	**P**	**21 18 17.4**	**+0.4**
	8.5nm,0.7s,baz=87,slow=9.9,SNR=4.7						
MJAR	**Matsushiro Arr**	**68.12**	**323**	P	**P**	**21 20 00.1**	**+0.7**
	0.8nm,0.4s,baz=142,slow=5.0,SNR=3.6						
QSPA	**South Pole Qui**	**72.06**	**180**	P	**P**	**21 20 22.7**	**+0.4**
	2.8nm,0.6s,baz=299,slow=2.5,SNR=6.2						
PMSA	**Palmer Station**	**83.63**	**157**	P	**P**	**21 21 23.3**	**-0.9**
	4.9nm,0.8s,baz=304,slow=7.4,SNR=6.0						
MAW	**Mawson**	**83.87**	**200**	P	**P**	**21 21 25.4**	**+0.1**
	1.8nm,0.7s,baz=148,slow=9.5,SNR=2.7						
SEY	**Seymchan**	**83.91**	**347**	P	**P**	**21 21 25.2**	**-0.1**
	1.0nm,0.2s,baz=180,slow=20,SNR=3.3						
TXAR	**Lajitas Array**	**85.82**	**58**	P	**P**	**21 21 37.3**	**+1.7**
	0.4nm,0.7s,baz=236,slow=6.4,SNR=2.4						
ILAR	**Eielson Array**	**85.91**	**13**	P	**P**	**21 21 34.8**	**-0.3**
	0.3nm,0.4s,baz=220,slow=5.0,SNR=5.5						
CMAR	**Chiang Mai Arr**	**89.15**	**290**	P	**P**	**21 21 50.3**	**-1.0**
	0.4nm,0.2s,baz=90,slow=2.7,SNR=5.0						
SNAA	**Sanae**	**90.51**	**179**	P	**P**	**21 21 56.1**	**-0.6**
VNA3	**Neumayer Olymp**	**90.64**	**176**	P	**P**	**21 21 57.1**	**-0.1**
VNA2	**Neumayer--Watz**	**91.08**	**177**	P	**P**	**21 21 59.7**	**+0.5**
	baz=195,slow=3.1						
VNA1	**Neumayer--Stat**	**91.31**	**177**	P	**P**	**21 21 59.4**	**-0.8**
MKAR	**Makanchi Array**	**109.38**	**314**	PKiKP	**PKiKP**	**21 27 20.5**	**-0.7**
	0.4nm,0.8s,baz=154,slow=0.9,SNR=4.6						
KURBB	**Kurchatov Arra**	**112.11**	**318**	PKiKP	**PKiKP**	**21 27 25.4**	**-0.8**
	0.3nm,0.4s,baz=104,slow=1.3,SNR=3.2						
BVAR	**Borovoye Array**	**117.07**	**321**	PKP	**PKPdf**	**21 27 34.4**	**-1.3**
	0.4nm,0.4s,baz=159,slow=1.9,SNR=4.2						
BRTR	**Keskin Array B**	**145.02**	**315**	PKPbc	**PKPab**	**21 28 30.0**	**-0.4**
	2.0nm,0.7s,baz=138,slow=3.6,SNR=5.9						
GERES	**GERESS Array B**	**147.76**	**345**	PKPbc	**PKiKP**	**21 28 37.2**	**-0.7**
	1.3nm,0.5s,baz=35,slow=3.0,SNR=10						

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*ISCJB **03** 21:13:26.8±0.4, 14.°14S±0.°06×74.°54W±0.°08, h98km, mb3.9/6, Error ellipse: s-maj=13.0km s-min=4.8km az=141.3*

*NEIC **03** 21:13:27.5±1.9, 14.°04S±0.°06×74.°38W±0.°07, h90km±6km, mb4.3/7*

*IDC **03** 21:13:28.3±1.7, 13.°98S×74.°42W, h93km±16km, mb3.7/7, mb1 3.9/12, mb1mx3.7/36, mbtmp4.1/12, MS2.9/3, Ms1 2.9/3, ms1mx2.5/25, Error ellipse: s-maj=27.3km s-min=14.4km az=51.0*

ISC 03 21:13:27.6±0.5**, 14.°14S**±0.°07×**74.°48W**±0.°08**, h98**km**, n40, σ2.s18**/43**, mb4.0**/9**, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.14**	**313**	P	**Pn**	**21 14 14.5**	**-0.8**
	97nm,0.3s,baz=136,slow=12,SNR=74						
NNA				S	**Sn**	**21 14 50.5**	**-1.6**
	88nm,0.3s,baz=62,slow=18,SNR=9.5						
NNA	**Nana**	**3.14**	**313**		**Pn**	**21 14 14.3**	**-1.0**
NNA					Sn	21 14 42.0	-10
LPAZ	**La Paz**	**6.49**	**110**	P	**Pn**	**21 15 03.3**	**+2.1**
	6.7nm,0.3s,baz=314,slow=8.8,SNR=63						
LPAZ				S	**Sn**	**21 16 17.4**	**+3.2**
	baz=204,slow=19,SNR=2.6						
LPAZ	**La Paz**	**6.49**	**110**		**Pn**	**21 15 02.8**	**+1.6**
MNMC	**Minye Minye**	**6.82**	**137**		**Pn**	**21 15 05.7**	**+0.3**
MNMC				Sn	**Sn**	**21 16 16.7**	**-5.1**
PB11	**IPOC Station P**	**7.25**	**141**		**Pn**	**21 15 10.6**	**-0.4**
PB11					**Sn**	**21 16 26.9**	**-5.0**
GO01	**Chusmiza**	**7.47**	**138**		**Pn**	**21 15 15.1**	**+0.7**
ATAH	**Atahualpa**	**7.95**	**331**	P	**Pn**	**21 15 21.3**	**+0.4**
	1.3nm,0.3s,baz=184,slow=7.7,SNR=5.8						
ATAH				S	**Sn**	**21 16 51.0**	**+1.5**
	0.9nm,0.3s,baz=139,slow=20,SNR=2.3						
PB01	**IPOC Station P**	**8.35**	**146**	Pn	**Pn**	**21 15 26.8**	**+0.8**
PB04	**IPOC Station P**	**9.13**	**154**	Pn	**Pn**	**21 15 37.2**	**+0.5**
LVC	**Limon Verde**	**9.95**	**149**	P	**Pn**	**21 15 49.4**	**+1.5**
	0.6nm,0.3s,baz=328,slow=12,SNR=4.9						
LVC				S	**Sn**	**21 17 34.0**	**-3.9**
	0.5nm,0.3s,baz=252,slow=20,SNR=5.1						
LVC				LR	LR	21 19 08.6	
	comp=Z,59nm,18.6s,baz=290,slow=34						
LVC	**Limon Verde**	**9.95**	**149**		**Pn**	**21 15 48.9**	**+1.0**
PB10	**IPOC Station P**	**10.04**	**159**	Pn	**Pn**	**21 15 49.3**	**+0.5**
SAML	**Samuel**	**12.21**	**66**		**Pn**	**21 16 14.1**	**-4.2**
SIV	**San Ignacio**	**13.08**	**100**	P	**Pn**	**21 16 28.8**	**-0.9**
	0.9nm,0.3s,baz=303,slow=11,SNR=8.3						
SIV				LR	LR	21 21 15.1	
	comp=Z,39nm,19.4s,baz=289,slow=36						
CPUP	**Villa Florida**	**20.12**	**130**	P	**P**	**21 17 55.3**	**+1.5**
	3.7nm,0.9s,baz=321,slow=12,SNR=5.1						
CPUP	**Villa Florida**	**20.12**	**130**	IAmb	IAmb	21 17 56.4	
	comp=Z,3.5nm,0.8s						
SDV	**Santo Domingo**	**23.19**	**10**	P	**P**	**21 18 26.1**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=270,slow=2.0,SNR=4.5						
GO06	**Curarrehue**	**25.48**	**175**	P	**P**	**21 18 44.5**	**-2.3**
GO06				IAmb	IAmb	21 18 50.2	
	comp=Z,8.3nm,1.1s						
MDP	**Montagnes des**	**28.89**	**50**	LR	LR	21 30 22.9	
	comp=Z,28nm,19.0s,baz=166,slow=35						
OBIP	**Obispado Ponce**	**32.91**	**14**	P	**P**	**21 19 48.6**	**-4.1**
TXAR	**Lajitas Array**	**51.59**	**327**	P	**P**	**21 22 24.7**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=144,slow=8.4,SNR=7.1						
U40A	**Yellville**	**53.14**	**341**	P	**P**	**21 22 34.3**	**-1.1**
U40A				IAmb	IAmb	21 22 35.6	
	comp=Z,4.9nm,0.8s						
ULM	**Lac du Bonnet**	**66.81**	**345**	P	**P**	**21 24 08.2**	**-0.5**
	comp=Z,3.3nm,0.4s,baz=193,slow=7.2,SNR=5.8						
ULM	**Lac du Bonnet**	**66.81**	**345**	IAmb	IAmb	21 24 10.7	
	comp=Z,10nm,1.2s						
VNA3	**Neumayer Olymp**	**68.70**	**162**	P	**P**	**21 24 22.7**	**+2.4**
VNA1	**Neumayer--Stat**	**68.95**	**161**	P	**P**	**21 24 25.6**	**+3.8**
VNA2	**Neumayer--Watz**	**69.30**	**161**	P	**P**	**21 24 26.4**	**+2.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=271,slow=6.2						
SNAA	Sanae	70.92	161	P	P	21 24 36.3	+2.3
SNAA	Sanae	70.92	161	P	P	21 24 36.1	+2.1
SNAA				IAmb	IAmb	21 24 36.6	
	comp=Z,3.1nm,0.8s						
QSPA	South Pole Qui	76.01	180	P	P	21 25 06.6	+2.6
	comp=Z,1.0nm,0.5s,baz=165,slow=2.3,SNR=3.6						
QSPA	South Pole Qui	76.01	180	P	P	21 25 05.7	+1.7
QSPA				IAmb	IAmb	21 25 07.0	
	comp=Z,1.5nm,0.8s						
TORD	Torodi Ar. Bea	80.16	74	P	P	21 25 27.7	0.0
	comp=Z,1.1nm,0.7s,baz=256,slow=3.3,SNR=7.5						
ESDC	Sonseca Array	84.53	47	P	P	21 25 51.4	+1.3
	comp=Z,0.9nm,0.8s,baz=252,slow=4.9,SNR=5.6						
ASAR	Alice Springs	133.29	217	PKP	PKPdf	21 32 34.0	+0.9
	comp=Z,0.4nm,0.6s,baz=120,slow=2.2,SNR=7.2						
WRA	Warramunga Arr	135.83	221	PKP	PKPdf	21 32 38.8	+1.0
	comp=Z,0.6nm,0.5s,baz=135,slow=2.1,SNR=8.8						
ZALV	Zalesovo Beam	137.07	18	PKP	PKiKP	21 32 40.3	-0.6
	comp=Z,2.3nm,0.7s,baz=269,slow=2.7,SNR=11						
MKAR	Makanchi Array	142.08	26	PKP	PKPdf	21 32 49.3	+0.9
	comp=Z,0.6nm,0.7s,baz=29,slow=5.5,SNR=4.4						
SONM	Songino Array	146.40	359	PKPbc	PKPab	21 32 58.5	+0.1
	comp=Z,3.7nm,0.8s,baz=342,slow=2.4,SNR=26						
KSRS	Korea Array	149.40	323	PKPbc	PKPbc	21 33 06.0	+0.4
	comp=Z,1.4nm,0.7s,baz=324,slow=1.3,SNR=5.7						

*ISCJB **03** 21:19:14.8±0.6, 37°.54N±0°.03×20°.69E±0°.02, h20km±5km, Error ellipse: s-maj=5.2km s-min=3.3km az=179.9*
*ATH **03** 21:19:16.4, 37°.64N×20°.88E, h18km±1km, ML3.0/15, Error ellipse: s-maj=1.8km s-min=0.9km az=34.0*
*THE **03** 21:19:16.1, 37°.62N×20°.85E, h6km±1km, ML3.1/7, Error ellipse: s-maj=1.8km s-min=0.8km az=46.0*
ISC 03 21:19:16.0±1.0, **37°.61N**±0°.03×**20°.81E**±0°.03, **h26**km±9km, **n67**, σ**1.s33**/91, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLMS	Volimes, Zakyn	0.29	337	P	Pb	21 19 22.8	-0.2
VLMS				S	Sb	21 19 27.7	-0.1
VLMS				AML	AML	21 19 31.2	
	comp=E,14922μm,0.2s						
VLMS				AML	AML	21 19 33.4	
	comp=N,11926μm,0.4s						
VLS	Valsamata	0.59	343	P	Pb	21 19 26.9	-0.9
VLS				S	Sb	21 19 36.2	+0.4
	comp=N,1μm,0.2s						
VLS	Valsamata	0.59	343	P	Pb	21 19 27.4	-0.4
VLS				S	Sb	21 19 36.3	+0.5
VLS				AML	AML	21 19 40.3	
	comp=N,2676μm,0.4s						
VLS				AML	AML	21 19 42.3	
	comp=E,2684μm,0.2s						
RLS	Riolos of Patr	0.69	49	P	Pb	21 19 28.4	-0.9
RLS				S	Sb	21 19 38.3	-0.2
	comp=E,1μm,0.5s						
RLS	Riolos of Patr	0.69	49	P	Pb	21 19 28.5	-0.9
RLS				S	Sb	21 19 37.7	-0.8
RLS				AML	AML	21 19 38.8	
	comp=N,3550μm,0.6s						
RLS				AML	AML	21 19 41.5	
	comp=E,1579μm,0.4s						
AMT	Artemida-Makis	0.72	96	P	Pb	21 19 29.6	-0.4
AMT				S	Sb	21 19 40.0	+0.5
	comp=E,1μm,0.6s						
AMT	Artemida-Makis	0.72	96	P	Pb	21 19 29.8	-0.1
AMT				S	Sb	21 19 39.1	-0.4
AMT				AML	AML	21 19 44.1	
	comp=E,3264μm,0.8s						
AMT				AML	AML	21 19 44.5	
	comp=N,2427μm,0.5s						
DRO	Drossia	0.79	64	P	Pb	21 19 30.4	-0.7
DRO				S	Sb	21 19 41.0	-0.6
	comp=N,2μm,0.5s						
DRO	Drossia	0.79	64	P	Pb	21 19 30.5	-0.7
DRO				AML	AML	21 19 47.5	
	comp=N,4161μm,0.5s						
DRO				AML	AML	21 19 53.0	
	comp=E,3710μm,0.5s						
ITM	Ithomi	0.99	115	P	Pb	21 19 34.7	+0.2
ITM				AML	AML	21 19 56.8	
	comp=N,774μm,0.5s						
ITM				AML	AML	21 20 00.1	
	comp=E,803μm,0.4s						
EVGI	Lefkada island	1.01	353	P	Pn	21 19 34.5	0.0
EVGI				S	Sn	21 19 50.6	+2.6
	comp=E,465nm,0.5s						
EVGI	Lefkada island	1.01	353	P	Pb	21 19 35.3	+0.4
UPR	University Cam	1.02	49	P	Pn	21 19 34.1	-0.6
PDO	Prodromos	1.03	17	P	Pn	21 19 35.1	+0.4
PDO	Prodromos	1.03	17	P	Pn	21 19 34.9	+0.2
PYL	PYLOS	1.03	133	P	Pb	21 19 35.4	+0.2
PYL	PYLOS	1.03	133	P	Pb	21 19 35.6	+0.4
LAKA	Lakka	1.12	56	P	Pn	21 19 36.0	0.0
LAKA	Lakka	1.12	56	P	Pn	21 19 36.1	0.0
LAKA				S	Sb	21 19 51.5	+0.6
LAKA				AML	AML	21 20 03.4	
	comp=E,1046μm,0.6s						
LAKA				AML	AML	21 20 10.2	
	comp=N,909μm,1.4s						
KLV	Kalavryta, Ach	1.15	68	P	Pn	21 19 36.6	+0.2
KLV	Kalavryta, Ach	1.15	68	P	Pn	21 19 36.9	+0.5
KLV				AML	AML	21 20 02.4	
	comp=E,668μm,0.7s						
KLV				AML	AML	21 20 06.3	
	comp=N,709μm,0.7s						
PVO	Paravola	1.15	29	P	Pn	21 19 37.0	+0.6
PVO	Paravola	1.15	29	P	Pb	21 19 37.5	+0.2
PVO				AML	AML	21 19 60.0	
	comp=N,2108μm,0.5s						
PVO				AML	AML	21 20 02.2	
	comp=E,2263μm,0.5s						
LKD2	Lefkada island	1.18	354	P	Pb	21 19 37.8	0.0
LKD2				S	Sb	21 19 56.1	+3.4
	comp=E,1μm,0.6s						
LKD2	Lefkada island	1.18	354	P	Pb	21 19 38.4	+0.6
LKD2				S	Sb	21 19 54.7	+2.1
LKD2				AML	AML	21 20 00.7	
	comp=E,2419μm,0.6s						
LKD2				AML	AML	21 20 03.5	
	comp=N,2117μm,0.6s						
EFP	Efpalio	1.19	47	P	Pn	21 19 37.4	+0.5
EFP	Efpalio	1.19	47	P	Pn	21 19 37.5	+0.5
EFP				AML	AML	21 19 59.4	
	comp=E,1091μm,0.4s						
EFP				AML	AML	21 20 00.5	
	comp=N,1722μm,0.5s						
TSLK	Tsoukalades, L	1.22	354	P	Pb	21 19 39.5	+1.1
TSLK				S	Sb	21 19 56.4	+2.7
	comp=N,1μm,0.8s						
TSLK	Tsoukalades, L	1.22	354	P	Pb	21 19 38.3	0.0
TSLK				S	Sb	21 19 55.4	+1.7
ALIK	Aliki, Aigiali	1.22	57	P	Pb	21 19 38.6	+0.2
TRIZ	Trizonia	1.25	53	P	Pb	21 19 38.7	-0.2
TRIZ	Trizonia	1.25	53	P	Pb	21 19 38.7	-0.2
SERG	Sergoula	1.27	51	P	Pn	21 19 38.6	+0.5
SERG	Sergoula	1.27	51	P	Pn	21 19 38.5	+0.5
SERG				AML	AML	21 20 04.3	
	comp=N,1380μm,0.3s						
SERG				AML	AML	21 20 07.4	
	comp=E,1403μm,0.6s						
VLX	Vlachokerasia	1.27	100	P	Pb	21 19 40.0	+0.6
VLX				AML	AML	21 20 08.7	
	comp=N,901μm,0.7s						
VLX				AML	AML	21 20 10.1	
	comp=E,1007μm,0.5s						
KALE	Kalithea	1.31	53	P	Pn	21 19 39.3	+0.7
KALE	Kalithea	1.31	53	P	Pn	21 19 39.4	+0.8
KALE				S	Sb	21 19 57.4	+1.0
KALE				AML	AML	21 20 07.7	
	comp=N,1953μm,0.7s						
KALE				AML	AML	21 20 08.9	
	comp=E,925μm,0.7s						
EVR	Evrytania	1.52	31	P	Pb	21 19 44.9	+1.3
THAL	Thalero	1.53	73	P	Pb	21 19 44.8	+1.1
MAKR	Makrakomi, Fth	1.75	36	P	Pb	21 19 47.6	+0.3
MAKR				AML	AML	21 20 19.0	
	comp=N,988μm,0.7s						
MAKR				AML	AML	21 20 19.1	
	comp=E,1176μm,0.8s						
AGG	Agios Georgios	1.85	40	P	Pb	21 19 49.2	+0.1
AXAR	Agios Charalam	1.86	51	P	Pb	21 19 49.3	0.0
VLI	Veliai	1.92	117	P	Pb	21 19 49.9	-0.5
DID	Didima	1.94	92	P	Pn	21 19 48.8	+1.6
IGT	Igoumenitsa	1.95	349	P	Pn	21 19 48.5	+1.1
IGT	Igoumenitsa	1.95	349	P	Pb	21 19 51.0	+0.1
LKR	Lokris	2.02	58	P	Pb	21 19 50.7	-1.2
THL	Klokotos Trika	2.17	26	P	Pb	21 19 53.3	-1.3
KEK	Kerkira	2.24	340	P	Pn	21 19 52.8	+1.4
VLY	Voula,Athens	2.38	83	P	Pn	21 19 55.3	+2.0
ATHU	Athens Univers	2.39	81	P	Pn	21 19 55.1	+1.7
STIP	Stip	4.21	14	*i* Pn	Pn	21 20 22.4	+3.9
HAGA	Augusta	4.51	268	P	Pn	21 20 22.2	-0.4
HAGA				S	Sn	21 21 13.0	-1.1
HAVL	Avola	4.58	264	P	Pn	21 20 23.9	+0.3
HAVL				S	Sn	21 21 14.8	-1.0
HAVL				AML	AML		
	comp=E,248μm,1.2s						
HAVL				AML	AML		
	comp=N,229μm,0.2s						
HPAC	Pachino	4.64	260	P	Pn	21 20 26.2	+1.9
HPAC				S	Sn	21 21 16.9	-0.4
MEU	Monte Lauro	4.71	266	P	Pn	21 20 26.2	+0.8
MEU				S	Sn	21 21 19.1	-0.2
MEU				AML	AML		
	comp=E,200μm,1.6s						
MEU				AML	AML		
	comp=N,265μm,1.5s						
HMDC	Modica	4.85	264	P	Pn	21 20 27.4	+0.2
HMDC				AML	AML		
	comp=E,146μm,0.8s						
HMDC				AML	AML		
	comp=N,209μm,1.3s						
HVZN	Vizzini	4.87	267	P	Pn	21 20 27.6	+0.1
HVZN				S	Sn	21 21 21.3	-1.8
HVZN				AML	AML		
	comp=E,653μm,1.6s						
HVZN				AML	AML		
	comp=N,850μm,0.6s						
HBSP	Bosco Santo Pi	5.05	266	P	Pn	21 20 30.4	+0.4
HBSP				S	Sn	21 21 25.8	-1.8
CLTA	Licata	5.47	267	P	Pn	21 20 37.3	+1.5
STON	Ston	5.77	337	*i* Pn	Pn	21 20 39.4	-0.4
STON				Sn	Sn	21 21 42.4	-2.6
MAKA	Makarska	6.36	334	*e*Pn	Pn	21 20 48.0	0.0
MAKA				Sn	Sn	21 21 56.4	-3.3
HVAR	Hvar	6.48	330	*e*Pn	Pn	21 20 49.5	0.0
HVAR				Sn	Sn	21 21 58.4	-4.2
RICI	Ricice	6.51	336	ePn		21 20 49.2	
ZIRJ	Zirje	7.20	329	*e*Pn	Pn	21 20 59.2	-0.3
ZIRJ				Sn	Sn	21 22 15.9	-4.4
DUGI	Dugi Otok	7.72	327	*e*Pn	Pn	21 21 07.3	+0.7
UDBI	Udbina	7.89	333	*i* Pn	Pn	21 21 10.5	+1.5

PRU 03 21:22:58.6±0.0, **49°.78N**×**18°.58E**, **h0**km, **Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.29	282	*e*PG	Pg	21 23 03.8	-0.3
OKC				*e*SG	Sg	21 23 08.1	+0.3
MORC	Moravsky Berou	0.67	270	*e*PG	Pg	21 23 11.6	+0.1
MORC				*e*SG	Sg	21 23 20.0	-0.2
KRLC	Kraliky	1.20	285	*e*SG	Sg	21 23 35.9	-1.2
DPC	Dobruska-Polom	1.56	292	*e*SG	Sn	21 23 48.2	-0.5

*MEX **03** 21:32:04.4±0.6, 13°.90N×93°.00W, h20km, MD3.9*
*GCG **03** 21:32:05.6±0.3, 14°.18N×92°.71W, h5km, MD3.8*
ISC 03 21:32:06.6±3.7, **14°.1N**±0°.2×**92°.9W**±0°.2, **h37**km, **n6**, σ**0.s53**/8, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		0.98	36	*i* P	Pn	21 32 24.0	+0.2
STG3	Santiaguito 3,	1.38	64	*e*P	Pn	21 32 28.5	-1.0
PCIG		1.62	348	*e*P	Pn	21 32 32.4	-0.2
PCIG				*i* S	Sn	21 32 52.1	-0.1
FUG	Fuego 3	1.98	80	*e*P	Pn	21 32 37.9	+0.1
FUG				*i* S	Sn	21 33 01.7	+0.2
CCIG	Comitan	2.27	18	*i* P	Pn	21 32 42.0	+0.4
IXG	Ixpaco	2.35	88	*e*P	Pn	21 32 43.1	+0.3

*ISCJB **03** 21:50:05.8±0.9, 37°.01N±0°.03×42°.10E±0°.05, h8km±6km, Error ellipse: s-maj=6.9km s-min=5.0km az=150.8*
*ISK **03** 21:50:05.3, 37°.02N×42°.09E, h8km, ML2.8/7*
*ISN **03** 21:50:05.5±0.5, 37°.03N×42°.27E, h0km±2km, ML2.6*
ISC 03 21:50:06.1±2.7, **37°.06N**±0°.05×**42°.15E**±0°.04, **h8**km±20km, **n12**, σ**0.s90**/19, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIRT	Sirnak	0.50	28	PG	Pb	21 50 16.4	-0.8
SIRT				SG	Sb	21 50 24.8	+0.2
MSL	Mosul	1.02	130	*e*Pg	Pn	21 50 26.0	-0.6
MSL				AML	AML	21 50 26.7	
	comp=Z,243nm,0.4s						
MSL				*e*Sg	Sn	21 50 40.0	-1.1
CUKT	Cukurca	1.18	80	PN	Pn	21 50 29.3	+0.3
CUKT				SN	Sn	21 50 47.1	+1.7
MAZI	Mazidag	1.41	287	PN	Pn	21 50 31.8	-0.4
MAZI				SN	Sb	21 50 50.6	-0.4
AKDM	Akdamar-Van	1.43	27	PN	Pb	21 50 32.9	-0.2
GURO	Guroymak-BITLI	1.49	357	PN	Pn	21 50 33.7	+0.4
GURO				SN	Sg	21 50 54.4	+0.3
DYBB	Diyarbakir	1.83	300	PN	Pn	21 50 37.4	-0.5
VRTB	Varto-Mus	2.17	346	PN	Pn	21 50 43.1	+0.5
BNGB	Bingl	2.25	329	PN	Pn	21 50 43.9	+0.2
KARO	Karliova-Bingo	2.41	339	PN	Pn	21 50 46.1	+0.2
IKRK	Kirkuk	2.43	132	*e*Pn	Pn	21 50 46.0	0.0
IKRK				*e*Sn	Sn	21 51 15.0	-0.9
RTB	Rutbah	4.29	201	*e*Pn	Pn	21 51 14.0	+2.2
RTB				*e*Sn	Sn	21 52 02.0	0.0

*BJI **03** 22:01:13.8±0.0, 24°.06N×143°.28E, h6km, mb5.1/78, mB5.3/77, Ms5.4/92, Ms7 5.3/84*
*IDC **03** 22:01:14.1±0.5, 23°.89N×143°.39E, h0km, mb4.6/31, mb1 4.7/34, mb1mx4.6/43, mbtmp4.6/34, ML4.1/3, MS5.0/35, Ms1 5.0/35, ms1mx4.9/40, Error ellipse: s-maj=16.4km s-min=9.3km az=91.0*
*ISCJB **03** 22:01:14.2±0.8, 23°.96N±0°.02×143°.39E±0°.04, h9km±4km, mb5.1/112, MS5.2/91, Error ellipse: s-maj=5.5km s-min=3.4km az=174.4*
*JMA **03** 22:01:15.2±0.1, 23°.99N×143°.54E, h8km, M5.8*
*MOS **03** 22:01:15.8±1.0, 23°.94N×143°.33E, h20km, mb5.4/38, MS5.3/20, Error ellipse: s-maj=10.1km s-min=5.0km az=108.6*
*NEIC **03** 22:01:15.6±2.2, 23°.96N±0°.06×143°.26E±0°.10, h9km±1km, mb5.3/140, Ms_20 5.1/576, Mwb5.4, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.57; $M_{\theta\theta}$-0.24; $M_{\phi\phi}$-0.33; $M_{r\theta}$-0.10; $M_{\theta\phi}$0.08; $M_{\phi r}$1.61; Fault plane solution: $M_0$1.69000×10^{17} NP1:ϕ_s157.87000°, δ8.31000°, λ72.59000°. NP2:ϕ_s355.45000°, δ82.08000°, λ92.50000°. Principal axes: T 1.7942, Plg53.0000°, Azm268.0000°; N -0.2260, Plg2.0000°, Azm175.0000°; P -1.5682, Plg37.0000°, Azm83.0000°;*
*GCMT **03** 22:01:18.6±0.1, 23°.96N±0°.01×143°.65E±0°.01, h20km, MW5.3/127, Moment Tensor Solution. s93, c146; s127, c202; Duration: 1.s0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.54±.01; $M_{\theta\theta}$-0.08±.01; $M_{\phi\phi}$-0.46±.01; $M_{r\theta}$-0.26±.02; $M_{\theta\phi}$0.19±.01; $M_{\phi r}$0.77±.02; Best double couple: $M_0$0.97900×10^{17} NP1:ϕ_s341.00000°, δ73.00000°, λ92.00000°. NP2:ϕ_s154.00000°, δ17.00000°, λ84.00000°. Principal axes: T 0.9790, Plg62.0000°, Azm254.0000°; N 0.0000, Plg2.0000°, Azm160.0000°; P -0.9790, Plg28.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 22:01:18.5±0.6, **23°.92N**±0°.03×**143°.28E**±0°.04, **h26**km±3km, **n680**, σ**2.s10**/443, **mb5.2**/156, **MS5.1**/369, **23C-11D**, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	2.88	340	P	Pn	22 02 03.1	+0.4
JHH2				S	Sn	22 02 38.0	+1.5
CBIJ	Chichi jima	3.31	343	P	Pn	22 02 09.0	+0.3
CBIJ				S	Sn	22 02 48.4	+1.2
JCJ	Chichijima	3.31	343	Pn	Pn	22 02 08.8	+0.1
	44nm,0.3s,baz=288,slow=22,SNR=37						
JCJ				Sn	Sn	22 02 48.6	+1.4
	64nm,0.3s,baz=274,slow=22,SNR=4.8						
SARN	Sarigan	7.56	161		Pn	22 03 08.4	+1.3
ANA2	Anatahan	7.88	163	Pn	Pn	22 03 12.8	+1.3
JHJ2	Mitsune	9.65	342	Pn	Pn	22 03 34.2	-1.5
JHJ2				Sn	Sn	22 05 17.1	-6.1
GUMO	Guam	10.39	171	P	Pn	22 03 47.0	+1.1
GUMO	Guam	10.39	171	Pn	Pn	22 03 46.5	+0.6
	3.3nm,0.3s,baz=19,slow=14,SNR=2.8						
GUMO				LR	LR	22 06 56.9	
	comp=Z,9μm,19.5s,baz=346,slow=33						
GUMO	Guam	10.39	171	Pn	Pn	22 03 47.0	+1.1
BSO1	Boso 1	10.88	350	P	Pn	22 03 51.7	-0.4
JMZ	Minamidaito 2	11.11	282	P	Pn	22 04 00.8	+5.1
JHTM	Izuhatsuma	11.61	342	P	Pn	22 04 04.3	+1.8
JOD2	Odawara 2	11.87	343	P	Pn	22 04 05.5	-0.7
HMMJ	Hamamatsu 2	11.92	337	P	Pn	22 04 07.0	+0.2
JTNC	Tanabenakahech	11.93	327	P	Pn	22 04 07.5	+0.6
JYZW	Yoshizawa	12.04	338	P	Pn	22 04 08.5	0.0
JNTK	Naratenkawa	12.16	330	P	Pn	22 04 15.0	+4.8
JNY	Yasuok	12.33	339	P	Pn	22 04 12.2	-0.3
JAO	Obara	12.46	337	P	Pn	22 04 14.2	0.0
INU	Inuyama	12.62	336		Pn	22 04 15.4	-1.0
JRY	Ryogami san	12.63	344	P	Pn	22 04 15.1	-1.5
JNT	Takato	12.72	341	P	Pn	22 04 17.6	-0.2
JGF	Kuroka	12.72	338	P	Pn	22 04 17.5	-0.3
JMN	Monobe	12.77	322	P	Pn	22 04 21.2	+2.7
JNG	Nsakai	13.22	341	P	Pn	22 04 23.8	-0.9
JWT	Wachi	13.22	331	P	Pn	22 04 28.1	+3.5
ONAJ	Iwakimizuishiy	13.31	351	P	Pn	22 04 23.6	-2.2
MJAR	Matsushiro Arr	13.31	342	Pn	Pn	22 04 24.6	-1.3
	0.4nm,0.3s,baz=154,slow=11,SNR=29						
MJAR				Sn	Sn	22 06 45.8	-7.3
	0.1nm,0.3s,baz=138,slow=26,SNR=4.7						
MJAR				LR	LR	22 09 08.1	
	comp=Z,5μm,18.7s,baz=160,slow=36						
MAJO	Matsushiro	13.32	342*d*	*i*P	Pn	22 04 26.5	+0.6
MAJO	Matsushiro	13.32	342		Pn	22 04 24.9	-1.0
MAT	Matsushiro	13.32	342	P	Pn	22 04 24.4	-1.5
MAT				S	Sn	22 06 52.0	-1.1
MJB9	Matsu-Tunnel	13.32	342		Pn	22 04 23.0	-3.0
JFFD	Fukushimafurud	13.33	351	P	Pn	22 04 23.7	-2.4
JAMN	Amaminishikomi	13.38	292	P	Pn	22 04 31.4	+4.6
JTK	Tokunoshima	13.46	290	P	Pn	22 04 31.6	+3.7
JUS	Usuki	13.62	315	P	P	22 04 40.2	+1.6
JOKE	Okinoerabujima	13.70	288	P	P	22 04 41.8	+2.2
JYRO	Yoronjima	13.74	286	P	P	22 04 39.3	-0.8
JOW	Kunigami	13.87	285	P	P	22 04 44.2	+2.8
JOW	Kunigami	13.87	285		P	22 04 44.3	+2.8
JNTH	Nagotoyohara	14.05	284	P	P	22 04 46.5	+3.0
JIH	Iheya	14.17	286	P	P	22 04 47.6	+2.8
JNU	Nakatsue	14.23	313	Pn	P	22 04 43.0	-2.5
	0.6nm,0.3s,baz=100,slow=18,SNR=2.8						
JNU				LR	LR	22 09 27.5	
	comp=Z,2μm,20.2s,baz=129,slow=34						
JNU	Nakatsue	14.23	313	P	P	22 04 43.8	-1.7
JSD	Sado	14.71	344	P	Pn	22 04 40.7	-4.2
JRG	Rokugo	15.59	352	P	Pn	22 04 55.6	-0.9
JISG	Ishigakijimahi	17.31	276	P	P	22 05 22.7	+3.0
JIJ	Ishigaki jima	17.47	275	P	P	22 05 24.9	+3.4
ERM	Erimo	18.05	360	P	Pn	22 05 25.6	-1.8
ERM				S	Sn	22 08 40.3	-7.6
ERM				pmax	pmax		
	comp=Z,99nm,1.1s						
ERM	Erimo	18.05	360	P	Pn	22 05 25.6	-1.8
ERM				S	Sn	22 08 40.3	-7.6
YOJ	Yonaguni jima	18.50	276	P	Pn	22 05 34.8	+1.7
YOJ				pmax	pmax		
	comp=Z,395nm,0.8s						
YOJ	Yonaguni jima	18.50	276	P	Pn	22 05 36.0	+2.9
YOJ	Yonaguni jima	18.50	276	P	Pn	22 05 34.8	+1.7
TJN	Taejon	18.50	316*c*	*i*P	P	22 05 31.9	-0.8
JYNG	Yonagunijimaku	18.56	276	P	Pn	22 05 36.5	+2.7
KSRS	Korea Array	18.84	319	P	Pn	22 05 37.2	+0.1
	comp=Z,0.8nm,0.3s,baz=132,slow=12,SNR=37						
KSRS				LR	LR	22 13 03.2	
	comp=Z,6μm,18.2s,baz=140,slow=37						
KS19	Wonju Array Si	18.91	319	P	Pn	22 05 37.8	-0.1
INCN	Inchon	19.64	317	P	P	22 05 43.0	-2.3
INCN				pmax	pmax		
	comp=Z,33nm,0.6s						
INCN	Inchon	19.64	317	P	P	22 05 43.0	-2.3
NACB	Ninganchiao	19.80	275	P	P	22 05 46.7	-0.4
NACB				IAmb	IAmb	22 05 50.2	
	comp=Z,259nm,1.6s						
TATO	Taipei	19.86	278		Pn	22 05 49.3	-0.2
YHNB	Yeheng	19.98	277	P	P	22 05 47.7	-1.4
YULB	Yu-li	20.14	273	P	P	22 05 50.3	-0.5
YULB				IAmb	IAmb	22 05 57.9	
	comp=Z,363nm,1.7s						
ASAJ	Asahikawa	20.15	359	P	Pn	22 05 56.1	+3.4
	comp=Z,10.0nm,0.8s,baz=211,slow=9.2,SNR=6.1						
YUK	Yuzh-Kuril'sk	20.18	5	*e*P	P	22 05 49.5	-1.5
YUK				*i* S	S	22 09 37.0	+0.9
YUK				pmax	pmax		
	comp=E,106nm,1.2s						
YUK				pmax	pmax		
	comp=Z,180nm,1.2s						
YUK				pmax	pmax		
	comp=N,105nm,1.3s						
YUK				pmax	pmax		
	comp=Z,322nm,1.9s						
YUK				MLR	MLR		
	comp=Z,3μm,19.0s						
YUK				MLR	MLR		
	comp=N,4μm,17.0s						
YUK				MLR	MLR		
	comp=E,1μm,12.0s						
TWG	Pinlang	20.41	271	P	P	22 05 54.8	+1.0
SSLB	Suanglung	20.42	274	IAmb	IAmb	22 06 03.9	
	comp=Z,282nm,1.5s						
TPUB	Ta-pu	20.76	273	IAmb	IAmb	22 06 06.5	
	comp=Z,222nm,1.3s						
SSE	Sheshan	20.84	295	P	P	22 05 59.2	+0.9
SSE				S	S	22 09 46.7	-2.8
SSE				pmax	pmax		
	comp=Z,45nm,1.2s						
SSE				pmax	pmax		
	comp=Z,530nm,8.9s						
SSE				LR	LR		
	comp=Z,2μm,15.8s						
SSE				LR	LR		
	comp=Z,3μm,16.5s						
SSE	Sheshan	20.84	295	P	P	22 05 55.2	-3.0
SSE				IAmb	IAmb	22 06 24.6	
	comp=Z,154nm,1.0s						
SSE				IAmb	IAmb	22 06 24.6	
	comp=Z,154nm,1.0s						
MSHR	Mys Shultsa	21.15	335⇑	*e*P	P	22 06 01.5	0.0
VLA	Vladivostok	21.34	337⇑	*e*P	P	22 06 05.1	+1.6
VLA				pmax	pmax		
	comp=Z,30nm,0.7s						
KUR	Kuril'sk	21.59	9	*e*P	P	22 06 06.8	+0.6
KUR				*e*		22 06 26.2	
KUR				*i* S	S	22 10 04.9	+0.9
KUR				smax	smax		
	comp=E,8μm,9.2s						
KUR				smax	smax		
	comp=N,4μm,8.5s						
KUR				MLR	MLR		
	comp=E,4μm,11.0s						
KUR				MLR	MLR		
	comp=Z,2μm,11.0s						
KUR				MLR	MLR		
	comp=N,1μm,12.0s						
TEY	Ternei	21.75	347⇓	*e*P	P	22 06 09.2	+1.2
TEY				*e*		22 10 11.4	
TEY				pmax	pmax		
	comp=E,10.0nm,1.0s						
TEY				pmax	pmax		
	comp=N,20nm,0.8s						
TEY				pmax	pmax		
	comp=Z,20nm,0.7s						
TEY				pmax	pmax		
	comp=Z,200nm,7.4s						
TEY				MLR	MLR		
	comp=E,300nm,16.0s						
TEY				MLR	MLR		
	comp=N,200nm,14.0s						
TEY				MLR	MLR		
	comp=Z,200nm,15.0s						
USA0B	Ussuriysk Arra	22.24	338	P	P	22 06 12.1	-1.2

USA0B pmax pmax
comp=Z,31nm,0.9s
USA0B MLR MLR
comp=Z,4μm,18.0s
USA0B Ussuriysk Arra 22.24 338 P **P** **22 06 12.1 -1.2**
USRK Ussuriysk Ar. 22.24 338 P **P** **22 06 12.8 -0.5**
comp=Z,6.7nm,0.7s,baz=157,slow=11,SNR=18
USRK LR LR 22 14 46.7
comp=Z,4μm,18.9s,baz=144,slow=36
H11S3 WAKE ISLAND Hy 22.47 99 T T 22 29 19.1
baz=290,slow=75,SNR=6.1
H11S1 WAKE ISLAND Hy 22.48 99 T T 22 29 23.3
baz=290,slow=75,SNR=6.0
H11S2 WAKE ISLAND Hy 22.49 99 T T 22 29 13.9
baz=290,slow=75,SNR=4.5
QZH Quanzhou 22.49 278⇑ *i*P **P** **22 06 16.2 +0.1**
QZH S **S** **22 10 23.5 +1.9**
QZH pmax pmax
comp=Z,50nm,1.3s
QZH pmax pmax
comp=Z,1μm,8.4s
QZH LR LR
comp=Z,2μm,15.2s
QZH LR LR
comp=Z,2μm,14.7s
QZH LR LR
comp=Z,3μm,17.0s
KNMB Chin-men Tao 22.70 276 P **P** **22 06 14.1 -4.2**
KNMB IAmb IAmb 22 06 22.3
comp=Z,129nm,0.8s
YSS Yuzh-Sakhalins 22.99 359 *e*P **P** **22 06 21.7 +0.6**
YSS *e*S **S** **22 10 33.9 +4.1**
YSS *e*SS SnSn 22 11 30.4 +27
YSS MLR MLR
comp=Z,6μm,14.0s
YSS Yuzh-Sakhalins 22.99 359 P **P** **22 06 21.9 +0.8**
YSS IAmb IAmb 22 06 49.4
comp=Z,161nm,1.2s
NJ2 Nanjing 23.00 296 *e*P **P** **22 06 19.9 -1.5**
NJ2 sP **pP** **22 06 24.9 -2.4**
NJ2 S **S** **22 10 33.0 +2.6**
NJ2 pmax pmax
comp=Z,37nm,1.1s
NJ2 pmax pmax
comp=Z,1μm,6.6s
NJ2 LR LR
comp=Z,4μm,14.7s
NJ2 LR LR
comp=Z,8μm,19.9s
NJ2 LR LR
comp=Z,9μm,18.0s
TGY Tagaytay City 23.24 249 P **P** **22 06 24.2 +0.2**
comp=Z,123nm,0.3s,baz=66,slow=17,SNR=2.8
TGY LR LR 22 15 28.3
comp=Z,8μm,18.1s,baz=54,slow=37
MDJ Mudanjiang 23.48 335 P **P** **22 06 27.3 +1.3**
MDJ pP pP 22 06 30.1 -1.9
MDJ sP sP 22 06 31.5 -3.1
MDJ S **S** **22 10 42.2 +4.2**
MDJ sS sS 22 10 47.4 -1.1
MDJ SS **SnSn** **22 11 19.4 +4.5**
MDJ pmax pmax
comp=Z,29nm,2.4s
MDJ pmax pmax
comp=Z,2μm,8.8s
MDJ LR LR
comp=Z,7μm,16.0s
MDJ LR LR
comp=Z,7μm,15.4s
MDJ LR LR
comp=Z,10μm,17.6s
MDJ Mudanjiang 23.48 335 P **P** **22 06 24.9 -1.1**
MDJ IAmb IAmb 22 06 58.4
comp=Z,130nm,1.6s
DL2 Dalian 23.68 314⇑ *i*P **P** **22 06 23.9 -4.1**
DL2 S **S** **22 10 39.1 -2.2**
DL2 pmax pmax
comp=Z,28nm,1.5s
DL2 pmax pmax
comp=Z,750nm,8.1s
DL2 LR LR
comp=Z,4μm,14.9s
DL2 LR LR
comp=Z,4μm,15.7s
DAV Davao City (W) 23.86 228 LR LR 22 13 59.8
comp=Z,7μm,20.2s,baz=76,slow=32
DAV Davao City (W) 23.86 228⇓ *e*P **P** **22 06 30.8 +0.9**
DAV Davao City (W) 23.86 228 IAMs_20 IAMs_20 22 14 19.6
comp=Z,8μm,19.0s
KCP Kidapawan 24.24 229⇓ P **P** **22 06 32.3 -1.2**
SNY Shenyang 24.25 322⇑ P **P** **22 06 31.5 -1.8**
SNY S **S** **22 10 48.9 -1.5**
SNY pmax pmax
comp=Z,55nm,1.8s
SNY pmax pmax
comp=Z,1μm,5.9s
SNY LR LR
comp=Z,6μm,14.7s
SNY LR LR
comp=Z,5μm,15.7s
SNY LR LR
comp=Z,4μm,15.8s
CN2 Changchun 24.65 328 *e*P **P** **22 06 36.6 -0.4**
CN2 *e*S **S** **22 10 55.4 -1.5**
CN2 sS pS 22 11 01.9 -1.9
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,9μm,16.0s
CN2 LR LR
comp=Z,7μm,16.0s
CN2 LR LR
comp=Z,9μm,18.0s
MANU Manus Island 26.11 171 P **P** **22 06 49.4 -1.1**
MANU IAmb IAmb 22 07 08.2
comp=Z,62nm,1.2s
JAY Jayapura 26.40 186 P **P** **22 06 53.4 +0.3**
comp=Z,2.9nm,0.7s,baz=84,slow=4.6,SNR=5.2
JAY LR LR 22 16 13.3
comp=Z,4μm,18.0s,baz=6.0,slow=34
WHN Wuhan 26.51 291 P **P** **22 06 54.7 +0.7**
WHN S **S** **22 11 26.4 -0.2**
WHN pmax pmax
comp=Z,150nm,1.0s
WHN LR LR
comp=Z,7μm,12.7s
WHN LR LR
comp=Z,8μm,14.6s
WHN LR LR
comp=Z,9μm,16.2s
KLR Kul'dur 26.84 343*c i*P **P** **22 06 57.2 +0.5**
KLR pmax pmax
comp=Z,61nm,1.3s
KLR Kul'dur 26.84 343 P **P** **22 06 57.2 +0.5**
comp=Z,28nm,1.0s,baz=152,slow=7.9,SNR=46
KLR LR LR 22 16 16.1
comp=Z,1μm,20.2s,baz=155,slow=34
SIJI Sorong 27.27 207 P **P** **22 07 00.3 -0.6**
comp=Z,4.3nm,0.6s,baz=356,slow=10.0,SNR=6.4
SIJI LR LR 22 16 00.9
comp=Z,3μm,18.1s,baz=38,slow=32
TNTI Ternate 27.70 216 P **P** **22 07 04.9 +0.1**
TNTI IAmb IAmb 22 07 43.5
comp=Z,32nm,0.7s
BJI Beijing 27.90 312 P **P** **22 07 04.2 -2.2**
BJI S **S** **22 11 47.5 -0.9**
BJI LR LR
comp=Z,2μm,15.7s
BJI LR LR
comp=Z,3μm,15.7s
BJI LR LR
comp=Z,2μm,16.7s
NKL Nikolayevsk 29.25 357 *e*P **P** **22 07 18.9 +0.7**
NKL *e* 22 10 22.4
NKL *e*S **S** **22 12 09.8 +0.5**
NKL pmax pmax
comp=Z,16nm,1.7s
NKL pmax pmax
comp=E,11nm,1.6s
NKL pmax pmax
comp=N,7.0nm,1.2s
NKL pmax pmax
comp=Z,136nm,2.1s
NKL smax smax
comp=E,103nm,3.0s
NKL smax smax
comp=N,8.0nm,1.9s
KRVT Keravat (AS076 29.32 162 LR LR 22 18 57.7
comp=N,1μm,19.5s,baz=345,slow=36
TIY Taiyuan 29.69 305 *e*P **P** **22 07 22.1 -0.3**
TIY S S 22 12 07.3 -10
TIY pmax pmax
comp=N,17nm,0.5s
TIY pmax pmax
comp=N,380nm,7.2s
TIY LR LR
comp=N,2μm,12.8s
TIY LR LR
comp=N,1μm,14.0s
TIY LR LR
comp=N,2μm,16.8s
ENH Enshi 30.66 289 P **P** **22 07 30.2 -0.9**
ENH IAmb IAmb 22 07 32.4
comp=Z,96nm,1.8s
ENH IAMs_20 IAMs_20 22 21 38.8
comp=Z,3μm,18.0s
PETK Petropavlovsk- 31.13 17 LR LR 22 18 36.1
comp=Z,2μm,20.8s,baz=201,slow=34
PET Petropavlovsk 31.32 18 *e*P **P** **22 07 41.1 +4.7**
PET *e*S **S** **22 12 42.8 +1.1**
PET 22 14 47.2
HIA Hailar 31.32 330⇑ *i*P **P** **22 07 36.1 -0.6**
HIA pmax pmax
comp=Z,69nm,1.2s
HHC Hu-ho-hao-te 31.43 310 P **P** **22 07 37.4 -0.4**
QIZ Qiongzhong 31.45 268 P **P** **22 07 35.9 -2.1**
QIZ S **S** **22 12 44.4 -0.1**
QIZ sS **pS** **22 12 49.7 -2.1**
QIZ pmax pmax
comp=Z,500nm,5.9s
QIZ LR LR
comp=Z,1μm,16.7s
QIZ LR LR
comp=Z,2μm,14.7s
QIZ LR LR
comp=Z,3μm,15.7s
XAN Xi'an 31.57 296 P **P** **22 07 38.1 -1.0**
XAN S **S** **22 12 39.0 -7.3**
XAN pmax pmax
comp=Z,13nm,2.0s
XAN pmax pmax
comp=Z,490nm,7.6s
XAN LR LR
comp=Z,3μm,15.3s
XAN LR LR
comp=Z,2μm,15.1s
XAN LR LR
comp=Z,3μm,15.7s
XAN Xi'an 31.57 296 P **P** **22 07 36.8 -2.3**
XAN pmax pmax
comp=Z,82nm,1.8s
XAN MLR MLR
comp=Z,1μm,18.0s
XAN Xi'an 31.57 296 P **P** **22 07 36.8 -2.3**
XAN IAmb IAmb 22 08 17.1
comp=Z,82nm,1.8s
ZEA Zeya 32.13 342 *e*P **P** **22 07 44.1 +0.5**
ZEA *e*PPP PPP 22 09 09.0
ZEA *e*S **S** **22 12 54.5 0.0**
ZEA *e*SSS SSS 22 15 08.0
ZEA 22 18 15.0
ZEA pmax pmax
comp=E,46nm,1.4s
ZEA pmax pmax
comp=N,55nm,0.9s
ZEA pmax pmax
comp=Z,90nm,1.0s
ZEA smax smax
comp=E,1μm,7.0s
ZEA smax smax
comp=N,600nm,9.0s
ZEA MLR MLR
comp=Z,6μm,15.0s
ZEA MLR MLR
comp=E,2μm,16.0s
ZEA MLR MLR
comp=N,5μm,15.0s
BTO Baotou 32.43 309 *e*P **P** **22 07 46.4 -0.2**
BTO S **S** **22 12 53.6 -6.1**
GYA Guiyang 33.16 282⇑ *i*P **P** **22 07 54.1 +1.0**
GYA PP **PP** **22 09 07.1 -1.2**
GYA S **S** **22 13 11.5 +0.1**
GYA SS SS 22 15 06.2 -28
GYA pmax pmax
comp=N,30nm,1.2s
GYA pmax pmax
comp=N,350nm,6.9s
GYA LR LR
comp=N,2μm,17.1s
GYA LR LR
comp=N,2μm,16.5s
GYA LR LR
comp=N,3μm,16.2s
PMG Port Moresby 33.34 173⇓ *e*P **P** **22 07 55.6 +1.0**
PMG pmax pmax
comp=Z,109nm,1.0s
PMG Port Moresby 33.34 173 P **P** **22 07 53.5 -1.0**
comp=Z,18nm,0.7s,baz=344,slow=7.4,SNR=3.0
PMG Port Moresby 33.34 173 IAmb IAmb 22 08 25.5
DLV T Lat 35.08 256 IAMs_20 IAMs_20 22 20 34.3
comp=Z,4μm,19.0s
TTSI Tana Toraja 35.21 224 P **P** **22 08 12.7 +1.9**
comp=Z,52nm,1.0s,comp=Z,950nm
CD2 Chengdu 35.63 290⇑ *i*P **P** **22 08 14.3 -0.1**
CD2 sP pP 22 08 17.4 -3.4
CD2 PP **PP** **22 09 38.4 +2.9**
CD2 S **S** **22 13 49.2 0.0**
CD2 sS pS 22 13 54.7 -1.8
CD2 ScS **ScS** **22 18 35.7 +3.6**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,1μm,9.0s
CD2 LR LR
comp=Z,11μm,14.9s
CD2 LR LR
comp=Z,12μm,16.5s
CD2 LR LR
comp=Z,12μm,15.3s
SPSI Sidrap Palu 35.95 223 P P 22 08 22.2 +5.0
comp=Z,76nm,1.6s
LZH Lanzhou 36.01 299⇑ P **P** **22 08 16.5 -1.2**
LZH pP pP 22 08 19.9 -4.2
LZH PP **PnPn** **22 09 38.1 -0.7**
LZH S **S** **22 13 53.5 -1.7**
LZH sS pS 22 14 01.8 -0.6
LZH SS **SS** **22 16 20.8 -12**
LZH pmax pmax
comp=Z,39nm,1.3s
LZH pmax pmax
comp=Z,230nm,5.7s
LZH LR LR
comp=Z,3μm,13.0s
LZH LR LR
comp=Z,3μm,13.2s
LZH LR LR
comp=Z,4μm,16.4s
BNSI Bone 36.09 222 P **P** **22 08 13.9 -4.5**
comp=Z,83nm,1.2s,comp=Z,1μm
SLVN Son La 36.35 274 P **P** **22 08 19.9 -0.8**
UBPT Khong Chiam 36.55 263 P **P** **22 08 25.2 +2.9**
KAPI Kappang 36.79 222 P **P** **22 08 24.5 +0.2**
KAPI pmax pmax
comp=Z,235nm,1.9s
KAPI MLR MLR
comp=Z,1μm,19.0s
KAPI Kappang 36.79 222 P **P** **22 08 24.5 +0.2**
comp=Z,7.9nm,0.2s,baz=20,slow=6.0,SNR=5.5
KMI Kunming 36.80 280 P **P** **22 08 25.4 +0.7**
KMI pP sP 22 08 33.9 +0.4
KMI sP pwP 22 08 37.6 +0.4
KMI S **S** **22 14 09.3 +1.6**
KMI SS **SnSn** **22 16 35.3 -4.8**
KMI pmax pmax
comp=Z,64nm,1.4s
KMI pmax pmax
comp=Z,580nm,6.3s
KMI LR LR
comp=Z,2μm,15.2s
KMI LR LR
comp=Z,1μm,21.6s
KMI LR LR
comp=Z,2μm,18.4s
KMI Kunming 36.80 280 IAmb IAmb 22 08 27.7
comp=Z,119nm,1.4s
SBUM Sibu 36.84 239 P **P** **22 08 26.0 +1.2**
HNR Honiara 36.94 152 IAMs_20 IAMs_20 22 21 24.8
comp=Z,3μm,20.0s
ULN Ulaanbaatar 37.33 319*c i*P **P** **22 08 28.2 -0.6**
ULN pmax pmax
comp=Z,16nm,1.3s
ULN Ulaanbaatar 37.33 319 P **P** **22 08 26.6 -2.2**
SKNT Sakolnakorn 37.37 267 P **P** **22 08 31.2 +1.8**
comp=Z,80nm,1.5s
COEN Coen 37.65 180 P **P** **22 08 32.8 +1.2**
SONM Songino Array 37.71 319 P **P** **22 08 32.0 0.0**
comp=Z,1.7nm,0.7s,baz=130,slow=11,SNR=16
SONM LR LR 22 24 37.1
comp=Z,3μm,18.2s,baz=118,slow=37
MTN Manton Dam 38.42 199 P **P** **22 08 37.0 -1.1**
KSM Kuching 38.94 240 IAMs_20 IAMs_20 22 27 41.3
comp=Z,2μm,18.0s
YAK Yakutsk 39.20 350 *e*P **P** **22 08 43.8 -0.4**
YAK *e**PP **sP** **22 08 54.9 +2.1**
YAK *e*S **S** **22 14 40.0 -2.6**
YAK *e*SS **SS** **22 17 29.7 -6.3**
YAK *e* 22 18 44.3
YAK pmax pmax
comp=Z,22nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,116nm,2.6s
YAK pmax pmax
comp=N,200nm,2.6s
YAK pmax pmax
comp=E,117nm,2.3s
YAK smax smax
comp=N,223nm,3.3s
YAK smax smax
comp=E,326nm,3.7s
YAK MLR MLR
comp=Z,2μm,15.0s
YAK MLR MLR
comp=N,2μm,16.0s
YAK MLR MLR
comp=E,1μm,15.0s
YAK Yakutsk 39.20 350 P **P** **22 08 43.8 -0.4**
YAK IAmb IAmb 22 08 59.6
comp=Z,64nm,0.8s
YAK IAMs_20 IAMs_20 22 25 07.9
comp=Z,3μm,18.0s
CHAI Chaiyaphum 39.52 266 P **P** **22 08 48.6 +1.2**
comp=Z,103μm,1.0s,comp=Z,944μm
GTA Gaotai 39.69 303⇑ P **ScP** **22 14 42.1 -0.3**
GTA pP S 22 14 49.6 -1.3
GTA sP pS 22 14 53.0 -5.3
GTA pmax pmax
comp=Z,9.0nm,1.5s
GTA Gaotai 39.69 303⇑ P **P** **22 08 48.2 -0.6**
GTA pP pP 22 08 52.5 -2.6
GTA sP sP 22 08 55.3 -2.4
GTA PP **PnPn** **22 10 22.9 -0.4**
GTA ScP **ScP** **22 14 42.1 -0.3**
GTA S **S** **22 14 50.4 -0.5**
GTA sS pS 22 14 57.4 -0.9
GTA SS **SS** **22 17 37.1 -10**
GTA pmax pmax
comp=Z,7.0nm,1.4s
GTA pmax pmax
comp=Z,430nm,10.0s
GTA LR LR
comp=Z,3μm,14.6s
GTA LR LR
comp=Z,2μm,15.9s
GTA LR LR
comp=Z,3μm,15.2s
BOD Bodaibo 39.84 336 *e*P **P** **22 08 49.6 0.0**
BOD pmax pmax
comp=Z,32nm,1.9s
PBKT Sadao Pong 40.24 268 P **P** **22 08 54.9 +1.5**
comp=Z,30nm,1.9s,comp=Z,680nm
PBKT Sadao Pong 40.24 268 P **P** **22 08 53.6 +0.2**
PBKT IAmb IAmb 22 08 56.4
comp=Z,59nm,1.1s
UTTA Uttaradit 40.28 270 P **P** **22 08 55.4 +1.6**
comp=Z,117μm,1.1s,comp=Z,944μm
PHRA Phrae 40.38 271 P **P** **22 08 56.1 +1.6**
comp=Z,8.4nm,1.2s,comp=Z,865nm
PAYA Payao 40.49 272 P **P** **22 08 57.8 +2.3**
comp=Z,42μm,1.4s,comp=Z,495μm
ZAK Zakamensk 40.66 321 *e*P **P** **22 08 53.3 -3.3**
ZAK pmax pmax
comp=Z,17nm,1.2s
TLY Talaya 41.03 323 *e*P **P** **22 08 59.4 -0.2**
TLY *e*S **S** **22 15 11.5 +1.1**
TLY *e*SS **ScS** **22 19 03.4 +1.0**
TLY pmax pmax
comp=Z,48nm,1.7s
TLY MLR MLR
comp=Z,6μm,12.0s
CMMT Chiang Mai 41.47 272 P **P** **22 09 04.6 +1.0**
comp=Z,19nm,1.4s,comp=Z,382nm
CHTO Chiang Mai 41.47 272 P **P** **22 09 05.2 +1.6**
SNR=9.8
CHTO P **P** **22 09 05.2 +1.6**
SNR=9.8
CHTO Chiang Mai 41.47 272 P **P** **22 09 04.2 +0.6**
CHTO pmax pmax
comp=Z,62nm,1.4s
CHTO MLR MLR
comp=Z,3μm,18.0s
CHTO Chiang Mai 41.47 272 P **P** **22 09 04.2 +0.6**
CHTO IAmb IAmb 22 09 05.9
comp=Z,62nm,1.4s
CHTO Chiang Mai 41.47 272 IAMs_20 IAMs_20 22 25 59.0
comp=Z,3μm,18.0s
CM31 Chiang Mai Arr 41.57 271 P **P** **22 09 03.6 -0.7**
CM31 IAmb IAmb 22 09 07.3
comp=Z,63nm,1.5s
CM31 PP **PP** **22 10 36.2 -4.4**
CMAR Chiang Mai Arr 41.57 271 P **P** **22 09 05.5 +1.1**
comp=Z,9.8nm,0.8s,baz=55,slow=8.4,SNR=57
CMAR LR LR 22 25 52.2
comp=Z,2μm,19.6s,baz=94,slow=36
KNRA Kununurra 41.83 201 P **P** **22 09 05.2 -1.2**
KNRA IAmb IAmb 22 09 24.7
comp=Z,45nm,0.9s
UTHA Uthaitani 41.95 267 P **P** **22 09 09.3 +1.8**
comp=Z,86μm,1.2s,comp=Z,809μm
UMPA Umpang Tak 42.28 268 P **P** **22 09 12.8 +2.5**
comp=Z,93μm,1.2s,comp=Z,877μm
MHMT Maesarieng 42.57 271 P **P** **22 09 14.5 +2.0**
comp=Z,63nm,1.0s,comp=Z,1μm
SRDT SRDT 42.64 265 P **P** **22 09 15.1 +2.0**
comp=Z,38nm,1.4s
PHET Kaeng Krachan 42.68 263 P **P** **22 09 16.4 +3.0**
comp=Z,43μm,1.2s,comp=Z,517μm
GMJI Gumukmas 43.28 226 P **P** **22 09 15.9 -2.3**
comp=Z,41nm,1.0s
CTA Charters Tower 43.84 176 P **P** **22 09 23.2 +0.6**
comp=Z,6.1nm,0.7s,baz=340,slow=11,SNR=6.7
WB0 Warramunga Arr 44.28 192 ScP **ScP** **22 15 00.7 0.0**
WR7 Warramunga Arr 44.45 192 IAMs_20 IAMs_20 22 29 32.2
comp=Z,2μm,20.0s
WRAB Tennant Creek 44.45 192*de*P **P** **22 09 24.7 -2.8**
WRAB pmax pmax
comp=Z,41nm,1.3s
WRAB Tennant Creek 44.45 192 P **P** **22 09 25.7 -1.8**
WRAB IAmb IAmb 22 09 40.0
comp=Z,46nm,1.1s
WRAB ScP **ScP** **22 15 00.7 -0.7**
WB2 Warramunga Arr 44.46 192 P **P** **22 09 25.8 -1.8**
WB2 IAmb IAmb 22 09 40.2
comp=Z,49nm,0.9s
WB2 ScP **ScP** **22 15 01.4 0.0**
WB2 S **S** **22 15 55.3 -5.9**
WRA Warramunga Arr 44.46 192 *i* P **P** **22 09 25.7 -1.9**
WRA pmax pmax
comp=Z,10.0nm,0.7s
WRA Warramunga Arr 44.46 192 P **P** **22 09 26.0 -1.6**
comp=Z,12nm,0.8s,baz=12,slow=8.7,SNR=50
WRA ScP **ScP** **22 15 01.5 +0.1**
comp=Z,8.7nm,1.2s,baz=6.9,slow=4.3,SNR=6.6
WRA LR LR 22 26 29.0

comp=Z,2µm,21.7s,baz=20,slow=34
IPM Ipoh 45.04 251 P **P** **22 09 34.0 +1.5**
IPM Ipoh 45.04 251 IAMs_20 IAMs_20 22 29 15.6
comp=Z,2µm,19.0s
FITZ Fitzroy Crossi 45.17 204 P **P** **22 09 32.4 -0.9**
comp=Z,13nm,0.9s,baz=35,slow=10,SNR=19
FITZ Fitzroy Crossi 45.17 204 P **P** **22 09 31.8 -1.5**
FITZ IAmb IAmb 22 09 52.2
comp=Z,40nm,1.0s
PMBI Palembang 45.99 240 IAMs_20 IAMs_20 22 31 14.4
comp=Z,2µm,19.0s
LEM Lembang 46.31 233 P **P** **22 09 42.6 0.0**
comp=Z,42nm,0.8s,baz=83,slow=7.6,SNR=10.0
BILL Bilibino 46.33 12 *e*P **P** **22 09 42.5 +0.6**
BILL *e* 22 11 16.3
BILL *e* 22 11 30.3
BILL *e*PPP PPP 22 12 10.4
BILL *e*S **S** **22 16 32.9 +5.6**
BILL pmax pmax
comp=Z,23nm,1.7s
BILL Bilibino 46.33 12 P **P** **22 09 42.0 0.0**
BILL IAmb IAmb 22 10 10.9
comp=Z,58nm,1.4s
BILL IAMs_20 IAMs_20 22 26 17.3
comp=Z,2µm,20.0s
SHL Shillong 46.47 283 P **P** **22 09 44.6 +0.7**
SNR=21
SHL Shillong 46.47 283⇑ *i*P **P** **22 09 45.0 +1.2**
SHL *i* x x 22 16 30.0
SHL Shillong 46.47 283 IAMs_20 IAMs_20 22 30 13.4
comp=Z,3µm,19.0s
LSA Lhasa 46.56 289 P **P** **22 09 46.5 +1.6**
LSA S **S** **22 16 33.7 +1.1**
LSA pmax pmax
comp=Z,94nm,1.3s
LSA Lhasa 46.56 289 P **P** **22 09 46.5 +1.6**
LSA Lhasa 46.56 289 P **P** **22 09 46.7 +1.8**
LSA P **P** **22 09 46.7 +1.8**
RPSI Rantau Prapat 47.74 251 IAmb IAmb 22 09 55.3
comp=Z,23nm,0.9s
AS31 Alice Springs 48.17 192 P **P** **22 09 55.7 -1.1**
ASAR Alice Springs 48.17 192 P **P** **22 09 55.4 -1.4**
comp=Z,3.0nm,0.9s,baz=16,slow=10,SNR=33
ASAR LR LR 22 28 44.8
comp=Z,2µm,21.6s,baz=15,slow=34
TIXI Tiksi 48.46 354⇓ *e*P **P** **22 09 59.0 +0.7**
TIXI pmax pmax
comp=Z,20nm,1.5s
TIXI Tiksi 48.46 354 P **P** **22 09 59.1 +0.7**
TIXI IAmb IAmb 22 10 15.8
comp=Z,60nm,1.6s
TIXI IAMs_20 IAMs_20 22 32 09.2
comp=Z,2µm,18.0s
WMQ Urumqi 49.26 308 *e*P **P** **22 10 05.7 +0.6**
WMQ PP **PP** **22 11 56.7 -2.3**
WMQ S **S** **22 17 10.7 +1.0**
WMQ sS pS 22 17 18.9 +1.4
WMQ ScS **ScS** **22 19 56.7 +1.2**
WMQ pmax pmax
comp=Z,36nm,1.5s
WMQ pmax pmax
comp=Z,340nm,6.7s
WMQ LR LR
comp=Z,1µm,17.1s
WMQ LR LR
comp=Z,2µm,18.9s
WMQ LR LR
comp=Z,2µm,15.5s
GSI Gunungsitoli 49.60 250 IAMs_20 IAMs_20 22 32 51.6
comp=Z,2µm,18.0s
TAPN Taplejung 49.87 286 *e*P **P** **22 10 11.5 +1.2**
comp=Z,84nm,0.9s
ODAN Odare 50.23 286 *e*P **P** **22 10 14.1 +1.2**
comp=Z,187nm,1.0s
PSAB3 Pilbara Seismi 50.66 209 IAMs_20 IAMs_20 22 32 15.7
comp=Z,2µm,22.0s
RAMN Ramite 50.91 286 *e*P **P** **22 10 19.1 +1.0**
comp=Z,63nm,0.9s
DZM Mont Dzumac 50.97 152 *e*P **P** **22 10 16.6 -1.6**
comp=Z,76nm,1.4s
DZM *e*S **S** **22 17 30.1 -3.7**
comp=Z,362nm,26.9s
DZM *e*LR LR 22 24 50.0
comp=Z,2µm,24.2s
DZM Mont Dzumac 50.97 152 P **P** **22 10 18.0 -0.2**
DZM IAmb IAmb 22 10 32.6
comp=Z,78nm,1.5s
DZM IAMs_20 IAMs_20 22 29 37.5
comp=Z,2µm,18.0s
JIRN Jiri 51.15 287 *e*P **P** **22 10 21.5 +1.5**
comp=Z,118nm,0.7s
GUN Gumba 51.38 287 *e*P **P** **22 10 23.1 +1.4**
PKI Pulchoki 51.85 287 *e*P **P** **22 10 25.9 +0.7**
comp=Z,40nm,0.8s
PKIN Phulchoki 51.86 287 *e*P **P** **22 10 25.7 +0.5**
comp=Z,22nm,0.7s
KKN Kakani 51.93 287 *e*P **P** **22 10 26.6 +0.9**
DMN Daman 52.11 287 *e*P **P** **22 10 28.1 +1.0**
GKN Gorkha 52.45 288 *e*P **P** **22 10 30.6 +1.1**
ZAA0 Zalesovo Array 52.54 321 P **P** **22 10 28.5 -1.0**
ZALV Zalesovo Beam 52.54 321 P **P** **22 10 29.5 0.0**
comp=Z,3.0nm,0.6s,baz=106,slow=7.4,SNR=18
ZALV PcP **PcP** **22 11 39.5 -0.1**
comp=Z,2.9nm,0.7s,baz=100,slow=4.4,SNR=2.5
ZALV LR LR 22 33 50.3
comp=Z,3µm,18.2s,baz=96,slow=37
DANN Dangsing 53.16 288 *e*P **P** **22 10 36.3 +1.5**
comp=Z,263nm,0.7s
MKAR Makanchi Array 53.28 311 *i* P **P** **22 10 35.2 +0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 53.28 311 P **P** **22 10 35.3 +0.2**
comp=Z,4.2nm,0.7s,baz=88,slow=8.4,SNR=25
MKAR LR LR 22 34 34.0
comp=Z,931nm,20.1s,baz=86,slow=38
KOLN Koldanda 53.40 288 *e*P **P** **22 10 37.6 +1.1**
comp=Z,84nm,0.8s
MAKZ Makanchi 53.49 311 P **P** **22 10 36.0 -0.7**
MAKZ pmax pmax
comp=Z,26nm,1.1s
MAKZ MLR MLR
comp=Z,2µm,18.0s
MAKZ Makanchi 53.49 311 P **P** **22 10 36.0 -0.7**
MAKZ IAmb IAmb 22 10 52.8
comp=Z,26nm,1.1s
MAKZ IAMs_20 IAMs_20 22 34 47.5
comp=Z,2µm,18.0s
STKA Stephens Creek 55.51 182 P **P** **22 10 49.9 -1.4**
comp=Z,7.7nm,0.8s,baz=354,slow=7.6,SNR=10
STKA LR LR 22 35 13.5
comp=Z,1µm,20.2s,baz=2.7,slow=37
OHAK Old Harbor 55.88 36 IAMs_20 IAMs_20 22 31 52.1
comp=Z,2µm,22.0s
KURK Kurchatov 55.93 316 P **P** **22 10 54.2 0.0**
SNR=25
KURK P **P** **22 10 54.2 0.0**
SNR=25
KURK Kurchatov 55.93 316*c* *i*P **P** **22 10 54.0 -0.3**
KURK pmax pmax
comp=Z,60nm,1.3s
KURK Kurchatov 55.93 316 P **P** **22 10 53.9 -0.3**
KURK IAmb IAmb 22 11 28.6
comp=Z,46nm,1.1s
NRIK Noril'sk 55.95 339 P **P** **22 10 55.0 +0.9**
comp=Z,13nm,0.9s,baz=123,slow=7.8,SNR=13
NRIK LR LR 22 36 02.4
comp=Z,4µm,18.5s,baz=114,slow=37
FORT Forrest 56.31 196 P **P** **22 10 56.9 -0.2**
FORT IAMs_20 IAMs_20 22 36 24.2
comp=Z,1µm,20.0s
KDAK Kodiak Island 56.34 35 P **P** **22 10 56.5 -0.5**
KDAK pmax pmax
comp=Z,51nm,1.3s
KDAK MLR MLR
comp=Z,2µm,20.0s
KDAK Kodiak Island 56.34 35 P **P** **22 10 56.5 -0.5**
comp=Z,8.6nm,1.1s,baz=254,slow=7.4,SNR=4.0
KDAK Kodiak Island 56.34 35 IAMs_20 IAMs_20 22 32 36.5
comp=Z,2µm,20.0s
KDAK Kodiak Island 56.34 35 IAmb IAmb 22 11 17.4
comp=Z,51nm,1.3s
TARG Taragay, Kyrgy 56.51 305 IAmb IAmb 22 11 01.8
comp=Z,42nm,1.4s
BBOO Buckleboo 56.83 187 IAMs_20 IAMs_20 22 33 24.1
comp=Z,2µm,20.0s
KDJ Kajisay 56.95 306 IAmb IAmb 22 11 27.4
comp=Z,27nm,1.2s
HOM Homer 57.10 33 IAMs_20 IAMs_20 22 33 27.2
comp=Z,2µm,20.0s
CNPM China Poot 57.29 33 IAMs_20 IAMs_20 22 36 01.5
comp=Z,1µm,19.0s
PPLA Purkeypile 57.41 29 IAmb IAmb 22 11 34.6
comp=Z,58nm,1.4s
PPLA IAMs_20 IAMs_20 22 33 13.2
comp=Z,2µm,21.0s
BRLK Bradley Lake 57.50 33 IAMs_20 IAMs_20 22 35 39.5
comp=Z,1µm,20.0s
AFI Afiamalu 57.82 126 IAMs_20 IAMs_20 22 39 43.7
comp=Z,2µm,18.0s
TKM2 Tokmak 2 58.07 307 *i* P **P** **22 11 10.0 +0.2**
TKM2 pmax pmax
comp=Z,44nm,1.7s
TKM2 Tokmak 2 58.07 307 P **P** **22 11 10.8 +1.0**
SNR=5.5
KSH Kashi 58.09 303 P **P** **22 11 12.3 +2.4**
KSH pP pP 22 11 17.2 +0.7
KSH ScP **ScP** **22 16 01.6 +1.5**
KSH PcS **PcS** **22 16 03.5 +0.5**
KSH S **S** **22 19 11.9 +2.4**
KSH sS sS 22 19 19.6 -0.8
KSH SS **SS** **22 23 05.7 +4.8**
KSH pmax pmax
comp=Z,50nm,1.1s
KSH pmax pmax
comp=Z,760nm,6.5s
KSH LR LR
comp=Z,3µm,14.7s
KSH LR LR
comp=Z,3µm,14.4s
KSH LR LR
comp=Z,2µm,12.5s
KTH Kantishna Hill 58.10 29 P **P** **22 11 09.0 -0.5**
KTH IAmb IAmb 22 11 41.3
comp=Z,73nm,1.6s
KTH IAMs_20 IAMs_20 22 36 27.4
comp=Z,1µm,19.0s
BPAW Bear Paw Mtn. 58.17 28 IAmb IAmb 22 11 41.9
comp=Z,61nm,1.4s
RC01 Rabbit Creek A 58.25 32 IAmb IAmb 22 11 41.2
comp=Z,61nm,1.4s
SEW Seward 58.26 33 IAMs_20 IAMs_20 22 34 25.9
comp=Z,1µm,20.0s
TRF Thorofare Moun 58.36 29 IAMs_20 IAMs_20 22 34 05.3
comp=Z,1µm,20.0s
KZA Kyzart 58.39 306 P **P** **22 11 13.8 +1.5**
SNR=6.8
MLY Manley 58.45 27 IAmb IAmb 22 11 28.6
comp=Z,36nm,1.4s
KBK Karagaybulak 58.57 307 P **P** **22 11 14.2 +1.0**
SNR=13
PMR Palmer 58.60 31 IAmb IAmb 22 11 31.9
comp=Z,33nm,1.0s
PMR IAMs_20 IAMs_20 22 33 47.9
comp=Z,1µm,21.0s
CHMS Chumysh 58.68 307 P **P** **22 11 15.1 +1.2**
SNR=11
FRU1 Bishkek 58.79 307 IAMs_20 IAMs_20 22 41 06.1
comp=Z,1µm,19.0s
USP Ospenovka 58.84 307 P **P** **22 11 15.6 +0.5**
SNR=6.7
AAK Ala-Archa 58.90 307 *i* P **P** **22 11 15.8 +0.2**
SNR=12
AAK Ala-Archa 58.90 307 P **P** **22 11 16.5 +0.9**
SNR=6.6
AAK P **P** **22 11 16.5 +0.9**
SNR=6.6
AAK Ala-Archa 58.90 307*c* *i*P **P** **22 11 15.8 +0.2**
AAK pmax pmax
comp=Z,22nm,1.7s
AAK Ala-Archa 58.90 307 P **P** **22 11 16.2 +0.6**
SNR=9.5
AAK Ala-Archa 58.90 307 P **P** **22 11 13.3 -2.3**
UCH Uchtor 58.92 306 P **P** **22 11 17.3 +1.2**
SNR=25
NGP Nagpur 58.93 281 *e*P **P** **22 11 14.9 -1.0**
NGP *ex* x 22 15 27.5
RND Reindeer 58.99 29 IAmb IAmb 22 11 32.9
comp=Z,60nm,1.6s
RND IAMs_20 IAMs_20 22 34 12.9
comp=Z,2µm,21.0s
MCK McKinley 59.00 29 IAmb IAmb 22 11 35.5
comp=Z,45nm,1.1s
SML Sawmill 59.01 31 IAMs_20 IAMs_20 22 33 58.6
comp=Z,1µm,22.0s
EKS2 Erkin-Say 59.43 307 P **P** **22 11 20.1 +0.9**
SNR=9.4
WRH Wood River Hil 59.48 28 IAmb IAmb 22 11 38.8
comp=Z,24nm,1.2s
AML Almayashu 59.54 306 P **P** **22 11 21.7 +1.4**
SNR=13
CCB Clear Creek Bu 59.63 28 P **P** **22 11 18.5 -1.5**
CCB IAmb IAmb 22 11 40.8
comp=Z,24nm,1.3s
COLA College 59.64 27⇑ *e*P **P** **22 11 19.8 -0.2**
COLA pmax pmax
comp=Z,15nm,1.8s
HIN Hinchinbrook I 59.75 33 IAMs_20 IAMs_20 22 37 21.3
comp=Z,1µm,19.0s
HDA Harding Lake 59.96 28 IAmb IAmb 22 11 44.7
comp=Z,21nm,1.0s
IL31 60.03 28 IAmb IAmb 22 11 53.2
comp=Z,40nm,1.2s
ILAR Eielson Array 60.03 28 P **P** **22 11 21.8 -1.1**
comp=Z,3.9nm,0.8s,baz=260,slow=5.7,SNR=29
ILAR LR LR 22 36 21.6
comp=Z,657nm,19.6s,baz=272,slow=35
EYAK Cordova Ski Ar 60.13 33 IAMs_20 IAMs_20 22 37 26.5
comp=Z,2µm,19.0s
PAX Paxson 60.46 30 IAmb IAmb 22 11 42.0
comp=Z,55nm,1.5s
PAX IAMs_20 IAMs_20 22 35 29.9
comp=Z,1µm,20.0s
HYB Hyderabad 60.46 277 *i* P P 22 11 36.0 +9.5
RAGM Ragged Mountai 60.66 33 IAMs_20 IAMs_20 22 38 01.2
comp=Z,2µm,18.0s
RIDG Independent Ri 60.81 29 P **P** **22 11 27.9 -0.3**
RIDG IAmb IAmb 22 11 46.5
comp=Z,57nm,1.3s
RIDG IAMs_20 IAMs_20 22 34 58.1
comp=Z,1µm,20.0s
HMT Hamilton 60.86 33 IAMs_20 IAMs_20 22 38 17.6
comp=Z,1µm,19.0s
NIL Nilore 61.11 296 P **P** **22 11 32.1 +1.4**
NIL pmax pmax
comp=Z,45nm,0.9s
NIL Nilore 61.11 296 P **P** **22 11 32.1 +1.4**
BRVK Borovoye 61.12 319 P **P** **22 11 31.0 +0.6**
SNR=24
BRVK P **P** **22 11 31.0 +0.6**
SNR=24
BRVK Borovoye 61.12 319*c* *i*P **P** **22 11 30.7 +0.3**
BRVK pmax pmax
comp=Z,73nm,1.3s
BRVK Borovoye 61.12 319 P **P** **22 11 30.7 +0.3**
GLB Gilahina Butte 61.13 32 IAmb IAmb 22 11 50.5
comp=Z,38nm,1.2s
GLB IAMs_20 IAMs_20 22 35 19.7
comp=Z,1µm,20.0s
DOT Dot Lake 61.15 29 IAMs_20 IAMs_20 22 36 23.0
comp=Z,1µm,19.0s
SCRK Sand Creek 61.21 29 IAmb IAmb 22 11 54.1
comp=Z,30nm,0.8s
MENT Mentasta 61.26 30 IAmb IAmb 22 12 02.5
comp=Z,22nm,1.2s
VRDI Verde Repeater 61.29 32 IAmb IAmb 22 12 03.3
comp=Z,30nm,1.2s
VRDI IAMs_20 IAMs_20 22 36 27.0
comp=Z,1µm,20.0s
CRQM Cirque 61.43 32 IAmb IAmb 22 11 45.5
comp=Z,42nm,1.0s
MCARA McCarthy VSAT 61.51 32 IAmb IAmb 22 11 53.4
comp=Z,37nm,1.0s
TGL Tana Glacier 61.58 32 IAmb IAmb 22 11 53.3
comp=Z,32nm,1.1s
TGL IAMs_20 IAMs_20 22 38 44.7
comp=Z,1µm,20.0s
BALM Baldy 61.83 32 IAMs_20 IAMs_20 22 38 21.4
comp=Z,1µm,20.0s
BTK Batken 61.96 304 IAmb IAmb 22 11 41.3
comp=Z,40nm,1.6s
BTK IAMs_20 IAMs_20 22 41 34.6
comp=Z,2µm,18.0s
MESA MESA 62.01 33 IAMs_20 IAMs_20 22 41 41.0
comp=Z,1µm,18.0s
YAH Yahtse 62.11 33 IAMs_20 IAMs_20 22 42 32.6
comp=Z,1µm,18.0s
CTGM Chitina Glacie 62.32 32 IAmb IAmb 22 11 56.6
comp=Z,30nm,1.4s
CTGM IAMs_20 IAMs_20 22 38 47.3
comp=Z,1µm,20.0s
EGAK Eagle 62.48 28 IAMs_20 IAMs_20 22 39 01.2
comp=Z,1µm,18.0s
DAWY Dawson 63.23 29 IAmb IAmb 22 12 16.2
comp=Z,24nm,1.2s
KBL Kabul 64.35 298 P **P** **22 11 53.5 +1.0**
KBL P **P** **22 11 53.5 +1.0**
KBL Kabul 64.35 298 P **P** **22 11 53.2 +0.7**
KBL pmax pmax
comp=Z,176nm,1.6s
KBL MLR MLR
comp=Z,800nm,18.0s
KBL Kabul 64.35 298 P **P** **22 11 53.2 +0.7**
POO Poona 64.38 280 *ex* **P** **22 11 51.6 -1.1**
KAD Karad 64.46 278 *ex* **P** **22 11 53.7 +0.4**
INK Inuvik 65.51 24 P **P** **22 11 58.6 -0.5**
comp=Z,1.1nm,0.6s,baz=228,slow=2.8,SNR=5.0
INK Inuvik 65.51 24 IAmb IAmb 22 12 19.3
comp=Z,18nm,1.1s
SVE Sverdlovsk 66.34 323⇓ *e*P **P** **22 12 05.2 +0.4**
SVE *e*S **S** **22 20 53.5 +0.7**
SVE pmax pmax
comp=Z,48nm,1.5s
SVE MLR MLR
comp=Z,2µm,15.0s
ARU Arti 67.54 323*c* *i*P **P** **22 12 12.5 +0.1**
ARU 22 12 36.3
ARU S **S** **22 21 11.7 +4.5**
ARU SS **SS** **22 25 30.9 +3.5**
ARU pmax pmax
comp=Z,46nm,0.9s
ARU MLR MLR
comp=Z,3µm,18.0s
ARU Arti 67.54 323 P **P** **22 12 12.5 +0.1**
ABKAR Akbulak array 68.02 315 IAmb IAmb 22 12 17.1
comp=Z,17nm,0.8s
HRA Herat 69.84 300 IAMs_20 IAMs_20 22 47 03.1
comp=Z,828nm,18.0s
BKZ Black Stump Fm 70.03 153 P **P** **22 12 29.5 +1.5**
BKZ IAmb IAmb 22 12 51.8
comp=Z,32nm,1.0s
NNZ Nelson 70.57 156 IAMs_20 IAMs_20 22 36 42.7
comp=Z,970nm,18.0s
RPZ Rata Peaks 71.98 159 P **P** **22 12 40.8 +1.0**
GEYT Alibeck 72.07 304 P **P** **22 12 41.7 +1.1**
comp=Z,24nm,1.3s,baz=56,slow=5.6,SNR=19
GEYT LR LR 22 49 37.4
comp=Z,677nm,18.6s,baz=180,slow=40
GYA0B ALIBECK ARRAY 72.07 304 IAmb IAmb 22 13 00.9
comp=Z,29nm,1.1s
YKA Yellowknife Ar 74.46 28 P **P** **22 12 53.8 -0.4**
comp=Z,2.2nm,0.6s,baz=292,slow=6.0,SNR=8.2
YKA LR LR 22 45 12.1
comp=Z,65nm,20.8s,baz=298,slow=36
NLWA Neilton Lookou 74.64 45 IAMs_20 IAMs_20 22 39 42.2
comp=Z,1µm,20.0s
LVZ Lovozero 74.77 338⇑ *e*P **P** **22 12 58.1 +2.1**
LVZ pmax pmax
comp=Z,89nm,1.5s
TMCR Tamitsa 75.11 334 *e*P **P** **22 12 59.7 +1.8**
TMCR pmax pmax
comp=Z,43nm,0.9s
E03A Lebam 75.11 45 IAMs_20 IAMs_20 22 46 29.4
comp=Z,1µm,20.0s
APA Apatity 75.35 338⇓ *i*P **P** **22 12 58.3 -1.0**
APA *i* 22 13 11.8
APA pmax pmax
comp=Z,16nm,0.9s
APA MLR MLR
comp=Z,2µm,16.0s
B06A Marblemount 75.78 43 IAMs_20 IAMs_20 22 50 15.3
comp=Z,902nm,18.0s
F04A Amboy 76.06 46 P **P** **22 13 03.6 -0.2**
F04A IAmb IAmb 22 13 18.6
comp=Z,22nm,1.0s
LON Longmire 76.18 45 IAMs_20 IAMs_20 22 44 42.0
comp=Z,854nm,18.0s
WBK Wadi Bani Khal 76.23 289 P **P** **22 13 06.8 +1.6**
SNR=8.6
WBK P **P** **22 13 06.8 +1.6**
SNR=8.6
LTY Liberty 76.73 44 IAMs_20 IAMs_20 22 41 12.7
comp=Z,1µm,20.0s
ARCES ARCESS Array B 76.85 341 P **P** **22 13 08.5 +0.6**
comp=Z,7.4nm,0.8s,baz=55,slow=7.8,SNR=3.0
ARCES LR LR 22 52 13.9
comp=Z,3µm,18.3s,baz=72,slow=40
SMDO Samad 76.87 290 P **P** **22 13 10.8 +1.9**
SNR=9.0
SMDO P **P** **22 13 10.8 +1.9**
SNR=9.0
JMDO Jabal Madar 77.06 289 P **P** **22 13 11.5 +1.6**
SNR=9.2
JMDO P **P** **22 13 11.5 +1.6**
SNR=9.2
B08A Colville Reser 77.18 43 IAmb IAmb 22 13 30.9
comp=Z,35nm,1.6s
HOQ Hoqain 77.32 290 P **P** **22 13 12.8 +1.5**
SNR=17
HOQ P **P** **22 13 12.8 +1.5**
SNR=17
BANOM Banah 77.36 293 *i* P **P** **22 13 12.3 +0.7**
SNR=6.8
BANOM Banah 77.36 293 P **P** **22 13 13.3 +1.7**
PPT Papeete 77.41 116 LR LR 22 42 16.4
comp=Z,663nm,19.0s,baz=338,slow=32
PPT2 Papeete2 77.42 116 *e*S **S** **22 23 00.1 -1.2**
comp=Z,255nm,26.0s
PPT2 Papeete2 77.42 116 *e*LR LR 22 37 08.8
comp=Z,618nm,20.5s,baz=296
SHME Shamm 77.45 293 *i* P **P** **22 13 13.1 +1.0**
SNR=7.7
E07A Sunnyside 77.51 45 IAMs_20 IAMs_20 22 44 32.1
comp=Z,935nm,19.0s
MSFE Esma-Masafi 77.68 292 *i* P **P** **22 13 13.9 +0.6**
SNR=12
F07A Phinny Hill Vi 77.70 45 IAMs_20 IAMs_20 22 48 44.4
comp=Z,1µm,19.0s
BSY Bisya 77.71 290 P **P** **22 13 14.8 +1.2**
SNR=12
BSY P **P** **22 13 14.8 +1.2**
SNR=12
HAWA Hanford 77.78 45 IAMs_20 IAMs_20 22 45 16.2
comp=Z,1µm,20.0s
UOSS Minazif 77.79 292 P **P** **22 13 15.3 +1.4**
SNR=15
UOSS P **P** **22 13 15.3 +1.4**
SNR=15
UOSS Minazif 77.79 292 P **P** **22 13 14.1 +0.2**
PINE Pine Mountain 77.80 47 P **P** **22 13 13.4 -0.5**
PINE IAmb IAmb 22 13 34.0
comp=Z,26nm,0.9s
WDC Whiskeytown Da 77.85 51 IAMs_20 IAMs_20 22 41 27.8
comp=Z,1µm,21.0s
HATD Hatta, Dubai 77.89 292 *i* P **P** **22 13 15.1 +0.6**
SNR=20
HATD Hatta, Dubai 77.89 292 P **P** **22 13 16.0 +1.5**
SNR=24
HATD P **P** **22 13 16.0 +1.5**
SNR=24
ASHO Ashiyiah 78.00 292 *i* P **P** **22 13 16.0 +0.8**
SNR=25
ASHO Ashiyiah 78.00 292 P **P** **22 13 16.8 +1.7**
SNR=20
HOPS Hopland Field 78.04 53 IAMs_20 IAMs_20 22 45 28.9
comp=Z,1µm,20.0s
UMQ Umm Al-Quwin 78.04 293 P **P** **22 13 16.9 +1.7**
E08A Dider Farm, El 78.04 44 IAMs_20 IAMs_20 22 45 43.2
comp=Z,1µm,20.0s
ARQ Araqi 78.09 290 P **P** **22 13 17.3 +1.7**
SNR=18
ARQ P **P** **22 13 17.3 +1.7**
SNR=18
MAK Makhachkala 78.10 312 *e*P P 22 13 10.1 -5.2
MAK *e*S **S** **22 23 02.4 -5.5**
MAK pmax pmax
comp=Z,242nm,1.1s
MAK MLR MLR
comp=Z,3µm,16.0s
NAZ Nazwa, Dubai 78.23 292 *i* P **P** **22 13 17.0 +0.6**
SNR=11

NAZ	Nazwa, Dubai	78.23	292	P	P	22 13 17.8	+1.4
	SNR=8.6						
NAZ				P	P	22 13 17.8	+1.4
	SNR=8.6						
GDXM	Geysers	78.31	53	IAMs_20	IAMs_20	22 47 54.0	
	comp=Z,1µm,19.0s						
FAQ	Al Faqa, Dubai	78.38	292	P	P	22 13 17.3	+0.1
DQM	DQM	78.43	287	P	P	22 13 20.0	+2.5
	SNR=5.7						
DQM				P	P	22 13 20.0	+2.5
	SNR=5.7						
MCCM	Marconi Confer	78.48	53	IAMs_20	IAMs_20	22 40 31.8	
	comp=Z,1µm,21.0s						
AKT	Akhty	78.49	310	*e*P	P	22 13 24.0	+6.4
AKT				*e*		22 13 30.9	
AKT				pmax	pmax		
	comp=Z,28nm,1.1s						
ALNE	Al Ain	78.49	291	*i* P	P	22 13 18.5	+0.7
	SNR=8.9						
ALNE				*i* P	P	22 13 19.3	+1.5
	SNR=9.0						
VRH	Novokhopyorsk	78.57	321	*e*P	P	22 13 17.8	+0.1
VRH				pmax	pmax		
	comp=Z,40nm,1.0s						
ASUD	Al Ashush, Dub	78.64	292	*i* P	P	22 13 19.8	+1.2
	SNR=7.3						
MOS	Moscow	78.88	326	*e*P	P	22 13 18.3	-1.0
MOS				*e*S	S	22 23 12.6	-3.2
MOS				MLR	MLR		
	comp=N,4µm,17.0s						
MOS				MLR	MLR		
	comp=E,5µm,17.0s						
MOS				MLR	MLR		
	comp=Z,6µm,17.0s						
DAG	Danmarks Havn	78.93	356	*e*P	P	22 13 21.9	+2.7
DAG	Danmarks Havn	78.93	356	*i* P	P	22 13 21.9	+2.7
AJN	Ajban	78.96	292	*i* P	P	22 13 20.6	+0.3
	SNR=6.5						
AJN	Ajban	78.96	292	P	P	22 13 22.0	+1.7
	SNR=6.1						
AJN				P	P	22 13 22.0	+1.7
	SNR=6.1						
F10A	Beach Ranch, E	79.42	44	IAMs_20	IAMs_20	22 46 45.6	
	comp=Z,1µm,19.0s						
LPSR	Galich'ya Gora	79.56	323	*e*P	P	22 13 22.8	-0.3
LPSR				pmax	pmax		
	comp=Z,70nm,1.5s						
AFDM	Forest Hills D	79.58	52	IAMs_20	IAMs_20	22 49 22.7	
	comp=Z,705nm,19.0s						
BEKR	Beckworth	79.67	51	IAMs_20	IAMs_20	22 41 53.9	
	comp=Z,830nm,20.0s						
OBN	Obninsk	79.70	326	*e*P	P	22 13 24.4	+0.6
OBN				*e*		22 13 33.8	
OBN				*e*		22 16 21.6	
OBN				*e*PPP	PPP	22 18 13.3	
OBN				*e*S	S	22 23 27.3	+2.8
OBN				*e*SS	SS	22 28 32.5	+0.1
OBN				*e*SSS	SSS	22 32 02.5	
OBN				pmax	pmax		
	comp=Z,69nm,2.5s						
OBN				MLR	MLR		
	comp=Z,6µm,17.0s						
BMO	Blue Mountains	79.81	45	P	P	22 13 24.7	-0.1
BMO				pmax	pmax		
	comp=Z,21nm,1.3s						
BMO				MLR	MLR		
	comp=Z,700nm,18.0s						
BMO	Blue Mountains	79.81	45	P	P	22 13 24.7	-0.1
BMO				IAMs_20	IAMs_20	22 55 18.1	
	comp=Z,676nm,18.0s						
VSR	Storozhevoye	80.03	322⇓	*e*P	P	22 13 25.8	+0.1
VSR				pmax	pmax		
	comp=Z,60nm,2.1s						
RUBR	Rubicon Trail	80.12	52	IAMs_20	IAMs_20	22 49 52.1	
	comp=Z,777nm,18.0s						
CMB	Columbia Colle	80.35	53	IAMs_20	IAMs_20	22 41 32.1	
	comp=Z,916nm,21.0s						
TBI	Tubuai	80.44	121	*e*S	S	22 23 28.7	-4.5
	comp=Z,564nm,26.5s						
TBI	Tubuai	80.44	121	*e*LQ	LQ	22 34 27.8	
	comp=Z,397nm,30.5s						
TBI				*e*LR	LR	22 38 20.7	
	comp=Z,554nm,31.0s,baz=301						
PNTR	Pine Nut	80.51	52	IAMs_20	IAMs_20	22 47 15.2	
	comp=Z,859nm,20.0s						
NCK	Nalchik	80.53	313⇑	*e*P	P	22 13 30.0	+1.4
NCK				pmax	pmax		
	comp=Z,31nm,1.4s						
JTMT	Jette	80.53	42	IAMs_20	IAMs_20	22 50 30.9	
	comp=Z,726nm,19.0s						
ZEI	Tsey	80.61	313	*e*P	P	22 13 32.9	+3.6
ZEI				pmax	pmax		
	comp=Z,40nm,1.5s						
YERR	Yerington	80.81	52	IAMs_20	IAMs_20	22 47 33.1	
	comp=Z,917nm,18.0s						
SHAO	Shalim	80.81	286	P	P	22 13 31.2	+0.6
WAKR	Walker	80.86	52	IAMs_20	IAMs_20	22 54 49.4	
	comp=Z,873nm,19.0s						
KBZ	Khabaz	80.90	314	P	P	22 13 31.1	+0.6
	comp=Z,7.3nm,0.8s,baz=101,slow=5.1,SNR=5.4						
KBZ				LR	LR	22 52 48.6	
	comp=Z,1µm,18.2s,baz=64,slow=38						
KIV	Kislovodsk	80.94	314	*e*P	P	22 13 32.0	+1.1
KIV				*e*S	S	22 23 41.6	+3.3
KIV				pmax	pmax		
	comp=Z,70nm,1.1s						
KIV				pmax	pmax		
	comp=Z,268nm,4.5s						
KIV				MLR	MLR		
	comp=Z,4µm,19.0s						
KIV	Kislovodsk	80.94	314	P	P	22 13 31.6	+0.8
NEY	Neytrino	81.21	313⇓	*e*P	P	22 13 33.5	+1.1
NEY				pmax	pmax		
	comp=Z,12nm,2.1s						
FINES	FINESS Array B	81.22	334	*i* P	P	22 13 31.8	-0.1
FINES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
FINES	FINESS Array B	81.22	334	P	P	22 13 31.9	+0.1
	comp=Z,5.4nm,0.6s,baz=60,slow=4.9,SNR=30						
FINES				LR	LR	22 52 20.9	
	comp=Z,780nm,18.8s,baz=53,slow=38						
MDPB	Devils Postpil	81.46	53	IAMs_20	IAMs_20	22 43 48.5	
	comp=Z,964nm,20.0s						
RYN	Ryan	81.46	52	IAMs_20	IAMs_20	22 51 19.5	
	comp=Z,758nm,18.0s						
OMMB	Old Mammoth Mi	81.52	53	IAMs_20	IAMs_20	22 43 43.2	
	comp=Z,1µm,21.0s						
DMTO	DMTO	81.53	286	P	P	22 13 36.8	+2.5
DMTO				P	P	22 13 36.8	+2.5
NVAR	Mina Array Bea	81.70	52	LR	LR	22 49 01.0	
	comp=Z,564nm,18.0s,baz=270,slow=35						
NV11	Mina Array Sit	81.81	52	IAMs_20	IAMs_20	22 51 29.6	
	comp=Z,873nm,19.0s						
WHFO	Wadi Hawf	82.48	286	P	P	22 13 41.2	+1.8
WHFO				P	P	22 13 41.2	+1.8
ELK	Elko	82.89	49	IAMs_20	IAMs_20	22 46 30.0	
	comp=Z,844nm,20.0s						
SOC	Sochi	83.05	315	*e*P	P	22 13 39.5	-2.3
SOC				*e*		22 16 52.6	
SOC				*e*S	S	22 24 00.4	+0.7
SOC				*e*SS	SS	22 29 26.7	+3.7
SOC				*e*SSS	SSS	22 32 49.5	
SOC				pmax	pmax		
	comp=Z,58nm,1.0s						
ABTO	Aybut	83.12	286	P	P	22 13 44.5	+1.8
	SNR=6.8						
ABTO				P	P	22 13 44.5	+1.8
	SNR=6.8						
SUMG	Summit	83.75	1	*i* P	P	22 13 56.5	+11
	comp=Z,37nm,1.1s						
SUMG	Summit	83.75	1	IAMs_20	IAMs_20	22 53 24.1	
	comp=Z,763nm,18.0s						
TPNV	Topopah Spring	83.80	52	IAMs_20	IAMs_20	22 44 56.3	
	comp=Z,908nm,21.0s						
FFC	Flin Flon	83.90	32	*i* P	P	22 13 46.9	+0.9
FFC	Flin Flon	83.90	32	P	P	22 13 46.3	+0.3
FFC				IAmb	IAmb	22 14 08.9	
	comp=Z,26nm,0.9s						
ANN	Anapa	83.96	316	*e*P	P	22 13 41.3	-5.1
ANN				*e**PP	PcP	22 13 46.5	-3.9
ANN				*e*S	S	22 24 02.7	-6.1
ANN				*e*SSS	SSS	22 33 03.4	
ANN				pmax	pmax		
	comp=Z,31nm,1.2s						
IMW	Indian Meadow	84.34	44	IAMs_20	IAMs_20	22 45 23.8	
	comp=Z,820nm,20.0s						
MICGM	Minsk	84.34	328	*e*P	P	22 14 01.0	+13
MICGM				*e*LR	LR	22 53 40.0	
LKWY	Lake	84.37	44	IAMs_20	IAMs_20	22 52 20.5	
	comp=Z,968nm,19.0s						
FXWY	Fox Creek	84.40	45	P	P	22 13 48.2	-0.9
FXWY				IAmb	IAmb	22 14 12.4	
	comp=Z,24nm,1.5s						
FXWY				IAMs_20	IAMs_20	22 46 07.6	
	comp=Z,877nm,20.0s						
TPAW	Teton Pass	84.52	45	IAMs_20	IAMs_20	22 46 39.7	
	comp=Z,843nm,20.0s						
MOOW	Moose Ponds	84.53	44	IAMs_20	IAMs_20	22 45 30.0	
	comp=Z,1µm,21.0s						
NACGM	Naroch	84.64	329	*e*	P	22 14 01.0	+11
REDW	Red Top Meadow	84.64	45	IAMs_20	IAMs_20	22 45 02.0	
	comp=Z,841nm,21.0s						
SNOW	Snow King Moun	84.66	45	IAMs_20	IAMs_20	22 45 44.4	
	comp=Z,867nm,20.0s						
AHID	Auburn Hatcher	84.76	45	IAMs_20	IAMs_20	22 58 50.1	
	comp=Z,706nm,18.0s						
SHPR	Sheep Range	84.78	52	IAMs_20	IAMs_20	22 45 47.4	
	comp=Z,1µm,20.0s						
DUG	Dugway, Tooele	84.80	48	IAMs_20	IAMs_20	22 49 00.4	
	comp=Z,740nm,19.0s						
RLMT	Red Lodge	84.81	43	IAmb	IAmb	22 14 14.6	
	comp=Z,19nm,1.1s						
109C	Camp Elliot, M	84.88	56	IAMs_20	IAMs_20	22 45 07.4	
	comp=Z,956nm,20.0s						
PFO	Pinyon Flats O	85.06	56	*i* P	P	22 13 58.2	+5.7
BAR	Barrett	85.30	56	IAMs_20	IAMs_20	22 49 08.5	
	comp=Z,928nm,20.0s						
AKASG	Malin Array Be	85.76	324	P	P	22 13 55.2	-0.2
	comp=Z,0.7nm,0.4s,baz=43,slow=5.1,SNR=10						
AKASG				LR	LR	22 55 16.5	
	comp=Z,3µm,19.1s,baz=45,slow=38						
BW06	Boulder Array	85.76	45	IAMs_20	IAMs_20	22 46 19.5	
	comp=Z,943nm,20.0s						
PDAR	Pinedale Array	85.76	45	P	P	22 13 55.4	-0.5
	comp=Z,0.3nm,0.5s,baz=200,slow=1.5,SNR=7.0						
PDAR				LR	LR	22 46 31.4	
	comp=Z,747nm,21.0s,baz=318,slow=32						
LAO	LASA Array	85.88	40	IAMs_20	IAMs_20	22 53 56.9	
	comp=Z,699nm,19.0s						
DGMT	Dagmar	86.12	38	IAMs_20	IAMs_20	22 51 31.4	
	comp=Z,691nm,20.0s						
W13A	Hualapai Mount	86.33	53	IAMs_20	IAMs_20	22 46 04.4	
	comp=Z,1µm,20.0s						
NC405	NORSAR Array S	86.69	339	P	P	22 13 58.2	-1.6
U15A	North Rim	86.88	51	IAMs_20	IAMs_20	22 46 49.8	
	comp=Z,734nm,20.0s						
NB2	NORSAR Subarra	86.91	339	P	P	22 14 00.1	-0.9
	comp=Z,1.8nm,0.7s,baz=46,slow=4.8						
NOA	NORSAR Array B	86.91	339	P	P	22 14 00.6	-0.4
	comp=Z,4.4nm,0.8s,baz=45,slow=4.8,SNR=8.0						
NOA				LR	LR	22 57 17.9	
	comp=Z,862nm,19.6s,baz=45,slow=39						
RAYN	Ar Rayn	87.34	294	P	P	22 14 04.0	+0.2
RAYN				pmax	pmax		
	comp=Z,25nm,0.8s						
RAYN				MLR	MLR		
	comp=Z,600nm,20.0s						
RAYN	Ar Rayn	87.34	294	P	P	22 14 04.0	+0.2
RAYN				IAmb	IAmb	22 14 19.5	
	comp=Z,25nm,0.8s						
113A	Mohawk Valley,	87.46	55	IAMs_20	IAMs_20	22 45 54.6	
	comp=Z,633nm,20.0s						
K22A	Casper	87.76	44	IAMs_20	IAMs_20	22 48 06.3	
	comp=Z,719nm,21.0s						
RWWY	Rawlins	87.81	45	IAMs_20	IAMs_20	22 49 26.7	
	comp=Z,700nm,20.0s						
O20A	White River Ci	87.91	47	IAMs_20	IAMs_20	22 48 02.2	
	comp=Z,838nm,20.0s						
PV14	Lion Creek, Pa	88.25	49	IAMs_20	IAMs_20	22 53 00.7	
	comp=Z,1µm,22.0s						
PV16	Nyswonger Mesa	88.35	49	IAMs_20	IAMs_20	22 52 47.5	
	comp=Z,809nm,20.0s						
PV18	Skein Mesa, Pa	88.39	49	IAMs_20	IAMs_20	22 52 48.1	
	comp=Z,860nm,21.0s						
X16A	Lo Mia Camp, P	88.43	53	IAMs_20	IAMs_20	22 47 13.0	
	comp=Z,861nm,20.0s						
214A	Organ Pipe Nat	88.55	56	IAMs_20	IAMs_20	23 01 47.5	
	comp=Z,726nm,18.0s						
BR131	Keskin Array S	88.88	313	IAmb	IAmb	22 14 29.6	
	comp=Z,18nm,1.2s						
BRTR	Keskin Array B	88.88	313	*i* P	P	22 14 09.8	-1.1
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRTR	Keskin Array B	88.88	313	P	P	22 14 10.0	-1.0
	comp=Z,2.0nm,0.9s,baz=92,slow=4.2,SNR=6.3						
BRTR				LR	LR	22 57 41.5	
	comp=Z,410nm,18.7s,baz=28,slow=38						
LVV	L'vov	88.99	326	*e*P	P	22 14 20.4	+9.4
MDND	Maddock	89.02	37	IAMs_20	IAMs_20	22 56 57.0	
	comp=Z,767nm,20.0s						
N23A	Red Feather La	89.03	45	IAMs_20	IAMs_20	22 47 33.2	
	comp=Z,706nm,20.0s						
MVCO	Mesa Verde	89.18	49	IAMs_20	IAMs_20	22 47 49.5	
	comp=Z,648nm,20.0s						
X18A	Snowflake	89.46	52	IAMs_20	IAMs_20	22 48 01.2	
	comp=Z,1µm,21.0s						
ULM	Lac du Bonnet	89.55	33	LR	LR	22 57 13.6	
	comp=Z,279nm,18.1s,baz=326,slow=38						
ULM	Lac du Bonnet	89.55	33	IAMs_20	IAMs_20	22 56 52.5	
	comp=Z,573nm,19.0s						
KWP	Kalwaria Pacla	89.79	326	P	P	22 14 15.1	+0.3
KWP				pmax	pmax		
	comp=Z,1µm,1.8s						
KWP	Kalwaria Pacla	89.79	326	P	P	22 14 15.1	+0.3
MSEY	Mahe Island	89.86	265	IAMs_20	IAMs_20	22 57 22.8	
	comp=Z,561nm,18.0s						
UZH	Uzhgorod	90.62	325	*e*P	P	22 14 26.2	+7.5
UZH				*e*		22 14 31.8	
AGMN	Agassiz Nation	90.76	35	IAMs_20	IAMs_20	22 53 53.8	
	comp=Z,668nm,20.0s						
SUSD	Miller	91.38	39	IAMs_20	IAMs_20	22 56 53.5	
	comp=Z,822nm,19.0s						
319A	Douglas	91.47	55	IAMs_20	IAMs_20	22 48 40.8	
	comp=Z,880nm,21.0s						
LANS	Liptovska Anna	91.73	327	*e*P	P	22 14 24.1	+0.2
LANS				pmax	pmax		
	comp=Z,7.0nm,1.2s						
LANS	Liptovska Anna	91.73	327	*e*P	P	22 14 24.1	+0.2
ANMO	Albuquerque	91.75	50⇑	*e*P	P	22 14 25.0	+0.5
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ANMO	Albuquerque	91.75	50	P	P	22 14 24.1	-0.3
ANMO	Albuquerque	91.75	50	IAMs_20	IAMs_20	22 53 31.6	
	comp=Z,769nm,20.0s						
OKC	Ostrava-Krasne	91.93	328	AMS	AMS	22 59 30.0	
	comp=Z,3µm,17.5s						
KSCO	Kaye Shedlock'	92.19	45	IAMs_20	IAMs_20	22 50 41.9	
	comp=Z,712nm,20.0s						
CHVC	Chvalec	92.42	329	AMS	AMS	23 00 50.0	
	comp=Z,2µm,14.8s						
KRLC	Kraliky	92.42	329	AMS	AMS	23 00 20.0	
	comp=Z,2µm,15.9s						
DPC	Dobruska-Polom	92.45	329	*e*P	P	22 14 34.9	+7.7
DPC				*e*		22 14 39.9	
DPC				MLR	MLR		
	comp=Z,2µm,17.4s						
DPC	Dobruska-Polom	92.45	329	AMS	AMS	23 01 10.0	
	comp=Z,2µm,17.4s						
VYHS	Vyhne	92.48	327	*e*P	P	22 14 28.2	+0.9
VYHS				pmax	pmax		
	comp=Z,26nm,1.4s						
VYHS	Vyhne	92.48	327	*e*P	P	22 14 28.2	+0.9
UPC	Upice	92.49	329	AMS	AMS	23 00 50.0	
	comp=Z,2µm,14.3s						
PVCC	Panska Ves	93.14	330	AMS	AMS	23 01 20.0	
	comp=Z,2µm,15.9s						
ECSD	EROS Data Cent	93.15	39	IAMs_20	IAMs_20	23 00 28.5	
	comp=Z,580nm,19.0s						
BRG	Berggiesshubel	93.18	331	*e*PKP	P	22 14 40.1	+10
	comp=Z,20nm,1.6s						
BRG				*e*		22 18 15.7	
	comp=Z,16nm,1.5s						
BRG				SS	SS	22 31 47.0	-2.9
	comp=N,2µm,17.1s						
	comp=E,1µm,15.6s						
	comp=Z,3µm,16.0s						
BRG	Berggiesshubel	93.18	331	*e*P	P	22 14 40.1	+10
BRG				*e*		22 18 15.6	
BRG				SS	SS	22 31 47.0	-2.9
BRG				pmax	pmax		
	comp=Z,20nm,1.6s						
BRG				pmax	pmax		
	comp=Z,16nm,1.5s						
BRG				MLR	MLR		
	comp=N,2µm,17.1s						
BRG				MLR	MLR		
	comp=E,1µm,15.6s						
BRG				MLR	MLR		
	comp=Z,3µm,16.0s						
CLL	Collm	93.29	331	*e*P	P	22 14 30.0	-1.0
CLL				*i*		22 14 42.7	
CLL				*e*		22 25 02.0	
CLL				*e*S	ScS	22 25 38.0	-0.4
CLL				pmax	pmax		
	comp=Z,20nm,1.8s						
CLL	Collm	93.29	331	*e*P	P	22 14 30.0	-1.0
	comp=Z,20nm,1.8s						
CLL				*i*		22 14 42.7	
	comp=Z,10.0nm,1.1s						
CLL				*e*		22 14 49.0	
CLL				*e*PP	PP	22 18 14.0	-0.1
CLL				*e*		22 18 25.0	
CLL				*e*SKSac	SKSac	22 25 02.0	-1.5
CLL				*e*S	ScS	22 25 38.0	-0.4
CLL				*e*		22 26 35.0	
CLL				*e*		22 31 17.0	
CLL				*e*SS	SS	22 31 52.0	+0.6
CLL				*e*SSSS		22 38 48.0	
EPT	El Paso	93.33	53	IAMs_20	IAMs_20	22 50 59.8	
	comp=Z,914nm,20.0s						
GOPC	GO Pecny, Ondr	93.47	330	AMS	AMS	23 01 40.0	
	comp=Z,1µm,14.1s						
PRA	Prague	93.53	330	AMS	AMS	23 01 40.0	
	comp=Z,3µm,16.7s						
PRU	Pruhonice	93.53	330	AMS	AMS	23 01 30.0	
	comp=Z,2µm,16.1s						
TREC	Trest	93.57	329	AMS	AMS	23 01 00.0	
	comp=Z,3µm,16.0s						
BGNE	Belgrade	93.64	41	IAMs_20	IAMs_20	22 57 12.8	
	comp=Z,625nm,20.0s						
PBCC	Pribram	94.00	330	AMS	AMS	23 01 30.0	
	comp=Z,600nm,17.1s						
CBKS	Cedar Bluff	94.17	44	IAMs_20	IAMs_20	22 57 16.0	
	comp=Z,630nm,19.0s						
MNTX	Cornudas Mount	94.19	53	IAMs_20	IAMs_20	22 50 57.5	
	comp=Z,779nm,19.0s						
NKC	Novy Kostel	94.31	331	AMS	AMS	23 02 50.0	
	comp=Z,2µm,17.3s						
SPMN	Marine on St.	94.34	36	IAMs_20	IAMs_20	23 05 09.5	
	comp=Z,681nm,19.0s						
KHC	Kasperske Hory	94.58	330	*e*P	P	22 14 40.8	+3.8
KHC				*e*		22 14 49.1	
KHC				MLR	MLR		
	comp=Z,2µm,15.6s						
KHC	Kasperske Hory	94.58	330	*e*P	P	22 14 40.8	+3.8
KHC				*e*x	x	22 14 49.1	
KHC				AMS	AMS	23 01 40.0	
	comp=Z,2µm,15.6s						
GERES	GERESS Array B	94.73	329	P	P	22 14 38.0	+0.2
GERES	GERESS Array B	94.73	329	P	P	22 14 38.0	+0.2
	comp=Z,0.2nm,0.5s,baz=64,slow=4.9,SNR=2.4						
GERES				LR	LR	23 01 31.2	
	comp=Z,895nm,18.3s,baz=42,slow=38						
MSTX	Muleshoe	94.85	50	IAMs_20	IAMs_20	22 51 44.6	
	comp=Z,823nm,20.0s						
AMTX	Amarillo	95.10	48	IAMs_20	IAMs_20	22 56 40.1	
	comp=Z,656nm,19.0s						
KSU1	Kansas State U	95.97	43	IAMs_20	IAMs_20	22 58 21.4	
	comp=Z,607nm,20.0s						
U32A	Winter Ranch,	96.05	46	IAMs_20	IAMs_20	23 00 09.7	
	comp=Z,789nm,19.0s						
I40A	Norwalk	96.39	36	IAMs_20	IAMs_20	22 56 31.2	
	comp=Z,613nm,19.0s						
TXAR	Lajitas Array	96.69	54	P	P	22 14 46.5	-0.6
	comp=Z,0.3nm,0.8s,baz=280,slow=5.1,SNR=2.0						
TXAR				LR	LR	22 53 23.3	
	comp=Z,480nm,20.1s,baz=0.0,slow=32						
WMOK	Wichita Mounta	97.15	47	IAMs_20	IAMs_20	22 53 56.2	
	comp=Z,632nm,21.0s						
SCHQ	Schefferville	97.42	17	LR	LR	23 03 01.4	
	comp=Z,416nm,19.0s,baz=342,slow=38						
X34A	Smith Ranch, M	97.86	47	IAMs_20	IAMs_20	22 55 03.1	
	comp=Z,588nm,21.0s						
FUORN	Ofenpass-Fuorn	97.94	329	IAMs_20	IAMs_20	23 00 27.3	
	comp=Z,831nm,20.0s						
G45A	Suttons Bay	98.16	33	IAMs_20	IAMs_20	23 05 33.9	
	comp=Z,617nm,18.0s						
L42A	Oliver, Polo	98.17	37	IAMs_20	IAMs_20	22 59 13.2	
	comp=Z,774nm,19.0s						
N41A	Harden Midland	98.38	39	IAMs_20	IAMs_20	23 03 25.7	
	comp=Z,769nm,19.0s						
GLMI	Grayling	98.82	32	IAMs_20	IAMs_20	23 01 19.5	
	comp=Z,861nm,20.0s						
J45A	Montague	98.93	34	IAMs_20	IAMs_20	23 02 33.6	
	comp=Z,745nm,20.0s						
L44A	Lake County Fo	99.01	36	IAMs_20	IAMs_20	22 58 26.9	
	comp=Z,645nm,21.0s						
HDIL	Hopedale	99.36	38	IAMs_20	IAMs_20	23 01 20.6	
	comp=Z,567nm,19.0s						
HHAR	Hobbs	99.37	44	IAMs_20	IAMs_20	22 59 57.6	
	comp=Z,603nm,21.0s						
I47A	Gladwin	99.46	33	IAMs_20	IAMs_20	22 59 17.5	
	comp=Z,636nm,21.0s						
M44A	Midewin, Midew	99.48	37	IAMs_20	IAMs_20	22 58 05.5	
	comp=Z,681nm,21.0s						
P43A	Skaggs, Pawnee	99.85	39	IAMs_20	IAMs_20	23 04 28.6	
	comp=Z,770nm,19.0s						
CCM	Cathedral Cave	99.89	41	IAMs_20	IAMs_20	23 04 10.0	
	comp=Z,493nm,19.0s						
L46A	Eue Claire	99.98	35	IAMs_20	IAMs_20	23 01 30.6	
	comp=Z,568nm,20.0s						
U40A	Yellville	100.00	43	IAMs_20	IAMs_20	23 01 12.3	
	comp=Z,690nm,19.0s						
O44A	Mansfield	100.10	38	IAMs_20	IAMs_20	23 00 15.1	
	comp=Z,604nm,20.0s						
MIAR	Mount Ida	100.69	45	IAMs_20	IAMs_20	22 55 57.6	
	comp=Z,712nm,21.0s						
SFIN	Lafayette	100.70	37	IAMs_20	IAMs_20	23 01 38.0	
	comp=Z,687nm,19.0s						
FCAR	Ozark Folk Cen	100.75	43	IAMs_20	IAMs_20	23 02 03.9	
	comp=Z,593nm,20.0s						
ZAIG	Zacatecas	100.98	59	IAMs_20	IAMs_20	22 56 04.2	
	comp=Z,712nm,18.0s						
WHAR	Wooly Hollow	101.03	43	IAMs_20	IAMs_20	23 03 56.7	
	comp=Z,708nm,19.0s						
N47A	Urbana	101.11	36	IAMs_20	IAMs_20	23 04 22.3	
	comp=Z,774nm,19.0s						
W41B	Gary Mavity, V	101.14	43	IAMs_20	IAMs_20	23 04 08.3	
	comp=Z,738nm,19.0s						
AAM	Ann Arbor	101.14	34	IAMs_20	IAMs_20	23 07 17.2	
	comp=Z,740nm,19.0s						
M48A	Edgerton	101.19	35	IAMs_20	IAMs_20	23 07 07.4	
	comp=Z,623nm,19.0s						
LCAR	Lake Charles	101.24	42	IAMs_20	IAMs_20	23 00 58.6	
	comp=Z,555nm,20.0s						
OLIL	Olney	101.27	39	IAMs_20	IAMs_20	23 09 48.1	
	comp=Z,524nm,20.0s						
K50A	Casco	101.31	33	IAMs_20	IAMs_20	23 00 22.3	
	comp=Z,724nm,20.0s						
SIUC	Southern Illin	101.32	40	IAMs_20	IAMs_20	23 00 13.4	
	comp=Z,574nm,20.0s						
PARMO	Parma	101.70	41	IAMs_20	IAMs_20	22 59 18.0	
	comp=Z,536nm,22.0s						
HENM	Henderson Moun	101.83	41	IAMs_20	IAMs_20	22 59 25.2	
	comp=Z,527nm,20.0s						
BLO	Bloomington	101.86	37	IAMs_20	IAMs_20	23 02 37.3	
	comp=Z,773nm,20.0s						
N49A	Columbus Grove	101.87	35	IAMs_20	IAMs_20	23 03 52.5	
	comp=Z,500nm,20.0s						
HBAR	Harrisburg	101.88	42	IAMs_20	IAMs_20	23 06 50.9	
	comp=Z,603nm,21.0s						
PVMO	Portageville	101.90	41	IAMs_20	IAMs_20	23 02 39.2	
	comp=Z,587nm,19.0s						
PENMO	Penman	101.92	41	IAMs_20	IAMs_20	23 04 10.7	
	comp=Z,636nm,18.0s						
HKT	Hockley	101.97	50	IAMs_20	IAMs_20	22 58 06.7	
	comp=Z,819nm,20.0s						
Z41A	Richland Creek	101.99	45	IAMs_20	IAMs_20	23 02 17.3	
	comp=Z,786nm,19.0s						
PEBM	Pemiscott Bayo	102.00	41	IAMs_20	IAMs_20	23 10 11.0	
	comp=Z,534nm,18.0s						
GNAR	Gosnell	102.00	42	IAMs_20	IAMs_20	23 08 34.1	
	comp=Z,581nm,19.0s						
LPAR	Lepanto	102.07	42	IAMs_20	IAMs_20	23 07 33.9	
	comp=Z,659nm,18.0s						
HICK	Hickman	102.10	41	IAMs_20	IAMs_20	22 59 40.4	
	comp=Z,497nm,19.0s						
M50A	Fremont	102.11	34	IAMs_20	IAMs_20	23 03 27.7	
	comp=Z,690nm,19.0s						
GLAT	Glass	102.24	41	IAMs_20	IAMs_20	23 04 38.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,516nm,21.0s						
P48A	**Milroy**	**102.26**	**37**	IAMs_20	IAMs_20	22 58 56.2	
	comp=Z,525nm,20.0s						
DELO	**Deloro Mine**	**102.31**	**29**	IAMs_20	IAMs_20	22 57 32.0	
	comp=Z,574nm,22.0s						
O49A	**Covington**	**102.32**	**35**	IAMs_20	IAMs_20	23 05 36.5	
	comp=Z,715nm,18.0s						
X43A	**Marvell**	**102.42**	**43**	IAMs_20	IAMs_20	23 02 52.9	
	comp=Z,797nm,20.0s						
HALT	**Halls**	**102.45**	**41**	IAMs_20	IAMs_20	23 02 56.9	
	comp=Z,442nm,18.0s						
CORL	**Corleone**	**102.62**	**322**	IAMs_20	IAMs_20	23 07 33.5	
	comp=Z,685nm,18.0s						
WCI	**Wyandotte Cave**	**102.64**	**38**	IAMs_20	IAMs_20	23 00 21.6	
	comp=Z,747nm,20.0s						
N51A	**Ashland**	**102.81**	**34**	IAMs_20	IAMs_20	23 03 49.2	
	comp=Z,698nm,20.0s						
ABPO	**Ambohimpanom**	**102.82**	**255**	IAMs_20	IAMs_20	23 04 32.6	
	comp=Z,687nm,19.0s						
J54A	**Appleton**	**102.82**	**30**	IAMs_20	IAMs_20	23 03 43.2	
	comp=Z,726nm,20.0s						
M52A	**Chesterland**	**102.85**	**33**	IAMs_20	IAMs_20	23 01 29.3	
	comp=Z,552nm,20.0s						
MEDO	**Medina**	**102.99**	**30**	IAMs_20	IAMs_20	23 02 00.7	
	comp=Z,659nm,21.0s						
ACSO	**Alum Creek Sta**	**103.00**	**35**	IAMs_20	IAMs_20	23 04 42.4	
	comp=Z,615nm,18.0s						
T47A	**Sharon Grove**	**103.04**	**39**	IAMs_20	IAMs_20	23 10 30.3	
	comp=Z,588nm,18.0s						
ERPA	**Erie**	**103.08**	**32**	IAMs_20	IAMs_20	23 04 19.2	
	comp=Z,745nm,19.0s						
WVT	**Waverly**	**103.21**	**40**	IAMs_20	IAMs_20	23 04 36.8	
	comp=Z,489nm,18.0s						
R49A	**Shelbyville**	**103.23**	**37**	IAMs_20	IAMs_20	22 59 39.6	
	comp=Z,691nm,20.0s						
OXF	**Oxford**	**103.34**	**42**	IAMs_20	IAMs_20	23 02 30.2	
	comp=Z,656nm,19.0s						
LONY	**Lake Ozonia**	**103.52**	**27**	IAMs_20	IAMs_20	23 01 22.2	
	comp=Z,663nm,20.0s						
MMNY	**Mt. Morris Dam**	**103.58**	**30**	IAMs_20	IAMs_20	23 04 14.9	
	comp=Z,614nm,19.0s						
J56A	**Wolcott**	**103.62**	**29**	IAMs_20	IAMs_20	23 10 23.3	
	comp=Z,550nm,18.0s						
O52A	**Adamsville**	**103.68**	**34**	IAMs_20	IAMs_20	23 01 37.2	
	comp=Z,545nm,20.0s						
Q51A	**Peebles**	**103.69**	**36**	IAMs_20	IAMs_20	23 08 37.4	
	comp=Z,727nm,18.0s						
R50A	**Paris**	**103.70**	**37**	IAMs_20	IAMs_20	23 03 13.4	
	comp=Z,497nm,19.0s						
M54A	**Oil Creek Stat**	**103.71**	**32**	IAMs_20	IAMs_20	23 04 46.7	
	comp=Z,755nm,19.0s						
PLAL	**Pickwick Lake**	**103.84**	**41**	IAMs_20	IAMs_20	23 11 57.0	
	comp=Z,516nm,18.0s						
T49A	**Edmonton**	**103.86**	**38**	IAMs_20	IAMs_20	23 01 10.9	
	comp=Z,630nm,20.0s						
N54A	**Moraine State**	**103.97**	**32**	IAMs_20	IAMs_20	23 04 07.6	
	comp=Z,649nm,20.0s						
V48A	**Smith Brothers**	**104.07**	**40**	IAMs_20	IAMs_20	23 05 48.5	
	comp=Z,594nm,18.0s						
NCB	**Newcomb**	**104.19**	**27**	IAMs_20	IAMs_20	23 01 51.1	
	comp=Z,578nm,21.0s						
J58A	**Remsen**	**104.24**	**28**	IAMs_20	IAMs_20	23 04 21.5	
	comp=Z,596nm,19.0s						
E63A	**Oxbow**	**104.33**	**22**	IAMs_20	IAMs_20	23 08 16.5	
	comp=Z,736nm,21.0s						
P53A	**Whipple**	**104.38**	**34**	IAMs_20	IAMs_20	23 11 39.7	
	comp=Z,717nm,20.0s						
J59A	**Piesco**	**104.49**	**27**	IAMs_20	IAMs_20	23 07 11.1	
	comp=Z,479nm,20.0s						
S51A	**Beattyville**	**104.56**	**37**	IAMs_20	IAMs_20	23 01 22.3	
	comp=Z,508nm,20.0s						
K58A	**Earlville**	**104.57**	**29**	IAMs_20	IAMs_20	23 10 32.2	
	comp=Z,561nm,19.0s						
G62A	**West of Eustis**	**104.61**	**24**	IAMs_20	IAMs_20	23 05 25.7	
	comp=Z,721nm,20.0s						
X48A	**Hartselle**	**104.82**	**41**	IAMs_20	IAMs_20	23 07 28.6	
	comp=Z,523nm,19.0s						
R53A	**Hurricane**	**104.94**	**35**	IAMs_20	IAMs_20	23 09 42.4	
	comp=Z,688nm,19.0s						
SWET	**Sewanee**	**104.95**	**40**	IAMs_20	IAMs_20	23 06 35.0	
	comp=Z,657nm,18.0s						
MCWV	**Mont Chateau**	**105.03**	**33**	IAMs_20	IAMs_20	23 06 47.6	
	comp=Z,585nm,18.0s						
O56A	**Blue Knob Stat**	**105.19**	**32**	IAMs_20	IAMs_20	23 05 43.0	
	comp=Z,649nm,20.0s						
SSPA	**Standing Stone**	**105.23**	**31**	IAMs_20	IAMs_20	23 06 03.3	
	comp=Z,580nm,20.0s						
T52A	**Hallie**	**105.28**	**37**	IAMs_20	IAMs_20	23 04 11.0	
	comp=Z,566nm,20.0s						
W50A	**Signal Mountai**	**105.33**	**40**	IAMs_20	IAMs_20	23 07 04.8	
	comp=Z,599nm,18.0s						
TZTN	**Tazewell**	**105.38**	**38**	IAMs_20	IAMs_20	23 04 05.9	
	comp=Z,602nm,20.0s						
V51A	**Loudon**	**105.46**	**39**	IAMs_20	IAMs_20	23 02 23.1	
	comp=Z,632nm,20.0s						
Y49A	**Blount Mountai**	**105.61**	**41**	IAMs_20	IAMs_20	23 09 09.1	
	comp=Z,632nm,20.0s						
CPCT	**Cooper Cave**	**105.61**	**39**	IAMs_20	IAMs_20	23 01 22.2	
	comp=Z,592nm,21.0s						
N58A	**Sunbury**	**105.62**	**30**	IAMs_20	IAMs_20	23 05 20.2	
	comp=Z,640nm,19.0s						
S54A	**Dingess, Beckl**	**105.67**	**35**	IAMs_20	IAMs_20	23 03 02.2	
	comp=Z,606nm,20.0s						
LRAL	**Lakeview Retre**	**105.81**	**42**	IAMs_20	IAMs_20	23 12 35.0	
	comp=Z,612nm,18.0s						
V52A	**Sevierville**	**105.86**	**38**	IAMs_20	IAMs_20	23 04 14.6	
	comp=Z,780nm,20.0s						
N59A	**State Game Lan**	**105.99**	**30**	IAMs_20	IAMs_20	23 09 43.0	
	comp=Z,622nm,18.0s						
X51A	**Calhoun**	**106.04**	**40**	IAMs_20	IAMs_20	23 07 52.7	
	comp=Z,636nm,21.0s						
P57A	**Homestead Farm**	**106.07**	**32**	IAMs_20	IAMs_20	23 06 00.3	
	comp=Z,739nm,20.0s						
W52A	**Murphy**	**106.20**	**39**	IAMs_20	IAMs_20	23 01 49.9	
	comp=Z,655nm,21.0s						
Z50A	**Ashland**	**106.32**	**41**	IAMs_20	IAMs_20	23 00 56.0	
	comp=Z,701nm,20.0s						
KSCT	**Kent School, K**	**106.34**	**28**	IAMs_20	IAMs_20	23 09 32.8	
	comp=Z,639nm,18.0s						
U54A	**Nelsons Funny**	**106.35**	**36**	IAMs_20	IAMs_20	23 09 35.4	
	comp=Z,566nm,19.0s						
ODNJ	**Ogdensburg**	**106.38**	**29**	IAMs_20	IAMs_20	23 09 13.9	
	comp=Z,658nm,19.0s						
V53A	**Saluda**	**106.42**	**38**	IAMs_20	IAMs_20	23 02 36.6	
	comp=Z,719nm,20.0s						
MVL	**Millersville**	**106.46**	**31**	IAMs_20	IAMs_20	23 04 10.4	
	comp=Z,662nm,19.0s						
BLA	**Blacksburg**	**106.58**	**35**	IAMs_20	IAMs_20	23 03 40.2	
	comp=Z,717nm,21.0s						
BG3	**Lake Jocassee**	**106.84**	**38**	IAMs_20	IAMs_20	23 02 53.8	
	comp=Z,700nm,21.0s						
PSUB	**Penn St. - Bra**	**106.93**	**30**	IAMs_20	IAMs_20	23 04 56.9	
	comp=Z,733nm,21.0s						
P60A	**Greenville**	**106.94**	**30**	IAMs_20	IAMs_20	23 04 44.1	
	comp=Z,693nm,20.0s						
250A	**Grady**	**106.98**	**43**	IAMs_20	IAMs_20	23 07 18.1	
	comp=Z,552nm,19.0s						
BRAL	**Brewton**	**107.04**	**44**	IAMs_20	IAMs_20	23 09 24.8	
	comp=Z,596nm,19.0s						
V55A	**Taylorsville**	**107.17**	**37**	IAMs_20	IAMs_20	23 09 06.2	
	comp=Z,489nm,19.0s						
T57A	**Hurt**	**107.35**	**35**	IAMs_20	IAMs_20	23 06 34.6	
	comp=Z,505nm,18.0s						
CBN	**Corbin Frederi**	**107.38**	**33**	IAMs_20	IAMs_20	23 09 23.9	
	comp=Z,649nm,19.0s						
P61A	**Hammonton**	**107.44**	**30**	IAMs_20	IAMs_20	23 05 31.2	
	comp=Z,609nm,20.0s						
Q60A	**Greensboro**	**107.49**	**31**	IAMs_20	IAMs_20	23 08 19.7	
	comp=Z,660nm,19.0s						
HODGE	**Hodges**	**107.78**	**38**	IAMs_20	IAMs_20	23 03 31.5	
	comp=Z,638nm,20.0s						
352A	**Blakely**	**108.15**	**42**	IAMs_20	IAMs_20	23 04 06.0	
	comp=Z,583nm,20.0s						
253A	**Americus**	**108.23**	**41**	IAMs_20	IAMs_20	23 06 09.9	
	comp=Z,567nm,19.0s						
V58A	**Windy Hill, Pi**	**108.34**	**35**	IAMs_20	IAMs_20	23 14 53.1	
	comp=Z,474nm,18.0s						
W57A	**Gilead**	**108.36**	**36**	IAMs_20	IAMs_20	23 04 26.3	
	comp=Z,736nm,20.0s						
BIRD	**Birdtown, Kers**	**108.48**	**37**	IAMs_20	IAMs_20	23 06 58.9	
	comp=Z,511nm,20.0s						
T60A	**Surry**	**108.52**	**33**	IAMs_20	IAMs_20	23 14 12.6	
	comp=Z,674nm,18.0s						
Y57A	**Sumter**	**108.98**	**37**	IAMs_20	IAMs_20	23 06 47.3	
	comp=Z,485nm,20.0s						
TIGA	**Tifton**	**109.00**	**41**	IAMs_20	IAMs_20	23 11 04.2	
	comp=Z,514nm,18.0s						
U61A	**Possum Corner**	**109.30**	**33**	IAMs_20	IAMs_20	23 05 17.9	
	comp=Z,620nm,19.0s						
255A	**Hazlehurst**	**109.31**	**40**	IAMs_20	IAMs_20	23 05 30.5	
	comp=Z,709nm,20.0s						
CNNC	**Cliffs of the**	**109.41**	**35**	IAMs_20	IAMs_20	23 06 22.0	
	comp=Z,447nm,19.0s						
Y58A	**Scranton**	**109.47**	**37**	IAMs_20	IAMs_20	23 07 24.1	
	comp=Z,504nm,20.0s						
ESDC	**Sonseca Array**	**109.73**	**334**	PP	**PP**	**22 20 10.4**	**-7.6**
	comp=Z,0.4nm,0.8s,baz=17,slow=9.4,SNR=3.0						
NHSC	**New Hope**	**109.78**	**38**	IAMs_20	IAMs_20	23 02 34.4	
	comp=Z,576nm,21.0s						
Y59A	**Loris**	**109.84**	**36**	IAMs_20	IAMs_20	23 11 31.8	
	comp=Z,643nm,18.0s						
Y60A	**Bolivia**	**110.18**	**36**	IAMs_20	IAMs_20	23 05 40.5	
	comp=Z,570nm,21.0s						
PESTR	**Estremoz**	**111.84**	**336**	IAMs_20	IAMs_20	23 12 57.5	
	comp=Z,634nm,19.0s						
658A	**Bunnell**	**111.84**	**41**	IAMs_20	IAMs_20	23 15 08.5	
	comp=Z,586nm,18.0s						
CCIG	**Comitan**	**112.74**	**59**	IAMs_20	IAMs_20	23 05 16.7	
	comp=Z,486nm,19.0s						
TEIG	**Tepich**	**113.31**	**53**	IAMs_20	IAMs_20	23 13 02.1	
	comp=Z,499nm,19.0s						
061Z	**Ochoppi**	**114.60**	**44**	IAMs_20	IAMs_20	23 04 28.6	
	comp=Z,634nm,22.0s						
TGUH	**Tegucigalpa,Un**	**117.84**	**58**	IAMs_20	IAMs_20	23 13 48.6	
	comp=Z,542nm,20.0s						
TAM	**Tamanrasset**	**118.02**	**315**	IAMs_20	IAMs_20	23 21 29.0	
	comp=Z,450nm,18.0s						
LSZ	**Lusaka**	**118.69**	**265**	IAMs_20	IAMs_20	23 08 50.8	
	comp=Z,598nm,20.0s						
ESPN	**Las Esperanzas**	**121.26**	**58**	IAMs_20	IAMs_20	23 09 20.4	
	comp=Z,368nm,20.0s						
GTBY	**Guantanamo Bay**	**122.56**	**44**	IAMs_20	IAMs_20	23 16 40.9	
	comp=Z,492nm,20.0s						
SDDR	**Presa de Saban**	**125.64**	**41**	IAMs_20	IAMs_20	23 17 26.1	
	comp=Z,483nm,20.0s						
TOC2	**Torodi Ar. Sit**	**127.37**	**310**	IAMs_20	IAMs_20	23 24 30.3	
	comp=Z,426nm,19.0s						
TOB2	**Torodi Ar. Sit**	**127.38**	**310**	IAMs_20	IAMs_20	23 24 30.6	
	comp=Z,415nm,19.0s						
TOA2	**Torodi Ar. Sit**	**127.39**	**310**	IAMs_20	IAMs_20	23 24 41.9	
	comp=Z,358nm,19.0s						
TOA0	**Torodi Ar. Sit**	**127.39**	**310**	IAMs_20	IAMs_20	23 22 51.0	
	comp=Z,367nm,21.0s						
TORD	**Torodi Ar. Bea**	**127.39**	**310**	PKP	**PKPdf**	**22 20 21.7**	**-0.2**
	comp=Z,2.8nm,1.1s,baz=10,slow=1.8,SNR=7.5						
TORD				PP	**PP**	**22 22 21.6**	**+0.5**
	comp=Z,2.4nm,1.0s,baz=46,slow=8.2,SNR=4.7						
TOB3	**Torodi Ar. Sit**	**127.39**	**310**	IAMs_20	IAMs_20	23 24 33.0	
	comp=Z,374nm,19.0s						
TOA3	**Torodi Ar. Sit**	**127.40**	**310**	IAMs_20	IAMs_20	23 22 53.1	
	comp=Z,351nm,19.0s						
TOB4	**Torodi Ar. Sit**	**127.41**	**310**	IAMs_20	IAMs_20	23 22 51.3	
	comp=Z,373nm,21.0s						
TOC4	**Torodi Ar. Sit**	**127.41**	**310**	IAMs_20	IAMs_20	23 24 23.4	
	comp=Z,342nm,19.0s						
TOC5	**Torodi Ar. Sit**	**127.42**	**310**	IAMs_20	IAMs_20	23 22 40.7	
	comp=Z,429nm,21.0s						
SNAA	**Sanae**	**128.53**	**193**	PKPdf	**PKiKP**	**22 20 27.3**	**+4.2**
VNA2	**Neumayer--Watz**	**130.02**	**192**	PKPdf	**PKiKP**	**22 20 27.3**	**+1.3**
VNA3	**Neumayer Olymp**	**130.18**	**191**	PKPdf	**PKiKP**	**22 20 30.5**	**+4.2**
OTAV	**Otavalo**	**132.94**	**65**	IAMs_20	IAMs_20	23 21 17.1	
	comp=Z,341nm,19.0s						
SDV	**Santo Domingo**	**133.52**	**49**		**PKiKP**	**22 20 34.9**	**-0.1**
PLCA	**Paso Flores**	**147.12**	**129**	PKP2	**PKPab**	**22 21 01.1**	**0.0**
PLCA	**Paso Flores**	**147.12**	**129**	PKPbc	**PKPbc**	**22 20 59.0**	**-0.5**
	comp=Z,4.9nm,0.8s,baz=280,slow=1.8,SNR=3.2						
PLCA	**Paso Flores**	**147.12**	**129**		**PKPab**	**22 21 01.1**	**0.0**
LPAZ	**La Paz**	**149.59**	**81**	PKP2	**PKPbc**	**22 21 07.5**	**+0.2**
LPAZ	**La Paz**	**149.59**	**81**	PKPbc	**PKiKP**	**22 21 08.7**	**+0.4**
	comp=Z,19nm,1.3s,baz=333,slow=3.7,SNR=4.8						
LPAZ	**La Paz**	**149.59**	**81**		**PKPbc**	**22 21 07.5**	**+0.2**
LPAZ				PKPab	**PKPab**	**22 21 11.6**	**-0.8**
LVC	**Limon Verde**	**150.43**	**94**	PKIKP	**PKPbc**	**22 21 09.1**	**+0.3**
LVC	**Limon Verde**	**150.43**	**94**		**PKPbc**	**22 21 09.1**	**+0.3**
SAML	**Samuel**	**150.66**	**64**	PKIKP	**PKPbc**	**22 21 07.5**	**-1.6**
SAML				MLR	MLR		
	comp=Z,600nm,20.0s						
SAML	**Samuel**	**150.66**	**64**		**PKPbc**	**22 21 07.5**	**-1.6**

*DJA **03** 22:06:21.7±0.4, 2°S±5°×12°5E±°, h10km, M4.3/11, mb4.8/7, mB4.9/7, MLv4.1/11, Mw(mB)4.2/7, Mwp4.7/1*
*IDC **03** 22:06:22.0±0.8, 2°.69S×124°.92E, h0km, mb4.2/7, mb1 4.3/11, mb1mx4.0/35, mbtmp4.3/11, ML4.1/4, MS3.9/2, Ms1 3.9/2, ms1mx3.3/33, Error ellipse: s-maj=25.0km s-min=17.4km az=64.0*
*ISCJB **03** 22:06:24.4±0.3, 2°.77S±0°.04×124°.82E±0°.03, h33km, mb4.1/7, MS4.4/1, Error ellipse: s-maj=5.2km s-min=4.8km az=2.7*
*NEIC **03** 22:06:25.7±2.4, 2°.70S±0°.06×124°.86E±0°.04, h28km±6km, mb4.3/5*
ISC 03 22:06:26.5±0.6**, 2°.73S**±0°.06×**124°.82E**±0°.05**, h35km, n51, σ1s.22**/52**, mb4.2**/8**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**1.35**	**60**	P	**Pn**	**22 06 45.5**	**-3.4**
NLAI	**Namlea**	**2.33**	**103**	P	**Pn**	**22 07 02.2**	**-0.2**
KDI	**Kendari**	**2.51**	**241**	P	**Pn**	**22 07 02.5**	**-2.3**
LUWI	**Luwuk**	**2.64**	**309**	P	**Pn**	**22 07 05.9**	**-0.8**
LUWI	**Luwuk**	**2.64**	**309**		**Pn**	**22 07 06.2**	**-0.4**
AAI	**Ambon**	**3.50**	**106**	P	**Pn**	**22 07 19.4**	**+0.9**
BBSI	**Bau Bau**	**3.54**	**219**	P	**Pn**	**22 07 18.0**	**-1.0**
MSAI	**Masohi**	**4.15**	**99**	P	**Pn**	**22 07 26.6**	**-0.8**
MRSI	**Marisa**	**4.29**	**318**	P	**Pn**	**22 07 29.1**	**-0.2**
TNTI	**Ternate**	**4.31**	**36**	P	Pn	22 07 41.2	+12
TNTI	**Ternate**	**4.31**	**36**	Pn	**Pn**	**22 07 27.5**	**-2.1**
BNSI	**Bone**	**4.99**	**250**	P	**Pn**	**22 07 37.5**	**-1.4**
	31nm,0.6s,850nm						
TTSI	**Tana Toraja**	**5.00**	**266**	P	**Pn**	**22 07 36.8**	**-2.3**
BKSI	**Bulukumba**	**5.34**	**241**	P	**Pn**	**22 07 42.7**	**-1.1**
	105nm,0.5s						
KAPI	**Kappang**	**5.54**	**246**	Pn	**Pn**	**22 07 47.3**	**+0.8**
	11nm,0.3s,baz=95,slow=10,SNR=27						
KAPI				Sn	**Sn**	**22 08 47.6**	**-1.4**
	3.3nm,0.3s,baz=270,slow=20,SNR=2.9						
KAPI				LR	LR	22 09 59.1	
	comp=Z,214nm,18.2s,baz=115,slow=38						
SWI	**Sorong**	**6.70**	**74**	P	**Pn**	**22 08 00.9**	**-1.6**
	97nm,0.8s,0.3nm						
SIJI	**Sorong**	**6.71**	**74**	Pn	**Pn**	**22 08 01.6**	**-1.0**
	5.1nm,0.3s,baz=256,slow=9.3,SNR=12						
SIJI				Sn	**Sn**	**22 09 16.2**	**-1.6**
	1.0nm,0.3s,baz=102,slow=20,SNR=3.4						
SOEI	**Soe**	**7.00**	**184**	P	**Pn**	**22 08 08.3**	**+1.6**
	58nm,0.7s,1μm0.3nm						
SOEI	**Soe**	**7.00**	**184**	Pn	**Pn**	**22 08 07.5**	**+0.7**
BATI	**Baumata**	**7.52**	**189**	Pn	**Pn**	**22 08 14.9**	**+1.2**
	4.8nm,0.3s,baz=4.8,slow=1.9,SNR=7.7						
BATI	**Baumata**	**7.52**	**189**	P	**Pn**	**22 08 15.0**	**+1.2**
JAGI	**Jajag, Banyuwa**	**12.05**	**241**	Pn	**Pn**	**22 09 14.7**	**-1.2**
PSAC1	**Pilbara Seismi**	**19.32**	**194**	P	**P**	**22 10 47.5**	**-1.2**
PSAC1				IAmb	IAmb	22 10 56.8	
	comp=Z,29nm,1.1s						
WB0	**Warramunga Arr**	**19.35**	**152**	P	**P**	**22 10 47.5**	**-1.6**
WB0				IAmb	IAmb	22 10 54.3	
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**19.47**	**152**	P	**Pn**	**22 10 51.5**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=343,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**22.60**	**158**	P	**P**	**22 11 24.3**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=344,slow=15,SNR=7.6						
ASAR				PcP	**PcP**	**22 15 17.0**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=353,slow=1.7,SNR=5.9						
PMG	**Port Moresby**	**23.17**	**108**	LR	LR	22 21 02.9	
	comp=Z,1μm,21.2s,baz=336,slow=38						
SLVN	**Son La**	**31.48**	**320**	P	**P**	**22 12 44.9**	**-0.3**
SLVN				IAmb	IAmb	22 12 45.7	
	comp=Z,4.3nm,1.1s						
STKA	**Stephens Creek**	**33.02**	**153**	P	**P**	**22 12 57.5**	**-1.0**
CMAR	**Chiang Mai Arr**	**33.05**	**311**	P	**P**	**22 13 00.7**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=138,slow=9.5,SNR=4.0						
CHTO	**Chiang Mai**	**33.26**	**311**	P	**P**	**22 13 00.5**	**-0.3**
ODAN	**Odare**	**46.58**	**312**	*e*P	**P**	**22 14 52.4**	**+0.8**
	comp=Z,17nm,0.8s						
TAPN	**Taplejung**	**46.61**	**312**	*e*P	**P**	**22 14 52.5**	**+0.6**
	comp=Z,18nm,1.1s						
RAMN	**Ramite**	**47.22**	**311**	*e*P	**P**	**22 14 57.7**	**+1.1**
	comp=Z,27nm,0.7s						
JIRN	**Jiri**	**47.91**	**312**	*e*P	**P**	**22 15 02.8**	**+0.7**
	comp=Z,22nm,0.6s						
GUN	**Gumba**	**48.27**	**312**	*e*P	**P**	**22 15 05.6**	**+0.7**
	comp=Z,30nm,0.7s						
PKI	**Pulchoki**	**48.44**	**311**	*e*P	**P**	**22 15 06.4**	**+0.2**
	comp=Z,5.7nm,0.7s						
PKIN	**Phulchoki**	**48.46**	**311**	*e*P	**P**	**22 15 06.4**	**+0.2**
	comp=Z,5.5nm,0.8s						
KKN	**Kakani**	**48.66**	**311**	*e*P	**P**	**22 15 08.3**	**+0.6**
DMN	**Daman**	**48.69**	**311**	*e*P	**P**	**22 15 08.6**	**+0.6**
	comp=Z,17nm,0.9s						
GKN	**Gorkha**	**49.25**	**311**	*e*P	**P**	**22 15 12.7**	**+0.5**
KOLN	**Koldanda**	**49.92**	**310**	*e*P	**P**	**22 15 18.0**	**+0.7**
	comp=Z,23nm,0.7s						
DANN	**Dangsing**	**50.09**	**311**	*e*P	**P**	**22 15 19.3**	**+0.6**
	comp=Z,43nm,0.6s						
ULN	**Ulaanbaatar**	**52.73**	**345**	P	**P**	**22 15 39.6**	**+1.7**
SONM	**Songino Array**	**52.87**	**345**	P	**P**	**22 15 40.3**	**+1.3**
	comp=Z,2.7nm,0.6s,baz=162,slow=8.0,SNR=8.2						
KSH	**Kashi**	**61.41**	**318**	*e*P	**P**	**22 16 40.7**	**+1.2**
MKAR	**Makanchi Array**	**61.87**	**328**	P	**P**	**22 16 43.6**	**+1.3**
	comp=Z,2.8nm,0.6s,baz=114,slow=9.7,SNR=9.5						
ZALV	**Zalesovo Beam**	**65.53**	**335**	P	**P**	**22 17 06.6**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=130,slow=4.7,SNR=6.6						
GEYT	**Alibeck**	**73.53**	**311**	P	**P**	**22 17 57.4**	**+1.2**
	comp=Z,1.5nm,0.9s,baz=106,slow=4.8,SNR=4.6						
NRIK	**Noril'sk**	**76.23**	**347**	P	**P**	**22 18 11.8**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=153,slow=2.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**122.85**	**284**	PKP	**PKiKP**	**22 25 20.2**	**0.0**
	comp=Z,1.1nm,0.7s,baz=104,slow=1.3,SNR=5.8						

*KRNET **03** 22:08:05.0±0.1, 42°.52N×79°.91E, h35km, mb2.3*
*SOME **03** 22:08:06.2, 42°.60N×79°.48E, h10km*
*NNC **03** 22:08:08.2±1.6, 42°.68N×79°.48E, h0km, mb2.9, mpv2.3, Error ellipse: s-maj=11.4km s-min=5.4km az=152.0*
ISC 03 22:08:06.3±2.3**, 42°.61N**±0°.07×**79°.54E**±0°.07**, h2km**±13km**, n20, σ1s.05**/38**, 5C-9D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.55**	**354**	*e*P	**Pb**	**22 08 18.5**	**-0.2**
	0.6nm,0.1s						
SHLS				*e*S	**Sb**	**22 08 27.7**	**+0.6**
	10nm,0.5s						
SHLS	**Shalkode**	**0.55**	**354**	*e*P	**Pb**	**22 08 18.9**	**+0.2**
	baz=58						
SHLS				*e*S	**Sb**	**22 08 27.7**	**+0.6**
	baz=58						
SHLS	**Shalkode**	**0.55**	**354**	P	**Pb**	**22 08 18.5**	**-0.2**
	5.3nm,0.1s						
SHLS				S	**Sb**	**22 08 27.6**	**+0.4**
	7.4nm,0.2s						
PDGK	**Podgornoye**	**0.72**	**357**	P	**Pg**	**22 08 20.5**	**+0.5**
	0.3nm,0.1s						
PDGK				S	**Sb**	**22 08 31.0**	**-1.0**
	2.3nm,0.2s						
PDGK	**Podgornoye**	**0.72**	**357**	⇓P	**Pg**	**22 08 20.5**	**+0.5**
	0.1nm,0.2s						
PDGK				⇑S	**Sb**	**22 08 30.6**	**-1.4**
	1.2nm,0.2s						
PRZ	**Przheval'sk**	**0.85**	**262**	⇓*i*P	**Pb**	**22 08 25.0**	**+1.1**
	baz=69						
PRZ				⇓*i*S	**Sn**	**22 08 40.7**	**+2.0**
	baz=69						
KPKS	**Kokpek**	**1.06**	**324**	*e*P	**Pg**	**22 08 25.5**	**-1.1**
	1.9nm,0.1s						
KPKS				*e*S	**Sg**	**22 08 39.2**	**-1.1**
	2.2nm,0.2s						
ANVS	**Anan'yevo**	**1.39**	**278**	⇑*i*P	**Pb**	**22 08 33.4**	**+0.3**
	baz=80						
ANVS				⇑*i*S	**Sg**	**22 08 54.0**	**+3.1**
	baz=80						
TARG	**Taragay, Kyrgy**	**1.56**	**236**	⇓*i*P	**Pn**	**22 08 34.1**	**-1.4**
	baz=44						
TARG				⇓*i*S	**Sn**	**22 08 56.0**	**-0.5**
	baz=44						
DJR	**Jarkent**	**1.73**	**6**	*e*P	**Pb**	**22 08 39.0**	**+0.1**
	0.6nm,0.2s						
DJR				*e*S	**Sg**	**22 09 02.3**	**+0.4**
	1.9nm,0.3s						
DJR	**Jarkent**	**1.73**	**6**	P	**Pb**	**22 08 39.0**	**+0.1**
	0.7nm,0.2s						
DJR				S	**Sg**	**22 09 02.3**	**+0.4**
	2.1nm,0.3s						
KDJ	**Kajisay**	**1.81**	**255**	⇓*e*P	**Pn**	**22 08 38.0**	**-0.7**
	baz=60						
KDJ				⇓*i*S	**Sb**	**22 09 03.6**	**+0.1**
	baz=60						
KOTS	**Kotyrbulak**	**1.89**	**290**	*e*P	**Pb**	**22 08 42.0**	**+0.4**
	2.8nm,0.3s						
KOTS				*e*S	**Sg**	**22 09 07.3**	**+0.4**
	2.6nm,0.4s						
KOTS	**Kotyrbulak**	**1.89**	**290**	P	**Pb**	**22 08 42.0**	**+0.4**
	2.6nm,0.3s						
KOTS				S	**Sg**	**22 09 06.8**	**-0.1**
IZV	**Izvestkoviy**	**2.19**	**282**	*e*P	**Pb**	**22 08 46.8**	**0.0**
	1.8nm,0.2s						
IZV				*e*S	**Sg**	**22 09 15.6**	**-1.1**
	4.9nm,0.4s						
IZV	**Izvestkoviy**	**2.19**	**282**	Pg	**Pb**	**22 08 46.8**	**0.0**
	1.5nm,0.2s						
IZV				Lg	Lg	22 09 16.5	
	3.8nm,0.2s						
ULHL	**Ulahol**	**2.47**	**263**	⇑*i*P	**Pn**	**22 08 47.9**	**+0.1**
	baz=66						
ULHL				⇑*i*S	**Sn**	**22 09 19.0**	**+0.4**
	baz=66						
BOOM	**Boomskoye usch**	**2.66**	**269**	⇓*i*P	**Pn**	**22 08 50.8**	**+0.4**
	baz=71						
BOOM				⇓*i*S	**Sb**	**22 09 25.3**	**-2.7**
	baz=71						
KAPS	**Kapalarasan**	**2.67**	**357**	*e*P	**Pb**	**22 08 56.0**	**+1.1**
	1.1nm,1.7s						
KAPS				*e*S	**Sg**	**22 09 31.1**	**-1.1**
	1.1nm,0.8s						
KAPS	**Kapalarasan**	**2.67**	**357**	Pg	**Pb**	**22 08 56.0**	**+1.1**
	0.2nm,0.3s						
KAPS				Lg	Lg	22 09 30.8	
	1.3nm,0.5s						

*TAP **03** 22:56:33.0, 24°.84N×122°.25E, h9km, ML3.0, C*
*JMA **03** 22:56:33.3, 24°.76N×122°.25E, h0km, M2.3*
ISC 03 22:56:33.4±1.0**, 24°.80N**±0°.02×**122°.25E**±0°.02**, h6km**±9km**, n68, σ0s.57**/127**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.28**	**204**	P	**Pb**	**22 56 40.2**	**-0.5**
	baz=214						
EOS1				S	**Sb**	**22 56 45.6**	**0.0**
	baz=214						
TWB1	**Santiao Chiao**	**0.31**	**310**	P	**Pg**	**22 56 39.3**	**-0.2**
	baz=305						
TWB1				S	**Sg**	**22 56 43.5**	**-0.2**
	baz=305						
NTC	**Toucheng**	**0.39**	**278**	P	**Pg**	**22 56 41.5**	**+0.6**
	baz=272						
NTC				*e*S	**Sb**	**22 56 47.9**	**-0.9**
	baz=272						
TWC	**Suao**	**0.41**	**242**	P	**Pg**	**22 56 41.2**	**-0.2**
	baz=238						
TWC				S	**Sg**	**22 56 47.8**	**+0.9**
	baz=238						
TIPB	**Shuangxi**	**0.42**	**293**	P	**Pg**	**22 56 41.5**	**-0.1**
	baz=288						
TIPB				S	**Sg**	**22 56 47.6**	**+0.5**
	baz=288						
NWF	**Wu-fen Shan**	**0.50**	**302**	P	**Pb**	**22 56 44.0**	**-0.7**
	baz=297						
NWF				S	**Sg**	**22 56 50.7**	**+1.0**
	baz=297						
WFSB	**Wu-fen Shan**	**0.50**	**302**	P	**Pb**	**22 56 43.8**	**-0.8**
	baz=297						
WFSB				S	**Sg**	**22 56 50.8**	**+1.1**
	baz=297						
TWE	**Neicheng**	**0.54**	**261**	P	**Pg**	**22 56 43.8**	**0.0**
	baz=250						
TWE				S	**Sb**	**22 56 52.2**	**-1.0**
	baz=250						
SLBB	**Yuanshan**	**0.56**	**265**	P	**Pg**	**22 56 44.0**	**-0.2**
	baz=262						
SLBB				*e*S	**Sb**	**22 56 52.9**	**-1.0**
	baz=262						
NANB	**Nanao**	**0.59**	**231**	P	**Pg**	**22 56 44.8**	**0.0**
	baz=229						
NANB				S	**Sg**	**22 56 52.5**	**0.0**
	baz=229						
ENA	**Nanau**	**0.60**	**231**	P	**Pg**	**22 56 45.0**	**+0.1**
	baz=229						
ENA				S	**Sg**	**22 56 52.7**	**+0.1**
	baz=229						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TWA	**Mucha**	**0.63**	**286**	*e*P	**Pb**	**22 56 46.4**	**-0.5**
	baz=283						
TWA				S	**Sb**	**22 56 55.9**	**0.0**
	baz=283						
ENTT	**Nioudou**	**0.65**	**255**	*e*P	**Pb**	**22 56 46.2**	**-0.8**
	baz=252						
ENTT				*e*S	**Sb**	**22 56 55.6**	**-0.6**
	baz=252						
NHDH	**Xindian Distri**	**0.68**	**284**	*e*P	**Pb**	**22 56 47.6**	**0.0**
	baz=280						
NHDH				*e*S	**Sb**	**22 56 57.1**	**-0.1**
	baz=280						
NWLT	**Wulai**	**0.68**	**268**	*e*P	**Pb**	**22 56 47.6**	**-0.1**
	baz=256						
NWLT				S	**Sb**	**22 56 56.8**	**-0.6**
	baz=256						
NDT	**Datong Townshi**	**0.70**	**254**	P	**Pb**	**22 56 47.5**	**-0.5**
	baz=251						
NDT				S	**Sb**	**22 56 57.6**	**-0.3**
	baz=251						
YM01	**YM01**	**0.71**	**299**	P	**Pb**	**22 56 48.0**	**-0.1**
	baz=295						
YM01				S	**Sb**	**22 56 57.5**	**-0.6**
	baz=295						
YM08	**YM08**	**0.71**	**303**	P	**Pg**	**22 56 47.4**	**+0.3**
	baz=299						
YM08				*e*S	**Sg**	**22 56 57.1**	**+0.8**
	baz=299						
YM11	**YM11**	**0.71**	**300**	*e*P	**Pb**	**22 56 47.9**	**-0.4**
	baz=297						
YM11				*e*S	**Sb**	**22 56 58.0**	**-0.3**
	baz=297						
TATO	**Taipei**	**0.71**	**284**	P	**Pb**	**22 56 48.2**	**0.0**
	baz=280						
TATO				S	**Sb**	**22 56 59.1**	**+0.8**
	baz=280						
YM10	**YM10**	**0.72**	**299**	*e*P	**Pb**	**22 56 47.9**	**-0.4**
	baz=296						
YM10				*e*S	**Sb**	**22 56 58.0**	**-0.5**
	baz=296						
JYNG	**Yonagunijimaku**	**0.72**	**119**	P	**Pg**	**22 56 47.3**	**0.0**
JYNG				S	**Sb**	**22 56 57.7**	**-0.8**
TWY	**Chenhua**	**0.76**	**309**	P	**Pb**	**22 56 48.5**	**-0.4**
	baz=305						
TWY				S	**Sb**	**22 56 59.5**	**+0.1**
	baz=305						
ANP	**Anpu**	**0.77**	**300**	P	**Pb**	**22 56 48.6**	**-0.6**
	baz=296						
YOJ	**Yonaguni jima**	**0.77**	**116**	P	**Pg**	**22 56 48.3**	**+0.1**
YOJ				*e*S	**Sg**	**22 56 58.3**	**+0.1**
YOJ	**Yonaguni jima**	**0.77**	**116**	P	**Pb**	**22 56 48.9**	**-0.3**
	baz=119						
YOJ				*e*S	**Sb**	**22 56 59.3**	**-0.6**
	baz=119						
YHNB	**Yeheng**	**0.81**	**261**	P	**Pg**	**22 56 49.0**	**0.0**
	baz=251						
YHNB				*e*S	**Sg**	**22 56 59.9**	**+0.5**
	baz=251						
NTST	**Danshui**	**0.81**	**296**	*e*S	**Sb**	**22 57 01.1**	**0.0**
	baz=306						
TWS1	**Kuangyinshan**	**0.81**	**291**	*e*P	**Pb**	**22 56 49.6**	**-0.3**
	baz=301						
TWS1				*e*S	**Sb**	**22 57 01.1**	**0.0**
	baz=301						
NSK	**Sanguang**	**0.82**	**261**	P	**Pg**	**22 56 49.2**	**0.0**
	baz=253						
NSK				*e*S	**Sg**	**22 56 59.6**	**-0.3**
	baz=253						
PCYT	**Pengchaiyu**	**0.84**	**349**	*e*P	**Pg**	**22 56 48.6**	**-0.9**
	baz=339						
NACB	**Ninganchiao**	**0.87**	**224**	P	**Pg**	**22 56 49.8**	**-0.3**
	baz=224						
NACB				S	**Sg**	**22 57 01.5**	**+0.2**
	baz=224						
NNSB	**Datong**	**0.88**	**245**	P	**Pb**	**22 56 50.4**	**-0.6**
	baz=234						
NNSB				*e*S	**Sb**	**22 57 02.7**	**-0.3**
	baz=234						
NNSH	**Datong**	**0.88**	**245**	P	**Pb**	**22 56 50.5**	**-0.6**
	baz=234						
NNSH				S	**Sb**	**22 57 03.0**	**0.0**
	baz=234						
NNS	**Nan Shan**	**0.88**	**246**	P	**Pg**	**22 56 50.4**	**+0.1**
	baz=249						
NNS				S	**Sb**	**22 57 02.7**	**-0.4**
	baz=249						
ETLH	**Xiulin Townshi**	**0.92**	**230**	P	**Pb**	**22 56 51.2**	**-0.5**
	baz=230						
ETLH				*e*S	**Sb**	**22 57 04.0**	**-0.3**
	baz=230						
TWD	**Chiawan**	**0.94**	**220**	*e*P	**Pg**	**22 56 51.1**	**-0.3**
	baz=229						
TWD				S	**Sb**	**22 57 04.3**	**-0.4**
	baz=229						
ENLB	**Shoufeng**	**1.07**	**214**	*e*S	**Sn**	**22 57 11.4**	**+1.3**
	baz=197						
WHF	**Hehuan Shan**	**1.11**	**234**	P	**Pb**	**22 56 54.8**	**-0.4**
	baz=234						
WHF				S	**Sb**	**22 57 10.2**	**0.0**
	baz=234						
TWT	**Tachien**	**1.12**	**241**	P	**Pn**	**22 56 55.6**	**-0.1**
	baz=233						
TWT				S	**Sn**	**22 57 12.0**	**+0.4**
	baz=233						
LIOB	**Emei**	**1.14**	**262**	P	**Pn**	**22 56 55.9**	**+0.1**
	baz=261						
LIOB				*e*S	**Sn**	**22 57 11.9**	**+0.2**
	baz=261						
TDCB	**Techi**	**1.14**	**241**	*e*P	**Pb**	**22 56 55.3**	**-0.2**
	baz=233						
TDCB				*e*S	**Sb**	**22 57 10.6**	**0.0**
	baz=233						
NSTT	**Nanjuang**	**1.15**	**262**	*e*S	**Sn**	**22 57 11.9**	**-0.1**
	baz=260						
CHGB	**Renai**	**1.23**	**233**	P	**Pb**	**22 56 57.0**	**-0.1**
	baz=234						
CHGB				S	**Sn**	**22 57 13.9**	**-0.4**
	baz=234						
WHP	**Taichung City**	**1.30**	**246**	P	**Pb**	**22 56 59.0**	**+0.8**
	baz=246						
WHP				S	**Sg**	**22 57 14.9**	**-0.3**
	baz=246						
TWQ1	**Liyutan**	**1.42**	**252**	*e*P	**Pg**	**22 57 00.8**	**+0.2**
	baz=251						
TWQ1				*e*S	**Sn**	**22 57 19.8**	**+1.0**
	baz=251						
IRIF	**Iriomote-Funau**	**1.43**	**109**	P	**Pb**	**22 57 00.4**	**+0.1**
IRIF				*e*S	**Sb**	**22 57 18.7**	**0.0**
DPDB	**Guoxing**	**1.43**	**238**	*e*P	**Pg**	**22 57 01.2**	**+0.4**
	baz=238						
VWDT	**VWDT**	**1.46**	**224**	P	**Pg**	**22 57 01.1**	**-0.2**
	baz=226						
VWDT				*e*S	**Sg**	**22 57 20.4**	**+0.2**
	baz=226						
HGSD	**Ruisui**	**1.51**	**210**	P	**Pb**	**22 57 01.6**	**-0.2**
	baz=201						
SMLT	**Sun Moon Lake**	**1.54**	**234**	P	**Pg**	**22 57 02.8**	**-0.1**
	baz=235						
SMLT				*e*S	**Sg**	**22 57 23.4**	**+0.6**
	baz=235						
TYC	**Yuchr**	**1.56**	**235**	P	**Pg**	**22 57 03.0**	**-0.3**
	baz=236						
TYC				S	**Sg**	**22 57 23.7**	**+0.3**
	baz=236						
SSLB	**Suanglung**	**1.56**	**230**	P	**Pb**	**22 57 02.6**	**-0.1**
	baz=231						
SSLB				S	**Sg**	**22 57 22.9**	**-0.5**
	baz=231						
HATJ	**Hateruma jima**	**1.60**	**117**	*e*S	**Sb**	**22 57 23.8**	**+0.1**
YULB	**Yu-li**	**1.65**	**212**	*e*P	**Pn**	**22 57 01.8**	**-1.1**
	baz=218						
YULB				*e*S	**Sb**	**22 57 25.4**	**0.0**
	baz=218						
WHYT	**Xinyi Township**	**1.69**	**229**	*e*P	**Pg**	**22 57 05.4**	**-0.3**
	baz=233						
WHYT				*e*S	**Sg**	**22 57 29.0**	**+1.3**
	baz=233						
TWF1	**Yuli**	**1.69**	**211**	*e*P	**Pn**	**22 57 03.4**	**0.0**
	baz=218						
JKRS	**Kuro-shima**	**1.70**	**109**	P	**Pb**	**22 57 05.2**	**+0.2**
JKRS				S	**Sg**	**22 57 27.4**	**-0.6**
YUS	**Yu-Shan**	**1.77**	**222**	*e*P	**Pn**	**22 57 05.2**	**+0.2**
	baz=227						
YUS				*e*S	**Sg**	**22 57 30.5**	**+0.3**
	baz=227						
JIJ	**Ishigaki jima**	**1.78**	**104**	P	**Pn**	**22 57 05.3**	**+0.7**
JIJ				*e*S	**Sb**	**22 57 28.6**	**-0.3**
FULB	**Fuli**	**1.82**	**209**	*e*P	**Pn**	**22 57 04.9**	**-0.4**
	baz=231						
FULB				*e*S	**Sb**	**22 57 30.4**	**+0.2**
	baz=231						
CHN5	**Tsauling**	**1.87**	**230**	P	**Pb**	**22 57 07.7**	**-0.3**
	baz=233						
CHN5				*e*S	**Sg**	**22 57 33.9**	**+0.3**
	baz=233						
ELDTW	**Lidau**	**1.96**	**215**	P	**Pn**	**22 57 07.5**	**+0.2**
	baz=207						
ELDTW				*e*S	**Sn**	**22 57 33.0**	**+0.7**
	baz=207						
CHN4	**Tsaushan**	**2.10**	**227**	P	**Pb**	**22 57 11.0**	**-0.8**
	baz=231						
CHN4				S	**Sg**	**22 57 39.9**	**-0.8**
	baz=231						
WTP	**Ta-pu**	**2.16**	**224**	*e*P	**Pb**	**22 57 12.8**	**0.0**
	baz=224						
WTP				*e*S	**Sg**	**22 57 41.8**	**-0.9**
	baz=224						
TWK	**Hsinying**	**2.22**	**227**	*e*P	**Pb**	**22 57 12.7**	**-1.3**
	baz=231						
TWK				*e*S	**Sb**	**22 57 43.0**	**+1.3**
	baz=231						
CHN1	**Nanshi**	**2.25**	**225**	*e*P	**Pb**	**22 57 13.3**	**-1.2**
	baz=229						
CHN1				S	**Sb**	**22 57 43.7**	**+1.1**
	baz=229						
SLGT	**Liugui**	**2.33**	**220**	*e*P	**Pb**	**22 57 13.9**	**-1.8**
	baz=225						
SLGT				*e*S	**Sb**	**22 57 46.1**	**+1.4**
	baz=225						

ISCJB ***03*** *23:40:54.0±0.8, 12°.58N±0°.10×87°.99W±0°.05, h61km±16km, Error ellipse: s-maj=17.4km s-min=4.5km az=21.0*
SNET ***03*** *23:40:54.8±1.1, 12°.60N×88°.05W, h33km±4km, ML3.4*
UCR ***03*** *23:40:54.2±1.6, 12°.59N×87°.98W, h54km±16km, ML3.6*
ISC 03 23:40:54.7±1.5**, 12°.6N**±0°.1×**87°.99W**±0°.05**, h51**km±26km**, n33, σ0§58**/48**, 4D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.71**	**12**	⇓*i*P	**Pn**	**23 41 08.4**	**-0.4**
CNCH				*e*S	**Sn**	**23 41 20.2**	**+1.2**
CNCH				IAML		23 41 23.3	
	comp=Z,11μm,0.4s						
CNCH	**Conchagua**	**0.71**	**12**	⇓*i*P	**Pn**	**23 41 08.4**	**-0.4**
CNCH				*e*S	**Sn**	**23 41 20.2**	**+1.2**
CNCH				IAML		23 41 23.3	
	comp=Z,11μm,0.4s						
JUCU	**Jucuar¡n**	**0.72**	**339**	*e*P	**Pn**	**23 41 08.0**	**-0.9**
JUCU				*e*S	**Sn**	**23 41 18.7**	**-0.5**
JUCU				IAML		23 41 21.7	
	comp=Z,1μm,0.3s						
LCND	**La Caada**	**0.73**	**7**	⇓*i*P	**Pn**	**23 41 08.6**	**-0.4**
LCND				*e*S	**Sn**	**23 41 19.8**	**+0.4**
LCND				IAML		23 41 23.1	
	comp=Z,3μm,0.2s						
LCND	**La Caada**	**0.73**	**7**	⇓*i*P	**Pn**	**23 41 08.6**	**-0.4**
LCND				*e*S	**Sn**	**23 41 19.8**	**+0.4**
LCND				IAML		23 41 23.1	
	comp=Z,3μm,0.2s						
VSM	**San Miguel**	**0.89**	**342**	*e*P	**Pn**	**23 41 10.9**	**-0.4**
VSM	**San Miguel**	**0.89**	**342**	*e*P	**Pn**	**23 41 11.3**	**0.0**
LCY	**Lacayo**	**0.89**	**341**	*e*P	**Pn**	**23 41 10.8**	**-0.4**
LCY	**Lacayo**	**0.89**	**341**	*e*P	**Pn**	**23 41 10.8**	**-0.4**
CRIN	**San Cristobal**	**0.92**	**82**	*e*P	**Pn**	**23 41 11.9**	**+0.4**
CRIN				*e*S	**Sn**	**23 41 25.2**	**+1.3**
CRIN				IAML		23 41 28.8	
	comp=E,4μm,0.1s						
ALJI	**Alcalda de J**	**0.94**	**323**	*e*P	**Pn**	**23 41 11.0**	**-0.7**
ALJI				*e*S	**Sn**	**23 41 23.8**	**-0.3**
ALJI				IAML		23 41 24.3	
	comp=Z,1μm,0.2s						
TECA	**Tecapa**	**1.04**	**331**	*e*P	**Pn**	**23 41 12.7**	**-0.5**
TECA	**Tecapa**	**1.04**	**331**	*e*P	**Pn**	**23 41 12.7**	**-0.5**
COEB	**Comit de Eme**	**1.06**	**330**	*e*P	**Pn**	**23 41 12.8**	**-0.6**
COEB				*e*S	**Sn**	**23 41 26.5**	**-0.7**
COEB				IAML		23 41 31.4	
	comp=Z,576nm,0.2s						
FAGO	**Alcalda de S**	**1.12**	**354**	*e*P	**Pn**	**23 41 13.6**	**-0.6**
FAGO				*e*S	**Sn**	**23 41 28.2**	**-0.3**
FAGO				IAML		23 41 30.8	
	comp=Z,261nm,0.4s						
COEG	**Centro de Oper**	**1.35**	**320**	*e*P	**Pn**	**23 41 17.8**	**+0.4**
COEG				*e*S	**Sn**	**23 41 33.8**	**-0.4**
COEG				IAML		23 41 37.9	
	comp=Z,644nm,0.2s						
MOMN	**Momotombo**	**1.42**	**97**	*e*P	**Pn**	**23 41 17.9**	**-0.4**
PAVA	**Las Pavas**	**1.46**	**321**	*e*P	**Pn**	**23 41 19.3**	**+0.4**
PAVA				*e*S	**Sn**	**23 41 38.0**	**+1.1**
PAVA				IAML		23 41 43.1	
	comp=Z,424nm,0.3s						
PAVA	**Las Pavas**	**1.46**	**321**	*e*P	**Pn**	**23 41 19.3**	**+0.4**
PAVA				*e*S	**Sn**	**23 41 38.0**	**+1.1**
PAVA				IAML		23 41 43.1	
	comp=Z,424nm,0.3s						
LFRS	**El Faro**	**1.48**	**315**	*e*P	**Pn**	**23 41 18.5**	**-0.5**
LFU	**La Fuente**	**1.60**	**317**	*e*P	**Pn**	**23 41 20.7**	**0.0**
LFU	**La Fuente**	**1.60**	**317**	*e*P	**Pn**	**23 41 20.7**	**0.0**
TGUH	**Tegucigalpa,Un**	**1.63**	**25**	*e*P	**Pn**	**23 41 20.9**	**-0.2**
BOQS	**Boqueron**	**1.71**	**313**	*e*P	**Pn**	**23 41 22.1**	**-0.2**
MGAN	**Managua**	**1.75**	**104**	*e*S	**Sn**	**23 41 43.5**	**-0.4**
RCON	**San Juan de Ri**	**2.00**	**63**	*e*P	**Pn**	**23 41 26.1**	**-0.1**
CEVE	**Cerro Verde**	**2.02**	**308**	*e*P	**Pn**	**23 41 26.4**	**-0.2**
CEVE				*e*S	**Sn**	**23 41 51.5**	**+0.6**
CEVE	**Cerro Verde**	**2.02**	**308**	*e*P	**Pn**	**23 41 26.4**	**-0.2**
CEVE				*e*S	**Sn**	**23 41 51.5**	**+0.6**
SBLS	**San Blas**	**2.03**	**308**	*e*P	**Pn**	**23 41 26.6**	**-0.1**
SBLS	**San Blas**	**2.03**	**308**	*e*P	**Pn**	**23 41 26.6**	**-0.1**
MATN	**Matagalpa**	**2.04**	**80**	*e*P	**Pn**	**23 41 26.2**	**-0.6**
MATN				*e*S	**Sn**	**23 41 50.6**	**-0.6**
RTR	**El Retiro**	**2.08**	**309**	*e*P	**Pn**	**23 41 27.4**	**+0.1**
RTR	**El Retiro**	**2.08**	**309**	*e*P	**Pn**	**23 41 27.4**	**+0.1**

ISCJB ***03*** *23:44:08.8±0.4, 39°.10N±0°.03×30°.17E±0°.04, h10km, Error ellipse: s-maj=4.5km s-min=3.6km az=44.0*
ISK ***03*** *23:44:08.0, 39°.09N×30°.21E, h2km, ML3.5/24*
ISC 03 23:44:08.4±0.9**, 39°.08N**±0°.03×**30°.22E**±0°.03**, h10**km**, n44, σ1§32**/48**, 10C-9D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.59**	**153**	PG	**Pb**	**23 44 21.1**	**+0.3**
SHUT				SG	**Sb**	**23 44 29.3**	**+0.1**
GEDZ	**Gediz**	**0.63**	**267**	PG	**Pg**	**23 44 21.1**	**+0.5**
ESKT	**Eskisehir**	**0.66**	**48**	PG	**Pg**	**23 44 21.5**	**+0.3**
ESKT				SG	**Sg**	**23 44 31.0**	**+1.2**
TVSB	**Tavsanli**	**0.69**	**302**	PG	**Pg**	**23 44 21.7**	**-0.1**
CIFT	**Cifteler, Eski**	**0.71**	**67**	PG	**Pg**	**23 44 22.5**	**+0.3**
SHAP	**Saphane-Kutahy**	**0.78**	**266**	PG	**Pg**	**23 44 23.4**	**0.0**
BORA	**Eskisehir**	**0.82**	**13**	PG	**Pg**	**23 44 24.5**	**+0.3**
SRCK	**Saricakaya, Es**	**1.01**	**18**	PG	**Pg**	**23 44 27.9**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.08**	**70**	PN	**Pg**	**23 44 29.5**	**+0.4**
AUSIV	**SIVRIHISAR**	**1.09**	**70**	PN	**Pg**	**23 44 29.8**	**+0.5**
BASM	**Basmaki-Afyon**	**1.17**	**187**	PN	**Pb**	**23 44 31.0**	**+0.4**
AUMIH	**MIHALICIK**	**1.26**	**51**	PN	**Pg**	**23 44 33.1**	**+0.6**
KIZT	**Kizilcal**	**1.31**	**98**	PN	**Pg**	**23 44 34.3**	**+0.7**
GULT	**Gulveren**	**1.37**	**10**	PN	**Pg**	**23 44 34.9**	**+0.2**
ADVT	**Abdulvahap**	**1.40**	**345**	PN	**Pb**	**23 44 35.0**	**+0.4**
SPNC	**Sapanca-Adapaz**	**1.61**	**2**	PN	**Pb**	**23 44 38.6**	**+0.5**
YLV	**Yalova**	**1.62**	**337**	⇑P	**Pg**	**23 44 39.7**	**+0.2**
YLV				⇑S	**Sg**	**23 45 00.3**	**-0.3**
YLV	**Yalova**	**1.62**	**337**	PN	**Pb**	**23 44 39.0**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.65**	**322**	PN	**Pb**	**23 44 39.1**	**+0.3**
SAUV	**Serdivan-Sakar**	**1.66**	**3**	PN	**Pb**	**23 44 39.5**	**+0.5**
YUVA	**Yuva-Kibriscik**	**1.73**	**40**	PN	**Pb**	**23 44 40.5**	**+0.2**
LADK	**Ladik-KONYA**	**1.90**	**117**	PN	**Pb**	**23 44 42.9**	**-0.2**
KONT	**Konya--Tatoy**	**2.03**	**123**	PN	**Pb**	**23 44 44.6**	**-0.7**
SILT	**Sile**	**2.12**	**348**	⇓P	**Pb**	**23 44 46.9**	**0.0**
SILT				AML	AML	23 45 20.9	
LOD	**Lodumlu**	**2.13**	**67**	PN	**Pb**	**23 44 46.1**	**-1.0**
ANTO	**Ankara**	**2.14**	**68**	⇑P	**Pg**	**23 44 49.8**	**+0.4**
ANTO	**Ankara**	**2.14**	**68**	PN	**Pn**	**23 44 46.3**	**+2.0**
CHBY	**Cihanbeyli**	**2.15**	**103**	PN	**Pb**	**23 44 46.5**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**2.15**	**239**	PN	**Pn**	**23 44 45.7**	**+1.4**
AFSR	**Afar-Bala (An**	**2.25**	**80**	PN	**Pb**	**23 44 48.1**	**-1.0**
KLYT	**Kilyos**	**2.35**	**338**	⇓P	**Pn**	**23 44 43.7**	**-3.3**
KLYT				⇑S	**Sn**	**23 45 11.8**	**-4.1**
ELND	**Elena**	**5.06**	**321**	⇑P	**Pn**	**23 45 25.9**	**+1.7**
ELND				AML	AML	23 47 01.6	
TIRR	**Tirgusor**	**5.54**	**346**	⇓P	**Pn**	**23 45 32.5**	**+1.6**
TLB	**Topalu**	**5.74**	**344**	⇓P	**Pn**	**23 45 35.0**	**+1.5**
HARR	**Harsova**	**5.86**	**344**	⇓P	**Pn**	**23 45 36.6**	**+1.4**
TOPG	**Topolog**	**5.95**	**347**	⇑P	**Pn**	**23 45 36.8**	**+0.3**
CFR	**Carcaliu**	**6.29**	**346**	⇓P	**Pn**	**23 45 41.9**	**+0.9**
VTS	**Vitosha**	**6.36**	**306**	⇓P	**Pn**	**23 45 42.2**	**-0.1**
MLR	**Muntele Rosu**	**7.15**	**335**	⇓P	**Pn**	**23 45 55.5**	**+2.5**
VRI	**Vrincioaia**	**7.25**	**340**	⇓P	**Pn**	**23 45 56.6**	**+2.2**
PLOR	**Plostina**	**7.26**	**340**	⇑P	**Pn**	**23 45 56.5**	**+2.0**
DOPR	**Dopca**	**7.75**	**334**	⇑P	**Pn**	**23 46 03.4**	**+2.2**
TESR	**Tescani**	**7.88**	**342**	⇑P	**Pn**	**23 46 02.0**	**-0.9**
BURAR	**Bucovina Array**	**9.27**	**339**	⇑P	**Pn**	**23 46 24.5**	**+2.4**

KRSC ***03*** *23:55:05.9±0.5, 56°.05N×161°.00E, h144km±4km, ML4.5*
ISCJB ***03*** *23:55:06.4±0.2, 56°.07N±0°.02×160°.92E±0°.06, h144km±1km, mb3.9/19, Error ellipse: s-maj=5.6km s-min=3.4km az=30.0*
MOS ***03*** *23:55:06.2±0.6, 56°.10N×160°.91E, h144km, mb4.1/8, Error ellipse: s-maj=12.6km s-min=4.7km az=77.9*
NEIC ***03*** *23:55:08.0±1.3, 56°.09N±0°.06×160°.6E±0°.2, h145km±9km, mb4.2/17*
IDC ***03*** *23:55:08.7±0.8, 56°.16N×160°.70E, h147km±6km, mb3.6/16, mb1 3.8/20, mb1mx3.5/65, mbtmp4.1/20, Error ellipse: s-maj=19.2km s-min=9.4km az=167.0*
ISC 03 23:55:07.9±0.5**, 56°.06N**±0°.03×**160°.95E**±0°.03**, h145**km±3km**, h145**km**:pP-P, n132, σ1§15**/187**, mb4.1**/24**, 4C-5D, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.09**	**243**	*i* P	**Pn**	**23 55 26.8**	**-0.7**
ZLN	**Zelenaya**	**0.09**	**243**	PN	**Pn**	**23 55 26.8**	**-0.7**
CIRR	**Tsirk**	**0.13**	**298**	*i* P	**Pn**	**23 55 26.7**	**-0.9**
CIRR	**Tsirk**	**0.13**	**298**	PN	**Pn**	**23 55 26.7**	**-0.9**
LGNR	**Loginova**	**0.15**	**280**	*e*P	**Pn**	**23 55 27.1**	**-0.7**
LGNR				*e*S	**Sn**	**23 55 42.5**	**-0.5**
LGNR	**Loginova**	**0.15**	**280**	PN	**Pn**	**23 55 27.1**	**-0.7**
LGNR				S	**Sn**	**23 55 42.5**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**0.18**	**230**	*e*P	**Pn**	**23 55 26.9**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**0.18**	**230**	PN	**Pn**	**23 55 26.9**	**-0.8**
KRSR	**Krestovskiy**	**0.27**	**307**	*e*P	**Pn**	**23 55 26.4**	**-1.5**
KRSR				*e*S	**Sn**	**23 55 41.5**	**-1.6**
KRSR	**Krestovskiy**	**0.27**	**307**	PN	**Pn**	**23 55 26.4**	**-1.5**
KRSR				S	**Sn**	**23 55 41.5**	**-1.6**
BZWR	**Bezymyannyi-We**	**0.27**	**250**	*i* P	**Pn**	**23 55 26.8**	**-1.2**
BZWR				*e*S	**Sn**	**23 55 42.3**	**-0.9**
BZWR	**Bezymyannyi-We**	**0.27**	**250**	PN	**Pn**	**23 55 26.8**	**-1.2**
BZWR				S	**Sn**	**23 55 42.3**	**-0.9**
KLY	**Klyuchi**	**0.30**	**327**	*i* P	**Pn**	**23 55 26.6**	**-1.2**
KLY				*e*S	**Sn**	**23 55 41.6**	**-1.4**
KLY	**Klyuchi**	**0.30**	**327**	PN	**Pn**	**23 55 26.6**	**-1.2**
KLY				S	**Sn**	**23 55 41.6**	**-1.4**
KIRR	**Kirishev**	**0.35**	**253**	*i* P	**Pn**	**23 55 26.8**	**-1.4**
KIRR				*e*S	**Sn**	**23 55 41.7**	**-1.9**
KIRR	**Kirishev**	**0.35**	**253**	PN	**Pn**	**23 55 26.8**	**-1.4**
KIRR				S	**Sn**	**23 55 41.7**	**-1.9**
KPT	**Kopyto**	**0.42**	**258**	*i* P	**Pn**	**23 55 27.1**	**-1.3**
KPT				*e*S	**Sn**	**23 55 41.9**	**-2.0**
KPT	**Kopyto**	**0.42**	**258**	PN	**Pn**	**23 55 27.1**	**-1.3**
KPT				S	**Sn**	**23 55 41.9**	**-2.0**
KMNR	**Kamenistaya**	**0.50**	**233**	*i* P	**Pn**	**23 55 27.8**	**-1.0**
KMNR				*e*S	**Sn**	**23 55 43.8**	**-0.9**
KMNR	**Kamenistaya**	**0.50**	**233**	PN	**Pn**	**23 55 27.8**	**-1.0**
KMNR				S	**Sn**	**23 55 43.8**	**-0.9**
BDR	**Baidarnaya**	**0.53**	**16**	*e*P	**Pn**	**23 55 27.8**	**-1.1**
BDR				*e*S	**Sn**	**23 55 44.4**	**-0.6**
BDR	**Baidarnaya**	**0.53**	**16**	PN	**Pn**	**23 55 27.8**	**-1.1**
BDR				S	**Sn**	**23 55 44.4**	**-0.6**
SMKR	**Semkarok**	**0.60**	**29**	*e*P	**Pn**	**23 55 28.4**	**-0.9**
SMKR				*e*S	**Sn**	**23 55 44.7**	**-1.0**
SMKR	**Semkarok**	**0.60**	**29**	PN	**Pn**	**23 55 28.4**	**-0.9**
SMKR				S	**Sn**	**23 55 44.7**	**-1.0**
KOZ	**Kozyrevsk**	**0.60**	**271**	*i* P	**Pn**	**23 55 28.0**	**-1.3**
KOZ				*e*S	**Sn**	**23 55 44.6**	**-0.9**
KOZ	**Kozyrevsk**	**0.60**	**271**	PN	**Pn**	**23 55 28.0**	**-1.3**
KOZ				S	**Sn**	**23 55 44.6**	**-0.9**
SRKR	**Sorokina**	**0.61**	**12**	*e*P	**Pn**	**23 55 28.2**	**-1.2**
SRKR				*e*S	**Sn**	**23 55 44.8**	**-1.0**
SRKR	**Sorokina**	**0.61**	**12**	PN	**Pn**	**23 55 28.2**	**-1.2**
SRKR				S	**Sn**	**23 55 44.8**	**-1.0**
SRDR	**Sredinnyy**	**0.73**	**291**	*e*P	**Pn**	**23 55 28.8**	**-1.4**
SRDR				*e*S	**Sn**	**23 55 45.5**	**-1.6**
SRDR	**Sredinnyy**	**0.73**	**291**	PN	**Pn**	**23 55 28.8**	**-1.4**
SRDR				S	**Sn**	**23 55 45.5**	**-1.6**
TUMR	**Tumrok**	**0.90**	**211**	*i* P	**Pn**	**23 55 31.2**	**-0.3**
TUMR				*e*S	**Sn**	**23 55 49.2**	**-0.2**
TUMR	**Tumrok**	**0.90**	**211**	PN	**Pn**	**23 55 30.4**	**-1.1**
TUMR				S	**Sn**	**23 55 48.1**	**-1.3**
TUMD	**Tumrok D**	**0.91**	**200**	*e*P	**Pn**	**23 55 30.4**	**-1.1**
TUMD				*e*S	**Sn**	**23 55 48.1**	**-1.3**
KBG	**Krutoberegovo**	**1.00**	**78**	*e*P	**Pn**	**23 55 30.9**	**-1.3**
KBG				*e*S	**Sn**	**23 55 49.4**	**-1.3**
KBG	**Krutoberegovo**	**1.00**	**78**	PN	**Pn**	**23 55 30.9**	**-1.3**
KBG				S	**Sn**	**23 55 49.4**	**-1.3**
KZV	**Kizimen**	**1.02**	**202**	*e*P	**Pn**	**23 55 31.8**	**-0.7**
KZV				*e*S	**Sn**	**23 55 50.2**	**-1.0**
KZV	**Kizimen**	**1.02**	**202**	PN	**Pn**	**23 55 31.8**	**-0.7**
KZV				S	**Sn**	**23 55 50.2**	**-1.0**
KBTR	**Krutoberegovo**	**1.06**	**81**	*e*P	**Pn**	**23 55 31.6**	**-1.1**
KBTR				*e*S	**Sn**	**23 55 50.4**	**-1.2**
KBTR	**Krutoberegovo**	**1.06**	**81**	PN	**Pn**	**23 55 31.6**	**-1.1**
KBTR				S	**Sn**	**23 55 50.4**	**-1.2**
MKZ	**Mys Kozlova**	**1.57**	**163**	*e*P	**Pn**	**23 55 36.4**	**-1.4**
MKZ				*e*S	**Sn**	**23 55 58.7**	**-1.9**
MKZ	**Mys Kozlova**	**1.57**	**163**	PN	**Pn**	**23 55 36.4**	**-1.4**
MKZ				S	**Sn**	**23 55 58.7**	**-1.9**
KII	**Karymskiy**	**2.20**	**204**	*e*P	**Pn**	**23 55 44.4**	**-0.8**
KII				*e*S	**Sn**	**23 56 12.9**	**-0.9**
KII	**Karymskiy**	**2.20**	**204**	PN	**Pn**	**23 55 44.4**	**-0.8**
KII				S	**Sn**	**23 56 12.9**	**-0.9**
BKI	**Bering**	**2.98**	**105**	*e*P	**Pn**	**23 55 53.8**	**-0.8**
BKI				*e*S	**Sn**	**23 56 28.7**	**-2.1**
BKI	**Bering**	**2.98**	**105**	PN	**Pn**	**23 55 53.8**	**-0.8**
BKI				S	**Sn**	**23 56 28.7**	**-2.1**
SPN	**Mys Shipunski**	**3.01**	**191**	*e*P	**Pn**	**23 55 52.6**	**-2.6**
SPN				*e*S	**Sn**	**23 56 30.5**	**-1.2**
SPN	**Mys Shipunski**	**3.01**	**191**	PN	**Pn**	**23 55 52.6**	**-2.6**
SPN				S	**Sn**	**23 56 30.5**	**-1.2**
KRX	**Arik**	**3.02**	**207**	*e*P	**Pn**	**23 55 55.5**	**+0.1**
KRX	**Arik**	**3.02**	**207**	PN	**Pn**	**23 55 55.5**	**+0.1**
SDLR	**Sedlovina**	**3.03**	**204**	*e*P	**Pn**	**23 55 55.0**	**-0.6**
SDLR	**Sedlovina**	**3.03**	**204**	PN	**Pn**	**23 55 55.0**	**-0.6**
NLC	**Nalytchevo**	**3.04**	**199**	*e*P	**Pn**	**23 55 54.0**	**-1.5**
NLC				*e*S	**Sn**	**23 56 32.3**	**+0.1**
NLC	**Nalytchevo**	**3.04**	**199**	PN	**Pn**	**23 55 54.0**	**-1.5**
NLC				S	**Sn**	**23 56 32.3**	**+0.1**
KRER	**Koryakskii**	**3.04**	**206**	*e*P	**Pn**	**23 55 55.8**	**+0.1**
KRER	**Koryakskii**	**3.04**	**206**	PN	**Pn**	**23 55 55.8**	**+0.1**
SMAR	**Somma**	**3.06**	**205**	*e*P	**Pn**	**23 55 55.9**	**-0.2**
SMAR	**Somma**	**3.06**	**205**	PN	**Pn**	**23 55 55.9**	**-0.2**
AVH	**Avacha**	**3.08**	**206**	*e*P	**Pn**	**23 55 56.1**	**0.0**
AVH	**Avacha**	**3.08**	**206**	PN	**Pn**	**23 55 56.1**	**0.0**
KOK	**Koryaka**	**3.08**	**207**	*e*P	**Pn**	**23 55 55.8**	**-0.3**
KOK	**Koryaka**	**3.08**	**207**	PN	**Pn**	**23 55 55.8**	**-0.3**
PALN	**Palana**	**3.09**	**351**	*e*P	**Pn**	**23 55 55.3**	**-0.7**
PALN	**Palana**	**3.09**	**351**	PN	**Pn**	**23 55 55.3**	**-0.7**
UGLR	**Uglovaya**	**3.11**	**204**	*e*P	**Pn**	**23 55 56.4**	**-0.1**
UGLR	**Uglovaya**	**3.11**	**204**	PN	**Pn**	**23 55 56.4**	**-0.1**
DALK	**Dalny**	**3.29**	**204**	*e*P	**Pn**	**23 55 58.1**	**-0.6**
DALK				*e*S	**Sn**	**23 56 37.8**	**-0.2**
DALK	**Dalny**	**3.29**	**204**	PN	**Pn**	**23 55 58.1**	**-0.6**
DALK				S	**Sn**	**23 56 37.8**	**-0.2**
PET	**Petropavlovsk**	**3.32**	**205**	⇓*i*PN	**Pn**	**23 55 58.6**	**-0.5**
PET				*e*S	**Sn**	**23 56 34.5**	**-4.2**
PET				pmax	pmax		
	comp=Z,800nm,1.2s						
PET				pmax	pmax		
	comp=Z,566nm,1.1s						
PET				smax	smax		
	comp=E,214nm,0.7s						
PET				MLR	MLR		
	comp=Z,700nm,5.0s						
PET				MLR	MLR		
	comp=Z,2μm,4.0s						
PET	**Petropavlovsk**	**3.32**	**205**		**Pn**	**23 55 58.4**	**-0.7**
OSSR	**Ossora**	**3.40**	**19**	*e*P	**Pn**	**23 55 59.8**	**-0.2**
OSSR	**Ossora**	**3.40**	**19**	PN	**Pn**	**23 55 59.8**	**-0.2**
PEA0B	**Petropavlovsk-**	**3.51**	**214**	*d i*PN	**Pn**	**23 56 01.1**	**-0.5**
PEA0B	**Petropavlovsk-**	**3.51**	**214**		**Pn**	**23 56 00.8**	**-0.8**

PETK	Petropavlovsk-	3.51	214	P	Pn	23 56 01.4	-0.2
	comp=Z,5.0nm,0.3s,baz=56,slow=14,SNR=81						
PETK				S	Sn	23 56 39.1	-4.0
	comp=Z,2.2nm,0.3s,baz=0.9,slow=18,SNR=4.7						
KRMR	Karymshinskiy	3.63	208	eP	Pn	23 56 02.1	-1.0
KRMR				eS	Sn	23 56 45.8	-0.1
KRMR	Karymshinskiy	3.63	208	PN	Pn	23 56 02.1	-1.0
KRMR				S	Sn	23 56 45.8	-0.1
APC	Apacha	3.84	217	eP	Pn	23 56 06.2	+0.4
APC				eS	Sn	23 56 50.4	-0.4
APC	Apacha	3.84	217	PN	Pn	23 56 06.2	+0.4
APC				S	Sn	23 56 50.4	-0.4
MTVR	Mutnovka	3.93	205	eP	Pn	23 56 06.8	-0.4
MTVR	Mutnovka	3.93	205	PN	Pn	23 56 06.8	-0.4
ASAK	Asacha	4.09	207	eP	Pn	23 56 08.9	-0.4
ASAK	Asacha	4.09	207	PN	Pn	23 56 08.9	-0.4
SKR	Severo-Kuril's	6.11	210	⇑ePN	Pn	23 56 37.3	+1.4
MA2	Magadan	6.48	307	P	Pn	23 56 41.1	+0.3
	comp=Z,0.8nm,0.3s,baz=97,slow=16,SNR=2.9						
BILL	Bilibino	12.27	9	ePN	P	23 58 01.5	-2.3
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BILL	Bilibino	12.27	9		Pn	23 57 58.1	+0.6
JKA	Kamikawa-asahi	16.71	232	P	Pn	23 58 54.0	+0.6
ASAJ	Asahikawa	16.71	232	P	Pn	23 58 54.0	+0.7
ASAJ	Asahikawa	16.71	232	P	Pn	23 58 54.0	+0.7
	comp=Z,0.8nm,0.3s,baz=79,slow=9.8,SNR=4.3						
KLR	Kul'dur	18.89	261	ceP	P	23 59 17.0	+0.1
KLR				pmax	pmax		
	comp=Z,13nm,1.4s						
KLR	Kul'dur	18.89	261	P	P	23 59 17.2	+0.3
	comp=Z,0.3nm,0.3s,baz=56,slow=10,SNR=16						
TIXI	Tiksi	20.65	332	⇓iP	P	23 59 36.3	+0.7
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
TIXI	Tiksi	20.65	332	P	P	23 59 35.9	+0.3
	comp=Z,6.9nm,0.7s,baz=128,slow=12,SNR=18						
TIXI	Tiksi	20.65	332	P	P	23 59 35.5	0.0
TIXI				IAmb	IAmb	23 59 38.5	
	comp=Z,7.7nm,0.7s						
USRK	Ussuriysk Ar.	21.85	249	P	P	23 59 48.7	+0.1
	comp=Z,1.1nm,0.6s,baz=46,slow=12,SNR=4.1						
BPAW	Bear Paw Mtn.	24.72	51	P	P	00 00 16.1	+0.8
MLY	Manley	24.78	49	P	P	00 00 17.0	+1.2
HIA	Hailar	25.58	272	⇓eP	P	00 00 22.8	-0.4
HIA				pmax	pmax		
	comp=Z,38nm,1.3s						
WRH	Wood River Hil	25.95	50	P	P	00 00 27.3	+1.0
WRH				IAmb	IAmb	00 00 28.0	
	comp=Z,5.0nm,0.9s						
WRH					pP	00 00 57.3	+0.6
CCB	Clear Creek Bu	26.06	50	P	P	00 00 28.0	+0.7
CCB					pP	00 00 58.7	+1.1
IL31		26.44	49	P	P	00 00 31.1	+0.4
ILAR	Eielson Array	26.44	49	P	P	00 00 31.1	+0.4
	comp=Z,0.8nm,0.5s,baz=262,slow=7.0,SNR=21						
ILAR				pP	pP	00 01 01.8	+0.7
	comp=Z,2.3nm,1.0s,baz=270,slow=8.8,SNR=7.4						
PRP	Porcupine Dome	26.94	48	P	P	00 00 36.3	+0.9
PRP				IAmb	IAmb	00 00 37.3	
	comp=Z,4.5nm,0.8s						
SCRK	Sand Creek	27.79	51	P	P	00 00 42.7	-0.2
SCRK				IAmb	IAmb	00 00 42.9	
	comp=Z,2.9nm,0.8s						
SCRK					pP	00 01 13.5	-0.1
INK	Inuvik	31.25	41	P	P	00 01 14.2	+0.9
	comp=Z,1.0nm,0.4s,baz=272,slow=5.5,SNR=8.1						
INK	Inuvik	31.25	41	IAmb	IAmb	00 01 14.7	
	comp=Z,1.8nm,0.8s						
ULN	Ulaanbaatar	33.42	279	⇓eP	P	00 01 31.9	-0.7
ULN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
SONM	Songino Array	33.80	279	P	P	00 01 35.6	-0.3
	comp=Z,1.3nm,0.8s,baz=40,slow=6.9,SNR=8.4						
YKA	Yellowknife Ar	40.68	45	P	P	00 02 34.2	+0.9
	comp=Z,1.7nm,0.5s,baz=301,slow=8.0,SNR=12						
YKA				pP	pP	00 03 07.6	+2.1
	comp=Z,0.6nm,0.6s,baz=303,slow=7.6,SNR=2.7						
GTA	Gaotai	42.84	274	eP	P	00 02 51.4	0.0
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KURK	Kurchatov	46.63	300	⇑iP	P	00 03 20.3	-0.8
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	Kurchatov	46.63	300	P	P	00 03 20.5	-0.6
KURK	Kurchatov	46.63	300	IAmb	IAmb	00 03 21.2	
	comp=Z,3.7nm,0.8s						
KURBB	Kurchatov Arra	46.74	300	P	P	00 03 20.5	-1.5
	comp=Z,2.3nm,0.6s,baz=55,slow=7.8,SNR=8.7						
MKAR	Makanchi Array	47.37	294	P	P	00 03 25.8	-1.1
	comp=Z,1.7nm,0.7s,baz=60,slow=8.4,SNR=11						
AAK	Ala-Archa	54.24	295	⇑eP	P	00 04 17.7	-0.9
AAK				pmax	pmax		
	comp=Z,13nm,1.6s						
AAK	Ala-Archa	54.24	295	P	P	00 04 18.0	-0.6
	comp=Z,4.5nm,0.9s,baz=78,slow=7.4,SNR=11						
AAK	Ala-Archa	54.24	295	P	P	00 04 17.8	-0.8
AAK				IAmb	IAmb	00 04 18.8	
	comp=Z,8.0nm,1.1s						
NVAR	Mina Array Bea	54.32	73	P	P	00 04 21.2	+2.0
	comp=Z,1.4nm,0.7s,baz=302,slow=7.5,SNR=7.3						
NVAR				pP	pP	00 04 55.4	+2.6
	comp=Z,1.0nm,0.9s,baz=284,slow=6.0,SNR=2.3						
PDAR	Pinedale Array	55.69	63	P	P	00 04 30.4	+1.3
	comp=Z,0.7nm,0.5s,baz=304,slow=1.9,SNR=7.7						
KK31	Karatay Array	55.91	298	IAmb	IAmb	00 04 30.1	
	comp=Z,5.0nm,0.9s						
KKAR	Karatay Array	55.91	298	IAmb	IAmb	00 04 30.1	
	comp=Z,5.0nm,0.9s						
FINES	FINESS Array B	57.60	336	i P	P	00 04 41.4	-0.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	57.60	336	P	P	00 04 40.9	-0.9
	comp=Z,7.9nm,1.2s,baz=32,slow=9.4,SNR=13						
OBN	Obninsk	60.29	327	eP	P	00 04 59.7	-0.8
OBN				e*PP	pP	00 05 35.6	+0.7
OBN				e		00 05 44.2	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA	NORSAR Array B	60.83	344	eP	P	00 05 01.8	-2.4
NOA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NOA	NORSAR Array B	60.83	344	P	P	00 05 03.4	-0.8
	comp=Z,3.8nm,1.1s,baz=22,slow=6.7,SNR=4.3						
GEYT	Alibeck	65.91	302	P	P	00 05 37.5	-0.5
	comp=Z,2.7nm,0.6s,baz=30,slow=4.1,SNR=6.8						
AKASG	Malin Array Be	66.33	329	P	P	00 05 39.2	-1.1
	comp=Z,0.4nm,0.3s,baz=29,slow=7.7,SNR=2.9						
TXAR	Lajitas Array	69.05	69	P	P	00 05 59.3	+1.5
	comp=Z,1.5nm,0.6s,baz=298,slow=4.8,SNR=15						
TXAR				pP	pP	00 06 33.5	+0.5
	comp=Z,2.5nm,0.8s,baz=296,slow=4.4,SNR=12						
CLL	Collm	69.75	339	eP	P	00 06 01.0	-0.7
CLL	Collm	69.75	339	eP	P	00 06 01.0	-0.7

*MAN **03** 23:58:48.6, 6°.41N×126°.38E, h41^{km}, MS5.7*

MAN Intensity V - Mati Davao Oriental; Davao City; Toril; Intensity III - Butuan City; Kidapawan City; Intensity II - San Francisco Agusan del Sur; Cotabato City; General Santos City; Koronadal City; Polomolok, South Cotabato; Alabel Sarangani.

*NEIC **03** 23:58:49.9±1.6, 6°.62N±0°.05×126°.18E±0°.06, h30^{km}±1^{km}, mb5.8/230, Ms_20 5.0/286, Mwb5.6, Mwc5.6(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.41; $M_{\theta\theta}$1.50; $M_{\phi\phi}$-2.90; $M_{r\theta}$0.73; $M_{\theta\phi}$-0.68; $M_{\phi r}$-0.23; Fault plane solution: $M_0$2.72000×10^{17} NP1:ϕ_s45.71000°, δ60.83000°, λ149.14000°. NP2:ϕ_s151.94000°, δ63.39000°, λ33.03000°. Principal axes: T 2.2689, Plg41.0000°, Azm10.0000°; N 0.7392, Plg49.0000°, Azm187.0000°; P -3.0081, Plg2.0000°, Azm278.0000°;*

*MOS **03** 23:58:50.3±1.0, 6°.68N×126°.06E, h45^{km}, mb6.1/73, MS4.8/22 Error ellipse: s-maj=7.1km s-min=3.9km az=112.0*

*GCMT **03** 23:58:51.9±0.1, 6°.60N±0°.01×126°.16E±0°.01, h43^{km}, MW5.6/157, Moment Tensor Solution. s148,c255; s157,c308; Duration: 1^{s}5 Moment tensor: Scale 10^{17} Nm; M_{rr}1.71±.03; $M_{\theta\theta}$0.36±.03; $M_{\phi\phi}$-2.07±.03; $M_{r\theta}$1.75±.04; $M_{\theta\phi}$-1.84±.03; $M_{\phi r}$-0.46±.04; Best double couple: $M_0$3.20800×10^{17} NP1:ϕ_s62.00000°, δ63.00000°, λ138.00000°. NP2:ϕ_s175.00000°, δ53.00000°, λ34.00000°. Principal axes: T 3.3130, Plg48.0000°, Azm24.0000°; N -0.2090, Plg41.0000°, Azm216.0000°; P -3.1040, Plg6.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*ISCJB **03** 23:58:52.1±0.3, 6°.63N±0°.01×126°.22E±0°.02, h65^{km}±2^{km}, mb5.7/195 Error ellipse: s-maj=3.2km s-min=2.3km az=168.3*

*DJA **03** 23:58:53.3±0.3, 7°N±2°×12°6E±°, h56^{km}±3^{km}, M5.6/121, mB6.0/99, mb5.7/121, MLv6.1/6, Mw5.6/32, Mw(mB)5.6/99, Mwp5.5/35*

*IDC **03** 23:58:53.9±0.5, 6°.62N×126°.16E, h62^{km}±4^{km}, mb5.3/51, mb1 5.4/56, mb1mx5.3/62, mbtmp5.6/56, MS4.7/38, Ms1 4.7/38, ms1mx4.7/43, Error ellipse: s-maj=9.0km s-min=5.7km az=74.0*

*NEIC **03** 23:58:53, 6°.61N×126°.22E, h48^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.68; $M_{\theta\theta}$0.55; $M_{\phi\phi}$-2.23; $M_{r\theta}$1.55; $M_{\theta\phi}$-2.00; $M_{\phi r}$-0.53; Fault plane solution: $M_0$3.28000×10^{17} NP1:ϕ_s173.00000°, δ57.00000°, λ34.00000°. NP2:ϕ_s62.00000°, δ62.00000°, λ142.00000°. Principal axes: T 3.2641, Plg46.0000°, Azm25.0000°; N 0.0251, Plg44.0000°, Azm212.0000°; P -3.2892, Plg3.0000°, Azm119.0000°;*

*KLM **03** 23:58:54.0, 6°.72N×126°.22E, h47^{km}, mb5.9*

*BJI **03** 23:58:54.0±0.0, 6°.70N×126°.20E, h60^{km}, mb5.8/80, mB5.7/57, Ms5.1/91, Ms7 5.0/86*

ISC 03 23:58:51.9±0.3, **6°.60N**±0°.02×**126°.18E**±0°.03, **h49**^{km}±2^{km}, **h49**^{km}**:pP-P, n1180,** σ**1^{s}52**/1142, **mb5.8**/265, **MS5.0**/214, **107C-35D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.35	13	P	Pn	23 59 01.1	-0.3
MATI				S	Sn	23 59 08.9	+0.8
DDMP	Don Marcelino,	0.68	223	P	Pn	23 59 03.8	-1.6
DDMP				S	Sn	23 59 14.4	-0.6
DAV	Davao City (W)	0.76	308	P	Pn	23 59 08.4	+2.1
	SNR=7267						
DAV	Davao City (W)	0.76	308	P	Pn	23 59 08.8	+2.4
	43µm,0.3s,baz=331,slow=0.1,SNR=3101						
DAV				S	Sn	23 59 21.0	+4.2
	42µm,0.3s,baz=158,slow=11,SNR=30						
DAV	Davao City (W)	0.76	308	P	Pn	23 58 57.7	-8.6
DAV	Davao City (W)	0.76	308		Pn	23 59 07.8	+1.5
DMPH	Davao City--Mi	0.82	306	⇓P	Pn	23 59 09.0	+1.8
DMPH				S	Sn	23 59 21.7	+3.4
KCP	Kidapawan	1.16	291	⇓P	Pn	23 59 12.6	+0.8
KCP				S	Sn	23 59 27.6	+1.1
GSPH	General Santos	1.32	247	⇑p	Pn	23 59 13.2	-0.9
BIPH	Bislig	1.58	7	⇑P	Pn	23 59 18.2	+0.7
BIPH				S	Sn	23 59 38.9	+2.1
CTBH	Cotabato--PC H	2.02	288	⇓P	Pn	23 59 24.1	+0.7
CTBH				S	Sn	23 59 45.3	-2.1
SGSI	Sangihe	2.97	193	P	Pn	23 59 37.3	+0.8
PAGZ	Pagadian	3.04	294	P	Pn	23 59 37.6	+0.1
PAGZ				S	Sn	00 00 28.4	+16
DCPH	Dipolog City	3.42	305	⇑P	Pn	23 59 45.3	+2.5
SNPH	Sibulan	3.99	313	P	Pn	23 59 53.7	+3.1
ZCP	Zamboanga City	4.09	275	⇓P	Pn	23 59 53.1	+1.2
ZCP				S	Sn	00 00 43.3	+4.8
ZCP	Zamboanga City	4.09	275	⇓P	Pn	23 59 53.1	+1.2
ZCP				S	Sn	00 00 43.3	+4.8
LLP	Lapu-Lapu	4.29	329	⇓P	Pn	23 59 56.8	+2.0
LLP				S	Sn	00 00 09.6	-34
JAP	San Jose, Anti	5.87	315	⇑P	Pn	00 00 19.6	+3.3
JAP				S	Sn	00 00 50.2	-32
TNTI	Ternate	5.91	168	P	Pn	00 00 19.1	+2.1
	7.8nm8µm24µm2µm,0.9s						
TNTI	Ternate	5.91	168		Pn	00 00 18.5	+1.6
RCP	Roxas	5.98	326	⇓P	Pn	00 00 20.2	+2.3
LBMI	Labuha	7.31	170	P	Pn	00 00 39.5	+3.3
	6.3nm22µm1µm,1.2s						
GQP	Guinayangan	8.13	333	⇑P	Pn	00 00 49.9	+2.5
LUWI	Luwuk	8.32	204	P	Pn	00 00 53.4	+3.4
	6µm29µm3µm,0.9s						
LUWI	Luwuk	8.32	204		Pn	00 00 52.6	+2.6
I39PW	PALAU INFRASON	8.36	83	i		00 44 50.0	
	baz=270,slow=308,SNR=1.6						
SANI	Sanana	8.60	181	P	Pn	00 00 53.0	-0.8
	5µm9µm851nm,0.8s,3.0nm						
LQP	Lukban	8.75	329	⇓P	Pn	00 01 00.1	+4.1
SWI	Sorong	8.98	145	P	Pn	00 00 59.7	+0.6
	15µm6µm517nm,1.0s						
SIJI	Sorong	8.99	145	P	Pn	00 01 01.9	+2.7
	19nm,0.3s,baz=3.0,slow=10,SNR=29						
SIJI				S	Sn	00 02 43.0	+3.8
	5.4nm,0.3s,baz=195,slow=20,SNR=2.0						
SIJI	Sorong	8.99	145		Pn	00 01 01.9	+2.7
SIJI					Sn	00 02 43.0	+3.8
TGY	Tagaytay City	9.06	326	P	Pn	00 01 06.1	+5.9
	82nm,0.3s,baz=191,slow=1.2,SNR=16						
TGY				LR	LR	00 04 56.9	
	comp=Z,9µm,20.7s,baz=155,slow=40						
TGY	Tagaytay City	9.06	326	⇓P	Pn	00 01 05.0	+4.8
NLAI	Namlea	9.82	175	P	Pn	00 01 10.7	+0.2
	11µm662nm,0.7s						
SPMM	Sapulut	9.85	259	P	Pn	00 01 07.0	-4.0
KKM	Kota Kinabalu	9.92	267		Pn	00 01 15.4	+3.4
KDI	Kendari	11.07	199	P	Pn	00 01 30.5	+2.8
	81µm239nm,1.0s						
RKPI	Ransiki, Papua	11.34	135	P	Pn	00 01 35.3	+3.9
	22µm1µm,1.9s						
SMKI	Samarinda	11.37	232	P	Pn	00 01 31.7	0.0
	6µm9µm256nm,1.5s						
TTSI	Tana Toraja	11.50	214	P	Pn	00 01 36.1	+2.6
	8µm679nm,1.2s						
SPSI	Sidrap Palu	12.29	212	P	Pn	00 01 48.5	+4.1
	4µm5µm220nm,1.7s						
BNSI	Bone	12.50	209	P	Pn	00 01 49.7	+2.5
	5µm13µm580nm,1.2s						
BBSI	Bau Bau	12.54	197	P	Pn	00 01 48.9	+1.2
	1µm61nm,1.0s						
KMPI	Kaimana, Papua	12.66	143	P	Pn	00 01 50.1	+0.7
	8µm536nm,1.5s						
KAPI	Kappang	13.20	209	P	P	00 01 59.9	-5.6
	SNR=46						
KAPI	Kappang	13.20	209	P	Pn	00 01 58.1	+1.3
KAPI	Kappang	13.20	209	P	P	00 01 59.9	-5.6
	2.1nm,0.3s,baz=39,slow=9.3,SNR=19						
KAPI	Kappang	13.20	209		Pn	00 01 58.1	+1.3
BKSI	Bulukumba	13.30	207	P	P	00 02 01.1	-5.4
	3µm4µm226nm,1.2s						
SBUM	Sibu	14.51	254		Pn	00 02 16.5	+2.0
SMPI	Sarmi	15.14	124	P	P	00 02 24.0	-3.1
	15µm534nm,1.1s						
SAUI	Saumlaki	15.36	161	P	P	00 02 26.8	-2.7
	17µm580nm,0.6s						
SAUI	Saumlaki	15.36	161		Pn	00 02 25.1	-0.6
SAUI				IAmb	IAmb	00 03 01.6	
	comp=Z,912nm,1.1s						
SOEI	Soe	16.36	187	P	P	00 02 40.8	+0.1
	comp=Z,10µmcomp=Z,916nm,0.9s						
SOEI	Soe	16.36	187	P	P	00 02 40.3	-0.4
SOEI				IAmb	IAmb	00 03 08.3	
	comp=Z,770nm,0.9s						
KSM	Kuching	16.63	253	P	P	00 02 42.8	-0.8
TWG	Pinlang	16.86	344	Pn	Pn	00 02 43.6	-1.0
BATI	Baumata	16.89	189	P	P	00 02 47.0	+0.5
	comp=Z,35nm,0.3s,baz=338,slow=0.8,SNR=57						
BATI				S	S	00 05 55.1	-5.1
	comp=Z,2.6nm,0.3s,baz=142,slow=19,SNR=1.7						
BATI	Baumata	16.89	189	P	P	00 02 46.6	+0.2
	comp=Z,3µmcomp=Z,6µmcomp=Z,452nm,1.1s						
BATI	Baumata	16.89	189	P	P	00 02 47.0	+0.5
BATI					S	00 05 55.1	-5.1
JAY	Jayapura	17.10	122	P	P	00 02 49.0	+0.2
JAY	Jayapura	17.10	122	P	P	00 02 49.0	+0.2
	comp=Z,0.8nm,0.3s,baz=288,slow=6.1,SNR=11						
JAY	Jayapura	17.10	122	P	P	00 02 47.5	-1.3
	comp=Z,2µmcomp=Z,84nm,0.9s						
JAY	Jayapura	17.10	122	P	P	00 02 49.0	+0.2
PBKI	Pangkalan Bun	17.18	238	P	P	00 02 51.5	+1.8
	comp=Z,585nm,1.1s						
YULB	Yu-li	17.34	345		P	00 02 52.0	+0.6
TPUB	Ta-pu	17.44	343		Pn	00 02 51.9	0.0
PLAI	Plampang	17.47	209	P	P	00 02 54.5	+1.7
	comp=Z,5µmcomp=Z,4µmcomp=Z,559nm,1.0s						
SSLB	Suanglung	17.81	344		Pn	00 02 55.9	-0.4
TWSI	Taliwang, Sumb	17.84	211	P	P	00 02 58.5	+1.6
	comp=Z,4µmcomp=Z,344nm,1.2s						
YOJ	Yonaguni jima	18.02	351	P	Pn	00 02 59.0	+0.2
YOJ				pmax	pmax		
	comp=Z,367nm,1.2s						
YOJ	Yonaguni jima	18.02	351	P	Pn	00 02 59.0	+0.2
NACB	Ninganchiao	18.02	346	P	Pn	00 02 60.0	+1.1
KMMI	Kalianget	18.23	222	P	Pn	00 03 05.3	+3.8
	comp=Z,3µmcomp=Z,221nm,0.9s						
SRBI	Singaraja	18.23	217	P	Pn	00 03 03.1	+1.6
	comp=Z,5µmcomp=Z,3µmcomp=Z,217nm,1.0s						
DLV	T Lat	18.25	288	P	Pn	00 03 03.4	+1.5
DLV				IAmb	IAmb	00 03 07.9	
	comp=Z,707nm,1.4s						
BWJI	Bawean	18.31	228	P	Pn	00 03 21.1	+19
DNP	Denpasar	18.71	216	P	Pn	00 03 08.9	+1.6
	comp=Z,555nm,0.9s						
TATO	Taipei	18.81	347	P	Pn	00 03 10.6	+2.1
TATO	Taipei	18.81	347	P	Pn	00 03 08.5	0.0
IGBI	Denpasar	18.86	216	P	Pn	00 03 08.7	-0.4
	comp=Z,4µmcomp=Z,189nm,1.0s						
GRJI	Gresik	19.16	226	P	Pn	00 03 14.9	+2.2
	comp=Z,433nmcomp=Z,5µmcomp=Z,473nm,1.3s						
JAGI	Jajag, Banyuwa	19.18	219	P	Pn	00 03 14.0	+1.0
	comp=Z,6µmcomp=Z,4µmcomp=Z,477nm,1.2s						
JAGI	Jajag, Banyuwa	19.18	219	P	Pn	00 03 13.3	+0.3
JAGI				IAmb	IAmb	00 03 19.3	
	comp=Z,450nm,1.0s						
KNMB	Chin-men Tao	19.27	338	IAmb	IAmb	00 03 17.3	
	comp=Z,497nm,0.9s						
HKC	Hong Kong Obse	19.44	325	⇑P	Pn	00 03 19.0	+3.0
TBJI	Tambak Boyo	19.55	227	P	Pn	00 03 17.8	+0.4
	comp=Z,4µmcomp=Z,5µmcomp=Z,311nm,1.4s						
QZH	Quanzhou	19.63	339	⇑iP	Pn	00 03 19.9	+1.7
QZH				S	S	00 06 54.1	-1.5
QZH				pmax	pmax		
	comp=Z,410nm,0.9s						
QZH				pmax	pmax		
	comp=Z,2µm,7.6s						
QZH				LR	LR		
	comp=Z,3µm,22.3s						
QZH				LR	LR		
	comp=Z,2µm,24.6s						
QZH				LR	LR		
	comp=Z,5µm,20.4s						
GUMO	Guam	19.66	68	P	Pn	00 03 18.0	-0.6
GUMO	Guam	19.66	68	P	Pn	00 03 18.0	-0.6
	comp=Z,16nm,0.3s,baz=215,slow=9.0,SNR=19						
GUMO				LR	LR	00 11 53.6	
	comp=Z,1µm,18.7s,baz=235,slow=40						
GUMO	Guam	19.66	68	P	Pn	00 03 18.7	0.0
GUMO				IAmb	IAmb	00 03 24.9	
	comp=Z,841nm,1.1s						
MTN	Manton Dam	19.94	166	P	Pn	00 03 20.5	-1.4
	baz=20						
MTN	Manton Dam	19.94	166	P	Pn	00 03 20.1	-1.8
MTN				IAmb	IAmb	00 03 24.8	
	comp=Z,319nm,0.8s						
QIZ	Qiongzhong	20.13	309	P	Pn	00 03 24.2	0.0
QIZ				S	Sn	00 07 11.4	+1.2
QIZ				sS	sS	00 07 23.9	0.0
QIZ				pmax	pmax		
	comp=Z,120nm,1.0s						
QIZ				LR	LR		
	comp=Z,3µm,15.3s						
QIZ				LR	LR		
	comp=Z,2µm,15.5s						
QIZ				LR	LR		
	comp=Z,3µm,20.4s						
QIZ	Qiongzhong	20.13	309	IAmb	IAmb	00 03 29.5	
	comp=Z,449nm,1.2s						
KDU	Kakadu	20.16	162	P	Pn	00 03 23.1	-1.5
	baz=20						
NGJI	Ngawi	20.20	227	P	Pn	00 03 25.9	+0.8
	comp=Z,7µmcomp=Z,548nm,1.0s						
JOW	Kunigami	20.22	5	P	P	00 03 23.5	+0.6
JOW				IAmb	IAmb	00 03 25.8	
	comp=Z,438nm,0.9s						
PWJI	Pagerwojo	20.41	225	P	Pn	00 03 27.5	0.0
	comp=Z,3µmcomp=Z,222nm,1.8s						
GZH	Guangzhou	20.53	324	P	Pn	00 03 32.4	+3.5
GZH				S	Sn	00 07 23.4	+3.8
GZH				pmax	pmax		
	comp=Z,2µm,1.1s						
MMPI	Merauke	20.61	136	P	Pn	00 03 30.5	+0.6
	comp=Z,38µmcomp=Z,1µm,1.4s						
TPI	Tanjungpandan	20.70	244	P	Pn	00 03 29.4	-1.6
	comp=Z,30µmcomp=Z,137nm,1.2s						
SMRI	Semarang	20.75	229	P	Pn	00 03 31.5	-0.1
	comp=Z,9µmcomp=Z,10µmcomp=Z,460nm,1.1s						
SMRI	Semarang	20.75	229	P	Pn	00 03 30.5	-1.1
SMRI				IAmb	IAmb	00 04 27.1	
	comp=Z,620nm,1.1s						
WOJI	Wonogiri, Jawa	20.91	227	P	Pn	00 03 32.6	-0.9
	comp=Z,3µmcomp=Z,253nm,1.3s						
PCJI	Pacitan	20.97	226	P	Pn	00 03 33.2	-1.0
	comp=Z,3µmcomp=Z,250nm,1.1s						
UGM	Wanagama	21.25	228	P	P	00 03 37.0	+2.8
	comp=Z,5µmcomp=Z,7µmcomp=Z,358nm,1.2s						
UGM	Wanagama	21.25	228	P	P	00 03 34.9	+0.6
UGM				IAmb	IAmb	00 04 13.7	
	comp=Z,529nm,1.2s						
YOGI	Yogyakarta	21.36	228	P	P	00 03 37.1	+1.8
	comp=Z,6µmcomp=Z,4µmcomp=Z,291nm,1.5s						
ANA2	Anatahan	21.43	61	P	P	00 03 37.8	+1.7
ANA2				IAmb	IAmb	00 03 46.1	
	comp=Z,472nm,0.8s						
SARN	Sarigan	21.64	61	P	P	00 03 40.0	+1.7
PPBI	Pangkal Pinang	21.82	247	P	P	00 03 42.3	+2.0
	comp=Z,22µmcomp=Z,259nm,1.4s						
UBPT	Khong Chiam	22.07	295	P	P	00 03 43.7	+0.8
	comp=Z,181nm,0.9s						
UBPT	Khong Chiam	22.07	295	P	P	00 03 43.4	+0.5
UBPT				IAmb	IAmb	00 03 52.5	
	comp=Z,400nm,1.0s						
KPJI	Karang Pucung	22.08	231	P	P	00 03 44.8	+1.7
	comp=Z,9µmcomp=Z,5µmcomp=Z,391nm,0.9s						
KNRA	Kununurra	22.28	173	IAmb	IAmb	00 03 52.1	
	comp=Z,574nm,1.0s						
TPRI	Tanjung Pinang	22.32	256	P	P	00 03 47.2	+1.5
CMJI	Cimerak	22.74	231	P	P	00 03 51.2	+1.1
	comp=Z,4µmcomp=Z,275nm,1.4s						
MYKOM	Kota Tinggi	22.77	259	IAmb	IAmb	00 03 55.2	
	comp=Z,298nm,0.9s						
LEM	Lembang	22.82	235	P	P	00 03 52.6	+1.4
LEM	Lembang	22.82	235	P	P	00 03 52.6	+1.4
	comp=Z,168nm,0.8s,baz=43,slow=8.2,SNR=30						
MANU	Manus Island	22.83	111	P	P	00 03 52.4	+1.3
CISI	Cisompet, Garu	23.09	233	P	P	00 03 53.9	+0.1
	comp=Z,4µmcomp=Z,6µmcomp=Z,406nm,1.3s						
CISI	Cisompet, Garu	23.09	233	P	P	00 03 54.0	+0.1
CISI					PcP	00 07 41.6	-0.1
PMBI	Palembang	23.37	247	P	P	00 03 59.5	+3.0
	comp=Z,897nm,0.9s						
PMBI	Palembang	23.37	247	P	P	00 03 57.2	+0.7
DBJI	Dramaga	23.38	236	P	P	00 03 57.4	+0.8
	comp=Z,11µmcomp=Z,697nm,1.2s						
CNJI	Cibinong	23.50	234	P	P	00 03 57.4	-0.2
	comp=Z,7µmcomp=Z,712nm,1.5s						
SBJI	Serang	23.66	238	P	P	00 04 01.3	+2.1
	comp=Z,13µmcomp=Z,1µm,1.4s						
SKJI	Sukabumi	23.79	236	P	P	00 04 01.2	+0.8
	comp=Z,8µmcomp=Z,456nm,1.2s						
SKNT	Sakolnakorn	24.02	297	P	P	00 04 03.0	+0.5
	comp=Z,7µmcomp=Z,559nm,1.4s						
BLSI	Bandar Lampung	24.04	241	P	P	00 04 04.8	+2.1
	comp=Z,6µmcomp=Z,319nm,0.7s						
KLSI		24.17	243	P	P	00 04 04.7	+0.8
	comp=Z,2µmcomp=Z,3µmcomp=Z,317nm,1.3s						
FITZ	Fitzroy Crossi	24.55	181	P	P	00 04 07.7	+0.5
	comp=Z,66nm,0.7s,baz=6.8,slow=6.0,SNR=88						
FITZ				S	S	00 08 23.8	-1.0
	comp=Z,27nm,1.0s,baz=173,slow=19,SNR=4.5						
FITZ	Fitzroy Crossi	24.55	181	P	P	00 04 07.9	+0.7
MDSI	Maura Dua	24.57	244	P	P	00 04 07.7	+0.2
	comp=Z,3µmcomp=Z,345nm,1.1s						
KASI	Kota Agung	24.77	241	P	P	00 04 10.2	+0.9
	comp=Z,7µmcomp=Z,4µmcomp=Z,281nm,0.9s						
SSE	Sheshan	24.81	350	P	P	00 04 11.0	+1.5
SSE				S	S	00 08 29.1	+0.2
SSE				pmax	pmax		
	comp=Z,40nm,0.8s						
SSE				pmax	pmax		
	comp=Z,700nm,5.2s						
SSE				LR	LR		
	comp=Z,710nm,20.5s						
SSE				LR	LR		
	comp=Z,830nm,17.0s						
SSE	Sheshan	24.81	350	P	P	00 04 11.2	+1.7

SSE IAmb IAmb 00 04 15.2
comp=Z,258nm,1.0s
LHSI Lahat 24.88 246 P **P** **00 04 11.6 +1.3**
comp=Z,8µmcomp=Z,834nm,1.1s
LWLI Liwa 24.91 243 P **P** **00 04 11.7 +0.9**
comp=Z,8µmcomp=Z,615nm,1.2s
IPM Ipoh 25.12 266 P **P** **00 04 12.7 +0.1**
IPM **PcP** **00 07 46.2 +0.1**
SKLT Songkhla 25.38 273 P **P** **00 04 17.2 +2.3**
comp=Z,2µmcomp=Z,265nm,0.8s
KULM Kulim 25.42 268 P **P** **00 04 16.0 +0.7**
JCJ Chichijima 25.44 35 P **P** **00 04 14.5 -0.8**
comp=Z,568nm,0.5s,baz=237,slow=3.1,SNR=41
JCJ S **S** **00 08 34.9 -4.1**
comp=Z,93nm,0.9s,baz=322,slow=19,SNR=3.3
JCJ LR LR 00 12 48.9
comp=Z,805nm,21.4s,baz=252,slow=33
JCJ Chichijima 25.44 35 **S** **00 08 34.9 -4.1**
CHAI Chaiyaphum 25.44 293 P **P** **00 04 16.5 +1.1**
comp=Z,559µm,1.1s
MNAI Manna 25.61 245 P **P** **00 04 18.6 +1.6**
comp=Z,1µm,1.1s,comp=Z,18µm
PATY Pattaya 25.71 286 P **P** **00 04 20.3 +2.4**
comp=Z,222µm,0.7s
SDSI Sungai Dareh 25.81 254 P **P** **00 04 19.3 +0.5**
comp=Z,397nm,1.2s,comp=Z,5µm
BKNI Bangkinang 25.84 257 P **P** **00 04 20.3 +1.2**
comp=Z,3µmcomp=Z,41µmcomp=Z,296nm,1.0s
BKNI Bangkinang 25.84 257 IAmb IAmb 00 04 22.2
comp=Z,290nm,1.0s
SLVN Son La 26.05 306 P **P** **00 04 22.5 +1.5**
SLVN IAmb IAmb 00 04 26.6
comp=Z,495nm,1.5s
KRJI Kerinci 26.14 252 P **P** **00 04 22.9 +1.0**
comp=Z,1µm,1.8s,comp=Z,15µm
NJ2 Nanjing 26.23 346⇑*iP* **P** **00 04 23.4 +1.1**
NJ2 pP **sP** **00 04 37.4 -3.4**
NJ2 sP pP 00 04 45.4 +10
NJ2 S **S** **00 08 51.0 -0.3**
NJ2 pmax pmax
comp=Z,210nm,1.2s
NJ2 pmax pmax
comp=Z,930nm,3.5s
NJ2 LR LR
comp=Z,2µm,21.3s
NJ2 LR LR
comp=Z,1µm,13.1s
NJ2 LR LR
comp=Z,2µm,20.6s
PMG Port Moresby 26.27 127⇓*eP* **P** **00 04 23.8 +0.9**
PMG pmax pmax
comp=Z,497nm,1.7s
PMG Port Moresby 26.27 127 P **P** **00 04 23.3 +0.4**
comp=Z,21nm,0.5s,baz=355,slow=10,SNR=7.2
PMG S **S** **00 08 49.2 -3.1**
comp=Z,7.6nm,0.4s,baz=151,slow=20,SNR=3.3
PMG Port Moresby 26.27 127 P **P** **00 04 23.8 +0.9**
WHN Wuhan 26.28 336 ⇓P **P** **00 04 26.3 +3.5**
WHN pP **pP** **00 04 34.4 -0.9**
WHN PcP **PcP** **00 07 49.6 +1.2**
WHN S **S** **00 08 58.6 +6.4**
WHN ScP **ScP** **00 11 26.5 +2.1**
WHN LR LR
comp=Z,14µm,24.1s
WHN LR LR
comp=Z,7µm,18.7s
WHN LR LR
comp=Z,13µm,23.2s
TRTT Trang 26.30 274 P **P** **00 04 24.7 +1.4**
comp=Z,176nm,1.4s,comp=Z,2µm
COEN Coen 26.49 140 P **P** **00 04 25.1 +0.2**
baz=26
COEN Coen 26.49 140 P **P** **00 04 25.9 +0.9**
XMIS Christmas Isla 26.57 230 P **P** **00 04 27.0 +1.3**
XMIS IAmb IAmb 00 04 54.1
comp=Z,218nm,1.1s
PBKT Sadao Pong 26.57 294 P **P** **00 04 26.5 +0.8**
comp=Z,2µmcomp=Z,200nm,0.9s
PBKT Sadao Pong 26.57 294 IAmb IAmb 00 04 30.6
comp=Z,310nm,0.9s
PDSI Padang 26.73 255 P **P** **00 04 27.5 +0.3**
comp=Z,102nm,0.7s,comp=Z,3µm
JNU Nakatsue 26.75 9 P **P** **00 04 26.2 -0.8**
comp=Z,144nm,0.9s,baz=180,slow=9.1,SNR=15
JNU LR LR 00 14 23.8
comp=Z,1µm,21.1s,baz=174,slow=35
JNU Nakatsue 26.75 9 P **P** **00 04 25.9 -1.2**
JNU IAmb IAmb 00 04 30.0
comp=Z,173nm,1.0s
PHET Kaeng Krachan 26.89 286 P **P** **00 04 30.4 +1.9**
comp=Z,509µm,0.9s
GYA Guiyang 27.12 319⇓*iP* **P** **00 04 32.5 +1.8**
GYA pP sP 00 04 44.8 -3.6
GYA PcP **PcP** **00 07 50.8 +0.2**
GYA S **S** **00 09 09.2 +3.3**
GYA sS sS 00 09 27.4 +0.3
GYA ScP **ScP** **00 11 24.9 -2.3**
GYA pmax pmax
comp=Z,120nm,1.0s
GYA pmax pmax
comp=Z,510nm,6.0s
GYA LR LR
comp=Z,2µm,15.4s
GYA LR LR
comp=Z,2µm,13.5s
GYA LR LR
comp=Z,3µm,15.4s
UTTA Uttaradit 27.34 296 P **P** **00 04 33.7 +1.1**
comp=Z,198µm,1.3s
PSI Prapat 27.42 263 P **P** **00 04 33.5 0.0**
PSI 00 07 51.3
PSI pmax pmax
comp=Z,201nm,1.1s
PSI MLR MLR
comp=Z,1µm,22.0s
WB0 Warramunga Arr 27.42 163 IAmb IAmb 00 05 15.6
comp=Z,183nm,1.0s
RPSI Rantau Prapat 27.44 263 P **P** **00 04 33.5 +0.1**
RPSI IAmb IAmb 00 05 07.2
comp=Z,201nm,1.1s
RPSI **PcP** **00 07 51.3 -0.2**
WRAB Tennant Creek 27.57 163*deP* **P** **00 04 34.7 +0.2**
WRAB pmax pmax
comp=Z,69nm,1.3s
WRAB Tennant Creek 27.57 163 P **P** **00 04 34.6 0.0**
WRAB IAmb IAmb 00 05 20.1
comp=Z,125nm,0.8s
WRA Warramunga Arr 27.57 163 P **P** **00 04 34.8 +0.2**
WRA 00 07 52.2
WRA Warramunga Arr 27.57 163 P **P** **00 04 34.8 +0.2**
comp=Z,32nm,0.6s,baz=344,slow=9.8,SNR=72
WRA PcP **PcP** **00 07 52.1 +0.5**
comp=Z,27nm,0.9s,baz=342,slow=3.2,SNR=4.7
WRA S **S** **00 09 10.7 -2.1**
comp=Z,17nm,1.2s,baz=325,slow=15,SNR=4.5
WRA ScP **ScP** **00 11 28.6 +0.2**
comp=Z,28nm,1.1s,baz=343,slow=3.1,SNR=9.1
WRA LR LR 00 16 39.8
comp=Z,1µm,21.2s,baz=345,slow=39
WRA P3KPbc 00 36 58.6
comp=Z,3.1nm,0.7s,baz=164,slow=4.0,SNR=4.5
WRA Warramunga Arr 27.57 163 P **P** **00 04 34.8 +0.2**
WRA **PcP** **00 07 52.1 +0.5**
WRA **ScP** **00 11 28.6 +0.2**
WB2 Warramunga Arr 27.58 163 P **P** **00 04 34.6 0.0**
WB2 IAmb IAmb 00 05 20.7
comp=Z,150nm,0.9s
PKDT Phuket 27.65 274 P **P** **00 04 37.5 +2.1**
comp=Z,7µmcomp=Z,160nm,1.4s
UTHA Uthaitani 27.67 291 P **P** **00 04 37.1 +1.5**
comp=Z,331µm,1.0s
SRDT SRDT 27.68 288 P **P** **00 04 37.3 +1.7**
comp=Z,1µmcomp=Z,99nm,1.2s
PHRA Phrae 27.91 297 P **P** **00 04 38.9 +1.3**
comp=Z,579nmcomp=Z,25nm,1.2s
KRVT Keravat (AS076 27.99 112 P **P** **00 04 40.2 +1.8**
comp=Z,212nm,1.1s,baz=156,slow=7.3,SNR=12
KRVT LR LR 00 14 23.8
comp=Z,1µm,21.5s,baz=294,slow=33
SISI Saibi 28.16 255 P **P** **00 04 39.7 -0.3**
comp=Z,3µmcomp=Z,307nm,1.2s
ENH Enshi 28.30 328 IAMs_20 IAMs_20 00 17 40.3
comp=Z,3µm,20.0s
UMPA Umpang Tak 28.39 292 P **P** **00 04 43.3 +1.3**
comp=Z,355µm,1.1s
LAMP Lampang 28.44 297 P **P** **00 04 44.4 +2.0**
comp=Z,132µm,0.8s
PSA00 Pilbara Seismi 28.68 192 IAmb IAmb 00 04 46.6
comp=Z,224nm,1.2s
GSI Gunungsitoli 29.01 261 P **P** **00 04 46.9 -0.6**
comp=Z,3µmcomp=Z,306nm,0.7s
GSI Gunungsitoli 29.01 261 P **P** **00 04 47.1 -0.4**
GSI IAmb IAmb 00 04 49.3
comp=Z,309nm,0.9s
KMI Kunming 29.02 312 P **P** **00 04 49.9 +2.2**
KMI pP sP 00 05 08.0 +2.4
KMI PP **PnPn** **00 05 43.3 +1.7**
KMI PcP **PcP** **00 07 56.6 +1.2**
KMI S **S** **00 09 33.7 -2.3**
KMI sS sS 00 10 05.1 +7.8
KMI SS **SnSn** **00 11 08.9 +6.0**
KMI ScP **ScP** **00 11 35.5 +2.3**
KMI pmax pmax
comp=Z,240nm,1.2s
KMI pmax pmax
comp=Z,570nm,3.1s
KMI LR LR
comp=Z,2µm,19.7s
KMI LR LR
comp=Z,3µm,18.8s
KMI LR LR
comp=Z,5µm,19.2s
KMI Kunming 29.02 312 IAmb IAmb 00 04 53.0
comp=Z,288nm,1.1s
CM31 Chiang Mai Arr 29.03 296 P **P** **00 04 49.4 +1.8**
SNR=40
CM31 Chiang Mai Arr 29.03 296 IAmb IAmb 00 05 13.3
comp=Z,187nm,1.1s
CMAR Chiang Mai Arr 29.03 296*ceP* **P** **00 04 48.9 +1.3**
CMAR pmax pmax
comp=Z,49nm,0.9s
CMAR Chiang Mai Arr 29.03 296 P **P** **00 04 48.9 +1.3**
comp=Z,48nm,0.9s,baz=120,slow=7.2,SNR=169
CMAR PcP **PcP** **00 07 56.0 +0.7**
comp=Z,13nm,0.8s,baz=119,slow=1.4,SNR=9.3
CMAR ScP **ScP** **00 11 32.9 -0.2**
comp=Z,7.6nm,0.9s,baz=105,slow=1.5,SNR=8.5
CMAR PKiKP **PKiKP** **00 15 30.2 +0.6**
comp=Z,1.5nm,0.5s,baz=285,slow=1.8,SNR=4.6
CMAR LR LR 00 17 09.2
comp=Z,3µm,18.0s,baz=104,slow=38
CMAR Chiang Mai Arr 29.03 296 P **P** **00 04 48.9 +1.3**
CMAR **PcP** **00 07 56.0 +0.7**
CMAR **ScP** **00 11 32.9 -0.2**
LHMI Lhok Sumawe 29.11 269 P **P** **00 04 49.0 +0.6**
comp=Z,5µmcomp=Z,581nm,1.2s
LHMI Lhok Sumawe 29.11 269 P **P** **00 04 49.0 +0.6**
CMMT Chiang Mai 29.15 297 P **P** **00 04 49.5 +0.8**
comp=Z,771nmcomp=Z,65nm,1.3s
CHTO Chiang Mai 29.15 297 P **P** **00 04 49.9 +1.1**
SNR=30
CHTO Chiang Mai 29.15 297 P **P** **00 04 49.4 +0.7**
CHTO pmax pmax
comp=Z,255nm,1.6s
CHTO Chiang Mai 29.15 297 P **P** **00 04 49.4 +0.7**
CHTO IAmb IAmb 00 04 51.5
comp=Z,255nm,1.6s
TJN Taejon 29.66 2*c iP* **P** **00 04 52.4 -0.5**
MLSI Meulaboh, Aceh 29.73 267 P **P** **00 04 53.5 -0.4**
comp=Z,476nm,1.2s,comp=Z,5µm
MHMT Maesarieng 29.84 295 P **P** **00 04 56.2 +1.4**
comp=Z,3µmcomp=Z,346nm,1.2s
SNSI Sinabang, Aceh 30.04 263 P **P** **00 04 57.0 +0.3**
comp=Z,318nm,1.0s
INU Inuyama 30.30 18 P **P** **00 04 57.6 -1.0**
MTSU Mount Surprise 30.41 144 P **P** **00 05 00.9 +1.1**
baz=30
TIA Tai'an 30.62 346 P **P** **00 05 02.0 +0.5**
TIA S **S** **00 09 59.5 -0.8**
TIA pmax pmax
comp=Z,280nm,1.0s
TIA LR LR
comp=Z,2µm,19.6s
TIA LR LR
comp=Z,560nm,13.7s
TIA LR LR
comp=Z,3µm,21.1s
KSRS Korea Array 30.75 3 P **P** **00 05 03.0 +0.4**
KSRS 00 08 00.4
KSRS 00 11 39.2
KSRS Korea Array 30.75 3 P **P** **00 05 03.0 +0.4**
comp=Z,15nm,0.6s,baz=180,slow=10,SNR=59
KSRS PcP **PcP** **00 08 00.3 +1.0**
comp=Z,32nm,0.8s,baz=189,slow=2.3,SNR=23
KSRS ScP **ScP** **00 11 39.2 +1.1**
comp=Z,6.1nm,0.8s,baz=190,slow=4.1,SNR=11
KSRS LR LR 00 18 11.2
comp=Z,909nm,19.7s,baz=190,slow=38
KS19 Wonju Array Si 30.80 3 P **P** **00 05 02.9 -0.1**
ASAR Alice Springs 31.02 166 P **P** **00 05 05.5 +0.4**
ASAR 00 08 01.0
ASAR S **S** **00 10 05.0 -1.9**
ASAR Alice Springs 31.02 166 P **P** **00 05 05.5 +0.4**
comp=Z,22nm,0.7s,baz=344,slow=6.8,SNR=103
ASAR PcP **PcP** **00 08 01.0 +0.6**
comp=Z,23nm,0.8s,baz=347,slow=1.9,SNR=8.6
ASAR S **S** **00 10 05.0 -1.9**
comp=Z,15nm,1.2s,baz=354,slow=15,SNR=2.2
ASAR ScP **ScP** **00 11 39.5 +0.1**
comp=Z,34nm,1.1s,baz=355,slow=3.3,SNR=14
ASAR P3KPbc 00 36 47.5
comp=Z,1.6nm,0.6s,baz=166,slow=4.1,SNR=20
ASAR Alice Springs 31.02 166 P **P** **00 05 05.5 +0.4**
ASAR **PcP** **00 08 01.0 +0.6**
ASAR **S** **00 10 05.0 -1.9**
ASAR **ScP** **00 11 39.5 +0.1**
XAN Xi'an 31.63 332 P **P** **00 05 11.0 +0.5**
XAN pP pP 00 05 22.3 -0.8
XAN PP **PnPn** **00 06 13.8 -1.8**
XAN PcP **PcP** **00 08 02.2 +0.3**
XAN S **S** **00 10 13.3 -3.1**
XAN ScS **ScS** **00 15 36.5 -2.9**
XAN pmax pmax
comp=Z,2µm,1.5s
XAN LR LR
comp=Z,2µm,22.1s
XAN LR LR
comp=Z,1µm,18.6s
XAN LR LR
comp=Z,4µm,23.9s
XAN Xi'an 31.63 332 IAMs_20 IAMs_20 00 17 49.4
comp=Z,3µm,21.0s
MAJO Matsushiro 31.77 19*c iP* **P** **00 05 10.0 -1.6**
MAJO pmax pmax
comp=Z,47nm,0.8s
MAJO Matsushiro 31.77 19 P **P** **00 05 10.5 -1.1**
MAT Matsushiro 31.77 19 P **P** **00 05 09.8 -1.8**
MAT *eS* S 00 10 32.6 +14
MJAR Matsushiro Arr 31.77 19 P **P** **00 05 10.3 -1.3**
MJAR 00 08 03.4
MJAR Matsushiro Arr 31.77 19 P **P** **00 05 10.3 -1.3**
comp=Z,33nm,0.8s,baz=199,slow=9.4,SNR=17
MJAR PcP **PcP** **00 08 03.4 +1.2**
comp=Z,22nm,0.8s,baz=206,slow=3.5,SNR=9.3
MJAR ScP **ScP** **00 11 42.8 +1.1**
comp=Z,8.8nm,1.0s,baz=214,slow=3.0,SNR=9.2
MJAR LR LR 00 15 51.3
comp=Z,1µm,21.9s,baz=135,slow=32
MJAR P3KPbc 00 36 44.2
comp=Z,0.8nm,0.5s,baz=317,slow=5.3,SNR=4.2
MJAR Matsushiro Arr 31.77 19 P **P** **00 05 10.3 -1.3**
MJAR **PcP** **00 08 03.4 +1.2**
MJAR **ScP** **00 11 42.8 +1.1**
MJB9 Matsu-Tunnel 31.77 19 P **P** **00 05 10.2 -1.4**
CD2 Chengdu 32.04 322⇑*iP* **P** **00 05 14.5 +0.4**
CD2 pP sP 00 05 30.0 -2.6
CD2 S **S** **00 10 19.9 -2.9**
CD2 ScP **ScP** **00 11 39.1 -3.7**
CD2 ScS **ScS** **00 15 38.4 -3.2**
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 pmax pmax
comp=Z,1µm,7.8s
CD2 LR LR
comp=Z,7µm,15.5s
CD2 LR LR
comp=Z,6µm,15.9s
CD2 LR LR
comp=Z,4µm,28.2s
DL2 Dalian 32.42 353 P **P** **00 05 18.1 +0.8**
DL2 PcP **PcP** **00 08 05.4 +1.6**
DL2 S **S** **00 10 28.8 +0.4**
DL2 PcS **PcS** **00 11 48.9 +0.1**
DL2 pmax pmax
comp=Z,440nm,1.0s
DL2 pmax pmax
comp=Z,480nm,5.2s
DL2 LR LR
comp=Z,440nm,24.0s
DL2 LR LR
comp=Z,2µm,21.5s
DL2 LR LR
comp=Z,1µm,25.3s
CTA Charters Tower 33.07 144 P **P** **00 05 24.6 +1.5**
baz=33
CTA Charters Tower 33.07 144 P **P** **00 05 25.5 +2.3**
CTA Charters Tower 33.07 144 P **P** **00 05 25.5 +2.3**
comp=Z,63nm,0.9s,baz=326,slow=12,SNR=46
TIY Taiyuan 33.40 340 *eP* **P** **00 05 28.0 +2.1**
TIY sP sP 00 05 54.2 +10
TIY S **S** **00 10 37.9 -5.9**
TIY sS sS 00 11 13.3 +8.1
TIY pmax pmax
comp=Z,630nm,1.2s
TIY pmax pmax
comp=Z,840nm,6.6s
TIY LR LR
comp=Z,620nm,8.0s
TIY LR LR
comp=Z,510nm,6.2s
TIY LR LR
comp=Z,2µm,28.4s
MEEK Meekatharra 33.85 192 P **P** **00 05 27.7 -2.2**
baz=34
BJI Beijing 34.48 346 P **P** **00 05 36.1 +0.9**
BJI S **S** **00 11 01.2 +0.8**
BJI LR LR
comp=Z,1µm,22.1s
BJI LR LR
comp=Z,750nm,16.2s
BJI LR LR
comp=Z,1µm,22.6s
SNY Shenyang 35.16 357⇑P **P** **00 05 41.6 +0.6**
SNY S **S** **00 11 11.3 +0.7**
SNY pmax pmax
comp=Z,280nm,1.0s
SNY LR LR
comp=Z,1µm,21.6s
SNY LR LR
comp=Z,2µm,19.0s
SNY LR LR
comp=Z,2µm,24.5s
LZH Lanzhou 35.78 328⇑P **P** **00 05 48.4 +1.8**
LZH sP sP 00 06 12.5 +7.5
LZH PP **PP** **00 07 11.3 +2.7**
LZH S **S** **00 11 20.3 -0.4**
LZH sS sS 00 11 46.3 +4.0
LZH SS **SnSn** **00 13 46.1 -0.5**
LZH pmax pmax
comp=Z,2µm,5.4s
LZH LR LR
comp=Z,3µm,14.0s
LZH LR LR
comp=Z,3µm,13.6s
LZH LR LR
comp=Z,4µm,16.8s
MSHR Mys Shultsa 36.10 6*c iP* **P** **00 05 49.9 +0.8**
HHC Hu-ho-hao-te 36.52 341 P **P** **00 05 56.0 +3.2**
HHC pmax pmax
comp=Z,180nm,1.0s
HHC pmax pmax
comp=Z,420nm,5.1s
VLA Vladivostok 36.72 7*c iP* **P** **00 05 55.1 +0.8**
VLA pmax pmax
comp=Z,342nm,1.6s
BTO Baotou 36.82 339 *eP* **P** **00 05 57.7 +2.3**
BTO S **S** **00 11 36.1 -0.3**
BRDH Bariadhala 36.90 299 P **P** **00 05 58.0 +1.7**
comp=Z,0.3nm,0.3s,baz=107,slow=19,SNR=36
CN2 Changchun 37.06 359 *eP* **P** **00 05 57.0 -0.2**
CN2 *eS* **S** **00 11 38.4 -1.3**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,810nm,19.0s
CN2 LR LR
comp=Z,700nm,19.0s
CN2 LR LR
comp=Z,830nm,20.0s
SHL Shillong 37.78 304 P **P** **00 06 05.1 +1.2**
SNR=128
USRK Ussuriysk Ar. 37.79 7 P **P** **00 06 03.9 +0.4**
USRK 00 08 20.3
USRK S **S** **00 11 51.6 +0.7**
USRK Ussuriysk Ar. 37.79 7 P **P** **00 06 03.9 +0.4**
comp=Z,47nm,0.5s,baz=182,slow=6.9,SNR=145
USRK PcP **PcP** **00 08 20.3 +0.9**
comp=Z,11nm,0.7s,baz=221,slow=2.5,SNR=3.5
USRK S **S** **00 11 51.6 +0.7**
comp=Z,4.8nm,1.1s,baz=192,slow=15,SNR=5.1
USRK LR LR 00 21 09.3
comp=Z,1µm,21.6s,baz=174,slow=35
USRK Ussuriysk Ar. 37.79 7 P **P** **00 06 03.9 +0.4**
USRK **PcP** **00 08 20.3 +0.9**
KMBL Kambalda 37.98 186 P **P** **00 06 06.0 +0.8**
baz=38
MDJ Mudanjiang 37.98 4 P **P** **00 06 05.9 +0.8**
MDJ S **S** **00 11 58.2 +4.4**
MDJ ScP **ScP** **00 12 04.2 +0.4**
MDJ PcS **PcS** **00 12 05.9 -2.8**
MDJ ScS **ScS** **00 16 14.5 +1.6**
MDJ pmax pmax
comp=Z,140nm,0.9s
MDJ LR LR
comp=Z,1µm,26.5s
MDJ LR LR
comp=Z,430nm,17.7s
MDJ LR LR
comp=Z,2µm,37.1s
MDJ Mudanjiang 37.98 4 P **P** **00 06 05.5 +0.5**
MDJ **PcP** **00 08 21.2 +1.2**
BLDU Ballidu 38.10 193 P **P** **00 06 06.4 +0.2**
baz=38
ERM Erimo 38.35 21*c iP* **P** **00 06 08.8 +0.6**
ERM pmax pmax
comp=Z,122nm,1.3s
ERM Erimo 38.35 21 P **P** **00 06 08.6 +0.4**
KLBR Kellerberrin 38.82 192 P **P** **00 06 12.9 +0.7**
baz=39
TEY Ternei 39.35 12⇑*iP* **P** **00 06 17.2 +0.7**
TEY *e* 00 06 33.9
TEY *e* 00 08 25.1
TEY pmax pmax
comp=N,200nm,3.1s
TEY pmax pmax
comp=Z,300nm,2.3s
TEY pmax pmax
comp=N,170nm,0.8s
TEY pmax pmax
comp=Z,280nm,0.7s
TEY pmax pmax
comp=E,20nm,1.0s
TEY pmax pmax
comp=Z,90nm,0.8s
TEY pmax pmax
comp=N,20nm,1.2s
EIDS Eidsvold 39.96 144 P **P** **00 06 22.0 +0.2**
EIDS IAmb IAmb 00 06 25.8
comp=Z,235nm,1.4s
ASAJ Asahikawa 40.04 18 P **P** **00 06 23.2 +0.9**
ASAJ Asahikawa 40.04 18 P **P** **00 06 23.2 +0.9**
comp=Z,40nm,0.5s,baz=226,slow=8.4,SNR=26
ASAJ LR LR 00 23 47.1
comp=Z,1µm,19.3s,baz=216,slow=37
LSA Lhasa 40.17 309 *i P* **P** **00 06 25.8 +1.6**
SNR=14
LSA Lhasa 40.17 309 P **P** **00 06 26.0 +1.8**
NWAO Narrogin (SRO) 40.22 192 P **P** **00 06 23.9 0.0**
baz=40
NWAO Narrogin (SRO) 40.22 192 P **P** **00 06 24.6 +0.7**
SNR=8.1
NWAO Narrogin (SRO) 40.22 192 P **P** **00 06 24.3 +0.4**
NWAO pmax pmax
comp=Z,296nm,1.2s
NWAO Narrogin (SRO) 40.22 192 P **P** **00 06 24.6 +0.7**

comp=Z,309nm,1.1s,baz=20,slow=9.4,SNR=43
NWAO Narrogin (SRO) 40.22 192 P **P** **00 06 24.3 +0.4**
NWAO IAmb IAmb 00 06 26.8
comp=Z,296nm,1.1s
NWAO Narrogin (SRO) 40.22 192 P **P** **00 06 23.9 0.0**
NWAO IAmb IAmb 00 06 26.9
comp=Z,408nm,1.2s
BBOO Buckleboo 40.30 167 P **P** **00 06 25.3 +0.8**
baz=40
BBOO Buckleboo 40.30 167 P **P** **00 06 25.1 +0.6**
GTA Gaotai 40.38 328 ⇑P **P** **00 06 26.2 +0.9**
GTA PP **PnPn** **00 08 04.8 +1.7**
GTA ScP **ScP** **00 12 12.7 -0.7**
GTA S **S** **00 12 31.7 +1.5**
GTA SS **SS** **00 15 23.4 -7.2**
GTA ScS **ScS** **00 16 24.8 -2.7**
GTA pmax pmax
comp=Z,1μm,7.6s
GTA LR LR
comp=Z,2μm,18.4s
GTA LR LR
comp=Z,1μm,19.0s
GTA LR LR
comp=Z,3μm,19.0s
STKA Stephens Creek 40.99 160 P **P** **00 06 30.9 +0.6**
STKA pmax pmax
comp=Z,21nm,1.0s
STKA MLR MLR
comp=Z,200nm,21.0s
STKA Stephens Creek 40.99 160 P **P** **00 06 31.0 +0.7**
comp=Z,64nm,0.8s,baz=337,slow=8.8,SNR=58
STKA ScP **ScP** **00 12 15.4 -0.3**
comp=Z,34nm,1.1s,baz=326,slow=5.4,SNR=8.7
STKA LR LR 00 25 26.9
comp=Z,980nm,18.5s,baz=325,slow=39
STKA Stephens Creek 40.99 160 P **P** **00 06 30.9 +0.6**
STKA **ScP** **00 12 16.6 +0.9**
YUK Yuzh-Kuril'sk 41.08 22⇑ *i*P **P** **00 06 31.2 +0.4**
YUK *e**PP **sP** **00 06 45.1 -4.3**
YUK *e*PPP PPP 00 08 40.7
YUK *e*S **S** **00 12 40.4 +0.2**
YUK *e*SS **SS** **00 15 42.7 -1.5**
YUK *e*SSS SSS 00 16 14.3
YUK pmax pmax
comp=Z,352nm,1.8s
YUK pmax pmax
comp=Z,285nm,1.0s
YUK pmax pmax
comp=N,182nm,0.7s
YUK pmax pmax
comp=E,128nm,0.7s
H11N1 WAKE ISLAND Hy 41.60 68 T T 00 50 59.3
baz=265,slow=74,SNR=302
H11N2 WAKE ISLAND Hy 41.61 68 T T 00 51 05.2
baz=265,slow=74,SNR=273
H11N3 WAKE ISLAND Hy 41.62 68 T T 00 51 01.9
baz=265,slow=74,SNR=228
RKGY Rocky Gully 41.90 191 P **P** **00 06 39.2 +1.6**
baz=42
TAPN Taplejung 41.92 304 *e*P **P** **00 06 39.6 +1.2**
comp=E,286nm,1.0s
ODAN Odare 42.01 303 *e*P **P** **00 06 40.1 +1.1**
comp=E,454nm,0.9s
CMSA Cobar Meteorol 42.26 155 P **P** **00 06 41.2 +0.5**
baz=42
YSS Yuzh-Sakhalins 42.65 17⇓ *e*P **P** **00 06 43.0 -0.6**
YSS *e* 00 08 23.6
YSS *e* 00 08 35.0
YSS *e*S **S** **00 13 01.8 -1.6**
YSS *e* 00 16 44.0
YSS pmax pmax
comp=Z,50nm,1.1s
YSS pmax pmax
comp=N,30nm,0.5s
YSS pmax pmax
comp=E,20nm,0.8s
YSS pmax pmax
comp=Z,600nm,6.3s
YSS MLR MLR
comp=Z,600nm,18.0s
YSS MLR MLR
comp=N,400nm,17.0s
YSS MLR MLR
comp=E,400nm,17.0s
YSS Yuzh-Sakhalins 42.65 17 P **P** **00 06 43.3 -0.3**
RAMN Ramite 42.70 303 *e*P **P** **00 06 46.0 +1.4**
comp=E,361nm,0.8s
KLR Kul'dur 42.74 5*c i*P **P** **00 06 44.2 -0.1**
KLR pmax pmax
comp=Z,182nm,1.5s
KLR Kul'dur 42.74 5 P **P** **00 06 44.6 +0.3**
comp=Z,50nm,0.5s,baz=200,slow=5.4,SNR=240
KLR PcP **PcP** **00 08 35.9 +0.7**
comp=Z,57nm,0.8s,baz=270,slow=4.6,SNR=8.6
KLR ScP **ScP** **00 12 21.7 -0.6**
comp=Z,5.3nm,1.0s,baz=243,slow=4.9,SNR=4.2
KLR LR LR 00 24 05.8
comp=Z,690nm,21.9s,baz=187,slow=35
KUR Kuril'sk 42.85 23 P **P** **00 06 45.4 +0.1**
KUR *e* 00 08 24.8
KUR S **S** **00 13 09.7 +3.4**
KUR MLR MLR
comp=N,973nm,16.0s
KUR MLR MLR
comp=Z,488nm,16.0s
KUR MLR MLR
comp=E,289nm,15.0s
HIA Hailar 42.87 354 P **P** **00 06 45.8 +0.4**
HIA pmax pmax
comp=Z,168nm,1.2s
HIA MLR MLR
comp=Z,1μm,20.0s
HIA Hailar 42.87 354 P **P** **00 06 45.8 +0.4**
HIA IAmb IAmb 00 06 47.4
comp=Z,168nm,1.2s
JIRN Jiri 43.29 304 *e*P **P** **00 06 50.7 +1.1**
comp=Z,461nm,0.8s
GUN Gumba 43.64 304 *e*P **P** **00 06 53.3 +0.9**
comp=Z,450nm,0.8s
PKI Pulchoki 43.91 303 *e*P **P** **00 06 54.9 +0.4**
comp=Z,138nm,0.9s
PKIN Phulchoki 43.92 303 *e*P **P** **00 06 54.9 +0.4**
comp=Z,71nm,0.6s
KKN Kakani 44.09 304 *e*P **P** **00 06 56.3 +0.5**
comp=Z,165nm,0.9s
ARMA Armidale 44.16 148 P **P** **00 06 55.8 -0.4**
baz=44
ARMA Armidale 44.16 148 P **P** **00 06 57.0 +0.9**
ARMA IAmb IAmb 00 07 00.5
comp=Z,195nm,1.2s
DMN Daman 44.17 303 *e*P **P** **00 06 57.2 +0.7**
comp=Z,270nm,0.9s
ULN Ulaanbaatar 44.24 342 P **P** **00 06 58.6 +1.9**
SNR=199
ULN Ulaanbaatar 44.24 342*c i*P **P** **00 06 58.7 +2.1**
ULN pmax pmax
comp=Z,913nm,1.7s
ULN Ulaanbaatar 44.24 342 P **P** **00 06 58.0 +1.4**
SONM Songino Array 44.42 341 P **P** **00 06 59.5 +1.4**
SONM 00 08 41.8
SONM Songino Array 44.42 341 P **P** **00 06 59.5 +1.4**
comp=Z,134nm,0.8s,baz=158,slow=6.8,SNR=517
SONM PcP **PP** **00 08 41.8 -0.6**
comp=Z,55nm,0.8s,baz=163,slow=3.3,SNR=7.9
SONM ScP **ScP** **00 12 29.9 +0.5**
comp=Z,2.0nm,0.9s,baz=326,slow=0.5,SNR=3.6
SONM LR LR 00 28 53.9
comp=Z,1μm,19.0s,baz=157,slow=40
SONM Songino Array 44.42 341 P **P** **00 06 59.5 +1.4**
SONM **PP** **00 08 41.8 -0.6**
SONM **ScP** **00 12 29.9 +0.5**
GKN Gorkha 44.70 304 *e*P **P** **00 07 01.0 +0.4**
comp=Z,154nm,0.8s
GRNR Gornyy 44.84 9⇑ *i*P **P** **00 07 02.1 +0.9**
GRNR *e* 00 08 43.3
GRNR *e*S S 00 13 55.2 +20
GRNR pmax pmax
comp=Z,90nm,0.6s
GRNR smax smax
comp=E,5.0nm,0.8s
GRNR MLR MLR
comp=Z,550nm,19.0s
PALK Pallekele 45.13 274 *i* P **P** **00 07 05.2 +1.1**
SNR=8.7
PALK Pallekele 45.13 274 P **P** **00 07 05.4 +1.3**
PALK Pallekele 45.13 274 P **P** **00 07 05.4 +1.3**
comp=Z,420nm,0.8s,baz=104,slow=6.4,SNR=19
PALK Pallekele 45.13 274 P **P** **00 07 05.0 +0.8**
KOLN Koldanda 45.48 303 *e*P **P** **00 07 07.8 +0.9**
comp=Z,308nm,0.8s
DANN Dangsing 45.54 304 *e*P **P** **00 07 08.0 +0.5**
comp=Z,363nm,0.7s
ARPS Mount Arapiles 45.57 162 P **P** **00 07 08.7 +1.6**
baz=46
CIT Chita 46.46 349 *e*P **P** **00 07 16.0 +2.0**
CIT *e* 00 07 23.9
CIT *e* 00 07 32.8
CIT pmax pmax
comp=Z,504nm,1.5s
TARA Tarawa 46.90 94 IAMs_20 IAMs_20 00 22 07.1
comp=Z,2μm,22.0s
CAN Canberra 46.91 154 P **P** **00 07 17.1 -0.7**
baz=47
CAN Canberra 46.91 154 IAmb IAmb 00 07 23.7
comp=Z,141nm,1.1s
ZEA Zeya 47.00 1 *e*P **P** **00 07 17.8 -0.4**
ZEA *e* 00 08 50.3
ZEA *e* 00 09 13.0
ZEA *e* 00 17 09.0
ZEA pmax pmax
comp=N,59nm,1.0s
ZEA pmax pmax
comp=Z,120nm,1.0s
ZEA pmax pmax
comp=N,400nm,6.0s
ZEA pmax pmax
comp=Z,400nm,6.0s
ZEA pmax pmax
comp=Z,400nm,8.0s
ZEA MLR MLR
comp=Z,1μm,19.0s
ZEA MLR MLR
comp=N,800nm,18.0s
CNB Canberra Magne 47.07 154 P **P** **00 07 17.1 -1.9**
baz=47
TOO Toolangi 47.50 159 P **P** **00 07 23.1 +0.8**
baz=48
TOO Toolangi 47.50 159 P **P** **00 07 24.4 +2.1**
TOO pmax pmax
comp=Z,175nm,1.4s
TOO Toolangi 47.50 159 P **P** **00 07 24.4 +2.1**
TOO IAmb IAmb 00 07 28.5
comp=Z,175nm,1.4s
ZAK Zakamensk 47.65 340 *e*P **P** **00 07 22.3 -1.1**
ZAK *e* 00 08 51.1
ZAK pmax pmax
comp=Z,61nm,1.3s
ZAK pmax pmax
comp=Z,56nm,0.9s
HYB Hyderabad 47.68 287 *e*S **S** **00 14 16.0 -1.0**
HYB *i* P **P** **00 07 22.0 -2.1**
NGP Nagpur 47.79 293 *ex* **P** **00 07 24.5 -0.3**
NGP *ex* x 00 14 18.7
NKL Nikolayevsk 47.90 12 P **P** **00 07 25.4 +0.3**
NKL *e*S **S** **00 14 23.6 +4.8**
NKL pmax pmax
comp=Z,151nm,0.9s
NKL pmax pmax
comp=N,3.0nm,0.8s
NKL pmax pmax
comp=E,43nm,0.8s
NKL smax smax
comp=E,95nm,2.2s
NKL smax smax
comp=N,13nm,1.9s
MILA Mila 48.46 155 P **P** **00 07 30.7 +0.9**
baz=48
TLY Talaya 48.65 341 P **P** **00 07 33.3 +2.3**
SNR=60
TLY Talaya 48.65 341 *e*P **P** **00 07 33.2 +2.2**
TLY *e* 00 09 27.2
TLY *e*S **S** **00 14 27.9 -1.8**
TLY pmax pmax
comp=Z,922nm,1.2s
TLY MLR MLR
comp=Z,2μm,17.0s
TLY Talaya 48.65 341 P **P** **00 07 33.5 +2.5**
comp=Z,132nm,0.7s,baz=171,slow=5.8,SNR=98
TLY PcP **PcP** **00 08 56.4 +0.6**
comp=Z,25nm,0.8s,baz=272,slow=1.9,SNR=2.2
TLY LR LR 00 31 40.2
comp=Z,766nm,18.7s,baz=145,slow=40
TLY Talaya 48.65 341 **PcP** **00 08 56.4 +0.6**
TLY Talaya 48.65 341 P **P** **00 07 32.5 +1.6**
DZM Mont Dzumac 48.66 127 *e*P **P** **00 07 32.8 +1.2**
comp=Z,220nm,1.2s
DZM *e*S S 00 14 39.6 +8.8
comp=Z,803nm,40.1s
DZM *e*LR LR 00 21 55.6
comp=Z,4μm,30.1s
DZM Mont Dzumac 48.66 127 P **P** **00 07 32.1 +0.6**
IRK Irkutsk 48.94 342 *e*P **P** **00 07 33.8 +0.6**
IRK pmax pmax
comp=Z,549nm,2.2s
MOY Mondy 49.51 340 *e*P **P** **00 07 38.8 +1.1**
MOY pmax pmax
comp=Z,441nm,1.3s
WMQ Urumqi 50.08 324 *e*P **P** **00 07 42.9 +0.8**
WMQ pP pP 00 07 54.6 -0.7
WMQ ScP **ScP** **00 12 54.6 +1.4**
WMQ S **S** **00 14 45.1 -5.0**
WMQ pmax pmax
comp=Z,33nm,1.3s
WMQ pmax pmax
comp=Z,440nm,3.6s
WMQ LR LR
comp=Z,1μm,20.9s
WMQ LR LR
comp=Z,670nm,21.1s
WMQ LR LR
comp=Z,2μm,29.7s
KAD Karad 51.82 287 *ex* **P** **00 07 56.0 +0.4**
BOD Bodaibo 51.96 352⇓ *i*P **P** **00 07 56.9 +1.0**
BOD pmax pmax
comp=Z,301nm,1.7s
POO Poona 52.26 288 *ex* **P** **00 07 56.0 -2.8**
MOO Moorlands 52.43 160 P **P** **00 08 01.0 +1.4**
baz=52
PEA0B Petropavlovsk- 53.01 23 IAmb IAmb 00 08 10.5
comp=Z,145nm,1.4s
PETK Petropavlovsk- 53.01 23 P **P** **00 08 04.3 +0.6**
PETK Petropavlovsk- 53.01 23 P **P** **00 08 04.3 +0.6**
comp=Z,320nm,0.6s,baz=188,slow=3.5,SNR=64
PETK LR LR 00 31 14.4
comp=Z,442nm,19.2s,baz=225,slow=37
PETK Petropavlovsk- 53.01 23 P **P** **00 08 04.3 +0.6**
PET Petropavlovsk 53.32 24 *e*P **P** **00 08 05.0 -1.0**
PET *e* 00 10 13.1
PET *e*S **S** **00 15 36.5 +2.4**
PET pmax pmax
comp=Z,76nm,2.5s
PET pmax pmax
comp=Z,500nm,17.2s
PET pmax pmax
comp=Z,300nm,15.0s
PET Petropavlovsk 53.32 24 P **P** **00 08 06.3 +0.3**
PET IAmb IAmb 00 08 09.2
comp=Z,114nm,1.3s
KAAM Kaadhehdhoo 53.40 266 P **P** **00 08 08.1 +0.8**
KAAM Kaadhehdhoo 53.40 266 P **P** **00 08 07.5 +0.2**
KAAM IAmb IAmb 00 08 10.5
comp=Z,93nm,0.8s
ZSN Zaisan 53.82 326⇑ *i*P **P** **00 08 09.5 -0.3**
comp=Z,111nm,1.2s
ZSN *e*S **S** **00 15 42.8 +1.6**
ZSN Zaisan 53.82 326*c i*P **P** **00 08 09.5 -0.3**
ZSN *e*S **S** **00 15 42.8 +1.6**
ZSN pmax pmax
comp=Z,111nm,1.2s
PDGK Podgornoye 54.87 320 P **P** **00 08 17.7 0.0**
PDGK pmax pmax
comp=Z,134nm,0.8s
MK31 Makanchi Array 54.91 324 *e*P **P** **00 08 17.7 -0.1**
MK31 pmax pmax
comp=Z,267nm,0.7s
MK31 Makanchi Array 54.91 324 P **P** **00 08 17.9 +0.1**
MKAR Makanchi Array 54.91 324*ce*P **P** **00 08 17.7 -0.1**
MKAR pmax pmax
comp=Z,349nm,0.8s
MKAR Makanchi Array 54.91 324 P **P** **00 08 18.1 +0.3**
comp=Z,349nm,0.8s,baz=128,slow=7.9,SNR=269
MKAR ScP **ScP** **00 13 14.0 -0.1**
comp=Z,11nm,0.9s,baz=141,slow=5.9,SNR=3.5
MKAR LR LR 00 34 07.2
comp=Z,2μm,19.0s,baz=103,slow=38
MKAR PKPPKP 00 38 26.5
comp=Z,1.4nm,0.8s,baz=288,slow=1.4,SNR=3.8
MKAR PKP2bc 00 38 39.3
comp=Z,3.2nm,0.9s,baz=255,slow=3.3,SNR=6.7
MKAR P4KPbc 00 45 33.8
comp=Z,1.0nm,0.7s,baz=115,slow=5.5,SNR=4.8
MKAR Makanchi Array 54.91 324 P **P** **00 08 18.1 +0.3**
MKAR **ScP** **00 13 14.0 -0.1**
UZB Uzynbulak 55.09 319⇑ *i*P **P** **00 08 19.4 +0.1**
comp=Z,89nm,1.1s
UZB Uzynbulak 55.09 319*c i*P **P** **00 08 19.4 +0.1**
UZB pmax pmax
comp=Z,89nm,1.1s
MAKZ Makanchi 55.10 324 P **P** **00 08 18.9 -0.2**
MAKZ pmax pmax
comp=Z,295nm,0.8s
MAKZ Makanchi 55.10 324 P **P** **00 08 18.9 -0.2**
YAK Yakutsk 55.37 2*c i*P **P** **00 08 21.2 +0.5**
YAK *e* 00 09 20.1
YAK *e*S **S** **00 15 59.1 -2.4**
YAK *e* 00 18 01.6
YAK *e*SS **SS** **00 19 45.4 -1.2**
YAK *e*SSS SSS 00 21 55.1
YAK pmax pmax
comp=Z,496nm,0.9s
YAK pmax pmax
comp=N,251nm,1.1s
YAK pmax pmax
comp=E,30nm,1.0s
YAK pmax pmax
comp=Z,80nm,2.0s
YAK pmax pmax
comp=N,140nm,2.3s
YAK pmax pmax
comp=E,90nm,2.2s
YAK smax smax
comp=N,230nm,3.2s
YAK smax smax
comp=E,280nm,3.4s
YAK MLR MLR
comp=Z,620nm,20.0s
YAK MLR MLR
comp=E,391nm,19.0s
YAK MLR MLR
comp=N,570nm,20.0s
YAK Yakutsk 55.37 2 P **P** **00 08 21.5 +0.8**
comp=N,264nm,0.8s,baz=186,slow=1.9,SNR=88
YAK LR LR 00 32 38.3
comp=N,556nm,21.3s,baz=200,slow=37
YAK Yakutsk 55.37 2 P **P** **00 08 20.9 +0.2**
SATY Saty 55.45 319⇑ *i*P **P** **00 08 22.1 +0.1**
comp=N,195nm,1.2s
SATY Saty 55.45 319*c i*P **P** **00 08 22.0 +0.1**
SATY pmax pmax
comp=Z,195nm,1.2s
KPKS Kokpek 55.46 319⇑ *i*P **P** **00 08 21.7 -0.2**
comp=Z,134nm,1.3s
KPKS Kokpek 55.46 319*c i*P **P** **00 08 21.7 -0.2**
KPKS pmax pmax
comp=Z,134nm,1.3s
ZHN Zhinishke 55.48 319⇑ *i*P **P** **00 08 21.9 -0.2**
comp=Z,68nm,1.4s
ZHN Zhinishke 55.48 319*c i*P **P** **00 08 21.9 -0.2**
ZHN pmax pmax
comp=Z,68nm,1.4s
KSH Kashi 55.65 314 P **P** **00 08 25.0 +1.6**
KSH pP sP 00 08 42.6 +0.2
KSH PP **PP** **00 10 32.9 +4.9**
KSH S **S** **00 16 05.1 -1.2**
KSH sS sS 00 16 32.3 +3.4
KSH ScS **ScS** **00 18 04.5 -4.3**
KSH pmax pmax
comp=Z,74nm,0.9s
KSH pmax pmax
comp=Z,720nm,6.8s
KSH LR LR
comp=Z,2μm,16.9s
KSH LR LR
comp=Z,2μm,18.0s
KSH LR LR
comp=Z,2μm,17.2s
NIL Nilore 55.77 306 P **P** **00 08 23.8 -0.4**
NIL pmax pmax
comp=Z,195nm,0.9s
NIL Nilore 55.77 306 P **P** **00 08 23.8 -0.4**
KDJ Kajisay 55.86 317 P **P** **00 08 24.7 -0.2**
KDJ pmax pmax
comp=Z,138nm,0.8s
KDJ Kajisay 55.86 317 P **P** **00 08 24.7 -0.2**
KDJ IAmb IAmb 00 08 30.8
comp=Z,138nm,0.8s
MA2 Magadan 56.08 15*c i*P **P** **00 08 26.2 +0.4**
MA2 pmax pmax
comp=Z,124nm,1.6s
MA2 Magadan 56.08 15 P **P** **00 08 26.3 +0.4**
comp=Z,38nm,0.6s,baz=186,slow=6.5,SNR=12
MA2 Magadan 56.08 15 P **P** **00 08 26.1 +0.2**
MA2 IAmb IAmb 00 08 28.7
comp=Z,258nm,1.8s
TDK Taldyqorghan 56.35 321 *i* P **P** **00 08 28.0 -0.2**
comp=Z,308nm,1.3s
TDK *e*LR LR 00 34 23.7
comp=Z,864nm,18.6s
TDK Taldyqorghan 56.35 321 *i* P **P** **00 08 27.9 -0.2**
TDK pmax pmax
comp=Z,308nm,1.3s
TDK MLR MLR
comp=Z,864nm,19.0s
NRN Naryn 56.38 316 IAmb IAmb 00 08 34.4
comp=Z,65nm,0.9s
MDOK Medeo 56.39 318 *i* P **P** **00 08 28.6 0.0**
MDOK *e*LR LR 00 34 26.8
comp=Z,605nm,23.4s
MDOK Medeo 56.39 318 *i* P **P** **00 08 28.6 0.0**
MDOK MLR MLR
comp=Z,605nm,23.0s
TNSS Tian-Shan 56.41 318⇑ *i*P **P** **00 08 29.3 +0.3**
TNSS Tian-Shan 56.41 318⇑ *i*P **P** **00 08 29.3 +0.3**
ULHL Ulahol 56.55 317 P **P** **00 08 30.0 +0.1**
SNR=14
MSVF Nonsavu 56.63 116 P **P** **00 08 31.4 +0.8**
MSVF pmax pmax
comp=Z,78nm,1.0s
MSVF Nonsavu 56.63 116 P **P** **00 08 31.4 +0.8**
MSVF IAmb IAmb 00 08 53.8
comp=Z,78nm,0.9s
CHKK Chushkaly 56.73 319 *eP* **P** **00 08 30.3 -0.6**
CHKK Chushkaly 56.73 319 *eP* **P** **00 08 30.3 -0.6**
MTBS Maitube 56.79 318 *eP* **P** **00 08 31.0 -0.4**
MTBS Maitube 56.79 318 *eP* **P** **00 08 30.9 -0.4**
KZA Kyzart 57.15 317 P **P** **00 08 35.1 +0.7**
SNR=29
KUU Kurty 57.17 319⇑ *i*P **P** **00 08 33.8 -0.2**
comp=Z,292nm,1.2s
KUU Kurty 57.17 319*c i*P **P** **00 08 33.8 -0.2**
KUU pmax pmax
comp=Z,292nm,1.2s
TKM2 Tokmak 2 57.26 318 P **P** **00 08 33.7 -1.1**
TKM2 pmax pmax
comp=Z,71nm,0.7s
TKM2 Tokmak 2 57.26 318 P **P** **00 08 34.8 -0.1**
SNR=19
KBK Karagaybulak 57.59 317 P **P** **00 08 37.5 +0.4**
SNR=74
UCH Uchtor 57.72 316 P **P** **00 08 38.5 +0.2**
SNR=92
ZAA0 Zalesovo Array 57.80 333 P **P** **00 08 37.8 -0.4**
ZAA0 IAMs_20 IAMs_20 00 34 27.1
comp=Z,2μm,22.0s
ZALV Zalesovo Beam 57.80 333 P **P** **00 08 38.1 -0.1**
ZALV Zalesovo Beam 57.80 333 P **P** **00 08 38.1 -0.1**
comp=Z,272nm,0.7s,baz=118,slow=6.3,SNR=150
ZALV LR LR 00 34 37.7
comp=Z,2μm,21.6s,baz=130,slow=37
ZALV PKPPKP **P'P'df** **00 38 19.5 -3.7**
comp=Z,1.0nm,0.7s,baz=242,slow=3.1,SNR=3.5
ZALV PKP2bc 00 38 32.1
comp=Z,4.0nm,0.8s,baz=316,slow=4.1,SNR=14
ZALV Zalesovo Beam 57.80 333 P **P** **00 08 38.1 -0.1**
CHMS Chumysh 57.86 317 P **P** **00 08 38.4 -0.5**
SNR=23
FRU1 Bishkek 57.86 317 IAmb IAmb 00 08 44.5

comp=Z,62nm,0.9s
AAK Ala-Archa 57.89 317 *i* P **P 00 08 39.1 -0.2**
SNR=68
AAK Ala-Archa 57.89 317 P **P 00 08 39.7 +0.5**
SNR=23
AAK Ala-Archa 57.89 317⇑ *e*P **P 00 08 39.3 +0.1**
AAK pmax pmax
comp=Z,22nm,0.9s
AAK Ala-Archa 57.89 317 P **P 00 08 39.3 +0.1**
comp=Z,30nm,0.6s,baz=106,slow=6.2,SNR=41
AAK LR LR 00 37 10.9
comp=Z,607nm,18.7s,baz=78,slow=40
AAK PKPPKP **P'P'df 00 38 21.5 -2.6**
comp=Z,1.6nm,0.7s,baz=248,slow=3.2,SNR=3.5
AAK Ala-Archa 57.89 317 P **P 00 08 39.3 +0.1**
SNR=27
AAK Ala-Archa 57.89 317 P **P 00 08 39.0 -0.2**
AAK IAmb IAmb 00 08 52.7
comp=Z,53nm,0.8s
USP Ospenovka 58.13 318 P **P 00 08 40.7 -0.1**
SNR=90
AML Almayashu 58.24 316 P **P 00 08 42.3 +0.3**
SNR=72
EKS2 Erkin-Say 58.38 317 P **P 00 08 43.0 +0.3**
SNR=77
ARSB Arslanbob 58.44 315 IAmb IAmb 00 08 48.9
comp=Z,53nm,0.9s
KURK Kurchatov 59.05 327 P **P 00 08 46.6 -0.3**
SNR=326
KURK Kurchatov 59.05 327*c* *i*P **P 00 08 46.5 -0.4**
KURK pmax pmax
comp=Z,194nm,0.8s
KURK Kurchatov 59.05 327 P **P 00 08 46.8 -0.1**
KURBB Kurchatov Arra 59.05 327 P **P 00 08 46.7 -0.2**
comp=Z,509nm,0.7s,baz=126,slow=6.0,SNR=749
KURBB PKPPKP P'P'df 00 38 13.4 -8.1
comp=Z,4.8nm,1.1s,baz=274,slow=3.4,SNR=7.7
KBL Kabul 59.37 306 P **P 00 08 49.4 -0.4**
KBL Kabul 59.37 306 P **P 00 08 48.9 -0.9**
KBL pmax pmax
comp=Z,59nm,0.7s
KBL MLR MLR
comp=Z,400nm,18.0s
KBL Kabul 59.37 306 P **P 00 08 48.9 -0.9**
KBL IAmb IAmb 00 08 50.5
comp=Z,59nm,0.7s
SEY Seymchan 59.38 14*ce*P **P 00 08 50.5 +1.5**
SEY Seymchan 59.38 14 P **P 00 08 50.4 +1.5**
comp=Z,39nm,0.9s,baz=220,slow=7.7,SNR=24
SEY LR LR 00 33 44.6
comp=Z,120nm,21.3s,baz=158,slow=35
BTK Batken 59.56 313 IAmb IAmb 00 08 59.0
comp=Z,79nm,0.8s
JBG Jabagly 60.53 315 *i* P **P 00 08 57.4 -0.1**
JBG pmax pmax
comp=Z,89nm,1.4s
KK31 Karatay Array 60.78 316 *i* P **P 00 08 58.4 -0.6**
KK31 pmax pmax
comp=Z,89nm,0.7s
KK31 Karatay Array 60.78 316 P **P 00 08 58.7 -0.3**
KKAR Karatay Array 60.78 316 P **P 00 08 58.4 -0.6**
KKAR pmax pmax
comp=Z,112nm,0.8s
KKAR Karatay Array 60.78 316 P **P 00 08 58.4 -0.6**
IUG luzhnay 60.80 315⇑ *i*P **P 00 08 58.9 -0.4**
IUG luzhnay 60.80 315*c* *i*P **P 00 08 58.9 -0.4**
BRZS Berezniki 62.05 324⇑ *i*P **P 00 09 06.8 -0.7**
comp=Z,95nm,0.6s
BRZS Berezniki 62.05 324*c* *i*P **P 00 09 06.7 -0.7**
BRZS pmax pmax
comp=Z,95nm,0.6s
DCZ Deep Cove 63.47 149 IAmb IAmb 00 09 31.3
comp=Z,92nm,1.3s
HIZ Hauiti 63.65 139 IAmb IAmb 00 09 21.3
comp=Z,142nm,1.3s
MLZ Mavora Lakes 63.90 148 IAmb IAmb 00 10 01.9
comp=Z,107nm,1.6s
WKZ Wanaka 64.02 147 IAmb IAmb 00 09 26.0
comp=Z,185nm,1.6s
WHZ Wether Hill Ro 64.17 149 IAmb IAmb 00 09 24.1
comp=Z,88nm,1.3s
NNZ Nelson 64.26 142 IAmb IAmb 00 09 41.4
comp=Z,124nm,1.5s
THZ Tophouse 64.30 143 IAmb IAmb 00 09 48.2
comp=Z,203nm,1.7s
LBZ Lake Benmore 64.36 146 IAmb IAmb 00 09 27.3
comp=Z,116nm,1.1s
RPZ Rata Peaks 64.42 145 P **P 00 09 24.5 +1.3**
LTZ Lake Taylor 64.54 144 IAmb IAmb 00 09 27.4
comp=Z,128nm,1.5s
BVAR Borovoye Array 64.63 326 P **P 00 09 24.7 +0.2**
BVAR 00 09 58.4
BVAR Borovoye Array 64.63 326 P **P 00 09 24.7 +0.2**
comp=Z,302nm,0.8s,baz=120,slow=8.7,SNR=264
BVAR PcP **PcP 00 09 58.4 +0.4**
comp=Z,30nm,0.7s,baz=114,slow=5.9,SNR=2.0
BVAR PKPPKP 00 38 01.9
comp=Z,1.0nm,0.9s,baz=296,slow=4.8,SNR=4.6
BRVK Borovoye 64.71 326 P **P 00 09 24.8 -0.1**
SNR=160
BRVK Borovoye 64.71 326*c* *i*P **P 00 09 24.2 -0.7**
BRVK pmax pmax
comp=Z,132nm,0.8s
BRVK Borovoye 64.71 326 P **P 00 09 24.5 -0.4**
BRVK IAMs_20 IAMs_20 00 40 13.9
comp=Z,993nm,20.0s
OXZ Oxford 64.73 145 IAmb IAmb 00 10 28.4
comp=Z,153nm,1.8s
HRA Herat 64.84 305 IAMs_20 IAMs_20 00 42 54.4
comp=Z,1μm,22.0s
TIXI Tiksi 65.00 1*c* *i*P **P 00 09 26.0 -0.4**
TIXI pmax pmax
comp=Z,256nm,1.3s
TIXI Tiksi 65.00 1 P **P 00 09 26.6 +0.1**
comp=Z,132nm,0.8s,baz=186,slow=4.6,SNR=209
TIXI LR LR 00 39 13.3
comp=Z,811nm,20.2s,baz=95,slow=37
TIXI Tiksi 65.00 1 P **P 00 09 26.6 +0.1**
TIXI Tiksi 65.00 1 IAmb IAmb 00 09 28.3
comp=Z,171nm,0.9s
TIXI IAMs_20 IAMs_20 00 39 01.8
comp=Z,1μm,20.0s
ODZ Otahua Downs 65.03 147 IAmb IAmb 00 10 02.8
comp=Z,121nm,1.9s
BKZ Black Stump Fm 65.08 139 IAmb IAmb 00 09 32.4
comp=Z,86nm,1.0s
MQZ McQueen's Vall 65.32 145 IAmb IAmb 00 09 41.7
comp=Z,245nm,1.8s
WBK Wadi Bani Khal 66.47 292 P **P 00 09 36.2 -0.7**
WSAR Wadi Sarin 66.81 292 P **P 00 09 38.1 -1.0**
SNR=5.6
WSAR Wadi Sarin 66.81 292 P **P 00 09 38.5 -0.6**
comp=Z,7.8nm,0.5s,baz=140,slow=5.5,SNR=17
BILL Bilibino 66.94 15*c* *i*P **P 00 09 38.9 -0.1**
BILL *e**PP **sP 00 09 59.8 +1.3**
BILL *e 00 10 08.6
BILL *e 00 12 03.6
BILL *e*PPP PPP 00 13 44.9
BILL *e*S **S 00 18 27.3 -1.1**
BILL *e*SS **SS 00 22 52.3 +4.9**
BILL pmax pmax
comp=Z,91nm,1.5s
BILL MLR MLR
comp=Z,292nm,21.0s
BILL Bilibino 66.94 15 P **P 00 09 39.1 0.0**
BILL IAmb IAmb 00 09 40.7
comp=Z,131nm,1.6s
JMDO Jabal Madar 67.26 291 P **P 00 09 40.6 -1.4**
BIDO Bidbid 67.28 293 P **P 00 09 42.4 +0.4**
SNR=7.3
SMDO Samad 67.34 292 P **P 00 09 42.0 -0.6**
SNR=5.4
NRIK Noril'sk 67.53 346 P **P 00 09 43.7 +1.0**
NRIK Noril'sk 67.53 346 P **P 00 09 43.7 +1.0**
comp=Z,329nm,0.8s,baz=126,slow=6.3,SNR=451
NRIK LR LR 00 41 14.9
comp=Z,1μm,20.2s,baz=146,slow=38
DQM DQM 67.72 289 P **P 00 09 44.6 -0.3**
SNR=8.6
HOQ Hoqain 68.04 293 P **P 00 09 46.4 -0.5**
SNR=9.5
BSY Bisya 68.11 292 P **P 00 09 46.4 -0.9**
GEYT Alibeck 68.69 308 P **P 00 09 51.0 +0.3**
comp=Z,27nm,0.7s,baz=145,slow=5.4,SNR=81
GEYT PKP2bc 00 38 05.3
comp=Z,3.5nm,1.1s,baz=287,slow=10,SNR=4.2

GEYT Alibeck 68.69 308 P **P 00 09 51.0 +0.3**
GYA0B ALIBECK ARRAY 68.69 308 IAmb IAmb 00 09 53.8
comp=Z,55nm,0.9s
GYA0B IAMs_20 IAMs_20 00 43 33.2
comp=Z,847nm,22.0s
BANOM Banah 69.06 295 *i* P **P 00 09 52.7 -0.5**
SNR=6.8
BANOM Banah 69.06 295 P **P 00 09 52.3 -0.9**
UOSS Minazif 69.10 294 P **P 00 09 52.2 -1.3**
UOSS Minazif 69.10 294 P **P 00 09 51.0 -2.5**
HATD Hatta, Dubai 69.16 294 *i* P **P 00 09 52.8 -1.1**
SNR=15
HATD Hatta, Dubai 69.16 294 P **P 00 09 53.0 -0.9**
SNR=8.4
ASHO Ashiyiah 69.22 294 *i* P **P 00 09 53.3 -0.9**
SNR=17
ASHO Ashiyiah 69.22 294 P **P 00 09 53.5 -0.8**
SNR=11
ALNE Al Ain 69.48 293 *i* P **P 00 09 54.8 -1.1**
SNR=13
SHAO Shalim 69.52 287 *i* P **P 00 09 56.1 -0.1**
SNR=21
SHAO Shalim 69.52 287 P **P 00 09 55.9 -0.2**
SNR=9.6
NAZ Nazwa, Dubai 69.59 294 *i* P **P 00 09 55.3 -1.2**
SNR=7.4
NAZ Nazwa, Dubai 69.59 294 P **P 00 09 55.9 -0.6**
SNR=6.0
AB31 Akbulak array 69.60 320 *i* P **P 00 09 55.1 -0.9**
AB31 pmax pmax
comp=Z,56nm,0.7s
ABKAR Akbulak array 69.60 320 IAmb IAmb 00 10 00.1
comp=Z,210nm,1.4s
ASUD Al Ashush, Dub 69.88 294 *i* P **P 00 09 57.6 -0.7**
SNR=12
ASUD Al Ashush, Dub 69.88 294 P **P 00 09 57.5 -0.7**
SNR=7.3
DMTO DMTO 70.17 286 P **P 00 09 59.6 -0.6**
SNR=6.1
AJN Ajban 70.19 294 *i* P **P 00 09 59.8 -0.3**
SNR=7.6
RBK Rabkut 70.88 286 P **P 00 10 03.9 -0.7**
SNR=14
AKTO Aktyubinsk 71.09 321 P **P 00 10 04.3 -0.8**
AKTO pmax pmax
comp=Z,93nm,0.7s
AKTO Aktyubinsk 71.09 321 P **P 00 10 04.6 -0.5**
comp=Z,76nm,0.6s,baz=100,slow=7.3,SNR=198
AKTO LR LR 00 44 42.1
comp=Z,1μm,19.1s,baz=102,slow=39
SVE Sverdlovsk 71.25 328*de*P **P 00 10 05.4 -0.5**
SVE pmax pmax
comp=Z,684nm,1.0s
SVE MLR MLR
comp=Z,2μm,22.0s
SOCY Socotra 71.28 281 P **P 00 10 05.4 -1.6**
SNR=8.2
WHFO Wadi Hawf 71.29 287 P **P 00 10 05.7 -1.3**
SNR=27
ABTO Aybut 71.75 286 P **P 00 10 08.9 -0.9**
SNR=18
ARU Arti 72.23 327*c* *i*P **P 00 10 10.7 -1.2**
ARU *PP **pP 00 10 27.0 +1.0**
ARU S **S 00 19 29.8 -1.2**
ARU SS **SS 00 24 09.0 -0.3**
ARU pmax pmax
comp=Z,350nm,0.9s
ARU Arti 72.23 327 P **P 00 10 11.2 -0.7**
comp=Z,88nm,0.7s,baz=118,slow=2.9,SNR=149
ARU LR LR 00 45 12.0
comp=Z,580nm,18.2s,baz=98,slow=38
ARU Arti 72.23 327 P **P 00 10 10.4 -1.5**
CASY Casey 73.59 187 P **P 00 10 20.4 +0.9**
CASY IAmb IAmb 00 10 21.2
comp=Z,61nm,0.9s
POHA Pohakuloa 76.80 71 P **P 00 10 39.7 +0.3**
POHA IAmb IAmb 00 10 41.9
comp=Z,96nm,0.9s
MLH Mauna Loa 76.95 72 P **P 00 10 42.9 +2.6**
AKT Akhty 77.01 311 *e*P **P 00 10 39.6 -0.4**
AKT *e 00 10 49.8
AKT *e 00 13 33.2
AKT pmax pmax
comp=Z,68nm,0.8s
KKO Keanakako`i 77.07 72 P **P 00 10 43.2 +2.4**
GROC Groznyy 78.51 313 *e*P **P 00 10 46.6 -1.6**
GROC *e 00 10 55.7
GROC *e*PP **sP 00 11 06.2 -1.2**
GROC *e*S **S 00 20 36.9 -4.1**
GROC *e*S **SKKSac 00 21 01.9 +1.5**
GROC pmax pmax
comp=Z,62nm,0.9s
RAYN Ar Rayn 78.87 293 P **P 00 10 49.3 -1.3**
RAYN pmax pmax
comp=Z,75nm,0.9s
RAYN Ar Rayn 78.87 293 P **P 00 10 49.3 -1.3**
RAYN IAmb IAmb 00 10 52.1
comp=Z,75nm,0.9s
GNI Garni 79.24 310 P **P 00 10 53.1 +0.6**
GNI Garni 79.24 310⇑ *e*P **P 00 10 53.3 +0.8**
GNI pmax pmax
comp=Z,205nm,1.7s
GNI Garni 79.24 310 P **P 00 10 52.7 +0.2**
comp=Z,18nm,0.9s,baz=300,slow=6.1,SNR=7.1
GNI Garni 79.24 310 P **P 00 10 52.8 +0.4**
GNI IAmb IAmb 00 11 09.5
comp=Z,82nm,0.9s
TBLG Delisi 79.26 311 IAmb IAmb 00 11 04.9
comp=Z,131nm,0.8s
OHAK Old Harbor 79.36 33 IAmb IAmb 00 10 54.2
comp=Z,72nm,0.8s
TASB TASBURUN-IGDIR 79.62 309 *e*P **P 00 10 54.5 0.0**
PRGR Permogore 79.73 331⇓ *i*P **P 00 10 53.9 -0.5**
PRGR *e 00 13 56.0
PRGR *e*S **S 00 20 53.6 +0.3**
PRGR pmax pmax
comp=Z,123nm,0.6s
KDAK Kodiak Island 79.78 33 *i* P **P 00 10 55.2 +0.4**
KDAK Kodiak Island 79.78 33 P **P 00 10 55.3 +0.6**
comp=Z,65nm,0.7s,baz=262,slow=3.6,SNR=53
KDAK LR LR 00 41 49.4
comp=Z,761nm,21.6s,baz=249,slow=32
KDAK Kodiak Island 79.78 33 P **P 00 10 55.5 +0.7**
KDAK IAmb IAmb 00 10 56.5
comp=Z,83nm,0.8s
ZEI Tsey 79.89 312 *e*P **P 00 10 54.6 -1.4**
ZEI pmax pmax
comp=Z,79nm,0.9s
NCK Nalchik 80.12 313⇓ *e*P **P 00 10 57.2 +0.2**
NCK pmax pmax
comp=Z,34nm,1.0s
CUKT Cukurca 80.14 307 *e*P **P 00 10 56.3 -1.1**
AKH Akhalkalaki 80.19 311⇑ P **P 00 10 58.1 +0.4**
AKH Akhalkalaki 80.19 311 IAmb IAmb 00 11 10.8
comp=Z,127nm,0.9s
DAMY Dhamar 80.45 284 P **P 00 11 00.6 +1.0**
SNR=11
DAMY Dhamar 80.45 284 IAmb IAmb 00 11 02.2
comp=Z,112nm,0.9s
KARS Kars 80.51 310 *e*P **P 00 10 59.6 +0.3**
GOF Gofitskoye 80.52 314⇑ *e*P **P 00 11 02.9 +3.8**
GOF pmax pmax
comp=Z,42nm,0.9s
CNPM China Poot 80.58 31 IAMs_20 IAMs_20 00 41 57.1
comp=Z,867nm,22.0s
KBZ Khabaz 80.62 313 P **P 00 10 59.4 -0.2**
KBZ Khabaz 80.62 313 P **P 00 10 59.4 -0.2**
comp=Z,14nm,0.9s,baz=163,slow=4.6,SNR=12
KBZ LR LR 00 52 15.0
comp=Z,593nm,18.2s,baz=72,slow=40
KVAR Kislovodsk Arr 80.77 313 P **P 00 11 01.4 +0.8**
comp=Z,12nm,0.7s,baz=346,slow=8.3,SNR=7.3
KVAR Kislovodsk Arr 80.77 313 P **P 00 11 01.4 +0.8**
BRLK Bradley Lake 80.77 31 IAmb IAmb 00 11 10.5
comp=Z,113nm,1.0s
KIV Kislovodsk 80.78 313 *i* P **P 00 11 00.6 +0.1**
SNR=14
KIV Kislovodsk 80.78 313 P **P 00 11 01.0 +0.3**
KIV Kislovodsk 80.78 313 *e*P **P 00 11 00.4 -0.2**
KIV pmax pmax
comp=Z,174nm,1.0s
KIV Kislovodsk 80.78 313⇓ P **P 00 11 00.7 +0.1**
KIV mb 00 11 07.5
KIV Kislovodsk 80.78 313 P **P 00 11 00.9 +0.3**
SUA Susitna One 80.93 29 IAmb IAmb 00 11 11.4
comp=Z,108nm,0.8s

KTH Kantishna Hill 80.96 27 IAmb IAmb 00 11 03.5
comp=Z,84nm,1.1s
BPAW Bear Paw Mtn. 80.97 26 IAmb IAmb 00 11 03.1
comp=Z,146nm,1.1s
SIRT Sirnak 81.06 307 *e*P **P 00 11 01.5 -0.8**
SENK Senkaya-Erzuru 81.06 310 *e*P **P 00 11 02.3 -0.1**
MLY Manley 81.13 25 IAmb IAmb 00 11 12.6
comp=Z,74nm,1.0s
TRF Thorofare Moun 81.24 27 IAmb IAmb 00 11 27.6
comp=Z,80nm,1.0s
GURO Guroymak-BITLI 81.36 308 *e*P **P 00 11 03.8 -0.1**
RC01 Rabbit Creek A 81.40 29 IAmb IAmb 00 11 06.0
comp=Z,56nm,0.7s
RC01 IAMs_20 IAMs_20 00 46 40.6
comp=Z,603nm,21.0s
VRH Novokhopyorsk 81.42 321 *e*P **P 00 11 02.1 -1.6**
VRH pmax pmax
comp=Z,140nm,0.9s
KOPR Koprukoy-ERZUR 81.46 309 *e*P **P 00 11 04.5 +0.1**
BWN Browne 81.64 26 IAmb IAmb 00 11 07.7
comp=Z,115nm,0.8s
BWN IAMs_20 IAMs_20 00 44 10.8
comp=Z,699nm,22.0s
PMR Palmer 81.70 29 IAmb IAmb 00 11 06.1
comp=Z,64nm,0.9s
ABPO Ambohimpanom 81.77 250 P **P 00 11 05.0 -1.4**
ABPO pmax pmax
comp=Z,18nm,0.9s
ABPO Ambohimpanom 81.77 250 P **P 00 11 05.0 -1.4**
VRTB Varto-Mus 81.79 309 *e*P **P 00 11 07.0 +0.8**
MCK McKinley 81.86 27 IAmb IAmb 00 11 07.1
comp=Z,161nm,0.9s
RND Reindeer 81.88 27 IAmb IAmb 00 11 07.1
comp=Z,82nm,1.0s
KNK Knik Glacier 82.02 29 IAmb IAmb 00 11 11.0
comp=Z,77nm,0.8s
SML Sawmill 82.09 29 IAmb IAmb 00 11 08.7
comp=Z,97nm,1.0s
ATD Arta Tunnel 82.20 281 P **P 00 11 09.0 +0.3**
SNR=14
ATD Arta Tunnel 82.20 281 P **P 00 11 08.9 +0.2**
comp=Z,102nm,0.9s,baz=8.4,slow=2.1,SNR=46
ATD Arta Tunnel 82.20 281 IAmb IAmb 00 11 11.2
comp=Z,124nm,1.0s
WRH Wood River Hil 82.24 26 IAMs_20 IAMs_20 00 45 01.9
comp=Z,767nm,22.0s
COLA College 82.35 25*c* *i*P **P 00 11 08.4 +0.1**
COLA pmax pmax
comp=Z,30nm,0.9s
COLA College 82.35 25 P **P 00 11 08.6 +0.3**
BNGB Bingl 82.40 308 *e*P **P 00 11 08.9 -0.4**
MAZI Mazidag 82.65 307 *e*P **P 00 11 08.9 -1.7**
GLI Glacier Island 82.68 29 IAmb IAmb 00 11 11.8
comp=Z,60nm,0.8s
HDA Harding Lake 82.74 26 IAmb IAmb 00 11 12.0
comp=Z,84nm,0.8s
ILAR Eielson Array 82.76 26 P **P 00 11 10.0 -0.6**
ILAR Eielson Array 82.76 26 P **P 00 11 09.9 -0.6**
comp=Z,18nm,0.7s,baz=244,slow=4.5,SNR=182
ILAR PKKPbc **PKKPbc 00 29 34.5 -2.5**
comp=Z,1.3nm,0.9s,baz=87,slow=1.0,SNR=8.1
ILAR LR LR 00 46 57.2
comp=Z,268nm,21.8s,baz=246,slow=35
ILAR Eielson Array 82.76 26 P **P 00 11 09.9 -0.6**
DYBB Diyarbakir 82.87 307 *e*P **P 00 11 11.2 -0.5**
SOC Sochi 82.93 313 *e*P **P 00 11 08.6 -3.2**
SOC *e 00 14 19.5
SOC *e*PPP PPP 00 16 09.4
SOC *e*S **S 00 21 19.7 -7.5**
SOC *e*SS **SS 00 26 50.8 -0.3**
SOC *e*SSS SSS 00 30 17.8
SOC MLR MLR
comp=Z,425nm,16.0s
VORD Divnogorie 82.96 320 *e*P **P 00 11 10.6 -1.2**
VORD pmax pmax
comp=Z,120nm,1.0s
HIN Hinchinbrook I 82.98 30 IAmb IAmb 00 11 13.8
comp=Z,192nm,1.4s
FID Port Fidalgo 82.99 30 IAmb IAmb 00 11 12.9
comp=Z,59nm,1.0s
VSR Storozhevoye 83.03 321 *e*P **P 00 11 10.1 -2.0**
VSR pmax pmax
comp=Z,130nm,0.8s
LPSR Galich'ya Gora 83.13 322 *e*P **P 00 11 11.5 -1.1**
LPSR pmax pmax
comp=Z,140nm,0.8s
TMCR Tamitsa 83.30 334 *e*P **P 00 11 14.0 +0.8**
TMCR pmax pmax
comp=Z,157nm,0.8s
EYAK Cordova Ski Ar 83.35 30 IAmb IAmb 00 11 34.5
comp=Z,169nm,1.7s
PAX Paxson 83.42 27 IAMs_20 IAMs_20 00 44 34.9
comp=Z,731nm,22.0s
SVRC Sivrice-ELAZID 83.50 308 *e*P **P 00 11 14.9 -0.2**
MOS Moscow 83.78 325 *e*P **P 00 11 15.2 -0.7**
MOS *e 00 11 35.1
MOS *e 00 14 26.4
MOS *e 00 21 27.1
MOS pmax pmax
comp=Z,136nm,0.7s
MOS MLR MLR
comp=Z,1μm,24.0s
RAGM Ragged Mountai 83.89 30 IAMs_20 IAMs_20 00 46 55.5
comp=Z,597nm,20.0s
DOT Dot Lake 84.03 27 IAmb IAmb 00 11 26.7
comp=Z,99nm,1.2s
SCRK Sand Creek 84.04 26 IAmb IAmb 00 11 19.2
comp=Z,98nm,1.2s
SCRK IAMs_20 IAMs_20 00 45 10.5
comp=Z,648nm,22.0s
HMT Hamilton 84.09 30 IAmb IAmb 00 11 19.7
comp=Z,112nm,1.0s
HMT IAMs_20 IAMs_20 00 47 33.0
comp=Z,638nm,21.0s
MALT Malatya 84.19 308 *e*P **P 00 11 18.2 -0.4**
MENT Mentasta 84.22 27 IAmb IAmb 00 11 20.2
comp=Z,63nm,0.8s
OBN Obninsk 84.41 325 *e*P **P 00 11 18.2 -0.9**
OBN *e*PP **sP 00 11 36.1 -2.9**
OBN *e 00 14 30.7
OBN *e*PPP PPP 00 16 28.6
OBN *e*S **S 00 21 35.9 -5.7**
OBN *e*SS **SS 00 27 11.9 -0.4**
OBN pmax pmax
comp=Z,105nm,0.9s
OBN MLR MLR
comp=Z,693nm,19.0s
OBN Obninsk 84.41 325⇑ P **P 00 11 18.0 -1.1**
OBN mb 00 11 23.4
OBN Obninsk 84.41 325 P **P 00 11 18.1 -1.1**
VRDI Verde Repeater 84.44 29 IAmb IAmb 00 11 21.4
comp=Z,85nm,0.9s
LVZ Lovozero 84.51 338 P **P 00 11 19.2 -0.2**
LVZ pmax pmax
comp=Z,216nm,1.5s
LVZ Lovozero 84.51 338 P **P 00 11 19.2 -0.2**
ANN Anapa 84.51 314 *e*P **P 00 11 18.2 -1.6**
ANN *e*PP **pP 00 11 34.9 +1.1**
ANN *e*S **S 00 21 36.9 -6.1**
ANN pmax pmax
comp=Z,217nm,1.0s
ANN MLR MLR
comp=Z,962nm,21.0s
MCARA McCarthy VSAT 84.64 29 IAmb IAmb 00 11 54.6
comp=Z,89nm,1.0s
WAX Waxell Ridge 84.79 30 IAMs_20 IAMs_20 00 45 52.2
comp=Z,672nm,22.0s
RSDY Resadiye-TOKAT 84.90 310 *e*P **P 00 11 21.4 -0.6**
DARE Darende-Malaty 84.92 308 *e*P **P 00 11 21.8 -0.4**
SVSK Karacayir 85.19 309 *e*P **P 00 11 23.2 -0.1**
EGAK Eagle 85.22 25 IAmb IAmb 00 11 25.0
comp=Z,63nm,0.8s
GAZ Gaziantep 85.24 307 *e*P **P 00 11 23.5 -0.3**
YAH Yahtse 85.34 30 IAMs_20 IAMs_20 00 46 29.7
comp=Z,638nm,21.0s
KMRS Kahramanmaras 85.46 307 *e*P **P 00 11 24.2 -0.7**
TOKT Tokat 85.50 310 *e*P **P 00 11 24.3 -0.7**
KVT Kavak 85.81 311 *e*P **P 00 11 25.1 -1.4**
DAWY Dawson 86.05 26 IAmb IAmb 00 11 29.6
comp=Z,37nm,0.8s
DAWY IAMs_20 IAMs_20 00 48 17.5
comp=Z,535nm,22.0s
PCA Pinnacle 86.11 30 IAMs_20 IAMs_20 00 44 55.2
comp=Z,562nm,22.0s
BNN Bunyan 86.17 309 *e*P **P 00 11 27.2 -1.3**

HOPEN **Hopen** 86.22 347 *e*P P 00 11 29.1 +1.4
MAW Mawson 86.24 200 P P 00 11 27.9 0.0
MAW Mawson 86.24 200 P P 00 11 27.9 0.0
comp=Z,26nm,0.8s,baz=51,slow=5.0,SNR=24
MAW LR LR 00 44 27.3
comp=Z,244nm,21.8s,baz=56,slow=32
MAW Mawson 86.24 200 P P 00 11 28.2 +0.3
VNDA Vanda 86.33 173 P P 00 11 28.4 +0.2
VNDA Vanda 86.33 173 P P 00 11 28.4 +0.2
comp=Z,8.5nm,0.7s,baz=318,slow=7.9,SNR=13
VNDA LR LR 00 50 19.2
comp=Z,512nm,21.4s,baz=348,slow=36
CEYT Ceyhan 86.42 307 *e*P P 00 11 29.1 -0.4
PPT Papeete 86.52 108 LR LR 00 45 49.8
comp=Z,270nm,19.1s,baz=284,slow=32
PPT2 Papeete2 86.52 108 *e*S S 00 22 03.2 -0.7
comp=Z,794nm,24.5s
PPT2 *e*SS SS 00 27 53.9 +8.4
comp=Z,500nm,26.5s
PPT2 Papeete2 86.52 108 *e*LR LR 00 39 21.3
comp=Z,1µm,25.2s,baz=293
SIM Simferopol' 86.85 315 *e*P P 00 11 30.4 -1.1
SIM pmax pmax
comp=Z,37nm,0.8s
KARA Karaisali 86.94 307 *e*P P 00 11 27.9 -4.3
SBA Scott Base 87.24 172 IAMs_20 IAMs_20 00 43 34.8
comp=Z,674nm,22.0s
DHAK Deception Hill 87.27 31 IAmb IAmb 00 11 43.4
comp=Z,51nm,1.1s
DHAK IAMs_20 IAMs_20 00 45 07.8
comp=Z,652nm,22.0s
PUL Pulkovo 87.29 330⇓ *e*P P 00 11 34.9 +1.6
PUL pmax pmax
comp=Z,219nm,1.3s
MERS Mersin 87.41 307 *e*P P 00 11 32.5 -2.0
TBI Tubuai 87.44 114 *e*S S 00 22 12.5 +0.1
comp=Z,766nm,25.2s
TBI *e*SS SS 00 28 03.4 +4.9
comp=Z,640nm,28.5s
TBI *e*LQ LQ 00 36 07.8
comp=Z,635nm,34.0s
TBI *e*LR LR 00 39 46.9
comp=Z,2µm,27.0s,baz=295
SPA0 Spitsbergen Ar 87.57 349 *e*P P 00 11 34.3 0.0
ARCES ARCESS Array B 87.58 340 P P 00 11 34.2 -0.4
ARCES ARCESS Array B 87.58 340 P P 00 11 34.1 -0.4
comp=Z,48nm,0.7s,baz=80,slow=6.3,SNR=60
ARCES PKKPbc PKKPbc 00 29 23.1 -2.6
comp=Z,5.5nm,0.9s,baz=264,slow=2.7,SNR=5.4
ARCES LR LR 00 53 34.8
comp=Z,495nm,21.5s,baz=93,slow=38
ARCES ARCESS Array B 87.58 340 P P 00 11 34.1 -0.4
ARE0 ARCESS Array S 87.58 340 *e*P P 00 11 34.3 -0.2
INK Inuvik 87.71 21 P P 00 11 35.1 0.0
INK Inuvik 87.71 21 P P 00 11 35.1 0.0
comp=Z,42nm,0.9s,baz=277,slow=5.2,SNR=108
INK PKKPbc PKKPbc 00 29 21.9 -3.4
comp=Z,4.4nm,0.9s,baz=59,slow=3.6,SNR=11
INK Inuvik 87.71 21 IAmb IAmb 00 11 37.9
comp=Z,48nm,1.0s
INK IAMs_20 IAMs_20 00 49 45.2
comp=Z,517nm,22.0s
BR131 Keskin Array S 87.78 310 P P 00 11 34.8 -1.5
SNR=6.8
BRTR Keskin Array B 87.78 310 *i* P P 00 11 34.5 -1.8
BRTR pmax pmax
comp=Z,11nm,0.8s
BRTR Keskin Array B 87.78 310 P P 00 11 34.8 -1.5
comp=Z,11nm,0.8s,baz=108,slow=4.4,SNR=46
BRTR PP PP 00 15 03.9 +1.5
comp=Z,2.7nm,0.9s,baz=111,slow=7.9,SNR=3.4
BRTR LR LR 00 56 03.8
comp=Z,158nm,21.0s,baz=71,slow=39
BRTR Keskin Array B 87.78 310 P P 00 11 34.8 -1.5
BRTR PP 00 15 03.9 +1.5
HAMF Hammerfest 87.94 341 *e*P P 00 11 35.2 -0.9
KBS Kingsbay 88.10 350 *ce*P P 00 11 38.0 +1.2
KBS pmax pmax
comp=Z,738nm,1.3s
KBS Kingsbay 88.10 350 *e*P P 00 11 37.5 +0.7
KBS Kingsbay 88.10 350 P P 00 11 37.2 +0.4
HSPB Hornsund (broa 88.17 348 *e*P P 00 11 38.1 +1.0
KIBK Kilbwezi 88.41 267 P P 00 11 39.4 -0.3
SNR=10
KTK1 Kautokeino 88.49 339 *e*P P 00 11 38.4 -0.4
CSS Mathiatis 88.59 305 IAmb IAmb 00 11 51.5
comp=Z,46nm,0.8s
FIA1 FINESS Array S 89.06 332 IAmb IAmb 00 11 43.6
comp=Z,55nm,0.7s
FINES FINESS Array B 89.06 332 *i* P P 00 11 40.7 -0.9
FINES pmax pmax
comp=Z,36nm,0.5s
FINES FINESS Array B 89.06 332 P P 00 11 40.8 -0.8
comp=Z,36nm,0.5s,baz=57,slow=5.5,SNR=80
FINES LR LR 00 55 51.4
comp=Z,985nm,19.6s,baz=78,slow=38
FINES FINESS Array B 89.06 332 P P 00 11 40.8 -0.8
KMBO Kilima Mbogo 89.06 269 *i* P P 00 11 42.0 -1.0
SNR=44
KMBO Kilima Mbogo 89.06 269 P P 00 11 42.3 -0.7
SNR=12
KMBO Kilima Mbogo 89.06 269 P P 00 11 42.0 -1.0
KMBO pmax pmax
comp=Z,23nm,1.0s
KMBO Kilima Mbogo 89.06 269 P P 00 11 42.2 -0.7
comp=Z,21nm,0.9s,baz=57,slow=5.5,SNR=61
KMBO LR LR 00 48 16.0
comp=Z,297nm,22.0s,baz=90,slow=33
KMBO Kilima Mbogo 89.06 269 P P 00 11 42.0 -1.0
BESE Bessie Mountai 89.07 31 IAMs_20 IAMs_20 00 45 56.6
comp=Z,688nm,22.0s
AKASG **Malin Array Be** 89.33 321 *i* P P 00 11 41.5 -1.6
AKASG pmax pmax
comp=Z,26nm,0.8s
AKASG **Malin Array Be** 89.33 321 P P 00 11 41.5 -1.6
comp=Z,26nm,0.8s,baz=66,slow=4.9,SNR=49
AKASG PP PP 00 15 16.2 +1.9
comp=Z,11nm,0.8s,baz=61,slow=8.6,SNR=6.3
AKASG LR LR 00 55 01.9
comp=Z,527nm,21.9s,baz=65,slow=38
AKASG **Malin Array Be** 89.33 321 P P 00 11 41.5 -1.6
VSU Vasula 89.34 329⇓ *e*P P 00 11 42.0 -1.0
VSU pmax pmax
comp=Z,84nm,0.9s
JIS Juneau Island 89.38 31 IAmb IAmb 00 11 53.0
comp=Z,42nm,1.1s
JIS IAMs_20 IAMs_20 00 46 25.6
comp=Z,637nm,22.0s
MICGM **Minsk** 89.47 325 *e* P 00 11 42.0 -1.7
MNK Minsk 89.47 325 *e*P P 00 11 42.0 -1.7
TRO Tromso 89.78 340 *e*P P 00 11 43.7 -1.1
MILM Milestii Mici 90.24 317 ⇑P P 00 11 44.9 -2.6
SORM Soroca 90.33 318 ⇑P P 00 11 46.4 -1.5
TLCR 90.53 315 ⇑P P 00 11 48.2 -0.7
TLCR mb 00 11 48.9
LEOM Leova 90.70 317 ⇑P P 00 11 48.8 -0.8
TIRR Tirgusor 90.94 315 ⇑P P 00 11 48.9 -1.9
TIRR Tirgusor 90.94 315 IAmb IAmb 00 12 01.9
comp=Z,71nm,1.0s
CFR Carcaliu 91.01 316 ⇓P P 00 11 50.0 -1.1
TLB Topalu 91.18 315 ⇑P P 00 11 50.9 -0.9
HARR Harsova 91.24 315 ⇑P P 00 11 51.2 -0.9
HARR mb 00 11 55.5
ICOR Ion Corvin 91.43 315 ⇑P P 00 11 52.6 -0.5
PETR Petresti 91.53 316 ⇑P P 00 11 53.4 -0.1
STEI Steigen 91.63 339 *e*P P 00 11 52.1 -1.3
ODBI Odobesti 91.64 316 ⇑P P 00 11 53.5 -0.5
ODBI mb 00 11 55.1
TESR Tescani 91.78 317 ⇓P P 00 11 53.6 -1.0
VRI Vrincioaia 91.85 316 ⇑P P 00 11 54.8 -0.2
PGOR Pogoanele 91.86 315 ⇑P P 00 11 54.7 -0.3
PRAR RASCA 91.89 318 ⇑P P 00 11 54.2 -1.0
PRAR mb 00 12 01.2
PLOR Plostina 91.91 316 ⇑P P 00 11 53.9 -1.5
BIZ Bicaz 92.06 318 ⇓P P 00 11 55.0 -0.9
SUW Suwalki 92.27 325 *e*P P 00 11 55.4 -1.4
SUW Suwalki 92.27 325 *e*P P 00 11 55.4 -1.4
SUW *e*P P 00 11 55.4 -1.4
SULR 92.41 315 ⇑P P 00 11 57.5 -0.1
OZUR 92.45 317 ⇑P P 00 11 57.3 -0.5
RAZG Razgrad 92.46 314 ⇑P P 00 11 56.3 -1.6
MLR Muntele Rosu 92.46 316 ⇓P P 00 11 56.9 -1.1
MLR Muntele Rosu 92.46 316 IAmb IAmb 00 12 09.3
comp=Z,78nm,1.4s
SECR 92.47 316 ⇑P P 00 11 57.7 -0.2
SECR mb 00 12 10.8
BURAR **Bucovina Array** 92.51 318 ⇓P P 00 11 57.4 -0.7
BURAR mb 00 12 10.7
MOR8 Moi Rana 92.59 338 *e*P P 00 11 56.0 -2.0
SGRR Singureni 92.70 315 ⇑P P 00 11 58.2 -0.8
SGRR mb 00 12 09.9
DOPR Dopca 92.74 317 ⇓P P 00 11 58.4 -0.8
LVV L'vov 92.77 321 *e*P P 00 11 59.7 +0.5
ELND Elena 93.04 314 ⇑P P 00 11 58.7 -1.8
VOIR 93.09 316 ⇑P P 00 11 59.5 -1.3
ARCR ARCALIA 93.19 318 ⇑P P 00 12 00.5 -0.7
HUMR Humele 93.34 315 ⇑P P 00 12 00.8 -1.1
ARR Arges 93.39 316 ⇑P P 00 12 00.9 -1.3
KWP Kalwaria Pacla 93.65 321 *e*P P 00 12 04.3 +1.0
KWP Kalwaria Pacla 93.65 321 *e*P P 00 12 04.3 +1.0
KWP *e*P P 00 12 04.3 +1.0
CJR Cluj-Napoca 93.79 318 ⇑P P 00 12 03.0 -1.0
VLAD Vladila 93.86 315 ⇑P P 00 12 03.1 -1.1
KOLS Kolonicke sedl 94.11 320 *e*P P 00 12 08.1 +2.7
TRPA Tarpa 94.14 319 ⇑P P 00 12 04.9 -0.5
TRPA mb 00 12 24.8
UZH Uzhgorod 94.17 320⇓ *i*P P 00 12 03.5 -2.1
UZH *i* 00 12 18.2
BEL Belsk 94.25 323 *e*P P 00 12 05.6 -0.3
BEL Belsk 94.25 323 *e*P P 00 12 05.6 -0.3
BEL *e*P P 00 12 05.6 -0.3
DAG Danmarks Havn 94.35 352⇑ *i*P P 00 12 05.8 -0.1
DAG pmax pmax
comp=Z,310nm,0.9s
DAG Danmarks Havn 94.35 352⇑ *i*P P 00 12 05.8 -0.1
comp=Z,364nm,0.9s
DRGR 94.36 318 ⇑P P 00 12 05.4 -1.3
DEV Deva 94.45 317 ⇑P P 00 12 06.5 -0.5
SRE Strehaia 94.54 316 ⇑P P 00 12 07.2 -0.2
BAIL Bailesti 94.59 315 ⇑P P 00 12 06.7 -1.0
TAOE Nuku Hiva Isla 94.61 98 *e*LR LR 00 42 56.0
comp=Z,2µm,25.5s,baz=276
TAOE Nuku Hiva Isla 94.61 98 *e*T T 01 57 05.5
comp=Z,36nm,0.3s
GZR Gura Zlata 94.66 317 ⇓P P 00 12 06.9 -1.2
PUNG Punghina 94.82 315 ⇑P P 00 12 08.1 -0.6
SYO Syowa Base 94.89 201 ⇓ *i*X P 00 12 06.8 -1.6
SYO Syowa Base 94.89 201 ⇓ *i*PcP PcP 00 12 09.2 +0.5
SYO Syowa Base 94.89 201 ⇓ *i*sP sP 00 12 21.6 -6.2
VTS Vitosha 95.00 314 P P 00 12 08.3 -1.5
VTS *PP pP 00 12 18.7 -5.6
VTS pmax pmax
comp=Z,12nm,0.8s
VTS Vitosha 95.00 314 ⇑P P 00 12 08.0 -1.8
VTS mb 00 12 23.6
VTS Vitosha 95.00 314 P P 00 12 08.3 -1.5
VTS pP 00 12 18.7 -5.6
HERR Herculane 95.03 316 ⇑P P 00 12 08.8 -0.9
RES Resolute Bay 95.10 10 P P 00 12 09.7 +0.4
RES Resolute Bay 95.10 10 P P 00 12 09.7 +0.4
comp=Z,22nm,0.7s,baz=304,slow=5.7,SNR=58
SIRR Siria 95.19 318 ⇑P P 00 12 09.2 -1.2
NIE Niedzica 95.22 321 *e*P P 00 12 10.6 +0.1
NIE Niedzica 95.22 321 *e*P P 00 12 10.6 +0.1
NIE *e*P P 00 12 10.6 +0.1
OJC Ojcow 95.31 322 *e*P P 00 12 10.0 -0.8
OJC Ojcow 95.31 322 *e*P P 00 12 10.0 -0.8
OJC *e*P P 00 12 10.0 -0.8
OJC Ojcow 95.31 322 IAmb IAmb 00 12 15.9
comp=Z,29nm,1.0s
KECS Kecovo 95.37 320 *e*P P 00 12 10.1 -1.0
KECS pmax pmax
comp=Z,6.0nm,0.8s
BZS Buzias 95.39 317 ⇑P P 00 12 09.3 -2.0
MBAR Mbarara 95.47 270 IAMs_20 IAMs_20 00 51 55.2
comp=Z,455nm,22.0s
MDVR Moldovita 95.54 316 ⇑P P 00 12 10.6 -1.5
BANR Banloc 95.78 317 ⇓P P 00 12 11.5 -1.6
VAY Valandovo 95.79 313 *i* P P 00 12 11.1 -2.2
LANS Liptovska Anna 95.82 321 *e*P P 00 12 13.6 +0.4
LANS pmax pmax
comp=Z,6.0nm,1.1s
NC303 NORSAR Array S 95.84 334 *e*P P 00 12 12.1 -0.9
PSZ Piszkesteto 95.91 320 ⇑P P 00 12 12.8 -0.9
PSZ mb 00 12 25.7
NB201 NORSAR Array S 95.95 334 *e*P P 00 12 11.8 -1.7
NC602 NORSAR Array S 95.97 333 *e*P P 00 12 10.9 -2.6
STIP Stip 95.98 313 *i* P P 00 12 11.2 -2.9
NB2 NORSAR Subarra 95.99 334 P P 00 12 12.0 -1.7
comp=Z,42nm,0.9s,baz=55,slow=4.6
NOA NORSAR Array B 95.99 334 P P 00 12 12.3 -1.4
NOA NORSAR Array B 95.99 334 P P 00 12 12.3 -1.4
comp=Z,27nm,0.8s,baz=65,slow=4.5,SNR=58
NOA PP PP 00 15 57.7 -8.5
comp=Z,5.8nm,0.8s,baz=64,slow=8.0,SNR=7.0
NOA PKKPbc PKKPbc 00 29 02.8 -1.2
comp=Z,0.8nm,0.7s,baz=71,slow=3.0,SNR=6.7
NOA LR LR 00 59 12.0
comp=Z,1µm,21.7s,baz=60,slow=38
NC204 NORSAR Array S 96.08 334 *e*P P 00 12 13.1 -1.1
NBO00 NORSAR Array S 96.18 334 *e*P P 00 12 13.9 -0.7
NBO00 NORSAR Array S 96.18 334 IAmb IAmb 00 12 15.4
comp=Z,77nm,1.1s
NAO01 NORSAR Array S 96.22 334 *e*P P 00 12 13.3 -1.4
VYHS Vyhne 96.41 320 *e*P P 00 12 13.8 -2.1
OKC Ostrava-Krasne 96.44 322 *e*P P 00 12 18.0 +2.1
OKC Ostrava-Krasne 96.44 322 *e*P P 00 12 18.0 +2.1
DOMB Dombas 96.47 335 *e*P P 00 12 14.9 -1.0
QSPA South Pole Qui 96.49 180 P P 00 12 16.0 +0.1
OSL Oslo 96.68 333 *e*P P 00 12 15.6 -1.1
FRGS Fruska Gora 96.74 317 *e*P P 00 12 18.3 +0.8
MORC Moravsky Berou 96.83 322 ⇑P P 00 12 17.2 -0.6
MORC mb 00 12 30.5
MORC Moravsky Berou 96.83 322 *e*P P 00 12 17.5 -0.3
MORC *e*PP PP 00 16 17.9 +4.9
MORC Moravsky Berou 96.83 322 IAmb IAmb 00 12 22.6
comp=Z,40nm,1.6s
MOL Molde 96.85 336 *e*P P 00 12 17.7 +0.2
DIVS Divibare 96.91 316 *e*P P 00 12 15.2 -3.2
JAVC Velka Javorina 97.04 321 *e*P Pdif 00 12 19.5 +0.6
JAVC *e*PP PP 00 16 19.8 +5.1
YKA Yellowknife Ar 97.12 24 P Pdif 00 12 18.9 +0.1
YKA Yellowknife Ar 97.12 24 P Pdif 00 12 18.9 +0.1
comp=Z,18nm,0.8s,baz=298,slow=4.6,SNR=78
YKA PKiKP PKiKP 00 16 55.0 +0.8
comp=Z,2.1nm,0.6s,baz=307,slow=1.6,SNR=13
YKA PKKPbc PKKPbc 00 28 57.3 -3.5
comp=Z,2.6nm,0.7s,baz=122,slow=3.0,SNR=12
YKA LR LR 00 56 33.3
comp=Z,29nm,21.9s,baz=300,slow=36
YKA Yellowknife Ar 97.12 24 P Pdif 00 12 18.9 +0.1
KRLC Kraliky 97.19 322 *e*P P 00 12 18.7 -0.8
KRLC *e* 00 12 28.6
KRLC Kraliky 97.19 322 *e*P P 00 12 18.7 -0.8
KRLC *ex* x 00 12 28.6
MORH Mrgy, Hungar 97.22 318 *e*P P 00 12 17.8 -1.8
KSP Ksiaz 97.23 323 *e*P P 00 12 18.3 -1.2
KSP Ksiaz 97.23 323 *e*P P 00 12 18.3 -1.2
KSP *e*P P 00 12 18.3 -1.2
AKN Aaknes 97.26 336 *e*P P 00 12 18.8 -0.7
KONO Kongsberg 97.32 333 *ce*P Pdif 00 12 21.4 +1.6
KONO pmax pmax
comp=Z,24nm,0.8s
KONO Kongsberg 97.32 333 *e*P P 00 12 18.9 -0.8
OSTC Ostas 97.38 323 *e*P P 00 12 20.0 -0.2
OSTC *ex* x 00 12 31.6
DPC Dobruska-Polom 97.38 323 *e*P P 00 12 19.8 -0.5
DPC *e* 00 16 22.7
DPC Dobruska-Polom 97.38 323 *e*P P 00 12 19.8 -0.5
DPC *ex* x 00 12 23.9
DPC *e*PP PP 00 16 22.7 +5.4
BBLS Lazići 97.38 316 *e*P P 00 12 19.3 -1.2
CHVC Chvalec 97.46 323 *e*P P 00 12 19.5 -1.1
RUDO Rudo 97.48 315 *e*P P 00 12 18.8 -2.0
UPC Upice 97.52 323 *e*P P 00 12 20.4 -0.4
UPC Upice 97.52 323 *e*P P 00 12 20.4 -0.4
VRAC Vranov 97.56 322 ⇑P P 00 12 20.1 -1.0
VRAC mb 00 12 34.0
VRAC Vranov 97.56 322 *e*P P 00 12 20.2 -0.9
HAPS Han Pijesak,Bl 97.64 316 *e*P P 00 12 19.4 -2.3
KRUC Moravsky 97.77 321 *e*P P 00 12 20.8 -1.2
KRUC *e*PP PP 00 16 20.6 +0.4
PDG Podgorica 97.89 314 *e*P P 00 12 21.1 -1.6
PDG Podgorica 97.89 314 ⇑P P 00 12 21.3 -1.4
UPM Unac-Piva 97.92 315 *e*P P 00 12 21.1 -2.0
HYA Hoyanger 98.10 335 *e*P Pdif 00 12 23.6 +0.4
TREC Trest 98.25 322 *e*P P 00 12 23.7 -0.5
TREC *ex* x 00 12 27.3
BRY Bratogost 98.27 315 *e*P P 00 12 22.8 -1.8
PVCC Panska Ves 98.37 323 *e*P P 00 12 24.3 -0.4
PVCC Panska Ves 98.37 323 *e*P P 00 12 24.3 -0.4
PVCC *ex* x 00 12 32.4
GOPC GO Pecny, Ondr 98.46 323 *e*P P 00 12 24.4 -0.7
GOPC *e* 00 12 35.4
GOPC GO Pecny, Ondr 98.46 323 *e*P P 00 12 24.4 -0.7
GOPC *ex* x 00 12 35.4
CONA Conrad Observa 98.48 320 Pdiff Pdif 00 12 26.5 +1.1
comp=Z,6.8nm,1.1s
CONA PP PP 00 16 20.7 -5.1
comp=Z,21nm,1.1s
PRU Pruhonice 98.58 323 *e*P P 00 12 24.9 -0.7
PRU *e* 00 12 36.9
PRU *e* 00 16 32.2
PRU Pruhonice 98.58 323 *e*P P 00 12 24.9 -0.7
PRU *ex* x 00 12 36.9
PRU *e*PP PP 00 16 32.2 +5.8
BRG Berggiesshubel 98.62 324 *i* P P 00 12 25.3 -0.5
comp=Z,14nm,0.8s
BRG *e*pP sP 00 12 45.1 -0.6
comp=Z,9.4nm,1.0s
BRG *es*P pP 00 12 54.0 +14
comp=Z,23nm,1.6s
BRG *e*PP PP 00 16 16.9 -10
comp=Z,24nm,1.5s
comp=N,383nm,17.6s
comp=E,360nm,17.0s
comp=Z,691nm,17.8s
BRG Berggiesshubel 98.62 324 *i* P P 00 12 25.3 -0.5
BRG *e**PP sP 00 12 45.2 -0.6
BRG pmax pmax
comp=Z,14nm,0.8s
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG pmax pmax
comp=N,23nm,1.6s
BRG pmax pmax
comp=Z,24nm,1.5s
BRG MLR MLR
comp=N,383nm,17.6s
BRG MLR MLR
comp=E,360nm,17.0s
BRG MLR MLR
comp=Z,691nm,17.8s
BLY Banja Luka 98.64 317 ⇑P P 00 12 24.9 -1.1
BLS5 Blasjo 98.84 333 *e*P P 00 12 25.7 -0.9
KULLO Kullorsuaq 98.93 1⇑ *i*P Pdif 00 12 26.8 +0.1
KULLO pmax pmax
comp=Z,58nm,0.9s
KULLO Kullorsuaq 98.93 1⇑ *i*P Pdif 00 12 26.8 +0.1
comp=Z,58nm,0.9s
CLL Collm 99.00 324 *e*P Pdif 00 12 26.0 -1.5
CLL *i* 00 12 38.0
CLL *e*S S 00 23 54.0 -0.5
CLL pmax pmax
comp=Z,11nm,0.9s
CLL Collm 99.00 324 *e*Pdif Pdif 00 12 26.0 -1.5
comp=Z,11nm,0.9s
CLL *i* pPdif pP 00 12 38.0 -4.0
comp=Z,21nm,1.1s
CLL *e*PP PP 00 16 28.0 -1.5
CLL *e*Sdif S 00 23 54.0 -0.5
CLL *e*PS PS 00 25 30.0 +3.6
CLL *e*SS SS 00 30 42.0 -0.1
CLL *e*SSS SSS 00 34 30.0
CLL *e* 00 35 42.0
CLL *e*SSSS 00 37 42.0
PBCC Pribram 99.02 322 *e*P Pdif 00 12 27.4 -0.2
PBCC *e*PP PP 00 16 34.6 +4.8
LSZ Lusaka 99.39 256 P Pdif 00 12 28.7 -1.4
LSZ pmax pmax
comp=Z,30nm,1.9s
LSZ Lusaka 99.39 256 P Pdif 00 12 28.7 -1.4
SOKA Soboth 99.44 319 Pdiff Pdif 00 12 28.6 -1.0
comp=Z,6.2nm,1.2s
SOKA PP PP 00 16 33.5 +0.4
comp=Z,6.4nm,0.8s
CRES Cresnjev 99.45 318 *e*P Pdif 00 12 28.2 -1.4
KHC Kasperske Hory 99.48 322 *e*P Pdif 00 12 28.0 -1.7
KHC *e* 00 12 40.9
KHC *e* 00 16 38.7
KHC Kasperske Hory 99.48 322 *e*P Pdif 00 12 28.0 -1.7
KHC *ex* x 00 12 40.9
KHC *e*PP PP 00 16 38.7 +5.4
GEC2 GERESS Array S 99.51 322 IAmb IAmb 00 12 42.2
comp=Z,35nm,1.5s
GERES GERESS Array B 99.51 322 P Pdif 00 12 29.5 -0.5
GERES GERESS Array B 99.51 322 P Pdif 00 12 29.4 -0.5
comp=Z,7.4nm,0.9s,baz=76,slow=5.6,SNR=25
GERES PP PP 00 16 30.6 -3.0
comp=Z,3.9nm,0.9s,baz=40,slow=7.7,SNR=4.6
GERES LR LR 01 00 55.3
comp=Z,352nm,21.2s,baz=64,slow=37
GERES GERESS Array B 99.51 322 P Pdif 00 12 29.4 -0.5
MOA Molln 99.52 321 Pdiff Pdif 00 12 28.8 -1.1
comp=Z,10.0nm,0.8s
B06A Marblemount 99.54 39 IAMs_20 IAMs_20 00 47 55.9
comp=Z,619nm,22.0s
NKC Novy Kostel 99.74 323 *e*P Pdif 00 12 30.2 -0.6
NKC Novy Kostel 99.74 323 *e*P Pdif 00 12 30.2 -0.6
OBKA Obir 99.81 319 Pdiff Pdif 00 12 32.1 +0.8
comp=Z,5.2nm,0.9s
OBKA PP PP 00 16 39.2 +3.2
comp=Z,12nm,1.1s
LON Longmire 99.97 40 IAMs_20 IAMs_20 00 48 07.3
comp=Z,548nm,22.0s
SCO Scoresbysund 100.14 350⇑ *i*P Pdif 00 12 33.1 +1.0
SCO pmax pmax
comp=Z,42nm,0.9s
SCO Scoresbysund 100.14 350⇑ *i*P Pdif 00 12 33.1 +1.0
comp=Z,42nm,0.9s
CEY Cerknica 100.16 319 *e*P Pdif 00 12 31.5 -1.3
MYKA Terra Mystica 100.35 320 Pdiff Pdif 00 12 33.0 -0.7
comp=Z,11nm,1.7s
SUMG Summit 100.35 355 *i* P Pdif 00 12 33.7 +0.2
SUMG pmax pmax
comp=Z,150nm,1.3s
SUMG Summit 100.35 355 *i* P Pdif 00 12 33.7 +0.2
comp=Z,152nm,1.3s
KBA Koelnbreinsper 100.38 320 PP PP 00 16 36.1 -4.3
comp=Z,9nm,0.8s
B08A Colville Reser 100.93 38 IAMs_20 IAMs_20 00 49 13.5
comp=Z,427nm,22.0s
ABTA Abfaltersbach 101.03 320 Pdiff Pdif 00 12 35.1 -1.6
comp=Z,9.6nm,1.0s
ABTA PP PP 00 16 38.3 -6.9
comp=Z,5.4nm,0.9s
E07A Sunnyside 101.29 40 IAMs_20 IAMs_20 00 48 59.3
comp=Z,513nm,21.0s
WTTA Wattenberg 101.39 321 Pdiff Pdif 00 12 37.4 -1.1
comp=Z,8.4nm,0.9s
WTTA PP PP 00 16 45.3 -2.7
comp=Z,14nm,1.0s
WATA Walderalm 101.40 321 Pdiff Pdif 00 12 37.4 -1.1
comp=Z,9.0nm,1.2s
WATA PP PP 00 16 45.2 -2.8
comp=Z,23nm,1.1s
SQTA Sankt Quirin 101.67 321 Pdiff Pdif 00 12 38.9 -0.7
comp=Z,6.0nm,0.7s
SQTA PP PP 00 16 50.7 +0.7
comp=Z,14nm,1.6s
MOTA Moosalm 101.69 321 Pdiff Pdif 00 12 38.3 -1.4
comp=Z,4.6nm,0.8s
MOTA PP PP 00 16 51.8 +1.6
comp=Z,10nm,1.7s
C09A Chrisman Ranch 101.80 38 IAMs_20 IAMs_20 00 50 58.0
comp=Z,391nm,20.0s
E08A Dider Farm, El 101.82 40 IAMs_20 IAMs_20 00 50 02.4
comp=Z,473nm,18.0s
RETA Reutte 101.84 321 Pdiff Pdif 00 12 39.8 -0.6
comp=Z,5.5nm,1.2s
RETA PP PP 00 16 53.7 +2.4
comp=Z,15nm,1.7s
FETA Feichten 102.05 321 Pdiff Pdif 00 12 38.8 -2.6
comp=Z,7.2nm,1.0s
FETA PP PP 00 16 55.4 +2.4
comp=Z,4.0nm,1.0s
DAVA Damuels 102.47 321 Pdiff Pdif 00 12 43.7 +0.5
comp=Z,6.5nm,0.9s
DAVA PP PP 00 16 56.0 -0.1
comp=Z,10nm,1.1s
ORV Oroville 102.67 47 IAMs_20 IAMs_20 00 50 01.2
comp=Z,472nm,21.0s

F10A	Beach Ranch, E	103.20	40	IAMs_20	IAMs_20	00 51 05.7	
	comp=Z,525nm,20.0s						
AFDM	Forest Hills D	103.26	48	IAMs_20	IAMs_20	00 50 17.0	
	comp=Z,419nm,22.0s						
BEKR	Beckworth	103.39	47	IAMs_20	IAMs_20	00 50 38.8	
	comp=Z,548nm,22.0s						
BMO	Blue Mountains	103.60	41	IAMs_20	IAMs_20	00 50 59.5	
	comp=Z,459nm,22.0s						
CMB	Columbia Colle	104.00	48	IAMs_20	IAMs_20	00 49 35.2	
	comp=Z,436nm,22.0s						
VCNR	Virginia City	104.10	47	IAMs_20	IAMs_20	00 52 15.2	
	comp=Z,450nm,19.0s						
PAHR	Pah Rah Range	104.14	46	IAMs_20	IAMs_20	00 59 33.3	
	comp=Z,473nm,18.0s						
YERR	Yerington	104.51	47	IAMs_20	IAMs_20	00 50 34.0	
	comp=Z,503nm,21.0s						
MSO	Missoula	104.88	38	IAMs_20	IAMs_20	00 51 57.1	
	comp=Z,377nm,21.0s						
MDPB	Devils Postpil	105.11	48	IAMs_20	IAMs_20	00 51 06.0	
	comp=Z,367nm,21.0s						
RYN	Ryan	105.16	47	IAMs_20	IAMs_20	00 51 33.3	
	comp=Z,580nm,22.0s						
KVN	Kaiserville	105.31	47	IAMs_20	IAMs_20	00 52 31.7	
	comp=Z,394nm,19.0s						
NVAR	Mina Array Bea	105.39	47	Pdiff	Pdif	00 12 56.7	+0.2
	comp=Z,1.8nm,0.8s,baz=286,slow=4.0,SNR=8.4						
NVAR				PKiKP	PKiKP	00 17 11.9	+1.8
	comp=Z,1.5nm,0.8s,baz=302,slow=1.7,SNR=3.9						
NVAR				PKKPbc	PKKPbc	00 28 35.6	-0.9
	comp=Z,1.4nm,0.7s,baz=137,slow=3.6,SNR=7.7						
NVAR				PKKPab	PKKPab	00 28 53.0	-0.9
	comp=Z,1.0nm,0.6s,baz=142,slow=4.8,SNR=4.3						
NVAR	Mina Array Bea	105.39	47		PKiKP	00 17 11.9	+1.8
NV11	Mina Array Sit	105.50	47	IAMs_20	IAMs_20	00 52 53.2	
	comp=Z,391nm,20.0s						
ISA	Isabella, Lake	106.26	50	IAMs_20	IAMs_20	00 50 08.0	
	comp=Z,500nm,22.0s						
R11A	Troy Canyon, C	107.40	47	IAMs_20	IAMs_20	00 53 05.4	
	comp=Z,512nm,22.0s						
TPNV	Topopah Spring	107.46	48	IAMs_20	IAMs_20	00 50 20.2	
	comp=Z,490nm,22.0s						
GSC	Goldstone, Bar	107.66	50	IAMs_20	IAMs_20	01 00 57.0	
	comp=Z,418nm,20.0s						
SNAA	Sanae	107.83	195	PKiKP	PKiKP	00 17 15.0	+1.5
IMW	Indian Meadow	108.12	40	IAMs_20	IAMs_20	00 53 31.9	
	comp=Z,462nm,22.0s						
FLWY	Flagg Ranch	108.18	39	IAMs_20	IAMs_20	01 05 41.6	
	comp=Z,326nm,20.0s						
FXWY	Fox Creek	108.19	40	IAMs_20	IAMs_20	00 54 27.8	
	comp=Z,420nm,20.0s						
TPAW	Teton Pass	108.31	40	IAMs_20	IAMs_20	00 54 11.9	
	comp=Z,331nm,20.0s						
MOOW	Moose Ponds	108.31	40	IAMs_20	IAMs_20	00 54 00.1	
	comp=Z,507nm,22.0s						
REDW	Red Top Meadow	108.43	40	IAMs_20	IAMs_20	00 53 42.2	
	comp=Z,357nm,21.0s						
SNOW	Snow King Moun	108.44	40	IAMs_20	IAMs_20	00 54 46.6	
	comp=Z,452nm,20.0s						
AHID	Auburn Hatcher	108.55	41	IAMs_20	IAMs_20	00 53 33.5	
	comp=Z,506nm,22.0s						
VNA2	Neumayer--Watz	109.45	195	PKiKP	PKiKP	00 17 16.6	+0.1
	baz=67,slow=1.7						
BW06	Boulder Array	109.55	40	IAMs_20	IAMs_20	00 54 40.8	
	comp=Z,513nm,22.0s						
PDAR	Pinedale Array	109.55	40	PKiKP	PKiKP	00 17 19.1	+1.3
	comp=Z,0.9nm,0.4s,baz=58,slow=2.2,SNR=7.1						
PDAR				PKKPbc	PKKPbc	00 28 21.1	-2.7
	comp=Z,1.0nm,0.7s,baz=114,slow=4.3,SNR=4.1						
VNA3	Neumayer Olymp	109.80	194	PKiKP	PKiKP	00 17 19.7	+2.6
VNA1	Neumayer--Stat	109.85	195	PKiKP	PKiKP	00 17 16.6	-0.5
Y14A	Wickenburg	111.08	50	IAMs_20	IAMs_20	01 03 45.4	
	comp=Z,319nm,19.0s						
WUAZ	Wupatki	111.64	48	IAMs_20	IAMs_20	00 55 58.8	
	comp=Z,365nm,19.0s						
PV14	Lion Creek, Pa	112.03	44	IAMs_20	IAMs_20	01 03 19.7	
	comp=Z,468nm,20.0s						
X16A	Lo Mia Camp, P	112.06	49	IAMs_20	IAMs_20	00 53 20.1	
	comp=Z,389nm,22.0s						
PV22	Blue Mesa, Par	112.11	44	IAMs_20	IAMs_20	01 11 36.0	
	comp=Z,452nm,22.0s						
PV16	Nyswonger Mesa	112.13	44	IAMs_20	IAMs_20	01 03 29.5	
	comp=Z,454nm,20.0s						
PV03	Paradox Valley	112.20	44	IAMs_20	IAMs_20	01 04 18.4	
	comp=Z,469nm,21.0s						
MDND	Maddock	112.47	31	IAMs_20	IAMs_20	01 01 33.5	
	comp=Z,436nm,22.0s						
ULM	Lac du Bonnet	112.70	28	*i* PKIKP	PKiKP	00 17 23.4	+0.2
ULM	Lac du Bonnet	112.70	28	PKiKP	PKiKP	00 17 23.4	+0.2
	comp=Z,12nm,0.8s,baz=344,slow=2.9,SNR=19						
N23A	Red Feather La	112.82	40	IAMs_20	IAMs_20	00 58 34.5	
	comp=Z,391nm,20.0s						
W18A	Petrified Fore	113.02	48	IAMs_20	IAMs_20	00 56 20.3	
	comp=Z,366nm,22.0s						
ISCO	Idaho Springs	113.61	41	IAMs_20	IAMs_20	01 09 43.5	
	comp=Z,372nm,21.0s						
S22A	4UR Ranch, Cre	113.84	44	IAMs_20	IAMs_20	01 04 48.8	
	comp=Z,392nm,21.0s						
AGMN	Agassiz Nation	114.06	29	IAMs_20	IAMs_20	01 13 24.3	
	comp=Z,298nm,19.0s						
HSIG		114.65	54	IAMs_20	IAMs_20	01 03 54.6	
	comp=Z,338nm,19.0s						
SDCO	Great Sand Dun	114.75	43	IAMs_20	IAMs_20	00 59 21.8	
	comp=Z,354nm,22.0s						
ESDC	Sonseca Array	114.94	319	PKP	PKPdf	00 17 28.4	+0.4
	comp=Z,1.7nm,0.8s,baz=13,slow=3.5,SNR=9.2						
ESDC				PP	PP	00 18 27.4	+0.6
	comp=Z,15nm,1.1s,baz=49,slow=7.2,SNR=12						
ESDC				PKKPbc	PKKPbc	00 28 05.2	-0.3
	comp=Z,0.6nm,0.7s,baz=250,slow=3.1,SNR=5.9						
ESDC	Sonseca Array	114.94	319		PKPdf	00 17 28.4	+0.4
SUSD	Miller	114.98	34	IAMs_20	IAMs_20	00 59 58.0	
	comp=Z,383nm,22.0s						
319A	Douglas	115.00	51	IAMs_20	IAMs_20	00 58 48.4	
	comp=Z,346nm,20.0s						
PBRG	Braganca	115.46	323	*e*PP	PP	00 18 29.4	-0.9
ANMO	Albuquerque	115.48	46	PKIKP	PKPdf	00 17 30.8	+1.5
ANMO	Albuquerque	115.48	46		PKPdf	00 17 30.8	+1.5
T25A	Trinidad	115.81	43	IAMs_20	IAMs_20	00 58 13.8	
	comp=Z,461nm,22.0s						
MVO	Moncorvo	116.02	322	*e*PKPdf	PKPdf	00 17 30.5	+0.5
MVO	Moncorvo	116.02	322	*e*PP	PP	00 18 36.9	+2.7
MVO	Moncorvo	116.02	322	*e*LR	LR	00 56 02.8	
	comp=Z,375nm,20.0s						
PCAB	Cabril	116.29	323	*e*PKPdf	PKiKP	00 17 30.9	+0.5
PCAB	Cabril	116.29	323	*e*PP	PP	00 18 39.0	+3.0
POLO	Lamas de Olo	116.36	323	*e*PKPdf	PKiKP	00 17 31.3	+0.6
EYMN	Ely	116.37	27	IAMs_20	IAMs_20	01 18 01.2	
	comp=Z,362nm,18.0s						
PVRL	Vila Real	116.37	323	*e*PKPdf	PKiKP	00 17 31.3	+0.7
MTE	Manteigas	116.79	322	*e*PKPdf	PKiKP	00 17 31.9	+0.4
MTE	Manteigas	116.79	322	*e*LR	LR	00 55 56.5	
	comp=Z,502nm,20.0s						
MTE	Manteigas	116.79	322		PKiKP	00 17 31.9	+0.4
PVIS	Viseu	116.81	322	*e*PKPdf	PKiKP	00 17 31.8	+0.3
EPT	El Paso	116.94	49	IAMs_20	IAMs_20	01 08 28.4	
	comp=Z,332nm,19.0s						
PCBR	Castelo Branco	117.08	321	*e*PKPdf	PKiKP	00 17 32.6	+0.6
PMRV	Marv??o	117.26	321	*e*PKPdf	PKiKP	00 17 32.6	+0.2
PMRV	Marv??o	117.26	321	*e*PP	PP	00 18 46.2	+3.3
PMRV	Marv??o	117.26	321	*e*LR	LR	00 56 58.9	
	comp=Z,330nm,22.0s						
COI	Coimbra	117.43	322	*e*PKPdf	PKiKP	00 17 33.2	+0.6
PCAS	Casmilo, Conde	117.58	322	*e*PKPdf	PKiKP	00 17 33.1	+0.1
PTOM	Tomar	117.79	322	*e*PKPdf	PKiKP	00 17 33.8	+0.5
MNTX	Cornudas Mount	117.82	49	IAMs_20	IAMs_20	01 09 07.7	
	comp=Z,317nm,19.0s						
SCHQ	Schefferville	117.83	8	PKP	PKiKP	00 17 33.9	+0.8
	comp=Z,28nm,0.9s,baz=3.2,slow=1.4,SNR=19						
SCHQ				PP	PP	00 18 46.5	+0.5
	comp=Z,15nm,0.9s,baz=347,slow=11,SNR=2.1						
SCHQ	Schefferville	117.83	8		PP	00 18 46.5	+0.5
SCHQ	Schefferville	117.83	8		PKiKP	00 17 33.1	+0.1
PMTG	Montargil	118.00	321	*e*PKPdf	PKiKP	00 17 34.2	+0.4
PBEJ	Beja	118.39	320	*e*PKPdf	PKiKP	00 17 34.9	+0.3
PVAQ	Vaqueiros	118.65	319	*e*PKPdf	PKiKP	00 17 36.0	+0.9
PVAQ	Vaqueiros	118.65	319	*e*LR	LR	00 57 43.2	
	comp=Z,379nm,22.0s						
PCVE	Castro Verde	118.72	320	*e*PKPdf	PKiKP	00 17 35.5	+0.3
PNCL	Nicolau / Gran	118.76	320	*e*PKPdf	PKiKP	00 17 35.6	+0.3
AMTX	Amarillo	118.88	44	IAMs_20	IAMs_20	00 59 39.1	
	comp=Z,426nm,22.0s						
PFVI	Vila Bisbo	119.53	320	*e*PKPdf	PKiKP	00 17 37.6	+0.8
HPIG		119.77	54	IAMs_20	IAMs_20	00 59 01.0	
	comp=Z,442nm,22.0s						
TXAR	Lajitas Array	120.25	51	PKIKP	PKiKP	00 17 39.4	+0.8
TXAR	Lajitas Array	120.25	51	PKP	PKiKP	00 17 39.4	+0.8
	comp=Z,4.8nm,0.9s,baz=270,slow=1.3,SNR=28						
TXAR				PKKPbc	PKKPbc	00 27 45.7	-0.6
	comp=Z,1.3nm,0.8s,baz=145,slow=4.8,SNR=9.5						
TXAR	Lajitas Array	120.25	51		PKiKP	00 17 39.4	+0.8
TOA0	Torodi Ar. Sit	121.47	290	P	PKPdf	00 17 40.6	-0.4
	SNR=14						
TOA0	Torodi Ar. Sit	121.47	290		PKPdf	00 17 40.2	-0.8
TORD	Torodi Ar. Bea	121.47	290	PKP	PKPdf	00 17 40.5	-0.6
	comp=Z,55nm,0.9s,baz=50,slow=1.9,SNR=199						
TORD				PKKPbc	PKKPbc	00 27 41.1	-0.1
	comp=Z,5.4nm,0.8s,baz=273,slow=2.5,SNR=15						
TORD	Torodi Ar. Bea	121.47	290		PKPdf	00 17 40.5	-0.6
ABTX	Abilene, Hawle	121.53	45	IAMs_20	IAMs_20	01 13 24.5	
	comp=Z,297nm,20.0s						
L42A	Oliver, Polo	121.61	31	IAMs_20	IAMs_20	01 07 42.1	
	comp=Z,319nm,22.0s						
TUL1	Leonard	122.20	40	IAMs_20	IAMs_20	01 09 59.7	
	comp=Z,421nm,22.0s						
JCT	Junction City	122.57	47	PKIKP	PKiKP	00 17 43.7	+0.6
JCT	Junction City	122.57	47		PKiKP	00 17 43.7	+0.6
JCT				IAMs_20	IAMs_20	01 08 19.2	
	comp=Z,283nm,20.0s						
M44A	Midewin, Midew	122.88	30	IAMs_20	IAMs_20	01 10 42.7	
	comp=Z,318nm,20.0s						
HHAR	Hobbs	123.13	38	IAMs_20	IAMs_20	01 03 45.2	
	comp=Z,352nm,18.0s						
WHTX	Lake Whitney,	123.42	45	IAMs_20	IAMs_20	01 02 43.4	
	comp=Z,318nm,22.0s						
CCM	Cathedral Cave	123.55	35	PKIKP	PKiKP	00 17 44.6	-0.1
CCM	Cathedral Cave	123.55	35		PKiKP	00 17 44.6	-0.1
CCM	Cathedral Cave	123.55	35	IAMs_20	IAMs_20	01 06 38.0	
	comp=Z,366nm,21.0s						
U40A	Yellville	123.75	38	IAMs_20	IAMs_20	01 22 04.4	
	comp=Z,312nm,20.0s						
435B	Jarrell	124.01	46	IAMs_20	IAMs_20	01 09 19.1	
	comp=Z,367nm,19.0s						
SFIN	Lafayette	124.11	30		PKiKP	00 17 46.0	+0.3
MIAR	Mount Ida	124.47	40	IAMs_20	IAMs_20	01 05 06.7	
	comp=Z,414nm,21.0s						
WHAR	Wooly Hollow	124.79	38	IAMs_20	IAMs_20	01 13 29.2	
	comp=Z,320nm,21.0s						
OLIL	Olney	124.81	32	IAMs_20	IAMs_20	01 15 54.1	
	comp=Z,344nm,20.0s						
D62A	Allapoint, All	124.87	13		PKiKP	00 17 46.8	-0.3
PBMO	Poplar Bluff	124.90	36	IAMs_20	IAMs_20	01 12 50.8	
	comp=Z,390nm,21.0s						
SIUC	Southern Illin	124.94	34	IAMs_20	IAMs_20	01 15 28.3	
	comp=Z,327nm,20.0s						
LCAR	Lake Charles	124.96	37	IAMs_20	IAMs_20	01 12 36.4	
	comp=Z,303nm,22.0s						
N49A	Columbus Grove	125.10	28	IAMs_20	IAMs_20	01 07 47.4	
	comp=Z,390nm,21.0s						
WLAR	White Oak Lake	125.31	40		PKiKP	00 17 49.0	+0.6
PARMO	Parma	125.37	35	IAMs_20	IAMs_20	01 22 39.2	
	comp=Z,326nm,19.0s						
NATX	Nacogdoches	125.48	43	IAMs_20	IAMs_20	01 13 14.8	
	comp=Z,286nm,19.0s						
HENM	Henderson Moun	125.50	35	IAMs_20	IAMs_20	01 05 36.5	
	comp=Z,336nm,22.0s						
PVMO	Portageville	125.58	36	IAMs_20	IAMs_20	01 22 39.7	
	comp=Z,334nm,22.0s						
E63A	Oxbow	125.63	12		PKiKP	00 17 48.3	-0.3
HKT	Hockley	125.72	46	PKIKP	PKiKP	00 17 50.0	+0.8
HKT	Hockley	125.72	46		PKiKP	00 17 50.0	+0.8
HKT	Hockley	125.72	46	IAMs_20	IAMs_20	01 10 36.3	
	comp=Z,376nm,20.0s						
WCI	Wyandotte Cave	126.14	32	PKIKP	PKiKP	00 17 49.3	-0.5
WCI	Wyandotte Cave	126.14	32		PKiKP	00 17 49.3	-0.5
ACSO	Alum Creek Sta	126.20	28	IAMs_20	IAMs_20	01 16 49.6	
	comp=Z,370nm,19.0s						
NCB	Newcomb	126.39	18		PKiKP	00 17 50.4	+0.2
T47A	Sharon Grove	126.62	33	IAMs_20	IAMs_20	01 07 02.1	
	comp=Z,383nm,22.0s						
N53A	Lisbon	126.69	25		PKiKP	00 17 50.7	-0.2
O52A	Adamsville	126.82	27		PKiKP	00 17 50.8	-0.4
WVT	Waverly	126.84	34	PKIKP	PKiKP	00 17 50.8	-0.5
WVT	Waverly	126.84	34		PKiKP	00 17 50.8	-0.5
WVT	Waverly	126.84	34	IAMs_20	IAMs_20	01 15 21.4	
	comp=Z,315nm,20.0s						
Q51A	Peebles	126.99	29	IAMs_20	IAMs_20	01 12 08.5	
	comp=Z,331nm,20.0s						
OXF	Oxford	127.07	37	PKIKP	PKiKP	00 17 51.2	-0.6
OXF	Oxford	127.07	37		PKiKP	00 17 51.2	-0.6
OXF				IAMs_20	IAMs_20	01 18 02.2	
	comp=Z,301nm,20.0s						
I62A	Tamworth	127.32	16		PKiKP	00 17 51.9	-0.1
PMAR	Madeira	127.46	320	*e*PKPdf	PKiKP	00 17 54.0	+1.1
PLAL	Pickwick Lake	127.52	36	IAMs_20	IAMs_20	01 15 05.5	
	comp=Z,325nm,21.0s						
V48A	Smith Brothers	127.69	34		PKPdf	00 17 52.4	-0.1
V48A				IAMs_20	IAMs_20	01 07 19.4	
	comp=Z,282nm,22.0s						
SSPA	Standing Stone	128.04	23		PKPdf	00 17 52.9	-0.1
SSPA	Standing Stone	128.04	23	IAMs_20	IAMs_20	01 21 36.6	
	comp=Z,323nm,19.0s						
MCWV	Mont Chateau	128.06	25	IAMs_20	IAMs_20	01 10 54.6	
	comp=Z,245nm,20.0s						
X48A	Hartselle	128.50	35	IAMs_20	IAMs_20	01 20 59.9	
	comp=Z,256nm,19.0s						
HRV	Adam Dziewonsk	128.52	17	PKIKP	PKiKP	00 17 54.5	0.0
HRV	Adam Dziewonsk	128.52	17		PKiKP	00 17 54.5	0.0
SWET	Sewanee	128.57	34	IAMs_20	IAMs_20	01 03 11.7	
	comp=Z,273nm,22.0s						
WES	Weston	128.70	17	PKIKP	PKiKP	00 17 54.5	-0.3
WES	Weston	128.70	17		PKiKP	00 17 54.5	-0.3
TZTN	Tazewell	128.83	31	IAMs_20	IAMs_20	01 18 39.6	
	comp=Z,398nm,22.0s						
ODNJ	Ogdensburg	128.85	20		PKiKP	00 17 54.9	-0.3
W50A	Signal Mountai	128.92	33	IAMs_20	IAMs_20	01 08 00.9	
	comp=Z,391nm,22.0s						
V51A	Loudon	128.98	32	IAMs_20	IAMs_20	01 15 43.5	
	comp=Z,400nm,21.0s						
CPCT	Cooper Cave	129.16	33	IAMs_20	IAMs_20	01 08 31.2	
	comp=Z,375nm,22.0s						
PAL	Palisades	129.16	20	PKIKP	PKiKP	00 17 56.0	+0.2
PAL	Palisades	129.16	20		PKiKP	00 17 56.0	+0.2
Y49A	Blount Mountai	129.29	35		PKPdf	00 17 54.8	-0.8
V52A	Sevierville	129.35	31	IAMs_20	IAMs_20	01 19 01.1	
	comp=Z,369nm,22.0s						
KIC	Kosan Boka	129.36	284	*e*PKIKP	PKPdf	00 17 55.6	-0.6
	comp=Z,161nm,1.0s						
DBIC	Dimbokro	129.40	284	PKIKP	PKPdf	00 17 56.2	0.0
DBIC	Dimbokro	129.40	284	PKP	PKPdf	00 17 56.2	0.0
	comp=Z,44nm,0.9s,baz=42,slow=2.5,SNR=30						
DBIC	Dimbokro	129.40	284		PKPdf	00 17 56.3	0.0
LRAL	Lakeview Retre	129.53	37	IAMs_20	IAMs_20	01 19 28.4	
	comp=Z,361nm,21.0s						
TIC	Toumodi	129.56	284	*e*PKIKP	PKPdf	00 17 55.7	-0.9
X51A	Calhoun	129.64	34	IAMs_20	IAMs_20	01 17 38.0	
	comp=Z,262nm,20.0s						
LIC	Lamto	129.67	284	*e*PKIKP	PKPdf	00 17 56.0	-0.8
	comp=Z,210nm,1.0s						
U54A	Nelsons Funny	129.71	29	IAMs_20	IAMs_20	01 13 46.6	
	comp=Z,333nm,21.0s						
W52A	Murphy	129.75	32	IAMs_20	IAMs_20	01 25 15.7	
	comp=Z,313nm,21.0s						
BLA	Blacksburg	129.82	28	PKIKP	PKiKP	00 17 56.7	-0.6
BLA	Blacksburg	129.82	28		PKiKP	00 17 56.7	-0.6
V53A	Saluda	129.88	31	IAMs_20	IAMs_20	01 10 48.3	
	comp=Z,374nm,22.0s						
Z50A	Ashland	130.00	36	IAMs_20	IAMs_20	01 27 48.8	
	comp=Z,263nm,19.0s						
S57A	Dark Hollow, R	130.03	26	IAMs_20	IAMs_20	01 21 19.7	
	comp=Z,338nm,20.0s						
BG3	Lake Jocassee	130.35	32		PKiKP	00 17 58.6	+0.2
BG3				IAMs_20	IAMs_20	01 07 58.6	
	comp=Z,310nm,22.0s						
V55A	Taylorsville	130.54	29	IAMs_20	IAMs_20	01 17 05.5	
	comp=Z,389nm,22.0s						
U56A	King	130.54	28	IAMs_20	IAMs_20	01 17 35.4	
	comp=Z,303nm,21.0s						
Y52A	Lilburn	130.60	34	IAMs_20	IAMs_20	01 17 16.5	
	comp=Z,301nm,21.0s						
KMSC	Kings Mountain	131.04	30		PKiKP	00 17 59.0	-0.8
GOGA	Godfrey	131.27	33	IAMs_20	IAMs_20	01 07 10.1	
	comp=Z,364nm,22.0s						
V58A	Windy Hill, Pi	131.59	28	IAMs_20	IAMs_20	01 19 26.0	
	comp=Z,298nm,19.0s						
U59A	Littleton	131.71	26		PKiKP	00 18 01.0	-0.1
154A	Montrose	132.07	34	IAMs_20	IAMs_20	01 21 02.3	
	comp=Z,344nm,21.0s						
V60A	Jim Taylor Roa	132.44	26	IAMs_20	IAMs_20	01 21 48.5	
	comp=Z,333nm,20.0s						
Z56A	Williston	132.46	32		PKiKP	00 18 01.9	-0.8
Z56A				IAMs_20	IAMs_20	01 09 22.4	
	comp=Z,304nm,21.0s						
X58A	Rowland	132.49	29	IAMs_20	IAMs_20	01 23 34.1	
	comp=Z,370nm,22.0s						
CNNC	Cliffs of the	132.60	27	IAMs_20	IAMs_20	01 12 19.9	
	comp=Z,356nm,22.0s						
Y58A	Scranton	132.86	30	IAMs_20	IAMs_20	01 22 32.9	
	comp=Z,373nm,21.0s						
Y60A	Bolivia	133.47	28	IAMs_20	IAMs_20	01 17 15.1	
	comp=Z,289nm,21.0s						
DWPF	Disney Wildern	136.39	36		PKPdf	00 18 09.1	+0.1
PLCA	Paso Flores	142.87	159	PKhKP	PKPpre	00 18 17.6	
	comp=Z,26nm,0.8s,baz=221,slow=6.1,SNR=13						
SACV	Santiago Islan	143.17	306		PKPdf	00 18 22.2	+0.5
GO06	Curarrehue	143.52	157		PKPdf	00 18 20.7	-1.1
ACON	Acoyapa	143.77	59	*e*P	PKPdf	00 18 21.8	-0.9
PLVR	Palo Verde	144.37	62	*e*P	PKPdf	00 18 23.4	-0.6
CUI	Cuipilapa	144.40	61	*e*P	PKPbc	00 18 22.3	-0.2
ESPN	Las Esperanzas	144.40	58	*e*P	PKPbc	00 18 22.4	+0.1
JTS	Las Juntas de	144.75	62	PKIKP	PKPdf	00 18 23.8	-0.7
JTS				MLR	MLR		
	comp=Z,200nm,19.0s						
JTS	Las Juntas de	144.75	62	PKP	PKPdf	00 18 24.2	-0.3
	comp=Z,66nm,0.9s,baz=353,slow=3.5,SNR=50						
JTS	Las Juntas de	144.75	62		PKPdf	00 18 23.8	-0.7
JTS				IAMs_20	IAMs_20	01 20 40.7	
	comp=Z,226nm,19.0s						
ARE1	Arenal 1	144.87	61	*e*P	PKPdf	00 18 24.4	-0.4
CEDE	Laguna Cedeo	144.88	61	*e*P	PKPdf	00 18 24.5	-0.3
HDC	Heredia	145.61	62	*e*P	PKPab	00 18 27.6	+0.8
LCR2	La Lucha 2	145.83	62	*e*P	PKPab	00 18 27.8	+0.2
BBJ	Bamboo Saint A	146.07	43	*i* P	PKPab	00 18 28.6	+0.5
MCJ	Malvern	146.10	44	⇑*i*P	PKPab	00 18 28.0	-0.3
PRVC	Isla de Provid	146.20	54	*e*P	PKPdf	00 18 26.8	-0.1
PRVC	Isla de Provid	146.20	54	*e*P	PKPdf	00 18 26.8	-0.1
PCJ	Portland Cotta	146.59	43	⇓*i*P	PKPab	00 18 29.9	-0.3
STH	Stony Hill	146.59	42	*i* P	PKPab	00 18 29.7	-0.4
HOJ	Hope	146.68	42	⇓*i*P	PKPab	00 18 30.6	+0.2
DRK0	Durika	146.71	62	*e*P	PKPab	00 18 29.9	-1.0
CMJ	Castle Mountai	146.84	42	*i* P	PKPab	00 18 31.2	+0.1
GO05	Huala	147.17	152		PKPbc	00 18 30.4	+0.1
BRU2	Volcan	147.41	62	*e*P	PKPdf	00 18 29.4	+0.1
TRQA	Tornquist	147.82	168	PKP2	PKPbc	00 18 31.8	-0.2
TRQA	Tornquist	147.82	168	PKPbc	PKPbc	00 18 31.8	-0.2
ROC1	El Roble	149.27	151		PKiKP	00 18 36.7	-0.7
SDDR	Presa de Saban	149.30	34		PKPdf	00 18 31.8	-0.2
SDDR				PKPbc	PKiKP	00 18 36.8	-0.7
BCIP	Isla Barro Col	149.71	59	*e*P	PKPbc	00 18 37.2	-0.3
BCIP	Isla Barro Col	149.71	59	*e*P	PKPbc	00 18 37.2	-0.3
BCIP	Isla Barro Col	149.71	59	*e*P	PKPdf	00 18 32.2	-0.5
ZANG	Zanguenga, Cho	149.79	60	*e*P	PKPbc	00 18 37.1	-0.6
BANI	BANI	150.28	33		PKPdf	00 18 34.0	+0.3
BANI				PKPbc	PKiKP	00 18 40.1	+0.4
GO04	Tololo Observa	151.63	148		PKPdf	00 18 35.5	-0.2
GO04				PKPbc	PKiKP	00 18 41.9	-0.4
EMPR	Esperanza - Ma	152.10	27		PKPdf	00 18 36.9	+0.6
EMPR				PKPbc	PKiKP	00 18 43.3	+0.1
GCPR	Guaynabo City	152.45	26		PKPdf	00 18 36.7	-0.2
GCPR				PKPbc	PKPbc	00 18 43.4	-0.3
SJG	San Juan	152.59	26	PKIKP	PKPdf	00 18 37.1	+0.1
SJG	San Juan	152.59	26		PKPdf	00 18 37.1	+0.1
SJG				PKPbc	PKiKP	00 18 44.2	-0.1
SJCC	San Jacinto, C	153.14	53	*e*P	PKPdf	00 18 38.8	+0.7
SJCC	San Jacinto, C	153.14	53	*e*P	PKPdf	00 18 38.8	+0.7
GO03	Copiap	153.95	145		PKPdf	00 18 39.0	+0.1
GO03				PKPbc	PKiKP	00 18 46.8	-0.2
URIC	Uribia, Colomb	154.36	45	*e*P	PKPdf	00 18 40.3	+0.6
URIC	Uribia, Colomb	154.36	45	*e*P	PKPdf	00 18 40.3	+0.6
CODC	Agustn Codazz	154.47	50	*e*P	PKPdf	00 18 40.5	+0.6
CODC	Agustn Codazz	154.47	50	*e*P	PKPdf	00 18 40.5	+0.6
CBOC	Ciudad Bolivar	154.63	61	*e*P	PKPdf	00 18 41.0	+0.6
CBOC	Ciudad Bolivar	154.63	61	*e*P	PKPdf	00 18 41.0	+0.6
SMLC	San Martn de	154.67	53	*e*P	PKPdf	00 18 39.8	-0.4
SMLC	San Martn de	154.67	53	*e*P	PKPdf	00 18 39.8	-0.4
ZARC	Zaragoza, Cauc	154.77	57	*e*P	PKPdf	00 18 40.7	+0.4
ZARC	Zaragoza, Cauc	154.77	57	*e*P	PKPdf	00 18 40.7	+0.4
PLMC	San Jos del P	154.83	64	*e*P	PKPdf	00 18 41.2	+0.7
PLMC	San Jos del P	154.83	64	*e*P	PKPdf	00 18 41.2	+0.7
HELC	Santa Helena	154.88	60	*e*P	PKPdf	00 18 40.7	-0.2
HELC	Santa Helena	154.88	60	*e*P	PKPdf	00 18 40.7	-0.2
BBAC	Balboa, Cauca	155.09	71	*e*P	PKPdf	00 18 41.0	-0.1
BBAC	Balboa, Cauca	155.09	71	*e*P	PKPdf	00 18 41.0	-0.1
YOTC	Yotoco, Valle	155.18	66	*e*P	PKPdf	00 18 40.7	-0.3
YOTC	Yotoco, Valle	155.18	66	*e*P	PKPdf	00 18 40.7	-0.3
POPC	Popayan, Colom	155.44	69	*e*P	PKPdf	00 18 40.7	-0.8
POPC	Popayan, Colom	155.44	69	*e*P	PKPdf	00 18 40.7	-0.8
GUY2C	Guyana, Caldas	155.50	62	*e*P	PKPdf	00 18 42.2	+0.3
GUY2C	Guyana, Caldas	155.50	62	*e*P	PKPdf	00 18 42.2	+0.3
OCAC	Ocana	155.60	53	*e*P	PKPdf	00 18 41.7	0.0
OCAC	Ocana	155.60	53	*e*P	PKPdf	00 18 41.7	0.0
PTBC	PUERTO BERRIO,	155.62	58	*e*P	PKPdf	00 18 40.2	-1.3
PTBC	PUERTO BERRIO,	155.62	58	*e*P	PKPdf	00 18 40.2	-1.3
SOTA	Rioblanco	155.65	70	*e*P	PKPdf	00 18 41.7	-0.5
SOTA	Rioblanco	155.65	70	*e*P	PKPdf	00 18 41.7	-0.5
RREF	El Recreo	155.66	63	*e*P	PKPdf	00 18 43.1	+0.8
RREF	El Recreo	155.66	63	*e*P	PKPdf	00 18 43.1	+0.8
NORC	Norcasia	155.76	61	*e*P	PKPdf	00 18 40.7	-1.0
NORC	Norcasia	155.76	61	*e*P	PKPdf	00 18 40.7	-1.0
PCON	Cinco Dias	155.78	69	*e*P	PKPdf	00 18 42.6	+0.2
PCON	Cinco Dias	155.78	69	*e*P	PKPdf	00 18 42.6	+0.2
ANIL	Santa Ana	155.80	63	*e*P	PKPdf	00 18 43.4	+1.3
ANIL	Santa Ana	155.80	63	*e*P	PKPdf	00 18 43.4	+1.3
BRRC	Barranca, Sant	155.93	56	*e*P	PKPdf	00 18 42.5	+0.6
BRRC	Barranca, Sant	155.93	56	*e*P	PKPdf	00 18 42.5	+0.6
ORTC	Ortega, Tolima	156.20	65	*e*P	PKPdf	00 18 41.7	-0.6
ORTC	Ortega, Tolima	156.20	65	*e*P	PKPdf	00 18 41.7	-0.6
SPBC	San Pablo de B	156.41	59	*e*P	PKPdf	00 18 42.6	0.0
SPBC	San Pablo de B	156.41	59	*e*P	PKPdf	00 18 42.6	0.0
ROSC	El Rosal	156.59	61	*e*P	PKPdf	00 18 43.6	+0.3
ROSC	El Rosal	156.59	61	*e*P	PKPdf	00 18 43.6	+0.3
ROSC	El Rosal	156.59	61	PKP	PKPdf	00 18 44.7	+1.4
	comp=Z,54nm,0.9s,baz=92,slow=1.6,SNR=33						
PRAC	Prado	156.61	65	*e*P	PKPdf	00 18 42.6	-0.2
PRAC	Prado	156.61	65	*e*P	PKPdf	00 18 42.6	-0.2
PAMC	Pamplona, Colo	156.62	54	*e*P	PKPdf	00 18 41.7	-1.7
PAMC	Pamplona, Colo	156.62	54	*e*P	PKPdf	00 18 41.7	-1.7
BARC	Barichara	156.65	56	*e*P	PKPdf	00 18 43.4	+0.3
BARC	Barichara	156.65	56	*e*P	PKPdf	00 18 43.4	+0.3
NNA	Nana	156.67	105	PKIKP	PKPdf	00 18 43.3	+0.4
NNA	Nana	156.67	105		PKPdf	00 18 43.3	+0.4
NNA					PKPab	00 19 12.9	+0.7
RUSC	La Rusia	157.12	58	*e*P	PKPdf	00 18 43.6	-0.5
RUSC	La Rusia	157.12	58	*e*P	PKPdf	00 18 43.6	-0.5
CHIC	Chingaza	157.21	61	*e*P	PKPdf	00 18 44.5	+0.4
CHIC	Chingaza	157.21	61	*e*P	PKPdf	00 18 44.5	+0.4
SDV	Santo Domingo	157.25	48	*e*P	PKPdf	00 18 42.6	-1.2
SDV	Santo Domingo	157.25	48	*e*P	PKPdf	00 18 42.6	-1.2
SDV	Santo Domingo	157.25	48		PKPdf	00 18 44.2	+0.3
VILC	Villavicencio,	157.49	62	*e*P	PKPdf	00 18 44.4	+0.3
VILC	Villavicencio,	157.49	62	*e*P	PKPdf	00 18 44.4	+0.3
PCM	Pelee Case Pet	157.50	19	*e*P	PKPdf	00 18 45.0	+1.2
CXM	Morne La Croix	157.51	19	*e*P	PKPdf	00 18 45.2	+1.2
GBMF	Grand Be	157.53	19	*e*P	PKPdf	00 18 45.2	+1.3
FDF	Fort de France	157.59	19	*e*P	PKPdf	00 18 45.0	+1.1
ZAM	Aeronautique	157.78	19	*e*P	PKPdf	00 18 44.1	-0.1
LPMF	Morne Lapointe	157.80	19	*e*P	PKPdf	00 18 44.3	+0.1
TRMF	Trois Ilets	157.81	19	*e*P	PKPdf	00 18 46.1	+2.0
BIM	Bigot	157.82	19	*e*P	PKPdf	00 18 45.0	+0.8
TAMC	Tame, Arauca	157.88	55	*e*P	PKPdf	00 18 43.6	-0.9
TAMC	Tame, Arauca	157.88	55	*e*P	PKPdf	00 18 43.6	-0.9
PTLC	Puerto Leguiza	158.01	73	*e*P	PKPdf	00 18 43.6	-1.0
PTLC	Puerto Leguiza	158.01	73	*e*P	PKPdf	00 18 43.6	-1.0
PTGC	Puerto Gaitan,	158.80	60	*e*P	PKPdf	00 18 44.1	-1.4
PTGC	Puerto Gaitan,	158.80	60	*e*P	PKPdf	00 18 44.1	-1.4
SVB	Belmont	158.92	20	PKPdf	PKPdf	00 18 46.2	+0.6
SVB					PKPab	00 19 20.9	-0.7
CPUP	Villa Florida	160.10	171	PKIKP	PKPdf	00 18 46.7	+0.1
CPUP						00 19 26.2	
CPUP	Villa Florida	160.10	171	PKP	PKPdf	00 18 47.2	+0.6
	comp=Z,15nm,0.8s,baz=50,slow=0.6,SNR=12						
CPUP				PKPab	PKPab	00 19 27.4	+1.0
	comp=Z,16nm,0.9s,baz=219,slow=1.7,SNR=6.0						
CPUP	Villa Florida	160.10	171		PKPdf	00 18 46.7	+0.1
CPUP				PKPab	PKPab	00 19 26.2	-0.2
SPB	Sao Paulo	162.03	199		PKPdf	00 18 48.7	0.0
SPB				PKPab	PKPab	00 19 34.5	-0.4
RCBR	Riachuelo	162.17	271	PKIKP	PKPdf	00 18 50.7	+1.5
RCBR	Riachuelo	162.17	271		PKPdf	00 18 50.7	+1.5
LPAZ	La Paz	163.00	126	PKIKP	PKPdf	00 18 52.0	+1.3
LPAZ	La Paz	163.00	126	PKP	PKPdf	00 18 52.0	+1.3
	comp=Z,24nm,0.9s,baz=18,slow=1.6,SNR=28						
LPAZ				PKPab	PKPab	00 19 42.5	+2.1
	comp=Z,25nm,1.0s,baz=216,slow=3.5,SNR=7.3						
LPAZ				PP	PP	00 23 24.7	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,3.1nm,0.9s,baz=238,slow=3.5,SNR=3.9						
BDFB	Brasilia	169.37	212	PKIKP	PKPdf	00 18 55.2	+0.1
BDFB						00 20 08.0	
BDFB	Brasilia	169.37	212	PKP	PKPdf	00 18 55.1	+0.1
	comp=Z,14nm,0.9s,baz=101,slow=1.2,SNR=10						
BDFB				PKPab	PKPab	00 20 08.0	+0.4
	comp=Z,8.9nm,0.9s,baz=289,slow=4.9,SNR=3.6						
SAML	Samuel	170.44	105	PKIKP	PKPdf	00 18 56.1	+0.5
SAML						00 20 12.1	
SAML	Samuel	170.44	105		PKPdf	00 18 56.1	+0.5
SAML				PKPab	PKPab	00 20 12.1	-0.5

*NIED **04** 00:01:00, 34.°20N×141.°70E, h5km, Mw3.8 Best double couple: M0 5.46000×10^14 NP1:φs221.00000°, δ38.00000°, λ130.00000°. NP2:φs354.00000°, δ62.00000°, λ63.00000°.*

*IDC **04** 00:01:41.0±1.4, 34.°23N×141.°96E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.8/54, mbtmp4.0/4, ML3.8/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/49, Error ellipse: s-maj=45.7km s-min=25.8km az=93.0*

*ISCJB **04** 00:01:42.3±0.9, 34.°17N±0.°05×141.°74E±0.°09, h24km, mb3.8/2, Error ellipse: s-maj=10.6km s-min=7.1km az=158.5*

*JMA **04** 00:01:43.9±0.7, 34.°18N×141.°67E, h39km, M3.7*

ISC 04 00:01:43.4±1.2, 34.°19N±0.°05×141.°70E±0.°10, h24km, n14, σ1s37/17, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.76	308	P	Pn	00 01 58.0	-0.1
BSO3	Boso 3	1.16	302	P	Pb	00 02 04.3	-0.3
BSO4	Boso 4	1.38	306	P	Pb	00 02 08.0	-0.4
CHOJ	Chosi	1.66	336	P	Pb	00 02 11.3	-2.0
CHOJ				S	Sb	00 02 31.4	-2.4
JMKN	Mikurajimanish	1.77	261	P	Pn	00 02 12.6	0.0
JMKN				eS	Sn	00 02 34.1	-0.3
JHJ2	Mitsune	1.90	236	P	Pb	00 02 15.5	-1.9
JIM2	Oshima 3	1.95	286	P	Pn	00 02 14.6	-0.4
JOD2	Odawara 2	2.40	297	P	Pn	00 02 21.4	+0.1
MJAR	Matsushiro Arr	3.69	310	Pn	Pn	00 02 40.4	+1.4
	1.4nm,0.3s,baz=123,slow=15,SNR=21						
MJAR				Sn	Sn	00 03 23.1	+1.3
	0.9nm,0.3s,baz=119,slow=13,SNR=7.5						
MAT	Matsushiro	3.70	310	P	Pn	00 02 40.8	+1.8
MAT				S	Sn	00 03 22.8	+0.9
JCJ	Chichijima	7.08	176	Pn	Pn	00 03 25.4	-0.2
	6.6nm,0.3s,baz=18,slow=13,SNR=6.9						
ASAJ	Asahikawa	9.94	4	LR	LR	00 07 58.2	
	comp=Z,166nm,20.6s,baz=80,slow=38						
ILAR	Eielson Array	51.79	31	P	P	00 10 48.9	0.0
	0.6nm,1.0s,baz=265,slow=6.4,SNR=7.0						
WRA	Warramunga Arr	54.28	189	P	P	00 11 09.8	+2.1
	2.5nm,0.8s,baz=7.5,slow=7.9,SNR=3.0						

*ISCJB **04** 00:13:06.8±0.3, 25.°48S±0.°03×68.°87W±0.°06, h106km±4km, mb4.0/11, Error ellipse: s-maj=9.1km s-min=4.1km az=174.1*

*SJA **04** 00:13:06.9±0.7, 25.°53S×69.°01W, h121km±11km, ML3.9, MW3.8*

*NEIC **04** 00:13:08.0±2.1, 25.°52S±0.°06×68.°82W±0.°04, h102km±5km*

*IDC **04** 00:13:09.4±0.7, 25.°52S×68.°77W, h108km±5km, mb3.9/11, mb1 4.0/15, mb1mx3.8/35, mbtmp4.2/15, MS3.5/3, Ms1 3.5/3, ms1mx3.0/23, Error ellipse: s-maj=18.6km s-min=13.6km az=80.0*

*GUC **04** 00:13:09.0±0.7, 25.°35S×69.°07W, h105km±4km, ML4.3*

ISC 04 00:13:07.8±0.5, 25.°50S±0.°03×68.°89W±0.°06, h104km±5km, h104km:pP-P, n72, σ1s69/84, mb4.2/11, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GO02	Mina Guanaco	0.71	298	i P	Pn	00 13 26.7	+0.7
GO02				i S	Sn	00 13 40.6	+0.9
GO02				IAML		00 13 41.5	
	comp=E,25µm,0.3s						
GO02	Mina Guanaco	0.71	298		Pn	00 13 26.7	+0.7
GO02				Sn	Sn	00 13 40.3	+0.6
PB14	IPOC Station P	1.62	302	⇑iP	Pn	00 13 36.3	+0.2
PB14				i S	Sn	00 13 57.2	-0.3
PB14	IPOC Station P	1.62	302	i P	Pn	00 13 36.2	+0.2
GO03	Copiap	2.41	210	⇑iP	Pn	00 13 45.4	-0.5
GO03				i S	Sn	00 14 14.0	-1.1
GO03				IAML		00 14 16.0	
	comp=N,1µm,0.4s						
GO03	Copiap	2.41	210		Pn	00 13 45.4	-0.5
GO03	Copiap	2.41	210	i P	Pn	00 13 45.7	-0.2
GO03				eS	Sn	00 14 14.3	-0.8
PB10	IPOC Station P	2.49	322	i S	Sn	00 14 14.2	-2.6
PB10				IAML		00 14 19.0	
	comp=E,950nm,0.3s						
PB10	IPOC Station P	2.49	322		Pn	00 13 46.9	0.0
PB10	IPOC Station P	2.49	322	i P	Pn	00 13 47.3	+0.4
PB10				eS	Sn	00 14 16.6	-0.2
PB06	IPOC Station P	2.85	347	eP	Pn	00 13 52.5	+0.7
PB06				i S	Sn	00 14 24.9	-0.7
PB06				IAML		00 14 35.2	
	comp=E,776nm,0.4s						
PB06	IPOC Station P	2.85	347	i P	Pn	00 13 52.9	+1.1
LVC	Limon Verde	2.87	360	P	Pn	00 13 53.8	+1.5
	comp=E,28nm,0.3s,baz=159,slow=8.6,SNR=113						
LVC				S	Sn	00 14 22.9	-3.6
	comp=E,57nm,0.3s,baz=189,slow=11,SNR=13						
LVC	Limon Verde	2.87	360		Pn	00 13 53.5	+1.2
LVC	Limon Verde	2.87	360	i P	Pn	00 13 53.9	+1.5
LVC				IAML		00 15 03.5	
	comp=Z,161nm,0.5s						
PB05	IPOC Station P	2.89	335	⇑iP	Pn	00 13 52.6	+0.3
PB05				i S	Sn	00 14 25.4	-1.1
PB05				IAML		00 14 39.2	
	comp=E,906nm,0.3s						
PB05	IPOC Station P	2.89	335	i P	Pn	00 13 52.5	+0.2
PB04	IPOC Station P	3.35	340		Pn	00 13 58.6	+0.1
PB03	IPOC Station P	3.52	347	⇓iP	Pn	00 14 00.9	+0.1
PB03				eS	Sn	00 14 40.4	-1.3
PB09	IPOC Station P	3.70	355	i P	Pn	00 14 04.5	+1.4
PB09				IAML		00 15 16.4	
	comp=Z,355nm,0.4s						
AZAP	Zapla	3.70	71	⇑iP	Pn	00 14 05.4	+2.2
PB07	IPOC Station P	3.86	346	⇑eP	Pn	00 14 05.1	-0.2
PB07				i S	Sn	00 14 48.0	-1.9
PB07				IAML		00 15 14.4	
	comp=E,389nm,0.1s						
CYA	Choya	4.03	137	i P	Pn	00 14 08.6	+1.2
PB01	IPOC Station P	4.47	353		Pn	00 14 13.2	-0.3
YJA	Yavi	4.53	44	⇑iP	Pn	00 14 17.4	+2.9
AROD	Rodeo	4.68	186	i P	Pn	00 14 17.6	+1.1
GO04	Tololo Observa	4.96	199		Pn	00 14 17.8	-2.3
ACCO	Cerro Coronel	5.08	182	i P	Pn	00 14 22.4	+0.5
AMOG	MOGNA	5.43	176	i P	Pn	00 14 26.1	-0.3
PB11	IPOC Station P	5.75	353		Pn	00 14 29.1	-1.8
GO01	Chusmiza	5.81	357		Pn	00 14 31.3	-0.6
RTLL	Cerro Villicun	5.82	176	i P	Pn	00 14 31.5	-0.2
CFA	Coronel Fontan	6.11	175	P	Pn	00 14 35.3	-0.4
	comp=E,7.0nm,0.3s,baz=338,slow=14,SNR=90						
CFA				S	Sn	00 15 40.6	-3.6
	comp=E,4.3nm,0.3s,baz=356,slow=13,SNR=4.1						
CFA	Coronel Fontan	6.11	175	i P	Pn	00 14 35.2	-0.5
LPAZ	La Paz	9.19	5	LR	LR	00 19 29.8	
	comp=E,115nm,20.6s,baz=54,slow=41						
CPUP	Villa Florida	10.44	97	P	Pn	00 15 32.5	-2.0
	comp=E,0.3nm,0.3s,baz=268,slow=12,SNR=7.4						
CPUP				LR	LR	00 19 14.5	
	comp=E,203nm,18.4s,baz=278,slow=35						
SIV	San Ignacio	11.95	39	P	Pn	00 15 51.4	-3.4
	comp=E,4.7nm,0.3s,baz=240,slow=12,SNR=37						
PLCA	Paso Flores	15.26	185	P	Pn	00 16 37.4	-0.2
	comp=E,0.1nm,0.3s,baz=27,slow=8.6,SNR=3.0						
BDFB	Brasilia	21.84	67	P	P	00 17 50.5	-1.7
	comp=E,3.1nm,0.3s,baz=244,slow=8.8,SNR=7.0						
BDFB	Brasilia	21.84	67	P	P	00 17 52.4	+0.2
BDFB				IAmb	IAmb	00 17 53.8	
	comp=Z,6.3nm,0.8s						
OTAV	Otavalo	27.20	339	eP	P	00 18 41.2	-1.2
OTAV	Otavalo	27.20	339	eP	P	00 18 41.2	-1.2
OTAV	Otavalo	27.20	339	P	P	00 18 40.5	-1.9
FLOC	Florencia	27.70	345	eP	P	00 18 43.5	-2.9
FLOC	Florencia	27.70	345	eP	P	00 18 43.5	-2.9
GCUF	Volcan Galeras	27.80	342	eP	P	00 18 43.4	-4.4
GCUF	Volcan Galeras	27.80	342	eP	P	00 18 43.4	-4.4
MACC	Macarena, Meta	27.89	349	eP	P	00 18 43.1	-5.0
MACC	Macarena, Meta	27.89	349	eP	P	00 18 43.1	-5.0
MDP	Montagnes des	34.27	30	P	P	00 19 44.5	+0.4
	comp=Z,7.7nm,0.8s,baz=180,slow=4.5,SNR=7.2						
SNAA	Sanae	58.52	160	P	P	00 22 53.4	+0.5
	comp=Z,1.0nm,0.5s,baz=270,slow=8.1,SNR=6.8						
SNAA	Sanae	58.52	160	IAmb	IAmb	00 23 12.8	
	comp=Z,2.5nm,0.9s						
TXAR	Lajitas Array	63.93	326	P	P	00 23 31.4	+1.5
	comp=Z,0.5nm,0.5s,baz=157,slow=7.5,SNR=11						
TXAR				pP	pP	00 23 58.5	+1.5
	comp=Z,0.7nm,0.8s,baz=144,slow=6.7,SNR=2.7						
QSPA	South Pole Qui	64.71	180	P	P	00 23 35.7	+1.0
	comp=Z,2.4nm,0.6s,baz=117,slow=11,SNR=3.4						
QSPA	South Pole Qui	64.71	180	IAmb	IAmb	00 23 35.9	
	comp=Z,4.3nm,0.8s						
DBIC	Dimbokro	69.90	72	P	P	00 24 09.7	+1.6
	comp=Z,1.6nm,0.4s,baz=213,slow=5.7,SNR=4.2						
DBIC	Dimbokro	69.90	72	IAmb	IAmb	00 24 15.8	
	comp=Z,3.6nm,0.9s						
CCUT	Cedar City	75.36	325	P	P	00 24 41.0	+0.9
PSUT	Pine Spring	76.35	325	P	P	00 24 45.9	+0.1
PDAR	Pinedale Array	77.57	331	P	P	00 24 54.0	+1.4
	comp=Z,0.2nm,0.3s,baz=96,slow=6.0,SNR=4.5						
NVAR	Mina Array Bea	78.65	323	P	P	00 24 59.1	+0.5
	comp=Z,0.4nm,0.5s,baz=182,slow=4.5,SNR=3.7						
TORD	Torodi Ar. Bea	78.71	70	P	P	00 24 59.6	+0.5
	comp=Z,4.3nm,0.6s,baz=258,slow=5.4,SNR=22						
TORD				pP	pP	00 25 28.0	+0.7
	comp=Z,1.1nm,0.6s,baz=277,slow=5.9,SNR=2.3						
ULM	Lac du Bonnet	79.12	343	LR	LR	01 04 14.7	
	comp=Z,95nm,19.4s,baz=326,slow=39						
MAW	Mawson	80.52	163	P	P	00 25 09.5	+1.5
	comp=Z,5.6nm,1.0s,baz=205,slow=5.8,SNR=3.7						
MAW	Mawson	80.52	163	IAmb	IAmb	00 25 14.5	
	comp=Z,1.1nm,1.1s						
YKA	Yellowknife Ar	94.94	341	P	P	00 26 18.1	+0.3
	comp=Z,0.5nm,0.6s,baz=140,slow=4.7,SNR=6.0						
YKA				pP	pP	00 26 46.6	+0.2
	comp=Z,0.2nm,0.5s,baz=181,slow=5.9,SNR=2.2						
ASAR	Alice Springs	126.37	206	PKP	PKPdf	00 31 59.7	+0.6
	comp=Z,0.6nm,0.7s,baz=114,slow=2.3,SNR=6.4						
WRA	Warramunga Arr	129.50	209	PKP	PKPdf	00 32 05.5	+0.3
	comp=Z,0.5nm,0.6s,baz=161,slow=1.3,SNR=3.5						
KURK	Kurchatov	144.59	36		PKPdf	00 32 32.6	+0.7
KURK					pPKPdf	00 33 01.5	-0.1
KURBB	Kurchatov Arra	144.60	36	PKP	PKPdf	00 32 32.6	+0.7
	comp=Z,1.1nm,0.6s,baz=301,slow=3.4,SNR=14						
KURBB				pPKP	pPKPdf	00 33 01.5	-0.1
	comp=Z,0.6nm,0.5s,baz=305,slow=3.2,SNR=2.4						
ZALV	Zalesovo Beam	145.51	28	PKPbc	PKPab	00 32 35.2	+1.2
	comp=Z,3.6nm,0.4s,baz=308,slow=4.1,SNR=15						
ZALV				pPKPbc	pPKPdf	00 33 03.7	+0.6
	comp=Z,4.0nm,0.8s,baz=303,slow=4.8,SNR=6.6						
MKAR	Makanchi Array	148.77	40	PKPbc	PKiKP	00 32 44.2	-0.2
	comp=Z,2.5nm,0.6s,baz=309,slow=2.6,SNR=17						

*BJI **04** 00:48:00.6±0.0, 2.°00N×128.°70E, h20km, mb4.6/47, mB5.1/33, Ms4.5/15, Ms7 4.2/17*

*ISCJB **04** 00:48:05.7±0.2, 2.°48N±0.°02×128.°43E±0.°03, h33km, mb4.7/37, MS4.0/23, Error ellipse: s-maj=4.8km s-min=3.1km az=164.3*

*DJA **04** 00:48:05.0±0.4, 3°N±4°×12°8E±°, h10km, M4.7/35, mB5.2/14, mb4.9/35, MLv5.0/13, Mw(mB)4.6/14, Mwp5.9/1*

*IDC **04** 00:48:07.2±1.8, 2.°54N×128.°48E, h38km±15km, mb4.2/19, mb1 4.4/22, mb1mx4.2/35, mbtmp4.5/22, ML4.7/3, MS3.9/21, Ms1 3.9/21, ms1mx3.7/46, Error ellipse: s-maj=22.4km s-min=10.1km az=77.0*

*GCMT **04** 00:48:07.1±0.3, 2.°71N±0.°01×128.°22E±0.°02, h19km±1km, MW4.9/92, Moment Tensor Solution. s17,c22; s92,c129; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.36±.11; Mθθ-1.51±.08; Mφφ1.87±.10; Mrθ-0.66±.19; Mθφ-1.63±.08; Mφr-1.29±.24; Best double couple: M0 2.77500×10^16 NP1:φs21.00000°, δ84.00000°, λ-32.00000°. NP2: φs115.00000°, δ58.00000°, λ-173.00000°. Principal axes: T 2.8330, Plg18.0000°, Azm72.0000°; N -0.1180, Plg57.0000°, Azm192.0000°; P -2.7160, Plg27.0000°, Azm333.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **04** 00:48:09.1±2.1, 2.°45N±0.°06×128.°48E±0.°05, h53km±6km, mb4.7/65*

ISC 04 00:48:07.7±0.4, 2.°43N±0.°04×128.°40E±0.°06, h35km, n155, σ1s80/138, mb4.7/64, MS4.0/23, 3C-2D, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.94	212	P	Pn	00 48 38.3	+0.1
TNTI	Ternate	1.94	212		Pn	00 48 38.2	+0.1
SGSI	Sangihe	3.13	294	P	Pn	00 48 55.4	+0.8
LBMI	Labuha	3.17	197	P	Pn	00 48 59.8	+4.6
SWI	Sorong	4.34	139	P	Pn	00 49 12.2	+1.0
SIJI	Sorong	4.35	139	Pn	Pn	00 49 12.1	+0.7
	60nm,0.3s,baz=338,slow=9.4,SNR=76						
SIJI				Sn	Sn	00 50 02.0	+1.2
	28nm,0.3s,baz=239,slow=19,SNR=6.2						
SIJI				LR	LR	00 50 52.3	
	comp=Z,1µm,21.7s,baz=313,slow=38						
GSPH	General Santos	5.01	317	⇓P	Pn	00 49 21.8	+1.3
SANI	Sanana	5.06	209	P	Pn	00 49 21.9	+0.8
	57nm,0.7s,1µm0.3nm						
DAV	Davao City (W)	5.40	329	⇑eP	Pn	00 49 27.9	+2.1
DAV	Davao City (W)	5.40	329	Pn	Pn	00 49 26.7	+0.9
KCP	Kidapawan	5.62	324	⇓P	Pn	00 49 30.3	+1.4
KCP				S	Sn	00 50 39.5	+7.1
MSAI	Masohi	5.76	175	P	Pn	00 49 34.3	+3.6
	35nm,0.6s,676nm0.4nm						
AAI	Ambon	6.08	182	P	Pn	00 49 39.0	+3.9
	154nm,0.7s,2µm0.6nm						
CTBH	Cotabato--PC H	6.31	319	P	Pn	00 49 37.4	-0.9
CTBH				S	Sn	00 50 48.1	-1.1
LUWI	Luwuk	6.60	239	P	Pn	00 49 42.7	+0.4
	187nm,0.6s,7µm1.6nm						
LUWI	Luwuk	6.60	239	Pn	Pn	00 49 44.8	+2.5
RKPI	Ransiki, Papua	6.97	124	P	Pn	00 49 51.0	+3.6
	265nm,0.7s,3µm1.0nm						
KDI	Kendari	8.58	222	P	Pn	00 50 09.2	-0.3
	80nm,0.8s,3µm						
BBSI	Bau Bau	9.78	217	P	Pn	00 50 28.3	+2.3
	28nm,0.6s						
TTSI	Tana Toraja	10.16	238	P	Pn	00 50 30.9	-0.2
	87nm,0.6s,2µm						
BNSI	Bone	10.71	231	P	Pn	00 50 37.8	-0.9
	47nm,0.6s,728nm						
SPSI	Sidrap Palu	10.71	234	P	Pn	00 50 39.2	+0.5
	75nm,0.8s,705nm						
BKSI	Bulukumba	11.30	227	P	Pn	00 50 47.3	+0.6
	47nm,0.6s,832nm						
KAPI	Kappang	11.37	229	Pn	Pn	00 50 49.0	+1.3
	3.4nm,0.3s,baz=71,slow=14,SNR=8.8						
KAPI				Sn	Sn	00 52 51.0	-2.7
	0.7nm,0.3s,baz=131,slow=19,SNR=2.6						
SOEI	Soe	12.78	199	Pn	Pn	00 51 08.5	+1.4
JAY	Jayapura	13.24	112	P	P	00 51 30.3	+7.6
BATI	Baumata	13.41	201	Pn	Pn	00 51 18.9	+3.3
	3.8nm,0.3s,baz=31,slow=12,SNR=2.9						
MTN	Manton Dam	15.41	170		Pn	00 51 42.7	+0.1
TWSI	Taliwang, Sumb	15.97	226	P	Pn	00 51 50.8	+1.0
	43nm,0.7s,646nm25µm						
SBUM	Sibu	16.17	270		Pn	00 51 52.9	+0.5
KNRA	Kununurra	17.99	179		Pn	00 52 15.3	+0.1
KNRA				IAmb	IAmb	00 52 21.8	
	comp=Z,40nm,0.8s						
KSM	Kuching	18.11	267	P	P	00 52 18.5	+1.8
NGJI	Ngawi	19.50	240	P	Pn	00 52 34.5	+1.0
	comp=Z,54nm,0.9s						
PWJI	Pagerwojo	19.54	238	P	P	00 52 32.8	+0.4
	comp=Z,82nm,1.0s						
GUMO	Guam	19.70	55	LR	LR	00 58 59.1	
	comp=Z,414nm,21.3s,baz=234,slow=33						
PCJI	Pacitan	20.16	238	P	P	00 52 40.0	+0.8
	comp=Z,116nm,0.8s						
FITZ	Fitzroy Crossi	20.58	187	P	P	00 52 43.0	-0.7
	comp=Z,4.2nm,0.7s,baz=15,slow=9.4,SNR=9.6						
FITZ				LR	LR	01 01 26.8	
	comp=Z,209nm,20.1s,baz=7.0,slow=39						
FITZ	Fitzroy Crossi	20.58	187	P	P	00 52 45.1	+1.5
KPJI	Karang Pucung	21.71	243	P	P	00 52 58.5	+2.5
	comp=Z,89nm,0.8s,comp=Z,1µm						
COEN	Coen	21.90	138	P	P	00 52 58.1	+0.2
COEN				IAmb	IAmb	00 53 05.8	
	comp=Z,29nm,0.8s						
TPUB	Ta-pu	22.08	341	P	P	00 52 58.9	-0.9
TPUB				IAmb	IAmb	00 53 10.8	
	comp=Z,32nm,0.9s						
PMG	Port Moresby	22.08	122	P	P	00 52 58.8	-1.1
PMG				IAmb	IAmb	00 53 13.4	
	comp=Z,40nm,0.9s						
SSLB	Suanglung	22.43	342	P	P	00 53 02.7	-0.9
CISI	Cisompet, Garu	22.81	244	P	P	00 53 09.8	+2.1
WB0	Warramunga Arr	22.83	165	P	P	00 53 07.8	0.0
WRAB	Tennant Creek	22.97	166	P	P	00 53 09.9	+0.5
WRAB				IAmb	IAmb	00 53 15.0	
	comp=Z,29nm,0.7s						
WRA	Warramunga Arr	22.98	166	P	P	00 53 08.8	-0.6
	comp=Z,14nm,0.6s,baz=344,slow=9.6,SNR=88						
WRA				PcP	PcP	00 56 57.2	-1.6
	comp=Z,0.5nm,0.4s,baz=339,slow=1.8,SNR=3.1						
WRA				ScP	ScP	01 00 33.5	-0.7
	comp=Z,1.7nm,0.9s,baz=340,slow=3.2,SNR=6.7						
WRA				LR	LR	01 03 29.9	
	comp=Z,618nm,21.0s,baz=5.0,slow=40						
WB2	Warramunga Arr	22.98	166	P	P	00 53 09.4	0.0
WB2				IAmb	IAmb	00 53 19.4	
	comp=Z,43nm,1.0s						
WR0	Warramunga Arr	23.05	165	P	P	00 53 10.6	+0.5
WR0				IAmb	IAmb	00 53 19.4	
	comp=Z,23nm,0.9s						
YHNB	Yeheng	23.13	344	P	P	00 53 10.1	-0.8
YHNB				IAmb	IAmb	00 53 21.6	
	comp=Z,27nm,0.8s						
JOW	Kunigami	24.27	360	P	P	00 53 22.1	+0.5
KRVT	Keravat (AS076	24.54	106	LR	LR	01 00 52.5	
	comp=Z,514nm,20.7s,baz=284,slow=31						
KLSI		24.69	253	P	P	00 53 32.4	+6.7
MDSI	Maura Dua	25.16	254	P	P	00 53 31.7	+1.7
	comp=Z,14nm,0.7s						
PSA00	Pilbara Seismi	25.28	199	P	P	00 53 30.8	-0.1
PSA00				IAmb	IAmb	00 53 35.3	
	comp=Z,26nm,0.9s						
AS31	Alice Springs	26.48	169	P	P	00 53 42.0	+0.1
ASAR	Alice Springs	26.48	169	P	P	00 53 41.9	0.0
	comp=Z,9.3nm,0.8s,baz=355,slow=7.7,SNR=34						
ASAR				PcP	PcP	00 57 05.7	-0.8
	comp=Z,2.3nm,0.4s,baz=356,slow=2.1,SNR=16						
ASAR				ScP	ScP	01 00 43.1	-0.9
	comp=Z,2.3nm,0.8s,baz=347,slow=2.4,SNR=13						
ASAR				LR	LR	01 05 58.8	
	comp=Z,408nm,20.7s,baz=351,slow=40						
SKNT	Sakolnakorn	28.02	303	P	P	00 53 59.9	+4.2
	comp=Z,32nm,0.9s						
CTA	Charters Tower	28.42	143	P	P	00 53 59.9	+0.6
	comp=Z,4.5nm,0.8s,baz=323,slow=12,SNR=5.1						
NONG	Nongkai	29.24	304	P	P	00 54 11.4	+4.8
	comp=Z,0.4nm,1.2s,comp=Z,178nm						
CHAI	Chaiyaphum	29.26	299	P	P	00 54 10.0	+3.3
	comp=Z,23µm,0.7s						
PBKT	Sadao Pong	30.42	299	P	P	00 54 26.8	+10
	comp=Z,4.1nm,1.1s						
PBKT	Sadao Pong	30.42	299	P	P	00 54 18.1	+1.1
NJ2	Nanjing	30.81	344	eP	P	00 54 22.5	+2.3
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
WHN	Wuhan	30.97	336	P	P	00 54 25.4	+3.7
UTHA	Uthaitani	31.38	296	P	P	00 54 33.2	+7.7
	comp=Z,23µm,0.7s						
PHRA	Phrae	31.89	302	P	P	00 54 33.3	+3.3
	comp=Z,2.6nm,0.9s						
PAYA	Payao	32.59	303	P	P	00 54 45.0	+8.9
	comp=Z,18µm,0.7s						
CMAR	Chiang Mai Arr	32.97	301	P	P	00 54 39.3	-0.2
	comp=Z,3.5nm,0.9s,baz=121,slow=7.4,SNR=11						
CMAR				LR	LR	01 09 20.5	
	comp=Z,115nm,18.7s,baz=115,slow=39						
CMMT	Chiang Mai	33.12	302	P	P	00 54 43.6	+2.8
	comp=Z,4.8nm,1.1s						
CHTO	Chiang Mai	33.12	302	P	P	00 54 41.3	+0.5
KMI	Kunming	33.48	315	P	P	00 54 48.2	+4.1
KMI				pP	pP	00 54 52.6	-1.5
KMI				pmax	pmax		
	comp=Z,13nm,1.5s						
KMI				LR	LR		
	comp=Z,380nm,19.6s						
KMI				LR	LR		
	comp=Z,250nm,22.1s						
KMI				LR	LR		
	comp=Z,250nm,20.3s						
KSRS	Korea Array	34.86	359	P	P	00 54 53.9	-1.7
	comp=Z,9.4nm,0.7s,baz=177,slow=9.4,SNR=21						
KSRS				LR	LR	01 07 14.6	
	comp=Z,137nm,20.6s,baz=186,slow=33						
KS19	Wonju Array Si	34.91	359	P	P	00 54 56.3	+0.3
MAJO	Matsushiro	35.14	14	P	P	00 54 58.2	+0.2
MJAR	Matsushiro Arr	35.14	14	P	P	00 54 55.2	-2.8
	comp=Z,5.7nm,0.7s,baz=186,slow=9.3,SNR=13						
MJAR				LR	LR	01 08 16.9	
	comp=Z,183nm,19.9s,baz=195,slow=35						
MJB9	Matsu-Tunnel	35.14	14	P	P	00 54 58.2	+0.1
EIDS	Eidsvold	35.31	143	P	P	00 54 59.9	+0.3
EIDS				IAmb	IAmb	00 55 07.0	
	comp=Z,8.0nm,0.8s						
XAN	Xi'an	36.33	332	P	P	00 55 07.2	-1.2
XAN				pP	pP	00 55 14.6	-3.9
XAN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,170nm,4.5s						
STKA	Stephens Creek	36.34	161	P	P	00 55 08.2	-0.3
	comp=Z,7.4nm,0.4s,baz=339,slow=8.4,SNR=17						
STKA				LR	LR	01 10 48.3	
	comp=Z,258nm,21.3s,baz=337,slow=37						
STKA	Stephens Creek	36.34	161	P	P	00 55 08.8	+0.4
CD2	Chengdu	36.68	323	P	P	00 55 11.7	+0.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ARMA	Armidale	39.47	148	P	P	00 55 35.1	+0.1
ARMA				IAmb	IAmb	00 55 50.8	
	comp=Z,12nm,0.8s						
LZH	Lanzhou	40.47	329	eP	P	00 55 43.0	-0.3
LZH				pP	pP	00 55 49.8	-3.7
LZH				sP	sP	00 55 53.2	-4.4
LZH				ePP	PnPn	00 57 20.5	-0.4
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,79nm,5.4s						
LZH				LR	LR		
	comp=Z,340nm,13.4s						
LZH				LR	LR		
	comp=Z,350nm,13.1s						
LZH				LR	LR		
	comp=Z,460nm,16.8s						
H11S3	WAKE ISLAND Hy	40.76	64	T	T	01 39 01.3	
	baz=252,slow=75,SNR=124						
H11S2	WAKE ISLAND Hy	40.77	64	T	T	01 39 03.8	
	baz=252,slow=75,SNR=112						
H11S1	WAKE ISLAND Hy	40.77	64	T	T	01 39 03.9	
	baz=252,slow=75,SNR=79						
HHC	Hu-ho-hao-te	41.16	340	P	P	00 55 51.1	+2.2
HHC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CN2	Changchun	41.28	357	eP	P	00 55 51.2	+1.6
H11N1	WAKE ISLAND Hy	41.33	63	T	T	01 39 34.8	
	baz=250,slow=75,SNR=394						
H11N2	WAKE ISLAND Hy	41.34	63	T	T	01 39 36.4	
	baz=250,slow=75,SNR=204						
H11N3	WAKE ISLAND Hy	41.35	63	T	T	01 39 37.0	
	baz=250,slow=75,SNR=338						
USA0B	Ussuriysk Arra	41.72	4	P	P	00 55 52.4	-0.8
USA0B				IAmb	IAmb	00 55 58.3	
	comp=Z,13nm,0.8s						
USRK	Ussuriysk Ar.	41.72	4	P	P	00 55 51.2	-2.0
	comp=Z,14nm,0.8s,baz=190,slow=7.8,SNR=20						
USRK				LR	LR	01 11 40.7	
	comp=Z,64nm,19.2s,baz=175,slow=34						
SHL	Shillong	41.99	307	P	P	00 55 56.6	+0.6
MDJ	Mudanjiang	42.03	1	P	P	00 55 58.7	+3.0
MDJ				pmax	pmax		
	comp=Z,17nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,200nm,5.6s						
MDJ	Mudanjiang	42.03	1	P	P	00 55 57.6	+1.9
MDJ				IAmb	IAmb	00 56 01.0	
	comp=Z,17nm,1.0s						
LSA	Lhasa	44.55	311	P	P	00 56 18.5	+1.5
LSA				IAmb	IAmb	00 56 29.9	
	comp=Z,8.6nm,0.7s						
GTA	Gaotai	45.07	328	⇑P	P	00 56 18.9	-1.6
GTA				pP	pP	00 56 28.1	-2.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTA				sP	sP	00 56 32.4	-2.5
GTA				PcP	**PP**	**00 58 04.5**	**-1.8**
GTA				S	**S**	**01 02 55.2**	**-2.2**
GTA				sS	sS	01 03 11.2	-3.3
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,38nm,6.0s						
GTA				LR	LR		
	comp=Z,190nm,18.7s						
GTA				LR	LR		
	comp=Z,190nm,18.1s						
GTA				LR	LR		
	comp=Z,320nm,17.5s						
TAPN	**Taplejung**	**46.13**	**306**	*e*P	**P**	**00 56 28.7**	**-0.6**
	comp=Z,25nm,0.9s						
KLR	**Kul'dur**	**46.72**	**3**	LR	LR	01 17 45.3	
	comp=Z,71nm,18.4s,baz=182,slow=38						
RAMN	**Ramite**	**46.86**	**305**	*e*P	**P**	**00 56 34.6**	**-0.4**
	comp=Z,17nm,0.5s						
JIRN	**Jiri**	**47.48**	**306**	*e*P	**P**	**00 56 39.3**	**-0.7**
	comp=Z,38nm,0.7s						
GUN	**Gumba**	**47.84**	**306**	*e*P	**P**	**00 56 41.6**	**-1.1**
	comp=Z,34nm,0.6s						
PKI	**Pulchoki**	**48.08**	**306**	*e*P	**P**	**00 56 43.3**	**-1.3**
	comp=Z,10nm,0.7s						
PKIN	**Phulchoki**	**48.09**	**306**	*e*P	**P**	**00 56 43.2**	**-1.4**
	comp=Z,11nm,0.7s						
ULN	**Ulaanbaatar**	**48.88**	**341**	P	**P**	**00 56 50.0**	**-0.2**
ULN				IAmb	IAmb	00 57 04.5	
	comp=Z,8.7nm,1.1s						
SONM	**Songino Array**	**49.07**	**340**	P	**P**	**00 56 49.5**	**-2.0**
	comp=Z,2.6nm,0.7s,baz=148,slow=7.6,SNR=11						
SONM				ScP	**ScP**	**01 02 04.6**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=94,slow=2.2,SNR=3.1						
SONM				LR	LR	01 18 46.9	
	comp=Z,96nm,21.1s,baz=186,slow=38						
KOLN	**Koldanda**	**49.63**	**305**	*e*P	**P**	**00 56 55.3**	**-1.0**
	comp=Z,56nm,0.8s						
DANN	**Dangsing**	**49.73**	**306**	*e*P	**P**	**00 56 56.3**	**-0.8**
	comp=Z,37nm,0.6s						
WMQ	**Urumqi**	**54.74**	**325**	*e*P	**P**	**00 57 36.3**	**+2.4**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,160nm,5.1s						
WMQ				LR	LR		
	comp=Z,460nm,25.3s						
WMQ				LR	LR		
	comp=Z,1µm,28.9s						
WMQ				LR	LR		
	comp=Z,340nm,23.7s						
PETK	**Petropavlovsk-**	**56.02**	**21**	P	**P**	**00 57 41.5**	**-1.3**
	comp=Z,4.6nm,0.8s,baz=182,slow=6.6,SNR=8.7						
MK31	**Makanchi Array**	**59.57**	**325**	P	**P**	**00 58 08.2**	**+0.3**
MK31				IAmb	IAmb	00 58 18.5	
	comp=Z,6.0nm,0.8s						
MKAR	**Makanchi Array**	**59.57**	**325**	P	**P**	**00 58 06.5**	**-1.4**
	comp=Z,2.5nm,0.6s,baz=116,slow=7.9,SNR=17						
MKAR				LR	LR	01 25 09.0	
	comp=Z,151nm,18.2s,baz=102,slow=37						
NIL	**Nilore**	**60.04**	**308**	P	**P**	**00 58 12.0**	**+0.7**
AAK	**Ala-Archa**	**62.44**	**318**	LR	LR	01 27 21.5	
	comp=Z,156nm,20.2s,baz=290,slow=38						
AAK	**Ala-Archa**	**62.44**	**318**	P	**P**	**00 58 28.8**	**+1.1**
ZAA0	**Zalesovo Array**	**62.50**	**333**	P	**P**	**00 58 27.9**	**+0.3**
ZALV	**Zalesovo Beam**	**62.50**	**333**	P	**P**	**00 58 26.2**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=104,slow=6.3,SNR=7.0						
ZALV				LR	LR	01 26 55.1	
	comp=Z,62nm,20.5s,baz=114,slow=37						
KBL	**Kabul**	**63.64**	**308**	P	**P**	**00 58 35.3**	**-0.5**
KBL				IAmb	IAmb	00 58 54.8	
	comp=Z,3.4nm,0.6s						
KURK	**Kurchatov**	**63.73**	**327**	P	**P**	**00 58 35.3**	**-0.5**
CHGR	**Chuyangaron**	**64.78**	**312**	P	**P**	**00 58 43.3**	**+0.3**
KK31	**Karatay Array**	**65.32**	**317**	P	**P**	**00 58 46.6**	**+0.2**
KKAR	**Karatay Array**	**65.32**	**317**	P	**P**	**00 58 46.1**	**-0.3**
TIXI	**Tiksi**	**69.12**	**0**	P	**P**	**00 59 08.8**	**-1.1**
TIXI				IAmb	IAmb	00 59 12.4	
	comp=Z,4.8nm,0.6s						
BRVK	**Borovoye**	**69.39**	**327**	P	**P**	**00 59 11.6**	**-0.3**
BRVK				IAmb	IAmb	00 59 25.2	
	comp=Z,8.6nm,0.8s						
NRIK	**Noril'sk**	**72.09**	**346**	P	**P**	**00 59 26.9**	**-1.2**
	comp=Z,7.3nm,0.8s,baz=152,slow=4.8,SNR=13						
NRIK				LR	LR	01 36 58.4	
	comp=Z,31nm,18.7s,baz=166,slow=41						
GEYT	**Alibeck**	**73.01**	**309**	P	**P**	**00 59 33.8**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=234,slow=50,SNR=2.8						
ABKAR	**Akbulak array**	**74.21**	**321**	P	**P**	**00 59 41.0**	**0.0**
AKTO	**Aktyubinsk**	**75.71**	**322**	LR	LR	01 35 28.9	
	comp=Z,110nm,20.2s,baz=114,slow=38						
VNDA	**Vanda**	**81.94**	**173**	P	**P**	**01 00 22.5**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=93,slow=19,SNR=16						
VNDA				LR	LR	01 37 21.4	
	comp=Z,91nm,18.0s,baz=344,slow=36						
MAW	**Mawson**	**83.12**	**201**	LR	LR	01 38 46.3	
	comp=Z,39nm,18.0s,baz=54,slow=36						
SKT	**Skwentna**	**83.20**	**28**	IAmb	IAmb	01 00 33.5	
	comp=Z,10nm,1.2s						
SUA	**Susitna One**	**83.50**	**28**	IAmb	IAmb	01 00 32.0	
	comp=Z,7.2nm,0.9s						
KTH	**Kantishna Hill**	**83.68**	**26**	P	**P**	**01 00 31.9**	**-0.8**
KTH				IAmb	IAmb	01 00 37.2	
	comp=Z,11nm,1.2s						
MLY	**Manley**	**83.95**	**25**	IAmb	IAmb	01 00 38.3	
	comp=Z,7.7nm,1.0s						
TRF	**Thorofare Moun**	**83.95**	**27**	IAmb	IAmb	01 00 37.7	
	comp=Z,9.0nm,1.0s						
PMR	**Palmer**	**84.29**	**28**	IAmb	IAmb	01 00 38.7	
	comp=Z,6.8nm,0.8s						
COLD	**Coldfoot**	**84.44**	**23**	IAmb	IAmb	01 00 41.3	
	comp=Z,5.8nm,1.0s						
MCK	**McKinley**	**84.58**	**26**	P	**P**	**01 00 37.4**	**+0.1**
RND	**Reindeer**	**84.59**	**27**	IAmb	IAmb	01 00 40.5	
	comp=Z,10nm,1.0s						
DHY	**Denali Highway**	**85.23**	**27**	IAmb	IAmb	01 00 50.7	
	comp=Z,3.2nm,0.8s						
ILAR	**Eielson Array**	**85.56**	**25**	P	**P**	**01 00 40.0**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=249,slow=5.2,SNR=7.4						
ILAR				LR	LR	01 34 28.9	
	comp=Z,43nm,22.0s,baz=326,slow=33						
PAX	**Paxson**	**86.09**	**27**	IAmb	IAmb	01 00 49.1	
	comp=Z,7.3nm,1.1s						
TGL	**Tana Glacier**	**87.30**	**29**	P	**P**	**01 00 50.6**	**-0.2**
BALM	**Baldy**	**87.53**	**29**	IAmb	IAmb	01 00 56.1	
	comp=Z,6.4nm,0.9s						
BARN	**Barnard Glacie**	**87.86**	**29**	P	**P**	**01 00 52.0**	**-1.6**
SYO	**Syowa Base**	**91.82**	**201**	⇑*e*X	**P**	**01 01 09.0**	**-2.6**
H02S1	**DAWSON INLET T**	**93.54**	**37**	T	T	02 45 15.2	
	SNR=18						
FINES	**FINESS Array B**	**93.76**	**332**	P	**P**	**01 01 19.7**	**-1.1**
	comp=Z,2.4nm,0.9s,baz=108,slow=8.9,SNR=2.4						
YKA	**Yellowknife Ar**	**99.98**	**25**	P	**Pdif**	**01 01 47.5**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=308,slow=5.0,SNR=3.4						
VNA2	**Neumayer--Watz**	**105.97**	**194**	PKiKP	**PKiKP**	**01 06 29.4**	**+1.9**
	baz=46,slow=2.1						
TXAR	**Lajitas Array**	**121.05**	**54**	PKP	**PKPdf**	**01 06 56.7**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=34,slow=2.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**124.91**	**288**	PKP	**PKPdf**	**01 07 03.5**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=88,slow=1.6,SNR=3.1						
ESPN	**Las Esperanzas**	**144.41**	**65**		PKPbc	01 07 39.7	-0.1

*JMA **04** 00:55:56.8±0.4, 24°.85N×122°.39E, h1^{km}±5^{km}, M2.5*
*ISCJB **04** 00:55:57.4±0.5, 24°.88N±0°.02×122°.40E±0°.02, h8^{km}±3^{km}, Error ellipse: s-maj=3.7km s-min=2.9km az=32.5*
*TAP **04** 00:55:58.0, 24°.86N×122°.33E, h9^{km}, ML3.0, D*
ISC 04 00:55:57.4±1.2**, 24°.86N**±0°.03×**122°.37E**±0°.03**, h8**^{km}±10^{km}**, n52, σ0ˢ.42**/91**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.38**	**293**	P	**Pb**	**00 56 05.7**	**-0.6**
	baz=295						
TWB1				S	**Sb**	**00 56 11.1**	**-1.2**
	baz=295						
EOS1	**EOS1**	**0.38**	**215**	P	**Pb**	**00 56 06.1**	**-0.3**
	baz=210						
EOS1				*e*S	**Sb**	**00 56 13.2**	**+0.8**
	baz=210						
EGS		**0.40**	**268**	*e*P	**Pg**	**00 56 05.7**	**+0.5**
	baz=266						
EGS				*e*S	**Sb**	**00 56 12.0**	**-0.9**
	baz=266						
NTC	**Toucheng**	**0.49**	**269**	*e*P	**Pb**	**00 56 07.7**	**-0.6**
	baz=269						
TIPB	**Shuangxi**	**0.51**	**283**	P	**Pb**	**00 56 08.3**	**-0.3**
	baz=283						
TIPB				*e*S	**Sb**	**00 56 15.8**	**-0.4**
	baz=283						
TWC	**Suao**	**0.54**	**242**	P	**Pb**	**00 56 08.6**	**-0.5**
	baz=239						
TWC				S	**Sb**	**00 56 15.9**	**-1.0**
	baz=239						
NWF	**Wu-fen Shan**	**0.57**	**291**	P	**Pb**	**00 56 09.3**	**-0.4**
	baz=292						
NWF				*e*S	**Sb**	**00 56 17.6**	**-0.5**
	baz=292						
WFSB	**Wu-fen Shan**	**0.57**	**291**	P	**Pb**	**00 56 09.6**	**-0.1**
	baz=292						
WFSB				*e*S	**Sb**	**00 56 17.6**	**-0.4**
	baz=292						
TWE	**Neicheng**	**0.65**	**258**	P	**Pb**	**00 56 10.9**	**-0.1**
	baz=256						
TWE				S	**Sb**	**00 56 20.2**	**-0.1**
	baz=256						
JYNG	**Yonagunijimaku**	**0.67**	**128**	P	**Pg**	**00 56 09.9**	**-0.3**
JYNG				S	**Sg**	**00 56 18.5**	**-0.4**
SLBB	**Yuanshan**	**0.68**	**261**	*e*P	**Pg**	**00 56 10.3**	**-0.1**
	baz=260						
NANB	**Nanao**	**0.71**	**233**	*i* P	**Pb**	**00 56 11.7**	**-0.3**
	baz=230						
NANB				*e*S	**Sb**	**00 56 21.9**	**0.0**
	baz=230						
ENA	**Nanau**	**0.72**	**233**	P	**Pb**	**00 56 12.0**	**-0.2**
	baz=230						
ENA				S	**Sb**	**00 56 22.0**	**-0.2**
	baz=230						
TWA	**Mucha**	**0.72**	**279**	*e*P	**Pb**	**00 56 12.4**	**+0.2**
	baz=279						
TWA				*e*S	**Sb**	**00 56 22.4**	**0.0**
	baz=279						
ENTT	**Nioudou**	**0.76**	**253**	P	**Pb**	**00 56 13.0**	**+0.1**
	baz=251						
ENTT				*e*S	**Sb**	**00 56 23.5**	**0.0**
	baz=251						
NHDH	**Xindian Distri**	**0.77**	**278**	P	**Pb**	**00 56 13.1**	**0.0**
	baz=277						
NHDH				S	**Sb**	**00 56 23.8**	**0.0**
	baz=277						
YM08	**YM08**	**0.78**	**295**	P	**Pb**	**00 56 13.0**	**-0.2**
	baz=295						
YM08				*e*S	**Sb**	**00 56 24.3**	**+0.4**
	baz=295						
YM01	**YM01**	**0.78**	**291**	P	**Pb**	**00 56 12.8**	**-0.4**
	baz=292						
YM01				*e*S	**Sb**	**00 56 23.5**	**-0.5**
	baz=292						
YM11	**YM11**	**0.78**	**293**	P	**Pb**	**00 56 13.1**	**-0.2**
	baz=293						
YM11				*e*S	**Sb**	**00 56 24.3**	**+0.2**
	baz=293						
YM05	**YM05**	**0.79**	**293**	P	**Pb**	**00 56 13.3**	**-0.2**
	baz=293						
YM05				*e*S	**Sb**	**00 56 24.2**	**-0.1**
	baz=293						
YM10	**YM10**	**0.79**	**292**	P	**Pb**	**00 56 13.5**	**+0.1**
	baz=292						
YM10				*e*S	**Sb**	**00 56 24.3**	**0.0**
	baz=292						
NWLT	**Wulai**	**0.79**	**264**	P	**Pb**	**00 56 13.1**	**-0.3**
	baz=263						
NWLT				S	**Sb**	**00 56 24.6**	**+0.2**
	baz=263						
PCYT	**Pengchaiyu**	**0.81**	**341**	*e*P	**Pg**	**00 56 12.9**	**-0.1**
	baz=343						
PCYT				*e*S	**Sb**	**00 56 25.6**	**+0.7**
	baz=343						
YM04	**YM04**	**0.81**	**291**	P	**Pb**	**00 56 13.5**	**-0.2**
	baz=291						
TWY	**Chenhua**	**0.81**	**301**	*e*P	**Pg**	**00 56 12.8**	**-0.2**
	baz=301						
TWY				*e*S	**Sg**	**00 56 24.2**	**+0.6**
	baz=301						
NDT	**Datong Townshi**	**0.82**	**252**	P	**Pb**	**00 56 14.1**	**+0.2**
	baz=250						
NDT				*e*S	**Sb**	**00 56 25.4**	**+0.3**
	baz=250						
ANP	**Anpu**	**0.84**	**293**	*e*P	**Pg**	**00 56 13.8**	**+0.3**
	baz=293						
ANP				*e*S	**Sb**	**00 56 25.0**	**-0.6**
	baz=293						
YHNB	**Yeheng**	**0.92**	**258**	*e*P	**Pg**	**00 56 15.2**	**0.0**
	baz=257						
YHNB				*e*S	**Sb**	**00 56 28.5**	**+0.3**
	baz=257						
NSK	**Sanguang**	**0.94**	**259**	P	**Pb**	**00 56 15.9**	**-0.1**
	baz=257						
NSK				*e*S	**Sb**	**00 56 29.0**	**+0.5**
	baz=257						
NACB	**Ninganchiao**	**0.98**	**226**	P	**Pb**	**00 56 16.6**	**-0.1**
	baz=224						
NACB				*e*S	**Sb**	**00 56 30.0**	**+0.2**
	baz=224						
NNSB	**Datong**	**1.00**	**245**	P	**Pb**	**00 56 16.8**	**-0.2**
	baz=243						
NNSB				S	**Sb**	**00 56 30.7**	**+0.4**
	baz=243						
NNSH	**Datong**	**1.00**	**244**	P	**Pb**	**00 56 17.1**	**+0.1**
	baz=243						
NNSH				*e*S	**Sb**	**00 56 31.1**	**+0.8**
	baz=243						
NNS	**Nan Shan**	**1.00**	**245**	P	**Pb**	**00 56 16.8**	**-0.3**
	baz=243						
NNS				S	**Sb**	**00 56 30.9**	**+0.5**
	baz=243						
ETLH	**Xiulin Townshi**	**1.04**	**231**	P	**Pb**	**00 56 17.7**	**0.0**
	baz=229						
ETLH				*e*S	**Sn**	**00 56 32.5**	**-0.6**
	baz=229						
TWD	**Chiawan**	**1.05**	**222**	P	**Pb**	**00 56 17.9**	**+0.1**
	baz=220						
TWD				S	**Sb**	**00 56 32.3**	**+0.5**
	baz=220						
WHF	**Hehuan Shan**	**1.23**	**235**	P	**Pn**	**00 56 21.6**	**+0.2**
	baz=233						
WHF				*e*S	**Sn**	**00 56 38.1**	**-0.2**
	baz=233						
TWT	**Tachien**	**1.25**	**241**	*e*P	**Pg**	**00 56 20.8**	**-0.5**
	baz=240						
TWT				*e*S	**Sn**	**00 56 38.4**	**+0.1**
	baz=240						
LIOB	**Emei**	**1.25**	**260**	*e*P	**Pg**	**00 56 20.5**	**-0.9**
	baz=259						
TDCB	**Techi**	**1.26**	**241**	*e*P	**Pn**	**00 56 22.1**	**+0.7**
	baz=240						
TDCB				*e*S	**Sn**	**00 56 38.4**	**-0.2**
	baz=240						
IRIF	**Iriomote-Funau**	**1.34**	**113**	P	**Pn**	**00 56 22.4**	**-0.1**
CHGB	**Renai**	**1.35**	**234**	*e*P	**Pb**	**00 56 23.6**	**+0.5**
	baz=232						
CHGB				*e*S	**Sb**	**00 56 40.7**	**0.0**
	baz=232						
WHP	**Taichung City**	**1.42**	**246**	*e*P	**Pb**	**00 56 24.0**	**-0.2**
	baz=245						
WHP				*e*S	**Sn**	**00 56 43.0**	**+0.5**
	baz=245						
HATJ	**Hateruma jima**	**1.53**	**121**	P	**Pn**	**00 56 25.9**	**+0.8**
VWDT	**VWDT**	**1.57**	**226**	P	**Pn**	**00 56 25.8**	**+0.2**
	baz=224						
VWDT				*e*S	**Sb**	**00 56 46.7**	**-0.1**
	baz=224						
HGSD	**Ruisui**	**1.61**	**213**	*e*P	**Pb**	**00 56 27.0**	**-0.5**
	baz=211						
JKRS	**Kuro-shima**	**1.62**	**112**	P	**Pb**	**00 56 27.3**	**-0.2**
SSLB	**Suanglung**	**1.68**	**231**	*e*P	**Pn**	**00 56 27.4**	**+0.3**
	baz=229						
TYC	**Yuchr**	**1.68**	**236**	*e*P	**Pn**	**00 56 27.4**	**+0.3**
	baz=234						
JIJ	**Ishigaki jima**	**1.69**	**107**	P	**Pn**	**00 56 27.8**	**+0.6**
YULB	**Yu-li**	**1.76**	**214**	*e*P	**Pn**	**00 56 28.1**	**-0.1**
	baz=212						
WHYT	**Xinyi Township**	**1.81**	**230**	*e*P	**Pn**	**00 56 28.9**	**0.0**
	baz=229						
WHYT				*e*S	**Sn**	**00 56 52.3**	**+0.3**
	baz=229						
CHN4	**Tsaushan**	**2.21**	**228**	*e*P	**Pn**	**00 56 34.5**	**+0.1**
	baz=226						

*ISCJB **04** 01:04:38.1±0.2, 6°.86S±0°.03×128°.01E±0°.03, h309^{km}, mb4.1/26, Error ellipse: s-maj=4.3km s-min=3.5km az=174.9*
*NEIC **04** 01:04:38.7±1.6, 6°.82S±0°.08×127°.95E±0°.07, h309^{km}±3^{km}, mb4.5/25*
*BJI **04** 01:04:38.2±0.0, 6°.71S×128°.44E, h293^{km}, mb4.4/20, mB4.6/17*
*IDC **04** 01:04:39.6±1.2, 6°.79S×128°.01E, h303^{km}±12^{km}, mb3.9/20, mb1 3.9/25, mb1mx3.7/44, mbtmp4.6/25, Error ellipse: s-maj=12.6km s-min=7.9km az=85.0*
*DJA **04** 01:04:40.0±0.3, 7°S±4°×12°8E±°, h294^{km}±6^{km}, M4.6/24, mB5.0/12, mb4.8/24, MLv5.0/19, Mw(mB)4.3/12, Mwp5.4/1*
ISC 04 01:04:39.6±0.3**, 6°.90S**±0°.04×**128°.02E**±0°.04**, h309**^{km}**, n116, σ2ˢ.18**/125**, mb4.3**/35**, 3C-1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.01**	**39**	P	**Pn**	**01 05 36.6**	**+0.4**
AAI	**Ambon**	**3.19**	**3**	P	**Pn**	**01 05 37.9**	**-0.1**
SAUI	**Saumlaki**	**3.42**	**109**	P	**Pn**	**01 05 42.5**	**+2.2**
SAUI	**Saumlaki**	**3.42**	**109**		**Pn**	**01 05 40.4**	**+0.1**
SAUI				S	**S**	**01 06 23.7**	**-5.1**
MSAI	**Masohi**	**3.64**	**14**	P	**Pn**	**01 05 41.7**	**-0.9**
NLAI	**Namlea**	**3.75**	**346**	P	**Pn**	**01 05 43.9**	**+0.2**
SOEI	**Soe**	**4.67**	**232**	P	**Pn**	**01 05 52.3**	**-1.7**
SOEI	**Soe**	**4.67**	**232**		**Pn**	**01 05 53.1**	**-0.9**
SOEI				S	**S**	**01 06 48.8**	**-4.9**
SANI	**Sanana**	**5.22**	**337**	P	**Pn**	**01 05 58.6**	**-1.6**
	250nm,0.8s,3µm1.0nm						
BATI	**Baumata**	**5.42**	**232**	P	**Pn**	**01 06 01.5**	**-0.9**
	422nm,0.3s,baz=99,slow=1.3,SNR=209						
BATI				S	**S**	**01 07 04.8**	**-4.3**
	125nm,0.3s,baz=118,slow=21,SNR=12						
BATI	**Baumata**	**5.42**	**232**	P	**Pn**	**01 06 01.0**	**-1.4**
	1µm,0.6s,11µm3.6nm						
BBSI	**Bau Bau**	**5.60**	**284**	P	**Pn**	**01 06 05.0**	**+0.5**
	60nm,1.3s,0.2nm						
MMRI	**Maumere**	**5.99**	**253**	P	**Pn**	**01 06 08.9**	**-0.2**
	300nm,0.5s,5µm1.4nm						
MMRI	**Maumere**	**5.99**	**253**		**Pn**	**01 06 07.0**	**-2.0**
MMRI				S	**S**	**01 07 19.7**	**-1.5**
MTN	**Manton Dam**	**6.66**	**153**		**Pn**	**01 06 17.2**	**+0.1**
MTN				S	**S**	**01 07 36.5**	**+0.7**
SIJI	**Sorong**	**6.81**	**29**	P	**Pn**	**01 06 16.2**	**-2.7**
	20nm,0.3s,baz=211,slow=0.6,SNR=70						
SIJI				S	**S**	**01 07 31.4**	**-7.8**
	18nm,0.3s,baz=211,slow=19,SNR=19						
SWI	**Sorong**	**6.81**	**28**	P	**Pn**	**01 06 16.6**	**-2.3**
	105nm,0.6s,1.4nm						
TNTI	**Ternate**	**7.65**	**355**	Pn	**Pn**	**01 06 25.4**	**-3.6**
LUWI	**Luwuk**	**7.83**	**318**	Pn	**Pn**	**01 06 28.9**	**-2.4**
BKSI	**Bulukumba**	**8.01**	**281**	P	**Pn**	**01 06 32.7**	**-0.8**
	40nm,0.8s,511nm0.1nm						
RKPI	**Ransiki, Papua**	**8.14**	**49**	P	**Pn**	**01 06 34.6**	**-0.5**
	170nm,0.6s,16µm2.1nm						
BNSI	**Bone**	**8.26**	**287**	P	**Pn**	**01 06 37.5**	**+1.0**
	81nm,0.8s,704nm7µm0.3nm						
KAPI	**Kappang**	**8.44**	**282**	P	**Pn**	**01 06 38.0**	**-0.7**
	baz=96,slow=5.2,SNR=5.6						
KAPI	**Kappang**	**8.44**	**282**		**Pn**	**01 06 37.1**	**-1.6**
SPSI	**Sidrap Palu**	**8.72**	**289**	P	**Pn**	**01 06 41.9**	**-0.2**
	36nm,1.0s,0.1nm						
KNRA	**Kununurra**	**8.76**	**175**		**Pn**	**01 06 42.4**	**-0.1**
MRSI	**Marisa**	**9.51**	**320**	P	**Pn**	**01 06 52.1**	**+0.3**
	59nm,0.8s						
BAKI	**Biak**	**9.86**	**55**	P	**P**	**01 07 02.1**	**+2.7**
PLAI	**Plampang**	**10.33**	**259**	P	**Pn**	**01 07 00.1**	**-1.7**
	91nm,0.8s,962nm						
FITZ	**Fitzroy Crossi**	**11.37**	**192**	P	**Pn**	**01 07 13.4**	**-1.1**
	10.0nm,0.3s,baz=14,slow=7.8,SNR=100						
FITZ				S	**S**	**01 09 19.6**	**-2.0**
	1.2nm,0.3s,baz=102,slow=22,SNR=5.0						
FITZ	**Fitzroy Crossi**	**11.37**	**192**		**Pn**	**01 07 13.9**	**-0.6**
SMPI	**Sarmi**	**11.72**	**66**	P	P	01 07 25.1	+5.0
JAY	**Jayapura**	**13.37**	**72**	P	**Pn**	**01 07 39.2**	**+0.6**
	2.0nm,0.3s,baz=269,slow=5.4,SNR=14						
JAY	**Jayapura**	**13.37**	**72**	P	**Pn**	**01 07 40.4**	**+1.8**
	44nm,0.9s,360nm						
JAGI	**Jajag, Banyuwa**	**13.83**	**263**	P	**P**	**01 07 41.6**	**-1.9**
KCP	**Kidapawan**	**14.12**	**348**	⇓P	**P**	**01 07 44.5**	**-2.2**
KCP				S	**S**	**01 10 20.5**	**-1.7**
WB0	**Warramunga Arr**	**14.21**	**155**		**P**	**01 07 47.5**	**-0.2**
WRAB	**Tennant Creek**	**14.34**	**155**	P	**P**	**01 07 49.0**	**0.0**
WRA	**Warramunga Arr**	**14.34**	**155**	P	**Pn**	**01 07 50.4**	**+0.2**
	6.2nm,0.3s,baz=336,slow=12,SNR=324						
WRA				S	**S**	**01 10 25.6**	**-0.9**
	1.0nm,0.3s,baz=331,slow=20,SNR=10						
WB2	**Warramunga Arr**	**14.35**	**155**	P	**Pn**	**01 07 49.9**	**-0.3**
WR0	**Warramunga Arr**	**14.44**	**155**	P	**Pn**	**01 07 51.1**	**-0.2**
WR0				S	**S**	**01 10 29.0**	**+0.5**
COEN	**Coen**	**16.46**	**116**	P	**P**	**01 08 13.3**	**+0.9**
PSA00	**Pilbara Seismi**	**16.59**	**208**	P	**P**	**01 08 14.2**	**+0.5**
UGM	**Wanagama**	**17.38**	**266**	P	**P**	**01 08 20.2**	**-2.2**
UGM				IAmb	IAmb	01 08 38.5	
	comp=Z,35nm,1.0s						
AS31	**Alice Springs**	**17.61**	**162**	P	**P**	**01 08 25.5**	**+0.9**
ASAR	**Alice Springs**	**17.61**	**162**	P	**Pn**	**01 08 26.8**	**-1.5**
	comp=Z,18nm,0.3s,baz=343,slow=11,SNR=1412						
ASAR				S	**S**	**01 11 33.3**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=340,slow=20,SNR=10						
ASAR				ScP	**ScP**	**01 15 53.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=358,slow=1.8,SNR=4.9						
PMG	**Port Moresby**	**19.11**	**99**	P	**P**	**01 08 43.3**	**+2.5**
	comp=Z,2.6nm,0.3s,baz=260,slow=4.9,SNR=6.5						
PMG	**Port Moresby**	**19.11**	**99**	P	**P**	**01 08 41.4**	**+0.6**
PMG				IAmb	IAmb	01 08 45.4	
	comp=Z,22nm,0.8s						
MANU	**Manus Island**	**19.88**	**77**	P	**P**	**01 08 48.0**	**-1.0**
MANU				IAmb	IAmb	01 08 53.3	
	comp=Z,31nm,0.9s						
LEM	**Lembang**	**20.26**	**269**	P	**P**	**01 08 54.5**	**+1.4**
	comp=Z,39nm,0.6s,baz=30,slow=16,SNR=3.7						
GIRL	**Giralia**	**20.53**	**219**	P	**P**	**01 08 55.5**	**+0.1**
CNJI	**Cibinong**	**20.74**	**268**	P	**P**	**01 08 57.2**	**-0.3**
	comp=Z,184nm,1.1s						
FORT	**Forrest**	**23.76**	**180**	P	**P**	**01 09 25.6**	**+0.7**
MORW	**Morawa**	**24.78**	**206**	P	**P**	**01 09 34.3**	**+0.1**
MORW				IAmb	IAmb	01 09 38.1	
	comp=Z,20nm,0.6s						
BBOO	**Buckleboo**	**26.84**	**165**	P	**P**	**01 09 52.1**	**-0.5**
BBOO				IAmb	IAmb	01 09 54.9	
	comp=Z,16nm,0.7s						
NWAO	**Narrogin (SRO)**	**27.77**	**200**	P	**P**	**01 10 01.6**	**+0.8**
	comp=Z,23nm,0.5s,baz=39,slow=7.7,SNR=17						
NWAO	**Narrogin (SRO)**	**27.77**	**200**	P	**P**	**01 10 00.4**	**-0.4**
STKA	**Stephens Creek**	**27.90**	**155**	P	**P**	**01 10 03.5**	**+1.6**
	comp=Z,12nm,0.7s,baz=324,slow=9.0,SNR=25						
STKA	**Stephens Creek**	**27.90**	**155**	P	**P**	**01 10 02.2**	**+0.4**
RPSI	**Rantau Prapat**	**30.57**	**287**	P	**P**	**01 10 23.4**	**-2.2**
RPSI				IAmb	IAmb	01 10 27.7	
	comp=Z,17nm,0.8s						
JOW	**Kunigami**	**33.53**	**0**	P	**P**	**01 10 49.8**	**-1.3**
JOW				IAmb	IAmb	01 10 52.0	
	comp=Z,17nm,0.7s						
JCJ	**Chichijima**	**36.47**	**22**	P	**P**	**01 11 14.4**	**-1.6**
	comp=Z,28nm,0.5s,baz=286,slow=22,SNR=9.8						
CMAR	**Chiang Mai Arr**	**38.18**	**312**	P	P	01 11 35.2	+4.8
	comp=Z,2.1nm,0.5s,baz=143,slow=6.5,SNR=8.8						
WHN	**Wuhan**	**39.47**	**341**	P	P	01 11 33.0	-7.8
NJ2	**Nanjing**	**39.71**	**348**	*e*P	**P**	**01 11 46.2**	**+3.4**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
KSRS	**Korea Array**	**44.12**	**360**	P	**P**	**01 12 18.6**	**+0.4**
	comp=Z,7.6nm,0.6s,baz=177,slow=10.0,SNR=36						
KS19	**Wonju Array Si**	**44.17**	**360**	P	**P**	**01 12 17.1**	**-1.4**
KS19				IAmb	IAmb	01 12 19.6	
	comp=Z,9.9nm,0.8s						
CD2	**Chengdu**	**44.19**	**330**	P	**P**	**01 12 20.3**	**+1.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
MJAR	**Matsushiro Arr**	**44.26**	**12**	P	**P**	**01 12 17.2**	**-2.1**
	comp=Z,4.7nm,0.6s,baz=187,slow=8.8,SNR=10						
LZH	**Lanzhou**	**48.42**	**334**	⇑P	**P**	**01 12 55.6**	**+4.0**
LZH				pP	pwP	01 13 57.3	-2.0
LZH				sP	sP	01 14 29.5	+0.5
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,83nm,6.0s						
HHC	**Hu-ho-hao-te**	**49.87**	**344**	P	**P**	**01 13 06.4**	**+4.0**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CN2	**Changchun**	**50.52**	**358**	*e*P	P	01 13 13.8	+6.8
USA0B	**Ussuriysk Arra**	**50.99**	**4**	P	**P**	**01 13 09.2**	**-1.2**
USRK	**Ussuriysk Ar.**	**50.99**	**4**	P	**P**	**01 13 10.7**	**+0.2**
	comp=Z,3.7nm,0.5s,baz=183,slow=7.8,SNR=20						
TAPN	**Taplejung**	**51.77**	**313**	*e*P	**P**	**01 13 20.1**	**+3.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,13nm,0.4s						
RAMN	Ramite	52.35	312	eP	P	01 13 25.3	+4.1
	comp=Z,32nm,0.6s						
ASAJ	Asahikawa	52.46	13	P	P	01 13 21.4	+0.1
	comp=Z,6.6nm,0.5s,baz=248,slow=12,SNR=5.1						
HIZ	Hauiti	52.64	134	P	P	01 13 21.1	-1.7
HIZ				IAmb	IAmb	01 13 36.7	
	comp=Z,30nm,1.0s						
GTA	Gaotai	52.96	333	⇑P	P	01 13 25.7	+0.5
GTA				pP	pwP	01 14 33.1	-0.7
GTA				sP	sP	01 15 01.9	-1.8
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
JIRN	Jiri	53.05	312	eP	P	01 13 30.0	+3.6
	comp=Z,6.8nm,0.3s						
GUN	Gumba	53.42	312	eP	P	01 13 32.6	+3.6
	comp=Z,19nm,0.5s						
KHZ	Kahutara	53.46	139	P	P	01 13 28.2	-0.5
KHZ				IAmb	IAmb	01 13 39.1	
	comp=Z,15nm,1.0s						
PKI	Pulchoki	53.58	312	eP	P	01 13 34.6	+4.4
	comp=Z,17nm,0.4s						
PKIN	Phulchoki	53.59	312	eP	P	01 13 34.5	+4.3
	comp=Z,9.2nm,0.4s						
BKZ	Black Stump Fm	54.07	134	P	P	01 13 33.9	+0.6
KOLN	Koldanda	55.04	311	eP	P	01 13 44.5	+4.0
	comp=Z,9.2nm,0.4s						
DANN	Dangsing	55.23	312	eP	P	01 13 45.5	+3.6
	comp=Z,11nm,0.6s						
KLR	Kul'dur	55.99	3	P	P	01 13 46.3	-0.2
	comp=Z,0.7nm,0.3s,baz=191,slow=10,SNR=4.3						
SONM	Songino Array	57.74	343	P	P	01 13 59.5	+0.6
	comp=Z,1.8nm,0.7s,baz=162,slow=7.4,SNR=11						
WMQ	Urumqi	62.25	328	eP	P	01 14 32.7	+3.3
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,180nm,5.3s						
WMQ				LR	LR		
	comp=Z,660nm,29.1s						
WMQ				LR	LR		
	comp=Z,2µm,28.9s						
WMQ				LR	LR		
	comp=Z,120nm,25.5s						
PEA0B	Petropavlovsk-	64.86	19	P	P	01 14 45.2	-0.9
PEA0B				IAmb	IAmb	01 14 57.7	
	comp=Z,5.8nm,0.8s						
PETK	Petropavlovsk-	64.86	19	P	P	01 14 46.3	+0.2
	comp=Z,6.2nm,0.6s,baz=185,slow=3.2,SNR=13						
KSH	Kashi	66.63	318	P	P	01 15 03.0	+5.3
KSH				PP	PP	01 17 35.6	+6.5
KSH				S	S	01 23 30.2	+6.3
KSH				pmax	pmax		
	comp=Z,320nm,4.2s						
MK31	Makanchi Array	67.08	328	P	P	01 14 59.6	-0.7
MK31				IAmb	IAmb	01 15 11.5	
	comp=Z,4.6nm,1.1s						
MKAR	Makanchi Array	67.08	328	P	P	01 15 00.7	+0.4
	comp=Z,1.0nm,0.5s,baz=115,slow=7.8,SNR=14						
YAK	Yakutsk	68.73	1	P	P	01 15 08.4	-1.7
	comp=Z,7.9nm,0.4s,baz=226,slow=4.4,SNR=3.8						
GAR	Garm	70.21	316	P	P	01 15 18.1	-1.7
ZALV	Zalesovo Beam	70.64	335	P	P	01 15 20.7	-1.2
	comp=Z,0.8nm,0.4s,baz=140,slow=3.0,SNR=6.7						
KURBB	Kurchatov Arra	71.41	329	P	P	01 15 26.7	+0.2
	comp=Z,1.0nm,0.4s,baz=129,slow=4.9,SNR=1.7						
KURK	Kurchatov	71.42	329	P	P	01 15 24.5	-2.1
MAW	Mawson	74.33	201	P	P	01 15 44.7	+1.4
	comp=Z,2.7nm,0.8s,baz=113,slow=7.7,SNR=3.6						
MAW	Mawson	74.33	201	P	P	01 15 43.7	+0.4
BVAR	Borovoye Array	76.94	328	P	P	01 15 58.9	+0.6
	comp=Z,0.3nm,0.4s,baz=86,slow=5.9,SNR=5.4						
TIXI	Tiksi	78.39	0	P	P	01 16 05.2	-0.6
	comp=Z,3.5nm,0.4s,baz=180,slow=24,SNR=6.8						
TIXI	Tiksi	78.39	0	P	P	01 16 03.8	-2.0
TIXI				IAmb	IAmb	01 16 06.5	
	comp=Z,4.6nm,0.6s						
AKTO	Aktyubinsk	82.80	323	P	P	01 16 30.3	+0.7
	comp=Z,0.4nm,0.3s,baz=101,slow=10,SNR=2.7						
SYO	Syowa Base	83.05	201	⇑eP	P	01 16 30.0	-0.5
RAYN	Ar Rayn	85.91	294	P	P	01 16 44.9	-0.8
ILAR	Eielson Array	94.09	25	P	P	01 17 21.5	-1.5
	comp=Z,0.3nm,0.8s,baz=337,slow=2.1,SNR=3.5						
CLL	Collm	110.88	322	ePP	PP	01 23 24.0	+4.9
TORD	Torodi Ar. Bea	126.86	281	PKP	PKPdf	01 23 07.6	-0.2
	comp=Z,0.5nm,0.5s,baz=86,slow=1.5,SNR=7.6						
PLCA	Paso Flores	129.62	162	PKP	PKiKP	01 23 12.9	-0.4
	comp=Z,0.9nm,0.7s,baz=232,slow=6.3,SNR=1.9						
PLCA	Paso Flores	129.62	162		PKPdf	01 23 12.6	0.0
CPUP	Villa Florida	146.56	171	PKPbc	PKPbc	01 23 45.9	+0.3
	comp=Z,2.4nm,0.7s,baz=72,slow=2.0,SNR=5.4						
CPUP	Villa Florida	146.56	171		PKPbc	01 23 44.8	-0.8
ESPN	Las Esperanzas	147.71	78		PKPdf	01 23 44.4	-1.5

*IDC **04** 01:29:50.3±3.0, 36°.25N×71°.39E, h54km±26km, mb3.6/16, mb1 3.8/22, mb1mx3.6/52, mbtmp3.9/22, ML3.9/6, Error ellipse: s-maj=21.9km s-min=13.1km az=168.0*

*BJI **04** 01:29:51.1±0.0, 36°.42N×71°.14E, h80km, mb3.9/6, mB4.3/4, Ms3.6/1, Ms7 3.4/1*

*NNC **04** 01:29:53.6±2.7, 36°.87N×70°.89E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=25.6km s-min=13.1km az=156.0*

*ISCJB **04** 01:29:54.3±0.2, 36°.46N±0°.02×71°.42E±0°.04, h114km, mb3.7/16, Error ellipse: s-maj=4.4km s-min=2.6km az=159.5*

*NEIC **04** 01:29:55.5±1.5, 36°.51N±0°.05×71°.30E±0°.07, h105km±7km, mb4.1/14*

ISC 04 01:29:55.5±0.4**, 36°.48N**±0°.04×**71°.29E**±0°.04**, h114**km**, n93, σ2s.67**/109**, mb3.8**/18**, 8C-6D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GAR	Garm	2.63	343	Pn	Pn	01 30 36.1	-0.7
GAR				Sn	Sn	01 31 07.6	-1.0
KBL	Kabul	2.66	224		Pn	01 30 38.5	+1.1
KBL				Sn	Sn	01 31 09.3	-0.3
CEP	Cherat	2.70	169	P	Pn	01 30 38.5	+0.6
CEP				S	Sn	01 31 11.0	+0.6
CHGR	Chuyangaron	2.75	323		Pn	01 30 38.5	+0.1
CHGR				Sn	Sn	01 31 10.5	-1.0
CHCP	Chirah Chowk	3.25	149	P	Pn	01 30 45.9	+0.9
NIL	Nilore	3.25	150		Pn	01 30 45.9	+0.8
NIL				Sn	Sn	01 31 23.1	-0.1
BTK	Batken	3.59	354		Pn	01 30 49.6	+0.1
THW	Thamme Wali	3.70	174	P	Pn	01 30 51.8	+0.9
KSH	Kashi	4.78	49	P	Pn	01 31 01.7	-3.8
KSH				S	Sn	01 31 47.7	-12
KSH				smax	smax		
	comp=N,810nm,0.5s						
KSH				smax	smax		
	comp=E,520nm,0.3s						
ARSB	Arslanbob	5.01	15		Pn	01 31 08.7	0.0
THN	Thein Dam	5.45	137	eP	Pn	01 31 14.5	+0.1
THN				eS	Sn	01 32 12.5	-3.4
DHRM	DHARAMSHALA	5.92	134	eP	Pn	01 31 19.6	-1.4
DHRM				eS	Sn	01 32 23.8	-3.7
DHRM				IAML		01 32 25.6	
	comp=N,256nm,0.2s						
DHRM				IAML		01 32 26.7	
	comp=E,357nm,0.3s						
AML	Almayashu	5.94	18	P	Pn	01 31 22.2	+0.7
	SNR=44						
NRN	Naryn	6.16	35		Pn	01 31 23.5	-0.8
UCH	Uchtor	6.26	23	P	Pn	01 31 26.9	+1.2
	SNR=16						
EKS2	Erkin-Say	6.46	17	P	Pn	01 31 30.0	+1.8
	SNR=8.6						
BHK	Bhakra	6.61	138	eP	Pn	01 31 29.0	-1.2
BHK				eS	Sn	01 32 43.2	-0.9
AAK	Ala-Archa	6.63	21	P	Pn	01 31 28.6	-1.9
	comp=E,3.3nm,0.3s,baz=174,slow=6.1,SNR=46						
AAK				S	Sn	01 32 42.7	-1.9
	comp=E,2.3nm,0.3s,baz=173,slow=23,SNR=6.8						
AAK	Ala-Archa	6.63	21	P	Pn	01 31 31.1	+0.6
	SNR=19						
AAK	Ala-Archa	6.63	21		Pn	01 31 30.2	-0.2
AAK	Ala-Archa	6.63	21	⇑P	Pn	01 31 31.2	+0.6
	comp=E,12nm,0.7s						
AAK				⇑S	Sn	01 32 42.2	-2.5
	comp=E,18nm,0.6s						
KK31	Karatay Array	6.64	355		Pn	01 31 30.6	+0.1
KK31	Karatay Array	6.64	355	⇓P	Pn	01 31 26.9	-3.6
	comp=E,10nm,0.3s,baz=179,slow=12,SNR=328						
KK31				⇓S	Sn	01 32 42.2	-2.5
	comp=E,9.1nm,0.5s,baz=178,slow=21,SNR=5.2						
KKAR	Karatay Array	6.64	355		Pn	01 31 30.8	+0.3
KBK	Karagaybulak	6.78	24	P	Pn	01 31 35.5	+2.9
	SNR=7.3						
ULHL	Ulahol	6.92	32	P	Pn	01 31 35.9	+1.4
	SNR=6.0						
BOOM	Boomskoye usch	7.00	30		Pn	01 31 35.7	+0.2
CHMS	Chumysh	7.04	21	P	Pn	01 31 36.4	+0.5
	SNR=6.6						
USP	Ospenovka	7.21	19	P	Pn	01 31 38.5	+0.2
	SNR=6.6						
TKM2	Tokmak 2	7.24	26	P	Pn	01 31 39.8	+1.0
	SNR=6.6						
TKM2	Tokmak 2	7.24	26	⇓P	Pn	01 31 39.5	+0.7
	comp=E,11nm,0.9s						
TKM2				⇑S	Sn	01 32 57.9	-1.6
	comp=E,4.1nm,0.6s						
SMLA	Simla	7.24	136	eP	Pn	01 31 36.7	-2.0
SMLA				eS	Sn	01 32 53.4	-6.0
SMLA				IAML		01 32 57.4	
	comp=E,117nm,0.7s						
SMLA				IAML		01 32 58.1	
	comp=N,156nm,0.3s						
TARG	Taragay, Kyrgy	7.29	42		Pn	01 31 39.5	-0.2
JOSI	Joshimath	9.09	128	eP	Pn	01 32 02.9	-1.1
JOSI				eS	Sn	01 33 37.5	-7.0
JOSI				IAML		01 33 41.8	
	comp=E,743nm,0.3s						
JOSI				IAML		01 33 42.9	
	comp=N,856nm,0.5s						
NDI	New Delhi	9.24	146	ex	Sn	01 33 41.0	-7.0
PDGK	Podgornoye	9.30	40	⇑P	Pn	01 32 06.2	-0.4
	comp=N,4.4nm,0.8s						
PDGK				⇑S	Sn	01 33 54.6	+5.3
	comp=N,8.4nm,1.4s						
KUDL	Kundal	9.40	151	eP	Pn	01 32 03.0	-5.0
KUDL				eS	Sn	01 33 40.4	-12
GEYT	Alibeck	10.60	282	P	Pn	01 32 21.5	-2.7
	comp=N,3.2nm,0.3s,baz=113,slow=13,SNR=60						
GEYT				S	Sn	01 34 16.6	-4.3
	comp=N,3.4nm,0.3s,baz=118,slow=18,SNR=9.1						
GYA0B	ALIBECK ARRAY	10.60	282		Pn	01 32 22.9	-1.3
GYA0B	ALIBECK ARRAY	10.60	282	⇓P	Pn	01 32 21.8	-2.4
GYA0B				⇓S	Sn	01 34 15.7	-5.3
MK31	Makanchi Array	13.17	35	Pn	Pn	01 32 57.9	-0.2
MKAR	Makanchi Array	13.17	35	P	Pn	01 32 58.0	-0.1
	comp=N,0.1nm,0.3s,baz=218,slow=14,SNR=5.2						
DANN	Dangsing	13.29	124	eP	Pn	01 32 55.5	-4.4
	comp=N,29nm,0.2s						
KOLN	Koldanda	13.57	126	eP	Pn	01 32 59.4	-4.1
	comp=N,27nm,0.4s						
GKN	Gorkha	14.10	123	eP	Pn	01 33 06.3	-4.0
	comp=N,48nm,0.2s						
BHPL	Bhopal	14.22	156	eS	Sn	01 35 37.1	-12
BHPL				eS	Sn	01 35 37.3	-11
DMN	Daman	14.67	123	eP	Pn	01 33 13.7	-4.0
	comp=N,27nm,0.4s						
KKN	Kakani	14.67	122	eP	Pn	01 33 12.8	-4.9
	comp=N,31nm,0.5s						
PKIN	Phulchoki	14.89	123	eP	Pn	01 33 16.0	-4.4
	comp=N,18nm,0.4s						
PKI	Pulchoki	14.90	123	eP	Pn	01 33 16.2	-4.5
	comp=N,18nm,0.3s						
GUN	Gumba	15.01	121	eP	Pn	01 33 17.4	-4.7
	comp=N,17nm,0.3s						
KURBB	Kurchatov Arra	15.07	18	P	P	01 33 23.8	-1.0
	comp=N,0.1nm,0.3s,baz=206,slow=11,SNR=17						
KURK	Kurchatov	15.18	18	Pn	Pn	01 33 22.9	-0.7
KURK				IAmb	IAmb	01 33 28.4	
	comp=Z,5.8nm,0.9s						
AB31	Akbulak array	15.21	331	⇑P	Pn	01 33 23.0	-1.1
	comp=Z,2.6nm,0.3s						
AB31				⇑S	Sn	01 36 06.9	-5.3
	comp=Z,1.7nm,0.5s,baz=134,slow=31,SNR=5.5						
ABKAR	Akbulak array	15.21	331		Pn	01 33 23.0	-1.0
ABKAR				IAmb	IAmb	01 33 24.5	
	comp=Z,7.8nm,0.4s						
JIRN	Jiri	15.38	121	eP	Pn	01 33 22.3	-4.4
	comp=Z,48nm,0.3s						
RAMN	Ramite	16.11	122	eP	Pn	01 33 31.4	-4.3
	comp=Z,16nm,0.4s						
BVAR	Borovoye Array	16.55	358	P	Pn	01 33 40.6	-0.1
	comp=Z,0.4nm,0.3s,baz=168,slow=11,SNR=11						
BRVK	Borovoye	16.59	358		Pn	01 33 41.2	+0.1
TAPN	Taplejung	16.64	119	eP	Pn	01 33 38.4	-3.8
	comp=Z,18nm,0.4s						
AKTO	Aktyubinsk	16.91	330	P	P	01 33 45.9	+0.6
	comp=Z,1.8nm,0.3s,baz=129,slow=9.1,SNR=33						
AKTO				S	Sn	01 36 43.6	-9.5
	comp=Z,0.2nm,0.3s,baz=198,slow=20,SNR=3.9						
AKTO	Aktyubinsk	16.91	330	⇑P	P	01 33 45.8	+0.6
	comp=Z,9.1nm,1.0s						
AKTO				⇓S	Sn	01 36 48.3	-4.7
	comp=Z,7.5nm,1.2s						
ZAA0	Zalesovo Array	19.84	24	P	P	01 34 17.8	+0.7
ZAA0				IAmb	IAmb	01 34 18.7	
	comp=Z,12nm,1.0s						
ZALV	Zalesovo Beam	19.84	24	P	P	01 34 17.7	+0.6
	comp=Z,7.1nm,0.4s,baz=222,slow=10,SNR=36						
GNI	Garni	21.12	288	P	P	01 34 33.2	+2.0
	comp=Z,14nm,1.1s,baz=28,slow=17,SNR=2.5						
GNI	Garni	21.12	288	P	P	01 34 31.3	+0.1
GNI				IAmb	IAmb	01 34 44.2	
	comp=Z,19nm,1.1s						
GTA	Gaotai	22.65	74	eP	P	01 34 49.9	+2.7
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,46nm,5.9s						
GTA				LR	LR		
	comp=Z,72nm,14.9s						
GTA				LR	LR		
	comp=Z,110nm,15.2s						
GTA				LR	LR		
	comp=Z,89nm,14.3s						
KBZ	Khabaz	22.81	297	P	P	01 34 51.8	+3.3
	comp=Z,1.8nm,0.8s,baz=139,slow=5.3,SNR=4.2						
RAYN	Ar Rayn	25.70	247	P	P	01 35 15.1	-0.1
SONM	Songino Array	28.16	55	P	P	01 35 37.8	+0.7
	comp=Z,0.3nm,0.6s,baz=245,slow=9.4,SNR=2.8						
KMI	Kunming	29.17	104	P	P	01 35 46.3	-0.1
AKASG	Malin Array Be	33.14	309	P	P	01 36 23.6	+2.9
	comp=Z,3.3nm,0.8s,baz=81,slow=7.2,SNR=7.9						
FINES	FINESS Array B	37.63	326	P	P	01 37 02.2	+3.3
	comp=Z,4.9nm,0.8s,baz=118,slow=8.1,SNR=13						
QIZ	Qiongzhong	37.99	107	P	P	01 37 03.6	+1.1
ARE0	ARCESS Array S	41.25	338	P	P	01 37 29.6	+0.7
NC405	NORSAR Array S	44.30	323	P	P	01 37 54.9	+1.3
NC602	NORSAR Array S	44.35	323	P	P	01 37 55.2	+1.2
NC602				IAmb	IAmb	01 38 00.0	
	comp=Z,6.5nm,1.1s						
NB201	NORSAR Array S	44.50	323	P	P	01 37 55.3	+0.1
NB201				IAmb	IAmb	01 37 58.0	
	comp=Z,3.4nm,0.8s						
NB2	NORSAR Subarra	44.53	323	P	P	01 37 58.3	+2.8
	comp=Z,1.8nm,0.5s,baz=97,slow=7.9						
NOA	NORSAR Array B	44.53	323	P	P	01 37 58.3	+2.8
	comp=Z,2.4nm,0.6s,baz=96,slow=7.8,SNR=16						
KSRS	Korea Array	44.67	71	P	P	01 37 58.6	+1.8
	comp=Z,4.0nm,1.0s,baz=254,slow=12,SNR=7.6						
KONO	Kongsberg	45.24	321	P	P	01 38 01.6	+0.5
ESDC	Sonseca Array	57.67	298	P	P	01 39 36.9	+2.8
	comp=Z,0.1nm,0.4s,baz=128,slow=19,SNR=2.9						
TORD	Torodi Ar. Bea	65.95	269	P	P	01 40 30.4	+0.7
	comp=Z,0.5nm,0.4s,baz=42,slow=5.0,SNR=15						
INK	Inuvik	73.89	9	P	P	01 41 19.6	+2.2
	comp=Z,0.5nm,0.5s,baz=310,slow=4.4,SNR=5.3						
INK	Inuvik	73.89	9	P	P	01 41 19.1	+1.7
INK				IAmb	IAmb	01 41 23.4	
	comp=Z,1.9nm,1.1s						
ILAR	Eielson Array	74.73	16	P	P	01 41 24.5	+2.0
	comp=Z,0.2nm,0.7s,baz=307,slow=5.3,SNR=3.9						
BOSA	Boshof	77.88	220	P	P	01 41 42.2	+1.4
	comp=Z,0.8nm,0.5s,baz=18,slow=9.6,SNR=3.0						
BOSA	Boshof	77.88	220	P	P	01 41 41.4	+0.6
BOSA				IAmb	IAmb	01 41 42.7	
	comp=Z,2.2nm,1.1s						
YKA	Yellowknife Ar	81.25	3	P	P	01 42 00.8	+2.3
	comp=Z,0.3nm,0.3s,baz=356,slow=9.1,SNR=4.1						
WRA	Warramunga Arr	81.79	122	P	P	01 42 01.8	-0.1
	comp=Z,0.6nm,0.9s,baz=319,slow=3.9,SNR=4.6						
ASAR	Alice Springs	84.06	125	P	P	01 42 13.9	+0.3
	comp=Z,0.3nm,0.7s,baz=308,slow=4.6,SNR=3.4						
TXAR	Lajitas Array	114.36	355	PKP	PKPdf	01 48 26.4	+4.2
	comp=Z,0.2nm,0.7s,baz=29,slow=2.1,SNR=3.3						

*ISCJB **04** 01:49:30.4±0.4, 77°.56N±0°.03×7°.8E±0°.2, h10km, mb3.5/12, MS3.4/14, Error ellipse: s-maj=5.1km s-min=4.5km az=152.0*

*NEIC **04** 01:49:32.8±1.5, 77°.50N±0°.07×7°.3E±0°.2, h10km±1km, mb4.5/7*

*IDC **04** 01:49:33.0±0.7, 77°.49N×7°.50E, h0km, mb3.6/12, mb1 3.8/17, mb1mx3.7/40, mbtmp3.7/17, ML3.4/4, MS3.4/20, Ms1 3.4/20, ms1mx3.2/43, Error ellipse: s-maj=13.3km s-min=11.6km az=166.0*

*BER **04** 01:49:33.3±3.0, 77°.43N×7°.59E, h16km±14km, ML2.6, ML3.5(NAO), Confirmed Earthquake*

*NAO **04** 01:49:34.5±2.5, 77°.53N×8°.87E, h5km±17km, ML3.5*

*IEPN **04** 01:49:36.0, 77°.37N×8°.76E, h15km*

ISC 04 01:49:32.7±0.5**, 77°.59N**±0°.04×**7°.80E**±0°.04**, h10**km**, n72, σ2s.31**/84**, mb3.6**/13**, MS3.4**/14**, 4C, Svalbard region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRBB	Barentsburg B	1.45	66	Pg	Pb	01 49 59.2	-0.5
BRBB				Lg	Lg	01 50 15.9	
BRBB	Barentsburg B	1.45	66	Pg	Pb	01 49 59.2	-0.5
BRBB				S	Sn	01 50 15.9	-2.0
KBS	Kingsbay	1.59	30	Pg	Pb	01 50 01.3	-0.8
KBS				Lg	Lg	01 50 19.7	
KBS	Kingsbay	1.59	30	eP	Pb	01 50 01.5	-0.6
KBS				eS	Sn	01 50 19.9	-1.4
KBS	Kingsbay	1.59	30	eP	Pb	01 50 01.3	-0.8
KBS				eS	Sn	01 50 20.3	-1.1
KBS				IAML		01 50 24.2	
	comp=Z,88nm,0.3s						
KBS	Kingsbay	1.59	30	Pn	Pg	01 50 01.9	-1.2
KBS				Sn	Sg	01 50 22.4	-1.3
HSPB	Hornsund (broa	1.81	105	Pg	Pn	01 50 02.9	-0.9
HSPB				Lg	Lg	01 50 22.7	
HSPB	Hornsund (broa	1.81	105	⇑iP	Pn	01 50 02.9	-0.9
HSPB				eS	Sn	01 50 22.6	-4.2
HSPB	Hornsund (broa	1.81	105	ePg	Pn	01 50 03.0	-0.9
HSPB				ePg	Pn	01 50 03.0	-0.9
HSPB				eSg	Sn	01 50 23.1	-3.7
HSPB				eSg	Sn	01 50 23.1	-3.7
HSPB	Hornsund (broa	1.81	105	ePg	Pn	01 50 03.1	-0.8
HSPB				IAML		01 50 26.3	
	comp=Z,58nm,0.3s						
SPA0	Spitsbergen Ar	1.90	68	Pg	Pb	01 50 06.5	-1.0
	baz=244,slow=14						
SPA0				Lg	Lg	01 50 29.8	
	baz=246,slow=37						
SPA0	Spitsbergen Ar	1.90	68	⇑iP	Pb	01 50 06.8	-0.7
SPA0				i S	Sn	01 50 29.3	+0.2
SPA0	Spitsbergen Ar	1.90	68	⇑iP	Pb	01 50 06.8	-0.7
SPA0				eS	Sn	01 50 29.3	+0.2
SPA0	Spitsbergen Ar	1.90	68		Pb	01 50 07.0	-0.5
SPA0				Sn	Sb	01 50 30.7	-0.5
SPITS	Spitsbergen Ar	1.90	68	Pn	Pb	01 50 06.7	-0.7
	baz=238,slow=13,SNR=2613						
SPITS				Sn	Sb	01 50 31.2	0.0
	baz=225,slow=10,SNR=6.2						
SPITS				LR	LR	01 50 45.2	
	comp=Z,301nm,18.1s,baz=315,slow=36						
HOPEN	Hopen	4.01	97	Pn	Pn	01 50 34.4	+0.2
HOPEN				Sn	Sn	01 51 17.4	-3.7
HOPEN	Hopen	4.01	97	eP	Pn	01 50 34.5	+0.4
HOPEN				eS	Sn	01 51 17.5	-3.7
HOPEN	Hopen	4.01	97	eP	Pn	01 50 34.2	+0.1
HOPEN				eS	Sn	01 51 16.8	-4.4
HOPEN				IAML		01 51 33.2	
	comp=Z,43nm,0.5s						
BJO1	Bjornoya	4.12	133	eP	Pn	01 50 34.3	-1.2
BJO1				eS	Sn	01 51 16.0	-7.6
DAG	Danmarks Havn	5.91	275	i P	Pn	01 50 58.0	-2.1
DAG				i S	Sn	01 51 57.9	-10
DAG	Danmarks Havn	5.91	275	e	Pn	01 50 57.1	-3.0
	baz=67,slow=18						
DAG				i P	Pn	01 50 58.0	-2.1
DAG				i P	Pn	01 50 58.2	-2.0
DAG				i S	Sn	01 51 57.9	-10
DAG				IAML		01 52 02.9	
	comp=Z,29nm,0.3s						
NOR	Nord	5.92	324	⇑iP	Pn	01 50 59.4	-0.9
NOR				eS	Sn	01 52 04.3	-3.8
NOR				IAML		01 52 06.5	
	comp=Z,10nm,0.5s						
ZFI2	Zemlya Franca-	7.98	48	eP	Pn	01 51 29.5	+1.1
ZFI2				eS	Sn	01 52 54.4	-4.1
	comp=Z,14nm,1.1s						
ARA0	ARCESS Array S	9.46	139	Pn	Pn	01 51 47.2	-1.5
	baz=334,slow=12						
ARA0				Sn	Sn	01 53 23.5	-11
	baz=340,slow=22						
ARA0	ARCESS Array S	9.46	139	Pn	Pn	01 51 47.2	-1.5
	baz=334,slow=12						
ARA0				Sn	Sn	01 53 23.5	-11
	baz=340,slow=22						
ARCES	ARCESS Array B	9.46	139	Pn	Pn	01 51 47.2	-1.5
	comp=Z,0.7nm,0.3s,baz=330,slow=12,SNR=10.0						
ARCES				Sn	Sn	01 53 26.5	-8.4
	comp=Z,0.6nm,0.3s,baz=334,slow=12,SNR=3.8						
ARCES				LR	LR	01 55 10.2	
	comp=Z,212nm,21.3s,baz=280,slow=36						
ARE0	ARCESS Array S	9.46	139	Pn	Pn	01 51 48.2	-0.5
KEV	Kevo	9.47	136	Pn	Pn	01 51 48.9	-0.1
SCO	Scoresbysund	10.69	244	Pn	Pn	01 52 03.2	-2.4
APA0	Apatity Array	12.37	130	Pn	Pn	01 52 27.6	-0.8
	baz=326,slow=8.6						
APA0	Apatity Array	12.37	130	Pn	Pn	01 52 27.6	-0.8
	baz=326,slow=8.6						
LVZ	Lovozero	12.38	127	Pn	Pn	01 52 28.8	+0.1
SUMG	Summit	12.57	271	i P	Pn	01 52 30.0	-1.7
SUMG				i		01 54 42.6	
SUMG	Summit	12.57	271	i P	Pn	01 52 30.0	-1.7
SUMG				i		01 54 42.7	
SUMG	Summit	12.57	271		Pn	01 52 29.9	-1.7
BORG	Borgarnes	15.64	231	LR	LR	01 57 25.1	
	comp=Z,94nm,20.7s,baz=308,slow=30						
TULEG	Thule	16.08	305	i P	Pn	01 53 15.0	-3.4
TULEG	Thule	16.08	305	Pn	Pn	01 53 14.5	-3.9
NC204	NORSAR Array S	16.43	175	Pn	Pn	01 53 23.1	+0.2
NC204				IAmb	IAmb	01 53 23.2	
	comp=Z,34nm,1.2s						
NC303	NORSAR Array S	16.49	174	Pn	Pn	01 53 21.9	-1.9
NB201	NORSAR Array S	16.66	174		P	01 53 26.6	-1.8
NB201				IAmb	IAmb	01 53 33.8	
	comp=Z,117nm,1.6s						
NOA	NORSAR Array B	16.67	174	LR	LR	01 58 35.5	
	comp=Z,57nm,20.6s,baz=355,slow=33						
FIA0	FINESS Array S	17.27	149	P	P	01 53 34.1	-0.9
	baz=356,slow=16						
FIA0	FINESS Array S	17.27	149	P	P	01 53 34.1	-0.9
	baz=356,slow=16						
FINES	FINESS Array B	17.27	149	P	Pn	01 53 32.7	-0.8
	comp=Z,0.2nm,0.3s,baz=4.3,slow=10,SNR=10.0						
FINES				LR	LR	02 00 25.4	
	comp=Z,110nm,18.9s,baz=346,slow=38						
HFS	Hagfors	17.65	170	P	P	01 53 41.5	+2.2
	baz=1.2,slow=12						
HFS	Hagfors	17.65	170	P	P	01 53 39.1	-0.1
	comp=Z,0.3nm,0.3s,baz=354,slow=8.9,SNR=9.5						
HFS	Hagfors	17.65	170	P	P	01 53 41.5	+2.2
	baz=1.2,slow=12						
SFJD	Kangerlussuaq	19.56	270	P	Pn	01 54 00.5	-0.9
	comp=Z,0.7nm,0.3s,baz=9.8,slow=11,SNR=6.1						
SFJD				LR	LR	02 01 04.9	
	comp=Z,74nm,19.6s,baz=35,slow=36						
SFJD	Kangerlussuaq	19.56	270	P	P	01 53 59.1	-1.1
SFJD				IAmb	IAmb	01 54 01.5	
	comp=Z,16nm,0.9s						
RES	Resolute Bay	21.78	316	P	P	01 54 27.1	+3.1
	comp=Z,1.3nm,0.8s,baz=19,slow=10.0,SNR=6.9						
RES				LR	LR	02 02 44.9	
	comp=Z,70nm,19.7s,baz=339,slow=36						
NRIK	Noril'sk	22.12	68	P	P	01 54 29.6	+1.8
	comp=Z,2.2nm,0.4s,baz=329,slow=7.9,SNR=6.5						
NRIK				LR	LR	02 05 08.6	
	comp=Z,69nm,18.7s,baz=330,slow=42						
FRB	Frobisher Bay	26.21	282	LR	LR	02 06 12.0	
	comp=Z,137nm,18.1s,baz=102,slow=38						
CLL	Collm	26.46	173	e(P)	P	01 55 12.0	+2.6
CLL				e		01 55 25.0	
ARU	Arti	27.40	111	LR	LR	02 08 29.7	
	comp=Z,33nm,20.1s,baz=317,slow=41						
AKASG	Malin Array Be	28.17	151	P	P	01 55 26.5	+1.7
	comp=Z,0.2nm,0.3s,baz=317,slow=8.1,SNR=2.7						

AKASG				LR	LR	02 06 48.0	
	comp=Z,93nm,18.6s,baz=20,slow=37						
SCHQ	Schefferville	33.95	273	LR	LR	02 10 27.2	
	comp=Z,129nm,20.1s,baz=64,slow=37						
ZALV	Zalesovo Beam	35.29	86	P	P	01 56 30.1	+2.9
	comp=Z,0.5nm,0.3s,baz=345,slow=11,SNR=2.9						
ZALV				LR	LR	02 16 00.4	
	comp=Z,39nm,18.2s,baz=78,slow=45						
AQU	L'Aquila	35.42	173	P	P	01 56 28.3	-0.2
VTS	Vitosha	35.65	160	P	P	01 56 30.5	-0.1
VTS				IAmb	IAmb	01 56 35.3	
	comp=Z,15nm,1.8s						
YKA	Yellowknife Ar	35.81	318	P	P	01 56 32.5	+0.9
	comp=Z,0.8nm,0.8s,baz=334,slow=9.2,SNR=4.1						
ILAR	Eielson Array	37.03	342	P	P	01 56 45.1	+3.2
	comp=Z,0.4nm,0.9s,baz=3.2,slow=7.4,SNR=4.4						
ESDC	Sonseca Array	38.35	195	P	P	01 56 55.6	+2.2
	comp=Z,0.2nm,0.5s,baz=8.1,slow=7.9,SNR=3.7						
BRTR	Keskin Array B	39.50	148	P	P	01 57 05.1	+1.9
	comp=Z,0.4nm,0.6s,baz=5.3,slow=6.8,SNR=2.8						
MA2	Magadan	41.19	28	LR	LR	02 16 51.4	
	comp=Z,33nm,18.1s,baz=84,slow=40						
MKAR	Makanchi Array	41.48	92	P	P	01 57 22.0	+2.6
	comp=Z,1.8nm,0.8s,baz=350,slow=6.3,SNR=6.6						
MKAR				LR	LR	02 16 54.5	
	comp=Z,40nm,19.1s,baz=326,slow=40						
ULM	Lac du Bonnet	44.30	297	LR	LR	02 17 42.9	
	comp=Z,92nm,18.5s,baz=98,slow=38						
GEYT	Alibeck	45.02	121	LR	LR	02 19 31.6	
	comp=Z,41nm,18.6s,baz=285,slow=40						
SONM	Songino Array	45.60	69	P	P	01 57 55.5	+2.9
	comp=Z,0.2nm,0.3s,baz=335,slow=6.4,SNR=2.0						
SONM				LR	LR	02 19 31.8	
	comp=Z,42nm,19.2s,baz=108,slow=39						
PDAR	Pinedale Array	54.03	306	LR	LR	02 21 25.2	
	comp=Z,53nm,21.6s,baz=60,slow=35						
TORD	Torodi Ar. Bea	64.52	187	P	P	02 00 10.8	+1.4
	comp=Z,0.8nm,0.6s,baz=352,slow=6.6,SNR=11						
TXAR	Lajitas Array	66.00	297	P	P	02 00 19.6	+0.6
	comp=Z,0.3nm,0.7s,baz=35,slow=4.6,SNR=3.8						
TXAR				LR	LR	02 29 02.7	
	comp=Z,31nm,18.5s,baz=0.0,slow=36						

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*NIED **04** 02:06:00, 31°80N×141°30E, h32km, Mw4.0 Best double couple: Mo9.58000×10^14 NP1:φs40.00000°, δ74.00000°, λ-168.00000°. NP2:φs307.00000°, δ78.00000°, λ-17.00000°.*
*IDC **04** 02:06:48.5±0.7, 31°49N×141°13E, h0km, mb4.0/14, mb1 4.2/17, mb1mx4.1/39, mbtmp4.0/17, ML4.2/3, MS2.6/4, Ms1 2.6/4, ms1mx2.4/37, Error ellipse: s-maj=24.4km s-min=16.9km az=81.0*
*ISCJB **04** 02:06:51.0±0.4, 31°45N±0°03×141°33E±0°07, h35km, mb3.9/14, Error ellipse: s-maj=9.6km s-min=3.8km az=161.7*
*NEIC **04** 02:06:52.9±1.0, 31°43N±0°09×141°1E±0°1, h34km±2km, mb4.3/13*
*JMA **04** 02:06:53.1±0.1, 31°75N×141°27E, h3km, M4.4*
ISC 04 02:06:53.0±0.5, **31°44N**±0°06×**141°27E**±0°08, **h35**km, **n58**, σ**1s27**/61, **mb4.1**/21, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	1.64	309	P	Pn	02 07 20.3	+0.9
JAOM				S	Sn	02 07 39.6	+0.3
JHCJ	Hachijojimakas	2.05	323	P	Pn	02 07 25.6	+0.6
JHCJ				S	Sn	02 07 49.1	-0.3
JHJ2	Mitsune	2.08	324	P	Pn	02 07 26.0	+0.7
JHJ2				S	Sn	02 07 49.9	-0.1
JHJ2	Mitsune	2.08	324		Pn	02 07 25.6	+0.3
JHJ2				Sn	Sn	02 07 48.5	-1.5
JMKN	Mikurajimanish	2.83	330	P	Pn	02 07 36.1	+0.4
BSO1	Boso 1	3.22	356	P	Pn	02 07 40.3	-0.2
JKO	Kozu shima	3.28	327	P	Pn	02 07 43.3	+1.4
TK02	Tokai 2	3.88	311	P	Pn	02 07 52.7	+2.8
JOD2	Odawara 2	4.23	335	P	Pn	02 07 55.6	+0.6
JCJ	Chichijima	4.40	169	Pn	Pn	02 07 59.0	+1.7
	51nm,0.3s,baz=266,slow=23,SNR=32						
JCJ				Sn	Sn	02 08 46.6	-0.7
	15nm,0.3s,baz=252,slow=20,SNR=2.4						
JCJ				LR	LR	02 09 43.8	
	comp=Z,109nm,20.2s,baz=308,slow=39						
JYN	Shimob	4.65	331	P	Pn	02 08 02.5	+1.7
JRY	Ryogami san	4.98	337	P	Pn	02 08 07.0	+1.8
JRY				S	Sn	02 09 01.9	+0.3
JAG	Ashikaga	5.20	344	P	Pn	02 08 09.1	+0.8
JAG				S	Sn	02 09 06.7	-0.3
MJAR	Matsushiro Arr	5.69	334	Pn	Pn	02 08 16.6	+1.5
	1.1nm,0.3s,baz=153,slow=12,SNR=26						
MJAR				Sn	Sn	02 09 17.3	-1.9
	baz=157,slow=22,SNR=2.7						
MJAR				LR	LR	02 10 06.5	
	comp=Z,46nm,21.7s,baz=230,slow=36						
MAJO	Matsushiro	5.69	334		Pn	02 08 14.4	-0.7
MAT	Matsushiro	5.69	334	P	Pn	02 08 18.3	+3.2
MAT				S	Sn	02 09 18.0	-1.2
MJB9	Matsu-Tunnel	5.70	334		Pn	02 08 14.4	-0.7
JMK	Ichinoseki	7.50	360	P	Pn	02 08 40.2	+0.4
JMK				S	Sn	02 10 02.9	-0.7
JNU	Nakatsue	8.96	284	LR	LR	02 11 32.9	
	comp=Z,24nm,19.6s,baz=150,slow=32						
ERM	Erimo	10.66	8		Pn	02 09 21.0	-2.2
KSRS	Korea Array	12.54	302	LR	LR	02 15 03.0	
	comp=Z,33nm,18.6s,baz=202,slow=40						
ASAJ	Asahikawa	12.70	4	Pn	Pn	02 09 48.4	-2.7
	2.1nm,0.3s,baz=213,slow=12,SNR=6.3						
KLR	Kul'dur	19.17	341	P	P	02 11 12.7	-0.6
	0.2nm,0.3s,baz=156,slow=9.5,SNR=3.6						
TPUB	Ta-pu	20.02	251	P	P	02 11 21.1	-1.8
H11N2	WAKE ISLAND Hy	25.82	111	T	T	02 39 39.4	
	baz=305						
H11N1	WAKE ISLAND Hy	25.82	111	T	T	02 39 29.8	
	baz=305						
H11N3	WAKE ISLAND Hy	25.84	111	T	T	02 39 27.1	
	baz=305						
H11S3	WAKE ISLAND Hy	26.32	113	T	T	02 40 01.5	
	baz=304,slow=75,SNR=43						
H11S1	WAKE ISLAND Hy	26.33	113	T	T	02 40 01.5	
	baz=304,slow=75,SNR=38						
H11S2	WAKE ISLAND Hy	26.34	113	T	T	02 40 01.5	
	baz=304,slow=75,SNR=31						
XAN	Xi'an	27.28	284	P	P	02 12 33.0	-1.2
ULN	Ulaanbaatar	30.72	312	P	P	02 13 04.6	-0.2
ULN				IAmb	IAmb	02 13 05.9	
	comp=Z,3.0nm,0.6s						
SONM	Songino Array	31.13	312	P	P	02 13 08.4	0.0
	comp=Z,1.6nm,0.6s,baz=113,slow=8.1,SNR=15						
CMAR	Chiang Mai Arr	40.26	262	P	P	02 14 26.2	-0.6
	comp=Z,1.2nm,0.3s,baz=50,slow=8.4,SNR=3.4						
ZALV	Zalesovo Beam	45.74	317	P	P	02 15 10.1	-0.6
	comp=Z,0.7nm,0.3s,baz=111,slow=8.1,SNR=4.7						
ZALV				PcP	PcP	02 16 48.5	+0.5
	comp=Z,1.2nm,0.4s,baz=111,slow=3.7,SNR=4.6						
MKAR	Makanchi Array	47.18	307	P	P	02 15 21.7	-0.4
	comp=Z,1.1nm,0.5s,baz=87,slow=9.7,SNR=12						
WB0	Warramunga Arr	51.34	188	P	P	02 15 54.2	+0.2
WB0				IAmb	IAmb	02 16 02.1	
	comp=Z,3.5nm,1.1s						
FITZ	Fitzroy Crossi	51.49	199	P	P	02 15 54.6	-0.5
WR0	Warramunga Arr	51.51	188	P	P	02 15 54.9	-0.4
WR0				IAmb	IAmb	02 16 03.5	
	comp=Z,3.1nm,0.8s						
WB2	Warramunga Arr	51.52	188	P	P	02 15 55.1	-0.3
WB2				IAmb	IAmb	02 16 08.5	
	comp=Z,3.3nm,1.1s						
WRA	Warramunga Arr	51.52	188	P	P	02 15 55.4	0.0
	comp=Z,0.6nm,0.4s,baz=5.5,slow=7.6,SNR=8.3						
ILAR	Eielson Array	54.33	30	P	P	02 16 16.2	+0.5
	comp=Z,0.9nm,0.7s,baz=266,slow=6.5,SNR=11						
ARSB	Arslanbob	54.58	301	P	P	02 16 15.8	-2.2
ARSB				IAmb	IAmb	02 16 25.3	
	comp=Z,3.7nm,1.1s						
ASAR	Alice Springs	55.24	188	P	P	02 16 23.9	+1.1
	comp=Z,0.3nm,0.4s,baz=8.2,slow=7.2,SNR=4.0						
SCRK	Sand Creek	55.60	31	P	P	02 16 24.9	-0.1
KK31	Karatay Array	55.97	303	P	P	02 16 27.3	-0.5
KKAR	Karatay Array	55.97	303	P	P	02 16 27.3	-0.5
ABKAR	Akbulak array	61.54	313	P	P	02 17 06.0	-0.4
ABKAR				IAmb	IAmb	02 17 07.7	
	comp=Z,2.0nm,0.9s						
ARCES	ARCESS Array B	69.20	340	P	P	02 17 56.1	+0.4
	comp=Z,5.7nm,1.0s,baz=40,slow=11,SNR=2.0						
FINES	FINESS Array B	73.72	333	P	P	02 18 23.1	+0.1
	comp=Z,1.1nm,0.4s,baz=59,slow=6.4,SNR=11						
NVAR	Mina Array Bea	78.48	52	P	P	02 18 52.3	+1.4
	comp=Z,0.4nm,0.4s,baz=289,slow=5.6,SNR=2.0						
AKASG	Malin Array Be	78.67	323	P	P	02 18 50.5	-0.8
	comp=Z,0.2nm,0.3s,baz=47,slow=6.0,SNR=3.0						
NB2	NORSAR Subarra	79.30	338	P	P	02 18 57.8	+3.1
	comp=Z,0.5nm,0.7s,baz=42,slow=5.6						
NOA	NORSAR Array B	79.30	338	P	P	02 18 57.0	+2.3
	comp=Z,2.1nm,1.0s,baz=62,slow=9.2,SNR=4.5						
BRTR	Keskin Array B	82.49	312	P	P	02 19 12.8	+0.6
	comp=Z,0.3nm,0.4s,baz=76,slow=4.3,SNR=3.4						
RAYN	Ar Rayn	82.70	293	P	P	02 19 12.4	-1.1
RAYN				IAmb	IAmb	02 19 14.8	
	comp=Z,3.6nm,1.0s						
TXAR	Lajitas Array	93.62	52	P	P	02 20 07.5	+1.4
	comp=Z,0.5nm,0.7s,baz=300,slow=3.5,SNR=5.9						
TORD	Torodi Ar. Bea	121.10	312	PKP	PKiKP	02 25 44.2	+1.3
	comp=Z,0.2nm,0.6s,baz=58,slow=2.6,SNR=1.7						

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*ISCJB **04** 02:17:02.6±0.9, 24°59S±0°09×179°8E±0°1, h500km, mb3.8/4, Error ellipse: s-maj=17.8km s-min=10.8km az=163.6*
*NEIC **04** 02:17:02.6±1.3, 24°7S±0°1×179°9E±0°2, h490km±12km, mb4.2/18*
*IDC **04** 02:17:02.3±3.6, 24°68S×179°83E, h471km±34km, mb3.4/4, mb1 3.7/4, mb1mx3.3/21, mbtmp4.3/4, Error ellipse: s-maj=108.1km s-min=26.5km az=160.0*
ISC 04 02:17:03.2±1.1, **24°7S**±0°1×**179°9E**±0°2, **h500**km, **n30**, σ**0s95**/30, **mb4.1**/11, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.10	345	P	P	02 18 49.4	-1.1
DZM	Mont Dzumac	12.64	279	P	P	02 19 51.2	+2.5
	0.7nm,0.3s,baz=86,slow=19,SNR=8.5						
DZM	Mont Dzumac	12.64	279	P	P	02 19 48.0	-0.6
QRZ	Quartz Range	17.27	199	P	P	02 20 36.6	0.0
PLWZ	Palliser	17.32	192	P	P	02 20 36.5	-0.6
TUWZ	Tuamarina	17.46	195	P	P	02 20 38.5	+0.1
THZ	Tophouse	18.04	197	P	P	02 20 43.8	+0.1
THZ				IAmb	IAmb	02 20 59.8	
	comp=Z,5.2nm,0.9s						
KHZ	Kahutara	18.49	195	P	P	02 20 46.3	-1.5
LTZ	Lake Taylor	19.16	197	P	P	02 20 52.6	-1.4
LTZ				IAmb	IAmb	02 21 10.0	
	comp=Z,9.3nm,1.1s						
STKA	Stephens Creek	34.38	249	P	P	02 23 08.5	+0.6
	comp=Z,1.7nm,0.4s,baz=89,slow=9.9,SNR=7.8						
STKA	Stephens Creek	34.38	249	P	P	02 23 08.2	+0.3
COEN	Coen	36.16	280	P	P	02 23 22.9	-0.1
COEN				IAmb	IAmb	02 23 37.5	
	comp=Z,5.8nm,1.0s						
BBOO	Buckleboo	39.08	248	P	P	02 23 46.5	-0.3
BBOO				IAmb	IAmb	02 24 00.0	
	comp=Z,13nm,1.1s						
AS31	Alice Springs	41.84	261	P	P	02 24 08.8	-0.1
ASAR	Alice Springs	41.84	261	P	P	02 24 09.2	+0.2
	comp=Z,2.0nm,0.6s,baz=96,slow=8.3,SNR=34						
WR0	Warramunga Arr	42.10	267	P	P	02 24 10.2	-0.8
WB2	Warramunga Arr	42.27	267	P	P	02 24 12.1	-0.3
WB2				IAmb	IAmb	02 24 12.8	
	comp=Z,6.5nm,0.6s						
WRAB	Tennant Creek	42.28	267	P	P	02 24 11.4	-1.0
WB0	Warramunga Arr	42.28	267	P	P	02 24 12.0	-0.5
WRA	Warramunga Arr	42.28	267	P	P	02 24 12.2	-0.3
	comp=Z,5.7nm,0.5s,baz=104,slow=8.0,SNR=15						
WRA				ScP	ScP	02 29 00.1	+2.4
	comp=Z,1.4nm,0.8s,baz=101,slow=3.7,SNR=7.5						
FORT	Forrest	45.98	250	P	P	02 24 40.5	-0.5
KNRA	Kununurra	48.61	270	P	P	02 25 01.2	+0.2
KNRA				IAmb	IAmb	02 25 01.9	
	comp=Z,8.5nm,0.7s						
FITZ	Fitzroy Crossi	50.70	266	P	P	02 25 16.7	+0.3
NWAO	Narrogin (SRO)	54.86	246	P	P	02 25 45.4	-0.6
NWAO				IAmb	IAmb	02 25 49.1	
	comp=Z,18nm,1.1s						
NWAO	Narrogin (SRO)	54.86	246	P	P	02 25 45.4	-0.6
NWAO				IAmb	IAmb	02 25 52.3	
	comp=Z,7.8nm,1.1s						
PSA00	Pilbara Seismi	54.96	260	P	P	02 25 46.1	-0.7
PSA00				IAmb	IAmb	02 25 58.0	
	comp=Z,12nm,1.1s						
MORW	Morawa	56.55	250	P	P	02 25 57.4	-0.5
MORW				IAmb	IAmb	02 26 08.5	
	comp=Z,17nm,1.1s						
TXAR	Lajitas Array	90.89	58	P	P	02 29 14.5	+1.1
	comp=Z,0.5nm,0.8s,baz=218,slow=6.4,SNR=7.0						
ILULI	Ilulissat	126.28	20	PKPpre	PKPpre	02 34 59.8	
BRTR	Keskin Array B	147.96	306	PKPbc	PKPab	02 35 56.0	-0.6
	comp=Z,0.7nm,0.6s,baz=69,slow=3.0,SNR=4.4						

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*RSPR **04** 02:59:37.8, 19°32N×68°10W, h56km±6km, MD3.4/9*
*OSPL **04** 02:59:40.9±2.1, 19°05N×67°93W, h5km±11km, MD3.8, ML2.8*
ISC 04 02:59:38.8±1.4, **19°16N**±0°07×**68°02W**±0°02, **h26**km±14km, **n49**, σ**1s37**/83, **17C-3D**, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.73	208⇑	eP	Pn	02 59 52.4	-0.9
PCDR	Punta Cana, DR	0.73	208⇑	eP	Pn	02 59 52.4	-0.9
PCDR				eS	Sn	03 00 04.2	+0.6
PCDR	Punta Cana, DR	0.73	208	i P	Pn	02 59 52.2	-1.2
PCDR				eS	Sb	03 00 03.0	+0.5
PCDR				IAML		03 00 06.3	
	comp=Z,361nm,0.4s						
PCDR	Punta Cana, DR	0.73	208		Pn	02 59 52.4	-0.9
PCDR					Sn	03 00 04.2	+0.6
AGPR	Aguadilla, PR	1.10	129⇓	eP	Pn	02 59 58.5	0.0
AGPR	Aguadilla, PR	1.10	129⇓	eP	Pn	02 59 58.5	0.0
AGPR				eS	Sb	03 00 14.1	+1.1
AGPR	Aguadilla, PR	1.10	129	i P	Pn	02 59 58.8	+0.3
AGPR				eS	Sn	03 00 11.5	-1.3
AGPR				IAML		03 00 14.3	
	comp=Z,259nm,0.4s						
AGPR	Aguadilla, PR	1.10	129		Pn	02 59 58.5	0.0
AGPR					Sb	03 00 14.1	+1.1
MPR	Mayaguez	1.25	138	i P	Pn	03 00 01.6	+0.9
MPR				eS	Sn	03 00 15.1	-1.5
MPR	Mayaguez	1.25	138		Pn	03 00 00.1	-0.6
MPR				Sn	Sb	03 00 18.1	+0.6
LSP	Las Mesas	1.32	138⇑	eP	Pn	03 00 01.4	-0.1
LSP	Las Mesas	1.32	138⇑	eP	Pn	03 00 01.4	-0.1
LSP				eS	Sb	03 00 19.7	+0.4
LSP	Las Mesas	1.32	138		Pn	03 00 01.4	-0.1
LSP					Sb	03 00 19.7	+0.4
DR12	Loma Pena Alta	1.34	254		Pn	03 00 01.9	0.0
DR12				Sn	Sn	03 00 17.4	-1.6
CRPR	Cabo Rojo, PR	1.43	143⇑	eP	Pn	03 00 02.9	-0.2
CRPR	Cabo Rojo, PR	1.43	143⇑	eP	Pn	03 00 02.9	-0.2
CRPR				eS	Sb	03 00 23.3	+0.7
CRPR	Cabo Rojo, PR	1.43	143		Pn	03 00 02.9	-0.2
CRPR					Sb	03 00 23.3	+0.7
AOPR	Arecibo Observ	1.44	124⇑	eP	Pn	03 00 02.4	-0.9
AOPR	Arecibo Observ	1.44	124⇑	eP	Pn	03 00 02.4	-0.9
AOPR				eS	Sn	03 00 22.4	+1.1
AOPR	Arecibo Observ	1.44	124		Pn	03 00 02.4	-0.9
AOPR					Sn	03 00 22.4	+1.1
MLPR	Magueyes Islan	1.50	142	eS	Sn	03 00 24.0	+1.3
MLPR	Magueyes Islan	1.50	142⇑	eP	Pn	03 00 03.6	-0.4
MLPR	Magueyes Islan	1.50	142		Pn	03 00 03.6	-0.4
MLPR					Sn	03 00 24.0	+1.3
EMPR	Esperanza - Ma	1.56	115	eS	Sn	03 00 25.3	+1.1
EMPR	Esperanza - Ma	1.56	115⇓	eP	Pn	03 00 04.4	-0.4
EMPR	Esperanza - Ma	1.56	115		Pn	03 00 04.4	-0.4
CELP	Cerrillos	1.74	128⇑	eP	Pn	03 00 07.3	+0.1
CELP				eS	Sn	03 00 29.5	+0.9
CELP	Cerrillos	1.74	128⇑	eP	Pn	03 00 07.3	+0.1
CELP				eS	Sn	03 00 29.5	+0.9
CELP	Cerrillos	1.74	128		Pn	03 00 07.3	+0.1
CELP					Sn	03 00 29.5	+0.9
OBIP	Obispado Ponce	1.74	129⇑	eP	Pn	03 00 07.3	0.0
OBIP	Obispado Ponce	1.74	129⇑	eP	Pn	03 00 07.3	0.0
OBIP				eS	Sn	03 00 29.9	+1.3
OBIP	Obispado Ponce	1.74	129		Pn	03 00 07.3	0.0
OBIP					Sn	03 00 29.9	+1.3
SDD	Santo Domingo	1.93	249	i P	Pn	03 00 11.8	+1.9
SDD				eS	Sb	03 00 37.0	+0.1
SDD				IAML		03 00 43.1	
	comp=Z,60nm,0.6s						
SDD	Santo Domingo	1.93	249		Pb	03 00 12.6	-0.7
SDD					Sb	03 00 38.9	+2.0
GCPR	Guaynabo City	2.02	114		Pn	03 00 10.2	-0.9
GCPR				Sn	Sn	03 00 35.5	0.0
SJG	San Juan	2.05	120		Pn	03 00 11.1	-0.5
SJG				Sn	Sn	03 00 36.5	+0.1
IGPR	InterUniversit	2.16	123		Sn	03 00 32.3	-6.8
PDPR	Patillas Dam,	2.20	121		Pn	03 00 13.3	-0.4
PDPR				Sn	Sn	03 00 41.2	+1.1
CBYP	Canovanas	2.23	113		Pn	03 00 12.9	-1.2
CBYP				Sn	Sn	03 00 41.0	+0.2
BON1	Bonao	2.26	265	i P	Pb	03 00 17.5	-1.5
HUMP	Col San Antoni	2.29	116⇑	eP	Pn	03 00 14.6	-0.3
HUMP				eS	Sn	03 00 42.9	+0.7
HUMP	Col San Antoni	2.29	116⇑	eP	Pn	03 00 14.6	-0.3
HUMP				eS	Sn	03 00 42.9	+0.7
HUMP	Col San Antoni	2.29	116		Pn	03 00 14.6	-0.3
HUMP					Sn	03 00 42.9	+0.7
MTP	Monte Pirata	2.56	114⇑	eP	Pn	03 00 18.1	-0.5
MTP	Monte Pirata	2.56	114⇑	eP	Pn	03 00 18.1	-0.5
MTP				eS	Sn	03 00 49.4	+0.4
MTP	Monte Pirata	2.56	114		Pn	03 00 18.1	-0.5
MTP					Sn	03 00 49.4	+0.4
SC01	Santiago de lo	2.58	276	i P	Pb	03 00 24.1	-0.2
SC01				IAML		03 01 19.2	
	comp=Z,76nm,0.4s						
SDDR	Presa de Saban	3.10	267	i P	Pn	03 00 29.2	+3.1
SDDR				eS	Sn	03 01 06.6	+4.2
SDDR				IAML		03 01 26.1	
	comp=Z,40nm,0.4s						
SDDR	Presa de Saban	3.10	267		Pn	03 00 24.0	-2.1
SDDR				Sn	Sn	03 00 57.8	-4.5

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*DRS **04** 03:21:35.4±0.0, 41°16N×46°02E, h5km*
*NORS **04** 03:21:39.4±0.0, 40°99N×46°07E, h14km, MPVA3.3*
*MOS **04** 03:21:40.0±0.0, 40°95N×46°09E, h21km±1km, MPVA3.4*
*TIF **04** 03:21:41.9, 41°00N×45°85E, h18km±4km*
ISC 04 03:21:39.1±1.5, **40°94N**±0°06×**45°97E**±0°03, **h13**km±11km, **n16**, σ**0s95**/34, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DDFL	Dedoflistskaro	0.52	13	P	Pn	03 21 52.2	-0.1
DDFL				S	Sn	03 22 00.8	-0.4
DGRG	David-gareji	0.68	319	P	Pn	03 21 54.4	-0.1
DGRG				S	Sn	03 22 04.1	-1.0
BTNK	Botanikuri	1.15	311	P	Pn	03 22 01.1	+0.1
BTNK				S	Sn	03 22 16.9	+0.2
TBLG	Delisi	1.22	311	P	Pb	03 22 02.1	0.0
TBLG				S	Sg	03 22 18.6	+0.2
KZRT	Kazreti	1.27	291	P	Pn	03 22 02.8	+0.3
KZRT				S	Sb	03 22 19.2	+0.1
AKT	Akhty	1.44	67	ePg	Pg	03 22 06.1	-0.5
AKT				ePg	Pg	03 22 06.1	-0.5
AKT				eSg	Sg	03 22 24.8	-0.5
AKT				eSg	Sg	03 22 24.9	-0.5
KMKR	Kumukh	1.47	35	ePg	Pg	03 22 07.0	-0.2
KMKR				eSg	Sg	03 22 26.5	+0.2
GNBR	Gunib	1.63	27	ePg	Pg	03 22 09.7	-0.7
GNBR				eSg	Sg	03 22 31.4	-0.1
BTLR	Botlikh	1.74	6	ePg	Pg	03 22 13.1	+0.7
BTLR				eSg	Sg	03 22 36.6	+1.7
URKR	Urkarakh	1.75	45	ePg	Pg	03 22 14.2	+1.5
URKR				eSg	Sg	03 22 37.8	+2.3
GUDG	Gudauri	1.89	324	P	Pb	03 22 13.4	-0.2
GUDG				S	Sg	03 22 38.6	-1.2
AKH	Akhalkalaki	1.93	285	P	Pb	03 22 14.6	+0.4
AKH				S	Sb	03 22 39.1	+0.9
LACR	Lac	2.26	327	ePn	Pb	03 22 19.3	-0.6
LACR				eSn	Sg	03 22 49.6	-2.2
GROC	Groznyy	2.27	357	ePn	Pb	03 22 18.9	-1.0
GROC				eSn	Sb	03 22 47.7	-0.1
TKB	Tkibuli	2.64	303	P	Pb	03 22 25.5	-0.7
TKB				S	Sb	03 22 59.1	+0.5
DIGR	Digorskoe uzhe	2.65	319	ePn	Pb	03 22 26.1	-0.4
DIGR				eSn	Sb	03 23 00.9	+1.9

JMA 04 03:33:44.6±0.1, **24°92N**×**123°36E**, **h26**km±4km, **M2.0**, **Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.56	215	P	Pb	03 33 55.3	-0.5
YOJ				S	Sb	03 34 03.0	-0.4
JYNG	Yonagunijimaku	0.60	219	P	Pb	03 33 56.2	-0.3
JYNG				eS	Sb	03 34 04.4	-0.2
IRIF	Iriomote-Funau	0.67	150	P	Pb	03 33 57.4	-0.3
IRIF				S	Sb	03 34 06.7	0.0
JKRS	Kuro-shima	0.90	139	P	Pn	03 34 01.2	-0.4
JKRS				S	Sb	03 34 12.8	-0.4
JIJ	Ishigaki jima	0.90	128	P	Pn	03 34 00.8	-0.8
JIJ				S	Sb	03 34 11.8	-1.4
JISG	Ishigakijimahi	0.93	111	P	Pn	03 34 01.7	-0.2
JISG				S	Sb	03 34 13.1	-0.8
HATJ	Hateruma jima	0.95	155	P	Pn	03 34 01.9	-0.4
HATJ				eS	Sb	03 34 14.1	-0.5
JTJ	Tarama	1.25	103	P	Pb	03 34 07.3	-0.2
JTJ				eS	Sb	03 34 23.4	+0.2

TAP 04 03:33:47.9, **25°04N**×**122°05E**, **h13**km, **ML1.9**, **D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.06	243	i P	Pg	03 33 51.0	+0.5
	baz=237						
TWB1				i S	Sg	03 33 53.0	+0.7
	baz=237						
TIPB	Shuangxi	0.21	252	P	Pb	03 33 53.4	-0.3
	baz=252						
TIPB				S	Sb	03 33 57.4	-0.2
	baz=252						
EGS		0.22	209	eP	Pg	03 33 53.2	+0.5
	baz=206						
EGS				S	Sb	03 33 57.6	0.0
	baz=206						
ILA	Ilan	0.38	225	eP	Pb	03 33 56.7	+0.1
	baz=224						
ILA				eS	Sb	03 34 02.5	+0.1
	baz=224						
YM05	YM05	0.46	286	eS	Sb	03 34 05.0	+0.4
	baz=286						
TWC	Suao	0.46	203	eP	Pb	03 33 57.6	-0.3
	baz=201						
TWC				eS	Sb	03 34 04.9	+0.2
	baz=201						
TWY	Chenhua	0.47	300	eP	Pb	03 33 58.0	-0.1
	baz=300						
TWY				eS	Sb	03 34 05.0	0.0
	baz=300						

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*ISCJB **04** 03:35:07.3±0.6, 42°2S±0°1×88°9E±0°1, h10km, mb4.1/5, MS3.9/12, Error ellipse: s-maj=20.7km s-min=11.5km az=142.8*
*NEIC **04** 03:35:08.8±1.0, 42°2S±0°2×88°81E±0°08, h10km±1km, mb4.8/9*
*IDC **04** 03:35:08.3±1.2, 42°23S×88°98E, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.9/33, mbtmp4.2/5, MS3.9/12, Ms1 3.8/12, ms1mx3.6/23, Error ellipse: s-maj=45.0km s-min=25.0km az=130.0*
ISC 04 03:35:09.2±0.8, **42°2S**±0°2×**88°9E**±0°2, **h10**km, **n36**, σ**0s90**/21, **mb4.4**/9, **MS3.9**/12, **Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	21.02	78	T	T	04 01 41.0	
	baz=243,slow=74,SNR=97						
H01W3	Cape Leeuwin H	21.02	78	T	T	04 01 49.1	
	baz=243,slow=74,SNR=124						
H01W1	Cape Leeuwin H	21.03	78	T	T	04 01 47.5	
	baz=243,slow=74,SNR=152						
NWAO	Narrogin (SRO)	24.22	77	LR	LR	03 47 43.7	
	comp=Z,239nm,20.9s,baz=244,slow=31						
MAW	Mawson	29.11	200	LR	LR	03 50 20.6	
	comp=Z,299nm,20.9s,baz=54,slow=31						
H08S2	Diego Garcia H	37.29	333	T	T	04 21 09.5	
	baz=160,slow=76,SNR=198						
H08S1	Diego Carcia H	37.29	333	T	T	04 21 09.9	
	baz=160,slow=76,SNR=159						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08S3	Diego Garcia H	37.31	333	T	T	04 21 11.0	
	baz=160,slow=76,SNR=232						
ASAR	Alice Springs	41.53	78	P	P	03 42 57.1	+0.3
	2.1nm,0.7s,baz=223,slow=7.4,SNR=21						
ASAR				PcP	PcP	03 44 54.8	+0.6
	0.7nm,0.6s,baz=225,slow=2.0,SNR=7.6						
ASAR				LR	LR	03 58 31.7	
	comp=Z,228nm,20.1s,baz=242,slow=34						
AS31	Alice Springs	41.53	78	P	P	03 42 57.0	+0.1
STKA	Stephens Creek	42.74	94	LR	LR	03 56 54.6	
	comp=Z,156nm,21.4s,baz=205,slow=31						
WRA	Warramunga Arr	44.18	74	P	P	03 43 18.1	-0.2
	5.6nm,1.0s,baz=230,slow=8.6,SNR=12						
WRA				LR	LR	03 59 58.0	
	comp=Z,162nm,20.1s,baz=245,slow=34						
WB2	Warramunga Arr	44.19	74	P	P	03 43 18.4	0.0
WB2				IAmb	IAmb	03 43 21.6	
	comp=Z,16nm,1.3s						
WRAB	Tennant Creek	44.19	74	P	P	03 43 17.6	-0.8
WRAB				IAmb	IAmb	03 43 21.6	
	comp=Z,18nm,1.2s						
WR0	Warramunga Arr	44.31	74	P	P	03 43 19.1	-0.3
WB0	Warramunga Arr	44.33	74	P	P	03 43 18.5	-1.1
WB0				IAmb	IAmb	03 43 26.6	
	comp=Z,18nm,1.4s						
VNDA	Vanda	45.58	163	LR	LR	04 00 32.2	
	comp=Z,116nm,18.9s,baz=289,slow=34						
QSPA	South Pole Qui	48.00	180	P	P	03 43 48.6	+0.6
	comp=Z,1.4nm,0.9s,baz=311,slow=4.3,SNR=5.4						
QSPA	South Pole Qui	48.00	180	P	P	03 43 47.5	-0.5
QSPA				IAmb	IAmb	03 43 49.9	
	comp=Z,14nm,1.5s						
SNAA	Sanae	51.15	204	P	P	03 44 12.2	+0.4
SNAA	Sanae	51.15	204	P	P	03 44 11.9	+0.1
	comp=Z,2.8nm,1.0s,baz=117,slow=8.9,SNR=5.1						
SNAA	Sanae	51.15	204	P	P	03 44 12.2	+0.4
BOSA	Boshof	52.46	263	LR	LR	04 01 40.6	
	comp=Z,161nm,21.4s,baz=144,slow=30						
VNA2	Neumayer--Watz	52.78	204	P	P	03 44 24.5	+0.5
	baz=100,slow=8.6						
VNA1	Neumayer--Stat	53.15	204	P	P	03 44 26.1	-0.6
VNA3	Neumayer Olymp	53.34	204	P	P	03 44 28.6	+0.5
KMBO	Kilima Mbogo	61.65	297	P	P	03 45 27.1	-0.6
KMBO				IAmb	IAmb	03 45 30.1	
	comp=Z,12nm,1.9s						
ATD	Arta Tunnel	68.07	311	LR	LR	04 10 45.8	
	comp=Z,30nm,19.3s,baz=138,slow=31						
WSAR	Wadi Sarin	70.81	331	LR	LR	04 11 56.4	
	comp=Z,133nm,18.3s,baz=156,slow=31						
KBL	Kabul	78.45	343	P	P	03 47 09.7	-0.5
GEYT	Alibeck	84.48	336	LR	LR	04 20 10.6	
	comp=Z,48nm,21.3s,baz=175,slow=32						
MKAR	Makanchi Array	88.75	355	P	P	03 48 04.7	+2.2
	comp=Z,1.6nm,1.0s,baz=166,slow=7.4,SNR=4.8						
TORD	Torodi Ar. Bea	96.62	282	LR	LR	04 30 15.1	
	comp=Z,34nm,18.3s,baz=345,slow=34						
DBIC	Dimbokro	97.18	272	LR	LR	04 29 34.2	
	comp=Z,36nm,18.9s,baz=102,slow=34						
INK	Inuvik	145.58	26	PKPbc	PKPdf	03 54 45.0	-1.3
	comp=Z,4.3nm,1.0s,baz=283,slow=1.3,SNR=6.3						
INK	Inuvik	145.58	26		PKPdf	03 54 44.6	-1.8

IDC 04 03:48:10.6±3.8**, 10°.64S**×**117°.75E, h227**km±40km**, mb3.0**/2**, mb1 2.9**/3**, mb1mx2.7**/22**, mbtmp3.4**/3**, Error ellipse: s-maj=96.0km s-min=11.8km az=45.0, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.47	122	P	P	03 52 10.0	+0.1
	0.1nm,0.3s,baz=295,slow=14,SNR=4.1						
WRA				S	S	03 55 27.3	-1.4
	0.1nm,0.3s,baz=287,slow=27,SNR=3.3						
ASAR	Alice Springs	20.12	132	P	P	03 52 27.8	+0.2
	0.6nm,0.6s,baz=311,slow=10,SNR=5.9						
ASAR				S	S	03 56 04.0	+2.9
	0.5nm,0.6s,baz=300,slow=22,SNR=3.9						
MKAR	Makanchi Array	65.36	334	P	P	03 58 28.6	-0.1
	0.8nm,0.5s,baz=150,slow=6.5,SNR=12						

IDC 04 03:59:11.3±0.6, 13°.62N×92°.96E, h0km, mb4.2/22, mb1 4.3/23, mb1mx4.2/44, mbtmp4.2/23, ML4.6/1, MS3.5/6, Ms1 3.5/6, ms1mx3.2/28, Error ellipse: s-maj=18.6km s-min=13.6km az=50.0
ISCJB 04 03:59:14.5±0.2, 13°.84N±0°.03×92°.89E±0°.03, h32km, mb4.2/22, MS3.6/5, Error ellipse: s-maj=4.4km s-min=3.3km az=147.7
NDI 04 03:59:15.4±3.0, 13°.83N×92°.57E, h7km±41km, mb4.8, ML4.4, mb4.7(NEIC)
NEIC 04 03:59:16.6±1.7, 13°.83N±0°.07×92°.95E±0°.08, h32km±5km, mb4.7/45
ISC 04 03:59:16.2±0.4**, 13°.83N**±0°.04×**92°.93E**±0°.05**, h32**km**, n121, σ1s84**/127**, mb4.5**/44**, MS3.5**/5**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DGPR	DIGLIPUR	0.64	180	eP	Pn	03 59 29.6	+0.4
DGPR				eS	Sn	03 59 38.1	-0.1
DGPR				IAML		03 59 38.8	
	comp=N,93μm,0.3s						
DGPR				IAML		03 59 38.9	
	comp=E,117μm,0.4s						
SRDT	SRDT	6.03	84	P	Pn	04 00 46.9	+3.7
	comp=E,32nm,0.8s,comp=E,1μmcomp=E,0.1nm						
UMPA	Umpang Tak	6.20	67	P	Pn	04 00 48.0	+2.5
	comp=E,400μm,0.7s,comp=E,1μm						
SIMRM	Sittwe	6.27	360	Pn	Pn	04 00 48.1	+1.6
SIMRM					Sn	04 01 58.4	+1.2
MHMT	Maesarieng	6.47	47	P	Pn	04 00 52.5	+3.3
	comp=E,112nm,1.0s,comp=E,4μmcomp=E,0.7nm						
UTHA	Uthaitani	6.53	74	P	Pn	04 00 53.7	+3.6
	comp=E,263μm,0.7s,comp=E,1μm						
PHET	Kaeng Krachan	6.58	97	P	Pn	04 00 54.7	+3.9
	comp=E,147μm,0.7s,comp=E,639nm						
CM31	Chiang Mai Arr	7.39	51		Pn	04 01 01.2	-0.7
CM31					Sn	04 02 23.5	-1.2
CMAR	Chiang Mai Arr	7.39	51	Pn	Pn	04 00 59.9	-2.0
	comp=E,2.6nm,0.3s,baz=240,slow=15,SNR=56						
CMAR				Sn	Sn	04 02 24.2	-0.4
	comp=E,2.3nm,0.3s,baz=238,slow=28,SNR=12						
CMAR				LR	LR	04 04 30.8	
	comp=E,174nm,20.2s,baz=206,slow=43						
SURT	Suratani	7.51	129	P	Pn	04 01 07.0	+3.4
	comp=E,53nm,1.0s,comp=E,0.2nm						
CHTO	Chiang Mai	7.61	49		Pn	04 01 06.1	+1.1
CHTO				Sn	Sn	04 02 28.4	-1.7
CMMT	Chiang Mai	7.61	49	P	Pn	04 01 07.6	+2.6
	comp=E,21nm,0.8s,comp=E,360nmcomp=E,0.1nm						
PATY	Pattaya	7.77	96	P	Pn	04 01 18.2	+11
PKDT	Phuket	7.93	137	P	Pn	04 01 13.9	+4.6
	comp=E,50nm,1.0s,comp=E,0.3nm						
PBKT	Sadao Pong	8.22	70	P	Pn	04 01 16.8	+3.5
	comp=E,34nm,0.8s,comp=E,0.1nm						
PBKT	Sadao Pong	8.22	70		Pn	04 01 14.5	+1.2
PBKT				Sn	Sn	04 02 43.3	-2.0
SAIH	SAIHA	8.62	0	eP	Pn	04 01 21.2	+2.4
SAIH				eS	Sn	04 02 51.9	-3.2
PAYA	Payao	8.63	49	P	Pn	04 01 22.6	+3.6
	comp=E,87μm,0.7s,comp=E,269nm						
CHAI	Chaiyaphum	8.99	76	P	Pn	04 01 30.6	+6.7
	comp=E,33μm,1.2s,comp=E,495μm						
LHMI	Lhok Sumawe	9.41	155		Pn	04 01 30.8	+1.2
AZL	Aizawl	9.86	359	eP	Pn	04 01 37.8	+1.9
AZL				eS	Sn	04 03 21.7	-4.0
AZL				IAML		04 03 26.9	
	comp=N,38nm,0.4s						
AZL				IAML		04 03 30.6	
	comp=E,106nm,0.3s						
NONG	Nongkai	10.69	65	P	Pn	04 01 52.4	+5.3
	comp=E,0.3nm,0.9s						
KULM	Kulim	11.39	137		Pn	04 01 57.5	+0.7
SHL	Shillong	11.72	355	eP	Pn	04 02 00.0	-1.5
SHL				eP	Pn	04 02 00.5	-1.0
SHL				eS	Sn	04 04 01.5	-10
SHL				iS	Sn	04 04 07.0	-4.4
SHL				IAML		04 04 09.5	
	comp=E,59nm,0.1s						
SHL				IAML		04 04 11.7	
	comp=N,65nm,0.1s						
SHL	Shillong	11.72	355		Pn	04 02 01.5	0.0
KOHI	KOHIMA	11.89	5	eP	Pn	04 02 04.9	+1.2
KOHI				eS	Sn	04 04 10.7	-4.6
KOHI				IAML		04 04 21.0	
	comp=N,49nm,0.4s						
KOHI				IAML		04 04 21.4	
	comp=E,45nm,0.7s						
RPSI	Rantau Prapat	12.54	151		Pn	04 02 12.3	-0.3
SLVN	Son La	12.85	53		Pn	04 02 17.2	+0.4
ODAN	Odare	13.97	339	eP	Pn	04 02 30.1	-2.1
	comp=E,28nm,0.3s						
HYB	Hyderabad	14.30	286	iP	Pn	04 02 34.0	-2.6
HYB				eS	Sn	04 05 14.0	-0.3
HYB	Hyderabad	14.30	286	eP	Pn	04 02 33.7	-3.0
HYB				ex	x	04 05 02.0	
HYB				ex	x	04 05 03.0	
TAPN	Taplejung	14.31	341	eP	Pn	04 02 35.3	-1.7
	comp=E,21nm,0.3s						
RAMN	Ramite	14.34	337	eP	Pn	04 02 35.5	-1.8
	comp=E,28nm,0.3s						
JIRN	Jiri	15.13	336	eP	Pn	04 02 46.3	-1.8
	comp=E,38nm,0.3s						
PKI	Pulchoki	15.37	334	eP	Pn	04 02 49.1	-2.1
	comp=E,45nm,0.5s						
PKIN	Phulchoki	15.38	334	eP	Pn	04 02 49.1	-2.2
	comp=E,41nm,0.5s						
JBP	Jabalpur	15.39	309	ex	Pn	04 02 54.5	+3.4
JBP				ex	x	04 05 10.8	
GUN	Gumba	15.48	336	eP	Pn	04 02 50.5	-2.1
	comp=E,13nm,0.3s						
DMN	Daman	15.54	333	eP	Pn	04 02 51.4	-1.9
	comp=E,37nm,0.4s						
LSA	Lhasa	15.88	354	Pn	Pn	04 02 57.1	-0.8
LSA				Sn	Sn	04 05 50.4	-2.9
GKN	Gorkha	16.09	333	eP	Pn	04 02 58.6	-1.6
	comp=E,5.1nm,0.2s						
KOLN	Koldanda	16.38	329	eP	Pn	04 03 02.2	-1.8
	comp=E,28nm,0.3s						
DANN	Dangsing	16.78	331	eP	Pn	04 03 08.1	-1.1
	comp=E,20nm,0.3s						
BHPL	Bhopal	17.42	305	eP	Pn	04 03 16.3	-0.6
BHPL				IAmb	IAmb	04 03 32.9	
	comp=Z,34nm,0.5s						
KAD	Karad	18.39	283	eP	P	04 03 26.4	-2.3
POO	Poona	18.91	287	eP	P	04 03 33.5	-1.0
PMBI	Palembang	20.37	144	P	P	04 03 45.3	-5.0
MNAI	Manna	20.62	150	P	P	04 03 50.1	-3.0
ENH	Enshi	22.39	40	P	P	04 04 11.7	-0.3
ENH				IAmb	IAmb	04 04 14.4	
	comp=Z,55nm,0.9s						
XAN	Xi'an	24.80	33	P	P	04 04 36.3	+0.8
XAN				IAmb	IAmb	04 04 38.4	
	comp=Z,36nm,0.9s						
SSLB	Suanglung	28.27	65	P	P	04 05 07.0	+0.2
SSLB				IAmb	IAmb	04 05 11.1	
	comp=Z,16nm,1.0s						
H08S3	Diego Garcia H	29.43	225	T	T	04 35 51.5	
	baz=43,slow=76,SNR=18						
H08S2	Diego Garcia H	29.44	225	T	T	04 35 45.4	
	baz=43,slow=76,SNR=19						
H08S1	Diego Carcia H	29.45	225	T	T	04 35 53.1	
	baz=43,slow=76,SNR=16						
TARG	Taragay, Kyrgy	30.75	338	P	P	04 05 27.6	-1.5
GAR	Garm	32.05	326	P	P	04 05 41.0	+0.8
ARSB	Arslanbob	32.44	331	P	P	04 05 44.1	+0.4
ARSB				IAmb	IAmb	04 06 01.0	
	comp=Z,12nm,1.1s						
KAPI	Kappang	32.54	123	P	P	04 05 45.4	+0.8
BTK	Batken	32.55	328	P	P	04 05 45.7	+1.2
BTK				IAmb	IAmb	04 06 02.0	
	comp=Z,12nm,0.9s						
AAK	Ala-Archa	32.83	335	P	P	04 05 49.1	+2.1
	comp=Z,0.6nm,0.3s,baz=153,slow=4.5,SNR=2.4						
AAK	Ala-Archa	32.83	335	P	P	04 05 48.2	+1.2
MK31	Makanchi Array	34.06	347	P	P	04 05 58.0	+0.5
MK31				IAmb	IAmb	04 06 00.3	
	comp=Z,5.7nm,1.1s						
MKAR	Makanchi Array	34.06	347	P	P	04 05 59.7	+2.2
	comp=Z,3.3nm,0.7s,baz=172,slow=7.6,SNR=19						
KK31	Karatay Array	34.98	331	P	P	04 06 06.2	+0.6
KKAR	Karatay Array	34.98	331	P	P	04 06 05.7	+0.2
SONM	Songino Array	35.71	16	P	P	04 06 14.5	+2.6
	comp=Z,6.2nm,1.0s,baz=200,slow=9.2,SNR=24						
SONM				PcP	PcP	04 08 40.8	+1.1
	comp=Z,0.9nm,0.6s,baz=201,slow=3.9,SNR=4.1						
ULN	Ulaanbaatar	35.92	16	P	P	04 06 13.5	-0.2
ULN				IAmb	IAmb	04 06 17.7	
	comp=Z,5.3nm,1.0s						
UOSS	Minazif	36.26	293	P	P	04 06 16.5	-0.3
KURBB	Kurchatov Arra	38.52	345	P	P	04 06 37.5	+1.9
	comp=Z,3.3nm,0.6s,baz=164,slow=8.0,SNR=14						
KURK	Kurchatov	38.59	345	P	P	04 06 37.4	+1.3
KSRS	Korea Array	39.00	46	P	P	04 06 40.9	+1.1
	comp=Z,4.3nm,0.7s,baz=242,slow=8.4,SNR=18						
GEYT	Alibeck	39.11	314	P	P	04 06 42.0	+1.3
	comp=Z,5.9nm,0.7s,baz=146,slow=9.0,SNR=6.6						
ZAA0	Zalesovo Array	40.54	353	P	P	04 06 52.7	+0.4
ZAA0				IAmb	IAmb	04 06 54.9	
	comp=Z,6.0nm,0.8s						
ZALV	Zalesovo Beam	40.54	353	P	P	04 06 54.1	+1.8
	comp=Z,4.4nm,0.5s,baz=179,slow=8.9,SNR=22						
BVAR	Borovoye Array	43.02	340	P	P	04 07 14.2	+1.6
	comp=Z,0.8nm,0.5s,baz=138,slow=9.1,SNR=6.0						
BRVK	Borovoye	43.08	340	P	P	04 07 13.0	-0.1
ABKAR	Akbulak array	44.50	329	P	P	04 07 25.4	+0.8
ABKAR				IAmb	IAmb	04 07 41.4	
	comp=Z,6.5nm,0.9s						
USA0B	Ussuriysk Arra	44.97	40	P	P	04 07 27.9	-0.5
USA0B				IAmb	IAmb	04 07 30.7	
	comp=Z,6.0nm,0.9s						
USRK	Ussuriysk Ar.	44.97	40	P	P	04 07 28.5	+0.1
	comp=Z,2.8nm,0.8s,baz=242,slow=8.0,SNR=6.3						
FITZ	Fitzroy Crossi	45.24	134	P	P	04 07 29.2	-1.7
FITZ				IAmb	IAmb	04 07 30.0	
	comp=Z,13nm,1.1s						
RAYN	Ar Rayn	45.78	289	P	P	04 07 36.3	+1.0
KNRA	Kununurra	45.98	128	P	P	04 07 35.2	-1.5
KNRA				IAmb	IAmb	04 07 35.3	
	comp=Z,7.3nm,0.8s						
AKTO	Aktyubinsk	46.22	330	P	P	04 07 39.2	+1.0
	comp=Z,1.9nm,0.8s,baz=107,slow=8.8,SNR=5.1						
MJAR	Matsushiro Arr	46.27	52	P	P	04 07 39.5	+0.7
	comp=Z,2.9nm,0.7s,baz=263,slow=11,SNR=7.2						
MJAR				LR	LR	04 29 46.5	
	comp=Z,44nm,18.1s,baz=205,slow=40						
GNI	Garni	49.54	311	P	P	04 08 04.9	+0.6
NWAO	Narrogin (SRO)	51.97	154	P	P	04 08 21.2	-1.2
NWAO				IAmb	IAmb	04 08 30.7	
	comp=Z,8.6nm,1.1s						
WB0	Warramunga Arr	52.71	128	P	P	04 08 27.0	-1.2
WB0				IAmb	IAmb	04 08 27.7	
	comp=Z,14nm,0.8s						
WRA	Warramunga Arr	52.78	129	P	P	04 08 27.4	-1.3
	comp=Z,9.3nm,0.7s,baz=305,slow=8.3,SNR=73						
WRA				PcP	PcP	04 09 37.7	-0.2
	comp=Z,1.9nm,1.1s,baz=323,slow=2.9,SNR=2.9						
WRAB	Tennant Creek	52.78	129	P	P	04 08 27.6	-1.0
WRAB				IAmb	IAmb	04 08 28.3	
	comp=Z,14nm,0.7s						
WB2	Warramunga Arr	52.78	129	P	P	04 08 27.4	-1.3
WB2				IAmb	IAmb	04 08 28.3	
	comp=Z,14nm,0.7s						
WR0	Warramunga Arr	52.94	128	P	P	04 08 27.9	-2.0
WR0				IAmb	IAmb	04 08 29.5	
	comp=Z,9.7nm,0.8s						
AS31	Alice Springs	54.71	133	P	P	04 08 41.7	-1.1
ASAR	Alice Springs	54.71	133	P	P	04 08 41.6	-1.2
	comp=Z,4.1nm,0.7s,baz=308,slow=6.7,SNR=32						
KMBO	Kilima Mbogo	57.12	260	LR	LR	04 31 50.3	
	comp=Z,38nm,20.1s,baz=94,slow=34						
BR131	Keskin Array S	57.74	308	P	P	04 09 05.2	+0.7
BR131				IAmb	IAmb	04 09 17.7	
	comp=Z,4.7nm,1.0s						
BRTR	Keskin Array B	57.74	308	P	P	04 09 05.0	+0.5
	comp=Z,1.8nm,0.7s,baz=118,slow=7.2,SNR=11						
TIXI	Tiksi	61.68	12	P	P	04 09 31.2	+0.5
TIXI				IAmb	IAmb	04 09 32.0	
	comp=Z,6.1nm,0.8s						
PETK	Petropavlovsk-	63.95	37	LR	LR	04 42 09.8	
	comp=Z,37nm,18.1s,baz=241,slow=40						
STKA	Stephens Creek	65.10	135	P	P	04 09 53.3	-0.7
	comp=Z,2.3nm,0.5s,baz=319,slow=11,SNR=3.1						
STKA				LR	LR	04 40 24.9	
	comp=Z,29nm,21.1s,baz=202,slow=38						
FINES	FINESS Array B	66.94	331	P	P	04 10 05.8	+0.5
	comp=Z,2.1nm,0.8s,baz=98,slow=4.2,SNR=3.7						
SUW	Suwalki	67.04	323	P	P	04 10 06.9	+0.7
ARCES	ARCESS Array B	69.30	340	LR	LR	04 47 13.3	
	comp=Z,60nm,18.2s,baz=320,slow=42						
GERES	GERESS Array B	72.65	317	P	P	04 10 42.0	+1.1
	comp=Z,0.3nm,0.5s,baz=95,slow=3.2,SNR=3.5						
NB2	NORSAR Subarra	74.01	330	P	P	04 10 49.1	+0.5
	comp=Z,3.3nm,1.1s,baz=90,slow=5.9						
NOA	NORSAR Array B	74.01	330	P	P	04 10 48.9	+0.4
	comp=Z,0.9nm,1.0s,baz=125,slow=7.0,SNR=2.6						
BOSA	Boshof	77.80	236	P	P	04 11 11.1	+0.2
	comp=Z,3.0nm,0.7s,baz=107,slow=3.2,SNR=7.3						
BOSA	Boshof	77.80	236	P	P	04 11 10.9	0.0
ESDC	Sonseca Array	86.50	310	P	P	04 11 57.0	+0.7
	comp=Z,0.3nm,0.5s,baz=56,slow=4.1,SNR=4.1						
TORD	Torodi Ar. Bea	88.10	283	P	P	04 12 04.6	+0.2
	comp=Z,0.6nm,0.8s,baz=87,slow=4.6,SNR=3.2						
MLY	Manley	88.16	22	P	P	04 12 04.5	+0.8
MLY				IAmb	IAmb	04 12 06.5	
	comp=Z,3.4nm,0.8s						
BPAW	Bear Paw Mtn.	88.52	23	P	P	04 12 06.5	+1.0
BPAW				IAmb	IAmb	04 12 08.3	
	comp=Z,8.9nm,1.0s						
SKT	Skwentna	89.34	25	P	P	04 12 10.1	+0.7
ILAR	Eielson Array	89.70	22	P	P	04 12 11.1	+0.1
	comp=Z,1.3nm,0.8s,baz=300,slow=4.4,SNR=18						
SUA	Susitna One	89.92	25	P	P	04 12 13.0	+0.8
RC01	Rabbit Creek A	90.53	26	P	P	04 12 13.5	-1.3
SCRK	Sand Creek	91.19	22	P	P	04 12 19.0	+0.9
SCRK				IAmb	IAmb	04 12 20.5	
	comp=Z,3.8nm,0.8s						
DOT	Dot Lake	91.36	22	P	P	04 12 16.6	-2.1
MENT	Mentasta	91.90	22	P	P	04 12 22.0	+0.7
MENT				IAmb	IAmb	04 12 24.4	
	comp=Z,6.9nm,1.1s						
MCARA	McCarthy VSAT	93.08	24	P	P	04 12 27.8	+1.1
PDAR	Pinedale Array	120.02	19	PKP	PKiKP	04 18 04.5	+0.1
	comp=Z,0.4nm,0.7s,baz=342,slow=0.3,SNR=3.8						
TXAR	Lajitas Array	134.20	20	PKP	PKiKP	04 18 33.4	+0.5
	comp=Z,0.3nm,0.6s,baz=47,slow=0.9,SNR=5.8						

ISCJB 04 04:05:36.9±0.2, 6°.80N±0°.02×73°.08W±0°.03, h156km±2km, mb3.7/10, Error ellipse: s-maj=4.3km s-min=3.0km az=23.8
IDC 04 04:05:38.0±0.6, 6°.73N×72°.95W, h156km±6km, mb3.5/10, mb1 3.7/13, mb1mx3.5/32, mbtmp4.0/13, Error ellipse: s-maj=15.4km s-min=7.0km az=134.0
NEIC 04 04:05:37.8±1.2, 6°.70N±0°.08×72°.94W±0°.08, h158km±7km, mb4.1/16, ML3.7(RSNC)
RSNC 04 04:05:39.1±1.1, 6°.80N×73°.14W, h145km±4km, ML3.7, Mw3.7, Fault plane solution: NP1:φs70.00000°, δ42.00000°, λ-163.00000°.
ISC 04 04:05:37.9±0.6**, 6°.80N**±0°.03×**73°.06W**±0°.04**, h154**km±5km**, n70, σ1s27**/105**, mb4.0**/16**, 12C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARC	Barichara	0.23	210	⇓iP	Pn	04 05 58.9	-0.1
BARC				eS	Sn	04 06 13.4	-1.7
BARC				i		04 06 15.0	
	comp=Z,4μm,0.7s						
PAMC	Pamplona, Colo	0.65	34	⇓iP	Pn	04 06 01.8	+0.8
PAMC				eS	Sn	04 06 18.6	-0.1
PAMC				i		04 06 20.9	
	comp=Z,1μm,0.5s						
BRRC	Barranca, Sant	0.71	296	⇑iP	Pn	04 06 00.8	0.0
BRRC				eS	Sn	04 06 17.1	-1.2
BRRC				i		04 06 21.7	
	comp=Z,1μm,0.1s						
RUSC	La Rusia	0.90	181	⇑iP	Pn	04 06 02.7	0.0
RUSC				eS	Sn	04 06 21.0	-0.8
RUSC				i		04 06 23.4	
	comp=Z,916nm,0.8s						
TAMC	Tame, Arauca	1.31	106	⇓iP	Pn	04 06 07.3	+1.4
TAMC				eS	Sn	04 06 28.7	+1.4
TAMC				i		04 06 29.2	
	comp=Z,373nm,0.4s						
TAMC				i		04 06 38.2	
	comp=Z,456nm,0.4s						
PTBC	PUERTO BERRIO,	1.41	260	⇑iP	Pn	04 06 05.4	-1.4
PTBC				eS	Sn	04 06 26.6	-2.2
PTBC				i		04 06 29.4	
	comp=Z,1μm,0.1s						
OCAC	Ocana	1.45	350	⇑iP	Pn	04 06 07.3	-0.1
OCAC				eS	Sn	04 06 28.8	-1.3
OCAC				i		04 06 32.5	
	comp=Z,625nm,0.8s						
SPBC	San Pablo de B	1.52	221	⇑iP	Pn	04 06 07.8	-0.2
SPBC				eS	Sn	04 06 29.7	-1.4
SPBC				i		04 06 33.8	
	comp=Z,486nm,0.4s						
ZARC	Zaragoza, Cauc	1.91	291	eP	Pn	04 06 11.9	-0.3
ZARC				eS	Sn	04 06 37.8	-0.7
ZARC				i		04 06 44.2	
	comp=Z,596nm,0.6s						
NORC	Norcasia	2.17	236	⇑iP	Pn	04 06 14.6	-0.7
NORC				eS	Sn	04 06 42.9	-1.2
NORC				i		04 06 45.1	
	comp=Z,320nm,0.3s						
SMLC	San Martn de	2.23	333	eP	Pn	04 06 15.2	-0.7
SMLC				eS	Sn	04 06 43.9	-1.3
SMLC				i		04 06 58.8	
	comp=Z,571nm,0.1s						
CHIC	Chingaza	2.25	197	⇑iP	Pn	04 06 16.9	+0.2
CHIC				eS	Sn	04 06 45.9	-0.6
CHIC				i		04 06 52.5	
	comp=Z,312nm,0.6s						
ROSC	El Rosal	2.31	213	⇑iP	Pn	04 06 18.8	+1.5
ROSC				eS	Sn	04 06 49.4	+1.8
ROSC				i		04 06 55.4	
	comp=Z,820nm,0.5s						
ROSC	El Rosal	2.31	213	P	Pn	04 06 19.2	+1.9
	comp=Z,95nm,0.3s,baz=184,slow=4.6,SNR=222						
ROSC				S	Sn	04 06 48.2	+0.5
	comp=Z,152nm,0.3s,baz=15,slow=23,SNR=14						
ROSC	El Rosal	2.31	213		Pn	04 06 18.0	+0.7
ROSC					Sn	04 06 46.7	-0.9
HELC	Santa Helena	2.52	256	eP	Pn	04 06 20.0	+0.2
HELC				eS	Sn	04 06 50.5	-1.6
HELC				i		04 06 57.5	
	comp=Z,472nm,0.4s						
VILC	Villavicencio,	2.74	193	eP	Pn	04 06 22.3	0.0
VILC				eS	Sn	04 06 56.3	-0.3
VILC				i		04 07 02.3	
	comp=Z,378nm,0.5s						
PTGC	Puerto Gaitan,	2.74	160	⇑iP	Pn	04 06 22.1	-0.1
PTGC				eS	Sn	04 06 54.9	-1.6
PTGC				i		04 06 56.8	
	comp=Z,289nm,0.5s						
GUY2C	Guyana, Caldas	2.77	236	eP	Pn	04 06 23.7	+0.7
GUY2C				eS	Sn	04 06 57.1	-0.6
GUY2C				i		04 07 03.7	
	comp=Z,472nm,0.8s						
RREF	El Recreo	2.95	230	eP	Pn	04 06 25.8	+0.4
RREF				eS	Sn	04 07 02.1	+0.1
RREF				i		04 07 12.1	
	comp=Z,201nm,0.4s						
CBOC	Ciudad Bolivar	3.07	253	⇑eP	Pn	04 06 27.1	+0.6
CBOC				eS	Sn	04 07 02.2	-1.8
CBOC				i		04 07 14.9	
	comp=Z,166nm,0.4s						
CODC	Agustn Codazz	3.14	353	eP	Pn	04 06 27.0	-0.2
CODC				eS	Sn	04 07 04.0	-1.4
CODC				i		04 07 12.1	
	comp=Z,49nm,0.4s						
SDV	Santo Domingo	3.18	49	P	Pn	04 06 28.6	+0.8
	comp=Z,24nm,0.3s,baz=213,slow=9.6,SNR=221						
SDV				S	Sn	04 07 06.0	-0.5
	comp=Z,47nm,0.3s,baz=249,slow=22,SNR=39						
SDV	Santo Domingo	3.18	49		Pn	04 06 27.8	-0.1
SDV				Sn	Sn	04 07 06.4	-0.1
ARGC	Ariguani, Magd	3.26	339	eP	Pn	04 06 29.8	+1.1
ARGC				eS	Sn	04 07 07.7	-0.4
ARGC				i		04 07 19.5	
	comp=Z,90nm,0.5s						
PRAC	Prado	3.56	211	eP	Pn	04 06 32.3	-0.3
PRAC				eS	Sn	04 07 14.6	-0.5
PRAC				i		04 07 22.0	
	comp=Z,253nm,0.4s						
ORTC	Ortega, Tolima	3.60	217	⇑eP	Pn	04 06 33.0	-0.1
ORTC				eS	Sn	04 07 14.7	-1.2
ORTC				i		04 07 20.4	
	comp=Z,191nm,0.5s						
PLMC	San Jos del P	3.71	240	eP	Pn	04 06 34.9	+0.3
PLMC				eS	Sn	04 07 16.4	-2.2
PLMC				i		04 07 27.2	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,191nm,0.4s						
SJCC	**San Jacinto, C**	**3.72**	**326**	eP	**Pn**	**04 06 32.9**	**-1.8**
SJCC				eS	**Sn**	**04 07 14.7**	**-4.2**
SJCC				i		04 07 24.1	
	comp=Z,69nm,0.6s						
GUVC	**San Jose del G**	**4.25**	**174**	eP	**Pn**	**04 06 41.4**	**-0.1**
GUVC				eS	**Sn**	**04 07 30.1**	**-0.9**
GUVC				i		04 07 34.0	
	comp=Z,88nm,0.3s						
YOTC	**Yotoco, Valle**	**4.30**	**230**	eP	**Pn**	**04 06 41.6**	**-0.6**
YOTC				eS	**Sn**	**04 07 32.1**	**-0.3**
YOTC				i		04 07 38.6	
	comp=Z,52nm,1.1s						
MACC	**Macarena, Meta**	**4.69**	**190**	⇑iP	**Pn**	**04 06 46.0**	**-1.3**
MACC				eS	**Sn**	**04 07 36.6**	**-4.9**
MACC				i		04 07 43.0	
	comp=Z,74nm,1.1s						
BCIP	**Isla Barro Col**	**7.11**	**290**	Pn	**Pn**	**04 07 21.1**	**+1.7**
OTAV	**Otavalo**	**8.45**	**220**		**Pn**	**04 07 37.4**	**-0.3**
OTAV					**Sn**	**04 09 10.5**	**-1.5**
PCRV	**Puerto La Cruz**	**8.99**	**67**	P	**Pn**	**04 07 45.2**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=290,slow=1.7,SNR=6.8						
PCRV				S	**Sn**	**04 09 22.9**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=259,slow=5.2,SNR=2.4						
MTDJ	**Mount Denham**	**12.17**	**339**	Pn	**Pn**	**04 08 28.3**	**+1.9**
JTS	**Las Juntas de**	**12.26**	**287**	P	**P**	**04 08 35.1**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=135,slow=12,SNR=8.5						
JTS	**Las Juntas de**	**12.26**	**287**		**Pn**	**04 08 28.7**	**+1.2**
PDPR	**Patillas Dam,**	**13.10**	**31**	Pn	**Pn**	**04 08 37.8**	**-0.4**
HUMP	**Col San Antoni**	**13.29**	**31**	Pn	**Pn**	**04 08 40.2**	**-0.5**
CBYP	**Canovanas**	**13.39**	**31**	Pn	**Pn**	**04 08 41.1**	**-1.0**
SAML	**Samuel**	**18.48**	**148**	P	**Pn**	**04 09 42.5**	**-1.8**
PAYG	**Puerto Ayora**	**18.72**	**247**	P	**Pn**	**04 09 47.0**	**-0.1**
LPAZ	**La Paz**	**23.45**	**168**	P	**P**	**04 10 32.9**	**-1.4**
HODGE	**Hodges**	**28.59**	**344**	P	**P**	**04 11 21.7**	**+2.1**
Z50A	**Ashland**	**28.91**	**337**	P	**P**	**04 11 25.0**	**+2.5**
Z50A				IAmb	IAmb	04 11 25.4	
	comp=Z,2.5nm,0.8s						
WVT	**Waverly**	**32.17**	**337**	P	**P**	**04 11 52.6**	**+1.4**
WVT				IAmb	IAmb	04 12 06.9	
	comp=Z,2.5nm,0.9s						
BDFB	**Brasilia**	**33.36**	**132**	P	**P**	**04 12 01.9**	**0.0**
	comp=Z,1.7nm,0.7s,baz=286,slow=9.9,SNR=4.2						
BDFB	**Brasilia**	**33.36**	**132**	P	**P**	**04 12 01.3**	**-0.5**
BDFB				IAmb	IAmb	04 12 02.9	
	comp=Z,3.7nm,1.0s						
WHAR	**Wooly Hollow**	**33.41**	**331**	P	**P**	**04 12 03.2**	**+1.2**
WHAR				IAmb	IAmb	04 12 04.3	
	comp=Z,2.7nm,0.9s						
FCAR	**Ozark Folk Cen**	**33.82**	**332**	P	**P**	**04 12 06.1**	**+0.7**
U40A	**Yellville**	**34.54**	**331**	P	**P**	**04 12 13.1**	**+1.4**
U40A				IAmb	IAmb	04 12 13.5	
	comp=Z,3.6nm,0.6s						
CCM	**Cathedral Cave**	**35.22**	**335**	P	**P**	**04 12 17.8**	**+0.3**
CCM				IAmb	IAmb	04 12 19.4	
	comp=Z,4.8nm,0.8s						
TXAR	**Lajitas Array**	**36.52**	**312**	P	**P**	**04 12 30.0**	**+1.2**
	comp=Z,0.2nm,0.8s,baz=126,slow=9.1,SNR=3.3						
TXAR				PcP	**PcP**	**04 14 50.4**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=121,slow=4.9,SNR=4.7						
SDCO	**Great Sand Dun**	**42.60**	**321**	P	**P**	**04 13 17.2**	**-2.0**
SDCO				IAmb	IAmb	04 13 26.6	
	comp=Z,4.3nm,1.0s						
EYMN	**Ely**	**43.91**	**342**	P	**P**	**04 13 29.6**	**+0.4**
ULM	**Lac du Bonnet**	**47.33**	**340**	P	**P**	**04 13 56.0**	**+0.1**
	comp=Z,2.7nm,0.4s,baz=142,slow=5.5,SNR=6.1						
ULM	**Lac du Bonnet**	**47.33**	**340**	P	**P**	**04 13 56.1**	**+0.2**
ULM				IAmb	IAmb	04 13 56.8	
	comp=Z,7.2nm,1.1s						
PDAR	**Pinedale Array**	**48.13**	**324**	P	**P**	**04 14 03.4**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=118,slow=9.9,SNR=4.7						
SCHQ	**Schefferville**	**48.16**	**5**	P	**P**	**04 14 03.0**	**+0.7**
	comp=Z,9.1nm,0.7s,baz=193,slow=5.3,SNR=12						
SCHQ	**Schefferville**	**48.16**	**5**	P	**P**	**04 14 02.8**	**+0.4**
YKA	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**04 15 50.4**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=133,slow=6.6,SNR=30						
DBIC	**Dimbokro**	**67.68**	**86**	P	**P**	**04 16 17.3**	**-1.8**
	comp=Z,3.8nm,1.0s,baz=217,slow=3.7,SNR=4.0						
DBIC	**Dimbokro**	**67.68**	**86**	P	**P**	**04 16 17.1**	**-2.0**
TORD	**Torodi Ar. Bea**	**73.69**	**78**	P	**P**	**04 16 53.6**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=278,slow=5.4,SNR=5.0						
ILAR	**Eielson Array**	**77.01**	**335**	P	**P**	**04 17 13.6**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=104,slow=4.3,SNR=5.7						
NOA	**NORSAR Array B**	**81.32**	**29**	P	**P**	**04 17 37.2**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=268,slow=5.3,SNR=3.4						
MKAR	**Makanchi Array**	**122.32**	**20**	PKP	**PKPdf**	**04 24 14.4**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=291,slow=2.8,SNR=5.4						
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc	**PKPbc**	**04 25 08.6**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=116,slow=3.5,SNR=14						
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	**PKPbc**	**04 25 11.8**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=109,slow=2.8,SNR=21						

IDC 04 04:07:30.2±1.4**, 4°.32S×127°.46E, h0**km**, mb3.5**/2**, mb1 3.9**/5**, mb1mx3.6**/26**, mbtmp3.8**/5**, ML3.7**/3**, Error ellipse: s-maj=29.2km s-min=26.4km az=93.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.12**	**48**	Pn	Pn	04 08 50.2	+2.0
	3.7nm,0.3s,baz=234,slow=14,SNR=10						
SIJI				Sn	Sn	04 09 50.5	+2.4
	0.5nm,0.3s,baz=90,slow=20,SNR=4.4						
KAPI	**Kappang**	**7.71**	**265**	Pn	Pn	04 09 25.7	+1.9
	3.3nm,0.3s,baz=108,slow=4.7,SNR=20						
KAPI				Sn	Sn	04 10 50.0	-1.9
	1.0nm,0.3s,baz=257,slow=18,SNR=2.4						
WRA	**Warramunga Arr**	**16.91**	**157**	Pn	Pn	04 11 26.4	-2.0
	0.2nm,0.3s,baz=341,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**20.21**	**163**	P	P	04 12 07.6	+0.7
	1.3nm,0.6s,baz=344,slow=11,SNR=9.7						
MKAR	**Makanchi Array**	**64.62**	**327**	P	P	04 18 08.8	-0.8
	0.3nm,0.4s,baz=115,slow=7.6,SNR=3.2						

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*NNC **04** 04:33:01.2±5.6, 39°.36N×70°.40E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=49.9km s-min=24.3km az=179.0*

*KRNET **04** 04:33:07.5±0.1, 39°.68N×71°.34E, mb3.2*

ISC 04 04:33:10.6±2.3**, 39°.8N**±0°.1×**71°.21E**±0°.04**, h13**km±10km**, n16,** σ1**°.78**/32**, 21C-12D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BTK	**Batken**	**0.38**	**308**	⇓iP	**Pg**	**04 33 18.0**	**-0.3**
	baz=13						
BTK				⇓iS	**Sb**	**04 33 25.6**	**+0.6**
	baz=13						
ARSB	**Arslanbob**	**2.02**	**42**	⇑iP	**Pn**	**04 33 44.7**	**+0.2**
	baz=37						
ARSB				⇑iS	**Sb**	**04 34 12.1**	**-0.2**
	baz=37						
ARK	**Arkit**	**2.05**	**16**	⇑iP	**Pn**	**04 33 46.4**	**+1.5**
	baz=13						
ARK				⇑iS	**Sg**	**04 34 14.4**	**-2.3**
	baz=13						
TAS	**Tashkent**	**2.09**	**316**	⇑iP	**Pn**	**04 33 47.8**	**+2.4**
	baz=17						
TAS				⇑iS	**Sg**	**04 34 17.3**	**-0.7**
	baz=17						
AML	**Almayashu**	**2.98**	**38**	⇓iP	**Pn**	**04 33 57.9**	**0.0**
	baz=35						
AML				⇓iS	**Sn**	**04 34 35.4**	**+1.8**
	baz=35						
ARLS	**Aral**	**3.12**	**48**	⇑eP	**Pn**	**04 34 00.0**	**+0.4**
	baz=45						
ARLS				⇑iS	**Sn**	**04 34 38.3**	**+1.5**
	baz=45						
KK31	**Karatay Array**	**3.32**	**351**	⇓Pn	**Pn**	**04 34 02.1**	**-0.1**
	0.4nm,0.2s,baz=184,slow=14,SNR=30						
KK31				⇓Pg	**Pb**	**04 34 11.2**	**+1.9**
	4.1nm,0.3s,baz=174,slow=22,SNR=44						
KK31				Lg	Lg	04 34 58.2	
	34nm,0.6s,baz=187,slow=26,SNR=15						
EKS2	**Erkin-Say**	**3.43**	**34**	⇑eP	**Pn**	**04 34 04.7**	**+0.8**
	baz=31						
EKS2				⇑iS	**Sn**	**04 34 46.3**	**+1.8**
	baz=31						
UCH	**Uchtor**	**3.47**	**45**	⇑iP	**Pn**	**04 34 04.7**	**0.0**
	baz=42						
UCH				⇑iS	**Sn**	**04 34 46.5**	**+0.7**
	baz=42						
AAK	**Ala-Archa**	**3.75**	**40**	⇑eP	**Pn**	**04 34 08.6**	**+0.4**
	baz=38						
AAK				⇑iS	**Sn**	**04 34 53.6**	**+1.3**
	baz=38						
AAK	**Ala-Archa**	**3.75**	**40**	⇓Pn	**Pn**	**04 34 09.8**	**+1.5**
	2.0nm,0.5s						
AAK				⇑Pg	**Pg**	**04 34 21.8**	**-0.6**
	5.6nm,0.5s						
AAK				⇓Sn	**Sb**	**04 35 04.1**	**+2.0**
	21nm,0.6s						
KZA	**Kyzart**	**3.80**	**52**	⇓eP	**Pn**	**04 34 09.1**	**-0.1**
	baz=50						
KZA				⇓iS	**Sn**	**04 34 54.4**	**+0.5**
	baz=50						
NRN	**Naryn**	**3.99**	**65**	⇑iP	**Pn**	**04 34 10.8**	**-0.9**
	baz=62						
NRN				⇑iS	**Sn**	**04 34 57.0**	**-1.4**
	baz=62						
KBK	**Karagaybulak**	**4.00**	**44**	⇑eP	**Pn**	**04 34 12.2**	**+0.5**
	baz=41						
KBK				⇑iS	**Sn**	**04 34 59.1**	**+0.7**
	baz=41						
TKM2	**Tokmak 2**	**4.53**	**45**	⇑Pn	**Pn**	**04 34 20.5**	**+1.5**
	6.7nm,0.9s						
TKM2				⇑Sn	**Sb**	**04 35 25.8**	**+1.3**
	9.0nm,0.6s						
AB31	**Akbulak array**	**12.37**	**323**	⇓Pn	Pn	04 36 00.1	-6.2
	0.8nm,0.6s,baz=166,slow=9.6,SNR=5.8						
AB31				⇓Sn	**Sn**	**04 38 17.3**	**-6.7**
	0.4nm,0.5s,baz=127,slow=25,SNR=4.2						

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*ISCJB **04** 04:51:14.1±0.4, 51°.45N±0°.02×16°.09E±0°.02, h0km, mb3.5/1, MS3.2/1, Error ellipse: s-maj=2.9km s-min=2.0km az=17.5*

*IPEC **04** 04:51:15.1±0.3, 51°.53N×16°.29E, h0km, ML2.7/3, Error ellipse: s-maj=3.2km s-min=1.4km az=50.0*

*IDC **04** 04:51:16.5±0.6, 51°.51N×15°.97E, h0km, mb3.5/1, mb1 3.6/9, mb1mx3.4/56, mbtmp3.4/9, ML3.2/8, MS3.2/1, Ms1 3.2/1, ms1mx2.3/42, Error ellipse: s-maj=14.0km s-min=6.5km az=104.0*

*BGR **04** 04:51:16.8±0.5, 51°.46N×16°.12E, h1km, ML3.2/9, Error ellipse: s-maj=7.8km s-min=3.3km az=18.0*

*PRU **04** 04:51:17.1±0.0, 51°.44N×16°.08E, h0km*

*LDG **04** 04:51:17.3±0.2, 51°.33N×15°.99E, h1km, Ml3.3/4, Error ellipse: s-maj=4.1km s-min=2.2km az=19.0, Suspected Mining induced.*

ISC 04 04:51:14.0±0.6**, 51°.54N**±0°.03×**16°.07E**±0°.02**, h0**km**, n82,** σ1**°.78**/155**, 7C-1D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**169**	ePg	**Pg**	**04 51 28.7**	**+1.0**
KSP				eSg	**Sg**	**04 51 36.6**	**-0.2**
KSP	**Ksiaz**	**0.71**	**169**	i Pg	**Pg**	**04 51 28.6**	**+1.0**
KSP				i Pg	**Pg**	**04 51 28.6**	**+1.0**
KSP				eSg	**Sg**	**04 51 37.0**	**+0.2**
KSP				eSg	**Sg**	**04 51 37.0**	**+0.2**
CHVC	**Chvalec**	**0.95**	**181**	ePG	**Pb**	**04 51 33.4**	**0.0**
CHVC				eSG	**Sg**	**04 51 45.2**	**+0.6**
	comp=Z,146nm,0.4s						
UPC	**Upice**	**1.03**	**182**	ePG	**Pb**	**04 51 34.7**	**-0.1**
UPC				eSG	**Sg**	**04 51 47.4**	**+0.2**
	comp=Z,394nm,0.5s						
DPC	**Dobruska-Polom**	**1.20**	**172**	ePg	**Pg**	**04 51 37.4**	**+0.4**
DPC	**Dobruska-Polom**	**1.20**	**172**	ePG	**Pg**	**04 51 37.5**	**+0.5**
DPC				eSG	**Sg**	**04 51 51.9**	**-0.6**
	comp=Z,101nm,0.5s						
PVCC	**Panska Ves**	**1.39**	**224**	ePG	**Pb**	**04 51 41.6**	**+0.8**
PVCC				eSG	**Sn**	**04 52 01.1**	**+1.5**
	comp=Z,256nm,0.5s						
BRG	**Berggiesshubel**	**1.50**	**244**	PN	**Pb**	**04 51 43.0**	**+0.4**
BRG				PG	**Pg**	**04 51 44.7**	**+2.1**
BRG				SG	**Sn**	**04 52 04.2**	**+2.0**
	134nm,0.5s						
BRG	**Berggiesshubel**	**1.50**	**244**	ePn	**Pb**	**04 51 43.0**	**+0.4**
BRG				ePg	**Pg**	**04 51 44.4**	**+1.8**
BRG				eSg	**Sn**	**04 52 04.3**	**+2.0**
KRLC	**Kraliky**	**1.53**	**163**	ePG	**Pn**	**04 51 43.1**	**+0.4**
KRLC				eSG	**Sg**	**04 52 01.4**	**-1.8**
	comp=Z,151nm,0.6s						
PRA	**Prague**	**1.80**	**216**	ePN	**Pn**	**04 51 47.2**	**+0.9**
PRA				eSG	**Sg**	**04 52 11.9**	**+0.1**
FBE	**Freiberg**	**1.82**	**251**	ePn	**Pg**	**04 51 49.4**	**+0.6**
FBE				eSg	**Sg**	**04 52 13.6**	**+1.3**
GOPC	**GO Pecny, Ondr**	**1.82**	**207**	ePN	**Pn**	**04 51 47.1**	**+0.5**
GOPC				ePG	**Pb**	**04 51 48.7**	**+0.5**
PRU	**Pruhonice**	**1.83**	**213**	ePN	**Pn**	**04 51 47.3**	**+0.6**
PRU				ePG	**Pb**	**04 51 48.9**	**+0.6**
PRU				eSG	**Sb**	**04 52 12.2**	**+0.4**
	comp=Z,72nm,0.6s						
CLL	**Collm**	**1.93**	**264**	ePn	**Pn**	**04 51 49.0**	**+0.9**
CLL				ePg	**Pg**	**04 51 52.0**	**+1.0**
CLL				i		04 51 56.1	
CLL				eSg	**Sg**	**04 52 18.0**	**+1.9**
	comp=Z,51nm,0.8s						
CLL	**Collm**	**1.93**	**264**	ePn	**Pn**	**04 51 49.4**	**+1.3**
CLL				eSg	**Sg**	**04 52 18.5**	**+2.4**
RAC	**Raciborz**	**1.98**	**136**	ePg	**Pg**	**04 51 51.8**	**-0.3**
RAC				ePg	**Pg**	**04 51 51.8**	**-0.3**
RAC				eSg	**Sb**	**04 52 16.9**	**+0.7**
RAC				eSg	**Sb**	**04 52 16.9**	**+0.7**
MORC	**Moravsky Berou**	**2.00**	**151**	ePn	**Pn**	**04 51 49.5**	**+0.5**
MORC	**Moravsky Berou**	**2.00**	**151**	⇑P	**Pn**	**04 51 49.2**	**+0.2**
MORC				⇑S	**Sb**	**04 52 16.0**	**-0.7**
MORC	**Moravsky Berou**	**2.00**	**151**	ePN	**Pn**	**04 51 49.3**	**+0.2**
MORC				eSG	**Sn**	**04 52 15.6**	**+0.8**
MORC	**Moravsky Berou**	**2.00**	**151**	ePn	**Pn**	**04 51 49.2**	**+0.2**
	baz=336						
MORC				eSg	**Sn**	**04 52 15.5**	**+0.8**
	comp=Z,60nm,0.4s,baz=336						
OKC	**Ostrava-Krasne**	**2.16**	**141**	ePg	**Pg**	**04 51 55.2**	**-0.1**
OKC				eSg	**Sg**	**04 52 22.6**	**-0.6**
OKC	**Ostrava-Krasne**	**2.16**	**141**	ePG	**Pg**	**04 51 54.9**	**-0.4**
OKC				eSG	**Sb**	**04 52 21.1**	**0.0**
	comp=Z,94nm,0.7s						
VRAC	**Vranov**	**2.26**	**171**	Pn	**Pn**	**04 51 53.8**	**+1.2**
	comp=Z,4.5nm,0.3s,baz=335,slow=12,SNR=17						
VRAC				Sn	**Sb**	**04 52 24.5**	**+0.4**
	comp=Z,12nm,0.3s,baz=261,slow=18,SNR=7.8						
VRAC	**Vranov**	**2.26**	**171**	⇑P	**Pn**	**04 51 53.7**	**+1.0**
VRAC				⇑S	**Sb**	**04 52 24.9**	**+0.8**
VRAC	**Vranov**	**2.26**	**171**	ePN	**Pn**	**04 51 53.6**	**+1.0**
VRAC				eSG	**Sb**	**04 52 25.2**	**+1.1**
VRAC	**Vranov**	**2.26**	**171**	ePn	**Pn**	**04 51 53.6**	**+1.0**
	baz=355						
VRAC				eSg	**Sb**	**04 52 25.1**	**+1.0**
	comp=Z,35nm,0.3s,baz=355						
PBCC	**Pribram**	**2.28**	**216**	ePN	**Pn**	**04 51 53.4**	**+0.5**
PBCC				ePG	**Pg**	**04 51 57.8**	**+0.2**
TREC	**Trest**	**2.28**	**190**	ePG	**Pg**	**04 51 57.4**	**-0.2**
TREC				eSG	**Sg**	**04 52 26.4**	**-0.7**
	comp=Z,51nm,0.3s						
KRUC	**Moravsky**	**2.49**	**175**	ePN	**Pn**	**04 51 56.7**	**+1.0**
KRUC				eSG	**Sg**	**04 52 32.7**	**-1.2**
KRUC	**Moravsky**	**2.49**	**175**	ePn	**Pn**	**04 51 56.7**	**+1.0**
	baz=358						
KRUC				eSg	**Sb**	**04 52 32.6**	**+1.9**
	comp=Z,30nm,0.3s,baz=358						
TANN	**Tannenbergstha**	**2.54**	**245**	ePn	**Pn**	**04 51 58.3**	**+1.7**
NKC	**Novy Kostel**	**2.64**	**242**	ePN	**Pn**	**04 51 59.6**	**+1.7**
NKC				ePG	**Pg**	**04 52 05.6**	**+1.0**
NKC				eSG	**Sg**	**04 52 41.4**	**+2.6**
OJC	**Ojcow**	**2.71**	**118**	ePn	**Pn**	**04 51 58.0**	**-0.8**
OJC				ePg	**Pg**	**04 52 07.5**	**+1.6**
OJC	**Ojcow**	**2.71**	**118**	ePg	**Pg**	**04 52 07.4**	**+1.6**
OJC				ePg	**Pg**	**04 52 07.4**	**+1.6**
OJC				eSg	**Sg**	**04 52 42.5**	**+1.6**
OJC				eSg	**Sg**	**04 52 42.5**	**+1.6**
JAVC	**Velka Javorina**	**2.87**	**158**	ePN	**Pn**	**04 52 02.9**	**+1.8**
KHC	**Kasperske Hory**	**2.89**	**214**	ePN	**Pn**	**04 52 02.3**	**+1.0**
KHC				ePG	**Pg**	**04 52 08.5**	**-0.9**
KHC				eSN	**Sn**	**04 52 36.7**	**-0.1**
KHC				eSG	**Sg**	**04 52 47.2**	**+0.4**
	comp=Z,34nm,0.6s						
MOX	**Moxa**	**2.95**	**254**	ePn	**Pn**	**04 52 03.7**	**+1.6**
MOX				ePg	**Pg**	**04 52 12.1**	**+1.7**
MANZ	**Manzenberg**	**2.96**	**240**	ePn	**Pn**	**04 52 04.0**	**+1.8**
ROTZ	**Rotzenmuhle**	**3.03**	**236**	ePn	**Pn**	**04 52 05.0**	**+1.8**
GEC2	**GERESS Array S**	**3.10**	**210**	ePn	**Pn**	**04 52 05.8**	**+1.6**
GERES	**GERESS Array B**	**3.10**	**210**	Pn	**Pn**	**04 52 05.8**	**+1.6**
	comp=Z,2.3nm,0.3s,baz=26,slow=12,SNR=48						
GERES				Pg	**Pb**	**04 52 12.0**	**+2.1**
	comp=Z,6.9nm,0.3s,baz=30,slow=18,SNR=54						
GERES				Lg	Lg	04 52 51.6	
	comp=Z,9.1nm,0.3s,baz=36,slow=29,SNR=8.6						
WET	**Wettzell**	**3.15**	**222**	ePn	**Pn**	**04 52 06.1**	**+1.2**
SMOL	**Smolenice**	**3.15**	**163**	ePN	Pn	04 52 00.1	-4.8
SMOL				ePG	**Pg**	**04 52 15.1**	**+0.7**
SMOL				eSG	**Sg**	**04 52 54.7**	**-0.5**
SMOL				eLG	Lg	04 53 05.1	
LANS	**Liptovska Anna**	**3.23**	**136**	ePN	**Pn**	**04 52 07.1**	**+1.1**
LANS				ePG	**Pg**	**04 52 18.8**	**+2.9**
LANS				eSG	**Sg**	**04 53 00.2**	**+2.4**
MODS	**Modra-Piesok**	**3.26**	**166**	ePG	**Pg**	**04 52 15.8**	**-0.7**
MODS				eSG	**Sg**	**04 52 56.2**	**-2.6**
MODS				eLG	Lg	04 53 02.6	
NIE	**Niedzica**	**3.44**	**127**	eP	**Pg**	**04 52 18.9**	**-0.9**
NIE				eP	**Pg**	**04 52 18.9**	**-0.9**
NIE				eS	**Sg**	**04 53 03.5**	**-0.8**
NIE				eS	**Sg**	**04 53 03.5**	**-0.8**
VYHS	**Vyhne**	**3.53**	**149**	ePN	**Pn**	**04 52 10.7**	**+0.6**
VYHS				ePG	**Pg**	**04 52 21.9**	**+0.2**
VYHS				eSG	**Sg**	**04 53 08.1**	**+0.7**
GRF	**Grafenberg Arr**	**3.60**	**241**	ePn	**Pn**	**04 52 12.9**	**+1.9**
CONA	**Conrad Observa**	**3.62**	**182**	ePn	**Pn**	**04 52 12.8**	**+1.5**
	comp=Z,4.5nm,0.3s,SNR=12						
CONA				Pg	**Pg**	**04 52 23.0**	**-0.2**
	comp=Z,12nm,0.3s						
CONA				Sg	**Sg**	**04 53 09.3**	**-0.8**
	comp=Z,29nm,0.4s						
BSD	**Bornholm Skovb**	**3.65**	**350**	i P	**Pn**	**04 52 13.0**	**+1.4**
BSD				i S	**Sn**	**04 52 53.7**	**-1.6**
MOA	**Molln**	**3.88**	**198**	ePn	**Pn**	**04 52 16.2**	**+1.4**
	comp=Z,2.6nm,0.3s,SNR=7.6						
MOA				Pg	**Pg**	**04 52 28.8**	**+0.6**
	comp=Z,6.4nm,0.3s						
MOA				Sg	**Sg**	**04 53 20.5**	**+2.1**
	comp=Z,20nm,0.3s						
STHS	**Stebnicka Huta**	**3.93**	**121**	ePN	**Pn**	**04 52 17.3**	**+1.7**
STHS				eSG	**Sg**	**04 53 25.1**	**+5.0**
STHS				eLG	Lg	04 53 36.2	
ARSA	**Arzberg**	**4.31**	**185**	ePn	**Pn**	**04 52 24.1**	**+3.3**
	comp=Z,3.2nm,0.3s,SNR=4.0						
ARSA				Sg	**Sg**	**04 53 33.8**	**+1.5**
	comp=Z,25nm,0.6s						
KOLS	**Kolonicke sedl**	**4.76**	**121**	ePN	**Pn**	**04 52 27.5**	**+0.5**
KOLS				ePG	**Pg**	**04 52 49.0**	**+3.8**
KBA	**Koelnbreinsper**	**4.81**	**203**	ePn	**Pn**	**04 52 29.7**	**+1.9**
	comp=Z,2.4nm,0.4s,SNR=6.0						
KBA				Sg	**Sg**	**04 53 49.4**	**+1.1**
	comp=Z,4.1nm,0.5s						
SOKA	**Soboth**	**4.91**	**188**	ePn	**Pn**	**04 52 31.7**	**+2.6**
	comp=Z,1.6nm,0.3s						
SOKA				Sg	**Sg**	**04 53 52.9**	**+1.1**
	comp=Z,8.3nm,0.5s						
OBKA	**Obir**	**5.13**	**192**	Pg	**Pg**	**04 52 52.6**	**+0.3**
	comp=Z,4.1nm,0.4s						
MYKA	**Terra Mystica**	**5.17**	**199**	Pg	**Pg**	**04 52 54.3**	**+1.4**
	comp=Z,2.2nm,0.3s						
MOTA	**Moosalm**	**5.30**	**220**	ePn	**Pn**	**04 52 36.3**	**+1.7**
	comp=Z,0.9nm,0.2s						
MOTA				Sn	**Sn**	**04 53 34.9**	**-1.5**
	comp=Z,2.1nm,0.3s						
RETA	**Reutte**	**5.33**	**222**	ePn	**Pn**	**04 52 35.9**	**+1.0**
	comp=Z,2.3nm,0.4s,SNR=5.5						
RETA				eSn	**Sn**	**04 53 36.5**	**-0.4**
	comp=Z,2.7nm,0.4s						
SQTA	**Sankt Quirin**	**5.36**	**218**	ePn	**Pn**	**04 52 38.0**	**+2.7**
	comp=Z,1.9nm,0.2s						
TRPA	**Tarpa**	**5.40**	**127**	⇑P	**Pn**	**04 52 35.3**	**-0.4**
FETA	**Feichten**	**5.71**	**220**	ePn	**Pn**	**04 52 41.8**	**+1.6**
	comp=Z,0.5nm,0.4s						
DAVA	**Damuels**	**5.87**	**226**	ePn	**Pn**	**04 52 43.3**	**+1.0**
	comp=Z,1.5nm,0.2s						
DAVOX	**Davos/Dischmat**	**6.26**	**223**	Pn	**Pn**	**04 52 49.3**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=350,slow=17,SNR=4.4						
DAVOX				Lg	Lg	04 54 33.4	
	comp=Z,0.3nm,0.3s,baz=221,slow=20,SNR=3.7						
SIRR	**Siria**	**6.43**	**143**	⇑P	**Pn**	**04 52 50.4**	**+0.4**
DRGR		**6.44**	**135**	⇑P	**Pn**	**04 52 50.3**	**+0.2**
CDF	**Champ du Feu**	**6.48**	**245**	ePn	**Pn**	**04 52 49.9**	**-0.7**
CDF				eSg	**Sg**	**04 54 36.3**	**-5.6**
	comp=Z,7.9nm,0.6s						
HINF	**Hinteralfeld**	**7.04**	**242**	ePn	**Pn**	**04 52 57.6**	**-0.8**
HINF				eSg	**Sg**	**04 54 53.4**	**-6.7**
	comp=Z,4.5nm,0.5s						
BURAR	**Bucovina Array**	**7.12**	**120**	⇓P	**Pn**	**04 52 58.4**	**-1.1**
HAU	**Haudompre**	**7.22**	**244**	ePn	**Pn**	**04 52 59.9**	**-0.8**
HAU				eSg	**Sg**	**04 54 58.5**	**-7.2**
	comp=Z,4.7nm,0.5s						
BAIF	**Baives**	**7.66**	**263**	ePn	**Pn**	**04 53 06.9**	**+0.1**
BAIF				eSg	**Sg**	**04 55 14.9**	**-5.0**
	comp=Z,4.9nm,0.5s						
AKASG	**Malin Array Be**	**8.32**	**91**	Pn	**Pn**	**04 53 15.1**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=278,slow=12,SNR=4.9						
HFS	**Hagfors**	**8.72**	**352**	Pn	**Pn**	**04 53 21.8**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=173,slow=14,SNR=8.2						
LOR	**Lormes**	**9.03**	**247**	ePn	**Pn**	**04 53 24.8**	**-0.8**
	baz=62						
NOA	**NORSAR Array B**	**9.89**	**346**	Pn	**Pn**	**04 53 36.9**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=211,slow=16,SNR=5.2						
FINES	**FINESS Array B**	**11.35**	**25**	Pn	**Pn**	**04 53 56.7**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=211,slow=11,SNR=11						
FINES				Sn	**Sn**	**04 55 57.1**	**-7.5**
	comp=Z,0.2nm,0.3s,baz=222,slow=24,SNR=4.0						
EKA	**Eskdalemuir Ar**	**12.07**	**296**	Pn	**Pn**	**04 54 05.3**	**-1.8**
	baz=103,slow=13,SNR=4.9						
ARCES	**ARCESS Array B**	**18.60**	**10**	Pn	**P**	**04 55 30.6**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=189,slow=12,SNR=9.0						
TORD	**Torodi Ar. Bea**	**40.02**	**202**	LR	LR	05 16 21.8	
	comp=Z,34nm,19.3s,baz=5.0,slow=38						
YKA	**Yellowknife Ar**	**59.82**	**336**	P	**P**	**05 01 23.2**	**+2.7**
	comp=Z,0.3nm,0.5s,baz=25,slow=7.1,SNR=3.9						

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*ANF **04** 04:53:19.2±0.7, 7°.49N×85°.54W, h30km, Error ellipse: s-maj=12.0km s-min=7.4km az=174.0*

*ISCJB **04** 04:54:03.9±0.3, 10°.91N±0°.05×85°.28W±0°.05, h193km±2km, mb3.5/9, Error ellipse: s-maj=9.9km s-min=4.9km az=137.6*

*NEIC **04** 04:54:04.4±1.3, 10°.95N±0°.08×85°.21W±0°.05, h190km±6km, mb4.4/36, Mwr4.3(UCR)*

*IDC **04** 04:54:04.0±0.5, 10°.86N×85°.23W, h185km±6km, mb3.4/10, mb1 3.6/14, mb1mx3.5/42, mbtmp4.0/14, Error ellipse: s-maj=27.0km s-min=12.1km az=31.0*

*UCR **04** 04:54:05.5±1.1, 10°.97N×85°.22W, h181km±3km, MD3.9, ML3.7, mb4.3(NEIC)*

ISC 04 04:54:04.2±0.6**, 10°.94N**±0°.05×**85°.29W**±0°.06**, h189**km±5km**, n244,** σ1**°.40**/252**, mb4.3**/25**, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUAI	**Buenos Aires**	**0.07**	**213**	i P	**Pn**	**04 54 29.6**	**+0.4**
GB1A	**Borinquen Arri**	**0.15**	**222**	eP	**Pn**	**04 54 29.7**	**+0.4**
GB1A				eS	**Sn**	**04 54 49.4**	**+0.8**
BUEV	**Buena Vista**	**0.18**	**219**	eP	**Pn**	**04 54 29.6**	**+0.2**
GPS3	**Bodega del ICE**	**0.19**	**201**	i P	**Pn**	**04 54 29.5**	**+0.2**
GPS3				i S	**Sn**	**04 54 49.1**	**+0.4**
GBS3	**Finca Las Img**	**0.22**	**226**	i P	**Pn**	**04 54 29.2**	**-0.1**
GUAB	**Guayabo de Bag**	**0.23**	**164**	i P	**Pn**	**04 54 29.8**	**+0.4**
HORNC	**Hornillas**	**0.25**	**153**	i P	**Pn**	**04 54 29.9**	**+0.4**
HORNC				i S	**Sn**	**04 54 49.4**	**+0.4**
COLC	**Colonia**	**0.28**	**162**	i P	**Pn**	**04 54 29.8**	**+0.3**
CUI	**Cuipilapa**	**0.30**	**155**	i P	**Pn**	**04 54 30.1**	**+0.5**
CUI				i S	**Sn**	**04 54 49.1**	**0.0**
NY14	**Universidad de**	**0.37**	**220**	i P	**Pn**	**04 54 30.1**	**+0.5**
AMAS	**Alto Masis**	**0.44**	**137**	i P	**Pn**	**04 54 30.6**	**+0.6**
PLVR	**Palo Verde**	**0.59**	**186**	eP	**Pn**	**04 54 31.2**	**+0.5**
PLVR				eS	**Sn**	**04 54 51.7**	**+0.5**
PACM	**Arenal**	**0.69**	**131**	i P	**Pn**	**04 54 30.1**	**-0.9**
JTS	**Las Juntas de**	**0.72**	**152**	LR	LR	04 54 11.1	
	comp=Z,12nm,19.8s,baz=312,slow=11						
JTS				P	**Pn**	**04 54 31.5**	**+0.3**
	215nm,0.3s,baz=167,slow=21,SNR=3251						
JTS				S	**Sn**	**04 54 50.9**	**-1.1**
	352nm,0.3s,baz=269,slow=19,SNR=41						
JTS	**Las Juntas de**	**0.72**	**152**	eP	**Pn**	**04 54 31.3**	**+0.1**
JTS	**Las Juntas de**	**0.72**	**152**		**Pn**	**04 54 31.6**	**+0.3**
JTS					**Sn**	**04 54 50.5**	**-1.5**
CEDE	**Laguna Cedeo**	**0.73**	**127**	i P	**Pn**	**04 54 32.2**	**+1.0**
CEDE				i S	**Sn**	**04 54 51.9**	**-0.2**
ARE1	**Arenal 1**	**0.74**	**130**	eP	**Pn**	**04 54 32.2**	**+1.0**
CASO	**Castillo**	**0.74**	**132**	i P	**Pn**	**04 54 32.1**	**+0.8**
CASO				i S	**Sn**	**04 54 51.7**	**-0.5**
ACON	**Acoyapa**	**1.03**	**7**	eP	**Pn**	**04 54 33.4**	**+0.3**
ACON				IAML		04 54 55.8	
	comp=E,287nm,0.9s						
ACON	**Acoyapa**	**1.03**	**7**		**Pn**	**04 54 33.4**	**+0.3**

ACON Sn Sn 04 54 55.4 -0.3
SRA1 San Ramn 1.16 136 *e*P Pn 04 54 34.8 +0.5
MASN Masaya 1.34 321 *e*P Pn 04 54 36.3 +0.7
HDC Heredia 1.49 129 *e*P Pn 04 54 37.8 +0.7
HDC Heredia 1.49 129 Pn 04 54 37.6 +0.6
HDC Sn Sn 04 55 01.5 -0.9
MGAN Managua 1.52 322 *e*P Pn 04 54 37.9 +0.7
SJS Escuela Geolog 1.57 129 *e*P Pn 04 54 38.6 +0.8
ESPN Las Esperanzas 1.59 38 *e*P Pn 04 54 38.3 +0.5
ESPN Las Esperanzas 1.59 38 Pn 04 54 37.8 +0.1
ESPN Sn Sn 04 55 02.3 -1.6
LCR2 La Lucha 2 1.74 133 *e*P Pn 04 54 40.6 +1.1
MATN Matagalpa 2.08 343 *e*P Pn 04 54 43.9 +1.0
EDDO Dominical 2.19 140 *e*P Pn 04 54 46.0 +2.0
EDLM Las Mercedes 2.35 134 *e*P Pn 04 54 47.5 +1.6
ESTN Estel 2.40 334 *e*P Pn 04 54 47.8 +1.4
ESTN Estel 2.40 334 Pn 04 54 47.0 +0.6
CRIN San Cristobal 2.46 316 *e*P Pn 04 54 48.5 +1.5
CRIN IAML 04 55 28.2
comp=E,1µm,0.5s
EDBA Buenos Aires 2.66 131 *e*P Pn 04 54 50.4 +1.1
EDPN Palmar Norte 2.67 137 *e*P Pn 04 54 51.0 +1.6
BRU2 Volcan 3.33 129 *e*P Pn 04 54 59.3 +1.8
TGUH Tegucigalpa,Un 3.66 328 Pn 04 55 02.1 +0.7
TGUH Sn Sn 04 55 46.8 +0.5
SNET Serv Nac Est T 4.72 306 Pn Pn 04 55 15.3 +0.4
BCIP Isla Barro Col 5.65 108 Pn 04 55 26.4 -0.5
APG El Apazote 6.46 309 P Pn 04 55 39.6 +2.0
comp=E,0.5nm,0.3s,baz=285,slow=21,SNR=7.7
CMIG Matias Romero 11.13 304 P Pn 04 56 39.3 +0.9
comp=E,1.0nm,0.3s,baz=119,slow=9.5,SNR=12
CMIG S Sn 04 58 36.7 -5.7
comp=E,0.2nm,0.3s,baz=86,slow=13,SNR=3.6
SDV Santo Domingo 14.59 97 P P 04 57 22.7 -0.8
comp=E,0.3nm,0.3s,baz=230,slow=5.7,SNR=7.2
SDV Santo Domingo 14.59 97 Pn 04 57 20.4 -1.8
656A Willston 18.52 8 P Pn 04 58 13.1 +4.2
baz=188
453A Whigham 19.84 2 P Pn 04 58 25.2 +0.6
baz=183
SJG San Juan 19.85 67 P P 04 58 22.1 +1.2
comp=E,0.8nm,0.3s,baz=311,slow=9.3,SNR=3.3
SJG San Juan 19.85 67 P P 04 58 19.5 -1.3
BRAL Brewton 20.20 356 P Pn 04 58 28.6 -0.4
baz=176
PCRV Puerto La Cruz 20.32 90 P P 04 58 27.7 +1.7
comp=E,7.4nm,0.5s,baz=247,slow=2.4,SNR=7.2
353A Camilla 20.34 3 P Pn 04 58 30.4 -0.3
baz=183
252A Lumpkin 20.97 1 P Pn 04 58 35.9 -2.7
baz=182
254A Abbeville 20.99 5 P Pn 04 58 36.2 -2.8
baz=185
255A Hazlehurst 21.05 7 P P 04 58 36.8 +3.2
baz=187
253A Americus 21.05 3 P P 04 58 36.5 +2.9
baz=183
256A Glennville 21.18 8 P P 04 58 38.1 +3.2
baz=189
152A Waverly Hall 21.64 1 P P 04 58 42.1 +2.4
baz=182,SNR=6.4
152A Waverly Hall 21.64 1 P P 04 58 39.9 +0.2
152A IAmb IAmb 04 58 43.4
comp=Z,22nm,1.1s
153A Fort Valley 21.65 3 P P 04 58 42.2 +2.3
baz=184
154A Montrose 21.67 5 P P 04 58 42.3 +2.3
baz=186
154A Montrose 21.67 5 P P 04 58 40.7 +0.7
155A Kite 21.74 6 P P 04 58 43.1 +2.4
baz=187
LRAL Lakeview Retre 22.05 356 P P 04 58 46.2 +2.4
baz=177,SNR=16
LRAL Lakeview Retre 22.05 356 P P 04 58 44.6 +0.8
Z52A Williamson 22.16 2 P P 04 58 47.3 +2.4
baz=183
Z50A Ashland 22.22 359 P P 04 58 47.5 +2.0
baz=179,SNR=12
Z50A Ashland 22.22 359 P P 04 58 45.0 -0.5
Z51A Franklin 22.28 0 P P 04 58 48.0 +2.1
baz=181
Z53A Monticello 22.30 4 P P 04 58 48.0 +1.9
baz=184
Z54A Sparta 22.31 5 P P 04 58 48.0 +1.7
baz=186
Z55A Blythe 22.37 7 P P 04 58 48.6 +1.8
baz=188
GOGA Godfrey 22.43 4 P P 04 58 49.3 +1.9
baz=185,SNR=6.4
GOGA Godfrey 22.43 4 P P 04 58 47.8 +0.4
GOGA IAmb IAmb 04 58 50.4
comp=Z,14nm,1.0s
NATX Nacogdoches 22.46 339 P P 04 58 47.8 +0.1
NATX IAmb IAmb 04 59 02.2
comp=Z,8.6nm,0.7s
Z57A Bowman 22.65 10 P P 04 58 51.2 +1.8
baz=191
Y49A Blount Mountai 22.84 358 P P 04 58 52.8 +1.7
baz=178
Y52A Lilburn 22.85 3 P P 04 58 53.0 +1.8
baz=183,SNR=6.0
Y52A Lilburn 22.85 3 P P 04 58 50.7 -0.5
Z58A St. Stephen 22.86 12 P P 04 58 53.3 +2.1
baz=193
Y51A Rockmart 22.86 0 P P 04 58 53.1 +1.8
baz=181,SNR=10.0
Y53A Monroe 22.87 4 P P 04 58 53.2 +1.9
baz=184,SNR=5.6
Y54A Tignall 22.95 6 P P 04 58 53.7 +1.7
baz=186,SNR=6.4
Y55A Saluda 23.11 7 P P 04 58 55.4 +1.9
baz=188
HODGE Hodges 23.35 6 P P 04 58 56.2 +0.5
Y57A Sumter 23.41 10 P P 04 58 58.2 +2.0
baz=191
Y58A Scranton 23.44 12 P P 04 58 58.3 +1.9
baz=193
X48A Hartselle 23.46 356 P P 04 58 58.2 +1.5
baz=177
X51A Calhoun 23.53 1 P P 04 58 59.0 +1.8
baz=182
JSC Jenkinsville 23.53 8 P P 04 58 57.6 +0.3
X53A Estanollee 23.53 4 P P 04 58 59.3 +2.0
baz=185
X52A Dahlonega 23.59 3 P P 04 58 59.8 +1.8
baz=184
X54A Belton 23.66 6 P P 04 59 00.3 +1.9
baz=187
X55A Gracelyn & Ava 23.66 8 P P 04 59 00.7 +2.1
baz=188
Y59A Loris 23.69 13 P P 04 59 00.6 +1.8
baz=195
OXF Oxford 23.77 352 P P 04 59 00.9 +1.5
baz=172
OXF Oxford 23.77 352 P P 04 59 59.8 +0.3
OXF IAmb IAmb 04 59 02.7
comp=Z,13nm,0.9s
X56A White Oak 23.77 9 P P 04 59 01.7 +2.2
baz=190
WHTX Lake Whitney, 23.77 334 P P 04 58 59.8 +0.2
PAULI Pauline 23.99 7 P P 04 59 02.1 +0.6
PAULI IAmb IAmb 04 59 04.5
comp=Z,7.5nm,0.8s
BIRD Birdtown, Kers 24.01 10 P P 04 59 01.4 -0.3
BIRD IAmb IAmb 04 59 05.8
comp=Z,9.0nm,1.2s
BG3 Lake Jocassee 24.05 5 P P 04 59 02.4 +0.4
BG3 IAmb IAmb 04 59 05.3
comp=Z,8.3nm,0.8s
PLAL Pickwick Lake 24.07 354 P P 04 59 02.4 +0.2
W52A Murphy 24.08 3 P P 04 59 04.4 +2.0
baz=183
W52A Murphy 24.08 3 P P 04 59 02.2 -0.2
W52A IAmb IAmb 04 59 07.2
comp=Z,6.8nm,0.7s
W49A Belvidere 24.09 358 P P 04 59 04.0 +1.5
baz=178
W51A Cleveland 24.12 1 P P 04 59 04.6 +1.9
baz=182
W50A Signal Mountai 24.16 360 P P 04 59 04.6 +1.6
baz=180
W50A Signal Mountai 24.16 360 P P 04 59 03.3 +0.3
W50A IAmb IAmb 04 59 07.7
comp=Z,7.2nm,0.8s
W53A Cullowhee 24.20 4 P P 04 59 05.6 +2.0
baz=185
W54A Cherokee Point 24.21 6 P P 04 59 05.7 +2.2
baz=187,SNR=6.5
KMSC Kings Mountain 24.36 8 P P 04 59 06.8 +1.9
baz=189
CPCT Cooper Cave 24.41 2 P P 04 59 03.7 -1.7
CPCT IAmb IAmb 04 59 10.8
comp=Z,12nm,0.9s
W56A Indian Trail 24.47 9 P P 04 59 07.5 +1.6
baz=190
W57A Gilead 24.59 10 P P 04 59 06.5 -0.4
V50A Pikevile 24.63 0 P P 04 59 08.8 +1.5
baz=181
TKL Tuckaleechee C 24.65 3 P P 04 59 09.8 +2.3
comp=Z,5.2nm,0.8s,baz=183,slow=13,SNR=6.3
MIAR Mount Ida 24.69 343 P P 04 59 07.9 0.0
MIAR IAmb IAmb 04 59 11.8
comp=Z,5.5nm,0.8s
V49A McMinnville 24.73 359 P P 04 59 09.4 +1.2
baz=179
V53A Saluda 24.73 5 P P 04 59 10.5 +2.2
baz=186
V53A Saluda 24.73 5 P P 04 59 09.5 +1.2
V48A Smith Brothers 24.73 357 P P 04 59 09.6 +1.3
baz=177
V51A Loudon 24.77 2 P P 04 59 10.5 +1.9
baz=182
V51A Loudon 24.77 2 P P 04 59 09.2 +0.6
V51A IAmb IAmb 04 59 14.6
comp=Z,8.3nm,0.8s
V54A Nebo 24.92 6 P P 04 59 11.8 +1.9
baz=188
W41B Gary Mavity, V 24.95 346 P P 04 59 11.3 +1.1
baz=166
V55A Taylorsville 25.08 8 P P 04 59 13.4 +2.0
baz=189
TXAR Lajitas Array 25.09 320 P P 04 59 13.6 +2.0
comp=Z,1.6nm,1.2s,baz=141,slow=10,SNR=5.5
HALT Halls 25.13 352 P P 04 59 11.7 -0.2
V56A Mocksville 25.14 9 P P 04 59 13.7 +1.7
baz=190
WVT Waverly 25.19 355 P P 04 59 13.8 +1.5
baz=175
WVT Waverly 25.19 355 P P 04 59 13.0 +0.7
V57A Coltrane Farms 25.34 11 P P 04 59 15.5 +1.7
baz=192
U50A Jamestown 25.37 1 P P 04 59 15.7 +1.6
baz=181
V58A Windy Hill, Pi 25.38 12 P P 04 59 15.6 +1.6
baz=193
V58A Windy Hill, Pi 25.38 12 P P 04 59 13.8 -0.3
V58A IAmb IAmb 04 59 16.5
comp=Z,8.6nm,0.8s
U53A Fall Branch 25.44 5 P P 04 59 16.5 +1.8
baz=186
U49A Red Boiling Sp 25.47 359 P P 04 59 16.2 +1.4
baz=180
V59A Middlesex 25.53 13 P P 04 59 16.9 +1.4
baz=195
LCAR Lake Charles 25.58 349 P P 04 59 16.1 +0.2
LCAR IAmb IAmb 04 59 17.5
comp=Z,5.3nm,0.8s
U54A Nelsons Funny 25.67 6 P P 04 59 18.4 +1.7
baz=188
T51A Gray 25.95 2 P P 04 59 20.7 +1.5
baz=183
U57A Blanch 25.95 11 P P 04 59 20.5 +1.3
baz=193
T50A Nancy 25.98 1 P P 04 59 20.9 +1.4
baz=181
T47A Sharon Grove 25.99 357 P P 04 59 20.9 +1.3
baz=177
T53A Wise 26.05 5 P P 04 59 22.0 +1.8
baz=186
T49A Edmonton 26.06 360 P P 04 59 21.8 +1.7
baz=180
U58A Oxford 26.07 12 P P 04 59 21.9 +1.6
baz=194
T52A Hallie 26.14 4 P P 04 59 22.8 +1.8
baz=185
PBMO Poplar Bluff 26.14 351 P P 04 59 21.6 +0.7
PBMO IAmb IAmb 04 59 36.0
comp=Z,6.4nm,0.9s
T54A Tazewell 26.23 7 P P 04 59 23.8 +2.0
baz=188
T55A Pulaski 26.38 8 P P 04 59 25.0 +1.9
baz=190
T56A Rocky Mt 26.41 9 P P 04 59 25.1 +1.7
baz=191
BLA Blacksburg 26.53 9 P P 04 59 25.9 +1.5
baz=190
T58A Grand View Acr 26.61 12 P P 04 59 26.5 +1.5
baz=194
S51A Beattyville 26.63 3 P P 04 59 27.1 +1.8
baz=184
S49A Springfield 26.73 0 P P 04 59 27.7 +1.5
baz=180
USIN University of 27.00 356 P P 04 59 28.4 -0.1
USIN IAmb IAmb 04 59 38.9
comp=Z,11nm,1.1s
WCI Wyandotte Cave 27.19 358 P P 04 59 31.3 +1.0
baz=178
T60A Surry 27.21 15 P P 04 59 31.2 +0.8
baz=197
R49A Shelbyville 27.24 0 P P 04 59 31.8 +1.1
baz=181
R50A Paris 27.24 2 P P 04 59 31.9 +1.2
baz=182
R51A Hillsboro 27.29 3 P P 04 59 32.6 +1.4
baz=184
S57A Dark Hollow, R 27.31 11 P P 04 59 32.7 +1.3
baz=193
R54A Victor 27.40 7 P P 04 59 34.1 +1.9
baz=189
R53A Hurricane 27.44 6 P P 04 59 33.9 +1.4
baz=187
CCM Cathedral Cave 27.53 350 P P 04 59 33.8 +0.5
baz=169
CCM Cathedral Cave 27.53 350 P P 04 59 32.8 -0.5
S60A Water View 27.76 15 P P 04 59 36.3 +1.0
baz=197
Q48A North Vernon 27.88 359 P P 04 59 37.4 +1.0
baz=180
R57A Stanardsville 27.91 11 P P 04 59 38.2 +1.5
baz=193
Q49A Aurora 27.95 1 P P 04 59 38.6 +1.6
baz=181
Q53A Leroy 28.01 6 P P 04 59 39.1 +1.6
baz=188
Q51A Peebles 28.03 3 P P 04 59 39.3 +1.5
baz=184,SNR=7.2
Q51A Peebles 28.03 3 P P 04 59 36.7 -1.1
Q52A Bidwell 28.04 5 P P 04 59 39.3 +1.5
baz=186
R59A King George, V 28.12 14 P P 04 59 39.7 +1.2
baz=196
Q54A Coxs Mills 28.21 7 P P 04 59 41.0 +1.6
baz=189
P48A Milroy 28.41 360 P P 04 59 41.7 +0.6
baz=180
P49A Miami Univ. Ec 28.49 1 P P 04 59 42.5 +0.7
baz=182
P46A Rosedale 28.62 357 P P 04 59 43.9 +1.0
baz=177
P53A Whipple 28.65 6 P P 04 59 44.9 +1.7
baz=188
P52A Corning 28.72 5 P P 04 59 45.2 +1.3
baz=186
P54A Burton 28.87 8 P P 04 59 46.5 +1.3
baz=189
P55A Reedsville 28.87 9 P P 04 59 46.6 +1.4
baz=191
O50A Cable 29.13 3 P P 04 59 48.5 +1.0
baz=184,SNR=5.7
O51A Pataskala 29.19 4 P P 04 59 49.1 +1.1
baz=185
O52A Adamsville 29.22 5 P P 04 59 49.6 +1.3
baz=187
ACSO Alum Creek Sta 29.25 4 P P 04 59 49.6 +1.1
baz=185
O53A New Philadelph 29.42 6 P P 04 59 51.2 +1.2
baz=188
N48A Decatur 29.81 0 P P 04 59 54.0 +0.6
baz=181
N49A Columbus Grove 29.88 2 P P 04 59 54.7 +0.6
baz=182
N52A McGinn's Farm, 29.93 5 P P 04 59 55.5 +0.9
baz=187
N57A Milroy 30.48 12 P P 05 00 00.1 +0.7
baz=194
N56A West Decatur 30.50 10 P P 05 00 00.6 +1.1
baz=193
M53A WI Miller and 30.66 7 P P 05 00 02.4 +1.5
baz=189
M55A Ridgway 30.95 10 P P 05 00 04.9 +1.4
baz=192
L53A Girard 31.21 7 P P 05 00 06.6 +0.8
baz=189
K47A Vermontville 31.62 0 P P 05 00 09.0 -0.3
baz=181
K46A Dorr 31.63 359 P P 05 00 09.8 +0.4
baz=180
M59A Waymart 31.70 14 P P 05 00 11.1 +1.1
baz=198
M60A Port Jervis 31.70 15 P P 05 00 09.2 -0.8
baz=199
K56A Middlesex 32.40 11 P P 05 00 16.0 -0.1
baz=194
J52A Paris 32.46 7 P P 05 00 17.2 +0.6
baz=189
J57A Williamstown 33.35 12 P P 05 00 25.0 +0.7
baz=196
J58A Remsen 33.45 13 P P 05 00 26.0 +0.7
baz=197
H43A Windswept, Lux 33.48 357 P P 05 00 25.9 +0.4
H52A Wyevale 33.91 7 P P 05 00 29.9 +0.7
baz=189
H53A Bobcaygeon 34.01 9 P P 05 00 30.6 +0.5
baz=191
SMCO Snowmass 34.11 329 P P 05 00 32.7 +1.1
ECSD EROS Data Cent 34.12 345 P P 05 00 30.7 -0.4
baz=162
I59A Olmsteadville 34.20 15 P P 05 00 32.2 +0.4
baz=199
H56A Elgin 34.43 11 P P 05 00 34.2 +0.5
baz=195
G53A Haliburton 34.54 8 P P 05 00 35.3 +0.6
baz=191
SPMN Marine on St. 34.77 351 P P 05 00 36.2 -0.3
baz=168
LONY Lake Ozonia 34.81 13 P P 05 00 37.4 +0.5
baz=198
G54A Lake Saint Pet 34.89 9 P P 05 00 38.0 +0.4
baz=192
G55A Calabogie 34.98 11 P P 05 00 38.7 +0.3
baz=194
F52A Sundridge 35.11 7 P P 05 00 40.1 +0.5
baz=190
ALGO Algonquin Park 35.44 9 P P 05 00 42.6 +0.3
baz=192
E52A Mattawa 35.68 8 P P 05 00 44.6 +0.3
baz=191
E51A G1948 Merrick 35.82 7 P P 05 00 45.8 +0.3
baz=190
E53A Dumoine, Ponti 35.91 9 P P 05 00 46.7 +0.4
baz=192
D52A ZEK Kipawa Sen 36.39 8 P P 05 00 50.8 +0.5
baz=191
D53A Lac Vacive, Po 36.59 9 P P 05 00 52.9 +0.8
baz=192
E58A La Victoria 36.77 14 P P 05 00 53.9 +0.4
baz=199
LATQ La Tuque 37.83 14 P P 05 01 02.7 +0.3
baz=199
LSQQ Lebel-sur-Quev 38.63 9 P P 05 01 09.1 -0.1
baz=193
MATQ Matagami 39.22 8 P P 05 01 14.0 0.0
baz=192
NVAR Mina Array Bea 40.23 319 P P 05 01 24.3 +1.5
comp=Z,1.1nm,0.7s,baz=134,slow=7.7,SNR=4.7
MSO Missoula 43.21 331 P P 05 01 42.6 -4.2
baz=139
BDFB Brasilia 45.38 125 P P 05 02 04.6 +0.2
comp=Z,3.2nm,0.7s,baz=299,slow=6.8,SNR=5.2
BDFB Brasilia 45.38 125 P P 05 02 02.7 -1.7
SCHQ Schefferville 46.16 15 P P 05 02 09.7 -0.1
comp=Z,4.1nm,0.4s,baz=213,slow=5.4,SNR=16
SCHQ Schefferville 46.16 15 P P 05 02 09.6 -0.2
SCHQ IAmb IAmb 05 02 10.4
comp=Z,7.5nm,0.7s
B05A Bryant 48.27 328 P P 05 02 19.9 -6.2
baz=131
YKA Yellowknife Ar 55.63 344 P P 05 03 19.1 -1.1
comp=Z,0.4nm,0.7s,baz=132,slow=8.4,SNR=3.4
ILAR Eielson Array 68.25 336 P P 05 04 44.6 +0.3
comp=Z,0.4nm,0.7s,baz=93,slow=3.4,SNR=4.9
ESDC Sonseca Array 76.46 52 P P 05 05 31.9 -1.5
comp=Z,0.1nm,0.3s,baz=289,slow=6.0,SNR=4.7
TORD Torodi Ar. Bea 84.67 78 P P 05 06 15.4 -2.0
comp=Z,0.6nm,0.9s,baz=291,slow=4.5,SNR=2.6
KSRS Korea Array 122.66 329 PKP **PKiKP** 05 12 39.2 +1.1
comp=Z,1.2nm,0.7s,baz=49,slow=1.5,SNR=5.0
ASAR Alice Springs 140.63 246 PKhKP PKPpre 05 13 07.5
comp=Z,0.3nm,0.4s,baz=99,slow=2.2,SNR=3.7
CMAR Chiang Mai Arr 150.50 352 PKPbc **PKPbc** 05 13 34.5 +0.1
comp=Z,0.6nm,0.3s,baz=323,slow=1.4,SNR=5.4

*ISCJB **04** 05:15:39.4±0.8, 5°51S±0.06×140°.5E±0°.1, h10km, mb3.7/2, MS3.0/2, Error ellipse: s-maj=15.4km s-min=8.7km az=6.4*
*IDC **04** 05:15:39.9±1.4, 5°.54S×140°.80E, h0km, mb3.8/2, mb1 4.1/5, mb1mx3.6/42, mbtmp3.9/5, ML4.0/3, MS3.1/4, Ms1 3.0/4, ms1mx2.6/34, Error ellipse: s-maj=58.1km s-min=18.6km az=98.0*
*NEIC **04** 05:15:46.0±2.3, 5°.65S±0°.10×140°.33E±0°.08, h39km±16km, mb4.3/7*

ISC 04 05:15:40.6±0.8, 5°.50S±0°.06×140°.5E±0°.1, h10km, n17, σ1s63/18, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.97**	**3**	Pn	**Pn**	**05 16 29.8**	**+1.9**
	5.8nm,0.3s,baz=178,slow=10,SNR=29						
JAY				Pg	**Pg**	05 16 36.0	-1.7
	23nm,0.3s,baz=191,slow=7.6,SNR=11						
JAY				Lg	Lg	05 17 07.1	
	15nm,0.3s,baz=311,slow=22,SNR=8.5						
JAY				LR	LR	05 17 45.1	
	comp=Z,196nm,18.9s,baz=50,slow=42						
FAKI	**Fak Fak**	**8.66**	**287**	Pn	**Pn**	**05 17 46.5**	**+0.4**
COEN	**Coen**	**8.79**	**163**		**Pn**	**05 17 49.7**	**+1.8**
COEN				Sn	**Sn**	**05 19 23.3**	**-3.9**
MTN	**Manton Dam**	**11.81**	**231**		**Pn**	**05 18 31.2**	**+2.0**
KNRA	**Kununurra**	**15.36**	**228**		**Pn**	**05 19 17.1**	**-0.5**
WB0	**Warramunga Arr**	**15.39**	**202**	Pn	**Pn**	**05 19 16.3**	**-1.7**
WR0	**Warramunga Arr**	**15.51**	**202**	Pn	**Pn**	**05 19 19.8**	**+0.2**
WR0				IAmb	IAmb	05 19 31.7	
	comp=Z,12nm,0.6s						
CTA	**Charters Tower**	**15.53**	**160**	Pn	**P**	**05 19 25.2**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=334,slow=16,SNR=4.5						
WRAB	**Tennant Creek**	**15.56**	**202**	Pn	**Pn**	**05 19 20.7**	**+0.5**
WRAB				IAmb	IAmb	05 19 27.5	
	comp=Z,18nm,0.9s						
WB2	**Warramunga Arr**	**15.56**	**202**	Pn	**Pn**	**05 19 19.5**	**-0.8**
WB2				IAmb	IAmb	05 19 27.7	
	comp=Z,18nm,0.9s						
AS31	**Alice Springs**	**19.16**	**199**		**Pn**	**05 20 05.7**	**+0.5**
ASAR	**Alice Springs**	**19.16**	**199**	P	**Pn**	**05 20 05.3**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=26,slow=10,SNR=32						
ASAR				S	Sn	05 23 29.8	-10
	baz=17,slow=28,SNR=2.6						
FITZ	**Fitzroy Crossi**	**19.20**	**228**	P	**Pn**	**05 20 07.1**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=53,slow=12,SNR=17						
FITZ				S	Sn	05 23 29.3	-12
	comp=Z,0.5nm,0.3s,baz=79,slow=16,SNR=3.7						
FITZ				LR	LR	05 28 35.5	
	comp=Z,38nm,19.2s,baz=41,slow=40						
FITZ	**Fitzroy Crossi**	**19.20**	**228**	P	**P**	**05 20 04.7**	**-0.1**
KAPI	**Kappang**	**20.71**	**270**	LR	LR	05 29 23.0	
	comp=Z,40nm,18.1s,baz=114,slow=39						
STKA	**Stephens Creek**	**26.26**	**178**	P	**P**	**05 21 17.5**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=338,slow=11,SNR=4.9						
STKA				LR	LR	05 33 10.9	
	comp=Z,71nm,21.4s,baz=23,slow=40						
ILAR	**Eielson Array**	**87.61**	**24**	P	**P**	**05 28 27.6**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=248,slow=4.7,SNR=2.8						

*IDC **04** 05:17:00.7±1.0, 28°.22N×61°.68E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.5/58, mbtmp3.7/11, ML3.6/2, MS3.0/4, Ms1 3.0/4, ms1mx2.6/51, Error ellipse: s-maj=27.1km s-min=17.4km az=141.0*
*THR **04** 05:17:00.9, 28°.11N×61°.97E, h18km, ML3.4*
*ISCJB **04** 05:17:01.5±0.5, 28°.23N±0°.03×61°.94E±0°.05, h10km,*

mb3.6/9, MS2.8/3, Error ellipse: s-maj=6.2km s-min=4.7km az=12.1

*TEH **04** 05:17:01.7, 28°.26N×61°.94E, h10km, ML3.9*

*DSN **04** 05:17:02.2±1.8, 27°.70N×62°.33E, h10km, ML3.9/6, Error ellipse: s-maj=54.5km s-min=13.3km az=146.0*

ISC 04 05:17:02.6±0.7**, 28°.18N**±0°.05×**61°.96E**±0°.07**, h10km, n46, σ1s.50**/46**, mb3.8**/9**, MS2.7**/3**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SZD1	**Zahaedan-tmp**	**1.62**	**324**	*e*Pg	**Pn**	**05 17 30.6**	**-0.7**
SZD1				IAMB	IAmb	05 17 32.7	
	comp=Z,0.0nm,0.4s						
SZD1				*e*Sg	**Sn**	**05 17 54.1**	**+1.8**
ZHSF	**Zahedan**	**1.76**	**324**	*e*Sg	**Sb**	**05 17 58.9**	**+1.5**
ZHSF				*e*Pg	**Pn**	**05 17 34.6**	**+1.2**
NHDN	**Nehbandan**	**3.61**	**333**	*e*Pn	**Pn**	**05 17 58.5**	**-0.2**
NHDN				IAMB	IAmb	05 18 17.8	
	comp=Z,0.0nm,0.4s						
KHNJ	**Kahnooj**	**3.77**	**267**	*e*Pn	**Pn**	**05 18 00.7**	**-0.1**
CHMN	**Cheshme madani**	**4.22**	**294**	IAMB	IAmb	05 18 20.4	
	comp=Z,0.0nm,0.8s						
CHMN				*e*Pn	**Pn**	**05 18 07.3**	**0.0**
NIAN	**Nian**	**4.58**	**263**	*e*Pn	**Pn**	**05 18 14.3**	**+2.4**
NIAN				IAMB	IAmb	05 18 32.2	
	comp=Z,0.0nm,0.5s						
KRBR	**Kerman**	**4.89**	**293**	*e*Pn	**Pn**	**05 18 16.2**	**-0.3**
KRBR	**Kerman**	**4.89**	**293**	*e*Pn	**Pn**	**05 18 16.2**	**-0.3**
TVBK	**TV Kerman**	**4.89**	**293**	*e*Pn	**Pn**	**05 18 17.0**	**+0.5**
TVBK				IAMB	IAmb	05 18 36.6	
	comp=Z,0.0nm,0.5s						
BNDS	**Bandar-Abbas**	**5.19**	**263**	*e*Pn	**Pn**	**05 18 20.3**	**-0.2**
BNDS	**Bandar-Abbas**	**5.19**	**263**	*e*Pn	**Pn**	**05 18 20.2**	**-0.2**
KHGB	**Koh Gabri**	**5.27**	**296**	*e*Pn	**Pn**	**05 18 21.0**	**-0.6**
KHGB				IAMB	IAmb	05 18 40.8	
	comp=Z,0.0nm,0.6s						
ITEG	**Tejag**	**5.46**	**330**	*e*Pn	**Pn**	**05 18 24.3**	**+0.2**
BANOM	**Banah**	**5.53**	**247**	P	**Pn**	**05 18 26.7**	**+1.8**
SHME	**Shamm**	**5.61**	**249**	P	**Pn**	**05 18 27.9**	**+1.9**
SHME	**Shamm**	**5.61**	**249**	*e*Pn	**Pn**	**05 18 29.6**	**+3.6**
SHRT	**Shahrakht**	**5.63**	**346**	*e*AML	AML	05 20 26.6	
	comp=N,16nm,0.5s						
SHRT				*e*Pn	**Pn**	**05 18 27.1**	**+0.6**
SHRT				*e*AML	AML	05 20 08.4	
	comp=E,15nm,0.6s						
WSAR	**Wadi Sarin**	**5.76**	**212**	Pn	**Pn**	**05 18 28.4**	**+0.2**
	comp=E,2.3nm,0.3s,baz=64,slow=4.5,SNR=7.2						
WSAR				Sn	**Sn**	**05 19 31.5**	**-3.0**
	comp=E,1.2nm,0.3s,baz=337,slow=17,SNR=3.0						
AFRZ	**Afriz**	**5.81**	**335**	*e*Pn	**Pn**	**05 18 29.2**	**+0.3**
MDH	**Madha**	**5.82**	**242**	P	**Pn**	**05 18 28.5**	**-0.5**
MDH	**Madha**	**5.82**	**242**	*e*Pn	**Pn**	**05 18 29.1**	**+0.1**
MSFE	**Esma-Masafi**	**5.90**	**243**	*e*Pn	**Pn**	**05 18 32.6**	**+2.5**
HATD	**Hatta, Dubai**	**6.20**	**239**	P	**Pn**	**05 18 34.5**	**+0.3**
HATD	**Hatta, Dubai**	**6.20**	**239**	*e*Pn	**Pn**	**05 18 35.5**	**+1.3**
ASHO	**Ashiyiah**	**6.33**	**238**	P	**Pn**	**05 18 36.6**	**+0.6**
ASHO				S	**Sn**	**05 19 50.4**	**+1.9**
ASHO	**Ashiyiah**	**6.33**	**238**	*e*Pn	**Pn**	**05 18 37.1**	**+1.0**
NAZ	**Nazwa, Dubai**	**6.47**	**242**	*e*Pn	**Pn**	**05 18 40.3**	**+2.3**
TPRV	**Parvadeh(Tabas**	**6.63**	**318**	*e*Pn	**Pn**	**05 18 40.2**	**0.0**
TPRV				IAMB	IAmb	05 20 49.3	
	comp=Z,0.0nm,0.9s						
TABS	**Tabas**	**6.86**	**324**	*e*Pn	**Pn**	**05 18 44.1**	**+0.8**
TABS	**Tabas**	**6.86**	**324**	*e*Pn	**Pn**	**05 18 44.1**	**+0.8**
ASUD	**Al Ashush, Dub**	**6.92**	**241**	*i* P	**Pn**	**05 18 46.1**	**+2.0**
	SNR=7.1						
ASUD	**Al Ashush, Dub**	**6.92**	**241**	*e*Pn	**Pn**	**05 18 47.0**	**+2.9**
AAK	**Ala-Archa**	**17.64**	**32**	P	**Pn**	**05 21 10.4**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=239,slow=5.9,SNR=2.4						
GNI	**Garni**	**18.55**	**315**	LR	LR	05 29 01.3	
	comp=Z,52nm,19.3s,baz=93,slow=39						
MMAI	**Mount Meron Ar**	**23.34**	**288**	LR	LR	05 33 57.7	
	comp=Z,24nm,18.7s,baz=220,slow=44						
EIL	**Elat**	**23.67**	**280**	LR	LR	05 31 52.6	
	comp=Z,20nm,18.1s,baz=108,slow=38						
MKAR	**Makanchi Array**	**24.48**	**35**	P	**P**	**05 22 23.3**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=215,slow=10,SNR=6.5						
BVAR	**Borovoye Array**	**25.59**	**12**	P	**P**	**05 22 31.0**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=205,slow=9.8,SNR=5.3						
KURBB	**Kurchatov Arra**	**25.70**	**25**	P	**P**	**05 22 33.4**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=222,slow=8.5,SNR=6.0						
ARU	**Arti**	**28.34**	**356**	LR	LR	05 34 39.7	
	comp=Z,50nm,18.8s,baz=246,slow=38						
FINES	**FINESS Array B**	**40.92**	**335**	P	**P**	**05 24 43.6**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=133,slow=8.4,SNR=9.2						
ESDC	**Sonseca Array**	**54.78**	**300**	P	**P**	**05 26 30.2**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=71,slow=7.2,SNR=3.3						
KSRS	**Korea Array**	**55.20**	**62**	P	**P**	**05 26 37.0**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=262,slow=6.1,SNR=3.5						
KLR	**Kul'dur**	**56.31**	**48**	P	**P**	**05 26 42.8**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=278,slow=10,SNR=2.6						
TORD	**Torodi Ar. Bea**	**57.81**	**268**	P	**P**	**05 26 52.5**	**-2.1**
	comp=Z,1.4nm,0.4s,baz=60,slow=6.9,SNR=44						
ASAR	**Alice Springs**	**86.37**	**119**	P	**P**	**05 29 46.0**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=303,slow=5.2,SNR=4.1						

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*KRNET **04** 05:22:03.3±0.1, 40°.04N×76°.04E, mb3.0*

*NNC **04** 05:22:04.2±4.5, 40°.01N×76°.16E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=35.1km s-min=21.1km az=160.0*

ISC 04 05:22:09.7±3.3**, 40°.2N**±0°.1×**76°.04E**±0°.05**, h3km**±26km**, n26, σ1s.66**/38**, 12C-17D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.19**	**358**	⇓*i*P	**Pn**	**05 22 29.4**	**-4.3**
	baz=58						
NRN				⇓*i*S	**Sn**	**05 22 49.1**	**-1.5**
	baz=58						
KZA	**Kyzart**	**1.93**	**342**	⇓*i*P	**Pn**	**05 22 42.6**	**-1.3**
	baz=44						
KZA				⇓*i*S	**Sb**	**05 23 11.4**	**+0.8**
	baz=44						
KZA	**Kyzart**	**1.93**	**342**	P	**Pn**	**05 22 42.8**	**-1.1**
	SNR=9.6						
TARG	**Taragay, Kyrgy**	**2.00**	**41**	⇑*i*P	**Pn**	**05 22 42.9**	**-1.9**
	baz=38						
TARG				⇑*i*S	**Sb**	**05 23 11.8**	**-0.7**
	baz=38						
KDJ	**Kajisay**	**2.08**	**24**	⇑*i*P	**Pn**	**05 22 44.2**	**-1.5**
	baz=22						
KDJ				⇑*i*S	**Sb**	**05 23 13.8**	**-0.6**
	baz=22						
ARLS	**Aral**	**2.08**	**322**	⇓*i*P	**Pn**	**05 22 44.1**	**-1.6**
	baz=25						
ARLS				⇓*i*S	**Sn**	**05 23 13.2**	**+1.0**
	baz=25						
BOOM	**Boomskoye usch**	**2.25**	**358**	⇑*i*P	**Pn**	**05 22 47.0**	**-1.1**
	baz=58						
BOOM				⇑*i*S	**Sb**	**05 23 18.7**	**-0.8**
	baz=58						
UCH	**Uchtor**	**2.30**	**330**	⇑*i*P	**Pn**	**05 22 47.5**	**-1.5**
	baz=33						
UCH				⇑*i*S	**Sn**	**05 23 19.7**	**+1.7**
	baz=33						
UCH	**Uchtor**	**2.30**	**330**	P	**Pn**	**05 22 47.8**	**-1.2**
	SNR=13						
KBK	**Karagaybulak**	**2.55**	**342**	⇑*i*P	**Pn**	**05 22 50.6**	**-1.6**
	baz=43						
KBK				⇑*i*S	**Sn**	**05 23 25.3**	**+1.4**
	baz=43						
KBK	**Karagaybulak**	**2.55**	**342**	P	**Pb**	**05 22 54.2**	**-2.1**
	SNR=12						
ARSB	**Arslanbob**	**2.56**	**296**	⇓*i*P	**Pn**	**05 22 49.2**	**-3.2**
	baz=0.0						
ARSB				⇓*i*S	**Sn**	**05 23 24.0**	**-0.2**
	baz=0.0						
AML	**Almayashu**	**2.59**	**318**	P	**Pn**	**05 22 52.1**	**-0.8**
	SNR=6.0						
AAK	**Ala-Archa**	**2.66**	**335**	⇑*i*P	**Pn**	**05 22 52.0**	**-1.7**
	baz=36						
AAK				⇑*i*S	**Sn**	**05 23 27.8**	**+1.1**
	baz=36						
AAK	**Ala-Archa**	**2.66**	**335**	P	**Pn**	**05 22 52.0**	**-1.7**
	SNR=10						
AAK	**Ala-Archa**	**2.66**	**335**	Pn	**Pn**	**05 22 53.0**	**-0.8**
	3.8nm,0.4s						
AAK				Lg	Lg	05 23 35.2	
	8.5nm,0.5s						
TKM2	**Tokmak 2**	**2.70**	**353**	P	**Pn**	**05 22 55.2**	**+0.9**
	SNR=7.3						
TKM2	**Tokmak 2**	**2.70**	**353**	⇓Pn	**Pn**	**05 22 54.8**	**+0.5**
	3.2nm,0.5s						
TKM2				⇓Lg	Lg	05 23 35.7	
	6.2nm,0.6s						
ANVS	**Anan'yevo**	**2.82**	**25**	⇓*i*P	**Pn**	**05 22 54.8**	**-1.1**
	baz=23						
ANVS				⇓*i*S	**Sn**	**05 23 31.4**	**+0.9**
	baz=23						
IZV	**Izvestkoviy**	**2.83**	**9**	Pg	**Pn**	**05 22 55.6**	**-0.4**
	3.9nm,0.4s						
IZV				Lg	Lg	05 23 42.6	
	9.9nm,0.4s						
TNSS	**Tian-Shan**	**2.88**	**13**	Pg	**Pn**	**05 22 57.6**	**+0.7**
TNSS				Lg	Lg	05 23 46.7	
KOTS	**Kotyrbulak**	**3.10**	**15**	Pg	**Pn**	**05 23 00.6**	**+0.9**
	11nm,0.4s						
KOTS				Lg	Lg	05 23 51.2	
	29nm,0.5s						
MRKS	**Merke**	**3.28**	**321**	Pg	**Pn**	**05 23 00.7**	**-1.5**
	4.6nm,0.4s						
MRKS				Lg	Lg	05 23 51.6	
	6.2nm,0.5s						
SATY	**Saty**	**3.33**	**31**	Pg	**Pn**	**05 23 03.8**	**+0.9**
	1.8nm,0.2s						
SATY				Lg	Lg	05 23 57.0	
	6.2nm,0.4s						
PDGK	**Podgornoye**	**4.02**	**39**	⇓Pg	**Pb**	**05 23 22.4**	**+1.1**
	1.6nm,0.6s						
PDGK				⇓Lg	Lg	05 24 19.2	
	6.0nm,0.7s						
KK31	**Karatay Array**	**5.03**	**306**	⇓Pg	**Pb**	**05 23 42.1**	**+3.6**
	0.8nm,0.5s,baz=131,slow=16,SNR=4.3						
KK31				⇓Sn	**Sn**	**05 24 25.9**	**+1.0**
	0.4nm,0.5s						
KK31				⇓Lg	Lg	05 24 46.9	
	0.6nm,0.4s,baz=127,slow=30						

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*BJI **04** 05:39:30.4±0.0, 24°.87S×68°.67W, h76km, mB5.3/11, Ms5.4/8, Ms7 5.1/6*

*SJA **04** 05:39:31.3±0.8, 24°.62S×69°.42W, h118km±8km, ML4.6, MW4.8*

*ISCJB **04** 05:39:31.2±0.3, 24°.57S±0°.02×69°.08W±0°.03, h87km±2km, mb5.2/71, Error ellipse: s-maj=4.4km s-min=2.7km az=169.7*

*MOS **04** 05:39:31.5±1.1, 24°.63S×69°.18W, h78km, mb5.7/22, Error ellipse: s-maj=12.7km s-min=6.6km az=101.7*

*VAO **04** 05:39:32.5±0.4, 24°.65S×69°.08W, h81km, mb5.3*

*IDC **04** 05:39:33.0±0.3, 24°.74S×69°.28W, h86km±2km, mb5.0/28, mb1 5.0/34, mb1mx5.0/38, mbtmp5.3/34, MS4.0/13, Ms1 3.9/13, ms1mx3.8/16, Error ellipse: s-maj=11.4km s-min=5.8km az=89.0*

*GUC **04** 05:39:33.7±0.4, 24°.57S×69°.30W, h70km±4km, ML5.4*

*NEIC **04** 05:39:33.2±2.0, 24°.60S±0°.04×69°.20W±0°.07, h87km±3km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-6.61; $M_{\theta\theta}$2.34; $M_{\phi\phi}$4.28; $M_{r\theta}$0.17; $M_{\theta\phi}$-2.47; $M_{\phi r}$-4.65; Fault plane solution: $M_0$7.84000×10^{16} NP1: ϕ_s133.87000°, δ30.09000°, λ-115.42000°. NP2: ϕ_s342.65000°, δ63.07000°, λ-76.03000°. Principal axes: T 7.1717, Plg17.0000°, Azm62.0000°; N 1.2061, Plg12.0000°, Azm156.0000°; P -8.3778, Plg69.0000°, Azm281.0000°;*

*NEIC **04** 05:39:36, 24°.59S×69°.16W, h80km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-6.20; $M_{\theta\theta}$3.39; $M_{\phi\phi}$2.81; $M_{r\theta}$1.21; $M_{\theta\phi}$-3.56; $M_{\phi r}$-2.84; Fault plane solution: $M_0$7.15000×10^{16} NP1:ϕ_s122.00000°, δ34.00000°, λ-108.00000°. NP2:ϕ_s323.00000°, δ58.00000°, λ-78.00000°. Principal axes: T 7.2654, Plg12.0000°, Azm45.0000°; N -0.2420, Plg10.0000°, Azm137.0000°; P -7.0234, Plg74.0000°, Azm266.0000°;*

*NEIC **04** 05:39:36, 24°.59S×69°.41W, h107km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-6.66; $M_{\theta\theta}$1.31; $M_{\phi\phi}$5.35; $M_{r\theta}$0.82; $M_{\theta\phi}$-3.33; $M_{\phi r}$-3.39; Fault plane solution: $M_0$7.79000×10^{16} NP1:ϕ_s143.00000°, δ33.00000°, λ-103.00000°. NP2:ϕ_s338.00000°, δ58.00000°, λ-82.00000°. Principal axes: T 7.9998, Plg13.0000°, Azm62.0000°; N -0.4487, Plg7.0000°, Azm154.0000°; P -7.5511, Plg75.0000°, Azm271.0000°;*

*GCMT **04** 05:39:37.0±0.1, 24°.57S±0°.01×69°.39W±0°.01, h110km±1km, MW5.2/118, Moment Tensor Solution. s105,c138; s118,c194; Duration: 1s.0 Moment tensor: Scale 10^{16} Nm; M_{rr}-6.50±.11; $M_{\theta\theta}$1.53±.13; $M_{\phi\phi}$4.97±.17; $M_{r\theta}$0.70±.10; $M_{\theta\phi}$-3.34±.11; $M_{\phi r}$-3.24±.12; Best double couple: $M_0$7.53000×10^{16} NP1:ϕ_s337.00000°, δ58.00000°, λ-80.00000°. NP2:ϕ_s139.00000°, δ33.00000°, λ-105.00000°. Principal axes: T 7.7050, Plg13.0000°, Azm60.0000°; N -0.3490, Plg8.0000°, Azm152.0000°; P -7.3560, Plg75.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 05:39:32.7±0.3**, 24°.62S**±0°.03×**69°.20W**±0°.03**, h85km**±2km**, h85km:pP-P, n1142, σ1s.10**/1089**, mb5.4**/239**, 14C-15D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.65**	**213**	⇑*i*P	**Pn**	**05 39 48.8**	**+0.2**
GO02				*i* S	**Sn**	**05 40 00.1**	**-0.2**
GO02	**Mina Guanaco**	**0.65**	**213**		**Pn**	**05 39 49.1**	**+0.6**
GO02				Sn	**Sn**	**05 40 00.8**	**+0.5**
PB14	**IPOC Station P**	**1.09**	**269**	⇑*i*P	**Pn**	**05 39 53.1**	**-0.2**
PB14				*i* S	**Sn**	**05 40 08.1**	**-0.9**
PB14	**IPOC Station P**	**1.09**	**269**	*i* P	**Pn**	**05 39 53.2**	**-0.2**
PB14				*e*S	**Sn**	**05 40 09.5**	**+0.5**
PB15	**IPOC Station P**	**1.43**	**350**	*e*P	**Pn**	**05 39 57.9**	**+0.4**
PB15				*i* S	**Sn**	**05 40 16.1**	**0.0**
PB15	**IPOC Station P**	**1.43**	**350**	*i* P	**Pn**	**05 39 58.7**	**+1.3**
PB15				*e*S	**Sn**	**05 40 18.7**	**+2.6**
PB10	**IPOC Station P**	**1.66**	**311**	⇓*i*P	**Pn**	**05 39 59.9**	**-0.3**
PB10				*i* S	**Sn**	**05 40 20.0**	**-1.0**
PB10				IAML		05 40 26.9	
	comp=N,37μm,0.4s						
PB10	**IPOC Station P**	**1.66**	**311**		**Pn**	**05 40 00.6**	**+0.5**
PB10				Sn	**Sn**	**05 40 19.1**	**-1.9**
PB06	**IPOC Station P**	**1.93**	**350**	⇓*i*P	**Pn**	**05 40 05.0**	**+0.9**
PB06				*i* S	**Sn**	**05 40 28.2**	**+0.4**
PB05	**IPOC Station P**	**1.98**	**332**	⇓*i*P	**Pn**	**05 40 05.0**	**+0.4**
PB05				*i* S	**Sn**	**05 40 28.7**	**-0.2**
PB05				IAML		05 40 35.8	
	comp=E,52μm,0.4s						
PB05	**IPOC Station P**	**1.98**	**332**	*i* P	**Pn**	**05 40 04.8**	**+0.2**
PB05				*e*S	**Sn**	**05 40 29.6**	**+0.7**
LVC	**Limon Verde**	**2.02**	**8**	P	**Pn**	**05 40 06.7**	**+1.4**
	comp=E,2μm,0.3s,baz=171,slow=9.2,SNR=9025						
LVC				S	**Sn**	**05 40 32.0**	**+2.0**
	comp=E,5μm,0.3s,baz=350,slow=18,SNR=32						
LVC	**Limon Verde**	**2.02**	**8**	*e*P	**Pn**	**05 40 06.9**	**+1.6**
LVC				*e*S	**Sn**	**05 40 29.0**	**-1.0**
LVC	**Limon Verde**	**2.02**	**8**	*e*P	**Pn**	**05 40 06.9**	**+1.6**
LVC				*e*S	**Sn**	**05 40 29.0**	**-1.0**
LVC	**Limon Verde**	**2.02**	**8**		**Pn**	**05 40 06.7**	**+1.4**
LVC					**Sn**	**05 40 30.5**	**+0.5**
PB04	**IPOC Station P**	**2.44**	**339**	⇓*i*P	**Pn**	**05 40 10.6**	**-0.1**
PB04				*i* S	**Sn**	**05 40 39.6**	**-0.1**
PB04				IAML		05 40 49.5	
	comp=E,25μm,0.6s						
PB04	**IPOC Station P**	**2.44**	**339**		**Pn**	**05 40 10.5**	**-0.2**
PB04				Sn	**Sn**	**05 40 34.2**	**-5.6**
PB03	**IPOC Station P**	**2.61**	**349**	⇓*i*P	**Pn**	**05 40 13.3**	**+0.4**
PB03				*i* S	**Sn**	**05 40 43.9**	**0.0**
PB03				IAML		05 40 54.9	
	comp=E,28μm,0.1s						
PB09	**IPOC Station P**	**2.81**	**359**	⇑*i*P	**Pn**	**05 40 17.0**	**+1.3**
PB09	**IPOC Station P**	**2.81**	**359**	⇑*i*P	**Pn**	**05 40 17.1**	**+1.4**
PB09				*e*S	**Sn**	**05 40 49.0**	**+0.3**
PB07	**IPOC Station P**	**2.95**	**348**	⇓*i*P	**Pn**	**05 40 17.4**	**-0.2**
PB07				IAML		05 41 02.6	
	comp=N,20μm,0.3s						
GO03	**Copiap**	**3.10**	**197**		**Pn**	**05 40 19.5**	**-0.1**
GO03	**Copiap**	**3.10**	**197**	*i* P	**Pn**	**05 40 19.2**	**-0.4**
PB02	**IPOC Station P**	**3.34**	**349**	⇓*i*P	**Pn**	**05 40 22.6**	**-0.3**
PB02				*i* S	**Sn**	**05 41 02.4**	**+0.8**
SLA	**San Lorenzo**	**3.37**	**93**	*i* P	**Pn**	**05 40 26.7**	**+3.5**
SLA				IAML		05 40 29.9	
	comp=Z,771nm,0.6s						
PB01	**IPOC Station P**	**3.57**	**356**	⇑*i*P	**Pn**	**05 40 25.8**	**-0.1**
PB01	**IPOC Station P**	**3.57**	**356**	Pn	**Pn**	**05 40 26.3**	**+0.4**
AZAP	**Zapla**	**3.79**	**85**	*i* P	**Pn**	**05 40 32.7**	**+3.7**
AZAP				IAML		05 40 33.0	
	comp=Z,1μm,0.6s						
AHML	**Horco Molle**	**4.10**	**123**	*i* P	**Pn**	**05 40 35.8**	**+2.7**
TA01	**Diego Aracena**	**4.13**	**347**	⇓*i*P	**Pn**	**05 40 31.6**	**-1.9**
PB11	**IPOC Station P**	**4.85**	**355**	⇑*i*P	**Pn**	**05 40 41.6**	**-1.8**
PB11	**IPOC Station P**	**4.85**	**355**		**Pn**	**05 40 42.1**	**-1.3**
CYA	**Choya**	**4.88**	**142**	*i* P	**Pn**	**05 40 45.5**	**+1.9**
GO01	**Chusmiza**	**4.93**	**0**		**Pn**	**05 40 43.7**	**-1.0**
MNMC	**Minye Minye**	**5.47**	**356**		**Pn**	**05 40 50.6**	**-1.4**
MNMC				Sn	**Sn**	**05 41 52.0**	**-1.8**
ACDV	**Cuesta del Vie**	**5.53**	**179**	*i* P	**Pn**	**05 40 53.5**	**+0.9**
AROD	**Rodeo**	**5.53**	**182**	*i* P	**Pn**	**05 40 53.5**	**+0.7**
GO04	**Tololo Observa**	**5.71**	**194**		**Pn**	**05 40 53.8**	**-1.4**
GO04				Sn	**Sn**	**05 42 04.0**	**+4.5**
ACCO	**Cerro Coronel**	**5.95**	**179**	*i* P	**Pn**	**05 40 58.9**	**+0.4**
AMOG	**MOGNA**	**6.33**	**174**	*i* P	**Pn**	**05 41 03.1**	**-0.3**
CFA	**Coronel Fontan**	**7.01**	**173**	P	**Pn**	**05 41 11.9**	**-0.8**
	comp=Z,50nm,0.3s,baz=352,slow=13,SNR=715						
CFA				S	**Sn**	**05 42 27.2**	**-3.7**
	comp=Z,18nm,0.3s,baz=325,slow=16,SNR=2.0						
CFA	**Coronel Fontan**	**7.01**	**173**	*i* P	**Pn**	**05 41 12.2**	**-0.5**
ACAN	**Cantantal**	**7.83**	**167**	*i* P	**Pn**	**05 41 23.4**	**-0.5**
ARCO	**CERRO ARCO**	**8.20**	**178**	*i* P	**Pn**	**05 41 28.3**	**-0.7**
LPAZ	**La Paz**	**8.35**	**7**	P	**Pn**	**05 41 31.0**	**-0.5**
LPAZ	**La Paz**	**8.35**	**7**	P	**Pn**	**05 41 32.2**	**+0.7**
	comp=Z,11nm,0.3s,baz=179,slow=5.7,SNR=116						
LPAZ	**La Paz**	**8.35**	**7**		**Pn**	**05 41 31.0**	**-0.5**
AAGR	**Agrelo**	**8.44**	**178**	*i* P	**Pn**	**05 41 31.7**	**-0.6**
ROC1	**El Roble**	**8.48**	**190**		**Pn**	**05 41 32.4**	**-0.5**
PEL	**Peldehue**	**8.59**	**188**	P	**Pn**	**05 41 33.5**	**-0.8**
PEL						05 43 07.6	
PEL	**Peldehue**	**8.59**	**188**		**Pn**	**05 41 33.5**	**-0.8**
PEL				Sn	**Sn**	**05 43 07.6**	**-2.0**
GO05	**Huala**	**10.62**	**192**		**Pn**	**05 41 57.8**	**-4.1**
CPUP	**Villa Florida**	**10.86**	**102**	P	**Pn**	**05 42 03.6**	**-1.6**
CPUP	**Villa Florida**	**10.86**	**102**	P	**Pn**	**05 42 03.3**	**-1.9**
	comp=Z,1.0nm,0.3s,baz=286,slow=12,SNR=23						
CPUP				LR	LR	05 46 51.5	
	comp=Z,994nm,18.8s,baz=271,slow=40						
CPUP	**Villa Florida**	**10.86**	**102**		**Pn**	**05 42 03.6**	**-1.6**
SIV	**San Ignacio**	**11.48**	**43**	P	**Pn**	**05 42 10.2**	**-3.4**
	comp=Z,31nm,0.3s,baz=246,slow=9.3,SNR=187						
SIV				S	**Sn**	**05 44 16.6**	**-3.4**
	comp=Z,2.6nm,0.3s,baz=253,slow=20,SNR=4.9						
NNA	**Nana**	**14.50**	**329**	P	**Pn**	**05 42 53.5**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=147,slow=11,SNR=11						
NNA				S	**Sn**	**05 45 30.2**	**-3.3**
	comp=Z,2.7nm,0.3s,baz=196,slow=12,SNR=3.6						
NNA	**Nana**	**14.50**	**329**		**Pn**	**05 42 53.3**	**-0.5**
TRQA	**Tornquist**	**14.74**	**157**	P	**Pn**	**05 42 55.0**	**-1.7**
TRQA	**Tornquist**	**14.74**	**157**	*e*P	**Pn**	**05 42 56.0**	**-0.7**
TRQA	**Tornquist**	**14.74**	**157**	*e*P	**Pn**	**05 42 56.0**	**-0.7**
TRQA	**Tornquist**	**14.74**	**157**		**Pn**	**05 42 55.0**	**-1.7**
GO06	**Curarrehue**	**15.04**	**187**		**Pn**	**05 42 58.3**	**-2.4**
PLCA	**Paso Flores**	**16.11**	**184**	*e*P	**Pn**	**05 43 11.0**	**-3.1**
PLCA	**Paso Flores**	**16.11**	**184**	P	**Pn**	**05 43 11.2**	**-2.9**
	comp=Z,3.2nm,0.3s,baz=30,slow=12,SNR=67						
PLCA				LR	LR	05 49 57.6	
	comp=Z,980nm,21.9s,baz=33,slow=39						
PLCA	**Paso Flores**	**16.11**	**184**	*e*P	**Pn**	**05 43 13.2**	**-0.9**
PLCA	**Paso Flores**	**16.11**	**184**	*e*P	**Pn**	**05 43 13.2**	**-0.9**
PLCA	**Paso Flores**	**16.11**	**184**	P	**Pn**	**05 43 12.0**	**-2.1**
SAML	**Samuel**	**16.61**	**21**	P	**Pn**	**05 43 16.5**	**-3.8**
SAML				pmax	pmax		
	comp=Z,157nm,1.1s						
SAML	**Samuel**	**16.61**	**21**		**Pn**	**05 43 16.5**	**-3.8**
FRTB	**Fartura**	**17.99**	**90**	*e*P	**P**	**05 43 35.3**	**-1.4**
FRTB				*e*S	**Sn**	**05 46 56.2**	**-1.6**
FRTB	**Fartura**	**17.99**	**90**	*e*P	**P**	**05 43 35.3**	**-1.4**
FRTB				*e*S	**Sn**	**05 46 56.2**	**-1.6**
ARAG	**Araguaiana, MT**	**18.56**	**65**	*e*P	**P**	**05 43 41.1**	**-1.8**
ARAG	**Araguaiana, MT**	**18.56**	**65**	*e*P	**P**	**05 43 41.1**	**-1.8**
ATAH	**Atahualpa**	**19.49**	**332**	P	**Pn**	**05 43 55.9**	**+0.4**
	comp=Z,2.0nm,0.3s,baz=161,slow=11,SNR=20						
SPB	**Sao Paulo**	**19.90**	**92**	*e*P	**P**	**05 43 56.6**	**-0.9**
SPB				*e*S	**S**	**05 47 35.7**	**-1.3**
SPB	**Sao Paulo**	**19.90**	**92**	*e*P	**P**	**05 43 56.6**	**-0.9**
SPB				*e*S	**S**	**05 47 35.7**	**-1.3**
SPB	**Sao Paulo**	**19.90**	**92**	P	**P**	**05 43 57.3**	**-0.2**
RCLB	**Rio Claro- Sao**	**19.99**	**88**	*e*P	**P**	**05 43 57.5**	**-1.0**
RCLB				*e*S	**S**	**05 47 37.7**	**-1.2**
RCLB	**Rio Claro- Sao**	**19.99**	**88**	*e*P	**P**	**05 43 57.5**	**-1.0**
RCLB				*e*S	**S**	**05 47 37.7**	**-1.2**
IPMB	**Ipameri, GO**	**20.63**	**75**	*e*P	**P**	**05 44 03.8**	**-1.7**
IPMB	**Ipameri, GO**	**20.63**	**75**	*e*P	**P**	**05 44 03.8**	**-1.7**
BDFB	**Brasilia**	**21.78**	**70**	P	**P**	**05 44 16.7**	**-1.2**
	comp=Z,166nm,0.9s,baz=241,slow=11,SNR=97						
BDFB				LR	LR	05 53 45.6	
	comp=Z,408nm,18.9s,baz=274,slow=39						
BDFB	**Brasilia**	**21.78**	**70**	IAmb	IAmb	05 44 19.6	
	comp=Z,220nm,1.1s						
VAS01	**Vassouras-RJ**	**23.74**	**90**	*e*P	**P**	**05 44 36.4**	**-0.9**
VAS01	**Vassouras-RJ**	**23.74**	**90**	*e*P	**P**	**05 44 36.4**	**-0.9**
DUB01	**Friburgo-RJ**	**24.75**	**90**	*e*P	**P**	**05 44 46.3**	**-0.2**
DUB01	**Friburgo-RJ**	**24.75**	**90**	*e*P	**P**	**05 44 46.3**	**-0.2**
PTLC	**Puerto Leguiza**	**25.23**	**347**	*e*P	**P**	**05 44 47.6**	**-3.2**
PTLC	**Puerto Leguiza**	**25.23**	**347**	*e*P	**P**	**05 44 47.6**	**-3.2**
OTAV	**Otavalo**	**26.28**	**339**	P	**P**	**05 45 01.6**	**+0.7**
OTAV				pmax	pmax		
	comp=Z,63nm,1.3s						
OTAV	**Otavalo**	**26.28**	**339**	*e*P	**P**	**05 45 01.9**	**+1.0**
OTAV	**Otavalo**	**26.28**	**339**	*e*P	**P**	**05 45 01.9**	**+1.0**
OTAV	**Otavalo**	**26.28**	**339**	P	**P**	**05 45 01.6**	**+0.7**
ALF01	**Guarapari-ES**	**26.56**	**87**	*e*P	**P**	**05 45 02.9**	**0.0**
ALF01	**Guarapari-ES**	**26.56**	**87**	*e*P	**P**	**05 45 02.9**	**0.0**
SJMB	**Sao Joao De Ma**	**26.67**	**83**	*e*P	**P**	**05 45 01.9**	**-2.0**
SJMB	**Sao Joao De Ma**	**26.67**	**83**	*e*P	**P**	**05 45 01.9**	**-2.0**
FLOC	**Florencia**	**26.79**	**346**	*e*P	**P**	**05 45 05.9**	**+1.0**
FLOC	**Florencia**	**26.79**	**346**	*e*P	**P**	**05 45 05.9**	**+1.0**
BSFB	**Barra de Sao F**	**26.93**	**83**	*e*P	**P**	**05 45 05.3**	**-0.9**
BSFB	**Barra de Sao F**	**26.93**	**83**	*e*P	**P**	**05 45 05.3**	**-0.9**
CRUC	**La Cruz**	**27.09**	**343**	*e*P	**P**	**05 45 09.8**	**+1.8**
CRUC	**La Cruz**	**27.09**	**343**	*e*P	**P**	**05 45 09.8**	**+1.8**
GUVC	**San Jose del G**	**27.20**	**352**	*e*P	**P**	**05 45 07.0**	**-1.7**
GUVC	**San Jose del G**	**27.20**	**352**	*e*P	**P**	**05 45 07.0**	**-1.7**
SOTA	**Rioblanco**	**27.55**	**344**	*e*P	**P**	**05 45 13.4**	**+1.1**
SOTA	**Rioblanco**	**27.55**	**344**	*e*P	**P**	**05 45 13.4**	**+1.1**
BBAC	**Balboa, Cauca**	**27.61**	**342**	*e*P	**P**	**05 45 13.6**	**+1.1**
BBAC	**Balboa, Cauca**	**27.61**	**342**	*e*P	**P**	**05 45 13.6**	**+1.1**
PCON	**Cinco Dias**	**27.68**	**344**	*e*P	**P**	**05 45 15.2**	**+1.7**
PCON	**Cinco Dias**	**27.68**	**344**	*e*P	**P**	**05 45 15.2**	**+1.7**
EFI	**East Falkland**	**28.33**	**165**	*i* P	**P**	**05 45 17.4**	**-0.9**
EFI				pmax	pmax		
	comp=Z,112nm,0.9s						
EFI	**East Falkland**	**28.33**	**165**	P	**P**	**05 45 17.8**	**-0.5**
EFI				IAmb	IAmb	05 45 18.4	
	comp=Z,93nm,0.8s						
PRAC	**Prado**	**28.70**	**348**	*e*P	**P**	**05 45 22.4**	**+0.4**
PRAC	**Prado**	**28.70**	**348**	*e*P	**P**	**05 45 22.4**	**+0.4**
PTGC	**Puerto Gaitan,**	**28.79**	**354**	*e*P	**P**	**05 45 21.1**	**-1.6**
PTGC	**Puerto Gaitan,**	**28.79**	**354**	*e*P	**P**	**05 45 21.1**	**-1.6**
VILC	**Villavicencio,**	**28.89**	**351**	*e*P	**P**	**05 45 23.9**	**+0.1**
VILC	**Villavicencio,**	**28.89**	**351**	*e*P	**P**	**05 45 23.9**	**+0.1**
ORTC	**Ortega, Tolima**	**28.96**	**347**	*e*P	**P**	**05 45 24.8**	**+0.5**
ORTC	**Ortega, Tolima**	**28.96**	**347**	*e*P	**P**	**05 45 24.8**	**+0.5**
YOTC	**Yotoco, Valle**	**29.27**	**345**	*e*P	**P**	**05 45 27.0**	**-0.1**
YOTC	**Yotoco, Valle**	**29.27**	**345**	*e*P	**P**	**05 45 27.0**	**-0.1**
CHIC	**Chingaza**	**29.40**	**351**	*e*P	**P**	**05 45 28.7**	**0.0**
CHIC	**Chingaza**	**29.40**	**351**	*e*P	**P**	**05 45 28.7**	**0.0**
ROSC	**El Rosal**	**29.70**	**350**	P	**P**	**05 45 32.3**	**+1.1**
	comp=Z,17nm,0.5s,baz=269,slow=21,SNR=9.7						
ROSC				LR	LR	05 59 11.7	
	comp=Z,302nm,19.2s,baz=206,slow=40						
ROSC	**El Rosal**	**29.70**	**350**	P	**P**	**05 45 32.1**	**+0.8**
RREF	**El Recreo**	**29.95**	**348**	*e*P	**P**	**05 45 34.4**	**+0.7**
RREF	**El Recreo**	**29.95**	**348**	*e*P	**P**	**05 45 34.4**	**+0.7**
PLMC	**San Jos del P**	**30.14**	**346**	*e*P	**P**	**05 45 35.1**	**+0.3**
PLMC	**San Jos del P**	**30.14**	**346**	*e*P	**P**	**05 45 35.1**	**+0.3**
GUY2C	**Guyana, Caldas**	**30.26**	**348**	*e*P	**P**	**05 45 36.9**	**+0.5**
GUY2C	**Guyana, Caldas**	**30.26**	**348**	*e*P	**P**	**05 45 36.9**	**+0.5**
NORC	**Norcasia**	**30.50**	**349**	*e*P	**P**	**05 45 37.1**	**-0.8**
NORC	**Norcasia**	**30.50**	**349**	*e*P	**P**	**05 45 37.1**	**-0.8**
RUSC	**La Rusia**	**30.56**	**352**	*e*P	**P**	**05 45 38.5**	**-0.5**
RUSC	**La Rusia**	**30.56**	**352**	*e*P	**P**	**05 45 38.5**	**-0.5**
TAMC	**Tame, Arauca**	**30.97**	**355**	*e*P	**P**	**05 45 40.7**	**-1.3**
TAMC	**Tame, Arauca**	**30.97**	**355**	*e*P	**P**	**05 45 40.7**	**-1.3**
CBOC	**Ciudad Bolivar**	**31.02**	**347**	*e*P	**P**	**05 45 43.0**	**+0.4**
CBOC	**Ciudad Bolivar**	**31.02**	**347**	*e*P	**P**	**05 45 43.0**	**+0.4**
HELC	**Santa Helena**	**31.24**	**348**	*e*P	**P**	**05 45 44.0**	**-0.8**
HELC	**Santa Helena**	**31.24**	**348**	*e*P	**P**	**05 45 44.0**	**-0.8**
BARC	**Barichara**	**31.26**	**352**	*e*P	**P**	**05 45 41.9**	**-3.0**
BARC	**Barichara**	**31.26**	**352**	*e*P	**P**	**05 45 41.9**	**-3.0**
PTBC	**PUERTO BERRIO,**	**31.39**	**350**	*e*P	**P**	**05 45 43.1**	**-2.6**
PTBC	**PUERTO BERRIO,**	**31.39**	**350**	*e*P	**P**	**05 45 43.1**	**-2.6**

DBBC Dabeiba 32.18 347 eP P 05 45 53.3 +0.6
DBBC Dabeiba 32.18 347 eP P 05 45 53.3 +0.6
ZARC Zaragoza, Cauc 32.39 349 eP P 05 45 52.0 -2.5
ZARC Zaragoza, Cauc 32.39 349 eP P 05 45 52.0 -2.5
SDV Santo Domingo 33.33 357 P P 05 46 01.7 -1.1
comp=Z,17nm,0.8s,baz=187,slow=6.8,SNR=27
SDV Santo Domingo 33.33 357 eP P 05 46 02.0 -0.9
SDV Santo Domingo 33.33 357 eP P 05 46 02.0 -0.9
SDV Santo Domingo 33.33 357 P P 05 46 01.4 -1.5
SMLC San Martn de 33.55 351 eP P 05 46 00.8 -3.8
SMLC San Martn de 33.55 351 eP P 05 46 00.8 -3.8
MDP Montagnes des 33.65 31 P P 05 46 05.6 +0.1
comp=Z,71nm,0.8s,baz=202,slow=8.9,SNR=37
ARGC Ariguani, Magd 34.62 351 eP P 05 46 12.4 -1.5
ARGC Ariguani, Magd 34.62 351 eP P 05 46 12.4 -1.5
SJCC San Jacinto, C 34.80 350 eP P 05 46 14.4 -1.0
SJCC San Jacinto, C 34.80 350 eP P 05 46 14.4 -1.0
PCRV Puerto La Cruz 34.87 8 P P 05 46 16.3 +0.3
comp=Z,10nm,0.6s,baz=198,slow=4.4,SNR=8.0
BCIP Isla Barro Col 35.15 342 P P 05 46 18.9 +0.5
BCIP pmax pmax
comp=Z,27nm,0.7s
BCIP Isla Barro Col 35.15 342 P P 05 46 18.9 +0.5
BCIP IAmb IAmb 05 46 20.7
comp=Z,27nm,0.7s
RPN Rapa Nui 36.09 257 P P 05 46 25.6 -0.9
comp=Z,64nm,0.8s,baz=119,slow=7.3,SNR=4.7
RPN Rapa Nui 36.09 257 IAmb IAmb 05 46 29.0
comp=Z,101nm,0.9s
TOSP Speyside 36.69 14 P P 05 46 30.9 -0.6
RCBR Riachuelo 37.00 65 P P 05 46 34.7 +0.3
RCBR pmax pmax
comp=Z,150nm,1.3s
RCBR Riachuelo 37.00 65 P P 05 46 34.4 0.0
comp=Z,11nm,0.8s,baz=244,slow=6.9,SNR=8.0
RCBR Riachuelo 37.00 65 eP P 05 46 33.5 -0.8
RCBR Riachuelo 37.00 65 eP P 05 46 33.5 -0.8
RCBR Riachuelo 37.00 65 P P 05 46 34.7 +0.3
GRGR Grenville 37.26 12 P P 05 46 35.9 -0.5
JTS Las Juntas de 37.95 334 i P P 05 46 43.2 +0.9
JTS pmax pmax
comp=Z,35nm,1.2s
JTS Las Juntas de 37.95 334 P P 05 46 35.7 -6.5
comp=Z,6.4nm,0.3s,baz=4.7,slow=12,SNR=49
HOPE Hope Point 38.32 149 P P 05 46 46.1 +1.2
HOPE pmax pmax
comp=Z,321nm,1.4s
HOPE Hope Point 38.32 149 P P 05 46 46.1 +1.2
SVB Belmont 38.45 13 P P 05 46 46.4 0.0
SVB IAmb IAmb 05 47 31.2
comp=Z,56nm,0.9s
MPOM Morne Pois Mar 39.67 13 eP P 05 46 54.8 -1.7
BIM Bigot 39.70 12 eP P 05 46 55.8 -1.1
TRMF Trois Ilets 39.72 12 eP P 05 46 56.1 -0.9
ZAM Aeronautique 39.76 12 eP P 05 46 56.5 -0.8
LPMF Morne Lapointe 39.77 13 eP P 05 46 55.8 -1.7
FDF Fort de France 39.89 12 P P 05 46 56.2 -2.3
FDF pmax pmax
comp=Z,171nm,1.5s
FDF Fort de France 39.89 12 eP P 05 46 56.5 -2.0
FDF Fort de France 39.89 12 P P 05 46 56.2 -2.3
GBMF Grand Be 39.95 12 eP P 05 46 57.7 -1.3
PCM Pelee Case Pet 39.96 12 eP P 05 46 55.5 -3.5
PCM Pelee Case Pet 39.96 12 eP P 05 46 57.9 -1.1
CXM Morne La Croix 39.97 12 eP P 05 46 57.8 -1.3
BAMF Morne Balai 39.97 12 eP P 05 46 57.3 -1.9
PMSA Palmer Station 40.29 177 P P 05 47 01.5 +0.4
comp=Z,32nm,0.8s,baz=16,slow=7.8,SNR=18
PMSA Palmer Station 40.29 177 P P 05 47 02.0 +0.8
PMSA IAmb IAmb 05 47 02.2
comp=Z,40nm,0.9s
TGUH Tegucigalpa,Un 42.29 333 IAmb IAmb 05 47 19.8
comp=Z,78nm,1.1s
ICMP Isla Caja de M 42.33 4 P P 05 47 17.9 -0.4
MLPR Magueyes Islan 42.38 3 P P 05 47 17.1 -1.7
SJG San Juan 42.58 4 P P 05 47 18.5 -1.8
SJG pmax pmax
comp=Z,105nm,0.7s
SJG San Juan 42.58 4 P P 05 47 18.1 -2.3
comp=Z,107nm,0.6s,baz=168,slow=4.1,SNR=70
SJG San Juan 42.58 4 P P 05 47 18.5 -1.8
MTP Monte Pirata 42.61 5 P P 05 47 18.2 -2.3
MTP IAmb IAmb 05 47 18.7
comp=Z,38nm,0.7s
MPR Mayaguez 42.62 3 IAmb IAmb 05 47 19.5
comp=Z,78nm,0.7s
ANWB Willy Bob 42.65 10 P P 05 47 18.3 -2.7
ANWB IAmb IAmb 05 47 34.2
comp=Z,58nm,0.7s
CBYP Canovanas 42.76 5 IAmb IAmb 05 47 20.8
comp=Z,83nm,0.8s
AOPR Arecibo Observ 42.77 3 IAmb IAmb 05 47 31.9
comp=Z,46nm,0.6s
GCPR Guaynabo City 42.78 4 IAmb IAmb 05 47 20.5
comp=Z,59nm,0.8s
CUPR Culebra, Puert 42.84 5 IAmb IAmb 05 47 21.7
comp=Z,38nm,0.7s
PCDR Punta Cana, DR 42.88 1 P P 05 47 22.5 -0.3
SC01 Santiago de lo 43.80 358 P P 05 47 29.2 -1.0
SC01 IAmb IAmb 05 47 30.8
comp=Z,52nm,0.8s
APG El Apazote 44.51 330 P P 05 47 36.5 +0.3
comp=Z,15nm,0.8s,baz=157,slow=7.4,SNR=11
TEIG Tepich 48.29 336 P P 05 48 05.2 -0.3
comp=Z,44nm,0.5s,baz=140,slow=1.5,SNR=76
TEIG Tepich 48.29 336 P P 05 48 04.8 -0.7
CMIG Matias Romero 48.44 326 P P 05 48 07.3 +0.6
comp=Z,15nm,0.8s,baz=132,slow=4.4,SNR=21
TLIG Tlapa 50.77 323 P P 05 48 25.4 +0.8
TLIG IAmb IAmb 05 48 26.7
comp=Z,25nm,0.7s
061Z Ochoppi 51.45 346 P P 05 48 29.7 +0.4
baz=166
060A Indiantown 52.47 347 P P 05 48 37.3 +0.5
baz=167
DWPF Disney Wildern 53.73 347 P P 05 48 45.9 -0.2
baz=166
658A Bunnell 54.97 347 P P 05 48 54.9 -0.2
baz=167
656A Willston 55.19 346 P P 05 48 56.4 -0.2
baz=165
456A Hilliard 56.38 347 P P 05 49 05.3 +0.1
baz=166,SNR=7.8
553A Crawfordville 56.42 344 P P 05 49 05.6 +0.2
baz=163
455A Stateville 56.62 346 P P 05 49 06.6 -0.3
baz=165
454A Quitman 56.73 345 P P 05 49 07.3 -0.3
baz=164
357A Townsend 56.95 347 P P 05 49 08.8 -0.3
baz=167
356A Blackshear 56.99 347 P P 05 49 09.2 -0.3
baz=166
453A Whigham 57.03 344 P P 05 49 09.7 -0.1
baz=164
355A Pearson 57.16 346 P P 05 49 10.3 -0.4
baz=165
ZAIG Zacatecas 57.17 323 P P 05 49 12.6 +1.3
VNA3 Neumayer Olymp 57.23 161 P P 05 49 10.6 -0.2
257A Skidaway Islan 57.40 348 P P 05 49 12.2 -0.1
baz=167
TIGA Tifton 57.42 345 P P 05 49 11.9 -0.6
baz=164
VNA1 Neumayer--Stat 57.46 160 P P 05 49 12.7 +0.4
353A Camilla 57.48 345 P P 05 49 12.3 -0.6
baz=164,SNR=8.2
256A Glennville 57.57 347 P P 05 49 13.3 -0.2
baz=166,SNR=5.6
255A Hazlehurst 57.64 347 P P 05 49 13.6 -0.4
baz=166
255A Hazlehurst 57.64 347 IAmb IAmb 05 49 14.1
comp=Z,40nm,1.1s
352A Blakely 57.77 344 P P 05 49 14.4 -0.5
baz=163,SNR=15
VNA2 Neumayer--Watz 57.82 160 P P 05 49 14.8 -0.1
baz=288,slow=8.5
254A Abbeville 57.84 346 P P 05 49 14.8 -0.6
baz=165,SNR=7.1
158A Hollywood 57.99 349 P P 05 49 16.8 +0.4
baz=168
BRAL Brewton 58.04 342 P P 05 49 16.6 -0.3
baz=161,SNR=6.4
157A Early Branch 58.08 348 P P 05 49 17.2 +0.2
baz=167
253A Americus 58.14 345 P P 05 49 16.7 -0.9
baz=164
156A Sylvania 58.15 348 P P 05 49 17.3 -0.2
baz=167
252A Lumpkin 58.22 344 P P 05 49 17.2 -0.9
baz=163,SNR=13
155A Kite 58.31 347 P P 05 49 18.3 -0.4
baz=166,SNR=9.6
Z59A Georgetown, SC 58.33 350 P P 05 49 19.2 +0.3
baz=169
NHSC New Hope 58.35 349 P P 05 49 19.4 +0.4
baz=168,SNR=11
154A Montrose 58.44 346 P P 05 49 19.1 -0.5
baz=165,SNR=11
Z58A St. Stephen 58.51 350 P P 05 49 20.3 +0.2
baz=169,SNR=12
250A Grady 58.59 343 P P 05 49 19.9 -0.8
baz=162,SNR=7.3
Z57A Bowman 58.63 349 P P 05 49 21.0 +0.1
baz=168,SNR=16
153A Fort Valley 58.63 346 P P 05 49 20.3 -0.7
baz=164,SNR=8.4
Z56A Williston 58.78 348 P P 05 49 21.7 -0.3
baz=167,SNR=11
Z55A Blythe 58.82 347 P P 05 49 22.0 -0.3
baz=166,SNR=5.1
152A Waverly Hall 58.86 345 P P 05 49 21.6 -0.9
baz=164,SNR=15
152A Waverly Hall 58.86 345 IAmb IAmb 05 49 22.6
comp=Z,37nm,0.8s
Y60A Bolivia 58.93 351 P P 05 49 23.3 +0.3
baz=170,SNR=17
Z54A Sparta 58.98 347 P P 05 49 22.6 -0.8
baz=166,SNR=13
Y59A Loris 59.01 351 P P 05 49 23.5 0.0
baz=170,SNR=5.7
Y58A Scranton 59.05 350 P P 05 49 24.1 +0.3
baz=169,SNR=13
Z53A Monticello 59.18 346 P P 05 49 23.7 -1.0
baz=165,SNR=9.1
Y56A Pelion 59.22 348 P P 05 49 24.8 -0.2
baz=167,SNR=5.1
Y57A Sumter 59.27 349 P P 05 49 25.4 0.0
baz=168,SNR=8.8
GOGA Godfrey 59.28 346 P P 05 49 24.5 -1.0
baz=165,SNR=14
GOGA Godfrey 59.28 346 IAmb IAmb 05 49 25.1
comp=Z,19nm,0.7s
Z52A Williamson 59.29 345 P P 05 49 24.8 -0.7
baz=164,SNR=15
SNAA Sanae 59.44 160 P P 05 49 25.9 -0.3
SNAA Sanae 59.44 160 d iP P 05 49 25.6 -0.6
SNAA Sanae 59.44 160 P P 05 49 25.9 -0.3
comp=Z,52nm,1.0s,baz=278,slow=7.7,SNR=200
X60A Albert Glenn T 59.46 352 P P 05 49 26.8 +0.2
baz=171,SNR=11
Y55A Saluda 59.46 348 P P 05 49 26.5 -0.2
baz=167,SNR=17
Y54A Tignall 59.55 347 P P 05 49 26.7 -0.6
baz=166,SNR=18
Z51A Franklin 59.59 345 P P 05 49 26.8 -0.8
baz=163,SNR=5.4
X58A Rowland 59.63 350 P P 05 49 28.0 +0.2
baz=169,SNR=22
X57A Johnson Farm, 59.66 350 P P 05 49 28.1 0.0
baz=168,SNR=10
JSC Jenkinsville 59.69 348 IAmb IAmb 05 49 29.0
comp=Z,26nm,0.9s
Z50A Ashland 59.72 344 P P 05 49 27.6 -0.9
baz=162,SNR=36
Y53A Monroe 59.74 346 P P 05 49 27.7 -0.8
baz=165,SNR=14
LRAL Lakeview Retre 59.79 343 P P 05 49 28.0 -0.9
baz=161,SNR=13
LRAL Lakeview Retre 59.79 343 IAmb IAmb 05 49 28.5
comp=Z,19nm,0.8s
X56A White Oak 59.85 349 P P 05 49 29.3 -0.1
baz=168,SNR=26
Y52A Lilburn 59.85 346 P P 05 49 28.6 -0.8
baz=164,SNR=12
Y52A Lilburn 59.85 346 IAmb IAmb 05 49 29.6
comp=Z,37nm,0.9s
W60A Pink Hill 59.89 352 P P 05 49 29.8 +0.2
baz=171,SNR=6.0
W61A Ground Anchor 59.93 353 P P 05 49 30.3 +0.5
baz=172,SNR=10
X55A Gracelyn & Ava 59.94 348 P P 05 49 29.7 -0.2
baz=167,SNR=18
HKT Hockley 59.98 333 P P 05 49 30.5 +0.3
HKT pmax pmax
comp=Z,26nm,1.2s
HKT Hockley 59.98 333 P P 05 49 30.5 +0.3
W58A Raeford 60.07 351 P P 05 49 31.3 +0.4
baz=170,SNR=18
CNNC Cliffs of the 60.10 352 P P 05 49 31.1 +0.1
baz=171,SNR=5.5
CNNC Cliffs of the 60.10 352 IAmb IAmb 05 49 32.2
comp=Z,40nm,0.8s
W59A Clinton 60.10 351 P P 05 49 31.3 +0.3
baz=170
Y51A Rockmart 60.12 345 P P 05 49 30.3 -0.9
baz=163,SNR=20
833A Chaparral WMA, 60.13 329 P P 05 49 32.0 +0.6
baz=148,SNR=11
X54A Belton 60.16 347 P P 05 49 31.2 -0.2
baz=166,SNR=19
V62A Hyde County Ai 60.19 354 P P 05 49 31.9 +0.3
baz=173
X53A Estanollee 60.30 347 P P 05 49 31.9 -0.5
baz=165,SNR=14
PAULI Pauline 60.31 348 IAmb IAmb 05 49 33.4
comp=Z,58nm,1.1s
W57A Gilead 60.32 350 P P 05 49 32.5 0.0
baz=169,SNR=20
W56A Indian Trail 60.40 349 P P 05 49 32.9 -0.2
baz=168,SNR=23
Y49A Blount Mountai 60.41 344 P P 05 49 32.1 -1.1
baz=162,SNR=14
V61A Roper 60.49 353 P P 05 49 33.6 0.0
baz=172
V61A Roper 60.49 353 IAmb IAmb 05 49 34.8
comp=Z,58nm,1.1s
X52A Dahlonega 60.52 346 P P 05 49 33.3 -0.7
baz=165,SNR=22
KMSC Kings Mountain 60.54 349 P P 05 49 33.8 -0.2
baz=167,SNR=20
KMSC Kings Mountain 60.54 349 IAmb IAmb 05 49 34.9
comp=Z,44nm,0.9s
V60A Jim Taylor Roa 60.54 352 P P 05 49 34.1 +0.1
baz=172
V60A Jim Taylor Roa 60.54 352 IAmb IAmb 05 49 35.2
comp=Z,81nm,1.5s
W54A Cherokee Point 60.64 348 P P 05 49 34.7 0.0
baz=166,SNR=25
V59A Middlesex 60.66 352 P P 05 49 35.1 +0.2
baz=171,SNR=14
BG3 Lake Jocassee 60.70 347 IAmb IAmb 05 49 35.9
comp=Z,19nm,0.8s
X51A Calhoun 60.71 345 P P 05 49 34.7 -0.5
baz=164,SNR=22
V58A Windy Hill, Pi 60.81 351 P P 05 49 35.8 -0.1
baz=170,SNR=26
W53A Cullowhee 60.92 347 P P 05 49 36.3 -0.4
baz=166,SNR=24
V57A Coltrane Farms 61.00 350 P P 05 49 36.9 -0.2
baz=169,SNR=21
W52A Murphy 61.00 346 P P 05 49 36.7 -0.5
baz=165,SNR=17
W52A Murphy 61.00 346 IAmb IAmb 05 49 37.8
comp=Z,38nm,0.9s
U61A Possum Corner 61.01 353 P P 05 49 37.5 +0.4
baz=172,SNR=7.1
V56A Mocksville 61.04 350 P P 05 49 37.6 +0.2
baz=168,SNR=31
NATX Nacogdoches 61.12 335 P P 05 49 38.7 +0.7
baz=154,SNR=6.7
X48A Hartselle 61.14 343 P P 05 49 37.4 -0.7
baz=162,SNR=34
U59A Littleton 61.18 352 P P 05 49 38.5 +0.2
baz=171,SNR=15
U59A Littleton 61.18 352 IAmb IAmb 05 49 39.1
comp=Z,27nm,0.8s
V55A Taylorsville 61.21 349 P P 05 49 38.6 0.0
baz=168,SNR=21
U60A Pendleton 61.22 353 P P 05 49 38.8 +0.2
baz=172,SNR=8.1
W51A Cleveland 61.25 345 P P 05 49 38.4 -0.5
baz=164,SNR=22
V54A Nebo 61.27 348 P P 05 49 38.7 -0.2
baz=167,SNR=26
U58A Oxford 61.32 351 P P 05 49 39.4 +0.1
baz=170,SNR=10.0
V53A Saluda 61.33 347 P P 05 49 38.9 -0.5
baz=166,SNR=21
V53A Saluda 61.33 347 IAmb IAmb 05 49 40.0
comp=Z,32nm,0.8s
W50A Signal Mountai 61.42 345 P P 05 49 39.5 -0.6
baz=163,SNR=23
435B Jarrell 61.43 332 P P 05 49 40.2 0.0
baz=151
435B Jarrell 61.43 332 P P 05 49 39.8 -0.4
435B IAmb IAmb 05 49 41.3
comp=Z,25nm,0.9s
U57A Blanch 61.47 351 P P 05 49 40.3 0.0
baz=170,SNR=19
CPCT Cooper Cave 61.48 346 IAmb IAmb 05 49 40.8
comp=Z,41nm,0.9s
U56A King 61.55 350 P P 05 49 41.2 +0.4
baz=168,SNR=9.0
U56A King 61.55 350 IAmb IAmb 05 49 42.2
comp=Z,35nm,0.9s
W49A Belvidere 61.57 344 P P 05 49 40.2 -0.8
baz=162,SNR=15
V52A Sevierville 61.66 347 P P 05 49 40.8 -0.8
baz=165,SNR=20
V52A Sevierville 61.66 347 IAmb IAmb 05 49 41.8
comp=Z,54nm,0.9s
T59A Double "B" Far 61.76 352 P P 05 49 42.5 +0.2
baz=171,SNR=10
T59A Double "B" Far 61.76 352 IAmb IAmb 05 49 43.5
comp=Z,28nm,0.9s
V51A Loudon 61.78 346 P P 05 49 41.4 -1.0
baz=164,SNR=10
V51A Loudon 61.78 346 IAmb IAmb 05 49 42.6
comp=Z,28nm,0.8s
Z41A Richland Creek 61.79 338 P P 05 49 42.8 +0.3
baz=156,SNR=9.3
Z41A Richland Creek 61.79 338 P P 05 49 41.7 -0.8
U55A TA2, Sparta 61.81 349 P P 05 49 42.5 -0.2
baz=168,SNR=8.1
V50A Pikevile 61.82 345 P P 05 49 42.2 -0.5
baz=164,SNR=42
T60A Surry 61.84 353 P P 05 49 42.9 +0.2
baz=172
T60A Surry 61.84 353 IAmb IAmb 05 49 44.0
comp=Z,48nm,1.0s
OXF Oxford 61.86 341 P P 05 49 41.6 -1.3
baz=159,SNR=17
T58A Grand View Acr 61.86 352 P P 05 49 43.2 +0.3
baz=170,SNR=17
PLAL Pickwick Lake 61.92 342 IAmb IAmb 05 49 43.1
comp=Z,39nm,1.0s
U53A Fall Branch 61.95 348 P P 05 49 42.8 -0.9
baz=166,SNR=9.9
U54A Nelsons Funny 61.97 348 P P 05 49 43.4 -0.3
baz=167,SNR=18
T57A Hurt 62.02 351 P P 05 49 44.1 +0.1
baz=170,SNR=10
T57A Hurt 62.02 351 IAmb IAmb 05 49 45.1
comp=Z,23nm,0.8s
CCAR Cane Creek 62.04 339 P P 05 49 44.7 +0.5
V49A McMinnville 62.10 345 P P 05 49 43.6 -0.9
baz=163,SNR=35
U52A Thorn Hill 62.14 347 P P 05 49 43.8 -1.0
baz=165,SNR=5.4
JCT Junction City 62.15 330 P P 05 49 45.2 +0.2
baz=148,SNR=43
T56A Rocky Mt 62.16 350 P P 05 49 45.4 +0.4
baz=169,SNR=12
U51A La Follette 62.26 347 P P 05 49 44.8 -0.9
baz=165,SNR=11
S61A Accomac 62.27 354 P P 05 49 44.9 -0.6
baz=173
V48A Smith Brothers 62.30 344 P P 05 49 45.2 -0.7
baz=162,SNR=29
X43A Marvell 62.31 340 P P 05 49 46.0 0.0
baz=158,SNR=15
X43A Marvell 62.31 340 P P 05 49 45.1 -0.9
TZTN Tazewell 62.32 347 P P 05 49 45.2 -0.8
baz=165
T55A Pulaski 62.37 350 P P 05 49 46.6 +0.2
baz=168,SNR=19
S60A Water View 62.39 353 P P 05 49 46.6 +0.2
baz=172
BLA Blacksburg 62.40 350 P P 05 49 46.8 +0.2
baz=168,SNR=6.9
BLA Blacksburg 62.40 350 IAmb IAmb 05 49 48.9
comp=Z,25nm,0.8s
WHTX Lake Whitney, 62.43 333 P P 05 49 46.9 +0.1
baz=151,SNR=14
T54A Tazewell 62.45 349 P P 05 49 46.5 -0.4
baz=167,SNR=9.9
S58A Poland Farm, P 62.46 352 P P 05 49 47.1 +0.2
baz=171,SNR=6.3
S58A Poland Farm, P 62.46 352 IAmb IAmb 05 49 48.1
comp=Z,53nm,1.4s
U50A Jamestown 62.48 346 P P 05 49 46.2 -0.9
baz=164,SNR=27
CLTN Cedars of Leba 62.51 344 IAmb IAmb 05 49 47.6
comp=Z,24nm,0.8s
S59A Mechanicsville 62.51 353 P P 05 49 47.3 +0.1
baz=172
T53A Wise 62.55 348 P P 05 49 46.9 -0.7
baz=166,SNR=9.1
S57A Dark Hollow, R 62.72 351 P P 05 49 49.0 +0.3
baz=170,SNR=13
S57A Dark Hollow, R 62.72 351 IAmb IAmb 05 49 49.9
comp=Z,29nm,0.8s
S56A Natural Bridge 62.73 351 P P 05 49 48.9 +0.1
baz=169,SNR=8.7
T52A Hallie 62.75 348 P P 05 49 48.0 -0.9
baz=166
R58B Mineral 62.78 352 P P 05 49 49.5 +0.5
baz=171,SNR=18
R58B Mineral 62.78 352 IAmb IAmb 05 49 50.5
comp=Z,43nm,1.1s
U49A Red Boiling Sp 62.78 345 P P 05 49 48.2 -0.9
baz=163,SNR=13
T51A Gray 62.81 347 P P 05 49 48.6 -0.7
baz=165,SNR=14
R61A Willards 62.88 355 P P 05 49 49.2 -0.4
baz=174
X40A Basin Creek Fa 62.92 338 P P 05 49 49.4 -0.6
baz=156
R59A King George, V 62.93 353 P P 05 49 50.4 +0.5
baz=172,SNR=5.6
WVT Waverly 62.93 343 P P 05 49 49.0 -1.0
baz=161
WVT Waverly 62.93 343 P P 05 49 48.7 -1.4
WVT pmax pmax
comp=Z,58nm,0.8s
WVT Waverly 62.93 343 P P 05 49 48.7 -1.4
CBN Corbin Frederi 62.96 353 P P 05 49 50.3 +0.1
baz=172
S55A Lewisburg 62.96 350 P P 05 49 50.4 +0.1
baz=168,SNR=14
UALR University of 63.02 339 P P 05 49 49.0 -1.6
UALR IAmb IAmb 05 49 51.3
comp=Z,39nm,1.0s
TXAR Lajitas Array 63.04 326 P P 05 49 51.6 +0.5
comp=Z,9.5nm,0.6s,baz=148,slow=8.1,SNR=148
TXAR pP pP 05 50 13.1 -0.2
comp=Z,2.4nm,0.6s,baz=137,slow=44,SNR=5.9
TXAR PcP PcP 05 50 28.7 +0.5
comp=Z,1.6nm,0.5s,baz=145,slow=5.4,SNR=5.1
TXAR PKP2bc 06 18 56.1
comp=Z,0.6nm,0.9s,baz=318,slow=1.7,SNR=4.7
TX32 Lajitas Array 63.04 326 P P 05 49 50.8 -0.3
T50A Nancy 63.05 346 P P 05 49 49.9 -1.0
baz=164,SNR=15
S54A Dingess, Beckl 63.12 349 P P 05 49 51.0 -0.4
baz=168,SNR=8.7
S54A Dingess, Beckl 63.12 349 P P 05 49 50.6 -0.8
S54A IAmb IAmb 05 49 51.5
comp=Z,32nm,0.7s
R58A Rapidan 63.13 352 P P 05 49 51.6 +0.3
baz=171,SNR=8.1
R57A Stanardsville 63.19 352 P P 05 49 52.3 +0.6
baz=170,SNR=17
MIAR Mount Ida 63.23 338 P P 05 49 51.8 -0.2
baz=155,SNR=39
MIAR Mount Ida 63.23 338 IAmb IAmb 05 49 52.9
comp=Z,55nm,0.9s
T49A Edmonton 63.29 345 P P 05 49 51.6 -0.9
baz=163,SNR=38
T49A Edmonton 63.29 345 IAmb IAmb 05 49 52.1
comp=Z,46nm,0.7s

W41B	Gary Mavity, V	63.35	339	P	P	05 49 52.3	-0.5
	baz=157,SNR=20						
W41B	Gary Mavity, V	63.35	339	P	P	05 49 51.6	-1.3
W41B				IAmb	IAmb	05 49 53.5	
	comp=Z,33nm,0.9s						
S51A	Beattyville	63.39	347	P	P	05 49 52.3	-0.7
	baz=165,SNR=6.6						
R55A	Marlinton	63.40	350	P	P	05 49 53.7	+0.5
	baz=169,SNR=7.8						
R56A	Bull Pasture M	63.42	351	P	P	05 49 53.9	+0.5
	baz=170,SNR=11						
Q61A	Milford	63.42	355	P	P	05 49 54.0	+0.7
	baz=174						
R54A	Victor	63.44	350	P	P	05 49 53.2	-0.3
	baz=168,SNR=12						
WHAR	Wooly Hollow	63.47	339	IAmb	IAmb	05 49 54.3	
	comp=Z,39nm,0.9s						
Q59A	Harwood	63.53	354	P	P	05 49 54.1	+0.2
	baz=172						
T47A	Sharon Grove	63.56	344	P	P	05 49 53.4	-0.8
	baz=162,SNR=38						
Q60A	Greensboro	63.59	354	P	P	05 49 54.7	+0.4
	baz=173						
S50A	Richmond	63.59	347	P	P	05 49 53.7	-0.7
	baz=165,SNR=24						
Q58A	Fox Den Farm,	63.72	353	P	P	05 49 55.5	+0.3
	baz=171,SNR=5.8						
R53A	Hurricane	63.75	349	P	P	05 49 54.9	-0.5
	baz=167						
R52A	Catlettsburg	63.88	348	P	P	05 49 55.4	-0.9
	baz=166						
W39A	Magazine	63.89	338	P	P	05 49 56.8	+0.4
	baz=155,SNR=27						
W39A	Magazine	63.89	338	IAmb	IAmb	05 49 57.7	
	comp=Z,54nm,0.8s						
S49A	Springfield	63.89	346	P	P	05 49 55.1	-1.3
	baz=164,SNR=14						
ABTX	Abilene, Hawle	63.90	332	P	P	05 49 56.7	+0.1
	baz=149,SNR=17						
ABTX	Abilene, Hawle	63.90	332	IAmb	IAmb	05 49 57.9	
	comp=Z,102nm,1.2s						
Q57A	Strasburg	63.90	352	P	P	05 49 57.2	+0.8
	baz=171						
FCAR	Ozark Folk Cen	63.97	339	P	P	05 49 56.2	-0.7
Q56A	Snyder Ridge,	64.01	351	P	P	05 49 57.9	+0.7
	baz=170						
Q56A	Snyder Ridge,	64.01	351	IAmb	IAmb	05 49 58.9	
	comp=Z,44nm,0.8s						
R51A	Hillsboro	64.03	347	P	P	05 49 56.5	-0.7
	baz=165,SNR=13						
Q55A	Buckhannon	64.09	351	P	P	05 49 58.3	+0.5
	baz=169,SNR=8.6						
R50A	Paris	64.16	347	P	P	05 49 57.3	-0.9
	baz=165,SNR=7.2						
Q53A	Leroy	64.19	349	P	P	05 49 57.8	-0.5
	baz=168,SNR=6.8						
Q54A	Coxs Mills	64.20	350	P	P	05 49 57.9	-0.5
	baz=168,SNR=6.7						
P58A	Pank, Wackersv	64.22	353	P	P	05 49 58.8	+0.3
	baz=172,SNR=6.6						
P59A	Jarrettsville	64.25	354	P	P	05 49 59.3	+0.6
	baz=173,SNR=12						
PBMO	Poplar Bluff	64.27	341	IAmb	IAmb	05 49 59.1	
	comp=Z,45nm,0.7s						
P57A	Homestead Farm	64.30	352	P	P	05 49 59.7	+0.7
	baz=171,SNR=11						
P57A	Homestead Farm	64.30	352	IAmb	IAmb	05 50 00.8	
	comp=Z,33nm,0.8s						
R49A	Shelbyville	64.35	346	P	P	05 49 58.3	-1.1
	baz=164,SNR=10						
P60A	Greenville	64.38	355	P	P	05 49 59.6	+0.1
	baz=174						
Q52A	Bidwell	64.42	349	P	P	05 49 59.0	-0.8
	baz=167,SNR=6.7						
P56A	Dayton Farm, R	64.42	352	P	P	05 50 00.6	+0.8
	baz=170,SNR=11						
WCI	Wyandotte Cave	64.54	345	P	P	05 49 59.4	-1.2
	baz=163						
WCI	Wyandotte Cave	64.54	345	P	P	05 49 59.5	-1.1
WCI				pmax	pmax		
	comp=Z,55nm,0.7s						
WCI	Wyandotte Cave	64.54	345	P	P	05 49 59.5	-1.1
WCI				IAmb	IAmb	05 50 00.3	
	comp=Z,55nm,0.7s						
P55A	Reedsville	64.56	351	P	P	05 50 01.0	+0.3
	baz=169,SNR=7.5						
O61A	Allentown	64.57	355	P	P	05 50 01.1	+0.4
	baz=175,SNR=6.8						
USIN	University of	64.62	344	IAmb	IAmb	05 50 00.8	
	comp=Z,103nm,1.4s						
MVL	Millersville	64.63	354	P	P	05 50 00.9	-0.2
U40A	Yellville	64.63	339	P	P	05 50 00.9	-0.4
	baz=156,SNR=48						
U40A	Yellville	64.63	339	IAmb	IAmb	05 50 01.8	
	comp=Z,56nm,0.8s						
Q50A	Georgetown	64.63	347	P	P	05 50 00.1	-1.0
	baz=165,SNR=7.0						
Q51A	Peebles	64.68	348	P	P	05 50 00.7	-0.9
	baz=166,SNR=8.5						
MCWV	Mont Chateau	64.71	351	P	P	05 50 02.0	+0.3
	baz=169,SNR=5.8						
P54A	Burton	64.75	350	P	P	05 50 01.9	-0.1
	baz=169,SNR=17						
P53A	Whipple	64.78	350	P	P	05 50 01.8	-0.3
	baz=168,SNR=8.7						
P53A	Whipple	64.78	350	IAmb	IAmb	05 50 02.9	
	comp=Z,35nm,0.8s						
S44A	Carbondale	64.79	343	P	P	05 50 01.5	-0.7
	baz=160,SNR=18						
O58A	Lewisberry	64.81	353	P	P	05 50 02.8	+0.5
	baz=172						
O60A	Telford	64.86	355	P	P	05 50 02.9	+0.3
	baz=174						
O59A	Robesonia	64.92	354	P	P	05 50 03.5	+0.5
	baz=173						
O57A	Amberson	64.97	353	P	P	05 50 03.9	+0.6
	baz=172,SNR=6.0						
W35A	Tecumseh	64.97	335	P	P	05 50 01.7	-1.8
Q49A	Aurora	64.97	347	P	P	05 50 02.4	-1.0
	baz=164,SNR=14						
P52A	Corning	65.05	349	P	P	05 50 03.0	-0.9
	baz=167,SNR=8.0						
P51A	Williamsport	65.07	348	P	P	05 50 03.0	-1.0
	baz=166,SNR=8.7						
P51A	Williamsport	65.07	348	IAmb	IAmb	05 50 03.9	
	comp=Z,84nm,1.3s						
Q48A	North Vernon	65.08	346	P	P	05 50 03.1	-1.0
	baz=163,SNR=13						
O56A	Blue Knob Stat	65.14	352	P	P	05 50 05.0	+0.4
	baz=171,SNR=8.0						
O56A	Blue Knob Stat	65.14	352	P	P	05 50 04.7	+0.2
BRNJ	Basking Ridge	65.16	356	P	P	05 50 05.4	+0.9
O55A	Ligonier	65.17	351	P	P	05 50 05.0	+0.3
	baz=170,SNR=13						
N61A	South Mountain	65.21	356	P	P	05 50 05.6	+0.8
	baz=175						
TUL1	Leonard	65.24	336	P	P	05 50 05.0	-0.2
	baz=153,SNR=20						
TUL1	Leonard	65.24	336	IAmb	IAmb	05 50 05.9	
	comp=Z,59nm,0.8s						
O54A	Avella	65.30	351	P	P	05 50 05.1	-0.4
	baz=169,SNR=5.7						
P50A	Jamestown	65.33	348	P	P	05 50 04.9	-0.9
	baz=165,SNR=9.2						
WMOK	Wichita Mounta	65.36	333	P	P	05 50 05.4	-0.7
	baz=150,SNR=15						
N60A	Cedar Hill Far	65.38	355	P	P	05 50 06.3	+0.3
	baz=174						
FVM	French Village	65.39	342	P	P	05 50 06.2	+0.1
FVM				pmax	pmax		
	comp=Z,101nm,0.8s						
FVM	French Village	65.39	342	P	P	05 50 06.2	+0.1
SSPA	Standing Stone	65.42	353	P	P	05 50 06.6	+0.3
	baz=171						
SSPA	Standing Stone	65.42	353	P	P	05 50 06.6	+0.3
PAL	Palisades	65.43	356	P	P	05 50 06.5	+0.2
	baz=175						
P49A	Miami Univ. Ec	65.44	347	P	P	05 50 05.2	-1.3
	baz=164,SNR=13						
O52A	Adamsville	65.47	349	P	P	05 50 06.0	-0.6
	baz=167,SNR=9.2						
O52A	Adamsville	65.47	349	IAmb	IAmb	05 50 06.8	
	comp=Z,35nm,0.6s						
N59A	State Game Lan	65.48	355	P	P	05 50 07.3	+0.6
	baz=173						
BLO	Bloomington	65.49	345	IAmb	IAmb	05 50 06.0	
	comp=Z,33nm,0.6s						
N58A	Sunbury	65.50	354	P	P	05 50 07.1	+0.4
	baz=172,SNR=7.8						
O53A	New Philadelph	65.50	350	P	P	05 50 06.4	-0.4
	baz=168						
N57A	Milroy	65.50	353	P	P	05 50 07.0	+0.2
	baz=172,SNR=7.4						
P48A	Milroy	65.52	346	P	P	05 50 05.5	-1.5
	baz=164,SNR=14						
P48A	Milroy	65.52	346	IAmb	IAmb	05 50 05.9	
	comp=Z,26nm,0.6s						
CLNB	Carlsbad	65.54	328	P	P	05 50 08.2	+0.8
ODNJ	Ogdensburg	65.56	356	P	P	05 50 07.3	+0.2
QSPA	South Pole Qui	65.59	180	P	P	05 50 07.7	+0.4
	comp=Z,48nm,0.5s,baz=162,slow=1.3,SNR=347						
QSPA				pP	pP	05 50 30.4	+0.3
	comp=Z,40nm,0.8s,baz=169,slow=3.5,SNR=6.9						
QSPA	South Pole Qui	65.59	180	P	P	05 50 07.6	+0.3
O51A	Pataskala	65.63	349	P	P	05 50 06.9	-0.7
	baz=167,SNR=13						
CCM	Cathedral Cave	65.69	341	P	P	05 50 07.5	-0.5
	baz=158						
CCM	Cathedral Cave	65.69	341	P	P	05 50 07.6	-0.5
CCM				pmax	pmax		
	comp=Z,70nm,1.0s						
CCM	Cathedral Cave	65.69	341	P	P	05 50 07.6	-0.5
CCM				IAmb	IAmb	05 50 08.5	
	comp=Z,70nm,0.9s						
N55A	Marion Center	65.70	352	P	P	05 50 08.6	+0.5
	baz=170,SNR=21						
M61A	Granite Spring	65.73	356	P	P	05 50 08.3	+0.1
	baz=175						
M63A	Gales Ferry	65.74	358	P	P	05 50 08.8	+0.5
	baz=177						
N56A	West Decatur	65.75	352	P	P	05 50 08.7	+0.3
	baz=171,SNR=7.5						
ACSO	Alum Creek Sta	65.78	348	P	P	05 50 07.8	-0.8
	baz=166,SNR=17						
ACSO	Alum Creek Sta	65.78	348	IAmb	IAmb	05 50 08.8	
	comp=Z,55nm,0.8s						
M60A	Port Jervis	65.80	356	P	P	05 50 09.1	+0.3
	baz=175						
M62A	Hamden	65.81	357	P	P	05 50 09.4	+0.7
	baz=176						
O50A	Cable	65.82	348	P	P	05 50 07.9	-0.9
	baz=166,SNR=12						
MNTX	Cornudas Mount	65.82	327	P	P	05 50 09.0	-0.1
	baz=144,SNR=39						
SLM	Saint Louis	65.94	342	IAmb	IAmb	05 50 09.8	
	comp=Z,58nm,1.3s						
N53A	Lisbon	65.98	350	P	P	05 50 09.4	-0.5
	baz=168						
O49A	Covington	66.00	347	P	P	05 50 08.9	-1.1
	baz=165,SNR=9.1						
O49A	Covington	66.00	347	IAmb	IAmb	05 50 09.9	
	comp=Z,37nm,0.8s						
M58A	Price's Panora	66.00	354	P	P	05 50 10.6	+0.6
	baz=173,SNR=6.1						
N54A	Moraine State	66.01	351	P	P	05 50 10.2	+0.2
	baz=169,SNR=10						
N54A	Moraine State	66.01	351	IAmb	IAmb	05 50 10.8	
	comp=Z,33nm,0.7s						
M57A	Sunshine Farm,	66.03	353	P	P	05 50 10.7	+0.6
	baz=172						
M57A	Sunshine Farm,	66.03	353	IAmb	IAmb	05 50 45.5	
	comp=Z,71nm,1.6s						
M59A	Waymart	66.08	355	P	P	05 50 11.2	+0.7
	baz=174,SNR=11						
P46A	Rosedale	66.08	345	P	P	05 50 09.0	-1.5
	baz=162,SNR=7.3						
KSPA	Keystone Colle	66.12	355	P	P	05 50 11.4	+0.7
N52A	McGinn's Farm,	66.12	350	P	P	05 50 10.1	-0.7
	baz=168						
L63A	North Scituate	66.18	358	P	P	05 50 11.8	+0.7
	baz=178,SNR=8.5						
O48A	Farmland	66.23	347	P	P	05 50 10.4	-1.1
	baz=164,SNR=11						
BRYW	Bryant College	66.23	358	P	P	05 50 10.9	-0.6
L64A	Middleborough	66.23	359	P	P	05 50 11.8	+0.4
	baz=178						
M56A	Emporium	66.29	353	P	P	05 50 12.0	+0.1
	baz=171,SNR=8.1						
M56A	Emporium	66.29	353	IAmb	IAmb	05 50 13.2	
	comp=Z,76nm,1.4s						
N50A	Nevada	66.33	348	P	P	05 50 11.2	-1.0
	baz=166,SNR=7.7						
N51A	Ashland	66.34	349	P	P	05 50 11.1	-1.0
	baz=167						
N51A	Ashland	66.34	349	IAmb	IAmb	05 50 12.2	
	comp=Z,71nm,1.4s						
M55A	Ridgway	66.35	352	P	P	05 50 12.4	+0.2
	baz=170,SNR=11						
M55A	Ridgway	66.35	352	IAmb	IAmb	05 50 12.9	
	comp=Z,40nm,0.7s						
M55A					pP	05 50 35.1	+0.4
L62A	Suffield	66.39	357	P	P	05 50 12.8	+0.4
	baz=176						
MSTX	Muleshoe	66.43	330	P	P	05 50 13.1	+0.1
	baz=147,SNR=56						
L60A	Shokan	66.43	356	P	P	05 50 13.5	+0.7
	baz=175,SNR=5.5						
M54A	Oil Creek Stat	66.50	351	P	P	05 50 13.1	-0.1
	baz=170,SNR=13						
M54A	Oil Creek Stat	66.50	351	IAmb	IAmb	05 50 14.1	
	comp=Z,44nm,0.8s						
M53A	WI Miller and	66.58	351	P	P	05 50 13.4	-0.3
	baz=169						
L61A	Hillsdale 1, H	66.60	356	P	P	05 50 14.1	+0.3
	baz=176						
L58A	Harry Jones Me	66.61	355	P	P	05 50 14.6	+0.7
	baz=173,SNR=8.8						
L57A	Andrews Acres	66.66	354	P	P	05 50 14.4	+0.2
	baz=172						
N49A	Columbus Grove	66.67	348	P	P	05 50 13.5	-0.8
	baz=165,SNR=22						
P43A	Skaggs, Pawnee	66.68	343	IAmb	IAmb	05 50 14.3	
	comp=Z,60nm,0.8s						
L59A	Walton	66.69	355	P	P	05 50 15.2	+0.8
	baz=174,SNR=12						
L59A	Walton	66.69	355	IAmb	IAmb	05 50 16.2	
	comp=Z,68nm,0.9s						
WES	Weston	66.69	358	P	P	05 50 14.6	+0.2
WES				pmax	pmax		
	comp=Z,39nm,1.1s						
WES	Weston	66.69	358	P	P	05 50 14.6	+0.2
AMTX	Amarillo	66.71	331	P	P	05 50 14.6	-0.2
	baz=148						
M51A	Elyria	66.71	349	P	P	05 50 13.8	-0.8
	baz=167						
BINY	Binghamton	66.78	355	P	P	05 50 15.5	+0.6
	baz=173,SNR=6.5						
BINY	Binghamton	66.78	355	IAmb	IAmb	05 50 16.5	
	comp=Z,66nm,1.4s						
SFIN	Lafayette	66.78	345	P	P	05 50 13.3	-1.6
	baz=162,SNR=6.4						
M52A	Chesterland	66.78	350	P	P	05 50 14.5	-0.5
	baz=168						
M52A	Chesterland	66.78	350	IAmb	IAmb	05 50 15.4	
	comp=Z,37nm,0.8s						
N48A	Decatur	66.78	347	P	P	05 50 13.9	-1.1
	baz=164,SNR=10						
L61B	Northampton	66.81	357	P	P	05 50 15.7	+0.6
	baz=176,SNR=5.8						
HRV	Adam Dziewonsk	66.82	358	P	P	05 50 15.9	+0.7
	baz=178						
HRV	Adam Dziewonsk	66.82	358	P	P	05 50 16.4	+1.2
HRV				*PP	pP	05 50 39.3	+1.5
HRV				pmax	pmax		
	comp=Z,49nm,0.9s						
HRV	Adam Dziewonsk	66.82	358	P	P	05 50 16.4	+1.2
HRV				IAmb	IAmb	05 50 17.0	
	comp=Z,49nm,0.8s						
HRV					pP	05 50 39.3	+1.5
L56A	Greenwood	66.87	353	P	P	05 50 15.6	+0.1
	baz=172,SNR=5.8						
U32A	Winter Ranch,	66.88	334	IAmb	IAmb	05 50 16.8	
	comp=Z,54nm,0.9s						
O44A	Mansfield	66.89	344	IAmb	IAmb	05 50 14.6	
	comp=Z,29nm,0.8s						
M50A	Fremont	66.93	349	P	P	05 50 15.1	-0.8
	baz=166						
N47A	Urbana	66.94	346	P	P	05 50 14.7	-1.3
	baz=164,SNR=8.5						
N47A	Urbana	66.94	346	IAmb	IAmb	05 50 15.8	
	comp=Z,138nm,1.6s						
K63A	Dunstable	67.00	358	P	P	05 50 16.8	+0.5
	baz=178						
K62A	Royalston	67.00	358	P	P	05 50 16.9	+0.6
	baz=177						
L55A	Hinsdale	67.01	353	P	P	05 50 16.7	+0.2
	baz=171,SNR=7.8						
L53A	Girard	67.02	351	P	P	05 50 16.2	-0.3
	baz=169						
K60A	Five Rivers En	67.04	356	P	P	05 50 17.3	+0.8
	baz=175						
K61A	Williamstown	67.06	357	P	P	05 50 17.6	+0.9
	baz=176,SNR=6.5						
TRY	Troy	67.14	356	IAmb	IAmb	05 50 19.2	
	comp=Z,69nm,0.8s						
TRY					pP	05 50 41.5	+1.7
ERPA	Erie	67.14	351	P	P	05 50 17.1	-0.1
	baz=169,SNR=6.6						
ERPA	Erie	67.14	351	IAmb	IAmb	05 50 18.0	
	comp=Z,59nm,0.7s						
M49A	Liberty Center	67.17	348	P	P	05 50 16.7	-0.7
	baz=165,SNR=15						
L54A	Sinclairville	67.17	352	P	P	05 50 17.6	+0.2
	baz=170,SNR=16						
WVNY	West Valley, N	67.25	352	IAmb	IAmb	05 50 19.2	
	comp=Z,46nm,0.8s						
K59A	Cooperstown	67.26	355	P	P	05 50 18.7	+0.7
	baz=174,SNR=12						
K58A	Earlville	67.31	355	P	P	05 50 18.7	+0.4
	baz=174,SNR=10						
K58A	Earlville	67.31	355	IAmb	IAmb	05 50 19.8	
	comp=Z,34nm,0.8s						
K57A	Scipio Center	67.35	354	P	P	05 50 18.6	0.0
	baz=173						
M47A	Cromwell	67.39	347	P	P	05 50 17.8	-1.0
	baz=164,SNR=8.7						
K56A	Middlesex	67.40	354	P	P	05 50 18.9	0.0
	baz=172,SNR=5.1						
K54A	Basiliko Farm,	67.46	352	P	P	05 50 19.5	+0.3
	baz=171,SNR=7.3						
HDIL	Hopedale	67.48	344	P	P	05 50 18.2	-1.2
	baz=160,SNR=10						
HDIL	Hopedale	67.48	344	IAmb	IAmb	05 50 18.8	
	comp=Z,47nm,0.7s						
MMNY	Mt. Morris Dam	67.49	353	IAmb	IAmb	05 50 20.5	
	comp=Z,70nm,1.3s						
K55A	Perry	67.51	353	P	P	05 50 19.5	-0.1
	baz=171,SNR=5.6						
L50A	Kingsville	67.51	349	P	P	05 50 18.6	-1.0
	baz=167						
J62A	Henniker	67.55	358	P	P	05 50 20.6	+0.8
	baz=177						
J60A	Lant Hill Farm	67.64	357	P	P	05 50 21.1	+0.8
	baz=176,SNR=5.4						
J61A	Chester	67.70	357	P	P	05 50 21.9	+1.2
	baz=177,SNR=6.7						
L48A	N Adams	67.71	348	P	P	05 50 19.8	-1.0
	baz=165,SNR=12						
121A	Cookes Peak, D	67.71	325	P	P	05 50 22.9	+1.6
	baz=142,SNR=29						
121A	Cookes Peak, D	67.71	325	IAmb	IAmb	05 50 23.5	
	comp=Z,38nm,0.7s						
L49A	Milan	67.75	348	P	P	05 50 20.2	-0.8
	baz=166,SNR=6.2						
J58A	Remsen	67.87	355	P	P	05 50 22.1	+0.2
	baz=174,SNR=5.0						
J58A	Remsen	67.87	355	P	P	05 50 22.2	+0.3
L47A	Sherwood	67.89	347	P	P	05 50 20.8	-1.2
	baz=164,SNR=11						
K52A	Tillsonburg	67.90	351	P	P	05 50 21.4	-0.6
	baz=169,SNR=5.3						
J59A	Piesco	67.92	356	P	P	05 50 22.8	+0.7
	baz=175,SNR=14						
J59A	Piesco	67.92	356	IAmb	IAmb	05 50 23.9	
	comp=Z,64nm,1.1s						
J56A	Wolcott	67.92	354	P	P	05 50 22.0	-0.1
	baz=172						
J56A	Wolcott	67.92	354	IAmb	IAmb	05 50 22.9	
	comp=Z,50nm,0.7s						
K51A	Iona Station	67.96	350	P	P	05 50 21.6	-0.8
	baz=168						
J57A	Williamstown	67.98	355	P	P	05 50 22.7	+0.3
	baz=173,SNR=6.5						
J57A	Williamstown	67.98	355	IAmb	IAmb	05 50 23.6	
	comp=Z,43nm,0.9s						
J57A					pP	05 50 45.5	+0.3
J55A	Hilton	68.01	353	P	P	05 50 22.4	-0.3
	baz=172						
L46A	Eue Claire	68.16	346	P	P	05 50 22.3	-1.3
	baz=163,SNR=5.9						
I58A	Old Forge	68.18	355	P	P	05 50 24.1	+0.4
	baz=174,SNR=9.5						
I62A	Tamworth	68.18	358	P	P	05 50 24.7	+0.9
	baz=178						
K50A	Casco	68.19	349	P	P	05 50 23.0	-0.8
	baz=167,SNR=10.0						
I64A	Boothbay	68.20	360	P	P	05 50 24.8	+1.0
	baz=180						
I59A	Olmsteadville	68.21	356	P	P	05 50 24.5	+0.6
	baz=175,SNR=8.4						
I60A	Shoreham	68.23	357	P	P	05 50 24.8	+0.8
	baz=176,SNR=7.7						
I61A	Oroboro, Fairl	68.27	358	P	P	05 50 25.5	+1.3
	baz=177						
J52A	Paris	68.31	351	P	P	05 50 24.2	-0.4
	baz=169,SNR=7.5						
K49A	Clarkson	68.34	349	P	P	05 50 23.7	-1.1
	baz=166						
I63A	Otisfield	68.34	359	P	P	05 50 24.9	+0.1
KSU1	Kansas State U	68.38	337	P	P	05 50 24.6	-0.5
	baz=153,SNR=9.2						
I57A	Carthage	68.48	355	P	P	05 50 26.0	+0.4
	baz=174,SNR=6.7						
K48A	Perry	68.48	348	P	P	05 50 24.6	-1.1
	baz=165,SNR=12						
K47A	Vermontville	68.52	348	P	P	05 50 24.7	-1.2
	baz=165,SNR=6.1						
LPM	Los Pinos Moun	68.54	327	P	P	05 50 27.0	+0.6
LBNH	Lisbon	68.57	358	P	P	05 50 27.3	+1.1
LBNH				pmax	pmax		
	comp=Z,105nm,1.6s						
LBNH	Lisbon	68.57	358	P	P	05 50 27.3	+1.1
LBNH				IAmb	IAmb	05 50 51.7	
	comp=Z,106nm,1.6s						
L44A	Lake County Fo	68.68	345	P	P	05 50 25.8	-1.1
	baz=162						
K46A	Dorr	68.69	347	P	P	05 50 25.6	-1.4
	baz=164,SNR=6.1						
J49A	Marlette	68.85	349	P	P	05 50 26.7	-1.1
	baz=166						
H58A	Gabriels	68.85	356	P	P	05 50 28.4	+0.5
	baz=175,SNR=9.6						
H61A	Lyndonville	68.86	358	P	P	05 50 29.1	+1.1
	baz=177,SNR=5.3						
H62A	Milan	68.88	359	P	P	05 50 28.7	+0.6
	baz=178						
H62A	Milan	68.88	359	P	P	05 50 28.9	+0.8
H62A				IAmb	IAmb	05 50 33.8	
	comp=Z,89nm,1.7s						
J48A	Bridge Port	68.90	349	P	P	05 50 27.4	-0.8
	baz=166,SNR=8.0						
J48A	Bridge Port	68.90	349	IAmb	IAmb	05 50 28.3	
	comp=Z,66nm,0.9s						
H60A	Morristown	68.92	357	P	P	05 50 29.3	+1.0
	baz=177						
H64A	Troy	68.92	360	P	P	05 50 29.0	+0.7
	baz=180						
I55A	Frankford	68.94	353	P	P	05 50 28.4	0.0
	baz=172,SNR=9.1						
L42A	Oliver, Polo	68.94	344	IAmb	IAmb	05 50 28.4	
	comp=Z,36nm,0.7s						
I51A	Listowel	68.94	351	P	P	05 50 28.0	-0.5
	baz=168,SNR=6.0						
H63A	New Sharon	68.95	359	P	P	05 50 29.7	+1.2
	baz=179,SNR=5.7						
ANMO	Albuquerque	68.97	328	P	P	05 50 30.4	+1.3
	baz=144						
ANMO	Albuquerque	68.97	328 *de*	P	P	05 50 30.2	+1.1
ANMO				pmax	pmax		
	comp=Z,41nm,0.8s						
ANMO	Albuquerque	68.97	328	P	P	05 50 30.3	+1.3
ANMO				IAmb	IAmb	05 50 31.0	
	comp=Z,34nm,0.8s						
H57A	Richville	68.98	355	P	P	05 50 29.0	+0.3
	baz=174,SNR=12						
H65A	Eastbrook	68.98	1	P	P	05 50 29.4	+0.7
	baz=181						
J47A	Sunmer	69.03	348	P	P	05 50 28.2	-0.9
	baz=165,SNR=7.4						
J47A	Sunmer	69.03	348	IAmb	IAmb	05 50 29.1	
	comp=Z,74nm,1.1s						
J47A					pP	05 50 52.2	+0.5
H59A	Cadyville	69.05	357	P	P	05 50 29.7	+0.5
	baz=176,SNR=8.7						

LONY Lake Ozonia 69.08 356 P P 05 50 29.7 +0.4
baz=175,SNR=5.8
I52A Shelburne 69.09 352 P P 05 50 29.3 -0.1
baz=169
H66A Whiting 69.09 1 P P 05 50 30.2 +0.8
baz=182
HAL Halifax 69.11 4 P P 05 50 30.3 +0.9
HAL pmax pmax
comp=Z,361nm,1.8s
HAL Halifax 69.11 4 P P 05 50 30.3 +0.9
TUC Tucson 69.14 323 P P 05 50 31.4 +1.3
baz=140
TUC Tucson 69.14 323 P P 05 50 31.4 +1.3
TUC pmax pmax
comp=Z,56nm,1.1s
TUC Tucson 69.14 323 P P 05 50 31.4 +1.3
TUC IAmb IAmb 05 50 32.6
comp=Z,56nm,1.1s
H56A Elgin 69.18 355 P P 05 50 30.1 +0.2
baz=173,SNR=6.5
H55A Tweed 69.22 354 P P 05 50 30.2 +0.1
baz=172,SNR=5.4
DELO Deloro Mine 69.23 354 IAmb IAmb 05 50 54.5
comp=Z,126nm,1.9s
FRNY Flat Rock 69.23 357 PcP 05 50 53.9 +0.5
K43A Burlington 69.27 345 P P 05 50 30.1 -0.4
K43A IAmb IAmb 05 50 30.8
comp=Z,79nm,0.9s
CBKS Cedar Bluff 69.28 335 P P 05 50 31.4 +0.6
baz=150,SNR=19
J46A Howard City 69.30 347 P P 05 50 29.5 -1.2
baz=164,SNR=5.5
I49A Point Hope 69.36 350 P P 05 50 30.0 -1.0
baz=167
H53A Bobcaygeon 69.39 353 P P 05 50 31.1 -0.1
baz=171,SNR=7.7
G63A Kingsbury 69.40 360 P P 05 50 31.9 +0.6
baz=180
L40A Anamosa 69.40 343 P P 05 50 31.4 0.0
G60A Masonville 69.44 358 P P 05 50 32.6 +1.1
baz=177
G59A Clarenceville 69.46 357 P P 05 50 32.6 +1.0
baz=176
G65A Princeton 69.50 1 P P 05 50 33.3 +1.4
baz=182
G65A Princeton 69.50 1 P P 05 50 32.7 +0.9
G65A IAmb IAmb 05 51 17.1
comp=Z,174nm,1.9s
G62A West of Eustis 69.51 359 P P 05 50 33.1 +1.2
baz=179,SNR=5.8
G62A West of Eustis 69.51 359 PcP 05 50 56.6 +2.0
G62A IAmb IAmb 05 50 57.5
comp=Z,59nm,1.1s
G64A Maxfield 69.53 0 P P 05 50 32.9 +0.8
baz=180
J45A Montague 69.54 347 P P 05 50 30.8 -1.4
baz=163
LIC Lamto 69.54 73 eP P 05 50 32.5 -0.4
comp=Z,53nm,0.8s
PKME Peaks-Kenny Pk 69.55 360 P P 05 50 32.8 +0.7
baz=180
PKME Peaks-Kenny Pk 69.55 360 P P 05 50 33.0 +0.9
PKME IAmb IAmb 05 51 15.9
comp=Z,128nm,1.6s
G58A Ormstown 69.57 356 P P 05 50 32.7 +0.4
baz=175,SNR=5.8
G57A Newington 69.58 356 P P 05 50 32.7 +0.3
baz=174,SNR=9.7
G61A St-Isidore-de- 69.60 358 P P 05 50 33.1 +0.6
baz=178
H52A Wyevale 69.61 352 P P 05 50 32.3 -0.3
baz=170,SNR=10
I47A Gladwin 69.73 348 P P 05 50 32.5 -0.9
baz=165,SNR=7.2
I47A Gladwin 69.73 348 IAmb IAmb 05 50 33.8
comp=Z,43nm,0.9s
I48A Sherman Twp 69.75 349 P P 05 50 32.7 -0.8
baz=166,SNR=5.4
TIC Toumodi 69.75 72 eP P 05 50 33.9 -0.3
T25A Trinidad 69.81 331 P P 05 50 35.4 +1.1
baz=146,SNR=29
T25A Trinidad 69.81 331 IAmb IAmb 05 50 36.6
comp=Z,133nm,1.6s
SCIA State Center 69.82 341 P P 05 50 33.5 -0.5
baz=157,SNR=6.1
SCIA State Center 69.82 341 IAmb IAmb 05 50 34.7
comp=Z,118nm,1.4s
I46A Reed City 69.83 348 P P 05 50 32.7 -1.3
baz=164,SNR=15
KIC Kosan Boka 69.85 73 eP P 05 50 34.7 -0.1
comp=Z,47nm,0.5s
G55A Calabogie 69.87 354 P P 05 50 34.3 +0.1
baz=173,SNR=6.5
DBIC Dimbokro 69.90 72 P P 05 50 35.2 +0.1
comp=Z,42nm,0.8s,baz=219,slow=6.7,SNR=60
DBIC pP pP 05 50 59.0 +1.0
comp=Z,41nm,0.7s,baz=214,slow=6.4,SNR=8.3
DBIC LR LR 06 19 22.7
comp=Z,184nm,20.5s,baz=221,slow=34
G53A Haliburton 69.93 353 P P 05 50 34.6 0.0
baz=171,SNR=9.9
JFWS Jewell Farm 69.94 344 P P 05 50 34.1 -0.6
baz=160,SNR=17
F63A Nahmakanta, Br 69.98 0 P P 05 50 35.2 +0.3
F63A IAmb IAmb 05 51 17.2
comp=Z,147nm,1.9s
214A Organ Pipe Nat 70.00 321 P P 05 50 37.0 +1.7
baz=138,SNR=16
I45A Fountain 70.08 347 P P 05 50 33.7 -1.7
baz=164
F64A Sherman 70.15 1 P P 05 50 36.4 +0.6
baz=181
F64A Sherman 70.15 1 P P 05 50 36.4 +0.6
F64A IAmb IAmb 05 50 37.5
comp=Z,32nm,0.8s
G54A Lake Saint Pet 70.15 353 P P 05 50 35.9 0.0
baz=171,SNR=7.5
F62A Pittston Farm, 70.18 359 P P 05 50 36.8 +0.7
baz=179
F62A Pittston Farm, 70.18 359 P P 05 50 36.8 +0.7
F62A IAmb IAmb 05 51 06.2
comp=Z,65nm,1.4s
H47A Mio 70.24 349 P P 05 50 35.7 -0.8
baz=166
F61A St Evariste 70.27 359 P P 05 50 36.8 +0.2
baz=178
F60A Warwick 70.29 358 P P 05 50 36.9 +0.2
baz=177
H46A Fife Lake 70.36 348 P P 05 50 36.1 -1.1
baz=165,SNR=15
F55A Otter Lake 70.42 355 P P 05 50 37.4 -0.1
baz=173
GLMI Grayling 70.53 348 P P 05 50 37.5 -0.7
baz=165
I42A Draeger Farm, 70.53 345 P P 05 50 38.1 -0.1
KSCO Kaye Shedlock' 70.60 333 P P 05 50 39.8 +0.8
baz=148,SNR=5.6
F52A Sundridge 70.68 353 P P 05 50 38.9 -0.2
baz=170,SNR=7.8
E60A Ste Agathe de 70.68 358 P P 05 50 39.3 +0.2
baz=178
ALGO Algonquin Park 70.69 353 P P 05 50 39.0 -0.1
baz=171,SNR=12
E63A Oxbow 70.71 1 P P 05 50 39.9 +0.7
baz=181
E63A Oxbow 70.71 1 P P 05 50 40.0 +0.7
E63A IAmb IAmb 05 51 42.4
comp=Z,103nm,1.8s
E64A Bridgewater 70.71 1 P P 05 50 39.4 +0.2
baz=181
E61A Lac Etchemin 70.72 359 P P 05 50 39.5 +0.1
baz=179
G47A Hillman 70.73 349 P P 05 50 39.9 +0.5
baz=166
W18A Petrified Fore 70.74 326 P P 05 50 41.4 +1.5
baz=141,SNR=13
W18A Petrified Fore 70.74 326 IAmb IAmb 05 50 42.5
comp=Z,85nm,1.1s
E58A La Victoria 70.75 357 P P 05 50 39.8 +0.3
baz=176,SNR=5.3
SDCO Great Sand Dun 70.80 330 P P 05 50 41.6 +1.2
baz=145,SNR=21
SDCO Great Sand Dun 70.80 330 IAmb IAmb 05 50 42.8
comp=Z,103nm,1.4s
H43A Windswept, Lux 70.82 346 P P 05 50 39.2 -0.7
H43A IAmb IAmb 05 50 40.3
comp=Z,59nm,0.7s

E57A Chemin Saint G 70.83 356 P P 05 50 40.0 0.0
baz=175
F51A Arnstein 70.88 352 P P 05 50 39.9 -0.4
baz=170
E62A Clayton Lake 70.90 360 P P 05 50 40.8 +0.4
baz=180
G45A Suttons Bay 70.93 348 P P 05 50 39.8 -0.8
baz=164
I40A Norwalk 70.95 344 IAmb IAmb 05 50 40.6
comp=Z,28nm,0.7s
PQI Presque Isle 70.96 1 P P 05 50 41.4 +0.7
PQI IAmb IAmb 05 51 11.1
comp=Z,142nm,1.9s
BGNE Belgrade 70.97 337 P P 05 50 41.2 +0.2
baz=152,SNR=35
E55A Montcerf-Lytto 71.01 355 P P 05 50 40.7 -0.3
baz=173
F49A Sandfield 71.01 351 P P 05 50 40.3 -0.8
baz=168
E56A St. Veronique 71.02 356 P P 05 50 41.0 -0.1
baz=174
G46A Petoskey 71.05 348 P P 05 50 40.8 -0.5
baz=165
E53A Dumoine, Ponti 71.08 354 P P 05 50 41.5 0.0
baz=172,SNR=7.0
E52A Mattawa 71.09 353 P P 05 50 41.0 -0.5
baz=171
X16A Lo Mia Camp, P 71.10 324 P P 05 50 42.5 +0.4
X16A IAmb IAmb 05 50 44.9
comp=Z,65nm,1.1s
113A Mohawk Valley, 71.14 321 P P 05 50 42.5 +0.3
F48A Evansville 71.16 350 P P 05 50 41.4 -0.6
baz=167
D60A Saint Jean D'O 71.21 359 P P 05 50 42.9 +0.6
baz=178
D63A Stockholm 71.33 1 P P 05 50 43.1 +0.1
baz=181
D59A Saint-Raymond 71.33 358 P P 05 50 43.1 +0.2
baz=177
D62A Allapoint, All 71.36 0 P P 05 50 43.8 +0.6
baz=180,SNR=8.0
D62A Allapoint, All 71.36 0 P P 05 50 43.9 +0.6
D62A IAmb IAmb 05 50 44.8
comp=Z,40nm,0.9s
D62A pP 05 51 06.8 +0.8
S22A 4UR Ranch, Cre 71.40 329 P P 05 50 45.1 +1.0
baz=144,SNR=12
E51A G1948 Merrick 71.43 353 P P 05 50 43.5 -0.1
baz=170,SNR=6.3
E50A Wahnapitae 71.47 352 P P 05 50 43.6 -0.3
baz=169
D61A St Aubert, Com 71.49 359 P P 05 50 44.5 +0.6
baz=179
F45A CMU Biological 71.52 348 P P 05 50 43.6 -0.5
baz=164
Q24A Divide 71.64 331 P P 05 50 46.6 +1.1
baz=146,SNR=24
Q24A Divide 71.64 331 IAmb IAmb 05 50 47.6
comp=Z,84nm,1.1s
E48A Lockeyer 71.73 351 P P 05 50 45.2 -0.2
baz=168
LATQ La Tuque 71.74 357 P P 05 50 45.6 +0.2
baz=176
D52A ZEK Kipawa Sen 71.74 353 P P 05 50 45.5 0.0
baz=171
D54A Fusel, La 71.75 355 P P 05 50 45.0 -0.5
baz=173
MVCO Mesa Verde 71.77 328 P P 05 50 47.4 +1.2
baz=143,SNR=33
MVCO Mesa Verde 71.77 328 IAmb IAmb 05 50 48.5
comp=Z,54nm,0.9s
D53A Lac Vacive, Po 71.77 354 P P 05 50 45.6 0.0
baz=172,SNR=14
D53A Lac Vacive, Po 71.77 354 IAmb IAmb 05 50 46.5
comp=Z,40nm,0.7s
D53A pP 05 51 08.6 0.0
E47A Iron Bridge 71.88 350 P P 05 50 45.9 -0.4
baz=166,SNR=7.9
WUAZ Wupatki 71.90 325 P P 05 50 48.5 +1.5
baz=140
GLA Glamis 71.96 321 P P 05 50 48.5 +1.4
baz=137,SNR=6.3
D51A Lot 18 Range I 71.96 353 P P 05 50 46.7 -0.1
baz=170
E46A Sault Ste Mari 71.96 349 P P 05 50 46.0 -0.8
E46A IAmb IAmb 05 50 47.1
comp=Z,42nm,0.9s
G40A Rib Lake 72.14 345 P P 05 50 47.6 -0.3
G40A IAmb IAmb 05 50 48.7
comp=Z,66nm,1.6s
TBI Tubuai 72.25 252 eS S 06 00 07.6 +1.8
comp=Z,293nm,25.8s
TBI Tubuai 72.25 252 eLR LR 06 12 54.3
comp=Z,258nm,31.5s,baz=105
TBI Tubuai 72.25 252 eT T 07 08 43.0
comp=Z,4.9nm,0.3s
Y12C Blythe 72.30 322 P P 05 50 50.6 +1.5
baz=137,SNR=33
Y12C Blythe 72.30 322 IAmb IAmb 05 50 51.9
comp=Z,71nm,1.1s
D48A Paudash Townsh 72.36 351 P P 05 50 48.5 -0.7
baz=168
IKP In-Ko-Pah, Jac 72.42 320 P P 05 50 51.6 +1.6
baz=136,SNR=5.4
D46A Sault St. Mari 72.43 349 P P 05 50 48.8 -0.8
baz=166
SWSC Sam W. Stewart 72.44 320 P P 05 50 51.6 +1.6
baz=136
E43A Lone Tree Farm 72.48 347 P P 05 50 49.8 -0.1
E43A IAmb IAmb 05 50 50.4
comp=Z,38nm,0.9s
ECSD EROS Data Cent 72.53 340 P P 05 50 50.1 -0.2
baz=154,SNR=38
ISCO Idaho Springs 72.53 331 P P 05 50 51.8 +1.0
baz=146,SNR=44
ISCO Idaho Springs 72.53 331 IAmb IAmb 05 50 52.9
comp=Z,51nm,1.2s
COWI Conover 72.67 346 P P 05 50 50.4 -0.7
BC3 Big Chuckawall 72.76 321 P P 05 50 53.4 +1.4
baz=137,SNR=15
PV03 Paradox Valley 72.76 328 P P 05 50 52.8 +0.7
SPMN Marine on St. 72.76 343 P P 05 50 51.0 -0.6
baz=158,SNR=26
SPMN Marine on St. 72.76 343 IAmb IAmb 05 50 51.9
comp=Z,54nm,0.6s
BAR Barrett 72.77 319 P P 05 50 52.9 +0.9
MONP2 Monument Peak 72.77 320 P P 05 50 53.6 +1.4
baz=136,SNR=6.0
PV18 Skein Mesa, Pa 72.79 328 P P 05 50 52.7 +0.5
PV11 David Mesa, Pa 72.81 328 P P 05 50 51.3 -1.1
PV11 IAmb IAmb 05 50 54.6
comp=Z,80nm,1.5s
PV07 Paradox Valley 72.81 329 P P 05 50 53.1 +0.7
PV17 East Wray Mesa 72.84 328 P P 05 50 53.4 +0.9
PV19 Morning Glory 72.87 328 P P 05 50 53.4 +0.7
PV20 West Nyswonger 72.89 328 P P 05 50 52.8 0.0
W13A Hualapai Mount 72.93 323 P P 05 50 53.7 +0.6
PV14 Lion Creek, Pa 72.94 328 P P 05 50 54.0 +0.8
IRM Iron Mountain 72.94 321 P P 05 50 54.5 +1.5
baz=137,SNR=24
PV22 Blue Mesa, Par 72.96 328 P P 05 50 54.6 +1.4
PV22 IAmb IAmb 05 50 55.6
comp=Z,57nm,1.2s
PV21 Cone Mtn., Par 73.07 328 P P 05 50 54.3 +0.4
U15A North Rim 73.07 325 IAmb IAmb 05 50 57.1
comp=Z,57nm,1.1s
PV09 Paradox Valley 73.09 328 P P 05 50 55.6 +1.5
PFO Pinyon Flats O 73.31 320 P P 05 50 56.8 +1.5
baz=136
PFO Pinyon Flats O 73.31 320 deP P 05 50 56.8 +1.5
PFO pmax pmax
comp=Z,35nm,0.8s
PFO Pinyon Flats O 73.31 320 P P 05 50 56.2 +0.9
D41A Chassel 73.46 346 P P 05 50 55.8 +0.2
N23A Red Feather La 73.58 332 P P 05 50 58.0 +1.1
baz=146,SNR=31
N23A Red Feather La 73.58 332 IAmb IAmb 05 50 59.0
comp=Z,43nm,0.9s
LSQQ Lebel-sur-Quev 73.67 355 P P 05 50 56.6 -0.2
baz=173
GMRC Granite Mounta 73.69 322 P P 05 50 59.3 +1.8
baz=137,SNR=45
SYO Syowa Base 73.69 159⇑ iP P 05 50 55.6 -1.3
SYO Syowa Base 73.69 159⇓ iPcP PcP 05 51 10.0 -2.2
MURC Murrieta 73.73 320 P P 05 50 59.2 +1.6
baz=135,SNR=8.4
VNDA Vanda 73.75 190 P P 05 50 58.3 +1.2

comp=Z,10.0nm,0.9s,baz=123,slow=7.0,SNR=16
VNDA LR LR 06 22 07.9
comp=Z,47nm,19.0s,baz=149,slow=35
VNDA Vanda 73.75 190 P P 05 50 58.3 +1.2
KNB Kanab 73.80 325 P P 05 50 59.5 +1.4
KNB pmax pmax
comp=Z,146nm,1.1s
KNB Kanab 73.80 325 P P 05 50 59.5 +1.4
SUSD Miller 73.92 338 P P 05 50 58.4 -0.1
baz=152
O20A White River Ci 73.98 330 P P 05 51 00.6 +1.4
baz=143,SNR=61
BBRC Big Bear Solar 74.04 320 P P 05 51 01.4 +1.8
baz=136
SCI2 San Clemente I 74.10 318 P P 05 51 01.4 +1.6
baz=134
HEC Hector,Ludlow 74.11 321 P P 05 51 01.7 +1.8
baz=136,SNR=16
DRLN Deer Lake 74.28 8 P P 05 51 00.9 +0.5
DRLN IAmb IAmb 05 51 01.7
comp=Z,74nm,0.8s
CHGQ Chibougamau 74.34 357 P P 05 51 00.4 -0.4
baz=175,SNR=5.8
PPT2 Papeete2 74.36 258 eS S 06 00 31.2 +1.3
comp=Z,471nm,24.0s
PPT2 Papeete2 74.36 258 eLR LR 06 14 02.1
comp=Z,1µm,31.2s,baz=116
PPT Papeete 74.37 258 P P 05 51 01.0 -0.7
comp=Z,64nm,1.0s,baz=282,slow=7.6,SNR=3.0
MATQ Matagami 74.42 354 P P 05 51 00.6 -0.6
baz=172,SNR=6.3
BFSC Mount Baldy Ra 74.45 320 P P 05 51 03.2 +1.3
baz=135,SNR=14
SHPR Sheep Range 74.67 323 IAmb IAmb 05 51 06.0
comp=Z,56nm,1.1s
MWC Mount Wilson 74.68 320 P P 05 51 05.1 +1.8
MWC pmax pmax
comp=Z,67nm,1.2s
MWC Mount Wilson 74.68 320 P P 05 51 05.1 +1.8
MWC IAmb IAmb 05 51 05.8
comp=Z,66nm,1.2s
GSC Goldstone, Bar 74.72 321 P P 05 51 05.0 +1.6
baz=136,SNR=17
RWWY Rawlins 74.77 331 IAmb IAmb 05 51 06.0
comp=Z,72nm,1.0s
DECC Green Verdugo 74.86 320 P P 05 51 05.6 +1.5
baz=135,SNR=6.6
EYMN Ely 74.96 345 P P 05 51 03.9 -0.5
baz=159
EYMN Ely 74.96 345 IAmb IAmb 05 51 04.8
comp=Z,33nm,0.8s
EDW2 Edwards Air Fo 75.10 320 P P 05 51 06.6 +1.0
baz=135,SNR=11
BLG Laguna Peak, P 75.19 319 P P 05 51 07.4 +1.3
baz=134
K22A Casper 75.27 332 P P 05 51 07.6 +1.1
baz=145,SNR=19
K22A Casper 75.27 332 IAmb IAmb 05 51 08.7
comp=Z,53nm,1.1s
OSI Osito Audit: C 75.34 320 P P 05 51 08.2 +1.2
baz=134
SCZ2 Santa Cruz Isl 75.46 319 P P 05 51 09.1 +1.5
baz=134
RSSD Black Hills 75.48 335 P P 05 51 08.7 +0.9
baz=148
RSSD Black Hills 75.48 335 P P 05 51 08.4 +0.6
RSSD pmax pmax
comp=Z,37nm,0.8s
RSSD Black Hills 75.48 335 P P 05 51 08.4 +0.6
RSSD IAmb IAmb 05 51 09.6
comp=Z,37nm,0.8s
MPU Maple Canyon 75.49 328 P P 05 51 08.7 +0.8
FURC Furnace Creek, 75.58 322 P P 05 51 10.0 +1.8
baz=136,SNR=19
TPNV Topopah Spring 75.59 323 P P 05 51 10.5 +2.0
baz=137,SNR=20
TPNV Topopah Spring 75.59 323 IAmb IAmb 05 51 11.4
comp=Z,57nm,0.8s
MPMC Manual Prospec 75.64 321 P P 05 51 10.1 +1.3
baz=136,SNR=18
D32A Dogwood Acres, 75.71 341 P P 05 51 08.7 0.0
ARVC Arvin 75.76 320 P P 05 51 10.7 +1.4
baz=134
SBC Santa Barbara 75.81 319 P P 05 51 09.8 +0.3
baz=134
ISA Isabella, Lake 75.93 320 P P 05 51 12.0 +1.7
baz=135,SNR=21
ISA Isabella, Lake 75.93 320 IAmb IAmb 05 51 13.0
comp=Z,49nm,0.9s
PKM Mcpherson Peak 76.18 319 P P 05 51 13.5 +1.6
baz=134,SNR=13
DUG Dugway, Tooele 76.20 327 P P 05 51 13.3 +1.4
baz=140,SNR=37
DUG Dugway, Tooele 76.20 327 IAmb IAmb 05 51 14.4
comp=Z,56nm,1.1s
GRAC Grapevine Rang 76.24 322 P P 05 51 13.9 +1.8
baz=136
CWC Cottonwood Cre 76.25 321 P P 05 51 13.8 +1.5
baz=135
R11A Troy Canyon, C 76.25 324 P P 05 51 14.0 +1.8
baz=137,SNR=61
R11A Troy Canyon, C 76.25 324 IAmb IAmb 05 51 15.1
comp=Z,54nm,1.2s
VES Vestal, Richgr 76.41 320 P P 05 51 14.4 +1.5
baz=134,SNR=16
AGMN Agassiz Nation 76.42 342 P P 05 51 12.6 -0.2
baz=155,SNR=15
AGMN Agassiz Nation 76.42 342 IAmb IAmb 05 51 13.5
comp=Z,43nm,0.8s
SMMC Simmler 76.58 319 P P 05 51 15.9 +1.9
baz=134,SNR=12
BW06 Boulder Array 76.67 331 P P 05 51 15.1 +0.5
baz=143,SNR=16
PDAR Pinedale Array 76.67 331 P P 05 51 14.9 +0.4
comp=Z,5.3nm,0.5s,baz=135,slow=7.8,SNR=47
TIN Tinemaha, Big 76.77 322 P P 05 51 16.8 +1.7
baz=135
SPUT South Promonto 76.88 328 P P 05 51 16.9 +1.2
PAGB Antelope Grade 77.02 320 P P 05 51 18.4 +2.0
MDND Maddock 77.14 340 P P 05 51 17.5 +0.7
baz=152,SNR=21
SUR Sutherland 77.25 120 P P 05 51 19.6 +1.4
SUR IAmb IAmb 05 51 20.1
comp=Z,50nm,0.7s
MLAC Mammoth, Mammo 77.52 322 P P 05 51 21.0 +1.6
baz=135,SNR=13
OMMB Old Mammoth Mi 77.60 322 P P 05 51 21.2 +1.2
OMMB IAmb IAmb 05 51 22.3
comp=Z,62nm,0.9s
MDPB Devils Postpil 77.66 322 IAmb IAmb 05 51 22.6
comp=Z,40nm,1.0s
PMPB Monarch Peak 77.67 320 P P 05 51 21.9 +1.7
PMPB IAmb IAmb 05 51 23.0
comp=Z,46nm,0.9s
REDW Red Top Meadow 77.73 330 IAmb IAmb 05 51 22.6
comp=Z,46nm,1.0s
SNOW Snow King Moun 77.76 330 IAmb IAmb 05 51 22.8
comp=Z,46nm,0.8s
NVAR Mina Array Bea 77.78 323 P P 05 51 22.2 +1.3
comp=Z,12nm,0.8s,baz=160,slow=6.7,SNR=57
NVAR LR LR 06 20 36.0
comp=Z,42nm,21.2s,baz=92,slow=32
TPAW Teton Pass 77.87 330 IAmb IAmb 05 51 23.5
comp=Z,45nm,0.9s
KVN Kaiserville 78.11 323 IAmb IAmb 05 51 24.8
comp=Z,55nm,1.0s
IMW Indian Meadow 78.19 331 P P 05 51 23.3 +0.3
IMW IAmb IAmb 05 51 25.3
comp=Z,60nm,1.2s
ULM Lac du Bonnet 78.20 343 P P 05 51 22.3 -0.3
comp=Z,44nm,0.6s,baz=155,slow=6.0,SNR=83
ULM pP pP 05 51 45.4 -0.3
comp=Z,8.1nm,0.6s,baz=167,slow=1.7,SNR=3.0
ULM LR LR 06 28 49.3
comp=Z,28nm,21.5s,baz=158,slow=38
ULM Lac du Bonnet 78.20 343 IAmb IAmb 05 51 23.2
comp=Z,49nm,0.6s
FLWY Flagg Ranch 78.22 331 IAmb IAmb 05 51 25.7
comp=Z,67nm,0.8s
H17A Grant Village 78.42 331 P P 05 51 26.2 +1.9
baz=142
SAO San Andreas Ge 78.43 320 P P 05 51 25.4 +1.2
SAO pmax pmax
comp=Z,20nm,0.9s
SAO San Andreas Ge 78.43 320 P P 05 51 25.4 +1.2
RLMT Red Lodge 78.43 332 P P 05 51 25.4 +1.1
baz=143,SNR=44

RLMT **Red Lodge** 78.43 332 IAmb IAmb 05 51 25.9
comp=Z,386nm,0.7s
WAKR **Walker** 78.47 322 IAmb IAmb 05 51 27.6
comp=Z,44nm,1.0s
LAO **LASA Array** 78.48 335 P **P** **05 51 25.0 +0.7**
baz=146
TOA0 **Torodi Ar. Sit** 78.67 70 P **P** **05 51 26.0 0.0**
TORD **Torodi Ar. Bea** 78.67 70 P **P** **05 51 25.9 -0.1**
comp=Z,76nm,0.6s,baz=259,slow=5.1,SNR=684
TORD pP **pP** **05 51 49.1 -0.2**
comp=Z,73nm,0.7s,baz=254,slow=5.0,SNR=14
TORD S **S** **06 01 14.7 -2.1**
comp=Z,3.8nm,1.1s,baz=244,slow=9.7,SNR=10
TORD PKKPbc **PKKPbc** **06 10 21.1 +0.8**
comp=Z,0.5nm,0.5s,baz=50,slow=1.9,SNR=6.5
TORD LR LR 06 24 04.6
comp=Z,148nm,21.7s,baz=250,slow=34
YERR **Yerington** 78.69 322 IAmb IAmb 05 51 28.0
comp=Z,39nm,0.8s
VCNR **Virginia City** 79.14 322 IAmb IAmb 05 51 30.9
comp=Z,39nm,0.9s
SCHQ **Schefferville** 79.15 1 P **P** **05 51 27.7 -0.1**
comp=Z,14nm,0.7s,baz=190,slow=4.6,SNR=16
DGMT **Dagmar** 79.22 337 P **P** **05 51 29.4 +1.1**
baz=148,SNR=24
AFDM **Forest Hills D** 79.64 321 IAmb IAmb 05 51 32.7
comp=Z,47nm,1.1s
BOZ **Bozeman (W)** 79.82 331 P **P** **05 51 32.6 +0.9**
baz=141,SNR=23
BOZ **Bozeman (W)** 79.82 331 P **P** **05 51 32.7 +0.9**
BOZ pmax pmax
comp=Z,15nm,0.9s
BOZ **Bozeman (W)** 79.82 331 P **P** **05 51 32.7 +0.9**
BEKR **Beckworth** 79.93 322 IAmb IAmb 05 51 34.9
comp=Z,44nm,0.9s
DLMT **Dillon** 80.07 331 IAmb IAmb 05 51 35.5
comp=Z,48nm,1.1s
MFID **Camas Ranch** 80.11 327 IAmb IAmb 05 51 35.8
comp=Z,108nm,1.6s
MCCM **Marconi Confer** 80.20 320 P **P** **05 51 34.7 +0.9**
LRM **Limekiln Ridge** 80.36 331 P **P** **05 51 36.5 +1.7**
HRY **Holter Researc** 80.78 332 P **P** **05 51 37.9 +1.0**
HOPS **Hopland Field** 80.88 320 P **P** **05 51 38.5 +1.1**
EGMT **Eagleton** 80.96 334 P **P** **05 51 38.0 +0.3**
baz=143,SNR=14
EGMT **Eagleton** 80.96 334 IAmb IAmb 05 51 39.1
comp=Z,48nm,1.1s
O03E **Paynes Creek** 81.03 322 P **P** **05 51 38.3 0.0**
baz=133,SNR=18
PLID **Pearl Lake** 81.43 329 P **P** **05 51 41.2 +0.7**
PLID IAmb IAmb 05 51 42.4
comp=Z,73nm,0.8s
MAW **Mawson** 81.43 163 P **P** **05 51 39.8 -0.2**
comp=Z,62nm,0.8s,baz=210,slow=6.3,SNR=93
MAW pP **pP** **05 52 03.8 +0.2**
comp=Z,28nm,0.9s,baz=223,slow=8.5,SNR=4.9
MAW LR LR 06 28 19.2
comp=Z,78nm,19.0s,baz=236,slow=36
O02D **Mt. Diablo Mer** 81.50 321 P **P** **05 51 41.2 +0.4**
baz=132,SNR=11
KCPM **Cahto Peak** 81.63 321 IAmb IAmb 05 51 44.2
comp=Z,56nm,0.9s
WDC **Whiskeytown Da** 81.64 322 IAmb IAmb 05 51 41.8
comp=Z,35nm,0.7s
MSO **Missoula** 81.79 331 P **P** **05 51 43.3 +1.1**
baz=140,SNR=17
BMO **Blue Mountains** 81.89 328 IAmb IAmb 05 51 44.7
comp=Z,86nm,1.6s
N02D **Trinity Center** 81.99 322 P **P** **05 51 43.3 0.0**
baz=132,SNR=13
M04C **Macdoel** 82.06 323 P **P** **05 51 44.6 +0.8**
baz=133,SNR=18
BOSA **Boshof** 82.23 118 P **P** **05 51 45.1 0.0**
comp=Z,22nm,0.6s,baz=255,slow=3.7,SNR=47
BOSA pP **pP** **05 52 09.1 +0.4**
comp=Z,38nm,1.1s,baz=252,slow=5.6,SNR=5.5
BOSA LR LR 06 24 57.9
comp=Z,43nm,18.6s,baz=230,slow=33
BOSA **Boshof** 82.23 118 IAmb IAmb 05 52 11.0
comp=Z,79nm,1.3s
M02C **Callahan** 82.36 322 P **P** **05 51 45.6 +0.4**
baz=132,SNR=6.5
K04D **Chiloquin, OR** 82.59 324 P **P** **05 51 47.2 +0.7**
baz=133
L04D **Klamath Falls** 82.61 323 P **P** **05 51 46.9 +0.2**
baz=133,SNR=6.4
JTMT **Jette** 82.64 331 IAmb IAmb 05 51 48.1
comp=Z,36nm,0.6s
F10A **Beach Ranch, E** 82.67 328 IAmb IAmb 05 51 50.0
comp=Z,51nm,1.4s
J05D **Fort Rock, OR** 82.77 325 P **P** **05 51 48.4 +0.9**
baz=134,SNR=18
PINE **Pine Mountain** 82.97 325 IAmb IAmb 05 51 50.9
comp=Z,55nm,0.9s
KRMB **Red Mountain** 83.03 322 IAmb IAmb 05 51 50.9
comp=Z,40nm,1.0s
J04D **Umpqua Nationa** 83.20 324 P **P** **05 51 50.4 +0.6**
baz=133
L02E **Cave Junction** 83.29 323 P **P** **05 51 50.9 +1.0**
baz=132
WALA **Waterton Lakes** 83.48 332 IAmb IAmb 05 51 52.5
comp=Z,46nm,0.8s
E09A **Wood Farm, Sta** 83.50 328 P **P** **05 51 51.7 +0.8**
I05D **Terrebonne, OR** 83.55 325 P **P** **05 51 52.6 +1.2**
baz=134,SNR=33
K02D **Willamette Mer** 83.68 323 P **P** **05 51 53.1 +1.0**
baz=132,SNR=11
I04A **Tendick Farm,** 83.74 324 P **P** **05 51 52.4 +0.1**
baz=133,SNR=7.1
MORF **Marmelete** 83.87 44 *e*P **P** **05 51 55.1 +2.0**
FFC **Flin Flon** 83.89 342 *c e*P **P** **05 51 52.6 -0.1**
FFC **Flin Flon** 83.89 342 P **P** **05 51 52.4 -0.3**
HAWA **Hanford** 84.08 328 IAmb IAmb 05 51 55.3
comp=Z,29nm,0.8s
J01E **Myrtle Point** 84.13 323 P **P** **05 51 55.4 +1.2**
baz=132
G05D **Wamic, OR** 84.16 326 P **P** **05 51 55.6 +1.2**
baz=134,SNR=10
I03D **Drain, OR** 84.18 324 P **P** **05 51 55.2 +0.8**
baz=132
PBDV **Barranco-do-Ve** 84.29 45 *e*P **P** **05 51 56.7 +1.5**
comp=Z,79nm,1.5s
PBDV *e*pP **pP** **05 52 18.9 +0.1**
NEW **Newport** 84.30 330 P **P** **05 51 54.8 -0.2**
baz=137,SNR=11
H04D **Lebanon** 84.41 325 P **P** **05 51 55.9 +0.4**
baz=133
PNCL **Nicolau / Gran** 84.43 44 *e*P **P** **05 51 58.2 +2.3**
PCVE **Castro Verde** 84.45 44 *e*P **P** **05 51 57.4 +1.4**
PCVE *e*pP **pP** **05 52 21.9 +2.4**
PVAQ **Vaqueiros** 84.52 45 *e*P **P** **05 51 58.1 +1.7**
PVAQ **Vaqueiros** 84.52 45 P **P** **05 51 58.0 +1.7**
PVAQ IAmb IAmb 05 53 14.4
comp=Z,65nm,1.4s
F05D **White Salmon** 84.68 326 P **P** **05 51 57.8 +0.9**
baz=134
I02D **Swisshome** 84.72 324 P **P** **05 51 57.9 +0.8**
baz=132
COR **Corvallis** 84.75 324 P **P** **05 51 58.7 +1.4**
COR pmax pmax
comp=Z,224nm,1.7s
COR **Corvallis** 84.75 324 P **P** **05 51 58.7 +1.4**
PBEJ **Beja** 84.80 44 *e*P **P** **05 51 59.7 +2.0**
comp=Z,45nm,1.1s
PBEJ *e*pP **pP** **05 52 23.9 +2.6**
G03D **McMinnville, O** 85.15 325 P **P** **05 52 00.4 +1.1**
baz=132
PMTG **Montargil** 85.20 43 *e*P **P** **05 52 00.8 +1.1**
comp=Z,56nm,0.9s
PMTG *e*pP **pP** **05 52 25.1 +1.8**
F04A **Amboy** 85.20 326 IAmb IAmb 05 52 00.9
comp=Z,62nm,1.0s
LTY **Liberty** 85.25 328 IAmb IAmb 05 52 01.1
comp=Z,29nm,0.9s
PTOM **Tomar** 85.41 43 *e*P **P** **05 52 01.5 +0.7**
comp=Z,76nm,1.0s
PTOM *e*pP **pP** **05 52 25.8 +1.4**
PESTR **Estremoz** 85.47 44 IAmb IAmb 05 52 27.3
comp=Z,40nm,1.1s
F04D **Rainier, OR** 85.61 326 P **P** **05 52 02.4 +0.9**
baz=133
PCAS **Casmilo, Conde** 85.62 42 *e*P **P** **05 52 02.8 +1.0**
comp=Z,42nm,0.9s
PCAS *e*pP **pP** **05 52 26.8 +1.4**
E04D **Cinebar** 85.70 326 P **P** **05 52 02.9 +1.0**
baz=133
LIJA **Lijar** 85.73 46 *i* P **P** **05 52 03.5 +1.0**

COI **Coimbra** 85.77 42 *e*P **P** **05 52 02.7 +0.2**
comp=Z,55nm,1.1s
COI *e*pP **pP** **05 52 27.4 +1.3**
C06D **Leavenworth** 85.82 328 P **P** **05 52 02.7 +0.1**
baz=134
D05A **Enumclaw** 85.84 327 IAmb IAmb 05 52 03.9
comp=Z,50nm,0.8s
PMRV **Marv??o** 85.93 43 *e*P **P** **05 52 03.8 +0.4**
comp=Z,32nm,1.2s
PMRV *e*pP **pP** **05 52 28.0 +1.0**
PCBR **Castelo Branco** 86.12 43 *e*P **P** **05 52 04.5 +0.2**
comp=Z,20nm,1.1s
PCBR *e*pP **pP** **05 52 29.0 +1.1**
PVIS **Viseu** 86.39 42 *e*P **P** **05 52 05.1 -0.5**
comp=Z,19nm,1.5s
PVIS *e*pP **pP** **05 52 30.2 +0.9**
MTE **Manteigas** 86.42 42 *e*P **P** **05 52 05.9 +0.1**
comp=Z,30nm,1.2s
MTE *e*pP **pP** **05 52 30.3 +0.8**
MTE **Manteigas** 86.42 42 P **P** **05 52 06.1 +0.4**
MTE IAmb IAmb 05 52 31.2
comp=Z,53nm,1.0s
D03D **Eldon** 86.63 327 P **P** **05 52 07.2 +0.7**
baz=133
B05A **Bryant** 86.64 328 P **P** **05 52 06.5 0.0**
baz=133
POLO **Lamas de Olo** 86.84 41 *e*P **P** **05 52 08.5 +0.6**
comp=Z,8.3nm,1.3s
POLO *e*pP **pP** **05 52 32.1 +0.5**
PCAB **Cabril** 86.91 41 *e*P **P** **05 52 08.7 +0.6**
comp=Z,22nm,0.9s
PCAB *e*pP **pP** **05 52 32.7 +0.9**
NLWA **Neilton Lookou** 86.92 326 IAmb IAmb 05 52 09.8
comp=Z,50nm,1.1s
MVO **Moncorvo** 87.18 42 *e*P **P** **05 52 10.2 +0.7**
comp=Z,19nm,1.6s
MVO *e*pP **pP** **05 52 34.4 +1.2**
PBRG **Braganca** 87.74 42 *e*P **P** **05 52 12.9 +0.8**
comp=Z,16nm,1.9s
PAB **San Pablo** 87.92 44 P **P** **05 52 13.8 +0.7**
PAB pmax pmax
comp=Z,43nm,1.3s
PAB **San Pablo** 87.92 44 P **P** **05 52 13.8 +0.7**
PAB IAmb IAmb 05 52 38.9
comp=Z,43nm,1.2s
ESDC **Sonseca Array** 88.24 45 P **P** **05 52 14.9 +0.4**
comp=Z,6.6nm,0.8s,baz=257,slow=4.3,SNR=33
ESDC pP **pP** **05 52 37.9 -0.5**
comp=Z,8.9nm,1.0s,baz=253,slow=4.4,SNR=7.6
ESDC PKKPbc **PKKPbc** **06 09 59.4 0.0**
comp=Z,0.3nm,0.3s,baz=34,slow=2.5,SNR=4.3
ESDC LR LR 06 30 17.9
comp=Z,48nm,19.3s,baz=280,slow=34
CASY **Casey** 89.39 180 P **P** **05 52 20.7 +1.2**
URZ **Urewera** 91.86 226 P **P** **05 52 30.9 -0.7**
comp=Z,17nm,0.9s,baz=190,slow=5.1,SNR=2.9
TUWZ **Tuamarina** 92.07 222 P **P** **05 52 31.1 -1.4**
LTZ **Lake Taylor** 92.27 220 P **P** **05 52 35.3 +1.8**
SFJD **Kangerlussuaq** 92.40 7 P **P** **05 52 33.4 +0.2**
comp=Z,8.4nm,0.9s,baz=286,slow=5.9,SNR=2.4
YKA **Yellowknife Ar** 94.03 341 P **P** **05 52 40.6 -0.2**
comp=Z,11nm,0.8s,baz=136,slow=4.7,SNR=82
YKA pP **pP** **05 53 04.0 -0.4**
comp=Z,4.2nm,0.7s,baz=137,slow=4.7,SNR=5.2
YKA PKKPbc **PKKPdf** **06 09 42.3 -2.4**
comp=Z,0.4nm,0.5s,baz=327,slow=3.4,SNR=6.4
YKW3 **Yellowknife Ar** 94.08 341 IAmb IAmb 05 52 41.4
comp=Z,16nm,0.8s
KEST **Kesra** 95.38 53 LR LR 06 36 24.9
comp=Z,105nm,20.0s,baz=251,slow=36
BORG **Borgarnes** 96.45 19 P **P** **05 52 52.6 +0.8**
comp=Z,20nm,1.0s,baz=246,slow=19,SNR=2.2
EKA **Eskdalemuir Ar** 97.40 32 P **P** **05 52 55.8 -0.5**
comp=Z,2.3nm,0.7s,baz=256,slow=5.0,SNR=4.4
EKA pP **pP** **05 53 20.1 -0.2**
comp=Z,7.1nm,1.0s,baz=245,slow=1.4,SNR=5.3
DAVOX **Davos/Dischmat** 100.51 43 P **Pdif** **05 53 11.3 +0.6**
comp=Z,4.6nm,0.8s,baz=199,slow=0.6,SNR=8.9
DAVA **Damuels** 100.72 43 *e*pPdiff pPdif 05 53 37.0 +1.5
comp=Z,6.2nm,0.9s
FETA **Feichten** 101.14 43 Pdiff **Pdif** **05 53 12.9 -0.6**
comp=Z,4.2nm,1.3s
FETA *e*pPdiff pP 05 53 37.9 +0.3
comp=Z,11nm,1.1s
RETA **Reutte** 101.35 43 *e*Pdiff **Pdif** **05 53 14.3 0.0**
comp=Z,1.5nm,0.4s
RETA *e*pPdiff pP 05 53 39.5 +1.1
comp=Z,12nm,1.2s
MOTA **Moosalm** 101.51 43 *e*Pdiff **Pdif** **05 53 15.5 +0.4**
comp=Z,5.4nm,1.1s
MOTA *e*pPdiff pP 05 53 40.3 +1.1
comp=Z,13nm,1.2s
SQTA **Sankt Quirin** 101.52 43 *e*Pdiff **Pdif** **05 53 15.8 +0.7**
comp=Z,4.6nm,0.5s
SQTA *e*pPdiff pP 05 53 39.8 +0.5
comp=Z,12nm,1.0s
WATA **Walderalm** 101.80 43 pPdiff pPdif 05 53 41.6 +1.3
comp=Z,5.3nm,0.7s
WTTA **Wattenberg** 101.81 43 *e*Pdiff **Pdif** **05 53 17.2 +0.8**
comp=Z,5.5nm,0.9s
WTTA *e*pPdiff pP 05 53 40.7 +0.1
comp=Z,18nm,1.1s
INK **Inuvik** 103.77 340 PKKPbc PKKPbc 06 09 15.8 -2.1
comp=Z,1.7nm,0.6s,baz=334,slow=4.2,SNR=13
EPYK **Eagle Plains** 103.82 337 P **Pdif** **05 53 25.1 +0.3**
baz=120
CLL **Collm** 104.18 40 *e*PP **PKiKP** **05 57 44.0 +0.8**
CLL *e*PPPP 06 01 47.0
CLL *e*SP SP 06 06 50.0 +1.5
CLL *e*SSS SSS 06 16 29.0
CLL *e*SSSS 06 19 48.0
ILAR **Eielson Array** 106.92 334 Pdiff **Pdif** **05 53 37.5 -1.1**
comp=Z,0.7nm,0.9s,baz=113,slow=2.6,SNR=6.3
ILAR PKiKP **PKiKP** **05 57 47.3 -0.6**
comp=Z,0.6nm,0.9s,baz=105,slow=0.5,SNR=3.8
ILAR PP **PP** **05 58 10.8 +4.9**
comp=Z,1.5nm,1.1s,baz=125,slow=5.6,SNR=5.5
ILAR PKPbc **PKKPbc** **06 09 05.0 -3.1**
comp=Z,0.6nm,0.7s,baz=293,slow=2.9,SNR=6.8
ILAR PKKP **PKKPab** **06 09 18.9 -0.4**
comp=Z,0.2nm,0.6s,baz=292,slow=3.8,SNR=3.6
HFS **Hagfors** 107.60 31 PKKP **PKKPab** **06 09 17.9 +1.4**
comp=Z,5.0nm,0.8s,baz=116,slow=3.4,SNR=5.9
DZM **Mont Dzumac** 108.76 234 *e*LR LR 06 29 54.9
comp=Z,198nm,30.9s
FINES **FINESS Array B** 113.80 32 PKKPbc PKKPbc 06 08 44.1 -1.4
comp=Z,1.4nm,0.9s,baz=64,slow=4.4,SNR=3.4
AKASG **Malin Array Be** 113.86 43 *c i*PKiKP **PKiKP** **05 58 02.2 +0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG **Malin Array Be** 113.86 43 PKP **PKiKP** **05 58 00.3 -1.0**
comp=Z,2.4nm,0.8s,baz=260,slow=2.7,SNR=4.6
AKASG PKKPbc **PKKPbc** **06 08 44.0 -1.0**
comp=Z,1.6nm,0.6s,baz=64,slow=3.8,SNR=6.0
ARCES **ARCESS Array B** 114.46 23 PKKPbc PKKPbc 06 08 37.5 -6.0
comp=Z,8.3nm,1.1s,baz=76,slow=5.7,SNR=4.0
BRTR **Keskin Array B** 114.82 56 *c i*PKiKP PKPdf 05 58 03.5 -0.2
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR **Keskin Array B** 114.82 56 PKP PKPdf 05 58 03.1 -0.6
comp=Z,2.2nm,0.8s,baz=171,slow=2.7,SNR=12
BRTR pPKP pPKiKP 05 58 27.8 -0.8
comp=Z,1.9nm,0.8s,baz=200,slow=1.2,SNR=5.7
BRTR PKKPab **PKKPab** **06 08 47.1 +1.4**
comp=Z,1.3nm,0.8s,baz=83,slow=5.1,SNR=5.8
STKA **Stephens Creek** 116.58 209 PKP **PKPdf** **05 58 07.2 -0.1**
comp=Z,2.8nm,0.7s,baz=91,slow=2.2,SNR=4.0
APA **Apatity** 117.31 25 *i*PKiKP PKiKP 05 58 20.3 +13
APA pmax pmax
comp=Z,7.0nm,0.7s
APA MLR MLR
comp=Z,4μm,19.0s
OBN **Obninsk** 118.76 39 *e*PKiKP **PKPdf** **05 58 10.0 -0.6**
OBN *e* 05 59 28.5
OBN *e* 06 04 53.9
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,69nm,16.0s
VSR **Storozhevoye** 120.16 44 *i* PKiKP **PKPdf** **05 58 13.0 -0.4**
RAYN **Ar Rayn** 120.90 76 PKiKP **PKPdf** **05 58 15.7 -0.1**
RAYN **Ar Rayn** 120.90 76 **PKPdf** **05 58 15.7 -0.1**
SHA1 **Shidzhatmaz** 122.08 53 *i* PKiKP **PKiKP** **05 58 18.0 +0.1**
KIV **Kislovodsk** 122.11 52 *i* PKiKP **PKPdf** **05 58 17.5 -0.1**
KIV pmax pmax
comp=Z,39nm,1.1s
KBZ **Khabaz** 122.25 53 PKiKP **PKiKP** **05 58 18.0 +0.1**

KBZ **Khabaz** 122.25 53 PKP **PKiKP** **05 58 18.0 +0.1**
comp=Z,11nm,0.9s,baz=299,slow=0.5,SNR=10
NWAO **Narrogin (SRO)** 122.45 186 PKiKP **PKPdf** **05 58 18.0 -0.6**
NWAO **Narrogin (SRO)** 122.45 186 PKP **PKPdf** **05 58 18.0 -0.6**
comp=Z,9.1nm,0.8s,baz=63,slow=3.5,SNR=3.5
PRGR **Permogore** 123.13 31 *e*PKiKP **PKPdf** **05 58 18.4 -0.4**
PRGR pmax pmax
comp=Z,14nm,0.8s
GNI **Garni** 123.31 57 *i* PKiKP **PKPdf** **05 58 20.0 -0.1**
GNI **Garni** 123.31 57 PKP **PKiKP** **05 58 20.8 +0.4**
comp=Z,9.2nm,0.6s,baz=36,slow=15,SNR=3.5
CTA **Charters Tower** 123.74 221 PKP **PKPdf** **05 58 21.1 -0.3**
comp=Z,8.4nm,0.7s,baz=87,slow=2.7,SNR=13
BILL **Bilibino** 125.30 338 ⇓ *i*PKiKP **PKiKP** **05 58 23.3 +0.1**
BILL pmax pmax
comp=Z,13nm,1.7s
BILL MLR MLR
comp=Z,49nm,17.0s
BILL **Bilibino** 125.30 338 **PKPdf** **05 58 22.5 -0.4**
ASAR **Alice Springs** 127.03 207 PKP **PKPdf** **05 58 27.1 -0.6**
comp=Z,29nm,0.8s,baz=143,slow=2.1,SNR=180
ASAR pPKP **pPKPdf** **05 58 51.7 -0.9**
comp=Z,14nm,0.9s,baz=152,slow=1.8,SNR=7.4
ASAR PKKP **PKKPdf** **06 08 40.2 -0.5**
comp=Z,0.3nm,0.6s,baz=343,slow=1.8,SNR=4.9
ASAR SKKP 06 12 09.4
comp=Z,1.0nm,0.9s,baz=317,slow=3.9,SNR=4.6
AS31 **Alice Springs** 127.03 207 **PKPdf** **05 58 27.1 -0.5**
WRAB **Tennant Creek** 130.13 209 *c i*PKiKP **PKPdf** **05 58 33.7 +0.1**
WRAB pmax pmax
comp=Z,75nm,1.7s
WRAB **Tennant Creek** 130.13 209 **PKPdf** **05 58 33.8 +0.2**
UOSS **Minazif** 130.73 78 **PKPdf** **05 58 34.0 -0.5**
ARU **Arti** 130.85 35 PKP **PKiKP** **05 58 34.5 -0.1**
comp=Z,3.0nm,0.4s,baz=308,slow=2.9,SNR=11
ARU pPKP **pPKPdf** **05 58 58.9 +0.3**
comp=Z,1.3nm,0.5s,baz=286,slow=5.3,SNR=1.8
ARU SKPbc **SKPbc** **06 01 50.4 0.0**
comp=Z,0.7nm,0.2s,baz=196,slow=6.8,SNR=5.4
PMG **Port Moresby** 130.99 231 *c i*PKiKP **PKiKP** **05 58 37.4 +1.2**
PMG pmax pmax
comp=Z,71nm,1.0s
TIXI **Tiksi** 131.84 352 *i* PKiKP **PKPdf** **05 58 35.2 0.0**
AKTO **Aktyubinsk** 132.11 43 PKP **PKiKP** **05 58 36.9 -0.5**
comp=Z,1.2nm,0.4s,baz=183,slow=3.6,SNR=4.8
WSAR **Wadi Sarin** 132.53 80 PKP **PKPdf** **05 58 38.4 +0.4**
baz=300,slow=1.5
SEY **Seymchan** 132.83 336 PKP **PKiKP** **05 58 38.4 -0.1**
comp=Z,14nm,0.6s
NRIK **Noril'sk** 133.16 11 PKP **PKPdf** **05 58 38.1 +0.3**
comp=Z,3.8nm,0.7s,baz=280,slow=1.4,SNR=5.1
PSA00 **Pilbara Seismi** 133.25 192 **PKPdf** **05 58 39.4 0.0**
AB31 **Akbulak array** 133.58 45 *i* PKiKP **PKPdf** **05 58 39.2 +0.1**
AB31 pmax pmax
comp=Z,10.0nm,1.1s
GEYT **Alibeck** 133.62 60 PKP **PKiKP** **05 58 40.5 -0.4**
comp=Z,2.7nm,0.6s,baz=274,slow=4.2,SNR=3.6
PETK **Petropavlovsk-** 134.86 322 PKP **PKPdf** **05 58 42.1 +0.7**
comp=Z,6.4nm,0.7s,baz=78,slow=1.6,SNR=7.8
FITZ **Fitzroy Crossi** 135.15 200 PKiKP PKPpre 05 58 27.9
comp=Z,2.9nm,0.8s,baz=166,slow=5.7,SNR=4.7
FITZ PKP **PKPdf** **05 58 43.1 +0.1**
comp=Z,16nm,0.7s,baz=211,slow=4.6,SNR=25
MA2 **Magadan** 135.37 332 PKP **PKPdf** **05 58 42.9 +0.8**
comp=Z,6.1nm,0.6s,baz=18,slow=18,SNR=2.1
BRVK **Borovoye** 138.41 36 *c i*PKiKP **PKiKP** **05 58 49.5 -0.6**
BRVK pmax pmax
comp=Z,16nm,2.5s
BVAR **Borovoye Array** 138.48 36 PKP **PKiKP** **05 58 49.3 -1.0**
comp=Z,4.2nm,0.7s,baz=321,slow=3.8,SNR=13
KURK **Kurchatov** 144.05 35 PKiKP PKPbc 05 58 56.9 +0.6
KURK 05 59 21.4
KURK **Kurchatov** 144.05 35 PKPbc 05 58 56.8 +0.5
KURBB **Kurchatov Arra** 144.05 35 PKP PKPbc 05 58 56.9 +0.5
comp=Z,20nm,0.8s,baz=302,slow=3.6,SNR=141
KURBB pPKP pPKPdf 05 59 21.4 -1.6
comp=Z,24nm,0.9s,baz=302,slow=4.1,SNR=12
EKS2 **Erkin-Say** 144.66 50 P **PKPdf** **05 58 59.5 -0.2**
SNR=20
AML **Almayashu** 144.77 51 P **PKPdf** **05 59 00.6 +0.3**
SNR=21
ZALV **Zalesovo Beam** 144.86 27 PKPbc **PKPdf** **05 58 59.3 -0.2**
comp=Z,107nm,0.7s,baz=303,slow=4.2,SNR=411
ZALV pPKPbc **pPKPdf** **05 59 23.7 -0.6**
comp=Z,93nm,0.9s,baz=297,slow=4.6,SNR=10
USP **Ospenovka** 144.96 49 P **PKPdf** **05 59 00.1 0.0**
SNR=18
KAD **Karad** 145.12 95 *e*P **PKPbc** **05 58 59.8 -1.0**
AAK **Ala-Archa** 145.17 50 *i* PKiKP **PKPdf** **05 59 01.5 +0.9**
AAK **Ala-Archa** 145.17 50 PKPbc **PKPdf** **05 59 01.7 +1.1**
comp=Z,69nm,0.8s,baz=230,slow=2.3,SNR=61
AAK pPKPbc **pPKPdf** **05 59 26.2 +0.8**
comp=Z,100nm,1.0s,baz=241,slow=4.0,SNR=9.7
AAK **Ala-Archa** 145.17 50 P **PKPdf** **05 59 01.5 +0.9**
SNR=33
POO **Poona** 145.18 93 *e*P **PKPbc** **05 58 59.0 -1.9**
CHMS **Chumysh** 145.22 49 P **PKPab** **05 59 01.5 +0.9**
SNR=20
UCH **Uchtor** 145.32 51 P **PKPab** **05 59 02.7 +1.2**
SNR=33
KBK **Karagaybulak** 145.48 50 P **PKPab** **05 59 02.6 +0.9**
SNR=26
TKM2 **Tokmak 2** 145.83 49 P **PKPab** **05 59 03.0 -0.1**
SNR=6.6
KZA **Kyzart** 145.88 51 P **PKPab** **05 59 04.5 +1.0**
SNR=6.3
GUMO **Guam** 146.08 257 PKPbc **PKPbc** **05 59 03.9 +0.2**
comp=Z,509nm,1.1s,baz=182,slow=6.7,SNR=9.1
GUMO **Guam** 146.08 257 **PKPbc** **05 59 03.4 -0.3**
YSS **Yuzh-Sakhalins** 146.18 319 ⇓ *e*PKP2 **PKPdf** **05 59 02.5 +0.6**
YSS pmax pmax
comp=Z,50nm,0.9s
YSS pmax pmax
comp=Z,400nm,2.8s
YSS **Yuzh-Sakhalins** 146.18 319 **PKPdf** **05 59 02.3 +0.4**
ULHL **Ulahol** 146.52 50 P **PKPbc** **05 59 05.0 +0.4**
SNR=14
KSH **Kashi** 147.19 55 PKPbc **PKPdf** **05 59 04.9 +0.8**
KSH SKS **SKSdf** **06 06 01.3 -4.1**
KSH SKKS **SKKSac** **06 09 14.1 -2.3**
KSH SS **SS** **06 21 26.7 -1.1**
ASAJ **Asahikawa** 147.62 315 PKPbc **PKPbc** **05 59 07.4 +0.1**
comp=Z,32nm,0.9s,baz=157,slow=2.2,SNR=12
SIJI **Sorong** 147.82 221 PKPbc **PKPbc** **05 59 09.1 +0.4**
comp=Z,74nm,0.7s,baz=8.0,slow=6.5,SNR=33
MAKZ **Makanchi** 148.08 39 PKP2 **PKPbc** **05 59 08.9 +0.4**
MAKZ **Makanchi** 148.08 39 **PKPbc** **05 59 08.9 +0.4**
ERM **Erimo** 148.12 311 *c i*PKiKP **PKPdf** **05 59 06.7 +1.4**
ERM pmax pmax
comp=Z,126nm,1.3s
ERM **Erimo** 148.12 311 **PKPbc** **05 59 07.6 -1.0**
MK31 **Makanchi Array** 148.27 39 *i* PKP2 **PKPbc** **05 59 08.1 -0.9**
MK31 pmax pmax
comp=Z,20nm,0.6s
MKAR **Makanchi Array** 148.27 39 PKP **PKPdf** **05 59 05.9 +0.4**
comp=Z,22nm,0.7s,baz=202,slow=10,SNR=85
MKAR PKPbc **PKPbc** **05 59 09.1 +0.1**
comp=Z,26nm,0.8s,baz=205,slow=11,SNR=114
MKAR pPKPbc **pPKPbc** **05 59 33.8 +0.2**
comp=Z,38nm,0.8s,baz=301,slow=2.6,SNR=10
PDGK **Podgornoye** 148.29 46 PKP2 **PKPbc** **05 59 08.6 -0.7**
PDGK pmax pmax
comp=Z,41nm,0.9s
ZEA **Zeya** 148.41 341 *e*PKiKP **PKPdf** **05 59 05.7 +0.2**
ZEA pmax pmax
comp=N,61nm,1.6s
ZEA pmax pmax
comp=Z,78nm,1.4s
KAPI **Kappang** 149.28 198 **PKPdf** **05 59 09.2 +1.1**
KLR **Kul'dur** 150.46 332 PKP **PKPdf** **05 59 09.3 +0.4**
comp=Z,15nm,0.9s,baz=86,slow=2.8,SNR=11
KLR PKPbc **PKPbc** **05 59 14.2 0.0**
comp=Z,30nm,0.7s,baz=44,slow=2.9,SNR=75
KLR PKPab **PKPab** **05 59 20.8 -0.2**
comp=Z,4.6nm,0.7s,baz=70,slow=3.5,SNR=3.9
TEY **Ternei** 150.82 321 ⇓ *i*PKiKP **PKiKP** **05 59 15.6 -0.2**
TEY pmax pmax
comp=Z,100nm,2.4s
TEY pmax pmax
comp=E,20nm,0.9s
TEY pmax pmax
comp=N,10.0nm,0.8s
TEY pmax pmax
comp=Z,70nm,0.8s
MOY **Mondy** 151.97 13 *e*PKiKP **PKiKP** **05 59 18.3 +0.1**
MOY pmax pmax

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,67nm,1.7s						
LUWI	**Luwuk**	**151.97**	**206**	PKPdf	**PKPdf**	**05 59 13.5**	**+1.2**
TLY	**Talaya**	**152.43**	**10**	PKIKP	**PKPdf**	**05 59 08.5**	**-3.3**
TLY						05 59 30.0	
TLY	**Talaya**	**152.43**	**10**	PKPbc	**PKiKP**	**05 59 19.8**	**+0.7**
	comp=Z,9.0nm,0.4s,baz=356,slow=0.6,SNR=6.8						
TLY				PKPab	**PKPab**	**05 59 30.0**	**+0.8**
	comp=Z,13nm,0.8s,baz=303,slow=3.9,SNR=6.8						
TLY	**Talaya**	**152.43**	**10**	PKPdf	**PKPdf**	**05 59 08.5**	**-3.3**
WMQ	**Urumqi**	**153.10**	**39**	*e*PKPbc	**PKPdf**	**05 59 12.5**	**-0.6**
WMQ				LR	LR		
	comp=Z,670nm,29.1s						
WMQ				LR	LR		
	comp=Z,1µm,29.0s						
GSI	**Gunungsitoli**	**153.53**	**149**	PKPdf	**PKPdf**	**05 59 15.0**	**+0.4**
ZAK	**Zakamensk**	**153.63**	**11**	*e*PKIKP	**PKPdf**	**05 59 11.6**	**-2.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MJAR	**Matsushiro Arr**	**153.67**	**303**	PKP	**PKPdf**	**05 59 14.4**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=259,slow=1.2,SNR=5.5						
MJAR				PKPbc	**PKPbc**	**05 59 21.9**	**-0.1**
	comp=Z,8.9nm,0.8s,baz=193,slow=0.8,SNR=19						
MJAR				PKPab	**PKPab**	**05 59 35.8**	**+0.8**
	comp=Z,10nm,0.7s,baz=118,slow=2.8,SNR=10						
MAJO	**Matsushiro**	**153.67**	**303**	PKIKP	**PKPdf**	**05 59 14.3**	**+0.2**
MAJO						05 59 35.3	
MAJO	**Matsushiro**	**153.67**	**303**		**PKPdf**	**05 59 14.3**	**+0.2**
MAJO				PKPbc	**PKPbc**	**05 59 21.8**	**-0.2**
MAJO				PKPab	**PKPab**	**05 59 35.3**	**+0.3**
MAT	**Matsushiro**	**153.67**	**303**	PKP	**PKPbc**	**05 59 22.0**	**0.0**
MJB9	**Matsu-Tunnel**	**153.68**	**303**		**PKPdf**	**05 59 13.6**	**-0.6**
MJB9				PKPbc	**PKPbc**	**05 59 21.6**	**-0.4**
MJB9				PKPab	**PKPab**	**05 59 35.3**	**+0.3**
USA0B	**Ussuriysk Arra**	**153.92**	**324**	PKIKP	**PKPdf**	**05 59 15.3**	**+1.1**
USA0B						05 59 34.8	
USA0B	**Ussuriysk Arra**	**153.92**	**324**		**PKPdf**	**05 59 15.3**	**+1.1**
USA0B				PKPbc	**PKiKP**	**05 59 22.2**	**0.0**
USA0B				PKPab	**PKPab**	**05 59 34.8**	**-0.9**
USRK	**Ussuriysk Ar.**	**153.92**	**324**	PKP	**PKPdf**	**05 59 14.6**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=343,slow=4.0,SNR=12						
USRK				PKPbc	**PKPbc**	**05 59 22.2**	**0.0**
	comp=Z,8.8nm,0.7s,baz=10,slow=1.3,SNR=25						
USRK				PKPab	**PKPab**	**05 59 35.5**	**-0.2**
	comp=Z,5.4nm,0.8s,baz=59,slow=4.3,SNR=7.4						
MDJ	**Mudanjiang**	**154.87**	**327**	PKP	**PKPdf**	**05 59 16.0**	**+0.5**
RPSI	**Rantau Prapat**	**155.38**	**150**	PKPdf	**PKPdf**	**05 59 16.1**	**-1.1**
PSI	**Prapat**	**155.47**	**150**	PKIKP	**PKPdf**	**05 59 16.1**	**-1.3**
SONM	**Songino Array**	**156.57**	**7**	PKP	**PKPdf**	**05 59 18.5**	**+0.6**
	comp=Z,4.3nm,0.9s,baz=322,slow=0.5,SNR=27						
SONM				PKPab	**PKPab**	**05 59 47.6**	**+0.6**
	comp=Z,9.2nm,0.7s,baz=327,slow=4.3,SNR=18						
ULN	**Ulaanbaatar**	**156.61**	**6**	PKIKP	**PKPdf**	**05 59 19.1**	**+1.2**
ULN	**Ulaanbaatar**	**156.61**	**6**		**PKPdf**	**05 59 19.1**	**+1.2**
CN2	**Changchun**	**157.42**	**332**	*e*PKP	**PKPdf**	**05 59 16.6**	**-2.3**
JNU	**Nakatsue**	**160.50**	**300**	PKPab	**PKPab**	**06 00 05.6**	**+1.0**
	comp=Z,6.8nm,0.7s,baz=27,slow=4.5,SNR=3.4						
KSRS	**Korea Array**	**160.57**	**315**	PKP	**PKPdf**	**05 59 23.2**	**+0.4**
	comp=Z,8.0nm,0.9s,baz=89,slow=1.1,SNR=32						
KSRS				PKPab	**PKPab**	**06 00 05.2**	**+0.6**
	comp=Z,9.8nm,0.9s,baz=63,slow=4.1,SNR=17						
GTA	**Gaotai**	**162.58**	**30**	*e*PKP	**PKPdf**	**05 59 25.6**	**+0.6**
GTA				PKPab	**PKPab**	**06 00 13.9**	**+0.4**
GTA				PP	**PP**	**06 04 01.9**	**+4.4**
GTA				AMB	AMB		
	comp=Z,96nm,7.1s						
GTA				LR	LR		
	comp=Z,78nm,20.3s						
GTA				LR	LR		
	comp=Z,100nm,20.6s						
GTA				LR	LR		
	comp=Z,100nm,21.9s						
SHL	**Shillong**	**162.84**	**83**	PKIKP	**PKPdf**	**05 59 26.1**	**+0.4**
SHL	**Shillong**	**162.84**	**83**		**PKPdf**	**05 59 26.1**	**+0.4**
HHC	**Hu-ho-hao-te**	**163.80**	**358**	*e*PKP	**PKPdf**	**05 59 23.0**	**-3.1**
LZH	**Lanzhou**	**167.09**	**26**	*e*PKP	**PKPdf**	**05 59 25.5**	**-3.5**
LZH				pPKP	pPKPdf	05 59 50.8	-3.2
LZH				sPKP		06 00 00.9	
LZH				LR	LR		
	comp=Z,220nm,18.1s						
LZH				LR	LR		
	comp=Z,220nm,18.5s						
LZH				LR	LR		
	comp=Z,370nm,20.2s						
TIA	**Tai'an**	**167.23**	**336**	PKP	**PKPdf**	**05 59 29.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**167.38**	**117**	PKP	**PKPdf**	**05 59 30.1**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=276,slow=2.3,SNR=12						
CMAR				PKPab	**PKPab**	**06 00 35.1**	**0.0**
	comp=Z,1.0nm,0.5s,baz=244,slow=5.1,SNR=5.2						
PBKT	**Sadao Pong**	**167.81**	**129**	PKP	**PKPdf**	**05 59 30.4**	**+0.6**
PBKT	**Sadao Pong**	**167.81**	**129**		**PKPdf**	**05 59 30.4**	**+0.6**
NJ2	**Nanjing**	**169.75**	**318**	*e*PKP	**PKPdf**	**05 59 30.5**	**-0.2**
NONG	**Nongkai**	**170.34**	**131**	PKP	**PKPdf**	**05 59 32.3**	**+0.9**
XAN	**Xi'an**	**170.47**	**9**	PKP	**PKPdf**	**05 59 31.4**	**+0.3**
XAN				pPKP	pPKPdf	05 59 48.6	-7.5
XAN				PP	**PP**	**06 04 43.6**	**+6.0**
XAN				AMB	AMB		
	comp=Z,140nm,8.0s						
CD2	**Chengdu**	**171.16**	**43**	PKP	**PKPdf**	**05 59 29.4**	**-2.2**
KMI	**Kunming**	**172.66**	**84**	PKP	**PKPdf**	**05 59 33.4**	**+0.7**
WHN	**Wuhan**	**173.31**	**333**	PKP	**PKPdf**	**05 59 34.9**	**+2.5**
GYA	**Guiyang**	**175.84**	**63**	*i* PKP	**PKPdf**	**05 59 33.8**	**+0.2**
GYA				PKPab	**PKPab**	**06 01 14.2**	**+1.5**
GYA				AMB	AMB		
	comp=Z,140nm,8.6s						

*ISCJB **04** 05:47:33.0±0.7, 8.°25N±0.°04×82.°83W±0.°02, h21km±4km, mb3.8/7, MS3.4/1, Error ellipse: s-maj=7.7km s-min=2.5km az=26.0*
*NEIC **04** 05:47:33.1±1.1, 8.°1N±0.°1×82.°89W±0.°09, h27km±8km, mb4.3/3*
*UPA **04** 05:47:33.6±2.3, 8.°34N×82.°81W, h14km±4km, MW4.6*
*UCR **04** 05:47:34.3±2.1, 8.°33N×82.°78W, h19km±4km, ML3.5, mb4.3(NEIC)*
*IDC **04** 05:47:38.2±4.0, 8.°34N×82.°96W, h62km±26km, mb3.5/7, mb1 3.9/11, mb1mx3.7/40, mbtmp4.0/11, ML3.5/4, MS3.3/1, Ms1 3.3/1, ms1mx2.7/21, Error ellipse: s-maj=56.5km s-min=16.7km az=21.0*
ISC 04 05:47:34.6±0.9**, 8.°34N**±0.°04×**82.°79W**±0.°03**, h29**km±6km**, n84,** σ1.s40/120**, mb3.8**/8**, 4C-13D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAGA3	**Bagala, Chiriq**	**0.28**	**64**	⇓*i*P	**Pb**	**05 47 41.4**	**-0.5**
BAGA3				*e*S	**Sb**	**05 47 46.2**	**-0.5**
DVD	**David**	**0.34**	**74**	⇑*i*P	**Pb**	**05 47 41.8**	**-0.8**
DVD				*e*S	**Sb**	**05 47 47.6**	**-0.5**
DVD	**David**	**0.34**	**74**	⇑*i*P	**Pb**	**05 47 41.8**	**-0.8**
DVD				*e*S	**Sb**	**05 47 47.6**	**-0.5**
PEDE3	**Pedregal, Chir**	**0.36**	**83**	⇓*i*P	**Pb**	**05 47 42.0**	**-0.9**
PEDE3				*e*S	**Sb**	**05 47 48.4**	**-0.1**
LOMA3	**Las Lomas, Chi**	**0.40**	**77**	⇓*i*P	**Pb**	**05 47 42.4**	**-1.1**
MLIR3	**Monte Lirio, C**	**0.45**	**355**	⇓*i*P	**Pb**	**05 47 43.7**	**-0.6**
MLIR3				*e*S	**Sb**	**05 47 49.8**	**-1.1**
BCO2	**Palmira**	**0.45**	**34**	⇓*i*P	**Pb**	**05 47 43.7**	**-0.7**
BCO2				*e*S	**Sn**	**05 47 51.4**	**-1.2**
CHIR3	**Chiriqui UPA,**	**0.46**	**83**	*i* P	**Pb**	**05 47 43.2**	**-1.1**
CHIR3				*e*S	**Sb**	**05 47 51.2**	**+0.3**
BRU2	**Volcan**	**0.46**	**12**	⇓*e*P	**Pb**	**05 47 43.7**	**-0.8**
BRU2				*e*S	**Sn**	**05 47 51.5**	**-1.2**
BRU2	**Volcan**	**0.46**	**12**	⇓*i*P	**Pb**	**05 47 43.6**	**-0.8**
BRU2				*e*S	**Sn**	**05 47 51.5**	**-1.2**
EDSV	**San Vito**	**0.51**	**339**	*e*P	**Pb**	**05 47 44.4**	**-0.9**
EDSV				*e*S	**Sn**	**05 47 53.1**	**-0.7**
CHGR2	**Aguacate**	**0.87**	**47**	⇓*i*P	**Pb**	**05 47 49.5**	**-1.7**
CHGR2				*e*S	**Sb**	**05 48 01.6**	**-0.9**
EDPN	**Palmar Norte**	**0.90**	**313**	*e*P	**Pb**	**05 47 49.6**	**-2.2**
EDBA	**Buenos Aires**	**0.95**	**329**	*e*P	**Pb**	**05 47 51.3**	**-1.2**
EDBA				*e*S	**Sn**	**05 48 05.6**	**+1.0**
REME3	**Remedios, Chir**	**0.95**	**97**	⇓*i*P	**Pb**	**05 47 50.7**	**-1.9**
REME3				*e*S	**Sb**	**05 48 04.6**	**-0.2**
NANC3	**Nancito, Chiri**	**1.05**	**95**	⇓*i*P	**Pb**	**05 47 51.7**	**-2.5**
CNI2	**El Empalme, Bo**	**1.12**	**16**	⇓*i*P	**Pb**	**05 47 53.9**	**-1.5**
CNI2				*e*S	**Sn**	**05 48 09.0**	**+0.3**
EDLM	**Las Mercedes**	**1.22**	**320**	*e*P	**Pn**	**05 47 55.3**	**-0.5**
EDDO	**Dominical**	**1.40**	**310**	*e*P	**Pn**	**05 47 57.9**	**-0.3**
EDDO				*e*S	**Sb**	**05 48 17.5**	**-0.1**
CNAZ3	**Canazas, Verag**	**1.56**	**90**	*e*P	**Pn**	**05 47 59.4**	**-1.1**
CNAZ3				*e*S	**Sb**	**05 48 24.6**	**+2.3**
MESA3	**La Mesa, Verag**	**1.60**	**97**	⇓*i*P	**Pn**	**05 47 59.9**	**-1.0**
MESA3				*e*S	**Sn**	**05 48 20.5**	**-0.1**
GMAL	**Guarumal, Vera**	**1.64**	**110**	*e*P	**Pn**	**05 47 59.8**	**-1.7**
GMAL				*e*S	**Sn**	**05 48 22.4**	**+0.7**
RSUS3	**Rio de Jesus,**	**1.65**	**102**	*e*P	**Pn**	**05 48 00.7**	**-0.9**
RSUS3				*e*S	**Sn**	**05 48 21.4**	**-0.5**
SFRA3	**San Francisco,**	**1.80**	**93**	*e*P	**Pn**	**05 48 03.3**	**-0.4**
SFRA3				*e*S	**Sn**	**05 48 23.5**	**-2.0**
STIA3	**Santiago, Vera**	**1.81**	**98**	⇓*i*P	**Pn**	**05 48 03.1**	**-0.7**
STIA3				*e*S	**Sn**	**05 48 27.7**	**+1.8**
LCR2	**La Lucha 2**	**1.84**	**319**	*e*P	**Pn**	**05 48 05.6**	**+1.2**
PONU3	**Ponuga, Veragu**	**1.85**	**104**	*e*P	**Pn**	**05 48 04.2**	**-0.2**
PONU3				*e*S	**Sb**	**05 48 30.2**	**-0.3**
CALO3	**Calobre, Verag**	**1.93**	**90**	*e*P	**Pn**	**05 48 05.1**	**-0.3**
SJS	**Escuela Geolog**	**2.02**	**322**	*e*P	**Pn**	**05 48 08.2**	**+1.3**
OCU3	**Ocu, Herrera**	**2.03**	**101**	*e*P	**Pn**	**05 48 06.0**	**-0.9**
OCU3				*e*S	**Sb**	**05 48 34.6**	**-1.2**
HDC	**Heredia**	**2.11**	**322**	*e*P	**Pn**	**05 48 09.1**	**+1.1**
HDC				*e*S	**Sb**	**05 48 37.3**	**-0.7**
HDC	**Heredia**	**2.11**	**322**	*e*P	**Pn**	**05 48 09.5**	**+1.4**
HDC				*e*S	**Sb**	**05 48 37.3**	**-0.7**
HDC	**Heredia**	**2.11**	**322**	Pn	**Pn**	**05 48 09.7**	**+1.6**
HDC				Sn	**Sb**	**05 48 37.1**	**-1.0**
CRIS3	**El Cristo, Coc**	**2.15**	**92**	⇑*i*P	**Pn**	**05 48 08.5**	**0.0**
CRIS3				⇑*e*S	**Sn**	**05 48 36.6**	**+2.4**
CACAO	**El Cacao, Vera**	**2.15**	**117**	*e*P	**Pn**	**05 48 08.3**	**-0.2**
CACAO				*e*S	**Sn**	**05 48 35.0**	**+0.8**
CHIT3	**Chitre**	**2.38**	**99**	*e*P	**Pb**	**05 48 14.7**	**-2.1**
CHIT3				*e*S	**Sn**	**05 48 39.3**	**-0.5**
SRA1	**San Ramn**	**2.41**	**316**	*e*P	**Pn**	**05 48 12.5**	**+0.3**
AZU	**Azuero**	**2.55**	**102**	*e*P	**Pn**	**05 48 14.8**	**+0.8**
AZU				*e*S	**Sn**	**05 48 47.6**	**+3.5**
AZU	**Azuero**	**2.55**	**102**	*e*P	**Pn**	**05 48 14.8**	**+0.8**
AZU				*e*S	**Sn**	**05 48 47.6**	**+3.5**
VTON	**El Valle, Cocl**	**2.66**	**84**	*e*S	**Sb**	**05 48 54.4**	**+0.5**
ACHO3	**Achotines, Los**	**2.75**	**109**	*e*P	**Pn**	**05 48 17.6**	**+0.9**
ACHO3				*e*S	**Sn**	**05 48 52.6**	**+3.6**
ARE1	**Arenal 1**	**2.84**	**318**	*e*P	**Pn**	**05 48 19.8**	**+1.8**
CEDE	**Laguna Cedeo**	**2.85**	**319**	*e*P	**Pn**	**05 48 20.5**	**+2.3**
JTS	**Las Juntas de**	**2.88**	**312**	P	**Pn**	**05 48 19.8**	**+1.1**
	70nm,0.3s,baz=160,slow=15,SNR=63						
JTS				S	**Sn**	**05 48 53.1**	**+0.6**
	68nm,0.3s,baz=41,slow=20,SNR=16						
JTS	**Las Juntas de**	**2.88**	**312**	*e*P	**Pn**	**05 48 19.7**	**+1.1**
JTS	**Las Juntas de**	**2.88**	**312**	*e*P	**Pn**	**05 48 19.7**	**+1.1**
JTS				*e*S	**Sn**	**05 48 50.7**	**-1.7**
JTS	**Las Juntas de**	**2.88**	**312**		**Pn**	**05 48 18.8**	**+0.1**
JTS					**Sn**	**05 48 53.7**	**+1.2**
ZANG	**Zanguenga, Cho**	**2.95**	**78**	*e*P	**Pn**	**05 48 20.5**	**+0.9**
ZANG	**Zanguenga, Cho**	**2.95**	**78**	*e*P	**Pn**	**05 48 21.4**	**+1.9**
ZANG				*e*S	**Sb**	**05 49 02.3**	**0.0**
BCIP	**Isla Barro Col**	**3.03**	**74**	*e*P	**Pn**	**05 48 21.0**	**+0.4**
BCIP	**Isla Barro Col**	**3.03**	**74**	*e*P	**Pn**	**05 48 24.3**	**+3.7**
BCIP				*e*S	**Sb**	**05 49 01.2**	**-3.3**
BCIP	**Isla Barro Col**	**3.03**	**74**	Pn	**Pn**	**05 48 21.5**	**+0.9**
CHOR3	**La Chorrera**	**3.04**	**79**	*e*P	**Pb**	**05 48 26.6**	**-1.4**
CHOR3				*e*S	**Sb**	**05 49 03.6**	**-1.1**
PLVR	**Palo Verde**	**3.22**	**308**	*e*P	**Pn**	**05 48 24.2**	**+0.8**
TABO3	**Taboga, Panama**	**3.23**	**82**	*e*S	**Sb**	**05 49 09.1**	**-1.1**
CUI	**Cuipilapa**	**3.29**	**315**	*e*P	**Pn**	**05 48 26.2**	**+2.0**
BUEV	**Buena Vista**	**3.55**	**314**	*e*P	**Pn**	**05 48 30.0**	**+2.0**
ESPN	**Las Esperanzas**	**4.11**	**339**	*e*P	**Pn**	**05 48 36.5**	**+1.0**
ESPN				IAML		05 49 48.4	
	comp=N,145nm,0.9s						
ESPN	**Las Esperanzas**	**4.11**	**339**		**Pn**	**05 48 36.4**	**+1.0**
ACON	**Acoyapa**	**4.30**	**327**	*e*P	**Pn**	**05 48 39.3**	**+1.2**
ACON	**Acoyapa**	**4.30**	**327**		**Pn**	**05 48 39.5**	**+1.4**
ESTN	**Estel**	**5.89**	**324**	*e*P	**Pn**	**05 49 02.1**	**+1.9**
ESTN	**Estel**	**5.89**	**324**	Pn	**Pn**	**05 49 00.9**	**+0.7**
CRIN	**San Cristobal**	**6.03**	**316**	*e*P	**Pn**	**05 49 04.3**	**+2.4**
MTDJ	**Mount Denham**	**11.07**	**27**	Pn	**Pn**	**05 50 13.6**	**+2.4**
SDV	**Santo Domingo**	**12.03**	**87**	P	Pn	05 50 29.5	+5.1
	comp=N,0.3nm,0.3s,baz=266,slow=13,SNR=3.1						
CMIG	**Matias Romero**	**14.65**	**308**	P	**Pn**	**05 51 00.1**	**+0.1**
	comp=N,0.2nm,0.3s,baz=135,slow=16,SNR=2.1						
SJG	**San Juan**	**18.87**	**57**	P	**Pn**	**05 51 56.7**	**+3.3**
	comp=N,0.1nm,0.3s,baz=224,slow=6.7,SNR=4.1						
SJG	**San Juan**	**18.87**	**57**	P	**Pn**	**05 51 55.0**	**+1.7**
SJG				IAmb	IAmb	05 52 06.3	
	comp=Z,9.2nm,0.8s						
GCPR	**Guaynabo City**	**19.02**	**57**	P	**Pn**	**05 51 55.6**	**+0.4**
TXAR	**Lajitas Array**	**28.65**	**320**	PcP	**PcP**	**05 56 39.9**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=143,slow=1.8,SNR=3.6						
H06E1	**SOCORRO T-PHAS**	**29.21**	**294**	T	T	06 23 40.3	
	SNR=6.5						
PDAR	**Pinedale Array**	**41.57**	**330**	P	**P**	**05 55 18.5**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=118,slow=8.8,SNR=2.7						
PDAR				PcP	**PcP**	**05 57 15.7**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=132,slow=6.4,SNR=3.0						
NVAR	**Mina Array Bea**	**43.80**	**319**	P	**P**	**05 55 38.3**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=100,slow=14,SNR=4.6						
BMN	**Battle Mountai**	**44.27**	**322**	P	**P**	**05 55 42.3**	**+0.4**
BMN				IAmb	IAmb	05 55 44.1	
	comp=Z,4.8nm,0.8s						
NEW	**Newport**	**49.22**	**330**	LR	LR	06 19 21.4	
	comp=Z,32nm,18.5s,baz=128,slow=39						
YKA	**Yellowknife Ar**	**58.80**	**343**	P	**P**	**05 57 28.7**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=138,slow=7.0,SNR=4.1						
ILAR	**Eielson Array**	**71.61**	**336**	P	**P**	**05 58 53.1**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=112,slow=4.3,SNR=5.5						
ESDC	**Sonseca Array**	**76.13**	**51**	P	**P**	**05 59 20.7**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=272,slow=4.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**82.80**	**78**	P	**P**	**05 59 56.8**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=267,slow=3.6,SNR=3.9						
KEST	**Kesra**	**86.91**	**55**	P	**P**	**06 00 17.2**	**-0.1**
	comp=Z,8.7nm,1.1s,baz=304,slow=9.3,SNR=3.3						
ASAR	**Alice Springs**	**141.73**	**242**	PKhKP	PKPpre	06 06 57.3	
	comp=Z,0.4nm,0.6s,baz=125,slow=3.2,SNR=5.1						
ASAR				PKP	**PKPdf**	**06 07 02.8**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=101,slow=1.9,SNR=3.5						
DAV	**Davao City (W)**	**147.84**	**298**	PKPbc	**PKPdf**	**06 07 16.8**	**+1.7**
	baz=0.0,slow=5.1						
CMAR	**Chiang Mai Arr**	**153.32**	**356**	PKPbc	**PKPbc**	**06 07 30.4**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=307,slow=1.8,SNR=4.0						

*BJI **04** 05:56:04.4±0.0, 35.°45N×77.°34E, h5km, ML3.8/3*
ISC 04 05:56:04.2±2.2**, 35.°4N**±0.°1×**77.°1E**±0.°3**, h10**km**, n10,** σ3.s29/11**, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.25**	**348**	Pg	**Pn**	**05 57 12.7**	**+3.5**
KSH				Sg	**Sb**	**05 58 05.0**	**-5.7**
KSH				smax	smax		
	comp=N,310nm,0.8s						
KSH				smax	smax		
	comp=E,190nm,0.8s						
DANN	**Dangsing**	**8.98**	**139**	*e*P	**Pn**	**05 58 13.1**	**-1.1**
	16nm,0.4s						
PKIN	**Phulchoki**	**10.48**	**135**	*e*P	**Pn**	**05 58 33.4**	**-1.5**
	11nm,0.2s						
PKI	**Pulchoki**	**10.49**	**135**	*e*P	**Pn**	**05 58 33.5**	**-1.6**
	4.4nm,0.3s						
GUN	**Gumba**	**10.52**	**132**	*e*P	**Pn**	**05 58 33.6**	**-1.8**
	9.5nm,0.5s						
JIRN	**Jiri**	**10.89**	**132**	*e*P	**Pn**	**05 58 38.1**	**-2.4**
	13nm,0.4s						
RAMN	**Ramite**	**11.66**	**133**	*e*P	**Pn**	**05 58 48.7**	**-2.2**
	6.4nm,0.4s						
WMQ	**Urumqi**	**11.74**	**41**	*e*P	**Pn**	**05 58 52.4**	**+0.6**
TAPN	**Taplejung**	**12.06**	**129**	*e*P	**Pn**	**05 58 53.0**	**-3.4**
	7.5nm,0.5s						
LZH	**Lanzhou**	**21.68**	**80**	*e*P	**P**	**06 00 58.6**	**+3.2**
LZH				pP	sP	06 01 02.3	+0.5
LZH				sP	pP	06 01 03.7	+3.9
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						

*ISCJB **04** 06:11:19.0±0.8, 31.°96S±0.°03×69.°70W±0.°04, h123km±7km, Error ellipse: s-maj=5.9km s-min=3.9km az=25.6*
*SJA **04** 06:11:18.6±0.8, 31.°97S×69.°70W, h117km±4km, ML3.2, MW3.2*
*GUC **04** 06:11:18.2±0.7, 32.°00S×70.°02W, h147km±9km, ML3.5*
ISC 04 06:11:19.7±1.8**, 31.°97S**±0.°03×**69.°70W**±0.°04**, h118**km±15km**, n24,** σ0.s64/42**, 2C, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.38**	**64**	*i* P	**Pn**	**06 11 37.2**	**+0.1**
RTLS				*e*S	**Sn**	**06 11 50.2**	**0.0**
RTLS				IAML		06 11 51.4	
	comp=Z,371nm,0.2s						
ASAL	**Salagasta**	**0.96**	**131**	*i* P	**Pn**	**06 11 41.2**	**0.0**
ASAL				*e*S	**Sn**	**06 11 57.6**	**0.0**
RTCV	**Cerro Valdivia**	**0.99**	**84**	*i* P	**Pn**	**06 11 41.3**	**-0.2**
RTCV				*e*S	**Sn**	**06 11 57.7**	**-0.3**
ARCO	**CERRO ARCO**	**1.09**	**144**	*e*P	**Pn**	**06 11 42.3**	**-0.3**
ARCO				*e*S	**Sn**	**06 12 00.2**	**+0.2**
ARCO				IAML		06 12 03.0	
	comp=Z,530nm,0.3s						
RTLL	**Cerro Villicun**	**1.22**	**59**	*i* P	**Pn**	**06 11 43.4**	**-0.5**
RTLL				*e*S	**Sn**	**06 12 01.9**	**-0.3**
RTLL				IAML		06 12 03.1	
	comp=Z,207nm,0.4s						
CFA	**Coronel Fontan**	**1.29**	**74**	*i* P	**Pn**	**06 11 44.2**	**-0.5**
AAGR	**Agrelo**	**1.34**	**147**	*i* P	**Pn**	**06 11 45.3**	**+0.1**
CO02	**Combarbal**	**1.35**	**304**	⇑*e*P	**Pn**	**06 11 44.9**	**-0.5**
CO02				*i* S	**Sn**	**06 12 05.3**	**+0.5**
CO02				IAML		06 12 07.5	
	comp=N,1µm,0.3s						
PEL	**Peldehue**	**1.44**	**215**	*e*P	**Pn**	**06 11 46.0**	**-0.3**
PEL				*i* S	**Sn**	**06 12 06.3**	**-0.4**
PEL				IAML		06 12 07.9	
	comp=E,517nm,0.2s						
PEL	**Peldehue**	**1.44**	**215**	*i* P	**Pn**	**06 11 46.1**	**-0.2**
FCH	**Farellones**	**1.45**	**200**	*e*P	**Pn**	**06 11 46.9**	**+0.2**
FCH				*i* S	**Sn**	**06 12 08.2**	**+0.9**
FCH				IAML		06 12 08.8	
	comp=E,332nm,0.1s						
AMOG	**MOGNA**	**1.45**	**45**	*i* P	**Pn**	**06 11 46.2**	**-0.3**
AMOG				*e*S	**Sn**	**06 12 06.6**	**-0.3**
ACCO	**Cerro Coronel**	**1.48**	**22**	*i* P	**Pn**	**06 11 47.5**	**+0.4**
ACCO				*e*S	**Sn**	**06 12 09.2**	**+1.3**
ROCH	**El Roble**	**1.50**	**228**	⇑*i*P	**Pn**	**06 11 46.5**	**-0.7**
ROCH				*i* S	**Sn**	**06 12 07.8**	**-0.2**
ROCH				IAML		06 12 08.7	
	comp=E,686nm,0.5s						
ROC1	**El Roble**	**1.50**	**228**	*i* P	**Pn**	**06 11 46.8**	**-0.5**
ROC1				*e*S	**Sn**	**06 12 07.7**	**-0.6**
CLCH	**Cerro Calan**	**1.59**	**206**	*e*P	**Pn**	**06 11 48.1**	**0.0**
CLCH				*i* S	**Sn**	**06 12 09.9**	**0.0**
CLCH				IAML		06 12 12.1	
	comp=E,714nm,0.5s						
FSR	**Penalolen**	**1.66**	**205**	*e*P	**Pn**	**06 11 50.0**	**+1.0**
FSR				*i* S	**Sn**	**06 12 12.7**	**+1.4**
ANTU	**Antumapu**	**1.78**	**206**	*e*P	**Pn**	**06 11 49.3**	**-1.1**
ANTU				*e*S	**Sn**	**06 12 13.8**	**-0.1**
ANTU				IAML		06 12 16.0	
	comp=N,570nm,0.4s						
ACDV	**Cuesta del Vie**	**1.86**	**16**	*i* P	**Pn**	**06 11 52.0**	**+0.5**
ACDV				*e*S	**Sn**	**06 12 16.1**	**+0.4**
LMEL	**Las Melosas**	**1.93**	**193**	*e*P	**Pn**	**06 11 52.4**	**+0.1**
LMEL				*i* S	**Sn**	**06 12 18.4**	**+1.2**
LMEL				IAML		06 12 23.7	
	comp=E,208nm,0.2s						
GO04	**Tololo Observa**	**2.02**	**332**	*e*P	**Pn**	**06 11 53.6**	**0.0**
GO04				*i* S	**Sn**	**06 12 20.1**	**+0.7**
GO04	**Tololo Observa**	**2.02**	**332**	⇑*i*P	**Pn**	**06 11 54.0**	**+0.4**
ACAN	**Cantantal**	**2.15**	**99**	*i* P	**Pn**	**06 11 54.4**	**-0.6**
LSCH	**La Serena**	**2.44**	**327**	*e*S	**Sn**	**06 12 27.0**	**-1.6**

ROM 04 06:14:59.5±0.1**, 42.°958N**±0.°004×**13.°266E**±0.°010**, h25**km**, ML2.2**/13**, Error ellipse: s-maj=0.8km s-min=0.4km az=64.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSP1	**Cessapalombo**	**0.14**	**342**	P	Pb	06 15 04.4	-0.3
CSP1				S	Sb	06 15 08.2	0.0
FDMO	**Fiordimonte**	**0.15**	**301**	P	Pb	06 15 04.4	-0.3
FDMO				S	Sb	06 15 08.2	0.0
FDMO				AML	AML		
	comp=E,376µm,0.2s						
FDMO				AML	AML		
	comp=N,356µm,0.8s						
FDMO				AML	AML		
	comp=N,1112µm,0.8s						
FDMO				AML	AML		
	comp=E,1160µm,0.2s						
NRCA	**Norcia**	**0.17**	**222**	P	Pb	06 15 04.8	-0.1
NRCA				S	Sb	06 15 08.7	+0.2
NRCA				AML	AML		
	comp=N,1198µm,0.1s						
NRCA				AML	AML		
	comp=E,2330µm,0.5s						
NRCA				AML	AML		
	comp=N,1295µm,0.1s						
NRCA				AML	AML		
	comp=E,2155µm,0.6s						
CESI	**CESI - Serrava**	**0.27**	**280**	P	Pb	06 15 06.1	-0.1
CESI				S	Sb	06 15 11.1	+0.5
CESI				AML	AML		
	comp=N,404µm,0.3s						
CESI				AML	AML		
	comp=E,308µm,0.3s						
SMA1	**SAN MARTINO**	**0.33**	**171**	P	Pb	06 15 07.0	0.0
SMA1				S	Sb	06 15 12.7	+0.5
SMA1				AML	AML		
	comp=E,142µm,1.4s						
SMA1				AML	AML		
	comp=N,190µm,0.3s						
SMA1				AML	AML		
	comp=E,417µm,0.3s						
SMA1				AML	AML		
	comp=N,480µm,0.4s						
SNTG	**Esanatoglia**	**0.38**	**321**	P	Pb	06 15 07.5	-0.3
SNTG				S	Sb	06 15 14.2	+0.7
SNTG				AML	AML		
	comp=N,212µm,0.6s						
SNTG				AML	AML		
	comp=E,114µm,0.2s						
EL6	**Elcito**	**0.39**	**342**	P	Pb	06 15 07.9	-0.1
EL6				S	Sb	06 15 14.7	+0.9
LNSS	**Leonessa**	**0.39**	**205**	P	Pb	06 15 08.1	+0.1
LNSS				S	Sb	06 15 14.8	+1.1
LNSS				AML	AML		
	comp=E,334µm,0.7s						
LNSS				AML	AML		
	comp=N,295µm,0.2s						
TERO	**Teramo**	**0.42**	**143**	P	Pb	06 15 08.4	+0.1
TERO				S	Sb	06 15 15.6	+1.2
TERO				AML	AML		
	comp=E,56µm,0.4s						
TERO				AML	AML		
	comp=N,52µm,1.3s						
TERO				AML	AML		
	comp=N,135µm,0.3s						
TERO				AML	AML		
	comp=E,148µm,0.5s						
CING	**Cingoli**	**0.42**	**353**	P	Pb	06 15 08.3	-0.2
CING				S	Sb	06 15 15.4	+0.9
CING				AML	AML		
	comp=E,264µm,0.3s						
CING				AML	AML		
	comp=N,249µm,0.3s						
ASSB	**Assisi San Ben**	**0.45**	**281**	P	Pb	06 15 08.7	-0.3
ASSB				S	Sb	06 15 15.9	+0.5
ASSB				AML	AML		
	comp=E,79µm,0.3s						
ASSB				AML	AML		
	comp=N,87µm,0.4s						
ASSB				AML	AML		
	comp=E,256µm,0.3s						
ASSB				AML	AML		
	comp=N,222µm,0.2s						
GUMA	**Gualdo di Mace**	**0.50**	**78**	P	Pb	06 15 04.4	-5.3
GUMA				S	Sb	06 15 08.3	-8.5
GUMA				AML	AML		
	comp=E,2275µm,0.2s						
GUMA				AML	AML		
	comp=N,2645µm,0.2s						
GUMA				AML	AML		
	comp=E,4350µm,0.2s						
GUMA				AML	AML		
	comp=N,3975µm,0.3s						
ATCC	**AVT- Casa Cast**	**0.51**	**297**	P	Pb	06 15 09.8	-0.2
ATCC				S	Sn	06 15 18.2	-1.1
ATCC				AML	AML		
	comp=N,112µm,1.5s						
ATCC				AML	AML		
	comp=E,237µm,0.2s						
ARRO	**Arrone**	**0.53**	**224**	AML	AML		
	comp=E,115µm,0.1s						
ARRO				AML	AML		
	comp=N,75µm,1.6s						
ARVD	**Arcevia**	**0.59**	**336**	P	Pb	06 15 11.3	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SSFR	**Montelago di S**	**0.59**	**324**	P	Pb	06 15 11.1	-0.3
SSFR				S	Sn	06 15 20.8	-0.6
SSFR				AML	AML		
	comp=E,1110µm,0.2s						
SSFR				AML	AML		
	comp=N,532µm,0.2s						
SSFR				AML	AML		
	comp=N,678µm,0.2s						
SSFR				AML	AML		
	comp=E,1235µm,0.2s						
MURB	**Monte Urbino**	**0.62**	**300**	P	Pb	06 15 11.8	-0.1
MURB				S	Sb	06 15 20.7	+0.5
MURB				AML	AML		
	comp=N,223µm,0.2s						
MURB				AML	AML		
	comp=E,247µm,1.0s						
CPGN	**Carpegna, Ital**	**1.09**	**321**	P	Pb	06 15 20.8	+1.0

ROM 04 06:15:52.4±0.1**, 42°.955N**±0°.004×**13°.278E**±0°.009**, h25km, ML2.0**/19**, Error ellipse: s-maj=0.7km s-min=0.1km az=255.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.16**	**300**	P	Pb	06 15 57.3	-0.3
FDMO				S	Sb	06 16 00.8	-0.3
FDMO				AML	AML		
	comp=E,1160µm,0.2s						
FDMO				AML	AML		
	comp=N,1112µm,0.8s						
NRCA	**Norcia**	**0.17**	**225**	P	Pb	06 15 57.6	-0.1
NRCA				S	Sb	06 16 01.5	+0.1
NRCA				AML	AML		
	comp=E,2160µm,0.5s						
NRCA				AML	AML		
	comp=N,1200µm,0.1s						
NRCA				AML	AML		
	comp=E,2335µm,0.5s						
NRCA				AML	AML		
	comp=N,1295µm,0.1s						
NRCA				AML	AML		
	comp=E,2155µm,0.6s						
NRCA				AML	AML		
	comp=E,2330µm,0.5s						
CESI	**CESI - Serrava**	**0.28**	**281**	P	Pb	06 15 59.0	-0.2
CESI				S	Sb	06 16 04.0	+0.3
CESI				AML	AML		
	comp=E,308µm,0.3s						
CESI				AML	AML		
	comp=N,404µm,0.3s						
SMA1	**SAN MARTINO**	**0.33**	**172**	P	Pb	06 15 59.9	+0.1
SMA1				S	Sb	06 16 05.9	+0.9
SMA1				AML	AML		
	comp=N,480µm,0.4s						
SMA1				AML	AML		
	comp=E,417µm,0.3s						
SNTG	**Esanatoglia**	**0.39**	**321**	P	Pb	06 16 00.5	-0.3
SNTG				S	Sb	06 16 07.0	+0.5
SNTG				AML	AML		
	comp=E,114µm,0.2s						
SNTG				AML	AML		
	comp=N,212µm,0.6s						
LNSS	**Leonessa**	**0.39**	**207**	P	Pb	06 16 00.9	0.0
LNSS				S	Sb	06 16 07.7	+1.0
LNSS				AML	AML		
	comp=E,334µm,0.7s						
LNSS				AML	AML		
	comp=E,334µm,0.7s						
LNSS				AML	AML		
	comp=N,295µm,0.2s						
EL6	**Elcito**	**0.40**	**341**	P	Pb	06 16 00.8	-0.2
EL6				S	Sb	06 16 07.5	+0.7
TERO	**Teramo**	**0.41**	**144**	P	Pb	06 16 01.3	+0.2
TERO				S	Sn	06 16 08.4	-1.2
TERO				AML	AML		
	comp=N,135µm,0.3s						
TERO				AML	AML		
	comp=E,148µm,0.5s						
CING	**Cingoli**	**0.42**	**352**	P	Pb	06 16 01.2	-0.2
CING				S	Sb	06 16 08.3	+0.8
CING				AML	AML		
	comp=E,264µm,0.3s						
CING				AML	AML		
	comp=N,249µm,0.3s						
CAMP	**Campotosto**	**0.43**	**167**	P	Pb	06 16 01.4	-0.1
CAMP				S	Sb	06 16 08.6	+0.9
CAMP				AML	AML		
	comp=E,156µm,0.4s						
CAMP				AML	AML		
	comp=N,118µm,1.5s						
ASSB	**Assisi San Ben**	**0.46**	**281**	P	Pb	06 16 01.6	-0.4
ASSB				S	Sb	06 16 08.9	+0.3
ASSB				AML	AML		
	comp=E,256µm,0.3s						
ASSB				AML	AML		
	comp=N,222µm,0.2s						
GUMA	**Gualdo di Mace**	**0.49**	**77**	P	Pb	06 15 57.4	-5.1
GUMA				S	Sb	06 16 01.2	-8.2
GUMA				AML	AML		
	comp=E,2275µm,0.2s						
GUMA				AML	AML		
	comp=N,3975µm,0.3s						
GUMA				AML	AML		
	comp=N,2645µm,0.2s						
GUMA				AML	AML		
	comp=E,4350µm,0.2s						
FOSV	**Fossato di Vic**	**0.51**	**312**	P	Pb	06 16 02.5	-0.3
FOSV				S	Sb	06 16 10.5	+0.7
FOSV				AML	AML		
	comp=N,398µm,0.3s						
FOSV				AML	AML		
	comp=E,146µm,1.1s						
ATCC	**AVT- Casa Cast**	**0.52**	**296**	P	Pb	06 16 02.7	-0.3
ATCC				S	Sb	06 16 10.9	+0.8
ATCC				AML	AML		
	comp=N,112µm,1.5s						
ATCC				AML	AML		
	comp=E,237µm,0.2s						
ATCC				AML	AML		
	comp=N,112µm,1.5s						
ARRO	**Arrone**	**0.53**	**225**	P	Pb	06 16 03.2	+0.1
ARRO				AML	AML		
	comp=E,104µm,0.2s						
ARRO				AML	AML		
	comp=N,72µm,1.3s						
ARRO				AML	AML		
	comp=E,104µm,0.2s						
ARRO				AML	AML		
	comp=N,72µm,1.3s						
ARVD	**Arcevia**	**0.60**	**336**	P	Pb	06 16 04.0	-0.2
ARVD				S	Sn	06 16 13.3	-0.9
ARVD				AML	AML		
	comp=E,95µm,1.2s						
ARVD				AML	AML		
	comp=N,66µm,1.2s						
SSFR	**Montelago di S**	**0.60**	**323**	P	Pb	06 16 04.0	-0.4
SSFR				S	Sn	06 16 13.4	-1.0
SSFR				AML	AML		
	comp=E,1235µm,0.2s						
SSFR				AML	AML		
	comp=N,532µm,0.2s						
SSFR				AML	AML		
	comp=N,678µm,0.2s						
SSFR				AML	AML		
	comp=E,1110µm,0.2s						
MURB	**Monte Urbino**	**0.63**	**299**	P	Pb	06 16 04.6	-0.2
MURB				S	Sn	06 16 14.8	-0.4
MURB				AML	AML		
	comp=N,223µm,0.2s						
MURB				AML	AML		
	comp=E,247µm,1.0s						
ATFO	**Monte Foce - G**	**0.66**	**309**	P	Pb	06 16 05.0	-0.3
ATFO				S	Sn	06 16 15.6	-0.3
ATFO				AML	AML		
	comp=E,90µm,1.3s						
ATFO				AML	AML		
	comp=N,63µm,1.1s						
FRON	**Frontone**	**0.69**	**325**	P	Pb	06 16 05.5	-0.3
FRON				S	Sn	06 16 16.2	-0.4
ATVO	**AVT- Monte Val**	**0.77**	**304**	P	Pb	06 16 06.8	-0.3
ATVO				S	Sn	06 16 18.5	+0.1
ATVO				AML	AML		
	comp=E,54µm,1.1s						
ATVO				AML	AML		
	comp=N,43µm,1.1s						
MPAG	**Monte Paganucc**	**0.77**	**331**	P	Pb	06 16 07.1	-0.1
MPAG				S	Sn	06 16 19.1	+0.5
MPAG				AML	AML		
	comp=E,56µm,0.9s						
MPAG				AML	AML		
	comp=N,52µm,0.4s						
ATPI	**Pietralunga -**	**0.81**	**308**	P	Pb	06 16 07.6	-0.2
ATPI				S	Sn	06 16 19.9	+0.4
NARO	**Abbazia di Nar**	**0.83**	**322**	P	Pb	06 16 07.8	-0.4
NARO				S	Sn	06 16 20.5	+0.6

*NEIC **04** 06:19:35.9±1.5, 57°.44N±0°.03×155°.03W±0°.04, h44km±23km*

AEIC 04 06:19:35.9±1.1**, 57°.43N**±0°.03×**155°.02W**±0°.06**, h56**km±6km**, ML2.5, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAHL	**Cahill**	**0.64**	**347**		Pn	06 19 48.5	-0.8
KJL	**Kejulik**	**0.69**	**335**		Pn	06 19 49.2	-0.7
PLK3	**Peulik 3**	**0.72**	**291**		Pn	06 19 49.4	-0.8
PLK3					Sn	06 20 00.4	-0.2
PLK4	**Peulik 4**	**0.75**	**286**		Sn	06 20 00.7	-0.6
PLK2	**Peulik 2**	**0.78**	**296**		Pn	06 19 50.4	-0.5
ACHA	**Angle Creek He**	**0.80**	**348**		Pn	06 19 50.5	-0.7
ACHA					Sn	06 20 02.4	0.0
ANCK	**Angle Creek**	**0.81**	**342**		Pn	06 19 50.6	-0.7
KCG	**Knife Ck. Glac**	**0.88**	**357**		Pn	06 19 51.8	-0.4
PLK1	**Peulik 1**	**0.93**	**294**		Pn	06 19 52.0	-0.8
KAWH	**Katmai**	**0.96**	**7**		Pn	06 19 52.4	-0.9
OHAK	**Old Harbor**	**0.96**	**102**		Pn	06 19 52.2	-1.0
OHAK	**Old Harbor**	**0.96**	**102**		Sn	06 20 05.6	-0.5
OHAK	**Old Harbor**	**0.96**	**102**		Pn	06 19 53.2	0.0
SII	**Sitkinak Islan**	**0.99**	**152**		Sn	06 20 05.9	-0.8
SII	**Sitkinak Islan**	**0.99**	**152**		Pn	06 19 53.5	-0.1
KELA	**Mount Kelaz**	**1.08**	**339**		Pn	06 19 54.1	-0.8
KAHG	**Katmai Hook Gl**	**1.09**	**13**		Pn	06 19 54.9	-0.2
KAHC	**Katmai Hardscr**	**1.22**	**0**		Pn	06 19 56.2	-0.6
KDAK	**Kodiak Island**	**1.36**	**74**		Sn	06 20 19.0	+3.5
KDAK	**Kodiak Island**	**1.36**	**74**	Pn	Pn	06 19 57.7	-0.8
KDAK					Pn	06 19 57.9	-0.6
FOSS	**Fourpeaked Sta**	**1.54**	**27**		Pn	06 20 00.3	-0.7
CHIR	**Chirikof Islan**	**1.65**	**192**	Pn	Pn	06 20 02.6	+0.1
VNSG	**Veniaminof 6**	**2.59**	**241**		Pn	06 20 16.2	+0.8
CNPM	**China Poot**	**2.89**	**42**		Pn	06 20 19.6	+0.2
CNPM				Sn	Sn	06 20 52.0	-0.9
BRLK	**Bradley Lake**	**3.19**	**41**		Pn	06 20 22.6	-0.8
BRSE	**Bradley Lake S**	**3.22**	**42**		Pn	06 20 23.2	-0.7
RSO	**Redoubt South**	**3.26**	**20**	Pn	Pn	06 20 25.6	+1.0
RDWB	**Redoubt West**	**3.27**	**19**		Pn	06 20 24.5	-0.2
SVW2	**Sparrevohn**	**3.69**	**356**		Pn	06 20 30.3	0.0
SEW	**Seward**	**3.95**	**45**	Pn	Pn	06 20 33.9	0.0
SLKM	**Skilak Lake**	**3.96**	**37**		Pn	06 20 33.6	-0.5
RC01	**Rabbit Creek A**	**4.56**	**34**		Pn	06 20 41.8	-0.4
SUA	**Susitna One**	**4.59**	**27**		Pn	06 20 42.1	-0.7
PWL	**Port Wells**	**4.86**	**42**		Pn	06 20 45.0	-1.4
SKT	**Skwentna**	**4.89**	**20**	Pn	Pn	06 20 47.0	+0.1
KNK	**Knik Glacier**	**5.21**	**37**		Pn	06 20 51.3	+0.1
HIN	**Hinchinbrook I**	**5.32**	**52**		Pn	06 20 51.8	-0.9
GHO	**Glory Hole Cre**	**5.34**	**33**	Pn	Pn	06 20 53.5	+0.5
GLI	**Glacier Island**	**5.34**	**46**		Pn	06 20 50.9	-2.0
TT01	**Tatalina**	**5.51**	**355**		Pn	06 20 54.6	-0.7
FID	**Port Fidalgo**	**5.52**	**49**		Pn	06 20 53.0	-2.3
PPLA	**Purkeypile**	**5.66**	**13**	Pn	Pn	06 20 59.5	+2.1
SCM	**Sheep Creek Mo**	**5.89**	**38**	Pn	Pn	06 21 00.1	-0.5
SCM				Sn	Sn	06 22 04.2	-2.3
HUR	**Hurricane**	**6.17**	**23**		Pn	06 21 03.5	-0.8
WAT1	**Susitna Watana**	**6.30**	**28**		Pn	06 21 05.3	-0.9
KTH	**Kantishna Hill**	**6.46**	**17**	Pn	Pn	06 21 09.5	+1.2
TRF	**Thorofare Moun**	**6.47**	**19**	Pn	Pn	06 21 08.5	-0.1
DHY	**Denali Highway**	**6.81**	**31**	Pn	Pn	06 21 14.3	+1.0
BPAW	**Bear Paw Mtn.**	**6.97**	**15**	Pn	Pn	06 21 16.6	+1.3
BALM	**Baldy**	**7.43**	**56**	Pn	Pn	06 21 21.7	0.0

*MOS **04** 06:46:24.4±0.9, 50°.34N×156°.74E, h99km, mb4.0/1, Error ellipse: s-maj=24.7km s-min=4.6km az=73.8*
*ISCJB **04** 06:46:25.7±0.7, 50°.48N±0°.10×156°.7E±0°.2, h109km±7km, mb3.1/3, Error ellipse: s-maj=23.9km s-min=6.4km az=40.3*
*KRSC **04** 06:46:25.3±2.0, 50°.44N×157°.01E, h96km±24km, ML4.0*
*IDC **04** 06:46:28.7±3.0, 50°.89N×155°.81E, h136km±28km, mb2.9/3, mb1 3.3/4, mb1mx3.0/38, mbtmp3.3/4, Error ellipse: s-maj=75.8km s-min=28.8km az=129.0*

ISC 04 06:46:25.8±1.0**, 50°.37N**±0°.10×**156°.87E**±0°.09**, h98**km±10km**, n65, σ1ˢ36**/83**, mb3.2**/3**, 2C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.58**	**304**	*i* P	**Pn**	**06 46 42.5**	**+0.7**
SKR				*e*S	**Sn**	**06 46 54.1**	**+0.1**
SKR	**Severo-Kuril's**	**0.58**	**304**⇑	*i*PN	**Pn**	**06 46 42.6**	**+0.7**
SKR				*e*S	**Sn**	**06 46 54.2**	**+0.2**
SKR				pmax	pmax		
	comp=Z,400nm,0.5s						
SKR				pmax	pmax		
	comp=Z,481nm,0.5s						
SKR				smax	smax		
	comp=E,403nm,0.5s						
SKR				smax	smax		
	comp=N,1µm,0.6s						
PAU	**Pauzhetka**	**1.10**	**358**	*i* P	**Pn**	**06 46 46.9**	**-0.3**
PAU				*e*S	**Sn**	**06 47 01.8**	**-1.5**
PAU	**Pauzhetka**	**1.10**	**358**	PN	**Pn**	**06 46 46.9**	**-0.3**
PAU				S	**Sn**	**06 47 01.8**	**-1.5**
KDTR	**Khodutka, Kamc**	**1.63**	**27**	*e*P	**Pn**	**06 46 54.6**	**+1.1**
KDTR				*e*S	**Sn**	**06 47 15.0**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.63**	**27**	PN	**Pn**	**06 46 54.6**	**+1.1**
KDTR				S	**Sn**	**06 47 15.0**	**+0.4**
ASAK	**Asacha**	**2.12**	**17**	*e*P	**Pn**	**06 47 00.7**	**+0.8**
ASAK	**Asacha**	**2.12**	**17**	PN	**Pn**	**06 47 00.7**	**+0.8**
MTVR	**Mutnovka**	**2.27**	**21**	*e*P	**Pn**	**06 47 02.8**	**+0.9**
MTVR				*e*S	**Sn**	**06 47 29.5**	**-0.1**
MTVR	**Mutnovka**	**2.27**	**21**	PN	**Pn**	**06 47 02.8**	**+0.9**
MTVR				S	**Sn**	**06 47 29.5**	**-0.1**
RUS	**Russkaya**	**2.31**	**26**	*e*P	**Pn**	**06 47 02.6**	**+0.4**
RUS				*e*S	**Sn**	**06 47 28.8**	**-1.4**
RUS	**Russkaya**	**2.31**	**26**	PN	**Pn**	**06 47 02.6**	**+0.4**
RUS				S	**Sn**	**06 47 28.8**	**-1.4**
GRL	**Gorelyy**	**2.31**	**18**	*e*P	**Pn**	**06 47 03.5**	**+1.1**
GRL				*e*S	**Sn**	**06 47 30.9**	**+0.4**
GRL	**Gorelyy**	**2.31**	**18**	PN	**Pn**	**06 47 03.5**	**+1.1**
GRL				S	**Sn**	**06 47 30.9**	**+0.4**
APC	**Apacha**	**2.57**	**4**	*e*P	**Pn**	**06 47 04.0**	**-1.6**
APC	**Apacha**	**2.57**	**4**	PN	**Pn**	**06 47 04.0**	**-1.6**
KRMR	**Karymshinskiy**	**2.59**	**17**	*e*P	**Pn**	**06 47 05.8**	**-0.1**
KRMR				*e*S	**Sn**	**06 47 34.8**	**-2.0**
KRMR	**Karymshinskiy**	**2.59**	**17**	PN	**Pn**	**06 47 05.8**	**-0.1**
KRMR				S	**Sn**	**06 47 34.8**	**-2.0**
PEA0B	**Petropavlovsk-**	**2.79**	**10**	*d i*PN	**Pn**	**06 47 08.4**	**-0.3**
PETK	**Petropavlovsk-**	**2.79**	**10**	P	**Pn**	**06 47 08.3**	**-0.3**
	comp=N,7.0nm,0.3s,baz=174,slow=12,SNR=164						
PETK				S	**Sn**	**06 47 41.2**	**-0.4**
	comp=N,1.0nm,0.3s,baz=223,slow=21,SNR=2.8						
PET	**Petropavlovsk**	**2.88**	**22**	*e*PN	**Pn**	**06 47 10.4**	**+0.6**
PET				*e*S	**Sn**	**06 47 44.8**	**+1.1**
PET				smax	smax		
	comp=N,71nm,0.8s						
DALK	**Dalny**	**2.92**	**23**	*e*P	**Pn**	**06 47 11.0**	**+0.8**
DALK				*e*S	**Sn**	**06 47 42.8**	**-1.7**
DALK	**Dalny**	**2.92**	**23**	PN	**Pn**	**06 47 11.0**	**+0.8**
DALK				S	**Sn**	**06 47 42.8**	**-1.7**
UGLR	**Uglovaya**	**3.10**	**22**	*e*P	**Pn**	**06 47 14.2**	**+1.4**
UGLR				*e*S	**Sn**	**06 47 49.0**	**0.0**
UGLR	**Uglovaya**	**3.10**	**22**	PN	**Pn**	**06 47 14.2**	**+1.4**
UGLR				S	**Sn**	**06 47 49.0**	**0.0**
AVH	**Avacha**	**3.13**	**21**	*e*P	**Pn**	**06 47 14.8**	**+1.6**
AVH				*e*S	**Sn**	**06 47 49.4**	**-0.3**
AVH	**Avacha**	**3.13**	**21**	PN	**Pn**	**06 47 14.8**	**+1.6**
AVH				S	**Sn**	**06 47 49.4**	**-0.3**
KOK	**Koryaka**	**3.13**	**20**	*e*P	**Pn**	**06 47 15.1**	**+1.9**
KOK	**Koryaka**	**3.13**	**20**	PN	**Pn**	**06 47 15.1**	**+1.9**
SMAR	**Somma**	**3.14**	**22**	*e*P	**Pn**	**06 47 14.5**	**+1.0**
SMAR	**Somma**	**3.14**	**22**	PN	**Pn**	**06 47 14.5**	**+1.0**
KRER	**Koryakskii**	**3.17**	**21**	*e*P	**Pn**	**06 47 15.2**	**+1.4**
KRER	**Koryakskii**	**3.17**	**21**	PN	**Pn**	**06 47 15.2**	**+1.4**
KRX	**Arik**	**3.19**	**19**	*e*P	**Pn**	**06 47 15.3**	**+1.2**
KRX	**Arik**	**3.19**	**19**	PN	**Pn**	**06 47 15.3**	**+1.2**
NLC	**Nalytchevo**	**3.20**	**28**	*e*P	**Pn**	**06 47 13.8**	**-0.3**
NLC	**Nalytchevo**	**3.20**	**28**	PN	**Pn**	**06 47 13.8**	**-0.3**
SPN	**Mys Shipunski**	**3.37**	**34**	*e*P	**Pn**	**06 47 17.0**	**+0.7**
SPN				*e*S	**Sn**	**06 47 53.5**	**-1.8**
SPN	**Mys Shipunski**	**3.37**	**34**	PN	**Pn**	**06 47 17.0**	**+0.7**
SPN				S	**Sn**	**06 47 53.5**	**-1.8**
MKZ	**Mys Kozlova**	**5.14**	**33**	*e*P	**Pn**	**06 47 39.9**	**-0.3**
MKZ	**Mys Kozlova**	**5.14**	**33**	PN	**Pn**	**06 47 39.9**	**-0.3**
KZV	**Kizimen**	**5.19**	**22**	*e*P	**Pn**	**06 47 41.4**	**+0.3**
KZV	**Kizimen**	**5.19**	**22**	PN	**Pn**	**06 47 41.4**	**+0.3**
TUMD	**Tumrok D**	**5.30**	**22**	*e*P	**Pn**	**06 47 43.6**	**+1.2**
TUMR	**Tumrok**	**5.31**	**21**	*e*P	**Pn**	**06 47 43.6**	**+0.9**
TUMR	**Tumrok**	**5.31**	**21**	PN	**Pn**	**06 47 43.6**	**+0.9**
KBTR	**Krutoberegovo**	**6.85**	**29**	*e*P	**Pn**	**06 48 02.7**	**-0.7**
KBTR	**Krutoberegovo**	**6.85**	**29**	PN	**Pn**	**06 48 02.7**	**-0.7**
BKI	**Bering**	**7.34**	**45**	*e*P	**Pn**	**06 48 10.6**	**+0.5**
BKI				*e*S	**Sn**	**06 49 25.6**	**-6.1**
BKI	**Bering**	**7.34**	**45**	PN	**Pn**	**06 48 10.6**	**+0.5**
YSS	**Yuzh-Sakhalins**	**9.94**	**255**	*e*PN	**Pn**	**06 48 42.9**	**-2.7**
ERM	**Erimo**	**12.63**	**234**	*i* PN	**Pn**	**06 49 19.3**	**-2.4**
KLR	**Kul'dur**	**16.24**	**276**	*i* P	P	06 50 15.5	+6.4
BILL	**Bilibino**	**18.33**	**11**	*ce*P	**Pn**	**06 50 36.9**	**+3.8**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,32nm,17.0s						
MAJO	**Matsushiro**	**19.28**	**231**	*i* P	**Pn**	**06 50 45.0**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,4.0nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**31.59**	**162**	T	T	07 26 35.8	
	baz=348,slow=76,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**31.61**	**162**	T	T	07 26 40.2	
	baz=348,slow=76,SNR=7.7						
H11N1	**WAKE ISLAND Hy**	**31.61**	**162**	T	T	07 26 38.6	
	baz=348,slow=76,SNR=4.5						
ILAR	**Eielson Array**	**32.17**	**42**	P	**P**	**06 52 43.2**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=278,slow=6.2,SNR=3.1						
H11S1	**WAKE ISLAND Hy**	**32.74**	**163**	T	T	07 28 02.6	
	baz=348,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**32.75**	**163**	T	T	07 28 01.0	
	baz=348,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**32.76**	**163**	T	T	07 28 05.9	
	baz=348,slow=76,SNR=11						
TXAR	**Lajitas Array**	**73.60**	**64**	P	**P**	**06 57 49.7**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=289,slow=4.3,SNR=3.8						
ASAR	**Alice Springs**	**76.46**	**202**	P	**P**	**06 58 05.0**	**+0.5**
ASAR	**Alice Springs**	**76.46**	**202**	P	**P**	**06 58 05.0**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=10,slow=6.1,SNR=4.5						

*ISCJB **04** 07:09:23.6±0.6, 18°.2S±0°.2×176°.5W±0°.1, h200km, mb3.6/5, Error ellipse: s-maj=29.7km s-min=8.5km az=142.4*
*IDC **04** 07:09:23.3±2.5, 18°.18S×176°.57W, h186km±26km, mb3.6/5, mb1 3.9/6, mb1mx3.5/38, mbtmp4.2/6, Error ellipse: s-maj=38.8km s-min=16.6km az=145.0*
*NEIC **04** 07:09:25.1±2.4, 18°.1S±0°.2×176°.4W±0°.2, h192km±10km, mb4.2/5*

ISC 04 07:09:25.4±0.7**, 18°.2S**±0°.2×**176°.4W**±0°.1**, h200**km**, n14, σ1ˢ75**/14**, mb3.9**/8**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.16**	**47**	P	**Pn**	**07 10 55.4**	**+0.6**
	6.9nm,0.3s,baz=200,slow=2.4,SNR=15						
AFI				S	**Sn**	**07 12 04.2**	**-1.4**
	12nm,0.3s,baz=213,slow=22,SNR=5.6						
NIUE	**Niue**	**6.22**	**99**		Pn	07 10 40.5	-15
DZM	**Mont Dzumac**	**16.55**	**254**	P	**Pn**	**07 13 08.8**	**+2.2**
	3.5nm,0.3s,baz=102,slow=12,SNR=49						
DZM	**Mont Dzumac**	**16.55**	**254**	Pn	**Pn**	**07 13 09.1**	**+2.5**
STKA	**Stephens Creek**	**40.17**	**242**	P	**P**	**07 16 39.5**	**-2.7**
	0.8nm,0.4s,baz=79,slow=10,SNR=3.9						
AS31	**Alice Springs**	**46.54**	**254**	P	**P**	**07 17 32.2**	**-1.2**
AS31				IAmb	IAmb	07 17 33.9	
	comp=Z,4.7nm,0.6s						
ASAR	**Alice Springs**	**46.54**	**254**	P	**P**	**07 17 31.6**	**-1.8**
	comp=Z,14nm,0.6s,baz=90,slow=8.5,SNR=167						
KNRA	**Kununurra**	**52.35**	**264**	P	**P**	**07 18 17.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**54.85**	**260**	P	**P**	**07 18 35.0**	**-0.5**
FITZ				IAmb	IAmb	07 18 44.8	
	comp=Z,9.0nm,1.4s						
VNDA	**Vanda**	**60.34**	**185**	P	**P**	**07 19 12.1**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=31,slow=6.8,SNR=4.7						
QSPA	**South Pole Qui**	**71.88**	**180**	P	**P**	**07 20 27.9**	**+1.5**
QSPA				IAmb	IAmb	07 20 34.5	
	comp=Z,4.5nm,0.8s						
NVAR	**Mina Array Bea**	**78.32**	**43**	P	**P**	**07 21 04.1**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=221,slow=8.0,SNR=4.8						
TXAR	**Lajitas Array**	**84.55**	**57**	P	**P**	**07 21 36.3**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=211,slow=8.4,SNR=8.2						
CLL	**Collm**	**146.11**	**349**	*e*PKPbc	**PKiKP**	**07 28 47.0**	**+2.2**

*ISCJB **04** 07:13:37.0±0.5, 6°.83N±0°.02×73°.12W±0°.03, h158km±4km, mb3.2/2, Error ellipse: s-maj=5.1km s-min=3.7km az=26.5*
*IDC **04** 07:13:37.8±0.9, 6°.85N×73°.07W, h153km±26km, mb3.0/2, mb1 3.5/5, mb1mx3.1/40, mbtmp3.7/5, Error ellipse: s-maj=60.3km s-min=8.1km az=134.0*
*RSNC **04** 07:13:38.9±1.2, 6°.81N×73°.15W, h149km±4km, ML3.4, Mw3.5*

ISC 04 07:13:37.7±0.9**, 6°.84N**±0°.03×**73°.11W**±0°.04**, h157**km±6km**, n30, σ1ˢ03**/57**, 10C-4D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**196**⇑	*i*P	**Pn**	**07 13 59.1**	**-0.1**
BARC				*i* S	**Sn**	**07 14 14.4**	**-1.2**
BARC				*i*		07 14 15.1	
	comp=Z,862nm,0.3s						
PAMC	**Pamplona, Colo**	**0.65**	**40**⇑	*i*P	**Pn**	**07 14 01.9**	**+0.7**
PAMC				*e*S	**Sn**	**07 14 18.6**	**-0.5**
PAMC				*i*		07 14 20.8	
	comp=Z,313nm,0.4s						
BRRC	**Barranca, Sant**	**0.65**	**294**⇑	*i*P	**Pn**	**07 14 00.9**	**+0.3**
BRRC				*e*S	**Sn**	**07 14 17.9**	**-0.2**
BRRC				*i*		07 14 22.1	
	comp=Z,349nm,0.2s						
RUSC	**La Rusia**	**0.94**	**178**⇓	*i*P	**Pn**	**07 14 02.9**	**-0.2**
RUSC				*e*S	**Sn**	**07 14 21.9**	**-0.7**
RUSC				*i*		07 14 22.6	
	comp=Z,272nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.37**	**258**⇑	*i*P	**Pn**	**07 14 05.4**	**-1.0**
PTBC				*e*S	**Sn**	**07 14 26.5**	**-1.9**
PTBC				*i*		07 14 33.4	
	comp=Z,356nm,0.5s						
TAMC	**Tame, Arauca**	**1.37**	**107**⇓	*i*P	**Pn**	**07 14 07.5**	**+1.0**
TAMC				*e*S	**Sn**	**07 14 29.2**	**+0.6**
TAMC				*i*		07 14 38.7	
	comp=Z,110nm,1.0s						
OCAC	**Ocana**	**1.41**	**352**⇑	*i*P	**Pn**	**07 14 07.0**	**+0.1**
OCAC				*e*S	**Sn**	**07 14 29.0**	**-0.5**
OCAC				*i*		07 14 37.3	
	comp=Z,221nm,0.5s						
SPBC	**San Pablo de B**	**1.52**	**219**⇑	*i*P	**Pn**	**07 14 07.8**	**-0.2**
SPBC				*e*S	**Sn**	**07 14 29.6**	**-1.7**
SPBC				*i*		07 14 34.6	
	comp=Z,331nm,0.2s						
NORC	**Norcasia**	**2.16**	**234**⇑	*e*P	**Pn**	**07 14 14.8**	**-0.3**
NORC				*e*S	**Sn**	**07 14 43.6**	**-0.3**
NORC				*i*		07 14 48.5	
	comp=Z,162nm,0.2s						
SMLC	**San Martn de**	**2.17**	**334**⇓	*i*P	**Pn**	**07 14 15.1**	**-0.1**
SMLC				*e*S	**Sn**	**07 14 45.5**	**+1.4**
SMLC				*i*		07 14 51.2	
	comp=Z,165nm,0.1s						
CHIC	**Chingaza**	**2.28**	**196**⇑	*e*P	**Pn**	**07 14 17.1**	**+0.2**
CHIC				*e*S	**Sn**	**07 14 46.5**	**-0.6**
CHIC				*i*		07 14 49.7	
	comp=Z,197nm,0.4s						
ROSC	**El Rosal**	**2.32**	**211**	*e*P	**Pn**	**07 14 19.0**	**+1.7**
ROSC				*e*S	**Sn**	**07 14 49.4**	**+1.5**
ROSC				*i*		07 14 53.7	
	comp=Z,417nm,0.4s						
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**07 14 19.1**	**+1.8**
	comp=Z,46nm,0.3s,baz=254,slow=16,SNR=168						
ROSC				S	**Sn**	**07 14 48.4**	**+0.5**
	comp=Z,27nm,0.3s,baz=47,slow=18,SNR=6.0						
HELC	**Santa Helena**	**2.48**	**255**	*e*P	**Pn**	**07 14 19.5**	**+0.2**
HELC				*e*S	**Sn**	**07 14 51.5**	**+0.1**
HELC				*i*		07 14 57.1	
	comp=Z,166nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*e*P	**Pn**	**07 14 23.1**	**+0.4**
GUY2C				*e*S	**Sn**	**07 14 56.8**	**-0.7**
GUY2C				*i*		07 15 05.2	

	comp=Z,143nm,0.3s						
VILC	**Villavicencio,**	**2.77**	**192**	*e*P	**Pn**	**07 14 22.4**	**-0.1**
VILC				*e*S	**Sn**	**07 14 56.7**	**-0.7**
VILC				*i*		07 15 06.8	
	comp=Z,227nm,0.5s						
PTGC	**Puerto Gaitan,**	**2.80**	**160**	⇓*i*P	**Pn**	**07 14 22.2**	**-0.6**
PTGC				*e*S	**Sn**	**07 14 55.5**	**-2.3**
PTGC				*i*		07 14 57.1	
	comp=Z,108nm,0.7s						
RREF	**El Recreo**	**2.94**	**229**	*e*P	**Pn**	**07 14 25.4**	**+0.2**
RREF				*e*S	**Sn**	**07 15 02.4**	**+0.6**
RREF				*i*		07 15 10.7	
	comp=Z,151nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.04**	**252**	⇑*i*P	**Pn**	**07 14 26.6**	**+0.6**
CBOC				*e*S	**Sn**	**07 15 02.0**	**-1.4**
CBOC				*i*		07 15 14.5	
	comp=Z,41nm,0.6s						
DBBC	**Dabeiba**	**3.08**	**273**	*e*P	**Pn**	**07 14 26.6**	**+0.2**
DBBC				*e*S	**Sn**	**07 15 03.1**	**-1.0**
DBBC				*i*		07 15 04.4	
	comp=Z,150nm,0.5s						
CODC	**Agustn Codazz**	**3.09**	**354**	⇑*i*P	**Pn**	**07 14 26.4**	**-0.1**
CODC				*e*S	**Sn**	**07 15 04.7**	**+0.3**
CODC				*i*		07 15 11.1	
	comp=Z,43nm,0.8s						
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**07 14 27.8**	**0.0**
	comp=Z,25nm,0.3s,baz=226,slow=9.6,SNR=198						
SDV				S	**Sn**	**07 15 06.0**	**-0.8**
	comp=Z,20nm,0.3s,baz=220,slow=16,SNR=18						
PRAC	**Prado**	**3.57**	**210**	*e*P	**Pn**	**07 14 32.5**	**-0.2**
PRAC				*e*S	**Sn**	**07 15 14.3**	**-1.0**
PRAC				*i*		07 15 18.9	
	comp=Z,169nm,0.4s						
ORTC	**Ortega, Tolima**	**3.60**	**216**	*e*P	**Pn**	**07 14 33.2**	**+0.2**
ORTC				*e*S	**Sn**	**07 15 15.4**	**-0.6**
ORTC				*i*		07 15 20.4	
	comp=Z,78nm,0.3s						
SJCC	**San Jacinto, C**	**3.66**	**326**	*e*P	**Pn**	**07 14 32.7**	**-1.1**
SJCC				*e*S	**Sn**	**07 15 14.1**	**-3.3**
SJCC				*i*		07 15 27.4	
	comp=Z,36nm,0.7s						
PLMC	**San Jos del P**	**3.69**	**239**	*e*P	**Pn**	**07 14 34.6**	**+0.4**
PLMC				*e*S	**Sn**	**07 15 16.7**	**-1.4**
PLMC				*i*		07 15 21.3	
	comp=Z,55nm,0.2s						
GUVC	**San Jose del G**	**4.29**	**173**	*e*P	**Pn**	**07 14 41.1**	**-0.9**
GUVC				*e*S	**Sn**	**07 15 29.9**	**-2.2**
GUVC				*i*		07 15 32.4	
	comp=Z,73nm,0.2s						
PCRV	**Puerto La Cruz**	**9.02**	**68**	P	**Pn**	**07 15 45.1**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=328,slow=9.5,SNR=4.4						
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**07 20 28.3**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=130,slow=9.7,SNR=4.2						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**07 23 49.5**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=130,slow=6.6,SNR=5.6						

IDC ***04*** *07:17:52.9±0.8, 25°.03S×70°.05E, h0km, mb4.1/14, mb1 4.1/14, mb1mx3.9/71, mbtmp4.1/14, MS3.6/11, Ms1 3.5/11, ms1mx3.3/33, Error ellipse: s-maj=24.4km s-min=20.5km az=20.0*

ISCJB ***04*** *07:17:53.9±0.5, 25°.09S±0°.09×70°.1E±0°.1, h19km, mb4.0/14, MS3.6/11, Error ellipse: s-maj=16.1km s-min=13.2km az=14.7*

ISC 04 07:17:56.0±0.7**, 25°.1S**±0°.1×**70°.1E**±0°.1**, h19**km**, n29, σ0s.79**/18**, mb4.1**/14**, MS3.6**/11**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.47**	**8**	T	T	07 40 03.5	
	baz=188,slow=76						
H08S2	**Diego Garcia H**	**17.47**	**8**	T	T	07 40 03.5	
	baz=188,slow=76						
H08S3	**Diego Garcia H**	**17.48**	**8**	T	T	07 40 03.5	
	baz=188,slow=76						
OPO	**Ambohidratompo**	**22.17**	**282**	P	**P**	**07 22 51.5**	**+0.2**
	4.3nm,0.9s,baz=109,slow=15,SNR=2.2						
KMBO	**Kilima Mbogo**	**39.61**	**302**	LR	LR	07 37 52.2	
	comp=Z,60nm,20.3s,baz=102,slow=30						
BOSA	**Boshof**	**39.96**	**255**	P	**P**	**07 25 30.8**	**+1.2**
	5.0nm,1.1s,baz=81,slow=13,SNR=2.0						
BOSA				LR	LR	07 39 18.5	
	comp=Z,96nm,18.6s,baz=79,slow=32						
LEM	**Lembang**	**40.21**	**70**	LR	LR	07 38 24.0	
	comp=Z,68nm,19.4s,baz=226,slow=31						
NWAO	**Narrogin (SRO)**	**41.73**	**112**	LR	LR	07 39 54.4	
	comp=Z,86nm,19.1s,baz=230,slow=32						
MAW	**Mawson**	**42.79**	**184**	LR	LR	07 40 53.0	
	comp=Z,58nm,19.2s,baz=62,slow=32						
CMAR	**Chiang Mai Arr**	**51.59**	**36**	LR	LR	07 46 40.1	
	comp=Z,13nm,18.3s,baz=194,slow=34						
KAPI	**Kappang**	**51.61**	**76**	LR	LR	07 45 27.9	
	comp=Z,52nm,20.0s,baz=190,slow=32						
FITZ	**Fitzroy Crossi**	**51.86**	**94**	P	**P**	**07 27 04.4**	**+1.0**
	4.4nm,1.1s,baz=241,slow=5.6,SNR=2.3						
FITZ				LR	LR	07 45 57.6	
	comp=Z,60nm,20.8s,baz=253,slow=32						
ASAR	**Alice Springs**	**57.68**	**103**	P	**P**	**07 27 45.8**	**+0.2**
	0.5nm,0.6s,baz=250,slow=6.3,SNR=7.1						
ASAR				LR	LR	07 50 46.6	
	comp=Z,45nm,18.0s,baz=272,slow=34						
SNAA	**Sanae**	**61.06**	**200**	P	**P**	**07 28 09.1**	**+0.9**
STKA	**Stephens Creek**	**62.25**	**114**	LR	LR	07 51 11.3	
	comp=Z,64nm,21.0s,baz=207,slow=32						
VNA2	**Neumayer--Watz**	**62.45**	**201**	P	**P**	**07 28 16.8**	**-0.7**
	baz=64,slow=7.3						
VNA1	**Neumayer--Stat**	**62.72**	**202**	P	**P**	**07 28 19.4**	**+0.1**
VNA3	**Neumayer Olymp**	**63.20**	**201**	P	**P**	**07 28 21.6**	**-0.9**
QSPA	**South Pole Qui**	**65.07**	**180**	P	**P**	**07 28 34.2**	**-0.9**
	2.3nm,1.0s,baz=257,slow=2.3,SNR=4.0						
MKAR	**Makanchi Array**	**72.36**	**9**	P	**P**	**07 29 19.9**	**-0.5**
	2.3nm,0.8s,baz=198,slow=6.4,SNR=9.1						
BRTR	**Keskin Array B**	**72.85**	**331**	P	**P**	**07 29 24.2**	**+0.6**
	1.7nm,0.8s,baz=152,slow=9.6,SNR=6.2						
KURBB	**Kurchatov Arra**	**75.71**	**6**	P	**P**	**07 29 40.3**	**+0.5**
	1.2nm,0.7s,baz=202,slow=6.3,SNR=8.8						
AKTO	**Aktyubinsk**	**75.91**	**352**	P	**P**	**07 29 41.1**	**+0.1**
	2.9nm,0.8s,baz=255,slow=3.6,SNR=7.4						
TORD	**Torodi Ar. Bea**	**76.67**	**291**	P	**P**	**07 29 45.1**	**-1.0**
	0.7nm,0.6s,baz=113,slow=6.6,SNR=5.1						
BVAR	**Borovoye Array**	**77.75**	**0**	P	**P**	**07 29 51.3**	**-0.1**
	1.0nm,0.8s,baz=185,slow=7.1,SNR=4.5						
DBIC	**Dimbokro**	**79.28**	**283**	LR	LR	08 03 19.7	
	comp=Z,62nm,18.3s,baz=192,slow=34						
SONM	**Songino Array**	**79.57**	**24**	P	**P**	**07 30 01.5**	**-0.2**
	0.9nm,0.8s,baz=224,slow=4.1,SNR=5.5						
ZALV	**Zalesovo Beam**	**79.70**	**9**	P	**P**	**07 30 00.7**	**-1.4**
	0.5nm,0.3s,baz=174,slow=4.3,SNR=4.2						
AKASG	**Malin Array Be**	**83.61**	**335**	P	**P**	**07 30 22.6**	**-0.1**
	0.6nm,0.5s,baz=142,slow=4.2,SNR=4.5						

MEX ***04*** *07:25:18.8±1.0, 15°.79N×98°.46W, h13km±17km, MD4.9*

IDC ***04*** *07:25:19.8±1.8, 16°.24N×98°.25W, h0km, mb4.1/12, mb1 4.3/17, mb1mx4.1/56, mbtmp4.1/17, ML3.8/5, MS4.2/28, Ms1 4.2/28, ms1mx4.1/36, Error ellipse: s-maj=36.5km s-min=13.3km az=16.0*

GCMT ***04*** *07:25:23.1±0.3, 16°.03N±0°.01×98°.32W±0°.02, h12km, MW5.0/106, Moment Tensor Solution. s47,c57; s106,c154; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.54±.06; $M_{\theta\theta}$-2.10±.05; $M_{\phi\phi}$-0.44±.05; $M_{r\theta}$1.94±.17; $M_{\theta\phi}$0.78±.05; $M_{\phi r}$-1.38±.21; Best double couple: $M_0$3.43100×10^{16} NP1:ϕ_s121.00000°, δ67.00000°, λ97.00000°. NP2:ϕ_s284.00000°, δ24.00000°, λ74.00000°. Principal axes: T 3.5290, Plg67.0000°, Azm43.0000°; N -0.2020, Plg6.0000°, Azm298.0000°; P -3.3320, Plg22.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***04*** *07:25:26.1±2.6, 16°.39N±0°.09×98°.05W±0°.07, h37km±5km, mb4.3/131, Md4.9(MEX)*

ISC 04 07:25:23.7±1.0**, 16°.13N**±0°.05×**98°.17W**±0°.04**, h34**km±2km**, n435, σ1s.29**/405**, mb4.3**/51**, MS4.2**/28**, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.27**	**10**	*e*P	**Pb**	**07 25 29.4**	**-1.8**
PNIG				*i* S	**Sb**	**07 25 38.9**	**+2.6**
PNIG	**Pinotepa**	**0.27**	**10**		**Pb**	**07 25 29.4**	**-1.8**
PNIG					**Sb**	**07 25 38.9**	**+2.6**
TLIG	**Tlapa**	**1.48**	**345**	*e*P	**Pn**	**07 25 45.8**	**-2.3**
TLIG				*e*S	**Sn**	**07 26 06.7**	**+0.4**
TLIG	**Tlapa**	**1.48**	**345**		**Pn**	**07 25 47.5**	**-0.6**
TLIG				Sn	**Sn**	**07 26 04.5**	**-1.8**
TLIG	**Tlapa**	**1.48**	**345**		**Pn**	**07 25 45.8**	**-2.3**
TLIG					**Sn**	**07 26 06.7**	**+0.4**
VHO	**Vista Hermosa**	**1.67**	**56**	*e*P	**Pn**	**07 25 50.5**	**-0.3**
VHO				*e*S	**Sb**	**07 26 15.0**	**+0.2**
OXBJ	**Oaxaca**	**1.68**	**56**	*e*P	**Pn**	**07 25 50.1**	**-0.7**
OXBJ	**Oaxaca**	**1.68**	**56**		**Pn**	**07 25 50.1**	**-0.7**
HMTT	**Tlapaneco**	**1.70**	**348**	*e*P	**Pn**	**07 25 48.8**	**-2.4**
HMTT	**Tlapaneco**	**1.70**	**348**		**Pn**	**07 25 48.8**	**-2.4**
HUIG	**Huatulco**	**2.02**	**100**	*e*P	**Pn**	**07 25 53.3**	**-2.1**
HUIG	**Huatulco**	**2.02**	**100**		**Pn**	**07 25 53.3**	**-2.1**
CAIG	**El Cayaco**	**2.21**	**295**	*e*P	Pn	07 25 50.6	-7.4
CAIG	**El Cayaco**	**2.21**	**295**		Pn	07 25 50.6	-7.4
MEIG	**Mezcala**	**2.26**	**323**	*e*P	**Pn**	**07 25 55.2**	**-3.6**
MEIG	**Mezcala**	**2.26**	**323**		**Pn**	**07 25 55.2**	**-3.6**
TPIG	**Tehuac#an**	**2.41**	**19**	*e*P	**Pn**	**07 26 01.5**	**+0.5**
TPIG	**Tehuac#an**	**2.41**	**19**		**Pn**	**07 26 01.5**	**+0.5**
PLIG	**Platanillo**	**2.59**	**331**	*e*P	**Pn**	**07 26 01.5**	**-1.8**
PLIG				*e*S	**Sn**	**07 26 37.0**	**+3.4**
PLIG	**Platanillo**	**2.59**	**331**		**Pn**	**07 26 01.5**	**-1.8**
PLIG					**Sn**	**07 26 37.0**	**+3.4**
YAIG	**Yautepec**	**2.85**	**343**	*e*P	**Pb**	**07 26 11.4**	**-2.6**
YAIG	**Yautepec**	**2.85**	**343**		**Pb**	**07 26 11.4**	**-2.6**
PHPU	**Puebla**	**2.90**	**0**	*e*P	**Pb**	**07 26 13.6**	**-1.4**
PHPU	**Puebla**	**2.90**	**0**		**Pb**	**07 26 13.6**	**-1.4**
PPM	**Popocatepetl**	**2.96**	**352**	*e*P	**Pn**	**07 26 09.7**	**+0.9**
ARIG	**Puente Sto Nin**	**2.98**	**316**	*e*P	**Pn**	**07 26 05.2**	**-3.6**
ARIG	**Puente Sto Nin**	**2.98**	**316**		**Pn**	**07 26 05.2**	**-3.6**
AMVM	**AMECAMECA**	**3.05**	**349**	*e*P	**Pb**	**07 26 15.1**	**-2.4**
AMVM	**AMECAMECA**	**3.05**	**349**		**Pb**	**07 26 15.1**	**-2.4**
MAVM	**Malinalco, Edo**	**3.08**	**336**	*e*P	**Pn**	**07 26 11.0**	**+0.8**
MAVM	**Malinalco, Edo**	**3.08**	**336**		**Pn**	**07 26 11.0**	**+0.8**
CMIG	**Matias Romero**	**3.30**	**73**	Pn	**Pn**	**07 26 11.8**	**-1.2**
	21nm,0.3s,baz=231,slow=12,SNR=240						
CMIG				Sn	**Sn**	**07 26 54.6**	**+3.6**
	64nm,0.3s,baz=108,slow=22,SNR=7.8						
CMIG				Lg	Lg	07 27 07.2	
	56nm,0.3s,baz=332,slow=18,SNR=5.0						
CMIG	**Matias Romero**	**3.30**	**73**	*e*P	**Pn**	**07 26 12.6**	**-0.4**
CMIG	**Matias Romero**	**3.30**	**73**		**Pn**	**07 26 12.6**	**-0.4**
ATVM	**ATLACOMULCO**	**3.95**	**337**	*e*P	**Pb**	**07 26 29.8**	**-3.0**
ATVM	**ATLACOMULCO**	**3.95**	**337**		**Pb**	**07 26 29.8**	**-3.0**
LVIG	**Laguna Verde**	**3.95**	**25**	*e*P	**Pn**	**07 26 18.9**	**-3.1**
LVIG	**Laguna Verde**	**3.95**	**25**		**Pn**	**07 26 18.9**	**-3.1**
DEIG	**Demacu**	**4.23**	**349**	*e*P	Pn	07 26 31.8	+5.7
PCIG		**4.79**	**94**	*e*P	**Pn**	**07 26 32.6**	**-0.9**
PCIG		**4.79**	**94**		**Pn**	**07 26 32.6**	**-0.9**
TGIG		**4.89**	**82**	*e*P	**Pn**	**07 26 34.2**	**-0.8**
TGIG		**4.89**	**82**		**Pn**	**07 26 34.2**	**-0.8**
MMIG	**Aquila**	**5.39**	**294**	*e*P	**Pn**	**07 26 37.0**	**-4.8**
MMIG	**Aquila**	**5.39**	**294**		**Pn**	**07 26 37.0**	**-4.8**
IGIG	**Irapuato, Guan**	**5.49**	**327**	*e*P	Pn	07 26 49.6	+6.2
IGIG	**Irapuato, Guan**	**5.49**	**327**		Pn	07 26 49.6	+6.2
CCIG	**Comitan**	**5.80**	**88**		**Pn**	**07 26 48.2**	**+0.6**
CCIG				Sn	**Sn**	**07 27 47.5**	**-5.6**
EZ5V		**6.15**	**304**	*i* P	**Pn**	**07 26 51.3**	**-1.2**
EZ5V		**6.15**	**304**		**Pn**	**07 26 51.3**	**-1.2**
R15V		**6.31**	**300**	*e*P	Pn	07 27 03.2	+8.7
R15V		**6.31**	**300**		Pn	07 27 03.2	+8.7
CJM	**Chamela**	**7.35**	**298**	*i* P	**Pn**	**07 27 05.7**	**-3.1**
APG	**El Apazote**	**7.51**	**97**	Pn	**Pn**	**07 27 12.1**	**+1.0**
	0.7nm,0.3s,baz=335,slow=15,SNR=4.5						
APG				Sn	**Sn**	**07 28 31.9**	**-3.4**
	0.9nm,0.3s,baz=323,slow=14,SNR=3.5						
APG				Lg	Lg	07 29 20.9	
	2.5nm,0.3s,baz=174,slow=15,SNR=3.8						
ZAIG	**Zacatecas**	**7.80**	**329**		**Pn**	**07 27 14.6**	**-0.5**
TEIG	**Tepich**	**10.25**	**65**	Pn	**Pn**	**07 27 46.7**	**-1.8**
	6.3nm,0.3s,baz=139,slow=1.0,SNR=65						
TEIG				Sn	**Sn**	**07 29 39.8**	**-2.5**
	8.7nm,0.3s,baz=139,slow=13,SNR=5.9						
TEIG				LR	LR	07 31 49.4	
	comp=Z,589nm,20.7s,baz=252,slow=38						
TEIG	**Tepich**	**10.25**	**65**		**Pn**	**07 27 47.5**	**-1.0**
TEIG				Sn	**Sn**	**07 29 39.0**	**-3.3**
833A	**Chaparral WMA,**	**12.19**	**355**	P	**Pn**	**07 28 14.8**	**-0.2**
	baz=174						
H06E1	**SOCORRO T-PHAS**	**12.45**	**284**	T	T	07 40 37.8	
	SNR=181						
H06S1	**SOCORRO T**	**12.47**	**284**	T	T	07 40 44.1	
	SNR=23						
H06N1	**SOCORRO T-PHAS**	**12.52**	**284**	T	T	07 40 42.9	
	SNR=13						
LPIG	**La Paz**	**13.88**	**307**	LR	LR	07 32 59.0	
	comp=Z,1μm,19.1s,baz=128,slow=33						
TX32	**Lajitas Array**	**14.08**	**340**	Pn	**Pn**	**07 28 41.4**	**+0.4**
TXAR	**Lajitas Array**	**14.08**	**340**	Pn	**Pn**	**07 28 39.5**	**-1.5**
	0.0nm,0.3s,baz=143,slow=12,SNR=3.9						
TXAR				Lg	Lg	07 32 52.0	
	0.0nm,0.3s,baz=322,slow=30,SNR=1.7						
TXAR				LR	LR	07 34 47.9	
	comp=Z,1μm,19.3s,baz=0.0,slow=41						
TX31	**Lajitas Ar. Si**	**14.09**	**340**	Pn	**Pn**	**07 28 43.1**	**+2.1**
JTS	**Las Juntas de**	**14.12**	**113**	Pn	**Pn**	**07 28 44.0**	**+2.6**
	0.9nm,0.3s,baz=17,slow=13,SNR=8.0						
JTS	**Las Juntas de**	**14.12**	**113**		**Pn**	**07 28 42.9**	**+1.5**
JCT	**Junction City**	**14.37**	**354**	P	**Pn**	**07 28 44.3**	**-0.5**
	baz=173						
JCT	**Junction City**	**14.37**	**354**	Pn	**Pn**	**07 28 43.0**	**-1.8**
435B	**Jarrell**	**14.60**	**2**	P	**Pn**	**07 28 47.5**	**-0.4**
	baz=182						
HDC	**Heredia**	**14.98**	**112**	P	**P**	**07 28 57.5**	**-0.8**
WHTX	**Lake Whitney,**	**15.81**	**2**	P	**Pn**	**07 29 02.7**	**-1.1**
	baz=182,SNR=5.7						
WHTX	**Lake Whitney,**	**15.81**	**2**	P	**Pn**	**07 29 03.1**	**-0.7**
WHTX				IAmb	IAmb	07 29 15.0	
	comp=Z,18nm,1.1s						
NATX	**Nacogdoches**	**15.89**	**11**	P	**Pn**	**07 29 04.8**	**-0.1**
	baz=192						
NATX	**Nacogdoches**	**15.89**	**11**	P	**Pn**	**07 29 03.6**	**-1.3**
NATX				IAmb	IAmb	07 29 12.6	
	comp=Z,12nm,0.8s						
ABTX	**Abilene, Hawle**	**16.48**	**356**	P	**Pn**	**07 29 12.5**	**+0.1**
	baz=174,SNR=13						
ABTX	**Abilene, Hawle**	**16.48**	**356**	P	**P**	**07 29 15.3**	**+0.5**
ABTX				IAmb	IAmb	07 29 22.8	
	comp=Z,28nm,0.8s						
MNTX	**Cornudas Mount**	**16.84**	**338**	P	**Pn**	**07 29 17.0**	**+0.1**
	baz=155						
MNTX	**Cornudas Mount**	**16.84**	**338**	P	**Pn**	**07 29 15.5**	**-1.4**
HSIG		**17.41**	**320**	P	**Pn**	**07 29 24.3**	**+0.2**
VBMS	**Vicksburg**	**17.47**	**22**	P	**Pn**	**07 29 23.4**	**-1.3**
	baz=205						
VBMS	**Vicksburg**	**17.47**	**22**	P	**Pn**	**07 29 24.1**	**-0.6**
VBMS				IAmb	IAmb	07 29 34.7	
	comp=Z,27nm,1.1s						
Z41A	**Richland Creek**	**17.73**	**15**	P	**Pn**	**07 29 27.2**	**-0.8**
	baz=197						
Z41A	**Richland Creek**	**17.73**	**15**	P	**Pn**	**07 29 27.6**	**-0.4**
Z41A				IAmb	IAmb	07 29 38.0	
	comp=Z,21nm,1.1s						
BRAL	**Brewton**	**18.09**	**32**	P	**Pn**	**07 29 30.2**	**-2.2**
	baz=216						
MSTX	**Muleshoe**	**18.24**	**348**	P	**P**	**07 29 33.9**	**-0.5**
	baz=165						
MSTX	**Muleshoe**	**18.24**	**348**	P	**P**	**07 29 32.9**	**-1.5**
MSTX				IAmb	IAmb	07 29 43.4	
	comp=Z,18nm,1.0s						
319A	**Douglas**	**18.25**	**328**	P	**P**	**07 29 34.1**	**-0.4**
319A				IAmb	IAmb	07 29 41.9	
	comp=Z,16nm,0.8s						
X34A	**Smith Ranch, M**	**18.40**	**1**	P	**P**	**07 29 35.4**	**-0.6**
X34A				IAmb	IAmb	07 29 46.2	
	comp=Z,15nm,0.9s						
121A	**Cookes Peak, D**	**18.52**	**334**	P	**Pn**	**07 29 37.9**	**+0.1**
	baz=149						
121A	**Cookes Peak, D**	**18.52**	**334**	P	**Pn**	**07 29 38.2**	**+0.5**
121A				IAmb	IAmb	07 29 49.0	
	comp=Z,15nm,0.9s						
WMOK	**Wichita Mounta**	**18.54**	**358**	P	**P**	**07 29 36.9**	**-0.6**
	baz=178						
WMOK	**Wichita Mounta**	**18.54**	**358**	P	**P**	**07 29 37.2**	**-0.4**
061Z	**Ochoppi**	**18.79**	**56**	P	**P**	**07 29 39.4**	**-0.9**
	baz=242						
MIAR	**Mount Ida**	**18.80**	**12**	P	**P**	**07 29 39.2**	**-1.2**
	baz=193						
MIAR	**Mount Ida**	**18.80**	**12**	P	**P**	**07 29 39.7**	**-0.7**
553A	**Crawfordville**	**18.83**	**40**	P	**P**	**07 29 39.1**	**-1.5**
	baz=225						
X40A	**Basin Creek Fa**	**18.90**	**14**	P	**P**	**07 29 40.8**	**-0.7**
	baz=196						
AMTX	**Amarillo**	**18.94**	**351**	P	**P**	**07 29 41.9**	**-0.2**
	baz=169						
AMTX	**Amarillo**	**18.94**	**351**	P	**P**	**07 29 41.6**	**-0.4**
AMTX				IAmb	IAmb	07 29 49.0	
	comp=Z,24nm,1.1s						
W35A	**Tecumseh**	**18.98**	**3**	P	**P**	**07 29 42.1**	**-0.3**
250A	**Grady**	**19.14**	**32**	P	**P**	**07 29 43.6**	**-0.4**
	baz=217						
UALR	**University of**	**19.29**	**15**	P	**P**	**07 29 45.0**	**-0.8**
453A	**Whigham**	**19.37**	**38**	P	**P**	**07 29 45.6**	**-1.1**
	baz=224						
W39A	**Magazine**	**19.39**	**11**	P	**P**	**07 29 47.0**	**+0.1**
	baz=192						
W39A	**Magazine**	**19.39**	**11**	P	**P**	**07 29 47.3**	**+0.4**
X43A	**Marvell**	**19.45**	**18**	P	**P**	**07 29 47.8**	**+0.4**
	baz=201						
X43A	**Marvell**	**19.45**	**18**	P	**P**	**07 29 46.0**	**-1.4**
X43A				IAmb	IAmb	07 30 03.9	
	comp=Z,16nm,0.6s						
352A	**Blakely**	**19.48**	**36**	P	**P**	**07 29 46.8**	**-1.0**
	baz=221						
BNM	**Barren Site**	**19.49**	**339**	P	**P**	**07 29 49.0**	**+0.7**
656A	**Willston**	**19.51**	**45**	P	**P**	**07 29 47.6**	**-0.5**
	baz=231						
DWPF	**Disney Wildern**	**19.54**	**50**	P	**P**	**07 29 47.7**	**-0.7**
	baz=236						
LENM	**Lemitar**	**19.63**	**338**	P	**P**	**07 29 50.5**	**+0.8**
LRAL	**Lakeview Retre**	**19.64**	**29**	P	**P**	**07 29 49.6**	**0.0**
	baz=213						
454A	**Quitman**	**19.69**	**40**	P	**P**	**07 29 50.4**	**+0.3**
	baz=226						
W41B	**Gary Mavity, V**	**19.70**	**15**	P	**P**	**07 29 50.5**	**+0.4**
	baz=197						
W41B	**Gary Mavity, V**	**19.70**	**15**	P	**P**	**07 29 50.0**	**-0.2**
TUC	**Tucson**	**19.77**	**327**	P	**P**	**07 29 51.5**	**+0.5**
	baz=141						
TUC	**Tucson**	**19.77**	**327**	P	**Pn**	**07 29 52.9**	**+0.1**
060A	**Indiantown**	**19.78**	**54**	P	**P**	**07 29 50.8**	**-0.4**
	baz=240						
353A	**Camilla**	**19.79**	**38**	P	**P**	**07 29 50.7**	**-0.5**
	baz=223						
WHAR	**Wooly Hollow**	**19.80**	**14**	P	**P**	**07 29 51.2**	**-0.1**
TUL1	**Leonard**	**19.82**	**6**	P	**P**	**07 29 51.8**	**+0.3**
	baz=186						
TUL1	**Leonard**	**19.82**	**6**	P	**P**	**07 29 51.5**	**0.0**
TUL1				IAmb	IAmb	07 30 01.5	
	comp=Z,26nm,1.1s						
OXF	**Oxford**	**19.93**	**22**	P	**P**	**07 29 53.0**	**+0.3**
	baz=205						
252A	**Lumpkin**	**19.97**	**35**	P	**P**	**07 29 53.2**	**+0.1**
	baz=221						
455A	**Stateville**	**20.09**	**41**	P	**P**	**07 29 54.8**	**+0.4**
	baz=227						
ANMO	**Albuquerque**	**20.16**	**340**	P	**P**	**07 29 55.9**	**+0.5**
	baz=156						
ANMO	**Albuquerque**	**20.16**	**340**	P	**P**	**07 29 56.0**	**+0.6**
	comp=Z,4.9nm,0.6s,baz=145,slow=11,SNR=23						
ANMO				S	Sn	07 33 49.9	+6.4
	comp=Z,0.2nm,0.3s,baz=318,slow=18,SNR=1.6						
ANMO				Lg	Lg	07 36 01.7	
	comp=Z,0.3nm,0.3s,baz=45,slow=19,SNR=2.3						
ANMO				LR	LR	07 38 41.2	
	comp=Z,1μm,20.1s,baz=155,slow=40						
ANMO	**Albuquerque**	**20.16**	**340**	P	**P**	**07 29 56.4**	**+0.9**
ANMO				IAmb	IAmb	07 30 03.7	
	comp=Z,15nm,1.1s						
TIGA	**Tifton**	**20.23**	**39**	P	**P**	**07 29 56.5**	**+0.5**
	baz=224						
Z50A	**Ashland**	**20.33**	**31**	P	**P**	**07 29 57.6**	**+0.5**
	baz=216,SNR=6.0						
Z50A	**Ashland**	**20.33**	**31**	P	**P**	**07 29 57.0**	**-0.1**
Z50A				IAmb	IAmb	07 29 59.9	
	comp=Z,7.7nm,0.6s						
HHAR	**Hobbs**	**20.43**	**10**	P	**P**	**07 29 59.5**	**+1.4**
Y49A	**Blount Mountai**	**20.59**	**29**	P	**P**	**07 30 00.1**	**+0.1**
	baz=214,SNR=5.2						
Y49A	**Blount Mountai**	**20.59**	**29**	P	**P**	**07 29 59.6**	**-0.4**
Y49A				IAmb	IAmb	07 30 08.0	
	comp=Z,8.0nm,0.8s						
355A	**Pearson**	**20.61**	**40**	P	**P**	**07 29 59.6**	**-0.5**
	baz=226						
214A	**Organ Pipe Nat**	**20.63**	**322**	P	**P**	**07 30 01.4**	**+1.1**
	baz=136						
214A	**Organ Pipe Nat**	**20.63**	**322**	P	**P**	**07 30 00.8**	**+0.5**
U40A	**Yellville**	**20.70**	**12**	P	**P**	**07 30 01.5**	**+0.4**
	baz=194,SNR=8.6						
U40A	**Yellville**	**20.70**	**12**	P	**P**	**07 30 01.4**	**+0.4**
456A	**Hilliard**	**20.72**	**43**	P	**P**	**07 30 01.1**	**-0.2**
	baz=229						
Z51A	**Franklin**	**20.76**	**32**	P	**P**	**07 30 01.9**	**+0.2**
	baz=217						
254A	**Abbeville**	**20.77**	**38**	P	**P**	**07 30 01.7**	**-0.1**
	baz=224						
X48A	**Hartselle**	**20.81**	**27**	P	**P**	**07 30 02.5**	**+0.2**
	baz=211						
X48A	**Hartselle**	**20.81**	**27**	P	**P**	**07 30 02.9**	**+0.6**
LCAR	**Lake Charles**	**20.82**	**16**	P	**P**	**07 30 02.5**	**+0.1**
PLAL	**Pickwick Lake**	**20.84**	**24**	IAmb	IAmb	07 30 08.0	
	comp=Z,15nm,0.9s						
457A	**Yulee**	**20.96**	**44**	P	**P**	**07 30 03.5**	**-0.4**
	baz=230						
Z52A	**Williamson**	**21.05**	**34**	P	**P**	**07 30 05.0**	**+0.1**
	baz=219						
GNAR	**Gosnell**	**21.05**	**19**	P	**P**	**07 30 04.2**	**-0.7**
X18A	**Snowflake**	**21.16**	**332**	P	**P**	**07 30 06.8**	**+0.6**
X18A				IAmb	IAmb	07 30 14.4	
	comp=Z,9.8nm,0.8s						
255A	**Hazlehurst**	**21.24**	**39**	P	**P**	**07 30 06.9**	**0.0**
	baz=226						
Y51A	**Rockmart**	**21.28**	**31**	P	**P**	**07 30 07.4**	**+0.1**
	baz=217						
154A	**Montrose**	**21.35**	**37**	P	**P**	**07 30 08.1**	**0.0**
	baz=223						
W18A	**Petrified Fore**	**21.56**	**333**	P	**P**	**07 30 11.5**	**+1.0**
	baz=148						
Z53A	**Monticello**	**21.58**	**35**	P	**P**	**07 30 10.2**	**-0.3**
	baz=221,SNR=6.1						
MGMO	**Mountain Grove**	**21.59**	**13**	P	**P**	**07 30 09.9**	**-0.7**
T25A	**Trinidad**	**21.65**	**346**	P	**P**	**07 30 12.6**	**+1.2**
	baz=163,SNR=11						
T25A	**Trinidad**	**21.65**	**346**	P	**P**	**07 30 12.9**	**+1.4**
W49A	**Belvidere**	**21.71**	**27**	P	**P**	**07 30 11.8**	**-0.2**
	baz=212						
155A	**Kite**	**21.73**	**38**	P	**P**	**07 30 11.9**	**-0.3**
	baz=224						
GOGA	**Godfrey**	**21.74**	**35**	P	**P**	**07 30 12.0**	**-0.2**
	baz=221,SNR=6.9						
GOGA	**Godfrey**	**21.74**	**35**	IAmb	IAmb	07 30 23.3	
	comp=Z,9.6nm,0.9s						
Y52A	**Lilburn**	**21.76**	**33**	P	**P**	**07 30 12.1**	**-0.4**
	baz=219,SNR=9.1						
Y52A	**Lilburn**	**21.76**	**33**	P	**P**	**07 30 11.4**	**-1.1**
Y52A				IAmb	IAmb	07 30 15.3	
	comp=Z,13nm,0.9s						
X16A	**Lo Mia Camp, P**	**21.77**	**329**	P	**P**	**07 30 12.7**	**-0.1**
X16A				IAmb	IAmb	07 30 22.1	
	comp=Z,10.0nm,0.9s						
113A	**Mohawk Valley,**	**21.77**	**322**	P	**P**	**07 30 12.3**	**-0.3**
PARMO	**Parma**	**21.78**	**19**	P	**P**	**07 30 10.1**	**-2.6**
X51A	**Calhoun**	**21.91**	**31**	P	**P**	**07 30 13.9**	**-0.2**
	baz=216						
SWET	**Sewanee**	**21.94**	**28**	IAmb	IAmb	07 30 21.4	
	comp=Z,16nm,1.0s						
WVT	**Waverly**	**21.95**	**23**	P	**P**	**07 30 13.9**	**-0.6**
	baz=207						
WVT	**Waverly**	**21.95**	**23**	P	**P**	**07 30 14.3**	**-0.2**
WVT				IAmb	IAmb	07 30 20.4	
	comp=Z,14nm,0.8s						
Z54A	**Sparta**	**21.96**	**36**	P	**P**	**07 30 14.0**	**-0.6**
	baz=223						
V48A	**Smith Brothers**	**22.01**	**25**	P	**P**	**07 30 14.7**	**-0.4**
	baz=210						
V48A	**Smith Brothers**	**22.01**	**25**	P	**P**	**07 30 14.7**	**-0.4**
V48A				IAmb	IAmb	07 30 19.1	
	comp=Z,11nm,0.8s						
Y53A	**Monroe**	**22.01**	**34**	P	**P**	**07 30 15.1**	**-0.1**
	baz=220						
257A	**Skidaway Islan**	**22.18**	**42**	P	**P**	**07 30 16.6**	**-0.4**
	baz=228						
Y14A	**Wickenburg**	**22.20**	**326**	P	**P**	**07 30 17.1**	**-0.2**
Y14A				IAmb	IAmb	07 30 25.2	
	comp=Z,9.3nm,1.1s						
W50A	**Signal Mountai**	**22.21**	**29**	P	**P**	**07 30 16.9**	**-0.4**
	baz=214,SNR=9.7						
W50A	**Signal Mountai**	**22.21**	**29**	P	**P**	**07 30 17.4**	**0.0**
156A	**Sylvania**	**22.34**	**40**	P	**P**	**07 30 18.6**	**-0.1**
	baz=226						
Z55A	**Blythe**	**22.36**	**38**	P	**P**	**07 30 18.2**	**-0.7**

baz=224
V49A McMinnville 22.42 27 P P 07 30 19.1 -0.5
baz=212
X52A Dahlonega 22.43 32 P P 07 30 18.8 -0.9
baz=218
W51A Cleveland 22.44 30 P P 07 30 18.8 -1.0
baz=216
SDCO Great Sand Dun 22.49 345 P P 07 30 21.5 +1.0
baz=161
SDCO Great Sand Dun 22.49 345 P P 07 30 20.7 +0.1
SDCO IAmb IAmb 07 30 33.7
comp=Z,11nm,1.1s
Y54A Tignall 22.51 35 P P 07 30 20.0 -0.5
baz=222
CLTN Cedars of Leba 22.51 26 P P 07 30 20.2 -0.3
GLA Glamis 22.60 321 P P 07 30 22.0 +0.5
baz=134
GLA Glamis 22.60 321 P P 07 30 22.1 +0.5
GLA IAmb IAmb 07 30 29.8
comp=Z,8.5nm,0.8s
WUAZ Wupatki 22.63 331 P P 07 30 23.1 +1.1
baz=145
WUAZ Wupatki 22.63 331 P P 07 30 23.5 +1.6
CBKS Cedar Bluff 22.64 357 P P 07 30 22.7 +0.7
baz=176
X53A Estanollee 22.66 33 P P 07 30 21.6 -0.4
baz=220
157A Early Branch 22.67 40 P P 07 30 22.5 +0.3
baz=227
CCM Cathedral Cave 22.68 14 P P 07 30 21.9 -0.4
baz=197
CCM Cathedral Cave 22.68 14 P P 07 30 22.3 0.0
CCM IAmb IAmb 07 30 30.5
comp=Z,12nm,1.1s
V50A Pikevile 22.70 29 P P 07 30 22.1 -0.4
baz=214
CPCT Cooper Cave 22.79 30 P P 07 30 22.8 -0.7
CPCT IAmb IAmb 07 30 25.5
comp=Z,11nm,0.8s
W52A Murphy 22.79 31 P P 07 30 23.3 -0.3
baz=217,SNR=6.9
W52A Murphy 22.79 31 P P 07 30 20.8 -2.8
FVM French Village 22.82 16 P P 07 30 21.8 -1.9
FVM IAmb IAmb 07 30 31.7
comp=Z,17nm,1.1s
S22A 4UR Ranch, Cre 22.85 342 P P 07 30 25.0 +0.6
baz=158
S22A 4UR Ranch, Cre 22.85 342 P P 07 30 26.4 +1.9
S22A IAmb IAmb 07 30 32.4
comp=Z,7.1nm,0.8s
S44A Carbondale 22.88 18 P P 07 30 24.2 -0.3
baz=202,SNR=5.8
Z56A Williston 22.88 38 P P 07 30 23.6 -0.9
baz=225
MVCO Mesa Verde 22.91 338 P P 07 30 25.2 +0.2
baz=153
SIUC Southern Illin 22.91 18 P P 07 30 25.3 +0.6
Y12C Blythe 22.92 323 P P 07 30 25.5 +0.6
baz=136
Y12C Blythe 22.92 323 P P 07 30 25.7 +0.9
Y12C IAmb IAmb 07 30 33.6
comp=Z,11nm,1.1s
KSU1 Kansas State U 22.93 3 P P 07 30 25.1 +0.2
baz=184
T47A Sharon Grove 22.98 23 P P 07 30 25.0 -0.4
baz=208,SNR=7.7
T47A Sharon Grove 22.98 23 P P 07 30 25.5 0.0
HODGE Hodges 23.02 36 P P 07 30 24.4 -1.5
HODGE IAmb IAmb 07 30 26.6
comp=Z,14nm,1.1s
Y55A Saluda 23.03 37 P P 07 30 25.3 -0.7
baz=223
U49A Red Boiling Sp 23.10 26 P P 07 30 26.6 -0.1
baz=211
IKP In-Ko-Pah, Jac 23.12 319 P P 07 30 27.7 +0.7
baz=131
SWSC Sam W. Stewart 23.12 320 P P 07 30 27.8 +0.9
baz=132
KSCO Kaye Shedlock' 23.13 351 P P 07 30 27.8 +0.7
baz=169
KSCO Kaye Shedlock' 23.13 351 P P 07 30 24.5 -2.6
V51A Loudon 23.16 30 P P 07 30 26.6 -0.6
baz=215,SNR=7.2
V51A Loudon 23.16 30 P P 07 30 27.4 +0.1
V51A IAmb IAmb 07 30 35.1
comp=Z,18nm,1.1s
X54A Belton 23.19 35 P P 07 30 26.7 -0.9
baz=221
158A Hollywood 23.21 41 P P 07 30 28.0 +0.2
baz=229
BG3 Lake Jocassee 23.23 33 P P 07 30 26.6 -1.4
W53A Cullowhee 23.24 33 P P 07 30 28.3 +0.1
baz=219
Y56A Pelion 23.25 38 P P 07 30 28.3 +0.1
baz=225
Z57A Bowman 23.27 40 P P 07 30 27.6 -0.7
baz=227
TKL Tuckaleechee C 23.32 31 P P 07 30 29.5 +0.7
comp=Z,2.4nm,0.5s,baz=194,slow=12,SNR=9.6
TKL LR LR 07 41 08.1
comp=Z,180nm,21.2s,baz=194,slow=41
BC3 Big Chuckawall 23.40 321 P P 07 30 30.0 +0.2
baz=134
U50A Jamestown 23.43 28 P P 07 30 29.9 -0.1
baz=214
NHSC New Hope 23.46 41 P P 07 30 30.6 +0.3
baz=228
MONP2 Monument Peak 23.48 319 P P 07 30 30.7 0.0
baz=131
X55A Gracelyn & Ava 23.55 36 P P 07 30 30.7 -0.3
baz=223
V52A Sevierville 23.55 31 P P 07 30 30.7 -0.4
baz=217
W13A Hualapai Mount 23.56 326 P P 07 30 30.7 -0.8
Q24A Divide 23.56 346 P P 07 30 31.6 0.0
baz=163
IRM Iron Mountain 23.57 323 P P 07 30 31.9 +0.5
baz=135
W54A Cherokee Point 23.69 34 P P 07 30 31.2 -1.3
baz=221,SNR=6.8
PAULI Pauline 23.70 35 P P 07 30 31.1 -1.4
PAULI IAmb IAmb 07 30 36.8
comp=Z,12nm,1.1s
T49A Edmonton 23.71 26 P P 07 30 32.6 0.0
baz=211,SNR=5.8
T49A Edmonton 23.71 26 P P 07 30 32.9 +0.3
T49A IAmb IAmb 07 30 35.6
comp=Z,12nm,1.1s
U51A La Follette 23.78 29 P P 07 30 32.2 -1.1
baz=215
U15A North Rim 23.80 331 P P 07 30 35.6 +1.8
U15A IAmb IAmb 07 30 48.1
comp=Z,16nm,1.1s
V53A Saluda 23.81 32 P P 07 30 34.0 +0.3
baz=219
Z58A St. Stephen 23.84 41 P P 07 30 34.5 +0.7
baz=226
PV13 Radium Mtn., P 23.87 339 P P 07 30 32.4 -2.0
X56A White Oak 23.91 37 P P 07 30 34.4 -0.1
baz=224,SNR=6.5
109C Camp Elliot, M 23.92 318 P P 07 30 34.6 0.0
baz=129
T50A Nancy 23.93 27 P P 07 30 34.7 0.0
baz=213
Y57A Sumter 23.95 39 P P 07 30 34.9 0.0
baz=226
Y57A Sumter 23.95 39 P P 07 30 33.8 -1.0
BELC Belle Mtn. Jos 23.96 321 P P 07 30 36.0 +0.8
baz=133
PV03 Paradox Valley 23.96 339 P P 07 30 34.9 -0.3
PV03 IAmb IAmb 07 30 37.9
comp=Z,6.7nm,0.8s
PFO Pinyon Flats O 23.98 320 P P 07 30 36.1 +0.8
baz=132
PFO Pinyon Flats O 23.98 320 LR LR 07 40 28.6
comp=Z,555nm,21.7s,baz=136,slow=38
PV07 Paradox Valley 24.06 340 P P 07 30 37.2 +1.0
PV20 West Nyswonger 24.08 339 P P 07 30 36.6 +0.2
PV20 IAmb IAmb 07 30 51.3
comp=Z,5.9nm,0.7s
U52A Thorn Hill 24.10 30 P P 07 30 36.7 +0.4
baz=217
Z59A Georgetown, SC 24.12 42 P P 07 30 35.8 -0.7
baz=229
TZTN Tazewell 24.13 30 P P 07 30 36.9 +0.3
baz=216
TZTN Tazewell 24.13 30 P P 07 30 36.5 -0.1
PV22 Blue Mesa, Par 24.20 339 P P 07 30 36.6 -0.8
PV22 IAmb IAmb 07 30 45.7
comp=Z,5.5nm,0.7s
KMSC Kings Mountain 24.20 35 P P 07 30 37.8 +0.6
baz=222
KMSC Kings Mountain 24.20 35 P P 07 30 37.2 0.0
KMSC IAmb IAmb 07 30 49.0
comp=Z,12nm,1.0s
T51A Gray 24.29 29 P P 07 30 38.8 +0.8
baz=215
GMRC Granite Mounta 24.31 323 P P 07 30 39.1 +0.7
baz=135
Y58A Scranton 24.31 40 P P 07 30 38.0 -0.3
baz=228
V54A Nebo 24.34 33 P P 07 30 39.0 +0.5
baz=220,SNR=6.3
BIRD Birdtown, Kers 24.34 37 IAmb IAmb 07 30 56.9
comp=Z,9.5nm,1.0s
WCI Wyandotte Cave 24.38 23 P P 07 30 39.3 +0.5
baz=208
WCI Wyandotte Cave 24.38 23 P P 07 30 39.6 +0.8
S49A Springfield 24.39 25 P P 07 30 39.2 +0.3
baz=211
MURC Murrieta 24.43 319 P P 07 30 40.1 +0.6
baz=130
X57A Johnson Farm, 24.43 38 P P 07 30 39.7 +0.3
baz=226
ISCO Ida Springs 24.46 346 P P 07 30 41.1 +1.1
baz=162,SNR=20
ISCO Idaho Springs 24.46 346 IAmb IAmb 07 30 48.5
comp=Z,10nm,0.8s
U53A Fall Branch 24.47 32 P P 07 30 39.9 +0.2
baz=218
KNB Kanab 24.53 331 P P 07 30 42.1 +1.7
P43A Skaggs, Pawnee 24.62 16 P P 07 30 39.9 -1.0
W56A Indian Trail 24.62 36 P P 07 30 41.4 +0.4
baz=224,SNR=6.1
S50A Richmond 24.68 27 P P 07 30 41.8 +0.3
baz=213,SNR=9.1
HEC Hector,Ludlow 24.74 322 P P 07 30 43.6 +1.4
baz=134
V55A Taylorsville 24.79 34 P P 07 30 43.1 +0.5
baz=222
V55A Taylorsville 24.79 34 P P 07 30 42.1 -0.5
V55A IAmb IAmb 07 30 47.4
comp=Z,8.2nm,0.8s
T52A Hallie 24.86 30 P P 07 30 43.6 +0.4
baz=216
Y59A Loris 24.86 41 P P 07 30 43.6 +0.4
baz=229
R49A Shelbyville 24.87 25 P P 07 30 43.5 +0.2
baz=211
SCI2 San Clemente I 24.92 316 P P 07 30 45.2 +1.4
baz=127
TUQ Turquoise Moun 24.93 324 P P 07 30 45.0 +1.0
baz=136
X58A Rowland 24.95 39 P P 07 30 44.2 +0.2
baz=227
T53A Wise 24.97 31 P P 07 30 45.6 +1.2
baz=218
W57A Gilead 24.98 37 P P 07 30 44.3 0.0
baz=225,SNR=6.3
U54A Nelsons Funny 24.98 32 P P 07 30 45.4 +1.1
baz=220,SNR=7.3
U54A Nelsons Funny 24.98 32 P P 07 30 44.3 0.0
S51A Beattyville 25.00 28 P P 07 30 44.7 +0.3
baz=215
S51A Beattyville 25.00 28 P P 07 30 43.7 -0.7
S51A IAmb IAmb 07 30 57.5
comp=Z,12nm,0.8s
OTAV Otavalo 25.06 127 P P 07 30 48.0 +2.3
CIS Catalina Islan 25.09 317 P P 07 30 46.9 +1.5
baz=128
BFSC Mount Baldy Ra 25.14 319 P P 07 30 47.3 +1.4
baz=131
V56A Mocksville 25.16 35 P P 07 30 45.3 -0.6
baz=223
BGNE Belgrade 25.19 0 P P 07 30 46.9 +0.7
baz=180
Q48A North Vernon 25.20 23 P P 07 30 46.8 +0.6
baz=209,SNR=10.0
R50A Paris 25.21 26 P P 07 30 46.6 +0.2
baz=212
R50A Paris 25.21 26 IAmb IAmb 07 30 48.1
comp=Z,9.9nm,1.0s
S52A Salyersville 25.27 29 P P 07 30 47.0 +0.1
baz=216
Y60A Bolivia 25.29 42 P P 07 30 47.5 +0.4
baz=230
P46A Rosedale 25.29 20 P P 07 30 48.0 +1.0
baz=205
SRU San Rafael Swe 25.33 337 P P 07 30 46.0 -1.6
W58A Raeford 25.33 39 P P 07 30 48.0 +0.6
baz=227
GSC Goldstone, Bar 25.34 322 P P 07 30 46.1 -1.5
GSC IAmb IAmb 07 30 57.1
comp=Z,12nm,1.1s
U55A TA2, Sparta 25.37 34 P P 07 30 48.3 +0.4
baz=221
O44A Mansfield 25.39 18 P P 07 30 45.9 -2.0
O44A IAmb IAmb 07 30 56.1
comp=Z,8.2nm,0.8s
MSU Marysvale 25.47 334 P P 07 30 49.5 +0.5
O20A White River Ci 25.48 342 P P 07 30 50.4 +1.4
baz=157
O20A White River Ci 25.48 342 P P 07 30 45.9 -3.1
T54A Tazewell 25.52 32 P P 07 30 49.5 +0.3
baz=219
HDIL Hopedale 25.54 16 P P 07 30 49.8 +0.5
baz=200
R51A Hillsboro 25.55 27 P P 07 30 50.6 +1.2
baz=214,SNR=7.4
N23A Red Feather La 25.58 346 P P 07 30 50.8 +0.8
baz=162
N23A Red Feather La 25.58 346 P P 07 30 50.1 +0.1
N23A IAmb IAmb 07 31 07.2
comp=Z,16nm,1.1s
Q49A Aurora 25.59 24 P P 07 30 50.1 +0.3
baz=210
U56A King 25.61 35 P P 07 30 50.6 +0.5
baz=223
U56A King 25.61 35 P P 07 30 51.3 +1.3
U56A IAmb IAmb 07 30 55.9
comp=Z,9.9nm,1.1s
V57A Coltrane Farms 25.62 36 P P 07 30 50.5 +0.4
baz=224,SNR=7.5
TMUT Trail Mountain 25.75 336 P P 07 30 52.2 +0.6
P48A Milroy 25.78 23 P P 07 30 51.7 +0.2
baz=209
X60A Albert Glenn T 25.81 41 P P 07 30 51.5 -0.3
baz=230
Q50A Georgetown 25.83 26 P P 07 30 52.1 +0.1
baz=212
PHWY Pilot Hill 25.86 347 P P 07 30 51.3 -1.3
W59A Clinton 25.91 39 P P 07 30 52.8 +0.1
baz=228
V58A Windy Hill, Pi 25.93 37 P P 07 30 53.9 +0.9
baz=226,SNR=6.4
V58A Windy Hill, Pi 25.93 37 P P 07 30 51.3 -1.7
ROSC El Rosal 25.96 113 P P 07 30 55.0 +1.1
T55A Pulaski 25.97 33 P P 07 30 53.7 +0.4
baz=221
SFIN Lafayette 26.01 20 P P 07 30 53.6 0.0
baz=205
SCIA State Center 26.04 8 P P 07 30 53.9 0.0
P49A Miami Univ. Ec 26.12 24 P P 07 30 54.5 0.0
baz=210
TPNV Topopah Spring 26.21 326 P P 07 30 56.4 +0.8
baz=137
TPNV Topopah Spring 26.21 326 P P 07 30 53.6 -2.1
BLA Blacksburg 26.23 33 P P 07 30 55.9 +0.2
baz=221
Q51A Peebles 26.25 27 P P 07 30 56.3 +0.4
baz=214
U57A Blanch 26.26 36 P P 07 30 57.4 +1.5
baz=224,SNR=7.2
MPMC Manual Prospec 26.27 323 P P 07 30 56.9 +0.7
baz=134
W60A Pink Hill 26.28 40 P P 07 30 56.2 +0.1
baz=229
CNNC Cliffs of the 26.29 40 P P 07 30 56.5 +0.3
baz=229
T56A Rocky Mt 26.30 34 P P 07 30 56.6 +0.3
baz=222
V59A Middlesex 26.43 39 P P 07 30 58.0 +0.6
baz=227
ARVC Arvin 26.45 320 P P 07 30 58.2 +0.6
baz=130
P50A Jamestown 26.55 25 P P 07 30 59.0 +0.5
baz=212
O48A Farmland 26.58 23 P P 07 30 58.1 -0.6
baz=209
S55A Lewisburg 26.61 32 P P 07 30 59.1 0.0
baz=220
R54A Victor 26.68 31 P P 07 30 59.7 0.0
baz=219
U58A Oxford 26.68 37 P P 07 30 59.9 +0.3
baz=226
Q52A Bidwell 26.68 28 P P 07 30 59.7 +0.1
baz=216
T57A Hurt 26.71 35 P P 07 31 00.9 +1.0
baz=224,SNR=9.2
T57A Hurt 26.71 35 IAmb IAmb 07 31 05.0
comp=Z,11nm,0.9s
P51A Williamsport 26.76 27 P P 07 31 00.4 +0.1
baz=214
O49A Covington 26.83 24 P P 07 31 01.9 +0.9
baz=210
R11A Troy Canyon, C 26.92 329 P P 07 31 03.8 +1.7
baz=140
R11A Troy Canyon, C 26.92 329 P P 07 31 03.7 +1.7
N47A Urbana 26.93 21 P P 07 31 02.4 +0.5
baz=207
Q53A Leroy 26.95 30 P P 07 31 03.0 +0.9
baz=217
V60A Jim Taylor Roa 27.02 40 P P 07 31 02.9 +0.1
baz=229
T58A Grand View Acr 27.07 36 P P 07 31 03.1 -0.2
baz=225
VES Vestal, Richgr 27.07 320 P P 07 31 04.9 +1.6
baz=131
O50A Cable 27.08 25 P P 07 31 03.6 +0.4
baz=212
N48A Decatur 27.15 22 P P 07 31 03.6 -0.3
baz=208
DUG Dugway, Tooele 27.16 335 P P 07 31 05.1 +1.0
baz=148
P52A Corning 27.29 28 P P 07 31 05.5 +0.4
baz=215
M47A Cromwell 27.38 21 P P 07 31 06.0 +0.1
baz=207
TCUT Toone Canyon 27.41 338 P P 07 31 05.5 -1.0
ACSO Alum Creek Sta 27.41 26 P P 07 31 05.9 -0.3
baz=213
L44A Lake County Fo 27.42 17 P P 07 31 06.9 +0.7
baz=202
S57A Dark Hollow, R 27.42 35 P P 07 31 06.1 -0.2
baz=223
V61A Roper 27.46 40 P P 07 31 07.3 +0.6
baz=230
P53A Whipple 27.51 29 P P 07 31 07.0 -0.1
baz=217
SDV Santo Domingo 27.81 102 P P 07 31 12.5 +2.2
comp=Z,1.7nm,0.7s,baz=231,slow=5.7,SNR=2.2
SDV LR LR 07 43 11.8
comp=Z,350nm,18.6s,baz=10,slow=38
L47A Sherwood 28.07 21 P P 07 31 12.3 +0.2
baz=207
BW06 Boulder Array 28.28 342 P P 07 31 12.7 -1.6
BW06 IAmb IAmb 07 31 24.3
comp=Z,7.2nm,1.1s
PD31 Pinedale Array 28.28 342 P P 07 31 13.7 -0.6
PD31 IAmb IAmb 07 31 24.3
comp=Z,5.3nm,1.1s
PDAR Pinedale Array 28.28 342 P P 07 31 14.4 +0.2
comp=Z,1.2nm,0.8s,baz=128,slow=9.6,SNR=10
PDAR LR LR 07 43 39.9
comp=Z,1μm,18.5s,baz=166,slow=39
NV11 Mina Array Sit 28.32 326 P P 07 31 13.0 -1.6
R58A Rapidan 28.33 35 P P 07 31 15.0 +0.6
baz=224
RSSD Black Hills 28.34 351 P P 07 31 12.2 -2.6
NVAR Mina Array Bea 28.40 325 P P 07 31 15.6 +0.3
comp=Z,1.5nm,0.8s,baz=147,slow=10,SNR=7.4
NVAR LR LR 07 40 56.8
comp=Z,219nm,21.9s,baz=139,slow=33
ELK Elko 28.65 332 P P 07 31 18.9 +1.4
comp=Z,0.3nm,0.3s,baz=148,slow=9.5,SNR=3.0
ELK LR LR 07 43 39.3
comp=Z,2μm,18.7s,baz=156,slow=39
ELK Elko 28.65 332 P P 07 31 17.6 +0.1
SNOW Snow King Moun 29.28 341 P P 07 31 23.6 +0.5
TPAW Teton Pass 29.37 341 P P 07 31 23.3 -0.6
TPAW IAmb IAmb 07 31 37.5
comp=Z,6.6nm,1.0s
RLMT Red Lodge 30.38 344 IAmb IAmb 07 31 49.4
comp=Z,4.8nm,1.1s
YMR Madison River 30.44 342 pP 07 31 42.0 -1.1
SADO Sadowa 32.76 25 P P 07 31 54.8 +1.3
comp=Z,9.1nm,1.1s,baz=263,slow=15,SNR=2.5
YBH Yreka Blue Hor 33.12 325 LR LR 07 45 30.8
comp=Z,287nm,18.3s,baz=146,slow=37
F10A Beach Ranch, E 33.76 336 IAmb IAmb 07 32 08.4
comp=Z,4.7nm,0.8s
ULM Lac du Bonnet 34.09 3 P P 07 32 03.1 -1.9
comp=Z,1.7nm,0.6s,baz=171,slow=6.1,SNR=3.2
ULM LR LR 07 46 27.5
comp=Z,406nm,18.3s,baz=164,slow=37
ULM Lac du Bonnet 34.09 3 IAmb IAmb 07 32 11.6
comp=Z,4.7nm,1.1s
NEW Newport 35.63 338 LR LR 07 48 00.8
comp=Z,419nm,19.5s,baz=168,slow=38
LTY Liberty 36.20 334 IAmb IAmb 07 32 40.7
comp=Z,3.9nm,1.1s
LPAZ La Paz 43.77 136 LR LR 07 50 28.7
comp=Z,293nm,18.5s,baz=314,slow=34
SCHQ Schefferville 45.56 25 P P 07 33 40.5 +0.2
comp=Z,7.5nm,1.0s,baz=246,slow=12,SNR=3.5
SCHQ LR LR 07 56 07.6
comp=Z,247nm,18.0s,baz=244,slow=41
YKA Yellowknife Ar 47.74 350 P P 07 33 56.8 -0.3
comp=Z,1.5nm,0.9s,baz=157,slow=7.3,SNR=7.3
YKA LR LR 07 55 30.7
comp=Z,57nm,18.1s,baz=166,slow=38
TAOE Nuku Hiva Isla 48.40 242 *e*T T 08 25 12.5
comp=Z,20nm,0.2s
INK Inuvik 56.79 345 P P 07 35 03.7 -0.5
comp=Z,3.2nm,0.9s,baz=137,slow=6.6,SNR=12
INK Inuvik 56.79 345 IAmb IAmb 07 35 07.5
comp=Z,4.6nm,0.9s
PAX Paxson 57.09 336 IAmb IAmb 07 35 12.3
comp=Z,4.8nm,1.1s
RIDG Independent Ri 57.28 337 P P 07 35 10.2 +2.4
CPUP Villa Florida 57.95 136 LR LR 07 58 39.1
comp=Z,76nm,18.1s,baz=317,slow=34
IL31 58.59 338 P P 07 35 16.3 -0.6
ILAR Eielson Array 58.59 338 P P 07 35 16.4 -0.5
comp=Z,3.3nm,1.2s,baz=145,slow=4.9,SNR=15
ILAR LR LR 07 59 44.6
comp=Z,302nm,18.8s,baz=136,slow=35
RND Reindeer 58.63 336 P P 07 35 17.7 +0.3
RSO Redoubt South 58.95 332 PcP 07 36 05.5 -3.2
MLY Manley 60.14 337 P P 07 35 28.0 +0.3
PPT Papeete 60.71 239 LR LR 07 54 34.4
comp=Z,132nm,19.4s,baz=50,slow=29
PPT2 Papeete2 60.72 239 *e*S S 07 43 51.3 +3.8
comp=Z,214nm,26.2s
PPT2 *e*LQ LQ 07 50 34.3
comp=Z,239nm,26.5s
PPT2 *e*LR LR 07 53 12.7
comp=Z,314nm,25.0s,baz=51
PLCA Paso Flores 62.11 157 LR LR 07 57 03.4
comp=Z,177nm,21.4s,baz=345,slow=31
TBI Tubuai 63.66 233 *e*S S 07 44 27.3 +3.1
comp=Z,143nm,25.8s
TBI Tubuai 63.66 233 *e*LR LR 07 54 47.2
comp=Z,404nm,26.2s,baz=60
TBI Tubuai 63.66 233 *e*T T 08 44 19.9
comp=Z,5.2nm,0.3s
PETK Petropavlovsk- 85.48 324 LR LR 08 16 16.1
comp=Z,96nm,18.2s,baz=60,slow=36
ARCES ARCESS Array B 85.93 17 LR LR 08 18 22.6
comp=Z,74nm,19.7s,baz=330,slow=37
MA2 Magadan 86.45 332 LR LR 08 16 08.4
comp=Z,115nm,21.8s,baz=53,slow=35
STU Stuttgart 89.02 39 P P 07 38 15.8 +0.5
FINES FINESS Array B 91.02 23 LR LR 08 20 06.0
comp=Z,150nm,22.0s,baz=312,slow=36
GERES GERESS Array B 91.68 38 LR LR 08 21 50.8
comp=Z,148nm,18.9s,baz=298,slow=37
KEST Kesra 94.30 51 LR LR 08 15 31.5
comp=Z,77nm,21.4s,baz=340,slow=32
NRIK Noril'sk 94.67 358 LR LR 08 24 32.3
comp=Z,115nm,19.9s,baz=25,slow=38
AKASG Malin Array Be 99.10 31 LR LR 08 27 18.5

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,88nm,18.0s,baz=295,slow=38						
DZM	Mont Dzumac	100.76	250	eLR	LR	08 12 08.4	
	comp=Z,165nm,23.9s						
LZH	Lanzhou	124.05	339	ePKP	PKPdf	07 44 18.5	-0.8
LZH				pPKP	pPKPdf	07 44 27.0	-3.1
LZH				sPKP		07 44 30.2	
KSH	Kashi	124.38	5	PKP	PKiKP	07 44 20.4	+0.3
KSH				PP	PP	07 46 09.8	+5.7
KSH				PKS	PKSdf	07 47 55.4	-1.2
KSH	Kashi	124.38	5	SS	SS	08 02 55.8	+2.5
KSH				AMB	AMB		
	comp=Z,300nm,5.6s						
CD2	Chengdu	128.70	336	Pdif	Pdif	07 41 12.6	-1.1

*ISCJB **04** 07:25:39.2±0.9, 53°.30N±0°.08×163°.32W±0°.06, h43^{km}±8^{km}, mb3.8/10, Error ellipse: s-maj=13.2km s-min=5.4km az=166.5*

*AEIC **04** 07:25:39.6±1.4, 53°.34N±0°.04×163°.37W±0°.03, h26^{km}±5^{km}, ML3.3*

*NEIC **04** 07:25:40.8±1.2, 53°.35N±0°.08×163°.37W±0°.09, h38^{km}±5^{km}*

*IDC **04** 07:25:43.4±1.8, 54°.63N×164°.04W, h0^{km}, mb3.9/10, mb1 3.8/13, mb1mx3.6/90, mbtmp3.8/13, ML3.0/3, Error ellipse: s-maj=43.2km s-min=16.5km az=170.0*

ISC 04 07:25:39.8±3.2, **53°.4N**±0°.1×**163°.28W**±0°.05, **h30**^{km}±20^{km}, **n45**, σ1§**21**/45, **mb3.9**/10, **Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WESN	West Dahl Nort	1.44	328		Pn	07 26 03.9	0.0
SSLW	Shishaldin Wes	1.51	341		Pn	07 26 04.5	-0.3
FALS	False Pass	1.51	357		Pn	07 26 04.9	+0.2
FALS	False Pass	1.51	357		Sb	07 26 25.3	-0.6
FALS	False Pass	1.51	357	Sn	Sb	07 26 25.0	-0.9
WEBT	Westdahl Beart	1.52	326		Pn	07 26 04.7	-0.2
AKSA	Akutan Strait	1.64	300		Pn	07 26 05.9	-0.6
AKSA					Sn	07 26 25.7	-0.8
AKUT	Akutan	1.68	299		Pn	07 26 06.7	-0.3
AKUT					Sn	07 26 27.4	0.0
AKBBA	Akutan Broad B	1.74	296		Pn	07 26 07.6	-0.4
AKMO	Akutan Morgan	1.78	296		Pn	07 26 08.3	-0.2
AKMO					Sn	07 26 29.7	-0.4
AKLV	Akutan Long Va	1.78	298		Pn	07 26 08.1	-0.5
AKGG	Akutan Green G	1.82	299		Pn	07 26 08.8	-0.2
UNV	Unalaska Valle	1.98	286		Pn	07 26 11.8	+0.5
UNV					Sn	07 26 34.2	-0.9
UNV	Unalaska Valle	1.98	286	Pn	Pn	07 26 10.1	-1.2
MREP	Makushin Rep't	2.12	284		Pn	07 26 13.1	0.0
MSW	Makushin Switc	2.16	286		Pn	07 26 13.6	-0.1
MSW					Sn	07 26 38.4	-1.0
SDPT	Sand Point	2.59	38		LR	07 26 52.0	
SDPT	Sand Point	2.59	38	Pn	Pn	07 26 21.8	+2.3
CNBA	Chernabura Isl	2.62	54	Pn	Pn	07 26 21.0	+0.9
OKTU	Okmok Mt. Tuli	2.85	273		Pn	07 26 23.9	+0.6
NIKH	Nikolski High	3.38	266		Pn	07 26 30.4	0.0
KDAK	Kodiak Island	7.51	50	Pn	Pn	07 27 28.7	+1.5
	0.5nm,0.3s,baz=178,slow=5.1,SNR=22						
KDAK				Sn	Sn	07 28 47.6	-3.6
	0.3nm,0.3s,baz=338,slow=23,SNR=9.9						
KDAK	Kodiak Island	7.51	50		Sn	07 28 49.7	-1.4
ADK	Adak	8.29	265	Pn	Pn	07 27 38.7	+0.8
SVW2	Sparrevohn	8.81	25	Pn	Pn	07 27 47.7	+2.8
MLY	Manley	13.32	24		Pn	07 28 49.4	+2.8
PAX	Paxson	13.41	37	Pn	Pn	07 28 48.1	+0.2
BALM	Baldy	13.66	47	Pn	Pn	07 28 52.4	+1.1
IL31		14.15	30	Pn	Pn	07 28 58.5	+0.6
ILAR	Eielson Array	14.15	30	Pn	Pn	07 28 52.0	-5.9
	0.0nm,0.3s,baz=222,slow=14,SNR=3.2						
INK	Inuvik	20.52	32	P	P	07 30 13.3	-1.9
	0.1nm,0.3s,baz=249,slow=10,SNR=3.4						
INK	Inuvik	20.52	32		P	07 30 14.0	-1.2
PETK	Petropavlovsk-	23.17	285	P	P	07 30 43.2	-0.3
	1.5nm,0.6s,baz=73,slow=12,SNR=4.4						
YKA	Yellowknife Ar	26.79	51	P	P	07 31 18.7	+2.0
	0.5nm,0.7s,baz=273,slow=9.5,SNR=3.8						
H11N2	WAKE ISLAND Hy	40.67	226	T	T	08 16 53.0	
	baz=26,slow=76,SNR=17						
H11N3	WAKE ISLAND Hy	40.67	226	T	T	08 17 00.0	
	baz=26,slow=76,SNR=19						
H11N1	WAKE ISLAND Hy	40.68	226	T	T	08 16 58.0	
	baz=26,slow=76,SNR=15						
TXAR	Lajitas Array	49.09	95	P	P	07 34 38.0	+14
	0.4nm,0.6s,baz=308,slow=4.5,SNR=3.0						
SONM	Songino Array	53.90	304	P	P	07 35 00.8	+0.6
	1.3nm,0.9s,baz=51,slow=6.7,SNR=7.2						
KURBB	Kurchatov Arra	64.11	321	P	P	07 36 11.0	+0.4
	1.3nm,0.8s,baz=35,slow=6.8,SNR=6.2						
BVAR	Borovoye Array	64.95	328	P	P	07 36 16.8	+0.6
	1.5nm,0.7s,baz=54,slow=7.3,SNR=9.0						
MKAR	Makanchi Array	65.72	317	P	P	07 36 20.3	-0.9
	0.7nm,0.8s,baz=31,slow=5.9,SNR=2.6						
HFS	Hagfors	66.84	2	P	P	07 36 27.9	-0.2
	1.8nm,0.8s,baz=23,slow=7.8,SNR=4.1						
AKTO	Aktyubinsk	70.89	333	P	P	07 36 52.8	-0.8
	1.5nm,0.4s,baz=6.0,slow=4.7,SNR=6.9						
AKASG	Malin Array Be	75.78	352	P	P	07 37 22.9	+0.6
	0.2nm,0.2s,baz=8.1,slow=5.5,SNR=2.6						

*IDC **04** 07:27:17.8±1.4, 5°.57S×149°.34E, h0^{km}, mb3.8/3, mb1 4.0/5, mb1mx3.5/55, mbtmp4.0/5, ML2.3/1, Error ellipse: s-maj=53.9km s-min=21.4km az=142.0*

*ISCJB **04** 07:27:18.7±1.3, 5°.8S±0°.2×149°.5E±0°.2, h10^{km}, mb3.6/3, Error ellipse: s-maj=43.3km s-min=7.3km az=138.1*

ISC 04 07:27:19.4±1.3, **5°.7S**±0°.2×**149°.4E**±0°.2, **h10**^{km}, **n6**, σ1§**56**/8, **mb3.9**/3, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	2.98	63	Pn	Pn	07 28 06.2	-0.5
	35nm,0.3s,baz=263,slow=2.7,SNR=8.5						
KRVT				Sn	Sn	07 28 42.8	+0.3
	19nm,0.3s,baz=188,slow=19,SNR=4.0						
PMG	Port Moresby	4.30	210	Pn	Pn	07 28 26.1	+1.1
	11nm,0.3s,baz=25,slow=5.2,SNR=12						
PMG				Sn	Sn	07 29 12.9	-2.4
	13nm,0.3s,baz=45,slow=19,SNR=7.1						
ASAR	Alice Springs	23.27	218	P	P	07 32 26.5	-0.9
	0.4nm,0.6s,baz=52,slow=9.3,SNR=6.6						
FITZ	Fitzroy Crossi	26.25	240	P	P	07 32 55.9	+0.9
	0.8nm,0.3s,baz=61,slow=8.8,SNR=11						
STKA	Stephens Creek	27.06	195	P	P	07 33 03.7	+1.5
	4.5nm,1.0s,baz=23,slow=7.7,SNR=2.9						
TORD	Torodi Ar. Bea	147.29	285	PKPbc	PKPbc	07 47 03.3	-1.0
	0.9nm,0.5s,baz=97,slow=2.4,SNR=9.2						

*NEIC **04** 07:35:08.1±1.7, 56°.99N±0°.08×149°.49W±0°.02, h22^{km}±10^{km}*

AEIC 04 07:35:10.1±1.3, **56°.97N**±0°.09×**149°.4W**±0°.1, **h6**^{km}±6^{km}, **ML3.2**, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDAK	Kodiak Island	1.91	297		Pn	07 35 38.4	-4.6
KDAK	Kodiak Island	1.91	297		Sn	07 35 60.0	-7.4
OHAK	Old Harbor	2.13	279		Pn	07 35 41.1	-5.1
OHAK					Sn	07 36 05.2	-7.8
CNPM	China Poot	2.74	340		Pn	07 35 49.7	-4.9
CNPM	China Poot	2.74	340		Sn	07 36 20.6	-7.5
BRSE	Bradley Lake S	2.87	346		Pn	07 35 51.1	-5.3
BRSE					Sn	07 36 23.7	-7.5
BRLK	Bradley Lake	2.91	345		Sn	07 36 24.3	-8.0
BRLK	Bradley Lake	2.91	345	Pn	Pn	07 35 52.0	-5.0
BRLK	Bradley Lake	2.91	345		Lg	07 36 25.4	
FOSS	Fourpeaked Sta	2.94	311		Pn	07 35 53.0	-4.3
FOSS					Sn	07 36 25.6	-7.2
HOM	Homer	2.95	337		Pn	07 35 53.4	-3.9
HOM	Homer	2.95	337		Sn	07 36 26.8	-6.2
SEW	Seward	3.15	360		Pn	07 35 54.5	-5.6
SEW					Sn	07 36 29.2	-8.8
AUP	Augustine Pinn	3.21	320		Pn	07 35 57.1	-3.9
AUL	Augustine Lava	3.23	320		Pn	07 35 57.3	-4.0
AUW	Augustine West	3.23	320		Pn	07 35 57.1	-4.2
CAHL	Cahill	3.36	291		Pn	07 35 59.6	-3.5
KAHC	Katmai Hardscr	3.44	302		Pn	07 36 00.2	-4.1
ILS	Iliamna Low So	3.56	329		Pn	07 36 01.3	-4.6
SLKM	Skilak Lake	3.58	354		Pn	07 36 00.6	-5.5
ILW	Iliamna West	3.67	329		Pn	07 36 02.6	-4.8
HIN	Hinchinbrook I	3.76	23		Pn	07 36 03.8	-4.7
HIN					Sn	07 36 44.9	-8.2
RED	Redoubt Volcan	3.88	335		Pn	07 36 04.8	-5.5
RED					Sn	07 36 49.1	-7.1
PWL	Port Wells	3.95	8		Pn	07 36 05.9	-5.2
RDWB	Redoubt West	3.96	335		Pn	07 36 05.8	-5.7
DFR	Drift River	4.02	336		Pn	07 36 06.8	-5.4
NCT	North Crescent	4.05	335		Pn	07 36 07.1	-5.4
EYAK	Cordova Ski Ar	4.07	26		Pn	07 36 08.0	-4.7
FID	Port Fidalgo	4.09	21		Pn	07 36 07.9	-5.2
GLI	Glacier Island	4.11	16		Pn	07 36 08.4	-4.8
RAGM	Ragged Mountai	4.23	34	Pn	Pn	07 36 11.7	-3.3
HMT	Hamilton	4.32	36		Pn	07 36 12.7	-3.6
JPK	Jack Peak	4.35	18		Pn	07 36 12.1	-4.6
GOAT	Goat Mountain	4.37	32		Pn	07 36 12.6	-4.3
KNK	Knik Glacier	4.49	6		Pn	07 36 13.6	-5.0
CKL	Chakachamna La	4.50	342		Pn	07 36 13.7	-5.2
SPCP	Crater Peak Br	4.54	343		Pn	07 36 14.3	-5.1
SPCG	Spurr Capps Gl	4.54	344		Pn	07 36 14.4	-5.0
BERG	Berg Lake	4.55	39		Pn	07 36 14.9	-4.5
CGLM	Capps Glacier	4.56	344		Pn	07 36 14.8	-4.8
SUA	Susitna One	4.56	352		Pn	07 36 14.3	-5.4
GRIN	Grindle Hills	4.60	41		Pn	07 36 16.2	-3.9
PMR	Palmer	4.64	2	Pn	Pn	07 36 16.9	-3.8
SPNN	North Nagishla	4.73	340		Pn	07 36 16.9	-5.0
KHIT	Khitrov Hills	4.74	40		Pn	07 36 17.8	-4.3
KULT	Kultieth River	4.80	44		Pn	07 36 18.6	-4.3
GHO	Glory Hole Cre	4.83	3		Pn	07 36 18.9	-4.4
WAX	Waxell Ridge	4.89	42		Pn	07 36 20.0	-4.1
SML	Sawmill	4.89	6		Pn	07 36 20.0	-4.1
SCM	Sheep Creek Mo	5.00	11		Pn	07 36 21.3	-4.3
CRQM	Cirque	5.00	38		Pn	07 36 21.6	-4.2
MESA	MESA	5.06	47		Pn	07 36 22.1	-4.4
TGL	Tana Glacier	5.11	39	Pn	Pn	07 36 23.5	-3.7
SKT	Skwentna	5.15	349		Pn	07 36 22.5	-5.0
SVW2	Sparrevohn	5.23	325		Pn	07 36 23.3	-5.4
YAH	Yahtse	5.25	46	Pn	Pn	07 36 26.2	-3.0
VRDI	Verde Repeater	5.26	33		Pn	07 36 25.0	-4.3
GLB	Gilahina Butte	5.33	30		Pn	07 36 25.9	-4.2
CHX	Chaix Hills	5.34	51		Pn	07 36 26.2	-4.1
RKAV	Rock Avalanche	5.38	48		Pn	07 36 26.9	-4.0
KIAG	Kiagna River	5.39	40		Pn	07 36 26.8	-4.3
BALM	Baldy	5.47	39		Pn	07 36 28.0	-4.2
GRNC	Granite Creek	5.48	43		Pn	07 36 28.2	-4.2
MCARA	McCarthy VSAT	5.51	34		Pn	07 36 29.5	-3.1
PTPK	Patty Peak	5.54	37		Pn	07 36 29.2	-3.9
WAT6	Susitna Watana	5.70	8		Pn	07 36 30.5	-4.7
PCA	Pinnacle	5.73	53		Pn	07 36 31.5	-4.1
BARN	Barnard Glacie	5.73	41		Pn	07 36 31.8	-4.0
CTGM	Chitina Glacie	5.79	43		Pn	07 36 32.6	-3.9
WAT1	Susitna Watana	5.90	4		Pn	07 36 33.5	-4.4
PNL	Peninsula	5.93	59		Pn	07 36 34.4	-4.0
BCPM	Bancas Point	5.94	56		Pn	07 36 34.6	-3.8
WAT2	Susitna Watana	6.03	4		Pn	07 36 34.9	-4.9
PPLA	Purkeypile	6.11	348	Pn	Pn	07 36 38.0	-2.9
DHY	Denali Highway	6.21	9		Pn	07 36 38.7	-3.7
DHAK	Deception Hill	6.32	66		Pn	07 36 39.1	-4.5
PAX	Paxson	6.34	17	Pn	Pn	07 36 41.4	-2.6
RND	Reindeer	6.47	2		Pn	07 36 41.1	-4.6
YUK2	White River	6.52	39		Pn	07 36 42.9	-3.6
TRF	Thorofare Moun	6.52	357	Pn	Pn	07 36 42.5	-4.1
MENT	Mentasta	6.63	23	Pn	Pn	07 36 45.2	-2.9
YUK3	Moose Creek	6.64	40		Pn	07 36 44.9	-3.4
KTH	Kantishna Hill	6.65	354	Pn	Pn	07 36 44.4	-3.8
MCK	McKinley	6.79	2	Pn	Pn	07 36 47.1	-3.1
TT01	Tatalina	6.82	334		Pn	07 36 44.7	-5.8
YUK6	Outpost Mounta	6.96	50		Pn	07 36 49.8	-2.9
YUK4	Talbot Arm	7.06	47		Pn	07 36 52.1	-1.9
RIDG	Independent Ri	7.16	16	Pn	Pn	07 36 51.9	-3.4
BC03		7.21	29		Pn	07 36 51.6	-4.2
SCRK	Sand Creek	7.53	19	Pn	Pn	07 36 57.5	-2.8
WRH	Wood River Hil	7.56	4	Pn	Pn	07 36 57.7	-2.9
IL31		7.93	8		Pn	07 37 02.0	-3.7
BESE	Bessie Mountai	7.95	72	Pn	Pn	07 37 02.2	-3.8
JIS	Juneau Island	8.17	74		Pn	07 37 04.6	-4.4
WHY	Whitehorse	8.39	58		Pn	07 37 08.2	-4.1
DAWY	Dawson	8.66	31	Pn	Pn	07 37 12.6	-3.1
IM03		9.28	349		Pn	07 37 18.3	-5.9

*ISCJB **04** 08:23:14.2±0.8, 48°.9S±0°.1×123°.0E±0°.3, h10^{km}, mb3.8/5, MS3.4/5, Error ellipse: s-maj=30.1km s-min=14.7km az=6.3*

*IDC **04** 08:23:15.1±1.0, 48°.96S×123°.06E, h0^{km}, mb3.9/5, mb1 4.0/6, mb1mx3.9/25, mbtmp4.0/6, ML2.3/1, MS3.5/6, Ms1 3.5/6, ms1mx3.2/21, Error ellipse: s-maj=51.4km s-min=20.9km az=103.0*

ISC 04 08:23:16.2±0.9, **48°.9S**±0°.1×**123°.0E**±0°.3, **h10**^{km}, **n19**, σ1§**17**/8, **mb4.0**/5, **MS3.4**/5, **Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	15.47	332	T	T	08 43 14.8	
	baz=155,slow=74						
H01W2	Cape Leeuwin H	15.47	332	T	T	08 43 11.4	
	baz=155,slow=74						
H01W3	Cape Leeuwin H	15.48	332	T	T	08 43 17.3	
	baz=155,slow=74						
NWAO	Narrogin (SRO)	16.55	343	Pn	Pn	08 27 07.0	-1.3
	0.5nm,0.3s,baz=166,slow=8.3,SNR=2.1						
NWAO				LR	LR	08 32 12.8	
	comp=Z,251nm,20.2s,baz=110,slow=32						
STKA	Stephens Creek	22.05	46	P	P	08 28 11.0	+0.1
	4.6nm,1.0s,baz=258,slow=18,SNR=2.8						
STKA				LR	LR	08 36 18.7	
	comp=Z,66nm,18.3s,baz=209,slow=36						
ASAR	Alice Springs	26.63	23	P	P	08 28 54.1	-0.8
	0.5nm,0.7s,baz=192,slow=8.5,SNR=3.6						
ASAR				LR	LR	08 37 45.0	
	comp=Z,71nm,18.4s,baz=158,slow=33						
FITZ	Fitzroy Crossi	30.82	5	LR	LR	08 40 47.6	
	comp=Z,109nm,19.4s,baz=167,slow=34						
VNDA	Vanda	32.29	165	LR	LR	08 41 44.6	
	comp=Z,128nm,19.7s,baz=326,slow=34						
QSPA	South Pole Qui	41.21	180	P	P	08 30 59.8	-1.0
	3.5nm,1.1s,baz=345,slow=4.0,SNR=5.9						
SNAA	Sanae	53.79	199	P	P	08 32 38.6	+0.2
	1.8nm,0.7s,baz=138,slow=10,SNR=10						
H08S2	Diego Garcia H	58.99	297	T	T	09 37 37.4	
	baz=144,slow=76						
H08S1	Diego Carcia H	59.00	297	T	T	09 37 37.7	
	baz=144,slow=76						
H08S3	Diego Garcia H	59.01	297	T	T	09 37 48.7	
	baz=144,slow=76						
H08N1	Diego Carcia H	60.90	296	T	T	09 39 49.9	
	baz=143,slow=76						
H08N3	Diego Garcia H	60.91	296	T	T	09 39 53.3	
	baz=143						
H08N2	Diego Garcia H	60.92	296	T	T	09 39 51.9	
	baz=143,slow=76						
CMAR	Chiang Mai Arr	70.41	336	P	P	08 34 31.6	+1.2
	0.6nm,0.4s,baz=182,slow=6.0,SNR=2.3						
CMAR				LR	LR	09 03 41.6	
	comp=Z,20nm,21.1s,baz=5.0,slow=34						
ILAR	Eielson Array	132.81	36	PKP	PKiKP	08 42 32.5	+1.2
	0.2nm,0.8s,baz=224,slow=2.5,SNR=2.9						
YKA	Yellowknife Ar	146.07	45	PKPbc	PKPab	08 42 56.2	+0.4
	0.6nm,0.6s,baz=268,slow=3.2,SNR=8.2						

*IDC **04** 08:38:01.9±0.6, 9°.77S×75°.64W, h0^{km}, mb4.1/12, mb1 4.2/18, mb1mx4.2/33, mbtmp4.1/18, ML3.1/5, MS3.4/6, Ms1 3.4/6, ms1mx3.1/21, Error ellipse: s-maj=18.0km s-min=11.6km az=86.0*

*ISCJB **04** 08:38:06.3±0.3, 9°.76S±0°.03×75°.49W±0°.06, h41^{km}, mb4.1/12, MS3.8/5, Error ellipse: s-maj=8.3km s-min=3.9km az=171.1*

*NEIC **04** 08:38:09.2±2.2, 9°.85S±0°.04×75°.57W±0°.09, h52^{km}±6^{km}, mb4.4/19*

ISC 04 08:38:08.0±0.4, **9°.81S**±0°.05×**75°.51W**±0°.09, **h41**^{km}, **n104**, σ1§**51**/97, **mb4.3**/20, **MS3.6**/5, **1C**, **Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	Nana	2.53	211	Pn	Pn	08 38 45.9	-0.8
	254nm,0.3s,baz=16,slow=16,SNR=211						
NNA				Sn	Sn	08 39 15.7	-0.7
	164nm,0.3s,baz=318,slow=20,SNR=4.9						
NNA				Lg	Lg	08 39 19.7	
	691nm,0.3s,baz=293,slow=20,SNR=11						
NNA				LR	LR	08 39 53.0	
	comp=Z,474nm,20.3s,baz=21,slow=44						
NNA	Nana	2.53	211		Pn	08 38 46.2	-0.5
NNA				Sn	Sn	08 39 15.7	-0.7
ATAH	Atahualpa	3.90	313	Pn	Pn	08 39 07.5	+1.7
	14nm,0.3s,baz=172,slow=6.1,SNR=116						
ATAH				Lg	Lg	08 39 58.8	
	14nm,0.3s,baz=61,slow=8.2,SNR=3.6						
LPAZ	La Paz	9.65	133	Pn	Pn	08 40 25.1	+0.1
	0.1nm,0.3s,baz=339,slow=17,SNR=6.0						
LPAZ				Lg	Lg	08 43 06.3	
	0.7nm,0.3s,baz=178,slow=9.6,SNR=3.8						
LPAZ				LR	LR	08 44 21.9	
	comp=Z,90nm,21.0s,baz=319,slow=39						
LPAZ	La Paz	9.65	133		Pn	08 40 27.0	+2.0
PTLC	Puerto Leguiza	9.94	4	eP	Pn	08 40 22.7	-5.7
PTLC	Puerto Leguiza	9.94	4	eP	Pn	08 40 22.7	-5.7
OTAV	Otavalo	10.40	344	eP	Pn	08 40 36.2	+1.1
OTAV	Otavalo	10.40	344	eP	Pn	08 40 36.2	+1.1
OTAV	Otavalo	10.40	344		Pn	08 40 37.1	+2.0
MNMC	Minye Minye	10.89	149	Pn	Pn	08 40 43.7	+2.0
GCUF	Volcan Galeras	11.11	350	eP	Pn	08 40 43.9	-1.0
GCUF	Volcan Galeras	11.11	350	eP	Pn	08 40 43.9	-1.0
FLOC	Florencia	11.31	359	eP	Pn	08 40 45.5	-1.8
FLOC	Florencia	11.31	359	eP	Pn	08 40 45.5	-1.8
CRUC	La Cruz	11.39	353	eP	Pn	08 40 47.4	-1.2
CRUC	La Cruz	11.39	353	eP	Pn	08 40 47.4	-1.2
PB11	IPOC Station P	11.40	151	Pn	Pn	08 40 50.5	+2.0
GO01	Chusmiza	11.55	149	Pn	Pn	08 40 51.8	+0.9
BBAC	Balboa, Cauca	11.88	352	eP	Pn	08 40 54.9	-0.3
BBAC	Balboa, Cauca	11.88	352	eP	Pn	08 40 54.9	-0.3
SOTA	Rioblanco	11.91	355	eP	Pn	08 40 54.8	-1.1
SOTA	Rioblanco	11.91	355	eP	Pn	08 40 54.8	-1.1
MACC	Macarena, Meta	11.99	8	eP	Pn	08 40 53.0	-3.5
MACC	Macarena, Meta	11.99	8	eP	Pn	08 40 53.0	-3.5
PCON	Cinco Dias	12.09	356	eP	Pn	08 40 58.9	+0.5
PCON	Cinco Dias	12.09	356	eP	Pn	08 40 58.9	+0.5
SAML	Samuel	12.20	87		Pn	08 40 57.3	-2.0
PRAC	Prado	13.45	3	eP	Pn	08 41 17.2	+0.8
PRAC	Prado	13.45	3	eP	Pn	08 41 17.2	+0.8
ORTC	Ortega, Tolima	13.63	1	eP	Pn	08 41 18.5	-0.4
ORTC	Ortega, Tolima	13.63	1	eP	Pn	08 41 18.5	-0.4
YOTC	Yotoco, Valle	13.72	357	eP	Pn	08 41 17.9	-2.4
YOTC	Yotoco, Valle	13.72	357	eP	Pn	08 41 17.9	-2.4
VILC	Villavicencio,	13.95	8	eP	Pn	08 41 22.8	-0.5
VILC	Villavicencio,	13.95	8	eP	Pn	08 41 22.8	-0.5
LVC	Limon Verde	14.22	154	Pn	Pn	08 41 26.8	-0.4
	0.1nm,0.3s,baz=324,slow=17,SNR=1.7						
CHIC	Chingaza	14.45	7	eP	Pn	08 41 29.2	-1.2
CHIC	Chingaza	14.45	7	eP	Pn	08 41 29.2	-1.2
ROSC	El Rosal	14.60	5	Pn	Pn	08 41 30.8	-1.6
	0.6nm,0.3s,baz=144,slow=18,SNR=2.9						
ROSC				Lg	Lg	08 45 41.0	
	0.3nm,0.3s,baz=134,slow=20,SNR=3.5						
ROSC	El Rosal	14.60	5	Pn	Pn	08 41 35.2	+2.8
RREF	El Recreo	14.61	1	eP	P	08 41 38.4	-0.1
RREF	El Recreo	14.61	1	eP	P	08 41 38.4	-0.1
NORC	Norcasia	15.28	2	eP	Pn	08 41 44.8	+3.7
NORC	Norcasia	15.28	2	eP	Pn	08 41 44.8	+3.7
SIV	San Ignacio	15.36	115	Pn	Pn	08 41 40.3	-1.8
	0.4nm,0.3s,baz=307,slow=12,SNR=13						
SPBC	San Pablo de B	15.42	5	eP	Pn	08 41 40.4	-2.6
SPBC	San Pablo de B	15.42	5	eP	Pn	08 41 40.4	-2.6
CBOC	Ciudad Bolivar	15.57	358	eP	Pn	08 41 48.3	+3.3
CBOC	Ciudad Bolivar	15.57	358	eP	Pn	08 41 48.3	+3.3
RUSC	La Rusia	15.78	9	eP	Pn	08 41 47.4	-0.6
RUSC	La Rusia	15.78	9	eP	Pn	08 41 47.4	-0.6
PTBC	PUERTO BERRIO,	16.27	4	eP	Pn	08 41 53.6	-0.2
PTBC	PUERTO BERRIO,	16.27	4	eP	Pn	08 41 53.6	-0.2
OCAC	Ocana	18.06	7	eP	Pn	08 42 16.2	+0.1
OCAC	Ocana	18.06	7	eP	Pn	08 42 16.2	+0.1
SMLC	San Martn de	18.54	4	eP	P	08 42 21.4	+0.1
SMLC	San Martn de	18.54	4	eP	P	08 42 21.4	+0.1
SDV	Santo Domingo	19.20	15	P	P	08 42 26.5	-2.3
	0.2nm,0.3s,baz=207,slow=16,SNR=2.2						
SDV	Santo Domingo	19.20	15	P	P	08 42 29.9	+1.1
SJCC	San Jacinto, C	19.58	1	eP	P	08 42 33.8	+1.1
SJCC	San Jacinto, C	19.58	1	eP	P	08 42 33.8	+1.1
JTS	Las Juntas de	22.06	335	P	P	08 42 57.4	-2.2
	5.1nm,0.9s,baz=177,slow=5.1,SNR=2.1						
JTS	Las Juntas de	22.06	335	IAmb	IAmb	08 43 09.5	
	comp=Z,9.6nm,1.1s						
CFA	Coronel Fontan	22.72	164	P	P	08 43 06.4	-0.1
	comp=Z,9.8nm,1.0s,baz=344,slow=8.0,SNR=8.7						
CPUP	Villa Florida	23.80	136	P	P	08 43 17.7	+0.5
	comp=Z,4.3nm,1.1s,baz=321,slow=12,SNR=5.8						
CPUP	Villa Florida	23.80	136	P	P	08 43 15.4	-1.8
ESTN	Estel	25.18	334	P	P	08 43 20.9	-9.1
BDFB	Brasilia	27.43	105	P	P	08 43 50.9	+0.6
	comp=Z,3.2nm,0.6s,baz=294,slow=7.1,SNR=5.2						
BDFB				LR	LR	08 55 59.3	
	comp=Z,118nm,19.9s,baz=228,slow=39						
CUPR	Culebra, Puert	29.70	20	P	P	08 44 10.9	+0.5
CUPR				IAmb	IAmb	08 44 23.1	
	comp=Z,15nm,1.1s						
STVI	Saint Thomas	29.86	20	P	P	08 44 12.2	+0.5
STVI				IAmb	IAmb	08 44 28.1	
	comp=Z,8.8nm,0.9s						
PLCA	Paso Flores	31.11	173	P	P	08 44 22.0	-0.7
	comp=Z,2.7nm,1.0s,baz=14,slow=7.8,SNR=3.5						
PLCA				LR	LR	08 55 04.2	
	comp=Z,167nm,19.6s,baz=148,slow=33						
PLCA	Paso Flores	31.11	173	IAmb	IAmb	08 44 25.5	
	comp=Z,2.4nm,0.9s						
TEIG	Tepich	32.38	337	P	P	08 44 35.3	+1.4
T57A	Hurt	46.69	356	P	P	08 46 33.9	+1.1
TXAR	Lajitas Array	47.45	326	PcP	PcP	08 48 09.3	+0.3
	comp=Z,0.5nm,0.5s,baz=146,slow=6.3,SNR=3.0						
ANMO	Albuquerque	53.28	328	P	P	08 47 23.3	+0.2
ANMO				IAmb	IAmb	08 47 30.6	
	comp=Z,3.8nm,1.1s						
PSUT	Pine Spring	59.92	326	P	P	08 48 11.5	+1.2
R11A	Troy Canyon, C	60.76	325	IAmb	IAmb	08 48 23.5	
	comp=Z,2.9nm,1.1s						
PDAR	Pinedale Array	60.86	332	P	P	08 48 15.3	-1.4
	comp=Z,0.5nm,0.7s,baz=122,slow=8.6,SNR=4.4						
PDAR				PcP	PcP	08 48 58.8	-1.3
	comp=Z,0.3nm,0.6s,baz=138,slow=7.2,SNR=2.1						
ULM	Lac du Bonnet	62.39	345	P	P	08 48 25.9	-0.6
	comp=Z,7.9nm,0.6s,baz=149,slow=7.1,SNR=14						
NVAR	Mina Array Bea	62.40	323	P	P	08 48 26.6	-0.5
	comp=Z,1.1nm,0.8s,baz=149,slow=6.3,SNR=5.4						
NVAR				PcP	PcP	08 49 06.8	+0.4
	comp=Z,0.3nm,0.6s,baz=102,slow=4.0,SNR=2.3						
MFID	Camas Ranch	64.42	328	IAmb	IAmb	08 48 47.8	
	comp=Z,3.1nm,0.9s						
DBIC	Dimbokro	72.26	80	LR	LR	09 19 47.5	
	comp=Z,30nm,18.2s,baz=196,slow=35						
VNA3	Neumayer Olymp	73.11	162	P	P	08 49 35.0	+1.1
VNA2	Neumayer--Watz	73.71	161	P	P	08 49 38.0	+0.7
	baz=292,slow=6.3						
SNAA	Sanae	75.32	162	P	P	08 49 47.6	+0.8
YKA	Yellowknife Ar	78.15	343	P	P	08 50 02.3	-0.3
	comp=Z,1.7nm,0.5s,baz=140,slow=5.8,SNR=37						
YKW3	Yellowknife Ar	78.21	343	P	P	08 50 03.4	+0.4
YKW3				IAmb	IAmb	08 50 10.0	
	comp=Z,4.2nm,1.0s						
TOA0	Torodi Ar. Sit	79.96	75	P	P	08 50 14.8	+1.2
TOA0				IAmb	IAmb	08 50 25.1	
	comp=Z,3.9nm,1.1s						
TORD	Torodi Ar. Bea	79.96	75	P	P	08 50 14.1	+0.4
	comp=Z,2.3nm,0.8s,baz=268,slow=5.3,SNR=14						
TORD				LR	LR	09 24 28.3	
	comp=Z,17nm,18.1s,baz=320,slow=35						
QSPA	South Pole Qui	80.31	180	P	P	08 50 16.0	+1.3
QSPA				IAmb	IAmb	08 50 16.6	
	comp=Z,3.6nm,0.8s						
ESDC	Sonseca Array	82.35	48	P	P	08 50 26.9	+1.1
	comp=Z,0.2nm,0.4s,baz=241,slow=3.7,SNR=2.6						
INK	Inuvik	87.88	342	P	P	08 50 53.3	+0.5
ILAR	Eielson Array	91.03	336	P	P	08 51 07.6	-0.1
	comp=Z,0.5nm,0.6s,baz=106,slow=1.7,SNR=8.8						
ZALV	Zalesovo Beam	133.24	16	PKP	PKPdf	08 57 20.2	+0.8
	comp=Z,1.3nm,0.6s,baz=262,slow=1.8,SNR=4.6						
KURBB	Kurchatov Arra	134.02	23	PKP	PKPdf	08 57 21.7	+0.8
	comp=Z,0.2nm,0.4s,baz=312,slow=2.5,SNR=2.4						
ASAR	Alice Springs	136.02	220	PKhKP	PKPpre	08 57 21.2	
	comp=Z,0.6nm,0.6s,baz=121,slow=2.3,SNR=9.1						
ASAR				PKP	PKPdf	08 57 25.4	-0.2
	comp=Z,0.6nm,0.6s,baz=122,slow=2.1,SNR=9.4						
KSH	Kashi	141.00	36	PKP	PKPdf	08 57 29.6	-4.8
KSH				PKS	PKSdf	09 01 04.8	-5.6
KSH				SKS	SKSdf	09 04 28.8	-13
SONM	Songino Array	142.06	358	PKhKP	PKPpre	08 57 32.1	
	comp=Z,0.4nm,0.4s,baz=14,slow=2.8,SNR=4.0						
KSRS	Korea Array	145.29	326	PKPbc	PKPbc	08 57 41.3	-0.3
	comp=Z,5.5nm,0.7s,baz=49,slow=3.6,SNR=20						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GTA	Gaotai	150.23	7	⇑PKPbc	PKPbc	08 57 55.8	+0.6
GTA				pPKP	pPKPbc	08 58 12.9	+4.3
GTA				sPKP		08 58 19.6	
GTA				LR	LR		
	comp=N,75nm,17.1s						
GTA				LR	LR		
	comp=E,110nm,17.1s						
GTA				LR	LR		
	comp=Z,130nm,18.7s						
LZH	Lanzhou	153.83	1	*e*PKPbc	PKPdf	08 57 52.9	-2.7
LZH				pPKP	PKPbc	08 58 02.3	-1.3
LZH				PKPbc	sPKPdf	08 58 16.8	+3.1
LZH				sPKP		08 58 19.5	
CD2	Chengdu	158.99	2	PKP	PKPdf	08 58 00.1	-2.3

IDC ***04*** *08:44:45.7±3.7, 1°15N×98°10E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.5/37, mbtmp3.7/5, MS3.4/1, Ms1 3.4/1, ms1mx2.7/33, Error ellipse: s-maj=165.2km s-min=30.2km az=58.0*
DJA ***04*** *08:44:57.8±0.6, 2°N±5°×9°8E±°, h10km, M3.3/9, MLv3.3/9*
ISC 04 08:44:55.2±1.0**, 1°93N**±0°06×**98°0E**±0°1**, h10km, n14, σ2^{s}40**/9**, mb3.9**/5**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.75	214	P	Pb	08 45 11.1	+0.7
TPTI		1.56	328	P	Pg	08 45 27.4	+2.3
KCSI	Kotacane, Aceh	1.60	352	P	Pn	08 45 24.5	+0.9
TSI	Tuntungan	1.66	20	P	Pg	08 45 29.9	+2.8
PBSI	Pulau Batu	1.99	172	P	Pn	08 45 30.1	+1.2
H08S2	Diego Garcia H	27.16	249	T	T	09 17 53.2	
	baz=70,slow=76,SNR=11						
H08S3	Diego Garcia H	27.16	249	T	T	09 17 52.0	
	baz=70,slow=76,SNR=12						
H08S1	Diego Carcia H	27.18	249	T	T	09 17 53.4	
	baz=70,slow=76,SNR=7.8						
ASAR	Alice Springs	43.21	128	P	P	08 52 44.3	-13
	0.1nm,0.3s,baz=306,slow=7.9,SNR=1.2						
SONM	Songino Array	46.30	8	P	P	08 53 19.2	-2.0
	0.8nm,1.0s,baz=188,slow=9.6,SNR=3.3						
MKAR	Makanchi Array	46.74	345	P	P	08 53 22.6	-2.0
	1.1nm,0.6s,baz=159,slow=8.6,SNR=9.0						
GEYT	Alibeck	51.18	319	LR	LR	09 16 21.3	
	comp=Z,42nm,21.1s,baz=200,slow=37						
KURBB	Kurchatov Arra	51.25	344	P	P	08 53 56.6	-2.4
	0.8nm,0.5s,baz=160,slow=7.1,SNR=3.6						
ZALV	Zalesovo Beam	52.98	350	P	P	08 54 09.6	-2.2
	1.5nm,0.4s,baz=176,slow=7.4,SNR=4.6						

ISCJB ***04*** *09:14:13.3±0.7, 21°91S±0°03×68°82W±0°06, h128km±7km, Error ellipse: s-maj=9.2km s-min=4.8km az=173.0*
SJA ***04*** *09:14:13.1±0.9, 21°93S×68°75W, h119km±5km, ML2.8, MW2.9*
GUC ***04*** *09:14:13.6±0.8, 21°91S×68°82W, h121km±4km, ML3.2*
ISC 04 09:14:13.6±1.5**, 21°92S**±0°04×**68°80W**±0°05**, h124km**±10km**, n27, σ0^{s}87**/49**, 10C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.43	286	⇑*i*P	Pn	09 14 32.0	+0.1
PB09				*i* S	Sn	09 14 45.6	0.0
PB09				IAML		09 14 47.4	
	comp=N,679nm,0.2s						
PB09	IPOC Station P	0.43	286	*i* P	Pn	09 14 31.8	0.0
PB09				*i* S	Sn	09 14 45.5	0.0
LVC	Limon Verde	0.69	188	*e*P	Pn	09 14 33.6	-0.2
LVC				*i* S	Sn	09 14 47.9	-1.1
LVC	Limon Verde	0.69	188	⇑*i*P	Pn	09 14 33.5	-0.2
LVC				*i* S	Sn	09 14 47.9	-1.1
LVC				IAML		09 14 48.5	
	comp=N,428nm,0.1s						
PB03	IPOC Station P	0.89	262	⇑*i*P	Pn	09 14 35.5	+0.3
PB03				*i* S	Sn	09 14 51.8	+0.3
PB03				IAML		09 14 52.7	
	comp=E,484nm,0.2s						
PB07	IPOC Station P	1.03	281	⇑*i*P	Pn	09 14 37.0	+0.6
PB07				*i* S	Sn	09 14 54.4	+0.6
PB07				IAML		09 14 56.2	
	comp=E,414nm,0.2s						
PB06	IPOC Station P	1.06	222	⇑*e*P	Pn	09 14 37.2	+0.4
PB06				*i* S	Sn	09 14 54.5	+0.1
PB06				IAML		09 14 55.8	
	comp=E,979nm,0.1s						
PB06	IPOC Station P	1.06	222	*i* P	Pn	09 14 37.2	+0.4
PB06				*i* S	Sn	09 14 55.0	+0.6
PB01	IPOC Station P	1.08	324	⇑*e*P	Pn	09 14 37.1	+0.2
PB01				*i* S	Sn	09 14 54.7	+0.1
PB01				IAML		09 14 56.6	
	comp=N,868nm,0.2s						
PB02	IPOC Station P	1.18	300	⇑*e*P	Pn	09 14 38.3	+0.4
PB02				*i* S	Sn	09 14 56.6	+0.2
PB02				IAML		09 14 57.1	
	comp=E,520nm,0.2s						
PB04	IPOC Station P	1.32	251	⇑*e*P	Pn	09 14 39.9	+0.5
PB04				*i* S	Sn	09 14 59.4	+0.3
PB04				IAML		09 15 01.2	
	comp=E,329nm,0.5s						
PB04	IPOC Station P	1.32	251	*i* P	Pn	09 14 39.9	+0.5
PB04				*i* S	Sn	09 14 59.4	+0.3
PB15	IPOC Station P	1.43	206	*e*P	Pn	09 14 41.3	+0.6
PB15				*i* S	Sn	09 15 02.2	+0.9
PB15	IPOC Station P	1.43	206	*i* P	Pn	09 14 41.3	+0.6
PB15				*i* S	Sn	09 15 01.9	+0.6
PB05	IPOC Station P	1.60	234	⇑*e*P	Pn	09 14 43.0	+0.5
PB05				*i* S	Sn	09 15 04.7	+0.1
PB05				IAML		09 15 07.5	
	comp=E,166nm,0.4s						
PB05	IPOC Station P	1.60	234	*i* P	Pn	09 14 43.0	+0.5
PB05				*i* S	Sn	09 15 05.1	+0.5
PB08	IPOC Station P	1.80	349	⇑*e*P	Pn	09 14 45.9	+0.7
PB08				*i* S	Sn	09 15 10.7	+1.4
PB08				IAML		09 15 12.2	
	comp=E,338nm,0.8s						
TA01	Diego Aracena	1.86	316	*e*P	Pn	09 14 46.0	+0.4
TA01				*i* S	Sn	09 15 10.1	0.0
TA01				IAML		09 15 12.7	
	comp=N,258nm,0.2s						
PB10	IPOC Station P	2.27	225	*i* P	Pn	09 14 50.9	+0.3
GO01	Chusmiza	2.27	351	*e*P	Pn	09 14 51.8	+0.6
GO01				*i* S	Sn	09 15 20.1	+0.3
PB11	IPOC Station P	2.29	339	⇑*e*P	Pn	09 14 50.5	-0.6
PB11				*i* S	Sn	09 15 19.2	-0.6
PB11				IAML		09 15 19.8	
	comp=E,242nm,0.1s						
PSGC	Pisagua	2.62	332	*e*P	Pn	09 14 54.0	-1.3
PSGC				*i* S	Sn	09 15 25.0	-2.3
PSGC				IAML		09 15 27.4	
	comp=N,74nm,0.6s						
MNMC	Minye Minye	2.87	345	*e*P	Pn	09 14 58.4	-0.2
MNMC				*i* S	Sn	09 15 33.9	+0.5
YJA	Yavi	3.06	95	*i* P	Pn	09 15 01.8	+0.6
HJA	Humahuaca	3.39	113	*i* P	Pn	09 15 06.5	+1.1
HJA				IAML		09 15 07.3	
	comp=Z,8.0nm,0.4s						
AZAP	Zapla	4.13	124	⇓*i*P	Pn	09 15 15.1	-0.2
AZAP				IAML		09 15 16.5	
	comp=Z,11nm,0.4s						
GO04	Tololo Observa	8.41	192	*i* P	Pn	09 16 09.1	-3.7

ISCJB ***04*** *09:31:29.7±1.1, 53°48N±0°04×163°33W±0°03, h12km±7km, mb4.2/28, MS3.5/16, Error ellipse: s-maj=6.9km s-min=3.0km az=167.9*
IDC ***04*** *09:31:30.5±0.8, 53°69N×163°60W, h0km, mb4.0/23, mb1 4.1/25, mb1mx4.0/46, mbtmp3.9/25, ML3.5/2, MS3.3/13, Ms1 3.3/13, ms1mx3.1/36, Error ellipse: s-maj=21.2km s-min=12.5km az=170.0*
AEIC ***04*** *09:31:33.0±2.3, 53°43N±0°07×163°47W±0°07, h37km±6km, ML3.8, mb4.2/14(NEIC)*
ISC 04 09:31:31.7±1.6**, 53°54N**±0°06×**163°38W**±0°03**, h11km**±9km**, n137, σ1^{s}30**/142**, mb4.2**/32**, MS3.3**/16**, Unimak Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WESN	West Dahl Nort	1.25	326		Pg	09 31 55.5	-0.2
SSBA	Shishaldin	1.31	341		Pg	09 31 56.8	+0.1
SSBA					Sb	09 32 13.4	+0.3
FALS	False Pass	1.31	359		Pg	09 31 57.1	+0.2
FALS					Sb	09 32 12.6	-0.6
WEBT	Westdahl Beart	1.32	323		Pb	09 31 56.6	+0.1
AKSA	Akutan Strait	1.49	294		Pn	09 31 57.7	-0.7
AKSA					Sb	09 32 18.6	+0.3
AKUT	Akutan	1.53	294	Pn	Pn	09 31 57.9	-1.1
AKUT					Pb	09 31 58.4	-1.7
AKBBA	Akutan Broad B	1.61	291		Pn	09 31 59.4	-0.6
AKLV	Akutan Long Va	1.65	293		Pn	09 31 59.9	-0.6
AKLV					Sn	09 32 21.9	+0.3
AKMO	Akutan Morgan	1.65	290		Pn	09 32 00.0	-0.6
AKGG	Akutan Green G	1.68	294		Pn	09 32 00.6	-0.3
AKGG					Sn	09 32 22.7	+0.2
AKRB	Akutan Reef Bi	1.70	291		Pn	09 32 01.0	-0.2
UNV	Unalaska Valle	1.88	280		Pn	09 32 02.5	-1.2
UNV	Unalaska Valle	1.88	280		Sn	09 32 26.6	-0.8
MTBL	Makushin Table	2.00	284		Pn	09 32 05.6	+0.2
MREP	Makushin Rep't	2.02	279		Pn	09 32 05.3	-0.4
MSW	Makushin Switc	2.05	282		Pn	09 32 05.2	-0.9
MSW					Sn	09 32 32.2	+0.5
MCIR	Makushin Cirqu	2.12	282		Pn	09 32 06.8	-0.3
BLHA	Black Hill	2.29	19		Pb	09 32 12.4	-0.7
SDPT	Sand Point	2.48	42		Pb	09 32 14.2	-2.0
SDPT					Pn	09 32 14.4	+2.5
CNBA	Chernabura Isl	2.57	59	Pn	Pn	09 32 14.8	+1.7
CNBA				Sn	Sn	09 32 44.8	+0.4
OKFG	Magazine Ridge	2.71	269		Pn	09 32 14.9	-0.2
OKTU	Okmok Mt. Tuli	2.79	269		Pn	09 32 15.1	-1.2
NIKH	Nikolski High	3.34	262		Pn	09 32 22.6	-1.1
NIKH	Nikolski High	3.34	262		Sn	09 33 00.7	-2.5
VNKR	Veniaminof 5	3.41	41		Pn	09 32 27.1	+2.3
VNSG	Veniaminof 6	3.59	42		Pn	09 32 29.5	+2.3
CHIR	Chirikof Islan	5.05	60	Pn	Pn	09 32 48.7	+1.5
SPIA	Saint Paul Isl	5.34	316	Pn	Pn	09 32 51.2	-0.1
SII	Sitkinak Islan	6.09	57	Pn	Pn	09 33 03.0	+1.4
ATKA	Atka Island	6.68	263	Pn	Pn	09 33 09.2	-0.5
OHAK	Old Harbor	6.83	53	Pn	Pn	09 33 12.4	+0.7
KDAK	Kodiak Island	7.44	51	Pn	Pn	09 33 20.1	+0.1
	1.5nm,0.3s,baz=166,slow=4.4,SNR=34						
KDAK				Sn	Sn	09 34 40.0	-4.2
	1.3nm,0.3s,baz=337,slow=23,SNR=6.6						
KDAK				Lg	Lg	09 35 26.1	
	0.0nm,0.3s,baz=295,slow=19,SNR=3.4						
KDAK	Kodiak Island	7.44	51	Pn	Pn	09 33 20.4	+0.4
KDAK					Sn	09 34 41.2	-3.0
ADK	Adak	8.25	264	Pn	Pn	09 33 30.5	-0.6
SVW2	Sparrevohn	8.66	26		Pn	09 33 39.2	+2.4
CNPM	China Poot	8.99	43	Pn	Pn	09 33 43.0	+1.7
SEW	Seward	10.06	44	Pn	Pn	09 33 57.0	+1.1
SUA	Susitna One	10.43	35		Pn	09 34 03.0	+1.8
SKT	Skwentna	10.54	32		Pn	09 34 03.7	+1.1
RC01	Rabbit Creek A	10.55	39	Pn	Pn	09 34 04.3	+1.7
PPLA	Purkeypile	11.06	28	Pn	Pn	09 34 15.0	+5.2
ANM	Nome	11.10	356	Pn	Pn	09 34 14.2	+4.1
KNK	Knik Glacier	11.23	39	Pn	Pn	09 34 12.8	+0.8
GHO	Glory Hole Cre	11.29	37	Pn	Pn	09 34 12.8	0.0
GLI	Glacier Island	11.46	44	Pn	Pn	09 34 16.1	+1.0
GLI					Sn	09 36 20.6	-2.4
HIN	Hinchinbrook I	11.46	47	Pn	Pn	09 34 15.5	+0.4
SML	Sawmill	11.53	38	Pn	Pn	09 34 18.0	+2.0
FID	Port Fidalgo	11.65	45	Pn	Pn	09 34 17.3	-0.4
EYAK	Cordova Ski Ar	11.86	47	Pn	Pn	09 34 20.9	+0.4
SCM	Sheep Creek Mo	11.92	39		Pn	09 34 21.8	+0.4
KTH	Kantishna Hill	11.93	28	Pn	Pn	09 34 22.4	+0.8
TRF	Thorofare Moun	12.03	29	Pn	Pn	09 34 24.0	+1.0
RAGM	Ragged Mountai	12.26	49	Pn	Pn	09 34 27.2	+1.1
BPAW	Bear Paw Mtn.	12.35	26		Pn	09 34 28.8	+1.6
HMT	Hamilton	12.43	49	Pn	Pn	09 34 29.5	+1.2
RND	Reindeer	12.44	32	Pn	Pn	09 34 29.2	+0.8
DHY	Denali Highway	12.69	35	Pn	Pn	09 34 30.8	-1.2
CRQM	Cirque	13.11	49	Pn	Pn	09 34 38.1	+0.4
WAX	Waxell Ridge	13.12	50	Pn	Pn	09 34 38.3	+0.6
GLB	Gilahina Butte	13.12	45		Pn	09 34 38.4	+0.6
MLY	Manley	13.17	24	Pn	Pn	09 34 41.2	+2.8
VRDI	Verde Repeater	13.18	46	Pn	Pn	09 34 39.6	+0.9
TGL	Tana Glacier	13.25	49	Pn	Pn	09 34 38.8	-0.7
PAX	Paxson	13.29	38		Pn	09 34 40.4	+0.2
MCARA	McCarthy VSAT	13.43	46	Pn	Pn	09 34 42.3	+0.4
WRH	Wood River Hil	13.44	29	Pn	Pn	09 34 42.3	+0.2
BALM	Baldy	13.58	48		Pn	09 34 44.6	+0.6
YAH	Yahtse	13.59	51	Pn	Pn	09 34 45.4	+1.0
HDA	Harding Lake	13.74	31	Pn	Pn	09 34 43.5	-2.7
MDM	Murphy Dome	13.77	28	Pn	Pn	09 34 47.4	+0.9
BARN	Barnard Glacie	13.89	49	Pn	Pn	09 34 48.6	+0.2
MENT	Mentasta	13.93	40		Pn	09 34 49.1	+0.3
RIDG	Independent Ri	13.99	36	Pn	Pn	09 34 49.3	-0.3
CTGM	Chitina Glacie	14.00	49	Pn	Pn	09 34 50.4	+0.5
IL31		14.02	30	Pn	Pn	09 34 49.9	0.0
ILAR	Eielson Array	14.02	30	Pn	Pn	09 34 48.4	-1.6
	0.1nm,0.3s,baz=214,slow=12,SNR=12						
SCRK	Sand Creek	14.44	36	Pn	Pn	09 34 54.9	-0.9
BCPM	Bancas Point	14.47	54		Pn	09 34 55.2	-0.9
PRP	Porcupine Dome	14.96	30	Pn	Pn	09 35 03.1	+0.2
COLD	Coldfoot	15.14	20		Pn	09 35 05.5	+0.4
DAWY	Dawson	16.18	40		Pn	09 35 18.6	-0.1
SKAG	Skagway	16.50	58		Pn	09 35 23.9	+1.2
SKAG				IAmb	IAmb	09 35 43.3	
	comp=Z,14nm,0.9s						
INK	Inuvik	20.40	32	P	P	09 36 07.4	-0.7
	comp=Z,1.7nm,0.5s,baz=238,slow=10.0,SNR=12						
INK	Inuvik	20.40	32	P	P	09 36 08.3	+0.2
INK				IAmb	IAmb	09 36 25.5	
	comp=Z,5.8nm,0.8s						
PEA0B	Petropavlovsk-	23.06	285	P	P	09 36 36.6	-0.2
PEA0B				IAmb	IAmb	09 36 48.5	
	comp=Z,35nm,1.3s						
PETK	Petropavlovsk-	23.06	285	P	P	09 36 35.0	-1.7
	comp=Z,4.3nm,0.6s,baz=81,slow=13,SNR=5.2						
PETK				LR	LR	09 45 12.2	
	comp=Z,105nm,20.7s,baz=61,slow=36						
YKA	Yellowknife Ar	26.71	51	P	P	09 37 12.2	+1.6
	comp=Z,1.0nm,0.5s,baz=273,slow=9.5,SNR=8.1						
TIXI	Tiksi	33.63	328	P	P	09 38 10.2	-1.4
	comp=Z,3.0nm,0.5s,baz=180,slow=24,SNR=6.5						
RES	Resolute Bay	33.73	26	P	P	09 38 12.1	-0.3
	comp=Z,0.8nm,0.6s,baz=259,slow=11,SNR=7.0						
NVAR	Mina Array Bea	34.14	98	P	P	09 38 18.5	+1.8
	comp=Z,0.7nm,0.8s,baz=293,slow=10,SNR=4.8						
NVAR				LR	LR	09 50 18.8	
	comp=Z,42nm,18.7s,baz=274,slow=33						
NV11	Mina Array Sit	34.23	98	P	P	09 38 15.3	-2.1
NV11				IAmb	IAmb	09 38 15.7	
	comp=Z,3.2nm,1.3s						
PDAR	Pinedale Array	36.65	85	P	P	09 38 39.3	+1.0
	comp=Z,0.2nm,0.6s,baz=284,slow=6.0,SNR=3.7						
PDAR				LR	LR	09 51 36.6	
	comp=Z,10nm,19.2s,baz=350,slow=33						
H11N2	WAKE ISLAND Hy	40.76	226	T	T	10 22 53.7	
	baz=26,slow=76,SNR=48						
H11N3	WAKE ISLAND Hy	40.76	226	T	T	10 22 58.2	
	baz=26,slow=76,SNR=42						
H11N1	WAKE ISLAND Hy	40.77	226	T	T	10 22 54.1	
	baz=26,slow=76,SNR=59						
H11S1	WAKE ISLAND Hy	41.92	225	T	T	10 24 22.1	
	baz=25,slow=76,SNR=77						
H11S2	WAKE ISLAND Hy	41.94	225	T	T	10 24 23.4	
	baz=25,slow=76,SNR=58						
H11S3	WAKE ISLAND Hy	41.94	225	T	T	10 24 24.0	
	baz=25,slow=76,SNR=73						
USRK	Ussuriysk Ar.	42.15	284	LR	LR	09 58 30.3	
	comp=Z,28nm,18.3s,baz=30,slow=39						
MJAR	Matsushiro Arr	43.33	271	P	P	09 39 34.0	+0.6
	comp=Z,1.3nm,0.8s,baz=36,slow=6.4,SNR=4.7						
NRIK	Noril'sk	47.08	333	LR	LR	10 01 02.5	
	comp=Z,50nm,20.1s,baz=28,slow=38						
DAG	Danmarks Havn	48.04	10	*i* P	P	09 40 10.5	+0.3
DAG				*i*		09 40 20.6	
SUMG	Summit	48.53	19	*i* P	P	09 40 15.7	+1.2
SUMG				*i*		09 40 26.6	
KSRS	Korea Array	48.82	280	P	P	09 40 16.7	0.0
	comp=Z,1.0nm,0.7s,baz=44,slow=7.5,SNR=4.6						
KSRS				LR	LR	10 00 29.3	
	comp=Z,17nm,20.5s,baz=340,slow=36						
TX32	Lajitas Array	49.16	95	P	P	09 40 21.6	+2.0
TX32				IAmb	IAmb	09 40 26.6	
	comp=Z,1.9nm,1.1s						
TXAR	Lajitas Array	49.17	95	P	P	09 40 21.0	+1.4
	comp=Z,0.9nm,0.6s,baz=299,slow=5.4,SNR=14						
TXAR				PcP	PcP	09 41 43.3	+0.5
	comp=Z,0.2nm,0.6s,baz=277,slow=2.4,SNR=2.2						
TXAR				LR	LR	09 58 58.1	
	comp=Z,17nm,20.2s,baz=0.0,slow=33						
SFJD	Kangerlussuaq	49.68	28	P	P	09 40 24.2	+1.3
HDIL	Hopedale	49.88	73	P	P	09 40 25.2	+0.4
SONM	Songino Array	53.74	303	P	P	09 40 52.9	-0.8
	comp=Z,1.8nm,0.7s,baz=43,slow=6.4,SNR=10.0						
HHC	Hu-ho-hao-te	55.82	294	P	P	09 41 08.7	-0.1
HHC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,7.0nm,4.5s						
ARCES	ARCESS Array B	57.06	356	P	P	09 41 15.9	-1.1
	comp=Z,3.8nm,0.9s,baz=17,slow=6.9,SNR=4.4						
ARCES				LR	LR	10 05 52.1	
	comp=Z,28nm,20.9s,baz=85,slow=36						
NJ2	Nanjing	57.91	282	*e*P	P	09 41 24.2	+0.6
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ZALV	Zalesovo Beam	58.92	320	P	P	09 41 29.7	-0.6
	comp=Z,0.9nm,0.4s,baz=46,slow=4.2,SNR=3.1						
YOJ	Yonaguni jima	61.06	273	P	P	09 41 45.3	0.0
WHN	Wuhan	61.64	284	P	P	09 41 52.6	+3.4
GTA	Gaotai	63.09	300	*e*P	P	09 41 57.9	-1.1
GTA				pP	sP	09 42 01.7	-0.8
GTA				sP	pwP	09 42 05.0	-0.7
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,190nm,7.5s						
GTA				LR	LR		
	comp=N,49nm,16.5s						
GTA				LR	LR		
	comp=E,110nm,16.8s						
GTA				LR	LR		
	comp=Z,130nm,18.1s						
LZH	Lanzhou	63.44	295	*e*P	P	09 42 01.3	-0.1
LZH				pP	sP	09 42 04.5	-0.4
LZH				sP	pwP	09 42 06.2	-1.9
LZH				*e*PP	PP	09 44 21.6	+1.1
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				pmax	pmax		
	comp=Z,100nm,6.5s						
LZH				LR	LR		
	comp=N,180nm,15.0s						
LZH				LR	LR		
	comp=E,190nm,15.1s						
LZH				LR	LR		
	comp=Z,270nm,17.5s						
KURK	Kurchatov	63.81	321	P	P	09 42 03.7	+0.3
KURK				IAmb	IAmb	09 42 04.2	
	comp=Z,4.4nm,1.0s						
FINES	FINESS Array B	65.11	355	P	P	09 42 10.5	-1.3
	comp=Z,1.9nm,0.7s,baz=38,slow=7.0,SNR=6.2						
FINES				LR	LR	10 12 22.0	
	comp=Z,43nm,18.1s,baz=306,slow=38						
MKAR	Makanchi Array	65.54	317	P	P	09 42 13.8	-1.0
	comp=Z,0.5nm,0.3s,baz=44,slow=6.9,SNR=9.7						
MKAR				LR	LR	10 11 56.3	
	comp=Z,52nm,20.0s,baz=19,slow=37						
WMQ	Urumqi	65.57	311	*e*P	P	09 42 17.6	+2.5
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,71nm,6.1s						
WMQ				LR	LR		
	comp=N,420nm,29.1s						
WMQ				LR	LR		
	comp=E,870nm,29.1s						
WMQ				LR	LR		
	comp=Z,49nm,29.2s						
MAKZ	Makanchi	65.65	317	P	P	09 42 15.2	-0.3
NB2	NORSAR Subarra	65.68	3	P	P	09 42 15.3	-0.2
	comp=Z,3.9nm,1.1s,baz=356,slow=6.5						
NOA	NORSAR Array B	65.68	3	P	P	09 42 14.8	-0.7
	comp=Z,1.3nm,0.8s,baz=358,slow=5.8,SNR=3.2						
NOA				LR	LR	10 13 02.9	
	comp=Z,14nm,18.1s,baz=0.0,slow=38						
CD2	Chengdu	67.38	292	P	P	09 42 25.4	-1.5
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ABKAR	Akbulak array	71.23	332	P	P	09 42 50.9	+0.5
KSH	Kashi	74.14	316	P	P	09 43 10.9	+2.9
KSH				S	S	09 52 42.3	+1.4
KSH	Kashi	74.14	316	SKS	SKSac	09 53 13.0	-2.4
KSH				pmax	pmax		
	comp=Z,360nm,4.9s						
KSH				LR	LR		
	comp=N,460nm,5.8s						
KSH				LR	LR		
	comp=E,510nm,5.8s						
AKASG	Malin Array Be	75.59	352	P	P	09 43 15.3	-0.6
	comp=E,1.9nm,0.6s,baz=10,slow=5.7,SNR=5.3						
GERES	GERESS Array B	77.96	2	P	P	09 43 29.6	+0.1
	comp=E,0.3nm,0.4s,baz=8.9,slow=7.0,SNR=2.0						
MODS	Modra-Piesok	78.46	360	*e*P	P	09 43 31.5	-0.7
CMAR	Chiang Mai Arr	79.81	287	P	P	09 43 39.7	-0.4
	comp=E,1.2nm,0.5s,baz=14,slow=5.7,SNR=4.1						
KBZ	Khabaz	80.52	341	P	P	09 43 45.1	+1.7
	comp=E,3.0nm,0.9s,baz=54,slow=8.7,SNR=2.9						
ESDC	Sonseca Array	85.47	16	P	P	09 44 10.3	+1.0
	comp=E,0.3nm,0.3s,baz=344,slow=4.1,SNR=2.5						
BRTR	Keskin Array B	85.95	347	P	P	09 44 11.0	-0.8
	comp=E,1.4nm,0.8s,baz=0.4,slow=3.5,SNR=5.2						
BRTR				LR	LR	10 25 55.4	
	comp=E,11nm,19.9s,baz=43,slow=38						
ASAR	Alice Springs	93.98	235	P	P	09 44 49.4	-0.1
	comp=E,0.2nm,0.7s,baz=25,slow=4.6,SNR=1.9						
LEM	Lembang	94.84	265	LR	LR	10 30 59.4	
	comp=E,14nm,18.5s,baz=230,slow=38						

ISCJB ***04*** *09:48:40.6±0.9, 35°88N±0°05×97°26W±0°03, h7km±5km, Error ellipse: s-maj=8.2km s-min=3.8km az=165.5*
NEIC ***04*** *09:48:40.9±0.8, 35°91N±0°02×97°24W±0°02, h5km±1km*
TUL ***04*** *09:48:41.1, 35°89N×97°29W, h5km, ML2.7*
ANF ***04*** *09:48:43.1±1.3, 35°45N×97°04W, h5km, ML3.3/9, Error ellipse: s-maj=17.4km s-min=9.9km az=178.0*
ISC 04 09:48:40.7±1.3**, 35°85N**±0°03×**97°25W**±0°03**, h0km**±11km**, n28, σ1^{s}37**/42**, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ADOK	Arcadia Dam	0.22	207		Pg	09 48 45.9	+1.0
OKCSW	OKLAHOMA CITY	0.47	199		Pb	09 48 51.1	-0.7
FNO	Franklin	0.60	192		Pb	09 48 54.5	+0.4
W35A	Tecumseh	0.76	156		Pb	09 48 56.4	-0.4
W35A				Sg	Sb	09 49 07.8	+0.2
TUL1	Leonard	1.18	87	P	Pg	09 49 03.5	+0.1
	baz=270						
TUL1				S	Sb	09 49 20.2	+0.4
	baz=270						
TUL1	Leonard	1.18	87		Pg	09 49 03.4	+0.1
TUL1				Sg	Sn	09 49 20.4	-0.8
X34A	Smith Ranch, M	1.33	201		Pb	09 49 06.9	+0.3
X34A					Sg	09 49 23.7	+0.1
U32A	Winter Ranch,	1.52	291		Pn	09 49 08.6	-0.5
U32A				Sn	Sn	09 49 27.8	-1.8
WMOK	Wichita Mounta	1.68	229	P	Pn	09 49 11.7	+0.5
	baz=47						
WMOK				S	Sb	09 49 33.9	-0.1
	baz=47						
WMOK	Wichita Mounta	1.68	229		Pn	09 49 11.7	+0.5
WMOK				Sn	Sn	09 49 33.7	+0.3
HHAR	Hobbs	2.71	80		Pn	09 49 26.5	+1.0
W39A	Magazine	2.90	102	P	Pn	09 49 29.3	+1.3
	baz=285						
W39A	Magazine	2.90	102		Pn	09 49 29.4	+1.4
MIAR	Mount Ida	3.27	112	Pb	Pb	09 49 36.9	-2.7
	baz=295						
MIAR				Sb	Sn	09 50 15.3	+2.5
	baz=295						
MIAR	Mount Ida	3.27	112		Pn	09 49 35.2	+2.0
KSU1	Kansas State U	3.29	9	P	Pb	09 49 41.0	+1.2
	baz=189						
CBKS	Cedar Bluff	3.56	327	P	Pb	09 49 45.4	+0.8
	baz=145						
CBKS				S	Sg	09 50 33.1	-2.0
	baz=145						
U40A	Yellville	3.59	81	P	Pn	09 49 38.4	+0.8
	baz=264						
U40A				Sb	Sb	09 50 31.5	+2.3
	baz=264						
U40A	Yellville	3.59	81		Pn	09 49 37.2	-0.4
AMTX	Amarillo	3.75	256		Pn	09 49 39.5	-0.4
WHTX	Lake Whitney,	3.85	183	Pn	Pn	09 49 41.0	-0.2
X40A	Basin Creek Fa	3.86	109	Pb	Pb	09 49 47.2	-2.4
	baz=293						

X40A				S	Sn	09 50 22.8	-4.5
	baz=293						
WHAR	**Wooly Hollow**	**4.08**	**96**	Pn	**Pn**	**09 49 45.4**	**+1.1**
WHAR				Sn	**Sn**	**09 50 33.4**	**+0.7**
W41B	**Gary Mavity, V**	**4.13**	**98**	P	**Pn**	**09 49 45.5**	**+0.5**
	baz=282						
W41B	**Gary Mavity, V**	**4.13**	**98**		**Pn**	**09 49 46.2**	**+1.2**
W41B				Sn	**Sn**	**09 50 34.6**	**+0.5**
FCAR	**Ozark Folk Cen**	**4.16**	**88**		**Pn**	**09 49 45.7**	**+0.3**
MGMO	**Mountain Grove**	**4.22**	**71**	Pn	**Pn**	**09 49 46.6**	**+0.4**
MGMO				Sn	**Sn**	**09 50 35.5**	**-0.6**
MSTX	**Muleshoe**	**4.91**	**249**	Pn	**Pn**	**09 49 56.0**	**+0.2**

*ISCJB **04** 10:17:03.5±0.5, 43.°04N±0.°02×77.°56E±0.°02, h6km±4km, Error ellipse: s-maj=3.9km s-min=2.9km az=176.4*
*NNC **04** 10:17:03.2±0.3, 43.°03N×77.°56E, h0km, mb2.1, mpv2.5, Error ellipse: s-maj=3.8km s-min=1.3km az=178.0*
*SOME **04** 10:17:04.3, 43.°05N×77.°52E, h20km*
*KRNET **04** 10:17:06.2±0.1, 42.°83N×77.°37E, h1km, mb1.9*
ISC 04 10:17:02.4±1.1, **43.°03N**±0.°02×**77.°55E**±0.°02, **h11**km±10km, **n31**, σ**0.s89**/59, **10C-9D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo**	**0.26**	**160**	⇓*e*P	**Pn**	**10 17 10.7**	**-1.7**
	baz=2.0						
ANVS				⇓*i*S	**Sb**	**10 17 13.6**	**-0.2**
	baz=2.0						
KOTS	**Kotyrbulak**	**0.38**	**303**	*e*P	**Pb**	**10 17 11.3**	**+0.1**
	4.9nm,0.1s						
KOTS				*e*S	**Sb**	**10 17 17.1**	**-0.1**
	105nm,0.2s						
KOTS	**Kotyrbulak**	**0.38**	**303**	P	**Pb**	**10 17 11.3**	**+0.1**
	4.9nm,0.1s						
KOTS				S	**Sb**	**10 17 17.1**	**-0.1**
	105nm,0.2s						
MDOK	**Medeo**	**0.39**	**290**	*e*P	**Pb**	**10 17 11.4**	**0.0**
	5.1nm,0.1s						
MDOK				*e*S	**Sb**	**10 17 17.0**	**-0.5**
	28nm,0.2s						
MDOK	**Medeo**	**0.39**	**290**	P	**Pb**	**10 17 11.1**	**-0.3**
	0.5nm,0.2s						
MDOK				⇓S	**Sb**	**10 17 16.6**	**-0.9**
	17nm,0.4s						
MDOK	**Medeo**	**0.39**	**290**	Pg	**Pb**	**10 17 11.4**	**0.0**
	5.1nm,0.1s						
MDOK				Lg	Lg	10 17 17.0	
	28nm,0.2s						
TNSS	**Tian-Shan**	**0.44**	**271**	*e*P	**Pb**	**10 17 12.2**	**-0.2**
	2.0nm,0.0s						
TNSS				*e*S	**Sb**	**10 17 18.5**	**-0.7**
	11nm,0.1s						
TNSS	**Tian-Shan**	**0.44**	**271**	P	**Pb**	**10 17 12.2**	**-0.2**
	3.0nm,0.1s						
TNSS				S	**Sb**	**10 17 18.3**	**-0.9**
	11nm,0.1s						
KURS	**Kuram**	**0.65**	**45**	P	**Pn**	**10 17 16.6**	**-1.0**
	1.1nm,0.3s						
KURS				S	**Sb**	**10 17 26.1**	**+1.3**
	2.2nm,0.3s						
IZV	**Izvestkoviy**	**0.68**	**271**	*e*P	**Pb**	**10 17 16.6**	**+0.2**
	4.1nm,0.2s						
IZV				*e*S	**Sb**	**10 17 26.1**	**+0.1**
	19nm,0.3s						
IZV	**Izvestkoviy**	**0.68**	**271**	P	**Pb**	**10 17 16.6**	**+0.2**
	4.1nm,0.2s						
IZV				S	**Sb**	**10 17 26.1**	**+0.1**
	19nm,0.3s						
PRZ	**Przheval'sk**	**0.83**	**131**	⇑*i*P	**Pn**	**10 17 22.7**	**+2.5**
	baz=14						
PRZ				⇑*i*S	**Sn**	**10 17 34.8**	**+2.2**
	baz=14						
CHKK	**Chushkaly**	**0.92**	**334**	*e*P	**Pn**	**10 17 21.2**	**-0.1**
	2.5nm,0.1s						
CHKK				*e*S	**Sn**	**10 17 33.6**	**-0.9**
	12nm,0.2s						
CHKK	**Chushkaly**	**0.92**	**334**	P	**Pn**	**10 17 20.9**	**-0.4**
	2.5nm,0.2s						
CHKK				S	**Sn**	**10 17 33.3**	**-1.3**
	20nm,0.2s						
KTBS	**Karatobe**	**0.93**	**318**	P	**Pn**	**10 17 21.1**	**-0.4**
	0.8nm,0.1s						
KTBS				S	**Sn**	**10 17 33.7**	**-1.1**
	10nm,0.2s						
KDJ	**Kajisay**	**0.94**	**197**	⇓*e*P	**Pb**	**10 17 20.3**	**-0.5**
	baz=90						
KDJ				⇓*i*S	**Sg**	**10 17 30.1**	**-2.6**
	baz=90						
KPKS	**Kokpek**	**0.94**	**62**	*e*P	**Pn**	**10 17 21.5**	**-0.1**
	1.2nm,0.1s						
KPKS				*e*S	**Sb**	**10 17 33.5**	**+0.3**
	9.7nm,0.2s						
UZB	**Uzynbulak**	**1.09**	**83**	*e*P	**Pn**	**10 17 23.3**	**-0.4**
	3.5nm,0.3s						
UZB				*e*S	**Sg**	**10 17 37.3**	**-0.2**
	6.0nm,0.2s						
KST	**Kastek**	**1.16**	**271**	*e*P	**Pn**	**10 17 25.4**	**+0.7**
	1.9nm,0.1s						
KST				*e*S	**Sn**	**10 17 41.1**	**+0.5**
	3.5nm,0.1s						
KST	**Kastek**	**1.16**	**271**	*e*P	**Pn**	**10 17 25.4**	**+0.7**
	baz=82						
KST				*e*S	**Sn**	**10 17 41.1**	**+0.5**
	baz=82						
KST	**Kastek**	**1.16**	**271**	P	**Pn**	**10 17 25.2**	**+0.5**
	2.1nm,0.3s						
KST				S	**Sn**	**10 17 40.7**	**+0.1**
	3.2nm,0.3s						
ARXS	**Arharly**	**1.20**	**10**	P	**Pg**	**10 17 26.0**	**+0.5**
	4.9nm,0.4s						
ARXS				S	**Sn**	**10 17 42.1**	**+0.5**
	6.4nm,0.1s						
BOOM	**Boomskoye usch**	**1.30**	**246**	⇑*i*P	**Pg**	**10 17 27.5**	**+0.1**
	baz=52						
BOOM				⇑*e*S	**Sn**	**10 17 43.4**	**-0.7**
	baz=52						
TARG	**Taragay, Kyrgy**	**1.31**	**172**	⇑*i*P	**Pg**	**10 17 28.2**	**+0.6**
	baz=64						
TARG				⇑*i*S	**Sn**	**10 17 44.7**	**-0.1**
	baz=64						
TKM2	**Tokmak 2**	**1.44**	**266**	⇑*i*P	**Pg**	**10 17 31.5**	**+1.6**
	baz=74						
TKM2				⇑*i*S	**Sg**	**10 17 50.1**	**+1.5**
	baz=74						
TKM2	**Tokmak 2**	**1.44**	**266**	⇓P	**Pg**	**10 17 30.3**	**+0.3**
	0.6nm,0.6s						
TKM2				⇓S	**Sg**	**10 17 50.1**	**+1.5**
	0.7nm,0.3s						
PDGK	**Podgornoye**	**1.45**	**77**	P	**Pg**	**10 17 30.0**	**-0.3**
	0.6nm,0.3s						
PDGK				S	**Sg**	**10 17 48.9**	**-0.3**
	1.2nm,0.2s						
PDGK	**Podgornoye**	**1.45**	**77**	⇑P	**Pg**	**10 17 30.6**	**+0.3**
	0.6nm,0.4s						
PDGK				⇑S	**Sg**	**10 17 48.7**	**-0.4**
	0.7nm,0.4s						
DJR	**Jarkent**	**2.08**	**51**	Pg	**Pg**	**10 17 42.6**	**+0.2**
	1.1nm,0.2s						
DJR				Lg	Lg	10 18 11.4	
KTMS	**Ketmen**	**2.09**	**78**	Pg	**Pg**	**10 17 42.2**	**-0.3**
	0.7nm,0.1s						
KTMS				Lg	Lg	10 18 09.8	
	2.2nm,0.1s						
UCH	**Uchtor**	**2.38**	**251**	⇓*e*P	**Pg**	**10 17 46.6**	**-1.4**
	baz=55						
UCH				⇓*i*S	**Sb**	**10 18 15.8**	**+0.8**
	baz=55						

*JMA **04** 10:19:45.3, 23.°79N×121.°51E, h16km±2km, M3.0*
*ISCJB **04** 10:19:46.3±0.2, 23.°818N±0.°010×121.°49E±0.°01, h21km±2km, Error ellipse: s-maj=2.2km s-min=1.4km az=29.0*
*TAP **04** 10:19:46.0, 23.°84N×121.°44E, h20km, ML3.6, B*
ISC 04 10:19:46.2±0.8, **23.°82N**±0.°01×**121.°47E**±0.°02, **h18**km±3km, **n123**, σ**0.s65**/207, **11C-12D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.03**	**256**	*i* P	**Pg**	**10 19 49.7**	**+0.4**
	baz=175						
ESL				*i* S	**Sg**	**10 19 52.0**	**+0.5**
	baz=175						
ENLB	**Shoufeng**	**0.15**	**57**	⇓*i*P	**Pb**	**10 19 50.3**	**0.0**
	baz=61						
ENLB				*e*S	**Sg**	**10 19 53.7**	**+0.5**
	baz=61						
EGFH	**Guangfu**	**0.16**	**193**	P	**Pb**	**10 19 50.7**	**+0.3**
	baz=183						
EGFH				S	**Sg**	**10 19 53.7**	**+0.3**
	baz=183						
HWA	**Hwalien**	**0.20**	**39**	*e*P	**Pg**	**10 19 51.9**	**+0.8**
	baz=45						
HWA				*e*S	**Sg**	**10 19 56.0**	**+1.6**
	baz=45						
TWD	**Chiawan**	**0.28**	**25**	⇑P	**Pb**	**10 19 52.5**	**-0.2**
	baz=33						
TWD				S	**Sb**	**10 19 57.1**	**-0.1**
	baz=33						
OWD	**Renai**	**0.30**	**297**	⇑P	**Pb**	**10 19 52.5**	**-0.5**
	baz=301						
OWD				S	**Sb**	**10 19 56.9**	**-0.9**
	baz=301						
VWDT	**VWDT**	**0.30**	**257**	⇑P	**Pg**	**10 19 52.9**	**+0.2**
	baz=248						
VWDT				S	**Sb**	**10 19 56.9**	**-0.9**
	baz=248						
HGSD	**Ruisui**	**0.33**	**187**	⇓P	**Pg**	**10 19 53.4**	**+0.2**
	baz=186						
HGSD				*e*S	**Sb**	**10 19 59.5**	**+1.0**
	baz=186						
EHY	**Hungye**	**0.34**	**203**	⇓*e*P	**Pg**	**10 19 52.8**	**-0.6**
	baz=197						
EHY				*e*S	**Sg**	**10 19 58.2**	**-0.1**
	baz=197						
CHGB	**Renai**	**0.36**	**312**	⇑P	**Pg**	**10 19 53.8**	**-0.1**
	baz=317						
CHGB				S	**Sg**	**10 19 58.3**	**-0.7**
	baz=317						
NACB	**Ninganchiao**	**0.37**	**19**	⇑P	**Pg**	**10 19 53.6**	**-0.3**
	baz=24						
NACB				S	**Sg**	**10 19 58.5**	**-0.6**
	baz=24						
WHF	**Hehuan Shan**	**0.37**	**330**	*i* P	**Pg**	**10 19 53.8**	**-0.3**
	baz=334						
WHF				S	**Sg**	**10 19 58.6**	**-1.0**
	baz=334						
ETLH	**Xiulin Townshi**	**0.38**	**2**	⇓P	**Pg**	**10 19 54.1**	**-0.1**
	baz=14						
ETLH				*e*S	**Sg**	**10 19 59.4**	**-0.3**
	baz=14						
YULB	**Yu-li**	**0.45**	**200**	⇓*e*P	**Pg**	**10 19 54.3**	**-1.2**
	baz=190						
YULB				S	**Sg**	**10 20 02.1**	**+0.5**
	baz=190						
SSLB	**Suanglung**	**0.47**	**266**	⇑P	**Pb**	**10 19 55.1**	**-0.8**
	baz=269						
SSLB				*e*S	**Sg**	**10 20 00.7**	**-1.5**
	baz=269						
TWF1	**Yuli**	**0.49**	**198**	*e*P	**Pb**	**10 19 55.5**	**-0.8**
	baz=197						
TWF1				*e*S	**Sg**	**10 20 03.3**	**+0.5**
	baz=197						
TWT	**Tachien**	**0.51**	**328**	P	**Pb**	**10 19 56.4**	**-0.3**
	baz=329						
TWT				S	**Sg**	**10 20 02.6**	**-0.7**
	baz=329						
TDCB	**Techi**	**0.51**	**327**	⇓P	**Pb**	**10 19 56.5**	**-0.3**
	baz=329						
TDCB				S	**Sb**	**10 20 02.5**	**-1.5**
	baz=329						
DPDB	**Guoxing**	**0.54**	**293**	⇓*e*P	**Pb**	**10 19 56.6**	**-0.5**
	baz=292						
DPDB				*e*S	**Sb**	**10 20 03.3**	**-1.2**
	baz=292						
TYC	**Yuchr**	**0.56**	**279**	⇑*i*P	**Pb**	**10 19 56.9**	**-0.7**
	baz=282						
TYC				S	**Sb**	**10 20 03.7**	**-1.5**
	baz=282						
WHYT	**Xinyi Township**	**0.57**	**258**	*e*P	**Pb**	**10 19 57.4**	**-0.3**
	baz=252						
WHYT				*e*S	**Sb**	**10 20 04.9**	**-0.8**
	baz=252						
YUS	**Yu-Shan**	**0.58**	**235**	⇑*i*P	**Pb**	**10 19 57.6**	**-0.4**
	baz=231						
YUS				*e*S	**Sb**	**10 20 04.8**	**-1.3**
	baz=231						
NNSB	**Datong**	**0.61**	**353**	⇓P	**Pb**	**10 19 58.1**	**-0.3**
	baz=3.0						
NNSB				S	**Sb**	**10 20 05.6**	**-1.1**
	baz=3.0						
NNSH	**Datong**	**0.61**	**353**	P	**Pb**	**10 19 58.1**	**-0.3**
	baz=2.0						
NNSH				S	**Sb**	**10 20 05.9**	**-0.8**
	baz=2.0						
NNS	**Nan Shan**	**0.62**	**352**	⇑*i*P	**Pb**	**10 19 58.4**	**-0.2**
	baz=3.0						
NNS				S	**Sb**	**10 20 06.3**	**-0.8**
	baz=3.0						
FULB	**Fuli**	**0.64**	**194**	*e*P	**Pb**	**10 19 58.1**	**-0.8**
	baz=200						
FULB				*e*S	**Sn**	**10 20 09.3**	**-0.9**
	baz=200						
ENA	**Nanau**	**0.65**	**23**	*e*P	**Pb**	**10 19 58.1**	**-1.0**
	baz=26						
NANB	**Nanao**	**0.66**	**23**	⇑P	**Pb**	**10 19 58.1**	**-1.0**
	baz=26						
WHP	**Taichung City**	**0.66**	**314**	*e*P	**Pb**	**10 19 58.9**	**-0.3**
	baz=314						
WHP				S	**Sb**	**10 20 07.3**	**-0.7**
	baz=314						
WJS	**Zhushan**	**0.68**	**270**	*e*P	**Pb**	**10 19 59.7**	**+0.2**
	baz=268						
WJS				*e*S	**Sg**	**10 20 09.6**	**+1.0**
	baz=268						
WNT	**Mingjian**	**0.72**	**275**	*e*P	**Pb**	**10 20 00.6**	**+0.4**
	baz=273						
WNT				*e*S	**Sg**	**10 20 10.7**	**+0.9**
	baz=273						
CHKT	**Chengkung**	**0.72**	**187**	*e*P	**Pb**	**10 19 59.6**	**-0.7**
	baz=173						
CHKT				*e*S	**Sb**	**10 20 10.2**	**+0.3**
	baz=173						
ELDTW	**Lidau**	**0.75**	**213**	*e*P	**Pb**	**10 19 59.9**	**-1.0**
	baz=218						
ELDTW				*e*S	**Sb**	**10 20 09.8**	**-1.0**
	baz=218						
CHN5	**Tsauling**	**0.76**	**253**	⇑*e*P	**Pb**	**10 20 01.0**	**+0.1**
	baz=244						
CHN5				S	**Sg**	**10 20 11.8**	**+0.7**
	baz=244						
NDT	**Datong Townshi**	**0.78**	**3**	*e*P	**Pb**	**10 20 01.1**	**-0.2**
	baz=6.0						
NDT				*e*S	**Sb**	**10 20 11.1**	**-0.4**
	baz=6.0						
TCU	**Taichung**	**0.79**	**294**	*e*P	**Pg**	**10 20 02.3**	**+0.7**
	baz=294						
TCU				*e*S	**Sg**	**10 20 13.3**	**+1.1**
	baz=294						
ENTT	**Nioudou**	**0.82**	**6**	P	**Pb**	**10 20 01.4**	**-0.6**
	baz=10.0						
ENTT				S	**Sb**	**10 20 12.7**	**0.0**
	baz=10.0						
TWQ1	**Liyutan**	**0.82**	**310**	⇓P	**Pb**	**10 20 02.4**	**+0.5**
	baz=310						
TWQ1				S	**Sb**	**10 20 13.2**	**+0.5**
	baz=310						
WGK	**Gukeng**	**0.84**	**261**	*e*P	**Pb**	**10 20 02.4**	**+0.1**
	baz=258						
WGK				*e*S	**Sg**	**10 20 14.3**	**+0.6**
	baz=258						
YHNB	**Yeheng**	**0.85**	**354**	P	**Pb**	**10 20 02.3**	**-0.2**
	baz=350						
YHNB				*e*S	**Sb**	**10 20 12.8**	**-0.7**
	baz=350						
TWC	**Suao**	**0.86**	**24**	*e*P	**Pb**	**10 20 01.6**	**-1.0**
	baz=27						
TWC				*e*S	**Sb**	**10 20 13.6**	**-0.2**
	baz=27						
WDLH	**Douliu**	**0.86**	**261**	*e*P	**Pb**	**10 20 02.9**	**+0.3**
	baz=259						
WCHH	**Zhanghua**	**0.87**	**287**	*e*P	**Pb**	**10 20 02.9**	**+0.1**
	baz=286						
WCHH				*e*S	**Sg**	**10 20 15.6**	**+1.0**
	baz=286						
NSY	**Sanyi**	**0.88**	**313**	⇓P	**Pn**	**10 20 03.9**	**+0.2**
	baz=313						
NSY				*e*S	**Sg**	**10 20 15.1**	**+0.2**
	baz=313						
NSTT	**Nanjuang**	**0.91**	**332**	⇓*i*P	**Pb**	**10 20 03.7**	**+0.2**
	baz=335						
NSTT				S	**Sb**	**10 20 14.8**	**-0.5**
	baz=335						
TWE	**Neicheng**	**0.91**	**12**	*e*P	**Pb**	**10 20 03.0**	**-0.5**
	baz=26						
LIOB	**Emei**	**0.92**	**333**	⇓P	**Pb**	**10 20 03.9**	**+0.3**
	baz=335						
WDJ	**Dajia District**	**0.92**	**305**	*e*P	**Pn**	**10 20 04.4**	**+0.2**
	baz=305						
STYT	**Tauyuan**	**0.92**	**225**	P	**Pb**	**10 20 03.8**	**0.0**
	baz=215						
STYT				S	**Sb**	**10 20 15.7**	**0.0**
	baz=215						
TPUB	**Ta-pu**	**0.93**	**236**	P	**Pb**	**10 20 04.1**	**+0.4**
	baz=224						
TPUB				S	**Sg**	**10 20 16.6**	**+0.2**
	baz=224						
CHN4	**Tsaushan**	**0.93**	**240**	P	**Pn**	**10 20 04.4**	**+0.1**
	baz=228						
CHN4				*e*S	**Sb**	**10 20 15.4**	**-0.4**
	baz=228						
PTSB	**Yuanli**	**0.93**	**312**	*e*P	**Pb**	**10 20 03.6**	**-0.2**
	baz=314						
SLBB	**Yuanshan**	**0.94**	**9**	*e*P	**Pb**	**10 20 02.3**	**-1.7**
	baz=23						
NMLH	**Miaoli**	**0.94**	**319**	*e*P	**Pn**	**10 20 04.9**	**+0.3**
	baz=320						
NMLH				*e*S	**Sb**	**10 20 16.9**	**+0.7**
	baz=320						
EOS1	**EOS1**	**0.94**	**40**	*e*P	**Pb**	**10 20 04.4**	**+0.3**
	baz=28						
NWLT	**Wulai**	**0.95**	**2**	*e*P	**Pb**	**10 20 03.9**	**-0.3**
	baz=14						
NWLT				*e*S	**Sb**	**10 20 16.5**	**0.0**
	baz=14						
CHN2	**Minshiung**	**0.95**	**253**	*e*P	**Pb**	**10 20 04.5**	**+0.3**
	baz=250						
CHN2				*e*S	**Sn**	**10 20 18.1**	**+0.3**
	baz=250						
WTP	**Ta-pu**	**0.97**	**234**	P	**Pb**	**10 20 04.5**	**0.0**
	baz=231						
WTP				S	**Sg**	**10 20 18.1**	**+0.3**
	baz=231						
CHY	**Chiayi**	**1.01**	**252**	*e*P	**Pb**	**10 20 05.5**	**+0.4**
	baz=249						
CHY				*e*S	**Sn**	**10 20 19.2**	**0.0**
	baz=249						
RLNB	**Erlin**	**1.01**	**274**	*e*P	**Pb**	**10 20 05.3**	**+0.1**
	baz=272						
RLNB				S	**Sn**	**10 20 19.3**	**0.0**
	baz=272						
WLTB	**Daxi**	**1.04**	**349**	*e*P	**Pn**	**10 20 06.4**	**+0.5**
	baz=358						
WLTB				*e*S	**Sb**	**10 20 19.2**	**+0.1**
	baz=358						
TWK	**Hsinying**	**1.05**	**239**	*e*P	**Pn**	**10 20 06.4**	**+0.2**
	baz=236						
TWK				*e*S	**Sb**	**10 20 20.1**	**+0.6**
	baz=236						
TWG	**Pinlang**	**1.06**	**200**	*e*P	**Pb**	**10 20 04.8**	**-1.2**
	baz=184						
TWG				*e*S	**Sb**	**10 20 19.7**	**+0.1**
	baz=184						
TWGBT	**Beinan**	**1.06**	**200**	*e*P	**Pb**	**10 20 04.6**	**-1.5**
	baz=184						
SBCB	**Hsinchu**	**1.06**	**336**	*e*P	**Pg**	**10 20 06.9**	**+0.1**
	baz=338						
SBCB				*e*S	**Sn**	**10 20 20.4**	**-0.1**
	baz=338						
CHN1	**Nanshi**	**1.07**	**234**	*e*P	**Pn**	**10 20 06.6**	**+0.3**
	baz=231						
CHN1				*e*S	**Sn**	**10 20 20.9**	**+0.1**
	baz=231						
SNST	**Tainan City**	**1.07**	**236**	*e*P	**Pn**	**10 20 06.7**	**+0.3**
	baz=234						
SNST				*e*S	**Sg**	**10 20 21.3**	**+0.3**
	baz=234						
HSN	**Hsinchu**	**1.08**	**335**	*e*P	**Pg**	**10 20 07.6**	**+0.5**
	baz=322						
HSN				*e*S	**Sg**	**10 20 22.3**	**+1.1**
	baz=322						
NTC	**Toucheng**	**1.08**	**18**	*e*P	**Pn**	**10 20 05.8**	**-0.7**
	baz=20						
WTCT	**Ta-ch'eng**	**1.09**	**272**	*e*P	**Pn**	**10 20 05.7**	**-0.8**
	baz=270						
WTCT				*e*S	**Sb**	**10 20 20.6**	**+0.3**
	baz=270						
SGST	**Jiashian**	**1.09**	**228**	*e*P	**Pn**	**10 20 06.1**	**-0.6**
	baz=225						
SGST				*e*S	**Sn**	**10 20 21.6**	**+0.2**
	baz=225						
EGS		**1.10**	**23**	*e*P	**Pn**	**10 20 06.9**	**+0.1**
	baz=26						
SLGT	**Liugui**	**1.12**	**223**	*e*P	**Pb**	**10 20 07.3**	**+0.3**
	baz=219						
NHDH	**Xindian Distri**	**1.14**	**3**	*e*P	**Pb**	**10 20 08.1**	**+0.8**
	baz=13						
TATO	**Taipei**	**1.15**	**1**	*e*P	**Pn**	**10 20 07.3**	**-0.1**
	baz=10.0						
TATO				*e*S	**Sn**	**10 20 22.8**	**+0.1**
	baz=10.0						
WSF	**Szhu**	**1.15**	**261**	*e*P	**Pn**	**10 20 07.5**	**0.0**
	baz=259						
WSF				S	**Sn**	**10 20 23.3**	**+0.5**
	baz=259						
TWA	**Mucha**	**1.16**	**5**	*e*P	**Pn**	**10 20 07.7**	**+0.1**
	baz=8.0						
TWA				*e*S	**Sn**	**10 20 23.3**	**+0.3**
	baz=8.0						
NCUH	**Zhongli**	**1.17**	**347**	*e*P	**Pg**	**10 20 08.9**	**+0.1**
	baz=350						
NCUH				*e*S	**Sg**	**10 20 25.2**	**+1.1**
	baz=350						
NCU	**National Centr**	**1.17**	**348**	*e*P	**Pb**	**10 20 08.6**	**+0.7**
	baz=350						
NCU				*e*S	**Sg**	**10 20 25.3**	**+1.1**
	baz=350						
TIPB	**Shuangxi**	**1.19**	**16**	*e*P	**Pn**	**10 20 07.5**	**-0.5**
	baz=18						
TIPB				*e*S	**Sb**	**10 20 23.6**	**+0.2**
	baz=18						
TAP	**Taipei**	**1.21**	**2**	*e*P	**Pn**	**10 20 08.2**	**-0.1**
	baz=18						
CHN8	**Yiju**	**1.25**	**248**	*e*P	**Pn**	**10 20 08.7**	**0.0**
	baz=245						
CHN8				*e*S	**Sg**	**10 20 26.6**	**0.0**
	baz=245						
TWB1	**Santiao Chiao**	**1.27**	**22**	P	**Pn**	**10 20 09.2**	**+0.1**
	baz=25						
TWS1	**Kuangyinshan**	**1.27**	**358**	P	**Pb**	**10 20 10.3**	**+0.6**
	baz=11						
TWS1				*e*S	**Sg**	**10 20 28.2**	**+0.7**
	baz=11						
NWF	**Wu-fen Shan**	**1.28**	**13**	*e*P	**Pb**	**10 20 10.2**	**+0.4**
	baz=28						
NWF				*e*S	**Sb**	**10 20 27.1**	**+1.2**
	baz=28						
WFSB	**Wu-fen Shan**	**1.28**	**13**	*e*P	**Pb**	**10 20 10.0**	**+0.2**
	baz=26						
WFSB				*e*S	**Sb**	**10 20 27.1**	**+1.2**
	baz=26						
ECL	**Taimali**	**1.31**	**201**	*e*P	**Pn**	**10 20 09.8**	**+0.2**
	baz=185						
SSD	**Sandimen**	**1.32**	**216**	*e*P	**Pn**	**10 20 09.8**	**+0.1**
	baz=224						
YM01	**YM01**	**1.32**	**4**	*e*P	**Pn**	**10 20 10.3**	**+0.4**
	baz=6.0						
YM10	**YM10**	**1.33**	**4**	*e*P	**Pn**	**10 20 09.9**	**-0.1**
	baz=24						
NTST	**Danshui**	**1.34**	**359**	*e*P	**Pb**	**10 20 11.0**	**+0.3**
	baz=14						
NTST				*e*S	**Sg**	**10 20 29.8**	**+0.3**
	baz=14						
YM11	**YM11**	**1.34**	**4**	*e*P	**Pb**	**10 20 10.8**	**-0.1**
	baz=7.0						
YM11				*e*S	**Sb**	**10 20 28.8**	**+1.0**
	baz=7.0						
ANP	**Anpu**	**1.36**	**2**	*e*P	**Pn**	**10 20 10.8**	**+0.4**
	baz=23						
YM08	**YM08**	**1.36**	**5**	*e*P	**Pn**	**10 20 10.6**	**+0.1**
	baz=7.0						
YM08				*e*S	**Sn**	**10 20 28.2**	**+0.2**
	baz=7.0						
TWM1	**Shoushan**	**1.38**	**224**	*e*P	**Pg**	**10 20 13.8**	**+0.9**
	baz=220						
MASBT	**Mashibuluo**	**1.43**	**213**	*e*P	**Pn**	**10 20 11.3**	**+0.1**
	baz=228						
MASBT				*e*S	**Sg**	**10 20 31.7**	**-0.7**
	baz=228						
JYNG	**Yonagunijimaku**	**1.49**	**65**	P	**Pn**	**10 20 11.5**	**-0.6**
JYNG				*e*S	**Sn**	**10 20 29.7**	**-1.4**

EAST	Anshuo baz=187	1.54	202	eP	Pb	10 20 14.1	-0.1
YOJ	Yonaguni jima baz=66	1.55	65	eP	Pn	10 20 12.6	-0.3
SCZT	Fangliau baz=206	1.64	209	eP	Pb	10 20 15.8	-0.1
SCZT	baz=206			eS	Sb	10 20 37.2	+0.9
WDGT	Dungji baz=250	1.75	252	eP	Pn	10 20 16.0	+0.4
PHUB	P'eng-hu baz=259	1.76	260	eP	Pn	10 20 15.8	0.0
PNG	Penghu baz=260	1.77	262	eP	Pn	10 20 15.4	-0.5
PNG	baz=260			eS	Sn	10 20 38.6	+0.6
PCYT	Pengchaiyu baz=19	1.88	17	eP	Pn	10 20 18.2	+0.7
TWK1	Hengchun baz=185	1.97	198	eP	Pn	10 20 19.9	+1.2
VCHM	Qimei baz=250	1.97	252	eP	Pn	10 20 18.8	+0.1
VCHM	baz=250			eS	Sn	10 20 43.7	+0.8
TWKBT	Hengchun baz=185	1.97	198	eP	Pn	10 20 19.9	+1.2
IRIF	Iriomote-Funau	2.13	76	P	Pn	10 20 20.8	-0.1
IRIF				eS	Sn	10 20 46.3	-0.6
HATJ	Hateruma jima	2.15	83	eS	Sn	10 20 47.0	-0.5
VWUC	VWUC baz=306	2.18	303	eP	Pn	10 20 20.5	-1.0
JKRS	Kuro-shima	2.36	79	P	Pn	10 20 24.6	+0.5
JKRS				eS	Sn	10 20 52.7	+0.1
PTMZ	Houxiangcun baz=301	2.46	300	eP	Pn	10 20 24.9	-0.5
PTMZ	baz=301			eS	Sn	10 20 53.9	-1.1
JIJ	Ishigaki jima	2.50	77	P	Pn	10 20 25.6	-0.5
JIJ				eS	Sn	10 20 55.4	-0.8
MATB	Ma-tsu baz=332	2.70	330	eP	Pn	10 20 27.7	-1.0
MATB	baz=332			eS	Sn	10 21 00.8	-0.2
JISG	Ishigakijimahi	2.71	73	P	Pn	10 20 28.5	-0.3
JISG				eS	Sn	10 20 59.8	-1.4
KNMB	Chin-men Tao baz=284	2.88	283	eP	Pn	10 20 30.7	-0.6
LYJJ	Jianjiangzhen baz=339	3.13	331	eP	Pn	10 20 33.9	-0.7
MHZQ	Yeshan baz=321	3.17	316	eP	Pn	10 20 35.0	-0.2
XPSS	Dashiqiu baz=334	3.30	340	eP	Pn	10 20 36.9	-0.2
AXDP	Jialang baz=290	3.36	289	eP	Pn	10 20 37.5	-0.4
ZPLA	Ao Xicun baz=270	3.40	273	eP	Pn	10 20 38.5	+0.1
ZZJH	Jiuhuzhen baz=281	3.56	281	eP	Pn	10 20 40.8	+0.2
JMJ	Miyako jima 2 baz=72	3.63	73	eP	Pn	10 20 42.6	+1.1

ISCJB **04** *10:32:39.5±0.3, 24°.69N±0°.02×122°.56E±0°.01, h115km±2km, Error ellipse: s-maj=2.7km s-min=2.1km az=165.4*
JMA **04** *10:32:39.7±0.2, 24°.63N×122°.55E, h117km±2km, M2.9*
TAP **04** *10:32:40.1, 24°.71N×122°.56E, h114km, ML3.8, B*
ISC 04 10:32:39.1±1.2**, 24°.72N**±0°.03×**122°.57E**±0°.02**, h122**km±5km**, n137, σ0.s91**/268**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.43	128	P	Pn	10 32 57.0	+0.2
JYNG				S	Sn	10 33 09.7	-0.5
EOS1	EOS1 baz=247	0.44	247	i P	Pn	10 32 57.4	+0.6
EOS1	baz=247			S	Sn	10 33 10.5	+0.4
YOJ	Yonaguni jima	0.48	123	P	Pn	10 32 57.2	+0.2
YOJ				eS	Sn	10 33 10.3	-0.3
YOJ	Yonaguni jima baz=121	0.48	123	P	Pn	10 32 57.2	+0.2
YOJ	baz=121			eS	Sn	10 33 10.0	-0.6
EGS	baz=283	0.59	282	eP	Pn	10 32 58.5	+0.7
EGS	baz=283			eS	Sn	10 33 11.5	-0.4
TWB1	Santiao Chiao baz=299	0.60	299	P	Pn	10 32 58.0	+0.2
TWB1	baz=299			eS	Sn	10 33 11.5	-0.5
TWC	Suao baz=260	0.67	261	P	Pn	10 32 58.4	+0.1
TWC	baz=260			S	Sn	10 33 12.2	-0.6
NTC	Toucheng baz=282	0.69	281	P	Pn	10 32 58.9	+0.5
NTC	baz=282			eS	Sn	10 33 12.2	-0.9
TIPB	Shuangxi baz=291	0.72	290	P	Pn	10 32 59.5	+0.7
TIPB	baz=291			S	Sn	10 33 13.2	-0.5
ILA	Ilan baz=274	0.75	274	eP	Pn	10 32 59.6	+0.6
ILA	baz=274			eS	Sn	10 33 14.2	+0.2
NWF	Wu-fen Shan baz=296	0.80	296	P	Pn	10 33 00.2	+0.7
NWF	baz=296			eS	Sn	10 33 14.2	-0.7
WFSB	Wu-fen Shan baz=296	0.80	296	P	Pn	10 32 59.8	+0.4
WFSB	baz=296			eS	Sn	10 33 14.4	-0.4
NANB	Nanao baz=248	0.80	249	P	Pn	10 32 59.9	+0.5
NANB	baz=248			eS	Sn	10 33 13.8	-1.0
ENA	Nanau baz=248	0.81	249	P	Pn	10 32 60.0	+0.5
ENA	baz=248			eS	Sn	10 33 13.8	-1.1
TWE	Neicheng baz=270	0.82	270	P	Pn	10 33 00.3	+0.7
TWE	baz=270			eS	Sn	10 33 14.1	-1.0
SLBB	Yuanshan baz=272	0.85	272	eP	Pn	10 32 59.7	-0.2
SLBB	baz=272			eS	Sn	10 33 15.0	-0.6
ENTT	Nioudou baz=265	0.92	265	eP	Pn	10 33 01.4	+0.9
ENTT	baz=265			eS	Sn	10 33 16.1	-0.5
TWA	Mucha baz=286	0.93	286	P	Pn	10 33 01.1	+0.5
TWA	baz=286			eS	Sn	10 33 16.2	-0.7
NDT	Datong Townshi baz=263	0.97	263	P	Pn	10 33 01.4	+0.4
NDT	baz=263			eS	Sn	10 33 16.9	-0.6
NWLT	Wulai baz=273	0.97	274	P	Pn	10 33 01.4	+0.4
NWLT	baz=273			eS	Sn	10 33 17.2	-0.4
NHDH	Xindian Distri baz=284	0.98	284	eP	Pn	10 33 01.5	+0.5
NHDH	baz=284			eS	Sn	10 33 17.3	-0.4
YM01	YM01 baz=295	1.00	295	P	Pn	10 33 02.2	+0.9
YM01	baz=295			eS	Sn	10 33 17.9	-0.2
YM08	YM08 baz=298	1.00	298	i P	Pn	10 33 01.7	+0.4
YM08	baz=298			eS	Sn	10 33 17.5	-0.7
YM11	YM11 baz=296	1.01	296	P	Pn	10 33 01.9	+0.5
YM11	baz=296			eS	Sn	10 33 17.9	-0.4
PCYT	Pengchaiyu baz=334	1.01	334	eP	Pn	10 33 02.3	+0.9
PCYT	baz=334			eS	Sn	10 33 18.1	-0.2
YM05	YM05 baz=296	1.01	296	i P	Pn	10 33 02.2	+0.8
YM05	baz=296			eS	Sn	10 33 18.2	-0.2
YM10	YM10 baz=295	1.01	295	P	Pn	10 33 01.9	+0.5
YM10	baz=295			eS	Sn	10 33 17.9	-0.4
TATO	Taipei baz=285	1.02	285	P	Pn	10 33 01.8	+0.4
TATO	baz=285			eS	Sn	10 33 17.8	-0.5
YM04	YM04 baz=295	1.03	295	P	Pn	10 33 02.2	+0.6
YM04	baz=295			eS	Sn	10 33 18.6	-0.1
TWY	Chenhua baz=302	1.04	302	eP	Pn	10 33 02.3	+0.7
TWY	baz=302			eS	Sn	10 33 18.7	0.0
NACB	Ninganchiao baz=238	1.04	239	eP	Pn	10 33 01.5	-0.1
NACB	baz=238			eS	Sn	10 33 18.6	-0.2
ANP	Anpu baz=296	1.06	296	P	Pn	10 33 02.3	+0.4
ANP	baz=296			eS	Sn	10 33 19.1	-0.2
YHNB	Yeheng baz=267	1.09	268	P	Pn	10 33 03.2	+1.0
YHNB	baz=267			S	Sn	10 33 19.9	+0.2
TWD	Chiawan baz=234	1.09	235	P	Pn	10 33 02.2	+0.1
TWD	baz=234			eS	Sn	10 33 18.8	-0.8
NSK	Sanguang baz=267	1.10	268	P	Pn	10 33 03.3	+1.0
NSK	baz=267			eS	Sn	10 33 19.3	-0.7
NTST	Danshui baz=294	1.11	294	eP	Pn	10 33 03.3	+1.0
NTST	baz=294			eS	Sn	10 33 20.0	+0.1
TWS1	Kuangyinshan baz=290	1.11	290	P	Pn	10 33 03.3	+0.9
TWS1	baz=290			eS	Sn	10 33 19.7	-0.3
ETLH	Xiulin Townshi baz=242	1.12	243	P	Pn	10 33 02.7	+0.2
ETLH	baz=242			eS	Sn	10 33 19.5	-0.8
NNSB	Datong baz=255	1.12	255	P	Pn	10 33 03.3	+0.7
NNSB	baz=255			eS	Sn	10 33 19.9	-0.5
NNSH	Datong baz=255	1.12	255	P	Pn	10 33 03.5	+0.9
NNSH	baz=255			eS	Sn	10 33 19.7	-0.7
IRIF	Iriomote-Funau	1.12	110	P	Pn	10 33 02.9	+0.5
IRIF				eS	Sn	10 33 19.7	-0.5
NNS	Nan Shan baz=255	1.13	256	P	Pn	10 33 03.2	+0.5
NNS	baz=255			S	Sn	10 33 20.1	-0.4
HWA	Hwalien baz=229	1.15	230	eP	Pn	10 33 02.9	+0.1
HWA	baz=229			eS	Sn	10 33 20.6	-0.1
ENLB	Shoufeng baz=227	1.20	228	eP	Pn	10 33 03.8	+0.5
ENLB	baz=227			eS	Sn	10 33 21.0	-0.6
WLTB	Daxi baz=276	1.21	277	eP	Pn	10 33 04.0	+0.7
WLTB	baz=276			eS	Sn	10 33 21.6	-0.2
NCU	National Centr baz=281	1.28	281	eP	Pn	10 33 04.9	+0.8
NCU	baz=281			eS	Sn	10 33 23.0	-0.2
NCUH	Zhongli baz=281	1.28	281	eP	Pn	10 33 04.7	+0.5
NCUH	baz=281			eS	Sn	10 33 23.0	-0.2
HATJ	Hateruma jima	1.30	120	eS	Sn	10 33 23.1	-0.5
WHF	Hehuan Shan baz=244	1.32	245	P	Pn	10 33 05.7	+0.6
WHF	baz=244			eS	Sn	10 33 23.6	-1.1
TDCB	Techi baz=250	1.37	250	P	Pn	10 33 05.9	+0.6
TDCB	baz=250			eS	Sn	10 33 24.9	-0.3
ESL	Shilin baz=228	1.38	229	eP	Pn	10 33 05.1	-0.1
ESL	baz=228			eS	Sn	10 33 23.5	-1.5
JKRS	Kuro-shima	1.40	110	P	Pn	10 33 06.3	+0.9
JKRS				S	Sn	10 33 25.4	0.0
NHW	Xinwu Township baz=282	1.41	282	P	Pn	10 33 06.9	+1.3
NHW	baz=282			eS	Sn	10 33 25.9	+0.1
LIOB	Emei baz=267	1.42	267	P	Pn	10 33 06.9	+1.2
LIOB	baz=267			eS	Sn	10 33 25.8	-0.1
NSTT	Nanjuang baz=266	1.43	267	P	Pn	10 33 06.6	+0.8
NSTT	baz=266			eS	Sn	10 33 25.9	-0.2
CHGB	Renai baz=242	1.43	243	P	Pn	10 33 07.1	+1.0
CHGB	baz=242			eS	Sn	10 33 25.9	-0.7
SBCB	Hsinchu baz=273	1.44	273	P	Pn	10 33 07.2	+1.3
SBCB	baz=273			eS	Sn	10 33 26.4	0.0
HSN	Hsinchu baz=274	1.46	274	eP	Pn	10 33 06.8	+0.7
HSN	baz=274			eS	Sn	10 33 26.3	-0.4
JIJ	Ishigaki jima	1.48	104	P	Pn	10 33 06.8	+0.5
JIJ				S	Sn	10 33 25.7	-1.3
EGFH	Guangfu baz=224	1.48	225	eP	Pn	10 33 06.3	-0.1
EGFH	baz=224			eS	Sn	10 33 26.4	-0.7
OWD	Renai baz=239	1.48	239	eP	Pn	10 33 07.5	+0.9
OWD	baz=239			eS	Sn	10 33 27.0	-0.4
WHP	Taichung City baz=253	1.54	254	P	Pn	10 33 08.8	+1.6
WHP	baz=253			eS	Sn	10 33 28.4	-0.2
JISG	Ishigakijimahi	1.59	94	P	Pn	10 33 08.1	+0.5
JISG				S	Sn	10 33 28.6	-0.7
HGSD	Ruisui baz=220	1.61	221	eP	Pn	10 33 08.1	+0.2
HGSD	baz=220			eS	Sn	10 33 29.6	-0.3
VWDT	VWDT baz=233	1.62	234	P	Pn	10 33 08.8	+0.8
VWDT	baz=233			eS	Sn	10 33 29.4	-0.6
NMLH	Miaoli baz=263	1.63	264	P	Pn	10 33 09.3	+1.2
NMLH	baz=263			eS	Sn	10 33 30.4	+0.1
DPDB	Guoxing baz=245	1.65	246	eP	Pn	10 33 10.1	+1.7
DPDB	baz=245			eS	Sn	10 33 30.5	-0.2
EHY	Hungye baz=223	1.66	224	eP	Pn	10 33 08.2	-0.3
EHY	baz=223			eS	Sn	10 33 29.6	-1.3
NSY	Sanyi baz=259	1.68	260	eP	Pn	10 33 10.2	+1.6
NSY	baz=259			eS	Sn	10 33 31.1	-0.2
TWQ1	Liyutan baz=257	1.68	258	P	Pn	10 33 09.5	+0.8
TWQ1	baz=257			eS	Sn	10 33 31.3	0.0
PTSB	Yuanli baz=261	1.72	261	eP	Pn	10 33 09.4	+0.2
PTSB	baz=261			eS	Sn	10 33 31.9	-0.3
SMLT	Sun Moon Lake baz=241	1.74	242	eP	Pn	10 33 11.1	+1.6
SMLT	baz=241			eS	Sn	10 33 32.3	-0.4
SSLB	Suanglung baz=237	1.74	238	P	Pn	10 33 10.6	+1.1
SSLB	baz=237			eS	Sn	10 33 32.7	0.0
YULB	Yu-li baz=221	1.76	222	eP	Pn	10 33 09.4	-0.3
YULB	baz=221			eS	Sn	10 33 31.5	-1.6
TYC	Yuchr baz=242	1.76	243	eP	Pn	10 33 11.5	+1.8
TYC	baz=242			eS	Sn	10 33 32.7	-0.3
WDJ	Dajia District baz=258	1.80	258	eP	Pn	10 33 11.1	+1.0
WDJ	baz=258			eS	Sn	10 33 33.8	0.0
TCU	Taichung baz=251	1.82	252	eP	Pn	10 33 11.9	+1.6
TCU	baz=251			eS	Sn	10 33 34.6	+0.3
WHYT	Xinyi Township baz=237	1.87	237	eP	Pn	10 33 12.9	+1.8
WHYT	baz=237			eS	Sn	10 33 35.0	-0.5
WJS	Zhushan baz=242	1.91	242	eP	Pn	10 33 13.1	+1.6
WJS	baz=242			eS	Sn	10 33 36.1	-0.1
FULB	Fuli baz=217	1.91	218	P	Pn	10 33 11.9	+0.3
FULB	baz=217			eS	Sn	10 33 36.3	-0.1
WNT	Mingjian baz=243	1.92	244	eP	Pn	10 33 12.9	+1.4
WNT	baz=243			eS	Sn	10 33 36.5	+0.1
YUS	Yu-Shan baz=230	1.92	231	eP	Pn	10 33 13.5	+1.4
YUS	baz=230			eS	Sn	10 33 36.5	-0.8
JTJ	Tarama	1.94	92	P	Pn	10 33 12.7	+0.9
JTJ				S	Sn	10 33 36.4	-0.5
WCHH	Zhanghua baz=250	1.94	251	eP	Pn	10 33 13.1	+1.2
WCHH	baz=250			eS	Sn	10 33 37.3	+0.4
CHKT	Chengkung baz=214	1.96	215	eP	Pn	10 33 11.8	-0.3
CHKT	baz=214			eS	Sn	10 33 35.4	-1.9
CHN5	Tsauling baz=237	2.06	238	eP	Pn	10 33 15.1	+1.7
CHN5	baz=237			eS	Sn	10 33 39.5	-0.2
ELDTW	Lidau baz=222	2.08	223	P	Pn	10 33 14.1	+0.3
ELDTW	baz=222			eS	Sn	10 33 39.9	-0.5
WGK	Gukeng baz=240	2.10	241	eP	Pn	10 33 14.8	+0.9
WGK	baz=240			eS	Sn	10 33 41.0	+0.4
WDLH	Douliu baz=241	2.12	241	eP	Pn	10 33 15.2	+1.1
WDLH	baz=241			eS	Sn	10 33 41.4	+0.5
RLNB	Erlin baz=247	2.18	248	P	Pn	10 33 16.3	+1.5
RLNB	baz=247			eS	Sn	10 33 42.4	+0.2
CHN2	Minshiung baz=238	2.25	239	eP	Pn	10 33 17.2	+1.4
CHN2	baz=238			eS	Sn	10 33 44.2	+0.4
WTCT	Ta-ch'eng baz=247	2.26	248	eS	Sn	10 33 43.9	-0.1
CHN4	Tsaushan baz=233	2.27	233	eP	Pn	10 33 17.9	+1.9
CHN4	baz=233			eS	Sn	10 33 44.1	-0.1
TPUB	Ta-pu baz=231	2.27	232	eP	Pn	10 33 17.2	+1.2
TPUB	baz=231			S	Sn	10 33 44.8	+0.5
STYT	Tauyuan baz=226	2.27	227	eP	Pn	10 33 17.1	+1.0
STYT	baz=226			eS	Sn	10 33 44.8	+0.3
CHY	Chiayi baz=238	2.31	239	eP	Pn	10 33 17.8	+1.3
CHY	baz=238			eS	Sn	10 33 45.0	-0.1
WTP	Ta-pu baz=230	2.31	231	eP	Pn	10 33 17.6	+1.0
WTP	baz=230			eS	Sn	10 33 45.1	-0.3
TWGBT	Beinan baz=215	2.33	216	eP	Pn	10 33 18.0	+1.1
TWGBT	baz=215			eS	Sn	10 33 45.5	-0.3
TWG	Pinlang baz=215	2.34	216	eP	Pn	10 33 17.6	+0.7
TWG	baz=215			eS	Sn	10 33 45.6	-0.2
JIRB	Irabujima	2.37	87	S	Sn	10 33 46.5	0.0
TWK	Hsinying baz=232	2.39	233	eP	Pn	10 33 18.9	+1.3
TWK	baz=232			eS	Sn	10 33 47.0	-0.2
WSF	Szhu baz=243	2.40	244	eP	Pn	10 33 19.2	+1.5
WSF	baz=243			eS	Sn	10 33 47.2	0.0
CHN1	Nanshi baz=230	2.42	231	eP	Pn	10 33 19.5	+1.6
CHN1	baz=230			eS	Sn	10 33 47.5	-0.1
SNST	Tainan City baz=231	2.42	232	eP	Pn	10 33 19.1	+1.2
SNST	baz=231			eS	Sn	10 33 47.3	-0.3
JIKM	Ikemajima	2.44	85	eS	Sn	10 33 47.7	-0.4
SGST	Jiashian baz=227	2.44	229	eP	Pn	10 33 19.5	+1.3
SGST	baz=227			eS	Sn	10 33 48.4	+0.1
SLGT	Liugui baz=225	2.46	226	eP	Pn	10 33 20.1	+1.7
SLGT	baz=225			eS	Sn	10 33 48.4	-0.3
JMJ	Miyako jima 2 baz=87	2.48	87	eP	Pn	10 33 19.8	+1.2
JMJ	baz=87			eS	Sn	10 33 48.6	-0.4
JMJ2	Miyako jima3	2.51	89	S	Sn	10 33 50.6	+0.9
CHN8	Yiju baz=237	2.56	238	eP	Pn	10 33 20.9	+1.3
CHN8	baz=237			eS	Sn	10 33 50.6	-0.2
ECL	Taimali baz=214	2.58	215	eP	Pn	10 33 19.8	-0.2
ECL	baz=214			eS	Sn	10 33 51.0	-0.5
SSD	Sandimen baz=221	2.65	223	P	Pn	10 33 22.3	+1.4
SSD	baz=221			eS	Sn	10 33 52.5	-0.5
PTTC	Pingtan baz=287	2.66	288	eP	Pn	10 33 21.0	+0.1
PTTC	baz=287			eS	Sn	10 33 51.6	-1.5
MASBT	Mashibuluo baz=220	2.75	221	eP	Pn	10 33 22.9	+0.8
MASBT	baz=220			eS	Sn	10 33 54.6	-0.7
MATB	Ma-tsu baz=300	2.77	302	eP	Pn	10 33 22.3	-0.1

MATB				eS	Sn	10 33 55.0	-0.7
	baz=300						
EAST	Anshuo	2.81	215	eP	Pn	10 33 23.3	+0.2
	baz=213						
EAST				eS	Sn	10 33 56.6	-0.3
	baz=213						
LAY	Lan-yu	2.83	200	eP	Pn	10 33 23.1	-0.1
	baz=199						
LAY				eS	Sn	10 33 54.7	-2.5
	baz=199						
VWUC	VWUC	2.85	276	P	Pn	10 33 23.8	+0.4
	baz=275						
VWUC				eS	Sn	10 33 55.6	-2.0
	baz=275						
SCZT	Fangliau	2.94	218	eP	Pn	10 33 26.0	+1.3
	baz=217						
SCZT				eS	Sn	10 34 00.3	+0.5
	baz=217						
PNG	Penghu	2.98	248	eP	Pn	10 33 25.6	+0.4
	baz=247						
PNG				eS	Sn	10 33 58.5	-2.3
	baz=247						
PHUB	P'eng-hu	2.99	247	eP	Pn	10 33 24.8	-0.5
	baz=246						
PHUB				eS	Sn	10 33 58.7	-2.3
	baz=246						
WDGT	Dungji	3.03	242	eP	Pn	10 33 26.0	+0.1
	baz=241						
WDGT				eS	Sn	10 33 59.9	-2.0
	baz=241						
XPSS	Dashiqiu	3.07	316	eP	Pn	10 33 26.0	-0.3
	baz=315						
XPSS				eS	Sn	10 34 01.3	-1.6
	baz=315						
LYJJ	Jianjiangzhen	3.12	306	eP	Pn	10 33 27.6	+0.6
	baz=305						
LYJJ				eS	Sn	10 34 03.0	-1.1
	baz=305						
PTMZ	Houxiangcun	3.15	277	eP	Pn	10 33 27.9	+0.6
	baz=275						
PTMZ				eS	Sn	10 34 02.6	-2.0
	baz=275						
HEN	Hengchun	3.18	212	eS	Sn	10 34 05.3	-0.2
	baz=211						
TSEB	Hengchuen, Pin	3.20	209	eP	Pn	10 33 30.3	+2.2
	baz=209						
TSEB				eS	Sn	10 34 04.6	-1.3
	baz=209						
TWKBT	Hengchun	3.20	211	eP	Pn	10 33 29.1	+0.9
	baz=210						
TWKBT				eS	Sn	10 34 05.0	-1.0
	baz=210						
TWK1	Hengchun	3.21	211	eP	Pn	10 33 29.2	+1.1
	baz=210						
TWK1				eS	Sn	10 34 05.8	-0.2
	baz=210						
VCHM	Qimei	3.24	243	eP	Pn	10 33 29.1	+0.4
	baz=242						
VCHM				eS	Sn	10 34 06.0	-0.8
	baz=242						
MHZQ	Yeshan	3.48	294	eP	Pn	10 33 32.5	+0.8
	baz=293						
MHZQ				eS	Sn	10 34 13.0	+0.4
	baz=293						
KNM	Kinmen	3.78	266	eP	Pn	10 33 36.8	+1.1
	baz=265						
KNM				eS	Sn	10 34 22.2	+2.6
	baz=265						
KNMB	Chin-men Tao	3.82	267	eP	Pn	10 33 35.6	-0.6
	baz=266						
KNMB				eS	Sn	10 34 18.9	-1.5
	baz=266						
AXDP	Jialang	4.18	273	P	Pn	10 33 42.5	+1.4
	baz=272						
AXDP				eS	Sn	10 34 28.1	-1.1
	baz=272						
ZPLA	Ao Xicun	4.47	261	eP	Pn	10 33 45.2	+0.3
	baz=259						
ZPLA				eS	Sn	10 34 33.8	-2.2
	baz=259						
ZZJH	Jiuhuzhen	4.50	268	eP	Pn	10 33 45.6	+0.2
	baz=266						
ZZJH				eS	Sn	10 34 35.6	-1.2
	baz=266						
JOW	Kunigami	5.55	67	eP	Pn	10 34 01.3	+1.8
	baz=67						
JOW				eS	Sn	10 34 58.7	-3.5
	baz=67						

*ISCJB **04** 10:58:53.7±0.4, 33°.11N±0°.03×73°.77E±0°.05, h10km, mb3.7/6, Error ellipse: s-maj=6.9km s-min=3.4km az=145.9*
*IDC **04** 10:58:53.5±1.0, 33°.04N×73°.70E, h0km, mb3.7/8, mb1 3.9/11, mb1mx3.6/41, mbtmp3.8/11, ML3.6/3, Error ellipse: s-maj=22.4km s-min=19.4km az=121.0*
*NDI **04** 10:58:55.6±3.2, 33°.58N×73°.94E, h10km, ML4.3, mb4.2(NEIC)*
*NEIC **04** 10:58:58.4±2.2, 33°.12N±0°.07×73°.73E±0°.09, h29km±4km, mb4.2/11*
*NNC **04** 10:59:10.8±15.0, 34°.19N×73°.17E, h0km, mb4.1, mpv4.1, Error ellipse: s-maj=120.2km s-min=82.0km az=15.0*
ISC 04 10:58:55.8±0.5**, 33°.22N**±0°.05**×73°.70E**±0°.05**, h10**km**, n69, σ2^{s}63**/73**, mb4.0**/11**, 5C-2D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIL	Nilore	0.57	319		Pn	10 59 10.8	+0.8
JMU	Jammu	1.13	116	eP	Pb	10 59 08.5	-8.9
JMU				eS	Sb	10 59 21.0	-11
THN	Thein Dam	1.87	114	eP	Pn	10 59 27.5	-0.4
THN				eS	Sg	10 59 57.0	+1.0
DHRM	DHARAMSHALA	2.40	113	eP	Pn	10 59 35.6	+0.2
DHRM				eS	Sn	11 00 06.3	+1.5
DHRM				IAML		11 00 13.8	
	comp=N,3μm,0.7s						
DHRM				IAML		11 00 13.8	
	comp=E,3μm,0.2s						
BHK	Bhakra	2.92	127	eP	Pn	10 59 42.0	-0.3
BHK				eS	Sn	11 00 18.0	+0.5
SMLA	Simla	3.60	124	eP	Pn	10 59 51.2	-0.5
SMLA				eS	Sn	11 00 32.1	-2.2
SMLA				IAML		11 00 42.1	
	comp=E,302nm,0.3s						
SMLA				IAML		11 00 42.5	
	comp=N,253nm,0.1s						
KBL	Kabul	4.09	290		Pn	11 00 00.4	+1.8
NDI	New Delhi	5.44	145	eP	Pn	11 00 14.0	-2.9
AYAN	Aya Nagar	5.56	147	eP	Pn	11 00 16.2	-2.5
KUDL	Kundal	5.60	154	eP	Pn	11 00 13.4	-5.8
KUDL				eS	Sn	11 01 13.8	-10
KUDL				IAML		11 01 14.8	
	comp=E,187nm,0.2s						
KUDL				IAML		11 01 16.1	
	comp=N,424nm,0.1s						
JOSI	Joshimath	5.65	116	eP	Pn	11 00 20.6	+0.6
JOSI				eS	Sn	11 01 22.3	-2.7
JOSI				IAML		11 01 59.1	
	comp=N,35μm,1.2s						
GAR	Garm	6.39	336		Pn	11 00 32.0	+1.9
CHGR	Chuyangaron	6.56	327	Pn	Pn	11 00 34.0	+1.6
AJM	Ajmer	6.76	173	eP	Pn	11 00 41.0	+5.8
AJM				eS	Sb	11 02 21.0	+6.6
BTK	Batken	7.21	342		Pn	11 00 44.4	+3.1
BTK				Sn	Sn	11 02 04.4	+1.1
ARSB	Arslanbob	8.11	356		Pn	11 00 56.4	+2.7
ARSB				Sn	Sn	11 02 26.3	+0.7
NRN	Naryn	8.40	12		Pn	11 01 00.4	+2.4
NRN					Sn	11 02 34.6	+1.6
AML	Almayashu	8.90	360	P	Pn	11 01 09.0	+4.2
	SNR=12						
KZA	Kyzart	8.93	7	P	Pn	11 01 09.2	+3.9
	SNR=31						
UCH	Uchtor	9.02	4	P	Pn	11 01 10.7	+4.3
	SNR=20						
TARG	Taragay, Kyrgy	9.10	20		Pn	11 01 10.2	+2.6
KDJ	Kajisay	9.31	16	Pn	Pn	11 01 09.7	-0.6
BOOM	Boomskoye usch	9.43	10		Pn	11 01 13.5	+1.7
AAK	Ala-Archa	9.43	4	Pn	Pn	11 01 15.5	+3.7
	comp=N,0.7nm,0.3s,baz=163,slow=12,SNR=14						
AAK				Sn	Sn	11 02 59.0	+1.1
	comp=N,0.5nm,0.3s,baz=172,slow=14,SNR=2.8						
AAK	Ala-Archa	9.43	4		Pn	11 01 13.7	+1.9
AAK					Sn	11 03 00.1	+2.2
AAK	Ala-Archa	9.43	4	⇓P	Pn	11 01 15.6	+3.8
	comp=N,4.7nm,0.7s						
AAK				S	Sn	11 02 56.3	-1.6
	comp=N,5.2nm,0.6s						
EKS2	Erkin-Say	9.43	0	P	Pn	11 01 16.2	+4.4
	SNR=11						
KBK	Karagaybulak	9.47	6	P	Pn	11 01 17.6	+5.1
	SNR=6.4						
CHMS	Chumysh	9.80	5	P	Pn	11 01 20.6	+3.8
	SNR=7.4						
TKM2	Tokmak 2	9.80	8	P	Pn	11 01 22.2	+5.2
	SNR=14						
TKM2	Tokmak 2	9.80	8	⇑P	Pn	11 01 20.9	+3.9
	comp=N,7.0nm,0.7s						
TKM2				⇑S	Sn	11 03 06.0	-1.3
	comp=N,12nm,0.8s						
DANN	Dangsing	9.92	117	eP	Pn	11 01 15.2	-3.5
	comp=N,19nm,0.2s						
PRZ	Przheval'sk	9.97	21	Pn	Pn	11 01 24.7	+5.5
KOLN	Koldanda	10.12	120	eP	Pn	11 01 18.0	-3.4
	comp=N,16nm,0.3s						
KK31	Karatay Array	10.18	347		Pn	11 01 25.0	+3.0
KK31					Sn	11 03 15.7	-0.6
KK31	Karatay Array	10.18	347	⇑P	Pn	11 01 24.7	+2.7
	comp=N,3.7nm,0.4s,baz=158,slow=12,SNR=45						
KK31				⇓S	Sn	11 03 09.6	-6.6
	comp=N,3.9nm,0.5s,baz=150,slow=22,SNR=5.2						
KKAR	Karatay Array	10.18	347		Pn	11 01 25.0	+3.0
KKAR					Sn	11 03 15.7	-0.6
GKN	Gorkha	10.76	116	eP	Pn	11 01 26.8	-3.3
	comp=N,34nm,0.2s						
DMN	Daman	11.32	117	eP	Pn	11 01 34.3	-3.6
	comp=N,9.7nm,0.2s						
KKN	Kakani	11.36	115	eP	Pn	11 01 34.8	-3.5
	comp=N,7.5nm,0.2s						
PKIN	Phulchoki	11.55	116	eP	Pn	11 01 36.8	-4.3
	comp=N,14nm,0.2s						
PKI	Pulchoki	11.57	116	eP	Pn	11 01 37.0	-4.3
	comp=N,18nm,0.3s						
JIRN	Jiri	12.12	114	eP	Pn	11 01 44.4	-4.5
	comp=N,30nm,0.3s						
RAMN	Ramite	12.79	116	eP	Pn	11 01 52.8	-5.2
	comp=N,16nm,0.3s						
TAPN	Taplejung	13.44	112	eP	Pn	11 02 01.8	-5.1
	comp=N,7.3nm,0.2s						
GYA0B	ALIBECK ARRAY	13.52	295	Pn	Pn	11 02 09.3	+1.6
MAKZ	Makanchi	14.97	23	Pn	Pn	11 02 28.4	+1.0
MAKZ				IAmb	IAmb	11 02 30.8	
	comp=Z,6.2nm,1.0s						
MKAR	Makanchi Array	15.06	23	Pn	Pn	11 02 30.1	+1.4
	comp=Z,0.4nm,0.3s,baz=206,slow=14,SNR=12						
KURBB	Kurchatov Arra	17.75	10	P	Pn	11 03 02.1	-0.8
	comp=Z,0.1nm,0.3s,baz=199,slow=11,SNR=7.2						
KURK	Kurchatov	17.86	10		Pn	11 03 03.2	-1.0
AB31	Akbulak array	19.02	331	⇑P	Pn	11 03 20.9	+2.4
	comp=Z,0.3nm,0.3s,baz=137,slow=12,SNR=12						
AB31				⇑S	Sn	11 06 42.6	-8.8
	comp=Z,0.9nm,0.8s						
ABKAR	Akbulak array	19.02	331	P	Pn	11 03 18.6	+0.2
BVAR	Borovoye Array	19.94	354	P	P	11 03 28.6	+0.8
	comp=Z,1.3nm,0.6s,baz=156,slow=9.8,SNR=8.4						
AKTO	Aktyubinsk	20.72	331	P	P	11 03 37.8	+1.5
	comp=Z,1.1nm,0.3s,baz=139,slow=11,SNR=2.4						
ZAA0	Zalesovo Array	22.18	18	P	P	11 03 52.5	+0.6
ZAA0				IAmb	IAmb	11 03 56.8	
	comp=Z,3.1nm,0.8s						
ZALV	Zalesovo Beam	22.18	18	P	P	11 03 52.1	+0.2
	comp=Z,3.1nm,0.7s,baz=226,slow=10,SNR=8.0						
KARS	Kars	25.48	296	P	P	11 04 24.0	-0.3
CMAR	Chiang Mai Arr	26.97	117	P	P	11 04 36.2	-1.5
	comp=Z,1.6nm,0.7s,baz=294,slow=9.6,SNR=8.3						
SONM	Songino Array	28.57	50	P	P	11 04 53.1	+1.1
	comp=Z,0.3nm,0.5s,baz=258,slow=7.1,SNR=3.0						
BRTR	Keskin Array B	32.66	293	P	P	11 05 28.9	+0.7
	comp=Z,0.2nm,0.4s,baz=106,slow=5.2,SNR=2.1						
ECH	Echery	51.06	308	P	P	11 07 55.8	-2.4
TORD	Torodi Ar. Bea	67.94	272	P	P	11 09 54.0	-1.2
	comp=Z,0.4nm,0.4s,baz=51,slow=5.7,SNR=6.9						
BOSA	Boshof	76.75	223	P	P	11 10 46.4	-1.2
	comp=Z,2.3nm,0.6s,baz=46,slow=3.2,SNR=5.8						
BOSA	Boshof	76.75	223	P	P	11 10 47.0	-0.6
BOSA				IAmb	IAmb	11 10 50.2	
	comp=Z,10nm,1.5s						
INK	Inuvik	76.76	10	P	P	11 10 47.9	+0.9
INK				IAmb	IAmb	11 10 57.7	
	comp=Z,3.5nm,1.3s						
WB0	Warramunga Arr	78.28	123	P	P	11 10 53.9	-2.4
WB2	Warramunga Arr	78.37	123	P	P	11 10 55.0	-1.7
WB2				IAmb	IAmb	11 11 05.0	
	comp=Z,8.1nm,1.4s						
WR0	Warramunga Arr	78.51	123	P	P	11 10 55.8	-1.7
WR0				IAmb	IAmb	11 11 12.5	
	comp=Z,5.5nm,1.4s						
DAWY	Dawson	79.58	14	P	P	11 11 03.1	+0.3
DAWY				IAmb	IAmb	11 11 08.5	
	comp=Z,1.9nm,1.2s						

*IDC **04** 11:21:31.0±2.5, 60°.69S×43°.20W, h0km, mb3.9/2, mb1 4.0/2, mb1mx3.7/19, mbtmp3.9/2, MS3.1/1, Ms1 3.0/1, ms1mx2.6/11, Error ellipse: s-maj=119.1km s-min=43.0km az=16.0*
*ISCJB **04** 11:21:32.0±0.6, 60°.39S±0°.09×43°.1W±0°.2, h18km, mb3.6/2, MS3.1/1, Error ellipse: s-maj=15.0km s-min=12.5km az=12.0*
*NEIC **04** 11:21:33.0±1.3, 60°.4S±0°.1×43°.0W±0°.2, h10km±1km, mb4.2/14*
ISC 04 11:21:34.2±0.8**, 60°.4S**±0°.1**×43°.0W**±0°.1**, h18**km**, n21, σ1^{s}42**/20**, mb4.1**/6**, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.04	33	Pn	Pn	11 23 15.5	-0.7
PMSA	Palmer Station	10.63	236	Pn	Pn	11 24 05.2	-0.2
SNAA	Sanae	19.39	142	P	P	11 25 58.9	+0.1
PLCA	Paso Flores	25.97	307	P	P	11 27 05.6	+0.1
	1.9nm,1.0s,baz=143,slow=10,SNR=3.1						
PLCA	Paso Flores	25.97	307	P	P	11 27 05.7	+0.2
PLCA				IAmb	IAmb	11 27 22.7	
	comp=Z,5.3nm,1.3s						
GO06	Curarrehue	27.32	307	P	P	11 27 17.5	-0.3
GO06				IAmb	IAmb	11 27 21.7	
	comp=Z,12nm,1.4s						
CPUP	Villa Florida	35.40	338	P	P	11 28 26.7	-2.0
MAW	Mawson	41.47	146	LR	LR	11 44 13.5	
	comp=Z,26nm,22.0s,baz=234,slow=33						
PB01	IPOC Station P	43.49	323	P	P	11 29 40.8	+4.5
BDFB	Brasilia	44.80	353	P	P	11 29 47.4	+0.6
LPAZ	La Paz	47.61	327	P	P	11 30 10.0	+0.5
LPAZ				IAmb	IAmb	11 30 23.5	
	comp=Z,3.0nm,1.4s						
SAML	Samuel	53.48	335	P	P	11 30 53.3	+0.1
SAML				IAmb	IAmb	11 31 01.9	
	comp=Z,1.2nm,0.7s						
OTAV	Otavalo	66.33	321	P	P	11 32 20.0	-1.9
OTAV				IAmb	IAmb	11 32 26.9	
	comp=Z,5.5nm,1.3s						
SNZO	South Karori	74.07	209	P	P	11 33 08.1	-0.4
BBGH	Gun Hill	74.44	343	P	P	11 33 10.2	-0.7
CRPR	Cabo Rojo, PR	80.48	337	P	P	11 33 45.3	+0.7
CBYP	Canovanas	80.50	338	P	P	11 33 45.0	+0.2
TORD	Torodi Ar. Bea	81.49	44	P	P	11 33 51.7	+1.6
	comp=Z,0.9nm,0.9s,baz=220,slow=6.3,SNR=3.9						
CBCY	The Bluff, Cay	85.18	326	P	P	11 34 09.5	+0.5
MKAR	Makanchi Array	145.89	88	PKPbc	PKPdf	11 41 09.7	-0.9
	comp=Z,1.0nm,1.0s,baz=226,slow=3.2,SNR=4.3						
ILAR	Eielson Array	146.61	311	PKPbc	PKPbc	11 41 13.4	+0.5
	comp=Z,1.2nm,1.0s,baz=137,slow=2.1,SNR=7.8						

*ISCJB **04** 11:46:59.1±1.0, 30°.73S±0°.03×71°.58W±0°.09, h60km±11km, Error ellipse: s-maj=13.6km s-min=5.4km az=5.3*
*SJA **04** 11:46:59.3±1.3, 30°.74S×71°.48W, h44km±8km, ML3.6, MW3.9*
*GUC **04** 11:46:59.4±0.6, 30°.73S×71°.22W, h65km±3km, ML3.6*
ISC 04 11:46:60.0±1.6**, 30°.73S**±0°.04**×71°.52W**±0°.08**, h52**km±18km**, n28, σ0^{s}75**/27**, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	Combarbal	0.65	137	⇓iP	Pn	11 47 13.1	-0.2
CO02				iS	Sn	11 47 22.7	-0.3
GO04	Tololo Observa	0.83	48	eP	Pn	11 47 15.2	-0.6
GO04				iS	Sn	11 47 27.1	-0.2
GO04	Tololo Observa	0.83	48	iP	Pn	11 47 15.6	-0.2
GO04				eS	Sn	11 47 27.2	-0.2
LSCH	La Serena	0.85	16	eP	Pn	11 47 16.3	+0.5
LSCH				iS	Sn	11 47 28.6	+1.2
AROD	Rodeo	1.85	73	iP	Pn	11 47 30.7	+1.0
AROD				eS	Sn	11 47 53.2	+1.0
ACCO	Cerro Coronel	2.12	87	iP	Pn	11 47 34.5	+1.2
ACDV	Cuesta del Vie	2.15	76	iP	Pn	11 47 34.9	+1.4
RTLS	Leoncito	2.18	120	iP	Pn	11 47 35.4	+1.3
RTLS				IAML		11 48 02.7	
	comp=Z,367nm,0.7s						
ROCH	El Roble	2.28	169	⇑iP	Pn	11 47 35.2	-0.2
ROCH				IAML		11 48 22.9	
	comp=E,361nm,0.5s						
ROC1	El Roble	2.28	169	iP	Pn	11 47 35.3	-0.1
PEL	Peldehue	2.51	164	eP	Pn	11 47 38.4	0.0
PEL				IAML		11 48 24.5	
	comp=E,179nm,0.3s						
PEL	Peldehue	2.51	164	iP	Pn	11 47 38.6	+0.2
AMOG	MOGNA	2.61	95	iP	Pn	11 47 40.8	+1.0
RTLL	Cerro Villicun	2.68	104	iP	Pn	11 47 41.0	+0.2
RTLL				IAML		11 48 15.0	
	comp=Z,311nm,0.3s						
RTCV	Cerro Valdivia	2.79	115	iP	Pn	11 47 43.1	+0.9
AGUA	GUANDACOL	2.90	66	iP	Pn	11 47 46.7	+2.9
CFA	Coronel Fontan	2.95	108	iP	Pn	11 47 45.0	+0.7
ASAL	Salagasta	2.95	130	iP	Pn	11 47 46.4	+2.0
ARCO	CERRO ARCO	3.05	134	iP	Pn	11 47 48.6	+2.7
AAGR	Agrelo	3.28	136	iP	Pn	11 47 51.2	+2.3
LMEL	Las Melosas	3.30	161	eP	Pn	11 47 49.4	+0.1
LMEL				iS	Sn	11 48 27.8	+0.4
LMEL				IAML		11 48 45.4	
	comp=N,113nm,0.3s						
GO03	Copiap	3.32	20	eP	Pn	11 47 49.4	-0.1
GO03				iS	Sn	11 48 27.1	-0.6
GO03				IAML		11 48 50.5	
	comp=E,169nm,0.6s						
GO03	Copiap	3.32	20	iP	Pn	11 47 49.5	-0.1
VCA	Vinchina	3.50	56	iP	Pn	11 47 53.8	+1.7
ACAN	Cantantal	4.01	114	iP	Pn	11 47 58.8	-0.1
MRA	San Martin	5.23	110	iP	Pn	11 48 14.6	-1.2
CYA	Choya	5.48	67	iP	Pn	11 48 18.8	-0.3
TCA	Tanti	5.97	98	iP	Pn	11 48 24.1	-1.8

*IDC **04** 12:17:13.7±1.1, 15°.60S×178°.34E, h0km, mb4.1/9, mb1 4.4/9, mb1mx4.1/38, mbtmp4.1/9, MS3.7/20, Ms1 3.7/20, ms1mx3.6/36, Error ellipse: s-maj=46.8km s-min=21.5km az=147.0*
*GCMT **04** 12:17:15.1±0.3, 16°.00S±0°.02×178°.20E±0°.02, h22km±1km, MW4.8/79, Moment Tensor Solution. s25,c28; s79,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.49±.17; $M_{\theta\theta}$-0.14±.10; $M_{\phi\phi}$1.63±.12; $M_{r\theta}$0.63±.17; $M_{\theta\phi}$1.49±.06; $M_{\phi r}$-0.19±.14; Best double couple: $M_0$2.20900×10^{16} NP1:ϕ_s239.00000°, δ56.00000°, λ-47.00000°. NP2: ϕ_s360.00000°, δ52.00000°, λ-135.00000°. Principal axes: T 2.4850, Plg2.0000°, Azm300.0000°; N -0.5490, Plg34.0000°, Azm32.0000°; P -1.9320, Plg56.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*ISCJB **04** 12:17:16.9±0.3, 15°.64S±0°.06×178°.18E±0°.07, h33km, mb4.1/9, MS3.7/18 Error ellipse: s-maj=10.7km s-min=6.8km az=39.0*
*NEIC **04** 12:17:19.1±1.5, 15°.72S±0°.09×178°.3E±0°.1, h41km±5km, mb4.7/55*
ISC 04 12:17:18.4±0.6**, 15°.70S**±0°.09**×178°.2E**±0°.1**, h35**km**, n95, σ0^{s}94**/79**, mb4.7**/28**, MS3.8**/18**, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.03	185		Pn	12 17 38.5	-12
FUNA	Funafuti	7.20	8	Pn	Pn	12 19 01.6	+0.4
FUNA				Sn	Sn	12 20 21.2	-0.5
AFI	Afiamalu	9.82	81	LR	LR	12 22 40.8	
	comp=Z,482nm,19.6s,baz=253,slow=34						
DZM	Mont Dzumac	12.82	239	eLR	LR	12 22 55.7	
	comp=Z,506nm,24.9s						
DZM	Mont Dzumac	12.82	239	LR	LR	12 23 58.4	
	comp=Z,339nm,21.4s,baz=56,slow=31						
DZM	Mont Dzumac	12.82	239	Pn	Pn	12 20 16.4	-2.0
KNTN	Kanton	16.22	39	Pn	Pn	12 21 03.6	-0.1
HNR	Honiara	18.90	287	LR	LR	12 27 48.6	
	comp=Z,406nm,18.7s,baz=129,slow=34						
HNR	Honiara	18.90	287	P	P	12 21 35.8	-0.3
HNR				IAmb	IAmb	12 21 47.4	
	comp=Z,74nm,1.1s						
RAR	Rarotonga	21.56	108	LR	LR	12 28 15.7	
	comp=Z,516nm,21.1s,baz=275,slow=31						
MSWZ	Moikau Station	25.75	185	P	P	12 22 44.1	-1.7
LTZ	Lake Taylor	27.47	190	P	P	12 23 00.3	-1.0
LTZ				IAmb	IAmb	12 23 01.4	
	comp=Z,14nm,0.9s						
KRVT	Keravat (AS076	28.14	291	LR	LR	12 33 43.4	
	comp=Z,261nm,19.4s,baz=107,slow=35						
PPT	Papeete	30.88	98	LR	LR	12 33 19.5	
	comp=Z,62nm,20.3s,baz=262,slow=31						
PPT2	Papeete2	30.88	98	eS	S	12 28 16.8	-17
	comp=Z,83nm,25.2s						
PPT2				eLQ	LQ	12 29 55.2	
	comp=Z,439nm,25.5s						
PPT2				eLR	LR	12 31 16.3	
	comp=Z,604nm,29.5s,baz=259						
STKA	Stephens Creek	36.98	238	P	P	12 24 26.3	+1.7
	comp=Z,4.6nm,0.8s,baz=70,slow=5.6,SNR=4.8						
STKA	Stephens Creek	36.98	238	P	P	12 24 25.8	+1.2
WR0	Warramunga Arr	41.72	258	P	P	12 25 04.7	+0.3
WB0	Warramunga Arr	41.87	258	P	P	12 25 06.0	+0.4
WB0				IAmb	IAmb	12 25 08.7	
	comp=Z,7.4nm,0.5s						
WRAB	Tennant Creek	41.90	258	P	P	12 25 06.2	+0.3
ASAR	Alice Springs	42.35	252	P	P	12 25 10.9	+1.4
	comp=Z,4.0nm,0.8s,baz=81,slow=8.6,SNR=11						
ASAR				LR	LR	12 41 04.3	
	comp=Z,100nm,20.5s,baz=90,slow=34						
NWAO	Narrogin (SRO)	57.44	241	LR	LR	12 49 21.4	
	comp=Z,134nm,21.7s,baz=252,slow=34						
INU	Inuyama	64.06	323	P	P	12 27 48.0	-0.9
MJAR	Matsushiro Arr	64.25	325	P	P	12 27 50.8	+0.7
	comp=Z,0.9nm,0.6s,baz=138,slow=7.5,SNR=3.6						
MJAR				LR	LR	12 50 24.8	
	comp=Z,67nm,22.0s,baz=85,slow=31						
PET	Petropavlovsk	70.50	348	P	P	12 28 28.6	-0.7
PETK	Petropavlovsk-	70.78	347	LR	LR	12 56 06.9	
	comp=Z,32nm,19.2s,baz=236,slow=33						
KSRS	Korea Array	70.94	320	LR	LR	12 54 16.5	
	comp=Z,88nm,21.6s,baz=114,slow=31						
USRK	Ussuriysk Ar.	73.01	327	LR	LR	12 55 34.1	
	comp=Z,65nm,21.1s,baz=105,slow=32						
QSPA	South Pole Qui	74.34	180	P	P	12 28 52.9	+0.6
QSPA				IAmb	IAmb	12 29 06.3	
	comp=Z,9.6nm,1.1s						
MDJ	Mudanjiang	74.56	326	P	P	12 28 52.5	-1.2
MDJ				IAmb	IAmb	12 29 02.2	
	comp=Z,11nm,1.2s						
KLR	Kul'dur	76.61	331	LR	LR	12 57 45.4	
	comp=Z,51nm,21.0s,baz=172,slow=32						
MA2	Magadan	78.26	346	LR	LR	13 02 26.8	
	comp=Z,30nm,18.3s,baz=144,slow=35						
PNTR	Pine Nut	79.57	44	P	P	12 29 23.4	+1.1
PNTR				IAmb	IAmb	12 29 29.0	
	comp=Z,15nm,1.5s						
GSC	Goldstone, Bar	79.71	49	P	P	12 29 22.7	-0.3
YERR	Yerington	79.76	45	P	P	12 29 21.4	-1.9
NVAR	Mina Array Bea	80.13	45	P	P	12 29 26.3	+1.0
	comp=Z,1.1nm,0.8s,baz=238,slow=8.1,SNR=6.5						
NVAR				LR	LR	12 59 16.3	
	comp=Z,40nm,18.7s,baz=270,slow=32						
113A	Mohawk Valley,	80.85	52	P	P	12 29 27.2	-1.8
TPNV	Topopah Spring	80.86	48	P	P	12 29 29.9	+0.7
PINE	Pine Mountain	81.11	40	P	P	12 29 30.7	+0.2
PINE				IAmb	IAmb	12 29 40.4	
	comp=Z,10nm,1.1s						
SUCK	Suckling Hills	81.50	18	P	P	12 29 33.0	+1.2
W13A	Hualapai Mount	81.76	50	P	P	12 29 34.3	+0.2
TGL	Tana Glacier	82.33	18	P	P	12 29 33.2	-3.2
TRF	Thorofare Moun	82.60	14	P	P	12 29 38.0	+0.2
WRAK	Wrangell Islan	82.85	25	P	P	12 29 39.1	+0.2
RND	Reindeer	82.89	14	P	P	12 29 39.1	-0.1
CTGM	Chitina Glacie	82.94	19	P	P	12 29 39.5	-0.1
CTGM				IAmb	IAmb	12 29 47.6	
	comp=Z,10nm,1.4s						

DHY	Denali Highway	82.97	15	P	P	12 29 39.8	+0.1
DHY				IAmb	IAmb	12 29 46.9	
	comp=Z,9.2nm,1.3s						
LCMT	Little Creek M	83.05	49	P	P	12 29 41.4	+0.7
MCK	McKinley	83.15	14	P	P	12 29 40.1	-0.3
CCUT	Cedar City	83.19	48	P	P	12 29 39.9	-1.7
PSUT	Pine Spring	83.27	47	P	P	12 29 42.5	+0.5
X16A	Lo Mia Camp, P	83.30	52	P	P	12 29 42.3	+0.2
X16A				IAmb	IAmb	12 29 43.8	
	comp=Z,5.7nm,1.1s						
ELK	Elko	83.31	45	P	P	12 29 41.8	-0.3
HAWA	Hanford	83.31	38	P	P	12 29 41.6	0.0
HAWA				IAmb	IAmb	12 29 51.1	
	comp=Z,10nm,1.2s						
KNB	Kanab	83.36	49	P	P	12 29 42.1	-0.3
BWN	Browne	83.41	14	P	P	12 29 42.2	+0.5
U15A	North Rim	83.49	49	P	P	12 29 42.0	-1.2
U15A				IAmb	IAmb	12 29 52.7	
	comp=Z,7.1nm,1.0s						
319A	Douglas	83.77	55	P	P	12 29 44.9	+0.4
319A				IAmb	IAmb	12 29 46.2	
	comp=Z,7.5nm,0.9s						
MENT	Mentasta	83.82	16	P	P	12 29 42.1	-1.8
MENT				IAmb	IAmb	12 29 52.1	
	comp=Z,7.0nm,1.1s						
MLY	Manley	83.87	13	P	P	12 29 44.1	-0.1
MLY				IAmb	IAmb	12 29 51.3	
	comp=Z,6.5nm,1.0s						
PKCU	Pink Cliffs	83.91	49	P	P	12 29 44.2	-1.1
WRH	Wood River Hil	83.98	14	P	P	12 29 44.7	0.0
MFID	Camas Ranch	84.15	42	P	P	12 29 47.0	+0.9
MFID				IAmb	IAmb	12 29 53.9	
	comp=Z,6.1nm,1.3s						
RIDG	Independent Ri	84.17	16	P	P	12 29 46.3	+0.6
CCB	Clear Creek Bu	84.19	14	P	P	12 29 45.6	-0.1
HDA	Harding Lake	84.20	14	P	P	12 29 46.0	+0.2
MTPU	Mount Pierson	84.25	48	P	P	12 29 46.8	-0.3
DOT	Dot Lake	84.30	16	P	P	12 29 46.0	-0.3
MDM	Murphy Dome	84.36	14	P	P	12 29 46.6	0.0
COLA	College	84.38	14	P	P	12 29 46.5	-0.1
MSU	Marysvale	84.45	48	P	P	12 29 46.0	-1.9
F10A	Beach Ranch, E	84.49	39	P	P	12 29 48.4	+0.5
F10A				IAmb	IAmb	12 29 55.0	
	comp=Z,5.1nm,1.0s						
IL31		84.51	14	P	P	12 29 47.1	-0.2
ILAR	Eielson Array	84.51	14	P	P	12 29 47.2	-0.1
	comp=Z,4.7nm,1.0s,baz=234,slow=6.1,SNR=30						
ILAR				LR	LR	13 06 10.8	
	comp=Z,16nm,18.6s,baz=196,slow=35						
SCRK	Sand Creek	84.58	16	P	P	12 29 48.5	+0.6
SCRK				IAmb	IAmb	12 29 55.3	
	comp=Z,8.2nm,1.1s						
CMAR	Chiang Mai Arr	85.11	291	P	P	12 29 53.0	+1.6
	comp=Z,1.0nm,0.6s,baz=122,slow=2.5,SNR=6.1						
PRP	Porcupine Dome	85.46	14	P	P	12 29 51.7	-0.6
PRP				IAmb	IAmb	12 30 01.7	
	comp=Z,11nm,1.5s						
DAWY	Dawson	85.91	17	P	P	12 29 54.7	+0.2
EGAK	Eagle	85.97	16	P	P	12 29 55.0	+0.3
EGAK				IAmb	IAmb	12 30 02.5	
	comp=Z,5.8nm,0.9s						
LENM	Lemitar	86.61	53	P	P	12 29 59.7	+0.9
PV09	Paradox Valley	86.63	49	P	P	12 30 00.1	+1.2
MCMT	McKenzie Canyo	86.70	42	P	P	12 29 58.3	-0.8
PV03	Paradox Valley	86.74	49	P	P	12 29 57.9	-1.4
REDW	Red Top Meadow	87.38	44	P	P	12 30 02.4	0.0
TXAR	Lajitas Array	87.58	59	P	P	12 30 03.5	+0.1
	comp=Z,0.7nm,0.9s,baz=229,slow=3.8,SNR=5.3						
TXAR				LR	LR	13 03 58.4	
	comp=Z,11nm,18.6s,baz=0.0,slow=32						
PDAR	Pinedale Array	88.01	45	P	P	12 30 05.3	-0.1
	comp=Z,1.1nm,1.0s,baz=235,slow=5.2,SNR=5.7						
PDAR				LR	LR	13 03 15.8	
	comp=Z,18nm,18.6s,baz=334,slow=31						
HRY	Holter Researc	88.16	40	P	P	12 30 05.7	-0.1
GCMT	Greycliff	89.14	42	P	P	12 30 09.8	-0.7
SONM	Songino Array	89.80	320	P	P	12 30 13.7	+0.1
	comp=Z,0.3nm,0.7s,baz=98,slow=3.0,SNR=3.3						
SONM				LR	LR	13 07 15.7	
	comp=Z,29nm,21.2s,baz=112,slow=33						
PLCA	Paso Flores	95.17	135	LR	LR	13 03 02.0	
	comp=Z,66nm,20.7s,baz=228,slow=29						
GERES	GERESS Array B	144.60	342	PKP	PKPbc	12 36 50.1	0.0
	comp=Z,0.5nm,0.3s,baz=0.0,slow=2.0,SNR=3.4						
DAVOX	Davos/Dischmat	147.53	345	PKPbc	PKPbc	12 36 58.8	-0.4
	comp=Z,1.7nm,0.4s,baz=332,slow=2.8,SNR=2.9						
FUORN	Ofenpass-Fuorn	147.58	344		PKPbc	12 36 59.2	-0.3
BNI	Bardonecchia	149.89	348		PKPab	12 37 11.9	+1.2
TORD	Torodi Ar. Bea	175.79	233	PKPab	PKPab	12 39 05.2	+1.0
	comp=Z,0.9nm,0.9s,baz=129,slow=5.7,SNR=4.7						

*ISCJB **04** 12:20:45.2±0.2, 6°.63S±0°.03×129°.77E±0°.04, h146km, mb4.3/12, Error ellipse: s-maj=5.7km s-min=3.6km az=163.8*

*NEIC **04** 12:20:47.3±1.8, 6°.60S±0°.06×129°.84E±0°.05, h159km±5km, mb4.4/28*

*DJA **04** 12:20:48.7±0.4, 7°S±5°×13°0E±°, h165km±10km, M4.6/10, mB5.3/6, mb4.4/10, MLv4.7/10, Mw(mB)4.7/6, Mwp7.1/1*

*IDC **04** 12:20:49.3±2.1, 6°.54S×129°.96E, h172km±21km, mb3.9/8, mb1 4.0/10, mb1mx3.6/43, mbtmp4.4/10, MS3.8/1, Ms1 3.8/1, ms1mx2.4/45, Error ellipse: s-maj=31.5km s-min=12.0km az=61.0*

ISC 04 12:20:46.6±0.4**, 6°.70S**±0°.04×**129°.85E**±0°.05**, h146km, n80, σ2s.42**/90**, mb4.5**/23**, 1C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.92	132	P	Pn	12 21 25.4	+4.8
SAUI	Saumlaki	1.92	132		Pn	12 21 25.7	+5.1
SAUI				Sn	Sn	12 21 49.8	+3.1
BNDI	Bandanaira	2.16	1	P	Pn	12 21 27.2	+3.7
AAI	Ambon	3.42	331	P	Pn	12 21 42.7	+3.4
MSAI	Masohi	3.46	344	P	Pn	12 21 43.2	+3.5
NLAI	Namlea	4.40	321	P	Pn	12 21 54.7	+2.6
FAKI	Fak Fak	4.45	33		Pn	12 21 52.6	-0.1
FAKI				Sn	Sn	12 22 42.2	-2.0
KMPI	Kaimana, Papua	4.88	52	P	Pn	12 22 00.2	+1.8
SIJI	Sorong	5.96	14	P	Pn	12 22 12.2	-0.6
	23nm,0.3s,baz=161,slow=23,SNR=83						
SIJI				S	Sn	12 23 14.0	-6.2
	20nm,0.3s,baz=233,slow=20,SNR=19						
SWI	Sorong	5.96	14	P	Pn	12 22 12.7	-0.2
MTN	Manton Dam	6.24	168		Pn	12 22 19.1	+2.6
MTN				Sn	Sn	12 23 27.5	+0.7
SOEI	Soe	6.31	241	P	Pn	12 22 21.2	+3.6
	108nm,0.9s,1μm0.8nm						
SOEI	Soe	6.31	241		Pn	12 22 20.9	+3.3
SOEI				Sn	Sn	12 23 30.8	+2.0
RKPI	Ransiki, Papua	6.72	40	P	Pn	12 22 23.9	+0.9
	387nm,1.0s,9μm2.6nm						
KNRA	Kununurra	8.99	187		Pn	12 22 54.4	+1.2
KNRA				Sn	Sn	12 24 30.7	-2.3
FITZ	Fitzroy Crossi	12.05	200	P	Pn	12 23 33.4	-0.4
	2.4nm,0.3s,baz=25,slow=11,SNR=68						
FITZ				S	Sn	12 25 39.5	-7.5
	2.9nm,0.3s,baz=88,slow=18,SNR=7.1						
FITZ	Fitzroy Crossi	12.05	200		Pn	12 23 33.6	-0.2
FITZ					Sn	12 25 40.6	-6.4
PLAI	Plampang	12.15	259	P	Pn	12 23 35.4	+0.3
	42nm,0.9s						
WB0	Warramunga Arr	13.72	162	Pn	Pn	12 23 55.0	-0.3
WRAB	Tennant Creek	13.86	162		Pn	12 23 58.2	+1.2
WB2	Warramunga Arr	13.87	162	Pn	Pn	12 23 58.0	+0.9
WR0	Warramunga Arr	13.95	161	Pn	Pn	12 23 58.1	-0.1
COEN	Coen	14.95	120	P	P	12 24 13.0	+0.3
COEN				IAmb	IAmb	12 24 15.7	
	comp=Z,14nm,0.9s						
JAGI	Jajag, Banyuwa	15.66	263		Pn	12 24 19.9	+0.3
AS31	Alice Springs	17.31	167	P	Pn	12 24 41.1	+1.5
AS31				IAmb	IAmb	12 24 43.8	
	comp=Z,9.4nm,0.6s						
ASAR	Alice Springs	17.32	167	P	Pn	12 24 40.8	+1.2
	comp=Z,3.0nm,0.3s,baz=349,slow=13,SNR=74						
ASAR				S	S	12 27 46.7	-5.1
	comp=Z,0.9nm,0.3s,baz=351,slow=23,SNR=4.9						
ASAR				ScP	ScP	12 32 30.8	-4.4
	baz=357,slow=1.9,SNR=4.3						
KKM	Kota Kinabalu	18.59	313	P	Pn	12 24 54.7	-0.1
KKM				IAmb	IAmb	12 24 60.0	
	comp=Z,21nm,1.1s						
SBUM	Sibu	19.81	297	P	P	12 25 06.2	+0.2
CTA	Charters Tower	20.75	131	P	P	12 25 18.0	+2.0
	comp=Z,11nm,0.8s,baz=298,slow=11,SNR=17						
CTA				LR	LR	12 35 15.4	
	comp=Z,271nm,19.5s,baz=256,slow=42						
CISI	Cisompet, Garu	21.89	266	P	P	12 25 29.0	+0.7
FORT	Forrest	24.02	184	P	P	12 25 49.0	+1.0
MORW	Morawa	25.79	209	P	P	12 26 03.0	-1.2
BBOO	Buckleboo	26.61	168	P	P	12 26 11.4	-0.2
STKA	Stephens Creek	27.35	158	P	P	12 26 19.2	+1.1
	comp=Z,6.9nm,0.4s,baz=339,slow=7.9,SNR=38						
STKA	Stephens Creek	27.35	158	P	P	12 26 18.8	+0.8
STKA				IAmb	IAmb	12 26 19.5	
	comp=Z,2.0nm,0.5s						
ARMA	Armidale	31.22	142	P	P	12 26 52.7	+0.2
ARMA				IAmb	IAmb	12 27 11.2	
	comp=Z,14nm,1.2s						
RPSI	Rantau Prapat	32.26	286	P	P	12 27 02.7	+1.1
RPSI	Rantau Prapat	32.26	286	P	P	12 27 00.3	-1.4
RPSI				IAmb	IAmb	12 27 05.6	
	comp=Z,7.0nm,0.8s						
PSI	Prapat	32.29	286	P	P	12 27 02.7	+0.6
	comp=Z,5.5nm,0.8s,baz=90,slow=2.0,SNR=3.5						
CAN	Canberra	33.49	151	P	P	12 27 12.5	+0.3
TOO	Toolangi	33.86	157	P	P	12 27 18.6	+3.2
TOO				IAmb	IAmb	12 27 18.6	
	comp=Z,7.7nm,0.8s						
PBKT	Sadao Pong	36.76	309	P	P	12 27 38.5	-1.8
PBKT				IAmb	IAmb	12 27 41.6	
	comp=Z,8.1nm,1.4s						
CMAR	Chiang Mai Arr	39.43	310	P	P	12 28 02.4	-0.3
	comp=Z,1.0nm,0.4s,baz=136,slow=7.9,SNR=5.1						
WHN	Wuhan	39.90	339	P	P	12 28 13.3	+6.9
NJ2	Nanjing	39.94	345	*e*P	P	12 28 11.2	+4.5
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
CD2	Chengdu	44.97	328	P	P	12 28 49.6	+2.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LZH	Lanzhou	49.07	332	⇑P	P	12 29 22.1	+2.8
LZH				pP	pwP	12 30 00.5	+3.4
LZH				sP	sP	12 30 19.3	+12
LZH				PP	PP	12 31 19.0	+4.6
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
LZH				pmax	pmax		
	comp=Z,65nm,5.4s						
HHC	Hu-ho-hao-te	50.21	342	P	P	12 29 33.7	+5.9
HHC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,8.0nm,4.2s						
TUWZ	Tuamarina	52.20	139	P	P	12 29 43.7	+1.2
BKZ	Black Stump Fm	52.91	135	P	P	12 29 49.0	+1.1
ODAN	Odare	52.95	311	*e*P	P	12 29 47.5	-1.1
	comp=Z,10nm,0.5s						
TAPN	Taplejung	52.98	312	*e*P	P	12 29 47.8	-1.1
	comp=Z,11nm,0.4s						
RAMN	Ramite	53.59	311	*e*P	P	12 29 52.7	-0.6
	comp=Z,23nm,0.4s						
GTA	Gaotai	53.64	331	*e*P	P	12 29 52.7	-0.6
GTA				pP	pP	12 30 26.5	+0.8
GTA	Gaotai	53.64	331	*e*P	pP	12 30 26.5	+0.8
GTA				pP	pwP	12 30 31.1	-0.5
GTA				sP	sP	12 30 33.9	-7.3
GTA				sP	PcP	12 30 44.9	-13
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
JIRN	Jiri	54.28	311	*e*P	P	12 29 57.3	-1.1
	comp=Z,12nm,0.4s						
GUN	Gumba	54.65	311	*e*P	P	12 30 00.0	-1.0
	comp=Z,14nm,0.5s						
PKI	Pulchoki	54.82	310	*e*P	P	12 30 00.9	-1.4
	comp=Z,5.8nm,0.5s						
PKIN	Phulchoki	54.83	310	*e*P	P	12 30 01.0	-1.3
	comp=Z,5.4nm,0.5s						
KOLN	Koldanda	56.30	310	*e*P	P	12 30 11.6	-1.1
	comp=Z,7.4nm,0.5s						
DANN	Dangsing	56.47	310	*e*P	P	12 30 12.8	-1.2
	comp=Z,5.1nm,0.4s						
SONM	Songino Array	58.11	342	P	P	12 30 24.8	-0.1
	comp=Z,0.4nm,0.4s,baz=156,slow=7.3,SNR=6.1						
WMQ	Urumqi	63.06	327	*e*P	P	12 31 01.6	+3.1
WMQ				pmax	pmax		
	comp=Z,12nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,77nm,5.7s						
WMQ				LR	LR		
	comp=N,360nm,29.3s						
WMQ				LR	LR		
	comp=E,1μm,29.1s						
WMQ				LR	LR		
	comp=Z,130nm,29.1s						
KSH	Kashi	67.70	318	P	P	12 31 32.8	+4.3
KSH				sP	sP	12 32 34.0	+16
KSH				PP	PP	12 34 07.3	+7.5
KSH				ScS	S	12 40 10.4	-4.1
KSH				S	S	12 40 16.1	+1.6
KSH				pmax	pmax		
	comp=Z,330nm,4.9s						
KSH				LR	LR		
	comp=N,340nm,5.5s						
KSH				LR	LR		
	comp=E,660nm,5.3s						
MK31	Makanchi Array	67.89	327	P	P	12 31 28.9	-0.5
MK31				IAmb	IAmb	12 31 30.1	
	comp=Z,6.2nm,0.7s						
MKAR	Makanchi Array	67.89	327	P	P	12 31 29.3	-0.1
	comp=Z,7.2nm,0.5s,baz=115,slow=8.4,SNR=42						
MAKZ	Makanchi	68.08	327	P	P	12 31 29.9	-0.7
MAKZ				IAmb	IAmb	12 31 31.1	
	comp=Z,16nm,1.2s						
YAK	Yakutsk	68.53	360	P	P	12 31 32.1	-0.8
YAK				IAmb	IAmb	12 31 33.4	
	comp=Z,5.6nm,0.6s						
SMY	Shemya	70.08	27	P	P	12 31 42.3	-0.4
AAK	Ala-Archa	70.22	320	P	P	12 31 43.1	-1.0
AAK				IAmb	IAmb	12 31 45.3	
	comp=Z,2.5nm,0.7s						
ZAA0	Zalesovo Array	71.25	334	P	P	12 31 48.2	-1.6
ZALV	Zalesovo Beam	71.25	334	P	P	12 31 48.3	-1.5
	comp=Z,1.0nm,0.5s,baz=141,slow=5.7,SNR=4.4						
GAR	Garm	71.35	315	P	P	12 31 50.2	-0.7
GAR				IAmb	IAmb	12 31 51.4	
	comp=Z,6.0nm,0.7s						
KURK	Kurchatov	72.19	329	P	P	12 31 54.0	-1.4
VNDA	Vanda	72.76	173	P	P	12 31 58.9	+0.4
	comp=Z,1.6nm,0.9s,baz=305,slow=5.9,SNR=3.5						
VNDA	Vanda	72.76	173	P	P	12 31 58.6	+0.1
KK31	Karatay Array	73.02	319	P	P	12 31 59.3	-1.3
KKAR	Karatay Array	73.02	319	P	P	12 31 59.3	-1.3
ABKAR	Akbulak array	82.18	322	P	P	12 32 49.2	-2.1
RAYN	Ar Rayn	87.49	294	P	P	12 33 17.8	-0.7
RAYN				IAmb	IAmb	12 33 19.0	
	comp=Z,4.8nm,0.6s						

*ISCJB **04** 12:39:28.4±0.5, 23°.87S±0°.08×69°.65E±0°.09, h10km, mb3.9/13, MS3.8/6, Error ellipse: s-maj=13.1km s-min=10.8km az=139.2*

*IDC **04** 12:39:29.0±0.7, 23°.89S×69°.56E, h0km, mb4.0/13, mb1 4.0/13, mb1mx3.8/50, mbtmp4.0/13, MS3.7/6, Ms1 3.7/6, ms1mx3.3/36, Error ellipse: s-maj=22.4km s-min=19.2km az=95.0*

*NEIC **04** 12:39:30.6±1.9, 23°.8S±0°.1×69°.6E±0°.1, h10km±1km, mb4.5/20*

ISC 04 12:39:30.3±0.6**, 23°.9S**±0°.1×**69°.6E**±0°.1**, h10km, n48, σ1s.01**/37**, mb4.3**/23**, MS3.7**/6**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	16.35	10	T	T	13 00 02.5	
	baz=191,slow=76,SNR=105						
H08S2	Diego Garcia H	16.36	10	T	T	13 00 02.7	
	baz=191,slow=76,SNR=128						
H08S3	Diego Garcia H	16.37	10	T	T	13 00 15.1	
	baz=191,slow=76,SNR=102						
KAAM	Kaadhehdhoo	24.43	8	P	P	12 44 50.3	+1.1
PALK	Pallekele	32.78	21	P	P	12 46 04.1	+0.2
PALK				IAmb	IAmb	12 46 04.6	
	comp=Z,13nm,1.0s						
KMBO	Kilima Mbogo	38.63	301	P	P	12 46 55.2	+0.8
	comp=Z,1.0nm,0.3s,baz=130,slow=6.9,SNR=3.4						
KMBO	Kilima Mbogo	38.63	301	P	P	12 46 53.0	-1.3
LHMI	Lhok Sumawe	39.33	46	P	P	12 46 59.6	-0.3
LSZ	Lusaka	39.82	275	P	P	12 47 04.0	-0.3
	comp=Z,1.0nm,0.4s,baz=111,slow=8.6,SNR=2.7						
LSZ	Lusaka	39.82	275	P	P	12 47 02.1	-2.2
BOSA	Boshof	39.89	253	LR	LR	12 59 48.4	
	comp=Z,138nm,20.3s,baz=32,slow=31						
H01W2	Cape Leeuwin H	40.05	116	T	T	13 29 46.5	
	baz=273,slow=75,SNR=12						
H01W3	Cape Leeuwin H	40.05	116	T	T	13 29 38.6	
	baz=273,slow=75,SNR=12						
H01W1	Cape Leeuwin H	40.07	116	T	T	13 29 46.9	
	baz=273,slow=75,SNR=10						
KSM	Kuching	46.88	63	P	P	12 47 59.0	-2.1
SBUM	Sibu	49.00	64	P	P	12 48 16.1	-1.4
SBUM				IAmb	IAmb	12 48 33.7	
	comp=Z,6.9nm,1.5s						
CMAR	Chiang Mai Arr	50.88	37	P	P	12 48 32.8	+1.1
	comp=Z,0.4nm,0.3s,baz=231,slow=5.5,SNR=4.2						
ASAR	Alice Springs	58.37	104	P	P	12 49 26.8	+0.6
	comp=Z,2.8nm,0.9s,baz=251,slow=6.4,SNR=33						
ASAR				LR	LR	13 11 15.4	
	comp=Z,66nm,21.5s,baz=277,slow=33						
AS31	Alice Springs	58.37	104	P	P	12 49 27.0	+0.8
MTN	Manton Dam	59.04	91	P	P	12 49 29.2	-1.7
MTN				IAmb	IAmb	12 49 32.5	
	comp=Z,4.4nm,0.8s						
WB2	Warramunga Arr	59.75	100	P	P	12 49 34.3	-1.5
WB2				IAmb	IAmb	12 49 37.0	
	comp=Z,3.9nm,0.9s						
WRAB	Tennant Creek	59.75	100	P	P	12 49 36.7	+0.8
WRAB				IAmb	IAmb	12 49 48.6	
	comp=Z,5.2nm,1.1s						
WB0	Warramunga Arr	59.84	100	P	P	12 49 36.9	+0.5
WB0				IAmb	IAmb	12 49 38.0	
	comp=Z,6.5nm,1.1s						
WR0	Warramunga Arr	59.92	100	P	P	12 49 38.0	+1.1
WR0				IAmb	IAmb	12 49 54.2	
	comp=Z,6.1nm,1.2s						
SNAA	Sanae	62.03	200	P	P	12 49 50.7	+0.1
	comp=Z,1.0nm,0.9s,baz=104,slow=4.0,SNR=3.2						
SNAA	Sanae	62.03	200	P	P	12 49 51.9	+1.3
SNAA				IAmb	IAmb	12 49 57.9	
	comp=Z,1.9nm,0.9s						
STKA	Stephens Creek	63.12	115	LR	LR	13 14 31.1	
	comp=Z,49nm,18.7s,baz=207,slow=33						
QSPA	South Pole Qui	66.27	180	P	P	12 50 18.7	+0.1
	comp=Z,2.4nm,0.9s,baz=299,slow=5.6,SNR=6.0						
QSPA	South Pole Qui	66.27	180	P	P	12 50 19.0	+0.5
KK31	Karatay Array	66.63	1	P	P	12 50 19.7	-1.2
KK31				IAmb	IAmb	12 50 33.5	
	comp=Z,3.1nm,0.9s						
KKAR	Karatay Array	66.63	1	P	P	12 50 19.6	-1.3
KKAR				IAmb	IAmb	12 50 33.5	
	comp=Z,3.1nm,0.9s						
VNDA	Vanda	67.37	166	P	P	12 50 24.8	-0.5
MKAR	Makanchi Array	71.25	9	P	P	12 50 49.9	+0.3
	comp=Z,2.0nm,0.8s,baz=190,slow=6.0,SNR=6.5						
BRTR	Keskin Array B	71.61	331	P	P	12 50 52.6	+0.6
	comp=Z,1.0nm,0.8s,baz=106,slow=7.9,SNR=4.5						
ABKAR	Akbulak array	73.29	353	P	P	12 51 01.4	-0.2
ABKAR				IAmb	IAmb	12 51 02.9	
	comp=Z,4.5nm,1.1s						
KURBB	Kurchatov Arra	74.57	6	P	P	12 51 09.5	+0.5
	comp=Z,0.7nm,0.7s,baz=204,slow=6.4,SNR=6.4						
KURK	Kurchatov	74.67	6	P	P	12 51 08.7	-0.9
BVAR	Borovoye Array	76.56	0	P	P	12 51 21.2	+0.8
	comp=Z,0.7nm,0.8s,baz=181,slow=5.8,SNR=3.2						
ZALV	Zalesovo Beam	78.59	9	P	P	12 51 31.9	+0.2
	comp=Z,1.0nm,0.6s,baz=176,slow=4.3,SNR=2.5						
SONM	Songino Array	78.65	24	P	P	12 51 33.2	+0.8
	comp=Z,0.3nm,0.4s,baz=220,slow=3.8,SNR=3.8						
TLY	Talaya	80.93	21	LR	LR	13 28 35.7	
	comp=Z,33nm,18.2s,baz=196,slow=36						
AKASG	Malin Array Be	82.35	335	P	P	12 51 52.0	-0.1
	comp=Z,0.9nm,0.5s,baz=138,slow=4.1,SNR=6.8						
GUMO	Guam	82.39	72	LR	LR	13 23 04.8	
	comp=Z,76nm,21.7s,baz=159,slow=32						
MORC	Moravsky Berou	86.63	329	P	P	12 52 14.3	+0.5
MJAR	Matsushiro Arr	88.25	49	LR	LR	13 32 06.8	
	comp=Z,25nm,18.6s,baz=250,slow=36						
ULM	Lac du Bonnet	151.32	340	PKPbc	PKPbc	12 59 23.6	-0.4
	comp=Z,1.9nm,0.4s,baz=16,slow=2.9,SNR=4.0						
NVAR	Mina Array Bea	163.99	23	PKPab	PKPab	13 00 27.9	+0.7
	comp=Z,0.1nm,0.4s,baz=349,slow=3.7,SNR=2.3						
TXAR	Lajitas Array	171.87	314	PKPab	PKPab	13 01 03.1	+0.9
	comp=Z,0.2nm,0.6s,baz=76,slow=3.8,SNR=2.3						

*ISCJB **04** 13:05:17.6±0.2, 26°.53N±0°.02×89°.60E±0°.02, h10km, mb4.3/52, MS3.8/16, Error ellipse: s-maj=3.8km s-min=2.2km az=20.7*

*IDC **04** 13:05:18.1±0.6, 26°.58N×89°.57E, h0km, mb4.1/28, mb1 4.2/29, mb1mx4.1/52, mbtmp4.1/29, ML4.3/1, MS3.6/11, Ms1 3.6/11, ms1mx3.2/49, Error ellipse: s-maj=17.5km s-min=11.8km az=38.0*

*NEIC **04** 13:05:19.9±1.8, 26°.59N±0°.06×89°.56E±0°.08, h14km±2km, mb4.7/53*

*BJI **04** 13:05:19.0±0.0, 26°.74N×89°.73E, h9km, mb4.6/49, mB4.7/37, Ms4.2/39, Ms7 3.9/22*

*DMN **04** 13:05:21.8±0.6, 26°.56N×89°.68E, h10km, Ml5.3/3, Error ellipse: s-maj=24.5km s-min=12.9km az=19.0*

*MOS **04** 13:05:21.0±1.1, 26°.57N×89°.47E, h33km, mb4.6/24, Error ellipse: s-maj=10.6km s-min=5.4km az=113.0*

*NDI **04** 13:05:21.6±2.8, 26°.55N×89°.49E, h24km±22km, mb4.9, ML4.6, mb4.7(NEIC)*

ISC 04 13:05:19.5±0.3**, 26°.54N**±0°.04×**89°.56E**±0°.03**, h10km, n214, σ2s.10**/216**, mb4.4**/63**, MS3.8**/16**, 8C-1D, India-Bangladesh border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	Tadong	1.16	312	*e*P	Pg	13 05 41.7	0.0
GTK				*e*S	Sb	13 05 56.7	-0.1
GTK					IAML	13 05 58.1	
	comp=E,21μm,0.3s						
GTK					IAML	13 05 59.5	
	comp=N,18μm,0.3s						
TAPN	Taplejung	1.84	296	*e*Pn	Pb	13 05 53.5	+0.1
TAPN				*e*Sn	Sn	13 06 15.4	+0.5
	comp=N,3μm,0.3s						
ODAN	Odare	1.97	280	*e*Pn	Pb	13 05 55.2	-0.4
ODAN				*e*Sn	Sn	13 06 19.3	+1.3
	comp=N,7μm,0.3s						
SHL	Shillong	2.30	114	P	Pn	13 05 58.0	+0.3
SHL	Shillong	2.30	114	*e*P	Pb	13 06 00.6	-0.7
SHL				*e*S	Sn	13 06 25.3	-0.9
SHL					IAML	13 06 31.3	
	comp=E,7μm,0.0s						
SHL					IAML	13 06 34.2	
	comp=N,8μm,0.1s						
SHL	Shillong	2.30	114	Pn	Pn	13 05 58.0	+0.3
RAMN	Ramite	2.68	279	*e*Pn	Pn	13 06 05.3	+2.4
JIRN	Jiri	3.21	291	*e*Pn	Pn	13 06 12.5	+2.2
LSA	Lhasa	3.44	24	P	Pn	13 06 16.5	+2.9
LSA	Lhasa	3.44	24		Pn	13 06 16.5	+2.9
GUN	Gumba	3.55	293	*e*Pn	Pn	13 06 17.0	+2.0
PKI	Pulchoki	3.84	286	*e*Pn	Pn	13 06 20.3	+1.3
PKIN	Phulchoki	3.85	286	*e*Pn	Pn	13 06 20.4	+1.3
ZIRO	ZIRO	3.95	75	*e*P	Pn	13 06 22.2	+1.9
ZIRO				*e*S	Sn	13 07 06.3	-0.5
ZIRO					IAML	13 07 33.5	
	comp=E,27μm,0.3s						
KKN	Kakani	4.01	289	*e*Pn	Pn	13 06 22.9	+1.7
KKN				*e*Sn	Sn	13 07 08.9	+0.5
	comp=E,541nm,0.2s						
DMN	Daman	4.11	286	*e*Pn	Pn	13 06 24.1	+1.4
KOHI	KOHIMA	4.17	100	*e*P	Pn	13 06 24.2	+0.8
KOHI				*e*S	Sn	13 07 13.3	+1.1
KOHI					IAML	13 07 15.4	
	comp=E,1μm,0.5s						
KOHI					IAML	13 07 21.2	
	comp=N,1μm,0.4s						
JORH	JORHAT	4.20	86	*e*P	Pn	13 06 24.5	+0.9
JORH				*e*S	Sn	13 07 11.9	-0.8
JORH					IAML	13 07 15.5	
	comp=N,2μm,0.4s						
JORH					IAML	13 07 33.7	
	comp=E,5μm,0.7s						
BRDH	Bariadhala	4.29	153	Pn	Pn	13 06 28.5	+3.7
	comp=E,0.4nm,0.3s,baz=270,slow=5.1,SNR=6.9						
BRDH				Sn	Sn	13 07 14.0	-0.9
	comp=E,0.8nm,0.3s,baz=288,slow=19,SNR=5.4						
BOK	Bokaro	4.31	231	*e*P	Pn	13 06 26.6	+1.5

BOK ex x 13 07 14.4
BOK IAML 13 07 37.4
comp=E,3µm,0.8s
GKN Gorkha 4.62 289 *e*Pn **Pn** **13 06 31.2 +1.7**
KOLN Koldanda 5.45 284 *e*Pn **Pn** **13 06 42.2 +1.2**
DANN Dangsing 5.46 291 *e*Pn **Pn** **13 06 42.2 +1.0**
LKP Lekhapani 5.66 81 *e*P **Pn** **13 06 44.6 +0.9**
LKP *e*S **Sn** **13 07 45.5 -3.3**
LKP IAML 13 07 51.1
comp=N,1µm,0.6s
LKP IAML 13 08 24.4
comp=E,2µm,0.6s
SIMRM Sittwe 7.07 154 **Pn** **13 07 03.3 +0.2**
BWNR Bhubaneshwar 7.11 210 *e*P **Pn** **13 07 04.1 +0.5**
BWNR ex x 13 08 20.5
LGTI Lohaghat 8.73 292 *e*P **Pn** **13 07 27.4 +1.6**
LGTI ex x 13 09 10.2
JBP Jabalpur 9.32 251 *e*P **Pn** **13 07 35.2 +1.2**
JBP ex x 13 09 16.6
NGP Nagpur 11.01 243 *e*P **Pn** **13 07 56.0 -1.2**
NGP ex x 13 09 42.9
NDI New Delhi 11.15 284 *e*P **Pn** **13 07 57.0 -2.1**
NDI ex x 13 09 58.0
MHMT Maesarieng 11.37 135 P Pn 13 08 10.4 +8.4
comp=E,40nm,0.7s,comp=E,773nm
BHPL Bhopal 11.50 256 *e*P **Pn** **13 08 02.2 -1.6**
BHPL IAmb IAmb 13 08 04.6
comp=Z,136nm,0.4s
BHPL ex x 13 10 03.0
CHTO Chiang Mai 11.58 130 P **Pn** **13 08 03.0 -1.9**
CHTO Chiang Mai 11.58 130 **Pn** **13 08 03.0 -1.9**
CMMT Chiang Mai 11.58 130 P Pn 13 08 13.5 +8.5
comp=Z,4.1nm,0.6s
SMLA Simla 11.79 296 *e*P **Pn** **13 08 06.1 -1.6**
CM31 Chiang Mai Arr 11.82 131 **Pn** **13 08 07.7 -0.6**
CMAR Chiang Mai Arr 11.82 131 Pn **Pn** **13 08 07.8 -0.5**
comp=Z,0.6nm,0.3s,baz=317,slow=14,SNR=7.8
CMAR Sn **Sn** **13 10 22.9 +2.5**
baz=311,slow=26,SNR=2.8
PAYA Payao 11.88 125 P **Pn** **13 08 10.9 +1.8**
comp=Z,42µm,0.7s
KMI Kunming 11.95 94 P **Pn** **13 08 10.8 +0.6**
KMI pP 13 08 13.0
KMI sP 13 08 14.7
KMI S **Sn** **13 10 23.7 -0.1**
KMI SS **SnSn** **13 10 37.1 +1.3**
KMI pmax pmax
comp=Z,14nm,0.6s
KMI pmax pmax
comp=Z,110nm,4.6s
KMI LR LR
comp=Z,420nm,12.4s
KMI LR LR
comp=Z,200nm,15.9s
KMI Kunming 11.95 94 P **Pn** **13 08 08.4 -1.8**
KMI Kunming 11.95 94 **Pn** **13 08 08.4 -1.8**
PHRA Phrae 12.69 127 P Pn 13 08 34.7 +15
DHRM DHARAMSHALA 12.88 299 *e*P **Pn** **13 08 20.5 -2.4**
DHRM IAmb IAmb 13 08 24.1
comp=Z,78nm,0.4s
CD2 Chengdu 13.19 67 P **Pn** **13 08 27.4 +0.4**
HYB Hyderabad 13.66 231 *i* P **Pn** **13 08 30.0 -3.4**
HYB *e*S **Sn** **13 11 05.0 -0.3**
HYB Hyderabad 13.66 231 *e*P **Pn** **13 08 31.9 -1.5**
HYB IAmb IAmb 13 08 33.0
comp=Z,13nm,0.6s
DGPR DIGLIPUR 13.67 166 *e*P **Pn** **13 08 31.6 -1.9**
DGPR ex x 13 10 56.2
UTHA Uthaitani 14.29 138 P P 13 08 55.9 +6.6
PBKT Sadao Pong 14.52 131 P **P** **13 08 50.4 -1.4**
comp=E,6.3nm,0.7s
PBKT Sadao Pong 14.52 131 **Pn** **13 08 44.4 -0.7**
NONG Nongkai 15.13 121 P **P** **13 09 01.2 +2.6**
comp=Z,0.5nm,1.2s
GYA Guiyang 15.31 86⇑ *i*P **Pn** **13 08 54.4 -1.5**
GYA PP **sP** **13 09 11.7 +6.8**
GYA S **Sn** **13 11 41.9 -3.8**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,80nm,5.0s
GYA LR LR
comp=Z,190nm,11.4s
GYA LR LR
comp=Z,180nm,11.2s
GTA Gaotai 15.43 31⇑ P **Pn** **13 08 54.2 -3.2**
GTA pP P 13 08 58.7 -3.3
GTA sP pP 13 09 01.2 -3.7
GTA S **Sn** **13 11 44.7 -3.8**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,100nm,7.1s
GTA LR LR
comp=Z,410nm,17.1s
GTA LR LR
comp=Z,720nm,16.2s
GTA LR LR
comp=Z,420nm,13.0s
LZH Lanzhou 15.46 49 *e*P **Pn** **13 08 57.1 -0.7**
LZH pP P 13 09 00.6 -1.8
LZH sP pP 13 09 04.2 -1.0
LZH *e*PP **sP** **13 09 09.7 +3.2**
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,75nm,4.5s
LZH LR LR
comp=Z,890nm,11.2s
LZH LR LR
comp=Z,740nm,12.1s
LZH LR LR
comp=Z,540nm,13.5s
CHAI Chaiyaphum 15.68 130 P **P** **13 09 07.6 +2.9**
comp=Z,20µm,0.7s
CHCP Chirah Chowk 15.78 301 P **Pn** **13 08 58.3 -3.6**
NIL Nilore 15.78 301 P **Pn** **13 08 59.7 -2.2**
NIL pmax pmax
comp=Z,76nm,0.7s
NIL Nilore 15.78 301 **Pn** **13 08 59.7 -2.2**
NIL IAmb IAmb 13 09 07.2
comp=Z,76nm,0.7s
PHET Kaeng Krachan 16.53 143 P **P** **13 09 17.7 +3.5**
comp=Z,101µm,0.9s,comp=Z,652µm
POO Poona 16.55 244 *ex* **Pn** **13 09 06.0 -5.9**
POO *ex* x 13 09 08.2
POO *i x* x 13 12 04.2
THW Thamme Wali 16.68 296 P **Pn** **13 09 08.5 -5.0**
CEP Cherat 16.89 300 P **Pn** **13 09 11.5 -4.7**
PATY Pattaya 17.21 140 P P 13 09 32.9 +11
KSH Kashi 17.21 322 P **P** **13 09 22.4 +0.7**
KSH pP sP 13 09 26.5 +0.6
KSH S **Sn** **13 12 34.6 +2.9**
KSH sS S 13 12 41.6 +0.6
KSH pmax pmax
comp=Z,140nm,1.1s
KSH pmax pmax
comp=Z,350nm,5.1s
KSH LR LR
comp=Z,1µm,14.8s
KSH LR LR
comp=Z,2µm,12.6s
KSH LR LR
comp=Z,590nm,14.9s
WMQ Urumqi 17.31 355 *e*P **P** **13 09 22.7 0.0**
WMQ sP sP 13 09 28.4 +1.5
WMQ PP **PnPn** **13 09 35.8 +4.4**
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ pmax pmax
comp=Z,77nm,4.7s
WMQ LR LR
comp=Z,590nm,29.2s
WMQ LR LR
comp=Z,2µm,29.0s
WMQ Urumqi 17.31 355 P **Pn** **13 09 20.0 -1.2**
WMQ pmax pmax
comp=Z,19nm,0.6s
WMQ Urumqi 17.31 355 Pn **Pn** **13 09 20.0 -1.2**
ENH Enshi 17.92 73 Pn **Pn** **13 09 26.4 -2.5**
TARG Taragay, Kyrgy 17.98 330 P **Pn** **13 09 29.3 -0.6**
XAN Xi'an 18.30 61 P **Pn** **13 09 32.2 -1.3**
XAN sP sP 13 09 39.6 +1.8
XAN PP **PnPn** **13 09 48.3 +3.4**
XAN S **Sn** **13 12 54.4 -3.5**
XAN SS **SnSn** **13 13 17.7 +6.1**
XAN pmax pmax
comp=Z,7.0nm,1.2s
XAN pmax pmax
comp=Z,46nm,2.6s
XAN LR LR
comp=Z,600nm,14.3s
XAN LR LR
comp=Z,170nm,14.9s
XAN Xi'an 18.30 61 P **Pn** **13 09 30.9 -2.6**
XAN pmax pmax
comp=Z,17nm,1.1s
XAN Xi'an 18.30 61 Pn **Pn** **13 09 30.9 -2.6**
PRZ Przheval'sk 18.34 333 P **Pn** **13 09 33.9 -0.3**
PRZ pmax pmax
comp=Z,42nm,0.9s
PRZ Przheval'sk 18.34 333 P **Pn** **13 09 33.9 -0.3**
PRZ IAmb IAmb 13 09 44.4
comp=Z,42nm,0.9s
KDJ Kajisay 18.58 330 P **P** **13 09 34.8 -2.0**
KDJ pmax pmax
comp=Z,15nm,0.9s
KDJ Kajisay 18.58 330 P **P** **13 09 34.8 -2.0**
NRN Naryn 18.59 326 P **P** **13 09 35.4 -1.8**
NRN pmax pmax
comp=Z,13nm,0.9s
NRN Naryn 18.59 326 P **P** **13 09 35.4 -1.8**
PDGK Podgornoye 18.65 336 P **P** **13 09 37.0 -0.5**
PDGK pmax pmax
comp=Z,8.0nm,0.6s
ULHL Ulahol 19.10 328 P **Pn** **13 09 44.4 +1.0**
SNR=12
KBL Kabul 19.37 299 P **P** **13 09 44.6 -1.0**
KBL pmax pmax
comp=Z,40nm,1.2s
KBL Kabul 19.37 299 P **P** **13 09 44.6 -1.0**
KBL IAmb IAmb 13 09 49.4
comp=Z,40nm,1.2s
KZA Kyzart 19.45 326 P **Pn** **13 09 48.5 +0.7**
SNR=5.5
TKM2 Tokmak 2 19.92 329 P **Pn** **13 09 53.6 +0.3**
SNR=23
UCH Uchtor 19.93 326 P **Pn** **13 09 53.8 +0.2**
SNR=26
KBK Karagaybulak 20.03 327 P **Pn** **13 09 53.8 -0.7**
SNR=9.9
ARSB Arslanbob 20.11 321 P **P** **13 09 53.5 -0.1**
ARSB IAmb IAmb 13 10 05.1
comp=Z,15nm,0.7s
QIZ Qiongzhong 20.12 108 P **P** **13 09 54.7 +1.0**
QIZ IAmb IAmb 13 10 35.1
comp=Z,140nm,1.7s
AAK Ala-Archa 20.24 326*ce*P Pn 13 09 57.3 +0.4
AAK pmax pmax
comp=Z,13nm,1.3s
AAK Ala-Archa 20.24 326 P **P** **13 09 55.9 +0.9**
comp=Z,4.7nm,0.9s,baz=175,slow=7.9,SNR=12
AAK Ala-Archa 20.24 326 P Pn 13 09 57.5 +0.6
SNR=8.2
AAK Ala-Archa 20.24 326 P **P** **13 09 55.3 +0.3**
AML Almayashu 20.28 324 P Pn 13 09 57.1 -0.6
SNR=14
GAR Garm 20.35 312 P **P** **13 09 55.2 -1.0**
GAR IAmb IAmb 13 10 20.8
comp=Z,45nm,0.8s
BTK Batken 20.61 316 P **P** **13 09 59.5 +0.5**
BTK pmax pmax
comp=Z,93nm,0.8s
BTK Batken 20.61 316 P **P** **13 09 59.5 +0.5**
EKS2 Erkin-Say 20.62 325 P Pn 13 10 00.9 -0.4
SNR=15
USP Ospenovka 20.71 328 P Pn 13 10 01.5 -0.7
SNR=7.0
CHGR Chuyangaron 20.96 310 P **P** **13 10 02.5 -0.3**
CHGR IAmb IAmb 13 10 27.2
comp=Z,41nm,0.7s
MK31 Makanchi Array 21.02 346 P **P** **13 10 02.3 -1.0**
MK31 pmax pmax
comp=Z,9.0nm,0.6s
MK31 Makanchi Array 21.02 346 P **P** **13 10 02.5 -0.7**
MK31 IAmb IAmb 13 10 12.4
comp=Z,33nm,1.5s
MKAR Makanchi Array 21.02 346*ce*P **P** **13 10 03.4 +0.1**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 21.02 346 P **P** **13 10 02.3 -1.0**
comp=Z,6.5nm,0.6s,baz=164,slow=10,SNR=32
MAKZ Makanchi 21.10 345 P **P** **13 10 03.6 -0.5**
MAKZ pmax pmax
comp=Z,23nm,1.2s
MAKZ Makanchi 21.10 345 P **P** **13 10 03.6 -0.5**
MAKZ IAmb IAmb 13 10 27.1
comp=Z,23nm,1.1s
BTO Baotou 22.00 45 *e*P **P** **13 10 21.1 +7.1**
WHN Wuhan 22.12 74 P **P** **13 10 16.6 +1.4**
WHN S **S** **13 14 14.9 -4.2**
WHN LR LR
comp=Z,270nm,8.3s
WHN LR LR
comp=Z,640nm,11.7s
WHN LR LR
comp=Z,850nm,11.7s
KK31 Karatay Array 22.66 322 *e*P **P** **13 10 20.9 -0.1**
KK31 pmax pmax
comp=Z,12nm,1.0s
KK31 Karatay Array 22.66 322 P **P** **13 10 21.3 +0.3**
KKAR Karatay Array 22.66 322 P **P** **13 10 21.2 +0.2**
KKAR pmax pmax
comp=Z,14nm,1.0s
KKAR Karatay Array 22.66 322 P **P** **13 10 21.1 +0.2**
HHC Hu-ho-hao-te 23.12 46 P **P** **13 10 25.2 -0.7**
HHC pmax pmax
comp=Z,4.0nm,0.9s
HRA Herat 24.76 295 P **P** **13 10 42.2 +0.5**
HRA IAmb IAmb 13 10 43.0
comp=Z,9.0nm,0.7s
SONM Songino Array 25.03 27 P **P** **13 10 44.1 +0.4**
comp=Z,5.0nm,0.7s,baz=216,slow=9.6,SNR=38
SONM LR LR 13 21 25.8
comp=Z,211nm,18.3s,baz=306,slow=39
PSI Prapat 25.26 158 P **P** **13 10 48.2 +2.1**
comp=Z,3.1nm,0.3s,baz=329,slow=10.0,SNR=2.7
ULN Ulaanbaatar 25.32 28*ce*P **P** **13 10 46.7 +0.2**
ULN pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 25.32 28 P **P** **13 10 45.2 -1.3**
ULN IAmb IAmb 13 10 59.2
comp=Z,11nm,0.8s
RPSI Rantau Prapat 25.36 158 P **P** **13 10 48.2 +1.3**
TIA Tai'an 25.36 61 P P 13 10 55.2 +8.4
TIA pmax pmax
comp=Z,9.0nm,0.9s
KURBB Kurchatov Arra 25.49 344 P **P** **13 10 47.5 -0.3**
comp=Z,5.1nm,0.7s,baz=162,slow=9.1,SNR=41
KURK Kurchatov 25.55 344*ce*P **P** **13 10 48.3 0.0**
KURK pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 25.55 344 P **P** **13 10 48.1 -0.2**
KURK IAmb IAmb 13 11 19.5
comp=Z,15nm,1.1s
ZAK Zakamensk 26.03 20 *e*P **P** **13 10 49.9 -2.9**
ZAK pmax pmax
comp=Z,6.0nm,0.9s
NJ2 Nanjing 26.08 71 *e*P **P** **13 10 53.5 +0.1**
NJ2 pmax pmax
comp=Z,12nm,0.6s
GSI Gunungsitoli 26.25 162 P P 13 11 02.4 +7.4
GSI Gunungsitoli 26.25 162 P **P** **13 10 56.7 +1.8**
GSI IAmb IAmb 13 11 16.1
comp=Z,39nm,1.1s
TLY Talaya 27.28 19 P **P** **13 11 02.5 -1.5**
TLY pmax pmax
comp=Z,6.0nm,0.6s
TLY Talaya 27.28 19 P **P** **13 11 02.5 -1.5**
TLY IAmb IAmb 13 11 03.4
comp=Z,5.7nm,0.6s
ZAA0 Zalesovo Array 27.60 354 P **P** **13 11 04.9 -1.9**
ZAA0 IAmb IAmb 13 11 14.2
comp=Z,17nm,1.4s
ZALV Zalesovo Beam 27.60 354 P **P** **13 11 06.8 0.0**
comp=Z,3.3nm,0.6s,baz=177,slow=8.8,SNR=14
GEYT Alibeck 28.79 301 P **P** **13 11 17.8 +0.1**
comp=Z,1.8nm,0.8s,baz=94,slow=8.7,SNR=4.4
BVAR Borovoye Array 30.08 337 P **P** **13 11 27.9 -1.0**
comp=Z,0.5nm,0.3s,baz=152,slow=11,SNR=5.2
BRVK Borovoye 30.15 337 P **P** **13 11 29.5 0.0**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 30.15 337 P **P** **13 11 29.5 0.0**
AB31 Akbulak array 32.22 323 *e*P **P** **13 11 48.0 +0.2**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 32.22 323 P **P** **13 11 47.7 -0.1**
ABKAR IAmb IAmb 13 11 57.2
comp=Z,4.3nm,0.6s
CN2 Changchun 33.69 50 *e*P **P** **13 12 01.7 +1.0**
AKTO Aktyubinsk 33.91 323 P **P** **13 12 02.4 -0.2**
comp=Z,1.5nm,0.6s,baz=122,slow=11,SNR=6.4
KSRS Korea Array 34.09 62 P **P** **13 12 03.2 -1.0**
comp=Z,0.8nm,0.5s,baz=258,slow=9.1,SNR=3.5
KSRS LR LR 13 26 29.9
comp=Z,64nm,18.3s,baz=277,slow=37
JOW Kunigami 34.50 81 P **P** **13 12 07.3 -0.7**
BOD Bodaibo 35.72 22 *e*P P 13 12 24.4 +6.4
BOD pmax pmax
comp=Z,5.0nm,1.6s
JNU Nakatsue 36.26 70 P **P** **13 12 22.8 -0.4**
comp=Z,9.7nm,1.0s,baz=258,slow=9.3,SNR=3.2
JNU Nakatsue 36.26 70 P **P** **13 12 22.7 -0.4**
JNU IAmb IAmb 13 12 25.3
comp=Z,25nm,1.4s
SVE Sverdlovsk 36.65 334 *e*P P 13 12 33.4 +7.4
ARU Arti 37.24 332*d i*P **P** **13 12 34.4 +3.4**
ARU 13 13 54.8
ARU S **S** **13 18 16.0 -1.9**
ARU SS **SnSn** **13 20 39.1 -14**
ARU pmax pmax
comp=Z,5.0nm,0.6s
ARU Arti 37.24 332 P **P** **13 12 31.7 +0.7**
comp=Z,1.1nm,0.5s,baz=125,slow=5.8,SNR=6.7
ARU Arti 37.24 332 P **P** **13 12 31.5 +0.4**
ARU IAmb IAmb 13 12 44.8
comp=Z,45nm,2.0s
USRK Ussuriysk Ar. 38.34 51 LR LR 13 30 44.3
comp=Z,87nm,18.4s,baz=239,slow=40
ZEA Zeya 38.86 35 *e*P **P** **13 12 45.6 +0.8**
ZEA pmax pmax
comp=Z,15nm,1.0s
ZEA MLR MLR
comp=Z,200nm,11.0s
ZEA MLR MLR
comp=E,200nm,12.0s
KLR Kul'dur 39.58 44 *i* P **P** **13 12 54.0 +3.2**
KLR pmax pmax
comp=Z,2.0nm,1.0s
KLR Kul'dur 39.58 44 P **P** **13 12 52.3 +1.5**
comp=Z,0.3nm,0.3s,baz=266,slow=11,SNR=2.1
XMIS Christmas Isla 39.98 155 P **P** **13 12 53.4 -1.1**
ZEI Tsey 40.38 306 *e*P P 13 12 52.7 -5.2
ZEI pmax pmax
comp=Z,8.0nm,0.9s
KBZ Khabaz 41.25 307 P **P** **13 13 05.2 +0.5**
comp=Z,1.7nm,0.7s,baz=88,slow=12,SNR=3.0
KIV Kislovodsk 41.44 307 *e*P **P** **13 13 09.5 +3.1**
KIV pmax pmax
comp=Z,21nm,0.9s
KIV MLR MLR
comp=Z,110nm,16.0s
MAJO Matsushiro 42.26 64 *i* P **P** **13 13 17.4 +4.3**
MAJO pmax pmax
comp=Z,7.0nm,0.7s
MAT Matsushiro 42.26 64 P **P** **13 13 12.4 -0.7**
MJAR Matsushiro Arr 42.26 64 P **P** **13 13 13.1 0.0**
comp=Z,4.4nm,0.8s,baz=268,slow=12,SNR=9.7
KAPI Kappang 42.88 133 LR LR 13 33 28.1
comp=Z,49nm,18.0s,baz=297,slow=39
GRNR Gornyy 42.92 43 *e*P **P** **13 13 19.4 +1.1**
GRNR pmax pmax
comp=Z,5.0nm,1.6s
YSS Yuzh-Sakhalins 46.26 49 *e*P P 13 13 52.5 +7.5
OBN Obninsk 47.66 322 *i* P **P** **13 13 59.5 +3.7**
OBN *e* 13 15 31.6
OBN *e* 13 15 51.7
OBN *e*S S 13 21 03.7 +12
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,94nm,17.0s
BRTR Keskin Array B 47.93 301 LR LR 13 36 20.8
comp=Z,34nm,20.8s,baz=58,slow=39
SOEI Soe 49.38 132 P **P** **13 14 08.7 -1.0**
TIXI Tiksi 50.12 15 *i* P **P** **13 14 17.1 +2.6**
TIXI pmax pmax
comp=Z,4.0nm,1.1s
TIXI Tiksi 50.12 15 P **P** **13 14 13.4 -1.1**
ELL Elmali 51.08 297 P **P** **13 14 21.5 -0.9**
ELL pmax pmax
comp=Z,355nm,1.9s
ELL Elmali 51.08 297 P **P** **13 14 21.5 -0.9**
AKASG Malin Array Be 51.32 315 P **P** **13 14 23.4 -0.4**
comp=Z,0.6nm,0.4s,baz=79,slow=6.8,SNR=2.3
MLR Muntele Rosu 53.42 308 P **P** **13 14 39.6 -0.1**
MLR pmax pmax
comp=Z,24nm,0.8s
MLR Muntele Rosu 53.42 308 P **P** **13 14 39.6 -0.1**
KARP Karpathos 53.44 296 P **P** **13 14 38.1 -1.7**
BUR08 Bucovina Ar. S 53.88 311 P **P** **13 14 42.7 -0.3**
BUR08 IAmb IAmb 13 16 37.3
comp=Z,14nm,1.4s
FINES FINESS Array B 54.41 328*ce*P P 13 14 52.4 +5.9
FINES pmax pmax
comp=Z,7.0nm,0.6s
FINES FINESS Array B 54.41 328 P **P** **13 14 46.5 +0.1**
comp=Z,1.2nm,0.4s,baz=105,slow=8.1,SNR=7.6
FINES LR LR 13 38 00.2
comp=Z,102nm,19.7s,baz=88,slow=36
ARCES ARCESS Array B 56.37 338 P **P** **13 15 00.2 -0.2**
comp=Z,5.8nm,1.1s,baz=111,slow=7.8,SNR=7.1
ARE0 ARCESS Array S 56.37 338 P **P** **13 15 00.5 +0.1**
FITZ Fitzroy Crossi 56.54 138 P **P** **13 15 01.1 -1.2**
FITZ IAmb IAmb 13 15 14.5
comp=Z,13nm,1.6s
KNRA Kununurra 56.68 133 P **P** **13 15 03.7 +0.4**
KNRA IAmb IAmb 13 15 24.5
comp=Z,18nm,1.1s
AGG Agios Georgios 56.72 301 P **P** **13 15 02.0 -1.5**
AGG pmax pmax
comp=Z,88nm,1.7s
AGG Agios Georgios 56.72 301 P **P** **13 15 02.0 -1.5**
ITM Ithomi 57.34 299 P **P** **13 15 05.5 -2.4**
BILL Bilibino 60.71 25 *e*P **P** **13 15 34.7 +4.0**
BILL *e* 13 16 19.8
BILL *e* 13 17 49.7
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,80nm,18.0s
GERES GERESS Array B 61.43 313 P **P** **13 15 36.0 -0.1**
GERES GERESS Array B 61.43 313 P **P** **13 15 36.0 -0.1**
comp=Z,0.8nm,0.6s,baz=80,slow=7.5,SNR=4.3
GERES LR LR 13 43 25.3
comp=Z,58nm,18.6s,baz=10,slow=37
NB2 NORSAR Subarra 61.55 327 P **P** **13 15 36.6 -0.1**
comp=Z,28nm,1.4s,baz=85,slow=6.5
NB2 NORSAR Subarra 61.55 327 P **P** **13 15 36.6 -0.1**
baz=85,slow=6.5
NOA NORSAR Array B 61.55 327 P **P** **13 15 36.5 -0.1**
comp=Z,1.2nm,0.9s,baz=86,slow=6.7,SNR=2.2
NOA LR LR 13 42 44.6
comp=Z,74nm,18.8s,baz=100,slow=36
NRCA Norcia 62.90 307 P **P** **13 15 45.4 -0.7**
WRAB Tennant Creek 63.42 132 P **P** **13 15 49.1 -0.5**
WRAB pmax pmax
comp=Z,7.0nm,0.7s
WRAB Tennant Creek 63.42 132 P **P** **13 15 49.1 -0.5**
WRAB IAmb IAmb 13 15 58.9
comp=Z,7.3nm,0.7s
DAVOX Davos/Dischmat 64.33 311 LR LR 13 47 09.7
comp=Z,52nm,18.4s,baz=82,slow=39
AS31 Alice Springs 65.80 135 P **P** **13 16 04.7 -0.4**
ASAR Alice Springs 65.80 135 P **P** **13 16 05.2 +0.1**
comp=Z,1.2nm,0.6s,baz=311,slow=6.1,SNR=43
KEST Kesra 67.53 300 P **P** **13 16 16.3 +0.1**
comp=Z,5.7nm,0.9s,baz=51,slow=16,SNR=3.9
KEST Kesra 67.53 300 IAmb IAmb 13 16 16.9
comp=Z,12nm,1.1s
ESDC Sonseca Array 76.11 307 P **P** **13 17 07.3 -0.4**
comp=Z,0.1nm,0.3s,baz=55,slow=5.3,SNR=2.7
STKA Stephens Creek 76.39 136 P **P** **13 17 09.1 -0.1**
comp=Z,7.4nm,1.1s,baz=333,slow=6.8,SNR=2.9

MLY Manley 77.64 22 P **P** **13 17 15.6 -0.3**
MLY IAmb IAmb 13 17 50.8
comp=Z,9.7nm,1.5s
PRP Porcupine Dome 79.03 20 P **P** **13 17 24.2 +0.6**
PRP IAmb IAmb 13 17 32.2
comp=Z,4.7nm,0.8s
ILAR Eielson Array 79.08 21 P **P** **13 17 22.8 -1.0**
comp=Z,0.5nm,0.8s,baz=316,slow=5.0,SNR=4.8
ILAR LR LR 13 53 21.2
comp=Z,22nm,18.1s,baz=214,slow=36
INK Inuvik 80.25 15 P **P** **13 17 29.8 -0.2**
INK pmax pmax
comp=Z,11nm,1.5s
INK Inuvik 80.25 15 P **P** **13 17 29.9 -0.2**
INK IAmb IAmb 13 18 12.8
comp=Z,11nm,1.5s
SCRK Sand Creek 80.56 21 P **P** **13 17 31.6 -0.4**
SCRK IAmb IAmb 13 17 39.8
comp=Z,4.8nm,0.7s
KDAK Kodiak Island 81.31 29*ce*P P 13 17 43.3 +7.4
TORD Torodi Ar. Bea 82.36 281 P **P** **13 17 41.6 -0.6**
comp=Z,0.8nm,0.8s,baz=53,slow=2.7,SNR=4.0
BOSA Boshof 82.55 233 LR LR 13 51 22.9
comp=Z,27nm,19.0s,baz=9.0,slow=34
YKA Yellowknife Ar 89.19 11 P **P** **13 18 14.4 -0.8**
comp=Z,0.3nm,0.5s,baz=335,slow=4.6,SNR=3.5
DBIC Dimbokro 90.99 278 P **P** **13 18 24.6 +0.1**
comp=Z,1.3nm,0.6s,baz=50,slow=4.0,SNR=2.6
MAW Mawson 95.96 190 P **P** **13 18 45.9 -0.1**
MAW pmax pmax
comp=Z,4.0nm,0.7s
MAW Mawson 95.96 190 P **P** **13 18 45.9 -0.1**
ROSC El Rosal 145.12 331 PKPbc **PKPdf** **13 24 59.6 +1.0**
comp=Z,8.6nm,0.5s,baz=52,slow=17,SNR=2.8
CPUP Villa Florida 150.40 263 PKPbc **PKiKP** **13 25 13.2 +0.7**
comp=Z,4.4nm,0.8s,baz=66,slow=3.1,SNR=3.0

*IDC **04** 13:49:51.2±9.2,52˚.75N×171˚.62E,h0km,mb3.3/3,*
mb1 3.6/4,mb1mx3.4/33,mbtmp3.5/4,ML3.3/1,MS2.1/1,
Ms1 2.1/1,ms1mx1.9/30,Error ellipse: s-maj=262.6km
s-min=28.6km az=166.0
*NEIC **04** 13:49:59.1±2.5,53˚.6N±0˚.2×171˚.0E±0˚.08,h24km±5km,*
mb4.3/6
*ISCJB **04** 13:50:00.8±0.6,53˚.96N±0˚.07×170˚.55E±0˚.06,h33km,*
mb3.2/3,Error ellipse: s-maj=10.1km s-min=5.0km
az=170.0
*KRSC **04** 13:50:02.0±2.2,53˚.90N×170˚.40E,h82km±53km,ML4.1*
ISC 04 13:50:03.9±1.5,**53˚.9N**±0˚.1×**170˚.4E**±0˚.1,**h35**km,**n48,**
σ1§**54**/53,**mb4.2/7,Near Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op		ISC		
SMY	**Shemya**	**2.47**	**116**	Pn		Pn	13 50 33.5	-8.2
BKI	**Bering**	**2.93**	**299**	*e*P		**Pn**	**13 50 47.0**	**-0.9**
BKI				*e*S		**Sn**	**13 51 22.0**	**+0.2**
KBTR	**Krutoberegovo**	**4.97**	**301**	*e*P		**Pn**	**13 51 14.7**	**-1.3**
KBTR				*e*S		**Sn**	**13 52 11.6**	**-0.6**
MKZ	**Mys Kozlova**	**5.16**	**281**	*e*P		**Pn**	**13 51 18.8**	**+0.3**
MKZ				*e*S		**Sn**	**13 52 16.2**	**-0.5**
TUMD	**Tumrok D**	**6.00**	**287**	*e*P		**Pn**	**13 51 31.0**	**+0.9**
TUMD				*e*S		**Sn**	**13 52 37.4**	**-0.1**
KZV	**Kizimen**	**6.04**	**286**	*e*P		**Pn**	**13 51 31.6**	**+0.8**
KZV				*e*S		**Sn**	**13 52 39.1**	**+0.3**
TUMR	**Tumrok**	**6.15**	**288**	*e*P		**Pn**	**13 51 33.8**	**+1.5**
KMNR	**Kamenistaya**	**6.20**	**292**	*e*P		**Pn**	**13 51 34.9**	**+2.0**
SPN	**Mys Shipunski**	**6.26**	**267**	*e*P		**Pn**	**13 51 34.2**	**+0.5**
SPN				*e*S		**Sn**	**13 52 43.5**	**-0.5**
NLC	**Nalytchevo**	**6.65**	**269**	*e*P		**Pn**	**13 51 39.8**	**+0.8**
NLC				*e*S		**Sn**	**13 52 51.3**	**-2.2**
SDLR	**Sedlovina**	**6.91**	**270**	*e*P		**Pn**	**13 51 43.7**	**+1.0**
SDLR				*e*S		**Sn**	**13 52 59.1**	**-0.9**
UGLR	**Uglovaya**	**6.96**	**269**	*e*P		**Pn**	**13 51 44.7**	**+1.4**
SMAR	**Somma**	**6.96**	**270**	*e*P		**Pn**	**13 51 44.6**	**+1.2**
KRER	**Koryakskii**	**6.98**	**270**	*e*P		**Pn**	**13 51 45.2**	**+1.4**
KRER				*e*S		**Sn**	**13 53 01.0**	**-1.0**
AVH	**Avacha**	**7.00**	**270**	*e*P		**Pn**	**13 51 45.3**	**+1.5**
AVH				*e*S		**Sn**	**13 53 02.5**	**+0.4**
TILK	**Tilichiki**	**7.00**	**342**	*e*P		**Pn**	**13 51 43.0**	**-0.8**
DALK	**Dalny**	**7.03**	**268**	*e*P		**Pn**	**13 51 45.7**	**+1.5**
DALK				*e*S		**Sn**	**13 53 00.5**	**-2.3**
KRX	**Arik**	**7.03**	**271**	*e*P		**Pn**	**13 51 45.6**	**+1.2**
KRX				*e*S		**Sn**	**13 52 59.9**	**-3.2**
KOK	**Koryaka**	**7.05**	**270**	*e*P		**Pn**	**13 51 45.9**	**+1.3**
ESO	**Esso**	**7.08**	**292**	*e*P		**Pn**	**13 51 46.6**	**+1.7**
PET	**Petropavlovsk**	**7.09**	**268**	*e*P		**Pn**	**13 51 45.9**	**+0.9**
PET	**Petropavlovsk**	**7.09**	**268**	Pn		**Pn**	**13 51 45.5**	**+0.4**
RUS	**Russkaya**	**7.31**	**264**	*e*P		**Pn**	**13 51 48.8**	**+0.7**
RUS				*e*S		**Sn**	**13 53 06.8**	**-3.0**
KRMR	**Karymshinskiy**	**7.44**	**267**	*e*P		**Pn**	**13 51 51.0**	**+1.2**
KRMR				*e*S		**Sn**	**13 53 11.8**	**-1.1**
MTVR	**Mutnovka**	**7.50**	**264**	*e*P		**Pn**	**13 51 51.1**	**+0.4**
GRL	**Gorelyy**	**7.54**	**265**	*e*P		**Pn**	**13 51 48.7**	**-2.7**
PEA0B	**Petropavlovsk-**	**7.64**	**269**	Pn		**Pn**	**13 51 54.5**	**+1.9**
PETK	**Petropavlovsk**	**7.64**	**269**	Pn		**Pn**	**13 51 54.3**	**+1.7**
	1.9nm,0.3s,baz=88,slow=17,SNR=66							
PETK				Sn		**Sn**	**13 53 20.6**	**+2.8**
	0.9nm,0.3s,baz=97,slow=22,SNR=7.2							
PETK				LR		LR	13 55 06.0	
	comp=Z,13nm,21.2s,baz=63,slow=37							
ASAK	**Asacha**	**7.69**	**264**	*e*P		**Pn**	**13 51 55.2**	**+1.9**
ASAK				*e*S		**Sn**	**13 53 20.0**	**+0.9**
KDTR	**Khodutka, Kamc**	**7.76**	**260**	*e*P		**Pn**	**13 51 55.5**	**+1.2**
KDTR				*e*S		**Sn**	**13 53 17.2**	**-3.6**
APC	**Apacha**	**8.00**	**269**	*e*P		**Pn**	**13 51 59.8**	**+2.4**
SKR	**Severo-Kuril's**	**9.34**	**256**	*e*P		**Pn**	**13 52 16.6**	**+0.8**
ATKA	**Atka Island**	**9.41**	**94**	Pn		Pn	13 52 07.9	-8.9
SCM	**Sheep Creek Mo**	**23.46**	**53**	P		P	13 55 04.7	-5.2
SCM				IAmb		IAmb	13 55 23.2	
	comp=Z,12nm,0.9s							
ILAR	**Eielson Array**	**23.85**	**46**	P		P	13 55 08.2	-5.3
	comp=Z,0.5nm,0.8s,baz=257,slow=8.2,SNR=4.2							
RIDG	**Independent Ri**	**24.66**	**49**	P		P	13 55 15.8	-5.1
RIDG				IAmb		IAmb	13 56 05.0	
	comp=Z,18nm,1.9s							
USA0B	**Ussuriysk Arra**	**26.69**	**265**	P		**P**	**13 55 37.8**	**-1.7**
USA0B				IAmb		IAmb	13 55 40.7	
	comp=Z,5.2nm,0.8s							
INK	**Inuvik**	**29.43**	**39**	P		P	13 55 59.9	-3.7
INK				IAmb		IAmb	13 56 04.8	
	comp=Z,8.6nm,1.6s							
H11N2	**WAKE ISLAND Hy**	**34.18**	**186**	T		T	14 32 09.5	
	baz=5.0,slow=76,SNR=48							
H11N3	**WAKE ISLAND Hy**	**34.19**	**186**	T		T	14 32 09.8	
	baz=5.0,slow=76,SNR=54							
H11N1	**WAKE ISLAND Hy**	**34.19**	**186**	T		T	14 32 14.0	
	baz=5.0,slow=76,SNR=68							
H11S1	**WAKE ISLAND Hy**	**35.40**	**186**	T		T	14 33 46.2	
	baz=4.8,slow=76,SNR=55							
H11S3	**WAKE ISLAND Hy**	**35.42**	**186**	T		T	14 33 56.3	
	baz=4.8,slow=76,SNR=37							
H11S2	**WAKE ISLAND Hy**	**35.42**	**186**	T		T	14 33 59.9	
	baz=4.8,slow=76,SNR=39							
ULN	**Ulaanbaatar**	**39.25**	**288**	P		**P**	**13 57 29.5**	**+0.6**
SONM	**Songino Array**	**39.64**	**288**	P		**P**	**13 57 32.8**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=60,slow=8.7,SNR=2.3							
TULEG	**Thule**	**44.58**	**17**	P		**P**	**13 58 10.8**	**-0.9**
MKAR	**Makanchi Array**	**53.23**	**301**	P		**P**	**13 59 20.0**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=43,slow=7.8,SNR=3.0							

*DJA **04** 14:03:06.2±0.9,5˚.5±.8˚×15˚.3E±1˚.4,h10km,M5.2/16,*
mb4.9/16,mB4.8/3,MLv5.4/1,Mw(mB)4.0/3
*ISCJB **04** 14:03:08.3±0.2,5˚.23S±0˚.03×152˚.85E±0˚.04,h37km,*
mb4.8/66,Error ellipse: s-maj=5.5km s-min=4.6km
az=16.6
*MOS **04** 14:03:10.8±0.9,5˚.22S×152˚.88E,h62km,mb5.0/29,Error*
ellipse: s-maj=9.9km s-min=6.8km az=107.2
*IDC **04** 14:03:12.0±1.4,5˚.29S×152˚.86E,h57km±11km,mb4.4/27,*
mb1 4.4/31,mb1mx4.3/46,mbtmp4.6/31,MS3.6/3,
Ms1 3.6/3,ms1mx3.1/43,Error ellipse: s-maj=15.1km
s-min=8.4km az=86.0
*NEIC **04** 14:03:12.2±1.6,5˚.28S±0˚.07×152˚.80E±0˚.07,h60km±4km,*
mb4.9/75
*BJI **04** 14:03:13.0±0.0,5˚.11S×152˚.59E,h60km,mb4.9/52,*
mB5.0/35,Ms4.7/13,Ms7 4.4/13
ISC 04 14:03:09.9±0.3,**5˚.26S**±0˚.04×**152˚.83E**±0˚.05,**h37**km,**n217,**
σ1§**34**/221,**mb4.9**/88,**8C-2D,New Britain region**

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

KRVT Keravat (AS076 1.24 320 P **Pn** **14 03 32.2 +1.5**
3μm,0.3s,baz=165,slow=1.4,SNR=3961
KRVT S **Sn** **14 03 50.1 +3.9**
5μm,0.3s,baz=186,slow=23,SNR=42
KRVT LR LR 14 03 59.4
comp=Z,3μm,19.2s,baz=225,slow=37
MANU Manus Island 6.32 300 **Pn** **14 04 43.9 +3.3**
PMG Port Moresby 6.97 233*ce*P **Pn** **14 04 53.2 +3.7**
PMG pmax pmax
comp=Z,268nm,0.7s
PMG Port Moresby 6.97 233 P **Pn** **14 04 51.7 +2.1**
comp=Z,4.0nm,0.3s,baz=33,slow=7.7,SNR=20
PMG S **Sn** **14 06 09.0 +1.4**
comp=Z,9.8nm,0.3s,baz=300,slow=20,SNR=4.1
HNR Honiara 8.19 121 P **Pn** **14 05 08.2 +2.0**
HNR Honiara 8.19 121 P **Pn** **14 05 07.5 +1.3**
comp=Z,1.3nm,0.3s,baz=195,slow=16,SNR=2.8
HNR LR LR 14 08 22.2
comp=Z,365nm,20.3s,baz=324,slow=38
HNR Honiara 8.19 121 P Pn 14 05 16.0 +10
HNR Honiara 8.19 121 P **Pn** **14 05 08.2 +2.0**
JAY Jayapura 12.40 282 P **Pn** **14 06 07.6 +3.6**
comp=Z,0.4nm,0.3s,baz=333,slow=9.0,SNR=2.8
JAY Jayapura 12.40 282 P **P** **14 06 15.1 -0.3**
PATS Pohnpei 13.20 25 Pn **Pn** **14 06 15.8 +0.9**
SMPI Sarmi 14.46 282 P P 14 06 44.0 +5.7
CTA Charters Tower 16.07 203 P **P** **14 06 55.3 -0.9**
comp=Z,0.1nm,0.3s,baz=4.7,slow=14,SNR=3.1
EIDS Eidsvold 20.07 185 P **P** **14 07 40.7 +0.6**
GUMO Guam 20.32 337 P Pn 14 07 44.3 -0.9
GUMO pmax pmax
comp=Z,166nm,1.0s
GUMO Guam 20.32 337 P Pn 14 07 45.2 0.0
comp=Z,121nm,0.9s,baz=182,slow=7.6,SNR=4.5
GUMO LR LR 14 16 27.1
comp=Z,129nm,18.1s,baz=148,slow=39
GUMO Guam 20.32 337 P Pn 14 07 44.3 -0.9
DZM Mont Dzumac 21.28 143 P **P** **14 07 53.8 +0.4**
comp=Z,13nm,1.0s,baz=3.6,slow=21,SNR=12
DZM Mont Dzumac 21.28 143 P **P** **14 07 54.0 +0.5**
SIJI Sorong 21.96 281 P **P** **14 08 01.7 +0.9**
comp=Z,11nm,0.6s,baz=31,slow=8.6,SNR=7.4
SWI Sorong 21.97 281 P P 14 08 13.0 +12
MTN Manton Dam 22.70 249 P **P** **14 08 08.6 0.0**
MTN IAmb IAmb 14 08 22.2
comp=Z,32nm,0.8s
WRAB Tennant Creek 23.15 229*de*P **P** **14 08 14.0 +0.8**
WRAB pmax pmax
comp=Z,42nm,1.7s
WRAB Tennant Creek 23.15 229 P **P** **14 08 11.4 -1.8**
WRAB IAmb IAmb 14 08 24.8
comp=Z,126nm,1.7s
KNRA Kununurra 25.80 245 P **P** **14 08 37.7 0.0**
KNRA IAmb IAmb 14 09 07.1
comp=Z,34nm,0.8s
AS31 Alice Springs 25.83 223 P **P** **14 08 38.0 -0.1**
ASAR Alice Springs 25.83 223 P **P** **14 08 38.2 +0.2**
comp=Z,9.3nm,0.9s,baz=60,slow=8.6,SNR=28
TNTI Ternate 26.13 283 P **P** **14 08 39.7 -1.1**
SANI Sanana 26.97 276 P **P** **14 08 50.9 +2.5**
comp=Z,24nm,0.8s
STKA Stephens Creek 28.50 200 P **P** **14 09 01.3 -0.5**
STKA pmax pmax
comp=Z,10.0nm,1.9s
STKA Stephens Creek 28.50 200 P **P** **14 09 00.9 -0.9**
comp=Z,3.5nm,0.8s,baz=19,slow=14,SNR=3.8
STKA Stephens Creek 28.50 200 P **P** **14 09 01.3 -0.5**
FITZ Fitzroy Crossi 29.47 242 P **P** **14 09 10.2 -0.4**
comp=Z,12nm,0.6s,baz=56,slow=6.0,SNR=18
FITZ LR LR 14 21 25.2
comp=Z,154nm,20.5s,baz=72,slow=37
FITZ Fitzroy Crossi 29.47 242 P **P** **14 09 09.4 -1.2**
FITZ IAmb IAmb 14 09 22.5
comp=Z,15nm,0.7s
MMRI Maumere 30.54 262 P **P** **14 09 17.4 -2.8**
MMRI IAmb IAmb 14 09 32.7
comp=Z,32nm,1.0s
FORT Forrest 34.45 220 P **P** **14 09 54.0 -0.2**
KNTN Kanton 35.45 87 P **P** **14 10 04.4 +1.4**
BKZ Black Stump Fm 39.97 151 P **P** **14 10 41.7 +0.7**
BKZ IAmb IAmb 14 10 48.7
comp=Z,42nm,1.6s
TUWZ Tuamarina 40.66 155 P **P** **14 10 46.8 +0.2**
LTZ Lake Taylor 41.15 158 P **P** **14 10 52.0 +1.4**
MQZ McQueen's Vall 42.09 158 P **P** **14 10 59.5 +1.2**
MLZ Mavora Lakes 42.12 164 P **P** **14 10 59.3 +0.7**
TPUB Ta-pu 42.36 313 P **P** **14 11 00.0 -0.8**
ODZ Otahua Downs 42.58 161 P **P** **14 11 02.7 +0.4**
ODZ IAmb IAmb 14 12 23.4
comp=Z,59nm,1.8s
INU Inuyama 43.04 341 P **P** **14 11 04.0 -2.1**
INU IAmb IAmb 14 11 44.6
comp=Z,24nm,1.3s
JNU Nakatsue 43.48 333 P **P** **14 11 09.6 -0.1**
comp=Z,41nm,0.8s,baz=113,slow=3.8,SNR=30
JNU Nakatsue 43.48 333 P **P** **14 11 09.4 -0.4**
MJAR Matsushiro Arr 43.78 343 P **P** **14 11 10.2 -1.8**
comp=Z,2.0nm,0.7s,baz=161,slow=9.0,SNR=4.7
MAJO Matsushiro 43.78 343 P **P** **14 11 12.0 -0.1**
MAJO pmax pmax
comp=Z,12nm,1.2s
MAJO Matsushiro 43.78 343 P **P** **14 11 12.0 -0.1**
MJB9 Matsu-Tunnel 43.78 343 P **P** **14 11 12.0 -0.1**
CISI Cisompet, Garu 44.78 265 P **P** **14 11 18.4 -2.1**
HKPS Hong Kong Po S 46.71 307 P **P** **14 11 34.5 -1.1**
TJN Taejon 47.79 332*ce*P **P** **14 11 44.5 +0.8**
ERM Erimo 47.87 350 P **P** **14 11 44.7 +0.5**
ERM pmax pmax
comp=Z,17nm,1.1s
ERM Erimo 47.87 350 P **P** **14 11 44.7 +0.5**
ERM IAmb IAmb 14 13 04.6
comp=Z,16nm,1.1s
KSRS Korea Array 48.42 333 P **P** **14 11 48.5 0.0**
comp=Z,3.9nm,0.8s,baz=149,slow=8.0,SNR=17
KSRS PcP **PcP** **14 13 16.0 +1.5**
comp=Z,1.1nm,0.6s,baz=162,slow=2.8,SNR=4.9
NJ2 Nanjing 49.22 321 *e*P **P** **14 11 56.2 +1.4**
NJ2 pmax pmax
comp=Z,17nm,0.5s
JKA Kamikawa-asahi 50.01 350 P **P** **14 12 00.7 +0.1**
ASAJ Asahikawa 50.01 350 P **P** **14 12 00.7 +0.1**
comp=Z,16nm,0.8s,baz=221,slow=11,SNR=12
WHN Wuhan 51.21 316 P **P** **14 12 09.8 -0.1**
WHN pmax pmax
comp=Z,30nm,0.5s
USRK Ussuriysk Ar. 52.69 341 P **P** **14 12 20.8 +0.1**
comp=Z,6.9nm,0.8s,baz=190,slow=8.7,SNR=14
YSS Yuzh-Sakhalins 52.75 351 *i* P **P** **14 12 20.1 -0.9**
ENH Enshi 54.49 313 P **P** **14 12 33.6 -0.6**
ENH IAmb IAmb 14 12 35.9
comp=Z,20nm,1.1s
GSI Gunungsitoli 55.57 275 P **P** **14 12 39.7 -2.6**
TYV Tymovskoe 56.58 352 *e*P **P** **14 12 48.7 -0.1**
TYV pmax pmax
comp=Z,11nm,1.0s
TYV pmax pmax
comp=Z,200nm,4.7s
PHRA Phrae 56.96 296 P **P** **14 12 53.6 +1.5**
comp=Z,1.6nm,1.0s
XAN Xi'an 56.97 317 P **P** **14 12 51.9 -0.1**
XAN pP pwP 14 13 04.1 -0.9
XAN pmax pmax
comp=Z,12nm,0.8s
XAN pmax pmax
comp=Z,59nm,4.3s
XAN Xi'an 56.97 317 P **P** **14 12 51.7 -0.3**
XAN pmax pmax
comp=Z,9.0nm,0.7s
XAN Xi'an 56.97 317 P **P** **14 12 51.7 -0.3**
XAN IAmb IAmb 14 12 52.7
comp=Z,8.9nm,0.7s
KLR Kul'dur 57.29 344 *i* P **P** **14 12 53.9 0.0**
KLR pmax pmax
comp=Z,16nm,1.1s
CM31 Chiang Mai Arr 58.10 295 P **P** **14 13 01.1 +0.9**
CM31 IAmb IAmb 14 13 02.1
comp=Z,10.0nm,0.9s
CMAR Chiang Mai Arr 58.10 295 P **P** **14 13 01.2 +1.1**
comp=Z,7.4nm,0.9s,baz=110,slow=5.4,SNR=32
CMMT Chiang Mai 58.21 296 P **P** **14 13 01.8 +0.9**
comp=Z,5.1nm,1.2s
CHTO Chiang Mai 58.21 296 P **P** **14 13 01.4 +0.5**
CHTO pmax pmax
comp=Z,10.0nm,1.2s
CHTO Chiang Mai 58.21 296 P **P** **14 13 01.4 +0.5**
CHTO IAmb IAmb 14 13 02.5
comp=Z,10nm,1.1s
PETK Petropavlovsk- 58.29 3 P **P** **14 13 01.3 +0.4**
comp=Z,9.6nm,0.6s,baz=162,slow=6.5,SNR=36
CD2 Chengdu 59.06 311 *e*P **P** **14 13 06.5 -0.1**
CD2 S **S** **14 21 10.0 -1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,130nm,7.1s
CD2 LR LR
comp=Z,210nm,10.6s
CD2 LR LR
comp=Z,180nm,7.6s
HHC Hu-ho-hao-te 59.44 324 P **P** **14 13 12.1 +3.0**
HHC pmax pmax
comp=Z,2.0nm,1.0s
LZH Lanzhou 61.58 316 *e*P **P** **14 13 25.1 +1.2**
LZH pP sP 14 13 41.3 +2.0
LZH sP pwP 14 13 48.5 +11
LZH *e*PP **PP** **14 15 44.2 +4.3**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,97nm,7.6s
LZH LR LR
comp=Z,380nm,15.4s
LZH LR LR
comp=Z,380nm,15.6s
LZH LR LR
comp=Z,510nm,18.2s
ZEA Zeya 62.59 343 *e*P **P** **14 13 28.8 -1.3**
ZEA pmax pmax
comp=Z,14nm,1.2s
MA2 Magadan 64.65 359 P **P** **14 13 43.2 -0.4**
MA2 pmax pmax
comp=Z,214nm,1.9s
MA2 Magadan 64.65 359 P **P** **14 13 43.2 -0.4**
comp=Z,14nm,0.8s,baz=169,slow=10,SNR=4.8
GTA Gaotai 66.01 317 i̊P **P** **14 13 53.9 +0.8**
GTA pP sP 14 14 11.3 +3.7
GTA sP PcP 14 14 18.1 -5.4
GTA S **S** **14 22 34.2 -4.4**
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA pmax pmax
comp=Z,99nm,7.6s
GTA LR LR
comp=Z,69nm,17.8s
GTA LR LR
comp=Z,79nm,20.0s
GTA LR LR
comp=Z,110nm,18.7s
ULN Ulaanbaatar 66.40 328 P **P** **14 13 56.0 +0.6**
ULN pmax pmax
comp=Z,6.0nm,1.1s
ULN Ulaanbaatar 66.40 328 P **P** **14 13 56.0 +0.6**
SHL Shillong 66.56 301 P **P** **14 13 56.5 -0.4**
SHL pmax pmax
comp=Z,22nm,0.3s
SHL Shillong 66.56 301 P **P** **14 13 56.5 -0.4**
SONM Songino Array 66.73 328 P **P** **14 13 58.1 +0.7**
comp=Z,7.7nm,0.7s,baz=152,slow=6.0,SNR=20
SEY Seymchan 68.00 360 *i* P **P** **14 14 04.5 -0.5**
SEY Seymchan 68.00 360 P **P** **14 14 05.5 +0.5**
comp=Z,2.8nm,0.4s,baz=188,slow=10,SNR=18
YAK Yakutsk 69.43 349 P **P** **14 14 13.8 -0.1**
YAK pmax pmax
comp=Z,33nm,1.6s
YAK Yakutsk 69.43 349 P **P** **14 14 13.7 -0.1**
comp=Z,2.8nm,0.5s,baz=198,slow=3.0,SNR=6.5
YAK Yakutsk 69.43 349 IAmb IAmb 14 14 15.8
comp=Z,33nm,1.6s
ZAK Zakamensk 69.90 329 *e*P **P** **14 14 14.2 -3.0**
ZAK pmax pmax
comp=Z,9.0nm,1.2s
BOD Bodaibo 70.23 339 *e*P **P** **14 14 17.8 -1.1**
BOD pmax pmax
comp=Z,9.0nm,1.8s
TLY Talaya 70.49 330 *i* P **P** **14 14 21.0 +0.3**
TLY pmax pmax
comp=Z,5.0nm,0.8s
TAPN Taplejung 70.67 301 *e*P **P** **14 14 23.6 +0.9**
comp=Z,15nm,0.8s
ODAN Odare 70.80 301 *e*P **P** **14 14 23.7 +0.3**
comp=Z,33nm,0.8s
RAMN Ramite 71.50 301 *e*P **P** **14 14 28.2 +0.5**
comp=Z,14nm,0.8s
JIRN Jiri 72.05 301 *e*P **P** **14 14 31.7 +0.6**
comp=Z,31nm,0.8s
VNDA Vanda 72.37 178 P **P** **14 14 31.7 0.0**
comp=Z,1.3nm,0.6s,baz=330,slow=6.5,SNR=7.1
GUN Gumba 72.38 301 *e*P **P** **14 14 33.4 +0.3**
comp=Z,48nm,0.8s
PKI Pulchoki 72.69 301 *e*P **P** **14 14 34.6 -0.3**
comp=Z,34nm,1.1s
PKIN Phulchoki 72.70 301 *e*P **P** **14 14 34.7 -0.2**
comp=Z,19nm,0.8s
KKN Kakani 72.86 301 *e*P **P** **14 14 36.1 +0.4**
comp=Z,25nm,0.7s
DMN Daman 72.96 301 *e*P **P** **14 14 37.0 +0.6**
comp=Z,54nm,0.8s
GKN Gorkha 73.47 301 *e*P **P** **14 14 39.3 +0.1**
comp=Z,56nm,0.9s
BILL Bilibino 73.74 5*c* *i*P **P** **14 14 40.5 +0.7**
BILL *e* 14 14 55.0
BILL *e* 14 17 20.0
BILL *e*S **S** **14 24 10.8 +2.9**
BILL pmax pmax
comp=Z,57nm,0.7s
BILL MLR MLR
comp=Z,61nm,17.0s
BILL Bilibino 73.74 5 P **P** **14 14 40.4 +0.6**
KOLN Koldanda 74.29 301 *e*P **P** **14 14 44.2 +0.1**
comp=Z,49nm,0.8s
DANN Dangsing 74.30 301 *e*P **P** **14 14 44.4 +0.1**
comp=Z,38nm,0.7s
WMQ Urumqi 76.10 317 *e*P **P** **14 14 54.9 +0.9**
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,63nm,4.9s
WMQ LR LR
comp=Z,590nm,28.9s
TIXI Tiksi 78.35 352*ce*P **P** **14 15 05.7 -0.3**
TIXI pmax pmax
comp=Z,6.0nm,1.3s
TIXI Tiksi 78.35 352 P **P** **14 15 05.5 -0.5**
comp=Z,3.1nm,0.6s,baz=360,slow=24,SNR=13
TIXI Tiksi 78.35 352 P **P** **14 15 05.3 -0.6**
SUA Susitna One 79.36 24 P **P** **14 15 11.2 -0.7**
SUA IAmb IAmb 14 15 14.0
comp=Z,9.6nm,0.7s
RC01 Rabbit Creek A 79.58 25 P **P** **14 15 12.0 -0.9**
PMR Palmer 80.09 24 P **P** **14 15 15.2 -0.4**
PMR pmax pmax
comp=Z,9.0nm,1.1s
PMR Palmer 80.09 24 P **P** **14 15 15.2 -0.4**
SML Sawmill 80.53 24 P **P** **14 15 17.6 -0.5**
SML IAmb IAmb 14 15 19.0
comp=Z,13nm,0.7s
MKAR Makanchi Array 80.69 319 *i* P **P** **14 15 21.1 +1.8**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 80.69 319 P **P** **14 15 19.4 +0.1**
comp=Z,2.8nm,0.6s,baz=112,slow=5.4,SNR=9.5
RND Reindeer 81.14 23 P **P** **14 15 20.3 -1.1**
RND pmax pmax
comp=Z,8.0nm,0.8s
RND Reindeer 81.14 23 P **P** **14 15 20.3 -1.1**
RND IAmb IAmb 14 15 35.5
comp=Z,7.8nm,0.8s
MCK McKinley 81.27 23 P **P** **14 15 21.3 -0.7**
MCK pmax pmax
comp=Z,17nm,1.0s
MCK McKinley 81.27 23 P **P** **14 15 21.2 -0.7**
MCK IAmb IAmb 14 15 22.2
comp=Z,17nm,1.0s
MLY Manley 81.30 21 P **P** **14 15 21.8 -0.3**
MLY IAmb IAmb 14 15 22.6
comp=Z,6.6nm,0.8s
DHY Denali Highway 81.55 23 P **P** **14 15 24.3 +0.7**
ZAA0 Zalesovo Array 81.55 326 P **P** **14 15 22.9 -0.8**
ZAA0 IAmb IAmb 14 15 24.1
comp=Z,9.5nm,0.8s
ZALV Zalesovo Beam 81.55 326 P **P** **14 15 23.2 -0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,9.3nm,0.7s,baz=105,slow=4.5,SNR=30						
WRH	**Wood River Hil**	**81.97**	**22**	P	**P**	**14 15 24.4**	**-1.3**
WRH				IAmb	IAmb	14 15 26.5	
	comp=Z,11nm,1.3s						
CCB	**Clear Creek Bu**	**82.17**	**22**	P	**P**	**14 15 25.2**	**-1.4**
CCB				IAmb	IAmb	14 15 26.7	
	comp=Z,17nm,1.6s						
GLB	**Gilahina Butte**	**82.26**	**26**	P	**P**	**14 15 27.1**	**-0.2**
GLB				IAmb	IAmb	14 15 28.4	
	comp=Z,7.5nm,0.9s						
COLA	**College**	**82.26**	**22**	*i* P	**P**	**14 15 26.4**	**-0.7**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
COLA	**College**	**82.26**	**22**	P	**P**	**14 15 26.2**	**-0.9**
COLA				IAmb	IAmb	14 15 27.1	
	comp=Z,7.7nm,0.8s						
VRDI	**Verde Repeater**	**82.32**	**26**	P	**P**	**14 15 27.5**	**-0.3**
TARG	**Taragay, Kyrgy**	**82.40**	**313**	P	**P**	**14 15 29.8**	**+0.8**
IL31		**82.57**	**22**	P	**P**	**14 15 26.9**	**-1.8**
IL31				IAmb	IAmb	14 15 30.8	
	comp=Z,25nm,1.7s						
ILAR	**Eielson Array**	**82.57**	**22**	P	**P**	**14 15 27.4**	**-1.4**
	comp=Z,4.0nm,0.8s,baz=245,slow=5.1,SNR=34						
MCARA	**McCarthy VSAT**	**82.57**	**26**	P	**P**	**14 15 28.6**	**-0.3**
MCARA				IAmb	IAmb	14 15 42.1	
	comp=Z,9.2nm,0.9s						
RIDG	**Independent Ri**	**82.86**	**23**	P	**P**	**14 15 30.1**	**-0.3**
RIDG				IAmb	IAmb	14 15 42.5	
	comp=Z,18nm,1.5s						
KDJ	**Kajisay**	**82.95**	**313**	P	**P**	**14 15 32.0**	**+0.5**
KDJ				pmax	pmax		
	comp=Z,11nm,0.9s						
KDJ	**Kajisay**	**82.95**	**313**	P	**P**	**14 15 32.0**	**+0.5**
KDJ				IAmb	IAmb	14 15 34.4	
	comp=Z,11nm,0.8s						
MENT	**Mentasta**	**82.96**	**24**	P	**P**	**14 15 30.9**	**0.0**
DOT	**Dot Lake**	**83.14**	**24**	P	**P**	**14 15 31.8**	**0.0**
KSH	**Kashi**	**83.25**	**311**	P	**P**	**14 15 35.6**	**+2.5**
KSH				PP	**PP**	**14 18 50.4**	**+5.4**
KSH				S	**S**	**14 25 51.7**	**+0.5**
KSH				sS	sS	14 26 20.5	+10
KSH				pmax	pmax		
	comp=Z,45nm,1.1s						
KSH				pmax	pmax		
	comp=Z,180nm,7.5s						
SCRK	**Sand Creek**	**83.31**	**23**	P	**P**	**14 15 32.5**	**-0.3**
FYU	**Fort Yukon**	**84.04**	**21**	P	**P**	**14 15 37.1**	**+0.9**
FYU				IAmb	IAmb	14 15 51.0	
	comp=Z,14nm,0.7s						
KURK	**Kurchatov**	**84.15**	**322**	*ce*P	**P**	**14 15 37.5**	**+0.3**
KURK				pmax	pmax		
	comp=Z,12nm,1.0s						
KURK	**Kurchatov**	**84.15**	**322**	P	**P**	**14 15 37.2**	**0.0**
KURK				IAmb	IAmb	14 15 38.4	
	comp=Z,13nm,1.1s						
NIL	**Nilore**	**84.26**	**304**	P	**P**	**14 15 38.7**	**+0.5**
NIL				pmax	pmax		
	comp=Z,49nm,0.6s						
NIL	**Nilore**	**84.26**	**304**	P	**P**	**14 15 38.7**	**+0.5**
KZA	**Kyzart**	**84.34**	**313**	P	**P**	**14 15 41.2**	**+2.3**
	SNR=10						
KBK	**Karagaybulak**	**84.68**	**314**	P	**P**	**14 15 41.6**	**+1.3**
	SNR=6.4						
QSPA	**South Pole Qui**	**84.70**	**180**	P	**P**	**14 15 40.1**	**+0.2**
	comp=Z,6.4nm,0.8s,baz=342,slow=0.8,SNR=24						
QSPA	**South Pole Qui**	**84.70**	**180**	P	**P**	**14 15 39.9**	**0.0**
QSPA				IAmb	IAmb	14 15 41.3	
	comp=Z,7.4nm,0.8s						
EGAK	**Eagle**	**84.77**	**23**	P	**P**	**14 15 40.5**	**+0.5**
CHMS	**Chumysh**	**84.89**	**314**	P	**P**	**14 15 41.9**	**+0.7**
	SNR=6.4						
AAK	**Ala-Archa**	**85.00**	**313**	*ce*P	**P**	**14 15 42.7**	**+0.8**
AAK				pmax	pmax		
	comp=Z,20nm,1.7s						
AAK	**Ala-Archa**	**85.00**	**313**	P	**P**	**14 15 43.0**	**+1.1**
	SNR=5.2						
AAK	**Ala-Archa**	**85.00**	**313**	PcP	**P**	**14 15 43.5**	**+1.5**
USP	**Ospenovka**	**85.13**	**314**	P	**P**	**14 15 43.4**	**+1.0**
	SNR=16						
MAW	**Mawson**	**85.16**	**203**	P	**P**	**14 15 41.5**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=100,slow=3.5,SNR=5.4						
DAWY	**Dawson**	**85.19**	**24**	P	**P**	**14 15 42.2**	**-0.1**
DAWY				IAmb	IAmb	14 16 59.5	
	comp=Z,14nm,1.9s						
ARSB	**Arslanbob**	**85.85**	**312**		**P**	**14 15 47.7**	**+1.5**
NRIK	**Noril'sk**	**86.41**	**341**	P	**P**	**14 15 46.4**	**-1.6**
	comp=Z,5.2nm,0.5s,baz=145,slow=2.1,SNR=6.7						
BTK	**Batken**	**87.26**	**310**	P	**P**	**14 15 51.2**	**-1.8**
BTK				pmax	pmax		
	comp=Z,11nm,0.8s						
BTK	**Batken**	**87.26**	**310**	P	**P**	**14 15 51.2**	**-1.8**
BTK				IAmb	IAmb	14 15 54.6	
	comp=Z,11nm,0.8s						
KBL	**Kabul**	**87.85**	**305**	P	**P**	**14 15 54.9**	**-1.2**
KBL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KBL	**Kabul**	**87.85**	**305**	P	**P**	**14 15 54.9**	**-1.2**
KBL				IAmb	IAmb	14 15 56.2	
	comp=Z,6.0nm,0.7s						
KK31	**Karatay Array**	**87.97**	**313**	P	**P**	**14 15 56.2**	**0.0**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KK31	**Karatay Array**	**87.97**	**313**	P	**P**	**14 15 56.2**	**0.0**
KK31				IAmb	IAmb	14 16 00.3	
	comp=Z,5.1nm,0.8s						
KKAR	**Karatay Array**	**87.97**	**313**	P	**P**	**14 15 56.3**	**0.0**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KKAR	**Karatay Array**	**87.97**	**313**	P	**P**	**14 15 56.3**	**0.0**
KKAR				IAmb	IAmb	14 16 00.3	
	comp=Z,5.1nm,0.8s						
CHGR	**Chuyangaron**	**88.32**	**309**	P	**P**	**14 15 58.1**	**0.0**
INK	**Inuvik**	**88.87**	**21**	P	**P**	**14 15 59.7**	**-0.2**
INK				pmax	pmax		
	comp=Z,11nm,1.2s						
INK	**Inuvik**	**88.87**	**21**	P	**P**	**14 15 59.7**	**-0.2**
INK				IAmb	IAmb	14 16 00.9	
	comp=Z,11nm,1.1s						
BRVK	**Borovoye**	**89.69**	**323**	*ce*P	**P**	**14 16 03.3**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRVK	**Borovoye**	**89.69**	**323**	P	**P**	**14 16 03.5**	**-0.6**
BRVK				IAmb	IAmb	14 16 04.4	
	comp=Z,5.5nm,0.7s						
NVAR	**Mina Array Bea**	**92.34**	**52**	P	**P**	**14 16 17.4**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=252,slow=6.4,SNR=10						
HRA	**Herat**	**93.42**	**304**	P	**P**	**14 16 21.4**	**-0.7**
HRA				IAmb	IAmb	14 16 23.1	
	comp=Z,6.3nm,0.9s						
BMO	**Blue Mountains**	**93.57**	**45**	P	**P**	**14 16 22.4**	**-0.1**
BMO				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BMO	**Blue Mountains**	**93.57**	**45**	P	**P**	**14 16 22.4**	**-0.1**
YKA	**Yellowknife Ar**	**95.82**	**28**	P	**P**	**14 16 32.6**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=268,slow=4.8,SNR=7.9						
ARU	**Arti**	**96.71**	**326**	*d i*P	**P**	**14 16 33.6**	**-2.8**
ARU						14 20 28.1	
ARU				S	**SKSac**	**14 27 04.7**	**-5.6**
ARU				SS	**SS**	**14 34 26.6**	**-3.7**
ARU				pmax	pmax		
	comp=Z,11nm,1.0s						
ARU	**Arti**	**96.71**	**326**	P	**P**	**14 16 34.7**	**-1.6**
R49A	**Shelbyville**	**118.13**	**49**		**PKiKP**	**14 21 53.7**	**+0.2**
LANS	**Liptovska Anna**	**121.17**	**326**	*e*PKIKP	**PKPdf**	**14 21 56.7**	**-2.3**
LANS	**Liptovska Anna**	**121.17**	**326**	*e*PKP	**PKPdf**	**14 21 56.7**	**-2.3**
LANS				*e*		14 58 30.8	
MODS	**Modra-Piesok**	**122.81**	**326**	*e*PKIKP	**PKPdf**	**14 22 02.0**	**-0.2**
MODS	**Modra-Piesok**	**122.81**	**326**	*e*PKP	**PKPdf**	**14 22 02.0**	**-0.2**
BRG	**Berggiesshubel**	**123.08**	**330**	*e*PKP	**PKiKP**	**14 22 03.8**	**+1.0**
	comp=Z,27nm,1.8s						
BRG	**Berggiesshubel**	**123.08**	**330**	*e*PKIKP	**PKiKP**	**14 22 03.8**	**+1.0**
BRG				pmax	pmax		
	comp=Z,27nm,1.8s						
CLL	**Collm**	**123.27**	**331**	*i* PKPdf	**PKiKP**	**14 22 03.7**	**+0.6**
	comp=Z,5.0nm,0.7s						
FNA	**Florina**	**124.05**	**317**	PKIKP	**PKPdf**	**14 22 03.6**	**-1.2**
FNA	**Florina**	**124.05**	**317**		**PKPdf**	**14 22 03.6**	**-1.2**
GERES	**GERESS Array B**	**124.46**	**328**	PKP	**PKiKP**	**14 22 06.2**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=22,slow=1.4,SNR=8.6						
ABTA	**Abfaltersbach**	**126.38**	**327**	*i* PKiKP	**PKiKP**	**14 22 09.7**	**+0.1**
	comp=Z,4.7nm,0.8s						
WTTA	**Wattenberg**	**126.53**	**328**	*i* PKiKP	**PKiKP**	**14 22 10.6**	**+0.6**
	comp=Z,11nm,1.3s						
MOTA	**Moosalm**	**126.76**	**328**	*i* PKiKP	**PKiKP**	**14 22 10.8**	**+0.4**
	comp=Z,8.2nm,1.0s						
SQTA	**Sankt Quirin**	**126.78**	**328**	*i* PKiKP	**PKiKP**	**14 22 11.1**	**+0.6**
	comp=Z,6.5nm,0.8s						
FETA	**Feichten**	**127.16**	**328**	*i* PKiKP	**PKiKP**	**14 22 11.8**	**+0.6**
	comp=Z,7.4nm,1.0s						
LPAZ	**La Paz**	**134.18**	**119**	PKIKP	**PKPdf**	**14 22 23.6**	**-1.8**
LPAZ	**La Paz**	**134.18**	**119**	PKP	**PKiKP**	**14 22 26.1**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=332,slow=1.0,SNR=6.6						
LPAZ	**La Paz**	**134.18**	**119**		**PKPdf**	**14 22 23.6**	**-1.8**
SDV	**Santo Domingo**	**136.74**	**83**		**PKPdf**	**14 22 27.6**	**-2.2**
CPUP	**Villa Florida**	**137.10**	**139**	PKP	**PKiKP**	**14 22 31.2**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=180,slow=4.0,SNR=2.7						
MDT	**Midelt**	**145.44**	**325**	P	**PKPab**	**14 22 46.0**	**+1.1**
ZHG	**ZHG**	**146.07**	**328**	P	**PKPab**	**14 22 48.0**	**+0.8**
TZRR	**Tazzarine**	**147.48**	**324**	P	**PKPab**	**14 22 52.1**	**-0.7**
ZGR	**Zagora**	**147.99**	**323**	P	**PKPbc**	**14 22 53.1**	**+0.9**
OUZM	**OUZ**	**148.07**	**325**	P	**PKiKP**	**14 22 54.0**	**-0.3**
TOA0	**Torodi Ar. Sit**	**150.47**	**287**		**PKPbc**	**14 22 58.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**150.47**	**287**	PKPbc	**PKPbc**	**14 22 58.6**	**-0.1**
	comp=Z,14nm,0.8s,baz=74,slow=2.6,SNR=60						
BDFB	**Brasilia**	**150.72**	**135**	PKIKP	**PKiKP**	**14 22 59.9**	**-0.2**
BDFB	**Brasilia**	**150.72**	**135**		**PKiKP**	**14 22 59.9**	**-0.2**

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*GUC **04** 14:04:23.9±0.5, 30°.34S×71°.41W, h49km±4km, ML3.6*
*SJA **04** 14:04:24.5±1.1, 30°.46S×71°.44W, h23km±6km, ML3.3, MW3.6*
ISC 04 14:04:21.9±1.8**, 30°.45S**±0°.04×**71°.61W**±0°.08**, h10**km±15km**,**
n25, σ**1s.93**/33**, 2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.63**	**31**	⇓*i*P	**Pg**	**14 04 34.9**	**+0.9**
LSCH				*i* S	**Sb**	**14 04 43.5**	**-0.2**
GO04	**Tololo Observa**	**0.76**	**69**	*e*P	**Pg**	**14 04 36.8**	**+0.3**
GO04				*i* S	**Sb**	**14 04 47.3**	**-0.4**
GO04	**Tololo Observa**	**0.76**	**69**	*i* P	**Pg**	**14 04 36.9**	**+0.4**
GO04				*e*S	**Sb**	**14 04 47.3**	**-0.4**
CO02	**Combarbal**	**0.92**	**145**	⇓*i*P	**Pg**	**14 04 39.5**	**-0.1**
CO02				*i* S	**Sb**	**14 04 52.4**	**+0.1**
CO02				IAML		14 04 53.5	
	comp=N,4µm,0.5s						
AROD	**Rodeo**	**1.87**	**82**	*i* P	**Pb**	**14 04 55.5**	**-0.8**
AROD				*e*S	**Sb**	**14 05 19.3**	**-0.6**
ACDV	**Cuesta del Vie**	**2.17**	**83**	*i* P	**Pb**	**14 05 00.5**	**-0.9**
ACCO	**Cerro Coronel**	**2.20**	**94**	*i* P	**Pb**	**14 05 01.1**	**-0.9**
RTLS	**Leoncito**	**2.40**	**125**	*i* P	**Pb**	**14 05 03.5**	**-1.8**
RTLS				IAML		14 05 46.5	
	comp=Z,74nm,0.3s						
ROCH	**El Roble**	**2.57**	**169**	*e*P	**Pb**	**14 05 06.9**	**-1.3**
ROCH				*i* S	**Sb**	**14 05 39.9**	**0.0**
ROCH				IAML		14 05 48.5	
	comp=N,242nm,0.4s						
AMOG	**MOGNA**	**2.73**	**101**	*i* P	**Pn**	**14 05 08.2**	**+2.3**
PEL	**Peldehue**	**2.80**	**164**	*e*P	**Pn**	**14 05 07.7**	**+0.9**
PEL				*i* S	**Sb**	**14 05 44.1**	**-2.3**
PEL				IAML		14 05 54.4	
	comp=E,147nm,0.7s						
PEL	**Peldehue**	**2.80**	**164**	*i* P	**Pn**	**14 05 09.7**	**+2.8**
RTLL	**Cerro Villicun**	**2.84**	**109**	*i* P	**Pn**	**14 05 08.6**	**+1.3**
RTLL				IAML		14 05 55.0	
	comp=Z,79nm,0.5s						
AGUA	**GUANDACOL**	**2.87**	**71**	*i* P	**Pb**	**14 05 11.3**	**-2.0**
RTCV	**Cerro Valdivia**	**2.99**	**119**	*i* P	**Pn**	**14 05 11.5**	**+2.1**
FCH	**Farellones**	**3.08**	**159**	*e*P	**Pn**	**14 05 13.7**	**+2.8**
FCH				*i* S	**Sb**	**14 05 51.4**	**-3.5**
GO03	**Copiap**	**3.09**	**23**	*e*P	**Pn**	**14 05 10.1**	**-0.7**
CFA	**Coronel Fontan**	**3.12**	**113**	*i* P	**Pn**	**14 05 12.9**	**+1.7**
ASAL	**Salagasta**	**3.19**	**133**	*i* P	**Pn**	**14 05 15.1**	**+2.9**
ARCO	**CERRO ARCO**	**3.30**	**137**	*i* P	**Pn**	**14 05 17.1**	**+3.3**
VCA	**Vinchina**	**3.42**	**61**	*i* P	**Pn**	**14 05 18.4**	**+2.9**
VCA				IAML		14 05 23.7	
	comp=Z,190nm,0.3s						
AAGR	**Agrelo**	**3.54**	**139**	*i* P	**Pn**	**14 05 20.2**	**+3.2**
LMEL	**Las Melosas**	**3.59**	**161**	*e*P	**Pn**	**14 05 20.4**	**+2.6**
ACAN	**Cantantal**	**4.20**	**117**	*i* P	**Pn**	**14 05 27.2**	**+1.2**
TCA	**Tanti**	**6.10**	**100**	*i* P	**Pn**	**14 05 51.7**	**-0.5**

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*BJI **04** 14:10:08.8±0.0, 29°.99S×176°.13W, h9km, mb5.3/26, mB5.6/14, Ms5.0/14, Ms7 4.7/10*
*IDC **04** 14:10:08.5±0.5, 29°.72S×176°.18W, h0km, mb4.5/15, mb1 4.7/16, mb1mx4.6/26, mbtmp4.5/16, ML4.5/1, MS4.5/9, Ms1 4.5/9, ms1mx4.1/30, Error ellipse: s-maj=17.1km s-min=16.0km az=37.0*
*NEIC **04** 14:10:09.3±1.2, 29°.98S±0°.06×176°.11W±0°.06, h11km±3km, mb5.0/62*
*ISCJB **04** 14:10:10.6±0.2, 30°.26S±0°.02×176°.19W±0°.03, h33km, mb4.8/34, MS4.6/10, Error ellipse: s-maj=4.3km s-min=2.3km az=28.3*
*MOS **04** 14:10:12.7±1.0, 29°.64S×176°.10W, h33km, mb5.1/19, Error ellipse: s-maj=13.7km s-min=10.4km az=91.5*
*GCMT **04** 14:10:14.3±0.1, 29°.81S±0°.01×175°.96W±0°.01, h21km, MW5.2/120, Moment Tensor Solution. s91,c126; s120,c198; Duration: 1s.0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.71±.02; $M_{\theta\theta}$-0.08±.01; $M_{\phi\phi}$0.78±.01; $M_{r\theta}$-0.10±.03; $M_{\theta\phi}$0.11±.01; $M_{\phi r}$0.02±.02; Best double couple: $M_0$0.76400×10^{17} NP1:ϕ_s178.00000°, δ46.00000°, λ-103.00000°. NP2:ϕ_s16.00000°, δ46.00000°, λ-77.00000°. Principal axes: T 0.8030, Plg0.0000°, Azm277.0000°; N -0.0790, Plg9.0000°, Azm187.0000°; P -0.7240, Plg81.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 14:10:12.7±0.3**, 30°.10S**±0°.04×**176°.04W**±0°.05**, h35**km**,**
n304, σ**2s.03**/303**, mb5.0**/48**, MS4.7**/11**, 12C-3D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.83**	**297**	P	**Pn**	**14 10 39.6**	**-2.0**
GLKZ				S	**Sn**	**14 11 00.9**	**-2.7**
RAO	**Raoul Island**	**1.84**	**297**	Pn	**Pn**	**14 10 39.8**	**-1.9**
	1µm,0.3s,baz=65,slow=8.4,SNR=62						
RAO				Sn	**Sn**	**14 11 00.8**	**-2.9**
	3µm,0.3s,baz=72,slow=19,SNR=14						
RAO	**Raoul Island**	**1.84**	**297**		**Pn**	**14 10 39.6**	**-2.1**
RIZ	**Raoul Island**	**1.85**	**297**	P	**Pn**	**14 10 40.2**	**-1.6**
RIZ				S	**Sn**	**14 11 02.1**	**-1.9**
MXZ	**Matakaoa Point**	**8.80**	**211**	Pn	**Pn**	**14 12 14.7**	**-2.7**
PKGZ	**Pakihiroa**	**9.17**	**211**	P	**Pn**	**14 12 20.2**	**-2.4**
PKGZ				S	**Sn**	**14 14 03.6**	**-0.9**
HAZ	**Te Kaha**	**9.20**	**212**	P	**Pn**	**14 12 21.3**	**-1.5**
HAZ				S	**Sn**	**14 14 04.6**	**-0.4**
CNGZ	**Carnagh Statio**	**9.62**	**208**	P	**Pn**	**14 12 26.3**	**-2.3**
CNGZ				S	**Sn**	**14 14 16.1**	**+0.8**
TKGZ	**Te Karaka**	**9.73**	**210**	P	**Pn**	**14 12 27.2**	**-2.9**
TKGZ				S	**Sn**	**14 14 17.4**	**-0.7**
MWZ	**Matawai**	**9.79**	**211**	P	**Pn**	**14 12 27.7**	**-3.2**
MWZ				S	**Sn**	**14 14 19.2**	**-0.3**
OPRZ	**Ohinepanea**	**9.87**	**217**	P	**Pn**	**14 12 33.3**	**+1.3**
OPRZ				S	**Sn**	**14 14 21.6**	**+0.1**
URZ	**Urewera**	**9.92**	**213**	Pn	**Pn**	**14 12 30.7**	**-1.9**
	2.0nm,0.3s,baz=265,slow=3.0,SNR=18						
URZ				Sn	**Sn**	**14 14 17.6**	**-5.0**
	12nm,0.3s,baz=190,slow=19,SNR=6.9						
URZ	**Urewera**	**9.92**	**213**	P	**Pn**	**14 12 30.7**	**-1.9**
URZ				S	**Sn**	**14 14 20.1**	**-2.6**
URZ	**Urewera**	**9.92**	**213**	Pn	**Pn**	**14 12 29.5**	**-3.2**
WCZ	**Waipu Caves**	**9.95**	**232**	P	**Pn**	**14 12 35.6**	**+2.5**
RIGZ	**Rimuhau**	**9.99**	**209**	P	**Pn**	**14 12 31.4**	**-2.3**
RIGZ				S	**Sn**	**14 14 22.8**	**-1.8**
PRGZ	**Paritu Road**	**10.12**	**208**	P	**Pn**	**14 12 32.8**	**-2.7**
PRGZ				S	**Sn**	**14 14 24.7**	**-3.1**
SNGZ	**Shannon Statio**	**10.24**	**210**	P	**Pn**	**14 12 35.4**	**-1.7**
SNGZ				S	**Sn**	**14 14 28.9**	**-1.7**
MUGZ	**Murupara**	**10.25**	**213**	P	**Pn**	**14 12 34.3**	**-3.0**
MUGZ				S	**Sn**	**14 14 27.9**	**-3.0**
TOZ	**Tahuroa Road**	**10.35**	**220**	P	**Pn**	**14 12 40.1**	**+1.4**
NMHZ	**Naumai**	**10.73**	**211**	P	**Pn**	**14 12 42.7**	**-1.2**
ARHZ	**Aropaoanui**	**10.79**	**210**	P	**Pn**	**14 12 42.1**	**-2.4**
BKZ	**Black Stump Fm**	**10.93**	**212**	P	**Pn**	**14 12 42.4**	**-4.2**
BKZ	**Black Stump Fm**	**10.93**	**212**		**Pn**	**14 12 42.6**	**-4.0**
MCHZ	**McNeill Hill**	**11.07**	**211**	P	**Pn**	**14 12 46.0**	**-2.3**
HIZ	**Hauiti**	**11.27**	**219**	P	**Pn**	**14 12 51.6**	**+0.5**
KRHZ	**Kereru**	**11.37**	**211**	P	**Pn**	**14 12 50.2**	**-2.4**
BHHZ	**Black Hill Sta**	**11.39**	**213**	P	**Pn**	**14 12 51.3**	**-1.6**
PXZ	**Pawanui**	**11.48**	**208**	P	**Pn**	**14 12 51.3**	**-2.7**
VRZ	**Vera Road**	**11.76**	**218**	P	Pn	14 13 01.4	+3.6
TSZ	**Takapari Road**	**11.89**	**211**	P	**Pn**	**14 12 56.0**	**-3.8**
ANWZ	**Angora Road**	**12.00**	**209**	P	**Pn**	**14 13 00.2**	**-1.0**
BFZ	**Birch Farm**	**12.28**	**209**	P	**Pn**	**14 13 00.5**	**-4.5**
PRWZ	**Pori Road**	**12.29**	**210**	P	**Pn**	**14 13 03.3**	**-1.9**
NIUE	**Niue**	**12.30**	**28**	P	Pn	14 12 56.5	-8.8
	baz=12,SNR=5.8						
NIUE	**Niue**	**12.30**	**28**	Pn	Pn	14 12 56.5	-8.9
MRZ	**Mangatainoka R**	**12.55**	**211**	P	Pn	14 13 03.5	-5.2
HOWZ	**Holdsworth Sta**	**12.77**	**210**	P	**Pn**	**14 13 07.1**	**-4.6**
TMWZ	**Te Maipa**	**12.79**	**209**	P	**Pn**	**14 13 08.7**	**-3.3**
MSWZ	**Moikau Station**	**13.31**	**210**	P	**Pn**	**14 13 18.6**	**-0.5**
MSWZ	**Moikau Station**	**13.31**	**210**	Pn	Pn	14 13 13.7	-5.4
MSVF	**Nonsavu**	**13.44**	**335**	P	Pn	14 13 17.4	-3.6
MSVF	**Nonsavu**	**13.44**	**335**		Pn	14 13 17.4	-3.6
PLWZ	**Palliser**	**13.44**	**209**	Pn	Pn	14 13 15.0	-5.8
DUWZ	**D'Urville Isla**	**13.44**	**215**	P	**Pn**	**14 13 17.9**	**-3.0**
BHW	**Baring Head**	**13.47**	**211**	P	**Pn**	**14 13 18.7**	**-2.6**
BHW	**Baring Head**	**13.47**	**211**	Pn	**Pn**	**14 13 16.7**	**-4.5**
TCW	**Tory Channel**	**13.59**	**213**	P	**Pn**	**14 13 18.5**	**-4.3**
TUWZ	**Tuamarina**	**13.91**	**213**	P	**Pn**	**14 13 23.1**	**-4.2**
TUWZ	**Tuamarina**	**13.91**	**213**		Pn	14 13 22.5	-4.8
NNZ	**Nelson**	**14.02**	**215**	P	**Pn**	**14 13 25.6**	**-3.1**
NNZ	**Nelson**	**14.02**	**215**	Pn	**Pn**	**14 13 27.1**	**-1.6**
BSWZ	**Blackbirch Sta**	**14.17**	**212**	P	**Pn**	**14 13 28.7**	**-2.0**
BSWZ	**Blackbirch Sta**	**14.17**	**212**	Pn	**Pn**	**14 13 27.4**	**-3.4**
QRZ	**Quartz Range**	**14.17**	**218**	P	**Pn**	**14 13 29.0**	**-1.8**
QRZ	**Quartz Range**	**14.17**	**218**	Pn	**Pn**	**14 13 28.3**	**-2.5**
THZ	**Tophouse**	**14.67**	**214**	P	**Pn**	**14 13 34.6**	**-3.0**
THZ	**Tophouse**	**14.67**	**214**	Pn	**Pn**	**14 13 34.8**	**-2.7**
KHZ	**Kahutara**	**14.87**	**211**	P	Pn	14 13 35.1	-5.2
KHZ	**Kahutara**	**14.87**	**211**		Pn	14 13 35.2	-5.0
GVZ	**Greta Valley S**	**15.54**	**211**	P	**Pn**	**14 13 44.7**	**-4.3**
LTZ	**Lake Taylor**	**15.75**	**213**	P	**Pn**	**14 13 46.6**	**-5.2**
LTZ	**Lake Taylor**	**15.75**	**213**		**Pn**	**14 13 46.8**	**-5.0**
AMCZ	**Amberley**	**15.88**	**212**	P	**Pn**	**14 13 51.2**	**-2.1**
INZ	**Inchbonnie**	**16.11**	**215**	P	**Pn**	**14 13 52.8**	**-3.5**
CRLZ	**Canterbury Las**	**16.20**	**211**	P	**Pn**	**14 13 54.6**	**-2.9**
CRLZ	**Canterbury Las**	**16.20**	**211**	Pn	**Pn**	**14 13 54.4**	**-3.1**
OXZ	**Oxford**	**16.27**	**213**	P	**Pn**	**14 13 54.4**	**-4.1**
OXZ	**Oxford**	**16.27**	**213**	P	**Pn**	**14 13 54.4**	**-4.1**
MQZ	**McQueen's Vall**	**16.29**	**210**	P	**Pn**	**14 13 53.9**	**-4.7**
MQZ	**McQueen's Vall**	**16.29**	**210**	Pn	**Pn**	**14 13 54.1**	**-4.6**
MQZ				IAmb	IAmb	14 14 41.1	
	comp=Z,141nm,1.8s						
AFI	**Afiamalu**	**16.59**	**15**	Pn	Pn	14 13 56.8	-5.8
	comp=Z,1.8nm,0.3s,baz=198,slow=10.0,SNR=6.1						
AFI				Sn	Sn	14 16 40.8	-25
	comp=Z,2.3nm,0.3s,baz=196,slow=20,SNR=3.3						
AFI				LR	LR	14 19 37.2	
	comp=Z,298nm,20.5s,baz=177,slow=35						
AFI	**Afiamalu**	**16.59**	**15**	Pn	Pn	14 13 56.6	-6.0
AFI				IAmb	IAmb	14 14 46.5	
	comp=Z,72nm,1.1s						
RPZ	**Rata Peaks**	**17.03**	**214**	P	**Pn**	**14 14 04.5**	**-3.5**
	comp=Z,1.0nm,0.3s,baz=312,slow=1.1,SNR=6.9						
RPZ				S	Sn	14 16 59.3	-17
	comp=Z,2.9nm,0.3s,baz=40,slow=9.0,SNR=7.7						
RPZ	**Rata Peaks**	**17.03**	**214**	P	**Pn**	**14 14 04.8**	**-3.2**
RPZ	**Rata Peaks**	**17.03**	**214**		**Pn**	**14 14 04.3**	**-3.8**
RPZ				IAmb	IAmb	14 14 34.2	
	comp=Z,118nm,1.8s						
RAR	**Rarotonga**	**17.11**	**63**	P	**Pn**	**14 14 03.2**	**-6.0**
RAR				pmax	pmax		
	comp=Z,223nm,1.5s						
RAR	**Rarotonga**	**17.11**	**63**	P	**Pn**	**14 14 03.1**	**-6.1**
	comp=Z,2.9nm,0.3s,baz=278,slow=11,SNR=11						
RAR				S	Sn	14 16 54.7	-24
	comp=Z,1.4nm,0.3s,baz=66,slow=19,SNR=4.0						
RAR				LR	LR	14 19 27.5	
	comp=Z,1µm,19.1s,baz=254,slow=33						
RAR	**Rarotonga**	**17.11**	**63**	P	**Pn**	**14 14 03.2**	**-6.0**
RAR				IAmb	IAmb	14 14 17.2	
	comp=Z,223nm,1.4s						
FOZ	**Fox Glacier**	**17.51**	**216**	Pn	**Pn**	**14 14 11.4**	**-2.6**
DZM	**Mont Dzumac**	**17.63**	**293**	*e*P	**P**	**14 14 16.2**	**-0.2**
	comp=Z,196nm,1.6s						
DZM				*e*S	**Sn**	**14 17 26.2**	**-5.0**
	comp=Z,762nm,23.9s						
DZM				*e*LQ	LQ	14 17 33.6	
	comp=Z,4µm,29.1s						
DZM				*e*LR	LR	14 18 22.3	
	comp=Z,2µm,22.9s						
DZM	**Mont Dzumac**	**17.63**	**293**	P	**P**	**14 14 17.2**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=137,slow=14,SNR=12						
DZM				LR	LR	14 20 30.5	
	comp=Z,2µm,18.1s,baz=124,slow=36						
DZM	**Mont Dzumac**	**17.63**	**293**		**Pn**	**14 14 14.5**	**-1.2**
DZM				IAmb	IAmb	14 14 33.7	
	comp=Z,86nm,1.3s						
LBZ	**Lake Benmore**	**17.95**	**214**	Pn	**Pn**	**14 14 17.2**	**-2.2**
ODZ	**Otahua Downs**	**18.24**	**211**	Pn	**P**	**14 14 20.9**	**-1.9**
ODZ				IAmb	IAmb	14 14 31.1	
	comp=Z,158nm,1.9s						
WKZ	**Wanaka**	**18.84**	**215**		**P**	**14 14 27.2**	**-2.3**
MLZ	**Mavora Lakes**	**19.67**	**215**	P	**Pn**	**14 14 39.8**	**-0.4**
WHZ	**Wether Hill Ro**	**20.13**	**214**	P	**Pn**	**14 14 44.4**	**-1.2**
WHZ				IAmb	IAmb	14 15 22.9	
	comp=Z,63nm,1.6s						
DCZ	**Deep Cove**	**20.23**	**216**	P	Pn	14 14 45.2	-1.5
PPT2	**Papeete2**	**27.15**	**69**	*e*S	**S**	**14 20 23.2**	**-6.0**
	comp=Z,310nm,23.8s						
PPT2				*e*LR	LR	14 22 43.5	
	comp=Z,1µm,23.0s,baz=229						
PPT	**Papeete**	**27.16**	**69**	LR	LR	14 24 26.6	
	comp=Z,693nm,18.9s,baz=246,slow=32						
KNTN	**Kanton**	**27.48**	**9**	P	**P**	**14 15 54.8**	**-0.9**
EIDS	**Eidsvold**	**29.42**	**271**	P	**P**	**14 16 13.6**	**+0.6**
TARA	**Tarawa**	**33.00**	**339**	P	**P**	**14 16 43.4**	**-1.1**
CTA	**Charters Tower**	**35.43**	**277**	P	**P**	**14 17 05.7**	**0.0**
	comp=Z,8.3nm,0.7s,baz=107,slow=10,SNR=23						
STKA	**Stephens Creek**	**36.19**	**256**	P	**P**	**14 17 13.0**	**+0.9**
	baz=36,SNR=7.4						
STKA	**Stephens Creek**	**36.19**	**256**	P	**P**	**14 17 12.6**	**+0.5**
	comp=Z,4.4nm,0.8s,baz=95,slow=9.3,SNR=9.2						
STKA				LR	LR	14 32 07.9	
	comp=Z,1µm,18.1s,baz=94,slow=36						
STKA	**Stephens Creek**	**36.19**	**256**	P	**P**	**14 17 12.6**	**+0.5**
MTSU	**Mount Surprise**	**37.91**	**279**	P	**P**	**14 17 27.7**	**+0.9**
	baz=38,SNR=8.0						
HTT	**Hallett**	**38.21**	**253**	P	**P**	**14 17 30.7**	**+1.5**
	baz=38,SNR=6.3						
TAOE	**Nuku Hiva Isla**	**39.64**	**65**	*e*S	**S**	**14 23 36.5**	**-6.0**
	comp=Z,280nm,25.6s						
TAOE				*e*LR	LR	14 28 34.3	
	comp=Z,836nm,23.0s,baz=243						
BBOO	**Buckleboo**	**40.68**	**253**	P	**P**	**14 17 48.7**	**-1.1**
COEN	**Coen**	**40.83**	**284**	P	**P**	**14 17 52.0**	**+0.9**
PATS	**Pohnpei**	**44.21**	**322**	P	**P**	**14 18 18.2**	**-0.3**
AS31	**Alice Springs**	**44.82**	**266**	P	**P**	**14 18 22.5**	**-1.0**
ASAR	**Alice Springs**	**44.82**	**266**	P	**P**	**14 18 21.9**	**-1.6**
	comp=Z,4.1nm,0.8s,baz=108,slow=7.4,SNR=33						
ASAR				PcP	**PcP**	**14 20 04.9**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=112,slow=4.1,SNR=2.6						
ASAR				LR	LR	14 37 13.4	
	comp=Z,1µm,18.2s,baz=114,slow=36						
WRAB	**Tennant Creek**	**45.78**	**271**	*ce*P	**P**	**14 18 29.7**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s						
FORT	**Forrest**	**47.76**	**254**	P	**P**	**14 18 45.7**	**-0.8**
VNDA	**Vanda**	**48.57**	**186**	P	P	14 18 57.1	+5.0
	comp=Z,3.4nm,0.9s,baz=355,slow=7.0,SNR=9.4						
VNDA				LR	LR	14 36 04.3	
	comp=Z,199nm,20.1s,baz=31,slow=32						
WRKA	**Warakurna**	**49.20**	**262**	P	**P**	**14 18 56.5**	**-1.2**
	baz=49,SNR=9.3						
MTN	**Manton Dam**	**51.62**	**278**	P	**P**	**14 19 15.7**	**-0.3**
	baz=52,SNR=4.4						
MTN	**Manton Dam**	**51.62**	**278**	P	**P**	**14 19 15.1**	**-0.9**
MTN				IAmb	IAmb	14 19 16.4	
	comp=Z,8.7nm,0.7s						
KNRA	**Kununurra**	**52.38**	**273**	P	**P**	**14 19 21.8**	**+0.2**
	baz=52,SNR=9.0						
KNRA	**Kununurra**	**52.38**	**273**	P	**P**	**14 19 20.4**	**-1.2**
KNRA				IAmb	IAmb	14 19 26.5	
	comp=Z,14nm,0.8s						
FITZ	**Fitzroy Crossi**	**54.06**	**269**	P	**P**	**14 19 33.0**	**-1.0**
	baz=54,SNR=4.6						
FITZ	**Fitzroy Crossi**	**54.06**	**269**	P	**P**	**14 19 32.5**	**-1.5**
	comp=Z,5.8nm,1.0s,baz=136,slow=7.5,SNR=5.6						
KIP	**Kipapa**	**54.08**	**21**	*ce*P	**P**	**14 19 33.9**	**-0.1**
KIP				pmax	pmax		
	comp=Z,115nm,1.3s						
KIP	**Kipapa**	**54.08**	**21**	P	**P**	**14 19 33.9**	**-0.1**
MEEK	**Meekatharra**	**56.90**	**256**	P	**P**	**14 19 54.7**	**+0.3**
	baz=57,SNR=3.4						
QSPA	**South Pole Qui**	**60.01**	**180**	P	P	14 20 19.9	+4.3

comp=Z,19nm,0.9s,baz=33,slow=1.1,SNR=63
QSPA South Pole Qui 60.01 180 P P 14 20 19.4 +3.8
PMSA Palmer Station 71.84 155 P **P** **14 21 33.0 +1.6**
MAW Mawson 73.18 200 P P 14 21 43.3 +3.9
baz=74,SNR=8.1
MAW Mawson 73.18 200 P **P** **14 21 42.9 +3.5**
MAW pmax pmax
comp=Z,4.0nm,0.9s
MAW Mawson 73.18 200 P P 14 21 43.2 +3.8
comp=Z,9.6nm,0.7s,baz=134,slow=8.2,SNR=12
MAW Mawson 73.18 200 P **P** **14 21 42.9 +3.5**
SYO Syowa Base 77.78 192‖ *e*P P 14 21 52.4 -13
SYO Syowa Base 77.78 192‖ *e*P **P** **14 22 07.0 +1.3**
SYO Syowa Base 77.78 192‖ *e*PcP **PcP** **14 22 13.4 -2.2**
SNAA Sanae 78.40 178 P **P** **14 22 11.7 +2.4**
SNAA Sanae 78.40 178 *d* *i*P **P** **14 22 11.0 +1.7**
SNAA Sanae 78.40 178 P **P** **14 22 11.5 +2.2**
SNAA IAmb IAmb 14 22 12.9
comp=Z,26nm,1.2s
VNA3 Neumayer Olymp 78.48 176 P **P** **14 22 11.9 +2.2**
VNA2 Neumayer--Watz 78.94 176 P **P** **14 22 14.6 +2.5**
baz=167,slow=4.5
MJAR Matsushiro Arr 78.98 324 P **P** **14 22 12.2 -0.6**
comp=Z,1.1nm,0.6s,baz=151,slow=6.2,SNR=4.2
MAJO Matsushiro 78.98 324 *i* P **P** **14 22 11.4 -1.4**
MAJO pmax pmax
comp=Z,3.0nm,0.9s
VNA1 Neumayer--Stat 79.16 176 P **P** **14 22 16.0 +2.7**
PLCA Paso Flores 81.46 132 LR LR 14 50 49.1
comp=Z,204nm,18.9s,baz=262,slow=30
YUK Yuzh-Kuril'sk 81.59 333 *e*P **P** **14 22 22.1 -4.5**
YUK *e*S **S** **14 32 40.7 +4.7**
YUK MLR MLR
comp=Z,222nm,14.0s
BFSC Mount Baldy Ra 84.44 45 P **P** **14 22 42.8 +1.0**
baz=228
VES Vestal, Richgr 84.66 43 P **P** **14 22 42.3 -0.3**
baz=227
EDW2 Edwards Air Fo 84.67 44 P **P** **14 22 42.3 -0.5**
baz=228
TPFO Pinon Flats 84.77 46 P **P** **14 22 43.5 0.0**
baz=229
PFO Pinyon Flats O 84.77 46 P **P** **14 22 42.8 -0.6**
baz=229
ISA Isabella, Lake 84.90 44 P **P** **14 22 44.5 +0.5**
baz=227
ISA Isabella, Lake 84.90 44 P **P** **14 22 42.3 -1.7**
ISA pmax pmax
comp=Z,26nm,1.6s
ISA Isabella, Lake 84.90 44 P **P** **14 22 42.3 -1.7**
ISA IAmb IAmb 14 23 02.3
comp=Z,26nm,1.6s
KSRS Korea Array 85.23 319 P **P** **14 22 46.3 +0.8**
comp=Z,1.2nm,0.8s,baz=133,slow=6.0,SNR=4.4
BELC Belle Mtn. Jos 85.31 46 P **P** **14 22 47.7 +1.5**
baz=229
BC3 Big Chuckawall 85.43 47 P **P** **14 22 44.9 -1.9**
baz=229
GLA Glamis 85.43 48 P **P** **14 22 48.1 +1.3**
baz=230
O02D Mt. Diablo Mer 85.61 38 P **P** **14 22 49.0 +1.6**
baz=224
HEC Hector,Ludlow 85.65 45 P **P** **14 22 48.7 +0.9**
baz=229
CWC Cottonwood Cre 85.66 43 P **P** **14 22 48.3 +0.3**
baz=228
GSC Goldstone, Bar 85.67 45 P **P** **14 22 48.3 +0.4**
baz=228
AFDM Forest Hills D 85.72 40 P **P** **14 22 45.1 -2.9**
AFDM IAmb IAmb 14 22 49.8
comp=Z,13nm,1.3s
MPMC Mammal Prospec 85.76 44 P **P** **14 22 49.4 +0.9**
baz=228
IRM Iron Mountain 85.95 47 P **P** **14 22 51.8 +2.6**
baz=229
PETK Petropavlovsk- 85.96 344 P **P** **14 22 48.6 -0.1**
comp=Z,6.9nm,0.8s,baz=106,slow=8.9,SNR=5.5
GMRC Granite Mounta 86.03 46 P **P** **14 22 51.0 +1.2**
baz=229
O03E Paynes Creek 86.22 38 P **P** **14 22 51.4 +0.9**
baz=225
WAKR Walker 86.28 41 P **P** **14 22 50.7 -0.3**
M02C Callahan 86.44 37 P **P** **14 22 52.5 +0.9**
baz=224
YERR Yerington 86.72 41 P **P** **14 22 52.9 -0.2**
YERR IAmb IAmb 14 22 54.1
comp=Z,22nm,1.6s
NVAR Mina Array Bea 86.88 42 P **P** **14 22 54.6 +0.6**
comp=Z,4.1nm,1.0s,baz=222,slow=8.2,SNR=18
NVAR LR LR 14 55 49.0
comp=Z,550nm,19.1s,baz=254,slow=32
NV11 Mina Array Sit 86.97 42 P **P** **14 22 53.9 -0.4**
NV11 IAmb IAmb 14 22 56.0
comp=Z,10.0nm,1.2s
K02D Willamette Mer 86.97 36 P **P** **14 22 55.0 +1.0**
baz=223
TPNV Topopah Spring 87.10 44 P **P** **14 22 55.6 +0.6**
baz=229
TPNV Topopah Spring 87.10 44 P **P** **14 22 55.5 +0.6**
TPNV pmax pmax
comp=Z,29nm,1.8s
TPNV Topopah Spring 87.10 44 P **P** **14 22 55.5 +0.6**
TPNV IAmb IAmb 14 23 12.6
comp=Z,29nm,1.8s
Y14A Wickenburg 87.17 48 P **P** **14 22 55.3 +0.1**
Y14A IAmb IAmb 14 22 57.1
comp=Z,13nm,1.3s
NJ2 Nanjing 87.35 310 *e*P **P** **14 22 57.6 +1.6**
NJ2 pmax pmax
comp=Z,17nm,0.7s
W13A Hualapai Mount 87.35 47 P **P** **14 22 55.1 -1.1**
W13A IAmb IAmb 14 23 03.5
comp=Z,18nm,1.7s
KVN Kaiserville 87.42 41 P **P** **14 22 56.3 -0.2**
KVN pmax pmax
comp=Z,6.0nm,1.0s
KVN Kaiserville 87.42 41 P **P** **14 22 56.3 -0.2**
KVN IAmb IAmb 14 22 57.3
comp=Z,5.5nm,1.0s
SHPR Sheep Range 87.47 45 P **P** **14 22 57.7 +1.0**
SHPR IAmb IAmb 14 23 00.7
comp=Z,23nm,1.9s
TUC Tucson 87.61 50 P **P** **14 22 58.4 +0.9**
baz=232
TUC Tucson 87.61 50 P **P** **14 22 58.8 +1.4**
TUC pmax pmax
comp=Z,22nm,1.7s
TUC Tucson 87.61 50 P **P** **14 22 58.8 +1.4**
TUC IAmb IAmb 14 23 00.4
comp=Z,22nm,1.6s
USRK Ussuriysk Ar. 87.86 325 P **P** **14 22 58.3 +0.1**
comp=Z,4.3nm,0.8s,baz=156,slow=4.3,SNR=8.9
I04A Tendick Farm, 88.39 36 P **P** **14 23 01.9 +1.0**
baz=224
J05D Fort Rock, OR 88.63 37 P **P** **14 23 02.8 +0.7**
baz=225
H04D Lebanon 88.75 35 P **P** **14 23 03.7 +1.3**
baz=224
BMN Battle Mountai 88.85 41 P **P** **14 23 03.0 -0.2**
BMN Battle Mountai 88.85 41 P **P** **14 23 03.0 -0.2**
LCMT Little Creek M 88.97 45 P **P** **14 23 04.3 +0.5**
PINE Pine Mountain 89.14 36 P **P** **14 23 04.8 +0.3**
U15A North Rim 89.19 46 P **P** **14 23 05.6 +0.5**
U15A IAmb IAmb 14 23 07.9
comp=Z,15nm,1.3s
KNB Kanab 89.23 46 P **P** **14 23 05.3 +0.2**
KNB pmax pmax
comp=Z,22nm,1.5s
KNB Kanab 89.23 46 P **P** **14 23 05.3 +0.2**
CCUT Cedar City 89.24 45 P **P** **14 23 05.5 +0.2**
I05D Terrebonne, OR 89.33 36 P **P** **14 23 06.1 +0.8**
baz=225
WVOR Wild Horse Val 89.42 39 P **P** **14 23 04.9 -0.9**
WVOR pmax pmax
comp=Z,19nm,1.8s
WVOR Wild Horse Val 89.42 39 P **P** **14 23 04.9 -0.9**
WVOR IAmb IAmb 14 23 12.1
comp=Z,19nm,1.8s
WHN Wuhan 89.53 306 P **P** **14 23 08.5 +2.1**
PKCU Pink Cliffs 89.82 46 P **P** **14 23 08.3 +0.2**
W18A Petrified Fore 90.02 49 P **P** **14 23 09.8 +1.0**
baz=232
MTPU Mount Pierson 90.27 45 P **P** **14 23 10.8 +0.6**
E04D Cinebar 90.30 34 P **P** **14 23 10.8 +1.2**
baz=224
D03D Eldon 90.75 33 P **P** **14 23 12.6 +0.8**
baz=224
TXAR Lajitas Array 90.81 56 P **P** **14 23 13.3 +0.7**
comp=Z,1.2nm,1.0s,baz=216,slow=6.2,SNR=8.8
MNTX Cornudas Mount 90.93 54 P **P** **14 23 13.6 +0.6**
baz=235
CN2 Changchun 90.94 322‖ *i*P **P** **14 23 12.8 +0.1**
CN2 *e*SP pP 14 23 23.1 +1.6
CN2 *e*S **S** **14 34 06.2 -1.0**
CN2 pmax pmax
comp=Z,20nm,1.2s
TIA Tai'an 91.02 312 P **P** **14 23 13.9 +0.7**
TIA pmax pmax
comp=Z,11nm,0.8s
D05A Enumclaw 91.03 34 P **P** **14 23 13.4 +0.4**
MFID Camas Ranch 91.61 39 P **P** **14 23 15.9 -0.1**
MFID IAmb IAmb 14 23 16.9
comp=Z,10nm,1.4s
E07A Sunnyside 91.62 35 P **P** **14 23 16.4 +0.5**
KLR Kul'dur 91.64 329 *i* P **P** **14 23 15.8 0.0**
KLR pmax pmax
comp=Z,11nm,1.6s
HAWA Hanford 91.67 35 P **P** **14 23 16.5 +0.5**
HAWA IAmb IAmb 14 23 17.9
comp=Z,19nm,1.5s
BMO Blue Mountains 91.77 37 P **P** **14 23 16.6 0.0**
BMO pmax pmax
comp=Z,10.0nm,1.6s
BMO Blue Mountains 91.77 37 P **P** **14 23 16.6 0.0**
BMO IAmb IAmb 14 23 32.0
comp=Z,9.5nm,1.6s
ANMO Albuquerque 92.08 50 P **P** **14 23 19.2 +0.7**
ANMO Albuquerque 92.08 50 *c* *e*P **P** **14 23 18.7 +0.3**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
PV13 Radium Mtn., P 92.44 47 P **P** **14 23 19.9 -0.2**
PV13 IAmb IAmb 14 23 23.2
comp=Z,10nm,1.1s
F10A Beach Ranch, E 92.56 37 P **P** **14 23 20.0 -0.3**
F10A IAmb IAmb 14 23 37.0
comp=Z,4.6nm,0.9s
ENH Enshi 92.84 303 P **P** **14 23 22.1 +0.2**
S22A 4UR Ranch, Cre 93.46 48 P **P** **14 23 24.0 -0.9**
CMAR Chiang Mai Arr 94.91 288 *i* P **P** **14 23 33.5 +1.9**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 94.91 288 P **P** **14 23 32.9 +1.3**
comp=Z,0.6nm,0.4s,baz=149,slow=3.6,SNR=8.2
YHH Holmes Hill 95.25 40 P **P** **14 23 33.0 +0.1**
BOZ Bozeman (W) 95.31 39 P **P** **14 23 33.7 +0.7**
baz=232
BOZ Bozeman (W) 95.31 39 P **P** **14 23 33.2 +0.2**
BOZ pmax pmax
comp=Z,11nm,1.6s
BOZ Bozeman (W) 95.31 39 P **P** **14 23 33.2 +0.2**
BOZ IAmb IAmb 14 23 39.3
comp=Z,11nm,1.6s
HDA Harding Lake 96.92 12 P **P** **14 23 39.7 0.0**
baz=205
COLA College 97.19 12 *i* P **P** **14 23 40.0 -0.8**
COLA pmax pmax
comp=Z,2.0nm,1.0s
HHC Hu-ho-hao-te 97.25 313 P Pdif 14 23 43.4 +1.4
HHC pmax pmax
comp=Z,5.0nm,1.0s
ILAR Eielson Array 97.27 12 P **P** **14 23 40.9 -0.3**
comp=Z,1.2nm,1.0s,baz=220,slow=4.9,SNR=9.7
CD2 Chengdu 97.37 301 P Pdif 14 23 43.0 +0.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
BILL Bilibino 98.73 353 *i* P **P** **14 23 48.0 +0.3**
BILL *e*S **S** **14 35 11.6 -2.6**
BILL pmax pmax
comp=Z,15nm,3.4s
LZH Lanzhou 99.91 306 *e*P **Pdif** **14 23 55.8 +1.8**
LZH pP pP 14 24 02.5 -0.3
LZH sP sP 14 24 05.2 -0.8
LZH *e*PP **PP** **14 28 03.6 +4.0**
LZH pmax pmax
comp=Z,23nm,1.4s
LZH LR LR
comp=Z,190nm,17.0s
LZH LR LR
comp=Z,200nm,17.1s
LZH LR LR
comp=Z,300nm,19.7s
WMQ Urumqi 114.37 308 *e*PKP **PKiKP** **14 28 49.0 +0.4**
WMQ LR LR
comp=Z,590nm,29.0s
BOSA Boshof 118.18 201 PKIKP **PKiKP** **14 28 58.0 +1.3**
BOSA Boshof 118.18 201 PKP **PKiKP** **14 28 58.0 +1.3**
comp=Z,5.6nm,1.0s,baz=172,slow=3.2,SNR=3.9
MKAR Makanchi Array 118.88 310 PKP **PKiKP** **14 28 57.2 0.0**
comp=Z,2.7nm,0.6s,baz=180,slow=0.7,SNR=29
ZALV Zalesovo Beam 118.94 318 PKP **PKPdf** **14 28 56.8 -0.2**
comp=Z,2.1nm,0.7s,baz=214,slow=1.1,SNR=10
NRIK Noril'sk 120.05 336 PKP **PKiKP** **14 28 58.7 0.0**
comp=Z,1.5nm,0.3s,baz=90,slow=6.1,SNR=3.4
TARG Taragay, Kyrgy 120.75 303 **PKiKP** **14 29 01.9 +0.4**
LBTB Lobatse 121.40 203 PKP **PKiKP** **14 29 04.8 +1.7**
comp=Z,2.7nm,0.7s,baz=124,slow=3.6,SNR=3.4
KSH Kashi 121.55 300 PKP **PKiKP** **14 29 05.4 +2.6**
KSH PP **PP** **14 30 43.1 +7.7**
KSH SKKS 14 37 35.4
KSH SS SS 14 47 17.2 +8.2
KSH LR LR
comp=Z,380nm,6.6s
NRN Naryn 122.00 302 PKIKP **PKiKP** **14 29 03.8 -0.1**
NRN Naryn 122.00 302 **PKiKP** **14 29 03.8 -0.1**
KURK Kurchatov 122.06 314 *c* *i*PKIKP **PKiKP** **14 29 03.1 -0.1**
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 122.06 314 **PKPdf** **14 29 02.5 -0.5**
AAK Ala-Archa 123.36 304 *c* *i*PKIKP **PKiKP** **14 29 07.0 +0.7**
AAK pmax pmax
comp=Z,4.0nm,1.3s
AAK Ala-Archa 123.36 304 **PKiKP** **14 29 06.0 -0.3**
BTK Batken 125.54 300 PKIKP **PKPdf** **14 29 09.9 -0.3**
BTK Batken 125.54 300 **PKPdf** **14 29 09.9 -0.3**
KBL Kabul 125.66 293 PKIKP **PKPdf** **14 29 10.4 -0.4**
KBL Kabul 125.66 293 **PKPdf** **14 29 10.4 -0.4**
GAR Garm 125.70 298 **PKiKP** **14 29 11.0 0.0**
KK31 Karatay Array 126.32 303 PKIKP **PKiKP** **14 29 11.6 -0.4**
KK31 Karatay Array 126.32 303 **PKiKP** **14 29 11.6 -0.4**
KKAR Karatay Array 126.32 303 PKIKP **PKiKP** **14 29 11.8 -0.2**
KKAR Karatay Array 126.32 303 **PKiKP** **14 29 11.8 -0.2**
CHGR Chuyangaron 126.51 298 **PKPdf** **14 29 11.4 -0.7**
BRVK Borovoye 127.44 316 *c* *i*PKIKP **PKiKP** **14 29 14.1 +0.3**
BRVK pmax pmax
comp=Z,13nm,1.3s
BRVK Borovoye 127.44 316 **PKPdf** **14 29 13.2 -0.1**
LSZ Lusaka 129.20 211 PKP **PKiKP** **14 29 20.2 +1.4**
comp=Z,1.3nm,0.2s,baz=129,slow=4.6,SNR=3.6
ARU Arti 133.93 321 *i* PKIKP **PKPdf** **14 29 25.8 +0.3**
ARU 14 31 53.7
ARU Arti 133.93 321 **PKPdf** **14 29 25.7 +0.3**
ABKAR Akbulak array 133.99 311 **PKPdf** **14 29 26.0 +0.1**
GEYT Alibeck 134.97 295 PKP **PKiKP** **14 29 30.4 +0.9**
comp=Z,3.2nm,0.8s,baz=38,slow=2.6,SNR=6.4
RAYN Ar Rayn 142.50 270 PKIKP **PKPdf** **14 29 41.8 -0.6**
RAYN Ar Rayn 142.50 270 **PKPdf** **14 29 41.8 -0.6**
VRH Novokhopyorsk 144.97 318 *e*PKIKP **PKPbc** **14 29 44.3 -0.7**
VRH pmax pmax
comp=Z,10.0nm,0.8s
MOS Moscow 145.03 327 *e*PKIKP **PKPbc** **14 29 43.0 -2.1**
MOS pmax pmax
comp=Z,92nm,1.5s
TBLG Delisi 145.29 301 PKIKP **PKPab** **14 29 47.0 +0.4**
TBLG Delisi 145.29 301 **PKPab** **14 29 47.0 +0.4**
FIA1 FINESS Array S 145.42 341 **PKPdf** **14 29 45.9 -0.2**
FINES FINESS Array B 145.42 341 PKPbc **PKPdf** **14 29 46.0 -0.1**
comp=Z,12nm,0.5s,baz=60,slow=3.1,SNR=74
GNI Garni 145.43 298 *c* *i*PKIKP **PKPab** **14 29 48.2 +0.8**
GNI pmax pmax
comp=Z,139nm,1.7s
GNI Garni 145.43 298 **PKPab** **14 29 47.2 -0.1**
ZEI Tsey 145.77 303 *i* PKP2 **PKPdf** **14 29 45.9 -1.8**
ZEI pmax pmax
comp=Z,22nm,0.7s
OBN Obninsk 145.87 327 *c* *i*PKP2 **PKPdf** **14 29 46.8 -0.3**
OBN *i* 14 33 09.6
OBN *e*SS SS 14 52 36.3 +35
OBN pmax pmax
comp=Z,71nm,1.0s
OBN Obninsk 145.87 327 **PKPbc** **14 29 47.4 -0.3**
LPSR Galich'ya Gora 145.95 321 *e*PKP2 **PKPdf** **14 29 47.6 +0.3**
LPSR pmax pmax
comp=Z,70nm,1.4s
GOF Gofitskoye 145.97 307‖ *e*PKP2 **PKPab** **14 29 49.2 +0.2**
GOF pmax pmax
comp=Z,91nm,1.4s
AKH Akhalkalaki 146.26 300 PKP2 **PKPbc** **14 29 49.4 -0.3**
AKH Akhalkalaki 146.26 300 PKPbc **PKPbc** **14 29 49.4 -0.3**
KBZ Khabaz 146.34 305 PKPbc **PKPab** **14 29 50.6 +0.2**
comp=Z,6.8nm,0.8s,baz=122,slow=4.0,SNR=14
VSR Storozhevoye 146.44 319 *e*PKIKP **PKPdf** **14 29 47.9 -0.3**
VSR pmax pmax
comp=Z,80nm,1.1s
KIV Kislovodsk 146.45 305 *i* PKP2 **PKPab** **14 29 50.5 -0.5**
KIV pmax pmax
comp=Z,25nm,1.1s
VSU Vasula 147.62 338 *c* *i*PKP2 **PKPbc** **14 29 51.4 -1.3**
VSU pmax pmax
comp=Z,118nm,1.0s
NC303 NORSAR Array S 148.48 353 **PKPbc** **14 29 54.8 -0.2**
SOC Sochi 148.63 305 *i* PKP2 **PKiKP** **14 29 58.1 +0.8**
SOC *e* 14 33 26.1
SOC *e*PPP PPP 14 36 44.4
SOC *e*SSS SSS 14 58 12.0
NB2 NORSAR Subarra 148.68 353 PKP **PKPbc** **14 29 55.2 -0.3**
comp=Z,3.1nm,0.7s,baz=9.8,slow=2.8
NOA NORSAR Array B 148.68 353 PKPbc **PKPbc** **14 29 55.5 0.0**
comp=Z,5.5nm,0.8s,baz=13,slow=4.4,SNR=9.8
ANN Anapa 149.89 308 *i* PKP2 **PKiKP** **14 29 59.4 -0.4**
ANN pmax pmax
comp=Z,27nm,1.0s
GAZ Gaziantep 151.53 293 **PKiKP** **14 30 03.8 +0.1**
SIM Simferopol' 152.06 310 *e*PKIKP **PKiKP** **14 30 05.6 +1.2**
SIM 14 30 14.9
SIM pmax pmax
comp=Z,25nm,0.7s
AKASG Malin Array Be 152.06 325 PKPbc **PKiKP** **14 30 03.9 -0.2**
comp=Z,15nm,0.7s,baz=45,slow=2.9,SNR=44
AKBB Malin Array Si 152.06 325 PKIKP **PKPbc** **14 30 03.7 -0.1**
AKBB Malin Array Si 152.06 325 **PKPbc** **14 30 03.7 -0.1**
BRTR Keskin Array B 153.93 300 PKPbc **PKiKP** **14 30 09.1 +0.4**
comp=Z,3.0nm,0.9s,baz=122,slow=2.9,SNR=8.2
DBIC Dimbokro 155.26 159 PKPab **PKPab** **14 30 29.9 +2.1**
comp=Z,5.4nm,0.9s,baz=173,slow=8.1,SNR=3.9
BUR08 Bucovina Ar. S 156.03 323 **PKPab** **14 30 31.0 +0.4**
CLL Collm 157.76 345 *e*PKP2 **PKPab** **14 30 37.0 -0.6**
CLL Collm 157.76 345 *e*PKPab **PKPab** **14 30 37.0 -0.6**
CLL LmV 15 56 00.0
comp=Z,100nm,20.0s
MODS Modra-Piesok 159.09 335 *e*PKP2 **PKPab** **14 30 43.3 -0.3**
MODS Modra-Piesok 159.09 335 *e*PKP **PKPab** **14 30 43.3 -0.3**
VTS Vitosha 160.13 314 PKP2 **PKPab** **14 30 48.5 0.0**
VTS Vitosha 160.13 314 **PKPab** **14 30 48.5 0.0**
TOA0 Torodi Ar. Sit 163.00 172 **PKPab** **14 31 02.7 +1.4**
TORD Torodi Ar. Bea 163.00 172 PKP **PKPdf** **14 30 13.1 +1.2**
comp=Z,1.2nm,0.8s,baz=24,slow=0.8,SNR=6.5
TORD PKPab **PKPab** **14 31 03.6 +2.3**
comp=Z,14nm,0.7s,baz=188,slow=4.2,SNR=46

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*IDC **04** 14:28:13.8±24.0, 22˚.24S×176˚.88W, h461km±206km, mb3.1/2, mb1 3.3/2, mb1mx2.8/47, mbtmp3.9/2, Error ellipse: s-maj=313.1km s-min=52.7km az=134.0*
*NEIC **04** 14:28:32.0±1.4, 21˚.05S×178˚.3W±0˚.3, h607km±11km, mb4.2/1*
ISC 04 14:28:31.7±2.0, 21˚.0S±0˚.2×178˚.3W±0˚.3, h600km, n9, σ1§03/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
MSVF	**Nonsavu**	**4.70**	**313**	P	**P**		**14 30 03.8**	**+1.3**
FUNA	**Funafuti**	**12.60**	**349**	P	**P**		**14 31 15.8**	**-0.8**
ASAR	**Alice Springs**	**44.12**	**257**	P	**P**		**14 35 48.4**	**-0.3**
	1.1nm,0.4s,baz=95,slow=7.4,SNR=27							
ASAR				PcP	**PcP**		**14 37 19.5**	**-0.7**
	0.2nm,0.5s,baz=100,slow=4.3,SNR=4.5							
WB0	**Warramunga Arr**	**44.22**	**263**	P	**P**		**14 35 48.3**	**-1.1**
WB2	**Warramunga Ar**	**44.23**	**263**	P	**P**		**14 35 48.1**	**-1.3**
FITZ	**Fitzroy Crossi**	**52.67**	**263**	P	**P**		**14 36 51.9**	**0.0**
FITZ				IAmb	IAmb		14 37 15.2	
	comp=Z,15nm,1.6s							
ILAR	**Eielson Array**	**88.83**	**13**	P	**P**		**14 40 22.4**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=212,slow=5.3,SNR=5.2							
AKASG	**Malin Array Be**	**143.27**	**331**	PKPbc	PKPab		14 46 56.4	-0.4
	comp=Z,0.6nm,0.3s,baz=40,slow=4.4,SNR=6.8							
CLL	**Collm**	**148.44**	**346**	*e*PKPbc	**PKPbc**		**14 47 12.0**	**+0.5**

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*NIED **04** 14:30:00,26˚.40N×130˚.10E,h5km,Mw4.0 Best double couple: M0 1.20000×10^15 NP1:φ=233.00000°, δ=42.00000°, λ=-82.00000°. NP2:φ=42.00000°, δ=49.00000°, λ=-97.00000°.*
*IDC **04** 14:30:29.8±0.9,26˚.41N×130˚.11E,h0km,mb4.0/15, mb1 4.1/17,mb1mx3.9/66,mbtmp3.9/17,ML3.3/2,Error ellipse: s-maj=26.1km s-min=20.7km az=85.0*
*JMA **04** 14:30:31.7,26˚.40N×130˚.08E,h44km,M3.9*
*NEIC **04** 14:30:33.8±1.9,26˚.35N±0˚.08×129˚.94E±0˚.08,h28km±6km, mb4.7/16*
ISC 04 14:30:29.5±3.2, 26˚.43N±0˚.05×130˚.09E±0˚.05, h1km±21km, n69, σ1§88/82, mb4.2/21, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JKDJ	**Kitadaitoujima**	**1.18**	**114**	P	**Pb**		**14 30 52.4**	**-0.4**
JKDJ					*e*S		**14 31 07.8**	**-0.8**
JMZ	**Minamidaito 2**	**1.18**	**121**	P	**Pb**		**14 30 52.0**	**-0.7**
JMZ					S		**14 31 06.6**	**-2.0**
JYRO	**Yoronjima**	**1.58**	**292**	P	**Pn**		**14 30 57.9**	**-0.8**
JYRO					*e*S		**14 31 16.9**	**-2.9**
JOKE	**Okinoerabujima**	**1.65**	**305**	P	**Pn**		**14 30 59.3**	**-0.3**
JOKE					*e*S		**14 31 18.2**	**-3.2**
JOW	**Kunigami**	**1.68**	**284**	P	**Pn**		**14 30 59.5**	**-0.5**
JOW					*e*S		**14 31 19.2**	**-3.0**
JOW	**Kunigami**	**1.68**	**284**	Pn	**Pn**		**14 30 59.6**	**-0.5**
JOW					Sn		**14 31 18.1**	**-4.1**
JTK	**Tokunoshima**	**1.69**	**323**	P	**Pn**		**14 31 00.0**	**-0.2**
JTK					S		**14 31 19.5**	**-3.0**
JNTH	**Nagotoyohara**	**1.86**	**273**	P	**Pn**		**14 31 01.7**	**-0.8**
JNTH					*e*S		**14 31 23.2**	**-3.4**
JZK	**Kikaishima**	**1.88**	**357**	P	**Pn**		**14 31 03.5**	**+0.7**
JAMN	**Amaminishikomi**	**1.98**	**336**	P	**Pn**		**14 31 03.7**	**-0.5**
JAMN					S		**14 31 27.5**	**-2.2**
JIH	**Iheya**	**1.99**	**288**	P	**Pn**		**14 31 04.2**	**-0.2**
JIH					S		**14 31 27.8**	**-2.2**
JJT3	**Tamagusuku3**	**2.09**	**263**	P	**Pn**		**14 31 05.5**	**-0.2**
JJT3					S		**14 31 30.0**	**-2.4**
JAGN	**Aguni-jima**	**2.56**	**274**	P	**Pn**		**14 31 12.0**	**-0.1**
JAGN					S		**14 31 40.8**	**-3.1**
JTAJ	**Takarajima**	**2.82**	**344**	P	**Pn**		**14 31 15.8**	**0.0**
JTAJ					S		**14 31 47.1**	**-3.4**
JKE	**Kume jima 2**	**2.97**	**269**	P	**Pn**		**14 31 16.6**	**-1.2**
JKE					*e*S		**14 31 49.9**	**-4.1**
JNN	**Nakanoshima**	**3.40**	**357**	*e*S	**Sn**		**14 32 00.8**	**-4.0**
JMTN	**Minamitane**	**4.01**	**10**	*e*S	**Sn**		**14 32 16.6**	**-3.3**
JKC	**Kuchinoerabu**	**4.02**	**1**	S	**Sn**		**14 32 15.5**	**-4.4**
JNU	**Nakatsue**	**6.70**	**6**	Pn	**Pn**		**14 32 09.7**	**+0.5**
	0.6nm,0.3s,baz=246,slow=2.2,SNR=4.8							
JNU				Sn	**Sn**		**14 33 19.9**	**-6.3**
	0.3nm,0.3s,baz=80,slow=17,SNR=2.5							
NACB	**Ninganchiao**	**8.01**	**256**	Pn	**Pn**		**14 32 24.1**	**-3.0**
YULB	**Yu-li**	**8.54**	**251**	Pn	Pn		14 32 30.2	-4.2
SSLB	**Suanglung**	**8.69**	**254**	Pn	**Pn**		**14 32 33.5**	**-2.9**
TWG	**Pinlang**	**8.96**	**248**	Pn	Pn		14 32 36.4	-3.8
TPUB	**Ta-pu**	**9.14**	**252**	Pn	**Pn**		**14 32 40.4**	**-2.2**
KSRS	**Korea Array**	**11.14**	**351**	Pn	**Pn**		**14 33 10.9**	**+0.9**
	0.1nm,0.3s,baz=170,slow=14,SNR=4.3							
HKPS	**Hong Kong Po S**	**15.11**	**258**	P	**P**		**14 34 11.2**	**+1.6**
ERM	**Erimo**	**18.89**	**31**		**P**		**14 34 51.4**	**+0.1**
KLR	**Kul'dur**	**22.80**	**3**	P	**P**		**14 35 34.4**	**+0.9**
	0.4nm,0.3s,baz=176,slow=14,SNR=2.9							
TNTI	**Ternate**	**25.65**	**186**	P	**P**		**14 36 00.7**	**-0.2**
TNTI				IAmb	IAmb		14 36 57.6	
	comp=Z,20nm,1.3s							
YAK	**Yakutsk**	**35.59**	**360**	P	**P**		**14 37 28.4**	**+0.1**
	comp=Z,5.3nm,0.7s,baz=188,slow=1.8,SNR=6.6							
YAK	**Yakutsk**	**35.59**	**360**	P	**P**		**14 37 28.4**	**+0.1**
YAK				IAmb	IAmb		14 37 29.4	
	comp=Z,8.8nm,0.6s							
TAPN	**Taplejung**	**37.68**	**281**	*e*P	**P**		**14 37 48.3**	**+1.4**
	comp=Z,5.5nm,0.7s							
ODAN	**Odare**	**38.04**	**281**	*e*P	**P**		**14 37 51.3**	**+1.4**
	comp=Z,18nm,0.6s							

JIRN	**Jiri**	**38.97 282**	*e*P	**P**	**14 37 59.6**	**+1.7**
	comp=Z,3.3nm,0.4s					
GUN	**Gumba**	**39.20 282**	*e*P	**P**	**14 38 01.2**	**+1.4**
	comp=Z,13nm,0.7s					
PKI	**Pulchoki**	**39.67 282**	*e*P	**P**	**14 38 04.7**	**+1.0**
	comp=Z,12nm,0.7s					
PKIN	**Phulchoki**	**39.68 282**	*e*P	**P**	**14 38 04.7**	**+1.0**
	comp=Z,6.5nm,0.5s					
KKN	**Kakani**	**39.75 282**	*e*P	**P**	**14 38 05.3**	**+1.1**
DMN	**Daman**	**39.93 282**	*e*P	**P**	**14 38 07.1**	**+1.3**
GKN	**Gorkha**	**40.28 283**	*e*P	**P**	**14 38 09.5**	**+1.0**
DANN	**Dangsing**	**40.99 284**	*e*P	**P**	**14 38 16.0**	**+1.4**
	comp=Z,17nm,0.7s					
KOLN	**Koldanda**	**41.22 283**	*e*P	**P**	**14 38 17.2**	**+0.8**
KNRA	**Kununurra**	**41.88 182**	P	**P**	**14 38 21.3**	**-0.1**
KNRA			IAmb	IAmb	14 39 08.8	
	comp=Z,26nm,1.3s					
COEN	**Coen**	**42.11 161**	P	**P**	**14 38 23.5**	**+0.1**
MK31	**Makanchi Array**	**42.65 311**	P	**P**	**14 38 28.1**	**+0.5**
MKAR	**Makanchi Array**	**42.65 311**	P	**P**	**14 38 28.7**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=90,slow=11,SNR=8.5					
ZALV	**Zalesovo Beam**	**43.11 322**	P	**P**	**14 38 31.2**	**0.0**
	comp=Z,0.9nm,0.4s,baz=114,slow=10.0,SNR=6.5					
TIXI	**Tiksi**	**45.26 359**	P	**P**	**14 38 48.5**	**+0.4**
KURK	**Kurchatov**	**45.83 316**	P	**P**	**14 38 53.7**	**+0.8**
KURBB	**Kurchatov Arra**	**45.87 316**	P	**P**	**14 38 53.7**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=100,slow=8.7,SNR=4.1					
WB0	**Warramunga Arr**	**46.11 174**	P	**P**	**14 38 55.2**	**-0.3**
WRAB	**Tennant Creek**	**46.27 174**	P	**P**	**14 38 54.1**	**-2.7**
WRAB			IAmb	IAmb	14 40 41.2	
	comp=Z,6.0nm,0.6s					
WB2	**Warramunga Arr**	**46.28 174**	P	**P**	**14 38 56.9**	**0.0**
WR0	**Warramunga Arr**	**46.32 174**	P	**P**	**14 38 56.5**	**-0.5**
NRIK	**Noril'sk**	**49.58 342**	P	**P**	**14 39 21.9**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=96,slow=8.4,SNR=3.6					
ASAR	**Alice Springs**	**49.94 175**	P	**P**	**14 39 25.1**	**0.0**
	comp=Z,1.0nm,0.8s,baz=5.3,slow=14,SNR=14					
BRVK	**Borovoye**	**51.31 318**	P	**P**	**14 39 36.2**	**+1.0**
BRVK			IAmb	IAmb	14 39 37.3	
	comp=Z,5.8nm,0.8s					
ABKAR	**Akbulak array**	**57.73 313**	P	**P**	**14 40 22.3**	**+0.4**
ABKAR			IAmb	IAmb	14 41 10.1	
	comp=Z,7.5nm,1.6s					
ILAR	**Eielson Array**	**63.47 28**	P	**P**	**14 41 00.7**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=264,slow=5.3,SNR=8.0					
SCRK	**Sand Creek**	**64.82 29**	P	**P**	**14 41 10.3**	**+0.4**
SCRK			IAmb	IAmb	14 42 10.3	
	comp=Z,16nm,1.9s					
INK	**Inuvik**	**68.04 23**	P	**P**	**14 41 31.1**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=308,slow=4.3,SNR=8.9					
INK	**Inuvik**	**68.04 23**	P	**P**	**14 41 31.2**	**+0.9**
INK			IAmb	IAmb	14 42 45.8	
	comp=Z,18nm,1.9s					
KBZ	**Khabaz**	**70.32 310**	P	**P**	**14 41 46.5**	**+1.7**
	comp=Z,2.1nm,0.8s,baz=90,slow=4.0,SNR=3.7					
FINES	**FINESS Array B**	**73.51 331**	P	**P**	**14 42 03.9**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=70,slow=9.6,SNR=3.6					
AKASG	**Malin Array Be**	**76.46 320**	P	**P**	**14 42 21.3**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=55,slow=4.9,SNR=4.0					
YKA	**Yellowknife Ar**	**77.63 25**	P	**P**	**14 42 28.2**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=300,slow=5.6,SNR=7.2					
BRTR	**Keskin Array B**	**78.22 308**	P	**P**	**14 42 31.8**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=116,slow=5.3,SNR=4.3					
CLL	**Collm**	**84.93 326**	*e*P	**P**	**14 43 06.0**	**-0.3**
PDAR	**Pinedale Array**	**91.95 39**	P	**P**	**14 43 41.5**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=225,slow=0.4,SNR=4.2					

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*IDC **04** 14:42:12.5±1.6, 15°95S×177°39W, h405km±19km, mb3.6/8, mb1 3.7/10, mb1mx3.4/27, mbtmp4.3/10, Error ellipse: s-maj=29.3km s-min=11.3km az=138.0*

*ISCJB **04** 14:42:14.6±0.5, 16°03S±0°09×177°3W±0°1, h450km, mb3.5/1, Error ellipse: s-maj=15.7km s-min=9.0km az=37.4*

*NEIC **04** 14:42:14.8±1.7, 15°9S±0°2×177°4W±0°1, h436km±8km, mb4.7/16*

ISC 04 14:42:15.1±0.6**, 16°0S**±0°2×**177°2W**±0°1**, h450**km**, n30,** σ**1s67**/30**, Fiji Islands region**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.85 249**	P	**P**	**14 43 36.8**	**-1.4**
AFI	**Afiamalu**	**5.65 69**	P	**P**	**14 43 44.7**	**-1.3**
	3.5nm,0.3s,baz=51,slow=4.2,SNR=7.0					
AFI			S	**S**	**14 44 55.7**	**-4.4**
	0.9nm,0.3s,baz=261,slow=19,SNR=2.4					
AFI	**Afiamalu**	**5.65 69**	P	**P**	**14 43 44.6**	**-1.5**
DZM	**Mont Dzumac**	**16.58 246**	P	**P**	**14 45 42.1**	**-1.1**
	0.2nm,0.3s,baz=73,slow=19,SNR=5.5					
DZM	**Mont Dzumac**	**16.58 246**	P	**P**	**14 45 41.6**	**-1.6**
DZM			IAmb	IAmb	14 46 40.6	
	comp=Z,25nm,1.6s					
URZ	**Urewera**	**22.70 192**	P	**P**	**14 46 41.2**	**+0.3**
	comp=Z,14nm,0.8s,baz=9.2,slow=1.2,SNR=4.8					
URZ	**Urewera**	**22.70 192**	P	**P**	**14 46 40.0**	**-0.8**
URZ			IAmb	IAmb	14 47 34.7	
	comp=Z,52nm,1.3s					
BKZ	**Black Stump Fm**	**23.70 192**	P	**P**	**14 46 49.7**	**-0.2**
BKZ			IAmb	IAmb	14 47 46.9	
	comp=Z,98nm,2.0s					
THZ	**Tophouse**	**27.02 196**	P	**P**	**14 47 20.7**	**+1.4**
LTZ	**Lake Taylor**	**28.14 197**	P	**P**	**14 47 30.9**	**+1.7**
LTZ			IAmb	IAmb	14 47 44.0	
	comp=Z,45nm,1.4s					
RPZ	**Rata Peaks**	**29.34 198**	P	**P**	**14 47 40.0**	**+0.3**
	comp=Z,6.4nm,0.8s,baz=27,slow=2.3,SNR=2.6					
RPZ	**Rata Peaks**	**29.34 198**	IAmb	IAmb	14 47 53.2	
	comp=Z,106nm,2.0s					
FOZ	**Fox Glacier**	**29.55 199**	P	**P**	**14 47 42.3**	**+0.9**
WKZ	**Wanaka**	**30.97 199**	P	**P**	**14 47 53.6**	**-0.3**
MLZ	**Mavora Lakes**	**31.74 200**	P	**P**	**14 48 01.9**	**+1.4**
MLZ			IAmb	IAmb	14 48 49.9	
	comp=Z,72nm,1.7s					
WHZ	**Wether Hill Ro**	**32.26 200**	P	**P**	**14 48 07.1**	**+2.2**
COEN	**Coen**	**38.30 268**	P	**P**	**14 48 55.4**	**-0.5**
COEN			IAmb	IAmb	14 50 14.2	
	comp=Z,18nm,1.3s					
STKA	**Stephens Creek**	**40.56 240**	P	**P**	**14 49 13.8**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=102,slow=12,SNR=7.3					
STKA	**Stephens Creek**	**40.56 240**	P	**P**	**14 49 14.2**	**+0.2**
AS31	**Alice Springs**	**46.43 252**	P	**P**	**14 49 59.8**	**-0.5**
ASAR	**Alice Springs**	**46.44 252**	P	**P**	**14 49 59.9**	**-0.4**
	comp=Z,13nm,0.6s,baz=84,slow=8.2,SNR=213					
NVAR	**Mina Array Bea**	**77.28 44**	P	**P**	**14 53 24.6**	**+2.3**
	comp=Z,1.3nm,0.6s,baz=227,slow=8.8,SNR=12					
HDA	**Harding Lake**	**83.48 13**	P	**P**	**14 53 54.5**	**+0.5**
HDA			IAmb	IAmb	14 53 55.0	
	comp=Z,4.2nm,0.6s					
IL31		**83.81 13**	P	**P**	**14 53 55.0**	**-0.6**
ILAR	**Eielson Array**	**83.81 13**	P	**P**	**14 53 55.8**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=222,slow=5.2,SNR=18					
TX31	**Lajitas Ar. Si**	**84.02 57**	P	**P**	**14 54 00.3**	**+2.8**
TXAR	**Lajitas Array**	**84.02 57**	P	**P**	**14 54 01.4**	**+3.9**
	comp=Z,1.3nm,0.8s,baz=220,slow=7.1,SNR=13					
PDAR	**Pinedale Array**	**85.20 43**	P	**P**	**14 54 05.0**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=197,slow=3.1,SNR=4.0					
BRTR	**Keskin Array B**	**144.24 317**	PKP	**PKPdf**	**15 00 59.4**	**0.0**
	comp=Z,2.2nm,0.9s,baz=56,slow=3.1,SNR=4.4					
GERES	**GERESS Array B**	**146.08 347**	PKPbc	**PKPab**	**15 01 05.0**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=222,slow=1.3,SNR=2.6					

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*BJI **04** 14:55:37.5±0.0, 25°74S×178°52E, h581km, mb5.3/36, mB5.3/36*

*MOS **04** 14:55:40.2±0.8, 25°38S×178°22E, h577km, mb5.4/49, Error ellipse: s-maj=7.9km s-min=6.8km az=71.7*

*NEIC **04** 14:55:40.3±1.5, 25°45S±0°07×178°25E±0°08, h574km±1km, mb5.3/324, Mwb5.8, Mww5.7, Mwc5.8(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr0.75; Mθθ0.50; Mφφ-1.25; Mrθ-1.79; Mθφ-0.66; Mφr5.54; Fault plane solution: M0 5.96000×10^{17} NP1: φs233.21000°, δ10.66000°, λ160.07000°. NP2: φs342.83000°, δ86.39000°, λ79.97000°. Principal axes: T 5.9705, Plg48.0000°, Azm242.0000°; N -0.0269, Plg10.0000°, Azm343.0000°; P -5.9436, Plg41.0000°, Azm82.0000°;*

*ISCJB **04** 14:55:40.4±0.3, 25°47S±0°02×178°20E±0°02, h585km±4km, mb5.4/152 Error ellipse: s-maj=3.6km s-min=2.6km az=153.5*

*IDC **04** 14:55:41.4±0.4, 25°44S×178°18E, h582km±4km, mb4.8/43, mb1 4.8/46, mb1mx4.8/48, mbtmp5.6/46, Error ellipse: s-maj=6.4km s-min=5.2km az=17.0*

*NEIC **04** 14:55:43, 25°40S×178°31E, h586km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr-0.18; Mθθ1.55; Mφφ-1.37; Mrθ-1.26; Mθφ-1.37; Mφr5.03; Fault plane solution: M0 5.56000×10^{17} NP1: φs252.00000°, δ21.00000°, λ180.00000°. NP2: φs343.00000°, δ90.00000°, λ69.00000°. Principal axes: T 5.2246, Plg41.0000°, Azm233.0000°; N 0.6201, Plg21.0000°, Azm343.0000°; P -5.8447, Plg41.0000°, Azm92.0000°;*

*NEIC **04** 14:55:44, 25°47S×178°33E, h600km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr-0.31; Mθθ1.38; Mφφ-1.07; Mrθ-1.40; Mθφ-1.02; Mφr4.58; Fault plane solution: M0 5.06000×10^{17} NP1: φs252.00000°, δ18.00000°, λ-177.00000°. NP2: φs160.00000°, δ89.00000°, λ-71.00000°. Principal axes: T 4.7783, Plg41.0000°, Azm233.0000°; N 0.5159, Plg18.0000°, Azm340.0000°; P -5.2943, Plg43.0000°, Azm88.0000°;*

*GCMT **04** 14:55:44.3±0.2, 25°40S±0°01×178°29E±0°02, h586km±1km, MW5.8/141, Moment Tensor Solution. s141, c236; Duration: 1s8 Moment tensor: Scale 10^{17}Nm; Mrr-0.07±.05; Mθθ1.40±.08; Mφφ-1.32±.08; Mrθ-1.51±.08; Mθφ-1.05±.07; Mφr4.81±.07; Best double couple: M0 5.31000×10^{17} NP1: φs340.00000°, δ89.00000°, λ72.00000°. NP2: φs249.00000°, δ18.00000°, λ178.00000°. Principal axes: T 5.0670, Plg43.0000°, Azm233.0000°; N 0.4950, Plg18.0000°, Azm340.0000°; P -5.5520, Plg42.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 04 14:55:41.0±0.3**, 25°47S**±0°03×**178°35E**±0°03**, h586**km±2km**, h587**km**:pP-P, n1273,** σ**1s63**/1417**, mb5.3**/267**, 74C-19D, South of Fiji Islands**

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.01 140**	P	**P**	**14 57 14.9**	**+2.0**
RIZ			S	**S**	**14 58 31.2**	**+3.0**
RAO	**Raoul Island**	**5.02 139**	P	**P**	**14 57 14.0**	**+1.0**
RAO			S	**S**	**14 58 29.3**	**+1.0**
RAO	**Raoul Island**	**5.02 139**	P	**P**	**14 57 14.5**	**+1.5**
	868nm,0.3s,baz=69,slow=13,SNR=24					
RAO			S	**S**	**14 58 29.3**	**+1.0**
	70nm,0.3s,baz=60,slow=20,SNR=4.1					
RAO	**Raoul Island**	**5.02 139**	P	**P**	**14 57 14.0**	**+1.0**
GLKZ	**Green Lake**	**5.03 140**	P	**P**	**14 57 14.5**	**+1.4**
GLKZ			S	**S**	**14 58 31.4**	**+3.0**
MSVF	**Nonsavu**	**7.70 358**	P	**P**	**14 57 35.8**	**-1.5**
MSVF	**Nonsavu**	**7.70 358**	P	**P**	**14 57 35.8**	**-1.5**
NFK	**Norfolk Island**	**9.93 247**	P	**P**	**14 58 00.7**	**+2.0**
	baz=10.0,SNR=7.6					
OUZ	**Omahuta**	**10.55 202**	P	**P**	**14 58 07.2**	**+2.4**
OUZ	**Omahuta**	**10.55 202**	P	**P**	**14 58 07.2**	**+2.4**
WCZ	**Waipu Caves**	**10.99 197**	P	**P**	**14 58 12.3**	**+3.1**
GRZ	**Great Barrier**	**11.03 192**	P	**P**	**14 58 11.3**	**+1.7**
DZM	**Mont Dzumac**	**11.42 285**	*e*P	**P**	**14 58 14.8**	**+0.8**
	875nm,0.8s					
DZM	**Mont Dzumac**	**11.42 285**	P	**P**	**14 58 14.6**	**+0.7**
	53nm,0.3s,baz=100,slow=13,SNR=774					
DZM			S	**S**	**15 00 18.4**	**-1.3**
	1.0nm,0.3s,baz=300,slow=20,SNR=2.6					
DZM			ScS	**ScS**	**15 09 25.3**	**+0.2**
	baz=18,slow=20,SNR=1.7					
DZM	**Mont Dzumac**	**11.42 285**	P	**P**	**14 58 14.4**	**+0.4**
KUZ	**Kuaotunu**	**11.46 191**	P	**P**	**14 58 15.6**	**+1.5**
WIAZ	**Waiheke Island**	**11.62 193**	P	**P**	**14 58 17.7**	**+2.1**
HBAZ	**Herne Bay Bore**	**11.76 194**	P	**P**	**14 58 19.1**	**+2.1**
EPAZ	**Eden Park BICE**	**11.78 194**	P	**P**	**14 58 19.2**	**+2.0**
ETAZ	**East Tamaki Re**	**11.82 194**	P	**P**	**14 58 20.0**	**+2.4**
MKAZ	**Moumakai**	**11.91 192**	P	**P**	**14 58 20.7**	**+2.1**
KBAZ	**Karaka Road Bo**	**11.96 193**	P	**P**	**14 58 21.1**	**+2.0**
AWAZ	**Awhitu Peninsu**	**11.98 194**	P	**P**	**14 58 21.3**	**+2.0**
MXZ	**Matakaoa Point**	**12.06 180**	P	**P**	**14 58 17.7**	**-2.4**
MXZ			S	**S**	**15 00 25.3**	**-5.7**
MXZ	**Matakaoa Point**	**12.06 180**	P	**P**	**14 58 17.4**	**-2.7**
HAZ	**Te Kaha**	**12.26 182**	P	**P**	**14 58 20.9**	**-1.2**
HAZ			S	**S**	**15 00 28.1**	**-6.6**
WMGZ	**Waiomatatini S**	**12.31 180**	P	**P**	**14 58 20.4**	**-2.2**
WMGZ			S	**S**	**15 00 29.9**	**-5.8**
TGRZ	**Tauranga**	**12.35 188**	P	**P**	**14 58 25.2**	**+2.1**
PKGZ	**Pakihiroa**	**12.38 181**	P	**P**	**14 58 21.0**	**-2.5**
PKGZ			S	**S**	**15 00 29.4**	**-7.8**
OPRZ	**Ohinepanea**	**12.43 187**	P	**P**	**14 58 25.7**	**+1.8**
TOZ	**Tahuroa Road**	**12.46 191**	P	**P**	**14 58 26.0**	**+1.8**
RUGZ	**Raukumara Rang**	**12.47 182**	P	**P**	**14 58 23.2**	**-1.3**
RUGZ			S	**S**	**15 00 32.2**	**-6.7**
MARZ	**Manawahe**	**12.56 186**	P	**P**	**14 58 26.3**	**+1.1**
PUZ	**Puketiti**	**12.57 180**	P	**P**	**14 58 22.8**	**-2.4**
PUZ			S	**S**	**15 00 33.8**	**-6.7**
NIUE	**Niue**	**12.57 62**	P	**P**	**14 58 24.9**	**-0.7**
	baz=12,SNR=28					
NIUE	**Niue**	**12.57 62**	P	**P**	**14 58 24.6**	**-1.0**
LIRZ	**Lichensteins R**	**12.61 187**	P	**P**	**14 58 27.8**	**+2.1**
KARZ	**Kaharoa**	**12.64 188**	P	**P**	**14 58 27.6**	**+1.6**
OMRZ	**Omania**	**12.71 187**	P	**P**	**14 58 28.5**	**+1.7**
URZ	**Urewera**	**12.80 184**	P	**P**	**14 58 25.1**	**-2.5**
	15nm,0.3s,baz=283,slow=3.7,SNR=59					
URZ			S	**S**	**15 00 37.6**	**-7.1**
	15nm,0.3s,baz=122,slow=13,SNR=6.7					
URZ			ScS	**ScS**	**15 09 24.2**	**-3.1**
	0.3nm,0.3s,baz=360,slow=19,SNR=5.7					
URZ	**Urewera**	**12.80 184**	P	**P**	**14 58 25.1**	**-2.5**
URZ			S	**S**	**15 00 38.9**	**-5.8**
URZ	**Urewera**	**12.80 184**	P	**P**	**14 58 24.9**	**-2.7**
MWZ	**Matawai**	**12.85 183**	P	**P**	**14 58 25.6**	**-2.6**
MWZ			S	**S**	**15 00 39.9**	**-5.8**
RRRZ	**Republican Roa**	**12.93 186**	P	**P**	**14 58 28.4**	**-0.5**
HSRZ	**Hossack Road**	**12.93 187**	P	**P**	**14 58 29.6**	**+0.6**
TKGZ	**Te Karaka**	**12.94 182**	P	**P**	**14 58 26.8**	**-2.2**
TKGZ			S	**S**	**15 00 39.2**	**-8.2**
CNGZ	**Carnagh Statio**	**12.98 181**	P	**P**	**14 58 27.9**	**-1.6**
CNGZ			S	**S**	**15 00 43.0**	**-5.0**
GRRZ	**Galatos Road**	**12.98 188**	P	**P**	**14 58 30.6**	**+1.1**
HRRZ	**Handcock Road**	**13.00 187**	P	**P**	**14 58 28.8**	**-0.9**
MUGZ	**Murupara**	**13.04 186**	P	**P**	**14 58 29.9**	**-0.2**
TLZ	**Tolley Road**	**13.04 190**	P	**P**	**14 58 31.2**	**+1.0**
PRRZ	**Plateau Road**	**13.10 187**	P	**P**	**14 58 30.8**	**+0.1**
WPRZ	**Whakapapatarin**	**13.14 188**	P	**P**	**14 58 31.5**	**+0.3**
KUTZ	**Kaahu Road**	**13.16 189**	P	**P**	**14 58 33.0**	**+1.7**
ALRZ	**Allen Road**	**13.16 187**	P	**P**	**14 58 30.8**	**-0.6**
RIGZ	**Rimuhau**	**13.21 182**	P	**P**	**14 58 30.0**	**-1.8**
RIGZ			S	**S**	**15 00 45.8**	**-6.6**
SNGZ	**Shannon Statio**	**13.30 183**	P	**P**	**14 58 31.6**	**-1.2**
HIZ	**Hauiti**	**13.34 192**	P	**P**	**14 58 34.7**	**+1.5**
HIZ	**Hauiti**	**13.34 192**	P	**P**	**14 58 34.6**	**+1.5**
WATZ	**Wairara**	**13.38 189**	P	**P**	**14 58 34.7**	**+1.0**
MTHZ	**Maungataniwha**	**13.41 185**	P	**P**	**14 58 33.8**	**-0.1**
MTHZ			S	**S**	**15 00 51.6**	**-4.3**
PRGZ	**Paritu Road**	**13.42 182**	P	**P**	**14 58 33.7**	**-0.4**
MRHZ	**Matea Rd**	**13.43 187**	P	**P**	**14 58 31.3**	**-2.8**
RAHZ	**Arahi**	**13.45 184**	P	**P**	**14 58 32.6**	**-1.8**
HATZ	**Hinemaiaia**	**13.52 188**	P	**P**	**14 58 35.5**	**+0.5**
KNZ	**Kokohu**	**13.53 182**	P	**P**	**14 58 32.2**	**-2.9**
RATZ	**Rangitukua**	**13.54 189**	P	**P**	**14 58 35.5**	**+0.3**
WHHZ	**Waihua**	**13.60 184**	P	**P**	**14 58 36.3**	**+0.5**
WHHZ			S	**S**	**15 00 53.9**	**-5.5**
RITZ	**Rihia Road**	**13.63 188**	P	**P**	**14 58 35.5**	**-0.7**
MHGZ	**Mahia Peninsul**	**13.65 181**	P	**P**	**14 58 35.5**	**-0.9**
MHGZ			S	**S**	**15 00 54.3**	**-5.9**
NMHZ	**Naumai**	**13.65 185**	P	**P**	**14 58 35.5**	**-1.0**
BKZ	**Black Stump Fm**	**13.75 186**	S	**S**	**15 00 55.6**	**-6.5**
BKZ	**Black Stump Fm**	**13.75 186**	P	**P**	**14 58 34.1**	**-3.3**
ARHZ	**Aropaoanui**	**13.80 184**	S	**S**	**15 00 58.3**	**-4.6**
WTVZ	**West Tongariro**	**13.80 189**	P	**P**	**14 58 38.0**	**-0.1**
TUVZ	**Tukino**	**13.95 189**	P	**P**	**14 58 37.2**	**-2.3**
FWVZ	**Far West T-bar**	**13.95 189**	P	**P**	**14 58 37.2**	**-2.4**
DRZ	**Dome Shelter**	**13.97 189**	P	**P**	**14 58 41.7**	**+1.8**
MCHZ	**McNeill Hill**	**14.01 185**	P	**P**	**14 58 37.2**	**-2.8**
KWHZ	**Kaweka Forest**	**14.01 186**	P	**P**	**14 58 37.2**	**-2.9**
AFI	**Afiamalu**	**14.78 41**	P	**P**	**14 58 43.3**	**-4.4**
	27nm,0.3s,baz=15,slow=1.3,SNR=33					
AFI			S	**S**	**15 01 11.8**	**-8.7**
	5.5nm,0.3s,baz=252,slow=20,SNR=8.1					
BFZ	**Birch Farm**	**15.27 186**	P	**P**	**14 58 49.6**	**-2.4**
QRZ	**Quartz Range**	**16.07 196**	P	**P**	**14 58 59.9**	**+0.5**
SNZO	**South Karori**	**16.09 190**	P	**P**	**14 58 58.5**	**-1.0**
MSWZ	**Moikau Station**	**16.11 188**	P	**P**	**14 58 58.2**	**-1.7**
BHW	**Baring Head**	**16.16 189**	P	**P**	**14 58 58.5**	**-1.7**
NNZ	**Nelson**	**16.24 194**	P	**P**	**14 59 00.0**	**-0.9**
PLWZ	**Palliser**	**16.26 188**	P	**P**	**14 58 60.0**	**-1.3**
TUWZ	**Tuamarina**	**16.33 192**	P	**P**	**14 59 00.9**	**-1.0**
CMWZ	**Cape Campbell**	**16.60 191**	P	**P**	**14 59 03.1**	**-1.1**
BSWZ	**Blackbirch Sta**	**16.62 192**	P	**P**	**14 59 02.6**	**-1.9**
THZ	**Tophouse**	**16.87 194**	P	**P**	**14 59 06.3**	**-0.5**
FUNA	**Funafuti**	**16.87 3**	P	**P**	**14 59 04.8**	**-2.2**
FUNA			IAmb	IAmb	14 59 06.9	
	comp=Z,159nm,0.9s					
KHZ	**Kahutara**	**17.36 192**	P	**P**	**14 59 10.1**	**-1.0**
LTZ	**Lake Taylor**	**17.98 195**	P	**P**	**14 59 15.7**	**-1.2**
LHI	**Lord Howe Isla**	**17.99 246**	P	**P**	**14 59 19.2**	**+2.2**
	baz=18,SNR=74					
LHI	**Lord Howe Isla**	**17.99 246**	P	**P**	**14 59 19.0**	**+1.9**
OXZ	**Oxford**	**18.55 195**	P	**P**	**14 59 20.7**	**-1.3**
CRLZ	**Canterbury Las**	**18.66 193**	P	**P**	**14 59 22.0**	**-0.9**
MQZ	**McQueen's Vall**	**18.78 193**	P	**P**	**14 59 23.3**	**-0.8**
RPZ	**Rata Peaks**	**19.15 196**	P	**P**	**14 59 27.3**	**-0.2**
	comp=Z,16nm,0.3s,baz=216,slow=1.5,SNR=86					
RPZ			S	**S**	**15 02 30.5**	**-0.6**
	comp=Z,3.6nm,0.3s,baz=61,slow=19,SNR=3.9					
RPZ			ScP	**ScP**	**15 06 04.3**	**+1.2**
	comp=Z,6.9nm,0.3s,baz=328,slow=1.7,SNR=18					
RPZ			ScS	**ScS**	**15 09 45.0**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=78,slow=19,SNR=2.5					
RPZ	**Rata Peaks**	**19.15 196**	P	**P**	**14 59 26.8**	**-0.7**
FOZ	**Fox Glacier**	**19.32 199**	P	**P**	**14 59 28.6**	**-0.4**
LBZ	**Lake Benmore**	**20.01 197**	P	**P**	**14 59 34.0**	**-1.2**
ODZ	**Otahua Downs**	**20.50 196**	P	**P**	**14 59 39.1**	**-0.5**
ODZ			IAmb	IAmb	14 59 46.9	
	comp=Z,64nm,0.7s					
RAR	**Rarotonga**	**20.52 83**	P	**P**	**14 59 41.9**	**+1.7**
	comp=Z,166nm,1.0s,baz=229,slow=6.5,SNR=15					
RAR	**Rarotonga**	**20.52 83**	P	**P**	**14 59 39.8**	**-0.3**
WKZ	**Wanaka**	**20.74 199**	P	**P**	**14 59 40.9**	**-1.0**
MLZ	**Mavora Lakes**	**21.50 200**	P	**P**	**14 59 49.1**	**+0.4**
DCZ	**Deep Cove**	**21.90 202**	P	**P**	**14 59 52.0**	**-0.1**
WHZ	**Wether Hill Ro**	**22.03 200**	P	**P**	**14 59 53.6**	**+0.3**
HNR	**Honiara**	**23.67 309**	P	**P**	**15 00 07.1**	**-1.3**
	comp=Z,155nm,0.7s,baz=169,slow=7.9,SNR=9.6					
HNR	**Honiara**	**23.67 309**	P	**P**	**15 00 06.3**	**-2.0**
ARMA	**Armidale**	**24.09 252**	P	**P**	**15 00 13.5**	**+1.5**
	baz=24,SNR=231					
ARMA	**Armidale**	**24.09 252**	P	**P**	**15 00 12.9**	**+0.9**
KNTN	**Kanton**	**24.50 25**	P	**P**	**15 00 15.2**	**-0.5**
KNTN			IAmb	IAmb	15 00 17.4	
	comp=Z,99nm,0.8s					
EIDS	**Eidsvold**	**24.62 264**	P	**P**	**15 00 17.1**	**+0.4**
	baz=25,SNR=191					
EIDS	**Eidsvold**	**24.62 264**	P	**P**	**15 00 16.9**	**+0.2**
MGCD	**Mangrove Creek**	**24.92 246**	P	**P**	**15 00 20.9**	**+1.7**
	baz=25,SNR=323					
RIV	**Riverview**	**25.01 244**	P	**P**	**15 00 21.5**	**+1.6**
	baz=25,SNR=12					
RMQ	**Roma**	**26.60 261**	P	**P**	**15 00 35.4**	**+1.4**
	baz=27,SNR=481					
CNB	**Canberra Magne**	**26.78 242**	P	**P**	**15 00 37.0**	**+1.4**
	baz=27,SNR=256					
CAN	**Canberra**	**27.07 242**	P	**P**	**15 00 38.9**	**+0.8**
CAN			pmax	pmax		
	comp=Z,594nm,1.3s					
CAN	**Canberra**	**27.07 242**	P	**P**	**15 00 38.9**	**+0.8**
YNG	**Young**	**27.35 244**	P	**P**	**15 00 41.8**	**+1.3**
	baz=27,SNR=74					
MILA	**Mila**	**27.39 238**	P	**P**	**15 00 42.3**	**+1.4**
	baz=27,SNR=61					
CMSA	**Cobar Meteorol**	**29.26 251**	P	**P**	**15 00 57.4**	**+0.3**
	baz=29,SNR=804					
TBI	**Tubuai**	**29.35 93**	*e*P	**P**	**15 01 00.4**	**+2.4**
	comp=Z,714nm,0.8s					
CTA	**Charters Tower**	**30.03 274**	P	**P**	**15 01 04.4**	**+0.5**
	comp=Z,283nm,0.4s,baz=97,slow=10,SNR=765					
CTA			S	**S**	**15 05 19.4**	**-2.8**
	comp=Z,4.0nm,0.7s,baz=235,slow=19,SNR=3.1					
CTA			ScP	**ScP**	**15 06 35.5**	**+1.1**
	comp=Z,32nm,1.0s,baz=107,slow=3.0,SNR=10					
TOO	**Toolangi**	**30.35 239**	P	**P**	**15 01 07.4**	**+0.9**
	baz=30,SNR=488					
TOO	**Toolangi**	**30.35 239**	P	**P**	**15 01 07.1**	**+0.6**
TOO			pmax	pmax		
	comp=Z,301nm,0.6s					
TOO	**Toolangi**	**30.35 239**	P	**P**	**15 01 07.1**	**+0.6**
MOO	**Moorlands**	**30.67 229**	P	**P**	**15 01 10.3**	**+1.2**
	baz=31,SNR=50					
PAE	**Paea**	**30.76 82**	*e*P	**P**	**15 01 11.7**	**+1.6**
	comp=Z,52nm,1.0s					
TAU	**Tasmania Unive**	**30.77 228**	P	**P**	**15 01 10.5**	**+0.6**
TAU			pmax	pmax		
	comp=Z,347nm,0.6s					
TAU	**Tasmania Unive**	**30.77 228**	P	**P**	**15 01 10.5**	**+0.6**
PPT2	**Papeete2**	**30.79 82**	*e*P	**P**	**15 01 12.4**	**+1.9**
	comp=Z,352nm,1.0s					
PPT	**Papeete**	**30.79 82**	P	**P**	**15 01 11.9**	**+1.4**
PPT	**Papeete**	**30.79 82**	P	**P**	**15 01 12.1**	**+1.7**
	comp=Z,374nm,1.0s,baz=338,slow=2.1,SNR=24					
PPT			ScP	**ScP**	**15 06 39.3**	**+2.4**
	comp=Z,104nm,1.0s,baz=82,slow=5.9,SNR=5.3					
PPT	**Papeete**	**30.79 82**	P	**P**	**15 01 11.9**	**+1.4**
PPTF	**Pamatai, Papee**	**30.80 82**	P	**P**	**15 01 11.9**	**+1.3**
TVO	**Taravao**	**31.01 82**	*e*P	**P**	**15 01 14.0**	**+1.6**
	comp=Z,98nm,0.8s					
MCQ	**Macquarie Isla**	**32.36 201**	P	**P**	**15 01 25.6**	**+2.4**
	baz=32,SNR=3.6					
MTSU	**Mount Surprise**	**32.37 276**	P	**P**	**15 01 24.2**	**+0.3**
	baz=32,SNR=716					
STKA	**Stephens Creek**	**32.77 250**	P	**P**	**15 01 27.3**	**+0.3**
	baz=33,SNR=722					
STKA	**Stephens Creek**	**32.77 250**	P	**P**	**15 01 27.1**	**+0.1**
STKA			S	**S**	**15 06 03.3**	**-0.3**
STKA					15 10 44.5	
STKA			pmax	pmax		
	comp=Z,43nm,0.7s					
STKA	**Stephens Creek**	**32.77 250**	P	**P**	**15 01 27.5**	**+0.5**
	comp=Z,191nm,0.5s,baz=95,slow=9.4,SNR=766					
STKA			S	**S**	**15 06 03.2**	**-0.3**
	comp=Z,12nm,0.8s,baz=311,slow=14,SNR=3.5					
STKA			ScP	**ScP**	**15 06 44.0**	**+0.5**
	comp=Z,14nm,0.9s,baz=48,slow=4.3,SNR=4.0					
STKA			ScS	**ScS**	**15 10 44.5**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=192,slow=19,SNR=2.7					
STKA	**Stephens Creek**	**32.77 250**	P	**P**	**15 01 27.1**	**+0.1**
STKA			IAmb	IAmb	15 01 29.1	
	comp=Z,43nm,0.7s					
KRVT	**Keravat (AS076**	**32.88 305**	P	**P**	**15 01 27.1**	**-1.1**
	comp=Z,947nm,0.5s,baz=208,slow=1.0,SNR=115					
KRVT			S	**S**	**15 06 03.5**	**-2.2**
	comp=Z,68nm,0.9s,baz=218,slow=19,SNR=3.6					
ARPS	**Mount Arapiles**	**33.04 241**	P	**P**	**15 01 29.8**	**+0.5**
	baz=33,SNR=204					
PMOR	**Pomariorio Ree**	**33.25 78**	*e*P	**P**	**15 01 33.0**	**+1.7**
VAH	**Vaihoa**	**33.39 79**	*e*P	**P**	**15 01 33.9**	**+1.4**
	comp=Z,433nm,1.1s					
PMG	**Port Moresby**	**33.65 293**	*ce*P	**P**	**15 01 34.3**	**-0.4**
PMG			pmax	pmax		
	comp=Z,488nm,0.7s					
PMG	**Port Moresby**	**33.65 293**	P	**P**	**15 01 34.4**	**-0.3**
	comp=Z,125nm,0.7s,baz=99,slow=3.9,SNR=50					
PMG			S	**S**	**15 06 15.1**	**-2.2**
	comp=Z,7.5nm,0.8s,baz=253,slow=19,SNR=2.4					
PMG			ScP	**ScP**	**15 06 47.9**	**+1.0**
	comp=Z,27nm,1.0s,baz=92,slow=5.0,SNR=4.1					
PMG	**Port Moresby**	**33.65 293**	P	**P**	**15 01 34.1**	**-0.6**
COEN	**Coen**	**34.93 282**	P	**P**	**15 01 45.8**	**+0.4**
	baz=35,SNR=536					
COEN	**Coen**	**34.93 282**	P	**P**	**15 01 45.5**	**+0.1**
HTT	**Hallett**	**35.08 248**	P	**P**	**15 01 46.5**	**+0.1**
	baz=35,SNR=198					
QIS	**Mount Isa**	**35.91 270**	P	**P**	**15 01 53.0**	**-0.4**
	baz=36,SNR=136					
XMAS	**Kiritimati**	**36.02 44**	P	**P**	**15 01 55.0**	**+0.7**
BBOO	**Buckleboo**	**37.47 249**	P	**P**	**15 02 05.3**	**-0.7**
	baz=37,SNR=353					
BBOO	**Buckleboo**	**37.47 249**	P	**P**	**15 02 04.6**	**-1.4**
PATS	**Pohnpei**	**37.56 326**	P	**P**	**15 02 06.0**	**-0.9**
PATS			IAmb	IAmb	15 02 25.5	
	comp=Z,263nm,1.5s					
MANU	**Manus Island**	**37.85 303**	P	**P**	**15 02 08.4**	**-0.9**
AS31	**Alice Springs**	**40.33 263**	P	**P**	**15 02 28.8**	**-0.3**
ASAR	**Alice Springs**	**40.33 263**	P	**P**	**15 02 28.8**	**-0.4**
	comp=Z,319nm,0.4s,baz=91,slow=7.1,SNR=4759					
ASAR			PcP	**PP**	**15 04 18.2**	**-0.4**
	comp=Z,20nm,0.6s,baz=98,slow=5.2,SNR=4.8					
ASAR			ScP	**ScP**	**15 07 12.2**	**+0.1**
	comp=Z,17nm,0.9s,baz=115,slow=5.1,SNR=6.1					
ASAR			S	**S**	**15 07 54.4**	**-1.5**
	comp=Z,64nm,1.1s,baz=99,slow=17,SNR=18					
ASAR			ScS	**ScS**	**15 11 28.3**	**-0.5**
	comp=Z,5.2nm,0.9s,baz=107,slow=6.0,SNR=7.1					

WRAB Tennant Creek 40.83 269 *ce*P **P** **15 02 32.5 -0.6**
WRAB pmax pmax
comp=Z,387nm,0.8s
WRAB Tennant Creek 40.83 269 P **P** **15 02 32.1 -1.0**
TAOE Nuku Hiva Isla 42.74 75 *e*P **P** **15 02 49.9 +1.6**
comp=Z,1µm,0.9s
TAOE Nuku Hiva Isla 42.74 75 P **P** **15 02 49.8 +1.6**
JAY Jayapura 42.80 296 P **P** **15 02 48.1 -0.6**
comp=Z,90nm,0.5s,baz=114,slow=3.0,SNR=71
JAY S **S** **15 08 30.6 -1.1**
comp=Z,6.6nm,0.7s,baz=240,slow=20,SNR=2.9
JAY Jayapura 42.80 296 P **P** **15 02 48.7 0.0**
comp=Z,66nm,0.8s,comp=Z,920nm
JOHN Johnston Islan 43.58 17 P **P** **15 02 56.2 +1.8**
JOHN IAmb IAmb 15 03 55.6
comp=Z,147nm,0.8s
FORT Forrest 44.38 251 P **P** **15 02 59.7 -0.9**
baz=44,SNR=20
FORT Forrest 44.38 251 P **P** **15 02 59.3 -1.4**
SMPI Sarmi 44.73 295 P **P** **15 03 03.0 -0.6**
comp=Z,90nm,1.1s
KDU Kakadu 44.97 278 P **P** **15 03 04.4 -0.9**
baz=45,SNR=222
WRKA Warakurna 45.05 259 P **P** **15 03 05.3 -0.6**
baz=45,SNR=1000
WAKE Wake Island 45.92 345 P **P** **15 03 11.0 -1.4**
WAKE IAmb IAmb 15 03 16.2
comp=Z,147nm,0.8s
MTN Manton Dam 46.11 277 P **P** **15 03 12.9 -1.2**
baz=46,SNR=51
MTN Manton Dam 46.11 277 P **P** **15 03 12.1 -2.0**
MTN IAmb IAmb 15 03 15.6
comp=Z,85nm,0.7s
KNRA Kununurra 47.21 272 P **P** **15 03 22.1 -0.2**
baz=47,SNR=668
KNRA Kununurra 47.21 272 P **P** **15 03 22.1 -0.2**
SAUI Saumlaki 48.01 283 P **P** **15 03 29.0 +0.7**
comp=Z,595nm,0.9s,comp=Z,5µm
SAUI Saumlaki 48.01 283 P **P** **15 03 27.7 -0.6**
RKPI Ransiki, Papua 48.76 292 P **P** **15 03 34.4 +0.6**
comp=Z,83nm,0.6s
FITZ Fitzroy Crossi 49.24 268 P **P** **15 03 37.3 0.0**
baz=49,SNR=1000
FITZ Fitzroy Crossi 49.24 268 P **P** **15 03 37.3 0.0**
comp=Z,454nm,0.6s,baz=110,slow=5.0,SNR=1230
FITZ S **S** **15 10 00.1 -0.9**
comp=Z,4.8nm,0.9s,baz=15,slow=19,SNR=8.6
FITZ Fitzroy Crossi 49.24 268 P **P** **15 03 37.1 -0.2**
KMBL Kambalda 49.56 250 P **P** **15 03 38.6 -1.0**
baz=50,SNR=48
GUMO Guam 50.71 316 P **P** **15 03 46.9 -1.1**
comp=Z,128nm,0.5s,baz=150,slow=11,SNR=10
GUMO Guam 50.71 316 P **P** **15 03 46.8 -1.3**
BNDI Bandanaira 50.86 286 P **P** **15 03 48.7 -0.5**
comp=Z,469nm,0.7s,comp=Z,4µm
KKH Kailua Kona 51.31 31 P **P** **15 03 53.6 +1.3**
KKH Kailua Kona 51.31 31 P **P** **15 03 53.6 +1.3**
KHLU Kahalu`u 51.31 32 P **P** **15 03 52.9 +0.5**
AIN Ainahou 51.34 32 P **P** **15 03 54.0 +1.3**
AIN IAmb IAmb 15 03 55.6
comp=Z,132nm,0.8s
HLP Hilina Pali 51.34 32 P **P** **15 03 53.0 +0.4**
HLP IAmb IAmb 15 03 55.6
comp=Z,159nm,0.7s
MWH Moku'aweowe 51.36 32 P **P** **15 03 53.0 -0.3**
MWH IAmb IAmb 15 03 55.7
comp=Z,127nm,0.9s
MLOA Mauna Loa Obse 51.42 32 P **P** **15 03 54.1 +0.6**
MLOA IAmb IAmb 15 03 56.2
comp=Z,143nm,0.9s
HUH Hualalai 51.42 32 P **P** **15 03 54.9 +1.5**
HUH IAmb IAmb 15 03 56.2
comp=Z,304nm,1.3s
SDHHI Sand Hill 51.43 32 P **P** **15 03 54.0 +0.7**
WRMHI West Rim 51.44 32 P **P** **15 03 54.3 +0.9**
RIM Rim 51.44 32 P **P** **15 03 54.0 +0.6**
KKO Keanakako`i 51.45 32 P **P** **15 03 54.0 +0.6**
PUH Pauahi 51.45 32 P **P** **15 03 54.1 +0.7**
UWE Uwekahuna 51.46 32 P **P** **15 03 53.4 -0.1**
BYL Byron's Ledge 51.46 32 P **P** **15 03 54.2 +0.7**
BYL IAmb IAmb 15 03 55.7
comp=Z,170nm,0.8s
UWB Uwekahuna B 51.47 32 P **P** **15 03 54.1 +0.5**
UWB IAmb IAmb 15 03 56.1
comp=Z,124nm,0.9s
HATHI Halema'uma'u T 51.47 32 P **P** **15 03 54.4 +0.8**
HATHI IAmb IAmb 15 03 55.8
comp=Z,172nm,0.7s
MLH Mauna Loa 51.47 32 P **P** **15 03 54.5 +0.8**
STCH Steam Cracks 51.51 33 P **P** **15 03 55.0 +1.3**
HMH Humu'ula Sheep 51.52 32 P **P** **15 03 55.2 +1.0**
SIJI Sorong 51.55 291 P **P** **15 03 53.8 -0.4**
comp=Z,417nm,0.6s,baz=120,slow=3.4,SNR=275
SIJI pP **pP** **15 05 42.3 +0.8**
comp=Z,28nm,0.9s,baz=76,slow=5.6,SNR=3.8
SIJI S **S** **15 10 31.1 -1.1**
comp=Z,5.0nm,1.0s,baz=212,slow=19,SNR=2.4
SWI Sorong 51.56 291 P **P** **15 03 53.7 -0.5**
comp=Z,670nm,0.7s,comp=Z,5µm
POHA Pohakuloa 51.63 32 P **P** **15 03 55.1 +0.2**
POHA IAmb IAmb 15 03 57.6
comp=Z,234nm,0.9s
KEKH Kekaha 51.75 26 P **P** **15 03 56.0 +0.6**
KEKH IAmb IAmb 15 03 57.6
comp=Z,179nm,0.8s
HPAH Hawaii Prepara 51.78 32 P **P** **15 03 56.5 +0.7**
HON Honolulu 51.87 28 P **P** **15 03 57.1 +0.9**
HON pmax pmax
comp=Z,172nm,0.7s
HON Honolulu 51.87 28 P **P** **15 03 57.1 +0.9**
HON IAmb IAmb 15 03 58.6
comp=Z,172nm,0.7s
KIP Kipapa 51.95 28 *ce*P **P** **15 03 58.6 +1.8**
KIP pmax pmax
comp=Z,126nm,1.2s
KIP Kipapa 51.95 28 P **P** **15 03 56.4 -0.5**
KIP IAmb IAmb 15 03 59.6
comp=Z,158nm,1.3s
HLK Haleakala 52.16 31 P **P** **15 03 59.1 +0.5**
HLK IAmb IAmb 15 04 01.2
comp=Z,184nm,1.1s
OPA Opana 52.19 28 P **P** **15 03 58.7 +0.2**
OPA pmax pmax
comp=Z,272nm,1.2s
OPA Opana 52.19 28 P **P** **15 03 58.7 +0.2**
OPA IAmb IAmb 15 04 01.6
comp=Z,272nm,1.2s
KHLH Kahului Airpor 52.20 30 P **P** **15 03 59.6 +1.0**
KHLH IAmb IAmb 15 04 01.1
comp=Z,112nm,0.7s
MSAI Masohi 52.28 287 P **P** **15 03 59.2 -0.2**
comp=Z,61nm,0.7s,comp=Z,473nm
ANA2 Anatahan 52.32 319 P **P** **15 03 58.7 -0.9**
ANA2 IAmb IAmb 15 04 06.0
comp=Z,114nm,0.6s
SARN Sarigan 52.56 319 P **P** **15 03 59.5 -1.8**
VNDA Vanda 52.70 184 P **P** **15 04 02.6 +1.2**
comp=Z,35nm,0.8s,baz=7.1,slow=7.7,SNR=113
VNDA PcP **PcP** **15 05 03.1 +1.9**
comp=Z,22nm,0.8s,baz=357,slow=4.2,SNR=5.7
VNDA ScP **ScP** **15 08 03.8 +0.8**
comp=Z,25nm,0.8s,baz=346,slow=4.0,SNR=12
VNDA S **S** **15 10 47.3 +1.7**
comp=Z,1.3nm,0.7s,baz=22,slow=19,SNR=1.9
VNDA ScS **ScS** **15 12 49.5 +0.3**
comp=Z,0.9nm,1.0s,baz=50,slow=18,SNR=2.9
VNDA Vanda 52.70 184 P **P** **15 04 02.0 +0.6**
SBA Scott Base 52.73 183 P **P** **15 04 03.8 +2.2**
SBA pmax pmax
comp=Z,190nm,0.9s
SBA Scott Base 52.73 183 P **P** **15 04 03.8 +2.2**
SBA IAmb IAmb 15 04 06.2
comp=Z,190nm,0.9s
AAI Ambon 52.75 286 P **P** **15 04 02.2 -0.6**
comp=Z,179nm,0.7s,comp=Z,2µm
KLBR Kellerberrin 53.01 249 P **P** **15 04 03.8 -0.6**
baz=53,SNR=240
RKGY Rocky Gully 53.20 245 P **P** **15 04 05.4 -0.3**
baz=53,SNR=61
NWAO Narrogin (SRO) 53.23 247 P **P** **15 04 05.5 -0.5**
baz=53,SNR=25
NWAO Narrogin (SRO) 53.23 247 P **P** **15 04 05.3 -0.6**
comp=Z,77nm,0.6s,baz=111,slow=6.2,SNR=51
NWAO Narrogin (SRO) 53.23 247 P **P** **15 04 04.9 -1.0**
NWAO IAmb IAmb 15 04 07.4
comp=Z,276nm,1.4s

MEEK Meekatharra 53.24 255 P **P** **15 04 04.9 -1.3**
baz=53,SNR=80
SOEI Soe 53.51 277 P **P** **15 04 09.3 +1.0**
comp=Z,426nm,0.9s,comp=Z,4µm,comp=Z,2µm
SOEI Soe 53.51 277 P **P** **15 04 09.1 +0.8**
PALU Palau 53.70 301 P **P** **15 04 08.9 -0.6**
baz=54,SNR=21
NLAI Namlea 53.92 286 P **P** **15 04 10.5 -0.5**
comp=Z,191nm,0.8s,comp=Z,9µm,comp=Z,704µm
BLDU Ballidu 54.07 250 P **P** **15 04 10.9 -0.9**
baz=54,SNR=223
MUN Mundaring 54.24 248 P **P** **15 04 12.5 -0.5**
baz=54,SNR=63
MORW Morawa 54.94 251 P **P** **15 04 17.3 -0.7**
baz=55,SNR=79
MORW Morawa 54.94 251 P **P** **15 04 16.9 -1.1**
MORW IAmb IAmb 15 04 19.5
comp=Z,449nm,1.6s
SANI Sanana 55.47 286 P **P** **15 04 20.5 -1.3**
TNTI Ternate 55.72 290 P **P** **15 04 23.4 -0.1**
comp=Z,183nm,0.8s,comp=Z,2µm
TNTI Ternate 55.72 290 P **P** **15 04 22.5 -1.1**
TNTI IAmb IAmb 15 04 24.9
comp=Z,128nm,0.7s
MMRI Maumere 55.80 277 P **P** **15 04 23.9 -0.2**
comp=Z,377nm,0.7s,comp=Z,3µm
MMRI Maumere 55.80 277 P **P** **15 04 23.1 -1.0**
WSI Waingapu 57.12 275 P **P** **15 04 34.0 +0.9**
comp=Z,1µm,1.2s,comp=Z,11µm
CASY Casey 58.05 206 P **P** **15 04 38.3 -0.2**
GIRL Giralia 58.12 258 P **P** **15 04 40.7 +0.9**
baz=58,SNR=24
GIRL Giralia 58.12 258 P **P** **15 04 40.0 +0.2**
LUWI Luwuk 58.76 285 P **P** **15 04 44.6 +0.3**
comp=Z,255nm,1.2s,comp=Z,3µm
LUWI Luwuk 58.76 285 P **P** **15 04 43.4 -0.8**
LUWI IAmb IAmb 15 04 45.6
comp=Z,183nm,0.8s
KAPI Kappang 59.58 280 P **P** **15 04 49.3 -0.4**
comp=Z,55nm,0.8s,baz=160,slow=1.9,SNR=9.9
KAPI Kappang 59.58 280 P **P** **15 04 49.0 -0.8**
PLAI Plampang 59.73 275 P **P** **15 04 50.3 -0.4**
comp=Z,709nm,0.7s,comp=Z,7µm
TWSI Taliwang, Sumb 60.57 274 P **P** **15 04 56.2 -0.1**
comp=Z,220nm,0.9s,comp=Z,3µm
KCP Kidapawan 61.00 295 ⇑P **P** **15 04 58.1 -1.0**
CTBH Cotabato--PC H 61.81 294 P **P** **15 05 03.2 -1.1**
DNP Denpasar 62.10 274 P **P** **15 05 08.3 +2.1**
comp=Z,646nm,1.3s,comp=Z,11µm
IGBI Denpasar 62.11 273 P **P** **15 05 07.0 +0.7**
comp=Z,670nm,0.8s,comp=Z,7µm
SRBI Singaraja 62.34 274 P **P** **15 05 07.6 -0.2**
comp=Z,308nm,0.9s,comp=Z,2µm
JCJ Chichijima 62.82 324 P **P** **15 05 09.9 -0.6**
comp=Z,45nm,0.5s,baz=266,slow=22,SNR=8.2
JAGI Jajag, Banyuwa 63.14 273 P **P** **15 05 12.1 -0.9**
comp=Z,305nm,0.9s,comp=Z,3µm
JAGI Jajag, Banyuwa 63.14 273 P **P** **15 05 11.1 -1.8**
KBKI Kotabaru 63.54 279 P **P** **15 05 15.9 +0.4**
comp=Z,51nm,1.0s,comp=Z,693nm
GMJI Gumukmas 63.86 273 P **P** **15 05 17.0 -0.5**
comp=Z,279nm,0.7s,comp=Z,3µm
KMMI Kalianget 63.90 275 P **P** **15 05 18.8 +1.1**
comp=Z,306nm,1.1s,comp=Z,3µm
RPN Rapa Nui 63.98 109 P **P** **15 05 20.9 +2.8**
comp=Z,175nm,0.7s,baz=298,slow=4.4,SNR=12
RPN Rapa Nui 63.98 109 P **P** **15 05 19.8 +1.7**
QSPA South Pole Qui 64.62 180 P **P** **15 05 22.5 +0.9**
comp=Z,287nm,0.8s,baz=23,slow=1.4,SNR=311
QSPA South Pole Qui 64.62 180 P **P** **15 05 22.2 +0.6**
GRJI Gresik 65.29 274 P **P** **15 05 27.0 +0.5**
comp=Z,918nm,0.7s,comp=Z,7µm
PWJI Pagerwojo 65.45 273 P **P** **15 05 26.8 -0.7**
comp=Z,434nm,0.6s,comp=Z,4µm
RCP Roxas 65.47 297 ⇑P **P** **15 05 26.6 -0.9**
NGJI Ngawi 66.02 273 P **P** **15 05 33.0 +1.9**
comp=Z,129nm,0.9s
WOJI Wonogiri, Jawa 66.32 273 P **P** **15 05 32.9 0.0**
comp=Z,291nm,0.9s,comp=Z,2µm
UGM Wanagama 66.65 272 P **P** **15 05 35.6 +0.6**
comp=Z,329nm,1.1s
UGM Wanagama 66.65 272 P **P** **15 05 34.5 -0.4**
YOGI Yogyakarta 66.89 272 P **P** **15 05 37.6 +1.1**
comp=Z,247nm,0.9s
SPMM Sapulut 67.07 287 P **P** **15 05 38.0 +0.5**
SMRI Semarang 67.08 273 P **P** **15 05 37.7 +0.1**
SMRI IAmb IAmb 15 05 39.5
comp=Z,113nm,0.8s
KKM Kota Kinabalu 67.95 288 P **P** **15 05 42.2 -0.8**
KKM IAmb IAmb 15 05 44.3
comp=Z,68nm,0.8s
KPJI Karang Pucung 68.32 272 P **P** **15 05 45.1 0.0**
comp=Z,128nm,1.0s,comp=Z,2µm
STKI Sintang 69.24 280 P **P** **15 05 51.0 +0.3**
comp=Z,251nm,0.8s,comp=Z,6µm
CISI Cisompet, Garu 69.24 271 P **P** **15 05 50.0 -0.7**
comp=Z,129nm,0.8s,comp=Z,2µm
CISI Cisompet, Garu 69.24 271 P **P** **15 05 48.9 -1.8**
SBUM Sibu 69.68 283 P **P** **15 05 54.0 +0.7**
SBUM Sibu 69.68 283 P **P** **15 05 52.4 -0.9**
LEM Lembang 69.72 272 P **P** **15 05 53.8 0.0**
comp=Z,212nm,0.7s,baz=45,slow=5.1,SNR=18
LEM pP **pP** **15 07 53.1 +2.2**
comp=Z,20nm,0.5s,baz=164,slow=22,SNR=2.5
XMIS Christmas Isla 70.02 268 P **P** **15 05 54.9 -0.4**
SKJI Sukabumi 70.60 271 P **P** **15 05 59.0 +0.2**
comp=Z,409nm,0.7s
DBJI Dramaga 70.61 272 P **P** **15 05 58.5 -0.3**
comp=Z,351nm,1.1s,comp=Z,5µm
KSM Kuching 70.92 281 P **P** **15 06 01.0 +0.4**
KSM Kuching 70.92 281 P **P** **15 05 60.0 -0.6**
JOW Kunigami 70.95 314 P **P** **15 06 00.2 -0.3**
INU Inuyama 72.03 325 P **P** **15 06 06.4 -0.1**
MJAR Matsushiro Arr 72.37 327 P **P** **15 06 08.1 -0.4**
comp=Z,14nm,0.7s,baz=149,slow=5.7,SNR=34
MAJO Matsushiro 72.37 327 *i*P **P** **15 06 08.6 +0.1**
MAJO pmax pmax
comp=Z,28nm,1.1s
MAJO Matsushiro 72.37 327 P **P** **15 06 08.1 -0.4**
MAT Matsushiro 72.37 327 P **P** **15 06 08.3 -0.2**
MAT S **S** **15 14 45.0 -0.9**
MJB9 Matsu-Tunnel 72.37 327 P **P** **15 06 08.0 -0.6**
BLSI Bandar Lampung 72.47 272 P **P** **15 06 09.2 -0.4**
comp=Z,209nm,0.7s,comp=Z,4µm
YOJ Yonaguni jima 73.00 308 P **P** **15 06 11.9 -0.5**
YOJ pmax pmax
comp=Z,168nm,0.8s
YOJ Yonaguni jima 73.00 308 P **P** **15 06 11.9 -0.5**
KASI Kota Agung 73.08 272 P **P** **15 06 12.1 -1.0**
KLSI 73.22 273 P **P** **15 06 12.5 -1.4**
TWG Pinlang 73.39 306 P **P** **15 06 12.3 -2.3**
YULB Yu-li 73.57 306 P **P** **15 06 13.7 -2.0**
LWLI Liwa 73.69 272 P **P** **15 06 15.7 -1.0**
JNU Nakatsue 73.73 320 P **P** **15 06 15.9 -0.5**
comp=Z,31nm,0.7s,baz=213,slow=1.4,SNR=45
JNU Nakatsue 73.73 320 P **P** **15 06 15.4 -0.9**
MDSI Maura Dua 73.80 273 P **P** **15 06 15.4 -1.8**
TPUB Ta-pu 74.00 306 P **P** **15 06 16.2 -1.9**
TPUB IAmb IAmb 15 06 18.2
comp=Z,105nm,0.7s
SSLB Suanglung 74.06 307 P **P** **15 06 16.7 -1.7**
SSLB IAmb IAmb 15 06 19.1
comp=Z,69nm,0.6s
YHNB Yeheng 74.30 308 P **P** **15 06 19.5 -0.3**
LHSI Lahat 74.67 273 P **P** **15 06 21.5 -0.6**
comp=Z,149nm,1.0s
YUK Yuzh-Kuril'sk 75.31 336 *e*P **P** **15 06 21.8 -3.0**
YUK *e*S **S** **15 15 14.3 -3.2**
KUR Kuril'sk 75.65 338 P **P** **15 06 29.3 +2.6**
KUR pmax pmax
comp=N,7.0nm,0.4s
KUR pmax pmax
comp=Z,14nm,0.4s
KUR pmax pmax
comp=E,3.0nm,0.5s
MAW Mawson 75.76 201 P **P** **15 06 27.4 +0.3**
baz=76,SNR=154
MAW Mawson 75.76 201 P **P** **15 06 27.6 +0.5**
comp=E,87nm,0.6s,baz=126,slow=6.1,SNR=140
MAW Mawson 75.76 201 P **P** **15 06 27.2 +0.1**
TPRI Tanjung Pinang 75.82 278 P **P** **15 06 29.4 +0.9**
comp=E,142nm,0.8s
MASI Maura Aman, Be 76.12 273 P **P** **15 06 29.4 -0.8**
comp=E,1µm,0.7s,comp=E,10µm
QZH Quanzhou 76.47 306 ⇑ *i*P **P** **15 06 32.4 +0.7**
QZH sP **sP** **15 09 31.6 +0.2**
QZH S **S** **15 15 29.0 -1.8**
QZH ScS **ScS** **15 15 51.6 -2.4**
QZH pmax pmax
comp=E,260nm,4.2s
JKA Kamikawa-asahi 76.60 334 P **P** **15 06 33.9 +1.9**
ASAJ Asahikawa 76.61 334 P **P** **15 06 33.9 +1.8**
comp=E,15nm,0.5s,baz=219,slow=3.0,SNR=52
MYKOM Kota Tinggi 76.81 278 P **P** **15 06 34.0 +0.1**
MYKOM Kota Tinggi 76.81 278 P **P** **15 06 33.4 -0.5**
MYKOM IAmb IAmb 15 06 35.5
comp=Z,107nm,0.8s
ADK Adak 77.14 3 P **P** **15 06 34.4 -0.3**
ADK pmax pmax
comp=Z,167nm,1.2s
ADK Adak 77.14 3 P **P** **15 06 34.4 -0.3**
ADK IAmb IAmb 15 06 36.6
comp=Z,166nm,1.1s
KRJI Kerinci 77.27 274 P **P** **15 06 36.2 -0.3**
comp=Z,420nm,1.0s
DLV T Lat 77.49 290 P **P** **15 06 38.5 +0.7**
DLV IAmb IAmb 15 06 40.0
comp=Z,92nm,0.8s
ATKA Atka Island 77.61 5 P **P** **15 06 36.8 -0.5**
ATKA IAmb IAmb 15 06 39.0
comp=Z,135nm,1.1s
SDSI Sungai Dareh 77.80 275 P **P** **15 06 38.6 -0.6**
comp=Z,61nm,1.1s,comp=Z,4µm
PMSA Palmer Station 78.06 157 P **P** **15 06 40.2 +0.6**
TJN Taejon 78.07 320 *ce*P **P** **15 06 38.9 -1.2**
PPSI Pulau Pagai 78.29 273 P **P** **15 06 44.7 +2.8**
comp=Z,201nm,0.9s,comp=Z,4µm
SKR Severo-Kuril's 78.33 346 *e*P P 15 06 32.5 -8.6
SKR *e*S **S** **15 15 50.2 +1.1**
SKR pmax pmax
comp=Z,700nm,6.2s
SKR pmax pmax
comp=Z,179nm,1.3s
KSRS Korea Array 78.51 321 P **P** **15 06 42.9 +0.4**
comp=Z,14nm,0.6s,baz=135,slow=5.6,SNR=67
KS19 Wonju Array Si 78.57 321 P **P** **15 06 43.0 +0.2**
PDSI Padang 78.68 274 P **P** **15 06 42.6 -1.4**
BKNI Bangkinang 78.69 276 P **P** **15 06 44.3 +0.3**
comp=Z,213nm,0.9s
YSS Yuzh-Sakhalins 78.93 336 *α i*P **P** **15 06 46.3 +1.8**
YSS *e*PPP PPP 15 11 58.4
YSS *i*S **S** **15 15 59.0 +3.4**
YSS pmax pmax
comp=Z,90nm,0.8s
YSS smax smax
comp=N,500nm,8.1s
YSS smax smax
comp=E,600nm,9.1s
YSS Yuzh-Sakhalins 78.93 336 P **P** **15 06 45.7 +1.3**
YSS IAmb IAmb 15 06 47.7
comp=Z,68nm,0.7s
JRMM Jerantut 78.97 280 P **P** **15 06 46.0 +0.5**
SISI Saibi 79.74 273 P **P** **15 06 50.6 +1.1**
comp=Z,70nm,0.7s,comp=Z,916nm
PET Petropavlovsk 80.02 348 *e*P **P** **15 06 48.0 -2.0**
PET *e*S **S** **15 16 05.3 -1.2**
PET MLR MLR
comp=Z,200nm,19.0s
PETK Petropavlovsk- 80.29 348 P **P** **15 06 52.1 +0.7**
comp=Z,31nm,0.8s,baz=138,slow=2.5,SNR=30
IPM Ipoh 80.53 280 P **P** **15 06 53.1 -0.6**
IPM IAmb IAmb 15 06 55.0
comp=Z,162nm,0.8s
NJ2 Nanjing 80.58 312 ⇓P **P** **15 06 54.4 +1.0**
SYO Syowa Base 81.14 194 ⇓ *i*P **P** **15 06 54.0 -1.7**
USRK Ussuriysk Ar. 81.28 328 P **P** **15 06 57.9 +1.1**
comp=Z,22nm,0.7s,baz=142,slow=3.8,SNR=54
USA0B Ussuriysk Arra 81.28 328 P **P** **15 06 57.8 +1.0**
USA0B pmax pmax
comp=Z,21nm,0.8s
USA0B Ussuriysk Arra 81.28 328 P **P** **15 06 57.8 +1.0**
RPSI Rantau Prapat 81.62 277 P **P** **15 06 57.9 -1.3**
RPSI IAmb IAmb 15 07 00.2
comp=Z,103nm,0.8s
PSI Prapat 81.67 277 P **P** **15 06 57.9 -1.8**
PSI pmax pmax
comp=Z,103nm,0.8s
UBPT Khong Chiam 81.68 291 P **P** **15 07 00.9 +1.5**
GSI Gunungsitoli 82.23 275 P **P** **15 07 03.4 +1.0**
comp=Z,247nm,0.9s,comp=Z,3µm
GSI Gunungsitoli 82.23 275 P **P** **15 07 02.2 -0.2**
TYV Tymovskoe 82.28 338 *e*P **P** **15 07 02.9 +1.3**
TYV pmax pmax
comp=Z,26nm,0.8s
MDJ Mudanjiang 82.75 327 P **P** **15 07 05.5 +1.3**
MDJ pmax pmax
comp=Z,230nm,4.2s
MDJ Mudanjiang 82.75 327 P **P** **15 07 04.5 +0.3**
WHN Wuhan 82.79 309 ⇑P **P** **15 07 05.9 +1.2**
WHN pmax pmax
comp=Z,56nm,0.9s
SNCC San Nicolas Is 83.06 48 P **P** **15 07 07.5 +1.4**
baz=234
SNAA Sanae 83.12 180 P **P** **15 07 05.7 -0.2**
SNAA SKS **SKSac** **15 16 30.1 -2.0**
SNAA Sanae 83.12 180 *c i*P **P** **15 07 05.8 0.0**
SNAA Sanae 83.12 180 P **P** **15 07 05.2 -0.6**
SNAA IAmb IAmb 15 07 07.8
comp=Z,101nm,0.9s
DL2 Dalian 83.14 319 P **P** **15 07 06.1 -0.2**
DL2 pP **pP** **15 09 08.8 -0.7**
DL2 sP **sP** **15 10 06.3 -1.7**
DL2 S **S** **15 16 39.3 +1.0**
DL2 sS **sS** **15 20 21.7 +3.2**
DL2 pmax pmax
comp=Z,340nm,5.6s
TRTT Trang 83.22 282 P **P** **15 07 08.7 +1.5**
VNA3 Neumayer Olymp 83.39 177 P **P** **15 07 06.7 -0.4**
VNA3 SKS **SKSac** **15 16 33.6 -0.1**
SCZ2 Santa Cruz Isl 83.43 48 P **P** **15 07 09.1 +1.2**
baz=233
TPTI 83.44 277 P **P** **15 07 12.8 +4.4**
SCI2 San Clemente I 83.57 49 P **P** **15 07 09.3 +0.8**
baz=234
SBC Santa Barbara 83.64 47 P **P** **15 07 10.0 +1.1**
baz=233
SKNT Sakolnakorn 83.75 292 P **P** **15 07 11.0 +1.2**
VNA2 Neumayer--Watz 83.79 178 P **P** **15 07 08.7 -0.3**
baz=172,slow=4.8
VNA2 SKS **SKSac** **15 16 34.6 -1.6**
baz=214,slow=3.8
PKM Mcpherson Peak 83.84 47 P **P** **15 07 10.8 +0.7**
baz=233
BLG Laguna Peak, P 83.88 48 P **P** **15 07 10.7 +0.6**
baz=234
MCCM Marconi Confer 83.89 43 P **P** **15 07 11.2 +1.2**
MCCM IAmb IAmb 15 07 13.7
comp=Z,110nm,0.9s
CIS Catalina Islan 83.90 49 P **P** **15 07 11.3 +1.1**
baz=234
SAO San Andreas Ge 83.92 44 P **P** **15 07 11.7 +1.5**
SAO pmax pmax
comp=Z,74nm,0.9s
SAO San Andreas Ge 83.92 44 P **P** **15 07 11.7 +1.5**
SAO IAmb IAmb 15 07 14.1
comp=Z,74nm,0.8s
SMMC Simmler 83.98 46 P **P** **15 07 12.4 +1.8**
baz=233
PMPB Monarch Peak 84.00 45 P **P** **15 07 12.3 +1.6**
PMPB IAmb IAmb 15 07 14.3
comp=Z,76nm,0.9s
VNA1 Neumayer--Stat 84.03 178 P **P** **15 07 11.0 +0.8**
VNA1 SKS **SKSac** **15 16 40.5 +2.8**
PAGB Antelope Grade 84.06 46 P **P** **15 07 12.7 +1.7**
PAGB IAmb IAmb 15 07 14.6
comp=Z,53nm,0.8s
FMP Fort Macarthur 84.17 48 P **P** **15 07 13.1 +1.6**
baz=234
TIA Tai'an 84.24 315 P **P** **15 07 13.1 +1.3**
TIA pmax pmax
comp=Z,43nm,0.8s
CN2 Changchun 84.27 325 *e*P **P** **15 07 12.5 +0.7**
CN2 *ep*P pP 15 09 13.5 -1.9
CN2 *e*S **S** **15 16 48.6 -0.6**
CN2 *es*S sS 15 20 31.8 +1.9
CN2 pmax pmax
comp=Z,50nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
HOPS Hopland Field 84.30 42 P **P** **15 07 13.7 +1.7**
HOPS IAmb IAmb 15 07 16.0

comp=Z,122nm,0.9s
GDXM Geysers 84.35 42 P P 15 07 14.4 +2.0
GDXM IAmb IAmb 15 07 16.7
comp=Z,112nm,1.2s
OSI Osito Audit: C 84.40 48 P P 15 07 14.2 +1.5
baz=234
OSI Osito Audit: C 84.40 48 P P 15 07 13.8 +1.1
OSI IAmb IAmb 15 07 16.6
comp=Z,84nm,1.0s
KCPM Cahto Peak 84.44 41 P P 15 07 14.6 +1.8
KCPM IAmb IAmb 15 07 16.9
comp=Z,120nm,0.9s
DECC Green Verdugo 84.45 48 P P 15 07 13.7 +0.7
baz=234
GRNR Gornyy 84.45 335⇑ *i* **P P 15 07 14.3 +1.8**
GRNR pmax pmax
comp=Z,30nm,0.9s
PATY Pattaya 84.50 287 P P 15 07 15.8 +2.3
LHMI Lhok Sumawe 84.50 278 P P 15 07 14.6 +1.0
comp=Z,340nm,0.8s,comp=Z,3µm
LHMI Lhok Sumawe 84.50 278 P P 15 07 13.4 -0.2
109C Camp Elliot, M 84.50 50 P P 15 07 14.0 +0.8
baz=235,SNR=7.1
PASC Pasadena Art C 84.50 48 P P 15 07 13.1 -0.1
PASC IAmb IAmb 15 07 16.5
comp=Z,60nm,0.8s
SURT Suratani 84.51 283 P P 15 07 15.4 +1.8
MLSI Meulaboh, Aceh 84.57 277 P P 15 07 13.9 0.0
comp=Z,294nm,0.7s,comp=Z,2µm
MWC Mount Wilson 84.62 48 P P 15 07 14.8 +0.8
MWC pmax pmax
comp=Z,44nm,0.9s
MWC Mount Wilson 84.62 48 P P 15 07 14.8 +0.8
ARVC Arvin 84.63 47 P P 15 07 14.7 +1.0
baz=234,SNR=8.6
KMRM Mail Ridge 84.70 41 P P 15 07 15.3 +1.2
KMRM IAmb IAmb 15 07 18.5
comp=Z,114nm,1.1s
LPIG La Paz 84.80 60 P P 15 07 17.3 +2.5
comp=Z,20nm,0.3s,baz=118,slow=2.3,SNR=8.0
MURC Murrieta 84.85 49 P P 15 07 16.2 +1.3
baz=235,SNR=12
VES Vestal, Richgr 84.89 46 P P 15 07 15.9 +1.0
baz=234,SNR=9.0
BFSC Mount Baldy Ra 84.90 48 P P 15 07 16.4 +1.1
baz=235,SNR=13
CHAI Chaiyaphum 84.92 290 P P 15 07 16.5 +1.0
NONG Nongkai 84.97 293 P P 15 07 17.2 +1.5
MONP2 Monument Peak 84.98 50 P P 15 07 17.5 +1.7
baz=235,SNR=22
VOG Valley Oaks Go 84.98 46 P P 15 07 16.3 +0.9
baz=233
EDW2 Edwards Air Fo 85.05 48 P P 15 07 17.2 +1.3
baz=234,SNR=26
IKP In-Ko-Pah, Jac 85.06 50 P P 15 07 17.7 +1.7
baz=236,SNR=19
KHMM Horse Mountain 85.11 40 P P 15 07 16.3 +0.2
KHMM IAmb IAmb 15 07 19.9
comp=Z,77nm,0.8s
KLR Kul'dur 85.17 331 *c i* **P P 15 07 17.3 +1.3**
KLR pmax pmax
comp=Z,34nm,1.5s
KLR Kul'dur 85.17 331 P P 15 07 17.4 +1.4
comp=Z,11nm,0.7s,baz=110,slow=3.6,SNR=56
ISA Isabella, Lake 85.18 47 P P 15 07 18.0 +1.5
baz=234,SNR=51
ISA Isabella, Lake 85.18 47 P P 15 07 17.5 +1.0
ISA pmax pmax
comp=Z,101nm,0.9s
ISA Isabella, Lake 85.18 47 P P 15 07 17.5 +1.0
ISA IAmb IAmb 15 07 20.2
comp=Z,101nm,0.9s
O02D Mt. Diablo Mer 85.22 41 P P 15 07 18.6 +2.0
baz=231,SNR=38
PFO Pinyon Flats O 85.36 49 P P 15 07 18.7 +1.2
baz=235,SNR=13
PFO Pinyon Flats O 85.36 49 P P 15 07 19.3 +1.8
comp=Z,43nm,1.0s,baz=258,slow=3.0,SNR=21
PFO Pinyon Flats O 85.36 49 P P 15 07 18.0 +0.6
CMB Columbia Colle 85.36 44 P P 15 07 18.0 +0.7
CMB pmax pmax
comp=Z,70nm,0.9s
CMB Columbia Colle 85.36 44 P P 15 07 18.0 +0.7
CMB IAmb IAmb 15 07 20.7
comp=Z,70nm,0.8s
BBRC Big Bear Solar 85.41 49 P P 15 07 19.2 +1.4
baz=235
SWSC Sam W. Stewart 85.44 50 P P 15 07 19.3 +1.6
baz=236,SNR=11
AFDM Forest Hills D 85.56 43 P P 15 07 18.9 +0.8
AFDM IAmb IAmb 15 07 21.6
comp=Z,49nm,0.9s
PHET Kaeng Krachan 85.56 286 P P 15 07 20.9 +2.3
ORV Oroville 85.61 42 P P 15 07 19.3 +1.0
ORV pmax pmax
comp=Z,41nm,1.0s
ORV Oroville 85.61 42 P P 15 07 19.3 +1.0
WDC Whiskeytown Da 85.62 41 P P 15 07 19.4 +1.0
WDC pmax pmax
comp=Z,63nm,1.1s
WDC Whiskeytown Da 85.62 41 P P 15 07 19.4 +1.0
WDC IAmb IAmb 15 07 21.9
comp=Z,63nm,1.1s
KBO Bosley Butte 85.68 39 P P 15 07 19.9 +1.2
KBO IAmb IAmb 15 07 22.8
comp=Z,79nm,1.0s
RRX Edison Barstow 85.71 48 P P 15 07 20.2 +1.2
baz=235
OHAK Old Harbor 85.77 15 P P 15 07 19.2 +0.6
N02D Trinity Center 85.77 41 P P 15 07 21.2 +2.1
baz=231,SNR=11
O03E Paynes Creek 85.88 42 P P 15 07 20.9 +1.2
baz=232,SNR=26
BELC Belle Mtn. Jos 85.89 49 P P 15 07 21.7 +1.7
baz=236,SNR=21
CWC Cottonwood Cre 85.90 46 P P 15 07 21.1 +1.1
baz=234
SLVN Son La 85.91 296 P P 15 07 20.1 -0.2
SLVN IAmb IAmb 15 07 23.7
comp=Z,108nm,1.9s
M02C Callahan 85.95 40 P P 15 07 22.1 +2.1
baz=231,SNR=25
MDPB Devils Postpil 85.95 45 P P 15 07 20.9 +0.5
L02E Cave Junction 86.00 39 P P 15 07 22.0 +1.8
baz=230,SNR=6.9
KEBM Edson Butte 86.05 38 P P 15 07 22.2 +1.8
MPMC Manual Prospec 86.06 47 P P 15 07 22.1 +1.2
baz=235,SNR=24
BC3 Big Chuckawall 86.08 50 P P 15 07 22.7 +1.9
baz=236,SNR=15
GSC Goldstone, Bar 86.08 48 P P 15 07 22.3 +1.5
baz=235,SNR=24
GSC Goldstone, Bar 86.08 48 P P 15 07 21.9 +1.1
GSC pmax pmax
comp=Z,48nm,0.9s
GSC Goldstone, Bar 86.08 48 P P 15 07 21.9 +1.1
GSC IAmb IAmb 15 07 23.9
comp=Z,48nm,0.8s
PBKT Sadao Pong 86.09 290 P P 15 07 22.9 +1.8
PBKT Sadao Pong 86.09 290 P P 15 07 21.9 +0.8
PBKT IAmb IAmb 15 07 24.1
comp=Z,47nm,0.8s
DAC Darwin (Calif) 86.12 47 P P 15 07 23.1 +2.0
DAC pmax pmax
comp=Z,21nm,0.8s
DAC Darwin (Calif) 86.12 47 P P 15 07 23.1 +2.0
ENH Enshi 86.13 306 P P 15 07 21.0 -0.1
ENH IAmb IAmb 15 07 22.9
comp=Z,47nm,0.9s
HEC Hector,Ludlow 86.13 49 P P 15 07 22.4 +1.4
baz=235,SNR=48
TIN Tinemaha, Big 86.16 46 P P 15 07 22.1 +1.0
baz=234
GLA Glamis 86.18 51 P P 15 07 23.3 +2.1
baz=236,SNR=32
WAKR Walker 86.24 44 P P 15 07 23.0 +1.4
WAKR IAmb IAmb 15 07 25.0
comp=Z,48nm,0.8s
YBH Yreka Blue Hor 86.24 40 P P 15 07 22.6 +1.2
YBH pmax pmax
comp=Z,57nm,1.0s
YBH Yreka Blue Hor 86.24 40 P P 15 07 23.0 +1.6
comp=Z,34nm,0.8s,baz=72,slow=0.7,SNR=39
YBH Yreka Blue Hor 86.24 40 P P 15 07 22.6 +1.2
YBH IAmb IAmb 15 07 25.1
comp=Z,57nm,1.0s

K02D Willamette Mer 86.31 39 P P 15 07 23.6 +1.9
baz=230,SNR=14
KDAK Kodiak Island 86.44 15 *ce* **P P 15 07 23.0 +1.2**
KDAK Kodiak Island 86.44 15 P P 15 07 22.3 +0.5
comp=Z,14nm,1.1s,baz=197,slow=5.7,SNR=5.1
J01E Myrtle Point 86.46 38 P P 15 07 24.0 +1.8
baz=230,SNR=11
BEKR Beckworth 86.49 43 P P 15 07 23.7 +0.9
BEKR IAmb IAmb 15 07 25.7
comp=Z,42nm,0.8s
PNTR Pine Nut 86.49 44 P P 15 07 23.9 +1.1
GMRC Granite Mounta 86.57 49 P P 15 07 24.6 +1.4
baz=236,SNR=22
IRM Iron Mountain 86.57 50 P P 15 07 25.0 +2.0
baz=236,SNR=26
YERR Yerington 86.65 44 P P 15 07 24.5 +1.0
YERR IAmb IAmb 15 07 26.5
comp=Z,66nm,1.0s
HUMO Hull Mountain 86.66 39 P P 15 07 24.5 +1.3
HUMO IAmb IAmb 15 07 27.2
comp=Z,71nm,0.9s
SRDT SRDT 86.66 287 P P 15 07 25.6 +1.8
GRAC Grapevine Rang 86.69 46 P P 15 07 25.0 +1.4
baz=235,SNR=10
FURC Furnace Creek, 86.71 47 P P 15 07 24.9 +1.3
baz=235,SNR=15
TUQ Turquoise Moun 86.75 48 P P 15 07 25.4 +1.4
baz=236,SNR=7.3
Y12C Blythe 86.77 50 P P 15 07 25.7 +1.7
baz=236,SNR=9.0
Y12C Blythe 86.77 50 P P 15 07 25.1 +1.1
SHOC Shoshone, Teco 86.78 48 P P 15 07 25.1 +1.1
baz=235
M04C Macdoel 86.78 40 P P 15 07 25.8 +1.7
baz=232,SNR=27
L04D Klamath Falls 86.78 40 P P 15 07 25.6 +1.6
baz=231,SNR=47
RYN Ryan 86.89 44 P P 15 07 25.4 +0.8
RYN IAmb IAmb 15 07 28.1
comp=Z,180nm,1.8s
NVAR Mina Array Bea 86.92 45 P P 15 07 26.1 +1.2
comp=Z,39nm,0.7s,baz=224,slow=7.3,SNR=162
NVAR pP **pwP** 15 09 32.6 -0.5
comp=Z,3.9nm,0.9s,baz=217,slow=4.3,SNR=2.2
NVAR PP **PP** 15 10 58.4 -0.9
comp=Z,2.1nm,0.8s,baz=221,slow=11,SNR=4.1
NVAR SKKPbc SKKPbc 15 28 01.2 +0.9
comp=Z,0.5nm,0.7s,baz=90,slow=0.7,SNR=3.6
NVAR PKPPKP 15 33 21.7
comp=Z,1.2nm,0.8s,baz=78,slow=4.2,SNR=4.1
UTHA Uthaitani 86.93 289 P P 15 07 26.8 +1.7
UTTA Uttaradit 86.99 291 P P 15 07 27.2 +1.9
PAHR Pah Rah Range 87.00 43 P P 15 07 25.8 +0.7
PAHR IAmb IAmb 15 07 28.1
comp=Z,73nm,0.9s
214A Organ Pipe Nat 87.01 53 P P 15 07 27.3 +2.1
baz=238
214A Organ Pipe Nat 87.01 53 P P 15 07 26.6 +1.4
214A IAmb IAmb 15 07 29.6
comp=Z,70nm,0.9s
NV11 Mina Array Sit 87.01 45 P P 15 07 25.9 +0.7
NV11 IAmb IAmb 15 07 28.2
comp=Z,50nm,0.8s
I02D Swisshome 87.11 38 P P 15 07 26.5 +1.3
baz=230
I03D Drain, OR 87.13 38 P P 15 07 27.0 +1.7
baz=230,SNR=18
K04D Chiloquin, OR 87.36 40 P P 15 07 28.3 +1.7
baz=232,SNR=15
TPNV Topopah Spring 87.39 47 P P 15 07 28.4 +1.4
baz=235,SNR=52
TPNV Topopah Spring 87.39 47 P P 15 07 27.9 +0.9
TPNV pmax pmax
comp=Z,62nm,1.0s
TPNV Topopah Spring 87.39 47 P P 15 07 27.9 +0.9
TPNV IAmb IAmb 15 07 30.7
comp=Z,62nm,0.9s
KVN Kaiserville 87.41 44 P P 15 07 28.0 +0.9
KVN pmax pmax
comp=Z,65nm,0.8s
KVN Kaiserville 87.41 44 P P 15 07 28.0 +0.9
KVN IAmb IAmb 15 07 30.0
comp=Z,65nm,0.8s
J04D Umpqua Nationa 87.54 39 P P 15 07 29.3 +1.7
baz=231,SNR=50
PHRA Phrae 87.61 292 P P 15 07 30.1 +1.9
I04A Tendick Farm, 87.71 39 P P 15 07 29.4 +1.2
baz=231,SNR=30
COR Corvallis 87.72 37 P P 15 07 29.5 +1.4
COR pmax pmax
comp=Z,52nm,0.8s
COR Corvallis 87.72 37 P P 15 07 29.5 +1.4
COR IAmb IAmb 15 07 32.2
comp=Z,52nm,0.8s
UMPA Umpang Tak 87.72 289 P P 15 07 30.5 +1.7
MA2 Magadan 87.73 346 P P 15 07 28.8 +1.0
comp=Z,19nm,0.8s,baz=317,slow=12,SNR=4.0
MOD Modoc Plateau 87.76 41 P P 15 07 29.3 +0.7
SHPR Sheep Range 87.86 48 P P 15 07 30.4 +1.1
SHPR IAmb IAmb 15 07 33.4
comp=Z,58nm,1.3s
Y14A Wickenburg 87.94 51 P P 15 07 30.8 +1.3
Y14A IAmb IAmb 15 07 33.3
comp=Z,47nm,1.0s
W13A Hualapai Mount 87.95 49 P P 15 07 31.0 +1.2
W13A IAmb IAmb 15 07 33.8
comp=Z,37nm,0.9s
H04D Lebanon 87.99 38 P P 15 07 31.0 +1.6
baz=231,SNR=25
J05D Fort Rock, OR 88.06 39 P P 15 07 31.9 +1.9
baz=232,SNR=101
LAMP Lampang 88.13 291 P P 15 07 33.0 +2.4
G03D McMinnville, O 88.14 37 P P 15 07 31.7 +1.6
baz=230,SNR=12
TIY Taiyuan 88.17 314 *e* **P P 15 07 32.4 +1.9**
TIY pP **pP** 15 09 34.4 -1.2
TIY sP **sP** 15 10 29.1 -4.6
TIY SKS **SKSac** 15 17 04.9 +1.1
TIY S **ScS** 15 17 29.7 -0.3
TIY pmax pmax
comp=Z,25nm,0.5s
PLCA Paso Flores 88.24 135 P P 15 07 32.8 +1.8
PLCA pmax pmax
comp=Z,42nm,1.3s
PLCA Paso Flores 88.24 135 P P 15 07 33.1 +2.2
comp=Z,12nm,0.7s,baz=255,slow=4.6,SNR=26
PLCA Paso Flores 88.24 135 P P 15 07 32.8 +1.8
PLCA IAmb IAmb 15 07 35.4
comp=Z,42nm,1.2s
GO06 Curarrehue 88.25 133 P P 15 07 31.0 -0.1
PAYA Payao 88.31 292 P P 15 07 33.2 +1.7
XAN Xi'an 88.54 309 P P 15 07 33.1 +0.8
XAN pP pP 15 09 37.1 -0.4
XAN SKS **SKSac** 15 17 06.1 0.0
XAN S **ScS** 15 17 31.6 -1.6
XAN SS **SS** 15 23 45.6 +6.1
XAN pmax pmax
comp=Z,38nm,0.9s
XAN pmax pmax
comp=Z,180nm,4.9s
XAN Xi'an 88.54 309 P P 15 07 32.5 +0.2
XAN pmax pmax
comp=Z,28nm,0.7s
XAN Xi'an 88.54 309 P P 15 07 32.5 +0.2
XAN IAmb IAmb 15 07 34.7
comp=Z,28nm,0.7s
PINE Pine Mountain 88.55 39 P P 15 07 33.7 +1.4
BRLK Bradley Lake 88.61 15 P P 15 07 32.0 0.0
BRLK IAmb IAmb 15 11 11.4
comp=Z,47nm,0.8s
R11A Troy Canyon, C 88.62 46 P P 15 07 33.7 +0.9
baz=236,SNR=35
R11A Troy Canyon, C 88.62 46 P P 15 07 33.3 +0.6
TUC Tucson 88.66 53 P P 15 07 35.0 +2.0
baz=239
TUC Tucson 88.66 53 P P 15 07 34.6 +1.7
TUC pmax pmax
comp=Z,73nm,1.0s
TUC Tucson 88.66 53 P P 15 07 34.6 +1.7
TUC IAmb IAmb 15 07 37.5
comp=Z,73nm,1.0s
I05D Terrebonne, OR 88.66 39 P P 15 07 34.0 +1.4
baz=232,SNR=28
CM31 Chiang Mai Arr 88.68 291 P P 15 07 33.8 +0.6
CM31 IAmb IAmb 15 07 36.9
comp=Z,53nm,1.1s

CMAR Chiang Mai Arr 88.68 291 *ce* **P P 15 07 34.5 +1.3**
CMAR pmax pmax
comp=Z,24nm,0.9s
CMAR Chiang Mai Arr 88.68 291 P P 15 07 35.2 +2.0
comp=Z,24nm,0.9s,baz=143,slow=3.4,SNR=94
CMAR pP **pP** 15 09 37.6 -0.8
comp=Z,0.2nm,0.4s,baz=195,slow=19,SNR=3.2
CMAR PP **PP** 15 11 13.5 +0.2
comp=Z,6.9nm,0.8s,baz=133,slow=6.0,SNR=15
CMAR PKKPbc **PKKPbc** 15 25 11.2 +1.5
comp=Z,1.6nm,0.5s,baz=284,slow=4.3,SNR=12
CMAR PKPPKP **P'P'df** 15 33 18.1 -0.5
comp=Z,0.7nm,0.8s,baz=281,slow=5.3,SNR=4.3
KMI Kunming 88.68 299 P P 15 07 34.4 +1.0
KMI pP pP 15 09 40.0 +1.4
KMI sP sP 15 10 36.4 -0.2
KMI SKS **SKSac** 15 17 08.3 +0.6
KMI S **S** 15 17 32.5 +0.6
KMI sS sS 15 21 19.1 +1.6
KMI SS **SS** 15 23 42.0 -0.1
KMI pmax pmax
comp=Z,38nm,0.8s
KMI pmax pmax
comp=Z,300nm,5.6s
KMI Kunming 88.68 299 P P 15 07 33.2 -0.2
KMI pmax pmax
comp=Z,30nm,0.8s
KMI Kunming 88.68 299 P P 15 07 33.2 -0.2
KMI IAmb IAmb 15 07 36.0
comp=Z,30nm,0.8s
BMN Battle Mountai 88.76 44 P P 15 07 34.4 +1.1
BMN Battle Mountai 88.76 44 P P 15 07 34.4 +1.1
RSO Redoubt South 88.81 14 P P 15 07 33.3 +0.2
F04D Rainier, OR 88.83 36 P P 15 07 35.2 +1.9
baz=230,SNR=6.2
E03A Lebam 88.83 36 P P 15 07 34.9 +1.7
CMMT Chiang Mai 88.83 291 P P 15 07 35.5 +1.5
CHTO Chiang Mai 88.84 291 P P 15 07 34.9 +0.9
CHTO pmax pmax
comp=Z,55nm,1.0s
CHTO Chiang Mai 88.84 291 P P 15 07 34.9 +0.9
CHTO IAmb IAmb 15 07 37.3
comp=Z,54nm,0.9s
F04A Amboy 89.06 37 P P 15 07 35.6 +1.3
WVOR Wild Horse Val 89.07 41 P P 15 07 35.8 +1.1
WVOR pmax pmax
comp=Z,81nm,1.0s
WVOR Wild Horse Val 89.07 41 P P 15 07 35.8 +1.1
NLWA Neilton Lookou 89.22 35 P P 15 07 36.5 +1.4
NLWA IAmb IAmb 15 07 39.0
comp=Z,62nm,0.9s
G05D Wamic, OR 89.23 38 P P 15 07 36.4 +1.2
baz=232
SEW Seward 89.25 15 P P 15 07 34.9 +0.1
SEW IAmb IAmb 15 07 37.0
comp=Z,41nm,1.1s
319A Douglas 89.28 55 P P 15 07 37.2 +1.3
X16A Lo Mia Camp, P 89.29 51 P P 15 07 37.2 +1.3
X16A IAmb IAmb 15 07 40.1
comp=Z,58nm,0.8s
E04D Cinebar 89.37 36 P P 15 07 37.3 +1.6
baz=231,SNR=19
MHMT Maesarieng 89.41 290 P P 15 07 39.9 +3.3
LCMT Little Creek M 89.43 48 P P 15 07 37.7 +1.3
F05D White Salmon 89.55 37 P P 15 07 38.0 +1.3
baz=232,SNR=6.0
CCUT Cedar City 89.64 48 P P 15 07 39.0 +1.5
D04E Lakebay 89.65 36 P P 15 07 38.8 +1.8
baz=231
D03D Eldon 89.71 35 P P 15 07 38.8 +1.5
baz=230,SNR=14
KNB Kanab 89.72 48 P P 15 07 39.2 +1.3
KNB pmax pmax
comp=Z,61nm,0.8s
KNB Kanab 89.72 48 P P 15 07 39.2 +1.3
U15A North Rim 89.76 49 P P 15 07 39.5 +1.3
SZCU Shurtz Canyon 89.85 48 P P 15 07 39.7 +1.2
PSUT Pine Spring 89.85 47 P P 15 07 39.5 +1.0
LON Longmire 89.90 36 P P 15 07 38.8 +0.5
LON pmax pmax
comp=Z,19nm,0.7s
LON Longmire 89.90 36 P P 15 07 38.8 +0.5
LON IAmb IAmb 15 07 41.3
comp=Z,19nm,0.7s
WUAZ Wupatki 89.91 50 P P 15 07 40.0 +1.3
baz=238
WUAZ Wupatki 89.91 50 P P 15 07 39.8 +1.0
WUAZ IAmb IAmb 15 07 42.6
comp=Z,48nm,0.9s
RC01 Rabbit Creek A 90.05 15 P P 15 07 38.6 +0.1
RC01 IAmb IAmb 15 07 40.8
comp=Z,49nm,1.0s
D05A Enumclaw 90.08 36 P P 15 07 40.4 +1.4
SUA Susitna One 90.15 14 P P 15 07 39.1 -0.1
SUA IAmb IAmb 15 11 20.6
comp=Z,41nm,0.9s
ELK Elko 90.18 44 P P 15 07 40.7 +0.7
ELK Elko 90.18 44 P P 15 07 40.7 +0.7
PKCU Pink Cliffs 90.29 48 P P 15 07 42.1 +1.5
GO05 Huala 90.35 129 P P 15 07 41.6 +0.8
GO05 IAmb IAmb 15 07 44.1
comp=Z,44nm,1.1s
ZEA Zeya 90.39 332 *eP* **P 15 07 40.9 +0.6**
ZEA *eS* **S 15 17 51.0 +5.5**
ZEA pmax pmax
comp=N,21nm,0.8s
ZEA pmax pmax
comp=Z,26nm,0.8s
ZEA smax smax
comp=N,500nm,13.0s
X18A Snowflake 90.40 52 P P 15 07 42.2 +1.2
X18A IAmb IAmb 15 07 44.9
comp=Z,43nm,0.8s
F07A Phinny Hill Vi 90.40 38 P P 15 07 40.5 0.0
F07A IAmb IAmb 15 07 44.1
comp=Z,37nm,1.1s
SKT Skwentna 90.44 14 P P 15 07 39.5 -0.9
HHC Hu-ho-hao-te 90.48 316 P P 15 07 45.4 +4.2
HHC pP pP 15 09 47.4 +0.5
HHC S **S** 15 17 54.6 +7.4
SEY Seymchan 90.49 348 *i* **P P 15 07 41.8 +1.3**
SEY Seymchan 90.49 348 P P 15 07 41.0 +0.5
comp=Z,9.4nm,0.8s,baz=138,slow=4.3,SNR=18
GLI Glacier Island 90.51 16 P P 15 07 40.7 0.0
GLI IAmb IAmb 15 07 42.8
comp=Z,42nm,0.9s
FID Port Fidalgo 90.55 16 P P 15 07 40.9 0.0
EYAK Cordova Ski Ar 90.57 17 P P 15 07 41.3 +0.3
EYAK IAmb IAmb 15 07 42.2
comp=Z,45nm,1.4s
PMR Palmer 90.64 15 P P 15 07 41.2 0.0
PMR pmax pmax
comp=Z,28nm,1.1s
PMR Palmer 90.64 15 P P 15 07 41.2 0.0
PMR IAmb IAmb 15 07 42.8
comp=Z,28nm,1.1s
KNK Knik Glacier 90.64 15 P P 15 07 41.6 +0.3
KNK IAmb IAmb 15 07 43.1
comp=Z,19nm,0.7s
A04D Lummi Island 90.67 35 P P 15 07 43.2 +1.5
baz=231
MTPU Mount Pierson 90.69 48 P P 15 07 44.1 +1.6
B05A Bryant 90.69 35 P P 15 07 43.1 +1.2
baz=231,SNR=11
CD2 Chengdu 90.70 304 P P 15 07 41.9 -0.5
CD2 pP pP 15 09 48.1 0.0
CD2 sP sP 15 10 43.8 -2.1
CD2 SKS **SKSac** 15 17 16.9 -1.7
CD2 S **S** 15 17 49.7 +0.3
CD2 sS sS 15 21 34.3 -0.9
CD2 SS **SS** 15 24 10.9 +0.5
CD2 pmax pmax
comp=Z,50nm,0.7s
CD2 pmax pmax
comp=Z,250nm,6.2s
LTY Liberty 90.82 37 P P 15 07 43.3 +0.7
LTY IAmb IAmb 15 07 45.2
comp=Z,31nm,1.3s
E07A Sunnyside 90.84 37 P P 15 07 43.7 +1.1
E07A IAmb IAmb 15 07 46.4
comp=Z,38nm,0.9s
HIA Hailar 90.84 326 P P 15 07 42.6 0.0
HIA pmax pmax
comp=Z,11nm,0.8s

HIA Hailar 90.84 326 P **P** 15 07 42.6 0.0
W18A Petrified Fore 90.85 51 P **P** 15 07 44.4 +1.2
baz=239
W18A Petrified Fore 90.85 51 P **P** 15 07 44.3 +1.2
W18A IAmb IAmb 15 07 46.3
comp=Z,41nm,0.8s
HAWA Hanford 90.92 38 P **P** 15 07 44.2 +1.3
HAWA IAmb IAmb 15 07 46.0
comp=Z,40nm,1.2s
MSU Marysvale 90.95 47 P **P** 15 07 45.1 +1.5
MSU Marysvale 90.95 47 P **P** 15 07 45.1 +1.5
121A Cookes Peak, D 90.95 54 P **P** 15 07 45.5 +1.8
baz=240
121A Cookes Peak, D 90.95 54 P **P** 15 07 45.4 +1.8
121A IAmb IAmb 15 07 47.3
comp=Z,24nm,0.8s
C06D Leavenworth 91.11 36 P **P** 15 07 44.7 +0.9
baz=232
B06A Marblemount 91.17 35 P **P** 15 07 44.7 +0.7
E08A Dider Farm, El 91.24 38 P **P** 15 07 45.1 +0.7
E08A IAmb IAmb 15 07 48.9
comp=Z,24nm,0.8s
BMO Blue Mountains 91.27 40 P **P** 15 07 45.3 +0.6
BMO pmax pmax
comp=Z,13nm,0.7s
BMO Blue Mountains 91.27 40 P **P** 15 07 45.3 +0.6
SCM Sheep Creek Mo 91.27 16 P **P** 15 07 44.5 +0.2
SCM pmax pmax
comp=Z,28nm,0.7s
SCM Sheep Creek Mo 91.27 16 P **P** 15 07 44.5 +0.2
SCM IAmb IAmb 15 07 46.1
comp=Z,28nm,0.7s
WAX Waxell Ridge 91.27 18 P **P** 15 07 45.1 +0.8
WAX IAmb IAmb 15 07 47.3
comp=Z,19nm,0.8s
MFID Camas Ranch 91.32 42 P **P** 15 07 45.8 +0.7
MFID IAmb IAmb 15 07 47.8
comp=Z,18nm,0.8s
DUG Dugway, Tooele 91.43 46 P **P** 15 07 46.6 +1.0
baz=238
DUG Dugway, Tooele 91.43 46 P **P** 15 07 46.5 +0.9
DUG pmax pmax
comp=Z,20nm,0.8s
DUG Dugway, Tooele 91.43 46 P **P** 15 07 46.5 +0.9
DUG IAmb IAmb 15 07 48.4
comp=Z,20nm,0.8s
CRQM Cirque 91.45 18 P **P** 15 07 45.7 +0.4
CRQM IAmb IAmb 15 07 47.4
comp=Z,20nm,0.9s
YAH Yahtse 91.52 19 P **P** 15 07 46.3 +0.7
TGL Tana Glacier 91.53 18 P **P** 15 07 45.9 +0.3
TGL IAmb IAmb 15 10 00.2
comp=Z,92nm,1.9s
WRAK Wrangell Islan 91.61 25 P **P** 15 07 47.3 +1.5
BGU Big Grassy Mou 91.68 45 P **P** 15 07 47.5 +0.7
PCA Pinnacle 91.74 19 P **P** 15 07 46.9 +0.5
VRDI Verde Repeater 91.75 17 P **P** 15 07 47.0 +0.3
VRDI IAmb IAmb 15 10 02.3
comp=Z,85nm,1.8s
NLU North Lily Min 91.78 46 P **P** 15 07 48.1 +0.8
GLB Gilahina Butte 91.83 17 P **P** 15 07 47.0 +0.1
BALM Baldy 91.90 18 P **P** 15 07 47.8 +0.6
F10A Beach Ranch, E 91.97 39 P **P** 15 07 48.1 +0.2
F10A IAmb IAmb 15 07 50.4
comp=Z,29nm,0.8s
KTH Kantishna Hill 91.97 13 P **P** 15 07 46.3 -1.2
MCARA McCarthy VSAT 92.00 17 P **P** 15 07 46.4 -1.1
MCARA IAmb IAmb 15 07 50.8
comp=Z,35nm,1.0s
TMUT Trail Mountain 92.00 47 P **P** 15 07 49.8 +1.3
TRF Thorofare Moun 92.02 14 P **P** 15 07 46.9 -0.9
TRF IAmb IAmb 15 07 50.9
comp=Z,14nm,0.6s
CTGM Chitina Glacie 92.12 18 P **P** 15 07 49.0 +0.6
CTGM IAmb IAmb 15 07 50.9
comp=Z,20nm,0.9s
PLID Pearl Lake 92.17 40 P **P** 15 07 49.6 +0.5
PLID IAmb IAmb 15 07 51.9
comp=Z,37nm,1.4s
B08A Colville Reser 92.21 36 P **P** 15 07 49.1 +0.2
B08A IAmb IAmb 15 10 02.5
comp=Z,49nm,1.9s
RND Reindeer 92.29 14 P **P** 15 07 48.7 -0.2
RND pmax pmax
comp=Z,20nm,0.8s
RND Reindeer 92.29 14 P **P** 15 07 48.7 -0.2
RND IAmb IAmb 15 07 50.7
comp=Z,20nm,0.8s
HVU Hansel Valley 92.30 44 P **P** 15 07 50.6 +1.0
HVU pmax pmax
comp=Z,37nm,0.8s
HVU Hansel Valley 92.30 44 P **P** 15 07 50.6 +1.0
MNTX Cornudas Mount 92.33 56 P **P** 15 07 51.0 +1.1
baz=241,SNR=16
MNTX Cornudas Mount 92.33 56 P **P** 15 07 50.9 +1.1
DHY Denali Highway 92.33 15 P **P** 15 07 49.0 -0.3
DHY IAmb IAmb 15 10 04.8
comp=Z,51nm,2.0s
LENM Lemitar 92.35 53 P **P** 15 07 50.6 +0.6
SRU San Rafael Swe 92.36 47 P **P** 15 07 50.9 +0.9
SRU pmax pmax
comp=Z,61nm,0.8s
SRU San Rafael Swe 92.36 47 P **P** 15 07 50.9 +0.9
CTU Camp Tracy 92.38 46 P **P** 15 07 50.9 +0.9
P17A Butcher Ranch, 92.40 47 P **P** 15 07 51.1 +0.9
C09A Chrisman Ranch 92.45 37 P **P** 15 07 50.4 +0.4
TX31 Lajitas Ar. Si 92.53 59 P **P** 15 07 52.1 +1.2
TX31 IAmb IAmb 15 07 54.7
comp=Z,24nm,0.9s
TX32 Lajitas Array 92.53 59 P **P** 15 07 52.0 +1.1
TX32 IAmb IAmb 15 07 54.7
comp=Z,25nm,0.9s
JLU Jordanelle 92.53 46 P **P** 15 07 51.5 +0.7
TXAR Lajitas Array 92.53 59 P **P** 15 07 52.4 +1.5
comp=Z,20nm,0.8s,baz=214,slow=5.4,SNR=90
TXAR pP **pwP** 15 10 00.1 -0.1
comp=Z,1.1nm,0.8s,baz=198,slow=3.6,SNR=2.7
TXAR PP **PP** 15 11 45.3 +2.1
comp=Z,0.9nm,0.9s,baz=229,slow=6.9,SNR=3.2
TXAR PKKPbc **PKKPbc** 15 25 00.9 +0.3
comp=Z,1.1nm,0.6s,baz=102,slow=3.2,SNR=11
TXAR PKPPKP 15 33 10.9
comp=Z,0.3nm,0.6s,baz=101,slow=3.9,SNR=3.6
MCK McKinley 92.56 14 P **P** 15 07 49.6 -0.5
MCK pmax pmax
comp=Z,34nm,1.5s
MCK McKinley 92.56 14 P **P** 15 07 49.6 -0.5
MCK IAmb IAmb 15 10 16.3
comp=Z,34nm,1.5s
BNM Barren Site 92.59 53 P **P** 15 07 52.0 +0.8
PAX Paxson 92.70 16 P **P** 15 07 50.4 -0.4
PAX pmax pmax
comp=Z,51nm,1.9s
PAX Paxson 92.70 16 P **P** 15 07 50.4 -0.4
PAX IAmb IAmb 15 10 06.0
comp=Z,51nm,1.9s
MVCO Mesa Verde 92.77 50 P **P** 15 07 53.1 +1.1
baz=240
MVCO Mesa Verde 92.77 50 P **P** 15 07 52.5 +0.5
PV05 Paradox Valley 92.79 49 P **P** 15 07 52.4 +0.3
PV05 IAmb IAmb 15 07 55.6
comp=Z,23nm,0.8s
SKAG Skagway 92.80 22 P **P** 15 07 52.6 +1.4
SKAG IAmb IAmb 15 10 06.7
comp=Z,63nm,1.8s
TCUT Toone Canyon 92.82 45 P **P** 15 07 53.1 +1.0
PV09 Paradox Valley 92.98 49 P **P** 15 07 53.7 +0.7
PV19 Morning Glory 92.99 49 P **P** 15 07 53.4 +0.4
PV17 East Wray Mesa 92.99 49 P **P** 15 07 53.2 +0.3
PV17 IAmb IAmb 15 07 57.2
comp=Z,16nm,0.8s
PV14 Lion Creek, Pa 92.99 49 P **P** 15 07 53.5 +0.5
PV14 IAmb IAmb 15 07 55.9
comp=Z,19nm,0.8s
PV18 Skein Mesa, Pa 93.01 49 P **P** 15 07 53.3 +0.3
PV20 West Nyswonger 93.01 49 P **P** 15 07 53.3 +0.3
PV20 IAmb IAmb 15 07 56.0
comp=Z,16nm,0.8s
PV13 Radium Mtn., P 93.02 49 P **P** 15 07 53.4 +0.3
PV16 Nyswonger Mesa 93.03 49 P **P** 15 07 53.5 +0.4
PV23 Carpenter Ridg 93.04 49 P **P** 15 07 53.7 +0.5
PV23 IAmb IAmb 15 07 56.7
comp=Z,24nm,0.7s
PV03 Paradox Valley 93.05 49 P **P** 15 07 53.9 +0.7

PV11 David Mesa, Pa 93.06 49 P **P** 15 07 53.6 +0.4
PV11 IAmb IAmb 15 08 01.3
comp=Z,14nm,0.7s
PV04 Paradox Valley 93.08 49 P **P** 15 07 53.9 +0.6
PV04 IAmb IAmb 15 07 57.7
comp=Z,19nm,1.0s
ANMO Albuquerque 93.10 53 P **P** 15 07 54.7 +1.2
baz=241
ANMO Albuquerque 93.10 53*ce*P **P** 15 07 54.1 +0.5
ANMO pmax pmax
comp=Z,20nm,0.9s
ANMO Albuquerque 93.10 53 P **P** 15 07 54.0 +0.5
ANMO IAmb IAmb 15 07 56.7
comp=Z,17nm,0.8s
PV02 Paradox Valley 93.10 49 P **P** 15 07 54.1 +0.7
PV02 IAmb IAmb 15 07 56.0
comp=Z,14nm,0.8s
MENT Mentasta 93.11 16 P **P** 15 07 52.9 +0.3
PV12 Saucer Basin, 93.11 49 P **P** 15 07 54.1 +0.6
PV12 IAmb IAmb 15 07 56.2
comp=Z,22nm,0.9s
PV21 Cone Mtn., Par 93.12 49 P **P** 15 07 54.4 +0.8
PV21 IAmb IAmb 15 08 01.6
comp=Z,20nm,0.8s
LZH Lanzhou 93.17 309 ⇑P **P** 15 07 55.3 +1.6
LZH pP pP 15 10 00.0 +0.3
LZH SKS **SKSac** 15 17 31.7 -0.5
LZH S **S** 15 18 10.2 -0.8
LZH sS sS 15 21 55.3 -2.9
LZH pmax pmax
comp=Z,26nm,1.3s
LZH pmax pmax
comp=Z,260nm,9.2s
PV01 Paradox Valley 93.18 49 P **P** 15 07 54.5 +0.6
PV01 IAmb IAmb 15 07 56.7
comp=Z,19nm,0.8s
PV22 Blue Mesa, Par 93.23 49 P **P** 15 07 54.9 +0.9
PV22 IAmb IAmb 15 07 58.5
comp=Z,17nm,0.8s
PV07 Paradox Valley 93.28 49 P **P** 15 07 54.3 0.0
MLY Manley 93.33 13 P **P** 15 07 52.8 -0.8
NEW Newport 93.35 37 P **P** 15 07 55.2 +1.1
baz=235
NEW Newport 93.35 37 P **P** 15 07 54.0 -0.1
NEW Newport 93.35 37 P **P** 15 07 54.0 -0.1
comp=Z,5.4nm,0.8s,baz=263,slow=2.6,SNR=7.7
NEW Newport 93.35 37 P **P** 15 07 54.4 +0.3
WRH Wood River Hil 93.38 14 P **P** 15 07 53.4 -0.4
WRH IAmb IAmb 15 07 55.3
comp=Z,17nm,1.0s
RIDG Independent Ri 93.50 15 P **P** 15 07 54.5 0.0
RIDG IAmb IAmb 15 07 56.5
comp=Z,18nm,1.1s
HDA Harding Lake 93.58 14 P **P** 15 07 54.1 -0.7
baz=211
HDA Harding Lake 93.58 14 P **P** 15 07 54.4 -0.3
CCB Clear Creek Bu 93.60 14 P **P** 15 07 54.1 -0.7
DOT Dot Lake 93.61 16 P **P** 15 07 53.2 -1.7
BILL Bilibino 93.66 355*c i*P **P** 15 07 55.2 +0.2
BILL *i* *PP **pwP** 15 10 05.6 -0.8
BILL pmax pmax
comp=Z,10.0nm,1.0s
BILL Bilibino 93.66 355 P **P** 15 07 54.6 -0.4
BILL IAmb IAmb 15 10 09.8
comp=Z,43nm,1.9s
TCOL CIGO, UAF Yank 93.78 14 P **P** 15 07 55.1 -0.5
baz=210
COLA College 93.78 14 *i* P **P** 15 07 55.7 +0.1
COLA pmax pmax
comp=Z,19nm,1.1s
COLA College 93.78 14 P **P** 15 07 55.0 -0.6
COLA IAmb IAmb 15 07 57.0
comp=Z,25nm,1.1s
AHID Auburn Hatcher 93.88 44 P **P** 15 07 57.5 +0.6
MCMT McKenzie Canyo 93.89 42 P **P** 15 07 57.2 +0.3
IL31 93.91 14 P **P** 15 07 55.0 -1.2
ILAR Eielson Array 93.91 14 P **P** 15 07 55.5 -0.7
comp=Z,7.0nm,1.0s,baz=225,slow=5.1,SNR=40
ILAR pP **pP** 15 10 02.0 -0.6
comp=Z,2.1nm,0.9s,baz=228,slow=5.6,SNR=5.4
ILAR PP **PP** 15 11 51.0 -1.8
comp=Z,3.6nm,1.1s,baz=224,slow=7.6,SNR=4.2
ILAR PKKPbc **PKKPdf** 15 24 56.0 -1.4
comp=Z,0.8nm,0.7s,baz=352,slow=3.5,SNR=5.5
ILAR PKPPKP **P'P'df** 15 33 07.4 +2.1
comp=Z,0.6nm,1.0s,baz=348,slow=2.2,SNR=4.7
SCRK Sand Creek 93.91 16 P **P** 15 07 56.2 -0.1
POKR Poker Plat Res 94.08 14 P **P** 15 07 56.2 -0.9
baz=211
S22A 4UR Ranch, Cre 94.19 50 P **P** 15 07 59.6 +1.1
baz=241,SNR=13
S22A 4UR Ranch, Cre 94.19 50 P **P** 15 07 59.2 +0.6
S22A IAmb IAmb 15 08 01.5
comp=Z,23nm,0.8s
DLMT Dillon 94.33 41 P **P** 15 07 59.3 +0.5
MSO Missoula 94.33 40 P **P** 15 07 59.3 +0.6
baz=237
MSO Missoula 94.33 40 P **P** 15 07 59.7 +1.0
REDW Red Top Meadow 94.34 44 P **P** 15 07 59.7 +0.7
REDW IAmb IAmb 15 08 02.1
comp=Z,15nm,1.0s
TPAW Teton Pass 94.35 44 P **P** 15 08 00.0 +0.9
FXWY Fox Creek 94.38 43 P **P** 15 07 59.8 +0.6
O20A White River Ci 94.40 47 P **P** 15 07 60.0 +0.7
baz=240,SNR=10
O20A White River Ci 94.40 47 P **P** 15 07 59.7 +0.4
O20A IAmb IAmb 15 08 01.7
comp=Z,13nm,0.8s
SNOW Snow King Moun 94.45 44 P **P** 15 08 00.0 +0.5
SNOW IAmb IAmb 15 08 04.0
comp=Z,23nm,0.9s
IMW Indian Meadow 94.56 43 P **P** 15 08 00.5 +0.4
IMW IAmb IAmb 15 08 03.2
comp=Z,21nm,1.2s
MOOW Moose Ponds 94.61 43 P **P** 15 08 00.8 +0.6
MOOW IAmb IAmb 15 10 15.8
comp=Z,28nm,1.9s
LRM Limekiln Ridge 94.66 41 P **P** 15 08 02.0 +1.6
QLMT Earthquake Lak 94.75 42 P **P** 15 08 01.9 +1.2
SMCO Snowmass 94.78 49 P **P** 15 08 01.9 +0.5
SMCO IAmb IAmb 15 08 06.1
comp=Z,14nm,0.7s
CFA Coronel Fontan 94.78 128 P **P** 15 08 02.1 +0.9
comp=Z,6.6nm,0.6s,baz=227,slow=7.4,SNR=6.2
FLWY Flagg Ranch 94.81 43 P **P** 15 08 01.2 +0.2
FLWY IAmb IAmb 15 08 06.2
comp=Z,23nm,1.1s
PRP Porcupine Dome 94.85 14 P **P** 15 08 00.2 -0.4
YHB Horse Butte 94.85 42 P **P** 15 08 00.9 -0.3
BW06 Boulder Array 94.85 45 P **P** 15 08 01.6 +0.2
baz=240,SNR=12
BW06 Boulder Array 94.85 45 P **P** 15 08 01.5 +0.2
PD31 Pinedale Array 94.85 45 P **P** 15 08 01.3 -0.1
PDAR Pinedale Array 94.85 45 P **P** 15 08 01.9 +0.5
comp=Z,6.5nm,0.7s,baz=184,slow=3.2,SNR=40
PDAR pP **pP** 15 10 09.2 +1.0
comp=Z,0.2nm,0.4s,baz=234,slow=30,SNR=1.6
PDAR PP **PP** 15 12 01.4 +0.5
comp=Z,7.4nm,1.1s,baz=234,slow=7.1,SNR=12
YMR Madison River 94.95 43 P **P** 15 08 02.2 +0.5
BOZ Bozeman (W) 95.03 41 P **P** 15 08 02.7 +0.7
baz=238,SNR=13
BOZ Bozeman (W) 95.03 41 P **P** 15 08 02.5 +0.5
BOZ Bozeman (W) 95.03 41 P **P** 15 08 02.5 +0.5
H17A Grant Village 95.05 43 P **P** 15 08 02.5 +0.3
baz=239
SDCO Great Sand Dun 95.11 51 P **P** 15 08 03.1 +0.4
baz=242
DAWY Dawson 95.16 17 P **P** 15 08 02.4 +0.5
EGAK Eagle 95.27 16 P **P** 15 08 02.6 +0.3
MSTX Muleshoe 95.33 55 P **P** 15 08 04.1 +0.5
baz=243
MSTX Muleshoe 95.33 55 P **P** 15 08 03.9 +0.3
MSTX IAmb IAmb 15 08 11.6
comp=Z,14nm,1.1s
COLD Coldfoot 95.38 12 P **P** 15 08 03.4 +0.6
HRY Holter Researc 95.49 40 P **P** 15 08 04.6 +0.6
YAK Yakutsk 95.49 339 P **P** 15 08 02.8 -0.6
YAK pmax pmax
comp=Z,12nm,1.0s
YAK Yakutsk 95.49 339 P **P** 15 08 03.1 -0.3
comp=Z,6.0nm,0.8s,baz=341,slow=2.6,SNR=7.4
YAK Yakutsk 95.49 339 P **P** 15 08 02.9 -0.6
WALA Waterton Lakes 95.56 38 P **P** 15 08 04.7 +0.5
T25A Trinidad 95.59 52 P **P** 15 08 05.0 +0.2
baz=242,SNR=7.3
T25A Trinidad 95.59 52 P **P** 15 08 05.0 +0.2
YNE Yellowstone No 95.71 43 P **P** 15 08 06.1 +0.9
RWWY Rawlins 95.84 46 P **P** 15 08 06.2 +0.3
Q24A Divide 95.93 50 P **P** 15 08 07.1 +0.7
baz=242
Q24A Divide 95.93 50 P **P** 15 08 06.6 +0.2
Q24A IAmb IAmb 15 08 09.6
comp=Z,15nm,0.9s
ISCO Idaho Springs 96.00 49 P **P** 15 08 06.9 +0.2
baz=242
ISCO Idaho Springs 96.00 49 P **P** 15 08 07.4 +0.7
ISCO pmax pmax
comp=Z,4.0nm,0.9s
ISCO Idaho Springs 96.00 49 P **P** 15 08 07.4 +0.7
JCT Junction City 96.03 59 P **P** 15 08 06.7 0.0
baz=244
JCT Junction City 96.03 59 P **P** 15 08 05.7 -1.0
JCT pmax pmax
comp=Z,7.0nm,0.9s
JCT Junction City 96.03 59 P **P** 15 08 05.7 -1.0
RLMT Red Lodge 96.22 43 Pdiff **P** 15 08 08.0 +0.6
baz=240
RLMT Red Lodge 96.22 43 P **P** 15 08 07.4 0.0
N23A Red Feather La 96.30 48 Pdiff **P** 15 08 08.0 +0.1
baz=242
N23A Red Feather La 96.30 48 P **P** 15 08 08.5 +0.6
K22A Casper 96.75 46 Pdiff **P** 15 08 10.1 +0.3
baz=242
K22A Casper 96.75 46 P **P** 15 08 10.3 +0.6
ULN Ulaanbaatar 96.95 320*ce*P **P** 15 08 11.0 +0.5
ULN pmax pmax
comp=Z,2.0nm,0.8s
ULN Ulaanbaatar 96.95 320 P **P** 15 08 10.1 -0.5
ULN IAmb IAmb 15 08 12.8
comp=Z,23nm,1.9s
ABTX Abilene, Hawle 97.09 57 Pdiff **P** 15 08 11.4 +0.1
baz=244
ABTX Abilene, Hawle 97.09 57 P **P** 15 08 11.9 +0.5
ABTX IAmb IAmb 15 08 14.3
comp=Z,18nm,1.2s
SONM Songino Array 97.32 320 P **P** 15 08 12.1 -0.1
comp=Z,1.6nm,0.7s,baz=126,slow=3.8,SNR=7.1
SONM PP **PP** 15 12 22.1 +2.7
comp=Z,0.7nm,0.7s,baz=106,slow=5.1,SNR=3.4
SONM S **SKSac** 15 17 52.6 -0.6
comp=Z,0.2nm,0.4s,baz=77,slow=1.9,SNR=1.5
SONM PKKPbc **PKKPbc** 15 24 48.3 -0.4
comp=Z,1.2nm,0.5s,baz=297,slow=1.7,SNR=6.3
EGMT Eagleton 97.38 40 Pdiff **P** 15 08 12.6 +0.2
baz=240
GTA Gaotai 97.54 310 ⇑P **P** 15 08 14.9 +1.5
GTA pP pP 15 10 19.2 -0.5
GTA PP **PP** 15 12 23.3 +2.1
GTA SKS **SKSac** 15 17 55.7 +1.0
GTA S **S** 15 18 49.8 +1.6
GTA SS **SS** 15 25 47.8 +1.4
GTA pmax pmax
comp=Z,110nm,8.6s
WMOK Wichita Mounta 98.64 56 Pdiff Pdif 15 08 18.1 -0.1
baz=245
LAO LASA Array 98.83 42 Pdiff **P** 15 08 19.5 +0.6
baz=242
RSSD Black Hills 99.03 45 Pdiff **Pdif** 15 08 20.1 +0.1
baz=243
RSSD Black Hills 99.03 45 P **Pdif** 15 08 20.3 +0.3
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD Black Hills 99.03 45 **Pdif** 15 08 20.3 +0.3
LVC Limon Verde 99.17 120 PP **PP** 15 12 33.7 +0.3
comp=Z,2.6nm,0.6s,baz=228,slow=6.8,SNR=2.6
INK Inuvik 99.94 16 P **Pdif** 15 08 23.0 -0.1
INK 15 12 39.3
INK pmax pmax
comp=Z,8.0nm,1.1s
INK Inuvik 99.94 16 P **Pdif** 15 08 23.1 -0.1
comp=Z,4.6nm,0.9s,baz=194,slow=5.2,SNR=12
INK PP **PP** 15 12 39.3 +1.0
comp=Z,4.5nm,1.0s,baz=200,slow=6.6,SNR=3.3
INK PKiKP **PKiKP** 15 12 47.2 +0.1
comp=Z,1.3nm,0.7s,baz=287,slow=3.0,SNR=5.5
INK PKKPbc **PKKPbc** 15 24 40.5 -1.4
comp=Z,0.5nm,0.3s,baz=67,slow=4.1,SNR=5.2
INK Inuvik 99.94 16 **Pdif** 15 08 22.9 -0.1
TLY Talaya 100.73 322 *i* P **Pdif** 15 08 29.3 +2.2
TLY pmax pmax
comp=Z,6.0nm,1.0s
TAPN Taplejung 101.80 295 *e*P **Pdif** 15 08 35.7 +2.9
comp=Z,7.9nm,0.8s
YKA Yellowknife Ar 102.42 26 P **Pdif** 15 08 35.2 +1.0
comp=Z,0.7nm,0.7s,baz=243,slow=4.4,SNR=6.1
YKA PP **PP** 15 12 55.1 -1.7
comp=Z,3.7nm,0.9s,baz=246,slow=7.5,SNR=13
YKA PKKPbc **PKKPbc** 15 24 32.6 -1.9
comp=Z,1.6nm,0.6s,baz=45,slow=2.4,SNR=18
YKA SKKPbc SKKPbc 15 27 19.0 -4.2
comp=Z,0.5nm,0.5s,baz=44,slow=2.3,SNR=6.4
RAMN Ramite 102.56 294 *e*P **Pdif** 15 08 36.1 0.0
comp=Z,6.9nm,0.7s
TIXI Tiksi 102.69 346 *i* P **Pdif** 15 08 34.7 -0.6
TIXI pmax pmax
comp=Z,2.0nm,1.2s
TIXI Tiksi 102.69 346 PKiKP **PKiKP** 15 12 52.6 +0.5
comp=Z,0.9nm,0.4s,baz=75,slow=1.1,SNR=2.9
TIXI PKKPbc **PKKPbc** 15 24 31.2 -2.8
comp=Z,1.1nm,0.4s,baz=354,slow=3.6,SNR=4.9
LPAZ La Paz 103.13 115 Pdiff **Pdif** 15 08 41.0 +1.6
comp=Z,1.0nm,0.7s,baz=260,slow=6.1,SNR=2.3
LPAZ PP **PP** 15 13 04.5 +1.3
comp=Z,3.0nm,1.1s,baz=270,slow=5.8,SNR=4.5
JIRN Jiri 103.17 294 *e*P **Pdif** 15 08 41.7 +2.8
comp=Z,5.8nm,0.4s
GUN Gumba 103.51 295 *e*P **Pdif** 15 08 43.1 +2.6
comp=Z,8.6nm,0.4s
PKI Pulchoki 103.78 294 *e*P **Pdif** 15 08 43.2 +1.6
comp=Z,6.5nm,0.5s
PKIN Phulchoki 103.79 294 *e*P **Pdif** 15 08 43.1 +1.5
comp=Z,8.0nm,0.5s
DMN Daman 104.04 294 *e*P **Pdif** 15 08 44.0 +1.3
comp=Z,9.9nm,0.7s
GKN Gorkha 104.57 294 *e*P **Pdif** 15 08 47.2 +2.3
comp=Z,9.9nm,0.5s
KOLN Koldanda 105.34 294 *e*P **Pdif** 15 08 49.5 +1.1
comp=Z,4.0nm,0.4s
DANN Dangsing 105.42 294 *e*P **Pdif** 15 08 51.7 +2.9
comp=Z,12nm,0.9s
ULM Lac du Bonnet 106.57 42 PP **PP** 15 13 25.9 -1.4
comp=Z,5.8nm,0.9s,baz=260,slow=11,SNR=3.9
SIV San Ignacio 108.97 119 PP **PP** 15 13 49.2 +4.6
comp=Z,2.8nm,1.0s,baz=266,slow=11,SNR=4.6
X52A Dahlonega 110.02 60 PKiKP **PKiKP** 15 13 06.3 -0.6
baz=252
V52A Sevierville 110.62 59 PKiKP **PKiKP** 15 13 07.4 -0.6
baz=253
W53A Cullowhee 110.76 60 PKiKP **PKiKP** 15 13 07.9 -0.5
baz=253
N48A Decatur 110.96 54 PKiKP **PKiKP** 15 13 08.6 +0.1
baz=254
Y55A Saluda 111.43 62 PKiKP **PKiKP** 15 13 09.1 -0.5
baz=253
P50A Jamestown 111.53 55 PKiKP **PKiKP** 15 13 09.7 +0.1
baz=254
U53A Fall Branch 111.56 59 PKiKP **PKiKP** 15 13 09.6 -0.2
baz=254
Q51A Peebles 111.71 56 PKiKP **PKiKP** 15 13 09.7 -0.2
baz=254
V54A Nebo 111.89 60 PKiKP **PKiKP** 15 13 10.3 -0.1
baz=254
MKAR Makanchi Array 112.11 312 Pdiff **Pdif** 15 09 20.0 +2.2
comp=Z,0.5nm,0.5s,baz=83,slow=6.0,SNR=12
MKAR PKiKP **PKiKP** 15 13 10.3 -0.2
comp=Z,1.0nm,0.4s,baz=92,slow=2.8,SNR=13
MKAR PP **PP** 15 14 09.7 +2.8
comp=Z,2.0nm,0.6s,baz=111,slow=6.1,SNR=4.8
MKAR SKP 15 15 51.7
comp=Z,1.3nm,0.5s,baz=203,slow=1.2,SNR=5.6
MKAR PKKPbc **PKKPbc** 15 24 04.2 -0.1
comp=Z,1.5nm,0.5s,baz=269,slow=3.3,SNR=13
MKAR PKKPab **PKKPab** 15 24 14.7 +1.4
comp=Z,2.5nm,0.9s,baz=286,slow=3.6,SNR=4.4
MKAR SKKPbc SKKPbc 15 26 50.9 -3.8
comp=Z,2.8nm,0.9s,baz=336,slow=2.7,SNR=6.3
U54A Nelsons Funny 112.19 59 PKiKP **PKiKP** 15 13 11.0 -0.1
baz=254
ZALV Zalesovo Beam 112.20 320 PKiKP **PKiKP** 15 13 09.9 -0.5
comp=Z,2.2nm,0.5s,baz=131,slow=0.4,SNR=10
ACSO Alum Creek Sta 112.30 55 PKiKP **PKiKP** 15 13 11.0 -0.1

baz=255
N50A Nevada 112.31 54 PKiKP **PKiKP** 15 13 11.3 +0.3
baz=255
T54A Tazewell 112.52 59 PKiKP **PKiKP** 15 13 10.9 -0.7
baz=254
U55A TA2, Sparta 112.78 59 PKiKP **PKiKP** 15 13 12.2 0.0
baz=254
W57A Gilead 113.25 61 PKiKP **PKiKP** 15 13 13.4 +0.4
baz=254
R54A Victor 113.27 57 PKiKP **PKiKP** 15 13 12.8 -0.2
baz=255
RES Resolute Bay 113.49 17 PKiKP **PKiKP** 15 13 11.8 -0.5
comp=Z,2.9nm,0.6s,baz=275,slow=4.3,SNR=13
RES SKP 15 15 53.6
comp=Z,2.1nm,0.8s,baz=160,slow=5.0,SNR=3.9
S55A Lewisburg 113.54 58 PKiKP **PKiKP** 15 13 13.6 +0.1
baz=255
E47A Iron Bridge 113.58 48 PKiKP **PKiKP** 15 13 13.6 +0.4
baz=257
Q54A Coxs Mills 113.59 57 PKiKP **PKiKP** 15 13 13.4 -0.2
baz=256
V57A Coltrane Farms 113.61 60 PKiKP **PKiKP** 15 13 13.5 -0.2
baz=255
NRIK Noril'sk 113.85 337 PKiKP **PKiKP** 15 13 13.0 -0.1
comp=Z,3.9nm,0.6s,baz=74,slow=2.8,SNR=9.4
R55A Marlinton 113.95 58 PKiKP **PKiKP** 15 13 14.2 -0.1
baz=256
U57A Blanch 114.10 60 PKiKP **PKiKP** 15 13 14.5 -0.1
baz=255
V58A Windy Hill, Pi 114.11 60 PKiKP **PKiKP** 15 13 15.0 +0.4
baz=255
T57A Hurt 114.30 59 PKiKP **PKiKP** 15 13 15.1 +0.2
baz=256
Y60A Bolivia 114.36 62 PKiKP PKPdf 15 13 15.0 -0.1
baz=255
R56A Bull Pasture M 114.53 58 PKiKP PKPdf 15 13 15.4 -0.1
baz=256
N54A Moraine State 114.68 55 PKiKP **PKiKP** 15 13 15.5 -0.1
baz=257
U58A Oxford 114.70 60 PKiKP **PKiKP** 15 13 15.9 +0.2
baz=256
Q56A Snyder Ridge, 114.84 57 PKiKP PKPdf 15 13 15.8 -0.1
baz=257
T58A Grand View Acr 114.85 59 PKiKP PKPdf 15 13 15.5 -0.5
baz=256
KSH Kashi 114.89 304 PKP PKPdf 15 13 14.8 -1.4
KSH PP **PP** 15 14 30.7 +4.1
KSH SKS **SKSdf** 15 19 29.1 -4.3
KSH SKKS **SKKSac** 15 20 21.2 -5.6
KSH AMB AMB
comp=Z,390nm,5.1s
M54A Oil Creek Stat 115.04 54 PKiKP **PKPdf** 15 13 15.4 -0.9
baz=257
KURK Kurchatov 115.30 316 PKiKP **PKPdf** 15 13 15.8 -0.6
KURK Kurchatov 115.30 316 **PKPdf** 15 13 15.8 -0.6
KURK Kurchatov 115.30 316 PKKPbc 15 23 54.3 +0.7
KURK **PKKPab** 15 24 00.7 +1.7
KURK **SKKPbc** 15 26 42.5 -2.7
NRN Naryn 115.30 306 PKiKP **PKPdf** 15 13 16.9 -0.3
NRN Naryn 115.30 306 **PKPdf** 15 13 16.9 -0.3
KURBB Kurchatov Arra 115.33 316 PKKPbc PKKPbc 15 23 54.3 +0.8
comp=Z,1.5nm,0.6s,baz=282,slow=4.1,SNR=8.5
KURBB PKKPab **PKKPab** 15 24 00.7 +1.9
comp=Z,3.2nm,1.1s,baz=275,slow=5.0,SNR=6.7
KURBB SKKPbc SKKPbc 15 26 42.5 -2.6
comp=Z,1.4nm,0.7s,baz=289,slow=3.7,SNR=7.5
S58A Poland Farm, P 115.38 59 PKiKP **PKPdf** 15 13 16.3 -0.7
baz=257
N55A Marion Center 115.39 55 PKiKP **PKPdf** 15 13 16.7 -0.2
baz=258
O56A Blue Knob Stat 115.59 56 PKiKP **PKiKP** 15 13 17.5 +0.1
baz=258
R58B Mineral 115.60 58 PKiKP **PKiKP** 15 13 17.4 0.0
baz=257
M55A Ridgway 115.69 54 PKiKP **PKiKP** 15 13 17.6 0.0
baz=258
P57A Homestead Farm 115.83 57 PKiKP **PKPdf** 15 13 17.7 -0.1
baz=257
Q58A Fox Den Farm, 115.97 57 PKiKP **PKPdf** 15 13 17.6 -0.5
baz=257
K54A Basiliko Farm, 115.98 53 PKiKP **PKPdf** 15 13 17.5 -0.5
baz=259
L55A Hinsdale 116.08 54 PKiKP **PKPdf** 15 13 18.1 -0.2
baz=258
M56A Emporium 116.13 54 PKiKP **PKPdf** 15 13 18.2 -0.2
baz=258
SSPA Standing Stone 116.17 55 PKiKP **PKPdf** 15 13 18.2 -0.2
baz=258
H53A Bobcaygeon 116.43 51 PKiKP **PKPdf** 15 13 18.7 -0.1
baz=260
AAK Ala-Archa 116.64 307 *c i* PKIKP **PKiKP** 15 13 20.1 +0.6
AAK pmax pmax
comp=Z,8.0nm,2.5s
AAK Ala-Archa 116.64 307 PKKPbc PKKPbc 15 23 50.2 +1.1
comp=Z,3.2nm,0.6s,baz=224,slow=4.3,SNR=7.3
AAK SKKPbc SKKPbc 15 26 40.4 -0.3
comp=Z,1.9nm,0.7s,baz=199,slow=1.6,SNR=6.7
AAK Ala-Archa 116.64 307 **PKiKP** 15 13 19.6 +0.1
AAK **PKKPbc** 15 23 49.9 +0.8
E52A Mattawa 116.68 49 PKiKP **PKPdf** 15 13 19.1 -0.1
baz=260
O58A Lewisberry 116.79 56 PKiKP **PKPdf** 15 13 19.2 -0.4
baz=258
G54A Lake Saint Pet 116.92 50 PKiKP **PKPdf** 15 13 19.1 -0.7
baz=260
D52A ZEK Kipawa Sen 116.96 48 PKiKP **PKPdf** 15 13 19.3 -0.5
baz=261
O59A Robesonia 117.38 56 PKiKP **PKPdf** 15 13 19.9 -0.9
baz=259
K57A Scipio Center 117.58 53 PKiKP **PKPdf** 15 13 20.5 -0.6
baz=260
R61A Willards 117.63 58 PKiKP **PKPdf** 15 13 20.5 -0.8
baz=258
P60A Greenville 117.70 57 PKiKP **PKPdf** 15 13 20.6 -0.8
baz=259
N59A State Game Lan 117.80 55 PKiKP **PKPdf** 15 13 20.7 -0.9
baz=259
G55A Calabogie 117.85 51 PKiKP **PKPdf** 15 13 20.6 -0.9
baz=261
L58A Harry Jones Me 117.95 54 PKiKP **PKPdf** 15 13 21.2 -0.7
baz=260
O60A Telford 117.97 56 PKiKP **PKPdf** 15 13 21.2 -0.7
baz=259
J57A Williamstown 118.07 53 PKiKP **PKPdf** 15 13 21.4 -0.6
baz=261
H56A Elgin 118.07 51 PKiKP **PKPdf** 15 13 21.8 -0.1
baz=261
M59A Waymart 118.17 55 PKiKP **PKPdf** 15 13 22.0 -0.3
baz=260
D54A Lac Fusel, La 118.17 48 PKiKP **PKPdf** 15 13 21.4 -0.8
baz=262
LSQQ Lebel-sur-Quev 118.21 46 PKiKP **PKPdf** 15 13 21.6 -0.5
baz=263
K58A Earlville 118.22 53 PKiKP **PKPdf** 15 13 21.9 -0.4
baz=260
N60A Cedar Hill Far 118.29 56 PKiKP **PKiKP** 15 13 22.5 -0.1
baz=260
J58A Remsen 118.58 53 PKiKP **PKPdf** 15 13 22.7 -0.3
baz=261
M60A Port Jervis 118.73 55 PKiKP **PKPdf** 15 13 23.1 -0.2
baz=260
K59A Cooperstown 118.80 54 PKiKP **PKPdf** 15 13 23.0 -0.5
baz=261
I58A Old Forge 118.85 53 PKiKP **PKPdf** 15 13 23.4 -0.1
baz=261
N61A South Mountain 118.87 56 PKiKP **PKPdf** 15 13 23.2 -0.4
baz=260
BTK Batken 118.89 303 PKiKP **PKiKP** 15 13 24.0 +0.1
BTK Batken 118.89 303 **PKiKP** 15 13 24.0 +0.1
D55A Sainte-Anne-du 118.96 49 PKiKP **PKPdf** 15 13 23.1 -0.5
baz=263
G57A Newington 119.04 51 PKiKP **PKPdf** 15 13 23.0 -0.8
baz=262
GAR Garm 119.09 302 **PKiKP** 15 13 24.9 +0.5
BDFB Brasilia 119.10 127 PKP **PKPdf** 15 13 23.8 -1.2
comp=Z,2.8nm,0.5s,baz=251,slow=2.1,SNR=4.8
BDFB SKP 15 16 06.9
comp=Z,3.6nm,0.6s,baz=118,slow=8.5,SNR=4.0
BDFB PKKPab **PKKPab** 15 23 45.1 -0.7
comp=Z,2.1nm,0.4s,baz=43,slow=8.9,SNR=4.3
L60A Shokan 119.13 55 PKiKP **PKPdf** 15 13 24.0 -0.1
baz=261
J59A Piesco 119.15 53 PKiKP **PKPdf** 15 13 23.8 -0.3
baz=262
E56A St. Veronique 119.20 49 PKiKP **PKPdf** 15 13 23.4 -0.6
baz=263
PAL Palisades 119.21 56 PKiKP **PKPdf** 15 13 23.1 -1.1
baz=261
KBL Kabul 119.22 297 PKiKP **PKiKP** 15 13 25.4 +0.5
KBL Kabul 119.22 297 **PKiKP** 15 13 25.4 +0.5
LONY Lake Ozonia 119.26 51 PKiKP **PKPdf** 15 13 23.3 -1.0
baz=262
M61A Granite Spring 119.36 55 PKiKP **PKPdf** 15 13 24.2 -0.3
baz=261
H58A Gabriels 119.52 52 PKiKP **PKPdf** 15 13 24.2 -0.6
baz=262
KK31 Karatay Array 119.61 307 PKiKP **PKiKP** 15 13 25.3 +0.2
KK31 Karatay Array 119.61 307 **PKiKP** 15 13 25.3 +0.2
KKAR Karatay Array 119.61 307 PKiKP **PKiKP** 15 13 25.4 +0.3
KKAR Karatay Array 119.61 307 **PKiKP** 15 13 25.4 +0.3
L61A Hillsdale 1, H 119.66 54 PKiKP **PKPdf** 15 13 24.5 -0.6
baz=261
G58A Ormstown 119.70 51 PKiKP **PKPdf** 15 13 24.6 -0.4
baz=263
TULEG Thule 119.86 14 **PKPdf** 15 13 24.0 -0.5
H59A Cadyville 119.90 52 PKiKP **PKPdf** 15 13 25.0 -0.5
baz=263
J60A Lant Hill Farm 119.90 53 PKiKP **PKPdf** 15 13 25.3 -0.2
baz=262
CHGR Chuyangaron 119.92 301 **PKPdf** 15 13 25.7 -0.1
M62A Hamden 120.03 55 PKiKP **PKPdf** 15 13 25.1 -0.7
baz=261
I60A Shoreham 120.08 53 PKiKP **PKPdf** 15 13 25.5 -0.4
baz=263
SJG San Juan 120.15 83 PKiKP **PKPdf** 15 13 25.5 -1.2
SJG San Juan 120.15 83 PKP **PKPdf** 15 13 25.4 -1.3
comp=Z,30nm,0.7s
SJG SKP 15 16 08.7
comp=Z,9.4nm,0.3s,baz=106,slow=20,SNR=3.9
SJG San Juan 120.15 83 **PKPdf** 15 13 25.5 -1.2
GCPR Guaynabo City 120.27 83 **PKPdf** 15 13 26.7 -0.3
BOSA Boshof 120.33 207 PKP **PKPdf** 15 13 26.1 -1.0
comp=Z,12nm,0.7s,baz=197,slow=2.1,SNR=21
BOSA SKP 15 16 08.4
comp=Z,5.5nm,1.1s,baz=191,slow=5.4,SNR=3.5
BOSA PKKPbc **PKKPbc** 15 23 36.5 -0.1
comp=Z,6.6nm,0.7s,baz=336,slow=5.2,SNR=10
L61B Northampton 120.33 54 PKiKP **PKPdf** 15 13 26.1 -0.3
baz=262
E58A La Victoria 120.39 50 PKiKP **PKPdf** 15 13 26.2 -0.2
baz=264
HUMP Col San Antoni 120.43 83 **PKPdf** 15 13 26.5 -0.8
J61A Chester 120.55 53 PKiKP **PKiKP** 15 13 27.0 +0.1
baz=263
BVAR Borovoye Array 120.61 318 PKKPbc PKKPbc 15 23 35.5 +0.5
comp=Z,0.5nm,0.5s,baz=338,slow=1.4,SNR=4.7
BRVK Borovoye 120.68 318 *c i* PKIKP **PKPdf** 15 13 26.5 -0.2
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 120.68 318 **PKPdf** 15 13 26.1 -0.6
MTP Monte Pirata 120.68 83 **PKPdf** 15 13 26.7 -1.1
D58A Chemin du LacG 120.73 49 PKiKP **PKPdf** 15 13 26.6 -0.4
baz=265
LATQ La Tuque 120.82 48 PKiKP **PKPdf** 15 13 26.7 -0.4
baz=265
I61A Oroboro, Fairl 120.86 53 PKiKP **PKPdf** 15 13 26.0 -1.3
baz=263
J62A Henniker 121.07 53 PKiKP **PKPdf** 15 13 27.1 -0.7
baz=263
LBNH Lisbon 121.10 52 PKiKP **PKPdf** 15 13 27.5 -0.3
baz=264
H61A Lyndonville 121.13 52 PKiKP **PKPdf** 15 13 27.1 -0.8
baz=264
K63A Dunstable 121.21 54 PKiKP **PKPdf** 15 13 27.2 -0.8
baz=263
F60A Warwick 121.26 50 PKiKP **PKPdf** 15 13 27.3 -0.7
baz=265
G61A St-Isidore-de- 121.49 51 PKiKP **PKPdf** 15 13 28.0 -0.5
baz=265
E60A Ste Agathe de 121.65 50 PKiKP **PKPdf** 15 13 28.6 -0.2
baz=265
H62A Milan 121.69 52 PKiKP **PKPdf** 15 13 28.7 -0.3
baz=264
F61A St Evariste 121.93 50 PKiKP **PKiKP** 15 13 29.6 0.0
baz=265
I63A Otisfield 122.05 53 PKiKP **PKPdf** 15 13 29.5 -0.1
baz=264
G62A West of Eustis 122.19 51 PKiKP **PKPdf** 15 13 29.5 -0.4
baz=265
D61A St Aubert, Com 122.57 49 PKiKP **PKiKP** 15 13 30.7 -0.1
baz=267
F62A Pittston Farm, 122.64 50 PKiKP **PKPdf** 15 13 30.5 -0.2
baz=266
SVB Belmont 122.88 90 **PKPdf** 15 13 30.5 -1.6
E62A Clayton Lake 122.99 50 PKiKP **PKiKP** 15 13 31.5 -0.1
baz=267
E62A Clayton Lake 122.99 50 **PKPdf** 15 13 31.1 -0.3
PKME Peake-Kenny Pk 123.06 51 PKiKP **PKiKP** 15 13 31.7 -0.1
baz=266
H64A Troy 123.07 52 PKiKP **PKiKP** 15 13 31.7 -0.1
baz=266
F63A Nahmakanta, Br 123.23 51 PKiKP **PKPdf** 15 13 31.9 0.0
baz=266
KULLO Kullorsuaq 123.28 15 *i* PKIKP **PKPdf** 15 13 30.4 -0.7
KULLO pmax pmax
comp=Z,19nm,0.8s
KULLO Kullorsuaq 123.28 15 *i* P **PKPdf** 15 13 30.4 -0.7
comp=Z,19nm,0.8s
LBTB Lobatse 123.32 210 PKiKP **PKiKP** 15 13 33.6 +0.4
LBTB Lobatse 123.32 210 **PKiKP** 15 13 33.6 +0.4
D62A Allapoint, All 123.34 49 PKiKP **PKPdf** 15 13 31.8 -0.2
baz=267
G64A Maxfield 123.44 51 PKiKP **PKPdf** 15 13 32.3 +0.1
baz=266
PCM Pelee Case Pet 123.47 89 *eP* **Pdif** 15 10 00.2 -8.8
BIM Bigot 123.49 89 *eP* **Pdif** 15 10 00.4 -8.8
FDF Fort de France 123.50 89 *eP* **Pdif** 15 09 59.6 -10
GBMF Grand Be 123.51 89 *eP* **Pdif** 15 09 59.8 -9.5
CXM Morne La Croix 123.51 89 *eP* **Pdif** 15 09 59.9 -9.4
TRMF Trois Ilets 123.52 89 *eP* **Pdif** 15 10 00.1 -9.0
BAMF Morne Balai 123.53 89 *eP* **Pdif** 15 09 59.5 -10
ZAM Aeronautique 123.55 89 *eP* **Pdif** 15 09 58.8 -10
LPMF Morne Lapointe 123.61 89 *eP* **Pdif** 15 09 58.2 -11
MPOM Morne Pois Mar 123.66 89 *eP* **Pdif** 15 09 58.8 -11
MVM Montagne Vaucl 123.67 89 *eP* **Pdif** 15 09 58.1 -12
E63A Oxbow 123.74 50 PKiKP **PKPdf** 15 13 32.4 -0.4
baz=267
F64A Sherman 123.76 51 PKiKP **PKPdf** 15 13 32.7 -0.1
baz=267
D63A Stockholm 123.98 49 PKiKP **PKPdf** 15 13 32.8 -0.5
baz=268
E64A Bridgewater 124.15 50 PKiKP **PKPdf** 15 13 33.2 -0.3
baz=268
G65A Princeton 124.28 51 PKiKP **PKPdf** 15 13 33.4 -0.4
baz=267
H66A Whiting 124.44 52 PKiKP **PKPdf** 15 13 33.4 -0.8
baz=267
SCHQ Schefferville 124.63 40 PKP **PKPdf** 15 13 33.3 -1.0
comp=Z,9.8nm,0.8s,baz=316,slow=2.8,SNR=6.1
SVE Sverdlovsk 126.04 323 *e* PKIKP **PKiKP** 15 13 37.1 -0.3
SVE pmax pmax
comp=Z,17nm,1.2s
KBS Kingsbay 126.12 357 *e* PKPdf **PKiKP** 15 13 37.3 +0.3
SPA0 Spitsbergen Ar 126.56 355 *e* PKPdf **PKiKP** 15 13 37.7 -0.2
MDP Montagnes des 127.19 104 PKP **PKPdf** 15 13 40.6 +0.2
comp=Z,13nm,0.5s,baz=227,slow=2.7,SNR=17
ABKAR Akbulak array 127.22 314 **PKPdf** 15 13 38.4 -0.9
ARU Arti 127.24 323 *i* PKIKP **PKiKP** 15 13 40.2 +0.4
ARU 15 15 50.1
ARU 15 19 56.2
ARU Arti 127.24 323 **PKiKP** 15 13 39.7 -0.1
HSPB Hornsund (broa 127.74 355 *e* PKPdf **PKPdf** 15 13 39.2 -0.4
DAG Danmarks Havn 127.97 5 *i* PKIKP **PKPdf** 15 13 39.5 -0.5
DAG pmax pmax
comp=Z,5.0nm,0.7s
DAG Danmarks Havn 127.97 5 *i* P **PKPdf** 15 13 39.5 -0.5
comp=Z,7.2nm,0.7s
UOSS Minazif 128.03 283 **PKPdf** 15 13 41.5 -0.2
AKTO Aktyubinsk 128.37 315 SKKPbc SKKPbc 15 26 00.4 -2.0
comp=Z,2.0nm,0.7s,baz=256,slow=5.0,SNR=5.9
GEYT Alibeck 128.44 299 PKP **PKiKP** 15 13 43.3 +0.4
comp=Z,9.9nm,0.8s,baz=241,slow=1.5,SNR=15
GEYT SKPbc SKPbc 15 16 10.9
comp=Z,3.7nm,0.6s,baz=92,slow=4.0,SNR=5.8
GYA0B WILBECK ARRAY 128.44 299 **PKiKP** 15 13 42.7 -0.2
SUMG Summit 128.74 13 *i* PKIKP **PKPdf** 15 13 42.0 -0.1
SUMG pmax pmax
comp=Z,55nm,1.1s
SUMG Summit 128.74 13 *i* P **PKPdf** 15 13 42.0 -0.1
comp=Z,55nm,1.1s
SUMG Summit 128.74 13 **PKiKP** 15 13 42.5 -0.4
TSUM Tsumeb 131.82 205 SKPbc **SKPbc** 15 16 21.5 +0.4
baz=143,slow=6.1
PRGR Permogore 131.96 332 *e* PKIKP **PKPdf** 15 13 46.0 -1.9
PRGR *e* 15 16 17.0
PRGR pmax pmax
comp=Z,11nm,0.6s
HAMF Hammerfest 132.50 349 *e* PKPdf **PKPdf** 15 13 49.1 +0.4
ARCES ARCESS Array B 133.10 347 PKP **PKiKP** 15 13 51.2 -0.1
comp=Z,5.8nm,0.4s,baz=72,slow=2.9,SNR=18
ARCES SKPbc **SKPbc** 15 16 23.4 -0.3
comp=Z,17nm,0.8s,baz=27,slow=3.8,SNR=12
ARE0 ARCESS Array S 133.10 347 *e* PKPdf **PKPdf** 15 13 47.5 -2.4
SCO Scoresbysund 133.45 9 PKiKP **PKPdf** 15 13 50.6 +0.1
SCO Scoresbysund 133.45 9 **PKPdf** 15 13 50.6 +0.1
KTK1 Kautokeino 133.98 348 *e* PKPdf **PKiKP** 15 13 52.4 -0.7
KMBO Kilima Mbogo 134.03 241 PKP **PKiKP** 15 13 55.4 +0.3
comp=Z,6.7nm,0.9s,baz=17,slow=2.4,SNR=10
KMBO SKPbc **SKPbc** 15 16 28.2 -0.6
comp=Z,19nm,1.0s,baz=94,slow=3.4,SNR=22
TRO Tromso 134.18 350 *e* PKPdf **PKPdf** 15 13 51.7 -0.2
RCBR Riachuelo 134.44 128 SKPbc **SKPbc** 15 16 29.3 -0.5
comp=Z,87nm,0.8s,baz=89,slow=1.7,SNR=9.5
RCBR Riachuelo 134.44 128 **SKPbc** 15 16 29.5 -0.3
STEI Steigen 136.29 351 *e* PKPdf **PKPdf** 15 13 56.2 +0.3
LOF Lofoten 136.33 352 *e* PKPdf **PKiKP** 15 13 56.9 -0.9
RAYN Ar Rayn 137.22 278 PKiKP **PKPdf** 15 13 59.6 +0.5
RAYN Ar Rayn 137.22 278 PKPdf **PKPdf** 15 13 59.6 +0.5
GROC Groznyy 137.63 307 *e* PKIKP **PKPdf** 15 13 59.7 +0.6
GROC *e* 15 16 13.4
GROC *e* 15 20 14.9
GROC pmax pmax
comp=Z,14nm,0.5s
MOR8 Moi Rana 138.04 350 *e* PKPdf **PKPdf** 15 13 57.8 -1.4
VRH Novokhopyorsk 138.23 320 *e* PKIKP **PKPdf** 15 13 58.7 -1.2
VRH pmax pmax
comp=Z,20nm,0.7s
GNI Garni 138.81 303 *c i* PKIKP **PKiKP** 15 14 05.2 +1.2
GNI pmax pmax
comp=Z,40nm,1.3s
GNI Garni 138.81 303 SKP 15 16 44.4
comp=Z,5.2nm,0.4s,baz=227,slow=5.0,SNR=4.0
LPSR Galich'ya Gora 139.26 323 *e* PKIKP **PKPdf** 15 14 01.6 -0.2
LPSR pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 139.29 327 *c i* PKIKP **PKiKP** 15 14 03.9 -0.3
OBN *i* 15 17 08.5
OBN pmax pmax
comp=Z,16nm,0.9s
FINES FINESS Array B 139.42 340 PKhKP PKPpre 15 13 53.3
comp=Z,4.8nm,0.5s,baz=70,slow=3.1,SNR=47
FINES PKP **PKiKP** 15 14 04.1 -0.2
comp=Z,7.4nm,0.4s,baz=78,slow=2.5,SNR=19
FINES SKPbc **SKPbc** 15 16 43.7 +1.1
comp=Z,14nm,0.7s,baz=64,slow=4.4,SNR=12
FINES SKPab **SKPab** 15 16 54.5 -0.1
comp=Z,12nm,0.7s,baz=67,slow=3.4,SNR=5.8
FINES SKKPbc **SKKPbc** 15 25 20.4 -2.1
comp=Z,3.3nm,1.0s,baz=204,slow=4.2,SNR=4.9
KBZ Khabaz 139.61 308 PKhKP PKPpre 15 13 58.4
comp=Z,2.1nm,0.9s,baz=112,slow=5.4,SNR=3.7
KBZ SKPbc **SKPbc** 15 16 44.0 +0.2
comp=Z,3.4nm,0.8s,baz=34,slow=12,SNR=2.8
KIV Kislovodsk 139.71 309 *e* PKIKP **PKPdf** 15 14 03.2 +0.2
KIV pmax pmax
comp=Z,22nm,1.0s
VSR Storozhevoye 139.71 321 *e* PKIKP **PKPdf** 15 14 02.0 -0.6
VSR pmax pmax
comp=Z,30nm,1.8s
NSS Namsos 139.95 351 *e* PKPdf **PKPdf** 15 13 59.8 -2.8
VSU Vasula 141.43 336 *e* P **PKPdf** 15 14 01.7 -3.8
MOL Molde 142.40 353 *e* PKPdf **PKPdf** 15 14 05.5 -1.6
DOMB Dombas 142.73 352 *e* PKPdf **PKPdf** 15 14 06.1 -1.6
AKN Aaknes 142.84 353 *e* PKPdf **PKPdf** 15 14 06.0 -2.0
ANN Anapa 143.12 312 *e* PKIKP PKPbc 15 14 07.7 +0.4
ANN pmax pmax
comp=Z,71nm,1.0s
NC303 NORSAR Array S 143.17 350 PKPpre PKPbc 15 14 06.6 -0.4
NC405 NORSAR Array S 143.22 349 PKPpre PKPbc 15 14 06.6 -0.5
NC204 NORSAR Array S 143.22 350 PKPpre PKPbc 15 14 06.7 -0.5
NB201 NORSAR Array S 143.35 349 PKPab 15 14 07.1 -0.2
NB2 NORSAR Subarra 143.37 350 PKP PKPab 15 14 06.9 -0.5
comp=Z,20nm,0.7s,baz=16,slow=3.2
NB2 NORSAR Subarra 143.37 350 PKPab PKPab 15 14 06.9 -0.5
baz=16,slow=3.2
NOA NORSAR Array B 143.37 350 PKP PKPab 15 14 07.0 -0.4
comp=Z,71nm,0.9s,baz=21,slow=3.8,SNR=153
NOA SKPbc **SKiKP** 15 16 53.5 0.0
comp=Z,2.4nm,0.5s,baz=17,slow=4.1,SNR=7.9
NBO00 NORSAR Array S 143.45 350 PKPab 15 14 07.3 -0.3
IZAR Zarasai 143.56 334 *eP* **PKPdf** 15 14 08.8 -0.5
IZAR IAmb IAmb 15 14 10.5
comp=Z,61nm,0.8s
FOO Floro 143.60 355 *e* PKPbc PKPab 15 14 08.1 -0.1
NC602 NORSAR Array S 143.60 349 *e* PKPbc PKPab 15 14 07.8 -0.5
NC602 NORSAR Array S 143.60 349 PKPab 15 14 07.5 -0.7
NAO01 NORSAR Array S 143.61 350 PKPbc 15 14 07.9 -0.4
SLIT Slitere, Latvi 143.61 338 *eP* PKPab 15 14 08.6 +0.3
IDID Didziasalis 143.66 333 *eP* **PKPdf** 15 14 09.5 0.0
ISAL Salakas 143.73 333 *eP* PKPab 15 14 09.1 +0.2
ISAL IAmb IAmb 15 14 10.8
comp=Z,68nm,1.0s
HYA Hoyanger 143.92 354 *e* PKPbc PKPbc 15 14 08.6 -0.6
NACGM Naroch 143.92 332 *eP* PKPbc 15 14 09.0 -0.4
NACGM PM 15 14 11.0
comp=Z,0.9nm,1.0s
SKAR Skarslia 144.14 352 *e* PKPab **PKPab** 15 14 10.4 0.0
SUE Sulen 144.16 355 *e* PKPbc PKPbc 15 14 09.9 0.0
OSL Oslo 144.49 349 *e* PKPbc **PKPdf** 15 14 10.7 -0.1
PABE Paberze 144.63 335 *eP* PKPbc 15 14 11.3 -0.2
ASK Askoy 144.69 354 *e* PKPbc PKPbc 15 14 11.7 +0.2
BER Bergen 144.77 354 *e* PKPbc PKPbc 15 14 12.0 +0.1
KONO Kongsberg 144.95 350 PKIKP PKPbc 15 14 12.0 -0.4
KONO Kongsberg 144.95 350 *e* PKPbc PKPbc 15 14 12.4 0.0
KONO Kongsberg 144.95 350 PKPbc 15 14 12.0 -0.4
PBUR Paburg 144.99 337 *eP* **PKPbc** 15 14 13.0 +0.4
PBUR IAmb IAmb 15 14 14.6
comp=Z,175nm,0.7s
GAZ Gaziantep 145.04 299 PKPbc **PKPab** 15 14 14.0 -0.6
ODD1 Odda 145.10 353 *e* PKPbc PKPbc 15 14 13.2 +0.2
AKASG Malin Array Be 145.43 325 PKPbc **PKPdf** 15 14 12.4 -0.3
comp=Z,7.6nm,0.4s,baz=43,slow=4.0,SNR=62
AKASG SKPbc **SKiKP** 15 16 59.0 +0.9
comp=Z,3.0nm,0.4s,baz=46,slow=3.4,SNR=7.4
AKASG SKKPbc **SKKPab** 15 24 56.0 0.0
comp=Z,4.2nm,0.9s,baz=245,slow=3.8,SNR=7.1
AKBB Malin Array Si 145.43 325 PKiKP **PKPbc** 15 14 13.7 -0.4
AKBB Malin Array Si 145.43 325 PKPbc **PKPbc** 15 14 13.7 -0.4
BLS5 Blasjo 145.59 353 *e* PKPbc **PKPbc** 15 14 14.3 -0.1
ASF Jabal al Asfar 145.71 290 SKPbc **SKiKP** 15 17 00.4 +1.0
comp=Z,11nm,1.0s,baz=311,slow=0.7,SNR=5.5
ASF SKPbc **SKKPbc** 15 24 56.0 +0.4
comp=Z,5.2nm,0.8s,baz=315,slow=1.4,SNR=4.5
ASF Jabal al Asfar 145.71 290 P **PKPab** 15 14 17.2 -0.3
comp=Z,70nm,0.9s
SEVA Sevastopol 145.73 313 ⇓P **PKPdf** 15 14 13.1 -0.3
SUW Suwalki 146.04 334 PKIKP **PKPbc** 15 14 15.6 -0.1
SUW Suwalki 146.04 334 *e* PKPbc **PKPbc** 15 14 15.8 +0.1
SUW *e* PKP **PKPbc** 15 14 15.8 +0.1
SUW Suwalki 146.04 334 **PKPbc** 15 14 15.6 -0.1
HSUJ Al Zarqa 146.31 290 P **PKiKP** 15 14 19.3 -0.2
comp=Z,231nm,1.0s
HOMB Homborsund 146.44 350 *e* PKPbc **PKPbc** 15 14 16.5 -0.2
SNART Snartemo 146.56 352 *e* PKPbc **PKPbc** 15 14 17.3 +0.3
WALJ Wala 146.65 289 P **PKiKP** 15 14 19.5 -0.6
comp=Z,177nm,0.8s,comp=Z,2μm
SHMJ Saham 146.65 291 P **PKPab** 15 14 22.9 +1.8
comp=Z,158nm,0.9s,comp=Z,3μm
HSNJ Maan 146.75 287 P **PKiKP** 15 14 20.4 -0.1
comp=Z,485nm,0.9s,comp=Z,5μm
ILGA Ilgaz 146.86 307 **PKPbc** 15 14 18.9 +0.1
MMAI Mount Meron Ar 146.94 292 SKKPbc SKKPbc 15 24 51.3 +0.9
comp=Z,5.5nm,0.9s,baz=310,slow=5.3,SNR=3.8
BR131 Keskin Array S 147.28 304 **PKPdf** 15 14 15.1 -1.3
BR131 PKPbc **PKPbc** 15 14 19.7 0.0
BRTR Keskin Array B 147.28 304 PKP **PKPdf** 15 14 15.9 -0.5
comp=Z,13nm,0.9s,baz=122,slow=1.9,SNR=11
BRTR PKPbc **PKPbc** 15 14 20.4 +0.7
comp=Z,16nm,0.7s,baz=130,slow=2.9,SNR=18
BRTR SKPbc **SKiKP** 15 17 02.9 +0.4
comp=Z,2.8nm,0.8s,baz=112,slow=1.3,SNR=4.0
AQBJ Aqaba 147.29 286 P **PKiKP** 15 14 21.5 0.0
comp=Z,132nm,0.8s,comp=Z,1μm
HRFI Mount Harif 147.31 286 P **PKiKP** 15 14 21.1 -0.5
comp=Z,81nm,1.3s,comp=Z,2μm
SORM Soroca 147.34 322 ⇑PKP2 **PKPbc** 15 14 19.4 0.0
SORM Soroca 147.34 322 ⇑P **PKPbc** 15 14 19.4 0.0
EIL Elat 147.38 286 P **PKiKP** 15 14 21.3 -0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,67nm,1.2s,comp=Z,1µm						
KIS	**Kishinev**	**147.68**	**320**	⇑*i*PKP	**PKPbc**	**15 14 20.0**	**-0.3**
KIS	**Kishinev**	**147.68**	**320**	⇑*i*PKIKP	**PKPbc**	**15 14 20.0**	**-0.3**
KIS				*i*		15 14 22.0	
KIS				*e*		15 16 31.0	
MILM	**Milestii Mici**	**147.72**	**319**	⇑P	**PKiKP**	**15 14 21.1**	**-0.7**
ANTO	**Ankara**	**147.87**	**305**	⇓PKP2	**PKiKP**	**15 14 22.3**	**-0.2**
ANTO	**Ankara**	**147.87**	**305**	⇓P	**PKiKP**	**15 14 22.3**	**-0.2**
ANTO	**Ankara**	**147.87**	**305**		**PKPbc**	**15 14 21.4**	**+0.2**
BR231	**Keskin MP Arra**	**147.89**	**305**		**PKPbc**	**15 14 21.5**	**+0.3**
BSD	**Bornholm Skovb**	**147.98**	**342**	*i* PKP2	**PKiKP**	**15 14 22.3**	**+0.2**
BSD				pmax	pmax		
	comp=Z,56nm,0.9s						
BSD	**Bornholm Skovb**	**147.98**	**342**	*i* P	**PKiKP**	**15 14 22.3**	**+0.2**
	comp=Z,56nm,0.9s						
MUD	**Monsted U'grnd**	**148.06**	**349**	*i* P	**PKPbc**	**15 14 20.9**	**0.0**
	comp=Z,24nm,0.8s						
CSS	**Mathiatis**	**148.46**	**296**		**PKPbc**	**15 14 22.6**	**-0.1**
LVV	**L'vov**	**148.60**	**327**	*e*PKHKP	**PKPdf**	**15 14 18.3**	**+0.3**
BEL	**Belsk**	**148.63**	**333**	*e*PKP	**PKPbc**	**15 14 22.9**	**+0.3**
BEL				*e*PKP	**PKPbc**	**15 14 22.9**	**+0.3**
LEF	**Lefka**	**148.80**	**296**	⇓P	**PKiKP**	**15 14 24.1**	**-0.3**
GKP	**Gorka Klasztor**	**148.83**	**338**	*e*PKP2	**PKiKP**	**15 14 24.9**	**+1.0**
GKP	**Gorka Klasztor**	**148.83**	**338**	*e*PKP	**PKiKP**	**15 14 24.9**	**+1.0**
GKP				*e*PKP	**PKiKP**	**15 14 24.9**	**+1.0**
PRAR	**RASCA**	**148.97**	**322**	⇑P	**PKiKP**	**15 14 24.7**	**+0.3**
TOPG	**Topolog**	**149.00**	**316**	⇑P	**PKiKP**	**15 14 24.7**	**+0.1**
CFR	**Carcaliu**	**149.01**	**317**	⇓P	**PKPbc**	**15 14 23.4**	**-0.2**
TIRR	**Tirgusor**	**149.18**	**316**	⇑P	**PKiKP**	**15 14 24.9**	**0.0**
TIRR	**Tirgusor**	**149.18**	**316**		**PKPbc**	**15 14 24.1**	**+0.1**
TESR	**Tescani**	**149.20**	**320**	⇑P	**PKiKP**	**15 14 24.5**	**-0.4**
BIZ	**Bicaz**	**149.28**	**321**	⇑P	**PKiKP**	**15 14 25.4**	**+0.4**
MFTR	**Murfatlar**	**149.30**	**315**	⇑P	**PKiKP**	**15 14 26.0**	**+0.8**
TLB	**Topalu**	**149.35**	**316**	⇑P	**PKiKP**	**15 14 25.2**	**-0.1**
KWP	**Kalwaria Pacla**	**149.36**	**328**	PKHKP	**PKPbc**	**15 14 24.8**	**+0.4**
KWP	**Kalwaria Pacla**	**149.36**	**328**	*e*PKP	**PKiKP**	**15 14 25.3**	**+0.2**
KWP				*e*PKP	**PKiKP**	**15 14 25.3**	**+0.2**
KWP	**Kalwaria Pacla**	**149.36**	**328**		**PKPbc**	**15 14 24.8**	**+0.4**
MANR	**Mangalia**	**149.36**	**314**	⇑P	**PKiKP**	**15 14 25.6**	**+0.3**
BUR08	**Bucovina Ar. S**	**149.37**	**323**		**PKiKP**	**15 14 25.0**	**-0.4**
ODBI	**Odobesti**	**149.37**	**319**	⇓P	**PKiKP**	**15 14 26.0**	**+0.7**
HARR	**Harsova**	**149.37**	**316**	⇓P	**PKiKP**	**15 14 25.4**	**+0.1**
BURAR	**Bucovina Array**	**149.37**	**323**	⇑PKP2	**PKiKP**	**15 14 25.7**	**+0.3**
BURAR	**Bucovina Array**	**149.37**	**323**	⇑P	**PKiKP**	**15 14 25.7**	**+0.3**
VRI	**Vrincioaia**	**149.50**	**319**	⇓P	**PKPbc**	**15 14 25.1**	**+0.3**
PLOR	**Plostina**	**149.56**	**319**	⇑P	**PKPbc**	**15 14 25.2**	**+0.2**
OZUR		**149.93**	**320**	⇑P	**PKiKP**	**15 14 26.6**	**+0.1**
ISR	**Istrita**	**150.01**	**318**	⇑P	**PKiKP**	**15 14 26.9**	**+0.2**
KOLS	**Kolonicke sedl**	**150.04**	**328**	*e*PKP	**PKiKP**	**15 14 27.1**	**+0.5**
ARCR	**ARCALIA**	**150.16**	**323**	⇑P	**PKiKP**	**15 14 27.3**	**+0.4**
MLR	**Muntele Rosu**	**150.17**	**319**	⇑PKIKP	**PKPbc**	**15 14 26.7**	**+0.1**
MLR	**Muntele Rosu**	**150.17**	**319**	⇑P	**PKPbc**	**15 14 26.7**	**+0.1**
MLR	**Muntele Rosu**	**150.17**	**319**		**PKPbc**	**15 14 26.3**	**-0.3**
STHS	**Stebnicka Huta**	**150.19**	**329**	*e*PKIKP	**PKiKP**	**15 14 27.2**	**+0.3**
STHS	**Stebnicka Huta**	**150.19**	**329**	*e*PKP	**PKiKP**	**15 14 27.2**	**+0.3**
DOPR	**Dopca**	**150.23**	**320**	⇑P	**PKiKP**	**15 14 27.6**	**+0.5**
UZH	**Uzhgorod**	**150.24**	**327**	*e*PKIKP	**PKPbc**	**15 14 25.7**	**-0.7**
UZH				*e*		15 14 34.0	
UZH				*e*		15 16 39.9	
BMR	**Baia Mare**	**150.25**	**325**	⇑PKIKP	**PKiKP**	**15 14 27.3**	**+0.2**
BMR	**Baia Mare**	**150.25**	**325**	⇑P	**PKiKP**	**15 14 27.3**	**+0.2**
OJC	**Ojcow**	**150.25**	**332**	PKIKP	**PKPbc**	**15 14 26.4**	**-0.1**
OJC	**Ojcow**	**150.25**	**332**	*e*PKP	**PKiKP**	**15 14 26.9**	**-0.1**
OJC				*e*PKP	**PKiKP**	**15 14 26.9**	**-0.1**
OJC	**Ojcow**	**150.25**	**332**		**PKPbc**	**15 14 26.4**	**-0.1**
SECR		**150.34**	**318**	⇑P	**PKiKP**	**15 14 28.2**	**+0.9**
TRPA	**Tarpa**	**150.45**	**326**	*e*PKiKP	**PKPbc**	**15 14 26.1**	**-0.9**
NIE	**Niedzica**	**150.62**	**330**	*e*PKIKP	**PKiKP**	**15 14 28.7**	**+0.9**
NIE	**Niedzica**	**150.62**	**330**	*e*PKP	**PKiKP**	**15 14 28.7**	**+0.9**
NIE				*e*PKP	**PKiKP**	**15 14 28.7**	**+0.9**
VOIR		**150.73**	**320**	⇑PKIKP	**PKPbc**	**15 14 27.9**	**+0.1**
VOIR		**150.73**	**320**	⇑P	**PKPbc**	**15 14 27.9**	**+0.1**
CJR	**Cluj-Napoca**	**150.80**	**323**	⇓PKIKP	**PKiKP**	**15 14 28.9**	**+0.6**
CJR	**Cluj-Napoca**	**150.80**	**323**	⇓P	**PKiKP**	**15 14 28.9**	**+0.6**
RAZG	**Razgrad**	**150.81**	**315**	⇑P	**PKiKP**	**15 14 29.1**	**+0.7**
ELL	**Elmali**	**150.86**	**300**	PKIKP	**PKiKP**	**15 14 28.7**	**-0.1**
ELL	**Elmali**	**150.86**	**300**		**PKiKP**	**15 14 28.7**	**-0.1**
ARR	**Arges**	**151.01**	**320**	⇓P	**PKiKP**	**15 14 29.8**	**+1.0**
KSP	**Ksiaz**	**151.16**	**336**	*e*PKIKP	**PKiKP**	**15 14 29.4**	**+0.6**
KSP	**Ksiaz**	**151.16**	**336**	*e*PKP	**PKiKP**	**15 14 29.4**	**+0.6**
KSP				*e*PKP	**PKiKP**	**15 14 29.4**	**+0.6**
LANS	**Liptovska Anna**	**151.19**	**331**	*e*PKIKP	**PKiKP**	**15 14 30.4**	**+1.4**
LANS	**Liptovska Anna**	**151.19**	**331**	*e*PKP	**PKiKP**	**15 14 30.4**	**+1.4**
KECS	**Kecovo**	**151.21**	**329**	*e*PKIKP	**PKiKP**	**15 14 30.5**	**+1.5**
KECS				*e*		15 14 40.6	
KECS	**Kecovo**	**151.21**	**329**	*e*PKP	**PKiKP**	**15 14 30.5**	**+1.5**
KECS				*e*		15 14 40.6	
DRGR		**151.23**	**324**	⇑PKIKP	**PKPbc**	**15 14 28.7**	**-0.2**
DRGR		**151.23**	**324**	⇑P	**PKPbc**	**15 14 28.7**	**-0.2**
HUMR	**Humele**	**151.26**	**318**	⇓P	**PKPbc**	**15 14 28.5**	**-0.4**
LTVH	**Ltavrtes, Hu**	**151.27**	**326**	*e*PKiKP	**PKiKP**	**15 14 29.1**	**0.0**
COPA	**Copaceanca**	**151.33**	**317**	⇓P	**PKiKP**	**15 14 29.7**	**+0.3**
MANT	**Manisa**	**151.42**	**304**		**PKPbc**	**15 14 29.6**	**-0.2**
CHVC	**Chvalec**	**151.46**	**336**	⇑*e*PKP	**PKiKP**	**15 14 29.7**	**+0.2**
ELND	**Elena**	**151.52**	**315**	⇑P	**PKiKP**	**15 14 30.4**	**+0.5**
MORC	**Moravsky Berou**	**151.53**	**333**	PKIKP	**PKiKP**	**15 14 29.8**	**+0.1**
MORC	**Moravsky Berou**	**151.53**	**333**	⇑P	**PKiKP**	**15 14 30.3**	**+0.6**
MORC	**Moravsky Berou**	**151.53**	**333**	*e*PKP	**PKiKP**	**15 14 30.0**	**+0.3**
MORC				*e*		15 16 49.8	
MORC	**Moravsky Berou**	**151.53**	**333**		**PKiKP**	**15 14 29.8**	**+0.1**
UPC	**Upice**	**151.54**	**336**	*e*PKIKP	**PKiKP**	**15 14 30.2**	**+0.6**
UPC	**Upice**	**151.54**	**336**	⇑*e*PKP	**PKiKP**	**15 14 30.2**	**+0.6**
UPC				*e*pPKP	**pPKPab**	**15 16 49.9**	**+1.2**
DPC	**Dobruska-Polom**	**151.55**	**335**	*e*PKIKP	**PKiKP**	**15 14 30.5**	**+0.8**
DPC	**Dobruska-Polom**	**151.55**	**335**	⇑*e*PKP	**PKiKP**	**15 14 30.5**	**+0.8**
DPC				*e*PKPAB	**PKPab**	**15 14 43.4**	**+2.5**
DPC				*e*pPKP	**pPKPab**	**15 16 50.0**	**+1.2**
CLL	**Collm**	**151.87**	**340**	⇓*e*PKIKP	**PKPdf**	**15 14 23.0**	**0.0**
CLL				*i*		15 14 42.3	
CLL				pmax	pmax		
	comp=Z,57nm,0.8s						
CLL				pmax	pmax		
	comp=Z,26nm,0.8s						
CLL	**Collm**	**151.87**	**340**	*e*PKPdf	**PKPdf**	**15 14 23.0**	**0.0**
CLL				⇓*i*PKPbc	**PKiKP**	**15 14 30.2**	**-0.1**
	comp=Z,57nm,0.8s						
CLL				⇑*i*PKPab	**PKPab**	**15 14 42.3**	**+0.2**
	comp=Z,26nm,0.8s						
CLL				*e*pPKPbc	**pPKPbc**	**15 16 44.0**	**+0.3**
CLL				*e*pPKPab	**pPKPab**	**15 16 50.0**	**0.0**
CLL				*e*SKPdf	**SKPdf**	**15 17 02.0**	**+0.6**
PSZ	**Piszkesteto**	**151.89**	**328**	⇑PKIKP	**PKPbc**	**15 14 29.4**	**-1.0**
PSZ	**Piszkesteto**	**151.89**	**328**	⇑P	**PKPbc**	**15 14 29.4**	**-1.0**
PSZ	**Piszkesteto**	**151.89**	**328**		**PKiKP**	**15 14 30.5**	**0.0**
BRG	**Berggiesshubel**	**151.95**	**339**	*e*PKP	**PKPdf**	**15 14 23.4**	**+0.3**
	comp=Z,5.0nm,0.9s						
BRG	**Berggiesshubel**	**151.95**	**339**	*i* PKP	**PKiKP**	**15 14 30.9**	**+0.5**
	comp=Z,31nm,0.6s						
BRG				*e*pPKP	**pPKPbc**	**15 16 44.3**	**+0.4**
	comp=Z,16nm,1.5s						
BRG				*e*		15 16 50.5	
	comp=Z,34nm,1.4s						
BRG	**Berggiesshubel**	**151.95**	**339**	*e*PKIKP	**PKPdf**	**15 14 23.4**	**+0.3**
BRG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRG				pmax	pmax		
	comp=Z,31nm,0.6s						
BRG				pmax	pmax		
	comp=Z,16nm,1.5s						
BRG				pmax	pmax		
	comp=Z,34nm,1.4s						
VYHS	**Vyhne**	**151.96**	**330**	*e*PKIKP	**PKiKP**	**15 14 31.0**	**+0.4**
VYHS	**Vyhne**	**151.96**	**330**	*e*PKP	**PKiKP**	**15 14 31.0**	**+0.4**
VYHS				*e*		15 14 43.8	
PVCC	**Panska Ves**	**152.03**	**338**	*e*PKIKP	**PKiKP**	**15 14 31.3**	**+0.7**
PVCC	**Panska Ves**	**152.03**	**338**	⇑*e*PKP	**PKiKP**	**15 14 31.3**	**+0.7**
GZR	**Gura Zlata**	**152.06**	**322**	⇑PKIKP	**PKPbc**	**15 14 28.6**	**-2.2**
GZR	**Gura Zlata**	**152.06**	**322**	⇑P	**PKPbc**	**15 14 28.6**	**-2.2**
PLVB	**Pleven**	**152.09**	**316**	⇑P	**PKiKP**	**15 14 31.5**	**+0.5**
SIRR	**Siria**	**152.12**	**324**	⇑P	**PKiKP**	**15 14 31.3**	**+0.3**
JAVC	**Velka Javorina**	**152.19**	**332**	*e*PKP	**PKiKP**	**15 14 32.4**	**+1.3**
JAVC				*e*		15 16 52.5	
VRAC	**Vranov**	**152.28**	**334**	*e*PKP	**PKiKP**	**15 14 31.7**	**+0.5**
VRAC				*e*		15 16 51.7	
GOPC	**GO Pecny, Ondr**	**152.47**	**337**	*e*PKIKP	**PKiKP**	**15 14 32.1**	**+0.5**
GOPC	**GO Pecny, Ondr**	**152.47**	**337**	⇑*e*PKP	**PKiKP**	**15 14 32.1**	**+0.5**
PRU	**Pruhonice**	**152.50**	**337**	*e*PKIKP	**PKiKP**	**15 14 31.9**	**+0.3**
PRU	**Pruhonice**	**152.50**	**337**	⇑*e*PKP	**PKiKP**	**15 14 31.9**	**+0.3**
KRUC	**Moravsky**	**152.56**	**334**	*e*PKP	**PKiKP**	**15 14 31.8**	**0.0**
KRUC				*e*		15 16 52.4	
SMOL	**Smolenice**	**152.56**	**332**	*e*PKP	**PKiKP**	**15 14 33.4**	**+1.6**
SMOL				*e*		15 14 46.8	
BZS	**Buzias**	**152.56**	**323**	⇑PKIKP	**PKiKP**	**15 14 32.0**	**+0.1**
BZS	**Buzias**	**152.56**	**323**	⇑P	**PKiKP**	**15 14 32.0**	**+0.1**
HERR	**Herculane**	**152.57**	**321**	⇑P	**PKiKP**	**15 14 32.1**	**+0.2**
MODS	**Modra-Piesok**	**152.73**	**332**	*e*PKIKP	**PKiKP**	**15 14 32.5**	**+0.3**
MODS				*e*		15 14 45.8	
MODS	**Modra-Piesok**	**152.73**	**332**	*e*PKP	**PKiKP**	**15 14 32.5**	**+0.3**
MODS				*e*		15 14 45.8	
MDVR	**Moldovita**	**153.03**	**321**	⇓P	**PKiKP**	**15 14 33.5**	**+0.5**
VTS	**Vitosha**	**153.36**	**316**	PKIKP	**PKPbc**	**15 14 33.4**	**-0.4**
VTS	**Vitosha**	**153.36**	**316**	⇑P	**PKiKP**	**15 14 34.8**	**+1.0**
VTS	**Vitosha**	**153.36**	**316**		**PKPbc**	**15 14 33.4**	**-0.4**
MPLH	**Magyarpolny**	**153.53**	**330**	*e*PKiKP	**PKiKP**	**15 14 34.0**	**+0.2**
KHC	**Kasperske Hory**	**153.56**	**337**	*e*PKIKP	**PKPdf**	**15 14 25.8**	**+0.2**
KHC				*e*		15 14 49.9	
KHC	**Kasperske Hory**	**153.56**	**337**	*e*PKPDF	**PKPdf**	**15 14 25.8**	**+0.2**
KHC				⇑*e*PKP	**PKiKP**	**15 14 34.1**	**+0.2**
KHC				*e*PKPAB	**PKPab**	**15 14 49.9**	**+0.4**
KHC				*e*pPKP	**pPKPdf**	**15 16 42.8**	**+2.1**
KHC				*e*x	x	15 16 52.4	
KHC	**Kasperske Hory**	**153.56**	**337**		**PKPdf**	**15 14 25.4**	**-0.2**
KHC					**PKiKP**	**15 14 34.1**	**+0.2**
KHC					**PKPab**	**15 14 49.8**	**+0.4**
CONA	**Conrad Observa**	**153.67**	**333**	*i* PKPdf	**PKPdf**	**15 14 26.7**	**+0.9**
	comp=Z,3.8nm,1.0s						
CONA				*i* PKiKP	**PKiKP**	**15 14 34.8**	**+0.5**
	comp=Z,11nm,1.1s						
CONA				*i* PKPab	**PKPab**	**15 14 51.3**	**+1.3**
	comp=Z,9.9nm,0.7s						
MORH	**Mrgy, Hungar**	**153.70**	**327**	*e*PKiKP	**PKPbc**	**15 14 33.1**	**-1.1**
GEC2	**GERESS Array S**	**153.75**	**337**		**PKPdf**	**15 14 26.2**	**+0.3**
GEC2					**PKiKP**	**15 14 34.4**	**0.0**
GEC2					**PKPab**	**15 14 50.3**	**-0.1**
GERES	**GERESS Array B**	**153.75**	**337**	PKP	**PKPdf**	**15 14 25.8**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=330,slow=1.9,SNR=6.1						
GERES				PKPbc	**PKiKP**	**15 14 34.7**	**+0.3**
	comp=Z,7.7nm,0.9s,baz=90,slow=1.6,SNR=12						
GERES				PKPab	**PKPab**	**15 14 49.9**	**-0.4**
	comp=Z,6.4nm,0.8s,baz=31,slow=5.3,SNR=10						
MOA	**Molln**	**154.37**	**335**	*i* PKPab	**PKPab**	**15 14 53.9**	**+0.9**
	comp=Z,9.0nm,1.1s						
VAY	**Valandovo**	**154.46**	**314**	*i* P	**PKPab**	**15 14 54.0**	**+0.5**
STIP	**Stip**	**154.51**	**315**	*i* P	**PKPab**	**15 14 53.8**	**0.0**
SKO	**Skopje**	**154.83**	**317**	*i* P	**PKPab**	**15 14 56.4**	**+1.3**
SOKA	**Soboth**	**155.01**	**332**	*i* PKPdf	**PKPdf**	**15 14 27.7**	**0.0**
	comp=Z,6.3nm,1.1s						
SOKA				*i* PKPab	**PKPab**	**15 14 56.3**	**+0.5**
	comp=Z,11nm,0.8s						
LIT	**Litokhoron**	**155.11**	**312**	PKP2	**PKPab**	**15 14 56.2**	**-0.3**
LIT	**Litokhoron**	**155.11**	**312**		**PKPab**	**15 14 56.2**	**-0.3**
OBKA	**Obir**	**155.34**	**332**	*i* PKPab	**PKPab**	**15 14 57.5**	**+0.3**
	comp=Z,6.2nm,0.8s						
FNA	**Florina**	**155.51**	**314**	PKP2	**PKPab**	**15 14 57.5**	**-0.7**
FNA	**Florina**	**155.51**	**314**		**PKPab**	**15 14 57.5**	**-0.7**
MYKA	**Terra Mystica**	**155.62**	**334**	*i* PKPdf	**PKPdf**	**15 14 30.2**	**+1.7**
	comp=Z,8.6nm,1.3s						
MYKA				*i* PKPab	**PKPab**	**15 14 58.5**	**0.0**
	comp=Z,14nm,0.6s						
WATA	**Walderalm**	**155.79**	**338**	*i* PKPab	**PKPab**	**15 14 59.9**	**+0.7**
	comp=Z,5.1nm,0.5s						
WTTA	**Wattenberg**	**155.83**	**338**	*i* PKPab	**PKPab**	**15 15 00.3**	**+0.9**
	comp=Z,5.3nm,0.6s						
BFO	**Black Forest**	**155.87**	**344**	PKP2	**PKPab**	**15 14 59.4**	**0.0**
BFO	**Black Forest**	**155.87**	**344**		**PKPab**	**15 14 59.4**	**0.0**
PDG	**Podgorica**	**155.88**	**320**	⇓P	**PKPab**	**15 15 00.7**	**+1.1**
PDG	**Podgorica**	**155.88**	**320**		**PKPab**	**15 15 00.2**	**+0.6**
RETA	**Reutte**	**155.93**	**339**	*i* PKPab	**PKPab**	**15 15 00.1**	**+0.3**
	comp=Z,9.4nm,0.8s						
MOTA	**Moosalm**	**155.94**	**338**	*i* PKPdf	**PKPdf**	**15 14 28.5**	**-0.5**
	comp=Z,9.2nm,1.4s						
MOTA				*i* PKPab	**PKPab**	**15 15 00.7**	**+0.8**
	comp=Z,11nm,1.0s						
ABTA	**Abfaltersbach**	**155.95**	**336**	*i* PKPdf	**PKPdf**	**15 14 28.7**	**-0.3**
	comp=Z,8.1nm,1.2s						
ABTA				*i* PKPab	**PKPab**	**15 14 58.5**	**-1.4**
	comp=Z,8.3nm,0.6s						
SQTA	**Sankt Quirin**	**156.01**	**338**	*i* PKPab	**PKPab**	**15 15 01.4**	**+1.2**
	comp=Z,8.4nm,0.6s						
ECH	**Echery**	**156.26**	**345**	PKIKP	**PKPdf**	**15 14 28.7**	**-0.5**
ECH						15 15 00.9	
ECH	**Echery**	**156.26**	**345**	PKPdf	**PKPdf**	**15 14 28.7**	**-0.5**
ECH					**PKPab**	**15 15 00.9**	**-0.2**
STAL	**STALIGIAL**	**156.28**	**335**		**PKPab**	**15 15 00.3**	**-1.0**
FETA	**Feichten**	**156.35**	**339**	*i* PKPdf	**PKPdf**	**15 14 30.1**	**+0.5**
	comp=Z,8.1nm,1.1s						
FETA				*i* PKPab	**PKPab**	**15 15 03.1**	**+1.4**
	comp=Z,8.8nm,1.0s						
DAVA	**Damuels**	**156.38**	**340**	*i* PKPdf	**PKPdf**	**15 14 27.3**	**-2.3**
	comp=Z,4.6nm,0.9s						
DAVA				*i* PKPab	**PKPab**	**15 15 01.3**	**-0.5**
	comp=Z,15nm,0.9s						
ITM	**Ithomi**	**156.79**	**306**		**PKPab**	**15 15 03.4**	**-0.4**
SACV	**Santiago Islan**	**156.93**	**113**		**PKPab**	**15 15 04.2**	**-0.7**
CLF	**Chambon-Foret**	**157.28**	**353**		**PKPab**	**15 15 04.5**	**-0.9**
SENIN	**Lac Senin/Sane**	**157.96**	**343**		**PKPab**	**15 15 08.0**	**-0.7**
INTR	**Introdacqua**	**159.09**	**326**		**PKPab**	**15 15 13.5**	**-0.2**
LIC	**Lamto**	**160.59**	**170**	*e*PKP1	**PKPdf**	**15 14 34.6**	**-0.7**
	comp=Z,16nm,0.8s						
LIC	**Lamto**	**160.59**	**170**	*e*P	**PKPab**	**15 15 21.1**	**+0.5**
	comp=Z,30nm,0.9s						
LIC	**Lamto**	**160.59**	**170**		**PKPdf**	**15 14 34.6**	**-0.7**
LIC					**PKPab**	**15 15 21.1**	**+0.5**
KIC	**Kosan Boka**	**160.77**	**171**	*e*PKP1	**PKPdf**	**15 14 34.7**	**-0.8**
	comp=Z,14nm,0.9s						
KIC	**Kosan Boka**	**160.77**	**171**	*e*P	**PKPab**	**15 15 21.9**	**+0.5**
	comp=Z,18nm,0.8s						
KIC	**Kosan Boka**	**160.77**	**171**		**PKPdf**	**15 14 34.7**	**-0.8**
KIC					**PKPab**	**15 15 21.9**	**+0.5**
TIC	**Toumodi**	**161.00**	**170**	*e*PKP1	**PKPdf**	**15 14 35.9**	**+0.1**
TIC	**Toumodi**	**161.00**	**170**	*e*P	**PKPab**	**15 15 23.6**	**+1.1**
TIC	**Toumodi**	**161.00**	**170**	PKIKP	**PKPdf**	**15 14 35.9**	**+0.1**
TIC						15 15 23.6	
TIC	**Toumodi**	**161.00**	**170**		**PKPdf**	**15 14 35.9**	**+0.1**
TIC					**PKPab**	**15 15 23.6**	**+1.1**
DBIC	**Dimbokro**	**161.06**	**170**	PKIKP	**PKPdf**	**15 14 35.3**	**-0.5**
DBIC						15 15 23.2	
DBIC						15 19 10.6	
DBIC	**Dimbokro**	**161.06**	**170**	PKP	**PKPdf**	**15 14 35.8**	**0.0**
	comp=Z,8.3nm,1.0s,baz=116,slow=3.4,SNR=7.3						
DBIC				PKPab	**PKPab**	**15 15 23.1**	**+0.5**
	comp=Z,15nm,0.8s,baz=144,slow=5.0,SNR=11						
DBIC				PP	**PP**	**15 19 10.6**	**+4.3**
	comp=Z,7.1nm,0.8s,baz=141,slow=7.4,SNR=6.7						
DBIC	**Dimbokro**	**161.06**	**170**		**PKPdf**	**15 14 35.3**	**-0.5**
PCAB	**Cabril**	**162.96**	**16**	*e*PKPab	**PKPab**	**15 15 31.0**	**+0.5**
PBRG	**Braganca**	**163.17**	**13**	*e*PKPab	**PKPab**	**15 15 31.6**	**+0.2**
POLO	**Lamas de Olo**	**163.34**	**16**	*e*PKPab	**PKPab**	**15 15 32.9**	**+0.6**
PVRL	**Vila Real**	**163.45**	**16**	*e*PKPab	**PKPab**	**15 15 33.4**	**+0.7**
MVO	**Moncorvo**	**163.72**	**15**	*e*PKPdf	**PKPdf**	**15 14 39.0**	**+1.3**
PVIS	**Viseu**	**163.93**	**17**	*e*PKPab	**PKPab**	**15 15 34.7**	**-0.1**
MTE	**Manteigas**	**164.32**	**17**	*e*PKPab	**PKPab**	**15 15 37.1**	**+0.5**
MTE	**Manteigas**	**164.32**	**17**		**PKPab**	**15 15 36.4**	**-0.1**
PCBR	**Castelo Branco**	**164.86**	**17**	*e*PKPdf	**PKPdf**	**15 14 39.5**	**+0.9**
PCBR	**Castelo Branco**	**164.86**	**17**	*e*PKPab	**PKPab**	**15 15 39.4**	**+0.5**
PMAFR	**Mafra**	**165.09**	**24**	*e*PKPab	**PKPab**	**15 15 40.5**	**+0.5**
PMRV	**Marv??o**	**165.27**	**18**	*e*PKPab	**PKPab**	**15 15 40.8**	**+0.1**
ESDC	**Sonseca Array**	**165.70**	**7**	PKP	**PKPdf**	**15 14 39.9**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=343,slow=2.9,SNR=7.6						
ESDC				PKPab	**PKPab**	**15 15 42.9**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=350,slow=4.1,SNR=7.2						
ESDC				PP	**PP**	**15 19 34.4**	**+3.9**
	comp=Z,0.2nm,0.3s,baz=338,slow=5.2,SNR=4.6						
PAB	**San Pablo**	**165.78**	**9**	PKIKP	**PKPdf**	**15 14 40.1**	**+0.6**
PAB	**San Pablo**	**165.78**	**9**		**PKPdf**	**15 14 40.1**	**+0.6**
KEST	**Kesra**	**166.07**	**320**	PKPab	**PKPab**	**15 15 45.0**	**+0.4**
	comp=Z,6.9nm,0.8s,baz=262,slow=2.8,SNR=5.9						
PNCL	**Nicolau / Gran**	**166.11**	**23**	*e*PKPdf	**PKPdf**	**15 14 40.5**	**+0.8**
PNCL	**Nicolau / Gran**	**166.11**	**23**	*e*PKPab	**PKPab**	**15 15 44.9**	**+0.4**
PBEJ	**Beja**	**166.41**	**21**	*e*PKPdf	**PKPdf**	**15 14 41.6**	**+1.7**
PCVE	**Castro Verde**	**166.71**	**23**	*e*PKPdf	**PKPdf**	**15 14 40.0**	**-0.2**
PCVE	**Castro Verde**	**166.71**	**23**	*e*PKPab	**PKPab**	**15 15 47.6**	**+0.4**
TOA0	**Torodi Ar. Sit**	**167.34**	**195**		**PKPdf**	**15 14 40.4**	**-0.9**
TOA0					**PKPab**	**15 15 50.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**167.34**	**195**	PKP	**PKPdf**	**15 14 41.0**	**-0.3**
	comp=Z,11nm,0.9s,baz=334,slow=0.7,SNR=37						
TORD				PKPab	**PKPab**	**15 15 50.5**	**+0.1**
	comp=Z,35nm,0.6s,baz=165,slow=4.3,SNR=46						
TORD				PP	**PP**	**15 19 39.5**	**+0.7**
	comp=Z,6.6nm,0.9s,baz=163,slow=4.5,SNR=6.4						
MDT	**Midelt**	**172.24**	**19**	PKPab	**PKPab**	**15 16 13.1**	**+1.2**
	baz=342,slow=3.4						

*NEIC **04** 15:10:52.6±0.8, 60°.15N±0°.03×152°.38W±0°.04, h94km±5km*

AEIC 04 15:10:53.5±0.9**, 60°.16N**±0°.03×**152°.40W**±0°.05**, h91**km±4km**,**
ML2.7, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILIM	**Iliamna**	**0.29**	**254**		Pn	15 11 06.4	-0.7
RED	**Redoubt Volcan**	**0.32**	**324**		Pn	15 11 06.4	-0.8
RED					Sn	15 11 17.6	+0.1
IVE	**Iliamna Volcan**	**0.34**	**245**		Pn	15 11 06.7	-0.7
RSO	**Redoubt South**	**0.35**	**330**		Pn	15 11 06.9	-0.7
ILW	**Iliamna West**	**0.38**	**255**		Pn	15 11 06.9	-0.9
ILW					Sn	15 11 18.2	0.0
RDWB	**Redoubt West**	**0.39**	**326**		Pn	15 11 06.8	-0.9
RDWB					Sn	15 11 18.4	0.0
ILS	**Iliamna Low So**	**0.39**	**239**		Pn	15 11 06.9	-0.8
DFR	**Drift River**	**0.45**	**342**		Pn	15 11 07.3	-0.8
DFR					Sn	15 11 18.7	-0.2
RDJH	**Redoubt Jeurge**	**0.47**	**335**		Pn	15 11 07.6	-0.7
RDJH					Sn	15 11 19.1	-0.2
NCT	**North Crescent**	**0.48**	**327**		Pn	15 11 08.0	-0.3
HOM	**Homer**	**0.64**	**143**		Pn	15 11 09.3	-0.2
HOM					Sn	15 11 22.1	+0.7
BRLK	**Bradley Lake**	**0.86**	**117**		Pn	15 11 10.7	-1.1
BRLK					Sn	15 11 24.7	-0.7
CAPN	**Captain Cook N**	**0.87**	**45**		Pn	15 11 12.6	+0.9
CNPM	**China Poot**	**0.87**	**137**		Pn	15 11 11.1	-0.8
CNPM					Sn	15 11 25.4	-0.2
AU22	**Augustine Moun**	**0.93**	**212**		Pn	15 11 11.9	-0.5
AU22					Sn	15 11 26.5	-0.1
AU2	**Augustine Isla**	**0.94**	**212**		Pn	15 11 11.9	-0.6
BRSE	**Bradley Lake S**	**0.94**	**116**		Pn	15 11 11.6	-1.0
BRSE					Sn	15 11 26.2	-0.6
AUL	**Augustine Lava**	**0.94**	**214**		Pn	15 11 12.0	-0.6
AUP	**Augustine Pinn**	**0.95**	**213**		Pn	15 11 12.3	-0.6
AUH	**Augustine H**	**0.96**	**214**		Pn	15 11 12.3	-0.6
CKL	**Chakachamna La**	**1.04**	**2**		Pn	15 11 13.2	-0.6
SPCR	**Spurr Chakacha**	**1.04**	**5**		Pn	15 11 13.1	-0.7
SPCR					Sn	15 11 28.4	-0.7
SPBG	**Spurr Blockage**	**1.10**	**1**		Pn	15 11 14.0	-0.5
SPBG					Sn	15 11 30.1	-0.2
SPCP	**Crater Peak Br**	**1.11**	**6**		Pn	15 11 14.3	-0.5
SPCP					Sn	15 11 30.5	-0.2
SPWE	**Spurr West**	**1.12**	**356**		Pn	15 11 14.4	-0.3
SLKM	**Skilak Lake**	**1.14**	**71**		Pn	15 11 13.8	-1.1
SLKM					Sn	15 11 29.9	-1.1
CGLM	**Capps Glacier**	**1.17**	**9**		Pn	15 11 14.8	-0.5
SEW	**Seward**	**1.48**	**91**		Pn	15 11 17.5	-1.4
SEW					Sn	15 11 36.4	-1.8
FOSS	**Fourpeaked Sta**	**1.52**	**206**		Pn	15 11 18.6	-1.0
SUA	**Susitna One**	**1.54**	**31**		Pn	15 11 19.5	-0.4
RC01	**Rabbit Creek A**	**1.61**	**54**		Pn	15 11 20.1	-0.6
SVW2	**Sparrevohn**	**1.83**	**302**		Pn	15 11 22.3	-1.2
SKT	**Skwentna**	**1.87**	**13**		Pn	15 11 23.4	-0.7
KAHC	**Katmai Hardscr**	**2.02**	**222**		Pn	15 11 25.3	-0.8
PWL	**Port Wells**	**2.13**	**69**		Pn	15 11 25.5	-1.9
KNK	**Knik Glacier**	**2.31**	**55**		Pn	15 11 28.3	-1.5
KCG	**Knife Ck. Glac**	**2.32**	**218**		Pn	15 11 29.4	-0.6
GHO	**Glory Hole Cre**	**2.34**	**45**		Pn	15 11 29.1	-1.1
KDAK	**Kodiak Island**	**2.39**	**182**		Pn	15 11 29.2	-1.6
KELA	**Mount Kelaz**	**2.43**	**226**		Pn	15 11 30.9	-0.6
ANCK	**Angle Creek**	**2.53**	**220**		Pn	15 11 32.4	-0.4
SML	**Sawmill**	**2.58**	**48**		Pn	15 11 32.5	-0.9
CAHL	**Cahill**	**2.59**	**216**		Pn	15 11 33.4	-0.2
KJL	**Kejulik**	**2.67**	**219**		Pn	15 11 34.7	0.0
GLI	**Glacier Island**	**2.72**	**72**		Pn	15 11 33.5	-1.8
PPLA	**Purkeypile**	**2.75**	**2**		Pn	15 11 35.6	-0.1
HIN	**Hinchinbrook I**	**2.95**	**83**		Pn	15 11 36.1	-2.2
OHAK	**Old Harbor**	**2.98**	**189**		Pn	15 11 36.3	-2.4
SCM	**Sheep Creek Mo**	**2.99**	**54**		Pn	15 11 37.7	-1.2
FID	**Port Fidalgo**	**2.99**	**76**		Pn	15 11 36.4	-2.5
HUR	**Hurricane**	**3.12**	**24**		Pn	15 11 40.8	+0.2
WAT1	**Susitna Watana**	**3.25**	**33**		Pn	15 11 42.0	-0.4
TT01	**Tatalina**	**3.25**	**329**		Pn	15 11 41.9	-0.5
WAT6	**Susitna Watana**	**3.30**	**41**		Pn	15 11 42.3	-0.9
EYAK	**Cordova Ski Ar**	**3.33**	**80**		Pn	15 11 42.3	-1.1
WAT2	**Susitna Watana**	**3.35**	**31**		Pn	15 11 43.5	-0.3
TRF	**Thorofare Moun**	**3.45**	**16**		Pn	15 11 44.6	-0.6
KTH	**Kantishna Hill**	**3.47**	**11**		Pn	15 11 44.9	-0.6
RND	**Reindeer**	**3.67**	**26**		Pn	15 11 47.8	-0.3
CHUM	**Lake Minchumin**	**3.73**	**1**		Pn	15 11 48.2	-0.6
SII	**Sitkinak Islan**	**3.73**	**195**		Pn	15 11 48.4	-0.5
DHY	**Denali Highway**	**3.78**	**37**		Pn	15 11 48.9	-0.8
GOAT	**Goat Mountain**	**3.83**	**80**		Pn	15 11 48.9	-1.4
MCK	**McKinley**	**3.94**	**23**		Pn	15 11 51.4	-0.2
BPAW	**Bear Paw Mtn.**	**4.01**	**9**		Pn	15 11 51.2	-1.4
BWN	**Browne**	**4.25**	**18**		Pn	15 11 55.5	-0.4
PAX	**Paxson**	**4.35**	**47**		Pn	15 11 56.5	-0.8
GRIN	**Grindle Hills**	**4.53**	**85**		Pn	15 11 58.9	-0.8
PS10	**TAPS Pump St10**	**4.54**	**41**		Pn	15 11 59.8	0.0
KHIT	**Khitrov Hills**	**4.56**	**83**		Pn	15 11 59.0	-1.2
WAX	**Waxell Ridge**	**4.76**	**82**		Pn	15 12 01.2	-1.6
WRH	**Wood River Hil**	**4.77**	**23**		Pn	15 12 02.0	-0.8
MLY	**Manley**	**4.95**	**8**		Pn	15 12 05.0	-0.4
HDA	**Harding Lake**	**4.96**	**28**		Pn	15 12 04.6	-0.9
CCB	**Clear Creek Bu**	**4.98**	**23**		Pn	15 12 04.7	-1.1
RIDG	**Independent Ri**	**5.06**	**42**		Pn	15 12 06.0	-0.8
PS08	**TAPS Pump Stn8**	**5.11**	**28**		Pn	15 12 06.3	-1.1
COLA	**College**	**5.18**	**22**		Pn	15 12 07.5	-0.9
IL31		**5.28**	**27**		Pn	15 12 08.7	-1.1
GRNC	**Granite Creek**	**5.30**	**79**		Pn	15 12 09.5	-0.9
BARN	**Barnard Glacie**	**5.37**	**76**		Pn	15 12 09.8	-1.4
POKR	**Poker Plat Res**	**5.47**	**23**		Pn	15 12 11.2	-1.3
SCRK	**Sand Creek**	**5.50**	**42**		Pn	15 12 11.5	-1.4
IM03		**5.88**	**355**		Pn	15 12 16.9	-1.0
PRP	**Porcupine Dome**	**6.22**	**27**		Pn	15 12 21.4	-1.4

KRSC 04 15:15:06.7±1.8**, 48°.35N×155°.50E, h62**km±34km**, ML3.8,**
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.37**	**10**	*e*P	Pn	15 15 45.3	+2.1
SKR				*e*S	Sn	15 16 14.6	+3.5
PAU	**Pauzhetka**	**3.24**	**15**	*e*S	Sn	15 16 36.5	+4.2
KDTR	**Khodutka, Kamc**	**3.84**	**25**	*e*P	Pn	15 16 05.5	+2.2
KDTR				*e*S	Sn	15 16 51.6	+4.5
ASAK	**Asacha**	**4.33**	**20**	*e*P	Pn	15 16 14.2	+4.3
MTVR	**Mutnovka**	**4.48**	**21**	*e*P	Pn	15 16 15.4	+3.2
MTVR				*e*S	Sn	15 17 07.2	+4.2
GRL	**Gorelyy**	**4.52**	**20**	*e*P	Pn	15 16 16.6	+4.0
RUS	**Russkaya**	**4.52**	**24**	*e*P	Pn	15 16 15.2	+2.7
RUS				*e*S	Sn	15 17 07.8	+4.0
KRMR	**Karymshinskiy**	**4.79**	**19**	*e*P	Pn	15 16 18.1	+1.9
KRMR				*e*S	Sn	15 17 11.9	+1.5
UGLR	**Uglovaya**	**5.31**	**22**	*e*P	Pn	15 16 27.4	+4.0
AVH	**Avacha**	**5.34**	**21**	*e*P	Pn	15 16 28.1	+4.3
KOK	**Koryaka**	**5.34**	**21**	*e*P	Pn	15 16 28.1	+4.3
SDLR	**Sedlovina**	**5.38**	**22**	*e*P	Pn	15 16 27.9	+3.5
SPN	**Mys Shipunski**	**5.56**	**29**	*e*S	Sn	15 17 32.9	+3.8

*MOS **04** 15:22:04.3±0.9, 44°.48N×142°.50E, h221km, mb4.1/14, Error ellipse: s-maj=10.2km s-min=6.5km az=89.4*

*ISCJB **04** 15:22:05.1±0.2, 44°.30N±0°.03×142°.57E±0°.04, h237km±1km, mb4.1/43, Error ellipse: s-maj=4.4km s-min=4.0km az=38.5*

*JMA **04** 15:22:05.9±0.2, 44°.26N×142°.61E, h236km±2km, M3.8*

*NEIC **04** 15:22:06.2±1.4, 44°.34N±0°.07×142°.6E±0°.1, h231km±6km, mb4.3/80*

*IDC **04** 15:22:06.1±0.3, 44°.43N×142°.56E, h228km±3km, mb3.7/23, mb1 3.7/31, mb1mx3.5/64, mbtmp4.2/31, Error ellipse: s-maj=12.9km s-min=9.4km az=165.0*

ISC 04 15:22:06.0±0.5**, 44°.34N**±0°.04×**142°.63E**±0°.04**, h228**km±4km**,**
n202, σ1.24/229**, mb4.2**/77**, 17C-6D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**0.22**	**187**	⇑P	**Pn**	**15 22 36.8**	**+1.1**
ASAJ				*e*S	**S**	**15 23 00.2**	**+1.2**
ASAJ	**Asahikawa**	**0.22**	**187**	P	**Pn**	**15 22 36.9**	**+1.1**
	107nm,0.3s,baz=263,slow=5.2,SNR=1316						
ASAJ				S	**S**	**15 23 00.2**	**+1.2**
	4.6nm,0.3s,baz=12,slow=33,SNR=24						
JKA	**Kamikawa-asahi**	**0.22**	**186**		**Pn**	**15 22 36.9**	**+1.1**
JKA					**S**	**15 23 00.2**	**+1.2**
JKK2	**Kamakawa 2**	**0.47**	**170**	⇑P	**Pn**	**15 22 37.3**	**+1.0**
JKK2				*e*S	**S**	**15 23 01.3**	**+1.3**
JSS	**Shosan**	**0.56**	**277**	P	**Pn**	**15 22 37.6**	**+1.1**

JSS eS S 15 23 01.6 +1.2
JMP Maruseppu 0.62 122 ⇑P Pn 15 22 37.9 +1.1
JMP eS S 15 23 01.8 +0.9
JSE Soyaes 0.62 357 ⇓P Pn 15 22 37.8 +1.1
JSE eS S 15 23 01.8 +0.9
JYG Yagishiri 0.87 276 P Pn 15 22 38.6 +0.7
JYG eS S 15 23 03.5 +0.7
JHR Hokuryu 0.88 228 ⇑P Pn 15 22 38.8 +0.8
JHR eS S 15 23 04.4 +1.4
JTKR Abashiri--Toko 0.99 111 ⇑P Pn 15 22 39.8 +1.2
JTKR eS S 15 23 06.0 +2.0
JWK2 Keihoku 1.11 332 ⇓P Pn 15 22 40.4 +1.1
JWK2 eS S 15 23 06.8 +1.4
JFR Furan 1.17 181 ⇑P Pn 15 22 40.2 +0.3
JAR Ashorobuto 1.33 141 ⇑P Pn 15 22 41.7 +0.8
JAR eS S 15 23 09.0 +0.9
JRBN Rebuntou 1.56 315 ⇓P Pn 15 22 42.7 +0.1
JRBN eS S 15 23 11.1 -0.1
JEW Eniwo 1.73 210 ⇑P Pn 15 22 44.7 +0.6
JEW eS S 15 23 14.4 +0.5
JCH Churui 1.80 163 ⇑P Pn 15 22 43.9 -0.9
JCH eS S 15 23 12.4 -2.7
JRA Rausu 1.84 102 P Pn 15 22 46.2 +1.1
JSK Shakotan 1.84 238 P Pn 15 22 45.5 +0.3
JAK Akkeshi 2.01 131 ⇑P Pn 15 22 45.8 -0.9
JAK eS S 15 23 16.6 -1.9
JNBK Urakawa-nobuka 2.06 178 P Pn 15 22 46.6 -0.6
JNBK eS S 15 23 17.4 -2.0
GLVR Golovnino 2.17 105 *e*PN Pn 15 22 49.3 +1.1
YUK Yuzh-Kuril'sk 2.34 96 *e*PN Pn 15 22 44.6 -5.4
YUK pmax pmax
comp=Z,17nm,0.2s
ERM Erimo 2.35 170 *ce*PN Pn 15 22 49.8 -0.4
ERM pmax pmax
comp=Z,173nm,0.7s
ERM Erimo 2.35 170 Pn 15 22 49.8 -0.4
NMR Nemuro--Hokkai 2.44 112 *e*PN Pn 15 22 50.1 -0.9
NEM2 Nemuro 2 2.45 112 P Pn 15 22 50.3 -0.8
NEM2 eS S 15 23 24.1 -2.3
YSS Yuzh-Sakhalins 2.62 2 ⇓*i*PN Pn 15 22 53.6 +0.8
YSS eS S 15 23 30.9 +1.3
YSS pmax pmax
comp=Z,260nm,0.9s
YSS smax smax
comp=N,50nm,1.2s
YSS smax smax
comp=E,50nm,1.4s
YSS smax smax
comp=E,200nm,3.4s
YSS Yuzh-Sakhalins 2.62 2 Pn 15 22 53.2 +0.4
JKB Kayabe 2.71 206 ⇑P Pn 15 22 53.1 -0.9
JKB eS S 15 23 28.1 -3.4
TYV Tymovskoe 6.53 0 *e*PN Pn 15 23 42.8 +2.6
TYV pmax pmax
comp=Z,13nm,0.9s
TYV pmax pmax
comp=Z,200nm,3.3s
USRK Ussuriysk Ar. 7.64 273 P Pn 15 23 54.5 0.0
baz=85,slow=13,SNR=16
GRNR Gornyy 7.68 329 ⇓*i*PN Pn 15 23 55.0 0.0
GRNR eS S 15 25 21.7 -0.6
GRNR pmax pmax
comp=Z,8.0nm,0.7s
GRNR smax smax
comp=N,5.0nm,0.7s
MJA0 Matsu Arr-Jizo 8.47 205 *e*PN Pn 15 24 05.2 -0.1
MJB9 Matsu-Tunnel 8.48 205 Pn Pn 15 24 03.1 -2.3
MAJO Matsushiro 8.48 205 *i* PN Pn 15 24 05.6 +0.1
MAJO pmax pmax
comp=Z,4.0nm,1.0s
MAJO Matsushiro 8.48 205 Pn 15 24 03.2 -2.2
MJAR Matsushiro Arr 8.48 205 P Pn 15 24 05.3 -0.2
comp=Z,0.2nm,0.3s,baz=14,slow=13,SNR=11
KLR Kul'dur 8.92 307 *i* Pn Pn 15 24 12.9 +2.0
KLR pmax pmax
comp=Z,2.0nm,1.3s
KLR Kul'dur 8.92 307 P Pn 15 24 10.8 -0.1
comp=Z,0.2nm,0.3s,baz=132,slow=10.0,SNR=4.8
INU Inuyama 9.96 208 Pn Pn 15 24 24.2 0.0
PEA0B Petropavlovsk- 13.24 43 PN Pn 15 25 05.7 +0.4
PEA0B Petropavlovsk- 13.24 43 Pn Pn 15 25 05.7 +0.4
PETK Petropavlovsk- 13.24 43 P Pn 15 25 05.4 +0.1
comp=Z,0.4nm,0.3s,baz=215,slow=7.1,SNR=17
ZEA Zeya 13.77 319 *e*P P 15 25 12.2 -1.0
ZEA pmax pmax
comp=Z,17nm,0.7s
JNU Nakatsue 14.46 223 P Pn 15 25 21.4 +0.9
comp=Z,0.6nm,0.3s,baz=353,slow=2.4,SNR=7.8
JNU Nakatsue 14.46 223 P Pn 15 25 21.1 +0.6
MA2 Magadan 16.04 15 P Pn 15 25 38.7 -0.5
MA2 pmax pmax
comp=Z,89nm,1.5s
MA2 Magadan 16.04 15 P P 15 25 38.0 -0.2
comp=Z,0.7nm,0.3s,baz=198,slow=9.7,SNR=4.8
MA2 Magadan 16.04 15 P Pn 15 25 38.7 -0.5
YAK Yakutsk 19.28 341 P P 15 26 11.0 -2.4
YAK Yakutsk 19.28 341 P P 15 26 10.9 -2.4
comp=Z,0.2nm,0.3s,baz=142,slow=2.5,SNR=7.8
YAK S S 15 29 32.0 -6.9
comp=Z,0.0nm,0.3s,baz=326,slow=3.6,SNR=2.7
SEY Seymchan 19.46 13 *i* P P 15 26 14.7 -0.6
SEY Seymchan 19.46 13 P P 15 26 14.2 -1.0
comp=Z,1.0nm,0.3s,baz=188,slow=8.4,SNR=21
HHC Hu-ho-hao-te 23.07 272 P P 15 26 51.4 -0.1
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,8.0nm,4.3s
SONM Songino Array 25.23 291 *e*P P 15 27 11.2 +0.2
SONM pmax pmax
comp=Z,2.0nm,0.4s
SONM Songino Array 25.23 291 P P 15 27 11.3 +0.2
comp=Z,1.4nm,0.4s,baz=95,slow=8.1,SNR=11
WHN Wuhan 26.19 248 P P 15 27 19.5 -0.1
BILL Bilibino 26.80 20 *i* P P 15 27 28.5 +3.9
BILL *i* *PP pP 15 28 07.3 -2.5
BILL pmax pmax
comp=Z,2.0nm,1.2s
BILL Bilibino 26.80 20 P P 15 27 23.0 -1.7
BILL IAmb IAmb 15 28 08.8
comp=Z,23nm,2.0s
SARN Sarigan 27.68 173 P P 15 27 33.9 +0.8
ADK Adak 27.89 60 P P 15 27 33.5 -1.0
ADK pmax pmax
comp=Z,261nm,2.0s
ADK Adak 27.89 60 P P 15 27 33.5 -1.0
TIXI Tiksi 28.19 351 *i* P P 15 27 39.5 +2.6
TIXI pmax pmax
comp=Z,1.0nm,1.1s
LZH Lanzhou 30.52 268 ⇓P P 15 27 57.3 -0.8
LZH pP pP 15 28 44.7 +1.1
LZH PP PnPn 15 29 07.5 -0.6
LZH sP sP 15 29 10.2 +0.4
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,47nm,4.9s
CD2 Chengdu 33.26 260 *e*P P 15 28 20.4 -1.5
ZAA0 Zalesovo Array 38.03 306 P P 15 29 01.4 -0.6
ZALV Zalesovo Beam 38.03 306 *e*P P 15 29 02.1 +0.1
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 38.03 306 P P 15 29 00.9 -1.1
comp=Z,3.3nm,0.6s,baz=81,slow=9.2,SNR=10.0
WMQ Urumqi 38.84 289 *e*P P 15 29 10.2 +1.2
WMQ pmax pmax
comp=Z,10.0nm,0.6s
WMQ pmax pmax
comp=Z,92nm,5.9s
WMQ LR LR
comp=N,270nm,28.8s
WMQ LR LR
comp=E,1μm,29.0s
WMQ LR LR
comp=Z,160nm,29.1s
SVW2 Sparrevohn 39.32 42 P P 15 29 13.6 +0.9
RSO Redoubt South 40.76 43 P P 15 29 26.6 +1.9
PPLA Purkeypile 40.79 40 P P 15 29 26.0 +1.2
OHAK Old Harbor 40.97 48 P P 15 29 26.4 +0.2
SKT Skwentna 41.18 41 P P 15 29 28.5 +0.7
SKT IAmb IAmb 15 29 59.9
comp=Z,11nm,1.4s
BPAW Bear Paw Mtn. 41.24 38 P P 15 29 29.0 +0.7
KDAK Kodiak Island 41.25 47 *ce*P P 15 29 28.9 +0.5
KDAK Kodiak Island 41.25 47 P P 15 29 27.5 -0.9
MLY Manley 41.28 36 P P 15 29 29.1 +0.4
MLY IAmb IAmb 15 30 13.5
comp=Z,24nm,2.0s
KTH Kantishna Hill 41.31 38 P P 15 29 29.7 +0.8
KTH IAmb IAmb 15 29 29.8
comp=Z,11nm,1.3s
MK31 Makanchi Array 41.41 295 P P 15 29 29.7 -0.3
MK31 pmax pmax
comp=Z,7.0nm,1.2s
MK31 Makanchi Array 41.41 295 P P 15 29 29.7 -0.3
MKAR Makanchi Array 41.41 295 *eP* P 15 29 29.6 -0.3
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 41.41 295 P P 15 29 29.7 -0.3
comp=Z,1.8nm,0.7s,baz=80,slow=9.3,SNR=12
COLD Coldfoot 41.41 33 P P 15 29 29.2 -0.4
TRF Thorofare Moun 41.60 39 P P 15 29 32.0 +0.6
TRF IAmb IAmb 15 29 52.9
comp=Z,35nm,2.0s
MAKZ Makanchi 41.61 296 P P 15 29 29.5 -2.0
MAKZ pmax pmax
comp=Z,15nm,1.3s
MAKZ Makanchi 41.61 296 P P 15 29 29.5 -2.0
MAKZ IAmb IAmb 15 29 40.0
comp=Z,15nm,1.3s
SUA Susitna One 41.61 42 P P 15 29 31.7 +0.2
CNPM China Poot 41.65 45 P P 15 29 32.2 +0.5
BRLK Bradley Lake 41.79 44 P P 15 29 33.2 +0.4
BWN Browne 41.90 37 P P 15 29 35.3 +1.7
RC01 Rabbit Creek A 42.15 42 P P 15 29 35.8 +0.1
RC01 IAmb IAmb 15 29 36.6
comp=Z,7.7nm,0.7s
RND Reindeer 42.25 39 P P 15 29 36.6 +0.1
RND pmax pmax
comp=Z,16nm,1.7s
RND Reindeer 42.25 39 P P 15 29 36.6 +0.1
RND IAmb IAmb 15 29 40.8
comp=Z,16nm,1.7s
MDM Murphy Dome 42.35 36 P P 15 29 38.3 +1.0
MDM IAmb IAmb 15 30 42.0
comp=Z,11nm,1.4s
GHO Glory Hole Cre 42.43 41 P P 15 29 38.5 +0.4
SEW Seward 42.44 43 P P 15 29 38.3 +0.3
SEW IAmb IAmb 15 29 38.9
comp=Z,11nm,0.8s
WRH Wood River Hil 42.46 37 P P 15 29 37.9 -0.2
KURK Kurchatov 42.48 302 *ce*P P 15 29 37.3 -1.2
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 42.48 302 P P 15 29 37.9 -0.6
COLA College 42.52 36 P P 15 29 38.9 +0.3
COLA pmax pmax
comp=Z,8.0nm,0.7s
COLA College 42.52 36 P P 15 29 38.9 +0.3
COLA IAmb IAmb 15 29 40.1
comp=Z,8.1nm,0.7s
KURBB Kurchatov Arra 42.56 302 P P 15 29 39.1 -0.1
comp=Z,2.1nm,0.4s,baz=72,slow=9.0,SNR=9.6
CCB Clear Creek Bu 42.57 37 P P 15 29 39.1 +0.1
SML Sawmill 42.70 41 P P 15 29 40.8 +0.6
SML IAmb IAmb 15 29 42.1
comp=Z,9.5nm,0.6s
KNK Knik Glacier 42.71 41 P P 15 29 40.3 +0.1
KNK IAmb IAmb 15 29 41.4
comp=Z,8.6nm,0.9s
IL31 42.94 36 P P 15 29 41.8 -0.1
IL31 IAmb IAmb 15 29 50.7
comp=Z,16nm,1.8s
ILAR Eielson Array 42.94 36 P P 15 29 41.8 -0.3
comp=Z,1.7nm,0.7s,baz=278,slow=9.6,SNR=31
DHY Denali Highway 42.95 39 P P 15 29 42.1 -0.2
HDA Harding Lake 42.96 37 P P 15 29 41.8 -0.4
HDA IAmb IAmb 15 30 27.5
comp=Z,23nm,2.0s
SCM Sheep Creek Mo 43.17 41 P P 15 29 44.6 +0.6
SCM pmax pmax
comp=Z,8.0nm,0.6s
SCM Sheep Creek Mo 43.17 41 P P 15 29 44.6 +0.6
SCM IAmb IAmb 15 29 45.7
comp=Z,7.6nm,0.6s
FYU Fort Yukon 43.41 34 P P 15 29 46.4 +0.7
FYU IAmb IAmb 15 29 47.1
comp=Z,7.4nm,0.5s
PRP Porcupine Dome 43.42 35 P P 15 29 45.8 -0.2
PRP IAmb IAmb 15 29 47.5
comp=Z,5.2nm,0.6s
GLI Glacier Island 43.45 42 P P 15 29 45.9 -0.2
GLI IAmb IAmb 15 29 47.0
comp=Z,9.6nm,0.8s
FID Port Fidalgo 43.77 42 P P 15 29 48.7 0.0
FID IAmb IAmb 15 31 16.0
comp=Z,12nm,1.2s
HIN Hinchinbrook I 43.83 43 P P 15 29 49.7 +0.5
RIDG Independent Ri 43.98 38 P P 15 29 49.4 -0.9
RIDG IAmb IAmb 15 30 48.6
comp=Z,34nm,2.0s
EYAK Cordova Ski Ar 44.17 42 P P 15 29 52.4 +0.6
EYAK IAmb IAmb 15 29 53.1
comp=Z,10nm,0.5s
SCRK Sand Creek 44.31 37 P P 15 29 52.2 -0.8
SCRK IAmb IAmb 15 29 52.9
comp=Z,4.7nm,0.4s
DOT Dot Lake 44.34 38 P P 15 29 53.0 -0.1
DOT IAmb IAmb 15 31 37.6
comp=Z,13nm,1.4s
MENT Mentasta 44.62 39 P P 15 29 56.5 +1.1
RAGM Ragged Mountai 44.72 42 P P 15 29 57.0 +0.8
GLB Gilahina Butte 44.90 41 P P 15 29 58.4 +0.8
HMT Hamilton 44.93 42 P P 15 29 58.8 +0.9
VRDI Verde Repeater 45.11 41 P P 15 30 00.0 +0.6
VRDI IAmb IAmb 15 30 01.1
comp=Z,6.6nm,0.6s
MCARA McCarthy VSAT 45.28 41 P P 15 30 01.6 +1.1
MCARA IAmb IAmb 15 30 02.6
comp=Z,13nm,0.6s
EGAK Eagle 45.36 36 P P 15 30 00.6 -0.6
CRQM Cirque 45.37 42 P P 15 30 02.4 +0.9
CRQM IAmb IAmb 15 30 03.5
comp=Z,7.9nm,0.8s
TGL Tana Glacier 45.52 42 P P 15 30 03.4 +0.9
TGL IAmb IAmb 15 30 04.8
comp=Z,13nm,1.1s
WAX Waxell Ridge 45.59 42 P P 15 30 04.0 +0.9
WAX IAmb IAmb 15 30 10.1
comp=Z,50nm,1.9s
BALM Baldy 45.68 41 P P 15 30 04.4 +0.6
BALM IAmb IAmb 15 30 05.4
comp=Z,7.5nm,0.7s
BARN Barnard Glacie 46.00 41 P P 15 30 07.2 +0.8
BARN IAmb IAmb 15 30 08.2
comp=Z,14nm,0.6s
CTGM Chitina Glacie 46.17 41 P P 15 30 08.5 +0.8
CTGM IAmb IAmb 15 30 09.5
comp=Z,16nm,0.6s
DAWY Dawson 46.27 37 P P 15 30 08.7 +0.4
BVAR Borovoye Array 46.59 308 P P 15 30 10.5 -0.3
comp=Z,1.6nm,0.3s,baz=83,slow=10,SNR=28
KDJ Kajisay 46.59 291 P P 15 30 10.8 -0.5
KDJ pmax pmax
comp=Z,2.0nm,0.7s
KDJ Kajisay 46.59 291 P P 15 30 10.8 -0.5
BRVK Borovoye 46.64 308 *ce*P P 15 30 10.1 -1.1
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 46.64 308 P P 15 30 10.9 -0.3
INK Inuvik 47.53 30 P P 15 30 17.3 -0.6
INK pmax pmax
comp=Z,5.0nm,0.6s
INK Inuvik 47.53 30 P P 15 30 17.5 -0.4
comp=Z,4.6nm,0.5s,baz=292,slow=6.5,SNR=48
INK Inuvik 47.53 30 P P 15 30 17.3 -0.6
FAKI Fak Fak 47.96 194 P P 15 30 21.2 -0.6
AAK Ala-Archa 48.15 293 P P 15 30 22.6 -0.6
AAK pmax pmax
comp=Z,5.0nm,1.6s
AAK Ala-Archa 48.15 293 P P 15 30 22.9 -0.3
comp=Z,0.6nm,0.4s,baz=45,slow=7.1,SNR=2.7
AAK Ala-Archa 48.15 293 P P 15 30 22.6 -0.6
KSH Kashi 48.60 289 P P 15 30 30.4 +3.8
KSH PcP PcP 15 31 52.1 +3.6
KSH PP PP 15 32 26.2 +4.6
KSH S S 15 37 15.5 +4.8
KSH ScS ScS 15 39 56.2 +1.4
KSH pmax pmax
comp=Z,320nm,5.0s
KSH LR LR
comp=N,440nm,5.1s
KSH LR LR
comp=E,370nm,4.7s
SBUM Sibu 49.62 222 P P 15 30 33.6 -0.8
SBUM IAmb IAmb 15 31 58.2
comp=Z,14nm,1.6s
ARSB Arslanbob 49.75 292 P P 15 30 35.8 +0.5
BESE Bessie Mountai 50.04 43 P P 15 30 38.6 +1.5
BESE IAmb IAmb 15 30 50.3
comp=Z,6.7nm,0.9s
JIS Juneau Island 50.38 43 P P 15 30 41.4 +1.8
JIS IAmb IAmb 15 30 47.6
comp=Z,13nm,1.1s
ARU Arti 51.66 315 P P 15 30 48.4 -0.7
ARU pmax pmax
comp=Z,11nm,1.3s
ARU Arti 51.66 315 P P 15 30 48.5 -0.7
comp=Z,0.5nm,0.3s,baz=21,slow=7.4,SNR=5.0
ARU Arti 51.66 315 P P 15 30 48.4 -0.7
ARU IAmb IAmb 15 30 49.6
comp=Z,11nm,1.3s
KEKH Kekaha 52.01 96 P P 15 30 52.5 +0.3
SPITS Spitsbergen Ar 53.56 348 P P 15 31 01.1 -1.7
comp=Z,9.0nm,0.9s,baz=70,slow=8.2,SNR=5.2
ABKAR Akbulak array 54.13 307 P P 15 31 06.8 -0.4
ABKAR IAmb IAmb 15 31 07.4
comp=Z,4.0nm,0.4s
AKTO Aktyubinsk 54.66 309 P P 15 31 10.0 -1.0
AKTO Aktyubinsk 54.66 309 P P 15 31 10.0 -1.0
comp=Z,1.3nm,0.6s,baz=80,slow=11,SNR=6.8
LVZ Lovozero 55.88 334 P P 15 31 19.1 -0.4
LVZ pmax pmax
comp=Z,211nm,1.7s
LVZ Lovozero 55.88 334 P P 15 31 19.1 -0.4
KEV Kevo 56.98 338 P P 15 31 26.6 -0.6
KEV pmax pmax
comp=Z,322nm,2.0s
KEV Kevo 56.98 338 P P 15 31 26.6 -0.6
YKW3 Yellowknife Ar 57.05 33 P P 15 31 28.0 +0.2
YKW3 IAmb IAmb 15 31 28.7
comp=Z,3.7nm,0.7s
YKA Yellowknife Ar 57.09 33 P P 15 31 28.1 0.0
comp=Z,3.2nm,0.6s,baz=306,slow=6.6,SNR=30
ARCES ARCESS Array B 57.53 338 P P 15 31 30.5 -0.5
comp=Z,3.8nm,0.8s,baz=40,slow=8.1,SNR=13
ARE0 ARCESS Array S 57.53 338 P P 15 31 30.3 -0.7
ARE0 IAmb IAmb 15 32 42.8
comp=Z,14nm,2.0s
MTN Manton Dam 57.86 193 P P 15 31 33.7 -0.2
MTN IAmb IAmb 15 32 08.7
comp=Z,13nm,1.2s
COEN Coen 58.02 179 P P 15 31 35.1 +0.1
DAG Danmarks Havn 58.59 355 *eP* P 15 31 36.8 -1.4
DAG Danmarks Havn 58.59 355 *i* P P 15 31 36.8 -1.4
FINES FINESS Array B 62.83 331 P P 15 32 06.0 -0.9
comp=Z,5.4nm,0.6s,baz=48,slow=8.2,SNR=25
OBN Obninsk 62.87 322 *i* P P 15 32 06.7 -0.6
OBN pmax pmax
comp=Z,31nm,1.9s
SUMG Summit 63.39 0 *i* P P 15 32 11.0 0.0
SUMG pmax pmax
comp=Z,24nm,0.6s
SUMG Summit 63.39 0 *i* P P 15 32 11.0 0.0
comp=Z,24nm,0.6s
SUMG Summit 63.39 0 P P 15 32 11.0 0.0
KIV Kislovodsk 66.91 309 *eP* P 15 32 32.5 -1.2
KIV pmax pmax
comp=Z,12nm,0.9s
KBZ Khabaz 66.94 309 *eP* P 15 32 34.4 +0.7
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 66.94 309 P P 15 32 33.0 -0.6
comp=Z,2.6nm,0.8s,baz=59,slow=2.9,SNR=4.3
FFC Flin Flon 67.12 35 *ce*P P 15 32 35.9 +1.2
NB2 NORSAR Subarra 67.83 337 P P 15 32 38.4 -0.7
comp=Z,0.5nm,0.5s,baz=34,slow=6.5
NOA NORSAR Array B 67.83 337 *eP* P 15 32 37.5 -1.6
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 67.83 337 P P 15 32 38.1 -1.0
comp=Z,1.5nm,0.8s,baz=32,slow=6.3,SNR=4.2
HFS Hagfors 67.84 335 P P 15 32 38.4 -0.7
comp=Z,3.2nm,0.3s,baz=53,slow=7.6,SNR=33
HRY Holter Researc 68.09 46 P P 15 32 41.2 +0.1
ASAR Alice Springs 68.14 189 P P 15 32 41.4 0.0
comp=Z,0.6nm,0.6s,baz=4.7,slow=6.2,SNR=8.7
AKASG Malin Array Be 69.13 321 P P 15 32 45.7 -1.5
comp=Z,0.8nm,0.3s,baz=42,slow=6.3,SNR=6.3
KVN Kaiserville 69.69 55 P P 15 32 51.4 +0.3
KVN pmax pmax
comp=Z,5.0nm,1.4s
KVN Kaiserville 69.69 55 P P 15 32 51.4 +0.3
NVAR Mina Array Bea 69.98 56 P P 15 32 53.5 +0.5
comp=Z,0.7nm,0.7s,baz=292,slow=6.1,SNR=5.3
BW06 Boulder Array 71.97 48 P P 15 33 04.6 -0.2
PD31 Pinedale Array 71.97 48 P P 15 33 04.4 -0.4
PDAR Pinedale Array 71.97 48 P P 15 33 05.0 +0.2
comp=Z,1.8nm,0.6s,baz=277,slow=2.3,SNR=20
CLL Collm 75.23 330 *i* P P 15 33 22.9 -0.4
CLL Collm 75.23 330 *i* P P 15 33 22.9 -0.4
EKA Eskdalemuir Ar 76.56 341 P P 15 33 30.3 -0.4
comp=Z,0.4nm,0.3s,baz=28,slow=5.3,SNR=4.3
TXAR Lajitas Array 84.97 53 P P 15 34 16.3 +0.5
comp=Z,1.1nm,0.7s,baz=293,slow=3.7,SNR=7.5
MSEY Mahe Island 91.19 265 *ce*P P 15 34 46.7 +1.3
SNAA Sanae 147.97 200 PKPdf **PKPbc** 15 41 22.0 -1.0
VNA2 Neumayer--Watz 149.56 199 PKPdf **PKPbc** 15 41 26.5 -0.4
baz=123,slow=1.8
VNA3 Neumayer Olymp 149.83 197 PKPdf **PKPbc** 15 41 27.0 -0.6

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*KRNET **04** 15:34:14.7±0.1, 40.35N×77.21E, h15km, mb3.2*
*NNC **04** 15:34:15.8±2.9, 40.37N×77.03E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=19.8km s-min=13.2km az=166.0
*SOME **04** 15:34:16.3, 40.38N×77.10E, h15km*
ISC 04 15:34:19.5±1.6, **40.59N**±0.07×**77.18E**±0.04, **h10**km, **n58,**
s1873/93, 27C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.22**	**314**	⇑*i*P	**P**	**Pn**	**15 34 40.9**	**-2.1**
NRN	baz=19			⇑*i*S		**Sn**	**15 35 00.2**	**+0.4**
TARG	**Taragay, Kyrgy**	**1.23**	**22**	⇑*i*P	**P**	**Pn**	**15 34 41.8**	**-1.4**
TARG	baz=18			⇑*i*S		**Sn**	**15 35 01.6**	**+1.5**
KDJ	**Kajisay**	**1.54**	**0**	⇑*i*P	**P**	**Pb**	**15 34 47.5**	**-0.7**
KDJ	baz=60			⇑*i*S		**Sg**	**15 35 11.5**	**+2.5**
ULHL	**Ulahol**	**1.80**	**337**	⇓*i*P	**P**	**Pb**	**15 34 51.2**	**-1.5**
ULHL	baz=39			⇓*i*S		**Sg**	**15 35 18.1**	**+0.8**
ULHL	**Ulahol**	**1.80**	**337**	P	**P**	**Pb**	**15 34 52.7**	**0.0**
KZA	**Kyzart**	**2.08**	**316**	⇓*i*P	**P**	**Pn**	**15 34 54.7**	**-0.1**
KZA	baz=20			⇓*i*S		**Sb**	**15 35 24.0**	**+0.4**
KZA	**Kyzart**	**2.08**	**316**	P	**P**	**Pb**	**15 34 57.4**	**-0.1**
PRZ	**Przheval'sk**	**2.10**	**26**	⇑*i*P	**P**	**Pb**	**15 34 55.2**	**-2.7**
PRZ	baz=23			⇑*i*S		**Sb**	**15 35 24.6**	**+0.5**
BOOM	**Boomskoye usch**	**2.11**	**334**	⇑*i*P	**P**	**Pn**	**15 34 55.6**	**+0.5**
BOOM	baz=37			⇑*e*S		**Sb**	**15 35 25.4**	**+1.0**
ANVS	**Anan'yevo**	**2.22**	**9**	⇑*i*P	**P**	**Pb**	**15 34 57.3**	**-2.6**
ANVS	baz=8.0			⇑*i*S		**Sb**	**15 35 28.2**	**+0.7**
TNSS	**Tian-Shan**	**2.45**	**356**	*eP*	**P**	**Pg**	**15 35 04.8**	**-1.7**
TNSS	5.9nm,0.1s 31nm,0.5s			*eS*		**Sg**	**15 35 39.5**	**+1.2**
TNSS	**Tian-Shan**	**2.45**	**356**	Pg	**Pg**	**Pg**	**15 35 04.8**	**-1.7**
TNSS	5.9nm,0.1s			Lg	Lg	Lg	15 35 39.5	

	31nm,0.5s						
IZV	**Izvestkoviy**	**2.48**	**350**	*e*P	**Pg**	**15 35 05.2**	**-1.9**
	7.4nm,0.3s						
IZV				*e*S	**Sg**	**15 35 40.5**	**+1.3**
	53nm,0.4s						
ARLS	**Aral**	**2.50**	**301**	⇑*i*P	**Pn**	**15 35 00.3**	**-0.1**
	baz=6.0						
ARLS				⇑*e*S	**Sn**	**15 35 32.8**	**+1.8**
	baz=6.0						
MDOK	**Medeo**	**2.57**	**358**	*e*P	**Pg**	**15 35 06.8**	**-2.0**
	3.7nm,0.4s						
MDOK				*e*S	**Sg**	**15 35 43.0**	**+0.8**
	60nm,0.7s						
MDOK	**Medeo**	**2.57**	**358**	Pg	**Pb**	**15 35 06.4**	**+0.5**
	12nm,0.7s						
MDOK				Lg	Lg	15 35 46.1	
	86nm,1.0s						
MDOK	**Medeo**	**2.57**	**358**	Pg	**Pg**	**15 35 06.9**	**-2.0**
	3.7nm,0.4s						
MDOK				Lg	Lg	15 35 43.6	
	60nm,0.7s						
UCH	**Uchtor**	**2.58**	**310**	⇓*i*P	**Pn**	**15 35 01.5**	**-0.3**
	baz=14						
UCH				⇓*i*S	**Sb**	**15 35 36.0**	**-2.2**
	baz=14						
UCH	**Uchtor**	**2.58**	**310**	P	**Pb**	**15 35 03.8**	**-2.5**
	SNR=5.8						
MTBS	**Maitube**	**2.60**	**348**	*e*P	**Pb**	**15 35 06.6**	**+0.3**
	3.5nm,0.2s						
MTBS				*e*S	**Sg**	**15 35 42.5**	**-0.5**
	13nm,0.4s						
MTBS	**Maitube**	**2.60**	**348**	Pg	**Pb**	**15 35 06.6**	**+0.3**
	3.5nm,0.2s						
MTBS				Lg	Lg	15 35 43.1	
	13nm,0.4s						
TKM2	**Tokmak 2**	**2.61**	**334**	⇑*i*P	**Pn**	**15 35 02.3**	**+0.3**
	baz=35						
TKM2				⇑*i*S	**Sb**	**15 35 37.4**	**-1.3**
	baz=35						
TKM2	**Tokmak 2**	**2.61**	**334**	⇑Pg	**Pb**	**15 35 07.0**	**+0.4**
	5.4nm,0.6s						
TKM2				⇑Lg	Lg	15 35 45.5	
	24nm,0.9s						
KST	**Kastek**	**2.61**	**340**	*e*P	**Pb**	**15 35 06.9**	**+0.4**
	5.2nm,0.4s						
KST				*e*S	**Sg**	**15 35 43.1**	**-0.4**
	25nm,0.8s						
KST	**Kastek**	**2.61**	**340**	Pg	**Pb**	**15 35 06.9**	**+0.4**
	5.2nm,0.4s						
KST				Lg	Lg	15 35 43.6	
	25nm,0.8s						
SATY	**Saty**	**2.63**	**20**	*e*P	**Pg**	**15 35 07.9**	**-2.1**
	6.2nm,0.4s						
SATY				*e*S	**Sg**	**15 35 44.7**	**+0.6**
	27nm,0.5s						
SATY	**Saty**	**2.63**	**20**	Pg	**Pg**	**15 35 07.9**	**-2.1**
	6.2nm,0.4s						
SATY				Lg	Lg	15 35 45.4	
	27nm,0.5s						
KOTS	**Kotyrbulak**	**2.64**	**359**	*e*P	**Pg**	**15 35 08.6**	**-1.6**
	11nm,0.2s						
KOTS				*e*S	**Sg**	**15 35 46.3**	**+1.9**
	355nm,0.4s						
KBK	**Karagaybulak**	**2.65**	**322**	⇓*i*P	**Pn**	**15 35 02.7**	**+0.1**
	baz=24						
KBK				⇓*i*S	**Sb**	**15 35 38.1**	**-1.9**
	baz=24						
KBK	**Karagaybulak**	**2.65**	**322**	P	**Pb**	**15 35 07.4**	**+0.2**
	SNR=14						
ZHN	**Zhinishke**	**2.74**	**20**	*e*P	**Pg**	**15 35 09.7**	**-2.4**
	1.7nm,0.1s						
ZHN				*e*S	**Sg**	**15 35 47.9**	**+0.2**
	7.0nm,0.3s						
ZHN	**Zhinishke**	**2.74**	**20**	Pg	**Pg**	**15 35 09.7**	**-2.4**
	1.7nm,0.1s						
ZHN				Lg	Lg	15 35 47.9	
	7.0nm,0.3s						
AAK	**Ala-Archa**	**2.87**	**316**	⇑*i*P	**Pn**	**15 35 05.6**	**+0.1**
	baz=19						
AAK				⇑*i*S	**Sn**	**15 35 42.7**	**+2.6**
	baz=19						
AAK	**Ala-Archa**	**2.87**	**316**	P	**Pb**	**15 35 10.8**	**-0.1**
	SNR=19						
AAK	**Ala-Archa**	**2.87**	**316**	⇓Pg	**Pb**	**15 35 10.4**	**-0.5**
	17nm,0.7s						
AAK				⇓Lg	Lg	15 35 50.9	
	12nm,0.6s						
FRU1	**Bishkek**	**2.92**	**320**	⇑*i*P	**Pn**	**15 35 06.4**	**+0.2**
	baz=23						
FRU1				⇑*i*S	**Sn**	**15 35 44.2**	**+2.8**
	baz=23						
KURS	**Kuram**	**2.99**	**14**	*e*P	**Pg**	**15 35 14.3**	**-2.4**
	6.4nm,0.5s						
KURS				*e*S	**Sg**	**15 35 56.0**	**+0.5**
	19nm,0.8s						
CHMS	**Chumysh**	**3.01**	**324**	⇓*e*P	**Pn**	**15 35 07.7**	**+0.4**
	baz=26						
CHMS				⇓*i*S	**Sn**	**15 35 46.5**	**+3.0**
	baz=26						
AML	**Almayashu**	**3.04**	**302**	⇓*i*P	**Pn**	**15 35 07.6**	**-0.4**
	baz=5.0						
AML				⇓*i*S	**Sn**	**15 35 46.2**	**+1.5**
	baz=5.0						
AML	**Almayashu**	**3.04**	**302**	P	**Pn**	**15 35 09.8**	**+1.8**
	SNR=16						
SHLS	**Shalkode**	**3.08**	**33**	*e*P	**Pg**	**15 35 19.1**	**+0.6**
	5.7nm,0.1s						
SHLS				*e*S	**Sg**	**15 36 04.3**	**+5.8**
	12nm,0.4s						
SHLS	**Shalkode**	**3.08**	**33**	Pg	**Pg**	**15 35 19.1**	**+0.6**
	5.7nm,0.1s						
SHLS				Lg	Lg	15 36 04.3	
	12nm,0.4s						
KPKS	**Kokpek**	**3.08**	**21**	*e*P	**Pg**	**15 35 16.1**	**-2.6**
	4.9nm,0.3s						
KPKS				*e*S	**Sg**	**15 35 59.0**	**+0.4**
	51nm,0.7s						
KTBS	**Karatobe**	**3.14**	**353**	*e*P	**Pg**	**15 35 17.2**	**-2.5**
	7.6nm,0.3s						
KTBS				*e*S	**Sg**	**15 36 00.9**	**+0.5**
	30nm,0.4s						
PDGK	**Podgornoye**	**3.23**	**31**	Pg	**Pg**	**15 35 18.2**	**-3.3**
	1.2nm,0.5s						
PDGK				Lg	Lg	15 36 02.6	
	11nm,1.0s						
PDGK	**Podgornoye**	**3.23**	**31**	⇑Pg	**Pg**	**15 35 22.7**	**+1.2**
	4.2nm,0.5s						
PDGK				⇓Lg	Lg	15 36 09.1	
	25nm,0.7s						
ARSB	**Arslanbob**	**3.26**	**284**	⇓*i*P	**Pn**	**15 35 09.9**	**-0.9**
	baz=88						
ARSB				⇓*e*S	**Sn**	**15 35 49.5**	**-0.2**
	baz=88						
CHKK	**Chushkaly**	**3.26**	**358**	*e*P	**Pg**	**15 35 19.3**	**-2.8**
	2.4nm,0.2s						
CHKK				*e*S	**Sg**	**15 36 04.2**	**-0.2**
	19nm,0.4s						
CHKK	**Chushkaly**	**3.26**	**358**	Pg	**Pg**	**15 35 19.3**	**-2.8**
	2.4nm,0.2s						
CHKK				Lg	Lg	15 36 04.9	
	11nm,0.4s						
EKS2	**Erkin-Say**	**3.28**	**310**	⇑*i*P	**Pn**	**15 35 11.0**	**-0.1**
	baz=13						
EKS2				⇑*i*S	**Sn**	**15 35 52.2**	**+1.9**
	baz=13						
USP	**Ospenovka**	**3.34**	**324**	⇓*e*P	**Pn**	**15 35 12.2**	**+0.4**
	baz=26						
USP				⇓*i*S	**Sn**	**15 35 54.3**	**+2.8**
	baz=26						
KUU	**Kurty**	**3.36**	**350**	*e*P	**Pb**	**15 35 19.8**	**+0.6**
	1.5nm,0.4s						
KUU				*e*S	**Sg**	**15 36 04.9**	**-2.4**
	20nm,0.8s						
KUU	**Kurty**	**3.36**	**350**	Pg	**Pb**	**15 35 19.7**	**+0.6**
	1.5nm,0.4s						
KUU				Lg	Lg	15 36 05.7	
	20nm,0.8s						
ARXS	**Arharly**	**3.65**	**7**	*e*P	**Pg**	**15 35 26.5**	**-3.0**
	2.7nm,0.6s						
ARXS				*e*S	**Sg**	**15 36 16.9**	**+0.1**
	11nm,0.4s						
ARXS	**Arharly**	**3.65**	**7**	Pg	**Pg**	**15 35 26.5**	**-3.0**
	2.7nm,0.6s						
ARXS				Lg	Lg	15 36 16.9	
	11nm,0.4s						
MRKS	**Merke**	**3.66**	**307**	*e*P	**Pb**	**15 35 24.1**	**-0.2**
	8.8nm,0.6s						
MRKS				*e*S	**Sb**	**15 36 12.6**	**+3.8**
	4.7nm,0.6s						
MRKS	**Merke**	**3.66**	**307**	Pg	**Pb**	**15 35 24.1**	**-0.2**
	8.8nm,0.6s						
MRKS				Lg	Lg	15 36 12.6	
	4.7nm,0.6s						
KK31	**Karatay Array**	**5.57**	**299**	⇑Pg	**Pb**	**15 35 58.7**	**+1.8**
	1.1nm,0.6s,baz=125,slow=16						
KK31				⇑Lg	Lg	15 37 13.9	
	1.8nm,0.5s,baz=126,slow=28						

IDC 04 15:36:57.4±1.5**, 29°.31S**×**174°.92W, h0**^{km}**, mb3.7**/2**, mb1 4.0**/2**, mb1mx3.7**/18**, mbtmp3.7**/2**, Error ellipse: s-maj=75.5km s-min=39.2km az=171.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.85**	**265**	P	P	15 45 21.6	0.0
	0.4nm,0.6s,baz=85,slow=8.3,SNR=8.7						
TXAR	**Lajitas Array**	**89.56**	**56**	P	P	15 49 57.3	+0.3
	0.4nm,0.5s,baz=215,slow=5.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**163.61**	**168**	PKPab	PKPab	15 57 53.5	-0.9
	1.6nm,0.8s,baz=181,slow=3.5,SNR=7.7						

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*ISCJB **04** 15:50:00.5±0.7, 5°.87N±0°.05×77°.72W±0°.05, h17^{km}, Error ellipse: s-maj=8.4km s-min=5.9km az=35.8*
*RSNC **04** 15:50:01.7±1.2, 5°.82N×77°.52W, h1^{km}±11^{km}, ML2.2*
*UPA **04** 15:50:06.8±0.5, 6°.83N×77°.49W, h137^{km}±10^{km}, MW3.6*
ISC 04 15:50:01.2±1.3**, 5°.86N**±0°.05×**77°.65W**±0°.05**, h17**^{km}**, n13, σ1°.25**/17**, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**1.29**	**353**	*e*P	**Pn**	**15 50 25.0**	**+0.6**
PTAC	**Punta Ardita,**	**1.29**	**353**	*e*P	**Pn**	**15 50 26.1**	**+1.7**
CBOC	**Ciudad Bolivar**	**1.63**	**90**	*e*P	**Pn**	**15 50 28.5**	**-0.8**
CBOC				*e*S	**Sn**	**15 50 48.8**	**-1.2**
CBOC				*i*		15 50 59.2	
	comp=Z,36nm,0.6s						
PLMC	**San Jos del P**	**1.66**	**125**	*e*P	**Pn**	**15 50 28.0**	**-1.6**
DBBC	**Dabeiba**	**1.84**	**51**	*e*P	**Pn**	**15 50 33.3**	**+1.2**
DBBC	**Dabeiba**	**1.84**	**51**	*e*P	**Pn**	**15 50 32.8**	**+0.8**
MALC	**Bahia Malaga**	**1.86**	**170**	*e*P	**Pn**	**15 50 33.1**	**+0.8**
MALC				*e*S	**Sn**	**15 50 56.7**	**+1.2**
HELC	**Santa Helena**	**2.14**	**81**	*e*P	**Pn**	**15 50 37.2**	**+0.8**
HELC				*e*S	**Sb**	**15 51 06.1**	**0.0**
HELC				*i*		15 51 09.8	
	comp=Z,11nm,0.4s						
HELC	**Santa Helena**	**2.14**	**81**	*e*P	**Pn**	**15 50 37.0**	**+0.6**
HELC				*e*S	**Sb**	**15 51 05.9**	**-0.2**
GUY2C	**Guyana, Caldas**	**2.36**	**105**	*e*P	**Pn**	**15 50 40.2**	**+0.6**
GUY2C				*i*		15 50 44.7	
	comp=Z,14nm,0.7s						
RREF	**El Recreo**	**2.48**	**112**	*e*P	**Pn**	**15 50 42.9**	**+1.5**
UPD2	**Meteti**	**2.69**	**352**	*e*P	Pn	15 50 38.4	-5.4
UPD2				*e*S	Sn	15 51 01.9	-14
AZU	**Azuero**	**3.23**	**307**	*e*P	**Pn**	**15 50 51.5**	**+0.3**
AZU				*e*S	**Sn**	**15 51 26.9**	**-2.5**

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*NIED **04** 16:01:00, 43°.30N×147°.70E, h8^{km}, Mw4.4 Best double couple: $M_0$4.26000×10^{15} NP1:ϕ_s202.00000°, δ30.00000°, λ57.00000°. NP2:ϕ_s59.00000°, δ65.00000°, λ108.00000°.*
*IDC **04** 16:01:17.6±0.7, 43°.42N×148°.11E, h0^{km}, mb4.5/31, mb1 4.5/38, mb1mx4.4/55, mbtmp4.4/38, ML3.2/6, MS3.7/15, Ms1 3.7/15, ms1mx3.4/49, Error ellipse: s-maj=18.9km s-min=11.8km az=161.0*
*BJI **04** 16:01:18.0±0.0, 43°.49N×148°.12E, h20^{km}, mb4.8/63, mB4.9/47, Ms4.4/42, Ms7 4.1/38*
*SKHL **04** 16:01:18.4±0.8, 43°.17N×148°.32E, h30^{km}±5^{km}, mb4.6/11, Ms4.4/4*
*ISCJB **04** 16:01:19.4±0.9, 43°.37N±0°.03×148°.08E±0°.03, h23^{km}±6^{km}, mb4.8/106, MS4.1/22, Error ellipse: s-maj=5.8km s-min=3.3km az=159.9*
*MOS **04** 16:01:20.1±0.9, 43°.44N×148°.06E, h27^{km}, mb5.1/47, Error ellipse: s-maj=6.9km s-min=4.6km az=123.9*
*NEIC **04** 16:01:22.2±1.5, 43°.36N±0°.08×148°.0E±0°.1, h31^{km}±4^{km}, mb4.8/92*
*JMA **04** 16:01:22.6±0.4, 43°.26N×147°.69E, h15^{km}, M4.2*
ISC 04 16:01:22.2±0.6**, 43°.43N**±0°.04×**148°.04E**±0°.04**, h30**^{km}±3^{km}**, h30**^{km}**:pP-P, n384, σ1°.35**/408**, mb4.8**/134**, MS4.0**/22**, 33C-13D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.68**	**268**	P	**Pn**	**16 01 48.0**	**-1.5**
NEM2				*e*S	**Sn**	**16 02 07.0**	**-3.0**
NMR	**Nemuro--Hokkai**	**1.69**	**269***c*	*i*PN	**Pn**	**16 01 48.0**	**-1.6**
NMR				*i* S	**Sn**	**16 02 09.7**	**-0.5**
NMR	**Nemuro--Hokkai**	**1.69**	**269**	⇓*i*P	**Pn**	**16 01 48.3**	**-1.3**
NMR				*i* S	**Sn**	**16 02 09.9**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**1.69**	**292***c*	*i*PN	**Pn**	**16 01 49.0**	**-0.7**
YUK				*e*S	**Sb**	**16 02 13.4**	**-0.1**
YUK				pmax	pmax		
	comp=N,378nm,0.5s						
YUK				pmax	pmax		
	comp=E,434nm,0.5s						
YUK				pmax	pmax		
	comp=Z,921nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2µm,1.3s						
YUK				smax	smax		
	comp=N,3µm,0.7s						
YUK				smax	smax		
	comp=E,5µm,0.5s						
YUK				smax	smax		
	comp=E,9µm,1.0s						
YUK				smax	smax		
	comp=N,7µm,1.2s						
YUK	**Yuzh-Kuril'sk**	**1.69**	**292**	⇑*i*P	**Pn**	**16 01 49.2**	**-0.5**
YUK				AMB	AMB	16 01 52.0	
	comp=N,380nm,0.5s						
YUK				AMB	AMB	16 01 52.0	
	comp=N,430nm,0.5s						
YUK				AMB	AMB	16 01 52.0	
	comp=N,530nm,0.5s						
YUK				AMB	AMB	16 01 54.0	
	comp=N,2µm,1.5s						
YUK				*e*S	**Sb**	**16 02 12.9**	**-0.6**
YUK				A	A	16 02 19.4	
	comp=N,2µm,0.7s						
YUK				A	A	16 02 19.4	
	comp=N,4µm,0.7s						
YUK				A	A	16 02 19.8	
	comp=N,7µm,1.2s						
YUK				A	A	16 02 19.8	
	comp=N,9µm,1.2s						
GRPR	**Tuman**	**1.74**	**290**	⇑*i*PN	**Pn**	**16 01 49.7**	**-0.7**
GRPR				*i* S	**Sn**	**16 02 13.1**	**+1.6**
GRPR				pmax	pmax		
	comp=Z,477nm,0.4s						
GRPR				pmax	pmax		
	comp=N,542nm,0.6s						
GRPR				pmax	pmax		
	comp=E,226nm,0.5s						
GRPR				smax	smax		
	comp=N,3µm,0.8s						
GRPR				smax	smax		
	comp=E,2µm,0.4s						
GRPR	**Tuman**	**1.74**	**290**	*i* P	**Pn**	**16 01 49.9**	**-0.5**
GRPR				AMB	AMB	16 01 54.1	
	comp=E,340nm,0.7s						
GRPR				AMB	AMB	16 01 54.1	
	comp=E,230nm,0.7s						
GRPR				AMB	AMB	16 01 54.1	
	comp=E,380nm,0.7s						
GRPR				*i* S	**Sn**	**16 02 13.0**	**+1.6**
GRPR				A	A	16 02 20.0	
	comp=E,2µm,0.8s						
GRPR				A	A	16 02 20.0	
	comp=E,2µm,0.8s						
KUR	**Kuril'sk**	**1.80**	**356***c*	*i*PN	**Pn**	**16 01 51.2**	**-0.1**
KUR				*i* S	**Sb**	**16 02 16.2**	**-0.6**
KUR				pmax	pmax		
	comp=Z,688nm,1.2s						
KUR				pmax	pmax		
	comp=Z,306nm,0.6s						
KUR				pmax	pmax		
	comp=E,109nm,0.3s						
KUR				pmax	pmax		
	comp=N,146nm,0.4s						
KUR				smax	smax		
	comp=N,655nm,0.4s						
KUR				smax	smax		
	comp=E,1µm,0.6s						
KUR				smax	smax		
	comp=N,3µm,1.3s						
KUR				smax	smax		
	comp=E,2µm,1.2s						
KUR	**Kuril'sk**	**1.80**	**356**	⇑*i*P	**Pn**	**16 01 51.2**	**-0.1**
KUR				AMB	AMB	16 01 56.0	
	comp=E,150nm,0.6s						
KUR				AMB	AMB	16 01 56.0	
	comp=E,110nm,0.6s						
KUR				AMB	AMB	16 01 56.0	
	comp=E,310nm,0.6s						
KUR				AMB	AMB	16 01 56.3	
	comp=E,700nm,1.2s						
KUR				*i* S	**Sb**	**16 02 16.2**	**-0.6**
KUR				A	A	16 02 18.6	
	comp=E,490nm,0.5s						
KUR				A	A	16 02 18.6	
	comp=E,1µm,0.5s						
KUR				A	A	16 02 25.2	
	comp=E,3µm,1.3s						
KUR				A	A	16 02 25.2	
	comp=E,2µm,1.3s						
GLVR	**Golovnino**	**1.86**	**280**	*e*PN	**Pn**	**16 01 51.4**	**-0.6**
GLVR				*e*S	**Sn**	**16 02 16.5**	**+2.1**
GLVR				pmax	pmax		
	comp=Z,665nm,1.0s						
GLVR				pmax	pmax		
	comp=Z,523nm,0.5s						
GLVR				pmax	pmax		
	comp=N,198nm,0.4s						
GLVR				pmax	pmax		
	comp=E,96nm,0.4s						
GLVR				smax	smax		
	comp=E,5µm,1.1s						
GLVR				smax	smax		
	comp=N,2µm,0.7s						
GLVR				smax	smax		
	comp=N,3µm,0.5s						
GLVR				smax	smax		
	comp=E,1µm,0.6s						
GLVR	**Golovnino**	**1.86**	**280**	*e*P	**Pn**	**16 01 51.4**	**-0.6**
GLVR				AMB	AMB	16 01 56.4	
	comp=E,700nm,1.0s						
GLVR				AMB	AMB	16 01 57.3	
	comp=E,200nm,0.6s						
GLVR				AMB	AMB	16 01 57.3	
	comp=E,100nm,0.6s						
GLVR				AMB	AMB	16 01 57.3	
	comp=E,320nm,0.6s						
GLVR				*e*S	**Sn**	**16 02 16.5**	**+2.1**
GLVR				A	A	16 02 21.8	
	comp=E,5µm,1.1s						
GLVR				A	A	16 02 22.0	
	comp=E,3µm,0.7s						
GLVR				A	A	16 02 22.0	
	comp=E,1µm,0.7s						
JKHN	**Kushirohamanak**	**2.13**	**262**	P	**Pn**	**16 01 54.7**	**-1.1**
JRA	**Rausu**	**2.18**	**284**	P	**Pn**	**16 01 56.2**	**-0.2**
JNSB	**Nemuroshibetsu**	**2.23**	**280**	P	**Pn**	**16 01 56.6**	**-0.5**
JNSB				*e*S	**Sn**	**16 02 21.0**	**-2.7**
JNK	**Nakash**	**2.42**	**275**	P	**Pn**	**16 01 58.7**	**-1.1**
JAK	**Akkeshi**	**2.48**	**261**	P	**Pn**	**16 01 59.4**	**-1.2**
JTKR	**Abashiri--Toko**	**3.04**	**282**	P	**Pn**	**16 02 08.9**	**+0.6**
JAR	**Ashorobuto**	**3.12**	**269**	P	**Pn**	**16 02 08.5**	**-0.8**
JOB	**Onbets**	**3.12**	**262**	P	**Pn**	**16 02 10.2**	**+0.8**
JMP	**Maruseppu**	**3.44**	**281**	P	**Pn**	**16 02 14.5**	**+0.7**
JCH	**Churui**	**3.53**	**258**	P	**Pn**	**16 02 14.8**	**-0.2**
JKK2	**Kamakawa 2**	**3.87**	**278**	P	**Pn**	**16 02 20.6**	**+1.0**
ERM	**Erimo**	**3.87**	**250***c*	*e*PN	**Pn**	**16 02 19.6**	**0.0**
ERM				pmax	pmax		
	comp=Z,323nm,1.3s						
ERM	**Erimo**	**3.87**	**250**		**Pn**	**16 02 19.6**	**0.0**
JEM	**Erimo**	**3.87**	**250**	P	**Pn**	**16 02 19.6**	**0.0**
JFR	**Furan**	**3.99**	**268**	P	**Pn**	**16 02 21.5**	**+0.2**
JKA	**Kamikawa-asahi**	**4.00**	**282**	*e*P	**Pn**	**16 02 22.7**	**+1.2**
JKA	**Kamikawa-asahi**	**4.00**	**282**		**Pn**	**16 02 22.7**	**+1.2**
ASAJ	**Asahikawa**	**4.00**	**282**	P	**Pn**	**16 02 23.2**	**+1.7**
ASAJ	**Asahikawa**	**4.00**	**282**	Pn	**Pn**	**16 02 22.7**	**+1.2**
	comp=Z,4.3nm,0.3s,baz=98,slow=9.3,SNR=28						
ASAJ				LR	LR	16 03 11.5	
	comp=Z,348nm,20.0s,baz=158,slow=28						
JNBK	**Urakawa-nobuka**	**4.05**	**255**	P	**Pn**	**16 02 21.4**	**-0.8**
JBT2	**Biratori 2**	**4.21**	**263**	P	**Pn**	**16 02 24.3**	**0.0**
YSS	**Yuzh-Sakhalins**	**5.13**	**315**	⇑*e*PN	**Pn**	**16 02 38.4**	**+1.4**
YSS				*e*S	**Sn**	**16 03 37.2**	**+2.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				smax	smax		
	comp=E,30nm,0.7s						
YSS				MLR	MLR		
	comp=Z,1µm,15.0s						
YSS				MLR	MLR		
	comp=N,1µm,13.0s						
YSS				MLR	MLR		
	comp=E,600nm,18.0s						
YSS	**Yuzh-Sakhalins**	**5.13**	**315**	⇑*i*P	**Pn**	**16 02 38.9**	**+1.9**
YSS				AMB	AMB	16 02 41.8	
	comp=E,30nm,0.7s						
YSS				*e*S	**Sn**	**16 03 38.0**	**+2.8**
YSS				A	A	16 03 39.0	
	comp=E,50nm,0.7s						
YSS				A	A	16 03 39.0	
	comp=E,30nm,0.7s						
YSS				AMS	AMS	16 04 59.0	
	comp=E,2µm,14.0s						
YSS				AMS	AMS	16 04 59.0	
	comp=E,800nm,14.0s						
YSS				AMS	AMS	16 04 59.0	
	comp=E,1µm,14.0s						
YSS	**Yuzh-Sakhalins**	**5.13**	**315**		**Pn**	**16 02 38.1**	**+1.1**
UGL	**Uglegorsk**	**7.00**	**326**	*e*PN	Pn	16 03 08.0	+5.4
UGL				S	Sn	16 04 30.0	+8.9
UGL				pmax	pmax		
	comp=Z,36nm,0.9s						
UGL				smax	smax		
	comp=N,100nm,1.1s						
UGL	**Uglegorsk**	**7.00**	**326**	*e*P	**Pn**	**16 03 05.4**	**+2.8**
UGL				AMB	AMB	16 03 07.5	
	comp=N,10.0nm,0.7s						
UGL				*e*S	**Sn**	**16 04 24.0**	**+2.9**
UGL				A	A	16 04 54.5	
	comp=N,150nm,1.0s						
UGL				AMS	AMS	16 09 24.0	
	comp=N,1µm,12.0s						
UGL				AMS	AMS	16 09 24.0	
	comp=N,900nm,12.0s						
UGL				AMS	AMS	16 09 24.0	
	comp=N,1µm,12.0s						
TYV	**Tymovskoe**	**8.29**	**336**	*e*P	**Pn**	**16 03 23.5**	**+3.2**
TYV				AMB	AMB	16 03 25.5	
	comp=N,20nm,0.8s						
TYV				*e*S	**Sn**	**16 04 56.7**	**+3.9**
TYV				A	A	16 05 01.8	
	comp=N,30nm,0.9s						
TYV				A	A	16 05 01.8	
	comp=N,70nm,0.9s						
TYV				AMS	AMS	16 07 02.5	
	comp=N,1µm,16.0s						
TYV				AMS	AMS	16 07 02.5	
	comp=N,2µm,16.0s						
TEY	**Ternei**	**8.37**	**285**	⇑*e*PN	Pn	16 03 27.9	+6.5
TEY				pmax	pmax		
	comp=Z,20nm,0.9s						
TEY	**Ternei**	**8.37**	**285**	*e*P	**Pn**	**16 03 23.6**	**+2.2**
TEY				AMB	AMB	16 03 28.8	
	comp=Z,20nm,0.8s						
SKR	**Severo-Kuril's**	**9.10**	**34**	*e*PN	Pn	16 03 43.2	+12
SKR				pmax	pmax		
	comp=Z,700nm,3.3s						
SKR				pmax	pmax		
	comp=Z,117nm,1.3s						
SKR				MLR	MLR		
	comp=Z,500nm,15.0s						
SKR				MLR	MLR		
	comp=Z,800nm,16.0s						
SKR	**Severo-Kuril's**	**9.10**	**34**	*e*P	**Pn**	**16 03 30.5**	**-0.9**
SKR				AMB	AMB	16 03 46.0	
	comp=Z,500nm,3.5s						
SKR				AMS	AMS	16 07 46.0	
	comp=Z,800nm,16.0s						
MAJO	**Matsushiro**	**10.21**	**231**	PN	Pn	16 03 44.3	-2.4
MAJO	**Matsushiro**	**10.21**	**231**		Pn	16 03 44.3	-2.4

MJAR Matsushiro Arr 10.21 231 Pn Pn 16 03 44.1 -2.5
comp=Z,0.0nm,0.3s,baz=28,slow=14,SNR=5.8
MJAR Sn Sn 16 05 32.1 -7.9
comp=Z,0.0nm,0.3s,baz=36,slow=27,SNR=2.1
MJB9 Matsu-Tunnel 10.21 231 Pn 16 03 44.3 -2.4
GRNR Gornyy 10.79 317 *e*P **Pn 16 03 56.4 +1.9**
GRNR AMB AMB 16 03 57.7
comp=Z,10.0nm,0.9s
PEA0B Petropavlovsk- 11.61 30 PN **Pn 16 04 05.0 -0.8**
PEA0B Petropavlovsk- 11.61 30 Pn **Pn 16 04 05.0 -0.8**
PETK Petropavlovsk- 11.61 30 Pn **Pn 16 04 04.9 -0.9**
comp=Z,0.8nm,0.3s,baz=208,slow=13,SNR=23
USA0B Ussuriysk Arra 11.63 279 PN **Pn 16 04 05.5 -0.5**
USA0B Ussuriysk Arra 11.63 279 Pn **Pn 16 04 05.5 -0.5**
USRK Ussuriysk Ar. 11.63 279 Pn **Pn 16 04 06.4 +0.4**
baz=85,slow=12,SNR=9.9
USRK LR LR 16 08 52.5
comp=Z,263nm,19.3s,baz=91,slow=39
KLR Kul'dur 12.65 303 *i* PN **Pn 16 04 21.8 +1.8**
KLR pmax pmax
comp=Z,2.0nm,1.1s
KLR Kul'dur 12.65 303 Pn **Pn 16 04 21.0 +1.0**
comp=Z,0.1nm,0.3s,baz=113,slow=18,SNR=5.4
KLR LR LR 16 09 41.0
comp=Z,247nm,19.4s,baz=118,slow=40
KLR Kul'dur 12.65 303 *e*P **Pn 16 04 21.8 +1.8**
EKMR Ekimchan 13.90 319⇓ *i*P **Pn 16 04 38.3 +1.2**
EKMR AMB AMB 16 04 39.6
comp=Z,10.0nm,0.8s
MA2 Magadan 16.25 5 P **Pn 16 05 07.8 -0.3**
MA2 pmax pmax
comp=Z,264nm,1.8s
MA2 Magadan 16.25 5 Pn **Pn 16 05 06.9 -1.2**
comp=Z,0.8nm,0.3s,baz=162,slow=18,SNR=6.3
MA2 LR LR 16 11 39.8
comp=Z,238nm,18.6s,baz=224,slow=38
MA2 Magadan 16.25 5 *e*P **Pn 16 05 07.8 -0.3**
MA2 Magadan 16.25 5 Pn **Pn 16 05 07.8 -0.3**
MA2 IAmb IAmb 16 06 06.6
comp=Z,264nm,1.8s
CN2 Changchun 16.36 279 *e*P **Pn 16 05 11.1 +1.5**
KSRS Korea Array 16.42 255 Pn **Pn 16 05 06.7 -3.7**
comp=Z,0.0nm,0.3s,baz=48,slow=15,SNR=6.4
BMKR Bomnak 16.84 319⇓ *i*P **Pn 16 05 15.6 +0.1**
BMKR AMB AMB 16 05 24.0
comp=Z,10.0nm,0.6s
JNU Nakatsue 16.93 238 Pn **Pn 16 05 13.3 -3.6**
comp=Z,0.1nm,0.3s,baz=143,slow=5.1,SNR=2.3
JNU LR LR 16 12 35.7
comp=Z,214nm,19.3s,baz=32,slow=40
JNU Nakatsue 16.93 238 P **Pn 16 05 19.4 +2.6**
JNU IAmb IAmb 16 05 26.5
comp=Z,24nm,1.1s
ZEA Zeya 17.12 314 *e*P **Pn 16 05 18.8 -0.3**
ZEA *e* 16 08 34.0
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=N,500nm,15.0s
ZEA MLR MLR
comp=Z,1μm,15.0s
ZEA MLR MLR
comp=E,700nm,16.0s
ZEA Zeya 17.12 314 *e*P **Pn 16 05 18.3 -0.8**
ZEA AMB AMB 16 05 21.8
comp=E,10.0nm,0.8s
ZEA AMS AMS 16 12 59.0
comp=E,500nm,16.0s
ZEA AMS AMS 16 12 59.0
comp=E,900nm,16.0s
ZEA AMS AMS 16 12 59.0
comp=E,1μm,16.0s
TJN Taejon 17.34 253*ce*P **Pn 16 05 21.3 -0.6**
KROS Kirovskiy 17.61 316 *e*P **Pn 16 05 25.2 0.0**
SEY Seymchan 19.70 6 *i*P **P 16 05 48.7 -0.1**
SEY Seymchan 19.70 6 P **P 16 05 47.5 -1.2**
comp=E,0.5nm,0.3s,baz=186,slow=8.2,SNR=21
HIA Hailar 20.32 297 P **P 16 05 54.3 -1.4**
HIA pmax pmax
comp=Z,14nm,0.9s
HIA Hailar 20.32 297 P **P 16 05 54.4 -1.4**
DL2 Dalian 20.36 266 P **P 16 05 56.1 0.0**
DL2 S Sn 16 09 46.9 +0.2
DL2 pmax pmax
comp=Z,45nm,1.1s
DL2 pmax pmax
comp=Z,160nm,3.7s
DL2 LR LR
comp=Z,200nm,14.7s
DL2 LR LR
comp=Z,250nm,15.3s
DL2 LR LR
comp=Z,260nm,15.5s
YAK Yakutsk 21.55 336 *e*P **P 16 06 05.4 -3.3**
YAK *e**PP **pP 16 06 15.9 -0.1**
YAK *e*S **S 16 10 00.3 -5.5**
YAK *e**SS **sS 16 10 16.9 +0.4**
YAK pmax pmax
comp=Z,53nm,0.8s
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax smax
comp=N,54nm,2.5s
YAK smax smax
comp=E,51nm,2.5s
YAK MLR MLR
comp=Z,245nm,16.0s
YAK MLR MLR
comp=N,332nm,18.0s
YAK MLR MLR
comp=E,131nm,18.0s
YAK Yakutsk 21.55 336 P **P 16 06 05.5 -3.3**
comp=E,40nm,0.7s,baz=173,slow=0.5,SNR=32
YAK S **S 16 10 00.2 -5.6**
comp=E,1.4nm,0.3s,baz=312,slow=1.0,SNR=3.2
YAK Yakutsk 21.55 336 P **P 16 06 05.1 -3.7**
BJT Baijiatuau 23.95 273 P **P 16 06 32.8 -1.0**
BJT pmax pmax
comp=Z,34nm,1.4s
BJT Baijiatuau 23.95 273 P **P 16 06 32.8 -1.0**
BJT IAmb IAmb 16 06 46.0
comp=Z,34nm,1.4s
TIA Tai'an 24.72 264 P **P 16 06 40.7 -0.1**
TIA pmax pmax
comp=Z,9.0nm,1.1s
NJ2 Nanjing 25.60 253 *e*P **P 16 06 48.5 -0.2**
NJ2 pP **pP 16 06 54.5 -1.7**
NJ2 S **S 16 11 19.8 +5.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,17nm,3.5s
NJ2 LR LR
comp=Z,340nm,16.6s
NJ2 LR LR
comp=Z,350nm,14.7s
NJ2 LR LR
comp=Z,390nm,15.6s
BOD Bodaibo 25.61 316 *e*P **P 16 06 44.4 -4.2**
BOD pmax pmax
comp=Z,7.0nm,1.9s
BILL Bilibino 26.49 15*ce*P **P 16 06 56.6 +0.1**
BILL *i* 16 07 08.5
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL MLR MLR
comp=Z,320nm,17.0s
BILL Bilibino 26.49 15⇑ *e*P **P 16 06 56.6 +0.1**
BILL Bilibino 26.49 15 P **P 16 06 56.5 0.0**
HHC Hu-ho-hao-te 27.04 277 P **P 16 07 00.6 -1.2**
HHC sP sP 16 07 15.0 +2.1
HHC PP **PnPn 16 07 49.6 +4.7**
HHC S **S 16 11 35.7 -2.0**
HHC pmax pmax
comp=Z,8.0nm,0.9s
BTO Baotou 28.23 277 *e*P **P 16 07 13.5 +1.0**
ULN Ulaanbaatar 28.75 293*ce*P **P 16 07 17.7 +0.6**
ULN pmax pmax
comp=Z,43nm,1.3s
ULN Ulaanbaatar 28.75 293⇑ *e*P **P 16 07 17.7 +0.6**
ULN Ulaanbaatar 28.75 293 P **P 16 07 17.3 +0.2**
ULN IAmb IAmb 16 07 19.5
comp=Z,37nm,1.1s
SONM Songino Array 29.19 293 P **P 16 07 21.7 +0.7**
comp=Z,19nm,1.0s,baz=83,slow=8.0,SNR=70
SONM LR LR 16 20 26.9
comp=Z,351nm,18.6s,baz=88,slow=39
H11S1 WAKE ISLAND Hy 29.41 142 T T 16 39 21.8
baz=332,slow=76,SNR=43
H11S3 WAKE ISLAND Hy 29.42 142 T T 16 39 28.1
baz=332,slow=76,SNR=36
H11S2 WAKE ISLAND Hy 29.43 142 T T 16 39 26.0
baz=332,slow=76,SNR=9.9
WHN Wuhan 29.62 256⇑ P **P 16 07 22.4 -2.4**
WHN S **S 16 12 16.0 -2.2**
WHN pmax pmax
comp=Z,21nm,0.7s
WHN pmax pmax
comp=Z,370nm,4.9s
WHN LR LR
comp=Z,860nm,15.8s
WHN LR LR
comp=Z,530nm,18.7s
TIXI Tiksi 29.80 348 *i* P **P 16 07 22.5 -3.5**
TIXI pmax pmax
comp=Z,1.0nm,0.8s
TIXI MLR MLR
comp=Z,242nm,16.0s
TIXI Tiksi 29.80 348 P **P 16 07 22.1 -3.9**
comp=Z,1.5nm,0.6s,baz=0.0,slow=24,SNR=9.0
TIXI LR LR 16 20 45.9
comp=Z,154nm,18.8s,baz=156,slow=39
TIXI Tiksi 29.80 348 P **P 16 07 22.2 -3.8**
TLY Talaya 30.66 301 P **P 16 07 34.8 +0.9**
TLY pmax pmax
comp=Z,5.0nm,0.8s
TLY Talaya 30.66 301 LR LR 16 21 16.1
comp=Z,88nm,18.2s,baz=142,slow=39
TLY Talaya 30.66 301 *e*P **P 16 07 34.8 +0.9**
TLY Talaya 30.66 301 P **P 16 07 34.8 +0.9**
ZAK Zakamensk 30.97 299 *e*P **P 16 07 33.2 -3.5**
ZAK pmax pmax
comp=Z,7.0nm,0.9s
XAN Xi'an 31.68 266 P **P 16 07 42.3 -0.7**
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN pmax pmax
comp=Z,87nm,5.3s
LZH Lanzhou 34.43 273 *e*P **P 16 08 07.9 +0.7**
LZH pP pP 16 08 14.5 -0.6
LZH sP pwP 16 08 18.7 -0.2
LZH *e*PP **PP 16 09 23.1 -2.2**
LZH pmax pmax
comp=Z,31nm,1.1s
LZH pmax pmax
comp=Z,100nm,5.3s
LZH LR LR
comp=Z,480nm,12.9s
LZH LR LR
comp=Z,490nm,13.2s
LZH LR LR
comp=Z,640nm,16.5s
CNBA Chernabura Isl 35.30 52 P **P 16 08 14.8 +0.6**
GTA Gaotai 35.99 280⇑ P **P 16 08 21.3 +0.8**
GTA pP pP 16 08 28.9 +0.5
GTA sP pwP 16 08 31.6 -0.7
GTA PcP **PcP 16 10 47.5 +0.9**
GTA S **S 16 13 59.1 +1.8**
GTA sS pS 16 14 10.0 +3.6
GTA SS **SnSn 16 16 22.4 -0.1**
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,68nm,7.9s
GTA LR LR
comp=Z,180nm,16.8s
GTA LR LR
comp=Z,230nm,15.9s
GTA LR LR
comp=Z,270nm,15.2s
CD2 Chengdu 37.02 265 P **P 16 08 27.8 -1.5**
CD2 pmax pmax
comp=Z,20nm,0.5s
KDAK Kodiak Island 38.99 47 P **P 16 08 45.4 -0.1**
KDAK pmax pmax
comp=Z,64nm,1.7s
KDAK Kodiak Island 38.99 47 P **P 16 08 45.1 -0.4**
comp=Z,11nm,1.1s,baz=266,slow=9.0,SNR=4.2
KDAK Kodiak Island 38.99 47 P **P 16 08 45.4 -0.1**
PPLA Purkeypile 39.02 39 P **P 16 08 46.1 +0.2**
BPAW Bear Paw Mtn. 39.58 37 P **P 16 08 51.2 +0.8**
KTH Kantishna Hill 39.60 38 P **P 16 08 52.0 +1.4**
KTH IAmb IAmb 16 09 10.3
comp=Z,11nm,1.0s
BRLK Bradley Lake 39.72 44 P **P 16 08 52.1 +0.5**
BRLK IAmb IAmb 16 08 56.4
comp=Z,32nm,1.4s
MLY Manley 39.72 36 P **P 16 08 52.4 +0.8**
MLY IAmb IAmb 16 09 09.1
comp=Z,28nm,2.0s
NRIK Noril'sk 39.84 331 P **P 16 08 50.5 -1.9**
comp=Z,1.1nm,0.4s,baz=95,slow=12,SNR=2.9
NRIK LR LR 16 26 43.5
comp=Z,99nm,18.7s,baz=75,slow=38
TRF Thorofare Moun 39.88 38 P **P 16 08 54.5 +1.5**
TRF IAmb IAmb 16 09 14.0
comp=Z,31nm,1.6s
COLD Coldfoot 40.07 32 P **P 16 08 55.3 +0.9**
MCK McKinley 40.49 38 P **P 16 08 58.5 +0.6**
MCK pmax pmax
comp=Z,8.0nm,1.0s
MCK McKinley 40.49 38 P **P 16 08 58.5 +0.6**
RND Reindeer 40.53 38 P **P 16 08 58.1 -0.2**
RND pmax pmax
comp=Z,18nm,1.5s
RND Reindeer 40.53 38 P **P 16 08 58.1 -0.2**
RND IAmb IAmb 16 09 29.2
comp=Z,18nm,1.5s
KNK Knik Glacier 40.80 41 P **P 16 09 00.2 -0.4**
KNK IAmb IAmb 16 09 29.2
comp=Z,22nm,1.4s
SML Sawmill 40.84 41 P **P 16 09 01.8 +0.9**
SML IAmb IAmb 16 09 30.0
comp=Z,16nm,1.0s
WRH Wood River Hil 40.85 36 P **P 16 09 01.4 +0.5**
WRH IAmb IAmb 16 09 20.3
comp=Z,26nm,1.6s
COLA College 40.95 36 *i* P **P 16 09 01.6 0.0**
COLA pmax pmax
comp=Z,4.0nm,0.9s
CCB Clear Creek Bu 40.97 36 P **P 16 09 02.4 +0.5**
DHY Denali Highway 41.21 39 P **P 16 09 04.5 +0.4**
DHY IAmb IAmb 16 09 20.9
comp=Z,24nm,1.7s
DAV Davao City (W) 41.24 215⇓ *e*P **P 16 09 07.2 +2.6**
SCM Sheep Creek Mo 41.31 41 P **P 16 09 04.4 -0.4**
SCM pmax pmax
comp=Z,38nm,1.7s
SCM Sheep Creek Mo 41.31 41 P **P 16 09 04.4 -0.4**
SCM IAmb IAmb 16 10 24.8
comp=Z,38nm,1.7s
HDA Harding Lake 41.34 37 P **P 16 09 04.7 -0.2**
IL31 41.36 36 P **P 16 09 05.2 +0.2**
ILAR Eielson Array 41.36 36 P **P 16 09 04.9 -0.2**
comp=Z,1.3nm,0.8s,baz=262,slow=7.7,SNR=15
GLI Glacier Island 41.51 42 P **P 16 09 06.4 +0.1**
ZAA0 Zalesovo Array 41.70 308 P **P 16 09 07.8 -0.2**
ZALV Zalesovo Beam 41.70 308 P **P 16 09 07.7 -0.3**
comp=Z,2.2nm,0.6s,baz=69,slow=5.4,SNR=12
ZALV PcP **PcP 16 11 04.1 0.0**
comp=Z,3.2nm,0.8s,baz=64,slow=3.4,SNR=7.5
ZALV LR LR 16 27 54.2
comp=Z,98nm,18.5s,baz=340,slow=38
PRP Porcupine Dome 41.92 35 P **P 16 09 10.0 +0.2**
FYU Fort Yukon 42.01 33 P **P 16 09 10.6 +0.2**
FYU IAmb IAmb 16 09 28.2
comp=Z,63nm,1.7s
RIDG Independent Ri 42.30 38 P **P 16 09 12.5 -0.4**
DOT Dot Lake 42.66 38 P **P 16 09 15.7 -0.1**
SCRK Sand Creek 42.66 37 P **P 16 09 15.7 -0.1**
WMQ Urumqi 42.81 292 *e*P **P 16 09 18.4 +1.1**
WMQ pP pP 16 09 21.1 -4.1
WMQ sP sP 16 09 29.7 +1.2
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ pmax pmax
comp=Z,130nm,4.1s
WMQ LR LR
comp=Z,570nm,29.1s
WMQ LR LR
comp=Z,1μm,29.0s
WMQ Urumqi 42.81 292 P **P 16 09 18.2 +0.9**
WMQ pmax pmax
comp=Z,21nm,0.7s
WMQ Urumqi 42.81 292 P **P 16 09 18.1 +0.9**
WMQ IAmb IAmb 16 09 21.9
comp=Z,21nm,0.7s
MENT Mentasta 42.88 39 P **P 16 09 18.2 +0.6**
GLB Gilahina Butte 43.02 41 P **P 16 09 18.0 -0.8**
VRDI Verde Repeater 43.22 41 P **P 16 09 21.3 +0.8**
VRDI IAmb IAmb 16 09 57.7
comp=Z,20nm,1.5s
CRQM Cirque 43.45 42 P **P 16 09 22.8 +0.5**
CRQM IAmb IAmb 16 09 38.7
comp=Z,53nm,1.6s
WAX Waxell Ridge 43.63 42 P **P 16 09 22.6 -1.1**
WAX IAmb IAmb 16 09 39.1
comp=Z,10nm,0.9s
BALM Baldy 43.78 41 P **P 16 09 25.2 +0.3**
EGAK Eagle 43.81 36 P **P 16 09 24.5 -0.4**
EGAK IAmb IAmb 16 09 42.5
comp=Z,14nm,1.3s
BARN Barnard Glacie 44.11 41 P **P 16 09 28.6 +1.0**
CTGM Chitina Glacie 44.28 41 P **P 16 09 29.6 +0.7**
CTGM IAmb IAmb 16 09 45.1
comp=Z,7.9nm,0.8s
DAWY Dawson 44.66 37 P **P 16 09 32.0 +0.2**
DAWY IAmb IAmb 16 09 52.4
comp=Z,13nm,1.7s
MK31 Makanchi Array 45.30 298 *i* P **P 16 09 36.6 -0.6**
MK31 pmax pmax
comp=Z,37nm,1.1s
MK31 Makanchi Array 45.30 298 P **P 16 09 37.3 +0.2**
MK31 IAmb IAmb 16 09 38.7
comp=Z,21nm,0.9s
MKAR Makanchi Array 45.30 298 P **P 16 09 37.6 +0.5**
comp=Z,18nm,0.9s,baz=76,slow=8.2,SNR=50
NONG Nongkai 45.41 251 P **P 16 09 39.6 +1.4**
comp=Z,0.4nm,1.1s
MAKZ Makanchi 45.50 298 P **P 16 09 38.8 +0.1**
MAKZ pmax pmax
comp=Z,20nm,1.0s
MAKZ Makanchi 45.50 298 P **P 16 09 38.9 +0.1**
MAKZ IAmb IAmb 16 09 40.3
comp=Z,20nm,0.9s
KURK Kurchatov 46.24 305*ce*P **P 16 09 44.6 +0.2**
KURK pmax pmax
comp=Z,24nm,1.0s
KURK Kurchatov 46.24 305⇑ *e*P **P 16 09 44.6 +0.2**
KURK Kurchatov 46.24 305 P **P 16 09 44.3 -0.2**
KURK IAmb IAmb 16 09 45.6
comp=Z,17nm,0.8s
KURK Kurchatov 46.24 305 PcP 16 11 20.3 +0.7
KURBB Kurchatov Arra 46.33 304 P **P 16 09 44.7 -0.4**
comp=Z,13nm,0.8s,baz=72,slow=8.7,SNR=37
KURBB PcP **PcP 16 11 20.3 +0.4**
comp=Z,1.8nm,0.8s,baz=74,slow=3.3,SNR=4.0
INK Inuvik 46.35 30 P **P 16 09 45.5 +0.5**
comp=Z,2.5nm,0.5s,baz=305,slow=5.3,SNR=11
INK Inuvik 46.35 30 P **P 16 09 45.9 +0.8**
INK IAmb IAmb 16 10 01.3
comp=Z,7.0nm,0.8s
LSA Lhasa 46.85 273 P **P 16 09 50.4 +0.3**
LSA pmax pmax
comp=Z,9.0nm,1.0s
LSA Lhasa 46.85 273 *e*P **P 16 09 50.4 +0.3**
LSA Lhasa 46.85 273 P **P 16 09 50.4 +0.3**
LSA IAmb IAmb 16 09 52.1
comp=Z,9.0nm,1.0s
PHRA Phrae 47.13 254 P **P 16 09 52.8 +1.0**
comp=Z,2.1nm,1.0s
UTTA Uttaradit 47.42 253 P **P 16 09 55.1 +1.1**
comp=Z,18μm,0.9s
CHAI Chaiyaphum 47.70 249 P **P 16 09 56.8 +0.6**
comp=Z,26μm,0.9s
CMMT Chiang Mai 47.82 255 P **P 16 09 57.9 +0.7**
comp=Z,5.3nm,0.9s,comp=Z,187nm
CHTO Chiang Mai 47.82 255 P **P 16 09 57.3 +0.1**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 47.82 255 P **P 16 09 57.2 +0.1**
CHTO IAmb IAmb 16 09 58.6
comp=Z,7.1nm,0.8s
PBKT Sadao Pong 47.93 251 P **P 16 09 57.8 -0.2**
PBKT IAmb IAmb 16 09 59.6
comp=Z,9.3nm,1.1s
CMAR Chiang Mai Arr 48.06 255 P **P 16 09 59.8 +0.7**
comp=Z,3.1nm,0.8s,baz=42,slow=7.2,SNR=20
CMAR LR LR 16 31 50.2
comp=Z,101nm,18.3s,baz=16,slow=38
JIS Juneau Island 48.36 44 P **P 16 10 00.5 -0.3**
JIS IAmb IAmb 16 10 30.2
comp=Z,14nm,1.2s
PDGK Podgornoye 48.49 295 P **P 16 10 01.4 -0.8**
PDGK pmax pmax
comp=Z,13nm,0.9s
SHL Shillong 48.66 268 P **P 16 10 03.2 -0.6**
SHL pmax pmax
comp=Z,17nm,0.9s
SHL Shillong 48.66 268 P **P 16 10 03.2 -0.6**
SHL IAmb IAmb 16 10 04.3
comp=Z,17nm,0.9s
MHMT Maesarieng 48.96 255 P **P 16 10 10.0 +4.1**
comp=Z,14nm,0.4s
PRZ Przheval'sk 49.57 294 P **P 16 10 11.6 +1.0**
PRZ pmax pmax
comp=Z,20nm,1.0s
PRZ Przheval'sk 49.57 294 P **P 16 10 11.6 +1.0**
UMPA Umpang Tak 49.65 253 P P 16 10 17.6 +6.4
comp=Z,18μm,1.0s
UTHA Uthaitani 49.69 251 P **P 16 10 13.5 +2.0**
comp=Z,15μm,1.0s
BVAR Borovoye Array 50.20 310 P **P 16 10 15.3 +0.3**
comp=Z,6.7nm,0.9s,baz=70,slow=8.5,SNR=31
BRVK Borovoye 50.25 310*ce*P **P 16 10 15.9 +0.6**
BRVK pmax pmax
comp=Z,22nm,1.3s
BRVK Borovoye 50.25 310 *e*P **P 16 10 15.9 +0.6**
BRVK Borovoye 50.25 310 P **P 16 10 15.5 +0.2**
BRVK IAmb IAmb 16 10 16.7
comp=Z,14nm,0.9s
TARG Taragay, Kyrgy 50.31 294 P **P 16 10 17.1 +0.7**
TARG IAmb IAmb 16 10 21.8
comp=Z,9.3nm,0.8s
KDJ Kajisay 50.54 294 P **P 16 10 18.4 +0.4**
KDJ pmax pmax
comp=Z,13nm,0.9s
KDJ Kajisay 50.54 294 P **P 16 10 18.4 +0.4**
KDJ IAmb IAmb 16 10 20.5
comp=Z,13nm,0.9s
TAPN Taplejung 50.67 272 *e*P **P 16 10 19.6 +0.4**
comp=Z,22nm,1.0s
ULHL Ulahol 51.11 295 P **P 16 10 23.4 +1.1**
SNR=5.4
ODAN Odare 51.18 272 *e*P **P 16 10 23.3 +0.3**
comp=Z,15nm,0.9s
TKM2 Tokmak 2 51.23 296 P **P 16 10 24.6 +1.4**
SNR=12
JIRN Jiri 51.60 274 *e*P **P 16 10 26.6 +0.3**
NRN Naryn 51.65 294 P **P 16 10 26.9 +0.5**
NRN pmax pmax
comp=Z,8.0nm,1.2s
NRN Naryn 51.65 294 P **P 16 10 26.9 +0.5**
NRN IAmb IAmb 16 10 42.3
comp=Z,8.3nm,1.2s
GUN Gumba 51.68 274 *e*P **P 16 10 26.9 0.0**
comp=Z,30nm,0.9s
RAMN Ramite 51.71 273 *e*P **P 16 10 26.9 0.0**
comp=Z,27nm,0.9s
KBK Karagaybulak 51.77 296 P **P 16 10 28.1 +0.9**
SNR=28
USP Ospenovka 51.78 297 P **P 16 10 28.0 +0.9**
SNR=28
KZA Kyzart 51.84 295 P **P 16 10 29.6 +1.6**
SNR=30
FRU1 Bishkek 51.91 296 P **P 16 10 29.1 +1.1**
FRU1 pmax pmax
comp=Z,26nm,0.9s
FRU1 Bishkek 51.91 296 P **P 16 10 29.1 +1.1**
AAK Ala-Archa 52.08 296*ce*P **P 16 10 29.9 +0.5**
AAK pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 52.08 296 P **P 16 10 29.9 +0.5**
comp=Z,9.7nm,0.8s,baz=91,slow=5.6,SNR=24
AAK LR LR 16 35 08.6

comp=Z,80nm,18.8s,baz=318,slow=39
AAK Ala-Archa 52.08 296 P P 16 10 30.4 +1.0
SNR=12
AAK Ala-Archa 52.08 296 P P 16 10 29.7 +0.2
AAK IAmb IAmb 16 10 30.9
comp=Z,15nm,1.1s
KKN Kakani 52.18 274 *eP* **P 16 10 31.0 +0.5**
comp=Z,25nm,1.1s
PKI Pulchoki 52.22 274 *eP* **P 16 10 30.5 -0.3**
comp=Z,7,4nm,0.7s
PKIN Phulchoki 52.22 274 *eP* **P 16 10 30.5 -0.3**
DMN Daman 52.41 274 *eP* **P 16 10 32.4 +0.2**
comp=Z,11nm,0.8s
GKN Gorkha 52.53 275 *eP* **P 16 10 32.8 -0.2**
comp=Z,3.3nm,0.2s
EKS2 Erkin-Say 52.53 297 P P 16 10 33.6 +0.8
SNR=23
KSH Kashi 52.58 292 P P 16 10 36.3 +3.2
KSH PcP **PcP 16 11 46.1 +3.0**
KSH S **S 16 18 02.5 +4.2**
KSH ScS **ScS 16 20 21.3 +0.5**
KSH SS **SS 16 21 39.3 +3.0**
KSH pmax pmax
comp=Z,49nm,1.2s
KSH pmax pmax
comp=Z,300nm,5.9s
KSH LR LR
comp=Z,620nm,6.0s
KSH LR LR
comp=Z,410nm,6.8s
KSH LR LR
comp=Z,690nm,12.2s
AML Almayashu 52.84 296 P P 16 10 36.5 +1.2
SNR=16
DANN Dangsing 52.97 276 *eP* **P 16 10 36.9 +0.5**
comp=Z,39nm,0.8s
KOLN Koldanda 53.41 275 *eP* **P 16 10 39.7 +0.2**
comp=Z,16nm,0.9s
ARSB Arslanbob 53.69 295 P P 16 10 42.2 +0.9
SVE Sverdlovsk 53.81 317 *eP* **P 16 10 41.6 -0.2**
SVE pmax pmax
comp=Z,23nm,0.9s
SVE Sverdlovsk 53.81 317 *eP* **P 16 10 41.6 -0.2**
KK31 Karatay Array 54.43 298 *i* P **P 16 10 46.0 -0.5**
KK31 pmax pmax
comp=Z,11nm,0.7s
KK31 Karatay Array 54.43 298 P P 16 10 46.1 -0.5
KKAR Karatay Array 54.43 298 P P 16 10 46.1 -0.5
KKAR pmax pmax
comp=Z,18nm,0.9s
KKAR Karatay Array 54.43 298 P P 16 10 46.1 -0.5
ARU Arti 55.02 317 *c i* P **P 16 10 50.4 -0.1**
ARU 16 12 51.3
ARU S **S 16 18 33.3 +2.8**
ARU SS **SS 16 22 15.6 +1.9**
ARU pmax pmax
comp=Z,17nm,0.7s
ARU Arti 55.02 317 ⇑ *i* P **P 16 10 50.4 -0.1**
ARU Arti 55.02 317 P P 16 10 49.6 -0.9
RES Resolute Bay 55.08 17 P P 16 10 51.2 +0.5
comp=Z,7.8nm,0.7s,baz=326,slow=7.0,SNR=32
SPA0 Spitsbergen Ar 55.22 349 *eP* **P 16 10 51.1 -0.6**
SPA0 Spitsbergen Ar 55.22 349 P P 16 10 50.8 -0.9
YKA Yellowknife Ar 55.70 34 P P 16 10 55.6 +0.3
comp=Z,1.6nm,0.7s,baz=298,slow=6.8,SNR=11
BTK Batken 55.75 295 P P 16 10 56.3 +0.1
BTK pmax pmax
comp=Z,13nm,0.9s
BTK Batken 55.75 295 P P 16 10 56.3 +0.1
BTK IAmb IAmb 16 11 13.1
comp=Z,13nm,0.9s
TAS Tashkent 56.10 297 P P 16 10 58.9 +0.3
TAS Tashkent 56.10 297 P P 16 10 58.9 +0.3
GAR Garm 56.63 294 P P 16 11 02.3 -0.2
NIL Nilore 57.50 287 P P 16 11 09.2 +0.6
NIL pmax pmax
comp=Z,74nm,1.6s
NIL Nilore 57.50 287 P P 16 11 09.2 +0.6
CHGR Chuyangaron 57.58 294 P P 16 11 08.9 -0.3
AB31 Akbulak array 57.77 309 *i* P **P 16 11 10.5 +0.3**
AB31 pmax pmax
comp=Z,10.0nm,0.5s
ABKAR Akbulak array 57.77 309 P P 16 11 10.4 +0.2
PRGR Permogore 58.19 327 *eP* **P 16 11 10.9 -2.1**
PRGR pmax pmax
comp=Z,11nm,0.6s
AKTO Aktyubinsk 58.23 311 P P 16 11 13.4 -0.1
AKTO pmax pmax
comp=Z,11nm,0.7s
KEV Kevo 59.24 340 P P 16 11 19.8 -0.3
KEV pmax pmax
comp=Z,128nm,1.4s
KEV Kevo 59.24 340 P P 16 11 19.8 -0.3
ARCES ARCESS Array B 59.77 340 P P 16 11 23.1 -0.7
comp=Z,8.6nm,0.8s,baz=49,slow=7.5,SNR=8.5
ARE0 ARCESS Array S 59.77 340 *eP* **P 16 11 23.6 -0.3**
ARE0 ARCESS Array S 59.77 340 P P 16 11 23.7 -0.1
ARE0 IAmb IAmb 16 12 13.6
comp=Z,7.4nm,1.6s
DAG Danmarks Havn 59.77 356 *i* P **P 16 11 23.0 -0.8**
DAG pmax pmax
comp=Z,8.0nm,0.9s
DAG Danmarks Havn 59.77 356 *i* P **P 16 11 23.0 -0.8**
comp=Z,9.2nm,0.9s
KBL Kabul 59.91 291 P P 16 11 24.7 -0.9
KBL pmax pmax
comp=Z,14nm,1.1s
KBL Kabul 59.91 291 P P 16 11 24.7 -0.9
KBL IAmb IAmb 16 11 25.8
comp=Z,14nm,1.1s
KTK1 Kautokeino 60.71 340 *eP* **P 16 11 30.4 +0.1**
TRO Tromso 61.26 342 *eP* **P 16 11 33.8 -0.2**
LEM Lembang 61.98 227 LR LR 16 35 21.8
comp=Z,24nm,22.0s,baz=20,slow=33
HYB Hyderabad 63.42 269 *i* P P 16 11 46.0 -3.2
STEI Steigen 63.43 342 *eP* **P 16 11 48.4 -0.1**
LOF Lofoten 63.65 343 *eP* **P 16 11 46.2 -3.8**
SUMG Summit 64.20 2 *i* P **P 16 11 54.2 +0.2**
SUMG *i* 16 12 05.9
SUMG Summit 64.20 2 *i* P **P 16 11 54.0 0.0**
SUMG Summit 64.20 2 *i* P **P 16 11 54.2 +0.2**
SUMG *i* 16 12 05.9
SUMG Summit 64.20 2 P P 16 11 53.6 -0.4
SUMG IAmb IAmb 16 11 55.6
comp=Z,15nm,1.0s
MOR8 Moi Rana 65.05 341 *eP* **P 16 11 57.8 -1.3**
GEYT Alibeck 65.16 299 P P 16 12 00.8 +0.4
comp=Z,4.6nm,0.8s,baz=50,slow=2.5,SNR=9.8
GYA0B ALIBECK ARRAY 65.16 299 P P 16 12 00.7 +0.2
GYA0B IAmb IAmb 16 12 14.8
comp=Z,9.7nm,0.9s
FINES FINESS Array B 65.45 333 *i* P **P 16 12 01.7 -0.1**
FINES pmax pmax
comp=Z,7.0nm,0.5s
FINES FINESS Array B 65.45 333 P P 16 12 01.3 -0.5
comp=Z,6.6nm,0.5s,baz=39,slow=7.5,SNR=48
FFC Flin Flon 65.57 37 *c eP* **P 16 12 03.9 +1.2**
OBN Obninsk 65.95 324 *c eP* **P 16 12 05.5 +0.4**
OBN *i* 16 12 16.6
OBN pmax pmax
comp=Z,20nm,1.3s
OBN MLR MLR
comp=Z,169nm,15.0s
OBN Obninsk 65.95 324 P P 16 12 05.2 +0.1
comp=Z,2.0nm,0.5s,baz=75,slow=21,SNR=3.7
OBN Obninsk 65.95 324 ‖ *eP* **P 16 12 05.5 +0.4**
OBN Obninsk 65.95 324 IAmb IAmb 16 12 05.5
comp=Z,24nm,1.1s
VRH Novokhopyorsk 66.19 319 *eP* **P 16 12 06.2 -0.5**
VRH pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 66.58 321 *eP* **P 16 12 09.0 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
NVAR Mina Array Bea 67.20 58 P P 16 12 14.4 +0.7
comp=Z,0.5nm,0.7s,baz=284,slow=6.0,SNR=4.7
VSR Storozhevoye 67.39 320 *eP* **P 16 12 13.8 -0.6**
VSR pmax pmax
comp=Z,20nm,0.6s
VORD Divnogorie 67.50 320 *eP* **P 16 12 14.7 -0.4**
VORD pmax pmax
comp=Z,10.0nm,0.8s
ASAR Alice Springs 68.02 194 P P 16 12 17.8 -0.9
comp=Z,1.1nm,0.9s,baz=16,slow=5.7,SNR=7.5
GOF Gofitskoye 69.53 313 ‖ *eP* **P 16 12 28.4 +0.5**
GOF pmax pmax
comp=Z,45nm,0.7s
PDAR Pinedale Array 69.62 50 P P 16 12 28.2 -0.6
comp=Z,0.5nm,0.8s,baz=205,slow=2.4,SNR=4.5
SEKA Sheki 69.74 308 P P 16 12 29.8 +0.4
DOMB Dombas 69.81 341 *eP* **P 16 12 28.4 -0.9**
MNGR Mingechevir, A 70.09 308 P P 16 12 32.4 +1.0
NB2 NORSAR Subarra 70.13 339 P P 16 12 30.9 -0.5
comp=Z,4.8nm,0.7s,baz=31,slow=6.2
NB2 NORSAR Subarra 70.13 339 P P 16 12 30.9 -0.5
baz=31,slow=6.2
NOA NORSAR Array B 70.13 339 P P 16 12 31.2 -0.1
comp=Z,7.7nm,0.7s,baz=32,slow=6.2,SNR=20
NOA LR LR 16 46 11.1
comp=Z,26nm,21.4s,baz=155,slow=38
HFS Hagfors 70.23 338 P P 16 12 31.9 0.0
comp=Z,9.1nm,0.7s,baz=64,slow=6.8,SNR=17
NC602 NORSAR Array S 70.30 339 *eP* **P 16 12 32.0 -0.3**
LKRN Lenkeran, Azer 70.43 305 P P 16 12 34.7 +1.2
KVAR Kislovodsk Arr 70.45 312 P P 16 12 34.5 +0.8
comp=Z,7.1nm,0.9s,baz=262,slow=22,SNR=7.2
KIV Kislovodsk 70.45 312 *eP* **P 16 12 35.5 +1.8**
KIV pmax pmax
comp=Z,53nm,0.9s
KIV MLR MLR
comp=Z,444nm,17.0s
KIV Kislovodsk 70.45 312 *eP* **P 16 12 35.5 +1.8**
KIV Kislovodsk 70.45 312 P P 16 12 34.6 +0.9
KBZ Khabaz 70.49 312 P P 16 12 35.2 +1.5
comp=Z,10.0nm,0.8s,baz=70,slow=4.7,SNR=19
ZEI Tsey 70.57 311 *eP* **P 16 12 32.7 -1.9**
ZEI pmax pmax
comp=Z,11nm,1.1s
TBLG Delisi 70.80 310 P P 16 12 36.8 +1.0
TBLG pmax pmax
comp=Z,25nm,1.0s
TBLG Delisi 70.80 310 P P 16 12 36.8 +1.0
KONO Kongsberg 71.74 339 *eP* **P 16 12 40.7 -0.4**
GNI Garni 71.85 308 *i* P **P 16 12 43.0 +0.7**
GNI pmax pmax
comp=Z,30nm,1.2s
ASK Askoy 72.08 342 *eP* **P 16 12 41.7 -1.3**
AKASG Malin Array Be 72.22 324 P P 16 12 44.0 -0.1
comp=Z,6.4nm,0.7s,baz=39,slow=6.6,SNR=16
SIM Simferopol' 74.18 318 *eP* **P 16 12 56.3 +0.5**
SIM *e*PP **sP 16 13 10.0 +2.4**
SIM pmax pmax
comp=Z,13nm,0.8s
SORM Soroca 74.52 323 ⇓ P **P 16 12 57.8 +0.1**
SORM Soroca 74.52 323 ⇓ P **P 16 12 57.8 +0.1**
KWP Kalwaria Pacla 75.73 327 P P 16 13 05.2 +0.5
KWP Kalwaria Pacla 75.73 327 P P 16 13 05.2 +0.5
BUR08 Bucovina Ar. S 76.26 324 P P 16 13 08.4 +0.5
BUR08 IAmb IAmb 16 13 11.4
comp=Z,9.6nm,0.8s
BURAR Bucovina Array 76.27 324 ⇓ P **P 16 13 08.9 +0.9**
BURAR Bucovina Array 76.27 324 ⇓ P **P 16 13 08.8 +0.9**
OJC Ojcow 76.39 329 P P 16 13 08.4 0.0
OJC pmax pmax
comp=Z,16nm,1.2s
OJC Ojcow 76.39 329 P P 16 13 08.4 0.0
OJC IAmb IAmb 16 13 14.8
comp=Z,16nm,1.2s
BIZ Bicaz 76.41 323 ⇑ P **P 16 13 09.5 +0.8**
KOLS Kolonicke sedl 76.45 327 *eP* **P 16 13 10.0 +1.2**
KOLS pmax pmax
comp=Z,14nm,1.5s
KOLS Kolonicke sedl 76.45 327 *eP* **P 16 13 10.0 +1.2**
TESR Tescani 76.50 323 ⇓ P **P 16 13 08.8 -0.4**
LANS Liptovska Anna 77.38 328 *eP* **P 16 13 15.3 +1.2**
LANS pmax pmax
comp=Z,4.0nm,0.9s
LANS Liptovska Anna 77.38 328 *eP* **P 16 13 15.3 +1.2**
CHVC Chvalec 77.45 331 *eP* **P 16 13 16.9 +2.4**
DOPR Dopca 77.48 323 ⇑ P **P 16 13 17.1 +2.4**
UPC Upice 77.54 331 *eP* **P 16 13 16.1 +1.2**
UPC MLR MLR
comp=Z,500nm,14.9s
UPC Upice 77.54 331 *eP* **P 16 13 16.1 +1.2**
UPC AMS AMS 16 50 40.0
comp=Z,500nm,14.9s
DPC Dobruska-Polom 77.56 331 *eP* **P 16 13 16.0 +0.9**
DPC Dobruska-Polom 77.56 331 *eP* **P 16 13 16.0 +0.9**
MORC Moravsky Berou 77.59 330 ⇓ P **P 16 13 16.1 +0.8**
MORC Moravsky Berou 77.59 330 ⇓ P **P 16 13 16.1 +0.8**
MORC Moravsky Berou 77.59 330 P P 16 13 15.6 +0.3
MORC IAmb IAmb 16 13 18.8
comp=Z,9.4nm,0.9s
CLL Collm 77.89 333 *i* P **P 16 13 16.7 -0.1**
CLL pmax pmax
comp=Z,20nm,1.1s
CLL Collm 77.89 333 *i* P **P 16 13 16.7 -0.1**
comp=Z,7.0nm,0.7s
CLL *i* Pmax 16 13 18.6
comp=Z,20nm,1.1s
CLL *es*P **pwP 16 13 30.0 +1.2**
CLL Collm 77.89 333 P P 16 13 16.3 -0.5
CLL IAmb IAmb 16 13 19.9
comp=Z,17nm,0.9s
BRG Berggiesshubel 77.95 332 *eP* **P 16 13 19.7 +2.6**
comp=Z,6.1nm,1.0s
BRG *e* 16 31 25.6
comp=Z,3.3nm,0.9s
BRG Berggiesshubel 77.95 332 *eP* **P 16 13 19.7 +2.6**
BRG *e* 16 31 25.6
BRG pmax pmax
comp=Z,6.0nm,1.0s
VOIR 78.04 323 ⇑ P **P 16 13 19.5 +1.6**
VOIR 78.04 323 ⇑ P **P 16 13 19.5 +1.6**
VYHS Vyhne 78.16 328 *eP* **P 16 13 18.6 +0.2**
VYHS Vyhne 78.16 328 *eP* **P 16 13 18.6 +0.2**
BR131 Keskin Array S 78.23 314 P P 16 13 19.1 0.0
BR131 pmax pmax
comp=Z,16nm,1.8s
BR131 Keskin Array S 78.23 314 P P 16 13 19.1 0.0
BR131 IAmb IAmb 16 15 01.5
comp=Z,16nm,1.8s
BRTR Keskin Array B 78.23 314 P P 16 13 19.6 +0.5
comp=Z,1.9nm,0.7s,baz=77,slow=3.5,SNR=9.1
GOPC GO Pecny, Ondr 78.47 331 *eP* **P 16 13 20.3 +0.2**
GOPC GO Pecny, Ondr 78.47 331 *eP* **P 16 13 20.3 +0.2**
PRU Pruhonice 78.49 331 *eP* **P 16 13 21.0 +0.8**
PRU Pruhonice 78.49 331 *eP* **P 16 13 21.0 +0.8**
EKA Eskdalemuir Ar 78.61 344 P P 16 13 20.4 -0.3
comp=Z,2.5nm,0.7s,baz=21,slow=4.6,SNR=3.7
MODS Modra-Piesok 78.85 329 *eP* **P 16 13 23.0 +0.8**
MODS Modra-Piesok 78.85 329 *eP* **P 16 13 23.0 +0.8**
BZS Buzias 79.37 325 ⇓ P **P 16 13 25.1 0.0**
BZS Buzias 79.37 325 ⇓ P **P 16 13 25.1 0.0**
KHC Kasperske Hory 79.55 332 *eP* **P 16 13 26.5 +0.5**
KHC *e* 16 13 38.0
KHC Kasperske Hory 79.55 332 *eP* **P 16 13 26.5 +0.5**
KHC *ep*P **sP 16 13 38.0 +0.1**
KHC Kasperske Hory 79.55 332 P P 16 13 26.2 +0.2
CONA Conrad Observa 79.75 330 *i* PcP **P 16 13 30.9 +3.7**
comp=Z,7.7nm,0.9s
GERES GERESS Array B 79.75 331 P P 16 13 27.4 +0.2
comp=Z,1.5nm,0.5s,baz=30,slow=6.0,SNR=6.9
GRA1 Grafenberg Arr 79.86 333 P P 16 13 28.4 +0.7
GRF Grafenberg Arr 79.86 333 P P 16 13 28.4 +0.7
GRF pmax pmax
comp=Z,18nm,0.8s
VTS Vitosha 81.07 322 ⇑ P **P 16 13 34.6 +0.1**
VTS Vitosha 81.07 322 ⇑ P **P 16 13 34.6 +0.1**
SOKA Soboth 81.10 329 *i* P **P 16 13 35.3 +0.8**
comp=Z,7.5nm,0.9s
WATA Walderalm 81.78 332 *i* P **P 16 13 38.8 +0.6**
comp=Z,6.1nm,0.6s
WTTA Wattenberg 81.82 332 *i* P **P 16 13 39.1 +0.7**
comp=Z,6.1nm,0.7s
RETA Reutte 81.92 332 *i* PcP **P 16 13 40.7 +1.9**
comp=Z,6.3nm,1.1s
MOTA Moosalm 81.93 332 *i* P **P 16 13 39.7 +0.7**
comp=Z,11nm,1.1s
ASF Jabal al Asfar 81.94 307 P P 16 13 38.6 -0.6
comp=Z,1.6nm,0.6s,baz=34,slow=3.6,SNR=3.5
SQTA Sankt Quirin 82.00 332 *i* P **P 16 13 40.1 +0.8**
comp=Z,4.4nm,0.7s
MMAI Mount Meron Ar 82.19 308 P P 16 13 41.9 +1.5
comp=Z,7.4nm,0.7s,baz=30,slow=6.9,SNR=7.4
TX31 Lajitas Ar. Si 82.28 57 P P 16 13 41.2 +0.1
TX31 IAmb IAmb 16 14 01.9
comp=Z,14nm,1.8s
TXAR Lajitas Array 82.28 57 P P 16 13 40.5 -0.5
comp=Z,1.5nm,0.8s,baz=286,slow=2.8,SNR=10
FETA Feichten 82.34 332 *i* P **P 16 13 39.5 -1.7**
comp=Z,5.7nm,1.2s
DAVA Damuels 82.40 333 *i* P **P 16 13 41.9 +0.5**
comp=Z,7.8nm,0.9s
FUORN Ofenpass-Fuorn 82.85 332 P P 16 13 44.0 +0.1
FUORN IAmb IAmb 16 13 59.2
comp=Z,5.2nm,0.8s
PPT Papeete 83.30 122 LR LR 16 49 18.5
comp=Z,86nm,18.1s,baz=340,slow=35
SNAA Sanae 148.34 197 PKPdf PKPdf 16 21 04.0 +3.1
SNAA Sanae 148.34 197 PKP2 PKPdf 16 21 03.7 +2.9
SNAA Sanae 148.34 197 PKPdf 16 21 03.7 +2.9
BDFB Brasilia 149.09 31 PKPbc PKPbc 16 21 07.9 0.0
comp=Z,4.8nm,0.6s,baz=195,slow=7.6,SNR=5.0
VNA2 Neumayer--Watz 149.86 196 PKPdf PKPbc 16 21 07.7 -0.4
baz=90,slow=1.3
VNA3 Neumayer Olymp 150.03 194 PKPdf PKPbc 16 21 07.9 -0.6

ISCJB ***04*** *16:20:34.8±0.4,24°.86N±0°.02×122°.41E±0°.02,h6km±3km, Error ellipse: s-maj=3.6km s-min=2.7km az=19.7*
JMA ***04*** *16:20:34.0±0.1,24°.88N×122°.39E,h0km,M2.7*
TAP ***04*** *16:20:35.0,24°.85N×122°.36E,h11km±1km,ML2.6,C*
ISC 04 16:20:34.6±1.2,24°.86N±0°.03×122°.37E±0°.02,h5km±11km, n52,σ0°.48/87,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.38**	**293**	*i* P		**Pb**	**16 20 42.9**	**-0.8**
	baz=294							
TWB1				S		**Sb**	**16 20 48.6**	**-1.2**
	baz=294							
EOS1	**EOS1**	**0.38**	**215**	P		**Pb**	**16 20 43.9**	**+0.2**
	baz=215							
EOS1				*e*S		**Sb**	**16 20 49.4**	**-0.5**
	baz=215							
NTC	**Toucheng**	**0.49**	**269**	*e*P		**Pb**	**16 20 45.7**	**+0.1**
	baz=270							
TIPB	**Shuangxi**	**0.50**	**283**	P		**Pb**	**16 20 46.1**	**+0.1**
	baz=283							
TIPB				*i* S		**Sb**	**16 20 53.6**	**0.0**
	baz=283							
TWC	**Suao**	**0.53**	**242**	*i* P		**Pb**	**16 20 45.9**	**-0.5**
	baz=241							
TWC				S		**Sb**	**16 20 53.6**	**-0.7**
	baz=241							
NWF	**Wu-fen Shan**	**0.57**	**292**	*i* P		**Pb**	**16 20 47.1**	**-0.1**
	baz=292							
NWF				*i* S		**Sb**	**16 20 55.6**	**0.0**
	baz=292							
WFSB	**Wu-fen Shan**	**0.57**	**292**	P		**Pb**	**16 20 47.1**	**0.0**
	baz=292							
WFSB				S		**Sb**	**16 20 55.7**	**+0.2**
	baz=292							
TWE	**Neicheng**	**0.65**	**258**	P		**Pb**	**16 20 48.1**	**-0.3**
	baz=257							
TWE				S		**Sg**	**16 20 56.8**	**+1.2**
	baz=257							
JYNG	**Yonagunijimaku**	**0.67**	**128**	P		**Pg**	**16 20 47.3**	**-0.1**
JYNG				S		**Sg**	**16 20 56.3**	**+0.3**
SLBB	**Yuanshan**	**0.67**	**261**	P		**Pb**	**16 20 48.4**	**-0.4**
	baz=261							
SLBB				S		**Sb**	**16 20 58.8**	**+0.3**
	baz=261							
YOJ	**Yonaguni jima**	**0.71**	**124**	P		**Pg**	**16 20 47.9**	**-0.3**
YOJ				S		**Sg**	**16 20 56.9**	**-0.5**
YOJ	**Yonaguni jima**	**0.71**	**124**	P		**Pg**	**16 20 48.2**	**0.0**
	baz=123							
NANB	**Nanao**	**0.71**	**233**	⇓ *i* P		**Pb**	**16 20 49.2**	**-0.2**
	baz=232							
NANB				S		**Sb**	**16 20 59.6**	**+0.2**
	baz=232							
ENA	**Nanau**	**0.71**	**233**	*i* P		**Pb**	**16 20 49.3**	**-0.2**
	baz=232							
ENA				S		**Sb**	**16 20 59.2**	**-0.4**
	baz=232							
ENTT	**Nioudou**	**0.76**	**253**	P		**Pb**	**16 20 50.2**	**-0.1**
	baz=253							
ENTT				S		**Sb**	**16 21 01.6**	**+0.7**
	baz=253							
NHDH	**Xindian Distri**	**0.77**	**278**	*e*P		**Pb**	**16 20 50.4**	**-0.1**
	baz=278							
NHDH				S		**Sb**	**16 21 01.5**	**+0.2**
	baz=278							
YM01	**YM01**	**0.78**	**292**	P		**Pg**	**16 20 49.6**	**+0.1**
	baz=292							
YM01				S		**Sb**	**16 21 02.1**	**+0.6**
	baz=292							
YM08	**YM08**	**0.78**	**295**	P		**Pg**	**16 20 49.6**	**+0.1**
	baz=295							
YM08				*e*S		**Sb**	**16 21 01.2**	**-0.3**
	baz=295							
YM11	**YM11**	**0.78**	**293**	P		**Pn**	**16 20 51.6**	**-0.7**
	baz=293							
YM11				*e*S		**Sb**	**16 21 02.9**	**+1.3**
	baz=293							
YM05	**YM05**	**0.79**	**293**	P		**Pg**	**16 20 50.0**	**+0.2**
	baz=293							
YM10	**YM10**	**0.79**	**292**	P		**Pg**	**16 20 50.1**	**+0.4**
	baz=292							
NWLT	**Wulai**	**0.79**	**264**	*e*P		**Pb**	**16 20 50.7**	**-0.1**
	baz=264							
NWLT				*e*S		**Sb**	**16 21 01.6**	**-0.2**
	baz=264							
TATO	**Taipei**	**0.81**	**278**	*e*P		**Pb**	**16 20 51.1**	**0.0**
	baz=278							
TATO				*e*S		**Sb**	**16 21 02.1**	**-0.2**
	baz=278							
YM04	**YM04**	**0.81**	**291**	*e*P		**Pb**	**16 20 50.9**	**-0.3**
	baz=291							
TWY	**Chenhua**	**0.81**	**301**	P		**Pb**	**16 20 51.3**	**+0.2**
	baz=301							
TWY				S		**Sb**	**16 21 02.9**	**+0.6**
	baz=301							
PCYT	**Pengchaiyu**	**0.81**	**341**	P		**Pb**	**16 20 50.6**	**-0.6**
	baz=341							
PCYT				S		**Sb**	**16 21 03.5**	**+1.1**
	baz=341							
NDT	**Datong Townshi**	**0.82**	**252**	P		**Pb**	**16 20 51.3**	**+0.1**
	baz=252							
NDT				*e*S		**Sb**	**16 21 03.8**	**+1.2**
	baz=252							
ANP	**Anpu**	**0.83**	**293**	*e*P		**Pb**	**16 20 51.7**	**+0.1**
	baz=293							
ANP				*e*S		**Sb**	**16 21 03.4**	**+0.2**
	baz=293							
YHNB	**Yeheng**	**0.92**	**258**	P		**Pb**	**16 20 53.0**	**-0.1**
	baz=258							
YHNB				*e*S		**Sb**	**16 21 06.5**	**+0.9**
	baz=258							
NSK	**Sanguang**	**0.94**	**259**	*i* P		**Pb**	**16 20 53.4**	**+0.1**
	baz=258							
NSK				S		**Sb**	**16 21 06.1**	**+0.1**
	baz=258							
NACB	**Ninganchiao**	**0.98**	**226**	P		**Pb**	**16 20 54.0**	**0.0**
	baz=225							
NACB				S		**Sb**	**16 21 07.6**	**+0.3**
	baz=225							
NNSB	**Datong**	**0.99**	**245**	P		**Pb**	**16 20 54.3**	**-0.1**
	baz=244							
NNSB				*e*S		**Sb**	**16 21 08.3**	**+0.5**
	baz=244							
NNSH	**Datong**	**0.99**	**245**	*e*P		**Pb**	**16 20 54.5**	**+0.1**
	baz=244							
NNSH				*e*S		**Sb**	**16 21 08.2**	**+0.4**
	baz=244							
NNS	**Nan Shan**	**1.00**	**245**	P		**Pb**	**16 20 54.5**	**+0.1**
	baz=245							
NNS				S		**Sb**	**16 21 08.7**	**+0.8**
	baz=245							
ETLH	**Xiulin Townshi**	**1.04**	**231**	*e*P		**Pn**	**16 20 55.7**	**-0.1**
	baz=231							
ETLH				*e*S		**Sn**	**16 21 10.1**	**-0.6**
	baz=231							
TWD	**Chiawan**	**1.05**	**222**	*e*S		**Sb**	**16 21 09.5**	**+0.3**
	baz=221							
WHF	**Hehuan Shan**	**1.23**	**235**	*e*P		**Pg**	**16 20 57.3**	**-0.9**
	baz=234							
WHF				*e*S		**Sg**	**16 21 14.3**	**0.0**
	baz=234							
TWT	**Tachien**	**1.24**	**241**	*e*P		**Pn**	**16 20 58.8**	**0.0**
	baz=241							
TWT				*e*S		**Sn**	**16 21 16.5**	**+0.5**
	baz=241							
LIOB	**Emei**	**1.25**	**260**	*e*P		**Pg**	**16 20 57.8**	**-0.7**
	baz=260							

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TDCB	Techi	1.26	242	eP	Pg	16 20 58.8	+0.1
	baz=241						
TDCB				eS	Sb	16 21 16.0	+0.6
	baz=241						
NSTT	Nanjuang	1.26	260	P	Pn	16 20 57.9	-1.0
	baz=259						
NSTT				S	Sg	16 21 14.9	-0.3
	baz=259						
IRIF	Iriomote-Funau	1.35	113	P	Pn	16 20 59.9	-0.1
CHGB	Renai	1.35	234	eP	Pg	16 21 00.6	+0.1
	baz=233						
CHGB				eS	Sn	16 21 18.6	0.0
	baz=233						
WHP	Taichung City	1.42	246	eP	Pg	16 21 01.9	+0.1
	baz=246						
DPDB	Guoxing	1.55	238	eP	Pb	16 21 03.6	-0.1
	baz=238						
VWDT	VWDT	1.57	226	eP	Pn	16 21 03.0	0.0
	baz=225						
HGSD	Ruisui	1.61	213	eP	Pn	16 21 04.0	+0.4
	baz=212						
JKRS	Kuro-shima	1.62	112	P	Pn	16 21 04.0	+0.3
SSLB	Suanglung	1.67	231	eP	Pn	16 21 05.1	+0.6
	baz=230						
JIJ	Ishigaki jima	1.69	107	P	Pn	16 21 05.1	+0.4
JISG	Ishigakijimahi	1.79	98	P	Pb	16 21 07.6	-0.2
WHYT	Xinyi Township	1.80	230	eP	Pb	16 21 07.4	-0.7
	baz=230						

*IDC **04** 16:24:07.7±1.4, 12°14N×95°03E, h0^{km}, mb3.6/5, mb1 3.7/6, mb1mx3.5/41, mbtmp3.5/6, Error ellipse: s-maj=36.7km s-min=27.6km az=54.0*
*ISCJB **04** 16:24:09.3±1.1, 12°03N±0°09×95°24E±0°09, h21^{km}, mb3.6/5, Error ellipse: s-maj=14.4km s-min=12.5km az=139.7*
ISC 04 16:24:11.1±1.2**, 12°1N**±0°1×**95°1E**±0°1**, h21**^{km}**, n14, σ1^{s}77**/15**, mb3.5**/5**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.36	30	Pn	Pn	16 25 56.9	-0.4
	baz=226,slow=15,SNR=2.9						
CMAR				Sn	Sn	16 27 21.6	+1.3
	0.1nm,0.3s,baz=225,slow=19,SNR=2.9						
TAPN	Taplejung	16.71	337	eP	Pn	16 28 01.3	-3.1
RAMN	Ramite	16.83	333	eP	Pn	16 28 06.2	+0.4
	40nm,1.1s						
PKI	Pulchoki	17.91	331	eP	P	16 28 20.9	+1.1
	26nm,1.0s						
PKIN	Phulchoki	17.92	331	eP	P	16 28 20.9	+1.0
	20nm,1.0s						
GUN	Gumba	17.98	333	eP	P	16 28 20.3	-0.3
	12nm,0.7s						
DMN	Daman	18.08	330	eP	P	16 28 23.4	+1.7
	19nm,0.9s						
KOLN	Koldanda	18.98	327	eP	Pn	16 28 36.1	+3.8
	13nm,0.8s						
DANN	Dangsing	19.36	328	eP	Pn	16 28 38.4	+1.4
	32nm,0.9s						
MKAR	Makanchi Array	36.27	345	P	P	16 31 11.9	-1.1
	0.4nm,0.8s,baz=156,slow=8.6,SNR=2.4						
GEYT	Alibeck	41.84	315	P	P	16 31 59.5	-0.2
	2.0nm,0.6s,baz=141,slow=5.0,SNR=6.9						
ASAR	Alice Springs	51.97	133	P	P	16 33 20.1	+1.0
	0.6nm,1.1s,baz=310,slow=7.8,SNR=4.3						
GERES	GERESS Array B	75.37	318	P	P	16 35 52.4	-0.9
	0.3nm,0.5s,baz=67,slow=7.6,SNR=3.3						
ILAR	Eielson Array	90.53	22	P	P	16 37 10.4	-1.0
	0.2nm,0.8s,baz=312,slow=4.6,SNR=3.4						

*MEX **04** 16:29:31.9±1.2, 28°99N×114°02W, h20^{km}, MD3.7*
*ECX **04** 16:29:35.1±0.7, 28°96N×113°26W, h7^{km}±27^{km}, MD2.9, ML3.1*
ISC 04 16:29:24.9±1.4**, 29°36N**±0°06×**113°71W**±0°09**, h10**^{km}**, n7, σ1^{s}72**/11**, 1D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAHB	Baha de los	0.59	13	eP	Pn	16 29 39.5	+0.1
BAHB				eS	Sg	16 29 44.2	0.0
SPX	San Pedro Mart	2.26	318	⇓e	Sb	16 30 33.9	-0.1
SPX				IAML		16 30 33.9	
	comp=N,39nm,0.6s						
SRIG	Santa Rosalia	2.41	147	eP	Pn	16 30 05.4	+1.0
SRIG				i S	Sn	16 30 31.7	-2.3
SRIG	Santa Rosalia	2.41	147	eP	Pn	16 30 06.4	+1.9
HSIG		2.44	97	i P	Pn	16 30 05.3	+0.5
HSIG				i S	Sn	16 30 36.2	+1.5
HSIG		2.44	97	eP	Pb	16 30 09.3	+0.4
GUYB	Guaymas	2.89	120	i P	Pn	16 30 11.1	+0.1
GUYB				eS	Sn	16 30 42.5	-3.3

*BEO **04** 16:43:25.5±0.8, 40°10N×19°15E, h13^{km}±4^{km}, ML3.7/14*
*SKO **04** 16:43:30.7, 40°50N×19°36E, h0^{km}, M3.2, ML3.7*
*ISCJB **04** 16:43:33.7±0.4, 40°74N±0°01×19°57E±0°02, h13^{km}±3^{km}, mb3.7/7, MS2.8/1, Error ellipse: s-maj=2.6km s-min=1.8km az=145.4*
*TIR **04** 16:43:33.5, 40°67N×19°69E, h2^{km}, Md3.8/7*
*ATH **04** 16:43:34.0, 40°74N×19°68E, h19^{km}±1^{km}, ML3.4/14, Error ellipse: s-maj=2.1km s-min=1.2km az=288.0*
*PDG **04** 16:43:34.2±0.6, 40°70N×19°59E, h15^{km}±1^{km}, ML3.5/13, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*THE **04** 16:43:34.0, 40°76N×19°72E, h0^{km}±2^{km}, ML3.5/7, Error ellipse: s-maj=3.1km s-min=1.0km az=311.0*
*NEIC **04** 16:43:35.8±2.2, 40°78N±0°04×19°69E±0°06, h17^{km}±7^{km}, mb4.2/3*
*IDC **04** 16:43:37.4±2.4, 40°75N×19°56E, h44^{km}±24^{km}, mb3.6/8, mb1 3.6/13, mb1mx3.4/45, mbtmp3.6/13, ML3.5/5, MS3.0/3, Ms1 3.1/3, ms1mx2.5/44, Error ellipse: s-maj=24.1km s-min=17.7km az=168.0*
*PRU **04** 16:43:41.7±0.0, 41°45N×19°88E, h0^{km}, M4.2*
ISC 04 16:43:34.3±0.9**, 40°70N**±0°01×**19°68E**±0°02**, h17**^{km}±6^{km}**, n250, σ1^{s}63**/305**, mb3.9**/10**, 21C-20D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	Vlora	0.27	211	P	Pg	16 43 39.7	-0.5
VLO				S	Sb	16 43 46.4	+1.4
VLO	Vlora	0.27	211	i PG	Pg	16 43 39.7	-0.5
VLO				i SG	Sg	16 43 43.3	-1.0
TPE	Tepelena	0.48	148	P	Pg	16 43 42.5	-1.3
TPE	Tepelena	0.48	148	i PG	Pg	16 43 42.7	-1.1
TPE				i SG	Sg	16 43 50.7	+0.4
TIR	Tirane	0.66	12	P	Pg	16 43 46.2	-1.1
TIR	Tirane	0.66	12	i Pg	Pb	16 43 47.2	-0.2
TIR	Tirane	0.66	12	ePg	Pn	16 43 49.1	+0.2
TIR				eSg	Sn	16 44 08.9	+10
TIR	Tirane	0.66	12	i PG	Pb	16 43 47.4	0.0
TIR				i SG	Sb	16 43 57.2	+0.9
TIR	Tirane	0.66	12	P	Pg	16 43 46.7	-0.6
TIR				S	Sg	16 43 55.6	-0.5
TIR				AML	AML	16 44 13.5	
	comp=E,10220μm,0.8s						
TIR				AML	AML	16 44 19.1	
	comp=N,11503μm,0.8s						
TIR	Tirane	0.66	12	⇑P	Pg	16 43 47.0	-0.3
TIR				AML	AML	16 44 03.5	
TIR	Tirane	0.66	12		Pg	16 43 47.1	-0.2
SRN	Sarande	0.86	163	P	Pb	16 43 49.8	-0.9
SRN				S	Sn	16 44 05.7	+2.0
	comp=N,1μm,0.8s						
SRN	Sarande	0.86	163	i PG	Pb	16 43 50.4	-0.3
SRN				i SG	Sn	16 44 04.0	+0.4
KASA	Kassiopi	0.97	168	P	Pn	16 43 53.8	+0.6
KASA				S	Sn	16 44 07.8	+1.2
KASA				AML	AML	16 44 13.2	
	comp=N,2373μm,0.4s						
KASA				AML	AML	16 44 14.7	
	comp=E,3541μm,0.4s						
KEK	Kerkira	0.99	175	P	Pb	16 43 52.6	-0.4
KEK				S	Sn	16 44 08.9	+1.9
	comp=E,2μm,1.2s						
KEK	Kerkira	0.99	175	P	Pg	16 43 53.8	+0.4
KEK				S	Sn	16 44 08.5	+1.5
KEK				AML	AML	16 44 11.1	
	comp=N,2838μm,1.2s						
KEK				AML	AML	16 44 12.2	
	comp=E,7096μm,1.2s						
NEST	Nestorio	1.08	105	P	Pb	16 43 53.5	-1.1
NEST	Nestorio	1.08	105	P	Pb	16 43 54.0	-0.6
NEST				AML	AML	16 44 21.3	
	comp=N,1918μm,0.9s						
NEST				AML	AML	16 44 22.3	
	comp=E,1760μm,0.8s						
SCTE	Santa Cesarea	1.12	236	P	Pn	16 43 55.4	+0.2
SCTE				S	Sg	16 44 11.2	+0.6
SCTE				AML	AML	16 44 16.9	
	comp=E,1989μm,0.6s						
SCTE				AML	AML	16 44 22.1	
	comp=N,1544μm,0.7s						
SCTE	Santa Cesarea	1.12	236		Pn	16 43 55.3	+0.2
PHP	Peshkopia	1.14	30	P	Pn	16 43 53.8	-1.7
PHP	Peshkopia	1.14	30	i SG	Sg	16 44 14.1	+2.9
PENT	Pentalofos	1.22	114	P	Pn	16 43 56.2	-0.5
PENT				S	Sg	16 44 15.1	+1.3
	comp=N,1μm,0.8s						
PENT	Pentalofos	1.22	114	P	Pb	16 43 56.9	-0.1
PENT				AML	AML	16 44 26.4	
	comp=N,2217μm,0.5s						
PENT				AML	AML	16 44 26.8	
	comp=E,2235μm,0.9s						
IGT	Igoumenitsa	1.27	157	ePg	Pn	16 43 53.3	-3.9
IGT	Igoumenitsa	1.27	157	P	Pg	16 43 58.8	+0.1
FNA	Florina	1.29	86	P	Pn	16 43 57.2	-0.4
FNA				S	Sn	16 44 14.8	+0.2
	comp=E,3μm,0.5s						
FNA	Florina	1.29	86	⇓iPg	Pn	16 43 57.2	-0.4
FNA				i Sg	Sg	16 44 20.9	+4.8
FNA	Florina	1.29	86	P	Pn	16 43 57.5	-0.1
FNA				AML	AML	16 44 24.0	
	comp=E,6503μm,0.5s						
FNA				AML	AML	16 44 25.8	
	comp=N,5292μm,0.5s						
FNA	Florina	1.29	86		Pn	16 43 57.1	-0.5
ULC	Ulcinj	1.30	346	i Pg	Pn	16 43 57.8	0.0
ULC	Ulcinj	1.30	346	⇓iPg	Pb	16 43 58.1	-0.3
ULC				i Sg	Sg	16 44 18.3	+1.9
PUK	Puka	1.35	7	i PN	Pg	16 44 00.3	0.0
PUK				i SN	Sg	16 44 21.1	+3.1
JAN	Janina	1.38	139	P	Pb	16 44 00.2	+0.6
JAN				S	Sg	16 44 20.9	+2.2
	comp=N,2μm,0.8s						
JAN	Janina	1.38	139	P	Pg	16 44 01.0	+0.3
JAN				AML	AML	16 44 29.1	
	comp=E,4566μm,0.7s						
JAN				AML	AML	16 44 30.6	
	comp=N,3543μm,0.9s						
KPRO	Kipourio	1.49	120	P	Pb	16 44 01.3	-0.2
KPRO				S	Sg	16 44 23.0	+0.7
	comp=N,2μm,1.6s						
KPRO	Kipourio	1.49	120	P	Pb	16 44 01.5	+0.1
KPRO				AML	AML	16 44 35.5	
	comp=E,2694μm,1.0s						
KPRO				AML	AML	16 44 35.6	
	comp=N,3496μm,1.9s						
DRME	Dracevica, Mon	1.53	346	⇓iPg	Pb	16 44 01.6	-0.6
DRME				eSg	Sg	16 44 24.1	+0.4
KZN	Kozani	1.64	103	P	Pb	16 44 03.6	-0.5
KZN				S	Sg	16 44 26.1	-1.1
	comp=N,1μm,0.5s						
KZN	Kozani	1.64	103	P	Pb	16 44 04.3	+0.2
KZN				AML	AML	16 44 37.6	
	comp=N,1965μm,0.6s						
KZN				AML	AML	16 44 38.6	
	comp=E,2428μm,0.5s						
BCI	Bajram Curri	1.69	10	i PN	Pg	16 44 05.8	-0.9
BCI				i SN	Sg	16 44 30.6	+1.9
BUM	Brajici-Budva	1.70	340	⇓iPn	Pb	16 44 04.6	-0.6
BUM				eSn	Sg	16 44 28.1	-1.1
PDG	Podgorica	1.76	350	i Pn	Pn	16 44 04.9	+0.9
PDG				i Sn	Sg	16 44 30.2	-0.7
PDG	Podgorica	1.76	350	ePn	Pn	16 44 04.6	+0.7
PDG				eSn	Sg	16 44 31.5	+0.6
PDG	Podgorica	1.76	350	⇑P	Pn	16 44 04.4	+0.4
PDG				⇓S	Sn	16 44 25.8	-0.2
PDG				AML	AML	16 44 34.9	
PDG	Podgorica	1.76	350		Pn	16 44 04.6	+0.7
TTG	Podgorica	1.76	350	⇑iPn	Pb	16 44 05.3	-0.8
TTG				eSn	Sg	16 44 29.4	-1.5
TAR1	Taranto	1.83	265	ePn	Pg	16 44 08.5	-1.0
TAR1				Sn	Sg	16 44 39.3	+6.0
SKO	Skopje	1.83	46	i Pn	Pb	16 44 07.2	-0.2
SKO	Skopje	1.83	46	ePn	Pb	16 44 07.2	-0.2
SKO				eSn	Sg	16 44 36.8	+3.4
KTI	Kastanea	1.88	99	P	Pb	16 44 07.9	-0.4
PVY	Plav	1.90	6	⇓iPn	Pb	16 44 07.6	-1.0
PVY				i Sn	Sb	16 44 33.7	+1.5
MASS	Massafra	1.93	269	ePn	Pg	16 44 10.9	-0.4
CEME	Cevo	1.93	343	⇑iPn	Pn	16 44 06.3	-0.1
CEME				eSn	Sb	16 44 33.3	+0.4
HCY	Herceg Novi	1.96	333	ePn	Pn	16 44 06.0	-0.8
HCY	Herceg Novi	1.96	333	⇓iPn	Pn	16 44 07.5	+0.7
HCY				eSn	Sb	16 44 34.0	+0.3
TSLK	Tsoukalades, L	2.02	158	P	Pb	16 44 09.4	-1.1
TSLK	Tsoukalades, L	2.02	158	P	Pb	16 44 09.5	-1.0
LKD2	Lefkada island	2.05	158	P	Pn	16 44 09.5	+1.4
LKD2	Lefkada island	2.05	158	P	Pb	16 44 09.7	-1.4
LKD2				AML	AML	16 44 49.0	
	comp=N,1770μm,1.0s						
LKD2				AML	AML	16 44 55.4	
	comp=E,1590μm,0.7s						
GRG	Griva	2.08	82	P	Pb	16 44 10.3	-1.3
GRG	Griva	2.08	82	⇓iPn	Pb	16 44 10.5	-1.1
GRG	Griva	2.08	82	P	Pb	16 44 10.2	-1.3
GRG				AML	AML	16 44 57.9	
	comp=N,1092μm,1.1s						
GRG				AML	AML	16 44 57.9	
	comp=E,711μm,0.9s						
THL	Klokotos Trika	2.12	122	P	Pb	16 44 11.0	-1.2
THL	Klokotos Trika	2.12	122	P	Pb	16 44 12.0	-0.2
THL				AML	AML	16 44 50.9	
	comp=N,963μm,0.9s						
THL				AML	AML	16 44 56.5	
	comp=E,551μm,0.6s						
NKME	Niksic	2.13	345	⇓iPn	Pn	16 44 09.8	+0.6
NKME				eSn	Sb	16 44 38.4	-0.4
STIP	Stip	2.13	61	i Pn	Pb	16 44 13.3	+0.8
KOME	Kolasin	2.15	357	⇑iPn	Pb	16 44 11.2	-1.6
KOME				eSn	Sb	16 44 39.6	+0.3
BAI	Bari	2.16	282	ePn	Pg	16 44 15.3	-0.4
BAI				Sn	Sg	16 44 51.7	+7.9
NKY	Niksic	2.17	347	⇑iPn	Pn	16 44 11.3	+1.5
NKY				i Sn	Sb	16 44 39.8	-0.1
BEY	Berane	2.17	4	⇓iPg	Pb	16 44 12.3	-1.0
IVA	Berane	2.17	4	⇓iPn	Pn	16 44 11.4	+1.6
IVA				eSn	Sb	16 44 40.0	0.0
EVGI	Lefkada island	2.21	160	P	Pn	16 44 11.7	+1.5
EVGI	Lefkada island	2.21	160	P	Pn	16 44 11.7	+1.5
LIT	Litokhoron	2.23	105	P	Pb	16 44 12.8	-1.3
LIT	Litokhoron	2.23	105	P	Pb	16 44 13.1	-1.0
LIT	Litokhoron	2.23	105		Pb	16 44 12.5	-1.6
MATE	Matera	2.26	270	⇑P	Pn	16 44 10.6	-0.3
MATE				⇓S	Sn	16 44 37.6	-0.8
MATE				AML	AML	16 45 02.5	
VAY	Valandovo	2.27	73	i Pn	Pb	16 44 13.3	-1.5
VAY				i Sn	Sg	16 44 46.9	-0.5
VAY				eLg	Lg	16 44 51.5	
	comp=E,225nm,1.1s						
VAY				eLg	Lg	16 44 55.9	
	comp=N,460nm,0.9s						
VAY	Valandovo	2.27	73	ePn	Pn	16 44 09.9	-1.1
VAY				eSn	Sb	16 44 44.5	+1.8
SG1	Sgolgore (BA)	2.28	274	ePn	Pb	16 44 14.2	-0.9
SG1				Sn	Sg	16 44 48.7	+1.0
FSK	Fiskardo	2.34	163	P	Pn	16 44 12.8	+0.8
FSK	Fiskardo	2.34	163	P	Pn	16 44 13.6	+1.7
BRY	Bratogost	2.36	339	ePn	Pn	16 44 12.5	+0.1
BRY	Bratogost	2.36	339	⇑iPn	Pn	16 44 13.7	+1.3
BRY				eSn	Sb	16 44 43.6	-1.7
EVR	Evrytania	2.42	137	P	Pb	16 44 16.3	-1.1
EVR	Evrytania	2.42	137	P	Pb	16 44 16.3	-1.1
EVR				AML	AML	16 44 59.0	
	comp=N,1264μm,1.2s						
EVR				AML	AML	16 45 08.6	
	comp=E,1017μm,1.2s						
KNT	Kendrikon	2.48	78	P	Pn	16 44 15.7	+1.8
KNT	Kendrikon	2.48	78	⇑iPn	Pn	16 44 15.7	+1.8
KNT	Kendrikon	2.48	78	P	Pn	16 44 15.8	+1.8
PVO	Paravola	2.52	145	P	Pn	16 44 16.6	+2.1
PVO	Paravola	2.52	145	P	Pb	16 44 16.9	-2.2
MAKR	Makrakomi, Fth	2.53	131	P	Pb	16 44 18.2	-1.0
UPM	Unac-Piva	2.57	347	⇓iPn	Pn	16 44 16.4	+1.1
UPM				eSn	Sn	16 44 48.6	+2.4
SJES	Sjenica	2.57	5	ePn	Pn	16 44 15.9	+0.7
SJES				eSn	Sb	16 44 53.6	+2.3
HORT	Hortiatis	2.60	91	P	Pn	16 44 17.7	+2.0
VLS	Valsamata	2.62	164	P	Pn	16 44 16.4	+0.6
VLS	Valsamata	2.62	164	P	Pn	16 44 16.8	+0.9
STON	Ston	2.63	326	ePn	Pn	16 44 15.6	-0.3
STON	Ston	2.63	326	ePn	Pn	16 44 12.0	-3.9
STON				eSn	Sn	16 44 47.2	-0.2
STON	Ston	2.63	326	ePn	Pn	16 44 14.9	-1.0
PLE	Pljevlja	2.64	355	⇑iPn	Pn	16 44 17.6	+1.4
PLE				eSn	Sb	16 44 50.5	-2.8
AGG	Agios Georgios	2.64	129	P	Pb	16 44 19.4	-1.8
AGG	Agios Georgios	2.64	129	P	Pb	16 44 19.1	-2.0
AGG	Agios Georgios	2.64	129		Pb	16 44 19.4	-1.8
BARS	Barje	2.65	36	ePn	Pn	16 44 18.1	+1.9
BARS	Barje	2.65	36	ePn	Pg	16 44 33.4	+8.3
TIP	Timpagrande	2.71	237	P	Pn	16 44 18.7	+1.5
TIP	Timpagrande	2.71	237	⇑P	Pn	16 44 18.4	+1.2
TIP				AML	AML	16 45 23.4	
TIP	Timpagrande	2.71	237		Pn	16 44 18.6	+1.5
SELS	Selova	2.74	23	ePn	Pn	16 44 18.9	+1.4
BOSS	Bosilegrad	2.76	49	ePn	Pn	16 44 19.9	+2.1
BOSS				eSn	Sg	16 45 00.1	-2.9
SOH	Sokhos	2.79	86	i Pn	Pn	16 44 20.7	+2.4
SOH	Sokhos	2.79	86	P	Pn	16 44 20.2	+2.0
KKB	Krupnik	2.82	64	i Pn	Pb	16 44 21.6	-2.6
KKB	Krupnik	2.82	64	eP	Pb	16 44 21.8	-2.3
ACER	Acerenza	2.84	273		Pn	16 44 20.6	+1.7
EFP	Efpalio	2.85	142	P	Pn	16 44 21.0	+2.0
EFP	Efpalio	2.85	142	P	Pn	16 44 21.8	+2.9
PLG	Polygyros	2.89	95	P	Pn	16 44 21.8	+2.3
IVAS	Ivanjica	2.90	7	ePn	Pn	16 44 20.2	+0.5
VLMS	Volimes, Zakyn	2.92	165	P	Pn	16 44 21.3	+1.3
RUDO	Rudo	2.92	356	ePn	Pb	16 44 23.7	-2.3
SERG	Sergoula	2.93	140	P	Pn	16 44 22.9	+2.8
SERG	Sergoula	2.93	140	P	Pn	16 44 23.0	+2.9
TRIZ	Trizonia	2.98	141	P	Pn	16 44 22.5	+1.8
TRIZ	Trizonia	2.98	141	P	Pn	16 44 23.0	+2.3
KALE	Kalithea	2.99	140	P	Pn	16 44 23.1	+2.1
KALE	Kalithea	2.99	140	P	Pn	16 44 23.4	+2.5
AXAR	Agios Charalam	3.00	129	P	Pb	16 44 24.6	-2.7
XOR	Xorichti	3.01	115	P	Pn	16 44 23.3	+2.1
XOR	Xorichti	3.01	115	P	Pn	16 44 23.8	+2.7
LAKA	Lakka	3.03	143	P	Pn	16 44 24.0	+2.5
SGRT	San Giovanni R	3.15	291		Pn	16 44 23.0	-0.2
PAIG	Paliouri	3.15	103	P	Pn	16 44 25.0	+1.8
PAIG	Paliouri	3.15	103	P	Pn	16 44 25.2	+2.0
DRO	Drossia	3.16	150	P	Pn	16 44 25.4	+2.1
DRO	Drossia	3.16	150	P	Pn	16 44 25.6	+2.2
BBLS	Lazići	3.17	356	ePn	Pn	16 44 22.7	-0.8
BBLS	Lazići	3.17	356	ePn	Pb	16 44 29.8	-0.4
MMB	Musomiste	3.18	72	i Pn	Pn	16 44 26.0	+2.4
MMB	Musomiste	3.18	72	eP	Pn	16 44 26.0	+2.4
NVR	Nevrokopi	3.23	77	P	Pn	16 44 26.4	+2.1
MAKA	Makarska	3.26	323	ePn	Pn	16 44 23.8	-0.8
MAKA				Sn	Sn	16 45 00.8	-2.1
KLV	Kalavryta, Ach	3.27	143	P	Pn	16 44 27.2	+2.3
KLV	Kalavryta, Ach	3.27	143	P	Pn	16 44 27.6	+2.7
GRUS	Gruza	3.28	13	ePn	Pn	16 44 26.0	+1.1
VTS	Vitosha	3.28	53	P	Pn	16 44 27.2	+2.1
VTS	Vitosha	3.28	53	⇓iPn	Pn	16 44 27.4	+2.3
VTS	Vitosha	3.28	53	ePn	Pn	16 44 25.4	+0.3
VTS				eSn	Sb	16 45 11.1	-0.7
VTS	Vitosha	3.28	53	eP	Pn	16 44 27.0	+1.9
VTS	Vitosha	3.28	53	⇑P	Pn	16 44 26.9	+1.9
VTS				⇓S	Sn	16 45 06.5	+2.8
VTS				AML	AML	16 45 17.5	
VTS	Vitosha	3.28	53		Pn	16 44 27.2	+2.1
SKIA	Skiathos	3.29	117	P	Pn	16 44 26.7	+1.7
BOVS	Bovan	3.30	27	ePn	Pn	16 44 26.5	+1.4
OUR	Ouranopolis	3.30	95	P	Pn	16 44 27.1	+2.0
OUR	Ouranopolis	3.30	95	P	Pn	16 44 27.2	+2.1
RICI	Ricice	3.37	327	ePn	Pn	16 44 26.0	-0.2
RICI				Sn	Sn	16 45 05.8	-0.1
ZAPS	Zavoj	3.38	40	ePn	Pn	16 44 28.8	+2.4
DIVS	Divibare	3.40	4	ePn	Pn	16 44 26.8	+0.1
DIVS	Divibare	3.40	4	ePn	Pn	16 44 26.5	-0.2
HAPS	Han Pijesak,Bl	3.43	351	ePn	Pn	16 44 26.4	-0.6
HVAR	Hvar	3.46	317	ePn	Pn	16 44 26.4	-0.9
HVAR				Sn	Sn	16 45 06.0	-1.8
PROD	Prodromos	3.49	133	P	Pn	16 44 30.1	+2.3
TRUS	Trudelj	3.56	8	ePn	Pn	16 44 29.4	+0.6
MRKA	Markates	3.61	122	P	Pn	16 44 31.0	+1.5
ZAGS	Zajecar	3.64	31	ePn	Pn	16 44 30.8	+0.9
BLKB	Belogradchik	3.67	36	⇓S	Sn	16 45 15.7	+2.4
BLKB				AML	AML	16 45 52.4	
TEKS	Tekeris	3.85	358	ePn	Pb	16 44 43.7	+2.0
PAOL	Paolisi	3.89	277		Pn	16 44 34.0	+0.7
RZN	Rozhen	3.92	74	eP	Pn	16 44 36.9	+3.0
ITM	Ithomi	3.93	153	Pn	Pn	16 44 36.9	+3.0
VLX	Vlachokerasia	3.93	147	P	Pn	16 44 37.7	+3.7
ZIRJ	Zirje	4.21	316	i Pn	Pn	16 44 37.1	-0.5
ZIRJ				Sn	Sn	16 45 25.6	-0.8
MDVR	Moldovita	4.34	19	⇑P	Pn	16 44 40.3	+0.7
MDVR				AML	AML	16 46 25.1	
INTR	Introdacqua	4.54	289		Pn	16 44 43.2	+0.9
HERR	Herculane	4.64	25	⇓P	Pn	16 44 44.6	+1.0
HERR				AML	AML	16 46 18.8	
DUGI	Dugi Otok	4.75	315	ePn	Pn	16 44 44.5	-0.6
DUGI				Sn	Sn	16 45 39.8	+0.1
UDBI	Udbina	4.79	324	ePn	Pn	16 44 46.7	+0.9
ALN	Alexandroupoli	4.83	86	Pn	Pn	16 44 48.2	+2.0
AQU	L'Aquila	4.99	291		Pn	16 44 50.0	+1.5
BZS	Buzias	5.11	15	⇓P	Pn	16 44 50.4	+0.3
BZS				AML	AML	16 45 52.6	
GZR	Gura Zlata	5.21	25	⇑P	Pn	16 44 52.5	+1.1
GZR				AML	AML	16 46 13.4	
NVLJ	Novalja	5.24	319	ePn	Pn	16 44 51.3	-0.5
NVLJ				Sn	Sn	16 45 50.0	-1.8
COPA	Copaceanca	5.34	48	⇑P	Pn	16 44 54.0	+0.8
COPA				AML	AML	16 47 10.2	
NRCA	Norcia	5.35	296		Pn	16 44 53.4	0.0
RAFF	Raffo Rosso	5.41	232	Pn	Pn	16 44 54.3	+0.2
MORH	Mrgy, Hungar	5.56	353	ePn	Pn	16 44 51.9	-4.3
MORH	Mrgy, Hungar	5.56	353	ePn	Pn	16 44 57.0	+0.8
MORH				Sn	Sn	16 45 58.0	-1.7
SIRR	Siria	5.75	14	⇑P	Pn	16 44 58.9	+0.1
OZLJ	Ozalj	5.80	329	ePn	Pn	16 45 00.2	+0.7
OZLJ				Sn	Sn	16 46 02.6	-2.9
MURB	Monte Urbino	5.92	298		Pn	16 45 00.5	-0.7
CRES	Cresnjev	5.98	330	ePn	Pn	16 45 01.8	-0.2
BRJN	Brijuni	6.06	316	ePn	Pn	16 45 02.2	-0.8
BRJN				Sn	Sn	16 46 09.0	-2.8
VOIR		6.15	38	⇑P	Pn	16 45 06.0	+1.5
LATE	Laterza	6.20	291	Pn	Pn	16 45 06.1	+1.1
CEY	Cerknica	6.33	324	ePn	Pn	16 45 07.0	+0.2
TRI	Trieste	6.61	321	Pn	Pn	16 45 11.4	+0.8
MLR	Muntele Rosu	6.63	42	P	Pn	16 45 12.8	+1.8
	comp=E,0.5nm,0.3s,baz=309,slow=6.2,SNR=5.8						
MLR	Muntele Rosu	6.63	42	⇑P	Pn	16 45 12.4	+1.4
ISR	Istrita	6.70	46	⇑P	Pn	16 45 12.7	+0.8
DOPR	Dopca	6.71	36	⇓P	Pn	16 45 12.5	+0.5
SOKA	Soboth	6.86	332	ePn	Pn	16 45 15.0	+0.9
	comp=E,1.5nm,0.2s						
OBKA	Obir	6.90	329	Pn	Pn	16 45 18.0	+3.4
	comp=E,3.4nm,0.5s						
OBKA				Sn	Sn	16 46 33.8	+1.0
	comp=E,4.0nm,0.5s						
CASP	Castiglione de	6.92	290	Pn	Pn	16 45 16.9	+2.0
PLOR	Plostina	7.23	42	⇑P	Pn	16 45 20.5	+1.3
VRI	Vrincioaia	7.29	43	⇓P	Pn	16 45 21.2	+1.3
STAL	STALIGIAL	7.52	320	Pn	Pn	16 45 24.9	+1.7
VYHS	Vyhne	7.81	356	ePN	Pn	16 45 27.7	+0.5
KBA	Koelnbreinsper	7.84	326	i Pn	Pn	16 45 35.2	+7.5
	comp=E,2.3nm,0.4s						
KBA				i Sn	Sn	16 46 57.4	+1.2
	comp=E,4.9nm,0.6s						
CTI	Castel Tesino	7.92	315		Pn	16 45 28.5	-0.2
ABTA	Abfaltersbach	7.96	322	i Pn	Pn	16 45 30.8	+1.5
	comp=E,0.4nm,0.2s						
BURAR	Bucovina Array	7.97	28	⇑P	Pn	16 45 31.2	+1.7
MOA	Molln	8.13	333	i Pn	Pn	16 45 33.2	+1.7
	comp=E,1.1nm,0.4s						
WTTA	Wattenberg	8.75	321	i Pn	Pn	16 45 42.2	+2.0
	comp=E,0.5nm,0.2s						
WATA	Walderalm	8.83	321	i Pn	Pn	16 45 41.9	+0.7
	comp=E,0.2nm,0.1s						
VRAC	Vranov	8.88	347	LR	LR	16 49 38.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,66nm,19.1s,baz=102,slow=41						
SQTA	**Sankt Quirin**	**8.93**	**320**	*i* Pn	**Pn**	**16 45 43.6**	**+1.0**
	comp=E,1.9nm,0.3s						
FUORN	**Ofenpass-Fuorn**	**9.03**	**314**		**Pn**	**16 45 45.4**	**+1.3**
FETA	**Feichten**	**9.04**	**317**	*i* Pn	**Pn**	**16 45 46.5**	**+2.5**
	comp=E,3.2nm,0.7s						
FETA				*e*Sn	**Sn**	**16 47 27.9**	**+2.5**
	comp=E,2.2nm,0.7s						
MOTA	**Moosalm**	**9.07**	**320**	*i* Pn	**Pn**	**16 45 44.7**	**+0.2**
	comp=E,7.9nm,0.8s						
GERES	**GERESS Array B**	**9.18**	**334**	P	**Pn**	**16 45 45.1**	**-0.9**
	comp=E,0.1nm,0.3s,baz=151,slow=14,SNR=2.9						
DAVOX	**Davos/Dischmat**	**9.34**	**314**	P	**Pn**	**16 45 47.4**	**-0.8**
	comp=E,0.1nm,0.3s,baz=150,slow=20,SNR=2.1						
TUE	**Stuetta**	**9.46**	**311**	Pn	**Pn**	**16 45 51.4**	**+1.5**
KHC	**Kasperske Hory**	**9.47**	**335**	*e*PN	**Pn**	**16 45 50.3**	**+0.4**
KHC				*e*x	x	16 46 17.2	
BRTR	**Keskin Array B**	**10.72**	**91**	P	**Pn**	**16 46 10.2**	**+3.0**
	comp=E,0.1nm,0.3s,baz=268,slow=14,SNR=2.4						
CART	**Cartagena**	**16.34**	**266**	Pn	**P**	**16 47 25.4**	**-0.3**
CART				IAmb	IAmb	16 48 04.1	
	comp=Z,16nm,1.0s						
ESDC	**Sonseca Array**	**18.09**	**274**	P	**P**	**16 47 45.9**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=72,slow=10.0,SNR=3.4						
HFS	**Hagfors**	**19.81**	**351**	LR	LR	16 56 57.8	
	comp=Z,83nm,20.5s,baz=251,slow=40						
EKA	**Eskdalemuir Ar**	**21.02**	**322**	P	**P**	**16 48 14.6**	**-2.2**
	comp=Z,4.5nm,0.9s,baz=119,slow=12,SNR=4.8						
NOA	**NORSAR Array B**	**21.02**	**348**	LR	LR	16 57 46.4	
	comp=Z,35nm,19.2s,baz=15,slow=40						
FINES	**FINESS Array B**	**21.14**	**9**	P	**P**	**16 48 18.9**	**+0.8**
	comp=Z,3.8nm,1.1s,baz=191,slow=6.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**31.65**	**215**	P	**P**	**16 49 56.5**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=17,slow=9.4,SNR=3.0						
BRVK	**Borovoye**	**35.98**	**53**	P	**P**	**16 50 34.7**	**+0.7**
BRVK				IAmb	IAmb	16 50 36.4	
	comp=Z,3.9nm,0.8s						
ZAA0	**Zalesovo Array**	**44.53**	**50**	P	**P**	**16 51 44.7**	**-0.1**
ZALV	**Zalesovo Beam**	**44.53**	**50**	P	**P**	**16 51 44.7**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=282,slow=8.9,SNR=13						
MKAR	**Makanchi Array**	**44.58**	**60**	P	**P**	**16 51 45.1**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=282,slow=7.8,SNR=6.2						
DANN	**Dangsing**	**53.15**	**82**	*e*P	**P**	**16 52 50.9**	**-0.7**
	comp=Z,18nm,0.8s						
KOLN	**Koldanda**	**53.33**	**83**	*e*P	**P**	**16 52 51.7**	**-1.2**
PKIN	**Phulchoki**	**54.78**	**82**	*e*P	**P**	**16 53 02.9**	**-0.7**
PKI	**Pulchoki**	**54.80**	**82**	*e*P	**P**	**16 53 02.8**	**-0.9**
GUN	**Gumba**	**54.97**	**81**	*e*P	**P**	**16 53 04.4**	**-0.6**
	comp=Z,16nm,0.9s						
JIRN	**Jiri**	**55.34**	**82**	*e*P	**P**	**16 53 06.9**	**-0.8**
RAMN	**Ramite**	**56.02**	**82**	*e*P	**P**	**16 53 11.2**	**-1.3**
	comp=Z,8.0nm,0.7s						
TAPN	**Taplejung**	**56.64**	**81**	*e*P	**P**	**16 53 16.0**	**-1.0**
	comp=Z,11nm,1.0s						
ODAN	**Odare**	**56.66**	**82**	*e*P	**P**	**16 53 16.0**	**-1.1**
	comp=Z,9.1nm,0.9s						
SONM	**Songino Array**	**59.38**	**51**	P	**P**	**16 53 36.0**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=296,slow=9.3,SNR=6.5						
ULN	**Ulaanbaatar**	**59.75**	**51**	P	**P**	**16 53 39.4**	**+1.1**
ULN				IAmb	IAmb	16 53 40.3	
	comp=Z,1.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**70.19**	**82**	P	**P**	**16 54 44.9**	**-1.5**
	comp=Z,0.6nm,0.9s,baz=302,slow=7.3,SNR=4.9						
YKA	**Yellowknife Ar**	**70.80**	**339**	P	**P**	**16 54 48.6**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=37,slow=5.7,SNR=6.1						

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*UPA **04** 17:03:05.9±0.6, 5.°69N×77.°73W, h6km±4km, MW3.7*
*ISCJB **04** 17:03:07.6±0.5, 5.°80N±0.°04×77.°74W±0.°04, h19km, Error ellipse: s-maj=6.3km s-min=3.9km az=135.9*
*RSNC **04** 17:03:08.5±0.6, 5.°78N×77.°54W, h0km±7km, ML2.6*
ISC 04 17:03:08.3±1.2**, 5.°80N**±0.°04×**77.°69W**±0.°04**, h19**km**, n19, σ1.s52**/26**, 2C, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**1.34**	**355**	*e*P	**Pn**	**17 03 32.9**	**+0.8**
PLMC	**San Jos del P**	**1.66**	**122**	*e*P	**Pn**	**17 03 34.9**	**-1.6**
CBOC	**Ciudad Bolivar**	**1.67**	**88**	*e*P	**Pn**	**17 03 35.7**	**-1.1**
CBOC				*i*		17 04 05.1	
	comp=Z,82nm,0.5s						
MALC	**Bahia Malaga**	**1.81**	**169**	*e*P	**Pn**	**17 03 39.0**	**+0.5**
MALC				*e*S	**Sb**	**17 04 03.0**	**-0.2**
MALC				*i*		17 04 03.9	
	comp=Z,66nm,0.3s						
DBBC	**Dabeiba**	**1.91**	**51**	*e*P	**Pn**	**17 03 39.7**	**-0.2**
DBBC				*i*		17 04 16.4	
	comp=Z,69nm,0.5s						
HELC	**Santa Helena**	**2.19**	**80**⇑	*e*P	**Pn**	**17 03 43.2**	**-0.8**
HELC				*i*		17 04 19.6	
	comp=Z,28nm,0.6s						
HELC	**Santa Helena**	**2.19**	**80**	*i* P	**Pn**	**17 03 43.3**	**-0.8**
HELC				*e*S	**Sb**	**17 04 12.3**	**-2.1**
YOTC	**Yotoco, Valle**	**2.25**	**143**	*e*P	**Pn**	**17 03 44.8**	**+0.2**
YOTC				*i*		17 04 01.7	
	comp=Z,13nm,0.6s						
GUY2C	**Guyana, Caldas**	**2.38**	**104**	*e*P	**Pn**	**17 03 46.4**	**-0.5**
GUY2C				*i*		17 04 24.5	
	comp=Z,41nm,0.6s						
UPD2	**Meteti**	**2.75**	**353**	*e*P	**Pn**	**17 03 51.8**	**+0.4**
UPD2				*e*S	**Sn**	**17 04 26.0**	**+1.8**
NORC	**Norcasia**	**2.82**	**95**⇑	*e*P	**Pn**	**17 03 53.7**	**+1.3**
NORC				*e*S	**Sb**	**17 04 28.3**	**-4.0**
NORC				*i*		17 04 31.0	
	comp=Z,22nm,0.5s						
ORTC	**Ortega, Tolima**	**3.08**	**128**	*e*P	**Pn**	**17 03 57.2**	**+1.2**
AZU	**Azuero**	**3.24**	**308**	*e*P	**Pn**	**17 03 57.6**	**-0.6**
AZU				*e*S	**Sn**	**17 04 36.4**	**+0.1**
PTBC	**PUERTO BERRIO,**	**3.30**	**77**	*e*P	**Pn**	**17 03 60.0**	**+1.0**
PTBC				*i*		17 04 10.9	
	comp=Z,25nm,0.4s						
PRAC	**Prado**	**3.48**	**126**	*e*P	**Pn**	**17 04 03.5**	**+2.0**
CACAO	**El Cacao, Vera**	**3.50**	**296**	*e*P	**Pn**	**17 04 00.7**	**-1.1**
SPBC	**San Pablo de B**	**3.60**	**92**	*e*P	**Pn**	**17 04 05.1**	**+1.8**
BCIP	**Isla Barro Col**	**3.96**	**328**	*e*P	**Pn**	**17 04 07.5**	**-0.6**
BCIP				*e*S	**Sn**	**17 04 55.1**	**+1.0**
SJCC	**San Jacinto, C**	**4.77**	**31**	*e*P	**Pn**	**17 04 19.6**	**+0.3**
SJCC				*e*S	**Sn**	**17 05 17.2**	**+3.1**

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*SJA **04** 17:11:40.6±0.8, 21.°57S×66.°68W, h237km±6km, ML3.4, MW3.5*
*ISCJB **04** 17:11:42.4±0.5, 21.°65S±0.°04×66.°71W±0.°04, h200km, mb3.4/2, Error ellipse: s-maj=6.3km s-min=4.0km az=137.2*
*IDC **04** 17:11:42.7±6.9, 21.°33S×66.°22W, h220km±52km, mb3.3/2, mb1 3.6/3, mb1mx3.2/25, mbtmp3.9/3, Error ellipse: s-maj=82.0km s-min=49.5km az=26.0*
*GUC **04** 17:11:42.4±0.6, 21.°52S×67.°31W, h264km±9km, ML3.9*
ISC 04 17:11:41.2±0.8**, 21.°55S**±0.°06×**66.°74W**±0.°04**, h200**km**, n45, σ2.s32**/60**, 1C, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.30**	**119**	*i* P	**Pn**	**17 12 16.6**	**+2.9**
YJA				IAML		17 12 17.7	
	comp=Z,161nm,0.2s						
YJA				*e*S	**Sn**	**17 12 43.5**	**+4.6**
HJA	**Humahuaca**	**2.06**	**143**	*i* P	**Pn**	**17 12 23.8**	**+3.1**
HJA				IAML		17 12 24.2	
	comp=Z,235nm,0.7s						
HJA				*e*S	**Sn**	**17 12 55.1**	**+3.5**
LVC	**Limon Verde**	**2.27**	**242**	*i* P	**Pn**	**17 12 26.1**	**+3.1**
PB09	**IPOC Station P**	**2.34**	**264**	*i* S	**Sn**	**17 13 00.2**	**+3.8**
PB09				IAML		17 13 04.5	
	comp=N,176nm,0.1s						
PB09	**IPOC Station P**	**2.34**	**264**	*i* P	**Pn**	**17 12 26.7**	**+3.2**
PB09				IAML		17 13 03.4	
	comp=Z,56nm,0.4s						
PB01	**IPOC Station P**	**2.61**	**281**	*e*P	**Pn**	**17 12 28.9**	**+2.4**
PB01				*i* S	**Sn**	**17 13 04.4**	**+2.8**
PB01				IAML		17 13 06.3	
	comp=N,299nm,0.4s						
PB08	**IPOC Station P**	**2.66**	**301**	*e*P	**Pn**	**17 12 30.3**	**+3.0**
PB08				*i* S	**Sn**	**17 13 06.7**	**+3.6**
PB08				IAML		17 13 09.6	
	comp=N,106nm,0.3s						
PB08	**IPOC Station P**	**2.66**	**301**	*i* P	**Pn**	**17 12 30.6**	**+3.3**
PB03	**IPOC Station P**	**2.84**	**259**	*e*P	**Pn**	**17 12 31.4**	**+2.2**
PB03				*i* S	**Sn**	**17 13 08.1**	**+1.5**
PB03				IAML		17 13 09.1	
	comp=E,258nm,0.2s						
PB03	**IPOC Station P**	**2.84**	**259**	*i* P	**Pn**	**17 12 32.1**	**+2.9**
PB06	**IPOC Station P**	**2.86**	**246**	*e*P	**Pn**	**17 12 33.0**	**+3.6**
PB06				*i* S	**Sn**	**17 13 09.0**	**+1.9**
PB06	**IPOC Station P**	**2.86**	**246**	*i* P	**Pn**	**17 12 31.8**	**+2.4**
PB07	**IPOC Station P**	**2.93**	**266**⇑	*e*P	**Pn**	**17 12 32.4**	**+2.2**
PB07				*i* S	**Sn**	**17 13 09.7**	**+1.3**
PB07				IAML		17 13 11.2	
	comp=N,343nm,0.1s						
PB07	**IPOC Station P**	**2.93**	**266**	*i* P	**Pn**	**17 12 32.7**	**+2.5**
PB02	**IPOC Station P**	**2.95**	**274**	*e*P	**Pn**	**17 12 32.3**	**+1.9**
PB02				*i* S	**Sn**	**17 13 09.9**	**+1.2**
PB02	**IPOC Station P**	**2.95**	**274**	*i* P	**Pn**	**17 12 32.8**	**+2.4**
GO01	**Chusmiza**	**2.96**	**309**	*e*P	**Pn**	**17 12 33.5**	**+2.6**
GO01				*i* S	**Sn**	**17 13 13.2**	**+3.4**
PB15	**IPOC Station P**	**3.02**	**236**	*e*P	**Pn**	**17 12 34.0**	**+2.8**
PB15				*i* S	**Sn**	**17 13 13.6**	**+3.2**
PB15	**IPOC Station P**	**3.02**	**236**	*i* P	**Pn**	**17 12 34.0**	**+2.8**
AZAP	**Zapla**	**3.08**	**150**	*i* P	**Pn**	**17 12 33.9**	**+1.9**
AZAP				IAML		17 13 19.3	
	comp=Z,42nm,0.9s						
ASTB	**Santa Barbara**	**3.19**	**139**	*i* P	**Pn**	**17 12 34.9**	**+1.7**
PB04	**IPOC Station P**	**3.26**	**256**	*e*P	**Pn**	**17 12 35.8**	**+1.7**
PB04				*i* S	**Sn**	**17 13 16.1**	**+0.7**
PB04	**IPOC Station P**	**3.26**	**256**	*i* P	**Pn**	**17 12 36.3**	**+2.2**
PB11	**IPOC Station P**	**3.26**	**303**	*e*P	**Pn**	**17 12 35.8**	**+1.7**
PB11				*i* S	**Sn**	**17 13 17.1**	**+1.7**
PB11	**IPOC Station P**	**3.26**	**303**	*i* P	**Pn**	**17 12 36.1**	**+2.0**
TA01	**Diego Aracena**	**3.36**	**286**	*e*P	**Pn**	**17 12 36.3**	**+1.2**
TA01				*i* S	**Sn**	**17 13 17.1**	**-0.2**
PB05	**IPOC Station P**	**3.46**	**247**	*e*P	**Pn**	**17 12 38.3**	**+1.9**
PB05				*i* S	**Sn**	**17 13 20.1**	**+0.4**
PB05	**IPOC Station P**	**3.46**	**247**	*i* P	**Pn**	**17 12 38.6**	**+2.1**
PB10	**IPOC Station P**	**4.03**	**240**	*i* P	**Pn**	**17 12 44.9**	**+1.5**
PB14	**IPOC Station P**	**4.55**	**227**	*i* P	**Pn**	**17 12 51.4**	**+1.2**
FSA	**Cafayete**	**4.59**	**171**	*i* P	**Pn**	**17 12 51.0**	**+0.4**
LPAZ	**La Paz**	**5.40**	**346**	P	**Pn**	**17 13 03.0**	**+1.6**
	comp=Z,3.7nm,0.3s,baz=150,slow=8.4,SNR=58						
LPAZ				S	**Sn**	**17 14 05.7**	**+1.2**
	baz=209,slow=16,SNR=1.2						
ACLC	**CERRO LA CRUZ**	**7.84**	**181**	*i* P	**Pn**	**17 13 32.4**	**-0.1**
APLL	**PUNTA DE LOS L**	**8.81**	**179**	*i* P	**Pn**	**17 13 43.7**	**-1.3**
AMOG	**MOGNA**	**9.48**	**189**	*i* P	**Pn**	**17 13 52.9**	**-0.8**
RTLL	**Cerro Villicun**	**9.86**	**189**	*i* P	**Pn**	**17 13 57.5**	**-1.1**
TCA	**Tanti**	**9.93**	**169**	*i* P	**Pn**	**17 13 58.7**	**-0.9**
CFA	**Coronel Fontan**	**10.10**	**187**	*i* P	**Pn**	**17 14 00.7**	**-1.0**
RTLS	**Leoncito**	**10.46**	**192**	*i* P	**Pn**	**17 14 06.3**	**-0.3**
ACAN	**Cantantal**	**10.69**	**182**	*i* P	**Pn**	**17 14 07.6**	**-1.7**
MRA	**San Martin**	**10.86**	**175**	*i* P	**Pn**	**17 14 10.2**	**-1.4**
TORD	**Torodi Ar. Bea**	**75.48**	**69**	P	**P**	**17 23 00.1**	**-3.7**
	comp=Z,0.3nm,0.4s,baz=244,slow=5.6,SNR=4.1						
YKA	**Yellowknife Ar**	**91.92**	**340**	P	**P**	**17 24 25.5**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=129,slow=4.8,SNR=5.7						
ASAR	**Alice Springs**	**130.76**	**205**	PKP	**PKPdf**	**17 30 27.9**	**-1.5**
	comp=Z,0.5nm,1.1s,baz=144,slow=1.5,SNR=6.6						
MKAR	**Makanchi Array**	**144.47**	**37**	PKP	**PKPab**	**17 30 51.6**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=313,slow=3.5,SNR=6.5						

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*VAO **04** 17:24:39.7±0.7, 23.°08S×69.°27W, h110km±5km, mb4.3*
*ISCJB **04** 17:24:43.0±0.3, 22.°65S±0.°03×68.°87W±0.°04, h114km±4km, mb3.9/3, Error ellipse: s-maj=6.9km s-min=5.5km az=164.6*
*IDC **04** 17:24:43.4±0.6, 22.°67S×68.°66W, h91km±7km, mb3.7/4, mb1 3.7/8, mb1mx3.5/31, mbtmp3.9/8, Error ellipse: s-maj=23.1km s-min=20.2km az=108.0*
*GUC **04** 17:24:43.6±0.6, 22.°65S×68.°90W, h105km±4km, ML4.0*
*SJA **04** 17:24:44.0±1.1, 22.°65S×68.°86W, h95km±4km, ML4.0, MW4.0*
ISC 04 17:24:43.7±0.7**, 22.°68S**±0.°04×**68.°83W**±0.°05**, h100**km±6km**, n68, σ1.s22**/83**, mb4.0**/3**, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.10**	**312**	LR	LR	17 24 46.1	
	comp=Z,54nm,18.4s,baz=64,slow=12						
LVC				P	**Pn**	**17 24 58.2**	**+0.1**
	1μm,0.3s,baz=66,slow=5.0,SNR=7787						
LVC				S	**Sn**	**17 25 08.5**	**-0.3**
	2μm,0.3s,baz=319,slow=19,SNR=320						
LVC	**Limon Verde**	**0.10**	**312**	*e*P	**Pn**	**17 24 58.3**	**+0.2**
LVC	**Limon Verde**	**0.10**	**312**	*i* P	**Pn**	**17 24 58.0**	**-0.1**
LVC				*e*S	**Sn**	**17 25 08.4**	**-0.5**
LVC				IAML		17 25 09.8	
	comp=Z,4μm,0.2s						
PB06	**IPOC Station P**	**0.68**	**267**	*e*P	**Pn**	**17 25 01.4**	**+0.3**
PB06				*i* S	**Sn**	**17 25 15.1**	**+0.9**
PB06				IAML		17 25 18.1	
	comp=E,3μm,0.3s						
PB06	**IPOC Station P**	**0.68**	**267**	*i* P	**Pn**	**17 25 01.5**	**+0.3**
PB06				*e*S	**Sn**	**17 25 14.7**	**+0.5**
PB15	**IPOC Station P**	**0.79**	**228**	*e*P	**Pn**	**17 25 03.0**	**+0.8**
PB15				*i* S	**Sn**	**17 25 17.3**	**+1.2**
PB15	**IPOC Station P**	**0.79**	**228**	*i* P	**Pn**	**17 25 03.1**	**+0.8**
PB15				*e*S	**Sn**	**17 25 17.5**	**+1.4**
PB09	**IPOC Station P**	**0.95**	**336**	*e*P	**Pn**	**17 25 04.5**	**+0.7**
PB09				*i* S	**Sn**	**17 25 19.8**	**+0.9**
PB09				IAML		17 25 21.5	
	comp=E,5μm,0.5s						
PB09	**IPOC Station P**	**0.95**	**336**	*i* P	**Pn**	**17 25 04.7**	**+0.9**
PB09				*e*S	**Sn**	**17 25 19.9**	**+1.0**
PB09				IAML		17 25 21.4	
	comp=Z,6μm,0.6s						
PB03	**IPOC Station P**	**1.06**	**306**	*e*P	**Pn**	**17 25 05.2**	**+0.3**
PB03				*i* S	**Sn**	**17 25 21.1**	**+0.3**
PB03	**IPOC Station P**	**1.06**	**306**	*i* P	**Pn**	**17 25 05.3**	**+0.3**
PB04	**IPOC Station P**	**1.26**	**285**	*e*P	**Pn**	**17 25 07.4**	**+0.1**
PB04				*i* S	**Sn**	**17 25 25.7**	**+0.6**
PB04	**IPOC Station P**	**1.26**	**285**	*i* P	**Pn**	**17 25 07.6**	**+0.3**
PB04				IAML		17 25 30.0	
	comp=Z,1μm,0.3s						
PB05	**IPOC Station P**	**1.28**	**262**	*e*P	**Pn**	**17 25 07.7**	**+0.3**
PB05				*i* S	**Sn**	**17 25 25.9**	**+0.6**
PB05	**IPOC Station P**	**1.28**	**262**	*i* P	**Pn**	**17 25 07.8**	**+0.4**
PB07	**IPOC Station P**	**1.36**	**314**	*e*P	**Pn**	**17 25 08.9**	**+0.5**
PB07				*i* S	**Sn**	**17 25 27.5**	**+0.4**
PB07				IAML		17 25 28.7	
	comp=E,4μm,0.3s						
PB07	**IPOC Station P**	**1.36**	**314**	*i* P	**Pn**	**17 25 08.9**	**+0.5**
PB02	**IPOC Station P**	**1.67**	**324**	*e*P	**Pn**	**17 25 12.4**	**+0.2**
PB02				*i* S	**Sn**	**17 25 34.1**	**+0.2**
PB02				IAML		17 25 38.5	
	comp=E,4μm,0.2s						
PB02	**IPOC Station P**	**1.67**	**324**	*i* P	**Pn**	**17 25 12.7**	**+0.5**
PB01	**IPOC Station P**	**1.73**	**339**	*e*P	**Pn**	**17 25 13.3**	**+0.3**
PB01				*i* S	**Sn**	**17 25 35.7**	**+0.4**
PB01				IAML		17 25 37.0	
	comp=E,3μm,0.6s						
PB10	**IPOC Station P**	**1.79**	**242**	*e*P	**Pn**	**17 25 13.4**	**-0.2**
PB10				*i* S	**Sn**	**17 25 35.6**	**-0.8**
PB10				IAML		17 25 37.2	
	comp=E,664nm,0.3s						
PB10	**IPOC Station P**	**1.79**	**242**	*i* P	**Pn**	**17 25 14.5**	**+0.9**
PB14	**IPOC Station P**	**2.42**	**216**	*i* P	**Pn**	**17 25 23.7**	**+1.7**
TA01	**Diego Aracena**	**2.44**	**329**	*e*P	**Pn**	**17 25 21.3**	**-0.8**
TA01				*i* S	**Sn**	**17 25 51.3**	**-0.3**
PB11	**IPOC Station P**	**3.00**	**345**	*i* P	**Pn**	**17 25 29.0**	**-0.6**
YJA	**Yavi**	**3.11**	**81**	*i* P	**Pn**	**17 25 33.9**	**+2.5**
HJA	**Humahuaca**	**3.20**	**100**	*i* P	**Pn**	**17 25 34.9**	**+2.4**
SLA	**San Lorenzo**	**3.67**	**124**	*i* P	**Pn**	**17 25 41.6**	**+3.0**
AZAP	**Zapla**	**3.79**	**115**	*i* P	**Pn**	**17 25 42.1**	**+1.9**
AHML	**Horco Molle**	**5.18**	**143**	*i* P	**Pn**	**17 26 01.5**	**+2.6**
LPAZ	**La Paz**	**6.39**	**6**	P	**Pn**	**17 26 17.0**	**+1.1**
	comp=E,0.8nm,0.3s,baz=171,slow=7.0,SNR=12						
LPAZ	**La Paz**	**6.39**	**6**	*e*P	**Pn**	**17 26 17.9**	**+2.0**
LPAZ	**La Paz**	**6.39**	**6**	*e*P	**Pn**	**17 26 17.9**	**+2.0**
LPAZ	**La Paz**	**6.39**	**6**	*i* P	**Pn**	**17 26 17.8**	**+2.0**
CFA	**Coronel Fontan**	**8.91**	**177**	P	**Pn**	**17 26 49.1**	**-0.5**
	comp=E,0.8nm,0.3s,baz=353,slow=15,SNR=4.8						
CFA				S	**Sn**	**17 28 24.1**	**-4.2**
	comp=E,0.3nm,0.3s,baz=180,slow=20,SNR=1.8						
SIV	**San Ignacio**	**9.89**	**49**	P	**Pn**	**17 27 00.6**	**-2.4**
	comp=E,1.2nm,0.3s,baz=244,slow=11,SNR=33						
CPUP	**Villa Florida**	**11.09**	**111**	P	**Pn**	**17 27 16.9**	**-2.2**
	baz=180,slow=20,SNR=2.9						
CPUP	**Villa Florida**	**11.09**	**111**	*e*P	**Pn**	**17 27 17.3**	**-1.9**
CPUP	**Villa Florida**	**11.09**	**111**	*e*P	**Pn**	**17 27 17.3**	**-1.9**
AQDB	**Aquidauana**	**12.41**	**82**	*e*P	**Pn**	**17 27 38.8**	**+1.9**
AQDB	**Aquidauana**	**12.41**	**82**	*e*P	**Pn**	**17 27 38.8**	**+1.9**
TRCB	**Terra Rica**	**14.95**	**94**	*e*P	**Pn**	**17 28 10.1**	**+0.2**
TRCB	**Terra Rica**	**14.95**	**94**	*e*P	**Pn**	**17 28 10.1**	**+0.2**
CLDB	**Colider**	**17.12**	**49**	*e*P	**Pn**	**17 28 36.1**	**-0.7**
CLDB	**Colider**	**17.12**	**49**	*e*P	**Pn**	**17 28 36.1**	**-0.7**
ITRB	**Iturama**	**17.48**	**84**	*e*P	**Pn**	**17 28 42.3**	**+1.1**
ITRB	**Iturama**	**17.48**	**84**	*e*P	**Pn**	**17 28 42.3**	**+1.1**
ARAG	**Araguaiana, MT**	**17.50**	**70**	*e*P	**Pn**	**17 28 41.9**	**+0.4**
ARAG	**Araguaiana, MT**	**17.50**	**70**	*e*P	**Pn**	**17 28 41.9**	**+0.4**
FRTB	**Fartura**	**17.75**	**96**	*e*P	**P**	**17 28 43.5**	**-0.5**
FRTB	**Fartura**	**17.75**	**96**	*e*P	**P**	**17 28 43.5**	**-0.5**
BB19B	**Bebedouro**	**18.91**	**89**	*e*P	**P**	**17 28 56.2**	**-0.6**
BB19B	**Bebedouro**	**18.91**	**89**	*e*P	**P**	**17 28 56.2**	**-0.6**
SPB	**Sao Paulo**	**19.70**	**97**	*e*P	**P**	**17 29 04.2**	**-1.1**
SPB	**Sao Paulo**	**19.70**	**97**	*e*P	**P**	**17 29 04.2**	**-1.1**
IPMB	**Ipameri, GO**	**19.89**	**80**	*e*P	**P**	**17 29 07.5**	**+0.2**
IPMB	**Ipameri, GO**	**19.89**	**80**	*e*P	**P**	**17 29 07.5**	**+0.2**
VAO	**Valinhos**	**20.16**	**95**	*e*P	**P**	**17 29 09.3**	**-0.9**
VAO	**Valinhos**	**20.16**	**95**	*e*P	**P**	**17 29 09.3**	**-0.9**
BDFB	**Brasilia**	**20.86**	**74**	P	**P**	**17 29 16.6**	**-1.3**
	comp=E,2.2nm,0.3s,baz=220,slow=7.9,SNR=4.1						
PMSA	**Palmer Station**	**42.20**	**177**	*e*P	P	17 32 17.7	-8.6
PMSA	**Palmer Station**	**42.20**	**177**	*e*P	P	17 32 17.7	-8.6
SNAA	**Sanae**	**61.15**	**161**	P	**P**	**17 34 48.0**	**+0.7**
	comp=E,0.9nm,0.6s,baz=253,slow=11,SNR=4.0						
TORD	**Torodi Ar. Bea**	**77.68**	**70**	P	**P**	**17 36 29.4**	**-0.5**
	comp=E,0.7nm,0.4s,baz=255,slow=5.7,SNR=10						
YKA	**Yellowknife Ar**	**92.31**	**341**	P	**P**	**17 37 42.8**	**+0.6**
	comp=E,0.6nm,0.7s,baz=135,slow=4.4,SNR=7.9						
ASAR	**Alice Springs**	**128.91**	**207**	PKP	**PKiKP**	**17 43 40.8**	**-0.3**
	comp=E,0.4nm,0.7s,baz=154,slow=2.1,SNR=7.0						
ZALV	**Zalesovo Beam**	**142.98**	**26**	PKP	**PKPdf**	**17 44 06.1**	**+0.6**
	comp=E,0.6nm,0.4s,baz=318,slow=1.9,SNR=3.1						
MKAR	**Makanchi Array**	**146.53**	**37**	PKPbc	**PKPbc**	**17 44 12.9**	**-0.5**
	comp=E,0.9nm,0.7s,baz=324,slow=2.1,SNR=5.1						

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*ISCJB **04** 17:36:55.5±0.4, 21.°00S±0.°06×178.°67W±0.°08, h579km, mb3.8/12, Error ellipse: s-maj=10.7km s-min=7.1km az=33.3*
*NEIC **04** 17:36:55.4±1.1, 21.°0S±0.°1×178.°6W±0.°1, h566km±7km, mb4.7/32*
*IDC **04** 17:36:55.4±3.4, 20.°99S×178.°57W, h560km±39km, mb3.4/12, mb1 3.5/14, mb1mx3.3/35, mbtmp4.3/14, Error ellipse: s-maj=19.7km s-min=19.2km az=6.0*
ISC 04 17:36:57.0±0.5**, 20.°91S**±0.°10×**178.°71W**±0.°10**, h579**km**, n78, σ0.s89**/78**, mb4.5**/27**, 11C-10D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.40**	**315**	P	**P**	**17 38 22.9**	**-1.2**
DZM	**Mont Dzumac**	**13.87**	**263**	P	**P**	**17 39 54.1**	**-0.9**
	0.2nm,0.3s,baz=120,slow=16,SNR=5.2						
DZM	**Mont Dzumac**	**13.87**	**263**	P	**P**	**17 39 54.3**	**-0.6**
URZ	**Urewera**	**17.66**	**191**	P	**P**	**17 40 27.3**	**-2.9**
	1.0nm,0.3s,baz=277,slow=6.9,SNR=6.2						
URZ	**Urewera**	**17.66**	**191**	P	**P**	**17 40 27.3**	**-2.9**
KNTN	**Kanton**	**19.27**	**22**	P	**P**	**17 40 44.2**	**-1.1**
BFZ	**Birch Farm**	**20.17**	**191**	P	**P**	**17 40 51.8**	**-1.3**
QRZ	**Quartz Range**	**21.20**	**199**	P	**P**	**17 41 01.8**	**-0.6**
NNZ	**Nelson**	**21.32**	**197**	P	**P**	**17 41 01.8**	**-1.7**
THZ	**Tophouse**	**21.96**	**197**	P	**P**	**17 41 08.4**	**-0.8**
THZ				IAmb	IAmb	17 41 08.5	
	comp=Z,22nm,1.2s						
KHZ	**Kahutara**	**22.41**	**195**	P	**P**	**17 41 11.7**	**-1.4**
KHZ				IAmb	IAmb	17 41 49.5	
	comp=Z,66nm,1.6s						
EIDS	**Eidsvold**	**28.10**	**255**	P	**P**	**17 42 02.2**	**-1.3**
EIDS				IAmb	IAmb	17 42 45.0	
	comp=Z,39nm,1.9s						
ARMA	**Armidale**	**28.29**	**244**	P	**P**	**17 42 04.1**	**-1.1**
ARMA				IAmb	IAmb	17 42 32.3	
	comp=Z,39nm,1.6s						
PMG	**Port Moresby**	**34.79**	**284**	P	**P**	**17 43 01.2**	**+0.6**
	comp=Z,10nm,1.0s,baz=96,slow=7.0,SNR=5.8						
PMG	**Port Moresby**	**34.79**	**284**	P	**P**	**17 43 01.0**	**+0.4**
PMG				IAmb	IAmb	17 43 12.0	
	comp=Z,17nm,1.1s						
STKA	**Stephens Creek**	**37.01**	**245**	P	**P**	**17 43 18.9**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=90,slow=14,SNR=6.0						
STKA	**Stephens Creek**	**37.01**	**245**	P	**P**	**17 43 19.0**	**+0.3**
BBOO	**Buckleboo**	**41.77**	**244**	P	**P**	**17 43 56.4**	**-0.4**
JAY	**Jayapura**	**43.55**	**289**	P	**P**	**17 44 11.9**	**+1.0**
	comp=Z,13nm,0.6s,baz=114,slow=6.5,SNR=8.2						
WR0	**Warramunga Arr**	**43.70**	**263**	P	**P**	**17 44 11.9**	**-0.1**
WR0				IAmb	IAmb	17 44 15.1	
	comp=Z,20nm,0.8s						
AS31	**Alice Springs**	**43.78**	**257**	P	**P**	**17 44 13.1**	**+0.5**
ASAR	**Alice Springs**	**43.78**	**257**	P	**P**	**17 44 13.1**	**+0.4**
	comp=Z,4.4nm,0.5s,baz=94,slow=7.8,SNR=159						
ASAR				PcP	**PcP**	**17 45 46.6**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=103,slow=3.8,SNR=14						
WB0	**Warramunga Arr**	**43.87**	**263**	P	**P**	**17 44 13.2**	**-0.2**
WB2	**Warramunga Arr**	**43.88**	**263**	P	**P**	**17 44 13.3**	**-0.2**
WB2				IAmb	IAmb	17 44 37.6	
	comp=Z,28nm,2.0s						
WRAB	**Tennant Creek**	**43.88**	**263**	P	**P**	**17 44 13.3**	**-0.2**
FORT	**Forrest**	**48.52**	**247**	P	**P**	**17 44 48.3**	**0.0**
FORT				IAmb	IAmb	17 46 10.8	
	comp=Z,37nm,1.1s						
FITZ	**Fitzroy Crossi**	**52.32**	**263**	P	**P**	**17 45 16.7**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=79,slow=5.7,SNR=12						
SBA	**Scott Base**	**57.42**	**184**	P	**P**	**17 45 53.4**	**+2.7**
VNDA	**Vanda**	**57.44**	**185**	P	**P**	**17 45 51.3**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=5.2,slow=8.6,SNR=5.7						
VNDA	**Vanda**	**57.44**	**185**	P	**P**	**17 45 51.9**	**+1.1**
MORW	**Morawa**	**59.06**	**248**	P	**P**	**17 46 02.8**	**+0.2**
MORW				IAmb	IAmb	17 46 38.1	
	comp=Z,58nm,1.6s						
GIRL	**Giralia**	**61.80**	**255**	P	**P**	**17 46 22.3**	**+1.6**
QSPA	**South Pole Qui**	**69.16**	**180**	P	**P**	**17 47 06.4**	**+0.4**
SSLB	**Suanglung**	**73.65**	**304**	P	**P**	**17 47 32.1**	**-0.7**
PETK	**Petropavlovsk-**	**76.50**	**346**	P	**P**	**17 47 48.6**	**+0.7**
	comp=Z,7.1nm,1.0s,baz=121,slow=7.1,SNR=5.5						
KMRM	**Mail Ridge**	**79.49**	**40**	P	**P**	**17 48 02.8**	**-1.6**
KMRM				IAmb	IAmb	17 50 45.8	
	comp=Z,137nm,1.8s						
NVAR	**Mina Array Bea**	**81.78**	**44**	P	**P**	**17 48 16.9**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=214,slow=9.2,SNR=6.4						
CTGM	**Chitina Glacie**	**86.98**	**17**	P	**P**	**17 48 40.8**	**-0.4**
TRF	**Thorofare Moun**	**86.99**	**12**	P	**P**	**17 48 40.5**	**-0.7**
TRF				IAmb	IAmb	17 51 34.0	
	comp=Z,43nm,2.0s						
RND	**Reindeer**	**87.25**	**13**	P	**P**	**17 48 41.9**	**-0.4**
RND				IAmb	IAmb	17 52 03.7	
	comp=Z,26nm,1.9s						
TXAR	**Lajitas Array**	**87.84**	**58**	P	**P**	**17 48 46.4**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=220,slow=7.4,SNR=6.3						
MLY	**Manley**	**88.33**	**11**	P	**P**	**17 48 46.6**	**-0.6**
MLY				IAmb	IAmb	17 50 09.5	
	comp=Z,20nm,2.0s						
WRH	**Wood River Hil**	**88.35**	**13**	P	**P**	**17 48 47.0**	**-0.3**
WRH				IAmb	IAmb	17 48 47.6	
	comp=Z,5.2nm,1.0s						
HDA	**Harding Lake**	**88.53**	**13**	P	**P**	**17 48 48.2**	**0.0**
HDA				IAmb	IAmb	17 50 48.8	
	comp=Z,19nm,1.8s						
CCB	**Clear Creek Bu**	**88.56**	**13**	P	**P**	**17 48 47.9**	**-0.4**
CCB				IAmb	IAmb	17 51 22.2	
	comp=Z,13nm,1.7s						
ILAR	**Eielson Array**	**88.86**	**13**	P	**P**	**17 48 49.1**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=221,slow=5.3,SNR=7.6						
CMAR	**Chiang Mai Arr**	**89.63**	**290**	P	**P**	**17 48 56.5**	**+2.1**
	comp=Z,1.8nm,0.8s,baz=127,slow=3.0,SNR=9.6						
PDAR	**Pinedale Array**	**89.72**	**43**	P	**P**	**17 48 54.6**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=224,slow=4.6,SNR=8.9						
ZALV	**Zalesovo Beam**	**110.40**	**321**	PKiKP	**PKiKP**	**17 54 23.2**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=129,slow=3.9,SNR=2.2						
ARU	**Arti**	**125.16**	**325**		**PKPdf**	**17 54 51.8**	**-0.1**
ARCES	**ARCESS Array B**	**129.20**	**349**	PKP	**PKPdf**	**17 54 59.1**	**-0.2**
	comp=Z,5.0nm,0.9s,baz=66,slow=4.1,SNR=6.3						
AKASG	**Malin Array Be**	**143.05**	**330**	PKP	PKPab	17 55 22.9	-0.3
	comp=Z,5.3nm,0.6s,baz=43,slow=4.6,SNR=33						
AKBB	**Malin Array Si**	**143.05**	**330**		PKPab	17 55 22.9	-0.3
SORM	**Soroca**	**145.21**	**328**	⇑P	**PKPbc**	**17 55 30.0**	**-0.2**
BR131	**Keskin Array S**	**146.62**	**311**		**PKPbc**	**17 55 34.9**	**+0.2**
BRTR	**Keskin Array B**	**146.62**	**311**	PKPbc	**PKPbc**	**17 55 34.8**	**0.0**
	comp=Z,1.6nm,0.6s,baz=132,slow=3.9,SNR=9.1						
TLCR		**146.85**	**323**	⇑P	**PKPbc**	**17 55 35.4**	**+0.5**
BURAR	**Bucovina Array**	**147.09**	**330**	⇑P	**PKiKP**	**17 55 37.5**	**0.0**
BIZ	**Bicaz**	**147.13**	**328**	⇑P	**PKiKP**	**17 55 36.8**	**-0.7**
CFR	**Carcaliu**	**147.23**	**324**	⇓P	**PKPbc**	**17 55 36.0**	**+0.1**
TOPG	**Topolog**	**147.28**	**323**	⇓P	**PKPbc**	**17 55 36.5**	**+0.4**
VRI	**Vrincioaia**	**147.54**	**326**	⇑P	**PKPbc**	**17 55 36.7**	**-0.1**
TLB	**Topalu**	**147.65**	**323**	⇓P	**PKiKP**	**17 55 37.9**	**-0.6**
TRPA	**Tarpa**	**147.91**	**333**	⇓P	**PKPbc**	**17 55 37.7**	**+0.1**
DOPR	**Dopca**	**148.16**	**327**	⇓P	**PKiKP**	**17 55 39.2**	**-0.4**
MLR	**Muntele Rosu**	**148.20**	**326**	⇓P	**PKiKP**	**17 55 39.8**	**-0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CLL	**Collm**	**148.31**	**346**	*e*PKPbc	**PKPbc**	**17 55 39.0**	**+0.5**
CLL				*e*PKPab	**PKPab**	**17 55 44.0**	**+0.1**
VOIR		**148.70**	**327**	⇑P	**PKiKP**	**17 55 40.6**	**-0.2**
DRGR		**148.85**	**331**	⇑P	**PKPbc**	**17 55 40.4**	**+0.3**
ARR	**Arges**	**148.96**	**327**	⇓P	**PKPbc**	**17 55 40.8**	**+0.4**
SIRR	**Siria**	**149.72**	**331**	⇑P	**PKiKP**	**17 55 42.6**	**-0.2**
GZR	**Gura Zlata**	**149.86**	**329**	⇓P	**PKPbc**	**17 55 42.4**	**-0.2**
BZS	**Buzias**	**150.24**	**331**	⇑P	**PKPbc**	**17 55 43.1**	**-0.2**
PLVB	**Pleven**	**150.31**	**324**	⇓P	**PKPbc**	**17 55 43.5**	**-0.1**
HERR	**Herculane**	**150.41**	**329**	⇑P	**PKPbc**	**17 55 43.3**	**-0.4**
GERES	**GERESS Array B**	**150.41**	**343**	PKPbc	**PKPbc**	**17 55 43.6**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=29,slow=3.0,SNR=4.9						
MDVR	**Moldovita**	**150.82**	**329**	⇑P	**PKPbc**	**17 55 44.9**	**+0.1**
VTS	**Vitosha**	**151.59**	**325**	⇓P	**PKPdf**	**17 55 40.6**	**+0.8**

MOS ***04*** *17:43:22.7±1.0, 0.°06N×123.°41E, h136km, mb5.1/28, Error ellipse: s-maj=8.6km s-min=4.9km az=107.9*

NEIC ***04*** *17:43:24.4±1.8, 0.°02N±0.°07×123.°55E±0.°07, h137km±2km, mb5.2/164*

ISCJB ***04*** *17:43:24.7±0.4, 0.°02S±0.°02×123.°54E±0.°02, h154km±3km, mb5.0/115, Error ellipse: s-maj=4.0km s-min=2.8km az=154.7*

IDC ***04*** *17:43:24.7±1.0, 0.°07N×123.°41E, h139km±8km, mb4.6/29, mb1 4.6/33, mb1mx4.6/39, mbtmp5.0/33, MS3.6/19, Ms1 3.6/19, ms1mx3.5/26, Error ellipse: s-maj=9.9km s-min=7.4km az=70.0*

BJI ***04*** *17:43:24.0±0.0, 0.°05N×123.°53E, h131km, mb5.2/70, mB5.1/46*

KLM ***04*** *17:43:26.0, 0.°01S×123.°70E, h155km, mb5.2*

GCMT ***04*** *17:43:26.4±0.1, 0.°04S±0.°01×123.°62E±0.°01, h139km±1km, MW5.1/135, Moment Tensor Solution. s88,c112; s135,c213; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.98±.11; $M_{\theta\theta}$-2.26±.13; $M_{\phi\phi}$0.28±.13; $M_{r\theta}$5.63±.08; $M_{\theta\phi}$0.70±.14; $M_{\phi r}$-0.52±.09; Best double couple: $M_0$6.07400×10^{16} NP1:ϕ_s96.00000°, δ79.00000°, λ86.00000°. NP2:ϕ_s297.00000°, δ11.00000°, λ111.00000°. Principal axes: T 5.8760, Plg55.0000°, Azm0.0000°; N 0.3970, Plg4.0000°, Azm96.0000°; P -6.2720, Plg34.0000°, Azm189.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 17:43:24.8±0.4**, 0.°02N**±0.°03**×123.°54E**±0.°04**, h141**km±3km**, h142**km**:pP-P, n520,** σ**1.§43**/575**, mb5.2**/174**, 27C-12D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.31**	**216**	P	**Pn**	**17 43 50.2**	**-1.4**
	47μm,1.2s,748μm81μm						
LUWI	**Luwuk**	**1.31**	**216**		**Pn**	**17 43 50.7**	**-1.0**
SANI	**Sanana**	**3.20**	**130**	P	**Pn**	**17 44 10.6**	**-3.8**
	2μm,0.7s,120μm17μm						
TNTI	**Ternate**	**3.90**	**79**	P	**Pn**	**17 44 22.0**	**-1.5**
TNTI	**Ternate**	**3.90**	**79**		**Pn**	**17 44 22.0**	**-1.5**
GSPH	**General Santos**	**6.19**	**13**	⇓P	Pn	17 45 00.1	+6.0
KAPI	**Kappang**	**6.27**	**217**	P	**Pn**	**17 44 57.3**	**+2.2**
	SNR=26						
KAPI	**Kappang**	**6.27**	**217**	P	**Pn**	**17 44 56.0**	**+0.9**
	64nm,0.3s,baz=2.1,slow=7.4,SNR=76						
KAPI				S	**Sn**	**17 46 05.1**	**-0.6**
	18nm,0.3s,baz=169,slow=22,SNR=10						
KAPI				LR	LR	17 47 01.6	
	comp=Z,1μm,21.2s,baz=115,slow=35						
KAPI	**Kappang**	**6.27**	**217**		**Pn**	**17 44 56.4**	**+1.3**
DDMP	**Don Marcelino,**	**6.42**	**20**	P	**Pn**	**17 44 58.6**	**+1.5**
BKB	**Balikpapan**	**6.76**	**259**		**Pn**	**17 45 03.3**	**+1.6**
KCP	**Kidapawan**	**7.11**	**13**	⇓P	**Pn**	**17 45 10.2**	**+3.7**
KCP				S	**Sn**	**17 46 22.6**	**-3.4**
DAV	**Davao City (W)**	**7.29**	**16**	P	Pn	17 45 14.7	+5.9
	62nm,0.3s,baz=233,slow=20,SNR=35						
DAV	**Davao City (W)**	**7.29**	**16**	⇑*e*P	**Pn**	**17 45 11.8**	**+3.0**
DAV	**Davao City (W)**	**7.29**	**16**		**Pn**	**17 45 13.2**	**+4.4**
MATI	**Mati**	**7.39**	**21**	P	**Pn**	**17 45 09.6**	**-0.6**
PAGZ	**Pagadian**	**7.78**	**359**	P	**Pn**	**17 45 17.1**	**+1.8**
SIJI	**Sorong**	**7.78**	**97**	P	**Pn**	**17 45 15.2**	**-0.1**
	8.5nm,0.3s,baz=296,slow=8.8,SNR=50						
SIJI				S	**Sn**	**17 46 45.5**	**+3.5**
	2.2nm,0.3s,baz=197,slow=19,SNR=3.7						
SIJI				LR	LR	17 49 28.8	
	comp=Z,210nm,18.8s,baz=277,slow=46						
CGP	**Cagayan de Oro**	**8.46**	**8**	⇓P	Pn	17 45 31.2	+6.8
MMRI	**Maumere**	**8.70**	**189**		**Pn**	**17 45 26.7**	**-0.9**
FAKI	**Fak Fak**	**9.18**	**109**		**Pn**	**17 45 31.7**	**-2.5**
KKM	**Kota Kinabalu**	**9.45**	**309**	Pn	**Pn**	**17 45 40.4**	**+2.6**
SOEI	**Soe**	**9.74**	**176**		**Pn**	**17 45 43.0**	**+1.3**
BATP	**Bataraza**	**10.43**	**327**	P	**Pn**	**17 45 53.1**	**+2.4**
GUIM	**Jordan**	**10.58**	**355**	P	**Pn**	**17 45 56.5**	**+3.7**
SAUI	**Saumlaki**	**11.09**	**136**		**Pn**	**17 45 58.4**	**-1.2**
SBUM	**Sibu**	**11.57**	**282**	Pn	**Pn**	**17 46 06.2**	**+0.3**
ENPP	**El Nido**	**11.84**	**340**	P	**Pn**	**17 46 08.6**	**-0.8**
JAGI	**Jajag, Banyuwa**	**12.60**	**228**		**Pn**	**17 46 21.0**	**+1.8**
PALU	**Palau**	**13.11**	**56**	P	**Pn**	**17 46 23.5**	**-2.3**
	baz=13,SNR=13						
KSM	**Kuching**	**13.31**	**276**	P	**P**	**17 46 31.7**	**-1.3**
PVCP	**Virac**	**13.50**	**3**	P	**Pn**	**17 46 29.9**	**-1.0**
LUBP	**Lubang**	**14.01**	**347**	P	**Pn**	**17 46 38.5**	**+1.2**
TGY	**Tagaytay City**	**14.23**	**350**	P	**P**	**17 46 43.7**	**+0.5**
	baz=350,slow=5.5,SNR=12						
MTN	**Manton Dam**	**14.84**	**150**	Pn	**Pn**	**17 46 46.2**	**-1.5**
KDU	**Kakadu**	**15.43**	**145**	P	**Pn**	**17 46 53.6**	**-1.4**
	baz=16,SNR=35						
PCPH	**Palayan**	**15.63**	**351**	⇓P	**P**	**17 47 00.6**	**+1.9**
PCPH	**Palayan**	**15.63**	**351**	⇓P	**P**	**17 47 00.6**	**+1.9**
SMPP	**San Manuel, Pa**	**16.27**	**350**	P	**Pn**	**17 47 04.6**	**-0.9**
KNRA	**Kununurra**	**16.43**	**162**	P	**Pn**	**17 47 07.4**	**0.0**
	baz=17,SNR=32						
KNRA	**Kununurra**	**16.43**	**162**	P	**Pn**	**17 47 06.8**	**-0.6**
LEM	**Lembang**	**17.28**	**247**	P	**Pn**	**17 47 19.0**	**+1.1**
LEM	**Lembang**	**17.28**	**247**	P	**Pn**	**17 47 19.0**	**+1.1**
	baz=88,slow=9.8,SNR=21						
JAY	**Jayapura**	**17.34**	**98**	P	**Pn**	**17 47 19.3**	**+0.8**
	0.9nm,0.3s,baz=295,slow=6.3,SNR=8.0						
CISI	**Cisompet, Garu**	**17.39**	**244**	P	**P**	**17 47 18.1**	**-0.2**
CISI				IAmb	IAmb	17 47 22.3	
	comp=Z,202nm,1.0s						
ABRA	**Dolores**	**17.74**	**351**	P	**Pn**	**17 47 22.9**	**-0.2**
APYP	**Conner**	**17.87**	**353**	P	**P**	**17 47 23.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.12**	**174**	P	**P**	**17 47 26.3**	**+0.1**
	baz=18,SNR=90						
FITZ	**Fitzroy Crossi**	**18.12**	**174**	P	**P**	**17 47 26.4**	**+0.1**
	comp=Z,16nm,0.3s,baz=13,slow=8.3,SNR=167						
FITZ	**Fitzroy Crossi**	**18.12**	**174**	P	**P**	**17 47 26.2**	**+0.1**
FITZ				IAmb	IAmb	17 47 29.5	
	comp=Z,209nm,0.9s						
DLV	**T Lat**	**19.07**	**309**	P	**Pn**	**17 47 38.2**	**-0.9**
DLV				IAmb	IAmb	17 47 41.6	
	comp=Z,262nm,1.3s						
MYKOM	**Kota Tinggi**	**19.77**	**275**	P	**Pn**	**17 47 46.0**	**-1.0**
MYKOM	**Kota Tinggi**	**19.77**	**275**	P	**P**	**17 47 45.5**	**+1.4**
XMIS	**Christmas Isla**	**20.62**	**239**	P	**P**	**17 47 52.1**	**-1.2**
XMIS				IAmb	IAmb	17 47 59.1	
	comp=Z,94nm,0.9s						
WRAB	**Tennant Creek**	**22.48**	**153**	*de*P	**P**	**17 48 11.4**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,237nm,1.2s						
WRAB	**Tennant Creek**	**22.48**	**153**	P	**P**	**17 48 11.4**	**-1.3**
TWG	**Pinlang**	**22.79**	**354**	P	**P**	**17 48 16.3**	**+0.7**
TWG				IAmb	IAmb	17 48 53.9	
	comp=Z,169nm,1.0s						
IPM	**Ipoh**	**22.92**	**281**	P	**P**	**17 48 19.0**	**+2.0**
IPM	**Ipoh**	**22.92**	**281**	P	**P**	**17 48 18.4**	**+1.5**
QIZ	**Qiongzhong**	**23.18**	**325**	P	**P**	**17 48 20.8**	**+1.5**
QIZ				pP	**pP**	**17 48 47.0**	**+1.0**
QIZ				sP	**sP**	**17 49 02.3**	**-0.8**
QIZ				pmax	pmax		
	comp=Z,52nm,1.0s						
TPUB	**Ta-pu**	**23.31**	**353**	P	**P**	**17 48 20.9**	**+0.4**
YULB	**Yu-li**	**23.33**	**355**	P	**P**	**17 48 19.9**	**-0.7**
UBPT	**Khong Chiam**	**23.42**	**311**	P	**P**	**17 48 24.4**	**+2.9**
SSLB	**Suanglung**	**23.76**	**354**	P	**P**	**17 48 24.9**	**+0.4**
SSLB				IAmb	IAmb	17 48 28.1	
	comp=Z,57nm,0.9s						
COEN	**Coen**	**23.89**	**126**	P	**P**	**17 48 25.6**	**-0.2**
	baz=24,SNR=30						
COEN	**Coen**	**23.89**	**126**	P	**P**	**17 48 25.5**	**-0.2**
MANU	**Manus Island**	**23.91**	**95**	P	**P**	**17 48 27.6**	**+1.7**
MANU				IAmb	IAmb	17 48 29.7	
	comp=Z,70nm,0.8s						
HKPS	**Hong Kong Po S**	**23.94**	**338**	P	**P**	**17 48 28.8**	**+2.7**
HKPS				IAmb	IAmb	17 48 31.5	
	comp=Z,89nm,1.1s						
NACB	**Ninganchiao**	**24.08**	**356**	P	**P**	**17 48 28.3**	**+0.9**
GIRL	**Giralia**	**24.28**	**201**	P	**P**	**17 48 30.2**	**+1.0**
	baz=24,SNR=8.5						
GIRL	**Giralia**	**24.28**	**201**	P	**P**	**17 48 30.3**	**+1.1**
YHNB	**Yeheng**	**24.59**	**355**	P	**P**	**17 48 33.5**	**+1.4**
YHNB				IAmb	IAmb	17 49 15.1	
	comp=Z,108nm,1.3s						
RPSI	**Rantau Prapat**	**24.75**	**276**	P	**P**	**17 48 34.7**	**+1.1**
RPSI	**Rantau Prapat**	**24.75**	**276**	P	**P**	**17 48 33.5**	**-0.1**
PSI	**Prapat**	**24.76**	**277**	P	**P**	**17 48 33.5**	**-0.4**
	comp=Z,9.9nm,0.8s,baz=150,slow=7.6,SNR=7.0						
GUMO	**Guam**	**25.06**	**57**	P	**P**	**17 48 37.6**	**+1.2**
	comp=Z,43nm,0.6s,baz=298,slow=11,SNR=3.3						
GUMO	**Guam**	**25.06**	**57**	P	**P**	**17 48 38.0**	**+1.6**
QZH	**Quanzhou**	**25.23**	**349**	⇓*i*P	**P**	**17 48 39.4**	**+1.6**
QZH				*e*S	**S**	**17 52 54.8**	**+1.8**
QZH				SS	**SnSn**	**17 54 03.0**	**+1.4**
QZH				pmax	pmax		
	comp=Z,50nm,1.2s						
PMG	**Port Moresby**	**25.31**	**112**	*i* P	**P**	**17 48 39.4**	**+0.8**
PMG				pmax	pmax		
	comp=Z,129nm,1.0s						
PMG	**Port Moresby**	**25.31**	**112**	P	**P**	**17 48 39.2**	**+0.5**
	comp=Z,17nm,0.9s,baz=327,slow=8.9,SNR=5.2						
PMG	**Port Moresby**	**25.31**	**112**	P	**P**	**17 48 38.8**	**+0.1**
WRKA	**Warakurna**	**25.33**	**170**	P	**P**	**17 48 38.6**	**-0.2**
	baz=26,SNR=112						
SKNT	**Sakolnakorn**	**25.59**	**312**	P	**P**	**17 48 45.0**	**+3.8**
	comp=Z,63nm,1.2s						
AS31	**Alice Springs**	**25.61**	**158**	P	**P**	**17 48 41.2**	**-0.1**
ASAR	**Alice Springs**	**25.61**	**158**	P	**P**	**17 48 41.2**	**0.0**
	comp=Z,14nm,0.4s,baz=344,slow=12,SNR=67						
ASAR				ScP	**ScP**	**17 55 35.5**	**+0.3**
	comp=Z,7.8nm,0.8s,baz=344,slow=2.3,SNR=14						
QIS	**Mount Isa**	**25.79**	**143**	P	**P**	**17 48 43.3**	**+0.3**
	baz=26,SNR=91						
CHAI	**Chaiyaphum**	**26.49**	**308**	P	**P**	**17 48 52.0**	**+2.8**
	comp=Z,67μm,0.9s,comp=Z,540μm						
NONG	**Nongkai**	**26.90**	**313**	P	**P**	**17 48 55.4**	**+2.5**
	comp=Z,0.6nm,0.9s,comp=Z,251nm						
MEEK	**Meekatharra**	**26.93**	**190**	P	**P**	**17 48 52.3**	**-0.7**
	baz=27,SNR=23						
MTSU	**Mount Surprise**	**27.25**	**133**	P	**P**	**17 48 56.7**	**+0.6**
	baz=27,SNR=12						
SARN	**Sarigan**	**27.48**	**52**	P	**P**	**17 48 58.5**	**+0.3**
SARN				IAmb	IAmb	17 49 23.0	
	comp=Z,77nm,1.4s						
PBKT	**Sadao Pong**	**27.67**	**308**	P	**P**	**17 49 02.5**	**+2.8**
	comp=Z,9.3nm,1.2s						
PBKT	**Sadao Pong**	**27.67**	**308**	P	**P**	**17 49 00.6**	**+0.9**
SRDT	**SRDT**	**28.04**	**302**	P	**P**	**17 49 06.7**	**+3.6**
	comp=Z,21nm,1.1s						
UTHA	**Uthaitani**	**28.36**	**304**	P	**P**	**17 49 08.8**	**+2.8**
	comp=Z,72μm,0.9s,comp=Z,629μm						
SLVN	**Son La**	**28.57**	**319**	P	**P**	**17 49 09.0**	**+1.1**
UTTA	**Uttaradit**	**28.66**	**309**	P	**P**	**17 49 11.6**	**+3.0**
	comp=Z,56μm,1.0s,comp=Z,450μm						
KRVT	**Keravat (AS076**	**28.78**	**99**	P	**P**	**17 49 11.4**	**+1.6**
	comp=Z,67nm,0.8s,baz=326,slow=3.6,SNR=8.2						
UMPA	**Umpang Tak**	**29.18**	**305**	P	**P**	**17 49 16.0**	**+2.8**
	comp=Z,57μm,1.0s,comp=Z,495μm						
PHRA	**Phrae**	**29.35**	**310**	P	**P**	**17 49 17.7**	**+3.0**
	comp=Z,6.3nm,1.1s						
MORW	**Morawa**	**29.80**	**193**	P	**P**	**17 49 18.1**	**-0.5**
	baz=30,SNR=26						
MORW	**Morawa**	**29.80**	**193**	P	**P**	**17 49 18.0**	**-0.5**
MORW				IAmb	IAmb	17 49 19.1	
	comp=Z,64nm,0.9s						
CTA	**Charters Tower**	**29.90**	**133**	P	**P**	**17 49 20.6**	**+1.0**
	comp=Z,12nm,0.8s,baz=315,slow=12,SNR=15						
PAYA	**Payao**	**30.14**	**311**	P	**P**	**17 49 24.8**	**+3.1**
	comp=Z,33μm,1.1s						
CM31	**Chiang Mai Arr**	**30.32**	**309**	P	**P**	**17 49 26.9**	**+3.6**
	SNR=19						
CM31	**Chiang Mai Arr**	**30.32**	**309**	P	**P**	**17 49 25.3**	**+2.0**
CM31				IAmb	IAmb	17 49 28.0	
	comp=Z,57nm,1.1s						
CMAR	**Chiang Mai Arr**	**30.32**	**309**	*ce*P	**P**	**17 49 24.8**	**+1.5**
CMAR				pmax	pmax		
	comp=Z,24nm,1.0s						
CMAR	**Chiang Mai Arr**	**30.32**	**309**	P	**P**	**17 49 25.2**	**+1.9**
	comp=Z,24nm,1.0s,baz=140,slow=7.3,SNR=79						
CMAR				PcP	**PcP**	**17 52 21.4**	**+1.0**
	comp=Z,6.2nm,1.0s,baz=160,slow=1.8,SNR=8.2						
CMAR				ScP	**ScP**	**17 55 49.9**	**+0.1**
	comp=Z,2.4nm,1.0s,baz=170,slow=2.6,SNR=7.4						
CMAR				LR	LR	18 03 39.5	
	comp=Z,145nm,18.3s,baz=120,slow=40						
CMMT	**Chiang Mai**	**30.52**	**309**	P	**P**	**17 49 26.6**	**+1.5**
	comp=Z,39nm,1.1s,comp=Z,420nm						
CHTO	**Chiang Mai**	**30.53**	**309**	P	**P**	**17 49 27.0**	**+1.9**
	SNR=16						
CHTO	**Chiang Mai**	**30.53**	**309**	P	**P**	**17 49 26.5**	**+1.4**
CHTO				pmax	pmax		
	comp=Z,82nm,1.1s						
CHTO	**Chiang Mai**	**30.53**	**309**	P	**P**	**17 49 26.5**	**+1.4**
CHTO				IAmb	IAmb	17 49 29.5	
	comp=Z,82nm,1.1s						
GYA	**Guiyang**	**30.91**	**330**	⇑*i*P	**P**	**17 49 30.6**	**+2.1**
GYA				pP	pP	17 50 00.1	+1.4
GYA				S	**S**	**17 54 28.8**	**+6.3**
GYA				sS	sS	17 55 17.1	+3.6
GYA				pmax	pmax		
	comp=Z,40nm,1.1s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=Z,190nm,11.4s						
GYA				LR	LR		
	comp=Z,250nm,14.6s						
GYA				LR	LR		
	comp=Z,120nm,11.9s						
FORT	**Forrest**	**30.93**	**172**	P	**P**	**17 49 28.0**	**-0.4**
	baz=31,SNR=105						
FORT	**Forrest**	**30.93**	**172**	P	**P**	**17 49 27.8**	**-0.6**
MHMT	**Maesarieng**	**30.97**	**307**	P	**P**	**17 49 31.4**	**+2.4**
	comp=Z,98nm,1.0s,comp=Z,889nm						
BLDU	**Ballidu**	**31.15**	**191**	P	**P**	**17 49 29.7**	**-0.7**
	baz=31,SNR=108						
KMBL	**Kambalda**	**31.26**	**183**	P	**P**	**17 49 30.8**	**-0.6**
	baz=32,SNR=46						
WHN	**Wuhan**	**31.59**	**345**	⇑*i*P	**P**	**17 49 37.3**	**+3.1**
WHN				pP	**pP**	**17 50 09.3**	**+4.9**
WHN				pmax	pmax		
	comp=Z,72nm,1.0s						
KLBR	**Kellerberrin**	**31.91**	**189**	P	**P**	**17 49 36.6**	**-0.5**
	baz=32,SNR=44						
KMI	**Kunming**	**32.05**	**323**	P	**P**	**17 49 42.0**	**+3.3**
KMI				pP	pP	17 50 11.6	+2.6
KMI				sP	sP	17 50 29.5	+4.3
KMI				S	**S**	**17 54 45.9**	**+5.3**
KMI				sS	sS	17 55 37.9	+6.2
KMI				pmax	pmax		
	comp=Z,27nm,1.2s						
KMI				pmax	pmax		
	comp=Z,120nm,3.4s						
KMI				LR	LR		
	comp=Z,150nm,15.9s						
KMI				LR	LR		
	comp=Z,160nm,18.2s						
KMI				LR	LR		
	comp=Z,220nm,16.7s						
NJ2	**Nanjing**	**32.16**	**353**	*e*P	**P**	**17 49 40.6**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,44nm,1.0s						
MUN	**Mundaring**	**32.57**	**192**	P	**P**	**17 49 42.3**	**-0.5**
	baz=33,SNR=11						
ENH	**Enshi**	**32.92**	**337**	P	**P**	**17 49 47.3**	**+1.4**
NWAO	**Narrogin (SRO)**	**33.31**	**190**	P	**P**	**17 49 48.9**	**-0.3**
	baz=34,SNR=15						
NWAO	**Narrogin (SRO)**	**33.31**	**190**	P	**P**	**17 49 49.0**	**-0.3**
NWAO	**Narrogin (SRO)**	**33.31**	**190**	P	**P**	**17 49 49.0**	**-0.3**
	comp=Z,48nm,0.7s,baz=26,slow=7.8,SNR=45						
NWAO	**Narrogin (SRO)**	**33.31**	**190**	P	**P**	**17 49 48.3**	**-1.0**
NWAO	**Narrogin (SRO)**	**33.31**	**190**	P	**P**	**17 49 48.5**	**-0.7**
NWAO				IAmb	IAmb	17 49 50.8	
	comp=Z,217nm,1.6s						
JNU	**Nakatsue**	**33.64**	**11**	P	**P**	**17 49 51.7**	**-0.4**
JNU				IAmb	IAmb	17 49 55.9	
	comp=Z,23nm,0.8s						
BBOO	**Buckleboo**	**34.73**	**161**	P	**P**	**17 50 01.6**	**+0.1**
	baz=35,SNR=20						
BBOO	**Buckleboo**	**34.73**	**161**	P	**P**	**17 50 01.1**	**-0.4**
BBOO				IAmb	IAmb	17 50 01.8	
	comp=Z,33nm,0.8s						
RKGY	**Rocky Gully**	**34.99**	**189**	P	**P**	**17 50 04.8**	**+1.0**
	baz=35,SNR=60						
RMQ	**Roma**	**35.84**	**139**	P	**P**	**17 50 11.4**	**+0.3**
	baz=36,SNR=14						
CD2	**Chengdu**	**36.01**	**330**	⇑*i*P	**P**	**17 50 14.0**	**+1.5**
CD2				PP	**PnPn**	**17 51 42.3**	**+3.9**
CD2				S	**S**	**17 55 39.5**	**-1.5**
CD2				sS	sS	17 56 37.5	+4.8
CD2				ScS	**ScS**	**18 00 10.2**	**-5.2**
CD2				pmax	pmax		
	comp=Z,80nm,0.8s						
CD2				pmax	pmax		
	comp=Z,220nm,5.7s						
CD2				LR	LR		
	comp=Z,300nm,19.2s						
CD2				LR	LR		
	comp=Z,230nm,9.6s						
CD2				LR	LR		
	comp=Z,290nm,19.8s						
STKA	**Stephens Creek**	**36.03**	**153**	P	**P**	**17 50 12.9**	**+0.2**
	baz=36,SNR=139						
STKA	**Stephens Creek**	**36.03**	**153**	P	**P**	**17 50 13.2**	**+0.5**
	comp=Z,62nm,0.5s,baz=331,slow=8.3,SNR=154						
STKA				ScP	**ScP**	**17 56 09.6**	**+0.1**
	comp=Z,11nm,0.9s,baz=326,slow=3.6,SNR=4.9						
STKA	**Stephens Creek**	**36.03**	**153**	P	**P**	**17 50 12.5**	**-0.2**
STKA				IAmb	IAmb	17 50 14.1	
	comp=Z,21nm,0.7s						
SIMRM	**Sittwe**	**36.05**	**306**	P	**P**	**17 50 14.4**	**+1.4**
HTT	**Hallett**	**36.28**	**158**	P	**P**	**17 50 15.5**	**+0.7**
	baz=36,SNR=41						
JHJ2	**Mitsune**	**36.31**	**23**	P	**P**	**17 50 16.2**	**+1.2**
TJN	**Taejon**	**36.35**	**5**	*ce*P	**P**	**17 50 17.3**	**+2.1**
XAN	**Xi'an**	**36.51**	**339**	P	**P**	**17 50 17.3**	**+0.5**
XAN				PP	**PnPn**	**17 51 47.9**	**+3.4**
XAN				PcP	**PcP**	**17 52 36.0**	**-1.6**
XAN				S	**S**	**17 55 47.6**	**-1.1**
XAN				pmax	pmax		
	comp=Z,32nm,1.2s						
XAN				pmax	pmax		
	comp=Z,220nm,5.1s						
XAN				LR	LR		
	comp=Z,170nm,20.6s						
XAN				LR	LR		
	comp=Z,360nm,18.6s						
XAN				LR	LR		
	comp=Z,300nm,17.7s						
XAN	**Xi'an**	**36.51**	**339**	P	**P**	**17 50 16.8**	**0.0**
XAN				pmax	pmax		
	comp=Z,43nm,1.1s						
XAN	**Xi'an**	**36.51**	**339**	P	**P**	**17 50 16.8**	**0.0**
XAN				IAmb	IAmb	17 50 19.1	
	comp=Z,43nm,1.1s						
EIDS	**Eidsvold**	**36.68**	**136**	P	**P**	**17 50 19.6**	**+1.3**
	baz=37,SNR=4.2						
EIDS	**Eidsvold**	**36.68**	**136**	P	**P**	**17 50 17.3**	**-1.0**
INU	**Inuyama**	**37.33**	**18**	P	**P**	**17 50 23.6**	**+0.1**
INU				IAmb	IAmb	17 50 27.4	
	comp=Z,63nm,1.0s						
HNR	**Honiara**	**37.44**	**106**	P	**P**	**17 50 24.1**	**-0.7**
HNR				pmax	pmax		
	comp=Z,50nm,0.8s						
HNR	**Honiara**	**37.44**	**106**	P	**P**	**17 50 24.1**	**-0.7**
HNR				IAmb	IAmb	17 51 02.7	
	comp=Z,50nm,0.8s						
KSRS	**Korea Array**	**37.47**	**6**	P	**P**	**17 50 24.9**	**+0.2**
	comp=Z,11nm,0.9s,baz=182,slow=9.8,SNR=25						
KSRS				PcP	**PcP**	**17 52 40.8**	**+0.5**
	comp=Z,3.8nm,0.9s,baz=190,slow=3.4,SNR=6.2						
KSRS				ScP	**ScP**	**17 56 14.6**	**0.0**
	comp=Z,3.9nm,1.0s,baz=186,slow=3.3,SNR=10.0						
KSRS				LR	LR	18 08 49.7	
	comp=Z,36nm,18.0s,baz=198,slow=41						
KS19	**Wonju Array Si**	**37.51**	**6**	P	**P**	**17 50 24.4**	**-0.7**
CMSA	**Cobar Meteorol**	**37.76**	**148**	P	**P**	**17 50 28.3**	**+1.0**
	baz=38,SNR=60						
DL2	**Dalian**	**38.74**	**358**	P	**P**	**17 50 35.0**	**-0.3**
DL2				pP	**pP**	**17 51 06.6**	**+0.4**
DL2				*e*S	**S**	**17 56 23.3**	**+1.3**
DL2				pmax	pmax		
	comp=Z,39nm,0.9s						
DL2				pmax	pmax		
	comp=Z,200nm,5.9s						
MAJO	**Matsushiro**	**38.80**	**19**	*c i*P	**P**	**17 50 35.0**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,63nm,1.0s						
MAJO	**Matsushiro**	**38.80**	**19**	P	**P**	**17 50 35.1**	**-0.8**
MAJO				IAmb	IAmb	17 50 36.3	
	comp=Z,60nm,1.0s						
MAT	**Matsushiro**	**38.80**	**19**	P	**P**	**17 50 35.0**	**-1.0**
MJAR	**Matsushiro Arr**	**38.80**	**19**	P	**P**	**17 50 35.1**	**-0.9**
	comp=Z,29nm,0.8s,baz=201,slow=8.4,SNR=68						
MJAR				ScP	**ScP**	**17 56 19.3**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=208,slow=7.7,SNR=5.2						
MJAR				LR	LR	18 04 28.7	
	comp=Z,111nm,21.9s,baz=210,slow=33						
MJB9	**Matsu-Tunnel**	**38.81**	**19**	P	**P**	**17 50 35.1**	**-0.9**
MJB9				IAmb	IAmb	17 50 36.3	
	comp=Z,58nm,1.0s						
TIY	**Taiyuan**	**38.88**	**346**	*e*P	**P**	**17 50 37.3**	**+0.6**
TIY				pmax	pmax		
	comp=Z,51nm,0.5s						
SHL	**Shillong**	**39.74**	**312**	P	**P**	**17 50 44.9**	**+0.9**
	SNR=9.8						
SHL	**Shillong**	**39.74**	**312**	P	**P**	**17 50 43.9**	**-0.2**
SHL				pmax	pmax		
	comp=Z,40nm,1.1s						
SHL	**Shillong**	**39.74**	**312**	*e*P	**P**	**17 50 45.0**	**+0.9**
SHL	**Shillong**	**39.74**	**312**	P	**P**	**17 50 43.9**	**-0.2**
SHL				IAmb	IAmb	17 50 46.2	
	comp=Z,40nm,1.1s						
LZH	**Lanzhou**	**40.28**	**335**	⇓P	**P**	**17 50 50.8**	**+2.4**
LZH				pP	pP	17 51 20.5	+0.9
LZH				PP	**PnPn**	**17 52 28.5**	**-0.7**
LZH				PcP	**PcP**	**17 52 50.3**	**+0.8**
LZH				S	**S**	**17 56 47.4**	**+1.8**
LZH				pmax	pmax		
	comp=Z,67nm,1.3s						
LZH				pmax	pmax		
	comp=Z,360nm,6.2s						
LZH				LR	LR		
	comp=Z,310nm,13.6s						
LZH				LR	LR		
	comp=Z,330nm,13.2s						
LZH				LR	LR		
	comp=Z,380nm,16.3s						
ARPS	**Mount Arapiles**	**40.35**	**157**	P	**P**	**17 50 49.5**	**+0.8**
	baz=41,SNR=34						
ARMA	**Armidale**	**40.37**	**141**	P	**P**	**17 50 50.6**	**+1.5**
	baz=41,SNR=24						
ARMA	**Armidale**	**40.37**	**141**	P	**P**	**17 50 49.9**	**+0.8**
BJT	**Baijiatuau**	**40.37**	**351**	P	**P**	**17 50 48.9**	**0.0**
BJT				pmax	pmax		
	comp=Z,25nm,1.0s						
BJT	**Baijiatuau**	**40.37**	**351**	P	**P**	**17 50 48.9**	**0.0**
YNG	**Young**	**41.33**	**148**	P	**P**	**17 50 58.3**	**+1.4**
	baz=42,SNR=19						
MGCD	**Mangrove Creek**	**42.02**	**145**	P	**P**	**17 51 05.0**	**+2.6**
	baz=42,SNR=6.0						
HHC	**Hu-ho-hao-te**	**42.07**	**346**	P	**P**	**17 51 05.3**	**+2.4**
HHC				pP	pP	17 51 36.1	+1.8
HHC				S	**S**	**17 57 16.5**	**+4.8**
HHC				sS	sS	17 58 06.3	+1.9
CAN	**Canberra**	**42.43**	**149**	P	**P**	**17 51 07.1**	**+1.3**
CAN				pmax	pmax		
	comp=Z,219nm,1.4s						
CAN	**Canberra**	**42.43**	**149**	P	**P**	**17 51 07.1**	**+1.3**
TOO	**Toolangi**	**42.55**	**154**	P	**P**	**17 51 08.4**	**+1.7**
	baz=43,SNR=28						
TOO	**Toolangi**	**42.55**	**154**	P	**P**	**17 51 08.8**	**+2.1**
TOO				pmax	pmax		
	comp=Z,162nm,1.3s						
TOO	**Toolangi**	**42.55**	**154**	P	**P**	**17 51 08.8**	**+2.1**
CNB	**Canberra Magne**	**42.61**	**148**	P	**P**	**17 51 09.1**	**+1.7**
	baz=43,SNR=23						
LSA	**Lhasa**	**42.70**	**317**	*i* P	**P**	**17 51 10.5**	**+2.0**
	SNR=9.5						
LSA	**Lhasa**	**42.70**	**317**	P	**P**	**17 51 10.5**	**+2.0**
LSA	**Lhasa**	**42.70**	**317**	P	**P**	**17 51 10.6**	**+2.0**
LSA				pmax	pmax		
	comp=Z,20nm,0.8s						
LSA	**Lhasa**	**42.70**	**317**	P	**P**	**17 51 10.6**	**+2.0**
MSHR	**Mys Shultsa**	**42.92**	**8**	*i* P	**P**	**17 51 09.2**	**-0.3**
PALK	**Pallekele**	**43.32**	**281**	P	**P**	**17 51 15.5**	**+2.2**

VLA Vladivostok 43.55 9 *i* P **P** **17 51 13.8 -0.8**
VLA pmax pmax
comp=Z,33nm,1.0s
CN2 Changchun 43.62 2 *e*P **P** **17 51 18.0 +2.8**
ODAN Odare 43.82 310 *e*P **P** **17 51 18.4 +1.0**
comp=Z,101nm,1.1s
TAPN Taplejung 43.84 311 *e*P **P** **17 51 17.7 +0.1**
comp=Z,85nm,1.0s
MILA Mila 43.85 150 P **P** **17 51 18.6 +1.4**
baz=44,SNR=4.7
RAMN Ramite 44.47 310 *e*P **P** **17 51 24.0 +1.4**
USA0B Ussuriysk Arra 44.63 9 P **P** **17 51 23.5 +0.3**
USA0B pmax pmax
comp=Z,48nm,1.0s
USA0B Ussuriysk Arra 44.63 9 P **P** **17 51 23.4 +0.3**
USA0B IAmb IAmb 17 51 24.5
comp=Z,48nm,1.0s
USRK Ussuriysk Ar. 44.63 9 P **P** **17 51 23.5 +0.3**
comp=Z,32nm,0.8s,baz=186,slow=6.4,SNR=46
USRK ScP **ScP** **17 56 42.4 -0.4**
comp=Z,1.6nm,0.7s,baz=224,slow=8.0,SNR=5.0
USRK LR LR 18 08 08.4
comp=Z,68nm,21.2s,baz=180,slow=33
MDJ Mudanjiang 44.73 6 P **P** **17 51 24.1 +0.1**
MDJ pmax pmax
comp=Z,26nm,1.2s
MDJ pmax pmax
comp=Z,260nm,3.3s
MDJ Mudanjiang 44.73 6 P **P** **17 51 23.8 -0.1**
MDJ IAmb IAmb 17 51 28.4
comp=Z,34nm,0.9s
GTA Gaotai 44.81 334 ⇑P **P** **17 51 25.8 +0.9**
GTA PcP **PcP** **17 53 05.0 +0.5**
GTA ScP **ScP** **17 56 43.2 -0.7**
GTA PcS **PcS** **17 56 57.0 -1.3**
GTA S **S** **17 57 50.0 -1.7**
GTA sS sS 17 58 43.8 -1.1
GTA ScS **ScS** **18 01 04.2 -3.8**
GTA SS **SS** **18 01 12.2 -4.2**
GTA pmax pmax
comp=Z,8.0nm,0.8s
GTA pmax pmax
comp=Z,190nm,8.1s
GTA LR LR
comp=Z,140nm,18.1s
GTA LR LR
comp=Z,180nm,17.5s
GTA LR LR
comp=Z,180nm,19.7s
JIRN Jiri 45.15 311 *e*P **P** **17 51 29.0 +0.9**
GUN Gumba 45.51 311 *e*P **P** **17 51 31.8 +0.9**
comp=Z,130nm,0.9s
PKI Pulchoki 45.70 310 *e*P **P** **17 51 32.8 +0.5**
comp=Z,54nm,1.0s
PKIN Phulchoki 45.71 310 *e*P **P** **17 51 32.8 +0.4**
comp=Z,70nm,1.3s
KKN Kakani 45.91 310 *e*P **P** **17 51 34.6 +0.8**
comp=Z,72nm,1.0s
DMN Daman 45.95 310 *e*P **P** **17 51 35.0 +0.8**
comp=Z,135nm,1.1s
TEY Ternei 46.30 13⇑ *i*P **P** **17 51 36.7 +0.4**
TEY pmax pmax
comp=Z,200nm,0.8s
TEY pmax pmax
comp=E,10.0nm,0.6s
TEY pmax pmax
comp=N,70nm,0.9s
TEY pmax pmax
comp=Z,120nm,0.8s
GKN Gorkha 46.51 310 *e*P **P** **17 51 39.0 +0.5**
KOLN Koldanda 47.19 309 *e*P **P** **17 51 44.8 +1.0**
comp=Z,230nm,1.0s
DZM Mont Dzumac 47.21 121 P **P** **17 51 45.1 +1.2**
comp=Z,1.6nm,0.4s,baz=278,slow=12,SNR=7.8
DZM Mont Dzumac 47.21 121 P **P** **17 51 45.1 +1.2**
DANN Dangsing 47.35 310 *e*P **P** **17 51 45.8 +0.6**
comp=Z,289nm,1.0s
HYB Hyderabad 47.52 294 *i* P **P** **17 51 44.0 -2.3**
HYB *e*pP **pP** **17 52 16.0 -2.0**
TAU Tasmania Unive 47.77 156 P **P** **17 51 47.2 -0.6**
TAU pmax pmax
comp=Z,187nm,1.8s
TAU Tasmania Unive 47.77 156 P **P** **17 51 47.2 -0.6**
HIA Hailar 49.16 357 P **P** **17 51 58.7 +0.3**
HIA pmax pmax
comp=Z,18nm,0.9s
HIA Hailar 49.16 357 P **P** **17 51 58.6 +0.3**
KLR Kul'dur 49.53 7*c i*P **P** **17 52 00.4 -0.7**
KLR pmax pmax
comp=Z,20nm,1.0s
YSS Yuzh-Sakhalins 49.67 17⇓ *i*P **P** **17 52 02.7 +0.5**
YSS pmax pmax
comp=Z,50nm,1.1s
YSS Yuzh-Sakhalins 49.67 17 P **P** **17 52 02.3 +0.1**
ULN Ulaanbaatar 49.76 346 P **P** **17 52 03.3 +0.2**
SNR=9.3
ULN Ulaanbaatar 49.76 346*ce*P **P** **17 52 03.2 +0.1**
ULN pmax pmax
comp=Z,14nm,0.7s
ULN Ulaanbaatar 49.76 346 P **P** **17 52 03.0 -0.2**
SONM Songino Array 49.90 345 P **P** **17 52 04.2 +0.1**
comp=Z,17nm,0.8s,baz=158,slow=7.6,SNR=109
SONM PcP **PcP** **17 53 22.5 0.0**
comp=Z,9.0nm,0.8s,baz=161,slow=3.8,SNR=7.5
SONM ScP **ScP** **17 57 04.2 -1.0**
comp=Z,1.3nm,0.9s,baz=160,slow=4.7,SNR=3.8
SONM LR LR 18 14 57.2
comp=Z,80nm,19.4s,baz=162,slow=38
GRNR Gornyy 51.73 10⇑ *i*P **P** **17 52 18.2 +0.5**
GRNR pmax pmax
comp=Z,50nm,1.0s
ZAK Zakamensk 53.07 344 *e*P **P** **17 52 23.4 -4.2**
ZAK pmax pmax
comp=Z,6.0nm,0.9s
TYV Tymovskoe 53.20 15 *e*P **P** **17 52 29.1 +0.7**
TYV *e*S **S** **17 59 51.9 +3.6**
TYV pmax pmax
comp=Z,300nm,5.0s
TYV pmax pmax
comp=Z,27nm,1.4s
TYV smax smax
comp=E,1μm,8.1s
ZEA Zeya 53.62 3 *e*P **P** **17 52 29.9 -1.5**
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,29nm,1.0s
WMQ Urumqi 54.06 328 *e*P **P** **17 52 35.8 +0.9**
WMQ pmax pmax
comp=Z,28nm,0.9s
WMQ pmax pmax
comp=Z,120nm,5.3s
WMQ LR LR
comp=Z,560nm,28.8s
WMQ LR LR
comp=Z,1μm,28.9s
WMQ LR LR
comp=Z,120nm,29.2s
WMQ Urumqi 54.06 328 P **P** **17 52 34.6 -0.3**
WMQ pmax pmax
comp=Z,53nm,1.1s
WMQ Urumqi 54.06 328 P **P** **17 52 34.6 -0.3**
WMQ IAmb IAmb 17 52 37.9
comp=Z,53nm,1.1s
TLY Talaya 54.15 345 P **P** **17 52 36.4 +1.1**
TLY Talaya 54.15 345 *e*P **P** **17 52 35.0 -0.3**
TLY pmax pmax
comp=Z,45nm,1.3s
TLY MLR MLR
comp=Z,271nm,18.0s
TLY Talaya 54.15 345 P **P** **17 52 35.9 +0.6**
MOY Mondy 54.87 343 *e*P **P** **17 52 40.8 +0.1**
MOY pmax pmax
comp=Z,27nm,2.2s
NIL Nilore 57.78 311 P **P** **17 53 01.0 -0.6**
NIL pmax pmax
comp=Z,33nm,1.3s
NIL Nilore 57.78 311 P **P** **17 53 01.0 -0.6**
NIL IAmb IAmb 17 53 03.4
comp=Z,33nm,1.2s
BOD Bodaibo 58.12 354 *e*P **P** **17 53 02.1 -1.3**
BOD pmax pmax
comp=Z,12nm,1.0s
TARG Taragay, Kyrgy 58.49 321 P **P** **17 53 07.6 +0.8**
KSH Kashi 58.52 318 P **P** **17 53 08.1 +1.4**
KSH sP sP 17 53 53.7 -1.7

KSH PP **PP** **17 55 22.2 +4.3**
KSH ScP **ScP** **17 57 44.1 +1.0**
KSH S **S** **18 00 59.5 -0.1**
KSH SS **SS** **18 04 56.6 +2.0**
KSH pmax pmax
comp=Z,51nm,1.1s
KSH pmax pmax
comp=Z,170nm,8.2s
KSH LR LR
comp=Z,410nm,5.2s
KSH LR LR
comp=Z,190nm,5.4s
KSH LR LR
comp=Z,500nm,5.9s
PRZ Przheval'sk 58.53 322 P **P** **17 53 08.2 +1.4**
PRZ pmax pmax
comp=Z,23nm,0.9s
PRZ Przheval'sk 58.53 322 P **P** **17 53 08.2 +1.4**
PRZ IAmb IAmb 17 53 10.9
comp=Z,23nm,0.8s
MK31 Makanchi Array 58.88 328 P **P** **17 53 08.8 -0.1**
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK31 Makanchi Array 58.88 328 P **P** **17 53 08.8 -0.1**
MKAR Makanchi Array 58.88 328 P **P** **17 53 08.7 -0.2**
comp=Z,22nm,1.0s,baz=123,slow=8.6,SNR=54
MKAR PcP **PcP** **17 53 55.9 -1.0**
comp=Z,9.5nm,0.7s,baz=142,slow=3.8,SNR=8.9
MKAR ScP **ScP** **17 57 43.9 -0.5**
comp=Z,2.4nm,1.1s,baz=123,slow=5.3,SNR=3.7
MKAR LR LR 18 18 31.0
comp=Z,76nm,21.0s,baz=118,slow=36
MAKZ Makanchi 59.05 328 P **P** **17 53 09.9 -0.2**
MAKZ pmax pmax
comp=Z,34nm,1.5s
MAKZ Makanchi 59.05 328 P **P** **17 53 09.9 -0.2**
MAKZ IAmb IAmb 17 53 12.5
comp=Z,34nm,1.5s
KDJ Kajisay 59.09 321 P **P** **17 53 11.0 +0.3**
KDJ pmax pmax
comp=Z,14nm,0.9s
KDJ Kajisay 59.09 321 P **P** **17 53 11.0 +0.3**
DCZ Deep Cove 59.39 146 P **P** **17 53 12.6 +0.2**
DCZ IAmb IAmb 17 53 14.0
comp=Z,28nm,1.0s
NRN Naryn 59.48 320 P **P** **17 53 13.1 -0.4**
NRN pmax pmax
comp=Z,7.0nm,1.1s
NRN Naryn 59.48 320 P **P** **17 53 13.1 -0.4**
FOZ Fox Glacier 59.84 143 P **P** **17 53 16.0 +0.5**
FOZ IAmb IAmb 17 53 17.2
comp=Z,50nm,1.1s
MLZ Mavora Lakes 59.88 145 P **P** **17 53 16.4 +0.6**
MLZ IAmb IAmb 17 53 17.4
comp=Z,22nm,0.7s
PETK Petropavlovsk- 60.05 23 P **P** **17 53 17.8 +0.9**
comp=Z,35nm,0.8s,baz=210,slow=5.8,SNR=43
PETK LR LR 18 19 09.2
comp=Z,34nm,20.3s,baz=242,slow=36
WHZ Wether Hill Ro 60.09 146 P **P** **17 53 17.9 +0.6**
WHZ IAmb IAmb 17 53 18.6
comp=Z,44nm,0.9s
KZA Kyzart 60.29 320 P **P** **17 53 19.5 +0.3**
SNR=12
PET Petropavlovsk 60.37 24 P **P** **17 53 20.0 +1.1**
PET pmax pmax
comp=Z,95nm,1.1s
PET Petropavlovsk 60.37 24 P **P** **17 53 20.0 +1.1**
TKM2 Tokmak 2 60.51 321 P **P** **17 53 20.5 +0.1**
SNR=6.7
LBZ Lake Benmore 60.53 143 P **P** **17 53 21.1 +0.9**
LBZ IAmb IAmb 17 53 22.4
comp=Z,28nm,0.9s
RPZ Rata Peaks 60.69 142 P **P** **17 53 22.2 +0.9**
comp=Z,83nm,0.9s,baz=291,slow=0.3,SNR=28
RPZ Rata Peaks 60.69 142 P **P** **17 53 22.3 +0.9**
KBK Karagaybulak 60.78 321 P **P** **17 53 23.1 +0.9**
SNR=6.2
UCH Uchtor 60.84 320 P **P** **17 53 23.0 0.0**
SNR=10
THZ Tophouse 60.86 139 P **P** **17 53 23.3 +0.7**
THZ IAmb IAmb 17 53 25.6
comp=Z,27nm,0.8s
AAK Ala-Archa 61.06 320 *i* P **P** **17 53 24.1 0.0**
SNR=9.5
AAK Ala-Archa 61.06 320 P **P** **17 53 24.7 +0.6**
AAK Ala-Archa 61.06 320*ce*P **P** **17 53 24.4 +0.3**
AAK pmax pmax
comp=Z,12nm,1.1s
AAK Ala-Archa 61.06 320 P **P** **17 53 24.4 +0.3**
SNR=6.8
AAK Ala-Archa 61.06 320 P **P** **17 53 24.4 +0.3**
OXZ Oxford 61.10 141 P **P** **17 53 24.2 +0.1**
OXZ IAmb IAmb 17 54 14.1
comp=Z,29nm,0.6s
AML Almayashu 61.32 320 P **P** **17 53 26.5 +0.3**
SNR=13
KBL Kabul 61.34 310 P **P** **17 53 25.5 -0.7**
KBL Kabul 61.34 310 P **P** **17 53 25.5 -0.7**
KBL IAmb IAmb 17 53 28.0
comp=Z,20nm,0.8s
USP Ospenovka 61.37 321 P **P** **17 53 25.9 -0.1**
SNR=5.8
TUWZ Tuamarina 61.38 139 P **P** **17 53 26.3 +0.3**
ARSB Arslanbob 61.40 319 P **P** **17 53 26.3 -0.1**
ARSB IAmb IAmb 17 54 06.6
comp=Z,76nm,1.9s
EKS2 Erkin-Say 61.53 320 P **P** **17 53 27.6 +0.4**
SNR=7.3
KHZ Kahutara 61.59 140 P **P** **17 53 28.2 +0.8**
KHZ IAmb IAmb 17 53 28.4
comp=Z,27nm,0.9s
SNZO South Karori 61.83 138 P **P** **17 53 28.9 -0.1**
BHW Baring Head 61.98 138 P **P** **17 53 30.0 -0.1**
YAK Yakutsk 62.03 3*c i*P **P** **17 53 29.6 -0.3**
YAK *e* 17 53 58.6
YAK *e*'PP **sP** **17 54 14.7 -4.3**
YAK *e*S **S** **18 01 40.1 -3.1**
YAK *e*'SS **pS** **18 02 11.7 -7.1**
YAK *e*SSS SSS 18 08 37.4
YAK pmax pmax
comp=Z,104nm,0.9s
YAK pmax pmax
comp=N,59nm,1.1s
YAK pmax pmax
comp=E,19nm,1.1s
YAK pmax pmax
comp=Z,95nm,3.3s
YAK pmax pmax
comp=N,83nm,2.8s
YAK pmax pmax
comp=E,32nm,3.0s
YAK smax smax
comp=N,76nm,3.3s
YAK smax smax
comp=E,61nm,3.0s
YAK Yakutsk 62.03 3 P **P** **17 53 29.6 -0.3**
BKZ Black Stump Fm 62.09 135 P **P** **17 53 31.6 +0.7**
URZ Urewera 62.14 134 P **P** **17 53 31.5 +0.3**
comp=E,11nm,0.4s,baz=244,slow=4.1,SNR=14
URZ Urewera 62.14 134 IAmb IAmb 17 54 06.9
comp=Z,54nm,1.2s
GAR Garm 62.18 315 P **P** **17 53 30.9 -0.7**
GAR **P** **17 53 31.0 -0.6**
GAR IAmb IAmb 17 53 33.0
comp=Z,44nm,1.1s
MSWZ Moikau Station 62.24 138 P **P** **17 53 31.6 -0.2**
BTK Batken 62.28 316 P **P** **17 53 31.9 -0.3**
BTK pmax pmax
comp=Z,27nm,1.7s
BTK Batken 62.28 316 P **P** **17 53 31.9 -0.3**
PLWZ Palliser 62.31 138 P **P** **17 53 32.8 +0.4**
ZAA0 Zalesovo Array 62.52 335 P **P** **17 53 31.8 -1.6**
ZAA0 IAmb IAmb 17 53 34.4
comp=Z,25nm,1.0s
ZALV Zalesovo Beam 62.52 335 P **P** **17 53 32.0 -1.4**
ZALV S **S** **18 01 49.0 -0.7**
ZALV Zalesovo Beam 62.52 335 P **P** **17 53 32.0 -1.4**
comp=Z,19nm,0.9s,baz=119,slow=5.2,SNR=48
ZALV S **S** **18 01 49.0 -0.7**
comp=Z,0.6nm,0.6s,baz=114,slow=13,SNR=3.9
ZALV LR LR 18 20 53.4
comp=Z,49nm,21.8s,baz=62,slow=36
CHGR Chuyangaron 62.86 314 P **P** **17 53 35.1 -1.0**
CHGR IAmb IAmb 17 53 37.8
comp=Z,24nm,0.9s
MA2 Magadan 63.07 15*ce*P **P** **17 53 38.0 +1.1**
MA2 pmax pmax
comp=Z,135nm,0.9s
MA2 Magadan 63.07 15 P **P** **17 53 37.5 +0.6**
KURK Kurchatov 63.23 330 P **P** **17 53 37.7 -0.4**
SNR=19
KURK Kurchatov 63.23 330*ce*P **P** **17 53 37.4 -0.8**
KURK pmax pmax
comp=Z,56nm,0.8s
KURK Kurchatov 63.23 330 P **P** **17 53 37.3 -0.8**
KK31 Karatay Array 63.85 319 P **P** **17 53 42.2 -0.2**
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KK31 Karatay Array 63.85 319 P **P** **17 53 42.2 -0.2**
KK31 **P** **17 53 42.7 +0.2**
KKAR Karatay Array 63.85 319 P **P** **17 53 42.4 0.0**
KKAR pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 63.85 319 P **P** **17 53 42.4 0.0**
KKAR **P** **17 53 42.7 +0.2**
SEY Seymchan 66.36 14 *i* P **P** **17 53 58.7 +0.5**
HRA Herat 66.58 308 P **P** **17 53 59.7 -0.8**
CASY Casey 66.81 186 P **P** **17 54 01.7 +0.7**
CASY IAmb IAmb 17 54 02.5
comp=Z,38nm,0.8s
WSAR Wadi Sarin 67.03 295 P **P** **17 54 02.5 -0.8**
BSY Bisya 68.25 294 P **P** **17 54 10.4 -0.5**
BRVK Borovoye 68.81 329 P **P** **17 54 13.3 -0.5**
SNR=5.2
BRVK Borovoye 68.81 329*ce*P **P** **17 54 12.9 -0.9**
BRVK pmax pmax
comp=Z,17nm,1.0s
BRVK Borovoye 68.81 329 P **P** **17 54 12.6 -1.2**
MDH Madha 69.49 297 P **P** **17 54 17.0 -1.6**
HATD Hatta, Dubai 69.56 296 P **P** **17 54 18.6 -0.4**
ASHO Ashiyiah 69.60 296 P **P** **17 54 19.1 -0.2**
ASHO Ashiyiah 69.60 296 P **P** **17 54 19.1 -0.2**
ALNE Al Ain 69.77 296 P **P** **17 54 20.3 0.0**
ASUD Al Ashush, Dub 70.25 296 *i* P **P** **17 54 23.6 +0.5**
SNR=8.5
ASUD Al Ashush, Dub 70.25 296 P **P** **17 54 23.7 +0.5**
SNR=6.2
WHFO Wadi Hawf 70.77 289 P **P** **17 54 25.0 -1.5**
GEYT Alibeck 70.78 310 P **P** **17 54 25.1 -1.2**
comp=Z,2.2nm,0.7s,baz=93,slow=2.9,SNR=5.7
GEYT LR LR 18 30 29.3
comp=Z,32nm,19.9s,baz=155,slow=40
KIWB Kanaga Island 71.53 34 P **P** **17 54 30.1 -0.2**
TIXI Tiksi 71.59 2*ce*P **P** **17 54 29.3 -1.0**
TIXI pmax pmax
comp=Z,90nm,1.2s
TIXI Tiksi 71.59 2 P **P** **17 54 29.1 -1.2**
ABKAR Akbulak array 73.04 322 P **P** **17 54 38.3 -1.1**
NRIK Noril'sk 73.29 347 P **P** **17 54 40.0 -0.5**
comp=Z,17nm,0.8s,baz=134,slow=6.6,SNR=27
NRIK LR LR 18 28 13.3
comp=Z,66nm,20.5s,baz=166,slow=37
ATKA Atka Island 73.34 35 P **P** **17 54 41.0 0.0**
BILL Bilibino 73.94 15*c i*P **P** **17 54 43.9 -0.4**
BILL *i* 17 54 58.6
BILL *i* 17 57 29.7
BILL pmax pmax
comp=Z,25nm,1.3s
BILL Bilibino 73.94 15 P **P** **17 54 43.7 -0.6**
SVE Sverdlovsk 75.48 330 *e*P **P** **17 54 52.3 -1.1**
SVE pmax pmax
comp=Z,45nm,1.0s
ARU Arti 76.39 329*c i*P **P** **17 54 57.0 -1.5**
ARU 17 55 06.9
ARU 17 57 52.2
ARU S **S** **18 04 34.1 +2.0**
ARU SS **SS** **18 09 31.3 +1.7**
ARU pmax pmax
comp=Z,29nm,0.9s
ARU Arti 76.39 329 P **P** **17 54 56.8 -1.7**
ARU IAmb IAmb 17 54 58.0
comp=Z,26nm,0.9s
RAYN Ar Rayn 79.02 294 P **P** **17 55 12.2 -1.7**
MAW Mawson 79.20 200 P **P** **17 55 14.6 +0.8**
baz=79,SNR=11
MAW Mawson 79.20 200 P **P** **17 55 14.3 +0.4**
comp=Z,14nm,1.1s,baz=34,slow=5.3,SNR=13
MAW Mawson 79.20 200 P **P** **17 55 14.3 +0.4**
VNDA Vanda 80.19 172 P **P** **17 55 19.5 +0.5**
comp=Z,11nm,0.8s,baz=320,slow=5.3,SNR=45
VNDA LR LR 18 31 02.3
comp=Z,33nm,18.1s,baz=335,slow=36
VNDA Vanda 80.19 172 P **P** **17 55 19.2 +0.1**
MLH Mauna Loa 81.58 70 P **P** **17 55 29.4 +1.6**
WRMHI West Rim 81.65 71 P **P** **17 55 29.8 +1.6**
SDHHI Sand Hill 81.66 71 P **P** **17 55 29.6 +1.4**
ZEI Tsey 82.38 313 *e*P **P** **17 55 30.1 -1.5**
ZEI pmax pmax
comp=Z,12nm,1.3s
AKH Akhalkalaki 82.52 312 P **P** **17 55 32.5 +0.2**
AKH pmax pmax
comp=Z,19nm,1.0s
AKH Akhalkalaki 82.52 312 ⇑P **P** **17 55 32.6 +0.2**
AKH Akhalkalaki 82.52 312 P **P** **17 55 32.5 +0.2**
KBZ Khabaz 83.22 314 P **P** **17 55 35.0 -0.6**
comp=Z,5.8nm,1.0s,baz=111,slow=5.5,SNR=6.9
KBZ LR LR 18 39 27.0
comp=Z,46nm,18.1s,baz=138,slow=40
KIV Kislovodsk 83.39 314 *e*P **P** **17 55 36.4 -0.2**
KIV pmax pmax
comp=Z,15nm,1.1s
RDOG Red Dog Mine 83.87 21 P **P** **17 55 39.8 +1.4**
PRGR Permogore 84.24 332⇑ *i*P **P** **17 55 39.0 -1.4**
PRGR pmax pmax
comp=Z,55nm,0.9s
VRH Novokhopyorsk 84.85 321 *e*P **P** **17 55 41.2 -2.5**
VRH pmax pmax
comp=Z,40nm,1.2s
SOC Sochi 85.50 314 *e*P **P** **17 55 43.9 -3.2**
SOC *e* 17 58 59.7
SOC *e*PPP PPP 18 00 57.4
SOC *e*S **SKSac** **18 05 55.6 -3.8**
SOC *e*SS **SS** **18 11 38.6 -7.1**
SOC *e*SSS SSS 18 15 11.0
SOC pmax pmax
comp=Z,33nm,0.9s
SVW2 Sparrevohn 85.56 29 P **P** **17 55 48.0 +1.0**
SII Sitkinak Islan 85.72 33 P **P** **17 55 48.5 +0.6**
OHAK Old Harbor 86.28 33 P **P** **17 55 51.2 +0.6**
KMBO Kilima Mbogo 86.29 269 P **P** **17 55 52.0 0.0**
KMBO Kilima Mbogo 86.29 269 *i* P **P** **17 55 50.7 -1.2**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 86.29 269 P **P** **17 55 51.3 -0.7**
comp=Z,1.9nm,0.6s,baz=53,slow=10,SNR=7.5
KMBO Kilima Mbogo 86.29 269 P **P** **17 55 51.7 -0.3**
VSR Storozhevoye 86.45 321 *e*P **P** **17 55 48.4 -3.2**
VSR pmax pmax
comp=Z,40nm,1.0s
LPSR Galich'ya Gora 86.70 323 *e*P **P** **17 55 50.8 -2.0**
LPSR pmax pmax
comp=Z,30nm,1.0s
KDAK Kodiak Island 86.71 32 *i* P **P** **17 55 53.4 +0.7**
KDAK Kodiak Island 86.71 32 P **P** **17 55 53.2 +0.6**
KDAK IAmb IAmb 17 58 16.1
comp=Z,54nm,1.4s
RSO Redoubt South 86.87 30 P **P** **17 55 53.7 0.0**
GAZ Gaziantep 87.06 307 P **P** **17 55 54.8 -0.2**
GAZ IAmb IAmb 17 55 55.6
comp=Z,39nm,1.3s
ANN Anapa 87.21 315 *e*P **P** **17 55 53.3 -2.1**
ANN pmax pmax
comp=Z,64nm,1.2s
PPLA Purkeypile 87.36 27 P **P** **17 55 56.3 +0.3**
PPLA IAmb IAmb 17 55 57.7
comp=Z,30nm,1.4s
SKT Skwentna 87.59 28 P **P** **17 55 56.3 -0.6**
SKT IAmb IAmb 17 55 57.6
comp=Z,22nm,1.1s
BRLK Bradley Lake 87.74 30 P **P** **17 55 57.5 -0.2**
BRLK IAmb IAmb 17 55 58.3
comp=Z,40nm,0.9s
SYO Syowa Base 87.84 201⇓ *i*P **P** **17 55 57.2 -0.7**
SUA Susitna One 87.92 29 P **P** **17 55 58.5 -0.2**
SUA IAmb IAmb 17 55 59.0
comp=Z,26nm,0.9s
KTH Kantishna Hill 87.98 27 **P** **17 55 58.6 -0.2**
BPAW Bear Paw Mtn. 87.99 26 P **P** **17 55 58.7 -0.1**

BPAW				IAmb	IAmb	17 56 00.3	
	comp=Z,14nm,0.8s						
MLY	**Manley**	**88.17**	**25**	P	**P**	**17 55 59.5**	**-0.1**
MLY				IAmb	IAmb	17 56 01.5	
	comp=Z,30nm,1.0s						
OBN	**Obninsk**	**88.24**	**325**	*i* P	**P**	**17 55 58.0**	**-2.1**
OBN				pmax	pmax		
	comp=Z,23nm,1.4s						
TRF	**Thorofare Moun**	**88.26**	**27**	P	**P**	**17 56 00.0**	**-0.2**
TRF				IAmb	IAmb	17 56 00.8	
	comp=Z,16nm,1.0s						
RC01	**Rabbit Creek A**	**88.39**	**29**	P	**P**	**17 56 00.6**	**-0.1**
RC01				IAmb	IAmb	17 56 01.2	
	comp=Z,21nm,0.9s						
SEW	**Seward**	**88.48**	**30**	P	**P**	**17 56 01.1**	**0.0**
SEW				IAmb	IAmb	17 56 02.5	
	comp=Z,39nm,1.0s						
COLD	**Coldfoot**	**88.53**	**23**	P	**P**	**17 56 01.8**	**+0.6**
COLD				IAmb	IAmb	17 56 03.7	
	comp=Z,16nm,1.0s						
BWN	**Browne**	**88.67**	**26**	P	**P**	**17 56 02.6**	**+0.7**
BWN				IAmb	IAmb	17 56 03.6	
	comp=Z,36nm,0.9s						
PMR	**Palmer**	**88.70**	**29**	P	**P**	**17 56 01.6**	**-0.5**
PMR				pmax	pmax		
	comp=Z,22nm,1.2s						
PMR	**Palmer**	**88.70**	**29**	P	**P**	**17 56 01.6**	**-0.5**
PMR				IAmb	IAmb	17 56 02.7	
	comp=Z,22nm,1.2s						
MCK	**McKinley**	**88.88**	**26**	P	**P**	**17 56 02.7**	**-0.3**
MCK				pmax	pmax		
	comp=Z,40nm,1.0s						
MCK	**McKinley**	**88.88**	**26**	P	**P**	**17 56 02.7**	**-0.3**
MCK				IAmb	IAmb	17 56 03.5	
	comp=Z,40nm,1.0s						
RND	**Reindeer**	**88.91**	**27**	P	**P**	**17 56 02.3**	**-0.9**
RND				pmax	pmax		
	comp=Z,30nm,0.9s						
RND	**Reindeer**	**88.91**	**27**	P	**P**	**17 56 02.3**	**-0.9**
RND				IAmb	IAmb	17 56 03.4	
	comp=Z,30nm,0.9s						
KNK	**Knik Glacier**	**89.02**	**29**	P	**P**	**17 56 03.4**	**-0.3**
SML	**Sawmill**	**89.09**	**28**	P	**P**	**17 56 03.8**	**-0.2**
SML				IAmb	IAmb	17 56 05.0	
	comp=Z,34nm,0.9s						
WRH	**Wood River Hil**	**89.28**	**26**	P	**P**	**17 56 04.0**	**-0.7**
WRH				IAmb	IAmb	17 56 05.2	
	comp=Z,23nm,1.0s						
COLA	**College**	**89.39**	**25**	*i* P	**P**	**17 56 04.6**	**-0.6**
COLA				pmax	pmax		
	comp=Z,17nm,2.5s						
CCB	**Clear Creek Bu**	**89.40**	**25**	P	**P**	**17 56 04.1**	**-1.2**
CCB				IAmb	IAmb	17 56 05.6	
	comp=Z,19nm,1.0s						
SCM	**Sheep Creek Mo**	**89.57**	**28**	P	**P**	**17 56 06.5**	**+0.2**
SCM				pmax	pmax		
	comp=Z,29nm,1.0s						
SCM	**Sheep Creek Mo**	**89.57**	**28**	P	**P**	**17 56 06.5**	**+0.2**
SCM				IAmb	IAmb	17 56 07.5	
	comp=Z,29nm,1.0s						
GLI	**Glacier Island**	**89.67**	**29**	P	**P**	**17 56 06.4**	**-0.3**
GLI				IAmb	IAmb	17 56 07.8	
	comp=Z,24nm,0.9s						
HDA	**Harding Lake**	**89.77**	**26**	P	**P**	**17 56 06.2**	**-0.9**
	baz=270						
HDA	**Harding Lake**	**89.77**	**26**	P	**P**	**17 56 05.5**	**-1.5**
HDA				IAmb	IAmb	17 56 06.9	
	comp=Z,14nm,0.8s						
IL31		**89.80**	**25**	P	**P**	**17 56 05.6**	**-1.6**
ILAR	**Eielson Array**	**89.80**	**25**	P	**P**	**17 56 05.8**	**-1.4**
	comp=Z,4.2nm,1.0s,baz=238,slow=5.5,SNR=26						
ILAR				LR	LR	18 48 21.6	
	comp=Z,5.6nm,18.1s,baz=328,slow=43						
BRTR	**Keskin Array B**	**89.91**	**310**	P	**P**	**17 56 06.6**	**-1.8**
	comp=Z,1.8nm,0.8s,baz=145,slow=5.4,SNR=7.6						
BRTR				LR	LR	18 43 50.7	
	comp=Z,19nm,18.1s,baz=44,slow=40						
QSPA	**South Pole Qui**	**89.95**	**180**	P	**P**	**17 56 08.5**	**+0.4**
QSPA				IAmb	IAmb	17 56 44.6	
	comp=Z,24nm,1.4s						
FID	**Port Fidalgo**	**89.97**	**29**	P	**P**	**17 56 08.2**	**+0.1**
FID				IAmb	IAmb	17 56 09.3	
	comp=Z,22nm,0.9s						
PRP	**Porcupine Dome**	**90.37**	**25**	P	**P**	**17 56 08.9**	**-1.1**
PAX	**Paxson**	**90.43**	**27**	P	**P**	**17 56 10.3**	**0.0**
PAX				pmax	pmax		
	comp=Z,23nm,1.0s						
PAX	**Paxson**	**90.43**	**27**	P	**P**	**17 56 10.3**	**0.0**
PAX				IAmb	IAmb	17 56 11.6	
	comp=Z,23nm,1.0s						
FYU	**Fort Yukon**	**90.47**	**24**	P	**P**	**17 56 10.8**	**+0.6**
FYU				IAmb	IAmb	17 56 12.4	
	comp=Z,31nm,1.1s						
RIDG	**Independent Ri**	**90.70**	**26**	P	**P**	**17 56 11.2**	**-0.3**
RIDG				IAmb	IAmb	17 56 12.4	
	comp=Z,22nm,0.8s						
DOT	**Dot Lake**	**91.05**	**26**	P	**P**	**17 56 13.0**	**-0.1**
SCRK	**Sand Creek**	**91.07**	**26**	P	**P**	**17 56 13.3**	**0.0**
HMT	**Hamilton**	**91.08**	**30**	P	**P**	**17 56 13.6**	**+0.3**
HMT				IAmb	IAmb	17 56 14.9	
	comp=Z,16nm,0.9s						
MENT	**Mentasta**	**91.23**	**27**	P	**P**	**17 56 14.3**	**+0.3**
MENT				IAmb	IAmb	17 56 15.4	
	comp=Z,12nm,0.8s						
GLB	**Gilahina Butte**	**91.25**	**29**	P	**P**	**17 56 14.5**	**+0.4**
GLB				IAmb	IAmb	17 56 15.7	
	comp=Z,23nm,1.0s						
VRDI	**Verde Repeater**	**91.44**	**29**	P	**P**	**17 56 15.3**	**+0.1**
VRDI				IAmb	IAmb	17 56 16.5	
	comp=Z,14nm,1.0s						
CRQM	**Cirque**	**91.61**	**29**	P	**P**	**17 56 16.0**	**+0.1**
CRQM				IAmb	IAmb	17 56 17.6	
	comp=Z,16nm,0.8s						
MCARA	**McCarthy VSAT**	**91.64**	**29**	P	**P**	**17 56 16.0**	**+0.2**
MCARA				IAmb	IAmb	17 56 20.0	
	comp=Z,17nm,0.8s						
TGL	**Tana Glacier**	**91.76**	**29**	P	**P**	**17 56 16.8**	**+0.2**
WAX	**Waxell Ridge**	**91.77**	**30**	P	**P**	**17 56 17.1**	**+0.6**
WAX				IAmb	IAmb	17 56 18.4	
	comp=Z,20nm,0.8s						
BALM	**Baldy**	**91.98**	**29**	P	**P**	**17 56 18.0**	**+0.5**
BALM				IAmb	IAmb	17 56 19.3	
	comp=Z,18nm,0.8s						
EGAK	**Eagle**	**92.25**	**25**	P	**P**	**17 56 18.9**	**+0.3**
EGAK				IAmb	IAmb	17 56 20.0	
	comp=Z,19nm,1.1s						
BARN	**Barnard Glacie**	**92.31**	**29**		**P**	**17 56 20.3**	**+1.1**
CTGM	**Chitina Glacie**	**92.48**	**29**	P	**P**	**17 56 21.0**	**+1.1**
AKASG	**Malin Array Be**	**92.73**	**321**	P	**P**	**17 56 19.0**	**-2.0**
	comp=Z,2.1nm,0.7s,baz=67,slow=4.7,SNR=8.7						
AKASG				LR	LR	18 44 29.3	
	comp=Z,28nm,18.3s,baz=35,slow=40						
ARCES	**ARCESS Array B**	**92.80**	**340**	P	**P**	**17 56 19.4**	**-1.6**
	comp=Z,6.4nm,0.7s,baz=86,slow=3.5,SNR=18						
ARCES				LR	LR	18 43 31.4	
	comp=Z,31nm,18.1s,baz=42,slow=39						
DAWY	**Dawson**	**93.08**	**26**		**P**	**17 56 23.1**	**+0.5**
SORM	**Soroca**	**93.46**	**318**	⇓P	**P**	**17 56 22.1**	**-2.3**
SPA0	**Spitsbergen Ar**	**93.47**	**349**	P	**P**	**17 56 23.0**	**-1.0**
FINES	**FINESS Array B**	**93.56**	**331**	*i* P	**P**	**17 56 23.7**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**93.56**	**331**	P	**P**	**17 56 23.3**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=112,slow=2.1,SNR=5.5						
EPYK	**Eagle Plains**	**93.89**	**23**	P	**P**	**17 56 26.0**	**-0.1**
	baz=279						
EPYK	**Eagle Plains**	**93.89**	**23**	P	**P**	**17 56 25.9**	**-0.3**
VRI	**Vrincioaia**	**94.74**	**316**	⇑P	**P**	**17 56 29.8**	**-0.7**
INK	**Inuvik**	**94.75**	**21**	P	**P**	**17 56 29.8**	**-0.2**
INK				pmax	pmax		
	comp=Z,16nm,1.0s						
INK	**Inuvik**	**94.75**	**21**	P	**P**	**17 56 29.8**	**-0.2**
INK				IAmb	IAmb	17 56 30.8	
	comp=Z,16nm,1.0s						
LSZ	**Lusaka**	**95.17**	**255**	P	**P**	**17 56 32.6**	**-0.6**
LSZ				pmax	pmax		
	comp=Z,13nm,1.0s						
LSZ	**Lusaka**	**95.17**	**255**	P	**P**	**17 56 32.6**	**-0.6**
LSZ				IAmb	IAmb	17 56 33.9	
	comp=Z,13nm,0.9s						
MLR	**Muntele Rosu**	**95.32**	**316**	⇑P	**P**	**17 56 31.4**	**-1.9**
BURAR	**Bucovina Array**	**95.60**	**318**	⇑P	**P**	**17 56 33.6**	**-0.9**
BUR08	**Bucovina Ar. S**	**95.61**	**318**	P	**P**	**17 56 33.5**	**-1.1**
BUR08				IAmb	IAmb	17 56 36.6	
	comp=Z,6.2nm,0.9s						
SKAG	**Skagway**	**95.64**	**30**	P	**P**	**17 56 34.9**	**+0.6**
BESE	**Bessie Mountai**	**96.03**	**31**	P	**P**	**17 56 37.1**	**+0.9**
JIS	**Juneau Island**	**96.33**	**31**	P	**P**	**17 56 38.0**	**+0.7**
BOSA	**Boshof**	**97.29**	**241**	LR	LR	18 38 00.5	
	comp=Z,28nm,21.6s,baz=82,slow=34						
TRPA	**Tarpa**	**97.33**	**318**	⇑P	**P**	**17 56 40.9**	**-1.2**
KOLS	**Kolonicke sedl**	**97.39**	**319**	*e*P	**P**	**17 56 41.4**	**-1.0**
KOLS	**Kolonicke sedl**	**97.39**	**319**	*e*PDIFF	**P**	**17 56 41.4**	**-1.0**
DRGR		**97.40**	**317**	⇓P	**P**	**17 56 41.7**	**-0.9**
C36M	**Paulatuk**	**97.75**	**19**	P	**P**	**17 56 43.1**	**-0.4**
	baz=291						
SIRR	**Siria**	**98.19**	**317**	⇑P	**P**	**17 56 44.8**	**-1.3**
VYHS	**Vyhne**	**99.70**	**319**	*e*P	**Pdif**	**17 56 51.6**	**-1.2**
VYHS	**Vyhne**	**99.70**	**319**	*e*PDIFF	**Pdif**	**17 56 51.5**	**-1.2**
YKA	**Yellowknife Ar**	**104.17**	**24**	Pdiff	**Pdif**	**17 57 12.3**	**0.0**
	comp=Z,0.8nm,0.7s,baz=296,slow=4.7,SNR=7.7						
YKA				PKiKP	**PKiKP**	**18 01 28.3**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=299,slow=1.6,SNR=6.5						
I04A	**Tendick Farm,**	**107.15**	**44**	P	**PKiKP**	**18 01 33.7**	**-0.9**
	baz=287						
NVAR	**Mina Array Bea**	**111.74**	**48**	PKiKP	**PKiKP**	**18 01 43.9**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=242,slow=2.2,SNR=6.9						
BOZ	**Bozeman (W)**	**113.62**	**39**	P	**PKiKP**	**18 01 47.2**	**+0.2**
	baz=296						
EGMT	**Eagleton**	**113.64**	**36**	P	**PKiKP**	**18 01 46.9**	**0.0**
	baz=299						
TPNV	**Topopah Spring**	**113.76**	**49**	P	**PKiKP**	**18 01 48.3**	**+0.8**
	baz=289						
R11A	**Troy Canyon, C**	**113.78**	**48**	P	**PKiKP**	**18 01 48.3**	**+0.8**
	baz=290						
FFC	**Flin Flon**	**113.96**	**27**	*i* PKIKP	**PKiKP**	**18 01 48.3**	**+1.2**
GMRC	**Granite Mounta**	**114.91**	**51**	P	PKPdf	18 01 50.2	+0.5
	baz=289						
DUG	**Dugway, Tooele**	**115.10**	**45**	P	**PKPdf**	**18 01 51.1**	**+1.1**
	baz=293						
REDW	**Red Top Meadow**	**115.11**	**41**		**PKPdf**	**18 01 50.4**	**+0.4**
IKP	**In-Ko-Pah, Jac**	**115.22**	**54**	P	**PKPdf**	**18 01 50.9**	**+0.6**
	baz=288						
MSU	**Marysvale**	**116.21**	**46**	PKIKP	**PKPdf**	**18 01 52.0**	**-0.3**
MSU	**Marysvale**	**116.21**	**46**		**PKPdf**	**18 01 52.0**	**-0.3**
BW06	**Boulder Array**	**116.23**	**41**	P	**PKPdf**	**18 01 52.1**	**-0.1**
	baz=297						
PDAR	**Pinedale Array**	**116.23**	**41**	PKP	**PKiKP**	**18 01 52.2**	**+0.1**
	comp=Z,1.5nm,1.0s,baz=215,slow=1.8,SNR=8.7						
PDAR				PKKPbc	**PKKPbc**	**18 12 23.4**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=120,slow=6.5,SNR=4.9						
TMUT	**Trail Mountain**	**116.59**	**45**		**PKPdf**	**18 01 52.3**	**-0.8**
U15A	**North Rim**	**116.92**	**48**		**PKiKP**	**18 01 54.3**	**+0.6**
SRU	**San Rafael Swe**	**117.15**	**45**	PKIKP	**PKiKP**	**18 01 54.5**	**+0.5**
SRU	**San Rafael Swe**	**117.15**	**45**		**PKiKP**	**18 01 54.5**	**+0.5**
ESDC	**Sonseca Array**	**118.01**	**316**	PKP	**PKPdf**	**18 01 54.5**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=28,slow=3.5,SNR=4.8						
RWWY	**Rawlins**	**118.27**	**41**		**PKiKP**	**18 01 56.5**	**+0.3**
O20A	**White River Ci**	**118.30**	**43**		**PKPdf**	**18 01 55.7**	**-0.5**
RSSD	**Black Hills**	**119.05**	**37**	PKIKP	**PKPdf**	**18 01 57.1**	**-0.5**
RSSD	**Black Hills**	**119.05**	**37**		**PKPdf**	**18 01 57.1**	**-0.5**
MVCO	**Mesa Verde**	**119.40**	**46**		**PKPdf**	**18 01 57.8**	**-0.7**
ULM	**Lac du Bonnet**	**119.72**	**28**	PKP	**PKPdf**	**18 01 57.8**	**-0.5**
	comp=Z,3.3nm,0.4s,baz=100,slow=3.7,SNR=4.8						
ULM	**Lac du Bonnet**	**119.72**	**28**		**PKPdf**	**18 01 57.6**	**-0.7**
ISCO	**Idaho Springs**	**120.24**	**42**	PKIKP	**PKiKP**	**18 02 00.5**	**+0.3**
ISCO	**Idaho Springs**	**120.24**	**42**		**PKiKP**	**18 02 00.5**	**+0.3**
TOA0	**Torodi Ar. Sit**	**120.92**	**285**		**PKPdf**	**18 02 00.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**120.92**	**285**	PKP	**PKPdf**	**18 02 01.1**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=61,slow=2.2,SNR=22						
TORD				SKP		18 05 23.1	
	comp=Z,1.1nm,0.7s,baz=56,slow=2.6,SNR=3.8						
TORD				PKKPbc	**PKKPab**	**18 12 07.1**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=264,slow=3.8,SNR=7.7						
ANMO	**Albuquerque**	**121.86**	**48**	PKIKP	**PKiKP**	**18 02 04.5**	**+1.1**
ANMO	**Albuquerque**	**121.86**	**48**		**PKiKP**	**18 02 04.5**	**+1.1**
T25A	**Trinidad**	**122.34**	**45**		**PKiKP**	**18 02 04.5**	**+0.2**
ECSD	**EROS Data Cent**	**123.63**	**34**		**PKPdf**	**18 02 06.0**	**-0.1**
MNTX	**Cornudas Mount**	**124.05**	**51**		**PKiKP**	**18 02 07.5**	**0.0**
SCHQ	**Schefferville**	**124.67**	**7**	PKP	**PKPdf**	**18 02 07.8**	**+0.1**
	comp=Z,11nm,0.8s,baz=346,slow=2.1,SNR=7.6						
SCHQ	**Schefferville**	**124.67**	**7**		**PKiKP**	**18 02 08.3**	**+0.2**
TX31	**Lajitas Ar. Si**	**126.37**	**53**		**PKiKP**	**18 02 12.4**	**+0.1**
TX32	**Lajitas Array**	**126.37**	**53**		**PKiKP**	**18 02 12.4**	**+0.1**
TXAR	**Lajitas Array**	**126.37**	**53**	PKP	**PKiKP**	**18 02 12.9**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=227,slow=1.5,SNR=16						
TXAR				SKPbc	SKPbc	18 05 19.6	
	comp=Z,0.5nm,0.7s,baz=273,slow=1.7,SNR=3.5						
DBIC	**Dimbokro**	**128.09**	**278**	SKPbc	SKPbc	18 05 20.9	
	comp=Z,4.9nm,1.0s,baz=344,slow=3.7,SNR=3.9						
JCT	**Junction City**	**128.88**	**50**	PKIKP	**PKPdf**	**18 02 16.4**	**-0.2**
JCT	**Junction City**	**128.88**	**50**		**PKPdf**	**18 02 16.4**	**-0.2**
U40A	**Yellville**	**130.51**	**39**		**PKPdf**	**18 02 18.9**	**-0.6**
LATQ	**La Tuque**	**130.68**	**15**		**PKPdf**	**18 02 19.1**	**-0.3**
MIAR	**Mount Ida**	**131.15**	**41**	PKIKP	**PKPdf**	**18 02 20.5**	**-0.2**
MIAR	**Mount Ida**	**131.15**	**41**		**PKPdf**	**18 02 20.5**	**-0.2**
LCAR	**Lake Charles**	**131.75**	**38**		**PKPdf**	**18 02 21.0**	**-0.7**
WVT	**Waverly**	**133.71**	**36**	PKIKP	**PKPdf**	**18 02 25.6**	**+0.2**
WVT	**Waverly**	**133.71**	**36**		**PKPdf**	**18 02 25.6**	**+0.2**
PLAL	**Pickwick Lake**	**134.35**	**37**		**PKPdf**	**18 02 26.0**	**-0.7**
BINY	**Binghamton**	**134.43**	**20**		**PKiKP**	**18 02 27.4**	**-0.7**
S51A	**Beattyville**	**134.93**	**31**		**PKPdf**	**18 02 28.1**	**+0.4**
MVL	**Millersville**	**136.23**	**22**		**PKPdf**	**18 02 30.4**	**+0.4**
LRAL	**Lakeview Retre**	**136.33**	**38**		**PKPdf**	**18 02 30.4**	**-0.1**
PLCA	**Paso Flores**	**137.50**	**164**	PKhKP	PKPpre	18 02 27.4	
	comp=Z,4.5nm,1.1s,baz=236,slow=5.1,SNR=3.3						
PLCA				SKPbc	**SKPbc**	**18 05 54.8**	**+1.6**
	comp=Z,2.6nm,0.9s,baz=228,slow=6.2,SNR=3.1						
061Z	**Ochoppi**	**145.09**	**41**		**PKPbc**	**18 02 45.8**	**-0.3**
TGUH	**Tegucigalpa,Un**	**146.45**	**64**		**PKPdf**	**18 02 48.5**	**-0.6**
ACON	**Acoyapa**	**149.11**	**66**		**PKPbc**	**18 02 57.1**	**-0.5**
ESPN	**Las Esperanzas**	**149.82**	**65**		**PKiKP**	**18 03 01.3**	**+1.0**
JTS	**Las Juntas de**	**149.87**	**69**	PKP2	**PKiKP**	**18 03 00.2**	**-0.3**
JTS	**Las Juntas de**	**149.87**	**69**		**PKiKP**	**18 03 00.2**	**-0.3**
CBCY	**The Bluff, Cay**	**149.89**	**48**		**PKPbc**	**18 02 58.2**	**-1.2**
GO02	**Mina Guanaco**	**151.97**	**154**		**PKPbc**	**18 03 03.4**	**-1.2**
SDDR	**Presa de Saban**	**156.16**	**37**	PKPab	**PKPab**	**18 03 30.9**	**-0.9**
SJG	**San Juan**	**159.62**	**27**	PKP2	**PKPab**	**18 03 47.5**	**+0.9**
SJG	**San Juan**	**159.62**	**27**		**PKPab**	**18 03 47.5**	**+0.9**
LPAZ	**La Paz**	**160.16**	**145**	PKP	**PKPdf**	**18 03 10.9**	**+1.7**
	comp=Z,2.4nm,0.9s,baz=56,slow=4.0,SNR=6.6						
LPAZ				PKPab	**PKPab**	**18 03 51.8**	**+1.9**
	comp=Z,3.9nm,1.1s,baz=321,slow=1.3,SNR=5.7						
ROSC	**El Rosal**	**161.52**	**75**	PKPab	**PKPab**	**18 03 57.5**	**+1.6**
	comp=Z,7.8nm,0.5s,baz=48,slow=11,SNR=6.1						
ROSC	**El Rosal**	**161.52**	**75**		**PKPab**	**18 03 53.4**	**-2.5**
BDFB	**Brasilia**	**162.38**	**208**	PKPab	**PKPab**	**18 03 59.9**	**+0.9**
	comp=Z,1.9nm,0.4s,baz=202,slow=5.4,SNR=3.0						
SDV	**Santo Domingo**	**163.34**	**58**		**PKPdf**	**18 03 10.8**	**-1.3**

SJA 04 17:45:13.8±0.9**,31°.53S**×**69°.45W,h116**km±4km**,ML2.9, MW3.3,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.30**	**154**	*i* P	Pn	17 45 31.5	+0.8
RTLS				*i* Sg	Sn	17 45 44.3	+1.0
RTLS				IAML		17 45 44.7	
	comp=Z,429nm,0.2s						
RTLS	**Leoncito**	**0.30**	**154**	*i* P	Pn	17 45 31.4	+0.7
RTLS				*e*S	Sn	17 45 44.4	+1.0
RTLS				IAML		17 45 44.6	
	comp=Z,429nm,0.2s						
RTCV	**Cerro Valdivia**	**0.84**	**113**	*i* P	Pn	17 45 34.1	+0.1
RTCV				*i* Sg	Sn	17 45 48.4	-0.9
RTCV	**Cerro Valdivia**	**0.84**	**113**	*i* P	Pn	17 45 35.1	+1.1
RTCV				*e*S	Sn	17 45 50.6	+1.3
RTLL	**Cerro Villicun**	**0.86**	**77**	*i* P	Pn	17 45 34.8	+0.6
RTLL				*e*S	Sn	17 45 50.3	+0.7
RTLL				IAML		17 45 51.2	
	comp=Z,94nm,0.3s						
ACCO	**Cerro Coronel**	**1.00**	**19**	*i* P	Pn	17 45 37.1	+1.3
ACCO				*i* Sg	Sn	17 45 53.8	+1.4
ACCO	**Cerro Coronel**	**1.00**	**19**	*i* P	Pn	17 45 36.9	+1.1
AMOG	**MOGNA**	**1.01**	**54**	*i* P	Pn	17 45 35.7	0.0
AMOG				*i* Sg	Sn	17 45 51.7	-0.5
AMOG	**MOGNA**	**1.01**	**54**	*i* P	Pn	17 45 36.6	+0.9
CFA	**Coronel Fontan**	**1.04**	**94**	*i* P	Pn	17 45 36.7	+0.8
ASAL	**Salagasta**	**1.18**	**154**	*i* P	Pn	17 45 38.1	+0.6
ASAL				*i* Sg	Sn	17 45 55.5	+0.1
ASAL	**Salagasta**	**1.18**	**154**	*i* P	Pn	17 45 38.6	+1.2
AROD	**Rodeo**	**1.36**	**359**	*i* P	Pn	17 45 40.9	+1.1
ARCO	**CERRO ARCO**	**1.38**	**162**	*i* P	Pn	17 45 40.4	+0.7
ARCO				*i* Sg	Sn	17 45 59.9	+0.4
ARCO				IAML		17 46 01.9	
	comp=Z,204nm,0.2s						
ARCO	**CERRO ARCO**	**1.38**	**162**	*i* P	Pn	17 45 41.1	+1.4
ARCO				IAML		17 46 01.9	
	comp=Z,204nm,0.2s						
ACDV	**Cuesta del Vie**	**1.39**	**12**	*i* P	Pn	17 45 41.4	+1.5
ACDV	**Cuesta del Vie**	**1.39**	**12**	*i* P	Pn	17 45 41.4	+1.6
AAGR	**Agrelo**	**1.64**	**161**	*i* P	Pn	17 45 43.6	+0.9
AAGR				*i* Sg	Sn	17 46 05.3	+0.6
AAGR	**Agrelo**	**1.64**	**161**	*i* P	Pn	17 45 43.6	+0.9
ROC1	**El Roble**	**1.96**	**222**	*i* P	Pn	17 45 47.6	+0.8
ACAN	**Cantantal**	**2.06**	**112**	*i* P	Pn	17 45 48.1	+0.3
ACAN				*i* Sg	Sn	17 46 12.8	-1.1
ACAN	**Cantantal**	**2.06**	**112**	*i* P	Pn	17 45 48.8	+1.0
AGUA	**GUANDACOL**	**2.20**	**22**	*i* P	Pn	17 45 50.9	+1.2
APLL	**PUNTA DE LOS L**	**2.75**	**66**	*i* P	Pn	17 45 57.2	+0.5
APLL	**PUNTA DE LOS L**	**2.75**	**66**	*i* P	Pn	17 45 57.4	+0.6
ACLC	**CERRO LA CRUZ**	**3.01**	**46**	*i* P	Pn	17 46 01.1	+0.8
MRA	**San Martin**	**3.29**	**107**	⇑*i*P	Pn	17 46 04.4	+0.5
MRA	**San Martin**	**3.29**	**107**	*i* P	Pn	17 46 04.5	+0.6

UCR ***04*** *18:23:51.6±2.0, 13°.52N×90°.63W, h44km±171km, MD3.1, ML3.4*
GCG ***04*** *18:23:51.0±1.1, 13°.49N×90°.85W, h25km±27km, MD3.6*
SNET ***04*** *18:23:52.5±0.5, 13°.54N×90°.52W, h13km±999km, ML3.2*
ISC 04 18:23:50.8±2.6**, 13°.4N**±0°.1×**90°.67W**±0°.08**, h38**km**, n15,** σ**0s.67**/22**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.78**	**17**	*e*P	**Pn**	**18 24 04.9**	**-0.6**
IXG	**Ixpaco**	**0.78**	**17**	*e*P	**Pn**	**18 24 05.8**	**+0.3**
IXG	**Ixpaco**	**0.78**	**17**	*e*P	**Pn**	**18 24 04.9**	**-0.6**
PCG	**Pacaya**	**0.97**	**4**	*e*P	**Pn**	**18 24 09.1**	**+1.0**
PCG				*e*S	**Sn**	**18 24 21.0**	**+0.2**
PCG	**Pacaya**	**0.97**	**4**	*e*P	**Pn**	**18 24 09.1**	**+1.0**
PCG				*e*S	**Sn**	**18 24 21.0**	**+0.2**
FUG	**Fuego 3**	**1.04**	**351**	*e*P	**Pn**	**18 24 10.0**	**+1.0**
FUG				*e*S	**Sn**	**18 24 21.6**	**-0.7**
FUG	**Fuego 3**	**1.04**	**351**	*e*P	**Pn**	**18 24 10.0**	**+1.0**
FUG				*e*S	**Sn**	**18 24 21.6**	**-0.7**
CEVE	**Cerro Verde**	**1.10**	**68**	*e*P	**Pn**	**18 24 09.8**	**-0.1**
CEVE				IAML		18 24 26.4	
	comp=Z,751nm,0.3s						
CEVE	**Cerro Verde**	**1.10**	**68**	*e*P	**Pn**	**18 24 09.8**	**-0.1**
CEVE				IAML		18 24 26.4	
	comp=Z,751nm,0.3s						
SBLS	**San Blas**	**1.10**	**68**	*e*P	**Pn**	**18 24 10.0**	**+0.1**
SBLS				*e*S	**Sn**	**18 24 23.4**	**-0.6**
SBLS	**San Blas**	**1.10**	**68**	*e*P	**Pn**	**18 24 10.0**	**+0.1**
SBLS				*e*S	**Sn**	**18 24 23.4**	**-0.6**
SNJE	**San Jose**	**1.13**	**67**	*e*P	**Pn**	**18 24 10.4**	**+0.2**
SNJE	**San Jose**	**1.13**	**67**	*e*P	**Pn**	**18 24 10.4**	**+0.2**
STG3	**Santiaguito 3,**	**1.55**	**326**	*e*P	**Pn**	**18 24 15.2**	**-0.9**
STG3				*e*S	**Sn**	**18 24 35.1**	**0.0**
LFRS	**El Faro**	**1.58**	**82**	*e*P	**Pn**	**18 24 17.4**	**+1.1**

ISN ***04*** *18:28:30.3±1.2, 34°.40N×45°.57E, h7km±6km, ML3.3*
TEH ***04*** *18:28:32.2, 34°.40N×45°.62E, h19km, ML3.0*
ISC 04 18:28:31.5±1.5**, 34°.36N**±0°.04×**45°.55E**±0°.03**, h0**km±12km**, n22,** σ**0s.71**/30**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.77**	**64**	*e*Pg	**Pg**	**18 28 46.2**	**-0.1**
IDHR				IAMB	IAmb	18 28 58.6	
	comp=Z,0.0nm,0.3s						
IGHG	**Ghaleghazi**	**0.84**	**92**	*e*Pg	**Pg**	**18 28 47.4**	**-0.3**
IGHG				IAMB	IAmb	18 28 50.4	
	comp=Z,15μm,0.1s						
KCHF	**Cheshme Sefid,**	**1.23**	**94**	*e*Pg	**Pg**	**18 28 54.3**	**-0.9**
KCHF				*e*Sg	**Sb**	**18 29 12.0**	**-0.3**
KCHF				IAMB	IAmb	18 29 15.9	
	comp=Z,0.0nm,0.6s						
IBDR	**Badra**	**1.29**	**166**	*e*Pg	**Pg**	**18 28 56.0**	**-0.2**
IBDR				AML	AML	18 28 58.1	
	comp=Z,822nm,0.2s						
IBDR				*e*Sg	**Sn**	**18 29 14.0**	**-0.6**
ILIN	**Lien**	**1.29**	**64**	*e*Pg	**Pg**	**18 28 55.8**	**-0.5**
ILIN				IAMB	IAmb	18 28 57.3	
	comp=Z,4μm,0.2s						
ILIN				*e*Sg	**Sg**	**18 29 12.8**	**-0.2**
IKRK	**Kirkuk**	**1.44**	**316**	*e*Pn	**Pn**	**18 28 58.0**	**-0.8**
IKRK				AML	AML	18 28 59.4	
	comp=Z,486nm,0.2s						
IKRK				*e*Sn	**Sn**	**18 29 19.0**	**+0.6**
BHD	**Baghdad**	**1.46**	**222**	*e*Pn	**Pn**	**18 28 59.0**	**-0.1**
BHD				*e*Sn	**Sg**	**18 29 20.0**	**+1.5**
IKOM	**Komasi**	**1.63**	**96**	*e*Pn	**Pn**	**18 29 01.9**	**+0.3**
IKOM				IAMB	IAmb		
	comp=Z,0.0nm,0.0s						
IBZA	**Bozab**	**1.91**	**86**	IAMB	IAmb	18 29 35.7	
	comp=Z,0.0nm,0.4s						
IBZA				*e*Pn	**Pn**	**18 29 05.6**	**0.0**
IKFM	**Kafar-mosalman**	**2.08**	**113**	IAMB	IAmb	18 29 48.4	
	comp=Z,0.0nm,0.5s						
IKFM				*e*Pn	**Pn**	**18 29 07.8**	**+0.2**
IDOB	**Doab**	**2.25**	**104**	IAMB	IAmb	18 29 17.4	
	comp=Z,0.0nm,0.2s						
IDOB				*e*Pn	**Pn**	**18 29 09.8**	**-0.4**
HSRG	**Sareghieh**	**2.41**	**68**	*e*Pn	**Pn**	**18 29 13.3**	**+0.8**
HSRG				IAMB	IAmb	18 29 53.4	
	comp=Z,0.0nm,0.7s						
IKMR	**Kamar-syah**	**2.50**	**109**	*e*Pn	**Pn**	**18 29 13.3**	**0.0**
IKMR				IAMB	IAmb	18 29 57.6	
	comp=Z,0.0nm,0.4s						
HSAM	**Samen**	**2.53**	**93**	*e*Pn	**Pn**	**18 29 13.9**	**-0.2**
HSAM				IAMB	IAmb	18 29 22.4	
	comp=Z,0.0nm,0.7s						
BDRS	**Dareh Seyedi**	**2.79**	**97**	*e*Pn	**Pn**	**18 29 17.1**	**-0.6**
BDRS				IAMB	IAmb	18 29 24.6	
	comp=Z,0.0nm,0.3s						
MSL	**Mosul**	**2.85**	**316**	*e*Pn	**Pn**	**18 29 18.0**	**-0.2**
MSL				AML	AML	18 29 20.2	
	comp=Z,69nm,0.4s						
MSL				*e*Sn	**Sn**	**18 29 53.0**	**-0.3**
HAGD	**Aghdareh**	**3.00**	**80**	*e*Pn	**Pn**	**18 29 20.4**	**-0.1**
HAGD				IAMB	IAmb	18 29 33.2	
	comp=Z,0.0nm,0.3s						
NSR	**Nassriya**	**3.38**	**171**	*e*Pn	**Pn**	**18 29 25.0**	**-0.5**
NSR				AML	AML	18 29 27.0	
	comp=Z,998nm,0.2s						
NSR				*e*Sn	**Sn**	**18 30 07.0**	**+0.8**
QABG	**Abgarm-Qazvin**	**3.57**	**67**	*e*Pn	**Pn**	**18 29 30.0**	**+1.6**
IRAZ	**Razeghan**	**3.75**	**73**	*e*Pn	**Pn**	**18 29 31.8**	**+1.0**
RTB	**Rutbah**	**4.57**	**255**	*e*Pn	**Pn**	**18 29 43.0**	**+1.1**
RTB				*e*Sn	**Sn**	**18 30 35.0**	**-0.7**
IKLH	**Kolahrood**	**5.12**	**100**	*e*Pn	**Pn**	**18 29 50.3**	**+0.6**

NIED ***04*** *18:43:00, 37°.10N×141°.40E, h47km, Mw4.3 Best double couple: M0 2.92000×10^{15} NP1: ϕ_s209.00000°, δ20.00000°, λ95.00000°. NP2: ϕ_s24.00000°, δ70.00000°, λ88.00000°.*
MOS ***04*** *18:43:25.6±1.1, 37°.23N×141°.58E, h43km, mb4.8/11, Error ellipse: s-maj=9.0km s-min=5.8km az=92.2*
ISCJB ***04*** *18:43:26.2±0.6, 37°.19N±0°.03×141°.49E±0°.05, h46km±4km, mb4.3/36, MS3.4/8, Error ellipse: s-maj=7.2km s-min=3.9km az=36.6*
JMA ***04*** *18:43:27.2±0.1, 37°.17N×141°.41E, h48km±1km, M4.2*
JMA Felt III J1.
IDC ***04*** *18:43:28.4±0.6, 37°.22N×141°.38E, h45km±4km, mb3.9/20, mb1 4.0/25, mb1mx4.0/37, mbtmp4.1/25, MS3.2/14, Ms1 3.3/14, ms1mx3.1/37, Error ellipse: s-maj=13.9km s-min=7.9km az=151.0*
NEIC ***04*** *18:43:28.5±1.4, 37°.24N±0°.08×141°.4E±0°.1, h47km±7km, mb4.7/27*
ISC 04 18:43:27.8±0.5**, 37°.20N**±0°.04×**141°.49E**±0°.05**, h47**km±4km**, n130,** σ**1s.64**/147**, mb4.5**/47**, MS3.4**/8**, 7C-10D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.52**	**289**	⇓P	**Pn**	**18 43 37.9**	**-1.3**
JFK				S	**Sn**	**18 43 45.2**	**-2.1**
ONAJ	**Iwakimizuishiy**	**0.56**	**260**	⇓P	**Pn**	**18 43 38.2**	**-1.5**
ONAJ				S	**Sn**	**18 43 45.8**	**-2.4**
JMST	**Minamisoumatoc**	**0.71**	**318**	⇓P	**Pn**	**18 43 40.6**	**-1.0**
JMST				S	**Sn**	**18 43 50.2**	**-1.4**
JFFD	**Fukushimafurud**	**0.75**	**262**	⇓P	**Pn**	**18 43 40.7**	**-1.4**
JFFD				S	**Sn**	**18 43 50.0**	**-2.5**
JMM	**Marumori**	**0.87**	**320**	⇓P	**Pn**	**18 43 42.9**	**-0.8**
JMM				S	**Sn**	**18 43 54.1**	**-1.2**

JHO	Hitachi	0.94	232	⇓P	Pn	18 43 42.8	-1.9
JHO				S	Sn	18 43 53.8	-3.3
JFT	Otama	0.97	290	⇓P	Pn	18 43 44.7	-0.5
JFT				S	Sn	18 43 57.1	-0.8
JIO	Ouri	1.26	355	⇓P	Pn	18 43 48.7	-0.3
JIO				eS	Sn	18 44 04.9	+0.1
JOU	Okura	1.34	331	⇓P	Pn	18 43 49.7	-0.4
JFY	Yanaizu	1.44	279	⇓P	Pn	18 43 50.9	-0.6
JFY				eS	Sn	18 44 08.2	-1.1
JYS	Shirataka	1.52	313	P	Pn	18 43 52.7	+0.1
JYS				S	Sn	18 44 12.3	+1.0
MJAR	Matsushiro Arr	2.71	257	P	Pn	18 44 09.1	+0.2
	4.9nm,0.3s,baz=80,slow=16,SNR=171						
MJAR				S	Sn	18 44 39.5	-1.1
	5.7nm,0.3s,baz=79,slow=13,SNR=9.0						
MJAR				LR	LR	18 45 28.6	
	comp=Z,584nm,20.0s,baz=80,slow=46						
MAJO	Matsushiro	2.71	257	P	Pn	18 44 09.2	+0.2
MAJO	Matsushiro	2.71	257		Pn	18 44 09.2	+0.2
MJB9	Matsu-Tunnel	2.71	257		Pn	18 44 09.3	+0.3
INU	Inuyama	4.06	244		Pn	18 44 28.3	+0.9
ERM	Erimo	4.98	14	iP	Pn	18 44 40.0	0.0
ERM	Erimo	4.98	14	Pn	Pn	18 44 40.1	+0.1
ASAJ	Asahikawa	6.96	7	P	Pn	18 45 06.5	-0.7
	4.7nm,0.3s,baz=212,slow=14,SNR=44						
ASAJ				S	Sn	18 46 25.6	+0.6
	2.6nm,0.3s,baz=127,slow=20,SNR=3.0						
JKA	Kamikawa-asahi	6.96	7		Pn	18 45 06.5	-0.7
JKA					Sn	18 46 25.6	+0.6
NMR	Nemuro--Hokkai	6.96	26	eP	Pn	18 45 05.1	-2.1
NMR				eS	Sn	18 46 17.4	-7.6
GLVR	Golovnino	7.22	24	eP	Pn	18 45 10.9	+0.2
GLVR				eS	Sn	18 46 27.7	-3.6
GLVR				pmax	pmax		
	comp=Z,183nm,0.5s						
GLVR				pmax	pmax		
	comp=E,73nm,0.3s						
GLVR				pmax	pmax		
	comp=N,112nm,0.5s						
GRPR	Tuman	7.53	24	P	Pn	18 45 11.6	-3.3
GRPR				eS	Sn	18 46 31.4	-7.5
GRPR				pmax	pmax		
	comp=Z,51nm,0.3s						
YUK	Yuzh-Kuril'sk	7.59	25	eP	Pn	18 45 14.3	-1.5
YUK				pmax	pmax		
	comp=Z,109nm,0.7s						
YUK				pmax	pmax		
	comp=N,30nm,0.3s						
YUK				pmax	pmax		
	comp=E,61nm,0.6s						
TEY	Ternei	8.65	336	⇑eP	Pn	18 45 36.6	+6.2
TEY				pmax	pmax		
	comp=N,20nm,0.9s						
TEY				pmax	pmax		
	comp=E,20nm,0.9s						
TEY				pmax	pmax		
	comp=Z,30nm,0.9s						
KUR	Kuril'sk	9.35	29	eP	Pn	18 45 40.3	+0.4
KUR				eS	Sn	18 47 17.6	-6.0
KUR				pmax	pmax		
	comp=Z,26nm,0.8s						
KUR				smax	smax		
	comp=E,37nm,0.5s						
JNU	Nakatsue	9.59	248	P	Pn	18 45 44.5	+1.2
	comp=E,0.5nm,0.3s,baz=150,slow=1.4,SNR=4.8						
JNU				LR	LR	18 49 50.0	
	comp=E,87nm,20.3s,baz=77,slow=40						
JNU	Nakatsue	9.59	248		Pn	18 45 42.8	-0.6
USA0B	Ussuriysk Arra	10.04	317	P	Pn	18 45 51.4	+2.0
USA0B	Ussuriysk Arra	10.04	317		Pn	18 45 51.4	+2.0
USRK	Ussuriysk Ar.	10.04	317	P	Pn	18 45 52.0	+2.6
USRK	Ussuriysk Ar.	10.04	317	P	Pn	18 45 52.0	+2.6
	baz=125,slow=13,SNR=12						
USRK				LR	LR	18 49 35.9	
	comp=E,151nm,19.0s,baz=134,slow=37						
JCJ	Chichijima	10.09	176	P	Pn	18 45 53.0	+2.9
	comp=E,7.1nm,0.3s,baz=76,slow=22,SNR=2.6						
JCJ				S	Sn	18 47 33.0	-8.9
	comp=E,8.1nm,0.3s,baz=287,slow=19,SNR=4.6						
JCJ				LR	LR	18 49 31.1	
	comp=E,102nm,20.7s,baz=358,slow=36						
KSRS	Korea Array	10.81	275	P	Pn	18 46 02.5	+2.6
	comp=E,0.3nm,0.3s,baz=89,slow=12,SNR=8.7						
KSRS				LR	LR	18 50 02.8	
	comp=E,139nm,18.2s,baz=88,slow=37						
KLR	Kul'dur	13.95	333	iP	Pn	18 46 42.1	-0.6
KLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	Kul'dur	13.95	333	P	Pn	18 46 42.6	-0.1
	comp=Z,0.2nm,0.3s,baz=154,slow=14,SNR=5.4						
ZEA	Zeya	19.26	334	eP	P	18 47 47.8	-0.4
ZEA				pmax	pmax		
	comp=Z,12nm,0.5s						
PETK	Petropavlovsk-	19.52	30	LR	LR	18 55 23.0	
	comp=Z,18nm,18.2s,baz=242,slow=37						
MA2	Magadan	23.18	12	pP	pP	18 48 42.6	+1.1
	comp=Z,29nm,1.0s,baz=219,slow=11,SNR=3.1						
YAK	Yakutsk	25.93	347	P	P	18 48 55.4	+0.1
YAK				pmax	pmax		
	comp=Z,12nm,0.7s						
YAK	Yakutsk	25.93	347	P	P	18 48 55.8	+0.5
	comp=Z,6.0nm,0.3s,baz=142,slow=5.7,SNR=7.1						
YAK	Yakutsk	25.93	347	P	P	18 48 55.4	+0.1
YAK				IAmb	IAmb	18 48 56.6	
	comp=Z,12nm,0.7s						
SEY	Seymchan	26.62	11	P	P	18 49 02.8	+1.2
	comp=Z,1.1nm,0.5s,baz=208,slow=12,SNR=5.1						
ENH	Enshi	27.41	265	P	P	18 49 08.3	-0.8
ENH				IAmb	IAmb	18 49 08.7	
	comp=Z,14nm,0.6s						
SONM	Songino Array	27.75	304	P	P	18 49 11.9	-0.2
	comp=Z,3.3nm,0.6s,baz=103,slow=8.7,SNR=37						
SONM				pP	pP	18 49 24.6	+0.4
	comp=Z,2.2nm,0.6s,baz=104,slow=8.0,SNR=6.0						
SONM				LR	LR	18 59 43.2	
	comp=Z,44nm,21.5s,baz=130,slow=35						
H11N2	WAKE ISLAND Hy	28.18	121	T	T	19 19 29.2	
	baz=314,slow=75,SNR=438						
H11N1	WAKE ISLAND Hy	28.19	121	T	T	19 19 29.0	
	baz=314,slow=75,SNR=522						
H11N3	WAKE ISLAND Hy	28.20	121	T	T	19 19 29.8	
	baz=314,slow=75,SNR=504						
H11S1	WAKE ISLAND Hy	28.90	123	T	T	19 20 21.9	
	baz=316,slow=76,SNR=321						
H11S3	WAKE ISLAND Hy	28.90	123	T	T	19 20 23.7	
	baz=316,slow=76,SNR=221						
H11S2	WAKE ISLAND Hy	28.91	123	T	T	19 20 23.0	
	baz=316,slow=76,SNR=230						
TLY	Talaya	30.27	311	iP	P	18 49 33.9	-0.4
TLY				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BILL	Bilibino	33.85	16	iP	P	18 50 04.6	-0.8
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TIXI	Tiksi	35.14	353	iP	P	18 50 14.7	-1.7
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TIXI	Tiksi	35.14	353	P	P	18 50 16.5	+0.1
PBKT	Sadao Pong	41.17	251	P	P	18 51 06.9	-0.9
CHTO	Chiang Mai	41.39	256	P	P	18 51 09.2	-0.5
CHTO				pmax	pmax		
	comp=Z,12nm,1.7s						
CHTO	Chiang Mai	41.39	256	P	P	18 51 09.2	-0.5
CMAR	Chiang Mai Arr	41.60	255	ceP	P	18 51 17.7	+6.3
CMAR	Chiang Mai Arr	41.60	255	P	P	18 51 11.4	0.0
	comp=Z,1.5nm,0.7s,baz=49,slow=5.2,SNR=13						
CMAR				LR	LR	19 09 27.3	
	comp=Z,45nm,18.3s,baz=4.0,slow=38						
ZAA0	Zalesovo Array	41.85	312	P	P	18 51 13.3	+0.3
ZAA0				IAmb	IAmb	18 51 14.4	
	comp=Z,12nm,1.0s						
ZALV	Zalesovo Beam	41.85	312	P	P	18 51 13.1	+0.1
	comp=Z,7.1nm,0.7s,baz=88,slow=6.3,SNR=30						
ZALV				pP	pP	18 51 25.9	+0.3
	comp=Z,5.2nm,0.7s,baz=99,slow=6.1,SNR=7.2						
ZALV				LR	LR	19 08 09.7	
	comp=Z,30nm,18.4s,baz=350,slow=36						
LSA	Lhasa	42.26	275	P	P	18 51 17.8	+0.6
LSA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
LSA	Lhasa	42.26	275	P	P	18 51 17.9	+0.6
MK31	Makanchi Array	44.09	302	P	P	18 51 31.2	0.0
MK31				pmax	pmax		
	comp=Z,30nm,1.9s						
MK31	Makanchi Array	44.09	302	P	P	18 51 31.2	0.0
MK31				IAmb	IAmb	18 51 32.4	
	comp=Z,30nm,1.9s						
MKAR	Makanchi Array	44.09	302	P	P	18 51 31.2	-0.1
	comp=Z,2.8nm,0.6s,baz=88,slow=10,SNR=18						
MKAR				LR	LR	19 08 45.5	
	comp=Z,32nm,21.2s,baz=62,slow=34						
MAKZ	Makanchi	44.30	302	P	P	18 51 33.2	+0.3
MAKZ				pmax	pmax		
	comp=Z,16nm,1.4s						
MAKZ	Makanchi	44.30	302	P	P	18 51 33.2	+0.3
MAKZ				IAmb	IAmb	18 51 33.2	
	comp=Z,16nm,1.4s						
KURK	Kurchatov	45.88	308	ceP	P	18 51 45.2	-0.2
KURK				pmax	pmax		
	comp=Z,14nm,1.0s						
KURK	Kurchatov	45.88	308	P	P	18 51 45.0	-0.3
TAPN	Taplejung	45.99	274	eP	P	18 51 47.0	+0.1
	comp=Z,7.9nm,0.3s						
ODAN	Odare	46.47	273	eP	P	18 51 50.4	-0.2
	comp=Z,12nm,0.7s						
KDAK	Kodiak Island	46.94	42	ceP	P	18 51 54.7	+1.2
PPLA	Purkeypile	47.00	35	P	P	18 51 56.5	+2.3
PPLA				IAmb	IAmb	18 53 34.2	
	comp=Z,18nm,1.4s						
RAMN	Ramite	47.05	274	eP	P	18 51 55.1	-0.1
	comp=Z,25nm,0.7s						
JIRN	Jiri	47.06	275	eP	P	18 51 55.6	+0.2
	comp=Z,8.1nm,0.3s						
GUN	Gumba	47.20	276	eP	P	18 51 56.5	0.0
	comp=Z,9.6nm,0.3s						
MLY	Manley	47.68	32	P	P	18 52 01.8	+2.5
MLY				IAmb	IAmb	18 52 01.8	
	comp=Z,12nm,1.6s						
PKI	Pulchoki	47.73	275	eP	P	18 52 00.0	-0.5
	comp=Z,4.0nm,0.3s						
KKN	Kakani	47.73	276	eP	P	18 52 00.5	+0.1
	comp=Z,5.3nm,0.3s						
PKIN	Phulchoki	47.73	275	eP	P	18 52 00.2	-0.3
	comp=Z,4.5nm,0.4s						
DMN	Daman	47.95	276	eP	P	18 52 01.8	-0.4
	comp=Z,3.9nm,0.3s						
GKN	Gorkha	48.15	276	eP	P	18 52 03.4	-0.2
	comp=Z,26nm,0.6s						
DANN	Dangsing	48.69	277	eP	P	18 52 08.1	+0.2
	comp=Z,56nm,0.6s						
KOLN	Koldanda	49.07	277	eP	P	18 52 10.7	0.0
	comp=Z,2.8nm,0.2s						
IPM	Ipoh	49.28	239	P	P	18 52 11.8	-0.4
SCM	Sheep Creek Mo	49.30	36	P	P	18 52 13.7	+1.8
SCM				pmax	pmax		
	comp=Z,42nm,1.7s						
SCM	Sheep Creek Mo	49.30	36	P	P	18 52 13.7	+1.8
IL31		49.32	32	P	P	18 52 12.5	+0.7
ILAR	Eielson Array	49.32	32	P	P	18 52 13.0	+1.1
	comp=Z,1.6nm,0.8s,baz=263,slow=5.4,SNR=18						
ILAR				pP	pP	18 52 25.9	+1.1
	comp=Z,2.3nm,0.7s,baz=266,slow=6.0,SNR=13						
BRVK	Borovoye	50.56	312	ceP	P	18 52 22.1	+0.6
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRVK	Borovoye	50.56	312	P	P	18 52 21.3	-0.2
BRVK				IAmb	IAmb	18 52 22.4	
	comp=Z,4.1nm,0.7s						
SCRK	Sand Creek	50.64	33	P	P	18 52 23.1	+1.1
SCRK				IAmb	IAmb	18 52 36.8	
	comp=Z,23nm,1.9s						
EGAK	Eagle	51.77	32	P	P	18 52 30.6	+0.3
EGAK				IAmb	IAmb	18 54 04.2	
	comp=Z,21nm,1.9s						
CTGM	Chitina Glacie	52.27	37	P	P	18 52 35.5	+1.2
CTGM				IAmb	IAmb	18 54 10.0	
	comp=Z,5.8nm,1.0s						
EPYK	Eagle Plains	53.35	30	P	P	18 52 44.6	+2.5
EPYK				IAmb	IAmb	18 52 57.7	
	comp=Z,9.3nm,0.8s						
GSI	Gunungsitoli	53.94	239	P	P	18 52 47.4	+0.4
KNRA	Kununurra	53.94	195	P	P	18 52 46.7	-0.1
INK	Inuvik	54.21	27	P	P	18 52 49.4	+1.1
	comp=Z,0.6nm,0.4s,baz=294,slow=7.0,SNR=6.6						
INK				pP	pP	18 53 02.0	+0.9
	comp=Z,2.1nm,0.6s,baz=344,slow=2.4,SNR=6.1						
INK	Inuvik	54.21	27	P	P	18 52 49.8	+1.6
SVE	Sverdlovsk	55.07	319	eP	P	18 52 54.0	-0.6
SVE				pmax	pmax		
	comp=Z,12nm,0.9s						
ARU	Arti	56.28	318	c iP	P	18 53 03.2	-0.1
ARU						18 55 06.0	
ARU				S	S	19 00 43.5	-6.2
ARU				pmax	pmax		
	comp=Z,13nm,1.2s						
ARU	Arti	56.28	318	P	P	18 53 03.2	-0.1
ARU				IAmb	IAmb	18 53 04.3	
	comp=Z,6.8nm,0.7s						
WRAB	Tennant Creek	57.22	188	P	P	18 53 09.8	-0.5
WRAB				pmax	pmax		
	comp=Z,34nm,1.9s						
WRAB	Tennant Creek	57.22	188	P	P	18 53 09.8	-0.5
ABKAR	Akbulak array	57.88	310	P	P	18 53 14.3	-0.4
ABKAR				IAmb	IAmb	18 53 15.2	
	comp=Z,6.0nm,0.7s						
ASAR	Alice Springs	60.96	188	P	P	18 53 36.3	+0.2
	comp=Z,0.3nm,0.6s,baz=0.8,slow=6.0,SNR=4.4						
ASAR				pP	pP	18 53 48.7	-0.7
	comp=Z,1.5nm,0.7s,baz=358,slow=6.1,SNR=9.5						
DZM	Mont Dzumac	63.47	154	LR	LR	19 18 50.1	
	comp=Z,33nm,18.7s,baz=23,slow=33						
YKA	Yellowknife Ar	63.64	30	P	P	18 53 54.2	+0.6
	comp=Z,0.3nm,0.6s,baz=308,slow=7.0,SNR=3.7						
YKA				pP	pP	18 54 07.5	+0.6
	comp=Z,1.1nm,0.6s,baz=303,slow=6.7,SNR=10						
GEYT	Alibeck	63.81	299	P	P	18 53 54.8	-0.5
	comp=Z,1.8nm,0.6s,baz=66,slow=3.6,SNR=3.7						
ARCES	ARCESS Array B	63.87	339	P	P	18 53 55.8	+0.7
	comp=Z,8.0nm,1.1s,baz=51,slow=9.6,SNR=4.2						
OBN	Obninsk	68.00	323	iP	P	18 54 19.0	-2.8
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FINES	FINESS Array B	68.70	332	ceP	P	18 54 28.2	+2.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	68.70	332	P	P	18 54 25.6	-0.5
	comp=Z,3.4nm,0.8s,baz=37,slow=4.8,SNR=5.7						
FINES				pP	pP	18 54 38.9	-0.6
	comp=Z,4.1nm,0.7s,baz=51,slow=6.1,SNR=4.3						
FINES				LR	LR	19 26 56.4	
	comp=Z,34nm,19.2s,baz=286,slow=38						
KBZ	Khabaz	70.84	311	P	P	18 54 39.9	+0.3
	comp=Z,1.1nm,0.6s,baz=22,slow=1.5,SNR=4.0						
KIV	Kislovodsk	70.85	311	eP	P	18 54 41.0	+1.2
KIV				pmax	pmax		
	comp=Z,26nm,1.0s						
UOSS	Minazif	71.82	288	P	P	18 54 45.9	+0.1
UOSS				IAmb	IAmb	18 55 56.3	
	comp=Z,23nm,1.4s						
NB2	NORSAR Subarra	74.06	337	P	P	18 54 58.7	+0.2
	comp=Z,6.8nm,1.0s,baz=39,slow=6.2						
NOA	NORSAR Array B	74.06	337	P	P	18 54 59.0	+0.5
	comp=Z,0.5nm,0.5s,baz=40,slow=6.0,SNR=2.4						
NOA				pP	pP	18 55 12.1	0.0
	comp=Z,3.8nm,1.0s,baz=39,slow=5.9,SNR=4.2						
NOA				LR	LR	19 30 53.2	
	comp=Z,26nm,19.9s,baz=20,slow=38						
AKASG	Malin Array Be	74.21	322	P	P	18 54 59.2	-0.3
	comp=Z,1.8nm,0.4s,baz=46,slow=6.2,SNR=17						
AKASG				pP	pP	18 55 11.9	-1.1
	comp=Z,1.1nm,0.5s,baz=45,slow=6.2,SNR=3.7						
NVAR	Mina Array Bea	74.84	53	P	P	18 55 06.1	+2.4
	comp=Z,0.5nm,0.7s,baz=258,slow=6.4,SNR=3.5						
NVAR				pP	pP	18 55 17.0	-0.2
	comp=Z,0.8nm,0.6s,baz=286,slow=4.6,SNR=4.4						
PDAR	Pinedale Array	77.51	46	P	P	18 55 19.5	+0.7
	comp=Z,0.3nm,0.6s,baz=274,slow=2.2,SNR=3.6						
PDAR				pP	pP	18 55 33.6	+1.2
	comp=Z,0.8nm,0.7s,baz=287,slow=2.9,SNR=7.7						
BRTR	Keskin Array B	78.79	312	P	P	18 55 26.1	+0.3
	comp=Z,0.8nm,0.7s,baz=67,slow=3.2,SNR=4.1						
CLL	Collm	80.99	330	eP	P	18 55 38.0	+0.7
CLL				pmax	pmax		
	comp=Z,11nm,1.4s						
CLL	Collm	80.99	330	eP	P	18 55 38.0	+0.7
	comp=Z,11nm,1.4s						
GERES	GERESS Array B	82.61	328	P	P	18 55 46.1	+0.1
	comp=Z,0.9nm,0.5s,baz=46,slow=7.6,SNR=5.8						
PPT	Papeete	84.65	117	LR	LR	19 24 25.3	
	comp=Z,20nm,21.4s,baz=2.5,slow=29						
LPAZ	La Paz	146.56	59	PKP2	PKPbc	19 03 06.0	+0.7
LPAZ	La Paz	146.56	59	PKPbc	PKPbc	19 03 06.0	+0.7
	comp=Z,1.3nm,0.7s,baz=320,slow=5.2,SNR=3.9						
LPAZ				pPKPbc	pPKPbc	19 03 20.1	+0.6
	comp=Z,1.3nm,0.5s,baz=22,slow=4.7,SNR=4.7						

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*BJI **04** 18:48:21.3±0.0, 39°.45N×73°.19E, h9km, mb3.5/1, ML3.2/5, Ms3.3/1, Ms7 3.1/2*
*KRNET **04** 18:48:26.6±0.1, 39°.48N×73°.50E, mb3.8*
*NNC **04** 18:48:28.2±2.5, 39°.62N×73°.86E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=20.0km s-min=10.5km az=2.0*
ISC 04 18:48:24.3±3.1, 39°.20N±0°.08×73°.63E±0°.04, h3km±23km, n38, σ1s.84/62, 34C-17D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	1.84	79	Pg	Pn	18 48 54.5	-2.5
KSH				Sg	Sn	18 49 16.0	-4.9
KSH				smax	smax		
	comp=N,370nm,0.5s						
KSH				smax	smax		
	comp=E,270nm,0.4s						
ARSB	Arslanbob	2.18	347	⇑iP	Pn	18 49 01.1	-0.5
	baz=48						
ARSB				⇑iS	Sn	18 49 26.8	-2.4
	baz=48						
BTK	Batken	2.33	292	⇑iP	Pn	18 49 05.3	+1.6
	baz=86						
BTK				⇑iS	Sn	18 49 33.3	+0.4
	baz=86						
ARLS	Aral	2.71	11	⇑iP	Pn	18 49 10.0	+1.0
	baz=15						
ARLS				⇑iS	Sn	18 49 41.9	-0.5
	baz=15						
NRN	Naryn	2.88	38	⇑iP	Pn	18 49 13.6	+2.2
	baz=43						
NRN				⇑iS	Sn	18 49 48.1	+1.5
	baz=43						
ARK	Arkit	2.89	334	⇑iP	Pn	18 49 11.8	+0.4
	baz=34						
ARK				⇑eS	Sn	18 49 44.2	-2.5
	baz=34						
AML	Almayashu	2.93	1	⇑iP	Pn	18 49 12.5	+0.3
	baz=3.0						
AML				⇑iS	Sn	18 49 46.4	-1.7
	baz=3.0						
AML	Almayashu	2.93	1	P	Pn	18 49 12.3	+0.1
	SNR=55						
UCH	Uchtor	3.10	12	⇑iP	Pn	18 49 15.1	+0.5
	baz=15						
UCH				⇑iS	Sn	18 49 51.5	-0.8
	baz=15						
UCH	Uchtor	3.10	12	P	Pn	18 49 15.9	+1.4
	SNR=100						
KZA	Kyzart	3.13	23	⇓iP	Pn	18 49 16.3	+1.4
	baz=27						
KZA				⇓iS	Sn	18 49 52.9	-0.1
	baz=27						
KZA	Kyzart	3.13	23	P	Pb	18 49 18.8	-2.0
	SNR=117						
EKS2	Erkin-Say	3.46	2	⇓eP	Pn	18 49 19.9	+0.7
	baz=4.0						
EKS2				⇓iS	Sn	18 49 58.7	-2.1
	baz=4.0						
EKS2	Erkin-Say	3.46	2	P	Pn	18 49 20.2	+1.0
	SNR=14						
AAK	Ala-Archa	3.50	11	⇓iP	Pn	18 49 20.6	+0.8
	baz=13						
AAK				⇓iS	Sn	18 50 00.5	-1.2
	baz=13						
AAK	Ala-Archa	3.50	11	P	Pn	18 49 20.8	+1.1
	SNR=22						
AAK	Ala-Archa	3.50	11	⇓Pg	Pn	18 49 22.6	+2.9
	12nm,0.5s						
AAK				⇑Lg	Lg	18 50 06.5	
	34nm,0.5s						
KBK	Karagaybulak	3.60	16	⇑iP	Pn	18 49 22.4	+1.3
	baz=19						
KBK				⇑iS	Sn	18 50 03.1	-1.1
	baz=19						
KBK	Karagaybulak	3.60	16	P	Pn	18 49 23.2	+2.1
	SNR=15						
ULHL	Ulahol	3.63	32	⇑iP	Pn	18 49 24.1	+2.4
	baz=36						
ULHL				⇑iS	Sn	18 50 05.9	+0.7
	baz=36						
ULHL	Ulahol	3.63	32	P	Pb	18 49 28.3	-1.1
	SNR=13						
FRU1	Bishkek	3.69	12	⇑iP	Pn	18 49 23.5	+1.2
	baz=14						
FRU1				⇑iS	Sn	18 50 04.8	-1.5
	baz=14						
BOOM	Boomskoye usch	3.73	27	⇑iP	Pn	18 49 25.0	+2.1
	baz=31						
BOOM				⇑iS	Sn	18 50 07.7	+0.3
	baz=31						
CHMS	Chumysh	3.89	12	⇑iP	Pn	18 49 26.1	+1.1
	baz=15						
CHMS				⇑iS	Sn	18 50 09.8	-1.4
	baz=15						
CHMS	Chumysh	3.89	12	P	Pn	18 49 27.1	+2.1
	SNR=7.9						
KDJ	Kajisay	3.98	42	⇑iP	Pn	18 49 29.2	+2.7
	baz=46						
KDJ				⇑iS	Sn	18 50 15.1	+1.3
	baz=46						
TKM2	Tokmak 2	4.00	21	⇓iP	Pn	18 49 28.6	+1.8
	baz=24						
TKM2				⇓iS	Sn	18 50 13.4	-0.9
	baz=24						
TKM2	Tokmak 2	4.00	21	⇑Pg	Pb	18 49 31.9	-3.7
	12nm,0.7s						
TKM2				⇑Lg	Lg	18 50 20.6	
	37nm,0.7s						
TARG	Taragay, Kyrgy	4.07	50	⇓iP	Pn	18 49 31.4	+3.6
	baz=54						
TARG				⇓iS	Sn	18 50 18.6	+2.5
	baz=54						
USP	Ospenovka	4.12	9	⇓iP	Pn	18 49 29.1	+0.9
	baz=11						
USP				⇓iS	Sn	18 50 14.8	-2.1
	baz=11						
USP	Ospenovka	4.12	9	P	Pn	18 49 29.4	+1.2
	SNR=7.3						
KK31	Karatay Array	4.56	330	Pn	Pn	18 49 35.9	+1.7
	0.8nm,0.2s,baz=138,slow=12,SNR=22						
KK31				⇑Pg	Pb	18 49 44.0	-0.9
	5.5nm,0.5s,baz=150,slow=16,SNR=6.6						
KK31				⇓Sn	Sn	18 50 27.6	0.0
	18nm,0.7s						
KK31				Lg	Lg	18 50 43.2	
	16nm,0.4s,baz=146,slow=31,SNR=6.0						
ANVS	Anan'yevo	4.71	39	⇑iP	Pn	18 49 39.0	+2.6
	baz=42						
ANVS				⇑iS	Sn	18 50 32.2	+0.6
	baz=42						
MDOK	Medeo	4.73	32	Pg	Pb	18 49 47.8	-0.1
	16nm,0.6s						
MDOK				Lg	Lg	18 50 44.0	
	32nm,0.7s						
PRZ	Przheval'sk	4.88	46	⇑iP	Pn	18 49 42.0	+3.2
	baz=50						
PRZ				⇑iS	Sn	18 50 36.8	+0.8
	baz=50						
PDGK	Podgornoye	6.04	45	⇓Pn	Pn	18 49 53.0	-1.7
	2.6nm,0.6s						
PDGK				⇓Pg	Pb	18 50 11.3	+1.0
	5.4nm,0.6s						
PDGK				⇓Lg	Lg	18 51 27.5	
	26nm,1.0s						
WMQ	Urumqi	11.51	62	eP	Pn	18 51 11.5	+1.9
WMQ				LR	LR		
	comp=Z,79nm,29.1s						
GTA	Gaotai	20.25	81	eP	Pn	18 53 07.1	+4.4
GTA				pP	sP	18 53 12.6	+8.6
GTA				sP	pP	18 53 15.3	+12
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						

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*NNC **04** 18:50:07.3±6.1, 39°.49N×73°.48E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=43.7km s-min=17.9km az=7.0*
*KRNET **04** 18:50:10.6±0.1, 39°.48N×73°.61E, mb3.7*
*ISCJB **04** 18:50:12.1±0.9, 39°.38N±0°.05×73°.69E±0°.05, h10km, Error ellipse: s-maj=7.2km s-min=5.3km az=166.9*

ISC 04 18:50:08.4±1.3, 39°.33N±0°.07×73°.62E±0°.04, h10km, n24, σ3s.04/37, 21C-19D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.83**	**84**	Pg	**Pn**	**18 50 39.4**	**-0.6**
KSH				Sg	**Sn**	**18 51 00.0**	**-3.3**
KSH				smax	smax		
	comp=N,360nm,0.5s						
KSH				smax	smax		
	comp=E,270nm,0.4s						
ARSB	**Arslanbob**	**2.05**	**346**	⇑iP	**Pb**	**18 50 46.0**	**+0.3**
	baz=46						
ARSB				⇑iS	**Sg**	**18 51 12.2**	**-2.0**
	baz=46						
BTK	**Batken**	**2.28**	**289**	⇑iP	**Pb**	**18 50 51.2**	**+1.5**
	baz=86						
BTK				⇑iS	**Sg**	**18 51 20.5**	**-1.2**
	baz=86						
ARLS	**Aral**	**2.58**	**12**	⇑eP	**Pb**	**18 50 54.3**	**-0.5**
	baz=13						
ARLS				⇑iS	**Sb**	**18 51 25.5**	**-1.2**
	baz=13						
ARK	**Arkit**	**2.77**	**333**	⇑eP	**Pb**	**18 50 56.7**	**-1.3**
	baz=32						
ARK				⇑iS	**Sb**	**18 51 29.9**	**-2.1**
	baz=32						
NRN	**Naryn**	**2.77**	**40**	⇑iP	**Pb**	**18 50 56.9**	**-1.3**
	baz=42						
NRN				⇑iS	**Sb**	**18 51 30.8**	**-1.6**
	baz=42						
AML	**Almayashu**	**2.80**	**1**	⇓eP	**Pb**	**18 50 57.1**	**-1.5**
	baz=1.0						
AML				⇓iS	**Sb**	**18 51 31.2**	**-1.9**
	baz=1.0						
UCH	**Uchtor**	**2.97**	**13**	⇑iP	**Pb**	**18 50 59.5**	**-2.1**
	baz=14						
UCH				⇑iS	**Sb**	**18 51 35.2**	**-2.9**
	baz=14						
KZA	**Kyzart**	**3.01**	**24**	⇓iP	**Pb**	**18 51 00.3**	**-2.0**
	baz=25						
KZA				⇓iS	**Sb**	**18 51 36.5**	**-2.7**
	baz=25						
EKS2	**Erkin-Say**	**3.33**	**2**	⇓iP	**Pb**	**18 51 04.3**	**-3.2**
	baz=2.0						
EKS2				⇓iS	**Sb**	**18 51 43.5**	**-4.6**
	baz=2.0						
AAK	**Ala-Archa**	**3.37**	**11**	⇓eP	**Pb**	**18 51 04.8**	**-3.4**
	baz=12						
AAK				⇓iS	**Sb**	**18 51 44.7**	**-4.6**
	baz=12						
AAK	**Ala-Archa**	**3.37**	**11**	⇓Pg	**Pb**	**18 51 07.3**	**-0.9**
	comp=E,12nm,0.5s						
AAK				⇓Lg	Lg	18 51 51.6	
	comp=E,32nm,0.5s						
ULHL	**Ulahol**	**3.52**	**34**	⇓iP	**Pn**	**18 51 07.2**	**+3.8**
	baz=35						
ULHL				⇓iS	**Sn**	**18 51 48.5**	**+3.3**
	baz=35						
FRU1	**Bishkek**	**3.56**	**12**	⇓iP	**Pn**	**18 51 07.4**	**+3.7**
	baz=13						
FRU1				⇓iS	**Sb**	**18 51 48.8**	**-5.8**
	baz=13						
BOOM	**Boomskoye usch**	**3.61**	**28**	⇓iP	**Pn**	**18 51 08.6**	**+4.1**
	baz=30						
BOOM				⇓iS	**Sn**	**18 51 50.6**	**+3.3**
	baz=30						
CHMS	**Chumysh**	**3.76**	**13**	⇑iP	**Pn**	**18 51 10.4**	**+4.0**
	baz=13						
CHMS				⇑iS	**Sn**	**18 51 53.9**	**+3.1**
	baz=13						
TKM2	**Tokmak 2**	**3.88**	**22**	⇓Pg	**Pb**	**18 51 13.5**	**-3.5**
	comp=E,0.3nm,0.2s						
TKM2				⇓Lg	Lg	18 52 06.6	
	comp=E,12nm,0.5s						
KDJ	**Kajisay**	**3.89**	**43**	⇑eP	Pn	18 51 12.9	+4.6
	baz=45						
KDJ				⇑iS	**Sn**	**18 51 58.0**	**+3.9**
	baz=45						
KK31	**Karatay Array**	**4.44**	**329**	⇑Sn	**Sn**	**18 52 04.4**	**-3.0**
	comp=E,5.1nm,0.5s						
KK31				Lg	Lg	18 52 25.5	
	comp=E,10nm,0.3s,baz=147,slow=31,SNR=5.9						
ANVS	**Anan'yevo**	**4.61**	**40**	⇑iP	Pn	18 51 22.7	+4.5
	baz=42						
ANVS				⇑iS	**Sn**	**18 52 14.9**	**+3.0**
	baz=42						
MDOK	**Medeo**	**4.62**	**33**	⇓Pg	**Pb**	**18 51 30.8**	**+1.3**
	comp=E,16nm,0.7s						
MDOK				Lg	Lg	18 52 32.0	
	comp=E,48nm,1.2s						
PDGK	**Podgornoye**	**5.95**	**46**	⇑Pg	**Pg**	**18 51 58.8**	**-3.5**
	comp=E,9.7nm,0.7s						
PDGK				⇑Lg	Lg	18 53 13.5	
	comp=E,16nm,0.9s						
WMQ	**Urumqi**	**11.45**	**62**	eP	Pn	18 52 56.9	+4.9
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,25nm,4.7s						
WMQ				LR	LR		
	comp=N,590nm,28.8s						
WMQ				LR	LR		
	comp=E,930nm,28.8s						
WMQ				LR	LR		
	comp=Z,110nm,29.2s						
GTA	**Gaotai**	**20.23**	**81**	eP	Pn	18 54 48.8	+3.2
GTA				pP	sP	18 54 55.1	+5.5
GTA				sP	pP	18 54 58.1	+10
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						

*IDC **04** 19:05:53.7±0.8, 59°.10S×17°.66W, h0km, mb4.1/6, mb1 4.2/6, mb1mx4.0/24, mbtmp4.0/6, MS3.5/13, Ms1 3.5/13, ms1mx3.3/23, Error ellipse: s-maj=31.3km s-min=25.2km az=62.0*
*ISCJB **04** 19:05:54.0±0.7, 59°.24S±0°.09×17°.5W±0°.3, h10km, mb4.0/6, MS3.5/13, Error ellipse: s-maj=21.6km s-min=11.0km az=162.0*
*NEIC **04** 19:05:55.2±0.7, 59°.2S±0°.2×17°.2W±0°.5, h9km±4km, mb4.7/3*
ISC 04 19:05:55.6±0.7, 59°.2S±0°.1×17°.4W±0°.2, h10km, n35, σ0s.90/21, mb4.2/8, MS3.6/13, 1C-1D, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.15**	**165**	P	**Pn**	**19 08 49.0**	**+0.6**
VNA2	**Neumayer--Watz**	**12.52**	**165**	P	**Pn**	**19 08 53.5**	**0.0**
	baz=327,slow=13						
VNA2				S	Sn	19 11 01.2	-11
	baz=331,slow=25						
VNA3	**Neumayer Olymp**	**12.54**	**168**	P	**Pn**	**19 08 53.5**	**-0.3**
VNA3				S	Sn	19 11 02.1	-11
SNAA	**Sanae**	**13.88**	**161**	P	**Pn**	**19 09 11.7**	**-0.3**
SNAA				S	Sn	19 11 35.6	-10
SNAA	**Sanae**	**13.88**	**161**		**Pn**	**19 09 11.3**	**-0.8**
SYO	**Syowa Base**	**25.76**	**136**	⇓epP	**P**	**19 11 25.4**	**-0.5**
SYO	**Syowa Base**	**25.76**	**136**	⇑iP	P	19 12 06.0	+40
QSPA	**South Pole Qui**	**31.07**	**180**	P	**P**	**19 12 13.4**	**-0.2**
QSPA				IAmb	IAmb	19 12 14.5	
	comp=Z,7.4nm,0.9s						
MAW	**Mawson**	**34.41**	**138**	P	**P**	**19 12 43.2**	**+0.8**
	comp=Z,3.3nm,0.8s,baz=233,slow=10,SNR=2.1						
MAW				LR	LR	19 24 52.1	
	comp=Z,115nm,19.3s,baz=240,slow=33						
PLCA	**Paso Flores**	**37.63**	**275**	LR	LR	19 28 11.2	
	comp=Z,85nm,18.4s,baz=176,slow=36						
BOSA	**Boshof**	**42.15**	**63**	P	**P**	**19 13 49.2**	**+1.0**
	comp=Z,3.5nm,0.9s,baz=197,slow=8.3,SNR=3.0						
BOSA				LR	LR	19 27 04.4	
	comp=Z,74nm,19.5s,baz=205,slow=30						
CPUP	**Villa Florida**	**42.88**	**302**	LR	LR	19 29 02.9	
	comp=Z,66nm,20.8s,baz=126,slow=32						
CFA	**Coronel Fontan**	**43.56**	**286**	LR	LR	19 34 41.0	
	comp=Z,25nm,18.8s,baz=51,slow=40						
VNDA	**Vanda**	**43.57**	**180**	P	**P**	**19 13 59.6**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=181,slow=6.5,SNR=4.1						
BDFB	**Brasilia**	**48.94**	**319**	LR	LR	19 32 30.9	
	comp=Z,89nm,19.2s,baz=99,slow=33						
H10N1	**ASCENSION HYDR**	**51.25**	**4**	T	T	20 10 32.2	
	baz=186						
H10N3	**ASCENSION HYDR**	**51.25**	**4**	T	T	20 10 32.6	
	baz=186,SNR=6.8						
H10N2	**ASCENSION HYDR**	**51.27**	**4**	T	T	20 10 47.1	
	baz=186						
LVC	**Limon Verde**	**51.39**	**292**	LR	LR	19 34 10.1	
	comp=Z,41nm,21.6s,baz=264,slow=33						
SIV	**San Ignacio**	**53.62**	**304**	LR	LR	19 35 50.5	
	comp=Z,34nm,21.5s,baz=111,slow=34						
GO01	**Chusmiza**	**54.05**	**294**	P	**P**	**19 15 21.1**	**+0.5**
GO01				IAmb	IAmb	19 15 26.8	
	comp=Z,26nm,1.9s						
LPAZ	**La Paz**	**56.48**	**297**	P	**P**	**19 15 37.9**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=173,slow=6.5,SNR=5.9						
LPAZ				LR	LR	19 38 36.7	
	comp=Z,33nm,22.0s,baz=126,slow=35						
LPAZ	**La Paz**	**56.48**	**297**	P	**P**	**19 15 38.8**	**+0.5**
LPAZ				IAmb	IAmb	19 15 50.2	
	comp=Z,9.8nm,1.4s						
NNA	**Nana**	**64.33**	**291**	LR	LR	19 43 11.0	
	comp=Z,46nm,21.6s,baz=167,slow=35						
KMBO	**Kilima Mbogo**	**71.67**	**59**	LR	LR	19 47 01.0	
	comp=Z,30nm,18.2s,baz=90,slow=34						
TORD	**Torodi Ar. Bea**	**73.72**	**19**	P	**P**	**19 17 28.6**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=184,slow=6.1,SNR=4.3						
STKA	**Stephens Creek**	**87.64**	**162**	LR	LR	19 57 16.0	
	comp=Z,17nm,18.6s,baz=206,slow=35						
ASAR	**Alice Springs**	**94.14**	**154**	P	**P**	**19 19 13.6**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=186,slow=4.7,SNR=3.5						
EIL	**Elat**	**98.53**	**44**	LR	LR	20 00 16.8	
	comp=Z,19nm,21.4s,baz=244,slow=33						
YKA	**Yellowknife Ar**	**142.10**	**311**	PKP	**PKPdf**	**19 25 27.0**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=112,slow=3.0,SNR=2.6						
SONM	**Songino Array**	**145.74**	**84**	PKPbc	**PKPbc**	**19 25 33.3**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=234,slow=3.8,SNR=14						
ULN	**Ulaanbaatar**	**146.10**	**84**		**PKPbc**	**19 25 34.4**	**-0.6**
KSRS	**Korea Array**	**148.90**	**119**	PKPbc	**PKPbc**	**19 25 42.2**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=224,slow=3.5,SNR=4.6						
INK	**Inuvik**	**151.64**	**315**	PKPbc	**PKPbc**	**19 25 46.4**	**-1.9**
	comp=Z,1.9nm,0.9s,baz=120,slow=1.7,SNR=6.3						
INK	**Inuvik**	**151.64**	**315**		**PKPdf**	**19 25 44.0**	**+2.0**

*ISN **04** 19:07:21.7±2.1, 34°.49N×45°.42E, h15km±10km, ML3.1*
*TEH **04** 19:07:23.7, 34°.49N×45°.62E, h19km, ML3.0*
ISC 04 19:07:22.0±1.5, 34°.49N±0°.04×45°.49E±0°.04, h10km±13km, n19, σ1s.19/27, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.77**	**74**	ePg	**Pg**	**19 07 36.9**	**+0.1**
IDHR				IAMB	IAmb	19 07 49.6	
	comp=Z,0.0nm,0.4s						
IGHG	**Ghaleghazi**	**0.91**	**100**	ePg	**Pb**	**19 07 39.1**	**-0.9**
IGHG				eSg	**Sb**	**19 07 51.1**	**-1.1**
IGHG				IAMB	IAmb	19 07 57.3	
	comp=Z,5µm,0.5s						
ILIN	**Lien**	**1.28**	**70**	ePg	**Pb**	**19 07 46.3**	**-0.1**
ILIN				IAMB	IAmb	19 08 13.3	
	comp=Z,2µm,0.4s						
KCHF	**Cheshme Sefid,**	**1.30**	**99**	ePg	**Pb**	**19 07 46.4**	**-0.3**
KCHF				eSg	**Sg**	**19 08 03.6**	**-0.3**
IKRK	**Kirkuk**	**1.31**	**314**	ePn	**Pn**	**19 07 46.0**	**-0.4**
IKRK				eSn	**Sg**	**19 08 05.3**	**+1.1**
IBDR	**Badra**	**1.43**	**165**	ePg	**Pn**	**19 07 48.0**	**0.0**
IBDR				eSg	**Sb**	**19 08 07.0**	**+0.1**
BHD	**Baghdad**	**1.53**	**217**	ePn	**Pn**	**19 07 50.0**	**+0.6**
BHD				eSn	**Sb**	**19 08 11.0**	**+1.1**
IKOM	**Komasi**	**1.70**	**100**	ePn	**Pb**	**19 07 53.3**	**-0.2**
IKOM				IAMB	IAmb	19 08 20.0	
	comp=Z,0.0nm,0.5s						
IBZA	**Bozab**	**1.96**	**90**	ePn	**Pb**	**19 07 56.7**	**-1.2**
IBZA				IAMB	IAmb	19 08 27.6	
	comp=Z,0.0nm,0.4s						
IKFM	**Kafar-mosalman**	**2.18**	**116**	ePn	**Pb**	**19 07 59.9**	**-1.7**
IKFM				IAMB	IAmb	19 08 35.4	
	comp=Z,0.0nm,0.6s						
IDOB	**Doab**	**2.34**	**107**	ePn	**Pn**	**19 08 01.2**	**+0.5**
HSRG	**Sareghieh**	**2.41**	**71**	IAMB	IAmb	19 08 11.7	
	comp=Z,0.0nm,0.4s						
HSRG				ePn	**Pb**	**19 08 04.0**	**-1.7**
HSAM	**Samen**	**2.59**	**95**	IAMB	IAmb	19 08 48.8	
	comp=Z,0.0nm,0.4s						
HSAM				ePn	**Pn**	**19 08 05.3**	**+1.1**
IKMR	**Kamar-syah**	**2.59**	**111**	ePn	**Pn**	**19 08 04.7**	**+0.8**
MSL	**Mosul**	**2.72**	**315**	ePn	**Pn**	**19 08 06.0**	**+0.2**
MSL				eSn	**Sn**	**19 08 40.0**	**+1.2**
BDRS	**Dareh Seyedi**	**2.86**	**100**	ePn	**Pn**	**19 08 09.0**	**+1.0**
BDRS				IAMB	IAmb	19 09 01.1	
	comp=Z,0.0nm,0.6s						
HAGD	**Aghdareh**	**3.03**	**83**	ePn	**Pn**	**19 08 11.7**	**+1.5**
HAGD				IAMB	IAmb	19 08 22.3	
	comp=Z,0.0nm,0.3s						
NSR	**Nassriya**	**3.52**	**171**	ePn	**Pn**	**19 08 17.0**	**+0.3**
NSR				eSn	**Sn**	**19 09 00.0**	**+1.7**
RTB	**Rutbah**	**4.56**	**253**	ePn	**Pn**	**19 08 32.0**	**+0.9**
RTB				eSn	**Sn**	**19 09 21.0**	**-3.1**

*ISCJB **04** 19:26:35.8±0.8, 7°.34N±0°.05×78°.08W±0°.04, h20km±8km, Error ellipse: s-maj=9.9km s-min=4.6km az=34.2*
*UPA **04** 19:26:35.9±1.9, 7°.31N×78°.08W, h13km±10km, MW3.5*
*RSNC **04** 19:26:36.6±1.3, 7°.33N×78°.08W, h10km±6km, ML2.9*
ISC 04 19:26:35.8±1.2, 7°.36N±0°.05×78°.07W±0°.04, h14km±9km, n17, σ0s.81/29, 2D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.33**	**130**	⇓iP	**Pg**	**19 26 42.8**	**+0.1**
PTAC				eS	**Sg**	**19 26 46.8**	**-0.5**
PTAC				i		19 26 47.5	
	comp=Z,17µm,0.3s						
PTAC	**Punta Ardita,**	**0.33**	**130**	⇓iP	**Pg**	**19 26 42.8**	**+0.1**
PTAC				eS	**Sg**	**19 26 46.8**	**-0.5**
UPD2	**Meteti**	**1.18**	**2**	eP	**Pn**	**19 26 58.6**	**+0.7**
UPD2				eS	**Sb**	**19 27 13.4**	**+0.2**
UPD2				i		19 27 19.8	
	comp=Z,344nm,0.3s						
UPD2	**Meteti**	**1.18**	**2**	eP	**Pn**	**19 26 58.7**	**+0.7**
UPD2				eS	**Sb**	**19 27 13.2**	**0.0**
DBBC	**Dabeiba**	**1.87**	**100**	eP	**Pn**	**19 27 08.0**	**+0.5**
DBBC				eS	**Sn**	**19 27 31.4**	**+0.4**
DBBC				i		19 27 32.6	
	comp=Z,124nm,0.5s						
DBBC	**Dabeiba**	**1.87**	**100**	eP	**Pn**	**19 27 08.0**	**+0.5**
DBBC				eS	**Sn**	**19 27 31.4**	**+0.4**
AZU	**Azuero**	**2.23**	**281**	eP	**Pn**	**19 27 13.0**	**+0.6**
AZU				eS	**Sn**	**19 27 39.1**	**-0.7**
AZU	**Azuero**	**2.23**	**281**	eP	**Pn**	**19 27 13.3**	**+0.9**
AZU				eS	**Sn**	**19 27 38.4**	**-1.4**
ZANG	**Zanguenga, Cho**	**2.39**	**312**	eP	**Pn**	**19 27 14.8**	**+0.3**
ZANG				eS	**Sn**	**19 27 42.4**	**-1.2**
BCIP	**Isla Barro Col**	**2.51**	**316**	eP	**Pn**	**19 27 17.2**	**+1.0**
BCIP				eS	**Sn**	**19 27 47.2**	**+0.5**
HELC	**Santa Helena**	**2.77**	**115**	eP	**Pn**	**19 27 20.5**	**+0.4**
HELC				i		19 27 59.5	
	comp=Z,7.9nm,0.3s						
HELC	**Santa Helena**	**2.77**	**115**	eP	**Pn**	**19 27 20.6**	**+0.4**
HELC				eS	**Sn**	**19 27 52.9**	**-0.8**
GUY2C	**Guyana, Caldas**	**3.42**	**128**	eP	**Pn**	**19 27 29.1**	**-0.1**
GUY2C				i		19 27 43.3	
	comp=Z,8.6nm,0.6s						
NORC	**Norcasia**	**3.64**	**119**	eP	**Pn**	**19 27 33.3**	**+1.4**
SJCC	**San Jacinto, C**	**3.81**	**48**	eP	**Pn**	**19 27 34.6**	**+0.5**
SJCC	**San Jacinto, C**	**3.81**	**48**	eP	**Pn**	**19 27 34.6**	**+0.5**
SJCC				eS	**Sn**	**19 28 16.7**	**-2.0**
SMLC	**San Martn de**	**4.21**	**70**	eP	**Pn**	**19 27 40.2**	**+0.6**

*JMA **04** 19:34:14.8±0.3, 24°.84N×122°.40E, h0km±3km, M2.7*
*ISCJB **04** 19:34:15.3±0.4, 24°.89N±0°.02×122°.40E±0°.02, h9km±3km, Error ellipse: s-maj=3.4km s-min=2.4km az=19.7*
*TAP **04** 19:34:15.7, 24°.90N×122°.35E, h16km, ML3.3, C*
ISC 04 19:34:15.1±1.0, 24°.87N±0°.02×122°.39E±0°.02, h9km±9km, n70, σ0s.68/112, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.39**	**291**	P	**Pg**	**19 34 23.4**	**+0.7**
	baz=287						
TWB1				eS	**Sg**	**19 34 28.5**	**+0.7**
	baz=287						
EOS1	**EOS1**	**0.40**	**216**	P	**Pb**	**19 34 24.5**	**+0.2**
	baz=222						
EOS1				eS	**Sb**	**19 34 31.0**	**+0.5**
	baz=222						
TIPB	**Shuangxi**	**0.52**	**281**	eP	**Pb**	**19 34 26.2**	**-0.3**
	baz=277						
TIPB				eS	**Sb**	**19 34 33.1**	**-0.9**
	baz=277						
TWC	**Suao**	**0.55**	**242**	P	**Pb**	**19 34 26.5**	**-0.5**
	baz=236						
TWC				eS	**Sg**	**19 34 33.7**	**+0.5**
	baz=236						
NWF	**Wu-fen Shan**	**0.58**	**290**	eP	**Pb**	**19 34 27.5**	**0.0**
	baz=287						
NWF				eS	**Sb**	**19 34 36.0**	**0.0**
	baz=287						
WFSB	**Wu-fen Shan**	**0.58**	**290**	eP	**Pb**	**19 34 27.5**	**0.0**
	baz=287						
WFSB				eS	**Sb**	**19 34 35.2**	**-0.7**
	baz=287						
ILA	**Ilan**	**0.59**	**260**	eP	**Pb**	**19 34 27.9**	**+0.3**
	baz=256						
JYNG	**Yonagunijimaku**	**0.66**	**129**	P	**Pg**	**19 34 27.6**	**-0.3**
JYNG				eS	**Sg**	**19 34 36.6**	**+0.1**
TWE	**Neicheng**	**0.67**	**257**	P	**Pb**	**19 34 28.6**	**-0.4**
	baz=244						
TWE				eS	**Sg**	**19 34 37.3**	**+0.4**
	baz=244						
SLBB	**Yuanshan**	**0.69**	**260**	eP	**Pg**	**19 34 28.5**	**0.0**
	baz=257						
YOJ	**Yonaguni jima**	**0.70**	**126**	P	**Pg**	**19 34 28.1**	**-0.6**
YOJ				eS	**Sg**	**19 34 37.3**	**-0.5**
NANB	**Nanao**	**0.73**	**233**	eP	**Pb**	**19 34 29.7**	**-0.3**
	baz=229						
NANB				eS	**Sb**	**19 34 39.8**	**-0.2**
	baz=229						
ENA	**Nanau**	**0.73**	**233**	P	**Pb**	**19 34 29.8**	**-0.3**
	baz=229						
ENA				eS	**Sb**	**19 34 40.1**	**-0.2**
	baz=229						
TWA	**Mucha**	**0.74**	**279**	P	**Pb**	**19 34 30.1**	**-0.1**
	baz=276						
TWA				eS	**Sb**	**19 34 40.0**	**-0.3**
	baz=276						
ENTT	**Nioudou**	**0.78**	**253**	P	**Pb**	**19 34 30.6**	**-0.3**
	baz=249						
ENTT				eS	**Sb**	**19 34 41.6**	**+0.1**
	baz=249						
NHDH	**Xindian Distri**	**0.79**	**277**	P	**Pb**	**19 34 31.1**	**+0.1**
	baz=274						
NHDH				eS	**Sb**	**19 34 41.5**	**-0.3**
	baz=274						
YM08	**YM08**	**0.79**	**294**	eP	**Pg**	**19 34 30.4**	**0.0**
	baz=292						
YM01	**YM01**	**0.79**	**290**	eP	**Pb**	**19 34 30.8**	**-0.3**
	baz=288						
YM01				eS	**Sb**	**19 34 41.5**	**-0.3**
	baz=288						
YM11	**YM11**	**0.79**	**292**	eP	**Pg**	**19 34 30.6**	**+0.2**
	baz=290						
YM05	**YM05**	**0.80**	**291**	eP	**Pg**	**19 34 30.8**	**+0.3**
	baz=289						
YM05				eS	**Sb**	**19 34 41.7**	**-0.5**
	baz=289						
TAP1	**Taipei**	**0.80**	**282**	eP	**Pb**	**19 34 31.4**	**+0.2**
	baz=279						
TAP1				eS	**Sb**	**19 34 42.2**	**0.0**
	baz=279						
YM10	**YM10**	**0.80**	**291**	eP	**Pg**	**19 34 30.9**	**+0.3**
	baz=288						
YM10				eS	**Sg**	**19 34 41.0**	**0.0**
	baz=288						
PCYT	**Pengchaiyu**	**0.81**	**339**	P	**Pb**	**19 34 31.3**	**0.0**
	baz=340						
PCYT				eS	**Sg**	**19 34 41.6**	**+0.4**
	baz=340						
NWLT	**Wulai**	**0.81**	**263**	eP	**Pb**	**19 34 31.4**	**0.0**
	baz=260						
NWLT				eS	**Sb**	**19 34 42.0**	**-0.4**
	baz=260						
TAP	**Taipei**	**0.82**	**282**	eP	**Pg**	**19 34 31.0**	**+0.2**
	baz=279						
TAP				eS	**Sb**	**19 34 42.5**	**-0.1**
	baz=279						
TWY	**Chenhua**	**0.82**	**300**	eP	**Pg**	**19 34 31.1**	**+0.2**
	baz=285						
TWY				eS	**Sb**	**19 34 42.4**	**-0.2**
	baz=285						
YM04	**YM04**	**0.82**	**290**	eP	**Pg**	**19 34 31.1**	**+0.1**
	baz=288						
YM04				eS	**Sg**	**19 34 40.9**	**-0.8**
	baz=288						
NDT	**Datong Townshi**	**0.84**	**251**	eP	**Pb**	**19 34 31.9**	**+0.1**
	baz=249						
ANP	**Anpu**	**0.84**	**292**	eP	**Pg**	**19 34 31.4**	**0.0**
	baz=290						
TWS1	**Kuangyinshan**	**0.91**	**285**	eP	**Pb**	**19 34 32.9**	**-0.1**
	baz=283						
YHNB	**Yeheng**	**0.94**	**258**	eP	**Pb**	**19 34 33.5**	**-0.2**
	baz=270						
YHNB				eS	**Sg**	**19 34 45.6**	**+0.1**
	baz=270						
NACB	**Ninganchiao**	**1.00**	**226**	eP	**Pg**	**19 34 33.6**	**-0.8**
	baz=223						
NACB				eS	**Sg**	**19 34 47.5**	**+0.1**
	baz=223						
NNSB	**Datong**	**1.01**	**244**	eP	**Pg**	**19 34 34.7**	**+0.1**
	baz=227						
NNSB				eS	**Sb**	**19 34 48.7**	**+0.3**
	baz=227						
NNSH	**Datong**	**1.01**	**244**	eP	**Pb**	**19 34 34.9**	**-0.1**
	baz=230						
NNSH				eS	**Sb**	**19 34 48.2**	**-0.2**
	baz=230						
NNS	**Nan Shan**	**1.02**	**245**	P	**Pb**	**19 34 35.0**	**0.0**
	baz=228						
NNS				eS	**Sg**	**19 34 48.0**	**0.0**
	baz=228						
WLTB	**Daxi**	**1.03**	**269**	eS	**Sg**	**19 34 48.2**	**-0.1**
	baz=266						
ETLH	**Xiulin Townshi**	**1.06**	**231**	eP	**Pg**	**19 34 35.5**	**0.0**
	baz=228						
ETLH				eS	**Sg**	**19 34 49.3**	**+0.1**
	baz=228						
TWD	**Chiawan**	**1.07**	**223**	eP	**Pn**	**19 34 36.1**	**-0.2**
	baz=228						
TWD				eS	**Sb**	**19 34 49.8**	**-0.1**
	baz=228						
WHF	**Hehuan Shan**	**1.25**	**235**	P	**Pb**	**19 34 39.0**	**-0.1**
	baz=232						
WHF				eS	**Sb**	**19 34 55.6**	**0.0**
	baz=232						
LIOB	**Emei**	**1.27**	**260**	eP	**Pn**	**19 34 38.5**	**-0.5**
	baz=258						
TDCB	**Techi**	**1.28**	**241**	eP	**Pn**	**19 34 39.3**	**0.0**
	baz=239						
TDCB				eS	**Sn**	**19 34 56.7**	**+0.1**
	baz=239						
NSTT	**Nanjuang**	**1.28**	**259**	eP	**Pn**	**19 34 38.7**	**-0.6**
	baz=257						
IRIF	**Iriomote-Funau**	**1.34**	**113**	P	**Pn**	**19 34 39.9**	**0.0**
ESL	**Shilin**	**1.37**	**220**	eP	**Pn**	**19 34 39.8**	**-0.6**
	baz=199						
CHGB	**Renai**	**1.37**	**234**	eP	**Pb**	**19 34 41.1**	**+0.1**
	baz=231						
CHGB				eS	**Sg**	**19 34 59.1**	**-0.1**
	baz=231						
HATJ	**Hateruma jima**	**1.53**	**122**	P	**Pb**	**19 34 43.5**	**-0.1**
HATJ				S	**Sb**	**19 35 03.1**	**0.0**
DPDB	**Guoxing**	**1.57**	**238**	eP	**Pg**	**19 34 45.0**	**-0.3**
	baz=236						
DPDB				eS	**Sb**	**19 35 04.5**	**+0.1**
	baz=236						
VWDT	**VWDT**	**1.59**	**226**	eP	**Pb**	**19 34 44.1**	**-0.6**
	baz=224						
VWDT				eS	**Sb**	**19 35 05.0**	**+0.2**
	baz=224						
JKRS	**Kuro-shima**	**1.61**	**113**	P	**Pb**	**19 34 45.3**	**+0.3**
SMLT	**Sun Moon Lake**	**1.68**	**234**	P	**Pb**	**19 34 46.2**	**0.0**
	baz=232						
SMLT				eS	**Sb**	**19 35 07.1**	**-0.4**
	baz=232						
JIJ	**Ishigaki jima**	**1.68**	**107**	P	**Pb**	**19 34 46.0**	**-0.2**
JIJ				eS	**Sb**	**19 35 07.9**	**+0.5**
SSLB	**Suanglung**	**1.69**	**231**	eP	**Pb**	**19 34 45.8**	**-0.7**
	baz=239						
SSLB				eS	**Sn**	**19 35 06.3**	**-0.4**
	baz=239						
JISG	**Ishigakijimahi**	**1.77**	**99**	P	**Pb**	**19 34 47.4**	**-0.4**
YULB	**Yu-li**	**1.78**	**214**	eP	**Pn**	**19 34 45.0**	**-1.0**
	baz=213						
TWF1	**Yuli**	**1.81**	**214**	P	**Pn**	**19 34 45.6**	**-0.9**
	baz=212						
WHYT	**Xinyi Township**	**1.82**	**230**	eP	**Pb**	**19 34 48.4**	**-0.3**
	baz=228						

WNT	**Mingjian**	**1.84**	**238**	*e*S	**Sg**	**19 35 13.5**	**-0.9**
	baz=235						
CHN5	**Tsauling**	**2.01**	**231**	*e*P	**Pb**	**19 34 51.3**	**-0.6**
	baz=229						
CHN5				*e*S	**Sb**	**19 35 18.1**	**+1.1**
	baz=229						
ELDTW	**Lidau**	**2.09**	**217**	*e*P	**Pn**	**19 34 50.0**	**-0.5**
	baz=201						
CHN4	**Tsaushan**	**2.23**	**228**	*e*P	**Pb**	**19 34 54.7**	**-0.9**
	baz=210						
CHN4				*e*S	**Sb**	**19 35 22.9**	**-0.4**
	baz=210						
TPUB	**Ta-pu**	**2.24**	**226**	*e*P	**Pn**	**19 34 54.1**	**+1.6**
	baz=209						
TPUB				*e*S	**Sn**	**19 35 21.8**	**+1.5**
	baz=209						
WTP	**Ta-pu**	**2.29**	**225**	*e*P	**Pn**	**19 34 54.4**	**+1.2**
	baz=208						
TWK	**Hsinying**	**2.36**	**228**	*e*P	**Pb**	**19 34 56.1**	**-1.7**
	baz=226						
CHN1	**Nanshi**	**2.39**	**226**	*e*P	**Pb**	**19 34 56.6**	**-1.7**
	baz=225						
SGST	**Jiashian**	**2.43**	**223**	*e*P	**Pn**	**19 34 56.9**	**+1.8**
	baz=206						
PTTC	**Pingtan**	**2.45**	**285**	*e*P	**Pn**	**19 34 53.5**	**-1.8**
	baz=282						
SLGT	**Liugui**	**2.46**	**221**	*e*P	**Pn**	**19 34 57.4**	**+2.0**
	baz=219						
MASBT	**Mashibuluo**	**2.76**	**216**	*e*P	**Pn**	**19 35 01.9**	**+2.3**
	baz=215						
EAST	**Anshuo**	**2.85**	**210**	*e*P	**Pn**	**19 35 02.0**	**+1.2**
	baz=208						
SCZT	**Fangliau**	**2.97**	**213**	*e*P	**Pn**	**19 35 04.5**	**+2.1**
	baz=198						

*PRU **04** 19:42:10.4±0.0, 48.°39N×9.°10E, h10km*
*BGR **04** 19:42:10.1±0.2, 48.°33N×9.°04E, h13km±2km, ML3.0/11, Error ellipse: s-maj=2.2km s-min=2.2km az=105.0*
*ZUR **04** 19:42:10.4, 48.°32N×9.°01E, h8km±3km, MLh3.1/49, Error ellipse: s-maj=6.1km s-min=1.0km az=94.0*
*STR **04** 19:42:10.2±0.4, 48.°N±2.°×.°±.°, h21km±2km, MLv2.9/6*
*LDG **04** 19:42:10.5±0.1, 48.°31N×9.°00E, h7km, Md3.2/2, Ml3.0/36, Error ellipse: s-maj=0.9km s-min=0.8km az=72.0*
ISC 04 19:42:09.8±0.8**, 48.°31N**±0.°01×**8.°98E**±0.°01**, h17**km±5km**,**
n190, σ1.s60/333**, 23C-20D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUBL	**Tuebingen-Lenn**	**0.22**	**18**	⇓Pg	**Pg**	**19 42 14.3**	**-0.7**
TUBL				Sg	**Sg**	**19 42 17.2**	**-1.4**
GUT	**Gutenstein**	**0.26**	**159**	⇓Pg	**Pg**	**19 42 15.2**	**-0.3**
GUT				Sg	**Sg**	**19 42 18.8**	**-0.6**
GUT	**Gutenstein**	**0.26**	**159**	⇓*i*Pg	**Pg**	**19 42 15.2**	**-0.3**
GUT				Sg	**Sg**	**19 42 18.8**	**-0.6**
BUCH	**Bad Urach**	**0.28**	**61**	⇑Pg	**Pg**	**19 42 15.3**	**-0.8**
BUCH				Sg	**Sg**	**19 42 19.0**	**-1.3**
LBG	**Lerchenberg**	**0.38**	**341**	⇓*i*Pg	**Pg**	**19 42 17.6**	**0.0**
LBG				Sg	**Sg**	**19 42 22.8**	**-0.1**
EMING	**Emmingen-Lipti**	**0.43**	**192**	⇑Pg	**Pg**	**19 42 18.7**	**+0.2**
EMING				Sg	**Sg**	**19 42 24.6**	**+0.2**
EMING	**Emmingen-Lipti**	**0.43**	**192**	⇑Pg	**Pg**	**19 42 18.7**	**+0.2**
EMING				Sg	**Sg**	**19 42 24.6**	**+0.2**
BFO	**Black Forest**	**0.43**	**273**	⇑Pg	**Pg**	**19 42 19.2**	**+0.5**
BFO				Sg	**Sg**	**19 42 25.2**	**+0.6**
BFO	**Black Forest**	**0.43**	**273**	⇑*i*Pg	**Pg**	**19 42 19.2**	**+0.5**
BFO				Sg	**Sg**	**19 42 25.2**	**+0.6**
BFO				SmS		19 42 29.6	
STU	**Stuttgart**	**0.48**	**17**	⇑Pg	**Pg**	**19 42 19.1**	**-0.4**
STU				Sg	**Sg**	**19 42 25.4**	**-0.7**
OPP	**Oppenau**	**0.56**	**290**	Pn	**Pg**	**19 42 21.5**	**+0.5**
OPP				Sn	**Sg**	**19 42 29.1**	**+0.6**
OPP	**Oppenau**	**0.56**	**290**	⇑Pg	**Pg**	**19 42 21.4**	**+0.5**
OPP				Sg	**Sg**	**19 42 29.1**	**+0.6**
OPP				SmS		19 42 32.2	
WALHA	**Wallhausen, DE**	**0.56**	**170**	⇓Pg	**Pg**	**19 42 21.1**	**+0.1**
WALHA	**Wallhausen, DE**	**0.56**	**170**	⇓*i*Pg	**Pg**	**19 42 21.1**	**+0.1**
WALHA				PmP		19 42 23.3	
WALHA				Sg	**Sg**	**19 42 29.0**	**+0.4**
WALHA				SmS		19 42 33.1	
SISB	**Singen-Schiene**	**0.62**	**181**	⇓Pg	**Pg**	**19 42 22.4**	**+0.3**
SISB				PmP		19 42 24.2	
SISB				Sg	**Sg**	**19 42 31.0**	**+0.6**
SISB				SmS		19 42 34.1	
SLE	**Schleitheim**	**0.64**	**211**	⇑Pn	**Pg**	**19 42 22.6**	**+0.3**
SLE	**Schleitheim**	**0.64**	**211**	⇑Pg	**Pg**	**19 42 22.6**	**+0.3**
SLE				PmP		19 42 24.4	
SLE				Sg	**Sg**	**19 42 31.6**	**+0.8**
SLE				SmS		19 42 34.4	
STEIN	**Stein am Rhein**	**0.65**	**187**	Pn	**Pg**	**19 42 22.9**	**+0.4**
BERGE	**Lenzkirch (DE)**	**0.69**	**231**	⇑Pn	**Pg**	**19 42 23.9**	**+0.4**
BERGE	**Lenzkirch (DE)**	**0.69**	**231**	⇑Pg	**Pg**	**19 42 23.9**	**+0.4**
BERGE				PmP		19 42 25.4	
BERGE				Sg	**Sg**	**19 42 33.6**	**+1.0**
BERGE				SmS		19 42 36.1	
BRET	**Bretten**	**0.73**	**345**	⇓Pg	**Pg**	**19 42 24.3**	**+0.2**
BRET				PmP		19 42 25.3	
BRET				SmS		19 42 36.3	
METMA	**Mettma DE**	**0.77**	**219**	⇑Pn	**Pg**	**19 42 25.1**	**+0.3**
METMA	**Mettma DE**	**0.77**	**219**	⇑Pg	**Pg**	**19 42 25.1**	**+0.3**
METMA				PmP		19 42 28.1	
METMA				SmS		19 42 38.1	
FELD	**Feldberg im Sc**	**0.79**	**237**	⇑Pn	**Pg**	**19 42 25.6**	**+0.4**
FELD	**Feldberg im Sc**	**0.79**	**237**	⇑Pg	**Pg**	**19 42 25.6**	**+0.4**
FELD				PmP		19 42 26.8	
KIZ	**Kirchzarten**	**0.79**	**244**	Pn	**Pg**	**19 42 25.8**	**+0.5**
KIZ				Sn	**Sg**	**19 42 36.5**	**+0.7**
KIZ	**Kirchzarten**	**0.79**	**244**	⇑Pn	**Pg**	**19 42 25.8**	**+0.5**
KIZ	**Kirchzarten**	**0.79**	**244**	⇑Pg	**Pg**	**19 42 25.8**	**+0.5**
KIZ				⇓PmP		19 42 26.7	
KIZ				Sg	**Sg**	**19 42 36.4**	**+0.7**
KIZ				SmS		19 42 38.7	
FBB	**Freiburg im Br**	**0.81**	**248**	PmP		19 42 26.9	
SGT02	**Zihlschlacht**	**0.82**	**167**	⇓Pn	**Pg**	**19 42 25.9**	**+0.2**
HDH	**Heidenheim-Cha**	**0.86**	**71**	Pg	**Pg**	**19 42 25.6**	**-1.0**
HDH				PmP		19 42 26.4	
HDH				SmS		19 42 39.1	
ACHB	**Acheberg**	**0.87**	**214**	⇑Pn	**Pg**	**19 42 27.1**	**+0.3**
WILA	**Wila**	**0.90**	**183**	⇓Pn	**Pg**	**19 42 27.6**	**+0.3**
WILA	**Wila**	**0.90**	**183**	⇓Pg	**Pg**	**19 42 27.6**	**+0.3**
WILA				PmP		19 42 28.2	
WILA				Sg	**Sg**	**19 42 40.0**	**+0.9**
WILA				SmS		19 42 41.0	
SGT00	**Sennhlsen**	**0.91**	**166**	⇓Pn	**Pg**	**19 42 27.6**	**+0.1**
SGT05	**Eggersriet**	**0.93**	**160**	⇓Pn	**Pg**	**19 42 27.9**	**+0.1**
SUBF	**Surbourg**	**0.96**	**309**	Pn	**Pb**	**19 42 29.4**	**+1.4**
SUBF				Sn	**Sb**	**19 42 42.8**	**+2.3**
SULZ	**Cheisacher**	**0.98**	**217**	⇑Pn	**Pg**	**19 42 28.8**	**0.0**
SULZ	**Cheisacher**	**0.98**	**217**	⇑Pn	**Pg**	**19 42 28.8**	**0.0**
SULZ				Pg	**Pb**	**19 42 29.2**	**+1.0**
SULZ				PmP		19 42 29.6	
SULZ				Sg	**Sb**	**19 42 42.9**	**+2.1**
UBR	**Ueberruh**	**0.98**	**129**	⇓Pn	**Pg**	**19 42 28.8**	**-0.1**
UBR	**Ueberruh**	**0.98**	**129**	⇓Pg	**Pg**	**19 42 28.8**	**-0.1**
UBR				PmP		19 42 29.6	
UBR				SmS		19 42 43.9	
SGT04	**Schlatt-Haslen**	**0.99**	**165**	⇓Pn	**Pg**	**19 42 29.3**	**+0.3**
ENDD	**Endenburg**	**1.02**	**235**	⇑Pn	**Pg**	**19 42 29.2**	**-0.4**
ENDD				Pg	**Pb**	**19 42 30.3**	**+1.3**
ENDD				Sn	**Sg**	**19 42 43.4**	**+0.3**
LANF	**Langenberg**	**1.03**	**311**	Pn	**Pb**	**19 42 30.6**	**+1.5**
LANF				Sn	**Sb**	**19 42 44.2**	**+1.8**
LANF	**Langenberg**	**1.03**	**311**	Pn	**Pb**	**19 42 30.5**	**+1.4**
LANF				Pg	**Pn**	**19 42 31.9**	**+2.4**
LANF				Sg	**Sb**	**19 42 44.4**	**+2.0**
LIENZ	**Kamor/St.Gall**	**1.07**	**161**	⇓Pg	**Pg**	**19 42 30.8**	**+0.2**
LIENZ				Sg	**Sb**	**19 42 45.4**	**+1.7**
WLS	**Welschbruch**	**1.09**	**276**	Pn	**Pb**	**19 42 30.0**	**-0.2**
WLS	**Welschbruch**	**1.09**	**276**	Pg	**Pb**	**19 42 31.6**	**+1.5**
SIND	**Sindeldorf**	**1.12**	**21**	⇑Pn	**Pb**	**19 42 29.8**	**-0.9**
SIND				Pg	**Pg**	**19 42 31.2**	**-0.2**
SIND				Sg	**Sg**	**19 42 45.6**	**-0.4**
PEB	**Petersbachel**	**1.13**	**313**	Pg	**Pb**	**19 42 32.2**	**+1.4**
PEB				Sg	**Sn**	**19 42 48.0**	**+2.1**
CDF	**Champ du Feu**	**1.14**	**276**	*e*Pn	**Pb**	**19 42 31.2**	**+0.1**
CDF	**Champ du Feu**	**1.14**	**276**	*e*Pg	**Pb**	**19 42 32.3**	**+1.2**
CDF				*e*Sn	**Sb**	**19 42 46.1**	**+0.5**
CDF				*e*Sg	**Sg**	**19 42 47.5**	**+0.7**
	212nm,0.3s						
NORI	**Noerdlinger Ri**	**1.17**	**69**	*e*Pn	**Pb**	**19 42 31.0**	**-0.5**
KTD	**Kalmit**	**1.17**	**330**	Pn	**Pn**	**19 42 33.0**	**+1.6**
KTD				Sn	**Sg**	**19 42 48.5**	**+0.7**
KTD	**Kalmit**	**1.17**	**330**	Pg	**Pb**	**19 42 32.8**	**+1.2**
DAVA	**Damuels**	**1.19**	**149**	⇓P*	**Pb**	**19 42 32.6**	**+0.7**
DAVA				Pg	**Pn**	**19 42 33.3**	**+1.5**
DAVA	**Damuels**	**1.19**	**149**	*e*Pg	**Pb**	**19 42 32.6**	**+0.7**
	5.6nm,0.1s,SNR=60						
DAVA				*e*Sg	**Sn**	**19 42 49.7**	**+2.1**
	26nm,0.2s						
SWS	**Schriesheim-Wi**	**1.19**	**351**	Pg	**Pb**	**19 42 32.8**	**+0.9**
SWS				Sg	**Sg**	**19 42 48.6**	**+0.3**
ECH	**Echery**	**1.22**	**266**	Pn	**Pn**	**19 42 32.1**	**0.0**
ECH	**Echery**	**1.22**	**266**	Pn	**Pn**	**19 42 32.1**	**0.0**
ECH				Pg	**Pb**	**19 42 33.9**	**+1.5**
ECH				Sn	**Sb**	**19 42 47.8**	**-0.1**
ECH				Sg	**Sg**	**19 42 50.5**	**+1.2**
OBER	**Oberstdorf**	**1.26**	**135**	Pn	**Pn**	**19 42 33.4**	**+0.7**
OBER				Pg	**Pg**	**19 42 34.5**	**+0.3**
OBER				Sg	**Sn**	**19 42 51.6**	**+2.3**
PLONS	**Plons/SG**	**1.29**	**168**	P	**Pn**	**19 42 33.8**	**+0.7**
PLONS				S	**Sb**	**19 42 50.4**	**+0.5**
PLONS				AML	AML		
	comp=E,428µm,0.4s						
PLONS				AML	AML		
	comp=N,197µm,0.2s						
TOD	**Tromm**	**1.30**	**355**	Pg	**Pb**	**19 42 34.8**	**+1.0**
TOD				Sg	**Sb**	**19 42 51.7**	**+1.5**
BALST	**Balsthal**	**1.30**	**222**	⇑Pn	**Pn**	**19 42 33.0**	**-0.2**
BALST				Pg	**Pb**	**19 42 35.2**	**+1.4**
BALST				Sg	**Sg**	**19 42 53.0**	**+1.0**
MOF	**Molkenrain**	**1.32**	**250**	Pn	**Pn**	**19 42 33.5**	**0.0**
MOF	**Molkenrain**	**1.32**	**250**	Pn	**Pn**	**19 42 33.4**	**-0.1**
MOF				Pg	**Pg**	**19 42 36.0**	**+0.8**
WBA	**Furth**	**1.35**	**356**	Sg	**Sn**	**19 42 53.4**	**+2.0**
RETA	**Reutte**	**1.46**	**124**	Pg	**Pb**	**19 42 37.1**	**+0.8**
RETA				Sg	**Sg**	**19 42 56.5**	**-0.3**
RETA	**Reutte**	**1.46**	**124**	Pg	**Pb**	**19 42 37.2**	**+0.8**
	comp=N,7.5nm,0.1s,SNR=7.8						
RETA				*e*Sg	**Sg**	**19 42 56.3**	**-0.4**
	comp=N,63nm,0.2s						
IMS	**Imsbach**	**1.47**	**331**	Pg	**Pb**	**19 42 37.9**	**+1.3**
BNALP	**Bannalp**	**1.49**	**195**	P	**Pn**	**19 42 36.5**	**+0.6**
BNALP				S	**Sn**	**19 42 56.5**	**+1.5**
BNALP				AML	AML		
	comp=N,226µm,0.4s						
BNALP				AML	AML		
	comp=E,488µm,0.5s						
BOURR	**Bourrignon**	**1.49**	**233**	Sg	**Sg**	**19 42 58.8**	**+0.8**
HINF	**Hinteralfeld**	**1.51**	**252**	*e*Pn	**Pn**	**19 42 35.9**	**-0.2**
HINF	**Hinteralfeld**	**1.51**	**252**	*e*Pg	**Pb**	**19 42 39.1**	**+1.8**
HINF				*e*Sn	**Sn**	**19 42 54.7**	**-0.6**
HINF				*e*Sg	**Sb**	**19 42 58.6**	**+2.4**
	comp=E,53nm,0.2s						
FUR	**Furstenfeldbru**	**1.54**	**95**	*e*Pg	**Pb**	**19 42 38.6**	**+0.7**
WBB	**Darmstadt**	**1.55**	**352**	Pg	**Pg**	**19 42 39.6**	**0.0**
WBB				Sg	**Sb**	**19 42 59.2**	**+1.9**
DAVOX	**Davos/Dischmat**	**1.65**	**158**	P	**Pn**	**19 42 39.3**	**+1.3**
DAVOX				S	**Sn**	**19 42 59.7**	**+0.8**
DAVOX				AML	AML		
	comp=E,192µm,1.6s						
DAVOX				AML	AML		
	comp=N,109µm,0.4s						
MOTA	**Moosalm**	**1.73**	**123**	*e*Pn	**Pn**	**19 42 40.6**	**+1.5**
	comp=N,0.7nm,0.1s						
MOTA				Pg	**Pb**	**19 42 41.5**	**+0.4**
	comp=N,2.4nm,0.2s,SNR=33						
MOTA				*e*Sn	**Sn**	**19 43 01.1**	**+0.2**
	comp=N,38nm,0.2s						
LOMF	**Lomont**	**1.74**	**237**	Pg	**Pg**	**19 42 43.6**	**+0.4**
FETA	**Feichten**	**1.75**	**137**	Pn	**Pn**	**19 42 40.5**	**+1.1**
	comp=N,1.3nm,0.2s,SNR=16						
FETA				*i* Sn	**Sn**	**19 43 02.6**	**+1.2**
	comp=N,9.1nm,0.2s						
HAU	**Haudompre**	**1.79**	**261**	*e*Pn	**Pn**	**19 42 40.1**	**+0.2**
HAU	**Haudompre**	**1.79**	**261**	*e*Pg	**Pg**	**19 42 44.5**	**+0.4**
HAU				*e*Sn	**Sn**	**19 43 01.4**	**-0.8**
HAU				*e*Sg	**Sg**	**19 43 07.8**	**+0.4**
	comp=N,110nm,0.3s						
DUP	**Duppenweiler**	**1.82**	**308**	Pg	**Pg**	**19 42 45.3**	**+0.5**
DUP				Sg	**Sg**	**19 43 08.6**	**+0.2**
GRC1	**Grafenberg Arr**	**1.82**	**67**	Pn	**Pn**	**19 42 39.8**	**-0.6**
GRC1				Pg	**Pb**	**19 42 43.2**	**+0.6**
ABH	**Alteburg**	**1.83**	**330**	Pn	**Pn**	**19 42 41.3**	**+0.8**
ABH	**Alteburg**	**1.83**	**330**	Pg	**Pg**	**19 42 45.1**	**+0.1**
TUE	**Stuetta**	**1.85**	**172**	P	**Pn**	**19 42 42.3**	**+1.3**
TUE				S	**Sn**	**19 43 05.2**	**+1.1**
TUE				AML	AML		
	comp=E,95µm,1.3s						
TUE				AML	AML		
	comp=N,86µm,0.5s						
TUE				AML	AML		
	comp=E,114µm,0.4s						
TUE				AML	AML		
	comp=N,119µm,0.5s						
SQTA	**Sankt Quirin**	**1.86**	**125**	Pn	**Pn**	**19 42 42.4**	**+1.5**
	comp=N,0.5nm,0.1s,SNR=23						
SQTA				*i* Sn	**Sn**	**19 43 05.6**	**+1.6**
	comp=N,24nm,0.2s						
FUSIO	**Fusio**	**1.87**	**187**	P	**Pn**	**19 42 42.1**	**+1.0**
FUSIO				S	**Sn**	**19 43 05.9**	**+1.6**
FUSIO				AML	AML		
	comp=N,204µm,0.3s						
FUSIO				AML	AML		
	comp=E,253µm,0.6s						
WBG	**Bieber**	**1.88**	**7**	Sg	**Sg**	**19 43 09.3**	**-1.0**
CHMF	**Charmoille**	**1.90**	**237**	Pn	**Pn**	**19 42 41.1**	**-0.3**
CHMF				Sn	**Sn**	**19 43 02.8**	**-2.1**
TNS	**Taunus Mts**	**1.95**	**350**	Pn	**Pn**	**19 42 42.7**	**+0.6**
TNS				Sg	**Sg**	**19 43 12.2**	**-0.3**
WATA	**Walderalm**	**2.00**	**118**	Pn	**Pb**	**19 42 45.5**	**-0.3**
	comp=E,3.4nm,0.2s						
WATA				Sn	**Sn**	**19 43 07.5**	**-0.1**
	comp=E,5.8nm,0.2s						
RIVT	**Riveris**	**2.02**	**315**	Pg	**Pg**	**19 42 48.5**	**-0.1**
GRB2	**Grafenberg Arr**	**2.02**	**61**	Pn	**Pn**	**19 42 42.4**	**-0.7**
GRB2				Sn	**Sn**	**19 43 07.0**	**-0.9**
GRF	**Grafenberg Arr**	**2.02**	**46**	⇓Pn	**Pn**	**19 42 42.2**	**-0.9**
GRF				Pg	**Pb**	**19 42 47.5**	**+1.5**
WTTA	**Wattenberg**	**2.08**	**119**	Pn	**Pb**	**19 42 46.6**	**-0.4**
	comp=E,0.7nm,0.1s						
WTTA				Sn	**Sn**	**19 43 10.6**	**+1.1**
	comp=E,36nm,0.3s						
FACH	**Fachingen**	**2.15**	**343**	Sg	**Sg**	**19 43 19.0**	**+0.2**
ROSI	**Rosskopf**	**2.15**	**129**	P	**Pn**	**19 42 46.8**	**+1.8**
ROSI				AML	AML		
	comp=N,107µm,0.4s						
ROSI				AML	AML		
	comp=E,84µm,0.4s						
PAGF	**Fort de Pagny**	**2.18**	**278**	*e*Pn	**Pn**	**19 42 45.3**	**+0.1**
PAGF	**Fort de Pagny**	**2.18**	**278**	*e*Pg	**Pb**	**19 42 51.3**	**+2.5**
	baz=95						
PAGF				*e*Sn	**Sn**	**19 43 10.9**	**-0.9**
PAGF				*e*Sg	**Sg**	**19 43 19.9**	**0.0**
	comp=E,36nm,0.2s						
ABSI	**Aberstueckl**	**2.24**	**134**	P	**Pn**	**19 42 48.2**	**+2.0**
ABSI				AML	AML		
	comp=E,166µm,0.6s						
ABSI				AML	AML		
	comp=N,188µm,0.5s						
WLF	**Walferdange**	**2.30**	**307**	Pg	**Pg**	**19 42 54.0**	**+0.1**
MMK	**Mattmark**	**2.36**	**197**	P	**Pn**	**19 42 49.1**	**+1.1**
MMK				AML	AML		
	comp=N,96µm,0.5s						
MMK				AML	AML		
	comp=E,86µm,0.6s						
MUGIO	**Muggio**	**2.39**	**179**	P	**Pn**	**19 42 49.6**	**+1.5**
MUGIO				S	**Sn**	**19 43 18.9**	**+1.8**
KOSI	**Kohlern**	**2.46**	**138**	P	**Pn**	**19 42 51.0**	**+1.8**
KOSI				AML	AML		
	comp=E,52µm,0.9s						
KOSI				AML	AML		
	comp=N,48µm,0.5s						
RISI	**Rein**	**2.50**	**122**	P	**Pn**	**19 42 51.9**	**+2.1**
RISI				AML	AML		
	comp=E,135µm,0.3s						
RISI				AML	AML		
	comp=N,210µm,0.5s						
GIMEL	**St. Georges /**	**2.56**	**227**	P	**Pg**	**19 42 59.0**	**+0.1**
ROTZ	**Rotzenmuhle**	**2.58**	**54**	*e*Pn	**Pn**	**19 42 49.7**	**-1.0**
ROTZ				*e*Pg	**Pb**	**19 42 56.2**	**+0.7**
CABF	**La Chapelle**	**2.60**	**230**	*e*Pn	**Pn**	**19 42 50.7**	**-0.3**
CABF	**La Chapelle**	**2.60**	**230**	*e*Pg	**Pg**	**19 42 59.9**	**+0.3**
CABF				*e*Sn	**Sn**	**19 43 20.3**	**-1.9**
CABF				*e*Sg	**Sg**	**19 43 32.9**	**-0.3**
	comp=N,15nm,0.2s						
MEZF	**Maizieres J'vi**	**2.62**	**276**	*e*Pn	**Pn**	**19 42 51.2**	**-0.1**
MEZF	**Maizieres J'vi**	**2.62**	**276**	*e*Pg	**Pg**	**19 42 59.6**	**-0.5**
	baz=90						
MEZF				*e*Sn	**Sn**	**19 43 21.4**	**-1.3**
MEZF				*e*Sg	**Sg**	**19 43 33.7**	**-0.4**
	comp=N,18nm,0.2s						
SFTF	**Sexfontaines**	**2.64**	**269**	*e*Pn	**Pn**	**19 42 51.6**	**+0.1**
SFTF	**Sexfontaines**	**2.64**	**269**	*e*Pg	**Pg**	**19 42 59.9**	**-0.4**
	baz=95						
SFTF				*e*Sn	**Sn**	**19 43 21.8**	**-1.3**
SFTF				*e*Sg	**Sg**	**19 43 34.4**	**-0.1**
	comp=N,24nm,0.2s						
MANZ	**Manzenberg**	**2.65**	**50**	*e*Pg	**Pb**	**19 42 57.7**	**+0.9**
WET	**Wettzell**	**2.71**	**71**	*e*Pg	**Pb**	**19 42 59.7**	**+1.9**
ABTA	**Abfaltersbach**	**2.86**	**122**	*e*Pn	**Pn**	**19 42 57.4**	**+2.8**
	comp=N,1.2nm,0.3s,SNR=4.5						
ABTA				*e*Pg	**Pg**	**19 43 04.2**	**-0.3**
	comp=N,3.5nm,0.3s						
ABTA				*e*Sg	**Sg**	**19 43 39.0**	**-2.6**
	comp=N,13nm,0.4s						
OG02	**Monnetier-Morn**	**2.86**	**222**	Pn	**Pn**	**19 42 53.8**	**-0.9**
MOX	**Moxa**	**2.90**	**35**	*e*Pn	**Pn**	**19 42 54.0**	**-1.2**
NKC	**Novy Kostel**	**2.98**	**48**	*e*PN	**Pn**	**19 42 56.3**	**+0.1**
NKC				*e*PG	**Pb**	**19 43 03.1**	**+0.8**
NKC				*e*SG	**Sb**	**19 43 42.1**	**+3.7**
	comp=N,28nm,0.5s						
KHC	**Kasperske Hory**	**3.15**	**73**	*e*PN	**Pn**	**19 42 58.9**	**+0.3**
KHC				*e*PG	**Pb**	**19 43 05.4**	**+0.1**
KHC				*e*SN	**Sn**	**19 43 34.3**	**-1.6**
KHC				*e*SG	**Sb**	**19 43 46.6**	**+3.1**
	comp=N,14nm,0.4s						
GEC2	**GERESS Array S**	**3.18**	**79**	*e*Pn	**Pn**	**19 42 59.4**	**+0.4**
LPL	**La Plagne**	**3.19**	**210**	*e*Pn	**Pn**	**19 42 59.2**	**-0.1**
LPL	**La Plagne**	**3.19**	**210**	*e*Pg	**Pg**	**19 43 10.1**	**-0.8**
LPL				*e*Sn	**Sn**	**19 43 35.4**	**-1.7**
LPL				*e*Sg	**Sg**	**19 43 51.7**	**-0.6**
	comp=N,11nm,0.5s						
KBA	**Koelnbreinsper**	**3.19**	**111**	Pg	**Pg**	**19 43 10.0**	**-1.0**
	comp=N,4.4nm,0.4s						
KBA				Sg	**Sg**	**19 43 51.9**	**-0.6**
	comp=N,12nm,0.3s						
LPG	**La Plagne**	**3.20**	**209**	*e*Pn	**Pn**	**19 42 59.5**	**0.0**
LPG	**La Plagne**	**3.20**	**209**	*e*Pg	**Pg**	**19 43 10.4**	**-0.7**
LPG				*e*Sn	**Sn**	**19 43 35.7**	**-1.7**
LPG				*e*Sg	**Sg**	**19 43 51.9**	**-0.7**
	comp=N,8.5nm,0.4s						
OG35	**Corcelles**	**3.25**	**227**	Pn	**Pn**	**19 42 59.0**	**-0.9**
GIVF	**Givet**	**3.26**	**305**	*e*Pn	**Pn**	**19 42 59.9**	**-0.2**
GIVF	**Givet**	**3.26**	**305**	*e*Pg	**Pb**	**19 43 10.8**	**+3.6**
GIVF				*e*Sn	**Sn**	**19 43 36.7**	**-1.8**
GIVF				*e*Sg	**Sg**	**19 43 53.2**	**-1.3**
	comp=N,12nm,0.3s						
GEPF	**Gemona**	**3.49**	**124**	S	**Sb**	**19 43 54.0**	**+1.0**
MOA	**Molln**	**3.57**	**95**	*i* Pn	**Pn**	**19 43 05.7**	**+1.3**
	comp=N,0.2nm,0.1s						
MOA				*i* Sg	**Pg**	**19 43 17.0**	**-1.3**
	comp=N,3.0nm,0.3s						
MOA				*i* Sn	**Sn**	**19 43 44.6**	**-1.6**
MOA				*i* Sg	**Sg**	**19 44 02.1**	**-2.4**
MYKA	**Terra Mystica**	**3.58**	**116**	*e*Pn	**Pn**	**19 43 07.0**	**+2.5**
	comp=N,1.1nm,0.2s						
MYKA				Sg	**Sg**	**19 44 02.6**	**-2.1**
	comp=N,4.1nm,0.3s						
BAIF	**Baives**	**3.59**	**301**	*e*Pn	**Pn**	**19 43 04.4**	**-0.1**
BAIF	**Baives**	**3.59**	**301**	*e*Pg	**Pg**	**19 43 16.8**	**-1.7**
BAIF				*e*Sn	**Sn**	**19 43 44.4**	**-2.1**
BAIF				*e*Sg	**Sg**	**19 44 03.3**	**-1.6**
	comp=N,5.4nm,0.3s						
LOR	**Lormes**	**3.61**	**255**	*e*Pn	**Pn**	**19 43 05.1**	**+0.3**
LOR	**Lormes**	**3.61**	**255**	*e*Pg	**Pg**	**19 43 18.5**	**-0.3**
	baz=78						
LOR				*e*Sn	**Sn**	**19 43 45.2**	**-1.8**
LOR				*e*Sg	**Sg**	**19 44 04.4**	**-1.1**
	comp=N,21nm,0.2s						
LOR	**Lormes**	**3.61**	**255**	Pn	**Pn**	**19 43 04.2**	**-0.6**
SMF	**Signal de Mont**	**3.86**	**246**	*e*Pn	**Pn**	**19 43 08.0**	**-0.4**
SMF	**Signal de Mont**	**3.86**	**246**	*e*Pg	**Pg**	**19 43 22.5**	**-1.2**
SMF				*e*Sn	**Sn**	**19 43 51.1**	**-2.2**
SMF				*e*Sg	**Sg**	**19 44 12.4**	**-1.3**
	comp=N,12nm,0.2s						
MBDF	**Montbardon**	**3.90**	**204**	*e*Pn	**Pn**	**19 43 09.9**	**+1.0**
MBDF	**Montbardon**	**3.90**	**204**	*e*Pg	**Pg**	**19 43 22.4**	**-2.0**
MBDF				*e*Sn	**Sn**	**19 43 52.1**	**-2.2**
	comp=N,0.9nm,0.2s						
MBDF				*e*Sg	**Sg**	**19 44 13.4**	**-1.4**
	comp=N,9.0nm,0.5s						
SSF	**Saint Saulge**	**3.90**	**253**	*e*Pn	**Pn**	**19 43 09.0**	**+0.1**
SSF	**Saint Saulge**	**3.90**	**253**	*e*Pg	**Pg**	**19 43 23.0**	**-1.5**
SSF				*e*Sn	**Sn**	**19 43 52.5**	**-1.8**
SSF				*e*Sg	**Sg**	**19 44 13.6**	**-1.4**
	comp=N,9.9nm,0.3s						
MODE	**Modena**	**3.92**	**159**	S	**Sn**	**19 43 58.0**	**+3.2**
CLL	**Collm**	**3.97**	**39**	*e*Pn	**Pn**	**19 43 08.0**	**-1.9**
CLL				*e*		19 43 15.0	
CLL				*i*		19 43 23.0	
CLL				*e*Pg	**Pg**	**19 43 25.0**	**-0.9**
CLL				*e*Sg	**Sg**	**19 44 14.0**	**-3.3**
	comp=Z,13nm,1.0s						
ORIF	**Oris-en-Rattie**	**4.01**	**213**	*e*Pn	**Pn**	**19 43 10.4**	**-0.1**
ORIF	**Oris-en-Rattie**	**4.01**	**213**	*e*Pg	**Pg**	**19 43 25.2**	**-1.4**
ORIF				*e*Sn	**Sn**	**19 43 54.7**	**-2.3**
	comp=Z,2.5nm,0.3s						
ORIF				*e*Sg	**Sg**	**19 44 16.8**	**-1.7**
	comp=Z,4.2nm,0.3s						
PRU	**Pruhonice**	**4.02**	**63**	*e*PG	**Pb**	**19 43 20.6**	**+0.5**
PRU				*e*SG	**Sb**	**19 44 13.4**	**+5.1**
AVF	**Avril sur Loir**	**4.10**	**250**	*e*Pn	**Pn**	**19 43 11.6**	**0.0**
AVF	**Avril sur Loir**	**4.10**	**250**	*e*Pg	**Pg**	**19 43 26.8**	**-1.5**
AVF				*e*Sn	**Sn**	**19 43 57.1**	**-2.1**
AVF				*e*Sg	**Sg**	**19 44 19.9**	**-1.5**
	comp=Z,2.8nm,0.2s						
BRG	**Berggiesshubel**	**4.12**	**50**	PG	**Pg**	**19 43 26.6**	**-2.1**
BRG				SG	**Sg**	**19 44 19.4**	**-2.7**
	comp=Z,9.2nm,0.7s						
OBKA	**Obir**	**4.19**	**113**	Sg	**Sg**	**19 44 21.7**	**-2.5**
	comp=Z,4.0nm,0.4s						
HYF	**Humbligny**	**4.40**	**259**	*e*Pn	**Pn**	**19 43 15.5**	**-0.2**
HYF	**Humbligny**	**4.40**	**259**	*e*Pg	**Pg**	**19 43 32.3**	**-1.7**
HYF				*e*Sn	**Sn**	**19 44 04.3**	**-2.2**
HYF				*e*Sg	**Sg**	**19 44 29.2**	**-1.8**
SOKA	**Soboth**	**4.42**	**109**	*i* Sg	**Sg**	**19 44 30.6**	**-0.9**
	comp=Z,3.7nm,0.5s						
BGF	**Bois d'Agland**	**4.52**	**249**	*e*Pn	**Pn**	**19 43 17.2**	**-0.1**
BGF	**Bois d'Agland**	**4.52**	**249**	*e*Pg	**Pg**	**19 43 34.3**	**-1.9**
BGF				*e*Sn	**Sn**	**19 44 07.0**	**-2.4**
BGF				*e*Sg	**Sg**	**19 44 32.7**	**-2.0**
	comp=Z,23nm,0.4s						
ARSA	**Arzberg**	**4.54**	**101**	Sg	**Sg**	**19 44 36.4**	**+1.1**
	comp=Z,3.2nm,0.4s						
VIVF	**Saint-Julien-l**	**4.55**	**222**	*e*Pn	**Pn**	**19 43 17.8**	**-0.1**
VIVF	**Saint-Julien-l**	**4.55**	**222**	*e*Pg	**Pg**	**19 43 34.5**	**-2.5**
VIVF				*e*Sn	**Sn**	**19 44 06.9**	**-3.5**
VIVF				*e*Sg	**Sg**	**19 44 33.8**	**-2.2**
	comp=Z,3.3nm,0.2s						
SBF	**Sospel**	**4.58**	**194**	*e*Pn	**Pn**	**19 43 17.8**	**-0.4**
SBF				*e*Sn	**Sn**	**19 44 08.0**	**-3.0**
	comp=Z,1.1nm,0.2s						
CONA	**Conrad Observa**	**4.63**	**92**	*i* Sg	**Sg**	**19 44 34.7**	**-3.5**
	comp=Z,7.0nm,0.5s						
SMRF	**Simiane la Rot**	**4.94**	**210**	*e*Pn	**Pn**	**19 43 23.3**	**+0.1**
SMRF	**Simiane la Rot**	**4.94**	**210**	*e*Pg	**Pg**	**19 43 41.6**	**-2.7**
SMRF				*e*Sn	**Sn**	**19 44 16.8**	**-3.1**
SMRF				*e*Sg	**Sg**	**19 44 45.8**	**-2.4**
	comp=Z,0.7nm,0.3s						
KRUC	**Moravsky**	**4.97**	**79**	*e*PN	**Pg**	**19 43 42.0**	**-2.9**
KRUC				*e*SG	**Sg**	**19 44 46.3**	**-2.9**
FRF	**La Foret Royal**	**5.02**	**200**	*e*Pn	**Pn**	**19 43 23.8**	**-0.5**
FRF	**La Foret Royal**	**5.02**	**200**	*e*Pg	**Pg**	**19 43 43.3**	**-2.6**
FRF				*e*Sn	**Sn**	**19 44 18.5**	**-3.3**
	comp=Z,1.1nm,0.2s						
TCF	**Toulx Ste Croi**	**5.03**	**249**	*e*Pn	**Pn**	**19 43 24.0**	**-0.4**
TCF	**Toulx Ste Croi**	**5.03**	**249**	*e*Pg	**Pg**	**19 43 43.5**	**-2.6**
TCF				*e*Sn	**Sn**	**19 44 19.2**	**-2.9**
TCF				*e*Sg	**Sg**	**19 44 48.5**	**-2.7**
	comp=Z,4.0nm,0.3s						
VRAC	**Vranov**	**5.13**	**76**	*e*PN	**Pb**	**19 43 43.7**	**+4.7**
VRAC				*e*SG	**Sg**	**19 44 51.0**	**-3.3**
PE3	**Peglio**	**5.22**	**151**	P	**Pn**	**19 43 29.7**	**+2.6**
LMR	**La Mourre**	**5.27**	**200**	*e*Pn	**Pn**	**19 43 27.1**	**-0.5**
LMR				*e*Sn	**Sn**	**19 44 25.0**	**-2.9**
	comp=Z,0.6nm,0.2s						
ZAG	**Zagreb**	**5.39**	**115**	P	Pb	19 43 39.1	-4.4
LASF	**Ste Croix**	**5.53**	**222**	*e*Pn	**Pn**	**19 43 30.7**	**-0.6**
LASF	**Ste Croix**	**5.53**	**222**	*e*Pg	**Pg**	**19 43 52.9**	**-2.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LASF				eSn	Sn	19 44 31.0	-3.4
	comp=Z,0.5nm,0.2s						
LASF				eSg	Sg	19 45 04.3	-2.9
	comp=Z,1.1nm,0.3s						
MODS	Modra-Piesok	5.53	86	eSG	Sg	19 45 05.9	-1.4
CAF	Calviac	5.84	237	ePn	Pn	19 43 34.8	-0.8
CAF	Calviac	5.84	237	ePg	Pg	19 43 59.0	-2.6
CAF				eSn	Sn	19 44 38.7	-3.5
CAF				eSg	Sg	19 45 14.3	-2.9
	comp=Z,0.9nm,0.2s						
RJF	Les Rejaudoux	5.94	242	ePn	Pn	19 43 37.0	+0.1
RJF	Les Rejaudoux	5.94	242	ePg	Pg	19 44 00.6	-2.8
RJF				eSn	Sn	19 44 41.0	-3.5
RJF				eSg	Sg	19 45 17.3	-3.0
	comp=Z,1.9nm,0.3s						
LDF	La Druitiere	6.06	276	ePn	Pn	19 43 38.2	-0.4
LDF	La Druitiere	6.06	276	ePg	Pg	19 44 02.8	-3.0
LDF				eSn	Sn	19 44 43.8	-3.7
LDF				eSg	Sg	19 45 20.9	-3.3
	comp=Z,5.0nm,0.3s						
FLN	La Foliniere	6.30	278	ePn	Pn	19 43 41.7	-0.1
FLN	La Foliniere	6.30	278	ePg	Pg	19 44 07.1	-3.2
FLN				eSn	Sn	19 44 49.4	-3.9
FLN				eSg	Sg	19 45 28.2	-3.6
	comp=Z,2.2nm,0.3s						
MFF	Saint Martin d	6.42	258	ePn	Pn	19 43 42.3	-1.2
MFF	Saint Martin d	6.42	258	ePg	Pg	19 44 09.8	-2.8
MFF				eSn	Sn	19 44 52.3	-4.0
MFF				eSg	Sg	19 45 32.2	-3.5
	comp=Z,2.7nm,0.3s						
VYHS	Vyhne	6.57	85	ePN	Pn	19 43 46.0	+0.5
VYHS				eSN	Sn	19 44 54.9	-5.0
VYHS				eSG	Sg	19 45 39.2	-1.1
LAV9	Lanuvio	7.13	157	P	Pn	19 43 54.2	+0.9

*IDC **04** 19:43:54.5±2.5, 10°.53S×123°.39E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/25, mbtmp3.6/3, ML3.8/1, MS3.0/2, Ms1 3.1/2, ms1mx2.6/13, Error ellipse: s-maj=187.8km s-min=40.9km az=59.0*

*ISCJB **04** 19:43:56.7±0.5, 10°.04S±0°.07×124°.35E±0°.08, h19km, mb3.6/2, MS3.0/2, Error ellipse: s-maj=13.6km s-min=6.4km az=135.9*

*NEIC **04** 19:43:57.2±2.9, 10°.04S±0°.06×124°.19E±0°.10, h13km±6km, mb4.6/4*

ISC 04 19:43:58.1±0.7**, 10°.04S**±0°.08×**124°.34E**±0°.09**, h19km, n23, σ1s.96**/20**, mb3.7**/3**, Timor region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOEI	Soe	0.29	345	P	Pg	19 44 03.4	-1.3
SOEI	Soe	0.29	345		Pg	19 44 03.7	-1.0
MMRI	Maumere	2.50	304	P	Pn	19 44 38.4	+0.6
	143nm,0.5s,3μm0.9nm						
MMRI	Maumere	2.50	304	Pn	Pn	19 44 37.2	-0.6
PLAI	Plampang	6.59	280	P	Pn	19 45 36.6	+2.6
	56nm,0.7s						
KNRA	Kununurra	7.07	143		Pn	19 45 43.3	+2.7
MTN	Manton Dam	7.21	113		Pn	19 45 45.4	+2.8
FITZ	Fitzroy Crossi	8.11	171		Pn	19 45 56.5	+1.6
JAGI	Jajag, Banyuwa	10.18	278	Pn	Pn	19 46 18.1	-5.3
SMKI	Samarinda	11.88	323	P	Pn	19 46 37.9	-8.8
WB0	Warramunga Arr	13.70	136	Pn	Pn	19 47 11.5	+0.1
WRAB	Tennant Creek	13.78	137	Pn	Pn	19 47 12.7	+0.1
WB2	Warramunga Arr	13.79	137	Pn	Pn	19 47 13.2	+0.5
WR0	Warramunga Arr	13.93	136	Pn	Pn	19 47 13.1	-1.5
AS31	Alice Springs	16.34	147	Pn	Pn	19 47 47.6	+1.0
ASAR	Alice Springs	16.34	147	Pn	Pn	19 47 47.2	+0.6
	0.3nm,0.3s,baz=321,slow=12,SNR=27						
ASAR				Sn	Sn	19 50 42.6	-4.9
	0.4nm,0.3s,baz=310,slow=21,SNR=7.7						
CISI	Cisompet, Garu	16.52	277	Pn	Pn	19 47 47.1	-1.9
CISI				IAmb	IAmb	19 47 51.9	
	comp=Z,92nm,1.6s						
PMG	Port Moresby	22.50	90	P	P	19 48 57.4	+0.7
PMG				IAmb	IAmb	19 49 43.6	
	comp=Z,20nm,1.2s						
NWAO	Narrogin (SRO)	23.70	195	P	P	19 49 10.1	+1.3
CMAR	Chiang Mai Arr	37.82	318	LR	LR	20 07 59.7	
	comp=Z,11nm,19.6s,baz=260,slow=38						
SONM	Songino Array	59.78	346	P	P	19 54 03.6	+1.6
	comp=Z,0.5nm,0.8s,baz=157,slow=7.8,SNR=3.7						
MKAR	Makanchi Array	67.88	330	P	P	19 54 54.2	-1.1
	comp=Z,0.3nm,0.6s,baz=131,slow=7.6,SNR=4.9						
VNDA	Vanda	70.18	172	LR	LR	20 23 03.6	
	comp=Z,20nm,21.9s,baz=262,slow=34						

*IDC **04** 19:58:30.3±1.3, 10°.12S×115°.42E, h0km, mb3.7/6, mb1 4.0/9, mb1mx3.8/29, mbtmp3.9/9, ML4.1/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/26, Error ellipse: s-maj=33.7km s-min=21.2km az=40.0*

*ISCJB **04** 19:58:32.0±0.4, 10°.40S±0°.05×115°.49E±0°.03, h33km, mb3.9/7, Error ellipse: s-maj=6.7km s-min=4.7km az=14.2*

*NEIC **04** 19:58:34.7±2.2, 10°.27S±0°.06×115°.54E±0°.06, h38km±7km, mb4.4/7*

*DJA **04** 19:58:38.8±0.8, 10°S±15°×11°6E±°, h93km±26km, M4.0/9, MLv4.0/9*

ISC 04 19:58:34.4±0.6**, 10°.37S**±0°.06×**115°.51E**±0°.05**, h35km, n35, σ2s.07**/39**, mb3.9**/8**, South of Bali**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DNP	Denpasar	1.71	350	P	Pn	19 59 02.7	+1.0
TWSI	Taliwang, Sumb	2.11	40	P	Pn	19 59 08.3	+1.1
TWSI				S	Sn	19 59 31.7	-0.5
SRBI	Singaraja	2.29	353	P	Pn	19 59 12.0	+2.3
JAGI	Jajag, Banyuwa	2.32	324	P	Pn	19 59 10.6	+0.5
JAGI				S	Sn	19 59 35.7	-1.7
JAGI	Jajag, Banyuwa	2.32	324		Pn	19 59 10.4	+0.3
PLAI	Plampang	2.71	56	P	Pn	19 59 17.2	+1.8
PLAI				S	Sn	19 59 46.8	-0.2
PWJI	Pagerwojo	4.34	302	P	Pn	19 59 41.2	+3.3
PWJI				S	Sn	20 00 24.4	-3.0
UGM	Wanagama	5.50	296	Pn	Pn	19 59 54.5	+0.6
KAPI	Kappang	6.78	39	Pn	Pn	20 00 10.4	-1.0
	2.9nm,0.3s,baz=188,slow=15,SNR=16						
KAPI				Sn	Sn	20 01 25.0	-2.5
	1.2nm,0.3s,baz=64,slow=18,SNR=3.5						
KAPI				LR	LR	20 03 12.9	
	comp=Z,65nm,20.2s,baz=128,slow=42						
KAPI	Kappang	6.78	39		Pn	20 00 10.6	-0.8
MMRI	Maumere	6.85	76	Pn	Pn	20 00 12.1	-0.4
CISI	Cisompet, Garu	8.10	290		Pn	20 00 29.9	+0.2
SOEI	Soe	8.64	87	Pn	Pn	20 00 36.3	-0.8
XMIS	Christmas Isla	9.70	268	Pn	Pn	20 00 51.0	-0.6
GIRL	Giralia	12.27	186	Pn	Pn	20 01 27.3	+0.6
FITZ	Fitzroy Crossi	12.46	129	Pn	Pn	20 01 30.7	+1.4
	0.6nm,0.3s,baz=324,slow=12,SNR=20						
FITZ				Sn	Sn	20 03 40.2	-6.8
	0.8nm,0.3s,baz=359,slow=22,SNR=10						
FITZ	Fitzroy Crossi	12.46	129		Pn	20 01 29.7	+0.4
MNAI	Manna	13.81	295	Pn	Pn	20 01 46.5	-1.3
KNRA	Kununurra	13.94	114	Pn	Pn	20 01 50.1	+0.6
BNDI	Bandanaira	15.40	69	P	P	20 02 17.8	+4.4
MTN	Manton Dam	15.50	101	Pn	Pn	20 02 08.9	-1.6
FAKI	Fak Fak	18.18	67		Pn	20 02 42.7	-1.6
FAKI				IAmb	IAmb	20 02 48.3	
	comp=Z,46nm,1.6s						
SIJI	Sorong	18.28	60	P	P	20 02 45.0	-0.4
	comp=Z,1.2nm,0.3s,baz=265,slow=15,SNR=6.1						
WB0	Warramunga Arr	20.47	119		P	20 03 08.9	-0.4
WRAB	Tennant Creek	20.50	120	P	Pn	20 03 13.2	+1.3
WRAB				IAmb	IAmb	20 03 16.4	
	comp=Z,11nm,1.2s						
WB2	Warramunga Arr	20.50	120	Pn	Pn	20 03 13.3	+1.3
WB2				IAmb	IAmb	20 04 12.7	
	comp=Z,17nm,0.8s						
WR0	Warramunga Arr	20.67	120	Pn	Pn	20 03 15.3	+1.3
WR0				IAmb	IAmb	20 04 04.2	
	comp=Z,20nm,0.8s						
ASAR	Alice Springs	21.96	129	P	P	20 03 29.1	+3.7
	comp=Z,0.9nm,0.6s,baz=300,slow=9.4,SNR=13						
ASAR				S	S	20 07 28.4	+2.3
	comp=Z,1.3nm,0.9s,baz=303,slow=24,SNR=5.0						
CMAR	Chiang Mai Arr	32.98	330	P	P	20 05 05.4	-0.8
	comp=Z,1.1nm,0.9s,baz=165,slow=7.5,SNR=5.7						
WHN	Wuhan	40.69	358	P	P	20 06 15.5	+3.9
WHN				pmax	pmax		
	comp=Z,14nm,0.7s						
SONM	Songino Array	58.51	353	P	P	20 08 26.4	-0.9
	comp=Z,0.3nm,0.5s,baz=175,slow=8.7,SNR=4.4						
MKAR	Makanchi Array	64.18	335	P	P	20 09 05.2	-0.3
	comp=Z,0.3nm,0.4s,baz=146,slow=7.6,SNR=7.8						
ZALV	Zalesovo Beam	69.15	341	P	P	20 09 36.4	-0.6
	comp=Z,0.7nm,0.3s,baz=154,slow=7.0,SNR=3.8						
GEYT	Alibeck	71.95	316	P	P	20 09 54.1	-0.4
	comp=Z,1.2nm,0.6s,baz=124,slow=7.4,SNR=4.9						
ABKAR	Akbulak array	76.74	326	P	P	20 10 22.8	+0.8
ABKAR				IAmb	IAmb	20 12 22.9	
	comp=Z,5.4nm,1.4s						

*NEIC **04** 20:46:46.2±1.3, 60°.36N±0°.03×151°.33W±0°.04, h62km±4km*

AEIC 04 20:46:47.0±1.4**, 60°.36N**±0°.03×**151°.34W**±0°.05**, h58**km±6km**, ML2.9, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAPN	Captain Cook N	0.42	12		Pn	20 46 58.5	+0.6
SLKM	Skilak Lake	0.57	74		Pn	20 46 59.1	-0.6
SLKM					Sn	20 47 08.4	-0.4
BRLK	Bradley Lake	0.64	159		Pn	20 46 59.5	-0.9
BRSE	Bradley Lake S	0.69	154		Pn	20 47 00.3	-0.7
BRSE					Sn	20 47 11.3	+0.2
DFR	Drift River	0.71	290		Pn	20 47 00.3	-1.0
DFR					Sn	20 47 11.3	-0.5
RSO	Redoubt South	0.71	279		Pn	20 47 00.6	-0.9
RED	Redoubt Volcan	0.72	276		Pn	20 47 00.6	-0.8
RED					Sn	20 47 11.6	-0.3
HOM	Homer	0.72	193		Pn	20 47 01.3	0.0
RDWB	Redoubt West	0.76	281		Pn	20 47 00.9	-1.0
RDWB					Sn	20 47 12.5	-0.4
RDJH	Redoubt Jeurge	0.76	288		Pn	20 47 01.2	-0.8
NCT	North Crescent	0.82	285		Pn	20 47 01.8	-0.9
NCT					Sn	20 47 13.9	-0.3
CNPM	China Poot	0.84	177		Pn	20 47 02.2	-0.7
ILW	Iliamna West	0.95	252		Pn	20 47 03.6	-0.8
ILW					Sn	20 47 16.7	-0.6
SPCR	Spurr Chakacha	0.95	334		Pn	20 47 03.6	-0.7
SPCR					Sn	20 47 17.1	0.0
ILS	Iliamna Low So	0.95	246		Pn	20 47 03.6	-0.8
SEW	Seward	0.97	104		Pn	20 47 03.5	-1.0
CKL	Chakachamna La	0.97	330		Pn	20 47 04.1	-0.6
SPCG	Spurr Capps Gl	0.99	341		Pn	20 47 04.6	-0.4
SPCP	Crater Peak Br	0.99	337		Pn	20 47 04.6	-0.4
CGLM	Capps Glacier	1.01	341		Pn	20 47 04.7	-0.4
SPBG	Spurr Blockage	1.04	331		Pn	20 47 05.1	-0.4
RC01	Rabbit Creek A	1.07	46		Pn	20 47 05.2	-0.7
SPWE	Spurr West	1.10	327		Pn	20 47 06.0	-0.3
SUA	Susitna One	1.15	14		Pn	20 47 06.3	-0.6
SPNN	North Nagishla	1.21	327		Pn	20 47 07.9	0.0
AU22	Augustine Moun	1.42	227		Pn	20 47 10.2	-0.4
AUL	Augustine Lava	1.44	228		Pn	20 47 11.0	+0.1
AUP	Augustine Pinn	1.45	227		Pn	20 47 11.1	+0.1
AUH	Augustine H	1.46	228		Pn	20 47 11.2	+0.1
PWL	Port Wells	1.56	70		Pn	20 47 11.5	-1.0
SKT	Skwentna	1.63	357		Pn	20 47 13.6	+0.1
PMR	Palmer	1.64	40		Pn	20 47 12.7	-0.8
KNK	Knik Glacier	1.76	52		Pn	20 47 14.5	-0.7
GHO	Glory Hole Cre	1.84	39		Pn	20 47 15.5	-0.8
SML	Sawmill	2.06	44		Pn	20 47 18.5	-0.7
GLI	Glacier Island	2.15	74		Pn	20 47 18.2	-2.3
SVW2	Sparrevohn	2.21	291		Pn	20 47 19.8	-1.5
HIN	Hinchinbrook I	2.40	87		Pn	20 47 21.6	-2.3
FID	Port Fidalgo	2.43	79		Pn	20 47 21.6	-2.6
JPK	Jack Peak	2.43	71		Pn	20 47 22.7	-1.6
SCM	Sheep Creek Mo	2.44	51		Pn	20 47 23.6	-0.9
KAHC	Katmai Hardscr	2.54	229		Pn	20 47 25.5	-0.4
PPLA	Purkeypile	2.58	351		Pn	20 47 26.7	+0.2
KDAK	Kodiak Island	2.66	195		Pn	20 47 25.9	-1.5
HUR	Hurricane	2.75	16		Pn	20 47 29.1	+0.4
EYAK	Cordova Ski Ar	2.77	84		Pn	20 47 26.4	-2.5
WAT1	Susitna Watana	2.81	27		Pn	20 47 29.3	-0.3
WAT6	Susitna Watana	2.82	36		Pn	20 47 29.5	-0.2
WAT2	Susitna Watana	2.92	25		Pn	20 47 31.1	0.0
TRF	Thorofare Moun	3.14	9		Pn	20 47 34.0	-0.1
KTH	Kantishna Hill	3.21	3		Pn	20 47 35.0	0.0
RND	Reindeer	3.28	20		Pn	20 47 36.7	+0.8
GOAT	Goat Mountain	3.28	83		Pn	20 47 33.6	-2.4
OHAK	Old Harbor	3.31	199		Pn	20 47 34.8	-1.4
RAGM	Ragged Mountai	3.31	87		Pn	20 47 35.2	-1.1
DHY	Denali Highway	3.31	33		Pn	20 47 36.4	-0.1
TT01	Tatalina	3.40	321		Pn	20 47 37.3	-0.2
HMT	Hamilton	3.52	87		Pn	20 47 38.0	-1.1
CHUM	Lake Minchumin	3.57	353		Pn	20 47 38.6	-1.2
MCK	McKinley	3.57	17		Pn	20 47 40.7	+0.8
BPAW	Bear Paw Mtn.	3.76	2		Pn	20 47 43.0	+0.5
SUCK	Suckling Hills	3.78	91	Pn	Pn	20 47 42.7	-0.1
PAX	Paxson	3.83	44		Pn	20 47 43.5	0.0
GLB	Gilahina Butte	3.83	70		Pn	20 47 41.8	-1.7
BWN	Browne	3.93	12	Pn	Pn	20 47 44.3	-0.4
VRDI	Verde Repeater	3.96	74		Pn	20 47 43.3	-2.1
GRIN	Grindle Hills	3.99	88		Pn	20 47 44.2	-1.4
CRQM	Cirque	4.07	81		Pn	20 47 44.5	-2.3
WAX	Waxell Ridge	4.21	85	Pn	Pn	20 47 46.0	-2.7
TGL	Tana Glacier	4.22	81	Pn	Pn	20 47 47.8	-1.0
WRH	Wood River Hil	4.39	19		Pn	20 47 51.2	+0.1
PTPK	Patty Peak	4.43	75		Pn	20 47 50.1	-1.7
KIAG	Kiagna River	4.46	79		Pn	20 47 50.3	-1.9
MENT	Mentasta	4.46	51		Pn	20 47 50.9	-1.1
BALM	Baldy	4.47	77		Pn	20 47 50.2	-2.1
HDA	Harding Lake	4.55	25		Pn	20 47 52.1	-1.2
RIDG	Independent Ri	4.56	39		Pn	20 47 53.5	0.0
CCB	Clear Creek Bu	4.61	19		Pn	20 47 53.7	-0.3
MLY	Manley	4.70	3		Pn	20 47 55.1	-0.2
GRNC	Granite Creek	4.75	81		Pn	20 47 54.8	-1.4
DOT	Dot Lake	4.76	43	Pn	Pn	20 47 55.7	-0.4
YAH	Yahtse	4.76	86	Pn	Pn	20 47 55.8	-0.5
BARN	Barnard Glacie	4.80	77		Pn	20 47 56.1	-0.8
COLA	College	4.81	18		Pn	20 47 57.1	+0.3
MDM	Murphy Dome	4.83	16		Pn	20 47 57.2	0.0
IL31		4.88	23		Pn	20 47 57.6	-0.1
CTGM	Chitina Glacie	4.96	79		Pn	20 47 57.7	-1.3
SCRK	Sand Creek	5.00	40		Pn	20 47 58.7	-0.9
POKR	Poker Plat Res	5.10	19		Pn	20 48 00.6	-0.2
BC03		5.29	55		Pn	20 48 02.7	-0.6
YUK2	White River	5.29	70		Pn	20 48 02.0	-1.5
YUK3	Moose Creek	5.47	70		Pn	20 48 04.8	-1.2
PCA	Pinnacle	5.53	88	Pn	Pn	20 48 06.0	-0.7
IM03		5.75	350		Pn	20 48 08.3	-1.3
PRP	Porcupine Dome	5.82	25		Pn	20 48 11.2	+0.5
PNL	Peninsula	6.03	91		Pn	20 48 11.5	-2.0
YUK4	Talbot Arm	6.28	75		Pn	20 48 16.0	-1.1
DAWY	Dawson	6.71	51		Pn	20 48 22.2	-0.6
DHAK	Deception Hill	6.76	95		Pn	20 48 21.4	-2.0
BM03	Burnt Mountain	7.68	20		Pn	20 48 34.7	-1.4
TMUT	Trail Mountain	32.62	112	P	P	20 53 12.1	-1.2

*NIED **04** 21:10:00, 36°.00N×141°.80E, h17km, Mw4.0 Best double couple: $M_0$1.08000×10^{15} NP1:ϕ_s41.00000°, δ24.00000°, λ116.00000°. NP2:ϕ_s193.00000°, δ68.00000°, λ79.00000°.*

*BJI **04** 21:10:05.6±0.0, 35°.75N×142°.42E, h20km, mb4.5/39, mB4.9/29, Ms4.2/9, Ms7 4.0/10*

*IDC **04** 21:10:09.7±0.8, 35°.91N×141°.79E, h0km, mb3.9/10, mb1 4.1/15, mb1mx3.9/46, mbtmp4.0/15, ML3.6/3, MS3.0/6, Ms1 3.1/6, ms1mx2.8/32, Error ellipse: s-maj=20.0km s-min=17.2km az=15.0*

*NEIC **04** 21:10:11.4±2.9, 35°.90N±0°.05×141°.77E±0°.07, h16km±3km, mb4.5/17*

*ISCJB **04** 21:10:12.7±0.7, 36°.01N±0°.04×141°.78E±0°.05, h35km±5km, mb4.1/16, MS3.6/6, Error ellipse: s-maj=7.6km s-min=6.5km az=43.4*

*JMA **04** 21:10:12.9±0.3, 36°.04N×141°.76E, h37km, M4.1*

ISC 04 21:10:11.7±1.5**, 35°.98N**±0°.04×**141°.77E**±0°.06**, h17**km±8km**, n79, σ1s.65**/87**, mb4.4**/33**, MS3.5**/6**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.79	250	P	Pn	21 10 28.0	-0.1
CHOJ				eS	Sn	21 10 39.1	-0.4
JIHU	Itakohorinouch	1.01	270	P	Pg	21 10 31.5	+0.2
JHYU	Hitachinakayam	1.03	291	P	Pb	21 10 30.9	-0.1
JSMT	Sammumatsuo	1.13	253	P	Pg	21 10 33.9	+0.4
JHO	Hitachi	1.16	303	P	Pn	21 10 32.4	-0.8
BSO1	Boso 1	1.47	206	P	Pb	21 10 38.2	0.0
BSO3	Boso 3	1.56	222	P	Pb	21 10 39.6	-0.4
JFK	Kawauchi	1.56	333	P	Pn	21 10 38.5	-0.3
JFT	Otama	1.92	324	P	Pn	21 10 44.4	+0.7
JAG	Ashikaga	1.93	284	P	Pn	21 10 43.6	-0.1
MJAR	Matsushiro Arr	2.94	282	Pn	Pn	21 10 58.1	+0.5
	4.7nm,0.3s,baz=84,slow=10,SNR=199						
MJAR				Sn	Sn	21 11 33.1	+0.6
	2.1nm,0.3s,baz=128,slow=10,SNR=6.0						
MJAR				LR	LR	21 11 36.0	
	comp=Z,72nm,20.0s,baz=105,slow=29						
MAJO	Matsushiro	2.94	282		Pn	21 10 59.2	+1.6
MAJO				Sn	Sn	21 11 31.6	-1.0
MAT	Matsushiro	2.94	282	P	Pn	21 10 59.1	+1.5
MAT				S	Sn	21 11 32.8	+0.3
MJB9	Matsu-Tunnel	2.94	282		Pn	21 10 59.5	+1.9
MJB9				Sn	Sn	21 11 31.7	-0.9
JHJ2	Mitsune	3.28	210		Pn	21 11 01.7	-0.6
JHJ2				Sn	Sn	21 11 39.2	-1.8
INU	Inuyama	3.92	262		Pn	21 11 11.1	0.0
ERM	Erimo	6.13	10	Pn	Pn	21 11 39.6	-1.8
ERM				Sn	Sn	21 12 45.5	-5.5
JKA	Kamikawa-asahi	8.15	4		Pn	21 12 08.9	-0.3
JKA					Sn	21 13 37.9	-3.0
ASAJ	Asahikawa	8.16	4	Pn	Pn	21 12 08.9	-0.4
	1.3nm,0.3s,baz=228,slow=10,SNR=11						
ASAJ				Sn	Sn	21 13 37.9	-3.0
	0.4nm,0.3s,baz=122,slow=30,SNR=4.1						
JCJ	Chichijima	8.86	178	Pn	Pn	21 12 16.6	-2.3
	14nm,0.3s,baz=259,slow=23,SNR=25						
JCJ				Sn	Sn	21 13 45.2	-13
	2.0nm,0.3s,baz=282,slow=21,SNR=1.8						
USA0B	Ussuriysk Arra	11.11	321	Pn	Pn	21 12 48.8	-1.0
USRK	Ussuriysk Ar.	11.11	321	Pn	Pn	21 12 51.0	+1.2
	baz=128,slow=12,SNR=7.2						
USRK				Sn	Sn	21 14 52.0	-1.5
	baz=126,slow=24,SNR=6.7						
KSRS	Korea Array	11.22	282	Pn	Pn	21 12 53.1	+1.9
	0.2nm,0.3s,baz=92,slow=14,SNR=5.7						
KSRS				LR	LR	21 17 29.1	
	comp=Z,90nm,18.1s,baz=66,slow=39						
CN2	Changchun	14.75	307	eP	P	21 13 43.5	-1.9
KLR	Kul'dur	15.14	334	LR	LR	21 19 29.8	
	comp=Z,37nm,21.0s,baz=152,slow=37						
NJ2	Nanjing	19.39	265	eP	P	21 14 36.7	0.0
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SSLB	Suanglung	21.71	242	P	P	21 14 59.4	-2.6
SSLB				IAmb	IAmb	21 15 04.5	
	comp=Z,34nm,1.5s						
YULB	Yu-li	21.71	240	P	P	21 14 58.5	-3.5
YULB				IAmb	IAmb	21 15 08.6	
	comp=Z,25nm,1.4s						
WHN	Wuhan	23.52	265	P	P	21 15 20.9	0.0
WHN				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC	Hu-ho-hao-te	24.10	291	P	P	21 15 26.5	0.0
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
H11N2	WAKE ISLAND Hy	27.37	120	T	T	21 44 43.2	
	baz=311,slow=75,SNR=33						
H11N1	WAKE ISLAND Hy	27.37	120	T	T	21 45 10.4	
	baz=311,slow=75,SNR=27						
H11N3	WAKE ISLAND Hy	27.38	120	T	T	21 45 15.1	
	baz=311,slow=75,SNR=29						
ENH	Enshi	27.55	267	P	P	21 15 56.9	-0.9
ENH				IAmb	IAmb	21 15 58.8	
	comp=Z,7.9nm,0.6s						
H11S1	WAKE ISLAND Hy	28.05	122	T	T	21 45 20.5	
	baz=314,slow=75,SNR=82						
H11S3	WAKE ISLAND Hy	28.05	122	T	T	21 45 20.6	
	baz=314,slow=75,SNR=54						
H11S2	WAKE ISLAND Hy	28.07	122	T	T	21 45 19.5	
	baz=314,slow=75,SNR=66						
ULN	Ulaanbaatar	28.20	306	P	P	21 16 02.2	-1.2
ULN				IAmb	IAmb	21 16 13.2	
	comp=Z,6.8nm,1.2s						
SONM	Songino Array	28.62	305	P	P	21 16 08.1	+0.8
	comp=Z,2.3nm,0.6s,baz=104,slow=9.0,SNR=14						
SONM				LR	LR	21 28 07.4	
	comp=Z,61nm,19.3s,baz=192,slow=38						
LZH	Lanzhou	30.55	282	eP	P	21 16 24.5	0.0
LZH				pP	pwP	21 16 32.3	+0.1
LZH				sP	sP	21 16 35.4	+4.7
LZH				ePP	PnPn	21 17 25.2	+1.7
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
LZH				pmax	pmax		
	comp=Z,65nm,5.0s						
LZH				LR	LR		
	comp=Z,260nm,12.7s						
LZH				LR	LR		
	comp=Z,270nm,13.0s						
LZH				LR	LR		
	comp=Z,400nm,16.3s						
CD2	Chengdu	31.98	272	P	P	21 16 36.1	-0.9
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GTA	Gaotai	33.16	289	eP	P	21 16 48.2	+0.8
GTA				pP	pwP	21 16 58.7	+3.9
GTA				sP	sP	21 17 02.9	+9.3
GTA				S	S	21 22 02.1	-4.2
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,100nm,6.0s						
GTA				LR	LR		
	comp=Z,87nm,15.2s						
GTA				LR	LR		
	comp=Z,95nm,15.9s						
GTA				LR	LR		
	comp=Z,100nm,16.2s						
PBKT	Sadao Pong	41.01	253	P	P	21 17 53.6	-0.5
PBKT				IAmb	IAmb	21 17 57.1	
	comp=Z,2.6nm,0.8s						
CMAR	Chiang Mai Arr	41.52	257	LR	LR	21 36 48.6	
	comp=Z,27nm,18.8s,baz=75,slow=38						
WMQ	Urumqi	41.58	298	eP	P	21 18 01.3	+2.7
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,180nm,5.3s						
WMQ				LR	LR		
	comp=Z,380nm,29.1s						
WMQ				LR	LR		
	comp=Z,1μm,28.9s						
WMQ				LR	LR		
	comp=Z,130nm,29.2s						
LSA	Lhasa	42.61	277	P	P	21 18 06.1	-1.4
LSA				IAmb	IAmb	21 18 22.8	
	comp=Z,3.8nm,1.2s						
ZAA0	Zalesovo Array	42.84	313	P	P	21 18 06.9	-1.7
ZAA0				IAmb	IAmb	21 18 24.0	
	comp=Z,3.1nm,0.9s						
ZALV	Zalesovo Beam	42.84	313	P	P	21 18 09.8	+1.1
	comp=Z,2.5nm,0.4s,baz=92,slow=7.0,SNR=13						
SBUM	Sibu	43.13	226	P	P	21 18 09.8	-1.5
SBUM				IAmb	IAmb	21 18 22.5	
	comp=Z,11nm,1.3s						
MK31	Makanchi Array	44.93	303	P	P	21 18 24.8	-0.8
MK31				IAmb	IAmb	21 18 37.2	
	comp=Z,6.2nm,1.0s						
MKAR	Makanchi Array	44.93	303	P	P	21 18 26.8	+1.2
	comp=Z,2.7nm,0.6s,baz=85,slow=8.2,SNR=17						
MKAR				LR	LR	21 37 54.5	
	comp=Z,40nm,18.7s,baz=77,slow=37						
MAKZ	Makanchi	45.14	303	P	P	21 18 25.9	-1.4
MAKZ				IAmb	IAmb	21 18 28.4	
	comp=Z,21nm,1.4s						
TAPN	Taplejung	46.31	275	eP	P	21 18 38.4	+1.3
	comp=Z,5.6nm,0.4s						
KURK	Kurchatov	46.82	309	P	P	21 18 40.4	+0.1
KURK				IAmb	IAmb	21 18 43.6	
	comp=Z,6.5nm,0.7s						
RAMN	Ramite	47.38	275	eP	P	21 18 46.5	+1.2
	comp=Z,21nm,0.7s						
JIRN	Jiri	47.41	276	eP	P	21 18 47.0	+1.3
	comp=Z,24nm,0.7s						
RSO	Redoubt South	47.56	38	P	P	21 18 45.6	-0.6
GUN	Gumba	47.56	277	eP	P	21 18 47.9	+1.1
	comp=Z,6.0nm,0.3s						
PKI	Pulchoki	48.08	277	eP	P	21 18 51.5	+0.6
	comp=Z,5.5nm,0.7s						
PKIN	Phulchoki	48.09	277	eP	P	21 18 51.6	+0.8
	comp=Z,4.8nm,0.6s						
KKN	Kakani	48.09	277	eP	P	21 18 52.0	+1.2
GKN	Gorkha	48.52	278	eP	P	21 18 54.9	+0.8
	comp=Z,7.4nm,0.3s						
DANN	Dangsing	49.08	278	eP	P	21 18 59.7	+1.2
	comp=Z,18nm,0.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TARG	**Taragay, Kyrgy**	**49.13**	**297**	IAmb	IAmb	21 19 13.2	
	comp=Z,5.9nm,0.7s						
SEW	**Seward**	**49.21**	**38**	P	**P**	**21 18 58.9**	**+0.2**
SEW				IAmb	IAmb	21 19 06.4	
	comp=Z,20nm,1.4s						
KDJ	**Kajisay**	**49.48**	**298**	P	**P**	**21 19 00.5**	**-0.7**
KDJ				IAmb	IAmb	21 19 07.1	
	comp=Z,2.8nm,0.8s						
ILAR	**Eielson Array**	**50.23**	**32**	P	**P**	**21 19 07.6**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=261,slow=6.2,SNR=16						
KSH	**Kashi**	**51.11**	**295**	P	**P**	**21 19 17.1**	**+3.5**
KSH				pP	pwP	21 19 25.7	+4.5
KSH				PP	**PP**	**21 21 15.1**	**+5.0**
KSH				ScP	**ScP**	**21 24 25.8**	**+1.0**
KSH				S	**S**	**21 26 34.7**	**+4.0**
KSH				pmax	pmax		
	comp=Z,220nm,5.3s						
GAR	**Garm**	**55.42**	**296**	P	**P**	**21 19 45.6**	**+0.3**
GAR				IAmb	IAmb	21 20 03.2	
	comp=Z,4.4nm,0.7s						
GAR				PcP	**PcP**	**21 20 45.4**	**-0.1**
CHGR	**Chuyangaron**	**56.39**	**296**	P	**P**	**21 19 51.9**	**-0.3**
CHGR				IAmb	IAmb	21 19 54.3	
	comp=Z,14nm,0.8s						
ABKAR	**Akbulak array**	**58.84**	**311**	P	**P**	**21 20 09.5**	**+0.3**
ABKAR				IAmb	IAmb	21 20 20.3	
	comp=Z,1.9nm,0.6s						
ASAR	**Alice Springs**	**59.78**	**188**	P	**P**	**21 20 16.2**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=0.7,slow=5.3,SNR=11						
YKA	**Yellowknife Ar**	**64.58**	**30**	P	**P**	**21 20 48.8**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=297,slow=6.7,SNR=5.0						
FINES	**FINESS Array B**	**69.88**	**333**	P	**P**	**21 21 21.6**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=36,slow=7.1,SNR=4.3						
NVAR	**Mina Array Bea**	**75.39**	**53**	P	**P**	**21 21 56.1**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=269,slow=8.0,SNR=4.3						
PDAR	**Pinedale Array**	**78.20**	**45**	P	**P**	**21 22 11.3**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=274,slow=3.2,SNR=4.7						
BRTR	**Keskin Array B**	**79.77**	**312**	P	**P**	**21 22 20.5**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=71,slow=9.3,SNR=3.4						
LPAZ	**La Paz**	**146.96**	**61**	PKPbc	**PKPbc**	**21 29 55.2**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=246,slow=6.0,SNR=4.9						
LPAZ	**La Paz**	**146.96**	**61**	PKPdf	**PKPdf**	**21 29 51.2**	**-1.3**
LPAZ					**PKPab**	**21 29 55.8**	**-0.2**

*ISCJB **04** 21:15:55.8±0.4, 28°.28N±0°.03×128°.86E±0°.05, h99km±4km, mb3.3/4, Error ellipse: s-maj=7.8km s-min=3.7km az=28.7*
*JMA **04** 21:15:56.8±0.1, 28°.39N×128°.64E, h75km±3km, M3.7*
*IDC **04** 21:15:57.4±1.1, 28°.26N×128°.82E, h100km±17km, mb3.1/4, mb1 3.3/7, mb1mx3.1/34, mbtmp3.6/7, Error ellipse: s-maj=36.8km s-min=15.4km az=114.0*
ISC 04 21:15:56.6±0.8**, 28°.29N**±0°.04×**128°.82E**±0°.05**, h90**km±7km**, n26, σ0s85**/42**, mb3.3**/4**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.32**	**98**	P	**Pn**	**21 16 10.0**	**-0.2**
JAMN				S	**Sn**	**21 16 20.2**	**-0.1**
JTK	**Tokunoshima**	**0.51**	**167**	P	**Pn**	**21 16 11.7**	**+0.1**
JTK				S	**Sn**	**21 16 23.0**	**+0.4**
JTAJ	**Takarajima**	**0.93**	**21**	P	**Pn**	**21 16 14.7**	**-0.8**
JTAJ				*e*S	**Sn**	**21 16 28.3**	**-1.4**
JOKE	**Okinoerabujima**	**0.95**	**193**	P	**Pn**	**21 16 16.1**	**+0.3**
JOKE				S	**Sn**	**21 16 31.8**	**+1.7**
JZK	**Kikaishima**	**1.02**	**88**	P	**Pn**	**21 16 18.8**	**+2.3**
JYRO	**Yoronjima**	**1.30**	**195**	P	**Pn**	**21 16 20.4**	**+0.5**
JYRO				S	**Sn**	**21 16 38.4**	**+1.0**
JIH	**Iheya**	**1.46**	**211**	P	**Pn**	**21 16 22.2**	**+0.3**
JIH				S	**Sn**	**21 16 41.8**	**+0.9**
JOW	**Kunigami**	**1.53**	**199**	P	**Pn**	**21 16 23.0**	**+0.2**
JOW				*e*S	**Sn**	**21 16 43.1**	**+0.6**
JOW	**Kunigami**	**1.53**	**199**	P	**Pn**	**21 16 23.3**	**+0.5**
	7.8nm,0.3s,baz=90,slow=19,SNR=164						
JOW				S	**Sn**	**21 16 43.5**	**+0.9**
	29nm,0.3s,baz=81,slow=22,SNR=19						
JNN	**Nakanoshima**	**1.80**	**31**	P	**Pn**	**21 16 26.2**	**-0.1**
JNTH	**Nagotoyohara**	**1.90**	**202**	P	**Pn**	**21 16 27.9**	**+0.4**
JNTH				*e*S	**Sn**	**21 16 51.7**	**+0.7**
JAGN	**Aguni-jima**	**2.20**	**220**	P	**Pn**	**21 16 31.5**	**+0.1**
JAGN				*e*S	**Sn**	**21 16 58.2**	**+0.2**
JYAK	**Yakushimahirau**	**2.44**	**37**	P	**Pn**	**21 16 34.9**	**+0.2**
JYAK				S	**Sn**	**21 17 04.8**	**+0.9**
JKC	**Kuchinoerabu**	**2.48**	**29**	P	**Pn**	**21 16 35.3**	**+0.1**
JKC				*e*S	**Sn**	**21 17 05.6**	**+0.9**
JKE	**Kume jima 2**	**2.66**	**223**	P	**Pn**	**21 16 37.7**	**+0.1**
JKE				S	**Sn**	**21 17 09.1**	**0.0**
JMTN	**Minamitane**	**2.78**	**40**	P	**Pn**	**21 16 39.6**	**+0.4**
JMTN				*e*S	**Sn**	**21 17 11.7**	**-0.3**
JTN	**Tanegashima 3**	**3.02**	**38**	P	**Pn**	**21 16 43.1**	**+0.7**
JKDJ	**Kitadaitoujima**	**3.21**	**136**	P	**Pn**	**21 16 45.5**	**+0.5**
JKDJ				S	**Sn**	**21 17 21.3**	**-1.0**
JMZ	**Minamidaito 2**	**3.26**	**138**	P	**Pn**	**21 16 45.9**	**+0.2**
JMZ				S	**Sn**	**21 17 22.1**	**-1.4**
JNU	**Nakatsue**	**5.14**	**20**	P	**Pn**	**21 17 12.8**	**+1.6**
	5.6nm,0.3s,baz=194,slow=3.5,SNR=23						
KSRS	**Korea Array**	**9.17**	**356**	P	**Pn**	**21 18 07.5**	**+1.4**
	0.3nm,0.3s,baz=177,slow=15,SNR=9.9						
USRK	**Ussuriysk Ar.**	**16.08**	**8**	P	**Pn**	**21 19 36.0**	**-1.3**
	baz=190,slow=16,SNR=2.0						
SONM	**Songino Array**	**26.15**	**324**	P	**P**	**21 21 22.9**	**+0.4**
	0.4nm,0.5s,baz=141,slow=12,SNR=4.1						
CMAR	**Chiang Mai Arr**	**29.05**	**257**	P	**P**	**21 21 48.7**	**+0.2**
	0.3nm,0.6s,baz=58,slow=8.6,SNR=1.5						
MKAR	**Makanchi Array**	**40.59**	**310**	P	**P**	**21 23 26.6**	**-0.7**
	0.3nm,0.5s,baz=91,slow=10,SNR=4.1						
ILAR	**Eielson Array**	**62.39**	**29**	P	**P**	**21 26 09.5**	**0.0**
	0.3nm,0.6s,baz=289,slow=9.4,SNR=7.3						

IDC 04 21:53:25.7±2.7**, 3°.41S**×**101°.73W, h0**km**, mb3.9**/6**, mb1 4.1**/6**, mb1mx3.7**/41**, mbtmp3.9**/6**, MS3.4**/13**, Ms1 3.4**/13**, ms1mx3.2**/39**, Error ellipse: s-maj=151.4km s-min=30.7km az=62.0, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**21.46**	**18**	LR	LR	22 04 56.0	
	comp=Z,78nm,20.3s,baz=189,slow=32						
JTS	**Las Juntas de**	**21.55**	**51**	LR	LR	22 04 47.1	
	comp=Z,218nm,19.9s,baz=322,slow=32						
NNA	**Nana**	**26.07**	**110**	LR	LR	22 06 51.1	
	comp=Z,55nm,19.8s,baz=318,slow=31						
TEIG	**Tepich**	**26.95**	**29**	LR	LR	22 08 35.0	
	comp=Z,88nm,19.8s,baz=48,slow=34						
ROSC	**El Rosal**	**28.58**	**73**	LR	LR	22 09 00.6	
	comp=Z,86nm,18.8s,baz=76,slow=33						
LPIG	**La Paz**	**28.60**	**343**	LR	LR	22 07 49.1	
	comp=Z,74nm,20.1s,baz=216,slow=30						
TXAR	**Lajitas Array**	**32.61**	**357**	LR	LR	22 11 59.6	
	comp=Z,43nm,18.3s,baz=0.0,slow=34						
LPAZ	**La Paz**	**35.41**	**113**	LR	LR	22 12 24.8	
	comp=Z,41nm,18.2s,baz=262,slow=32						
ANMO	**Albuquerque**	**38.41**	**354**	LR	LR	22 14 13.0	
	comp=Z,186nm,21.5s,baz=25,slow=32						
CFA	**Coronel Fontan**	**42.17**	**135**	P	P	22 01 20.2	-0.1
	1.1nm,0.3s,baz=276,slow=9.2,SNR=2.2						
NVAR	**Mina Array Bea**	**44.37**	**341**	LR	LR	22 16 03.8	
	comp=Z,54nm,21.0s,baz=100,slow=31						
PDAR	**Pinedale Array**	**46.51**	**352**	P	P	22 01 55.9	+0.8
	0.2nm,0.4s,baz=162,slow=6.2,SNR=2.0						
PDAR				LR	LR	22 17 55.8	
	comp=Z,23nm,18.8s,baz=98,slow=32						
PLCA	**Paso Flores**	**46.57**	**147**	LR	LR	22 16 14.4	
	comp=Z,79nm,19.7s,baz=338,slow=29						
PPT	**Papeete**	**48.94**	**250**	LR	LR	22 16 38.7	
	comp=Z,41nm,18.2s,baz=358,slow=28						
ULM	**Lac du Bonnet**	**53.69**	**5**	P	P	22 02 50.5	+1.3
	3.1nm,0.9s,baz=217,slow=5.1,SNR=3.2						
YKA	**Yellowknife Ar**	**66.46**	**354**	P	P	22 04 15.3	-1.3
	1.2nm,0.8s,baz=162,slow=6.6,SNR=7.4						
INK	**Inuvik**	**74.90**	**348**	P	P	22 05 07.7	-0.3
	1.8nm,1.0s,baz=171,slow=7.5,SNR=4.4						
ILAR	**Eielson Array**	**75.63**	**342**	P	P	22 05 12.6	+0.3
	0.9nm,1.0s,baz=169,slow=5.1,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**92.55**	**288**	T	T	23 47 59.8	
	baz=94,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**92.56**	**288**	T	T	23 48 03.0	
	baz=94,slow=75,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**92.57**	**288**	T	T	23 48 02.6	
	baz=94,slow=75,SNR=10						

WEL 04 22:01:56.6±0.4**, 44°S**±2°×**17°3E**±°**, h5**km**, M3.5**/7**, ML3.7**/7**, MLv3.5**/7**, Error ellipse: s-maj=0.0km s-min=0.0km az=44.1, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.02**	**302**	P	Pg	22 01 57.5	0.0
CRLZ				S	Sg	22 01 58.1	-0.1
OKCZ	**Okains Bay**	**0.33**	**115**	P	Pg	22 02 03.4	+0.3
OKCZ				S	Sg	22 02 08.7	+1.2
AKCZ	**Akaroa Harbour**	**0.35**	**146**	P	Pg	22 02 03.6	+0.2
AKCZ				S	Sg	22 02 08.8	+0.9
AMCZ	**Amberley**	**0.41**	**1**	P	Pb	22 02 05.4	-0.9
AMCZ				S	Sb	22 02 11.6	-1.1
OXZ	**Oxford**	**0.51**	**300**	P	Pg	22 02 06.7	+0.3
OXZ				S	Sg	22 02 14.3	+1.3
GVZ	**Greta Valley S**	**0.68**	**25**	P	Pb	22 02 10.4	-0.5
LTZ	**Lake Taylor**	**0.85**	**341**	P	Pb	22 02 13.4	-0.4
RPZ	**Rata Peaks**	**1.16**	**263**	P	Pg	22 02 18.5	-0.3
INZ	**Inchbonnie**	**1.23**	**314**	P	Pg	22 02 20.0	-0.1
KHZ	**Kahutara**	**1.34**	**30**	P	Pn	22 02 20.1	-1.8
THZ	**Tophouse**	**1.83**	**6**	P	Pn	22 02 27.2	-1.5
DSZ	**Denniston Nort**	**1.94**	**341**	P	Pn	22 02 29.7	-0.6
LBZ	**Lake Benmore**	**1.95**	**245**	P	Pn	22 02 31.2	+0.9
ODZ	**Otahua Downs**	**2.05**	**224**	P	Pn	22 02 30.4	-1.2
FOZ	**Fox Glacier**	**2.06**	**270**	P	Pn	22 02 32.2	+0.4
BSWZ	**Blackbirch Sta**	**2.08**	**26**	P	Pn	22 02 30.8	-1.3
QRZ	**Quartz Range**	**2.76**	**358**	P	Pn	22 02 40.4	-1.1
JCZ	**Jackson Bay**	**2.83**	**259**	P	Pn	22 02 42.9	+0.3
TUZ	**Tuapeka**	**3.20**	**221**	P	Pn	22 02 47.2	-0.3
MRZ	**Mangatainoka R**	**3.65**	**38**	P	Pn	22 02 51.7	-2.0

TRN 04 22:06:42.1, 11°.87N×**61°.05W, h47**km**, MD3.6, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRGR	**Grenville**	**0.64**	**294**	*e*P	Pn	22 06 56.5	+1.5
GRGR				*e*S	Sn	22 07 06.8	+2.5
TOSP	**Speyside**	**0.76**	**138**	*e*P	Pn	22 06 58.1	+1.5
TOSP				*e*S	Sn	22 07 09.1	+2.1
TRN	**Trinidad (W)**	**1.26**	**196**	*e*P	Pn	22 07 05.0	+1.6
TRN				*e*S	Sn	22 07 21.9	+2.7
FCV	**Fort Charlotte**	**1.29**	**352**	*e*P	Pn	22 07 05.9	+2.1
FCV				*e*S	Sn	22 07 22.6	+2.6
SVCV	**St. Vincent, C**	**1.40**	**356**	*e*P	Pn	22 07 06.7	+1.4
SVCV				*e*S	Sn	22 07 24.5	+1.9
SVB	**Belmont**	**1.41**	**352**	*e*P	Pn	22 07 07.0	+1.5
SVB				*e*S	Sn	22 07 24.8	+1.9
SVV	**Soufriere Volc**	**1.45**	**354**	*e*P	Pn	22 07 08.5	+2.5
SVV				*e*S	Sn	22 07 26.5	+2.7
TPP	**Pointe-a-Pierr**	**1.59**	**194**	*e*S	Sn	22 07 29.2	+2.0
GUIV	**Guiria**	**1.67**	**223**	*e*P	Pn	22 07 10.6	+1.6
GUIV				*e*S	Sn	22 07 31.0	+1.8
MCLT	**Moule a Chique**	**1.83**	**3**	*i* P	Pn	22 07 12.1	+0.8
MCLT				*e*S	Sn	22 07 33.9	+0.6
SLB	**Belfond**	**1.95**	**0**	*e*P	Pn	22 07 15.3	+2.4
SLBI	**Saint Lucia, B**	**2.14**	**2**	*e*P	Pn	22 07 16.9	+1.4
SLBI				*e*S	Sn	22 07 41.3	+0.4
MPOM	**Morne Pois Mar**	**2.57**	**4**	*e*P	Pn	22 07 23.0	+1.7
TRMF	**Trois Ilets**	**2.65**	**0**	*e*P	Pn	22 07 24.3	+1.9
MVM	**Montagne Vaucl**	**2.67**	**3**	*e*P	Pn	22 07 24.7	+1.9
ZAM	**Aeronautique**	**2.69**	**1**	*e*P	Pn	22 07 25.1	+2.1
LPMF	**Morne Lapointe**	**2.69**	**2**	*e*P	Pn	22 07 24.9	+1.9
FDF	**Fort de France**	**2.85**	**358**	*e*P	Pn	22 07 27.1	+1.9
FDF				*e*S	Sn	22 07 59.8	+1.5
PML	**Morne Lenard**	**2.90**	**357**	*e*P	Pn	22 07 27.9	+2.1
GBMF	**Grand Be**	**2.91**	**358**	*e*P	Pn	22 07 28.2	+2.1
BAMF	**Morne Balai**	**2.93**	**358**	*e*P	Pn	22 07 28.5	+2.2
PCM	**Pelee Case Pet**	**2.93**	**357**	*e*P	Pn	22 07 28.1	+1.7
TDBA	**Terre de Bas,**	**4.00**	**352**	*e*P	Pn	22 07 43.1	+2.1
BAUV	**El Baul**	**7.46**	**248**	*e*P	Pn	22 08 30.1	+1.6
BAUV	**El Baul**	**7.46**	**248**	*e*S	Sn	22 09 49.9	-2.0

*IDC **04** 22:19:33.6±1.5, 2°.62N×95°.54E, h0km, mb4.1/9, mb1 4.2/11, mb1mx3.8/61, mbtmp4.1/11, ML3.9/2, MS3.3/6, Ms1 3.4/6, ms1mx3.0/39, Error ellipse: s-maj=43.0km s-min=20.5km az=44.0*
*BJI **04** 22:19:34.5±0.0, 2°.67N×95°.76E, h20km, mb4.5/29, mB4.8/16, Ms4.2/9, Ms7 4.1/6*
*ISCJB **04** 22:19:36.2±0.5, 2°.73N±0°.06×95°.62E±0°.05, h25km, mb4.3/15, MS3.8/7, Error ellipse: s-maj=9.7km s-min=5.3km az=27.8*
*DJA **04** 22:19:36.5±3.4, 3°N±11°×9°6E±3°1, h10km, M4.2/6, mb4.5/3, mB4.5/1, MLv4.1/6, Mw(mB)3.7/1*
*NEIC **04** 22:19:37.3±2.4, 2°.70N±0°.08×95°.6E±0°.1, h28km±7km, mb4.3/18*
ISC 04 22:19:37.6±0.7**, 2°.77N**±0°.06×**95°.69E**±0°.07**, h25**km**, n81, σ1s95**/70**, mb4.3**/23**, MS3.7**/7**, 1C, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.73**	**119**	P	**Pb**	**22 19 52.1**	**+0.4**
MLSI	**Meulaboh, Aceh**	**1.65**	**26**	P	**Pn**	**22 20 05.7**	**+0.6**
GSI	**Gunungsitoli**	**2.38**	**128**	P	**Pn**	**22 20 15.8**	**+0.7**
GSI	**Gunungsitoli**	**2.38**	**128**		**Pn**	**22 20 15.6**	**+0.5**
LHMI	**Lhok Sumawe**	**2.75**	**27**	P	Pb	22 20 32.0	+5.9
LHMI	**Lhok Sumawe**	**2.75**	**27**		**Pn**	**22 20 22.1**	**+2.0**
PSI	**Prapat**	**3.23**	**89**	Pn	**Pn**	**22 20 28.6**	**+1.7**
	3.7nm,0.3s,baz=297,slow=6.0,SNR=14						
PSI				LR	LR	22 22 05.3	
	comp=Z,243nm,19.8s,baz=246,slow=45						
RPSI	**Rantau Prapat**	**3.23**	**91**		**Pn**	**22 20 27.4**	**+0.6**
RPSI				Sn	**Sn**	**22 20 58.3**	**-6.2**
RPSI	**Rantau Prapat**	**3.23**	**91**		**Pn**	**22 20 28.6**	**+1.8**
SISI	**Saibi**	**5.30**	**140**	P	Pb	22 21 06.3	-3.3
KULM	**Kulim**	**5.55**	**63**		**Pn**	**22 21 00.3**	**+1.6**
IPM	**Ipoh**	**5.59**	**72**		**Pn**	**22 20 60.0**	**+0.7**
IPM				Sn	**Sn**	**22 22 03.6**	**+0.8**
BKNI	**Bangkinang**	**5.87**	**114**	P	Pn	22 20 50.5	-13
PDSI	**Padang**	**6.01**	**127**	P	**Pn**	**22 21 08.0**	**+3.0**
MDSI	**Maura Dua**	**11.13**	**130**	P	Pn	22 22 26.5	+11
PBKT	**Sadao Pong**	**14.67**	**20**	P	P	22 23 15.5	+5.9
PBKT	**Sadao Pong**	**14.67**	**20**		**Pn**	**22 23 04.6**	**+0.9**
LEM	**Lembang**	**15.25**	**129**	LR	LR	22 29 32.4	
	comp=Z,154nm,18.7s,baz=270,slow=39						
MHMT	**Maesarieng**	**15.47**	**8**	P	**Pn**	**22 23 19.4**	**+5.1**
	19nm,0.9s						
PALK	**Pallekele**	**15.58**	**287**	Pn	**Pn**	**22 23 14.2**	**-1.6**
PALK				IAmb	IAmb	22 23 28.7	
	comp=Z,23nm,1.2s						
UTTA	**Uttaradit**	**15.63**	**17**	P	**Pn**	**22 23 21.1**	**+4.7**
	comp=Z,16µm,0.7s						
CM31	**Chiang Mai Arr**	**15.92**	**11**	P	**Pn**	**22 23 21.8**	**+1.7**
CMAR	**Chiang Mai Arr**	**15.92**	**11**	Pn	**Pn**	**22 23 23.2**	**+3.1**
	comp=Z,0.3nm,0.3s,baz=200,slow=11,SNR=49						
CMAR				LR	LR	22 30 29.0	
	comp=Z,65nm,18.4s,baz=188,slow=41						
PHRA	**Phrae**	**16.26**	**16**	P	**P**	**22 23 28.9**	**+1.6**
	comp=Z,0.8nm,2.1s						
CHTO	**Chiang Mai**	**16.26**	**11**	P	**Pn**	**22 23 25.6**	**+1.0**
CMMT	**Chiang Mai**	**16.26**	**11**	P	**Pn**	**22 23 27.8**	**+3.2**
	comp=Z,3.7nm,1.0s						
SHL	**Shillong**	**22.96**	**351⇑**	*e*P	**P**	**22 24 37.5**	**-3.0**
SHL	**Shillong**	**22.96**	**351**	P	**P**	**22 24 37.5**	**-3.0**
SHL				IAmb	IAmb	22 24 42.9	
	comp=Z,7.4nm,0.7s						
KMI	**Kunming**	**23.24**	**16**	P	**P**	**22 24 44.1**	**+0.7**
KMI				pP	pP	22 24 51.9	+1.4
KMI				sP	sP	22 24 55.7	+2.1
KMI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI				pmax	pmax		
	comp=Z,70nm,3.1s						
KMI				LR	LR		
	comp=Z,97nm,17.0s						
KMI				LR	LR		
	comp=Z,180nm,13.3s						
ODAN	**Odare**	**25.24**	**342**	*e*P	**P**	**22 25 03.7**	**+1.6**
	comp=Z,20nm,0.7s						
H08S2	**Diego Garcia H**	**25.35**	**246**	T	T	22 51 13.3	
	baz=66,slow=76,SNR=1322						
H08S3	**Diego Garcia H**	**25.35**	**246**	T	T	22 51 13.4	
	baz=66,slow=76,SNR=978						
H08S1	**Diego Carcia H**	**25.37**	**246**	T	T	22 51 14.5	
	baz=66,slow=76,SNR=1102						
RAMN	**Ramite**	**25.57**	**341**	*e*P	**P**	**22 25 07.0**	**+1.9**
	comp=Z,30nm,0.7s						
TAPN	**Taplejung**	**25.61**	**343**	*e*P	**P**	**22 25 07.3**	**+1.8**
	comp=Z,25nm,0.7s						
JIRN	**Jiri**	**26.37**	**341**	*e*P	**P**	**22 25 13.9**	**+1.5**
	comp=Z,40nm,0.7s						
PKI	**Pulchoki**	**26.55**	**339**	*e*P	**P**	**22 25 15.9**	**+1.9**
PKIN	**Phulchoki**	**26.56**	**339**	*e*P	**P**	**22 25 16.2**	**+2.1**
DMN	**Daman**	**26.70**	**339**	*e*P	**P**	**22 25 17.3**	**+2.0**
	comp=Z,9.7nm,0.7s						
GUN	**Gumba**	**26.70**	**340**	*e*P	**P**	**22 25 17.1**	**+1.7**
	comp=Z,23nm,0.6s						
KKN	**Kakani**	**26.80**	**339**	*e*P	**P**	**22 25 18.3**	**+2.2**
	comp=Z,6.9nm,0.6s						
LSA	**Lhasa**	**27.13**	**351**	P	**P**	**22 25 19.2**	**-0.2**
LSA				IAmb	IAmb	22 25 23.0	
	comp=Z,6.0nm,0.8s						
GKN	**Gorkha**	**27.22**	**338**	*e*P	**P**	**22 25 21.3**	**+1.4**
TGY	**Tagaytay City**	**27.36**	**64**	LR	LR	22 36 50.2	
	comp=Z,241nm,19.9s,baz=11,slow=38						
KOLN	**Koldanda**	**27.42**	**336**	*e*P	**P**	**22 25 23.0**	**+1.3**
	comp=Z,13nm,0.6s						
DANN	**Dangsing**	**27.87**	**337**	*e*P	**P**	**22 25 26.9**	**+1.1**
	comp=Z,19nm,0.7s						
CD2	**Chengdu**	**29.01**	**14**	*e*P	**P**	**22 25 34.4**	**-1.3**
WHN	**Wuhan**	**32.79**	**31**	P	**P**	**22 26 08.2**	**-0.7**
XAN	**Xi'an**	**33.48**	**20**	P	**P**	**22 26 14.7**	**-0.3**
XAN				pmax	pmax		
	comp=Z,14nm,0.8s						
XAN	**Xi'an**	**33.48**	**20**	P	**P**	**22 26 15.0**	**0.0**
LZH	**Lanzhou**	**34.00**	**12**	*e*P	**P**	**22 26 18.3**	**-1.4**
LZH				pP	pP	22 26 26.9	-0.3
LZH				sP	sP	22 26 30.5	+0.3
LZH				*e*PP	**PP**	**22 27 32.6**	**-4.4**
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				pmax	pmax		
	comp=Z,56nm,4.9s						
LZH				LR	LR		
	comp=Z,200nm,12.8s						
LZH				LR	LR		
	comp=Z,200nm,13.1s						
LZH				LR	LR		
	comp=Z,320nm,16.3s						
GTA	**Gaotai**	**36.67**	**5**	*e*P	**P**	**22 26 42.4**	**-0.1**
GTA				pP	pP	22 26 54.3	+4.3
GTA				sP	sP	22 26 58.9	+5.8
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,120nm,7.0s						
GTA				LR	LR		
	comp=Z,62nm,16.2s						
GTA				LR	LR		
	comp=Z,78nm,14.9s						
GTA				LR	LR		
	comp=Z,110nm,16.5s						
HHC	**Hu-ho-hao-te**	**40.53**	**19**	P	**P**	**22 27 15.8**	**+0.9**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KSH	**Kashi**	**40.73**	**336**	P	**P**	**22 27 15.6**	**-1.1**
KSH				PcP	**PcP**	**22 29 17.6**	**-0.3**
KSH				S	**S**	**22 33 22.4**	**-3.5**
KSH				sS	sS	22 33 39.6	+1.5
KSH				SS	SS	22 36 18.1	-9.1
KSH				LR	LR		
	comp=Z,330nm,6.4s						
KSH				LR	LR		
	comp=Z,460nm,4.7s						
KSH				LR	LR		
	comp=Z,350nm,5.9s						
H01W3	**Cape Leeuwin H**	**41.26**	**157**	T	T	23 11 07.3	
	baz=332,slow=76,SNR=24						
H01W2	**Cape Leeuwin H**	**41.28**	**157**	T	T	23 11 08.3	
	baz=332,slow=76,SNR=22						
H01W1	**Cape Leeuwin H**	**41.28**	**157**	T	T	23 11 08.5	
	baz=332,slow=76,SNR=23						
WMQ	**Urumqi**	**41.49**	**351**	*e*P	**P**	**22 27 22.5**	**-0.3**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,170nm,4.5s						
WMQ				LR	LR		
	comp=Z,570nm,29.2s						
WMQ				LR	LR		
	comp=Z,2µm,29.1s						
TARG	**Taragay, Kyrgy**	**41.98**	**340**	P	**P**	**22 27 28.2**	**+1.0**
KDJ	**Kajisay**	**42.56**	**340**	P	**P**	**22 27 32.4**	**+0.7**
KDJ				IAmb	IAmb	22 27 41.3	
	comp=Z,4.9nm,0.6s						
BTK	**Batken**	**43.42**	**332**	P	**P**	**22 27 39.8**	**+1.2**
BTK				IAmb	IAmb	22 27 48.3	
	comp=Z,5.4nm,0.9s						
ARSB	**Arslanbob**	**43.49**	**335**	P	**P**	**22 27 39.5**	**+0.3**
ARSB				IAmb	IAmb	22 27 48.3	
	comp=Z,6.4nm,0.9s						
AAK	**Ala-Archa**	**43.98**	**337**	P	**P**	**22 27 44.8**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=14,slow=17,SNR=3.8						
AAK	**Ala-Archa**	**43.98**	**337**	P	**P**	**22 27 41.5**	**-1.6**
AAK				IAmb	IAmb	22 27 58.5	
	comp=Z,7.3nm,1.4s						
MK31	**Makanchi Array**	**45.38**	**347**	P	**P**	**22 27 52.4**	**-1.6**
MKAR	**Makanchi Array**	**45.38**	**347**	P	**P**	**22 27 55.0**	**+1.0**
	comp=Z,5.7nm,0.6s,baz=160,slow=8.7,SNR=53						
KSRS	**Korea Array**	**45.46**	**37**	P	**P**	**22 27 55.0**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=222,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**45.54**	**127**	P	**P**	**22 27 55.7**	**0.0**
	comp=Z,0.6nm,0.6s,baz=301,slow=7.9,SNR=10						
SONM	**Songino Array**	**45.84**	**10**	P	**P**	**22 27 58.3**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=192,slow=8.2,SNR=20						
SONM				PcP	**PcP**	**22 29 35.7**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=192,slow=3.8,SNR=6.1						
KK31	**Karatay Array**	**46.00**	**334**	P	P	22 27 56.5	-2.5
KK31				IAmb	IAmb	22 28 07.5	
	comp=Z,3.6nm,1.1s						
KKAR	**Karatay Array**	**46.00**	**334**	P	P	22 27 56.5	-2.5
GEYT	**Alibeck**	**49.05**	**320**	P	**P**	**22 28 22.1**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=144,slow=8.8,SNR=5.4						
KURBB	**Kurchatov Arra**	**49.84**	**346**	P	**P**	**22 28 29.6**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=168,slow=7.1,SNR=15						
KURK	**Kurchatov**	**49.91**	**346**	P	**P**	**22 28 28.5**	**-0.5**
KURK				IAmb	IAmb	22 28 37.0	
	comp=Z,2.7nm,0.7s						
MJAR	**Matsushiro Arr**	**51.59**	**44**	LR	LR	22 49 55.9	
	comp=Z,27nm,21.7s,baz=105,slow=35						
ZAA0	**Zalesovo Array**	**51.79**	**352**	P	**P**	**22 28 42.2**	**-1.0**
ZALV	**Zalesovo Beam**	**51.79**	**352**	P	**P**	**22 28 43.9**	**+0.7**
	comp=Z,6.4nm,0.6s,baz=184,slow=6.9,SNR=34						
BVAR	**Borovoye Array**	**54.29**	**341**	P	**P**	**22 29 01.7**	**0.0**
	comp=Z,2.8nm,0.6s,baz=142,slow=8.7,SNR=22						
BRVK	**Borovoye**	**54.35**	**341**	P	**P**	**22 29 00.3**	**-1.8**
ABKAR	**Akbulak array**	**55.43**	**332**	P	**P**	**22 29 08.3**	**-1.7**
ABKAR				IAmb	IAmb	22 29 19.0	
	comp=Z,4.5nm,1.0s						
AKASG	**Malin Array Be**	**73.10**	**322**	LR	LR	23 06 23.8	
	comp=Z,17nm,21.8s,baz=290,slow=38						

*IEPN **04** 22:54:18.0, 78°.67N×6°.33E, h15km*
*NAO **04** 22:54:19.5±2.0, 78°.50N×7°.43E, ML2.7*
*BER **04** 22:54:20.2±3.3, 78°.53N×6°.97E, h13km±17km, ML2.4, ML2.7(NAO), Confirmed Earthquake*
ISC 04 22:54:15.7±2.9**, 78°.75N**±0°.08×**6°.9E**±0°.1**, h6**km±12km**, n20, σ1s30**/33**, 1C-2D, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.01**	**77**	Pg	**Pn**	**22 54 37.4**	**+1.1**
KBS				Lg	Lg	22 54 52.4	
KBS	**Kingsbay**	**1.01**	**77⇓**	*i*P	**Pn**	**22 54 37.3**	**+1.0**
KBS				*i* S	**Sn**	**22 54 51.8**	**+1.1**
KBS	**Kingsbay**	**1.01**	**77**	*e*P	**Pn**	**22 54 37.4**	**+1.1**
KBS				*e*S	**Sn**	**22 54 52.2**	**+1.5**
KBS				IAML		22 54 53.8	
	comp=Z,365nm,0.2s						
BRBB	**Barentsburg B**	**1.62**	**110**	Pg	**Pb**	**22 54 46.0**	**+0.1**
BRBB				Lg	Lg	22 55 07.1	
BRBB	**Barentsburg B**	**1.62**	**110**	Pg	**Pb**	**22 54 46.0**	**+0.1**
BRBB				Sg	**Sb**	**22 55 07.1**	**+0.5**
BRBA	**Barentsburg A**	**1.64**	**111**	Pg	**Pg**	**22 54 47.0**	**-0.1**
BRBA				Lg	Lg	22 55 08.0	
BRBA	**Barentsburg A**	**1.64**	**111**	Pg	**Pg**	**22 54 47.0**	**-0.1**
BRBA				Sg	**Sg**	**22 55 08.0**	**-0.4**
SPA0	**Spitsbergen Ar**	**2.00**	**102**	Pn	**Pb**	**22 54 52.2**	**-0.1**
	baz=280,slow=10						
SPA0				Pg	**Pg**	**22 54 53.5**	**-0.4**
SPA0				Lg	Lg	22 55 17.4	
	baz=300,slow=18						
SPA0	**Spitsbergen Ar**	**2.00**	**102⇑**	*i*P	**Pb**	**22 54 52.2**	**-0.1**
SPA0				*i* S	**Sb**	**22 55 17.7**	**+0.3**

SPA0	Spitsbergen Ar	2.00	102	Pn	Pb	22 54 52.2	-0.1
	baz=280,slow=10						
SPA0				Pg	Pg	22 54 53.5	-0.4
SPA0				Sg	Sb	22 55 17.4	0.0
	baz=300,slow=18						
HSPB	Hornsund (broa	2.54	129	Pn	Pn	22 54 58.2	+1.0
HSPB				Lg	Lg	22 55 27.9	
HSPB	Hornsund (broa	2.54	129	*e*P	Pn	22 54 58.5	+1.2
HSPB				*e*S	Sn	22 55 27.7	-0.7
HSPB	Hornsund (broa	2.54	129	*e*P	Pn	22 54 58.2	+1.0
HSPB				*e*Sg	Sn	22 55 28.9	+0.5
HSPB				IAML		22 55 34.5	
	comp=Z,16nm,0.3s						
HOPEN	Hopen	4.49	111	Pn	Pn	22 55 25.5	+1.5
HOPEN				Sn	Sn	22 56 16.5	+0.1
HOPEN	Hopen	4.49	111	*e*P	Pn	22 55 25.4	+1.3
HOPEN				*e*S	Sn	22 56 16.0	-0.5
HOPEN	Hopen	4.49	111	*e*P	Pn	22 55 25.5	+1.5
HOPEN				*e*S	Sn	22 56 13.3	-3.1
HOPEN				IAML		22 56 18.9	
	comp=Z,13nm,0.4s						
DAG	Danmarks Havn	5.74	263	*i* P	Pn	22 55 33.2	-7.9
DAG				*i* S	Sn	22 56 29.8	-17
ZFI2	Zemlya Franca-	7.40	55	⇓*i*P	Pn	22 56 04.8	+0.9
ZFI2				*i* S	Sn	22 57 24.0	-4.0
	comp=Z,11nm,0.3s						
ARA0	ARCESS Array S	10.48	142	Pn	Pn	22 56 44.8	-1.4
	baz=339,slow=18						
ARA0	ARCESS Array S	10.48	142	Pn	Pn	22 56 44.8	-1.4
	baz=339,slow=18						

*BJI **04** 23:00:54.0±0.0, 10°.76S×165°.26E, h10^{km}, mb4.9/53, mB5.2/31, Ms5.0/15, Ms7 4.7/12*

*MOS **04** 23:00:58.6±1.1, 10°.63S×165°.03E, h33^{km}, mb5.2/14, MS4.3/4, Error ellipse: s-maj=12.3km s-min=9.2km az=129.2*

*NEIC **04** 23:00:59.1±2.7, 10°.61S±0°.07×165°.12E±0°.07, h29^{km}±3^{km}, mb5.1/49*

*ISCJB **04** 23:00:59.7±0.2, 10°.76S±0°.04×165°.07E±0°.04, h46^{km}, mb4.7/48, MS4.0/24, Error ellipse: s-maj=6.0km s-min=5.6km az=156.8*

*GCMT **04** 23:01:01.1±0.2, 10°.53S±0°.01×164°.96E±0°.02, h29^{km}, MW5.0/85, Moment Tensor Solution. s73,c84; s85,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.62±.14; $M_{\theta\theta}$-3.10±.09; $M_{\phi\phi}$-0.51±.09; $M_{r\theta}$0.01±.12; $M_{\theta\phi}$0.69±.07; $M_{\phi r}$-0.03±.17; Best double couple: $M_0$3.44700×10^{16} NP1:ϕ_s104.00000°, δ45.00000°, λ90.00000°. NP2: ϕ_s284.00000°, δ45.00000°, λ90.00000°. Principal axes: T 3.6200, Plg90.0000°, Azm81.0000°; N -0.3460, Plg0.0000°, Azm284.0000°; P -3.2730, Plg0.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **04** 23:01:01.8±2.8, 10°.70S×165°.05E, h44^{km}±24^{km}, mb4.2/24, mb1 4.3/26, mb1mx4.2/43, mbtmp4.5/26, ML3.0/1, MS3.9/18, Ms1 3.9/18, ms1mx3.8/37 Error ellipse: s-maj=18.2km s-min=13.3km az=78.0*

ISC 04 23:01:01.2±0.3, **10°.72S**±0°.05×**165°.12E**±0°.05, **h46^{km}, n184, σ1°.60**/165, **mb4.9**/68, **MS4.0**/24, **4C, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	5.25	284	P	Pn	23 02 16.0	-1.2
HNR						23 03 09.6	
HNR	Honiara	5.25	284	P	Pn	23 02 16.4	-0.8
	52nm,0.3s,baz=182,slow=4.1,SNR=18						
HNR				S	Sn	23 03 15.9	-0.7
	142nm,0.3s,baz=120,slow=20,SNR=7.8						
HNR				LR	LR	23 04 21.5	
	comp=Z,3µm,18.4s,baz=101,slow=39						
HNR	Honiara	5.25	284	*e*P	Pn	23 02 17.0	-0.2
HNR	Honiara	5.25	284		Pn	23 02 16.0	-1.2
HNR				Sn	Sn	23 03 09.6	-7.0
DZM	Mont Dzumac	11.35	174	P	Pn	23 03 41.8	+0.9
	21nm,0.3s,baz=311,slow=21,SNR=184						
DZM				S	Sn	23 05 44.7	-1.8
	0.6nm,0.3s,baz=323,slow=20,SNR=3.0						
DZM				LR	LR	23 07 39.4	
	comp=Z,1µm,18.2s,baz=28,slow=35						
DZM	Mont Dzumac	11.35	174		Pn	23 03 42.5	+1.6
FUNA	Funafuti	14.05	82	Pn	Pn	23 04 16.1	-1.6
TARA	Tarawa	14.29	33	Pn	Pn	23 04 17.1	-3.8
MSVF	Nonsavu	14.34	121	*i* P	Pn	23 04 24.9	+3.3
MSVF	Nonsavu	14.34	121		Pn	23 04 21.3	-0.3
PMG	Port Moresby	17.73	273	P	P	23 05 05.5	+0.2
	1.7nm,0.3s,baz=81,slow=15,SNR=1.8						
PMG				LR	LR	23 11 30.9	
	comp=Z,959nm,19.5s,baz=114,slow=36						
MANU	Manus Island	19.62	295	P	Pn	23 05 26.7	-1.0
MANU				IAmb	IAmb	23 05 33.1	
	comp=Z,115nm,1.1s						
EIDS	Eidsvold	19.73	221	P	P	23 05 26.7	-0.4
CTA	Charters Tower	20.41	241	P	P	23 05 35.0	+0.4
	comp=Z,3.7nm,0.8s,baz=65,slow=14,SNR=4.6						
COEN	Coen	21.67	259	P	P	23 05 43.5	-4.7
AFI	Afiamalu	22.79	100	LR	LR	23 13 40.1	
	comp=Z,351nm,19.2s,baz=276,slow=33						
ARMA	Armidale	23.27	211	P	P	23 06 04.7	-0.3
JAY	Jayapura	25.57	287	P	P	23 06 28.2	+2.1
	comp=Z,28nm,0.9s,baz=141,slow=6.5,SNR=8.1						
SMPI	Sarmi	27.62	286	P	P	23 06 52.0	+7.4
	comp=Z,68nm,1.3s						
H11S2	WAKE ISLAND Hy	29.07	3	T	T	23 37 11.3	
	baz=184,slow=76,SNR=502						
H11S3	WAKE ISLAND Hy	29.07	3	T	T	23 37 11.5	
	baz=184,slow=76,SNR=382						
H11S1	WAKE ISLAND Hy	29.09	3	T	T	23 37 12.6	
	baz=184,slow=76,SNR=424						
STKA	Stephens Creek	30.26	222	*e*P	P	23 07 09.7	+1.8
STKA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
STKA	Stephens Creek	30.26	222	P	P	23 07 09.0	+1.1
	comp=Z,7.2nm,0.8s,baz=49,slow=10,SNR=8.9						
STKA				LR	LR	23 18 48.1	
	comp=Z,573nm,18.4s,baz=36,slow=35						
STKA	Stephens Creek	30.26	222	P	P	23 07 06.0	-1.9
H11N1	WAKE ISLAND Hy	30.30	3	T	T	23 38 41.4	
	baz=184,slow=76,SNR=152						
H11N3	WAKE ISLAND Hy	30.30	3	T	T	23 38 50.1	
	baz=184,slow=76,SNR=186						
H11N2	WAKE ISLAND Hy	30.31	3	T	T	23 38 47.4	
	baz=184,slow=76,SNR=183						
WB0	Warramunga Arr	30.93	249	P	P	23 07 12.4	-1.6
WB2	Warramunga Arr	31.01	249	P	P	23 07 12.7	-2.0
MSWZ	Moikau Station	31.84	165	P	P	23 07 22.8	+1.0
ASAR	Alice Springs	32.39	243	P	P	23 07 25.3	-1.6
	comp=Z,1.1nm,0.6s,baz=63,slow=10,SNR=14						
ASAR				PcP	PcP	23 10 14.2	+0.4
	comp=Z,0.9nm,0.7s,baz=85,slow=3.0,SNR=5.2						
ASAR				LR	LR	23 19 14.1	
	comp=Z,229nm,21.3s,baz=63,slow=34						
RPZ	Rata Peaks	33.27	172	P	P	23 07 35.1	+0.9
	comp=Z,4.3nm,0.5s,baz=23,slow=18,SNR=2.8						
RPZ	Rata Peaks	33.27	172	P	P	23 07 33.7	-0.5
RPZ				IAmb	IAmb	23 07 52.5	
	comp=Z,16nm,0.9s						
KNRA	Kununurra	35.70	258	P	P	23 07 54.5	-1.1
KNRA				IAmb	IAmb	23 08 36.7	
	comp=Z,45nm,1.4s						
FITZ	Fitzroy Crossi	38.87	254	P	P	23 08 21.2	-1.2
	comp=Z,2.2nm,0.6s,baz=99,slow=5.4,SNR=8.0						
PPT	Papeete	44.37	104	P	P	23 09 07.1	-0.4
PPT	Papeete	44.37	104	LR	LR	23 23 30.5	
	comp=Z,118nm,20.5s,baz=230,slow=30						
PPT	Papeete	44.37	104	P	P	23 09 07.1	-0.4
PPT2	Papeete2	44.37	104	*e*LQ	LQ	23 19 42.6	
	comp=Z,370nm,28.8s						
PPT2				*e*LR	LR	23 21 37.8	
	comp=Z,188nm,22.0s						
TBI	Tubuai	45.02	112	*e*LQ	LQ	23 19 59.4	
	comp=Z,303nm,27.8s						
TBI				*e*LR	LR	23 21 44.6	
	comp=Z,344nm,28.5s,baz=290						
MJAR	Matsushiro Arr	53.41	333	P	P	23 10 15.5	-0.9
	comp=Z,3.4nm,0.9s,baz=138,slow=7.6,SNR=6.4						
MJAR				LR	LR	23 32 26.5	
	comp=Z,35nm,19.6s,baz=185,slow=35						
JNU	Nakatsue	54.46	325	P	P	23 10 24.2	-0.1
	comp=Z,20nm,1.0s,baz=87,slow=4.4,SNR=6.8						
JNU	Nakatsue	54.46	325	P	P	23 10 23.3	-1.0
ASAJ	Asahikawa	58.29	341	P	P	23 10 51.7	+0.5
	comp=Z,21nm,0.9s,baz=222,slow=16,SNR=3.7						
KSRS	Korea Array	59.27	326	*e*P	P	23 10 58.8	+0.6
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KSRS	Korea Array	59.27	326	P	P	23 10 58.5	+0.4
	comp=Z,2.7nm,0.9s,baz=151,slow=6.9,SNR=6.5						
KSRS				LR	LR	23 35 03.6	
	comp=Z,43nm,19.2s,baz=130,slow=34						
YSS	Yuzh-Sakhalins	60.80	343	*e*P	P	23 11 13.7	+5.2
YSS				*e*		23 11 19.7	
YSS				*e*		23 11 29.4	
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
NJ2	Nanjing	61.36	316	*e*P	P	23 11 12.7	+0.1
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
USRK	Ussuriysk Ar.	62.39	334	P	P	23 11 20.3	+1.0
	comp=Z,2.1nm,0.8s,baz=123,slow=7.0,SNR=5.4						
USA0B	Ussuriysk Arra	62.39	334		pP	23 11 26.9	-4.7
WHN	Wuhan	63.72	312	⇑P	P	23 11 36.4	+8.0
PET	Petropavlovsk	63.73	356	*e*P	P	23 11 28.8	+0.8
PET				*e*S	S	23 20 01.3	+2.2
PET				pmax	pmax		
	comp=Z,100nm,15.0s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s						
PETK	Petropavlovsk-	63.89	355	P	P	23 11 30.1	+1.0
	comp=Z,3.4nm,0.9s,baz=160,slow=4.6,SNR=2.6						
PETK				LR	LR	23 34 18.8	
	comp=Z,68nm,19.9s,baz=230,slow=31						
KLR	Kul'dur	66.52	337	*i* P	P	23 11 46.7	+0.5
KLR				pmax	pmax		
	comp=Z,12nm,1.6s						
VNDA	Vanda	66.80	181	P	P	23 11 48.5	+0.9
VNDA				pmax	pmax		
	comp=Z,15nm,0.7s						
VNDA	Vanda	66.80	181	P	P	23 11 49.6	+2.0
	comp=Z,4.2nm,1.1s,baz=350,slow=6.4,SNR=6.7						
VNDA	Vanda	66.80	181	P	P	23 11 48.5	+0.9
PSI	Prapat	67.22	278	LR	LR	23 44 12.0	
	comp=Z,52nm,19.2s,baz=152,slow=39						
ENH	Enshi	67.22	309	P	P	23 11 47.9	-3.2
ENH				IAmb	IAmb	23 11 58.1	
	comp=Z,22nm,1.0s						
GYA	Guiyang	67.73	304	⇑*i*P	P	23 12 01.2	+6.7
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XAN	Xi'an	69.45	313	P	P	23 12 11.0	+6.0
XAN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KMI	Kunming	70.43	302	P	P	23 12 12.7	+1.3
KMI				pP	pP	23 12 19.0	-4.6
KMI				pmax	pmax		
	comp=Z,15nm,1.8s						
KMI				pmax	pmax		
	comp=Z,61nm,3.8s						
HHC	Hu-ho-hao-te	71.19	320	P	P	23 12 16.4	+0.8
HHC				sP	pP	23 12 26.0	-1.6
HHC				S	S	23 21 32.5	+3.0
HHC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR	Chiang Mai Arr	71.42	294	*e*P	P	23 12 18.3	+1.0
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CMAR	Chiang Mai Arr	71.42	294	P	P	23 12 18.1	+0.8
	comp=Z,3.8nm,0.8s,baz=125,slow=4.3,SNR=20						
CMAR				LR	LR	23 41 49.2	
	comp=Z,33nm,20.6s,baz=110,slow=34						
CHTO	Chiang Mai	71.53	294	P	P	23 12 15.0	-3.0
CHTO				pmax	pmax		
	comp=Z,21nm,1.5s						
CHTO	Chiang Mai	71.53	294	P	P	23 12 15.0	-3.0
CHTO				IAmb	IAmb	23 12 19.5	
	comp=Z,21nm,1.5s						
HIA	Hailar	71.79	331	*i* P	P	23 12 18.8	-0.1
HIA				pmax	pmax		
	comp=Z,46nm,1.1s						
ZEA	Zeya	71.81	337	*e*P	P	23 12 19.6	+0.7
ZEA				pmax	pmax		
	comp=Z,61nm,1.6s						
CD2	Chengdu	71.92	307	P	P	23 12 20.9	+0.8
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
LZH	Lanzhou	74.09	312	*e*P	P	23 12 34.8	+1.8
LZH				pP	pP	23 12 38.2	-6.9
LZH				sP	PcP	23 12 40.5	-7.4
LZH				*e*PP	PP	23 15 21.3	+2.3
LZH				pmax	pmax		
	comp=Z,25nm,1.3s						
LZH				pmax	pmax		
	comp=Z,100nm,5.0s						
LZH				LR	LR		
	comp=Z,460nm,16.5s						
LZH				LR	LR		
	comp=Z,470nm,16.7s						
LZH				LR	LR		
	comp=Z,640nm,18.2s						
SEY	Seymchan	74.09	354	*i* P	P	23 12 31.8	-0.3
KDAK	Kodiak Island	76.51	22	P	P	23 12 46.9	+0.8
KDAK				pmax	pmax		
	comp=Z,140nm,2.0s						
KDAK	Kodiak Island	76.51	22	P	P	23 12 46.9	+0.8
	comp=Z,16nm,1.0s,baz=228,slow=12,SNR=6.0						
YAK	Yakutsk	77.62	344	*e*P	P	23 12 51.9	-0.4
YAK				*e**PP	PcP	23 12 58.5	-3.8
YAK				*e*		23 13 02.4	
YAK				*e*S	S	23 22 39.7	-0.5
YAK				*e**SS	sS	23 22 58.5	-3.2
YAK				pmax	pmax		
	comp=Z,13nm,0.8s						
YAK				pmax	pmax		
	comp=N,12nm,1.3s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.5s						
YAK				pmax	pmax		
	comp=Z,74nm,3.5s						
YAK				pmax	pmax		
	comp=N,119nm,4.3s						
YAK				pmax	pmax		
	comp=E,72nm,2.8s						
YAK				smax	smax		
	comp=N,71nm,4.5s						
YAK				smax	smax		
	comp=E,78nm,3.8s						
YAK				MLR	MLR		
	comp=Z,52nm,13.0s						
YAK				MLR	MLR		
	comp=N,58nm,16.0s						
YAK				MLR	MLR		
	comp=E,25nm,14.0s						
ULN	Ulaanbaatar	77.68	324	*i* P	P	23 12 53.5	+0.3
ULN				pmax	pmax		
	comp=Z,16nm,0.9s						
ULN	Ulaanbaatar	77.68	324	P	P	23 12 53.0	-0.2
ULN				IAmb	IAmb	23 13 01.9	
	comp=Z,30nm,1.2s						
SVW2	Sparrevohn	78.00	18	P	P	23 12 51.9	-2.6
SONM	Songino Array	78.05	324	P	P	23 12 56.0	+0.8
	comp=Z,4.6nm,0.9s,baz=134,slow=6.3,SNR=25						
GTA	Gaotai	78.39	314	⇑P	P	23 12 58.4	+1.1
GTA				pP	PcP	23 13 05.0	-1.4
GTA				sP	pP	23 13 07.8	-1.8
GTA				S	S	23 22 52.1	+2.2
GTA				SKS	SKKSac	23 23 09.6	-0.1
GTA				SS	SS	23 28 00.0	+6.1
GTA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,120nm,6.7s						
GTA				LR	LR		
	comp=Z,54nm,19.4s						
GTA				LR	LR		
	comp=Z,85nm,20.3s						
BRLK	Bradley Lake	78.56	21		pP	23 13 04.6	-5.5
BILL	Bilibino	78.56	0*c*	*i*P	P	23 12 57.5	+0.1
BILL				*i*		23 13 04.0	
BILL				*i*		23 15 51.3	
BILL				*i* SS	SS	23 27 50.7	-4.3
BILL				pmax	pmax		
	comp=Z,15nm,0.9s						
BILL				MLR	MLR		
	comp=Z,121nm,18.0s						
BILL	Bilibino	78.56	0	P	P	23 12 58.1	+0.7
QSPA	South Pole Qui	79.28	180	P	P	23 13 02.4	+0.6
QSPA				IAmb	IAmb	23 13 19.8	
	comp=Z,16nm,1.0s						
SUA	Susitna One	79.83	20	P	P	23 13 02.9	-1.8
SUA				IAmb	IAmb	23 13 13.3	
	comp=Z,11nm,1.0s						
BOD	Bodaibo	79.98	335	*e*P	P	23 13 02.7	-2.7
BOD				pmax	pmax		
	comp=Z,18nm,1.7s						
GLI	Glacier Island	80.69	22	P	P	23 13 07.7	-1.5
GLI				IAmb	IAmb	23 13 17.4	
	comp=Z,33nm,1.2s						
FID	Port Fidalgo	80.83	22	P	P	23 13 09.2	-0.7
FID				IAmb	IAmb	23 13 18.0	
	comp=Z,35nm,1.2s						
ZAK	Zakamensk	81.09	325	*e*P	P	23 13 14.7	+3.1
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.4s						
SCM	Sheep Creek Mo	81.26	21		pP	23 13 19.9	-4.8
TRF	Thorofare Moun	81.41	19	P	P	23 13 13.7	+0.5
TRF				IAmb	IAmb	23 14 35.3	
	comp=Z,38nm,1.9s						
TLY	Talaya	81.52	326	*i* P	P	23 13 13.9	+0.1
TLY				pmax	pmax		
	comp=Z,12nm,1.2s						
RND	Reindeer	81.84	19	P	P	23 13 13.4	-1.9
RND				pmax	pmax		
	comp=Z,14nm,1.3s						
RND	Reindeer	81.84	19	P	P	23 13 13.4	-1.9
RND				IAmb	IAmb	23 13 24.3	
	comp=Z,14nm,1.3s						
WAX	Waxell Ridge	82.00	23	P	P	23 13 15.3	-0.9
MCK	McKinley	82.04	19		pP	23 13 23.2	-5.2
CRQM	Cirque	82.08	23	P	P	23 13 15.3	-1.4
CRQM				IAmb	IAmb	23 13 25.4	
	comp=Z,26nm,1.0s						
DHY	Denali Highway	82.09	20		pP	23 13 24.1	-5.1
TGL	Tana Glacier	82.20	23	P	P	23 13 17.0	-0.2
TGL				IAmb	IAmb	23 13 26.0	
	comp=Z,27nm,1.0s						
VRDI	Verde Repeater	82.26	22	P	P	23 13 17.6	-0.1
VRDI				IAmb	IAmb	23 13 25.6	
	comp=Z,12nm,1.0s						
GLB	Gilahina Butte	82.26	22	IAmb	IAmb	23 13 26.1	
	comp=Z,25nm,1.1s						
MCARA	McCarthy VSAT	82.52	22	P	P	23 13 19.3	+0.5
MCARA				IAmb	IAmb	23 13 28.1	
	comp=Z,18nm,1.1s						
BALM	Baldy	82.56	23	P	P	23 13 19.5	+0.3
BALM				IAmb	IAmb	23 13 27.2	
	comp=Z,13nm,0.9s						
HDA	Harding Lake	83.14	19	P	P	23 13 22.7	+0.8
	baz=227						
TCOL	CIGO, UAF Yank	83.17	18	P	P	23 13 23.9	+1.8
	baz=226						
COLA	College	83.18	18	*i* P	P	23 13 24.2	+2.1
COLA				pmax	pmax		
	comp=Z,11nm,1.1s						
RIDG	Independent Ri	83.38	20		pP	23 13 29.4	-6.2
IL31		83.41	19	P	P	23 13 22.4	-0.9
IL31				IAmb	IAmb	23 13 31.6	
	comp=Z,9.5nm,1.0s						
ILAR	Eielson Array	83.41	19	P	P	23 13 24.1	+0.8
	comp=Z,1.9nm,0.6s,baz=249,slow=5.1,SNR=36						
POKR	Poker Plat Res	83.47	18	P	P	23 13 25.1	+1.4
	baz=227						
DOT	Dot Lake	83.59	20	P	P	23 13 24.1	-0.3
DOT				IAmb	IAmb	23 13 33.0	
	comp=Z,11nm,1.0s						
SCRK	Sand Creek	83.83	20	IAmb	IAmb	23 13 33.8	
	comp=Z,19nm,1.1s						
TAPN	Taplejung	83.91	299	*e*P	P	23 13 27.8	+0.7
	comp=Z,29nm,1.1s						
ODAN	Odare	84.06	299	*e*P	P	23 13 27.9	+0.1
	comp=Z,29nm,0.8s						
AFDM	Forest Hills D	84.45	49	P	P	23 13 28.0	-1.3
SKAG	Skagway	84.53	26	P	P	23 13 28.8	-0.3
SKAG				IAmb	IAmb	23 13 38.9	
	comp=Z,21nm,1.3s						
L04D	Klamath Falls	84.56	45	P	P	23 13 30.4	+0.5
	baz=250						
RAMN	Ramite	84.76	299	*e*P	P	23 13 31.0	-0.4
CIS	Catalina Islan	84.77	55	P	P	23 13 31.3	+0.3
	baz=254						
MAW	Mawson	84.79	202	P	P	23 13 30.6	+0.3
MAW				pmax	pmax		
	comp=Z,3.0nm,1.3s						
MAW	Mawson	84.79	202	P	P	23 13 31.4	+1.1
	comp=Z,1.7nm,0.9s,baz=91,slow=9.4,SNR=4.4						
MAW				LR	LR	23 48 22.4	
	comp=Z,68nm,18.1s,baz=61,slow=34						
MAW	Mawson	84.79	202	P	P	23 13 30.6	+0.3
JIRN	Jiri	85.30	299	*e*P	P	23 13 34.2	0.0
	comp=Z,63nm,1.2s						
ISA	Isabella, Lake	85.37	53	P	P	23 13 34.0	0.0
	baz=254						
EDW2	Edwards Air Fo	85.52	53	P	P	23 13 35.6	+0.8
	baz=254						
GUN	Gumba	85.62	299	*e*P	P	23 13 36.1	+0.3
J05D	Fort Rock, OR	85.66	45	P	P	23 13 36.0	+0.6
	baz=251						
TIXI	Tiksi	85.66	349	*i* P	P	23 13 34.8	+0.3
TIXI				pmax	pmax		
	comp=Z,25nm,1.3s						
TIXI	Tiksi	85.66	349	P	P	23 13 34.2	-0.3
CWC	Cottonwood Cre	85.89	52	P	P	23 13 36.9	+0.2
	baz=254						
PALK	Pallekele	85.89	278	LR	LR	23 56 06.6	
	comp=Z,25nm,18.9s,baz=102,slow=38						
PKI	Pulchoki	85.94	299	*e*P	P	23 13 36.6	-0.8
	comp=Z,23nm,1.0s						
PKIN	Phulchoki	85.96	299	*e*P	P	23 13 37.0	-0.4
	comp=Z,16nm,1.0s						
KKN	Kakani	86.11	299	*e*P	P	23 13 37.8	-0.2
	comp=Z,11nm,0.7s						
DMN	Daman	86.22	299	*e*P	P	23 13 38.3	-0.3
MPMC	Manual Prospec	86.25	52	P	P	23 13 39.2	+0.7
	baz=254						
NVAR	Mina Array Bea	86.29	50	P	P	23 13 39.5	+0.8
	comp=Z,2.0nm,0.9s,baz=234,slow=7.8,SNR=11						
NVAR				LR	LR	23 46 50.0	
	comp=Z,138nm,18.5s,baz=272,slow=32						
GKN	Gorkha	86.71	299	*e*P	P	23 13 40.5	-0.4
WVOR	Wild Horse Val	87.21	46	IAmb	IAmb	23 15 41.0	
	comp=Z,20nm,1.9s						
DANN	Dangsing	87.55	299	*e*P	P	23 13 44.1	-1.0
	comp=Z,14nm,0.8s						
KOLN	Koldanda	87.55	299	*e*P	P	23 13 43.3	-1.8
IRM	Iron Mountain	87.60	55	P	P	23 13 45.0	+0.1
	baz=256						
EPYK	Eagle Plains	87.72	20	P	P	23 13 46.2	+1.4
	baz=237						
G08A	Pilot Rock	87.83	43	P	P	23 13 44.7	-1.2
G08A				IAmb	IAmb	23 13 54.4	
	comp=Z,8.3nm,1.2s						
R11A	Troy Canyon, C	88.32	51	P	P	23 13 48.5	0.0
	baz=255						
WMQ	Urumqi	88.44	315	*e*P	P	23 13 49.3	+0.6
WMQ				sP	pP	23 13 56.1	-5.1
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,120nm,5.7s						
WMQ				LR	LR		
	comp=Z,450nm,29.1s						
WMQ				LR	LR		
	comp=Z,2µm,28.8s						
WMQ				LR	LR		
	comp=Z,180nm,28.8s						
BGU	Big Grassy Mou	90.86	49		pP	23 14 07.8	-4.9
DLMT	Dillon	92.18	44	P	P	23 14 04.3	-1.9
DLMT				IAmb	IAmb	23 14 07.9	
	comp=Z,4.2nm,0.9s						
MK31	Makanchi Array	92.87	317	P	P	23 14 08.1	-1.1
MK31				pmax	pmax		
	comp=Z,20nm,1.4s						
MK31	Makanchi Array	92.87	317	P	P	23 14 08.1	-1.1
MKAR	Makanchi Array	92.87	317	P	P	23 14 09.6	+0.4
	comp=Z,5.1nm,0.8s,baz=98,slow=6.6,SNR=21						
MKAR				LR	LR	23 57 37.6	
	comp=Z,25nm,18.6s,baz=76,slow=37						
BOZ	Bozeman (W)	92.90	44	P	P	23 14 10.5	+0.9
	baz=258						
ZAA0	Zalesovo Array	92.94	324	P	P	23 14 06.6	-2.7
ZALV	Zalesovo Beam	92.94	324	P	P	23 14 09.1	-0.2
	comp=Z,3.1nm,0.8s,baz=106,slow=4.9,SNR=13						

MAKZ	**Makanchi**	**93.08**	**317**		pP	23 14 17.3	-5.4
C36M	**Paulatuk**	**93.34**	**20**	P	**P**	**23 14 13.1**	**+2.3**
	baz=248						
PDAR	**Pinedale Array**	**93.79**	**47**	P	**P**	**23 14 14.6**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=260,slow=2.6,SNR=5.2						
PDAR				LR	LR	23 49 50.3	
	comp=Z,64nm,19.0s,baz=259,slow=31						
YKA	**Yellowknife Ar**	**94.97**	**27**	P	**P**	**23 14 18.4**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=93,slow=9.5,SNR=3.5						
NRIK	**Noril'sk**	**95.61**	**340**	P	**P**	**23 14 21.1**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=134,slow=4.7,SNR=4.4						
KURK	**Kurchatov**	**96.00**	**320**	*i* P	**P**	**23 14 22.9**	**-0.5**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.6s						
KSH	**Kashi**	**96.08**	**309**	P	**P**	**23 14 25.7**	**+1.4**
KSH				PP	**PP**	**23 18 20.9**	**+3.3**
KSH				S	**S**	**23 25 40.5**	**+0.5**
KSH				SS	**SS**	**23 32 16.3**	**+4.0**
KSH				LR	LR		
	comp=Z,290nm,5.3s						
KSH				LR	LR		
	comp=Z,380nm,6.4s						
KSH				LR	LR		
	comp=Z,570nm,5.3s						
TXAR	**Lajitas Array**	**96.22**	**61**	LR	LR	23 51 48.5	
	comp=Z,49nm,19.3s,baz=0.0,slow=32						
SNAA	**Sanae**	**97.39**	**184**	P	**P**	**23 14 28.9**	**-0.6**
VNA3	**Neumayer Olymp**	**98.14**	**182**	P	Pdif	23 14 33.7	+0.8
VNA2	**Neumayer--Watz**	**98.38**	**182**	P	**P**	**23 14 33.0**	**-0.9**
	baz=172,slow=3.9						
BRVK	**Borovoye**	**101.39**	**322**	*i* P	**Pdif**	**23 14 45.5**	**-2.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
LPAZ	**La Paz**	**120.88**	**116**	PKP	**PKiKP**	**23 19 51.2**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=153,slow=2.3,SNR=3.6						
FINES	**FINESS Array B**	**121.25**	**338**	PKP	**PKiKP**	**23 19 49.0**	**0.0**
	comp=Z,1.7nm,0.8s,baz=299,slow=1.4,SNR=3.8						
SDV	**Santo Domingo**	**125.09**	**87**		**PKPdf**	**23 19 54.6**	**-3.3**
KOLS	**Kolonicke sedl**	**130.96**	**328**	*e*PDIFF	**Pdif**	**23 16 59.3**	**+0.1**
CLL	**Collm**	**133.56**	**336**	*e*PKPdf	**PKiKP**	**23 20 14.0**	**+0.1**
KEST	**Kesra**	**146.79**	**322**	PKPbc	**PKPab**	**23 20 38.9**	**-1.2**
	comp=Z,6.4nm,0.9s,baz=318,slow=12,SNR=5.0						
KEST	**Kesra**	**146.79**	**322**		**PKPab**	**23 20 39.7**	**-0.4**
PBRG	**Braganca**	**148.23**	**348**	*e*PKP	PKPab	23 20 53.7	+8.1
POLO	**Lamas de Olo**	**148.84**	**350**	*e*PKP	PKPab	23 20 56.2	+8.1
MVO	**Moncorvo**	**148.90**	**348**	*e*PKP	PKPab	23 20 56.2	+7.9
PVRL	**Vila Real**	**148.92**	**350**	*e*PKP	PKPab	23 20 56.0	+7.6
ESDC	**Sonseca Array**	**149.58**	**343**	PKPbc	**PKiKP**	**23 20 46.8**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=13,slow=2.6,SNR=4.9						
PMRV	**Marv??o**	**150.65**	**348**	*e*PKP	**PKPab**	**23 20 56.7**	**+1.3**
PMTG	**Montargil**	**151.16**	**349**	*e*PKP	PKPab	23 21 05.5	+8.0
PMPS	**Porto Santo**	**157.73**	**3**	*e*PKP	PKPdf	23 21 02.4	+9.2
TORD	**Torodi Ar. Bea**	**163.60**	**280**	PKP	**PKPdf**	**23 20 59.8**	**-0.4**
	comp=Z,1.1nm,1.0s,baz=70,slow=0.9,SNR=4.1						
TORD				PKPab	**PKPab**	**23 21 52.3**	**+0.3**
	comp=Z,1.6nm,1.1s,baz=126,slow=2.6,SNR=3.6						
DBIC	**Dimbokro**	**169.30**	**249**	PKP	**PKPdf**	**23 21 03.8**	**-0.7**
	comp=Z,2.2nm,1.0s,baz=220,slow=7.9,SNR=2.6						

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*ISCJB **04** 23:02:32.4±0.6, 0°.39S±0°.06×123°.78E±0°.06, h88km, mb3.9/6, Error ellipse: s-maj=9.5km s-min=7.0km az=33.8*
*DJA **04** 23:02:33.1±0.6, 0°S±8°×12°4E±°, h10km, M4.4/7, mb4.5/2, MLv4.4/7*
*IDC **04** 23:02:34.1±2.9, 0°.18S×123°.83E, h83km±36km, mb3.6/6, mb1 3.8/8, mb1mx3.5/41, mbtmp4.0/8, MS2.8/1, Ms1 2.8/1, ms1mx2.3/33, Error ellipse: s-maj=38.5km s-min=24.9km az=165.0*
ISC 04 23:02:34.2±0.8**, 0°.39S**±0°.08×**123°.79E**±0°.07**, h88**km**, n18, σ1ˢ.97**/16**, mb4.0**/6**, 1D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.21**	**237**	P	**Pn**	**23 02 56.2**	**0.0**
SANI	**Sanana**	**2.75**	**127**	P	**Pn**	**23 03 14.1**	**-2.2**
TNTI	**Ternate**	**3.76**	**72**	P	**Pn**	**23 03 31.4**	**+1.4**
NLAI	**Namlea**	**4.35**	**131**	P	**Pn**	**23 03 38.7**	**+0.6**
AAI	**Ambon**	**5.49**	**127**	P	Pn	23 04 00.1	+6.6
MSAI	**Masohi**	**5.92**	**120**	P	Pn	23 04 08.1	+8.7
KAPI	**Kappang**	**6.11**	**221**	P	**Pn**	**23 04 04.4**	**+2.4**
	3.9nm,0.3s,baz=46,slow=6.5,SNR=20						
KAPI				S	**Sn**	**23 05 10.4**	**-0.3**
	2.4nm,0.3s,baz=210,slow=20,SNR=3.9						
KAPI				LR	LR	23 06 50.5	
	comp=Z,86nm,20.6s,baz=34,slow=41						
KCP	**Kidapawan**	**7.46**	**10**	⇓P	Pn	23 04 25.5	+5.0
KCP				S	**Sn**	**23 05 46.8**	**+3.1**
SIJI	**Sorong**	**7.49**	**94**	P	**Pn**	**23 04 20.1**	**-0.8**
	2.8nm,0.3s,baz=302,slow=13,SNR=5.6						
JAY	**Jayapura**	**17.04**	**97**	P	**P**	**23 06 32.0**	**+4.4**
	26nm,1.1s						
CMAR	**Chiang Mai Arr**	**30.77**	**309**	P	**P**	**23 08 42.1**	**+0.4**
	0.6nm,0.4s,baz=134,slow=7.7,SNR=7.1						
WHN	**Wuhan**	**32.05**	**345**	P	P	23 09 01.0	+8.4
MJAR	**Matsushiro Arr**	**39.11**	**19**	P	**P**	**23 09 51.9**	**-1.2**
	2.2nm,0.7s,baz=190,slow=8.6,SNR=6.4						
USRK	**Ussuriysk Ar.**	**44.99**	**8**	P	**P**	**23 10 40.0**	**-0.7**
	1.8nm,0.7s,baz=186,slow=7.1,SNR=4.7						
SONM	**Songino Array**	**50.36**	**345**	P	**P**	**23 11 21.0**	**-1.4**
	0.4nm,0.5s,baz=145,slow=8.6,SNR=3.9						
MKAR	**Makanchi Array**	**59.36**	**328**	P	**P**	**23 12 26.3**	**-1.0**
	0.9nm,0.5s,baz=124,slow=8.4,SNR=11						
ZALV	**Zalesovo Beam**	**62.99**	**335**	P	**P**	**23 12 50.0**	**-1.6**
	0.5nm,0.4s,baz=142,slow=7.3,SNR=3.0						
TXAR	**Lajitas Array**	**126.42**	**53**	PKP	**PKiKP**	**23 21 28.1**	**-0.2**
	0.2nm,0.7s,baz=180,slow=0.7,SNR=3.2						

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*NEIC **04** 23:26:57.5±1.9, 5°.0S±0°.1×152°.32E±0°.08, h76km±6km, mb4.2/6*
*ISCJB **04** 23:26:58.7±0.6, 5°.17S±0°.08×152°.28E±0°.06, h100km, mb3.7/7, Error ellipse: s-maj=10.7km s-min=8.1km az=179.2*
*IDC **04** 23:27:01.5±4.3, 5°.21S×152°.24E, h112km±38km, mb3.5/7, mb1 3.6/8, mb1mx3.5/39, mbtmp3.9/8, MS3.4/3, Ms1 3.4/3, ms1mx2.9/28, Error ellipse: s-maj=26.7km s-min=24.4km az=23.0*
ISC 04 23:27:00.2±0.7**, 5°.11S**±0°.08×**152°.25E**±0°.08**, h100**km**, n24, σ1ˢ.47**/21**, mb3.7**/8**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MANU	**Manus Island**	**5.74**	**302**		**Pn**	**23 28 20.4**	**-2.7**
PMG	**Port Moresby**	**6.61**	**229**	P	**Pn**	**23 28 34.7**	**-0.2**
	2.5nm,0.3s,baz=28,slow=3.4,SNR=3.7						
PMG				S	**Sn**	**23 29 48.0**	**-0.8**
	1.5nm,0.3s,baz=43,slow=8.0,SNR=4.1						
PMG	**Port Moresby**	**6.61**	**229**		**Sn**	**23 29 49.0**	**+0.2**
HNR	**Honiara**	**8.76**	**120**	LR	LR	23 32 16.5	
	comp=Z,171nm,21.9s,baz=312,slow=36						
HNR	**Honiara**	**8.76**	**120**	Sn	**Sn**	**23 30 40.1**	**-1.2**
PATS	**Pohnpei**	**13.32**	**27**	Pn	Pn	23 29 57.0	-8.4
DZM	**Mont Dzumac**	**21.76**	**142**	P	**P**	**23 31 44.8**	**+0.9**
	12nm,1.0s,baz=339,slow=8.6,SNR=5.1						
DZM	**Mont Dzumac**	**21.76**	**142**	P	**P**	**23 31 41.7**	**-2.3**
WB0	**Warramunga Arr**	**22.68**	**228**	P	**P**	**23 31 52.7**	**-0.9**
WB0				IAmb	IAmb	23 31 60.0	
	comp=Z,12nm,1.1s						
WB2	**Warramunga Arr**	**22.82**	**228**	P	**P**	**23 31 53.4**	**-1.6**
KNRA	**Kununurra**	**25.34**	**244**	P	**P**	**23 32 18.7**	**+0.6**
ASAR	**Alice Springs**	**25.55**	**222**	P	**P**	**23 32 19.8**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=56,slow=9.0,SNR=11						
STKA	**Stephens Creek**	**28.44**	**199**	LR	LR	23 44 29.9	
	comp=Z,59nm,18.4s,baz=27,slow=37						
FITZ	**Fitzroy Crossi**	**29.03**	**241**	P	**P**	**23 32 50.9**	**-0.2**
	comp=Z,4.0nm,0.9s,baz=52,slow=9.1,SNR=8.4						
FITZ	**Fitzroy Crossi**	**29.03**	**241**	P	**P**	**23 32 51.4**	**+0.3**
FITZ				IAmb	IAmb	23 32 58.8	
	comp=Z,6.2nm,1.0s						
BSWZ	**Blackbirch Sta**	**41.25**	**155**	P	**P**	**23 34 34.7**	**-0.8**
RPZ	**Rata Peaks**	**41.88**	**160**	LR	LR	23 51 30.4	
	comp=Z,111nm,19.1s,baz=346,slow=35						
SONM	**Songino Array**	**66.29**	**328**	P	**P**	**23 37 39.7**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=139,slow=5.1,SNR=4.4						
MKAR	**Makanchi Array**	**80.19**	**319**	P	**P**	**23 39 00.3**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=83,slow=4.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**81.10**	**326**	P	**P**	**23 39 04.5**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=107,slow=5.0,SNR=4.4						
ILAR	**Eielson Array**	**82.65**	**22**	P	**P**	**23 39 11.8**	**-0.4**
	comp=Z,0.6nm,1.0s,baz=253,slow=5.2,SNR=3.3						
NIL	**Nilore**	**83.69**	**305**	P	**P**	**23 39 18.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**149.87**	**287**	PKPbc	**PKPbc**	23 46 39.4	-0.5
	comp=Z,1.9nm,0.9s,baz=124,slow=2.7,SNR=7.7						

BDFB	**Brasilia**	**151.24**	**136**	PKPbc	**PKPdf**	**23 46 41.1**	**+3.9**
	comp=Z,0.9nm,0.3s,baz=158,slow=5.4,SNR=3.7						

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*ISCJB **04** 23:33:11.4±0.4, 24°.87N±0°.02×122°.45E±0°.02, h9km±2km, Error ellipse: s-maj=3.7km s-min=2.4km az=20.7*
*JMA **04** 23:33:11.4±0.3, 24°.78N×122°.43E, h1km±3km, M3.1*
*TAP **04** 23:33:12.0, 24°.88N×122°.38E, h10km, ML3.4, C*
ISC 04 23:33:11.5±1.1**, 24°.84N**±0°.03×**122°.43E**±0°.02**, h7**km±9km**, n71, σ0ˢ.60**/118**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.40**	**224**	*e*P	**Pb**	**23 33 20.9**	**+0.1**
	baz=214						
EOS1				*e*S	**Sb**	**23 33 28.1**	**+0.9**
	baz=214						
TWB1	**Santiao Chiao**	**0.44**	**293**	P	**Pg**	**23 33 20.1**	**+0.2**
	baz=290						
TWB1				S	**Sg**	**23 33 26.1**	**+0.5**
	baz=290						
EGS		**0.45**	**271**	P	**Pb**	**23 33 21.0**	**-0.8**
	baz=264						
EGS				*e*S	**Sg**	**23 33 26.7**	**+0.5**
	baz=264						
NTC	**Toucheng**	**0.55**	**272**	*e*P	**Pb**	**23 33 22.6**	**-0.8**
	baz=266						
NTC				*e*S	**Sb**	**23 33 31.4**	**0.0**
	baz=266						
TIPB	**Shuangxi**	**0.57**	**284**	P	**Pg**	**23 33 22.8**	**+0.4**
	baz=280						
TIPB				S	**Sb**	**23 33 31.1**	**-0.9**
	baz=280						
TWC	**Suao**	**0.58**	**247**	P	**Pg**	**23 33 22.9**	**+0.3**
	baz=239						
TWC				*e*S	**Sb**	**23 33 32.7**	**+0.3**
	baz=239						
JYNG	**Yonagunijimaku**	**0.61**	**130**	P	**Pg**	**23 33 22.9**	**-0.2**
JYNG				*e*S	**Sg**	**23 33 30.9**	**-0.1**
ILA	**Ilan**	**0.63**	**263**	*e*S	**Sb**	**23 33 34.4**	**+0.6**
	baz=258						
NWF	**Wu-fen Shan**	**0.63**	**291**	P	**Pb**	**23 33 24.4**	**-0.6**
	baz=289						
NWF				S	**Sg**	**23 33 32.3**	**+0.3**
	baz=289						
WFSB	**Wu-fen Shan**	**0.63**	**291**	*e*P	**Pb**	**23 33 24.2**	**-0.7**
	baz=289						
WFSB				*e*S	**Sg**	**23 33 32.4**	**+0.4**
	baz=289						
YOJ	**Yonaguni jima**	**0.65**	**125**	*e*P	**Pg**	**23 33 23.9**	**-0.1**
	baz=125						
TWE	**Neicheng**	**0.70**	**261**	P	**Pb**	**23 33 25.7**	**-0.4**
	baz=255						
TWE				S	**Sb**	**23 33 35.5**	**-0.5**
	baz=255						
SLBB	**Yuanshan**	**0.73**	**263**	P	**Pg**	**23 33 25.1**	**-0.3**
	baz=259						
SLBB				S	**Sb**	**23 33 36.5**	**-0.3**
	baz=259						
NANB	**Nanao**	**0.74**	**237**	P	**Pb**	**23 33 26.2**	**-0.6**
	baz=231						
NANB				S	**Sb**	**23 33 38.2**	**+1.0**
	baz=231						
ENA	**Nanau**	**0.75**	**237**	P	**Pb**	**23 33 26.2**	**-0.7**
	baz=231						
ENA				*e*S	**Sb**	**23 33 38.0**	**+0.7**
	baz=231						
TWA	**Mucha**	**0.78**	**280**	*e*P	**Pg**	**23 33 26.7**	**+0.2**
	baz=277						
TWA				*e*S	**Sb**	**23 33 37.2**	**-1.1**
	baz=277						
ENTT	**Nioudou**	**0.81**	**256**	P	**Pb**	**23 33 27.7**	**-0.3**
	baz=251						
ENTT				*e*S	**Sb**	**23 33 38.6**	**-0.5**
	baz=251						
NHDH	**Xindian Distri**	**0.83**	**279**	*e*P	**Pg**	**23 33 27.5**	**0.0**
	baz=276						
NHDH				*e*S	**Sb**	**23 33 38.8**	**-0.9**
	baz=276						
YM08	**YM08**	**0.84**	**295**	*e*P	**Pg**	**23 33 27.7**	**+0.1**
	baz=293						
YM08				*e*S	**Sg**	**23 33 38.1**	**-0.4**
	baz=293						
YM01	**YM01**	**0.84**	**292**	*e*P	**Pb**	**23 33 28.0**	**-0.4**
	baz=289						
YM01				*e*S	**Sb**	**23 33 39.1**	**-0.8**
	baz=289						
YM11	**YM11**	**0.84**	**293**	*e*P	**Pb**	**23 33 28.3**	**-0.2**
	baz=291						
YM11				*e*S	**Sb**	**23 33 39.1**	**-1.0**
	baz=291						
NWLT	**Wulai**	**0.85**	**266**	P	**Pb**	**23 33 28.2**	**-0.4**
	baz=262						
NWLT				S	**Sb**	**23 33 39.9**	**-0.3**
	baz=262						
YM05	**YM05**	**0.85**	**293**	*e*P	**Pb**	**23 33 28.2**	**-0.4**
	baz=291						
YM10	**YM10**	**0.85**	**292**	*e*P	**Pg**	**23 33 27.9**	**+0.1**
	baz=290						
PCYT	**Pengchaiyu**	**0.85**	**338**	*e*P	**Pg**	**23 33 27.2**	**-0.6**
	baz=340						
TATO	**Taipei**	**0.87**	**279**	*e*P	**Pb**	**23 33 28.9**	**+0.1**
	baz=276						
TATO				*e*S	**Sg**	**23 33 39.6**	**+0.1**
	baz=276						
NDT	**Datong Townshi**	**0.87**	**254**	P	**Pb**	**23 33 28.6**	**-0.3**
	baz=250						
NDT				*e*S	**Sb**	**23 33 40.6**	**-0.1**
	baz=250						
TWY	**Chenhua**	**0.87**	**300**	*e*P	**Pb**	**23 33 28.6**	**-0.3**
	baz=299						
TWY				*e*S	**Sg**	**23 33 39.4**	**-0.1**
	baz=299						
YM04	**YM04**	**0.87**	**291**	*e*P	**Pb**	**23 33 28.8**	**-0.2**
	baz=289						
YM04				*e*S	**Sb**	**23 33 40.7**	**-0.1**
	baz=289						
ANP	**Anpu**	**0.90**	**293**	*e*P	**Pg**	**23 33 28.9**	**+0.2**
	baz=291						
ANP				*e*S	**Sg**	**23 33 40.2**	**-0.2**
	baz=291						
NTST	**Danshui**	**0.95**	**290**	*e*P	**Pb**	**23 33 30.2**	**0.0**
	baz=288						
TWS1	**Kuangyinshan**	**0.96**	**286**	*e*P	**Pb**	**23 33 30.2**	**-0.2**
	baz=284						
TWS1				*e*S	**Sb**	**23 33 43.3**	**+0.1**
	baz=284						
YHNB	**Yeheng**	**0.97**	**260**	*e*P	**Pg**	**23 33 30.2**	**+0.1**
	baz=256						
YHNB				*e*S	**Sb**	**23 33 43.6**	**-0.3**
	baz=256						
NSK	**Sanguang**	**0.99**	**261**	P	**Pg**	**23 33 30.4**	**-0.1**
	baz=257						
NSK				*e*S	**Sb**	**23 33 44.0**	**-0.3**
	baz=257						
NACB	**Ninganchiao**	**1.01**	**229**	*e*P	**Pg**	**23 33 30.3**	**-0.5**
	baz=225						
NACB				*e*S	**Sb**	**23 33 44.2**	**-0.6**
	baz=225						
NNSB	**Datong**	**1.04**	**247**	*e*P	**Pg**	**23 33 31.2**	**-0.2**
	baz=243						
NNSB				*e*S	**Sg**	**23 33 44.5**	**-0.4**
	baz=243						
NNSH	**Datong**	**1.04**	**247**	P	**Pg**	**23 33 31.2**	**-0.2**
	baz=243						
NNSH				S	**Sb**	**23 33 45.4**	**-0.4**
	baz=243						
NNS	**Nan Shan**	**1.04**	**248**	P	**Pb**	**23 33 31.7**	**-0.2**
	baz=243						
NNS				S	**Sb**	**23 33 45.5**	**-0.4**
	baz=243						
ETLH	**Xiulin Townshi**	**1.07**	**234**	*e*P	**Pg**	**23 33 31.5**	**-0.5**
	baz=230						
ETLH				*e*S	**Sb**	**23 33 47.1**	**+0.5**
	baz=230						
TWD	**Chiawan**	**1.07**	**225**	*e*P	**Pb**	**23 33 32.4**	**0.0**
	baz=221						
TWD				*e*S	**Sb**	**23 33 46.5**	**-0.1**
	baz=221						
WHF	**Hehuan Shan**	**1.27**	**237**	*e*P	**Pb**	**23 33 35.8**	**-0.1**
	baz=233						
WHF				*e*S	**Sb**	**23 33 52.8**	**+0.1**
	baz=233						
IRIF	**Iriomote-Funau**	**1.28**	**113**	P	**Pn**	**23 33 35.9**	**+0.1**
IRIF				*e*S	**Sg**	**23 33 53.3**	**+0.5**
TWT	**Tachien**	**1.28**	**243**	P	**Pn**	**23 33 36.1**	**+0.1**
	baz=240						
TWT				*e*S	**Sn**	**23 33 54.2**	**+0.6**
	baz=240						
TDCB	**Techi**	**1.30**	**244**	*e*P	**Pg**	**23 33 35.7**	**-0.7**
	baz=240						
TDCB				*e*S	**Sb**	**23 33 53.3**	**0.0**
	baz=240						
LIOB	**Emei**	**1.30**	**262**	*e*P	**Pg**	**23 33 35.7**	**-0.7**
	baz=259						
NSTT	**Nanjuang**	**1.32**	**261**	*e*P	**Pn**	**23 33 36.3**	**0.0**
	baz=258						
ESL	**Shilin**	**1.37**	**222**	*e*P	**Pn**	**23 33 36.0**	**-1.0**
	baz=218						
CHGB	**Renai**	**1.38**	**236**	*e*P	**Pn**	**23 33 37.4**	**0.0**
	baz=233						
CHGB				*e*S	**Sn**	**23 33 55.8**	**-0.4**
	baz=233						
WHP	**Taichung City**	**1.46**	**248**	*e*P	**Pb**	**23 33 39.1**	**0.0**
	baz=245						
WHP				*e*S	**Sb**	**23 33 57.7**	**-0.3**
	baz=245						
HATJ	**Hateruma jima**	**1.47**	**122**	P	**Pn**	**23 33 38.7**	**+0.2**
HATJ				*e*S	**Sn**	**23 33 57.2**	**-0.8**
JKRS	**Kuro-shima**	**1.56**	**112**	P	**Pn**	**23 33 39.7**	**+0.1**
TWQ1	**Liyutan**	**1.59**	**252**	*e*P	**Pn**	**23 33 39.9**	**-0.1**
	baz=249						
VWDT	**VWDT**	**1.60**	**228**	*e*P	**Pn**	**23 33 40.3**	**+0.2**
	baz=225						
VWDT				*e*S	**Sn**	**23 34 00.8**	**-0.3**
	baz=225						
JIJ	**Ishigaki jima**	**1.63**	**107**	P	**Pn**	**23 33 41.8**	**+1.2**
EHY	**Hungye**	**1.67**	**218**	*e*P	**Pn**	**23 33 39.8**	**-1.4**
	baz=214						
SMLT	**Sun Moon Lake**	**1.69**	**236**	*e*P	**Pb**	**23 33 42.5**	**-0.5**
	baz=233						
SSLB	**Suanglung**	**1.71**	**232**	*e*P	**Pn**	**23 33 41.8**	**+0.1**
	baz=229						
SSLB				*e*S	**Sb**	**23 34 04.3**	**-0.6**
	baz=229						
TYC	**Yuchr**	**1.71**	**237**	*e*P	**Pb**	**23 33 42.9**	**-0.3**
	baz=234						
TWF1	**Yuli**	**1.81**	**215**	*e*P	**Pn**	**23 33 43.4**	**+0.3**
	baz=212						
WHYT	**Xinyi Township**	**1.84**	**232**	*e*P	**Pb**	**23 33 44.5**	**-0.9**
	baz=229						
WHYT				*e*S	**Sb**	**23 34 08.2**	**-0.4**
	baz=229						
CHN5	**Tsauling**	**2.02**	**233**	*e*P	**Pn**	**23 33 47.2**	**+1.1**
	baz=230						
CHN5				*e*S	**Sn**	**23 34 12.5**	**+0.8**
	baz=230						
CHN4	**Tsaushan**	**2.24**	**229**	*e*P	**Pn**	**23 33 49.9**	**+0.9**
	baz=226						
WTP	**Ta-pu**	**2.30**	**227**	*e*P	**Pn**	**23 33 50.8**	**+1.0**
	baz=224						
TWK	**Hsinying**	**2.37**	**229**	*e*P	**Pn**	**23 33 51.5**	**+0.7**
	baz=226						
SLGT	**Liugui**	**2.46**	**222**	*e*P	**Pn**	**23 33 52.2**	**+0.2**
	baz=220						
SLGT				*e*S	**Sn**	**23 34 23.8**	**+1.4**
	baz=220						
MATB	**Ma-tsu**	**2.60**	**301**	*e*P	**Pn**	**23 33 54.9**	**+1.0**
	baz=299						
MASBT	**Mashibuluo**	**2.76**	**217**	*e*P	**Pn**	**23 33 56.7**	**+0.5**
	baz=215						
MASBT				*e*S	**Sn**	**23 34 29.0**	**-0.9**
	baz=215						
EAST	**Anshuo**	**2.84**	**211**	*e*P	**Pn**	**23 33 58.7**	**+1.4**
	baz=209						
LYJJ	**Jianjiangzhen**	**2.95**	**306**	*e*P	**Pn**	**23 34 00.6**	**+1.8**
	baz=305						
SCZT	**Fangliau**	**2.97**	**214**	*e*P	**Pn**	**23 34 00.8**	**+1.8**
	baz=212						
MHZQ	**Yeshan**	**3.32**	**293**	*e*P	**Pn**	**23 34 04.2**	**+0.3**
	baz=291						

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*IDC **04** 23:46:37.3±1.6, 18°.08S×173°.51W, h0km, mb4.4/4, mb1 4.4/6, mb1mx3.9/52, mbtmp4.3/6, ML3.7/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/24, Error ellipse: s-maj=52.9km s-min=21.5km az=126.0*
*ISCJB **04** 23:46:40.4±0.7, 18°.13S±0°.08×173°.5W±0°.1, h37km, mb4.3/4, MS2.5/1, Error ellipse: s-maj=21.4km s-min=9.3km az=21.5*
*NEIC **04** 23:46:41.9±0.6, 18°.1S±0°.1×173°.52W±0°.04, h35km±2km, mb4.4/10*
ISC 04 23:46:42.3±1.2**, 18°.2S**±0°.1×**173°.4W**±0°.2**, h37**km**, n22, σ0ˢ.57**/20**, mb4.5**/7**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.43**	**106**		Pn	23 47 10.2	-23
AFI	**Afiamalu**	**4.51**	**21**	Pn	**Pn**	**23 47 48.4**	**+0.2**
	2.6nm,0.3s,baz=245,slow=17,SNR=2.6						
AFI				Sn	**Sn**	**23 48 39.6**	**+0.1**
	9.0nm,0.3s,baz=280,slow=17,SNR=3.8						
AFI	**Afiamalu**	**4.51**	**21**		Pn	23 47 43.5	-4.7
AFI					Sn	23 48 28.9	-11
DZM	**Mont Dzumac**	**19.31**	**255**	*e*P	**Pn**	**23 51 06.4**	**+0.7**
	27nm,1.1s						
DZM	**Mont Dzumac**	**19.31**	**255**	P	**P**	**23 51 05.3**	**+0.8**
	0.3nm,0.3s,baz=85,slow=17,SNR=5.6						
PPT	**Papeete**	**22.69**	**92**	LR	LR	23 57 23.9	
	comp=Z,18nm,20.8s,baz=356,slow=28						
SNZO	**South Karori**	**25.22**	**201**	P	**P**	**23 52 04.5**	**0.0**
BHW	**Baring Head**	**25.25**	**201**	P	**P**	**23 52 05.1**	**+0.2**
QRZ	**Quartz Range**	**25.62**	**205**	P	**P**	**23 52 07.9**	**-0.3**
THZ	**Tophouse**	**26.27**	**204**	P	**P**	**23 52 14.5**	**+0.3**
LTZ	**Lake Taylor**	**27.39**	**203**	P	**P**	**23 52 25.2**	**+0.9**
OXZ	**Oxford**	**27.94**	**203**	P	**P**	**23 52 29.3**	**+0.1**
RPZ	**Rata Peaks**	**28.64**	**204**	P	**P**	**23 52 36.2**	**+0.8**
	7.1nm,0.5s,baz=30,slow=6.5,SNR=7.5						
RPZ	**Rata Peaks**	**28.64**	**204**	P	**P**	**23 52 35.5**	**+0.1**
FOZ	**Fox Glacier**	**28.99**	**206**	P	**P**	**23 52 38.4**	**0.0**
CTA	**Charters Tower**	**38.09**	**260**	P	**P**	**23 53 57.4**	**-0.5**
	2.5nm,0.4s,baz=78,slow=11,SNR=8.9						
WB0	**Warramunga Arr**	**49.23**	**259**	P	**P**	**23 55 27.2**	**-0.3**
WB0				IAmb	IAmb	23 55 40.1	
	comp=Z,4.3nm,0.9s						
WB2	**Warramunga Arr**	**49.24**	**259**	P	**P**	**23 55 26.9**	**-0.8**
WB2				IAmb	IAmb	23 55 28.4	
	comp=Z,3.8nm,0.8s						
AS31	**Alice Springs**	**49.30**	**254**	P	**P**	**23 55 27.2**	**-0.8**
AS31				IAmb	IAmb	23 55 28.0	
	comp=Z,2.1nm,0.9s						
ASAR	**Alice Springs**	**49.30**	**254**	P	**P**	**23 55 27.1**	**-0.9**
	comp=Z,7.5nm,0.9s,baz=86,slow=8.5,SNR=51						
ILAR	**Eielson Array**	**85.14**	**11**	P	**P**	**23 59 13.8**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=224,slow=5.0,SNR=6.0						
BRTR	**Keskin Array B**	**148.24**	**318**	PKPbc	**PKPbc**	**00 06 25.0**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=23,slow=6.7,SNR=4.0						

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*GCG **05** 00:05:06.8±2.0, 13°.03N×92°.39W, h80km±323km, MD4.2*
*IDC **05** 00:05:08.9±1.5, 13°.24N×91°.75W, h0km, mb3.9/7, mb1 4.1/11, mb1mx3.8/38, mbtmp3.9/11, ML3.6/4, MS3.5/1, Ms1 3.5/1, ms1mx2.5/33, Error ellipse: s-maj=24.9km s-min=17.6km az=156.0*
*ISCJB **05** 00:05:11.8±1.9, 13°.14N±0°.09×92°.07W±0°.04, h32km±16km, mb3.9/7, Error ellipse: s-maj=14.4km s-min=6.3km az=6.7*
*SNET **05** 00:05:15.6±1.1, 13°.59N×91°.86W, h21km±13km, ML4.0*
*UCR **05** 00:05:15.7±2.0, 13°.49N×91°.82W, h13km±22km, MD3.8, ML3.8*
ISC 05 00:05:11.6±1.9**, 13°.15N**±0°.07×**92°.14W**±0°.06**, h27**km±13km**, n36, σ1ˢ.84**/52**, mb4.1**/7**, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**1.40**	**24**	*e*P	**Pn**	**00 05 34.1**	**-1.3**
ERG				*e*S	**Sb**	**00 05 59.2**	**+4.7**
STG3	**Santiaguito 3,**	**1.65**	**20**	*e*P	**Pn**	**00 05 36.6**	**-2.4**
FUG	**Fuego 3**	**1.80**	**44**	*e*P	**Pn**	**00 05 40.2**	**-1.0**
FUG				*e*S	**Sn**	**00 06 04.4**	**+1.1**
FUG	**Fuego 3**	**1.80**	**44**	*e*P	**Pn**	**00 05 40.2**	**-1.0**
FUG				*e*S	**Sn**	**00 06 04.4**	**+1.1**
IXG	**Ixpaco**	**1.94**	**58**	*e*P	**Pn**	**00 05 41.5**	**-1.5**
IXG				*e*S	**Sb**	**00 06 10.8**	**+0.5**
IXG	**Ixpaco**	**1.94**	**58**	*e*P	**Pn**	**00 05 41.5**	**-1.5**
IXG				*e*S	**Sb**	**00 06 10.8**	**+0.5**
NBG	**Las Nubes**	**2.25**	**51**	*e*P	**Pn**	**00 05 48.8**	**+1.4**
NBG				*e*S	**Sn**	**00 06 15.1**	**+0.6**
NBG	**Las Nubes**	**2.25**	**51**	*e*P	**Pn**	**00 05 48.8**	**+1.4**
NBG				*e*S	**Sn**	**00 06 15.1**	**+0.6**
APG	**El Apazote**	**2.46**	**41**	Pg	**Pn**	**00 05 49.7**	**-0.5**
	35nm,0.3s,baz=216,slow=7.6,SNR=273						
APG				Lg	Lg	00 06 18.0	

	37nm,0.3s,baz=357,slow=21,SNR=6.5						
RTR	El Retiro	2.54	73	eP	Pn	00 05 51.5	+0.2
RTR	El Retiro	2.54	73	eP	Pn	00 05 51.5	+0.2
CEVE	Cerro Verde	2.54	74	eP	Pn	00 05 51.1	-0.2
CEVE				eS	Sn	00 06 19.3	-2.3
CEVE				IAML		00 06 30.8	
	comp=Z,978nm,0.3s						
CEVE	Cerro Verde	2.54	74	eP	Pn	00 05 51.1	-0.2
CEVE				eS	Sn	00 06 19.3	-2.3
CEVE				IAML		00 06 30.8	
	comp=Z,978nm,0.3s						
SBLS	San Blas	2.54	74	eP	Pn	00 05 51.1	-0.3
SBLS	San Blas	2.54	74	eP	Pn	00 05 51.1	-0.3
SNJE	San Jose	2.57	74	eP	Pn	00 05 51.5	-0.2
SNJE	San Jose	2.57	74	eP	Pn	00 05 51.5	-0.2
BOQS	Boqueron	2.85	78	eP	Pn	00 05 55.7	+0.2
BOQS				eS	Sn	00 06 27.8	-1.2
MTO3	Montecristo	2.97	65	eP	Pn	00 05 56.7	-0.6
MTO3				eS	Sn	00 06 29.0	-3.3
MTO3	Montecristo	2.97	65	eP	Pn	00 05 56.7	-0.6
MTO3				eS	Sn	00 06 29.0	-3.3
LFRS	El Faro	3.04	81	eP	Pn	00 05 58.9	+0.9
LFRS				eS	Sn	00 06 32.1	-1.5
LCND	La Caada	4.14	87	eP	Pn	00 06 13.6	+0.4
LCND				eS	Sn	00 06 59.8	-1.1
LCND	La Caada	4.14	87	eP	Pn	00 06 13.6	+0.4
LCND				eS	Sn	00 06 59.8	-1.1
CNCH	Conchagua	4.20	88	eP	Pn	00 06 15.4	+1.3
CNCH	Conchagua	4.20	88	eP	Pn	00 06 15.4	+1.3
CMIG	Matias Romero	4.72	326	Pn	Pn	00 06 21.8	+0.6
	comp=Z,2.1nm,0.3s,baz=145,slow=10,SNR=6.7						
CMIG				Sn	Sb	00 07 24.9	-5.3
	comp=Z,5.5nm,0.3s,baz=107,slow=8.3,SNR=4.6						
JTS	Las Juntas de	7.59	111	Pn	Pn	00 06 57.4	-3.3
	comp=Z,0.3nm,0.3s,baz=8.3,slow=19,SNR=2.1						
JTS				Pg	Pb	00 07 22.3	-0.4
	comp=Z,0.9nm,0.3s,baz=20,slow=12,SNR=6.3						
JTS				Lg	Lg	00 09 05.6	
	baz=0.0,slow=19,SNR=2.7						
TEIG	Tepich	7.95	27	Pn	Pn	00 07 03.9	-1.6
	comp=Z,6.1nm,0.3s,baz=319,slow=0.4,SNR=27						
TEIG				LR	LR	00 10 30.0	
	comp=Z,287nm,18.4s,baz=228,slow=42						
TXAR	Lajitas Array	19.33	328	P	Pn	00 09 38.6	+2.3
	comp=Z,0.0nm,0.3s,baz=148,slow=10,SNR=7.7						
TKL	Tuckaleechee C	23.64	17	P	P	00 10 18.2	-2.6
	comp=Z,5.0nm,0.9s,baz=167,slow=12,SNR=3.8						
ANMO	Albuquerque	25.27	332	P	P	00 10 38.4	+2.4
	comp=Z,1.1nm,0.6s,baz=159,slow=8.6,SNR=3.5						
NVAR	Mina Array Bea	34.24	322	P	P	00 12 00.3	+4.6
	comp=Z,0.8nm,0.8s,baz=129,slow=7.2,SNR=3.7						
SCHQ	Schefferville	46.06	20	P	P	00 13 30.9	-2.2
	comp=Z,3.2nm,0.6s,baz=222,slow=6.4,SNR=5.3						
YKA	Yellowknife Ar	51.81	347	P	P	00 14 17.4	+0.4
	comp=Z,1.4nm,0.6s,baz=147,slow=7.6,SNR=18						
INK	Inuvik	61.21	344	P	P	00 15 25.9	+2.2
	comp=Z,1.2nm,0.7s,baz=139,slow=6.6,SNR=6.1						
ILAR	Eielson Array	63.56	337	P	P	00 15 41.8	+2.1
	comp=Z,0.2nm,0.5s,baz=104,slow=7.5,SNR=5.0						

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*IDC **05** 00:27:10.8±0.8, 26.°91S×176.°25W, h0km, mb4.1/9, mb1 4.3/10, mb1mx4.2/28, mbtmp4.1/10, ML4.8/1, MS3.5/8, Ms1 3.5/8, ms1mx3.2/34, Error ellipse: s-maj=28.0km s-min=21.3km az=117.0*

*ISCJB **05** 00:27:13.9±0.8, 27.°37S±0.°07×176.°3W±0.°2, h35km, mb4.1/10, MS3.5/8, Error ellipse: s-maj=21.8km s-min=8.9km az=14.5*

*NEIC **05** 00:27:15±1.5, 27.°3S±0.°1×176.°2W±0.°1, h35km±1km, mb4.3/7*

ISC 05 00:27:16.3±0.7, 27.°18S±0.°07×176.°3W±0.°1, h35km, n43, σ3.°74/34, mb4.1/10, MS3.6/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.51	214	Pn	Pn	00 27 58.2	+3.6
	152nm,0.3s,baz=107,slow=11,SNR=6.6						
RAO				Sn	Sn	00 28 32.1	+8.1
	562nm,0.3s,baz=68,slow=22,SNR=7.6						
RAO	Raoul Island	2.51	214		Pn	00 27 58.9	+4.3
NIUE	Niue	9.97	37		Pn	00 29 25.1	-12
NIUE					Sn	00 31 02.1	-26
MSVF	Nonsavu	10.76	330		Pn	00 29 46.0	-2.0
URZ	Urewera	12.36	205	Sn	Sn	00 32 24.4	-1.7
	2.5nm,0.3s,baz=205,slow=22,SNR=8.3						
BKZ	Black Stump Fm	13.38	205	Pn	Pn	00 30 24.9	+1.1
MSWZ	Moikau Station	15.81	204	Pn	Pn	00 30 50.5	-5.7
PLWZ	Palliser	15.95	204	Pn	Pn	00 30 55.2	-2.8
PLWZ				S	Sn	00 33 43.4	-10
RAR	Rarotonga	16.20	72	LR	LR	00 35 06.1	
	comp=Z,133nm,20.0s,baz=278,slow=30						
RAR	Rarotonga	16.20	72	Pn	Pn	00 30 50.6	-11
TUWZ	Tuamarina	16.32	207	Pn	Pn	00 30 58.5	-4.3
TUWZ				S	Sn	00 33 52.7	-10
DZM	Mont Dzumac	16.50	284	eP	P	00 31 10.6	+3.1
	60nm,1.2s						
DZM				eLR	LR	00 34 59.5	
	comp=Z,375nm,25.9s						
DZM	Mont Dzumac	16.50	284	LR	LR	00 36 11.2	
	comp=Z,257nm,19.2s,baz=234,slow=33						
THZ	Tophouse	17.03	209	Pn	Pn	00 31 08.2	-3.5
KHZ	Kahutara	17.32	206	Pn	Pn	00 31 12.9	-2.3
KHZ				IAmb	IAmb	00 31 32.0	
	comp=Z,50nm,1.3s						
TBI	Tubuai	24.55	87	eLR	LR	00 38 14.0	
	comp=Z,305nm,32.5s						
PPT2	Papeete2	26.43	74	eLQ	LQ	00 37 36.0	
	comp=Z,384nm,29.8s						
PPT2				eLR	LR	00 39 07.3	
	comp=Z,194nm,27.8s						
PPT	Papeete	26.44	74	LR	LR	00 41 27.6	
	comp=Z,51nm,18.9s,baz=183,slow=32						
CTA	Charters Tower	34.93	273	P	P	00 34 05.0	0.0
	comp=Z,2.0nm,0.4s,baz=89,slow=13,SNR=4.8						
STKA	Stephens Creek	36.77	252	LR	LR	00 48 02.2	
	comp=Z,102nm,18.7s,baz=31,slow=34						
ASAR	Alice Springs	44.89	263	P	P	00 35 27.2	-0.5
	comp=Z,0.7nm,0.5s,baz=90,slow=6.9,SNR=10						
ASAR				PcP	PP	00 37 20.5	+7.6
	comp=Z,0.5nm,0.5s,baz=96,slow=3.7,SNR=4.2						
ASAR				LR	LR	00 53 11.5	
	comp=Z,62nm,18.1s,baz=126,slow=35						
WB2	Warramunga Arr	45.58	268	P	P	00 35 32.9	-0.3
WRA	Warramunga Arr	45.59	268	P	P	00 35 32.8	-0.5
	comp=Z,3.7nm,0.7s,baz=111,slow=6.9,SNR=17						
WB0	Warramunga Arr	45.60	268	P	P	00 35 32.7	-0.6
MAW	Mawson	75.83	200	P	P	00 38 58.6	+0.2
	comp=Z,1.9nm,0.9s,baz=356,slow=19,SNR=4.4						
MAW	Mawson	75.83	200	IAmb	IAmb	00 39 11.3	
	comp=Z,2.2nm,1.4s						
MJAR	Matsushiro Arr	76.50	324	P	P	00 39 02.4	-0.3
	comp=Z,2.0nm,0.7s,baz=271,slow=20,SNR=4.1						
SNAA	Sanae	81.31	178	P	P	00 39 30.6	+1.9
	comp=Z,2.5nm,1.0s,baz=207,slow=8.9,SNR=6.0						
SNAA	Sanae	81.31	178	P	P	00 39 28.2	-0.5
SNAA				IAmb	IAmb	00 39 40.9	
	comp=Z,6.8nm,1.4s						
PFO	Pinyon Flats O	82.92	47	LR	LR	01 11 54.0	
	comp=Z,40nm,18.2s,baz=230,slow=32						
PLCA	Paso Flores	83.59	133	LR	LR	01 09 20.1	
	comp=Z,28nm,21.9s,baz=215,slow=30						
NVAR	Mina Array Bea	84.86	42	P	P	00 39 47.1	-0.5
	comp=Z,0.1nm,0.3s,baz=225,slow=8.4,SNR=1.6						
KLR	Kul'dur	89.04	329	LR	LR	01 12 42.5	
	comp=Z,17nm,21.7s,baz=173,slow=31						
TXAR	Lajitas Array	89.38	56	P	P	00 40 14.1	+4.5
	comp=Z,0.6nm,1.0s,baz=258,slow=4.4,SNR=3.5						
CMAR	Chiang Mai Arr	93.78	289	P	P	00 40 30.6	+0.5
	comp=Z,0.8nm,0.3s,baz=145,slow=3.3,SNR=4.8						
ILAR	Eielson Array	94.47	12	P	P	00 40 30.9	-1.3
	comp=Z,0.4nm,0.7s,baz=217,slow=5.4,SNR=4.1						
MKAR	Makanchi Array	116.83	311	PKP	PKPdf	00 45 55.3	-1.6
	comp=Z,0.3nm,0.7s,baz=105,slow=1.4,SNR=3.7						
FINES	FINESS Array B	142.59	342	PKhKP	PKPpre	00 46 39.7	
	comp=Z,2.1nm,1.0s,baz=196,slow=18,SNR=3.4						
NB2	NORSAR Subarra	145.77	354	PKP	PKPdf	00 46 49.7	-0.9
	comp=Z,1.0nm,0.8s,baz=16,slow=3.3						
NOA	NORSAR Array B	145.77	354	PKPbc	PKPdf	00 46 49.1	-1.5
	comp=Z,2.8nm,0.9s,baz=6.7,slow=18,SNR=4.2						
AKASG	Malin Array Be	149.53	327	PKPbc	PKPbc	00 47 00.4	-1.2
	comp=Z,1.8nm,0.8s,baz=36,slow=3.4,SNR=6.1						
BRTR	Keskin Array B	152.21	304	PKPbc	PKPbc	00 47 07.5	-0.9
	comp=Z,0.8nm,0.9s,baz=140,slow=7.0,SNR=3.1						
BRTR				PKPab	PKPab	00 47 18.1	-0.3
	comp=Z,1.0nm,0.7s,baz=148,slow=2.5,SNR=5.4						
TORD	Torodi Ar. Bea	165.91	172	PKPab	PKPab	00 48 19.1	+1.3
	comp=Z,1.4nm,0.9s,baz=182,slow=4.5,SNR=5.5						

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*ISCJB **05** 00:35:56.6±0.5, 36.°55N±0.°02×9.°73W±0.°04, h30km, Error ellipse: s-maj=4.5km s-min=3.2km az=0.7*

*CNRM **05** 00:35:58.5, 36.°44N×9.°37W, h18km*

*SFS **05** 00:35:59.0, 36.°73N×9.°83W, h18km, ML3.5, SW. CABO DE SAN VICENTE*

*MDD **05** 00:36:00.4±1.1, 36.°72N×9.°77W, h19km±6km, mbLg2.6/39, Error ellipse: s-maj=10.1km s-min=6.4km az=37.0, PRXIMO*

*INMG **05** 00:36:00.9±0.9, 36.°61N×9.°80W, h31km, ML2.3, Error ellipse: s-maj=3.5km s-min=2.4km az=62.0*

*IGIL **05** 00:36:01.7, 36.°61N×9.°80W, h31km, ML2.4*

ISC 05 00:35:58.8±2.0, 36.°66N±0.°07×9.°77W±0.°07, h30km, n79, σ1.°55/132, 9C-1D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	0.89	58	⇑eP	Pn	00 36 16.6	+1.3
PFVI				eS	Sb	00 36 28.7	+1.4
PFVI				A	A	00 36 29.2	
	54nm,0.2s						
PFVI	Vila Bisbo	0.89	58	⇑P	Pn	00 36 16.6	+1.3
	19nm,0.1s,SNR=18						
PFVI				S	Sb	00 36 27.0	-0.4
	54nm,0.1s,SNR=7.9						
MORF	Marmelete	1.10	54	eP	Pn	00 36 19.6	+1.3
MORF				eS	Sn	00 36 32.9	+0.4
MORF				AML	AML	00 36 35.0	
	comp=N,104nm,0.1s						
MORF	Marmelete	1.10	54	⇑eP	Pn	00 36 19.6	+1.3
MORF				eS	Sn	00 36 33.4	+0.8
MORF				A	A	00 36 35.6	
	comp=N,48nm,0.1s						
MORF	Marmelete	1.10	54	P	Pn	00 36 19.6	+1.3
MORF				S	Sn	00 36 32.9	+0.4
	comp=N,104nm,0.1s						
PBDV	Barranco-do-Ve	1.58	68	⇑eP	Pn	00 36 26.1	+1.2
PBDV				eS	Sn	00 36 44.7	+0.3
PBDV				A	A	00 36 55.6	
	comp=N,16nm,0.9s						
PBDV	Barranco-do-Ve	1.58	68	P	Pn	00 36 26.1	+1.2
PBDV				S	Sn	00 36 44.7	+0.3
	comp=N,16nm,0.9s						
PCVE	Castro Verde	1.69	55	⇑eP	Pn	00 36 27.9	+1.6
PCVE				eS	Sn	00 36 48.1	+1.2
PCVE				A	A	00 36 49.8	
	comp=N,13nm,0.2s						
PCVE	Castro Verde	1.69	55	P	Pn	00 36 27.9	+1.6
PCVE				S	Sn	00 36 48.1	+1.2
	comp=N,13nm,0.2s						
MESJ	Messejana	1.71	46	eP	Pn	00 36 27.9	+1.4
MESJ				eS	Sn	00 36 47.5	+0.2
MESJ				AML	AML	00 36 48.5	
	comp=N,21nm,0.2s						
MESJ	Messejana	1.71	46	P	Pn	00 36 27.9	+1.4
MESJ				S	Sn	00 36 47.5	+0.2
	comp=N,21nm,0.2s						
PNCL	Nicolau / Gran	1.75	34	⇓eP	Pn	00 36 28.3	+1.1
PNCL				eS	Sn	00 36 49.3	+0.8
PNCL				A	A	00 36 50.7	
	comp=N,19nm,0.1s						
PNCL	Nicolau / Gran	1.75	34	P	Pn	00 36 28.3	+1.1
PNCL				S	Sn	00 36 49.3	+0.8
	comp=N,19nm,0.1s						
PVAQ	Vaqueiros	1.80	65	⇑eP	Pn	00 36 29.1	+1.3
PVAQ				eS	Sn	00 36 50.1	+0.4
PVAQ				A	A	00 36 50.8	
	comp=N,17nm,0.1s						
PVAQ	Vaqueiros	1.80	65	P	Pn	00 36 25.0	-2.8
PVAQ				S	Sn	00 36 46.7	-3.0
PVAQ	Vaqueiros	1.80	65	P	Pn	00 36 29.1	+1.3
PVAQ				S	Sn	00 36 50.1	+0.4
	comp=N,17nm,0.1s						
EGRO	El Granado	2.03	64	P	Pn	00 36 32.3	+1.4
	comp=N,1.5nm,0.1s,SNR=7.9						
EGRO				S	Sn	00 36 54.9	-0.3
	comp=N,15nm,0.1s,SNR=7.9						
PBEJ	Beja	2.04	48	⇑eP	Pn	00 36 32.4	+1.3
PBEJ				eS	Sn	00 36 56.0	+0.4
PBEJ				A	A	00 36 57.2	
	comp=N,8.7nm,0.1s						
PBEJ	Beja	2.04	48	P	Pn	00 36 32.4	+1.3
PBEJ				S	Sn	00 36 56.0	+0.4
	comp=N,4.3nm,0.1s						
LIS	Lisbon	2.11	13	eS	Sn	00 36 59.2	+1.9
LIS	Lisbon	2.11	13	S	Sn	00 36 59.2	+1.9
PMAFR	Mafra	2.32	9	eP	Pn	00 36 35.9	+0.9
PMAFR				eS	Sn	00 37 03.0	+0.5
PMAFR				A	A	00 37 05.8	
	comp=N,41nm,0.4s						
PMAFR	Mafra	2.32	9	P	Pn	00 36 35.9	+0.9
	comp=N,5.8nm,0.1s,SNR=7.9						
PMAFR				S	Sn	00 37 03.2	+0.7
	comp=N,20nm,0.1s,SNR=7.9						
PBAR	Barrancos	2.65	54	eS	Sn	00 37 10.9	+0.3
PBAR	Barrancos	2.65	54	S	Sn	00 37 10.9	+0.3
PMTG	Montargil	2.70	27	eP	Pn	00 36 41.2	+1.1
PMTG				eS	Sn	00 37 11.7	-0.1
PMTG				A	A	00 37 12.8	
	comp=N,12nm,0.3s						
PMTG	Montargil	2.70	27	P	Pn	00 36 41.2	+1.1
PMTG				S	Sn	00 37 11.7	-0.1
	comp=N,12nm,0.3s						
EMIN	Mina Concepcio	2.71	65	P	Pn	00 36 41.0	+0.7
	comp=N,0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	00 37 12.2	+0.1
	comp=N,2.5nm,0.1s,SNR=7.9						
PESTR	Estremoz	2.80	37	eP	Pn	00 36 42.3	+0.7
PESTR				eS	Sn	00 37 13.9	-0.4
PESTR				A	A	00 37 15.0	
	comp=N,3.7nm,0.3s						
EBAD	Badajoz	3.02	45	P	Pn	00 36 45.3	+0.6
	comp=N,1.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	00 37 19.6	-0.3
	comp=N,7.0nm,0.1s,SNR=7.9						
PTOM	Tomar	3.14	20	eP	Pn	00 36 47.5	+1.3
PTOM				eS	Sn	00 37 22.2	-0.5
PTOM				A	A	00 37 24.9	
	comp=N,10nm,0.3s						
PTOM	Tomar	3.14	20	P	Pn	00 36 47.5	+1.3
PTOM				S	Sn	00 37 22.2	-0.5
	comp=N,5.1nm,0.3s						
ESPR	Espera	3.15	85	P	Pn	00 36 47.3	+0.9
	comp=N,5.2nm,0.2s,SNR=7.9						
ESPR				S	Sn	00 37 22.3	-0.7
	comp=N,65nm,0.2s,SNR=7.9						
PMRV	Marv??o	3.34	34	eP	Pn	00 36 50.0	+1.0
PMRV				eS	Sn	00 37 26.7	-1.0
PMRV				A	A	00 37 29.2	
	comp=N,7.5nm,0.2s						
PMRV	Marv??o	3.34	34	P	Pn	00 36 50.0	+1.0
PMRV				S	Sn	00 37 26.7	-1.0
	comp=N,7.5nm,0.2s						
PCAS	Casmilo, Conde	3.53	16	eP	Pn	00 36 52.9	+1.3
PCAS				eS	Sn	00 37 31.3	-1.0
PCAS				A	A	00 37 42.2	
	comp=N,6.2nm,0.5s						
PCAS	Casmilo, Conde	3.53	16	P	Pn	00 36 52.9	+1.3
PCAS				S	Sn	00 37 31.3	-1.0
	comp=N,6.2nm,0.5s						
PCBR	Castelo Branco	3.65	29	eP	Pn	00 36 54.8	+1.5
PCBR				eS	Sn	00 37 34.5	-0.8
PCBR				A	A	00 37 36.3	
	comp=N,2.7nm,0.5s						
PCBR	Castelo Branco	3.65	29	P	Pn	00 36 54.8	+1.5
PCBR				S	Sn	00 37 34.5	-0.8
	comp=N,1.4nm,0.5s						
ECAB	El Cabril	3.74	67	P	Pn	00 36 55.6	+1.0
	comp=N,0.3nm,0.1s,SNR=7.9						
ECAB				S	Sn	00 37 35.9	-1.7
	comp=N,3.5nm,0.1s,SNR=7.9						
HORN	Hornachuelos	3.79	70	P	Pn	00 36 52.9	-2.3
HORN				S	Sn	00 37 36.2	-2.5
EMIJ	Mijas	4.02	90	P	Pn	00 36 59.3	+0.8
	comp=N,0.1nm,0.1s,SNR=7.9						
EMIJ				S	Sn	00 37 44.5	-0.1
	comp=N,2.5nm,0.3s,SNR=7.9						
MTE	Manteigas	4.12	24	eP	Pn	00 37 00.6	+0.8
MTE				eS	Sn	00 37 45.1	-1.9
MTE				A	A	00 37 49.7	
	comp=N,4.0nm,0.4s						
MTE	Manteigas	4.12	24	P	Pn	00 37 00.6	+0.8
MTE				S	Sn	00 37 45.1	-1.9
	comp=N,2.0nm,0.4s						
PVIS	Viseu	4.31	19	eP	Pn	00 37 03.5	+1.2
PVIS				eS	Sn	00 37 49.9	-1.6
PVIS				A	A	00 37 52.3	
	comp=N,3.9nm,0.2s						
PVIS	Viseu	4.31	19	P	Pn	00 37 03.5	+1.2
PVIS				S	Sn	00 37 49.9	-1.6
	comp=N,1.9nm,0.2s						
EADA	Adamuz	4.40	68	P	Pn	00 37 04.7	+1.1
	comp=N,0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	00 37 50.8	-3.0
	comp=N,2.9nm,0.1s,SNR=7.9						
EPLA	Plasencia	4.47	39	P	Pn	00 37 05.5	+1.0
	comp=N,0.4nm,0.1s,SNR=7.9						
EPLA				S	Sn	00 37 54.5	-1.0
	comp=N,2.1nm,0.1s,SNR=7.9						
EGOR	Sierra Gorda,	4.56	83	S	Sn	00 37 57.3	-0.7
	comp=N,2.5nm,0.3s,SNR=7.9						
PVRL	Vila Real	4.88	19	eS	Sn	00 38 02.4	-3.2
PVRL				A	A	00 38 06.8	
	comp=N,5.6nm,0.3s						
PVRL	Vila Real	4.88	19	S	Sn	00 38 02.4	-3.2
	comp=N,2.8nm,0.3s						
IFR	Ifrane	4.93	128	⇑eP	Pn	00 37 09.4	-1.7
IFR				eS	Sn	00 37 59.9	-7.4
ELGU	Los Guajares,	4.94	86	S	Sn	00 38 07.1	-0.1
	comp=N,2.5nm,0.2s,SNR=7.9						
POLO	Lamas de Olo	4.95	18	eP	Pn	00 37 12.3	+1.1
POLO				eS	Sn	00 38 04.7	-2.8
POLO				A	A	00 38 09.5	
	comp=N,0.8nm,0.3s						
POLO	Lamas de Olo	4.95	18	P	Pn	00 37 12.3	+1.1
POLO				S	Sn	00 38 04.7	-2.8
	comp=N,0.8nm,0.3s						
MVO	Moncorvo	4.98	25	⇑eP	Pn	00 37 12.3	+0.7
MVO				eS	Sn	00 38 05.8	-2.3
MVO				A	A	00 38 09.6	
	comp=N,3.1nm,0.2s						
MVO	Moncorvo	4.98	25	P	Pn	00 37 12.3	+0.7
	comp=N,2.0nm,0.1s,SNR=7.9						
MVO				S	Sn	00 38 06.2	-1.9
	comp=N,3.7nm,0.1s,SNR=7.9						
EQUE	Quentar	5.10	82	S	Sn	00 38 10.8	-0.4
	comp=N,1.7nm,0.3s,SNR=7.9						
PAB	San Pablo	5.16	54	P	Pn	00 37 15.2	+1.2
	comp=N,0.3nm,0.1s,SNR=7.9						
PAB				S	Sn	00 38 10.1	-2.4
	comp=N,0.7nm,0.1s,SNR=7.9						
PCAB	Cabril	5.22	15	eP	Pn	00 37 15.6	+0.7
PCAB				eS	Sn	00 38 11.4	-2.6
PCAB				A	A	00 38 18.3	
	comp=N,3.3nm,0.5s						
PCAB	Cabril	5.22	15	P	Pn	00 37 15.6	+0.7
PCAB				S	Sn	00 38 11.4	-2.6
	comp=N,1.7nm,0.5s						
ELOB	Lobios	5.37	14	P	Pn	00 37 17.7	+0.8
	comp=N,0.6nm,0.2s,SNR=7.9						
ELOB				S	Sn	00 38 14.1	-3.6
	comp=N,2.3nm,0.1s,SNR=7.9						
GORA	Gorafe	5.44	79	S	Sn	00 38 19.5	-0.1
	comp=N,1.9nm,0.1s,SNR=7.9						
EQES	Quesada	5.47	76	P	Pn	00 37 19.3	+1.0
	comp=N,0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	00 38 19.0	-1.2
	comp=N,1.8nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	5.48	55	P	Pn	00 37 19.3	+0.9
	comp=N,1.7nm,0.1s,baz=240,slow=13,SNR=19						
ESDC				S	Sn	00 38 18.9	-1.4
	comp=N,0.6nm,0.2s,baz=241,slow=24,SNR=21						
PBRG	Braganca	5.65	24	eS	Sn	00 38 23.4	-1.2
PBRG	Braganca	5.65	24	S	Sn	00 38 23.4	-1.2
OUK	Oukaimeden	5.67	163	P	Pn	00 37 19.1	-2.2
OUK				S	Sn	00 38 19.3	-6.2
MDT	Midelt	5.73	131	P	Pn	00 37 19.3	-2.6
MDT				S	Sn	00 38 19.7	-7.0
ECAL	Calabor	5.77	23	P	Pn	00 37 23.4	+0.9
	comp=N,0.6nm,0.1s,SNR=7.9						
ECAL				S	Sn	00 38 25.8	-1.9
	comp=N,2.4nm,0.2s,SNR=7.9						
SESP	Santiago Espad	5.94	74	P	Pn	00 37 25.9	+1.1
	comp=N,0.2nm,0.1s,SNR=7.9						
SESP				S	Sn	00 38 29.8	-2.0
	comp=N,3.7nm,0.1s,SNR=7.9						
TTIG	Tnine Tigouga,	6.20	169	P	Pn	00 37 24.0	-4.5
TTIG				S	Sn	00 38 35.5	-2.8
OUZM	OUZ	6.26	156	P	Pn	00 37 27.4	-1.9
OUZM				S	Sn	00 38 33.8	-6.1
EAGO	Agolada(Pontev	6.27	11	P	Pn	00 37 29.5	+0.3
	comp=N,0.6nm,0.1s,SNR=7.9						
EAGO				S	Sn	00 38 35.7	-4.1
	comp=N,1.3nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	6.31	5	P	Pn	00 37 29.7	0.0
	comp=N,1.6nm,0.1s,SNR=7.9						
EMAZ				S	Sn	00 38 36.1	-4.8
	comp=N,1.9nm,0.2s,SNR=7.9						
ETOB	Tobarra	6.82	71	P	Pn	00 37 37.8	+0.9
	comp=N,0.2nm,0.2s,SNR=7.9						
ETOB				S	Sn	00 38 49.2	-4.3
	comp=N,0.9nm,0.1s,SNR=7.9						
TZRR	Tazzarine	6.83	148	P	Pn	00 37 34.7	-2.3
TZRR				S	Sn	00 38 47.9	-5.8
ETOR	Torete	7.32	53	P	Pn	00 37 45.0	+1.3
	comp=N,0.6nm,0.2s,SNR=7.9						
ETOR				S	Sn	00 39 02.5	-3.3
	comp=N,4.9nm,0.4s,SNR=7.9						
ZGR	Zagora	7.39	151	P	Pn	00 37 41.7	-3.1
ZGR				S	Sn	00 39 01.1	-6.5

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*ISCJB **05** 00:53:40.8±0.8, 11.°56S±0.°09×166.°38E±0.°08, h100km, mb4.2/4, Error ellipse: s-maj=12.4km s-min=10.7km az=2.5*

*NEIC **05** 00:53:43.8±1.4, 11.°6S±0.°1×166.°5E±0.°1, h116km±11km, mb4.3/10*

*IDC **05** 00:53:49.2±11.0, 11.°78S×166.°45E, h169km±88km, mb3.8/4, mb1 4.0/5, mb1mx3.5/41, mbtmp4.3/5, MS4.8/1, Ms1 4.8/1, ms1mx2.9/30, Error ellipse: s-maj=123.8km s-min=63.2km az=52.0*

ISC 05 00:53:42.5±1.0, 11.°5S±0.°1×166.°39E±0.°10, h100km, n18, σ1.°23/19, mb4.3/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.47	180	P	Pn	00 56 11.8	+2.2
	1.0nm,0.3s,baz=140,slow=22,SNR=12						
DZM				S	Sn	00 58 06.8	+1.7
	0.5nm,0.3s,baz=139,slow=19,SNR=5.3						
DZM	Mont Dzumac	10.47	180		Pn	00 56 09.7	0.0
DZM					Sn	00 58 03.2	-1.9
FUNA	Funafuti	12.97	78	Pn	Pn	00 56 44.2	+1.2
EIDS	Eidsvold	19.97	224	P	Pn	00 58 09.6	+0.1
CTA	Charters Tower	21.13	244	P	P	00 58 20.7	+1.3
	4.3nm,0.7s,baz=77,slow=12,SNR=7.2						
AFI	Afiamalu	21.43	99	P	P	00 58 21.1	-1.7
BKZ	Black Stump Fm	28.94	164	P	P	00 59 31.3	-1.0
BKZ				IAmb	IAmb	00 59 44.2	
	comp=Z,17nm,1.3s						
STKA	Stephens Creek	30.52	225	P	P	00 59 46.4	+0.1
	comp=Z,2.8nm,0.7s,baz=44,slow=8.2,SNR=4.8						
STKA	Stephens Creek	30.52	225	P	P	00 59 44.0	-2.3
LTZ	Lake Taylor	31.54	172	P	P	00 59 55.0	-0.3
WB0	Warramunga Arr	31.83	251	P	P	00 59 57.7	-0.3
WB2	Warramunga Arr	31.90	251	P	P	00 59 58.6	0.0
WB2				IAmb	IAmb	00 59 59.3	
	comp=Z,11nm,1.1s						
WRA	Warramunga Arr	31.91	251	P	P	00 59 58.3	-0.4
	comp=Z,6.1nm,0.9s,baz=86,slow=9.0,SNR=31						
AS31	Alice Springs	33.13	244	P	P	01 00 09.3	-0.1
AS31				IAmb	IAmb	01 00 10.1	
	comp=Z,1.4nm,0.8s						
ASAR	Alice Springs	33.14	244	P	P	01 00 08.9	-0.5
	comp=Z,4.6nm,0.7s,baz=74,slow=9.6,SNR=44						
BBOO	Buckleboo	34.95	228	P	P	01 00 24.8	-0.2
FITZ	Fitzroy Crossi	39.86	256	P	P	01 01 07.1	+0.4
TGY	Tagaytay City	51.76	298	LR	LR	01 26 32.5	
	comp=Z,792nm,18.1s,baz=226,slow=38						

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*IDC **05** 01:07:22.7±0.8, 3.°37N×126.°47E, h0km, mb4.0/11, mb1 4.0/12, mb1mx3.9/50, mbtmp4.0/12, ML4.2/1, MS3.5/3, Ms1 3.5/3, ms1mx2.8/32, Error ellipse: s-maj=53.9km s-min=14.6km az=70.0*

ISCJB ***05*** *01:07:27.3±0.4, 3°.30N±0°.05×126°.67E±0°.08, h53km, mb4.1/12, MS4.2/1, Error ellipse: s-maj=13.1km s-min=5.0km az=154.8*

NEIC ***05*** *01:07:27.3±1.3, 3°.33N±0°.08×126°.58E±0°.09, h35km±6km, mb4.5/15*

DJA ***05*** *01:07:31.2±1.5, 3°N±15°×12°7E±°, h51km±15km, M4.2/6, mb4.5/6, mB4.5/1, MLv4.0/5, Mw(mB)3.7/1, Mwp6.1/1*

ISC 05 01:07:29.2±0.6**, 3°.28N**±0°.06**×126°.6E**±0°.1**, h53km, n35, σ0^{s}94**/34**, mb4.3**/20**, 1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	2.60	164	Pn	Pn	01 08 08.2	-0.5
TNTI				Sn	Sn	01 08 37.9	-1.2
KCP	Kidapawan	4.01	337	⇓P	Pn	01 08 28.7	+0.5
KCP				S	Sn	01 09 22.8	+8.8
LUWI	Luwuk	5.78	222	Pn	Pn	01 08 49.8	-2.6
SIJI	Sorong	6.20	132	Pn	Pn	01 08 57.6	-0.5
	5.8nm,0.3s,baz=316,slow=9.1,SNR=7.2						
SIJI				Sn	Sn	01 10 08.1	+0.4
	1.6nm,0.3s,baz=6.4,slow=23,SNR=4.2						
SIJI				LR	LR	01 11 50.7	
	comp=Z,240nm,19.4s,baz=353,slow=42						
FAKI	Fak Fak	8.33	138	Pn	Pn	01 09 26.3	-1.1
JAY	Jayapura	15.19	112	LR	LR	01 16 45.2	
	comp=Z,98nm,18.1s,baz=160,slow=37						
KNRA	Kununurra	18.95	174	P	P	01 11 46.3	+0.2
KNRA				IAmb	IAmb	01 12 02.9	
	comp=Z,11nm,0.8s						
FITZ	Fitzroy Crossi	21.27	183	P	P	01 12 13.3	+2.1
	comp=Z,1.1nm,0.4s,baz=353,slow=12,SNR=10						
FITZ	Fitzroy Crossi	21.27	183	P	P	01 12 11.7	+0.5
LWLI	Liwa	24.02	250	P	P	01 12 31.1	-8.4
WB0	Warramunga Arr	24.14	162	P	P	01 12 40.8	+0.4
WB0				IAmb	IAmb	01 12 43.4	
	comp=Z,14nm,0.6s						
WRAB	Tennant Creek	24.28	162	P	P	01 12 42.3	+0.6
WRAB				IAmb	IAmb	01 12 48.2	
	comp=Z,12nm,0.8s						
WB2	Warramunga Arr	24.29	162	P	P	01 12 42.0	+0.2
WB2				IAmb	IAmb	01 12 44.9	
	comp=Z,9.9nm,0.7s						
AS31	Alice Springs	27.70	166	P	P	01 13 13.6	+0.9
ASAR	Alice Springs	27.70	166	P	P	01 13 13.7	+1.0
	comp=Z,0.8nm,0.4s,baz=342,slow=7.2,SNR=12						
PATS	Pohnpei	31.74	82	P	P	01 13 48.4	-0.1
BBOO	Buckleboo	36.99	167	P	P	01 14 35.0	+1.3
BBOO				IAmb	IAmb	01 14 36.9	
	comp=Z,10nm,0.9s						
STKA	Stephens Creek	37.74	159	P	P	01 14 41.1	+1.0
	comp=Z,10nm,0.9s,baz=334,slow=8.9,SNR=12						
STKA	Stephens Creek	37.74	159	P	P	01 14 39.9	-0.2
ARMA	Armidale	41.14	146	P	P	01 15 09.5	+1.0
ARMA				IAmb	IAmb	01 15 13.0	
	comp=Z,6.4nm,1.1s						
ERM	Erimo	41.31	19	P	P	01 15 08.6	-1.0
KLR	Kul'dur	45.99	5	P	P	01 15 48.1	+1.0
	comp=Z,0.6nm,0.4s,baz=146,slow=18,SNR=3.0						
SONM	Songino Array	47.69	342	P	P	01 16 00.2	-0.4
	comp=Z,1.0nm,0.7s,baz=160,slow=7.4,SNR=8.6						
MK31	Makanchi Array	57.87	325	P	P	01 17 15.0	-0.6
MK31				IAmb	IAmb	01 17 19.4	
	comp=Z,2.3nm,0.9s						
MKAR	Makanchi Array	57.87	325	P	P	01 17 15.3	-0.3
	comp=Z,0.6nm,0.3s,baz=126,slow=7.9,SNR=13						
TARG	Taragay, Kyrgy	58.02	318	P	P	01 17 17.2	0.0
TARG				IAmb	IAmb	01 17 19.7	
	comp=Z,2.2nm,0.8s						
ZALV	Zalesovo Beam	60.95	333	P	P	01 17 35.8	-0.9
	comp=Z,0.4nm,0.4s,baz=106,slow=4.7,SNR=2.3						
KURK	Kurchatov	62.07	328	P	P	01 17 44.6	+0.3
KURK				IAmb	IAmb	01 17 46.9	
	comp=Z,3.7nm,0.6s						
BVAR	Borovoye Array	67.64	327	P	P	01 18 20.1	-0.5
	comp=Z,0.8nm,0.7s,baz=107,slow=4.8,SNR=3.4						
NRIK	Noril'sk	70.84	346	P	P	01 18 40.5	+0.5
	comp=Z,1.9nm,0.4s,baz=147,slow=6.7,SNR=3.7						
AKTO	Aktyubinsk	73.95	322	P	P	01 18 58.7	-0.3
	comp=Z,1.1nm,0.6s,baz=98,slow=8.6,SNR=4.9						
ARU	Arti	75.27	328	P	P	01 19 05.7	-0.7
	comp=Z,0.6nm,0.4s,baz=126,slow=7.9,SNR=3.9						
XMAS	Kiritimati	75.83	89	P	P	01 19 09.8	-0.7
ARCES	ARCESS Array B	90.84	340	P	P	01 20 27.4	+0.8
	comp=Z,13nm,1.2s,baz=83,slow=7.4,SNR=3.7						
AKASG	Malin Array Be	92.18	321	LR	LR	02 03 49.7	
	comp=Z,88nm,20.2s,baz=10.0,slow=37						

IDC ***05*** *01:13:17.2±0.8, 53°.65N×163°.67W, h0km, mb4.4/30, mb1 4.5/33, mb1mx4.4/49, mbtmp4.3/33, ML3.8/3, MS3.9/22, Ms1 3.9/22, ms1mx3.8/38, Error ellipse: s-maj=21.5km s-min=10.8km az=178.0*

MOS ***05*** *01:13:17.7±1.6, 53°.33N×163°.38W, h33km, mb5.0/45, MS4.3/5, Error ellipse: s-maj=13.2km s-min=6.5km az=95.3*

ISCJB ***05*** *01:13:18.0±0.9, 53°.50N±0°.04×163°.38W±0°.03, h28km±6km, mb4.6/75, MS4.0/32, Error ellipse: s-maj=6.2km s-min=2.7km az=169.3*

BJI ***05*** *01:13:18.3±0.0, 53°.86N×164°.08W, h15km, mb4.8/40, mB5.0/30, Ms4.7/16, Ms7 4.5/15*

NEIC ***05*** *01:13:20.1±1.6, 53°.49N±0°.03×163°.55W±0°.07, h46km±6km*

AEIC ***05*** *01:13:20.1±1.6, 53°.47N±0°.07×163°.55W±0°.08, h47km±6km, ML4.0, mb4.6/60(NEIC)*

GCMT ***05*** *01:13:22.1±0.4, 53°.40N±0°.03×163°.70W±0°.05, h22km±1km, MW4.9/79, Moment Tensor Solution. s26,c29; s79,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.33±.15; $M_{\theta\theta}$-1.06±.10; $M_{\phi\phi}$-0.27±.10; $M_{r\theta}$1.36±.19; $M_{\theta\phi}$-1.78±.10; $M_{\phi r}$-0.71±.19; Best double couple: $M_0$2.64500×10^{16} NP1:ϕ_s86.00000°, δ67.00000°, λ135.00000°. NP2: ϕ_s197.00000°, δ50.00000°, λ31.00000°. Principal axes: T 2.6890, Plg47.0000°, Azm44.0000°; N -0.0890, Plg41.0000°, Azm244.0000°; P -2.6010, Plg10.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 01:13:19.1±0.8**, 53°.44N**±0°.07×**163°.46W**±0°.04**, h25km**±4km**, n268, σ1^{s}84**/271**, mb4.7**/99**, MS4.0**/32**, 10C-4D, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WESN	West Dahl Nort	1.31	330		Pn	01 13 42.1	+0.4
WEBT	Westdahl Beart	1.38	327		Pn	01 13 42.9	+0.1
SSBA	Shishaldin	1.39	344		Pn	01 13 43.5	+0.6
SSBA					Sn	01 13 58.9	-1.6
FALS	False Pass	1.42	1		Pn	01 13 42.7	-0.5
FALS	False Pass	1.42	1		Sn	01 13 59.9	-1.1
AKSA	Akutan Strait	1.50	299		Pn	01 13 44.1	-0.2
AKUT	Akutan	1.54	298		Pn	01 13 44.6	-0.2
AKUT				Sn	Sn	01 14 01.8	-2.2
AKBBA	Akutan Broad B	1.61	295		Pn	01 13 45.7	-0.2
AKLV	Akutan Long Va	1.65	297		Pn	01 13 46.2	-0.2
AKMO	Akutan Morgan	1.65	294		Pn	01 13 46.3	-0.1
AKMO					Sn	01 14 04.8	-1.9
AKGG	Akutan Green G	1.68	298		Pn	01 13 46.9	0.0
AKRB	Akutan Reef Bi	1.69	295		Pn	01 13 47.0	-0.1
UNV	Unalaska Valle	1.86	284		Pn	01 13 48.6	-0.6
UNV	Unalaska Valle	1.86	284		Sn	01 14 10.7	-1.1
MTBL	Makushin Table	1.99	287		Pn	01 13 51.3	+0.2
MREP	Makushin Rep't	1.99	282		Pn	01 13 51.1	-0.1
MSW	Makushin Switc	2.03	285		Pn	01 13 51.4	-0.3
MSW					Sn	01 14 16.6	+0.4
MCIR	Makushin Cirqu	2.10	285		Pn	01 13 53.2	+0.5
SDPT	Sand Point	2.59	41		Pn	01 14 00.5	+1.2
SDPT				Sn	Sn	01 14 27.6	-2.2
CNBA	Chernabura Isl	2.66	57		Pn	01 14 01.2	+0.9
CNBA				Sn	Sn	01 14 29.1	-2.6
OKFG	Magazine Ridge	2.67	271		Pn	01 14 00.8	+0.4
OKTU	Okmok Mt. Tuli	2.74	271		Pn	01 14 01.9	+0.4
OKNC	Okmok New Cone	2.79	272		Pn	01 14 02.7	+0.6
OKSP	Okmok Steeple	2.90	268		Pn	01 14 03.7	0.0
NIKH	Nikolski High	3.28	264		Pn	01 14 08.6	-0.2
NIKH				Sn	Sn	01 14 45.0	-2.0
VNSS	Veniaminof 8	3.62	38		Pn	01 14 15.8	+2.0
ANNE	Aniakchak Nort	4.66	39		Pn	01 14 29.4	+1.7
SPIA	Saint Paul Isl	5.39	317		Pn	01 14 36.9	-0.9
SII	Sitkinak Islan	6.18	56		Pn	01 14 49.3	+0.6
OHAK	Old Harbor	6.93	53		Pn	01 14 58.8	0.0
OHAK				Sn	Sn	01 16 14.5	-2.2
KDAK	Kodiak Island	7.54	50	*i* P	Pn	01 15 07.1	-0.1
KDAK	Kodiak Island	7.54	50	Pn	Pn	01 15 07.3	+0.1
	2.4nm,0.3s,baz=183,slow=4.1,SNR=26						
KDAK				Sn	Sn	01 16 26.6	-5.0
	3.8nm,0.3s,baz=341,slow=23,SNR=9.2						
KDAK	Kodiak Island	7.54	50		Pn	01 15 06.4	-0.8
KDAK					Sn	01 16 31.2	-0.5
ADK	Adak	8.19	264	P	Pn	01 15 17.4	+1.2
ADK						01 16 46.1	
ADK	Adak	8.19	264	Pn	Pn	01 15 17.4	+1.2
ADK				Sn	Sn	01 16 46.1	-1.8
SVW2	Sparrevohn	8.78	26		Pn	01 15 24.9	+0.7
CNPM	China Poot	9.10	43	Pn	Pn	01 15 27.9	-0.7
CNPM				Sn	Sn	01 17 09.4	-0.6
SUA	Susitna One	10.54	35		Pn	01 15 48.4	-0.1
RC01	Rabbit Creek A	10.65	39		Pn	01 15 49.9	0.0
SKT	Skwentna	10.66	32		Pn	01 15 50.0	0.0
PPLA	Purkeypile	11.17	28		Pn	01 15 57.6	+0.5
KNK	Knik Glacier	11.34	39		Pn	01 15 58.5	-0.7
KNK				Sn	Sn	01 18 02.2	-2.8
HIN	Hinchinbrook I	11.57	46		Pn	01 16 02.2	-0.2
HIN					Sn	01 18 07.1	-3.5
EYAK	Cordova Ski Ar	11.97	46		Pn	01 16 07.0	-0.7
KTH	Kantishna Hill	12.04	28		Pn	01 16 08.6	-0.3
TRF	Thorofare Moun	12.14	29		Pn	01 16 10.7	+0.3
HMT	Hamilton	12.53	49		Pn	01 16 15.1	-0.5
RND	Reindeer	12.54	32	P	Pn	01 16 16.1	+0.3
RND	Reindeer	12.54	32		Pn	01 16 16.1	+0.3
CRQM	Cirque	13.21	48		Pn	01 16 25.4	+0.4
VRDI	Verde Repeater	13.28	46		Pn	01 16 26.2	+0.3
MLY	Manley	13.28	24		Pn	01 16 25.7	-0.1
TGL	Tana Glacier	13.35	49		Pn	01 16 27.2	+0.5
MCARA	McCarthy VSAT	13.53	46		Pn	01 16 29.5	+0.3
BALM	Baldy	13.68	48		Pn	01 16 30.9	-0.3
COLA	College	13.92	29	*i* P	Pn	01 16 36.7	+2.3
ILAR	Eielson Array	14.13	30	Pn	Pn	01 16 34.8	-2.5
	0.2nm,0.3s,baz=223,slow=12,SNR=11						
ILAR				LR	LR	01 22 36.5	
	comp=Z,1μm,18.4s,baz=234,slow=40						
DOT	Dot Lake	14.32	37		Pn	01 16 40.2	+0.3
COLD	Coldfoot	15.25	20		Pn	01 16 52.7	+0.3
SKAG	Skagway	16.59	57	P	Pn	01 17 10.3	+0.7
SKAG				IAmb	IAmb	01 17 26.6	
	comp=Z,38nm,1.0s						
BESE	Bessie Mountai	16.72	61	P	Pn	01 17 11.9	+0.5
JIS	Juneau Island	16.94	62	P	Pn	01 17 14.9	+0.8
EPYK	Eagle Plains	18.43	35	P	P	01 17 31.1	-1.2
EPYK				IAmb	IAmb	01 17 48.6	
	comp=Z,23nm,0.8s						
DLBC	Dease Lake	19.24	62	P	Pn	01 17 44.8	+2.4
	comp=Z,0.1nm,0.3s,baz=273,slow=3.6,SNR=3.4						
BILL	Bilibino	20.48	327	⇓*e*P	P	01 17 55.0	+0.5
BILL				*e*		01 18 12.5	
BILL				*e*S	S	01 21 42.7	+0.5
BILL				pmax	pmax		
	comp=Z,34nm,1.2s						
BILL				MLR	MLR		
	comp=Z,2μm,17.0s						
BILL	Bilibino	20.48	327		P	01 17 54.2	-0.3
BILL				IAmb	IAmb	01 18 00.3	
	comp=Z,29nm,1.1s						
INK	Inuvik	20.51	32	P	P	01 17 53.3	-1.5
INK				pmax	pmax		
	comp=Z,13nm,1.1s						
INK	Inuvik	20.51	32	P	P	01 17 54.4	-0.4
	comp=Z,4.3nm,0.6s,baz=242,slow=11,SNR=18						
INK				LR	LR	01 27 24.9	
	comp=Z,528nm,18.1s,baz=234,slow=42						
INK	Inuvik	20.51	32	P	P	01 17 53.3	-1.5
BBB	Bella Bella	21.27	79	LR	LR	01 24 37.1	
	comp=Z,94nm,20.4s,baz=302,slow=32						
PETK	Petropavlovsk-	23.04	285	P	P	01 18 22.8	+0.7
	comp=Z,4.4nm,0.4s,baz=82,slow=13,SNR=7.2						
SEY	Seymchan	24.65	310	*i* P	P	01 18 37.4	+0.2
MA2	Magadan	25.56	302	LR	LR	01 28 51.0	
	comp=Z,170nm,18.3s,baz=109,slow=37						
YKW3	Yellowknife Ar	26.80	51	P	P	01 18 54.2	-2.6
YKA	Yellowknife Ar	26.81	51	P	P	01 18 58.9	+2.1
	comp=Z,4.3nm,0.8s,baz=269,slow=7.9,SNR=46						
YKA				LR	LR	01 31 52.0	
	comp=Z,64nm,18.2s,baz=270,slow=42						
D05A	Enumclaw	26.91	86	P	P	01 18 56.6	-1.3
D05A				IAmb	IAmb	01 19 12.3	
	comp=Z,14nm,0.9s						
HAWA	Hanford	28.77	86	P	P	01 19 15.4	+0.9
HAWA				IAmb	IAmb	01 19 18.7	
	comp=Z,7.4nm,0.7s						
NEW	Newport	29.29	81	P	P	01 19 21.5	+2.3
	comp=Z,0.6nm,0.4s,baz=312,slow=6.5,SNR=3.6						
NEW				LR	LR	01 29 02.1	
	comp=Z,149nm,18.5s,baz=301,slow=32						
YBH	Yreka Blue Hor	29.47	97	LR	LR	01 28 40.3	
	comp=Z,192nm,18.4s,baz=305,slow=31						
G08A	Pilot Rock	29.68	88	P	P	01 19 23.6	+0.8
F10A	Beach Ranch, E	30.36	85	P	P	01 19 29.9	+1.2
MFID	Camas Ranch	32.59	88	P	P	01 19 49.4	+1.0
MFID				IAmb	IAmb	01 19 52.7	
	comp=Z,4.4nm,0.8s						
TIXI	Tiksi	33.69	328	P	P	01 19 57.1	-0.4
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TIXI	Tiksi	33.69	328	P	P	01 19 56.9	-0.6
	comp=Z,3.0nm,0.3s,baz=180,slow=24,SNR=9.6						
TIXI	Tiksi	33.69	328	P	P	01 19 57.1	-0.4
TIXI				IAmb	IAmb	01 19 59.0	
	comp=Z,7.4nm,0.9s						
NVAR	Mina Array Bea	34.17	98	P	P	01 20 06.1	+3.8
	comp=Z,1.1nm,0.7s,baz=300,slow=9.2,SNR=7.8						
NVAR				LR	LR	01 31 37.1	
	comp=Z,111nm,19.2s,baz=310,slow=32						
ELK	Elko	34.53	92	P	P	01 20 03.8	-1.6
ELK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ELK	Elko	34.53	92	P	P	01 20 03.8	-1.6
YHH	Holmes Hill	34.78	83	P	P	01 20 06.4	-1.3
GRNR	Gornyy	36.07	291	*e*P	P	01 20 10.2	-8.1
GRNR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GRNR				MLR	MLR		
	comp=Z,160nm,13.0s						
DUG	Dugway, Tooele	36.32	90	P	P	01 20 19.2	-1.5
DUG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DUG	Dugway, Tooele	36.32	90	P	P	01 20 19.2	-1.5
DUG				IAmb	IAmb	01 20 29.3	
	comp=Z,4.2nm,0.9s						
PDAR	Pinedale Array	36.71	85	P	P	01 20 26.4	+2.4
	comp=Z,0.6nm,0.7s,baz=302,slow=2.8,SNR=5.0						
PDAR				LR	LR	01 33 41.0	
	comp=Z,70nm,19.0s,baz=321,slow=33						
RDMU	Red Mountain	38.03	87	P	P	01 20 36.2	+0.9
Q16A	Castle Valley	38.11	91	P	P	01 20 34.5	-1.4
SRU	San Rafael Swe	38.38	90	P	P	01 20 36.4	-1.8
SRU				pmax	pmax		
	comp=Z,5.0nm,0.9s						
SRU	San Rafael Swe	38.38	90	P	P	01 20 36.4	-1.8
O20A	White River Ci	39.09	87	P	P	01 20 43.1	-1.1
O20A				IAmb	IAmb	01 20 59.0	
	comp=Z,8.2nm,1.0s						
KLR	Kul'dur	39.45	291	*d i*P	P	01 20 46.1	-0.7
KLR				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ZEA	Zeya	39.62	299	*e*P	P	01 20 46.8	-1.4
ZEA				pmax	pmax		
	comp=Z,14nm,1.2s						
ZEA				MLR	MLR		
	comp=E,500nm,16.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,16.0s						
ULM	Lac du Bonnet	40.46	66	P	P	01 20 56.2	+1.0
	comp=Z,2.1nm,0.6s,baz=328,slow=9.6,SNR=3.0						
ULM				LR	LR	01 37 48.6	
	comp=Z,161nm,19.3s,baz=296,slow=36						
H11N2	WAKE ISLAND Hy	40.65	226	T	T	02 04 34.7	
	baz=26,slow=76,SNR=50						
H11N3	WAKE ISLAND Hy	40.66	226	T	T	02 04 43.8	
	baz=26,slow=76,SNR=48						
H11N1	WAKE ISLAND Hy	40.67	226	T	T	02 04 35.8	
	baz=26,slow=76,SNR=60						
H11S1	WAKE ISLAND Hy	41.82	225	T	T	02 06 07.2	
	baz=25,slow=76,SNR=78						
H11S2	WAKE ISLAND Hy	41.84	225	T	T	02 06 07.3	
	baz=25,slow=76,SNR=77						
H11S3	WAKE ISLAND Hy	41.84	225	T	T	02 06 07.5	
	baz=25,slow=76,SNR=46						
USRK	Ussuriysk Ar.	42.13	284	P	P	01 21 07.6	-1.3
	comp=Z,0.4nm,0.5s,baz=90,slow=7.2,SNR=2.3						
USRK				LR	LR	01 39 04.4	
	comp=Z,112nm,19.6s,baz=34,slow=37						
SDCO	Great Sand Dun	42.26	88	P	P	01 21 09.1	-1.4
MJAR	Matsushiro Arr	43.28	271	P	P	01 21 18.7	+0.3
	comp=Z,4.5nm,0.8s,baz=291,slow=23,SNR=7.7						
MJAR				LR	LR	01 37 23.5	
	comp=Z,144nm,22.0s,baz=75,slow=34						
MAJO	Matsushiro	43.28	271	*i* P	P	01 21 19.4	+1.0
MAJO				pmax	pmax		
	comp=Z,29nm,1.3s						
MAJO	Matsushiro	43.28	271	P	P	01 21 15.3	-3.1
MAJO				IAmb	IAmb	01 21 21.1	
	comp=Z,25nm,1.1s						
MAT	Matsushiro	43.28	271	P	P	01 21 19.5	+1.1
MAT				*e*S	S	01 27 35.4	-8.7
MJB9	Matsu-Tunnel	43.28	271	P	P	01 21 18.2	-0.3
MJB9				IAmb	IAmb	01 21 21.1	
	comp=Z,25nm,1.1s						
ANMO	Albuquerque	43.57	91	LR	LR	01 37 04.8	
	comp=Z,128nm,19.2s,baz=309,slow=33						
BOD	Bodaibo	44.07	310	*e*P	P	01 21 22.2	-2.2
BOD				pmax	pmax		
	comp=Z,9.0nm,1.8s						
CN2	Changchun	46.13	288	*e*P	P	01 21 40.7	-0.3
NRIK	Noril'sk	47.15	333	P	P	01 21 48.8	+0.1
	comp=Z,12nm,1.0s,baz=57,slow=6.0,SNR=11						
NRIK				LR	LR	01 43 03.2	
	comp=Z,138nm,20.9s,baz=66,slow=38						
DAG	Danmarks Havn	48.15	10	⇑*i*P	P	01 21 56.4	+0.1
DAG				*i*		01 22 07.2	
DAG				pmax	pmax		
	comp=Z,9.0nm,0.9s						
DAG	Danmarks Havn	48.15	10	⇑*i*P	P	01 21 56.4	+0.1
	comp=Z,11nm,0.9s						
DAG				*i*		01 22 07.2	
SUMG	Summit	48.65	19	*i* P	P	01 22 02.0	+1.3
SUMG				*i*		01 22 13.3	
SUMG	Summit	48.65	19	*i* P	P	01 22 02.0	+1.3
SUMG				*i*		01 22 13.3	
SUMG	Summit	48.65	19	P	P	01 21 58.4	-2.3
KSRS	Korea Array	48.79	280	P	P	01 22 03.5	+1.8
	comp=Z,4.7nm,0.8s,baz=55,slow=7.6,SNR=11						
TX31	Lajitas Ar. Si	49.20	95	P	P	01 22 02.7	-2.4
TX32	Lajitas Array	49.20	95	P	P	01 22 02.7	-2.4
TXAR	Lajitas Array	49.20	95	P	P	01 22 07.9	+2.8
	comp=Z,1.3nm,0.6s,baz=302,slow=5.7,SNR=23						
SFJD	Kangerlussuaq	49.79	28	*i* P	P	01 22 10.5	+1.5
SFJD				*i*		01 22 22.2	
SFJD				pmax	pmax		
	comp=Z,29nm,1.0s						
SFJD	Kangerlussuaq	49.79	28	*i* P	P	01 22 10.5	+1.5
	comp=Z,29nm,1.0s						
SFJD				*i*		01 22 22.2	
SFJD	Kangerlussuaq	49.79	28	P	P	01 22 10.0	+1.0
	comp=Z,21nm,1.0s,baz=330,slow=6.5,SNR=4.8						
HDIL	Hopedale	49.96	73	P	P	01 22 08.7	-1.9
TLY	Talaya	52.54	308	*d i*P	P	01 22 30.7	+0.8
TLY				pmax	pmax		
	comp=Z,15nm,1.1s						
TLY	Talaya	52.54	308	P	P	01 22 27.6	-2.3
ULN	Ulaanbaatar	53.41	303	*ce*P	P	01 22 37.0	+0.5
ULN				pmax	pmax		
	comp=Z,18nm,1.0s						
ULN	Ulaanbaatar	53.41	303	P	P	01 22 34.1	-2.4
SONM	Songino Array	53.76	303	P	P	01 22 39.9	+0.9
	comp=Z,7.3nm,0.9s,baz=48,slow=7.1,SNR=40						
WVT	Waverly	53.80	76	P	P	01 22 36.6	-2.7
WVT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WVT	Waverly	53.80	76	P	P	01 22 36.6	-2.7
Q51A	Peebles	54.37	71	P	P	01 22 44.8	+1.4
HHC	Hu-ho-hao-te	55.82	294	P	P	01 22 55.3	+1.3
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
FPAL	Fort Paine	56.20	76	IAmb	IAmb	01 23 16.4	
	comp=Z,5.3nm,0.9s						
TKL	Tuckaleechee C	56.48	74	LR	LR	01 45 46.4	
	comp=Z,140nm,20.9s,baz=314,slow=34						
ARCES	ARCESS Array B	57.16	356	P	P	01 23 03.2	+0.1
	comp=Z,8.2nm,1.1s,baz=7.7,slow=7.6,SNR=7.4						
ZAA0	Zalesovo Array	58.97	320	P	P	01 23 13.2	-2.7
ZAA0				IAmb	IAmb	01 23 17.0	
	comp=Z,3.0nm,0.8s						
ZALV	Zalesovo Beam	58.97	320	P	P	01 23 16.2	+0.4
	comp=Z,1.0nm,0.3s,baz=39,slow=5.7,SNR=12						
ZALV				LR	LR	01 51 02.6	
	comp=Z,258nm,18.1s,baz=358,slow=39						
TMCR	Tamitsa	61.55	349	*e*P	P	01 23 33.8	+0.5
TMCR				pmax	pmax		
	comp=Z,19nm,1.0s						
XAN	Xi'an	62.15	290	P	P	01 23 38.6	+0.6
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,47nm,4.3s						
PRGR	Permogore	62.97	345	*e*P	P	01 23 43.0	+0.1
PRGR				pmax	pmax		
	comp=Z,17nm,1.0s						
GTA	Gaotai	63.10	300	⇑P	P	01 23 44.6	+0.3
GTA				pP	pP	01 23 52.8	+1.8
GTA				sP	pwP	01 23 56.8	+0.6
GTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,88nm,7.6s						
GTA				LR	LR		
	comp=Z,250nm,17.8s						
GTA				LR	LR		
	comp=Z,240nm,17.8s						
GTA				LR	LR		
	comp=Z,340nm,18.4s						
LZH	Lanzhou	63.44	295	*e*P	P	01 23 47.4	+0.7
LZH				pP	pP	01 23 55.3	+1.9
LZH				sP	pwP	01 23 59.0	+0.7
LZH				*e*PP	PP	01 26 07.6	+1.7
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,63nm,7.6s						
LZH				LR	LR		
	comp=Z,150nm,15.7s						
LZH				LR	LR		
	comp=Z,170nm,16.0s						
LZH				LR	LR		
	comp=Z,230nm,17.8s						
KURK	Kurchatov	63.87	321	*ce*P	P	01 23 49.8	+0.8
KURK				pmax	pmax		
	comp=Z,15nm,1.0s						
KURK	Kurchatov	63.87	321	P	P	01 23 46.4	-2.6
SVE	Sverdlovsk	64.33	335	⇑*e*P	P	01 23 53.1	+1.2
SVE				pmax	pmax		
	comp=Z,19nm,1.0s						
BVAR	Borovoye Array	64.82	327	P	P	01 23 56.3	+1.1
	comp=Z,7.8nm,0.8s,baz=45,slow=6.5,SNR=33						
BRVK	Borovoye	64.83	327	*ce*P	P	01 23 56.2	+0.9
BRVK				pmax	pmax		
	comp=Z,14nm,1.0s						
BRVK	Borovoye	64.83	327	P	P	01 23 53.4	-1.9
ARU	Arti	65.20	336	*d i*P	P	01 23 58.1	+0.5
ARU				S	S	01 32 41.7	+2.9
ARU				SS	SS	01 36 53.6	+3.2
ARU				pmax	pmax		
	comp=Z,24nm,1.1s						
ARU	Arti	65.20	336	P	P	01 23 58.2	+0.5
	comp=Z,1.3nm,0.4s,baz=22,slow=9.0,SNR=12						
ARU	Arti	65.20	336	P	P	01 23 55.3	-2.3
FINES	FINESS Array B	65.21	355	*i* P	P	01 23 58.0	+0.4
FINES				pmax	pmax		
	comp=Z,9.0nm,0.9s						
FINES	FINESS Array B	65.21	355	P	P	01 23 58.0	+0.4
	comp=Z,9.4nm,0.9s,baz=38,slow=9.6,SNR=10						
FINES				LR	LR	01 54 25.8	
	comp=Z,123nm,18.1s,baz=2.5,slow=38						
MKAR	Makanchi Array	65.58	317	P	P	01 24 00.3	0.0
	comp=Z,2.1nm,0.8s,baz=45,slow=7.2,SNR=17						
MKAR				LR	LR	01 54 03.7	
	comp=Z,162nm,19.2s,baz=34,slow=37						
WMQ	Urumqi	65.60	311	*e*P	P	01 24 03.3	+2.7
WMQ				pmax	pmax		
	comp=Z,96nm,5.5s						
WMQ				LR	LR		
	comp=Z,290nm,29.2s						
WMQ				LR	LR		

comp=Z,660nm,29.3s
WMQ LR LR
comp=Z,140nm,24.7s
NB2 NORSAR Subarra 65.79 3 P **P** **01 24 02.6 +1.2**
comp=Z,1.9nm,0.8s,baz=358,slow=6.9
NOA NORSAR Array B 65.79 3 P **P** **01 24 02.4 +1.0**
comp=Z,7.0nm,1.0s,baz=357,slow=6.6,SNR=7.2
NOA LR LR 01 54 10.6
comp=Z,71nm,18.5s,baz=10.0,slow=37
PMOR Pomariorio Ree 69.47 164 *e*T T 02 40 15.4
comp=Z,9.0nm,0.2s
OBN Obninsk 70.55 348 *ce*P **P** **01 24 31.8 +0.5**
OBN *e* 01 24 53.9
OBN pmax pmax
comp=Z,21nm,1.3s
OBN MLR MLR
comp=Z,112nm,14.0s
AKTO Aktyubinsk 70.77 333 P **P** **01 24 34.0 +1.3**
comp=Z,16nm,1.0s,baz=35,slow=5.7,SNR=39
ABKAR Akbulak array 71.30 332 P **P** **01 24 33.7 -2.3**
PPT Papeete 71.72 166 LR LR 01 47 48.4
comp=Z,88nm,19.9s,baz=358,slow=29
PPT2 Papeete2 71.75 166 *e*S **S** **01 34 02.2 +4.8**
comp=Z,61nm,27.0s
PPT2 Papeete2 71.75 166 *e*LR LR 01 46 33.0
comp=Z,128nm,22.2s,baz=349
AAK Ala-Archa 72.15 319 *ce*P **P** **01 24 42.5 +1.1**
AAK pmax pmax
comp=Z,21nm,1.7s
AAK Ala-Archa 72.15 319 P **P** **01 24 39.0 -2.3**
AAK IAmb IAmb 01 24 44.0
comp=Z,14nm,1.1s
NRN Naryn 72.56 317 P **P** **01 24 40.9 -3.2**
NRN pmax pmax
comp=Z,9.0nm,1.2s
NRN Naryn 72.56 317 P **P** **01 24 40.9 -3.2**
NRN IAmb IAmb 01 24 46.8
comp=Z,8.6nm,1.1s
LPSR Galich'ya Gora 72.68 346 *e*P **P** **01 24 41.7 -2.5**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
KK31 Karatay Array 73.27 322 P **P** **01 24 45.4 -2.5**
KK31 pmax pmax
comp=Z,7.0nm,1.0s
KK31 Karatay Array 73.27 322 P **P** **01 24 45.4 -2.5**
KK31 IAmb IAmb 01 24 50.4
comp=Z,6.8nm,1.0s
KKAR Karatay Array 73.27 322 P **P** **01 24 45.4 -2.5**
KKAR pmax pmax
comp=Z,7.0nm,1.0s
KKAR Karatay Array 73.27 322 P **P** **01 24 45.4 -2.5**
KKAR IAmb IAmb 01 24 50.4
comp=Z,6.8nm,1.0s
VRH Novokhopyorsk 73.60 344 *e*P **P** **01 24 46.7 -2.9**
VRH pmax pmax
comp=Z,20nm,1.7s
VSR Storozhevoye 74.00 345 *e*P **P** **01 24 50.7 -1.2**
VSR pmax pmax
comp=Z,20nm,1.5s
KSH Kashi 74.19 316 P **P** **01 24 57.8 +4.4**
KSH pP pwP 01 25 05.7 +0.2
KSH S **S** **01 34 29.5 +4.3**
KSH sS sS 01 34 42.9 +6.0
KSH SS **SS** **01 39 17.1 +7.5**
KSH pmax pmax
comp=Z,43nm,1.2s
KSH pmax pmax
comp=Z,170nm,5.3s
KSH LR LR
comp=Z,440nm,5.2s
KSH LR LR
comp=Z,430nm,5.7s
KSH LR LR
comp=Z,550nm,5.4s
VORD Divnogorie 74.22 345 *e*P **P** **01 24 51.7 -1.5**
VORD pmax pmax
comp=Z,10.0nm,1.2s
LSA Lhasa 75.11 300 P **P** **01 24 57.5 -1.9**
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA Lhasa 75.11 300 P **P** **01 24 57.5 -1.9**
LSA IAmb IAmb 01 25 02.2
comp=Z,8.2nm,0.8s
CLL Collm 75.58 2 *i* P **P** **01 25 02.3 +1.2**
CLL *e* 01 25 11.0
CLL pmax pmax
comp=Z,14nm,1.3s
CLL Collm 75.58 2 *i* P **P** **01 25 02.3 +1.2**
comp=Z,14nm,1.3s
CLL *ep*P **sP** **01 25 11.0 +0.1**
AKASG Malin Array Be 75.68 352 P **P** **01 25 01.6 -0.1**
comp=Z,1.3nm,0.4s,baz=10.0,slow=5.6,SNR=14
AKBB Malin Array Si 75.68 352 P **P** **01 24 58.6 -3.1**
AKBB pmax pmax
comp=Z,13nm,1.1s
AKBB Malin Array Si 75.68 352 P **P** **01 24 58.6 -3.1**
AKBB IAmb IAmb 01 25 13.8
comp=Z,13nm,1.1s
BTK Batken 75.78 320 P **P** **01 24 59.5 -3.1**
BTK pmax pmax
comp=Z,7.0nm,0.9s
BTK Batken 75.78 320 P **P** **01 24 59.5 -3.1**
BTK IAmb IAmb 01 25 08.3
comp=Z,7.0nm,0.9s
BRG Berggiesshubel 76.03 2 *e*P **P** **01 25 05.0 +1.4**
comp=Z,12nm,1.3s
BRG Berggiesshubel 76.03 2 *e*P **P** **01 25 05.1 +1.4**
BRG pmax pmax
comp=Z,12nm,1.3s
DPC Dobruska-Polom 76.58 0 *e*P **P** **01 25 08.2 +1.3**
DPC *e* 01 25 19.3
DPC Dobruska-Polom 76.58 0 *e*P **P** **01 25 08.2 +1.3**
DPC *ep*P **pwP** **01 25 19.3 +1.4**
GAR Garm 76.89 320 P **P** **01 25 05.8 -3.2**
GAR IAmb IAmb 01 25 14.7
comp=Z,9.1nm,0.8s
PRU Pruhonice 76.93 1 *e*P **P** **01 25 10.1 +1.3**
PRU Pruhonice 76.93 1 *e*P **P** **01 25 10.1 +1.3**
OKC Ostrava-Krasne 77.08 359 *e*P **P** **01 25 11.2 +1.5**
OKC Ostrava-Krasne 77.08 359 *e*P **P** **01 25 11.2 +1.5**
TBI Tubuai 77.43 167 *e*LR LR 01 49 10.5
comp=Z,155nm,27.2s
STHS Stebnicka Huta 77.44 357 *e*P **P** **01 25 13.2 +1.5**
STHS pmax pmax
comp=Z,17nm,0.9s
STHS Stebnicka Huta 77.44 357 *e*P **P** **01 25 13.2 +1.5**
LANS Liptovska Anna 77.75 358 *e*P **P** **01 25 16.1 +2.6**
LANS pmax pmax
comp=Z,5.0nm,1.1s
LANS Liptovska Anna 77.75 358 *e*P **P** **01 25 16.1 +2.6**
KHC Kasperske Hory 77.77 2 *e*P **P** **01 25 14.5 +0.9**
KHC *e* 01 25 22.5
KHC Kasperske Hory 77.77 2 *e*P **P** **01 25 14.5 +0.9**
KHC *ep*P **pP** **01 25 22.5 +1.8**
KOLS Kolonicke sedl 77.88 356 *e*P **P** **01 25 15.8 +1.6**
KOLS Kolonicke sedl 77.88 356 *e*P **P** **01 25 15.8 +1.6**
GEC2 GERESS Array S 78.06 2 P **P** **01 25 13.7 -1.6**
GEC2 IAmb IAmb 01 25 20.2
comp=Z,4.5nm,1.1s
GERES GERESS Array B 78.06 2 P **P** **01 25 16.6 +1.3**
comp=Z,3.0nm,1.0s,baz=5.7,slow=4.0,SNR=8.5
UZH Uzhgorod 78.19 356 *e*P **P** **01 25 15.8 0.0**
UZH *e* 01 25 26.3
BFO Black Forest 78.36 6 *i* P **P** **01 25 19.0 +2.1**
ECH Echery 78.41 6 P **P** **01 25 14.3 -2.8**
ECH pmax pmax
comp=Z,7.0nm,0.9s
ECH Echery 78.41 6 P **P** **01 25 14.3 -2.8**
ECH IAmb IAmb 01 25 30.4
comp=Z,6.5nm,0.9s
VYHS Vyhne 78.42 358 *e*P **P** **01 25 18.6 +1.4**
VYHS pmax pmax
comp=Z,18nm,1.4s
VYHS Vyhne 78.42 358 *e*P **P** **01 25 18.6 +1.4**
MODS Modra-Piesok 78.56 359 *e*P **P** **01 25 18.9 +1.0**
MODS pmax pmax
comp=Z,10.0nm,1.1s
MODS Modra-Piesok 78.56 359 *e*P **P** **01 25 18.9 +1.0**
TAPN Taplejung 78.79 301 *e*P **P** **01 25 20.1 +0.2**
CONA Conrad Observa 79.00 0 *i* PcP **P** **01 25 22.6 +2.1**
comp=Z,11nm,1.4s
BUR08 Bucovina Ar. S 79.02 354 IAmb IAmb 01 25 22.7
comp=Z,4.6nm,1.0s
MOA Molln 79.07 2 *i* PcP P 01 25 26.1 +5.4
comp=Z,9.0nm,1.3s
MOA *i* PcP P 01 25 26.1 +5.4
comp=Z,7.2nm,1.1s
GUN Gumba 79.26 303 *e*P **P** **01 25 23.7 +1.2**
comp=Z,89nm,1.1s
GOF Gofitskoye 79.29 341 ⇑ *i*P **P**
GOF pmax pmax
comp=Z,23nm,0.8s
JIRN Jiri 79.31 302 *e*P **P** **01 25 24.0 +1.2**
comp=Z,30nm,0.4s
ODAN Odare 79.35 301 *e*P **P** **01 25 23.7 +0.8**
MOTA Moosalm 79.48 4 *i* PcP **P** **01 25 25.2 +2.0**
comp=Z,14nm,1.1s,SNR=5.6
WATA Walderalm 79.51 3 *i* PcP **P** **01 25 23.7 +0.4**
comp=Z,9.3nm,1.1s
WTTA Wattenberg 79.58 3 *i* PcP **P** **01 25 25.6 +1.8**
comp=Z,11nm,1.0s
DZM Mont Dzumac 79.59 208 *e*LR LR 01 50 18.3
comp=Z,198nm,23.4s
SQTA Sankt Quirin 79.61 4 *i* PcP **P** **01 25 26.0 +2.2**
comp=Z,15nm,1.3s,SNR=7.2
KKN Kakani 79.66 303 *e*P **P** **01 25 25.6 +1.0**
ARSA Arzberg 79.68 1 *i* PcP **P** **01 25 26.6 +2.5**
comp=Z,8.6nm,1.4s
RAMN Ramite 79.68 301 *e*P **P** **01 25 25.7 +1.0**
comp=Z,37nm,0.9s
PKI Pulchoki 79.78 303 *e*P **P** **01 25 26.1 +0.8**
comp=Z,44nm,1.2s
PKIN Phulchoki 79.78 303 *e*P **P** **01 25 25.9 +0.6**
FETA Feichten 79.79 4 *i* PcP **P** **01 25 26.6 +1.7**
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 79.80 287 P **P** **01 25 26.1 +0.9**
comp=Z,3.0nm,0.9s,baz=14,slow=5.6,SNR=17
CMAR LR LR 02 02 22.9
comp=Z,69nm,20.5s,baz=10,slow=37
GKN Gorkha 79.81 304 *e*P **P** **01 25 26.2 +0.9**
comp=Z,33nm,0.8s
KBA Koelnbreinsper 79.82 2 *i* PcP **P** **01 25 28.1 +3.0**
comp=Z,18nm,1.1s
DMN Daman 79.90 303 *e*P **P** **01 25 27.0 +1.1**
DANN Dangsing 79.96 304 *e*P **P** **01 25 27.5 +1.2**
comp=Z,110nm,0.9s
ABTA Abfaltersbach 80.13 3 *i* PcP **P** **01 25 28.9 +2.3**
comp=Z,9.4nm,1.1s
FUORN Ofenpass-Fuorn 80.17 4 P **P** **01 25 23.6 -3.4**
FUORN IAmb IAmb 01 25 41.2
comp=Z,6.2nm,0.8s
SOKA Soboth 80.25 1 *i* PcP **P** **01 25 29.0 +1.8**
comp=Z,14nm,1.1s,SNR=7.2
MYKA Terra Mystica 80.27 2 *i* PcP **P** **01 25 29.5 +2.1**
comp=Z,4.5nm,0.9s
NIL Nilore 80.32 315 P **P** **01 25 25.4 -2.4**
NIL pmax pmax
comp=Z,19nm,1.0s
NIL Nilore 80.32 315 P **P** **01 25 25.4 -2.4**
OBKA Obir 80.41 1 *i* PcP **P** **01 25 29.8 +1.7**
comp=Z,13nm,0.9s,SNR=5.3
KIV Kislovodsk 80.42 341 *e*P **P** **01 25 29.6 +1.4**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,354nm,19.0s
KIV Kislovodsk 80.42 341 P **P** **01 25 25.9 -2.3**
KIV IAmb IAmb 01 25 42.3
comp=Z,11nm,1.0s
KOLN Koldanda 80.52 304 *e*P **P** **01 25 30.1 +0.9**
comp=Z,57nm,1.1s
KBZ Khabaz 80.60 341 P **P** **01 25 29.8 +0.8**
comp=Z,6.3nm,1.0s,baz=338,slow=3.1,SNR=8.2
ZEI Tsey 81.30 340 *e*P **P** **01 25 34.4 +1.3**
ZEI pmax pmax
comp=Z,11nm,1.1s
BNI Bardonecchia 81.52 7 P **P** **01 25 32.3 -1.8**
BNI pmax pmax
comp=Z,14nm,1.1s
BNI Bardonecchia 81.52 7 P **P** **01 25 32.3 -1.8**
BNI IAmb IAmb 01 25 50.2
comp=Z,14nm,1.1s
TBLG Delisi 82.14 339 P **P** **01 25 34.5 -2.8**
TBLG pmax pmax
comp=Z,30nm,1.1s
TBLG Delisi 82.14 339 P **P** **01 25 34.5 -2.8**
GEYT Alibeck 82.15 328 P **P** **01 25 38.1 +0.7**
comp=Z,1.4nm,0.4s,baz=298,slow=4.2,SNR=7.5
GEYT LR LR 02 07 19.8
comp=Z,138nm,18.2s,baz=45,slow=40
VTS Vitosha 84.14 355 IAmb IAmb 01 25 49.6
comp=Z,4.7nm,0.9s
ESDC Sonseca Array 85.58 16 P **P** **01 25 56.8 +1.8**
comp=Z,0.3nm,0.5s,baz=341,slow=4.3,SNR=3.5
BR131 Keskin Array S 86.04 347 P **P** **01 25 54.0 -3.4**
BR131 pmax pmax
comp=Z,16nm,1.2s
BR131 Keskin Array S 86.04 347 P **P** **01 25 54.0 -3.4**
BRTR Keskin Array B 86.04 347 P **P** **01 25 58.9 +1.5**
comp=Z,5.1nm,1.0s,baz=47,slow=2.8,SNR=15

IDC 05 01:24:27.2±3.7, 6.75S×152.94E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/32, mbtmp3.6/3, Error ellipse: s-maj=125.6km s-min=55.0km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.32**	**232**	P	P	01 29 25.4	-1.3
	0.5nm,0.8s,baz=56,slow=10,SNR=0.8						
ASAR	**Alice Springs**	**24.85**	**225**	P	P	01 29 50.7	-1.0
	0.8nm,0.6s,baz=57,slow=9.1,SNR=9.0						
FITZ	**Fitzroy Crossi**	**28.90**	**245**	P	P	01 30 30.0	+1.9
	0.7nm,0.3s,baz=53,slow=10,SNR=8.0						
TORD	**Torodi Ar. Bea**	**150.99**	**285**	PKPbc	PKPbc	01 44 22.7	-0.5
	0.2nm,0.6s,baz=105,slow=3.4,SNR=2.9						

*ISCJB **05** 01:24:51.5±0.5, 45.62N±0.03×26.48E±0.03, h118km±4km, Error ellipse: s-maj=4.4km s-min=3.3km az=156.3*
*BUC **05** 01:24:52.3±0.3, 45.62N×26.48E, h113km±2km, ml3.6/35, Error ellipse: s-maj=2.2km s-min=1.6km az=155.0*

ISC 05 01:24:51.0±1.3, 45.63N±0.03×26.47E±0.03, h126km±6km, n83, σ0 92/138, 80C-56D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.25**	**29**	⇑P	**Pn**	**01 25 08.6**	**+0.1**
PLOR				⇓S	**Sn**	**01 25 20.9**	**-0.9**
PLOR	**Plostina**	**0.25**	**29**	⇑P	**Pn**	**01 25 08.6**	**+0.1**
PLOR				⇓S	**Sn**	**01 25 20.9**	**-0.9**
PLOR				AML	AML	01 25 22.0	
VRI	**Vrincioaia**	**0.29**	**37**	⇑P	**Pn**	**01 25 09.0**	**+0.4**
VRI				⇑S	**Sn**	**01 25 21.4**	**-0.6**
VRI	**Vrincioaia**	**0.29**	**37**	⇑P	**Pn**	**01 25 09.0**	**+0.4**
VRI				⇑S	**Sn**	**01 25 21.4**	**-0.6**
VRI				AML	AML	01 25 22.6	
MLR	**Muntele Rosu**	**0.40**	**250**	⇑P	**Pn**	**01 25 09.7**	**+0.5**
MLR				⇑S	**Sn**	**01 25 22.7**	**-0.2**
MLR	**Muntele Rosu**	**0.40**	**250**	⇑P	**Pn**	**01 25 09.7**	**+0.5**
MLR				⇑S	**Sn**	**01 25 22.7**	**-0.2**
MLR				AML	AML	01 25 24.0	
GRER		**0.43**	**125**	⇓S	**Sn**	**01 25 23.1**	**+0.1**
GRER		**0.43**	**125**	⇓S	**Sn**	**01 25 23.1**	**+0.1**
GRER				AML	AML	01 25 25.9	
PETR	**Petresti**	**0.54**	**80**	⇑P	**Pn**	**01 25 10.8**	**+1.0**
PETR				⇑S	**Sn**	**01 25 24.2**	**+0.2**
PETR	**Petresti**	**0.54**	**80**	⇑P	**Pn**	**01 25 10.8**	**+1.0**
PETR				⇑S	**Sn**	**01 25 24.2**	**+0.2**
PETR				AML	AML	01 25 25.1	
SECR		**0.66**	**206**	⇑P	**Pn**	**01 25 11.6**	**+0.9**
SECR				⇑S	**Sn**	**01 25 25.5**	**0.0**
SECR		**0.66**	**206**	⇑P	**Pn**	**01 25 11.6**	**+0.9**
SECR				⇑S	**Sn**	**01 25 25.5**	**0.0**
OZUR		**0.67**	**314**	⇑P	**Pn**	**01 25 10.8**	**0.0**
OZUR				⇓S	**Sn**	**01 25 24.3**	**-1.5**
OZUR		**0.67**	**314**	⇑P	**Pn**	**01 25 10.8**	**0.0**
OZUR				⇓S	**Sn**	**01 25 24.3**	**-1.5**
OZUR				AML	AML	01 25 24.8	
DOPR	**Dopca**	**0.83**	**294**	⇓P	**Pn**	**01 25 12.3**	**+0.3**
DOPR				⇓S	**Sn**	**01 25 27.3**	**-0.7**
DOPR	**Dopca**	**0.83**	**294**	⇓P	**Pn**	**01 25 12.3**	**+0.3**
DOPR				AML	AML	01 25 13.6	
DOPR				⇑S	**Sn**	**01 25 27.3**	**-0.7**
TUDR		**0.84**	**92**	⇑P	**Pn**	**01 25 12.3**	**+0.3**
TUDR				⇓S	**Sn**	**01 25 27.4**	**-0.6**
TUDR		**0.84**	**92**	⇑P	**Pn**	**01 25 12.3**	**+0.3**
TUDR				⇓S	**Sn**	**01 25 27.4**	**-0.6**
TUDR				AML	AML	01 25 27.8	
TESR	**Tescani**	**0.89**	**8**	⇑P	**Pn**	**01 25 12.8**	**+0.3**
TESR				⇑S	**Sn**	**01 25 27.4**	**-1.4**
TESR	**Tescani**	**0.89**	**8**	⇑P	**Pn**	**01 25 12.8**	**+0.3**
TESR				⇑S	**Sn**	**01 25 27.4**	**-1.4**
TESR				AML	AML	01 25 28.2	
SLCR	**Slobozia Conac**	**0.91**	**92**	⇓P	**Pn**	**01 25 13.0**	**+0.3**
SLCR				⇑S	**Sn**	**01 25 28.0**	**-1.0**
SLCR	**Slobozia Conac**	**0.91**	**92**	⇓P	**Pn**	**01 25 13.0**	**+0.3**
SLCR				⇑S	**Sn**	**01 25 28.0**	**-1.0**
SLCR				AML	AML	01 25 30.0	
IZVR	**Izvoarele**	**0.91**	**95**	⇑P	**Pn**	**01 25 12.9**	**+0.2**
IZVR				⇑S	**Sn**	**01 25 27.8**	**-1.2**
IZVR	**Izvoarele**	**0.91**	**95**	⇑P	**Pn**	**01 25 12.9**	**+0.2**
IZVR				⇑S	**Sn**	**01 25 27.8**	**-1.2**
IZVR				AML	AML	01 25 28.0	
BRAG	**Branistea**	**0.97**	**101**	⇑P	**Pn**	**01 25 14.2**	**+1.0**
BRAG				⇓S	**Sn**	**01 25 28.7**	**-1.3**
BRAG	**Branistea**	**0.97**	**101**	⇑P	**Pn**	**01 25 14.2**	**+1.0**
BRAG				⇓S	**Sn**	**01 25 28.7**	**-1.3**
BRAG				AML	AML	01 25 30.7	
VOIR		**1.02**	**260**	⇑S	**Sn**	**01 25 29.6**	**-1.4**
VOIR		**1.02**	**260**	⇑S	**Sn**	**01 25 29.6**	**-1.4**
VOIR				AML	AML	01 25 32.5	
BIR	**Birlad**	**1.02**	**51**	⇑P	**Pn**	**01 25 14.6**	**+0.9**
BIR				⇑S	**Sn**	**01 25 30.0**	**-1.0**
BIR	**Birlad**	**1.02**	**51**	⇑P	**Pn**	**01 25 14.6**	**+0.9**
BIR				⇑S	**Sn**	**01 25 30.0**	**-1.0**
BIR				AML	AML	01 25 31.3	
GISR	**Galati**	**1.13**	**99**	⇑P	**Pn**	**01 25 15.8**	**+1.1**
GISR				⇓S	**Sn**	**01 25 32.6**	**-0.1**
GISR	**Galati**	**1.13**	**99**	⇑P	**Pn**	**01 25 15.8**	**+1.1**
GISR				⇓S	**Sn**	**01 25 32.6**	**-0.1**
GISR				AML	AML	01 25 33.1	
LEHL	**Lehliu**	**1.18**	**168**	⇓P	**Pn**	**01 25 16.7**	**+1.4**
LEHL				⇑S	**Sn**	**01 25 34.4**	**+0.6**
LEHL	**Lehliu**	**1.18**	**168**	⇓P	**Pn**	**01 25 16.7**	**+1.4**
LEHL				⇑S	**Sn**	**01 25 34.4**	**+0.6**
LEHL				AML	AML	01 25 34.8	
GIUM	**Giurgiulesti**	**1.23**	**96**	⇓P	**Pn**	**01 25 17.0**	**+1.2**
GIUM	**Giurgiulesti**	**1.23**	**96**	⇓P	**Pn**	**01 25 17.0**	**+1.2**
CFR	**Carcaliu**	**1.25**	**111**	⇓P	**Pn**	**01 25 16.7**	**+0.7**
CFR				⇓S	**Sn**	**01 25 34.1**	**-1.0**
CFR	**Carcaliu**	**1.25**	**111**	⇓P	**Pn**	**01 25 16.7**	**+0.7**
CFR				⇓S	**Sn**	**01 25 34.1**	**-1.0**
CFR				AML	AML	01 25 36.2	
ARR	**Arges**	**1.32**	**259**	⇑P	**Pn**	**01 25 18.0**	**+1.1**
ARR	**Arges**	**1.32**	**259**	⇑P	**Pn**	**01 25 18.0**	**+1.1**
ARR				AML	AML	01 25 37.8	
ARR				AML	AML	01 25 39.6	
GOLR		**1.33**	**234**	⇑P	**Pn**	**01 25 17.3**	**+0.4**
GOLR				⇓S	**Sn**	**01 25 37.3**	**+0.7**
GOLR		**1.33**	**234**	⇑P	**Pn**	**01 25 17.3**	**+0.4**
GOLR				⇓S	**Sn**	**01 25 37.3**	**+0.7**
GOLR				AML	AML	01 25 39.5	
BIZ	**Bicaz**	**1.33**	**349**	⇑P	**Pn**	**01 25 18.4**	**+1.5**
BIZ				⇑S	**Sn**	**01 25 37.5**	**+0.8**
BIZ	**Bicaz**	**1.33**	**349**	⇑P	**Pn**	**01 25 18.4**	**+1.5**
BIZ				⇑S	**Sn**	**01 25 37.5**	**+0.8**
SGRR	**Singureni**	**1.45**	**194**	⇑P	**Pn**	**01 25 19.2**	**+0.9**
SGRR				⇓S	**Sn**	**01 25 38.7**	**-0.2**
SGRR	**Singureni**	**1.45**	**194**	⇑P	**Pn**	**01 25 19.2**	**+0.9**
SGRR				⇓S	**Sn**	**01 25 38.7**	**-0.2**
SGRR				AML	AML	01 25 39.6	
LEOM	**Leova**	**1.50**	**55**	⇓P	**Pn**	**01 25 19.6**	**+0.9**
LEOM				⇑S	**Sn**	**01 25 39.6**	**-0.2**
LEOM	**Leova**	**1.50**	**55**	⇓P	**Pn**	**01 25 19.6**	**+0.9**
LEOM				⇑S	**Sn**	**01 25 39.6**	**-0.2**
RASA	**Rasa**	**1.50**	**161**	⇑S	**Sn**	**01 25 39.0**	**-0.8**
RASA	**Rasa**	**1.50**	**161**	⇑S	**Sn**	**01 25 39.0**	**-0.8**
RASA				AML	AML	01 25 45.3	
TLB	**Topalu**	**1.52**	**133**	⇓P	**Pn**	**01 25 19.9**	**+0.9**
TLB				⇑S	**Sn**	**01 25 39.3**	**-1.1**
TLB	**Topalu**	**1.52**	**133**	⇓P	**Pn**	**01 25 19.9**	**+0.9**
TLB				⇑S	**Sn**	**01 25 39.3**	**-1.1**
TLB				AML	AML	01 25 41.2	
HUMR	**Humele**	**1.53**	**224**	⇓P	**Pn**	**01 25 19.7**	**+0.6**
HUMR				⇓S	**Sn**	**01 25 40.1**	**-0.4**
HUMR	**Humele**	**1.53**	**224**	⇓P	**Pn**	**01 25 19.7**	**+0.6**
HUMR				⇓S	**Sn**	**01 25 40.1**	**-0.4**
HUMR				AML	AML	01 25 40.4	
MDB	**Medias**	**1.55**	**290**	⇓P	**Pn**	**01 25 20.7**	**+1.4**
MDB	**Medias**	**1.55**	**290**	⇓P	**Pn**	**01 25 20.7**	**+1.4**
MDB				AML	AML	01 25 54.3	
TLCR		**1.71**	**104**	⇑P	**Pn**	**01 25 22.2**	**+1.1**
TLCR				⇑S	**Sn**	**01 25 43.9**	**-0.2**
TLCR		**1.71**	**104**	⇑P	**Pn**	**01 25 22.2**	**+1.1**
TLCR				⇑S	**Sn**	**01 25 43.9**	**-0.2**
TLCR				AML	AML	01 25 45.6	
IAS	**Iasi**	**1.73**	**25**	⇓P	**Pn**	**01 25 22.1**	**+0.6**
IAS				⇓S	**Sn**	**01 25 43.8**	**-1.0**
IAS	**Iasi**	**1.73**	**25**	⇓P	**Pn**	**01 25 22.1**	**+0.6**
IAS				⇓S	**Sn**	**01 25 43.8**	**-1.0**
IAS				AML	AML	01 25 44.2	
COPA	**Copaceanca**	**1.74**	**211**	⇓P	**Pn**	**01 25 22.3**	**+0.7**
COPA				⇓S	**Sn**	**01 25 44.5**	**-0.4**
COPA	**Copaceanca**	**1.74**	**211**	⇓P	**Pn**	**01 25 22.3**	**+0.7**
COPA				⇓S	**Sn**	**01 25 44.5**	**-0.4**
COPA				AML	AML	01 25 45.0	
LOT	**Lotru**	**1.91**	**265**	⇑S	**Sn**	**01 25 48.9**	**+0.1**
LOT	**Lotru**	**1.91**	**265**	⇑S	**Sn**	**01 25 48.9**	**+0.1**
LOT				AML	AML	01 25 51.9	
MILM	**Milestii Mici**	**2.07**	**51**	⇓P	**Pn**	**01 25 26.3**	**+0.8**
MILM	**Milestii Mici**	**2.07**	**51**	⇓P	**Pn**	**01 25 26.3**	**+0.8**
MILM				AML	AML	01 26 22.0	
KIS	**Kishinev**	**2.12**	**49**	⇓P	**Pn**	**01 25 27.0**	**+0.8**
KIS	**Kishinev**	**2.12**	**49**	⇓P	**Pn**	**01 25 27.0**	**+0.8**
VLAD	**Vladila**	**2.20**	**223**	⇑P	**Pn**	**01 25 27.6**	**+0.4**
VLAD				⇑S	**Sn**	**01 25 53.8**	**-1.0**
VLAD	**Vladila**	**2.20**	**223**	⇑P	**Pn**	**01 25 27.6**	**+0.4**
VLAD				⇑S	**Sn**	**01 25 53.8**	**-1.0**
VLAD				AML	AML	01 25 54.0	
SRE	**Strehaia**	**2.51**	**248**	⇑P	**Pn**	**01 25 31.7**	**+0.6**
SRE	**Strehaia**	**2.51**	**248**	⇑P	**Pn**	**01 25 31.7**	**+0.6**
SRE				AML	AML	01 26 03.5	
PLVB	**Pleven**	**2.61**	**211**	⇓P	**Pn**	**01 25 33.0**	**+0.7**
PLVB	**Pleven**	**2.61**	**211**	⇓P	**Pn**	**01 25 33.0**	**+0.7**
PLVB				AML	AML	01 26 22.9	
GZR	**Gura Zlata**	**2.61**	**266**	⇑P	**Pn**	**01 25 33.4**	**+1.0**
GZR				⇓S	**Sn**	**01 25 56.0**	**+0.6**
GZR	**Gura Zlata**	**2.61**	**266**	⇑P	**Pn**	**01 25 33.4**	**+1.0**
GZR				⇓S	**Sn**	**01 26 05.0**	**+0.6**
GZR				AML	AML	01 26 10.2	
ELND	**Elena**	**2.73**	**189**	⇑P	**Pn**	**01 25 35.2**	**+1.1**
ELND	**Elena**	**2.73**	**189**	⇑P	**Pn**	**01 25 35.2**	**+1.1**
ELND				AML	AML	01 26 08.2	
SORM	**Soroca**	**2.82**	**27**	⇓P	**Pn**	**01 25 35.2**	**+0.2**
SORM	**Soroca**	**2.82**	**27**	⇓P	**Pn**	**01 25 35.2**	**+0.2**
MDVR	**Moldovita**	**3.47**	**258**	⇑P	**Pn**	**01 25 44.2**	**+0.6**
MDVR	**Moldovita**	**3.47**	**258**	⇑P	**Pn**	**01 25 44.2**	**+0.6**
MDVR				AML	AML	01 26 22.9	
STIP	**Stip**	**5.01**	**220**	*i* Pn	**Pn**	**01 26 02.9**	**-1.2**
STIP				*i* Sn	**Sn**	**01 26 56.8**	**-4.3**

*IDC **05** 01:29:18.1±0.7, 2.50N×128.33E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.9/33, mbtmp4.0/10, ML4.3/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/30, Error ellipse: s-maj=42.2km s-min=14.4km az=74.0*
*ISCJB **05** 01:29:20.7±0.4, 2.47N±0.04×128.35E±0.05, h33km, mb4.0/11, MS3.2/4, Error ellipse: s-maj=8.1km s-min=4.9km az=154.1*
*NEIC **05** 01:29:23.1±1.2, 2.43N±0.08×128.28E±0.07, h43km±10km, mb4.1/8*
*DJA **05** 01:29:27.8±1.0, 2.1N±13×12.8E±, h10km, M4.1/6, mb4.0/4, MLv4.2/6*

ISC 05 01:29:23.6±0.5, 2.36N±0.05×128.31E±0.08, h35km, n37, σ2 08/37, mb4.1/12, MS3.2/4, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.84**	**211**	P	**Pn**	**01 29 54.4**	**+1.6**
TNTI	**Ternate**	**1.84**	**211**		**Pn**	**01 29 53.2**	**+0.4**
TNTI				Sn	**Sn**	**01 30 16.4**	**+1.5**
SWI	**Sorong**	**4.35**	**137**	P	**Pn**	**01 30 28.8**	**+1.5**
SIJI	**Sorong**	**4.36**	**137**	Pn	**Pn**	**01 30 28.2**	**+0.7**
	14nm,0.3s,baz=279,slow=23,SNR=26						
SIJI				Sn	**Sn**	**01 31 18.7**	**+1.6**
	9.8nm,0.3s,baz=193,slow=23,SNR=6.2						

SIJI				LR	LR	01 32 07.7	
	comp=Z,602nm,21.4s,baz=218,slow=38						
SANI	Sanana	4.96	208	P	Pn	01 30 44.5	+8.8
KCP	Kidapawan	5.62	325	⇑P	Pn	01 30 45.1	+0.3
KCP				S	Sn	01 31 50.2	+1.9
FAKI	Fak Fak	6.56	143	Pn	Pn	01 30 57.3	-0.4
FAKI				Sn	Sn	01 32 12.3	+1.0
CGP	Cagayan de Oro	7.04	329	P	Sn	01 32 25.1	+1.9
SBUM	Sibu	16.08	271		Pn	01 33 05.5	-1.7
JAGI	Jajag, Banyuwa	17.75	233		Pn	01 33 26.9	-1.4
JAGI				IAmb	IAmb	01 33 46.0	
	comp=Z,20nm,0.9s						
KNRA	Kununurra	17.93	179		P	01 33 31.0	+0.3
KNRA				IAmb	IAmb	01 33 33.1	
	comp=Z,16nm,1.1s						
FITZ	Fitzroy Crossi	20.50	187	P	P	01 33 59.9	+1.1
	comp=Z,2.2nm,0.8s,baz=40,slow=13,SNR=2.7						
FITZ				LR	LR	01 42 32.3	
	comp=Z,75nm,20.4s,baz=8.5,slow=38						
FITZ	Fitzroy Crossi	20.50	187	P	P	01 33 58.7	-0.1
FITZ				IAmb	IAmb	01 34 14.5	
	comp=Z,8.1nm,1.1s						
CISI	Cisompet, Garu	22.70	244	P	P	01 34 20.2	-2.4
KLSI		24.58	253	P	P	01 34 49.5	+8.8
	comp=Z,6.0nm,1.4s						
MDSI	Maura Dua	25.05	254	P	P	01 34 53.7	+8.7
ASAR	Alice Springs	26.44	168	P	P	01 34 57.3	-0.1
	comp=Z,0.9nm,0.6s,baz=352,slow=7.5,SNR=9.2						
ASAR				PcP	PcP	01 38 20.7	-1.7
	comp=Z,0.4nm,0.7s,baz=354,slow=2.4,SNR=3.1						
ASAR				LR	LR	01 47 32.7	
	comp=Z,125nm,18.3s,baz=344,slow=41						
KSRS	Korea Array	34.92	359	P	P	01 36 09.9	-2.2
	comp=Z,3.6nm,0.9s,baz=179,slow=9.6,SNR=9.6						
KSRS				LR	LR	01 48 42.6	
	comp=Z,39nm,21.2s,baz=205,slow=34						
STKA	Stephens Creek	36.31	161	P	P	01 36 25.5	+1.4
	comp=Z,4.1nm,0.8s,baz=345,slow=10.0,SNR=5.1						
STKA				LR	LR	01 52 34.2	
	comp=Z,48nm,18.0s,baz=12,slow=38						
STKA	Stephens Creek	36.31	161	P	P	01 36 23.1	-1.0
XAN	Xi'an	36.35	332	P	P	01 36 22.4	-2.1
XAN				pP	PP	01 37 21.2	-26
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
H11S3	WAKE ISLAND Hy	40.87	64	T	T	02 20 07.4	
	baz=252,slow=75,SNR=101						
H11S2	WAKE ISLAND Hy	40.88	64	T	T	02 20 16.7	
	baz=252,slow=75,SNR=47						
H11S1	WAKE ISLAND Hy	40.88	64	T	T	02 20 08.7	
	baz=252,slow=75,SNR=44						
H11N1	WAKE ISLAND Hy	41.45	63	T	T	02 20 49.9	
	baz=250,slow=75,SNR=57						
H11N2	WAKE ISLAND Hy	41.46	63	T	T	02 20 50.9	
	baz=250,slow=75,SNR=17						
H11N3	WAKE ISLAND Hy	41.46	63	T	T	02 20 51.3	
	baz=250,slow=75,SNR=62						
USRK	Ussuriysk Ar.	41.79	4	P	P	01 37 08.1	-1.7
	comp=Z,4.1nm,0.8s,baz=176,slow=8.4,SNR=8.1						
GTA	Gaotai	45.08	329	eP	P	01 37 34.6	-2.0
GTA				pP	pP	01 37 42.3	-4.6
GTA				sP	sP	01 37 45.9	-5.2
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	Songino Array	49.10	341	P	P	01 38 08.0	+0.2
	comp=Z,0.7nm,0.6s,baz=168,slow=7.6,SNR=5.1						
MKAR	Makanchi Array	59.57	325	P	P	01 39 22.5	-1.4
	comp=Z,1.1nm,0.5s,baz=119,slow=8.9,SNR=13						
KSH	Kashi	60.12	315	P	P	01 39 31.2	+3.3
KSH				sP	pP	01 39 38.6	0.0
KSH				PP	PP	01 41 46.8	+6.0
KSH				ScP	ScP	01 44 15.7	+3.6
KSH				S	S	01 47 42.7	+3.6
KSH				sS	pS	01 47 50.8	-0.3
KSH				ScS	ScS	01 49 17.6	+1.4
KSH				pmax	pmax		
	comp=Z,260nm,4.4s						
KSH				LR	LR		
	comp=N,530nm,6.6s						
KSH				LR	LR		
	comp=E,430nm,7.2s						
KSH				LR	LR		
	comp=Z,820nm,9.7s						
ZALV	Zalesovo Beam	62.52	333	P	P	01 39 41.8	-1.9
	comp=Z,0.4nm,0.3s,baz=109,slow=7.8,SNR=3.7						
KURK	Kurchatov	63.74	327	P	P	01 39 49.7	-2.1
BRVK	Borovoye	69.39	327	P	P	01 40 24.9	-3.1
BRVK				IAmb	IAmb	01 40 31.5	
	comp=Z,2.6nm,1.0s						
ILAR	Eielson Array	85.65	25	P	P	01 41 58.0	-0.5
	comp=Z,0.2nm,0.5s,baz=272,slow=5.2,SNR=3.4						
TORD	Torodi Ar. Bea	124.84	288	PKP	PKiKP	01 48 22.2	+0.9
	comp=Z,0.5nm,0.8s,baz=129,slow=3.2,SNR=3.6						

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*ANF **05** 02:15:03.9±0.1,36°.12N×118°.06W,h6km±1km,ML3.2/28, ML3.2/28,Error ellipse: s-maj=1.2km s-min=0.9km az=117.0*
*PAS **05** 02:15:04.5±1.3,36°.139N±0°.006×118°.06W±0°.01, h0km±5km,ML3.2*
*NEIC **05** 02:15:04.5±1.3,36°.13N±0°.01×118°.06W±0°.01,h3km±5km*
*SCEDC **05** 02:15:04.5,36°.14N×118°.06W,h2km,ML3.2,ML3.2*
ISC 05 02:15:04.4±1.0,**36°.13N**±0°.01×**118°.06W**±0°.01,**h4**km±9km, **n106**,σ**0s.62**/154,**Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JRC2	Joshua Ridge	0.25	126		Pg	02 15 09.6	+0.4
JRC2					Sg	02 15 13.5	+0.9
CWC	Cottonwood Cre	0.31	357	P	Pg	02 15 10.2	-0.3
	baz=178						
CWC				S	Sg	02 15 14.3	-0.3
	baz=178						
CWC	Cottonwood Cre	0.31	357		Pg	02 15 10.2	-0.3
CWC					Sg	02 15 14.3	-0.3
DAC	Darwin (Calif)	0.40	68		Pb	02 15 14.6	+0.3
MPMC	Manual Prospec	0.47	99	P	Pg	02 15 13.5	+0.1
	baz=280,SNR=622						
MPMC				S	Sg	02 15 19.8	+0.3
	baz=280						
MPMC	Manual Prospec	0.47	99		Pg	02 15 13.5	+0.1
MPMC					Sg	02 15 20.2	+0.7
CGO	Cerro Gordo	0.47	26		Pg	02 15 13.4	-0.1
CGO					Sg	02 15 20.0	+0.4
CLC	China Lake	0.49	130		Pg	02 15 14.0	+0.2
CLC					Sg	02 15 20.7	+0.6
ISA	Isabella, Lake	0.58	216	P	Pg	02 15 15.5	0.0
	baz=35,SNR=80						
ISA				S	Sg	02 15 23.1	+0.1
	baz=35						
ISA	Isabella, Lake	0.58	216		Pg	02 15 15.4	0.0
ISA					Sg	02 15 23.2	+0.3
SPG2	Springville 2	0.58	277		Pg	02 15 15.2	-0.3
SPG2					Sg	02 15 23.0	0.0
WOFM	Oak Flat	0.80	222		Pg	02 15 19.6	-0.1
JFS	Joseph F. Stat	0.84	158		Pg	02 15 20.2	-0.3
DTP	Desert Tortois	0.88	169		Pg	02 15 21.1	-0.1
VES	Vestal, Richgr	0.88	251	P	Pg	02 15 21.2	-0.1
	baz=70,SNR=78						
VES				S	Sg	02 15 33.3	+0.6
	baz=70						
VES	Vestal, Richgr	0.88	251		Pg	02 15 21.3	-0.1
VES					Sg	02 15 33.4	+0.6
TIN	Tinemaha, Big	0.93	352	P	Pg	02 15 22.0	-0.3
	baz=172,SNR=40						
TIN				S	Sg	02 15 34.7	+0.3
	baz=172						
TIN	Tinemaha, Big	0.93	352		Pg	02 15 22.1	-0.3
TIN					Sg	02 15 34.9	+0.5
RCTC	Rector, Farmer	0.97	281		Pg	02 15 22.4	-0.7
FURC	Furnace Creek,	1.02	70	P	Pg	02 15 24.0	0.0
	baz=252,SNR=113						
FURC				S	Sg	02 15 37.6	+0.4
	baz=252						
FURC	Furnace Creek,	1.02	70		Pg	02 15 24.0	0.0
FURC					Sg	02 15 37.7	+0.4
GRAC	Grapevine Rang	1.03	33	P	Pg	02 15 23.8	-0.3
	baz=213,SNR=94						
GRAC				S	Sg	02 15 38.0	+0.5
	baz=213						
GRAC	Grapevine Rang	1.03	33		Pg	02 15 23.9	-0.3
TEJ	El Tejon	1.03	210		Pg	02 15 23.6	-0.6
TEJ					Sg	02 15 37.4	-0.2
VOG	Valley Oaks Go	1.09	280	P	Pg	02 15 24.7	-0.5
	baz=99,SNR=5.1						
VOG				S	Sg	02 15 39.4	0.0
	baz=99						
VOG	Valley Oaks Go	1.09	280		Pg	02 15 24.8	-0.5
VOG					Sg	02 15 39.5	+0.2
BAKC	Calstate	1.16	228		Sg	02 15 42.2	+0.6
ARVC	Arvin	1.18	212	P	Pg	02 15 26.8	-0.3
	baz=31						
ARVC				S	Sg	02 15 42.5	+0.1
	baz=31						
ARVC	Arvin	1.18	212		Pg	02 15 26.9	-0.2
ARVC					Sg	02 15 42.7	+0.3
TJR	Tejon Ranch	1.23	207		Pg	02 15 27.5	-0.5
TJR					Sg	02 15 43.8	-0.3
EDW2	Edwards Air Fo	1.25	178	P	Pg	02 15 27.5	-0.8
	baz=357,SNR=28						
EDW2				S	Sg	02 15 43.9	-0.6
	baz=357						
EDW2	Edwards Air Fo	1.25	178		Pg	02 15 27.6	-0.8
EDW2					Sg	02 15 43.9	-0.6
GSC	Goldstone, Bar	1.31	129	P	Pg	02 15 28.8	-0.7
	baz=310,SNR=130						
GSC				S	Sg	02 15 47.0	+0.5
	baz=310						
GSC	Goldstone, Bar	1.31	129		Pg	02 15 28.8	-0.7
GSC				Sg	Sg	02 15 46.9	+0.3
THC	Tehachapi Micr	1.31	202		Pg	02 15 28.8	-0.8
THC					Sg	02 15 46.3	-0.3
SBB	Saddle Back Bu	1.45	172		Pn	02 15 31.1	-0.5
SBB					Sb	02 15 50.3	-0.6
SHOC	Shoshone, Teco	1.46	99	P	Pn	02 15 30.6	-1.1
	baz=280,SNR=116						
SHOC	Shoshone, Teco	1.46	99		Pn	02 15 30.6	-1.1
BTPC	Burnt Peak	1.50	196		Pn	02 15 32.1	-0.2
LEOC	Leona Valley	1.51	188		Pn	02 15 31.8	-0.5
RRX	Edison Barstow	1.52	145	S	Sn	02 15 53.0	+0.2
	baz=326						
FRI	Friant	1.58	303		Pn	02 15 32.9	-0.4
LRRC	Littlerock Res	1.60	179		Pg	02 15 35.7	+0.7
OSI	Osito Audit: C	1.61	200	S	Sn	02 15 55.4	+0.5
	baz=19						
CRGC	Crocker Grade	1.62	237		Pn	02 15 34.5	+0.6
BCW	Bitter Crk WRg	1.62	223		Pb	02 15 34.8	-0.2
MLAC	Mammoth, Mammo	1.62	338	Pb	Pn	02 15 34.6	+0.5
	baz=157,SNR=13						
MLAC				S	Sb	02 15 55.8	-0.2
	baz=157						
MLAC	Mammoth, Mammo	1.62	338		Pn	02 15 34.3	+0.3
MLAC					Sg	02 15 56.3	-0.3
BENR	Benton	1.64	346		Pn	02 15 34.5	+0.3
OMMB	Old Mammoth Mi	1.66	333		Pn	02 15 35.0	+0.3
OMMB				Sn	Sn	02 15 56.1	-0.6
MCSM	Casa Diablo Ho	1.67	336		Pb	02 15 35.4	-0.5
CARC	Carrizo Plain	1.67	241		Pn	02 15 35.1	+0.6
TPNV	Topopah Spring	1.67	60	P	Pn	02 15 34.5	-0.1
	baz=242,SNR=97						
TPNV				Sb	Sg	02 15 58.0	-0.1
	baz=242						
TPNV	Topopah Spring	1.67	60		Pn	02 15 34.5	-0.1
TPNV				Sn	Sn	02 15 56.6	0.0
HOLC	Holcomb Ridge	1.68	174		Pn	02 15 35.4	+0.7
MDPB	Devils Postpil	1.71	332		Pn	02 15 35.8	+0.6
MDPB				Sn	Sn	02 15 56.8	-1.0
SMMC	Simmler	1.77	243	Pb	Pn	02 15 36.4	+0.4
	baz=62,SNR=8.4						
SMMC				Sb	Sb	02 16 00.8	+0.6
	baz=62						
PAGB	Antelope Grade	1.82	258		Pn	02 15 37.0	+0.4
MMIM	Miami Mountain	1.87	314		Pn	02 15 38.4	+1.0
TUQ	Turquoise Moun	1.87	111	P	Pn	02 15 36.4	-0.9
	baz=293,SNR=38						
TUQ	Turquoise Moun	1.87	111		Pb	02 15 39.8	+0.6
DECC	Green Verdugo	1.89	187	Sb	Sg	02 16 04.6	-0.4
	baz=6.6						
PKM	Mcpherson Peak	1.89	230	Pb	Pn	02 15 38.2	+0.5
	baz=48						
PKM				S	Sn	02 16 02.7	+0.6
	baz=48						
BCH	Branch Mountai	1.90	241		Pn	02 15 38.4	+0.7
MWC	Mount Wilson	1.90	180		Pn	02 15 37.8	0.0
MWC				Sn	Sn	02 16 02.8	+0.4
HEC	Hector,Ludlow	1.91	132	P	Pn	02 15 37.0	-0.9
	baz=313,SNR=12						
HEC				Sb	Sb	02 16 05.1	+0.9
	baz=313						
BFSC	Mount Baldy Ra	1.92	170	Pb	Pn	02 15 39.1	+1.1
	baz=350						
BFSC				Sb	Sb	02 16 05.4	+1.0
	baz=350						
PSMM	Smith Mountain	2.06	269		Pb	02 15 41.4	-0.9
PMPB	Monarch Peak	2.22	273		Pn	02 15 42.3	+0.2
PMPB				Sn	Sn	02 16 10.7	+0.6
NV11	Mina Array Sit	2.30	358		Pn	02 15 43.4	+0.1
NV11				Sn	Sn	02 16 11.3	-0.9
SHPR	Sheep Range	2.37	80		Pn	02 15 44.3	0.0
GMRC	Granite Mounta	2.37	124	P	Pn	02 15 42.8	-1.4
	baz=305,SNR=8.8						
GMRC	Granite Mounta	2.37	124		Pn	02 15 42.9	-1.4
BLDC	Black Mountain	2.39	256		Pn	02 15 44.9	+0.4
VPDC	Valencia Peak	2.46	250		Pn	02 15 46.4	+1.1
RYN	Ryan	2.52	352	Pn	Pn	02 15 46.6	+0.3
RYN					Pb	02 15 51.2	+0.8
TPC	Twentynine Pal	2.60	140		Pn	02 15 47.0	-0.4
WAKR	Walker	2.61	336	Pn	Pn	02 15 47.4	-0.2
MURC	Murrieta	2.62	164	P	Pn	02 15 46.8	-0.8
	baz=345						
MURC				Sb	Sb	02 16 26.0	+1.4
	baz=345						
CMB	Columbia Colle	2.66	316		Pn	02 15 48.7	+0.5
BELC	Belle Mtn. Jos	2.71	141	P	Pn	02 15 48.3	-0.7
	baz=322						
SAO	San Andreas Ge	2.81	284		Pn	02 15 49.8	-0.3
PFO	Pinyon Flats O	2.83	152	P	Pn	02 15 50.1	-0.5
	baz=333						
PFO	Pinyon Flats O	2.83	152	Pn	Pn	02 15 50.1	-0.5
PFO					Pg	02 15 58.1	-0.6
KVN	Kaiserville	2.92	359		Pn	02 15 52.0	+0.2
R11A	Troy Canyon, C	2.97	41	P	Pn	02 15 52.3	-0.2
	baz=222						
R11A	Troy Canyon, C	2.97	41	Pn	Pn	02 15 52.6	+0.1
R11A					Pg	02 16 00.7	-0.6
YERR	Yerington	3.00	342	Pn	Pn	02 15 53.0	+0.1
IRM	Iron Mountain	3.09	129	P	Pn	02 15 52.6	-1.5
	baz=310						
PNTR	Pine Nut	3.20	338	Pn	Pn	02 15 55.7	0.0
VCNR	Virginia City	3.40	339	Pg	Pb	02 16 07.2	+1.8
W13A	Hualapai Mount	3.55	106	Pn	Pn	02 16 00.1	-0.4
W13A					Pg	02 16 10.7	-1.8
AFDM	Forest Hills D	3.64	321	Pn	Pn	02 16 02.5	+0.9
AFDM					Pb	02 16 07.3	-2.1
PAHR	Pah Rah Range	3.72	344	Pn	Pn	02 16 03.1	+0.3
LCMT	Little Creek M	3.97	76	Pn	Pn	02 16 06.4	+0.1
CCUT	Cedar City	4.02	68	Pn	Pn	02 16 07.8	+0.8
PSUT	Pine Spring	4.12	53	Pn	Pn	02 16 08.7	+0.3
BEKR	Beckworth	4.15	335	Pn	Pn	02 16 08.7	-0.1
KNB	Kanab	4.31	77		Pn	02 16 11.3	+0.4
BMN	Battle Mountai	4.34	8	Pn	Pn	02 16 12.1	+0.7
U15A	North Rim	4.67	85		Pn	02 16 15.4	-0.5
Y14A	Wickenburg	4.69	116	Pn	Pn	02 16 14.9	-1.2
MTPU	Mount Pierson	5.07	66	Pn	Pn	02 16 21.3	-0.2
ELK	Elko	5.11	25		Pn	02 16 22.6	+0.6
MSU	Marysvale	5.25	61	Pn	Pn	02 16 23.8	-0.2
WUAZ	Wupatki	5.46	94	Pn	Pn	02 16 26.8	0.0

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*ISCJB **05** 02:54:59.5±0.4,40°.54N±0°.05×138°.06E±0°.07, h273km±6km,mb3.3/9,Error ellipse: s-maj=10.0km s-min=6.2km az=31.6*
*JMA **05** 02:54:59.6±0.2,40°.45N×138°.15E,h285km±2km,M3.5*
*IDC **05** 02:55:00.6±1.3,40°.54N×137°.83E,h266km±13km,mb3.1/9, mb1 3.3/14,mb1mx3.1/43,mbtmp3.8/14,Error ellipse: s-maj=22.3km s-min=15.5km az=1.0*
ISC 05 02:55:00.4±0.7,**40°.52N**±0°.06×**138°.08E**±0°.08,**h271**km±8km, **n33**,σ**1s.26**/42,**mb3.4**/9,**Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOG3	Oga3	0.97	128	P	Pn	02 55 40.6	+3.1
JIW	Iwasaki	1.47	87	P	Pn	02 55 40.8	+0.3
JIW				eS	S	02 56 13.0	+0.8
JNTW	Noshirotokiwa	1.61	98	P	Pn	02 55 41.8	+0.4
JOSM	Okushiri--Mats	1.88	33	P	Pn	02 55 44.7	+1.2
JAW	Awa shima	2.25	156	P	Pn	02 55 46.5	-0.4
JYK	Kaneyama	2.38	132	P	Pn	02 55 48.1	+0.1
JYK				eS	S	02 56 25.6	-0.2
JOT	Ohata	2.41	68	P	Pn	02 55 48.6	+0.4
JSD	Sado	2.48	177	P	Pn	02 55 48.5	-0.6
JKB	Kayabe	2.61	57	P	Pn	02 55 50.6	+0.4
JKB				eS	S	02 56 29.5	-0.2
JANG	Nango	2.62	92	P	Pn	02 55 50.2	-0.2
JANG				eS	S	02 56 29.6	-0.4
JOM	Ohasama	2.68	112	P	Pn	02 55 50.5	-0.4
JOM				eS	S	02 56 29.8	-1.2
JHG	Hegura jima	2.82	199	P	Pn	02 55 52.2	-0.2
JNS	Sasagawa	2.86	160	P	Pn	02 55 52.2	-0.7
JMK	Ichinoseki	2.88	122	P	Pn	02 55 52.5	-0.5
JMK				eS	S	02 56 32.8	-1.9
JSZ	Suzu	3.12	191	P	Pn	02 55 55.4	-0.1
JFT	Otama	3.47	149	P	Pn	02 55 59.2	-0.1
MJAR	Matsushiro Arr	3.97	179	P	Pn	02 56 04.8	-0.2
	0.8nm,0.3s,baz=353,slow=12,SNR=33						
JCH	Churui	4.48	60	P	Pn	02 56 10.7	+0.1
JCH				S	S	02 57 03.3	-3.4
JRY	Ryogami san	4.54	172	P	Pn	02 56 10.4	-1.2
ASAJ	Asahikawa	4.91	41	P	Pn	02 56 16.0	+0.3
	3.4nm,0.3s,baz=226,slow=12,SNR=9.3						
ASAJ				S	S	02 57 13.3	-2.6
	2.9nm,0.3s,baz=162,slow=20,SNR=17						
JTKR	Abashiri--Toko	5.53	50	P	Pn	02 56 22.9	-0.2
JTKR				S	S	02 57 27.4	-2.0
USRK	Ussuriysk Ar.	5.82	311	P	Pn	02 56 26.2	-0.5
	baz=117,slow=12,SNR=20						
KSRS	Korea Array	8.48	252	P	Pn	02 56 59.5	-0.4
	0.3nm,0.3s,baz=66,slow=12,SNR=11						
KLR	Kul'dur	9.80	335	P	Pn	02 57 14.9	-1.1
	0.4nm,0.3s,baz=142,slow=8.8,SNR=11						
SONM	Songino Array	23.75	299	P	P	02 59 48.2	-0.4
	0.7nm,0.4s,baz=97,slow=9.5,SNR=6.6						
MKAR	Makanchi Array	40.12	298	P	P	03 02 08.4	-1.7
	0.2nm,0.4s,baz=89,slow=11,SNR=3.4						
KURBB	Kurchatov Arra	41.84	305	P	P	03 02 23.1	-0.8
	1.1nm,0.3s,baz=82,slow=8.6,SNR=4.7						
ILAR	Eielson Array	48.00	34	P	P	03 03 13.9	+1.9
	0.2nm,0.6s,baz=275,slow=6.9,SNR=4.3						
FINES	FINESS Array B	64.51	330	P	P	03 05 07.8	-0.3
	0.8nm,0.3s,baz=37,slow=7.9,SNR=14						
AKASG	Malin Array Be	69.95	320	P	P	03 05 41.8	-0.6
	0.3nm,0.4s,baz=52,slow=6.1,SNR=4.6						
NOA	NORSAR Array B	69.95	336	P	P	03 05 42.3	0.0
	1.6nm,0.9s,baz=33,slow=5.3,SNR=2.5						
NVAR	Mina Array Bea	74.95	52	P	P	03 06 14.2	+1.9
	0.4nm,0.6s,baz=292,slow=7.3,SNR=3.0						
TXAR	Lajitas Array	89.98	50	P	P	03 07 31.5	+2.0
	0.1nm,0.5s,baz=336,slow=2.7,SNR=3.6						

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*IDC **05** 03:11:35.4±2.6,13°.45N×91°.87W,h0km,mb4.0/7, mb1 4.3/11,mb1mx3.9/48,mbtmp4.0/11,ML3.9/4,MS3.6/15, Ms1 3.6/15,ms1mx3.3/39,Error ellipse: s-maj=47.3km s-min=28.3km az=175.0*
*UCR **05** 03:11:37.5±1.8,13°.46N×91°.94W,h13km±26km,MD4.1, ML3.7,mb4.2(NEIC)*
*SNET **05** 03:11:37.0±1.3,13°.46N×92°.03W,h25km±15km,ML4.0*
*ISCJB **05** 03:11:37.2±0.5,13°.40N±0°.05×92°.06W±0°.03,h37km, mb4.1/9,MS3.6/12,Error ellipse: s-maj=7.5km s-min=3.5km az=24.1*
*NEIC **05** 03:11:39.1±1.2,13°.55N±0°.04×91°.98W±0°.04,h31km±4km, mb4.2/25,Md4.2(MEX)*
*GCG **05** 03:11:40.5±0.3,13°.49N×91°.68W,h8km±19km,MD4.5*
*MEX **05** 03:11:41.3±0.4,13°.74N×91°.68W,h19km±36km,MD4.2*
ISC 05 03:11:39.8±0.6,**13°.50N**±0°.06×**92°.05W**±0°.05,**h37**km,**n99**, σ**1s.72**/95,**mb4.1**/19,**MS3.6**/12,**Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERG	Entre ros, C	1.05	26	eP	Pn	03 11 58.0	0.0
STG3	Santiaguito 3,	1.29	21	eP	Pn	03 11 59.9	-1.6
THIG		1.42	352	eP	Pn	03 12 01.1	-2.0
THIG				i S	Sn	03 12 16.3	-4.1
THIG		1.42	352		Pn	03 12 01.1	-2.0
FUG	Fuego 3	1.51	51	eP	Pn	03 12 03.4	-1.0
FUG	Fuego 3	1.51	51	eP	Pn	03 12 03.4	-1.0
PCG	Pacaya	1.66	57	eP	Pn	03 12 07.2	+0.7
PCG	Pacaya	1.66	57	eP	Pn	03 12 07.2	+0.7
IXG	Ixpaco	1.70	67	eP	Pn	03 12 05.5	-1.5
IXG	Ixpaco	1.70	67	eP	Pn	03 12 05.5	-1.5
NBG	Las Nubes	1.98	57	eP	Pn	03 12 12.0	+1.0
NBG	Las Nubes	1.98	57	eP	Pn	03 12 12.0	+1.0
APG	El Apazote	2.15	46	Pn	Pn	03 12 12.9	-0.4
	45nm,0.3s,baz=212,slow=11,SNR=462						
APG				Sn	Sn	03 12 41.9	+3.1
	63nm,0.3s,baz=345,slow=15,SNR=8.3						
RTR	El Retiro	2.37	80	eP	Pn	03 12 15.2	-1.1
RTR	El Retiro	2.37	80	eP	Pn	03 12 15.2	-1.1
CEVE	Cerro Verde	2.38	82	eP	Pn	03 12 14.4	-2.1
CEVE				eS	Sn	03 12 45.6	+1.0
CEVE				IAML		03 13 01.1	
	comp=Z,1µm,0.3s						
CEVE	Cerro Verde	2.38	82	eP	Pn	03 12 14.4	-2.1
CEVE				eS	Sn	03 12 45.6	+1.0
CEVE				IAML		03 13 01.1	
	comp=Z,1µm,0.3s						
SBLS	San Blas	2.38	82	eP	Pn	03 12 14.6	-2.0
SBLS	San Blas	2.38	82	eP	Pn	03 12 14.5	-2.1
SNJE	San Jose	2.41	81	eP	Pn	03 12 14.8	-2.0
SNJE	San Jose	2.41	81	eP	Pn	03 12 14.8	-2.0
PCIG		2.47	333	eS	Sn	03 12 40.1	-6.3
BOQS	Boqueron	2.70	85	eP	Pn	03 12 19.4	-1.5
SNET	Serv Nac Est T	2.75	86		Pn	03 12 21.1	-0.3
MTO3	Montecristo	2.76	71	eP	Pn	03 12 19.9	-1.8
MTO3	Montecristo	2.76	71	eP	Pn	03 12 19.9	-1.8
CCIG	Comitan	2.77	358	i P	Pn	03 12 22.8	+1.0
CCIG				eS	Sn	03 12 55.0	+0.9
CCIG	Comitan	2.77	358		Pn	03 12 22.8	+1.0
CCIG					Sn	03 12 55.0	+0.9
MRL	Marmol	2.78	55	eP	Pn	03 12 21.1	-0.9
MRL	Marmol	2.78	55	eP	Pn	03 12 21.8	-0.2
MRL	Marmol	2.78	55	eP	Pn	03 12 21.1	-0.9
LFRS	El Faro	2.91	87	eP	Pn	03 12 22.3	-1.4
COEG	Centro de Oper	3.08	87	eP	Pn	03 12 24.7	-1.4
TGIG		3.42	343	eP	Pn	03 12 30.0	-0.7
TGIG		3.42	343		Pn	03 12 30.0	-0.7
LCY	Lacayo	3.66	91	eP	Pn	03 12 32.7	-1.2
LCY	Lacayo	3.66	91	eP	Pn	03 12 32.7	-1.2
JUCU	Jucuar¡n	3.71	93	eP	Pn	03 12 33.4	-1.2
LCND	La Caada	4.05	92	eP	Pn	03 12 38.0	-1.3
LCND				IAML		03 12 45.9	
	comp=Z,145nm,0.4s						
LCND	La Caada	4.05	92	eP	Pn	03 12 38.0	-1.3
LCND				IAML		03 12 45.9	
	comp=Z,145nm,0.4s						
CMIG	Matias Romero	4.50	323	Pn	Pn	03 12 45.4	-0.1
	comp=Z,1.1nm,0.3s,baz=140,slow=9.4,SNR=12						
CMIG				Sn	Sn	03 13 41.3	+4.8
	comp=Z,4.5nm,0.3s,baz=120,slow=18,SNR=6.3						
CMIG				Lg	Lg	03 13 56.1	
	comp=Z,7.2nm,0.3s,baz=73,slow=14,SNR=5.9						
CMIG				LR	LR	03 14 24.3	
	comp=Z,97nm,20.2s,baz=154,slow=36						
TGUH	Tegucigalpa,Un	4.67	83		Pn	03 12 46.5	-1.5
ESTN	Estel	5.54	93	Pn	Pn	03 12 57.8	-2.1
RCON	San Juan de Ri	5.73	89	eP	Pn	03 13 01.3	-1.3
MATN	Matagalpa	5.99	95	IAML		03 13 16.0	
	comp=E,73nm,0.3s						
TLIG	Tlapa	7.47	304		Pn	03 13 26.6	+0.2
TLIG				Sn	Sn	03 14 52.2	+2.4
TEIG	Tepich	7.60	28	Pn	Pn	03 13 28.2	+0.2
	comp=E,5.5nm,0.3s,baz=140,slow=5.2,SNR=54						
TEIG				LR	LR	03 16 53.6	
	comp=E,1µm,18.2s,baz=214,slow=42						
TEIG	Tepich	7.60	28		Pn	03 13 27.2	-0.9
JTS	Las Juntas de	7.64	114	Pn	Pn	03 13 29.9	+1.2
	comp=E,1.1nm,0.3s,baz=20,slow=19,SNR=7.3						
JTS				Sn	Sn	03 14 48.6	-5.5
	comp=E,0.1nm,0.3s,baz=321,slow=13,SNR=1.6						
JTS				Lg	Lg	03 15 29.6	
	baz=255,slow=20,SNR=3.2						
JTS	Las Juntas de	7.64	114		Pn	03 13 28.9	+0.3
JTS					Sn	03 14 54.1	0.0
OTAV	Otavalo	18.84	133	P	P	03 15 56.0	-1.2
H06E1	SOCORRO T-PHAS	18.87	289	T	T	03 35 25.3	
	SNR=12						
TX31	Lajitas Ar. Si	19.09	327	P	P	03 15 58.8	-0.6
TX32	Lajitas Array	19.09	327		Pn	03 16 00.8	+0.3

TXAR	Lajitas Array	19.09	327	P	Pn	03 16 02.4	+1.9
	comp=E,0.1nm,0.3s,baz=155,slow=10,SNR=16						
TXAR				LR	LR	03 23 16.5	
	comp=E,38nm,18.7s,baz=0.0,slow=36						
152A	Waverly Hall	20.23	18	P	P	03 16 11.0	-0.7
152A				IAmb	IAmb	03 16 16.6	
	comp=Z,10.0nm,1.1s						
ABTX	Abilene, Hawle	20.27	341	P	P	03 16 12.4	+0.3
ABTX				IAmb	IAmb	03 16 22.8	
	comp=Z,14nm,1.1s						
SDV	Santo Domingo	21.50	100	LR	LR	03 25 57.5	
	comp=Z,57nm,21.3s,baz=30,slow=40						
MNTX	Cornudas Mount	21.86	328	P	P	03 16 29.2	-0.2
MNTX				IAmb	IAmb	03 16 33.4	
	comp=Z,6.4nm,0.9s						
AMTX	Amarillo	23.01	339	IAmb	IAmb	03 16 45.9	
	comp=Z,14nm,0.9s						
PBMO	Poplar Bluff	23.23	3	P	P	03 16 42.3	-1.3
PBMO				IAmb	IAmb	03 16 42.9	
	comp=Z,13nm,1.1s						
TKL	Tuckaleechee C	23.29	17	P	P	03 16 43.8	-0.6
	comp=Z,5.7nm,0.8s,baz=195,slow=12,SNR=7.0						
TKL				LR	LR	03 26 32.4	
	comp=Z,306nm,19.9s,baz=202,slow=38						
121A	Cookes Peak, D	23.79	325	IAmb	IAmb	03 17 10.6	
	comp=Z,7.5nm,1.1s						
CCM	Cathedral Cave	24.47	2	P	P	03 16 53.8	-1.5
CCM				IAmb	IAmb	03 17 09.1	
	comp=Z,5.2nm,1.1s						
ATAH	Atahualpa	24.58	146	LR	LR	03 24 20.0	
	comp=Z,55nm,21.6s,baz=342,slow=31						
ANMO	Albuquerque	25.01	331	P	P	03 17 03.1	+2.6
	comp=Z,2.2nm,0.8s,baz=153,slow=12,SNR=12						
ANMO	Albuquerque	25.01	331	P	P	03 17 01.4	+0.9
WCI	Wyandotte Cave	25.16	11	P	P	03 17 00.8	-0.8
T25A	Trinidad	26.01	337	IAmb	IAmb	03 17 15.4	
	comp=Z,4.2nm,0.8s						
MVCO	Mesa Verde	27.81	331	IAmb	IAmb	03 17 38.2	
	comp=Z,4.9nm,1.1s						
109C	Camp Elliot, M	29.91	314	P	P	03 17 44.0	-0.2
CCUT	Cedar City	30.57	325	P	P	03 17 50.4	+0.1
PDAR	Pinedale Array	32.85	336	P	P	03 18 12.4	+2.1
	comp=Z,0.2nm,0.5s,baz=98,slow=4.6,SNR=2.6						
SADO	Sadowa	33.05	17	LR	LR	03 32 27.7	
	comp=Z,144nm,21.4s,baz=224,slow=38						
REDW	Red Top Meadow	33.88	335	P	P	03 18 19.2	0.0
REDW				IAmb	IAmb	03 18 30.2	
	comp=Z,7.2nm,1.1s						
ELK	Elko	33.88	328	LR	LR	03 33 19.6	
	comp=Z,36nm,20.1s,baz=142,slow=38						
SNOW	Snow King Moun	33.92	335	P	P	03 18 19.8	+0.2
NV11	Mina Array Sit	33.94	322	P	P	03 18 19.2	-0.6
TPAW	Teton Pass	34.02	335	P	P	03 18 20.7	+0.2
TPAW				IAmb	IAmb	03 18 26.7	
	comp=Z,3.8nm,1.1s						
NVAR	Mina Array Bea	34.03	322	P	P	03 18 24.5	+3.9
	comp=Z,2.5nm,0.9s,baz=129,slow=9.4,SNR=10						
NVAR				LR	LR	03 34 09.0	
	comp=Z,106nm,18.7s,baz=129,slow=40						
MCMT	McKenzie Canyo	35.90	334	P	P	03 18 36.3	-0.4
ULM	Lac du Bonnet	36.78	356	LR	LR	03 36 37.9	
	comp=Z,50nm,19.2s,baz=242,slow=41						
LPAZ	La Paz	37.88	141	P	P	03 18 54.0	-0.2
F10A	Beach Ranch, E	38.73	332	P	P	03 19 00.1	-0.3
F10A				IAmb	IAmb	03 19 11.5	
	comp=Z,8.6nm,1.0s						
SCHQ	Schefferville	45.71	20	P	P	03 19 54.5	-2.5
	comp=Z,9.8nm,0.9s,baz=201,slow=5.4,SNR=5.3						
SCHQ				LR	LR	03 40 09.0	
	comp=Z,347nm,18.5s,baz=162,slow=38						
SCHQ	Schefferville	45.71	20	P	P	03 19 56.6	-0.5
YKA	Yellowknife Ar	51.50	347	P	P	03 20 41.6	+0.1
	comp=Z,1.8nm,0.6s,baz=148,slow=7.5,SNR=26						
NPOC	North of Pu'u	60.49	285	P	P	03 21 46.8	+0.2
INK	Inuvik	60.91	344	P	P	03 21 49.3	+0.8
	comp=Z,2.3nm,0.8s,baz=113,slow=6.8,SNR=9.5						
INK	Inuvik	60.91	344	IAmb	IAmb	03 21 50.0	
	comp=Z,4.1nm,0.9s						
RES	Resolute Bay	61.20	359	P	P	03 21 49.3	-1.0
	comp=Z,0.9nm,0.7s,baz=197,slow=4.4,SNR=4.5						
ILAR	Eielson Array	63.28	337	P	P	03 22 06.7	+2.2
	comp=Z,1.3nm,1.1s,baz=131,slow=5.1,SNR=8.2						
PPT	Papeete	64.62	243	LR	LR	03 43 23.7	
	comp=Z,30nm,20.3s,baz=74,slow=30						
NOA	NORSAR Array B	84.61	28	LR	LR	04 01 12.7	
	comp=Z,33nm,18.1s,baz=260,slow=35						
ARCES	ARCESS Array B	86.63	18	LR	LR	04 02 59.9	
	comp=Z,70nm,18.9s,baz=284,slow=36						
NRIK	Noril'sk	97.38	0	LR	LR	04 13 36.2	
	comp=Z,88nm,18.2s,baz=41,slow=38						
KSH	Kashi	126.09	11	PKP	PKiKP	03 30 42.3	+3.1
KSH				SKS	SKSdf	03 37 48.8	+0.7
KSH				SKKS	SKKSac	03 39 27.8	-0.3
KSH				LR	LR		
	comp=N,330nm,6.4s						
KSH				LR	LR		
	comp=E,430nm,5.7s						
KSH				LR	LR		
	comp=Z,500nm,5.7s						
LZH	Lanzhou	128.45	344	ePKP	PKiKP	03 30 43.8	-0.2
LZH				pPKP	pPKPdf	03 30 55.2	+0.7
LZH				sPKP		03 31 01.0	
CMAR	Chiang Mai Arr	146.45	341	PKPbc	PKPab	03 31 18.9	+0.2
	comp=Z,1.0nm,0.6s,baz=348,slow=4.4,SNR=6.5						

*IDC **05** 03:15:15.3±1.2, 13°.72N×92°.04W, h0km, mb3.7/7, mb1 4.0/11, mb1mx3.8/47, mbtmp3.7/11, ML3.6/4, Error ellipse: s-maj=31.4km s-min=15.5km az=43.0*
*UCR **05** 03:15:16.2±1.2, 13°.45N×91°.98W, h35km±999km, MD3.8, ML3.5*
*SNET **05** 03:15:16.2±0.9, 13°.51N×91°.91W, h24km±13km, ML3.6*
*GCG **05** 03:15:18.6±0.5, 13°.50N×91°.70W, h20km±999km, MD4.1*
ISC 05 03:15:13.3±2.3, **13°.52N**±0°.07×**92°.00W**±0°.06, **h0**km±13km, **n38**, σ1s.33/49, **mb3.8**/7, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERG	Entre ros, C	1.00	24	eP	Pn	03 15 35.6	+0.9
ERG				eS	Sn	03 15 48.8	-0.8
STG3	Santiaguito 3,	1.25	19	eP	Pn	03 15 37.9	-0.4
FUG	Fuego 3	1.45	50	eP	Pb	03 15 41.5	+0.1
FUG	Fuego 3	1.45	50	eP	Pb	03 15 41.5	+0.1
IXG	Ixpaco	1.64	67	eP	Pn	03 15 43.2	-0.4
IXG	Ixpaco	1.64	67	eP	Pn	03 15 43.2	-0.4
NBG	Las Nubes	1.92	56	eP	Pg	03 15 49.7	-0.5
NBG	Las Nubes	1.92	56	eP	Pg	03 15 49.7	-0.5
APG	El Apazote	2.09	45	Pn	Pb	03 15 51.1	-1.2
	29nm,0.3s,baz=160,slow=12,SNR=22						
APG				Sn	Sg	03 16 21.5	+0.8
	28nm,0.3s,baz=326,slow=9.0,SNR=6.1						
RTR	El Retiro	2.31	80	eP	Pn	03 15 52.6	-0.3
RTR				eS	Sn	03 16 20.5	-1.7
RTR	El Retiro	2.31	80	eP	Pn	03 15 52.6	-0.3
RTR				eS	Sn	03 16 20.5	-1.7
CEVE	Cerro Verde	2.33	82	eP	Pn	03 15 52.5	-0.6
CEVE				eS	Sn	03 16 21.3	-1.2
CEVE				IAML		03 16 35.2	
	comp=Z,601nm,0.5s						
CEVE	Cerro Verde	2.33	82	eP	Pn	03 15 52.5	-0.6
CEVE				eS	Sn	03 16 21.3	-1.2
CEVE				IAML		03 16 35.2	
	comp=Z,601nm,0.5s						
SBLS	San Blas	2.33	82	eP	Pn	03 15 52.2	-0.9
SBLS				eS	Sn	03 16 21.8	-0.8
SBLS	San Blas	2.33	82	eP	Pn	03 15 52.2	-0.9
SBLS				eS	Sn	03 16 21.8	-0.8
SNJE	San Jose	2.35	81	eP	Pn	03 15 52.8	-0.6
SNJE	San Jose	2.35	81	eP	Pn	03 15 52.8	-0.6
MTO3	Montecristo	2.70	71	eP	Pn	03 15 58.4	+0.1
MTO3	Montecristo	2.70	71	eP	Pn	03 15 58.4	+0.1
LFRS	El Faro	2.85	88	eP	Pn	03 15 59.6	-0.6
PAVA	Las Pavas	2.98	86	eP	Pn	03 16 02.3	+0.3
PAVA	Las Pavas	2.98	86	eP	Pn	03 16 02.3	+0.3
COEG	Centro de Oper	3.03	88	eP	Pn	03 16 01.5	-1.2
LCND	La Caada	4.00	93	eP	Pn	03 16 15.3	-0.6
LCND				IAML		03 16 24.1	
	comp=Z,85nm,0.4s						
LCND				eS	Sn	03 17 00.8	-2.7
LCND	La Caada	4.00	93	eP	Pn	03 16 15.3	-0.6
LCND				IAML		03 16 24.1	
	comp=Z,85nm,0.4s						
LCND				eS	Sn	03 17 00.8	-2.7
CMIG	Matias Romero	4.51	322	Pn	Pn	03 16 23.0	0.0
	comp=Z,1.3nm,0.3s,baz=144,slow=14,SNR=11						
CMIG				Sn	Sn	03 17 13.2	-3.1
	comp=Z,3.9nm,0.3s,baz=75,slow=16,SNR=3.5						
CMIG				Lg	Lg	03 17 31.7	
	comp=Z,5.1nm,0.3s,baz=293,slow=18,SNR=4.0						
TEIG	Tepich	7.56	28	Pn	Pn	03 17 06.9	+2.0
	comp=Z,4.9nm,0.3s,baz=316,slow=1.5,SNR=13						
JTS	Las Juntas de	7.60	114	Pn	Pn	03 17 08.0	+2.5
	comp=Z,0.5nm,0.3s,baz=6.1,slow=18,SNR=3.0						
JTS				Sn	Sn	03 18 30.0	-2.4
	comp=Z,0.6nm,0.3s,baz=338,slow=19,SNR=2.6						
JTS				Lg	Lg	03 19 16.6	
	comp=Z,0.4nm,0.3s,baz=184,slow=19,SNR=3.6						
H06E1	SOCORRO T-PHAS	18.92	289	T	T	03 39 03.5	
	SNR=7.9						
TXAR	Lajitas Array	19.10	327	P	P	03 19 37.4	-0.5
	comp=Z,0.0nm,0.3s,baz=151,slow=8.2,SNR=8.3						
TKL	Tuckaleechee C	23.26	17	P	P	03 20 21.0	-1.4
	comp=Z,4.1nm,0.8s,baz=174,slow=10,SNR=4.2						
ANMO	Albuquerque	25.02	331	P	P	03 20 40.2	+0.9
	comp=Z,1.5nm,0.7s,baz=139,slow=13,SNR=6.7						
PDAR	Pinedale Array	32.86	336	P	P	03 21 50.9	+1.7
	comp=Z,0.3nm,0.6s,baz=95,slow=10.0,SNR=2.8						
NVAR	Mina Array Bea	34.05	322	P	P	03 22 00.4	+0.8
	comp=Z,1.0nm,0.8s,baz=112,slow=9.8,SNR=2.4						
SIV	San Ignacio	42.36	133	P	P	03 23 12.8	+3.2
	comp=Z,0.5nm,0.6s,baz=273,slow=18,SNR=2.4						
YKA	Yellowknife Ar	51.49	347	P	P	03 24 19.4	-1.0
	comp=Z,1.3nm,0.6s,baz=149,slow=7.6,SNR=16						
ILAR	Eielson Array	63.28	337	P	P	03 25 44.2	+0.6
	comp=Z,0.4nm,0.8s,baz=152,slow=5.9,SNR=4.1						
CMAR	Chiang Mai Arr	146.45	341	PKPbc	PKPbc	03 34 58.1	+0.8
	comp=Z,0.7nm,0.3s,baz=342,slow=4.1,SNR=5.2						

*ISCJB **05** 03:25:09.7±0.7, 34°.72S±0°.04×70°.78W±0°.08, h118km±8km, Error ellipse: s-maj=11.2km s-min=6.3km az=24.3*
*SJA **05** 03:25:09.2±0.8, 34°.73S×70°.81W, h120km±6km, ML2.9, MW3.2*
*GUC **05** 03:25:10.6±0.6, 34°.73S×70°.76W, h112km±4km, ML3.8*
ISC 05 03:25:10.7±1.7, **34°.73S**±0°.05×**70°.78W**±0°.06, **h111**km±14km, **n25**, σ0s.37/36, **2C-6D**, **Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GO05	Huala	0.98	253	⇑iP	Pn	03 25 31.8	0.0
GO05				iS	Sn	03 25 47.7	-0.1
GO05	Huala	0.98	253	iP	Pn	03 25 31.4	-0.4
GO05				eS	Sn	03 25 48.2	+0.4
LMEL	Las Melosas	1.00	29	⇓iP	Pn	03 25 32.0	-0.1
LMEL				iS	Sn	03 25 48.4	+0.1
LMEL				IAML		03 25 49.4	
	comp=N,3μm,0.2s						
PUMA	Malargue	1.34	126	iP	Pn	03 25 35.5	-0.1
CLCH	Cerro Calan	1.34	9	⇓iP	Pn	03 25 35.8	0.0
CLCH				iS	Sn	03 25 54.7	-0.1
CLCH				IAML		03 25 57.1	
	comp=N,2μm,0.3s						
FCH	Farellones	1.45	16	⇓iP	Pn	03 25 37.1	-0.3
FCH				iS	Sn	03 25 57.3	-0.2
FCH				IAML		03 25 58.3	
	comp=E,1μm,0.3s						
EDS3	Malargue	1.54	133	iP	Pn	03 25 38.1	0.0
PEL	Peldehue	1.58	3	⇓iP	Pn	03 25 38.5	-0.1
PEL				iS	Sn	03 25 59.8	0.0
PEL				IAML		03 26 01.3	
	comp=N,1μm,0.2s						
PEL	Peldehue	1.58	3	iP	Pn	03 25 38.8	+0.2
PEL				⇓eS	Sn	03 25 60.0	+0.2
ROC1	El Roble	1.75	354	iP	Pn	03 25 41.0	+0.1
ROC1				eS	Sn	03 26 04.1	+0.2
ROCH	El Roble	1.76	354	⇑iP	Pn	03 25 40.9	-0.1
ROCH				IAML		03 26 07.1	
	comp=N,790nm,0.5s						
CCHI	Chillan	2.15	209	iP	Pn	03 25 45.8	+0.2
AAGR	Agrelo	2.31	45	eP	Pn	03 25 48.0	+0.3
ARCO	CERRO ARCO	2.43	40	⇓eP	Pn	03 25 49.5	+0.2
ARCO				IAML		03 26 20.6	
	comp=Z,21nm,0.6s						
ASAL	Salagasta	2.68	38	iP	Pn	03 25 53.2	+0.6
ASAL				eS	Sn	03 26 25.1	+0.4
RTLS	Leoncito	3.17	24	eP	Pn	03 26 00.1	+0.8
RTLS				eS	Sn	03 26 37.5	+0.8
RTLS				IAML		03 26 40.8	
	comp=Z,52nm,0.5s						
RTCV	Cerro Valdivia	3.42	34	iP	Pn	03 26 02.1	-0.2
ACAN	Cantantal	3.87	52	iP	Pn	03 26 08.2	-0.2
RTLL	Cerro Villicun	3.90	30	iP	Pn	03 26 08.6	-0.2
AMOG	MOGNA	4.24	28	iP	Pn	03 26 13.3	0.0
AMOG				eS	Sn	03 27 01.4	-0.5
ACCO	Cerro Coronel	4.37	20	iP	Pn	03 26 15.6	+0.2
GO04	Tololo Observa	4.54	360	iP	Pn	03 26 17.0	-0.5
AROD	Rodeo	4.68	14	eP	Pn	03 26 19.9	+0.4
MRA	San Martin	4.81	63	iP	Pn	03 26 20.5	-0.5
AGUA	GUANDACOL	5.57	21	iP	Pn	03 26 30.7	-0.7

*SJA **05** 03:34:29.7±0.8, 20°.04S×69°.40W, h136km±12km, ML2.8, MW2.8*
*ISCJB **05** 03:34:30.7±0.5, 19°.99S±0°.03×69°.34W±0°.06, h109km±5km, mb3.4/2, Error ellipse: s-maj=9.6km s-min=4.8km az=173.3*
*GUC **05** 03:34:30.4±0.7, 19°.97S×69°.25W, h101km±3km, ML3.6*
*IDC **05** 03:34:32.3±1.6, 20°.04S×68°.87W, h123km±17km, mb3.2/3, mb1 3.3/7, mb1mx3.2/24, mbtmp3.6/7, Error ellipse: s-maj=30.4km s-min=15.2km az=104.0*
ISC 05 03:34:31.0±1.0, **19°.98S**±0°.03×**69°.33W**±0°.06, **h101**km±7km, **n40**, σ1s.02/45, **9C-7D**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB08	IPOC Station P	0.23	135	⇓iP	Pn	03 34 45.6	-0.3
PB08				iS	Sn	03 34 57.1	0.0
PB08				IAML		03 34 57.7	
	comp=E,3μm,0.3s						
GO01	Chusmiza	0.33	22	⇑iP	Pn	03 34 45.9	-0.6
GO01				iS	Sn	03 34 57.9	-0.1
PB11	IPOC Station P	0.38	305	⇑iP	Pn	03 34 46.5	+0.2
PB11				iS	Sn	03 34 58.5	+0.8
PSGC	Pisagua	0.84	297	⇑iP	Pn	03 34 50.5	+0.5
PSGC				iS	Sn	03 35 05.3	+1.1
MNMC	Minye Minye	0.88	343	⇓iP	Pn	03 34 51.1	+0.5
MNMC				iS	Sn	03 35 06.4	+1.2
TA01	Diego Aracena	0.99	234	⇑iP	Pn	03 34 51.9	+0.5
TA01				iS	Sn	03 35 07.9	+1.1
PB01	IPOC Station P	1.07	188	⇓iP	Pn	03 34 52.7	+0.4
PB01				iS	Sn	03 35 09.5	+1.0
PB01				IAML		03 35 10.7	
	comp=E,3μm,0.2s						
PB02	IPOC Station P	1.44	202	⇑iP	Pn	03 34 57.2	+0.5
PB02				iS	Sn	03 35 17.3	+1.2
PB09	IPOC Station P	1.81	178	⇑iP	Pn	03 35 01.9	+0.6
PB09				iS	Sn	03 35 25.9	+1.4
PB09	IPOC Station P	1.81	178	⇓iP	Pn	03 35 02.1	+0.8
PB09				eS	Sn	03 35 26.6	+2.2
PB07	IPOC Station P	1.81	197	⇓iP	Pn	03 35 01.8	+0.4
PB07				IAML		03 35 28.4	
	comp=E,606nm,0.4s						
AP01	Chacalluta	1.87	329	⇑iP	Pn	03 35 02.2	+0.3
AP01				iS	Sn	03 35 26.5	+1.0
PB03	IPOC Station P	2.10	191	⇓iP	Pn	03 35 05.0	0.0
PB03				IAML		03 35 38.5	
	comp=E,292nm,0.2s						
PB04	IPOC Station P	2.46	198	⇓iP	Pn	03 35 10.5	+0.7
PB04	IPOC Station P	2.46	198	iP	Pn	03 35 10.2	+0.4
LVC	Limon Verde	2.65	172	⇑iP	Pn	03 35 13.0	+0.6
LVC				iS	Sn	03 35 45.4	+1.2
LVC	Limon Verde	2.65	172	P	Pn	03 35 13.0	+0.6
	comp=E,7.9nm,0.3s,baz=33,slow=6.0,SNR=102						
LVC				S	Sn	03 35 45.3	+1.2
	comp=E,26nm,0.3s,baz=318,slow=6.9,SNR=23						
LVC	Limon Verde	2.65	172	iP	Pn	03 35 12.9	+0.6
LVC				eS	Sn	03 35 43.9	-0.3
PB06	IPOC Station P	2.72	185	⇑iP	Pn	03 35 12.9	-0.3
PB06				IAML		03 35 51.0	
	comp=E,275nm,0.2s						
PB06	IPOC Station P	2.72	185	iP	Pn	03 35 13.3	0.0
PB05	IPOC Station P	2.97	196	iP	Pn	03 35 16.3	-0.2
PB15	IPOC Station P	3.21	182	eP	Pn	03 35 20.0	+0.1
PB15				eS	Sn	03 35 56.9	-0.6
PB10	IPOC Station P	3.70	198	iP	Pn	03 35 25.6	-0.5
LPAZ	La Paz	3.84	17	P	Pn	03 35 29.9	+1.2
	comp=E,1.5nm,0.3s,baz=205,slow=6.3,SNR=38						
LPAZ	La Paz	3.84	17	iP	Pn	03 35 30.1	+1.4
YJA	Yavi	4.18	122	eP	Pn	03 35 34.4	+1.5
YJA				IAML		03 35 37.9	
	comp=Z,8.0nm,0.8s						
HJA	Humahuaca	4.86	132	iP	Pn	03 35 43.3	+1.2
HJA				IAML		03 35 46.4	
	comp=Z,6.0nm,0.4s						
AZAP	Zapla	5.78	138	iP	Pn	03 35 55.5	+1.0
SIV	San Ignacio	8.80	65	P	Pn	03 36 31.1	-4.3
	comp=Z,0.6nm,0.3s,baz=263,slow=11,SNR=31						
CFA	Coronel Fontan	11.62	175	P	Pn	03 37 08.7	-4.8
	comp=Z,0.4nm,0.3s,baz=310,slow=13,SNR=7.5						
CPUP	Villa Florida	12.71	122	P	Pn	03 37 23.6	-4.4
	comp=Z,0.2nm,0.3s,baz=320,slow=12,SNR=3.2						
BDFB	Brasilia	20.74	81	P	P	03 39 00.2	-3.5
	comp=Z,1.8nm,0.4s,baz=233,slow=10,SNR=4.9						
TORD	Torodi Ar. Bea	77.22	71	P	P	03 46 10.5	-3.9
	comp=Z,0.3nm,0.4s,baz=228,slow=6.4,SNR=6.8						
YKA	Yellowknife Ar	89.63	341	P	P	03 47 16.9	+0.1
	comp=Z,0.1nm,0.4s,baz=133,slow=4.6,SNR=3.4						
H11S2	WAKE ISLAND Hy	127.29	278	T	T	06 13 10.4	
	baz=101,slow=74,SNR=31						
H11S1	WAKE ISLAND Hy	127.30	278	T	T	06 13 11.1	
	baz=101,slow=74,SNR=51						
H11S3	WAKE ISLAND Hy	127.31	278	T	T	06 13 12.1	
	baz=101,slow=74,SNR=32						
H11N3	WAKE ISLAND Hy	127.33	280	T	T	06 13 12.5	
	baz=100,slow=75,SNR=9.7						
H11N2	WAKE ISLAND Hy	127.34	280	T	T	06 13 08.4	
	baz=100,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy	127.34	280	T	T	06 13 10.9	
	baz=100,slow=75,SNR=6.5						

*ISCJB **05** 04:03:30.4±1.2, 15°.9N±0°.1×93°.97W±0°.07, h88km, Error ellipse: s-maj=16.2km s-min=7.0km az=25.9*
*NEIC **05** 04:03:31.5±0.5, 15°.93N±0°.09×93°.97W±0°.09, h82km±8km*
*MEX **05** 04:03:32.4±0.5, 15°.91N×93°.99W, h86km±7km, MD4.0*
ISC 05 04:03:31.2±1.4, **15°.92N**±0°.09×**93°.97W**±0°.06, **h88**km, **n13**, σ0s.56/21, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.75	106	iP	Pn	04 03 47.5	-0.5
PCIG				iS	Sn	04 04 00.3	-0.2
PCIG		0.75	106		Pn	04 03 47.5	-0.5
PCIG					Sn	04 04 00.3	-0.2
TGIG		1.18	43	iP	Pn	04 03 53.0	+0.1
TGIG				iS	Sn	04 04 08.7	-0.5
TGIG		1.18	43		Pn	04 03 53.0	+0.1
TGIG					Sn	04 04 08.7	-0.5
CMIG	Matias Romero	1.46	323	eP	Pn	04 03 56.2	-0.2
CMIG				iS	Sn	04 04 15.1	-0.4
CMIG	Matias Romero	1.46	323		Pn	04 03 56.2	-0.2
CMIG					Sn	04 04 15.1	-0.4
CCIG	Comitan	1.79	78	iP	Pn	04 04 01.1	+0.2
CCIG				iS	Sn	04 04 23.3	0.0
CCIG	Comitan	1.79	78		Pn	04 04 01.1	+0.2
CCIG					Sn	04 04 23.3	0.0
TEIG	Tepich	6.90	51	Pn	Pn	04 05 08.7	-1.0
JCT	Junction City	15.45	341	Pn	Pn	04 07 04.8	+0.5
JCT				IAmb	IAmb	04 07 23.2	
	comp=Z,3.7nm,0.8s						
FCAR	Ozark Folk Cen	19.96	4	P	P	04 07 57.1	+0.8
TUL1	Leonard	19.98	356	P	P	04 07 55.8	-0.8
TUL1				IAmb	IAmb	04 07 56.0	
	comp=Z,3.2nm,0.5s						
O44A	Mansfield	24.62	10	P	P	04 08 44.5	+1.2
O44A				IAmb	IAmb	04 08 46.9	
	comp=Z,14nm,1.1s						

*IDC **05** 04:07:33.8±1.1, 32°.46S×178°.28W, h0km, mb4.0/1, mb1 4.2/2, mb1mx3.8/28, mbtmp4.1/2, ML3.9/1, MS3.3/5, Ms1 3.3/5, ms1mx3.0/26, Error ellipse: s-maj=45.2km s-min=37.1km az=121.0*
*ISCJB **05** 04:07:36.1±1.0, 32°.58S±0°.06×178°.2W±0°.2, h35km, mb3.9/1, MS3.3/4, Error ellipse: s-maj=20.8km s-min=5.9km az=16.8*
*NEIC **05** 04:07:38.9±1.4, 32°.6S±0°.1×178°.4W±0°.2, h35km±2km, mb4.2/4*
ISC 05 04:07:37.3±0.8, **32°.51S**±0°.07×**178°.0W**±0°.1, **h35**km, **n43**, σ1s.92/49, **mb4.2**/3, **MS3.3**/4, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.24	1	P	Pn	04 08 23.1	-2.5
GLKZ				S	Sn	04 08 59.9	-3.1
WMGZ	Waiomatatini S	6.06	208	P	Pn	04 09 04.6	+0.3
WMGZ				S	Sn	04 10 13.3	+0.8
PKGZ	Pakihiroa	6.25	210	P	Pn	04 09 06.0	-1.1
PKGZ				S	Sn	04 10 16.1	-1.3
HAZ	Te Kaha	6.27	212	P	Pn	04 09 06.8	-0.5
HAZ				S	Sn	04 10 19.1	+1.3
PUZ	Puketiti	6.34	208	P	Pn	04 09 07.3	-0.9
RUGZ	Raukumara Rang	6.49	212	P	Pn	04 09 09.0	-1.5
RUGZ				S	Sn	04 10 22.9	-0.4
CNGZ	Carnagh Statio	6.72	206	P	Pn	04 09 12.6	-0.8
MWZ	Matawai	6.86	211	P	Pn	04 09 13.3	-2.2
MWZ				S	Sn	04 10 30.7	-1.7
URZ	Urewera	6.99	213	Pn	Pn	04 09 15.6	-1.5
	2.1nm,0.3s,baz=264,slow=4.0,SNR=12						
URZ				Sn	Sn	04 10 32.3	-3.1
	1.5nm,0.3s,baz=126,slow=8.7,SNR=3.0						
URZ	Urewera	6.99	213	P	Pn	04 09 15.6	-1.5
URZ				S	Sn	04 10 33.1	-2.3
URZ	Urewera	6.99	213		Pn	04 09 14.4	-2.8
URZ					Sn	04 10 31.8	-3.7
RIGZ	Rimuhau	7.08	208	P	Pn	04 09 17.0	-1.5
RIGZ				S	Sn	04 10 35.6	-2.1
WCZ	Waipu Caves	7.21	240	P	Pn	04 09 21.3	+1.2
SNGZ	Shannon Statio	7.32	210	P	Pn	04 09 21.7	0.0
SNGZ				S	Sn	04 10 42.1	-1.5
RTZ	Ruatahuna	7.34	212	P	Pn	04 09 20.8	-1.3
KNZ	Kokohu	7.39	207	P	Pn	04 09 18.4	-4.2
OUZ	Omahuta	7.50	247	P	Pn	04 09 27.1	+3.0
RAHZ	Arahi	7.54	211	P	Pn	04 09 24.8	0.0
RAHZ				S	Sn	04 10 47.0	-2.0
MTHZ	Maungataniwha	7.59	212	P	Pn	04 09 26.3	+0.8
MTHZ				S	Sn	04 10 49.0	-1.4
BKZ	Black Stump Fm	8.01	212	Pn	Pn	04 09 28.9	-2.3
BKZ				Sn	Sn	04 10 57.8	-2.8
DZM	Mont Dzumac	17.28	303	LR	LR	04 16 56.5	
	comp=Z,268nm,18.4s,baz=213,slow=33						
HNR	Honiara	30.71	313	LR	LR	04 24 41.4	
	comp=Z,38nm,18.3s,baz=87,slow=34						
STKA	Stephens Creek	34.06	260	LR	LR	04 27 30.4	
	comp=Z,83nm,18.3s,baz=28,slow=35						
AS31	Alice Springs	43.04	269	P	P	04 15 32.5	-1.3
ASAR	Alice Springs	43.04	269	P	P	04 15 33.7	-0.2
	1.5nm,0.7s,baz=106,slow=7.6,SNR=17						
WB2	Warramunga Arr	44.21	274	P	P	04 15 42.6	-0.7
WB2				IAmb	IAmb	04 15 51.2	
	comp=Z,3.6nm,0.8s						
WB0	Warramunga Arr	44.25	275	P	P	04 15 43.0	-0.6
FITZ	Fitzroy Crossi	52.39	272	P	P	04 16 45.2	-1.1
FITZ				IAmb	IAmb	04 16 47.8	
	comp=Z,2.9nm,1.0s						
CASY	Casey	53.29	209	P	P	04 16 52.4	+0.1
VNA3	Neumayer Olymp	76.21	176	P	P	04 19 33.9	+12
VNA3	Neumayer Olymp	76.21	176	P	P	04 19 23.9	+2.4
VNA2	Neumayer--Watz	76.64	177	P	P	04 19 36.4	+12
	baz=173,slow=4.2						
VNA2	Neumayer--Watz	76.64	177	P	P	04 19 26.8	+2.8
	baz=180,slow=3.6						
VNA1	Neumayer--Stat	76.87	177	P	P	04 19 37.0	+12
VNA1	Neumayer--Stat	76.87	177	P	P	04 19 27.5	+2.2
KSRS	Korea Array	85.95	320	LR	LR	04 53 52.7	
	comp=Z,5.8nm,21.4s,baz=35,slow=32						
PDAR	Pinedale Array	97.65	44	LR	LR	04 58 17.3	
	comp=Z,16nm,19.7s,baz=37,slow=31						
FINES	FINESS Array B	147.12	339	PKPbc	PKPab	04 27 16.9	-0.5
	comp=Z,3.9nm,0.6s,baz=50,slow=2.7,SNR=19						
NOA	NORSAR Array B	150.83	351	PKPbc	PKiKP	04 27 27.1	+1.1
	comp=Z,1.9nm,0.9s,baz=14,slow=1.6,SNR=3.6						
AKASG	Malin Array Be	152.95	320	PKPbc	PKiKP	04 27 31.6	+1.0
	comp=Z,0.5nm,0.4s,baz=56,slow=2.1,SNR=3.2						
DBIC	Dimbokro	153.51	165	PKPbc	PKiKP	04 27 35.3	+2.4
	comp=Z,3.5nm,1.1s,baz=231,slow=7.0,SNR=4.2						
BRTR	Keskin Array B	153.54	295	PKPbc	PKiKP	04 27 33.8	+1.4
	comp=Z,0.3nm,0.5s,baz=128,slow=3.8,SNR=3.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TORD	Torodi Ar. Bea	160.73	179	PKPab	PKPab	04 28 18.3	+2.3
	comp=Z,0.6nm,0.8s,baz=175,slow=4.7,SNR=2.7						

NNC ***05*** *04:08:28.2±0.6, 43°.40N×78°.70E, h0km, mb2.6, mpv2.6, Error ellipse: s-maj=5.9km s-min=1.8km az=162.0*
ISCJB ***05*** *04:08:29.3±0.8, 43°.34N±0°.04×78°.71E±0°.05, h8km±8km, Error ellipse: s-maj=7.5km s-min=5.3km az=142.2*
SOME ***05*** *04:08:29.4, 43°.33N×78°.68E, h10km*
ISC 05 04:08:29.0±1.2**, 43°.36N**±0°.05×**78°.71E**±0°.03**, h14**km±10km**, n11,** σ**0s.35**/21**, 7C-5D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KPKS	Kokpek	0.11	352	⇓iP	Pg	04 08 32.5	+0.1
	102nm,0.1s						
KPKS				⇑iS	Sg	04 08 34.5	-0.1
	97nm,0.3s						
ZHN	Zhinishke	0.27	226	⇑iP	Pg	04 08 34.6	-0.2
	17nm,0.1s						
ZHN				⇑iS	Sg	04 08 38.3	-0.5
	27nm,0.2s						
ZHN	Zhinishke	0.27	226	P	Pg	04 08 34.6	-0.2
	17nm,0.1s						
ZHN				S	Sg	04 08 38.3	-0.5
	27nm,0.2s						
UZB	Uzynbulak	0.31	132	⇓iP	Pg	04 08 35.7	+0.1
	4.3nm,0.1s						
UZB				⇑iS	Sg	04 08 40.0	+0.1
	12nm,0.2s						
UZB	Uzynbulak	0.31	132	P	Pg	04 08 35.7	+0.1
	4.3nm,0.1s						
UZB				S	Sg	04 08 40.0	+0.1
	12nm,0.2s						
SATY	Saty	0.37	216	⇑iP	Pg	04 08 36.4	-0.1
	11nm,0.1s						
SATY				⇑iS	Sg	04 08 41.6	0.0
	61nm,0.1s						
SATY	Saty	0.37	216	P	Pg	04 08 36.4	-0.1
	11nm,0.1s						
SATY				S	Sg	04 08 41.6	0.0
	61nm,0.1s						
PDGK	Podgornoye	0.57	93	P	Pg	04 08 40.5	+0.2
	1.6nm,0.1s						
PDGK				S	Sg	04 08 48.2	+0.3
	5.8nm,0.1s						
PDGK	Podgornoye	0.57	93	⇓P	Pg	04 08 39.3	-0.9
	0.5nm,0.4s						
PDGK				⇓S	Sg	04 08 47.5	-0.4
	0.9nm,0.3s						
KTMS	Ketmen	1.20	85	eP	Pg	04 08 51.8	-0.4
	2.7nm,0.1s						
KTMS				eS	Sg	04 09 07.8	-0.1
	2.3nm,0.1s						
TKM2	Tokmak 2	2.32	260	⇓Pg	Pb	04 09 11.1	+0.4
	1.2nm,0.8s						
TKM2				⇑Lg	Lg	04 09 41.1	
	0.8nm,0.6s						

VAO ***05*** *04:11:48.5±1.0, 14°.77S×72°.80W, h96km±7km, mb4.4*
ISCJB ***05*** *04:11:53.9±0.3, 15°.29S±0°.03×72°.42W±0°.05, h114km, mb3.9/12, Error ellipse: s-maj=6.9km s-min=4.1km az=158.2*
NEIC ***05*** *04:11:53.3±1.7, 15°.19S±0°.08×72°.46W±0°.08, h96km±4km, mb4.5/13*
IDC ***05*** *04:11:53.7±2.1, 15°.08S×72°.26W, h89km±19km, mb3.7/11, mb1 4.0/16, mb1mx3.9/33, mbtmp4.2/16, MS2.8/5, Ms1 2.8/5, ms1mx2.6/30, Error ellipse: s-maj=20.9km s-min=14.4km az=43.0*
ISC 05 04:11:54.9±0.4**, 15°.25S**±0°.05×**72°.51W**±0°.06**, h114**km**, n108,** σ**1s.74**/115**, mb4.2**/15**, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	4.34	104	P	Pn	04 12 59.8	+0.3
	12nm,0.3s,baz=287,slow=9.8,SNR=519						
LPAZ				S	Sn	04 13 49.1	-0.4
	1.7nm,0.3s,baz=206,slow=25,SNR=4.0						
LPAZ	La Paz	4.34	104	eP	Pn	04 12 59.8	+0.3
LPAZ	La Paz	4.34	104	eP	Pn	04 12 59.8	+0.3
LPAZ	La Paz	4.34	104		Pn	04 12 58.0	-1.5
MNMC	Minye Minye	4.76	145		Pn	04 13 03.4	-1.4
MNMC				Sn	Sn	04 13 55.9	-3.2
PB11	IPOC Station P	5.25	149		Pn	04 13 10.1	-1.1
PB11				Sn	Sn	04 14 07.4	-3.3
NNA	Nana	5.32	307	P	Pn	04 13 12.3	+0.2
	38nm,0.3s,baz=121,slow=9.9,SNR=76						
NNA				S	Sn	04 14 09.9	-2.3
	26nm,0.3s,baz=29,slow=15,SNR=14						
NNA	Nana	5.32	307		Pn	04 13 10.6	-1.5
NNA					Sn	04 14 09.5	-2.7
GO01	Chusmiza	5.41	145		Pn	04 13 13.0	-0.8
GO01				Sn	Sn	04 14 13.8	-1.4
PB01	IPOC Station P	6.44	154		Pn	04 13 26.1	-1.2
PB01				Sn	Sn	04 14 35.7	-3.8
PB04	IPOC Station P	7.39	163		Pn	04 13 38.2	-2.1
PB04				Sn	Sn	04 15 01.1	-1.6
LVC	Limon Verde	8.07	156	P	Pn	04 13 49.1	-0.6
	3.2nm,0.3s,baz=350,slow=9.6,SNR=27						
LVC				S	Sn	04 15 16.0	-3.5
	9.3nm,0.3s,baz=177,slow=15,SNR=12						
LVC				LR	LR	04 17 34.0	
	comp=Z,52nm,18.5s,baz=345,slow=42						
LVC	Limon Verde	8.07	156	eP	Pn	04 13 49.4	-0.3
LVC	Limon Verde	8.07	156	eP	Pn	04 13 49.4	-0.3
LVC	Limon Verde	8.07	156		Pn	04 13 48.1	-1.6
LVC					Sn	04 15 17.5	-2.0
PB10	IPOC Station P	8.43	168	Pn	Pn	04 13 53.7	-0.4
PB10					Sn	04 15 26.0	-1.5
ATAH	Atahualpa	9.92	324	S	Sn	04 16 01.1	-3.3
	0.4nm,0.3s,baz=258,slow=18,SNR=3.0						
GO02	Mina Guanaco	10.23	165		Pn	04 14 17.0	-1.9
SIV	San Ignacio	11.04	95	P	Pn	04 14 25.8	-3.8
	3.8nm,0.3s,baz=296,slow=9.8,SNR=82						
SIV				LR	LR	04 19 25.7	
	comp=Z,33nm,19.0s,baz=286,slow=42						
SAML	Samuel	11.06	57	eP	Pn	04 14 23.2	-6.6
SAML	Samuel	11.06	57	eP	Pn	04 14 23.2	-6.6
SAML	Samuel	11.06	57	Pn	Pn	04 14 23.6	-6.2
GO04	Tololo Observa	14.94	174	Pn	Pn	04 15 19.9	-0.5
CFA	Coronel Fontan	16.74	167	P	P	04 15 45.1	+2.2
	1.3nm,0.3s,baz=345,slow=11,SNR=36						
AQDB	Aquidauana	16.82	110	eP	Pn	04 15 41.9	-1.7
AQDB	Aquidauana	16.82	110	eP	Pn	04 15 41.9	-1.7
CLDB	Colider	16.85	77	eP	Pn	04 15 40.8	-3.2
CLDB	Colider	16.85	77	eP	Pn	04 15 40.8	-3.2
PP1B	Ponte de Pedra	17.07	100	eP	Pn	04 15 45.6	-1.1
PP1B	Ponte de Pedra	17.07	100	eP	Pn	04 15 45.6	-1.1
ROC1	El Roble	17.70	176		P	04 15 54.5	+0.8
CPUP	Villa Florida	17.95	130	P	Pn	04 15 57.2	-0.1
	0.2nm,0.3s,baz=335,slow=13,SNR=3.9						
CPUP	Villa Florida	17.95	130	eP	Pn	04 15 57.1	-0.1
CPUP	Villa Florida	17.95	130	eP	Pn	04 15 57.1	-0.1
CPUP	Villa Florida	17.95	130	P	P	04 15 56.2	0.0
GO05	Huala	19.68	179	P	P	04 16 14.7	-0.4
GO05				IAmb	IAmb	04 16 27.5	
	comp=Z,13nm,0.9s						
ARAG	Araguaiana, MT	19.95	94	eP	P	04 16 16.8	-1.3
ARAG	Araguaiana, MT	19.95	94	eP	P	04 16 16.8	-1.3
TRCB	Terra Rica	20.22	115	eP	P	04 16 20.7	-0.3
TRCB	Terra Rica	20.22	115	eP	P	04 16 20.7	-0.3
PCMB	Pacaembu	21.11	111	eP	P	04 16 29.9	-0.7
PCMB	Pacaembu	21.11	111	eP	P	04 16 29.9	-0.7
PTGB	Pitanga	21.37	119	eP	P	04 16 32.9	-0.5
PTGB	Pitanga	21.37	119	eP	P	04 16 32.9	-0.5
ITRB	Iturama	21.58	105	eP	P	04 16 34.6	-1.0
ITRB	Iturama	21.58	105	eP	P	04 16 34.6	-1.0
ITAB	Concordia	22.39	126	eP	P	04 16 44.5	+0.5
ITAB	Concordia	22.39	126	eP	P	04 16 44.5	+0.5
FRTB	Fartura	23.08	114	eP	P	04 16 50.6	-0.2
FRTB	Fartura	23.08	114	eP	P	04 16 50.6	-0.2
IPMB	Ipameri, GO	23.44	100	eP	P	04 16 52.3	-1.9
IPMB	Ipameri, GO	23.44	100	eP	P	04 16 52.3	-1.9
BB19B	Bebedouro	23.50	108	eP	P	04 16 53.5	-1.2
BB19B	Bebedouro	23.50	108	eP	P	04 16 53.5	-1.2
BDFB	Brasilia	23.61	94	P	P	04 16 54.3	-1.6
	comp=Z,5.3nm,0.5s,baz=270,slow=12,SNR=14						
BDFB				LR	LR	04 26 44.6	
	comp=Z,42nm,19.3s,baz=95,slow=38						
BDFB	Brasilia	23.61	94	P	P	04 16 55.0	-0.9
PLTB	Pedras Altas	23.83	137	eP	P	04 16 58.1	+0.6
PLTB	Pedras Altas	23.83	137	eP	P	04 16 58.1	+0.6
SDV	Santo Domingo	24.05	5	P	P	04 17 02.6	+2.7
	comp=Z,2.5nm,0.5s,baz=208,slow=9.4,SNR=5.4						
SDV				LR	LR	04 26 16.2	
	comp=Z,28nm,18.1s,baz=154,slow=36						
SDV	Santo Domingo	24.05	5	eP	P	04 16 50.6	-9.2
SDV	Santo Domingo	24.05	5	eP	P	04 16 50.6	-9.2
GO06	Curarrehue	24.26	178	P	P	04 17 01.1	-0.3
GO06				IAmb	IAmb	04 17 06.9	
	comp=Z,21nm,0.8s						
CNLB	Canela	24.38	129	eP	P	04 17 02.9	+0.3
CNLB	Canela	24.38	129	eP	P	04 17 02.9	+0.3
TRQA	Tornquist	24.55	160	P	P	04 17 04.8	+0.7
RCLB	Rio Claro- Sao	24.67	111	eP	P	04 17 04.7	-0.6
RCLB	Rio Claro- Sao	24.67	111	eP	P	04 17 04.7	-0.6
SPB	Sao Paulo	25.03	113	eP	P	04 17 08.6	+0.1
SPB	Sao Paulo	25.03	113	eP	P	04 17 08.6	+0.1
PMNB	Patos De Minas	25.15	101	eP	P	04 17 08.9	-0.8
PMNB	Patos De Minas	25.15	101	eP	P	04 17 08.9	-0.8
VAO	Valinhos	25.31	112	eP	P	04 17 10.8	-0.3
VAO	Valinhos	25.31	112	eP	P	04 17 10.8	-0.3
PLCA	Paso Flores	25.45	177	P	P	04 17 14.8	+2.6
	comp=Z,6.3nm,0.8s,baz=16,slow=12,SNR=10.0						
PLCA	Paso Flores	25.45	177	eP	P	04 17 12.9	+0.7
PLCA	Paso Flores	25.45	177	eP	P	04 17 12.9	+0.7
PLCA	Paso Flores	25.45	177	P	P	04 17 12.8	+0.7
PLCA				IAmb	IAmb	04 17 18.7	
	comp=Z,12nm,0.9s						
MDP	Montagnes des	28.22	46	LR	LR	04 29 29.4	
	comp=Z,16nm,19.3s,baz=123,slow=38						
MLPR	Magueyes Islan	33.45	9	P	P	04 18 22.5	-0.5
PDPR	Patillas Dam,	33.67	11	P	P	04 18 25.4	+0.4
WHTX	Lake Whitney,	52.71	333	P	P	04 20 58.1	+0.2
WHTX				IAmb	IAmb	04 21 02.5	
	comp=Z,5.6nm,1.1s						
TXAR	Lajitas Array	53.57	326	P	P	04 21 06.3	+2.0
	comp=Z,0.6nm,0.9s,baz=159,slow=6.6,SNR=4.4						
TXAR				pP	pP	04 21 28.3	-4.7
	comp=Z,0.3nm,0.7s,baz=168,slow=10,SNR=5.0						
PDAR	Pinedale Array	67.02	331	P	P	04 22 36.0	+0.1
	comp=Z,0.3nm,0.6s,baz=100,slow=7.4,SNR=2.8						
PDAR				pP	PcP	04 22 57.4	-6.1
	comp=Z,0.3nm,0.5s,baz=122,slow=9.6,SNR=5.8						
VNA3	Neumayer Olymp	67.05	162	P	P	04 22 38.2	+2.7
VNA1	Neumayer--Stat	67.28	161	P	P	04 22 40.4	+3.6
VNA2	Neumayer--Watz	67.64	161	P	P	04 22 42.2	+3.1
	baz=293,slow=7.4						
NVAR	Mina Array Bea	68.48	323	P	P	04 22 46.0	+0.8
	comp=Z,0.6nm,0.9s,baz=141,slow=4.4,SNR=3.2						
SNAA	Sanae	69.27	162	P	P	04 22 52.2	+2.8
SNAA	Sanae	69.27	162	P	P	04 22 51.1	+1.7
SNAA				IAmb	IAmb	04 22 53.2	
	comp=Z,9.8nm,1.0s						
DBIC	Dimbokro	70.46	77	P	P	04 22 58.9	+1.3
	comp=Z,3.6nm,0.4s,baz=240,slow=6.2,SNR=18						
DBIC	Dimbokro	70.46	77	P	P	04 22 58.2	+0.7
DBIC				IAmb	IAmb	04 23 00.6	
	comp=Z,4.2nm,0.5s						
QSPA	South Pole Qui	74.91	180	P	P	04 23 24.3	+1.2
TOA0	Torodi Ar. Sit	78.64	73	P	P	04 23 43.8	-1.0
TOA0				IAmb	IAmb	04 23 49.6	
	comp=Z,3.5nm,0.6s						
TORD	Torodi Ar. Bea	78.64	73	P	P	04 23 43.5	-1.4
	comp=Z,3.2nm,0.5s,baz=261,slow=4.5,SNR=31						
VNDA	Vanda	82.37	190	P	P	04 24 05.5	+1.9
	comp=Z,2.3nm,0.9s,baz=106,slow=5.0,SNR=4.5						
ESDC	Sonseca Array	83.90	46	P	P	04 24 13.7	+1.5
	comp=Z,0.1nm,0.3s,baz=284,slow=5.2,SNR=2.9						
YKA	Yellowknife Ar	84.20	342	P	P	04 24 14.3	+1.2
	comp=Z,2.4nm,0.7s,baz=135,slow=5.1,SNR=31						
ILAR	Eielson Array	97.17	335	P	Pdif	04 25 15.8	+1.7
	comp=Z,0.2nm,0.7s,baz=162,slow=2.9,SNR=4.0						
ASAR	Alice Springs	133.50	214	PKP	PKiKP	04 31 00.5	+0.6
	comp=Z,0.4nm,0.6s,baz=123,slow=1.7,SNR=4.6						
WRA	Warramunga Arr	136.18	218	PKP	PKiKP	04 31 06.7	+1.2
	comp=Z,0.8nm,0.6s,baz=134,slow=2.3,SNR=9.6						
ZALV	Zalesovo Beam	137.50	20	PKP	PKiKP	04 31 07.8	+0.7
	comp=Z,1.0nm,0.6s,baz=225,slow=1.6,SNR=3.5						
KSH	Kashi	143.34	43	PKP	PKiKP	04 31 18.3	-1.3
KSH				pPKP	pPKPdf	04 31 44.1	-4.8
KSH				SKS	SKSdf	04 38 16.7	+1.0
KSH				LR	LR		
	comp=N,490nm,5.8s						
KSH				LR	LR		
	comp=E,320nm,7.6s						
KSH				LR	LR		
	comp=Z,370nm,5.7s						
USRK	Ussuriysk Ar.	144.42	329	PKP	PKPdf	04 31 18.7	+0.9
	comp=Z,2.0nm,0.7s,baz=38,slow=6.4,SNR=4.8						
MJAR	Matsushiro Arr	145.41	314	PKPbc	PKiKP	04 31 21.7	-2.1
	comp=Z,9.4nm,1.2s,baz=67,slow=4.5,SNR=8.2						
SONM	Songino Array	147.50	1	PKPbc	PKPbc	04 31 25.6	-0.3
	comp=Z,1.6nm,0.7s,baz=318,slow=1.8,SNR=11						
KSRS	Korea Array	151.41	325	PKPbc	PKiKP	04 31 39.1	+3.0
	comp=Z,1.9nm,0.9s,baz=54,slow=6.4,SNR=6.1						
GTA	Gaotai	155.00	14	ePKPbc		04 31 39.4	
GTA				pPKP	pPKPdf	04 32 05.8	-1.7
GTA				sPKP		04 32 15.9	
LZH	Lanzhou	158.99	8	ePKP	PKPdf	04 31 42.5	+2.4
LZH				pPKP	pPKPdf	04 32 07.3	-5.4
LZH				sPKP		04 32 16.8	
LZH				PKP	PKPab	04 32 18.5	+1.7
LZH				LR	LR		
	comp=N,45nm,18.2s						
LZH				LR	LR		
	comp=E,51nm,18.0s						
LZH				LR	LR		
	comp=Z,62nm,20.1s						

SOME ***05*** *05:02:37.5, 41°.63N×72°.95E, h5km*
KRNET ***05*** *05:02:37.0±0.1, 41°.61N×72°.97E, h17km, mb2.9*
KNET ***05*** *05:02:39.0±1.2, 41°.67N×73°.11E, h2km±7km, ml2.3, Error ellipse: s-maj=7.3km s-min=5.6km az=70.0*
NNC ***05*** *05:02:39.8±1.2, 41°.73N×72°.92E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=11.1km s-min=5.3km az=169.0*
ISC 05 05:02:37.0±1.1**, 41°.63N**±0°.03×**72°.96E**±0°.02**, h2**km±11km**, n50,** σ**1s.21**/84**, 35C-17D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARSB	Arslanbob	0.31	176	⇓iP	Pg	05 02 42.7	-0.3
	baz=78						
ARSB				⇓iS	Sg	05 02 46.9	0.0
	baz=78						
AML	Almayashu	0.74	48	⇑iP	Pg	05 02 51.8	+0.5
	baz=46						
AML				⇑iS	Sg	05 03 01.7	+0.7
	baz=46						
AML	Almayashu	0.74	48	⇑P	Pg	05 02 51.8	+0.5
	23nm,0.2s,SNR=49						
AML				⇓S	Sg	05 03 02.3	+1.3
	54nm,0.2s						
ARK	Arkit	0.76	283	⇑iP	Pg	05 02 51.3	-0.4
	baz=83						
ARK				⇑iS	Sg	05 03 01.8	+0.3
	baz=83						
ARLS	Aral	1.05	77	⇑iP	Pg	05 02 57.0	-0.2
	baz=75						
ARLS				⇑iS	Sg	05 03 10.8	0.0
	baz=75						
MRKS	Merke	1.13	10	⇓iP	Pb	05 02 58.8	-0.7
	8.9nm,0.1s						
MRKS				⇑iS	Sg	05 03 14.0	+0.6
	35nm,0.4s						
MRKS	Merke	1.13	10	P	Pb	05 02 58.7	-0.7
	6.3nm,0.1s						
MRKS				S	Sg	05 03 14.0	+0.6
	33nm,0.3s						
EKS2	Erkin-Say	1.20	30	⇑iP	Pb	05 02 59.8	-0.7
	baz=30						
EKS2				⇑iS	Sb	05 03 15.8	-0.7
	baz=30						
EKS2	Erkin-Say	1.20	30	⇓P	Pb	05 02 59.9	-0.6
	5.8nm,0.2s,SNR=13						
EKS2				⇑S	Sb	05 03 16.0	-0.5
	13nm,0.1s						
UCH	Uchtor	1.31	62	⇓iP	Pn	05 03 01.9	-0.8
	baz=61						
UCH				⇓iS	Sb	05 03 19.0	-1.0
	baz=61						
UCH	Uchtor	1.31	62	⇑P	Pn	05 03 02.0	-0.7
	16nm,0.2s,SNR=13						
UCH				⇑S	Sb	05 03 19.3	-0.7
	41nm,0.2s						
AAK	Ala-Archa	1.52	48	⇓iP	Pb	05 03 06.0	-0.1
	baz=47						
AAK				⇓iS	Sb	05 03 25.5	-0.5
	baz=47						
AAK	Ala-Archa	1.52	48	⇑P	Pb	05 03 05.9	-0.2
	6.0nm,0.1s,SNR=14						
AAK	Ala-Archa	1.52	48	⇑P	Pg	05 03 06.8	+0.6
	5.5nm,0.5s						
AAK				S	Sg	05 03 28.8	+2.7
	9.4nm,0.5s						
KZA	Kyzart	1.77	75	⇓iP	Pb	05 03 09.8	-0.7
	baz=74						
KZA				⇓iS	Sb	05 03 32.8	-0.5
	baz=74						
KZA	Kyzart	1.77	75	⇑P	Pb	05 03 10.3	-0.2
	17nm,0.2s,SNR=46						
KBK	Karagaybulak	1.80	55	⇑iP	Pb	05 03 10.5	-0.4
	baz=54						
KBK				⇑iS	Sb	05 03 34.2	+0.2
	baz=54						
KBK	Karagaybulak	1.80	55	⇓P	Pb	05 03 11.3	+0.4
	8.1nm,0.1s,SNR=15						
CHMS	Chumysh	1.91	44	⇑iP	Pb	05 03 11.8	-0.8
	baz=43						
CHMS				⇑iS	Sb	05 03 37.2	+0.3
	baz=43						
CHMS	Chumysh	1.91	44	⇑P	Pg	05 03 13.5	-0.2
	5.4nm,0.1s,SNR=7.1						
USP	Ospenovka	2.00	34	⇑iP	Pb	05 03 13.4	-0.7
	baz=34						
USP				⇑iS	Sb	05 03 39.5	+0.1
	baz=34						
USP	Ospenovka	2.00	34	⇓P	Pb	05 03 14.7	+0.6
	10nm,0.2s,SNR=23						
SGDS	Sogindy	2.20	34	Pg	Pb	05 03 18.4	+0.8
	15nm,0.2s						
SGDS				Lg	Lg	05 03 47.1	
	21nm,0.3s						
IUG	Iuzhnay	2.24	284	eP	Pg	05 03 19.6	-0.4
	3.7nm,0.1s						
IUG				eS	Sg	05 03 49.1	0.0
	66nm,0.5s						
IUG	Iuzhnay	2.24	284	Pg	Pg	05 03 19.6	-0.4
	3.7nm,0.1s						
IUG				Lg	Lg	05 03 49.1	
	57nm,0.2s						
BTK	Batken	2.26	227	⇑iP	Pn	05 03 16.6	+1.2
	baz=27						
BTK				⇑iS	Sb	05 03 45.5	-1.4
	baz=27						
NRN	Naryn	2.29	94	⇓iP	Pn	05 03 17.0	+0.8
	baz=94						
NRN				⇓iS	Sb	05 03 46.0	-2.2
	baz=94						
KK31	Karatay Array	2.33	310	⇑Pn	Pb	05 03 19.5	-0.3
	6.2nm,0.3s,baz=127,slow=16,SNR=48						
KK31				⇓Lg	Lg	05 03 52.0	
	4.6nm,0.3s,baz=135,slow=28,SNR=12						
TKM2	Tokmak 2	2.35	56	⇑iP	Pb	05 03 18.4	-1.8
	baz=55						
TKM2				⇑iS	Sb	05 03 48.0	-1.7
	baz=55						
TKM2	Tokmak 2	2.35	56	⇑Pn	Pb	05 03 21.0	+0.8
	12nm,0.6s						
TKM2				⇓Lg	Lg	05 03 52.3	
	9.0nm,0.4s						
BOOM	Boomskoye usch	2.38	68	⇑eP	Pn	05 03 18.5	+1.2
	baz=67						
BOOM				⇑iS	Sb	05 03 48.5	-2.2
	baz=67						
ULHL	Ulahol	2.53	75	⇑iP	Pn	05 03 20.3	+1.0
	baz=74						
ULHL				⇑iS	Sb	05 03 52.1	-2.8
	baz=74						
DGS	Degeres	2.63	51	eP	Pb	05 03 26.1	+1.1
	11nm,0.5s						
DGS				eS	Sg	05 04 01.0	-0.7
	22nm,0.4s						
DGS	Degeres	2.63	51	Pg	Pb	05 03 26.1	+1.1
	11nm,0.5s						
DGS				Lg	Lg	05 04 01.0	
	22nm,0.4s						
KST	Kastek	2.64	57	eP	Pb	05 03 26.0	+0.9
	12nm,0.3s						
KST				eS	Sg	05 04 01.1	-0.7
	35nm,0.5s						
KST	Kastek	2.64	57	Pg	Pb	05 03 26.0	+0.9
	12nm,0.2s						
KST				Lg	Lg	05 04 01.1	
	33nm,0.4s						
BRLS	Borolday	2.70	302	eP	Pb	05 03 27.6	+1.5
	0.7nm,0.3s						
BRLS				eS	Sg	05 04 03.2	-0.6
	26nm,0.4s						
MTBS	Maitube	2.98	59	eP	Pb	05 03 32.1	+1.3
	6.7nm,0.2s						
MTBS				eS	Sg	05 04 11.8	-0.9
	12nm,0.3s						
MTBS	Maitube	2.98	59	Pg	Pb	05 03 32.1	+1.3
	6.7nm,0.2s						
MTBS				Lg	Lg	05 04 11.8	
	12nm,0.3s						
IZV	Izvestkoviy	3.05	61	eP	Pb	05 03 33.8	+1.6
	14nm,0.6s						
IZV				eS	Sg	05 04 14.2	-1.0
	20nm,0.5s						
IZV	Izvestkoviy	3.05	61	Pg	Pb	05 03 33.8	+1.6
	14nm,0.4s						
IZV				Lg	Lg	05 04 14.2	
	20nm,0.5s						
KDJ	Kajisay	3.19	80	⇑iP	Pn	05 03 29.4	+1.0
	baz=79						
KDJ				⇑iS	Sn	05 04 07.6	+0.5
	baz=79						
TNSS	Tian-Shan	3.28	63	eP	Pb	05 03 37.8	+1.7
	12nm,0.4s						
TNSS				eS	Sg	05 04 21.8	-0.5
	14nm,0.5s						
KTBS	Karatobe	3.45	52	eP	Pb	05 03 40.2	+1.4
	2.6nm,0.5s						
KTBS				eS	Sg	05 04 25.3	-2.4
	14nm,0.3s						
KTBS	Karatobe	3.45	52	Pg	Pb	05 03 40.2	+1.4
	2.1nm,0.3s						
KTBS				Lg	Lg	05 04 25.3	
	14nm,0.3s						
KOTS	Kotyrbulak	3.47	61	eP	Pb	05 03 41.6	+2.3
	16nm,0.3s						
KOTS				eS	Sg	05 04 27.7	-0.8
	35nm,0.5s						
KOTS	Kotyrbulak	3.47	61	Pg	Pb	05 03 41.6	+2.3
	16nm,0.2s						
KOTS				Lg	Lg	05 04 27.7	
	35nm,0.5s						
BTLS	Baital	3.50	13	eP	Pb	05 03 41.1	+1.4
	1.4nm,0.2s						
BTLS				eS	Sg	05 04 26.5	-3.0
	9.4nm,0.4s						
BTLS	Baital	3.50	13	Pg	Pb	05 03 40.7	+0.9
	0.8nm,0.2s						
BTLS				Lg	Lg	05 04 25.5	
	9.4nm,0.4s						
CHKK	Chushkaly	3.71	52	eP	Pb	05 03 45.3	+2.0
	1.7nm,0.5s						
CHKK				eS	Sg	05 04 33.5	-2.7
	9.8nm,0.4s						

ISCJB ***05*** *05:13:49.7±0.6, 49°.69S±0°.07×121°.6E±0°.3, h10km, mb4.2/8, MS3.3/7, Error ellipse: s-maj=27.9km s-min=9.9km az=9.6*
IDC ***05*** *05:13:50.2±0.8, 49°.68S×121°.71E, h0km, mb4.3/8, mb1 4.4/9, mb1mx4.1/33, mbtmp4.3/9, ML1.7/1, MS3.4/8, Ms1 3.4/8, ms1mx3.2/17, Error ellipse: s-maj=43.1km s-min=15.2km az=100.0*
ISC 05 05:13:51.7±0.8**, 49°.68S**±0°.10×**121°.7E**±0°.2**, h10**km**, n20,** σ**0s.46**/15**, mb4.2**/8**, MS3.4**/7**, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	15.79	337	T	T	05 33 45.1	
	baz=160,slow=74,SNR=11						
H01W2	Cape Leeuwin H	15.79	337	T	T	05 33 50.0	
	baz=160,slow=74,SNR=14						
H01W3	Cape Leeuwin H	15.80	337	T	T	05 33 40.2	
	baz=160,slow=74,SNR=11						
NWAO	Narrogin (SRO)	17.07	347	P	Pn	05 17 49.9	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.1nm,0.3s,baz=197,slow=5.4,SNR=3.2						
NWAO				LR	LR	05 22 53.0	
	comp=Z,198nm,19.5s,baz=224,slow=32						
STKA	**Stephens Creek**	**23.18**	**47**	P	**P**	**05 18 58.5**	**+0.1**
	3.9nm,0.8s,baz=195,slow=15,SNR=5.1						
STKA				LR	LR	05 26 11.6	
	comp=Z,51nm,21.5s,baz=205,slow=32						
ASAR	**Alice Springs**	**27.67**	**25**	P	**P**	**05 19 39.6**	**-0.2**
	4.7nm,0.9s,baz=191,slow=8.5,SNR=21						
ASAR				LR	LR	05 29 30.0	
	comp=Z,150nm,21.1s,baz=196,slow=34						
WRA	**Warramunga Arr**	**31.34**	**23**	P	**P**	**05 20 11.9**	**-0.3**
	2.2nm,0.8s,baz=199,slow=9.0,SNR=6.8						
WRA				LR	LR	05 32 04.9	
	comp=Z,80nm,21.9s,baz=160,slow=35						
FITZ	**Fitzroy Crossi**	**31.66**	**7**	P	**P**	**05 20 15.9**	**+0.8**
	6.7nm,1.1s,baz=185,slow=11,SNR=4.3						
VNDA	**Vanda**	**31.77**	**165**	P	**P**	**05 20 15.8**	**+0.3**
	5.3nm,0.7s,baz=310,slow=9.3,SNR=28						
VNDA				LR	LR	05 32 23.4	
	comp=Z,121nm,18.3s,baz=310,slow=35						
MAW	**Mawson**	**33.80**	**216**	LR	LR	05 32 39.3	
	comp=Z,40nm,18.2s,baz=56,slow=33						
QSPA	**South Pole Qui**	**40.44**	**180**	P	**P**	**05 21 30.1**	**+0.1**
	4.5nm,1.0s,baz=327,slow=4.4,SNR=9.6						
QSPA				PcP	**PcP**	**05 23 32.4**	**-0.1**
	2.4nm,1.1s,baz=305,slow=2.3,SNR=3.0						
SNAA	**Sanae**	**52.79**	**199**	P	**P**	**05 23 06.6**	**0.0**
SNAA	**Sanae**	**52.79**	**199**	P	**P**	**05 23 06.3**	**-0.2**
	9.7nm,0.9s,baz=147,slow=11,SNR=24						
VNA2	**Neumayer--Watz**	**54.31**	**198**	P	**P**	**05 23 17.5**	**-0.1**
	baz=137,slow=6.0						
VNA3	**Neumayer Olymp**	**54.52**	**197**	P	**P**	**05 23 18.0**	**-1.1**
VNA1	**Neumayer--Stat**	**54.71**	**198**	P	**P**	**05 23 20.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**70.78**	**337**	P	**P**	**05 25 08.4**	**+0.3**
	0.6nm,0.6s,baz=188,slow=5.5,SNR=4.2						
CMAR				LR	LR	05 53 56.5	
	comp=Z,9.9nm,20.8s,baz=190,slow=34						
PLCA	**Paso Flores**	**89.32**	**171**	LR	LR	06 03 18.6	
	comp=Z,26nm,20.9s,baz=200,slow=33						
PDAR	**Pinedale Array**	**144.45**	**81**	PKP	PKPbc	05 33 25.9	-0.5
	0.2nm,0.7s,baz=263,slow=2.3,SNR=1.7						
YKA	**Yellowknife Ar**	**147.21**	**46**	PKPbc	**PKPbc**	**05 33 33.7**	**-0.2**
	1.4nm,0.6s,baz=271,slow=2.7,SNR=24						

*GCG **05** 05:28:46.5±0.6, 13.°97N×91.°48W, h32km±18km, MD3.6*
*SNET **05** 05:28:47.2±1.1, 14.°28N×91.°27W, h18km±8km, ML2.8*
ISC 05 05:28:43.5±2.9**, 13.°9N**±0.°2×**91.°6W**±0.°1**, h10km, n8,**
σ**1.08**/12**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.58**	**358**	eP	**Pb**	**05 28 56.7**	**+1.0**
ERG				eS	**Sb**	**05 29 04.1**	**+0.1**
STG3	**Santiaguito 3,**	**0.85**	**358**	eP	**Pg**	**05 28 59.3**	**-0.6**
FUG	**Fuego 3**	**0.90**	**49**	eP	**Pg**	**05 29 01.9**	**+1.0**
IXG	**Ixpaco**	**1.12**	**74**	eP	**Pg**	**05 29 05.0**	**0.0**
IXG				eS	**Sb**	**05 29 20.1**	**+0.4**
CEVE	**Cerro Verde**	**1.87**	**91**	eP	**Pn**	**05 29 16.1**	**+0.3**
CEVE				eS	**Sn**	**05 29 38.7**	**-0.8**
CEVE				IAML		05 29 46.5	
	comp=Z,266nm,0.5s						
SNJE	**San Jose**	**1.88**	**89**	eP	**Pn**	**05 29 16.1**	**+0.2**
SNJE				eS	**Sn**	**05 29 37.8**	**-2.2**
MTO3	**Montecristo**	**2.19**	**76**	eP	**Pn**	**05 29 18.7**	**-1.5**
PAVA	**Las Pavas**	**2.54**	**93**	eP	**Pn**	**05 29 25.5**	**+0.6**

*ISK **05** 06:09:42.7, 38.°03N×42.°90E, h1km, ML3.0/10*
*DDA **05** 06:09:43.0, 38.°00N×42.°94E, h8km±2km, ML2.5*
ISC 05 06:09:43.6±1.1**, 38.°01N**±0.°03×**42.°96E**±0.°02**, h5**km±9km**,**
n32, σ**0.84**/53**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GEVA	**Gevas**	**0.31**	**15**	i PA	**Pg**	**06 09 49.1**	**-0.7**
GEVA				i S	**Sg**	**06 09 53.6**	**-0.4**
GEVA				IAML		06 09 55.0	
	comp=N,835nm,0.3s						
GEVA				IAML		06 09 55.0	
	comp=E,2μm,0.3s						
AKDM	**Akdamar-Van**	**0.32**	**3**	PG	**Pg**	**06 09 49.8**	**-0.2**
AKDM				SG	**Sg**	**06 09 55.1**	**+0.9**
TVAN	**Van**	**0.63**	**34**	i P	**Pg**	**06 09 55.3**	**-0.5**
TVAN				i S	**Sg**	**06 10 04.8**	**+0.8**
TVAN				IAML		06 10 13.0	
	comp=E,299nm,0.9s						
TVAN				IAML		06 10 14.0	
	comp=N,377nm,0.7s						
SIRT	**Sirnak**	**0.65**	**219**	PG	**Pg**	**06 09 56.2**	**0.0**
VANB	**Van**	**0.68**	**30**	PG	**Pg**	**06 09 55.8**	**-0.9**
HAKT	**HAKKARI**	**0.74**	**127**	i P	**Pg**	**06 09 57.3**	**-0.7**
HAKT				i S	**Sg**	**06 10 08.6**	**+0.9**
HAKT				IAML		06 10 15.0	
	comp=E,498nm,0.5s						
HAKT				IAML		06 10 16.0	
	comp=N,399nm,0.3s						
BLIS	**Bitlis-Merkez**	**0.78**	**302**	i PA	**Pg**	**06 09 58.2**	**-0.4**
BLIS				i S	**Sb**	**06 10 09.9**	**-0.7**
BLIS				IAML		06 10 13.0	
	comp=E,251nm,0.4s						
BLIS				IAML		06 10 15.0	
	comp=N,221nm,0.3s						
SRTM	**Siirt_Merkez**	**0.82**	**269**	i P	**Pb**	**06 10 00.0**	**-0.4**
SRTM				i S	**Sg**	**06 10 09.9**	**-0.1**
SRTM				IAML		06 10 15.0	
	comp=E,292nm,0.5s						
SRTM				IAML		06 10 19.0	
	comp=N,364nm,0.5s						
ADCV	**BITLIS_Adilcev**	**0.82**	**347**	i P	**Pg**	**06 09 58.9**	**-0.5**
ADCV				i S	**Sg**	**06 10 10.7**	**+0.6**
ADCV				IAML		06 10 15.0	
	comp=N,170nm,0.6s						
ADCV				IAML		06 10 30.0	
	comp=E,141nm,1.2s						
BASK	**Baskale_VAN**	**0.83**	**87**	i P	**Pg**	**06 09 59.4**	**-0.1**
BASK				i S	**Sb**	**06 10 13.3**	**+1.1**
BASK				IAML		06 10 17.0	
	comp=N,150nm,0.8s						
BASK				IAML		06 10 19.0	
	comp=E,186nm,0.9s						
GURO	**Guroymak-BITLI**	**0.91**	**307**	PG	**Pg**	**06 10 00.3**	**-0.8**
VMUR	**Van-Muradiye**	**1.09**	**26**	i P	**Pg**	**06 10 04.2**	**-0.4**
VMUR				i S	**Sn**	**06 10 20.4**	**-1.0**
VMUR				IAML		06 10 23.0	
	comp=E,116nm,0.7s						
VMUR				IAML		06 10 24.0	
	comp=N,96nm,0.5s						
YOVA	**Hakkari_Yksek**	**1.14**	**111**	i P	**Pg**	**06 10 04.8**	**-0.6**
YOVA				i S	**Sb**	**06 10 20.9**	**-0.1**
YOVA				IAML		06 10 25.0	
	comp=E,93nm,0.4s						
YOVA				IAML		06 10 27.0	
	comp=N,81nm,1.1s						
MLAZ	**Malazgirt-MUS**	**1.18**	**344**	PN	**Pg**	**06 10 05.6**	**-0.6**
BTMN	**Batman**	**1.34**	**266**	i PA	**Pg**	**06 10 09.3**	**0.0**
BTMN				i S	**Sn**	**06 10 28.5**	**+1.3**
BTMN				IAML		06 10 30.0	
	comp=N,334nm,0.9s						
BTMN				IAML		06 10 30.0	
	comp=E,309nm,0.6s						
MUSM	**Mu-Merkez**	**1.34**	**303**	i PA	**Pg**	**06 10 09.0**	**-0.4**
MUSM				i S	**Sn**	**06 10 27.1**	**-0.3**
MUSM				IAML		06 10 32.0	
	comp=N,54nm,0.9s						
MUSM				IAML		06 10 32.0	
	comp=E,73nm,0.3s						
CLDR	**Caldiran**	**1.36**	**33**	i P	**Pg**	**06 10 10.0**	**+0.2**
CLDR				i S	**Sn**	**06 10 28.2**	**+0.2**
CLDR				IAML		06 10 34.0	
	comp=E,48nm,0.6s						
CLDR	**Caldiran**	**1.36**	**33**	PN	**Pg**	**06 10 09.7**	**0.0**
SVAN	**Silvan-Diyarba**	**1.40**	**276**	i PA	**Pg**	**06 10 10.0**	**-0.4**
SVAN				i S	**Sg**	**06 10 28.6**	**+0.1**
SVAN				IAML		06 10 31.0	
	comp=N,85nm,0.7s						
SVAN				IAML		06 10 31.0	
	comp=E,55nm,0.4s						
SVAN	**Silvan-Diyarba**	**1.40**	**276**	PN	**Pn**	**06 10 09.5**	**-0.3**
TUTA	**Tutak**	**1.40**	**355**	i P	**Pn**	**06 10 09.3**	**-0.7**
TUTA				i S	**Sn**	**06 10 29.1**	**+0.1**
TUTA				IAML		06 10 38.0	
	comp=N,68nm,0.4s						
BNGL	**BINGOL**	**1.70**	**304**	i P	**Pg**	**06 10 16.1**	**-0.2**
BNGL				i S	**Sg**	**06 10 41.2**	**+2.8**
MARD	**Mardin**	**1.86**	**249**	i P	**Pn**	**06 10 16.4**	**+0.1**
MARD				i S	**Sn**	**06 10 40.2**	**0.0**
MARD				IAML		06 10 45.0	
	comp=E,219nm,0.6s						
MARD				IAML		06 10 48.0	
	comp=N,270nm,0.9s						
EATA	**Eleskirt**	**1.89**	**349**	i P	**Pb**	**06 10 18.1**	**-0.7**
EATA				i S	**Sg**	**06 10 45.1**	**+0.8**
BNGB	**Bingl**	**2.04**	**299**	PN	**Pn**	**06 10 18.6**	**-0.1**
BGOL	**Bingol**	**2.04**	**299**	i P	**Pb**	**06 10 20.6**	**-0.7**
BGOL				i S	**Sg**	**06 10 48.8**	**-0.5**
BGOL				IAML		06 10 54.0	
	comp=N,30nm,0.5s						
BGOL				IAML		06 10 56.0	
	comp=E,30nm,0.6s						
HANI	**Diyarbakir_Han**	**2.06**	**282**	i P	**Pb**	**06 10 20.1**	**-1.4**
HANI				i S	**Sn**	**06 10 45.3**	**+0.3**
HANI				IAML		06 10 52.0	
	comp=E,47nm,0.3s						
HANI				IAML		06 10 56.0	
	comp=N,52nm,0.3s						
MAZI	**Mazidag**	**2.06**	**255**	PN	**Pn**	**06 10 19.2**	**+0.1**
KOPR	**Koprukoy-ERZUR**	**2.16**	**337**	PN	**Pn**	**06 10 20.5**	**+0.1**
HOMI	**Horasan**	**2.19**	**338**	i P	**Pb**	**06 10 24.2**	**+0.2**
HOMI				i S	**Sg**	**06 10 57.2**	**+3.1**
HOMI				IAML		06 11 03.0	
	comp=E,30nm,1.0s						
HOMI				IAML		06 11 05.0	
	comp=N,24nm,0.6s						
DYBB	**Diyarbakir**	**2.23**	**269**	PN	**Pn**	**06 10 21.4**	**+0.2**
EJDE	**Erzurum, Palan**	**2.23**	**325**	i P	**Pb**	**06 10 25.1**	**+0.4**
EJDE				IAML		06 11 06.0	
	comp=E,28nm,0.6s						
EJDE				IAML		06 11 10.0	
	comp=N,26nm,0.9s						

*NEIC **05** 06:19:56.8±2.1, 26.°72S±0.°06×176.°1W±0.°1, h10km±1km, mb4.5/17*
*IDC **05** 06:19:57.0±0.9, 26.°89S×176.°34W, h0km, mb4.0/7, mb1 4.4/8, mb1mx4.1/26, mbtmp4.0/8, ML5.2/1, MS3.5/8, Ms1 3.5/8, ms1mx3.1/29, Error ellipse: s-maj=37.6km s-min=20.6km az=139.0*
*ISCJB **05** 06:19:59.8±0.5, 26.°79S±0.°05×176.°44W±0.°08, h31km, mb4.0/7, MS3.5/8, Error ellipse: s-maj=10.7km s-min=7.0km az=0.4*
ISC 05 06:20:01.4±0.6**, 26.°89S**±0.°05×**176.°40W**±0.°10**, h31km, n53,**
σ**1.89**/43**, mb4.3**/13**, MS3.5**/8**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.71**	**209**	Pn	**Pn**	**06 20 42.8**	**0.0**
	438nm,0.3s,baz=79,slow=18,SNR=8.5						
RAO				Sn	**Sn**	**06 21 18.0**	**+3.4**
	427nm,0.3s,baz=70,slow=22,SNR=7.9						
RAO	**Raoul Island**	**2.71**	**209**		**Pn**	**06 20 43.6**	**+0.8**
RAO					**Sb**	**06 21 20.5**	**-1.5**
NIUE	**Niue**	**9.79**	**39**	Pn	Pn	06 22 12.6	-7.6
MSVF	**Nonsavu**	**10.46**	**329**	Pn	**Pn**	**06 22 25.9**	**-3.5**
MSVF					**Sn**	**06 24 24.8**	**-0.8**
MXZ	**Matakaoa Point**	**11.54**	**202**	Pn	**Pn**	**06 22 43.3**	**-0.7**
URZ	**Urewera**	**12.58**	**204**	Pn	Pn	06 22 51.6	-6.6
	1.0nm,0.3s,baz=96,slow=9.2,SNR=4.6						
URZ				Sn	**Sn**	**06 25 09.6**	**-7.6**
	2.5nm,0.3s,baz=155,slow=20,SNR=10						
AFI	**Afiamalu**	**13.62**	**19**	Pn	Pn	06 23 05.2	-7.3
	1.4nm,0.3s,baz=194,slow=4.2,SNR=2.8						
MSWZ	**Moikau Station**	**16.04**	**203**	Pn	**Pn**	**06 23 44.1**	**-0.6**
RAR	**Rarotonga**	**16.20**	**73**	Pn	Pn	06 23 36.2	-11
	2.1nm,0.3s,baz=23,slow=6.5,SNR=4.1						
RAR				LR	LR	06 28 49.0	
	comp=Z,169nm,21.7s,baz=286,slow=33						
RAR	**Rarotonga**	**16.20**	**73**		Pn	06 23 38.1	-8.7
RAR				IAmb	IAmb	06 23 39.1	
	comp=Z,38nm,0.9s						
DZM	**Mont Dzumac**	**16.34**	**283**	eP	**P**	**06 23 56.2**	**+4.9**
	comp=Z,52nm,1.6s						
DZM				eLR	LR	06 27 44.4	
	comp=Z,279nm,22.6s						
DZM	**Mont Dzumac**	**16.34**	**283**	Pn	P	06 23 58.5	+7.3
	comp=Z,0.3nm,0.3s,baz=99,slow=14,SNR=3.9						
DZM				LR	LR	06 29 17.8	
	comp=Z,286nm,18.1s,baz=174,slow=34						
TUWZ	**Tuamarina**	**16.54**	**206**	Pn	**Pn**	**06 23 52.1**	**+1.1**
KHZ	**Kahutara**	**17.54**	**205**	P	**P**	**06 24 04.3**	**0.0**
TBI	**Tubuai**	**24.62**	**88**	eLR	LR	06 30 58.3	
	comp=Z,161nm,28.8s						
PAE	**Paea**	**26.41**	**75**	eT	T	06 52 10.5	
	comp=Z,3.4nm,0.3s						
PPT2	**Papeete2**	**26.45**	**75**	eLR	LR	06 31 55.5	
	comp=Z,138nm,24.5s						
PPT2	**Papeete2**	**26.45**	**75**	eT	T	06 52 13.9	
	comp=Z,2.1nm,0.3s						
PPT	**Papeete**	**26.46**	**75**	LR	LR	06 33 41.2	
	comp=Z,66nm,19.1s,baz=232,slow=31						
ARMA	**Armidale**	**28.23**	**255**	P	**P**	**06 25 52.9**	**+1.2**
ARMA				IAmb	IAmb	06 26 02.0	
	comp=Z,9.1nm,1.1s						
EIDS	**Eidsvold**	**29.20**	**266**	P	**P**	**06 26 00.2**	**-0.1**
EIDS				IAmb	IAmb	06 26 18.4	
	comp=Z,9.2nm,1.1s						
TOO	**Toolangi**	**33.75**	**242**	P	**P**	**06 26 41.2**	**+1.0**
CTAO	**Charters Tower**	**34.82**	**273**	P	**P**	**06 26 49.9**	**+0.1**
STKA	**Stephens Creek**	**36.77**	**252**	LR	LR	06 41 09.9	
	comp=Z,128nm,18.6s,baz=30,slow=35						
COEN	**Coen**	**39.84**	**281**	P	**P**	**06 27 32.8**	**+0.6**
AS31	**Alice Springs**	**44.83**	**263**	P	**P**	**06 28 12.7**	**-0.2**
ASAR	**Alice Springs**	**44.83**	**263**	P	**P**	**06 28 13.2**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=90,slow=6.6,SNR=10						
WR0	**Warramunga Arr**	**45.32**	**268**	P	**P**	**06 28 17.6**	**+0.8**
WR0				IAmb	IAmb	06 28 33.5	
	comp=Z,4.5nm,0.8s						
WRAB	**Tennant Creek**	**45.50**	**268**	P	**P**	**06 28 20.3**	**+2.1**
WRAB				IAmb	IAmb	06 28 28.8	
	comp=Z,5.9nm,0.7s						
WRA	**Warramunga Arr**	**45.51**	**268**	P	**P**	**06 28 18.5**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=109,slow=7.4,SNR=5.2						
WB0	**Warramunga Arr**	**45.51**	**268**	P	**P**	**06 28 18.4**	**+0.1**
WB0				IAmb	IAmb	06 28 35.0	
	comp=Z,7.8nm,0.9s						
SBA	**Scott Base**	**51.63**	**184**	P	**P**	**06 29 05.7**	**+1.1**
FITZ	**Fitzroy Crossi**	**53.88**	**267**	P	**P**	**06 29 20.6**	**-1.4**
FITZ				IAmb	IAmb	06 29 34.3	
	comp=Z,6.1nm,1.1s						
QSPA	**South Pole Qui**	**63.21**	**180**	P	**P**	**06 30 26.7**	**+0.2**
MAW	**Mawson**	**76.08**	**200**	LR	LR	07 04 02.0	
	comp=Z,54nm,19.1s,baz=57,slow=35						
SNAA	**Sanae**	**81.61**	**178**	P	**P**	**06 32 16.2**	**+0.3**
VNA3	**Neumayer Olymp**	**81.69**	**176**	P	**P**	**06 32 16.4**	**+0.1**
BAR	**Barrett**	**82.07**	**47**	P	**P**	**06 32 16.6**	**-2.3**
VNA2	**Neumayer--Watz**	**82.15**	**176**	P	**P**	**06 32 19.1**	**+0.4**
	baz=163,slow=2.9						
PET	**Petropavlovsk**	**82.49**	**345**	P	**P**	**06 32 18.6**	**-1.8**
KSRS	**Korea Array**	**82.63**	**318**	LR	LR	07 07 32.0	
	comp=Z,11nm,18.6s,baz=0.0,slow=34						
HKPS	**Hong Kong Po S**	**83.07**	**299**	P	**P**	**06 32 22.0**	**-2.2**
PLCA	**Paso Flores**	**83.85**	**133**	LR	LR	06 59 35.2	
	comp=Z,22nm,20.5s,baz=190,slow=28						
NVAR	**Mina Array Bea**	**84.71**	**42**	P	**P**	**06 32 32.9**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=222,slow=7.9,SNR=5.1						
TXAR	**Lajitas Array**	**89.30**	**56**	P	**P**	**06 32 55.7**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=224,slow=5.0,SNR=4.7						
PDAR	**Pinedale Array**	**92.62**	**43**	P	**P**	**06 33 10.7**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=236,slow=6.4,SNR=3.8						
PDAR				LR	LR	07 06 33.2	
	comp=Z,29nm,20.7s,baz=18,slow=30						
CMAR	**Chiang Mai Arr**	**93.59**	**289**	P	**P**	**06 33 16.1**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=116,slow=4.1,SNR=3.2						
ILAR	**Eielson Array**	**94.21**	**12**	P	**P**	**06 33 17.4**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=204,slow=4.3,SNR=4.4						
NB2	**NORSAR Subarra**	**145.47**	**353**	PKP	**PKPdf**	**06 39 36.0**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**145.47**	**353**	PKPbc	**PKPab**	**06 39 36.3**	**+0.2**
	comp=Z,2.3nm,1.0s,baz=10.0,slow=2.5,SNR=2.8						
AKASG	**Malin Array Be**	**149.24**	**327**	PKPbc	**PKPbc**	**06 39 46.1**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=47,slow=3.6,SNR=3.4						
BRTR	**Keskin Array B**	**151.96**	**305**	PKPbc	**PKPbc**	**06 39 53.7**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=146,slow=3.3,SNR=2.4						
BRTR				PKPab	**PKPab**	**06 40 04.5**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=132,slow=5.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**166.21**	**172**	PKPab	**PKPab**	**06 41 04.5**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=192,slow=4.3,SNR=6.0						

*NEIC **05** 06:22:56.8±2.1, 20.°23S±0.°09×177.°8W±0.°1, h481km±4km, mb4.3/61*
*IDC **05** 06:22:59.1±1.9, 20.°60S×177.°76W, h517km±21km, mb3.7/11, mb1 3.9/13, mb1mx3.6/30, mbtmp4.6/13, Error ellipse: s-maj=19.9km s-min=12.5km az=159.0*
ISC 05 06:23:01.1±0.4**, 20.°47S**±0.°07×**177.°84W**±0.°08**, h534km,**
n149, σ**1.25**/149**, mb4.3**/42**, 26C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.75**	**304**	P	P	06 24 21.6	-6.5
NIUE	**Niue**	**7.58**	**81**	P	P	06 24 43.9	-10
AFI	**Afiamalu**	**8.72**	**43**	P	P	06 24 57.5	-8.5
	29nm,0.3s,baz=190,slow=2.1,SNR=24						
AFI				S	S	06 26 31.5	-17
	28nm,0.3s,baz=323,slow=23,SNR=10						
AFI	**Afiamalu**	**8.72**	**43**	P	P	06 24 56.9	-9.1
AFI					S	06 26 32.8	-15
RAO	**Raoul Island**	**8.74**	**180**	P	**P**	**06 25 02.5**	**-3.3**
	165nm,0.3s,baz=108,slow=20,SNR=4.1						
RAO				S	**S**	**06 26 44.3**	**-3.9**
	96nm,0.3s,baz=75,slow=20,SNR=3.9						
RAO	**Raoul Island**	**8.74**	**180**	P	P	06 25 01.1	-4.7
DZM	**Mont Dzumac**	**14.74**	**261**	P	**P**	**06 26 06.7**	**-1.6**
	0.3nm,0.3s,baz=75,slow=19,SNR=5.5						
DZM	**Mont Dzumac**	**14.74**	**261**	P	**P**	**06 26 06.6**	**-1.8**
KUZ	**Kuaotunu**	**17.16**	**198**	P	**P**	**06 26 33.6**	**+1.6**
MXZ	**Matakaoa Point**	**17.36**	**190**	P	P	06 26 41.9	+8.1
WMGZ	**Waiomatatini S**	**17.59**	**190**	P	**P**	**06 26 38.3**	**+2.4**
WMGZ				S	S	06 29 45.3	+14
HAZ	**Te Kaha**	**17.64**	**192**	P	**P**	**06 26 38.4**	**+2.1**
HAZ				S	S	06 29 51.6	+20
MKAZ	**Moumakai**	**17.66**	**199**	P	**P**	**06 26 37.4**	**+0.9**
PKGZ	**Pakihiroa**	**17.71**	**191**	P	**P**	**06 26 41.0**	**+3.9**
AWAZ	**Awhitu Peninsu**	**17.79**	**200**	P	**P**	**06 26 39.3**	**+1.6**
RUGZ	**Raukumara Rang**	**17.86**	**192**	P	P	06 26 47.2	+8.7
PUZ	**Puketiti**	**17.86**	**190**	P	**P**	**06 26 42.5**	**+4.1**
PUZ				S	S	06 29 53.4	+18
MWZ	**Matawai**	**18.25**	**192**	P	**P**	**06 26 42.3**	**+0.3**
MWZ				S	S	06 29 58.8	+17
URZ	**Urewera**	**18.26**	**193**	P	**P**	**06 26 39.9**	**-2.1**
	2.1nm,0.3s,baz=288,slow=1.9,SNR=6.9						
URZ	**Urewera**	**18.26**	**193**	P	**P**	**06 26 40.7**	**-1.3**
URZ				S	S	06 30 04.9	+23
URZ	**Urewera**	**18.26**	**193**	P	**P**	**06 26 41.3**	**-0.7**
HLRZ	**Highlands Stat**	**18.42**	**195**	P	**P**	**06 26 47.5**	**+4.0**
MTHZ	**Maungataniwha**	**18.89**	**193**	P	**P**	**06 26 49.4**	**+1.6**
MTHZ				S	S	06 30 19.1	+27
KNZ	**Kokohu**	**18.89**	**191**	P	**P**	**06 26 47.8**	**+0.1**
KNZ				S	S	06 30 12.7	+21
NMHZ	**Naumai**	**19.13**	**193**	P	**P**	**06 26 48.9**	**-1.2**
BHHZ	**Black Hill Sta**	**19.67**	**194**	P	**P**	**06 26 52.7**	**-2.2**
TSZ	**Takapari Road**	**20.23**	**194**	P	**P**	**06 27 00.1**	**+0.1**
SNZO	**South Karori**	**21.72**	**195**	P	**P**	**06 27 11.1**	**-2.2**
MLZ	**Mavora Lakes**	**27.40**	**202**	P	**P**	**06 28 04.3**	**+0.6**
EIDS	**Eidsvold**	**29.00**	**254**	P	**P**	**06 28 18.4**	**+0.4**
EIDS				IAmb	IAmb	06 28 36.1	
	comp=Z,16nm,1.5s						
ARMA	**Armidale**	**29.22**	**244**	P	**P**	**06 28 21.7**	**+1.8**
PMG	**Port Moresby**	**35.48**	**283**	P	**P**	**06 29 12.1**	**-1.1**
	comp=Z,14nm,0.9s,baz=120,slow=6.2,SNR=3.7						
PMG	**Port Moresby**	**35.48**	**283**	P	**P**	**06 29 11.6**	**-1.6**
TOO	**Toolangi**	**36.04**	**234**	P	**P**	**06 29 19.0**	**+1.5**
COEN	**Coen**	**37.73**	**274**	P	**P**	**06 29 31.8**	**+0.1**
COEN				IAmb	IAmb	06 29 32.8	
	comp=Z,8.0nm,0.8s						
STKA	**Stephens Creek**	**37.94**	**244**	P	**P**	**06 29 31.1**	**-2.1**
	comp=Z,2.5nm,0.6s,baz=90,slow=12,SNR=2.5						
STKA	**Stephens Creek**	**37.94**	**244**	P	**P**	**06 29 34.5**	**+1.3**
BBOO	**Buckleboo**	**42.70**	**243**	P	**P**	**06 30 11.8**	**+0.6**
BBOO				IAmb	IAmb	06 30 23.7	
	comp=Z,14nm,1.1s						
JAY	**Jayapura**	**44.18**	**288**	P	**P**	**06 30 22.4**	**-0.6**
	comp=Z,15nm,0.5s,baz=106,slow=4.5,SNR=7.0						
AS31	**Alice Springs**	**44.67**	**257**	P	**P**	**06 30 27.2**	**+0.5**
ASAR	**Alice Springs**	**44.67**	**257**	P	**P**	**06 30 26.8**	**0.0**
	comp=Z,13nm,0.7s,baz=90,slow=8.3,SNR=59						
ASAR				PcP	**PcP**	**06 31 58.5**	**+0.6**
	comp=Z,3.3nm,0.5s,baz=100,slow=3.7,SNR=14						
ASAR				S	**S**	**06 36 25.2**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=93,slow=17,SNR=7.1						
WB0	**Warramunga Arr**	**44.73**	**262**	P	**P**	**06 30 27.2**	**0.0**
WB0				IAmb	IAmb	06 30 27.6	
	comp=Z,7.4nm,0.7s						
WB2	**Warramunga Arr**	**44.74**	**262**	P	**P**	**06 30 27.3**	**0.0**
WB2				IAmb	IAmb	06 30 27.9	
	comp=Z,11nm,1.0s						
WRAB	**Tennant Creek**	**44.75**	**262**	P	**P**	**06 30 27.2**	**-0.1**
WRAB				IAmb	IAmb	06 30 27.9	
	comp=Z,14nm,1.3s						
WRA	**Warramunga Arr**	**44.76**	**262**	P	**P**	**06 30 26.9**	**-0.5**
	comp=Z,3.7nm,0.5s,baz=97,slow=8.2,SNR=16						
WRA				PcP	**PcP**	**06 31 59.1**	**+0.9**
	comp=Z,2.8nm,0.7s,baz=92,slow=3.3,SNR=7.1						
KHU	**Kahuku**	**45.08**	**30**	P	**P**	**06 30 27.0**	**-3.0**
MTN	**Manton Dam**	**49.31**	**270**	P	**P**	**06 31 00.8**	**-1.0**
MTN				IAmb	IAmb	06 31 02.8	
	comp=Z,12nm,0.8s						
FORT	**Forrest**	**49.45**	**247**	P	**P**	**06 31 03.0**	**+0.4**
KNRA	**Kununurra**	**50.81**	**266**	P	**P**	**06 31 12.9**	**+0.2**
KNRA				IAmb	IAmb	06 31 13.6	
	comp=Z,9.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.18**	**262**	P	**P**	**06 31 30.6**	**+0.8**
SOEI	**Soe**	**56.65**	**272**	P	**P**	**06 31 56.8**	**+2.5**
SBA	**Scott Base**	**57.91**	**184**	P	**P**	**06 32 03.0**	**+1.5**
SBA				IAmb	IAmb	06 32 07.0	
	comp=Z,13nm,1.1s						
VNDA	**Vanda**	**57.95**	**185**	P	**P**	**06 32 02.8**	**+0.9**
NWAO	**Narrogin (SRO)**	**58.52**	**243**	P	**P**	**06 32 06.3**	**-0.2**
NWAO				IAmb	IAmb	06 32 07.6	
	comp=Z,18nm,1.1s						
MMRI	**Maumere**	**58.91**	**272**	P	**P**	**06 32 08.7**	**-0.7**
KAPI	**Kappang**	**62.43**	**275**	P	**P**	**06 32 30.3**	**-2.3**
KAPI				IAmb	IAmb	06 32 41.7	
	comp=Z,12nm,1.1s						
GIRL	**Giralia**	**62.71**	**254**	P	**P**	**06 32 37.0**	**+2.7**
CASY	**Casey**	**64.06**	**205**	P	**P**	**06 32 43.8**	**+1.7**
QSPA	**South Pole Qui**	**69.60**	**180**	P	**P**	**06 33 18.8**	**+2.3**
QSPA				IAmb	IAmb	06 33 19.2	
	comp=Z,4.7nm,0.7s						
YBH	**Yreka Blue Hor**	**80.17**	**39**	P	**P**	**06 34 17.3**	**+1.3**
BEKR	**Beckworth**	**80.44**	**41**	P	**P**	**06 34 18.2**	**+0.6**
PNTR	**Pine Nut**	**80.46**	**42**	P	**P**	**06 34 18.7**	**+0.9**
PNTR				IAmb	IAmb	06 34 19.4	
	comp=Z,7.9nm,0.9s						
HUMO	**Hull Mountain**	**80.58**	**38**	P	**P**	**06 34 19.4**	**+1.4**
YERR	**Yerington**	**80.62**	**42**	P	**P**	**06 34 19.0**	**+0.4**
YERR				IAmb	IAmb	06 34 19.6	
	comp=Z,12nm,1.5s						
NVAR	**Mina Array Bea**	**80.90**	**43**	P	**P**	**06 34 20.0**	**0.0**
	comp=Z,1.3nm,0.7s,baz=222,slow=8.8,SNR=7.6						
MAW	**Mawson**	**81.64**	**200**	P	**P**	**06 34 21.1**	**-1.9**
	comp=Z,2.2nm,0.2s,baz=102,slow=15,SNR=17						
PINE	**Pine Mountain**	**82.47**	**38**	P	**P**	**06 34 28.8**	**+0.9**
PINE				IAmb	IAmb	06 34 29.5	
	comp=Z,7.6nm,0.8s						
CNPM	**China Poot**	**82.64**	**13**	P	**P**	**06 34 27.7**	**-0.4**
BRLK	**Bradley Lake**	**82.93**	**13**	P	**P**	**06 34 29.3**	**-0.2**
BRLK				IAmb	IAmb	06 34 46.1	
	comp=Z,14nm,1.2s						
WVOR	**Wild Horse Val**	**83.01**	**40**	P	**P**	**06 34 30.8**	**+0.2**
CCUT	**Cedar City**	**83.68**	**46**	P	**P**	**06 34 36.1**	**+2.0**
U15A	**North Rim**	**83.83**	**48**	P	**P**	**06 34 36.2**	**+1.3**
U15A				IAmb	IAmb	06 34 36.7	
	comp=Z,4.0nm,0.8s						
SUA	**Susitna One**	**84.50**	**13**	P	**P**	**06 34 36.5**	**-0.9**
SUA				IAmb	IAmb	06 34 37.1	
	comp=Z,6.2nm,0.8s						
G08A	**Pilot Rock**	**84.50**	**37**	P	**P**	**06 34 38.5**	**+0.7**
G08A				IAmb	IAmb	06 34 39.0	
	comp=Z,2.9nm,0.8s						
GLI	**Glacier Island**	**84.78**	**15**	P	**P**	**06 34 38.3**	**-0.4**
GLI				IAmb	IAmb	06 34 38.5	
	comp=Z,5.1nm,0.7s						
PMR	**Palmer**	**84.95**	**13**	P	**P**	**06 34 38.8**	**-0.7**
SCM	**Sheep Creek Mo**	**85.57**	**14**	P	**P**	**06 34 42.4**	**-0.2**
SCM				IAmb	IAmb	06 34 43.0	
	comp=Z,7.4nm,0.8s						
F10A	**Beach Ranch, E**	**85.89**	**38**	P	**P**	**06 34 44.9**	**+0.4**
F10A				IAmb	IAmb	06 34 45.2	
	comp=Z,7.0nm,0.8s						
GLB	**Gilahina Butte**	**86.07**	**16**	P	**P**	**06 34 44.7**	**-0.3**

PLID	Pearl Lake	86.09	39	P	P	06 34 46.0	+0.3
BARN	Barnard Glacie	86.31	17	P	P	06 34 47.0	+0.8
KTH	Kantishna Hill	86.36	12	P	P	06 34 45.0	-1.3
KTH				IAmb	IAmb	06 34 46.1	
	comp=Z,3.3nm,0.9s						
TRF	Thorofare Moun	86.39	12	P	P	06 34 45.4	-1.2
TRF				IAmb	IAmb	06 34 46.1	
	comp=Z,6.6nm,0.8s						
MNTX	Cornudas Mount	86.61	55	P	P	06 34 49.5	+1.3
RND	Reindeer	86.64	13	P	P	06 34 46.9	-0.7
MCK	McKinley	86.91	12	P	P	06 34 48.1	-0.7
MCK				IAmb	IAmb	06 34 49.0	
	comp=Z,6.0nm,0.9s						
TX31	Lajitas Ar. Si	86.91	57	P	P	06 34 51.2	+1.5
TX32	Lajitas Array	86.91	57	P	P	06 34 51.1	+1.4
TXAR	Lajitas Array	86.91	57	P	P	06 34 50.2	+0.4
	comp=Z,1.7nm,0.7s,baz=218,slow=6.2,SNR=13						
MLY	Manley	87.74	11	P	P	06 34 51.6	-1.1
MLY				IAmb	IAmb	06 34 51.7	
	comp=Z,2.3nm,0.6s						
HDA	Harding Lake	87.92	13	P	P	06 34 52.9	-0.7
CCB	Clear Creek Bu	87.95	12	P	P	06 34 52.7	-0.9
CCB				IAmb	IAmb	06 34 53.1	
	comp=Z,4.8nm,0.6s						
SNAA	Sanae	88.03	178	P	P	06 34 54.9	+0.7
SNAA	Sanae	88.03	178	P	P	06 34 55.1	+0.9
SNAA				IAmb	IAmb	06 34 55.9	
	comp=Z,4.2nm,1.4s						
VNA3	Neumayer Olymp	88.16	176	P	P	06 34 55.6	+0.8
IL31		88.25	13	P	P	06 34 54.0	-1.0
IL31				IAmb	IAmb	06 34 59.0	
	comp=Z,2.4nm,0.9s						
ILAR	Eielson Array	88.25	13	P	P	06 34 53.8	-1.3
	comp=Z,1.1nm,0.6s,baz=219,slow=6.0,SNR=12						
DLMT	Dillon	88.27	40	P	P	06 34 56.5	+0.7
DLMT				IAmb	IAmb	06 34 56.8	
	comp=Z,2.3nm,0.8s						
VNA2	Neumayer--Watz	88.60	177	P	P	06 34 57.9	+1.1
	baz=187,slow=3.6						
VNA1	Neumayer--Stat	88.83	177	P	P	06 34 58.9	+1.1
PDAR	Pinedale Array	88.84	43	P	P	06 34 57.9	-0.7
	comp=Z,1.0nm,0.6s,baz=218,slow=3.2,SNR=9.6						
BOZ	Bozeman (W)	88.97	40	P	P	06 35 00.4	+1.3
DAWY	Dawson	89.39	16	P	P	06 35 00.2	-0.2
DAWY				IAmb	IAmb	06 35 00.7	
	comp=Z,2.4nm,0.7s						
CMAR	Chiang Mai Arr	90.25	290	P	P	06 35 06.2	+0.8
	comp=Z,3.6nm,0.9s,baz=125,slow=3.0,SNR=17						
ZALV	Zalesovo Beam	110.57	321	PKiKP	PKiKP	06 40 31.9	-0.8
	comp=Z,1.3nm,0.6s,baz=203,slow=2.2,SNR=4.5						
MKAR	Makanchi Array	111.29	313	PKiKP	PKiKP	06 40 33.7	-0.6
	comp=Z,1.4nm,0.6s,baz=233,slow=1.5,SNR=7.7						
KURK	Kurchatov	114.08	317		PKPdf	06 40 38.4	-1.0
KURBB	Kurchatov Arra	114.13	317	PKiKP	PKPdf	06 40 38.4	-1.1
	comp=Z,0.5nm,0.3s,baz=68,slow=2.3,SNR=4.2						
BVAR	Borovoye Array	119.16	320	PKP	PKPdf	06 40 48.5	-0.7
	comp=Z,3.7nm,0.6s,baz=82,slow=1.5,SNR=17						
ARCES	ARCESS Array B	128.92	350	PKP	PKPdf	06 41 07.4	-0.1
	comp=Z,3.1nm,0.9s,baz=343,slow=1.3,SNR=5.7						
FINES	FINESS Array B	135.79	344	PKP	PKPdf	06 41 21.2	+0.7
	comp=Z,2.4nm,0.8s,baz=82,slow=4.0,SNR=5.1						
AKASG	Malin Array Be	143.06	331	PKP	PKPab	06 41 31.1	-0.5
	comp=Z,7.7nm,0.5s,baz=42,slow=4.6,SNR=26						
AKBB	Malin Array Si	143.06	331		PKPab	06 41 31.5	-0.1
MBAR	Mbarara	145.06	237		PKPdf	06 41 39.1	+0.2
SORM	Soroca	145.26	329	⇑P	PKPdf	06 41 38.3	+0.4
BR131	Keskin Array S	146.93	312		PKPdf	06 41 41.3	+0.1
BR131				PKPbc	PKPbc	06 41 44.3	+0.2
BRTR	Keskin Array B	146.93	312	PKPbc	PKPbc	06 41 44.1	0.0
	comp=Z,5.7nm,0.7s,baz=138,slow=4.5,SNR=19						
BUR08	Bucovina Ar. S	147.10	331	PKPdf	PKPdf	06 41 41.0	-0.2
BUR08					PKiKP	06 41 45.3	-0.8
BURAR	Bucovina Array	147.11	331	⇑P	PKiKP	06 41 45.4	-0.8
BIZ	Bicaz	147.19	329	⇑P	PKiKP	06 41 45.8	-0.4
CFR	Carcaliu	147.35	325	⇑P	PKPbc	06 41 45.0	+0.2
TOPG	Topolog	147.41	324	⇑P	PKiKP	06 41 45.8	-0.8
VRI	Vrincioaia	147.63	327	⇑P	PKPbc	06 41 45.7	+0.1
TSCT	Constanta Port	147.71	323	⇑P	PKiKP	06 41 48.0	+0.7
HARR	Harsova	147.78	324	⇑P	PKiKP	06 41 46.8	-0.6
TRPA	Tarpa	147.88	334	⇑P	PKiKP	06 41 46.8	-0.7
CHVC	Chvalec	148.00	343	⇑ePKP	PKPbc	06 41 46.7	+0.3
CLL	Collm	148.07	347	⇓iPKPbc	PKiKP	06 41 47.0	-0.8
	comp=Z,21nm,0.9s						
CLL	Collm	148.07	347	PKPdf	PKPdf	06 41 42.0	-0.5
CLL					PKiKP	06 41 46.9	-0.8
UPC	Upice	148.09	343	⇑ePKP	PKiKP	06 41 47.2	-0.7
DPC	Dobruska-Polom	148.14	343	⇑ePKP	PKiKP	06 41 47.5	-0.6
DPC				ex	x	06 41 51.6	
DOPR	Dopca	148.22	329	⇑P	PKiKP	06 41 48.4	0.0
KRLC	Kraliky	148.26	342	⇑ePKP	PKiKP	06 41 47.7	-0.6
BRG	Berggiesshubel	148.27	346	i PKP	PKiKP	06 41 47.5	-0.7
	comp=Z,16nm,1.3s						
VOIR		148.77	328	⇑P	PKiKP	06 41 49.1	-0.5
DRGR		148.85	332	⇑P	PKiKP	06 41 50.3	+0.6
PRU	Pruhonice	148.95	344	⇑ePKP	PKPbc	06 41 48.8	+0.1
GOPC	GO Pecny, Ondr	148.95	344	⇑ePKP	PKiKP	06 41 49.1	-0.6
ARR	Arges	149.02	328	⇑P	PKiKP	06 41 50.6	+0.5
NKC	Novy Kostel	149.20	347	⇑ePKP	PKiKP	06 41 50.0	-0.2
TREC	Trest	149.33	343	⇑ePKP	PKPbc	06 41 49.7	0.0
SIRR	Siria	149.72	333	⇑P	PKiKP	06 41 51.5	+0.1
GZR	Gura Zlata	149.89	330	⇑P	PKPbc	06 41 51.4	+0.1
KHC	Kasperske Hory	149.98	345	ePKPDF	PKPdf	06 41 46.0	+0.3
KHC				⇑ePKP	PKPbc	06 41 51.0	-0.3
KHC	Kasperske Hory	149.98	345	PKPdf	PKPdf	06 41 46.3	+0.6
KHC					PKiKP	06 41 51.8	-0.1
GEC2	GERESS Array S	150.21	345		PKiKP	06 41 52.3	-0.2
GEC2				PKPab	PKPab	06 42 00.4	0.0
GERES	GERESS Array B	150.21	345	PKPbc	PKiKP	06 41 52.1	-0.3
	comp=Z,4.5nm,0.8s,baz=42,slow=2.2,SNR=22						
GERES				PKPab	PKPab	06 41 59.9	-0.4
	comp=Z,0.4nm,0.4s,baz=27,slow=6.6,SNR=3.7						
BZS	Buzias	150.25	332	⇑P	PKiKP	06 41 52.2	-0.2
HERR	Herculane	150.44	330	⇑P	PKPbc	06 41 52.2	-0.3

*ISCJB **05** 06:43:22.8±0.2, 4°.90N±0°.04×123°.14E±0°.06, h600km, mb4.1/27, Error ellipse: s-maj=8.9km s-min=3.8km az=150.1*

*NEIC **05** 06:43:24.9±1.5, 4°.84N±0°.09×123°.1E±0°.1, h612km±7km, mb4.3/48*

*KLM **05** 06:43:25.0, 5°.00N×123°.05E, h606km, mb4.4*

*IDC **05** 06:43:26.3±1.0, 4°.82N×123°.07E, h640km±13km, mb3.5/22, mb1 3.5/23, mb1mx3.4/45, mbtmp4.5/23, Error ellipse: s-maj=19.2km s-min=7.4km az=68.0*

ISC 05 06:43:24.0±0.3**, 4°.78N**±0°.05×**122°.96E**±0°.07**, h600**km**, n111,** σ**1s.50**/124**, mb4.3**/47**, 1C-1D, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCP	Kidapawan	3.07	44	⇓P	P	06 44 46.0	+2.3
KCP				S	S	06 45 52.1	+3.6
DAV	Davao City (W)	3.46	49	P	P	06 44 52.5	+6.6
	162nm,0.3s,baz=19,slow=3.0,SNR=3.8						
DAV				S	S	06 45 56.4	+3.7
	106nm,0.3s,baz=304,slow=24,SNR=7.5						
DAV	Davao City (W)	3.46	49	P	P	06 44 48.0	+2.1
DAV					S	06 45 57.5	+4.8
LUWI	Luwuk	5.78	182		S	06 46 24.0	-0.5
TNTI	Ternate	5.93	132	P	P	06 45 05.9	+1.3
TNTI					S	06 46 27.2	+0.4
KKM	Kota Kinabalu	6.83	281	P	P	06 45 14.2	+1.6
SBUM	Sibu	10.96	258	P	P	06 45 55.0	+2.6
SBUM	Sibu	10.96	258	P	P	06 45 54.6	+2.1
FAKI	Fak Fak	12.03	129	P	P	06 46 04.0	+0.9
KSM	Kuching	13.05	256	P	P	06 46 14.1	+0.7
SOEI	Soe	14.50	175		S	06 48 59.4	+1.5
JAGI	Jajag, Banyuwa	15.82	214	P	P	06 46 42.3	+2.5
MTN	Manton Dam	19.30	155	P	P	06 47 09.3	-2.3
MTN				IAmb	IAmb	06 47 17.4	
	comp=Z,9.7nm,0.6s						
KNRA	Kununurra	21.12	164	P	P	06 47 28.9	+1.0
KNRA				IAmb	IAmb	06 47 33.5	
	comp=Z,7.3nm,1.0s						
FITZ	Fitzroy Crossi	22.88	173	P	P	06 47 44.1	+0.6
	comp=Z,0.7nm,0.3s,baz=17,slow=13,SNR=7.1						
FITZ				S	S	06 51 08.5	-3.8
	comp=Z,0.8nm,0.5s,baz=129,slow=13,SNR=3.0						
FITZ	Fitzroy Crossi	22.88	173	P	P	06 47 44.2	+0.6
FITZ				IAmb	IAmb	06 48 00.1	
	comp=Z,8.2nm,1.5s						
WB0	Warramunga Arr	26.86	156	P	P	06 48 19.1	+0.4
WRAB	Tennant Creek	26.99	156	P	P	06 48 19.9	+0.1
WRA	Warramunga Arr	26.99	156	P	P	06 48 20.1	+0.3
	comp=Z,18nm,0.5s,baz=336,slow=9.5,SNR=194						
WRA				S	S	06 52 12.3	-4.3
	comp=Z,2.6nm,0.5s,baz=336,slow=16,SNR=12						
WB2	Warramunga Arr	27.00	156	P	P	06 48 20.2	+0.3
WR0	Warramunga Arr	27.09	156	P	P	06 48 20.3	-0.4
CMAR	Chiang Mai Arr	27.12	302	P	P	06 48 22.1	+1.1
	comp=Z,0.7nm,0.4s,baz=108,slow=5.9,SNR=8.3						
COEN	Coen	27.36	133	P	P	06 48 23.0	-0.2
COEN				IAmb	IAmb	06 48 24.3	
	comp=Z,9.0nm,1.2s						
PMG	Port Moresby	27.93	120	P	P	06 48 27.0	-1.1
	comp=Z,10nm,0.5s,baz=250,slow=9.0,SNR=4.1						
PMG	Port Moresby	27.93	120	P	P	06 48 27.7	-0.4
JCJ	Chichijima	28.79	38	P	P	06 48 34.0	-1.3
	comp=Z,46nm,0.6s,baz=259,slow=18,SNR=4.5						
AS31	Alice Springs	30.22	160	P	P	06 48 48.9	+1.1
ASAR	Alice Springs	30.22	160	P	P	06 48 48.5	+0.7
	comp=Z,5.8nm,0.5s,baz=341,slow=7.1,SNR=133						
ASAR				PcP	PcP	06 51 28.1	-1.1
	comp=Z,0.4nm,0.4s,baz=338,slow=3.5,SNR=3.6						
ASAR				S	S	06 53 05.2	-1.3
	comp=Z,6.4nm,0.8s,baz=351,slow=20,SNR=24						
ASAR				ScP	ScP	06 54 12.7	-2.8
	comp=Z,3.5nm,0.5s,baz=338,slow=2.7,SNR=9.4						
XAN	Xi'an	31.91	338	P	P	06 49 02.2	+0.2
XAN				pP	sP	06 51 46.9	-1.4
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
XAN				pmax	pmax		
	comp=Z,53nm,5.3s						
MORW	Morawa	34.30	191	P	P	06 49 22.9	+0.8
MORW				IAmb	IAmb	06 49 38.1	
	comp=Z,14nm,1.1s						
FORT	Forrest	35.69	172	P	P	06 49 34.2	+0.7
LZH	Lanzhou	35.78	333	⇑P	P	06 49 36.5	+2.0
LZH				pP	pP	06 51 16.7	+2.9
LZH				PP	PP	06 51 18.6	-0.7
LZH				sP	sP	06 52 23.4	+1.0
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,46nm,5.3s						
SHL	Shillong	36.25	308	P	P	06 49 38.9	+0.4
HHC	Hu-ho-hao-te	37.34	346	P	P	06 49 47.5	+0.4
HHC				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,7.0nm,5.3s						
NWAO	Narrogin (SRO)	37.89	188	P	P	06 49 52.4	+0.9
NWAO				IAmb	IAmb	06 49 53.4	
	comp=Z,15nm,1.0s						
LSA	Lhasa	38.96	313	P	P	06 50 02.5	+1.7
BBOO	Buckleboo	39.40	162	P	P	06 50 05.0	+1.4
USRK	Ussuriysk Ar.	40.06	10	P	P	06 50 09.1	+0.3
	comp=Z,1.6nm,0.6s,baz=190,slow=7.3,SNR=4.7						
GTA	Gaotai	40.34	332	eP	P	06 50 12.2	+1.0
GTA				pP	pP	06 51 57.5	+4.0
GTA				sP	sP	06 53 03.4	+2.4
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
TAPN	Taplejung	40.39	308	eP	P	06 50 12.8	+0.8
	comp=Z,19nm,0.5s						
ODAN	Odare	40.42	307	eP	P	06 50 13.0	+0.8
STKA	Stephens Creek	40.54	155	P	P	06 50 13.2	+0.4
	comp=Z,5.2nm,0.4s,baz=332,slow=8.3,SNR=19						
STKA	Stephens Creek	40.54	155	P	P	06 50 14.2	+1.4
EIDS	Eidsvold	40.55	139	P	P	06 50 13.6	+0.7
EIDS				IAmb	IAmb	06 50 14.4	
	comp=Z,14nm,1.1s						
RAMN	Ramite	41.09	306	eP	P	06 50 18.5	+1.0
	comp=Z,36nm,0.6s						
JIRN	Jiri	41.73	307	eP	P	06 50 23.5	+0.8
	comp=Z,48nm,0.5s						
GUN	Gumba	42.09	307	eP	P	06 50 26.2	+0.7
	comp=Z,64nm,0.5s						
PKI	Pulchoki	42.31	307	eP	P	06 50 27.4	+0.2
	comp=Z,13nm,0.5s						
PKIN	Phulchoki	42.33	307	eP	P	06 50 27.4	+0.1
	comp=Z,9.8nm,0.4s						
DMN	Daman	42.57	306	eP	P	06 50 29.7	+0.5
	comp=Z,23nm,0.9s						
GKN	Gorkha	43.12	307	eP	P	06 50 33.6	+0.3
KOLN	Koldanda	43.85	306	eP	P	06 50 39.9	+0.9
	comp=Z,78nm,0.6s						
DANN	Dangsing	43.96	307	eP	P	06 50 40.5	+0.5
	comp=Z,72nm,0.6s						
ARMA	Armidale	44.47	144	P	P	06 50 46.6	+3.0
ARMA				IAmb	IAmb	06 50 47.4	
	comp=Z,18nm,1.1s						
SONM	Songino Array	45.19	344	P	P	06 50 48.9	+0.1
	comp=Z,5.3nm,0.9s,baz=157,slow=8.8,SNR=22						
SONM				PcP	PcP	06 52 14.6	-1.3
	comp=Z,0.7nm,0.7s,baz=149,slow=2.5,SNR=4.7						
SONM				ScP	ScP	06 55 08.1	-4.0
	comp=Z,0.3nm,0.5s,baz=158,slow=4.2,SNR=2.7						
CAN	Canberra	46.80	150	P	P	06 51 03.5	+2.4
CAN				IAmb	IAmb	06 51 11.6	
	comp=Z,15nm,1.2s						
WMQ	Urumqi	49.76	327	eP	P	06 51 24.6	+1.8
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,160nm,6.1s						
WMQ				LR	LR		
	comp=N,440nm,28.9s						
WMQ				LR	LR		
	comp=E,830nm,29.0s						
WMQ				LR	LR		
	comp=Z,120nm,28.8s						
TARG	Taragay, Kyrgy	54.49	319	P	P	06 51 58.6	+1.5
MK31	Makanchi Array	54.59	327	P	P	06 51 57.9	+0.7
MKAR	Makanchi Array	54.59	327	P	P	06 51 57.5	+0.3
	comp=Z,9.9nm,0.4s,baz=121,slow=7.7,SNR=48						
MKAR				PcP	PcP	06 52 49.5	-1.3
	comp=Z,3.2nm,0.6s,baz=126,slow=4.2,SNR=6.5						
MKAR				ScP	ScP	06 55 49.1	-3.4
	comp=Z,0.7nm,0.6s,baz=127,slow=3.4,SNR=2.6						
KSH	Kashi	54.67	316	P	P	06 51 59.2	+1.1
KSH				pP	pP	06 53 53.1	+3.5
KSH				S	S	06 58 56.8	+2.7
KSH				pmax	pmax		
	comp=Z,650nm,5.6s						
KSH				LR	LR		
	comp=Z,600nm,6.3s						
MAKZ	Makanchi	54.77	327	P	P	06 51 59.1	+0.6
MAKZ				IAmb	IAmb	06 51 59.5	
	comp=Z,16nm,0.7s						
KDJ	Kajisay	55.09	319	P	P	06 52 02.3	+1.3
KDJ				IAmb	IAmb	06 52 02.5	
	comp=Z,10nm,0.5s						
KZA	Kyzart	56.33	319	P	P	06 52 11.2	+1.3
	SNR=5.2						
TKM2	Tokmak 2	56.50	320	P	P	06 52 11.5	+0.8
	SNR=6.8						
UCH	Uchtor	56.88	318	P	P	06 52 15.1	+1.5
	SNR=10						
AAK	Ala-Archa	57.08	319	P	P	06 52 15.6	+0.9
USP	Ospenovka	57.37	320	P	P	06 52 17.1	+0.6
	SNR=7.3						
AML	Almayashu	57.38	318	P	P	06 52 17.9	+0.9
	SNR=6.7						
ARSB	Arslanbob	57.51	317	P	P	06 52 18.2	+0.6
ARSB				IAmb	IAmb	06 52 18.6	
	comp=Z,6.2nm,0.6s						
ZAA0	Zalesovo Array	57.99	334	P	P	06 52 19.8	-0.6
ZALV	Zalesovo Beam	57.99	334	P	P	06 52 19.6	-0.8
	comp=Z,1.9nm,0.4s,baz=132,slow=4.4,SNR=13						
KURK	Kurchatov	58.87	329	P	P	06 52 26.4	+0.1
KK31	Karatay Array	59.92	318	P	P	06 52 34.0	+0.5
KKAR	Karatay Array	59.92	318	P	P	06 52 34.0	+0.5
BRVK	Borovoye	64.49	328	P	P	06 53 02.7	-0.1
BRVK				IAmb	IAmb	06 53 03.4	
	comp=Z,11nm,1.0s						
BRVK	Borovoye	64.49	328		P	06 53 02.8	+0.1
BRVK				IAmb	IAmb	06 53 03.5	
	comp=Z,11nm,1.0s						
LBZ	Lake Benmore	64.69	144	P	P	06 53 05.5	+1.4
LBZ				IAmb	IAmb	06 53 05.6	
	comp=Z,9.4nm,0.7s						
RPZ	Rata Peaks	64.81	143	P	P	06 53 05.0	+0.1
RPZ				IAmb	IAmb	06 53 11.0	
	comp=Z,9.7nm,1.0s						
SNZO	South Karori	65.77	140	P	P	06 53 10.7	-0.3
SNZO				IAmb	IAmb	06 53 11.0	
	comp=Z,11nm,0.8s						
BKZ	Black Stump Fm	65.89	137	P	P	06 53 12.8	+1.0
BKZ				IAmb	IAmb	06 53 13.6	
	comp=Z,15nm,1.0s						
TIXI	Tiksi	66.89	2	P	P	06 53 16.6	-0.7
TIXI				IAmb	IAmb	06 53 17.1	
	comp=Z,4.3nm,0.5s						
UOSS	Minazif	66.94	295	P	P	06 53 17.9	-0.6
UOSS				IAmb	IAmb	06 53 23.7	
	comp=Z,16nm,1.1s						
GEYT	Alibeck	67.32	309	P	P	06 53 20.8	+0.1
	comp=Z,4.0nm,0.7s,baz=123,slow=5.5,SNR=7.8						
NRIK	Noril'sk	68.55	347	P	P	06 53 26.6	-0.8
	comp=Z,4.8nm,0.6s,baz=142,slow=6.0,SNR=9.5						
ABKAR	Akbulak array	68.97	321	P	P	06 53 30.2	-0.2
ABKAR				IAmb	IAmb	06 53 30.8	
	comp=Z,5.5nm,0.7s						
CASY	Casey	71.45	185	P	P	06 53 45.2	+0.6
ARU	Arti	72.06	328	P	P	06 53 47.7	-0.7
ARU				IAmb	IAmb	06 53 48.1	
	comp=Z,7.2nm,0.7s						
RAYN	Ar Rayn	76.61	293	P	P	06 54 15.1	+0.4
RAYN				IAmb	IAmb	06 54 15.4	
	comp=Z,4.9nm,0.8s						
KBZ	Khabaz	79.53	313	P	P	06 54 28.8	-1.0
	comp=Z,1.7nm,0.6s,baz=221,slow=3.4,SNR=4.5						
MAW	Mawson	83.45	200	P	P	06 54 49.4	+0.3
VNDA	Vanda	84.95	172	P	P	06 54 55.4	-0.9
	comp=Z,0.7nm,0.6s,baz=324,slow=6.4,SNR=6.4						
VNDA	Vanda	84.95	172	P	P	06 54 56.9	+0.5
ILAR	Eielson Array	85.78	25	P	P	06 54 59.0	-1.6
	comp=Z,0.3nm,0.6s,baz=255,slow=4.7,SNR=8.0						
KMBO	Kilima Mbogo	85.82	269	P	P	06 55 01.9	-0.3
	comp=Z,0.5nm,0.4s,baz=45,slow=10.0,SNR=5.5						
BR131	Keskin Array S	86.46	309	P	P	06 55 03.3	-1.2
BR131				IAmb	IAmb	06 55 07.0	
	comp=Z,3.9nm,1.1s						
BRTR	Keskin Array B	86.46	309	P	P	06 55 02.6	-2.0
	comp=Z,0.7nm,0.5s,baz=129,slow=4.7,SNR=5.5						
ARCES	ARCESS Array B	88.17	340	P	P	06 55 10.0	-1.8
	comp=Z,5.4nm,1.0s,baz=80,slow=6.6,SNR=6.8						
AKASG	Malin Array Be	88.71	321	P	P	06 55 12.3	-2.3
	comp=Z,0.7nm,0.4s,baz=67,slow=4.8,SNR=5.0						
SPA0	Spitsbergen Ar	88.72	349	P	P	06 55 13.6	-0.6
FIA1	FINESS Array S	89.13	332	P	P	06 55 15.4	-0.9
FINES	FINESS Array B	89.13	332	P	P	06 55 14.3	-2.0
	comp=Z,2.1nm,0.5s,baz=48,slow=5.4,SNR=13						
VAH	Vaihoa	90.67	105	eT	T	06 55 38.0	
	comp=Z,6.3nm,0.3s						
NOA	NORSAR Array B	96.17	333	P	P	06 55 46.3	-2.3
	comp=Z,0.6nm,0.6s,baz=69,slow=4.5,SNR=3.1						
TORD	Torodi Ar. Bea	119.02	288	PKP	PKPdf	07 01 05.2	-1.3
	comp=Z,0.9nm,0.4s,baz=92,slow=2.0,SNR=13						
KIC	Kosan Boka	126.63	281	ePKIKP	PKPdf	07 01 20.8	-0.4
	comp=Z,4.5nm,0.6s						
KIC	Kosan Boka	126.63	281		PKPdf	07 01 20.8	-0.4
TIC	Toumodi	126.85	282	ePKIKP	PKPdf	07 01 21.5	-0.1
TIC	Toumodi	126.85	282		PKPdf	07 01 21.5	-0.1
LIC	Lamto	126.93	281	ePKIKP	PKPdf	07 01 21.2	-0.6
	comp=Z,15nm,0.8s						
LIC	Lamto	126.93	281		PKPdf	07 01 21.2	-0.6

*IDC **05** 06:46:01.3±1.3, 17°.63S×178°.58W, h518km±16km, mb3.8/7, mb1 3.9/9, mb1mx3.5/29, mbtmp4.7/9, Error ellipse: s-maj=23.0km s-min=13.6km az=146.0*

*ISCJB **05** 06:46:02.4±0.4, 17°.37S±0°.08×178°.68W±0°.06, h547km, mb4.3/9, Error ellipse: s-maj=10.9km s-min=7.1km az=154.7*

*NEIC **05** 06:46:03.3±1.9, 17°.35S±0°.09×178°.7W±0°.1, h550km±8km, mb4.6/27*

ISC 05 06:46:03.3±0.5**, 17°.34S**±0°.09×**178°.60W**±0°.08**, h547**km**, n51,** σ**1s.30**/54**, mb4.5**/20**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.22	262	P	P	06 47 21.5	+1.9
AFI	Afiamalu	7.40	64	P	P	06 47 54.6	-0.6
	18nm,0.3s,baz=40,slow=1.0,SNR=18						
AFI				S	S	06 49 25.3	-1.6
	baz=229,slow=20,SNR=2.3						
AFI	Afiamalu	7.40	64		P	06 47 55.3	+0.1
NIUE	Niue	8.42	103		P	06 48 07.1	+2.0
FUNA	Funafuti	9.02	346		P	06 48 12.7	+1.5
DZM	Mont Dzumac	14.85	249	P	P	06 49 08.9	-2.5
	2.0nm,0.3s,baz=85,slow=21,SNR=14						
DZM	Mont Dzumac	14.85	249	P	P	06 49 09.5	-1.9
OUZ	Omahuta	19.12	200		P	06 49 53.5	+2.1
URZ	Urewera	21.18	189	P	P	06 50 06.6	-3.4
	7.2nm,0.3s,baz=250,slow=3.0,SNR=8.8						
URZ	Urewera	21.18	189	IAmb	IAmb	06 50 15.3	
	comp=Z,60nm,1.3s						
KHZ	Kahutara	25.89	193		P	06 50 33.1	-19
KHZ				IAmb	IAmb	06 50 33.6	
	comp=Z,32nm,1.4s						
FOZ	Fox Glacier	27.90	198	P	P	06 51 08.8	-0.7
FOZ				IAmb	IAmb	06 51 12.2	
	comp=Z,19nm,1.1s						
EIDS	Eidsvold	29.30	249	P	P	06 51 21.5	-0.4
EIDS				IAmb	IAmb	06 51 22.0	
	comp=Z,11nm,0.8s						
ARMA	Armidale	30.07	239	P	P	06 51 28.9	+0.2
ARMA				IAmb	IAmb	06 51 29.3	
	comp=Z,17nm,0.6s						
PATS	Pohnpei	33.13	315	P	P	06 51 53.8	-0.9
CAN	Canberra	33.91	232	P	P	06 52 00.5	-0.7
CAN				IAmb	IAmb	06 52 01.6	
	comp=Z,9.4nm,0.8s						
PMG	Port Moresby	34.19	279	P	P	06 52 04.2	+0.5
	comp=Z,22nm,0.8s,baz=88,slow=5.6,SNR=7.6						
PMG	Port Moresby	34.19	279	P	P	06 52 02.5	-1.2
TOO	Toolangi	37.39	230	P	P	06 52 30.0	+0.1
STKA	Stephens Creek	38.75	240	P	P	06 52 40.4	-0.6
	comp=Z,11nm,0.5s,baz=89,slow=10,SNR=33						
STKA	Stephens Creek	38.75	240	P	P	06 52 40.3	-0.8
JAY	Jayapura	42.57	286	P	P	06 53 12.6	+0.8
	comp=Z,7.2nm,0.4s,baz=53,slow=1.8,SNR=5.8						
BBOO	Buckleboo	43.52	240	P	P	06 53 18.4	-0.5
WRAB	Tennant Creek	44.55	259	P	P	06 53 25.7	-1.3
WRAB				IAmb	IAmb	06 53 26.5	
	comp=Z,9.4nm,0.8s						
WRA	Warramunga Arr	44.56	259	P	P	06 53 25.8	-1.3
	comp=Z,4.3nm,0.3s,baz=97,slow=7.4,SNR=33						
WRA				PcP	PcP	06 54 59.1	+0.7
	comp=Z,0.4nm,0.6s,baz=91,slow=3.4,SNR=4.6						
AS31	Alice Springs	44.77	254	P	P	06 53 28.2	-0.5
ASAR	Alice Springs	44.77	254	P	P	06 53 27.9	-0.8
	comp=Z,47nm,0.4s,baz=88,slow=8.0,SNR=312						
ASAR				PcP	PcP	06 54 59.5	+0.4
	comp=Z,1.3nm,0.4s,baz=102,slow=3.8,SNR=4.1						
ASAR				ScP	ScP	06 58 02.8	+3.3
	comp=Z,1.0nm,0.8s,baz=99,slow=4.5,SNR=4.9						
MTN	Manton Dam	48.63	268	P	P	06 53 57.5	-0.4
MTN				IAmb	IAmb	06 53 57.8	
	comp=Z,17nm,0.8s						
FORT	Forrest	50.09	244	P	P	06 54 07.7	-0.8
KNRA	Kununurra	50.37	264	P	P	06 54 10.3	-0.3
FITZ	Fitzroy Crossi	52.94	260	P	P	06 54 29.5	+0.3
SOEI	Soe	55.89	270	P	P	06 54 51.8	+1.7
MORW	Morawa	60.54	246	P	P	06 55 20.7	-0.5
SBA	Scott Base	60.98	184	P	P	06 55 23.6	+0.4
SBA				IAmb	IAmb	06 55 28.7	
	comp=Z,14nm,1.2s						
GIRL	Giralia	62.88	253	P	P	06 55 37.3	+0.8
JAGI	Jajag, Banyuwa	65.87	268	P	P	06 55 54.7	-0.9
JAGI				IAmb	IAmb	06 55 55.0	
	comp=Z,18nm,0.6s						
KKM	Kota Kinabalu	68.43	284	P	P	06 56 12.4	+1.0
KKM				IAmb	IAmb	06 56 13.5	
	comp=Z,11nm,0.9s						
SDPT	Sand Point	74.02	11	P	P	06 56 41.9	-1.2
RPSI	Rantau Prapat	83.62	275	P	P	06 57 34.2	-0.9
DOT	Dot Lake	85.06	15	P	P	06 57 37.6	-3.4
DOT				IAmb	IAmb	06 57 38.5	
	comp=Z,13nm,1.0s						
ILAR	Eielson Array	85.37	13	P	P	06 57 42.9	+0.4
	comp=Z,0.4nm,0.8s,baz=218,slow=5.7,SNR=5.0						
CMAR	Chiang Mai Arr	88.52	290	P	P	06 57 59.8	+1.5
	comp=Z,0.7nm,0.3s,baz=90,slow=1.8,SNR=7.7						
SNAA	Sanae	91.17	179	P	P	06 58 10.0	+0.3
VNA3	Neumayer Olymp	91.32	176	P	P	06 58 10.7	+0.3
VNA2	Neumayer--Watz	91.76	177	P	P	06 58 12.4	0.0
SONM	Songino Array	93.00	319	P	P	06 58 19.9	+1.4
	comp=Z,0.3nm,0.4s,baz=117,slow=5.0,SNR=3.7						
BRTR	Keskin Array B	144.25	315	PKP	PKPab	07 04 38.1	+0.4

	comp=Z,1.2nm,0.5s,baz=73,slow=2.3,SNR=8.6						
MMAI	**Mount Meron Ar**	**145.68**	**304**	PKPbc	**PKPab**	**07 04 42.9**	**-0.4**
	comp=Z,6.0nm,0.6s,baz=116,slow=1.9,SNR=4.0						
GERES	**GERESS Array B**	**147.01**	**345**	PKPbc	**PKiKP**	**07 04 46.5**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=14,slow=2.3,SNR=9.1						
DAVOX	**Davos/Dischmat**	**149.81**	**348**	PKPbc	**PKiKP**	**07 04 53.0**	**+0.3**
	comp=Z,4.0nm,0.4s,baz=245,slow=3.8,SNR=8.7						
FUORN	**Ofenpass-Fuorn**	**149.89**	**348**	PKPdf	**PKPdf**	**07 04 46.5**	**-0.4**
FUORN					**PKiKP**	**07 04 54.0**	**+1.0**

*THR **05** 06:57:55.0, 40.°68N×51.°97E, h15km, ML4.4*
*MOS **05** 06:57:56.0±1.3, 40.°86N×52.°11E, h45km, mb4.2/3, Error ellipse: s-maj=7.5km s-min=5.5km az=12.8*
*NEIC **05** 06:57:57.3±2.2, 40.°86N±0.°05×52.°12E±0.°07, h60km±10km, mb4.0/9, ML4.4(THR), ML4.4(AZER)*
*IDC **05** 06:57:57.1±1.6, 40.°82N×52.°14E, h48km±25km, mb3.8/5, mb1 4.0/17, mb1mx3.7/57, mbtmp4.1/17, ML3.8/11, MS2.9/2, Ms1 2.9/2, ms1mx2.3/32, Error ellipse: s-maj=21.3km s-min=15.7km az=12.0*
*AZER **05** 06:57:58.3±0.2, 40.°59N×52.°03E, h61km, ml4.4/33, Error ellipse: s-maj=3.2km s-min=2.6km az=233.0*
*TEH **05** 06:57:58.7, 40.°58N×52.°03E, h50km, ML4.2*
*NNC **05** 06:58:00.6±2.7, 41.°15N×53.°02E, h0km, mb4.4, Error ellipse: s-maj=26.6km s-min=10.0km az=73.0*
ISC 05 06:57:56.8±0.7**, 40.°78N**±0.°04×**52.°14E**±0.°04**, h66**km±9km**, n180, σ2.s05**/223**, mb3.9**/6**, 5C-7D, Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.56**	**257**	S	**Sn**	**06 58 39.6**	**-2.1**
NDR	**Nardaran**	**1.65**	**264**	*e*Pn	**Pn**	**06 58 25.5**	**+1.9**
NDR	**Nardaran**	**1.65**	**264**	P	**Pn**	**06 58 25.5**	**+1.9**
NDR				S	**Sn**	**06 58 44.8**	**+0.9**
GOBA	**Gobu**	**1.87**	**259**	P	**Pn**	**06 58 28.2**	**+1.6**
GOBA				S	**Sn**	**06 58 49.8**	**+0.5**
ATGJ	**Altiaghaj**	**2.43**	**273**	*e*Pn	**Pn**	**06 58 36.9**	**+2.6**
ATGJ	**Altiaghaj**	**2.43**	**273**	P	**Pn**	**06 58 37.0**	**+2.6**
	SNR=6.5						
ATGJ				S	**Sn**	**06 59 05.5**	**+2.5**
GBS	**Qobustan**	**2.45**	**265**	*e*Pn	**Pn**	**06 58 37.1**	**+2.7**
GBS	**Qobustan**	**2.45**	**265**	P	**Pn**	**06 58 37.2**	**+2.7**
	SNR=7.7						
GBS				S	**Sn**	**06 59 05.2**	**+1.9**
GBS	**Qobustan**	**2.45**	**265**		**Pn**	**06 58 37.2**	**+2.7**
SIZA	**Siyzn**	**2.48**	**278**	*e*Pn	**Pn**	**06 58 38.3**	**+3.5**
SIZA	**Siyzn**	**2.48**	**278**	P	**Pn**	**06 58 38.3**	**+3.5**
	SNR=16						
SIZA				S	**Sn**	**06 59 07.2**	**+3.2**
ALIB	**Äli-Bayra**	**2.53**	**252**	*e*Pn	**Pn**	**06 58 37.3**	**+1.8**
ALIB	**Äli-Bayra**	**2.53**	**252**	P	**Pn**	**06 58 37.4**	**+1.8**
	SNR=2.8						
ALIB				S	**Sn**	**06 59 05.3**	**0.0**
PQL	**Pirkuli**	**2.69**	**271**	*e*Pn	**Pn**	**06 58 40.2**	**+2.3**
PQL	**Pirkuli**	**2.69**	**271**	P	**Pn**	**06 58 40.3**	**+2.3**
	SNR=11						
PQL				S	**Sn**	**06 59 11.0**	**+1.5**
QUBA	**Quba, Azerbaij**	**2.82**	**283**	P	**Pn**	**06 58 42.5**	**+3.0**
	SNR=17						
QUBA				S	**Sn**	**06 59 14.8**	**+2.5**
QUB	**Quba**	**2.92**	**283**	*e*Pn	**Pn**	**06 58 42.4**	**+1.5**
IML	**Ismayilli**	**3.01**	**271**	*e*Pn	**Pn**	**06 58 44.0**	**+2.0**
IML	**Ismayilli**	**3.01**	**271**	P	**Pn**	**06 58 44.1**	**+2.0**
	SNR=9.2						
IML				S	**Sn**	**06 59 18.0**	**+1.0**
QSAR	**Qusar**	**3.02**	**285**	*e*Pn	**Pn**	**06 58 44.9**	**+2.7**
QSAR	**Qusar**	**3.02**	**285**	P	**Pn**	**06 58 45.0**	**+2.7**
	SNR=35						
QSAR				S	**Sn**	**06 59 19.7**	**+2.5**
KDMR	**Kurdemir**	**3.04**	**264**	P	**Pn**	**06 58 44.4**	**+1.9**
KDMR				S	**Sn**	**06 59 18.8**	**+1.1**
XNQ	**Khinaliq**	**3.06**	**279**	*e*Pn	**Pn**	**06 58 44.9**	**+2.1**
XNQ	**Khinaliq**	**3.06**	**279**	P	**Pn**	**06 58 45.0**	**+2.1**
	SNR=32						
XNQ				S	**Sn**	**06 59 19.6**	**+1.2**
GLBA	**Clilabad**	**3.27**	**243**	*e*Pn	**Pn**	**06 58 46.4**	**+0.9**
GLBA	**Clilabad**	**3.27**	**243**	P	**Pn**	**06 58 46.5**	**+0.9**
	SNR=66						
GLBA				S	**Sn**	**06 59 22.4**	**-0.8**
QBL	**Gabala**	**3.27**	**274**	P	**Pn**	**06 58 47.4**	**+1.7**
QBL				S	**Sn**	**06 59 24.1**	**+0.8**
LKRN	**Lenkeran, Azer**	**3.32**	**232**	P	**Pn**	**06 58 46.6**	**+0.4**
LKRN	**Lenkeran, Azer**	**3.32**	**232**	*e*Pn	**Pn**	**06 58 46.6**	**+0.4**
LKRN	**Lenkeran, Azer**	**3.32**	**232**	P	**Pn**	**06 58 46.7**	**+0.4**
	SNR=16						
LKRN				S	**Sn**	**06 59 22.7**	**-1.7**
AKT	**Akhty**	**3.41**	**283**	*i* P	**Pn**	**06 58 49.4**	**+1.8**
AKT	**Akhty**	**3.41**	**283**	*e*Pn	**Pn**	**06 58 49.4**	**+1.8**
ASTR	**Astara**	**3.41**	**230**	*e*Pn	**Pn**	**06 58 47.4**	**-0.1**
ASTR	**Astara**	**3.41**	**230**	P	**Pn**	**06 58 47.5**	**-0.1**
	SNR=144						
ASTR				S	**Sn**	**06 59 24.3**	**-2.4**
ZRD	**Zardab**	**3.44**	**263**	*e*Pn	**Pn**	**06 58 49.4**	**+1.6**
ZRD	**Zardab**	**3.44**	**263**	P	**Pn**	**06 58 49.5**	**+1.6**
	SNR=9.1						
ZRD				S	**Sn**	**06 59 26.2**	**-1.1**
YRD	**Yardimli**	**3.54**	**239**	P	**Pn**	**06 58 49.2**	**-0.2**
	SNR=86						
YRD				S	**Sn**	**06 59 27.0**	**-3.1**
LRK	**Lerik**	**3.63**	**235**	*e*Pn	**Pn**	**06 58 50.3**	**-0.3**
LRK	**Lerik**	**3.63**	**235**	P	**Pn**	**06 58 50.4**	**-0.3**
	SNR=146						
LRK				S	**Sn**	**06 59 29.2**	**-3.1**
BLQ	**Beylaqan**	**3.66**	**255**	P	**Pn**	**06 58 52.0**	**+1.0**
	SNR=6.2						
BLQ				S	**Sn**	**06 59 32.3**	**-0.7**
SEKA	**Sheki**	**3.77**	**278**	P	**Pn**	**06 58 54.0**	**+1.6**
SEKA	**Sheki**	**3.77**	**278**	*e*Pn	**Pn**	**06 58 54.0**	**+1.6**
SEKA	**Sheki**	**3.77**	**278**	P	**Pn**	**06 58 54.1**	**+1.6**
	SNR=22						
SEKA				S	**Sn**	**06 59 35.1**	**-0.5**
BRDA	**Brd**	**3.82**	**264**	*e*Pn	**Pn**	**06 58 55.1**	**+2.0**
BRDA	**Brd**	**3.82**	**264**	P	**Pn**	**06 58 55.1**	**+2.0**
	SNR=4.1						
BRDA				S	**Sn**	**06 59 37.6**	**+0.9**
GRMI	**Germi**	**3.82**	**240**	*e*Pn	**Pn**	**06 58 53.4**	**+0.1**
GRMI	**Germi**	**3.82**	**240**	*e*Pn	**Pn**	**06 58 53.4**	**+0.1**
GRMI	**Germi**	**3.82**	**240**	Pn	**Pn**	**06 58 53.4**	**+0.1**
MNGR	**Mingechevir, A**	**3.84**	**272**	P	**Pn**	**06 58 55.3**	**+1.9**
MNGR				S	**Sn**	**06 59 37.4**	**+0.1**
AGDM	**Agdam**	**3.90**	**262**	P	**Pn**	**06 58 55.0**	**+0.7**
	SNR=34						
AGDM				S	**Sn**	**06 59 36.9**	**-1.9**
QRD	**Qoradiz**	**3.92**	**252**	P	**Pn**	**06 58 55.1**	**+0.5**
	SNR=6.8						
QRD				S	**Sn**	**06 59 38.2**	**-1.2**
MAK	**Makhachkala**	**4.09**	**304**	P	**Pn**	**06 58 56.1**	**-0.7**
GNBR	**Gunib**	**4.20**	**294**	*i* P	**Pn**	**06 59 00.4**	**+2.0**
ZKTA	**Zakatala**	**4.25**	**283**	P	**Pn**	**06 59 00.8**	**+1.7**
ZKTA				S	**Sn**	**06 59 48.4**	**+1.0**
IMND	**Minoodasht**	**4.34**	**143**	*e*Pn	**Pn**	**06 59 02.3**	**+2.0**
IMND				IAMB	IAmb	06 59 52.0	
	comp=Z,0.0nm,0.3s						
GANJ	**Ganja**	**4.43**	**270**	*e*Pn	**Pn**	**06 59 01.4**	**0.0**
GANJ	**Ganja**	**4.43**	**270**	P	**Pn**	**06 59 01.5**	**0.0**
	SNR=5.9						
GANJ				S	**Sn**	**06 59 49.4**	**-2.3**
IGLO	**Ghaloghah**	**4.47**	**162**	*e*Pn	**Pn**	**06 59 02.7**	**+0.4**
QALM	**Alamut, Qazvin**	**4.50**	**196**	*e*Pn	**Pn**	**06 59 02.0**	**-0.7**
QALM				IAMB	IAmb	06 59 50.6	
	comp=Z,0.0nm,0.4s						
IPRN	**Peran**	**4.54**	**178**	*e*Pn	**Pn**	**06 59 03.7**	**+0.6**
DBC	**Dubki**	**4.55**	**301**	P	**Pn**	**06 59 05.0**	**+1.8**
IHRS	**Heris**	**4.65**	**240**	*e*Pn	**Pn**	**06 59 05.5**	**+0.8**
IKIA	**Kiasar**	**4.73**	**165**	*e*Pn	**Pn**	**06 59 06.9**	**+1.1**
IKIA				IAMB	IAmb	07 00 03.8	
	comp=Z,533nm,0.4s						
GDB	**GEDABAY**	**4.85**	**271**	*e*Pn	**Pn**	**06 59 07.1**	**-0.3**
GDB	**GEDABAY**	**4.85**	**271**	P	**Pn**	**06 59 07.5**	**+0.1**
	SNR=12						
GDB				S	**Sn**	**06 59 59.3**	**-3.1**
ZNJK	**Zanjan**	**4.92**	**214**	*e*Pn	**Pn**	**06 59 07.7**	**-0.6**
ZNJK	**Zanjan**	**4.92**	**214**	*e*Pn	**Pn**	**06 59 07.8**	**-0.6**
ZNJK	**Zanjan**	**4.92**	**214**	Pn	**Pn**	**06 59 07.8**	**-0.6**
CHTH	**Charan**	**4.93**	**190**	*e*Pn	**Pn**	**06 59 09.3**	**+0.8**
CHTH	**Charan**	**4.93**	**190**	*e*Pn	**Pn**	**06 59 09.4**	**+0.8**
CHTH	**Charan**	**4.93**	**190**	Pn	**Pn**	**06 59 09.4**	**+0.8**
ISHM	**Shahmirzad**	**5.05**	**169**	*e*Pn	**Pn**	**06 59 11.9**	**+1.7**
ORD	**Ordubad**	**5.08**	**251**	*e*Pn	**Pn**	**06 59 11.2**	**+0.8**
ORD	**Ordubad**	**5.08**	**251**	P	**Pn**	**06 59 11.3**	**+0.8**
	SNR=74						
ORD				S	**Sn**	**07 00 03.3**	**-4.6**
BJRD	**Bojnurd**	**5.12**	**125**	*e*Pn	**Pn**	**06 59 13.9**	**+2.9**
BJRD	**Bojnurd**	**5.12**	**125**	*e*Pn	**Pn**	**06 59 13.9**	**+2.9**
QZX	**Qazax, Azerbai**	**5.14**	**275**	*e*Pn	**Pn**	**06 59 11.9**	**+0.8**
QZX	**Qazax, Azerbai**	**5.14**	**275**	P	**Pn**	**06 59 12.0**	**+0.8**
	SNR=6.8						
QZX				S	**Sn**	**07 00 07.8**	**-1.3**
DAMV	**Damavand**	**5.15**	**182**	*e*Pn	**Pn**	**06 59 12.9**	**+1.4**
DAMV	**Damavand**	**5.15**	**182**	*e*Pn	**Pn**	**06 59 12.9**	**+1.4**
DAMV	**Damavand**	**5.15**	**182**	*e*AML	AML	07 00 11.5	
	comp=E,251nm,0.3s						
IFIR	**Firoozkooh**	**5.16**	**174**	*e*Pn	**Pn**	**06 59 13.3**	**+1.6**
IDMV	**Damavand**	**5.20**	**181**	*e*Pn	**Pn**	**06 59 14.4**	**+2.1**
SBZ	**Shahbuz**	**5.24**	**257**	*e*Pn	**Pn**	**06 59 14.0**	**+1.4**
SBZ	**Shahbuz**	**5.24**	**257**	P	**Pn**	**06 59 14.0**	**+1.4**
	SNR=19						
SBZ				S	**Sn**	**07 00 11.4**	**-0.4**
ITBZ	**Tabriz**	**5.29**	**243**	*e*Pn	**Pn**	**06 59 15.1**	**+1.7**
ITBZ				IAMB	IAmb	06 59 16.6	
	comp=Z,2μm,0.2s						
GROC	**Groznyy**	**5.31**	**299**	P	**Pn**	**06 59 11.9**	**-1.6**
GROC				*e*		07 00 10.5	
GROC				pmax	pmax		
	comp=Z,88nm,0.5s						
GROC				smax	smax		
	comp=E,34nm,0.4s						
GROC				smax	smax		
	comp=N,113nm,0.5s						
GROC				smax	smax		
	comp=N,105nm,0.7s						
NAX	**Nakhchivan**	**5.35**	**255**	P	**Pn**	**06 59 15.9**	**+1.8**
NAX	**Nakhchivan**	**5.35**	**255**	*e*Pn	**Pn**	**06 59 15.9**	**+1.8**
NAX	**Nakhchivan**	**5.35**	**255**	P	**Pn**	**06 59 16.0**	**+1.8**
	SNR=5.1						
NAX				S	**Sn**	**07 00 14.1**	**-0.4**
IHSB	**Hasanabad**	**5.38**	**188**	*e*Pn	**Pn**	**06 59 16.5**	**+1.9**
ILAS	**Lasjerd**	**5.43**	**173**	*e*Pn	**Pn**	**06 59 18.3**	**+2.9**
GEYT	**Alibeck**	**5.44**	**120**	P	**Pn**	**06 59 17.0**	**+1.7**
	comp=N,4.6nm,0.3s,baz=297,slow=15,SNR=30						
GEYT				S	**Sn**	**07 00 17.5**	**+1.0**
	comp=N,13nm,0.3s,baz=313,slow=20,SNR=7.6						
GEYT				LR	LR	07 01 41.3	
	comp=N,54nm,18.8s,baz=305,slow=41						
GYA0B	**ALIBECK ARRAY**	**5.44**	**120**		**Pn**	**06 59 17.2**	**+2.0**
GYA0B				Sn	**Sn**	**07 00 18.1**	**+1.6**
GYA0B	**ALIBECK ARRAY**	**5.44**	**120**	⇓P	**Pn**	**06 59 17.8**	**+2.6**
GYA0B				⇓S	**Sn**	**07 00 17.9**	**+1.4**
QABG	**Abgarm-Qazvin**	**5.45**	**202**	*e*Pn	**Pn**	**06 59 16.0**	**+0.3**
QABG				IAMB	IAmb	07 00 18.7	
	comp=Z,0.0nm,0.3s						
IANJ	**Anjilo**	**5.49**	**165**	*e*Pn	**Pn**	**06 59 18.9**	**+2.7**
IRAZ	**Razeghan**	**5.65**	**199**	*e*Pn	**Pn**	**06 59 18.8**	**+0.5**
IRAZ				IAMB	IAmb	07 00 24.3	
	comp=Z,2μm,0.4s						
TBLG	**Delisi**	**5.66**	**282**	P	**Pn**	**06 59 19.2**	**+0.9**
TBLG						07 00 20.0	
TBLG	**Delisi**	**5.66**	**282**	Pn	**Pn**	**06 59 19.2**	**+0.9**
TBLG					**Sn**	**07 00 20.0**	**-1.9**
GNI	**Garni**	**5.68**	**266**	P	**Pn**	**06 59 19.8**	**+1.1**
	comp=Z,6.0nm,0.3s,baz=314,slow=18,SNR=8.9						
GNI				S	**Sn**	**07 00 17.0**	**-5.6**
	comp=Z,6.6nm,0.3s,baz=294,slow=20,SNR=2.7						
GNI	**Garni**	**5.68**	**266**		**Pn**	**06 59 20.0**	**+1.3**
IVRN	**Varamin**	**5.79**	**183**	*e*Pn	**Pn**	**06 59 21.9**	**+1.8**
ISFR	**Sfrayin**	**5.89**	**127**	*e*Pn	**Pn**	**06 59 24.3**	**+2.6**
MAKU	**Maku**	**5.90**	**258**	*e*Pn	**Pn**	**06 59 22.3**	**+0.6**
MAKU	**Maku**	**5.90**	**258**	*e*Pn	**Pn**	**06 59 22.3**	**+0.6**
IQOM	**Qom**	**5.99**	**188**	*e*Pn	**Pn**	**06 59 24.4**	**+1.3**
IQOM				IAMB	IAmb	07 00 18.4	
	comp=Z,0.0nm,0.4s						
IEMG	**Emamgholi**	**6.08**	**121**	*e*Pn	**Pn**	**06 59 26.0**	**+1.7**
IEMG				IAMB	IAmb	07 00 49.2	
	comp=Z,1μm,0.4s						
SBZV	**Sabzevar**	**6.13**	**134**	*e*Pn	**Pn**	**06 59 27.4**	**+2.4**
SBZV				IAMB	IAmb	07 00 40.1	
	comp=Z,0.0nm,0.4s						
IKRD	**Kardeh**	**6.38**	**127**	*e*Pn	Pn	06 59 39.4	+11
IKRD				IAMB	IAmb	07 01 02.6	
	comp=Z,712nm,0.4s						
ASAO	**Ashtian**	**6.45**	**196**	*e*Pn	**Pn**	**06 59 30.3**	**+1.0**
ASAO	**Ashtian**	**6.45**	**196**	*e*Pn	**Pn**	**06 59 30.3**	**+1.0**
ZEI	**Tsey**	**6.48**	**291**	*e*P	**Pn**	**06 59 29.9**	**+0.2**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
AKH	**Akhalkalaki**	**6.56**	**278**	P	**Pn**	**06 59 31.9**	**+1.1**
AKH						07 00 44.7	
AKH	**Akhalkalaki**	**6.56**	**278**	Pn	**Pn**	**06 59 31.9**	**+1.1**
AKH				Sn	**Sn**	**07 00 44.7**	**+0.4**
IAKL	**Akhelmad**	**6.65**	**127**	IAMB	IAmb	07 01 05.6	
	comp=Z,944nm,0.3s						
NCK	**Nalchik**	**6.91**	**296**	*e*P	**Pn**	**06 59 37.3**	**+2.0**
HSAM	**Samen**	**7.14**	**204**	*e*Pn	**Pn**	**06 59 40.3**	**+1.5**
NEY	**Neytrino**	**7.43**	**292**	*e*P	**Pn**	**06 59 43.2**	**+0.5**
PYA1	**Pyatigorsk**	**7.45**	**299**	P	**Pn**	**06 59 43.3**	**+0.5**
KBZ	**Khabaz**	**7.46**	**296**	P	**Pn**	**06 59 42.9**	**0.0**
	comp=Z,1.2nm,0.3s,baz=111,slow=4.9,SNR=16						
KBZ				S	**Sn**	**07 00 60.0**	**-6.0**
	comp=Z,3.6nm,0.3s,baz=295,slow=17,SNR=4.4						
SHA1	**Shidzhatmaz**	**7.63**	**296**	*e*P	**Pn**	**06 59 45.9**	**+0.5**
SHA1				*i* S	**Sn**	**07 01 05.8**	**-4.7**
IDOB	**Doab**	**7.66**	**206**	*e*Pn	**Pn**	**06 59 46.0**	**+0.1**
TNSJ	**Nastanj**	**7.68**	**151**	*e*Pn	**Pn**	**06 59 48.5**	**+2.5**
KVAR	**Kislovodsk Arr**	**7.68**	**297**	P	**Pn**	**06 59 45.3**	**-0.7**
	baz=90,slow=20,SNR=5.4						
KVAR				S	**Sn**	**07 01 05.3**	**-6.2**
	baz=228,slow=3.7,SNR=8.1						
KIV	**Kislovodsk**	**7.69**	**297**	*e*P	**Pn**	**06 59 46.6**	**+0.5**
KIV				*e*S	**Sn**	**07 01 11.2**	**-0.4**
KIV				pmax	pmax		
	comp=Z,47nm,0.9s						
KIV	**Kislovodsk**	**7.69**	**297**		**Pn**	**06 59 46.4**	**+0.3**
KIV					**Sn**	**07 01 10.9**	**-0.7**
TPRV	**Parvadeh(Tabas**	**8.55**	**153**	*e*Pn	**Pn**	**07 00 00.2**	**+2.3**
AB31	**Akbulak array**	**10.11**	**30**	⇑P	**Pn**	**07 00 19.1**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=209,slow=12,SNR=92						
AB31				⇓S	**Sn**	**07 02 04.9**	**-5.8**
	comp=Z,3.4nm,0.3s,baz=220,slow=24,SNR=5.3						
ABKAR	**Akbulak array**	**10.11**	**30**		**Pn**	**07 00 19.5**	**+0.5**
AKTO	**Aktyubinsk**	**10.49**	**21**	P	**Pn**	**07 00 24.6**	**+0.3**
	comp=Z,2.0nm,0.3s,baz=208,slow=11,SNR=22						
AKTO				S	**Sn**	**07 02 14.1**	**-5.9**
	comp=Z,0.9nm,0.3s,baz=9.0,slow=19,SNR=3.7						
AKTO	**Aktyubinsk**	**10.49**	**21**	⇑P	**Pn**	**07 00 24.5**	**+0.3**
	comp=Z,9.5nm,0.7s						
AKTO				⇓S	**Sn**	**07 02 14.8**	**-5.2**
	comp=Z,24nm,0.6s						
KK31	**Karatay Array**	**13.87**	**74**	P	**Pn**	**07 01 12.2**	**+2.0**
KK31	**Karatay Array**	**13.87**	**74**		**Pn**	**07 01 12.2**	**+2.0**
KK31	**Karatay Array**	**13.87**	**74**	⇑P	**Pn**	**07 01 10.4**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=274,slow=12,SNR=19						
KK31				⇓S	**Sn**	**07 03 37.8**	**-4.7**
	comp=Z,4.8nm,0.6s,baz=268,slow=24,SNR=4.7						
KKAR	**Karatay Array**	**13.87**	**74**	P	**Pn**	**07 01 12.2**	**+2.0**
KKAR	**Karatay Array**	**13.87**	**74**		**Pn**	**07 01 12.2**	**+2.0**
BR131	**Keskin Array S**	**14.17**	**272**	*e*P	**P**	**07 01 17.4**	**-2.5**
BR131	**Keskin Array S**	**14.17**	**272**		**P**	**07 01 17.8**	**-2.1**
BRTR	**Keskin Array B**	**14.17**	**272**	P	**Pn**	**07 01 15.3**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=86,slow=12,SNR=5.4						
BTK	**Batken**	**14.25**	**87**	P	**Pn**	**07 01 15.6**	**+0.4**
BTK	**Batken**	**14.25**	**87**		**Pn**	**07 01 15.6**	**+0.4**
ASF	**Jabal al Asfar**	**14.96**	**240**	P	**P**	**07 01 27.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=11,slow=18,SNR=2.4						
ARSB	**Arslanbob**	**15.73**	**81**	Pn	**Pn**	**07 01 35.4**	**+1.0**
ARU	**Arti**	**16.21**	**13**	P	**Pn**	**07 01 39.7**	**-0.5**
ARU						07 04 31.4	
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARU	**Arti**	**16.21**	**13**	P	**Pn**	**07 01 39.4**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=172,slow=17,SNR=4.2						
ARU				S	**Sn**	**07 04 31.4**	**-7.6**
	comp=Z,0.0nm,0.3s,baz=157,slow=24,SNR=6.5						
ARU	**Arti**	**16.21**	**13**		**Pn**	**07 01 39.6**	**-0.5**
ARU				IAmb	IAmb	07 01 42.0	
	comp=Z,3.8nm,0.6s						
AAK	**Ala-Archa**	**16.79**	**76**	*i* P	**P**	**07 01 51.6**	**+2.7**
AAK	**Ala-Archa**	**16.79**	**76**	P	**P**	**07 01 49.0**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=242,slow=7.7,SNR=10						
AAK	**Ala-Archa**	**16.79**	**76**	P	**P**	**07 01 48.5**	**-0.3**
AAK				IAmb	IAmb	07 01 53.5	
	comp=Z,5.2nm,0.8s						
AAK	**Ala-Archa**	**16.79**	**76**	P	**P**	**07 01 51.0**	**+2.1**
	comp=Z,6.4nm,0.9s						
AAK				⇓S	**Sn**	**07 04 51.6**	**-1.8**
	comp=Z,4.4nm,0.9s						
BRVK	**Borovoye**	**17.38**	**39**	*e*P	**P**	**07 01 57.8**	**+2.7**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BRVK	**Borovoye**	**17.38**	**39**	P	**P**	**07 01 55.6**	**+0.5**
BRVK				IAmb	IAmb	07 02 09.0	
	comp=Z,13nm,0.8s						
BVAR	**Borovoye Array**	**17.41**	**39**	P	**Pn**	**07 01 54.5**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=227,slow=15,SNR=20						
TKM2	**Tokmak 2**	**17.59**	**75**	⇓P	**Pn**	**07 02 00.1**	**+2.5**
	comp=Z,10.0nm,0.8s						
TKM2				⇑S	**Sn**	**07 05 06.7**	**-6.2**
	comp=Z,0.9nm,0.6s						
OBN	**Obninsk**	**17.67**	**329**	*e*P	**Pn**	**07 02 00.0**	**+1.9**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NRN	**Naryn**	**17.98**	**80**	P	**Pn**	**07 02 03.0**	**+0.5**
NRN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NRN	**Naryn**	**17.98**	**80**	P	**Pn**	**07 02 03.0**	**+0.5**
RAYN	**Ar Rayn**	**18.09**	**200**	P	**Pn**	**07 02 04.5**	**+0.9**
RAYN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
RAYN	**Ar Rayn**	**18.09**	**200**	P	**Pn**	**07 02 04.5**	**+0.9**
WSAR	**Wadi Sarin**	**18.33**	**161**	P	**P**	**07 02 05.9**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=20,slow=11,SNR=4.7						
AKASG	**Malin Array Be**	**18.75**	**310**	*i* P	**Pn**	**07 02 11.8**	**+0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**18.75**	**310**	P	**Pn**	**07 02 10.7**	**-0.6**
	comp=Z,2.2nm,0.3s,baz=109,slow=13,SNR=6.8						
AKBB	**Malin Array Si**	**18.75**	**310**	*e*P	**Pn**	**07 02 11.2**	**-0.1**
KURBB	**Kurchatov Arra**	**20.79**	**53**	P	Pn	07 02 33.4	-2.0
	comp=Z,5.9nm,0.9s,baz=253,slow=12,SNR=11						
KURK	**Kurchatov**	**20.87**	**53**	⇑*i*P	Pn	07 02 37.0	+0.7
KURK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KURK	**Kurchatov**	**20.87**	**53**	P	**P**	**07 02 33.7**	**+0.5**
KURK				IAmb	IAmb	07 02 38.4	
	comp=Z,7.9nm,0.7s						
MKAR	**Makanchi Array**	**22.49**	**64**	P	**P**	**07 02 53.0**	**+2.3**
MKAR	**Makanchi Array**	**22.49**	**64**	P	**P**	**07 02 53.0**	**+2.3**
	comp=Z,2.4nm,0.9s,baz=260,slow=9.5,SNR=5.9						
ZAA0	**Zalesovo Array**	**25.49**	**48**	P	**P**	**07 03 19.4**	**+0.8**
ZALV	**Zalesovo Beam**	**25.49**	**48**	*i* P	**P**	**07 03 22.2**	**+3.6**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**25.49**	**48**	P	**P**	**07 03 21.1**	**+2.5**
	comp=Z,1.7nm,0.6s,baz=262,slow=11,SNR=7.1						
FINES	**FINESS Array B**	**26.05**	**331**	P	**P**	**07 03 26.0**	**+2.4**
	comp=Z,14nm,1.2s,baz=124,slow=10,SNR=4.3						
NB2	**NORSAR Subarra**	**32.04**	**323**	P	P	07 04 33.1	+16
	comp=Z,1.0nm,0.5s,baz=113,slow=8.6						
NRIK	**Noril'sk**	**34.11**	**22**	LR	LR	07 21 34.9	
	comp=Z,35nm,18.2s,baz=338,slow=42						
CMAR	**Chiang Mai Arr**	**45.72**	**105**	*i* P	**P**	**07 06 14.0**	**+2.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**45.72**	**105**	P	**P**	**07 06 13.3**	**+1.9**
	comp=Z,0.8nm,0.4s,baz=308,slow=8.7,SNR=6.9						
JOW	**Kunigami**	**62.95**	**77**	P	**P**	**07 08 17.3**	**+0.8**
JOW				IAmb	IAmb	07 08 21.0	
	comp=Z,1.3nm,0.6s						
ERM	**Erimo**	**64.92**	**55**		**S**	**07 17 06.7**	**+1.2**
PDPR	**Patillas Dam,**	**98.11**	**302**	P	**P**	**07 11 23.8**	**-2.7**

*ISCJB **05** 07:08:58.4±0.3, 7.°61S±0.°03×128.°42E±0.°04, h151km, mb3.9/9, Error ellipse: s-maj=6.3km s-min=4.2km az=170.0*
*NEIC **05** 07:08:59.6±2.5, 7.°60S±0.°07×128.°43E±0.°10, h149km±3km, mb4.1/11*
*IDC **05** 07:08:60.0±2.5, 7.°53S×128.°25E, h144km±24km, mb3.8/9, mb1 4.0/12, mb1mx3.8/28, mbtmp4.3/12, MS2.9/1, Ms1 2.9/1, ms1mx2.3/18, Error ellipse: s-maj=30.9km s-min=12.8km az=78.0*
ISC 05 07:08:59.9±0.5**, 7.°63S**±0.°04×**128.°48E**±0.°06**, h151**km**, n38, σ2.s00**/47**, mb4.0**/15**, 1C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.81**	**97**	Pn	**Pn**	**07 09 45.1**	**+0.1**
SAUI				Sn	**Sn**	**07 10 20.7**	**+0.9**
MTN	**Manton Dam**	**5.80**	**154**	Pn	**Pn**	**07 10 27.3**	**+3.2**
MTN				Sn	**Sn**	**07 11 29.0**	**-0.8**
FAKI	**Fak Fak**	**5.99**	**39**		**Pn**	**07 10 27.4**	**+0.9**
FAKI				Sn	**Sn**	**07 11 29.9**	**-4.5**
SIJI	**Sorong**	**7.26**	**23**	P	**Pn**	**07 10 44.7**	**+1.2**
	6.9nm,0.3s,baz=224,slow=22,SNR=11						
SIJI				S	**Sn**	**07 12 02.5**	**-2.4**
	4.0nm,0.3s,baz=225,slow=23,SNR=6.4						
KNRA	**Kununurra**	**8.01**	**178**		**Pn**	**07 10 55.1**	**+1.7**
KNRA				Sn	**Sn**	**07 12 21.6**	**-1.1**
FITZ	**Fitzroy Crossi**	**10.77**	**195**	P	**Pn**	**07 11 29.2**	**-0.9**
	5.1nm,0.3s,baz=29,slow=10,SNR=118						
FITZ				S	**Sn**	**07 13 23.6**	**-5.7**
	5.4nm,0.3s,baz=65,slow=17,SNR=11						
FITZ				LR	LR	07 16 05.4	
	comp=Z,63nm,18.2s,baz=17,slow=39						
FITZ	**Fitzroy Crossi**	**10.77**	**195**	Pn	**Pn**	**07 11 29.6**	**-0.6**
FITZ				Sn	**Sn**	**07 13 25.8**	**-3.5**
JAY	**Jayapura**	**13.19**	**68**	S	**Sn**	**07 14 25.1**	**-2.6**
	1.3nm,0.3s,baz=148,slow=19,SNR=3.3						
WB0	**Warramunga Arr**	**13.36**	**155**	Pn	**Pn**	**07 12 04.2**	**+0.4**
WRAB	**Tennant Creek**	**13.49**	**156**	Pn	**Pn**	**07 12 04.5**	**-0.9**
WRA	**Warramunga Arr**	**13.50**	**156**	P	**Pn**	**07 12 04.7**	**-0.8**
	2.3nm,0.3s,baz=326,slow=14,SNR=38						
WRA				S	**Sn**	**07 14 30.3**	**-4.7**
	10nm,0.3s,baz=334,slow=22,SNR=13						
WB2	**Warramunga Arr**	**13.50**	**156**	Pn	**Pn**	**07 12 05.7**	**+0.2**
WR0	**Warramunga Arr**	**13.59**	**155**	Pn	**Pn**	**07 12 04.5**	**-2.2**
KCP	**Kidapawan**	**14.93**	**347**	⇑P	**P**	**07 12 28.4**	**+3.0**
COEN	**Coen**	**15.74**	**115**		**P**	**07 12 35.8**	**+1.4**
COEN				IAmb	IAmb	07 12 39.6	
	comp=Z,6.1nm,1.1s						
AS31	**Alice Springs**	**16.77**	**163**	P	**Pn**	**07 12 48.7**	**+2.6**
AS31				IAmb	IAmb	07 12 50.5	
	comp=Z,11nm,0.6s						
ASAR	**Alice Springs**	**16.78**	**163**	P	**Pn**	**07 12 49.3**	**+3.2**
	comp=Z,3.4nm,0.3s,baz=337,slow=9.4,SNR=398						
ASAR				S	**S**	**07 15 50.1**	**-2.6**
	comp=Z,2.1nm,0.3s,baz=331,slow=23,SNR=6.5						
SBUM	**Sibu**	**19.07**	**301**	P	**P**	**07 13 11.8**	**+1.0**
SBUM				IAmb	IAmb	07 13 17.6	
	comp=Z,11nm,1.2s						
KSM	**Kuching**	**20.26**	**296**	P	**P**	**07 13 22.7**	**-1.0**
KSM				IAmb	IAmb	07 13 29.9	
	comp=Z,23nm,0.9s						
STKA	**Stephens Creek**	**27.05**	**155**	P	**P**	**07 14 29.7**	**+1.5**
	comp=Z,1.1nm,0.4s,baz=333,slow=8.1,SNR=5.5						
STKA	**Stephens Creek**	**27.05**	**155**	P	**P**	**07 14 26.8**	**-1.4**
STKA				IAmb	IAmb	07 14 41.4	
	comp=Z,3.2nm,1.5s						
CMAR	**Chiang Mai Arr**	**39.00**	**312**	P	**P**	**07 16 11.7**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=144,slow=6.3,SNR=6.5						
USRK	**Ussuriysk Ar.**	**51.68**	**3**	P	**P**	**07 17 50.6**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=194,slow=8.3,SNR=5.5						
SONM	**Songino Array**	**58.57**	**343**	P	**P**	**07 18 41.1**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=176,slow=5.9,SNR=7.4						
PETK	**Petropavlovsk-**	**65.39**	**19**	P	**P**	**07 19 26.6**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=183,slow=6.1,SNR=4.7						
MKAR	**Makanchi Array**	**67.93**	**328**	P	**P**	**07 19 42.1**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=118,slow=8.0,SNR=16						
ZALV	**Zalesovo Beam**	**71.49**	**335**	P	**P**	**07 20 02.5**	**-1.4**
	comp=Z,2.8nm,0.6s,baz=130,slow=5.5,SNR=12						
VNDA	**Vanda**	**72.02**	**173**	P	**P**	**07 20 08.9**	**+2.1**
	comp=Z,1.3nm,0.8s,baz=299,slow=8.5,SNR=6.0						
KURK	**Kurchatov**	**72.28**	**329**	P	**P**	**07 20 08.3**	**-0.4**
KURK				IAmb	IAmb	07 20 09.3	
	comp=Z,9.3nm,0.9s						
KK31	**Karatay Array**	**72.83**	**319**	P	**P**	**07 20 12.4**	**+0.2**
KK31				IAmb	IAmb	07 20 14.0	
	comp=Z,4.3nm,1.3s						
KKAR	**Karatay Array**	**72.83**	**319**	P	**P**	**07 20 12.5**	**+0.3**
KKAR				IAmb	IAmb	07 20 14.0	
	comp=Z,4.3nm,1.3s						
TIXI	**Tiksi**	**79.11**	**0**	P	**P**	**07 20 47.0**	**-0.2**
TIXI				IAmb	IAmb	07 20 47.0	
	comp=Z,2.1nm,0.5s						
NRIK	**Noril'sk**	**81.81**	**346**	P	**P**	**07 21 01.1**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=36,slow=2.3,SNR=3.9						
ABKAR	**Akbulak array**	**82.07**	**322**	P	**P**	**07 21 02.8**	**-0.6**
ABKAR				IAmb	IAmb	07 21 05.6	
	comp=Z,4.9nm,1.4s						
QSPA	**South Pole Qui**	**82.36**	**180**	P	**P**	**07 21 05.8**	**+1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QSPA	comp=Z,2.0nm,1.1s			IAmb	IAmb	07 21 24.5	
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.5s,baz=91,slow=1.2,SNR=3.6	**127.45**	**281**	PKP	**PKPdf**	**07 27 47.7**	**-0.2**
CPUP	**Villa Florida** comp=Z,1.4nm,0.5s,baz=77,slow=4.5,SNR=5.2	**145.78**	**171**	PKPbc	**PKPab**	**07 28 22.7**	**+0.2**
LPAZ	**La Paz** comp=Z,2.0nm,0.4s,baz=21,slow=2.8,SNR=27	**151.10**	**145**	PKPbc	**PKiKP**	**07 28 38.8**	**+1.4**

TAP 05 07:23:36.3, 24°.23N×121°.69E, h38km, ML2.1, D, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao** baz=237	**0.10**	**237**	P	Pn	07 23 43.0	-5.2
NACB	baz=237			*e*S	Sn	07 23 46.6	-13
TWD	**Chiawan** baz=207	**0.17**	**210**	*e*P	Pn	07 23 43.6	-2.2
TWD	baz=207			*e*S	Sn	07 23 48.5	-6.2
ETLH	**Xiulin Townshi** baz=263	**0.19**	**263**	*e*P	Pn	07 23 44.6	-0.8
ETLH	baz=263			*e*S	Sn	07 23 48.7	-5.2
ENA	**Nanau** baz=15	**0.20**	**13**	*e*P	Pn	07 23 43.6	-1.5
ENA	baz=15			*e*S	Sn	07 23 48.6	-4.7
NANB	**Nanao** baz=15	**0.20**	**15**	*e*P	Pn	07 23 43.6	-1.6
NANB	baz=15			*e*S	Sn	07 23 48.7	-4.6
NNSB	**Datong** baz=305	**0.34**	**305**	*e*P	Pn	07 23 45.7	+0.7
NNSB	baz=305			*e*S	Sn	07 23 52.0	+0.2
NNSH	**Datong** baz=305	**0.34**	**305**	*e*P	Pn	07 23 45.7	+0.7
NNSH	baz=305			*e*S	Sn	07 23 52.1	+0.4
NNS	**Nan Shan** baz=306	**0.36**	**306**	*e*S	Sn	07 23 52.5	+0.6
ENTT	**Nioudou** baz=345	**0.42**	**345**	*e*P	Pn	07 23 46.7	+0.9
ENTT	baz=345			*e*S	Sn	07 23 53.7	+1.0
YHNB	**Yeheng** baz=326	**0.52**	**327**	*e*P	Pn	07 23 47.9	+0.4
YHNB	baz=326			*e*S	Sn	07 23 56.5	+1.3
ILA	**Ilan** baz=6.0	**0.54**	**6**	*e*P	Pn	07 23 47.5	0.0
ILA	baz=6.0			*e*S	Sn	07 23 56.6	+1.3
WHP	**Taichung City** baz=274	**0.68**	**274**	*e*P	Pn	07 23 50.2	+0.6
WHP	baz=274			*e*S	Sn	07 23 59.8	+0.8
LIOB	**Emei** baz=304	**0.74**	**304**	*e*S	Sn	07 24 01.6	+1.3
NHDH	**Xindian Distri** baz=348	**0.74**	**348**	*e*S	Sn	07 24 01.7	+1.3
SMLT	**Sun Moon Lake** baz=244	**0.80**	**245**	*i* P	Pn	07 23 51.8	+0.6
SMLT	**Sun Moon Lake** baz=222	**0.80**	**245**	*e*P	Pn	07 23 51.8	+0.6
SSLB	**Suanglung** baz=236	**0.80**	**237**	*e*P	Pn	07 23 52.2	+1.0
SSLB	**Suanglung** baz=194	**0.80**	**237**	*e*P	Pn	07 23 52.4	+1.2
TYC	**Yuchr** baz=246	**0.83**	**247**	*e*P	Pn	07 23 51.8	+0.4
TYC	baz=246			*e*S	Sn	07 24 02.7	+0.2
TYC	**Yuchr** baz=238	**0.83**	**247**	P	Pn	07 23 51.8	+0.4
TWQ1	**Liyutan** baz=277	**0.84**	**278**	*e*S	Sn	07 24 04.1	+1.1
YULB	**Yu-li** baz=203	**0.91**	**203**	*e*P	Pn	07 23 53.3	+0.7
YULB	baz=203			*e*S	Sn	07 24 05.7	+1.2
TWF1	**Yuli** baz=201	**0.94**	**202**	*e*S	Sn	07 24 06.2	+0.9

TAP 05 07:23:47.4, 23°.98N×121°.01E, h15km±1km, ML1.6, A, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DPDB	**Guoxing** baz=302	**0.09**	**303**	*e*P	Pg	07 23 50.9	+0.2
DPDB	baz=302			*e*S	Sg	07 23 53.7	+0.9
SMLT	**Sun Moon Lake** baz=222	**0.14**	**225**	*e*S	Sb	07 23 55.2	+0.4
OWD	**Renai** baz=101	**0.15**	**101**	*e*P	Pb	07 23 52.2	+0.1
OWD	baz=101			*e*S	Sb	07 23 55.1	0.0
TYC	**Yuchr** baz=238	**0.16**	**240**	*e*S	Sb	07 23 54.9	-0.3
CHGB	**Renai** baz=63	**0.17**	**63**	*i* P	Pb	07 23 52.4	0.0
CHGB	baz=63			*i* S	Sb	07 23 55.6	0.0
SSLB	**Suanglung** baz=194	**0.20**	**195**	*e*S	Sb	07 23 56.5	0.0
VWDT	**VWDT** baz=152	**0.26**	**152**	P	Pb	07 23 53.9	+0.1
VWDT	baz=152			S	Sb	07 23 58.2	+0.2
WHF	**Hehuan Shan** baz=56	**0.28**	**55**	*i* P	Pb	07 23 54.7	+0.2
WHF	baz=56			*i* S	Sb	07 23 59.0	-0.2
TDCB	**Techi** baz=26	**0.30**	**27**	*e*P	Pg	07 23 53.9	+0.1
TDCB	baz=26			*e*S	Sb	07 23 58.9	-0.5
TWT	**Tachien** baz=27	**0.31**	**29**	*e*P	Pg	07 23 54.0	+0.1
TWT	baz=27			*e*S	Sb	07 23 59.2	-0.4

*JMA **05** 07:52:58.7±0.3, 21°.61N×121°.54E, h21km, M4.5*
*ISCJB **05** 07:53:00.6±0.4, 21°.67N±0°.02×121°.44E±0°.02, h78km±2km, mb3.7/9, Error ellipse: s-maj=4.0km s-min=3.1km az=150.9*
*NEIC **05** 07:53:01.1±1.8, 21°.68N±0°.08×121°.41E±0°.05, h70km±9km, mb4.4/15*
*TAP **05** 07:53:01.1, 21°.67N×121°.38E, h72km±1km, ML4.4, D*
*IDC **05** 07:53:05.2±8.2, 21°.65N×121°.46E, h106km±68km, mb3.5/9, mb1 3.6/10, mb1mx3.4/37, mbtmp3.8/10, ML3.8/1, MS2.8/1, Ms1 3.0/1, ms1mx2.3/27, Error ellipse: s-maj=54.8km s-min=29.5km az=157.0*
ISC 05 07:53:01.3±0.9**, 21°.63N**±0°.06×**121°.41E**±0°.03**, h74**km±6km**, n145, σ1s.14**/230**, mb4.2**/18**, 5D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu** baz=24	**0.43**	**18**	*i* P	**Pn**	**07 53 13.4**	**-0.6**
LAY	baz=24			S	**Sn**	**07 53 22.7**	**-0.6**
TSEB	**Hengchuen, Pin** baz=295	**0.55**	**300**	⇓*i*P	**Pn**	**07 53 14.7**	**-0.3**
TSEB	baz=295			*i* S	**Sn**	**07 53 25.7**	**+0.7**
TWKBT	**Hengchun** baz=296	**0.64**	**300**	⇓P	**Pn**	**07 53 15.3**	**-0.6**
TWKBT	baz=296			S	**Sn**	**07 53 26.6**	**0.0**
TWK1	**Hengchun** baz=296	**0.64**	**300**	⇓*i*P	**Pn**	**07 53 15.1**	**-0.8**
TWK1	baz=296			S	**Sn**	**07 53 26.5**	**-0.3**
HEN	**Hengchun** baz=299	**0.73**	**301**	*i* P	**Pn**	**07 53 16.6**	**-0.2**
HEN	baz=299			*e*S	**Sn**	**07 53 28.5**	**+0.1**
TAW	**Tawu** baz=327	**0.87**	**327**	*i* P	**Pn**	**07 53 17.3**	**-1.2**
TAW	baz=327			*i* S	**Sn**	**07 53 29.5**	**-1.7**
EAST	**Anshuo** baz=325	**0.92**	**326**	⇓*i*P	**Pn**	**07 53 18.0**	**-1.1**
EAST	baz=325			S	**Sn**	**07 53 30.7**	**-1.6**
SCZT	**Fangliau** baz=314	**1.04**	**316**	*i* P	**Pn**	**07 53 19.9**	**-0.6**
SCZT	baz=314			*e*S	**Sn**	**07 53 34.3**	**-0.6**
ECL	**Taimali** baz=337	**1.05**	**337**	*i* P	**Pn**	**07 53 19.3**	**-1.4**
ECL	baz=337			*i* S	**Sn**	**07 53 33.4**	**-1.8**
TTN	**Taitung** baz=349	**1.15**	**348**	P	**Pn**	**07 53 21.8**	**-0.1**
TTN	baz=349			S	**Sn**	**07 53 37.6**	**+0.3**
SSPT	**Xinbi** baz=317	**1.16**	**318**	*e*P	**Pn**	**07 53 19.9**	**-2.1**
WLCH	**Liuqiu** baz=306	**1.20**	**307**	P	**Pn**	**07 53 23.2**	**+0.7**
TWP	**Hsiaoliuchiu** baz=305	**1.21**	**307**	P	**Pn**	**07 53 23.0**	**+0.4**
TWP	baz=305			*e*S	**Sn**	**07 53 38.1**	**-0.4**
MASBT	**Mashibuluo** baz=323	**1.22**	**324**	⇓P	**Pn**	**07 53 22.1**	**-0.6**
MASBT	baz=323			S	**Sn**	**07 53 37.9**	**-0.9**
TWGBT	**Beinan** baz=346	**1.23**	**346**	P	**Pn**	**07 53 21.7**	**-1.2**
TWGBT	baz=346			S	**Sn**	**07 53 37.2**	**-1.8**
TWG	**Pinlang** baz=346	**1.23**	**345**	P	**Pn**	**07 53 21.8**	**-1.1**
TWG	baz=346			S	**Sn**	**07 53 37.7**	**-1.5**
TWG	**Pinlang**	**1.23**	**345**		**Pn**	**07 53 21.5**	**-1.4**
TWG				Sn	**Sn**	**07 53 37.5**	**-1.6**
SSD	**Sandimen** baz=327	**1.33**	**327**	P	**Pn**	**07 53 24.0**	**-0.2**
SSD	baz=327			S	**Sn**	**07 53 40.2**	**-1.2**
KAU	**Kaohsiung** baz=312	**1.39**	**313**	*e*P	**Pn**	**07 53 24.4**	**-0.6**
KAU	baz=312			S	**Sn**	**07 53 42.0**	**-0.6**
SGLT	**Jiouru** baz=322	**1.39**	**322**	*e*P	**Pn**	**07 53 24.5**	**-0.4**
SGLT	baz=322			*e*S	**Sn**	**07 53 42.6**	**-0.1**
CHKT	**Chengkung** baz=359	**1.47**	**358**	P	**Pn**	**07 53 25.8**	**-0.2**
CHKT	baz=359			S	**Sn**	**07 53 44.1**	**-0.5**
SNJT	**Kaohsiung City** baz=318	**1.50**	**319**	*e*P	**Pn**	**07 53 26.5**	**+0.1**
SNJT	baz=318			*e*S	**Sn**	**07 53 45.0**	**-0.4**
TWM1	**Shoushan** baz=322	**1.50**	**323**	*i* P	**Pn**	**07 53 27.0**	**+0.6**
TWM1	baz=322			S	**Sn**	**07 53 44.6**	**-0.8**
SLGT	**Liugui** baz=332	**1.53**	**333**	*e*P	**Pn**	**07 53 27.6**	**+0.8**
SLGT	baz=332			*e*S	**Sn**	**07 53 45.9**	**-0.3**
FULB	**Fuli** baz=357	**1.57**	**356**	P	**Pn**	**07 53 27.4**	**0.0**
FULB	baz=357			*e*S	**Sn**	**07 53 46.7**	**-0.3**
ELDTW	**Lidau** baz=347	**1.60**	**347**	P	**Pn**	**07 53 27.4**	**-0.4**
SGST	**Jiashian** baz=332	**1.64**	**332**	P	**Pn**	**07 53 29.0**	**+0.7**
SGST	baz=332			S	**Sn**	**07 53 47.0**	**-1.7**
STYT	**Tauyuan** baz=339	**1.65**	**339**	P	**Pn**	**07 53 28.4**	**+0.1**
STYT	baz=339			S	**Sn**	**07 53 48.5**	**-0.4**
TWF1	**Yuli** baz=357	**1.72**	**357**	P	**Pn**	**07 53 28.1**	**-1.2**
TWF1	baz=357			*e*S	**Sn**	**07 53 50.1**	**-0.5**
CHN1	**Nanshi** baz=332	**1.75**	**332**	*e*P	**Pn**	**07 53 29.9**	**+0.1**
CHN1	baz=332			S	**Sn**	**07 53 50.2**	**-1.2**
YULB	**Yu-li** baz=357	**1.76**	**357**	P	**Pn**	**07 53 28.5**	**-1.4**
YULB	baz=357			*e*S	**Sn**	**07 53 52.2**	**+0.6**
YULB	**Yu-li**	**1.76**	**357**		**Pn**	**07 53 28.6**	**-1.3**
YULB				Sn	**Sn**	**07 53 51.3**	**-0.3**
WTP	**Ta-pu** baz=335	**1.77**	**336**	*e*P	**Pn**	**07 53 30.4**	**+0.3**
WTP	baz=335			S	**Sn**	**07 53 51.1**	**-0.8**
TAI1	**Yung-k'ang** baz=322	**1.78**	**322**	*e*S	**Sn**	**07 53 51.1**	**-0.9**
SNST	**Tainan City** baz=332	**1.80**	**332**	*e*P	**Pn**	**07 53 31.2**	**+0.9**
SNST	baz=332			S	**Sn**	**07 53 51.6**	**-0.8**
TPUB	**Ta-pu** baz=336	**1.82**	**337**	*e*P	**Pn**	**07 53 30.3**	**-0.3**
TPUB	baz=336			S	**Sn**	**07 53 52.1**	**-0.8**
TPUB	**Ta-pu**	**1.82**	**337**		Pn	07 53 26.0	-4.6
TPUB				Sn	**Sn**	**07 53 52.3**	**-0.6**
TWK	**Hsinying** baz=332	**1.84**	**333**	P	**Pn**	**07 53 30.2**	**-0.8**
TWK	baz=332			*e*S	**Sn**	**07 53 53.2**	**-0.3**
HGSD	**Ruisui** baz=1.0	**1.86**	**0**	*e*P	**Pn**	**07 53 31.0**	**-0.2**
HGSD	baz=1.0			*e*S	**Sn**	**07 53 53.0**	**-0.9**
EHY	**Hungye** baz=358	**1.87**	**358**	*e*S	**Sn**	**07 53 54.1**	**-0.1**
CHN4	**Tsaushan** baz=336	**1.88**	**336**	P	**Pn**	**07 53 31.0**	**-0.4**
CHN4	baz=336			S	**Sn**	**07 53 54.1**	**-0.1**
SCLT	**Jiali** baz=323	**1.91**	**324**	P	**Pn**	**07 53 31.5**	**-0.3**
SCLT	baz=323			S	**Sn**	**07 53 54.1**	**-0.9**
EGFH	**Guangfu** baz=1.0	**2.03**	**0**	*e*P	**Pn**	**07 53 33.5**	**0.0**
EGFH	baz=1.0			*e*S	**Sn**	**07 53 57.5**	**-0.6**
CHN8	**Yiju** baz=327	**2.04**	**327**	*e*P	**Pn**	**07 53 32.8**	**-0.8**
CHN8	baz=327			S	**Sn**	**07 53 56.5**	**-1.7**
CHY	**Chiayi** baz=334	**2.07**	**334**	P	**Pn**	**07 53 34.8**	**+0.8**
CHY	baz=334			*e*S	**Sn**	**07 53 58.5**	**-0.5**
CHN5	**Tsauling** baz=341	**2.08**	**341**	*e*P	**Pn**	**07 53 34.3**	**+0.2**
CHN5	baz=341			*e*S	**Sn**	**07 53 57.5**	**-1.7**
CHN2	**Minshiung** baz=335	**2.08**	**336**	P	**Pn**	**07 53 34.9**	**+0.7**
CHN2	baz=335			S	**Sn**	**07 53 58.5**	**-0.7**
WLGB	**Puzi** baz=330	**2.11**	**331**	*e*S	**Sn**	**07 53 58.3**	**-1.6**
WHYT	**Xinyi Township** baz=346	**2.12**	**346**	*e*P	**Pn**	**07 53 35.1**	**+0.3**
WHYT	baz=346			*e*S	**Sn**	**07 54 00.1**	**-0.2**
VWDT	**VWDT** baz=353	**2.13**	**353**	P	**Pn**	**07 53 35.1**	**+0.3**
VWDT	baz=353			*e*S	**Sn**	**07 53 59.2**	**-1.2**
SSLB	**Suanglung** baz=349	**2.19**	**349**	*e*P	**Pn**	**07 53 36.1**	**+0.4**
SSLB	baz=349			*e*S	**Sn**	**07 54 01.0**	**-0.9**
SSLB	**Suanglung**	**2.19**	**349**		**Pn**	**07 53 36.9**	**+1.2**
SSLB				Sn	**Sn**	**07 53 59.9**	**-2.0**
WGK	**Gukeng** baz=339	**2.19**	**339**	*e*P	**Pn**	**07 53 35.4**	**-0.3**
WGK	baz=339			S	**Sn**	**07 54 00.8**	**-1.1**
ENLB	**Shoufeng** baz=5.0	**2.27**	**4**	P	**Pn**	**07 53 35.8**	**-0.9**
ENLB	baz=5.0			S	**Sn**	**07 54 03.0**	**-0.9**
WSF	**Szhu** baz=331	**2.28**	**332**	S	**Sn**	**07 54 02.4**	**-1.6**
WDGT	**Dungji** baz=314	**2.29**	**315**	P	**Pn**	**07 53 35.5**	**-1.5**
WDGT	baz=314			S	**Sn**	**07 54 03.0**	**-1.3**
TYC	**Yuchr** baz=348	**2.32**	**347**	P	**Pn**	**07 53 37.7**	**+0.3**
TYC	baz=348			*e*S	**Sn**	**07 54 04.4**	**-0.6**
WNT	**Mingjian** baz=343	**2.34**	**344**	*e*P	**Pn**	**07 53 38.5**	**+0.9**
WNT	baz=343			*e*S	**Sn**	**07 54 04.4**	**-1.0**
VCHM	**Qimei** baz=310	**2.42**	**311**	*e*P	**Pn**	**07 53 37.1**	**-1.5**
CHGB	**Renai** baz=355	**2.43**	**355**	P	**Pn**	**07 53 39.2**	**+0.1**
CHGB	baz=355			*e*S	**Sn**	**07 54 07.3**	**-0.7**
DPDB	**Guoxing** baz=349	**2.44**	**350**	*e*P	**Pn**	**07 53 40.0**	**+1.0**
DPDB	baz=349			*e*S	**Sn**	**07 54 07.3**	**-0.6**
TWD	**Chiawan** baz=4.0	**2.45**	**4**	P	**Pn**	**07 53 39.0**	**-0.1**
TWD	baz=4.0			*e*S	**Sn**	**07 54 07.5**	**-0.5**
RLNB	**Erlin** baz=336	**2.45**	**337**	*e*S	**Sn**	**07 54 06.2**	**-1.9**
WTCT	**Ta-ch'eng** baz=335	**2.46**	**335**	*e*S	**Sn**	**07 54 07.0**	**-1.3**
WHF	**Hehuan Shan** baz=357	**2.51**	**357**	*e*P	**Pn**	**07 53 41.0**	**+0.7**
WHF	baz=357			*e*S	**Sn**	**07 54 08.8**	**-1.4**
PHUB	**P'eng-hu** baz=317	**2.53**	**318**	*e*P	**Pn**	**07 53 38.5**	**-1.7**
PHUB	baz=317			*e*S	**Sn**	**07 54 07.3**	**-2.8**
NACB	**Ninganchiao** baz=4.0	**2.54**	**4**	P	**Pn**	**07 53 40.2**	**-0.2**
NACB	baz=4.0			*e*S	**Sn**	**07 54 09.3**	**-1.0**
NACB	**Ninganchiao**	**2.54**	**4**		**Pn**	**07 53 40.1**	**-0.2**
NACB				Sn	**Sn**	**07 54 07.3**	**-3.0**
WCHH	**Zhanghua** baz=342	**2.56**	**342**	*e*P	**Pn**	**07 53 41.3**	**+0.6**
WCHH	baz=342			*e*S	**Sn**	**07 54 10.4**	**-0.5**
ETLH	**Xiulin Townshi** baz=2.0	**2.57**	**2**	*e*P	**Pn**	**07 53 41.3**	**+0.4**
ETLH	baz=2.0			*e*S	**Sn**	**07 54 10.6**	**-0.5**
PNG	**Penghu** baz=318	**2.58**	**319**	*e*P	**Pn**	**07 53 39.5**	**-1.4**
PNG	baz=318			*e*S	**Sn**	**07 54 08.8**	**-2.5**
TDCB	**Techi** baz=355	**2.63**	**355**	*e*P	**Pn**	**07 53 42.8**	**+1.2**
TDCB	baz=355			*e*S	**Sn**	**07 54 12.1**	**-0.4**
WHP	**Taichung City** baz=351	**2.67**	**351**	*e*P	**Pn**	**07 53 43.1**	**+0.8**
WHP	baz=351			*e*S	**Sn**	**07 54 12.4**	**-1.2**
NNSB	**Datong**	**2.79**	**360**	P	**Pn**	**07 53 44.7**	**+0.8**
NNSB				*e*S	**Sn**	**07 54 15.1**	**-1.4**
NNSH	**Datong**	**2.79**	**360**	*e*P	**Pn**	**07 53 44.9**	**+1.0**
NNSH				*e*S	**Sn**	**07 54 16.8**	**+0.3**
NNS	**Nan Shan**	**2.80**	**359**	*e*P	**Pn**	**07 53 45.1**	**+1.1**
NNS				*e*S	**Sn**	**07 54 15.9**	**-0.9**
ENA	**Nanau** baz=7.0	**2.81**	**6**	*e*P	**Pn**	**07 53 43.9**	**-0.1**
NANB	**Nanao** baz=7.0	**2.81**	**6**	P	**Pn**	**07 53 44.0**	**+0.1**
NANB	baz=7.0			*e*S	**Sn**	**07 54 16.5**	**-0.2**
NSY	**Sanyi** baz=348	**2.84**	**348**	*e*P	**Pn**	**07 53 45.0**	**+0.6**
NSY	baz=348			*e*S	**Sn**	**07 54 16.3**	**-1.3**
NDT	**Datong Townshi** baz=2.0	**2.96**	**2**	*e*P	**Pn**	**07 53 47.0**	**+0.9**
NDT	baz=2.0			*e*S	**Sn**	**07 54 20.1**	**-0.5**
EOS1	**EOS1** baz=13	**2.98**	**13**	*e*P	**Pn**	**07 53 46.7**	**+0.4**
EOS1	baz=13			*e*S	**Sn**	**07 54 20.9**	**-0.1**
TWC	**Suao** baz=8.0	**3.00**	**8**	P	**Pn**	**07 53 47.2**	**+0.7**
TWC	baz=8.0			*e*S	**Sn**	**07 54 21.2**	**-0.2**
ENTT	**Nioudou** baz=3.0	**3.00**	**3**	P	**Pn**	**07 53 47.7**	**+1.0**
ENTT	baz=3.0			*e*S	**Sn**	**07 54 21.4**	**-0.1**
LIOB	**Emei** baz=353	**3.03**	**353**	*e*P	**Pn**	**07 53 48.2**	**+1.3**
YHNB	**Yeheng** baz=359	**3.03**	**359**	*e*P	**Pn**	**07 53 48.7**	**+1.6**
YHNB	baz=359			*e*S	**Sn**	**07 54 21.7**	**-0.6**
YHNB	**Yeheng**	**3.03**	**359**		**Pn**	**07 53 48.5**	**+1.5**
YHNB				Sn	**Sn**	**07 54 19.5**	**-2.8**
TWE	**Neicheng** baz=5.0	**3.09**	**4**	P	**Pn**	**07 53 48.8**	**+1.0**
NWLT	**Wulai** baz=2.0	**3.14**	**2**	*e*P	**Pn**	**07 53 49.2**	**+0.8**
JYNG	**Yonagunijimaku**	**3.15**	**26**	P	**Pn**	**07 53 48.6**	**0.0**
JYNG				*e*S	**Sn**	**07 54 23.4**	**-1.6**
YOJ	**Yonaguni jima**	**3.19**	**27**	P	**Pn**	**07 53 49.2**	**+0.1**
YOJ				S	**Sn**	**07 54 24.8**	**-1.2**
YOJ	**Yonaguni jima** baz=28	**3.19**	**27**	*e*P	**Pn**	**07 53 49.8**	**+0.7**
YOJ	baz=28			*e*S	**Sn**	**07 54 24.8**	**-1.2**
YOJ	**Yonaguni jima**	**3.19**	**27**	Pn	**Pn**	**07 53 48.1**	**-1.0**
YOJ				Sn	**Sn**	**07 54 24.5**	**-1.4**
NTC	**Toucheng** baz=7.0	**3.24**	**7**	P	**Pn**	**07 53 50.9**	**+1.1**
EGS	baz=9.0	**3.24**	**8**	*e*P	**Pn**	**07 53 51.3**	**+1.5**
HATJ	**Hateruma jima**	**3.28**	**42**	P	**Pn**	**07 53 50.2**	**-0.1**
HATJ				S	**Sn**	**07 54 26.7**	**-1.5**
TATO	**Taipei**	**3.33**	**1**	Pn	**Pn**	**07 53 49.6**	**-1.5**
TATO				Sn	**Sn**	**07 54 27.9**	**-1.7**
TIPB	**Shuangxi** baz=7.0	**3.35**	**6**	*e*P	**Pn**	**07 53 53.0**	**+1.6**
TIPB	baz=7.0			*e*S	**Sn**	**07 54 29.7**	**-0.4**
TAP	**Taipei** baz=2.0	**3.40**	**1**	*e*P	**Pn**	**07 53 52.6**	**+0.6**
TWB1	**Santiao Chiao** baz=9.0	**3.41**	**9**	P	**Pn**	**07 53 53.3**	**+1.2**
IRIF	**Iriomote-Funau**	**3.44**	**38**	P	**Pn**	**07 53 52.6**	**0.0**
IRIF				*e*S	**Sn**	**07 54 31.6**	**-0.6**
NWF	**Wu-fen Shan** baz=6.0	**3.45**	**6**	*e*P	**Pn**	**07 53 54.1**	**+1.4**
WFSB	**Wu-fen Shan** baz=6.0	**3.45**	**6**	*e*P	**Pn**	**07 53 53.6**	**+1.0**
WFSB	baz=6.0			*e*S	**Sn**	**07 54 29.7**	**-2.7**
YM01	**YM01** baz=2.0	**3.51**	**2**	*e*P	**Pn**	**07 53 54.1**	**+0.6**
YM04	**YM04** baz=2.0	**3.51**	**2**	*e*P	**Pn**	**07 53 54.4**	**+0.8**
YM10	**YM10** baz=2.0	**3.52**	**2**	*e*P	**Pn**	**07 53 54.7**	**+1.0**
YM05	**YM05** baz=2.0	**3.52**	**2**	*e*P	**Pn**	**07 53 54.9**	**+1.1**
JKRS	**Kuro-shima**	**3.54**	**42**	P	**Pn**	**07 53 53.9**	**+0.1**
JKRS				S	**Sn**	**07 54 32.7**	**-1.8**
JIJ	**Ishigaki jima**	**3.71**	**42**	P	**Pn**	**07 53 55.8**	**-0.4**
JIJ				S	**Sn**	**07 54 36.2**	**-2.6**
KNMB	**Chin-men Tao**	**3.96**	**316**	Pn	**Pn**	**07 53 58.7**	**-0.9**
KNMB				Sn	**Sn**	**07 54 40.9**	**-4.1**
JISG	**Ishigakijimahi**	**3.98**	**42**	P	**Pn**	**07 53 59.2**	**-0.7**
JISG				S	**Sn**	**07 54 43.2**	**-2.1**
QZH	**Quanzhou**	**4.20**	**322**	Pn	**Pn**	**07 54 01.5**	**-1.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QZH				Sn	Sn	07 54 46.1	-4.5
QZH				smax	smax		
	comp=N,61nm,0.3s						
QZH				smax	smax		
	comp=E,73nm,0.5s						
JTJ	Tarama	4.27	45	P	Pn	07 54 03.5	-0.3
JTJ				eS	Sn	07 54 50.1	-2.2
JIRB	Irabujima	4.71	47	S	Sn	07 55 00.9	-2.2
JMJ2	Miyako jima3	4.76	49	P	Pn	07 54 09.5	-1.0
JMJ2				eS	Sn	07 55 02.2	-2.1
JIKM	Ikemajima	4.82	46	S	Sn	07 55 04.0	-1.9
HKPS	Hong Kong Po S	6.78	277	Pn	Pn	07 54 38.3	+0.2
KSRS	Korea Array	16.75	18	P	P	07 56 53.2	+1.0
	comp=E,0.3nm,0.3s,baz=200,slow=11,SNR=6.0						
CMAR	Chiang Mai Arr	21.34	265	P	P	07 57 44.3	+1.9
	comp=E,0.6nm,0.2s,baz=73,slow=10,SNR=4.5						
CMAR				LR	LR	08 07 02.5	
	comp=E,23nm,19.1s,baz=95,slow=39						
SONM	Songino Array	28.81	339	P	P	07 58 52.2	-0.2
	comp=E,0.8nm,0.6s,baz=161,slow=10,SNR=3.8						
WMQ	Urumqi	35.61	316	eP	P	07 59 58.6	+6.8
MKAR	Makanchi Array	40.34	318	P	P	08 00 32.5	+1.0
	comp=E,0.6nm,0.7s,baz=107,slow=10,SNR=4.9						
ZALV	Zalesovo Beam	42.51	329	P	P	08 00 49.7	+0.6
	comp=E,1.8nm,0.5s,baz=123,slow=11,SNR=7.4						
H11S3	WAKE ISLAND Hy	42.54	86	T	T	08 46 13.7	
	baz=282,slow=74						
H11S1	WAKE ISLAND Hy	42.55	86	T	T	08 46 18.0	
	baz=282,slow=74						
H11S2	WAKE ISLAND Hy	42.55	86	T	T	08 46 11.0	
	baz=282,slow=74						
KURK	Kurchatov	44.20	322	P	P	08 01 03.9	+1.1
KURBB	Kurchatov Arra	44.21	322	P	P	08 01 04.2	+1.3
	comp=E,1.1nm,0.6s,baz=117,slow=7.4,SNR=4.1						
NRIK	Noril'sk	51.92	345	P	P	08 02 02.2	+0.2
	comp=E,1.9nm,0.6s,baz=137,slow=8.8,SNR=4.4						
SKT	Skwentna	69.79	30	P	P	08 04 02.7	-0.7
SKT				IAmb	IAmb	08 04 18.4	
	comp=Z,5.3nm,1.2s						
PMR	Palmer	70.97	30	P	P	08 04 10.2	-0.5
PMR				IAmb	IAmb	08 04 25.6	
	comp=Z,4.5nm,1.4s						
GHO	Glory Hole Cre	71.04	30	P	P	08 04 09.9	-1.2
GHO				IAmb	IAmb	08 04 23.5	
	comp=Z,4.8nm,1.1s						
KNK	Knik Glacier	71.33	31	P	P	08 04 12.6	-0.2
IL31		71.39	27	P	P	08 04 13.4	+0.3
IL31				IAmb	IAmb	08 04 24.5	
	comp=Z,4.7nm,1.4s						
ILAR	Eielson Array	71.39	27	P	P	08 04 13.8	+0.7
	comp=Z,0.3nm,0.8s,baz=272,slow=5.3,SNR=3.6						
SCM	Sheep Creek Mo	71.77	30	P	P	08 04 15.6	0.0
SCM				IAmb	IAmb	08 04 23.1	
	comp=Z,7.1nm,1.4s						
GLI	Glacier Island	72.08	31	P	P	08 04 17.2	-0.1
GLI				IAmb	IAmb	08 04 27.9	
	comp=Z,8.9nm,1.4s						
DOT	Dot Lake	72.84	28	P	P	08 04 19.1	-2.7
VRDI	Verde Repeater	73.72	30	P	P	08 04 26.6	-0.6
VRDI				IAmb	IAmb	08 04 31.2	
	comp=Z,8.9nm,1.4s						
FIA1	FINESS Array S	73.75	330	P	P	08 04 28.1	+1.0
FINES	FINESS Array B	73.75	330	P	P	08 04 27.8	+0.6
	comp=Z,3.0nm,0.9s,baz=15,slow=5.9,SNR=2.5						
EGAK	Eagle	73.77	26	P	P	08 04 27.2	-0.1
CRQM	Cirque	73.99	31	P	P	08 04 29.2	+0.3
CRQM				IAmb	IAmb	08 04 31.2	
	comp=Z,6.0nm,1.1s						
DAWY	Dawson	74.71	27	P	P	08 04 32.2	-0.6
CTGM	Chitina Glacie	74.78	30	P	P	08 04 33.8	+0.4
CTGM				IAmb	IAmb	08 04 37.9	
	comp=Z,6.4nm,1.4s						
YKA	Yellowknife Ar	85.24	23	P	P	08 05 28.7	-0.8
	comp=Z,0.3nm,0.7s,baz=313,slow=4.5,SNR=4.8						

*PDG **05** 08:02:08.3±0.2, 43°.50N×20°.52E, h15km, ML2.6/10, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
*BEO **05** 08:02:08.8±0.2, 43°.48N×20°.51E, h0km, ML2.6/12*
*RHSSO **05** 08:02:09.8±0.6, 43°.50N×20°.43E, h6km±2km, ML2.5/9*
ISC 05 08:02:08.3±1.0, **43°.52N**±0°.02×**20°.51E**±0°.02, **h6**km±9km, **n56**, σ0s.98/105, **18C-13D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IVAS	Ivanjica	0.27	283	ePg	Pg	08 02 13.6	0.0
IVAS				eSg	Sg	08 02 16.1	-1.0
GRUS	Gruza	0.40	22	ePg	Pg	08 02 16.9	+0.8
GRUS				eSg	Sg	08 02 21.9	+0.5
SJES	Sjenica	0.47	237	ePg	Pg	08 02 17.1	-0.2
SJES				eSg	Sg	08 02 23.9	+0.5
SELS	Selova	0.54	123	ePg	Pg	08 02 17.9	-0.7
SELS				eSg	Sg	08 02 24.9	-0.7
DIVS	Divibare	0.69	327	ePg	Pg	08 02 21.7	+0.1
DIVS				eSg	Sg	08 02 32.4	+1.7
DIVS	Divibare	0.69	327	⇑iPg	Pg	08 02 21.7	+0.1
DIVS				eSg	Sg	08 02 31.7	+1.0
TRUS	Trudelj	0.71	354	ePg	Pg	08 02 21.9	-0.1
TRUS				eSg	Sb	08 02 33.5	+0.3
IVA	Berane	0.79	215	⇑iPg	Pg	08 02 23.2	-0.2
IVA				eSg	Sb	08 02 34.6	-0.7
RUDO	Rudo	0.83	277	ePg	Pg	08 02 23.2	-1.1
RUDO				eSg	Sg	08 02 35.6	+0.5
PLE	Pljevlja	0.84	258	⇓iPg	Pg	08 02 24.3	-0.1
PLE				eSg	Sb	08 02 37.6	+0.7
BBLS	Lazići	0.87	294	ePg	Pg	08 02 25.1	0.0
BBLS				eSg	Sg	08 02 37.0	+0.5
BBLS	Lazići	0.87	294	ePg	Pg	08 02 25.0	0.0
BBLS				eSg	Sg	08 02 36.9	+0.5
BOVS	Bovan	0.88	82	ePg	Pg	08 02 24.9	-0.3
BOVS				eSg	Sg	08 02 37.3	+0.7
SVIS	Svilajnac	0.91	34	ePg	Pg	08 02 26.2	+0.5
SVIS				eSg	Sg	08 02 38.1	+0.6
KOME	Kolasin	0.98	228	⇓iPg	Pg	08 02 26.8	-0.4
KOME				eSg	Sb	08 02 42.0	+0.9
PVY	Plav	1.00	204	⇓iPg	Pg	08 02 27.1	-0.5
PVY				eSg	Sb	08 02 42.0	+0.3
BARS	Barje	1.19	126	ePg	Pg	08 02 30.0	-1.0
BARS	Barje	1.19	126	ePg	Pg	08 02 30.9	-0.1
BARS				eSg	Sg	08 02 46.4	0.0
BARS				eSg	Sn	08 02 48.2	+0.3
UPM	Unac-Piva	1.21	256	ePg	Pg	08 02 30.8	-0.7
UPM				eSg	Sg	08 02 45.8	-1.4
UPM	Unac-Piva	1.21	256	⇑iPg	Pg	08 02 30.9	-0.6
UPM				eSg	Sn	08 02 50.1	+1.4
KUBS	Kucevo	1.23	43	ePg	Pg	08 02 32.0	+0.1
KUBS				eSg	Sg	08 02 47.8	-0.1
TEKS	Tekeris	1.25	326	ePg	Pn	08 02 32.0	-0.4
TEKS				eSg	Sg	08 02 49.4	+0.8
TEKS	Tekeris	1.25	326	ePg	Pn	08 02 31.5	-0.9
TEKS				eSg	Sg	08 02 49.4	+0.8
HAPS	Han Pijesak,BI	1.26	297	ePg	Pn	08 02 31.4	-1.2
HAPS				eSg	Sg	08 02 48.5	-0.5
HAPS	Han Pijesak,BI	1.26	297	ePg	Pn	08 02 31.5	-1.2
HAPS				eSg	Sg	08 02 48.5	-0.5
ZAGS	Zajecar	1.29	76	ePg	Pn	08 02 31.7	-1.1
ZAGS				eSg	Sb	08 02 50.0	+0.3
NKY	Niksic	1.31	238	⇑iPg	Pn	08 02 32.3	-1.0
NKY				eSg	Sn	08 02 53.0	+1.9
NKME	Niksic	1.36	237	⇓iPg	Pn	08 02 33.3	-0.6
NKME				eSg	Sn	08 02 54.4	+2.1
PDG	Podgorica	1.42	221	ePg	Pn	08 02 34.8	+0.1
PDG				eSg	Sb	08 02 52.3	-1.3
PDG	Podgorica	1.42	221	⇑P	Pn	08 02 30.9	-3.7
PDG				⇑S	Sb	08 02 49.9	-3.6
PDG				AML	AML	08 02 54.6	
TTG	Podgorica	1.42	221	⇓iPg	Pn	08 02 34.6	-0.1
TTG				eSg	Sg	08 02 55.1	+1.1
CEME	Cevo	1.52	231	⇓iPg	Pn	08 02 35.9	-0.1
CEME				eSg	Sg	08 02 57.7	+0.7
MDVR	Moldovita	1.53	34	⇑P	Pn	08 02 34.8	-1.5
MDVR				⇑S	Sn	08 02 56.9	+0.3
MDVR				AML	AML	08 02 59.8	
BRY	Bratogost	1.56	248	ePg	Pn	08 02 37.2	+0.4
BRY	Bratogost	1.56	248	⇓iPg	Pn	08 02 36.6	-0.2
BRY				eSg	Sg	08 02 59.5	+0.9
ZAPS	Zavoj	1.57	98	ePg	Pn	08 02 36.9	+0.2
ZAPS				eSg	Sn	08 02 57.5	+0.1
BLKB	Belogradchik	1.58	85	⇓S	Sb	08 02 58.9	+0.7
BLKB				AML	AML	08 03 00.2	
DRME	Dracevica, Mon	1.65	217	ePg	Pb	08 02 38.9	-0.2
DRME				eSg	Sb	08 03 00.1	0.0
DRME	Dracevica, Mon	1.65	217	⇓iPn	Pn	08 02 38.0	+0.2
DRME				eSn	Sg	08 03 01.1	-0.1
BUM	Brajici-Budva	1.70	225	⇓iPn	Pn	08 02 38.7	+0.2
BUM				eSn	Sg	08 03 02.5	-0.4
FRGS	Fruska Gora	1.72	343	ePn	Pb	08 02 40.4	+0.1
FRGS				eSn	Sn	08 03 02.1	+1.1
BOSS	Bosilegrad	1.77	125	ePg	Pn	08 02 39.1	-0.4
BOSS				eSg	Sb	08 03 03.9	+0.3
TREB	Trebinje	1.77	244	ePn	Pn	08 02 40.2	+0.7
TREB				eSn	Sn	08 03 02.4	+0.1
ULC	Ulcinj	1.81	211	⇑iPn	Pn	08 02 40.1	+0.1
ULC				eSn	Sb	08 03 05.0	+0.2
HCY	Herceg Novi	1.82	235	ePn	Pn	08 02 41.1	+0.9
HCY	Herceg Novi	1.82	235	⇓iPn	Pn	08 02 40.3	+0.1
HCY				eSn	Sb	08 03 05.3	+0.1
PUNG	Punghina	1.91	66	⇑P	Pn	08 02 40.5	-0.9
PUNG				AML	AML	08 02 53.0	
HERR	Herculane	1.94	44	⇓P	Pn	08 02 40.9	-0.8
HERR				⇑S	Sn	08 03 06.1	-0.3
HERR				AML	AML	08 03 11.8	
STON	Ston	2.15	254	ePn	Pn	08 02 45.2	+0.5
STON				eSn	Sn	08 03 11.7	0.0
VTS	Vitosha	2.19	113	⇑P	Pn	08 02 44.9	-0.5
VTS				⇑S	Sn	08 03 14.3	+1.4
VTS				AML	AML	08 03 25.1	
STIP	Stip	2.20	145	i Pn	Pn	08 02 46.3	+0.9
BZS	Buzias	2.25	20	⇑P	Pn	08 02 44.5	-1.5
BZS				⇑S	Sn	08 03 11.8	-2.2
BZS				AML	AML	08 03 24.6	
GZR	Gura Zlata	2.48	40	⇓P	Pn	08 02 48.7	-0.6
GZR				⇑S	Sn	08 03 20.2	+0.2
GZR				AML	AML	08 03 31.2	
VAY	Valandovo	2.67	144	i Pn	Pn	08 02 54.3	+2.4
BLY	Banja Luka	2.69	298	eSn	Sn	08 03 25.7	+0.7
SIRR	Siria	2.87	16	⇑P	Pn	08 02 54.8	+0.1
SIRR				⇑S	Sn	08 03 26.9	-2.6

*NIED **05** 08:14:00, 38°.30N×143°.60E, h11km, Mw3.5 Best double couple: $M_0$1.86000×10^{14} NP1:ϕ_s31.00000°, δ27.00000°, λ-75.00000°. NP2:ϕ_s194.00000°, δ64.00000°, λ-97.00000°.*
JMA 05 08:14:35.0±0.1, **38°.27N**×**143°.58E**, **h39**km, **M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.66	272	P	Pn	08 15 02.5	+0.9
JIKH				eS	Sn	08 15 22.5	+0.8
OFUJ	Ofunato	1.70	299	P	Pn	08 15 03.1	+1.0
OFUJ				eS	Sn	08 15 23.8	+1.2
JKMT	Kesennumamotoy	1.74	289	P	Pn	08 15 03.6	+1.0
JIO	Ouri	1.76	277	P	Pn	08 15 04.1	+1.1
JIO				S	Sn	08 15 25.6	+1.4
JMK	Ichinoseki	1.97	291	P	Pn	08 15 07.3	+1.5
JOM	Ohasama	2.15	305	P	Pn	08 15 09.8	+1.5
JMM	Marumori	2.24	260	P	Pn	08 15 10.6	+1.1
JYK	Kaneyama	2.60	285	P	Pn	08 15 16.6	+2.0
JANG	Nango	2.64	323	P	Pn	08 15 16.8	+1.7
JFT	Otama	2.67	255	P	Pn	08 15 17.4	+1.9
JFT				eS	Sn	08 15 48.4	+1.7
JAW	Awa shima	3.41	274	P	Pn	08 15 28.1	+2.5
JAG	Ashikaga	3.77	242	P	Pn	08 15 32.7	+2.1
JAG				eS	Sn	08 16 15.0	+1.3
JNBK	Urakawa-nobuka	4.05	351	P	Pn	08 15 35.7	+1.2
JNBK				eS	Sn	08 16 21.1	+0.4
JKB	Kayabe	4.11	332	P	Pn	08 15 38.6	+3.4
BSO1	Boso 1	4.17	211	eS	Sn	08 16 23.1	+0.2
JSD	Sado	4.20	268	P	Pn	08 15 38.3	+1.8

*ISCJB **05** 08:54:33.2±0.5, 24°.30N±0°.06×141°.8E±0°.1, h50km, mb3.8/10, MS2.7/1, Error ellipse: s-maj=18.0km s-min=7.6km az=11.4*
*NEIC **05** 08:54:36.1±1.3, 24°.38N±0°.09×141°.7E±0°.2, h57km±5km, mb4.5/12*
*IDC **05** 08:54:37.8±2.5, 24°.42N×141°.93E, h70km±21km, mb3.6/10, mb1 3.7/11, mb1mx3.5/53, mbtmp3.9/11, MS2.5/4, Ms1 2.5/4, ms1mx2.4/28, Error ellipse: s-maj=32.1km s-min=15.9km az=97.0*
ISC 05 08:54:35.4±0.8, **24°.33N**±0°.10×**141°.8E**±0°.2, **h50**km, **n31**, σ0s.85/24, **mb4.0**/16, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.77	7	P	Pn	08 55 17.5	+0.1
	5.4nm,0.3s,baz=235,slow=19,SNR=3.6						
JCJ				S	Sn	08 55 50.9	+1.2
	18nm,0.3s,baz=270,slow=20,SNR=3.8						
MJAR	Matsushiro Arr	12.55	347	LR	LR	09 01 50.6	
	comp=Z,24nm,18.9s,baz=335,slow=35						
JNU	Nakatsue	12.97	315	LR	LR	09 01 56.7	
	comp=Z,14nm,20.5s,baz=126,slow=34						
KSRS	Korea Array	17.66	321	LR	LR	09 04 49.5	
	comp=Z,12nm,19.6s,baz=135,slow=35						
H11S3	WAKE ISLAND Hy	23.88	99	T	T	09 25 12.1	
	baz=288,slow=74						
H11S1	WAKE ISLAND Hy	23.88	99	T	T	09 25 11.5	
	baz=288,slow=74						
H11S2	WAKE ISLAND Hy	23.89	99	T	T	09 25 11.9	
	baz=288,slow=74						
KLR	Kul'dur	26.07	345	P	P	09 00 03.8	-0.3
	1.1nm,0.6s,baz=167,slow=8.6,SNR=6.9						
KLR				LR	LR	09 10 17.1	
	comp=Z,23nm,19.1s,baz=84,slow=36						
WB0	Warramunga Arr	44.42	190	P	P	09 02 39.6	-1.9
WB2	Warramunga Arr	44.60	190	P	P	09 02 42.2	-0.7
WRA	Warramunga Arr	44.60	190	P	P	09 02 44.6	+1.7
	1.0nm,0.4s,baz=11,slow=8.6,SNR=19						
FITZ	Fitzroy Crossi	45.02	202	P	P	09 02 46.7	+0.6
FITZ				IAmb	IAmb	09 02 57.8	
	comp=Z,6.6nm,1.2s						
ASAR	Alice Springs	48.32	190	P	P	09 03 12.6	+0.6
	comp=Z,0.5nm,0.7s,baz=16,slow=11,SNR=9.8						
MKAR	Makanchi Array	51.99	311	P	P	09 03 41.3	+1.7
	comp=Z,0.3nm,0.4s,baz=80,slow=10,SNR=5.3						
KURK	Kurchatov	54.69	316	P	P	09 03 58.5	-0.8
KURK				IAmb	IAmb	09 04 09.5	
	comp=Z,6.2nm,1.5s						
KURBB	Kurchatov Arra	54.74	316	P	P	09 04 00.0	+0.3
	comp=Z,0.6nm,0.5s,baz=94,slow=8.1,SNR=4.1						
BRLK	Bradley Lake	57.90	33	P	P	09 04 20.9	-1.3
KNK	Knik Glacier	59.26	32	P	P	09 04 31.9	+0.3
KNK				IAmb	IAmb	09 04 36.3	
	comp=Z,9.6nm,1.4s						
SCM	Sheep Creek Mo	59.84	31	P	P	09 04 36.4	+0.8
GLI	Glacier Island	59.88	32	P	P	09 04 36.1	+0.3
GLI				IAmb	IAmb	09 04 42.0	
	comp=Z,3.5nm,1.0s						
DHY	Denali Highway	59.92	30	P	P	09 04 35.6	-0.7
DHY				IAmb	IAmb	09 04 36.6	
	comp=Z,5.8nm,1.5s						
ILAR	Eielson Array	60.30	28	P	P	09 04 37.6	-1.0
	comp=Z,1.0nm,0.8s,baz=260,slow=5.6,SNR=10.0						
SCRK	Sand Creek	61.50	29	P	P	09 04 47.4	+0.4
SCRK				IAmb	IAmb	09 04 47.8	
	comp=Z,4.0nm,1.0s						
INK	Inuvik	65.68	24	P	P	09 05 13.9	-0.3
	comp=Z,0.7nm,0.8s,baz=298,slow=3.7,SNR=3.8						
INK	Inuvik	65.68	24	P	P	09 05 14.0	-0.2
ABKAR	Akbulak array	66.78	315	P	P	09 05 20.9	-0.8
YKA	Yellowknife Ar	74.74	28	P	P	09 06 09.6	-0.1
	comp=Z,0.7nm,0.6s,baz=294,slow=5.8,SNR=9.5						
ARCES	ARCESS Array B	76.03	341	P	P	09 06 16.3	-0.8
	comp=Z,2.9nm,0.9s,baz=67,slow=6.9,SNR=4.8						
UOSS	Minazif	76.37	291	P	P	09 06 16.7	-3.2
FINES	FINESS Array B	80.26	334	P	P	09 06 39.9	-0.7
	comp=Z,1.9nm,0.8s,baz=64,slow=6.3,SNR=5.6						
HRY	Holter Researc	83.09	42	P	P	09 06 56.1	+0.1

*IDC **05** 09:03:24.4±0.9, 32°.10N×67°.16E, h0km, mb3.8/12, mb1 4.0/16, mb1mx3.8/47, mbtmp3.9/16, ML3.7/4, MS3.7/8, Ms1 3.7/8, ms1mx3.3/37, Error ellipse: s-maj=22.0km s-min=18.5km az=126.0*
*ISCJB **05** 09:03:25.4±0.6, 31°.84N±0°.07×67°.43E±0°.07, h33km, mb3.8/11, MS3.6/7, Error ellipse: s-maj=11.2km s-min=7.8km az=23.5*
ISC 05 09:03:27.9±0.6, **31°.88N**±0°.09×**67°.32E**±0°.08, **h35**km, **n31**, σ2s.15/27, **mb3.8**/11, **MS3.7**/7, **Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	11.55	224	Pn	Pn	09 06 10.8	+0.5
	1.3nm,0.3s,baz=80,slow=13,SNR=11						
WSAR				Sn	Sn	09 08 14.4	-3.7
	0.3nm,0.3s,baz=53,slow=4.8,SNR=2.2						
WSAR	Wadi Sarin	11.55	224	P	Pn	09 06 10.8	+0.5
AAK	Ala-Archa	12.16	26	Pn	Pn	09 06 16.8	-1.9
	0.5nm,0.3s,baz=259,slow=11,SNR=13						
DANN	Dangsing	14.65	100	eP	Pn	09 06 51.3	-1.7
	38nm,0.7s						
KOLN	Koldanda	14.71	102	eP	Pn	09 06 51.4	-2.2
PKIN	Phulchoki	16.27	101	eP	Pn	09 07 11.4	-2.7
	12nm,0.5s						
PKI	Pulchoki	16.29	101	eP	Pn	09 07 11.5	-2.8
	30nm,0.7s						
GUN	Gumba	16.57	99	eP	Pn	09 07 15.8	-2.1
	72nm,0.8s						
JIRN	Jiri	16.91	100	eP	Pn	09 07 19.8	-2.4
	58nm,0.8s						
RAMN	Ramite	17.49	101	eP	Pn	09 07 26.0	-3.4
	17nm,0.6s						
TAPN	Taplejung	18.29	99	eP	P	09 07 36.9	-2.2
	23nm,0.8s						
MKAR	Makanchi Array	18.82	33	P	P	09 07 44.8	+0.3
	0.1nm,0.3s,baz=224,slow=12,SNR=4.7						
MKAR				LR	LR	09 15 56.0	
	comp=Z,176nm,19.0s,baz=218,slow=40						
AKTO	Aktyubinsk	19.79	342	P	P	09 07 53.9	-1.2
	0.2nm,0.3s,baz=165,slow=12,SNR=4.5						
KURBB	Kurchatov Arra	20.49	21	P	P	09 08 02.6	-0.1
	4.7nm,0.9s,baz=211,slow=12,SNR=9.7						
BVAR	Borovoye Array	21.25	5	P	P	09 08 10.9	0.0
	12nm,1.0s,baz=180,slow=9.8,SNR=18						
SHL	Shillong	22.41	100	eP	P	09 08 26.5	+2.7
ZALV	Zalesovo Beam	25.38	25	P	P	09 08 52.4	+0.7
	3.2nm,0.6s,baz=222,slow=9.5,SNR=12						
ZALV				LR	LR	09 19 47.7	
	comp=Z,100nm,18.3s,baz=302,slow=39						
BRTR	Keskin Array B	28.30	296	P	P	09 09 19.4	+1.1
	0.8nm,0.6s,baz=117,slow=5.4,SNR=3.0						
CMAR	Chiang Mai Arr	31.46	108	LR	LR	09 24 59.0	
	comp=Z,72nm,18.7s,baz=340,slow=41						
SONM	Songino Array	33.55	50	LR	LR	09 25 04.7	
	comp=Z,186nm,18.1s,baz=246,slow=39						
AKASG	Malin Array Be	33.76	315	LR	LR	09 26 43.0	
	comp=Z,62nm,18.1s,baz=310,slow=42						
FINES	FINESS Array B	39.80	330	LR	LR	09 29 56.6	
	comp=Z,213nm,20.3s,baz=140,slow=40						
ARCES	ARCESS Array B	44.36	340	P	P	09 11 32.5	-1.9
	4.1nm,1.0s,baz=126,slow=9.1,SNR=2.6						
ARCES				LR	LR	09 30 28.5	
	comp=Z,94nm,18.6s,baz=156,slow=37						
NOA	NORSAR Array B	46.37	326	LR	LR	09 32 17.0	
	comp=Z,104nm,18.4s,baz=270,slow=38						
KLR	Kul'dur	50.39	50	P	P	09 12 23.1	+1.5
	0.5nm,0.6s,baz=264,slow=9.2,SNR=2.8						
TORD	Torodi Ar. Bea	62.56	269	P	P	09 13 49.1	+0.4
	1.5nm,0.9s,baz=57,slow=6.0,SNR=5.7						
INK	Inuvik	78.92	8	P	P	09 15 28.4	+1.1
	1.0nm,0.8s,baz=351,slow=7.2,SNR=8.5						
ILAR	Eielson Array	80.02	14	P	P	09 15 33.4	0.0
	0.2nm,0.6s,baz=320,slow=4.7,SNR=4.2						
WRA	Warramunga Arr	82.28	119	P	P	09 15 49.0	+2.9
	0.4nm,0.9s,baz=319,slow=4.9,SNR=2.9						
ASAR	Alice Springs	84.25	122	P	P	09 16 00.3	+4.1
	0.3nm,0.5s,baz=304,slow=5.6,SNR=8.6						
YKA	Yellowknife Ar	85.95	1	P	P	09 16 04.7	+0.6
	0.6nm,0.9s,baz=351,slow=5.0,SNR=4.4						

TAP 05 09:34:16.3, 24°.13N×121°.68E, h10km, ML1.5, 1D, D, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWD	Chiawan	0.09	237	P	Pg	09 34 19.4	+0.7
	baz=235						
TWD				i S	Sg	09 34 21.1	+0.8
	baz=235						
NACB	Ninganchiao	0.09	302	⇓P	Pg	09 34 19.6	+0.9
	baz=302						
NACB				S	Sg	09 34 21.4	+1.0
	baz=302						
HWA	Hwalien	0.16	203	eP	Pg	09 34 20.5	+0.7
	baz=200						
ETLH	Xiulin Townshi	0.19	294	eP	Pg	09 34 21.4	+1.0
	baz=294						
ETLH				eS	Sg	09 34 24.6	+1.3
	baz=294						
NANB	Nanao	0.31	13	P	Pb	09 34 23.4	-0.5
	baz=12						
WHF	Hehuan Shan	0.38	273	P	Pb	09 34 24.7	-0.7
	baz=272						
ESL	Shilin	0.38	215	eP	Pg	09 34 24.4	+0.6
	baz=214						
NNSB	Datong	0.40	318	eP	Pb	09 34 25.5	-0.1
	baz=318						
NNSB				eS	Sb	09 34 31.6	-0.3
	baz=318						
CHGB	Renai	0.46	262	eP	Pb	09 34 26.3	-0.4
	baz=261						
NDT	Datong Townshi	0.50	343	eP	Pb	09 34 27.1	-0.1
	baz=342						
ENTT	Nioudou	0.52	349	eP	Pb	09 34 27.1	-0.5
	baz=349						
ENTT				eS	Sb	09 34 35.5	+0.2
	baz=349						
YHNB	Yeheng	0.60	333	eP	Pb	09 34 28.7	-0.3
	baz=333						

TAP 05 09:34:21.6, 24°.14N×121°.67E, h9km, ML1.6, 1C-1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.08	300	⇓P	Pg	09 34 24.7	+0.9
	baz=300						
NACB				S	Sg	09 34 26.5	+1.1
	baz=300						
TWD	Chiawan	0.09	230	⇑iP	Pg	09 34 24.5	+0.6
	baz=226						
TWD				i S	Sg	09 34 26.2	+0.7
	baz=226						
HWA	Hwalien	0.17	200	P	Pg	09 34 25.9	+0.8
	baz=196						
HWA				eS	Sg	09 34 29.2	+1.6
	baz=196						
ETLH	Xiulin Townshi	0.18	293	P	Pg	09 34 26.6	+1.1
	baz=292						
ETLH				S	Sg	09 34 29.7	+1.5
	baz=292						
ENA	Nanau	0.30	13	eP	Pb	09 34 28.6	-0.6
	baz=14						
ENA				S	Sb	09 34 33.4	-0.8
	baz=14						
NANB	Nanao	0.30	15	eP	Pb	09 34 28.5	-0.7
	baz=14						
NANB				i S	Sb	09 34 33.2	-1.0
	baz=14						
NANB	Nanao	0.30	15	S	Pb	09 34 28.5	-0.7
	baz=12						
WHF	Hehuan Shan	0.37	272	eP	Pb	09 34 29.8	-0.7
	baz=271						
WHF				S	Sg	09 34 35.2	+1.3
	baz=271						
ESL	Shilin	0.39	214	eS	Sb	09 34 36.5	-0.1
	baz=212						
NNSB	Datong	0.39	318	P	Pb	09 34 30.6	-0.2
	baz=318						
NNSB				S	Sb	09 34 36.9	-0.1
	baz=318						
NNSH	Datong	0.39	318	eP	Pb	09 34 30.4	-0.4
	baz=318						
NNSH				eS	Sb	09 34 36.5	-0.5
	baz=318						
NNS	Nan Shan	0.41	319	eP	Pb	09 34 30.6	-0.4
	baz=319						
NNS				S	Sb	09 34 36.9	-0.4
	baz=319						
CHGB	Renai	0.46	261	P	Pb	09 34 31.8	-0.2
	baz=260						
CHGB				S	Sb	09 34 38.1	-0.8
	baz=260						
TDCB	Techi	0.48	284	eP	Pb	09 34 32.4	+0.1
	baz=284						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TDCB				*e*S	Sb	09 34 39.1	-0.4
	baz=284						
NDT	**Datong Townshi**	**0.49**	**343**	*e*P	Pb	09 34 32.1	-0.2
	baz=343						
NDT				*e*S	Sb	09 34 39.7	+0.1
	baz=343						
TWC	**Suao**	**0.50**	**19**	*e*P	Pb	09 34 32.6	+0.1
	baz=20						
TWC				*e*S	Sb	09 34 40.1	+0.2
	baz=20						
ENTT	**Nioudou**	**0.51**	**350**	S	Sb	09 34 40.3	0.0
	baz=350						
YHNB	**Yeheng**	**0.59**	**334**	*e*P	Pb	09 34 34.2	0.0
	baz=333						
YHNB				*e*S	Sb	09 34 43.0	+0.2
	baz=333						
NSK	**Sanguang**	**0.61**	**332**	*e*P	Pb	09 34 34.4	0.0
	baz=332						
NSK				*e*S	Sb	09 34 43.4	+0.2
	baz=332						
VWDT	**VWDT**	**0.61**	**232**	*e*S	Sb	09 34 43.8	+0.6
	baz=231						
ILA	**Ilan**	**0.63**	**7**	*e*S	Sb	09 34 44.4	+0.6
	baz=7.0						

*ISCJB **05** 09:36:09.5±0.2, 11°.58S±0°.03×166°.32E±0°.04, h59km, mb4.8/32, MS4.2/34, Error ellipse: s-maj=5.5km s-min=4.6km az=148.4*

*IDC **05** 09:36:09.4±2.3, 11°.50S×166°.44E, h49km±20km, mb4.4/21, mb1 4.5/24, mb1mx4.4/44, mbtmp4.7/24, ML3.3/2, MS4.1/30, Ms1 4.1/30, ms1mx4.1/35, Error ellipse: s-maj=17.4km s-min=13.1km az=92.0*

*BJI **05** 09:36:10.9±0.0, 11°.19S×166°.86E, h81km, mb4.9/31, mB5.0/23, Ms4.7/12, Ms7 4.6/14*

*GCMT **05** 09:36:12.2±0.1, 11°.52S±0°.01×166°.04E±0°.01, h50km, MW5.2/122, Moment Tensor Solution. s122,c176; s112,c164; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.74±.01; $M_{\theta\theta}$-0.09±.01; $M_{\phi\phi}$-0.65±.01; $M_{r\theta}$-0.06±.01; $M_{\theta\phi}$0.23±.01; $M_{\phi r}$0.26±.01; Best double couple: $M_0$0.78800×10^{17} NP1:ϕ_s343.00000°, δ55.00000°, λ93.00000°. NP2:ϕ_s158.00000°, δ35.00000°, λ86.00000°. Principal axes: T 0.7920, Plg80.0000°, Azm263.0000°; N -0.0090, Plg2.0000°, Azm161.0000°; P -0.7840, Plg10.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 09:36:13.2±1.9, 11°.55S±0°.08×166°.34E±0°.09, h81km±6km, mb4.8/55*

ISC 05 09:36:11.1±0.4**, 11°.55S**±0°.05×**166°.31E**±0°.05**, h59**km**, n156,** σ**1s.55**/146**, mb4.8**/50**, MS4.2**/34**, 1C, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.60**	**288**	P	**Pn**	**09 37 46.2**	**+0.7**
	52nm,0.3s,baz=93,slow=0.6,SNR=30						
HNR				S	**Sn**	**09 38 58.8**	**-0.6**
	17nm,0.3s,baz=247,slow=23,SNR=5.9						
HNR				LR	LR	09 40 40.6	
	comp=Z,4μm,20.2s,baz=118,slow=40						
HNR	**Honiara**	**6.60**	**288**		**Pn**	**09 37 46.4**	**+0.8**
DZM	**Mont Dzumac**	**10.46**	**179**	*e*Pn	**Pn**	**09 38 40.0**	**+1.6**
	20nm,0.2s						
DZM				*e*Sn	**Sn**	**09 40 30.7**	**-3.5**
	17nm,0.3s						
DZM				*e*LR	LR	09 41 07.0	
	comp=Z,5μm,25.8s						
DZM	**Mont Dzumac**	**10.46**	**179**	P	**Pn**	**09 38 38.9**	**+0.4**
	2.0nm,0.3s,baz=292,slow=4.2,SNR=19						
DZM				S	**Sn**	**09 40 30.4**	**-3.8**
	5.2nm,0.3s,baz=317,slow=23,SNR=3.7						
DZM	**Mont Dzumac**	**10.46**	**179**		**Pn**	**09 38 40.4**	**+1.9**
MSVF	**Nonsavu**	**12.91**	**120**	Pn	**Pn**	**09 39 14.4**	**+2.4**
FUNA	**Funafuti**	**13.04**	**78**		**Pn**	**09 39 15.0**	**+1.4**
TARA	**Tarawa**	**14.41**	**28**		**Pn**	**09 39 33.6**	**+1.6**
PMG	**Port Moresby**	**18.95**	**275**	P	**Pn**	**09 40 29.6**	**+0.8**
	0.6nm,0.3s,baz=79,slow=16,SNR=2.4						
PMG				LR	LR	09 47 19.3	
	comp=Z,2μm,20.8s,baz=122,slow=35						
EIDS	**Eidsvold**	**19.91**	**224**	P	**P**	**09 40 39.0**	**+1.1**
	baz=20,SNR=6.1						
EIDS	**Eidsvold**	**19.91**	**224**	P	**Pn**	**09 40 39.5**	**-0.6**
EIDS				IAmb	IAmb	09 40 57.4	
	comp=Z,53nm,1.4s						
PATS	**Pohnpei**	**19.93**	**336**	P	**Pn**	**09 40 39.9**	**-0.4**
	baz=20,SNR=4.5						
PATS	**Pohnpei**	**19.93**	**336**	P	**Pn**	**09 40 39.4**	**-0.9**
CTA	**Charters Tower**	**21.06**	**244**	P	**P**	**09 40 52.1**	**+1.7**
	comp=Z,18nm,0.8s,baz=72,slow=13,SNR=16						
CTA				LR	LR	09 48 02.5	
	comp=Z,1μm,20.5s,baz=96,slow=34						
AFI	**Afiamalu**	**21.50**	**99**	LR	LR	09 47 35.9	
	comp=Z,698nm,20.5s,baz=277,slow=32						
RMQ	**Roma**	**22.23**	**226**	P	**P**	**09 41 04.7**	**+1.8**
	baz=22,SNR=10						
MTSU	**Mount Surprise**	**22.23**	**250**	P	**P**	**09 41 04.5**	**+1.4**
	baz=22,SNR=15						
COEN	**Coen**	**22.69**	**261**	P	**P**	**09 41 08.4**	**+0.5**
	baz=23,SNR=12						
COEN	**Coen**	**22.69**	**261**	P	**P**	**09 41 08.4**	**+0.5**
ARMA	**Armidale**	**23.20**	**214**	P	**P**	**09 41 14.4**	**+1.4**
	baz=23,SNR=15						
ARMA	**Armidale**	**23.20**	**214**	P	**P**	**09 41 12.6**	**-0.4**
OUZ	**Omahuta**	**24.47**	**165**	P	**P**	**09 41 25.7**	**+1.1**
JAY	**Jayapura**	**26.92**	**288**	LR	LR	09 53 45.9	
	comp=Z,543nm,19.1s,baz=93,slow=39						
QIS	**Mount Isa**	**27.14**	**247**	P	**P**	**09 41 49.2**	**+0.2**
	baz=27,SNR=5.6						
CMSA	**Cobar Meteorol**	**27.53**	**221**	P	**P**	**09 41 53.0**	**+0.7**
	baz=28,SNR=8.8						
URZ	**Urewera**	**28.30**	**162**	LR	LR	09 51 24.3	
	comp=Z,806nm,22.0s,baz=343,slow=32						
BKZ	**Black Stump Fm**	**28.95**	**164**	P	**P**	**09 42 04.8**	**-0.1**
BKZ				IAmb	IAmb	09 42 06.8	
	comp=Z,11nm,0.6s						
QRZ	**Quartz Range**	**29.67**	**170**	P	**P**	**09 42 11.5**	**+0.3**
QRZ				IAmb	IAmb	09 42 14.2	
	comp=Z,30nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**29.86**	**1**	T	T	10 12 58.5	
	baz=181,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**29.86**	**1**	T	T	10 12 58.8	
	baz=181,slow=76,SNR=9.8						
H11S1	**WAKE ISLAND Hy**	**29.87**	**1**	T	T	10 12 58.1	
	baz=181,slow=76,SNR=13						
BFZ	**Birch Farm**	**30.31**	**165**	P	**P**	**09 42 15.6**	**-1.3**
STKA	**Stephens Creek**	**30.46**	**225**	P	**P**	**09 42 19.5**	**+1.1**
	baz=31,SNR=24						
STKA	**Stephens Creek**	**30.46**	**225**	P	**P**	**09 42 19.1**	**+0.8**
	comp=Z,17nm,0.8s,baz=34,slow=9.5,SNR=27						
STKA				PcP	**PcP**	**09 45 16.0**	**-0.6**
	comp=Z,4.6nm,1.0s,baz=52,slow=2.6,SNR=3.2						
STKA				LR	LR	09 53 42.1	
	comp=Z,1μm,21.2s,baz=46,slow=34						
STKA	**Stephens Creek**	**30.46**	**225**	P	**P**	**09 42 19.1**	**+0.8**
TUWZ	**Tuamarina**	**30.51**	**169**	P	**P**	**09 42 18.7**	**+0.1**
SNZO	**South Karori**	**30.55**	**167**	P	**P**	**09 42 18.6**	**-0.3**
SNZO				IAmb	IAmb	09 42 33.9	
	comp=Z,22nm,1.1s						
THZ	**Tophouse**	**30.64**	**170**	P	**P**	**09 42 19.7**	**-0.2**
THZ				IAmb	IAmb	09 42 20.4	
	comp=Z,24nm,0.9s						
BHW	**Baring Head**	**30.68**	**167**	P	**P**	**09 42 19.2**	**-0.9**
MSWZ	**Moikau Station**	**30.77**	**167**	P	**P**	**09 42 20.0**	**-0.9**
BSWZ	**Blackbirch Sta**	**30.77**	**169**	P	**P**	**09 42 21.6**	**+0.7**
PLWZ	**Palliser**	**30.91**	**167**	P	**P**	**09 42 21.6**	**-0.6**
H11N1	**WAKE ISLAND Hy**	**31.07**	**1**	T	T	10 14 30.0	
	baz=182,slow=76,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**31.08**	**1**	T	T	10 14 30.9	
	baz=182,slow=76,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**31.09**	**1**	T	T	10 14 27.8	
	baz=182,slow=76,SNR=2.8						
KHZ	**Kahutara**	**31.39**	**170**	P	**P**	**09 42 25.4**	**-0.9**
KHZ				IAmb	IAmb	09 42 28.8	
	comp=Z,27nm,1.0s						
LTZ	**Lake Taylor**	**31.54**	**172**	P	**P**	**09 42 27.9**	**+0.1**
WB0	**Warramunga Arr**	**31.75**	**251**	P	**P**	**09 42 30.2**	**+0.3**
WB2	**Warramunga Arr**	**31.82**	**251**	P	**P**	**09 42 30.5**	**0.0**
WB2				IAmb	IAmb	09 42 30.9	
	comp=Z,22nm,0.9s						
WRA	**Warramunga Arr**	**31.83**	**251**	P	**P**	**09 42 30.1**	**-0.5**
	comp=Z,18nm,0.8s,baz=82,slow=9.1,SNR=115						
WRA				PcP	**PcP**	**09 45 20.7**	**+0.2**
	comp=Z,2.3nm,0.4s,baz=85,slow=2.6,SNR=7.9						
WRA				LR	LR	09 54 04.8	
	comp=Z,553nm,20.3s,baz=70,slow=34						
TOO	**Toolangi**	**31.93**	**212**	P	**P**	**09 42 32.6**	**+1.4**
	baz=32,SNR=5.3						
TOO	**Toolangi**	**31.93**	**212**	P	**P**	**09 42 32.0**	**+0.7**
FOZ	**Fox Glacier**	**32.01**	**175**	P	**P**	**09 42 32.4**	**+0.7**
OXZ	**Oxford**	**32.05**	**172**	P	**P**	**09 42 32.1**	**+0.1**
RPZ	**Rata Peaks**	**32.31**	**174**	P	**P**	**09 42 34.1**	**-0.4**
	comp=Z,17nm,0.5s,baz=356,slow=4.0,SNR=21						
MQZ	**McQueen's Vall**	**32.50**	**171**	P	**P**	**09 42 36.1**	**+0.1**
LBZ	**Lake Benmore**	**32.89**	**175**	P	**P**	**09 42 39.4**	**-0.1**
LBZ				IAmb	IAmb	09 42 39.9	
	comp=Z,11nm,1.0s						
AS31	**Alice Springs**	**33.06**	**244**	P	**P**	**09 42 40.6**	**-0.7**
ASAR	**Alice Springs**	**33.06**	**244**	P	**P**	**09 42 40.6**	**-0.7**
	comp=Z,18nm,0.7s,baz=74,slow=9.5,SNR=198						
ASAR				PcP	**PcP**	**09 45 23.1**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=80,slow=2.9,SNR=8.6						
ASAR				ScP	**ScP**	**09 49 05.5**	**+2.3**
	comp=Z,0.4nm,0.9s,baz=101,slow=3.3,SNR=3.1						
ASAR				LR	LR	09 55 09.3	
	comp=Z,768nm,21.2s,baz=74,slow=34						
KDU	**Kakadu**	**33.09**	**264**	P	**P**	**09 42 41.4**	**-0.2**
	baz=33,SNR=17						
HTT	**Hallett**	**33.20**	**225**	P	**P**	**09 42 43.6**	**+1.2**
	baz=33,SNR=7.2						
WKZ	**Wanaka**	**33.24**	**176**	P	**P**	**09 42 43.2**	**+0.6**
WKZ				IAmb	IAmb	09 42 54.5	
	comp=Z,23nm,1.0s						
ODZ	**Otahua Downs**	**33.58**	**174**	P	**P**	**09 42 45.1**	**-0.4**
ODZ				IAmb	IAmb	09 42 59.7	
	comp=Z,19nm,1.2s						
DCZ	**Deep Cove**	**33.80**	**179**	P	**P**	**09 42 48.9**	**+1.6**
WHZ	**Wether Hill Ro**	**34.25**	**178**	P	**P**	**09 42 51.1**	**-0.2**
WHZ				IAmb	IAmb	09 42 51.8	
	comp=Z,14nm,1.1s						
MTN	**Manton Dam**	**34.39**	**264**	P	**P**	**09 42 53.4**	**+0.5**
	baz=34,SNR=4.3						
MTN	**Manton Dam**	**34.39**	**264**	P	**P**	**09 42 54.4**	**+1.5**
BBOO	**Buckleboo**	**34.89**	**228**	P	**P**	**09 42 57.7**	**+0.7**
	baz=35,SNR=5.3						
BBOO	**Buckleboo**	**34.89**	**228**	P	**P**	**09 42 56.6**	**-0.5**
BBOO				IAmb	IAmb	09 42 59.4	
	comp=Z,15nm,0.9s						
KNRA	**Kununurra**	**36.69**	**259**	P	**P**	**09 43 12.7**	**+0.2**
	baz=37,SNR=9.1						
KNRA	**Kununurra**	**36.69**	**259**	IAmb	IAmb	09 43 13.3	
	comp=Z,16nm,0.8s						
WRKA	**Warakurna**	**38.36**	**244**	P	**P**	**09 43 26.2**	**-0.5**
	baz=38,SNR=14						
NLAI	**Namlea**	**39.70**	**279**	P	**P**	**09 43 38.7**	**+0.7**
	comp=Z,60nm,0.8s,comp=Z,5μm						
FITZ	**Fitzroy Crossi**	**39.78**	**256**	P	**P**	**09 43 38.7**	**0.0**
	baz=40,SNR=23						
FITZ	**Fitzroy Crossi**	**39.78**	**256**	P	**P**	**09 43 38.6**	**0.0**
	comp=Z,16nm,0.7s,baz=99,slow=6.4,SNR=40						
FITZ				PcP	**PcP**	**09 45 44.0**	**0.0**
	comp=Z,5.2nm,1.0s,baz=90,slow=4.4,SNR=2.6						
FITZ	**Fitzroy Crossi**	**39.78**	**256**	IAmb	IAmb	09 43 39.8	
	comp=Z,15nm,0.7s						
FORT	**Forrest**	**40.21**	**236**	P	**P**	**09 43 42.4**	**+0.4**
SANI	**Sanana**	**41.08**	**280**	P	**P**	**09 43 49.2**	**-0.2**
	comp=Z,25nm,1.7s,comp=Z,774nmcomp=Z,1μm						
PPT	**Papeete**	**43.04**	**103**	LR	LR	09 59 46.0	
	comp=Z,338nm,18.6s,baz=266,slow=33						
PPT2	**Papeete2**	**43.04**	**103**	*e*S	**S**	**09 50 26.3**	**-1.0**
	comp=Z,192nm,28.5s						
PPT2				*e*LQ	LQ	09 54 24.6	
	comp=Z,1μm,32.5s						
PPT2				*e*LR	LR	09 56 09.5	
	comp=Z,2μm,29.2s,baz=275						
TBI	**Tubuai**	**43.63**	**112**	*e*LQ	LQ	09 54 41.1	
	comp=Z,778nm,29.5s						
TBI				*e*LR	LR	09 56 30.9	
	comp=Z,2μm,29.0s,baz=282						
DAV	**Davao City (W)**	**44.54**	**293**	LR	LR	10 03 10.1	
	comp=Z,102nm,20.3s,baz=146,slow=36						
KMBL	**Kambalda**	**45.43**	**237**	P	**P**	**09 44 24.8**	**+0.5**
	baz=46,SNR=21						
MEEK	**Meekatharra**	**47.22**	**244**	P	**P**	**09 44 39.0**	**+0.5**
	baz=47,SNR=32						
KLBR	**Kellerberrin**	**48.91**	**238**	P	**P**	**09 44 51.5**	**+0.1**
	baz=49,SNR=8.1						
BLDU	**Ballidu**	**49.58**	**240**	P	**P**	**09 44 56.8**	**+0.3**
	baz=50,SNR=9.4						
NWAO	**Narrogin (SRO)**	**49.64**	**237**	P	**P**	**09 44 57.6**	**+0.7**
	baz=50,SNR=8.6						
NWAO	**Narrogin (SRO)**	**49.64**	**237**	P	**P**	**09 44 57.3**	**+0.3**
	comp=Z,28nm,0.8s,baz=74,slow=7.3,SNR=12						
NWAO				LR	LR	10 05 58.4	
	comp=Z,1μm,19.8s,baz=92,slow=36						
NWAO	**Narrogin (SRO)**	**49.64**	**237**	P	**P**	**09 44 57.6**	**+0.7**
NWAO	**Narrogin (SRO)**	**49.64**	**237**	P	**P**	**09 44 57.6**	**+0.7**
NWAO				IAmb	IAmb	09 44 58.3	
	comp=Z,25nm,0.8s						
MORW	**Morawa**	**49.87**	**242**	P	**P**	**09 44 59.3**	**+0.6**
	baz=50,SNR=8.5						
MORW	**Morawa**	**49.87**	**242**	P	**P**	**09 44 59.6**	**+0.9**
MUN	**Mundaring**	**50.27**	**238**	P	**P**	**09 45 02.6**	**+0.8**
	baz=50,SNR=7.7						
TAOE	**Nuku Hiva Isla**	**52.71**	**92**	*e*LR	LR	10 00 43.4	
	comp=Z,806nm,27.5s						
KKM	**Kota Kinabalu**	**52.81**	**287**	P	**P**	**09 45 20.2**	**-0.8**
MJAR	**Matsushiro Arr**	**54.67**	**332**	P	**P**	**09 45 32.8**	**-1.4**
	comp=Z,4.8nm,0.7s,baz=166,slow=7.7,SNR=6.2						
MJAR				LR	LR	10 06 40.9	
	comp=Z,101nm,21.6s,baz=200,slow=34						
LEM	**Lembang**	**58.05**	**269**	LR	LR	10 11 29.0	
	comp=Z,173nm,20.1s,baz=122,slow=36						
KSRS	**Korea Array**	**60.60**	**325**	P	**P**	**09 46 15.3**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=136,slow=7.5,SNR=11						
KSRS				LR	LR	10 10 30.0	
	comp=Z,93nm,20.6s,baz=155,slow=34						
NJ2	**Nanjing**	**62.77**	**315**	*e*P	**P**	**09 46 31.4**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,18nm,0.7s						
USRK	**Ussuriysk Ar.**	**63.65**	**333**	P	**P**	**09 46 36.1**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=137,slow=6.2,SNR=4.2						
USRK				LR	LR	10 11 58.3	
	comp=Z,57nm,20.9s,baz=131,slow=34						
PETK	**Petropavlovsk-**	**64.82**	**354**	LR	LR	10 09 35.3	
	comp=Z,185nm,21.3s,baz=202,slow=31						
WHN	**Wuhan**	**65.14**	**312**	P	**P**	**09 46 48.6**	**+2.5**
VNDA	**Vanda**	**66.00**	**181**	P	**P**	**09 46 50.8**	**-0.1**
	comp=Z,6.6nm,1.0s,baz=346,slow=9.2,SNR=11						
VNDA				LR	LR	10 11 57.8	
	comp=Z,166nm,20.6s,baz=6.5,slow=32						
VNDA	**Vanda**	**66.00**	**181**	P	**P**	**09 46 51.0**	**+0.1**
VNDA				IAmb	IAmb	09 46 52.2	
	comp=Z,15nm,1.3s						
IPM	**Ipoh**	**66.85**	**280**	P	**P**	**09 46 58.0**	**+0.5**
SKNT	**Sakolnakorn**	**67.80**	**294**	P	**P**	**09 47 04.7**	**+1.4**
	comp=Z,31nm,1.3s,comp=Z,2μm						
RPSI	**Rantau Prapat**	**68.46**	**278**	P	**P**	**09 47 07.1**	**-0.5**
RPSI				IAmb	IAmb	09 47 09.0	
	comp=Z,17nm,0.8s						
NONG	**Nongkai**	**68.92**	**295**	P	**P**	**09 47 11.2**	**+0.8**
	comp=Z,0.3nm,0.6s						
CHAI	**Chaiyaphum**	**69.24**	**292**	P	**P**	**09 47 13.4**	**+1.1**
	comp=Z,21μm,0.8s						
GSI	**Gunungsitoli**	**69.46**	**276**	P	**P**	**09 47 14.2**	**+0.4**
PBKT	**Sadao Pong**	**70.38**	**292**	P	**P**	**09 47 21.1**	**+1.8**
	comp=Z,8.2nm,1.9s,comp=Z,316nm						
PBKT	**Sadao Pong**	**70.38**	**292**	P	**P**	**09 47 20.3**	**+1.0**
PBKT				IAmb	IAmb	09 47 20.9	
	comp=Z,11nm,1.1s						
XAN	**Xi'an**	**70.87**	**312**	P	**P**	**09 47 22.1**	**0.0**
XAN				pP	sP	09 47 45.5	+1.7
XAN				S	**S**	**09 56 25.9**	**-7.2**
XAN				pmax	pmax		
	comp=Z,13nm,0.6s						
XAN				pmax	pmax		
	comp=Z,89nm,3.3s						
XAN				LR	LR		
	comp=Z,190nm,19.1s						
XAN				LR	LR		
	comp=Z,220nm,23.5s						
XAN				LR	LR		
	comp=Z,330nm,24.5s						
XAN	**Xi'an**	**70.87**	**312**	IAmb	IAmb	09 47 23.6	
	comp=Z,12nm,0.8s						
PHRA	**Phrae**	**71.68**	**294**	P	**P**	**09 47 28.8**	**+1.6**
HHC	**Hu-ho-hao-te**	**72.57**	**320**	P	**P**	**09 47 34.6**	**+2.4**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CM31	**Chiang Mai Arr**	**72.82**	**294**	P	**P**	**09 47 34.7**	**+0.7**
CM31				IAmb	IAmb	09 47 37.5	
	comp=Z,15nm,0.9s						
CMAR	**Chiang Mai Arr**	**72.82**	**294**	P	**P**	**09 47 35.1**	**+1.1**
	comp=Z,7.6nm,0.8s,baz=121,slow=4.5,SNR=29						
CMAR				LR	LR	10 17 39.4	
	comp=Z,68nm,22.0s,baz=160,slow=34						
CMMT	**Chiang Mai**	**72.93**	**294**	P	**P**	**09 47 35.8**	**+1.1**
CHTO	**Chiang Mai**	**72.93**	**294**	P	**P**	**09 47 34.9**	**+0.2**
CHTO				IAmb	IAmb	09 47 37.9	
	comp=Z,10nm,1.1s						
LZH	**Lanzhou**	**75.50**	**312**	*e*P	**P**	**09 47 50.8**	**+1.3**
LZH				pP	sP	09 48 12.6	+1.3
LZH				sP	pP	09 48 22.0	+17
LZH				*e*PP	**PP**	**09 50 45.2**	**+5.6**
LZH				sS	sS	09 57 57.5	+5.9
LZH				pmax	pmax		
	comp=Z,29nm,1.3s						
LZH				pmax	pmax		
	comp=Z,170nm,6.9s						
LZH				LR	LR		
	comp=Z,230nm,16.8s						
LZH				LR	LR		
	comp=Z,230nm,16.7s						
LZH				LR	LR		
	comp=Z,350nm,18.3s						
QSPA	**South Pole Qui**	**78.45**	**180**	P	**P**	**09 48 05.0**	**-0.5**
	comp=Z,29nm,1.0s,baz=270,slow=0.4,SNR=69						
QSPA	**South Pole Qui**	**78.45**	**180**	P	**P**	**09 48 05.1**	**-0.5**
ULN	**Ulaanbaatar**	**79.03**	**324**	P	**P**	**09 48 09.6**	**+0.6**
ULN				IAmb	IAmb	09 48 09.8	
	comp=Z,7.4nm,0.8s						
SONM	**Songino Array**	**79.40**	**324**	P	**P**	**09 48 10.8**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=149,slow=3.8,SNR=9.8						
SONM				LR	LR	10 23 40.5	
	comp=Z,58nm,18.6s,baz=120,slow=36						
GTA	**Gaotai**	**79.81**	**314**	⇑P	**P**	**09 48 14.0**	**+0.6**
GTA				S	**S**	**09 58 09.1**	**-3.0**
GTA				SKS	**SKSac**	**09 58 19.7**	**-5.9**
GTA				sS	sS	09 58 46.5	+8.1
GTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,180nm,7.0s						
GTA				LR	LR		
	comp=Z,130nm,21.3s						
GTA				LR	LR		
	comp=Z,170nm,21.9s						
GTA				LR	LR		
	comp=Z,240nm,20.0s						
RPN	**Rapa Nui**	**79.86**	**116**	LR	LR	10 16 49.9	
	comp=Z,130nm,20.3s,baz=283,slow=31						
SCM	**Sheep Creek Mo**	**81.62**	**20**	P	**P**	**09 48 21.2**	**-1.3**
TLY	**Talaya**	**82.85**	**326**	LR	LR	10 21 37.3	
	comp=Z,64nm,21.4s,baz=138,slow=33						
BALM	**Baldy**	**82.87**	**23**	P	**P**	**09 48 28.2**	**-0.9**
CCB	**Clear Creek Bu**	**83.45**	**18**	P	**P**	**09 48 30.6**	**-1.2**
ILAR	**Eielson Array**	**83.82**	**18**	P	**P**	**09 48 32.3**	**-1.4**
	comp=Z,1.9nm,0.8s,baz=242,slow=5.7,SNR=19						
ILAR				LR	LR	10 18 40.5	
	comp=Z,111nm,21.9s,baz=210,slow=30						
SCRK	**Sand Creek**	**84.20**	**20**	P	**P**	**09 48 35.5**	**-0.3**
MAW	**Mawson**	**84.46**	**202**	LR	LR	10 20 08.9	
	comp=Z,150nm,21.3s,baz=60,slow=31						
BEKR	**Beckworth**	**84.88**	**48**	P	**P**	**09 48 39.4**	**-0.5**
EGAK	**Eagle**	**85.66**	**20**	P	**P**	**09 48 43.0**	**-0.1**
EGAK				IAmb	IAmb	09 48 45.4	
	comp=Z,5.4nm,0.8s						
NVAR	**Mina Array Bea**	**85.93**	**50**	P	**P**	**09 48 45.1**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=234,slow=8.1,SNR=8.0						
LPIG	**La Paz**	**88.72**	**65**	LR	LR	10 18 08.9	
	comp=Z,81nm,20.6s,baz=226,slow=28						
U15A	**North Rim**	**89.97**	**53**	P	**P**	**09 49 05.1**	**+0.4**
U15A				IAmb	IAmb	09 49 23.2	
	comp=Z,5.1nm,0.9s						
PDAR	**Pinedale Array**	**93.49**	**47**	P	**P**	**09 49 20.4**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=256,slow=3.3,SNR=2.4						
MK31	**Makanchi Array**	**94.27**	**317**	P	**P**	**09 49 23.6**	**-0.3**
MKAR	**Makanchi Array**	**94.27**	**317**	P	**P**	**09 49 23.6**	**-0.4**
	comp=Z,13nm,0.8s,baz=101,slow=5.9,SNR=38						
MKAR				LR	LR	10 34 43.6	
	comp=Z,40nm,18.0s,baz=94,slow=37						
ZALV	**Zalesovo Beam**	**94.29**	**324**	P	**P**	**09 49 22.4**	**-1.4**
	comp=Z,2.9nm,0.7s,baz=119,slow=4.6,SNR=11						
ZALV				LR	LR	10 31 07.2	
	comp=Z,87nm,20.0s,baz=87,slow=35						
YKA	**Yellowknife Ar**	**95.17**	**27**	P	**P**	**09 49 25.8**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=261,slow=4.6,SNR=4.8						
YKA				LR	LR	10 25 17.3	
	comp=Z,11nm,19.4s,baz=260,slow=31						
TXAR	**Lajitas Array**	**95.59**	**61**	LR	LR	10 24 52.8	
	comp=Z,131nm,20.7s,baz=0.0,slow=31						
NRIK	**Noril'sk**	**96.79**	**339**	LR	LR	10 30 09.8	
	comp=Z,140nm,22.0s,baz=65,slow=34						
KURBB	**Kurchatov Arra**	**97.42**	**320**	P	**P**	**09 49 36.3**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=107,slow=3.8,SNR=3.2						
KSH	**Kashi**	**97.50**	**309**	P	Pdif	09 49 41.5	+2.4
KSH				sP	sP	09 50 10.4	+8.8
KSH				PP	**PP**	**09 53 43.4**	**+6.3**
KSH				S	**S**	**10 00 57.5**	**-1.9**
KSH				sS	sS	10 01 33.6	+7.1
KSH				SS	**SS**	**10 07 43.0**	**+3.1**
KSH				LR	LR		
	comp=Z,370nm,5.8s						
NIL	**Nilore**	**98.82**	**303**	P	**P**	**09 49 40.8**	**-4.1**
ARCES	**ARCESS Array B**	**116.96**	**346**	PKP	**PKPdf**	**09 54 47.3**	**-1.3**
	comp=Z,4.9nm,1.0s,baz=90,slow=1.9,SNR=5.1						
BOSA	**Boshof**	**125.12**	**223**	PKP	**PKPdf**	**09 55 05.2**	**-0.6**
	comp=Z,5.2nm,1.0s,baz=95,slow=3.5,SNR=4.4						
VYHS	**Vyhne**	**134.28**	**330**	*e*PKP	**PKiKP**	**09 55 23.6**	**-0.1**
KEST	**Kesra**	**148.15**	**323**	PKPbc	**PKPbc**	**09 55 50.3**	**-0.6**
	comp=Z,4.2nm,0.8s,baz=146,slow=4.1,SNR=4.9						
ESDC	**Sonseca Array**	**150.69**	**345**	PKPbc	**PKPbc**	**09 55 55.9**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=13,slow=2.5,SNR=7.2						
TORD	**Torodi Ar. Bea**	**164.88**	**278**	PKPab	**PKPab**	**09 57 05.7**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=87,slow=4.9,SNR=8.8						
DBIC	**Dimbokro**	**170.02**	**242**	PKPab	**PKPab**	**09 57 28.4**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=149,slow=5.9,SNR=3.8						

*NIED **05** 09:43:00, 38°.30N×143°.60E, h8km, Mw3.6 Best double couple: $M_0$2.79000×10^{14} NP1:ϕ_s354.00000°, δ19.00000°, λ-120.00000°. NP2:ϕ_s206.00000°, δ74.00000°, λ-80.00000°.*

*IDC **05** 09:43:38.8±1.9, 38°.20N×143°.97E, h0km, mb3.8/3, mb1 3.7/6, mb1mx3.5/52, mbtmp3.7/6, ML3.0/3, MS3.9/1, Ms1 3.9/1, ms1mx2.6/29, Error ellipse: s-maj=51.0km s-min=22.0km az=70.0*

*ISCJB **05** 09:43:41.9±0.6, 38°.29N±0°.04×143°.70E±0°.06, h33km, mb4.1/4, Error ellipse: s-maj=7.3km s-min=4.6km az=21.5*

*JMA **05** 09:43:43.1±0.2, 38°.29N×143°.56E, h38km, M3.7*

*NEIC **05** 09:43:44.1±0.9, 38°.24N±0°.08×143°.8E±0°.2, h36km±15km, mb4.3/2*

ISC 05 09:43:44.9±1.1**, 38°.27N**±0°.06×**143°.59E**±0°.09**, h35**km**, n29,** σ**1s.22**/36**, mb4.0**/5**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.67**	**272**	P	**Pn**	**09 44 10.4**	**-1.2**
JIKH				S	**Sn**	**09 44 30.0**	**-1.8**
OFUJ	**Ofunato**	**1.71**	**299**	P	**Pn**	**09 44 11.0**	**-1.1**
JKMT	**Kesennumamotoy**	**1.74**	**289**	P	**Pn**	**09 44 11.5**	**-1.1**
JIO	**Ouri**	**1.77**	**277**	P	**Pn**	**09 44 12.0**	**-1.0**
JIO				S	**Sn**	**09 44 32.9**	**-1.3**
JMK	**Ichinoseki**	**1.98**	**291**	P	**Pn**	**09 44 15.1**	**-0.7**
JOM	**Ohasama**	**2.16**	**304**	P	**Pn**	**09 44 17.7**	**-0.6**
JMM	**Marumori**	**2.24**	**260**	P	**Pn**	**09 44 18.4**	**-1.1**
JMM				*e*S	**Sn**	**09 44 45.1**	**-0.8**
JYK	**Kaneyama**	**2.61**	**285**	P	**Pn**	**09 44 24.6**	**0.0**
JFT	**Otama**	**2.68**	**255**	P	**Pn**	**09 44 25.6**	**+0.1**
JFT				*e*S	**Sn**	**09 44 57.7**	**+0.9**
JAW	**Awa shima**	**3.42**	**274**	P	**Pn**	**09 44 36.0**	**+0.4**
JAG	**Ashikaga**	**3.77**	**242**	P	**Pn**	**09 44 40.6**	**0.0**
JNBK	**Urakawa-nobuka**	**4.05**	**351**	P	**Pn**	**09 44 43.8**	**-0.6**
JNBK				*e*S	**Sn**	**09 45 29.0**	**-1.6**
JKB	**Kayabe**	**4.11**	**332**	P	**Pn**	**09 44 46.5**	**+1.4**
BSO1	**Boso 1**	**4.18**	**211**	P	**Pn**	**09 44 43.2**	**-2.4**
BSO1				*e*S	**Sn**	**09 45 30.9**	**-2.1**
MJAR	**Matsushiro Arr**	**4.62**	**250**	Pn	**Pn**	**09 44 53.0**	**+0.8**
	0.4nm,0.3s,baz=58,slow=12,SNR=20						
MAJO	**Matsushiro**	**4.62**	**250**		**Pn**	**09 44 53.4**	**+1.2**
MAT	**Matsushiro**	**4.62**	**250**	P	**Pn**	**09 44 52.9**	**+0.7**
MJB9	**Matsu-Tunnel**	**4.62**	**250**		**Pn**	**09 44 53.5**	**+1.2**
ASAJ	**Asahikawa**	**5.89**	**353**	Pn	**Pn**	**09 45 09.3**	**-0.3**
	1.1nm,0.3s,baz=188,slow=15,SNR=9.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAJ				Sn	Sn	09 46 14.6	-1.2
	1.0nm,0.3s,baz=68,slow=19,SNR=3.8						
JKA	Kamikawa-asahi	5.89	353		Pn	09 45 09.3	-0.2
JKA					Sn	09 46 14.6	-1.1
JHJ2	Mitsune	5.99	212	Pn	Pn	09 45 11.6	+0.6
USRK	Ussuriysk Ar.	10.55	308	Pn	Pn	09 46 15.9	+2.4
	baz=117,slow=13,SNR=3.4						
JCJ	Chichijima	11.21	186	LR	LR	09 54 39.6	
	comp=Z,500nm,18.1s,baz=278,slow=59						
SONM	Songino Array	28.57	302	P	P	09 49 39.4	+1.9
	0.6nm,0.5s,baz=85,slow=9.2,SNR=2.9						
KURBB	Kurchatov Arra	46.61	307	P	P	09 52 10.0	+0.6
	0.7nm,0.3s,baz=82,slow=8.4,SNR=4.4						
WB0	Warramunga Arr	58.37	190	P	P	09 53 36.1	-0.6
WB2	Warramunga Arr	58.55	190	P	P	09 53 36.8	-1.2
WB2				IAmb	IAmb	09 53 50.0	
	comp=Z,3.8nm,1.3s						
WRA	Warramunga Arr	58.55	190	P	P	09 53 37.1	-0.9
	comp=Z,4.4nm,0.2s,baz=8.1,slow=7.0,SNR=5.2						
ASAR	Alice Springs	62.28	190	P	P	09 54 02.6	-0.8
	comp=Z,0.5nm,0.8s,baz=10,slow=7.0,SNR=6.5						

*REN **05** 09:49:37.9, 37°.38N×117°.13W, h7km, ML2.9, ML2.9*
*NEIC **05** 09:49:38.4±1.8, 37°.40N±0°.03×117°.14W±0°.02, h6km±6km*
*ANF **05** 09:49:38.4±0.4, 37°.34N×117°.13W, h12km±2km, ML2.9/14, ML2.8/14*
ISC 05 09:49:38.2±1.1**, 37°.38N**±0°.02×**117°.13W**±0°.02**, h7**km±10km**,**
n44, σ0s.71/66**, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRAC	Grapevine Rang	0.42	207	P	Pg	09 49 46.4	-0.1
	baz=26,SNR=60						
GRAC				S	Sg	09 49 52.5	+0.5
	baz=26						
TPNV	Topopah Spring	0.82	121	P	Pg	09 49 53.6	-0.3
	baz=302,SNR=99						
TPNV				S	Sg	09 50 04.9	+0.3
	baz=302						
TPNV	Topopah Spring	0.82	121	Pg	Pg	09 49 53.7	-0.3
TPNV				Sg	Sg	09 50 05.7	+1.0
FURC	Furnace Creek,	0.93	167	P	Pg	09 49 55.7	-0.4
	baz=347,SNR=121						
FURC				S	Sg	09 50 08.2	0.0
	baz=347						
TIN	Tinemaha, Big	0.94	250	P	Pg	09 49 56.0	-0.2
	baz=69,SNR=15						
TIN				S	Sg	09 50 08.6	+0.1
	baz=69						
DAC	Darwin (Calif)	1.16	199	Pg	Pn	09 50 02.3	+1.2
DAC				Sg	Sb	09 50 16.7	+0.6
CWC	Cottonwood Cre	1.21	220	P	Pg	09 50 00.7	-0.7
	baz=39						
CWC				S	Sg	09 50 16.6	-0.4
	baz=39						
NV11	Mina Array Sit	1.33	323		Pn	09 50 02.7	-0.7
NV11				Sn	Sb	09 50 21.0	0.0
MPMC	Manual Prospec	1.35	193	P	Pn	09 50 03.1	-0.6
	baz=12,SNR=33						
MPMC				S	Sb	09 50 20.0	-1.5
	baz=12						
MLAC	Mammoth, Mammo	1.38	281	P	Pn	09 50 04.2	0.0
	baz=100						
MLAC				S	Sb	09 50 22.1	-0.4
	baz=100						
OMMB	Old Mammoth Mi	1.51	280		Pn	09 50 05.8	-0.2
OMMB				Sn	Sn	09 50 25.8	-0.3
R11A	Troy Canyon, C	1.56	51	P	Pn	09 50 06.8	+0.2
	baz=232,SNR=62						
R11A				S	Sn	09 50 27.2	0.0
	baz=232						
R11A	Troy Canyon, C	1.56	51	Pn	Pn	09 50 06.9	+0.3
R11A				Sn	Sn	09 50 26.6	-0.6
MDPB	Devils Postpil	1.57	280		Pn	09 50 06.5	-0.3
MDPB				Sn	Sn	09 50 27.5	-0.1
SHOC	Shoshone, Teco	1.62	155	P	Pn	09 50 07.5	+0.2
	baz=336						
SHOC				Sb	Sb	09 50 29.3	0.0
	baz=336						
RYN	Ryan	1.67	319		Pn	09 50 08.0	0.0
RYN				Sn	Sg	09 50 31.3	-0.5
SHPR	Sheep Range	1.80	118	Pn	Pn	09 50 09.5	-0.4
SHPR				Sn	Sb	09 50 35.0	+0.6
KVN	Kaiserville	1.84	336		Pn	09 50 10.2	-0.3
KVN				Sn	Sn	09 50 34.2	+0.1
ISA	Isabella, Lake	2.02	213	P	Pn	09 50 12.6	-0.3
	baz=32,SNR=6.8						
ISA	Isabella, Lake	2.02	213		Pn	09 50 12.7	-0.3
GSC	Goldstone, Bar	2.09	173	Pg	Pb	09 50 17.1	+0.6
	baz=353						
GSC				S	Sn	09 50 39.2	-0.8
	baz=353						
GSC	Goldstone, Bar	2.09	173	Pn	Pn	09 50 13.6	-0.1
GSC				Sn	Sn	09 50 40.8	+0.8
WAKR	Walker	2.15	302	Pn	Pn	09 50 14.3	-0.4
TUQ	Turquoise Moun	2.17	153	P	Pn	09 50 14.2	-0.7
	baz=334,SNR=23						
TUQ				S	Sn	09 50 41.0	-1.1
	baz=334						
YERR	Yerington	2.31	315		Pn	09 50 16.9	-0.1
EDW2	Edwards Air Fo	2.59	196	P	Pn	09 50 20.2	-0.4
	baz=15						
EDW2				S	Sn	09 50 51.5	-0.8
	baz=15						
PNTR	Pine Nut	2.59	312	Pn	Pn	09 50 21.6	+0.8
HEC	Hector,Ludlow	2.62	166	Sb	Sb	09 50 59.9	+1.9
	baz=346						
CMB	Columbia Colle	2.67	285	Pn	Pb	09 50 26.9	+0.6
VCNR	Virginia City	2.76	315	Pn	Pn	09 50 24.1	+1.0
PSUT	Pine Spring	2.83	65	Pn	Pb	09 50 28.0	-1.3
PAHR	Pah Rah Range	2.92	323	Pn	Pn	09 50 27.5	+2.2
CCUT	Cedar City	3.00	86	Pn	Pn	09 50 26.2	-0.2
PAGB	Antelope Grade	3.00	238	Pn	Pn	09 50 27.4	+1.1
LCMT	Little Creek M	3.12	96	Pn	Pn	09 50 27.8	-0.2
SZCU	Shurtz Canyon	3.22	85	Pn	Pn	09 50 29.7	+0.2
KNB	Kanab	3.46	95	Pn	Pn	09 50 32.8	+0.1
W13A	Hualapai Mount	3.47	130	Pn	Pn	09 50 33.0	+0.1
SAO	San Andreas Ge	3.51	261	Pn	Pn	09 50 33.6	+0.4
BEKR	Beckworth	3.55	315	Pn	Pn	09 50 34.8	+0.9
ELK	Elko	3.67	23	Pn	Pn	09 50 36.9	+1.2
PFO	Pinyon Flats O	3.80	172	Pn	Pn	09 50 37.9	+0.6
PKCU	Pink Cliffs	3.83	88	Pn	Pn	09 50 39.0	+1.0
MTPU	Mount Pierson	3.98	79	Pn	Pn	09 50 40.7	+0.7

IDC 05 10:03:18.1±1.7**, 2°.87N**×**128°.87E, h0**km**, mb3.7**/5**,**
mb1 3.9/5**, mb1mx3.5**/40**, mbtmp3.8**/5**, Error ellipse:**
s-maj=91.6km s-min=21.8km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.08	189	P	P	10 08 05.5	+1.3
	1.2nm,0.7s,baz=6.3,slow=9.2,SNR=2.6						
WRA	Warramunga Arr	23.30	167	P	P	10 08 27.6	-0.2
	2.0nm,0.8s,baz=344,slow=10,SNR=22						
ASAR	Alice Springs	26.83	170	P	P	10 08 59.9	-0.5
	0.6nm,0.5s,baz=358,slow=8.1,SNR=14						
STKA	Stephens Creek	36.61	162	P	P	10 10 25.4	-0.8
	0.6nm,0.3s,baz=330,slow=7.8,SNR=3.6						
MKAR	Makanchi Array	59.48	325	P	P	10 13 23.4	+0.3
	0.6nm,0.4s,baz=117,slow=8.4,SNR=11						

*NEIC **05** 10:09:03.6±1.1, 2°.6N±0°.1×128°.72E±0°.09, h226km±6km, mb4.3/21*
*IDC **05** 10:09:03.6±4.6, 2°.59N×128°.61E, h226km±47km, mb3.4/7, mb1 3.7/8, mb1mx3.2/39, mbtmp4.1/8, Error ellipse: s-maj=32.5km s-min=14.7km az=62.0*
*ISCJB **05** 10:09:04.2±0.4, 2°.57N±0°.05×128°.59E±0°.05, h250km, mb3.8/6, Error ellipse: s-maj=8.2km s-min=5.7km az=142.4*
ISC 05 10:09:05.2±0.6**, 2°.54N**±0°.06×**128°.55E**±0°.07**, h250**km**, n35,**
σ1s.24/36**, mb4.2**/14**, 1D, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.12	214		Pn	10 09 46.8	-2.0
KCP	Kidapawan	5.62	322	⇓P	Pn	10 10 27.2	-1.5
KCP				S	S	10 11 33.0	-2.4
FAKI	Fak Fak	6.57	146	Pn	Pn	10 10 39.8	-0.7
LUWI	Luwuk	6.78	238	Pn	Pn	10 10 41.4	-1.7
LUWI					S	10 12 02.3	+0.5
JAY	Jayapura	13.15	112	P	P	10 12 02.8	-2.0
	0.5nm,0.3s,baz=260,slow=6.1,SNR=2.5						
MTN	Manton Dam	15.50	171	P	Pn	10 12 30.6	-0.9
MTN				IAmb	IAmb	10 12 35.0	
	comp=Z,11nm,0.8s						
SBUM	Sibu	16.31	270	P	Pn	10 12 41.7	+0.5
SBUM				IAmb	IAmb	10 12 44.5	
	comp=Z,14nm,0.8s						
JAGI	Jajag, Banyuwa	18.05	233	P	Pn	10 13 00.5	-1.0
KNRA	Kununurra	18.10	179	P	Pn	10 13 00.1	-2.0
KSM	Kuching	18.26	267	P	Pn	10 13 03.2	-0.8
KSM				IAmb	IAmb	10 13 03.8	
	comp=Z,10nm,0.8s						
FITZ	Fitzroy Crossi	20.71	188	P	P	10 13 26.9	0.0
	comp=Z,1.5nm,0.4s,baz=21,slow=8.6,SNR=8.8						
FITZ	Fitzroy Crossi	20.71	188	IAmb	IAmb	10 13 28.7	
	comp=Z,2.5nm,0.6s						
COEN	Coen	21.89	139	P	P	10 13 38.4	0.0
WB0	Warramunga Arr	22.90	166	P	P	10 13 48.4	+0.8
WB0				IAmb	IAmb	10 13 50.1	
	comp=Z,8.9nm,0.7s						
WRAB	Tennant Creek	23.05	166	P	P	10 13 49.9	+1.0
WRA	Warramunga Arr	23.06	166	P	P	10 13 49.3	+0.3
	comp=Z,3.2nm,0.3s,baz=343,slow=10,SNR=53						
WB2	Warramunga Arr	23.06	166	P	P	10 13 49.9	+0.9
WB2				IAmb	IAmb	10 13 51.7	
	comp=Z,6.2nm,0.6s						
WR0	Warramunga Arr	23.12	166	P	P	10 13 50.5	+0.9
WR0				IAmb	IAmb	10 13 51.9	
	comp=Z,9.2nm,1.1s						
AS31	Alice Springs	26.57	169	P	P	10 14 21.4	+0.7
AS31				IAmb	IAmb	10 14 21.9	
	comp=Z,1.8nm,0.6s						
ASAR	Alice Springs	26.57	169	P	P	10 14 21.4	+0.7
	comp=Z,2.8nm,0.4s,baz=352,slow=7.5,SNR=74						
ASAR				PcP	PcP	10 17 39.9	+1.7
	comp=Z,0.6nm,0.4s,baz=349,slow=2.1,SNR=5.1						
CMAR	Chiang Mai Arr	33.03	301	P	P	10 15 19.4	+1.9
	comp=Z,0.7nm,0.3s,baz=124,slow=7.5,SNR=6.1						
FORT	Forrest	33.14	181	P	P	10 15 18.4	+0.2
FORT				IAmb	IAmb	10 15 25.8	
	comp=Z,11nm,1.1s						
BBOO	Buckleboo	35.87	169	P	P	10 15 42.4	+0.8
STKA	Stephens Creek	36.40	161	P	P	10 15 47.3	+1.2
	comp=Z,4.3nm,0.4s,baz=348,slow=7.4,SNR=32						
STKA	Stephens Creek	36.40	161	IAmb	IAmb	10 15 48.4	
	comp=Z,1.9nm,1.1s						
ARMA	Armidale	39.49	148	P	P	10 16 11.8	-0.3
MKAR	Makanchi Array	59.56	325	P	P	10 18 42.6	-0.2
	comp=Z,0.3nm,0.4s,baz=114,slow=7.5,SNR=5.1						
TARG	Taragay, Kyrgy	59.84	318	P	P	10 18 47.5	+2.3
TARG				IAmb	IAmb	10 18 56.0	
	comp=Z,4.3nm,0.9s						
BSWZ	Blackbirch Sta	60.22	142	P	P	10 18 46.7	-0.5
BKZ	Black Stump Fm	60.49	138	P	P	10 18 50.3	+1.1
VNDA	Vanda	82.03	173	P	P	10 20 58.2	+1.2
PPLA	Purkeypile	82.86	27	P	P	10 21 00.4	-1.3
PPLA				IAmb	IAmb	10 21 05.1	
	comp=Z,5.6nm,1.1s						
SKT	Skwentna	83.03	28	P	P	10 21 03.3	+0.8
SCM	Sheep Creek Mo	84.99	28	P	P	10 21 13.1	+0.7
SCM				IAmb	IAmb	10 21 16.9	
	comp=Z,5.1nm,1.1s						
ILAR	Eielson Array	85.39	25	P	P	10 21 14.6	+0.3
	comp=Z,0.2nm,0.5s,baz=257,slow=4.5,SNR=4.4						

WEL 05 10:25:33.0±1.0**, 32°S**±6°×**18°0E**±1°5**, h375**km±15km**,**
M4.2/17**, mB4.5**/6**, MLv4.6**/17**, Mw(mB)3.7**/6**, Error ellipse:**
s-maj=0.0km s-min=0.0km az=107.6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.27	35	P	Pn	10 26 35.4	-1.3
GLKZ				S	S	10 27 28.9	+0.8
MXZ	Matakaoa Point	5.73	193	S	S	10 28 16.1	+2.4
KUZ	Kuaotunu	5.91	215	P	Pn	10 27 04.5	+1.0
HAZ	Te Kaha	6.03	197	P	Pn	10 27 05.5	+0.5
HAZ				S	S	10 28 21.0	+1.2
PKGZ	Pakihiroa	6.09	194	P	Pn	10 27 06.7	+1.0
PKGZ				S	S	10 28 22.1	+1.0
WCZ	Waipu Caves	6.11	228	P	Pn	10 27 06.0	+0.1
OUZ	Omahuta	6.22	237	P	Pn	10 27 06.3	-0.8
PUZ	Puketiti	6.24	192	P	Pn	10 27 08.1	+0.8
PUZ				S	S	10 28 24.1	+0.1
WIAZ	Waiheke Island	6.24	218	P	Pn	10 27 08.3	+1.0
RUGZ	Raukumara Rang	6.26	197	P	Pn	10 27 07.4	-0.2
RUGZ				S	S	10 28 24.5	-0.1
MWZ	Matawai	6.64	197	P	Pn	10 27 10.6	-1.3
MWZ				S	S	10 28 32.8	+0.3
CNGZ	Carnagh Statio	6.65	192	P	P	10 27 12.9	0.0
TKGZ	Te Karaka	6.67	194	P	Pn	10 27 12.5	+0.3
TKGZ				S	S	10 28 31.2	-1.8
URZ	Urewera	6.69	200	P	Pn	10 27 10.3	-2.0
URZ				S	S	10 28 31.7	-1.5
TOZ	Tahuroa Road	6.81	211	P	P	10 27 15.3	+0.6
RIGZ	Rimuhau	6.95	194	P	Pn	10 27 14.8	-0.5
RIGZ				S	S	10 28 38.8	+0.1
RTZ	Ruatahuna	7.05	199	P	Pn	10 27 15.7	-0.9
SNGZ	Shannon Statio	7.12	197	P	Pn	10 27 17.2	0.0
SNGZ				S	S	10 28 42.7	+0.4
PRGZ	Paritu Road	7.13	193	P	P	10 27 18.8	+0.3
KNZ	Kokohu	7.27	194	P	Pn	10 27 18.3	-0.6
KNZ				S	S	10 28 44.6	-0.9
RAHZ	Arahi	7.31	198	P	Pn	10 27 19.2	-0.2
RAHZ				S	S	10 28 45.7	-0.6
WHHZ	Waihua	7.42	197	P	Pn	10 27 20.2	-0.6
WHHZ				S	S	10 28 46.2	-2.5
NMHZ	Naumai	7.55	199	P	Pn	10 27 21.5	-0.8
NMHZ				S	S	10 28 50.5	-1.1
ARHZ	Aropaoanui	7.66	198	P	Pn	10 27 22.4	-1.0
BKZ	Black Stump Fm	7.71	201	P	Pn	10 27 20.5	-3.6
BKZ				S	S	10 28 51.1	-3.8
HIZ	Hauiti	7.74	211	P	P	10 27 25.3	0.0
MCHZ	McNeill Hill	7.91	199	P	Pn	10 27 24.6	-1.7
KWHZ	Kaweka Forest	7.96	200	P	Pn	10 27 24.8	-2.3
KAHZ	Kahuranaki	8.19	197	P	Pn	10 27 28.4	-1.3
PXZ	Pawanui	8.42	196	P	Pn	10 27 29.4	-2.9
TSZ	Takapari Road	8.69	201	P	Pn	10 27 32.0	-3.5
PRHZ	Porangahau	8.70	197	P	Pn	10 27 33.4	-2.2

*KRNET **05** 10:37:13.3±0.1, 40°.13N×76°.51E, mb3.3*
*SOME **05** 10:37:16.2, 40°.27N×76°.47E, h10km*
*NNC **05** 10:37:27.6±7.0, 41°.04N×76°.91E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=58.6km s-min=35.5km az=159.0*
ISC 05 10:37:15.6±2.2**, 40°.29N**±0°.08×**76°.44E**±0°.04**, h2**km±13km**,**
n38, σ1s.57/65**, 33C-7D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.19	344	⇑*i*P	Pb	10 37 38.7	-0.5
	baz=43						
NRN				⇑*i*S	Sn	10 37 57.4	+0.7
	baz=43						
TARG	Taragay, Kyrgy	1.77	35	⇑*i*P	Pb	10 37 47.8	-1.3
	baz=31						
TARG				⇑*i*S	Sg	10 38 13.9	+1.3
	baz=31						
KDJ	Kajisay	1.93	17	⇓*e*P	Pb	10 37 50.7	-0.9
	baz=14						
KDJ				⇓*i*S	Sg	10 38 18.3	+0.8
	baz=14						
ULHL	Ulahol	1.96	356	⇓*i*P	Pb	10 37 51.8	-0.4
	baz=55						
ULHL				⇓*i*S	Sg	10 38 19.7	+1.0
	baz=55						
ULHL	Ulahol	1.96	356	P	Pb	10 37 50.8	-1.5
	SNR=9.0						
KZA	Kyzart	2.00	334	⇑*i*P	Pb	10 37 52.5	-0.5
	baz=34						
KZA				⇑*i*S	Sg	10 38 20.9	+0.9
	baz=34						
BOOM	Boomskoye usch	2.23	350	⇑*i*P	Pb	10 37 55.1	-1.7
	baz=50						
BOOM				⇑*i*S	Sb	10 38 26.3	+1.3
	baz=50						
ARLS	Aral	2.24	315	⇑*i*P	Pb	10 37 55.7	-1.3
	baz=17						
ARLS				⇑*i*S	Sb	10 38 26.9	+1.6
	baz=17						
UCH	Uchtor	2.42	324	⇑*i*P	Pb	10 37 58.3	-1.9
	baz=25						
UCH				⇑*i*S	Sb	10 38 30.9	+0.2
	baz=25						
UCH	Uchtor	2.42	324	P	Pb	10 37 58.7	-1.5
	SNR=11						
KBK	Karagaybulak	2.62	335	⇑*i*P	Pn	10 38 00.6	+1.4
	baz=36						
KBK				⇑*i*S	Sb	10 38 35.5	-0.6
	baz=36						
KBK	Karagaybulak	2.62	335	P	Pg	10 38 06.3	+0.5
	SNR=30						
ANVS	Anan'yevo	2.66	20	⇑*i*P	Pn	10 38 01.1	+1.4
	baz=18						
ANVS				⇑*i*S	Sb	10 38 36.0	-1.3
	baz=18						
TKM2	Tokmak 2	2.71	347	⇑*i*P	Pn	10 38 02.2	+1.8
	baz=47						
TKM2				⇑*i*S	Sb	10 38 37.4	-1.3
	baz=47						
TKM2	Tokmak 2	2.71	347	P	Pb	10 38 03.0	-1.9
	SNR=11						
TKM2	Tokmak 2	2.71	347	⇓Pn	Pb	10 38 02.6	-2.3
	7.9nm,0.6s						
TKM2				⇑Lg	Lg	10 38 38.6	
	41nm,0.7s						
IZV	Izvestkoviy	2.75	3	*e*P	Pb	10 38 04.0	-1.7
	6.6nm,0.9s						
IZV				*e*S	Sb	10 38 38.1	-1.8
	25nm,0.6s						
AAK	Ala-Archa	2.77	329	⇑*i*P	Pn	10 38 02.9	+1.7
	baz=29						
AAK				⇑*i*S	Sb	10 38 39.1	-1.2
	baz=29						
AAK	Ala-Archa	2.77	329	P	Pg	10 38 08.6	-0.1
	SNR=19						
AAK	Ala-Archa	2.77	329	⇑Pn	Pb	10 38 07.3	+1.4
	24nm,0.6s						
AAK				⇑Lg	Lg	10 38 44.8	
	54nm,1.1s						
AML	Almayashu	2.77	313	⇑*i*P	Pn	10 38 02.9	+1.5
	baz=14						
AML				⇑*i*S	Sb	10 38 39.1	-1.6
	baz=14						
AML	Almayashu	2.77	313	P	Pn	10 38 02.5	+1.1
	SNR=7.9						
TNSS	Tian-Shan	2.77	8	*e*P	Pg	10 38 07.5	-1.2
	9.0nm,0.4s						
TNSS				*e*S	Sg	10 38 44.2	-0.6
	18nm,0.4s						
KST	Kastek	2.78	353	*e*P	Pg	10 38 09.2	+0.4
	10nm,0.3s						
KST				*e*S	Sg	10 38 47.3	+2.5
	26nm,0.5s						
ARSB	Arslanbob	2.82	293	⇑*i*P	Pn	10 38 03.0	+1.1
	baz=95						
ARSB				⇑*i*S	Sb	10 38 39.4	-2.5
	baz=95						
MDOK	Medeo	2.91	9	*e*P	Pg	10 38 11.3	-0.1
	3.6nm,0.3s						
MDOK				*e*S	Sg	10 38 50.3	+1.2
	19nm,0.7s						
MDOK	Medeo	2.91	9	Pg	Pb	10 38 05.9	-2.4
	11nm,0.8s						
MDOK				Lg	Lg	10 38 38.8	
	17nm,0.6s						
KOTS	Kotyrbulak	2.99	9	*e*P	Pg	10 38 13.2	+0.3
	16nm,0.3s						
KOTS				*e*S	Sg	10 38 53.9	+2.3
	105nm,0.4s						
DGS	Degeres	3.00	351	*e*P	Pg	10 38 12.6	-0.4
	8.2nm,0.5s						
DGS				*e*S	Sg	10 38 52.8	+0.9
	39nm,0.5s						
EKS2	Erkin-Say	3.10	321	⇑*i*P	Pn	10 38 07.5	+1.7
	baz=22						
EKS2				⇑*i*S	Sb	10 38 47.1	-2.9
	baz=22						
EKS2	Erkin-Say	3.10	321	P	Pn	10 38 08.2	+2.4
	SNR=8.6						
USP	Ospenovka	3.31	335	⇓*i*P	Pn	10 38 10.4	+1.8
	baz=35						
USP				⇓*i*S	Sb	10 38 52.1	-3.8
	baz=35						
KTBS	Karatobe	3.43	3	*e*P	Pg	10 38 20.5	-0.8
	5.0nm,0.3s						
KTBS				*e*S	Sg	10 39 06.5	+0.8
	23nm,0.3s						
MRKS	Merke	3.44	317	*e*P	Pb	10 38 19.6	+2.2
	7.6nm,0.5s						
MRKS				*e*S	Sg	10 39 05.0	-1.2
	12nm,0.4s						
CHKK	Chushkaly	3.59	6	*e*P	Pg	10 38 23.1	-1.3
	2.1nm,0.2s						
CHKK				*e*S	Sg	10 39 11.3	+0.4
	7.6nm,0.4s						
PDGK	Podgornoye	3.80	36	⇑Pg	Pb	10 38 24.0	+0.5
	3.4nm,0.6s						
PDGK				⇑Lg	Lg	10 39 05.0	
	14nm,1.2s						
ARXS	Arharly	4.06	14	*e*P	Pg	10 38 31.6	-1.7
	3.7nm,0.4s						
ARXS				*e*S	Sg	10 39 26.0	+0.1
	12nm,0.5s						
KK31	Karatay Array	5.25	304	⇑Pn	Pb	10 38 47.2	-1.0
	1.4nm,0.6s,baz=104,slow=14						
KK31				⇑Sn	Sb	10 39 48.9	-2.9
	2.1nm,0.7s,baz=98,slow=30,SNR=4.1						

*MOS **05** 10:38:42.7±1.2, 49°.20N×155°.69E, h63km, mb5.1/34, Error ellipse: s-maj=8.3km s-min=2.9km az=77.6*
MOS Felt (II-III) at Severo-Kuril'sk.
*KRSC **05** 10:38:43.9±2.4, 49°.16N×157°.03E, h40km±36km, ML5.5, FELT [III] at Severo-Kurilsk.*
*BJI **05** 10:38:44.0±0.0, 49°.40N×155°.70E, h70km, mb4.7/42, mB4.9/30, Ms4.4/8, Ms7 4.2/3*
*ISCJB **05** 10:38:44.1±0.4, 49°.27N±0°.03×155°.80E±0°.04, h73km±3km, mb4.7/90, Error ellipse: s-maj=5.8km s-min=2.7km az=139.4*
*NEIC **05** 10:38:47.1±1.5, 49°.34N±0°.08×155°.7E±0°.1, h83km±6km, mb4.6/81*
*IDC **05** 10:38:48.5±1.6, 49°.34N×155°.67E, h99km±13km, mb4.1/31, mb1 4.3/39, mb1mx4.2/51, mbtmp4.5/39, MS3.5/20, Ms1 3.5/20, ms1mx3.3/39, Error ellipse: s-maj=10.7km s-min=8.5km az=154.0*
ISC 05 10:38:45.6±0.8**, 49°.22N**±0°.05×**155°.97E**±0°.04**, h80**km±6km**,**
n378, σ1s.59/430**, mb4.7**/114**, 31C-10D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.47	4	*e*P	Pn	10 39 10.3	-0.2
SKR				*e*S	Sn	10 39 29.1	-0.1
SKR	Severo-Kuril's	1.47	4	*e*PN	Pn	10 39 10.5	0.0
SKR				*e*S	Sn	10 39 29.5	+0.3
SKR				pmax	pmax		
	comp=Z,480nm,0.5s						
SKR				pmax	pmax		
	comp=Z,600nm,0.5s						
SKR				smax	smax		
	comp=N,7μm,0.5s						
SKR				smax	smax		
	comp=E,9μm,0.5s						
PAU	Pauzhetka	2.31	13	*e*P	Pn	10 39 21.8	+0.2
PAU				*e*S	Sn	10 39 48.8	-0.4
PAU	Pauzhetka	2.31	13	PN	Pn	10 39 21.8	+0.2
PAU				S	Sn	10 39 48.8	-0.4
KDTR	Khodutka, Kamc	2.92	27	*e*P	Pn	10 39 29.2	-0.6
KDTR				*e*S	Sn	10 40 01.3	-2.5
KDTR	Khodutka, Kamc	2.92	27	PN	Pn	10 39 29.2	-0.6
KDTR				S	Sn	10 40 01.3	-2.5
ASAK	Asacha	3.40	20	*e*P	Pn	10 39 36.6	+0.3
ASAK				*e*S	Sn	10 40 14.1	-1.4
ASAK	Asacha	3.40	20	PN	Pn	10 39 36.6	+0.3
ASAK				S	Sn	10 40 14.1	-1.4
MTVR	Mutnovka	3.56	22	*e*P	Pn	10 39 38.8	+0.3
MTVR				*e*S	Sn	10 40 19.1	-0.4
MTVR	Mutnovka	3.56	22	PN	Pn	10 39 38.8	+0.3
MTVR				S	Sn	10 40 19.1	-0.4
GRL	Gorelyy	3.59	21	*e*P	Pn	10 39 39.7	+0.7
GRL				*e*S	Sn	10 40 21.0	+0.7
GRL	Gorelyy	3.59	21	PN	Pn	10 39 39.7	+0.7
GRL				S	Sn	10 40 21.0	+0.7
RUS	Russkaya	3.60	26	*e*P	Pn	10 39 38.3	-0.7
RUS				*e*S	Sn	10 40 17.9	-2.4
RUS	Russkaya	3.60	26	PN	Pn	10 39 38.3	-0.7

RUS S **Sn** **10 40 17.9 -2.4**
APC Apacha 3.79 11 *e*P **Pn** **10 39 42.8 +1.3**
APC *e*S **Sn** **10 40 28.6 +3.8**
APC Apacha 3.79 11 PN **Pn** **10 39 42.8 +1.3**
APC S **Sn** **10 40 28.6 +3.8**
KRMR Karymshinskiy 3.86 20 *e*P **Pn** **10 39 43.0 +0.4**
KRMR *e*S **Sn** **10 40 26.0 -0.7**
KRMR Karymshinskiy 3.86 20 PN **Pn** **10 39 43.0 +0.4**
KRMR S **Sn** **10 40 26.0 -0.7**
PETK Petropavlovsk- 4.04 15 P **Pn** **10 39 46.3 +1.2**
comp=E,40nm,0.3s,baz=177,slow=13,SNR=281
PETK S **Sn** **10 40 34.7 +3.5**
comp=E,22nm,0.3s,baz=162,slow=29,SNR=5.1
PETK LR LR 10 41 43.1
comp=E,458nm,21.4s,baz=226,slow=44
PET Petropavlovsk 4.17 23 *e*P **Pn** **10 39 47.0 +0.3**
PET *e*S **Sn** **10 40 32.8 -1.3**
PET Petropavlovsk 4.17 23 *e*PN **Pn** **10 39 46.9 +0.3**
PET *e*S **Sn** **10 40 33.1 -1.0**
PET smax smax
comp=E,2μm,1.1s
PET smax smax
comp=N,2μm,0.4s
PET smax smax
comp=N,3μm,0.5s
PET smax smax
comp=E,3μm,0.5s
PET MLR MLR
comp=Z,400nm,15.0s
PET Petropavlovsk 4.17 23 Pn **10 39 47.2 +0.5**
PET Sn **Sn** **10 40 29.8 -4.4**
DALK Dalny 4.20 24 *e*P **Pn** **10 39 47.4 +0.3**
DALK *e*S **Sn** **10 40 34.3 -0.6**
DALK Dalny 4.20 24 PN **Pn** **10 39 47.4 +0.3**
DALK S **Sn** **10 40 34.3 -0.6**
UGLR Uglovaya 4.38 23 *e*P **Pn** **10 39 50.6 +0.9**
UGLR *e*S **Sn** **10 40 40.2 +0.7**
UGLR Uglovaya 4.38 23 PN **Pn** **10 39 50.6 +0.9**
UGLR S **Sn** **10 40 40.2 +0.7**
AVH Avacha 4.41 22 *e*P **Pn** **10 39 51.4 +1.3**
AVH *e*S **Sn** **10 40 39.2 -0.9**
AVH Avacha 4.41 22 PN **Pn** **10 39 51.4 +1.3**
AVH S **Sn** **10 40 39.2 -0.9**
KOK Koryaka 4.41 21 *e*P **Pn** **10 39 51.5 +1.4**
KOK *e*S **Sn** **10 40 41.4 +1.2**
KOK Koryaka 4.41 21 PN **Pn** **10 39 51.5 +1.4**
KOK S **Sn** **10 40 41.4 +1.2**
SMAR Somma 4.42 23 *e*P **Pn** **10 39 51.2 +0.8**
SMAR *e*S **Sn** **10 40 38.8 -1.9**
SMAR Somma 4.42 23 PN **Pn** **10 39 51.2 +0.8**
SMAR S **Sn** **10 40 38.8 -1.9**
KRER Koryakskii 4.45 22 *e*P **Pn** **10 39 52.0 +1.3**
KRER *e*S **Sn** **10 40 41.8 +0.5**
KRER Koryakskii 4.45 22 PN **Pn** **10 39 52.0 +1.3**
KRER S **Sn** **10 40 41.8 +0.5**
SDLR Sedlovina 4.46 23 *e*P **Pn** **10 39 50.9 +0.1**
SDLR *e*S **Sn** **10 40 40.4 -1.0**
SDLR Sedlovina 4.46 23 PN **Pn** **10 39 50.9 +0.1**
SDLR S **Sn** **10 40 40.4 -1.0**
KRX Arik 4.47 21 *e*P **Pn** **10 39 52.5 +1.5**
KRX *e*S **Sn** **10 40 42.6 +0.8**
KRX Arik 4.47 21 PN **Pn** **10 39 52.5 +1.5**
KRX S **Sn** **10 40 42.6 +0.8**
NLC Nalytchevo 4.49 27 *e*P **Pn** **10 39 49.8 -1.3**
NLC *e*S **Sn** **10 40 37.5 -4.5**
NLC Nalytchevo 4.49 27 PN **Pn** **10 39 49.8 -1.3**
SPN Mys Shipunski 4.64 32 *e*P **Pn** **10 39 53.0 -0.2**
SPN *e*S **Sn** **10 40 43.3 -2.5**
SPN Mys Shipunski 4.64 32 PN **Pn** **10 39 53.0 -0.2**
KII Karymskiy 5.29 23 *e*P **Pn** **10 40 04.2 +2.2**
KII *e*S **Sn** **10 41 01.9 +0.3**
KII Karymskiy 5.29 23 PN **Pn** **10 40 04.2 +2.2**
KII S **Sn** **10 41 01.9 +0.3**
MKZ Mys Kozlova 6.42 31 *e*P **Pn** **10 40 15.6 -1.8**
MKZ *e*S **Sn** **10 41 23.1 -6.0**
MKZ Mys Kozlova 6.42 31 PN **Pn** **10 40 15.6 -1.8**
KZV Kizimen 6.47 23 *e*P **Pn** **10 40 20.4 +2.1**
KZV *e*S **Sn** **10 41 31.1 +0.5**
KZV Kizimen 6.47 23 PN **Pn** **10 40 20.4 +2.1**
TUMD Tumrok D 6.58 23 *e*P **Pn** **10 40 19.9 +0.3**
TUMD *e*S **Sn** **10 41 31.5 -1.6**
TUMR Tumrok 6.59 21 *e*P **Pn** **10 40 20.9 +1.1**
TUMR Tumrok 6.59 21 PN **Pn** **10 40 19.9 +0.1**
KUR Kuril'sk 6.81 237 *e*PN **Pn** **10 40 22.7 0.0**
KUR *e*S **Sn** **10 41 37.5 -1.2**
KUR pmax pmax
comp=N,32nm,0.3s
KUR pmax pmax
comp=E,28nm,0.3s
KUR pmax pmax
comp=Z,76nm,0.3s
KUR pmax pmax
comp=Z,293nm,1.6s
KUR smax smax
comp=E,429nm,1.8s
KUR smax smax
comp=N,436nm,1.1s
KUR MLR MLR
comp=Z,280nm,15.0s
ESO Esso 6.92 13 *e*P **Pn** **10 40 25.4 +1.2**
ESO Esso 6.92 13 PN **Pn** **10 40 25.4 +1.2**
KMNR Kamenistaya 7.04 20 *e*P **Pn** **10 40 29.0 +3.0**
KMNR Kamenistaya 7.04 20 PN **Pn** **10 40 29.0 +3.0**
KPT Kopyto 7.24 19 *e*P **Pn** **10 40 30.7 +2.1**
KPT Kopyto 7.24 19 PN **Pn** **10 40 30.7 +2.1**
KOZ Kozyrevsk 7.25 18 *e*P **Pn** **10 40 30.9 +2.2**
KOZ Kozyrevsk 7.25 18 PN **Pn** **10 40 30.9 +2.2**
KIRR Kirishev 7.25 20 *e*P **Pn** **10 40 29.0 +0.2**
KIRR Kirishev 7.25 20 PN **Pn** **10 40 29.0 +0.2**
BZWR Bezymyannyi-We 7.29 20 *e*P **Pn** **10 40 30.9 +1.4**
BZWR Bezymyannyi-We 7.29 20 PN **Pn** **10 40 30.9 +1.4**
SRDR Sredinnyy 7.46 16 *e*P **Pn** **10 40 34.4 +2.7**
SRDR Sredinnyy 7.46 16 PN **Pn** **10 40 34.4 +2.7**
KLY Klyuchi 7.65 20 *e*S **Sn** **10 41 59.9 +0.8**
BDR Baidarnaya 8.01 21 *e*P **Pn** **10 40 39.2 0.0**
BDR Baidarnaya 8.01 21 PN **Pn** **10 40 39.2 0.0**
SRKR Sorokina 8.08 21 *e*P **Pn** **10 40 39.4 -0.7**
SRKR Sorokina 8.08 21 PN **Pn** **10 40 39.4 -0.7**
KBTR Krutoberegovo 8.14 28 *e*P **Pn** **10 40 39.8 -1.0**
KBTR *e*S **Sn** **10 42 04.9 -6.1**
KBTR Krutoberegovo 8.14 28 PN **Pn** **10 40 39.8 -1.0**
KBG Krutoberegovo 8.14 28 *e*P **Pn** **10 40 40.1 -0.7**
KBG *e*S **Sn** **10 42 05.3 -5.8**
KBG Krutoberegovo 8.14 28 PN **Pn** **10 40 40.1 -0.7**
BKI Bering 8.57 42 P **Pn** **10 40 45.4 -1.3**
BKI *e*S Sn 10 42 12.1 -10
BKI Bering 8.57 42 PN **Pn** **10 40 45.4 -1.3**
YUK Yuzh-Kuril'sk 8.67 237 *e*PN **Pn** **10 40 45.7 -2.5**
YUK pmax pmax
comp=Z,122nm,0.3s
YUK pmax pmax
comp=N,48nm,0.2s
YUK pmax pmax
comp=E,54nm,0.2s
YUK pmax pmax
comp=Z,382nm,1.2s
YUK MLR MLR
comp=Z,366nm,19.0s
TYV Tymovskoe 8.73 286 *e*PN **Pn** **10 40 51.1 +2.2**
TYV *e*S **Sn** **10 42 23.9 -1.7**
TYV pmax pmax
comp=Z,25nm,1.2s
TYV pmax pmax
comp=Z,300nm,3.4s
TYV smax smax
comp=E,22nm,1.1s
GRPR Tuman 8.75 237 *e*PN **Pn** **10 40 46.9 -2.3**
GRPR pmax pmax
comp=N,54nm,0.2s
GRPR pmax pmax
comp=Z,58nm,0.2s
GRPR pmax pmax
comp=E,31nm,0.1s
GLVR Golovnino 9.05 237 *e*PN **Pn** **10 40 50.5 -2.9**
UGL Uglegorsk 9.12 274 *e*PN Pn 10 40 47.2 -7.0
UGL pmax pmax
comp=Z,161nm,0.8s
YSS Yuzh-Sakhalins 9.13 261⇓*e*PN **Pn** **10 40 56.4 +2.0**
YSS *e*S **Sn** **10 42 33.6 -1.9**
YSS pmax pmax
comp=Z,90nm,0.7s
YSS smax smax
comp=N,40nm,0.8s
YSS MLR MLR
comp=Z,200nm,14.0s
YSS Yuzh-Sakhalins 9.13 261 Pn **10 40 53.5 -0.9**
NMR Nemuro--Hokkai 9.19 234 *e*PN Pn 10 40 50.1 -5.1
JKA Kamikawa-asahi 10.51 246 Pn **10 41 13.7 +0.5**
ASAJ Asahikawa 10.51 246 P **Pn** **10 41 13.7 +0.4**
comp=Z,1.9nm,0.3s,baz=32,slow=10,SNR=14
ASAJ LR LR 10 44 58.4
comp=Z,134nm,21.7s,baz=54,slow=36
MA2 Magadan 10.81 346 P **Pn** **10 41 17.4 +0.3**
comp=Z,1.3nm,0.3s,baz=174,slow=10,SNR=6.9
MA2 LR LR 10 46 19.0
comp=Z,107nm,18.7s,baz=198,slow=42
MA2 Magadan 10.81 346 Pn **10 41 16.2 -1.0**
ERM Erimo 11.50 236 PN **Pn** **10 41 25.6 -1.0**
ERM Erimo 11.50 236 Pn **Pn** **10 41 25.6 -1.0**
SMY Shemya 11.95 66 PN **Pn** **10 41 31.5 -1.2**
SMY Shemya 11.95 66 Pn **10 41 31.6 -1.2**
GRNR Gornyy 12.68 284⇓*i*PN **P** **10 41 47.0 -3.7**
GRNR *e*S **Sn** **10 44 10.1 +8.4**
GRNR pmax pmax
comp=Z,10.0nm,0.8s
GRNR smax smax
comp=E,6.0nm,0.5s
TEY Ternei 13.83 260⇑*e*P P 10 42 12.1 +8.6
TEY pmax pmax
comp=E,30nm,0.7s
TEY pmax pmax
comp=Z,30nm,0.8s
TEY pmax pmax
comp=N,10.0nm,0.8s
SEY Seymchan 13.89 353 *e*P **Pn** **10 41 58.7 +0.2**
SEY Seymchan 13.89 353 P **Pn** **10 41 59.2 +0.7**
comp=N,0.8nm,0.3s,baz=170,slow=10,SNR=17
KLR Kul'dur 15.81 279 *e*P **P** **10 42 25.0 -0.5**
KLR pmax pmax
comp=Z,11nm,1.0s
KLR Kul'dur 15.81 279 P **Pn** **10 42 24.2 +1.0**
comp=Z,0.5nm,0.3s,baz=84,slow=10,SNR=21
KLR LR LR 10 49 07.5
comp=Z,175nm,18.4s,baz=82,slow=40
USRK Ussuriysk Ar. 17.17 262 P **P** **10 42 40.8 +0.2**
baz=61,slow=12,SNR=4.1
USRK LR LR 10 48 36.5
comp=Z,107nm,21.8s,baz=40,slow=35
MAJO Matsushiro 18.11 232 P **P** **10 42 51.2 +0.2**
MAJO pmax pmax
comp=Z,14nm,0.9s
MAJO Matsushiro 18.11 232 P **P** **10 42 51.2 +0.2**
MAT Matsushiro 18.11 232 P **P** **10 42 51.0 0.0**
MAT S **S** **10 46 16.2 +2.9**
MJAR Matsushiro Arr 18.11 232 P **P** **10 42 51.1 +0.1**
comp=Z,0.1nm,0.3s,baz=28,slow=10,SNR=16
MJB9 Matsu-Tunnel 18.11 232 P **Pn** **10 42 51.4 -0.2**
ZEA Zeya 18.39 295 *e*P **P** **10 42 53.4 -0.5**
ZEA pmax pmax
comp=Z,46nm,1.4s
MDJ Mudanjiang 18.56 266 P **P** **10 42 56.1 +0.3**
MDJ pP pP 10 43 07.6 -4.0
MDJ sP sP 10 43 17.7 -3.9
MDJ S **S** **10 46 18.9 -3.7**
MDJ pmax pmax
comp=Z,9.0nm,0.7s
MDJ pmax pmax
comp=Z,160nm,4.8s
YAK Yakutsk 19.44 321*c i*P **P** **10 43 03.8 -1.4**
YAK *e*S **S** **10 46 35.4 -5.1**
YAK pmax pmax
comp=Z,58nm,0.9s
YAK pmax pmax
comp=N,25nm,1.1s
YAK pmax pmax
comp=E,31nm,1.0s
YAK smax smax
comp=N,120nm,1.9s
YAK smax smax
comp=E,144nm,2.2s
YAK Yakutsk 19.44 321 P **P** **10 43 04.3 -1.0**
comp=E,0.5nm,0.3s,baz=223,slow=1.4,SNR=25
YAK S **S** **10 46 36.5 -4.0**
comp=E,0.1nm,0.3s,baz=14,slow=22,SNR=7.7
YAK Yakutsk 19.44 321 IAmb IAmb 10 43 08.2
comp=Z,136nm,0.8s
BILL Bilibino 19.57 12⇑*e*P **P** **10 43 06.5 -0.1**
BILL *e*S **Sn** **10 46 45.8 -2.0**
BILL pmax pmax
comp=Z,14nm,0.8s
BILL Bilibino 19.57 12 P **P** **10 43 06.3 -0.4**
KSRS Korea Array 23.41 250 P **P** **10 43 48.2 +0.9**
comp=Z,7.9nm,1.0s,baz=52,slow=9.5,SNR=18
KSRS PcP **PcP** **10 47 32.4 +1.3**
comp=Z,0.3nm,0.4s,baz=38,slow=2.2,SNR=4.7
KSRS LR LR 10 53 09.6
comp=Z,45nm,20.8s,baz=58,slow=37
JCJ Chichijima 24.53 211 LR LR 10 51 40.5
comp=Z,31nm,20.8s,baz=244,slow=32
JNU Nakatsue 24.64 239 LR LR 10 53 36.7
comp=Z,60nm,19.4s,baz=52,slow=36
ANM Nome 25.56 39 P **P** **10 44 08.7 +2.1**
ANM pmax pmax
comp=Z,11nm,0.8s
ANM Nome 25.56 39 P **P** **10 44 08.7 +2.1**
ANM IAmb IAmb 10 44 10.6
comp=Z,11nm,0.8s
TIXI Tiksi 25.71 341⇑*e*P **P** **10 44 05.6 -2.2**
TIXI pmax pmax
comp=Z,13nm,0.8s
TIXI Tiksi 25.71 341 P **P** **10 44 05.7 -2.0**
comp=Z,17nm,0.6s,baz=0.0,slow=24,SNR=64
TIXI PcP **PcP** **10 47 35.7 +0.1**
comp=Z,1.4nm,0.5s,baz=52,slow=3.2,SNR=3.1
TIXI LR LR 10 55 15.8
comp=Z,48nm,20.6s,baz=190,slow=39
TIXI Tiksi 25.71 341 P **P** **10 44 06.3 -1.5**
TIXI IAmb IAmb 10 44 07.1
comp=Z,18nm,0.6s
RDOG Red Dog Mine 27.71 32 P **P** **10 44 27.2 +1.4**
RDOG IAmb IAmb 10 44 28.8
comp=Z,17nm,1.0s
PPLA Purkeypile 31.05 44 P **P** **10 44 57.6 +2.0**
WAKE Wake Island 31.08 160 P **P** **10 44 57.6 +1.6**
SKT Skwentna 31.34 46 P **P** **10 44 59.3 +1.3**
CNPM China Poot 31.60 51 P **P** **10 45 02.9 +2.6**
CNPM IAmb IAmb 10 45 07.6
comp=Z,18nm,1.1s
BPAW Bear Paw Mtn. 31.63 42 P **P** **10 45 02.4 +1.9**
KTH Kantishna Hill 31.64 43 P **P** **10 45 02.6 +1.9**
KTH IAmb IAmb 10 45 07.2
comp=Z,9.9nm,1.1s
SUA Susitna One 31.73 47 P **P** **10 45 02.7 +1.1**
MLY Manley 31.79 40 P **P** **10 45 04.0 +2.1**
H11S1 WAKE ISLAND Hy 31.84 160 T T 11 19 11.1
baz=346,slow=76,SNR=731
H11S3 WAKE ISLAND Hy 31.85 160 T T 11 19 01.1
baz=346,slow=76,SNR=1141
H11S2 WAKE ISLAND Hy 31.86 160 T T 11 18 59.1
baz=346,slow=76,SNR=863
TRF Thorofare Moun 31.92 43 P **P** **10 45 04.9 +1.6**
TRF IAmb IAmb 10 45 06.3
comp=Z,6.2nm,1.0s
ULN Ulaanbaatar 31.97 287 *e*P **P** **10 45 02.6 -1.3**
ULN pmax pmax
comp=Z,1.0nm,0.8s
HHC Hu-ho-hao-te 32.08 272 P **P** **10 45 04.6 -0.3**
HHC pmax pmax
comp=Z,7.0nm,0.8s
COLD Coldfoot 32.21 36 P **P** **10 45 07.1 +1.5**
RC01 Rabbit Creek A 32.23 48 P **P** **10 45 08.1 +2.2**
BWN Browne 32.30 42 P **P** **10 45 09.2 +2.9**
SONM Songino Array 32.39 287 P **P** **10 45 05.7 -1.8**
comp=Z,0.5nm,0.5s,baz=68,slow=7.5,SNR=4.8
SONM PcP **PcP** **10 47 53.0 -0.2**
comp=Z,0.9nm,0.9s,baz=115,slow=2.8,SNR=4.8
SONM LR LR 10 59 04.0
comp=Z,142nm,18.1s,baz=74,slow=38
MCK McKinley 32.53 43 P **P** **10 45 10.6 +2.2**
MCK pmax pmax
comp=Z,7.0nm,1.0s
MCK McKinley 32.53 43 P **P** **10 45 10.6 +2.2**
MCK IAmb IAmb 10 45 21.1
comp=Z,6.6nm,1.0s
NJ2 Nanjing 32.57 252 *e*P **P** **10 45 10.6 +1.5**
NJ2 pmax pmax
comp=Z,12nm,0.5s
GHO Glory Hole Cre 32.59 46 P **P** **10 45 10.3 +1.3**
GHO IAmb IAmb 10 45 27.2
comp=Z,6.9nm,1.0s
TLY Talaya 32.83 295 *e*P **P** **10 45 10.1 -1.0**
TLY pmax pmax
comp=Z,11nm,0.9s
TLY Talaya 32.83 295 P **P** **10 45 10.2 -0.9**
comp=Z,6.9nm,0.8s,baz=60,slow=4.2,SNR=11
KNK Knik Glacier 32.83 47 IAmb IAmb 10 45 25.1
comp=Z,11nm,0.7s
COLA College 33.01 41 *e*P **P** **10 45 14.6 +2.1**
COLA pmax pmax
comp=Z,14nm,0.8s
CCB Clear Creek Bu 33.03 41 IAmb IAmb 10 45 16.4
comp=Z,7.6nm,0.9s
SCM Sheep Creek Mo 33.34 46 P **P** **10 45 17.6 +2.0**
SCM pmax pmax
comp=Z,13nm,1.2s
SCM Sheep Creek Mo 33.34 46 P **P** **10 45 17.6 +2.0**
SCM IAmb IAmb 10 45 22.4
comp=Z,13nm,1.2s
IL31 33.42 41 IAmb IAmb 10 45 23.3
comp=Z,8.3nm,1.1s
ILAR Eielson Array 33.42 41 P **P** **10 45 17.0 +0.8**
comp=Z,3.2nm,0.8s,baz=248,slow=6.4,SNR=30
ZAK Zakamensk 33.44 292 *e*P P 10 45 12.0 -4.6
ZAK *e* 10 45 33.0
ZAK pmax pmax
comp=Z,5.0nm,1.1s
GLI Glacier Island 33.54 48 P **P** **10 45 18.5 +1.3**
GLI IAmb IAmb 10 45 19.1
comp=Z,3.3nm,0.7s
FID Port Fidalgo 33.85 48 P **P** **10 45 21.0 +1.1**
PRP Porcupine Dome 33.99 39 P **P** **10 45 23.3 +2.0**
PRP IAmb IAmb 10 45 23.9
comp=Z,10nm,0.8s
VRDI Verde Repeater 35.25 47 P **P** **10 45 33.6 +1.4**
VRDI IAmb IAmb 10 45 37.6
comp=Z,10nm,1.5s
TGL Tana Glacier 35.62 48 P **P** **10 45 37.3 +2.0**
TGL IAmb IAmb 10 45 50.3
comp=Z,7.2nm,1.1s
BALM Baldy 35.81 47 P **P** **10 45 38.6 +1.6**
BALM IAmb IAmb 10 45 55.1
comp=Z,5.5nm,1.1s
EGAK Eagle 35.87 41 IAmb IAmb 10 45 38.9
comp=Z,10nm,0.8s
BARN Barnard Glacie 36.14 47 P **P** **10 45 42.1 +2.3**
BARN IAmb IAmb 10 45 44.5
comp=Z,5.9nm,0.8s
CTGM Chitina Glacie 36.31 47 IAmb IAmb 10 45 46.7
comp=Z,7.3nm,0.8s
WHN Wuhan 36.42 255⇓P **P** **10 45 42.2 -0.1**
WHN pmax pmax
comp=Z,46nm,0.5s
NRIK Noril'sk 37.68 327 P **P** **10 45 50.5 -2.0**
comp=Z,2.0nm,0.5s,baz=114,slow=4.9,SNR=4.6
NRIK LR LR 11 01 07.5
comp=Z,85nm,19.2s,baz=63,slow=36
INK Inuvik 38.53 34 P **P** **10 46 01.5 +1.9**
INK pmax pmax
comp=Z,6.0nm,0.7s
INK Inuvik 38.53 34 P **P** **10 46 01.5 +1.9**
comp=Z,4.3nm,0.6s,baz=290,slow=6.6,SNR=42
INK Inuvik 38.53 34 P **P** **10 46 01.6 +1.9**
INK IAmb IAmb 10 46 02.1
comp=Z,5.7nm,0.7s
LZH Lanzhou 39.75 271 *e*P **P** **10 46 10.0 -0.5**
LZH pP pP 10 46 27.1 -2.4
LZH sP sP 10 46 35.2 -3.5
LZH *e*PP **PnPn** **10 47 46.3 -0.6**
LZH pmax pmax
comp=Z,24nm,1.2s
LZH pmax pmax
comp=Z,72nm,5.4s
LZH LR LR
comp=Z,250nm,13.3s
LZH LR LR
comp=Z,250nm,13.5s
LZH LR LR
comp=Z,330nm,16.6s
GTA Gaotai 40.51 278⇑P **P** **10 46 16.0 -0.6**
GTA pP pP 10 46 35.0 -0.8
GTA sP sP 10 46 44.1 -0.9
GTA PcP **PcP** **10 48 18.4 +0.7**
GTA S **S** **10 52 19.6 -0.1**
GTA sS sS 10 52 51.4 -0.5
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA pmax pmax
comp=Z,74nm,7.0s
GTA LR LR
comp=Z,90nm,15.5s
GTA LR LR
comp=Z,130nm,17.5s
ZALV Zalesovo Beam 42.76 305 P **P** **10 46 33.0 -1.6**
comp=Z,2.8nm,0.5s,baz=63,slow=7.9,SNR=12
ZALV PcP **PcP** **10 48 24.8 +0.2**
comp=Z,3.5nm,0.8s,baz=42,slow=2.4,SNR=8.2
WMQ Urumqi 45.84 290 *e*P **P** **10 47 01.1 +1.6**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,160nm,4.9s
WMQ LR LR
comp=Z,600nm,29.1s
WMQ LR LR
comp=Z,1μm,29.2s
MK31 Makanchi Array 47.53 297 IAmb IAmb 10 47 12.9
comp=Z,12nm,1.0s
MKAR Makanchi Array 47.53 297 P **P** **10 47 11.8 -0.8**
comp=Z,11nm,0.8s,baz=62,slow=7.1,SNR=36
MKAR PcP **PcP** **10 48 40.4 -1.0**
comp=Z,1.6nm,0.8s,baz=64,slow=3.7,SNR=3.3
MKAR LR LR 11 08 01.7
comp=Z,131nm,18.6s,baz=36,slow=37
KURK Kurchatov 47.62 303 *e*P **P** **10 47 12.1 -1.0**
KURK pmax pmax
comp=Z,15nm,0.9s
KURK Kurchatov 47.62 303 P **P** **10 47 12.2 -1.0**
YKW3 Yellowknife Ar 47.76 39 P **P** **10 47 15.4 +1.4**
YKW3 IAmb IAmb 10 47 16.4
comp=Z,5.5nm,0.7s
YKA Yellowknife Ar 47.80 39 P **P** **10 47 15.8 +1.5**
comp=Z,4.2nm,0.7s,baz=298,slow=7.4,SNR=36
RES Resolute Bay 47.87 20 P **P** **10 47 16.0 +1.2**
RES Resolute Bay 47.87 20 P **P** **10 47 15.9 +1.2**
comp=Z,13nm,0.7s,baz=292,slow=7.0,SNR=59
BRVK Borovoye 50.82 309 *e*P **P** **10 47 36.7 -0.8**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 50.82 309 P **P** **10 47 36.5 -1.0**
BRVK IAmb IAmb 10 47 37.0
comp=Z,5.3nm,0.7s
DAG Danmarks Havn 54.24 358 *e*P **P** **10 48 01.8 -0.6**
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 54.24 358 *i* P **P** **10 48 01.8 -0.6**
comp=Z,6.9nm,0.8s
AAK Ala-Archa 54.46 296⇓*e*P **P** **10 48 04.1 -0.6**
AAK pmax pmax
comp=Z,11nm,1.4s
ARU Arti 54.49 317*d i*P **P** **10 48 03.7 -0.8**
ARU 10 49 06.6
ARU 10 50 02.3
ARU S **S** **10 55 35.0 -2.0**
ARU SS **SS** **10 59 19.6 -0.1**
ARU pmax pmax
comp=Z,50nm,1.5s
ARU Arti 54.49 317 P **P** **10 48 03.6 -0.9**
KULLO Kullorsuaq 54.50 10 *i* P **P** **10 48 04.3 0.0**
KULLO pmax pmax
comp=Z,19nm,0.6s
KULLO Kullorsuaq 54.50 10 *i* P **P** **10 48 04.3 0.0**
comp=Z,19nm,0.6s
CMAR Chiang Mai Arr 54.81 257 P **P** **10 48 08.2 +0.8**
comp=Z,3.0nm,0.8s,baz=31,slow=7.6,SNR=17
CMAR LR LR 11 13 22.1
comp=Z,24nm,18.5s,baz=55,slow=38
YBH Yreka Blue Hor 54.91 65 P **P** **10 48 08.1 +0.2**
comp=Z,1.5nm,0.8s,baz=256,slow=4.2,SNR=3.6
YBH Yreka Blue Hor 54.91 65 P **P** **10 48 09.4 +1.5**
KSH Kashi 55.49 292 P **P** **10 48 15.1 +3.0**
KSH sP sP 10 48 43.7 +2.5
KSH PP **PP** **10 50 22.4 +5.9**
KSH ScP **ScP** **10 53 05.1 +2.4**
KSH S **S** **10 55 53.4 +2.3**

KSH sS sS 10 56 26.4 +1.7
KSH pmax pmax
comp=Z,310nm,6.3s
ARCES ARCESS Array B 56.14 341 P **P** **10 48 14.4 -1.8**
comp=Z,5.3nm,0.8s,baz=34,slow=7.1,SNR=14
ARCES LR LR 11 14 34.4
comp=Z,68nm,19.3s,baz=0.5,slow=38
MOD Modoc Plateau 56.23 63 IAmb IAmb 10 48 21.6
comp=Z,2.8nm,0.9s
PRGR Permogore 56.32 327 *e*P **P** **10 48 15.7 -1.8**
PRGR pmax pmax
comp=Z,12nm,0.6s
JIRN Jiri 56.66 275 *e*P **P** **10 48 21.0 +0.1**
GUN Gumba 56.69 275 *e*P **P** **10 48 21.0 -0.1**
comp=Z,13nm,0.6s
RAMN Ramite 56.87 274 *e*P **P** **10 48 22.2 -0.1**
comp=Z,26nm,0.7s
KKN Kakani 57.16 276 *e*P **P** **10 48 24.3 0.0**
comp=Z,29nm,0.9s
PKI Pulchoki 57.23 275 *e*P **P** **10 48 24.9 0.0**
comp=Z,7.8nm,0.6s
DMN Daman 57.40 276 *e*P **P** **10 48 26.2 +0.2**
comp=Z,27nm,0.9s
FFC Flin Flon 57.61 42 *i*P **P** **10 48 29.1 +2.3**
DANN Dangsing 57.78 277 *e*P **P** **10 48 29.0 +0.3**
comp=Z,20nm,0.7s
SUMG Summit 58.09 5 *i*P **P** **10 48 31.0 +0.7**
SUMG Summit 58.09 5 *i*P **P** **10 48 31.0 +0.7**
comp=Z,143nm,0.9s
SUMG Summit 58.09 5 P **P** **10 48 31.3 +1.0**
KOLN Koldanda 58.27 277 *e*P **P** **10 48 32.1 +0.1**
comp=Z,17nm,0.8s
GAR Garm 59.21 295 P **P** **10 48 38.0 -0.3**
KVN Kaiserville 59.34 65 P **P** **10 48 41.5 +2.2**
KVN pmax pmax
comp=Z,6.0nm,1.4s
KVN Kaiserville 59.34 65 P **P** **10 48 41.5 +2.2**
KVN IAmb IAmb 10 48 57.0
comp=Z,6.3nm,1.4s
NVAR Mina Array Bea 59.62 65 P **P** **10 48 43.5 +2.2**
comp=Z,0.5nm,0.4s,baz=292,slow=8.1,SNR=6.5
SCO Scoresbysund 60.60 359 *i*P **P** **10 48 48.0 +0.9**
SCO pmax pmax
comp=Z,8.0nm,0.7s
SCO Scoresbysund 60.60 359 *i*P **P** **10 48 48.0 +0.9**
comp=Z,8.4nm,0.7s
R11A Troy Canyon, C 61.28 64 P **P** **10 48 54.4 +1.9**
PDAR Pinedale Array 61.76 56 P **P** **10 48 58.0 +2.3**
comp=Z,1.8nm,0.8s,baz=310,slow=1.8,SNR=14
PDAR LR LR 11 16 16.5
comp=Z,40nm,18.6s,baz=50,slow=36
TPNV Topopah Spring 61.82 65 P **P** **10 48 58.2 +2.1**
TPNV pmax pmax
comp=Z,4.0nm,1.2s
TPNV Topopah Spring 61.82 65 P **P** **10 48 58.2 +2.1**
TPNV IAmb IAmb 10 49 00.7
comp=Z,3.8nm,1.1s
NLU North Lily Min 62.24 60 P **P** **10 49 01.7 +2.7**
SFJD Kangerlussuaq 62.37 11 *i*P **P** **10 48 59.0 -0.1**
SFJD Kangerlussuaq 62.37 11 *i*P **P** **10 48 59.0 -0.1**
SFJD Kangerlussuaq 62.37 11 P **P** **10 48 59.6 +0.6**
FIAI FINESS Array B 62.61 335 P **P** **10 49 00.2 -0.5**
FINES FINESS Array B 62.61 335 P **P** **10 49 00.1 -0.7**
comp=Z,4.8nm,0.5s,baz=34,slow=7.3,SNR=38
FINES LR LR 11 19 03.5
comp=Z,96nm,18.3s,baz=316,slow=39
MSU Marysvale 63.15 62 P **P** **10 49 08.0 +2.9**
MSU Marysvale 63.15 62 P **P** **10 49 08.0 +2.9**
ULM Lac du Bonnet 63.40 43 P **P** **10 49 06.4 +0.2**
comp=Z,2.0nm,0.5s,baz=256,slow=7.0,SNR=3.5
SRU San Rafael Swe 63.69 60 P **P** **10 49 11.3 +2.7**
SRU pmax pmax
comp=Z,3.0nm,0.6s
SRU San Rafael Swe 63.69 60 P **P** **10 49 11.3 +2.7**
OBN Obninsk 64.34 326 *e*P **P** **10 49 11.2 -1.1**
OBN *e* 10 51 35.1
OBN *e*S **S** **10 57 35.5 -8.3**
OBN pmax pmax
comp=Z,9.0nm,1.0s
VRH Novokhopyorsk 65.33 321 *e*P **P** **10 49 16.8 -1.9**
VRH pmax pmax
comp=Z,10.0nm,0.4s
LPSR Galich'ya Gora 65.39 323 *e*P **P** **10 49 17.7 -1.4**
LPSR pmax pmax
comp=Z,20nm,0.7s
VSR Storozhevoye 66.36 322 *e*P **P** **10 49 23.3 -2.1**
VSR pmax pmax
comp=Z,10.0nm,0.7s
NB2 NORSAR Subarra 66.49 342 P **P** **10 49 25.1 -1.0**
comp=Z,1.3nm,0.6s,baz=25,slow=6.5
NOA NORSAR Array B 66.49 342 P **P** **10 49 25.3 -0.8**
comp=Z,1.8nm,0.6s,baz=25,slow=6.4,SNR=6.7
NOA LR LR 11 22 03.9
comp=Z,31nm,18.2s,baz=260,slow=39
GEYT Alibeck 66.96 302 P **P** **10 49 29.5 0.0**
comp=Z,7.5nm,0.5s,baz=29,slow=3.4,SNR=14
GEYT LR LR 11 20 56.3
comp=Z,63nm,18.3s,baz=320,slow=38
GYA0B ALIBECK ARRAY 66.96 302 P **P** **10 49 30.1 +0.6**
ANMO Albuquerque 68.93 61 *e*P **P** **10 49 42.0 -0.1**
SCHQ Schefferville 70.27 25 P **P** **10 49 50.8 +1.0**
comp=Z,3.8nm,0.8s,baz=305,slow=4.0,SNR=7.7
KIV Kislovodsk 70.42 315 *e*P **P** **10 49 52.2 +1.2**
KIV pmax pmax
comp=Z,35nm,1.1s
KBZ Khabaz 70.50 315 *e*P **P** **10 49 51.2 -0.1**
KBZ Khabaz 70.50 315 P **P** **10 49 51.6 +0.3**
comp=Z,7.9nm,0.6s,baz=99,slow=3.6,SNR=23
AKASG Malin Array Be 70.53 327 P **P** **10 49 50.4 -1.0**
comp=Z,4.3nm,0.4s,baz=37,slow=6.4,SNR=19
AKASG LR LR 11 22 13.2
comp=Z,63nm,19.9s,baz=300,slow=37
AKBB Malin Array Si 70.53 327⇑ *e*P **P** **10 49 50.9 -0.5**
SHA1 Shidzhatmaz 70.61 315 *e*P **P** **10 49 52.5 +0.2**
ZEI Tsey 70.75 314 *e*P P 10 49 44.0 -9.2
ZEI pmax pmax
comp=Z,8.0nm,0.8s
WRA Warramunga Arr 71.50 201 P **P** **10 49 57.1 -0.4**
comp=Z,1.2nm,0.7s,baz=16,slow=6.0,SNR=7.9
AKH Akhalkalaki 72.00 313⇑P **P** **10 50 03.5 +2.8**
SORM Soroca 72.99 326⇑P **P** **10 50 05.4 -0.8**
KWP Kalwaria Pacla 73.66 330 *e*P **P** **10 50 10.8 +0.7**
KWP Kalwaria Pacla 73.66 330 *e*P **P** **10 50 10.8 +0.7**
KWP *e*P **P** **10 50 10.8 +0.7**
OJC Ojcow 74.05 332 *e*P **P** **10 50 12.4 0.0**
OJC Ojcow 74.05 332 *e*P **P** **10 50 12.4 0.0**
OJC *e*P **P** **10 50 12.4 0.0**
STHS Stebnicka Huta 74.31 331 *e*P **P** **10 50 14.3 +0.4**
STHS pmax pmax
comp=Z,23nm,0.8s
STHS Stebnicka Huta 74.31 331 *e*P **P** **10 50 14.3 +0.4**
KOLS Kolonicke sedl 74.40 330 *e*P **P** **10 50 15.0 +0.5**
KOLS pmax pmax
comp=Z,13nm,0.8s
KOLS Kolonicke sedl 74.40 330 *e*P **P** **10 50 15.0 +0.5**
KSP Ksiaz 74.52 335 *e*P **P** **10 50 15.5 +0.4**
KSP Ksiaz 74.52 335 *e*P **P** **10 50 15.5 +0.4**
KSP *e*P **P** **10 50 15.5 +0.4**
BUR08 Bucovina Ar. S 74.53 328 P **P** **10 50 15.8 +0.4**
BURAR Bucovina Array 74.55 328⇑P **P** **10 50 15.4 -0.1**
BURAR mb 10 50 16.6
NIE Niedzica 74.60 332 *e*P **P** **10 50 16.5 +0.8**
NIE Niedzica 74.60 332 *e*P **P** **10 50 16.5 +0.8**
NIE *e*P **P** **10 50 16.5 +0.8**
TX31 Lajitas Ar. Si 74.63 63 P **P** **10 50 17.9 +1.6**
TX31 IAmb IAmb 10 50 19.4
comp=Z,8.9nm,1.4s
TX32 Lajitas Array 74.63 63 IAmb IAmb 10 50 19.4
comp=Z,9.1nm,1.4s
TXAR Lajitas Array 74.63 63 P **P** **10 50 17.6 +1.4**
comp=Z,1.3nm,0.5s,baz=302,slow=4.8,SNR=41
UZH Uzhgorod 74.66 330 *e*P **P** **10 50 15.5 -0.4**
UZH *i* 10 50 29.4
UZH *e* 10 50 42.0
CHVC Chvalec 74.81 335 *e*P **P** **10 50 17.5 +0.7**
BIZ Bicaz 74.82 327⇑P **P** **10 50 17.1 +0.2**
UPC Upice 74.90 335 *e*P **P** **10 50 17.8 +0.5**
UPC Upice 74.90 335 *e*P **P** **10 50 17.8 +0.5**
DPC Dobruska-Polom 74.95 335 *e*P **P** **10 50 18.4 +0.7**
DPC Dobruska-Polom 74.95 335 *e*P **P** **10 50 18.4 +0.7**
CLL Collm 74.98 337⇑ *i*P **P** **10 50 17.9 +0.2**
CLL pmax pmax
comp=Z,45nm,1.0s
CLL Collm 74.98 337⇑ *i*P **P** **10 50 17.9 +0.2**
comp=Z,45nm,1.0s

TRPA Tarpa 75.02 330⇑P **P** **10 50 18.6 +0.7**
TRPA mb 10 50 19.5
TRPA Tarpa 75.02 330 *e*P **P** **10 50 18.1 +0.1**
KRLC Kraliky 75.07 334 *e*P **P** **10 50 19.0 +0.7**
KRLC Kraliky 75.07 334 *e*P **P** **10 50 19.0 +0.7**
LANS Liptovska Anna 75.10 332 *e*P **P** **10 50 20.0 +1.5**
LANS pmax pmax
comp=Z,23nm,0.8s
LANS Liptovska Anna 75.10 332 *e*P **P** **10 50 20.0 +1.5**
MORC Moravsky Berou 75.12 334⇑P **P** **10 50 19.5 +0.9**
MORC mb 10 50 20.4
MORC Moravsky Berou 75.12 334 *e*P **P** **10 50 18.8 +0.2**
BRG Berggiesshubel 75.13 336 *e*PKP **P** **10 50 14.8 -3.8**
comp=Z,8.9nm,1.4s
BRG *i* 10 50 18.7
comp=Z,10nm,0.8s
BRG Berggiesshubel 75.13 336 *e*P **P** **10 50 14.8 -3.8**
BRG pmax pmax
comp=Z,9.0nm,1.4s
ASAR Alice Springs 75.18 201 P **P** **10 50 20.2 +1.1**
comp=Z,1.2nm,0.7s,baz=12,slow=5.4,SNR=16
PVCC Panska Ves 75.28 336 *e*P **P** **10 50 20.2 +0.8**
PVCC Panska Ves 75.28 336 *e*P **P** **10 50 20.2 +0.8**
TLCR 75.30 324⇑P **P** **10 50 19.6 -0.1**
KECS Kecovo 75.37 331 *e*P **P** **10 50 20.6 +0.6**
KECS pmax pmax
comp=Z,8.0nm,0.8s
KECS Kecovo 75.37 331 *e*P **P** **10 50 20.6 +0.6**
PRU Pruhonice 75.77 335 *e*P **P** **10 50 22.8 +0.5**
PRU Pruhonice 75.77 335 *e*P **P** **10 50 22.8 +0.5**
GOPC GO Pecny, Ondr 75.77 335 *e*P **P** **10 50 22.8 +0.5**
GOPC GO Pecny, Ondr 75.77 335 *e*P **P** **10 50 22.8 +0.5**
VRAC Vranov 75.81 334⇑P **P** **10 50 23.0 +0.4**
VRAC mb 10 50 24.1
VRAC Vranov 75.81 334 *e*P **P** **10 50 23.2 +0.6**
VYHS Vyhne 75.87 332 *e*P **P** **10 50 23.7 +0.8**
VYHS pmax pmax
comp=Z,20nm,0.7s
VYHS Vyhne 75.87 332 *e*P **P** **10 50 23.6 +0.7**
CJR Cluj-Napoca 75.89 328⇓P **P** **10 50 24.2 +1.1**
JAVC Velka Javorina 75.90 333 *e*P **P** **10 50 24.6 +1.5**
DOPR Dopca 75.90 327⇑P **P** **10 50 24.0 +0.8**
KOLL Kolacno 75.93 332 *e*P **P** **10 50 24.4 +1.2**
PSZ Piszkesteto 76.05 331⇑P **P** **10 50 24.8 +0.8**
PSZ mb 10 50 25.4
PSZ Piszkesteto 76.05 331 *e*P **P** **10 50 24.1 0.0**
KRUC Moravsky 76.09 334 *e*P **P** **10 50 24.8 +0.7**
TLB Topalu 76.10 325⇑P **P** **10 50 24.8 +0.6**
NKC Novy Kostel 76.10 337 *e*P **P** **10 50 25.3 +1.1**
NKC Novy Kostel 76.10 337 *e*P **P** **10 50 25.3 +1.1**
MLR Muntele Rosu 76.11 326 P **P** **10 50 24.9 +0.4**
MLR pmax pmax
comp=Z,22nm,0.7s
MLR Muntele Rosu 76.11 326⇓P **P** **10 50 24.6 +0.2**
MLR Muntele Rosu 76.11 326 P **P** **10 50 24.9 +0.4**
TREC Trest 76.14 335 *e*P **P** **10 50 24.9 +0.5**
TREC Trest 76.14 335 *e*P **P** **10 50 24.9 +0.5**
PBCC Pribram 76.19 336 *e*P **P** **10 50 25.1 +0.4**
ISR Istrita 76.21 326⇓P **P** **10 50 25.4 +0.5**
SMOL Smolenice 76.28 333 *e*P **P** **10 50 26.8 +1.6**
SMOL pmax pmax
comp=Z,21nm,0.7s
SMOL Smolenice 76.28 333 *e*P **P** **10 50 26.8 +1.6**
MODS Modra-Piesok 76.45 333 *e*P **P** **10 50 26.5 +0.3**
MODS pmax pmax
comp=Z,26nm,1.0s
MODS Modra-Piesok 76.45 333 *e*P **P** **10 50 26.5 +0.3**
VOIR 76.48 327⇓P **P** **10 50 27.4 +0.9**
ARR Arges 76.69 327⇑P **P** **10 50 29.0 +1.3**
ILGA Ilgaz 76.74 319 P **P** **10 50 30.0 +1.8**
KHC Kasperske Hory 76.81 336 *e*P **P** **10 50 29.6 +1.3**
KHC pmax pmax
comp=Z,51nm,0.9s
KHC Kasperske Hory 76.81 336 *e*P **P** **10 50 28.9 +0.6**
GERES GERESS Array B 77.04 335 P **P** **10 50 30.1 +0.5**
comp=Z,9.7nm,0.6s,baz=35,slow=5.7,SNR=49
GERES LR LR 11 27 59.8
comp=Z,243nm,18.6s,baz=295,slow=38
CSKK Cskako 77.06 332 *e*P **P** **10 50 29.1 -0.5**
CONA Conrad Observa 77.27 334 *i*P **P** **10 50 32.2 +1.3**
comp=Z,24nm,0.7s,SNR=9.1
MEM Membach 77.28 341 P **P** **10 50 30.6 -0.1**
comp=Z,35nm,0.9s
SOP Sopron 77.28 333 *e*P **P** **10 50 32.1 +1.2**
GZR Gura Zlata 77.32 328⇑P **P** **10 50 31.3 +0.1**
BSTI Sart Tilman 77.39 341 P **P** **10 50 31.2 -0.2**
MPLH Magyarpolny 77.45 332 *e*P **P** **10 50 33.0 +1.2**
BHOU Houvegnez 77.52 341⇑P **P** **10 50 33.0 +0.8**
COPA Copaceanca 77.54 326⇑P **P** **10 50 32.4 0.0**
BGES Gesves 77.68 341 P **P** **10 50 33.7 +0.7**
MOA Molln 77.79 335 *i*P **P** **10 50 34.7 +1.0**
comp=Z,14nm,0.7s
BMRD Maredsous 77.83 342⇑P **P** **10 50 34.5 +0.6**
comp=Z,25nm,1.3s
BRTR Keskin Array B 77.87 318 P **P** **10 50 34.8 +0.3**
comp=Z,13nm,0.9s,baz=61,slow=3.2,SNR=47
HERR Herculane 77.89 328⇑P **P** **10 50 33.7 -0.6**
MORH Mrgy, Hungar 77.96 331 *e*P **P** **10 50 34.1 -0.6**
ARSA Arzberg 77.98 334 *i*P **P** **10 50 35.9 +1.2**
comp=Z,18nm,1.2s,SNR=6.6
DOU Dourbes 78.06 342⇓P **P** **10 50 36.0 +0.8**
MDVR Moldovita 78.22 329⇑P **P** **10 50 36.1 -0.1**
ELND Plena 78.33 325⇑P **P** **10 50 36.6 -0.2**
PLVB Pleven 78.41 326⇑P **P** **10 50 37.4 +0.2**
SOKA Soboth 78.64 334 *i*P **P** **10 50 39.4 +0.9**
comp=Z,22nm,0.8s,SNR=10
CTYL Yalikoy Yolu 78.64 323⇑P **P** **10 50 38.6 +0.1**
GROS Grobnik 78.70 333 *i*P **P** **10 50 39.3 +0.4**
KBA Koelnbreinsper 78.75 335 *i*P **P** **10 50 40.6 +1.4**
comp=Z,55nm,0.8s,SNR=23
BFO Black Forest 78.89 339 *i*P **P** **10 50 40.9 +1.1**
OBKA Obir 78.93 334 *i*P **P** **10 50 40.3 +0.2**
comp=Z,8.5nm,0.6s
WATA Walderalm 79.00 336 *i*P **P** **10 50 41.7 +1.1**
comp=Z,26nm,0.9s,SNR=6.7
WTTA Wattenberg 79.05 336 *i*P **P** **10 50 42.3 +1.5**
comp=Z,66nm,1.3s,SNR=10
RETA Reutte 79.07 337 *i*P **P** **10 50 41.8 +0.9**
comp=Z,13nm,0.9s
MYKA Terra Mystica 79.08 335 *i*P **P** **10 50 41.0 +0.1**
comp=Z,7.8nm,0.6s
MOTA Moosalm 79.11 337 *i*P **P** **10 50 42.0 +0.9**
comp=Z,42nm,1.1s,SNR=12
SQTA SanAQuirin 79.22 336 *i*P **P** **10 50 42.8 +1.2**
comp=Z,42nm,1.4s,SNR=7.9
LEGS Legarje 79.22 333 *i*P **P** **10 50 41.8 +0.3**
ABTA Abfaltersbach 79.28 335 *i*P **P** **10 50 42.9 +0.9**
comp=Z,18nm,1.0s
DAVA Damuels 79.48 337 *i*P **P** **10 50 43.9 +0.7**
comp=Z,20nm,0.9s,SNR=5.5
FETA Feichten 79.51 337 *i*P **P** **10 50 44.3 +0.9**
comp=Z,21nm,1.3s,SNR=5.5
VTS Vitosha 79.58 327 P **P** **10 50 43.9 +0.1**
VTS pmax pmax
comp=Z,21nm,0.7s
VTS Vitosha 79.58 327⇑P **P** **10 50 44.2 +0.5**
VTS Vitosha 79.58 327 P **P** **10 50 43.9 +0.1**
DAVOX Davos/Dischmat 79.95 337 P **P** **10 50 46.4 +0.6**
comp=Z,10nm,0.7s,baz=23,slow=3.7,SNR=13
FUORN Ofenpass-Fuorn 80.00 337 P **P** **10 50 46.3 +0.2**
ALN Alexandroupoli 80.01 324 IAmb IAmb 10 50 47.1
comp=Z,9.7nm,0.9s
CTI Castel Tesino 80.16 336 IAmb IAmb 10 50 47.7
comp=Z,13nm,0.9s
PDG Pedgorica 81.13 329⇑P **P** **10 50 51.8 0.0**
BNI Bardonecchia 82.36 339 IAmb IAmb 10 51 00.7
comp=Z,6.0nm,0.7s
RAYN Ar Rayn 84.88 300 P **P** **10 51 12.2 +0.5**
RAYN pmax pmax
comp=Z,8.0nm,0.8s
RAYN Ar Rayn 84.88 300 P **P** **10 51 12.2 +0.5**
RAYN IAmb IAmb 10 51 12.4
comp=Z,7.6nm,0.8s
ESDC Sonseca Array 89.73 345 P **P** **10 51 34.2 -0.6**
comp=Z,1.4nm,0.6s,baz=2,slow=3.5,SNR=6.7
KEST Kesra 90.37 333 P **P** **10 51 38.6 +0.7**
comp=Z,4.1nm,0.6s,baz=44,slow=3.3,SNR=5.7
VNDA Vanda 126.52 178 PKIKP **PKiKP** **10 57 38.0 -0.1**
VNDA Vanda 126.52 178 PKP **PKiKP** **10 57 38.0 -0.1**
comp=Z,0.9nm,0.9s,baz=344,slow=3.1,SNR=3.6
CPUP Villa Florida 145.58 61 PKPbc **PKPdf** **10 58 13.7 -0.6**
comp=Z,1.1nm,0.5s,baz=0.0,slow=3.0,SNR=2.7
PLCA Paso Flores 146.47 93 PKPbc **PKPbc** **10 58 17.6 +0.5**
comp=Z,3.2nm,0.7s,baz=311,slow=3.5,SNR=9.1

*ISCJB **05** 10:57:29.8±0.2,38°.73N±0°.01×122°.80W±0°.03,h10km, Error ellipse: s-maj=3.0km s-min=1.6km az=164.7*
*NCEDC **05** 10:57:29.9,38°.79N×122°.78W,h3km*
*ANF **05** 10:57:31.4±1.5,38°.86N×122°.53W,h5km,ML3.5/18, Error ellipse: s-maj=27.9km s-min=6.7km az=58.0*
*NEIC **05** 10:57:31.1±2.6,38°.75N±0°.02×122°.76W±0°.06,h17km±4km*
ISC 05 10:57:30.5±0.8,**38°.79N**±0°.02×**122°.74W**±0°.02,**h10**km,
n207,σ1$34/216,Northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDXM	**Geysers**	**0.04**	**293**	Pg	**Pg**	**10 57 30.8**	**-1.9**
NSHM	**Saint Helena R**	**0.29**	**159**		**Pg**	**10 57 36.0**	**-0.4**
GWKM	**Walker Ridge**	**0.33**	**37**		**Pb**	**10 57 37.2**	**-1.3**
HOPS	**Hopland Field**	**0.33**	**308**	Pg	**Pg**	**10 57 36.7**	**-0.4**
GBMM	**Baldy Mountain**	**0.40**	**29**		**Pb**	**10 57 39.1**	**-0.7**
NTYM	**Taylor**	**0.41**	**171**		**Pg**	**10 57 38.4**	**-0.1**
FTR	**Fort Ross**	**0.42**	**231**		**Pg**	**10 57 38.4**	**-0.5**
NBPM	**Berryessa Peak**	**0.45**	**106**		**Pb**	**10 57 40.1**	**-0.4**
CVS	**Carmenet Viney**	**0.50**	**153**		**Pg**	**10 57 40.0**	**-0.3**
NAPC	**Atlas Peak**	**0.52**	**132**		**Pb**	**10 57 40.7**	**-1.1**
GTSM	**Trough Springs**	**0.53**	**12**		**Pb**	**10 57 41.3**	**-0.8**
GGUM	**Gualala**	**0.59**	**277**		**Pg**	**10 57 41.5**	**-0.6**
GFC	**Funks Creek**	**0.64**	**33**		**Pn**	**10 57 45.0**	**-0.7**
NDHM	**Dunnigan Hills**	**0.65**	**92**		**Pn**	**10 57 45.0**	**-0.8**
MCCM	**Marconi Confer**	**0.65**	**190**		**Pb**	**10 57 43.2**	**-0.8**
MCCM	**Marconi Confer**	**0.65**	**190**		**Pb**	**10 57 43.4**	**-0.6**
NGVM		**0.66**	**141**		**Pb**	**10 57 43.5**	**-0.5**
GHOM	**Hamilton Openi**	**0.67**	**292**		**Pb**	**10 57 43.1**	**-1.3**
NADM	**Allendale**	**0.69**	**118**		**Pn**	**10 57 45.4**	**-0.9**
GHMM	**Bell Mountain**	**0.72**	**348**		**Pn**	**10 57 45.5**	**-1.4**
NOLM	**Olema**	**0.75**	**183**		**Pb**	**10 57 45.0**	**-0.7**
GCK	**Clark Valley**	**0.79**	**17**		**Pn**	**10 57 47.2**	**-0.5**
GNAM	**Navarro Ridge**	**0.80**	**301**		**Pb**	**10 57 45.9**	**-0.7**
NLHM	**Lake Herman**	**0.82**	**145**		**Pb**	**10 57 46.2**	**-0.6**
NPRM	**Point Reyes**	**0.82**	**195**		**Pb**	**10 57 46.1**	**-0.8**
KRKM	**Rackout Spring**	**0.84**	**336**		**Pn**	**10 57 47.2**	**-1.4**
GASB	**Alder Springs**	**0.86**	**1**		**Pn**	**10 57 48.4**	**-0.6**
HERB	**Hercules**	**0.86**	**154**		**Pb**	**10 57 47.0**	**-0.6**
SUTB	**Sutter Butte**	**0.86**	**59**		**Pb**	**10 57 46.6**	**-1.0**
GTC	**Three Chop Rid**	**0.88**	**314**		**Pb**	**10 57 47.3**	**-0.6**
CPMM	**Point Molate**	**0.88**	**163**		**Pb**	**10 57 47.1**	**-0.8**
CSPM	**San Pablo Ridg**	**0.90**	**158**		**Pb**	**10 57 47.5**	**-0.7**
CPIM	**Pinole Ridge**	**0.90**	**153**		**Pb**	**10 57 47.6**	**-0.6**
RFSB	**Richmond Field**	**0.93**	**160**		**Pn**	**10 57 48.6**	**-1.0**
HMR	**Hamilton Ranch**	**0.97**	**130**		**Pn**	**10 57 50.4**	**+0.2**
GVV	**Valley View**	**0.98**	**3**		**Pn**	**10 57 50.4**	**-0.2**
BRIB	**Briones**	**0.99**	**152**		**Pg**	**10 57 48.6**	**-0.9**
BL88	**Building 88, L**	**0.99**	**157**		**Pn**	**10 57 49.7**	**-0.8**
BRK	**Berkeley--Havi**	**0.99**	**157**		**Pn**	**10 57 49.5**	**-1.0**
VAK	**Adit at Lawren**	**0.99**	**157**		**Pn**	**10 57 49.4**	**-0.4**
BL67	**Building 67, L**	**0.99**	**157**		**Pn**	**10 57 49.6**	**-0.9**
CVPM	**Vollmer Peak**	**0.99**	**156**		**Pg**	**10 57 48.8**	**-0.8**
BKS	**Berkeley--Byer**	**1.00**	**156**		**Pg**	**10 57 48.8**	**-0.9**
KFPM	**Farley Peak**	**1.00**	**328**		**Pb**	**10 57 49.4**	**-0.6**
JPRM	**Presidio of Sa**	**1.02**	**168**		**Pb**	**10 57 49.5**	**-0.8**
CYBM	**Yerba Buena Is**	**1.02**	**163**		**Pg**	**10 57 49.2**	**-1.0**
SMCB	**Saint Mary's C**	**1.07**	**152**		**Pn**	**10 57 50.9**	**-0.8**
J061	**Lakeshore Driv**	**1.07**	**170**		**Pn**	**10 57 51.4**	**-0.2**
J061					**Sg**	**10 58 04.3**	**-0.9**
BDM	**Black Diamond**	**1.08**	**140**		**Pb**	**10 57 49.6**	**-1.7**
CRPB	**Russellman Par**	**1.09**	**143**		**Pb**	**10 57 50.1**	**-1.5**
CMCM	**Mills College**	**1.10**	**156**		**Pb**	**10 57 50.5**	**-1.2**
CRHM	**Round Hill Res**	**1.10**	**147**		**Pn**	**10 57 51.1**	**-0.9**
KCPM	**Cahto Peak**	**1.11**	**324**		**Pn**	**10 57 52.3**	**0.0**
BGC	**Bolinger Road**	**1.11**	**151**		**Pb**	**10 57 50.7**	**-1.2**
FARB	**Farallon Islan**	**1.11**	**197**		**Pn**	**10 57 50.9**	**-0.9**
OHCM	**Honcut**	**1.12**	**61**		**Pn**	**10 57 50.2**	**-1.8**
GROM	**Round Mountain**	**1.13**	**3**		**Pn**	**10 57 52.6**	**+0.1**
JSBM	**San Bruno Moun**	**1.14**	**166**		**Pb**	**10 57 51.0**	**-1.3**
KBNM	**Bluenose Ridge**	**1.16**	**342**		**Pn**	**10 57 53.0**	**+0.1**
PAM	**Palermo**	**1.16**	**55**		**Pb**	**10 57 51.0**	**-1.5**
KIPM	**Iron Peak**	**1.17**	**331**		**Pn**	**10 57 53.0**	**0.0**
JMGM	**Milagra Ridge**	**1.17**	**170**		**Pb**	**10 57 52.1**	**-0.8**
CLCB	**Lake Chabot**	**1.18**	**153**		**Pb**	**10 57 51.5**	**-1.5**
CMOB	**Morgan Territo**	**1.23**	**143**		**Pn**	**10 57 52.3**	**-1.5**
ORV	**Oroville**	**1.23**	**51**		**Pn**	**10 57 52.2**	**-1.6**
ORV	**Oroville**	**1.23**	**51**	Pn	**Pn**	**10 57 52.5**	**-1.4**
SAC	**San Andreas**	**1.23**	**168**		**Pn**	**10 57 52.4**	**-1.5**
JCPM	**Coyote Point**	**1.25**	**164**		**Pb**	**10 57 53.3**	**-0.8**
CDOM	**Doolan Road**	**1.28**	**146**		**Pn**	**10 57 53.3**	**-1.1**
CBSNC	**Byron Hot Spri**	**1.30**	**138**		**Pn**	**10 57 53.5**	**-1.2**
JCHM	**Cahill Ridge**	**1.30**	**167**		**Pn**	**10 57 53.3**	**-1.5**
KBSM	**Bell Springs**	**1.31**	**330**		**Pg**	**10 57 56.3**	**+1.1**
OXMT	**Ox Mountain**	**1.31**	**169**		**Pn**	**10 57 53.2**	**-1.7**
AASM	**Arroyo Seco**	**1.33**	**105**		**Pn**	**10 57 53.3**	**-1.8**
CNIC	**Niles Canyon**	**1.33**	**152**		**Pn**	**10 57 53.9**	**-1.3**
CVLM	**Vallecito**	**1.36**	**148**		**Pn**	**10 57 54.7**	**-0.9**
O02D	**Mt. Diablo Mer** baz=180	**1.39**	**359**	P	**Pg**	**10 57 56.8**	**-0.4**
O02D	**Mt. Diablo Mer**	**1.39**	**359**		**Pg**	**10 57 56.8**	**-0.4**
JHPM	**Huddart Park**	**1.39**	**165**		**Pb**	**10 57 55.9**	**-0.6**
AFDM	**Forest Hills D**	**1.39**	**83**		**Pn**	**10 57 54.5**	**-1.6**
WENL	**Wente Vineyard**	**1.40**	**146**		**Pn**	**10 57 55.5**	**-0.6**
JRSC	**Jasper Ridge**	**1.44**	**164**		**Pn**	**10 57 55.5**	**-1.1**
CMJM	**Mission San Jo**	**1.44**	**151**		**Pn**	**10 57 55.4**	**-1.3**
JSFB	**Stanford Teles**	**1.45**	**162**		**Pn**	**10 57 55.7**	**-1.2**
BGH	**Bear Gulch**	**1.48**	**167**		**Pb**	**10 57 57.7**	**-0.5**
JFT	**Foothills Park**	**1.49**	**163**		**Pn**	**10 57 56.1**	**-1.3**
JJRM	**Joaquin Road**	**1.50**	**163**		**Pn**	**10 57 56.5**	**-1.1**
CALM	**Calaveras Res.**	**1.53**	**151**		**Pn**	**10 57 56.7**	**-1.2**
LBPM	**Beegum Peak**	**1.53**	**356**		**Pg**	**10 57 59.1**	**-0.8**
JBMM	**Black Mountain**	**1.54**	**162**		**Pn**	**10 57 57.9**	**-0.3**
CMLM	**Mount Lewis**	**1.57**	**146**		**Pn**	**10 57 57.2**	**-1.3**
JPC	**Peters Creek,**	**1.57**	**164**		**Pn**	**10 57 57.1**	**-1.4**
JSGM	**Saratoga Golf**	**1.60**	**160**		**Pn**	**10 57 57.4**	**-1.5**
ASMM	**Slate Mountain**	**1.61**	**88**		**Pn**	**10 57 58.3**	**-0.8**
KMRM	**Mail Ridge**	**1.61**	**333**		**Pn**	**10 57 58.9**	**-0.3**
MNHB	**New Hogan Dam**	**1.64**	**112**		**Pn**	**10 57 58.3**	**-1.2**
CMMM	**Mount Mocho**	**1.66**	**143**		**Pn**	**10 57 57.8**	**-2.0**
O03E	**Paynes Creek** baz=207	**1.67**	**26**	P	**Pn**	**10 57 59.0**	**-0.9**
O03E	**Paynes Creek**	**1.67**	**26**		**Pn**	**10 57 59.0**	**-0.9**
MHC	**Mount Hamilton**	**1.69**	**149**		**Pn**	**10 57 59.0**	**-1.2**
JJOM	**Saint Joseph's**	**1.69**	**159**		**Pn**	**10 57 59.1**	**-1.5**
ARN	**Arnold Ranch**	**1.73**	**146**		**Pn**	**10 57 59.9**	**-0.8**
JBNB	**Ben Lomond Mou**	**1.73**	**164**		**Pn**	**10 58 00.3**	**-0.4**
CCOB	**Coe Ranch Numb**	**1.75**	**151**		**Pn**	**10 58 00.5**	**-0.5**
JSTM	**Santa Teresa H**	**1.75**	**154**		**Pn**	**10 57 59.6**	**-1.3**
JUMM	**Mount Umun

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FRP	**Fremont Peak**	**2.26**	**154**		**Pn**	**10 58 06.2**	**-1.9**
SAO	**San Andreas Ge**	**2.27**	**153**		**Pn**	**10 58 06.9**	**-1.2**
SAO	**San Andreas Ge**	**2.27**	**153**		**Pn**	**10 58 07.2**	**-0.9**
BVYM	**Vineyard**	**2.29**	**152**		**Pn**	**10 58 07.0**	**-1.4**
BSLM	**Silva Ranch**	**2.29**	**151**		**Pn**	**10 58 07.1**	**-1.3**
LBCM	**Butte Creek Ri**	**2.31**	**27**		**Pn**	**10 58 09.6**	**+0.8**
MYLM	**Yosemite Lake**	**2.31**	**127**		**Pn**	**10 58 08.2**	**-0.4**
PEAR	**Peavine Mounta**	**2.31**	**68**		**Pn**	**10 58 09.7**	**+0.8**
BSRM	**Salinas Radio**	**2.33**	**155**		**Pn**	**10 58 07.0**	**-1.9**
BCGM	**Cienega Road**	**2.35**	**151**		**Pn**	**10 58 08.0**	**-1.2**
BHRM	**Hodges Ranch**	**2.37**	**150**		**Pn**	**10 58 08.5**	**-0.9**
BPCNC	**Pine Canyon**	**2.38**	**158**		**Pn**	**10 58 08.2**	**-1.5**
BLRM	**Lewis Ranch**	**2.42**	**151**		**Pn**	**10 58 08.7**	**-1.4**
SCZ	**Santa Cruz**	**2.43**	**154**		**Pn**	**10 58 08.4**	**-1.9**
BFC	**Buffalo Canyon**	**2.45**	**87**		**Pn**	**10 58 09.8**	**-0.9**
BEHM	**Elkhorn Ranch**	**2.46**	**149**		**Pn**	**10 58 09.6**	**-1.1**
VCNR	**Virginia City**	**2.46**	**77**		**Pb**	**10 58 12.5**	**-2.5**
PNTR	**Pine Nut**	**2.47**	**82**		**Pb**	**10 58 12.7**	**-2.4**
BRMM	**Rolling Bench**	**2.47**	**142**		**Pn**	**10 58 10.5**	**-0.4**
BJCM	**Johnson Can.**	**2.48**	**154**		**Pn**	**10 58 09.2**	**-1.8**
BEMM	**Emmet**	**2.49**	**148**		**Pn**	**10 58 10.0**	**-1.2**
BAVM	**Antelope Valle**	**2.53**	**147**		**Pn**	**10 58 10.5**	**-1.3**
HAST	**Hastings Reser**	**2.58**	**158**		**Pn**	**10 58 10.7**	**-1.7**
BBGB	**Big Mountain B**	**2.59**	**148**		**Pn**	**10 58 12.1**	**-0.4**
M02C	**Callahan**	**2.60**	**358**	P	**Pn**	**10 58 13.6**	**+0.9**
	baz=179						
WAKR	**Walker**	**2.60**	**95**		**Pb**	**10 58 15.0**	**-2.4**
BPIM	**Pinnacles**	**2.61**	**151**		**Pn**	**10 58 11.2**	**-1.7**
BSMM	**Soledad Missio**	**2.62**	**156**		**Pn**	**10 58 11.8**	**-1.2**
BMSM	**Mercy Hot Spri**	**2.63**	**143**		**Pn**	**10 58 12.1**	**-1.0**
BBNM	**San Benito**	**2.63**	**149**		**Pn**	**10 58 12.3**	**-0.8**
BCWM	**Chews Ridge**	**2.65**	**159**		**Pn**	**10 58 11.8**	**-1.7**
BSGM	**Shirttail Gulc**	**2.65**	**153**		**Pn**	**10 58 11.7**	**-1.7**
YERR	**Yerington**	**2.74**	**85**		**Pn**	**10 58 16.3**	**+1.6**
PAHR	**Pah Rah Range**	**2.76**	**70**		**Pn**	**10 58 15.5**	**+0.5**
KRMB	**Red Mountain**	**2.87**	**342**	Pn	**Pn**	**10 58 18.3**	**+1.8**
YBH	**Yreka Blue Hor**	**2.94**	**0**		**Pb**	**10 58 19.4**	**-3.6**
PMPB	**Monarch Peak**	**3.00**	**148**		**Pn**	**10 58 18.0**	**-0.1**
M04C	**Macdoel**	**3.07**	**13**	Pb	**Pb**	**10 58 23.4**	**-1.9**
	baz=194						
OMMB	**Old Mammoth Mi**	**3.17**	**111**		**Pn**	**10 58 22.6**	**+1.7**
MLAC	**Mammoth, Mammo**	**3.29**	**109**	P	**Pn**	**10 58 24.9**	**+2.6**
	baz=292						
MLAC				Sb	**Sb**	**10 59 10.2**	**+1.0**
	baz=292						
L02E	**Cave Junction**	**3.43**	**349**	P	**Pn**	**10 58 25.3**	**+1.3**
	baz=169						
L04D	**Klamath Falls**	**3.44**	**5**	P	**Pn**	**10 58 26.6**	**+2.2**
	baz=186						
KBO	**Bosley Butte**	**3.60**	**342**	Pn	**Pn**	**10 58 27.1**	**+0.6**
MOD	**Modoc Plateau**	**3.62**	**30**		**Pn**	**10 58 29.1**	**+2.2**
KVN	**Kaiserville**	**3.63**	**84**		**Pn**	**10 58 27.9**	**+0.9**
VOG	**Valley Oaks Go**	**3.63**	**132**	P	**Pn**	**10 58 27.2**	**+0.4**
	baz=314						
VOG				Sb	**Sb**	**10 59 20.8**	**+1.9**
	baz=314						
PAGB	**Antelope Grade**	**3.64**	**146**		**Pn**	**10 58 27.6**	**+0.6**
HUMO	**Hull Mountain**	**3.82**	**358**	Pn	**Pb**	**10 58 34.1**	**-3.9**
K02D	**Willamette Mer**	**3.96**	**350**	P	**Pn**	**10 58 34.5**	**+3.0**
	baz=170						
TIN	**Tinemaha, Big**	**3.97**	**115**	Pb	**Pb**	**10 58 40.1**	**-0.5**
	baz=297						
TIN				Sb	**Sb**	**10 59 31.6**	**+2.9**
	baz=297						
VES	**Vestal, Richgr**	**4.14**	**134**	P	**Pn**	**10 58 33.9**	**0.0**
	baz=316						
VES				Sb	**Sb**	**10 59 37.1**	**+3.4**
	baz=316						
CWC	**Cottonwood Cre**	**4.38**	**121**	Pb	**Pb**	**10 58 47.1**	**-0.6**
	baz=304						
CWC				Sb	**Sb**	**10 59 42.6**	**+1.9**
	baz=304						
J04D	**Umpqua Nationa**	**4.47**	**6**	P	**Pn**	**10 58 40.2**	**+1.7**
	baz=187						
GRAC	**Grapevine Rang**	**4.61**	**111**	Pb	**Pb**	**10 58 50.1**	**-1.5**
	baz=294						
ISA	**Isabella, Lake**	**4.62**	**131**	P	**Pn**	**10 58 41.5**	**+1.1**
	baz=314						
ISA	**Isabella, Lake**	**4.62**	**131**		**Pn**	**10 58 42.3**	**+1.8**
J05D	**Fort Rock, OR**	**4.63**	**14**	P	**Pn**	**10 58 41.3**	**+0.6**
	baz=195						
WVOR	**Wild Horse Val**	**4.80**	**39**	Pn	**Pn**	**10 58 43.5**	**+0.6**
ARVC	**Arvin**	**4.81**	**138**	P	**Pn**	**10 58 43.7**	**+0.7**
	baz=320						
ARVC				Sb	**Sb**	**10 59 55.0**	**+2.1**
	baz=320						
MPMC	**Manual Prospec**	**4.99**	**122**	Pb	**Pb**	**10 58 56.1**	**-2.0**
	baz=305						
MPMC				Sb	**Sb**	**11 00 00.6**	**+2.4**
	baz=305						
FURC	**Furnace Creek,**	**5.21**	**115**	Pb	**Pb**	**10 59 03.1**	**+1.4**
	baz=298						
FURC				Sb	**Sb**	**11 00 07.8**	**+3.5**
	baz=298						
R11A	**Troy Canyon, C**	**5.62**	**92**	Pn	**Pn**	**10 58 54.6**	**+0.2**
ELK	**Elko**	**6.10**	**69**	Pn	**Pn**	**10 59 00.8**	**-0.2**
PSUT	**Pine Spring**	**6.96**	**89**	Pn	**Pn**	**10 59 13.1**	**+0.4**

*THR **05** 11:28:50.1, 29°.04N×58°.06E, h15km, ML3.4*
*TEH **05** 11:28:52.4, 29°.18N×58°.27E, h10km, ML3.5*
*ISCJB **05** 11:28:53.9±0.6, 29°.20N±0°.06×58°.20E±0°.06, h15km, Error ellipse: s-maj=8.4km s-min=6.9km az=145.2*
ISC 05 11:28:52.1±1.0**, 29°.04N**±0°.04×**58°.24E**±0°.04**, h15**km**, n25, σ1s24**/23**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHMN	**Cheshme madani**	**1.02**	**323**	*e*Pg	**Pb**	**11 29 10.6**	**-1.0**
CHMN				IAMB	IAmb	11 29 30.7	
	comp=Z,0.0nm,0.3s						
KHNJ	**Kahnooj**	**1.19**	**203**	*e*Pn	**Pn**	**11 29 15.6**	**+1.4**
NGRK	**Negar Kerman**	**1.45**	**295**	*e*Pg	**Pg**	**11 29 19.6**	**-0.4**
NGRK				IAMB	IAmb	11 29 42.6	
	comp=Z,0.0nm,0.2s						
KRBR	**Kerman**	**1.59**	**306**	*e*Pn	**Pn**	**11 29 18.9**	**-1.1**
KRBR	**Kerman**	**1.59**	**306**	*e*AML	AML	11 29 42.4	
	comp=E,476nm,0.2s						
KRBR	**Kerman**	**1.59**	**306**	*e*Pn	**Pn**	**11 29 18.9**	**-1.1**
TVBK	**TV Kerman**	**1.59**	**306**	*e*Pn	**Pb**	**11 29 21.5**	**+0.1**
TVBK				IAMB	IAmb	11 29 23.0	
	comp=Z,0.0nm,0.2s						
NIAN	**Nian**	**1.93**	**220**	*e*Pn	**Pg**	**11 29 30.1**	**+1.0**
NIAN				IAMB	IAmb	11 30 05.6	
	comp=Z,0.0nm,0.3s						
KHGB	**Koh Gabri**	**2.03**	**311**	*e*Pn	**Pb**	**11 29 28.7**	**-0.1**
KHGB				IAMB	IAmb	11 30 02.0	
	comp=Z,0.0nm,0.5s						
ZHSF	**Zahedan**	**2.29**	**75**	*e*Pn	**Pb**	**11 29 32.1**	**-1.1**
ZHSF	**Zahedan**	**2.29**	**75**	*e*Pn	**Pb**	**11 29 32.1**	**-1.1**
SZD1	**Zahaedan-tmp**	**2.34**	**79**	*e*Pn	**Pb**	**11 29 32.4**	**-1.6**
GENO	**Geno**	**2.45**	**229**	*e*Pn	**Pb**	**11 29 36.8**	**+0.8**
GENO				IAMB	IAmb	11 30 19.5	
	comp=Z,0.0nm,0.5s						
BNDS	**Bandar-Abbas**	**2.45**	**229**	*e*Pn	**Pn**	**11 29 29.7**	**-2.0**
BNDS	**Bandar-Abbas**	**2.45**	**229**	*e*Pn	**Pn**	**11 29 29.7**	**-2.0**
NHDN	**Nehbandan**	**2.82**	**33**	*e*Pn	**Pn**	**11 29 37.2**	**+0.5**
BSRN	**Basiran**	**3.01**	**15**	*e*Pn	**Pn**	**11 29 39.3**	**-0.1**
BSRN	**Basiran**	**3.01**	**15**	*e*AML	AML	11 30 23.2	
	comp=N,128nm,0.3s						
BSRN	**Basiran**	**3.01**	**15**	*e*Pn	**Pn**	**11 29 39.3**	**-0.1**
IKOO	**Kooshah**	**3.43**	**11**	*e*Pn	**Pn**	**11 29 45.8**	**+0.5**
ITEG	**Tejag**	**3.87**	**6**	*e*Pn	**Pn**	**11 29 52.2**	**+1.0**
ITEG				IAMB	IAmb	11 30 54.6	
	comp=Z,937nm,0.3s						
IDAH	**Dahanechah**	**3.94**	**20**	*e*Pn	**Pn**	**11 29 53.8**	**+1.5**
TPRV	**Parvadeh(Tabas**	**4.19**	**342**	*e*Pn	**Pn**	**11 29 57.2**	**+1.7**
IMON	**Monand**	**4.31**	**16**	*e*Pn	**Pn**	**11 29 58.6**	**+1.2**
AFRZ	**Afriz**	**4.42**	**8**	*e*Pn	**Pn**	**11 30 00.3**	**+1.6**

NNC 05 11:36:43.0±4.9**, 37°.42N×71°.86E, h0**km**, mb3.6, mpv3.2, 3C-1D, Error ellipse: s-maj=37.4km s-min=33.8km az=161.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.59**	**20**	P	Pn	11 38 07.9	+0.4
	1.1nm,0.5s						
AAK				S	Sn	11 39 15.3	+2.7
	2.3nm,0.5s						
KK31	**Karatay Array**	**5.77**	**350**	⇑P	Pn	11 38 10.4	+0.5
	0.6nm,0.5s,baz=163,slow=10,SNR=12						
KK31				⇑S	Sn	11 39 17.3	+0.5
	2.9nm,0.5s,baz=155,slow=22,SNR=11						
TKM2	**Tokmak 2**	**6.20**	**26**	⇓P	Pn	11 38 14.9	-0.9
	3.3nm,0.6s						
TKM2				⇑S	Sn	11 39 27.5	-0.1
	4.6nm,1.1s						

*IDC **05** 11:40:56.7±1.6, 6°.27S×149°.22E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.8/31, mbtmp4.0/6, ML3.3/2, MS3.3/2, Ms1 3.4/2, ms1mx2.7/24, Error ellipse: s-maj=75.3km s-min=13.9km az=127.0*
ISC 05 11:41:03.0±1.8**, 6°.6S**±0°.4×**149°.5E**±0°.5**, h53**km**, n9, σ1s48**/10**, mb3.8**/4**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.63**	**219**	Pn	**Pn**	**11 41 57.7**	**+0.9**
	23nm,0.3s,baz=34,slow=5.7,SNR=58						
PMG				Sn	**Sn**	**11 42 38.9**	**+0.4**
	25nm,0.3s,baz=123,slow=22,SNR=10						
WRA	**Warramunga Arr**	**19.81**	**226**	P	**P**	**11 45 28.2**	**-1.2**
	0.4nm,0.3s,baz=51,slow=11,SNR=17						
WRA				S	**Sn**	**11 49 15.7**	**+2.2**
	0.1nm,0.3s,baz=46,slow=18,SNR=9.0						
GUMO	**Guam**	**20.53**	**347**	LR	LR	11 52 08.7	
	comp=Z,29nm,20.2s,baz=202,slow=33						
ASAR	**Alice Springs**	**22.65**	**220**	P	**P**	**11 45 59.8**	**-0.2**
	1.4nm,0.4s,baz=56,slow=9.6,SNR=29						
ASAR				S	**S**	**11 50 02.4**	**-2.0**
	1.4nm,0.8s,baz=33,slow=22,SNR=7.8						
FITZ	**Fitzroy Crossi**	**25.90**	**242**	P	**P**	**11 46 28.7**	**-1.6**
	3.0nm,0.8s,baz=58,slow=7.5,SNR=21						
PETK	**Petropavlovsk-**	**59.85**	**6**	P	**P**	**11 51 04.0**	**+0.9**
	1.7nm,0.7s,baz=166,slow=8.0,SNR=4.5						
ILAR	**Eielson Array**	**85.04**	**23**	P	**P**	**11 53 32.9**	**+0.2**
	0.5nm,0.7s,baz=249,slow=4.7,SNR=7.1						
NVAR	**Mina Array Bea**	**95.78**	**52**	LR	LR	12 29 50.9	
	comp=Z,51nm,20.4s,baz=209,slow=31						
TORD	**Torodi Ar. Bea**	**147.59**	**284**	PKPbc	**PKPbc**	**12 00 41.9**	**-0.7**
	0.3nm,0.3s,baz=97,slow=2.7,SNR=7.3						

GCMT 05 11:42:55.0±0.2**, 56°.43S**±0°.02×**143°.16W**±0°.02**, h18**km±1km**, MW4.9**/97**, Moment Tensor Solution. s36,c44; s97,c135; Duration: 0 Moment tensor: Scale** 10^{16} **Nm;** M_{rr}-0.26±.10; $M_{\theta\theta}$2.35±.12; $M_{\phi\phi}$-2.09±.10; $M_{r\theta}$0.94±.24; $M_{\theta\phi}$1.69±.07; $M_{\phi r}$0.82±.23; **Best double couple:** $M_0$3.03100×10^{16} **NP1:**ϕ_s26.00000°**,** δ86.00000°**,** λ158.00000°. **NP2:**ϕ_s118.00000°**,** δ68.00000°**,** λ5.00000°. **Principal axes:** T 3.3000**,** Plg18.0000°**,** Azm340.0000°**;** N -0.5350**,** Plg68.0000°**,** Azm195.0000°**;** P -2.7610**,** Plg12.0000°**,** Azm74.0000°**; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**33.37**	**349**	*e*LR	LR	11 57 37.3	
	comp=Z,636nm,29.2s,baz=174						
TBI	**Tubuai**	**33.37**	**349**	*e*T	T	12 24 05.6	
	38nm,0.3s						
TVO	**Taravao**	**38.85**	**351**	*e*T	T	12 30 57.4	
	0.8nm,0.3s						
PAE	**Paea**	**39.01**	**350**	*e*T	T	12 31 06.6	
	1.4nm,0.2s						
PPT2	**Papeete2**	**39.08**	**350**	*e*S	S	11 55 40.7	-39
	125nm,26.8s						
PPT2				*e*LR	LR	12 00 15.6	
	comp=Z,700nm,28.5s,baz=190						
PPT2	**Papeete2**	**39.08**	**350**	*e*T	T	12 31 11.6	
	3.6nm,0.3s						
VAH	**Vaihoa**	**41.26**	**353**	*e*T	T	12 33 56.7	
	30nm,0.2s						
PMOR	**Pomariorio Ree**	**41.51**	**353**	*e*T	T	12 34 15.2	
	3.5nm,0.3s						
DZM	**Mont Dzumac**	**50.27**	**292**	*e*LR	LR	12 05 31.4	
	comp=Z,270nm,24.3s						

*ISCJB **05** 12:14:44.0±1.0, 36°.22N±0°.03×31°.90E±0°.03, h4km±7km Error ellipse: s-maj=6.1km s-min=4.3km az=25.3*
*NIC **05** 12:14:46.1±0.0, 36°.29N×32°.04E, h32km±24km, Ml2.8/4*
*ISK **05** 12:14:46.1, 36°.41N×32°.03E, h7km, ML3.3/18*
ISC 05 12:14:43.8±1.3**, 36°.23N**±0°.03×**31°.90E**±0°.03**, h2**km±11km**, n28, σ1s16**/37**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALAN	**Alanya-ANTALYA**	**0.34**	**19**	PG	**Pg**	**12 14 49.5**	**-0.9**
ALAN				SG	**Sg**	**12 14 52.4**	**-2.4**
TEKE	**Tekeli-Mersin**	**0.99**	**95**	PG	**Pb**	**12 15 04.1**	**+0.5**
TEKE				SG	**Sb**	**12 15 17.5**	**+0.4**
ALFC	**Alefka**	**1.22**	**152**	P	**Pg**	**12 15 06.7**	**-0.4**
ALFC				S	**Sg**	**12 15 22.7**	**-0.2**
ALFC				AML	AML	12 15 24.2	
	0.4nm,0.2s						
ALFC				AML	AML	12 15 24.2	
	0.4nm,0.2s						
ALFC				AML	AML	12 15 26.6	
	0.5nm,0.3s						
ALFC				AML	AML	12 15 26.6	
	0.5nm,0.3s						
YORU	**Yoruktepe-Mers**	**1.22**	**93**	PN	**Pg**	**12 15 08.0**	**+0.8**
YORU				SN	**Sb**	**12 15 24.8**	**+0.9**
OREN	**Orenkoy-Mersin**	**1.26**	**91**	PN	**Pn**	**12 15 09.3**	**+0.8**
AKMS	**Akamas**	**1.26**	**164**	P	**Pg**	**12 15 07.8**	**-0.2**
AKMS				S	**Sg**	**12 15 24.4**	**0.0**
AKMS				AML	AML	12 15 32.3	
	0.9nm,0.6s						
AKMS				AML	AML	12 15 32.3	
	0.9nm,0.6s						
AKMS				AML	AML	12 15 32.5	
	0.9nm,0.4s						
AKMS				AML	AML	12 15 32.5	
	0.9nm,0.4s						
TEVE	**Tevekalti-Mers**	**1.26**	**80**	PN	**Pg**	**12 15 07.6**	**-0.4**
TEVE				SN	**Sg**	**12 15 24.6**	**+0.2**
AKK1	**Akkuyu-Mersin**	**1.33**	**93**	PN	**Pn**	**12 15 10.6**	**+1.2**
AKK2	**Akkuyu-Mersin**	**1.34**	**94**	PN	**Pb**	**12 15 10.8**	**+1.2**
AKKU	**Akkuyu-Mersin**	**1.34**	**93**	PN	**Pb**	**12 15 10.8**	**+1.2**
TEPE	**Tepekoy-Mersin**	**1.34**	**90**	PN	**Pb**	**12 15 10.5**	**+0.7**
YESI	**Yesilovacik-Me**	**1.41**	**91**	PN	**Pb**	**12 15 11.7**	**+0.9**
TISA	**Tisan-Mersin**	**1.44**	**92**	PN	**Pb**	**12 15 12.2**	**+0.8**
IKL	**Isikli**	**1.45**	**89**	PN	**Pn**	**12 15 11.3**	**+0.3**
KARG	**Kargicak-Mersi**	**1.46**	**91**	PN	**Pb**	**12 15 12.5**	**+0.7**
KEBE	**Keben-Mersin**	**1.48**	**81**	PN	**Pn**	**12 15 12.2**	**+0.6**
ATHAL	**Athalassa**	**1.64**	**131**	S	**Sn**	**12 15 33.2**	**-2.1**
SILI	**Silifke-Mersin**	**1.64**	**85**	PN	**Pn**	**12 15 14.8**	**+1.1**
SZAC	**Souni**	**1.68**	**151**	P	**Pn**	**12 15 13.9**	**-0.3**
SZAC				AML	AML	12 15 28.0	
	0.3nm,0.4s						
SZAC				AML	AML	12 15 49.5	
	0.3nm,0.6s						
ELL	**Elmali**	**1.68**	**288**	P	**Pn**	**12 15 14.6**	**+0.2**
ELL				S	**Sn**	**12 15 36.6**	**-0.1**
CSS	**Mathiatis**	**1.72**	**137**	PN	**Pg**	**12 15 18.5**	**+1.7**
CSS	**Mathiatis**	**1.72**	**137**	P	**Pn**	**12 15 12.5**	**-2.3**
KONT	**Konya--Tatoy**	**1.75**	**12**	PN	**Pn**	**12 15 14.8**	**-0.4**
MVOU	**Mavrovouni**	**1.86**	**130**	P	**Pn**	**12 15 14.9**	**-1.8**
MVOU				S	**Sn**	**12 15 37.8**	**-3.0**
MVOU				AML	AML	12 15 39.9	
	0.3nm,0.4s						
MVOU				AML	AML	12 15 39.9	
	0.3nm,0.4s						
MVOU				AML	AML	12 15 41.3	
	0.2nm,0.3s						
MVOU				AML	AML	12 15 41.3	
	0.2nm,0.3s						
KSL	**Kastellorizon**	**1.87**	**268**	P	**Pn**	**12 15 17.1**	**+0.2**
KSL				S	**Sn**	**12 15 42.1**	**+1.0**
LADK	**Ladik-KONYA**	**2.00**	**11**	PN	**Pn**	**12 15 18.7**	**0.0**
MERS	**Mersin**	**2.21**	**73**	PN	**Pn**	**12 15 22.2**	**+0.7**
CMRD	**Camardi-Nigde**	**2.86**	**59**	PN	**Pn**	**12 15 31.0**	**+0.4**

*ISCJB **05** 12:30:30.0±0.3, 26°.21N±0°.04×124°.97E±0°.03, h198km±3km, mb3.5/6, Error ellipse: s-maj=7.9km s-min=2.9km az=146.4*
*IDC **05** 12:30:30.5±2.3, 26°.24N×124°.95E, h184km±29km, mb3.4/6, mb1 3.6/9, mb1mx3.2/51, mbtmp3.9/9, MS3.1/2, Ms1 3.1/2, ms1mx2.5/32, Error ellipse: s-maj=32.9km s-min=13.9km az=59.0*
*NEIC **05** 12:30:31.3±1.3, 26°.16N±0°.10×124°.94E±0°.06, h193km±7km, mb4.0/10*
*JMA **05** 12:30:31.2±0.2, 26°.40N×124°.79E, h178km, M3.9*
ISC 05 12:30:31.1±0.7**, 26°.22N**±0°.06×**124°.96E**±0°.04**, h197**km±7km**, n56, σ1s65**/87**, mb3.8**/11**, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**1.31**	**168**	P	**Pn**	**12 31 04.0**	**+1.0**
JIKM				S	**Sn**	**12 31 28.1**	**+0.5**
JIRB	**Irabujima**	**1.40**	**172**	P	**Pn**	**12 31 04.3**	**+0.7**
JIRB				S	**Sn**	**12 31 27.9**	**-1.0**
JOGS	**Gusukube**	**1.51**	**164**	P	**Pn**	**12 31 05.9**	**+1.3**
JOGS				S	**Sn**	**12 31 31.9**	**+1.3**
JMJ2	**Miyako jima3**	**1.51**	**167**	P	**Pn**	**12 31 05.9**	**+1.3**
JMJ2				S	**Sn**	**12 31 31.6**	**+1.0**
JTJ	**Tarama**	**1.59**	**188**	P	**Pn**	**12 31 05.9**	**+0.6**
JTJ				S	**Sn**	**12 31 30.5**	**-1.4**
JKE	**Kume jima 2**	**1.64**	**86**	P	**Pn**	**12 31 06.7**	**+0.9**
JKE				S	**Sn**	**12 31 32.3**	**-0.4**
JISG	**Ishigakijimahi**	**1.73**	**200**	P	**Pn**	**12 31 06.7**	**0.0**
JISG				S	**Sn**	**12 31 32.3**	**-2.0**
JIJ	**Ishigaki jima**	**1.99**	**202**	P	**Pn**	**12 31 08.8**	**-0.5**
JIJ				S	**Sn**	**12 31 35.9**	**-3.1**
JAGN	**Aguni-jima**	**2.08**	**79**	P	**Pn**	**12 31 10.7**	**+0.5**
JAGN				S	**Sn**	**12 31 39.5**	**-1.1**
JKRS	**Kuro-shima**	**2.15**	**204**	P	**Pn**	**12 31 10.7**	**-0.3**
JKRS				S	**Sn**	**12 31 39.5**	**-2.5**
IRIF	**Iriomote-Funau**	**2.18**	**211**	P	**Pn**	**12 31 10.8**	**-0.5**
IRIF				S	**Sn**	**12 31 40.5**	**-2.1**
HATJ	**Hateruma jima**	**2.39**	**206**	P	**Pn**	**12 31 13.2**	**-0.4**
HATJ				S	**Sn**	**12 31 44.5**	**-2.2**
YOJ	**Yonaguni jima**	**2.48**	**226**	P	**Pn**	**12 31 14.4**	**-0.2**
YOJ				S	**Sn**	**12 31 48.4**	**-0.1**
YOJ	**Yonaguni jima**	**2.48**	**226**		**Pn**	**12 31 13.9**	**-0.7**
YOJ				Sn	**Sn**	**12 31 47.7**	**-0.8**
JYNG	**Yonagunijimaku**	**2.53**	**226**	P	**Pn**	**12 31 14.9**	**-0.3**
JYNG				S	**Sn**	**12 31 48.7**	**-0.8**
JJT3	**Tamagusuku3**	**2.54**	**91**	P	**Pn**	**12 31 16.7**	**+1.5**
JJT3				S	**Sn**	**12 31 49.2**	**-0.4**
JNTH	**Nagotoyohara**	**2.76**	**83**	P	**Pn**	**12 31 18.4**	**+0.6**
JNTH				S	**Sn**	**12 31 52.3**	**-1.9**
JIH	**Iheya**	**2.81**	**73**	P	**Pn**	**12 31 18.8**	**+0.5**
JIH				S	**Sn**	**12 31 53.8**	**-1.4**
JOW	**Kunigami**	**3.03**	**78**	P	**Pn**	**12 31 21.3**	**+0.4**
JOW				S	**Sn**	**12 31 57.2**	**-2.7**
JOW	**Kunigami**	**3.03**	**78**	P	**Pn**	**12 31 21.3**	**+0.4**
	9.4nm,0.3s,baz=142,slow=11,SNR=231						
JOW				S	**Sn**	**12 31 57.7**	**-2.2**
	27nm,0.3s,baz=116,slow=14,SNR=26						
JYRO	**Yoronjima**	**3.23**	**75**	P	**Pn**	**12 31 23.4**	**+0.1**
JYRO				S	**Sn**	**12 32 01.2**	**-2.8**
TATO	**Taipei**	**3.37**	**249**		**Pn**	**12 31 25.9**	**+0.9**
JOKE	**Okinoerabujima**	**3.42**	**70**	P	**Pn**	**12 31 25.4**	**-0.3**
JOKE				S	**Sn**	**12 32 06.2**	**-2.2**
YHNB	**Yeheng**	**3.59**	**245**		**Pn**	**12 31 28.7**	**+0.9**
NACB	**Ninganchiao**	**3.67**	**237**		**Pn**	**12 31 27.1**	**-1.6**
JTK	**Tokunoshima**	**3.89**	**65**	P	**Pn**	**12 31 30.8**	**-0.6**
JTK				S	**Sn**	**12 32 16.2**	**-2.5**
JAMN	**Amaminishikomi**	**4.26**	**61**	P	**Pn**	**12 31 35.0**	**-1.0**
JAMN				S	**Sn**	**12 32 23.0**	**-4.0**
YULB	**Yu-li**	**4.36**	**231**		**Pn**	**12 31 35.0**	**-2.3**
YULB				Sn	**Sn**	**12 32 23.6**	**-5.7**
SSLB	**Suanglung**	**4.37**	**237**		**Pn**	**12 31 36.6**	**-0.9**
SSLB					**Sn**	**12 32 28.2**	**-1.3**
JTAJ	**Takarajima**	**4.76**	**51**	P	**Pn**	**12 31 42.3**	**-0.1**
JTAJ				S	**Sn**	**12 32 37.7**	**-0.9**
TPUB	**Ta-pu**	**4.89**	**234**		**Pn**	**12 31 43.1**	**-1.0**
TPUB				Sn	**Sn**	**12 32 40.7**	**-0.9**
TWG	**Pinlang**	**4.90**	**227**		**Pn**	**12 31 41.5**	**-2.6**
TWG				Sn	**Sn**	**12 32 37.5**	**-4.2**
JZK	**Kikaishima**	**4.93**	**64**	P	**Pn**	**12 31 43.9**	**-0.6**
JZK				S	**Sn**	**12 32 39.3**	**-3.0**
JMZ	**Minamidaito 2**	**5.65**	**93**	P	**Pn**	**12 31 53.6**	**-0.2**
JMZ				S	**Sn**	**12 32 55.2**	**-3.8**
JKDJ	**Kitadaitoujima**	**5.71**	**91**	P	**Pn**	**12 31 54.7**	**+0.2**
JKDJ				*e*S	**Sn**	**12 32 56.2**	**-4.1**
JNU	**Nakatsue**	**8.59**	**35**	P	**Pn**	**12 32 33.2**	**+1.1**
	1.4nm,0.3s,baz=261,slow=1.7,SNR=14						
JNU	**Nakatsue**	**8.59**	**35**		**Pn**	**12 32 32.7**	**+0.6**
KSRS	**Korea Array**	**11.48**	**12**	P	**Pn**	**12 33 11.8**	**+2.4**
	0.3nm,0.3s,baz=189,slow=13,SNR=12						
MJAR	**Matsushiro Arr**	**15.28**	**44**	P	**P**	**12 33 57.8**	**+0.5**
	0.1nm,0.3s,baz=348,slow=36,SNR=3.8						
GUMO	**Guam**	**22.50**	**120**	LR	LR	12 42 38.7	
	comp=Z,18nm,20.4s,baz=172,slow=32						
CMAR	**Chiang Mai Arr**	**25.24**	**258**	P	**P**	**12 35 39.6**	**+0.4**
	0.5nm,0.6s,baz=64,slow=6.1,SNR=3.6						
MKAR	**Makanchi Array**	**39.37**	**313**	P	**P**	**12 37 41.7**	**+0.2**
	0.6nm,0.5s,baz=98,slow=10.0,SNR=8.7						
ZALV	**Zalesovo Beam**	**40.51**	**324**	P	**P**	**12 37 50.7**	**0.0**
	1.0nm,0.3s,baz=114,slow=9.6,SNR=3.3						
KNRA	**Kununurra**	**41.81**	**174**	P	**P**	**12 38 02.0**	**+0.4**
KNRA				IAmb	IAmb	12 38 02.3	
	comp=Z,4.1nm,0.8s						
KURBB	**Kurchatov Arra**	**42.85**	**317**	P	**P**	**12 38 09.6**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=109,slow=8.7,SNR=2.8						
COEN	**Coen**	**43.69**	**154**	P	**P**	**12 38 17.1**	**+0.3**
COEN				IAmb	IAmb	12 38 36.4	
	comp=Z,4.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**44.06**	**179**	P	**P**	**12 38 20.1**	**+0.4**
FITZ				IAmb	IAmb	12 38 20.8	
	comp=Z,2.7nm,0.6s						
WB0	**Warramunga Arr**	**46.62**	**168**	P	**P**	**12 38 40.0**	**+0.2**
WRA	**Warramunga Arr**	**46.78**	**168**	P	**P**	**12 38 41.6**	**+0.5**
	comp=Z,1.9nm,0.4s,baz=349,slow=8.7,SNR=52						
WB2	**Warramunga Arr**	**46.78**	**168**	P	**P**	**12 38 42.0**	**+0.9**
WB2				IAmb	IAmb	12 38 42.3	
	comp=Z,2.8nm,0.7s						
WR0	**Warramunga Arr**	**46.84**	**168**	P	**P**	**12 38 42.2**	**+0.8**
AS31	**Alice Springs**	**50.34**	**169**	P	**P**	**12 39 08.4**	**+0.2**
ASAR	**Alice Springs**	**50.34**	**169**	P	**P**	**12 39 09.3**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=352,slow=8.8,SNR=51						
ASAR				PcP	**PcP**	**12 40 23.9**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=352,slow=4.2,SNR=4.8						
ABKAR	**Akbulak array**	**54.51**	**313**	P	**P**	**12 39 38.9**	**+0.4**
KDAK	**Kodiak Island**	**64.27**	**36**	LR	LR	13 10 32.8	
	comp=Z,34nm,18.7s,baz=63,slow=37						
RND	**Reindeer**	**65.21**	**30**	P	**P**	**12 40 51.0**	**-0.2**
RND				IAmb	IAmb	12 40 54.6	
	comp=Z,3.8nm,1.5s						

*NEIC **05** 12:40:11.5±1.2, 56°.95N±0°.04×156°.32W±0°.09, h73km±10km*
AEIC 05 12:40:12.2±1.9**, 56°.92N**±0°.04×**156°.35W**±0°.07**, h66**km±7km**, ML2.8, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLK3	**Peulik 3**	**0.77**	**3**		Pn	12 40 27.1	-0.6
PLK3					Sn	12 40 38.9	-0.2
PLBL	**Peulik Blue Cr**	**0.82**	**342**		Pn	12 40 27.8	-0.5
ANNE	**Aniakchak Nort**	**0.94**	**270**		Pn	12 40 28.4	-1.3
CHIR	**Chirikof Islan**	**1.18**	**159**		Pn	12 40 32.3	-0.4
CHIR					Sn	12 40 47.7	-0.3
KJL	**Kejulik**	**1.21**	**20**		Pn	12 40 32.6	-0.6
SII	**Sitkinak Islan**	**1.25**	**106**		Pn	12 40 34.7	+1.0
SII				Sn	Sn	12 40 49.8	0.0
CAHL	**Cahill**	**1.27**	**26**		Pn	12 40 33.2	-0.8
OHAK	**Old Harbor**	**1.70**	**79**		Pn	12 40 38.7	-0.9
OHAK					Sn	12 40 58.9	-1.6
KDAK	**Kodiak Island**	**2.22**	**66**	P	Pn	12 40 46.0	-0.6
KDAK	**Kodiak Island**	**2.22**	**66**		Pn	12 40 45.8	-0.9
KDAK					Sn	12 41 11.2	-1.7
CNBA	**Chernabura Isl**	**2.79**	**222**	Pn	Pn	12 40 54.4	0.0
SDPT	**Sand Point**	**2.79**	**237**	Pn	Pn	12 40 55.2	+0.7
SDPT				Sn	Sn	12 41 27.2	+0.3
CNPM	**China Poot**	**3.76**	**44**		Pn	12 41 07.0	-0.6
CNPM					Sn	12 41 48.0	-2.6
BRLK	**Bradley Lake**	**4.05**	**43**	Pn	Pn	12 41 10.3	-1.3
BRLK				Sn	Sn	12 41 54.1	-3.6
SVW2	**Sparrevohn**	**4.21**	**5**	Pn	Pn	12 41 13.9	+0.1
SLKM	**Skilak Lake**	**4.81**	**39**		Pn	12 41 21.4	-0.5
SEW	**Seward**	**4.82**	**46**	Pn	Pn	12 41 20.3	-1.8
SUA	**Susitna One**	**5.39**	**30**	Pn	Pn	12 41 29.2	-0.8
SUA				Sn	Sn	12 42 27.7	-3.0
RC01	**Rabbit Creek A**	**5.40**	**37**	Pn	Pn	12 41 29.2	-0.8
KNK	**Knik Glacier**	**6.06**	**39**	Pn	Pn	12 41 39.2	+0.2
KNK				Sn	Sn	12 42 44.0	-3.0
GHO	**Glory Hole Cre**	**6.17**	**35**	Pn	Pn	12 41 40.4	-0.2

HIN	Hinchinbrook I	6.21	52	Pn	Pn	12 41 39.7	-1.4
PPLA	Purkeypile	6.35	18	Pn	Pn	12 41 44.2	+1.2
FID	Port Fidalgo	6.40	49	Pn	Pn	12 41 41.5	-2.2
EYAK	Cordova Ski Ar	6.61	52	Pn	Pn	12 41 45.2	-1.3
SCM	Sheep Creek Mo	6.74	39	Pn	Pn	12 41 46.8	-1.7
SCM				Sn	Sn	12 43 01.3	-2.4
RAGM	Ragged Mountai	7.01	55	Pn	Pn	12 41 50.4	-1.6
KTH	Kantishna Hill	7.18	20	Pn	Pn	12 41 53.7	-0.7
TRF	Thorofare Moun	7.21	22	Pn	Pn	12 41 54.1	-0.8

WEL 05 12:49:45.4±1.2**,36°S**±14°×**17°8E**±1°4**,h199**km±21km**, M3.3**/10**,ML3.5**/8**,MLv3.3**/10**,Error ellipse: s-maj=0.0km s-min=0.0km az=124.7,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HAZ	Te Kaha	2.07	191	P	Pn	12 50 24.8	+0.3
HAZ				S	Sn	12 50 55.2	0.0
WMGZ	Waiomatatini S	2.10	177	P	Pn	12 50 25.3	+0.5
WMGZ				S	Sn	12 50 56.6	+0.8
PKGZ	Pakihiroa	2.17	184	P	Pn	12 50 26.2	+0.5
PKGZ				S	Sn	12 50 56.2	-1.0
RUGZ	Raukumara Rang	2.29	192	P	Pn	12 50 27.1	+0.1
KUZ	Kuaotunu	2.30	243	P	Pn	12 50 26.9	-0.1
PUZ	Puketiti	2.35	180	P	Pn	12 50 27.8	+0.3
PUZ				S	Sn	12 51 00.4	-0.2
MWZ	Matawai	2.68	193	P	Pn	12 50 31.5	+0.2
MWZ				S	Sn	12 51 07.1	-0.1
URZ	Urewera	2.70	200	P	Pn	12 50 31.5	0.0
URZ				S	Sn	12 51 08.6	+1.0
TKGZ	Te Karaka	2.74	187	P	Pn	12 50 31.9	0.0
TKGZ				S	Sn	12 51 08.5	+0.1
CNGZ	Carnagh Statio	2.76	181	P	Pn	12 50 31.3	-0.8
MUGZ	Murupara	3.01	203	P	Pn	12 50 34.4	-0.6
RIGZ	Rimuhau	3.01	188	P	Pn	12 50 34.7	-0.4
RIGZ				S	Sn	12 51 14.0	-0.1
RTZ	Ruatahuna	3.07	199	P	Pn	12 50 35.4	-0.5
RTZ				S	Sn	12 51 15.7	+0.2
SNGZ	Shannon Statio	3.15	193	P	Pn	12 50 37.1	+0.4
SNGZ				S	Sn	12 51 18.1	+1.0
RAHZ	Arahi	3.33	196	P	Pn	12 50 38.9	0.0
RAHZ				S	Sn	12 51 21.7	+0.7
KNZ	Kokohu	3.33	188	P	Pn	12 50 36.4	-2.5
KNZ				S	Sn	12 51 21.0	0.0
MHGZ	Mahia Peninsul	3.44	185	P	Pn	12 50 40.0	-0.2
WHHZ	Waihua	3.46	194	P	Pn	12 50 40.4	0.0
WHHZ				S	Sn	12 51 24.2	+0.6
NMHZ	Naumai	3.57	199	P	Pn	12 50 42.1	+0.2
NMHZ				S	Sn	12 51 27.6	+1.3
ARHZ	Aropaoanui	3.68	196	P	Pn	12 50 42.7	-0.5
ARHZ				S	Sn	12 51 29.0	+0.3
BKZ	Black Stump Fm	3.72	202	P	Pn	12 50 42.7	-1.0
MCHZ	McNeill Hill	3.93	198	P	Pn	12 50 45.7	-0.4
MCHZ				S	Sn	12 51 33.5	-0.6
KWHZ	Kaweka Forest	3.98	201	P	Pn	12 50 46.5	-0.4
BHHZ	Black Hill Sta	4.16	204	P	Pn	12 50 48.1	-0.9
KRHZ	Kereru	4.20	200	P	Pn	12 50 48.4	-1.2
KAHZ	Kahuranaki	4.22	195	P	Pn	12 50 49.4	-0.5
PXZ	Pawanui	4.45	194	P	Pn	12 50 51.1	-1.6
PNHZ	Pukenui	4.50	201	P	Pn	12 50 51.8	-1.5
TSZ	Takapari Road	4.70	202	P	Pn	12 50 54.3	-1.7
PRHZ	Porangahau	4.72	195	P	Pn	12 50 54.3	-1.8
BFZ	Birch Farm	5.21	197	P	Pn	12 50 60.0	-2.4
MRZ	Mangatainoka R	5.37	202	P	Pn	12 51 01.9	-2.5
TIWZ	Tintock	5.39	200	P	Pn	12 51 02.5	-2.3
HOWZ	Holdsworth Sta	5.61	202	P	Pn	12 51 04.2	-3.3
CAW	Cannon Point	5.94	204	P	Pn	12 51 08.5	-3.3
PLWZ	Palliser	6.30	201	P	Pn	12 51 12.9	-3.6
TCW	Tory Channel	6.32	209	P	Pn	12 51 13.6	-3.1
TUWZ	Tuamarina	6.63	209	P	Pn	12 51 17.6	-3.2

NEIC ***05*** *13:06:35.5±1.6,19°33N±0°08×64°88W±0°05,h39km±50km*

RSPR 05 13:06:36.7,19°28N×**64°92W,h12**km±12km**,MD2.7**/3**,4C, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABVI	Anegada Island	0.78	134	Pg	Pg	13 06 50.5	-1.4
STVI	Saint Thomas	0.93	182	⇑eP	Pg	13 06 52.3	-2.2
STVI	Saint Thomas	0.93	182	⇑eP	Pg	13 06 52.3	-2.2
STVI				eS	Sg	13 07 04.7	-1.9
STVI	Saint Thomas	0.93	182		Pg	13 06 52.3	-2.2
STVI					Sg	13 07 04.7	-1.9
VGBI	Virgin Gorda,	0.93	148	⇑eP	Pg	13 06 52.0	-2.6
VGBI	Virgin Gorda,	0.93	148	eS	Sg	13 07 04.7	-2.0
VGBI	Virgin Gorda,	0.93	148		Pg	13 06 52.0	-2.6
VGBI					Sg	13 07 04.7	-2.0
CUPR	Culebra, Puert	1.03	199	⇑eP	Pb	13 06 54.1	-2.3
CUPR	Culebra, Puert	1.03	199	eS	Sb	13 07 06.8	-3.1
CUPR	Culebra, Puert	1.03	199		Pb	13 06 54.1	-2.3
CUPR					Sb	13 07 06.8	-3.1
MTP	Monte Pirata	1.32	207	Pn	Pn	13 06 58.8	-2.2
CBYP	Canovanas	1.34	222	Pn	Pn	13 06 58.6	-2.7
HUMP	Col San Antoni	1.43	218	Pn	Pn	13 07 01.3	-1.3
HUMP				Sn	Sn	13 07 20.0	-1.3
EMPR	Esperanza - Ma	1.72	243	Pn	Pn	13 06 59.2	-7.2
MLPR	Magueyes Islan	2.40	237	Pn	Pn	13 07 15.4	-0.4
CRPR	Cabo Rojo, PR	2.43	239	Pn	Pn	13 07 14.2	-2.1
SDDR	Presa de Saban	6.03	268	Pn	Pn	13 08 02.3	-3.5

PAS ***05*** *13:21:47±1.6,34°00N±0°01×118°19W±0°01,h14km±2km, ML2.2*

NEIC 05 13:21:47.4±1.4**,34°02N**±0°01×**118°17W**±0°03**,h19**km±1km**, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GVRC	Garvey Reservo	0.05	52		Sg	13 21 53.7	+0.6
GVRC	Garvey Reservo	0.05	52		Pg	13 21 50.9	+0.1
USC	University of	0.10	270		Pg	13 21 50.9	-0.3
USC					Sg	13 21 53.7	0.0
WTT2	Watts, South G	0.10	226		Pg	13 21 51.2	0.0
WTT2					Sg	13 21 54.3	+0.6
GSA	Caltech--GSA	0.12	15		Pg	13 21 51.1	-0.4
GSA					Sg	13 21 54.2	0.0
CACC	Caltech Cellar	0.12	18		Pg	13 21 51.2	-0.2
CACC					Sg	13 21 54.2	0.0
CBCC	Caltech Broad	0.12	15		Pg	13 21 51.3	-0.2
CBCC					Sg	13 21 54.2	0.0
GR2C	Griffith Obs.	0.15	312		Sg	13 21 53.7	-1.0
GR2C	Griffith Obs.	0.15	312		Pg	13 21 51.1	-0.6
PASC	Pasadena Art C	0.15	354	Pg	Pg	13 21 51.4	-0.4
PASC					Sg	13 21 54.4	-0.4
BHPC	Baldwin Hills	0.16	260		Pg	13 21 51.8	-0.1
MWC	Mount Wilson	0.22	24	Pg	Pg	13 21 52.9	-0.1
HLLC	North Hollywoo	0.22	314		Pb	13 21 52.3	-0.2
HLLC					Sb	13 21 56.1	+0.2
DJJ	Donna J Jenkin	0.25	290		Pb	13 21 52.4	-0.9
DJJ					Sb	13 21 56.1	-1.1
DECC	Green Verdugo	0.27	329		Sg	13 21 57.5	-0.3
PSRC	Puddingstone R	0.31	76		Pb	13 21 54.4	0.0
PSRC					Sb	13 21 59.3	+0.3
FMP	Fort Macarthur	0.32	199		Pg	13 21 53.9	-0.5
FMP					Sg	13 21 58.4	-0.7
CHFC	Chilao Flat St	0.33	20		Sg	13 21 59.6	-0.1
IR2C	Iron Canyon	0.41	332		Pg	13 21 55.6	-0.5
SSK	Sunset Peak	0.44	64		Pg	13 21 56.5	-0.1
BFSC	Mount Baldy Ra	0.47	62		Pg	13 21 56.9	-0.2
BFSC					Sg	13 22 03.7	0.0
HOLC	Holcomb Ridge	0.51	31		Pg	13 21 57.7	-0.2
LRRC	Littlerock Res	0.52	13		Pg	13 21 57.8	-0.1
SS2	San Sevaine	0.58	71		Pg	13 21 59.0	0.0
LEOC	Leona Valley	0.62	350		Pb	13 21 59.2	-0.5
CIAC	Catalina I. Ai	0.65	199		Pb	13 21 59.8	-0.3
CIAC					Sb	13 22 08.5	-0.3
RVR	Riverside	0.66	92		Pg	13 22 00.6	+0.2
RVR					Sg	13 22 09.4	+0.1
SME	Santa Rosa Min	0.70	106		Pb	13 22 00.7	-0.4
PYR	Pyramid	0.72	319		Pg	13 22 02.2	+0.5
SBB	Saddle Back Bu	0.72	23		Pb	13 22 01.2	-0.3
CSP	Cedar Springs	0.73	67		Pb	13 22 01.4	-0.2
BTPC	Burnt Peak	0.74	333		Pb	13 22 01.3	-0.6
PEC	Perris	0.85	98		Pb	13 22 03.3	-0.2
EDW2	Edwards Air Fo	0.87	9		Pb	13 22 04.0	-0.1
MURC	Murrieta	0.91	117		Sb	13 22 16.5	+0.1
THC	Tehachapi Micr	0.98	335		Pb	13 22 05.5	-0.4
BACC	Bachelor Mtn.	1.02	113		Pb	13 22 06.3	-0.3
DGR	Domenigoni Val	1.03	111		Pb	13 22 06.1	-0.6
DGR					Sb	13 22 20.1	+0.1
RYS	Reyes Peak	1.16	303		Pb	13 22 09.2	+0.1
GORC	Green Oak Ranc	1.17	138		Pn	13 22 07.8	-0.9
GORC					Sb	13 22 23.5	-0.2
DTP	Desert Tortois	1.27	12		Pb	13 22 10.8	-0.1
BZNA	Buzz No.'s Pla	1.36	112		Pb	13 22 12.4	+0.1
SNCC	San Nicolas Is	1.37	236	Pn	Pn	13 22 11.9	+0.4
SNCC				Sn	Sn	13 22 28.3	-0.9
BCW	Bitter Crk WRg	1.38	312		Pb	13 22 12.9	+0.1
ISA	Isabella, Lake	1.66	351	Pn	Pn	13 22 16.2	+0.6
ISA				Sn	Sb	13 22 38.1	+0.1
GSC	Goldstone, Bar	1.70	41		Pb	13 22 19.1	+0.9
GSC				Sn	Sn	13 22 38.4	+0.8

IDC ***05*** *13:31:59.3±2.1,29°00S×176°39W,h0km,mb4.0/3, mb1 4.2/6,mb1mx3.9/22,mbtmp4.2/6,ML3.6/3,MS3.4/7, Ms1 3.3/7,ms1mx3.1/29,Error ellipse: s-maj=43.8km s-min=33.2km az=165.0*

ISCJB ***05*** *13:32:04.3±0.8,29°25S±0°06×176°7W±0°1,h36km, mb4.0/3,MS3.3/8,Error ellipse: s-maj=12.8km s-min=8.7km az=14.8*

NEIC ***05*** *13:32:09.8±2.0,29°2S±0°1×176°79W±0°08,h73km±9km, mb4.3/12*

ISC 05 13:32:05.3±1.0**,29°16S**±0°09×**176°55W**±0°10**,h36**km**,n28,** σ**1**s**61**/23**,mb4.2**/8**,MS3.3**/8**,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.20	265	Pn	Pn	13 32 27.4	+1.8
	340nm,0.3s,baz=88,slow=14,SNR=13						
RAO				Sn	Sn	13 32 44.7	+4.1
	764nm,0.3s,baz=102,slow=23,SNR=11						
RAO				LR	LR	13 33 06.9	
	comp=Z,812nm,19.9s,baz=78,slow=50						
RAO	Raoul Island	1.20	265		Pn	13 32 27.6	+2.0
URZ	Urewera	10.50	209	Pn	Pn	13 34 32.4	-0.8
	0.3nm,0.3s,baz=124,slow=11,SNR=3.2						
URZ				Sn	Sn	13 36 30.0	+0.4
	1.3nm,0.3s,baz=214,slow=19,SNR=6.7						
AFI	Afiamalu	15.80	17	P	P	13 35 49.4	+0.7
AFI				IAmb	IAmb	13 36 06.4	
	comp=Z,50nm,1.1s						
DZM	Mont Dzumac	16.88	291	eLR	LR	13 39 58.7	
	comp=Z,229nm,23.5s						
DZM	Mont Dzumac	16.88	291	Pn	P	13 35 59.8	-0.8
	comp=Z,0.1nm,0.3s,baz=84,slow=18,SNR=2.7						
DZM				Sn	Sn	13 39 02.7	-2.7
	comp=Z,0.2nm,0.3s,baz=110,slow=19,SNR=4.2						
DZM				LR	LR	13 41 11.3	
	comp=Z,215nm,18.5s,baz=66,slow=33						
RPZ	Rata Peaks	17.59	211	P	P	13 36 08.8	+0.5
	comp=Z,0.5nm,0.3s,baz=240,slow=8.1,SNR=4.2						
TBI	Tubuai	24.94	83	eLR	LR	13 43 41.0	
	comp=Z,219nm,27.8s						
TBI	Tubuai	24.94	83	eT	T	14 02 56.7	
	comp=Z,2.4nm,0.3s						
PAE	Paea	27.19	71	eT	T	14 05 26.2	
	comp=Z,1.3nm,0.3s						
PPT2	Papeete2	27.23	71	eLR	LR	13 44 30.0	
	comp=Z,103nm,25.8s						
PPT	Papeete	27.24	71	LR	LR	13 48 11.3	
	comp=Z,47nm,18.4s,baz=276,slow=36						
EIDS	Eidsvold	28.97	270	P	P	13 37 58.9	-2.7
EIDS				IAmb	IAmb	13 38 04.3	
	comp=Z,16nm,1.4s						
HNR	Honiara	29.51	307	LR	LR	13 48 03.3	
	comp=Z,30nm,20.4s,baz=156,slow=33						
STKA	Stephens Creek	36.01	255	P	P	13 39 02.9	-0.1
	comp=Z,2.1nm,0.7s,baz=85,slow=16,SNR=4.3						
STKA				LR	LR	13 52 03.9	
	comp=Z,60nm,20.3s,baz=30,slow=33						
XMAS	Kiritimati	36.02	34	P	P	13 39 05.0	+1.8
COEN	Coen	40.18	283	P	P	13 39 37.2	-1.1
COEN				IAmb	IAmb	13 39 49.7	
	comp=Z,8.3nm,1.3s						
AS31	Alice Springs	44.46	265	P	P	13 40 12.7	-0.4
ASAR	Alice Springs	44.46	265	P	P	13 40 12.5	-0.7
	comp=Z,1.4nm,0.6s,baz=96,slow=7.0,SNR=37						
ASAR				PcP	PP	13 41 57.7	+0.5
	comp=Z,0.3nm,0.6s,baz=112,slow=4.5,SNR=4.0						
WR0	Warramunga Arr	45.16	270	P	P	13 40 18.9	+0.2
WR0				IAmb	IAmb	13 40 21.1	
	comp=Z,6.1nm,1.3s						
WB2	Warramunga Arr	45.33	270	P	P	13 40 18.5	-1.6
WB2				IAmb	IAmb	13 40 24.6	
	comp=Z,3.8nm,1.0s						
WRA	Warramunga Arr	45.34	270	P	P	13 40 19.5	-0.6
	comp=Z,1.6nm,0.8s,baz=109,slow=7.7,SNR=8.5						
WRA				PcP	PcP	13 42 00.3	+0.9
	comp=Z,1.2nm,1.0s,baz=116,slow=3.5,SNR=5.5						
WB0	Warramunga Arr	45.35	270	P	P	13 40 19.4	-0.9
WB0				IAmb	IAmb	13 40 26.0	
	comp=Z,2.4nm,0.8s						
FORT	Forrest	47.60	254	P	P	13 40 37.0	-0.7
JAY	Jayapura	48.49	295	LR	LR	13 59 04.3	
	comp=Z,50nm,18.6s,baz=271,slow=34						
KNRA	Kununurra	51.89	273	P	P	13 41 09.6	-0.9
FITZ	Fitzroy Crossi	53.64	268	LR	LR	14 03 44.8	
	comp=Z,40nm,18.5s,baz=143,slow=35						
SIJI	Sorong	57.08	290	LR	LR	14 04 38.9	
	comp=Z,24nm,20.4s,baz=102,slow=34						

IDC ***05*** *13:45:06.7±2.6,19°76S×177°92W,h369km±27km, mb3.6/10,mb1 3.9/11,mb1mx3.5/32,mbtmp4.3/11,Error ellipse: s-maj=25.2km s-min=13.7km az=146.0*

ISCJB ***05*** *13:45:07.8±0.4,19°73S±0°08×177°92W±0°07,h400km, mb3.8/10,Error ellipse: s-maj=11.8km s-min=7.4km az=148.6*

NEIC ***05*** *13:45:08.4±2.7,19°8S±0°1×177°7W±0°1,h406km±8km, mb4.4/23*

ISC 05 13:45:08.7±0.5**,19°67S**±0°10×**177°75W**±0°08**,h400**km**, n41,**σ**1**s**77**/41**,mb4.2**/22**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.42	295		Pn	13 46 30.5	+5.4
NIUE	Niue	7.41	87		P	13 46 59.0	+1.4
AFI	Afiamalu	8.10	46	P	Pn	13 47 04.2	-0.8
	7.0nm,0.3s,baz=13,slow=1.3,SNR=9.2						
AFI				S	S	13 48 34.0	-6.2
	6.1nm,0.3s,baz=66,slow=20,SNR=5.0						
FUNA	Funafuti	11.47	345	P	P	13 47 43.2	+0.5
DZM	Mont Dzumac	14.96	258	P	P	13 48 24.2	+3.2
DZM				IAmb	IAmb	13 48 25.4	
	comp=Z,21nm,0.9s						
KNTN	Kanton	17.80	20	P	P	13 48 52.6	+1.4
BFZ	Birch Farm	21.56	192	P	P	13 49 26.0	-1.3
EIDS	Eidsvold	29.30	253	P	P	13 50 35.8	-0.7
EIDS				IAmb	IAmb	13 50 41.2	
	comp=Z,18nm,1.4s						
ARMA	Armidale	29.64	243	P	P	13 50 40.1	+0.5
CAN	Canberra	33.17	235	P	P	13 51 10.1	+0.2
CAN				IAmb	IAmb	13 51 10.2	
	comp=Z,21nm,1.1s						
PMG	Port Moresby	35.40	282	P	P	13 51 29.7	+0.7
PMG				IAmb	IAmb	13 51 38.9	
	comp=Z,39nm,1.4s						
TOO	Toolangi	36.58	233	P	P	13 51 37.9	-0.8
TOO				IAmb	IAmb	13 51 39.1	
	comp=Z,27nm,1.0s						
COEN	Coen	37.77	272	P	P	13 51 48.6	-0.2
COEN				IAmb	IAmb	13 51 49.7	
	comp=Z,13nm,1.1s						
STKA	Stephens Creek	38.36	243	P	P	13 51 53.2	-0.3
	comp=Z,8.2nm,0.8s,baz=88,slow=10,SNR=10						
STKA	Stephens Creek	38.36	243	P	P	13 51 52.8	-0.7
BBOO	Buckleboo	43.13	243	P	P	13 52 31.0	-0.9
BBOO				IAmb	IAmb	13 52 31.8	
	comp=Z,20nm,0.8s						
WR0	Warramunga Arr	44.76	261	P	P	13 52 43.5	-1.3
WB0	Warramunga Arr	44.93	261	P	P	13 52 44.9	-1.2
WB0				IAmb	IAmb	13 52 45.7	
	comp=Z,11nm,0.7s						
AS31	Alice Springs	44.94	256	P	P	13 52 45.7	-0.6
ASAR	Alice Springs	44.94	256	P	P	13 52 45.5	-0.8
	comp=Z,22nm,0.7s,baz=93,slow=8.3,SNR=481						
ASAR				S	S	13 58 50.5	-3.6
	comp=Z,0.7nm,0.8s,baz=92,slow=15,SNR=6.6						
WB2	Warramunga Arr	44.94	261	P	P	13 52 44.8	-1.5
WB2				IAmb	IAmb	13 52 45.8	
	comp=Z,15nm,1.1s						
WRAB	Tennant Creek	44.94	261	P	P	13 52 45.4	-0.9
WRAB				IAmb	IAmb	13 52 45.8	
	comp=Z,17nm,1.2s						
WRA	Warramunga Arr	44.95	261	P	P	13 52 44.3	-2.0
	comp=Z,2.9nm,0.3s,baz=97,slow=7.2,SNR=82						
KHLH	Kahului Airpor	45.40	29	P	P	13 52 47.7	-2.0
MTN	Manton Dam	49.39	270	P	P	13 53 18.7	-1.5
MTN				IAmb	IAmb	13 53 20.1	
	comp=Z,16nm,0.9s						
FORT	Forrest	49.84	246	P	P	13 53 22.0	-1.3
KNRA	Kununurra	50.95	265	P	P	13 53 31.3	-0.4
KNRA				IAmb	IAmb	13 53 31.8	
	comp=Z,21nm,0.7s						
FAKI	Fak Fak	51.55	282	P	P	13 53 35.1	-1.0
FAKI				IAmb	IAmb	13 53 36.6	
	comp=Z,20nm,1.3s						
FITZ	Fitzroy Crossi	53.37	262	P	P	13 53 49.0	-0.3
QSPA	South Pole Qui	70.39	180	P	P	13 55 40.7	+0.1
	comp=Z,1.7nm,0.7s,baz=36,slow=1.5,SNR=12						
QSPA	South Pole Qui	70.39	180	IAmb	IAmb	13 55 41.7	
	comp=Z,2.7nm,0.8s						
PETK	Petropavlovsk-	75.53	345	P	P	13 56 12.3	+2.0
	comp=Z,2.8nm,0.7s,baz=118,slow=5.7,SNR=4.6						
NVAR	Mina Array Bea	80.27	43	P	P	13 56 38.9	+2.2
	comp=Z,0.3nm,0.7s,baz=212,slow=8.5,SNR=3.6						
TXAR	Lajitas Array	86.42	57	P	P	13 57 10.7	+3.0
	comp=Z,1.1nm,0.6s,baz=222,slow=6.4,SNR=15						
ILAR	Eielson Array	87.46	13	P	P	13 57 11.5	-0.2
	comp=Z,0.3nm,0.7s,baz=226,slow=3.9,SNR=3.5						
PDAR	Pinedale Array	88.20	43	P	P	13 57 17.7	+1.7
	comp=Z,0.7nm,0.8s,baz=180,slow=3.0,SNR=6.9						
VNA3	Neumayer Olymp	88.95	176	P	P	13 57 17.6	-1.2
VNA2	Neumayer--Watz	89.39	177	P	P	13 57 19.9	-0.9
	baz=176,slow=3.5						
VNA1	Neumayer--Stat	89.62	177	P	P	13 57 20.8	-1.0
CMAR	Chiang Mai Arr	90.06	289	P	P	13 57 26.5	+1.6
	comp=Z,0.7nm,0.3s,baz=123,slow=2.8,SNR=7.9						
BRTR	Keskin Array B	146.45	313	PKPbc	PKPdf	14 04 02.4	+0.4
	comp=Z,0.8nm,0.8s,baz=101,slow=3.1,SNR=3.4						

EAF ***05*** *13:52:14.1±1.7,25°88S×27°97E,h10km,MD3.6*

BUL ***05*** *13:52:15.6±1.7,25°88S×27°96E,h10km,MD3.8*

ISC 05 13:52:13.1±1.4**,25°77S**±0°08×**27°8E**±0°1**,h9**km**,n8,** σ**2**s**10**/14**,2D,South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LBTB	Lobatse	2.13	290	iP	Pb	13 52 52.8	+0.8
LBTB	Lobatse	2.13	290	iP	Pb	13 52 52.8	+0.8
BOSA	Boshof	3.63	218	iP	Pn	13 53 11.4	+1.7
BOSA				⇓iS	Sn	13 53 49.7	-3.1
BOSA	Boshof	3.63	218	iP	Pn	13 53 11.4	+1.7
BOSA				⇓iS	Sn	13 53 49.7	-3.1
MSNA	Messina	3.96	31	iP	Pn	13 53 15.3	+1.2
MSNA				iS	Sn	13 53 59.4	-1.4
MSNA	Messina	3.96	31	iP	Pn	13 53 15.3	+1.2
MSNA				iS	Sn	13 53 59.4	-1.4
MATP	Matopo	5.35	7	iP	Pn	13 53 34.5	+1.1
MATP				iS	Sn	13 54 32.7	-2.6
MATP	Matopo	5.35	7	iP	Pn	13 53 34.5	+1.1
MATP				iS	Sn	13 54 32.7	-2.6

KRNET ***05*** *14:35:53.4±0.1,39°40N×73°01E,mb3.2*

SOME ***05*** *14:35:57.6,39°67N×72°78E,h10km*

NNC ***05*** *14:36:00.3±3.1,39°82N×72°78E,h0km±14km,mb3.6, mpv3.2,Error ellipse: s-maj=22.0km s-min=10.6km az=178.0*

ISC 05 14:35:54.9±1.6**,39°49N**±0°08×**73°08E**±0°04**,h10**km**,n29,** σ**2**s**11**/49**,22C-7D,Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARSB	Arslanbob	1.83	358	⇓eP	Pg	14 36 29.5	-0.5
	baz=59						
ARSB				⇓eS	Sg	14 36 55.2	+1.4
	baz=59						
BTK	Batken	1.83	289	⇑iP	Pb	14 36 27.3	-1.3
	baz=92						
BTK				⇑iS	Sg	14 36 52.1	-1.7
	baz=92						
ARK	Arkit	2.45	340	⇑iP	Pb	14 36 37.6	-1.6
	baz=42						
ARK				⇑iS	Sb	14 37 10.2	+0.6
	baz=42						
ARLS	Aral	2.55	21	⇑iP	Pb	14 36 39.8	-1.0
	baz=22						
ARLS				⇑iS	Sb	14 37 14.2	+1.9
	baz=22						
AML	Almayashu	2.68	10	⇓iP	Pb	14 36 41.6	-1.6
	baz=11						
AML				⇓iS	Sb	14 37 16.5	+0.3
	baz=11						
UCH	Uchtor	2.94	21	⇑iP	Pb	14 36 45.5	-2.2
	baz=22						
UCH				⇑iS	Sb	14 37 23.3	-0.6
	baz=22						
NRN	Naryn	2.95	48	⇑eP	Pn	14 36 44.9	+2.7
	baz=47						
NRN				⇑iS	Sb	14 37 22.6	-1.5
	baz=47						
KZA	Kyzart	3.06	32	⇑eP	Pb	14 36 47.0	-2.8
	baz=32						
KZA				⇑iS	Sb	14 37 26.1	-1.3
	baz=32						
EKS2	Erkin-Say	3.21	9	⇓eP	Pb	14 36 48.7	-3.4
	baz=10.0						
EKS2				⇓iS	Sb	14 37 29.3	-2.0
	baz=10.0						
MRKS	Merke	3.25	2	eP	Pg	14 36 55.4	-1.8
	10.0nm,0.4s						
MRKS				eS	Sb	14 37 35.7	+3.3
	9.2nm,0.3s						
MRKS	Merke	3.25	2	Pg	Pg	14 36 55.4	-1.8
	5.7nm,0.3s						
MRKS				Lg	Lg	14 37 35.7	
	9.3nm,0.3s						
AAK	Ala-Archa	3.32	18	⇑iP	Pb	14 36 50.5	-3.5
	baz=19						
AAK				⇑iS	Sb	14 37 32.0	-2.5
	baz=19						
AAK	Ala-Archa	3.32	18	⇑Pn	Pn	14 36 49.4	+2.4
	3.1nm,0.3s						
AAK				Lg	Lg	14 37 37.7	
	10.0nm,0.6s						
IUG	Iuzhnay	3.52	320	eP	Pb	14 36 56.0	-1.4
	1.6nm,0.2s						
IUG				eS	Sb	14 37 36.9	-3.3
	33nm,0.4s						
IUG	Iuzhnay	3.52	320	Pg	Pb	14 36 56.0	-1.4
	1.6nm,0.2s						
IUG				Lg	Lg	14 37 36.9	
	21nm,0.5s						
TKM2	Tokmak 2	3.92	28	⇑eP	Pn	14 36 59.1	+3.8
	baz=28						
TKM2				⇑iS	Sn	14 37 46.6	+5.2
	baz=28						
TKM2	Tokmak 2	3.92	28	⇑Pn	Pn	14 36 59.1	+3.8
	5.1nm,1.0s						
TKM2				⇑Lg	Lg	14 37 59.5	
	8.6nm,0.8s						
KK31	Karatay Array	4.09	333	⇑Pn	Pn	14 37 01.1	+3.5
	0.9nm,0.3s,baz=138,slow=12,SNR=21						
KK31				⇑Lg	Lg	14 37 56.9	
	4.5nm,0.4s,baz=143,slow=23,SNR=7.7						
KST	Kastek	4.16	31	eP	Pg	14 37 14.2	-0.3
	3.1nm,0.4s						
KST				eS	Sg	14 38 08.3	-0.2
	14nm,1.3s						
KST	Kastek	4.16	31	Pg	Pg	14 37 14.3	-0.3
	3.3nm,0.7s						
KST				Lg	Lg	14 38 08.2	
	8.5nm,0.9s						
DGS	Degeres	4.26	28	eP	Pg	14 37 14.8	-1.6
	4.0nm,0.7s						
DGS				eS	Sg	14 38 09.1	-2.5
	7.4nm,0.6s						
DGS	Degeres	4.26	28	Pg	Pg	14 37 15.9	-0.6
	2.6nm,0.6s						
DGS				Lg	Lg	14 38 10.6	
	7.4nm,0.7s						
IZV	Izvestkoviy	4.43	36	eP	Pg	14 37 19.8	0.0
	16nm,1.6s						
IZV				eS	Sg	14 38 17.6	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	12nm,0.6s						
KOTS	**Kotyrbulak**	**4.81**	**38**	*e*P	**Pg**	**14 37 26.2**	**-0.9**
	7.4nm,0.5s						
KOTS				*e*S	**Sg**	**14 38 28.2**	**-1.2**
	11nm,0.6s						
KOTS	**Kotyrbulak**	**4.81**	**38**	Pg	**Pg**	**14 37 26.2**	**-0.9**
	8.9nm,0.7s						
KOTS				Lg	Lg	14 38 28.3	
	11nm,0.8s						
KTBS	**Karatobe**	**5.01**	**31**	*e*P	**Pg**	**14 37 29.2**	**-1.6**
	3.3nm,0.8s						
KTBS				*e*S	**Sg**	**14 38 33.2**	**-2.4**
	7.1nm,0.5s						
CHKK	**Chushkaly**	**5.25**	**33**	*e*P	**Pg**	**14 37 34.6**	**-0.8**
	1.5nm,0.2s						
CHKK				*e*S	**Sg**	**14 38 42.5**	**-0.9**
	4.1nm,0.5s						
CHKK	**Chushkaly**	**5.25**	**33**	Pg	**Pg**	**14 37 34.6**	**-0.8**
	1.5nm,0.4s						
CHKK				Lg	Lg	14 38 42.5	
	4.2nm,0.6s						
AB31	**Akbulak array**	**13.53**	**320**	⇓Pn	**Pn**	**14 39 05.7**	**-1.1**
	0.8nm,0.8s,baz=2.2,slow=28,SNR=8.5						
AB31				⇑Sn	**Sn**	**14 41 37.9**	**+0.8**
	2.2nm,1.2s						

*IDC **05** 14:53:53.3±2.6, 56°.04N×163°.77E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.3/52, mbtmp3.6/6, ML2.2/1, Error ellipse: s-maj=52.4km s-min=37.5km az=89.0*
*KRSC **05** 14:53:58.5±1.1, 55°.74N×163°.17E, h18km±18km, ML4.0*
*ISCJB **05** 14:53:59.8±0.7, 55°.79N±0°.03×163°.18E±0°.05, h22km±6km, mb3.6/5, Error ellipse: s-maj=5.5km s-min=4.0km az=145.8*
ISC 05 14:53:57.3±1.2**, 55°.93N**±0°.04×**163°.41E**±0°.04**, h18**km±8km**, n49, σ1s.62**/72**, mb3.8**/5**, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.43**	**311**	P	**Pn**	**14 54 08.2**	**-0.5**
KBTR				S	**Sb**	**14 54 15.2**	**+2.5**
KBG	**Krutoberegovo**	**0.51**	**310**	P	**Pn**	**14 54 09.3**	**-0.5**
KBG				S	**Sn**	**14 54 18.1**	**0.0**
SMKR	**Semkarok**	**1.27**	**302**	P	**Pg**	**14 54 22.1**	**+0.3**
SMKR				S	**Sn**	**14 54 38.4**	**+1.6**
BDR	**Baidarnaya**	**1.39**	**299**	P	**Pg**	**14 54 23.4**	**-0.6**
BDR				S	**Sg**	**14 54 42.0**	**-0.1**
SRKR	**Sorokina**	**1.45**	**301**	P	**Pg**	**14 54 24.5**	**-0.7**
SRKR				S	**Sb**	**14 54 42.8**	**+1.0**
ZLN	**Zelenaya**	**1.47**	**275**	P	**Pb**	**14 54 23.6**	**-0.5**
ZLN				S	**Sn**	**14 54 41.3**	**-0.5**
CIRR	**Tsirk**	**1.50**	**278**	P	**Pn**	**14 54 23.8**	**+0.3**
LGNR	**Loginova**	**1.54**	**277**	S	**Sn**	**14 54 42.5**	**-1.2**
KLY	**Klyuchi**	**1.59**	**285**	P	**Pn**	**14 54 23.5**	**-1.1**
KLY				S	**Sn**	**14 54 42.2**	**-2.4**
KRSR	**Krestovskiy**	**1.62**	**282**	P	**Pn**	**14 54 25.2**	**+0.1**
KRSR				S	**Sn**	**14 54 44.1**	**-1.4**
BKI	**Bering**	**1.63**	**115**	P	**Pg**	**14 54 28.7**	**+0.2**
BKI				S	**Sg**	**14 54 50.8**	**+1.1**
BZWR	**Bezymyannyi-We**	**1.64**	**273**	P	**Pn**	**14 54 25.7**	**+0.3**
BZMR	**Bezymyannaya**	**1.64**	**272**	S	**Sn**	**14 54 45.2**	**-0.9**
MKZ	**Mys Kozlova**	**1.68**	**216**	P	**Pn**	**14 54 25.1**	**-0.6**
MKZ				S	**Sn**	**14 54 43.5**	**-3.2**
KIRR	**Kirishev**	**1.73**	**272**	P	**Pn**	**14 54 27.3**	**+0.8**
KIRR				S	**Sn**	**14 54 48.4**	**+0.2**
KPT	**Kopyto**	**1.79**	**273**	P	**Pn**	**14 54 28.1**	**+0.7**
KPT				S	**Sn**	**14 54 49.5**	**-0.3**
KMNR	**Kamenistaya**	**1.80**	**266**	P	**Pn**	**14 54 28.2**	**+0.7**
KMNR				S	**Sn**	**14 54 49.4**	**-0.5**
TUMD	**Tumrok D**	**1.85**	**248**	P	**Pn**	**14 54 28.1**	**-0.1**
TUMD				S	**Sn**	**14 54 49.4**	**-1.8**
KZV	**Kizimen**	**1.95**	**247**	P	**Pn**	**14 54 29.8**	**+0.2**
KZV				S	**Sn**	**14 54 52.4**	**-1.3**
TUMR	**Tumrok**	**1.96**	**252**	P	**Pn**	**14 54 30.5**	**+0.8**
TUMR				S	**Sn**	**14 54 52.1**	**-1.8**
KOZ	**Kozyrevsk**	**1.99**	**275**	P	**Pn**	**14 54 31.5**	**+1.4**
KOZ				S	**Sb**	**14 54 57.0**	**-0.4**
SRDR	**Sredinnyy**	**2.10**	**282**	P	**Pn**	**14 54 33.1**	**+1.4**
SRDR				S	**Sn**	**14 54 59.1**	**+1.7**
ESO	**Esso**	**2.65**	**272**	P	**Pn**	**14 54 40.4**	**+1.3**
ESO				S	**Sn**	**14 55 11.8**	**+1.0**
KII	**Karymskiy**	**2.96**	**232**	P	**Pn**	**14 54 44.0**	**+0.5**
OSSR	**Ossora**	**3.34**	**357**	P	**Pb**	**14 54 54.8**	**-1.1**
SPN	**Mys Shipunski**	**3.45**	**216**	P	**Pn**	**14 54 49.2**	**-0.9**
SPN				S	**Sn**	**14 55 26.9**	**-3.6**
NLC	**Nalytchevo**	**3.63**	**222**	S	**Sn**	**14 55 33.2**	**-1.8**
PALN	**Palana**	**3.68**	**331**	P	**Pb**	**14 54 59.6**	**-2.0**
SDLR	**Sedlovina**	**3.73**	**227**	P	**Pn**	**14 54 56.0**	**+1.9**
KRX	**Arik**	**3.77**	**229**	P	**Pn**	**14 54 57.4**	**+2.7**
SMAR	**Somma**	**3.78**	**227**	P	**Pn**	**14 54 56.7**	**+1.9**
SMAR				S	**Sn**	**14 55 39.3**	**+0.3**
AVH	**Avacha**	**3.81**	**227**	P	**Pn**	**14 54 57.7**	**+2.6**
AVH				S	**Sn**	**14 55 41.0**	**+1.6**
UGLR	**Uglovaya**	**3.81**	**226**	P	**Pn**	**14 54 57.6**	**+2.4**
KOK	**Koryaka**	**3.83**	**228**	P	**Pn**	**14 54 58.8**	**+3.4**
DALK	**Dalny**	**3.97**	**225**	P	**Pn**	**14 54 57.6**	**+0.4**
DALK				S	**Sn**	**14 55 40.9**	**-2.4**
PET	**Petropavlovsk**	**4.02**	**226**	P	**Pn**	**14 54 59.3**	**+1.4**
PET				S	**Sn**	**14 55 42.1**	**-2.3**
PETK	**Petropavlovsk-**	**4.36**	**232**	Pn	**Pn**	**14 55 04.4**	**+1.7**
	0.6nm,0.3s,baz=61,slow=16,SNR=10						
PETK				Sn	**Sn**	**14 55 58.1**	**+5.1**
	1.4nm,0.3s,baz=267,slow=17,SNR=7.3						
KRMR	**Karymshinskiy**	**4.37**	**227**	P	**Pn**	**14 55 04.5**	**+1.7**
KRMR				S	**Sn**	**14 55 52.1**	**-1.1**
RUS	**Russkaya**	**4.53**	**221**	P	**Pn**	**14 55 06.0**	**+1.1**
MTVR	**Mutnovka**	**4.61**	**224**	P	**Pn**	**14 55 09.0**	**+2.8**
KDTR	**Khodutka, Kamc**	**5.19**	**220**	P	**Pn**	**14 55 15.6**	**+1.6**
SONM	**Songino Array**	**35.19**	**281**	P	**P**	**15 00 50.6**	**+0.5**
	0.3nm,0.5s,baz=59,slow=7.8,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**36.23**	**174**	T	T	15 39 32.1	
	baz=356,slow=76,SNR=24						
H11N3	**WAKE ISLAND Hy**	**36.25**	**174**	T	T	15 39 35.3	
	baz=356,slow=76,SNR=26						
H11N1	**WAKE ISLAND Hy**	**36.25**	**174**	T	T	15 39 34.1	
	baz=356,slow=76,SNR=26						
MKAR	**Makanchi Array**	**48.68**	**295**	P	**P**	**15 02 39.2**	**-0.9**
	0.7nm,0.7s,baz=57,slow=8.8,SNR=4.8						
AAK	**Ala-Archa**	**55.55**	**297**	P	**P**	**15 03 31.3**	**-0.1**
	1.2nm,0.6s,baz=285,slow=9.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**60.63**	**259**	P	**P**	**15 04 07.2**	**+0.2**
	0.5nm,0.6s,baz=17,slow=6.6,SNR=4.2						
ASAR	**Alice Springs**	**83.15**	**207**	P	**P**	**15 06 21.9**	**0.0**
	0.2nm,0.8s,baz=24,slow=5.2,SNR=3.1						

*SJA **05** 15:42:43.0±0.6, 21°.22S×68°.55W, h142km±5km, ML3.1, MW3.3*
*GUC **05** 15:42:43.5±0.6, 21°.22S×68°.53W, h130km±4km, ML3.5*
*ISCJB **05** 15:42:44.2±1.0, 21°.23S±0°.03×68°.6W±0°.1, h140km±10km, Error ellipse: s-maj=15.8km s-min=5.6km az=3.6*
ISC 05 15:42:43.7±2.1**, 21°.22S**±0°.04×**68°.6W**±0°.1**, h141**km±15km**, n27, σ0s.36**/41**, 3C-4D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.85**	**228**	⇑*i*P	**Pn**	**15 43 06.9**	**+0.3**
PB09				*e*S	**Sn**	**15 43 24.0**	**0.0**
PB09	**IPOC Station P**	**0.85**	**228**	*i* P	**Pn**	**15 43 06.9**	**+0.3**
PB09				*e*S	**Sn**	**15 43 24.4**	**+0.4**
PB09				IAML		15 43 25.5	
	comp=Z,367nm,0.7s						
PB08	**IPOC Station P**	**1.21**	**333**	⇓*i*P	**Pn**	**15 43 10.1**	**+0.1**
PB08				*i* S	**Sn**	**15 43 29.8**	**-0.3**
PB08	**IPOC Station P**	**1.21**	**333**	*i* P	**Pn**	**15 43 10.2**	**+0.2**
PB08				*e*S	**Sn**	**15 43 29.8**	**-0.3**
PB02	**IPOC Station P**	**1.24**	**265**	⇓*i*P	**Pn**	**15 43 10.2**	**+0.2**
PB02				*i* S	**Sn**	**15 43 30.0**	**-0.1**
PB02				IAML		15 43 31.4	
	comp=E,1μm,0.3s						
PB02	**IPOC Station P**	**1.24**	**265**	*i* P	**Pn**	**15 43 10.3**	**+0.2**
PB02				*e*S	**Sn**	**15 43 30.3**	**+0.2**
PB07	**IPOC Station P**	**1.33**	**247**	*e*P	**Pn**	**15 43 11.2**	**+0.2**
PB07				*e*S	**Sn**	**15 43 31.7**	**-0.1**
PB07				IAML		15 43 32.3	
	comp=N,950nm,0.2s						
PB07	**IPOC Station P**	**1.33**	**247**	*i* P	**Pn**	**15 43 11.4**	**+0.4**
PB03	**IPOC Station P**	**1.38**	**233**	⇑*i*P	**Pn**	**15 43 11.7**	**+0.2**
PB03				*i* S	**Sn**	**15 43 32.4**	**-0.3**
PB03				IAML		15 43 34.5	
	comp=E,621nm,0.1s						
PB03	**IPOC Station P**	**1.38**	**233**	*i* P	**Pn**	**15 43 11.9**	**+0.4**
LVC	**Limon Verde**	**1.42**	**193**	*e*P	**Pn**	**15 43 12.1**	**-0.1**
LVC				*e*S	**Sn**	**15 43 33.4**	**-0.5**
LVC	**Limon Verde**	**1.42**	**193**	*i* P	**Pn**	**15 43 12.1**	**-0.1**
LVC				IAML		15 43 12.3	
	comp=Z,59nm,0.6s						
TA01	**Diego Aracena**	**1.65**	**293**	⇓*i*P	**Pn**	**15 43 14.0**	**-0.2**
TA01				*i* S	**Sn**	**15 43 37.4**	**-0.1**
TA01				IAML		15 43 38.9	
	comp=E,311nm,0.2s						
GO01	**Chusmiza**	**1.65**	**339**	⇓*i*P	**Pn**	**15 43 14.7**	**-0.2**
GO01				*e*S	**Sn**	**15 43 38.7**	**+0.1**
PB06	**IPOC Station P**	**1.75**	**212**	⇑*i*P	**Pn**	**15 43 15.7**	**+0.1**
PB06				*i* S	**Sn**	**15 43 39.9**	**0.0**
PB06				IAML		15 43 41.0	
	comp=N,317nm,0.1s						
PB06	**IPOC Station P**	**1.75**	**212**	*i* P	**Pn**	**15 43 15.7**	**+0.1**
PB11	**IPOC Station P**	**1.78**	**325**	*i* P	**Pn**	**15 43 15.5**	**-0.4**
PB11				*i* S	**Sn**	**15 43 39.9**	**-0.6**
PB11				IAML		15 43 41.4	
	comp=N,654nm,0.2s						
PB11	**IPOC Station P**	**1.78**	**325**	*i* P	**Pn**	**15 43 15.9**	**0.0**
PB04	**IPOC Station P**	**1.84**	**233**	*e*P	**Pn**	**15 43 17.1**	**+0.5**
PB04				*i* S	**Sn**	**15 43 41.4**	**-0.5**
PB04	**IPOC Station P**	**1.84**	**233**	*i* P	**Pn**	**15 43 17.2**	**+0.5**
PB04				IAML		15 43 46.0	
	comp=Z,235nm,0.2s						
PB15	**IPOC Station P**	**2.15**	**203**	*e*P	**Pn**	**15 43 20.6**	**+0.4**
PB15	**IPOC Station P**	**2.15**	**203**	*i* P	**Pn**	**15 43 20.7**	**+0.4**
PB05	**IPOC Station P**	**2.22**	**223**	*e*P	**Pn**	**15 43 21.3**	**+0.2**
PB05				*i* S	**Sn**	**15 43 48.8**	**-1.1**
PB05	**IPOC Station P**	**2.22**	**223**	*i* P	**Pn**	**15 43 21.4**	**+0.2**
PB10	**IPOC Station P**	**2.93**	**219**	*i* P	**Pn**	**15 43 29.9**	**+0.1**
PB16	**IPOC Station P**	**3.00**	**343**	IAML		15 44 10.5	
	comp=E,50nm,0.7s						
PB16	**IPOC Station P**	**3.00**	**343**	*i* P	**Pn**	**15 43 32.2**	**+0.8**

*CNRM **05** 15:47:05.3, 36°.45N×4°.51W, h98km*
*ISCJB **05** 15:47:05.9±0.2, 36°.53N±0°.01×4°.49W±0°.02, h95km±3km, Error ellipse: s-maj=2.3km s-min=2.0km az=31.7*
*LDG **05** 15:47:07.2±0.2, 36°.62N×4°.42W, h86km, Ml3.6/14, Error ellipse: s-maj=4.4km s-min=3.8km az=167.0*
*MDD **05** 15:47:08.5±0.4, 36°.52N×4°.45W, h87km±4km, mb3.7/49, Error ellipse: s-maj=3.6km s-min=2.5km az=174.0, PRXIMO*
*SFS **05** 15:47:08.0, 36°.50N×4°.40W, h86km, ML3.5, w. DE ALBORAN*
*IGIL **05** 15:47:09.2, 36°.50N×4°.45W, h86km, ML3.7*
*INMG **05** 15:47:09.9±1.2, 36°.66N×4°.56W, h24km±6km, ML3.4, Error ellipse: s-maj=3.4km s-min=3.2km az=162.0*
ISC 05 15:47:05.0±0.9**, 36°.52N**±0°.03×**4°.41W**±0°.02**, h111**km±6km**, n167, σ2s.72**/321**, 17C-17D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.24**	**357**	*e*P	**Pn**	**15 47 21.1**	**+0.4**
EMAL				*e*S	**Sn**	**15 47 29.1**	**-3.4**
EMIJ	**Mijas**	**0.29**	**279**	⇓P	**Pn**	**15 47 21.0**	**+0.1**
	180nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**15 47 29.7**	**-3.1**
	192nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**0.64**	**22**	⇑P	**Pn**	**15 47 24.7**	**+1.5**
	27nm,0.1s,SNR=18						
EGOR				S	**Sn**	**15 47 36.1**	**-0.8**
	131nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**0.72**	**61**	⇑P	**Pn**	**15 47 24.3**	**+0.6**
	21nm,0.1s,SNR=18						
ELGU				S	**Sn**	**15 47 37.6**	**-0.2**
	107nm,0.2s,SNR=7.9						
LIJA	**Lijar**	**0.88**	**296**	*i* P	**Pn**	**15 47 27.6**	**+2.3**
LIJA				*i* S	**Sn**	**15 47 38.0**	**-2.5**
LIJA	**Lijar**	**0.88**	**296**	P	**Pn**	**15 47 27.6**	**+2.3**
LIJA				S	**Sn**	**15 47 38.0**	**-2.5**
CEU	**Ceuta**	**0.99**	**232**	*e*P	**Pn**	**15 47 26.6**	**+0.4**
CEU				*e*S	**Sn**	**15 47 40.4**	**-1.8**
CEU	**Ceuta**	**0.99**	**232**	P	**Pn**	**15 47 26.6**	**+0.4**
CEU				S	**Sn**	**15 47 40.4**	**-1.8**
ALJ	**Aljibe**	**0.99**	**271**	*i* P	**Pn**	**15 47 29.0**	**+2.7**
ALJ				*e*S	**Sn**	**15 47 44.2**	**+1.9**
ALJ	**Aljibe**	**0.99**	**271**	P	**Pn**	**15 47 29.0**	**+2.7**
ALJ				S	**Sn**	**15 47 44.2**	**+1.9**
ECEU	**Ceuta**	**1.00**	**232**	⇓P	**Pn**	**15 47 28.9**	**+2.6**
	35nm,0.1s,SNR=18						
ECEU				S	**Sn**	**15 47 41.9**	**-0.4**
	32nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**1.04**	**49**	P	**Pn**	**15 47 29.3**	**+2.5**
	23nm,0.2s,SNR=5.7						
EQUE				S	**Sn**	**15 47 43.7**	**+0.4**
	86nm,0.3s,SNR=20						
SMIR	**Smir Dam**	**1.15**	**223**	S	**Sn**	**15 47 42.3**	**-2.8**
ESPR	**Espera**	**1.21**	**287**	⇓P	**Pn**	**15 47 30.5**	**+2.0**
	63nm,0.2s,SNR=18						
ESPR				S	**Sn**	**15 47 46.5**	**+0.2**
	236nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.26**	**117**	⇑P	**Pn**	**15 47 29.7**	**+0.7**
	34nm,0.1s,SNR=18						
EALB				S	**Sn**	**15 47 46.0**	**-1.2**
	126nm,0.2s,SNR=9.9						
EBER	**Berja**	**1.28**	**72**	⇓P	**Pn**	**15 47 31.3**	**+1.8**
	30nm,0.2s,SNR=18						
EBER				S	**Sn**	**15 47 48.1**	**0.0**
	66nm,0.3s,SNR=18						
GIBL	**Gibalbin**	**1.29**	**284**	⇓*i*P	**Pn**	**15 47 31.9**	**+2.5**
GIBL				*e*S	**Sn**	**15 47 46.3**	**-1.6**
GIBL	**Gibalbin**	**1.29**	**284**	⇓P	**Pn**	**15 47 31.9**	**+2.5**
GIBL				S	**Sn**	**15 47 46.3**	**-1.6**
CNIL	**Conil**	**1.33**	**264**	⇓*i*P	**Pn**	**15 47 33.2**	**+3.3**
CNIL				*e*S	**Sn**	**15 47 49.0**	**+0.3**
CNIL	**Conil**	**1.33**	**264**	⇓P	**Pn**	**15 47 33.2**	**+3.3**
CNIL				S	**Sn**	**15 47 49.0**	**+0.3**
PVLZ	**Peæn de**	**1.35**	**176**	*e*P	**Pn**	**15 47 31.2**	**+1.1**
PVLZ				*e*S	**Sn**	**15 47 47.9**	**-1.2**
PVLZ	**Peæn de**	**1.35**	**176**	P	**Pn**	**15 47 31.2**	**+1.1**
PVLZ				S	**Sn**	**15 47 47.9**	**-1.2**
PALE	**Palemas**	**1.36**	**163**	P	**Pn**	**15 47 29.1**	**-1.1**
PALE				S	**Sn**	**15 47 48.4**	**-1.0**
GORA	**Gorafe**	**1.46**	**49**	S	**Sn**	**15 47 53.0**	**+1.5**
	233nm,0.2s,SNR=7.9						
HORN	**Hornachuelos**	**1.49**	**333**	P	**Pn**	**15 47 33.0**	**+1.4**
HORN				S	**Sn**	**15 47 52.6**	**+0.6**
CHEFC	**Chefchaouen**	**1.60**	**208**	P	**Pn**	**15 47 34.9**	**+1.8**
CHEFC				S	**Sn**	**15 47 51.0**	**-3.6**
EADA	**Adamuz**	**1.65**	**356**	⇑P	**Pn**	**15 47 35.6**	**+1.9**
	197nm,0.1s,SNR=18						
EADA				S	**Sn**	**15 47 54.9**	**-0.7**
	452nm,0.1s,SNR=21						
EQES	**Quesada**	**1.67**	**40**	P	**Pn**	**15 47 36.4**	**+2.3**
	25nm,0.1s,SNR=49						
EQES				S	**Sn**	**15 47 56.5**	**+0.3**
	126nm,0.1s,SNR=36						
EMEL	**Melilla**	**1.70**	**135**	⇑P	**Pn**	**15 47 35.8**	**+1.5**
	432nm,0.1s,SNR=18						
EMEL				S	**Sn**	**15 47 55.7**	**-0.8**
	234nm,0.2s,SNR=7.9						
MELI	**Melilla**	**1.71**	**135**	*i* P	**Pn**	**15 47 35.9**	**+1.5**
MELI				*e*S	**Sn**	**15 47 56.5**	**-0.3**
MELI	**Melilla**	**1.71**	**135**	P	**Pn**	**15 47 35.9**	**+1.5**
	46nm,0.1s,SNR=7.9						
MELI				S	**Sn**	**15 47 56.7**	**-0.2**
	54nm,0.2s,SNR=7.9						
GOG	**Mont Gurugu**	**1.73**	**138**	P	**Pn**	**15 47 36.1**	**+1.3**
GOG				S	**Sn**	**15 47 57.0**	**-0.5**
ECAB	**El Cabril**	**1.75**	**333**	⇑P	**Pn**	**15 47 36.2**	**+1.3**
	30nm,0.1s,SNR=18						
ECAB				S	**Sn**	**15 47 56.4**	**-1.3**
	235nm,0.1s,SNR=7.9						
ENIJ	**Nijar**	**1.83**	**75**	P	**Pn**	**15 47 38.0**	**+2.1**
	6.4nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**15 47 59.2**	**-0.2**
	42nm,0.4s,SNR=7.9						
RSA	**Sarsar**	**1.99**	**215**	P	**Pn**	**15 47 39.8**	**+1.8**
RSA				S	**Sn**	**15 47 60.0**	**-3.3**
AKLM	**AKL**	**2.06**	**167**	P	**Pn**	**15 47 40.8**	**+2.0**
AKLM				S	**Sn**	**15 48 00.2**	**-4.5**
SESP	**Santiago Espad**	**2.18**	**42**	P	**Pn**	**15 47 42.9**	**+2.4**
SESP				S	**Sn**	**15 48 07.0**	**-0.7**
SESP	**Santiago Espad**	**2.18**	**42**	⇑P	**Pn**	**15 47 42.9**	**+2.4**
	25nm,0.1s,SNR=18						
SESP				S	**Sn**	**15 48 07.5**	**-0.2**
	186nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.19**	**305**	P	**Pn**	**15 47 42.0**	**+1.5**
	78nm,0.1s,SNR=519						
EMIN				S	**Sn**	**15 48 06.3**	**-1.4**
	311nm,0.2s,SNR=7.9						
TAF	**Taforalt**	**2.35**	**136**	P	**Pn**	**15 47 43.9**	**+1.3**
TAF				S	**Sn**	**15 48 12.0**	**+0.5**
SICH	**Sidi Chahed**	**2.52**	**197**	P	**Pn**	**15 47 42.1**	**-2.6**
SICH				S	**Sn**	**15 48 11.8**	**-3.4**
JBK	**JBK**	**2.65**	**145**	S	**Sn**	**15 48 17.7**	**-0.8**
EGRO	**El Granado**	**2.66**	**293**	⇓P	**Pn**	**15 47 48.2**	**+1.8**
	22nm,0.1s,SNR=18						
EGRO				S	**Sn**	**15 48 16.8**	**-1.6**
	129nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**2.67**	**309**	*e*P	**Pn**	**15 47 48.5**	**+1.9**
PBAR				*e*S	**Sn**	**15 48 16.9**	**-1.7**
PBAR				A	A	15 48 19.5	
	155nm,0.1s						
PBAR	**Barrancos**	**2.67**	**309**	P	**Pn**	**15 47 48.5**	**+1.9**
PBAR				S	**Sn**	**15 48 16.9**	**-1.7**
	155nm,0.1s						
PVAQ	**Vaqueiros**	**2.79**	**289**	⇓*e*P	**Pn**	**15 47 49.9**	**+1.7**
PVAQ				*e*S	**Sn**	**15 48 19.8**	**-1.7**
PVAQ				A	A	15 48 20.3	
	176nm,0.1s						
PVAQ	**Vaqueiros**	**2.79**	**289**	P	**Pn**	**15 47 49.9**	**+1.7**
PVAQ				S	**Sn**	**15 48 19.8**	**-1.7**
	176nm,0.1s						
LCRM	**LCR**	**2.85**	**187**	P	**Pn**	**15 47 48.6**	**-0.6**
LCRM				S	**Sn**	**15 48 23.5**	**+0.3**
EMUR	**La Murta**	**2.86**	**62**	P	**Pn**	**15 47 53.1**	**+3.9**
	5.9nm,0.3s,SNR=6.6						
EMUR				S	**Sn**	**15 48 23.3**	**+0.2**
	7.5nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**2.91**	**285**	⇓*e*P	**Pn**	**15 47 52.0**	**+2.2**
PBDV				*e*S	**Sn**	**15 48 23.1**	**-1.3**
PBDV				A	A	15 48 26.7	
	96nm,0.2s						
PBDV	**Barranco-do-Ve**	**2.91**	**285**	P	**Pn**	**15 47 52.0**	**+2.2**
PBDV				S	**Sn**	**15 48 23.1**	**-1.3**
	96nm,0.2s						
CART	**Cartagena**	**2.93**	**68**	*e*P	**Pn**	**15 47 52.5**	**+2.5**
CART				*e*S	**Sn**	**15 48 22.6**	**-2.2**
CART	**Cartagena**	**2.93**	**68**	P	**Pn**	**15 47 52.5**	**+2.5**
CART				S	**Sn**	**15 48 22.6**	**-2.2**
PAB	**San Pablo**	**3.02**	**1**	⇑P	**Pn**	**15 47 53.5**	**+2.1**
	19nm,0.2s,SNR=18						
PAB				S	**Sn**	**15 48 26.2**	**-0.9**
	25nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.04**	**318**	⇑P	**Pn**	**15 47 53.6**	**+2.1**
	198nm,0.1s,SNR=18						
EBAD				S	**Sn**	**15 48 26.5**	**-0.9**
	432nm,0.2s,SNR=20						
IFR	**Ifrane**	**3.05**	**191**	*e*P	**Pn**	**15 47 53.5**	**+1.6**
IFR				*e*S	**Sn**	**15 48 26.3**	**-1.7**
PCVE	**Castro Verde**	**3.10**	**292**	⇓*e*P	**Pn**	**15 47 54.2**	**+1.8**
PCVE				*e*S	**Sn**	**15 48 27.6**	**-1.3**
PCVE				A	A	15 48 27.7	
	86nm,0.2s						
PCVE	**Castro Verde**	**3.10**	**292**	P	**Pn**	**15 47 54.2**	**+1.8**
PCVE				S	**Sn**	**15 48 27.6**	**-1.3**
	86nm,0.2s						
ETOB	**Tobarra**	**3.11**	**46**	P	**Pn**	**15 47 55.0**	**+2.5**
	24nm,0.2s,SNR=108						
ETOB				S	**Sn**	**15 48 28.5**	**-0.7**
	24nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**3.14**	**300**	*e*P	**Pn**	**15 47 54.9**	**+2.1**
PBEJ				*e*S	**Sn**	**15 48 28.2**	**-1.5**
PBEJ				A	A	15 48 30.0	
	111nm,0.2s						
PBEJ	**Beja**	**3.14**	**300**	P	**Pn**	**15 47 54.9**	**+2.1**
PBEJ				S	**Sn**	**15 48 28.2**	**-1.5**
	56nm,0.2s						
ESDC	**Sonseca Array**	**3.17**	**6**	P	**Pn**	**15 47 55.6**	**+2.3**
	6.5nm,0.2s,baz=186,slow=13,SNR=80						
ESDC				S	**Sn**	**15 48 29.6**	**-0.9**
	18nm,0.2s,baz=187,slow=23,SNR=11						
MESJ	**Messejana**	**3.31**	**295**	*e*P	**Pn**	**15 47 57.1**	**+2.0**
MESJ				*e*S	**Sn**	**15 48 31.6**	**-2.3**
MESJ				AML	AML	15 48 34.8	
	comp=N,185nm,0.3s						
MESJ	**Messejana**	**3.31**	**295**	P	**Pn**	**15 47 57.1**	**+2.0**
MESJ				S	**Sn**	**15 48 31.6**	**-2.3**
	comp=N,185nm,0.3s						
PESTR	**Estremoz**	**3.44**	**314**	⇑*e*P	**Pn**	**15 47 59.1**	**+2.2**
PESTR				*e*S	**Sn**	**15 48 35.7**	**-1.3**
PESTR				A	A	15 48 37.9	
	comp=N,59nm,0.3s						
MORF	**Marmelete**	**3.48**	**284**	*e*P	**Pn**	**15 47 59.4**	**+1.9**
MORF				*e*S	**Sn**	**15 48 35.5**	**-2.6**
MORF				AML	AML	15 48 37.6	
	comp=N,204nm,0.2s						
MORF	**Marmelete**	**3.48**	**284**	⇓*e*P	**Pn**	**15 47 59.4**	**+1.9**
MORF				*e*S	**Sn**	**15 48 36.3**	**-1.8**
MORF				A	A	15 48 38.5	
	comp=N,132nm,0.2s						
MORF	**Marmelete**	**3.48**	**284**	P	**Pn**	**15 47 59.4**	**+1.9**
MORF				S	**Sn**	**15 48 35.5**	**-2.6**
	comp=N,204nm,0.2s						
ZHG	**ZHG**	**3.57**	**211**	P	**Pn**	**15 47 59.6**	**+0.9**
PFVI	**Vila Bisbo**	**3.59**	**281**	⇓*e*P	**Pn**	**15 48 00.8**	**+1.9**
PFVI				*e*S	**Sn**	**15 48 38.3**	**-2.3**
PFVI				A	A	15 48 42.1	
	comp=N,104nm,0.1s						
PFVI	**Vila Bisbo**	**3.59**	**281**	P	**Pn**	**15 48 00.8**	**+1.9**
	comp=N,9.7nm,0.0s,SNR=7.9						
PFVI				S	**Sn**	**15 48 38.6**	**-1.9**
	comp=N,211nm,0.1s,SNR=7.9						
PNCL	**Nicolau / Gran**	**3.65**	**297**	⇑*e*P	**Pn**	**15 48 01.7**	**+2.2**
PNCL				*e*S	**Sn**	**15 48 39.9**	**-1.9**
PNCL				A	A	15 48 42.5	
	comp=N,65nm,0.7s						
PNCL	**Nicolau / Gran**	**3.65**	**297**	P	**Pn**	**15 48 01.7**	**+2.2**
PNCL				S	**Sn**	**15 48 39.9**	**-1.9**
	comp=N,65nm,0.7s						
MDT	**Midelt**	**3.70**	**183**	P	**Pn**	**15 48 02.5**	**+2.1**
MDT				S	**Sn**	**15 48 41.3**	**-2.0**
PMRV	**Marv??o**	**3.74**	**322**	⇑*e*P	**Pn**	**15 48 03.1**	**+2.3**
PMRV				*e*S	**Sn**	**15 48 42.3**	**-1.7**
PMRV				A	A	15 48 54.4	
	comp=N,42nm,0.5s						
PMRV	**Marv??o**	**3.74**	**322**	P	**Pn**	**15 48 03.1**	**+2.3**
PMRV				S	**Sn**	**15 48 42.3**	**-1.7**
	comp=N,42nm,0.5s						
AFON	**Font Roja**	**3.75**	**54**	P	**Pn**	**15 48 04.7**	**+3.7**
	comp=N,14nm,0.3s,SNR=4.0						
AFON				S	**Sn**	**15 48 45.7**	**+1.3**
	comp=N,11nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**3.77**	**340**	⇑P	**Pn**	**15 48 03.9**	**+2.5**
	comp=N,8.4nm,0.1s,SNR=18						
EPLA				S	**Sn**	**15 48 44.7**	**-0.3**
	comp=N,18nm,0.1s,SNR=7.9						
UCM	**Universidad Co**	**3.89**	**13**	*i* P	Pn	15 48 13.9	+11
UCM				*e*S	**Sn**	**15 48 47.0**	**-0.8**
PMTG	**Montargil**	**3.95**	**311**	⇑*e*P	**Pn**	**15 48 05.3**	**+1.7**
PMTG				*e*S	**Sn**	**15 48 46.9**	**-2.2**
PMTG				A	A	15 48 47.5	
	comp=N,57nm,0.4s						
PMTG	**Montargil**	**3.95**	**311**	P	**Pn**	**15 48 05.3**	**+1.7**
PMTG				S	**Sn**	**15 48 46.9**	**-2.2**
	comp=N,57nm,0.4s						
EBEN2	**Beniarda presa**	**3.98**	**56**	P	**Pn**	**15 48 07.1**	**+2.9**
	comp=N,2.8nm,0.1s,SNR=7.9						
EBEN2				S	**Sn**	**15 48 50.1**	**+0.1**
	comp=N,19nm,0.1s,SNR=7.9						
TDRA	**Tendrara**	**3.99**	**150**	P	**Pn**	**15 48 03.8**	**-0.5**
TDRA				S	**Sn**	**15 48 50.5**	**+0.1**
ECHE	**Chera**	**4.10**	**41**	⇑P	**Pn**	**15 48 08.1**	**+2.4**
	comp=N,2.2nm,0.1s,SNR=18						
ECHE				S	**Sn**	**15 48 51.7**	**-1.1**
	comp=N,21nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**4.10**	**325**	⇑*e*P	**Pn**	**15 48 08.2**	**+2.5**
PCBR				*e*S	**Sn**	**15 48 50.9**	**-1.8**
PCBR				A	A	15 49 18.5	
	comp=N,22nm,0.3s						
PCBR	**Castelo Branco**	**4.10**	**325**	P	**Pn**	**15 48 08.2**	**+2.5**
PCBR				S	**Sn**	**15 48 50.9**	**-1.8**
	comp=N,11nm,0.3s						
GUD	**Guadarrama**	**4.12**	**3**	P	**Pn**	**15 48 08.5**	**+2.4**
	comp=N,1.1nm,0.0s,SNR=7.9						
GUD				S	**Sn**	**15 48 52.7**	**-0.7**
	comp=N,7.2nm,0.1s,SNR=7.9						
LIS	**Lisbon**	**4.35**	**302**	*e*S	**Sn**	**15 48 57.8**	**-1.0**
LIS	**Lisbon**	**4.35**	**302**	S	**Sn**	**15 48 57.8**	**-1.0**
PTOM	**Tomar**	**4.42**	**316**	⇓*e*P	**Pn**	**15 48 12.4**	**+2.5**
PTOM				*e*S	**Sn**	**15 48 58.2**	**-2.1**
PTOM				A	A	15 49 20.2	

comp=N,42nm,0.4s
PTOM Tomar 4.42 316 P **Pn 15 48 12.4 +2.5**
PTOM S **Sn 15 48 58.2 -2.1**
comp=N,21nm,0.4s
PMAFR Mafra 4.56 304 *eP* **Pn 15 48 14.4 +2.5**
PMAFR *eS* **Sn 15 49 02.2 -1.6**
PMAFR A A 15 49 05.0
comp=N,56nm,0.2s
PMAFR Mafra 4.56 304 P **Pn 15 48 14.4 +2.5**
comp=N,6.0nm,0.1s,SNR=4.0
PMAFR S **Sn 15 49 02.3 -1.6**
comp=N,23nm,0.1s,SNR=9.1
MTE Manteigas 4.59 329 *eP* **Pn 15 48 14.8 +2.5**
MTE *eS* **Sn 15 49 04.2 -0.3**
MTE A A 15 49 19.0
comp=N,28nm,0.3s
MTE Manteigas 4.59 329 P **Pn 15 48 14.8 +2.5**
MTE S **Sn 15 49 04.2 -0.3**
comp=N,14nm,0.3s
ETOR Torete 4.67 23 ⇑P **Pn 15 48 16.0 +2.6**
comp=N,180nm,0.1s,SNR=18
ETOR S **Sn 15 49 06.2 -0.4**
comp=N,189nm,0.2s,SNR=7.9
PCAS Casmilo, Conde 4.77 319 ⇓*eP* **Pn 15 48 17.0 +2.3**
PCAS *eS* **Sn 15 49 06.5 -2.4**
PCAS A A 15 49 39.1
comp=N,32nm,0.5s
PCAS Casmilo, Conde 4.77 319 P **Pn 15 48 17.0 +2.3**
PCAS S **Sn 15 49 06.5 -2.4**
comp=N,32nm,0.5s
COI Coimbra 4.84 321 *eP* **Pn 15 48 18.1 +2.5**
COI *eS* **Sn 15 49 08.2 -2.3**
COI Coimbra 4.84 321 P **Pn 15 48 18.1 +2.5**
COI S **Sn 15 49 08.2 -2.3**
EMOS Mosqueruela 4.93 38 P **Pn 15 48 20.1 +3.2**
comp=N,1.4nm,0.1s,SNR=7.9
EMOS S **Sn 15 49 12.1 -0.9**
comp=N,12nm,0.2s,SNR=21
PVIS Viseu 5.00 328 *eP* **Pn 15 48 20.0 +2.2**
PVIS *eS* **Sn 15 49 12.9 -1.5**
PVIS A A 15 49 15.6
comp=N,27nm,0.3s
PVIS Viseu 5.00 328 P **Pn 15 48 20.0 +2.2**
PVIS S **Sn 15 49 12.9 -1.5**
comp=N,14nm,0.3s
MVO Moncorvo 5.07 337 *eP* **Pn 15 48 21.2 +2.5**
MVO *eS* **Sn 15 49 14.3 -1.9**
MVO A A 15 49 52.1
comp=N,24nm,0.6s
MVO Moncorvo 5.07 337 ⇓P **Pn 15 48 21.4 +2.6**
comp=N,19nm,0.1s,SNR=18
MVO S **Sn 15 49 14.2 -1.9**
comp=N,7.8nm,0.1s,SNR=7.9
FIGM Figuig 5.09 148 P **Pn 15 48 20.3 +1.1**
FIGM S **Sn 15 49 20.5 +3.5**
EIBI Ibiza 5.20 60 P **Pn 15 48 23.4 +2.9**
comp=N,1.2nm,0.2s,SNR=7.9
EIBI S **Sn 15 49 19.4 +0.1**
comp=N,1.3nm,0.1s,SNR=7.9
PVRL Vila Real 5.40 333 *eP* **Pn 15 48 25.6 +2.4**
PVRL *eS* **Sn 15 49 21.7 -2.5**
PVRL A A 15 49 24.1
comp=N,61nm,0.3s
PVRL Vila Real 5.40 333 P **Pn 15 48 25.6 +2.4**
PVRL S **Sn 15 49 21.7 -2.5**
comp=N,30nm,0.3s
POLO Lamas de Olo 5.52 333 *eP* **Pn 15 48 27.8 +3.0**
POLO *eS* **Sn 15 49 25.2 -1.8**
POLO A A 15 50 04.1
comp=N,7.3nm,0.4s
POLO Lamas de Olo 5.52 333 P **Pn 15 48 27.8 +3.0**
POLO S **Sn 15 49 25.2 -1.8**
comp=N,7.3nm,0.4s
PBRG Braganca 5.58 342 *eP* **Pn 15 48 28.7 +3.1**
PBRG *eS* **Sn 15 49 26.6 -1.9**
PBRG A A 15 49 30.6
comp=N,14nm,0.5s
PBRG Braganca 5.58 342 P **Pn 15 48 28.7 +3.1**
PBRG S **Sn 15 49 26.6 -1.9**
comp=N,7.0nm,0.5s
ECAL Calabor 5.71 342 P **Pn 15 48 30.6 +3.3**
comp=N,3.0nm,0.1s,SNR=4.0
ECAL S **Sn 15 49 31.2 -0.4**
comp=N,1.4nm,0.1s,SNR=7.9
ERTA Horta de San J 5.78 39 P **Pn 15 48 32.2 +3.9**
comp=N,1.0nm,0.1s,SNR=4.0
ERTA S **Sn 15 49 33.3 0.0**
comp=N,7.3nm,0.1s,SNR=7.9
PCAB Cabril 5.89 333 *eP* **Pn 15 48 32.9 +3.0**
PCAB *eS* **Sn 15 49 33.6 -2.5**
PCAB A A 15 49 36.2
comp=N,16nm,0.4s
PCAB Cabril 5.89 333 P **Pn 15 48 32.9 +3.0**
PCAB S **Sn 15 49 33.6 -2.5**
comp=N,7.8nm,0.4s
OUZM OUZ 5.93 200 P **Pn 15 48 31.9 +1.4**
OUK Oukaimeden 6.03 209 P **Pn 15 48 31.3 -0.7**
ESAC San Caprasio 6.03 29 P **Pn 15 48 36.1 +4.3**
comp=N,4.7nm,0.2s,SNR=4.0
ESAC S **Sn 15 49 39.2 -0.3**
comp=N,9.7nm,0.1s,SNR=7.9
ELOB Lobios 6.04 333 P **Pn 15 48 35.1 +3.1**
comp=N,1.4nm,0.1s,SNR=7.9
ELOB S **Sn 15 49 37.4 -2.4**
comp=N,3.1nm,0.1s,SNR=7.9
EPOB Poblet 6.45 40 P **Pn 15 48 40.6 +3.1**
comp=N,3.1nm,0.2s,SNR=7.9
EPOB S **Sn 15 49 47.5 -2.2**
comp=N,0.9nm,0.1s,SNR=12
ZGR Zagora 6.46 189 P **Pn 15 48 35.6 -2.2**
EZAM Zamans 6.53 331 P **Pn 15 48 41.9 +3.4**
comp=N,1.3nm,0.1s,SNR=7.9
EZAM S **Sn 15 49 49.5 -1.9**
comp=N,2.3nm,0.1s,SNR=7.9
ELAN Lanestosa 6.75 6 P **Pn 15 48 45.5 +4.1**
comp=N,3.2nm,0.1s,SNR=7.9
ELAN S **Sn 15 49 54.2 -2.6**
comp=N,1.4nm,0.2s,SNR=7.9
EORO Oroz-Betelu 6.80 20 P **Pn 15 48 46.1 +3.9**
comp=N,3.9nm,0.1s,SNR=4.0
EORO S **Sn 15 49 56.1 -2.0**
comp=N,3.1nm,0.1s,SNR=7.9
EARI Arriondas 6.80 355 P **Pn 15 48 45.8 +3.6**
comp=N,2.4nm,0.1s,SNR=4.0
EARI S **Sn 15 49 56.4 -1.7**
comp=N,1.1nm,0.1s,SNR=7.9
TTIG Tnine Tigouga, 6.84 211 P **Pn 15 48 41.3 -1.6**
EAGO Agolada(Pontev 6.88 337 P **Pn 15 48 46.7 +3.4**
comp=N,1.5nm,0.1s,SNR=4.0
EAGO S **Sn 15 49 57.8 -2.3**
comp=N,1.6nm,0.1s,SNR=7.9
SJPF Ste Jean 7.03 19 *eP* **Pn 15 48 48.3 +3.1**
SJPF *eSn* **Sn 15 49 59.7 -3.8**
comp=N,12nm,0.4s
SJPF Ste Jean 7.03 19 P **Pn 15 48 48.3 +3.1**
SJPF S **Sn 15 49 59.7 -3.8**
comp=N,6.1nm,0.4s
ETSF Etsaut 7.03 24 *eP* **Pn 15 48 48.5 +3.2**
ETSF *eSn* **Sn 15 49 59.8 -3.9**
comp=N,6.5nm,0.3s
ETSF Etsaut 7.03 24 P **Pn 15 48 48.5 +3.2**
ETSF S **Sn 15 49 59.8 -3.9**
comp=N,3.2nm,0.3s
EALK Alkurruntz 7.05 18 P **Pn 15 48 49.7 +4.1**
comp=N,7.9nm,0.2s,SNR=7.9
EALK S **Sn 15 50 03.0 -1.3**
comp=N,9.7nm,0.2s,SNR=8.2
EMIR Miracle 7.09 39 P **Pn 15 48 49.5 +3.4**
comp=N,6.1nm,0.4s,SNR=7.9
EMIR S **Sn 15 50 03.9 -1.2**
comp=N,1.5nm,0.1s,SNR=7.9
ECHI Chisagues Biel 7.09 29 P **Pn 15 48 49.1 +2.9**
comp=N,2.6nm,0.1s,SNR=7.9
ECHI S **Sn 15 50 03.1 -2.2**
comp=N,2.0nm,0.2s,SNR=7.9
EPON Pontenova 7.12 344 P **Pn 15 48 50.1 +3.7**
comp=N,3.4nm,0.2s,SNR=7.9
EPON S **Sn 15 50 02.7 -3.0**
comp=N,1.2nm,0.2s,SNR=6.6
ATE Arette 7.15 22 P **Pn 15 48 50.2 +3.3**
comp=N,5.0nm,0.2s,SNR=4.0
ATE S **Sn 15 50 05.4 -1.2**
comp=N,4.8nm,0.1s,SNR=7.9
CSOR Sort 7.25 35 P **Pn 15 48 51.4 +3.1**
comp=N,1.2nm,0.1s,SNR=4.0
CSOR S **Sn 15 50 07.4 -1.8**

comp=N,1.5nm,0.1s,SNR=7.9
EPF Esparros 7.46 28 *eP* **Pn 15 48 54.4 +3.3**
EPF *eSn* **Sn 15 50 10.3 -3.8**
comp=N,6.8nm,0.2s
EPF Esparros 7.46 28 P **Pn 15 48 54.4 +3.3**
EPF S **Sn 15 50 10.3 -3.8**
comp=N,3.4nm,0.2s
CFON Fontmartina 7.46 43 P **Pn 15 48 54.9 +3.7**
comp=N,1.3nm,0.2s,SNR=4.0
CFON S **Sn 15 50 11.9 -2.4**
comp=N,2.2nm,0.1s,SNR=7.9
CLLI Llivia 7.73 38 P **Pn 15 48 58.1 +3.2**
comp=N,0.8nm,0.2s,SNR=7.9
CLLI S **Sn 15 50 19.5 -1.3**
comp=N,1.3nm,0.2s,SNR=7.9
MTLF Montolieu 8.50 35 *eP* **Pn 15 49 08.3 +3.1**
MTLF *eSn* **Sn 15 50 35.3 -4.1**
comp=N,0.9nm,0.2s
MTLF Montolieu 8.50 35 P **Pn 15 49 08.3 +3.1**
MTLF S **Sn 15 50 35.3 -4.1**
comp=N,0.4nm,0.2s
LFF La Frestale 9.27 23 *eP* **Pn 15 49 19.7 +4.1**
LFF *eSn* **Sn 15 50 52.8 -5.2**
comp=N,7.3nm,0.3s
LFF La Frestale 9.27 23 P **Pn 15 49 19.7 +4.1**
LFF S **Sn 15 50 52.8 -5.2**
comp=N,3.7nm,0.3s
CAF Calviac 9.73 28 *eP* **Pn 15 49 24.8 +3.0**
CAF *eSn* **Sn 15 51 03.7 -5.4**
comp=N,1.3nm,0.2s
CAF Calviac 9.73 28 P **Pn 15 49 24.8 +3.0**
CAF S **Sn 15 51 03.7 -5.4**
comp=N,0.6nm,0.2s
RJF Les Rejaudoux 9.85 25 *eP* **Pn 15 49 27.3 +3.8**
RJF *eSn* **Sn 15 51 07.1 -5.0**
comp=N,2.6nm,0.3s
RJF Les Rejaudoux 9.85 25 P **Pn 15 49 27.3 +3.8**
RJF S **Sn 15 51 07.1 -5.0**
comp=N,1.3nm,0.3s
MFF Saint Martin d 10.57 16 *eP* **Pn 15 49 36.2 +3.1**
MFF *eSn* **Sn 15 51 23.3 -6.1**
comp=N,1.6nm,0.3s
MFF Saint Martin d 10.57 16 P **Pn 15 49 36.2 +3.1**
MFF S **Sn 15 51 23.3 -6.1**
comp=N,0.8nm,0.3s
TCF Toulx Ste Croi 10.95 25 *eP* **Pn 15 49 40.3 +2.0**
TCF *eSn* **Sn 15 51 32.8 -5.9**
comp=N,0.8nm,0.2s
TCF Toulx Ste Croi 10.95 25 P **Pn 15 49 40.3 +2.0**
TCF S **Sn 15 51 32.8 -5.9**
comp=N,0.4nm,0.2s
BGF Bois d'Agland 11.40 26 *eP* **Pn 15 49 47.8 +3.4**
BGF *eSn* **Sn 15 51 43.8 -5.9**
comp=N,6.7nm,0.5s
BGF Bois d'Agland 11.40 26 P **Pn 15 49 47.8 +3.4**
BGF S **Sn 15 51 43.8 -5.9**
comp=N,3.3nm,0.5s
QUIF Quistinic 11.43 4 *eP* **Pn 15 49 48.0 +3.4**
QUIF *eSn* **Sn 15 51 43.6 -6.6**
comp=N,1.5nm,0.3s
QUIF Quistinic 11.43 4 P **Pn 15 49 48.0 +3.4**
QUIF S **Sn 15 51 43.6 -6.6**
comp=N,0.8nm,0.3s
MBDF Montbardon 11.80 43 *eP* **Pn 15 49 52.1 +2.3**
MBDF Montbardon 11.80 43 P **Pn 15 49 52.1 +2.3**
SGMF Saint Gilles 11.81 6 *eP* **Pn 15 49 53.7 +4.0**
SGMF *eSn* **Sn 15 51 53.3 -6.1**
comp=N,1.3nm,0.3s
SGMF Saint Gilles 11.81 6 P **Pn 15 49 53.7 +4.0**
SGMF S **Sn 15 51 53.3 -6.1**
comp=N,0.6nm,0.3s
ROSF Rostrenen 11.84 4 *eP* **Pn 15 49 52.7 +2.6**
ROSF *eSn* **Sn 15 51 53.3 -6.9**
comp=N,2.8nm,0.3s
ROSF Rostrenen 11.84 4 P **Pn 15 49 52.7 +2.6**
ROSF S **Sn 15 51 53.3 -6.9**
comp=N,1.4nm,0.3s
GRR Gorron 12.15 11 *eP* **Pn 15 49 58.2 +4.0**
GRR *eSn* **Sn 15 52 00.9 -6.7**
comp=N,2.6nm,0.3s
GRR Gorron 12.15 11 P **Pn 15 49 58.2 +4.0**
GRR S **Sn 15 52 00.9 -6.7**
comp=N,1.3nm,0.3s

*ECX **05** 15:54:40.0±0.4, 27°.75N×111°.71W, h10km, MD2.9*
*MEX **05** 15:54:40.3±1.0, 27°.65N×111°.66W, h5km, MD3.7*
ISC 05 15:54:38.3±1.8, 27°.8N±0°.1×111°.72W±0°.08, h17km±18km, n8, ∘0°44/13, 1C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.66**	**225**	*eP*	**Pb**	**15 54 51.4**	**+0.1**
SRIG				*i* S	**Sb**	**15 55 00.3**	**+0.1**
SRIG	**Santa Rosalia**	**0.66**	**225**	*eP*	**Pb**	**15 54 51.2**	**-0.1**
SRIG				*eS*	**Sb**	**15 55 00.2**	**0.0**
GUYB	**Guaymas**	**0.76**	**82**	*eP*	**Pb**	**15 54 52.9**	**-0.1**
GUYB				*i* S	**Sn**	**15 55 04.5**	**-0.7**
GUYB	**Guaymas**	**0.76**	**82**⇑	*eP*	**Pb**	**15 54 53.0**	**-0.1**
GUYB				*eS*	**Sb**	**15 55 03.8**	**+0.8**
HSIG		**1.40**	**29**	*i* P	**Pn**	**15 55 03.5**	**+0.4**
HSIG				*i* S	**Sg**	**15 55 23.7**	**+0.2**
HSIG		**1.40**	**29**	*eP*	**Pg**	**15 55 05.0**	**-0.3**
HSIG				*eS*	**Sg**	**15 55 23.9**	**+0.3**
BAHB	**Baha de los**	**2.68**	**323**	*eP*	Pn	15 55 13.9	-6.8
BAHB				*eS*	Sn	15 55 43.5	-9.3
CGIG		**4.16**	**51**	*i* P	**Pb**	**15 55 50.8**	**-0.4**

*IDC **05** 17:02:56.6±0.5, 2°.51N×79°.83W, h0km, mb4.1/18, mb1 4.4/23, mb1mx4.3/33, mbtmp4.2/23, ML3.7/4, MS3.4/9, Ms1 3.4/9, ms1mx3.2/35, Error ellipse: s-maj=17.8km s-min=12.0km az=52.0*
*ISCJB **05** 17:02:58.6±0.2, 2°.55N±0°.03×79°.77W±0°.02, h20km, mb4.1/18, MS3.4/6, Error ellipse: s-maj=4.3km s-min=2.6km az=10.0*
*RSNC **05** 17:03:00.5±1.0, 2°.59N×79°.64W, h4km±55km, ML3.8, Mw3.9*
*NEIC **05** 17:03:02.6±1.6, 2°.49N±0°.08×79°.75W±0°.10, h42km±6km, mb4.6/51*
ISC 05 17:02:59.6±0.4, 2°.50N±0°.04×79°.84W±0°.05, h20km, n127, s81§51/149, mb4.5/39, MS3.4/6, 4C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMC	**Tumaco**	**1.30**	**121**	⇑*iP*	**Pn**	**17 03 21.0**	**-1.7**
TUMC				*eS*	**Sn**	**17 03 37.2**	**-2.2**
TUMC				*i*		17 03 46.0	
comp=Z,2μm,0.7s							
BBAC	**Balboa, Cauca**	**2.63**	**100**	*eP*	**Pn**	**17 03 39.5**	**-1.8**
BBAC				*i*		17 04 19.8	
comp=Z,689nm,0.4s							
OTAV	**Otavalo**	**2.64**	**148**		**Pn**	**17 03 40.7**	**-0.9**
MALC	**Bahia Malaga**	**2.91**	**59**⇑	*iP*	**Pn**	**17 03 43.4**	**-1.5**
MALC				*eS*	**Sn**	**17 04 17.1**	**-2.3**
MALC				*i*		17 04 23.4	
comp=Z,239nm,0.2s							
CRUC	**La Cruz**	**3.03**	**108**	*eP*	**Pn**	**17 03 46.6**	**-0.3**
POPC	**Popayan, Colom**	**3.16**	**89**⇑	*iP*	**Pn**	**17 03 46.8**	**-1.6**
POPC				*eS*	**Sn**	**17 04 23.4**	**-2.3**
POPC				*i*		17 04 32.9	
comp=Z,164nm,0.4s							
SOTA	**Rioblanco**	**3.25**	**96**⇑	*iP*	**Pn**	**17 03 49.8**	**-0.2**
SOTA				*eS*	**Sn**	**17 04 26.8**	**-1.5**
SOTA				*i*		17 04 30.0	
comp=Z,692nm,0.4s							
PCON	**Cinco Dias**	**3.44**	**93**	*eP*	**Pn**	**17 03 52.8**	**+0.1**
YOTC	**Yotoco, Valle**	**3.78**	**67**	*eP*	**Pn**	**17 03 55.0**	**-2.0**
YOTC				*eS*	**Sn**	**17 04 35.9**	**-5.2**
YOTC				*i*		17 04 43.6	
comp=Z,94nm,0.4s							
PLMC	**San Jos del P**	**4.28**	**56**	*eP*	**Pn**	**17 04 02.3**	**-1.4**
PLMC				*eS*	**Sn**	**17 04 49.5**	**-3.6**
PLMC				*i*		17 04 58.3	
comp=Z,341nm,0.5s							
FLOC	**Florencia**	**4.28**	**102**	*eP*	**Pn**	**17 04 04.0**	**+0.3**
FLOC				*eS*	**Sn**	**17 04 51.7**	**-1.4**
FLOC				*i*		17 04 56.5	
comp=Z,148nm,0.6s							
BETC	**Betania**	**4.39**	**88**	*eP*	**Pn**	**17 04 06.8**	**+1.5**
ORTC	**Ortega, Tolima**	**4.79**	**73**	*eP*	**Pn**	**17 04 11.9**	**+1.1**
ORTC				*eS*	**Sn**	**17 05 05.3**	**-0.5**
ORTC				*i*		17 05 10.5	

comp=Z,154nm,0.4s
PTAC Punta Ardita, 5.04 24 *eP* **Pn 17 04 15.9 +1.8**
CBOC Ciudad Bolivar 5.07 49 *eP* **Pn 17 04 12.0 -2.7**
RREF El Recreo 5.07 62 *eP* **Pn 17 04 14.7 -0.5**
PRAC Prado 5.09 76 *eP* **Pn 17 04 15.0 +0.1**
PRAC *eS* **Sn 17 05 12.5 -0.6**
PRAC *i* 17 05 19.5
comp=Z,144nm,0.4s
GUY2C Guyana, Caldas 5.22 59 *eP* **Pn 17 04 16.1 -0.9**
GUY2C *eS* **Sn 17 05 16.2 -0.6**
GUY2C *i* 17 05 26.4
comp=Z,79nm,0.5s
PTLC Puerto Leguiza 5.54 115 *eP* **Pn 17 04 25.2 +4.1**
HELC Santa Helena 5.64 49 *eP* **Pn 17 04 21.1 -1.8**
HELC *eS* **Sn 17 05 24.8 -2.5**
HELC *i* 17 05 31.0
comp=Z,27nm,0.7s
DBBC Dabeiba 5.76 39 *eP* **Pn 17 04 27.1 +2.9**
NORC Norcasia 5.81 58 *eP* **Pn 17 04 25.1 +0.3**
NORC *eS* **Sn 17 05 32.3 +1.3**
NORC *i* 17 05 37.6
comp=Z,40nm,0.4s
ROSC El Rosal 5.97 67 *eP* **Pn 17 04 29.0 +1.6**
ROSC El Rosal 5.97 67 Pn **Pn 17 04 28.7 +1.3**
comp=Z,19nm,0.3s,baz=200,slow=5.9,SNR=22
ROSC Sn **Sn 17 05 36.1 +0.6**
comp=Z,6.2nm,0.3s,baz=107,slow=19,SNR=2.0
ROSC LR LR 17 07 02.6
comp=Z,636nm,19.1s,baz=276,slow=41
ROSC El Rosal 5.97 67 **Pn 17 04 28.8 +1.4**
MACC Macarena, Meta 6.00 93 *eP* **Pn 17 04 28.3 +1.0**
MACC *eS* **Sn 17 05 33.6 -1.8**
VILC Villavicencio, 6.34 75 *eP* **Pn 17 04 33.6 +1.5**
CHIC Chingaza 6.45 71⇓*iP* **Pn 17 04 34.9 +1.0**
CHIC *eS* **Sn 17 05 48.2 +1.1**
PTBC PUERTO BERRIO, 6.70 53 *eP* **Pn 17 04 36.6 -0.4**
ZARC Zaragoza, Cauc 7.01 45 *eP* **Pn 17 04 42.0 +0.8**
GUVC San Jose del G 7.20 90 *eP* **Pn 17 04 44.3 +0.4**
RUSC La Rusia 7.53 63 *eP* **Pn 17 04 49.5 +0.7**
RUSC *i* 17 05 23.6
comp=Z,8.3nm,0.5s
RUSC *eS* **Sn 17 06 17.8 +3.8**
BRRC Barranca, Sant 7.63 53 *eP* **Pn 17 04 50.2 +0.5**
BARC Barichara 7.78 58 *eP* **Pn 17 04 53.0 +1.0**
BARC *eS* **Sn 17 06 21.6 +1.9**
SJCC San Jacinto, C 8.68 32 *eP* **Pn 17 05 05.2 +1.0**
JTS Las Juntas de 9.26 327 Sn **Sn 17 06 50.9 -4.8**
comp=Z,0.6nm,0.3s,baz=30,slow=20,SNR=4.7
ATAH Atahualpa 9.68 171 Sn **Sn 17 07 06.3 -0.4**
comp=Z,0.8nm,0.3s,baz=180,slow=20,SNR=3.0
SDV Santo Domingo 11.14 55 Pn **Pn 17 05 38.6 +0.6**
comp=Z,9.4nm,0.3s,baz=223,slow=4.1,SNR=25
SDV Sn **Sn 17 07 37.9 -4.2**
comp=Z,2.0nm,0.3s,baz=25,slow=17,SNR=3.3
SDV LR LR 17 10 33.5
comp=Z,152nm,19.9s,baz=256,slow=41
SDV Santo Domingo 11.14 55 **Pn 17 05 38.0 0.0**
APG El Apazote 16.25 320 Pn **Pn 17 06 48.4 +1.2**
comp=Z,2.2nm,0.3s,baz=2.5,slow=13,SNR=3.2
PCRV Puerto La Cruz 16.91 63 Pn **P 17 06 57.1 -0.2**
comp=Z,0.5nm,0.3s,baz=204,slow=8.8,SNR=3.2
PLCV Puerto La Cruz 16.95 63 P **P 17 06 57.1 -0.6**
TEIG Tepich 19.45 336 P **Pn 17 07 26.4 +0.1**
comp=Z,4.5nm,0.3s,baz=140,slow=1.9,SNR=22
TEIG LR LR 17 14 14.7
comp=Z,105nm,18.3s,baz=229,slow=35
TEIG Tepich 19.45 336 P **Pn 17 07 26.3 -0.1**
TEIG IAmb IAmb 17 07 27.8
comp=Z,45nm,1.2s
SAML Samuel 20.12 125 P **P 17 07 32.5 -0.1**
AOPR Arecibo Observ 20.31 38 P **P 17 07 34.5 0.0**
SJG San Juan 20.51 40 P **P 17 07 37.8 +1.0**
comp=Z,3.3nm,0.3s,baz=234,slow=17,SNR=2.1
SJG LR LR 17 14 43.8
comp=Z,39nm,21.5s,baz=72,slow=34
SJG San Juan 20.51 40 P **P 17 07 37.2 +0.5**
SJG IAmb IAmb 17 07 42.1
comp=Z,25nm,0.9s
CMIG Matias Romero 20.71 315 P **P 17 07 39.9 +1.0**
comp=Z,3.0nm,0.7s,baz=75,slow=13,SNR=6.5
TOSP Speyside 21.04 65 *eP* **P 17 07 43.6 +1.0**
SVB Belmont 21.27 59 P **P 17 07 45.7 +0.7**
LPAZ La Paz 21.96 149 P **P 17 07 54.1 +1.1**
comp=Z,2.4nm,0.6s,baz=347,slow=12,SNR=8.2
LPAZ La Paz 21.96 149 P **P 17 07 54.1 +1.1**
FDF Fort de France 22.08 56 P **P 17 07 56.0 +2.2**
MNMC Minye Minye 23.74 155 P **P 17 08 12.2 +1.2**
PB11 IPOC Station P 24.28 156 P **P 17 08 15.8 -0.1**
PB11 IAmb IAmb 17 08 26.9
comp=Z,20nm,0.9s
GO01 Chusmiza 24.39 155 P **P 17 08 18.9 +1.5**
GO01 IAmb IAmb 17 08 44.2
comp=Z,15nm,0.8s
SIV San Ignacio 26.11 135 P **P 17 08 32.8 +0.3**
comp=Z,1.5nm,0.8s,baz=342,slow=9.7,SNR=3.6
SIV LR LR 17 19 15.6
comp=Z,100nm,19.4s,baz=292,slow=38
LVC Limon Verde 27.14 157 P **P 17 08 42.5 +0.4**
comp=Z,1.5nm,0.7s,baz=270,slow=6.1,SNR=2.6
LVC LR LR 17 20 48.4
comp=Z,101nm,18.1s,baz=344,slow=40
MDP Montagnes des 27.25 84 P **P 17 08 44.5 +1.7**
comp=Z,3.4nm,0.6s,baz=235,slow=11,SNR=2.8
MDP LR LR 17 19 50.8
comp=Z,101nm,19.1s,baz=252,slow=37
CPCT Cooper Cave 33.07 353 P **P 17 09 34.4 +0.4**
CPCT IAmb IAmb 17 09 35.0
comp=Z,7.6nm,1.0s
T59A Double "B" Far 34.37 3 P **P 17 09 45.8 +0.5**
WHAR Wooly Hollow 34.61 342 P **P 17 09 47.1 -0.3**
TXAR Lajitas Array 35.00 322 P **P 17 09 52.4 +1.3**
comp=Z,0.6nm,0.7s,baz=123,slow=9.8,SNR=5.4
TXAR PcP **PcP 17 12 23.1 -0.1**
comp=Z,1.1nm,0.9s,baz=140,slow=7.9,SNR=5.4
LCAR Lake Charles 35.01 344 P **P 17 09 50.2 -0.6**
W39A Magazine 35.02 340 P **P 17 09 51.1 +0.1**
W39A IAmb IAmb 17 09 51.8
comp=Z,8.5nm,0.8s
U40A Yellville 35.77 342 P **P 17 09 57.2 -0.3**
U40A IAmb IAmb 17 09 57.7
comp=Z,9.8nm,0.8s
CPUP Villa Florida 35.99 144 P **P 17 09 58.3 -1.1**
comp=Z,0.8nm,0.6s,baz=201,slow=19,SNR=2.1
BDFB Brasilia 36.27 121 LR LR 17 25 27.5
comp=Z,80nm,18.3s,baz=354,slow=37
MGMO Mountain Grove 36.33 343 P **P 17 10 01.7 -0.6**
MGMO IAmb IAmb 17 10 02.5
comp=Z,8.8nm,1.1s
CCM Cathedral Cave 36.90 345 P **P 17 10 05.8 -1.3**
MNTX Cornudas Mount 37.72 323 P **P 17 10 14.8 +0.7**
MSTX Muleshoe 37.93 328 P **P 17 10 16.8 +0.8**
MSTX IAmb IAmb 17 10 17.5
comp=Z,13nm,1.1s
121A Cookes Peak, D 39.76 322 P **P 17 10 33.7 +2.2**
121A IAmb IAmb 17 10 34.8
comp=Z,11nm,1.0s
BNM Barren Site 40.20 325 P **P 17 10 36.6 +1.4**
ANMO Albuquerque 40.67 326 P **P 17 10 40.5 +1.5**
ANMO IAmb IAmb 17 10 41.7
comp=Z,9.9nm,0.8s
T25A Trinidad 41.23 330 P **P 17 10 45.2 +1.6**
T25A IAmb IAmb 17 10 46.6
comp=Z,9.5nm,0.9s
SDCO Great Sand Dun 42.24 329 P **P 17 10 53.9 +1.9**
SDCO IAmb IAmb 17 10 54.8
comp=Z,8.4nm,0.9s
W18A Petrified Fore 42.71 323 P **P 17 10 57.6 +1.9**
W18A IAmb IAmb 17 10 58.5
comp=Z,11nm,0.8s
X16A Lo Mia Camp, P 43.30 321 P **P 17 11 01.9 +1.5**
MVCO Mesa Verde 43.45 326 P **P 17 11 03.1 +1.4**
PLCA Paso Flores 43.86 170 P **P 17 11 06.2 +1.5**
comp=Z,3.8nm,0.8s,baz=359,slow=9.0,SNR=5.5
ISCO Idaho Springs 43.88 331 P **P 17 11 06.7 +1.4**
WUAZ Wupatki 43.97 322 P **P 17 11 07.5 +1.6**
WUAZ IAmb IAmb 17 11 08.5
comp=Z,10nm,0.8s
U15A North Rim 45.13 322 P **P 17 11 16.8 +1.6**
SRU San Rafael Swe 45.92 326 P **P 17 11 22.5 +1.2**
RDMU Red Mountain 46.45 329 P **P 17 11 26.4 +0.8**
RSSD Black Hills 46.66 336 P **P 17 11 28.3 +1.2**
RSSD IAmb IAmb 17 11 29.0
comp=Z,7.9nm,0.8s
PD31 Pinedale Array 48.07 331 P **P 17 11 38.3 +0.2**
PD31 IAmb IAmb 17 11 39.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,12nm,1.9s						
PDAR	Pinedale Array	48.07	331	P	P	17 11 38.4	+0.2
	comp=Z,1.0nm,0.8s,baz=117,slow=7.9,SNR=11						
PDAR				PcP	PcP	17 13 04.4	-1.4
	comp=Z,0.4nm,0.5s,baz=141,slow=5.8,SNR=4.6						
R11A	Troy Canyon, C	48.37	322	P	P	17 11 41.2	+0.7
MOOW	Moose Ponds	49.38	331	P	P	17 11 48.6	+0.4
IMW	Indian Meadow	49.58	331	P	P	17 11 49.8	0.0
ELK	Elko	49.69	325	P	P	17 11 51.8	+1.1
NVAR	Mina Array Bea	50.12	320	P	P	17 11 55.1	+1.2
	comp=Z,1.7nm,0.7s,baz=128,slow=6.7,SNR=11						
NVAR				PcP	PcP	17 13 14.0	+0.7
	comp=Z,2.2nm,0.6s,baz=116,slow=4.2,SNR=13						
YHH	Holmes Hill	50.20	331	P	P	17 11 55.6	+1.2
BMN	Battle Mountai	50.66	323	P	P	17 11 59.0	+1.2
BMN				IAmb	IAmb	17 11 59.7	
	comp=Z,5.3nm,0.7s						
BOZ	Bozeman (W)	51.16	332	P	P	17 12 02.5	+0.9
MFID	Camas Ranch	51.78	327	P	P	17 12 07.0	+0.8
MFID				IAmb	IAmb	17 12 08.7	
	comp=Z,11nm,1.4s						
WVOR	Wild Horse Val	52.73	324	P	P	17 12 14.2	+0.9
WVOR				IAmb	IAmb	17 12 15.0	
	comp=Z,15nm,1.6s						
SCHQ	Schefferville	53.23	9	P	P	17 12 15.7	-1.0
	comp=Z,6.6nm,1.1s,baz=233,slow=10,SNR=3.2						
SCHQ	Schefferville	53.23	9	P	P	17 12 15.8	-0.8
G08A	Pilot Rock	54.70	327	P	P	17 12 28.1	+0.5
G08A				IAmb	IAmb	17 12 30.0	
	comp=Z,18nm,1.8s						
YKA	Yellowknife Ar	65.20	343	P	P	17 13 38.7	-0.6
	comp=Z,2.6nm,0.7s,baz=138,slow=5.9,SNR=37						
SUMG	Summit	74.50	12	*i* P	P	17 14 36.2	-0.7
	comp=Z,28nm,0.8s						
SUMG	Summit	74.50	12	P	P	17 14 36.4	-0.5
DBIC	Dimbokro	74.80	84	P	P	17 14 39.2	0.0
	comp=Z,4.1nm,0.8s,baz=285,slow=3.6,SNR=3.1						
DBIC				LR	LR	17 45 38.5	
	comp=Z,30nm,18.9s,baz=303,slow=34						
DBIC	Dimbokro	74.80	84	P	P	17 14 38.9	-0.4
INK	Inuvik	74.92	342	P	P	17 14 39.4	+0.6
INK				IAmb	IAmb	17 14 40.0	
	comp=Z,10nm,1.1s						
PAX	Paxson	76.89	335	P	P	17 14 51.0	+0.7
PAX				IAmb	IAmb	17 14 51.4	
	comp=Z,6.9nm,1.2s						
ESDC	Sonseca Array	77.54	50	P	P	17 14 54.6	+0.2
	comp=Z,0.7nm,0.5s,baz=257,slow=6.0,SNR=6.2						
IL31		78.10	336	P	P	17 14 56.8	-0.1
IL31				IAmb	IAmb	17 14 57.7	
	comp=Z,5.7nm,1.1s						
ILAR	Eielson Array	78.10	336	P	P	17 14 56.6	-0.4
	comp=Z,1.0nm,0.7s,baz=117,slow=4.6,SNR=11						
TOA0	Torodi Ar. Sit	81.19	77	P	P	17 15 14.3	-0.4
TORD	Torodi Ar. Bea	81.19	77	P	P	17 15 14.1	-0.6
	comp=Z,1.7nm,0.5s,baz=284,slow=5.0,SNR=9.2						
DAG	Danmarks Havn	81.19	12	*i* P	P	17 15 12.1	-1.4
	comp=Z,3.7nm,0.8s						
NB2	NORSAR Subarra	88.34	29	P	P	17 15 49.9	+0.1
	comp=Z,1.3nm,0.7s,baz=273,slow=4.6						
NOA	NORSAR Array B	88.34	29	P	P	17 15 50.0	+0.1
	comp=Z,2.7nm,0.9s,baz=270,slow=4.5,SNR=4.7						
PETK	Petropavlovsk-	106.78	328	PP	PP	17 21 36.7	-2.2
	comp=Z,3.2nm,0.9s,baz=142,slow=7.5,SNR=3.7						
MKAR	Makanchi Array	128.45	16	PKP	PKPdf	17 22 04.0	-1.4
	comp=Z,0.6nm,0.8s,baz=355,slow=1.5,SNR=3.7						
SONM	Songino Array	129.57	355	PKP	PKPdf	17 22 06.4	-1.2
	comp=Z,0.4nm,0.8s,baz=341,slow=7.6,SNR=3.0						
KSH	Kashi	132.65	26	PKP	PKiKP	17 22 16.1	+1.3
KSH				PP	PP	17 24 42.0	+5.2
KSH				PKS	PKSdf	17 25 51.1	+0.9
KSH				AMB	AMB		
	comp=Z,460nm,5.2s						
ASAR	Alice Springs	141.17	234	PKhKP	PKPpre	17 22 22.1	
	comp=Z,0.5nm,0.9s,baz=120,slow=3.4,SNR=7.0						
WRA	Warramunga Arr	142.40	240	PKhKP	PKPpre	17 22 26.1	
	comp=Z,0.6nm,0.6s,baz=110,slow=3.0,SNR=11						
FITZ	Fitzroy Crossi	150.60	236	PKPbc	PKPbc	17 22 50.8	-0.4
	comp=Z,3.7nm,0.7s,baz=152,slow=4.4,SNR=12						
FITZ				PKPab	sPKPbc	17 22 58.7	-0.2
	comp=Z,4.4nm,0.8s,baz=217,slow=1.2,SNR=7.8						
FITZ	Fitzroy Crossi	150.60	236		PKPbc	17 22 50.9	-0.3
CMAR	Chiang Mai Arr	159.14	3	PKP	PKPdf	17 22 57.9	+0.4
	comp=Z,0.2nm,0.4s,baz=298,slow=1.9,SNR=4.1						
CMAR				PKPab	PKPab	17 23 32.5	-1.5
	comp=Z,0.7nm,0.8s,baz=327,slow=5.6,SNR=5.6						

*ISCJB **05** 17:06:10.7±0.8, 28°.39N±0°.03×51°.83E±0°.09, h15km, Error ellipse: s-maj=11.9km s-min=3.7km az=162.8*
*TEH **05** 17:06:14.0, 28°.61N×51°.78E, h10km, ML3.3*
*OMAN **05** 17:06:14.7±0.8, 28°.40N×51°.86E, h149km±25km, ml3.4/6, Error ellipse: s-maj=42.0km s-min=22.1km az=225.0*
*DSN **05** 17:06:16.4±1.1, 28°.39N×52°.24E, h10km, ML3.5/7, Error ellipse: s-maj=24.5km s-min=6.0km az=19.0*
ISC 05 17:06:12.9±1.8**, 28°.45N**±0°.05×**51°.8E**±0°.1**, h15km, n40, σ1s22**/47**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IKAZ	Kazeroun	1.33	1	*e*Pg	Pn	17 06 36.9	-0.4
IKAZ				IAMB	IAmb	17 07 09.1	
	comp=Z,3μm,0.4s						
SHI	Shiraz	1.34	27	*e*Pg	Pn	17 06 37.6	+0.3
SHI				*e*Sg	Sn	17 06 55.4	+0.4
ISRV	Sarvestan	1.48	51	*e*Pn	Pg	17 06 40.9	-0.5
ISRV				IAMB	IAmb	17 07 09.8	
	comp=Z,4μm,0.8s						
JHRM	Jahrom	1.56	87	*e*Pn	Pg	17 06 43.3	+0.4
JHRM				IAMB	IAmb	17 07 21.5	
	comp=Z,0.0nm,0.6s						
LMD1	Lamerd	1.63	132	*e*Pn	Pg	17 06 47.7	+3.4
LMD1				IAMB	IAmb	17 07 17.3	
	comp=Z,0.0nm,0.5s						
KLNJ	Kolanjah	2.56	356	*e*Pn	Pn	17 06 54.6	+0.4
IRAM	Ramesheh	3.39	8	*e*Pn	Pn	17 07 04.8	-0.7
IMEH	Mehriz	3.81	39	*e*Pn	Pn	17 07 13.1	+1.8
IZEF	Zefreh	4.46	6	*e*Pn	Pn	17 07 19.9	-0.3
KHGB	Koh Gabri	4.50	64	*e*Pn	Pn	17 07 24.2	+3.3
KHGB				IAMB	IAmb	17 08 27.2	
	comp=Z,0.0nm,0.6s						
IBAF	Bafgh	4.52	45	*e*Pn	Pn	17 07 22.1	+1.1
SHME	Shamm	4.54	121	*e*Pn	Pn	17 07 21.8	+0.7
BANOM	Banah	4.73	121	*i* P	Pn	17 07 23.2	-0.5
	SNR=14						
BANOM				S	Sn	17 08 15.1	-3.2
BANOM	Banah	4.73	121	P	Pn	17 07 23.3	-0.4
	SNR=14						
BANOM				S	Sn	17 08 18.3	0.0
IKLH	Kolahrood	4.86	358	*e*Pn	Pn	17 07 25.7	-0.1
NAZ	Nazwa, Dubai	4.87	134	P	Pn	17 07 26.0	+0.3
NAZ	Nazwa, Dubai	4.87	134	*e*Pn	Pn	17 07 25.4	-0.3
ASUD	Al Ashush, Dub	4.94	140	*i* P	Pn	17 07 27.0	+0.4
	SNR=14						
ASUD	Al Ashush, Dub	4.94	140	P	Pn	17 07 27.3	+0.7
	SNR=14						
ASUD				S	Sn	17 08 23.0	-0.6
ASUD	Al Ashush, Dub	4.94	140	*e*Pn	Pn	17 07 27.1	+0.4
MSFE	Esma-Masafi	4.96	127	*i* P	Pn	17 07 26.4	-0.4
	SNR=6.1						
MSFE	Esma-Masafi	4.96	127	*e*Pn	Pn	17 07 26.5	-0.4
MDH	Madha	5.09	127	P	Pn	17 07 28.2	-0.5
MDH	Madha	5.09	127	*e*Pn	Pn	17 07 28.3	-0.4
CHMN	Cheshme madani	5.21	73	IAMB	IAmb	17 08 36.0	
	comp=Z,0.0nm,0.8s						
UOSS	Minazif	5.26	131	P	Pn	17 07 30.3	-0.7
	SNR=14						
HATD	Hatta, Dubai	5.29	132	P	Pn	17 07 31.0	-0.5
HATD	Hatta, Dubai	5.29	132	P	Pn	17 07 31.4	-0.1
HATD				S	Sn	17 08 31.2	-1.0
HATD	Hatta, Dubai	5.29	132	*e*Pn	Pn	17 07 31.3	-0.1
ASHO	Ashiyiah	5.34	134	*i* P	Pn	17 07 31.9	-0.3
	SNR=26						
ASHO	Ashiyiah	5.34	134	P	Pn	17 07 31.9	-0.3
	SNR=26						
ASHO				S	Sn	17 08 32.0	-1.5
ASHO	Ashiyiah	5.34	134	*e*Pn	Pn	17 07 31.5	-0.7
ARQ	Araqi	6.63	139	P	Pn	17 07 49.0	-0.9
	SNR=8.1						
HOQ	Hoqain	6.93	133	P	Pn	17 07 53.3	-0.7
	SNR=5.3						
BSY	Bisya	7.48	138	P	Pn	17 08 00.7	-0.9
BSY				S	Sn	17 09 25.5	-0.6
SMDO	Samad	7.77	132	P	Pn	17 08 04.6	-1.1
SMDO				S	Sn	17 09 32.3	-1.2
WSAR	Wadi Sarin	8.04	129	P	Pn	17 08 07.9	-1.4
JMDO	Jabal Madar	8.31	135	P	Pn	17 08 10.8	-2.1
WBK	Wadi Bani Khal	8.70	130	P	Pn	17 08 16.7	-1.6
	SNR=8.2						
DMTO	DMTO	11.06	164	P	Pn	17 08 48.4	-2.3
	SNR=8.0						

RSPR 05 17:08:24.8, 18°.57N×64°.95W, h39km±2km**, MD2.3**/4**, 8C-4D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STVI	Saint Thomas	0.22	180	⇑*e*P	Pn	17 08 31.5	-1.4
STVI	Saint Thomas	0.22	180	⇓*e*P	Pn	17 08 31.8	-1.1
STVI				*e*S	Sn	17 08 36.7	-2.9
STVI	Saint Thomas	0.22	180	*e*S	Sn	17 08 37.1	-2.5
STVI	Saint Thomas	0.22	180	⇑*e*P	Pn	17 08 31.4	-1.5
STVI	Saint Thomas	0.22	180	*e*S	Sn	17 08 37.0	-2.6
STVI	Saint Thomas	0.22	180	⇑*e*P	Pn	17 08 31.4	-1.5
STVI				*e*S	Sn	17 08 37.0	-2.6
CUPR	Culebra, Puert	0.41	230	⇑*e*P	Pn	17 08 33.5	-0.7
CUPR	Culebra, Puert	0.41	230	*e*S	Sn	17 08 40.1	-0.8
CUPR	Culebra, Puert	0.41	230	⇑*e*P	Pn	17 08 33.4	-0.8
CUPR	Culebra, Puert	0.41	230	*e*S	Sn	17 08 39.9	-1.0
VGBI	Virgin Gorda,	0.53	99	⇓*e*P	Pn	17 08 34.9	-1.0
VGBI	Virgin Gorda,	0.53	99	*e*S	Sn	17 08 42.8	-0.9
VGBI	Virgin Gorda,	0.53	99	⇑*e*P	Pn	17 08 34.9	-1.0
VGBI	Virgin Gorda,	0.53	99	*e*S	Sn	17 08 42.7	-1.0
ABV	Anegada	0.61	75	⇓*e*P	Pn	17 08 36.7	-0.3
ABV	Anegada	0.61	75	*e*S	Sn	17 08 46.2	+0.5
MTP	Monte Pirata	0.74	230	⇑*e*P	Pn	17 08 37.9	-0.9
MTP	Monte Pirata	0.74	230	*e*S	Sn	17 08 47.6	-1.1
MTP	Monte Pirata	0.74	230	⇑*e*P	Pn	17 08 37.9	-0.9
MTP				*e*S	Sn	17 08 47.6	-1.1
CBYP	Canovanas	0.91	251	⇓*e*P	Pn	17 08 40.3	-0.8
CBYP	Canovanas	0.91	251	*e*S	Sn	17 08 52.0	-1.1
CBYP	Canovanas	0.91	251	*e*S	Sn	17 08 52.0	-1.1
CBYP	Canovanas	0.91	251	*e*S	Sn	17 08 52.0	-1.1

*KRNET **05** 17:40:43.9±0.1, 41°.13N×78°.60E, h15km, mb2.6*
*NNC **05** 17:40:45.0±2.5, 41°.15N×78°.51E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=16.8km s-min=11.5km az=169.0*
*SOME **05** 17:40:45.0, 41°.13N×78°.50E, h15km*
ISC 05 17:40:46.9±1.8**, 41°.19N**±0°.08×**78°.48E**±0°.05**, h10km, n29, σ1s16**/48**, 16C-8D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	0.74	317	⇑*i*P	Pg	17 41 00.1	-1.3
	baz=15						
TARG				⇑*i*S	Sg	17 41 11.9	+0.8
	baz=15						
PRZ	Przheval'sk	1.29	357	⇑*i*P	Pn	17 41 09.3	-2.0
	baz=54						
PRZ				⇑*i*S	Sb	17 41 28.2	-0.1
	baz=54						
KDJ	Kajisay	1.35	314	⇑*e*P	Pn	17 41 11.2	-0.9
	baz=14						
KDJ				⇑*i*S	Sg	17 41 30.7	+0.1
	baz=14						
ANVS	Anan'yevo	1.71	339	⇓*i*P	Pb	17 41 17.2	-1.3
	baz=38						
ANVS				⇓*i*S	Sg	17 41 41.5	-0.3
	baz=38						
SATY	Saty	1.87	358	*e*P	Pb	17 41 21.1	-0.1
	4.4nm,0.2s						
SATY				*e*S	Sg	17 41 46.9	-0.1
	16nm,0.2s						
SATY	Saty	1.87	358	P	Pb	17 41 21.2	-0.1
SATY				S	Sg	17 41 46.0	-1.1
NRN	Naryn	1.89	278	⇑*i*P	Pb	17 41 20.7	-1.0
	baz=79						
NRN				⇑*i*S	Sg	17 41 48.0	+0.4
	baz=79						
UZB	Uzynbulak	2.00	11	*e*P	Pb	17 41 22.4	-1.1
	2.5nm,0.4s						
UZB				*e*S	Sb	17 41 49.2	+0.8
	6.7nm,0.3s						
UZB	Uzynbulak	2.00	11	Pg	Pb	17 41 22.9	-0.5
	2.5nm,0.3s						
UZB				Lg	Lg	17 41 49.0	
	8.4nm,0.4s						
TNSS	Tian-Shan	2.17	329	*e*P	Pb	17 41 26.6	0.0
	6.9nm,0.4s						
TNSS				*e*S	Sg	17 41 56.4	-0.4
	10nm,0.4s						
TNSS	Tian-Shan	2.17	329	Pg	Pb	17 41 26.8	+0.2
	7.0nm,0.5s						
TNSS				Lg	Lg	17 41 56.2	
	10nm,0.5s						
MDOK	Medeo	2.24	332	*e*P	Pb	17 41 27.2	-0.4
	5.0nm,0.4s						
MDOK				*e*S	Sb	17 41 57.4	+1.9
	15nm,0.6s						
MDOK	Medeo	2.24	332	⇓Pg	Pb	17 41 26.0	-1.6
	20nm,1.4s						
MDOK				⇑Lg	Lg	17 41 57.6	
	28nm,1.0s						
MDOK	Medeo	2.24	332	Pg	Pb	17 41 27.2	-0.4
	5.0nm,0.4s						
MDOK				Lg	Lg	17 41 56.6	
	15nm,0.7s						
PDGK	Podgornoye	2.26	19	⇑Pg	Pn	17 41 24.7	+0.2
	2.4nm,0.5s						
PDGK				⇓Lg	Lg	17 41 57.5	
	11nm,0.5s						
KPKS	Kokpek	2.28	4	*e*P	Pb	17 41 28.3	0.0
	6.2nm,0.2s						
KPKS				*e*S	Sg	17 41 59.2	-1.0
	55nm,0.4s						
KOTS	Kotyrbulak	2.28	334	*e*P	Pb	17 41 29.0	+0.6
	6.1nm,0.2s						
KOTS				*e*S	Sg	17 42 00.2	-0.1
	14nm,0.4s						
KOTS	Kotyrbulak	2.28	334	Pg	Pb	17 41 28.8	+0.4
	6.1nm,0.2s						
KOTS				Lg	Lg	17 42 00.0	
	14nm,0.4s						
BOOM	Boomskoye usch	2.30	305	⇑*i*P	Pn	17 41 25.8	+0.7
	baz=5.0						
BOOM				⇑*i*S	Sb	17 41 56.9	-0.4
	baz=5.0						
KZA	Kyzart	2.58	291	⇓*e*P	Pn	17 41 30.1	+0.9
	baz=92						
KZA				⇓*e*S	Sb	17 42 04.5	-1.0
	baz=92						
TKM2	Tokmak 2	2.76	310	⇑*i*P	Pn	17 41 32.6	+1.2
	baz=10.0						
TKM2				⇑*i*S	Sb	17 42 07.9	-2.5
	baz=10.0						
TKM2	Tokmak 2	2.76	310	⇑Pg	Pb	17 41 33.8	-2.7
	2.1nm,0.9s						
TKM2				⇑Lg	Lg	17 42 14.3	
	4.9nm,0.7s						
KTBS	Karatobe	2.85	333	*e*P	Pb	17 41 38.0	+0.1
	1.7nm,0.4s						
KTBS				*e*S	Sb	17 42 15.4	+2.4
	8.6nm,0.6s						
KTBS	Karatobe	2.85	333	Pg	Pb	17 41 38.3	+0.3
	1.7nm,0.4s						
KTBS				Lg	Lg	17 42 15.6	
	8.6nm,0.6s						
DGS	Degeres	2.87	316	*e*P	Pb	17 41 38.1	-0.3
	2.3nm,0.7s						
DGS				*e*S	Sb	17 42 15.6	+1.9
	4.6nm,0.5s						
DGS	Degeres	2.87	316	Pg	Pb	17 41 38.9	+0.6
	1.3nm,0.5s						
DGS				Lg	Lg	17 42 16.5	
	4.6nm,0.5s						
ARLS	Aral	3.19	283	⇓*i*P	Pn	17 41 38.9	+1.5
	baz=84						
ARLS				⇓*i*S	Sn	17 42 17.5	+1.9
	baz=84						
DJR	Jarkent	3.28	17	*e*P	Pb	17 41 45.5	+0.1
	0.5nm,0.2s						
DJR				*e*S	Sb	17 42 27.9	+2.4
	9.1nm,0.4s						
DJR	Jarkent	3.28	17	Pg	Pb	17 41 45.4	+0.1
	0.5nm,0.2s						
DJR				Lg	Lg	17 42 27.7	
	9.1nm,0.4s						

*ISCJB **05** 18:00:16.9±0.1, 17°.53S±0°.03×174°.02W±0°.05, h50km, mb4.7/42, MS3.4/8, Error ellipse: s-maj=7.0km s-min=3.0km az=30.5*
*MOS **05** 18:00:16.2±0.9, 17°.65S×174°.01W, h50km, mb5.3/7, Error ellipse: s-maj=15.2km s-min=8.6km az=56.2*
*NEIC **05** 18:00:18±1.0, 17°.65S±0°.08×174°.0W±0°.1, h50km±6km, mb4.8/127*
*IDC **05** 18:00:18.3±2.5, 17°.60S×173°.98W, h51km±23km, mb4.2/20, mb1 4.4/22, mb1mx4.2/41, mbtmp4.5/22, ML3.9/2, MS3.1/6, Ms1 3.2/6, ms1mx2.9/30, Error ellipse: s-maj=18.3km s-min=12.0km az=137.0*
ISC 05 18:00:18.0±0.3**, 17°.69S**±0°.05×**174°.00W**±0°.06**, h50km, n306, σ1s64**/291**, mb4.8**/93**, MS3.4**/8**, 1C-2D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIUE	Niue	4.10	110	P	Pn	18 01 18.7	+0.5
	baz=4.0,SNR=160						
NIUE	Niue	4.10	110		Pn	18 01 18.6	+0.5
AFI	Afiamalu	4.32	30	P	Pn	18 01 21.2	0.0
	204nm,0.3s,baz=192,slow=1.8,SNR=129						
AFI				S	Sn	18 02 05.4	-5.0
	261nm,0.3s,baz=41,slow=23,SNR=9.2						
AFI	Afiamalu	4.32	30		Pn	18 01 21.0	-0.2
RAO	Raoul Island	12.06	197	P	Pn	18 03 07.3	+0.1
RAO						18 05 14.4	
RAO	Raoul Island	12.06	197	P	Pn	18 03 09.6	+2.4
	121nm,0.3s,baz=108,slow=20,SNR=3.6						
RAO				S	Sn	18 05 14.4	-5.8
	54nm,0.3s,baz=270,slow=20,SNR=3.5						
RAO	Raoul Island	12.06	197	Pn	Pn	18 03 07.2	+0.1
GLKZ	Green Lake	12.07	197	P	Pn	18 03 07.7	+0.4
GLKZ				S	Sn	18 05 15.0	-5.4
RAR	Rarotonga	13.87	107	P	Pn	18 03 32.7	+0.8
RAR	Rarotonga	13.87	107	P	Pn	18 03 32.5	+0.6
	3.2nm,0.3s,baz=286,slow=13,SNR=6.0						
RAR	Rarotonga	13.87	107	P	Pn	18 03 32.7	+0.8
KNTN	Kanton	14.99	9	P	Pn	18 03 46.9	+0.2
DZM	Mont Dzumac	18.90	253	*e*P	Pn	18 04 38.6	+2.9
	37nm,1.4s						
DZM				*e*LR	LR	18 09 04.0	
	comp=Z,358nm,33.1s						
DZM	Mont Dzumac	18.90	253	P	Pn	18 04 36.8	+1.1
	0.5nm,0.3s,baz=78,slow=17,SNR=5.1						
DZM	Mont Dzumac	18.90	253	P	Pn	18 04 37.0	+1.3
OUZ	Omahuta	20.66	210	P	Pn	18 04 56.0	-0.3
OUZ	Omahuta	20.66	210	P	P	18 04 55.0	+1.4
OUZ				IAmb	IAmb	18 05 01.8	
	comp=Z,105nm,1.6s						
GRZ	Great Barrier	20.72	205	P	Pn	18 04 57.2	+0.2
WCZ	Waipu Caves	20.91	207	P	Pn	18 04 59.9	+0.6
KUZ	Kuaotunu	21.05	204	P	P	18 05 01.2	+3.5
WMGZ	Waiomatatini S	21.14	197	P	P	18 05 01.6	+2.9
WMGZ				S	S	18 08 37.5	-14
PUZ	Puketiti	21.41	197	P	P	18 05 03.6	+1.9
RUGZ	Raukumara Rang	21.48	198	P	P	18 05 05.6	+3.1
MKAZ	Moumakai	21.57	204	P	P	18 05 07.2	+3.8
OPRZ	Ohinepanea	21.73	201	P	P	18 05 08.9	+4.0
CNGZ	Carnagh Statio	21.82	197	P	P	18 05 10.9	+5.0
MWZ	Matawai	21.87	198	P	P	18 05 09.1	+2.5
URZ	Urewera	21.93	199	P	P	18 05 07.3	+0.2
	comp=Z,56nm,0.5s,baz=4.3,slow=1.3,SNR=36						
URZ				S	S	18 08 58.5	-8.0
	comp=Z,6.4nm,0.4s,baz=280,slow=23,SNR=6.4						
URZ	Urewera	21.93	199	P	P	18 05 07.4	+0.3
URZ	Urewera	21.93	199	P	P	18 05 07.4	+0.2
KMRZ	Kaimai	21.94	202	P	P	18 05 11.7	+4.4
OMRZ	Omania	22.03	201	P	P	18 05 11.7	+3.4
TARZ	Mount Tarawera	22.10	200	P	P	18 05 14.2	+5.1
RIGZ	Rimuhau	22.15	197	P	P	18 05 13.5	+4.0
SNGZ	Shannon Statio	22.34	198	P	P	18 05 15.2	+3.6
ALRZ	Allen Road	22.45	200	P	P	18 05 16.0	+3.3
KNZ	Kokohu	22.46	197	P	P	18 05 17.7	+4.9
RAHZ	Arahi	22.54	198	P	P	18 05 16.8	+3.1
MRHZ	Matea Rd	22.67	200	P	P	18 05 17.2	+2.0
RATZ	Rangitukua	22.91	201	P	P	18 05 21.3	+3.6
HIZ	Hauiti	22.93	203	P	P	18 05 19.0	+1.3
HIZ				IAmb	IAmb	18 05 22.8	
	comp=Z,55nm,0.9s						
BKZ	Black Stump Fm	22.95	199	P	P	18 05 18.2	+0.1
PAE	Paea	23.26	94	*e*T	T	18 28 58.3	
	comp=Z,12nm,0.3s						
PPT2	Papeete2	23.27	93	*e*LQ	LQ	18 09 51.0	
	comp=Z,198nm,24.0s						
PPT2				*e*LR	LR	18 10 40.6	
	comp=Z,276nm,30.0s						
PPT2	Papeete2	23.27	93	*e*T	T	18 28 59.8	
	comp=Z,17nm,0.4s						
PPT	Papeete	23.27	93	LR	LR	18 12 54.0	
	comp=Z,14nm,20.2s,baz=278,slow=32						
TVO	Taravao	23.57	94	*e*T	T	18 29 07.5	
	comp=Z,3.1nm,0.4s						
TBI	Tubuai	23.64	108	*e*T	T	18 29 46.8	
	comp=Z,20nm,0.3s						
BFZ	Birch Farm	24.41	198	P	P	18 05 32.5	+0.7
BFZ				IAmb	IAmb	18 05 40.4	
	comp=Z,27nm,0.7s						
PMOR	Pomariorio Ree	25.18	88	*e*T	T	18 31 14.1	
	comp=Z,4.3nm,0.3s						
DUWZ	D'Urville Isla	25.28	202	P	P	18 05 41.2	+1.6
MSWZ	Moikau Station	25.39	199	P	P	18 05 46.1	+5.5
MSWZ	Moikau Station	25.39	199	P	P	18 05 43.0	+2.4
VAH	Vaihoa	25.40	88	*e*T	T	18 31 35.3	
	comp=Z,8.4nm,0.3s						
WEL	Wellington	25.42	200	P	P	18 05 45.9	+5.0
BHW	Baring Head	25.50	200	P	P	18 05 43.9	+2.3
TCW	Tory Channel	25.52	201	P	P	18 05 43.9	+2.1
PLWZ	Palliser	25.53	199	P	P	18 05 43.4	+1.5
QRZ	Quartz Range	25.82	204	P	P	18 05 46.0	+1.5
QRZ	Quartz Range	25.82	204	P	P	18 05 45.3	+0.8
QRZ				IAmb	IAmb	18 05 49.7	
	comp=Z,32nm,1.0s						
TUWZ	Tuamarina	25.83	201	P	P	18 05 46.4	+1.8
NNZ	Nelson	25.84	202	P	P	18 05 45.8	+1.2
NNZ	Nelson	25.84	202	P	P	18 05 45.6	+0.9
NNZ				IAmb	IAmb	18 06 37.9	
	comp=Z,34nm,1.4s						
BSWZ	Blackbirch Sta	26.11	201	P	P	18 05 48.2	+1.1
THZ	Tophouse	26.49	202	P	P	18 05 50.9	+0.3
THZ	Tophouse	26.49	202	P	P	18 05 50.9	+0.3
THZ				IAmb	IAmb	18 06 06.0	
	comp=Z,44nm,1.5s						
HNR	Honiara	26.60	285	LR	LR	18 13 38.5	
	comp=Z,44nm,21.9s,baz=144,slow=30						
KHZ	Kahutara	26.84	201	P	P	18 05 56.4	+2.7
KHZ	Kahutara	26.84	201	P	P	18 05 53.0	-0.7
KHZ				IAmb	IAmb	18 06 01.6	
	comp=Z,17nm,0.7s						
GVZ	Greta Valley S	27.50	201	P	P	18 06 05.2	+5.5
LTZ	Lake Taylor	27.61	202	P	P	18 06 03.6	+3.0
LTZ	Lake Taylor	27.61	202	P	P	18 06 02.0	+1.4
INZ	Inchbonnie	27.86	203	P	P	18 06 04.1	+1.2
OXZ	Oxford	28.17	202	P	P	18 06 12.1	+6.5
OXZ	Oxford	28.17	202	P	P	18 06 07.3	+1.7
OXZ				IAmb	IAmb	18 06 13.2	
	comp=Z,22nm,0.8s						
MQZ	McQueen's Vall	28.29	201	P	P	18 06 13.0	+6.4
MQZ	McQueen's Vall	28.29	201	P	P	18 06 09.5	+2.9
MQZ				IAmb	IAmb	18 06 33.0	
	comp=Z,42nm,1.6s						
WVZ	Waitaha Valley	28.43	204	P	P	18 06 13.9	+6.0
RPZ	Rata Peaks	28.86	203	P	P	18 06 14.0	+2.2
	comp=Z,8.0nm,0.5s,baz=341,slow=3.2,SNR=3.9						
RPZ	Rata Peaks	28.86	203	P	P	18 06 17.3	+5.6
RPZ	Rata Peaks	28.86	203	P	P	18 06 13.1	+1.3
FOZ	Fox Glacier	29.18	205	P	P	18 06 14.7	+0.1
ODZ	Otahua Downs	30.16	202	P	P	18 06 24.1	+1.0
MLZ	Mavora Lakes	31.38	205	P	P	18 06 34.9	+0.9
MLZ				IAmb	IAmb	18 07 28.5	
	comp=Z,34nm,1.4s						
ARMA	Armidale	33.72	241	P	P	18 06 56.3	+1.6
	baz=34,SNR=4.2						
TAOE	Nuku Hiva Isla	34.04	79	*e*T	T	18 42 10.0	
	comp=Z,41nm,0.2s						
RMQ	Roma	35.50	249	P	P	18 07 10.8	+0.6
	baz=36,SNR=5.7						
CTA	Charters Tower	37.63	260	P	P	18 07 27.6	-0.7
	comp=Z,5.0nm,0.8s,baz=98,slow=11,SNR=11						
MTSU	Mount Surprise	39.61	263	P	P	18 07 45.7	+0.7
	baz=40,SNR=4.1						
H11S2	WAKE ISLAND Hy	40.65	331	T	T	18 50 37.3	

baz=145,slow=76,SNR=8.1
H11S3 WAKE ISLAND Hy 40.66 331 T T 18 50 37.8
baz=145,slow=76,SNR=6.3
H11S1 WAKE ISLAND Hy 40.67 331 T T 18 50 39.7
baz=145,slow=76,SNR=8.5
COEN Coen 41.31 269 P **P** **18 07 59.4 +0.4**
baz=42,SNR=5.6
H11N3 WAKE ISLAND Hy 41.63 332 T T 18 51 54.9
baz=152,slow=74
H11N1 WAKE ISLAND Hy 41.64 332 T T 18 51 50.9
baz=152
H11N2 WAKE ISLAND Hy 41.65 332 T T 18 51 58.7
baz=152,slow=74
STKA Stephens Creek 42.43 242 P **P** **18 08 08.0 0.0**
comp=Z,2.6nm,0.8s,baz=52,slow=11,SNR=4.9
STKA LR LR 18 25 45.5
comp=Z,46nm,18.7s,baz=27,slow=36
STKA Stephens Creek 42.43 242 lAmb lAmb 18 08 15.6
comp=Z,2.9nm,1.4s
BBOO Buckleboo 47.20 241 P **P** **18 08 46.6 +0.6**
baz=47,SNR=7.7
WRA Warramunga Arr 48.80 259 P **P** **18 08 57.8 -0.8**
comp=Z,4.8nm,0.7s,baz=95,slow=7.8,SNR=29
AS31 Alice Springs 48.89 254 P **P** **18 08 59.0 -0.3**
AS31 lAmb lAmb 18 08 59.9
comp=Z,8.2nm,0.7s
ASAR Alice Springs 48.89 254 P **P** **18 08 59.0 -0.2**
comp=Z,32nm,0.6s,baz=90,slow=8.8,SNR=754
ASAR S **S** **18 15 52.7 -7.0**
comp=Z,0.9nm,0.8s,baz=89,slow=16,SNR=6.2
KDU Kakadu 51.77 268 P **P** **18 09 21.2 +0.2**
baz=52,SNR=3.4
WRKA Warakurna 53.91 252 P **P** **18 09 36.0 -0.8**
baz=54,SNR=32
KNRA Kununurra 54.69 263 P **P** **18 09 42.3 -0.1**
baz=55,SNR=3.8
SIJI Sorong 56.30 281 P **P** **18 09 54.7 +0.6**
comp=Z,2.4nm,0.5s,baz=158,slow=22,SNR=5.7
FITZ Fitzroy Crossi 57.21 260 P **P** **18 10 00.1 -0.3**
baz=57,SNR=9.9
VNDA Vanda 61.06 186 P **P** **18 10 27.2 +1.0**
VNDA pmax pmax
comp=Z,3.0nm,0.8s
VNDA Vanda 61.06 186 P **P** **18 10 27.7 +1.5**
comp=Z,1.9nm,0.9s,baz=35,slow=4.3,SNR=5.9
VNDA LR LR 18 33 56.2
comp=Z,6.3nm,20.1s,baz=68,slow=33
VNDA Vanda 61.06 186 P **P** **18 10 27.2 +1.0**
ERM Erimo 71.37 328 *e*P **P** **18 11 29.2 -3.4**
ERM pmax pmax
comp=Z,67nm,2.7s
QSPA South Pole Qui 72.37 180 P **P** **18 11 39.3 +0.7**
QSPA lAmb lAmb 18 12 07.0
comp=Z,18nm,1.1s
PETK Petropavlovsk- 74.62 343 P **P** **18 11 51.9 +0.2**
comp=Z,4.5nm,0.6s,baz=104,slow=9.0,SNR=13
ISA Isabella, Lake 74.68 44 P **P** **18 11 50.9 -1.6**
ISA pmax pmax
comp=Z,12nm,1.1s
ISA Isabella, Lake 74.68 44 P **P** **18 11 50.9 -1.6**
ISA lAmb lAmb 18 11 53.7
comp=Z,12nm,1.1s
CMB Columbia Colle 74.85 41 P **P** **18 11 52.4 -1.0**
CMB pmax pmax
comp=Z,5.0nm,0.9s
CMB Columbia Colle 74.85 41 P **P** **18 11 52.4 -1.0**
PFO Pinyon Flats O 74.89 47 *e*P **P** **18 11 52.9 -0.9**
PFO pmax pmax
comp=Z,19nm,2.5s
WAKR Walker 75.73 41 P **P** **18 11 58.2 -0.4**
YBH Yreka Blue Hor 75.76 37 P **P** **18 11 57.8 -0.8**
YBH pmax pmax
comp=Z,26nm,1.8s
YBH Yreka Blue Hor 75.76 37 P **P** **18 11 57.8 -0.8**
YBH lAmb lAmb 18 11 60.0
comp=Z,26nm,1.8s
NVAR Mina Array Bea 76.40 42 P **P** **18 12 02.3 -0.2**
comp=Z,4.3nm,0.8s,baz=228,slow=9.7,SNR=23
NVAR LR LR 18 40 37.2
comp=Z,45nm,18.4s,baz=273,slow=32
NV11 Mina Array Sit 76.50 42 P **P** **18 12 03.0 0.0**
TPNV Topopah Spring 76.89 44 P **P** **18 12 04.2 -1.0**
TPNV pmax pmax
comp=Z,5.0nm,0.9s
TPNV Topopah Spring 76.89 44 P **P** **18 12 04.2 -1.0**
KVN Kaiserville 76.89 41 P **P** **18 12 02.5 -2.7**
KVN pmax pmax
comp=Z,17nm,1.8s
KVN Kaiserville 76.89 41 P **P** **18 12 02.5 -2.7**
KVN lAmb lAmb 18 12 06.2
comp=Z,17nm,1.8s
MOD Modoc Plateau 77.26 38 P **P** **18 12 06.0 -1.2**
MOD lAmb lAmb 18 12 08.2
comp=Z,19nm,1.5s
SHPR Sheep Range 77.37 45 P **P** **18 12 07.0 -1.0**
Y14A Wickenburg 77.49 48 P **P** **18 12 06.7 -1.8**
Y14A lAmb lAmb 18 12 08.9
comp=Z,5.7nm,0.8s
PINE Pine Mountain 78.07 36 P **P** **18 12 11.5 -0.1**
R11A Troy Canyon, C 78.11 43 P **P** **18 12 10.9 -1.1**
R11A lAmb lAmb 18 12 13.5
comp=Z,17nm,1.9s
BMN Battle Mountai 78.25 41 P **P** **18 12 11.8 -0.9**
BMN pmax pmax
comp=Z,14nm,1.5s
BMN Battle Mountai 78.25 41 P **P** **18 12 11.8 -0.9**
BMN lAmb lAmb 18 12 13.8
comp=Z,14nm,1.4s
TUC Tucson 78.27 51 P **P** **18 12 12.7 -0.3**
TUC pmax pmax
comp=Z,28nm,1.8s
TUC Tucson 78.27 51 P **P** **18 12 12.7 -0.3**
TUC lAmb lAmb 18 12 14.3
comp=Z,28nm,1.8s
WVOR Wild Horse Val 78.57 38 P **P** **18 12 13.9 -0.5**
WVOR pmax pmax
comp=Z,8.0nm,1.3s
WVOR Wild Horse Val 78.57 38 P **P** **18 12 13.9 -0.5**
X16A Lo Mia Camp, P 78.85 48 P **P** **18 12 16.5 +0.3**
LCMT Little Creek M 78.94 45 P **P** **18 12 16.3 -0.2**
319A Douglas 78.94 52 P **P** **18 12 17.1 +0.5**
319A lAmb lAmb 18 12 18.0
comp=Z,15nm,1.0s
CCUT Cedar City 79.14 45 P **P** **18 12 17.7 -0.1**
KNB Kanab 79.23 46 P **P** **18 12 18.2 0.0**
KNB pmax pmax
comp=Z,6.0nm,0.8s
KNB Kanab 79.23 46 P **P** **18 12 18.2 0.0**
U15A North Rim 79.28 46 P **P** **18 12 18.3 -0.4**
PSUT Pine Spring 79.34 44 P **P** **18 12 18.5 -0.3**
WUAZ Wupatki 79.45 47 P **P** **18 12 19.5 +0.1**
ELK Elko 79.67 41 P **P** **18 12 19.6 -1.0**
ELK pmax pmax
comp=Z,2.0nm,0.7s
ELK Elko 79.67 41 P **P** **18 12 19.6 -1.0**
G08A Pilot Rock 80.11 36 P **P** **18 12 22.1 -0.6**
G08A lAmb lAmb 18 12 24.2
comp=Z,9.8nm,1.0s
MTPU Mount Pierson 80.20 45 P **P** **18 12 23.9 +0.3**
MSU Marysvale 80.45 45 P **P** **18 12 24.9 +0.1**
MSU Marysvale 80.45 45 P **P** **18 12 24.9 +0.1**
HAWA Hanford 80.47 35 P **P** **18 12 24.6 +0.2**
BMO Blue Mountains 80.78 37 P **P** **18 12 25.6 -0.7**
BMO pmax pmax
comp=Z,5.0nm,1.5s
BMO Blue Mountains 80.78 37 P **P** **18 12 25.6 -0.7**
E08A Dider Farm, El 80.79 35 P **P** **18 12 26.6 +0.5**
MFID Camas Ranch 80.81 39 P **P** **18 12 26.2 -0.4**
SUA Susitna One 81.04 11 P **P** **18 12 26.4 -0.9**
SUA lAmb lAmb 18 12 27.4
comp=Z,8.0nm,0.7s
NJ2 Nanjing 81.09 308 *e*P **P** **18 12 30.0 +1.9**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
GLI Glacier Island 81.23 13 P **P** **18 12 27.4 -0.7**
GLI lAmb lAmb 18 12 28.4
comp=Z,16nm,1.0s
F10A Beach Ranch, E 81.49 36 P **P** **18 12 29.1 -0.9**
TTA Tatalina 81.58 8 P **P** **18 12 30.2 +0.1**
TTA Tatalina 81.58 8 P **P** **18 12 30.2 +0.1**
GHO Glory Hole Cre 81.67 12 P **P** **18 12 30.2 -0.4**
GHO lAmb lAmb 18 12 31.0
comp=Z,16nm,1.2s
PLID Pearl Lake 81.67 37 P **P** **18 12 30.4 -0.9**
PLID lAmb lAmb 18 12 33.0
comp=Z,13nm,1.6s
B08A Colville Reser 81.79 33 P **P** **18 12 30.6 -0.9**
MESA MESA 81.81 16 P **P** **18 12 31.5 -0.1**
SRU San Rafael Swe 81.86 45 P **P** **18 12 32.3 0.0**
SRU pmax pmax
comp=Z,22nm,1.7s
SRU San Rafael Swe 81.86 45 P **P** **18 12 32.3 0.0**
LENM Lemitar 81.96 50 P **P** **18 12 33.5 +0.5**
C09A Chrisman Ranch 82.01 34 P **P** **18 12 32.4 -0.2**
C09A lAmb lAmb 18 12 33.3
comp=Z,24nm,1.5s
CRQM Cirque 82.02 15 P **P** **18 12 32.2 -0.4**
CRQM lAmb lAmb 18 12 33.2
comp=Z,7.1nm,0.8s
YAH Yahtse 82.03 16 P **P** **18 12 32.5 -0.1**
YAH lAmb lAmb 18 12 33.6
comp=Z,11nm,0.9s
SCM Sheep Creek Mo 82.04 12 P **P** **18 12 32.2 -0.4**
SCM pmax pmax
comp=Z,18nm,1.0s
SCM Sheep Creek Mo 82.04 12 P **P** **18 12 32.1 -0.4**
MNTX Cornudas Mount 82.04 53 P **P** **18 12 33.0 -0.2**
MA2 Magadan 82.16 343 *e*P **P** **18 12 32.2 -0.9**
MA2 pmax pmax
comp=Z,60nm,1.4s
TCUT Toone Canyon 82.31 43 P **P** **18 12 34.7 0.0**
TX31 Lajitas Ar. Si 82.35 56 P **P** **18 12 34.9 -0.1**
TX32 Lajitas Array 82.35 56 P **P** **18 12 35.4 +0.5**
TX32 lAmb lAmb 18 15 20.9
comp=Z,12nm,0.9s
TXAR Lajitas Array 82.35 56 P **P** **18 12 35.5 +0.5**
comp=Z,1.5nm,0.8s,baz=224,slow=3.5,SNR=13
VRDI Verde Repeater 82.36 14 P **P** **18 12 34.0 -0.4**
BALM Baldy 82.46 15 P **P** **18 12 34.4 -0.4**
GLB Gilahina Butte 82.46 14 P **P** **18 12 34.3 -0.4**
GLB lAmb lAmb 18 12 35.3
comp=Z,21nm,1.7s
PV09 Paradox Valley 82.50 46 P **P** **18 12 35.9 +0.2**
PV17 East Wray Mesa 82.51 46 P **P** **18 12 35.7 0.0**
PV14 Lion Creek, Pa 82.51 46 P **P** **18 12 35.8 +0.1**
PV14 lAmb lAmb 18 12 36.7
comp=Z,8.7nm,0.9s
PV18 Skein Mesa, Pa 82.53 46 P **P** **18 12 35.8 0.0**
PV20 West Nyswonger 82.53 46 P **P** **18 12 35.9 0.0**
PV20 lAmb lAmb 18 12 36.8
comp=Z,7.1nm,0.9s
PV13 Radium Mtn., P 82.55 46 P **P** **18 12 35.9 0.0**
PV13 lAmb lAmb 18 12 36.3
comp=Z,8.5nm,1.1s
PV16 Nyswonger Mesa 82.55 46 P **P** **18 12 35.7 -0.3**
PV16 lAmb lAmb 18 12 36.2
comp=Z,13nm,1.4s
PV23 Carpenter Ridg 82.56 46 P **P** **18 12 36.2 +0.1**
PV03 Paradox Valley 82.57 46 P **P** **18 12 35.9 -0.1**
PV03 lAmb lAmb 18 14 13.2
comp=Z,20nm,1.9s
PV04 Paradox Valley 82.60 46 P **P** **18 12 36.4 +0.2**
PV04 lAmb lAmb 18 12 37.1
comp=Z,8.0nm,0.8s
PV02 Paradox Valley 82.63 46 P **P** **18 12 36.2 -0.2**
PV02 lAmb lAmb 18 12 37.3
comp=Z,7.5nm,1.0s
PV12 Saucer Basin, 82.64 46 P **P** **18 12 36.5 +0.2**
PV21 Cone Mtn., Par 82.64 46 P **P** **18 12 36.9 +0.4**
PV21 lAmb lAmb 18 12 37.4
comp=Z,11nm,0.7s
BARN Barnard Glacie 82.65 15 P **P** **18 12 35.8 -0.1**
CTGM Chitina Glacie 82.65 15 P **P** **18 12 35.6 -0.2**
CTGM lAmb lAmb 18 12 36.3
comp=Z,6.8nm,0.8s
ANMO Albuquerque 82.70 50 *e*P **P** **18 12 35.8 -1.0**
ANMO pmax pmax
comp=Z,8.0nm,1.3s
ANMO Albuquerque 82.70 50 P **P** **18 12 36.9 +0.1**
PV01 Paradox Valley 82.71 46 P **P** **18 12 36.5 -0.3**
PV01 lAmb lAmb 18 12 37.5
comp=Z,7.7nm,0.7s
PV22 Blue Mesa, Par 82.75 46 P **P** **18 12 37.0 0.0**
PV07 Paradox Valley 82.80 46 P **P** **18 12 36.6 -0.7**
PV07 lAmb lAmb 18 12 38.0
comp=Z,5.8nm,0.7s
KTH Kantishna Hill 82.95 10 P **P** **18 12 36.2 -1.1**
TRF Thorofare Moun 82.96 10 P **P** **18 12 36.7 -0.7**
DHY Denali Highway 83.16 12 P **P** **18 12 37.7 -0.7**
DHY lAmb lAmb 18 14 43.2
comp=Z,29nm,2.0s
RND Reindeer 83.18 11 P **P** **18 12 38.3 -0.1**
RND pmax pmax
comp=Z,16nm,1.0s
RND Reindeer 83.18 11 P **P** **18 12 38.3 -0.1**
RND lAmb lAmb 18 12 39.0
comp=Z,16nm,1.0s
MCMT McKenzie Canyo 83.38 39 P **P** **18 12 40.0 -0.2**
MCK McKinley 83.46 11 P **P** **18 12 39.3 -0.5**
MCK pmax pmax
comp=Z,19nm,0.9s
MCK McKinley 83.46 11 P **P** **18 12 39.3 -0.5**
S22A 4UR Ranch, Cre 83.73 47 P **P** **18 12 42.7 +0.5**
S22A lAmb lAmb 18 12 43.4
comp=Z,8.7nm,0.8s
MENT Mentasta 83.80 13 P **P** **18 12 41.6 +0.1**
DLMT Dillon 83.82 39 P **P** **18 12 42.2 0.0**
DLMT lAmb lAmb 18 12 43.2
comp=Z,10nm,1.1s
REDW Red Top Meadow 83.83 41 P **P** **18 12 42.0 -0.4**
REDW lAmb lAmb 18 12 43.2
comp=Z,9.2nm,1.1s
TPAW Teton Pass 83.83 41 P **P** **18 12 42.3 -0.2**
TPAW lAmb lAmb 18 12 43.4
comp=Z,12nm,1.1s
MSO Missoula 83.84 37 P **P** **18 12 41.6 -0.7**
MSO lAmb lAmb 18 12 43.2
comp=Z,17nm,1.6s
O20A White River Ci 83.90 45 P **P** **18 12 42.5 -0.4**
IMW Indian Meadow 84.05 40 P **P** **18 12 43.7 +0.1**
IMW lAmb lAmb 18 12 44.5
comp=Z,7.0nm,0.9s
MOOW Moose Ponds 84.09 41 P **P** **18 12 43.4 -0.3**
MOOW lAmb lAmb 18 12 51.8
comp=Z,15nm,2.0s
QLMT Earthquake Lak 84.24 39 P **P** **18 12 45.0 +0.6**
WRH Wood River Hil 84.29 11 P **P** **18 12 43.5 -0.5**
FLWY Flagg Ranch 84.30 40 P **P** **18 12 45.1 +0.3**
FLWY lAmb lAmb 18 12 46.0
comp=Z,12nm,0.9s
BW06 Boulder Array 84.34 42 P **P** **18 12 44.4 -0.7**
PD31 Pinedale Array 84.34 42 P **P** **18 12 44.3 -0.8**
PDAR Pinedale Array 84.34 42 P **P** **18 12 44.0 -1.0**
comp=Z,4.5nm,0.8s,baz=212,slow=3.1,SNR=41
YHB Horse Butte 84.34 40 P **P** **18 12 45.5 +0.6**
MLY Manley 84.35 10 P **P** **18 12 43.3 -1.1**
MLY lAmb lAmb 18 12 44.3
comp=Z,8.5nm,1.0s
YMR Madison River 84.44 40 P **P** **18 12 46.0 +0.5**
HDA Harding Lake 84.45 11 P **P** **18 12 44.3 -0.5**
HDA lAmb lAmb 18 12 46.0
comp=Z,12nm,0.8s
CCB Clear Creek Bu 84.50 11 P **P** **18 12 44.5 -0.5**
BOZ Bozeman (W) 84.52 39 P **P** **18 12 45.6 -0.2**
BOZ pmax pmax
comp=Z,9.0nm,1.0s
BOZ Bozeman (W) 84.52 39 P **P** **18 12 45.6 -0.2**
BOZ lAmb lAmb 18 12 46.7
comp=Z,9.3nm,0.9s
H17A Grant Village 84.53 40 P **P** **18 12 47.4 +1.3**
SEY Seymchan 84.57 345 *e*P **P** **18 12 43.8 -1.6**
YHH Holmes Hill 84.57 40 P **P** **18 12 46.5 +0.3**
COLA College 84.70 11 *e*P **P** **18 12 45.6 -0.4**
COLA pmax pmax
comp=Z,31nm,0.9s
COLA College 84.70 11 P **P** **18 12 45.9 -0.1**
MDM Murphy Dome 84.71 11 P **P** **18 12 45.5 -0.6**
IL31 84.79 11 P **P** **18 12 45.8 -0.7**
IL31 lAmb lAmb 18 12 46.2
comp=Z,6.9nm,0.9s
ILAR Eielson Array 84.79 11 P **P** **18 12 45.5 -0.9**
comp=Z,3.4nm,0.8s,baz=236,slow=6.1,SNR=24
HRY Holter Researc 85.00 38 P **P** **18 12 48.0 -0.2**
MSTX Muleshoe 85.00 52 P **P** **18 12 48.0 -0.4**
WALA Waterton Lakes 85.11 35 P **P** **18 12 48.1 -0.5**
YNE Yellowstone No 85.19 40 P **P** **18 12 49.5 +0.2**
RWWY Rawlins 85.33 44 P **P** **18 12 50.4 +0.3**
RWWY lAmb lAmb 18 12 50.4
comp=Z,6.7nm,0.8s
MAW Mawson 85.46 199 P **P** **18 12 50.7 +0.8**
comp=Z,2.5nm,0.8s,baz=129,slow=9.7,SNR=4.9
PRP Porcupine Dome 85.71 11 P **P** **18 12 50.9 -0.4**
DAWY Dawson 85.77 15 P **P** **18 12 51.6 +0.2**
BILL Bilibino 86.69 353 *e*P **P** **18 12 54.8 -1.0**
BILL pmax pmax
comp=Z,15nm,1.2s
BILL Bilibino 86.69 353 P **P** **18 12 55.9 0.0**
ABTX Abilene, Hawle 86.85 54 P **P** **18 12 57.4 -0.1**
PLCA Paso Flores 88.41 132 P **P** **18 13 05.3 +0.3**
comp=Z,1.6nm,0.8s,baz=277,slow=6.4,SNR=3.7
PLCA LR LR 18 43 48.5
comp=Z,16nm,19.6s,baz=190,slow=30
HHC Hu-ho-hao-te 90.16 313 P **P** **18 13 14.6 +1.5**
HHC pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 90.61 14 P **P** **18 13 14.1 -0.3**
comp=Z,1.8nm,0.9s,baz=185,slow=8.0,SNR=3.7
SNAA Sanae 90.67 177 P **P** **18 13 14.6 -0.4**
SNAA Sanae 90.67 177 P **P** **18 13 15.0 +0.1**
SNAA pmax pmax
comp=Z,6.0nm,1.1s
SNAA Sanae 90.67 177 P **P** **18 13 15.0 +0.1**
SNAA lAmb lAmb 18 13 43.1
comp=Z,6.3nm,1.1s
VNA2 Neumayer--Watz 91.13 176 P **P** **18 13 16.7 -0.3**
baz=165,slow=2.4
VNA1 Neumayer--Stat 91.33 175 P **P** **18 13 17.3 -0.6**
YKA Yellowknife Ar 92.41 24 P **P** **18 13 22.3 -0.5**
comp=Z,0.7nm,0.7s,baz=236,slow=4.1,SNR=8.6
CMAR Chiang Mai Arr 92.79 288 P **P** **18 13 27.6 +2.0**
comp=Z,1.0nm,0.9s,baz=116,slow=2.9,SNR=7.4
NNA Nana 93.09 104 *e*P P 18 13 34.6 +7.4
NNA pmax pmax
comp=Z,11nm,1.2s
LZH Lanzhou 94.11 306 *e*P **P** **18 13 30.7 -0.9**
LZH pP pP 18 13 48.0 +2.1
LZH sP sP 18 13 54.6 +3.2
LZH *e*PP **PP** **18 17 21.3 +2.5**
LZH pmax pmax
comp=Z,20nm,1.4s
LZH pmax pmax
comp=Z,130nm,6.2s
LZH LR LR
comp=Z,160nm,17.5s
LZH LR LR
comp=Z,170nm,17.2s
LZH LR LR
comp=Z,220nm,19.7s
MGMO Mountain Grove 94.13 52 P **P** **18 13 31.1 -0.3**
ULM Lac du Bonnet 96.06 39 P **P** **18 13 37.9 -2.0**
comp=Z,4.1nm,0.8s,baz=252,slow=9.1,SNR=5.2
SONM Songino Array 96.16 318 P **P** **18 13 41.6 +1.0**
comp=Z,0.2nm,0.7s,baz=125,slow=7.2,SNR=2.0
KSH Kashi 116.36 306 PKP **PKiKP** **18 19 00.3 +3.9**
KSH PP PP 18 20 14.1 +11
KSH PKS **PKSdf** **18 22 36.5 +3.3**
OBN Obninsk 135.95 335 *i* PKiKP **PKPdf** **18 19 32.5 -0.6**
OBN pmax pmax
comp=Z,15nm,1.2s
KMBO Kilima Mbogo 144.00 242 PKP **PKPdf** **18 19 51.0 +1.7**
comp=Z,1.0nm,0.4s,baz=65,slow=4.4,SNR=4.1
CLL Collm 146.00 352 ǁ *i* PKP2 **PKPdf** **18 19 51.6 +0.3**
CLL pmax pmax
comp=Z,30nm,1.1s
CLL Collm 146.00 352 ǁ *i* PKPbc **PKPdf** **18 19 51.6 +0.3**
comp=Z,30nm,1.1s
CLL *i* PKiKP **PKiKP** **18 19 55.5 +0.1**
CLL *es*PKiKP **sPKiKP** **18 20 18.0 +2.4**
KOLS Kolonicke sedl 146.15 341 *e*PKP2 **PKPab** **18 19 53.1 -0.2**
KOLS Kolonicke sedl 146.15 341 *e*PKP **PKPab** **18 19 53.1 -0.2**
BRG Berggiesshubel 146.29 351 *e*PKP **PKPdf** **18 19 51.5 -0.3**
comp=Z,14nm,1.0s
BRG Berggiesshubel 146.29 351 *e*PKP2 **PKPdf** **18 19 51.5 -0.3**
BRG pmax pmax
comp=Z,15nm,1.0s
DPC Dobruska-Polom 146.38 348 *e*PKP2 **PKPab** **18 19 53.7 -0.5**
DPC Dobruska-Polom 146.38 348 *e*PKP **PKPab** **18 19 53.7 -0.5**
UZH Uzhgorod 146.41 340 ǁ *i* PKP2 **PKPbc** **18 19 53.7 +0.3**
KRLC Kraliky 146.54 347 *e*PKP2 **PKPbc** **18 19 53.9 +0.1**
KRLC Kraliky 146.54 347 *e*PKP **PKPbc** **18 19 53.9 +0.1**
LANS Liptovska Anna 146.77 344 *e*PKP2 **PKPab** **18 19 55.6 -0.2**
LANS Liptovska Anna 146.77 344 *e*PKP **PKPab** **18 19 55.6 -0.2**
PRU Pruhonice 147.05 350 *e*PKP2 **PKPbc** **18 19 55.3 +0.1**
PRU Pruhonice 147.05 350 *e*PKP **PKPbc** **18 19 55.3 +0.1**
BRTR Keskin Array B 147.52 318 PKP2 **PKPbc** **18 19 57.0 -0.1**
BRTR Keskin Array B 147.52 318 PKPbc **PKPbc** **18 19 57.0 -0.1**
comp=Z,2.9nm,0.9s,baz=137,slow=3.5,SNR=5.5
VYHS Vyhne 147.54 344 *e*PKP2 **PKPbc** **18 19 57.1 +0.5**
VYHS Vyhne 147.54 344 *e*PKP **PKPbc** **18 19 57.1 +0.5**
KHC Kasperske Hory 148.04 351 *e*PKP2 **PKPbc** **18 19 58.0 0.0**
KHC Kasperske Hory 148.04 351 *e*PKP **PKPbc** **18 19 58.0 0.0**
MODS Modra-Piesok 148.04 346 *e*PKP2 **PKPbc** **18 19 58.0 0.0**
MODS Modra-Piesok 148.04 346 *e*PKP **PKPbc** **18 19 58.0 0.0**
GERES GERESS Array B 148.30 350 PKPbc **PKPbc** **18 19 58.8 +0.1**
comp=Z,2.4nm,0.8s,baz=308,slow=3.2,SNR=5.9
CONA Conrad Observa 148.78 347 *i* PKiKP **PKiKP** **18 20 00.8 -0.6**
comp=Z,8.2nm,1.2s
MPLH Magyarpolny 149.10 345 *e*PKiKPc **PKPbc** **18 20 01.0 +0.3**
BFO Black Forest 149.38 357 *i* PKP2 **PKiKP** **18 20 04.1 +1.5**
MORH Mrgy, Hungar 149.68 342 *e*PKiKP **PKPbc** **18 20 01.1 -1.1**
FETA Feichten 150.49 353 *i* PKiKP **PKiKP** **18 20 05.6 +0.5**
comp=Z,9.6nm,1.1s
ABTA Abfaltersbach 150.52 351 *i* PKPbc **PKPbc** **18 20 03.7 -0.6**
comp=Z,14nm,1.2s
FUORN Ofenpass-Fuorn 150.93 354 **PKiKP** **18 20 05.9 -0.2**
ESDC Sonseca Array 156.44 20 PKPab **PKPab** **18 20 36.0 -0.1**
comp=Z,0.4nm,0.3s,baz=330,slow=3.5,SNR=4.8
TORD Torodi Ar. Bea 173.87 137 PKP **PKPdf** **18 20 21.4 -1.4**
comp=Z,0.9nm,0.9s,baz=326,slow=4.3,SNR=3.3
TORD PKPab **PKPab** **18 21 53.1 -0.2**
comp=Z,2.4nm,0.8s,baz=193,slow=5.9,SNR=12
TORD Torodi Ar. Bea 173.87 137 P **PKPab** **18 21 53.1 -0.2**

IDC ***05*** *18:11:00.7±0.5,36.70N×73.21E,h0km,mb4.4/24, mb1 4.5/30,mb1mx4.4/46,mbtmp4.4/30,ML4.1/6,MS3.8/29, Ms1 3.8/29,ms1mx3.7/50,Error ellipse: s-maj=11.3km s-min=11.0km az=118.0*

ISCJB ***05*** *18:11:05.9±0.1,36.70N±0.02×73.27E±0.02,h42km, mb4.7/80,MS3.9/31,Error ellipse: s-maj=2.8km s-min=2.5km az=5.2*

GCMT ***05*** *18:11:05.7±0.4,36.72N±0.03×73.14E±0.03,h27km±2km, MW4.8/72,Moment Tensor Solution. s11,c12; s72,c90; Duration: 0 Moment tensor: Scale 1016Nm; Mrr0.27±.15; Mθθ-1.46±.11; Mϕϕ1.19±.10; Mrθ-0.20±.21; Mrϕ-1.01±.07; Mθϕ0.68±.17; Best double couple: Mo1.82400×1016 NP1:ϕs29.00000°,δ74.00000°,λ18.00000°. NP2: ϕs294.00000°,δ73.00000°,λ163.00000°. Principal axes: T 1.8470, Plg24.0000°, Azm252.0000°; N -0.0440, Plg66.0000°, Azm70.0000°; P -1.8010, Plg1.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***05*** *18:11:05.0±1.2,36.71N×73.30E,h33km,mb4.8/26, MS4.1/4 Error ellipse: s-maj=6.2km s-min=4.1km az=92.6*

BJI ***05*** *18:11:06.6±0.0,36.72N×73.40E,h40km,mb4.7/37, mB4.8/29,ML4.9/3,Ms4.4/29,MS7 4.2/21*

NEIC ***05*** *18:11:06.7±2.0,36.75N±0.05×73.21E±0.07,h35km±1km, mb4.8/74*

NNC ***05*** *18:11:08.8±2.6,36.74N×72.89E,h118km±32km,mb4.3, mpv5.0,Error ellipse: s-maj=21.4km s-min=14.9km az=165.0*

ISC 05 18:11:07.1±0.3,36.69N±0.03×73.18E±0.03,h42km,n344, σ2s15/350,mb4.7/105,MS3.9/31,24C-16D,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRNI	**Srinagar**	**2.92**	**152**	*ex*	**Pn**	**18 11 54.0**	**+3.0**
SRNI				*ex*	x	18 12 47.0	
CHCP	**Chirah Chowk**	**3.02**	**179**	P	**Pn**	**18 11 56.4**	**+3.9**
NIL	**Nilore**	**3.03**	**179**	P	Pn	18 11 59.0	+6.4
NIL	**Nilore**	**3.03**	**179**	PN	**Pn**	**18 11 55.8**	**+3.2**
NIL	**Nilore**	**3.03**	**179**		**Pn**	**18 11 55.8**	**+3.2**
CEP	**Cherat**	**3.04**	**200**	P	**Pn**	**18 11 56.2**	**+3.4**
CEP				S	Sn	18 12 38.0	+10
GAR	**Garm**	**3.24**	**316**		**Pn**	**18 11 57.4**	**+1.9**
KSH	**Kashi**	**3.58**	**37**	P	**Pn**	**18 11 56.9**	**-3.2**
KSH				S	**Sn**	**18 12 35.8**	**-5.4**

CHGR Chuyangaron 3.75 303 Pn 18 12 03.7 +1.3
BTK Batken 3.84 332 PN Pn 18 12 06.3 +2.6
BTK Batken 3.84 332 Pn 18 12 06.3 +2.6
KBL Kabul 4.00 239 P Pn 18 12 09.2 +3.2
KBL Kabul 4.00 239 PN Pn 18 12 08.7 +2.7
KBL Kabul 4.00 239 Pn 18 12 08.7 +2.7
THW Thamme Wali 4.06 197 P Pn 18 12 10.4 +3.7
JMU Jammu 4.21 160 *ex* **Pn 18 12 07.0 -1.7**
JMU *ex* x 18 12 22.0
ARSB Arslanbob 4.63 358 Pn 18 12 14.4 -0.2
THN Then Dam 4.73 153 *eP* **Pn 18 12 18.0 +2.1**
THN *eS* **Sn 18 13 15.5 +6.0**
SARP Sargodha 4.78 185 P Pn 18 12 19.4 +2.9
DHRM DHARAMSHALA 5.12 149 *eP* **Pn 18 12 23.6 +2.1**
DHRM IAML 18 13 34.4
comp=N,437nm,0.7s
DHRM IAML 18 13 37.9
comp=E,433nm,0.4s
DHRM IAML 18 14 02.9
comp=N,574nm,1.2s
DHRM IAML 18 14 05.2
comp=E,800nm,0.9s
NRN Naryn 5.22 24 PN Pn 18 12 23.5 +0.7
NRN Naryn 5.22 24 Pn 18 12 23.5 +0.7
AML Almayashu 5.45 4 P Pn 18 12 28.1 +2.0
SNR=57
TAS Tashkent 5.54 328 PN Pn 18 12 28.0 +1.1
TAS Tashkent 5.54 328 Pn 18 12 28.0 +1.1
KZA Kyzart 5.61 16 P Pn 18 12 29.9 +1.6
SNR=35
UCH Uchtor 5.62 10 P Pn 18 12 30.2 +1.6
SNR=23
BHK Bhakra 5.90 152 *eP* **Pn 18 12 33.0 +1.0**
BHK *eS* **Sn 18 13 43.2 +4.8**
EKS2 Erkin-Say 5.98 4 P Pn 18 12 35.8 +2.6
SNR=14
AAK Ala-Archa 6.03 9 P Pn 18 12 35.5 +1.7
AAK Ala-Archa 6.03 9 P Pn 18 12 35.6 +1.7
SNR=20
AAK Ala-Archa 6.03 9 *i* PN **Pn 18 12 35.2 +1.5**
AAK pmax pmax
comp=Z,92nm,0.8s
AAK Ala-Archa 6.03 9 Pn Pn 18 12 35.5 +1.7
comp=Z,9.8nm,0.3s,baz=167,slow=7.1,SNR=80
AAK Sn **Sn 18 13 43.7 +2.2**
comp=Z,2.8nm,0.3s,baz=176,slow=22,SNR=4.1
AAK Lg Lg 18 14 11.9
comp=Z,4.0nm,0.3s,baz=336,slow=18,SNR=4.0
AAK LR LR 18 14 30.9
comp=Z,155nm,19.3s,baz=186,slow=35
AAK Ala-Archa 6.03 9 P Pn 18 12 35.6 +1.8
SNR=67
AAK Ala-Archa 6.03 9 Pn 18 12 34.6 +0.9
AAK Ala-Archa 6.03 9 ⇑P Pn 18 12 35.2 +1.5
comp=Z,92nm,0.8s
AAK ⇓S **Sn 18 13 44.5 +2.9**
comp=Z,175nm,0.8s
ULHL Ulahol 6.03 22 P Pn 18 12 37.6 +3.7
SNR=7.6
KBK Karagaybulak 6.11 12 P Pn 18 12 36.5 +1.6
SNR=38
TARG Taragay, Kyrgy 6.18 34 Pn 18 12 37.4 +1.3
FRU1 Bishkek 6.21 10 PN Pn 18 12 38.5 +2.2
FRU1 Bishkek 6.21 10 Pn 18 12 38.5 +2.2
KDJ Kajisay 6.25 28 PN Pn 18 12 38.0 +1.1
KDJ Kajisay 6.25 28 Pn 18 12 38.0 +1.1
CHMS Chumysh 6.42 10 P Pn 18 12 40.5 +1.5
SNR=61
SMLA Simla 6.46 148 *eP* **Pn 18 12 40.6 +1.0**
SMLA *eS* **Sn 18 13 55.9 +3.9**
SMLA IAML 18 14 05.0
comp=E,3μm,0.9s
SMLA IAML 18 14 05.0
comp=N,300nm,0.3s
TKM2 Tokmak 2 6.49 16 *i* PN **Pn 18 12 41.5 +1.3**
TKM2 pmax pmax
comp=Z,91nm,0.9s
TKM2 Tokmak 2 6.49 16 P Pn 18 12 42.0 +1.8
SNR=56
TKM2 Tokmak 2 6.49 16 ⇑P Pn 18 12 41.5 +1.3
comp=Z,91nm,0.9s
TKM2 ⇓S **Sn 18 13 55.0 +1.9**
comp=Z,95nm,0.7s
USP Ospenovka 6.65 8 P Pn 18 12 43.4 +1.3
SNR=20
KK31 Karatay Array 6.73 343 PN Pn 18 12 43.6 +0.4
KK31 Karatay Array 6.73 343 Pn 18 12 43.6 +0.4
KK31 Karatay Array 6.73 343 P Pn 18 12 43.6 +0.4
comp=Z,16nm,0.3s,baz=155,slow=12,SNR=244
KK31 ⇓S **Sn 18 13 57.7 -0.9**
comp=Z,62nm,0.6s,baz=157,slow=24,SNR=4.1
KKAR Karatay Array 6.73 343 PN Pn 18 12 43.5 +0.2
KKAR Karatay Array 6.73 343 Pn 18 12 43.5 +0.2
PRZ Przheval'sk 7.05 33 PN Pn 18 12 49.3 +1.5
PRZ Przheval'sk 7.05 33 Pn 18 12 49.3 +1.5
MDOK Medeo 7.11 23 ⇓P Pn 18 12 54.3 +5.6
comp=Z,71nm,0.8s
MDOK ⇓S **Sn 18 14 15.7 +7.4**
comp=Z,204nm,1.2s
KNDC Almaty 7.14 23 ⇑P Pn 18 12 52.4 +3.5
comp=Z,169nm,0.9s
KNDC ⇑S **Sn 18 14 10.6 +1.9**
comp=Z,1μm,1.2s
PDGK Podgornoye 8.21 34 P Pn 18 13 03.1 -0.5
PDGK Podgornoye 8.21 34 ⇓P Pn 18 13 03.1 -0.5
comp=Z,110nm,1.1s
PDGK ⇑S **Sn 18 14 37.1 +2.0**
comp=Z,300nm,1.2s
NDI New Delhi 8.68 156 *eP* **Pn 18 13 10.0 0.0**
HRA Herat 9.21 259 Pn 18 13 19.2 +1.7
LGTI Lohaghat 9.34 139 *eP* **Pn 18 13 17.4 -1.6**
LGTI *ex* x 18 16 10.9
AJM Ajmer 10.26 173 *eP* **Pn 18 13 31.0 -0.7**
AJM *eS* **Sn 18 15 22.0 -3.4**
MAKZ Makanchi 12.05 30 P Pn 18 13 55.2 -0.8
MAKZ Makanchi 12.05 30 Pn 18 13 55.2 -0.8
MAKZ Makanchi 12.05 30 ⇓P Pn 18 13 54.7 -1.4
comp=Z,22nm,1.4s
GEYT Alibeck 12.06 280 Pn Pn 18 13 53.8 -2.5
comp=Z,6.7nm,0.3s,baz=96,slow=11,SNR=61
GEYT Sn **Sn 18 16 06.0 -3.6**
comp=Z,1.4nm,0.3s,baz=108,slow=18,SNR=3.9
GEYT LR LR 18 19 53.4
comp=Z,908nm,19.6s,baz=150,slow=44
GYA0B ALIBECK ARRAY 12.06 280 Pn 18 13 53.9 -2.5
GYA0B ALIBECK ARRAY 12.06 280 ⇓P Pn 18 13 52.9 -3.4
GYA0B ⇑S **Sn 18 16 05.3 -4.2**
MK31 Makanchi Array 12.16 31 P Pn 18 13 57.7 +0.1
MK31 Makanchi Array 12.16 31 Pn 18 13 57.7 +0.1
MK31 Makanchi Array 12.16 31 ⇑P Pn 18 13 57.8 +0.2
comp=Z,40nm,1.2s,baz=213,slow=13,SNR=59
MKAR Makanchi Array 12.16 31 *i* P **Pn 18 13 57.7 0.0**
MKAR pmax pmax
comp=Z,15nm,1.1s
MKAR Makanchi Array 12.16 31 Pn Pn 18 13 57.3 -0.4
comp=Z,0.4nm,0.3s,baz=202,slow=12,SNR=22
MKAR Lg Lg 18 17 27.1
comp=Z,0.2nm,0.3s,baz=196,slow=19,SNR=3.1
MKAR LR LR 18 18 14.7
comp=Z,170nm,18.0s,baz=216,slow=36
DANN Dangsing 12.19 130 *eP* **Pn 18 13 54.3 -4.1**
comp=Z,134nm,0.6s
KOLN Koldanda 12.52 132 *eP* Pn 18 13 58.3 -4.4
comp=Z,82nm,0.7s
GKN Gorkha 12.98 129 *eP* **Pn 18 14 05.0 -4.1**
comp=Z,123nm,0.6s
WMQ Urumqi 13.16 53 *eP* P 18 14 34.3 +14
WMQ pmax pmax
comp=Z,230nm,4.7s
WMQ LR LR
comp=N,390nm,28.9s
WMQ LR LR
comp=E,2μm,29.0s
WMQ LR LR
comp=Z,180nm,29.0s
WMQ Urumqi 13.16 53 P Pn 18 14 08.6 -2.8
WMQ Urumqi 13.16 53 Pn 18 14 08.6 -2.8
KKN Kakani 13.54 128 *eP* Pn 18 14 11.4 -5.3
comp=Z,72nm,0.6s
DMN Daman 13.55 129 *eP* Pn 18 14 12.3 -4.7
comp=Z,166nm,0.9s
BHUJ Bhuj 13.73 194 *eP* **Pn 18 14 17.1 -2.1**
BHUJ *eS* **Sn 18 16 42.0 -8.3**
BHUJ IAML 18 16 58.0
comp=E,33nm,0.3s
BHUJ IAML 18 17 04.2
comp=N,24nm,0.7s
PKIN Phulchoki 13.76 128 *eP* Pn 18 14 14.3 -5.5
comp=N,51nm,0.6s
PKI Pulchoki 13.77 128 *eP* Pn 18 14 14.5 -5.5
comp=N,71nm,0.7s
GUN Gumba 13.84 126 *eP* Pn 18 14 15.4 -5.6
comp=N,100nm,1.0s
BHPL Bhopal 13.89 164 *eP* **Pn 18 14 20.0 -1.4**
BHPL *ex* x 18 16 49.7
JIRN Jiri 14.21 126 *eP* Pn 18 14 20.5 -5.5
comp=N,151nm,0.6s
KURBB Kurchatov Arra 14.45 14 Pn Pn 18 14 27.4 -1.3
comp=N,0.1nm,0.3s,baz=203,slow=12,SNR=8.9
KURBB Sn **Sn 18 17 12.2 +4.7**
baz=219,slow=26,SNR=3.1
KURBB Lg Lg 18 18 34.5
comp=N,0.0nm,0.3s,baz=207,slow=30,SNR=5.4
KURBB Kurchatov Arra 14.45 14 ⇑P Pn 18 14 25.4 -3.3
comp=N,32nm,0.7s
KURK Kurchatov 14.55 14 P Pn 18 14 28.6 -1.5
SNR=11
KURK Kurchatov 14.55 14 *eP* **Pn 18 14 27.4 -2.7**
KURK pmax pmax
comp=Z,19nm,1.1s
KURK Kurchatov 14.55 14 Pn 18 14 27.2 -2.9
KURK Kurchatov 14.55 14 ⇑P Pn 18 14 27.2 -2.9
comp=Z,32nm,0.9s
RAMN Ramite 14.96 127 *eP* Pn 18 14 29.2 -6.7
comp=Z,85nm,0.8s
TAPN Taplejung 15.43 123 *eP* **Pn 18 14 35.5 -6.6**
comp=Z,42nm,0.5s
ODAN Odare 15.54 125 *eP* **Pn 18 14 37.0 -6.4**
comp=Z,66nm,0.6s
AB31 Akbulak array 15.83 327 ⇓P Pn 18 14 42.6 -4.3
comp=Z,15nm,0.6s,baz=136,slow=11,SNR=159
AB31 ⇑S **Sn 18 17 33.4 -7.7**
comp=Z,8.2nm,0.6s,baz=137,slow=25,SNR=4.6
ABKAR Akbulak array 15.83 327 Pn 18 14 42.3 -4.5
GTK Tadong 16.05 121 *eP* **Pn 18 14 50.8 +0.9**
GTK *ex* x 18 19 50.8
NGP Nagpur 16.31 160 *ex* **Pn 18 14 47.8 -5.2**
NGP *ex* x 18 14 48.7
NGP *i* x x 18 14 55.5
NGP IAmb IAmb 18 14 58.3
comp=Z,93nm,1.1s
NGP *ex* x 18 17 43.5
BVAR Borovoye Array 16.45 354 Pn Pn 18 14 52.3 -2.3
comp=Z,0.7nm,0.3s,baz=158,slow=11,SNR=23
BVAR Lg Lg 18 19 44.5
comp=Z,0.1nm,0.3s,baz=182,slow=26,SNR=3.2
BRVK Borovoye 16.49 354 P Pn 18 14 53.5 -1.7
SNR=16
BRVK Borovoye 16.49 354 *ce* **P Pn 18 14 54.6 -0.6**
BRVK pmax pmax
comp=Z,10.0nm,0.9s
BRVK Borovoye 16.49 354 Pn 18 14 52.4 -2.8
BRVK Borovoye 16.49 354 ⇑P Pn 18 14 52.2 -3.0
comp=Z,34nm,1.1s
LSA Lhasa 16.56 110 P Pn 18 14 52.9 -3.8
LSA pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 16.56 110 P Pn 18 14 52.9 -3.8
BOK Bokaro 16.88 136 *ex* **Pn 18 14 54.7 -5.5**
AKTO Aktyubinsk 17.55 326 P Pn 18 15 06.9 -1.4
comp=Z,1.5nm,0.3s,baz=131,slow=13,SNR=33
AKTO S Sn 18 18 11.8 -11
comp=Z,0.1nm,0.3s,baz=77,slow=15,SNR=2.1
AKTO LR LR 18 22 22.5
comp=Z,534nm,19.4s,baz=140,slow=39
AKTO Aktyubinsk 17.55 326 ⇑P Pn 18 15 06.4 -2.0
comp=Z,41nm,1.0s
AKTO ⇓S **Sn 18 18 16.6 -6.0**
comp=Z,26nm,1.1s
BANOM Banah 17.95 238 *i* P **Pn 18 15 12.9 -0.7**
SNR=7.4
BANOM Banah 17.95 238 P Pn 18 15 13.1 -0.4
SHME Shamm 17.98 239 P P 18 15 15.0 +1.0
POO Poona 18.10 178 *ex* **Pn 18 15 13.0 -2.4**
WSAR Wadi Sarin 18.37 227 P Pn 18 15 21.6 +3.0
WSAR Wadi Sarin 18.37 227 P P 18 15 16.4 -2.0
comp=Z,0.1nm,0.3s,baz=21,slow=8.6,SNR=2.2
WSAR LR LR 18 24 11.7
comp=Z,224nm,20.9s,baz=97,slow=43
MSFE Esma-Masafi 18.42 237 P Pn 18 15 19.8 +0.5
WBK Wadi Bani Khal 18.66 225 P Pn 18 15 26.8 +4.6
UOSS Minazif 18.67 236 P Pn 18 15 22.7 +0.5
HATD Hatta, Dubai 18.80 236 P Pn 18 15 24.2 +0.4
HATD Hatta, Dubai 18.80 236 P Pn 18 15 27.7 +3.9
HOQ Hoqain 18.91 231 P Pn 18 15 28.1 +2.9
ASHO Ashiyiah 18.94 236 P Pn 18 15 26.1 +0.6
ASHO Ashiyiah 18.94 236 P Pn 18 15 26.7 +1.2
SNR=8.1
NAZ Nazwa, Dubai 19.00 237 P Pn 18 15 27.2 +1.0
ZAA0 Zalesovo Array 19.05 21 P P 18 15 24.2 -1.3
ZAA0 IAmb IAmb 18 15 28.4
comp=Z,42nm,0.8s
ZAA0 Zalesovo Array 19.05 21 ⇓P P 18 15 24.1 -1.4
comp=Z,7.1nm,0.8s
ZALV Zalesovo Beam 19.05 21 P P 18 15 24.7 -0.9
comp=Z,1.9nm,0.3s,baz=205,slow=11,SNR=27
ZALV S **Sn 18 18 58.2 -0.7**
comp=Z,0.7nm,0.3s,baz=228,slow=19,SNR=2.5
ZALV Lg Lg 18 21 03.3
baz=209,slow=30,SNR=2.4
ZALV LR LR 18 22 27.8
comp=Z,94nm,19.7s,baz=64,slow=36
KAD Karad 19.33 177 *eP* **P 18 15 28.5 -0.3**
KAD *ex* x 18 18 17.5
JMDO Jabal Madar 19.35 227 P Pn 18 15 31.9 +1.5
SNR=9.6
SHL Shillong 19.44 120 P P 18 15 30.6 +0.4
SNR=7.3
SHL Shillong 19.44 120 P P 18 15 26.1 -4.1
SHL pmax pmax
comp=Z,21nm,0.9s
SHL Shillong 19.44 120 *ex* **P 18 15 26.0 -4.1**
SHL Shillong 19.44 120 P P 18 15 26.1 -4.1
ASUD Al Ashush, Dub 19.47 237 P Pn 18 15 31.3 -0.5
BSY Bisya 19.60 229 P Pn 18 15 35.3 +1.9
HYB Hyderabad 19.78 165 *i* P **P 18 15 32.0 -1.7**
HYB *eS* **Sn 18 19 21.0 +4.1**
AKT Akhty 20.30 291 *eP* **P 18 15 40.7 +1.3**
AKT *e* 18 15 58.8
AKT pmax pmax
comp=Z,25nm,0.7s
MAK Makhachkala 20.65 296 *eP* **P 18 15 44.7 +1.7**
MAK *eS* Sn 18 19 35.1 -2.4
MAK pmax pmax
comp=Z,188nm,1.0s
MAK MLR MLR
comp=Z,497nm,14.0s
GTA Gaotai 21.12 75 ⇑P P 18 15 48.5 +0.2
GTA sS Sn 18 19 52.8 +3.6
GTA pmax pmax
comp=Z,7.0nm,0.8s
GTA pmax pmax
comp=Z,170nm,6.7s
GTA LR LR
comp=Z,360nm,15.2s
GTA LR LR
comp=Z,310nm,15.9s
GTA LR LR
comp=Z,420nm,16.2s
SVE Sverdlovsk 21.83 341 *eP* **P 18 15 55.8 +0.2**
SVE pmax pmax
comp=Z,33nm,0.9s
GROC Groznyy 21.92 296 *eP* **P 18 15 58.2 +1.5**
GROC *e* 18 16 21.1
GROC *eS* **S 18 19 59.3 +2.9**
GROC pmax pmax
comp=Z,77nm,1.1s
ARU Arti 22.07 338 *d* *iP* **P 18 15 59.0 +0.9**
ARU 18 16 20.2
ARU S **S 18 20 04.3 +5.4**
ARU SS **SnSn 18 20 30.0 +2.9**
ARU pmax pmax
comp=Z,41nm,1.1s
ARU Arti 22.07 338 P P 18 15 56.4 -1.8
comp=Z,6.9nm,0.8s,baz=161,slow=7.8,SNR=20
ARU LR 18 23 57.7
comp=Z,159nm,20.3s,baz=154,slow=35
ARU Arti 22.07 338 P P 18 15 56.3 -1.8
ARU IAmb IAmb 18 16 00.8
comp=Z,40nm,1.1s
GNI Garni 22.51 288 *i* P **P 18 16 03.0 -0.1**
SNR=15
GNI Garni 22.51 288 P P 18 16 05.9 +2.7
SNR=11
GNI Garni 22.51 288 *eP* **P 18 16 06.0 +2.7**
GNI pmax pmax
comp=Z,189nm,1.0s
GNI Garni 22.51 288 P P 18 16 04.7 +1.4
comp=Z,8.1nm,0.5s,baz=139,slow=9.5,SNR=8.3
GNI LR LR 18 27 33.0
comp=Z,170nm,19.9s,baz=89,slow=44
GNI Garni 22.51 288 P P 18 16 03.1 -0.1
GNI IAmb IAmb 18 16 11.6
comp=Z,58nm,0.9s
TBLG Delisi 22.56 292 P P 18 16 04.8 +1.2
TBLG pmax pmax
comp=Z,39nm,1.1s
TBLG Delisi 22.56 292 P P 18 16 04.8 +1.2
TBLG IAmb IAmb 18 16 13.0
comp=Z,39nm,1.1s
ZEI Tsey 23.26 294 *eP* **P 18 16 10.9 0.0**
ZEI pmax pmax
comp=Z,19nm,0.8s
AKH Akhalkalaki 23.47 291 P P 18 16 14.2 +1.2
AKH pmax pmax
comp=Z,34nm,0.9s
AKH Akhalkalaki 23.47 291 P P 18 16 14.2 +1.2
AKH IAmb IAmb 18 16 21.4
comp=Z,34nm,0.9s
NCK Nalchik 23.55 296 *eP* **P 18 16 13.7 +0.1**
NCK pmax pmax
comp=Z,48nm,0.8s
SIMRM Sittwe 23.85 128 P P 18 16 15.5 -0.9
KBZ Khabaz 24.08 296 *eP* **P 18 16 20.1 +1.7**
KBZ Khabaz 24.08 296 P P 18 16 17.6 -0.8
comp=Z,6.4nm,0.9s,baz=113,slow=7.2,SNR=8.2
KBZ LR LR 18 27 25.2
comp=Z,241nm,21.0s,baz=91,slow=41
NEY Neytrino 24.16 295 *eP* **P 18 16 22.1 +2.7**
NEY pmax pmax
comp=Z,2.0nm,0.8s
GOF Gofitskoye 24.17 300 ⇑ *eP* **P 18 16 20.7 +1.5**
GOF pmax pmax
comp=Z,20nm,0.7s
KVAR Kislovodsk Arr 24.26 297 P P 18 16 22.2 +2.0
comp=Z,3.7nm,0.7s,baz=270,slow=19,SNR=4.6
KIV Kislovodsk 24.26 297 P P 18 16 20.3 +0.1
KIV Kislovodsk 24.26 297 *eP* **P 18 16 20.8 +0.6**
KIV pmax pmax
comp=Z,37nm,1.0s
KIV MLR MLR
comp=Z,652nm,15.0s
KIV Kislovodsk 24.26 297 P P 18 16 20.7 +0.5
KIV IAmb IAmb 18 17 04.1
comp=Z,19nm,0.8s
MOY Mondy 24.74 44 *eP* **P 18 16 27.2 +2.7**
MOY pmax pmax
comp=Z,14nm,1.4s
DMTO DMTO 24.82 225 P P 18 16 26.8 +1.4
WHFO Wadi Hawf 25.35 228 P P 18 16 31.2 +1.0
ZAK Zakamensk 25.55 48 *eP* **P 18 16 30.3 -1.5**
ZAK pmax pmax
comp=Z,11nm,1.1s
ABTO Aybut 26.07 228 P P 18 16 37.7 +0.9
TLY Talaya 26.25 46 LR LR 18 28 09.5
comp=Z,184nm,20.1s,baz=244,slow=39
VRH Novokhopyorsk 26.65 313 *eP* **P 18 16 43.3 +1.7**
VRH pmax pmax
comp=Z,10.0nm,0.6s
SONM Songino Array 26.79 55 P P 18 16 43.4 +0.3
comp=Z,3.6nm,0.8s,baz=259,slow=10,SNR=24
SONM LR LR 18 27 55.0
comp=Z,344nm,18.6s,baz=252,slow=38
RAYN Ar Rayn 27.20 249 *i* P **P 18 16 46.2 -0.7**
SNR=9.4
RAYN Ar Rayn 27.20 249 P P 18 16 46.2 -0.7
RAYN pmax pmax
comp=Z,6.0nm,0.9s
RAYN Ar Rayn 27.20 249 P P 18 16 46.2 -0.7
ULN Ulaanbaatar 27.23 55 *eP* **P 18 16 49.3 +2.2**
ULN pmax pmax
comp=Z,5.0nm,1.1s
ULN Ulaanbaatar 27.23 55 P P 18 16 46.9 -0.2
VORD Divnogorie 28.02 311 *eP* P 18 16 58.8 +4.9
VORD pmax pmax
comp=Z,6.0nm,0.5s
ANN Anapa 28.09 298 *eP* **P 18 16 58.1 +3.5**
ANN pmax pmax
comp=Z,181nm,1.1s
VSR Storozhevoye 28.17 312 *eP* **P 18 16 55.6 +0.3**
VSR pmax pmax
comp=Z,9.0nm,0.8s
MHMT Maesarieng 28.54 124 P P 18 17 00.8 +1.9
comp=Z,17nm,0.7s
LPSR Galich'ya Gora 28.76 314 *eP* **P 18 17 01.5 +1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
CHTO Chiang Mai 28.79 121 P P 18 17 02.6 +1.5
CHTO Chiang Mai 28.79 121 P P 18 17 01.5 +0.4
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 28.79 121 P P 18 17 01.5 +0.4
CMMT Chiang Mai 28.79 121 P P 18 17 03.4 +2.3
comp=Z,3.5nm,1.0s
CM31 Chiang Mai Arr 29.03 122 P P 18 17 03.5 +0.3
CMAR Chiang Mai Arr 29.03 122 *ce* **P P 18 17 04.4 +1.2**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 29.03 122 P P 18 17 02.0 -1.2
comp=Z,3.7nm,0.8s,baz=304,slow=9.5,SNR=26
XAN Xi'an 29.16 84 P P 18 17 04.1 -0.2
XAN S **S 18 21 54.8 +1.1**
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN pmax pmax
comp=Z,80nm,5.2s
XAN LR LR
comp=Z,560nm,18.6s
XAN LR LR
comp=Z,250nm,16.9s
GYA Guiyang 30.16 100 ⇑ *iP* **P 18 17 13.4 +0.1**
GYA PP **PnPn 18 18 15.7 +4.0**
GYA S **S 18 22 06.8 -2.9**
GYA SS **SnSn 18 23 48.0 +2.7**
GYA pmax pmax
comp=Z,10.0nm,0.7s
GYA pmax pmax
comp=Z,110nm,4.3s
GYA LR LR
comp=Z,770nm,15.8s
GYA LR LR
comp=Z,270nm,12.6s
GYA LR LR
comp=Z,370nm,9.9s
PRGR Permogore 30.35 334 *eP* **P 18 17 13.6 -0.8**
PRGR pmax pmax
comp=Z,7.0nm,0.6s
ENH Enshi 30.82 91 P P 18 17 19.3 +0.3
ENH IAmb IAmb 18 17 25.2
comp=Z,12nm,0.9s
OBN Obninsk 30.95 318 *eP* **P 18 17 22.0 +2.2**
OBN *e* 18 18 22.4
OBN pmax pmax
comp=Z,79nm,1.8s
OBN Obninsk 30.95 318 P P 18 17 19.4 -0.5
OBN IAmb IAmb 18 17 23.3
comp=Z,20nm,0.7s
BR131 Keskin Array S 31.05 288 *eP* **P 18 17 21.9 +0.8**
BR131 Keskin Array S 31.05 288 P P 18 17 21.8 +0.7
BRTR Keskin Array B 31.05 288 P P 18 17 22.1 +1.0
comp=Z,3.9nm,0.6s,baz=105,slow=9.1,SNR=29
BRTR LR LR 18 33 16.0
comp=Z,66nm,18.5s,baz=68,slow=43
UTHA Uthaitani 31.42 125 P P 18 17 25.7 +1.3
comp=Z,17μm,0.9s
PBKT Sadao Pong 31.73 122 P P 18 17 33.1 +6.1
comp=Z,3.2nm,1.0s,comp=Z,778nm
PBKT Sadao Pong 31.73 122 P P 18 17 27.3 +0.3
CHAI Chaiyaphum 32.89 121 P P 18 17 38.2 +1.0
comp=Z,17μm,0.9s
PHET Kaeng Krachan 33.51 128 P P 18 17 44.6 +2.0
comp=Z,33μm,0.9s
SKNT Sakolnakorn 33.55 118 P P 18 17 42.8 -0.3
comp=Z,28nm,1.1s
NRIK Noril'sk 33.64 9 P P 18 17 43.4 +0.2
comp=Z,2.5nm,0.3s,baz=181,slow=5.8,SNR=4.3

AKASG Malin Array Be 34.20 308 *ce*P P 18 17 49.0 +0.7
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 34.20 308 P P 18 17 48.5 +0.1
comp=Z,1.4nm,0.5s,baz=104,slow=10,SNR=8.8
AKASG LR LR 18 33 22.6
comp=Z,115nm,18.9s,baz=310,slow=39
ELL Elmali 34.47 283 P P 18 17 51.9 +0.9
ELL pmax pmax
comp=Z,48nm,0.8s
ELL Elmali 34.47 283 P P 18 17 51.9 +0.9
WHN Wuhan 34.63 88 P P 18 17 53.0 +0.8
WHN LR LR
comp=Z,950nm,12.4s
WHN LR LR
comp=Z,260nm,5.9s
WHN LR LR
comp=Z,460nm,13.5s
VRI Vrincioaia 35.66 300 P P 18 18 03.4 +2.4
TESR Tescani 35.70 301 P P 18 18 03.9 +2.6
PLOR Plostina 35.71 300 ⇑P P 18 18 03.5 +2.0
MLR Muntele Rosu 36.22 299 P P 18 18 07.1 +1.1
MLR pmax pmax
comp=Z,17nm,1.0s
MLR Muntele Rosu 36.22 299 ⇑P P 18 18 07.7 +1.7
MLR Muntele Rosu 36.22 299 P P 18 18 07.1 +1.1
MLR IAmb IAmb 18 18 17.1
comp=Z,18nm,1.0s
SGRR Singureni 36.29 297 P P 18 18 08.3 +1.9
ELND Elena 36.48 295 P P 18 18 09.2 +1.1
DOPR Dopca 36.59 300 ⇓P P 18 18 10.4 +1.4
BURAR Bucovina Array 36.66 303 ⇓P P 18 18 11.6 +2.0
VOIR 36.85 299 ⇑P P 18 18 12.2 +0.9
ATD Arta Tunnel 37.05 235 P P 18 18 15.6 +2.4
ATD IAmb IAmb 18 18 20.5
comp=Z,14nm,0.9s
ARR Arges 37.15 299 P P 18 18 13.0 -0.8
ARCR ARCALIA 37.26 302 ⇓P P 18 18 16.2 +1.6
FINES FINESS Array B 38.32 325 *i* P P 18 18 23.2 -0.1
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 38.32 325 P P 18 18 23.6 +0.4
comp=Z,3.2nm,0.6s,baz=116,slow=8.9,SNR=14
FINES LR LR 18 34 56.7
comp=Z,447nm,18.1s,baz=98,slow=38
DRGR 38.40 301 ⇓P P 18 18 25.5 +1.2
TRPA Tarpa 38.45 304 ⇑P P 18 18 25.3 +0.7
TRPA mb 18 18 45.0
VTS Vitosha 38.45 295 P P 18 18 25.6 +0.7
VTS pmax pmax
comp=Z,3.0nm,0.8s
VTS Vitosha 38.45 295 ⇑P P 18 18 25.6 +0.7
VTS Vitosha 38.45 295 P P 18 18 25.6 +0.7
KOLS Kolonicke sedl 38.61 305 *eP* P 18 18 27.6 +1.6
KOLS Kolonicke sedl 38.61 305 *eP* P 18 18 27.6 +1.6
BZS Buzias 39.25 300 P P 18 18 32.0 +0.7
CN2 Changchun 39.96 63 *eP* P 18 18 39.2 +1.9
ZEA Zeya 40.64 48 *eP* P 18 18 45.4 +2.6
ZEA pmax pmax
comp=Z,12nm,1.0s
ZEA MLR MLR
comp=Z,500nm,16.0s
IPM Ipoh 40.99 135 P P 18 18 45.5 -0.7
IPM IAmb IAmb 18 19 50.6
comp=Z,28nm,1.3s
ARCES ARCESS Array B 41.65 337 P P 18 18 51.1 +0.2
comp=Z,4.1nm,0.5s,baz=112,slow=7.1,SNR=23
ARCES LR LR 18 36 56.8
comp=Z,416nm,19.5s,baz=138,slow=37
MORC Moravsky Berou 41.66 306 P P 18 18 53.3 +2.0
MORC mb 18 18 59.4
YAK Yakutsk 42.79 35 *eP* P 18 18 58.8 -1.4
YAK *e**PP pP 18 19 03.8 -10
YAK *e*PPP PPP 18 20 49.8
YAK *e*S **S** **18 25 23.0 +1.9**
YAK *e**SS **sS** **18 25 36.4 -6.7**
YAK pmax pmax
comp=Z,8.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,112nm,4.3s
YAK pmax pmax
comp=N,56nm,3.2s
YAK pmax pmax
comp=E,59nm,3.5s
YAK smax smax
comp=N,110nm,3.5s
YAK smax smax
comp=E,68nm,4.3s
YAK MLR MLR
comp=Z,112nm,16.0s
YAK MLR MLR
comp=N,68nm,17.0s
YAK MLR MLR
comp=E,68nm,18.0s
KSRS Korea Array 43.15 72 P P 18 19 02.6 -0.9
comp=E,2.0nm,0.6s,baz=282,slow=10.0,SNR=9.5
KLR Kul'dur 43.61 54 *eP* P 18 19 07.5 +0.5
KLR pmax pmax
comp=Z,5.0nm,0.8s
KLR Kul'dur 43.61 54 LR LR 18 39 30.0
comp=Z,131nm,18.2s,baz=277,slow=39
GERES GERESS Array B 44.25 305 P P 18 19 12.2 -0.2
comp=Z,0.5nm,0.5s,baz=85,slow=12,SNR=3.3
GERES LR LR 18 38 56.9
comp=Z,226nm,20.9s,baz=104,slow=38
USRK Ussuriysk Ar. 44.54 61 P P 18 19 19.1 +4.6
comp=Z,2.8nm,0.8s,baz=290,slow=9.9,SNR=3.5
USRK LR LR 18 40 14.2
comp=Z,170nm,18.2s,baz=279,slow=39
TIXI Tiksi 44.94 22 *eP* P 18 19 19.4 +2.0
TIXI pmax pmax
comp=Z,7.0nm,0.7s
TIXI Tiksi 44.94 22 P P 18 19 16.7 -0.7
TIXI IAmb IAmb 18 19 24.8
comp=Z,7.3nm,0.7s
NB2 NORSAR Subarra 45.29 323 P P 18 19 19.3 -1.0
comp=Z,1.9nm,0.5s,baz=93,slow=7.9
NOA NORSAR Array B 45.29 323 P P 18 19 19.5 -0.9
comp=Z,3.3nm,0.6s,baz=93,slow=7.6,SNR=11
NOA LR LR 18 39 22.1
comp=Z,207nm,20.1s,baz=280,slow=38
MURB Monte Urbino 46.05 298 P P 18 19 27.7 +1.0
KRJI Kerinci 46.70 139 P P 18 19 32.8 +0.8
comp=Z,102nm,0.8s
LATE Laterza 46.72 297 P P 18 19 32.0 +0.1
LATE IAmb IAmb 18 19 43.1
comp=Z,28nm,1.4s
JNU Nakatsue 46.84 76 P P 18 19 32.4 -0.5
comp=Z,10nm,0.9s,baz=8.0,slow=1.2,SNR=5.4
JNU Nakatsue 46.84 76 P P 18 19 32.7 -0.2
SBUM Sibu 49.53 124 P P 18 19 54.1 +0.3
KMBO Kilima Mbogo 50.27 230 *ce*P P 18 20 01.3 +1.6
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 50.27 230 P P 18 20 02.7 +3.0
comp=Z,1.9nm,0.6s,baz=29,slow=10,SNR=6.0
KMBO LR LR 18 42 41.7
comp=Z,49nm,18.4s,baz=90,slow=38
LWLI Liwa 50.54 139 P P 18 19 59.0 -2.5
comp=Z,14nm,0.6s
KEST Kesra 50.64 289 P P 18 20 04.3 +2.2
comp=Z,6.2nm,0.8s,baz=347,slow=7.0,SNR=5.0
STKI Sintang 50.84 127 P P 18 20 04.3 +0.6
KASI Kota Agung 51.19 138 P P 18 20 01.4 -4.9
comp=Z,28nm,0.9s
MJAR Matsushiro Arr 51.25 69 P P 18 20 06.3 -0.3
comp=Z,2.3nm,0.9s,baz=284,slow=11,SNR=3.1
MJAR LR LR 18 43 21.8
comp=Z,71nm,18.1s,baz=270,slow=38
MBAR Mbarara 54.06 236 *eP* P 18 20 28.8 +1.0
MBAR pmax pmax
comp=Z,8.0nm,0.9s
MBAR Mbarara 54.06 236 P P 18 20 28.6 +0.8
MBAR IAmb IAmb 18 20 29.9
comp=Z,8.6nm,0.8s
DAG Danmarks Havn 55.04 344 *i* P P 18 20 34.0 +0.1
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 55.04 344 *i* P P 18 20 34.0 +0.1
comp=Z,5.5nm,0.9s
BILL Bilibino 57.66 26 *eP* P 18 20 54.4 +1.7
BILL *e* pmax pmax 18 23 02.7
BILL
comp=Z,2.0nm,1.0s
JCJ Chichijima 58.24 78 LR LR 18 48 01.5
comp=Z,40nm,18.9s,baz=301,slow=38
PEA0B Petropavlovsk- 58.60 45 *eP* P **18 21 02.0 +2.5**
PETK Petropavlovsk- 58.60 45 LR LR 18 48 39.6
comp=Z,72nm,19.2s,baz=247,slow=39
ESDC Sonseca Array 58.92 299 P P **18 21 01.5 -0.5**
comp=Z,1.2nm,0.6s,baz=53,slow=7.2,SNR=11
SUMG Summit 61.45 341 *i* P P **18 21 20.0 +0.9**
SUMG Summit 61.45 341 *i* P P **18 21 20.0 +0.9**
SUMG Summit 61.45 341 P P **18 21 19.7 +0.5**
SANI Sanana 62.32 116 P P **18 21 24.1 -1.2**
comp=Z,7.9nm,1.1s
SOEI Soe 66.57 123 P P 18 22 03.2 +10
SOEI Soe 66.57 123 P P **18 21 52.0 -1.2**
TOA0 Torodi Ar. Sit 67.48 270 P P **18 21 57.1 -1.8**
TOA0 IAmb IAmb 18 21 57.9
comp=Z,7.3nm,1.1s
TORD Torodi Ar. Bea 67.48 270 P P **18 21 57.0 -1.9**
comp=Z,3.9nm,0.6s,baz=52,slow=5.0,SNR=10
TORD LR LR 18 57 53.5
comp=Z,39nm,19.9s,baz=345,slow=42
FAKI Fak Fak 67.51 112 P P 18 21 59.4 +0.3
FAKI IAmb IAmb 18 22 04.9
comp=Z,5.4nm,0.9s
COLD Coldfoot 71.30 16 P P 18 22 23.8 +2.0
COLD IAmb IAmb 18 24 44.3
comp=Z,22nm,2.0s
INK Inuvik 73.42 10 P P 18 22 34.3 0.0
comp=Z,3.5nm,0.6s,baz=336,slow=5.9,SNR=15
INK Inuvik 73.42 10 P P 18 22 34.2 -0.1
INK IAmb IAmb 18 22 45.6
comp=Z,13nm,1.4s
FITZ Fitzroy Crossi 73.61 128 P P 18 22 36.8 +0.7
FITZ IAmb IAmb 18 22 37.8
comp=Z,9.2nm,1.0s
BPAW Bear Paw Mtn. 73.67 19 P P 18 22 36.6 +0.7
BPAW IAmb IAmb 18 25 10.7
comp=Z,36nm,2.0s
COLA College 73.80 17 *eP* P 18 22 40.1 +3.5
COLA pmax pmax
comp=Z,14nm,1.5s
KNRA Kununurra 73.86 124 P P 18 22 38.5 +0.9
IL31 74.11 17 P P 18 22 39.8 +1.5
IL31 IAmb IAmb 18 23 03.2
comp=Z,12nm,1.5s
ILAR Eielson Array 74.11 17 P P 18 22 37.6 -0.8
comp=Z,1.8nm,0.9s,baz=317,slow=4.8,SNR=16
ILAR LR LR 18 58 07.5
comp=Z,63nm,19.2s,baz=314,slow=38
KTH Kantishna Hill 74.13 19 P P 18 22 38.5 -0.2
PPLA Purkeypile 74.32 20 P P 18 22 39.7 -0.2
TRF Thorofare Moun 74.38 19 P P 18 22 40.8 +0.5
TRF IAmb IAmb 18 23 35.6
comp=Z,34nm,1.8s
RND Reindeer 74.78 18 P P 18 22 41.6 -0.9
RND pmax pmax
comp=Z,26nm,1.8s
RND Reindeer 74.78 18 P P 18 22 41.6 -0.9
RND IAmb IAmb 18 24 36.8
comp=Z,26nm,1.8s
SKT Skwentna 75.25 20 P P 18 22 45.3 +0.1
SKT IAmb IAmb 18 22 54.4
comp=Z,13nm,1.2s
DHY Denali Highway 75.42 18 P P 18 22 47.1 +0.8
DHY IAmb IAmb 18 22 53.8
comp=Z,7.0nm,0.8s
SUA Susitna One 75.89 20 P P 18 22 48.0 -0.9
SUA IAmb IAmb 18 24 08.5
comp=Z,28nm,1.7s
PAX Paxson 75.97 17 P P 18 22 49.8 +0.5
PAX pmax pmax
comp=Z,8.0nm,1.1s
PAX Paxson 75.97 17 P P 18 22 49.8 +0.5
LBTB Lobatse 76.01 224 P P 18 22 51.3 +1.3
LBTB pmax pmax
comp=Z,44nm,1.8s
LBTB Lobatse 76.01 224 P P 18 22 51.4 +1.3
DAWY Dawson 76.32 14 P P 18 22 50.5 -0.7
DBIC Dimbokro 76.46 268 LR LR 19 00 39.7
comp=Z,59nm,18.5s,baz=26,slow=39
SCM Sheep Creek Mo 76.49 18 P P 18 22 52.7 +0.4
SCM pmax pmax
comp=Z,10.0nm,0.8s
SCM Sheep Creek Mo 76.49 18 P P 18 22 52.7 +0.4
SCM IAmb IAmb 18 22 57.7
comp=Z,10.0nm,0.8s
KDAK Kodiak Island 78.35 23 P P 18 23 02.3 -0.3
comp=Z,5.7nm,0.9s,baz=330,slow=8.1,SNR=3.8
KDAK Kodiak Island 78.35 23 P P 18 23 02.0 -0.6
BALM Baldy 78.39 17 P P 18 23 03.0 +0.1
BALM IAmb IAmb 18 23 11.0
comp=Z,17nm,1.5s
CRQM Cirque 78.45 17 P P 18 23 03.0 -0.4
CRQM IAmb IAmb 18 23 33.6
comp=Z,26nm,1.8s
TGL Tana Glacier 78.52 17 P P 18 23 03.3 -0.4
TGL IAmb IAmb 18 25 08.5
comp=Z,31nm,2.0s
BARN Barnard Glacie 78.53 16 P P 18 23 02.4 -1.4
BARN IAmb IAmb 18 23 12.5
comp=Z,13nm,1.5s
OHAK Old Harbor 78.58 24 P P 18 23 03.2 -0.6
CTGM Chitina Glacie 78.69 16 P P 18 23 03.6 -1.0
CTGM IAmb IAmb 18 24 45.4
comp=Z,15nm,1.5s
WAX Waxell Ridge 78.79 17 P P 18 23 04.5 -0.6
BOSA Boshof 79.04 222 P P 18 23 07.2 +0.4
comp=Z,3.1nm,0.9s,baz=53,slow=10,SNR=3.0
BOSA Boshof 79.04 222 P P 18 23 06.5 -0.4
YAH Yahtse 79.12 17 P P 18 23 06.1 -1.1
YAH IAmb IAmb 18 24 13.6
comp=Z,33nm,2.0s
WB0 Warramunga Arr 80.53 123 P P 18 23 14.7 -0.3
WB0 IAmb IAmb 18 23 15.9
comp=Z,9.7nm,0.8s
NWAO Narrogin (SRO) 80.56 144 P P 18 23 14.3 -0.5
NWAO pmax pmax
comp=Z,112nm,2.0s
NWAO Narrogin (SRO) 80.56 144 P P 18 23 14.3 -0.5
WRA Warramunga Arr 80.61 123 P P 18 23 15.5 0.0
comp=Z,12nm,0.8s,baz=321,slow=5.2,SNR=66
WRAB Tennant Creek 80.61 123 *eP* P 18 23 15.5 0.0
WRAB pmax pmax
comp=Z,18nm,0.9s
WRAB Tennant Creek 80.61 123 P P 18 23 15.4 0.0
WRAB IAmb IAmb 18 23 16.5
comp=Z,16nm,0.8s
WB2 Warramunga Arr 80.62 123 P P 18 23 15.6 +0.1
WB2 IAmb IAmb 18 23 16.5
comp=Z,14nm,0.8s
WR0 Warramunga Arr 80.76 123 P P 18 23 16.1 -0.2
WR0 IAmb IAmb 18 23 17.1
comp=Z,9.9nm,0.8s
YKW3 Yellowknife Ar 80.89 4 P P 18 23 16.9 +0.5
YKA Yellowknife Ar 80.96 4 P P 18 23 16.3 -0.4
comp=Z,4.3nm,0.8s,baz=347,slow=5.3,SNR=27
SCHQ Schefferville 82.59 338 LR LR 18 59 04.3
comp=Z,113nm,21.4s,baz=360,slow=35
COEN Coen 82.85 113 P P 18 23 27.9 +0.5
COEN IAmb IAmb 18 23 28.3
comp=Z,6.5nm,0.9s
AS31 Alice Springs 82.94 126 P P 18 23 28.0 +0.3
ASAR Alice Springs 82.94 126 P P 18 23 27.6 -0.1
comp=Z,5.2nm,0.7s,baz=312,slow=5.3,SNR=65
PMG Port Moresby 82.97 107 P P 18 23 27.5 -0.5
PMG pmax pmax
comp=Z,16nm,0.9s
PMG Port Moresby 82.97 107 P P 18 23 27.5 -0.5
FORT Forrest 84.54 135 P P 18 23 36.5 +0.9
CTA Charters Tower 89.03 116 P P 18 23 57.8 0.0
comp=Z,2.9nm,0.6s,baz=324,slow=4.5,SNR=7.4
SHEL Horse Pasture 90.81 251 P P 18 24 06.0 -0.2
SHEL pmax pmax
comp=Z,305nm,1.6s
SHEL Horse Pasture 90.81 251 P P 18 24 06.0 -0.2
STKA Stephens Creek 93.50 128 LR LR 19 09 55.9
comp=Z,28nm,21.9s,baz=209,slow=38
NEW Newport 94.92 7 LR LR 19 10 26.7
comp=Z,62nm,19.1s,baz=16,slow=38
L59A Walton 96.30 337 P P 18 24 31.2 0.0
GO06 Curarrehue 152.16 253 **PKiKP** 18 30 58.7 +0.4

*KRSC **05** 18:29:30.2±1.3,53°.15N×160°.74E,h60km±14km,ML4.2*
*ISCJB **05** 18:29:32.4±0.5,53°.18N±0°.03×160°.67E±0°.06,h57km±5km, mb3.6/11,MS3.2/1,Error ellipse: s-maj=7.5km s-min=3.0km az=38.2*
*IDC **05** 18:29:36.8±1.9,53°.39N×160°.27E,h81km±17km,mb3.3/11, mb1 3.6/11,mb1mx3.3/42,mbtmp3.6/11,MS3.3/1, Ms1 3.3/1,ms1mx2.5/29,Error ellipse: s-maj=24.3km s-min=16.3km az=148.0*

ISC 05 18:29:32.6±1.1,53°.17N±0°.04×160°.70E±0°.05,h45km±10km, n57,σ1°.916/78,mb3.7/11,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.42**	**260**	*eP*	**Pn**	**18 29 42.7**	**+0.2**
SPN				*eS*	**Sn**	**18 29 49.6**	**0.0**
NLC	**Nalytchevo**	**0.82**	**271**	*eP*	**Pn**	**18 29 47.6**	**-0.1**
NLC				*eS*	**Sn**	**18 29 58.4**	**-0.3**
SDLR	**Sedlovina**	**1.10**	**276**	*eP*	**Pn**	**18 29 51.7**	**0.0**
SDLR				*eS*	**Sn**	**18 30 05.8**	**0.0**
UGLR	**Uglovaya**	**1.13**	**273**	*eP*	**Pn**	**18 29 52.7**	**+0.6**
UGLR				*eS*	**Sn**	**18 30 06.7**	**+0.2**
KII	**Karymskiy**	**1.15**	**320**	*eP*	**Pn**	**18 29 51.8**	**-0.5**
KII				*eS*	**Sn**	**18 30 05.9**	**-0.9**
SMAR	**Somma**	**1.15**	**275**	*eP*	**Pn**	**18 29 52.5**	**+0.1**
SMAR				*eS*	**Sn**	**18 30 07.6**	**+0.5**
KRER	**Koryakskii**	**1.18**	**277**	*eP*	**Pn**	**18 29 53.2**	**+0.3**
KRER				*eS*	**Sn**	**18 30 08.1**	**+0.2**
DALK	**Dalny**	**1.19**	**264**	*eP*	**Pn**	**18 29 52.5**	**-0.2**
DALK				*eS*	**Sn**	**18 30 07.4**	**-0.2**
AVH	**Avacha**	**1.19**	**275**	*eP*	**Pn**	**18 29 53.3**	**+0.5**
AVH				*eS*	**Sn**	**18 30 08.5**	**+0.7**
PET	**Petropavlovsk**	**1.25**	**264**	*eP*	**Pn**	**18 29 53.4**	**-0.1**
PET				*eS*	**Sn**	**18 30 08.6**	**-0.5**
KRX	**Arik**	**1.25**	**280**	*eP*	**Pn**	**18 29 53.8**	**+0.1**
KRX				*eS*	**Sn**	**18 30 08.8**	**-0.6**
MKZ	**Mys Kozlova**	**1.52**	**23**	*eP*	**Pn**	**18 29 57.2**	**0.0**
MKZ				*eS*	**Sn**	**18 30 15.3**	**-0.4**
RUS	**Russkaya**	**1.52**	**242**	*eP*	**Pn**	**18 29 57.6**	**+0.3**
RUS				*eS*	**Sn**	**18 30 16.0**	**+0.1**
KRMR	**Karymshinskiy**	**1.59**	**259**	*eP*	**Pn**	**18 29 58.5**	**+0.2**
KRMR				*eS*	**Sn**	**18 30 17.8**	**+0.2**
MTVR	**Mutnovka**	**1.68**	**247**	*eP*	**Pn**	**18 30 00.3**	**+0.7**
MTVR				*eS*	**Sn**	**18 30 20.7**	**+0.8**
GRL	**Gorelyy**	**1.71**	**250**	*eP*	**Pn**	**18 30 01.0**	**+1.0**
GRL				*eS*	**Sn**	**18 30 22.5**	**+1.8**
PETK	**Petropavlovsk-**	**1.81**	**269**	P	**Pn**	**18 30 02.6**	**+1.4**
	65nm,0.3s,baz=87,slow=18,SNR=931						
PETK				S	**Sn**	**18 30 22.9**	**-0.1**
	52nm,0.3s,baz=91,slow=18,SNR=16						
PETK				LR	LR	18 31 02.1	
	comp=Z,113nm,21.8s,baz=61,slow=54						
ASAK	**Asacha**	**1.88**	**246**	*eP*	**Pn**	**18 30 03.7**	**+1.4**
ASAK				*eS*	**Sn**	**18 30 26.6**	**+1.8**
KZV	**Kizimen**	**1.96**	**353**	*eP*	**Pn**	**18 30 04.3**	**+0.8**
KZV				*eS*	**Sn**	**18 30 27.7**	**+0.8**
TUMD	**Tumrok D**	**2.04**	**355**	P	**Pn**	**18 30 05.0**	**+0.5**
TUMD				*eS*	**Sn**	**18 30 28.8**	**0.0**
KDTR	**Khodutka, Kamc**	**2.11**	**231**	*eP*	**Pn**	**18 30 06.0**	**+0.7**
KDTR				*eS*	**Sn**	**18 30 30.4**	**+0.2**
TUMR	**Tumrok**	**2.14**	**351**	P	**Pn**	**18 30 07.3**	**+1.4**
TUMR				S	**Sn**	**18 30 32.8**	**+1.5**
APC	**Apacha**	**2.15**	**265**	*eP*	**Pn**	**18 30 07.6**	**+1.6**
KMNR	**Kamenistaya**	**2.61**	**354**	*eP*	**Pn**	**18 30 14.1**	**+1.8**
KMNR				S	**Sn**	**18 30 44.2**	**+1.5**
KIRR	**Kirishev**	**2.80**	**356**	*eP*	**Pn**	**18 30 16.2**	**+1.3**
BZWR	**Bezymyannyi-We**	**2.80**	**358**	*eP*	**Pn**	**18 30 17.2**	**+2.2**
KPT	**Kopyto**	**2.82**	**354**	*eP*	**Pn**	**18 30 14.8**	**-0.3**
KOZ	**Kozyrevsk**	**2.93**	**351**	*eP*	**Pn**	**18 30 18.3**	**+1.6**
PAU	**Pauzhetka**	**2.94**	**236**	*eP*	**Pn**	**18 30 18.7**	**+2.0**
ESO	**Esso**	**3.00**	**338**	*eP*	**Pn**	**18 30 18.3**	**+0.7**
KRSR	**Krestovskiy**	**3.05**	**359**	*eP*	**Pn**	**18 30 19.7**	**+1.3**
KLY	**Klyuchi**	**3.15**	**359**	*eP*	**Pn**	**18 30 20.9**	**+1.3**
KLY				S	**Sn**	**18 30 56.8**	**+0.9**
SRDR	**Sredinnyy**	**3.21**	**350**	P	**Pn**	**18 30 21.4**	**+1.0**
KBTR	**Krutoberegovo**	**3.28**	**21**	*eP*	**Pn**	**18 30 22.1**	**+0.7**
KBTR				*eS*	**Sn**	**18 30 59.1**	**-0.1**
KBG	**Krutoberegovo**	**3.30**	**20**	*eP*	**Pn**	**18 30 22.6**	**+0.9**
BDR	**Baidarnaya**	**3.42**	**5**	*eP*	**Pn**	**18 30 25.4**	**+2.0**
SMKR	**Semkarok**	**3.45**	**7**	P	**Pn**	**18 30 26.0**	**+2.2**
SRKR	**Sorokina**	**3.50**	**4**	P	**Pn**	**18 30 26.3**	**+1.8**
BKI	**Bering**	**3.71**	**55**	P	**Pn**	**18 30 27.6**	**+0.4**
BKI				*eS*	**Sn**	**18 31 06.0**	**-3.5**
SKR	**Severo-Kuril's**	**3.78**	**231**	*eP*	**Pn**	**18 30 29.0**	**+0.8**
SKR				*eS*	**Sn**	**18 31 10.5**	**-0.8**
ILAR	**Eielson Array**	**28.50**	**45**	P	**P**	**18 35 23.5**	**+0.3**
	0.2nm,0.7s,baz=264,slow=9.0,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**33.72**	**169**	T	T	19 12 43.8	
	baz=355,slow=74						
H11N3	**WAKE ISLAND Hy**	**33.73**	**169**	T	T	19 12 44.8	
	baz=355,slow=74						
H11N1	**WAKE ISLAND Hy**	**33.74**	**169**	T	T	19 11 55.5	
	baz=355						
SONM	**Songino Array**	**34.24**	**283**	P	**P**	**18 36 12.1**	**-1.8**
	0.1nm,0.3s,baz=78,slow=8.3,SNR=3.0						
SONM				LR	LR	18 51 29.2	
	comp=Z,41nm,18.9s,baz=136,slow=39						
H11S1	**WAKE ISLAND Hy**	**34.91**	**170**	T	T	19 14 05.9	
	baz=352,slow=76,SNR=4.2						
H11S3	**WAKE ISLAND Hy**	**34.92**	**170**	T	T	19 13 39.8	
	baz=352,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**34.92**	**170**	T	T	19 14 02.8	
	baz=352,slow=76,SNR=3.7						
YKA	**Yellowknife Ar**	**42.86**	**43**	P	**P**	**18 37 26.0**	**+0.2**
	0.3nm,0.6s,baz=298,slow=8.6,SNR=3.2						
MKAR	**Makanchi Array**	**48.45**	**296**	P	**P**	**18 38 07.6**	**-2.6**
	0.2nm,0.5s,baz=57,slow=9.5,SNR=5.2						
ARCES	**ARCESS Array B**	**53.33**	**342**	P	**P**	**18 38 45.1**	**-1.4**
	1.8nm,0.7s,baz=24,slow=9.0,SNR=3.4						
NVAR	**Mina Array Bea**	**55.37**	**71**	P	**P**	**18 39 04.0**	**+2.0**
	0.5nm,0.7s,baz=278,slow=6.8,SNR=3.9						
PDAR	**Pinedale Array**	**57.16**	**61**	P	**P**	**18 39 16.4**	**+1.6**
	0.2nm,0.5s,baz=330,slow=5.2,SNR=3.1						
FINES	**FINESS Array B**	**60.20**	**337**	P	**P**	**18 39 33.6**	**-1.6**
	4.2nm,1.1s,baz=42,slow=8.5,SNR=7.4						
TXAR	**Lajitas Array**	**70.27**	**67**	P	**P**	**18 40 42.3**	**+1.2**
	0.4nm,0.5s,baz=303,slow=4.8,SNR=3.8						
WRA	**Warramunga Arr**	**76.31**	**205**	P	**P**	**18 41 16.6**	**+0.1**
	0.6nm,0.7s,baz=20,slow=6.1,SNR=5.3						
ASAR	**Alice Springs**	**79.98**	**205**	P	**P**	**18 41 37.6**	**+0.9**
	0.5nm,0.4s,baz=17,slow=5.0,SNR=18						

*ISCJB **05** 18:35:33.2±0.6,24°.83N±0°.03×122°.58E±0°.02,h2km±4km, Error ellipse: s-maj=5.7km s-min=3.2km az=16.0*
*JMA **05** 18:35:33.2,24°.86N×122°.60E,h6km±1km,M2.3*
*TAP **05** 18:35:36.0,24°.84N×122°.43E,h11km±1km,ML2.7,D*

ISC 05 18:35:32.4±1.3,24°.84N±0°.04×122°.64E±0°.03,h3km±12km, n49,σ0°.966/65,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.47**	**144**	P	**Pb**	**18 35 43.3**	**-0.1**
JYNG				*eS*	**Sb**	**18 35 50.3**	**-0.5**
YOJ	**Yonaguni jima**	**0.50**	**138**	P	**Pb**	**18 35 43.7**	**-0.2**
YOJ				*eS*	**Sb**	**18 35 51.1**	**-0.6**
EOS1	**EOS1**	**0.55**	**238**	P	**Pb**	**18 35 44.6**	**0.0**
	baz=223						
EOS1				S	**Sg**	**18 35 50.7**	**+0.7**
	baz=223						
TIPB	**Shuangxi**	**0.75**	**280**	P	**Pg**	**18 35 47.1**	**+0.3**
	baz=284						
TIPB				*eS*	**Sg**	**18 35 56.3**	**-0.3**
	baz=284						
TWC	**Suao**	**0.76**	**253**	P	**Pg**	**18 35 47.5**	**+0.6**
	baz=246						
TWC				S	**Sg**	**18 35 55.4**	**-1.2**
	baz=246						
WFSB	**Wu-fen Shan**	**0.81**	**287**	*eP*	**Pg**	**18 35 48.2**	**+0.2**
	baz=291						
WFSB				*eS*	**Sb**	**18 35 59.9**	**-0.8**
	baz=291						
TWE	**Neicheng**	**0.89**	**263**	P	**Pg**	**18 35 49.8**	**+0.3**
	baz=260						
TWE				*eS*	**Sg**	**18 36 00.5**	**-0.6**
	baz=260						
NANB	**Nanao**	**0.91**	**243**	*eP*	**Pg**	**18 35 50.3**	**+0.5**
	baz=236						
NANB				*eS*	**Sg**	**18 36 01.7**	**+0.1**
	baz=236						
ENA	**Nanau**	**0.92**	**244**	*eP*	**Pg**	**18 35 50.1**	**+0.2**
	baz=236						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ENA				eS	Sg	18 36 00.5	-1.3
	baz=236						
SLBB	Yuanshan	0.92	265	eP	Pg	18 35 50.4	+0.4
	baz=263						
PCYT	Pengchaiyu	0.94	327	eP	Pg	18 35 50.6	+0.2
	baz=338						
ENTT	Nioudou	1.00	259	eP	Pg	18 35 52.2	+0.7
	baz=256						
YM08	YM08	1.01	290	eP	Pg	18 35 52.0	+0.2
	baz=295						
YM01	YM01	1.02	288	eP	Pg	18 35 52.4	+0.5
	baz=291						
NHDH	Xindian Distri	1.02	277	eP	Pg	18 35 51.9	-0.1
	baz=278						
YM11	YM11	1.02	289	eP	Pb	18 35 52.7	-0.1
	baz=293						
YM05	YM05	1.03	289	eP	Pb	18 35 53.4	+0.5
	baz=292						
YM10	YM10	1.03	288	eP	Pb	18 35 53.3	+0.3
	baz=292						
NWLT	Wulai	1.04	267	eP	Pg	18 35 52.2	0.0
	baz=266						
NWLT				eS	Sg	18 36 05.3	-0.4
	baz=266						
YM04	YM04	1.05	288	eP	Pg	18 35 52.9	+0.3
	baz=291						
NDT	Datong Townshi	1.05	257	eP	Pg	18 35 53.0	+0.4
	baz=254						
NDT				eS	Sg	18 36 05.9	-0.3
	baz=254						
IRIF	Iriomote-Funau	1.11	117	P	Pn	18 35 55.0	+0.1
NACB	Ninganchiao	1.16	235	eP	Pg	18 35 54.9	+0.2
	baz=239						
NACB				eS	Sg	18 36 09.4	-0.3
	baz=239						
YHNB	Yeheng	1.16	262	eP	Pg	18 35 54.6	-0.1
	baz=260						
YHNB				eS	Sg	18 36 09.4	-0.4
	baz=260						
NSK	Sanguang	1.18	262	eP	Pg	18 35 55.4	+0.4
	baz=260						
TWD	Chiawan	1.21	232	eP	Pb	18 35 56.7	+0.7
	baz=234						
NNSB	Datong	1.22	251	eP	Pg	18 35 55.4	-0.3
	baz=247						
NNSB				eS	Sg	18 36 10.2	-1.3
	baz=247						
NNSH	Datong	1.22	251	eP	Pg	18 35 55.3	-0.4
	baz=237						
NNSH				eS	Sg	18 36 10.1	-1.4
	baz=237						
NNS	Nan Shan	1.22	251	eP	Pg	18 35 56.1	+0.3
	baz=247						
ETLH	Xiulin Townshi	1.23	239	eP	Pg	18 35 55.6	-0.3
	baz=234						
HATJ	Hateruma jima	1.32	126	P	Pg	18 35 58.1	+0.5
JKRS	Kuro-shima	1.38	115	P	Pb	18 35 59.3	+0.4
WHF	Hehuan Shan	1.43	241	eP	Pn	18 35 59.8	+0.2
	baz=249						
TDCB	Techi	1.47	247	eP	Pn	18 36 00.5	+0.5
	baz=243						
LIOB	Emei	1.49	263	eP	Pn	18 35 59.9	-0.2
	baz=281						
ESL	Shilin	1.50	227	eP	Pn	18 36 00.8	+0.6
	baz=202						
ESL				eS	Sn	18 36 19.7	-0.6
	baz=202						
NSTT	Nanjuang	1.50	262	eP	Pn	18 36 00.5	+0.2
	baz=280						
CHGB	Renai	1.54	240	eP	Pn	18 36 01.9	+0.8
	baz=229						
WHP	Taichung City	1.64	250	eP	Pb	18 36 03.7	+0.3
	baz=248						
VWDT	VWDT	1.74	232	eP	Pn	18 36 04.1	+0.5
	baz=234						
DPDB	Guoxing	1.76	243	eP	Pn	18 36 04.8	+1.0
	baz=240						
SMLT	Sun Moon Lake	1.85	239	eP	Pn	18 36 06.2	+1.1
	baz=219						
SSLB	Suanglung	1.86	236	eP	Pn	18 36 06.3	+1.1
	baz=214						
TYC	Yuchr	1.87	241	eP	Pn	18 36 06.7	+1.3
	baz=221						
YULB	Yu-li	1.89	221	eP	Pn	18 36 05.5	-0.1
	baz=216						
WHYT	Xinyi Township	1.99	236	eP	Pn	18 36 08.3	+1.3
	baz=232						
CHN5	Tsauling	2.18	236	eP	Pn	18 36 10.8	+1.2
	baz=232						
ELDTW	Lidau	2.21	222	eP	Pn	18 36 10.7	+0.6
	baz=218						
TPUB	Ta-pu	2.39	231	eP	Pn	18 36 14.1	+1.5
	baz=212						

IDC 05 18:56:22.4±2.4, 5°.46S×150°.63E, h0^{km}, mb3.6/2, mb1 4.0/2, mb1mx3.4/35, mbtmp3.7/2, Error ellipse: s-maj=113.6km s-min=42.4km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.41	226	P	P	19 01 12.4	+0.3
	2.3nm,0.5s,baz=52,slow=10,SNR=40						
WRA				PcP	PcP	19 05 15.9	-0.3
	0.3nm,0.7s,baz=49,slow=2.2,SNR=2.7						
ASAR	Alice Springs	24.23	220	P	P	19 01 40.9	-0.3
	0.8nm,0.6s,baz=54,slow=8.9,SNR=19						
TORD	Torodi Ar. Bea	148.44	286	PKPbc	PKPbc	19 16 11.5	-0.6
	0.3nm,0.4s,baz=87,slow=2.9,SNR=6.8						

*UCR **05** 19:00:36.8±1.5, 13°.31N×92°.12W, h36^{km}±999^{km}, MD3.3*
GCG 05 19:00:37.5±1.6, 13°.35N×92°.05W, h50^{km}±237^{km}, MD3.7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERG	Entre ros, C	1.18	23	eP	Pn	19 00 58.5	+0.7
STG3	Santiaguito 3,	1.43	19	eP	Pn	19 01 01.4	+0.1
STG3				eS	Sn	19 01 20.2	+1.1
FUG	Fuego 3	1.61	47	eP	Pn	19 01 04.1	+0.4
FUG				eS	Sn	19 01 26.2	+2.8
FUG	Fuego 3	1.61	47	eP	Pn	19 01 04.1	+0.4
FUG				eS	Sn	19 01 26.2	+2.8
IXG	Ixpaco	1.77	62	eP	Pn	19 01 05.4	-0.4
IXG				eS	Sn	19 01 28.4	+1.1
IXG	Ixpaco	1.77	62	eP	Pn	19 01 05.4	-0.4
IXG				eS	Sn	19 01 28.4	+1.1
NBG	Las Nubes	2.06	53	eP	Pn	19 01 11.4	+1.4
NBG	Las Nubes	2.06	53	eP	Pn	19 01 11.4	+1.4

*MAN **05** 19:12:35.6, 9°.31N×122°.29E, h17^{km}, MS4.6*
MAN Intensity III - Hinobaan Negros Occidental; Intensity II - Sipalay Negros Occidental.
*NEIC **05** 19:12:40.4±1.7, 9°.3N±0°.1×122°.5E±0°.1, h66^{km}±8^{km}, mb4.4/9*
*IDC **05** 19:12:43.4±6.3, 9°.34N×122°.67E, h92^{km}±56^{km}, mb3.7/14, mb1 3.9/14, mb1mx3.7/39, mbtmp4.1/14, MS3.0/5, Ms1 3.1/5, ms1mx2.7/38, Error ellipse: s-maj=32.6km s-min=13.9km az=81.0*
ISC 05 19:12:34.3±1.5, 9°.31N±0°.03×122°.31E±0°.04, h17^{km}±9^{km}, n45, σ1^{s}17/51, mb4.2/18, MS2.9/4, 1C-7D, Negros

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.91	88	⇓P	Pn	19 12 52.9	+0.5
SNPH				S	Sb	19 13 03.4	-0.2
DCPH	Dipolog City	1.25	125	⇓P	Pb	19 12 57.6	0.0
DCPH				S	Sn	19 13 13.7	+0.2
GUIM	Jordan	1.34	12	P	Pn	19 12 58.1	-0.1
GUIM				S	Sn	19 13 14.8	-0.8
PAGZ	Pagadian	1.80	144	P	Pb	19 13 06.2	-0.5
PAGZ				S	Sg	19 13 33.0	+0.8
LLP	Lapu-Lapu	1.91	58	⇓P	Pn	19 13 07.1	+0.9
LLP				S	Sn	19 13 29.1	-0.7
RCP	Roxas	2.28	11	⇓P	Pb	19 13 14.7	-0.3
RCP				S	Sb	19 13 42.5	-0.4
ZCP	Zamboanga City	2.37	186	⇓P	Pb	19 13 15.9	-0.7
ZCP				S	Sb	19 13 42.8	-2.8
CGP	Cagayan de Oro	2.50	110	⇓P	Pn	19 13 15.7	+1.5
CGP				S	Sn	19 13 46.5	+2.1
CTBH	Cotabato--PC H	2.82	137	P	Pb	19 13 21.9	-2.4
CTBH				S	Sn	19 13 52.9	+0.6
ENPP	El Nido	3.41	304	P	Pn	19 13 29.2	+2.5
ENPP				S	Sn	19 14 04.9	-1.9
KCP	Kidapawan	3.58	130	⇓P	Pn	19 13 23.6	-5.5
DAV	Davao City (W)	3.92	124	LR	LR	19 15 27.7	
	comp=Z,235nm,20.2s,baz=320,slow=45						
BATP	Bataraza	4.48	264	P	Pn	19 13 43.1	+1.7
BATP				S	Sn	19 14 32.4	-0.9
LQP	Lukban	4.83	351	⇑P	Pg	19 14 06.4	-0.5
KKM	Kota Kinabalu	6.86	242		Pn	19 14 19.9	+5.6
SBUM	Sibu	12.13	236		P	19 15 33.1	-6.0
SIJI	Sorong	13.48	138	P	P	19 15 54.2	0.0
	0.6nm,0.3s,baz=319,slow=12,SNR=5.4						
CMAR	Chiang Mai Arr	24.41	294	LR	LR	19 27 03.1	
	comp=Z,38nm,19.9s,baz=175,slow=35						
FITZ	Fitzroy Crossi	27.43	173	P	P	19 18 19.2	-0.1
	1.5nm,0.8s,baz=349,slow=11,SNR=3.7						
FITZ				PcP	PcP	19 21 36.6	-1.4
	1.0nm,0.9s,baz=45,slow=2.9,SNR=4.1						
FITZ	Fitzroy Crossi	27.43	173	P	P	19 18 19.7	+0.4
FITZ				IAmb	IAmb	19 19 10.9	
	comp=Z,17nm,1.8s						
PMG	Port Moresby	30.95	126	LR	LR	19 34 10.0	
	comp=Z,16nm,18.4s,baz=311,slow=42						
AS31	Alice Springs	34.68	161	P	P	19 19 23.4	+0.1
ASAR	Alice Springs	34.68	161	P	P	19 19 23.9	+0.7
	comp=Z,1.6nm,0.5s,baz=344,slow=7.3,SNR=35						
ASAR				PcP	PcP	19 21 56.6	-0.7
	comp=Z,0.3nm,0.6s,baz=342,slow=2.8,SNR=4.1						
USRK	Ussuriysk Ar.	35.76	12	P	P	19 19 33.1	+0.8
	comp=Z,2.0nm,0.8s,baz=192,slow=9.3,SNR=5.2						
KLR	Kul'dur	40.57	10	LR	LR	19 38 00.5	
	comp=Z,21nm,19.6s,baz=300,slow=38						
SONM	Songino Array	40.69	344	P	P	19 20 15.5	+1.5
	comp=Z,0.5nm,0.7s,baz=158,slow=10,SNR=5.1						
SONM				LR	LR	19 37 53.9	
	comp=Z,30nm,18.5s,baz=108,slow=37						
STKA	Stephens Creek	44.91	157	P	P	19 20 48.5	+0.3
	comp=Z,1.5nm,0.7s,baz=338,slow=8.0,SNR=5.7						
STKA	Stephens Creek	44.91	157	P	P	19 20 48.6	+0.3
MKAR	Makanchi Array	50.50	325	P	P	19 21 33.6	+2.1
	comp=Z,0.8nm,0.8s,baz=120,slow=7.2,SNR=7.4						
PETK	Petropavlovsk-	52.17	26	P	P	19 21 43.2	-0.7
	comp=Z,3.0nm,0.9s,baz=194,slow=5.8,SNR=6.3						
GAR	Garm	54.95	311	P	P	19 22 03.6	-1.1
GAR				IAmb	IAmb	19 22 08.4	
	comp=Z,6.1nm,0.8s						
KK31	Karatay Array	56.19	316	P	P	19 22 13.7	+0.2
KK31				IAmb	IAmb	19 22 18.0	
	comp=Z,5.4nm,1.3s						
KKAR	Karatay Array	56.19	316	P	P	19 22 13.7	+0.3
KKAR				IAmb	IAmb	19 22 18.0	
	comp=Z,5.4nm,1.3s						
ABKAR	Akbulak array	65.08	320	P	P	19 23 15.1	+1.1
ABKAR				IAmb	IAmb	19 23 16.6	
	comp=Z,1.8nm,0.8s						
KDAK	Kodiak Island	79.58	33	P	P	19 24 38.9	-1.4
	comp=Z,5.8nm,0.9s,baz=270,slow=6.1,SNR=3.9						
KDAK	Kodiak Island	79.58	33	P	P	19 24 39.1	-1.2
ILAR	Eielson Array	82.00	26	P	P	19 24 50.9	-2.3
	comp=Z,0.2nm,0.5s,baz=245,slow=4.6,SNR=4.5						
BRTR	Keskin Array B	83.11	309	P	P	19 25 00.7	+1.0
	comp=Z,0.8nm,0.7s,baz=65,slow=7.1,SNR=3.8						
ARCES	ARCESS Array B	83.73	339	P	P	19 25 02.0	-0.1
	comp=Z,6.3nm,1.0s,baz=82,slow=6.6,SNR=3.6						
FINES	FINESS Array B	84.87	331	P	P	19 25 08.4	+0.4
	comp=Z,5.1nm,1.0s,baz=64,slow=6.3,SNR=4.1						
INK	Inuvik	86.59	21	P	P	19 25 15.8	-0.6
	comp=Z,1.0nm,0.7s,baz=298,slow=4.6,SNR=4.9						
INK	Inuvik	86.59	21	P	P	19 25 16.0	-0.4
YKA	Yellowknife Ar	96.19	23	P	P	19 25 59.8	-1.5
	comp=Z,0.3nm,0.7s,baz=304,slow=5.0,SNR=4.1						
TORD	Torodi Ar. Bea	116.96	290	PKP	PKPdf	19 31 19.4	+0.2
	comp=Z,0.5nm,0.6s,baz=43,slow=2.1,SNR=3.4						
PLCA	Paso Flores	146.69	162	PKPbc	PKPdf	19 32 14.6	+0.6
	comp=Z,1.9nm,0.8s,baz=204,slow=15,SNR=4.2						

*ISCJB **05** 19:29:13.3±0.9, 44°.22N±0°.08×148°.0E±0°.1, h115^{km}±7^{km}, mb3.5/7, Error ellipse: s-maj=15.1km s-min=9.7km az=139.4*
*SKHL **05** 19:29:14.1±0.3, 44°.24N×148°.24E, h81^{km}±5^{km}, mb4.4/4, msh5.0/4*
*JMA **05** 19:29:15.2±0.4, 43°.98N×148°.07E, h103^{km}, M3.4*
*IDC **05** 19:29:19.2±3.0, 45°.42N×147°.56E, h93^{km}±59^{km}, mb3.4/7, mb1 3.6/8, mb1mx3.3/38, mbtmp3.7/8, ML2.7/2, Error ellipse: s-maj=148.2km s-min=21.1km az=166.0*
ISC 05 19:29:12.2±1.5, 44°.18N±0°.08×148°.3E±0°.1, h95^{km}±11^{km}, n38, σ1^{s}52/41, mb3.4/7, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.09	346	⇓iP	Pn	19 29 33.0	-0.2
KUR				AMB	AMB	19 29 33.6	
	130nm,0.5s						
KUR				iS	Sn	19 29 47.3	-1.7
KUR				A	A	19 29 48.1	
	1μm,0.8s						
KUR				A	A	19 29 48.1	
	870nm,0.8s						
YUK	Yuzh-Kuril'sk	1.73	266	⇓iP	Pn	19 29 41.9	+0.9
YUK				AMB	AMB	19 29 47.0	
	110nm,0.4s						
YUK				AMB	AMB	19 29 47.0	
	120nm,0.4s						
YUK				iS	Sn	19 30 02.6	-0.3
YUK				A	A	19 30 04.0	
	230nm,0.6s						
YUK				A	A	19 30 04.0	
	330nm,0.6s						
GRPR	Tuman	1.79	265	eP	Pn	19 29 42.6	+0.7
GRPR				AMB	AMB	19 29 45.0	
	60nm,0.3s						
GRPR				iS	Sn	19 30 03.8	-0.7
GRPR				A	A	19 30 05.0	
	230nm,0.6s						
GRPR				A	A	19 30 05.0	
	100nm,0.6s						
NEM2	Nemuro 2	1.99	247	P	Pn	19 29 45.6	+1.2
NEM2				eS	Sn	19 30 08.8	-0.2
NMR	Nemuro--Hokkai	2.00	247	iP	Pn	19 29 45.6	+1.1
NMR				iS	Sn	19 30 08.9	-0.2
GLVR	Golovnino	2.02	258	iP	Pn	19 29 46.0	+1.2
GLVR				AMB	AMB	19 29 47.0	
	20nm,0.4s						
GLVR				AMB	AMB	19 29 47.0	
	60nm,0.4s						
GLVR				iS	Sn	19 30 10.1	+0.5
GLVR				A	A	19 30 15.0	
	90nm,0.6s						
GLVR				A	A	19 30 15.0	
	250nm,0.6s						
JRA	Rausu	2.27	265	P	Pn	19 29 49.8	+1.8
JRA				eS	Sn	19 30 16.0	+0.6
JNSB	Nemuroshibetsu	2.38	261	P	Pn	19 29 51.7	+2.2
JKHN	Kushirohamanak	2.50	245	P	Pn	19 29 52.5	+1.4
JKHN				eS	Sn	19 30 20.5	-0.4
JNK	Nakash	2.62	258	P	Pn	19 29 54.1	+1.4
JAK	Akkeshi	2.84	247	P	Pn	19 29 56.8	+1.2
JAK				eS	Sn	19 30 28.2	-0.8
JTKR	Abashiri--Toko	3.13	268	P	Pn	19 30 00.7	+1.1
JAR	Ashorobuto	3.36	256	P	Pn	19 30 04.9	+2.2
JCH	Churui	3.89	248	P	Pn	19 30 11.3	+1.5
JCH				eS	Sn	19 30 54.0	-0.4
ASAJ	Asahikawa	4.07	271	P	Pn	19 30 13.8	+1.6
	0.7nm,0.3s,baz=70,slow=22,SNR=7.3						
ASAJ				S	Sn	19 30 59.5	+0.8
	0.6nm,0.3s,baz=249,slow=15,SNR=4.0						
JNBK	Urakawa-nobuka	4.44	247	P	Pn	19 30 18.1	+0.9
YSS	Yuzh-Sakhalins	4.75	308	eP	Pn	19 30 23.9	+2.5
JKB	Kayabe	5.76	249	eS	Sn	19 31 37.2	-2.7
JANG	Nango	6.28	235	eS	Sn	19 31 48.2	-4.3
USRK	Ussuriysk Ar.	11.68	276	P	Pn	19 31 55.3	-0.2
	baz=82,slow=12,SNR=3.4						
BMKR	Bomnak	16.38	317	eP	Pn	19 32 55.8	-0.4
ZEA	Zeya	16.72	312	eP	Pn	19 32 58.4	-2.0
KROS	Kirovskiy	17.19	314	eP	Pn	19 33 04.4	-1.7
YAK	Yakutsk	20.93	335	eP	Pn	19 33 51.0	+0.7
H11N2	WAKE ISLAND Hy	28.93	141	T	T	20 06 06.6	
	baz=332,slow=76,SNR=64						
H11N1	WAKE ISLAND Hy	28.94	142	T	T	20 06 05.7	
	baz=332,slow=76,SNR=46						
H11N3	WAKE ISLAND Hy	28.94	141	T	T	20 06 07.8	
	baz=332,slow=76,SNR=63						
SONM	Songino Array	29.04	292	P	P	19 35 02.9	-0.4
	0.7nm,0.7s,baz=71,slow=8.1,SNR=6.3						
H11S1	WAKE ISLAND Hy	29.91	143	T	T	20 07 21.8	
	baz=333,slow=76,SNR=81						
H11S3	WAKE ISLAND Hy	29.92	143	T	T	20 07 21.1	
	baz=333,slow=76,SNR=75						
H11S2	WAKE ISLAND Hy	29.93	143	T	T	20 07 23.4	
	baz=333,slow=76,SNR=67						
ILAR	Eielson Array	40.67	37	P	P	19 36 43.8	+1.0
	0.3nm,0.6s,baz=270,slow=7.8,SNR=4.1						
INK	Inuvik	45.63	31	P	P	19 37 24.3	+1.8
	0.7nm,0.5s,baz=322,slow=5.0,SNR=7.2						
KURK	Kurchatov	45.95	304	eP	P	19 37 32.1	+6.8
YKA	Yellowknife Ar	55.00	34	P	P	19 38 34.8	+1.6
	0.1nm,0.4s,baz=303,slow=6.8,SNR=2.9						
FINES	FINESS Array B	64.85	333	P	P	19 39 38.9	-1.7
	1.9nm,0.5s,baz=38,slow=7.6,SNR=15						
KBZ	Khabaz	70.10	312	P	P	19 40 14.1	+0.1
	2.0nm,0.8s,baz=59,slow=6.2,SNR=5.3						
AKASG	Malin Array Be	71.70	324	P	P	19 40 22.8	-0.7
	0.1nm,0.3s,baz=35,slow=5.2,SNR=4.1						

*ISCJB **05** 19:38:52.8±0.5, 32°.75N±0°.04×140°.21E±0°.07, h130^{km}±3^{km}, mb3.5/10, Error ellipse: s-maj=9.9km s-min=6.5km az=171.6*
*IDC **05** 19:38:53.2±2.2, 32°.62N×139°.99E, h113^{km}±21^{km}, mb3.5/10, mb1 3.6/12, mb1mx3.4/48, mbtmp3.8/12, Error ellipse: s-maj=26.7km s-min=14.3km az=74.0*
*JMA **05** 19:38:54.7±0.1, 32°.80N×140°.27E, h118^{km}±1^{km}, M3.4*
*NEIC **05** 19:38:54.2±1.2, 32°.62N±0°.09×140°.0E±0°.2, h122^{km}±4^{km}, mb4.4/7*
ISC 05 19:38:53.5±0.8, 32°.70N±0°.05×140°.20E±0°.07, h120^{km}±6^{km}, n48, σ1^{s}28/55, mb3.9/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	0.43	238	P	Pn	19 39 12.9	+1.8
JHCJ	Hachijojimakas	0.50	318	P	Pn	19 39 12.4	+0.9
JHCJ				eS	Sn	19 39 25.4	+0.3
JHJ2	Mitsune	0.52	322	P	Pn	19 39 12.6	+1.0
JHJ2				S	Sn	19 39 25.6	+0.3
JHJ2	Mitsune	0.52	322		Pn	19 39 12.6	+1.0
JMKN	Mikurajimanish	1.29	337	P	Pn	19 39 19.2	+0.6
JKO	Kozu shima	1.73	329	P	Pn	19 39 24.4	+0.8
JKO				eS	Sn	19 39 47.0	+0.4
BSO1	Boso 1	2.06	18	P	Pn	19 39 27.6	+0.5
BSO1				S	Sn	19 39 53.6	+0.7
JIM2	Oshima 3	2.11	343	S	Sn	19 39 53.4	-1.7
BSO3	Boso 3	2.12	7	P	Pn	19 39 28.6	+0.5
BSO3				S	Sn	19 39 54.4	-0.3
JIZS	Izushimoda	2.29	332	P	Pn	19 39 31.3	+0.7
JOD2	Odawara 2	2.72	341	P	Pn	19 39 36.6	+0.5
JOD2				eS	Sn	19 40 07.6	-1.4
SHZ3	Shizuoka 3	2.88	326	P	Pn	19 39 39.4	+1.1
JYN	Shimob	3.11	334	P	Pn	19 39 42.4	+1.1
JYN				eS	Sn	19 40 19.9	+1.7
JIE	Ise	3.37	301	P	Pn	19 39 45.4	+0.8
JIE				eS	Sn	19 40 24.0	-0.1
JRY	Ryogami san	3.48	342	P	Pn	19 39 46.9	+0.8
JRY				eS	Sn	19 40 25.5	-1.3
INU	Inuyama	3.74	316	Pn	Pn	19 39 50.4	+1.0
MJAR	Matsushiro Arr	4.17	337	P	Pn	19 39 55.0	-0.3
	0.6nm,0.3s,baz=123,slow=17,SNR=27						
MJAR				S	Sn	19 40 41.2	-2.1
	0.6nm,0.3s,baz=130,slow=17,SNR=5.0						
MAJO	Matsushiro	4.17	337		Pn	19 39 55.7	+0.4
MAT	Matsushiro	4.17	337	P	Pn	19 39 56.0	+0.7
MAT				S	Sn	19 40 42.2	-1.1
MJB9	Matsu-Tunnel	4.18	337		Pn	19 39 55.6	+0.3
JCJ	Chichijima	5.84	162	P	Pn	19 40 17.2	-0.6
	3.6nm,0.3s,baz=288,slow=20,SNR=3.5						
JCJ				S	Sn	19 41 18.1	-5.5
	12nm,0.3s,baz=287,slow=20,SNR=4.6						
ASAJ	Asahikawa	11.55	9	P	Pn	19 41 32.9	-1.8
	0.6nm,0.3s,baz=200,slow=11,SNR=6.9						
ASAJ				S	Sn	19 43 32.1	-10
	0.2nm,0.3s,baz=132,slow=13,SNR=2.8						
JKA	Kamikawa-asahi	11.55	9		Pn	19 41 32.9	-1.8
KLR	Kul'dur	17.68	342	P	P	19 42 49.5	-1.7
	0.2nm,0.3s,baz=182,slow=11,SNR=4.7						
H11N2	WAKE ISLAND Hy	27.12	112	T	T	20 13 32.6	
	baz=305,slow=75,SNR=7.9						
H11N1	WAKE ISLAND Hy	27.13	112	T	T	20 13 31.4	
	baz=305,slow=75,SNR=4.0						
H11N3	WAKE ISLAND Hy	27.14	112	T	T	20 13 29.7	
	baz=305,slow=75,SNR=6.1						
H11S3	WAKE ISLAND Hy	27.66	114	T	T	20 13 41.5	
	baz=308,slow=74						
H11S1	WAKE ISLAND Hy	27.67	114	T	T	20 13 39.8	
	baz=308						
H11S2	WAKE ISLAND Hy	27.68	114	T	T	20 13 41.0	
	baz=308,slow=74						
SONM	Songino Array	29.62	311	P	P	19 44 47.7	+0.3
	0.7nm,0.7s,baz=117,slow=9.5,SNR=6.5						
TIXI	Tiksi	39.48	354	P	P	19 46 11.3	-0.4
	0.8nm,0.6s,baz=146,slow=3.6,SNR=3.8						
TIXI	Tiksi	39.48	354	P	P	19 46 11.8	+0.2
TIXI				IAmb	IAmb	19 47 30.3	
	comp=Z,7.6nm,1.7s						
SIMRM	Sittwe	43.85	266	P	P	19 46 46.5	-1.3
ZALV	Zalesovo Beam	44.21	316	PcP	PcP	19 48 33.1	+0.3
	comp=Z,0.7nm,0.3s,baz=74,slow=2.2,SNR=3.9						
MK31	Makanchi Array	45.70	306	P	P	19 47 02.5	+0.2
MKAR	Makanchi Array	45.70	306	P	P	19 47 02.5	+0.3
	comp=Z,1.0nm,0.6s,baz=87,slow=9.4,SNR=13						
MKAR				PcP	PcP	19 48 38.7	+0.5
	comp=Z,0.4nm,0.7s,baz=72,slow=4.7,SNR=3.2						
KURK	Kurchatov	47.92	311	P	P	19 47 19.5	+0.1
KURK				IAmb	IAmb	19 47 20.0	
	comp=Z,3.9nm,0.6s						
WRA	Warramunga Arr	52.64	187	P	P	19 47 54.3	-0.9
	comp=Z,0.2nm,0.3s,baz=1.2,slow=7.8,SNR=7.7						
KK31	Karatay Array	54.52	302	P	P	19 48 09.0	+0.1
KK31				IAmb	IAmb	19 49 21.0	
	comp=Z,10nm,1.8s						
KKAR	Karatay Array	54.52	302	P	P	19 48 09.1	+0.3
KKAR				IAmb	IAmb	19 49 21.0	
	comp=Z,10nm,1.8s						
ASAR	Alice Springs	56.37	187	P	P	19 48 22.1	-0.1
	comp=Z,0.1nm,0.3s,baz=8.4,slow=5.4,SNR=4.1						
ABKAR	Akbulak array	60.02	312	P	P	19 48 47.3	-0.1
ABKAR				IAmb	IAmb	19 48 48.4	
	comp=Z,4.5nm,1.3s						
ARCES	ARCESS Array B	67.70	340	P	P	19 49 37.7	+0.3
	comp=Z,3.0nm,0.9s,baz=71,slow=9.6,SNR=3.0						
FINES	FINESS Array B	72.19	333	P	P	19 50 05.1	+0.3
	comp=Z,3.0nm,0.8s,baz=51,slow=6.6,SNR=14						
NVAR	Mina Array Bea	78.42	52	P	P	19 50 43.0	+1.7
	comp=Z,0.2nm,0.5s,baz=286,slow=4.5,SNR=2.7						
BRTR	Keskin Array B	80.97	312	P	P	19 50 54.2	-0.8
	comp=Z,1.1nm,0.9s,baz=48,slow=4.3,SNR=3.6						
TXAR	Lajitas Array	93.57	52	P	P	19 51 58.9	+2.6
	comp=Z,0.4nm,0.6s,baz=291,slow=2.8,SNR=2.6						

JMA 05 19:47:49.6±0.2, 37°.50N×144°.48E, h43^{km}, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.52	290	P	Pn	19 48 29.4	+1.4
JIKH				eS	Sn	19 48 59.1	+1.7
JIO	Ouri	2.65	292	P	Pn	19 48 31.7	+1.9
JIO				S	Sn	19 49 02.8	+2.1
JKMT	Kesennumamotoy	2.71	300	P	Pn	19 48 31.9	+1.3
JKMT				S	Sn	19 49 03.7	+1.6
OFUJ	Ofunato	2.72	306	P	Pn	19 48 32.5	+1.8
OFUJ				eS	Sn	19 49 04.0	+1.7
JMK	Ichinoseki	2.95	300	P	Pn	19 48 35.8	+1.9
JMK				S	Sn	19 49 09.9	+1.9
JOM	Ohasama	3.18	309	P	Pn	19 48 39.3	+2.2
JOM				S	Sn	19 49 16.5	+2.6
JFT	Otama	3.29	272	P	Pn	19 48 41.2	+2.5
JFT				eS	Sn	19 49 19.6	+3.0
JRY	Ryogami san	4.72	253	P	Pn	19 48 59.0	+0.8
JRY				eS	Sn	19 49 51.0	-0.7
JCH	Churui	5.18	351	P	Pn	19 49 04.3	-0.2
JCH				eS	Sn	19 50 00.5	-2.5
NEM2	Nemuro 2	5.94	9	P	Pn	19 49 11.8	-3.1
NEM2				eS	Sn	19 50 15.6	-6.0
JTKR	Abashiri--Toko	6.48	356	P	Pn	19 49 21.6	-0.7
JTKR				eS	Sn	19 50 32.2	-2.7

*IDC **05** 20:04:44.9±4.0, 52.°28N×177.°51E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.7/59, mbtmp4.0/9, Error ellipse: s-maj=98.8km s-min=21.6km az=163.0*
*AEIC **05** 20:04:50.4±1.7, 52.°2N±0.°2×177.°91E±0.°09, h78km±8km, ML3.0*
*NEIC **05** 20:04:50.6±0.7, 51.°9N±0.°2×177.°77E±0.°04, h67km±15km*
ISC 05 20:04:53.2±1.4, **51.°8N**±0.°3×**178.°05E**±0.°07, **h100**km, **n28**, σ**1.s32**/26, **mb4.0**/10, **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TANO	Tanaga North	2.38	86		Pn	20 05 29.8	-0.8
TANO					Sn	20 06 00.8	+1.4
TASE	Tanaga Southea	2.43	88		Pn	20 05 30.3	-1.1
TAFP	Tanaga Falls P	2.46	87		Pn	20 05 30.4	-1.4
TAFP					Sn	20 06 00.7	-0.7
TAPA	Tanaga Point A	2.57	89		Pn	20 05 32.1	-1.2
SMY	Shemya	2.59	292		Pn	20 05 28.2	-5.1
KIMD	Kanaga Island	2.93	90		Pn	20 05 37.1	-0.8
KIKV	Kanaga Island	2.97	87		Pn	20 05 37.7	-0.8
KIWB	Kanaga Island	2.98	88		Pn	20 05 37.1	-1.5
ADK	Adak	3.27	87		Pn	20 05 41.4	-1.0
ADAG	Mount Adagdak	3.32	85		Pn	20 05 42.2	-0.9
GSTD	Great Sitkin T	3.60	84		Pn	20 05 46.4	-0.7
GSMY	Great Sitkin M	3.66	84		Pn	20 05 46.8	-0.9
ATKA	Atka Island	4.81	83		Pn	20 06 03.6	+0.4
ATKA	Atka Island	4.81	83		Sn	20 06 57.6	0.0
AKUT	Akutan	10.03	70	Pn	Pn	20 07 09.9	-4.1
ILAR	Eielson Array	22.15	41	P	P	20 09 41.2	+0.7
	0.2nm,0.5s,baz=232,slow=8.7,SNR=3.9						
KLR	Kul'dur	29.16	283	P	P	20 10 43.7	-1.0
	0.6nm,0.5s,baz=72,slow=12,SNR=3.4						
H11N2	WAKE ISLAND Hy	33.21	199	T	T	20 46 28.0	
	baz=9.4,slow=76,SNR=11						
H11N3	WAKE ISLAND Hy	33.22	199	T	T	20 46 32.2	
	baz=9.4,slow=76,SNR=13						
H11N1	WAKE ISLAND Hy	33.23	199	T	T	20 46 28.5	
	baz=9.4,slow=76,SNR=13						
YKA	Yellowknife Ar	36.34	46	P	P	20 11 49.3	+2.3
	0.2nm,0.5s,baz=284,slow=7.7,SNR=4.0						
SONM	Songino Array	44.68	295	P	P	20 12 55.8	-0.1
	1.0nm,0.5s,baz=65,slow=7.9,SNR=12						
SPITS	Spitsbergen Ar	49.77	355	P	P	20 13 35.5	+0.7
	8.9nm,0.9s,baz=21,slow=8.5,SNR=7.7						
ARCES	ARCESS Array B	57.29	349	P	P	20 14 28.9	-0.9
	6.0nm,1.1s,baz=17,slow=7.5,SNR=5.6						
KURBB	Kurchatov Arra	57.37	312	P	P	20 14 30.9	+0.3
	1.5nm,0.6s,baz=43,slow=6.7,SNR=8.7						
MKAR	Makanchi Array	58.20	306	P	P	20 14 36.2	-0.4
	0.4nm,0.4s,baz=51,slow=6.0,SNR=15						
BVAR	Borovoye Array	59.25	318	P	P	20 14 44.2	+0.5
	1.1nm,0.5s,baz=49,slow=6.9,SNR=6.9						
FINES	FINESS Array B	64.88	346	P	P	20 15 21.5	+0.4
	2.2nm,0.9s,baz=1.7,slow=6.3,SNR=5.5						

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*TAP **05** 20:08:46.9, 24.°66N×122.°81E, h111km±1km, ML2.7, D*
*ISCJB **05** 20:08:47.6±0.5, 24.°57N±0.°04×122.°86E±0.°02, h93km±5km, Error ellipse: s-maj=6.7km s-min=2.6km az=176.9*
*JMA **05** 20:08:47.1±0.1, 24.°54N×122.°84E, h99km±1km, M2.0*
ISC 05 20:08:48.1±1.5, **24.°56N**±0.°06×**122.°86E**±0.°03, **h92**km±9km, **n54**, σ**0.s70**/103, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.14	146	P	Pn	20 09 01.1	-0.1
JYNG				S	Sn	20 09 11.6	+0.8
YOJ	Yonaguni jima	0.17	127	P	Pn	20 09 01.3	+0.1
YOJ				eS	Sn	20 09 11.6	+0.6
EOS1	EOS1	0.67	269	eP	Pn	20 09 04.3	-0.1
	baz=254						
EOS1				eS	Sn	20 09 18.1	+1.4
	baz=254						
IRIF	Iriomote-Funau	0.82	106	P	Pn	20 09 05.9	-0.1
IRIF				eS	Sn	20 09 20.0	+0.6
TWC	Suao	0.92	273	eS	Sn	20 09 20.5	-0.8
	baz=262						
HATJ	Hateruma jima	1.00	120	P	Pn	20 09 07.8	-0.1
HATJ				S	Sn	20 09 23.2	+0.4
NANB	Nanao	1.02	263	P	Pn	20 09 08.1	-0.1
	baz=252						
NANB				S	Sn	20 09 23.7	+0.4
	baz=252						
TIPB	Shuangxi	1.03	293	eP	Pn	20 09 07.9	-0.4
	baz=284						
TIPB				eS	Sn	20 09 23.5	+0.1
	baz=284						
ENA	Nanau	1.03	263	P	Pn	20 09 08.2	-0.1
	baz=252						
ENA				S	Sn	20 09 24.2	+0.7
	baz=252						
JKRS	Kuro-shima	1.09	107	P	Pn	20 09 09.3	+0.3
JKRS				S	Sn	20 09 25.3	+0.6
TWE	Neicheng	1.10	278	P	Pn	20 09 09.1	0.0
	baz=269						
TWE				eS	Sn	20 09 25.0	+0.2
	baz=269						
SLBB	Yuanshan	1.13	280	P	Pn	20 09 08.8	-0.7
	baz=274						
SLBB				S	Sn	20 09 24.9	-0.8
	baz=274						
ENTT	Nioudou	1.18	274	P	Pn	20 09 10.1	0.0
	baz=265						
ENTT				eS	Sn	20 09 27.3	+0.6
	baz=265						
JIJ	Ishigaki jima	1.18	99	P	Pn	20 09 09.8	-0.3
JIJ				S	Sn	20 09 25.6	-1.0
NACB	Ninganchiao	1.22	252	P	Pn	20 09 09.7	-0.8
	baz=239						
NACB				S	Sn	20 09 26.6	-0.8
	baz=239						
NDT	Datong Townshi	1.23	272	eP	Pn	20 09 10.8	+0.1
	baz=265						
NDT				S	Sn	20 09 27.5	-0.1
	baz=265						
TWD	Chiawan	1.25	248	P	Pn	20 09 09.9	-1.0
	baz=235						
TWD				eS	Sn	20 09 26.8	-1.2
	baz=235						
NWLT	Wulai	1.25	280	eP	Pn	20 09 10.7	-0.3
	baz=280						
NWLT				eS	Sn	20 09 27.8	-0.4
	baz=280						
ETLH	Xiulin Townshi	1.31	254	P	Pn	20 09 11.3	-0.4
	baz=248						
ETLH				eS	Sn	20 09 29.4	0.0
	baz=248						
JISG	Ishigakijimahi	1.32	89	P	Pn	20 09 11.3	-0.4
JISG				S	Sn	20 09 28.7	-0.8
NNSB	Datong	1.35	265	P	Pn	20 09 12.1	-0.2
	baz=253						
NNSB				S	Sn	20 09 30.2	-0.4
	baz=253						
NNSH	Datong	1.35	265	eP	Pn	20 09 11.8	-0.5
	baz=253						
NNSH				eS	Sn	20 09 30.1	-0.4
	baz=253						
YHNB	Yeheng	1.36	275	P	Pn	20 09 12.1	-0.1
	baz=275						
YHNB				S	Sn	20 09 30.2	-0.3
	baz=275						
NNS	Nan Shan	1.36	265	P	Pn	20 09 12.3	-0.1
	baz=253						
NNS				S	Sn	20 09 29.9	-0.9
	baz=253						
NSK	Sanguang	1.37	275	i P	Pn	20 09 12.4	-0.1
	baz=275						
NSK				i S	Sn	20 09 30.3	-0.6
	baz=275						
ESL	Shilin	1.50	241	eP	Pn	20 09 13.4	-0.6
	baz=234						
ESL				eS	Sn	20 09 33.0	-0.6
	baz=234						
WHF	Hehuan Shan	1.52	254	i P	Pn	20 09 14.4	-0.2
	baz=248						
WHF				i S	Sn	20 09 34.1	-0.5
	baz=248						
TWT	Tachien	1.57	259	eP	Pn	20 09 15.3	+0.3
	baz=250						
TWT				S	Sn	20 09 35.2	-0.2
	baz=250						
TDCB	Techi	1.58	259	eP	Pn	20 09 15.4	+0.2
	baz=251						
TDCB				eS	Sn	20 09 34.9	-0.8
	baz=251						
EGFH	Guangfu	1.59	236	P	Pn	20 09 14.4	-0.6
	baz=234						
EGFH				eS	Sn	20 09 35.2	-0.3
	baz=234						
CHGB	Renai	1.62	252	eP	Pn	20 09 15.7	-0.1
	baz=241						
CHGB				eS	Sn	20 09 36.0	-0.7
	baz=241						
JTJ	Tarama	1.68	87	P	Pn	20 09 16.0	-0.2
JTJ				S	Sn	20 09 38.0	+0.5
LIOB	Emei	1.68	273	eP	Pn	20 09 16.6	+0.3
	baz=268						
LIOB				eS	Sn	20 09 37.9	+0.2
	baz=268						
HGSD	Ruisui	1.69	231	eP	Pn	20 09 16.3	-0.1
	baz=225						
HGSD				eS	Sn	20 09 38.1	+0.2
	baz=225						
NSTT	Nanjuang	1.70	273	eP	Pn	20 09 16.9	+0.5
	baz=268						
NSTT				S	Sn	20 09 37.7	-0.3
	baz=268						
EHY	Hungye	1.76	234	eP	Pn	20 09 16.6	-0.7
	baz=228						
EHY				eS	Sn	20 09 38.4	-1.1
	baz=228						
VWDT	VWDT	1.77	243	eP	Pn	20 09 17.2	-0.2
	baz=233						
VWDT				S	Sn	20 09 38.9	-0.7
	baz=233						
WHP	Taichung City	1.77	261	P	Pn	20 09 18.3	+0.8
	baz=254						
WHP				eS	Sn	20 09 40.3	+0.5
	baz=254						
DPDB	Guoxing	1.84	254	eP	Pn	20 09 18.8	+0.4
	baz=247						
DPDB				eS	Sn	20 09 41.4	-0.1
	baz=247						
YULB	Yu-li	1.85	231	P	Pn	20 09 17.6	-0.8
	baz=233						
YULB				eS	Sn	20 09 40.3	-1.2
	baz=233						
TWF1	Yuli	1.87	230	P	Pn	20 09 18.0	-0.8
	baz=232						
TWF1				eS	Sn	20 09 41.1	-1.0
	baz=232						
SSLB	Suanglung	1.91	246	eP	Pn	20 09 18.8	-0.5
	baz=239						
SSLB				eS	Sn	20 09 41.8	-1.1
	baz=239						
SMLT	Sun Moon Lake	1.92	250	eP	Pn	20 09 19.9	+0.5
	baz=240						
SMLT				eS	Sn	20 09 43.4	+0.1
	baz=240						
TYC	Yuchr	1.94	251	eP	Pn	20 09 20.0	+0.4
	baz=241						
TYC				eS	Sn	20 09 43.9	+0.1
	baz=241						
WHYT	Xinyi Township	2.03	245	eP	Pn	20 09 21.3	+0.5
	baz=238						
JIRB	Irabujima	2.12	82	S	Sn	20 09 47.0	-0.8
ALS	Alishan	2.15	241	eP	Pn	20 09 23.5	+0.8
	baz=231						
ALS				eS	Sn	20 09 49.2	+0.1
	baz=231						
ELDTW	Lidau	2.17	231	eP	Pn	20 09 22.0	-0.8
	baz=223						
ELDTW				eS	Sn	20 09 47.1	-2.2
	baz=223						
STYT	Tauyuan	2.38	235	eP	Pn	20 09 25.9	+0.4
	baz=225						
TPUB	Ta-pu	2.40	239	eP	Pn	20 09 26.8	+1.1
	baz=228						
TPUB				eS	Sn	20 09 55.1	+0.6
	baz=228						
CHN4	Tsaushan	2.40	240	eP	Pn	20 09 26.8	+1.0
	baz=235						
CHN4				eS	Sn	20 09 55.6	+1.0
	baz=235						
WTP	Ta-pu	2.44	238	eP	Pn	20 09 27.8	+1.5
	baz=227						
WTP				eS	Sn	20 09 56.8	+1.3
	baz=227						
TWK	Hsinying	2.53	240	eP	Pn	20 09 28.8	+1.4
	baz=236						
SLGT	Liugui	2.56	233	eP	Pn	20 09 29.1	+1.2
	baz=233						
SLGT				eS	Sn	20 10 00.3	+1.9
	baz=233						

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*IDC **05** 20:33:27.1±1.4, 15.°44S×173.°66W, h0km, mb4.1/6, mb1 4.3/7, mb1mx3.9/42, mbtmp4.1/7, ML4.2/1, MS2.9/4, Ms1 2.9/4, ms1mx2.7/20, Error ellipse: s-maj=76.6km s-min=18.8km az=143.0*
*ISCJB **05** 20:33:31.2±0.5, 15.°54S±0.°09×173.°65W±0.°08, h42km, mb4.0/6, MS3.0/3, Error ellipse: s-maj=13.4km s-min=9.4km az=148.9*
*NEIC **05** 20:33:33.5±1.3, 15.°49S±0.°06×173.°6W±0.°1, h50km±6km, mb4.8/8*
ISC 05 20:33:33.0±0.6, **15.°48S**±0.°09×**173.°47W**±0.°09, **h42**km, **n30**, σ**1.s67**/26, **mb4.5**/13, **MS3.0**/4, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.26	47	Pn	Pn	20 34 08.9	+0.9
	58nm,0.3s,baz=223,slow=2.7,SNR=37						
AFI				Sn	Sn	20 34 31.2	-3.4
	128nm,0.3s,baz=98,slow=17,SNR=3.9						
NIUE	Niue	4.92	137		Pn	20 34 45.3	+0.8
KNTN	Kanton	12.74	8	Pn	Pn	20 36 34.0	+2.4
RAR	Rarotonga	14.19	116	LR	LR	20 41 01.5	
	comp=Z,63nm,19.1s,baz=124,slow=32						
DZM	Mont Dzumac	20.11	248	eP	Pn	20 38 10.2	+4.7
	32nm,1.2s						
DZM				eLR	LR	20 42 57.0	
	comp=Z,67nm,30.1s						
DZM	Mont Dzumac	20.11	248	LR	LR	20 43 49.3	
	comp=Z,21nm,20.6s,baz=234,slow=31						
PPT	Papeete	23.00	99	P	P	20 38 35.9	+1.6
PPT2	Papeete2	23.00	99	eLR	LR	20 43 53.6	
	comp=Z,84nm,29.0s						
HNR	Honiara	26.63	280	LR	LR	20 47 19.0	
	comp=Z,45nm,19.0s,baz=118,slow=32						
H11S2	WAKE ISLAND Hy	38.99	329	T	T	21 21 52.4	
	baz=146,slow=76,SNR=9.4						
H11S3	WAKE ISLAND Hy	39.01	329	T	T	21 21 52.2	
	baz=146,slow=76,SNR=10.0						
H11S1	WAKE ISLAND Hy	39.01	329	T	T	21 21 53.8	
	baz=146,slow=76,SNR=7.5						
STKA	Stephens Creek	43.94	240	P	P	20 41 35.2	-0.9
	1.7nm,0.7s,baz=88,slow=7.9,SNR=4.1						
STKA	Stephens Creek	43.94	240	P	P	20 41 35.5	-0.6
STKA				IAmb	IAmb	20 42 55.3	
	comp=Z,5.3nm,1.8s						
BBOO	Buckleboo	48.72	240	P	P	20 42 12.6	-1.0
BBOO				IAmb	IAmb	20 43 31.9	
	comp=Z,68nm,1.6s						
WB0	Warramunga Arr	49.72	257	P	P	20 42 20.8	-0.7
WB0				IAmb	IAmb	20 42 20.9	
	comp=Z,4.2nm,0.8s						
WB2	Warramunga Arr	49.75	257	P	P	20 42 20.2	-1.4
WB2				IAmb	IAmb	20 43 42.4	
	comp=Z,19nm,1.9s						
WRA	Warramunga Arr	49.76	257	P	P	20 42 20.1	-1.6
	comp=Z,1.9nm,0.8s,baz=91,slow=7.0,SNR=19						
WRA				PcP	PcP	20 43 41.9	-0.5
	comp=Z,1.0nm,0.6s,baz=89,slow=3.7,SNR=9.5						
AS31	Alice Springs	50.02	252	P	P	20 42 22.8	-1.0
AS31				IAmb	IAmb	20 42 23.9	
	comp=Z,1.7nm,0.8s						
ASAR	Alice Springs	50.02	252	P	P	20 42 22.9	-0.9
	comp=Z,6.9nm,0.7s,baz=85,slow=8.6,SNR=73						
ASAR				PcP	PcP	20 43 42.8	-0.5
	comp=Z,0.5nm,0.6s,baz=90,slow=4.7,SNR=2.4						
FAKI	Fak Fak	54.86	277	P	P	20 42 57.8	-1.8
FAKI				IAmb	IAmb	20 44 14.0	
	comp=Z,6.1nm,1.0s						
FORT	Forrest	55.32	243	P	P	20 43 01.8	-1.0
FORT				IAmb	IAmb	20 45 03.7	
	comp=Z,28nm,1.1s						
ADK	Adak	67.13	358	P	P	20 44 23.5	+1.3
ADK				IAmb	IAmb	20 45 02.4	
	comp=Z,105nm,1.5s						
MJAR	Matsushiro Arr	68.95	320	LR	LR	21 07 55.5	
	comp=Z,7.5nm,21.3s,baz=10.0,slow=30						
PETK	Petropavlovsk-	72.68	342	P	P	20 44 56.3	+0.1
	comp=Z,3.0nm,0.8s,baz=142,slow=7.3,SNR=3.5						
NVAR	Mina Array Bea	74.43	42	P	P	20 45 07.8	+0.7
	comp=Z,0.2nm,0.4s,baz=225,slow=8.9,SNR=2.8						
ILAR	Eielson Array	82.53	11	P	P	20 45 50.7	-0.2
	comp=Z,0.4nm,0.7s,baz=233,slow=5.9,SNR=5.4						
ARCES	ARCESS Array B	124.68	352	PKP	PKiKP	20 52 27.0	-0.7
	comp=Z,2.7nm,0.8s,baz=20,slow=2.9,SNR=4.6						
BRTR	Keskin Array B	146.18	321	PKPbc	PKPab	20 53 09.3	-0.6
	comp=Z,1.2nm,0.6s,baz=106,slow=1.4,SNR=6.7						
FUORN	Ofenpass-Fuorn	148.79	355	PKPdf	PKPdf	20 53 10.5	-2.0
FUORN					PKPbc	20 53 15.9	-0.5

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*ISCJB **05** 20:34:34.6±0.5, 15.°96N±0.°05×95.°33W±0.°03, h31km, mb3.9/10, MS3.3/10, Error ellipse: s-maj=7.8km s-min=4.3km az=6.6*
*NEIC **05** 20:34:35.0±2.3, 16.°0N±0.°1×95.°40W±0.°06, h18km±5km, mb4.3/47, Md4.5(MEX)*
*MEX **05** 20:34:35.7±0.8, 15.°83N×95.°29W, h14km±37km, MD4.5*
*IDC **05** 20:34:40.6±1.8, 16.°30N×95.°20W, h63km±13km, mb3.7/10, mb1 4.0/14, mb1mx3.7/46, mbtmp4.0/14, MS3.3/14, Ms1 3.3/14, ms1mx3.1/37, Error ellipse: s-maj=25.2km s-min=10.9km az=43.0*
ISC 05 20:34:35.8±0.7, **15.°95N**±0.°07×**95.°35W**±0.°04, **h31**km, **n96**, σ**1.s62**/102, **mb4.3**/26, **MS3.4**/10, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.23	21	P	Pn	20 34 56.2	-0.7
	427nm,0.3s,baz=210,slow=10,SNR=2469						
CMIG				S	Sn	20 35 09.8	-2.6
	3µm,0.3s,baz=3.2,slow=18,SNR=51						
CMIG	Matias Romero	1.23	21	eP	Pn	20 34 56.2	-0.7
CMIG				i S	Sn	20 35 11.4	-0.9
CMIG	Matias Romero	1.23	21		Pn	20 34 56.2	-0.7
CMIG					Sn	20 35 11.4	-0.9
VHO	Vista Hermosa	1.73	310	eP	Pn	20 35 03.9	-0.2
VHO				i S	Sn	20 35 24.8	-0.5
PNIG	Pinotepa	2.70	280	eP	Pn	20 35 16.0	-1.2
PNIG				eS	Sn	20 35 43.6	-5.3
PNIG	Pinotepa	2.70	280		Pn	20 35 16.0	-1.2
PNIG					Sn	20 35 43.6	-5.3
TLIG	Tlapa	3.47	298	eP	Pn	20 35 28.3	+0.3
TLIG				eS	Sn	20 36 11.8	+3.8
TLIG	Tlapa	3.47	298		Pn	20 35 28.3	+0.3
TLIG					Sn	20 36 11.8	+3.8
TLIG	Tlapa	3.47	298		Pn	20 35 28.2	+0.3
MEIG	Mezcala	4.54	296	eP	Pn	20 35 43.1	+0.6
MEIG				eS	Sn	20 36 33.6	-0.6
MEIG	Mezcala	4.54	296		Pn	20 35 43.1	+0.6
MEIG					Sn	20 36 33.6	-0.6
PLIG	Platanillo	4.65	302	eP	Pn	20 35 45.0	+0.9
PLIG				eS	Sn	20 36 40.0	+2.9
PLIG	Platanillo	4.65	302		Pn	20 35 45.0	+0.9
PLIG					Sn	20 36 40.0	+2.9
APG	El Apazote	4.80	101	P	Pn	20 35 50.3	+4.0
	3.6nm,0.3s,baz=327,slow=13,SNR=18						
APG				S	Sn	20 36 44.3	+3.2
	29nm,0.3s,baz=86,slow=19,SNR=4.1						
APG				LR	LR	20 37 55.9	
	comp=Z,284nm,21.6s,baz=294,slow=41						
CAIG	El Cayaco	4.84	284	eP	Pn	20 35 46.3	-0.3
CAIG				eS	Sn	20 36 42.2	+0.6
CAIG	El Cayaco	4.84	284		Pn	20 35 46.3	-0.3
CAIG					Sn	20 36 42.2	+0.6
TEIG	Tepich	7.96	57	P	Pn	20 36 29.5	0.0
	11nm,0.3s,baz=320,slow=1.3,SNR=30						
TEIG				S	Sn	20 37 53.7	-4.8
	2.9nm,0.3s,baz=139,slow=1.8,SNR=3.5						
TEIG				LR	LR	20 40 02.5	
	comp=Z,279nm,18.5s,baz=230,slow=42						
TEIG	Tepich	7.96	57		Pn	20 36 29.7	+0.3
ZAIG	Zacatecas	9.61	316		Pn	20 36 54.9	+2.5
JTS	Las Juntas de	11.58	118	P	Pn	20 37 25.0	+5.9
	1.5nm,0.3s,baz=296,slow=4.4,SNR=3.8						
JTS				LR	LR	20 42 05.7	
	comp=Z,30nm,18.8s,baz=11,slow=38						
JTS	Las Juntas de	11.58	118		Pn	20 37 19.4	+0.2
435B	Jarrell	14.91	353		P	20 38 07.5	-2.3
JCT	Junction City	15.03	345	P	P	20 38 09.3	-1.9
JCT				IAmb	IAmb	20 38 46.4	
	comp=Z,9.7nm,0.7s						
TX31	Lajitas Ar. Si	15.37	332	Pn	Pn	20 38 11.0	+0.4
TXAR	Lajitas Array	15.37	332	P	Pn	20 38 11.2	+0.5
	baz=152,slow=14,SNR=5.0						
WHTX	Lake Whitney,	16.09	354	P	Pn	20 38 20.6	+0.8
LPIG	La Paz	16.22	302	LR	LR	20 44 32.0	
	comp=Z,116nm,18.1s,baz=150,slow=37						
ABTX	Abilene, Hawle	17.06	348		Pn	20 38 31.3	-0.8
GDL2	Guadalupe Moun	18.14	335	P	Pn	20 38 45.2	-0.4
X37A	Clayton	18.57	360	P	Pn	20 38 52.2	+1.6
MIAR	Mount Ida	18.59	5	P	Pn	20 38 51.4	+0.5
X34A	Smith Ranch, M	18.71	354	P	P	20 38 52.2	+0.4
WMOK	Wichita Mounta	18.97	351	P	Pn	20 38 56.9	+1.4
MSTX	Muleshoe	19.15	341	P	Pn	20 38 57.9	0.0
W35A	Tecumseh	19.18	356	P	Pn	20 38 58.8	+0.8
W39A	Magazine	19.22	4	P	Pn	20 39 00.7	+2.1
W39A				IAmb	IAmb	20 39 17.9	
	comp=Z,24nm,0.9s						
Z50A	Ashland	19.23	25	P	Pn	20 38 58.1	-0.6
AMTX	Amarillo	19.70	344	P	P	20 39 03.5	+0.8
AMTX				IAmb	IAmb	20 39 31.5	
	comp=Z,9.7nm,0.6s						
TUL1	Leonard	19.89	359	P	P	20 39 04.7	0.0
TUL1				IAmb	IAmb	20 39 24.2	
	comp=Z,20nm,0.9s						
154A	Montrose	19.97	32	P	P	20 39 04.8	-0.8
121A	Cookes Peak, D	20.00	328	P	P	20 39 07.1	+1.0
FCAR	Ozark Folk Cen	20.07	8	P	P	20 39 06.2	-0.5
HHAR	Hobbs	20.29	3	P	P	20 39 09.3	+0.2
HHAR				IAmb	IAmb	20 39 25.1	
	comp=Z,21nm,1.3s						
LCAR	Lake Charles	20.39	10	P	P	20 39 08.8	-1.4
LCAR				IAmb	IAmb	20 39 12.9	
	comp=Z,11nm,1.0s						
U40A	Yellville	20.45	6	P	P	20 39 09.1	-1.7
BNM	Barren Site	20.78	333	P	P	20 39 14.8	+0.2
LENM	Lemitar	20.94	332	P	P	20 39 16.3	0.0
PBMO	Poplar Bluff	21.21	11	P	P	20 39 18.0	-0.9
PBMO				IAmb	IAmb	20 39 37.0	
	comp=Z,15nm,0.9s						
MGMO	Mountain Grove	21.30	7	P	P	20 39 19.0	-1.0
MGMO				IAmb	IAmb	20 39 42.1	
	comp=Z,19nm,1.2s						
ANMO	Albuquerque	21.38	334	P	P	20 39 21.7	+0.6
	comp=Z,2.1nm,0.9s,baz=128,slow=11,SNR=5.7						
ANMO	Albuquerque	21.38	334	P	P	20 39 21.6	+0.6
TUC	Tucson	21.49	322	P	P	20 39 23.1	+1.0
TKL	Tuckaleechee C	22.19	26	LR	LR	20 48 49.4	
	comp=Z,43nm,21.4s,baz=218,slow=39						
CCM	Cathedral Cave	22.32	9	P	P	20 39 30.5	-0.4
SIUC	Southern Illin	22.35	13	P	P	20 39 30.7	-0.5
SIUC				IAmb	IAmb	20 40 07.0	
	comp=Z,17nm,1.1s						
T25A	Trinidad	22.59	341	P	P	20 39 35.6	+1.6
T25A				IAmb	IAmb	20 39 36.8	
	comp=Z,7.3nm,0.8s						
Y59A	Loris	23.31	37		S	20 43 53.7	+2.0
X16A	Lo Mia Camp, P	23.40	325	P	P	20 39 43.0	+0.7
X16A				IAmb	IAmb	20 39 45.3	
	comp=Z,6.7nm,0.8s						
SDCO	Great Sand Dun	23.49	339	P	P	20 39 43.1	-0.3
OLIL	Olney	23.58	14	P	P	20 39 45.6	+1.8
WUAZ	Wupatki	24.19	327	P	P	20 39 50.6	+0.8
WUAZ				IAmb	IAmb	20 39 52.1	
	comp=Z,9.4nm,1.0s						
PV01	Paradox Valley	24.99	335	P	P	20 39 57.8	+0.7
PV01				IAmb	IAmb	20 39 59.4	
	comp=Z,8.0nm,1.1s						
PV13	Radium Mtn., P	25.11	334	P	P	20 39 58.8	+0.6
PV13				IAmb	IAmb	20 40 16.6	
	comp=Z,12nm,1.3s						
SDV	Santo Domingo	25.12	103	LR	LR	20 50 53.5	
	comp=Z,41nm,19.6s,baz=28,slow=39						
PV18	Skein Mesa, Pa	25.22	334	P	P	20 40 00.6	+1.4
PV18				IAmb	IAmb	20 40 31.3	
	comp=Z,9.3nm,1.2s						
PV12	Saucer Basin,	25.24	335	P	P	20 40 00.3	+1.0
PV12				IAmb	IAmb	20 40 01.3	
	comp=Z,8.3nm,0.9s						
PV11	David Mesa, Pa	25.25	334	P	P	20 40 00.9	+1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PV11				IAmb	IAmb	20 40 27.4	
	comp=Z,7.2nm,0.8s						
PV16	Nyswonger Mesa	25.28	334	P	P	20 40 01.1	+1.4
PV16				IAmb	IAmb	20 40 02.5	
	comp=Z,9.8nm,1.2s						
W13A	Hualapai Mount	25.29	322	P	P	20 40 02.0	+2.2
W13A				IAmb	IAmb	20 40 19.9	
	comp=Z,19nm,1.9s						
PV19	Morning Glory	25.31	334	P	P	20 40 01.4	+1.4
PV19				IAmb	IAmb	20 40 21.6	
	comp=Z,5.4nm,0.9s						
PV04	Paradox Valley	25.34	335	P	P	20 40 01.7	+1.5
PFO	Pinyon Flats O	25.92	317	LR	LR	20 50 31.1	
	comp=Z,130nm,18.6s,baz=179,slow=37						
MTPU	Mount Pierson	26.55	329	P	P	20 40 13.8	+2.4
TMUT	Trail Mountain	27.09	332	P	P	20 40 16.4	+0.2
SJG	San Juan	27.99	81	LR	LR	20 50 51.7	
	comp=Z,43nm,19.4s,baz=265,slow=35						
ATAH	Atahualpa	28.42	143	LR	LR	20 49 41.0	
	comp=Z,47nm,20.7s,baz=22,slow=32						
NV11	Mina Array Sit	30.06	323	P	P	20 40 43.3	+0.8
NV11				IAmb	IAmb	20 40 44.6	
	comp=Z,7.7nm,1.1s						
ELK	Elko	30.14	329	P	P	20 40 43.5	+0.3
	comp=Z,0.9nm,0.6s,baz=122,slow=6.6,SNR=6.2						
ELK	Elko	30.14	329	P	P	20 40 43.8	+0.6
NVAR	Mina Array Bea	30.15	322	P	P	20 40 44.6	+1.3
	comp=Z,3.3nm,0.8s,baz=140,slow=9.5,SNR=26						
NVAR				LR	LR	20 53 13.8	
	comp=Z,76nm,18.1s,baz=89,slow=37						
YBH	Yreka Blue Hor	34.86	323	LR	LR	20 56 44.3	
	comp=Z,73nm,20.0s,baz=146,slow=38						
YKA	Yellowknife Ar	48.43	348	P	P	20 43 13.5	-1.4
	comp=Z,0.6nm,0.6s,baz=154,slow=7.2,SNR=6.3						
CPUP	Villa Florida	55.97	138	LR	LR	21 07 15.7	
	comp=Z,38nm,18.2s,baz=34,slow=35						
INK	Inuvik	57.68	344	P	P	20 44 21.3	-1.7
	comp=Z,2.2nm,0.8s,baz=115,slow=8.0,SNR=8.0						
INK	Inuvik	57.68	344	P	P	20 44 21.9	-1.2
INK				IAmb	IAmb	20 44 22.5	
	comp=Z,2.7nm,0.8s						
ILAR	Eielson Array	59.79	337	P	P	20 44 35.8	-2.0
	comp=Z,1.8nm,1.0s,baz=136,slow=5.2,SNR=15						
RND	Reindeer	59.91	335	P	P	20 44 38.9	+0.1
TRF	Thorofare Moun	60.51	335	P	P	20 44 42.8	-0.1
PLCA	Paso Flores	60.91	159	P	P	20 44 48.2	+2.4
	comp=Z,1.4nm,0.8s,baz=7.4,slow=7.9,SNR=4.9						
PLCA				LR	LR	21 05 49.9	
	comp=Z,24nm,19.3s,baz=164,slow=31						
MLY	Manley	61.37	337	P	P	20 44 48.2	-0.4
MLY				IAmb	IAmb	20 44 48.4	
	comp=Z,2.8nm,0.8s						
ESDC	Sonseca Array	81.05	51	P	P	20 46 48.6	+0.5
	comp=Z,0.6nm,0.7s,baz=303,slow=7.2,SNR=4.6						
NOA	NORSAR Array B	83.97	28	LR	LR	21 24 52.3	
	comp=Z,85nm,18.3s,baz=280,slow=36						
ARCES	ARCESS Array B	85.29	18	P	P	20 47 08.6	-0.8
	comp=Z,2.5nm,0.9s,baz=302,slow=5.2,SNR=3.4						
TORD	Torodi Ar. Bea	93.05	75	P	P	20 47 47.4	+0.2
	comp=Z,0.5nm,0.9s,baz=302,slow=3.2,SNR=2.4						
WRA	Warramunga Arr	132.69	257	PKP	PKPdf	20 53 48.4	-0.1
	comp=Z,0.6nm,0.8s,baz=76,slow=2.1,SNR=4.8						
ASAR	Alice Springs	133.21	252	PKP	PKiKP	20 53 50.5	-0.1
	comp=Z,0.1nm,0.4s,baz=85,slow=2.1,SNR=2.9						

*KRNET **05** 20:56:08.7±0.1, 39°.16N×71°.73E, mb3.2*
*NNC **05** 20:56:12.7±3.3, 39°.27N×71°.93E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=24.2km s-min=14.6km az=4.0*
ISC 05 20:56:13.4±2.1**, 39°.4N**±0°.1×**71°.65E**±0°.05**, h10**km**, n20,** σ**2s31**/36**, 27C-11D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	0.91	316	⇑i P	Pb	20 56 30.6	-0.8
	baz=22						
BTK				⇑i S	Sn	20 56 46.6	+1.0
	baz=22						
ARSB	Arslanbob	2.17	28	⇑i P	Pb	20 56 50.8	-2.0
	baz=23						
ARSB				⇑i S	Sb	20 57 21.9	+2.0
	baz=23						
ARK	Arkit	2.40	6	⇑i P	Pb	20 56 55.0	-1.8
	baz=4.0						
ARK				⇑i S	Sb	20 57 28.3	+1.8
	baz=4.0						
AML	Almayashu	3.13	29	⇑i P	Pb	20 57 04.7	-4.7
	baz=26						
AML				⇑i S	Sb	20 57 45.5	-2.4
	baz=26						
ARLS	Aral	3.19	39	⇓i P	Pb	20 57 04.9	-5.3
	baz=35						
ARLS				⇓i S	Sb	20 57 45.8	-3.3
	baz=35						
MRKS	Merke	3.54	19	Pg	Pn	20 57 10.2	+1.7
	4.8nm,0.3s						
MRKS				Lg	Lg	20 57 55.4	
	10nm,0.5s						
UCH	Uchtor	3.56	37	⇑i P	Pn	20 57 10.0	+0.9
	baz=34						
UCH				⇑i S	Sn	20 57 55.2	+3.7
	baz=34						
EKS2	Erkin-Say	3.63	26	⇓e P	Pn	20 57 11.3	+1.6
	baz=23						
EKS2				⇓e S	Sn	20 57 57.1	+4.4
	baz=23						
KK31	Karatay Array	3.79	347	⇑Pn	Pn	20 57 14.6	+2.8
	0.8nm,0.3s,baz=156,slow=11,SNR=24						
KK31				⇑Pg	Pg	20 57 23.9	-2.1
	2.1nm,0.5s,baz=166,slow=20,SNR=27						
KK31				⇑Sn	Sb	20 58 04.2	-2.2
	1.4nm,0.3s,baz=335,slow=57,SNR=4.3						
KK31				⇑Lg	Lg	20 58 16.0	
	1.4nm,0.3s						
KZA	Kyzart	3.82	45	⇓i P	Pn	20 57 13.6	+0.9
	baz=41						
KZA				⇓i S	Sn	20 58 00.6	+2.7
	baz=41						
AAK	Ala-Archa	3.88	33	⇑e P	Pn	20 57 14.6	+1.4
	baz=30						
AAK				⇑i S	Sn	20 58 02.8	+3.9
	baz=30						
AAK	Ala-Archa	3.88	33	⇑Pn	Pn	20 57 15.1	+1.9
	2.4nm,0.6s						
AAK				⇓Pg	Pb	20 57 22.4	+0.4
	7.8nm,1.2s						
AAK				⇑Sn	Sn	20 58 03.0	+4.0
	3.9nm,0.5s						
AAK				⇑Lg	Lg	20 58 13.5	
	8.6nm,0.6s						
NRN	Naryn	3.89	57	⇑i P	Pn	20 57 13.4	-0.1
	baz=54						
NRN				⇑i S	Sn	20 58 00.3	+0.9
	baz=54						
KBK	Karagaybulak	4.10	36	⇑i P	Pn	20 57 17.3	+1.1
	baz=34						
KBK				⇑i S	Sn	20 58 07.7	+3.4
	baz=34						
CHMS	Chumysh	4.29	32	⇑i P	Pn	20 57 19.8	+1.1
	baz=30						
CHMS				⇑i S	Sn	20 58 12.2	+3.5
	baz=30						
ULHL	Ulahol	4.49	49	⇓i P	Pn	20 57 22.0	+0.3
	baz=47						
ULHL				⇓i S	Sn	20 58 16.1	+2.0
	baz=47						
TKM2	Tokmak 2	4.61	39	⇑e P	Pn	20 57 24.2	+1.0
	baz=37						
TKM2				⇑i S	Sn	20 58 19.5	+2.6
	baz=37						
TKM2	Tokmak 2	4.61	39	⇓Pg	Pb	20 57 36.0	+1.6
	1.7nm,0.4s						
TKM2				⇓Lg	Lg	20 58 37.6	
	3.6nm,0.6s						
KST	Kastek	4.88	40	Pg	Pb	20 57 39.3	+0.3
	1.3nm,0.3s						
KST				Lg	Lg	20 58 44.5	
	4.9nm,0.4s						
DGS	Degeres	4.93	38	Pg	Pb	20 57 40.2	+0.3
	3.3nm,0.6s						
DGS				Lg	Lg	20 58 45.9	
	6.6nm,0.7s						

*HLW **05** 21:44:10.0, 36°.72N×26°.84E, h16km±14km, Ml4.1*
*ATH **05** 21:44:13.7, 36°.66N×26°.71E, h166km±4km, ML3.6/11, Error ellipse: s-maj=4.7km s-min=1.6km az=99.0*
*ISCJB **05** 21:44:13.7±0.2, 36°.56N±0°.02×26°.82E±0°.02, h164km±2km, mb3.6/5, Error ellipse: s-maj=3.4km s-min=2.4km az=12.8*
*ISK **05** 21:44:15.0, 36°.70N×26°.71E, h154km, ML3.0/15*
*IDC **05** 21:44:16.5±1.7, 36°.70N×26°.71E, h176km±20km, mb3.3/4, mb1 3.3/10, mb1mx3.0/46, mbtmp3.7/10, Error ellipse: s-maj=18.2km s-min=12.9km az=174.0*
*GII **05** 21:44:17.5±0.0, 36°.23N×27°.11E, h14km, MD3.1/3*
*THE **05** 21:44:18.5, 36°.65N×26°.73E, h149km±3km, ML3.3/8, Error ellipse: s-maj=3.2km s-min=1.3km az=87.0*
ISC 05 21:44:14.0±0.6**, 36°.62N**±0°.04×**26°.76E**±0°.04**, h159**km±6km**, n144,** σ**1s65**/183**, mb3.8**/5**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSK	Kos Island	0.23	53	P	Pn	21 44 36.1	+0.7
KOSK				S	Sn	21 44 52.1	+0.3
	312nm,0.6s						
KOSK	Kos Island	0.23	53	P	Pn	21 44 36.1	+0.7
KOSK				S	Sn	21 44 52.2	+0.4
BODT	Bodrum	0.63	45	P	Pn	21 44 37.7	+0.6
BODT	Bodrum	0.63	45	P	Pn	21 44 37.7	+0.6
BODT	Bodrum	0.63	45	PG	Pn	21 44 37.7	+0.6
BODT				SG	Sn	21 44 54.1	-0.7
DAT	Datca	0.67	80	i P	Pn	21 44 38.4	+1.0
DAT	Datca	0.67	80	PG	Pn	21 44 38.4	+1.0
AMGA	Amorgos Island	0.72	287	P	Pn	21 44 38.2	+0.6
AMGA	Amorgos Island	0.72	287	P	Pn	21 44 38.2	+0.6
AMGA				S	Sn	21 44 55.5	-0.2
AMGA	Amorgos Island	0.72	287	P	Pn	21 44 38.2	+0.6
DATC	Datca-Mugla	0.74	79	PG	Pn	21 44 38.9	+1.2
MLSB	Milas	1.06	50	PG	Pn	21 44 40.9	+0.7
SANT	Santorini	1.07	257	P	Pn	21 44 41.1	+0.8
SANT	Santorini	1.07	257	P	Pn	21 44 41.1	+0.8
SANT	Santorini	1.07	257	P	Pn	21 44 41.1	+0.8
SANT	Santorini	1.07	257	PG	Pn	21 44 41.1	+0.8
APE	Apeiranthos	1.08	295	P	Pn	21 44 41.0	+0.6
APE	Apeiranthos	1.08	295	P	Pn	21 44 41.0	+0.6
APE	Apeiranthos	1.08	295	P	Pn	21 44 40.9	+0.6
APE	Apeiranthos	1.08	295	PG	Pn	21 44 40.8	+0.5
SMG	Samos	1.09	3	P	Pn	21 44 40.6	+0.2
SMG	Samos	1.09	3	P	Pn	21 44 40.6	+0.2
SMG	Samos	1.09	3	P	Pn	21 44 40.6	+0.2
SMG				AML	AML	21 44 59.8	
	comp=N,341µm,0.7s						
SMG				AML	AML	21 45 01.1	
	comp=E,404µm,0.8s						
CMBO	Columbo, Santo	1.10	263	P	Pn	21 44 41.3	+0.9
KARP	Karpathos	1.12	163	P	Pn	21 44 42.0	+1.3
KARP	Karpathos	1.12	163	P	Pn	21 44 42.1	+1.3
KARP				S	Sn	21 45 01.7	+0.6
KARP	Karpathos	1.12	163	P	Pn	21 44 42.1	+1.4
KARP				AML	AML	21 45 04.9	
	comp=N,5364µm,0.3s						
KARP				AML	AML	21 45 05.5	
	comp=E,2941µm,0.2s						
KARP	Karpathos	1.12	163	PN	Pn	21 44 42.4	+1.7
SAP1	Santorini-Akro	1.12	257	P	Pn	21 44 41.6	+0.9
SAP1	Santorini-Akro	1.12	257	P	Pn	21 44 41.6	+0.9
GCAM	G?zelcaml?	1.15	19	i P	Pn	21 44 40.9	0.0
GCAM				i S	Sn	21 44 58.7	-2.9
MRSB	Marmaris-Mugla	1.16	85	PN	Pn	21 44 42.3	+1.3
IOSP	Ios island	1.18	276	P	Pn	21 44 41.9	+0.7
YER	Yerkesik	1.33	67	P	Pn	21 44 44.2	+1.6
YER	Yerkesik	1.33	67	PN	Pn	21 44 43.7	+1.1
AYDN	Tasoluk	1.38	40	i P	Pn	21 44 44.2	+1.1
AYDN				IAML		21 45 06.0	
	comp=N,58nm,1.2s						
AYDN				IAML		21 45 06.0	
	comp=E,68nm,1.0s						
DGB	zmir	1.44	4	i PA	Pn	21 44 43.7	+0.2
DGB				IAML		21 45 05.0	
	comp=N,33nm,0.9s						
DGB				IAML		21 45 05.0	
	comp=E,32nm,1.0s						
TURN	Turunc	1.51	80	i PA	Pn	21 44 42.5	-1.8
TURN				i S	Sn	21 45 01.6	-5.9
TURN				IAML		21 45 02.0	
	comp=E,146nm,0.2s						
STIA	Sitia Lasithi	1.51	201	P	Pn	21 44 45.5	+1.1
STIA	Sitia Lasithi	1.51	201	P	Pn	21 44 45.5	+1.1
ZKR	Zakros	1.56	196	P	Pn	21 44 46.4	+1.5
ZKR				S	Sn	21 45 09.5	+0.8
	comp=E,462nm,0.4s						
ZKR	Zakros	1.56	196	P	Pn	21 44 46.5	+1.5
ZKR	Zakros	1.56	196	P	Pn	21 44 46.5	+1.5
ZKR				AML	AML	21 45 12.2	
	comp=N,543µm,0.4s						
ZKR				AML	AML	21 45 12.2	
	comp=E,1312µm,0.3s						
ZKR	Zakros	1.56	196	PN	Pn	21 44 46.7	+1.8
AYDB	Zeytinkoy-Aydi	1.61	34	PN	Pn	21 44 46.1	+0.6
ZEY	zmir	1.63	353	i PA	Pn	21 44 45.4	-0.2
ZEY				IAML		21 45 08.0	
	comp=N,20nm,0.5s						
ZEY				IAML		21 45 08.0	
	comp=E,28nm,0.8s						
NPS	Neapolis	1.64	215	P	Pn	21 44 46.4	+0.7
NPS				S	Sn	21 45 09.6	-0.5
	comp=E,1µm,0.2s						
NPS	Neapolis	1.64	215	P	Pn	21 44 46.4	+0.7
NPS	Neapolis	1.64	215	P	Pn	21 44 46.5	+0.7
NPS				AML	AML	21 45 10.9	
	comp=E,1393µm,0.2s						
NPS				AML	AML	21 45 11.5	
	comp=N,1504µm,0.2s						
URLA	Izmir	1.75	356	i P	Pn	21 44 47.2	+0.3
URLA				IAML		21 45 13.0	
	comp=N,28nm,1.6s						
URLA				IAML		21 45 15.0	
	comp=E,16nm,1.3s						
FRMA	Ierapetra Chan	1.80	208	P	Pn	21 44 48.8	+1.3
FRMA				S	Sn	21 45 12.7	-0.5
	comp=E,178nm,0.2s						
FRMA	Ierapetra Chan	1.80	208	P	Pn	21 44 48.8	+1.3
CHOS	Chios island	1.85	343	P	Pn	21 44 48.1	0.0
CHOS	Chios island	1.85	343	PN	Pn	21 44 48.1	0.0
HRKL	Herakleio	1.87	226	P	Pn	21 44 49.2	+1.0
HRKL				S	Sn	21 45 14.3	-0.2
	comp=E,1µm,0.6s						
HRKL	Herakleio	1.87	226	P	Pn	21 44 49.2	+1.0
FETY	Fethiye	1.87	89	i P	Pn	21 44 49.8	+1.6
FETY				i S	Sn	21 45 14.3	-0.3
FETY	Fethiye	1.87	89	PN	Pn	21 44 49.9	+1.6
MHLA	Plaka, Milos I	1.88	275	P	Pn	21 44 49.2	+0.9
IACM	Heraklion	1.89	227	P	Pn	21 44 49.3	+0.9
TAVA	DENIZLI_Tavas	1.92	63	i PA	Pn	21 44 50.2	+1.3
TAVA				i S	Sn	21 45 15.4	-0.4
TMBK	Timbaki Herakl	2.23	227	P	Pn	21 44 53.6	+1.2
TMBK				S	Sn	21 45 23.0	+1.1
	comp=E,228nm,0.6s						
TMBK	Timbaki Herakl	2.23	227	P	Pn	21 44 53.6	+1.2
SIVA	Sivas	2.25	225	P	Pn	21 44 53.9	+1.4
SIVA				S	Sn	21 45 23.3	+1.1
	comp=E,512nm,0.4s						
SIVA	Sivas	2.25	225	P	Pn	21 44 53.9	+1.4
SIVA				AML	AML	21 45 27.6	
	comp=E,795µm,0.3s						
SIVA				AML	AML	21 45 28.4	
	comp=N,697µm,0.5s						
GLHS	Glhisar (BURDU	2.27	75	PN	Pn	21 44 54.3	+1.5
KSL	Kastellorizon	2.33	101	P	Pn	21 44 55.0	+1.6
KSL				AML	AML	21 45 25.0	
	comp=E,588µm,0.3s						
KSL				AML	AML	21 45 28.4	
	comp=N,276µm,0.2s						
AKAS	Kas	2.33	99	i PA	Pn	21 44 55.2	+1.6
AKAS				i S	Sn	21 45 24.2	0.0
GOLH	Golhisar	2.33	74	i PA	Pn	21 44 55.6	+1.9
GOLH				i S	Sn	21 45 25.2	+1.0
MANT	Manisa	2.36	37	i P	Pn	21 44 55.0	+0.9
MANT				IAML		21 45 26.0	
	comp=N,17nm,0.9s						
MANT				IAML		21 45 26.0	
	comp=E,11nm,0.9s						
VAM	Vamos	2.40	241	P	Pn	21 44 54.9	+0.6
VAM				AML	AML	21 45 25.6	
	comp=E,1057µm,0.3s						
VAM				AML	AML	21 45 30.1	
	comp=N,1446µm,0.3s						
DKL	Dikili	2.45	3	PN	Pn	21 44 55.4	+0.5
IMMV	Iera Moni Meta	2.53	244	P	Pn	21 44 56.6	+0.7
IMMV				AML	AML	21 45 31.1	
	comp=N,1588µm,0.4s						
IMMV				AML	AML	21 45 33.3	
	comp=E,1262µm,0.4s						
ELL	Elmali	2.54	86	PN	Pn	21 44 57.8	+1.7
PRK	Paraskevi	2.65	352	P	Pn	21 44 58.4	+1.0
VLY	Voula,Athens	2.67	298	P	Pn	21 44 58.4	+0.8
USAK	Uak-Merkez	2.76	40	i P	Pn	21 44 59.8	+1.1
USAK				IAML		21 45 32.0	
	comp=N,24nm,1.3s						
USAK				IAML		21 45 32.0	
	comp=E,8.6nm,1.2s						
KHAL	Karahalli	2.79	50	i P	Pn	21 45 00.5	+1.2
KHAL				i S	Sn	21 45 32.9	-1.4
KHAL				IAML		21 45 35.0	
	comp=N,6.2nm,0.8s						
KHAL				IAML		21 45 36.0	
	comp=E,15nm,0.7s						
GVD	Gavdhos	2.80	232	P	Pn	21 45 00.7	+1.4
GVD				AML	AML	21 45 37.9	
	comp=N,726µm,0.3s						
GVD				AML	AML	21 45 38.6	
	comp=E,1060µm,0.3s						
STEP	BALIKESIR_Sava	2.86	15	i P	Pn	21 45 00.1	+0.2
STEP				IAML		21 46 07.0	
	comp=N,18nm,1.4s						
STEP				IAML		21 46 13.0	
	comp=E,15nm,1.6s						
DEMI	Demirci	2.88	32	i P	Pn	21 45 00.9	+0.7
DEMI				IAML		21 45 43.0	
	comp=N,5.8nm,0.9s						
DEMI				IAML		21 45 49.0	
	comp=E,9.6nm,1.2s						
ANKY	Antikythira Is	2.89	256	P	Pn	21 45 00.7	+0.4
ANKY				AML	AML	21 45 37.2	
	comp=E,475µm,0.5s						
ANKY				AML	AML	21 45 37.4	
	comp=N,354µm,0.3s						
AKUM	Antalya-Kumluc	2.91	95	i PA	Pn	21 45 02.3	+1.8
AKUM				i S	Sn	21 45 35.9	-0.7
KORT	Korkueli	2.91	81	i PA	Pn	21 45 02.7	+2.0
KORT				i S	Sn	21 45 38.6	+1.7
DID	Didima	2.95	289	P	Pn	21 45 01.6	+0.5
KRND	KRANIDI	2.98	286	P	Pn	21 45 01.9	+0.4
MNVA	Monemvasia	2.99	272	P	Pn	21 45 02.5	+1.0
KTHA	Kythira Island	3.00	264	P	Pn	21 45 02.6	+0.9
KTHA				AML	AML	21 45 37.4	
	comp=N,532µm,0.4s						
KTHA				AML	AML	21 45 39.6	
	comp=E,1054µm,0.5s						
VLI	Veliai	3.07	273	P	Pn	21 45 02.8	+0.2
BAYC	CANAKKALE_Bayr	3.12	357	i P	Pn	21 45 02.6	-0.7
BAYC				IAML		21 46 03.0	
	comp=N,6.8nm,2.0s						
BAYC				IAML		21 46 51.0	
	comp=E,5.9nm,2.1s						
KZIL	AFYON_Kizioren	3.15	58	i P	Pn	21 45 05.4	+1.6
KZIL				IAML		21 45 44.0	
	comp=E,8.0nm,1.1s						
KZIL				IAML		21 45 45.0	
	comp=N,5.7nm,0.9s						
BALY	Balya	3.19	12	i P	Pn	21 45 04.2	+0.1
BALY				IAML		21 45 44.0	
	comp=N,9.9nm,1.5s						
BALY				IAML		21 46 26.0	
	comp=E,4.5nm,1.3s						
VIL2	Platees	3.20	301	P	Pn	21 45 04.4	+0.2
DURS	Dursunbey	3.27	24	i P	Pn	21 45 05.4	+0.2
DURS				IAML		21 45 46.0	
	comp=E,11nm,1.3s						
DURS				IAML		21 46 04.0	
	comp=N,5.8nm,1.0s						
LTK	Loutraki	3.33	296	P	Pn	21 45 06.6	+0.8
VLX	Vlachokerasia	3.58	283	P	Pn	21 45 09.7	+0.5
VLX	Vlachokerasia	3.58	283	P	Pn	21 45 09.7	+0.5
KEPZ	Antalya-Kepez	3.90	84	i P	Pn	21 45 15.1	+1.8
KEPZ				IAML		21 46 05.0	
	comp=E,7.9nm,0.6s						
KEPZ				IAML		21 46 19.0	
	comp=N,9.6nm,1.4s						
ITM	Ithomi	3.91	280	P	Pn	21 45 14.2	+0.9
ITM				S	Sn	21 45 58.0	-1.5
	comp=N,82nm,0.3s						
ITM	Ithomi	3.91	280	P	Pn	21 45 14.4	+1.1
KLV	Kalavryta, Ach	3.94	293	P	Pn	21 45 14.9	+1.2
TRIZ	Trizonia	4.11	297	P	Pn	21 45 17.7	+1.8
LAKA	Lakka	4.13	295	P	Pn	21 45 17.8	+1.6
AMT	Artemida-Makis	4.14	284	P	Pn	21 45 17.2	+1.0
DOGA	KONYA_Doganhis	4.19	68	i PA	Pn	21 45 19.1	+2.0
DOGA				IAML		21 46 10.0	
	comp=N,7.5nm,1.1s						
DOGA				IAML		21 46 20.0	
	comp=E,6.6nm,1.2s						
DRO	Drossia	4.24	290	P	Pn	21 45 19.0	+1.4
EFP	Efpalio	4.26	297	P	Pn	21 45 19.4	+1.6
SLUM	Salum	5.27	194	P	Pn	21 45 32.0	+0.9
	baz=195						
CSS	Mathiatis	5.59	105	Pn	Pn	21 45 35.4	0.0
CSS				Sn	Sn	21 46 36.3	-2.8
BRTR	Keskin Array B	6.25	58	P	Pn	21 45 47.6	+3.4
	comp=E,0.1nm,0.3s,baz=219,slow=14,SNR=4.2						
SWA2		7.43	189	P	Pn	21 45 59.9	+0.1
	baz=190						
SWA2				AMP		21 46 00.0	
	baz=190						
SWA2				S	Sn	21 47 07.4	-16
	baz=190						
OFRI	`Ofer	7.87	118	Pn	Pn	21 46 05.3	-0.4
OFRI				Sn	Sn	21 47 30.7	-2.8
MMA0B	Mount Meron ar	7.97	114	Pn	Pn	21 46 07.3	+0.3
MMA0B				Sn	Sn	21 47 33.2	-2.8
MMAI	Mount Meron Ar	7.97	114	P	Pn	21 46 07.1	+0.1
	comp=E,8.2nm,0.3s,baz=310,slow=12,SNR=62						
MMAI				S	Sn	21 47 33.0	-3.0
	comp=E,5.4nm,0.3s,baz=307,slow=24,SNR=8.8						
GEM	Giv'at Ha'Em	8.07	112	Pn	Pn	21 46 08.9	+0.6
GEM				Sn	Sn	21 47 36.1	-2.2
KSDI	Kefar Szold	8.07	112	Pn	Pn	21 46 08.7	+0.4
KSDI				Sn	Sn	21 47 35.7	-2.7
SLTI	Sal'it	8.12	120	Sn	Sn	21 47 35.9	-3.6
MMLI	Mount Malkishu	8.28	118	Pn	Pn	21 46 11.7	+0.6
MMLI				Sn	Sn	21 47 39.9	-3.5
KSHT	Keshet	8.28	113	Pn	Pn	21 46 12.2	+1.0
HMDT	Nahal Hemdat	8.45	118	Pn	Pn	21 46 14.0	+0.6
HMDT				Sn	Sn	21 47 44.2	-3.3
AMAZ	Amatzia	8.46	124	Pn	Pn	21 46 13.1	-0.4
AMAZ				Sn	Sn	21 47 44.9	-2.8
SUZ	Suez	8.46	141	P	Pn	21 46 14.7	+1.2
	baz=142						
KZIT	Kziot	8.54	130	Pn	Pn	21 46 14.6	+0.1
KZIT				Sn	Sn	21 47 45.7	-3.9
YTIR	Yattir	8.70	125	Pn	Pn	21 46 17.2	+0.5
YTIR				Sn	Sn	21 47 49.7	-3.8
MZDA	Masada	8.89	124	Pn	Pn	21 46 20.6	+1.4
MZDA				Sn	Sn	21 47 55.3	-2.8
KRMI	Paran Flat	9.29	132	Pn	Pn	21 46 25.1	+0.5
KRMI				Sn	Sn	21 48 04.6	-3.2
PRNI	Paran	9.30	130	Pn	Pn	21 46 24.9	+0.3
ASF	Jabal al Asfar	9.48	115	P	Pn	21 46 29.1	+2.0
	comp=E,0.4nm,0.3s,baz=299,slow=8.8,SNR=8.2						
HFRF	Wahat Farafira	9.53	172	P	Pn	21 46 28.1	+0.4
	baz=172						
HFRF				AMP		21 48 00.0	
	baz=172						
HFRF				S	Sn	21 48 09.7	-3.8
	baz=172						
HRFI	Mount Harif	9.54	131	Pn	Pn	21 46 28.3	+0.5
HRFI				Sn	Sn	21 48 10.5	-3.3
MBRI	Mt Berech	9.64	133	Pn	Pn	21 46 29.5	+0.3
MBRI				Sn	Sn	21 48 13.0	-3.3
EIL	Elat	9.75	133	Pn	Pn	21 46 31.1	+0.5
EIL	Elat	9.75	133	P	Pn	21 46 32.6	+2.0
	comp=E,0.5nm,0.3s,baz=341,slow=1.5,SNR=10						
EIL				S	Sn	21 48 14.3	-4.6
	comp=E,2.3nm,0.3s,baz=140,slow=15,SNR=10						
VAE	Valguarnera	9.90	279	P	Pn	21 46 34.8	+2.1
	comp=E,0.3nm,0.3s,baz=156,slow=8.0,SNR=6.2						
VAE				S	Sn	21 48 14.3	-8.2
	comp=E,0.9nm,0.3s,baz=131,slow=8.9,SNR=4.6						
HBST	Basata	9.97	135	P	Pn	21 46 34.0	+0.5
	baz=136						
KEST	Kesra	14.09	272	P	P	21 47 29.9	+0.4
	comp=E,0.2nm,0.3s,baz=73,slow=4.3,SNR=4.4						
AKASG	Malin Array Be	14.19	6	P	P	21 47 30.4	+0.1
	comp=E,0.6nm,0.3s,baz=200,slow=11,SNR=4.3						
KBZ	Khabaz	14.23	55	P	P	21 47 32.9	+2.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,0.1nm,0.3s,baz=307,slow=6.2,SNR=4.0						
GERES	GERESS Array B	15.51	326	P	Pn	21 47 44.6	+0.4
	baz=142,slow=12,SNR=2.5						
ESDC	Sonseca Array	24.29	287	P	P	21 49 17.1	+0.4
	comp=E,0.4nm,0.5s,baz=83,slow=9.4,SNR=5.9						
FINES	FINESS Array B	24.85	359	P	P	21 49 19.7	-1.7
	comp=E,3.2nm,1.0s,baz=173,slow=12,SNR=2.2						
TORD	Torodi Ar. Bea	32.41	230	P	P	21 50 30.2	+1.2
	comp=E,0.9nm,0.4s,baz=34,slow=8.9,SNR=21						
MKAR	Makanchi Array	41.90	58	P	P	21 51 49.8	+1.2
	comp=E,0.5nm,0.5s,baz=267,slow=8.5,SNR=14						
CMAR	Chiang Mai Arr	65.14	85	P	P	21 54 39.1	+1.0
	comp=E,0.8nm,0.4s,baz=308,slow=10,SNR=3.2						

IDC 05 22:06:38.2±3.8, 4°.38S×144°.82E, h146km±40km, mb3.5/2, mb1 3.7/3, mb1mx3.2/22, mbtmp4.0/3, Error ellipse: s-maj=92.9km s-min=39.7km az=132.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.54	213	P	Pn	22 10 45.4	-0.3
	0.9nm,0.3s,baz=37,slow=11,SNR=26						
WRA				S	S	22 14 07.5	-0.1
	0.1nm,0.3s,baz=39,slow=20,SNR=6.1						
ASAR	Alice Springs	21.88	208	P	P	22 11 18.4	-1.2
	1.7nm,0.4s,baz=46,slow=9.2,SNR=14						
ASAR				S	S	22 15 13.2	+1.5
	1.8nm,0.8s,baz=30,slow=23,SNR=10.0						
STKA	Stephens Creek	27.52	186	P	P	22 12 11.8	+0.7
	3.1nm,0.9s,baz=7.9,slow=10,SNR=4.1						
TORD	Torodi Ar. Bea	142.57	286	PKP	PKPdf	22 25 51.9	-3.0
	0.4nm,0.9s,baz=101,slow=2.8,SNR=2.2						

IDC 05 22:42:06.1±3.2, 0°.86S×96°.91E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.6/38, mbtmp3.9/6, ML4.7/1, MS2.3/1, Ms1 2.5/1, ms1mx2.3/33, Error ellipse: s-maj=70.4km s-min=56.2km az=162.0

ISC 05 22:42:11.9±2.8, 0°.7S±0°.4×97°.0E±0°.4, h35km, n10, σ0s.77/7, mb4.1/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.16	6	P	Pn	22 46 32.7	-0.8
	0.9nm,0.3s,baz=190,slow=10.0,SNR=3.5						
CMAR				LR	LR	22 53 56.7	
	comp=Z,10nm,20.5s,baz=305,slow=37						
H08S2	Diego Garcia H	25.34	254	T	T	23 13 45.4	
	baz=75,slow=74,SNR=7.7						
H08S3	Diego Garcia H	25.34	254	T	T	23 13 46.3	
	baz=75,slow=74,SNR=12						
H08S1	Diego Carcia H	25.36	254	T	T	23 13 47.4	
	baz=75,slow=74,SNR=8.8						
MKAR	Makanchi Array	49.04	347	P	P	22 50 56.4	+1.0
	1.4nm,0.6s,baz=157,slow=8.6,SNR=15						
SONM	Songino Array	49.05	8	P	P	22 50 56.3	+0.7
	0.4nm,0.7s,baz=185,slow=11,SNR=3.5						
USRK	Ussuriysk Ar.	54.53	30	P	P	22 51 36.2	-0.2
	1.1nm,0.6s,baz=235,slow=5.1,SNR=2.8						
ZALV	Zalesovo Beam	55.40	351	P	P	22 51 42.4	-0.1
	2.0nm,0.4s,baz=193,slow=6.1,SNR=3.9						
BRTR	Keskin Array B	70.23	313	P	P	22 53 21.3	-0.5
	0.4nm,0.6s,baz=77,slow=6.2,SNR=2.2						
TXAR	Lajitas Array	145.41	33	PKPbc	PKPab	23 01 47.1	-0.1
	0.4nm,0.7s,baz=292,slow=2.6,SNR=3.2						

ZUR 05 22:43:23.6, 48°.05N×7°.53E, h3km±2km, MLh2.3/24, Error ellipse: s-maj=5.1km s-min=0.8km az=168.0
STR 05 22:43:24.3±0.2, 48°N±1°×°±°, h10km±2km, MLv2.1/6
BGR 05 22:43:24.2±0.3, 48°.04N×7°.51E, h10km, ML2.0/10, Error ellipse: s-maj=3.3km s-min=1.1km az=49.0
LDG 05 22:43:24.0±0.1, 48°.03N×7°.50E, h4km, Md3.0/2, Ml2.7/19, Error ellipse: s-maj=1.0km s-min=0.8km az=164.0

ISC 05 22:43:24.0±0.8, 48°.04N±0°.01×7°.52E±0°.01, h14km±6km, n89, σ1s.39/151, 5C-5D, France

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FBB	Freiburg im Br	0.23	100	⇑Pg	Pg	22 43 28.5	-0.6
FBB				Sg	Sg	22 43 31.9	-0.6
KIZ	Kirchzarten	0.28	107	Pg	Pg	22 43 29.4	-0.6
KIZ	Kirchzarten	0.28	107	⇑Pg	Pg	22 43 29.4	-0.6
KIZ				Sg	Sg	22 43 33.1	-0.9
KIZ	Kirchzarten	0.28	107	⇑Pg	Pg	22 43 29.4	-0.6
KIZ				Sg	Sg	22 43 33.1	-0.9
ECH	Echery	0.30	306	Pg	Pg	22 43 30.0	-0.2
ECH	Echery	0.30	306	⇓Pg	Pg	22 43 30.0	-0.2
ECH				Sg	Sg	22 43 34.1	-0.3
ECH	Echery	0.30	306	⇓Pg	Pg	22 43 30.0	-0.2
ECH				Sg	Sg	22 43 34.1	-0.3
MOF	Molkenrain	0.32	234	Pg	Pg	22 43 30.4	-0.3
MOF	Molkenrain	0.32	234	Pg	Pg	22 43 30.4	-0.3
MOF				Sg	Sg	22 43 35.3	+0.1
ENDD	Endenburg	0.36	155	⇓Pg	Pg	22 43 30.8	-0.5
ENDD				Sg	Sg	22 43 35.7	-0.5
FELD	Feldberg im Sc	0.37	116	Sg	Sg	22 43 36.1	-0.5
WLS	Welschbruch	0.39	344	Pg	Pg	22 43 31.9	+0.1
WLS	Welschbruch	0.39	344	⇓Pg	Pg	22 43 31.9	+0.1
WLS				Sg	Sg	22 43 37.6	+0.4
CDF	Champ du Feu	0.41	337	ePg	Pg	22 43 32.2	0.0
	SNR=1.0						
CDF				eSg	Sg	22 43 37.4	-0.3
	110nm,0.3s,SNR=1.0						
BERGE	Lenzkirch (DE)	0.48	111	Pg	Pg	22 43 33.0	-0.5
BERGE	Lenzkirch (DE)	0.48	111	Pg	Pg	22 43 33.0	-0.5
BERGE				Sg	Sg	22 43 39.3	-0.6
MATTE	Schuetzenmatte	0.49	176	Pg	Pg	22 43 33.6	-0.1
HINF	Hinteralfeld	0.50	244	ePg	Pg	22 43 33.5	-0.4
	SNR=1.0						
HINF				eSg	Sg	22 43 39.6	-1.0
	51nm,0.3s						
METMA	Mettma DE	0.59	123	Pg	Pg	22 43 35.2	-0.5
METMA				Sg	Sg	22 43 43.0	-0.6
METMA				SmS		22 43 46.3	
BFO	Black Forest	0.62	62	Pg	Pg	22 43 35.5	-0.6
BFO	Black Forest	0.62	62	Pg	Pg	22 43 35.5	-0.6
BFO				P*	Pb	22 43 36.8	+0.2
BFO				Sg	Sg	22 43 44.0	-0.3
OPP	Oppenau	0.64	44	Pg	Pg	22 43 36.1	-0.4
OPP				Sg	Sg	22 43 45.1	+0.1
OPP	Oppenau	0.64	44	Pg	Pg	22 43 36.1	-0.4
OPP				P*	Pb	22 43 37.0	+0.1
OPP				SmS		22 43 47.7	
SULZ	Cheisacher	0.65	142	⇓Pn	Pg	22 43 36.3	-0.4
SULZ	Cheisacher	0.65	142	Pg	Pg	22 43 36.4	-0.4
SULZ				Sg	Sg	22 43 45.2	-0.2
BOURR	Bourrignon	0.68	197	Pg	Pg	22 43 37.5	+0.2
SLE	Schleitheim	0.71	112	Pg	Pg	22 43 37.4	-0.5
SLE				PmP		22 43 38.9	
SLE				Sg	Sg	22 43 47.4	+0.1
SLE				SmS		22 43 49.5	
BALST	Balsthal	0.72	170	Pn	Pg	22 43 37.7	-0.3
BALST	Balsthal	0.72	170	Pg	Pg	22 43 37.7	-0.3
BALST				PmP		22 43 39.3	
BALST				eSg	Sg	22 43 47.7	+0.3
HAU	Haudompre	0.79	268	ePg	Pg	22 43 39.0	-0.3
	SNR=1.0						
HAU				eSg	Sg	22 43 48.9	-0.7
	170nm,0.4s,SNR=1.0						
LOMF	Lomont	0.83	214	Pg	Pg	22 43 40.5	+0.4
LOMF				Sg	Sb	22 43 52.4	+1.1
LOMF	Lomont	0.83	214	PmP		22 43 41.1	
LOMF				SmS		22 43 53.8	
SUBF	Surbourg	0.90	14	Pg	Pb	22 43 41.8	+0.4
EMING	Emmingen-Lipti	0.90	99	ePg	Pb	22 43 41.6	+0.2
EMING				eSg	Sb	22 43 53.6	+0.3
LANF	Langenberg	0.96	11	SmS		22 43 57.0	
CHMF	Charmoille	0.98	217	Pg	Pg	22 43 42.7	-0.3
CHMF				Sg	Sb	22 43 56.7	+1.0
PEB	Petersbachel	1.03	7	Pn	Pg	22 43 43.4	-0.6
PEB				Pg	Pb	22 43 44.2	+0.5
PEB				Sn	Sg	22 43 57.1	-0.4
PEB				SmS		22 43 58.8	
SISB	Singen-Schiene	1.04	109	Sg	Sb	22 43 58.0	+0.8
LBG	Lerchenberg	1.06	53	Pg	Pg	22 43 44.4	0.0
LBG				PmP		22 43 45.5	
LBG				SmS		22 43 59.0	
GUT	Gutenstein	1.07	88	⇑Pg	Pb	22 43 44.7	+0.3
GUT				Sn	Sg	22 43 57.9	-0.8
WALHA	Wallhausen, DE	1.12	104	ePg	Pg	22 43 45.6	0.0
WALHA				eSg	Sn	22 44 00.7	+0.2
WILA	Wila	1.13	123	ePg	Pn	22 43 46.1	+0.7
WILA				eSg	Sn	22 44 01.0	+0.2
TUBL	Tuebingen-Lenn	1.15	65	Pg	Pb	22 43 45.9	+0.2
BRET	Bretten	1.25	38	Pg	Pn	22 43 47.5	+0.5
BUCH	Bad Urach	1.29	71	Pn	Pn	22 43 47.0	-0.7
BUCH				Pg	Pg	22 43 48.9	0.0
BUCH				Sg	Sn	22 44 06.5	+1.7
PAGF	Fort de Pagny	1.30	294	ePn	Pn	22 43 47.1	-0.7
	baz=114						
PAGF				eSn	Sb	22 44 04.3	-0.5
	21nm,0.2s						
STU	Stuttgart	1.34	56	Sg	Sg	22 44 07.1	-0.1
DUP	Duppenweiler	1.45	341	Pg	Pg	22 43 52.1	+0.1
LIENZ	Kamor/St.Gall	1.53	118	Pn	Pn	22 43 51.9	+0.9
LIENZ				Sn	Sn	22 44 10.8	0.0
LIENZ				Sg	Sg	22 44 14.1	+0.8
IMS	Imsbach	1.57	9	⇑Pg	Pg	22 43 54.0	-0.2
IMS				Sg	Sg	22 44 14.8	+0.1
PLONS	Plons/SG	1.61	127	eSg	Sg	22 44 15.5	-0.2
SFTF	Sexfontaines	1.67	277	ePn	Pn	22 43 52.1	-0.7
	baz=97						
SFTF				eSn	Sn	22 44 12.9	-1.1
	15nm,0.2s						
MEZF	Maizieres J'vi	1.71	287	ePn	Pn	22 43 52.7	-0.6
	baz=107						
MEZF				eSn	Sn	22 44 14.3	-0.7
	28nm,0.4s,SNR=1.0						
CABF	La Chapelle	1.73	215	ePn	Pn	22 43 53.2	-0.5
CABF				eSn	Sn	22 44 12.9	-2.7
	28nm,0.7s,SNR=1.0						
RIVT	Riveris	1.74	344	Pg	Pb	22 43 56.8	+1.1
RIVT				eSg	Sb	22 44 18.9	+1.5
DAVA	Damuels	1.77	114	Sg	Sg	22 44 21.2	+0.3
DAVA	Damuels	1.77	114	Pg	Pg	22 43 59.0	+1.0
	3.6nm,0.3s						
DAVA				Sg	Sg	22 44 20.5	-0.4
	14nm,0.3s						
UBR	Ueberruh	1.78	101	Sg	Sg	22 44 21.5	+0.1
TOD	Tromm	1.78	28	Sg	Sg	22 44 21.2	-0.1
ABH	Alteburg	1.84	1	Pg	Pb	22 43 58.4	+0.9
ABH				Sg	Sg	22 44 23.2	-0.1
ABH	Alteburg	1.84	1	Pg	Pb	22 43 58.6	+1.1
WLF	Walferdange	1.86	332	ePg	Pb	22 43 59.1	+1.4
WLF				eSg	Sg	22 44 23.7	0.0
HDH	Heidenheim-Cha	1.88	72	Sg	Sg	22 44 23.6	-0.8
SIND	Sindeldorf	1.91	46	Sg	Sg	22 44 24.0	-1.3
RETA	Reutte	2.26	103	Pg	Pg	22 44 08.7	+1.4
	1.2nm,0.3s						
RETA				i Sg	Sg	22 44 37.0	+0.3
	1.6nm,0.2s						
TNS	Taunus Mts	2.27	15	eSg	Sg	22 44 36.6	-0.3
OG35	Corcelles	2.40	214	Pn	Pn	22 44 01.6	-1.3
OG35				Sn	Sn	22 44 33.8	+1.7
FETA	Feichten	2.40	114	Pg	Pg	22 44 12.1	+2.0
	2.2nm,0.5s						
FETA				Sg	Sg	22 44 40.6	-0.7
	1.7nm,0.3s						
MOTA	Moosalm	2.52	105	Pg	Pg	22 44 12.6	+0.3
	0.8nm,0.2s						
MOTA				Sg	Sg	22 44 44.1	-0.9
	2.0nm,0.2s						
LPL	La Plagne	2.58	192	ePn	Pn	22 44 05.0	-0.6
LPL				eSn	Sn	22 44 34.2	-2.6
	SNR=1.0						
LPL				eSg	Sb	22 44 45.0	+3.1
	4.9nm,0.6s,SNR=1.0						
LOR	Lormes	2.59	254	ePg	Pb	22 44 12.3	+2.1
	baz=75,SNR=1.0						
LOR				eSn	Sn	22 44 34.4	-2.4
	13nm,0.3s,SNR=1.0						
LOR				eSg	Sb	22 44 45.1	+3.2
	13nm,0.3s,SNR=1.0						
LOR	Lormes	2.59	254	Pn	Pn	22 44 05.4	-0.1
LPG	La Plagne	2.60	192	ePn	Pn	22 44 04.8	-1.0
LPG				eSg	Sb	22 44 44.6	+2.2
	2.4nm,0.4s,SNR=1.0						
SQTA	Sankt Quirin	2.63	107	Sg	Sg	22 44 48.3	-0.1
	9.6nm,0.7s						
GIVF	Givet	2.72	320	eSg	Sb	22 44 48.3	+2.8
	14nm,0.5s,SNR=1.0						
SMF	Signal de Mont	2.86	242	ePg	Pb	22 44 16.2	+1.4
	SNR=1.0						
SMF				eSn	Sn	22 44 40.8	-2.7
	SNR=1.0						
SMF				eSg	Sb	22 44 53.4	+3.7
	8.1nm,0.3s,SNR=1.0						
SSF	Saint Saulge	2.89	252	ePn	Pn	22 44 08.8	-0.7
SSF	Saint Saulge	2.89	252	ePg	Pg	22 44 18.2	-1.1
	SNR=1.0						
SSF				eSn	Sn	22 44 40.0	-4.0
	SNR=1.0						
SSF				eSg	Sb	22 44 52.0	+1.6
	9.9nm,0.4s,SNR=1.0						
BAIF	Baives	2.97	314	ePn	Pn	22 44 10.1	-0.6
	SNR=1.0						
BAIF	Baives	2.97	314	ePg	Pb	22 44 18.4	+1.8
	SNR=1.0						
BAIF				eSn	Sn	22 44 44.2	-1.8
	2.4nm,0.3s,SNR=1.0						
BAIF				eSg	Sb	22 44 56.6	+3.9
	5.3nm,0.5s,SNR=1.0						
AVF	Avril sur Loir	3.09	248	ePn	Pn	22 44 10.7	-1.6
	SNR=1.0						
AVF	Avril sur Loir	3.09	248	ePg	Pb	22 44 20.7	+2.0
	SNR=1.0						
AVF				eSn	Sn	22 44 46.5	-2.6
	2.4nm,0.3s,SNR=1.0						
HYF	Humbligny	3.39	259	ePn	Pn	22 44 15.6	-0.8
HYF	Humbligny	3.39	259	ePg	Pb	22 44 26.2	+2.4
HYF				eSn	Sn	22 44 53.5	-2.9
BGF	Bois d'Agland	3.51	247	ePn	Pn	22 44 17.0	-1.1
	SNR=1.0						
BGF	Bois d'Agland	3.51	247	ePg	Pg	22 44 29.3	-1.9
	SNR=1.0						
BGF				eSn	Sn	22 44 56.6	-2.7
	15nm,0.5s,SNR=1.0						
BGF				eSg	Sb	22 45 12.3	+4.1
	14nm,0.4s,SNR=1.0						
VIVF	Saint-Julien-l	3.74	213	eSg	Sg	22 45 20.6	-3.6
	2.3nm,0.3s,SNR=1.0						
TCF	Toulx Ste Croi	4.02	246	ePg	Pb	22 44 38.1	+3.5
	SNR=1.0						
TCF				eSg	Sg	22 45 29.5	-3.6
	1.3nm,0.2s						
KHC	Kasperske Hory	4.17	73	ePN	Pn	22 44 25.5	-1.7
KHC				ePG	Pg	22 44 43.5	-0.3
KHC				eSN	Sb	22 45 23.5	-3.8
KHC				eSG	Sg	22 45 36.5	-1.3

LJU 05 22:44:12.0, 46°.39N×15°.07E, h0km Rockburst, Northwestern Balkan Peninsula

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IDC 05 22:58:19.8±2.1, 17°.28S×177°.94W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.8/33, mbtmp3.7/5, MS2.6/1, Ms1 2.6/1, ms1mx2.3/22, Error ellipse: s-maj=133.7km s-min=25.3km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	15.46	250	LR	LR	23 06 54.9	
	comp=Z,22nm,19.8s,baz=3.0,slow=33						
WRA	Warramunga Arr	45.19	259	P	P	23 06 38.9	+0.1
	0.4nm,0.6s,baz=97,slow=7.8,SNR=5.2						
ASAR	Alice Springs	45.39	254	P	P	23 06 40.4	-0.1
	1.5nm,0.4s,baz=90,slow=8.4,SNR=20						
NVAR	Mina Array Bea	78.67	44	P	P	23 10 25.0	+0.8
	0.6nm,0.7s,baz=248,slow=4.8,SNR=4.0						
ILAR	Eielson Array	85.18	13	P	P	23 10 56.3	-1.2
	0.3nm,0.4s,baz=219,slow=4.9,SNR=4.5						
TXAR	Lajitas Array	85.28	57	P	P	23 10 59.1	+0.1
	0.3nm,0.6s,baz=202,slow=7.0,SNR=4.3						

NIED 05 22:58:00, 37°.10N×141°.60E, h44km, Mw4.2 Best double couple: M0 1.94000×10^15 NP1:φs194.00000°, δ41.00000°, λ105.00000°. NP2:φs355.00000°, δ51.00000°, λ78.00000°.
ISCJB 05 22:58:33.3±0.7, 37°.13N±0°.03×141°.58E±0°.06, h43km±5km, mb3.9/20, MS3.3/2, Error ellipse: s-maj=8.0km s-min=4.5km az=20.7
JMA 05 22:58:34.2±0.1, 37°.15N×141°.49E, h48km±2km, M4.3
JMA Felt II J1.
NEIC 05 22:58:35.4±2.0, 37°.09N±0°.04×141°.7E±0°.1, h52km±6km, mb4.1/4
IDC 05 22:58:37.2±2.0, 37°.15N×141°.54E, h62km±18km, mb3.6/20, mb1 3.8/24, mb1mx3.7/60, mbtmp3.9/24, MS3.1/8, Ms1 3.1/8, ms1mx2.9/38, Error ellipse: s-maj=16.1km s-min=11.1km az=122.0

ISC 05 22:58:33.1±1.5, 37°.09N±0°.04×141°.59E±0°.06, h28km±10km, n63, σ1s.63/70, mb3.9/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.63	271	P	Pb	22 58 45.9	+0.3
ONAJ				S	Sb	22 58 54.1	-0.1
JFK	Kawauchi	0.63	296	P	Pb	22 58 45.6	0.0
JFK				S	Sb	22 58 53.4	-0.8
JFFD	Fukushimafurud	0.82	270	P	Pn	22 58 48.5	-0.2
JFFD				S	Sb	22 58 58.5	-1.0
JMST	Minamisoumatoc	0.84	319	P	Pn	22 58 48.2	-0.8
JMST				S	Sb	22 58 58.1	-2.0
JHO	Hitachi	0.95	240	P	Pn	22 58 50.3	-0.2
JHO				eS	Sn	22 59 01.8	-1.2
JMM	Marumori	1.00	321	P	Pn	22 58 50.5	-0.6
JMM				S	Sn	22 59 02.2	-2.1
JFT	Otama	1.08	293	P	Pn	22 58 52.6	+0.2
JFT				eS	Sn	22 59 05.3	-1.1
JIO	Ouri	1.37	352	P	Pn	22 58 55.9	-0.4
JOU	Okura	1.47	330	P	Pn	22 58 57.9	+0.3
JOU				eS	Sn	22 59 15.6	-0.3
JFY	Yanaizu	1.53	282	P	Pn	22 58 58.9	+0.3
JYS	Shirataka	1.65	313	P	Pn	22 59 00.7	+0.5
JYS				eS	Sn	22 59 20.9	+0.5
MJAR	Matsushiro Arr	2.77	260	P	Pn	22 59 16.9	+1.4
	2.2nm,0.3s,baz=83,slow=15,SNR=43						
MJAR				S	Sn	22 59 51.7	+3.7
	3.5nm,0.3s,baz=237,slow=25,SNR=6.0						
MJAR				LR	LR	23 00 34.3	
	comp=Z,462nm,18.6s,baz=85,slow=43						
MAJO	Matsushiro	2.77	260		Pn	22 59 17.6	+2.1
MAT	Matsushiro	2.77	260	P	Pn	22 59 17.1	+1.6
MAT				eS	Sb	22 59 53.1	-2.2
MJB9	Matsu-Tunnel	2.77	260		Pn	22 59 17.6	+2.1
INU	Inuyama	4.08	246		Pn	22 59 36.7	+3.1
JHJ2	Mitsune	4.23	201	Pn	Pn	22 59 38.2	+2.6
JHJ2					Sn	23 00 24.3	+0.3
ERM	Erimo	5.06	13	Pn	Pn	22 59 48.9	+1.9
ASAJ	Asahikawa	7.06	6	P	Pn	23 00 16.5	+2.1
	0.6nm,0.3s,baz=168,slow=9.3,SNR=2.0						
ASAJ				S	Sn	23 01 34.3	+0.6
	0.4nm,0.3s,baz=22,slow=30,SNR=1.6						
ASAJ				LR	LR	23 02 56.0	
	comp=Z,77nm,19.7s,baz=176,slow=37						
JKA	Kamikawa-asahi	7.06	6		Pn	23 00 16.5	+2.1
JKA					Sn	23 01 34.3	+0.6
JNU	Nakatsue	9.62	249	P	Pn	23 00 53.4	+3.6
	0.4nm,0.3s,baz=347,slow=4.2,SNR=4.4						
JNU				LR	LR	23 05 05.0	
	comp=Z,97nm,18.2s,baz=78,slow=40						
JCJ	Chichijima	9.98	177	P	Pn	23 00 54.1	-0.5
	10nm,0.3s,baz=269,slow=23,SNR=5.2						
JCJ				S	Sn	23 02 38.1	-7.6
	10nm,0.3s,baz=268,slow=23,SNR=2.1						
USRK	Ussuriysk Ar.	10.17	317	P	Pn	23 01 02.1	+5.0
	baz=114,slow=13,SNR=6.7						
KSRS	Korea Array	10.90	276	P	Pn	23 01 11.6	+4.6
	0.3nm,0.3s,baz=92,slow=14,SNR=7.9						
KSRS				LR	LR	23 05 09.1	
	comp=Z,106nm,18.8s,baz=106,slow=36						
KLR	Kul'dur	14.08	333	P	P	23 01 56.8	-1.1
	0.1nm,0.3s,baz=123,slow=12,SNR=5.0						
KLR				LR	LR	23 06 21.9	
	comp=Z,63nm,18.8s,baz=158,slow=33						
PETK	Petropavlovsk-	19.57	30	LR	LR	23 10 31.3	
	comp=Z,28nm,19.9s,baz=240,slow=37						
SONM	Songino Array	27.87	304	P	P	23 04 20.3	0.0
	1.7nm,0.6s,baz=100,slow=8.7,SNR=15						
H11N2	WAKE ISLAND Hy	28.06	121	T	T	23 33 46.4	
	baz=313,slow=75,SNR=180						
H11N1	WAKE ISLAND Hy	28.07	121	T	T	23 33 49.2	
	baz=313,slow=75,SNR=275						
H11N3	WAKE ISLAND Hy	28.08	121	T	T	23 34 00.4	
	baz=313,slow=75,SNR=220						
H11S1	WAKE ISLAND Hy	28.78	123	T	T	23 34 38.5	
	baz=316,slow=76,SNR=153						
H11S3	WAKE ISLAND Hy	28.78	123	T	T	23 34 39.3	
	baz=316,slow=76,SNR=111						
H11S2	WAKE ISLAND Hy	28.79	123	T	T	23 34 38.8	
	baz=316,slow=76,SNR=98						
CMAR	Chiang Mai Arr	41.65	255	P	P	23 06 19.5	+0.4
	0.5nm,0.4s,baz=45,slow=5.8,SNR=4.9						
CMAR				LR	LR	23 25 12.6	
	comp=Z,27nm,18.9s,baz=1.5,slow=38						
ZALV	Zalesovo Beam	41.98	312	P	P	23 06 21.0	-0.3
	1.1nm,0.5s,baz=99,slow=7.7,SNR=3.6						
MKAR	Makanchi Array	44.20	302	P	P	23 06 39.1	-0.4
	1.3nm,0.7s,baz=88,slow=10,SNR=14						
MKAR				LR	LR	23 26 25.8	
	comp=Z,56nm,19.1s,baz=314,slow=38						
MAKZ	Makanchi	44.41	302	P	P	23 06 41.2	0.0
MAKZ				IAmb	IAmb	23 06 60.0	
	comp=Z,4.0nm,1.1s						
KURK	Kurchatov	46.01	308	P	P	23 06 53.1	-0.6
KURBB	Kurchatov Arra	46.07	308	P	P	23 06 53.4	-0.9
	comp=Z,1.5nm,0.5s,baz=83,slow=8.0,SNR=14						
ODAN	Odare	46.55	274	eP	P	23 06 58.6	0.0
	comp=Z,9.9nm,0.8s						
RAMN	Ramite	47.14	274	eP	P	23 07 03.2	0.0
	comp=Z,14nm,0.7s						
JIRN	Jiri	47.15	275	eP	P	23 07 03.9	+0.5
	comp=Z,13nm,0.7s						
GUN	Gumba	47.29	276	eP	P	23 07 04.7	+0.2
	comp=Z,6.6nm,0.5s						
KKN	Kakani	47.82	276	eP	P	23 07 08.7	+0.3
GKN	Gorkha	48.23	276	eP	P	23 07 11.2	-0.4
	comp=Z,18nm,0.7s						
DANN	Dangsing	48.78	277	eP	P	23 07 16.3	+0.3
	comp=Z,44nm,0.7s						
ILAR	Eielson Array	49.37	32	P	P	23 07 19.9	+0.3
	comp=Z,1.6nm,0.8s,baz=230,slow=11,SNR=33						
BVAR	Borovoye Array	50.63	312	P	P	23 07 29.5	+0.1
	comp=Z,0.7nm,0.5s,baz=65,slow=6.2,SNR=2.2						
BVAR				PcP	PcP	23 08 45.9	-0.7
	comp=Z,1.0nm,0.6s,baz=66,slow=3.6,SNR=4.2						
INK	Inuvik	54.27	27	P	P	23 07 56.5	+0.5
	comp=Z,1.4nm,0.8s,baz=252,slow=7.9,SNR=6.2						
WRA	Warramunga Arr	57.14	188	P	P	23 08 16.9	-0.2
	comp=Z,2.4nm,0.6s,baz=5.3,slow=7.4,SNR=27						
ABKAR	Akbulak array	58.01	310	IAmb	IAmb	23 08 35.9	
	comp=Z,1.2nm,0.7s						
ASAR	Alice Springs	60.87	188	P	P	23 08 43.1	+0.1
	comp=Z,1.6nm,0.8s,baz=13,slow=7.3,SNR=17						
YKA	Yellowknife Ar	63.69	30	P	P	23 09 01.5	+0.1
	comp=Z,0.5nm,0.8s,baz=308,slow=6.9,SNR=5.3						
GEYT	Alibeck	63.93	299	P	P	23 09 03.1	-0.4
	comp=Z,0.5nm,0.5s,baz=8.7,slow=11,SNR=3.7						
STKA	Stephens Creek	68.61	180	P	P	23 09 33.8	+0.5
	comp=Z,1.9nm,0.6s,baz=348,slow=11,SNR=4.1						
FINES	FINESS Array B	68.83	332	P	P	23 09 33.5	-0.9
	comp=Z,2.0nm,0.8s,baz=45,slow=6.3,SNR=1.4						
NOA	NORSAR Array B	74.19	337	P	P	23 10 07.1	+0.4
	comp=Z,0.8nm,0.8s,baz=38,slow=5.9,SNR=1.4						
AKASG	Malin Array Be	74.33	322	P	P	23 10 06.9	-0.8
	comp=Z,0.3nm,0.4s,baz=44,slow=5.4,SNR=2.3						
NVAR	Mina Array Bea	74.84	53	P	P	23 10 12.6	+1.4
	comp=Z,0.5nm,0.7s,baz=286,slow=6.5,SNR=3.0						
PDAR	Pinedale Array	77.53	46	P	P	23 10 26.8	+0.4
	comp=Z,0.4nm,0.6s,baz=298,slow=3.2,SNR=3.9						
MMAI	Mount Meron Ar	82.04	305	P	P	23 10 51.6	+0.7
	comp=Z,1.7nm,0.8s,baz=72,slow=9.3,SNR=2.6						
TXAR	Lajitas Array	89.97	52	P	P	23 11 30.2	+0.1
	comp=Z,0.3nm,0.5s,baz=320,slow=3.0,SNR=3.9						
LPAZ	La Paz	146.54	60	PKPbc	PKPbc	23 18 12.9	0.0
	comp=Z,1.1nm,0.5s,baz=268,slow=3.5,SNR=5.6						

NEIC 05 23:11:58.1±1.5, 55°.0N±0°.2×163°.3W±0°.1, h173km±17km

AEIC 05 23:11:59±1.4, 55°.2N±0°.2×163°.4W±0°.1, h166km±8km, ML3.5, Unimak Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FALS	False Pass	0.30	180	Pn	Pn	23 12 20.5	-1.0
FALS				Sn	Sn	23 12 38.9	+0.3
SDPT	Sand Point	1.70	82	Pn	Pn	23 12 31.2	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDPT				Sn	Sn	23 12 57.0	-0.1
AKUT	Akutan	1.71	234	Pn	Pn	23 12 31.3	-0.6
AKUT				Sn	Sn	23 12 56.8	-0.4
UNV	Unalaska Valle	2.23	235	Pn	Pn	23 12 37.5	-0.2
UNV				Sn	Sn	23 13 06.7	-0.9
CNBA	Chernabura Isl	2.23	97	Pn	Pn	23 12 37.3	-0.4
NIKH	Nikolski High	3.88	238	Pn	Pn	23 12 57.8	-0.2
CHIR	Chirikof Islan	4.49	78	Pn	Pn	23 13 05.7	-0.1
SII	Sitkinak Islan	5.39	71	Pn	Pn	23 13 17.2	-0.4
OHAK	Old Harbor	6.02	66	Pn	Pn	23 13 24.8	-1.2
KDAK	Kodiak Island	6.56	62	Pn	Pn	23 13 31.8	-1.2
ATKA	Atka Island	7.05	250	Pn	Pn	23 13 38.2	-1.4
SVW2	Sparrevohn	7.26	32	Pn	Pn	23 13 43.1	+0.8
RSO	Redoubt South	7.79	43	Pn	Pn	23 13 49.0	-0.6
HOM	Homer	7.79	50	Pn	Pn	23 13 48.5	-0.8
CNPM	China Poot	7.91	51	Pn	Pn	23 13 50.5	-0.4
GSTR	Great Sitkin T	8.12	253	Pn	Pn	23 13 54.0	+0.2
BRLK	Bradley Lake	8.18	51	Pn	Pn	23 13 53.3	-1.3
ADK	Adak	8.55	253	Pn	Pn	23 13 58.3	-1.3
SEW	Seward	8.98	51	Pn	Pn	23 14 04.0	-1.1
SUA	Susitna One	9.18	41	Pn	Pn	23 14 07.7	-0.1
SKT	Skwentna	9.23	37	Pn	Pn	23 14 08.9	+0.5
RC01	Rabbit Creek A	9.36	45	Pn	Pn	23 14 08.9	-1.1
PPLA	Purkeypile	9.67	32	Pn	Pn	23 14 14.0	-0.2
KNK	Knik Glacier	10.05	45	Pn	Pn	23 14 18.3	-0.9
GHO	Glory Hole Cre	10.06	43	Pn	Pn	23 14 19.1	-0.4
GLI	Glacier Island	10.37	50	Pn	Pn	23 14 21.0	-2.3
HIN	Hinchinbrook I	10.44	53	Pn	Pn	23 14 23.1	-1.1
KTH	Kantishna Hill	10.54	32	Pn	Pn	23 14 25.8	+0.1
FID	Port Fidalgo	10.59	51	Pn	Pn	23 14 23.9	-2.4
TRF	Thorofare Moun	10.66	33	Pn	Pn	23 14 27.6	+0.2
SCM	Sheep Creek Mo	10.73	45	Pn	Pn	23 14 26.7	-1.5
BPAW	Bear Paw Mtn.	10.93	30	Pn	Pn	23 14 30.9	+0.2

*SJA **05** 23:15:26.5±1.0, 36.°58S×70.°93W, h162km±5km, ML3.6, MW3.6*
*ISCJB **05** 23:15:27.1±0.3, 36.°55S±0.°03×70.°90W±0.°06, h149km±4km, mb4.0/7, Error ellipse: s-maj=8.2km s-min=4.3km az=9.6*
*NEIC **05** 23:15:27.9±1.5, 36.°57S±0.°05×70.°6W±0.°1, h135km±9km, mb4.2/7*
*IDC **05** 23:15:28.5±1.6, 36.°64S×70.°38W, h129km±13km, mb3.8/8, mb1 3.8/11, mb1mx3.6/27, mbtmp4.2/11, Error ellipse: s-maj=47.7km s-min=9.3km az=101.0*
*GUC **05** 23:15:28.4±0.6, 36.°56S×71.°03W, h158km±7km, ML4.1*
ISC 05 23:15:28.6±0.7, **36.°53S**±0.°04×**70.°89W**±0.°05, **h147**km±7km, **n59,** σ1s**26**/72, **mb4.1**/7, **1C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCHI	Chillan	0.96	265	⇑iP	Pn	23 15 52.5	-0.2
CCHI				iS	Sn	23 16 10.7	-0.4
CCHI				IAML		23 16 12.3	
	comp=N,4µm,0.3s						
CCHI	Chillan	0.96	265	iP	Pn	23 15 52.5	-0.2
CCHI				eS	Sn	23 16 10.9	-0.1
EDS3	Malargue	1.43	58	iP	Pn	23 15 57.7	+0.4
EDS3				eS	Sn	23 16 20.1	+0.9
PUMA	Malargue	1.56	49	iP	Pn	23 15 59.0	+0.4
COCH	Cobquecura	1.58	284	eP	Pn	23 15 58.4	-0.4
COCH				eS	Sn	23 16 20.7	-1.2
COCH				IAML		23 16 21.8	
	comp=N,1µm,0.5s						
COCH	Cobquecura	1.58	284	iP	Pn	23 15 58.7	-0.1
COCH				eS	Sn	23 16 21.8	-0.1
GO05	Huala	1.74	331	⇓iP	Pn	23 16 00.4	-0.2
GO05				eS	Sn	23 16 24.9	-0.2
GO05				IAML		23 16 31.3	
	comp=E,922nm,0.3s						
GO05	Huala	1.74	331	Pn	Pn	23 16 00.7	+0.1
GO05				Sn	Sn	23 16 25.4	+0.3
GO05	Huala	1.74	331	iP	Pn	23 16 00.4	-0.2
COIS	El Sosneado	1.77	37	iP	Pn	23 15 59.3	-1.7
LMEL	Las Melosas	2.74	12	eP	Pn	23 16 13.6	+0.8
LMEL				eS	Sn	23 16 48.3	+1.6
LMEL				IAML		23 16 56.2	
	comp=N,470nm,0.3s						
GO06	Curarrehue	3.08	188	Pn	Pn	23 16 16.0	-0.9
GO06				Sn	Sn	23 16 52.5	-1.9
GO06	Curarrehue	3.08	188	iP	Pn	23 16 15.6	-1.3
PEL	Peldehue	3.39	3	⇓iP	Pn	23 16 20.2	-0.7
PEL				iS	Sn	23 16 58.9	-2.4
PEL				IAML		23 17 03.8	
	comp=E,354nm,0.6s						
PEL	Peldehue	3.39	3	Pn	Pn	23 16 20.4	-0.5
PEL				Sn	Sn	23 17 00.2	-1.1
PEL	Peldehue	3.39	3	iP	Pn	23 16 20.1	-0.8
ROC1	El Roble	3.55	358	Pn	Pn	23 16 22.7	-0.5
ROC1				Sn	Sn	23 17 03.3	-2.1
ROC1	El Roble	3.55	358	iP	Pn	23 16 22.4	-0.8
ROCH	El Roble	3.55	358	eP	Pn	23 16 22.2	-1.0
ROCH				iS	Sn	23 17 03.3	-2.1
ROCH				IAML		23 17 09.0	
	comp=N,565nm,0.5s						
VA01	Torpederas	3.56	350	eP	Pn	23 16 22.4	-0.6
VA01				iS	Sn	23 17 02.4	-2.7
AAGR	Agrelo	3.83	27	iP	Pn	23 16 27.5	+0.8
ARCO	CERRO ARCO	4.02	24	iP	Pn	23 16 29.4	+0.2
ARCO				IAML		23 16 32.7	
	comp=Z,30nm,0.3s						
PLCA	Paso Flores	4.20	176	P	Pn	23 16 29.6	-1.9
	comp=Z,6.0nm,0.3s,baz=13,slow=12,SNR=107						
PLCA				S	Sn	23 17 17.2	-3.2
	baz=19,slow=22,SNR=1.8						
PLCA	Paso Flores	4.20	176	Pn	Pn	23 16 29.9	-1.5
PLCA	Paso Flores	4.20	176	iP	Pn	23 16 29.9	-1.5
PLCA				IAML		23 16 31.2	
	comp=Z,27nm,0.4s						
ASAL	Salagasta	4.28	24	iP	Pn	23 16 33.1	+0.5
RTLS	Leoncito	4.90	16	iP	Pn	23 16 41.3	+0.3
RTLS				IAML		23 16 42.9	
	comp=Z,134nm,0.4s						
RTCV	Cerro Valdivia	5.05	23	iP	Pn	23 16 42.2	-0.5
ACAN	Cantantal	5.24	37	iP	Pn	23 16 44.7	-0.4
CFA	Coronel Fontan	5.39	25	P	Pn	23 16 46.3	-0.9
	comp=Z,11nm,0.3s,baz=228,slow=8.0,SNR=188						
CFA				S	Sn	23 17 45.5	-3.0
	comp=Z,39nm,0.3s,baz=282,slow=21,SNR=36						
RTLL	Cerro Villicun	5.56	22	iP	Pn	23 16 48.2	-1.3
AMOG	MOGNA	5.93	20	iP	Pn	23 16 53.0	-1.3
GO04	Tololo Observa	6.34	1		Pn	23 16 58.7	-1.4
AROD	Rodeo	6.46	11	iP	Pn	23 17 00.8	-0.9
TRQA	Tornquist	7.26	105	Pn	Pn	23 17 09.6	-2.5
TCA	Tanti	7.36	47	iP	Pn	23 17 12.5	-1.1
VCA	Vinchina	8.10	17	iP	Pn	23 17 22.6	-0.9
GO02	Mina Guanaco	11.39	6	Pn	Pn	23 18 05.5	-1.8
LVC	Limon Verde	13.98	8	P	P	23 18 45.5	+1.3
	comp=Z,1.0nm,0.3s,baz=208,slow=6.7,SNR=11						
CPUP	Villa Florida	15.39	52	P	Pn	23 18 57.4	-0.6
	comp=Z,0.4nm,0.3s,baz=254,slow=5.5,SNR=4.7						
MNMC	Minye Minye	17.37	4	P	Pn	23 19 23.9	+1.5
MNMC				IAmb	IAmb	23 19 24.8	
	comp=Z,4.4nm,0.8s						
LPAZ	La Paz	20.31	8	P	Pn	23 19 56.5	-1.0
	comp=Z,1.7nm,0.6s,baz=178,slow=8.7,SNR=7.1						
LPAZ	La Paz	20.31	8	P	P	23 19 55.8	+2.0
SIV	San Ignacio	22.25	26	P	P	23 20 13.8	+0.3
	comp=Z,4.3nm,0.7s,baz=221,slow=9.1,SNR=21						
BDFB	Brasilia	29.10	50	P	P	23 21 17.0	+1.3
	comp=Z,2.5nm,0.5s,baz=241,slow=12,SNR=5.4						
BDFB	Brasilia	29.10	50	P	P	23 21 15.2	-0.5
BDFB				IAmb	IAmb	23 21 30.7	
	comp=Z,5.7nm,1.2s						
VNA3	Neumayer Olymp	46.66	157	P	P	23 23 42.1	+0.3
VNA2	Neumayer--Watz	47.32	156	P	P	23 23 47.1	+0.2
	baz=294,slow=9.4						
SNAA	Sanae	48.89	157	P	P	23 23 59.0	0.0
SNAA	Sanae	48.89	157	P	P	23 23 59.0	0.0
	comp=Z,2.7nm,0.7s,baz=291,slow=7.0,SNR=9.8						
SNAA	Sanae	48.89	157	P	P	23 23 58.5	-0.6
SNAA				IAmb	IAmb	23 24 00.1	
	comp=Z,3.4nm,0.9s						
QSPA	South Pole Qui	53.71	180	P	P	23 24 35.9	+0.8
	comp=Z,3.2nm,0.7s,baz=306,slow=1.7,SNR=25						
QSPA	South Pole Qui	53.71	180	IAmb	IAmb	23 24 37.3	
	comp=Z,2.8nm,0.7s						
DBIC	Dimbokro	75.13	70	P	P	23 26 54.5	-0.4
	comp=Z,1.8nm,0.6s,baz=216,slow=7.9,SNR=4.4						
DBIC	Dimbokro	75.13	70	IAmb	IAmb	23 27 04.7	
	comp=Z,5.5nm,1.1s						
BOSA	Boshof	78.08	117	P	P	23 27 11.2	-0.3
	comp=Z,2.3nm,0.7s,baz=154,slow=18,SNR=3.1						
TORD	Torodi Ar. Bea	84.21	69	P	P	23 27 42.9	-1.0
	comp=Z,0.8nm,0.7s,baz=265,slow=5.8,SNR=12						
MKAR	Makanchi Array	157.59	54	PKPab	PKPab	23 35 39.5	-0.4
	comp=Z,0.5nm,0.6s,baz=264,slow=3.0,SNR=5.8						
CMAR	Chiang Mai Arr	159.89	151	PKP	PKPdf	23 35 12.8	+2.3
	comp=Z,0.3nm,0.4s,baz=165,slow=4.6,SNR=3.2						

*ISCJB **05** 23:44:35.8±1.1, 23.°9S±0.°2×112.°9W±0.°1, h10km, mb4.0/4, Error ellipse: s-maj=30.5km s-min=15.5km az=173.1*
*IDC **05** 23:44:37.6±1.3, 23.°50S×112.°72W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/25, mbtmp4.0/4, Error ellipse: s-maj=48.8km s-min=36.9km az=29.0*
*NEIC **05** 23:44:37.5±2.1, 23.°91S±0.°06×112.°8W±0.°2, h10km±1km, mb4.6/8*
ISC 05 23:44:37.8±1.1, **23.°8S**±0.°3×**112.°8W**±0.°1, **h10**km, **n25,** σ1s**24**/17, **mb4.4**/9, **Easter Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTCN	Pitcairn Islan	15.79	262	Pn	Pn	23 48 18.8	-1.4
PAYG	Puerto Ayora	31.70	47	P	P	23 51 00.1	-1.8
PAYG				IAmb	IAmb	23 51 02.6	
	comp=Z,18nm,0.8s						
NNA	Nana	36.09	77	P	P	23 51 39.6	-0.5
NNA				IAmb	IAmb	23 51 53.1	
	comp=Z,8.6nm,0.8s						
H06E1	SOCORRO T-PHAS	42.34	3	T	T	00 37 22.2	
	SNR=3.8						
LPAZ	La Paz	42.51	88	P	P	23 52 35.3	+0.9
	comp=Z,1.6nm,0.8s,baz=234,slow=8.5,SNR=6.5						
LPAZ	La Paz	42.51	88	P	P	23 52 34.5	+0.1
NVAR	Mina Array Bea	62.09	355	P	P	23 54 60.0	+1.0
	comp=Z,1.7nm,0.8s,baz=181,slow=8.8,SNR=8.3						
RDMU	Red Mountain	64.09	3	P	P	23 55 13.3	+1.1
WVOR	Wild Horse Val	66.10	355	P	P	23 55 26.9	+1.8
WVOR				IAmb	IAmb	23 55 28.9	
	comp=Z,3.8nm,1.0s						
PDAR	Pinedale Array	66.28	3	P	P	23 55 24.7	-1.7
	comp=Z,1.0nm,0.7s,baz=178,slow=4.5,SNR=5.0						
PINE	Pine Mountain	67.65	354	P	P	23 55 36.4	+1.3
PINE				IAmb	IAmb	23 55 39.5	
	comp=Z,2.9nm,0.9s						
G08A	Pilot Rock	68.96	355	P	P	23 55 44.0	+0.8
G08A				IAmb	IAmb	23 55 45.4	
	comp=Z,3.0nm,0.9s						
YKA	Yellowknife Ar	85.98	359	P	P	23 57 18.0	+0.2
	comp=Z,0.8nm,1.0s,baz=167,slow=4.7,SNR=6.3						
H11S2	WAKE ISLAND Hy	89.00	291	T	T	01 36 02.5	
	baz=116,slow=75,SNR=21						
H11S1	WAKE ISLAND Hy	89.01	291	T	T	01 36 02.9	
	baz=116,slow=75,SNR=14						
H11S3	WAKE ISLAND Hy	89.01	291	T	T	01 36 03.8	
	baz=116,slow=75,SNR=16						
H11N3	WAKE ISLAND Hy	89.34	292	T	T	01 36 29.5	
	baz=116,slow=75,SNR=19						
H11N1	WAKE ISLAND Hy	89.36	292	T	T	01 36 32.3	
	baz=116,slow=75,SNR=8.6						
H11N2	WAKE ISLAND Hy	89.36	292	T	T	01 36 29.9	
	baz=116,slow=75,SNR=39						
SONM	Songino Array	140.76	318	PKhKP	PKPpre	00 04 05.3	
	comp=Z,0.3nm,0.3s,baz=155,slow=4.9,SNR=4.3						
ELL	Elmali	145.53	59		PKPab	00 04 18.8	+1.8
ZALV	Zalesovo Beam	147.08	341	PKPbc	PKPbc	00 04 20.7	+0.1
	comp=Z,1.2nm,0.4s,baz=30,slow=3.5,SNR=5.0						
BRTR	Keskin Array B	147.58	53	PKPbc	PKPbc	00 04 22.0	-0.7
	comp=Z,1.2nm,1.0s,baz=267,slow=2.1,SNR=4.1						
CMAR	Chiang Mai Arr	149.94	266	PKPbc	PKiKP	00 04 31.1	+1.1
	comp=Z,4.3nm,1.0s,baz=115,slow=0.9,SNR=17						
MKAR	Makanchi Array	154.02	336	PKPbc	PKPbc	00 04 37.6	-0.1
	comp=Z,1.1nm,0.7s,baz=13,slow=1.1,SNR=11						

IDC 05 23:45:21.2±4.0, **3.°76S**×**128.°08E, h0**km, **mb3.5**/2, **mb1 3.7**/3, **mb1mx3.4**/28, **mbtmp3.4**/3, **ML3.3**/1, **Error ellipse: s-maj=214.7km s-min=36.6km az=85.0, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.21	160	P	P	23 49 25.2	+0.3
	0.1nm,0.3s,baz=339,slow=11,SNR=2.8						
ASAR	Alice Springs	20.58	165	P	P	23 50 00.9	-0.9
	0.3nm,0.4s,baz=343,slow=11,SNR=6.5						
ILAR	Eielson Array	91.25	25	P	P	23 58 28.2	0.0
	0.8nm,1.0s,baz=241,slow=5.7,SNR=4.1						

*NEIC **05** 23:55:21.1±1.4, 31.°94N±0.°02×116.°23W±0.°02, h17km±3km*
*PAS **05** 23:55:22.1±1.5, 31.°95N±0.°02×116.°24W±0.°02, h13km±3km*
*ECX **05** 23:55:22.0±0.4, 31.°94N×116.°22W, h10km, MD2.7, ML2.9*
ISC 05 23:55:21.1±1.1, **31.°95N**±0.°03×**116.°23W**±0.°02, **h19**km±3km, **n44,** σ0s**75**/63, **3C-2D, Baja California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ESJX	Sierra Juarez	0.24	76	⇑iP	Pg	23 55 26.9	-0.1
ESJX				eS	Sg	23 55 30.5	-0.4
CCX	Cicese	0.38	258	⇑iP	Pg	23 55 29.4	+0.3
CCX				eS	Sg	23 55 34.7	+0.1
CCX	Cicese	0.38	258		Pg	23 55 29.5	+0.3
CBX	Cerro Bola	0.52	315	⇑eP	Pg	23 55 31.8	+0.1
CBX				eS	Sg	23 55 39.1	+0.2
CBX				⇓e		23 55 39.9	
CBX				IAML		23 55 39.9	
	comp=N,1µm,0.3s						
CBX	Cerro Bola	0.52	315		Pg	23 55 31.8	+0.1
CBX					Sg	23 55 39.1	+0.2
TJIG	Tijuana	0.62	322	eS	Sg	23 55 41.7	-0.1
ERMX	Rumorosa	0.63	15	eP	Pg	23 55 33.6	-0.1
ERMX				eS	Sg	23 55 42.3	+0.1
ERMX				e		23 55 42.7	
ERMX				IAML		23 55 42.7	
	comp=N,549nm,0.1s						
RMX	La Rumorosa	0.67	11		Pg	23 55 33.7	-0.7
RMX					Sg	23 55 42.3	-1.1
TKX	Tecate	0.70	333	eP	Pg	23 55 34.5	-0.4
TKX				eS	Sg	23 55 44.0	-0.3
TKX	Tecate	0.70	333		Pg	23 55 34.6	-0.4
TKX					Sg	23 55 43.6	-0.7
IKP	In-Ko-Pah, Jac	0.71	8	⇓iP	Pg	23 55 35.1	-0.1
IKP	In-Ko-Pah, Jac	0.71	8		Pg	23 55 35.1	-0.1
IKP					Sg	23 55 44.6	-0.1
BAR	Barrett	0.82	333	eP	Pg	23 55 36.5	-0.8
BAR	Barrett	0.82	333	Pg	Pg	23 55 36.6	-0.8
BAR				Sg	Sg	23 55 47.1	-1.2
OLP	Otay Lakes Par	0.89	318	eP	Pg	23 55 37.8	-0.7
OLP	Otay Lakes Par	0.89	318		Pg	23 55 37.8	-0.7
OLP					Sg	23 55 49.2	-1.1
TJX	Tijuana	0.90	309		Pg	23 55 37.9	-0.8
CPBX	Cerro Prieto	0.91	59	eP	Pg	23 55 37.8	-1.1
CPBX				eS	Sg	23 55 50.4	-0.6
CPBX	Cerro Prieto	0.91	59		Pg	23 55 38.1	-0.8
WESC	Westside Schoo	0.91	27		Pg	23 55 39.1	+0.1
MONP2	Monument Peak	0.96	350	eP	Pg	23 55 39.1	-0.8
MONP2	Monument Peak	0.96	350		Pg	23 55 39.1	-0.8
MONP2					Sg	23 55 51.7	-0.8
CRR	Carrizo Plain	0.96	13		Pb	23 55 39.8	+0.5
SDRC	San Diego Road	0.99	323	eP	Pb	23 55 39.5	-0.3
SDRC	San Diego Road	0.99	323		Pb	23 55 39.4	-0.3
SDRC					Sb	23 55 52.1	-0.4
COK2	Cook Ranch 2	0.99	25		Pb	23 55 40.5	+0.8
SWSC	Sam W. Stewart	1.06	20		Pb	23 55 41.2	+0.3
EML	El Monte Cty P	1.08	331	eP	Pb	23 55 40.6	-0.6
EML	El Monte Cty P	1.08	331		Pb	23 55 40.5	-0.6
EML					Sb	23 55 54.5	-0.4
SPIG	San Pedro Mart	1.11	144	eP	Pb	23 55 41.0	-0.9
SPIG				eS	Sb	23 55 55.8	-0.2
SPX	San Pedro Mart	1.11	144	eP	Pb	23 55 41.5	-0.5
SPX				eS	Sb	23 55 56.1	-0.2
SPX	San Pedro Mart	1.11	144		Pb	23 55 42.1	+0.1
109C	Camp Elliot, M	1.20	322		Pn	23 55 43.0	+0.1
109C					Sb	23 55 58.4	0.0
SFX	San Felipe	1.48	127		Pb	23 55 49.2	+1.2
FRK	Frink	1.53	19		Pn	23 55 47.4	-0.1
GLA	Glamis	1.62	47	Pn	Pn	23 55 48.8	+0.2
GLA				Sn	Sn	23 56 08.6	-0.4
PFO	Pinyon Flats O	1.67	353		Pn	23 55 50.8	+1.3
113A	Mohawk Valley,	2.24	68	Pn	Pn	23 55 57.6	+0.5
Y12C	Blythe	2.30	38	Pg	Pb	23 56 04.3	+2.3
PASC	Pasadena Art C	2.76	324		Pn	23 56 04.9	+0.5
214A	Organ Pipe Nat	2.90	89	Pn	Pn	23 56 05.9	-0.5
Y14A	Wickenburg	3.36	53	Pn	Pn	23 56 13.6	+1.0
GSC	Goldstone, Bar	3.38	352	Pn	Pn	23 56 15.4	+2.4
OSI	Osito Audit: C	3.38	322	Pn	Pn	23 56 14.3	+1.3

*TUL **06** 00:37:13.8, 36.°88N×97.°99W, h5km, ML3.1*
*ANF **06** 00:37:14.9±0.4, 36.°85N×97.°95W, h5km, ML3.9/11, Error ellipse: s-maj=4.8km s-min=4.5km az=87.0*
*ISCJB **06** 00:37:15.1±0.4, 36.°84N±0.°03×97.°88W±0.°03, h10km, Error ellipse: s-maj=4.2km s-min=3.6km az=41.2*
*NEIC **06** 00:37:17.6±2.2, 36.°66N±0.°03×97.°81W±0.°05, h5km±2km*
ISC 06 00:37:14.9±0.8, **36.°85N**±0.°03×**97.°93W**±0.°03, **h10**km, **n43,** σ1s**69**/53, **Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
U32A	Winter Ranch,	0.98	242	Pg	Pg	00 37 33.2	-0.5
ADOK	Arcadia Dam	1.28	159		Pn	00 37 37.1	-1.7
OKCSW	OKLAHOMA CITY	1.49	164		Pn	00 37 42.4	+0.6
FNO	Franklin	1.64	165		Pb	00 37 45.4	+0.1
W35A	Tecumseh	1.90	153		Pn	00 37 48.1	+0.8
TUL1	Leonard	1.96	118	P	Pn	00 37 49.3	+1.0
	baz=295						
TUL1				S	Sb	00 38 15.1	-0.2
	baz=295						
TUL1	Leonard	1.96	118		Pn	00 37 49.2	+1.0
WMOK	Wichita Mounta	2.21	198	P	Pn	00 37 52.1	+0.4
	baz=22						
WMOK				S	Sn	00 38 20.6	+1.4
	baz=22						
WMOK	Wichita Mounta	2.21	198	Pn	Pn	00 37 53.0	+1.3
X34A	Smith Ranch, M	2.24	178		Pn	00 37 53.6	+1.5
CBKS	Cedar Bluff	2.43	325	P	Pn	00 37 56.1	+1.4
	baz=144						
CBKS				S	Sn	00 38 25.9	+1.4
	baz=144						
CBKS	Cedar Bluff	2.43	325	Pn	Pn	00 37 56.7	+2.0
CBKS					LR	00 38 29.0	
KSU1	Kansas State U	2.48	25	P	Pn	00 37 55.9	+0.5
	baz=202						
KSU1				S	Sn	00 38 27.3	+1.5
	baz=202						
HHAR	Hobbs	3.26	99		Pn	00 38 07.0	+0.8
AMTX	Amarillo	3.62	238	Pb	Pb	00 38 19.2	+0.2
	baz=59						
AMTX				Sb	Sb	00 39 06.8	+3.7
	baz=59						
AMTX	Amarillo	3.62	238		Pb	00 38 19.3	+0.2
W39A	Magazine	3.75	115	Pb	Pb	00 38 21.7	+0.6
	baz=295						
W39A				S	Sn	00 38 57.5	+0.6
	baz=295						
W39A	Magazine	3.75	115	Pn	Pn	00 38 13.6	+0.9
W39A					Pb	00 38 21.8	+0.6
U40A	Yellville	4.12	95	P	Pn	00 38 18.2	+0.3
	baz=276						
U40A				S	Sn	00 39 06.5	+0.4
	baz=276						
U40A	Yellville	4.12	95		Pn	00 38 18.4	+0.5
MIAR	Mount Ida	4.22	122	P	Pn	00 38 19.4	+0.1
	baz=303						
MIAR				S	Sn	00 39 08.6	-0.2
	baz=303						
MIAR	Mount Ida	4.22	122		Pn	00 38 20.0	+0.7
KSCO	Kaye Shedlock'	4.29	302	Pb	Pb	00 38 31.1	+0.5
	baz=120						
KSCO	Kaye Shedlock'	4.29	302	Pn	Pb	00 38 31.2	+0.6
ABTX	Abilene, Hawle	4.44	199	Pn	Pn	00 38 23.8	+1.4
MGMO	Mountain Grove	4.54	84		Pn	00 38 24.5	+0.7
BGNE	Belgrade	4.56	358	Pb	Pb	00 38 36.5	+1.5
	baz=177						
BGNE				S	Sn	00 39 19.3	+2.3
	baz=177						
BGNE	Belgrade	4.56	358		Pb	00 38 32.0	-3.0
X40A	Basin Creek Fa	4.77	118	P	Pn	00 38 28.3	+1.4
	baz=300						
X40A				S	Sn	00 39 24.3	+2.1
	baz=300						
X40A	Basin Creek Fa	4.77	118	Pn	Pn	00 38 27.7	+0.8
FCAR	Ozark Folk Cen	4.78	100	Pn	Pn	00 38 29.2	+2.2
WHAR	Wooly Hollow	4.83	107		Pn	00 38 29.1	+1.5
WHTX	Lake Whitney,	4.86	175	Pn	Pn	00 38 28.7	+0.6
MSTX	Muleshoe	4.88	235		Pb	00 38 36.9	-3.7
W41B	Gary Mavity, V	4.90	108	Pn	Pn	00 38 29.8	+1.1
UALR	University of	4.99	113	Pn	Pn	00 38 31.0	+1.1
T25A	Trinidad	5.19	275	Pn	Pb	00 38 42.1	-3.9
LCAR	Lake Charles	5.52	96	Pn	Pn	00 38 38.6	+1.4
Z41A	Richland Creek	5.53	129	Pn	Pn	00 38 36.6	-0.6
ISCO	Idaho Springs	6.72	298		Pb	00 39 14.6	+2.6
S22A	4UR Ranch, Cre	7.15	280		Pg	00 39 28.4	-3.3
PHWY	Pilot Hill	7.35	310		Pg	00 39 31.4	-4.2
MNTX	Cornudas Mount	8.02	232		Pb	00 39 40.8	+6.7

IDC 06 00:37:28.1±1.3, **23.°63N**×**143.°60E, h0**km, **mb3.4**/4, **mb1 3.7**/4, **mb1mx3.4**/26, **mbtmp3.4**/4, **Error ellipse: s-maj=48.3km s-min=30.0km az=108.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.24	193	P	P	00 45 39.1	-0.2
	0.5nm,0.9s,baz=8.5,slow=7.9,SNR=4.8						
MKAR	Makanchi Array	53.69	312	P	P	00 46 51.8	0.0
	0.2nm,0.5s,baz=92,slow=9.6,SNR=2.4						
ILAR	Eielson Array	60.16	28	P	P	00 47 37.1	-0.2
	0.5nm,0.9s,baz=266,slow=7.1,SNR=3.2						
YKA	Yellowknife Ar	74.58	28	P	P	00 49 08.8	+0.2
	0.3nm,0.5s,baz=294,slow=5.9,SNR=4.8						

*NNC **06** 00:38:39.6±3.3, 36.°81N×70.°70E, h117km±84km, mb3.0, mpv3.6, Error ellipse: s-maj=30.8km s-min=25.3km az=57.0*
ISC 06 00:38:38.0±3.7, **36.°7N**±0.°2×**70.°7E**±0.°2, **h100**km, **n9,** σ0s**83**/11, **2C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.89	22	P	Pn	00 40 03.9	+0.8
	SNR=20						
UCH	Uchtor	6.25	27	P	Pn	00 40 08.5	+0.4
	SNR=10						
KK31	Karatay Array	6.41	359	⇑P	Pn	00 40 10.7	+1.0
	1.1nm,0.5s,baz=182,slow=11,SNR=41						
KK31				S	Sn	00 41 20.2	-1.1
	6.4nm,0.6s,baz=171,slow=15,SNR=18						
EKS2	Erkin-Say	6.41	21	P	Pn	00 40 11.0	+1.2
	SNR=7.4						
AAK	Ala-Archa	6.61	25	⇑P	Pn	00 40 12.8	+0.2
AAK				⇓S	Sn	00 41 27.0	+0.5
	0.3nm,0.7s						
USP	Ospenovka	7.17	23	P	Pn	00 40 20.2	0.0
	SNR=5.3						
TKM2	Tokmak 2	7.26	30	P	Pn	00 40 21.2	-0.3
	SNR=9.4						
TKM2	Tokmak 2	7.26	30	⇓P	Pn	00 40 20.9	-0.6
	6.7nm,0.6s						
AB31	Akbulak array	14.81	331	P	Pn	00 42 01.6	-0.4
	0.5nm,0.6s,baz=150,slow=9.9,SNR=3.8						

*IDC **06** 00:44:55.0±8.7, 40.°79S×174.°75E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/15, mbtmp3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/17, Error ellipse: s-maj=536.1km s-min=43.2km az=32.0*
*ISCJB **06** 00:45:00.2±0.3, 41.°74S±0.°03×174.°03E±0.°03, h26km±3km, mb3.5/2, MS3.3/1, Error ellipse: s-maj=5.2km s-min=3.1km az=141.3*
*NEIC **06** 00:45:00.6±1.4, 41.°71S±0.°03×174.°02E±0.°03, h19km±5km*
*WEL **06** 00:45:00.5, 42°S±2°×17°4E±°, h19km±3km, M4.6/20, ML4.8/11, MLv4.6/20, Error ellipse: s-maj=0.0km s-min=0.0km az=175.2*
ISC 06 00:45:00.3±0.9, **41.°75S**±0.°03×**174.°06E**±0.°03, **h23**km±5km, **n79,** σ0s**85**/84, **Cook Strait**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.11	88	P	Pb	00 45 05.2	+0.4
CMWZ				S	Sb	00 45 09.0	+1.1
CMWZ	Cape Campbell	0.11	88		Pb	00 45 05.3	+0.4
BSWZ	Blackbirch Sta	0.14	285	P	Pb	00 45 04.3	-0.8
BSWZ				S	Sb	00 45 07.2	-1.2

BSWZ	**Blackbirch Sta**	**0.14**	**285**		**Pb**	**00 45 04.3**	**-0.8**
TUWZ	**Tuamarina**	**0.34**	**344**	P	**Pb**	**00 45 07.1**	**-0.6**
TUWZ				S	**Sb**	**00 45 11.7**	**-1.0**
TUWZ	**Tuamarina**	**0.34**	**344**		**Pb**	**00 45 07.1**	**-0.6**
TCW	**Tory Channel**	**0.56**	**17**	P	**Pb**	**00 45 10.9**	**-0.6**
TCW				S	**Sb**	**00 45 18.8**	**-0.3**
SNZO	**South Karori**	**0.65**	**48**		**Pb**	**00 45 13.2**	**+0.2**
BHW	**Baring Head**	**0.70**	**61**	P	**Pn**	**00 45 14.6**	**-0.1**
BHW				S	**Sn**	**00 45 24.8**	**+0.1**
BHW	**Baring Head**	**0.70**	**61**		**Pn**	**00 45 14.5**	**-0.1**
NNZ	**Nelson**	**0.74**	**316**	P	**Pb**	**00 45 14.1**	**-0.4**
NNZ				S	**Sb**	**00 45 22.8**	**-1.4**
NNZ	**Nelson**	**0.74**	**316**		**Pb**	**00 45 14.1**	**-0.4**
KHZ	**Kahutara**	**0.77**	**210**	P	**Pn**	**00 45 16.7**	**+1.1**
KHZ	**Kahutara**	**0.77**	**210**		**Pn**	**00 45 16.2**	**+0.6**
THZ	**Tophouse**	**0.87**	**269**	P	**Pb**	**00 45 16.7**	**+0.1**
THZ	**Tophouse**	**0.87**	**269**		**Pb**	**00 45 16.8**	**+0.1**
PLWZ	**Palliser**	**0.91**	**79**	P	**Pn**	**00 45 18.1**	**+0.4**
PLWZ	**Palliser**	**0.91**	**79**		**Pn**	**00 45 18.1**	**+0.4**
MSWZ	**Moikau Station**	**0.95**	**70**	P	**Pn**	**00 45 18.9**	**+0.7**
MSWZ	**Moikau Station**	**0.95**	**70**		**Pn**	**00 45 18.8**	**+0.6**
DUWZ	**D'Urville Isla**	**0.96**	**354**	P	**Pb**	**00 45 17.6**	**-0.6**
CAW	**Cannon Point**	**0.99**	**50**	P	**Pn**	**00 45 19.2**	**+0.4**
PAWZ	**Paruwai Farm**	**1.09**	**71**	P	**Pb**	**00 45 20.4**	**0.0**
MTW	**Mount Morrison**	**1.23**	**62**	P	**Pn**	**00 45 22.4**	**+0.3**
TRWZ	**Traveller**	**1.27**	**74**	P	**Pn**	**00 45 22.7**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.39**	**52**	P	**Pn**	**00 45 24.6**	**+0.3**
GVZ	**Greta Valley S**	**1.43**	**212**	P	**Pb**	**00 45 25.8**	**-0.5**
QRZ	**Quartz Range**	**1.48**	**308**	P	**Pb**	**00 45 26.6**	**-0.5**
QRZ	**Quartz Range**	**1.48**	**308**		**Pb**	**00 45 26.7**	**-0.5**
TMWZ	**Te Maipa**	**1.52**	**65**	P	**Pn**	**00 45 25.9**	**-0.1**
MRZ	**Mangatainoka R**	**1.58**	**47**	P	**Pn**	**00 45 27.4**	**+0.6**
LTZ	**Lake Taylor**	**1.68**	**232**	P	**Pn**	**00 45 29.4**	**+1.2**
LTZ	**Lake Taylor**	**1.68**	**232**		**Pn**	**00 45 29.4**	**+1.2**
TIWZ	**Tintock**	**1.69**	**55**	P	**Pn**	**00 45 28.5**	**+0.2**
DSZ	**Denniston Nort**	**1.69**	**270**	P	**Pb**	**00 45 30.3**	**-0.4**
AMCZ	**Amberley**	**1.77**	**216**	P	**Pn**	**00 45 30.5**	**+1.1**
OHWZ	**Ohakea**	**1.81**	**32**	P	**Pb**	**00 45 32.2**	**-0.5**
CPWZ	**Castlepoint**	**1.82**	**63**	P	**Pn**	**00 45 31.0**	**+1.0**
PRWZ	**Pori Road**	**1.87**	**51**	P	**Pn**	**00 45 31.0**	**+0.1**
POWZ	**Post Office Ro**	**1.87**	**44**	P	**Pn**	**00 45 31.5**	**+0.6**
BFZ	**Birch Farm**	**1.96**	**58**	P	**Pn**	**00 45 31.5**	**-0.6**
BFZ	**Birch Farm**	**1.96**	**58**		**Pn**	**00 45 31.6**	**-0.6**
OKCZ	**Okains Bay**	**2.10**	**200**	P	**Pn**	**00 45 34.2**	**+0.1**
CRLZ	**Canterbury Las**	**2.11**	**210**	P	**Pn**	**00 45 33.9**	**-0.2**
CRLZ	**Canterbury Las**	**2.11**	**210**		**Pn**	**00 45 33.6**	**-0.5**
DVHZ	**Dannevirke**	**2.15**	**48**	P	**Pn**	**00 45 34.4**	**-0.4**
OXZ	**Oxford**	**2.17**	**223**	P	**Pn**	**00 45 34.8**	**-0.1**
OXZ	**Oxford**	**2.17**	**223**		**Pn**	**00 45 34.8**	**-0.1**
INZ	**Inchbonnie**	**2.17**	**243**	P	**Pn**	**00 45 36.4**	**+1.4**
MQZ	**McQueen's Vall**	**2.21**	**208**	P	**Pn**	**00 45 34.8**	**-0.7**
TSZ	**Takapari Road**	**2.22**	**41**	P	**Pn**	**00 45 36.0**	**+0.3**
ANWZ	**Angora Road**	**2.23**	**55**	P	**Pn**	**00 45 35.4**	**-0.4**
AKCZ	**Akaroa Harbour**	**2.28**	**201**	P	**Pn**	**00 45 36.2**	**-0.3**
PRHZ	**Porangahau**	**2.45**	**54**	P	**Pn**	**00 45 38.1**	**-0.7**
PNHZ	**Pukenui**	**2.45**	**42**	P	**Pn**	**00 45 38.9**	**0.0**
WPHZ	**Waipukurau**	**2.47**	**48**	P	**Pn**	**00 45 38.9**	**-0.1**
MOVZ	**Moawhango**	**2.67**	**29**	P	**Pn**	**00 45 43.1**	**+1.1**
VRZ	**Vera Road**	**2.68**	**12**	P	**Pn**	**00 45 44.1**	**+2.2**
BHHZ	**Black Hill Sta**	**2.73**	**35**	P	**Pn**	**00 45 43.5**	**+0.8**
KRHZ	**Kereru**	**2.74**	**41**	P	**Pn**	**00 45 42.6**	**-0.2**
TUVZ	**Tukino**	**2.76**	**27**	P	**Pn**	**00 45 45.1**	**+1.9**
NGZ	**Ngauruhoe**	**2.83**	**25**	P	**Pn**	**00 45 46.1**	**+1.9**
TWVZ	**Taurewa**	**2.88**	**22**	P	**Pn**	**00 45 46.7**	**+2.0**
WTVZ	**West Tongariro**	**2.88**	**24**	P	**Pn**	**00 45 46.6**	**+1.8**
KAHZ	**Kahuranaki**	**2.90**	**48**	P	**Pn**	**00 45 44.0**	**-1.0**
KRVZ	**Karewarewa**	**2.92**	**25**	P	**Pn**	**00 45 47.1**	**+1.8**
KWHZ	**Kaweka Forest**	**2.94**	**38**	P	**Pn**	**00 45 45.6**	**0.0**
RPZ	**Rata Peaks**	**2.96**	**227**		**Pn**	**00 45 45.8**	**0.0**
MCHZ	**McNeill Hill**	**3.06**	**42**	P	**Pn**	**00 45 46.9**	**-0.3**
BKZ	**Black Stump Fm**	**3.18**	**36**		**Pn**	**00 45 48.1**	**-0.8**
HIZ	**Hauiti**	**3.29**	**11**		**Pn**	**00 45 52.0**	**+1.7**
FOZ	**Fox Glacier**	**3.60**	**239**		**Pn**	**00 45 56.2**	**+1.6**
LBZ	**Lake Benmore**	**3.87**	**226**	Pn	**Pn**	**00 45 59.9**	**+1.5**
ODZ	**Otahua Downs**	**4.13**	**216**	Pn	**Pn**	**00 46 01.1**	**-0.7**
URZ	**Urewera**	**4.20**	**35**	Pn	**Pn**	**00 46 03.6**	**+0.7**
VNDA	**Vanda**	**36.23**	**184**	LR	LR	01 05 17.9	
	comp=Z,56nm,20.3s,baz=352,slow=33						
ASAR	**Alice Springs**	**37.90**	**286**	P	**P**	**00 52 15.8**	**+0.1**
	0.3nm,0.4s,baz=128,slow=7.0,SNR=4.2						
WRA	**Warramunga Arr**	**39.97**	**291**	P	**P**	**00 52 32.9**	**-0.2**
	0.7nm,0.6s,baz=127,slow=8.2,SNR=9.1						
TORD	**Torodi Ar. Bea**	**150.74**	**195**	PKPbc	**PKiKP**	**01 04 51.9**	**+0.4**
	0.4nm,0.4s,baz=178,slow=1.0,SNR=13						

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*BJI **06** 00:59:16.9±0.0, 19.°22S×169.°41E, h165km, mb4.7/29, mB5.0/18*

*ISCJB **06** 00:59:18.8±0.9, 19.°18S±0.°04×168.°91E±0.°04, h167km±8km, mb4.8/29, Error ellipse: s-maj=6.6km s-min=5.5km az=169.4*

*IDC **06** 00:59:19.2±0.8, 19.°14S×168.°89E, h156km±5km, mb4.3/15, mb1 4.4/16, mb1mx4.1/37, mbtmp4.7/16, MS3.6/8, Ms1 3.6/8, ms1mx3.3/24, Error ellipse: s-maj=15.2km s-min=10.6km az=114.0*

*NEIC **06** 00:59:19.1±1.1, 19.°15S±0.°06×168.°93E±0.°09, h160km±5km, mb4.8/85*

*GCMT **06** 00:59:22.0±0.2, 19.°12S±0.°01×168.°90E±0.°01, h164km±1km, MW5.1/129, Moment Tensor Solution. s79,c97; s129,c188; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.30±.13; $M_{\theta\theta}$0.17±.16; $M_{\phi\phi}$1.12±.16; $M_{r\theta}$0.53±.10; $M_{\theta\phi}$1.17±.14; $M_{\phi r}$-5.60±.10; Best double couple: $M_0$5.86600×10^{16} NP1:ϕ_s357.00000°, δ84.00000°, λ-102.00000°. NP2:ϕ_s242.00000°, δ13.00000°, λ-26.00000°. Principal axes: T 5.7010, Plg38.0000°, Azm98.0000°; N 0.3260, Plg12.0000°, Azm358.0000°; P -6.0320, Plg49.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 00:59:19.4±0.5**, 19.°12S**±0.°06×**168.°90E**±0.°06**, h160**km±4km**, h158**km**:pP-P, n188,** σ**0.s99**/186**, mb4.8**/65**, 2C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.73**	**218**	*e*Pn	**Pn**	**01 00 16.3**	**-0.2**
	353nm,0.3s						
DZM				*e*Sn	**Sn**	**01 01 00.6**	**-0.3**
	967nm,0.3s						
DZM	**Mont Dzumac**	**3.73**	**218**	P	**Pn**	**01 00 16.2**	**-0.2**
	64nm,0.3s,baz=53,slow=18,SNR=457						
DZM				S	**Sn**	**01 01 00.5**	**-0.5**
	228nm,0.3s,baz=330,slow=21,SNR=11						
MSVF	**Nonsavu**	**8.80**	**82**		**Pn**	**01 01 24.2**	**+0.7**
NFK	**Norfolk Island**	**9.91**	**185**	P	**Pn**	**01 01 41.0**	**+2.9**
	baz=10.0,SNR=4.4						
FUNA	**Funafuti**	**14.52**	**45**	P	**Pn**	**01 02 37.8**	**+0.3**
OUZ	**Omahuta**	**16.56**	**166**	P	**P**	**01 03 01.3**	**-0.8**
OUZ				IAmb	IAmb	01 03 04.7	
	comp=Z,37nm,1.1s						
EIDS	**Eidsvold**	**17.62**	**246**	P	**Pn**	**01 03 16.6**	**+1.4**
	baz=18,SNR=16						
EIDS	**Eidsvold**	**17.62**	**246**	P	**P**	**01 03 14.6**	**+0.7**
ARMA	**Armidale**	**19.27**	**231**	P	**Pn**	**01 03 34.6**	**-0.1**
	baz=19,SNR=4.4						
ARMA	**Armidale**	**19.27**	**231**	P	**P**	**01 03 31.6**	**-0.4**
ARMA				IAmb	IAmb	01 03 35.5	
	comp=Z,92nm,1.4s						
RMQ	**Roma**	**19.95**	**245**	P	**Pn**	**01 03 41.9**	**-0.7**
	baz=20,SNR=8.9						
HIZ	**Hauiti**	**20.00**	**166**	P	**P**	**01 03 39.9**	**+0.2**
URZ	**Urewera**	**20.36**	**161**	P	**P**	**01 03 43.8**	**+0.3**
	comp=Z,20nm,1.0s,baz=9.4,slow=4.4,SNR=8.5						
URZ	**Urewera**	**20.36**	**161**	P	**P**	**01 03 43.4**	**0.0**
BKZ	**Black Stump Fm**	**21.03**	**163**	P	**P**	**01 03 49.6**	**-1.1**
BKZ				IAmb	IAmb	01 04 00.8	
	comp=Z,33nm,1.3s						
CTA	**Charters Tower**	**21.35**	**264**	P	**P**	**01 03 54.4**	**+0.1**
	comp=Z,18nm,0.5s,baz=93,slow=11,SNR=50						
CTA				pP	**pP**	**01 04 22.0**	**+0.9**
	comp=Z,73nm,1.0s,baz=92,slow=12,SNR=15						
KRVT	**Keravat (AS076**	**22.09**	**310**	P	**P**	**01 04 01.1**	**-0.9**
	comp=Z,25nm,0.4s,baz=107,slow=1.9,SNR=7.9						
KRVT				LR	LR	01 11 43.9	
	comp=Z,102nm,19.5s,baz=144,slow=34						
NNZ	**Nelson**	**22.35**	**171**	P	**P**	**01 04 03.7**	**-0.5**
NNZ				IAmb	IAmb	01 04 09.6	
	comp=Z,45nm,1.3s						
TUWZ	**Tuamarina**	**22.65**	**170**	P	**P**	**01 04 06.1**	**-0.9**
BHW	**Baring Head**	**22.79**	**168**	P	**P**	**01 04 06.1**	**-2.2**
THZ	**Tophouse**	**22.82**	**172**	P	**P**	**01 04 08.1**	**-0.5**
MSWZ	**Moikau Station**	**22.87**	**168**	P	**P**	**01 04 08.0**	**-1.1**
BSWZ	**Blackbirch Sta**	**22.91**	**170**	P	**P**	**01 04 08.8**	**-0.6**
CMWZ	**Cape Campbell**	**23.00**	**170**	P	**P**	**01 04 09.1**	**-1.2**
PLWZ	**Palliser**	**23.02**	**168**	P	**P**	**01 04 10.0**	**-0.5**
PMG	**Port Moresby**	**23.15**	**292**	P	**P**	**01 04 12.6**	**+0.7**
	comp=Z,30nm,0.8s,baz=92,slow=6.4,SNR=14						
PMG				LR	LR	01 11 04.0	
	comp=Z,244nm,20.1s,baz=143,slow=30						
PMG	**Port Moresby**	**23.15**	**292**	P	**P**	**01 04 12.2**	**+0.4**
MTSU	**Mount Surprise**	**23.31**	**268**	P	**P**	**01 04 14.6**	**+1.2**
	baz=23,SNR=37						
CNB	**Canberra Magne**	**23.63**	**223**	P	**P**	**01 04 17.3**	**+1.1**
	baz=24,SNR=10.0						
YNG	**Young**	**23.68**	**226**	P	**P**	**01 04 17.6**	**+1.1**
	baz=24,SNR=11						
LTZ	**Lake Taylor**	**23.76**	**174**	P	**P**	**01 04 17.3**	**+0.2**
LTZ				IAmb	IAmb	01 04 23.9	
	comp=Z,20nm,0.9s						
CAN	**Canberra**	**23.87**	**223**	P	**P**	**01 04 18.0**	**-0.3**
CMSA	**Cobar Meteorol**	**24.29**	**235**	P	**P**	**01 04 22.7**	**+0.7**
	baz=24,SNR=14						
COEN	**Coen**	**25.18**	**278**	P	**P**	**01 04 30.7**	**+0.4**
	baz=25,SNR=12						
COEN	**Coen**	**25.18**	**278**	P	**P**	**01 04 30.4**	**+0.1**
COEN				IAmb	IAmb	01 04 35.8	
	comp=Z,46nm,1.2s						
LBZ	**Lake Benmore**	**25.21**	**178**	P	**P**	**01 04 29.9**	**-0.4**
QIS	**Mount Isa**	**27.58**	**262**	P	**P**	**01 04 52.3**	**+0.5**
	baz=28,SNR=6.8						
STKA	**Stephens Creek**	**27.64**	**237**	P	**P**	**01 04 52.9**	**+0.6**
	baz=28,SNR=46						
STKA	**Stephens Creek**	**27.64**	**237**	P	**P**	**01 04 52.8**	**+0.6**
	comp=Z,15nm,0.6s,baz=64,slow=9.3,SNR=65						
STKA				pP	**pP**	**01 05 24.3**	**+0.3**
	comp=Z,25nm,1.2s,baz=70,slow=13,SNR=3.7						
STKA				LR	LR	01 15 07.8	
	comp=Z,154nm,21.4s,baz=56,slow=34						
STKA	**Stephens Creek**	**27.64**	**237**	P	**P**	**01 04 52.0**	**-0.2**
ARPS	**Mount Arapiles**	**29.52**	**228**	P	**P**	**01 05 09.3**	**+0.5**
	baz=30,SNR=7.2						
HTT	**Hallett**	**30.29**	**236**	P	**P**	**01 05 16.3**	**+0.5**
	baz=30,SNR=6.7						
WR0	**Warramunga Arr**	**32.36**	**263**	P	**P**	**01 05 32.8**	**-1.2**
BBOO	**Buckleboo**	**32.37**	**239**	P	**P**	**01 05 34.2**	**+0.3**
	baz=32,SNR=30						
BBOO	**Buckleboo**	**32.37**	**239**	P	**P**	**01 05 33.6**	**-0.3**
WB0	**Warramunga Arr**	**32.51**	**263**	P	**P**	**01 05 33.9**	**-1.5**
WB2	**Warramunga Arr**	**32.54**	**263**	P	**P**	**01 05 34.4**	**-1.2**
WB2				IAmb	IAmb	01 05 36.0	
	comp=Z,39nm,1.1s						
WRAB	**Tennant Creek**	**32.54**	**263**	P	**P**	**01 05 34.3**	**-1.3**
WRA	**Warramunga Arr**	**32.55**	**263**	P	**P**	**01 05 34.7**	**-1.0**
	comp=Z,19nm,0.9s,baz=96,slow=7.9,SNR=58						
GENI	**Genyem**	**32.55**	**297**	P	**P**	**01 05 34.3**	**-1.4**
	comp=Z,155nm,1.4s,comp=Z,2μm						
AS31	**Alice Springs**	**32.84**	**256**	IAmb	IAmb	01 05 38.8	
	comp=Z,17nm,0.6s						
ASAR	**Alice Springs**	**32.84**	**256**	P	**P**	**01 05 37.9**	**-0.3**
	comp=Z,36nm,0.7s,baz=84,slow=8.9,SNR=484						
ASAR				pP	**pP**	**01 06 09.0**	**-1.3**
	comp=Z,23nm,0.7s,baz=82,slow=8.8,SNR=6.4						
ASAR				LR	LR	01 18 37.6	
	comp=Z,251nm,18.8s,baz=100,slow=35						
KDU	**Kakadu**	**35.56**	**275**	P	**P**	**01 06 01.4**	**-0.2**
	baz=36,SNR=5.5						
MTN	**Manton Dam**	**36.78**	**274**	P	**P**	**01 06 12.2**	**+0.2**
	baz=37,SNR=7.4						
WRKA	**Warakurna**	**37.98**	**254**	P	**P**	**01 06 21.8**	**-0.3**
	baz=38,SNR=26						
KNRA	**Kununurra**	**38.40**	**269**	P	**P**	**01 06 25.5**	**-0.1**
	baz=38,SNR=6.7						
KNRA	**Kununurra**	**38.40**	**269**	P	**P**	**01 06 24.9**	**-0.6**
FORT	**Forrest**	**38.61**	**244**	P	**P**	**01 06 27.6**	**+0.4**
	baz=39,SNR=14						
FORT	**Forrest**	**38.61**	**244**	P	**P**	**01 06 27.0**	**-0.1**
TBI	**Tubuai**	**38.95**	**104**	*e*LR	LR	01 17 16.8	
	comp=Z,232nm,42.5s						
FAKI	**Fak Fak**	**39.28**	**290**	P	**P**	**01 06 31.4**	**-1.6**
	comp=Z,38nm,1.2s,comp=Z,588nm						
FAKI	**Fak Fak**	**39.28**	**290**	P	**P**	**01 06 32.2**	**-0.8**
FAKI				IAmb	IAmb	01 06 33.0	
	comp=Z,21nm,0.7s						
PPT2	**Papeete2**	**39.38**	**95**	*e*LR	LR	01 17 29.7	
	comp=Z,269nm,28.8s						
FITZ	**Fitzroy Crossi**	**40.93**	**264**	P	**P**	**01 06 46.9**	**+0.4**
	baz=41,SNR=59						
FITZ	**Fitzroy Crossi**	**40.93**	**264**	P	**P**	**01 06 47.0**	**+0.4**
SIJI	**Sorong**	**41.10**	**292**	P	**P**	**01 06 47.7**	**-0.2**
	comp=Z,4.9nm,0.3s,baz=74,slow=5.0,SNR=15						
SARN	**Sarigan**	**42.24**	**326**	P	**P**	**01 06 56.4**	**-0.7**
SARN				IAmb	IAmb	01 06 57.9	
	comp=Z,30nm,1.2s						
PALU	**Palau**	**42.92**	**305**	P	**P**	**01 07 02.9**	**+0.2**
	baz=43,SNR=5.3						
KMBL	**Kambalda**	**43.94**	**244**	P	**P**	**01 07 10.6**	**-0.1**
	baz=44,SNR=6.3						
SOEI	**Soe**	**44.10**	**276**	P	**P**	**01 07 12.1**	**-0.3**
PSA00	**Pilbara Seismi**	**45.91**	**258**	P	**P**	**01 07 25.9**	**-0.5**
MEEK	**Meekatharra**	**46.69**	**251**	P	**P**	**01 07 32.3**	**-0.1**
	baz=47,SNR=39						
KLBR	**Kellerberrin**	**47.47**	**244**	P	**P**	**01 07 37.6**	**-0.8**
	baz=48,SNR=11						
NWAO	**Narrogin (SRO)**	**47.98**	**243**	P	**P**	**01 07 42.1**	**-0.2**
	baz=48,SNR=5.4						
NWAO	**Narrogin (SRO)**	**47.98**	**243**	P	**P**	**01 07 41.0**	**-1.3**
NWAO	**Narrogin (SRO)**	**47.98**	**243**	P	**P**	**01 07 41.5**	**-0.8**
NWAO				IAmb	IAmb	01 07 42.9	
	comp=Z,86nm,1.5s						
BLDU	**Ballidu**	**48.34**	**246**	P	**P**	**01 07 44.8**	**-0.3**
	baz=48,SNR=4.2						
MORW	**Morawa**	**48.92**	**248**	P	**P**	**01 07 48.8**	**-0.7**
MORW				IAmb	IAmb	01 07 49.5	
	comp=Z,16nm,0.9s						
KAPI	**Kappang**	**49.88**	**280**	P	**P**	**01 07 57.2**	**+0.2**
KAPI				IAmb	IAmb	01 07 58.1	
	comp=Z,21nm,0.8s						
GIRL	**Giralia**	**50.96**	**256**	P	**P**	**01 08 06.2**	**+1.3**
	baz=51,SNR=3.8						
PUH	**Pauahi**	**51.99**	**45**	P	**P**	**01 08 12.2**	**-0.5**
VNDA	**Vanda**	**58.53**	**182**	P	**P**	**01 08 57.9**	**-0.7**
	comp=Z,1.8nm,1.0s,baz=339,slow=7.6,SNR=5.1						
VNDA				LR	LR	01 31 12.2	
	comp=Z,22nm,18.7s,baz=344,slow=33						
SBA	**Scott Base**	**58.77**	**181**	P	**P**	**01 09 00.3**	**+0.1**
SBA				IAmb	IAmb	01 09 02.5	
	comp=Z,16nm,1.1s						
NJ2	**Nanjing**	**69.90**	**316**	*e*P	**P**	**01 10 14.8**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
QSPA	**South Pole Qui**	**70.93**	**180**	P	**P**	**01 10 18.7**	**-0.4**
QSPA				IAmb	IAmb	01 10 19.7	
	comp=Z,19nm,0.9s						
WHN	**Wuhan**	**72.03**	**312**	P	P	01 10 35.8	+10
PETK	**Petropavlovsk-**	**72.58**	**353**	P	**P**	**01 10 29.2**	**+0.4**
	comp=Z,7.5nm,0.9s,baz=167,slow=8.5,SNR=6.9						
SKNT	**Sakolnakorn**	**73.20**	**295**	P	**P**	**01 10 34.8**	**+1.5**
CN2	**Changchun**	**74.19**	**329**	*e*P	**P**	**01 10 38.6**	**+0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NONG	**Nongkai**	**74.39**	**296**	P	**P**	**01 10 42.3**	**+2.1**
PBKT	**Sadao Pong**	**75.62**	**293**	P	**P**	**01 10 49.4**	**+2.2**
KLR	**Kul'dur**	**75.64**	**336**	P	**P**	**01 10 48.1**	**+1.4**
	comp=Z,2.0nm,0.9s,baz=133,slow=4.4,SNR=5.7						
UTHA	**Uthaitani**	**76.53**	**292**	P	**P**	**01 10 55.0**	**+2.6**
	comp=Z,15μm,1.1s						
PHRA	**Phrae**	**77.08**	**295**	P	**P**	**01 10 57.8**	**+2.3**
	comp=Z,1.4nm,1.2s,comp=Z,2μm						
LAMP	**Lampang**	**77.60**	**295**	P	**P**	**01 11 01.5**	**+3.1**
	comp=Z,19μm,1.1s						
PAYA	**Payao**	**77.75**	**296**	P	**P**	**01 11 01.9**	**+2.7**
	comp=Z,13μm,1.1s						
XAN	**Xi'an**	**77.80**	**313**	P	**P**	**01 11 00.2**	**+1.0**
XAN				pmax	pmax		
	comp=Z,12nm,1.2s						
XAN				pmax	pmax		
	comp=Z,200nm,4.7s						
KMI	**Kunming**	**77.94**	**302**	P	**P**	**01 11 02.2**	**+1.8**
KMI				pP	pP	01 11 39.8	+0.4
KMI				sP	sP	01 11 58.4	+2.2
KMI				pmax	pmax		
	comp=Z,21nm,0.8s						
KMI				LR	LR		
	comp=Z,660nm,5.0s						
KMI				LR	LR		
	comp=Z,500nm,6.9s						
KMI				LR	LR		
	comp=Z,280nm,7.9s						
CMAR	**Chiang Mai Arr**	**78.16**	**294**	P	**P**	**01 11 02.8**	**+1.3**
	comp=Z,4.9nm,0.8s,baz=126,slow=4.3,SNR=28						
CMAR				pP	**pP**	**01 11 40.3**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=132,slow=4.5,SNR=3.5						
CMMT	**Chiang Mai**	**78.31**	**295**	P	**P**	**01 11 04.3**	**+2.0**
CHTO	**Chiang Mai**	**78.31**	**295**	P	**P**	**01 11 02.9**	**+0.6**
CHTO				IAmb	IAmb	01 11 04.6	
	comp=Z,24nm,1.4s						
MAW	**Mawson**	**78.42**	**202**	P	**P**	**01 11 03.2**	**+1.2**
	comp=Z,5.2nm,0.7s,baz=114,slow=7.3,SNR=4.9						
MAW				LR	LR	01 41 38.2	
	comp=Z,32nm,20.0s,baz=239,slow=32						
MAW	**Mawson**	**78.42**	**202**	IAmb	IAmb	01 11 03.7	
	comp=Z,2.5nm,0.9s						
MA2	**Magadan**	**79.81**	**351**	LR	LR	01 40 29.9	
	comp=Z,32nm,21.4s,baz=36,slow=31						
CD2	**Chengdu**	**79.91**	**308**	*e*P	**P**	**01 11 11.5**	**+0.7**
HHC	**Hu-ho-hao-te**	**79.92**	**320**	*e*P	**P**	**01 11 11.8**	**+1.0**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
LZH	**Lanzhou**	**82.41**	**312**	*e*P	**P**	**01 11 25.8**	**+1.7**
LZH				pP	pP	01 12 06.3	+2.8
LZH				sP	sP	01 12 22.1	+1.9
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
LZH				pmax	pmax		
	comp=Z,110nm,4.9s						
LZH				LR	LR		
	comp=Z,280nm,16.0s						
LZH				LR	LR		
	comp=Z,260nm,15.2s						
LZH				LR	LR		
	comp=Z,320nm,17.2s						
SYO	**Syowa Base**	**84.95**	**196**⇑	*e*P	**P**	**01 11 34.2**	**-2.0**
SYO	**Syowa Base**	**84.95**	**196**⇑	*e*PcP	**PcP**	**01 11 39.4**	**+0.2**
ULN	**Ulaanbaatar**	**86.58**	**324**	P	**P**	**01 11 45.2**	**+0.5**
ULN					**PcP**	**01 11 45.4**	**-1.5**
ULN				IAmb	IAmb	01 11 46.3	
	comp=Z,9.7nm,1.0s						
GTA	**Gaotai**	**86.81**	**314**	P	**P**	**01 11 46.7**	**+0.7**
GTA				pP	pP	01 12 26.7	+0.9
GTA				sP	sP	01 12 43.6	+1.1
GTA				pmax	pmax		
	comp=Z,6.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,83nm,4.5s						
GTA				LR	LR		
	comp=Z,170nm,17.5s						
GTA				LR	LR		
	comp=Z,130nm,18.4s						
GTA				LR	LR		
	comp=Z,150nm,17.8s						
SONM	**Songino Array**	**86.94**	**323**	P	**P**	**01 11 46.2**	**-0.2**
	comp=Z,4.2nm,0.9s,baz=154,slow=5.6,SNR=25						
SONM				pP	**pP**	**01 12 25.0**	**-1.2**
	comp=Z,3.0nm,0.8s,baz=147,slow=4.7,SNR=6.9						
WDC	**Whiskeytown Da**	**87.01**	**45**	P	**P**	**01 11 46.1**	**-0.7**
HUMO	**Hull Mountain**	**87.70**	**43**	IAmb	IAmb	01 11 53.4	
	comp=Z,14nm,1.5s						
MDPB	**Devils Postpil**	**88.07**	**49**	P	**P**	**01 11 51.8**	**-0.5**
BEKR	**Beckworth**	**88.16**	**47**	IAmb	IAmb	01 11 54.3	
	comp=Z,12nm,1.5s						
WAKR	**Walker**	**88.20**	**48**	P	**P**	**01 11 52.2**	**-0.5**
WAKR				IAmb	IAmb	01 11 53.1	
	comp=Z,8.2nm,1.2s						
YERR	**Yerington**	**88.55**	**48**	P	**P**	**01 11 53.6**	**-0.8**
PAHR	**Pah Rah Range**	**88.76**	**47**	IAmb	IAmb	01 11 56.2	
	comp=Z,16nm,1.4s						
NVAR	**Mina Array Bea**	**88.97**	**49**	P	**P**	**01 11 55.7**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=225,slow=7.7,SNR=12						
NV11	**Mina Array Sit**	**89.07**	**49**	P	**P**	**01 11 56.1**	**-0.7**
MOD	**Modoc Plateau**	**89.11**	**45**	P	**P**	**01 11 56.3**	**-0.6**
BCPM	**Bancas Point**	**89.14**	**23**	P	**P**	**01 11 57.0**	**+0.6**
H04A	**Detroit Lake**	**89.17**	**42**	P	**P**	**01 11 56.5**	**-0.4**
H04A				IAmb	IAmb	01 11 58.1	
	comp=Z,14nm,1.3s						
E03A	**Lebam**	**89.22**	**40**	P	**P**	**01 11 57.9**	**+0.9**
SNAA	**Sanae**	**89.26**	**183**	P	**P**	**01 11 55.2**	**-1.9**
SNAA	**Sanae**	**89.26**	**183**	P	**P**	**01 11 56.7**	**-0.3**
PINE	**Pine Mountain**	**89.55**	**43**	P	**P**	**01 11 58.2**	**-0.8**
PINE				IAmb	IAmb	01 11 60.0	
	comp=Z,7.8nm,0.9s						
F04A	**Amboy**	**89.62**	**41**	P	**P**	**01 11 58.2**	**-0.7**
F04A				IAmb	IAmb	01 11 59.7	
	comp=Z,21nm,1.3s						
TPNV	**Topopah Spring**	**89.83**	**51**	IAmb	IAmb	01 12 00.6	
	comp=Z,6.6nm,1.0s						
Y12C	**Blythe**	**89.84**	**54**	P	**P**	**01 11 59.8**	**-0.5**
Y12C				IAmb	IAmb	01 12 01.3	
	comp=Z,13nm,1.4s						
VNA3	**Neumayer Olymp**	**89.86**	**180**	P	**P**	**01 11 58.3**	**-1.5**
113A	**Mohawk Valley,**	**90.04**	**55**	P	**P**	**01 12 00.7**	**-0.5**
VNA2	**Neumayer--Watz**	**90.15**	**181**	P	**P**	**01 12 00.6**	**-0.5**
	baz=173,slow=4.1						
ILAR	**Eielson Array**	**90.22**	**17**	P	**P**	**01 11 59.0**	**-2.3**
	comp=Z,0.9nm,0.7s,baz=233,slow=5.3,SNR=7.5						
ILAR				pP	**pP**	**01 12 39.3**	**-2.2**
	comp=Z,0.5nm,0.6s,baz=237,slow=4.6,SNR=2.6						
G06A	**Carlson Farm,**	**90.41**	**42**	P	**P**	**01 12 02.4**	**-0.3**
SHPR	**Sheep Range**	**90.45**	**51**	P	**P**	**01 12 02.9**	**-0.4**
SHPR					**P**	**01 12 03.2**	**-0.1**
WVOR	**Wild Horse Val**	**90.46**	**45**	P	**P**	**01 12 02.5**	**-0.6**
W13A	**Hualapai Mount**	**90.85**	**53**	IAmb	IAmb	01 12 06.1	
	comp=Z,15nm,1.5s						
HSIG		**90.89**	**60**	P	**P**	**01 12 04.8**	**-0.5**
Y14A	**Wickenburg**	**91.08**	**54**	P	**P**	**01 12 05.5**	**-0.6**
F07A	**Phinny Hill Vi**	**91.15**	**41**	P	**P**	**01 12 05.7**	**-0.3**
F07A				IAmb	IAmb	01 12 06.3	
	comp=Z,7.4nm,1.1s						
LTY	**Liberty**	**91.30**	**40**	IAmb	IAmb	01 12 07.2	
	comp=Z,12nm,1.4s						
E07A	**Sunnyside**	**91.49**	**41**	IAmb	IAmb	01 12 08.5	
	comp=Z,7.0nm,0.9s						
G08A	**Pilot Rock**	**91.49**	**42**	IAmb	IAmb	01 12 08.5	
	comp=Z,8.0nm,1.1s						
HAWA	**Hanford**	**91.61**	**41**	IAmb	IAmb	01 12 09.2	
	comp=Z,7.6nm,0.9s						
EGAK	**Eagle**	**91.92**	**19**	P	**P**	**01 12 08.5**	**-0.7**
EGAK				IAmb	IAmb	01 12 10.0	
	comp=Z,12nm,0.9s						
E08A	**Dider Farm, El**	**91.95**	**41**	P	**P**	**01 12 09.6**	**-0.2**
E08A				IAmb	IAmb	01 12 11.5	
	comp=Z,11nm,1.2s						
ELK	**Elko**	**92.08**	**47**	P	**P**	**01 12 10.5**	**-0.3**
PSUT	**Pine Spring**	**92.20**	**50**	P	**P**	**01 12 10.8**	**-0.6**
TUC	**Tucson**	**92.21**	**57**	P	**P**	**01 12 11.8**	**+0.4**
TUC				IAmb	IAmb	01 12 12.6	
	comp=Z,10nm,1.2s						
X16A	**Lo Mia Camp, P**	**92.46**	**54**	P	**P**	**01 12 11.8**	**-0.9**
X16A				IAmb	IAmb	01 12 13.8	
	comp=Z,6.8nm,1.1s						
U15A	**North Rim**	**92.55**	**52**	P	**P**	**01 12 12.6**	**-0.6**
U15A				IAmb	IAmb	01 12 13.6	
	comp=Z,5.3nm,1.1s						
WUAZ	**Wupatki**	**92.91**	**53**	IAmb	IAmb	01 12 15.6	
	comp=Z,16nm,1.5s						
319A	**Douglas**	**93.08**	**58**	P	**P**	**01 12 15.1**	**-0.4**
319A				IAmb	IAmb	01 12 16.4	
	comp=Z,12nm,1.1s						
MTPU	**Mount Pierson**	**93.23**	**51**	P	**P**	**01 12 16.6**	**+0.3**
MSU	**Marysvale**	**93.41**	**50**	P	**P**	**01 12 16.6**	**-0.4**
X18A	**Snowflake**	**93.65**	**55**	P	**P**	**01 12 17.3**	**-0.9**
X18A				IAmb	IAmb	01 12 18.9	
	comp=Z,5.1nm,1.2s						
PDAR	**Pinedale Array**	**96.77**	**47**	LR	LR	01 51 28.5	
	comp=Z,28nm,18.6s,baz=34,slow=32						
WMQ	**Urumqi**	**96.89**	**314**	*e*P	**P**	**01 12 33.2**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,110nm,5.9s						
WMQ				LR	LR		
	comp=Z,490nm,24.5s						
WMQ				LR	LR		
	comp=Z,660nm,29.0s						
WMQ				LR	LR		
	comp=Z,150nm,21.1s						
YKA	**Yellowknife Ar**	**100.72**	**27**	P	**Pdif**	**01 12 49.1**	**0.0**
	comp=Z,0.3nm,0.5s,baz=250,slow=4.4,SNR=5.4						
YKA				pP	**pPdif**	**01 13 29.5**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=251,slow=4.8,SNR=4.4						
MKAR	**Makanchi Array**	**101.43**	**316**	P	**Pdif**	**01 12 54.2**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=103,slow=5.4,SNR=4.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR				pP	pPdif	01 13 33.2	+0.4
	comp=Z,0.5nm,0.7s,baz=87,slow=6.1,SNR=2.9						
AKASG	Malin Array Be	135.21	324	PKP	PKPdf	01 18 19.0	-0.8
	comp=Z,0.2nm,0.3s,baz=62,slow=0.8,SNR=3.3						
AKASG				SKPbc	SKPbc	01 21 36.1	+0.3
	comp=Z,0.3nm,0.4s,baz=40,slow=3.5,SNR=5.2						
CONA	Conrad Observa	143.88	329	i PKPdf	PKPbc	01 18 34.4	+0.4
	comp=Z,9.0nm,1.1s						
CONA				i pPKPdf	pPKPdf	01 19 17.4	-0.2
	comp=Z,8.5nm,1.1s						
GEC2	GERESS Array S	144.24	332		PKPbc	01 18 35.1	+0.1
GERES	GERESS Array B	144.24	332	PKP	PKPbc	01 18 34.8	-0.2
	comp=Z,5.0nm,0.8s,baz=46,slow=3.9,SNR=9.2						
LIT	Litokhoron	144.40	313		PKPbc	01 18 35.5	-0.2
ARSA	Arzberg	144.51	328	i PKPdf	PKPdf	01 18 36.6	-0.3
	comp=Z,8.6nm,1.1s						
ARSA				i pPKPdf	pPKPdf	01 19 18.9	+0.3
	comp=Z,9.2nm,1.1s						
MOA	Molln	144.70	330	i PKPdf	PKPbc	01 18 36.4	0.0
	comp=Z,27nm,1.0s,SNR=5.9						
FNA	Florina	144.84	315		PKPbc	01 18 37.0	-0.1
SOKA	Soboth	145.15	328	i PKPab	PKPbc	01 18 37.8	-0.1
	comp=Z,16nm,1.0s,SNR=6.3						
SOKA				i pPKPdf	pPKPdf	01 19 20.3	+0.4
	comp=Z,19nm,1.2s						
OBKA	Obir	145.50	328	i PKPab	PKPab	01 18 39.6	+0.1
	comp=Z,4.9nm,0.9s						
OBKA				i pPKPdf	pPKPdf	01 19 21.2	+0.7
	comp=Z,17nm,1.1s						
KBA	Koelnbreinsper	145.69	330	i pPKPab	pPKPab	01 19 21.5	+0.5
	comp=Z,11nm,0.7s						
MYKA	Terra Mystica	145.87	329	i pPKPbc	pPKPbc	01 19 19.5	-1.9
	comp=Z,13nm,0.8s						
WATA	Walderalm	146.31	332	i PKPab	PKPbc	01 18 41.5	0.0
	comp=Z,8.5nm,1.0s						
WATA				i pPKiKP	pPKPab	01 19 24.0	+0.7
	comp=Z,16nm,1.0s						
ABTA	Abfaltersbach	146.32	330	i PKPab	PKPbc	01 18 40.8	-0.6
	comp=Z,9.9nm,0.9s						
ABTA				i pPKPab	pPKPab	01 19 23.6	+0.4
	comp=Z,26nm,1.3s						
WTTA	Wattenberg	146.34	332	i PKPab	PKPdf	01 18 40.7	+0.6
	comp=Z,13nm,1.1s						
WTTA				i pPKPbc	pPKPdf	01 19 21.8	-0.3
	comp=Z,23nm,1.2s						
MOTA	Moosalm	146.52	332	i PKPab	PKPbc	01 18 41.9	-0.2
	comp=Z,19nm,1.0s						
MOTA				i pPKPdf	pPKPdf	01 19 21.3	-1.0
	comp=Z,21nm,1.2s						
WLF	Walferdange	146.54	340	PKPab	PKPbc	01 18 42.2	+0.3
RETA	Reutte	146.56	333	i PKPab	PKPbc	01 18 42.2	+0.1
	comp=Z,2.7nm,0.8s						
RETA				i pPKiKP	pPKiKP	01 19 30.8	+4.3
	comp=Z,12nm,1.0s						
SQTA	Sankt Quirin	146.56	332	i PKPab	PKPbc	01 18 41.8	-0.4
	comp=Z,13nm,0.8s						
SQTA				i pPKPab	pPKPdf	01 19 22.8	+0.5
	comp=Z,12nm,0.8s						
BFO	Black Forest	146.88	336		PKPbc	01 18 42.7	-0.3
FETA	Feichten	146.93	332	i PKPab	PKPbc	01 18 42.7	-0.6
	comp=Z,11nm,0.8s						
FETA				i pPKPbc	pPKPdf	01 19 23.9	+0.9
	comp=Z,15nm,1.0s						
DAVA	Damuels	147.09	333	i PKPbc	PKPbc	01 18 43.1	-0.7
	comp=Z,11nm,1.1s						
FUORN	Ofenpass-Fuorn	147.44	332		PKPbc	01 18 45.0	+0.2
TUE	Stuetta	147.96	333		PKPbc	01 18 45.9	-0.3
BNI	Bardonecchia	150.22	334		PKPbc	01 18 51.8	0.0
TORD	Torodi Ar. Bea	166.35	246	PKP	PKPdf	01 19 05.4	-1.1
	comp=Z,1.0nm,1.0s,baz=214,slow=0.9,SNR=4.1						
TORD				pPKP	pPKPdf	01 19 48.3	-0.3
	comp=Z,1.2nm,0.8s,baz=41,slow=1.3,SNR=5.4						
TORD				PKPab	PKPab	01 20 08.5	-0.3
	comp=Z,2.6nm,1.1s,baz=98,slow=2.9,SNR=5.7						

*NNC **06** 01:03:24.0±1.5, 38°.53N×72°.35E, h204km±24km, mb1.9, mpv2.8, Error ellipse: s-maj=17.4km s-min=8.1km az=15.0*

ISC 06 01:03:23.2±3.5**, 38°.5N**±0°.2×**72°.4E**±0°.1**, h200**km**, n10, σ0s.78**/13**, 3C-2D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	Kashi	2.99	68	Pn	Pn	01 04 05.7	-7.1
KSH				Sn	Sn	01 04 35.4	-16
KSH				smax	smax		
	comp=N,670nm,0.5s						
KSH				smax	smax		
	comp=E,310nm,0.6s						
AML	Almayashu	3.80	15	P	Pn	01 04 22.4	-0.5
	SNR=19						
UCH	Uchtor	4.10	23	P	Pn	01 04 26.0	-0.6
	SNR=10						
KZA	Kyzart	4.23	30	P	Pn	01 04 27.1	-1.0
	SNR=11						
EKS2	Erkin-Say	4.33	14	P	Pn	01 04 30.5	+1.3
	SNR=14						
AAK	Ala-Archa	4.47	20	P	Pn	01 04 31.4	+0.4
	SNR=11						
AAK	Ala-Archa	4.47	20	⇑P	Pn	01 04 31.2	+0.2
	comp=E,0.1nm,0.3s						
AAK				⇓S	Sn	01 05 24.9	+0.4
	comp=E,4.0nm,0.7s						
KK31	Karatay Array	4.86	344	P	Pn	01 04 36.0	+0.3
	comp=E,1.6nm,0.3s,baz=149,slow=11,SNR=81						
KK31				⇑S	Sn	01 05 32.5	-0.4
	comp=E,11nm,0.7s,baz=155,slow=16,SNR=18						
TKM2	Tokmak 2	5.08	28	⇑P	Pn	01 04 38.5	-0.3
	comp=E,2.4nm,0.7s						
TKM2				⇓S	Sn	01 05 39.1	+0.6
	comp=E,6.3nm,0.5s						
AB31	Akbulak array	14.02	324	P	Pn	01 06 33.7	+0.5
	comp=E,0.9nm,0.4s,baz=132,slow=12,SNR=28						
AB31				S	S	01 09 08.0	-1.2
	comp=E,0.7nm,0.5s,baz=132,slow=24,SNR=7.5						

*NIED **06** 01:08:00, 37°.90N×144°.50E, h5km, Mw3.9 Best double couple: M0 6.89000×10^14 NP1: φs 20.00000°, δ20.00000°, λ-96.00000°. NP2: φs 206.00000°, δ70.00000°, λ-88.00000°.*

*IDC **06** 01:08:40.2±1.0, 37°.76N×144°.78E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.6/38, mbtmp3.6/8, ML3.2/2, MS2.7/2, Ms1 2.7/2, ms1mx2.3/39, Error ellipse: s-maj=28.1km s-min=21.7km az=99.0*

*ISCJB **06** 01:08:43.2±0.7, 37°.96N±0°.04×144°.60E±0°.05, h33km, mb3.6/6, Error ellipse: s-maj=6.2km s-min=5.7km az=159.4*

*JMA **06** 01:08:44.6±0.2, 37°.92N×144°.46E, h34km, M3.8*

ISC 06 01:08:45.3±1.0**, 37°.95N**±0°.06×**144°.61E**±0°.07**, h35**km**, n28, σ1s.83**/36**, mb3.6**/6**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.50	279	P	Pn	01 09 22.8	-0.7
JIKH				eS	Sn	01 09 51.1	-1.6
OFUJ	Ofunato	2.56	297	P	Pn	01 09 24.1	-0.2
OFUJ				eS	Sn	01 09 53.7	-0.6
JKMT	Kesennumamotoy	2.61	290	P	Pn	01 09 24.6	-0.3
JKMT				eS	Sn	01 09 54.2	-1.1
JIO	Ouri	2.62	282	P	Pn	01 09 24.6	-0.4
JIO				eS	Sn	01 09 54.1	-1.4
JMK	Ichinoseki	2.84	292	P	Pn	01 09 28.2	+0.1
JOM	Ohasama	3.00	301	P	Pn	01 09 31.2	+0.8
JOM				eS	Sn	01 10 05.0	-0.1
JANG	Nango	3.41	316	P	Pn	01 09 36.8	+0.9
JANG				eS	Sn	01 10 14.4	-0.7
JFT	Otama	3.41	264	P	Pn	01 09 36.4	+0.4
JFT				eS	Sn	01 10 14.0	-1.3
JYK	Kaneyama	3.47	287	P	Pn	01 09 38.0	+1.2
JYK				eS	Sn	01 10 17.1	+0.4
BSO1	Boso 1	4.41	223	P	Pn	01 09 46.9	-2.3
JCH	Churui	4.75	349	P	Pn	01 09 54.2	-0.2
JCH				eS	Sn	01 10 46.1	-2.1
JKB	Kayabe	4.79	326	eS	Sn	01 10 47.8	-1.4
JRY	Ryogami san	4.96	249	P	Pn	01 09 55.9	-1.4
JRY				eS	Sn	01 10 48.9	-4.5
MJAR	Matsushiro Arr	5.30	257	Pn	Pn	01 10 02.6	+0.7
	0.2nm,0.3s,baz=81,slow=12,SNR=8.7						
NEM2	Nemuro 2	5.47	9	P	Pn	01 10 01.7	-2.6
NEM2				eS	Sn	01 11 00.9	-5.0
JTKR	Abashiri--Toko	6.03	355	P	Pn	01 10 11.5	-0.5
JTKR				eS	Sn	01 11 16.0	-3.7
ASAJ	Asahikawa	6.34	347	Pn	Pn	01 10 16.6	+0.4
	0.9nm,0.3s,baz=202,slow=11,SNR=3.6						
ASAJ				Sn	Sn	01 11 29.6	+2.3
	0.4nm,0.3s,baz=249,slow=32,SNR=4.8						
USRK	Ussuriysk Ar.	11.38	307	LR	LR	01 15 23.8	
	comp=Z,72nm,20.8s,baz=60,slow=35						
KSRS	Korea Array	13.23	273	LR	LR	01 16 28.1	
	comp=Z,20nm,19.5s,baz=115,slow=35						
H11N2	WAKE ISLAND Hy	26.55	127	T	T	01 42 02.0	
	baz=319						
H11N1	WAKE ISLAND Hy	26.56	127	T	T	01 41 48.4	
	baz=319,slow=74,SNR=6.9						
H11N3	WAKE ISLAND Hy	26.57	127	T	T	01 41 46.8	
	baz=319,slow=74,SNR=2.9						
ZALV	Zalesovo Beam	43.19	312	P	P	01 16 44.2	+1.8
	0.3nm,0.3s,baz=106,slow=9.4,SNR=2.6						
MKAR	Makanchi Array	45.79	302	P	P	01 17 05.3	+1.9
	0.6nm,0.7s,baz=77,slow=10,SNR=4.2						
WRA	Warramunga Arr	58.39	191	P	P	01 18 35.6	-1.7
	0.5nm,0.5s,baz=13,slow=7.3,SNR=5.2						
YKA	Yellowknife Ar	61.72	31	P	P	01 19 00.6	+1.0
	0.5nm,0.8s,baz=301,slow=6.5,SNR=4.9						
ASAR	Alice Springs	62.11	191	P	P	01 19 01.9	-0.8
	0.3nm,0.7s,baz=9.2,slow=7.5,SNR=3.6						
PDAR	Pinedale Array	75.19	47	P	P	01 20 25.5	+1.1
	0.5nm,0.7s,baz=280,slow=1.9,SNR=5.8						

*GCG **06** 01:17:29.5±0.8, 12°.73N×91°.65W, h61km±62km, MD4.0*

*IDC **06** 01:17:31.9±1.1, 13°.09N×91°.28W, h0km, mb4.0/7, mb1 4.3/11, mb1mx4.0/42, mbtmp4.0/11, ML4.1/4, MS3.6/3, Ms1 3.6/3, ms1mx2.9/36, Error ellipse: s-maj=29.2km s-min=19.0km az=68.0*

*ISCJB **06** 01:17:32.4±1.3, 12°.95N±0°.04×91°.56W±0°.03, h19km±10km, mb4.0/8, MS3.5/2, Error ellipse: s-maj=7.2km s-min=5.0km az=8.0*

*UCR **06** 01:17:33.0±3.1, 12°.82N×91°.54W, h35km±93km, MD3.6, ML3.8, mb4.2(NEIC)*

*SNET **06** 01:17:35.9±1.3, 13°.27N×91°.42W, h13km±10km, ML3.9*

*NEIC **06** 01:17:36.6±1.9, 13°.23N±0°.08×91°.49W±0°.05, h23km±7km, mb4.2/13, Md4.2(MEX)*

*MEX **06** 01:17:39.0±0.6, 14°.19N×92°.01W, h198km±18km, MD4.2*

ISC 06 01:17:35.1±2.7**, 13°.00N**±0°.08×**91°.56W**±0°.05**, h27**km±18km**, n75, σ1s.56**/88**, mb4.2**/14**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERG	Entre ros, C	1.43	360	eP	Pn	01 17 57.8	-1.4
ERG				eS	Sn	01 18 18.4	+1.3
IXG	Ixpaco	1.59	43	eP	Pn	01 17 59.7	-1.9
IXG				eS	Sn	01 18 23.1	+1.7
IXG	Ixpaco	1.59	43	eP	Pn	01 17 59.7	-1.9
IXG				eS	Sn	01 18 23.1	+1.7
IXG	Ixpaco	1.59	43	eP	Pn	01 17 58.9	-2.8
FUG	Fuego 3	1.60	26	eP	Pn	01 17 60.0	-1.8
FUG				eS	Sb	01 18 24.4	+0.5
FUG	Fuego 3	1.60	26	eP	Pn	01 17 60.0	-1.8
FUG				eS	Sb	01 18 24.4	+0.5
PCG	Pacaya	1.66	34	eP	Pn	01 18 01.1	-1.7
PCG				eS	Sb	01 18 25.8	0.0
PCG	Pacaya	1.66	34	eP	Pn	01 18 01.1	-1.7
PCG				eS	Sb	01 18 25.8	0.0
STG3	Santiaguito 3,	1.70	360	eP	Pn	01 18 00.8	-2.4
STG3				eS	Sn	01 18 26.3	+2.2
NBG	Las Nubes	1.97	37	eP	Pn	01 18 06.2	-0.7
NBG				eS	Sn	01 18 33.7	+2.8
NBG	Las Nubes	1.97	37	eP	Pn	01 18 06.2	-0.7
NBG				eS	Sn	01 18 33.7	+2.8
THIG		2.01	340	i P	Pn	01 18 05.5	-1.8
THIG				eS	Sn	01 18 26.7	-4.9
THIG		2.01	340		Pn	01 18 05.5	-1.8
CEVE	Cerro Verde	2.06	66	eP	Pn	01 18 07.1	-1.0
CEVE				eS	Sn	01 18 32.1	-0.8
CEVE				IAML		01 18 38.5	
	comp=Z,2μm,0.3s						
CEVE	Cerro Verde	2.06	66	eP	Pn	01 18 07.1	-1.0
CEVE				eS	Sn	01 18 32.1	-0.8
CEVE				IAML		01 18 38.5	
	comp=Z,2μm,0.3s						
SBLS	San Blas	2.06	66	eP	Pn	01 18 07.1	-1.1
SBLS	San Blas	2.06	66	eP	Pn	01 18 07.1	-1.1
RTR	El Retiro	2.06	64	eP	Pn	01 18 07.1	-1.0
RTR	El Retiro	2.06	64	eP	Pn	01 18 07.1	-1.0
SNJE	San Jose	2.09	65	eP	Pn	01 18 07.5	-1.1
SNJE	San Jose	2.09	65	eP	Pn	01 18 07.5	-1.1
UNIC	Universidad Ca	2.19	63	eP	Pn	01 18 09.4	-0.3
UNIC	Universidad Ca	2.19	63	eP	Pn	01 18 09.4	-0.3
APG	El Apazote	2.25	28	Pn	Pn	01 18 09.7	-1.2
	comp=Z,82nm,0.3s,baz=82,slow=24,SNR=140						
APG				Sn	Sn	01 18 35.9	-2.1
	comp=Z,46nm,0.3s,baz=100,slow=10,SNR=6.0						
BOQS	Boqueron	2.33	72	eP	Pn	01 18 12.1	+0.1
SNET	Serv Nac Est T	2.37	73	eS	Sn	01 18 38.4	-2.1
SNET				IAML		01 18 50.4	
	comp=Z,525nm,0.3s						
SNET	Serv Nac Est T	2.37	73	eS	Sn	01 18 38.4	-2.1
SNET				IAML		01 18 50.4	
	comp=Z,525nm,0.3s						
SNET	Serv Nac Est T	2.37	73		Pn	01 18 11.5	-0.7
UEES	Universidad Ev	2.37	72	IAML		01 18 48.9	
	comp=Z,705nm,0.5s						
UEES	Universidad Ev	2.37	72	IAML		01 18 48.9	
	comp=Z,705nm,0.5s						
MTO3	Montecristo	2.55	57	eP	Pn	01 18 13.9	-0.9
MTO3				eS	Sn	01 18 43.2	-2.0
MTO3	Montecristo	2.55	57	eP	Pn	01 18 13.9	-0.9
MTO3				eS	Sn	01 18 43.2	-2.0
MRL	Marmol	2.75	41	eP	Pn	01 18 16.6	-1.1
MRL				eS	Sn	01 18 52.0	+1.8
MRL	Marmol	2.75	41	eP	Pn	01 18 17.4	-0.3
MRL				eS	Sn	01 18 52.0	+1.8
MRL	Marmol	2.75	41	eP	Pn	01 18 16.6	-1.1
LLGN	La Laguna	2.79	65	eP	Pn	01 18 17.6	-0.5
LLGN	La Laguna	2.79	65	eP	Pn	01 18 17.6	-0.5
PCIG		3.13	329	eP	Pn	01 18 15.7	-7.0
PCIG				eS	Sn	01 18 43.0	-16
CCIG	Comitan	3.31	350		Pn	01 18 25.4	+0.1
TGUH	Tegucigalpa,Un	4.30	75		Pn	01 18 38.0	-0.9
ESTN	Estel	5.06	88		Pn	01 18 49.7	+0.4
CMIG	Matias Romero	5.18	322	Pn	Pn	01 18 51.1	+0.2
	comp=Z,1.8nm,0.3s,baz=126,slow=11,SNR=13						
JTS	Las Juntas de	7.01	112	Pn	Pn	01 19 19.2	+3.1
ESPN	Las Esperanzas	7.13	96	Pn	Pn	01 19 19.6	+1.9
TEIG	Tepich	7.84	23	Pn	Pn	01 19 26.2	-1.2
	comp=Z,5.6nm,0.3s,baz=144,slow=0.4,SNR=16						
TEIG				LR	LR	01 22 41.9	
	comp=Z,449nm,21.6s,baz=228,slow=40						
TEIG	Tepich	7.84	23		Pn	01 19 26.4	-1.1
TLIG	Tlapa	8.14	305	Pn	Pn	01 19 33.0	+1.3
H06E1	SOCORRO T-PHAS	19.48	290	T	T	01 42 02.4	
	SNR=53						
TX32	Lajitas Array	19.76	327	P	Pn	01 22 05.4	+0.5
TXAR	Lajitas Array	19.76	327	P	Pn	01 22 05.8	+1.0
	comp=Z,0.2nm,0.3s,baz=155,slow=13,SNR=18						
TX31	Lajitas Ar. Si	19.76	327	P	Pn	01 22 05.4	+0.6
152A	Waverly Hall	20.55	17	P	P	01 22 10.3	-1.4
ABTX	Abilene, Hawle	20.89	341	P	P	01 22 15.2	-0.2
SDV	Santo Domingo	20.95	99	P	P	01 22 17.0	+0.7
	comp=Z,2.9nm,0.6s,baz=284,slow=9.2,SNR=6.4						
MNTX	Cornudas Mount	22.53	328	P	P	01 22 34.1	+1.1
MNTX				IAmb	IAmb	01 22 37.0	
	comp=Z,6.5nm,0.7s						
LCAR	Lake Charles	22.97	1	P	P	01 22 37.2	-0.3
TKL	Tuckaleechee C	23.63	16	P	P	01 22 42.2	-1.8
	comp=Z,2.4nm,0.6s,baz=168,slow=11,SNR=7.0						
TKL				LR	LR	01 32 31.7	
	comp=Z,172nm,20.2s,baz=172,slow=38						
AMTX	Amarillo	23.64	339	P	P	01 22 44.7	+0.5
AMTX				IAmb	IAmb	01 22 45.1	
	comp=Z,12nm,1.1s						
121A	Cookes Peak, D	24.47	325	P	P	01 22 52.4	+0.2
121A				IAmb	IAmb	01 23 07.6	
	comp=Z,9.9nm,1.2s						
319A	Douglas	24.50	321	P	P	01 22 52.4	0.0
319A				IAmb	IAmb	01 23 01.4	
	comp=Z,8.4nm,1.1s						
MSU	Marysvale	31.32	328	P	P	01 23 56.1	+2.7
PDAR	Pinedale Array	33.50	336	P	P	01 24 12.8	+0.3
	comp=Z,0.2nm,0.5s,baz=145,slow=9.9,SNR=2.6						
NVAR	Mina Array Bea	34.71	322	P	P	01 24 26.6	+3.5
	comp=Z,2.3nm,0.7s,baz=131,slow=7.6,SNR=17						
LPAZ	La Paz	37.20	141	P	P	01 24 44.8	-0.2
	comp=Z,4.5nm,0.3s,baz=294,slow=6.5,SNR=47						
F10A	Beach Ranch, E	39.38	332	P	P	01 25 03.4	+0.8
F10A				IAmb	IAmb	01 25 12.6	
	comp=Z,6.4nm,0.9s						
PINE	Pine Mountain	39.71	326	P	P	01 25 08.1	+2.7
PINE				IAmb	IAmb	01 25 12.1	
	comp=Z,3.2nm,0.9s						
YKA	Yellowknife Ar	52.09	347	P	P	01 26 41.8	-0.7
	comp=Z,1.2nm,0.6s,baz=147,slow=7.7,SNR=18						
YKA				PcP	PcP	01 27 55.9	+1.8
	comp=Z,0.5nm,0.7s,baz=152,slow=3.7,SNR=6.6						
PLCA	Paso Flores	56.90	161	LR	LR	01 46 34.4	
	comp=Z,37nm,18.6s,baz=62,slow=31						
INK	Inuvik	61.51	344	P	P	01 27 49.3	+0.1
	comp=Z,1.5nm,0.8s,baz=124,slow=7.1,SNR=9.2						
INK	Inuvik	61.51	344	IAmb	IAmb	01 27 58.6	
	comp=Z,2.5nm,1.2s						
RES	Resolute Bay	61.70	359	P	P	01 27 48.6	-1.8
	comp=Z,0.9nm,0.7s,baz=198,slow=6.9,SNR=4.9						
ILAR	Eielson Array	63.92	337	P	P	01 28 06.2	+0.8
	comp=Z,1.3nm,1.0s,baz=169,slow=5.2,SNR=15						
MLY	Manley	65.52	336	P	P	01 28 16.5	+0.6
LZH	Lanzhou	129.05	344	ePKP	PKPdf	01 36 40.0	-1.3
LZH				pPKP	pPKPdf	01 36 50.1	+1.4
LZH				sPKP		01 36 57.3	
CMAR	Chiang Mai Arr	147.07	341	PKPbc	PKPab	01 37 17.7	-0.2
	comp=Z,3.4nm,1.0s,baz=345,slow=4.6,SNR=7.6						

*ISCJB **06** 01:42:11.7±0.5, 10°.05S±0°.06×160°.27E±0°.09, h32km, mb4.0/13, MS3.0/1, Error ellipse: s-maj=12.6km s-min=8.1km az=177.3*

*IDC **06** 01:42:13.7±5.1, 9°.99S×160°.24E, h32km±36km, mb3.9/13, mb1 4.1/14, mb1mx4.0/31, mbtmp4.1/14, ML4.0/1, MS3.1/3, Ms1 3.1/3, ms1mx2.8/29, Error ellipse: s-maj=29.7km s-min=14.3km az=104.0*

*NEIC **06** 01:42:15.7±2.1, 9°.95S±0°.06×160°.2E±0°.1, h48km±7km, mb4.2/6*

ISC 06 01:42:13.6±0.7**, 9°.95S**±0°.08×**160°.2E**±0°.1**, h32**km**, n33, σ1s.15**/26**, mb4.0**/15**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	0.56	336	Pn	Pn	01 42 26.2	+0.8
	262nm,0.3s,baz=190,slow=7.0,SNR=56						
HNR				Sn	Sn	01 42 35.8	+2.2
	2μm,0.3s,baz=182,slow=23,SNR=52						
HNR	Honiara	0.56	336	i P	Pn	01 42 26.0	+0.6
HNR				i S	Sb	01 42 30.0	-3.0
KRVT	Keravat (AS076	9.84	304	LR	LR	01 48 46.4	
	comp=Z,82nm,18.6s,baz=138,slow=40						
PMG	Port Moresby	12.85	271	LR	LR	01 49 43.5	
	comp=Z,126nm,19.8s,baz=90,slow=35						
CTA	Charters Tower	16.80	232	Pn	P	01 46 08.0	-0.4
	0.3nm,0.3s,baz=45,slow=16,SNR=15						
WB0	Warramunga Arr	26.73	246	P	P	01 47 51.0	+0.5
WB0				IAmb	IAmb	01 48 01.0	
	comp=Z,6.0nm,0.9s						
WRA	Warramunga Arr	26.83	245	P	P	01 47 50.4	-1.1
	comp=Z,2.5nm,0.9s,baz=76,slow=9.6,SNR=9.3						
WRA				PcP	PcP	01 51 14.4	+0.7
	comp=Z,0.6nm,0.6s,baz=81,slow=3.2,SNR=5.6						
STKA	Stephens Creek	27.79	216	P	P	01 47 59.9	0.0
	comp=Z,1.5nm,0.5s,baz=54,slow=16,SNR=3.3						
STKA				LR	LR	01 58 25.2	
	comp=Z,39nm,20.5s,baz=26,slow=35						
STKA	Stephens Creek	27.79	216	IAmb	IAmb	01 48 06.4	
	comp=Z,0.4nm,1.0s						
ASAR	Alice Springs	28.54	238	P	P	01 48 06.6	-0.1
	comp=Z,0.3nm,0.4s,baz=62,slow=10.0,SNR=6.8						
ASAR				PcP	PcP	01 51 17.8	-0.1
	comp=Z,0.5nm,0.7s,baz=70,slow=3.0,SNR=4.6						
H11S2	WAKE ISLAND Hy	28.98	13	T	T	02 16 56.3	
	baz=194,slow=76,SNR=94						
H11S3	WAKE ISLAND Hy	28.98	13	T	T	02 16 53.2	
	baz=194,slow=76,SNR=55						
H11S1	WAKE ISLAND Hy	29.00	13	T	T	02 16 58.0	
	baz=194,slow=76,SNR=39						
H11N1	WAKE ISLAND Hy	30.21	13	T	T	02 18 29.2	
	baz=193,slow=76,SNR=57						
H11N3	WAKE ISLAND Hy	30.21	13	T	T	02 18 25.7	
	baz=193,slow=76,SNR=53						
H11N2	WAKE ISLAND Hy	30.22	13	T	T	02 18 28.5	
	baz=193,slow=76,SNR=66						
MAJO	Matsushiro	50.65	337		pP	01 51 24.7	+4.8
MJB9	Matsu-Tunnel	50.66	337		pP	01 51 24.8	+4.8
JKA	Kamikawa-asahi	56.12	345	P	P	01 51 51.1	+1.2
ASAJ	Asahikawa	56.12	345	P	P	01 51 51.1	+1.2
	comp=Z,3.5nm,0.5s,baz=292,slow=3.6,SNR=5.1						
USRK	Ussuriysk Ar.	59.65	337	P	P	01 52 15.3	+0.7
	comp=Z,2.8nm,0.9s,baz=146,slow=12,SNR=4.3						
PETK	Petropavlovsk-	62.84	358	P	P	01 52 36.3	+0.1
	comp=Z,2.0nm,0.8s,baz=159,slow=6.7,SNR=4.4						
VNDA	Vanda	67.56	180	P	P	01 53 07.0	+0.5
	comp=Z,0.5nm,0.8s,baz=344,slow=5.6,SNR=4.7						
SONM	Songino Array	74.61	326	P	P	01 53 50.6	+0.8
	comp=Z,0.9nm,0.6s,baz=124,slow=6.5,SNR=4.5						
CTGM	Chitina Glacie	84.18	25	P	P	01 54 42.2	+0.5
ILAR	Eielson Array	84.29	20	P	P	01 54 40.7	-1.3
	comp=Z,0.9nm,0.6s,baz=255,slow=4.9,SNR=19						
MK31	Makanchi Array	89.01	318	P	P	01 55 03.3	-2.2
MK31				IAmb	IAmb	01 55 03.9	
	comp=Z,1.5nm,1.1s						
MKAR	Makanchi Array	89.01	318	P	P	01 55 05.7	+0.3
	comp=Z,0.6nm,0.8s,baz=87,slow=6.3,SNR=4.8						
NVAR	Mina Array Bea	89.55	51	P	P	01 55 08.7	+0.3
	comp=Z,0.5nm,0.6s,baz=257,slow=4.1,SNR=4.1						
F10A	Beach Ranch, E	91.97	44	P	P	01 55 18.7	-0.6
PLID	Pearl Lake	92.64	45	P	P	01 55 21.9	-0.7
YKA	Yellowknife Ar	96.54	28	P	P	01 55 38.5	-1.2
	comp=Z,0.7nm,0.5s,baz=262,slow=4.8,SNR=9.9						
PDAR	Pinedale Array	96.86	48	P	P	01 55 42.4	+0.4
	comp=Z,0.3nm,0.6s,baz=259,slow=3.0,SNR=3.6						

IDC 06 01:42:43.0±2.3**, 15°.28S**×**173°.50W, h0**km**, mb4.0**/5**, mb1 4.3**/6**, mb1mx3.9**/33**, mbtmp4.0**/6**, ML4.5**/1**, MS3.0**/2**, Ms1 3.0**/2**, ms1mx2.7**/25**, Error ellipse: s-maj=169.7km s-min=19.4km az=148.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.15	51	Pn	Pn	01 43 18.2	-2.0
	151nm,0.3s,baz=257,slow=14,SNR=54						
AFI				Sn	Sn	01 43 37.3	-10
	811nm,0.3s,baz=222,slow=23,SNR=28						
AFI				LR	LR	01 44 01.9	
	comp=Z,353nm,18.7s,baz=192,slow=37						
DZM	Mont Dzumac	20.16	247	LR	LR	01 52 55.8	
	comp=Z,31nm,19.4s,baz=1.0,slow=30						
H11S2	WAKE ISLAND Hy	38.81	329	T	T	02 30 56.1	
	baz=146,slow=75,SNR=13						
H11S3	WAKE ISLAND Hy	38.82	329	T	T	02 30 57.2	
	baz=146,slow=75,SNR=14						
H11S1	WAKE ISLAND Hy	38.83	329	T	T	02 30 57.5	
	baz=146,slow=75,SNR=9.8						
H11N3	WAKE ISLAND Hy	39.76	330	T	T	02 32 02.6	
	baz=147,slow=76,SNR=8.6						
H11N1	WAKE ISLAND Hy	39.76	330	T	T	02 32 04.8	
	baz=147,slow=76,SNR=9.5						
H11N2	WAKE ISLAND Hy	39.77	330	T	T	02 31 59.0	
	baz=147,slow=76,SNR=8.2						
STKA	Stephens Creek	44.02	240	P	P	01 50 53.0	+0.4
	1.2nm,0.4s,baz=86,slow=10,SNR=4.3						
WRA	Warramunga Arr	49.78	257	P	P	01 51 37.3	-0.6
	1.0nm,0.4s,baz=91,slow=7.9,SNR=13						
ASAR	Alice Springs	50.06	252	P	P	01 51 39.1	-0.9
	3.7nm,0.7s,baz=86,slow=8.4,SNR=40						
NVAR	Mina Array Bea	74.30	42	P	P	01 54 23.5	+0.9
	0.4nm,0.7s,baz=233,slow=8.9,SNR=4.1						
PDAR	Pinedale Array	82.24	42	P	P	01 55 06.8	+0.2
	0.3nm,0.7s,baz=204,slow=3.3,SNR=4.1						
BRTR	Keskin Array B	146.00	321	PKPbc	PKPbc	02 02 25.4	+0.2
	1.3nm,0.8s,baz=65,slow=3.3,SNR=6.6						

IDC 06 01:57:15.3±1.4**, 26°.42N**×**100°.57E, h0**km**, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.2**/35**, mbtmp3.5**/3**, MS4.0**/2**, Ms1 4.0**/2**, ms1mx2.9**/33**, Error ellipse: s-maj=73.9km s-min=25.5km az=61.0, Yunnan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMMT	Chiang Mai	7.71	192	P	Pg	01 59 38.1	-5.1
	4.4nm,0.7s						
CMAR	Chiang Mai Arr	8.06	191	Pg	Pg	01 59 43.6	-6.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.8nm,0.3s,baz=359,slow=17,SNR=18						
CMAR				Lg	Lg	02 01 25.9	
	1.1nm,0.3s,baz=360,slow=30,SNR=6.5						
MKAR	Makanchi Array	24.96	329	P	P	02 02 40.7	+0.3
	0.7nm,0.7s,baz=126,slow=9.7,SNR=3.0						
AKTO	Aktyubinsk	40.30	318	LR	LR	02 23 52.2	
	comp=Z,130nm,21.0s,baz=337,slow=40						
KBZ	Khabaz	49.27	306	LR	LR	02 29 52.9	
	comp=Z,240nm,18.8s,baz=320,slow=40						
WRA	Warramunga Arr	56.55	141	P	P	02 06 59.8	-0.1
	0.5nm,0.8s,baz=332,slow=6.7,SNR=3.1						
ASAR	Alice Springs	59.31	144	P	P	02 07 18.8	-0.4
	0.4nm,0.6s,baz=334,slow=7.2,SNR=5.2						

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*ISCJB **06** 02:16:54.2±0.1, 35°.94N±0°.02×70°.86E±0°.02, h102km, mb4.6/60, Error ellipse: s-maj=2.7km s-min=2.3km az=42.0*

*MOS **06** 02:16:54.8±1.0, 36°.01N×70°.81E, h101km, mb4.7/32, Error ellipse: s-maj=6.0km s-min=4.4km az=89.2*

*NEIC **06** 02:16:55.7±1.9, 35°.98N±0°.06×70°.70E±0°.08, h95km±5km, mb4.6/71*

*BJI **06** 02:16:55.3±0.0, 36°.15N×70°.75E, h96km, mb4.7/40, mB4.9/29*

*NNC **06** 02:16:57.6±1.3, 36°.29N×70°.45E, h105km±17km, mb4.5, mpv4.9, Error ellipse: s-maj=12.5km s-min=7.7km az=172.0*

*IDC **06** 02:16:57.1±2.2, 35°.97N×70°.73E, h110km±20km, mb4.2/23, mb1 4.4/25, mb1mx4.2/46, mbtmp4.7/25, MS3.1/1, Ms1 3.1/1, ms1mx2.6/33, Error ellipse: s-maj=11.2km s-min=9.9km az=31.0*

ISC 06 02:16:55.5±0.3**, 35°.92N**±0°.03×**70°.76E**±0°.03**, h102**km**, n315,** σ2°.09/325**, mb4.6**/85**, 33C-8D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	1.97	226	PN	Pn	02 17 27.9	0.0
KBL	Kabul	1.97	226		Pn	02 17 27.9	0.0
CEP	Cherat	2.29	155	P	Pn	02 17 33.3	+1.2
CEP				S	Sn	02 18 03.0	+2.9
CHGR	Chuyangaron	3.02	335		Pn	02 17 39.9	-1.7
NIL	Nilore	3.05	137	PN	Pn	02 17 43.4	+1.4
NIL	Nilore	3.05	137		Pn	02 17 43.4	+1.4
CHCP	Chirah Chowk	3.05	137	P	Pn	02 17 43.1	+1.0
GAR	Garm	3.10	354		Pn	02 17 42.1	-0.7
THW	Thamme Wali	3.22	165	P	Pn	02 17 44.8	+0.5
BTK	Batken	4.13	1	PN	Pn	02 17 57.1	+0.5
BTK	Batken	4.13	1		Pn	02 17 57.1	+0.5
SARP	Sargodha	4.29	158	P	Pn	02 17 58.1	-0.6
KSH	Kashi	5.47	47	P	Pn	02 18 11.1	-3.7
KSH				S	Sn	02 19 05.1	-11
KSH				smax	smax		
	comp=N,1µm,0.7s						
KSH				smax	smax		
	comp=E,1µm,1.0s						
TAS	Tashkent	5.52	348	PN	Pn	02 18 14.5	-0.9
TAS	Tashkent	5.52	348		Pn	02 18 14.5	-0.9
ARSB	Arslanbob	5.67	17		Pn	02 18 16.8	-0.7
DHRM	DHARAMSHALA	5.87	127	eP	Pn	02 18 20.4	+0.1
DHRM				eS	Sn	02 19 25.1	-1.2
DHRM				IAML		02 19 27.4	
	comp=N,2µm,0.1s						
DHRM				IAML		02 19 27.6	
	comp=E,1µm,0.3s						
BHK	Bhakra	6.51	132	eP	Pn	02 18 27.0	-1.7
BHK				eS	Sn	02 19 39.2	-2.3
AML	Almayashu	6.61	19	P	Pn	02 18 30.3	-0.2
	SNR=227						
NRN	Naryn	6.86	35	PN	Pn	02 18 32.6	-1.2
NRN	Naryn	6.86	35		Pn	02 18 32.6	-1.2
UCH	Uchtor	6.94	24	P	Pn	02 18 35.0	0.0
	SNR=118						
KZA	Kyzart	7.07	28	P	Pn	02 18 36.7	0.0
	SNR=67						
EKS2	Erkin-Say	7.13	18	P	Pn	02 18 37.2	0.0
	SNR=53						
HRA	Herat	7.14	260		Pn	02 18 36.6	-1.0
SMLA	Simla	7.17	130	eP	Pn	02 18 37.2	-0.4
SMLA				eS	Sn	02 19 53.7	-3.9
SMLA				IAML		02 19 58.6	
	comp=E,328nm,0.2s						
SMLA				IAML		02 19 58.6	
	comp=N,263nm,0.2s						
KK31	Karatay Array	7.18	359	PN	Pn	02 18 36.4	-1.4
KK31	Karatay Array	7.18	359		Pn	02 18 36.4	-1.4
KK31	Karatay Array	7.18	359	⇓P	Pn	02 18 35.7	-2.1
	comp=N,14nm,0.2s,baz=186,slow=13,SNR=600						
KK31				⇑S	Sn	02 19 51.3	-6.5
	comp=N,54nm,0.3s,baz=189,slow=24,SNR=10						
KKAR	Karatay Array	7.18	359	PN	Pn	02 18 36.4	-1.4
KKAR	Karatay Array	7.18	359		Pn	02 18 36.4	-1.4
AAK	Ala-Archa	7.31	22	i P	Pn	02 18 39.8	+0.1
	SNR=7.1						
AAK	Ala-Archa	7.31	22	P	Pn	02 18 39.8	+0.1
	comp=N,37nm,0.3s,baz=182,slow=8.2,SNR=412						
AAK				S	Sn	02 20 00.8	-0.3
	comp=N,21nm,0.3s,baz=121,slow=23,SNR=13						
AAK	Ala-Archa	7.31	22	P	Pn	02 18 39.8	+0.1
	SNR=157						
AAK	Ala-Archa	7.31	22		Pn	02 18 39.3	-0.4
AAK	Ala-Archa	7.31	22	⇑P	Pn	02 18 39.8	+0.1
AAK				⇑S	Sn	02 19 58.1	-3.0
KBK	Karagaybulak	7.47	24	P	Pn	02 18 42.5	+0.5
	SNR=34						
FRU1	Bishkek	7.51	22	PN	Pn	02 18 42.6	+0.3
FRU1	Bishkek	7.51	22		Pn	02 18 42.6	+0.3
ULHL	Ulahol	7.62	32	P	Pn	02 18 44.0	0.0
	SNR=17						
BOOM	Boomskoye usch	7.70	30	PN	Pn	02 18 44.7	-0.2
BOOM	Boomskoye usch	7.70	30		Pn	02 18 44.7	-0.2
CHMS	Chumysh	7.71	22	P	Pn	02 18 44.7	-0.4
	SNR=116						
USP	Ospenovka	7.89	20	P	Pn	02 18 46.7	-0.7
	SNR=52						
TKM2	Tokmak 2	7.93	27	P	Pn	02 18 47.8	-0.3
	SNR=133						
TKM2	Tokmak 2	7.93	27	⇓P	Pn	02 18 47.9	-0.3
	comp=N,78nm,0.7s						
TKM2				⇓S	Sn	02 20 14.7	-1.6
	comp=N,42nm,0.9s						
KDJ	Kajisay	7.96	37	PN	Pn	02 18 48.7	+0.1
KDJ	Kajisay	7.96	37		Pn	02 18 48.7	+0.1
TARG	Taragay, Kyrgy	7.99	41		Pn	02 18 49.2	0.0
DGS	Degeres	8.27	26	Lg	Lg	02 20 18.8	
	comp=N,52nm,0.7s						
IZV	Izvestkoviy	8.42	31	P	Pn	02 18 54.8	0.0
	comp=N,28nm,0.5s						
TNSS	Tian-Shan	8.57	32	P	Pn	02 18 57.1	+0.1
	comp=N,18nm,0.8s						
MDOK	Medeo	8.71	32	⇑P	Pn	02 18 58.5	-0.3
	comp=N,27nm,0.7s						
KOTS	Kotyrbulak	8.80	32	P	Pn	02 19 00.1	+0.1
	comp=N,66nm,0.5s						
PRZ	Przheval'sk	8.84	40	PN	Pn	02 19 00.5	0.0
PRZ	Przheval'sk	8.84	40		Pn	02 19 00.5	0.0
NDI	New Delhi	9.04	141	eP	Pn	02 19 01.5	-1.7
NDI				eS	Sn	02 20 37.5	-5.8
JOSI	Joshimath	9.10	123	eP	Pn	02 19 02.5	-1.6
JOSI				eS	Sn	02 20 37.3	-7.6
KUDL	Kundal	9.14	146	eP	Pn	02 18 60.0	-4.6
KUDL				eS	Sn	02 20 30.9	-15
AYAN	Aya Nagar	9.16	142	eP	Pn	02 19 04.2	-0.7
AYAN				eS	Sn	02 20 40.8	-5.3
SATY	Saty	9.26	37	P	Pn	02 19 05.7	-0.5
	comp=N,34nm,0.8s						
KURS	Kuram	9.47	35	P	Pn	02 19 08.9	0.0
	comp=N,56nm,0.9s						
UZB	Uzynbulak	9.63	39	P	Pn	02 19 10.8	-0.4
	comp=N,37nm,0.8s						
PDGK	Podgornoye	10.00	40	P	Pn	02 19 15.0	-1.2
PDGK	Podgornoye	10.00	40	⇑P	Pn	02 19 15.0	-1.2
	comp=N,52nm,1.0s						
MNBS	Baschi	10.04	33	P	Pn	02 19 16.0	-0.7
	comp=N,74nm,0.5s						
GEYT	Alibeck	10.32	285	P	Pn	02 19 17.6	-2.9
	comp=N,6.4nm,0.3s,baz=116,slow=10,SNR=54						
GEYT				S	Sn	02 21 07.2	-7.1
	comp=N,12nm,0.3s,baz=359,slow=28,SNR=12						
GEYT				LR	LR	02 24 51.2	
	comp=N,98nm,20.1s,baz=320,slow=46						
GYA0B	ALIBECK ARRAY	10.32	285		Pn	02 19 17.5	-3.1
GYA0B	ALIBECK ARRAY	10.32	285	⇑P	Pn	02 19 18.3	-2.2
GYA0B				⇑S	Sn	02 21 08.7	-5.6
TDK	Taldyqorghan	10.78	30	P	Pn	02 19 25.8	-0.9
	comp=N,74nm,0.6s						
DJR	Jarkent	10.88	37	P	Pn	02 19 26.7	-1.3
	comp=N,3.7nm,0.9s						
DANN	Dangsing	13.34	121	eP	Pn	02 19 57.7	-3.4
DANN				eS	Sn	02 22 16.3	-12
KOLN	Koldanda	13.59	123	eP	Pn	02 20 00.9	-3.4
	comp=N,33nm,0.3s						
MAKZ	Makanchi	13.74	34	P	Pn	02 20 03.9	-2.0
MAKZ	Makanchi	13.74	34		Pn	02 20 03.9	-2.0
MAKZ	Makanchi	13.74	34	⇑P	Pn	02 20 03.5	-2.4
	comp=N,24nm,1.0s						
MK31	Makanchi Array	13.88	35	P	Pn	02 20 05.7	-2.0
MK31	Makanchi Array	13.88	35		Pn	02 20 05.7	-2.0
MK31	Makanchi Array	13.88	35	⇑P	Pn	02 20 05.1	-2.5
	comp=N,6.2nm,0.6s						
MKAR	Makanchi Array	13.88	35	P	Pn	02 20 05.8	-1.8
	comp=N,0.3nm,0.3s,baz=224,slow=13,SNR=25						
BHPL	Bhopal	13.89	154	eP	Pn	02 20 04.7	-3.3
BHPL				i x	x	02 20 15.7	
BHPL				eS	Sn	02 22 31.0	-10
GKN	Gorkha	14.17	120	eP	Pn	02 20 08.2	-3.5
	comp=N,66nm,0.2s						
DMN	Daman	14.73	120	eP	Pn	02 20 15.4	-3.6
KKN	Kakani	14.75	119	eP	Pn	02 20 15.8	-3.4
PKIN	Phulchoki	14.96	120	eP	Pn	02 20 18.6	-3.3
PKI	Pulchoki	14.97	120	eP	Pn	02 20 18.7	-3.4
	comp=N,66nm,0.6s						
GUN	Gumba	15.10	118	eP	Pn	02 20 20.9	-2.9
	comp=N,38nm,0.3s						
WMQ	Urumqi	15.19	54	eP	Pn	02 20 23.6	-0.9
WMQ				pP	pP	02 20 38.6	-8.9
WMQ				sP	sP	02 20 53.1	-8.0
WMQ				pmax	pmax		
	comp=N,12nm,0.9s						
WMQ				pmax	pmax		
	comp=N,240nm,6.9s						
WMQ				LR	LR		
	comp=N,150nm,29.1s						
WMQ				LR	LR		
	comp=N,560nm,26.9s						
WMQ				LR	LR		
	comp=N,160nm,19.3s						
WMQ	Urumqi	15.19	54	P	Pn	02 20 23.0	-1.5
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
WMQ	Urumqi	15.19	54		Pn	02 20 23.0	-1.5
JIRN	Jiri	15.47	118	eP	Pn	02 20 25.3	-3.2
	comp=Z,61nm,0.3s						
AB31	Akbulak array	15.51	333	P	Pn	02 20 25.5	-2.8
	comp=Z,90nm,0.5s,baz=143,slow=14,SNR=2689						
AB31				S	Sn	02 23 10.3	-9.3
	comp=Z,34nm,0.6s,baz=153,slow=22,SNR=33						
ABKAR	Akbulak array	15.51	333		Pn	02 20 25.9	-2.4
KURBB	Kurchatov Arra	15.73	19	P	Pn	02 20 28.1	-3.1
	comp=Z,0.4nm,0.3s,baz=211,slow=9.7,SNR=15						
KURBB	Kurchatov Arra	15.73	19	⇑P	Pn	02 20 29.3	-1.9
	comp=Z,28nm,0.8s						
KURK	Kurchatov	15.84	19	eP	Pn	02 20 31.0	-1.5
KURK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KURK	Kurchatov	15.84	19	Pn	Pn	02 20 31.1	-1.4
BANOM	Banah	15.90	235	P	P	02 20 36.0	+0.9
SHME	Shamm	15.92	236	P	P	02 20 36.4	+1.0
SEM	Semipalatinsk	16.03	22	P	P	02 20 37.5	+0.9
	comp=Z,32nm,0.4s						
RAMN	Ramite	16.19	119	eP	Pn	02 20 34.6	-2.7
	comp=Z,42nm,0.3s						
NGP	Nagpur	16.40	152	eP	Pn	02 20 38.7	-1.0
NGP				eP	P	02 20 39.0	-1.7
NGP				eS	Sn	02 23 32.9	-8.8
TAPN	Taplejung	16.75	116	eP	Pn	02 20 42.0	-2.3
	comp=Z,51nm,0.3s						
ODAN	Odare	16.81	118	eP	Pn	02 20 42.4	-2.5
	comp=Z,42nm,0.4s						
ASHO	Ashiyiah	16.91	233	P	P	02 20 48.9	+2.7
NAZ	Nazwa, Dubai	16.95	234	P	P	02 20 49.4	+2.7
BVAR	Borovoye Array	17.11	359	P	Pn	02 20 46.0	-2.1
	comp=Z,1.8nm,0.3s,baz=172,slow=12,SNR=60						
BRVK	Borovoye	17.14	359	ceP	Pn	02 20 47.3	-1.2
BRVK				pmax	pmax		
	comp=Z,35nm,1.1s						
BRVK	Borovoye	17.14	359		Pn	02 20 48.0	-0.6
BRVK				IAmb	IAmb	02 20 53.0	
	comp=Z,36nm,1.1s						
AKTO	Aktyubinsk	17.20	331	P	P	02 20 49.2	0.0
	comp=Z,5.9nm,0.3s,baz=138,slow=13,SNR=224						
AKTO				S	Sn	02 23 46.2	-14
	comp=Z,0.9nm,0.3s,baz=349,slow=20,SNR=6.2						
AKTO	Aktyubinsk	17.20	331	⇑P	Pn	02 20 45.3	-3.8
	comp=Z,112nm,0.8s						
AKTO				⇑S	Sn	02 23 49.6	-11
	comp=Z,64nm,0.8s						
ASUD	Al Ashush, Dub	17.42	234	P	Pn	02 20 55.2	+3.1
ALNE	Al Ain	17.55	232	i P	Pn	02 20 56.7	+3.0
	SNR=6.8						
LSA	Lhasa	18.21	104	P	P	02 21 01.0	-0.1
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
LSA	Lhasa	18.21	104	P	P	02 21 01.0	-0.1
AKT	Akhty	18.79	294	eP	Pn	02 21 08.5	-0.1
AKT				eS	S	02 24 31.1	-4.3
AKT				pmax	pmax		
	comp=Z,8.0nm,0.5s						
AKT				smax	smax		
	comp=E,14nm,0.7s						
AKT				smax	smax		
	comp=N,38nm,0.5s						
SEKA	Sheki	19.15	293	P	Pn	02 21 12.1	-0.6
HYB	Hyderabad	19.68	157	i P	P	02 21 17.0	+0.3
HYB				eS	S	02 24 47.0	-6.2
GANJ	Ganja	19.74	291	P	Pn	02 21 19.3	-0.3
NAX	Nakhchivan	20.28	287	P	P	02 21 24.1	+1.1
ZAA0	Zalesovo Array	20.52	24	P	P	02 21 25.4	0.0
ZAA0				IAmb	IAmb	02 21 27.2	
	comp=Z,30nm,0.8s						
ZAA0	Zalesovo Array	20.52	24	⇑P	P	02 21 25.3	-0.1
	comp=Z,4.0nm,0.6s						
ZALV	Zalesovo Beam	20.52	24	P	P	02 21 25.5	+0.1
	comp=Z,29nm,0.4s,baz=218,slow=11,SNR=111						
GROC	Groznyy	20.53	298	eP	P	02 21 25.8	+0.2
GROC				e*SP	sP	02 21 58.7	-0.2
GROC				eS	S	02 25 10.2	+0.6
GROC				e*SS	sS	02 25 43.3	-0.1
GROC				pmax	pmax		
	comp=Z,29nm,0.6s						
SHL	Shillong	20.84	114	P	Pn	02 21 30.9	-1.8
SHL				pmax	pmax		
	comp=Z,47nm,0.7s						
SHL	Shillong	20.84	114	ex	P	02 21 29.5	+0.2
SHL				eS	S	02 25 09.0	-7.2
SHL	Shillong	20.84	114	P	Pn	02 21 30.9	-1.8
GNI	Garni	20.90	289	i P	Pn	02 21 32.1	-1.1
	SNR=16						
GNI	Garni	20.90	289	eP	Pn	02 21 32.4	-0.9
GNI				pmax	pmax		
	comp=Z,154nm,0.8s						
GNI	Garni	20.90	289	P	Pn	02 21 32.5	-0.8
	comp=Z,45nm,0.8s,baz=29,slow=1.9,SNR=33						
GNI	Garni	20.90	289	P	Pn	02 21 31.6	-1.6
ZEI	Tsey	21.82	297	eP	P	02 21 39.5	-0.1
ZEI				pmax	pmax		
	comp=Z,15nm,1.0s						
AKH	Akhalkalaki	21.94	293	P	P	02 21 42.0	+1.1
AKH				pmax	pmax		
	comp=Z,34nm,1.0s						
AKH	Akhalkalaki	21.94	293	P	P	02 21 42.0	+1.1
AKH				IAmb	IAmb	02 21 45.6	
	comp=Z,34nm,1.0s						
SVE	Sverdlovsk	22.00	345	eP	P	02 21 43.5	+2.3
SVE				eS	S	02 25 39.3	+1.8
SVE				pmax	pmax		
	comp=Z,37nm,1.0s						
ARU	Arti	22.12	342	d iP	P	02 21 44.0	+1.6
ARU				*PP	pP	02 22 04.2	+1.5
ARU						02 22 08.9	
ARU				S	S	02 25 43.5	+3.9
ARU				SS	SnSn	02 26 24.6	+8.4
ARU				pmax	pmax		
	comp=Z,43nm,0.9s						
ARU	Arti	22.12	342	P	P	02 21 43.2	+0.8
	comp=Z,12nm,0.8s,baz=166,slow=5.4,SNR=23						
ARU				S	S	02 25 40.2	+0.6
	comp=Z,1.8nm,0.4s,baz=345,slow=23,SNR=4.7						
ARU	Arti	22.12	342	P	P	02 21 43.2	+0.8
ARU				IAmb	IAmb	02 21 47.6	
	comp=Z,36nm,0.9s						
NCK	Nalchik	22.16	298	eP	P	02 21 44.5	+1.5
NCK				pmax	pmax		
	comp=Z,32nm,1.1s						
KBZ	Khabaz	22.70	299	eP	P	02 21 49.5	+1.0
KBZ	Khabaz	22.70	299	P	P	02 21 49.9	+1.3
	comp=Z,8.3nm,0.9s,baz=118,slow=8.0,SNR=9.6						
NEY	Neytrino	22.75	297	eP	P	02 21 51.0	+1.8
NEY				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SHA1	Shidzhatmaz	22.88	299	eP	P	02 21 50.6	0.0
KIV	Kislovodsk	22.90	299	P	P	02 21 52.5	+1.9
KIV	Kislovodsk	22.90	299	eP	P	02 21 51.8	+1.2
KIV				eS	S	02 25 54.9	+2.4
KIV				pmax	pmax		
	comp=Z,38nm,1.0s						
KIV	Kislovodsk	22.90	299	P	P	02 21 51.4	+0.8
KIV				IAmb	IAmb	02 22 07.1	
	comp=Z,17nm,0.7s						
GTA	Gaotai	23.22	73	⇑P	P	02 21 55.6	+1.9
GTA				pP	pP	02 22 16.5	+1.1
GTA				sP	sP	02 22 29.2	+0.2
GTA				pmax	pmax		
	comp=Z,17nm,1.1s						
GTA				pmax	pmax		
	comp=Z,200nm,5.2s						
GTA				LR	LR		
	comp=Z,180nm,15.6s						
GTA				LR	LR		
	comp=Z,250nm,16.8s						
GTA				LR	LR		
	comp=Z,280nm,15.9s						
RAYN	Ar Rayn	25.09	247	i P	P	02 22 10.9	+0.1
	SNR=12						
RAYN	Ar Rayn	25.09	247	P	P	02 22 11.1	+0.3
RAYN				pmax	pmax		
	comp=Z,14nm,1.1s						
RAYN	Ar Rayn	25.09	247	P	P	02 22 11.1	+0.3
VRH	Novokhopyorsk	25.78	315	eP	P	02 22 19.2	+2.5
VRH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LZH	Lanzhou	26.70	80	eP	P	02 22 27.6	+2.3
LZH				pP	pP	02 22 49.0	+0.2
LZH				sP	sP	02 23 02.9	+1.8
LZH				PP	PP	02 23 16.4	-11
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
LZH				pmax	pmax		
	comp=Z,86nm,4.3s						
LZH				LR	LR		
	comp=Z,240nm,11.9s						
LZH				LR	LR		
	comp=Z,240nm,12.2s						
LZH				LR	LR		
	comp=Z,290nm,13.3s						
VSR	Storozhevoye	27.26	314	eP	P	02 22 30.9	+0.9
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2	Chengdu	27.91	91	P	P	02 22 37.8	+1.7
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,460nm,5.5s						
LPSR	Galich'ya Gora	27.94	317	eP	P	02 22 35.6	-0.4
LPSR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SONM	Songino Array	28.83	54	P	P	02 22 45.6	+1.5
	comp=Z,1.7nm,0.6s,baz=258,slow=9.9,SNR=9.6						
BR131	Keskin Array S	29.43	289	eP	P	02 22 50.5	+0.9
BR131	Keskin Array S	29.43	289	P	P	02 22 49.8	+0.2
BRTR	Keskin Array B	29.43	289	ceP	P	02 22 50.7	+1.1
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRTR	Keskin Array B	29.43	289	P	P	02 22 50.5	+0.9
	comp=Z,4.0nm,0.7s,baz=100,slow=8.9,SNR=22						
ANTO	Ankara	30.07	289	P	P	02 22 56.4	+1.2
ANTO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ANTO	Ankara	30.07	289	P	P	02 22 56.4	+1.2
ANTO				IAmb	IAmb	02 22 57.4	
	comp=Z,10nm,0.8s						
PRGR	Permogore	30.23	336	eP	P	02 22 54.8	-1.3
PRGR				eS	S	02 27 51.6	+3.7
PRGR				pmax	pmax		
	comp=Z,25nm,0.7s						
OBN	Obninsk	30.26	320	⇑eP	P	02 22 57.2	+0.7
OBN				*PP	pP	02 23 21.0	+0.9
OBN				*SP	sP	02 23 32.0	-0.4
OBN						02 24 04.0	
OBN				SS	SS	02 29 35.0	-26
OBN				pmax	pmax		
	comp=Z,16nm,0.9s						
CMAR	Chiang Mai Arr	30.35	117	ceP	P	02 23 00.7	+3.0
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	Chiang Mai Arr	30.35	117	P	P	02 22 60.0	+2.3
	comp=Z,2.2nm,0.8s,baz=296,slow=7.5,SNR=9.2						
CMAR	Chiang Mai Arr	30.35	117	P	P	02 23 00.0	+2.3
XAN	Xi'an	31.19	82	P	P	02 23 06.8	+1.7
XAN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
XAN	Xi'an	31.19	82	P	P	02 23 06.8	+1.7
XAN				IAmb	IAmb	02 23 07.5	
	comp=Z,10nm,1.1s						
HHC	Hu-ho-hao-te	32.15	69	eP	P	02 23 16.7	+3.2
ELL	Elmali	32.75	284	P	P	02 23 19.5	+0.7
ELL				pmax	pmax		
	comp=Z,70nm,0.6s						
ELL	Elmali	32.75	284	P	P	02 23 19.4	+0.7
ENH	Enshi	32.77	89	P	P	02 23 21.4	+2.4
PBKT	Sadao Pong	33.04	118	P	P	02 23 25.2	+3.9
	comp=Z,6.9nm,0.9s						
PBKT	Sadao Pong	33.04	118	P	P	02 23 23.5	+2.2
PBKT				IAmb	IAmb	02 23 25.9	
	comp=Z,9.2nm,0.9s						
AKASG	Malin Array Be	33.16	310	P	P	02 23 22.1	+0.1
	comp=Z,4.6nm,0.5s,baz=84,slow=6.9,SNR=32						
AKBB	Malin Array Si	33.16	310	IAmb	IAmb	02 23 23.8	
	comp=Z,4.4nm,0.6s						
CFR	Carcaliu	33.35	299	⇑P	P	02 23 24.0	+0.2
SORM	Soroca	33.38	305	⇑P	P	02 23 23.8	0.0
CHAI	Chaiyaphum	34.21	117	P	P	02 23 34.7	+3.2
	comp=Z,23µm,0.8s,comp=Z,854µm						
VRI	Vrincioaia	34.35	301	⇑P	P	02 23 32.5	+0.1
PLOR	Plostina	34.41	301	⇑P	P	02 23 33.0	+0.1
TESR	Tescani	34.42	302	⇑P	P	02 23 33.7	+0.7
TMCR	Tamitsa	34.49	335	eP	P	02 23 33.1	-0.2
TMCR				pmax	pmax		
	comp=Z,23nm,0.6s						
NRIK	Noril'sk	34.73	10	P	P	02 23 37.1	+1.7
	comp=Z,27nm,0.9s,baz=200,slow=5.9,SNR=23						
MLR	Muntele Rosu	34.90	300	⇓P	P	02 23 38.8	+1.4
ELND	Elena	35.04	295	⇓P	P	02 23 39.6	+1.2
DOPR	Dopca	35.29	301	⇑P	P	02 23 41.4	+0.8
BURAR	Bucovina Array	35.44	304	⇑P	P	02 23 42.8	+0.9
COPA	Copaceanca	35.45	298	⇑P	P	02 23 42.4	+0.5
BUR08	Bucovina Ar. S	35.46	304	P	P	02 23 42.6	+0.6
VOIR		35.53	300	⇓P	P	02 23 44.0	+1.3
ARR	Arges	35.83	300	⇑P	P	02 23 46.3	+1.2
WHN	Wuhan	36.62	86	P	P	02 23 54.3	+2.3
VTS	Vitosha	37.00	295	⇑P	P	02 23 56.3	+1.0
VTS				mb		02 23 57.2	
VTS	Vitosha	37.00	295	IAmb	IAmb	02 23 57.1	
	comp=Z,4.5nm,0.6s						
GZR	Gura Zlata	37.13	300	⇑P	P	02 23 56.3	0.0
DRGR		37.14	302	⇓P	P	02 23 56.2	-0.1
UZH	Uzhgorod	37.44	305	eP	P	02 24 08.4	+10
KOLS	Kolonicke sedl	37.46	306	eP	P	02 24 00.4	+1.5
KOLS	Kolonicke sedl	37.46	306	eP	P	02 24 00.4	+1.5
FINES	FINESS Array B	37.86	327	P	P	02 24 03.0	+1.0
	comp=Z,19nm,0.7s,baz=109,slow=9.4,SNR=44						
MDVR	Moldovita	37.92	299	⇑P	P	02 24 03.1	+0.2
BZS	Buzias	37.94	300	⇑P	P	02 24 04.2	+1.3
FNA	Florina	38.62	293	P	P	02 24 08.7	-0.2
FNA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
FNA	Florina	38.62	293	P	P	02 24 08.7	-0.2
FNA				IAmb	IAmb	02 24 10.1	
	comp=Z,8.9nm,0.8s						
VYHS	Vyhne	39.73	305	eP	P	02 24 19.8	+1.9
VYHS	Vyhne	39.73	305	eP	P	02 24 19.8	+1.9
NJ2	Nanjing	39.75	81	eP	P	02 24 19.8	+1.6
NJ2				pmax	pmax		

comp=Z,18nm,0.5s
ARCES ARCESS Array B 41.61 338 P P 02 24 34.2 +1.1
comp=Z,23nm,0.7s,baz=112,slow=8.4,SNR=74
ARE0 ARCESS Array S 41.61 338 eP P 02 24 32.6 -0.5
KTK1 Kautokeino 42.07 337 eP P 02 24 37.1 +0.3
HAMF Hammerfest 42.70 339 eP P 02 24 41.4 -0.4
PAOL Paolisi 43.65 294 P P 02 24 50.4 +0.4
PAOL IAmb IAmb 02 24 51.4
comp=Z,8.2nm,0.8s
TRO Tromso 43.72 337 eP P 02 24 51.1 +1.0
INTR Introdacqua 43.93 296 P P 02 24 52.5 +0.2
INTR IAmb IAmb 02 24 55.8
comp=Z,14nm,1.3s
MOR8 Moi Rana 44.23 331 eP P 02 24 54.0 -0.2
STEI Steigen 44.41 334 eP P 02 24 56.5 +0.9
NC602 NORSAR Array S 44.54 323 eP P 02 24 56.3 -0.4
YAK Yakutsk 44.55 35 eP P 02 24 56.4 -0.4
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.3s
MURB Monte Urbino 44.69 298 P P 02 24 59.8 +1.5
NB2 NORSAR Subarra 44.73 323 P P 02 24 58.3 0.0
comp=Z,4.1nm,0.7s,baz=98,slow=8.6
NB2 NORSAR Subarra 44.73 323 P P 02 24 58.3 0.0
baz=98,slow=8.6
NOA NORSAR Array B 44.73 323 P P 02 24 58.2 -0.1
comp=Z,4.4nm,0.6s,baz=97,slow=7.9,SNR=16
KONS Konsvik 44.83 331 eP P 02 24 59.7 +0.8
OSL Oslo 44.87 322 eP P 02 24 59.7 +0.4
NSS Namsos 44.89 328 eP P 02 24 59.6 +0.2
MOTA Moosalm 45.01 304 i P P 02 25 00.6 -0.2
comp=Z,5.9nm,1.0s
LOF Lofoten 45.08 334 eP P 02 25 00.9 0.0
KSRS Korea Array 45.25 70 P P 02 25 03.8 +1.1
comp=Z,3.0nm,0.5s,baz=274,slow=7.2,SNR=10
LATE Laterza 45.34 297 P P 02 25 03.2 -0.2
LATE IAmb IAmb 02 25 04.5
comp=Z,11nm,0.9s
KONO Kongsberg 45.42 321 eP P 02 25 03.9 +0.2
KLR Kul'dur 45.64 53 eP P 02 25 05.6 0.0
KLR pmax pmax
comp=Z,7.0nm,1.1s
BJO1 Bjornoya 45.77 343 eP P 02 25 05.7 -0.5
DAVA Damuels 45.84 304 i P P 02 25 07.4 0.0
comp=Z,14nm,1.1s
DOMB Dombas 45.85 325 eP P 02 25 07.1 -0.1
TIXI Tiksi 46.38 22 eP P 02 25 11.5 +0.4
TIXI pmax pmax
comp=Z,12nm,0.8s
TIXI Tiksi 46.38 22 P P 02 25 11.6 +0.5
TIXI IAmb IAmb 02 25 12.5
comp=Z,12nm,0.8s
ODD1 Odda 46.93 322 eP P 02 25 15.4 -0.2
KMY Karmoy 47.63 321 eP P 02 25 21.3 +0.4
SUE Sulen 47.87 323 eP P 02 25 22.9 +0.1
SPA0 Spitsbergen Ar 48.02 347 eP P 02 25 23.7 0.0
KMBO Kilima Mbogo 48.30 228 i P P 02 25 29.2 +2.3
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO Kilima Mbogo 48.30 228 P P 02 25 29.1 +2.1
comp=Z,1.7nm,0.7s,baz=47,slow=13,SNR=5.3
KMBO Kilima Mbogo 48.30 228 IAmb IAmb 02 25 29.7
comp=Z,1.8nm,0.9s
KEST Kesra 49.04 289 P P 02 25 33.5 +1.3
comp=Z,4.8nm,0.6s,baz=162,slow=2.3,SNR=12
KEST Kesra 49.04 289 IAmb IAmb 02 25 34.5
comp=Z,7.9nm,0.8s
MAT Matsushiro 53.35 68 P P 02 26 05.2 +0.8
MJAR Matsushiro Arr 53.35 68 P P 02 26 05.4 +1.0
comp=Z,4.4nm,0.9s,baz=284,slow=12,SNR=5.8
SEY Seymchan 55.01 34 eP P 02 26 16.7 +0.7
DAG Danmarks Havn 55.23 344 i P P 02 26 18.0 +0.6
DAG Danmarks Havn 55.23 344 i P P 02 26 18.0 +0.6
TAM Tamanrasset 57.41 276 P P 02 26 33.8 0.0
TAM pmax pmax
comp=Z,1.0nm,0.7s
TAM Tamanrasset 57.41 276 P P 02 26 33.8 0.0
ESDC Sonseca Array 57.56 298 P P 02 26 34.7 +0.1
comp=Z,5.0nm,0.8s,baz=60,slow=7.6,SNR=38
BILL Bilibino 59.21 26⥣eP P 02 26 46.7 +1.2
BILL *PP pP 02 27 08.0 -3.9
BILL *SP sP 02 27 24.0 +0.3
BILL 02 27 37.0
BILL pmax pmax
comp=Z,11nm,0.9s
PVIS Viseu 59.94 301 eP P 02 26 51.9 +0.9
comp=Z,13nm,0.9s
COI Coimbra 60.51 300 eP P 02 26 56.3 +1.5
PTOM Tomar 60.74 300 eP P 02 26 57.4 +1.0
comp=Z,37nm,1.6s
PBEJ Beja 61.01 298 eP P 02 26 59.2 +0.9
PVAQ Vaqueiros 61.16 297 eP P 02 26 59.8 +0.5
PNCL Nicolau / Gran 61.45 298 eP P 02 27 02.1 +0.9
SUMG Summit 61.55 341 i P P 02 27 03.0 +1.2
SUMG pmax pmax
comp=Z,19nm,0.7s
SUMG Summit 61.55 341 i P P 02 27 03.0 +1.2
comp=Z,19nm,0.7s
SUMG Summit 61.55 341 P P 02 27 02.7 +0.9
SANI Sanana 63.77 114 P P 02 27 17.4 +0.5
comp=Z,11nm,0.9s
TULEG Thule 64.98 350 P P 02 27 25.8 +1.9
TOA0 Torodi Ar. Sit 65.51 269 P P 02 27 27.5 -0.8
TOA0 IAmb IAmb 02 27 28.6
comp=Z,5.8nm,0.7s
TORD Torodi Ar. Bea 65.51 269 P P 02 27 27.2 -1.1
comp=Z,6.5nm,0.7s,baz=51,slow=5.5,SNR=41
SOEI Soe 67.82 121 P P 02 27 44.3 +1.3
comp=Z,31nm,0.9s
FAKI Fak Fak 69.06 110 P P 02 27 51.9 +1.2
FAKI IAmb IAmb 02 27 52.9
comp=Z,20nm,1.5s
COLD Coldfoot 72.58 16 P P 02 28 12.4 +1.2
COLD IAmb IAmb 02 28 13.9
comp=Z,7.6nm,0.9s
LBTB Lobatse 74.12 222 P P 02 28 22.5 +1.7
LBTB pmax pmax
comp=Z,13nm,0.8s
LBTB Lobatse 74.12 222 P P 02 28 22.5 +1.7
MLY Manley 74.29 17 IAmb IAmb 02 28 23.7
comp=Z,8.0nm,1.0s
DBIC Dimbokro 74.48 267 P P 02 28 22.3 -0.8
DBIC pmax pmax
comp=Z,8.0nm,1.0s
DBIC Dimbokro 74.48 267 P P 02 28 22.3 -0.8
comp=Z,3.8nm,0.8s,baz=45,slow=7.3,SNR=3.6
DBIC Dimbokro 74.48 267 IAmb IAmb 02 28 25.2
comp=Z,7.7nm,1.0s
INK Inuvik 74.51 9 P P 02 28 23.3 +0.9
INK pmax pmax
comp=Z,14nm,1.3s
INK Inuvik 74.51 9 P P 02 28 23.2 +0.9
INK IAmb IAmb 02 28 24.5
comp=Z,14nm,1.3s
FITZ Fitzroy Crossi 74.70 126 P P 02 28 25.6 +1.4
FITZ IAmb IAmb 02 28 26.7
comp=Z,9.4nm,1.1s
MDM Murphy Dome 74.93 16 P P 02 28 25.8 +0.8
MDM IAmb IAmb 02 28 26.9
comp=Z,16nm,1.0s
BPAW Bear Paw Mtn. 75.01 18 IAmb IAmb 02 28 26.9
comp=Z,9.9nm,1.0s
KNRA Kununurra 75.08 122 P P 02 28 27.6 +1.2
COLA College 75.09 16 eP P 02 28 26.7 +0.9
COLA pmax pmax
comp=Z,17nm,0.9s
COLA College 75.09 16 P P 02 28 27.2 +1.4
ILAR Eielson Array 75.39 16 P P 02 28 27.1 -0.5
comp=Z,4.1nm,0.9s,baz=318,slow=4.4,SNR=34
ILAR PP PP 02 31 18.2 +1.2
comp=Z,1.3nm,1.0s,baz=315,slow=8.4,SNR=4.5
RND Reindeer 76.11 17 IAmb IAmb 02 28 32.6
comp=Z,6.8nm,0.9s
SKT Skwentna 76.63 19 IAmb IAmb 02 28 36.1
comp=Z,14nm,1.0s
SCRK Sand Creek 76.71 15 IAmb IAmb 02 28 37.1
comp=Z,6.2nm,0.7s
DHY Denali Highway 76.74 17 IAmb IAmb 02 28 37.2
comp=Z,7.3nm,0.7s
BOSA Boshof 77.18 220 P P 02 28 39.5 +1.3
BOSA pmax pmax
comp=Z,18nm,0.9s
BOSA Boshof 77.18 220 P P 02 28 39.6 +1.4
comp=Z,15nm,0.7s,baz=19,slow=3.9,SNR=29
BOSA Boshof 77.18 220 P P 02 28 39.5 +1.3
SUA Susitna One 77.27 19 IAmb IAmb 02 28 39.9
comp=Z,9.2nm,1.0s
PAX Paxson 77.27 16 IAmb IAmb 02 28 39.8
comp=Z,6.9nm,0.8s
GHO Glory Hole Cre 77.48 18 IAmb IAmb 02 28 44.1
comp=Z,12nm,1.1s
DAWY Dawson 77.53 13 IAmb IAmb 02 28 42.0
comp=Z,7.8nm,0.8s
KNK Knik Glacier 77.90 18 P P 02 28 43.2 +1.4
KNK IAmb IAmb 02 28 44.0
comp=Z,15nm,1.0s
EYAK Cordova Ski Ar 79.32 17 IAmb IAmb 02 28 52.0
comp=Z,8.6nm,0.8s
BALM Baldy 79.68 16 IAmb IAmb 02 28 53.7
comp=Z,16nm,1.4s
KDAK Kodiak Island 79.81 22 i P P 02 28 53.2 +1.0
CTGM Chitina Glacie 79.96 15 IAmb IAmb 02 28 55.8
comp=Z,6.8nm,0.8s
YKW3 Yellowknife Ar 81.77 3 P P 02 29 03.0 +0.5
YKA Yellowknife Ar 81.83 3 P P 02 29 02.7 -0.2
comp=Z,2.8nm,0.5s,baz=348,slow=5.2,SNR=44
YKA PP PP 02 32 11.4 +0.8
comp=Z,0.5nm,0.7s,baz=355,slow=8.3,SNR=4.4
WRA Warramunga Arr 81.85 122 P P 02 29 04.1 +0.5
comp=Z,5.3nm,0.8s,baz=321,slow=5.1,SNR=37
WRAB Tennant Creek 81.85 122 eP P 02 29 04.1 +0.5
WRAB pmax pmax
comp=Z,10.0nm,1.0s
AS31 Alice Springs 84.08 125 P P 02 29 15.9 +0.8
ASAR Alice Springs 84.08 125 P P 02 29 15.6 +0.4
comp=Z,5.2nm,0.8s,baz=318,slow=5.3,SNR=55
PMG Port Moresby 84.63 106 ceP P 02 29 17.6 -0.4
PMG pmax pmax
comp=Z,84nm,1.7s
SNAA Sanae 118.78 200 PKiKP PKPdf 02 35 29.4 -1.3
VNA2 Neumayer--Watz 119.79 202 PKiKP PKPdf 02 35 32.1 -0.5
baz=23,slow=5.0
VNA3 Neumayer Olymp 120.59 202 PKiKP PKiKP 02 35 34.4 +0.1
QSPA South Pole Qui 125.71 180 PKP PKiKP 02 35 44.6 +0.1
comp=Z,1.1nm,0.2s,baz=282,slow=2.2,SNR=7.0
PLCA Paso Flores 149.44 249 PKPbc PKiKP 02 36 34.5 +0.9
comp=Z,2.6nm,0.9s,baz=31,slow=3.0,SNR=5.1

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*MAN **06** 02:26:50.1, 14.°40N×124.°96E, h1km, MS4.4*
MAN Intensity III - Naga City; Intensity II - Virac Catanduanes; Legaspi City.
*IDC **06** 02:26:55.6±0.6, 13.°91N×124.°45E, h0km, mb4.2/16, mb1 4.4/16, mb1mx4.2/35, mbtmp4.2/16, MS3.7/15, Ms1 3.7/15, ms1mx3.5/39, Error ellipse: s-maj=26.7km s-min=14.0km az=70.0*
*NEIC **06** 02:26:59.7±1.3, 13.°93N±0.°09×124.°6E±0.°1, h25km±5km, mb4.7/49*
*ISCJB **06** 02:26:59.5±0.2, 13.°94N±0.°03×124.°58E±0.°04, h37km, mb4.6/34, MS3.7/14, Error ellipse: s-maj=5.4km s-min=3.8km az=173.1*
*DJA **06** 02:27:00.0±0.2, 14°N±3°×12°4E±°, h32km±2km, M5.0/29, mB5.6/6, mb4.7/29, Mw(mB)5.1/6*
*BJI **06** 02:27:01.3±0.0, 13.°81N×124.°23E, h42km, mb4.5/33, mB4.9/20, Ms4.2/11, Ms7 4.0/12*
ISC 06 02:27:01.3±0.4**, 13.°99N**±0.°04×**124.°53E**±0.°06**, h37**km**, n146,** σ**1.°47**/134**, mb4.6**/57**, MS3.6**/14**, 6C-4D, Luzon**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PVCP Virac 0.53 223 P Pn 02 27 10.9 -1.6
PVCP S Sn 02 27 19.6 -0.6
MMPH Masbate 1.84 209 ⥣p Pn 02 27 32.6 +2.3
MMPH s Sn 02 27 57.3 +4.9
GQP Guinayangan 2.02 268 ⥥P Pn 02 27 33.9 +1.1
GQP S Sn 02 28 04.1 +7.2
LQP Lukban 2.91 273 ⥣P Pn 02 27 46.6 +1.5
LQP S Sn 02 28 25.3 +6.3
TGY Tagaytay City 3.49 272 Pn Pn 02 27 54.6 +1.5
214nm,0.3s,baz=109,slow=1.2,SNR=13
TGY Lg Lg 02 28 47.4
219nm,0.3s,baz=75,slow=18,SNR=2.4
LLP Lapu-Lapu 3.69 189 P Pn 02 28 01.2 +5.4
LLP S Sn 02 28 45.6 +7.6
GUIM Jordan 3.84 210 P Pn 02 27 59.1 +1.2
GUIM S Sn 02 28 47.1 +5.3
LUBP Lubang 4.17 267 P Pn 02 28 01.6 -0.8
LUBP S Sn 02 28 57.7 +7.9
SMPP San Manuel, Pa 4.30 301 P Pn 02 28 00.2 -3.9
SMPP S Sn 02 28 56.1 +3.1
PAGZ Pagadian 6.20 191 P Pn 02 28 32.7 +2.4
PAGZ S Sn 02 29 48.4 +8.4
DAV Davao City (W) 6.95 171 LR LR 02 31 51.7
comp=Z,1µm,21.6s,baz=1.5,slow=43
KCP Kidapawan 6.96 175 ⥥P Pn 02 28 52.5 +12
JOW Kunigami 13.25 15 Pn Pn 02 30 09.0 +2.1
QIZ Qiongzhong 14.95 292 P Pn 02 30 28.8 -1.2
QIZ S Sn 02 33 10.9 -3.5
QIZ LR LR
comp=N,290nm,20.0s
QIZ LR LR
comp=E,460nm,20.6s
QIZ LR LR
comp=Z,570nm,16.6s
LUWI Luwuk 15.03 187 P 02 30 33.7 -2.3
SBUM Sibu 16.71 228 P 02 30 55.6 +0.9
TTSI Tana Toraja 17.55 196 P Pn 02 31 01.9 -1.3
SPSI Sidrap Palu 18.45 195 P Pn 02 31 13.0 -1.2
FAKI Fak Fak 18.46 155 P P 02 31 11.3 -2.7
11nm,1.3s
FAKI Fak Fak 18.46 155 P 02 31 14.0 0.0
NJ2 Nanjing 18.72 345 eP Pn 02 31 18.8 +1.5
NJ2 pmax pmax
comp=Z,13nm,0.5s
BNSI Bone 18.79 194 P Pn 02 31 18.4 +0.1
28nm,1.0s
STKI Sintang 18.93 224 P Pn 02 31 19.5 -0.5
32nm,1.0s
WHN Wuhan 18.96 332 P Pn 02 31 23.9 +3.6
KAPI Kappang 19.46 194 LR LR 02 39 03.6
comp=Z,169nm,20.5s,baz=29,slow=38
KAPI Kappang 19.46 194 P Pn 02 31 24.6 -1.8
KMPI Kaimana, Papua 19.75 152 P P 02 31 28.7 +0.5
80nm,0.6s,2µm
GUMO Guam 19.76 89 LR LR 02 38 41.3
comp=Z,274nm,18.1s,baz=269,slow=36
JNU Nakatsue 19.91 16 LR LR 02 38 10.9
comp=Z,152nm,21.5s,baz=190,slow=34
SLVN Son La 20.95 293 P P 02 31 40.9 -0.4
JCJ Chichijima 21.02 49 LR LR 02 38 07.6
comp=Z,208nm,19.8s,baz=273,slow=32
ENH Enshi 21.33 322 P P 02 31 46.2 +1.0
ENH IAmb IAmb 02 31 49.4
comp=Z,26nm,1.0s
CHAI Chaiyaphum 21.86 278 P P 02 31 55.3 +4.3
comp=Z,32µm,0.9s
CHAI Chaiyaphum 21.86 278 P P 02 31 55.3 +4.3
comp=Z,32µm,0.9s
MMRI Maumere 22.59 186 P P 02 31 58.1 -0.7
PBKT Sadao Pong 22.87 279 P P 02 32 03.2 +1.5
comp=Z,7.5nm,1.3s
PBKT Sadao Pong 22.87 279 P P 02 32 03.2 +1.5
comp=Z,7.5nm,1.3s
PBKT Sadao Pong 22.87 279 P P 02 32 01.8 +0.1
JAY Jayapura 22.93 134 LR LR 02 40 05.5
comp=Z,126nm,21.8s,baz=20,slow=34
KMI Kunming 23.29 302 P P 02 32 06.2 -0.1
KMI IAmb IAmb 02 32 08.3
comp=Z,15nm,0.5s
KMMI Kalianget 23.38 207 P P 02 32 07.5 +0.7
comp=Z,95nm,1.2s
KSRS Korea Array 23.57 7 LR LR 02 41 18.3
comp=Z,171nm,18.9s,baz=198,slow=36
TPI Tanjungpandan 23.59 226 P P 02 32 05.7 -3.2
PLAI Plampang 23.64 197 P P 02 32 07.0 -2.3
comp=Z,138nm,0.8s,comp=Z,1µm
PHRA Phrae 23.75 284 P P 02 32 10.1 -0.3
comp=Z,1.6nm,0.9s
PHRA Phrae 23.75 284 P P 02 32 10.1 -0.3
comp=Z,1.6nm,0.9s
SRBI Singaraja 23.80 203 P P 02 32 09.7 -1.1
comp=Z,53nm,1.1s
TWSI Taliwang, Sumb 23.82 199 P P 02 32 10.4 -0.6
comp=Z,60nm,0.7s
BATI Baumata 24.05 182 LR LR 02 42 34.2
comp=Z,149nm,21.8s,slow=39
PAYA Payao 24.21 286 P P 02 32 15.3 +0.6
comp=Z,42µm,1.0s,comp=Z,854µm
XAN Xi'an 24.47 327 P P 02 32 15.8 -1.1
XAN pP sP 02 32 31.3 0.0
XAN sP pP 02 32 39.0 +12
XAN S S 02 36 34.8 0.0
XAN pmax pmax
comp=Z,26nm,1.1s
XAN pmax pmax
comp=Z,220nm,5.1s
XAN LR LR
comp=Z,340nm,17.4s
XAN LR LR
comp=Z,300nm,18.4s
XAN LR LR
comp=Z,290nm,15.2s
XAN Xi'an 24.47 327 P P 02 32 17.1 +0.1
XAN IAmb IAmb 02 32 19.1
comp=Z,34nm,1.2s
JAGI Jajag, Banyuwa 24.57 205 P P 02 32 16.0 -2.0
comp=Z,35nm,1.1s
JAGI Jajag, Banyuwa 24.57 205 P P 02 32 17.2 -0.7
JAGI IAmb IAmb 02 32 20.4
comp=Z,26nm,0.8s
NGJI Ngawi 24.87 212 P P 02 32 21.7 +1.1
comp=Z,45nm,1.0s
CM31 Chiang Mai Arr 24.96 284 P P 02 32 21.0 -0.5
CM31 IAmb IAmb 02 32 23.0
comp=Z,21nm,1.1s
CMAR Chiang Mai Arr 24.96 284 P P 02 32 20.9 -0.6
comp=Z,11nm,1.0s,baz=95,slow=7.6,SNR=32
CMAR PcP PcP 02 35 57.8 +1.3
comp=Z,1.4nm,0.3s,baz=90,slow=0.6,SNR=5.0
CMAR LR LR 02 42 39.7
comp=Z,212nm,18.9s,baz=82,slow=38
CMMT Chiang Mai 24.99 285 P P 02 32 22.1 +0.3
comp=Z,4.9nm,0.7s
CMMT Chiang Mai 24.99 285 P P 02 32 22.1 +0.3
comp=Z,4.9nm,0.7s
CHTO Chiang Mai 25.00 285 P P 02 32 21.5 -0.3
PWJI Pagerwojo 25.25 211 P P 02 32 22.1 -2.0
comp=Z,34nm,1.2s
CD2 Chengdu 25.46 315 P P 02 32 26.0 0.0
CD2 S S 02 36 51.5 +0.7
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,320nm,5.7s
CD2 LR LR
comp=Z,1µm,16.7s
CD2 LR LR
comp=Z,900nm,14.7s
CD2 LR LR
comp=Z,640nm,8.4s
MJAR Matsushiro Arr 25.58 26 LR LR 02 41 40.7
comp=Z,190nm,19.3s,baz=215,slow=34
LZH Lanzhou 28.78 324 eP P 02 32 58.1 +2.2
LZH pP sP 02 33 09.3 -1.5
LZH sP pP 02 33 15.4 +9.1
LZH pmax pmax
comp=Z,14nm,1.2s
LZH pmax pmax
comp=Z,63nm,4.9s
LZH LR LR
comp=Z,330nm,14.6s
LZH LR LR
comp=Z,310nm,14.1s
HHC Hu-ho-hao-te 29.06 339 eP P 02 32 58.4 +0.2
HHC pmax pmax
comp=Z,6.0nm,0.9s
USA0B Ussuriysk Arra 30.78 11 P P 02 33 13.6 +0.3
USA0B IAmb IAmb 02 33 23.4
comp=Z,13nm,0.8s
USRK Ussuriysk Ar. 30.78 11 P P 02 33 13.7 +0.4
comp=Z,2.2nm,0.7s,baz=225,slow=5.1,SNR=5.7
USRK LR LR 02 45 04.9
comp=Z,75nm,21.7s,baz=196,slow=35
FITZ Fitzroy Crossi 31.90 178 P P 02 33 21.3 -2.1
FITZ IAmb IAmb 02 33 22.0
comp=Z,5.3nm,0.8s
SHL Shillong 32.72 296 P P 02 33 30.2 -0.6
COEN Coen 33.34 146 P P 02 33 36.1 0.0
COEN IAmb IAmb 02 33 42.5
comp=Z,7.3nm,0.9s
GTA Gaotai 33.38 324 eP P 02 33 44.6 +8.2
GTA pP sP 02 33 49.6 -1.7
GTA sP pP 02 33 53.0 +6.2
GTA pmax pmax
comp=Z,3.0nm,1.4s
LSA Lhasa 34.55 302 P P 02 33 47.6 +0.6
WRA Warramunga Arr 35.07 164 P P 02 33 49.0 -2.0
comp=Z,2.2nm,0.7s,baz=346,slow=9.0,SNR=18
KLR Kul'dur 35.64 8 P P 02 33 55.8 +0.2
comp=Z,2.6nm,0.8s,baz=148,slow=13,SNR=3.6
TAPN Taplejung 36.78 297 eP P 02 34 06.0 0.0
comp=Z,56nm,1.3s
ODAN Odare 36.94 296 eP P 02 34 07.4 +0.1
SONM Songino Array 36.96 340 P P 02 34 07.2 +0.1
comp=Z,1.6nm,0.7s,baz=152,slow=10,SNR=12
SONM LR LR 02 51 12.3
comp=Z,97nm,18.4s,baz=70,slow=39
RAMN Ramite 37.65 296 eP P 02 34 13.5 +0.1
comp=Z,38nm,0.8s
JIRN Jiri 38.16 297 eP P 02 34 17.9 +0.1
comp=Z,31nm,0.6s
GUN Gumba 38.49 297 eP P 02 34 20.6 +0.1
comp=Z,42nm,0.7s
AS31 Alice Springs 38.53 166 P P 02 34 19.6 -0.8
ASAR Alice Springs 38.53 166 P P 02 34 19.3 -1.1
comp=Z,3.6nm,0.5s,baz=347,slow=6.9,SNR=66
PKI Pulchoki 38.82 297 eP P 02 34 22.8 -0.5
PKIN Phulchoki 38.83 297 eP P 02 34 22.9 -0.4
KKN Kakani 38.98 297 eP P 02 34 24.1 -0.4
DMN Daman 39.09 297 eP P 02 34 25.3 -0.2
comp=Z,76nm,1.2s
GKN Gorkha 39.58 297 eP P 02 34 28.9 -0.5
DANN Dangsing 40.41 297 eP P 02 34 36.1 -0.4
comp=Z,75nm,1.1s
KOLN Koldanda 40.43 296 eP P 02 34 36.3 -0.2
comp=Z,56nm,1.2s
H11S3 WAKE ISLAND Hy 40.66 78 T T 03 18 02.3
baz=270,slow=75,SNR=286
H11S1 WAKE ISLAND Hy 40.67 78 T T 03 17 58.9
baz=270,slow=75,SNR=456
H11S2 WAKE ISLAND Hy 40.67 78 T T 03 17 58.5
baz=270,slow=75,SNR=668
H11N1 WAKE ISLAND Hy 40.86 76 T T 03 18 22.0
baz=267,slow=74,SNR=608
H11N2 WAKE ISLAND Hy 40.87 76 T T 03 18 26.9
baz=267,slow=74,SNR=389
H11N3 WAKE ISLAND Hy 40.88 76 T T 03 18 23.4
baz=267,slow=74,SNR=438
WMQ Urumqi 43.27 321 eP P 02 35 01.6 +2.2
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,290nm,7.5s
PETK Petropavlovsk- 47.04 27 pP pP 02 35 36.8 -2.5
comp=Z,7.4nm,0.9s,baz=197,slow=4.6,SNR=6.6
PETK LR LR 02 57 16.3
comp=Z,52nm,18.5s,baz=239,slow=39
BBOO Buckleboo 47.82 167 P P 02 35 34.9 -0.4
MK31 Makanchi Array 48.06 322 P P 02 35 37.9 +0.7
MKAR Makanchi Array 48.06 322 P P 02 35 37.4 +0.3
comp=Z,4.5nm,0.9s,baz=112,slow=8.9,SNR=28
MAKZ Makanchi 48.26 322 P P 02 35 39.1 +0.4
MAKZ IAmb IAmb 02 35 49.6
comp=Z,5.6nm,1.2s
STKA Stephens Creek 48.45 161 P P 02 35 40.4 +0.2
comp=Z,13nm,1.0s,baz=337,slow=5.9,SNR=17
STKA Stephens Creek 48.45 161 P P 02 35 40.4 +0.2
NRN Naryn 50.08 313 IAmb IAmb 02 35 55.0
comp=Z,10nm,1.2s
ZAA0 Zalesovo Array 50.57 331 P P 02 35 55.8 -0.3
ZALV Zalesovo Beam 50.57 331 P P 02 35 55.5 -0.7
comp=Z,1.1nm,0.3s,baz=121,slow=5.5,SNR=7.6
AAK Ala-Archa 51.52 314 P P 02 36 04.2 +0.5
KURK Kurchatov 52.06 325 P P 02 36 07.7 +0.4
KURK IAmb IAmb 02 36 16.0
comp=Z,11nm,0.9s
ARSB Arslanbob 52.22 312 IAmb IAmb 02 36 10.6
comp=Z,6.5nm,0.9s
BTK Batken 53.49 310 P P 02 36 18.4 +0.1
BTK IAmb IAmb 02 36 27.5
comp=Z,12nm,1.4s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**53.64**	**308**	P	**P**	**02 36 20.1**	**+0.7**
KBL	**Kabul**	**53.87**	**303**	P	**P**	**02 36 21.4**	**+0.1**
KBL				IAmb	IAmb	02 36 23.0	
	comp=Z,5.6nm,1.0s						
KK31	**Karatay Array**	**54.46**	**313**	P	**P**	**02 36 25.6**	**+0.4**
KK31				IAmb	IAmb	02 36 26.6	
	comp=Z,7.6nm,0.8s						
KKAR	**Karatay Array**	**54.46**	**313**	P	**P**	**02 36 25.6**	**+0.4**
KKAR				IAmb	IAmb	02 36 26.6	
	comp=Z,7.6nm,0.8s						
TIXI	**Tiksi**	**57.70**	**2**	P	**P**	**02 36 48.5**	**+0.7**
BRVK	**Borovoye**	**57.73**	**325**	P	**P**	**02 36 49.1**	**+0.8**
BRVK				IAmb	IAmb	02 36 49.9	
	comp=Z,10nm,1.0s						
HRA	**Herat**	**59.44**	**302**	P	**P**	**02 37 00.2**	**-0.7**
HRA				IAmb	IAmb	02 37 01.8	
	comp=Z,4.6nm,1.1s						
ABKAR	**Akbulak array**	**62.97**	**318**	P	**P**	**02 37 24.6**	**+0.4**
ABKAR				IAmb	IAmb	02 37 34.8	
	comp=Z,5.9nm,0.9s						
GEYT	**Alibeck**	**62.99**	**306**	P	**P**	**02 37 24.6**	**0.0**
	comp=Z,1.7nm,0.6s,baz=114,slow=3.6,SNR=4.1						
GEYT				LR	LR	03 07 31.6	
	comp=Z,85nm,19.3s,baz=320,slow=39						
ARU	**Arti**	**65.21**	**326**	P	**P**	**02 37 38.5**	**-0.3**
TBLG	**Delisi**	**73.26**	**310**	P	**P**	**02 38 29.9**	**+0.9**
TBLG				IAmb	IAmb	02 38 30.3	
	comp=Z,7.3nm,0.8s						
KBZ	**Khabaz**	**74.46**	**312**	P	**P**	**02 38 36.1**	**+0.2**
	comp=Z,8.4nm,1.0s,baz=129,slow=4.0,SNR=8.1						
KIV	**Kislovodsk**	**74.60**	**312**	P	**P**	**02 38 37.6**	**+0.7**
RAYN	**Ar Rayn**	**74.64**	**291**	P	**P**	**02 38 37.1**	**-0.3**
RAYN				IAmb	IAmb	02 38 38.2	
	comp=Z,14nm,1.4s						
BPAW	**Bear Paw Mtn.**	**75.12**	**27**	P	**P**	**02 38 40.4**	**+1.0**
MLY	**Manley**	**75.21**	**26**	P	**P**	**02 38 42.1**	**+2.1**
MLY				IAmb	IAmb	02 38 51.2	
	comp=Z,11nm,1.0s						
MCK	**McKinley**	**76.04**	**27**	P	**P**	**02 38 45.3**	**+0.6**
ILAR	**Eielson Array**	**76.86**	**26**	P	**P**	**02 38 50.0**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=252,slow=4.6,SNR=4.0						
ILAR				pP	**PcP**	**02 38 56.8**	**-3.5**
	comp=Z,1.4nm,0.9s,baz=256,slow=6.3,SNR=7.6						
GLB	**Gilahina Butte**	**78.63**	**29**	P	**P**	**02 39 02.1**	**+2.9**
CTGM	**Chitina Glacie**	**79.89**	**30**	P	**P**	**02 39 07.5**	**+1.2**
CTGM				IAmb	IAmb	02 39 15.5	
	comp=Z,8.5nm,1.0s						
INK	**Inuvik**	**81.47**	**22**	P	**P**	**02 39 14.8**	**+0.5**
INK				IAmb	IAmb	02 39 22.6	
	comp=Z,8.9nm,1.2s						
FINES	**FINESS Array B**	**81.83**	**331**	P	**P**	**02 39 16.8**	**+0.4**
	comp=Z,10nm,1.1s,baz=70,slow=2.2,SNR=4.0						
BRTR	**Keskin Array B**	**81.88**	**309**	P	**P**	**02 39 16.2**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=114,slow=3.3,SNR=4.2						
AKASG	**Malin Array Be**	**82.63**	**320**	P	**P**	**02 39 19.9**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=65,slow=4.1,SNR=6.1						
TESR	**Tescani**	**85.31**	**317**	⇓P	**P**	**02 39 34.6**	**+0.1**
SUW	**Suwalki**	**85.35**	**325**	P	**P**	**02 39 34.6**	**+0.1**
VRI	**Vrincioaia**	**85.43**	**316**	⇑P	**P**	**02 39 36.0**	**+0.8**
PLOR	**Plostina**	**85.48**	**316**	⇓P	**P**	**02 39 36.1**	**+0.6**
BIZ	**Bicaz**	**85.56**	**317**	⇑P	**P**	**02 39 35.2**	**-0.6**
BURAR	**Bucovina Array**	**85.95**	**318**	⇑P	**P**	**02 39 37.8**	**0.0**
BUR08	**Bucovina Ar. S**	**85.95**	**318**	P	**P**	**02 39 38.2**	**+0.3**
MLR	**Muntele Rosu**	**86.06**	**316**	⇑P	**P**	**02 39 38.8**	**+0.3**
MLR	**Muntele Rosu**	**86.06**	**316**	P	**P**	**02 39 39.0**	**+0.5**
KMBO	**Kilima Mbogo**	**87.63**	**268**	LR	LR	03 16 56.5	
	comp=Z,38nm,20.0s,baz=86,slow=34						
YKA	**Yellowknife Ar**	**91.06**	**23**	P	**P**	**02 40 02.5**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=316,slow=5.2,SNR=3.0						
YKA				pP	**pP**	**02 40 09.1**	**-4.0**
	comp=Z,0.5nm,0.7s,baz=300,slow=4.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**117.29**	**293**	PKP	**PKPdf**	**02 45 43.3**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=61,slow=1.4,SNR=5.1						

*ISCJB **06** 02:56:29.5±0.6, 44°.47S±0°.02×167°.79E±0°.05, h25km±4km, mb4.1/4, MS3.5/2, Error ellipse: s-maj=5.8km s-min=3.7km az=24.3*
*WEL **06** 02:56:29.7±0.6, 45°S±3°×16°8E±°, h12km, M4.7/21, ML4.9/15, MLv4.7/21, Error ellipse: s-maj=0.0km s-min=0.0km az=119.3*
*NEIC **06** 02:56:30±1.9, 44°.61S±0°.03×167°.72E±0°.09, h24km±4km*
*IDC **06** 02:56:33.2±4.4, 44°.69S×167°.90E, h48km±37km, mb3.8/4, mb1 4.1/6, mb1mx3.8/24, mbtmp4.1/6, ML4.3/2, MS3.6/3, Ms1 3.6/3, ms1mx3.1/20, Error ellipse: s-maj=61.3km s-min=19.4km az=8.0*
ISC 06 02:56:30.8±0.8**, 44°.60S**±0°.03×**167°.88E**±0°.04**, h28**km±5km**,**
n77, σ1ˢ65/90**, mb4.1**/5**, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.08**	**158**	P	**Pb**	**02 56 35.3**	**-0.4**
MSZ				S	**Sb**	**02 56 38.6**	**-0.5**
MLZ	**Mavora Lakes**	**0.79**	**168**	P	**Pn**	**02 56 46.2**	**+0.2**
MLZ				S	**Sn**	**02 56 58.5**	**+1.6**
MLZ	**Mavora Lakes**	**0.79**	**168**		**Pn**	**02 56 45.8**	**-0.2**
JCZ	**Jackson Bay**	**0.83**	**51**	P	**Pb**	**02 56 46.0**	**-0.7**
JCZ				S	**Sb**	**02 56 57.8**	**+0.2**
WKZ	**Wanaka**	**0.84**	**106**	P	**Pn**	**02 56 47.4**	**+0.7**
WKZ				S	**Sn**	**02 56 59.6**	**+1.4**
WKZ	**Wanaka**	**0.84**	**106**		**Pn**	**02 56 47.5**	**+0.7**
DCZ	**Deep Cove**	**1.01**	**211**	P	**Pb**	**02 56 48.9**	**-0.7**
DCZ				S	**Sn**	**02 57 03.8**	**+1.5**
DCZ	**Deep Cove**	**1.01**	**211**		**Pb**	**02 56 48.9**	**-0.7**
EAZ	**Earnscleugh**	**1.19**	**123**	P	**Pb**	**02 56 53.3**	**+0.6**
EAZ				S	**Sb**	**02 57 09.4**	**+1.7**
WHZ	**Wether Hill Ro**	**1.29**	**178**	P	**Pb**	**02 56 54.4**	**-0.1**
WHZ				S	**Sb**	**02 57 12.8**	**+2.1**
WHZ	**Wether Hill Ro**	**1.29**	**178**		**Pb**	**02 56 54.4**	**-0.1**
LBZ	**Lake Benmore**	**1.66**	**83**	P	**Pb**	**02 56 59.8**	**-0.8**
LBZ				S	**Sb**	**02 57 20.9**	**-0.2**
LBZ	**Lake Benmore**	**1.66**	**83**		**Pb**	**02 56 59.9**	**-0.8**
FOZ	**Fox Glacier**	**1.75**	**53**		**Pb**	**02 57 02.1**	**-0.2**
TUZ	**Tuapeka**	**1.83**	**138**	P	**Pb**	**02 57 03.0**	**-0.6**
TUZ				S	**Sb**	**02 57 25.1**	**-1.0**
ODZ	**Otahua Downs**	**2.01**	**104**		**Pb**	**02 57 04.6**	**-2.1**
SYZ	**Scrubby Hill**	**2.13**	**156**	P	**Pb**	**02 57 06.8**	**-1.9**
APZ	**The Paps**	**2.23**	**178**	P	**Pb**	**02 57 08.0**	**-2.4**
HHSZ	**Highcliff Hill**	**2.31**	**125**	P	**Pb**	**02 57 09.7**	**-2.0**
HHSZ				S	**Sb**	**02 57 37.1**	**-2.7**
RPZ	**Rata Peaks**	**2.45**	**70**	P	**Pn**	**02 57 09.8**	**+1.0**
	174nm,0.3s,baz=228,slow=3.7,SNR=180						
RPZ				S	**Sn**	**02 57 40.7**	**+2.9**
	132nm,0.3s,baz=355,slow=18,SNR=11						
RPZ	**Rata Peaks**	**2.45**	**70**	P	**Pn**	**02 57 09.9**	**+1.1**
RPZ				S	**Sn**	**02 57 39.6**	**+1.8**
RPZ	**Rata Peaks**	**2.45**	**70**		**Pn**	**02 57 10.0**	**+1.2**
WVZ	**Waitaha Valley**	**2.56**	**55**	P	**Pn**	**02 57 10.0**	**-0.4**
OXZ	**Oxford**	**3.26**	**68**	P	**Pn**	**02 57 19.3**	**-0.6**
OXZ	**Oxford**	**3.26**	**68**	Pn	**Pn**	**02 57 18.9**	**-1.0**
MQZ	**McQueen's Vall**	**3.55**	**77**		**Pn**	**02 57 24.8**	**+0.9**
CRLZ	**Canterbury Las**	**3.56**	**75**	P	**Pn**	**02 57 24.6**	**+0.5**
CRLZ	**Canterbury Las**	**3.56**	**75**		**Pn**	**02 57 23.0**	**-1.1**
LTZ	**Lake Taylor**	**3.66**	**62**		**Pn**	**02 57 25.9**	**+0.3**
AKCZ	**Akaroa Harbour**	**3.68**	**80**	P	**Pn**	**02 57 25.8**	**0.0**
AMCZ	**Amberley**	**3.73**	**69**	P	**Pn**	**02 57 26.5**	**+0.1**
GVZ	**Greta Valley S**	**4.07**	**68**	P	**Pn**	**02 57 30.9**	**-0.2**
THZ	**Tophouse**	**4.64**	**54**	P	**Pn**	**02 57 38.6**	**-0.4**
THZ	**Tophouse**	**4.64**	**54**		**Pn**	**02 57 39.8**	**+0.8**
KHZ	**Kahutara**	**4.66**	**64**		**Pn**	**02 57 42.9**	**+3.8**
QRZ	**Quartz Range**	**5.09**	**44**		**Pn**	**02 57 45.4**	**+0.2**
BSWZ	**Blackbirch Sta**	**5.25**	**59**	Pn	**Pn**	**02 57 49.6**	**+2.3**
NNZ	**Nelson**	**5.26**	**52**	P	**Pn**	**02 57 47.6**	**+0.1**
NNZ	**Nelson**	**5.26**	**52**		**Pn**	**02 57 48.4**	**+0.9**
NNZ					**Sn**	**02 58 47.2**	**0.0**
TUWZ	**Tuamarina**	**5.46**	**57**	P	**Pn**	**02 57 52.5**	**+2.4**
TUWZ	**Tuamarina**	**5.46**	**57**		**Pn**	**02 57 50.9**	**+0.8**
TCW	**Tory Channel**	**5.79**	**56**	P	**Pn**	**02 57 56.9**	**+2.2**
DUWZ	**D'Urville Isla**	**5.85**	**52**	P	**Pn**	**02 57 56.2**	**+0.6**
MSWZ	**Moikau Station**	**6.27**	**62**	P	**Pn**	**02 58 00.8**	**-0.5**
MTW	**Mount Morrison**	**6.57**	**61**	P	**Pn**	**02 58 06.5**	**+1.1**
NBEZ	**Newall Road No**	**6.95**	**42**	P	**Pn**	**02 58 09.9**	**-0.7**
KHEZ	**Kahui Hut**	**7.00**	**43**	P	**Pn**	**02 58 11.8**	**+0.4**
PKE	**Pukeiti**	**7.06**	**42**	P	**Pn**	**02 58 13.2**	**+1.0**
VRZ	**Vera Road**	**7.50**	**46**	P	**Pn**	**02 58 18.8**	**+0.6**
NGZ	**Ngauruhoe**	**7.90**	**49**	P	**Pn**	**02 58 26.1**	**+2.2**
WTVZ	**West Tongariro**	**7.94**	**49**	P	**Pn**	**02 58 27.5**	**+3.1**
BHHZ	**Black Hill Sta**	**7.94**	**53**	P	**Pn**	**02 58 25.6**	**+1.2**
KRVZ	**Karewarewa**	**7.98**	**49**	P	**Pn**	**02 58 28.5**	**+3.5**
HIZ	**Hauiti**	**8.02**	**43**	P	**Pn**	**02 58 25.5**	**+0.2**
KATZ	**Kakaramea**	**8.10**	**49**	P	**Pn**	**02 58 30.0**	**+3.4**
MKAZ	**Moumakai**	**9.29**	**39**	P	**Pn**	**02 58 43.9**	**+1.1**
URZ	**Urewera**	**9.38**	**51**	P	**Pn**	**02 58 47.2**	**+3.1**
	1.0nm,0.3s,baz=231,slow=6.5,SNR=3.9						
URZ				S	**Sn**	**03 00 20.2**	**-8.3**
	1.1nm,0.3s,baz=326,slow=22,SNR=4.4						
URZ				LR	LR	03 03 08.7	
	comp=Z,317nm,18.3s,baz=232,slow=42						
MBAZ	**Motutapu North**	**9.46**	**37**	P	**Pn**	**02 58 45.0**	**0.0**
WIAZ	**Waiheke Island**	**9.54**	**38**	P	**Pn**	**02 58 46.9**	**+0.7**
VNDA	**Vanda**	**33.12**	**182**	LR	LR	03 14 05.0	
	comp=Z,122nm,20.8s,baz=3.5,slow=32						
ASAR	**Alice Springs**	**34.67**	**296**	P	**P**	**03 03 18.6**	**+0.6**
	0.5nm,0.5s,baz=130,slow=6.6,SNR=10						
ASAR				PcP	**PcP**	**03 05 50.6**	**-1.1**
	1.7nm,0.6s,baz=126,slow=3.9,SNR=14						
WRA	**Warramunga Arr**	**37.12**	**301**	P	**P**	**03 03 39.1**	**+0.2**
	0.9nm,0.4s,baz=135,slow=7.9,SNR=18						
WRA				PcP	**PcP**	**03 05 58.1**	**-0.9**
	1.8nm,0.8s,baz=133,slow=3.0,SNR=7.2						
FITZ	**Fitzroy Crossi**	**44.02**	**293**	P	**P**	**03 04 36.6**	**+0.6**
	2.3nm,0.6s,baz=160,slow=6.3,SNR=13						
FITZ				PcP	**PcP**	**03 06 21.0**	**-0.2**
	0.9nm,0.8s,baz=191,slow=6.1,SNR=3.9						
FITZ	**Fitzroy Crossi**	**44.02**	**293**	IAmb	IAmb	03 04 36.8	
	comp=Z,1.5nm,0.6s						
QSPA	**South Pole Qui**	**45.53**	**180**	P	**P**	**03 04 49.1**	**+1.5**
QSPA				IAmb	IAmb	03 04 51.0	
	comp=Z,3.9nm,0.8s						
MAW	**Mawson**	**54.87**	**207**	LR	LR	03 27 06.6	
	comp=Z,41nm,19.7s,baz=316,slow=34						
VNA3	**Neumayer Olymp**	**64.46**	**181**	Pdiff	P	03 07 09.7	+5.7
VNA2	**Neumayer--Watz**	**64.74**	**182**	Pdiff	**P**	**03 07 07.3**	**+1.5**
	baz=173,slow=3.7						
CMAR	**Chiang Mai Arr**	**88.66**	**298**	P	**P**	**03 09 22.4**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=156,slow=3.3,SNR=10						
MKAR	**Makanchi Array**	**118.08**	**309**	PKP	**PKPdf**	**03 15 13.2**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=144,slow=1.5,SNR=3.7						
KURBB	**Kurchatov Arra**	**122.30**	**311**	PKP	**PKPdf**	**03 15 21.1**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=117,slow=1.7,SNR=6.5						
KURK	**Kurchatov**	**122.30**	**311**		**PKPdf**	**03 15 21.1**	**-1.1**
BRTR	**Keskin Array B**	**146.08**	**278**	PKPbc	**PKPbc**	**03 16 07.2**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=133,slow=5.2,SNR=14						
TORD	**Torodi Ar. Bea**	**146.51**	**205**	PKPbc	**PKPbc**	**03 16 08.8**	**-0.8**
	comp=Z,4.9nm,0.6s,baz=144,slow=2.3,SNR=38						
ARCES	**ARCESS Array B**	**148.65**	**336**	PKPbc	**PKPbc**	**03 16 13.7**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=85,slow=1.3,SNR=9.0						
AKASG	**Malin Array Be**	**151.78**	**297**	PKPbc	**PKPbc**	**03 16 21.5**	**-0.4**
	comp=Z,3.5nm,0.6s,baz=75,slow=2.4,SNR=13						
FINES	**FINESS Array B**	**152.06**	**321**	PKPbc	**PKPbc**	**03 16 21.9**	**-0.3**
	comp=Z,3.8nm,0.6s,baz=114,slow=2.3,SNR=18						

*SOME **06** 02:58:47.2, 41°.42N×69°.62E, h5km*
*NNC **06** 02:58:48.4±1.3, 41°.49N×69°.38E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=8.3km s-min=7.5km az=70.0*
*KRNET **06** 02:58:48.1±0.1, 41°.27N×69°.25E, mb2.9*
ISC 06 02:58:43.4±1.7**, 41°.49N**±0°.04×**69°.10E**±0°.08**, h18**km±3km**,**
n18, σ2ˢ20/29**, 14C-5D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.22**	**138**	⇑*i*P	**Pn**	**02 58 50.0**	**+1.4**
	baz=33						
TAS				⇑*i*S	**Sb**	**02 58 52.4**	**+0.6**
	baz=33						
IUG	**Iuzhnay**	**0.96**	**47**	*e*P	**Pg**	**02 59 02.4**	**+0.4**
	3.2nm,0.1s						
IUG				*e*S	**Sb**	**02 59 13.3**	**-0.5**
	52nm,0.3s						
IUG	**Iuzhnay**	**0.96**	**47**	P	**Pg**	**02 59 04.8**	**+2.8**
	3.2nm,0.1s						
IUG				S	**Sg**	**02 59 15.4**	**+0.8**
	52nm,0.3s						
BRLS	**Borolday**	**1.63**	**19**	*e*P	**Pg**	**02 59 13.3**	**-1.5**
	0.8nm,0.2s						
BRLS				*e*S	**Sb**	**02 59 32.0**	**-1.1**
	23nm,0.2s						
BRLS	**Borolday**	**1.63**	**19**	P	**Pg**	**02 59 13.3**	**-1.5**
	0.8nm,0.2s						
BRLS				S	**Sn**	**02 59 30.6**	**-1.1**
	23nm,0.2s						
KK31	**Karatay Array**	**1.92**	**33**	⇑P	**Pg**	**02 59 21.0**	**+0.7**
	1.0nm,0.2s,baz=207,slow=18,SNR=24						
KK31				S	**Sg**	**02 59 45.6**	**+0.3**
	12nm,0.3s,baz=205,slow=30,SNR=26						
BTK	**Batken**	**1.94**	**137**	⇓*i*P	**Pg**	**02 59 19.5**	**-1.1**
	baz=35						
BTK				⇓*i*S	**Sb**	**02 59 41.3**	**-0.8**
	baz=35						
ARK	**Arkit**	**2.17**	**81**	⇑*e*P	**Pg**	**02 59 25.0**	**0.0**
	baz=75						
ARK				⇑*i*S	**Sg**	**02 59 52.6**	**-0.6**
	baz=75						
ARSB	**Arslanbob**	**2.93**	**92**	⇑*e*P	**Pb**	**02 59 34.7**	**-0.4**
	baz=88						
ARSB				⇑*i*S	**Sb**	**03 00 09.4**	**-1.2**
	baz=88						
MRKS	**Merke**	**3.32**	**66**	*e*P	**Pb**	**02 59 43.0**	**+1.3**
	1.8nm,0.3s						
MRKS				*e*S	**Sb**	**03 00 22.8**	**+1.1**
	7.9nm,0.4s						
MRKS	**Merke**	**3.32**	**66**	Pg	**Pg**	**02 59 45.3**	**-1.6**
	7.1nm,0.5s						
MRKS				Lg	Lg	03 00 25.4	
	21nm,0.5s						
AML	**Almayashu**	**3.50**	**78**	⇑*i*P	**Pb**	**02 59 45.6**	**+0.7**
	baz=74						
AML				⇑*i*S	**Sb**	**03 00 24.6**	**-2.6**
	baz=74						
UCH	**Uchtor**	**4.11**	**78**	⇑*i*P	**Pb**	**02 59 53.5**	**-1.9**
	baz=75						
UCH				⇑*i*S	**Sn**	**03 00 39.5**	**+6.0**
	baz=75						
AAK	**Ala-Archa**	**4.18**	**72**	⇓Pg	**Pg**	**03 00 00.8**	**-2.6**
AAK				⇑Lg	Lg	03 00 56.2	
TKM2	**Tokmak 2**	**5.03**	**71**	⇑Pg	**Pg**	**03 00 15.9**	**-3.9**
	3.3nm,0.9s						
TKM2				⇓Lg	Lg	03 01 22.4	
KST	**Kastek**	**5.33**	**71**	Pg	**Pg**	**03 00 21.1**	**-4.3**
	2.2nm,0.4s						
KST				Lg	Lg	03 01 26.4	
	5.7nm,0.5s						
TNSS	**Tian-Shan**	**6.03**	**73**	Pg	**Pg**	**03 00 36.2**	**-2.5**
	1.9nm,0.1s						
TNSS				Lg	Lg	03 01 52.3	
	4.1nm,0.3s						
AB31	**Akbulak array**	**10.08**	**323**	⇓Pn	Pn	03 01 12.8	+5.7
	1.4nm,0.9s,baz=132,slow=15,SNR=9.0						
AB31				⇑Sn	Sn	03 03 06.3	+6.7
	0.4nm,0.6s,baz=153,slow=25,SNR=5.3						

*BJI **06** 03:06:37.1±0.0, 24°.32S×179°.34W, h514km, mb4.6/10, mB4.9/6*
*NEIC **06** 03:06:40.6±1.6, 23°.5S±0°.1×179°.8W±0°.1, h520km±2km, mb4.6/113*
*IDC **06** 03:06:40.4±1.6, 23°.46S×179°.80W, h514km±16km, mb3.9/13, mb1 4.1/15, mb1mx3.8/33, mbtmp4.8/15, Error ellipse: s-maj=17.5km s-min=14.0km az=154.0*
*ISCJB **06** 03:06:41.1±0.1, 23°.55S±0°.04×179°.95W±0°.04, h532km, mb4.5/23, Error ellipse: s-maj=5.7km s-min=3.5km az=137.3*
ISC 06 03:06:41.5±0.3**, 23°.55S**±0°.06×**179°.75W**±0°.07**, h532**km**,**
n262, σ1ˢ22/237**, mb4.6**/71**, 17C-3D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.92**	**164**	S	**S**	**03 09 37.2**	**-0.5**
	62nm,0.3s,baz=235,slow=22,SNR=3.2						
RAO	**Raoul Island**	**5.92**	**164**	P	**P**	**03 08 17.8**	**-0.6**
MSVF	**Nonsavu**	**6.14**	**340**	P	**P**	**03 08 19.4**	**-1.4**
NIUE	**Niue**	**10.18**	**66**	P	**P**	**03 08 57.7**	**-3.4**
	baz=9.9,SNR=9.9						
NIUE	**Niue**	**10.18**	**66**	P	**P**	**03 08 59.9**	**-1.3**
AFI	**Afiamalu**	**12.20**	**40**	S	S	03 11 24.8	-10
	10nm,0.3s,baz=38,slow=23,SNR=7.2						
AFI	**Afiamalu**	**12.20**	**40**	P	**P**	**03 09 20.7**	**-1.6**
NFK	**Norfolk Island**	**12.32**	**241**	P	**P**	**03 09 25.9**	**+2.5**
	baz=13,SNR=4.0						
DZM	**Mont Dzumac**	**12.82**	**274**	P	**P**	**03 09 29.1**	**+0.4**
	1.0nm,0.3s,baz=102,slow=16,SNR=14						
DZM	**Mont Dzumac**	**12.82**	**274**	P	**P**	**03 09 28.2**	**-0.5**
URZ	**Urewera**	**14.91**	**190**	P	**P**	**03 09 49.4**	**-0.8**
	4.6nm,0.3s,baz=276,slow=3.2,SNR=20						
URZ	**Urewera**	**14.91**	**190**	P	**P**	**03 09 48.8**	**-1.4**
HIZ	**Hauiti**	**15.62**	**196**	P	**P**	**03 09 58.1**	**+0.6**
BKZ	**Black Stump Fm**	**15.90**	**191**	P	**P**	**03 09 58.3**	**-2.1**
BKZ				IAmb	IAmb	03 10 10.2	
	comp=Z,19nm,1.3s						
MSWZ	**Moikau Station**	**18.31**	**192**	P	**P**	**03 10 21.9**	**-1.0**
BHW	**Baring Head**	**18.37**	**193**	P	**P**	**03 10 22.3**	**-1.2**
QRZ	**Quartz Range**	**18.41**	**199**	P	**P**	**03 10 23.7**	**-0.1**
PLWZ	**Palliser**	**18.45**	**192**	P	**P**	**03 10 23.1**	**-1.1**
NNZ	**Nelson**	**18.54**	**196**	P	**P**	**03 10 24.9**	**-0.1**
TUWZ	**Tuamarina**	**18.60**	**195**	P	**P**	**03 10 25.6**	**0.0**
THZ	**Tophouse**	**19.18**	**197**	P	**P**	**03 10 31.0**	**+0.2**
KHZ	**Kahutara**	**19.63**	**195**	P	**P**	**03 10 34.3**	**-0.6**
LTZ	**Lake Taylor**	**20.30**	**197**	P	**P**	**03 10 40.5**	**-0.5**
OXZ	**Oxford**	**20.86**	**197**	P	**P**	**03 10 45.9**	**-0.2**
MLZ	**Mavora Lakes**	**23.90**	**201**	P	**P**	**03 11 13.8**	**+0.4**
MLZ				IAmb	IAmb	03 11 14.2	
	comp=Z,15nm,0.8s						
DCZ	**Deep Cove**	**24.32**	**203**	P	**P**	**03 11 17.1**	**+0.2**
WHZ	**Wether Hill Ro**	**24.42**	**201**	P	**P**	**03 11 18.2**	**+0.3**
ARMA	**Armidale**	**26.36**	**249**	P	**P**	**03 11 36.8**	**+1.4**
	baz=27,SNR=18						
ARMA	**Armidale**	**26.36**	**249**	P	**P**	**03 11 35.6**	**+0.2**
EIDS	**Eidsvold**	**26.59**	**260**	P	**P**	**03 11 37.5**	**+0.2**
	baz=27,SNR=49						
EIDS	**Eidsvold**	**26.59**	**260**	P	**P**	**03 11 37.3**	**0.0**
MGCD	**Mangrove Creek**	**27.31**	**243**	P	**P**	**03 11 40.2**	**-3.4**
	baz=28,SNR=6.4						
RIV	**Riverview**	**27.42**	**242**	P	**P**	**03 11 44.6**	**+0.2**
	baz=28,SNR=3.6						
RMQ	**Roma**	**28.65**	**258**	P	**P**	**03 11 55.1**	**-0.3**
	baz=29,SNR=4.7						
CNB	**Canberra Magne**	**29.23**	**239**	P	**P**	**03 12 01.6**	**+1.2**
	baz=30,SNR=5.7						
CAN	**Canberra**	**29.52**	**239**	P	**P**	**03 12 03.0**	**+0.2**
CMSA	**Cobar Meteorol**	**31.56**	**248**	P	**P**	**03 12 20.7**	**+0.3**
	baz=32,SNR=48						
TOO	**Toolangi**	**32.83**	**237**	P	**P**	**03 12 31.8**	**+0.6**
	baz=33,SNR=5.1						
TOO	**Toolangi**	**32.83**	**237**	P	**P**	**03 12 31.3**	**+0.1**
TOO				IAmb	IAmb	03 12 32.8	
	comp=Z,15nm,0.6s						
MTSU	**Mount Surprise**	**33.95**	**272**	P	**P**	**03 12 40.9**	**+0.1**
	baz=34,SNR=86						
PMG	**Port Moresby**	**34.60**	**288**	P	**P**	**03 12 45.8**	**-0.4**
	comp=Z,40nm,0.6s,baz=102,slow=3.1,SNR=17						
PMG	**Port Moresby**	**34.60**	**288**	P	**P**	**03 12 45.9**	**-0.4**
STKA	**Stephens Creek**	**35.07**	**248**	P	**P**	**03 12 50.4**	**+0.3**
	baz=35,SNR=38						
STKA	**Stephens Creek**	**35.07**	**248**	P	**P**	**03 12 50.3**	**+0.3**
	comp=Z,17nm,0.5s,baz=95,slow=11,SNR=74						
STKA	**Stephens Creek**	**35.07**	**248**	P	**P**	**03 12 49.8**	**-0.2**
ARPS	**Mount Arapiles**	**35.49**	**239**	P	**P**	**03 12 53.8**	**+0.3**
	baz=36,SNR=11						
COEN	**Coen**	**36.29**	**279**	P	**P**	**03 13 00.2**	**-0.1**
	baz=36,SNR=26						
COEN	**Coen**	**36.29**	**279**	P	**P**	**03 12 59.8**	**-0.5**
COEN				IAmb	IAmb	03 13 01.6	
	comp=Z,31nm,1.3s						
HTT	**Hallett**	**37.43**	**245**	P	**P**	**03 13 09.4**	**-0.2**
	baz=38,SNR=21						
QIS	**Mount Isa**	**37.70**	**266**	P	**P**	**03 13 11.1**	**-0.8**
	baz=38,SNR=12						
BBOO	**Buckleboo**	**39.79**	**247**	P	**P**	**03 13 28.0**	**-0.6**
	baz=40,SNR=46						
BBOO	**Buckleboo**	**39.79**	**247**	P	**P**	**03 13 27.8**	**-0.9**
AS31	**Alice Springs**	**42.32**	**260**	IAmb	IAmb	03 13 49.9	
	comp=Z,14nm,0.5s						
ASAR	**Alice Springs**	**42.32**	**260**	P	**P**	**03 13 48.5**	**-0.4**
	comp=Z,30nm,0.6s,baz=96,slow=7.4,SNR=331						
ASAR				ScP	**ScP**	**03 18 33.3**	**+2.9**
	comp=Z,4.7nm,1.0s,baz=109,slow=3.8,SNR=13						
ASAR				S	**S**	**03 19 29.8**	**-1.8**
	comp=Z,1.1nm,0.8s,baz=98,slow=14,SNR=7.7						
WRAB	**Tennant Creek**	**42.65**	**266**	P	**P**	**03 13 50.5**	**-1.0**
WRA	**Warramunga Arr**	**42.66**	**266**	P	**P**	**03 13 50.5**	**-1.1**
	comp=Z,33nm,0.4s,baz=103,slow=8.6,SNR=200						
WRA				ScP	**ScP**	**03 18 35.0**	**+3.2**
	comp=Z,3.6nm,0.9s,baz=101,slow=4.3,SNR=9.0						
JAY	**Jayapura**	**43.59**	**293**	P	**P**	**03 13 58.1**	**-0.9**
	comp=Z,16nm,0.4s,baz=175,slow=21,SNR=12						
JAY	**Jayapura**	**43.59**	**293**	P	**P**	**03 13 56.8**	**-2.1**
	comp=Z,19nm,0.8s						
KDU	**Kakadu**	**46.48**	**275**	P	**P**	**03 14 19.9**	**-1.2**
	baz=47,SNR=18						
FORT	**Forrest**	**46.65**	**249**	P	**P**	**03 14 21.3**	**-0.9**
	baz=47,SNR=46						
FORT	**Forrest**	**46.65**	**249**	P	**P**	**03 14 21.2**	**-0.9**
WRKA	**Warakurna**	**47.14**	**257**	P	**P**	**03 14 25.4**	**-0.6**
	baz=47,SNR=53						
MTN	**Manton Dam**	**47.66**	**274**	P	**P**	**03 14 29.0**	**-0.9**
	baz=48,SNR=5.1						
MTN	**Manton Dam**	**47.66**	**274**	IAmb	IAmb	03 14 29.7	
	comp=Z,14nm,0.6s						
KNRA	**Kununurra**	**48.92**	**269**	P	**P**	**03 14 38.8**	**-0.5**
	baz=49,SNR=15						
KNRA	**Kununurra**	**48.92**	**269**	P	**P**	**03 14 38.8**	**-0.5**
FAKI	**Fak Fak**	**50.70**	**286**	P	**P**	**03 14 50.3**	**-2.2**
	comp=Z,21nm,1.2s						
FAKI	**Fak Fak**	**50.70**	**286**	P	**P**	**03 14 51.0**	**-1.5**
FAKI				IAmb	IAmb	03 14 52.3	
	comp=Z,14nm,0.7s						
FITZ	**Fitzroy Crossi**	**51.08**	**265**	P	**P**	**03 14 55.1**	**-0.1**
	baz=51,SNR=14						
FITZ	**Fitzroy Crossi**	**51.08**	**265**	P	**P**	**03 14 54.7**	**-0.5**
FITZ				IAmb	IAmb	03 14 56.1	
	comp=Z,43nm,1.2s						
BNDI	**Bandanaira**	**52.05**	**283**	P	**P**	**03 15 00.0**	**-2.2**
	comp=Z,74nm,1.3s,comp=Z,18μm						
SWI	**Sorong**	**52.55**	**288**	P	**P**	**03 15 05.0**	**-0.8**
	comp=Z,83nm,0.9s						
AAI	**Ambon**	**53.95**	**283**	P	**P**	**03 15 14.2**	**-1.5**
	comp=Z,42nm,0.7s,comp=Z,2μm						
VNDA	**Vanda**	**54.75**	**185**	P	**P**	**03 15 21.2**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=0.6,slow=6.3,SNR=6.7						
SOEI	**Soe**	**55.04**	**275**	P	**P**	**03 15 22.7**	**-0.9**
	comp=Z,58nm,1.0s						
NLAI	**Namlea**	**55.12**	**283**	P	**P**	**03 15 22.6**	**-1.4**
KLBR	**Kellerberrin**	**55.34**	**247**	P	**P**	**03 15 24.7**	**-0.6**
	baz=56,SNR=5.7						
MEEK	**Meekatharra**	**55.43**	**253**	P	**P**	**03 15 25.1**	**-1.0**
	baz=56,SNR=9.3						
RKGY	**Rocky Gully**	**55.60**	**243**	P	**P**	**03 15 26.9**	**-0.1**
	baz=56,SNR=7.6						
BLDU	**Ballidu**	**56.37**	**248**	P	**P**	**03 15 31.8**	**-0.7**
	baz=56,SNR=38						
MUN	**Mundaring**	**56.58**	**246**	P	**P**	**03 15 33.6**	**-0.3**
	baz=57,SNR=5.0						
SANI	**Sanana**	**56.65**	**284**	P	**P**	**03 15 32.5**	**-2.0**
	comp=Z,17nm,1.1s						
TNTI	**Ternate**	**56.74**	**288**	P	**P**	**03 15 33.1**	**-2.1**
MORW	**Morawa**	**57.21**	**250**	P	**P**	**03 15 37.8**	**-0.5**
	baz=57,SNR=6.9						
MORW	**Morawa**	**57.21**	**250**	IAmb	IAmb	03 15 38.2	
	comp=Z,60nm,1.2s						
LUWI	**Luwuk**	**59.97**	**283**	P	**P**	**03 15 56.4**	**-0.6**
LUWI				IAmb	IAmb	03 15 57.7	
	comp=Z,23nm,1.1s						
GIRL	**Giralia**	**60.22**	**257**	P	**P**	**03 15 59.4**	**+0.8**
	baz=60,SNR=6.2						
QSPA	**South Pole Qui**	**66.54**	**180**	P	**P**	**03 16 39.5**	**+1.1**
QSPA				IAmb	IAmb	03 16 41.1	
	comp=Z,11nm,1.0s						
KSM	**Kuching**	**72.27**	**280**	P	**P**	**03 17 12.8**	**-0.7**
KSM				IAmb	IAmb	03 17 14.2	
	comp=Z,21nm,1.2s						
PETK	**Petropavlovsk-**	**78.81**	**346**	P	**P**	**03 17 49.1**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=133,slow=8.7,SNR=5.0						
NJ2	**Nanjing**	**80.60**	**311**	*e*P	**P**	**03 18 00.9**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
SCI2	**San Clemente I**	**81.00**	**48**	P	**P**	**03 18 02.0**	**+1.1**
	baz=234						
PKM	**Mcpherson Peak**	**81.27**	**46**	P	**P**	**03 18 03.8**	**+1.3**
	baz=233						
BLG	**Laguna Peak, P**	**81.31**	**47**	P	**P**	**03 18 04.0**	**+1.5**
	baz=234						
CIS	**Catalina Islan**	**81.34**	**48**	P	**P**	**03 18 04.1**	**+1.5**
	baz=234						
ARVC	**Arvin**	**82.06**	**46**	P	**P**	**03 18 07.2**	**+0.9**
	baz=234						
MURC	**Murrieta**	**82.29**	**48**	P	**P**	**03 18 08.5**	**+1.0**
	baz=235						
VES	**Vestal, Richgr**	**82.31**	**46**	P	**P**	**03 18 08.9**	**+1.4**
	baz=234						
BFSC	**Mount Baldy Ra**	**82.33**	**48**	P	**P**	**03 18 08.6**	**+0.7**
	baz=235						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MONP2	Monument Peak	82.42	49	P	P	03 18 08.9	+0.5
	baz=236						
EDW2	Edwards Air Fo	82.48	47	P	P	03 18 09.2	+0.7
	baz=235						
IKP	In-Ko-Pah, Jac	82.50	50	P	P	03 18 09.9	+1.2
	baz=236						
ISA	Isabella, Lake	82.61	46	P	P	03 18 10.1	+1.0
	baz=234,SNR=7.9						
ISA	Isabella, Lake	82.61	46	P	P	03 18 09.3	+0.2
ISA				IAmb	IAmb	03 18 11.2	
	comp=Z,11nm,0.8s						
O02D	Mt. Diablo Mer	82.64	40	P	P	03 18 10.6	+1.4
	baz=231,SNR=6.1						
CMB	Columbia Colle	82.79	43	IAmb	IAmb	03 18 11.6	
	comp=Z,8.9nm,0.8s						
TPFO	Pinon Flats	82.80	49	P	P	03 18 11.0	+0.8
	baz=236						
SWSC	Sam W. Stewart	82.88	50	P	P	03 18 11.5	+1.0
	baz=236						
WHN	Wuhan	82.97	307	P	P	03 18 15.2	+4.3
AFDM	Forest Hills D	82.98	42	IAmb	IAmb	03 18 12.6	
	comp=Z,15nm,1.1s						
N02D	Trinity Center	83.19	40	P	P	03 18 13.2	+1.3
	baz=231						
O03E	Paynes Creek	83.30	41	P	P	03 18 13.0	+0.5
	baz=232,SNR=8.7						
CWC	Cottonwood Cre	83.32	46	P	P	03 18 13.6	+0.8
	baz=234						
BELC	Belle Mtn. Jos	83.33	49	P	P	03 18 13.6	+0.7
	baz=236,SNR=7.2						
M02C	Callahan	83.37	39	P	P	03 18 14.3	+1.5
	baz=231,SNR=5.2						
MDPB	Devils Postpil	83.38	44	IAmb	IAmb	03 18 15.6	
	comp=Z,13nm,1.1s						
SYO	Syowa Base	83.41	193	⇓eP	P	03 18 10.9	-1.6
MPMC	Manual Prospec	83.49	46	P	P	03 18 14.4	+0.7
	baz=235,SNR=6.7						
GSC	Goldstone, Bar	83.52	47	P	P	03 18 14.4	+0.7
	baz=235,SNR=5.2						
BC3	Big Chuckawall	83.52	49	P	P	03 18 14.9	+1.1
	baz=236						
HEC	Hector,Ludlow	83.57	48	P	P	03 18 14.6	+0.6
	baz=236,SNR=8.2						
TIN	Tinemaha, Big	83.58	45	P	P	03 18 14.8	+0.7
	baz=234						
GLA	Glamis	83.62	50	P	P	03 18 15.6	+1.4
	baz=237						
GLA	Glamis	83.62	50	P	P	03 18 15.1	+0.8
GLA				IAmb	IAmb	03 18 16.9	
	comp=Z,21nm,1.1s						
WAKR	Walker	83.67	43	IAmb	IAmb	03 18 16.7	
	comp=Z,13nm,1.0s						
YBH	Yreka Blue Hor	83.67	39	P	P	03 18 15.0	+0.7
K02D	Willamette Mer	83.73	38	P	P	03 18 15.7	+1.1
	baz=230						
J01E	Myrtle Point	83.89	38	P	P	03 18 16.5	+1.3
	baz=230						
PNTR	Pine Nut	83.91	43	IAmb	IAmb	03 18 17.7	
	comp=Z,19nm,1.0s						
GMRC	Granite Mounta	84.00	48	P	P	03 18 16.7	+0.5
	baz=236						
VCNR	Virginia City	84.01	43	IAmb	IAmb	03 18 18.1	
	comp=Z,8.6nm,1.1s						
IRM	Iron Mountain	84.01	49	P	P	03 18 17.1	+0.9
	baz=236,SNR=8.7						
GRAC	Grapevine Rang	84.11	45	P	P	03 18 17.4	+0.8
	baz=235						
TUQ	Turquoise Moun	84.19	47	P	P	03 18 17.9	+0.8
	baz=236						
M04C	Macdoel	84.21	40	P	P	03 18 18.4	+1.4
	baz=231						
L04D	Klamath Falls	84.21	39	P	P	03 18 18.1	+1.0
	baz=231						
Y12C	Blythe	84.22	49	P	P	03 18 18.1	+1.1
	baz=237						
Y12C	Blythe	84.22	49	IAmb	IAmb	03 18 19.4	
	comp=Z,9.9nm,1.0s						
113A	Mohawk Valley,	84.22	51	IAmb	IAmb	03 18 20.2	
	comp=Z,15nm,1.4s						
HSIG		84.32	55	IAmb	IAmb	03 18 19.8	
	comp=Z,15nm,0.9s						
NVAR	Mina Array Bea	84.34	44	P	P	03 18 18.8	+0.9
	comp=Z,5.0nm,1.0s,baz=226,slow=7.3,SNR=19						
PAHR	Pah Rah Range	84.42	42	IAmb	IAmb	03 18 19.9	
	comp=Z,10nm,1.2s						
214A	Organ Pipe Nat	84.47	52	P	P	03 18 19.6	+1.1
	baz=238						
214A	Organ Pipe Nat	84.47	52	IAmb	IAmb	03 18 21.0	
	comp=Z,12nm,1.2s						
I02D	Swisshome	84.54	37	P	P	03 18 20.0	+1.6
	baz=230						
I03D	Drain, OR	84.56	37	P	P	03 18 19.6	+1.1
	baz=230,SNR=5.2						
K04D	Chiloquin, OR	84.78	39	P	P	03 18 20.7	+0.9
	baz=231						
TPNV	Topopah Spring	84.82	46	P	P	03 18 21.1	+0.9
	baz=236,SNR=5.7						
J04D	Umpqua Nationa	84.96	38	P	P	03 18 22.0	+1.2
	baz=231,SNR=5.7						
SNAA	Sanae	85.02	179	P	P	03 18 19.7	-0.8
I04A	Tendick Farm,	85.14	38	P	P	03 18 22.1	+0.7
	baz=231						
VNA3	Neumayer Olymp	85.22	177	P	P	03 18 21.5	+0.1
SHPR	Sheep Range	85.30	47	P	P	03 18 24.0	+1.5
H04D	Lebanon	85.42	37	P	P	03 18 23.7	+1.0
	baz=231						
J05D	Fort Rock, OR	85.49	39	P	P	03 18 24.2	+0.9
	baz=232,SNR=11						
G03D	McMinnville, O	85.57	36	P	P	03 18 24.6	+1.2
	baz=230						
VNA2	Neumayer--Watz	85.64	177	P	P	03 18 23.8	+0.4
	baz=185,slow=3.5						
PINE	Pine Mountain	85.97	38	IAmb	IAmb	03 18 27.9	
	comp=Z,12nm,1.0s						
R11A	Troy Canyon, C	86.04	45	P	P	03 18 26.9	+0.8
	baz=236						
I05D	Terrebonne, OR	86.08	38	P	P	03 18 27.0	+1.1
	baz=232						
TUC	Tucson	86.12	52	P	P	03 18 28.2	+1.8
	baz=239						
TUC	Tucson	86.12	52	P	P	03 18 27.7	+1.2
TUC				IAmb	IAmb	03 18 29.3	
	comp=Z,13nm,1.0s						
G05D	Wamic, OR	86.66	37	P	P	03 18 29.9	+1.2
	baz=232						
X16A	Lo Mia Camp, P	86.74	50	IAmb	IAmb	03 18 31.9	
	comp=Z,6.5nm,1.0s						
319A	Douglas	86.75	54	P	P	03 18 30.1	+0.5
319A				IAmb	IAmb	03 18 32.5	
	comp=Z,14nm,0.8s						
E04D	Cinebar	86.81	36	P	P	03 18 30.8	+1.6
	baz=231						
F05D	White Salmon	86.98	37	P	P	03 18 31.1	+1.1
	baz=231						
D04E	Lakebay	87.09	35	P	P	03 18 31.8	+1.3
	baz=230						
D03D	Eldon	87.15	35	P	P	03 18 32.5	+1.7
	baz=230						
U15A	North Rim	87.20	48	IAmb	IAmb	03 18 34.1	
	comp=Z,12nm,0.9s						
WUAZ	Wupatki	87.36	49	P	P	03 18 33.6	+1.3
	baz=239						
WUAZ	Wupatki	87.36	49	P	P	03 18 33.3	+1.0
WUAZ				IAmb	IAmb	03 18 34.6	
	comp=Z,9.7nm,1.3s						
F07A	Phinny Hill Vi	87.83	37	IAmb	IAmb	03 18 36.0	
	comp=Z,9.4nm,0.9s						
G08A	Pilot Rock	88.01	38	P	P	03 18 35.5	+0.4
G08A				IAmb	IAmb	03 18 37.0	
	comp=Z,9.7nm,0.9s						
B05A	Bryant	88.13	34	P	P	03 18 36.9	+1.5
	baz=231						
E07A	Sunnyside	88.27	37	IAmb	IAmb	03 18 38.2	
	comp=Z,12nm,0.9s						
PMR	Palmer	88.35	14	IAmb	IAmb	03 18 36.6	
	comp=Z,8.5nm,0.9s						
HAWA	Hanford	88.35	37	IAmb	IAmb	03 18 38.5	
	comp=Z,9.4nm,0.9s						
121A	Cookes Peak, D	88.43	53	P	P	03 18 38.8	+1.4
	baz=241						
GHO	Glory Hole Cre	88.55	14	P	P	03 18 37.4	+0.2
E08A	Dider Farm, El	88.67	37	IAmb	IAmb	03 18 40.0	
	comp=Z,8.4nm,1.1s						
XAN	Xi'an	88.70	308	P	P	03 18 45.6	+7.1
XAN				pmax	pmax		
	comp=Z,5.0nm,1.7s						
MFID	Camas Ranch	88.74	41	IAmb	IAmb	03 18 40.4	
	comp=Z,11nm,1.0s						
DUG	Dugway, Tooele	88.85	45	P	P	03 18 40.6	+1.4
	baz=238						
SEY	Seymchan	88.97	348	P	P	03 18 39.2	+0.2
	comp=Z,3.4nm,0.7s,baz=166,slow=7.4,SNR=4.1						
F10A	Beach Ranch, E	89.39	38	IAmb	IAmb	03 18 42.6	
	comp=Z,8.9nm,1.0s						
TMUT	Trail Mountain	89.43	46	P	P	03 18 42.8	+0.7
PLID	Pearl Lake	89.59	39	IAmb	IAmb	03 18 44.7	
	comp=Z,12nm,1.5s						
CMAR	Chiang Mai Arr	89.62	290	P	P	03 18 44.3	+1.3
	comp=Z,0.5nm,0.3s,baz=111,slow=2.4,SNR=7.5						
KTH	Kantishna Hill	89.72	12	IAmb	IAmb	03 18 42.6	
	comp=Z,6.5nm,0.9s						
BARN	Barnard Glacie	89.76	17	IAmb	IAmb	03 18 44.2	
	comp=Z,11nm,1.1s						
TRF	Thorofare Moun	89.76	13	IAmb	IAmb	03 18 42.7	
	comp=Z,9.8nm,0.9s						
MNTX	Cornudas Mount	89.82	55	P	P	03 18 44.9	+1.2
	baz=242						
MNTX	Cornudas Mount	89.82	55	IAmb	IAmb	03 18 45.9	
	comp=Z,5.1nm,0.9s						
P17A	Butcher Ranch,	89.83	46	P	P	03 18 44.7	+0.9
RND	Reindeer	90.02	13	IAmb	IAmb	03 18 44.3	
	comp=Z,10nm,1.0s						
TX32	Lajitas Array	90.05	58	IAmb	IAmb	03 18 47.2	
	comp=Z,7.6nm,0.9s						
TXAR	Lajitas Array	90.05	58	P	P	03 18 46.3	+1.4
	comp=Z,4.7nm,0.8s,baz=215,slow=6.2,SNR=24						
HHC	Hu-ho-hao-te	90.33	315	eP	P	03 18 48.8	+2.9
HHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ANMO	Albuquerque	90.56	52	P	P	03 18 48.4	+1.1
	baz=242						
ANMO	Albuquerque	90.56	52	P	P	03 18 47.5	+0.2
ANMO				IAmb	IAmb	03 18 48.5	
	comp=Z,9.5nm,1.4s						
CCB	Clear Creek Bu	91.33	13	P	P	03 18 49.0	-0.8
S22A	4UR Ranch, Cre	91.63	49	P	P	03 18 53.1	+0.8
	baz=241						
S22A	4UR Ranch, Cre	91.63	49	IAmb	IAmb	03 18 54.2	
	comp=Z,4.6nm,0.9s						
ILAR	Eielson Array	91.63	13	P	P	03 18 50.4	-0.8
	comp=Z,0.7nm,0.6s,baz=220,slow=5.5,SNR=11						
MSO	Missoula	91.75	39	P	P	03 18 53.0	+0.7
	baz=237						
REDW	Red Top Meadow	91.77	43	IAmb	IAmb	03 18 54.0	
	comp=Z,7.6nm,1.2s						
O20A	White River Ci	91.83	47	P	P	03 18 53.6	+0.6
	baz=241						
SMCO	Snowmass	92.22	48	IAmb	IAmb	03 18 56.4	
	comp=Z,3.4nm,0.8s						
BW06	Boulder Array	92.28	44	P	P	03 18 55.5	+0.5
	baz=240						
PDAR	Pinedale Array	92.28	44	P	P	03 18 55.4	+0.4
	comp=Z,1.4nm,0.7s,baz=219,slow=3.8,SNR=12						
BOZ	Bozeman (W)	92.45	41	P	P	03 18 56.0	+0.3
	baz=238						
SDCO	Great Sand Dun	92.56	50	P	P	03 18 56.8	+0.2
	baz=242						
LZH	Lanzhou	93.34	308	eP	P	03 19 02.3	+2.3
LZH				sP	sP	03 21 50.7	+1.4
LZH				pmax	pmax		
	comp=Z,16nm,1.4s						
LZH				pmax	pmax		
	comp=Z,59nm,5.0s						
EPYK	Eagle Plains	95.34	16	P	P	03 19 08.2	0.0
	baz=219						
JFWS	Jewell Farm	105.29	50	P	PKiKP	03 24 04.5	+0.8
	baz=252						
MKAR	Makanchi Array	112.08	313	PKiKP	PKiKP	03 24 15.3	-1.0
	comp=Z,0.6nm,0.6s,baz=73,slow=0.4,SNR=7.9						
MKAR				PKKPab	PKKPab	03 35 20.7	+1.8
	comp=Z,0.4nm,0.6s,baz=278,slow=1.0,SNR=5.3						
KURK	Kurchatov	115.10	317		PKPdf	03 24 21.3	-0.7
KURBB	Kurchatov Arra	115.15	316	PKP	PKPdf	03 24 21.3	-0.8
	comp=Z,0.7nm,0.6s,baz=95,slow=2.0,SNR=8.0						
KSH	Kashi	115.26	304	PKP	PKPdf	03 24 21.2	-1.7
KSH				PP	PP	03 25 39.5	+5.8
KSH				PKS	PKSdf	03 27 57.2	-2.4
KSH				SKS	SKSdf	03 30 42.7	-1.9
KSH				SKKS	SKKSac	03 31 35.6	-3.6
BVAR	Borovoye Array	120.32	319	PKP	PKPdf	03 24 31.2	-0.8
	comp=Z,0.9nm,0.3s,baz=42,slow=2.4,SNR=8.2						
SPITS	Spitsbergen Ar	124.78	356	PKP	PKPdf	03 24 39.8	-0.1
	comp=Z,7.8nm,0.9s,baz=70,slow=4.8,SNR=5.5						
AKTO	Aktyubinsk	128.20	317	PKP	PKPdf	03 24 47.7	+0.5
	comp=Z,1.7nm,0.7s,baz=118,slow=3.2,SNR=7.1						
ARCES	ARCESS Array B	131.59	348	PKP	PKPdf	03 24 52.6	-0.4
	comp=Z,4.6nm,0.8s,baz=70,slow=1.7,SNR=10						
FINES	FINESS Array B	138.18	342	PKhKP	PKPpre	03 24 55.0	
	comp=Z,1.4nm,0.6s,baz=48,slow=4.1,SNR=5.0						
FINES				SKPbc	SKPbc	03 27 50.4	+0.6
	comp=Z,8.7nm,1.1s,baz=154,slow=0.8,SNR=12						
NB2	NORSAR Subarra	141.77	351	PKP	PKPdf	03 25 07.4	-4.7
	comp=Z,1.3nm,0.6s,baz=12,slow=3.1						
NOA	NORSAR Array B	141.77	351	PKhKP	PKPpre	03 25 07.4	
	comp=Z,2.2nm,0.7s,baz=16,slow=4.7,SNR=5.3						
HFS	Hagfors	142.24	349	PKhKP	PKPpre	03 25 08.6	
	comp=Z,7.4nm,0.3s,baz=58,slow=3.5,SNR=76						
AKASG	Malin Array Be	144.80	328	PKP	PKPdf	03 25 17.1	-0.5
	comp=Z,4.5nm,0.5s,baz=44,slow=4.0,SNR=33						
AKASG				SKPbc	SKiKP	03 28 07.9	+0.7
	comp=Z,1.5nm,0.6s,baz=46,slow=2.4,SNR=5.9						
AKBB	Malin Array Si	144.80	328		PKPdf	03 25 16.8	-0.8
SORM	Soroca	146.85	325	⇑P	PKPbc	03 25 23.2	-0.7
BR131	Keskin Array S	147.54	308		PKPbc	03 25 26.1	-0.2
BRTR	Keskin Array B	147.54	308	PKPbc	PKPbc	03 25 25.6	-0.7
	comp=Z,2.1nm,0.8s,baz=126,slow=4.0,SNR=7.5						
BIZ	Bicaz	148.78	325	⇑P	PKPbc	03 25 29.2	+0.2
BURAR	Bucovina Array	148.80	327	⇑P	PKiKP	03 25 30.5	+0.4
TLB	Topalu	149.09	320	⇑P	PKPbc	03 25 29.3	-0.5
KOLS	Kolonicke sedl	149.28	331	ePKP	PKiKP	03 25 31.2	+0.3
KOLS				e		03 25 37.9	
MLR	Muntele Rosu	149.77	323	PKPbc	PKPbc	03 25 31.0	-0.5
	comp=Z,1.3nm,0.3s,baz=234,slow=2.0,SNR=6.0						
MLR	Muntele Rosu	149.77	323		PKPbc	03 25 31.2	-0.4
DOPR	Dopca	149.78	324	⇑P	PKPbc	03 25 31.8	+0.4
OKC	Ostrava-Krasne	150.25	336	⇑ePKP	PKPbc	03 25 32.8	+0.5
VOIR		150.30	323	⇑P	PKPbc	03 25 31.7	-1.0
CHVC	Chvalec	150.33	339	⇑ePKP	PKPbc	03 25 33.0	+0.4
UPC	Upice	150.42	339	⇑ePKP	PKPbc	03 25 32.5	-0.2
DPC	Dobruska-Polom	150.45	339	⇑ePKP	PKPbc	03 25 33.1	+0.2
MORC	Moravsky Berou	150.52	337	⇑P	PKPbc	03 25 33.2	+0.1
MORC	Moravsky Berou	150.52	337		PKPbc	03 25 33.1	+0.1
ARR	Arges	150.57	324	⇓P	PKiKP	03 25 34.4	+0.6
CLL	Collm	150.58	344	ePKPdf	PKPdf	03 25 28.0	+1.0
CLL				i PKPbc	PKPbc	03 25 33.2	+0.2
	comp=Z,21nm,0.9s						
CLL				i PKPab	PKPab	03 25 42.2	0.0
	comp=Z,7.0nm,0.9s						
CLL	Collm	150.58	344		PKPbc	03 25 32.8	-0.2
DRGR		150.61	328	⇓P	PKPbc	03 25 33.4	0.0
BRG	Berggiesshubel	150.72	342	i PKP	PKPbc	03 25 33.5	+0.1
	comp=Z,8.8nm,0.8s						
VYHS	Vyhne	151.07	334	ePKP	PKPbc	03 25 34.7	+0.4
VYHS				e		03 25 45.1	
GOPC	GO Pecny, Ondr	151.32	340	⇑ePKP	PKPbc	03 25 34.2	-0.6
PRU	Pruhonice	151.33	341	⇑ePKP	PKPbc	03 25 34.8	0.0
GZR	Gura Zlata	151.54	325	⇑P	PKPbc	03 25 34.9	-0.6
PLVB	Pleven	151.80	320	⇑P	PKPbc	03 25 35.5	-0.6
BZS	Buzias	151.98	327	⇑P	PKPbc	03 25 36.1	-0.3
KHC	Kasperske Hory	152.38	341	⇑ePKP	PKPbc	03 25 37.3	+0.1
KHC				ePKPAB	PKPab	03 25 50.1	+0.2
FUORN	Ofenpass-Fuorn	155.60	343		PKPab	03 26 04.3	+0.3
ESDC	Sonseca Array	163.53	12	PKPab	PKPab	03 26 38.4	-0.1
	comp=Z,0.1nm,0.4s,baz=351,slow=4.2,SNR=6.0						
TORD	Torodi Ar. Bea	169.57	188	PKP	PKPdf	03 25 48.4	-0.4
	comp=Z,1.5nm,0.9s,baz=254,slow=2.6,SNR=5.5						
TORD				PKPab	PKPab	03 27 05.9	+0.3
	comp=Z,1.5nm,0.8s,baz=173,slow=4.6,SNR=6.2						

*SJA **06** 03:19:19.0±0.8, 32°.38S×72°.23W, h15km, ML4.6, MW4.8*
*ISCJB **06** 03:19:20.7±0.9, 32°.22S±0°.02×72°.14W±0°.05, h17km±6km, mb4.6/11, MS4.1/17, Error ellipse: s-maj=7.5km s-min=3.8km az=167.0*
*VAO **06** 03:19:21.7±0.5, 32°.24S×72°.32W, h10km, mb4.5*
*GUC **06** 03:19:23.6±0.5, 32°.22S×71°.88W, h34km±3km, ML4.7*
*NEIC **06** 03:19:24.6±3.1, 32°.24S±0°.05×71°.90W±0°.10, h35km±2km*
*IDC **06** 03:19:27.0±2.5, 32°.21S×71°.83W, h42km±21km, mb4.3/10, mb1 4.4/15, mb1mx4.2/28, mbtmp4.5/15, ML4.5/5, MS4.1/20, Ms1 4.1/20, ms1mx4.0/30, Error ellipse: s-maj=23.0km s-min=14.5km az=94.0*

ISC 06 03:19:21.8±1.5**, 32°.21S**±0°.03×**71°.93W**±0°.05**, h13**km±9km**, n149, σ1.99**/147**, mb4.7**/13**, MS4.0**/17**, 1C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
VA01	Torpederas	0.85	164	eP	Pb	03 19 38.6	+0.2
VA01				i S	Sb	03 19 50.2	+0.5
ROC1	El Roble	1.09	135		Pb	03 19 42.4	-0.2
ROC1	El Roble	1.09	135	i P	Pb	03 19 42.3	-0.4
ROC1				eS	Sn	03 19 58.3	+0.3
ROCH	El Roble	1.09	135	⇓i P	Pb	03 19 42.2	-0.4
ROCH				i S	Sb	03 19 56.7	-0.1
ROCH				IAML		03 19 59.4	
	comp=N,43µm,0.4s						
CO02	Combarbal	1.28	39	⇓i P	Pg	03 19 45.8	-0.6
CO02				i S	Sb	03 20 02.8	+0.7
CO02				IAML		03 20 09.8	
	comp=E,27µm,0.5s						
PEL	Peldehue	1.41	132	⇓i P	Pb	03 19 47.4	-0.5
PEL				i S	Sn	03 20 05.7	+0.1
PEL				IAML		03 20 07.6	
	comp=N,35µm,0.3s						
PEL	Peldehue	1.41	132		Pn	03 19 47.2	+0.1
PEL	Peldehue	1.41	132	i P	Pb	03 19 47.4	-0.5
PEL				eS	Sn	03 20 06.3	+0.7
CLCH	Cerro Calan	1.67	136	⇓i P	Pb	03 19 51.3	-1.1
CLCH				i S	Sb	03 20 12.9	-0.4
CLCH				IAML		03 20 21.9	
	comp=N,14µm,0.4s						
FSR	Penalolen	1.73	137	eP	Pb	03 19 52.9	-0.6
FSR				i S	Sb	03 20 14.4	-0.8
ANTU	Antumapu	1.74	142	eP	Pb	03 19 52.6	-1.0
ANTU				i S	Sb	03 20 14.9	-0.6
ANTU				IAML		03 20 24.4	
	comp=N,22µm,0.8s						
FCH	Farellones	1.78	129	⇓i P	Pn	03 19 52.9	+0.4
FCH				i S	Sb	03 20 16.4	-0.3
FCH				IAML		03 20 21.2	
	comp=N,9µm,0.3s						
LMEL	Las Melosas	2.19	139	⇓i P	Pb	03 19 59.6	-1.7
LMEL				i S	Sn	03 20 25.9	+0.9
LMEL				IAML		03 20 33.9	
	comp=N,6µm,0.2s						
GO04	Tololo Observa	2.25	26	eP	Pn	03 19 59.5	+0.6
GO04				i S	Sn	03 20 27.4	+0.8
GO04	Tololo Observa	2.25	26		Pn	03 19 59.7	+0.8
GO04	Tololo Observa	2.25	26	⇓i P	Pn	03 19 59.5	+0.6
GO04				eS	Sb	03 20 32.0	+1.8
ARCO	CERRO ARCO	2.61	105	eP	Pb	03 20 08.4	-0.1
ARCO				eS	Sg	03 20 43.3	-2.4
ARCO				IAML		03 20 50.2	
	comp=Z,2µm,1.1s						
GO05	Huala	2.79	180		Pn	03 20 05.1	-1.1
AROD	Rodeo	2.93	47	eP	Pb	03 20 12.7	-1.3
AROD				eS	Sg	03 20 53.1	-2.8
ACCO	Cerro Coronel	2.93	57	eP	Pb	03 20 13.0	-1.2
ACDV	Cuesta del Vie	3.15	51	eP	Pb	03 20 18.0	+0.3
ACDV				eS	Sg	03 20 59.8	-3.2
ACDV				IAML		03 21 08.3	
	comp=Z,2µm,1.1s						
CFA	Coronel Fontan	3.20	80	P	Pn	03 20 14.7	+2.9
	comp=Z,74nm,0.3s,baz=250,slow=12,SNR=182						
CFA				LR	LR	03 21 48.5	
	comp=Z,3µm,19.5s,baz=244,slow=45						
CFA	Coronel Fontan	3.20	80	i P	Pb	03 20 15.1	-3.3
ACAN	Cantantal	4.02	92	i P	Pn	03 20 26.0	+2.9
ACAN				IAML		03 21 41.6	
	comp=Z,421nm,1.0s						
GO03	Copiap	4.83	18		Pn	03 20 34.3	0.0
APLL	PUNTA DE LOS L	4.96	70	i P	Pn	03 20 39.6	+3.5
ACLC	CERRO LA CRUZ	5.10	58	i P	Pn	03 20 41.4	+3.3
MRA	San Martin	5.26	94	i P	Pn	03 20 42.1	+1.9
MRA				IAML		03 22 15.2	
	comp=Z,186nm,0.7s						
GO02	Mina Guanaco	7.31	17		Pn	03 21 07.5	-1.1
GO06	Curarrehue	7.37	177		Pn	03 21 08.6	-0.6
PLCA	Paso Flores	8.58	173	P	Pn	03 21 27.0	+1.2
	comp=Z,4.1nm,0.3s,baz=358,slow=11,SNR=123						
PLCA				LR	LR	03 24 41.7	
	comp=Z,1µm,19.1s,baz=4.5,slow=37						
PLCA	Paso Flores	8.58	173	eP	Pn	03 21 26.4	+0.6
PLCA	Paso Flores	8.58	173	eP	Pn	03 21 26.4	+0.6
PLCA	Paso Flores	8.58	173		Pn	03 21 25.9	+0.1
PB10	IPOC Station P	8.75	8	Pn	Pn	03 21 28.1	+0.1
LVC	Limon Verde	9.93	16	P	Pn	03 21 41.8	-2.7
	comp=Z,0.3nm,0.3s,baz=199,slow=9.2,SNR=3.7						
LVC				LR	LR	03 25 46.0	
	comp=Z,1µm,19.5s,baz=208,slow=38						
LVC	Limon Verde	9.93	16	Pn	Pn	03 21 41.4	-3.1
PB04	IPOC Station P	9.96	10		Pn	03 21 43.1	-1.8
TRQA	Tornquist	10.02	128	eP	Pn	03 21 48.8	+3.3
TRQA	Tornquist	10.02	128	eP	Pn	03 21 48.8	+3.3
TRQA	Tornquist	10.02	128		Pn	03 21 43.3	-2.1
LPA	La Plata	11.98	107	eP	Pn	03 22 06.2	-6.1
LPA				pP		03 22 14.4	
LPA				S	Sn	03 24 20.2	-5.6
PB11	IPOC Station P	12.56	10		Pn	03 22 19.4	-1.0
MNMC	Minye Minye	13.19	10		Pn	03 22 27.2	-1.9
CPUP	Villa Florida	14.02	69	P	Pn	03 22 41.7	+1.5
	comp=Z,0.3nm,0.3s,baz=238,slow=10,SNR=7.5						
CPUP				LR	LR	03 28 51.8	
	comp=Z,568nm,19.0s,baz=248,slow=40						
CPUP	Villa Florida	14.02	69		Pn	03 22 40.6	+0.5
PLTB	Pedras Altas	15.56	93	eP	P	03 23 06.6	+1.5
PLTB	Pedras Altas	15.56	93	eP	P	03 23 06.6	+1.5
LPAZ	La Paz	16.22	13	P	Pn	03 23 11.4	+1.4
	comp=Z,0.3nm,0.3s,baz=188,slow=5.5,SNR=34						
LPAZ	La Paz	16.22	13	eP	Pn	03 23 11.6	+1.6
LPAZ	La Paz	16.22	13	eP	Pn	03 23 11.6	+1.6
LPAZ	La Paz	16.22	13	Pn	Pn	03 23 08.3	-1.7
AQDB	Aquidauana	18.63	55	eP	Pn	03 23 43.9	+4.4
AQDB	Aquidauana	18.63	55	eP	Pn	03 23 43.9	+4.4
SIV	San Ignacio	18.92	34	P	P	03 23 42.7	+0.3
	comp=Z,0.5nm,0.3s,baz=225,slow=11,SNR=11						
SIV				LR	LR	03 32 15.7	
	comp=Z,564nm,19.2s,baz=236,slow=41						
PTGB	Pitanga	18.98	72	eP	Pn	03 23 45.9	+2.1
PTGB	Pitanga	18.98	72	eP	Pn	03 23 45.9	+2.1
NNA	Nana	20.63	346	P	Pn	03 24 04.3	+1.0
	comp=Z,6.9nm,0.5s,baz=215,slow=10.0,SNR=4.9						
NNA	Nana	20.63	346	P	P	03 23 57.0	-4.0
NNA				IAmb	IAmb	03 24 04.8	
	comp=Z,14nm,0.8s						
PP1B	Ponte de Pedra	21.18	51	eP	P	03 24 10.2	+3.1
PP1B	Ponte de Pedra	21.18	51	eP	P	03 24 10.2	+3.1
FRTB	Fartura	21.64	72	eP	P	03 24 14.9	+3.0
FRTB	Fartura	21.64	72	eP	P	03 24 14.9	+3.0
SPB	Sao Paulo	23.25	75	eP	P	03 24 33.5	+4.6
SPB	Sao Paulo	23.25	75	eP	P	03 24 33.5	+4.6
SAML	Samuel	24.52	21	eP	P	03 24 42.2	+1.1
SAML	Samuel	24.52	21	eP	P	03 24 42.2	+1.1
SAML	Samuel	24.52	21	P	P	03 24 40.5	-0.6
ARAG	Araguaiana, MT	24.58	53	eP	P	03 24 45.0	+3.4
ARAG	Araguaiana, MT	24.58	53	eP	P	03 24 45.0	+3.4
IPMB	Ipameri, GO	25.65	62	eP	P	03 24 54.9	+3.5
IPMB	Ipameri, GO	25.65	62	eP	P	03 24 54.9	+3.5
ATAH	Atahualpa	25.66	345	LR	LR	03 33 51.8	
	comp=Z,229nm,19.1s,baz=210,slow=34						
BDFB	Brasilia	27.29	58	P	P	03 25 06.6	+0.3
	comp=Z,6.5nm,1.0s,baz=238,slow=6.8,SNR=7.0						
BDFB				LR	LR	03 37 25.1	
	comp=Z,1µm,18.6s,baz=257,slow=40						
BDFB	Brasilia	27.29	58	P	P	03 25 03.9	-2.4
BDFB				IAmb	IAmb	03 25 17.8	
	comp=Z,17nm,0.9s						
SJMB	Sao Joao De Ma	30.72	72	eP	P	03 25 40.7	+4.1
SJMB	Sao Joao De Ma	30.72	72	eP	P	03 25 40.7	+4.1
OTAV	Otavalo	32.85	348	eP	P	03 25 55.8	-0.1
OTAV	Otavalo	32.85	348	eP	P	03 25 55.8	-0.1
PMSA	Palmer Station	32.95	174	P	P	03 25 58.0	+2.3
	comp=Z,8.3nm,0.9s,baz=350,slow=8.6,SNR=3.6						
PMSA				LR	LR	03 39 22.2	
	comp=Z,580nm,19.3s,baz=314,slow=36						
PMSA	Palmer Station	32.95	174	eP	P	03 25 56.3	+0.5
PMSA	Palmer Station	32.95	174	eP	P	03 25 56.3	+0.5
PMSA	Palmer Station	32.95	174	IAmb	IAmb	03 25 58.6	
	comp=Z,25nm,1.3s						
ROSC	El Rosal	36.91	356	LR	LR	03 43 23.4	
	comp=Z,222nm,18.1s,baz=152,slow=39						
SDV	Santo Domingo	40.88	2	LR	LR	03 45 16.6	
	comp=Z,207nm,19.9s,baz=225,slow=38						
SDV	Santo Domingo	40.88	2	eP	P	03 27 04.4	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	40.88	2	eP	P	03 27 04.4	+0.5
SDV	Santo Domingo	40.88	2	P	P	03 27 03.4	-0.5
SDV				IAmb	IAmb	03 27 13.9	
	comp=Z,6.2nm,0.9s						
MDP	Montagnes des	41.40	30	LR	LR	03 45 54.5	
	comp=Z,333nm,19.2s,baz=176,slow=38						
VNA3	Neumayer Olymp	50.98	158	P	P	03 28 24.0	+1.3
VNA2	Neumayer--Watz	51.63	158	P	P	03 28 28.5	+0.9
	baz=283,slow=8.4						
SNAA	Sanae	53.21	158	P	P	03 28 40.4	+1.0
SNAA	Sanae	53.21	158	LR	LR	03 49 25.1	
	comp=Z,149nm,20.4s,baz=351,slow=34						
SNAA	Sanae	53.21	158	P	P	03 28 39.1	-0.3
QSPA	South Pole Qui	58.02	180	P	P	03 29 15.5	+1.3
	comp=Z,12nm,0.8s,baz=155,slow=1.7,SNR=34						
QSPA	South Pole Qui	58.02	180	P	P	03 29 14.8	+0.7
VNDA	Vanda	65.87	191	LR	LR	03 53 27.8	
	comp=Z,48nm,21.6s,baz=138,slow=31						
SYO	Syowa Base	67.50	159	⇑eP	P	03 30 15.4	-1.6
TXAR	Lajitas Array	68.22	330	P	P	03 30 23.3	+1.1
	comp=Z,0.8nm,0.6s,baz=146,slow=7.0,SNR=8.0						
TXAR				LR	LR	03 56 10.1	
	comp=Z,102nm,18.2s,baz=0.0,slow=32						
WVT	Waverly	69.59	346	P	P	03 30 29.8	-0.6
WVT				IAmb	IAmb	03 30 40.8	
	comp=Z,4.9nm,0.8s						
PPT2	Papeete2	70.59	261	eS	S	03 40 07.0	+16
	comp=Z,61nm,25.0s						
PPT2	Papeete2	70.59	261	eLR	LR	03 52 12.6	
	comp=Z,43nm,21.2s						
LIC	Lamto	74.13	72	eP	P	03 30 58.2	0.0
	comp=Z,25nm,0.6s						
TIC	Toumodi	74.38	72	eP	P	03 30 59.7	0.0
KIC	Kosan Boka	74.44	72	eP	P	03 31 00.2	+0.2
	comp=Z,25nm,0.6s						
DBIC	Dimbokro	74.52	72	P	P	03 31 00.7	+0.1
	comp=Z,11nm,0.6s,baz=210,slow=5.7,SNR=27						
DBIC				LR	LR	04 04 07.0	
	comp=Z,78nm,18.3s,baz=192,slow=36						
MAW	Mawson	74.87	164	P	P	03 31 02.5	+0.9
	comp=Z,3.8nm,0.5s,baz=196,slow=8.8,SNR=6.6						
MAW				LR	LR	04 07 18.6	
	comp=Z,197nm,18.1s,baz=236,slow=38						
MAW	Mawson	74.87	164	IAmb	IAmb	03 31 05.4	
	comp=Z,6.6nm,1.4s						
X16A	Lo Mia Camp, P	75.98	327	P	P	03 31 07.0	-1.7
BOSA	Boshof	80.82	118	P	P	03 31 37.2	+1.5
	comp=Z,5.5nm,0.9s,baz=275,slow=5.2,SNR=5.7						
BOSA	Boshof	80.82	118	IAmb	IAmb	03 31 37.9	
	comp=Z,18nm,1.4s						
PDAR	Pinedale Array	82.21	333	LR	LR	04 05 12.7	
	comp=Z,76nm,18.2s,baz=53,slow=33						
NVAR	Mina Array Bea	82.47	325	P	P	03 31 45.7	+1.6
	comp=Z,1.0nm,0.8s,baz=152,slow=6.9,SNR=7.6						
TOA0	Torodi Ar. Sit	83.52	70	P	P	03 31 48.5	-1.2
TORD	Torodi Ar. Bea	83.52	70	P	P	03 31 50.2	+0.4
	comp=Z,6.0nm,0.6s,baz=292,slow=4.2,SNR=59						
TORD				LR	LR	04 06 16.6	
	comp=Z,87nm,20.3s,baz=330,slow=34						
URZ	Urewera	84.93	228	LR	LR	04 01 04.2	
	comp=Z,67nm,19.7s,baz=161,slow=29						
RPZ	Rata Peaks	85.06	220	LR	LR	04 01 46.8	
	comp=Z,70nm,21.3s,baz=149,slow=30						
DZM	Mont Dzumac	102.37	234	eLR	LR	04 06 57.0	
	comp=Z,90nm,22.6s						
ASAR	Alice Springs	119.20	207	PKP	PKPdf	03 38 10.8	-0.4
	comp=Z,0.2nm,0.5s,baz=124,slow=2.7,SNR=4.5						
BRTR	Keskin Array B	120.87	60	PKP	PKPdf	03 38 14.1	+0.2
	comp=Z,0.7nm,0.6s,baz=153,slow=1.1,SNR=4.4						
AKASG	Malin Array Be	120.91	47	PKP	PKPdf	03 38 12.9	-0.4
	comp=Z,0.2nm,0.3s,baz=266,slow=3.1,SNR=5.3						
WRA	Warramunga Arr	122.36	210	PKP	PKPdf	03 38 16.9	-0.4
	comp=Z,0.9nm,0.5s,baz=159,slow=1.7,SNR=12						
H11S2	WAKE ISLAND Hy	125.87	270	T	T	05 57 29.7	
	baz=118,slow=74,SNR=99						
H11S1	WAKE ISLAND Hy	125.88	270	T	T	05 57 27.8	
	baz=118,slow=74,SNR=156						
H11S3	WAKE ISLAND Hy	125.89	270	T	T	05 57 28.9	
	baz=118,slow=74,SNR=118						
H11N3	WAKE ISLAND Hy	126.24	272	T	T	05 57 59.0	
	baz=117,slow=75,SNR=21						
H11N1	WAKE ISLAND Hy	126.25	272	T	T	05 57 54.1	
	baz=117,slow=75,SNR=9.6						
H11N2	WAKE ISLAND Hy	126.25	272	T	T	05 57 53.3	
	baz=117,slow=75,SNR=28						
BRVK	Borovoye	145.82	41	PKPbc	PKPdf	03 39 00.4	+0.8
BVAR	Borovoye Array	145.89	41	PKPbc	PKPbc	03 39 01.5	+1.1
	comp=Z,4.2nm,0.4s,baz=306,slow=3.3,SNR=39						
CHGR	Chuyangaron	147.82	67		PKPbc	03 39 06.4	-0.2
KK31	Karatay Array	148.58	59	PKPbc	PKPbc	03 39 07.7	-0.7
KKAR	Karatay Array	148.58	59	PKPbc	PKPbc	03 39 08.3	0.0
GAR	Garm	148.73	67	PKPbc	PKPbc	03 39 09.6	+0.6
RPSI	Rantau Prapat	149.41	162		PKPbc	03 39 10.4	-0.9
ARSB	Arslanbob	150.62	62		PKPbc	03 39 13.5	0.0
KURBB	Kurchatov Arra	151.48	41	PKPbc	PKPbc	03 39 15.8	+0.8
	comp=Z,8.0nm,0.6s,baz=303,slow=3.0,SNR=10.0						
KURK	Kurchatov	151.49	41		PKPbc	03 39 14.8	-0.3
AAK	Ala-Archa	151.54	59	PKPbc	PKiKP	03 39 17.1	+1.0
	baz=209,slow=3.2						
AAK	Ala-Archa	151.54	59		PKPbc	03 39 16.1	+0.4
ZAA0	Zalesovo Array	152.65	31		PKPbc	03 39 17.0	-0.6
ZALV	Zalesovo Beam	152.65	31	PKPbc	PKPbc	03 39 18.0	+0.4
	comp=Z,8.2nm,0.6s,baz=294,slow=3.6,SNR=27						
NRN	Naryn	152.85	61		PKPbc	03 39 18.6	-0.3
KSH	Kashi	153.08	65	PKPbc	PKPdf	03 39 09.7	-2.2
KSH				PKS	PKSdf	03 42 42.6	-3.7
KSH				SKS	SKSdf	03 46 11.5	-7.2
MK31	Makanchi Array	155.49	46	PKPdf	PKPdf	03 39 12.7	-2.2
MK31					PKPab	03 39 40.6	0.0
MKAR	Makanchi Array	155.49	46	PKP	PKPdf	03 39 15.4	+0.6
	comp=Z,0.5nm,0.8s,baz=0.0,slow=1.7,SNR=3.7						
MKAR				PKPbc	pPKPbc	03 39 24.8	-3.1
	comp=Z,1.1nm,0.8s,baz=326,slow=1.4,SNR=7.9						
MKAR				PKPab	PKPab	03 39 41.1	+0.5
	comp=Z,2.9nm,0.6s,baz=289,slow=4.2,SNR=20						
SONM	Songino Array	164.34	4	PKPab	PKPab	03 40 20.2	+1.1
	comp=Z,0.9nm,0.9s,baz=336,slow=3.3,SNR=5.0						
ULN	Ulaanbaatar	164.34	3		PKPab	03 40 16.2	-2.9
LZH	Lanzhou	174.78	41	ePKP	PKPdf	03 39 28.5	-3.1
LZH				pPKP	sPKPdf	03 39 40.1	+3.2
LZH				sPKP		03 39 45.2	

NORS ***06*** *03:26:00.3±0.0, 42.°55N×43.°35E, h2km, MPVA4.0*
MOS ***06*** *03:26:00.6±0.0, 42.°54N×43.°40E, h5km, MPVA3.7*
ISK ***06*** *03:26:00.8, 42.°53N×43.°47E, h6km, ML2.9/8*
DDA ***06*** *03:26:00.8, 42.°49N×43.°42E, h17km±2km, ML2.4*
TIF ***06*** *03:26:00.0, 42.°53N×43.°46E, h11km*
ISC 06 03:26:00.8±0.8**, 42.°53N**±0.°01×**43.°45E**±0.°02**, h8**km±5km**,**
n61, σ**0.s90**/114**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONI	Oni	0.06	3	P	Pg	03 26 02.6	0.0
ONI				S	Sg	03 26 04.3	+0.2
ONI	Oni	0.06	3	PG	Pg	03 26 02.8	+0.1
ONI				SG	Sg	03 26 04.2	+0.2
ONI	Oni	0.06	3	ePg	Pg	03 26 02.6	0.0
ONI				eSg	Sg	03 26 04.1	0.0
TKB	Tkibuli	0.38	242	P	Pg	03 26 08.7	+0.5
TKB				S	Sg	03 26 14.7	+1.5
DIGR	Digorskoe uzhe	0.38	15	i Pg	Pg	03 26 07.5	-0.8
DIGR				eSg	Sg	03 26 13.3	-0.1
ZEI	Tsey	0.42	52	ePg	Pg	03 26 08.6	-0.5
ZEI				eSg	Sg	03 26 14.8	+0.2
LACR	Lac	0.69	64	i Pg	Pg	03 26 13.3	-0.8
LACR				eSg	Sg	03 26 22.9	-0.3
KORR	Kora	0.72	39	i Pg	Pg	03 26 14.8	+0.1
KORR				eSg	Sb	03 26 25.9	+0.2
GUDG	Gudauri	0.76	95	P	Pg	03 26 15.3	-0.2
GUDG				S	Sb	03 26 26.5	-0.7
GUDG	Gudauri	0.76	95	ePg	Pg	03 26 15.3	-0.2
GUDG				eSg	Sg	03 26 25.6	+0.2
LSNR	Lesken	0.80	20	i Pg	Pg	03 26 16.1	0.0
LSNR				eSg	Sb	03 26 27.8	-0.2
ARNR	Ardon	0.89	43	ePg	Pb	03 26 18.6	0.0
ARNR				eSg	Sn	03 26 32.0	-0.9
NEY	Neytrino	0.90	324	ePg	Pg	03 26 17.1	-0.9
NEY				eSg	Sg	03 26 27.8	-1.9
STDR	Stavd-Durt	0.95	28	ePg	Pn	03 26 20.1	-0.4
STDR				eSg	Sn	03 26 33.1	-1.2
NCK	Nalchik	0.97	6	ePg	Pb	03 26 19.7	-0.2
NCK				eSg	Sn	03 26 33.7	-1.1
VLKR	Vladikavkaz	1.04	60	ePg	Pn	03 26 21.8	0.0
VLKR				eSg	Sn	03 26 36.3	-0.3
AKH	Akhalkalaki	1.12	178	P	Pb	03 26 22.3	-0.2
AKH				S	Sb	03 26 37.3	0.0
AKH	Akhalkalaki	1.12	178	PN	Pn	03 26 22.8	-0.2
AKH				SN	Sn	03 26 38.3	-0.4
AKH	Akhalkalaki	1.12	178	ePg	Pb	03 26 22.3	-0.2
AKH				eSg	Sn	03 26 38.2	-0.4
EPOS	Posof	1.16	208	i P	Pb	03 26 22.7	-0.5
EPOS				i S	Sb	03 26 37.9	-0.5
EPOS				IAML		03 26 38.0	
	comp=N,111nm,1.3s						
BTKR	Batakoyurt	1.16	43	ePg	Pg	03 26 24.4	+1.3
BTKR				eSg	Sn	03 26 40.0	+0.5
KMGR	Komgaron	1.17	63	ePg	Pg	03 26 24.0	+0.8
KMGR				eSg	Sn	03 26 42.2	+2.5
TBLG	Delisi	1.25	129	P	Pb	03 26 24.4	-0.2
TBLG				S	Sn	03 26 41.1	-0.5
TBLG	Delisi	1.25	129	i P	Pb	03 26 24.3	-0.4
TBLG				IAML		03 26 42.0	
	comp=N,24nm,0.3s						
TBLG				i S	Sn	03 26 42.1	+0.5
TBLG				IAML		03 26 46.0	
	comp=E,19nm,0.4s						
TBLG	Delisi	1.25	129	PN	Pg	03 26 24.7	0.0
TBLG				SN	Sn	03 26 42.2	+0.6
KBTC	Kuba-Taba	1.29	359	ePg	Pg	03 26 25.5	0.0
KBTC				eSg	Sg	03 26 43.4	+1.3
BTNK	Botanikuri	1.31	130	P	Pb	03 26 25.4	-0.3
BTNK				S	Sg	03 26 43.9	+0.9
BTNK	Botanikuri	1.31	130	i P	Pb	03 26 25.4	-0.3
BTNK				i S	Sg	03 26 43.9	+0.9
BTNK				IAML		03 26 44.0	
	comp=N,61nm,0.2s						
BTNK				IAML		03 26 45.0	
	comp=E,28nm,0.1s						
SHA1	Shidzhatmaz	1.34	335	ePg	Pn	03 26 25.9	-0.2
SHA1				eSg	Sb	03 26 43.0	-0.8
KZRT	Kazreti	1.34	148	P	Pn	03 26 25.6	-0.4
KZRT				S	Sg	03 26 43.8	-0.2
KZRT	Kazreti	1.34	148	i P	Pn	03 26 25.6	-0.4
KZRT				i S	Sn	03 26 43.5	-0.6
PRTR	Priterechnaya	1.36	26	ePg	Pn	03 26 25.7	-0.5
PRTR				eSg	Sg	03 26 45.0	+0.3
KIV0	Kislovodsk Arr	1.53	339	ePg	Pb	03 26 28.9	-0.5
KIV0				eSg	Sb	03 26 49.0	0.0
KIV	Kislovodsk	1.53	339	PN	Pb	03 26 29.4	-0.1
KIV				SN	Sb	03 26 48.7	-0.4
PYA1	Pyatigorsk	1.55	351	ePg	Pb	03 26 29.6	-0.2
PYA1				eSg	Sb	03 26 49.2	-0.5
BCA	Borcka	1.74	232	PN	Pb	03 26 32.1	-0.9
BCA				SN	Sb	03 26 55.1	+0.1
ARTV	Artvin	1.76	221	i P	Pb	03 26 32.6	-0.8
ARTV				i S	Sb	03 26 56.0	+0.2
ARTV				IAML		03 26 58.0	
	comp=N,91nm,0.4s						
ARTV				IAML		03 26 59.0	
	comp=E,108nm,0.4s						
DBOC	Borcka	1.78	229	i P	Pn	03 26 32.4	+0.5
DBOC				i S	Sb	03 26 56.2	0.0
DBOC				IAML		03 26 58.0	
	comp=E,119nm,0.4s						
DGRG	David-gareji	1.79	126	P	Pg	03 26 34.9	-0.3
DGRG				S	Sg	03 26 58.9	+0.4
DGRG	David-gareji	1.79	126	i P	Pg	03 26 34.7	-0.5
DGRG				i S	Sg	03 26 58.5	0.0
DGRG				IAML		03 27 02.0	
	comp=E,28nm,0.5s						
DGRG				IAML		03 27 05.0	
	comp=N,26nm,0.6s						
DGRG	David-gareji	1.79	126	ePg	Pg	03 26 34.7	-0.5
DGRG				eSg	Sg	03 26 59.5	+1.1
EAK	Akyaka	1.85	176	i P	Pb	03 26 34.2	-0.7
EAK				i S	Sg	03 26 59.0	-1.1
EAK				IAML		03 27 00.0	
	comp=N,47nm,0.5s						
EAK				IAML		03 27 01.0	
	comp=E,31nm,0.5s						
DAGI	Agillar	1.85	219	i P	Pb	03 26 34.2	-0.7
DAGI				i S	Sb	03 26 58.9	+0.6
DAGI				IAML		03 27 01.0	
	comp=E,69nm,0.4s						
DAGI				IAML		03 27 01.0	
	comp=N,57nm,0.5s						
GROC	Groznyy	1.85	68	ePg	Pb	03 26 35.1	+0.2
GROC				eSg	Sg	03 27 01.7	+1.4
KARS	Kars	1.92	188	PN	Pb	03 26 35.3	-0.9
DBAD	Bademkaya	2.00	222	i P	Pb	03 26 36.7	-0.8
DBAD				i S	Sb	03 27 02.7	+0.1
DBAD				IAML		03 27 04.0	
	comp=N,138nm,0.5s						
DBAD				IAML		03 27 06.0	
	comp=E,146nm,0.4s						
DDEM	Demirkent	2.07	218	i P	Pb	03 26 38.3	-0.4
DDEM				i S	Sb	03 27 05.3	+0.7
DDEM				IAML		03 27 08.0	
	comp=E,172nm,0.3s						
DDEM				IAML		03 27 08.0	
	comp=N,257nm,0.6s						
SENK	Senkaya-Erzuru	2.13	203	PN	Pb	03 26 38.3	-1.5
LGD	Lagodekhi	2.19	108	P	Pb	03 26 39.3	-1.4
LGD				S	Sg	03 27 09.3	-1.8
ALER	Alexandrovskoy	2.27	350	ePn	Pn	03 26 39.9	+1.3
ALER				eSn	Sb	03 27 09.1	-1.0
DDFL	Dedoflistskaro	2.27	118	P	Pg	03 26 43.4	-0.8
DDFL				S	Sg	03 27 16.0	+2.4
DDFL	Dedoflistskaro	2.27	118	i P	Pg	03 26 43.3	-0.9
DDFL				i S	Sg	03 27 15.8	+2.2
CHOM	Cayeli-Rize	2.47	235	PN	Pn	03 26 42.8	+1.5
CHOM				SN	Sb	03 27 13.9	-2.0
DBC	Dubki	2.54	78	ePn	Pn	03 26 44.1	+1.7
DBC				eSn	Sb	03 27 17.4	-0.6
GOF	Gofitskoye	2.54	354	ePn	Pg	03 26 49.8	+0.3
GOF				eSn	Sn	03 27 14.5	+0.9
GNI	Garni	2.57	157	PN	Pb	03 26 44.9	-2.3
TASB	TASBURUN-IGDIR	2.61	167	PN	Pn	03 26 44.3	+0.9
KOPR	Koprukoy-ERZUR	2.81	206	PN	Pn	03 26 47.5	+1.3
AKDA	Akdag	2.89	214	i P	Pg	03 27 08.2	+12
KRIK	Erzurum-spir	2.90	222	i P	Pb	03 26 51.5	-1.3
KRIK				i S	Sb	03 27 29.4	+0.9
KRIK				IAML		03 27 31.0	
	comp=N,11nm,1.5s						
KRIK				IAML		03 27 32.0	
	comp=E,4.9nm,0.6s						
BAYT	Aydıntepe-Bayb	3.28	230	PN	Pn	03 26 55.1	+2.5

ISCJB ***06*** *03:31:57.1±1.5, 32.°31S±0.°03×72.°1W±0.°1, h9km±11km,*
Error ellipse: s-maj=14.8km s-min=4.7km az=167.5
SJA ***06*** *03:31:57.3±1.2, 32.°35S×72.°13W, h43km±28km, ML3.7,*
MW3.9
GUC ***06*** *03:31:58.2±0.5, 32.°22S×71.°70W, h11km±3km, ML3.6*
ISC 06 03:31:55.2±1.9**, 32.°26S**±0.°03×**71.°97W**±0.°08**, h1**km±13km**,**
n27, σ**1.s52**/39**, 1C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROC1	El Roble	1.07	132	eP	Pn	03 32 17.6	-0.1
ROC1				eS	Sn	03 32 33.1	-0.3
ROCH	El Roble	1.07	132	eP	Pn	03 32 17.4	-0.2
ROCH				i S	Sn	03 32 32.0	-1.4
ROCH				IAML		03 32 34.0	
	comp=N,3μm,0.4s						
CO02	Combarbal	1.34	38	⇓iP	Pn	03 32 20.8	-0.4
CO02				i S	Sb	03 32 38.1	-0.7
CO02				IAML		03 32 42.1	
	comp=E,5μm,0.2s						
PEL	Peldehue	1.39	130	⇓eP	Pg	03 32 22.4	+0.5
PEL				i S	Sg	03 32 40.2	+0.1
PEL				IAML		03 32 44.0	
	comp=N,3μm,0.3s						
PEL	Peldehue	1.39	130	eP	Pg	03 32 22.5	+0.5
PEL				eS	Sg	03 32 40.5	+0.5
CLCH	Cerro Calan	1.65	134	⇑iP	Pg	03 32 26.6	-0.3
CLCH				i S	Sg	03 32 48.4	+0.1
CLCH				IAML		03 32 59.6	
	comp=E,1μm,0.3s						
ANTU	Antumapu	1.72	140	i S	Sg	03 32 50.6	+0.1
FCH	Farellones	1.77	127	⇓iP	Pb	03 32 27.9	-0.7
FCH				i S	Sg	03 32 51.2	-0.9
FCH				IAML		03 32 56.2	
	comp=E,767nm,0.3s						
LMEL	Las Melosas	2.17	137	eP	Pb	03 32 34.4	-1.0
LMEL				i S	Sb	03 33 02.6	-0.3
LMEL				IAML		03 33 11.6	
	comp=N,815nm,0.3s						
GO04	Tololo Observa	2.31	26	eP	Pb	03 32 37.5	-0.3
GO04				i S	Sb	03 33 06.9	-0.1
GO04	Tololo Observa	2.31	26	⇓iP	Pn	03 32 34.9	+0.3
GO04				eS	Sb	03 33 05.7	-1.3
RTLS	Leoncito	2.31	79	i P	Pb	03 32 38.2	+0.2
RTLS				IAML		03 33 12.1	
	comp=Z,127nm,0.3s						
LSCH	La Serena	2.42	15	eP	Pb	03 32 39.8	+0.1
LSCH				i S	Sb	03 33 10.0	-0.1
ARCO	CERRO ARCO	2.63	104	i P	Pb	03 32 43.6	+0.4
ARCO				eS	Sg	03 33 19.1	-0.6
ARCO				IAML		03 33 23.8	
	comp=Z,245nm,0.3s						
ASAL	Salagasta	2.67	98	i P	Pb	03 32 43.6	-0.3
ASAL				IAML		03 33 34.6	
	comp=Z,190nm,0.9s						
GO05	Huala	2.74	179	i P	Pn	03 32 40.7	+0.3
AAGR	Agrelo	2.77	108	i P	Pb	03 32 45.3	-0.3
AAGR				IAML		03 33 31.0	
	comp=Z,252nm,1.8s						
RTCV	Cerro Valdivia	2.94	83	i P	Pb	03 32 46.6	-1.8
RTCV				IAML		03 33 32.6	
	comp=Z,171nm,0.9s						
ACCO	Cerro Coronel	2.99	57	i P	Pb	03 32 47.9	-1.6
ACCO				IAML		03 33 31.7	
	comp=Z,341nm,0.6s						
RTLL	Cerro Villicun	3.12	74	i P	Pb	03 32 49.5	-1.9
RTLL				IAML		03 33 37.9	
	comp=Z,204nm,0.4s						
CFA	Coronel Fontan	3.24	79	i P	Pb	03 32 50.4	-3.2
AMOG	MOGNA	3.24	67	i P	Pb	03 32 50.9	-2.8
AMOG				IAML		03 34 18.3	
	comp=Z,296nm,0.5s						
COIS	El Sosneado	3.46	146	i P	Pn	03 32 52.8	+2.4
ACAN	Cantantal	4.05	91	i P	Pn	03 33 01.8	+3.3
ACAN				IAML		03 33 56.6	
	comp=Z,42nm,0.5s						
APLL	PUNTA DE LOS L	5.01	70	i P	Pn	03 33 14.9	+3.2
ACLC	CERRO LA CRUZ	5.16	58	i P	Pn	03 33 17.3	+3.6
CYA	Choya	6.55	56	i P	Pn	03 33 34.7	+2.0
CYA				IAML		03 35 33.7	
	comp=Z,20nm,0.4s						

IDC 06 03:43:40.0±2.2**, 1.°01N**×**127.°42E, h0**km**, mb3.3**/3**,**
mb1 3.5/3**, mb1mx3.3**/35**, mbtmp3.3**/3**, Error ellipse:**
s-maj=180.5km s-min=25.3km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.90	162	P	P	03 48 33.9	-1.0
	0.7nm,0.6s,baz=341,slow=11,SNR=6.6						
ASAR	Alice Springs	25.32	166	P	P	03 49 09.4	+0.7
	0.8nm,0.7s,baz=347,slow=12,SNR=7.2						
MKAR	Makanchi Array	60.18	326	P	P	03 53 49.6	-0.1
	0.2nm,0.6s,baz=120,slow=8.5,SNR=3.4						

ISCJB ***06*** *03:57:27.7±1.5, 32.°27S±0.°03×72.°1W±0.°1, h15km±15km,*
Error ellipse: s-maj=18.4km s-min=5.5km az=176.7
SJA ***06*** *03:57:27.0±1.0, 32.°15S×72.°26W, h70km±10km, ML3.3,*
MW3.5
GUC ***06*** *03:57:28.9±0.4, 32.°23S×71.°88W, h30km±3km, ML3.6*
ISC 06 03:57:23.7±2.3**, 32.°27S**±0.°04×**72.°17W**±0.°10**, h2**km±13km**,**
n19, σ**1.s76**/30**, 1C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.87	150	eP	Pn	03 57 43.5	+0.6
VA01				i S	Sn	03 57 55.2	-1.0
ROCH	El Roble	1.20	126	⇓iP	Pg	03 57 47.4	+0.6
ROCH				i S	Sg	03 58 01.6	-0.8
ROCH				IAML		03 58 03.9	
	comp=N,2μm,0.4s						
CO02	Combarbal	1.45	44	i P	Pn	03 57 51.2	+0.1
CO02				i S	Sb	03 58 07.9	-2.5
PEL	Peldehue	1.53	125	⇓iP	Pn	03 57 52.4	+0.4
PEL				i S	Sn	03 58 10.5	-2.0
PEL				IAML		03 58 12.0	
	comp=N,2μm,0.4s						
CLCH	Cerro Calan	1.78	130	⇑iP	Pn	03 57 56.6	+1.2
CLCH				i S	Sn	03 58 17.6	-1.0
CLCH				IAML		03 58 27.4	
	comp=E,794nm,0.4s						
FCH	Farellones	1.90	124	⇓iP	Pn	03 57 58.1	+0.7
FCH				i S	Sn	03 58 21.0	-1.2
FCH				IAML		03 58 23.1	
	comp=E,567nm,0.4s						
LMEL	Las Melosas	2.28	134	eP	Pn	03 58 04.5	+2.0
LMEL				i S	Sn	03 58 31.9	+0.6
LMEL				IAML		03 58 38.8	
	comp=N,536nm,0.2s						
GO04	Tololo Observa	2.39	30	eP	Pb	03 58 07.1	-0.5
GO04				i S	Sb	03 58 36.6	-1.0
GO04				IAML		03 58 42.6	
	comp=E,1μm,0.2s						
GO04	Tololo Observa	2.39	30	i P	Pn	03 58 04.9	+0.8
GO04				eS	Sn	03 58 33.9	-0.1
RTLS	Leoncito	2.48	80	i P	Pb	03 58 08.2	-1.0
RTLS				eS	Sb	03 58 39.2	-1.1
RTLS				IAML		03 58 40.1	
	comp=Z,182nm,0.3s						
ARCO	CERRO ARCO	2.79	103	i P	Pb	03 58 13.4	-0.9
ARCO				IAML		03 58 53.6	
	comp=Z,75nm,0.5s						
ASAL	Salagasta	2.84	97	i P	Pb	03 58 14.1	-1.0
AAGR	Agrelo	2.93	107	i P	Pb	03 58 15.7	-1.1
RTCV	Cerro Valdivia	3.11	84	i P	Pn	03 58 16.9	+3.2
RTCV				eS	Sn	03 58 53.5	+2.1
RTLL	Cerro Villicun	3.28	74	i P	Pn	03 58 18.9	+2.8
CFA	Coronel Fontan	3.41	80	i P	Pn	03 58 20.2	+2.4
COIS	El Sosneado	3.56	144	i P	Pn	03 58 23.2	+3.3
ACAN	Cantantal	4.22	91	i P	Pn	03 58 31.7	+2.7
APLL	PUNTA DE LOS L	5.17	70	i P	Pn	03 58 44.5	+2.4

MOS ***06*** *04:01:57.7±0.9, 6.°13S×103.°73E, h33km, mb5.1/35, Error*
ellipse: s-maj=13.3km s-min=6.3km az=108.9
ISCJB ***06*** *04:01:58.7±0.6, 6.°31S±0.°05×103.°61E±0.°04, h46km±4km,*
mb4.8/62, MS4.0/17, Error ellipse: s-maj=9.1km
s-min=3.7km az=37.6
KLM ***06*** *04:01:58.0, 6.°70S×103.°31E, h49km, mb4.8*
DJA ***06*** *04:01:59.7±0.3, 6.°S±3.°×10.°4E±.°, h49km±5km, M4.8/20,*
mB5.2/7, mb5.0/20, MLv4.9/19, Mw(mB)4.6/7, Mwp5.2/1
NEIC ***06*** *04:01:59.8±1.2, 6.°26S±0.°10×103.°64E±0.°07, h35km±3km,*
mb4.8/41
BJI ***06*** *04:01:59.0±0.0, 6.°20S×103.°70E, h30km, mb4.9/44,*
mB5.1/32, Ms4.6/14, Ms7 4.3/13
IDC ***06*** *04:02:01.5±0.7, 6.°20S×103.°74E, h47km±4km, mb4.4/18,*
mb1 4.5/18, mb1mx4.2/38, mbtmp4.6/18, MS3.9/14,
Ms1 3.8/14, ms1mx3.6/32, Error ellipse: s-maj=23.7km
s-min=9.4km az=51.0
ISC 06 04:02:00.6±0.5**, 6.°31S**±0.°06×**103.°62E**±0.°06**, h44**km±3km**,**
h44km:pP-P, n227, σ**1.s27**/240**, mb4.8**/71**, MS4.1**/17**, 15C-4D,**
Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KASI	Kota Agung	1.17	48	P	Pn	04 02 19.5	-1.0
KASI				S	Sn	04 02 32.3	-3.0
BLSI	Bandar Lampung	1.86	60	P	Pn	04 02 30.6	+0.5
MDSI	Maura Dua	1.89	17	P	Pn	04 02 30.8	+0.3
KLSI		1.95	35	P	Pn	04 02 32.2	+0.9
MNAI	Manna	2.04	341	P	Pn	04 02 32.5	-0.1
MNAI	Manna	2.04	341		Pn	04 02 32.5	-0.1
LHSI	Lahat	2.46	358	P	Pn	04 02 39.4	+1.0
SBJI	Serang	2.50	86	P	Pn	04 02 39.4	+0.6
KSI	Kapahiang	2.83	339	P	Pn	04 02 43.5	+0.1
SKJI	Sukabumi	3.00	104	P	Pn	04 02 44.6	-1.1
DBJI	Dramaga	3.12	95	P	Pn	04 02 48.1	+0.8
MASI	Maura Aman, Be	3.43	336	P	Pn	04 02 49.8	-1.9
PMBI	Palembang	3.55	19	P	Pn	04 02 54.6	+1.4
PMBI	Palembang	3.55	19	Pn	Pn	04 02 53.7	+0.4
CNJI	Cibinong	3.62	106	P	Pn	04 02 53.8	-0.5
LEM	Lembang	4.00	98	P	Pn	04 03 02.4	+2.8
	13nm,0.3s,baz=186,slow=11,SNR=9.1						
LEM				LR	LR	04 04 45.1	
	comp=Z,913nm,19.7s,baz=272,slow=42						

LEM	**Lembang**	**4.00**	**98**	P	**Pn**	**04 03 02.1**	**+2.5**
CISI	**Cisompet, Garu**	**4.34**	**107**	P	**Pn**	**04 03 03.1**	**-1.1**
CISI	**Cisompet, Garu**	**4.34**	**107**		**Pn**	**04 03 03.6**	**-0.7**
KRJI	**Kerinci**	**4.71**	**333**	P	**Pn**	**04 03 10.2**	**+0.9**
PPBI	**Pangkal Pinang**	**4.82**	**31**	P	**Pn**	**04 03 12.1**	**+1.4**
PPSI	**Pulau Pagai**	**5.04**	**314**	P	**Pn**	**04 03 12.3**	**-1.4**
	150nm,0.6s,3μm4.2nm						
KPJI	**Karang Pucung**	**5.37**	**101**	P	**Pn**	**04 03 19.9**	**+1.6**
	53nm,0.6s,0.4nm						
SDSI	**Sungai Dareh**	**5.77**	**338**	P	**Pn**	**04 03 22.6**	**-1.2**
	40nm,0.9s,0.3nm						
PDSI	**Padang**	**6.22**	**329**	P	**Pn**	**04 03 28.3**	**-1.7**
SISI	**Saibi**	**6.70**	**317**	P	**Pn**	**04 03 35.5**	**-1.1**
	30nm,0.5s,621nm0.3nm						
UGM	**Wanagama**	**7.03**	**104**	P	**Pn**	**04 03 41.3**	**+0.2**
	194nm,0.7s,0.9nm						
UGM	**Wanagama**	**7.03**	**104**		**Pn**	**04 03 41.1**	**0.0**
BKNI	**Bangkinang**	**7.07**	**339**	Pn	**Pn**	**04 03 40.8**	**-0.9**
TPRI	**Tanjung Pinang**	**7.23**	**7**	P	**Pn**	**04 03 44.4**	**+0.5**
WOJI	**Wonogiri, Jawa**	**7.40**	**102**	P	**Pn**	**04 03 47.3**	**+1.1**
	43nm,0.8s,0.3nm						
PCJI	**Pacitan**	**7.73**	**105**	P	**Pn**	**04 03 51.5**	**+0.9**
	136nm,0.9s						
PBSI	**Pulau Batu**	**8.18**	**319**	P	**Pn**	**04 03 56.9**	**0.0**
	105nm,1.1s						
PWJI	**Pagerwojo**	**8.29**	**102**	P	**Pn**	**04 03 59.6**	**+1.2**
	91nm,0.7s						
GRJI	**Gresik**	**8.82**	**94**	P	**Pn**	**04 04 06.0**	**+0.4**
	195nm,0.7s,2μm						
GMJI	**Gumukmas**	**9.94**	**102**	P	**Pn**	**04 04 21.3**	**+0.3**
	36nm,0.7s						
JAGI	**Jajag, Banyuwa**	**10.66**	**102**	P	**Pn**	**04 04 31.2**	**+0.3**
	104nm,0.9s						
JAGI	**Jajag, Banyuwa**	**10.66**	**102**		**Pn**	**04 04 30.5**	**-0.4**
IPM	**Ipoh**	**11.02**	**346**	P	**Pn**	**04 04 36.0**	**+0.1**
SRBI	**Singaraja**	**11.63**	**99**	P	**Pn**	**04 04 44.2**	**0.0**
	74nm,0.7s						
KULM	**Kulim**	**11.89**	**345**	P	**Pn**	**04 04 47.0**	**-0.8**
SBUM	**Sibu**	**12.22**	**45**	P	Pn	04 04 56.0	+3.8
TWSI	**Taliwang, Sumb**	**13.37**	**101**	P	**Pn**	**04 05 04.5**	**-3.4**
	34nm,0.7s						
PLAI	**Plampang**	**14.25**	**101**	P	**Pn**	**04 05 16.7**	**-3.2**
	56nm,0.7s						
KAPI	**Kappang**	**16.10**	**86**	LR	LR	04 12 37.4	
	comp=Z,245nm,19.0s,baz=120,slow=40						
SPSI	**Sidrap Palu**	**16.25**	**83**	P	**Pn**	**04 05 45.4**	**-0.6**
	11nm,1.0s						
BKSI	**Bulukumba**	**16.45**	**87**	P	**Pn**	**04 05 45.2**	**-3.2**
	57nm,0.9s,600nm						
APSI	**Ampana**	**18.77**	**74**	P	**Pn**	**04 06 17.2**	**+0.1**
	71nm,1.0s,697nm						
MRSI	**Marisa**	**19.49**	**70**	P	**Pn**	**04 06 24.2**	**-1.5**
	120nm,0.6s						
LUWI	**Luwuk**	**19.81**	**75**	P	**Pn**	**04 06 28.2**	**-1.2**
LUWI				IAmb	IAmb	04 06 37.9	
	comp=Z,50nm,0.9s						
BATI	**Baumata**	**20.20**	**102**	P	**P**	**04 06 32.3**	**+0.3**
	comp=Z,210nm,0.7s,baz=233,slow=0.9,SNR=17						
SOEI	**Soe**	**20.73**	**101**	P	**P**	**04 06 36.8**	**-1.0**
PBKT	**Sadao Pong**	**22.88**	**353**	P	**P**	**04 07 00.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**24.47**	**121**	P	**P**	**04 07 15.9**	**+0.2**
	comp=Z,5.9nm,0.8s,baz=305,slow=6.0,SNR=15						
FITZ				LR	LR	04 17 53.4	
	comp=Z,178nm,19.5s,baz=316,slow=39						
CM31	**Chiang Mai Arr**	**25.04**	**349**	P	**P**	**04 07 20.6**	**-0.2**
CM31				IAmb	IAmb	04 07 21.6	
	comp=Z,27nm,0.8s						
CMAR	**Chiang Mai Arr**	**25.04**	**349**	*ce*P	**P**	**04 07 19.8**	**-1.1**
CMAR				pmax	pmax		
	comp=Z,21nm,0.7s						
CMAR	**Chiang Mai Arr**	**25.04**	**349**	P	**P**	**04 07 19.5**	**-1.3**
	comp=Z,21nm,0.7s,baz=181,slow=9.0,SNR=62						
CMAR				PcP	**PcP**	**04 10 56.8**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=226,slow=3.1,SNR=4.8						
CMAR				LR	LR	04 18 55.1	
	comp=Z,140nm,18.0s,baz=180,slow=41						
KCP	**Kidapawan**	**25.17**	**59**	⇓P	**P**	**04 07 23.4**	**+1.1**
CHTO	**Chiang Mai**	**25.38**	**350**	P	**P**	**04 07 22.8**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,11nm,0.7s						
CHTO	**Chiang Mai**	**25.38**	**350**	P	**P**	**04 07 22.8**	**-1.2**
CHTO				IAmb	IAmb	04 07 24.7	
	comp=Z,11nm,0.7s						
KNRA	**Kununurra**	**26.35**	**113**	P	**P**	**04 07 32.4**	**-0.4**
KNRA				IAmb	IAmb	04 07 41.3	
	comp=Z,20nm,0.8s						
PALK	**Pallekele**	**26.55**	**300**	LR	LR	04 17 48.1	
	comp=Z,105nm,18.8s,baz=126,slow=36						
NWAO	**Narrogin (SRO)**	**29.36**	**156**	LR	LR	04 18 05.3	
	comp=Z,272nm,21.9s,baz=8.0,slow=33						
H01W3	**Cape Leeuwin H**	**30.05**	**163**	T	T	04 39 29.1	
	baz=340,slow=76,SNR=23						
H01W1	**Cape Leeuwin H**	**30.06**	**163**	T	T	04 39 33.8	
	baz=340,slow=76,SNR=27						
H01W2	**Cape Leeuwin H**	**30.06**	**163**	T	T	04 39 27.6	
	baz=340,slow=76,SNR=28						
H08S2	**Diego Garcia H**	**30.92**	**266**	T	T	04 40 38.0	
	baz=90,slow=76,SNR=60						
H08S3	**Diego Garcia H**	**30.93**	**266**	T	T	04 40 52.9	
	baz=90,slow=76,SNR=64						
H08S1	**Diego Carcia H**	**30.94**	**266**	T	T	04 40 53.9	
	baz=90,slow=76,SNR=54						
DGAR	**Diego Garcia**	**30.96**	**266**	*i* P	**P**	**04 08 12.5**	**-1.5**
DGAR				pmax	pmax		
	comp=Z,138nm,2.5s						
KMI	**Kunming**	**31.25**	**358**	P	P	04 08 22.0	+5.4
KMI				pP	pwP	04 08 30.1	-0.6
KMI				sP	sP	04 08 34.4	+1.7
KMI				pmax	pmax		
	comp=Z,16nm,0.6s						
KMI				LR	LR		
	comp=Z,230nm,19.9s						
KMI				LR	LR		
	comp=Z,190nm,20.5s						
KMI				LR	LR		
	comp=Z,300nm,18.8s						
KMI	**Kunming**	**31.25**	**358**	P	**P**	**04 08 15.8**	**-0.8**
KMI				pmax	pmax		
	comp=Z,16nm,0.7s						
KMI	**Kunming**	**31.25**	**358**	P	**P**	**04 08 15.8**	**-0.8**
WRA	**Warramunga Arr**	**32.76**	**117**	P	**P**	**04 08 29.4**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=289,slow=11,SNR=12						
WRA				pPcP		04 11 30.5	
	comp=Z,0.6nm,0.6s,baz=297,slow=2.1,SNR=5.2						
WRA				LR	LR	04 23 07.7	
	comp=Z,125nm,20.2s,baz=180,slow=39						
WRAB	**Tennant Creek**	**32.77**	**117**	*ce*P	**P**	**04 08 29.9**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.3s						
SHL	**Shillong**	**33.67**	**341**	P	**P**	**04 08 36.4**	**-1.4**
SHL				pmax	pmax		
	comp=Z,17nm,0.7s						
SHL	**Shillong**	**33.67**	**341**	P	**P**	**04 08 36.4**	**-1.4**
ASAR	**Alice Springs**	**33.84**	**124**	P	**P**	**04 08 39.5**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=300,slow=7.9,SNR=21						
ASAR				pP	**pP**	**04 08 50.6**	**0.0**
	comp=Z,4.3nm,0.9s,baz=300,slow=7.9,SNR=10.0						
ASAR				PcP	**PcP**	**04 11 18.5**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=289,slow=2.8,SNR=3.0						
ASAR				pPcP		04 11 33.6	
	comp=Z,1.0nm,0.7s,baz=298,slow=2.4,SNR=5.5						
ASAR				S	**S**	**04 13 59.9**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=293,slow=14,SNR=4.2						
ASAR				LR	LR	04 23 48.1	
	comp=Z,160nm,19.8s,baz=290,slow=39						
AS31	**Alice Springs**	**33.84**	**124**	P	**P**	**04 08 39.8**	**+0.6**
ODAN	**Odare**	**36.53**	**335**	*e*P	**P**	**04 09 02.5**	**+0.1**
	comp=Z,64nm,0.7s						
ENH	**Enshi**	**36.80**	**8**	P	**P**	**04 09 03.8**	**-0.6**
ENH				IAmb	IAmb	04 09 05.0	
	comp=Z,11nm,0.7s						
TAPN	**Taplejung**	**36.83**	**336**	*e*P	**P**	**04 09 05.5**	**+0.5**
	comp=Z,84nm,0.8s						
RAMN	**Ramite**	**36.94**	**334**	*e*P	**P**	**04 09 06.2**	**+0.3**
	comp=Z,22nm,0.4s						
CD2	**Chengdu**	**37.01**	**0**	*e*P	**P**	**04 09 08.0**	**+1.8**
CD2				S	**S**	**04 14 55.1**	**+6.3**
CD2				pmax	pmax		
	comp=Z,30nm,0.4s						
CD2				pmax	pmax		
	comp=Z,320nm,5.7s						
CD2				LR	LR		
	comp=Z,420nm,8.3s						
CD2				LR	LR		
	comp=Z,720nm,11.8s						
CD2				LR	LR		

	comp=Z,620nm,12.3s						
JIRN	**Jiri**	**37.74**	**334**	*e*P	**P**	**04 09 13.2**	**+0.4**
	comp=Z,91nm,0.7s						
LSA	**Lhasa**	**37.75**	**342**	P	**P**	**04 09 12.5**	**-0.5**
LSA				pmax	pmax		
	comp=Z,15nm,0.8s						
LSA	**Lhasa**	**37.75**	**342**	P	**P**	**04 09 12.5**	**-0.5**
LSA				IAmb	IAmb	04 09 14.6	
	comp=Z,15nm,0.8s						
PKI	**Pulchoki**	**38.00**	**333**	*e*P	**P**	**04 09 14.9**	**-0.1**
PKIN	**Phulchoki**	**38.02**	**333**	*e*P	**P**	**04 09 14.9**	**-0.1**
WHN	**Wuhan**	**38.05**	**15**	P	**P**	**04 09 15.9**	**+0.9**
GUN	**Gumba**	**38.09**	**334**	*e*P	**P**	**04 09 16.1**	**+0.3**
	comp=Z,99nm,0.7s						
DMN	**Daman**	**38.17**	**333**	*e*P	**P**	**04 09 16.4**	**0.0**
KKN	**Kakani**	**38.25**	**333**	*e*P	**P**	**04 09 17.1**	**+0.1**
GKN	**Gorkha**	**38.72**	**333**	*e*P	**P**	**04 09 21.2**	**+0.3**
	comp=Z,25nm,0.3s						
KOLN	**Koldanda**	**39.01**	**331**	*e*P	**P**	**04 09 23.8**	**+0.4**
	comp=Z,43nm,0.8s						
DANN	**Dangsing**	**39.42**	**332**	*e*P	**P**	**04 09 27.0**	**+0.1**
	comp=Z,92nm,0.7s						
COEN	**Coen**	**39.62**	**104**	P	**P**	**04 09 27.9**	**-0.6**
XAN	**Xi'an**	**40.44**	**7**	P	**P**	**04 09 34.3**	**-0.6**
XAN				pP	pP	04 09 45.0	-1.3
XAN				sP	pwP	04 09 50.1	+0.8
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,150nm,11.3s						
XAN				LR	LR		
	comp=Z,160nm,17.4s						
XAN				LR	LR		
	comp=Z,220nm,17.4s						
XAN				LR	LR		
	comp=Z,250nm,18.4s						
XAN	**Xi'an**	**40.44**	**7**	P	**P**	**04 09 34.0**	**-0.9**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
XAN	**Xi'an**	**40.44**	**7**	P	**P**	**04 09 34.0**	**-0.9**
NJ2	**Nanjing**	**40.81**	**20**	*e*P	**P**	**04 09 40.8**	**+2.8**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
LZH	**Lanzhou**	**42.17**	**0**	*e*P	P	04 09 54.9	+5.7
LZH				pP	pP	04 10 01.1	+0.4
LZH				sP	sP	04 10 08.4	+2.7
LZH				PP	**PP**	**04 11 29.6**	**+2.0**
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
LZH				pmax	pmax		
	comp=Z,63nm,5.5s						
LZH				LR	LR		
	comp=Z,320nm,13.6s						
LZH				LR	LR		
	comp=Z,350nm,14.1s						
LZH				LR	LR		
	comp=Z,340nm,16.8s						
PMG	**Port Moresby**	**43.22**	**97**	*c i*P	**P**	**04 09 57.4**	**-0.5**
PMG				pmax	pmax		
	comp=Z,120nm,0.8s						
PMG	**Port Moresby**	**43.22**	**97**	P	**P**	**04 09 57.6**	**-0.4**
STKA	**Stephens Creek**	**43.61**	**131**	P	**P**	**04 10 01.3**	**+0.4**
STKA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
STKA	**Stephens Creek**	**43.61**	**131**	P	**P**	**04 10 01.9**	**+1.0**
	comp=Z,3.2nm,0.6s,baz=298,slow=8.4,SNR=12						
STKA				pP	**pP**	**04 10 13.5**	**+0.9**
	comp=Z,13nm,0.8s,baz=300,slow=7.6,SNR=12						
STKA				LR	LR	04 29 26.8	
	comp=Z,83nm,20.9s,baz=15,slow=38						
STKA	**Stephens Creek**	**43.61**	**131**	P	**P**	**04 10 01.4**	**+0.4**
GTA	**Gaotai**	**45.62**	**356**	*e*P	**P**	**04 10 17.1**	**+0.2**
GTA				pP	pP	04 10 25.4	-3.1
GTA				sP	pwP	04 10 29.7	-1.4
GTA				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC	**Hu-ho-hao-te**	**47.49**	**8**	*e*P	**P**	**04 10 35.8**	**+4.4**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
BJT	**Baijiatuau**	**47.52**	**13**	P	**P**	**04 10 31.8**	**+0.2**
BJT				pmax	pmax		
	comp=Z,16nm,0.8s						
BJT	**Baijiatuau**	**47.52**	**13**	P	**P**	**04 10 31.8**	**+0.2**
KSRS	**Korea Array**	**49.09**	**26**	P	**P**	**04 10 43.7**	**0.0**
	comp=Z,7.7nm,0.8s,baz=224,slow=7.5,SNR=24						
KSRS				pP	**pP**	**04 10 56.3**	**+0.9**
	comp=Z,8.8nm,0.7s,baz=225,slow=7.3,SNR=9.8						
WMQ	**Urumqi**	**51.93**	**345**	P	**P**	**04 11 05.8**	**+0.6**
WMQ				sP	pwP	04 11 19.6	-0.2
WMQ				pmax	pmax		
	comp=Z,25nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,250nm,7.3s						
KSH	**Kashi**	**52.27**	**333**	P	**P**	**04 11 07.1**	**-0.7**
KSH				sP	pwP	04 11 21.9	-0.5
KSH				PcP	**PcP**	**04 12 18.5**	**-0.3**
KSH				PP	**PP**	**04 13 07.4**	**+0.6**
KSH				S	**S**	**04 18 27.4**	**-2.6**
KSH				ScS	**ScS**	**04 20 49.4**	**-5.0**
KSH				SS	**SS**	**04 22 04.9**	**-3.4**
KSH				pmax	pmax		
	comp=Z,29nm,0.9s						
KSH				pmax	pmax		
	comp=Z,720nm,7.2s						
KSH				LR	LR		
	comp=Z,850nm,7.3s						
KSH				LR	LR		
	comp=Z,880nm,7.3s						
KSH				LR	LR		
	comp=Z,510nm,7.3s						
TARG	**Taragay, Kyrgy**	**53.31**	**336**	IAmb	IAmb	04 11 26.9	
	comp=Z,6.5nm,1.0s						
MAJO	**Matsushiro**	**53.53**	**35**	*e*P	**P**	**04 11 17.1**	**0.0**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MJAR	**Matsushiro Arr**	**53.53**	**35**	P	**P**	**04 11 14.3**	**-2.8**
	comp=Z,1.4nm,0.4s,baz=217,slow=8.8,SNR=6.1						
CN2	**Changchun**	**53.64**	**20**	*e*P	**P**	**04 11 16.5**	**-1.2**
CN2				*e*sP	pP	04 11 29.8	+0.3
CN2				*e*S	**S**	**04 18 48.8**	**+0.6**
CN2				pmax	pmax		
	comp=Z,20nm,1.1s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s						
NRN	**Naryn**	**53.82**	**334**	IAmb	IAmb	04 11 22.3	
	comp=Z,7.3nm,0.7s						
KDJ	**Kajisay**	**53.90**	**336**	P	**P**	**04 11 20.0**	**+0.1**
KDJ				pmax	pmax		
	comp=Z,19nm,0.7s						
KDJ	**Kajisay**	**53.90**	**336**	P	**P**	**04 11 20.0**	**+0.1**
SONM	**Songino Array**	**53.96**	**2**	P	**P**	**04 11 20.5**	**+0.4**
	comp=Z,16nm,0.8s,baz=180,slow=8.6,SNR=79						
SONM				pP	**pP**	**04 11 33.0**	**+1.0**
	comp=Z,6.1nm,0.9s,baz=182,slow=10,SNR=5.9						
ULN	**Ulaanbaatar**	**54.02**	**3**	P	**P**	**04 11 20.8**	**+0.2**
ULN				pmax	pmax		
	comp=Z,11nm,0.9s						
ULN	**Ulaanbaatar**	**54.02**	**3**	P	**P**	**04 11 20.8**	**+0.2**
ULN				IAmb	IAmb	04 11 21.8	
	comp=Z,11nm,0.9s						
PDGK	**Podgornoye**	**54.03**	**338**	P	**P**	**04 11 20.8**	**+0.1**
PDGK				pmax	pmax		
	comp=Z,14nm,0.8s						
GAR	**Garm**	**54.62**	**328**	IAmb	IAmb	04 11 27.9	
	comp=Z,8.4nm,0.8s						
KZA	**Kyzart**	**54.67**	**334**	P	**P**	**04 11 26.2**	**+0.5**
	SNR=6.8						
BOOM	**Boomskoye usch**	**54.72**	**335**	P	**P**	**04 11 25.5**	**-0.3**
BOOM				pmax	pmax		
	comp=Z,15nm,1.3s						
BOOM	**Boomskoye usch**	**54.72**	**335**	P	**P**	**04 11 25.5**	**-0.3**
BOOM				IAmb	IAmb	04 11 41.0	
	comp=Z,15nm,1.3s						
BTK	**Batken**	**55.16**	**330**	P	**P**	**04 11 28.8**	**-0.1**
BTK				pmax	pmax		
	comp=Z,15nm,1.4s						
BTK	**Batken**	**55.16**	**330**	P	**P**	**04 11 28.8**	**-0.1**
BTK				IAmb	IAmb	04 11 44.8	
	comp=Z,15nm,1.4s						
TKM2	**Tokmak 2**	**55.21**	**335**	P	**P**	**04 11 28.2**	**-1.2**
TKM2				pmax	pmax		
	comp=Z,14nm,0.7s						

TKM2	**Tokmak 2**	**55.21**	**335**	P	**P**	**04 11 29.2**	**-0.2**
	SNR=21						
KBK	**Karagaybulak**	**55.27**	**334**	P	**P**	**04 11 30.4**	**+0.6**
	SNR=6.1						
AML	**Almayashu**	**55.40**	**333**	P	**P**	**04 11 31.1**	**+0.2**
	SNR=7.9						
AAK	**Ala-Archa**	**55.45**	**334**	⇑*i*P	**P**	**04 11 31.2**	**+0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**55.45**	**334**	P	**P**	**04 11 31.1**	**0.0**
EKS2	**Erkin-Say**	**55.78**	**334**	P	**P**	**04 11 33.8**	**+0.4**
	SNR=20						
MK31	**Makanchi Array**	**56.16**	**342**	*e*P	**P**	**04 11 35.0**	**-0.9**
MK31				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MK31	**Makanchi Array**	**56.16**	**342**	P	**P**	**04 11 35.7**	**-0.2**
MK31				IAmb	IAmb	04 11 37.9	
	comp=Z,8.2nm,0.8s						
MKAR	**Makanchi Array**	**56.16**	**342**	P	**P**	**04 11 35.5**	**-0.4**
	comp=Z,12nm,0.7s,baz=147,slow=6.9,SNR=66						
MKAR				pP	**pP**	**04 11 49.2**	**+1.5**
	comp=Z,8.1nm,0.9s,baz=146,slow=8.8,SNR=7.0						
MKAR				LR	LR	04 38 46.6	
	comp=Z,134nm,18.0s,baz=303,slow=39						
MAKZ	**Makanchi**	**56.27**	**342**	P	**P**	**04 11 35.7**	**-0.9**
MAKZ				pmax	pmax		
	comp=Z,10.0nm,1.3s						
MAKZ	**Makanchi**	**56.27**	**342**	P	**P**	**04 11 36.3**	**-0.3**
MAKZ				IAmb	IAmb	04 11 51.2	
	comp=Z,7.3nm,1.0s						
USA0B	**Ussuriysk Arra**	**56.41**	**24**	*c i*P	**P**	**04 11 36.9**	**-0.7**
USA0B	**Ussuriysk Arra**	**56.41**	**24**	P	**P**	**04 11 37.2**	**-0.4**
USRK	**Ussuriysk Ar.**	**56.41**	**24**	P	**P**	**04 11 37.1**	**-0.5**
	comp=Z,18nm,0.7s,baz=215,slow=6.1,SNR=34						
USRK				pP	**pP**	**04 11 50.5**	**+1.0**
	comp=Z,18nm,0.7s,baz=219,slow=6.4,SNR=11						
HIA	**Hailar**	**57.10**	**13**	⇑*i*P	**P**	**04 11 40.7**	**-1.9**
HIA				pmax	pmax		
	comp=Z,55nm,1.2s						
HIA	**Hailar**	**57.10**	**13**	P	**P**	**04 11 42.0**	**-0.5**
HIA				IAmb	IAmb	04 11 55.4	
	comp=Z,10nm,1.1s						
KK31	**Karatay Array**	**57.62**	**332**	P	**P**	**04 11 46.0**	**-0.3**
KK31						04 12 41.6	
KK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KK31	**Karatay Array**	**57.62**	**332**	P	**P**	**04 11 46.0**	**-0.3**
KK31					**PcP**	**04 12 41.6**	**+2.5**
KKAR	**Karatay Array**	**57.62**	**332**	P	**P**	**04 11 45.5**	**-0.8**
KKAR						04 12 41.6	
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KKAR	**Karatay Array**	**57.62**	**332**	P	**P**	**04 11 45.5**	**-0.8**
KKAR					**PcP**	**04 12 41.6**	**+2.5**
KLR	**Kul'dur**	**60.51**	**21**	*c i*P	**P**	**04 12 04.8**	**-1.4**
KLR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KLR	**Kul'dur**	**60.51**	**21**	P	**P**	**04 12 05.1**	**-1.1**
	comp=Z,9.1nm,0.8s,baz=221,slow=4.8,SNR=33						
KLR				pP	**pP**	**04 12 18.9**	**+0.8**
	comp=Z,7.3nm,0.7s,baz=233,slow=7.5,SNR=9.1						
KURK	**Kurchatov**	**60.76**	**342**	*c i*P	**P**	**04 12 07.5**	**-0.3**
KURK				pmax	pmax		
	comp=Z,11nm,0.8s						
KURK	**Kurchatov**	**60.76**	**342**	P	**P**	**04 12 07.7**	**-0.1**
GEYT	**Alibeck**	**61.05**	**320**	P	**P**	**04 12 11.0**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=158,slow=4.3,SNR=3.8						
ASAJ	**Asahikawa**	**61.26**	**31**	P	**P**	**04 12 10.7**	**-0.6**
	comp=Z,7.7nm,0.6s,baz=250,slow=13,SNR=5.7						
JKA	**Kamikawa-asahi**	**61.26**	**31**	P	**P**	**04 12 10.7**	**-0.6**
ZAA0	**Zalesovo Array**	**62.08**	**348**	P	**P**	**04 12 15.8**	**-0.9**
ZALV	**Zalesovo Beam**	**62.08**	**348**	P	**P**	**04 12 16.0**	**-0.7**
ZALV	**Zalesovo Beam**	**62.08**	**348**	P	**P**	**04 12 16.0**	**-0.7**
	comp=Z,15nm,0.8s,baz=155,slow=4.7,SNR=47						
ZALV				pP	**pP**	**04 12 30.0**	**+1.3**
	comp=Z,18nm,1.0s,baz=160,slow=4.7,SNR=7.8						
ZALV				LR	LR	04 42 13.5	
	comp=Z,212nm,18.8s,baz=98,slow=39						
YSS	**Yuzh-Sakhalins**	**63.34**	**29**	*e*P	**P**	**04 12 24.8**	**-0.4**
YSS				*e*		04 20 42.2	
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
BRVK	**Borovoye**	**65.53**	**339**	P	**P**	**04 12 38.9**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BRVK	**Borovoye**	**65.53**	**339**	P	**P**	**04 12 38.9**	**-0.5**
BRVK				IAmb	IAmb	04 12 39.8	
	comp=Z,6.1nm,0.7s						
MAW	**Mawson**	**67.09**	**196**	LR	LR	04 38 16.5	
	comp=Z,120nm,18.8s,baz=36,slow=32						
AB31	**Akbulak array**	**67.13**	**331**	P	**P**	**04 12 48.5**	**-1.3**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ABKAR	**Akbulak array**	**67.13**	**331**	P	**P**	**04 12 49.4**	**-0.3**
TBLG	**Delisi**	**71.81**	**318**	P	**P**	**04 13 20.5**	**+1.6**
TBLG				pmax	pmax		
	comp=Z,12nm,0.7s						
TBLG	**Delisi**	**71.81**	**318**	P	**P**	**04 13 20.5**	**+1.6**
TBLG				IAmb	IAmb	04 13 21.0	
	comp=Z,12nm,0.7s						
SVE	**Sverdlovsk**	**72.03**	**337**	*e*P	**P**	**04 13 20.1**	**+0.3**
SVE				pmax	pmax		
	comp=Z,22nm,1.2s						
ARU	**Arti**	**72.58**	**336**	*d i*P	**P**	**04 13 23.0**	**-0.1**
ARU						04 13 37.5	
ARU				S	**S**	**04 22 47.4**	**+2.9**
ARU				SS	**SS**	**04 27 24.1**	**-0.3**
ARU				pmax	pmax		
	comp=Z,45nm,3.7s						
ARU	**Arti**	**72.58**	**336**	P	**P**	**04 13 22.9**	**-0.1**
ARU				IAmb	IAmb	04 13 39.0	
	comp=Z,9.5nm,0.8s						
ZEI	**Tsey**	**72.84**	**318**	*e*P	**P**	**04 13 23.6**	**-1.6**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBZ	**Khabaz**	**73.91**	**319**	P	**P**	**04 13 32.1**	**+0.9**
	comp=Z,7.3nm,0.8s,baz=174,slow=8.3,SNR=10						
SHA1	**Shidzhatmaz**	**74.07**	**319**	*i* P	**P**	**04 13 33.1**	**+0.6**
KIV	**Kislovodsk**	**74.14**	**319**	*e*P	**P**	**04 13 30.3**	**-2.4**
KIV				pmax	pmax		
	comp=Z,38nm,1.1s						
NRIK	**Noril'sk**	**76.29**	**354**	P	**P**	**04 13 43.5**	**-0.9**
	comp=Z,1.8nm,0.3s,baz=124,slow=4.7,SNR=4.3						
NRIK				LR	LR	04 51 27.3	
	comp=Z,138nm,18.2s,baz=312,slow=39						
BOSA	**Boshof**	**76.81**	**242**	LR	LR	04 41 30.2	
	comp=Z,85nm,19.9s,baz=30,slow=31						
VRH	**Novokhopyorsk**	**77.89**	**325**	*e*P	**P**	**04 13 53.4**	**-0.4**
VRH				pmax	pmax		
	comp=Z,20nm,0.8s						
BR131	**Keskin Array S**	**78.88**	**312**	⇑*i*P	**P**	**04 13 59.8**	**+0.1**
BR131	**Keskin Array S**	**78.88**	**312**	P	**P**	**04 13 59.5**	**-0.2**
BRTR	**Keskin Array B**	**78.88**	**312**	P	**P**	**04 13 59.9**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=134,slow=6.4,SNR=11						
VORD	**Divnogorie**	**79.18**	**325**	*e*P	**P**	**04 13 59.3**	**-1.5**
VORD				pmax	pmax		
	comp=Z,6.0nm,0.7s						
VSR	**Storozhevoye**	**79.35**	**325**	*c i*P	**P**	**04 14 01.4**	**-0.4**
VSR				pmax	pmax		
	comp=Z,14nm,0.6s						
TIXI	**Tiksi**	**79.56**	**8**	⇑*i*P	**P**	**04 14 00.6**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.5s						
LPSR	**Galich'ya Gora**	**80.06**	**326**	*e*P	**P**	**04 14 05.2**	**-0.4**
LPSR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PRGR	**Permogore**	**81.04**	**336**	*e*P	**P**	**04 14 07.8**	**-2.9**
PRGR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
OBN	**Obninsk**	**82.34**	**328**	⇓*e*P	**P**	**04 14 17.1**	**-0.5**
OBN				*PP	**PcP**	**04 14 26.0**	**+3.2**
OBN				*SP	**pP**	**04 14 31.0**	**+0.9**
OBN				PPP	PPP	04 19 15.0	
OBN				pmax	pmax		
	comp=Z,53nm,1.9s						
AKASG	**Malin Array Be**	**85.08**	**322**	P	**P**	**04 14 32.0**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=88,slow=4.7,SNR=11						
AKBB	**Malin Array Si**	**85.08**	**322**	⇑*i*P	**P**	**04 14 31.9**	**+0.1**
BILL	**Bilibino**	**85.95**	**20**	⇓*e*P	**P**	**04 14 35.4**	**-0.3**
BILL				*PP	**pP**	**04 14 44.0**	**-4.3**
BILL				*SP	**pwP**	**04 14 50.9**	**+0.1**
BILL				SSS	SSS	04 34 18.0	
BILL				pmax	pmax		
	comp=Z,9.0nm,2.1s						
BURAR	**Bucovina Array**	**86.86**	**318**	⇑P	**P**	**04 14 43.0**	**+2.2**

BUR08	**Bucovina Ar. S**	**86.88**	**318**	P	**P**	**04 14 41.7**	**+0.8**
BUR08				IAmb	IAmb	04 14 54.8	
	comp=Z,9.3nm,1.2s						
BZS	**Buzias**	**88.89**	**316**	⇑P	**P**	**04 14 51.7**	**+1.3**
KOLS	**Kolonicke sedl**	**89.05**	**319**	*e*P	**P**	**04 14 53.6**	**+2.5**
KOLS	**Kolonicke sedl**	**89.05**	**319**	*e*P	**P**	**04 14 53.6**	**+2.5**
FINES	**FINESS Array B**	**89.58**	**332**	*ce*P	**P**	**04 14 53.7**	**+0.4**
FINES				pmax	pmax		
	comp=Z,10.0nm,1.1s						
FINES	**FINESS Array B**	**89.58**	**332**	P	**P**	**04 14 54.4**	**+1.1**
	comp=Z,9.2nm,1.1s,baz=106,slow=3.0,SNR=5.9						
VNA2	**Neumayer--Watz**	**90.81**	**198**	P	**P**	**04 14 59.2**	**+0.3**
	baz=48,slow=3.5						
YKA	**Yellowknife Ar**	**117.33**	**19**	PKP	**PKPdf**	**04 20 40.6**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=308,slow=1.6,SNR=6.8						
YKA				pPKP	**pPKPdf**	**04 20 53.8**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=286,slow=2.1,SNR=3.1						
WMOK	**Wichita Mounta**	**144.96**	**33**	PKIKP	**PKPab**	**04 21 32.4**	**-0.5**
WMOK	**Wichita Mounta**	**144.96**	**33**		**PKPab**	**04 21 32.4**	**-0.5**
FNO	**Franklin**	**145.29**	**31**		**PKPdf**	**04 21 34.6**	**+0.4**
TX31	**Lajitas Ar. Si**	**145.54**	**45**		**PKPab**	**04 21 35.8**	**+0.5**
TX32	**Lajitas Array**	**145.54**	**45**		**PKPab**	**04 21 35.8**	**+0.5**
TXAR	**Lajitas Array**	**145.54**	**45**	PKPbc	**PKPab**	**04 21 36.0**	**+0.7**
	comp=Z,7.3nm,0.8s,baz=299,slow=1.7,SNR=61						
TXAR				pPKPbc	**pPKPdf**	**04 21 49.1**	**+1.0**
	comp=Z,6.1nm,0.8s,baz=318,slow=1.2,SNR=13						
CCM	**Cathedral Cave**	**145.63**	**21**	PKIKP	**PKPdf**	**04 21 33.8**	**-0.9**
CCM	**Cathedral Cave**	**145.63**	**21**		**PKPdf**	**04 21 33.8**	**-0.9**
P53A	**Whipple**	**146.66**	**7**		**PKPbc**	**04 21 38.0**	**0.0**
Q51A	**Peebles**	**146.82**	**10**		**PKPbc**	**04 21 38.4**	**-0.1**
WCI	**Wyandotte Cave**	**146.97**	**14**	PKP2	**PKPbc**	**04 21 38.9**	**0.0**
WCI	**Wyandotte Cave**	**146.97**	**14**		**PKPbc**	**04 21 38.9**	**0.0**
R49A	**Shelbyville**	**147.18**	**13**		**PKPbc**	**04 21 39.8**	**+0.3**
JCT	**Junction City**	**147.40**	**40**	PKP2	**PKPbc**	**04 21 40.8**	**+0.4**
JCT	**Junction City**	**147.40**	**40**		**PKPbc**	**04 21 40.8**	**+0.4**
MIAR	**Mount Ida**	**147.72**	**27**	PKP2	**PKPbc**	**04 21 40.9**	**-0.2**
MIAR	**Mount Ida**	**147.72**	**27**		**PKPbc**	**04 21 40.9**	**-0.2**
WVT	**Waverly**	**148.51**	**18**	PKP2	**PKPbc**	**04 21 43.1**	**0.0**
WVT	**Waverly**	**148.51**	**18**		**PKPbc**	**04 21 43.1**	**0.0**
T59A	**Double "B" Far**	**149.46**	**2**		**PKPbc**	**04 21 45.9**	**+0.4**
V51A	**Loudon**	**149.74**	**13**		**PKPbc**	**04 21 46.5**	**+0.3**
TKL	**Tuckaleechee C**	**150.01**	**12**	PKPbc	**PKPbc**	**04 21 47.0**	**+0.1**
	comp=Z,6.8nm,0.6s,baz=132,slow=4.5,SNR=14						
V53A	**Saluda**	**150.18**	**11**		**PKPbc**	**04 21 46.7**	**-0.7**
KMSC	**Kings Mountain**	**150.94**	**8**		**PKPbc**	**04 21 49.0**	**-0.2**
Y49A	**Blount Mountai**	**151.05**	**17**		**PKPbc**	**04 21 49.2**	**-0.3**
Y52A	**Lilburn**	**151.67**	**14**		**PKPbc**	**04 21 51.2**	**+0.3**

*SJA **06** 04:36:35.2±1.0, 29°.08S×71°.91W, h30km, ML4.0, MW4.1*
*NEIC **06** 04:36:37.6±1.4, 29°.16S±0°.06×71°.90W±0°.07, h36km±13km*
*GUC **06** 04:36:38.3±0.8, 29°.18S×71°.57W, h65km±7km, ML3.8*
*IDC **06** 04:36:38.9±4.6, 29°.07S×71°.80W, h43km±33km, mb3.9/1, mb1 3.8/4, mb1mx3.5/21, mbtmp3.9/4, ML3.6/3, MS2.9/4, Ms1 3.0/4, ms1mx2.8/23, Error ellipse: s-maj=63.6km s-min=19.1km az=66.0*
ISC 06 04:36:34.5±1.8**, 29°.11S**±0°.04×**71°.94W**±0°.06**, h17**km±11km**, n53, σ1s.95**/63**, 1C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSCH	**La Serena**	**1.00**	**143**	*e*P	**Pg**	**04 36 54.2**	**+0.3**
LSCH				*i* S	**Sb**	**04 37 06.2**	**0.0**
LSCH				IAML		04 37 09.0	
	comp=N,5μm,0.4s						
GO04	**Tololo Observa**	**1.45**	**137**	⇓*i*P	**Pb**	**04 37 00.9**	**-0.3**
GO04				*i* S	**Sn**	**04 37 17.4**	**-1.5**
GO04	**Tololo Observa**	**1.45**	**137**		**Pb**	**04 37 01.1**	**-0.2**
GO04	**Tololo Observa**	**1.45**	**137**	*i* P	**Pb**	**04 37 01.2**	**-0.1**
GO04				*e*S	**Sn**	**04 37 16.4**	**-2.5**
GO03	**Copiap**	**2.14**	**45**	⇓*i*P	**Pn**	**04 37 10.9**	**+1.6**
GO03				*i* S	**Sn**	**04 37 35.3**	**-0.2**
GO03				IAML		04 37 38.0	
	comp=N,1μm,0.4s						
GO03	**Copiap**	**2.14**	**45**		**Pn**	**04 37 11.1**	**+1.6**
GO03	**Copiap**	**2.14**	**45**	*i* P	**Pn**	**04 37 11.0**	**+1.6**
CO02	**Combarbal**	**2.24**	**159**	⇓*i*P	**Pn**	**04 37 12.3**	**+1.4**
CO02				*i* S	**Sn**	**04 37 37.0**	**-1.2**
AROD	**Rodeo**	**2.39**	**117**	*i* P	**Pb**	**04 37 16.1**	**-1.2**
AROD				*e*S	**Sb**	**04 37 45.1**	**-1.6**
ACDV	**Cuesta del Vie**	**2.67**	**114**	*i* P	**Pb**	**04 37 20.3**	**-1.7**
ACDV				*e*S	**Sb**	**04 37 51.8**	**-2.8**
ACDV				IAML		04 37 54.7	
	comp=Z,857nm,0.8s						
ACCO	**Cerro Coronel**	**2.90**	**121**	*i* P	**Pb**	**04 37 23.8**	**-2.2**
ACCO				*e*S	**Sn**	**04 37 57.6**	**+2.8**
ACCO				IAML		04 38 01.7	
	comp=Z,858nm,0.6s						
AGUA	**GUANDACOL**	**3.04**	**98**	*i* P	**Pb**	**04 37 26.5**	**-1.7**
AGUA				*e*S	**Sb**	**04 38 03.1**	**-2.0**
AGUA				IAML		04 38 05.3	
	comp=Z,97nm,0.4s						
AMOG	**MOGNA**	**3.50**	**122**	*i* P	**Pn**	**04 37 31.8**	**+3.6**
AMOG				IAML		04 38 32.0	
	comp=Z,466nm,0.5s						
RTLS	**Leoncito**	**3.52**	**140**	⇑*i*P	**Pn**	**04 37 32.5**	**+3.8**
RTLS				*e*S	**Sn**	**04 38 13.1**	**+3.0**
RTLS				IAML		04 38 25.8	
	comp=Z,153nm,0.5s						
RTLL	**Cerro Villicun**	**3.73**	**127**	*i* P	**Pn**	**04 37 34.5**	**+3.1**
RTLL				*e*S	**Sn**	**04 38 17.1**	**+2.2**
RTLL				IAML		04 38 37.8	
	comp=Z,416nm,0.5s						
ROCH	**El Roble**	**3.93**	**168**	⇑*i*P	**Pn**	**04 37 35.6**	**+1.4**
ROCH				*i* S	**Sn**	**04 38 18.4**	**-1.7**
ROC1	**El Roble**	**3.93**	**169**		**Pn**	**04 37 35.0**	**+0.6**
RTCV	**Cerro Valdivia**	**4.02**	**134**	*i* P	**Pn**	**04 37 38.8**	**+3.5**
RTCV				*e*S	**Sn**	**04 38 24.4**	**+2.5**
RTCV				IAML		04 38 47.0	
	comp=Z,164nm,0.7s						
CFA	**Coronel Fontan**	**4.05**	**129**	P	**Pn**	**04 37 38.8**	**+3.0**
	comp=Z,10nm,0.3s,baz=306,slow=14,SNR=38						
CFA				S	**Sn**	**04 38 23.1**	**+0.3**
	comp=Z,23nm,0.3s,baz=70,slow=21,SNR=4.1						
CFA	**Coronel Fontan**	**4.05**	**129**	*e*P	**Pn**	**04 37 38.9**	**+3.1**
PEL	**Peldehue**	**4.16**	**165**		**Pn**	**04 37 39.0**	**+1.8**
ASAL	**Salagasta**	**4.38**	**143**	*e*P	**Pn**	**04 37 43.0**	**+2.8**
ASAL				IAML		04 38 58.4	
	comp=Z,314nm,1.1s						
CLCH	**Cerro Calan**	**4.44**	**165**	*e*P	**Pn**	**04 37 42.7**	**+1.6**
CLCH				*i* S	**Sn**	**04 38 31.4**	**-0.9**
GO02	**Mina Guanaco**	**4.46**	**29**		**Pn**	**04 37 43.2**	**+1.5**
RCDM	**Rinconada Maip**	**4.47**	**168**	*e*P	**Pn**	**04 37 43.9**	**+2.4**
RCDM				*e*S	**Sn**	**04 38 32.4**	**-0.7**
ARCO	**CERRO ARCO**	**4.53**	**146**	*e*P	**Pn**	**04 37 45.1**	**+2.7**
ARCO				IAML		04 39 02.7	
	comp=Z,175nm,0.7s						
ACAN	**Cantantal**	**5.17**	**129**	*i* P	**Pn**	**04 37 53.8**	**+2.7**
ACAN				IAML		04 39 29.4	
	comp=Z,57nm,0.5s						
CYA	**Choya**	**5.43**	**84**	*i* P	**Pn**	**04 37 57.0**	**+2.2**
CYA				IAML		04 39 35.5	
	comp=Z,38nm,1.2s						
PB10	**IPOC Station P**	**5.71**	**13**	Pn	**Pn**	**04 38 01.4**	**+2.8**
GO05	**Huala**	**5.88**	**180**		**Pn**	**04 38 00.9**	**0.0**
PB15	**IPOC Station P**	**6.29**	**21**	*i* P	**Pn**	**04 38 08.1**	**+1.5**
AHML	**Horco Molle**	**6.29**	**70**	*i* P	**Pn**	**04 38 08.2**	**+1.7**
AHML				IAML		04 40 00.1	
	comp=Z,23nm,0.6s						
PB04	**IPOC Station P**	**6.94**	**14**	Pn	**Pn**	**04 38 17.6**	**+2.0**
LVC	**Limon Verde**	**7.03**	**24**	P	**Pn**	**04 38 17.9**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=182,slow=5.7,SNR=14						
LVC				LR	LR	04 41 16.6	
	comp=Z,110nm,18.7s,baz=233,slow=40						
PB09	**IPOC Station P**	**7.68**	**19**	*i* P	**Pn**	**04 38 26.6**	**+0.7**
PB11	**IPOC Station P**	**9.54**	**13**	Pn	**Pn**	**04 38 52.7**	**+1.4**
GO01	**Chusmiza**	**9.73**	**16**	Pn	**Pn**	**04 38 55.6**	**+1.4**
MNMC	**Minye Minye**	**10.17**	**13**	Pn	**Pn**	**04 39 00.7**	**+0.7**
PLCA	**Paso Flores**	**11.65**	**175**	LR	LR	04 44 01.1	
	comp=Z,81nm,19.6s,baz=22,slow=38						
LPAZ	**La Paz**	**13.24**	**16**	P	**Pn**	**04 39 43.2**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=204,slow=10.0,SNR=2.5						
LPAZ				LR	LR	04 45 10.8	
	comp=Z,43nm,18.8s,baz=200,slow=39						
SIV	**San Ignacio**	**16.46**	**40**	P	**Pn**	**04 40 21.3**	**-3.5**
	comp=Z,0.3nm,0.3s,baz=226,slow=9.2,SNR=7.1						
NNA	**Nana**	**17.64**	**344**	LR	LR	04 45 20.9	
	comp=Z,36nm,20.7s,baz=168,slow=30						
VNA3	**Neumayer Olymp**	**53.86**	**159**	P	**P**	**04 45 56.1**	**-0.2**
VNA2	**Neumayer--Watz**	**54.50**	**159**	P	**P**	**04 46 00.9**	**0.0**
	baz=300,slow=10						
SNAA	**Sanae**	**56.09**	**159**	P	**P**	**04 46 12.1**	**-0.3**
TXAR	**Lajitas Array**	**65.54**	**330**	pP	pP	04 47 31.7	+10
	comp=Z,0.5nm,0.7s,baz=134,slow=6.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**82.49**	**71**	P	**P**	**04 48 56.5**	**0.0**
	comp=Z,1.3nm,0.7s,baz=245,slow=4.8,SNR=8.3						
WRA	**Warramunga Arr**	**125.03**	**211**	PKP	**PKPdf**	**04 55 34.3**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=156,slow=1.8,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**125.78**	**273**	T	T	07 14 47.1	
	baz=121,slow=74,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**125.79**	**273**	T	T	07 14 42.8	
	baz=121,slow=74,SNR=8.2						
H11S3	**WAKE ISLAND Hy**	**125.80**	**273**	T	T	07 14 39.2	
	baz=121						
ZALV	**Zalesovo Beam**	**149.96**	**28**	PKPbc	**PKiKP**	**04 56 24.2**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=289,slow=4.1,SNR=12						
MKAR	**Makanchi Array**	**153.27**	**42**	PKPbc	**PKPbc**	**04 56 31.5**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=318,slow=1.9,SNR=5.8						

*MEX **06** 04:46:25.5±0.8, 14°.04N×93°.26W, h68km±66km, MD3.9*
*GCG **06** 04:46:26.7±3.2, 16°.04N×92°.44W, h12km±999km, MD4.0*
ISC 06 04:46:26.5±2.5**, 14°.0N**±0°.1×**93°.31W**±0°.09**, h35**km**, n7, σ2s.57**/13**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THIG		**1.33**	**49**	*i* P	**Pn**	**04 46 46.7**	**-1.8**
THIG				*i* S	**Sn**	**04 47 02.1**	**-2.9**
PCIG		**1.66**	**3**	*e*P	**Pn**	**04 46 51.5**	**-1.6**
STG3	**Santiaguito 3,**	**1.81**	**68**	*e*P	**Pn**	**04 46 54.5**	**-0.8**
STG3				*e*S	**Sn**	**04 47 16.2**	**-1.0**
FUG	**Fuego 3**	**2.43**	**80**	*e*P	**Pn**	**04 47 04.9**	**+1.0**
FUG				*e*S	**Sn**	**04 47 29.9**	**-2.5**
CCIG	**Comitan**	**2.50**	**27**	*e*P	**Pn**	**04 47 05.9**	**+1.1**
CCIG				*e*S	**Sn**	**04 47 38.7**	**+4.5**
IXG	**Ixpaco**	**2.79**	**87**	*e*P	**Pn**	**04 47 08.4**	**-0.4**
IXG				*e*S	**Sn**	**04 47 45.5**	**+4.2**
CMIG	**Matias Romero**	**3.39**	**334**	*e*P	**Pn**	**04 47 15.7**	**-1.3**
CMIG				*i* S	**Sn**	**04 47 57.5**	**+1.6**

*IDC **06** 04:54:57.0±2.2, 3°.86N×126°.62E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/24, mbtmp3.6/3, Error ellipse: s-maj=174.2km s-min=27.3km az=66.0*
ISC 06 04:54:57.1±2.4**, 4°.3N**±0°.5×**127°.4E**±0°.8**, h10**km**, n4, σ1s.80**/5**, mb3.6**/3**, 1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.55**	**320**	⇓P	**Pb**	**04 55 58.5**	**-1.5**
KCP				S	**Sb**	**04 56 44.4**	**+1.2**
WRA	**Warramunga Arr**	**25.01**	**164**	P	**P**	**05 00 20.2**	**-1.3**
	1.8nm,0.8s,baz=342,slow=11,SNR=7.3						
ASAR	**Alice Springs**	**28.48**	**167**	P	**P**	**05 00 53.4**	**+0.7**
	0.3nm,0.4s,baz=344,slow=7.5,SNR=3.9						
MKAR	**Makanchi Array**	**57.49**	**325**	P	**P**	**05 04 47.3**	**+0.8**
	0.4nm,0.6s,baz=117,slow=9.0,SNR=4.7						

*ISCJB **06** 05:08:17.0±1.0, 8°.27N±0°.04×82°.88W±0°.03, h13km±6km, Error ellipse: s-maj=7.6km s-min=4.1km az=24.0*
*UCR **06** 05:08:17.8±1.6, 8°.34N×82°.86W, h8km±6km*
*UPA **06** 05:08:18.0±1.9, 8°.34N×82°.84W, h12km±4km, MW3.8*
ISC 06 05:08:19.5±1.1**, 8°.41N**±0°.05×**82°.75W**±0°.04**, h27**km±9km**, n25, σ1s.13**/42**, 2C-7D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BAGA3	**Bagala, Chiriq**	**0.23**	**76**	⇓*i*P	**Pb**	**05 08 25.8**	**+0.1**
DVD	**David**	**0.30**	**86**	⇑*i*P	**Pb**	**05 08 26.4**	**-0.2**
DVD				*e*S	**Sn**	**05 08 33.0**	**-0.7**
DVD	**David**	**0.30**	**86**	⇑*i*P	**Pb**	**05 08 26.4**	**-0.2**
DVD				*e*S	**Sn**	**05 08 33.0**	**-0.7**
PEDE3	**Pedregal, Chir**	**0.33**	**95**	⇓*i*P	**Pb**	**05 08 26.7**	**-0.4**
LOCO3	**Loma Colorada,**	**0.33**	**90**	*e*P	**Pb**	**05 08 26.7**	**-0.4**
LOCO3				*e*S	**Sn**	**05 08 33.6**	**-0.9**
LOMA3	**Las Lomas, Chi**	**0.36**	**87**	⇓*i*P	**Pb**	**05 08 27.4**	**-0.2**
LOMA3				*e*S	**Sb**	**05 08 34.1**	**+1.1**
BCO2	**Palmira**	**0.38**	**36**	⇓*i*P	**Pb**	**05 08 28.1**	**+0.1**
BCO2				*e*S	**Sn**	**05 08 36.1**	**+0.2**
BRU2	**Volcan**	**0.38**	**9**	⇓*i*P	**Pb**	**05 08 27.8**	**-0.3**
BRU2				*e*S	**Sn**	**05 08 36.2**	**+0.1**
BRU2	**Volcan**	**0.38**	**9**	⇓*i*P	**Pb**	**05 08 27.8**	**-0.3**
BRU2				*e*S	**Sn**	**05 08 36.2**	**+0.1**
CHIR3	**Chiriqui UPA,**	**0.42**	**92**	⇓*i*P	**Pb**	**05 08 28.1**	**-0.3**
CHIR3				*e*S	**Sn**	**05 08 36.9**	**+0.2**
EDSV	**San Vito**	**0.46**	**332**	*e*P	**Pb**	**05 08 27.4**	**-1.9**
EDSV				*e*S	**Sb**	**05 08 35.8**	**-0.1**
CHGR2	**Aguacate**	**0.80**	**49**	*e*P	**Pn**	**05 08 33.4**	**-1.6**
CHGR2				*e*S	**Sn**	**05 08 47.3**	**+1.3**
EDPN	**Palmar Norte**	**0.89**	**308**	*e*P	**Pn**	**05 08 32.4**	**-3.9**
EDBA	**Buenos Aires**	**0.91**	**325**	*e*P	**Pb**	**05 08 38.3**	**+1.6**
NANC3	**Nancito, Chiri**	**1.02**	**100**	*e*P	**Pn**	**05 08 37.2**	**-1.0**
CNI2	**El Empalme, Bo**	**1.04**	**15**	*e*P	**Pn**	**05 08 38.4**	**0.0**
CNI2				*e*S	**Sn**	**05 08 51.0**	**-1.1**
EDLM	**Las Mercedes**	**1.20**	**316**	*e*P	**Pn**	**05 08 38.5**	**-2.1**
GMAL	**Guarumal, Vera**	**1.64**	**113**	*e*P	**Pn**	**05 08 45.2**	**-1.4**
GMAL				*e*S	**Sb**	**05 09 10.0**	**+0.8**
LCR2	**La Lucha 2**	**1.81**	**317**	*e*P	**Pn**	**05 08 49.9**	**+0.7**
CVTR	**Volcan Turrial**	**1.88**	**328**	*e*P	**Pn**	**05 08 51.0**	**+0.6**
HDC	**Heredia**	**2.08**	**320**	*e*P	**Pn**	**05 08 53.8**	**+1.0**
HDC				*e*S	**Sb**	**05 09 22.8**	**+0.7**
HDC	**Heredia**	**2.08**	**320**	*e*P	**Pn**	**05 08 54.0**	**+1.3**
HDC				*e*S	**Sb**	**05 09 22.8**	**+0.7**
CACAO	**El Cacao, Vera**	**2.15**	**119**	*e*P	**Pn**	**05 08 54.6**	**+0.9**
CACAO				*e*S	**Sn**	**05 09 20.5**	**+0.9**
JTS	**Las Juntas de**	**2.86**	**311**	*e*P	**Pn**	**05 09 02.7**	**-0.8**
JTS				*e*S	**Sn**	**05 09 37.4**	**+0.2**
JTS	**Las Juntas de**	**2.86**	**311**	*e*P	**Pn**	**05 09 05.4**	**+1.8**
JTS				*e*S	**Sn**	**05 09 37.4**	**+0.2**

IDC 06 05:08:52.2±2.9**, 7°.28S**×**129°.46E, h111**km±39km**, mb3.6**/1**, mb1 3.9**/5**, mb1mx3.3**/48**, mbtmp4.2**/5**, Error ellipse: s-maj=72.3km s-min=21.5km az=91.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.62**	**16**	P	Pn	05 10 27.1	0.0
	2.8nm,0.3s,baz=187,slow=16,SNR=17						
SIJI				S	Sn	05 11 36.8	-4.4
	3.0nm,0.3s,baz=160,slow=22,SNR=4.4						
FITZ	**Fitzroy Crossi**	**11.37**	**199**	P	Pn	05 11 31.8	+0.4
	2.5nm,0.3s,baz=29,slow=10,SNR=54						
FITZ				S	Sn	05 13 32.8	-3.7
	1.5nm,0.3s,baz=180,slow=21,SNR=3.8						
WRA	**Warramunga Arr**	**13.45**	**160**	P	Pn	05 11 57.3	-1.3
	1.8nm,0.3s,baz=334,slow=13,SNR=38						
WRA				S	Sn	05 14 19.2	-7.6
	1.3nm,0.3s,baz=342,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**16.84**	**166**	P	P	05 12 42.2	+0.6
	0.9nm,0.3s,baz=334,slow=9.7,SNR=32						
MKAR	**Makanchi Array**	**68.17**	**327**	P	P	05 19 40.5	0.0
	0.5nm,0.4s,baz=119,slow=7.9,SNR=16						

*IDC **06** 05:09:31.6±0.9, 6°.37S×154°.98E, h34km±6km, mb4.1/15, mb1 4.3/18, mb1mx4.1/45, mbtmp4.3/18, ML3.7/3, MS3.3/12, Ms1 3.3/12, ms1mx3.1/35, Error ellipse: s-maj=21.6km s-min=14.0km az=105.0*
*ISCJB **06** 05:09:32.9±0.3, 6°.44S±0°.04×154°.93E±0°.05, h56km, mb4.2/15, MS3.3/8, Error ellipse: s-maj=7.8km s-min=5.9km az=31.4*
*NEIC **06** 05:09:33.0±2.2, 6°.41S±0°.07×154°.90E±0°.09, h40km±4km, mb4.6/35*
ISC 06 05:09:34.3±0.5**, 6°.41S**±0°.06×**154°.93E**±0°.08**, h56**km**, n71, σ1s.23**/69**, mb4.5**/33**, MS3.2**/8**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.57**	**306**	Pn	**Pn**	**05 10 29.6**	**+2.4**
	22nm,0.3s,baz=114,slow=2.2,SNR=11						
KRVT				LR	LR	05 12 12.9	
	comp=Z,462nm,19.4s,baz=83,slow=45						
HNR	**Honiara**	**5.80**	**121**	LR	LR	05 13 22.2	
	comp=Z,367nm,18.2s,baz=285,slow=40						
PMG	**Port Moresby**	**8.25**	**248**	Pn	**Pn**	**05 11 31.6**	**+0.2**
	12nm,0.3s,baz=44,slow=9.7,SNR=25						
PMG				Sn	**Sn**	**05 13 06.2**	**+2.9**
	2.4nm,0.3s,baz=28,slow=24,SNR=6.1						
PMG				LR	LR	05 14 43.2	
	comp=Z,238nm,18.9s,baz=40,slow=38						
PMG	**Port Moresby**	**8.25**	**248**		**Pn**	**05 11 31.5**	**0.0**
MANU	**Manus Island**	**8.70**	**300**		**Pn**	**05 11 32.8**	**-4.8**
PATS	**Pohnpei**	**13.58**	**14**	Pn	**Pn**	**05 12 45.2**	**+0.9**
CTA	**Charters Tower**	**16.00**	**211**	Pn	**Pn**	**05 13 15.6**	**-0.2**
	0.3nm,0.3s,baz=31,slow=14,SNR=10						
CTA				Sn	**Sn**	**05 16 14.6**	**+2.3**
	0.4nm,0.3s,baz=232,slow=21,SNR=6.7						
DZM	**Mont Dzumac**	**19.13**	**146**	P	**Pn**	**05 13 53.8**	**-0.6**
	0.8nm,0.3s,baz=305,slow=11,SNR=11						
DZM				LR	LR	05 19 05.2	
	comp=Z,46nm,18.9s,baz=222,slow=30						
DZM	**Mont Dzumac**	**19.13**	**146**	P	**P**	**05 13 53.7**	**+0.7**
GUMO	**Guam**	**22.24**	**333**	LR	LR	05 22 33.0	
	comp=Z,32nm,20.8s,baz=129,slow=35						
ARMA	**Armidale**	**24.08**	**187**	P	**P**	**05 14 45.7**	**+1.0**
ARMA				IAmb	IAmb	05 14 50.2	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**24.10**	**234**	P	**P**	**05 14 45.5**	**+0.5**
	comp=Z,4.3nm,0.6s,baz=56,slow=10,SNR=7.9						
WRA				pP	**pP**	**05 14 55.1**	**-2.3**
	comp=Z,7.8nm,0.6s,baz=59,slow=10,SNR=6.0						
WRA				PcP	**PcP**	**05 18 25.1**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=59,slow=2.0,SNR=4.8						
WRA				LR	LR	05 23 22.7	
	comp=Z,63nm,18.1s,baz=220,slow=34						
ASAR	**Alice Springs**	**26.52**	**227**	P	**P**	**05 15 06.1**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=59,slow=9.1,SNR=6.6						
ASAR				pP	**pP**	**05 15 17.4**	**-2.6**
	comp=Z,2.4nm,0.4s,baz=58,slow=9.7,SNR=8.7						
ASAR				PcP	**PcP**	**05 18 30.9**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=55,slow=3.5,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	**27.33**	**25**	T	T	05 43 57.0	
	baz=203,slow=75,SNR=29						
H11S2	**WAKE ISLAND Hy**	**27.33**	**25**	T	T	05 43 31.1	
	baz=203,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**27.35**	**25**	T	T	05 43 30.6	
	baz=203,slow=75,SNR=25						
STKA	**Stephens Creek**	**28.24**	**205**	P	**P**	**05 15 21.4**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=1.2,slow=7.5,SNR=3.7						
STKA				PcP	**PcP**	**05 18 34.3**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=5.9,slow=6.3,SNR=3.5						
STKA				LR	LR	05 26 34.4	
	comp=Z,80nm,18.8s,baz=29,slow=36						
STKA	**Stephens Creek**	**28.24**	**205**	P	**P**	**05 15 21.3**	**-0.8**
H11N1	**WAKE ISLAND Hy**	**28.50**	**24**	T	T	05 45 20.1	
	baz=198,slow=74,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**28.52**	**24**	T	T	05 44 59.1	
	baz=198,slow=74,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**28.52**	**24**	T	T	05 45 25.9	
	baz=198						
FITZ	**Fitzroy Crossi**	**30.84**	**245**	P	**P**	**05 15 45.6**	**+0.3**
PSAA3	**Pilbara Seismi**	**37.10**	**242**	P	**P**	**05 16 40.6**	**+0.9**
PSAA3				IAmb	IAmb	05 16 48.1	
	comp=Z,11nm,1.2s						
BKZ	**Black Stump Fm**	**37.97**	**152**	P	**P**	**05 16 46.0**	**-0.9**
THZ	**Tophouse**	**38.66**	**158**	P	**P**	**05 16 53.1**	**+0.5**
BFZ	**Birch Farm**	**39.09**	**154**	P	**P**	**05 16 55.5**	**-0.6**
KHZ	**Kahutara**	**39.47**	**158**	P	**P**	**05 16 57.9**	**-1.3**
ODZ	**Otahua Downs**	**40.85**	**163**	P	**P**	**05 17 11.1**	**+0.5**
ODZ				IAmb	IAmb	05 17 28.4	
	comp=Z,15nm,1.3s						
NACB	**Ninganchiao**	**44.51**	**314**	P	**P**	**05 17 40.7**	**+0.1**
SSLB	**Suanglung**	**44.73**	**313**	P	**P**	**05 17 42.7**	**+0.3**
KSRS	**Korea Array**	**50.40**	**332**	P	**P**	**05 18 25.5**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=146,slow=7.5,SNR=5.8						
KSRS				LR	LR	05 38 56.7	
	comp=Z,13nm,18.8s,baz=340,slow=35						
ASAJ	**Asahikawa**	**51.51**	**349**	LR	LR	05 40 03.6	
	comp=Z,38nm,18.9s,baz=34,slow=36						
PPT	**Papeete**	**55.23**	**107**	LR	LR	05 40 55.8	
	comp=Z,44nm,18.6s,baz=100,slow=34						
KLR	**Kul'dur**	**58.99**	**342**	P	**P**	**05 19 28.3**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=161,slow=7.0,SNR=4.5						
PEA0B	**Petropavlovsk-**	**59.34**	**2**	P	**P**	**05 19 31.2**	**+0.8**
PETK	**Petropavlovsk-**	**59.34**	**2**	P	**P**	**05 19 31.4**	**+1.0**
	comp=Z,5.4nm,0.7s,baz=172,slow=8.5,SNR=7.3						
PETK				LR	LR	05 41 42.6	
	comp=Z,16nm,20.9s,baz=216,slow=33						
CMAR	**Chiang Mai Arr**	**60.48**	**295**	P	**P**	**05 19 40.0**	**+1.0**
	comp=Z,12nm,0.7s,baz=119,slow=5.2,SNR=41						
CHTO	**Chiang Mai**	**60.59**	**296**	P	**P**	**05 19 40.3**	**+0.6**
SONM	**Songino Array**	**68.81**	**327**	P	**P**	**05 20 32.6**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=138,slow=5.1,SNR=16						
BILL	**Bilibino**	**74.71**	**4**	P	**P**	**05 21 09.5**	**+1.9**
BILL				IAmb	IAmb	05 21 11.0	
	comp=Z,5.0nm,1.0s						
SUA	**Susitna One**	**79.57**	**23**	P	**P**	**05 21 35.9**	**+0.7**
SUA				IAmb	IAmb	05 21 36.5	
	comp=Z,4.5nm,0.7s						
RC01	**Rabbit Creek A**	**79.76**	**24**	P	**P**	**05 21 36.4**	**+0.3**
RC01				IAmb	IAmb	05 21 51.4	
	comp=Z,10nm,1.2s						
KNK	**Knik Glacier**	**80.45**	**24**	P	**P**	**05 21 40.8**	**+0.9**
KNK				IAmb	IAmb	05 21 55.7	
	comp=Z,12nm,1.3s						
GHO	**Glory Hole Cre**	**80.46**	**24**	P	**P**	**05 21 39.6**	**-0.4**
GHO				IAmb	IAmb	05 21 42.2	
	comp=Z,5.7nm,0.9s						
GLI	**Glacier Island**	**80.73**	**25**	P	**P**	**05 21 42.0**	**+0.7**
GLI				IAmb	IAmb	05 21 51.7	
	comp=Z,6.6nm,0.9s						
TRF	**Thorofare Moun**	**80.88**	**22**	P	**P**	**05 21 42.0**	**-0.3**
TRF				IAmb	IAmb	05 21 43.2	
	comp=Z,4.7nm,1.1s						
SCM	**Sheep Creek Mo**	**81.14**	**24**	P	**P**	**05 21 44.6**	**+1.0**
RND	**Reindeer**	**81.39**	**22**	P	**P**	**05 21 44.3**	**-0.6**
MLY	**Manley**	**81.63**	**20**	P	**P**	**05 21 46.4**	**+0.3**
WAX	**Waxell Ridge**	**82.34**	**26**	P	**P**	**05 21 50.9**	**+1.0**
WAX				IAmb	IAmb	05 21 51.6	
	comp=Z,4.2nm,0.8s						
CCB	**Clear Creek Bu**	**82.45**	**21**	P	**P**	**05 21 49.9**	**-0.4**
BALM	**Baldy**	**82.83**	**26**	P	**P**	**05 21 53.7**	**+1.1**
BALM				IAmb	IAmb	05 21 55.6	
	comp=Z,3.5nm,0.9s						
IL31		**82.86**	**22**	P	**P**	**05 21 53.0**	**+0.6**
ILAR	**Eielson Array**	**82.86**	**22**	P	**P**	**05 21 51.2**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=229,slow=5.5,SNR=10						
ILAR				LR	LR	05 53 16.3	
	comp=Z,52nm,21.9s,baz=296,slow=32						
MKAR	**Makanchi Array**	**82.93**	**319**	P	**P**	**05 21 52.7**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=99,slow=5.6,SNR=27						
MAKZ	**Makanchi**	**83.14**	**319**	P	**P**	**05 21 54.0**	**-0.3**
MAKZ				IAmb	IAmb	05 21 54.9	
	comp=Z,4.8nm,0.8s						
BARN	**Barnard Glacie**	**83.14**	**26**	P	**P**	**05 21 56.3**	**+2.1**
BARN				IAmb	IAmb	05 21 57.2	
	comp=Z,3.4nm,1.0s						
CTGM	**Chitina Glacie**	**83.24**	**26**	P	**P**	**05 21 55.5**	**+0.8**
CTGM				IAmb	IAmb	05 21 57.1	
	comp=Z,5.9nm,1.0s						
QSPA	**South Pole Qui**	**83.56**	**180**	P	**P**	**05 21 55.7**	**-0.6**
	comp=Z,4.5nm,0.7s,baz=308,slow=1.5,SNR=14						
QSPA	**South Pole Qui**	**83.56**	**180**	P	**P**	**05 21 56.1**	**-0.2**
QSPA				IAmb	IAmb	05 21 56.3	
	comp=Z,4.4nm,0.7s						
ZALV	**Zalesovo Beam**	**83.66**	**326**	P	**P**	**05 21 55.3**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=116,slow=6.2,SNR=7.0						
KURK	**Kurchatov**	**86.34**	**322**	P	**P**	**05 22 09.4**	**-0.9**
KURK				IAmb	IAmb	05 22 14.0	
	comp=Z,1.8nm,0.6s						
KURBB	**Kurchatov Arra**	**86.37**	**322**	P	**P**	**05 22 09.3**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=100,slow=4.8,SNR=4.6						
EPYK	**Eagle Plains**	**87.35**	**22**	P	**P**	**05 22 15.7**	**+0.7**
EPYK				IAmb	IAmb	05 22 31.1	
	comp=Z,3.3nm,0.7s						
NVAR	**Mina Array Bea**	**91.41**	**52**	P	**P**	**05 22 36.0**	**+1.0**
	comp=Z,1.7nm,0.9s,baz=259,slow=6.1,SNR=10						
NV11	**Mina Array Sit**	**91.53**	**52**	P	**P**	**05 22 36.8**	**+1.4**
NV11				IAmb	IAmb	05 22 37.1	
	comp=Z,3.4nm,1.0s						
YKA	**Yellowknife Ar**	**95.85**	**28**	P	**P**	**05 22 54.1**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=267,slow=4.5,SNR=12						
SVB	**Belmont**	**143.74**	**76**		PKPpre	05 28 59.6	
TOA0	**Torodi Ar. Sit**	**152.81**	**286**	PKPbc	**PKPbc**	**05 29 24.6**	**-1.6**
TORD	**Torodi Ar. Bea**	**152.81**	**286**	PKP	**PKPdf**	**05 29 17.1**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=160,slow=1.6,SNR=2.5						
TORD				PKPbc	**PKPbc**	**05 29 24.9**	**-1.3**
	comp=Z,2.4nm,0.6s,baz=68,slow=2.3,SNR=14						
TORD				pPKPbc	**PKPab**	**05 29 36.5**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=78,slow=3.4,SNR=7.1						
DBIC	**Dimbokro**	**159.92**	**272**	PKPab	**PKPab**	**05 30 07.5**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=68,slow=4.0,SNR=4.1						

IDC 06 05:11:10.8±2.2**, 54°.60N**×**83°.52E, h0**km**, mb1 2.8**/2**, mb1mx2.7**/46**, mbtmp2.8**/2**, ML2.4**/2**, Error ellipse:**

s-maj=18.1km s-min=10.8km az=160.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**130**	*i*		05 17 00.0	
	baz=310,slow=343,SNR=8.3						
ZALV	**Zalesovo Beam**	**1.00**	**130**	Pg	Pg	05 11 29.6	-0.4
	4.0nm,0.3s,baz=311,slow=16,SNR=28						
ZALV				Lg	Lg	05 11 44.4	
	4.6nm,0.3s,baz=310,slow=28,SNR=28						
ZALV				Rg	Rg	05 11 49.5	
	10nm,0.4s,baz=303,slow=24,SNR=9.6						
KURBB	**Kurchatov Arra**	**5.01**	**219**	Pn	Pn	05 12 27.3	+0.2
	0.1nm,0.3s,baz=40,slow=16,SNR=3.5						
KURBB				Pg	Pb	05 12 41.2	+1.9
	0.1nm,0.3s,baz=40,slow=16,SNR=4.6						
KURBB				Lg	Lg	05 13 52.0	
	0.1nm,0.3s,baz=31,slow=27,SNR=4.4						
MKAR	**Makanchi Array**	**7.85**	**186**	Pn	Pn	05 13 06.0	-0.3
	0.2nm,0.3s,baz=12,slow=13,SNR=8.7						
MKAR				Sn	Sn	05 14 35.4	-0.4
	0.1nm,0.3s,baz=105,slow=33,SNR=4.6						
MKAR				Lg	Lg	05 15 19.6	
	0.1nm,0.3s,baz=337,slow=22,SNR=3.1						

IDC 06 05:12:12.4±4.0**,2°.27S**×**11°.42W,h0**km**,mb3.9**/2**,mb1 4.0**/3**,mb1mx3.5**/41**,mbtmp4.0**/3**,ML3.9**/1**,MS3.4**/2**,Ms1 3.4**/2**,ms1mx2.9**/27**,Error ellipse: s-maj=508.2km s-min=28.9km az=123.0,North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.31**	**209**	Pn	Pn	05 13 45.8	-0.8
	baz=8.5,slow=12,SNR=21						
H10N2				T	T	05 20 33.2	
	baz=14,slow=74						
H10N1	**ASCENSION HYDR**	**6.32**	**209**	Pn	Pn	05 13 45.9	-0.8
	baz=8.5,slow=12,SNR=27						
H10N1				T	T	05 20 31.3	
	baz=14,slow=74						
H10N3	**ASCENSION HYDR**	**6.33**	**209**	Pn	Pn	05 13 46.0	-0.8
	baz=8.5,slow=12,SNR=15						
H10N3				T	T	05 20 36.6	
	baz=14,slow=74						
H10S2	**ASCENSION HYDR**	**7.38**	**206**	Pn	Pn	05 14 01.6	+0.4
H10S2				T	T	05 22 22.7	
	baz=151						
H10S3	**ASCENSION HYDR**	**7.38**	**206**	Pn	Pn	05 14 01.7	+0.4
H10S3				T	T	05 22 33.3	
	baz=69						
LIC	**Lamto**	**10.58**	**37**	*e*P	Pn	05 14 45.9	+0.5
	2.7nm,0.2s						
KIC	**Kosan Boka**	**10.86**	**38**	*e*P	Pn	05 14 49.4	+0.2
	0.5nm,0.2s						
TIC	**Toumodi**	**10.92**	**36**	*e*P	Pn	05 14 49.8	-0.2
DBIC	**Dimbokro**	**11.03**	**36**	Pn	Pn	05 14 50.6	-1.0
	0.9nm,0.3s,baz=220,slow=12,SNR=11						
DBIC				Sn	Sn	05 16 52.0	-3.8
	1.1nm,0.3s,baz=219,slow=15,SNR=3.1						
DBIC				LR	LR	05 18 10.8	
	comp=Z,88nm,21.0s,baz=208,slow=32						
TORD	**Torodi Ar. Bea**	**20.10**	**40**	P	P	05 16 46.2	-1.6
	11nm,1.0s,baz=230,slow=11,SNR=44						
BRTR	**Keskin Array B**	**58.71**	**40**	P	P	05 22 13.7	+1.5
	0.6nm,0.8s,baz=230,slow=7.7,SNR=3.6						
TXAR	**Lajitas Array**	**93.06**	**299**	LR	LR	06 06 07.4	
	comp=Z,32nm,18.0s,baz=0.0,slow=35						

*ISCJB **06** 05:29:22.5±1.1,35°.85N±0°.03×1°.78W±0°.07,h6km±6km, Error ellipse: s-maj=10.1km s-min=5.1km az=16.9*
*MDD **06** 05:29:23.7±1.3,35°.87N×1°.68W,h0km,mbLg1.4/3,Error ellipse: s-maj=11.8km s-min=6.1km az=127.0,PRXIMO*
*CNRM **06** 05:29:28.2,35°.28N×4°.08W,h20km*
ISC 06 05:29:23.4±3.2**,35°.82N**±0°.03×**1°.73W**±0°.06**,h15**km±24km**,n14,**σ**1ˢ41**/24**,Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EALB	**Alboran**	**1.06**	**277**	Pg	**Pb**	**05 29 44.7**	**+1.2**
	3.4nm,0.2s,SNR=7.9						
EALB				Lg	Lg	05 29 58.6	
	1.9nm,0.3s,SNR=7.9						
EMEL	**Melilla**	**1.12**	**243**	Pg	**Pb**	**05 29 45.3**	**+0.7**
	1.6nm,0.2s,SNR=7.9						
EMEL				Lg	Lg	05 30 01.8	
	14nm,0.2s,SNR=7.9						
GOG	**Mont Gurugu**	**1.19**	**240**	P	**Pn**	**05 29 44.1**	**-1.5**
GOG				S	**Sb**	**05 29 58.1**	**-2.9**
ENIJ	**Nijar**	**1.21**	**342**	Pg	**Pb**	**05 29 44.6**	**-1.4**
	0.0nm,0.2s,SNR=7.9						
ENIJ				Lg	Lg	05 30 00.7	
	0.7nm,0.5s,SNR=7.9						
EBER	**Berja**	**1.42**	**319**	Pg	**Pn**	**05 29 48.8**	**-0.2**
	0.3nm,0.1s,SNR=7.9						
EBER				Lg	Lg	05 30 10.6	
	1.1nm,0.2s,SNR=7.9						
JBK	**JBK**	**1.63**	**205**	P	**Pn**	**05 29 53.5**	**+1.7**
JBK				S	**Sn**	**05 30 12.8**	**+0.1**
ELGU	**Los Guajares,**	**1.85**	**305**	Pn	**Pn**	**05 29 53.9**	**-0.8**
	0.2nm,0.1s,SNR=7.9						
ELGU				Sn	**Sn**	**05 30 18.1**	**+0.2**
	1.4nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**1.95**	**316**	Pn	**Pn**	**05 29 57.9**	**+1.8**
	0.2nm,0.1s,SNR=7.9						
EQUE				Sn	**Sn**	**05 30 22.3**	**+1.9**
	0.5nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.06**	**11**	Pn	**Pn**	**05 29 56.8**	**-0.7**
	0.1nm,0.1s,SNR=7.9						
EMUR				Sn	**Sn**	**05 30 21.2**	**-1.7**
	SNR=7.9						
EQES	**Quesada**	**2.25**	**332**	Pn	**Pn**	**05 30 02.4**	**+2.1**
	0.4nm,0.2s,SNR=18						
EQES				Sn	**Sb**	**05 30 31.6**	**0.0**
	0.6nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**2.38**	**344**	Pn	**Pn**	**05 30 03.9**	**+1.8**
	0.8nm,0.2s,SNR=7.9						
SESP				Sn	**Sn**	**05 30 32.4**	**+1.2**
	0.4nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**2.57**	**288**	Pn	**Pn**	**05 30 04.0**	**-0.5**
	0.0nm,0.2s,SNR=7.9						
EMIJ				Sn	**Sn**	**05 30 34.7**	**-0.8**
	0.0nm,0.3s,SNR=7.9						
TDRA	**Tendrara**	**2.79**	**185**	P	**Pb**	**05 30 13.3**	**+0.3**
TDRA				S	**Sb**	**05 30 46.6**	**-0.4**
ETOB	**Tobarra**	**2.82**	**3**	Pn	**Pn**	**05 30 08.0**	**-0.1**
	0.0nm,0.2s,SNR=6.5						
ETOB				Sn	**Sn**	**05 30 42.6**	**+0.7**
	0.3nm,0.1s,SNR=7.9						

*ISCJB **06** 05:50:33.5±0.2,33°.86N±0°.04×136°.93E±0°.05, h357km±2km,mb3.5/13,Error ellipse: s-maj=8.0km s-min=4.9km az=138.0*
*JMA **06** 05:50:33.3±0.2,33°.93N×136°.98E,h363km±3km,M3.4*
*NEIC **06** 05:50:34.9±2.2,33°.86N±0°.08×137°.00E±0°.10, h357km±6km,mb4.0/68*
*IDC **06** 05:50:34.3±1.2,33°.86N×136°.99E,h356km±12km, mb3.3/13,mb1 3.5/19,mb1mx3.4/41,mbtmp4.1/19,Error ellipse: s-maj=14.1km s-min=11.0km az=111.0*
ISC 06 05:50:34.1±0.6**,33°.86N**±0°.07×**136°.99E**±0°.06**,h352**km±5km**,n126,**σ**0ˢ92**/134**,mb4.0**/45**,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.13**	**165**	P	**Pn**	**05 51 18.9**	**+1.1**
TTO1	**TONANKAI O.B.S**	**0.29**	**215**	P	**Pn**	**05 51 18.9**	**+0.9**
TTO3	**TONANKAI O.B.S**	**0.34**	**89**	P	**Pn**	**05 51 19.4**	**+1.3**
TTO4	**TONANKAI O.B.S**	**0.48**	**72**	P	**Pn**	**05 51 19.1**	**+0.9**
JIE	**Ise**	**0.58**	**336**	P	**Pn**	**05 51 19.3**	**+0.6**
JIE				S	**S**	**05 51 54.9**	**+0.4**
TK02	**Tokai 2**	**0.65**	**82**	P	**Pn**	**05 51 19.7**	**+1.1**
JTNC	**Tanabenakahech**	**1.15**	**268**	P	**Pn**	**05 51 20.9**	**+0.2**
JTNC				*e*S	**S**	**05 51 58.0**	**-0.1**
JWY	**Kouya**	**1.21**	**288**	P	**Pn**	**05 51 21.6**	**+0.5**
INU	**Inuyama**	**1.49**	**1**	Pn	**Pn**	**05 51 22.9**	**+0.6**
JYTA	**Yamagatataniai**	**1.74**	**353**	P	**Pn**	**05 51 24.2**	**+0.4**
JWT	**Wachi**	**1.93**	**318**	P	**Pn**	**05 51 25.4**	**+0.4**
JWT				S	**S**	**05 52 05.1**	**-0.9**
JYN	**Shimob**	**2.08**	**38**	P	**Pn**	**05 51 26.6**	**+0.4**
JAI	**Aioi**	**2.11**	**269**	P	**Pn**	**05 51 26.6**	**+0.2**
JAI				S	**S**	**05 52 07.7**	**-0.7**
JOD2	**Odawara 2**	**2.23**	**50**	P	**Pn**	**05 51 27.3**	**+0.1**
JKG	**Kaga**	**2.47**	**348**	P	**Pn**	**05 51 29.3**	**+0.3**
JHJ2	**Mitsune**	**2.48**	**107**	Pn	**Pn**	**05 51 29.7**	**+0.5**
JMN	**Monobe**	**2.59**	**268**	P	**Pn**	**05 51 30.5**	**+0.3**
JRY	**Ryogami san**	**2.67**	**36**	P	**Pn**	**05 51 30.9**	**+0.2**
JRY				*e*S	**S**	**05 52 15.9**	**-0.3**
MAJO	**Matsushiro**	**2.86**	**20**	Pn	**Pn**	**05 51 32.1**	**-0.1**
MAT	**Matsushiro**	**2.86**	**20**	P	**Pn**	**05 51 32.1**	**-0.2**
MAT				S	**S**	**05 52 17.6**	**-1.6**
MAT	**Matsushiro**	**2.86**	**20**	P	**Pn**	**05 51 32.1**	**-0.2**
MAT				*e*S	**S**	**05 52 18.4**	**-0.8**
MJAR	**Matsushiro Arr**	**2.86**	**20**	P	**Pn**	**05 51 32.1**	**-0.2**
	1.5nm,0.3s,baz=197,slow=9.4,SNR=70						
MJB9	**Matsu-Tunnel**	**2.86**	**20**	Pn	**Pn**	**05 51 32.1**	**-0.2**
JAG	**Ashikaga**	**3.26**	**38**	P	**Pn**	**05 51 34.5**	**-1.4**
BSO1	**Boso 1**	**3.40**	**75**	P	**Pn**	**05 51 34.6**	**-2.0**
JTO	**Tosashimizu**	**3.64**	**255**	P	**Pn**	**05 51 39.7**	**0.0**
JNU	**Nakatsue**	**5.16**	**263**	P	**Pn**	**05 51 56.1**	**+0.5**
	1.0nm,0.3s,baz=152,slow=14,SNR=7.8						
JNU	**Nakatsue**	**5.16**	**263**	Pn	**Pn**	**05 51 56.2**	**+0.6**
KSRS	**Korea Array**	**8.20**	**298**	P	**Pn**	**05 52 31.4**	**+0.9**
	2.8nm,0.3s,baz=112,slow=12,SNR=65						
KS19	**Wonju Array Si**	**8.26**	**299**		**Pn**	**05 52 31.6**	**+0.3**
ERM	**Erimo**	**9.48**	**29**	Pn	**Pn**	**05 52 44.8**	**-1.0**
USA0B	**Ussuriysk Arra**	**11.03**	**341**		**Pn**	**05 53 04.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**11.03**	**341**	P	**Pn**	**05 53 04.4**	**+0.3**
	baz=150,slow=11,SNR=26						
ASAJ	**Asahikawa**	**11.13**	**21**	P	**Pn**	**05 53 05.0**	**-0.2**
	4.6nm,0.3s,baz=245,slow=8.6,SNR=14						
JKA	**Kamikawa-asahi**	**11.13**	**21**	P	**Pn**	**05 53 05.0**	**-0.3**
YSS	**Yuzh-Sakhalins**	**13.79**	**17**	P	**Pn**	**05 53 36.4**	**-0.2**
KLR	**Kul'dur**	**15.84**	**347**	P	**P**	**05 53 56.7**	**-0.8**
	0.3nm,0.3s,baz=268,slow=8.7,SNR=6.3						
NACB	**Ninganchiao**	**16.55**	**238**	P	**P**	**05 54 05.3**	**-0.1**
SSLB	**Suanglung**	**17.25**	**239**	P	**P**	**05 54 13.6**	**+0.7**
YULB	**Yu-li**	**17.25**	**237**	P	**P**	**05 54 11.6**	**-1.4**
TPUB	**Ta-pu**	**17.78**	**238**	P	**P**	**05 54 18.4**	**-0.3**
TPUB				PcP	**PcP**	**05 58 40.9**	**+3.6**
PETK	**Petropavlovsk-**	**24.26**	**31**	P	**P**	**05 55 21.1**	**+0.8**
	2.2nm,0.8s,baz=251,slow=4.4,SNR=3.0						
SONM	**Songino Array**	**26.82**	**311**	P	**P**	**05 55 43.9**	**+0.5**
	2.3nm,0.7s,baz=115,slow=7.4,SNR=15						
CMAR	**Chiang Mai Arr**	**37.20**	**255**	P	**P**	**05 57 13.2**	**+0.1**
	1.8nm,0.3s,baz=47,slow=7.8,SNR=4.2						
ADK	**Adak**	**37.69**	**47**	P	**P**	**05 57 16.7**	**0.0**
BILL	**Bilibino**	**38.11**	**17**	P	**P**	**05 57 20.9**	**+1.0**
MK31	**Makanchi Array**	**42.83**	**304**	P	**P**	**05 57 58.4**	**-0.1**
MKAR	**Makanchi Array**	**42.83**	**304**	P	**P**	**05 57 58.3**	**-0.3**
	1.2nm,0.6s,baz=89,slow=10,SNR=17						
KURK	**Kurchatov**	**45.13**	**310**	P	**P**	**05 58 16.0**	**-0.5**
MTN	**Manton Dam**	**46.78**	**188**	P	**P**	**05 58 28.9**	**-0.7**
MTN				IAmb	IAmb	05 58 47.7	
	comp=Z,16nm,1.3s						
GSI	**Gunungsitoli**	**49.06**	**237**	P	**P**	**05 58 47.4**	**+0.4**
KNRA	**Kununurra**	**49.88**	**190**	P	**P**	**05 58 52.7**	**-0.3**
KNRA				IAmb	IAmb	05 58 53.2	
	comp=Z,6.0nm,0.9s						
OHAK	**Old Harbor**	**51.52**	**41**	P	**P**	**05 59 06.0**	**+1.4**
OHAK				IAmb	IAmb	05 59 19.1	
	comp=Z,18nm,1.2s						
KK31	**Karatay Array**	**51.62**	**301**	P	**P**	**05 59 05.1**	**-0.6**
KKAR	**Karatay Array**	**51.62**	**301**	P	**P**	**05 59 05.2**	**-0.5**
PPLA	**Purkeypile**	**51.82**	**33**	P	**P**	**05 59 08.4**	**+1.4**
PPLA				IAmb	IAmb	05 59 27.2	
	comp=Z,14nm,1.4s						
KDAK	**Kodiak Island**	**51.86**	**40**	P	**P**	**05 59 07.3**	**+0.2**
KDAK				IAmb	IAmb	05 59 15.5	
	comp=Z,15nm,1.4s						
SKT	**Skwentna**	**52.15**	**35**	P	**P**	**05 59 09.7**	**+0.5**
SKT				IAmb	IAmb	05 59 13.1	
	comp=Z,7.5nm,1.4s						
BPAW	**Bear Paw Mtn.**	**52.34**	**32**	P	**P**	**05 59 11.7**	**+1.1**
KTH	**Kantishna Hill**	**52.38**	**33**	P	**P**	**05 59 11.9**	**+0.9**
MLY	**Manley**	**52.43**	**31**	P	**P**	**05 59 12.6**	**+1.3**
SUA	**Susitna One**	**52.54**	**35**	P	**P**	**05 59 12.5**	**+0.3**
SUA				IAmb	IAmb	05 59 14.0	
	comp=Z,9.0nm,1.0s						
COLD	**Coldfoot**	**52.66**	**28**	P	**P**	**05 59 13.4**	**+0.6**
TRF	**Thorofare Moun**	**52.66**	**33**	P	**P**	**05 59 15.0**	**+1.8**
TRF				IAmb	IAmb	05 59 18.7	
	comp=Z,6.7nm,1.3s						
FITZ	**Fitzroy Crossi**	**52.79**	**194**	P	**P**	**05 59 14.5**	**+0.2**
SEW	**Seward**	**53.28**	**37**	P	**P**	**05 59 17.6**	**+0.2**
PMR	**Palmer**	**53.31**	**35**	P	**P**	**05 59 17.7**	**+0.1**
PMR				IAmb	IAmb	05 59 18.6	
	comp=Z,5.9nm,1.0s						
RND	**Reindeer**	**53.31**	**33**	P	**P**	**05 59 18.2**	**+0.5**
RND				IAmb	IAmb	05 59 18.6	
	comp=Z,5.7nm,1.1s						
WB0	**Warramunga Arr**	**53.38**	**183**	P	**P**	**05 59 18.2**	**-0.4**
GHO	**Glory Hole Cre**	**53.39**	**35**	P	**P**	**05 59 18.9**	**+0.6**
GHO				IAmb	IAmb	05 59 21.1	
	comp=Z,4.4nm,0.8s						
WB2	**Warramunga Arr**	**53.56**	**183**	P	**P**	**05 59 19.1**	**-0.8**
WRA	**Warramunga Arr**	**53.56**	**183**	P	**P**	**05 59 19.2**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=356,slow=7.7,SNR=26						
KNK	**Knik Glacier**	**53.64**	**35**	P	**P**	**05 59 20.9**	**+0.8**
KNK				IAmb	IAmb	05 59 21.3	
	comp=Z,7.9nm,0.8s						
IL31		**54.09**	**31**	P	**P**	**05 59 23.3**	**+0.3**
ILAR	**Eielson Array**	**54.09**	**31**	P	**P**	**05 59 22.9**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=267,slow=4.8,SNR=13						
SCM	**Sheep Creek Mo**	**54.14**	**35**	P	**P**	**05 59 24.4**	**+0.8**
SCM				IAmb	IAmb	05 59 30.8	
	comp=Z,16nm,1.4s						
GLI	**Glacier Island**	**54.36**	**36**	P	**P**	**05 59 25.8**	**+0.6**
GLI				IAmb	IAmb	05 59 26.6	
	comp=Z,8.0nm,0.7s						
FID	**Port Fidalgo**	**54.67**	**36**	P	**P**	**05 59 27.9**	**+0.6**
FID				IAmb	IAmb	05 59 28.5	
	comp=Z,7.3nm,0.5s						
HIN	**Hinchinbrook I**	**54.71**	**36**	P	**P**	**05 59 28.7**	**+1.0**
EYAK	**Cordova Ski Ar**	**55.05**	**36**	P	**P**	**05 59 31.3**	**+1.2**
EYAK				IAmb	IAmb	05 59 46.8	
	comp=Z,18nm,1.4s						
SCRK	**Sand Creek**	**55.42**	**32**	P	**P**	**05 59 33.1**	**+0.3**
GLB	**Gilahina Butte**	**55.86**	**35**	P	**P**	**05 59 36.7**	**+0.9**
GLB				IAmb	IAmb	05 59 55.2	
	comp=Z,9.1nm,1.4s						
VRDI	**Verde Repeater**	**56.06**	**35**	P	**P**	**05 59 38.2**	**+0.8**
VRDI				IAmb	IAmb	05 59 39.0	
	comp=Z,2.9nm,0.8s						
MCARA	**McCarthy VSAT**	**56.24**	**35**	P	**P**	**05 59 40.0**	**+1.5**
MCARA				IAmb	IAmb	05 59 40.4	
	comp=Z,6.1nm,0.8s						
CRQM	**Cirque**	**56.29**	**36**	P	**P**	**05 59 40.1**	**+1.1**
CRQM				IAmb	IAmb	05 59 46.1	
	comp=Z,8.6nm,1.3s						
CTGM	**Chitina Glacie**	**57.12**	**35**	P	**P**	**05 59 45.8**	**+1.1**
CTGM				IAmb	IAmb	06 00 04.1	
	comp=Z,2.7nm,0.8s						
ABKAR	**Akbulak array**	**57.23**	**311**	P	**P**	**05 59 45.2**	**-0.3**
ASAR	**Alice Springs**	**57.28**	**183**	P	**P**	**05 59 46.6**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=9.5,slow=14,SNR=10						
EPYK	**Eagle Plains**	**58.05**	**28**	P	**P**	**05 59 52.2**	**+1.2**
INK	**Inuvik**	**58.83**	**26**	P	**P**	**05 59 56.6**	**+0.4**
MLH	**Mauna Loa**	**61.13**	**85**	P	**P**	**06 00 10.5**	**-2.3**
ARCES	**ARCESS Array B**	**65.67**	**339**	P	**P**	**06 00 40.9**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=66,slow=9.4,SNR=7.7						
YKA	**Yellowknife Ar**	**68.33**	**28**	P	**P**	**06 00 57.7**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=296,slow=5.8,SNR=6.9						
TULEG	**Thule**	**68.68**	**6**	P	**P**	**06 00 59.8**	**+0.1**
TULEG				IAmb	IAmb	06 01 00.2	
	comp=Z,5.1nm,1.0s						
NWAO	**Narrogin (SRO)**	**68.98**	**198**	P	**P**	**06 01 01.7**	**-0.4**
NWAO	**Narrogin (SRO)**	**68.98**	**198**	P	**P**	**06 01 01.6**	**-0.5**
NWAO				IAmb	IAmb	06 01 09.4	
	comp=Z,20nm,1.4s						
FIA1	**FINESS Array S**	**69.90**	**331**	P	**P**	**06 01 06.7**	**-0.6**
FINES	**FINESS Array B**	**69.90**	**331**	P	**P**	**06 01 06.8**	**-0.6**
	comp=Z,1.5nm,0.4s,baz=58,slow=6.0,SNR=24						
KEBM	**Edson Butte**	**73.52**	**49**	P	**P**	**06 01 31.0**	**+1.8**
SUMG	**Summit**	**73.81**	**359**	P	**P**	**06 01 32.0**	**+1.4**
PINE	**Pine Mountain**	**75.14**	**47**	P	**P**	**06 01 40.1**	**+1.5**
PINE				IAmb	IAmb	06 01 40.8	
	comp=Z,4.6nm,0.8s						
WALA	**Waterton Lakes**	**76.20**	**40**	P	**P**	**06 01 45.1**	**+0.8**
WALA				IAmb	IAmb	06 01 45.9	
	comp=Z,3.4nm,0.8s						
BMO	**Blue Mountains**	**76.73**	**45**	P	**P**	**06 01 47.9**	**+0.5**
BMO				IAmb	IAmb	06 02 02.5	
	comp=Z,2.0nm,1.3s						
WVOR	**Wild Horse Val**	**77.30**	**47**	P	**P**	**06 01 51.6**	**+1.0**
BEKR	**Beckworth**	**77.66**	**50**	P	**P**	**06 01 53.4**	**+0.7**
BEKR				IAmb	IAmb	06 01 54.0	
	comp=Z,2.4nm,1.0s						
YERR	**Yerington**	**78.87**	**50**	P	**P**	**06 02 00.2**	**+0.9**
YERR				IAmb	IAmb	06 02 00.9	
	comp=Z,4.0nm,1.2s						
WAKR	**Walker**	**79.01**	**51**	P	**P**	**06 02 01.4**	**+1.4**
WAKR				IAmb	IAmb	06 02 17.8	
	comp=Z,4.1nm,1.2s						
DLMT	**Dillon**	**79.12**	**42**	P	**P**	**06 02 01.4**	**+0.9**
DLMT				IAmb	IAmb	06 02 02.0	
	comp=Z,2.5nm,0.8s						
BOZ	**Bozeman (W)**	**79.52**	**42**	P	**P**	**06 02 03.3**	**+0.7**
NVAR	**Mina Array Bea**	**79.78**	**51**	P	**P**	**06 02 05.3**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=296,slow=5.1,SNR=8.1						
TPAW	**Teton Pass**	**81.21**	**43**	P	**P**	**06 02 13.4**	**+1.7**
TPAW				IAmb	IAmb	06 02 13.8	
	comp=Z,1.9nm,0.8s						
R11A	**Troy Canyon, C**	**81.56**	**49**	P	**P**	**06 02 14.6**	**+1.0**
R11A				IAmb	IAmb	06 02 14.8	
	comp=Z,1.1nm,0.5s						
BGU	**Big Grassy Mou**	**81.58**	**46**	P	**P**	**06 02 14.9**	**+1.4**
TPNV	**Topopah Spring**	**81.97**	**51**	P	**P**	**06 02 16.6**	**+1.0**
TPNV				IAmb	IAmb	06 02 32.9	
	comp=Z,2.7nm,1.4s						
PDAR	**Pinedale Array**	**82.45**	**43**	P	**P**	**06 02 18.1**	**0.0**
	comp=Z,1.0nm,0.7s,baz=307,slow=3.3,SNR=12						
PSUT	**Pine Spring**	**82.54**	**48**	P	**P**	**06 02 19.6**	**+1.0**
MSU	**Marysvale**	**83.59**	**48**	P	**P**	**06 02 25.4**	**+1.5**
KNB	**Kanab**	**84.11**	**49**	P	**P**	**06 02 28.0**	**+1.5**
SRU	**San Rafael Swe**	**84.22**	**46**	P	**P**	**06 02 28.0**	**+1.0**
PV14	**Lion Creek, Pa**	**85.59**	**46**	P	**P**	**06 02 35.1**	**+1.2**
TXAR	**Lajitas Array**	**94.92**	**50**	P	**P**	**06 03 15.2**	**-2.2**
	comp=Z,0.3nm,0.6s,baz=321,slow=2.8,SNR=3.7						
LPAZ	**La Paz**	**151.42**	**58**	PKPbc	**PKPbc**	**06 09 47.1**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=6.1,slow=3.0,SNR=4.9						
LPAZ	**La Paz**	**151.42**	**58**		**PKPbc**	**06 09 46.7**	**-1.2**
MNMC	**Minye Minye**	**152.16**	**65**	PKPab	**PKPab**	**06 10 00.8**	**+0.6**
PB11	**IPOC Station P**	**152.49**	**66**	PKPab	**PKPab**	**06 10 01.0**	**-0.4**
GO01	**Chusmiza**	**152.78**	**65**	PKPbc	**PKiKP**	**06 09 50.9**	**+0.1**

*IDC **06** 06:11:45.6±2.3,6°.11N×125°.73E,h0km,mb3.6/3, mb1 3.9/3,mb1mx3.4/40,mbtmp3.6/3,Error ellipse: s-maj=185.3km s-min=27.3km az=65.0*
*MAN **06** 06:11:52.8,6°.11N×126°.13E,h23km,MS3.2*
ISC 06 06:11:51.6±1.7**,5°.99N**±0°.08×**126°.21E**±0°.08**,h34**km±4km**,n9,**σ**1ˢ48**/13**,mb3.2**/3**,1C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.51**	**283**	P	**Pb**	**06 12 02.3**	**-0.1**
DDMP				S	**Sn**	**06 12 11.4**	**+1.4**
MATI	**Mati**	**0.95**	**3**	P	**Pb**	**06 12 08.7**	**-1.1**
MATI				S	**Sn**	**06 12 20.8**	**-0.3**
GSPH	**General Santos**	**1.25**	**274**	P	**Pn**	**06 12 11.8**	**-1.1**
GSPH				S	**Sn**	**06 12 26.4**	**-2.4**
DMPH	**Davao City--Mi**	**1.29**	**327**	⇑P	**Pb**	**06 12 15.6**	**+0.2**
DMPH				S	**Sn**	**06 12 29.1**	**-0.3**
KCP	**Kidapawan**	**1.50**	**312**	⇓P	**Pn**	**06 12 16.6**	**+0.3**
KCP				S	**Sn**	**06 12 34.2**	**-0.6**
PAGZ	**Pagadian**	**3.36**	**304**	P	**Pn**	**06 12 43.1**	**+1.4**
WRA	**Warramunga Arr**	**26.98**	**163**	P	**P**	**06 17 33.2**	**+2.6**
	0.3nm,0.4s,baz=342,slow=10,SNR=6.2						
ASAR	**Alice Springs**	**30.42**	**166**	P	**P**	**06 18 00.4**	**-0.7**
	0.3nm,0.7s,baz=344,slow=6.3,SNR=3.4						
MKAR	**Makanchi Array**	**55.42**	**325**	P	P	06 21 19.1	-3.7
	0.1nm,0.4s,baz=114,slow=6.3,SNR=4.9						

*IDC **06** 06:14:57.2±0.8,23°.43N×143°.55E,h0km,mb4.0/12, mb1 4.1/14,mb1mx3.9/44,mbtmp4.0/14,ML3.8/2,MS3.4/8, Ms1 3.5/8,ms1mx3.1/41,Error ellipse: s-maj=27.5km s-min=17.6km az=89.0*
*NEIC **06** 06:14:59.1±1.6,23°.41N±0°.08×143°.5E±0°.1,h10km±1km, mb4.5/29*
*ISCJB **06** 06:15:00.3±0.3,23°.49N±0°.04×143°.43E±0°.07,h31km, mb4.0/12,MS3.4/6,Error ellipse: s-maj=9.9km s-min=5.1km az=162.2*
*JMA **06** 06:15:03.3±0.2,23°.72N×141°.65E,h1km,M4.6*
ISC 06 06:15:02.2±0.5**,23°.53N**±0°.07×**143°.5E**±0°.1**,h31**km**,n60,**σ**1ˢ10**/57**,mb4.3**/25**,MS3.4**/6**,Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**3.31**	**339**	P	**Pn**	**06 15 52.3**	**+0.4**
JHH2				*e*S	**Sn**	**06 16 28.8**	**-1.4**
CBIJ	**Chichi jima**	**3.74**	**342**	P	**Pn**	**06 15 59.2**	**+1.3**
CBIJ				*e*S	**Sn**	**06 16 39.8**	**-1.1**
JCJ	**Chichijima**	**3.74**	**342**	Pn	**Pn**	**06 15 59.3**	**+1.4**
	13nm,0.3s,baz=196,slow=20,SNR=2.6						
JCJ				Sn	**Sn**	**06 16 42.4**	**+1.5**
	54nm,0.3s,baz=281,slow=23,SNR=9.3						
JOD2	**Odawara 2**	**12.30**	**343**	P	**Pn**	**06 17 55.1**	**-0.2**
INU	**Inuyama**	**13.05**	**336**	Pn	**Pn**	**06 18 06.1**	**+0.6**
JRY	**Ryogami san**	**13.06**	**343**	P	**Pn**	**06 18 04.1**	**-1.6**
JAG	**Ashikaga**	**13.32**	**346**	P	**Pn**	**06 18 07.7**	**-1.4**
JAG				*e*S	**Sn**	**06 20 31.7**	**-4.4**
JNU	**Nakatsue**	**14.63**	**314**	LR	LR	06 23 07.4	
	comp=Z,61nm,21.4s,baz=162,slow=33						
KSRS	**Korea Array**	**19.26**	**320**	P	**Pn**	**06 19 24.8**	**-0.5**
	0.2nm,0.3s,baz=126,slow=12,SNR=6.0						
KSRS				LR	LR	06 26 45.1	
	comp=Z,124nm,18.3s,baz=138,slow=36						
WAKE	**Wake Island**	**21.98**	**97**	P	**P**	**06 19 53.7**	**-0.1**
USA0B	**Ussuriysk Arra**	**22.68**	**338**	P	**P**	**06 20 01.0**	**0.0**
DAV	**Davao City (W)**	**23.73**	**229**	LR	LR	06 27 36.7	
	comp=Z,138nm,21.1s,baz=356,slow=32						
JAY	**Jayapura**	**26.02**	**186**	LR	LR	06 29 17.8	
	comp=Z,57nm,18.6s,baz=36,slow=33						
KLR	**Kul'dur**	**27.27**	**343**	P	**P**	**06 20 44.6**	**+0.9**
	4.2nm,0.7s,baz=139,slow=8.1,SNR=17						
PETK	**Petropavlovsk-**	**31.45**	**16**	LR	LR	06 34 03.9	
	comp=Z,38nm,19.8s,baz=252,slow=36						
KNRA	**Kununurra**	**41.53**	**202**	P	**P**	**06 22 45.9**	**-1.1**
KNRA				IAmb	IAmb	06 22 46.6	
	comp=Z,15nm,1.2s						
CMAR	**Chiang Mai Arr**	**41.76**	**272**	LR	LR	06 39 08.0	
	comp=Z,44nm,21.2s,baz=180,slow=35						
WB0	**Warramunga Arr**	**43.93**	**192**	P	**P**	**06 23 05.8**	**-0.7**
WB2	**Warramunga Arr**	**44.11**	**192**	P	**P**	**06 23 06.9**	**-1.0**
WB2				IAmb	IAmb	06 23 07.2	
	comp=Z,7.9nm,1.4s						
WRA	**Warramunga Arr**	**44.11**	**192**	P	**P**	**06 23 07.5**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=16,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**47.82**	**192**	P	**P**	**06 23 35.3**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=15,slow=7.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**52.96**	**321**	P	**P**	**06 24 15.6**	**0.0**
	comp=Z,0.5nm,0.3s,baz=93,slow=3.1,SNR=3.6						
MK31	**Makanchi Array**	**53.67**	**312**	P	**P**	**06 24 21.6**	**+0.6**
MK31				IAmb	IAmb	06 24 22.3	
	comp=Z,2.8nm,0.9s						
MKAR	**Makanchi Array**	**53.67**	**312**	P	**P**	**06 24 21.2**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=95,slow=8.9,SNR=24						
MAKZ	**Makanchi**	**53.89**	**312**	P	**P**	**06 24 22.9**	**+0.2**
MAKZ				IAmb	IAmb	06 24 24.0	
	comp=Z,6.3nm,1.0s						
STKA	**Stephens Creek**	**55.12**	**182**	P	**P**	**06 24 30.0**	**-1.6**
KURK	**Kurchatov**	**56.34**	**316**	P	**P**	**06 24 40.2**	**0.0**
KURK				IAmb	IAmb	06 24 41.1	
	comp=Z,6.7nm,0.8s						
NRIK	**Noril'sk**	**56.38**	**339**	P	**P**	**06 24 41.4**	**+1.1**
	comp=Z,2.3nm,0.5s,baz=120,slow=9.9,SNR=6.6						
SKT	**Skwentna**	**57.79**	**30**	P	**P**	**06 24 50.0**	**-0.2**
SUA	**Susitna One**	**58.06**	**31**	P	**P**	**06 24 52.3**	**-0.1**
BPAW	**Bear Paw Mtn.**	**58.43**	**28**	P	**P**	**06 24 56.2**	**+1.4**
TRF	**Thorofare Moun**	**58.62**	**29**	P	**P**	**06 24 56.6**	**+0.4**
TRF				IAmb	IAmb	06 25 06.3	
	comp=Z,7.1nm,1.4s						
SCM	**Sheep Creek Mo**	**59.73**	**31**	P	**P**	**06 25 04.7**	**+0.8**
IL31		**60.30**	**28**	P	**P**	**06 25 07.8**	**+0.3**
IL31				IAmb	IAmb	06 25 19.3	
	comp=Z,5.8nm,1.4s						
ILAR	**Eielson Array**	**60.30**	**28**	P	**P**	**06 25 06.9**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=261,slow=5.2,SNR=8.3						
EYAK	**Cordova Ski Ar**	**60.37**	**32**	P	**P**	**06 25 08.8**	**+0.7**
SCRK	**Sand Creek**	**61.47**	**29**	P	**P**	**06 25 16.2**	**+0.5**
SCRK				IAmb	IAmb	06 25 29.0	
	comp=Z,4.0nm,1.2s						
BRVK	**Borovoye**	**61.53**	**319**	P	**P**	**06 25 17.3**	**+1.1**
CRQM	**Cirque**	**61.67**	**32**	P	**P**	**06 25 17.9**	**+0.6**
BALM	**Baldy**	**62.06**	**32**	P	**P**	**06 25 20.7**	**+0.9**
BALM				IAmb	IAmb	06 25 29.2	
	comp=Z,4.6nm,1.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KK31	**Karatay Array**	**62.15**	**308**	P	**P**	**06 25 22.2**	**+1.6**
KK31				IAmb	IAmb	06 25 27.0	
	comp=Z,3.8nm,0.9s						
KKAR	**Karatay Array**	**62.15**	**308**	P	**P**	**06 25 22.0**	**+1.5**
KKAR				IAmb	IAmb	06 25 27.0	
	comp=Z,3.8nm,0.9s						
CHGR	**Chuyangaron**	**63.82**	**303**	P	**P**	**06 25 33.2**	**+1.3**
INK	**Inuvik**	**65.79**	**24**	P	**P**	**06 25 44.5**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=270,slow=6.2,SNR=3.7						
INK	**Inuvik**	**65.79**	**24**	P	**P**	**06 25 44.5**	**+0.5**
INK				IAmb	IAmb	06 25 56.3	
	comp=Z,5.5nm,1.4s						
ABKAR	**Akbulak array**	**68.43**	**316**	P	**P**	**06 26 01.0**	**-0.1**
ABKAR				IAmb	IAmb	06 26 01.6	
	comp=Z,1.5nm,0.7s						
BKZ	**Black Stump Fm**	**69.60**	**153**	P	**P**	**06 26 07.3**	**-1.1**
YKA	**Yellowknife Ar**	**74.72**	**28**	P	**P**	**06 26 38.9**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=291,slow=5.7,SNR=12						
HUMO	**Hull Mountain**	**76.97**	**49**	P	**P**	**06 26 51.6**	**-0.4**
ARCES	**ARCESS Array B**	**77.28**	**341**	LR	LR	07 05 30.5	
	comp=Z,121nm,18.2s,baz=198,slow=39						
PINE	**Pine Mountain**	**77.94**	**47**	P	**P**	**06 26 59.2**	**+1.6**
PINE				IAmb	IAmb	06 26 59.9	
	comp=Z,3.0nm,0.7s						
NEW	**Newport**	**78.75**	**42**	LR	LR	06 56 03.7	
	comp=Z,24nm,21.3s,baz=46,slow=31						
BEKR	**Beckworth**	**79.78**	**51**	P	**P**	**06 27 08.2**	**+0.4**
KBZ	**Khabaz**	**81.30**	**314**	P	**P**	**06 27 16.4**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=85,slow=0.9,SNR=3.6						
FINES	**FINESS Array B**	**81.65**	**334**	P	**P**	**06 27 17.3**	**+0.1**
	comp=Z,10nm,1.2s,baz=39,slow=9.0,SNR=3.3						
NVAR	**Mina Array Bea**	**81.80**	**52**	P	**P**	**06 27 19.5**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=259,slow=5.2,SNR=4.7						
KNB	**Kanab**	**86.34**	**51**	P	**P**	**06 27 42.8**	**+1.0**
PLCA	**Paso Flores**	**146.73**	**129**	PKPbc	**PKPab**	**06 34 42.0**	**-0.5**
PB11	**IPOC Station P**	**149.02**	**89**	PKPbc	**PKPbc**	**06 34 48.4**	**+0.2**
LPAZ	**La Paz**	**149.47**	**82**	PKPbc	**PKiKP**	**06 34 50.9**	**-0.2**

WEL 06 06:33:28.0±1.2**,33°S**±29°×**18°0W**±3°6**,h305**km±37km**,**
M4.1/10**,mB4.3**/2**,MLv4.1**/10**,Mw(mB)3.4**/2**,Error ellipse: s-maj=0.1km s-min=0.0km az=126.9,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.40**	**198**	P	Pn	06 34 38.4	-0.4
WMGZ	**Waiomatatini S**	**4.62**	**196**	P	Pn	06 34 41.5	+0.3
WMGZ				S	S	06 35 42.1	+2.0
HAZ	**Te Kaha**	**4.74**	**202**	P	Pn	06 34 42.4	-0.1
HAZ				S	S	06 35 44.1	+1.7
PKGZ	**Pakihiroa**	**4.77**	**199**	P	Pn	06 34 42.8	-0.2
PUZ	**Puketiti**	**4.90**	**197**	P	Pn	06 34 44.4	0.0
PUZ				S	S	06 35 46.6	+0.7
RUGZ	**Raukumara Rang**	**4.96**	**202**	P	Pn	06 34 44.8	-0.4
RUGZ				S	S	06 35 45.9	-1.5
CNGZ	**Carnagh Statio**	**5.30**	**196**	P	Pn	06 34 50.9	+1.9
MWZ	**Matawai**	**5.35**	**202**	P	Pn	06 34 49.5	-0.1
MWZ				S	S	06 35 54.7	-0.6
TKGZ	**Te Karaka**	**5.35**	**199**	P	Pn	06 34 48.8	-0.8
URZ	**Urewera**	**5.42**	**205**	P	Pn	06 34 49.6	-0.8
URZ				S	S	06 35 55.7	-1.1
SNGZ	**Shannon Statio**	**5.81**	**201**	P	Pn	06 34 54.9	-0.2
SNGZ				S	S	06 36 05.9	+0.5
RAHZ	**Arahi**	**6.02**	**203**	P	Pn	06 34 57.6	+0.1
RAHZ				S	S	06 36 10.3	+0.5
MTHZ	**Maungataniwha**	**6.04**	**205**	P	Pn	06 34 57.7	-0.1
NMHZ	**Naumai**	**6.27**	**204**	P	Pn	06 35 00.5	-0.1
NMHZ				S	S	06 36 17.2	+1.8
ARHZ	**Aropaoanui**	**6.36**	**202**	P	Pn	06 35 01.3	-0.3
BKZ	**Black Stump Fm**	**6.45**	**205**	P	Pn	06 35 01.9	-0.8
HIZ	**Hauiti**	**6.63**	**218**	P	Pn	06 35 07.3	+2.5
KWHZ	**Kaweka Forest**	**6.70**	**205**	P	Pn	06 35 04.9	-0.8
BHHZ	**Black Hill Sta**	**6.89**	**207**	P	Pn	06 35 06.5	-1.5
KAHZ	**Kahuranaki**	**6.89**	**201**	P	Pn	06 35 07.7	-0.3
KRHZ	**Kereru**	**6.91**	**204**	P	Pn	06 35 06.6	-1.7
PXZ	**Pawanui**	**7.11**	**200**	P	Pn	06 35 09.2	-1.4
PNHZ	**Pukenui**	**7.21**	**204**	P	Pn	06 35 10.4	-1.5
BFZ	**Birch Farm**	**7.89**	**202**	P	Pn	06 35 18.6	-1.5

*NEIC **06** 06:44:55.1±1.7,38°67N±0°04×122°38W±0°05,h12km±6km*
NCEDC 06 06:44:55.0±1.7**,38°68N**±0°04×**122°39W**±0°04**,h10**km±5km**,**
Mwr3.7,Moment Tensor Solution. Moment tensor: Scale 10[14]**Nm;** Mrr0.41; Mθθ-3.03; Mφφ2.62; Mrθ-1.48; Mθφ1.77; Mφr-0.66; **Northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMTM	**Middletown**	**0.14**	**341**		Pg	06 44 58.3	0.0
NBPM	**Berryessa Peak**	**0.15**	**93**		Pg	06 44 58.8	+0.3
NHSM	**Mount Saint He**	**0.18**	**264**		Pg	06 44 59.2	+0.3
NHSM					Sg	06 45 02.2	+0.6
MNRC	**McLaughlin Min**	**0.21**	**348**		Pg	06 44 59.7	+0.3
NSHM	**Saint Helena R**	**0.23**	**228**		Pg	06 45 00.4	+0.6
NAPC	**Atlas Peak**	**0.26**	**156**		Pg	06 45 00.2	-0.1
GBGM	**Boggs Mountain**	**0.27**	**301**		Pg	06 45 00.8	+0.4
GCRM	**Castle Rock Sp**	**0.27**	**291**		Pg	06 45 00.7	+0.1
GAXM	**Alexander Vall**	**0.29**	**277**		Pg	06 45 00.9	0.0
MAC	**Mark West Spri**	**0.29**	**244**		Pg	06 45 01.5	+0.6
GSGM	**Seigler Mounta**	**0.31**	**307**		Pg	06 45 02.0	+0.7
CVS	**Carmenet Viney**	**0.34**	**189**		Pg	06 45 02.0	+0.2
GDXM	**Geysers**	**0.34**	**293**		Pg	06 45 01.9	0.0
NTYM	**Taylor**	**0.36**	**217**		Pg	06 45 02.6	+0.5
GWKM	**Walker Ridge**	**0.38**	**348**		Pg	06 45 03.2	+0.5
NDHM	**Dunnigan Hills**	**0.38**	**76**		Pb	06 45 04.2	+0.3
NADM	**Allendale**	**0.39**	**123**		Pb	06 45 04.3	+0.2
GACM	**Adobe Creek**	**0.42**	**298**		Pg	06 45 03.5	+0.2
NGVM		**0.42**	**161**		Pg	06 45 03.3	0.0
NMCNC	**Mill Creek, So**	**0.42**	**258**		Pg	06 45 03.8	+0.5
GMKM	**Mount Konoctai**	**0.43**	**313**		Pg	06 45 04.0	+0.5
GPMM	**Pine Mountain**	**0.47**	**292**		Pg	06 45 04.5	+0.3
GBMM	**Baldy Mountain**	**0.47**	**350**		Pg	06 45 04.9	+0.6
GSSM	**Skaggs Springs**	**0.49**	**273**		Pg	06 45 05.1	+0.6
GCVM	**Cloverdale**	**0.50**	**281**		Pg	06 45 05.2	+0.5
NLHM	**Lake Herman**	**0.59**	**161**		Pg	06 45 06.5	+0.1
GHLM	**Highland Sprin**	**0.61**	**307**		Pg	06 45 07.2	+0.3
HOPS	**Hopland Field**	**0.62**	**301**		Pg	06 45 07.5	+0.4
FTR	**Fort Ross**	**0.62**	**256**		Pb	06 45 07.8	-0.2
GHCM	**House Creek**	**0.64**	**264**		Pb	06 45 08.0	-0.3
GFC	**Funks Creek**	**0.65**	**7**		Pg	06 45 08.0	+0.3
GTSM	**Trough Springs**	**0.66**	**345**		Pb	06 45 08.6	-0.1
MCCM	**Marconi Confer**	**0.66**	**216**		Pg	06 45 08.0	+0.3
MCCM	**Marconi Confer**	**0.66**	**216**		Sb	06 45 18.5	+0.9
GDCM	**Dry Creek**	**0.67**	**278**		Pb	06 45 08.6	-0.3
GSNM	**Snow Mountain**	**0.68**	**293**		Pb	06 45 09.0	0.0
HMR	**Hamilton Ranch**	**0.70**	**138**		Pb	06 45 09.0	-0.2
CPIM	**Pinole Ridge**	**0.70**	**169**		Pb	06 45 09.1	-0.2
NOLM	**Olema**	**0.71**	**207**		Pg	06 45 08.8	0.0
CSPM	**San Pablo Ridg**	**0.72**	**175**		Pb	06 45 09.4	-0.3
SUTB	**Sutter Butte**	**0.72**	**40**		Pg	06 45 07.6	-1.5
CPMM	**Point Molate**	**0.73**	**181**		Pg	06 45 09.1	0.0
RFSB	**Richmond Field**	**0.76**	**177**		Pg	06 45 09.9	+0.2
BRIB	**Briones**	**0.78**	**166**		Pg	06 45 10.0	-0.1
CVPM	**Vollmer Peak**	**0.80**	**170**		Pg	06 45 10.6	+0.1
VAK	**Adit at Lawren**	**0.81**	**172**		Pg	06 45 10.5	0.0
VAK					Sn	06 45 23.3	-1.1
BL67	**Building 67, L**	**0.81**	**172**		Pg	06 45 10.6	-0.1
BKS	**Berkeley--Byer**	**0.81**	**171**		Pg	06 45 10.4	-0.2
BKS					Sn	06 45 23.6	-0.9
BRK	**Berkeley--Havi**	**0.81**	**173**		Pg	06 45 10.4	-0.2
BDM	**Black Diamond**	**0.83**	**150**		Pg	06 45 10.2	-0.9
NPRM	**Point Reyes**	**0.84**	**216**		Pg	06 45 11.2	+0.1
CYBM	**Yerba Buena Is**	**0.86**	**178**		Pg	06 45 11.3	-0.4
SMCB	**Saint Mary's C**	**0.86**	**165**		Pb	06 45 11.9	-0.2
GCK	**Clark Valley**	**0.87**	**358**		Pg	06 45 11.1	-0.7
CRHM	**Round Hill Res**	**0.87**	**159**		Pg	06 45 11.4	-0.5
JPRM	**Presidio of Sa**	**0.88**	**184**		Pg	06 45 11.8	-0.2
GGUM	**Gualala**	**0.89**	**282**		Pb	06 45 12.3	-0.2
BGC	**Bolinger Road**	**0.90**	**163**		Pg	06 45 11.9	-0.4
CMCM	**Mills College**	**0.91**	**169**		Pg	06 45 12.4	-0.1
GHMM	**Hull Mountain**	**0.92**	**333**		Pg	06 45 12.8	+0.1
GHOM	**Hamilton Openi**	**0.97**	**293**		Pg	06 45 13.4	-0.3
CLCB	**Lake Chabot**	**0.97**	**165**		Pg	06 45 12.8	-1.0
CMOB	**Morgan Territo**	**0.98**	**152**		Pg	06 45 12.2	-1.7
JSBM	**San Bruno Moun**	**1.00**	**180**		Pg	06 45 13.2	-0.9
GASB	**Alder Springs**	**1.01**	**346**		Pg	06 45 13.9	-0.6
PAM	**Palermo**	**1.03**	**41**		Pg	06 45 11.9	-2.9
CBSNC	**Byron Hot Spri**	**1.04**	**145**		Pg	06 45 13.6	-1.4
JMGM	**Milagra Ridge**	**1.04**	**184**		Pg	06 45 13.9	-1.1
KRKM	**Rackout Spring**	**1.08**	**325**		Pg	06 45 15.0	-0.8
JCPM	**Coyote Point**	**1.09**	**177**		Pb	06 45 14.3	-1.5
FARB	**Farallon Islan**	**1.09**	**206**		Pb	06 45 14.8	-1.2
SAC	**San Andreas**	**1.09**	**181**		Pb	06 45 14.5	-1.5
GNAM	**Navarro Ridge**	**1.10**	**299**		Pb	06 45 14.9	-1.2
ORV	**Oroville**	**1.12**	**38**		Pb	06 45 13.3	-3.1
ORV	**Oroville**	**1.12**	**38**		Pb	06 45 13.4	-3.0
CNIC	**Niles Canyon**	**1.12**	**162**		Pb	06 45 14.9	-1.5
GVV	**Valley View**	**1.12**	**349**		Pb	06 45 14.6	-1.9
CVLM	**Vallecito**	**1.14**	**157**		Pb	06 45 15.3	-1.5
AFDM	**Forest Hills D**	**1.14**	**76**		Pb	06 45 14.2	-2.7
JCHM	**Cahill Ridge**	**1.16**	**179**		Pb	06 45 15.2	-1.9
GTC	**Three Chop Rid**	**1.16**	**309**		Pb	06 45 17.0	-0.2
WENL	**Wente Vineyard**	**1.17**	**154**		Pb	06 45 15.8	-1.4
OXMT	**Ox Mountain**	**1.18**	**181**		Pb	06 45 15.6	-1.8
CMJM	**Mission San Jo**	**1.22**	**160**		Pn	06 45 16.5	-1.7
JHPM	**Huddart Park**	**1.23**	**177**		Pn	06 45 16.6	-1.7
KFPM	**Farley Peak**	**1.25**	**320**		Pn	06 45 17.2	-1.5
GROM	**Round Mountain**	**1.26**	**350**		Pn	06 45 17.1	-1.7
JRSC	**Jasper Ridge**	**1.28**	**175**		Pn	06 45 17.1	-1.7
JSFB	**Stanford Teles**	**1.28**	**172**		Pn	06 45 18.1	-0.9
MGL	**Magalia**	**1.30**	**29**		Pn	06 45 16.1	-3.3
JFP	**Foothills Park**	**1.32**	**173**		Pn	06 45 17.9	-1.7
CMLM	**Mount Lewis**	**1.33**	**154**		Pn	06 45 18.0	-1.8
BGH	**Bear Gulch**	**1.33**	**178**		Pn	06 45 18.4	-1.3
JJRM	**Joaquin Road**	**1.34**	**174**		Pn	06 45 18.2	-1.6
MNHB	**New Hogan Dam**	**1.35**	**113**		Pn	06 45 17.3	-2.5
KBNM	**Bluenose Ridge**	**1.37**	**333**		Pg	06 45 21.3	0.0
JBMM	**Black Mountain**	**1.37**	**172**		Pn	06 45 18.9	-1.3
CMMM	**Mount Mocho**	**1.41**	**150**		Pn	06 45 19.2	-1.7
JPC	**Peters Creek,**	**1.41**	**174**		Pn	06 45 19.0	-1.7
KIPM	**Iron Peak**	**1.41**	**323**		Pg	06 45 22.7	+0.5
JSGM	**Saratoga Golf**	**1.42**	**169**		Pn	06 45 19.6	-1.2
MHC	**Mount Hamilton**	**1.46**	**156**		Pn	06 45 19.9	-1.6
JHUM	**Huhtala Lane,**	**1.47**	**173**		Pn	06 45 19.2	-2.3
JPSM		**1.48**	**179**		Pn	06 45 19.9	-1.7
ARN	**Arnold Ranch**	**1.49**	**153**		Pn	06 45 20.1	-1.7
JJOM	**Saint Joseph's**	**1.50**	**167**		Pn	06 45 20.0	-2.0
CCOB	**Coe Ranch Numb**	**1.52**	**158**		Pn	06 45 21.4	-0.9
O02D	**Mt. Diablo Mer**	**1.53**	**348**		Pn	06 45 20.8	-1.7
JSTM	**Santa Teresa H**	**1.54**	**162**		Pn	06 45 21.2	-1.3
LTCM	**Tuscan Springs**	**1.54**	**8**		Pn	06 45 20.3	-2.3
KBSM	**Bell Springs**	**1.55**	**323**		Pg	06 45 24.9	0.0
MCUB	**Copperopolis B**	**1.56**	**116**		Pn	06 45 20.6	-2.2
JBNB	**Ben Lomond Mou**	**1.56**	**173**		Pn	06 45 20.9	-1.9
JUMM	**Mount Umunhum**	**1.56**	**165**		Pn	06 45 21.6	-1.3
AMC	**Almaden**	**1.57**	**164**		Pn	06 45 21.5	-1.5
JLAB	**Laurel Hill**	**1.60**	**161**		Pn	06 45 22.4	-1.0
LCMM	**Colby Mountain**	**1.61**	**24**		Pn	06 45 21.3	-2.5
JHLM	**Holstrom Ranch**	**1.62**	**164**		Pn	06 45 21.8	-2.0
CADM	**Anderson Res.**	**1.63**	**158**		Pn	06 45 23.3	-0.3
O03E	**Paynes Creek**	**1.68**	**16**		Pn	06 45 21.6	-2.9
LBPM	**Beegum Peak**	**1.68**	**347**		Pn	06 45 24.7	+0.1
JTGM	**Trout Gulch Ro**	**1.69**	**166**		Pn	06 45 24.1	-0.5
CMB	**Columbia Colle**	**1.70**	**112**		Pn	06 45 23.0	-1.8
HSPM	**Sheep**	**1.71**	**156**		Pn	06 45 23.8	-1.1
HLPM	**Lions Peak**	**1.74**	**160**		Pn	06 45 24.0	-1.2
DONR	**Donner Summit**	**1.75**	**67**		Pn	06 45 24.5	-1.1
TNK	**Tinkers Knob**	**1.78**	**70**		Pn	06 45 25.8	-0.3
RUBR	**Rubicon Trail**	**1.78**	**77**		Pn	06 45 25.7	-0.4
CDC	**Canada Road**	**1.80**	**156**		Pn	06 45 24.9	-1.2
IND	**Independence**	**1.80**	**64**		Pn	06 45 26.0	-0.3
TAHR	**Tahoe**	**1.80**	**74**		Pn	06 45 26.4	0.0
JELB	**Ellicott, Sant**	**1.80**	**166**		Pn	06 45 23.2	-2.9
EMB	**Emerald Bay**	**1.81**	**80**		Pn	06 45 26.1	-0.3
LDBM	**Digger Butte**	**1.81**	**15**		Pn	06 45 23.8	-2.6
HPCM	**Pacheco Lake**	**1.84**	**151**		Pn	06 45 25.2	-1.4
SLD	**San Luis Dam**	**1.85**	**150**		Pn	06 45 26.0	-0.8
KMRM	**Mail Ridge**	**1.85**	**327**		Pg	06 45 31.9	+1.4
HFEM	**San Felipe**	**1.86**	**155**		Pn	06 45 25.1	-1.8
HCOM	**Corn Cob Canyo**	**1.87**	**163**		Pn	06 45 25.5	-1.5
PACP	**Pacheco Peak**	**1.88**	**152**		Pn	06 45 26.7	-0.5
KBF	**Kyburz Flat**	**1.89**	**63**		Pn	06 45 27.1	-0.4
SFJWR	**San Luis Fatjo**	**1.89**	**149**		Pn	06 45 26.0	-1.3
OCR	**O'Connell Ranc**	**1.89**	**158**		Pn	06 45 25.6	-1.7
ANZ	**Anzar Road**	**1.90**	**160**		Pn	06 45 26.2	-1.2
WDC	**Whiskeytown Da**	**1.91**	**357**		Pn	06 45 24.2	-3.3
LRDM	**Redding Peak**	**1.93**	**22**		Pn	06 45 27.1	-0.8
HTUM	**Tustin Road**	**1.94**	**162**		Pn	06 45 26.4	-1.6
LOY	**Loyalton**	**1.94**	**59**		Pn	06 45 28.2	0.0
MPK	**Martis Peak**	**1.94**	**71**		Pn	06 45 28.1	-0.1
HERM	**Elkhorn Road**	**1.95**	**164**		Pn	06 45 26.9	-1.2
LMEM	**Manzanita Entr**	**1.96**	**19**		Pn	06 45 26.7	-1.9
BEKR	**Beckworth**	**1.97**	**52**		Pn	06 45 28.3	-0.3
MOBB	**Monterey Bay O**	**1.99**	**175**		Pn	06 45 27.5	-1.1
VPK	**Verdi Peak**	**2.00**	**66**		Pn	06 45 29.3	+0.2
GNO	**Genoa**	**2.00**	**82**		Pn	06 45 29.3	+0.3
BABR	**Babbit Peak**	**2.00**	**62**		Pn	06 45 29.4	+0.2
MYLM	**Yosemite Lake**	**2.02**	**129**		Pn	06 45 27.7	-1.4
FRP	**Fremont Peak**	**2.05**	**159**		Pn	06 45 27.3	-2.2
SAO	**San Andreas Ge**	**2.05**	**158**		Pn	06 45 28.4	-1.1
BSLM	**Silva Ranch**	**2.07**	**156**		Pn	06 45 28.8	-0.9
BVYM	**Vineyard**	**2.07**	**158**		Pn	06 45 28.4	-1.5
KHBM	**Hayfork Bally**	**2.08**	**342**		Pb	06 45 32.4	-0.6
PEAR	**Peavine Mounta**	**2.10**	**63**		Pn	06 45 30.7	+0.2
HMOM	**Monterey**	**2.11**	**170**		Pn	06 45 28.8	-1.5
BSRM	**Salinas Radio**	**2.12**	**161**		Pn	06 45 28.6	-1.9
BCGM	**Cienega Road**	**2.13**	**157**		Pn	06 45 29.3	-1.3
LSHM	**Sage Hen Hill**	**2.13**	**7**		Pn	06 45 29.1	-1.6
BHRM	**Hodges Ranch**	**2.14**	**155**		Pn	06 45 31.1	+0.3
BFC	**Buffalo Canyon**	**2.19**	**83**		Pn	06 45 29.4	-2.2
BPCNC	**Pine Canyon**	**2.19**	**164**		Pn	06 45 30.1	-1.3
BLRM	**Lewis Ranch**	**2.19**	**156**		Pn	06 45 30.3	-1.2
PNTR	**Pine Nut**	**2.22**	**78**		Pn	06 45 31.9	-0.1
BRMM	**Rolling Bench**	**2.22**	**146**		Pn	06 45 30.7	-1.2
SCZ	**Santa Cruz**	**2.22**	**159**		Pn	06 45 29.8	-2.1
VCNR	**Virginia City**	**2.22**	**73**		Pn	06 45 31.9	-0.2
BEHM	**Elkhorn Ranch**	**2.23**	**154**		Pn	06 45 29.7	-2.3
HATC	**Hat Creek Radi**	**2.25**	**18**		Pn	06 45 31.8	-0.6
BEMM	**Emmet**	**2.26**	**153**		Pn	06 45 30.9	-1.6
LGPM	**Granite Peak**	**2.26**	**352**		Pn	06 45 31.3	-1.2
BJCM	**Johnson Can.**	**2.27**	**159**		Pn	06 45 30.5	-2.0
BAVM	**Antelope Valle**	**2.30**	**152**		Pn	06 45 31.2	-1.8
LBCM	**Butte Creek Ri**	**2.30**	**20**		Pn	06 45 32.5	-0.6
N02D	**Trinity Center**	**2.31**	**354**		Pn	06 45 31.4	-1.8
WAKR	**Walker**	**2.32**	**93**		Pn	06 45 34.0	+0.5
BBGB	**Big Mountain B**	**2.35**	**152**		Pn	06 45 33.0	-0.8
HAST	**Hastings Reser**	**2.38**	**163**		Pn	06 45 32.4	-1.7
BMSM	**Mercy Hot Spri**	**2.38**	**147**		Pn	06 45 33.5	-0.6
BPIM	**Pinnacles**	**2.39**	**156**		Pn	06 45 32.9	-1.3
BBNM	**San Benito**	**2.40**	**154**		Pn	06 45 32.4	-2.0
BSMM	**Soledad Missio**	**2.41**	**161**		Pn	06 45 33.1	-1.5
BSGM	**Shirttail Gulc**	**2.43**	**158**		Pn	06 45 33.6	-1.1
MMIM	**Miami Mountain**	**2.44**	**120**		Pn	06 45 34.3	-0.6
BCWM	**Chews Ridge**	**2.45**	**164**		Pn	06 45 33.9	-1.4
YERR	**Yerington**	**2.48**	**82**		Pn	06 45 35.2	-0.4
BPOM	**Post Ranch**	**2.49**	**168**		Pn	06 45 33.4	-2.2
LRV	**Little Rabbit**	**2.50**	**154**		Pn	06 45 34.2	-1.5
MHDM	**Hidden Dam**	**2.51**	**127**		Pn	06 45 35.3	-0.6
PAHR	**Pah Rah Range**	**2.55**	**65**		Pn	06 45 36.0	-0.6
BAPM	**Anderson Peak**	**2.57**	**166**		Pn	06 45 35.7	-1.1
LTIM	**Timbered Crate**	**2.59**	**15**		Pn	06 45 37.1	+0.1
M03C	**McCloud**	**2.60**	**4**		Pn	06 45 36.6	-0.6
PHRM	**Hernandez Vall**	**2.62**	**151**		Pn	06 45 35.9	-1.5
PBWM	**Bitterwater Cr**	**2.63**	**153**		Pn	06 45 37.0	-0.5
PMPB	**Monarch Peak**	**2.76**	**152**		Pn	06 45 39.3	-0.1
YBH	**Yreka Blue Hor**	**3.06**	**356**		Pn	06 45 45.5	+1.9
MOD	**Modoc Plateau**	**3.60**	**26**		Pn	06 45 50.7	-0.3
HUMO	**Hull Mountain**	**3.95**	**354**		Pn	06 45 58.2	+2.5
ISA	**Isabella, Lake**	**4.34**	**133**		Pn	06 46 01.4	+0.3
WVOR	**Wild Horse Val**	**4.72**	**36**		Pb	06 46 19.0	+1.1
PINE	**Pine Mountain**	**5.23**	**12**		Pn	06 46 17.8	+4.4
SHPR	**Sheep Range**	**6.14**	**108**		Pn	06 46 27.1	+1.2
PFO	**Pinyon Flats O**	**6.97**	**135**	Pn	Pn	06 46 36.3	-0.9
BGU	**Big Grassy Mou**	**7.55**	**70**	Pn	Pn	06 46 48.0	+2.8
DUG	**Dugway, Tooele**	**7.57**	**75**	Pn	Pn	06 46 46.8	+1.3
SRU	**San Rafael Swe**	**9.26**	**84**	Pn	Pn	06 47 10.7	+1.9
HRY	**Holter Researc**	**11.16**	**41**	Pn	Pn	06 47 31.6	-3.1

*SJA **06** 06:54:54.6±0.8,35°22S×71°10W,h105km±6km,ML3.4, MW3.5*
*ISCJB **06** 06:54:55.2±0.3,35°25S±0°02×71°09W±0°04,h101km±2km, mb4.1/7,Error ellipse: s-maj=6.1km s-min=3.9km az=15.2*
*NEIC **06** 06:54:55.8±1.9,35°27S±0°06×71°01W±0°08,h94km±3km, mb4.4/28,ML4.3(GUC)*
*GUC **06** 06:54:55.5±0.6,35°18S×71°27W,h116km±3km,ML4.3*
*IDC **06** 06:54:56.9±2.4,35°18S×70°95W,h98km±22km,mb3.9/7, mb1 4.0/10,mb1mx3.8/27,mbtmp4.2/10,MS2.8/1, Ms1 2.8/1,ms1mx2.4/22,Error ellipse: s-maj=29.4km s-min=14.1km az=92.0*
ISC 06 06:54:56.3±0.6**,35°21S**±0°03×**71°11W**±0°04**,h99**km±5km**,**
n84,σ**1§44**/109**,mb4.4**/15**,4C-3D,Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**0.71**	**286** ⇓	*i*P	**Pn**	**06 55 12.9**	**-0.9**
GO05				*i* S	**Sn**	**06 55 26.5**	**-0.3**
GO05				IAML		06 55 28.4	
	comp=N,18µm,0.3s						
GO05	**Huala**	**0.71**	**286**		**Pn**	**06 55 13.2**	**-0.5**
GO05				Sn	**Sn**	**06 55 26.1**	**-0.7**
GO05	**Huala**	**0.71**	**286**	*i* P	**Pn**	**06 55 12.8**	**-0.9**
GO05				*e*S	**Sn**	**06 55 27.4**	**+0.5**
PUMA	**Malargue**	**1.38**	**102**	*e*P	**Pn**	**06 55 20.9**	**-0.2**
PUMA				*e*S	**Sn**	**06 55 39.7**	**-0.2**
EDS3	**Malargue**	**1.50**	**112**	*i* P	**Pn**	**06 55 22.1**	**-0.5**
EDS3				*e*S	**Sn**	**06 55 45.6**	**+3.0**
LMEL	**Las Melosas**	**1.55**	**29** ⇑	*i*P	**Pn**	**06 55 23.9**	**+0.6**
LMEL				*i* S	**Sn**	**06 55 45.3**	**+1.5**
LMEL				IAML		06 55 48.5	
	comp=N,4µm,0.1s						
CCHI	**Chillan**	**1.60**	**209** ⇑	*i*P	**Pn**	**06 55 23.1**	**-0.5**
CCHI				*i* S	**Sn**	**06 55 43.9**	**-0.6**
CCHI				IAML		06 55 44.6	
	comp=N,2µm,0.3s						
CCHI	**Chillan**	**1.60**	**209**	*i* P	**Pn**	**06 55 23.2**	**-0.5**
CCHI				*e*S	**Sn**	**06 55 43.5**	**-1.0**
COCH	**Cobquecura**	**1.65**	**236**	*e*P	**Pn**	**06 55 23.0**	**-1.3**
COCH				*i* S	**Sn**	**06 55 43.8**	**-1.8**
CLCH	**Cerro Calan**	**1.87**	**15** ⇑	*i*P	**Pn**	**06 55 27.5**	**+0.1**
CLCH				*i* S	**Sn**	**06 55 51.4**	**+0.5**
CLCH				IAML		06 55 53.1	
	comp=E,2µm,0.4s						
FCH	**Farellones**	**2.00**	**20** ⇓	*i*P	**Pn**	**06 55 29.2**	**0.0**
FCH				*i* S	**Sn**	**06 55 54.9**	**+0.7**
FCH				IAML		06 55 56.8	
	comp=N,2µm,0.2s						
PEL	**Peldehue**	**2.09**	**10**	*e*P	**Pn**	**06 55 29.9**	**-0.3**
PEL				*i* S	**Sn**	**06 55 55.7**	**-0.2**
PEL				IAML		06 55 58.1	
	comp=N,4µm,0.8s						
PEL	**Peldehue**	**2.09**	**10**		**Pn**	**06 55 30.4**	**+0.2**
PEL				Sn	**Sn**	**06 55 55.5**	**-0.5**
RFA	**San Rafael**	**2.21**	**79**	*e*P	**Pn**	**06 55 30.9**	**-0.8**
RFA				IAML		06 56 04.9	
	comp=Z,197nm,0.7s						
VA01	**Torpederas**	**2.23**	**348** ⇑	*i*P	**Pn**	**06 55 31.9**	**+0.1**
VA01				*i* S	**Sn**	**06 55 58.6**	**-0.4**
VA01				IAML		06 56 00.3	
	comp=E,3µm,0.1s						
ROC1	**El Roble**	**2.23**	**2**		**Pn**	**06 55 32.2**	**0.0**
ROC1				Sn	**Sn**	**06 56 00.2**	**+0.7**
ROCH	**El Roble**	**2.24**	**2**	*e*P	**Pn**	**06 55 31.8**	**-0.4**
ROCH				*i* S	**Sn**	**06 55 59.2**	**-0.4**
AAGR	**Agrelo**	**2.84**	**42**	*e*P	**Pn**	**06 55 40.4**	**+0.4**
AAGR				*e*S	**Sn**	**06 56 08.9**	**-4.7**
AAGR				IAML		06 56 10.9	
	comp=Z,94nm,0.4s						
ARCO	**CERRO ARCO**	**2.98**	**38**	*i* P	**Pn**	**06 55 42.0**	**+0.1**
ARCO				*e*S	**Sn**	**06 56 11.5**	**-5.5**
ARCO				IAML		06 56 22.3	
	comp=Z,88nm,0.4s						
ASAL	**Salagasta**	**3.23**	**36**	*e*P	**Pn**	**06 55 45.5**	**+0.4**
ASAL				*e*S	Sn	06 56 13.0	-10
ASAL				IAML		06 56 15.7	
	comp=Z,62nm,0.6s						
RTLS	**Leoncito**	**3.73**	**24** ⇓	*i*P	**Pn**	**06 55 52.9**	**+0.8**
RTLS				IAML		06 56 41.2	
	comp=Z,35nm,0.4s						
RTCV	**Cerro Valdivia**	**3.97**	**33**	*i* P	**Pn**	**06 55 54.8**	**-0.4**
RTCV				IAML		06 56 47.8	
	comp=Z,38nm,0.3s						
CO02	**Combarbal**	**4.00**	**1**	*e*P	**Pn**	**06 55 54.8**	**-0.8**
CO02				*i* S	**Sn**	**06 56 40.2**	**-1.3**
CFA	**Coronel Fontan**	**4.32**	**34**	P	**Pn**	**06 55 59.5**	**-0.4**
	comp=Z,12nm,0.3s,baz=216,slow=8.2,SNR=194						
CFA				S	**Sn**	**06 56 48.0**	**-1.3**
	comp=Z,12nm,0.3s,baz=109,slow=18,SNR=8.1						
GO06	**Curarrehue**	**4.37**	**184**		**Pn**	**06 55 58.9**	**-1.8**
ACAN	**Cantantal**	**4.38**	**49**	*e*P	**Pn**	**06 56 00.4**	**-0.3**
ACAN				IAML		06 56 57.9	
	comp=Z,18nm,0.5s						
RTLL	**Cerro Villicun**	**4.46**	**30**	*i* P	**Pn**	**06 56 01.4**	**-0.3**
RTLL				IAML		06 56 59.0	
	comp=Z,60nm,0.3s						
AMOG	**MOGNA**	**4.79**	**28**	*e*P	**Pn**	**06 56 06.1**	**-0.2**
AMOG				IAML		06 57 09.4	
	comp=Z,62nm,0.5s						
ACCO	**Cerro Coronel**	**4.92**	**21**	*i* P	**Pn**	**06 56 07.6**	**-0.7**
ACCO				IAML		06 57 05.9	
	comp=Z,66nm,0.3s						
GO04	**Tololo Observa**	**5.03**	**3**		**Pn**	**06 56 09.4**	**-0.3**
AROD	**Rodeo**	**5.22**	**16**	*i* P	**Pn**	**06 56 12.2**	**-0.1**
PLCA	**Paso Flores**	**5.53**	**176**	P	**Pn**	**06 56 15.9**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=9.8,slow=12,SNR=16						
PLCA				LR	LR	06 58 32.7	
	comp=Z,97nm,21.1s,baz=31,slow=39						
PLCA	**Paso Flores**	**5.53**	**176**		**Pn**	**06 56 15.4**	**-0.8**
PLCA	**Paso Flores**	**5.53**	**176**	*e*P	**Pn**	**06 56 15.9**	**-0.3**
PLCA				IAML		06 57 35.9	
	comp=Z,8.7nm,0.6s						
TRQA	**Tornquist**	**7.87**	**114**		**Pn**	**06 56 46.5**	**-1.4**
GO02	**Mina Guanaco**	**10.10**	**8**		**Pn**	**06 57 20.1**	**+1.4**
PB11	**IPOC Station P**	**15.45**	**5**	P	**P**	**06 58 30.8**	**-0.5**
PB11				IAmb	IAmb	06 58 33.2	
	comp=Z,9.4nm,0.7s						
GO01	**Chusmiza**	**15.58**	**7**	Pn	**Pn**	**06 58 30.4**	**-0.4**
MNMC	**Minye Minye**	**16.07**	**5**	P	**P**	**06 58 39.9**	**+1.5**
MNMC				IAmb	IAmb	06 58 41.4	
	comp=Z,10nm,0.7s						
EFI	**East Falkland**	**18.93**	**154**	P	**P**	**06 59 06.9**	**-2.3**
EFI				IAmb	IAmb	06 59 11.7	
	comp=Z,25nm,1.0s						
LPAZ	**La Paz**	**19.03**	**9**	P	**Pn**	**06 59 12.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=194,slow=8.0,SNR=18						
LPAZ	**La Paz**	**19.03**	**9**	P	**Pn**	**06 59 12.5**	**-0.6**
SIV	**San Ignacio**	**21.15**	**28**	P	**P**	**06 59 32.6**	**-0.9**
	comp=Z,2.6nm,0.7s,baz=232,slow=12,SNR=13						
VNA3	**Neumayer Olymp**	**47.95**	**158**	P	**P**	**07 03 26.3**	**+2.0**
VNA2	**Neumayer--Watz**	**48.60**	**157**	P	**P**	**07 03 29.1**	**-0.2**
	baz=284,slow=8.6						
SNAA	**Sanae**	**50.17**	**158**	P	**P**	**07 03 43.1**	**+1.8**
	comp=Z,1.1nm,0.4s,baz=227,slow=5.9,SNR=15						
SNAA	**Sanae**	**50.17**	**158**	P	**P**	**07 03 43.1**	**+1.8**
SNAA				IAmb	IAmb	07 03 45.2	
	comp=Z,3.0nm,1.0s						
MLPR	**Magueyes Islan**	**53.03**	**5**	P	**P**	**07 04 00.2**	**-2.8**
CRPR	**Cabo Rojo, PR**	**53.06**	**5**	P	**P**	**07 04 02.4**	**-0.9**
OBIP	**Obispado Ponce**	**53.13**	**5**	P	**P**	**07 04 02.9**	**-0.9**
PDPR	**Patillas Dam,**	**53.16**	**6**	P	**P**	**07 04 02.8**	**-1.2**
CBYP	**Canovanas**	**53.42**	**6**	P	**P**	**07 04 05.5**	**-0.5**
TEIG	**Tepich**	**57.49**	**341**	P	**P**	**07 04 35.8**	**+0.7**
	comp=Z,15nm,0.7s,baz=356,slow=0.3,SNR=9.7						
TEIG	**Tepich**	**57.49**	**341**	P	**P**	**07 04 35.1**	**0.0**
FPAL	**Fort Paine**	**70.71**	**347**	P	**P**	**07 06 01.9**	**+0.5**
TX31	**Lajitas Ar. Si**	**71.17**	**330**	P	**P**	**07 06 05.9**	**+1.6**
TX32	**Lajitas Array**	**71.17**	**330**	P	**P**	**07 06 05.9**	**+1.6**
TXAR	**Lajitas Array**	**71.17**	**330**	P	**P**	**07 06 05.6**	**+1.3**
	comp=Z,1.3nm,0.5s,baz=157,slow=9.1,SNR=32						
TXAR				pP	**pP**	**07 06 29.5**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=147,slow=8.0,SNR=2.8						
PLAL	**Pickwick Lake**	**71.61**	**345**	P	**P**	**07 06 06.6**	**-0.1**
PLAL				IAmb	IAmb	07 06 07.1	
	comp=Z,3.2nm,0.5s						
V48A	**Smith Brothers**	**72.10**	**347**	P	**P**	**07 06 10.1**	**+0.5**
V48A				IAmb	IAmb	07 06 10.8	
	comp=Z,10nm,1.0s						
WVT	**Waverly**	**72.67**	**346**	P	**P**	**07 06 13.8**	**+0.8**
WVT				IAmb	IAmb	07 06 14.0	
	comp=Z,11nm,0.9s						
FCAR	**Ozark Folk Cen**	**73.40**	**342**	P	**P**	**07 06 18.0**	**+0.6**
FCAR				IAmb	IAmb	07 06 26.7	
	comp=Z,9.1nm,1.0s						
PBMO	**Poplar Bluff**	**73.85**	**344**	P	**P**	**07 06 20.1**	**+0.2**
PBMO				IAmb	IAmb	07 06 21.4	
	comp=Z,5.0nm,0.9s						
MNTX	**Cornudas Mount**	**73.94**	**330**	P	**P**	**07 06 21.2**	**+0.6**
U40A	**Yellville**	**74.03**	**342**	P	**P**	**07 06 21.6**	**+0.6**
U40A				IAmb	IAmb	07 06 21.7	
	comp=Z,2.9nm,0.5s						
T25A	**Trinidad**	**78.36**	**333**	P	**P**	**07 06 48.0**	**+2.2**
T25A				IAmb	IAmb	07 06 48.6	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,7.9nm,0.9s						
PV05	Paradox Valley	80.98	331	P	P	07 07 02.6	+2.6
PV05				IAmb	IAmb	07 07 08.7	
	comp=Z,9.4nm,0.6s						
SRU	San Rafael Swe	82.44	330	P	P	07 07 08.7	+1.1
Q16A	Castle Valley	82.55	330	P	P	07 07 10.4	+2.3
RWWY	Rawlins	83.39	334	P	P	07 07 14.1	+1.6
TORD	Torodi Ar. Bea	83.91	69	P	P	07 07 15.0	-0.4
	comp=Z,1.8nm,0.8s,baz=233,slow=3.8,SNR=8.2						
TORD				pP	pP	07 07 41.9	-0.1
	comp=Z,1.2nm,0.8s,baz=263,slow=4.3,SNR=3.8						
PD31	Pinedale Array	85.19	333	P	P	07 07 20.6	-1.0
PD31				IAmb	IAmb	07 07 23.6	
	comp=Z,1.7nm,0.7s						
PDAR	Pinedale Array	85.19	333	P	P	07 07 22.1	+0.6
	comp=Z,1.2nm,0.6s,baz=147,slow=6.1,SNR=14						
NVAR	Mina Array Bea	85.32	325	P	P	07 07 23.9	+1.6
	comp=Z,1.2nm,0.8s,baz=154,slow=6.0,SNR=7.7						
ELK	Elko	85.80	328	P	P	07 07 24.7	+0.1
TRF	Thorofare Moun	116.34	330	PKPdf	PKPdf	07 13 27.4	-0.1
WRA	Warramunga Arr	120.06	208	PKP	PKPdf	07 13 35.0	-0.9
	comp=Z,0.3nm,0.5s,baz=156,slow=1.8,SNR=5.7						
ARU	Arti	140.15	42	PKPdf	PKiKP	07 14 14.0	-1.0
ARSB	Arslanbob	151.29	67	PKPbc	PKiKP	07 14 38.6	-0.1
AAK	Ala-Archa	152.37	64	PKPdf	PKPdf	07 14 32.6	-1.1
AAK				PKPbc	PKiKP	07 14 41.7	+0.8
KSH	Kashi	153.57	71	PKPbc	PKPdf	07 14 34.4	-1.1
KSH				SKS	SKSdf	07 21 29.3	-4.2
TARG	Taragay, Kyrgy	154.89	66	PKPbc	PKiKP	07 14 48.6	+2.1
TARG				PKPab	PKPab	07 15 02.1	-0.1
WHN	Wuhan	173.46	226	PKP	PKPdf	07 14 59.8	+5.8
LZH	Lanzhou	175.79	77	ePKP	PKPdf	07 14 53.6	-1.2
LZH				pPKP	pPKPdf	07 15 22.4	-0.1
LZH				sPKP		07 15 33.8	

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*UPA **06** 07:10:39.7±0.8, 8.°75N×82.°74W, h19km±1km, MW3.5*
*ISCJB **06** 07:10:40.1±0.4, 8.°74N±0.°05×82.°76W±0.°04, h21km±3km, Error ellipse: s-maj=9.3km s-min=3.3km az=33.7*
*UCR **06** 07:10:40.2±1.9, 8.°75N×82.°76W, h16km±4km*
ISC 06 07:10:40.0±0.9, **8.°73N**±0.°04×**82.°77W**±0.°03, **h17**km±6km, **n23**, σ0s91/37, **4C-5D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRU2	Volcan	0.10	50	⇓iP	Pb	07 10 44.0	+0.3
BRU2				eS	Sg	07 10 47.2	+0.9
BRU2	Volcan	0.10	50	⇓iP	Pb	07 10 44.0	+0.3
EDSV	San Vito	0.22	295	eP	Pb	07 10 45.8	+0.2
EDSV				eS	Sg	07 10 50.9	+2.1
BCO2	Palmira	0.24	92	⇓iP	Pb	07 10 45.9	-0.1
BCO2				eS	Sg	07 10 49.7	+0.3
DVD	David	0.43	132	⇓iP	Pb	07 10 48.8	-0.4
DVD				eS	Sb	07 10 55.5	+0.1
DVD	David	0.43	132	⇓iP	Pb	07 10 48.8	-0.4
DVD				eS	Sb	07 10 55.5	+0.1
PEDE3	Pedregal, Chir	0.49	135	⇑iP	Pb	07 10 49.7	-0.4
PEDE3				eS	Sb	07 10 56.8	-0.1
CHIR3	Chiriqui UPA,	0.55	127	⇑iP	Pg	07 10 50.6	-0.3
CHIR3				eS	Sg	07 10 57.8	-0.5
CHGR2	Aguacate	0.66	71	eP	Pg	07 10 51.5	-1.5
CHGR2				eS	Sg	07 11 00.8	-0.9
EDBA	Buenos Aires	0.66	311	eP	Pb	07 10 53.2	+0.1
DRK0	Durika	0.71	319	⇑iP	Pg	07 10 53.0	-1.0
DRK0				eS	Sg	07 11 03.1	-0.3
DRK0	Durika	0.71	319	⇑iP	Pg	07 10 53.0	-1.0
DRK0				eS	Sg	07 11 03.1	-0.3
EDPN	Palmar Norte	0.72	289	eP	Pg	07 10 52.7	-1.4
EDLM	Las Mercedes	0.98	304	eP	Pg	07 10 57.3	-1.7
LCR2	La Lucha 2	1.58	310	eP	Pn	07 11 06.8	-0.7
CVTR	Volcan Turrial	1.61	323	eP	Pn	07 11 08.4	+0.3
GMAL	Guarumal, Vera	1.80	122	eP	Pn	07 11 09.3	-1.0
GMAL				eS	Sn	07 11 32.5	-0.3
HDC	Heredia	1.83	314	eP	Pn	07 11 10.6	-0.3
HDC				eS	Sn	07 11 34.8	+1.1
HDC	Heredia	1.83	314	eP	Pn	07 11 10.6	-0.3
HDC				eS	Sn	07 11 34.8	+1.1
CACAO	El Cacao, Vera	2.34	126	eP	Pn	07 11 18.6	+0.9
CACAO				eS	Sn	07 11 48.0	+2.0
AZU	Azuero	2.64	110	eP	Pn	07 11 23.2	+1.4
JTS	Las Juntas de	2.65	306	eP	Pn	07 11 22.6	+0.5
BCIP	Isla Barro Col	2.93	81	eP	Pn	07 11 26.5	+0.6

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*ISCJB **06** 07:11:11.8±0.4, 8.°73N±0.°03×82.°74W±0.°03, h20km±3km, Error ellipse: s-maj=6.7km s-min=3.0km az=34.4*
*UPA **06** 07:11:11.0±2.1, 8.°72N×82.°77W, h14km±3km, MW3.8*
*UCR **06** 07:11:11.7±2.9, 8.°75N×82.°77W, h15km±6km*
ISC 06 07:11:11.4±1.1, **8.°75N**±0.°04×**82.°75W**±0.°03, **h20**km±2km, **n27**, σ0s95/43, **1D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRU2	Volcan	0.07	50	i P	Pb	07 11 15.3	-0.1
	baz=257,slow=3.8						
BRU2				i S	Sb	07 11 18.4	+0.3
BRU2	Volcan	0.07	50	i P	Pb	07 11 15.3	-0.1
	baz=257,slow=3.8						
BRU2				i S	Sb	07 11 18.4	+0.3
BCO2	Palmira	0.22	97	⇓iP	Pb	07 11 17.2	-0.2
BCO2				i S	Sb	07 11 20.8	-0.8
EDSV	San Vito	0.23	288	eP	Pb	07 11 17.1	-0.4
EDSV				eS	Sb	07 11 22.2	+0.6
BAGA3	Bagala, Chiriq	0.35	142	i P	Pb	07 11 19.1	+0.3
BAGA3				i S	Sb	07 11 25.5	+1.5
DVD	David	0.43	136	i P	Pb	07 11 20.1	0.0
DVD				i S	Sb	07 11 26.6	+0.5
DVD	David	0.43	136	i P	Pb	07 11 20.1	0.0
DVD				i S	Sb	07 11 26.6	+0.5
LOCO3	Loma Colorada,	0.47	136	eP	Pb	07 11 20.6	-0.3
PEDE3	Pedregal, Chir	0.48	138	i P	Pb	07 11 21.2	0.0
CHIR3	Chiriqui UPA,	0.54	130	i P	Pb	07 11 21.9	-0.3
CHIR3				i S	Sb	07 11 29.8	+0.2
CHGR2	Aguacate	0.63	72	eP	Pb	07 11 22.4	-1.3
CHGR2				i S	Sb	07 11 32.1	0.0
EDBA	Buenos Aires	0.67	308	eP	Pb	07 11 24.7	+0.3
EDBA				eS	Sn	07 11 34.9	-0.7
CNI2	El Empalme, Bo	0.73	22	i P	Pb	07 11 25.1	-0.2
CNI2				i S	Sb	07 11 35.7	+0.8
EDPN	Palmar Norte	0.73	287	eS	Sb	07 11 34.5	-0.5
EDLM	Las Mercedes	0.98	303	eS	Sb	07 11 42.2	-0.2
REME3	Remedios, Chir	1.04	120	eP	Pb	07 11 30.2	-0.5
REME3				eS	Sb	07 11 43.3	-0.7
NANC3	Nancito, Chiri	1.12	117	eP	Pn	07 11 29.6	-2.4
CNAZ3	Canazas, Verag	1.57	104	eP	Pb	07 11 39.2	-0.6
CNAZ3				eS	Sb	07 11 58.9	-0.4
CVTR	Volcan Turrial	1.61	322	eS	Sb	07 12 01.8	+1.0
GMAL	Guarumal, Vera	1.79	123	eP	Pn	07 11 38.4	-2.7
GMAL				eS	Sn	07 12 02.5	-0.7
SFRA3	San Francisco,	1.82	106	eS	Sb	07 12 06.9	+0.4
HDC	Heredia	1.84	313	eS	Sb	07 12 06.8	-0.1
CACAO	El Cacao, Vera	2.33	127	eP	Pn	07 11 49.4	+0.8
AZU	Azuero	2.63	111	eP	Pn	07 11 54.6	+2.0
AZU				eS	Sn	07 12 24.9	+1.0
AZU	Azuero	2.63	111	eP	Pn	07 11 54.6	+2.0
AZU				eS	Sn	07 12 24.9	+1.0
BCIP	Isla Barro Col	2.91	82	eP	Pn	07 11 57.2	+0.7
BCIP	Isla Barro Col	2.91	82	eP	Pn	07 11 57.2	+0.7

IDC 06 07:11:51.1±2.2, **6.°77S**×**129.°19E**, **h0**km, **mb3.7**/1, **mb1 3.6**/3, **mb1mx3.3**/26, **mbtmp3.4**/3, **ML3.5**/2, **Error ellipse: s-maj=116.0km s-min=32.4km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.01	160	Pn	Pn	07 15 10.7	-0.4
	0.3nm,0.3s,baz=338,slow=12,SNR=9.3						
WRA				Sn	Sn	07 17 39.0	-8.5
	0.4nm,0.3s,baz=337,slow=22,SNR=11						
ASAR	Alice Springs	17.40	165	P	Pn	07 15 55.7	+0.2
	0.1nm,0.3s,baz=339,slow=11,SNR=8.4						
MKAR	Makanchi Array	67.60	327	P	P	07 22 49.8	0.0
	0.5nm,0.6s,baz=141,slow=7.8,SNR=4.4						

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*NNC **06** 07:17:19.5±1.7, 41.°08N×71.°16E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=13.8km s-min=5.5km az=27.0*
*KRNET **06** 07:17:21.9±0.1, 41.°35N×70.°98E, mb2.7*
ISC 06 07:17:22.8±1.5, **41.°30N**±0.°05×**71.°07E**±0.°06, **h10**km±14km, **n9**, σ1s41/16, **13C-4D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTK	Batken	1.25	189	⇑eP	Pg	07 17 46.3	-0.6
	baz=85						
BTK				⇑iS	Sn	07 18 03.9	+0.4
	baz=85						
ARSB	Arslanbob	1.44	88	⇓iP	Pb	07 17 49.5	-0.4
	baz=90						
ARSB				⇓iS	Sg	07 18 10.7	+1.5
	baz=90						
KK31	Karatay Array	1.85	347	P	Pn	07 17 55.5	+0.8
	5.2nm,0.4s,baz=170,slow=15,SNR=67						
KK31				⇑S	Sg	07 18 23.5	+1.2
	8.9nm,0.5s,baz=160,slow=27,SNR=19						
AML	Almayashu	2.13	66	⇓iP	Pn	07 18 00.2	+1.2
	baz=68						
AML				⇓iS	Sb	07 18 28.7	+0.1
	baz=68						
EKS2	Erkin-Say	2.44	55	⇑iP	Pb	07 18 05.0	-1.9
	baz=57						
EKS2				⇑iS	Sb	07 18 36.2	-0.8
	baz=57						
ARLS	Aral	2.50	76	⇑iP	Pb	07 18 06.4	-1.7
	baz=77						
ARLS				⇑iS	Sb	07 18 38.2	-0.8
	baz=77						
UCH	Uchtor	2.74	69	⇑iP	Pn	07 18 09.3	+2.0
	baz=70						
UCH				⇑iS	Sb	07 18 43.8	-2.2
	baz=70						
AAK	Ala-Archa	2.88	61	⇑Pg	Pb	07 18 13.6	-1.0
AAK				⇑Lg	Lg	07 18 52.2	
TKM2	Tokmak 2	3.74	63	⇑Pg	Pb	07 18 28.9	-0.2
TKM2				⇑Lg	Lg	07 19 19.2	

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*ISCJB **06** 07:26:54.4±0.4, 23.°71N±0.°02×121.°55E±0.°03, h5km±4km, Error ellipse: s-maj=5.2km s-min=2.8km az=29.7*
*TAP **06** 07:26:54.2, 23.°74N×121.°54E, h10km, ML3.0, C*
*JMA **06** 07:26:54.3, 23.°71N×121.°56E, h11km±1km*
ISC 06 07:26:54.4±1.0, **23.°72N**±0.°02×**121.°55E**±0.°03, **h9**km±7km, **n62**, σ0s57/68, **6D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGFH	Guangfu	0.12	247	P	Pg	07 26 56.8	-0.4
	baz=245						
ESL	Shilin	0.14	313	⇓iP	Pg	07 26 57.3	-0.3
	baz=296						
ESL				S	Sg	07 26 59.5	-0.3
	baz=296						
ENLB	Shoufeng	0.19	15	P	Pg	07 26 58.7	+0.3
	baz=17						
ENLB				eS	Sg	07 27 02.6	+1.4
	baz=17						
HGSD	Ruisui	0.25	207	P	Pb	07 27 00.6	-0.4
	baz=212						
HWA	Hwalien	0.26	11	eP	Pb	07 27 01.1	-0.2
	baz=13						
EHY	Hungye	0.29	225	eP	Pg	07 27 00.1	-0.2
	baz=225						
TWD	Chiawan	0.36	7	P	Pb	07 27 02.1	-0.9
TWD				S	Sb	07 27 07.2	-1.6
VWDT	VWDT	0.38	276	⇓P	Pg	07 27 01.9	+0.1
	baz=271						
VWDT				eS	Sg	07 27 07.2	+0.5
	baz=271						
YULB	Yu-li	0.40	216	eP	Pg	07 27 01.9	-0.2
	baz=224						
OWD	Renai	0.41	305	eP	Pg	07 27 01.9	-0.6
	baz=301						
TWF1	Yuli	0.43	212	eP	Pg	07 27 03.0	+0.2
	baz=222						
NACB	Ninganchiao	0.46	5	⇓P	Pg	07 27 03.4	+0.1
	baz=1.0						
CHGB	Renai	0.48	315	P	Pg	07 27 04.1	+0.2
	baz=312						
ETLH	Xiulin Townshi	0.49	353	eP	Pg	07 27 04.2	+0.2
	baz=352						
WHF	Hehuan Shan	0.50	329	⇓iP	Pg	07 27 04.2	0.0
	baz=318						
SSLB	Suanglung	0.55	277	⇓P	Pg	07 27 04.9	-0.1
	baz=273						
FULB	Fuli	0.57	204	eP	Pb	07 27 07.1	+0.6
	baz=220						
YUS	Yu-Shan	0.59	248	eP	Pg	07 27 05.4	-0.5
	baz=245						
SMLT	Sun Moon Lake	0.62	286	⇓iP	Pg	07 27 06.2	-0.1
	baz=283						
SMLT				S	Sg	07 27 14.5	+0.1
	baz=283						
TWT	Tachien	0.63	328	eP	Pg	07 27 06.7	0.0
	baz=324						
CHKT	Chengkung	0.64	195	eP	Pb	07 27 08.1	+0.5
	baz=195						
WHYT	Xinyi Township	0.64	268	eP	Pb	07 27 08.1	+0.4
	baz=266						
TDCB	Techi	0.64	326	eP	Pg	07 27 06.8	-0.1
	baz=324						
DPDB	Guoxing	0.65	299	eP	Pg	07 27 07.2	+0.2
	baz=301						
TYC	Yuchr	0.66	287	eP	Pg	07 27 06.7	-0.5
	baz=284						
ALS	Alishan	0.71	253	eP	Pg	07 27 08.4	+0.2
	baz=251						
ALS				eS	Sb	07 27 20.1	+1.0
	baz=251						
ELDTW	Lidau	0.72	223	eP	Pg	07 27 08.2	-0.1
	baz=230						
NNSB	Datong	0.72	348	P	Pb	07 27 08.6	-0.6
	baz=342						
NNSH	Datong	0.72	348	eP	Pg	07 27 08.4	0.0
	baz=341						
ENA	Nanau	0.73	14	eP	Pb	07 27 08.8	-0.5
	baz=360						
NANB	Nanao	0.73	15	eP	Pg	07 27 08.2	-0.3
NNS	Nan Shan	0.74	348	P	Pb	07 27 08.8	-0.6
	baz=342						
WJS	Zhushan	0.76	278	eP	Pb	07 27 10.0	+0.3
	baz=269						
WHP	Taichung City	0.78	316	P	Pb	07 27 09.9	-0.3
	baz=313						
CHN5	Tsauling	0.81	262	eP	Pb	07 27 10.4	-0.2
	baz=250						
NDT	Datong Townshi	0.88	358	eP	Pn	07 27 12.1	-0.9
	baz=357						
STYT	Tauyuan	0.91	233	eP	Pg	07 27 11.7	-0.3
	baz=220						
ENTT	Nioudou	0.92	1	eP	Pb	07 27 12.6	+0.1
	baz=1.0						
WDLH	Douliu	0.93	268	eP	Pn	07 27 13.4	-0.1
	baz=266						
TWC	Suao	0.93	17	eP	Pg	07 27 12.0	-0.3
	baz=5.0						
TPUB	Ta-pu	0.94	244	eP	Pn	07 27 13.2	-0.5
	baz=230						
TWQ1	Liyutan	0.95	312	eP	Pn	07 27 13.8	-0.1
	baz=309						
CHN4	Tsaushan	0.95	248	eP	Pn	07 27 13.7	-0.2
	baz=232						
YHNB	Yeheng	0.96	351	eP	Pn	07 27 13.4	-0.7
	baz=349						
EOS1	EOS1	0.98	32	eP	Pn	07 27 14.7	+0.4
	baz=57						
TWGBT	Beinan	0.99	206	eP	Pg	07 27 12.2	-1.3
	baz=205						
TWG	Pinlang	0.99	206	eP	Pb	07 27 13.8	0.0
	baz=205						
NSY	Sanyi	1.00	314	eP	Pn	07 27 15.8	+1.2
	baz=313						
TWE	Neicheng	1.01	6	eP	Pb	07 27 13.7	-0.2
	baz=8.0						
WDJ	Dajia District	1.04	307	eP	Pn	07 27 16.4	+1.3
	baz=304						
LIOB	Emei	1.04	332	eP	Pn	07 27 15.2	0.0
	baz=330						
NWLT	Wulai	1.06	358	eP	Pn	07 27 15.5	+0.1
	baz=357						
CHN1	Nanshi	1.08	241	eP	Pn	07 27 15.5	-0.1
	baz=239						
SGST	Jiashian	1.09	235	eP	Pn	07 27 15.5	-0.3
	baz=233						
SLGT	Liugui	1.10	229	eP	Pn	07 27 15.8	-0.1
	baz=228						
TIPB	Shuangxi	1.27	11	eP	Pg	07 27 19.0	+0.1
	baz=358						
MASBT	Mashibuluo	1.39	218	eP	Pn	07 27 19.6	-0.2
	baz=219						
EAST	Anshuo	1.48	206	eP	Pb	07 27 21.9	0.0
	baz=192						
VCHM	Qimei	2.01	256	eP	Pb	07 27 29.7	-1.4
	baz=253						
VWUC	VWUC	2.30	304	eP	Pn	07 27 32.6	+0.3
	baz=299						
JIJ	Ishigaki jima	2.46	74	eS	Sn	07 28 05.7	+0.9
PTMZ	Houxiangcun	2.58	301	eP	Pn	07 27 36.5	+0.2
	baz=296						

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*IDC **06** 07:27:26.8±1.0, 20.°71N×146.°70E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.7/49, mbtmp4.0/7, Error ellipse: s-maj=37.0km s-min=21.0km az=90.0*
*ISCJB **06** 07:27:29.3±0.8, 20.°77N±0.°08×147.°1E±0.°2, h40km, mb4.0/7, Error ellipse: s-maj=26.9km s-min=11.7km az=1.2*
*NEIC **06** 07:27:32.4±1.1, 20.°73N±0.°07×147.°0E±0.°2, h44km±9km, mb4.4/8*
ISC 06 07:27:31.9±0.8, **20.°8N**±0.°1×**146.°9E**±0.°2, **h40**km, **n17**, σ1s08/17, **mb4.3**/10, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SARN	Sarigan	4.18	195	Pn	Pn	07 28 33.8	+0.5
KMI	Kunming	40.81	285	P	P	07 35 10.5	+0.5
WRA	Warramunga Arr	42.29	198	P	P	07 35 20.2	-1.6
	1.0nm,0.7s,baz=22,slow=8.7,SNR=6.3						
FITZ	Fitzroy Crossi	43.90	210	P	P	07 35 35.2	+0.3
	1.7nm,0.8s,baz=22,slow=9.4,SNR=3.9						
FITZ	Fitzroy Crossi	43.90	210	P	P	07 35 35.1	+0.3
FITZ				IAmb	IAmb	07 35 37.2	
	comp=Z,7.1nm,1.4s						
ASAR	Alice Springs	45.95	197	P	P	07 35 50.5	-0.6
	comp=Z,0.4nm,0.6s,baz=20,slow=7.2,SNR=5.5						
TIXI	Tiksi	51.98	353	P	P	07 36 35.5	-1.2
TIXI				IAmb	IAmb	07 36 37.9	
	comp=Z,5.7nm,1.1s						
ZALV	Zalesovo Beam	57.12	322	P	P	07 37 14.2	-0.1
	comp=Z,3.5nm,0.6s,baz=107,slow=7.7,SNR=13						
MK31	Makanchi Array	57.91	313	P	P	07 37 20.4	+0.4
MKAR	Makanchi Array	57.91	313	P	P	07 37 20.3	+0.2
	comp=Z,1.8nm,0.7s,baz=90,slow=8.3,SNR=15						
MAKZ	Makanchi	58.12	313	P	P	07 37 22.1	+0.6
MAKZ				IAmb	IAmb	07 37 22.6	
	comp=Z,3.4nm,1.0s						
KURK	Kurchatov	60.55	317	P	P	07 37 38.1	-0.1
KURK				IAmb	IAmb	07 37 38.9	
	comp=Z,3.0nm,0.7s						
PAGB	Antelope Grade	80.35	56	P	P	07 39 37.9	-1.4
ARE0	ARCESS Array S	80.90	342	P	P	07 39 41.9	+0.3
NVAR	Mina Array Bea	80.96	52	P	P	07 39 45.2	+2.4
	comp=Z,0.6nm,0.7s,baz=256,slow=7.1,SNR=4.5						
FINES	FINESS Array B	85.51	336	P	P	07 40 04.7	-0.7
	comp=Z,4.6nm,1.0s,baz=67,slow=5.0,SNR=4.6						
LPAZ	La Paz	146.49	88	PKPbc	PKPbc	07 47 11.9	+1.5
	comp=Z,0.9nm,0.7s,baz=282,slow=1.1,SNR=5.2						

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*NEIC **06** 07:27:40.0±1.4, 38.°65N±0.°01×122.°43W±0.°01, h4km±7km*
NCEDC 06 07:27:39.1±0.9, **38.°68N**±0.°02×**122.°38W**±0.°01, **h9**km±4km, **Md2.0, Northern California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NMTM	Middletown	0.13	338		Pg	07 27 42.4	+0.2
NBPM	Berryessa Peak	0.15	96		Pg	07 27 42.9	+0.5
NHSM	Mount Saint He	0.18	262		Pg	07 27 43.3	+0.3
MNRC	McLaughlin Min	0.20	346		Pg	07 27 43.8	+0.5
MNRC					Sg	07 27 47.9	+1.6
NSHM	Saint Helena R	0.24	227		Pg	07 27 44.5	+0.5
NAPC	Atlas Peak	0.26	157		Pg	07 27 44.4	-0.1
GBGM	Boggs Mountain	0.27	299		Pg	07 27 44.9	+0.4
GCRM	Castle Rock Sp	0.28	289		Pg	07 27 44.8	+0.1
GAXM	Alexander Vall	0.29	276		Pg	07 27 45.0	0.0
MAC	Mark West Spri	0.30	244		Pg	07 27 45.6	+0.6
GSGM	Seigler Mounta	0.32	306		Pb	07 27 46.2	-0.7
CVS	Carmenet Viney	0.34	190		Pg	07 27 46.1	+0.3
GDXM	Geysers	0.35	291		Pg	07 27 46.0	+0.1
NTYM	Taylor	0.37	217		Pg	07 27 46.6	+0.3
NDHM	Dunnigan Hills	0.38	77		Pb	07 27 48.6	+0.7
NADM	Allendale	0.39	125		Pb	07 27 48.5	+0.3
GACM	Adobe Creek	0.42	297		Pg	07 27 47.6	+0.3
GMKM	Mount Konoctai	0.43	312		Pg	07 27 48.1	+0.6
NMCNC	Mill Creek, So	0.43	258		Pg	07 27 47.9	+0.5
GPMM	Pine Mountain	0.47	291		Pg	07 27 48.8	+0.5
GSSM	Skaggs Springs	0.49	272		Pg	07 27 49.2	+0.5
GCVM	Cloverdale	0.50	280		Pg	07 27 49.2	+0.4
GHLM	Highland Sprin	0.61	306		Pb	07 27 52.8	+0.8
HOPS	Hopland Field	0.62	300		Pb	07 27 52.2	+0.1
HOPS	Hopland Field	0.62	300		Sg	07 27 53.1	-6.2
GHCM	House Creek	0.64	263		Pb	07 27 52.1	-0.4
MCCM	Marconi Confer	0.67	216		Pb	07 27 52.8	-0.1
MCCM	Marconi Confer	0.67	216	Pg	Pg	07 27 52.1	+0.2
GDCM	Dry Creek	0.68	277		Pb	07 27 52.9	-0.2
GSNM	Snow Mountain	0.68	292		Pb	07 27 53.4	+0.2
NOLM	Olema	0.72	207		Pb	07 27 53.6	-0.2
ORV	Oroville	1.11	38		Pn	07 28 02.5	+1.7
AFDM	Forest Hills D	1.13	76	Pn	Pb	07 27 58.2	-2.7
BEKR	Beckworth	1.96	52	Pn	Pn	07 28 12.7	0.0
PNTR	Pine Nut	2.21	79	Pn	Pn	07 28 17.0	+0.9
YERR	Yerington	2.47	82		Pb	07 28 22.7	-1.1
OMMB	Old Mammoth Mi	2.87	111	Pn	Pn	07 28 25.3	0.0

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*ISCJB **06** 07:31:10.1±0.6, 27.°30S±0.°02×71.°31W±0.°09, h61km±12km, mb3.5/2, Error ellipse: s-maj=13.9km s-min=3.8km az=3.3*
*SJA **06** 07:31:10.3±1.0, 27.°30S×71.°26W, h65km±18km, ML3.7, MW3.6*
*NEIC **06** 07:31:12.5±3.0, 27.°34S±0.°05×71.°00W±0.°03, h52km±6km*
*GUC **06** 07:31:12.0±0.7, 27.°40S×71.°00W, h63km±13km, ML4.1*
*IDC **06** 07:31:14.0±1.0, 27.°33S×70.°88W, h58km±6km, mb3.3/2, mb1 3.8/5, mb1mx3.6/28, mbtmp3.8/5, MS2.8/1, Ms1 2.8/1, ms1mx2.3/10, Error ellipse: s-maj=31.4km s-min=12.1km az=84.0*
ISC 06 07:31:12.0±0.7, **27.°34S**±0.°04×**71.°18W**±0.°07, **h56**km±6km, **n57**, σ1s53/65, **2C, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GO03	Copiap	0.88	107	eP	Pn	07 31 27.0	-1.4
GO03				i S	Sn	07 31 37.3	-3.1
GO03				IAML		07 31 38.1	
	comp=E,18μm,0.2s						
GO03	Copiap	0.88	107		Pn	07 31 27.6	-0.9
GO03				Sn	Sn	07 31 37.2	-3.1
GO03	Copiap	0.88	107	eP	Pn	07 31 27.5	-0.9
GO03				eS	Sn	07 31 37.3	-3.1
LSCH	La Serena	2.56	181	eP	Pn	07 31 51.4	+0.3
LSCH				eS	Sn	07 32 20.6	-0.5
LSCH				IAML		07 32 36.0	
	comp=N,553nm,0.4s						
GO02	Mina Guanaco	2.59	34	⇑iP	Pn	07 31 52.5	+0.6
GO02				IAML		07 32 24.4	
	comp=N,827nm,0.4s						
GO02	Mina Guanaco	2.59	34		Pn	07 31 52.4	+0.6
PB14	IPOC Station P	2.79	15	i P	Pn	07 31 55.1	+0.6
PB14				eS	Sn	07 32 13.9	-13
PB14				IAML		07 32 17.8	
	comp=Z,281nm,0.4s						
GO04	Tololo Observa	2.84	173	⇑iP	Pn	07 31 55.6	+0.5
GO04				i S	Sn	07 32 28.0	-0.5
GO04	Tololo Observa	2.84	173		Pn	07 31 55.8	+0.5
GO04				Sn	Sn	07 32 28.4	0.0
GO04	Tololo Observa	2.84	173	i P	Pn	07 31 55.7	+0.5
GO04				eS	Sn	07 32 29.1	+0.6
VCA	Vinchina	2.97	119	eP	Pn	07 31 59.2	+2.3
VCA				IAML		07 32 45.5	
	comp=Z,188nm,0.3s						
AGUA	GUANDACOL	3.19	133	i P	Pn	07 32 02.0	+2.1
AGUA				IAML		07 33 00.3	
	comp=Z,45nm,0.8s						
AROD	Rodeo	3.19	152	i P	Pn	07 32 02.4	+2.3
ACCO	Cerro Coronel	3.73	151	i P	Pn	07 32 09.7	+2.2
ACCO				IAML		07 33 11.1	
	comp=Z,149nm,0.3s						
PB10	IPOC Station P	3.85	9		Pn	07 32 08.7	-0.1
PB10				Sn	Sn	07 32 51.3	-1.4
PB10	IPOC Station P	3.85	9	i P	Pn	07 32 08.6	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PB10				IAML		07 33 20.9	
	comp=Z,70nm,0.7s						
CO02	Combarbal	3.86	178	eP	Pn	07 32 09.1	+0.1
CO02				iS	Sn	07 32 52.7	-0.4
RTLL	Cerro Villicun	4.62	150	iP	Pn	07 32 20.3	+0.9
RTLL				IAML		07 33 39.4	
	comp=Z,98nm,0.4s						
RTLS	Leoncito	4.74	160	iP	Pn	07 32 23.3	+2.1
RTLS				IAML		07 33 43.4	
	comp=Z,58nm,1.2s						
CFA	Coronel Fontan	4.96	150	P	Pn	07 32 24.9	+0.8
	comp=Z,1.9nm,0.3s,baz=298,slow=9.8,SNR=42						
CFA				S	Sn	07 33 19.9	-0.4
	comp=Z,14nm,0.3s,baz=209,slow=21,SNR=7.2						
CFA	Coronel Fontan	4.96	150	iP	Pn	07 32 24.9	+0.8
PB04	IPOC Station P	5.07	11		Pn	07 32 24.5	-1.1
LVC	Limon Verde	5.14	24	P	Pn	07 32 27.1	+0.3
	comp=Z,5.4nm,0.3s,baz=179,slow=9.2,SNR=61						
LVC				S	Sn	07 33 24.8	-0.1
	comp=Z,9.8nm,0.3s,baz=129,slow=20,SNR=3.4						
LVC	Limon Verde	5.14	24	iP	Pn	07 32 27.1	+0.3
LVC				IAML		07 34 04.7	
	comp=Z,71nm,0.8s						
AHML	Horco Molle	5.24	85	iP	Pn	07 32 28.7	+0.8
AHML				IAML		07 33 53.8	
	comp=Z,14nm,0.7s						
ROC1	El Roble	5.62	179		Pn	07 32 32.3	-1.0
ROC1	El Roble	5.62	179	iP	Pn	07 32 32.8	-0.5
PB09	IPOC Station P	5.79	18	iP	Pn	07 32 35.6	+0.1
PB09				IAML		07 34 18.9	
	comp=Z,111nm,0.6s						
PEL	Peldehue	5.80	176		Pn	07 32 35.2	-0.4
PEL	Peldehue	5.80	176	iP	Pn	07 32 35.3	-0.3
ARCO	CERRO ARCO	5.82	161	iP	Pn	07 32 38.1	+2.2
ARCO				IAML		07 34 26.3	
	comp=Z,89nm,1.2s						
ACAN	Cantantal	6.02	146	iP	Pn	07 32 39.1	+0.6
ACAN				IAML		07 34 22.9	
	comp=Z,16nm,0.4s						
AAGR	Agrelo	6.08	161	iP	Pn	07 32 43.9	+4.5
AAGR				IAML		07 34 37.9	
	comp=Z,70nm,2.8s						
AZAP	Zapla	6.32	62	iP	Pn	07 32 43.7	+0.8
AZAP				IAML		07 34 20.7	
	comp=Z,4.5nm,1.1s						
PB11	IPOC Station P	7.67	11		Pn	07 32 58.8	-2.5
GO05	Huala	7.68	185	Pn	Pn	07 32 58.0	-3.2
GO01	Chusmiza	7.85	14		Pn	07 33 02.7	-1.3
MNMC	Minye Minye	8.30	10		Pn	07 33 08.5	-1.5
LPAZ	La Paz	11.35	15	P	Pn	07 33 51.7	-0.4
	comp=Z,0.7nm,0.3s,baz=199,slow=6.0,SNR=25						
LPAZ	La Paz	11.35	15		Pn	07 33 51.1	-1.1
CPUP	Villa Florida	12.41	89	LR	LR	07 39 15.0	
	comp=Z,43nm,18.7s,baz=354,slow=40						
TRQA	Tornquist	13.19	146	Pn	Pn	07 34 17.3	+0.8
PLCA	Paso Flores	13.37	178	Pn	Pn	07 34 18.6	-0.5
SIV	San Ignacio	14.68	42	P	Pn	07 34 29.5	-7.1
	comp=Z,1.4nm,0.3s,baz=256,slow=8.9,SNR=17						
SAML	Samuel	19.79	24		Pn	07 35 39.6	-0.2
SAML				IAmb	IAmb	07 35 40.4	
	comp=Z,5.9nm,1.1s						
PDAR	Pinedale Array	78.20	332	P	P	07 43 08.5	+2.8
	comp=Z,0.3nm,0.6s,baz=117,slow=5.2,SNR=3.7						
QLMT	Earthquake Lak	80.67	332		pP	07 43 36.6	+3.0
TORD	Torodi Ar. Bea	81.26	70	P	P	07 43 22.5	-0.1
	comp=Z,0.5nm,0.6s,baz=247,slow=7.4,SNR=2.7						
TORD				pP	pP	07 43 39.4	+0.9
	comp=Z,2.1nm,0.8s,baz=255,slow=5.0,SNR=9.5						
TORD				sP	sP	07 43 46.1	+1.6
	comp=Z,0.9nm,0.4s,baz=275,slow=5.8,SNR=4.7						
ASAR	Alice Springs	123.81	208	PKP	PKiKP	07 50 04.8	+0.1
	comp=Z,0.4nm,0.6s,baz=150,slow=1.2,SNR=5.6						
H11S2	WAKE ISLAND Hy	126.36	274	T	T	10 09 39.3	
	baz=112,slow=75,SNR=4.8						
H11S1	WAKE ISLAND Hy	126.37	274	T	T	10 09 40.2	
	baz=112,slow=75,SNR=10.0						
H11S3	WAKE ISLAND Hy	126.38	274	T	T	10 09 40.7	
	baz=112,slow=75,SNR=5.5						
KURK	Kurchatov	147.28	36		PKiKP	07 50 50.5	-0.7
KURBB	Kurchatov Arra	147.29	36	PKPbc	PKiKP	07 50 50.5	-0.7
	comp=Z,0.9nm,0.6s,baz=304,slow=3.2,SNR=6.0						
ZALV	Zalesovo Beam	148.08	27	PKPbc	PKiKP	07 50 52.2	-0.5
	comp=Z,2.0nm,0.6s,baz=307,slow=3.5,SNR=7.3						
MKAR	Makanchi Array	151.49	40	PKPbc	PKiKP	07 51 00.5	+0.3
	comp=Z,0.8nm,0.5s,baz=310,slow=2.0,SNR=8.8						
MKAR				pPKPbc	pPKPbc	07 51 17.8	+2.2
	comp=Z,0.9nm,0.6s,baz=328,slow=1.9,SNR=6.7						
WHN	Wuhan	174.20	305	PKP	PKPdf	07 51 12.6	-3.1

*NEIC **06** 07:32:52.7±0.9, 59°.24N±0°.05×153°.46W±0°.06, h101km±4km*

AEIC 06 07:32:54.4±1.6, 59°.23N±0°.04×153°.43W±0°.08, h91km±5km, ML2.9, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUI	Augustine Isla	0.11	359		Pn	07 33 06.7	-0.5
AUI					Sn	07 33 16.5	-0.3
AUH	Augustine H	0.14	356		Pn	07 33 07.0	-0.4
AUW	Augustine West	0.14	351		Pn	07 33 07.0	-0.3
AU22	Augustine Moun	0.15	14		Pn	07 33 06.9	-0.3
AU22					Sn	07 33 16.8	0.0
AUL	Augustine Lava	0.15	358		Pn	07 33 07.0	-0.4
AUL					Sn	07 33 17.2	+0.2
ILS	Iliamna Low So	0.75	14		Pn	07 33 10.6	-0.9
IVE	Iliamna Volcan	0.82	15		Pn	07 33 11.2	-1.0
IVE					Sn	07 33 24.4	-1.2
KARR	Katmai Rainbow	0.99	223		Pn	07 33 13.7	-0.3
KAHC	Katmai Hardscr	1.01	235		Pn	07 33 13.5	-0.7
HOM	Homer	1.01	64		Pn	07 33 13.8	-0.3
HOM					Sn	07 33 29.0	0.0
CNPM	China Poot	1.16	74		Pn	07 33 15.1	-0.9
CNPM					Sn	07 33 31.4	-0.8
RED	Redoubt Volcan	1.24	15		Pn	07 33 16.2	-0.8
RED					Sn	07 33 33.0	-1.0
KCG	Knife Ck. Glac	1.27	224		Pn	07 33 16.9	-0.5
RSO	Redoubt South	1.28	15		Pn	07 33 16.8	-0.9
RDWB	Redoubt West	1.30	13		Pn	07 33 16.9	-0.9
RDWB					Sn	07 33 34.2	-1.2
KABR	Katmai Barrier	1.36	217		Pn	07 33 18.1	-0.4
BRLK	Bradley Lake	1.40	66		Pn	07 33 17.9	-1.1
BRLK					Sn	07 33 36.2	-1.3
DFR	Drift River	1.42	15		Pn	07 33 18.4	-0.7
DFR					Sn	07 33 37.1	-0.9
BRSE	Bradley Lake S	1.46	68		Sn	07 33 38.5	-0.3
KDAK	Kodiak Island	1.52	163		Pn	07 33 19.0	-1.3
CAPN	Captain Cook N	1.92	35		Pn	07 33 25.6	+0.1
OHAK	Old Harbor	2.01	178		Pn	07 33 25.4	-1.3
OHAK					Sn	07 33 48.5	-2.9
CKL	Chakachamna La	2.05	15		Pn	07 33 26.6	-0.7
SLKM	Skilak Lake	2.06	50		Pn	07 33 26.8	-0.6
SPCR	Spurr Chakacha	2.07	17		Pn	07 33 26.8	-0.8
SPWE	Spurr West	2.10	12		Pn	07 33 27.7	-0.2
SPBG	Spurr Blockage	2.10	14		Pn	07 33 27.5	-0.5
SPCP	Crater Peak Br	2.14	17		Pn	07 33 27.9	-0.6
SVW2	Sparrevohn	2.16	331		Pn	07 33 27.4	-1.3
SPNN	North Nagishla	2.18	9		Pn	07 33 28.5	-0.5
SPCG	Spurr Capps Gl	2.19	18		Pn	07 33 28.4	-0.7
SEW	Seward	2.20	65		Pn	07 33 28.5	-0.6
SEW					Sn	07 33 53.5	-2.2
CGLM	Capps Glacier	2.20	18		Pn	07 33 28.6	-0.7
SUA	Susitna One	2.61	30		Pn	07 33 34.7	0.0
RC01	Rabbit Creek A	2.62	43		Pn	07 33 33.7	-1.0
SII	Sitkinak Islan	2.71	189		Pn	07 33 34.1	-1.9
SKT	Skwentna	2.92	18		Pn	07 33 37.6	-1.0
PWL	Port Wells	3.03	55		Pn	07 33 38.5	-1.8
PMR	Palmer	3.19	40		Pn	07 33 40.9	-1.4
KNK	Knik Glacier	3.30	46		Pn	07 33 42.5	-1.4
GHO	Glory Hole Cre	3.39	39		Pn	07 33 43.8	-1.3
GLI	Glacier Island	3.58	60		Pn	07 33 44.9	-2.7
SML	Sawmill	3.61	42		Pn	07 33 46.7	-1.4
CHIR	Chirikof Islan	3.62	200		Pn	07 33 46.3	-1.8
MID	Middleton Isla	3.64	84		Pn	07 33 46.9	-1.5
HIN	Hinchinbrook I	3.69	69		Pn	07 33 47.3	-1.9
PPLA	Purkeypile	3.73	9		Pn	07 33 49.8	0.0
FID	Port Fidalgo	3.81	63		Pn	07 33 47.8	-2.9
JPK	Jack Peak	3.87	59		Pn	07 33 49.8	-1.8
TT01	Tatalina	3.90	342		Pn	07 33 50.9	-1.1
TTA	Tatalina	3.92	342		Pn	07 33 50.8	-1.5
SCM	Sheep Creek Mo	3.99	46		Pn	07 33 51.9	-1.3
EYAK	Cordova Ski Ar	4.09	68		Pn	07 33 52.7	-1.8
HUR	Hurricane	4.19	24		Pn	07 33 55.4	-0.5
WAT1	Susitna Watana	4.32	31		Pn	07 33 56.5	-1.1
WAT6	Susitna Watana	4.36	37		Pn	07 33 57.0	-1.3
WAT2	Susitna Watana	4.42	30		Pn	07 33 57.9	-1.2
TRF	Thorofare Moun	4.50	18		Pn	07 33 59.6	-0.6
KTH	Kantishna Hill	4.50	14		Pn	07 33 59.5	-0.7
RAGM	Ragged Mountai	4.57	72		Pn	07 34 00.2	-0.8
GOAT	Goat Mountain	4.58	69		Pn	07 34 00.5	-0.8
CHUM	Lake Minchumin	4.70	6		Pn	07 34 01.9	-0.8
RND	Reindeer	4.74	26		Pn	07 34 02.1	-1.2
DHY	Denali Highway	4.84	35		Pn	07 34 03.5	-1.3
SUCK	Suckling Hills	4.97	76		Pn	07 34 05.4	-1.0
MCK	McKinley	5.00	24		Pn	07 34 05.8	-1.1
BPAW	Bear Paw Mtn.	5.03	12		Pn	07 34 06.7	-0.5
BERG	Berg Lake	5.05	72		Pn	07 34 06.2	-1.3
GRIN	Grindle Hills	5.22	74		Pn	07 34 08.9	-1.0
GLB	Gilahina Butte	5.27	61		Pn	07 34 09.5	-1.1
KHIT	Khitrov Hills	5.28	72		Pn	07 34 09.2	-1.5
VRDI	Verde Repeater	5.36	64		Pn	07 34 10.6	-1.4
PAX	Paxson	5.38	42		Pn	07 34 10.8	-1.3
CRQM	Cirque	5.39	69		Pn	07 34 10.8	-1.5
WAX	Waxell Ridge	5.47	73	Pn	Pn	07 34 11.6	-1.7
KULT	Kultieth River	5.51	75		Pn	07 34 12.7	-1.2
TGL	Tana Glacier	5.54	69	Pn	Pn	07 34 12.5	-1.8
MCARA	McCarthy VSAT	5.60	63	Pn	Pn	07 34 14.1	-1.0
KIAG	Kiagna River	5.79	68		Pn	07 34 16.9	-1.0
PTPK	Patty Peak	5.81	66		Pn	07 34 17.1	-0.9
BALM	Baldy	5.83	67		Pn	07 34 16.8	-1.4
WRH	Wood River Hil	5.83	23		Pn	07 34 16.5	-1.7
MESA	MESA	5.89	76		Pn	07 34 17.9	-1.2
MLY	Manley	5.96	11		Pn	07 34 18.8	-1.1
CCB	Clear Creek Bu	6.05	24		Pn	07 34 19.1	-2.0
GRNC	Granite Creek	6.05	71		Pn	07 34 20.3	-1.1
BARN	Barnard Glacie	6.16	68		Pn	07 34 21.8	-1.0
RKAV	Rock Avalanche	6.20	75		Pn	07 34 20.7	-2.6
COLA	College	6.24	22		Pn	07 34 21.4	-2.3
CTGM	Chitina Glacie	6.29	69		Pn	07 34 23.9	-0.6
CHX	Chaix Hills	6.30	77		Pn	07 34 23.5	-1.1
IL31		6.36	26		Pn	07 34 23.2	-2.0
SCRK	Sand Creek	6.55	39		Pn	07 34 25.6	-2.4
PCA	Pinnacle	6.73	77		Pn	07 34 30.0	-0.4
IM03		6.78	359		Pn	07 34 29.0	-2.1
BC03		6.82	51		Pn	07 34 30.4	-1.2
BCPM	Bancas Point	7.04	78		Pn	07 34 33.3	-1.3
PNL	Peninsula	7.17	80		Pn	07 34 34.8	-1.5
PRP	Porcupine Dome	7.30	27		Pn	07 34 36.4	-1.8
DHAK	Deception Hill	7.82	84		Pn	07 34 44.0	-1.3
DAWY	Dawson	8.24	48		Pn	07 34 49.8	-1.3
BM03	Burnt Mountain	9.12	22		Pn	07 35 00.7	-2.2

*IDC **06** 07:34:53.8±0.7, 20°.06N×146°.73E, h0km, mb3.9/15, mb1 4.1/15, mb1mx3.9/60, mbtmp3.9/15, MS3.1/6, Ms1 3.1/6, ms1mx2.8/39, Error ellipse: s-maj=22.9km s-min=16.3km az=96.0*

*ISCJB **06** 07:34:57.3±0.4, 20°.10N±0°.05×146°.7E±0°.1, h33km, mb3.9/15, MS3.1/5, Error ellipse: s-maj=13.9km s-min=6.9km az=9.4*

*NEIC **06** 07:34:59.3±1.8, 20°.06N±0°.09×146°.6E±0°.2, h35km±4km, mb4.3/13*

ISC 06 07:34:59.5±0.6, 20°.11N±0°.08×146°.7E±0°.1, h35km, n46, σ0s.90/36, mb4.1/21, MS3.1/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	Sarigan	3.50	194	Pn	Pn	07 35 51.7	+0.3
ANA2	Anatahan	3.86	194		Pn	07 35 57.4	+1.1
GUMO	Guam	6.71	195	Pn	Pn	07 36 37.4	+1.8
	10.0nm,0.3s,baz=3.5,slow=4.3,SNR=5.0						
GUMO				LR	LR	07 38 55.8	
	comp=Z,96nm,18.9s,baz=331,slow=36						
GUMO	Guam	6.71	195		Pn	07 36 36.9	+1.4
PATS	Pohnpei	17.36	138		Pn	07 38 59.1	0.0
H11S3	WAKE ISLAND Hy	18.95	91	T	T	07 58 51.7	
	baz=283						
H11S1	WAKE ISLAND Hy	18.96	91	T	T	07 58 50.9	
	baz=283						
H11S2	WAKE ISLAND Hy	18.97	91	T	T	07 58 57.3	
	baz=283						
H11N1	WAKE ISLAND Hy	19.01	88	T	T	07 59 03.2	
	baz=277,slow=74,SNR=5.9						
H11N2	WAKE ISLAND Hy	19.01	88	T	T	07 59 05.6	
	baz=277						
H11N3	WAKE ISLAND Hy	19.02	88	T	T	07 59 06.7	
	baz=277,slow=74,SNR=4.9						
JAY	Jayapura	23.23	195	LR	LR	07 48 59.7	
	comp=Z,79nm,18.1s,baz=336,slow=36						
KSRS	Korea Array	23.78	321	P	P	07 40 09.7	+0.8
	1.7nm,0.7s,baz=140,slow=9.6,SNR=4.8						
PMG	Port Moresby	29.33	179	LR	LR	07 50 27.4	
	comp=Z,25nm,20.4s,baz=334,slow=32						
PETK	Petropavlovsk-	34.02	12	LR	LR	07 54 04.4	
	comp=Z,26nm,19.8s,baz=242,slow=34						
WB0	Warramunga Arr	41.42	198	P	P	07 42 42.1	-0.6
WB2	Warramunga Arr	41.59	198	P	P	07 42 43.2	-1.0
WRA	Warramunga Arr	41.60	198	P	P	07 42 42.8	-1.4
	0.6nm,0.4s,baz=20,slow=8.3,SNR=9.5						
SONM	Songino Array	42.65	320	P	P	07 42 52.5	-0.2
	0.2nm,0.4s,baz=64,slow=44,SNR=3.9						
FITZ	Fitzroy Crossi	43.22	210	P	P	07 42 56.6	-0.8
	1.7nm,0.6s,baz=25,slow=11,SNR=6.1						
FITZ	Fitzroy Crossi	43.22	210	P	P	07 42 56.2	-1.3
ASAR	Alice Springs	45.26	197	P	P	07 43 12.5	-1.2
	0.6nm,0.6s,baz=18,slow=7.2,SNR=11						
MORW	Morawa	57.14	212	P	P	07 44 42.0	-0.8
ZALV	Zalesovo Beam	57.48	322	P	P	07 44 44.7	-0.2
	0.7nm,0.4s,baz=95,slow=9.1,SNR=3.0						
KDAK	Kodiak Island	57.68	34	LR	LR	08 08 11.2	
	comp=Z,30nm,18.3s,baz=255,slow=35						
MKAR	Makanchi Array	58.17	313	P	P	07 44 51.0	+1.0
	0.5nm,0.6s,baz=96,slow=6.9,SNR=3.6						
MKAR	Makanchi Array	58.17	313	P	P	07 44 51.0	+1.0
BPAW	Bear Paw Mtn.	60.09	27	P	P	07 45 03.7	+0.7
BPAW				IAmb	IAmb	07 45 03.8	
	comp=Z,2.6nm,0.7s						
TRF	Thorofare Moun	60.21	27	P	P	07 45 04.2	+0.3
TRF				IAmb	IAmb	07 45 21.5	
	comp=Z,4.3nm,1.1s						
MLY	Manley	60.45	26	P	P	07 45 06.2	+0.7
MLY				IAmb	IAmb	07 45 24.2	
	comp=Z,2.6nm,1.2s						
KURBB	Kurchatov Arra	60.91	317	P	P	07 45 08.7	0.0
	comp=Z,0.5nm,0.4s,baz=93,slow=7.8,SNR=3.5						
SCM	Sheep Creek Mo	61.17	30	P	P	07 45 10.9	+0.5
ILAR	Eielson Array	61.98	26	P	P	07 45 14.6	-1.2
	comp=Z,1.4nm,0.9s,baz=256,slow=5.7,SNR=13						
ILAR				LR	LR	08 11 00.1	
	comp=Z,15nm,19.9s,baz=276,slow=35						
VRDI	Verde Repeater	62.90	31	P	P	07 45 22.9	+0.8
VRDI				IAmb	IAmb	07 45 37.5	
	comp=Z,6.2nm,1.4s						
SCRK	Sand Creek	63.06	28	P	P	07 45 23.0	-0.1
SCRK				IAmb	IAmb	07 45 23.9	
	comp=Z,2.3nm,1.0s						
DAWY	Dawson	65.08	28	P	P	07 45 37.2	+1.0
DAWY				IAmb	IAmb	07 45 37.8	
	comp=Z,2.4nm,0.9s						
BVAR	Borovoye Array	65.99	320	P	P	07 45 42.1	-0.2
	comp=Z,1.0nm,0.5s,baz=93,slow=7.4,SNR=4.7						
INK	Inuvik	67.72	23	P	P	07 45 53.1	+0.1
	comp=Z,2.1nm,0.8s,baz=268,slow=6.9,SNR=7.8						
INK	Inuvik	67.72	23	P	P	07 45 52.8	-0.2
INK				IAmb	IAmb	07 46 07.0	
	comp=Z,2.2nm,1.0s						
AKTO	Aktyubinsk	73.94	318	P	P	07 46 31.9	+0.7
	comp=Z,2.0nm,0.9s,baz=321,slow=6.9,SNR=6.3						
YKA	Yellowknife Ar	76.31	28	P	P	07 46 43.5	-1.1
	comp=Z,1.8nm,0.7s,baz=288,slow=5.5,SNR=16						
NVAR	Mina Array Bea	81.54	52	P	P	07 47 15.2	+1.1
	comp=Z,0.8nm,0.7s,baz=254,slow=7.5,SNR=5.1						
FINES	FINESS Array B	86.00	336	P	P	07 47 34.7	-1.4
	comp=Z,0.9nm,0.5s,baz=102,slow=4.5,SNR=8.5						
PB11	IPOC Station P	145.88	96	PKPdf	PKPab	07 54 36.9	+0.2
LPAZ	La Paz	146.75	89	PKPbc	PKPab	07 54 40.4	-0.2
	comp=Z,1.4nm,0.5s,baz=312,slow=3.2,SNR=12						
SAML	Samuel	149.09	73	PKPbc	PKPbc	07 54 44.9	-0.1

*IDC **06** 07:43:43.3±1.2, 28°.39N×52°.66E, h0km, mb3.9/8, mb1 3.9/10, mb1mx3.7/45, mbtmp3.8/10, ML3.6/2, Error ellipse: s-maj=27.3km s-min=23.4km az=28.0*

*ISCJB **06** 07:43:45.4±0.5, 28°.48N±0°.03×52°.71E±0°.06, h16km, mb3.9/8, Error ellipse: s-maj=8.5km s-min=3.1km az=152.6*

*THR **06** 07:43:45.9, 28°.48N×52°.89E, h15km, ML3.2*

*TEH **06** 07:43:45.7, 28°.56N×52°.85E, h8km, ML3.6*

*OMAN **06** 07:43:50.9±2.8, 28°.43N×52°.81E, h75km, ml3.5/8, Error ellipse: s-maj=50.8km s-min=26.6km az=56.0*

ISC 06 07:43:46.5±0.7, 28°.54N±0°.05×52°.79E±0°.07, h16km, n49, σ1s.56/57, mb3.9/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	Jahrom	0.69	93	ePg	Pg	07 43 58.4	-1.6
JHRM				IAMB	IAmb	07 44 21.1	
	comp=Z,0.0nm,0.4s						
SHI	Shiraz	1.13	347	eSg	Sg	07 44 23.8	+0.7
SHI				ePg	Pb	07 44 07.0	-0.7
IKAZ	Kazeroun	1.49	326	ePn	Pb	07 44 14.0	0.0
IKAZ				IAMB	IAmb	07 44 39.7	
	comp=Z,14μm,0.6s						
KLNJ	Kolanjah	2.67	337	ePn	Pn	07 44 29.7	+0.5
BNDS	Bandar-Abbas	3.19	110	ePn	Pn	07 44 36.5	+0.3
BNDS	Bandar-Abbas	3.19	110	eP	Pn	07 44 36.5	+0.3
GENO	Geno	3.20	110	ePn	Pn	07 44 38.5	+2.2
GENO				IAMB	IAmb	07 45 55.4	
	comp=Z,0.0nm,1.2s						
IMEH	Mehriz	3.25	29	ePn	Pn	07 44 38.7	+1.6
KHGB	Koh Gabri	3.70	59	ePn	Pn	07 44 44.7	+1.5
KHGB				IAMB	IAmb	07 45 54.2	
	comp=Z,0.0nm,0.9s						
KRBR	Kerman	3.75	67	ePn	Pn	07 44 44.9	+0.9
KRBR	Kerman	3.75	67	eAML	AML	07 45 52.0	
	comp=Z,39nm,0.6s						
KRBR				eP	Pn	07 44 44.9	+0.9
KRBR	Kerman	3.75	67	eAML	AML	07 46 03.7	
	comp=Z,41nm,0.7s						
TVBK	TV Kerman	3.75	66	ePn	Pn	07 44 45.9	+1.8
TVBK				IAMB	IAmb	07 45 59.9	
	comp=Z,0.0nm,0.8s						
BANOM	Banah	4.07	129	P	Pn	07 44 50.9	+2.8
	SNR=16						
YZKH	Yazd	4.14	22	ePn	Pn	07 44 51.4	+2.3
YZKH	Yazd	4.14	22	eP	Pn	07 44 51.4	+2.3
IZEF	Zefreh	4.36	355	ePn	Pn	07 44 53.8	+1.4
MSFE	Esma-Masafi	4.37	136	ePn	Pn	07 44 53.6	+1.4
NAZ	Nazwa, Dubai	4.37	143	ePn	Pn	07 44 53.9	+1.7
KHNJ	Kahnooj	4.37	97	ePn	Pn	07 44 53.4	+1.1
MDH	Madha	4.50	135	P	Pn	07 44 55.1	+1.1
MDH				S	Sn	07 45 48.6	+2.7
MDH	Madha	4.50	135	ePn	Pn	07 44 55.1	+1.1
ASUD	Al Ashush, Dub	4.51	149	P	Pn	07 44 57.0	+2.8
ASUD	Al Ashush, Dub	4.51	149	ePn	Pn	07 44 56.8	+2.6
UOSS	Minazif	4.70	139	P	Pn	07 44 58.2	+1.4
	SNR=8.6						
HATD	Hatta, Dubai	4.75	140	P	Pn	07 45 00.1	+2.6
HATD				S	Sn	07 45 54.3	+1.9
HATD	Hatta, Dubai	4.75	140	ePn	Pn	07 45 00.3	+2.8
ASHO	Ashiyiah	4.83	142	P	Pn	07 44 60.0	+1.4
	SNR=7.8						
ASHO				S	Sn	07 45 55.6	+1.5
ASHO	Ashiyiah	4.83	142	ePn	Pn	07 44 59.1	+0.6
IKLH	Kolahrood	4.88	348	ePn	Pn	07 45 00.5	+1.0
KRSH	Karshahi	5.44	354	ePn	Pn	07 45 08.2	+1.1
TPRV	Parvadeh(Tabas	5.59	36	ePn	Pn	07 45 09.9	+0.8
ARQ	Araqi	6.17	146	P	Pn	07 45 18.1	+1.1
TNSJ	Nastanj	6.32	30	ePn	Pn	07 45 20.2	+1.1
HOQ	Hoqain	6.39	140	P	Pn	07 45 21.9	+1.8
HOQ				S	Sn	07 46 33.0	+0.2
BSY	Bisya	7.01	144	P	Pn	07 45 29.3	+0.8
BSY				S	Sn	07 46 45.7	-2.2
SMDO	Samad	7.22	138	P	Pn	07 45 32.5	+0.9
	SNR=6.6						
SMDO				S	Sn	07 46 54.5	+1.1
WSAR	Wadi Sarin	7.45	134	P	Pn	07 45 35.3	+0.7
	SNR=20						
WSAR	Wadi Sarin	7.45	134	Pn	Pn	07 45 34.9	+0.4
	comp=Z,2.2nm,0.3s,baz=349,slow=14,SNR=18						
WSAR				Sn	Sn	07 46 55.5	-3.2
	comp=Z,1.1nm,0.3s,baz=158,slow=15,SNR=4.9						
WBK	Wadi Bani Khal	8.12	135	P	Pn	07 45 44.6	+0.8
WBK				S	Sn	07 47 15.5	+0.2
BRTR	Keskin Array B	19.35	310	P	Pn	07 48 12.2	-0.3
	comp=Z,0.1nm,0.3s,baz=146,slow=13,SNR=3.5						
AKTO	Aktyubinsk	22.22	9	P	P	07 48 43.2	+1.0
	comp=Z,2.7nm,0.7s,baz=211,slow=11,SNR=9.9						
MKAR	Makanchi Array	29.37	44	P	P	07 49 49.6	+0.9
	comp=Z,0.4nm,0.6s,baz=227,slow=9.8,SNR=4.9						
ZALV	Zalesovo Beam	34.48	34	P	P	07 50 35.0	+1.5
	comp=Z,0.6nm,0.3s,baz=233,slow=10,SNR=5.0						
FINES	FINESS Array B	37.40	339	P	P	07 50 58.3	0.0
	comp=Z,9.2nm,1.1s,baz=144,slow=8.2,SNR=9.6						
NOA	NORSAR Array B	42.65	332	P	P	07 51 41.3	-0.8
	comp=Z,0.6nm,0.6s,baz=122,slow=8.3,SNR=4.1						
TORD	Torodi Ar. Bea	49.79	263	P	P	07 52 36.9	-1.9
	comp=Z,0.7nm,0.5s,baz=61,slow=8.1,SNR=6.1						
YKA	Yellowknife Ar	88.72	354	P	P	07 56 39.0	0.0
	comp=Z,0.6nm,0.8s,baz=6.6,slow=4.8,SNR=7.5						
ASAR	Alice Springs	93.73	115	P	P	07 57 01.5	-1.4
	comp=Z,0.5nm,0.8s,baz=317,slow=4.0,SNR=5.0						

IDC 06 07:46:27.6±4.3, 10°.89S×116°.78E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/35, mbtmp3.4/3, ML3.0/1, Error ellipse: s-maj=278.0km s-min=28.9km az=46.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.16	120	P	P	07 50 52.2	-0.6
	0.1nm,0.3s,baz=290,slow=13,SNR=2.4						
ASAR	Alice Springs	20.68	130	P	P	07 51 10.1	+0.6
	1.5nm,0.7s,baz=302,slow=10,SNR=28						
MKAR	Makanchi Array	65.17	335	P	P	07 57 10.6	-0.1
	0.2nm,0.4s,baz=150,slow=7.9,SNR=3.6						

*ISCJB **06** 07:55:49.9±0.4, 47°.77N±0°.01×122°.84W±0°.02, h13km±3km, Error ellipse: s-maj=2.8km s-min=1.7km az=158.1*

*ANF **06** 07:55:50.3±0.3, 47°.75N×122°.77W, h12km±3km, ML3.4/16, Error ellipse: s-maj=5.5km s-min=2.1km az=119.0*

*NEIC **06** 07:55:50.5±2.0, 47°.84N±0°.05×123°.1W±0°.1, h34km±12km*

*SEA **06** 07:55:51.1, 47°.74N×122°.89W, h20km, ML3.5, ML2.9/20, Washington*

*PNSN **06** 07:55:51.2, 47°.74N×122°.89W, h20km, MD3.5, Fault plane solution: NP1: ϕ_s100.00000°, δ80.00000°, λ110.00000°.*

ISC 06 07:55:49.5±1.0, 47°.77N±0°.01×122°.88W±0°.02, h13km±8km, n104, σ1s.11/139, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNW	Green Mountain	0.21	171	P	Pb	07 55 55.4	+0.2
GNW				S	Sg	07 55 58.8	+1.6
BLN	Blyn Mountain	0.24	345	P	Pb	07 55 56.6	+0.7
D03D	Eldon	0.28	212	P	Pb	07 55 56.4	0.0
	baz=33,SNR=1000						
D03D				S	Sb	07 56 00.7	-0.3
	baz=33						
SVOH	Skagit Valley	0.54	17	P	Pb	07 56 01.4	+0.5
SVOH				S	Sb	07 56 08.5	-0.2
SMW	South Mountain	0.55	215	P	Pb	07 56 01.1	0.0
OSD	Olympics--Snow	0.56	275	P	Pn	07 56 02.4	-1.0
D04E	Lakebay	0.60	173	P	Pb	07 56 02.2	+0.3
	baz=352,SNR=374						
D04E				Sb	Sn	07 56 11.3	-1.9
	baz=352						
VGZ	Gonzales	0.71	335	P	Pg	07 56 03.5	+0.2
VGZ				S	Sb	07 56 13.6	+0.1
B05A	Bryant	0.72	46	P	Pb	07 56 04.0	0.0
	baz=226,SNR=565						
B05A				S	Sb	07 56 13.2	-0.5
	baz=226						
JCW	Jim Creek	0.76	56	P	Pb	07 56 04.7	0.0
NLWA	Neilton Lookou	0.77	241		Pn	07 56 05.6	-0.6
CPW	Capitol Peak	0.82	193	P	Pb	07 56 05.1	-0.5
SOKB	Sooke	0.82	320	P	Pg	07 56 05.2	-0.2
SOKB				S	Sg	07 56 16.2	0.0
CMW	Cultus Mountai	0.83	38	P	Pb	07 56 06.2	+0.3
CMW				S	Sb	07 56 17.3	+0.4
D05A	Enumclaw	0.84	134	P	Pb	07 56 06.0	0.0
D05A				S	Sb	07 56 17.4	+0.3
D05A	Enumclaw	0.84	134		Pb	07 56 05.9	0.0
OBC	Olympics--Boni	0.85	289	P	Pn	07 56 07.6	+0.3
WISH	Wishkah	0.89	223	P	Pn	07 56 07.7	-0.1
MCW	Mount Constitu	0.91	2	P	Pb	07 56 07.4	+0.1
A04D	Lummi Island	0.96	7	P	Pb	07 56 08.0	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=187,SNR=39						
A04D				S	Sb	07 56 20.9	+0.4
	baz=187						
B009	North Saanich	0.96	337	P	Pg	07 56 07.6	-0.4
B009				S	Sg	07 56 19.9	-0.6
B011	North Saanich	0.96	337	P	Pg	07 56 07.6	-0.5
B011				S	Sg	07 56 20.3	-0.3
B010	North Saanich	0.96	337	P	Pg	07 56 07.6	-0.5
B010				S	Sg	07 56 20.3	-0.3
PGC	Sidney	0.96	337	P	Pg	07 56 07.7	-0.4
PGC				S	Sg	07 56 20.3	-0.3
SNB	Saturna Island	1.02	349	P	Pb	07 56 09.3	+0.1
SNB				S	Sb	07 56 23.1	+0.6
LZB	Mount Lazard	1.05	323	P	Pg	07 56 08.9	-1.0
LZB				S	Sg	07 56 23.0	-0.6
FMW	Mount Fremont	1.17	135	P	Pb	07 56 10.8	-0.9
B06A	Marblemount	1.20	51	P	Pb	07 56 11.9	-0.2
B06A				S	Sg	07 56 27.9	-0.1
B06A	Marblemount	1.20	51		Pb	07 56 11.8	-0.2
MBW	Mount Baker	1.21	32	P	Pg	07 56 12.5	-0.3
GPW	Glacier Peak	1.22	73	P	Pb	07 56 12.2	-0.4
GPW				S	Sb	07 56 27.9	-0.5
E04D	Cinebar	1.23	170	P	Pn	07 56 11.7	-0.8
	baz=350,SNR=544						
E04D				S	Sg	07 56 28.1	-1.1
	baz=350						
GOBB	Galiano Island	1.25	340	P	Pn	07 56 12.5	-0.3
LON	Longmire	1.25	144	P	Pn	07 56 11.8	-1.1
LON				S	Sb	07 56 27.7	-1.5
LON	Longmire	1.25	144		Pn	07 56 11.7	-1.1
BPCB	Bare Point	1.28	335	P	Pn	07 56 12.8	-0.4
BPCB				S	Sb	07 56 29.4	-0.4
E03A	Lebam	1.31	201	P	Pn	07 56 13.3	-0.3
E03A	Lebam	1.31	201		Pb	07 56 13.4	-0.6
PFB	Port Renfrew	1.32	308	P	Pn	07 56 13.5	-0.3
PFB				S	Sb	07 56 30.8	-0.2
C06D	Leavenworth	1.34	83	P	Pn	07 56 13.9	-0.1
	baz=263,SNR=98						
C06D				S	Sb	07 56 31.0	-0.7
	baz=263						
B926	Mesachie Lake	1.34	322	P	Pn	07 56 13.5	-0.5
VDB	Vedder Mountai	1.36	22	P	Pb	07 56 14.8	-0.1
VDB				S	Sb	07 56 32.3	+0.2
HNBB	Haney	1.53	7	P	Pn	07 56 17.1	+0.5
HNBB				S	Sn	07 56 36.7	+0.3
LTY	Liberty	1.58	108	P	Pb	07 56 18.0	-0.6
LTY				S	Sb	07 56 38.0	-0.6
LTY	Liberty	1.58	108		Pb	07 56 18.1	-0.6
LTY				Sn	Sb	07 56 38.3	-0.3
NLLB	Nanaimo Lost L	1.64	333	P	Pn	07 56 18.3	+0.3
BIB	Bowen Island	1.66	350	P	Pn	07 56 19.1	+0.7
F04D	Rainier, OR	1.69	183	P	Pb	07 56 19.2	-1.3
	baz=2.8,SNR=18						
F04D				S	Sb	07 56 41.2	-0.5
	baz=2.8						
MGB	Mount Grey	1.73	316	P	Pn	07 56 19.7	+0.3
GHNB	Nanoose	1.78	330	P	Pn	07 56 20.6	+0.6
B928	Bamfield	1.84	306	P	Pb	07 56 22.6	-0.5
F04A	Amboy	1.87	170		Pn	07 56 21.7	+0.5
HOPB	Hope	1.88	30	P	Pb	07 56 23.8	0.0
HOPB				S	Sb	07 56 47.8	+0.5
WPB	Watts Point	1.90	353	P	Pn	07 56 22.8	+1.1
WPB				S	Sn	07 56 47.0	+1.5
B927	Port Alberni	1.94	319	P	Pb	07 56 23.8	-0.9
SHB	Sechelt	1.94	340	P	Pn	07 56 22.9	+0.5
OZB	Mount Ozzard	2.11	305	P	Pb	07 56 26.8	-1.0
F05D	White Salmon	2.12	152	P	Pb	07 56 26.3	-1.5
	baz=333,SNR=39						
F05D				Sb	Sb	07 56 54.0	-0.2
	baz=333						
TXB	Texada	2.19	332	P	Pn	07 56 26.8	+1.1
E07A	Sunnyside	2.39	119		Pn	07 56 29.4	+0.9
BTB	Buttle Lake	2.44	315	P	Pb	07 56 31.7	-1.7
B08A	Colville Reser	2.45	75	P	Pn	07 56 29.6	+0.4
B08A				S	Sb	07 57 01.8	-1.7
B08A	Colville Reser	2.45	75		Pn	07 56 29.6	+0.4
G03D	McMinnville, O	2.57	186	P	Pn	07 56 32.7	+1.7
	baz=5.7,SNR=30						
HAWA	Hanford	2.67	120		Pn	07 56 33.9	+1.7
G05D	Wamic, OR	2.75	156	P	Pb	07 56 35.7	-2.9
	baz=337						
G05D				Sb	Sb	07 57 12.7	+0.6
	baz=337						
F07A	Phinny Hill Vi	2.76	132		Pn	07 56 34.0	+0.5
CBB	Campbell River	2.80	325	P	Pn	07 56 36.4	+2.4
E08A	Dider Farm, El	2.90	115		Pn	07 56 36.1	+0.6
C09A	Chrisman Ranch	3.10	88	P	Pn	07 56 38.1	-0.1
C09A	Chrisman Ranch	3.10	88		Pn	07 56 38.1	-0.1
COR	Corvallis	3.20	185		Pn	07 56 40.9	+1.4
H04D	Lebanon	3.25	178	P	Pn	07 56 42.1	+1.9
	baz=358,SNR=9.4						
H04D				Sb	Sb	07 57 29.2	+2.7
	baz=358						
I05D	Terrebonne, OR	3.60	162	P	Pn	07 56 46.3	+1.3
	baz=343						
I05D				Sb	Sb	07 57 39.5	+2.9
	baz=343						
G08A	Pilot Rock	3.67	131		Pn	07 56 47.1	+1.0
I02D	Swisshome	3.73	191	P	Pn	07 56 48.2	+1.5
	baz=10.0						
MAYB	Maynard	3.86	315	P	Pn	07 56 51.6	+2.8
NEW	Newport	3.89	81	P	Pn	07 56 49.0	-0.1
	baz=264						
NEW				S	Sn	07 57 34.5	-0.2
	baz=264						
NEW	Newport	3.89	81		Pn	07 56 48.8	-0.3
I04A	Tendick Farm,	3.99	175	Sb	Sb	07 57 50.5	+2.6
	baz=355						
BPBC	Brooks Peninsu	4.01	308	P	Pn	07 56 55.1	+4.3
I03D	Drain, OR	4.09	185	P	Pn	07 56 53.1	+1.3
	baz=4.3,SNR=6.6						
PINE	Pine Mountain	4.20	161		Pn	07 56 55.6	+2.1
F10A	Beach Ranch, E	4.27	113		Pn	07 56 55.3	+1.0
BMO	Blue Mountains	4.84	125		Pn	07 57 03.7	+1.5
K02D	Willamette Mer	5.11	187	P	Pn	07 57 06.3	+0.5
	baz=5.9,SNR=5.5						
HUMO	Hull Mountain	5.16	181		Pn	07 57 08.9	+2.4
BSMT	Bassoo Peak	5.45	86	P	Pn	07 57 10.0	-0.6
PLID	Pearl Lake	5.46	117		Pn	07 57 12.5	+1.7
L04D	Klamath Falls	5.57	176	P	Pn	07 57 13.8	+1.6
	baz=356						
FBMT	Ferry Basin	5.73	91	P	Pn	07 57 13.5	-1.0
JTMT	Jette	5.79	87	P	Pn	07 57 15.0	-0.4
JTMT	Jette	5.79	87		Pn	07 57 14.9	-0.5
SWMT	Swartz Lake	6.00	89	P	Pn	07 57 18.2	0.0
YBH	Yreka Blue Hor	6.04	179	Pn	Pn	07 57 21.8	+3.1
WALA	Waterton Lakes	6.11	75	P	Pn	07 57 19.4	-0.2
MSO	Missoula	6.15	96	P	Pn	07 57 19.6	-0.6
	baz=282						
MSO	Missoula	6.15	96		Pn	07 57 19.0	-1.2
DLMT	Dillon	7.48	105	Pn	Pn	07 57 39.1	+0.6
MCMT	McKenzie Canyo	7.54	109	Pn	Pn	07 57 40.8	+1.4
HRY	Holter Researc	7.59	94	Pn	Pn	07 57 45.1	+5.1
BOZ	Bozeman (W)	8.03	102	Pn	Pn	07 57 46.4	+0.4
YHH	Holmes Hill	8.85	105	Pn	Pn	07 57 58.4	+1.0
RLMT	Red Lodge	9.76	101	Pn	Pn	07 58 11.5	+1.7

IDC 06 08:02:48.9±1.8, 15.24S×72.52W, h100km±22km, mb3.5/2, mb1 3.7/5, mb1mx3.3/32, mbtmp4.0/5, Error ellipse: s-maj=59.5km s-min=15.1km az=36.0, Southern Peru

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.36	104	P	Pn	08 03 53.0	-0.4
	3.6nm,0.3s,baz=297,slow=9.2,SNR=121						
NNA	Nana	5.30	307	P	Pn	08 04 06.8	+1.1
	24nm,0.3s,baz=130,slow=11,SNR=58						
NNA				S	Sn	08 05 05.8	+0.2
	3.1nm,0.3s,baz=197,slow=18,SNR=2.7						
LVC	Limon Verde	8.09	156	P	Pn	08 04 43.7	-0.2
	0.3nm,0.3s,baz=5.2,slow=11,SNR=4.1						
LVC				S	Sn	08 06 08.7	-5.2
	1.2nm,0.3s,baz=204,slow=21,SNR=11						
SIV	San Ignacio	11.06	95	P	Pn	08 05 19.0	-5.0
	0.4nm,0.3s,baz=284,slow=13,SNR=15						
TORD	Torodi Ar. Bea	78.66	73	P	P	08 14 40.9	+0.4
	0.8nm,0.6s,baz=256,slow=5.3,SNR=4.5						
YKA	Yellowknife Ar	84.19	342	P	P	08 15 08.3	-0.3
	0.5nm,0.7s,baz=130,slow=4.9,SNR=7.6						

IDC 06 08:51:37.4±2.2, 6.18S×129.84E, h0km, mb4.1/1, mb1 4.1/3, mb1mx3.5/36, mbtmp3.9/3, ML4.0/2, Error ellipse: s-maj=144.8km s-min=30.2km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.53	199	Sn	Sn	08 56 47.3	-10
	0.7nm,0.3s,baz=188,slow=14,SNR=6.4						
WRA	Warramunga Arr	14.36	163	Pn	Pn	08 55 01.6	-0.5
	0.7nm,0.3s,baz=345,slow=13,SNR=13						
WRA				Sn	Sn	08 57 26.7	-16
	0.5nm,0.3s,baz=331,slow=22,SNR=5.3						
ASAR	Alice Springs	17.82	168	P	Pn	08 55 47.3	+0.3
	0.5nm,0.3s,baz=351,slow=9.9,SNR=42						
MKAR	Makanchi Array	67.46	327	P	P	09 02 35.1	0.0
	0.9nm,0.4s,baz=117,slow=8.1,SNR=12						

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*ISCJB **06** 09:00:13.9±0.6, 64.67N±0.03×30.40E±0.09, h0km, Error ellipse: s-maj=5.9km s-min=3.2km az=22.9*
*HEL **06** 09:00:16.8±0.1, 64.67N×30.68E, h0km, ML1.9, Explosion*
*IDC **06** 09:00:16.8±2.9, 64.58N×31.18E, h0km, mb1 3.1/3, mb1mx2.9/40, mbtmp2.9/3, ML2.0/3, Error ellipse: s-maj=40.3km s-min=10.1km az=103.0*
*KOLA **06** 09:00:18.8, 64.75N×30.65E, h0km*
ISC 06 09:00:16.2±1.0, 64.64N±0.03×30.66E±0.06, h0km, n20, σ1§75/30, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KU6	Riekki	1.43	347	PG	Pn	09 00 41.9	-1.4
	baz=168						
KU6				MSG		09 00 59.0	
	comp=Z,7.5nm,0.2s						
KU6				SG	Sg	09 01 00.7	-1.4
MSF	Maaselka	1.45	333	PG	Pn	09 00 42.3	-1.3
	baz=148						
MSF				SN	Sn	09 01 06.7	+3.4
JOF	Joensuu	1.75	170	PG	Pb	09 00 48.7	-0.4
OUL	Oulu	2.08	285	PG	Pb	09 00 54.2	-0.6
OUL				SG	Sb	09 01 20.8	-0.4
OUF	Merijarvi	2.58	267	PB	Pn	09 01 00.8	+1.7
	baz=83						
OUF				MSG		09 01 33.2	
	comp=Z,9.5nm,0.2s						
OUF				SG	Sb	09 01 36.2	+0.7
RNF	Rovaniemi	2.76	318	PG	Pb	09 01 05.3	-1.0
OBF0	Syolatti, Pyha	2.78	270	PG	Pb	09 01 05.4	-1.2
SUF	Sumiainen	2.79	228	PB	Pb	09 01 05.7	-1.1
SUF				MSG		09 01 39.7	
	comp=Z,4.0nm,0.2s						
SUF				SG	Sg	09 01 45.5	0.0
TOF	Tornio	3.02	301	PG	Pb	09 01 11.0	+0.2
	baz=111						
TOF				MSG		09 01 45.2	
	comp=Z,3.0nm,0.2s						
APA0	Apatity Array	3.13	17	P	Pn	09 01 07.2	+0.6
APA0				S	Sn	09 01 43.5	-1.1
APA	Apatity	3.15	20	P	Pn	09 01 07.6	+0.7
APA				S	Sn	09 01 44.0	-1.1
KAF	Kangasniemi	3.21	220	PG	Pg	09 01 16.4	-1.1
KAF				SG	Sg	09 01 58.0	-1.1
SGF	Sodankyl	3.28	331	PG	Pb	09 01 15.9	+0.7
SGF				SG	Sg	09 01 59.5	-1.9
KEF	Keuruu	3.60	229	PB	Pn	09 01 17.0	+3.9
FIA0	FINESS Array S	3.83	215	PN	Pn	09 01 18.2	+2.0
	baz=30						
FINES	FINESS Array B	3.83	215	Pn	Pn	09 01 18.0	+1.8
	comp=Z,0.1nm,0.3s,baz=38,slow=14,SNR=3.7						
FINES				Lg	Lg	09 02 18.7	
	comp=Z,0.8nm,0.3s,baz=35,slow=27,SNR=8.1						
VAF	Ylistaro	3.88	249	PB	Pn	09 01 19.9	+2.9
	baz=66						
ERTU	Ertsjaerv	4.01	302	PB	Pn	09 01 22.5	+3.8
ARCES	ARCESS Array B	5.31	340	Pn	Pn	09 01 36.4	-0.2
	comp=Z,0.1nm,0.3s,baz=153,slow=13,SNR=7.4						
ARCES				Sn	Sn	09 02 37.7	-0.8
	comp=Z,0.2nm,0.3s,baz=151,slow=23,SNR=2.8						
ARCES				Lg	Lg	09 03 02.4	
	comp=Z,0.4nm,0.3s,baz=154,slow=29,SNR=6.1						
NOA	NORSAR Array B	9.58	257	Pn	Pn	09 02 34.1	-1.1
	comp=Z,0.0nm,0.3s,baz=52,slow=11,SNR=2.3						

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*ISCJB **06** 09:30:21.2±0.1, 36.12N±0.01×31.20E±0.02, h77km±2km, mb3.8/9, Error ellipse: s-maj=2.7km s-min=1.8km az=42.6*
*NEIC **06** 09:30:21.7±2.4, 36.21N±0.04×31.22E±0.05, h64km±7km, mb4.2/20, ML4.1(ISK)*
*DDA **06** 09:30:21.1, 36.15N×31.21E, h44km±1km, ML3.9*
*ISK **06** 09:30:21.7, 36.14N×31.16E, h46km±2km, ML4.1/39*
*NIC **06** 09:30:22.2±0.0, 36.06N×31.21E, h64km±4km, Ml4.3/5*
*IDC **06** 09:30:23.7±1.7, 36.23N×31.32E, h78km±20km, mb3.7/9, mb1 3.7/14, mb1mx3.5/39, mbtmp4.0/14, Error ellipse: s-maj=18.9km s-min=11.8km az=110.0*
*GII **06** 09:30:24.5±0.3, 35.97N×31.27E, h40km, MD3.2/4*
*HLW **06** 09:30:26.2, 35.66N×30.91E, h10km±14km, Ml4.6*
ISC 06 09:30:21.3±0.7, 36.15N±0.03×31.23E±0.02, h56km±7km, n194, σ1§96/252, mb4.1/18, 8C-7D, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MNVG	Manavgat-Antal	0.66	13	PG	Pn	09 30 35.7	+0.9
MNVG				SG	Sn	09 30 45.9	+1.3
MNVG	Manavgat-Antal	0.66	13		Pn	09 30 34.8	0.0
MNVG					Sn	09 30 44.9	+0.3
KEMT	Kemer-ANTALYA	0.71	310	PG	Pn	09 30 36.6	+1.2
KEMT				SG	Sn	09 30 45.8	+0.1
KEMT	Kemer-ANTALYA	0.71	310		Pn	09 30 34.6	-0.7
KEMT					Sn	09 30 45.0	-0.6
AKUM	Antalya-Kumluc	0.74	284	⇓iP	Pn	09 30 37.2	+1.5
AKUM				iS	Sn	09 30 52.3	+6.0
ALAN	Alanya-ANTALYA	0.77	58	PG	Pn	09 30 37.2	+1.1
ALAN				SG	Sn	09 30 48.3	+1.3
ALAN	Alanya-ANTALYA	0.77	58		Pn	09 30 37.2	+1.1
KEPZ	Antalya-Kepez	0.81	22	⇓iP	Pn	09 30 37.6	+0.8
KEPZ				iS	Sn	09 30 48.5	+0.4
KEPZ				IAML		09 30 49.0	
	comp=N,7µm,0.2s						
ANTB	Antalya	0.88	328	PG	Pn	09 30 38.3	+0.7
ANTB				SG	Sn	09 30 50.2	+0.6
ANTB	Antalya	0.88	328		Pn	09 30 38.1	+0.5
ANTB					Sn	09 30 50.4	+0.9
GAZI	Gazipasa	0.88	84	iP	Pn	09 30 38.7	+1.1
GAZI				iS	Sn	09 30 50.9	+1.2
GAZI				IAML		09 30 51.0	
	comp=E,7µm,0.2s						
DEMR	Demre-Antalya	1.07	275	PG	Pn	09 30 40.4	+0.2
DEMR	Demre-Antalya	1.07	275		Pn	09 30 40.4	+0.2
KORT	Korkueli	1.10	320	⇑iP	Pn	09 30 41.2	+0.5
KORT				iS	Sn	09 30 58.6	+3.5
ELL	Elmali	1.22	300	PN	Pn	09 30 44.2	+2.0
ELL	Elmali	1.22	300	P	Pn	09 30 44.0	+1.7
ELL				S	Sn	09 31 01.3	+3.4
ELL	Elmali	1.22	300		Pn	09 30 43.9	+1.7
ELL				Sn	Sn	09 30 56.2	-1.6
AKAS	Kas	1.32	274	⇓iP	Pn	09 30 44.3	+0.8
AKAS				iS	Sn	09 31 01.7	+1.6
KSL	Kastellorizon	1.33	270	⇑P	Pn	09 30 44.6	+1.0
KSL				S	Sn	09 31 02.6	+2.3
BCK	Bucak	1.41	339	PN	Pn	09 30 45.7	+1.0
ERMK	Ermenek	1.44	70	iP	Pn	09 30 47.5	+2.2
ERMK				iS	Sn	09 31 07.4	+4.0
ERMK				IAML		09 31 10.0	
	comp=N,3µm,0.6s						
ERMK				IAML		09 31 13.0	
	comp=E,1µm,0.7s						
AKMS	Akamas	1.45	141	⇑P	Pn	09 30 46.2	+1.1
AKMS				S	Sn	09 31 05.6	+2.5
AKMS				AML	AML	09 31 13.0	
	comp=E,19nm,0.3s						
AKMS				AML	AML	09 31 13.0	
	comp=E,19nm,0.3s						
AKMS				AML	AML	09 31 13.5	
	comp=E,14nm,0.4s						
AKMS				AML	AML	09 31 13.5	
	comp=E,14nm,0.4s						
ALFC	Alefka	1.49	131	⇑P	Pn	09 30 46.7	+0.9
ALFC				S	Sn	09 31 05.4	+1.1
ALFC				AML	AML	09 31 11.5	
	comp=E,13nm,0.3s						
ALFC				AML	AML	09 31 11.5	
	comp=E,13nm,0.3s						
ALFC				AML	AML	09 31 15.7	
	comp=E,15nm,0.3s						
ALFC				AML	AML	09 31 15.7	
	comp=E,15nm,0.3s						
TEKE	Tekeli-Mersin	1.53	90	PN	Pn	09 30 48.3	+2.1
TEKE				SN	Sn	09 31 08.1	+3.1
LEF	Lefka	1.70	127	iP	Pn	09 30 49.2	+0.6
LEF				iS	Sn	09 31 08.4	-0.8
LEF	Lefka	1.70	127	PN	Pn	09 30 49.7	+1.1
GLHS	Glhisar (BURDU	1.72	306	PN	Pn	09 30 49.7	+0.8
GOLH	Golhisar	1.72	309	⇓iP	Pn	09 30 52.1	+3.1
GOLH				iS	Sn	09 31 14.4	+4.5
GOLH				IAML		09 31 23.0	
	comp=N,1µm,0.4s						
NATA	Nata	1.75	141	⇑P	Pn	09 30 50.5	+1.2
YORU	Yoruktepe-Mers	1.76	89	PN	Pn	09 30 51.6	+2.2
FETY	Fethiye	1.80	286	⇓iP	Pn	09 30 51.4	+1.5
FETY				iS	Sn	09 31 12.8	+1.1
FETY	Fethiye	1.80	286	PN	Pn	09 30 50.7	+0.8
OREN	Orenkoy-Mersin	1.81	88	PN	Pn	09 30 52.3	+2.3
TEVE	Tevekalti-Mers	1.81	80	PN	Pn	09 30 52.4	+2.2
KMER	Konya-Meram	1.85	29	iP	Pn	09 30 52.8	+2.0
KMER				iS	Sn	09 31 16.2	+3.0
KMER				IAML		09 31 17.0	
	comp=E,1µm,0.4s						
KMER				IAML		09 31 17.0	
	comp=N,802nm,0.5s						
BAGO	Egridir - ISPA	1.87	349	⇑iP	Pn	09 30 52.0	+1.0
BAGO				iS	Sn	09 31 14.3	+0.8
AKK1	Akkuyu-Mersin	1.87	90	PN	Pn	09 30 53.2	+2.3
GULN	MERSIN_Gulnar	1.87	88	iP	Pn	09 30 53.5	+2.6
GULN				iS	Sn	09 31 18.3	+4.9
GULN				IAML		09 31 20.0	
	comp=N,963nm,0.6s						
GULN				IAML		09 31 21.0	
	comp=E,774nm,0.3s						
AKK2	Akkuyu-Mersin	1.88	90	PN	Pn	09 30 53.3	+2.3
AKKU	Akkuyu-Mersin	1.88	89	PN	Pn	09 30 53.3	+2.3
TEPE	Tepekoy-Mersin	1.89	87	PN	Pn	09 30 53.4	+2.2
SZAC	Souni	1.94	135	P	Pn	09 30 52.4	+0.5
SZAC				S	Sn	09 31 15.7	+0.6
YESI	Yesilovacik-Me	1.95	88	PN	Pn	09 30 54.3	+2.3
DOGA	KONYA_Doganhis	1.98	10	iP	Pn	09 30 54.3	+1.8
DOGA				iS	Sn	09 31 18.3	+2.0
DOGA				IAML		09 31 20.0	
	comp=E,995nm,0.7s						
DOGA				IAML		09 31 21.0	
	comp=N,2µm,0.4s						
TISA	Tisan-Mersin	1.98	89	PN	Pn	09 30 54.7	+2.3
IKL	Isikli	1.99	87	PN	Pn	09 30 54.9	+2.4
BASM	Basmaki-Afyon	2.00	332	PN	Pn	09 30 54.3	+1.5
KARG	Kargicak-Mersi	2.01	88	PN	Pn	09 30 55.0	+2.2
KONT	Konya--Tatoy	2.01	26	iP	Pn	09 30 55.0	+2.2
KONT				iS	Sn	09 31 19.8	+3.0
KONT	Konya--Tatoy	2.01	26	PN	Pn	09 30 54.9	+2.1
KEBE	Keben-Mersin	2.03	81	PN	Pn	09 30 55.5	+2.4
ATHAL	Athalassa	2.03	119	⇓P	Pn	09 30 54.0	+0.9
ATHAL				S	Sn	09 31 18.1	+0.8
CSS	Mathiatis	2.08	124	Pn	Pn	09 30 54.2	+0.4
CSS	Mathiatis	2.08	124	PN	Pn	09 30 55.4	+1.6
CSS	Mathiatis	2.08	124	⇑P	Pn	09 30 54.5	+0.6
CSS				S	Sn	09 31 20.2	+1.6
CSS	Mathiatis	2.08	124		Pn	09 30 54.6	+0.8
CSS				Sn	Sn	09 31 18.1	-0.5
ASGA	Asgata	2.14	129	⇑P	Pn	09 30 55.2	+0.7
ASGA				S	Sn	09 31 21.5	+1.5
ASGA				AML	AML	09 31 37.2	
	comp=N,5.6nm,0.5s						
ASGA				AML	AML	09 31 37.2	
	comp=N,5.6nm,0.5s						
SILI	Silifke-Mersin	2.19	84	PN	Pn	09 30 57.8	+2.6
LADK	Ladik-KONYA	2.24	24	PN	Pn	09 30 58.0	+2.0
MVOU	Mavrovouni	2.26	119	⇓P	Pn	09 30 56.6	+0.4
MVOU				AML	AML	09 31 32.0	
	comp=N,5.2nm,0.7s						
MVOU				AML	AML	09 31 38.4	
	comp=N,5.9nm,0.4s						
KZIL	AFYON_Kizioren	2.27	338	iP	Pn	09 30 58.0	+1.4
KZIL				iS	Sn	09 31 26.5	+3.0
TAVA	DENIZLI_Tavas	2.27	306	iP	Pn	09 30 58.3	+1.8
TAVA				iS	Sn	09 31 24.6	+1.1
TAVA				IAML		09 31 35.0	
	comp=N,1µm,0.8s						
TAVA				IAML		09 31 35.0	
	comp=E,866nm,0.6s						
DENT	Denizli	2.38	313	PN	Pn	09 30 59.3	+1.4
SHUT	Suhut-Afyon	2.46	348	PN	Pn	09 31 00.8	+1.8
EREN	Erenkoy	2.47	104	PN	Pn	09 31 01.8	+2.8
KDHN	Kadinhani	2.47	16	iP	Pn	09 31 00.4	+1.2
KDHN				iS	Sn	09 31 28.8	+0.5
MRSB	Marmaris-Mugla	2.51	284	PN	Pn	09 31 00.7	+1.1
KHL	Karahalli	2.56	328	PN	Pn	09 31 01.9	+1.5
YER	Yerkesik	2.56	293	PN	Pn	09 31 01.7	+1.3
PARAL	Paralimni	2.57	116	P	Pn	09 31 02.1	+1.7
PARAL				AML	AML	09 31 53.0	
	comp=E,4.6nm,0.6s						
PARAL				AML	AML	09 31 54.1	
	comp=E,3.2nm,0.5s						
BOLV	Bolvadin	2.57	355	iP	Pn	09 31 02.2	+1.6
BOLV				iS	Sn	09 31 31.8	+1.0
KHAL	Karahalli	2.61	328	iP	Pn	09 31 02.4	+1.3
KHAL				iS	Sn	09 31 33.2	+1.4
AFYO	Afyonkarahisar	2.73	345	iP	Pn	09 31 04.8	+2.0
AFYO				iS	Sn	09 31 35.2	+0.5
AFYO				IAML		09 31 43.0	
	comp=E,325nm,0.6s						
SULT	Sultanhani-AKS	2.74	41	PN	Pn	09 31 05.5	+2.6
CHBY	Cihanbeyli	2.77	28	PN	Pn	09 31 05.6	+2.4
KIZT	Kizilcal	2.77	11	PN	Pn	09 31 04.8	+1.5
DATC	Datca-Mugla	2.94	283	PN	Pn	09 31 06.9	+1.4
DAT	Datca	3.00	282	PN	Pn	09 31 07.8	+1.4
MLSB	Milas	3.00	293	PN	Pn	09 31 07.8	+1.4
MANT	Manisa	3.16	318		Pn	09 31 09.1	+0.3
MANT				Sn	Sn	09 31 44.6	-0.8
KULU	Kulu	3.21	25	PN	Pn	09 31 11.3	+2.0
AYDB	Zeytinkoy-Aydi	3.22	305	PN	Pn	09 31 10.1	+0.7
GEDZ	Gediz	3.23	334	PN	Pn	09 31 11.8	+2.3
KARA	Karaisali	3.27	69	PN	Pn	09 31 13.2	+3.2
SHAP	Saphane-Kutahy	3.28	332	PN	Pn	09 31 12.3	+2.0
BODT	Bodrum	3.28	287	PN	Pn	09 31 11.5	+1.3
KKUL	Konya-Kulu	3.30	23	iP	Pn	09 31 12.4	+1.9
KKUL				iS	Sn	09 31 49.4	+0.8
SERE	Sereflikochisa	3.35	33	PN	Pn	09 31 14.0	+2.7
KARP	Karpathos	3.36	261	PN	Pn	09 31 12.8	+1.5
KARP	Karpathos	3.36	261	P	Pn	09 31 12.6	+1.3
KARP	Karpathos	3.36	261		Pn	09 31 12.3	+1.0
KARP				Sn	Sn	09 31 50.2	+0.3
CMRD	Camardi-Nigde	3.37	62	PN	Pn	09 31 14.6	+3.1
KRTS	Karatas	3.37	82	PN	Pn	09 31 14.6	+3.2
DIDI	Didim-Aydin	3.43	292	PN	Pn	09 31 13.9	+1.7
GOMA	Golmarmara-Man	3.67	315	PN	Pn	09 31 17.7	+2.2
CEYT	Ceyhan	3.74	75	PN	Pn	09 31 19.8	+3.4
BR231	Keskin MP Arra	3.88	18		Pn	09 31 18.9	+0.4
BR231				Sn	Sn	09 31 59.8	-3.1
ANTO	Ankara	3.91	18		Pn	09 31 18.2	-0.7
ANTO				Sn	Sn	09 32 01.9	-1.7
BRTR	Keskin Array B	4.04	27	P	Pn	09 31 21.9	+1.2
	comp=E,20nm,0.3s,baz=214,slow=14,SNR=503						
BRTR				S	Sn	09 32 07.8	+0.9
	comp=E,16nm,0.3s,baz=217,slow=27,SNR=9.0						
ZKR	Zakros	4.21	257	PN	Pn	09 31 24.2	+1.3
HWQ	Hawqa	4.29	114	eP	Pn	09 31 27.7	+3.6
FOCM	Foa	4.40	307	PN	Pn	09 31 27.9	+2.4
KRBN	Karaburun	4.45	305	PN	Pn	09 31 28.8	+2.6
HNTI	Hanita	4.47	132	Pn	Pn	09 31 28.1	+1.7
DKL	Dikili	4.50	312	PN	Pn	09 31 29.4	+2.5
BNN	Bunyan	4.55	52	PN	Pn	09 31 31.4	+3.6
RCY	Rachaya	4.62	124	eP	Pn	09 31 30.5	+1.8
MMA0B	Mount Meron ar	4.65	131	Pn	Pn	09 31 30.4	+1.4
MMA0B				Sn	Sn	09 32 22.9	+1.1
MMAI	Mount Meron Ar	4.65	131	P	Pn	09 31 30.6	+1.6
	comp=E,16nm,0.3s,baz=315,slow=12,SNR=27						
MMAI				S	Sn	09 32 21.6	-0.1
	comp=E,50nm,0.3s,baz=310,slow=22,SNR=12						
SANT	Santorini	4.67	274		Pn	09 31 29.7	+0.5
SANT				Sn	Sn	09 32 18.5	-3.6
GEM	Giv'at Ha'Em	4.69	127	Pn	Pn	09 31 31.3	+1.9
KSDI	Kefar Szold	4.69	128	Pn	Pn	09 31 31.6	+2.1
KSDI	Kefar Szold	4.69	128	P	Pn	09 31 31.8	+2.3
KSDI	Kefar Szold	4.69	128	P	Pn	09 31 31.9	+2.3
OFRI	`Ofer	4.70	138	Pn	Pn	09 31 31.5	+1.9
BLGI	Bet Lehem HaGe	4.73	135	Pn	Pn	09 31 32.3	+2.3

GAZ	Gaziantep	4.92	76	PN	Pn	09 31 36.5	+3.8
GAZ	Gaziantep	4.92	76	P	Pn	09 31 35.3	+2.6
GAZ	Gaziantep	4.92	76		Pn	09 31 33.6	+1.0
GAZ				Sn	Sn	09 32 28.4	+0.2
KSHT	Keshet	4.93	129	Pn	Pn	09 31 35.6	+2.8
SLTI	Sal'it	5.02	140	Pn	Pn	09 31 35.4	+1.4
SLTI				Sn	Sn	09 32 30.4	-0.3
MMLI	Mount Malkishu	5.08	136	Pn	Pn	09 31 37.2	+2.4
MMLI				Sn	Sn	09 32 31.6	-0.5
MMLI	Mount Malkishu	5.08	136	P	Pn	09 31 38.8	+4.0
MMLI	Mount Malkishu	5.08	136	P	Pn	09 31 36.3	+1.5
ILGA	Ilgaz	5.27	21	Pn	Pn	09 31 38.0	+0.4
ILGA				Sn	Sn	09 32 34.9	-2.1
HMDT	Nahal Hemdat	5.27	136	Pn	Pn	09 31 39.5	+2.0
DSI	Dead Sea	5.73	142	Pn	Pn	09 31 45.5	+1.8
YTIR	Yattir	5.77	145	Pn	Pn	09 31 45.9	+1.5
YTIR				Sn	Sn	09 32 49.8	+0.5
KZIT	Kziot	5.86	152	Pn	Pn	09 31 47.3	+1.7
KZIT	Kziot	5.86	152	P	Pn	09 31 46.8	+1.2
KZIT	Kziot	5.86	152	P	Pn	09 31 46.7	+1.2
MZDA	Masada	5.93	143	Pn	Pn	09 31 48.2	+1.8
MZDA				Sn	Sn	09 32 53.1	+0.1
WALJ	Wala	5.96	139	P	Pn	09 31 49.6	+2.8
LISJ	El Lisan	6.04	143	P	Pn	09 31 50.5	+2.5
ASF	Jabal al Asfar	6.15	129	P	Pn	09 31 53.5	+3.9
	comp=E,1.2nm,0.3s,baz=288,slow=7.7,SNR=11						
ASF				S	Sn	09 33 06.8	+8.2
	comp=E,2.3nm,0.3s,baz=280,slow=23,SNR=3.6						
HHAG	Hagoal	6.22	173	P	Pn	09 31 52.4	+1.9
	baz=169						
KOT	Kottamia	6.23	175	P	Pn	09 31 51.8	+1.2
	baz=172						
ALN	Alexandroupoli	6.24	321		Pn	09 31 51.3	+0.6
ALN				Sn	Sn	09 32 58.4	-2.3
HMYD	Mayadein	6.35	183	P	Pn	09 31 54.4	+2.2
	baz=181						
SUZ	Suez	6.43	167	P	Pn	09 31 55.1	+1.6
	baz=163						
PRNI	Paran	6.59	150	Pn	Pn	09 31 56.4	+0.8
PRNI				Sn	Sn	09 33 09.7	+0.3
KRMI	Paran Flat	6.69	153	Pn	Pn	09 31 58.6	+1.6
SLUM	Salum	6.83	229	P	Pn	09 31 59.5	+0.7
	baz=231						
SLUM				AMP		09 33 00.0	
	baz=231						
SLUM				S	Sn	09 33 00.8	-14
	baz=231						
HRFI	Mount Harif	6.88	151	Pn	Pn	09 32 01.3	+1.7
ZAF	Zafarana	6.94	170	P	Pn	09 32 01.2	+0.8
	baz=167						
MBRI	Mt Berech	7.05	153	Pn	Pn	09 32 02.8	+0.8
EIL	Elat	7.18	153	Pn	Pn	09 32 04.6	+1.0
EIL	Elat	7.18	153	P	Pn	09 32 04.8	+1.2
	comp=E,1.3nm,0.3s,baz=330,slow=12,SNR=20						
EIL				S	Sn	09 33 21.6	-2.2
	comp=E,3.2nm,0.3s,baz=60,slow=18,SNR=6.5						
EIL	Elat	7.18	153	P	Pn	09 32 04.8	+1.2
ITM	Ithomi	7.55	281		Pn	09 32 09.7	+1.1
ITM				Sn	Sn	09 33 28.3	-4.5
AGG	Agios Georgios	7.62	295	Pn	Pn	09 32 07.3	-2.3
SWA2		8.43	217	P	Pn	09 32 20.4	-0.3
	baz=218						
SWA2				AMP		09 33 00.0	
	baz=218						
SWA2				S	Sn	09 33 45.3	-9.1
	baz=218						
TAMRE	El Minia	8.45	182	AMP		09 34 00.0	
	baz=179						
TIRR	Tirgusor	8.57	346	Pn	Pn	09 32 21.5	-1.1
TIRR				Sn	Sn	09 33 54.8	-3.0
VTS	Vitosha	8.94	319	Pn	Pn	09 32 28.6	+0.8
VTS				Sn	Sn	09 34 04.5	-2.6
HFRF	Wahat Farafira	9.31	196	P	Pn	09 32 33.4	+0.6
	baz=196						
HFRF				S	Sn	09 34 06.1	-10
	baz=196						
TIP	Timpagrande	11.86	289	Pn	Pn	09 33 06.3	-1.3
BUR08	Bucovina Ar. S	12.32	341	Pn	Pn	09 33 11.1	-2.9
KOLS	Kolonicke sedl	14.36	336	ePN	P	09 33 49.1	+2.2
AKASG	Malin Array Be	14.62	355	P	P	09 33 49.4	-0.3
	comp=E,1.4nm,0.3s,baz=180,slow=10,SNR=9.2						
NRCA	Norcia	15.48	301	Pn	Pn	09 33 53.6	-2.5
KEST	Kesra	17.73	275	P	P	09 34 27.5	+3.1
	comp=E,0.3nm,0.3s,baz=72,slow=19,SNR=5.7						
CLL	Collm	19.99	325	e(P)	Pn	09 34 52.0	+0.9
CLL				e		09 34 58.0	
AKTO	Aktyubinsk	24.00	45	P	P	09 35 30.9	+0.5
	comp=E,1.4nm,0.5s,baz=240,slow=10,SNR=5.3						
ABKAR	Akbulak array	24.66	49	P	P	09 35 36.5	0.0
FINES	FINESS Array B	25.52	354	P	P	09 35 42.8	-1.4
	comp=E,2.1nm,0.6s,baz=157,slow=12,SNR=11						
FIA1	FINESS Array S	25.52	354	P	P	09 35 42.8	-1.4
HFS	Hagfors	26.53	340	P	P	09 35 53.3	0.0
	comp=E,5.5nm,1.0s,baz=156,slow=7.8,SNR=4.6						
ARU	Arti	27.40	34	P	P	09 35 58.8	-2.4
ARU				IAmb	IAmb	09 36 05.8	
	comp=Z,19nm,1.3s						
ESBB	Sonseca Array	27.88	288	P	P	09 36 03.3	-2.4
ESBB				IAmb	IAmb	09 36 05.2	
	comp=Z,4.8nm,1.2s						
ESDC	Sonseca Array	27.88	288	P	P	09 36 06.8	+1.1
	comp=Z,0.4nm,0.6s,baz=74,slow=9.2,SNR=4.0						
NB201	NORSAR Array S	27.96	339	P	P	09 36 05.6	-0.5
KBL	Kabul	30.76	82	P	P	09 36 30.4	-1.1
KBL				IAmb	IAmb	09 36 37.2	
	comp=Z,3.3nm,0.5s						
KK31	Karatay Array	30.83	65	P	P	09 36 32.3	+0.5
KK31				IAmb	IAmb	09 36 33.2	
	comp=Z,1.6nm,0.8s						
KKAR	Karatay Array	30.83	65	P	P	09 36 32.4	+0.6
ARCES	ARCESS Array B	33.59	356	P	P	09 36 54.6	-1.1
	comp=Z,4.0nm,0.9s,baz=168,slow=6.2,SNR=4.1						
BOOM	Boomskoye usch	34.85	66	P	P	09 37 04.2	-2.9
BOOM				IAmb	IAmb	09 37 08.5	
	comp=Z,3.1nm,1.2s						
TORD	Torodi Ar. Bea	35.04	237	P	P	09 37 10.0	+1.3
	comp=Z,0.9nm,0.7s,baz=25,slow=8.8,SNR=5.1						
KURK	Kurchatov	36.71	52	P	P	09 37 19.5	-3.1
KURK				IAmb	IAmb	09 37 24.7	
	comp=Z,3.0nm,1.2s						
MK31	Makanchi Array	39.08	58	P	P	09 37 39.4	-3.4
MKAR	Makanchi Array	39.08	58	P	P	09 37 42.7	-0.1
	comp=Z,0.4nm,0.5s,baz=297,slow=5.3,SNR=5.5						
ZALV	Zalesovo Beam	40.74	47	P	P	09 37 55.1	-1.3
	comp=Z,0.9nm,0.3s,baz=253,slow=10,SNR=4.5						
DBIC	Dimbokro	44.15	237	P	P	09 38 25.3	+0.7
	comp=Z,1.4nm,0.5s,baz=32,slow=9.5,SNR=3.0						
DBIC	Dimbokro	44.15	237	P	P	09 38 24.7	+0.2
DBIC				IAmb	IAmb	09 38 43.9	
	comp=Z,13nm,1.4s						
WHN	Wuhan	67.63	68	P	P	09 41 07.0	-5.3
CCB	Clear Creek Bu	79.53	360	P	P	09 42 21.4	-0.2
R61A	Willards	79.56	310	P	P	09 42 21.8	-0.4
BPAW	Bear Paw Mtn.	80.07	1	P	P	09 42 23.8	-0.7
SCRK	Sand Creek	80.14	358	P	P	09 42 24.3	-0.7
SCRK				IAmb	IAmb	09 42 30.7	
	comp=Z,4.8nm,1.4s						
PPLA	Purkeypile	81.25	2	P	P	09 42 31.0	0.0
SKT	Skwentna	82.19	1	P	P	09 42 34.3	-1.5
GHO	Glory Hole Cre	82.42	0	P	P	09 42 36.4	-0.7
BALM	Baldy	83.02	357	P	P	09 42 40.1	-0.1
BALM				IAmb	IAmb	09 42 47.5	
	comp=Z,3.3nm,1.2s						
RC01	Rabbit Creek A	83.10	0	P	P	09 42 39.2	-1.3
RC01				IAmb	IAmb	09 42 57.5	
	comp=Z,4.2nm,1.1s						

WEL 06 09:32:20.8, 45°S±6°×16°7E±°, h96km±7km, M3.7/15, MLv3.7/15, Error ellipse: s-maj=0.0km s-min=0.0km az=51.5, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	Mavora Lakes	0.47	104	P	Pn	09 32 36.6	+0.6
MLZ				S	Sn	09 32 48.6	+1.2
MSZ	Milford Sound	0.66	29	P	Pn	09 32 37.6	+0.1
MSZ				S	Sn	09 32 50.0	0.0
WHZ	Wether Hill Ro	0.72	153	P	Pn	09 32 38.8	+0.7
WHZ				S	Sn	09 32 51.9	+0.9
WKZ	Wanaka	1.17	69	P	Pn	09 32 43.9	+1.0
WKZ				S	Sn	09 32 60.0	+0.4
EAZ	Earnscleugh	1.29	90	P	Pn	09 32 45.4	+1.1
EAZ				S	Sn	09 33 03.1	+1.0
JCZ	Jackson Bay	1.50	39	P	Pn	09 32 46.7	-0.3
JCZ				S	Sn	09 33 05.8	-1.0
APZ	The Paps	1.62	168	P	Pn	09 32 48.9	+0.6
APZ				S	Sn	09 33 10.2	+1.0
TUZ	Tuapeka	1.67	116	P	Pn	09 32 50.1	+1.2
TUZ				S	Sn	09 33 10.6	+0.4
SYZ	Scrubby Hill	1.73	139	P	Pn	09 32 50.8	+1.1
SYZ				S	Sn	09 33 12.7	+1.1
LBZ	Lake Benmore	2.11	67	P	Pn	09 32 54.1	-0.6
ODZ	Otahua Downs	2.25	86	P	Pn	09 32 56.5	+0.1
HHSZ	Highcliff Hill	2.28	107	P	Pn	09 32 57.8	+1.0
FOZ	Fox Glacier	2.40	45	P	Pn	09 32 57.3	-1.1
RPZ	Rata Peaks	2.98	60	P	Pn	09 33 05.0	-1.3
WVZ	Waitaha Valley	3.20	48	P	Pn	09 33 07.3	-1.8
OXZ	Oxford	3.80	61	P	Pn	09 33 16.8	-0.3
MQZ	McQueen's Vall	4.01	69	P	Pn	09 33 19.0	-1.0
AKCZ	Akaroa Harbour	4.12	72	P	Pn	09 33 20.8	-0.7
LTZ	Lake Taylor	4.25	56	P	Pn	09 33 21.0	-2.3
DSZ	Denniston Nort	4.71	43	P	Pn	09 33 27.6	-1.9
THZ	Tophouse	5.27	50	P	Pn	09 33 34.7	-2.4
QRZ	Quartz Range	5.77	42	P	Pn	09 33 42.3	-1.6

ISCJB 06 09:45:56.7±0.6, 38°.01N±0°.08×120°.06E±0°.06, h10km, mb3.8/6, MS3.3/2, Error ellipse: s-maj=12.1km s-min=4.3km az=151.1
BJI 06 09:45:59.0±0.0, 38°.17N×120°.07E, h8km, ML4.1/16
IDC 06 09:45:59.3±1.0, 38°.57N×120°.31E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.6/38, mbtmp3.8/8, ML3.7/2, MS3.0/6, Ms1 3.1/6, ms1mx2.8/47, Error ellipse: s-maj=34.1km s-min=17.3km az=28.0
ISC 06 09:45:59.0±0.6, 38°.14N±0°.05×120°.04E±0°.04, h10km, n24, σ2s05/24, mb3.9/6, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DL2	Dalian	1.47	58	Pn	Pb	09 46 25.3	-1.1
DL2				Pg	Pg	09 46 26.5	-0.7
DL2				Sn	Sg	09 46 45.0	-1.2
DL2				Sg	Sb	09 46 46.7	+1.6
DL2				smax	smax		
	comp=N,5μm,0.6s						
DL2				smax	smax		
	comp=E,5μm,0.5s						
TIA	Tai'an	3.02	231	Pn	Pn	09 46 46.0	-0.9
TIA				Pg	Pg	09 46 56.5	-0.4
TIA				Sg	Sb	09 47 32.8	+3.0
TIA				smax	smax		
	comp=N,610nm,0.5s						
TIA				smax	smax		
	comp=E,370nm,0.5s						
BJI	Beijing	3.55	304	Pn	Pn	09 46 54.0	-0.2
BJI				Sg	Sg	09 47 49.6	-3.6
BJI				smax	smax		
	comp=N,400nm,0.7s						
BJI				smax	smax		
	comp=E,320nm,0.6s						
NJ2	Nanjing	6.15	189	ePg	Pg	09 47 52.4	-4.4
NJ2				Sg	Sg	09 49 11.3	-5.2
NJ2				smax	smax		
	comp=N,150nm,0.4s						
NJ2				smax	smax		
	comp=E,160nm,0.5s						
KSRS	Korea Array	6.28	94	Pn	Pn	09 47 30.9	-0.8
	3.4nm,0.3s,baz=279,slow=14,SNR=38						
KSRS				Lg	Lg	09 49 14.0	
	5.0nm,0.3s,baz=280,slow=30,SNR=4.8						
KSRS				LR	LR	09 49 40.3	
	comp=Z,48nm,19.5s,baz=284,slow=36						
CN2	Changchun	6.98	34	ePg	Pg	09 48 11.3	-1.4
CN2				eSg	Sg	09 49 41.6	-1.5
CN2				smax	smax		
	comp=N,100nm,1.0s						
CN2				smax	smax		
	comp=E,120nm,1.0s						
BTO	Baotou	8.14	291	ePg	Pg	09 48 34.9	+0.1
BTO				Sg	Sb	09 50 04.0	+6.9
WHN	Wuhan	8.91	213	P	Pn	09 48 03.2	-4.7
JNU	Nakatsue	10.14	116	Lg	Lg	09 51 20.1	
	comp=E,0.7nm,0.3s,baz=86,slow=16,SNR=6.9						
USRK	Ussuriysk Ar.	10.85	52	Pn	Pn	09 48 35.7	+1.4
	baz=227,slow=14,SNR=3.7						
USRK				Lg	Lg	09 51 37.1	
	baz=242,slow=27,SNR=20						
SONM	Songino Array	13.89	319	Pn	Pn	09 49 15.2	-0.9
	comp=E,0.2nm,0.3s,baz=131,slow=13,SNR=5.1						
SONM				Lg	Lg	09 53 24.4	
	comp=E,0.1nm,0.3s,baz=131,slow=33,SNR=3.6						
SONM				LR	LR	09 55 38.0	
	comp=E,59nm,21.8s,baz=9.0,slow=42						
KLR	Kul'dur	13.94	34	Lg	Lg	09 53 16.9	
	comp=E,0.0nm,0.3s,baz=284,slow=5.4,SNR=3.7						
MJAR	Matsushiro Arr	14.55	91	LR	LR	09 54 44.6	
	comp=E,36nm,19.6s,baz=50,slow=36						
GTA	Gaotai	15.82	281	eP	Pn	09 49 41.6	-0.4
GTA				pP	pP	09 49 48.9	+0.2
GTA				sP	sP	09 49 51.6	+1.6
TLY	Talaya	17.78	325	LR	LR	09 58 04.1	
	comp=E,71nm,19.1s,baz=129,slow=41						
WMQ	Urumqi	24.96	293	eP	P	09 51 23.7	+1.0
CMAR	Chiang Mai Arr	26.89	229	LR	LR	10 02 31.1	
	comp=E,33nm,18.4s,baz=8.5,slow=36						
MKAR	Makanchi Array	28.92	300	P	P	09 51 59.7	+1.5
	comp=E,0.2nm,0.5s,baz=96,slow=9.7,SNR=3.2						
KURBB	Kurchatov Arra	31.76	307	P	P	09 52 24.4	+1.2
	comp=E,2.6nm,0.2s,baz=96,slow=9.4,SNR=4.0						
NRIK	Noril'sk	35.80	341	LR	LR	10 08 01.9	
	comp=E,119nm,19.1s,baz=306,slow=37						
BVAR	Borovoye Array	37.01	310	P	P	09 53 09.7	+1.1
	comp=E,1.3nm,0.7s,baz=118,slow=9.2,SNR=4.7						
FINES	FINESS Array B	59.12	326	P	P	09 55 59.9	+0.5
	comp=E,1.9nm,0.8s,baz=48,slow=2.8,SNR=5.8						
WRA	Warramunga Arr	59.32	164	P	P	09 56 05.2	+4.1
	comp=E,0.7nm,0.6s,baz=354,slow=8.0,SNR=6.7						
YKA	Yellowknife Ar	70.56	24	P	P	09 57 12.2	-1.6
	comp=E,0.1nm,0.4s,baz=323,slow=5.8,SNR=2.8						

ISCJB 06 09:50:06.9±0.2, 31°.57S±0°.02×68°.97W±0°.04, h115km±2km, mb4.0/6, Error ellipse: s-maj=5.3km s-min=3.7km az=4.1
SJA 06 09:50:06±4.2, 31°.56S±0°.05×69°.03W±0°.06, h126km±3km
IDC 06 09:50:07.9±1.1, 31°.66S×68°.93W, h104km±7km, mb3.9/6, mb1 4.0/9, mb1mx3.8/22, mbtmp4.2/9, MS2.9/1, Ms1 3.0/1, ms1mx2.6/16, Error ellipse: s-maj=26.5km s-min=19.8km az=85.0
NEIC 06 09:50:07.8±1.6, 31°.64S±0°.05×68°.96W±0°.06, h109km±4km, mb4.7/34, Md4.8(SJA)
GUC 06 09:50:08.0±0.6, 31°.60S×69°.24W, h142km±22km, ML4.5
ISC 06 09:50:07.2±0.6, 31°.58S±0°.04×68°.96W±0°.04, h114km±5km, n99, σ1s91/114, mb4.6/19, 3C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.36	233	iP	Pn	09 50 24.5	+0.5
RTLS				IAML		09 50 24.9	
	comp=Z,8μm,0.2s						
RTCV	Cerro Valdivia	0.45	129	iP	Pn	09 50 24.9	+0.7
CFA	Coronel Fontan	0.61	93	LR	LR	09 50 22.4	
	comp=Z,36nm,19.1s,baz=216,slow=24						
CFA				P	Pn	09 50 25.8	+0.6
	comp=Z,248nm,0.3s,baz=247,slow=8.7,SNR=4173						
CFA				S	Sn	09 50 38.9	0.0
	comp=Z,667nm,0.3s,baz=148,slow=21,SNR=222						
AMOG	MOGNA	0.75	32	iP	Pn	09 50 27.3	+0.9
ACCO	Cerro Coronel	0.99	355	iP	Pn	09 50 29.9	+0.9
ARCO	CERRO ARCO	1.26	179	iP	Pn	09 50 32.2	+0.6
ARCO				⇓iS	Sn	09 50 52.0	+1.9
ARCO				IAML		09 50 53.1	
	comp=Z,5μm,0.2s						
UTNM	Universidad Te	1.32	176	iP	Pn	09 50 33.4	+1.3
AAGR	Agrelo	1.51	176	iP	Pn	09 50 35.1	+0.7
ACAN	Cantantal	1.66	115	iP	Pn	09 50 37.0	+0.9
CO02	Combarbal	1.79	282	⇑iP	Pn	09 50 38.6	+0.8
CO02				eS	Sn	09 51 01.6	+0.4
CO02				IAML		09 51 03.6	
	comp=E,13μm,0.3s						
GO04	Tololo Observa	2.12	311	⇑iP	Pn	09 50 42.9	+0.8
GO04				iS	Sn	09 51 10.0	+1.4
GO04				IAML		09 51 15.6	
	comp=E,6μm,0.3s						
GO04	Tololo Observa	2.12	311		Pn	09 50 43.2	+1.2
GO04				Sn	Sn	09 51 09.9	+1.2
PEL	Peldehue	2.14	223	⇓eP	Pn	09 50 42.4	+0.3
PEL				iS	Sn	09 51 09.1	+0.2
PEL				IAML		09 51 11.4	
	comp=E,1μm,0.4s						
PEL	Peldehue	2.14	223		Pn	09 50 42.2	0.0
PEL				Sn	Sn	09 51 09.6	+0.7
ROCH	El Roble	2.23	231	⇓iP	Pn	09 50 43.4	0.0
ROCH				iS	Sn	09 51 10.8	-0.4
ROCH				IAML		09 51 15.1	
	comp=N,8μm,1.0s						
ROC1	El Roble	2.23	231		Pn	09 50 43.4	-0.1
ROC1				Sn	Sn	09 51 10.7	-0.7
ROC1	El Roble	2.23	231	iP	Pn	09 50 43.4	-0.1
CLCH	Cerro Calan	2.25	216	eP	Pn	09 50 44.6	+1.0
CLCH				eS	Sn	09 51 11.8	+0.2
CLCH				IAML		09 51 15.8	
	comp=E,2μm,0.7s						
APLL	PUNTA DE LOS L	2.40	61	iP	Pn	09 50 46.4	+0.9
ANTU	Antumapu	2.44	215	eP	Pn	09 50 46.8	+0.8
ANTU				iS	Sn	09 51 15.8	0.0
ANTU				IAML		09 51 21.8	
	comp=E,1μm,0.4s						
LSCH	La Serena	2.58	310	⇑eP	Pn	09 50 47.9	+0.1
LSCH				iS	Sn	09 51 18.3	-0.6
GO03	Copiap	4.12	344		Pn	09 51 08.6	+0.3
GO03				Sn	Sn	09 51 56.9	+1.2
GO05	Huala	4.23	215		Pn	09 51 07.2	-2.5
GO05				Sn	Sn	09 51 56.6	-1.6
GO02	Mina Guanaco	6.42	355		Pn	09 51 39.2	-0.3
GO02				Sn	Sn	09 52 51.4	-0.1
PB10	IPOC Station P	8.16	350		Pn	09 52 00.4	-2.4
GO06	Curarrehue	8.25	194		Pn	09 52 02.4	-1.6
GO06	Curarrehue	8.25	194	iP	Pn	09 52 02.8	-1.2
PB15	IPOC Station P	8.35	357	iP	Pn	09 52 04.7	-0.9
TRQA	Tornquist	8.64	140		Pn	09 52 08.8	-0.4
TRQA				Sn	Sn	09 53 40.8	-4.1
LVC	Limon Verde	8.93	0	P	Pn	09 52 12.0	-1.7
	comp=E,2.5nm,0.3s,baz=212,slow=11,SNR=42						
LVC				S	Sn	09 53 48.6	-4.1
	comp=E,1.1nm,0.3s,baz=69,slow=20,SNR=2.2						
LVC	Limon Verde	8.93	0		Pn	09 52 12.2	-1.4
LVC					Sn	09 53 47.9	-4.8
PLCA	Paso Flores	9.23	188	P	Pn	09 52 16.4	-0.8
	comp=E,0.3nm,0.3s,baz=20,slow=11,SNR=11						
PLCA	Paso Flores	9.23	188	Pn	Pn	09 52 16.1	-1.1
PLCA	Paso Flores	9.23	188	iP	Pn	09 52 16.6	-0.7
PB09	IPOC Station P	9.74	358	iP	Pn	09 52 23.0	-1.5
CPUP	Villa Florida	11.44	66	P	Pn	09 52 45.6	-1.6
	comp=E,0.2nm,0.3s,baz=244,slow=12,SNR=7.5						
CPUP	Villa Florida	11.44	66	Pn	Pn	09 52 45.7	-1.4
PB11	IPOC Station P	11.78	357	Pn	Pn	09 52 48.4	-3.5
GO01	Chusmiza	11.86	359	Pn	Pn	09 52 50.8	-2.4
MNMC	Minye Minye	12.41	357		Pn	09 52 58.5	-1.7
LPAZ	La Paz	15.24	3	P	P	09 53 39.5	+0.2
	comp=E,0.3nm,0.3s,baz=175,slow=7.7,SNR=33						
LPAZ				LR	LR	10 00 20.7	
	comp=E,45nm,19.7s,baz=70,slow=40						
LPAZ	La Paz	15.24	3		Pn	09 53 35.4	-1.5
SIV	San Ignacio	17.10	27	P	Pn	09 54 00.9	+1.6
	comp=E,0.2nm,0.3s,baz=227,slow=12,SNR=18						
GO09	Cerro Castillo	19.84	186	P	P	09 54 27.5	-1.3
SPB	Sao Paulo	20.65	73	P	Pn	09 54 39.6	-1.6
SPB				IAmb	IAmb	09 54 45.4	
	comp=Z,58nm,1.5s						
EFI	East Falkland	21.62	161	P	P	09 54 48.2	+0.2
SAML	Samuel	23.15	15	P	P	09 55 04.4	+0.7
GRGR	Grenville	44.02	10	P	P	09 58 05.8	+2.2
MLPR	Magueyes Islan	49.30	2	P	P	09 58 47.1	+2.5
CRPR	Cabo Rojo, PR	49.33	2	P	P	09 58 45.9	+1.0
VNA3	Neumayer Olymp	50.65	159	P	P	09 58 53.9	-0.4
VNA2	Neumayer--Watz	51.26	158	P	P	09 58 59.9	+1.0
	baz=289,slow=8.2						
SNAA	Sanae	52.87	159	P	P	09 59 12.3	+1.5
SNAA	Sanae	52.87	159	P	P	09 59 12.5	+1.6
	comp=Z,1.1nm,0.6s,baz=295,slow=6.1,SNR=5.1						
SNAA	Sanae	52.87	159	P	P	09 59 12.0	+1.1
SNAA				IAmb	IAmb	09 59 34.4	
	comp=Z,7.4nm,1.4s						
TEIG	Tepich	54.74	338	P	P	09 59 27.3	+2.3
QSPA	South Pole Qui	58.65	180	P	P	09 59 54.2	+1.9
Z50A	Ashland	66.44	345	P	P	10 00 45.7	+1.5
Z50A				IAmb	IAmb	10 02 37.4	
	comp=Z,12nm,1.4s						
SYO	Syowa Base	67.15	158	⇓eP	P	10 00 44.4	-3.9
V55A	Taylorsville	68.06	349	P	P	10 00 56.1	+1.8
V55A				IAmb	IAmb	10 01 04.7	
	comp=Z,25nm,1.6s						
V53A	Saluda	68.15	348	P	P	10 00 56.1	+1.2
W50A	Signal Mountai	68.18	346	P	P	10 00 56.7	+1.6
W50A				IAmb	IAmb	10 02 56.4	
	comp=Z,30nm,1.6s						
CPCT	Cooper Cave	68.26	346	P	P	10 00 56.8	+1.2
CPCT				IAmb	IAmb	10 01 02.4	
	comp=Z,26nm,1.7s						
TXAR	Lajitas Array	68.98	328	P	P	10 01 02.8	+2.4
	comp=Z,0.8nm,0.7s,baz=152,slow=8.0,SNR=7.8						
TX31	Lajitas Ar. Si	68.98	328	P	P	10 01 02.2	+1.8
TX32	Lajitas Array	68.98	328	P	P	10 01 01.9	+1.5
WVT	Waverly	69.64	344	P	P	10 01 05.4	+1.3
WVT				IAmb	IAmb	10 01 06.2	
	comp=Z,10nm,0.7s						
T49A	Edmonton	70.06	346	P	P	10 01 08.1	+1.4
R55A	Marlinton	70.28	351	P	P	10 01 08.7	+0.7
R55A				IAmb	IAmb	10 02 22.6	
	comp=Z,36nm,1.6s						
PBMO	Poplar Bluff	70.91	342	P	P	10 01 13.4	+1.6
PBMO				IAmb	IAmb	10 01 13.8	
	comp=Z,7.4nm,0.5s						
Q54A	Coxs Mills	71.07	350	P	P	10 01 14.2	+1.4
U40A	Yellville	71.19	340	P	P	10 01 15.6	+2.0
U40A				IAmb	IAmb	10 03 46.6	
	comp=Z,22nm,1.8s						
MNTX	Cornudas Mount	71.77	328	P	P	10 01 18.6	+1.5
DBIC	Dimbokro	71.93	70	P	P	10 01 20.2	+1.7
	comp=Z,3.8nm,0.5s,baz=216,slow=6.7,SNR=6.7						
DBIC	Dimbokro	71.93	70	P	P	10 01 20.3	+1.7
DBIC				IAmb	IAmb	10 03 56.3	
	comp=Z,16nm,1.3s						
FVM	French Village	72.05	342	P	P	10 01 20.5	+1.8
FVM				IAmb	IAmb	10 01 20.6	
	comp=Z,32nm,1.7s						
CCM	Cathedral Cave	72.33	342	P	P	10 01 22.2	+1.8
CCM				IAmb	IAmb	10 01 22.6	
	comp=Z,8.3nm,1.1s						
ACSO	Alum Creek Sta	72.62	349	P	P	10 01 24.1	+2.1
ACSO				IAmb	IAmb	10 03 13.1	
	comp=Z,12nm,1.0s						
M57A	Sunshine Farm,	72.94	354	P	P	10 01 26.2	+2.3
MAW	Mawson	74.74	163	P	P	10 01 36.6	+2.5
MAW				IAmb	IAmb	10 02 31.5	
	comp=Z,16nm,1.9s						
BOSA	Boshof	78.86	117	P	P	10 02 00.0	+1.8
	comp=Z,4.4nm,0.9s,baz=229,slow=6.6,SNR=3.8						
ECSD	EROS Data Cent	79.11	340	P	P	10 02 00.6	+1.8
TOA0	Torodi Ar. Sit	80.93	69	P	P	10 02 11.0	+1.8
TORD	Torodi Ar. Bea	80.93	69	P	P	10 02 10.8	+1.5
	comp=Z,4.4nm,0.7s,baz=270,slow=4.8,SNR=18						
LBTB	Lobatse	80.93	114	P	P	10 02 11.1	+1.7
LBTB				IAmb	IAmb	10 03 21.1	
	comp=Z,33nm,1.6s						
PDAR	Pinedale Array	82.84	331	P	P	10 02 21.1	+2.1
	comp=Z,0.4nm,0.7s,baz=119,slow=5.2,SNR=3.6						
ASAR	Alice Springs	120.87	205	pPKP	pPKPdf	10 09 17.4	-1.1
	comp=Z,0.5nm,0.9s,baz=122,slow=4.5,SNR=3.3						
WRA	Warramunga Arr	124.11	207	PKP	PKiKP	10 08 53.4	+0.2
	comp=Z,0.5nm,0.7s,baz=159,slow=1.6,SNR=4.5						
WRA				pPKP	pPKPdf	10 09 24.4	-0.4
	comp=Z,0.9nm,0.8s,baz=170,slow=1.3,SNR=4.5						
GAR	Garm	146.16	66		PKiKP	10 09 36.0	-1.4
AAK	Ala-Archa	149.05	59	PKPbc	PKPab	10 09 44.5	-2.1
	comp=Z,4.2nm,0.7s,baz=166,slow=3.4,SNR=8.7						
AAK	Ala-Archa	149.05	59	PKPdf	PKPdf	10 09 37.1	-0.7
AAK					PKPab	10 09 43.9	-2.7
AAK				PKPab	PKiKP	10 09 47.9	+4.6
KURBB	Kurchatov Arra	149.33	42	PKPbc	PKPab	10 09 44.1	-3.2
	comp=Z,0.7nm,0.2s,baz=306,slow=3.0,SNR=7.0						
KURK	Kurchatov	149.34	42		PKPab	10 09 44.4	-2.9
KSH	Kashi	150.53	65	PKPbc	PKPdf	10 09 40.2	0.0
KSH				sPKP		10 10 18.6	
KSH				SKS	SKSdf	10 16 37.7	0.0
ZAA0	Zalesovo Array	150.80	32	PKPdf	PKPbc	10 09 40.9	-4.8
ZAA0					PKPab	10 09 47.6	-5.6
ZAA0				PKPab	PKiKP	10 09 55.9	+10

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ZALV	**Zalesovo Beam**	**150.80**	**32**	PKPbc	**PKPab**	**10 09 47.2**	**-6.0**
	comp=Z,6.2nm,0.6s,baz=308,slow=3.9,SNR=23						
ZALV				pPKPbc	**pPKPbc**	**10 10 18.2**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=276,slow=4.1,SNR=2.2						
MKAR	**Makanchi Array**	**153.22**	**47**	PKPbc	**PKiKP**	**10 09 52.8**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=298,slow=2.6,SNR=6.2						
MKAR				PKPab	**PKPab**	**10 10 05.1**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=291,slow=4.1,SNR=9.2						
LZH	**Lanzhou**	**172.51**	**51**	ePKP	**PKPdf**	**10 10 07.2**	**+4.3**
LZH				pPKP	pPKPdf	10 10 29.2	-5.3
LZH				sPKP		10 10 41.3	
WHN	**Wuhan**	**176.98**	**251**	PKP	PKPdf	10 09 54.5	-10

IDC 06 10:07:55.3±24.0**, 1°.69N×67°.30E, h0km, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.3**/40**, mbtmp3.6**/3**, MS3.9**/2**, Ms1 3.9**/2**, ms1mx2.8**/53**, Error ellipse: s-maj=821.4km s-min=37.5km az=67.0, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**8.78**	**155**	T	T	10 19 00.3	
	baz=333,slow=76,SNR=603						
H08N3	**Diego Garcia H**	**8.79**	**155**	T	T	10 19 01.4	
	baz=333,slow=76,SNR=484						
H08N1	**Diego Carcia H**	**8.80**	**155**	T	T	10 19 01.9	
	baz=333,slow=76,SNR=561						
KVAR	**Kislovodsk Arr**	**47.42**	**336**	LR	LR	10 37 09.6	
	comp=Z,302nm,20.9s,baz=326,slow=37						
ZALV	**Zalesovo Beam**	**54.05**	**13**	P	P	10 17 21.3	-0.1
	0.3nm,0.3s,baz=214,slow=10,SNR=2.0						
H01W3	**Cape Leeuwin H**	**56.95**	**134**	T	T	11 19 14.9	
	baz=300,slow=75,SNR=14						
H01W2	**Cape Leeuwin H**	**56.95**	**134**	T	T	11 19 15.6	
	baz=300,slow=75,SNR=12						
H01W1	**Cape Leeuwin H**	**56.96**	**134**	T	T	11 19 15.6	
	baz=300,slow=75,SNR=12						
SONM	**Songino Array**	**57.02**	**30**	LR	LR	10 39 50.5	
	comp=Z,58nm,19.9s,baz=239,slow=34						
WRA	**Warramunga Arr**	**69.09**	**112**	P	P	10 19 04.4	+0.6
	0.5nm,0.8s,baz=287,slow=5.9,SNR=4.6						
ASAR	**Alice Springs**	**69.38**	**116**	P	P	10 19 05.2	-0.4
	0.4nm,0.7s,baz=287,slow=6.2,SNR=6.6						

*IDC **06** 10:08:55.9±0.8, 32°.88N×78°.93E, h0km, mb3.9/13, mb1 4.1/15, mb1mx3.9/40, mbtmp4.0/15, ML3.8/2, Error ellipse: s-maj=27.2km s-min=14.7km az=53.0*
*NDI **06** 10:08:57.8±3.5, 33°.33N×79°.28E, h39km±999km, ML3.7*
*BJI **06** 10:08:57.0±0.0, 32°.80N×78°.29E, h21km, mb4.4/4, ML4.2/1*
*ISCJB **06** 10:09:01.2±0.4, 33°.00N±0°.03×78°.97E±0°.05, h56km±7km, mb3.8/12, Error ellipse: s-maj=6.7km s-min=4.1km az=159.2*
*NEIC **06** 10:09:01.1±2.0, 32°.89N±0°.08×78°.66E±0°.09, h41km±8km, mb4.3/9*
ISC 06 10:09:02.5±0.9**, 33°.04N**±0°.05×**78°.99E**±0°.05**, h52km**±11km**, n65,** σ**2s.21**/70**, mb3.9**/15**, Kashmir-Xizang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**2.40**	**252**	eP	**Pn**	**10 09 38.6**	**-0.9**
DHRM				eS	**Sn**	**10 10 07.9**	**+0.1**
DHRM				IAML		10 10 16.7	
	comp=E,798nm,0.7s						
DHRM				IAML		10 10 16.9	
	comp=N,603nm,0.6s						
SMLA	**Simla**	**2.45**	**220**	eP	**Pn**	**10 09 38.7**	**-1.2**
SMLA				eS	**Sn**	**10 10 11.4**	**+2.7**
SMLA				IAML		10 10 16.3	
	comp=E,355nm,0.4s						
SMLA				IAML		10 10 16.8	
	comp=N,430nm,0.6s						
JOSI	**Joshimath**	**2.52**	**169**	eP	**Pn**	**10 09 41.9**	**+0.8**
JOSI				eS	**Sn**	**10 10 09.4**	**-1.3**
BHK	**Bhakra**	**2.71**	**234**	eP	**Pn**	**10 09 44.4**	**+0.8**
BHK				eS	**Sn**	**10 10 20.0**	**+4.8**
DDI	**Dehra Dun**	**2.82**	**197**	eP	**Pn**	**10 09 44.8**	**-0.3**
DDI				eS	**Sn**	**10 10 14.7**	**-3.2**
DDI				IAML		10 10 29.3	
	comp=E,272nm,0.0s						
DDI				IAML		10 10 30.8	
	comp=N,253nm,1.0s						
THN	**Thein Dam**	**2.82**	**259**	eP	**Pn**	**10 09 45.0**	**0.0**
THN				eS	**Sn**	**10 10 24.5**	**+6.7**
JMU	**Jammu**	**3.45**	**266**	eP	Pn	10 10 03.0	+9.3
JMU				eS	**Sn**	**10 10 40.5**	**+7.2**
NIL	**Nilore**	**4.84**	**279**	Pn	Pn	10 10 07.2	-5.6
NIL				Sn	Sn	10 10 56.9	-11
DANN	**Dangsing**	**6.22**	**137**	eP	**Pn**	**10 10 33.4**	**+1.4**
	comp=N,14nm,0.4s						
KOLN	**Koldanda**	**6.59**	**142**	eP	**Pn**	**10 10 37.8**	**+0.9**
	comp=N,9.4nm,0.4s						
GKN	**Gorkha**	**6.99**	**134**	eP	**Pn**	**10 10 43.1**	**+0.7**
	comp=N,30nm,0.3s						
KKN	**Kakani**	**7.54**	**132**	eP	**Pn**	**10 10 50.7**	**+0.7**
	comp=N,13nm,0.4s						
DMN	**Daman**	**7.56**	**134**	eP	**Pn**	**10 10 50.8**	**+0.4**
	comp=N,13nm,0.4s						
PKIN	**Phulchoki**	**7.76**	**133**	eP	**Pn**	**10 10 53.5**	**+0.4**
	comp=N,17nm,0.5s						
PKI	**Pulchoki**	**7.78**	**133**	eP	**Pn**	**10 10 53.6**	**+0.3**
	comp=N,11nm,0.4s						
JIRN	**Jiri**	**8.21**	**129**	eP	**Pn**	**10 10 59.0**	**-0.3**
	comp=N,41nm,0.4s						
KBL	**Kabul**	**8.41**	**283**		**Pn**	**10 10 58.1**	**-3.8**
NRN	**Naryn**	**8.71**	**345**		**Pn**	**10 11 08.4**	**+2.3**
TARG	**Taragay, Kyrgy**	**8.73**	**354**		**Pn**	**10 11 08.7**	**+2.3**
RAMN	**Ramite**	**8.96**	**131**	eP	**Pn**	**10 11 08.6**	**-0.9**
	comp=N,14nm,0.4s						
KDJ	**Kajisay**	**9.19**	**352**		**Pn**	**10 11 12.6**	**+0.1**
KDJ				Sn	**Sn**	**10 12 55.7**	**+1.2**
GAR	**Garm**	**9.20**	**313**		**Pn**	**10 11 10.3**	**-2.3**
ULHL	**Ulahol**	**9.45**	**347**	P	**Pn**	**10 11 18.7**	**+2.6**
	SNR=8.1						
KZA	**Kyzart**	**9.50**	**343**	P	**Pn**	**10 11 18.4**	**+1.4**
	SNR=6.3						
ARSB	**Arslanbob**	**9.56**	**332**		**Pn**	**10 11 15.0**	**-2.5**
ARSB				Sn	**Sn**	**10 12 58.9**	**-4.6**
BOOM	**Boomskoye usch**	**9.74**	**347**		**Pn**	**10 11 22.1**	**+2.1**
CHGR	**Chuyangaron**	**9.75**	**308**		Pn	10 11 14.8	-5.2
CHGR				Sn	**Sn**	**10 13 03.2**	**-4.9**
UCH	**Uchtor**	**9.84**	**340**	P	**Pn**	**10 11 22.6**	**+1.0**
	SNR=11						
AML	**Almayashu**	**10.00**	**337**	P	**Pn**	**10 11 24.0**	**+0.3**
	SNR=6.2						
KBK	**Karagaybulak**	**10.12**	**343**	P	**Pn**	**10 11 27.6**	**+2.3**
	SNR=9.1						
AAK	**Ala-Archa**	**10.22**	**341**	Pn	**Pn**	**10 11 28.4**	**+1.8**
	comp=N,1.3nm,0.3s,baz=149,slow=7.7,SNR=10						
AAK	**Ala-Archa**	**10.22**	**341**	P	**Pn**	**10 11 28.3**	**+1.8**
	SNR=7.3						
AAK	**Ala-Archa**	**10.22**	**341**		**Pn**	**10 11 27.2**	**+0.6**
TKM2	**Tokmak 2**	**10.22**	**346**	P	**Pn**	**10 11 28.8**	**+2.1**
	SNR=5.3						
CHMS	**Chumysh**	**10.49**	**343**	P	**Pn**	**10 11 31.8**	**+1.7**
	SNR=6.3						
USP	**Ospenovka**	**10.81**	**342**	P	Pn	10 11 49.5	+15
	SNR=7.1						
KK31	**Karatay Array**	**12.06**	**329**	Pn	**Pn**	**10 11 49.3**	**-2.3**
KKAR	**Karatay Array**	**12.06**	**329**	Pn	**Pn**	**10 11 49.3**	**-2.2**
MAKZ	**Makanchi**	**13.95**	**9**		**Pn**	**10 12 18.5**	**+1.3**
MK31	**Makanchi Array**	**13.97**	**9**		**Pn**	**10 12 18.4**	**+0.8**
MKAR	**Makanchi Array**	**13.97**	**9**	Pn	**Pn**	**10 12 17.7**	**+0.1**
	comp=N,0.2nm,0.3s,baz=191,slow=14,SNR=9.1						
KURK	**Kurchatov**	**17.67**	**359**	P	**Pn**	**10 13 05.9**	**+1.2**
KURK				IAmb	IAmb	10 13 06.5	
	comp=Z,5.3nm,0.6s						
GYA0B	**ALIBECK ARRAY**	**17.68**	**292**	P	**Pn**	**10 13 02.0**	**-2.9**
BVAR	**Borovoye Array**	**20.91**	**345**	P	**P**	**10 13 41.1**	**+0.6**
	comp=Z,13nm,0.9s,baz=159,slow=13,SNR=37						
BRVK	**Borovoye**	**20.97**	**345**	P	**P**	**10 13 41.2**	**+0.2**
BRVK				IAmb	IAmb	10 13 43.2	
	comp=Z,13nm,0.9s						
ZAA0	**Zalesovo Array**	**21.31**	**10**	P	**P**	**10 13 45.5**	**+0.8**
ZALV	**Zalesovo Beam**	**21.31**	**10**	P	**P**	**10 13 45.0**	**+0.3**
	comp=Z,2.2nm,0.5s,baz=202,slow=11,SNR=8.6						
ABKAR	**Akbulak array**	**21.54**	**324**	P	**P**	**10 13 45.6**	**-1.6**
ABKAR				IAmb	IAmb	10 13 51.5	
	comp=Z,6.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**23.05**	**124**	P	**P**	**10 14 02.2**	**-1.2**
	comp=Z,1.9nm,0.7s,baz=315,slow=8.8,SNR=8.1						
AKTO	**Aktyubinsk**	**23.26**	**325**	P	**P**	**10 14 05.0**	**-0.3**
	comp=Z,2.4nm,0.5s,baz=123,slow=9.0,SNR=10						
SONM	**Songino Array**	**25.40**	**46**	P	**P**	**10 14 28.1**	**+3.1**
	comp=Z,1.0nm,0.7s,baz=245,slow=10,SNR=6.8						
PALK	**Pallekele**	**25.68**	**176**	P	**P**	**10 14 25.9**	**-1.9**
PALK				IAmb	IAmb	10 14 41.0	
	comp=Z,42nm,1.3s						
WHN	**Wuhan**	**30.08**	**85**	P	P	10 15 12.5	+5.6
ELL	**Elmali**	**40.08**	**290**	P	**P**	**10 16 31.4**	**-1.6**
FIA1	**FINESS Array S**	**44.01**	**327**	P	**P**	**10 17 02.7**	**-1.7**
FINES	**FINESS Array B**	**44.01**	**327**	P	**P**	**10 17 05.7**	**+1.3**
	comp=Z,2.5nm,0.5s,baz=107,slow=9.4,SNR=21						
OJC	**Ojcow**	**46.19**	**310**	P	**P**	**10 17 20.8**	**-1.2**
OJC				IAmb	IAmb	10 17 33.8	
	comp=Z,9.4nm,1.1s						
ARCES	**ARCESS Array B**	**46.86**	**337**	P	**P**	**10 17 29.0**	**+2.0**
	comp=Z,4.6nm,0.8s,baz=90,slow=7.3,SNR=7.8						
NB2	**NORSAR Subarra**	**51.05**	**325**	P	**P**	**10 17 59.9**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=93,slow=7.4						
NOA	**NORSAR Array B**	**51.05**	**325**	P	**P**	**10 18 00.0**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=92,slow=7.4,SNR=5.5						
TORD	**Torodi Ar. Bea**	**72.38**	**274**	P	**P**	**10 20 24.8**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=63,slow=4.7,SNR=3.3						
WRA	**Warramunga Arr**	**74.61**	**127**	P	**P**	**10 20 36.7**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=315,slow=6.5,SNR=11						
ILAR	**Eielson Array**	**76.14**	**18**	P	**P**	**10 20 45.2**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=291,slow=4.0,SNR=4.7						
ASAR	**Alice Springs**	**76.93**	**130**	P	**P**	**10 20 50.0**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=317,slow=5.8,SNR=13						
YKA	**Yellowknife Ar**	**84.18**	**6**	P	**P**	**10 21 28.7**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=344,slow=5.2,SNR=18						

*SOME **06** 10:24:00.7, 40°.17N×70°.07E, h5km, MS4.3*
*BJI **06** 10:24:01.5±0.0, 40°.39N×70°.01E, h13km, mb4.8/52, mB4.9/35, ML5.0/3, Ms4.4/41, Ms7 4.2/40*
*KRNET **06** 10:24:01.5±0.1, 40°.12N×69°.87E, h1km, mb5.2*
*NNC **06** 10:24:02.4±1.7, 40°.27N×69°.87E, h15km±9km, mb5.4, mpv5.1, Error ellipse: s-maj=12.4km s-min=7.7km az=13.0*
*IDC **06** 10:24:02.3±0.7, 40°.16N×69°.96E, h16km±3km, mb4.5/36, mb1 4.6/43, mb1mx4.4/65, mbtmp4.6/43, ML4.0/7, MS3.7/19, Ms1 3.7/19, ms1mx3.6/44, Error ellipse: s-maj=10.6km s-min=7.8km az=178.0*
*NEIC **06** 10:24:02.9±1.8, 40°.07N±0°.03×69°.92E±0°.05, h24km, mb5.0/113*
*ISCJB **06** 10:24:03.7±0.3, 40°.11N±0°.02×69°.99E±0°.02, h37km±3km, mb4.7/94, MS4.0/27, Error ellipse: s-maj=3.0km s-min=2.6km az=173.7*
*MOS **06** 10:24:03.0±1.1, 40°.06N×70°.01E, h34km, mb5.0/52, MS4.1/9, Error ellipse: s-maj=4.8km s-min=4.6km az=87.7*
ISC 06 10:24:02.3±0.3**, 40°.20N**±0°.02×**69°.94E**±0°.02**, h17km**±1km**, h17km:pP-P, n505,** σ**1s.91**/525**, mb4.9**/133**, MS4.0**/27**, 73C-31D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BTK	**Batken**	**0.69**	**102**	PG	**Pg**	**10 24 15.0**	**-0.8**
BTK						10 24 25.0	
BTK	**Batken**	**0.69**	**102**	⇑iP	**Pg**	**10 24 14.8**	**-1.0**
	baz=95						
BTK				⇑iS	**Sg**	**10 24 25.1**	**+0.2**
	baz=95						
BTK	**Batken**	**0.69**	**102**		**Pg**	**10 24 15.0**	**-0.8**
BTK				Sg	**Sg**	**10 24 25.0**	**+0.1**
TAS	**Tashkent**	**1.22**	**337**	PG	**Pn**	**10 24 25.1**	**+0.3**
TAS	**Tashkent**	**1.22**	**337**	⇑iP	**Pn**	**10 24 25.1**	**+0.3**
	baz=40						
TAS				⇑iS	**Sb**	**10 24 42.0**	**+1.3**
	baz=40						
TAS	**Tashkent**	**1.22**	**337**		**Pn**	**10 24 25.1**	**+0.3**
TAS				Sn	**Sb**	**10 24 42.2**	**+1.5**
GAR	**Garm**	**1.24**	**166**		**Pn**	**10 24 25.5**	**+0.6**
IUG	**Iuzhnay**	**1.94**	**2**	eP	**Pb**	**10 24 38.4**	**+1.0**
	962nm,0.3s						
IUG				eS	**Sb**	**10 25 04.9**	**+3.6**
	29μm,0.5s						
IUG	**Iuzhnay**	**1.94**	**2**	Pg	**Pb**	**10 24 38.3**	**+1.0**
	859nm,0.4s						
IUG				Lg	Lg	10 25 04.9	
	29μm,0.5s						
ARK	**Arkit**	**2.21**	**43**	⇑iP	**Pn**	**10 24 40.6**	**+2.3**
	baz=43						
ARK				⇑iS	**Sn**	**10 25 08.7**	**+3.4**
	baz=43						
ARSB	**Arslanbob**	**2.57**	**63**	⇓iP	**Pn**	**10 24 45.2**	**+1.9**
	baz=62						
ARSB				⇓iS	**Sn**	**10 25 17.0**	**+2.8**
	baz=62						
ARSB	**Arslanbob**	**2.57**	**63**		**Pn**	**10 24 45.0**	**+1.7**
ARSB				Sn	**Sn**	**10 25 14.8**	**+0.7**
BRLS	**Borolday**	**2.83**	**358**	eP	**Pn**	**10 24 49.6**	**+2.9**
	1.3nm,0.2s						
BRLS				eS	**Sn**	**10 25 24.0**	**+3.6**
	4μm,0.2s						
BRLS	**Borolday**	**2.83**	**358**	Pg	**Pn**	**10 24 49.6**	**+2.9**
	1.3nm,0.2s						
BRLS				Lg	Lg	10 25 24.0	
	4μm,0.2s						
DZA	**Taraz**	**2.88**	**21**	eP	**Pb**	**10 24 53.0**	**-0.3**
	475nm,0.2s						
DZA				eS	**Sb**	**10 25 29.6**	**+1.4**
	8μm,0.4s						
DZA	**Taraz**	**2.88**	**21**	Pg	**Pb**	**10 24 52.9**	**-0.3**
	475nm,0.2s						
DZA				Lg	Lg	10 25 29.6	
	8μm,0.4s						
KK31	**Karatay Array**	**2.93**	**8**	PN	**Pn**	**10 24 51.0**	**+2.9**
KK31						10 25 35.1	
KK31	**Karatay Array**	**2.93**	**8**	Pn	**Pn**	**10 24 51.0**	**+2.9**
KK31				Sg	**Sb**	**10 25 35.1**	**+5.5**
KK31	**Karatay Array**	**2.93**	**8**	⇓Pn	**Pn**	**10 24 48.8**	**+0.7**
	35nm,0.3s,baz=202,slow=21,SNR=8858						
KK31				⇓Pg	**Pb**	**10 24 55.1**	**+1.0**
	930nm,0.6s,baz=191,slow=18,SNR=9.8						
KK31				Lg	Lg	10 25 34.0	
	3μm,0.5s,baz=185,slow=18,SNR=29						
KKAR	**Karatay Array**	**2.93**	**8**	PN	**Pn**	**10 24 51.2**	**+3.1**
KKAR						10 25 35.1	
KKAR	**Karatay Array**	**2.93**	**8**		**Pn**	**10 24 51.1**	**+3.1**
KKAR				Sg	**Sb**	**10 25 35.1**	**+5.5**
AML	**Almayashu**	**3.42**	**55**	⇑eP	**Pn**	**10 24 57.2**	**+1.9**
	baz=54						
AML				⇑iS	**Sn**	**10 25 38.2**	**+2.5**
	baz=54						
AML	**Almayashu**	**3.42**	**55**	P	**Pn**	**10 24 57.4**	**+2.1**
	SNR=249						
MRKS	**Merke**	**3.54**	**43**	eP	**Pb**	**10 25 05.2**	**+0.6**
	374nm,0.4s						
MRKS				eS	**Sb**	**10 25 50.8**	**+3.5**
	7μm,0.5s						
MRKS	**Merke**	**3.54**	**43**	Pg	**Pb**	**10 25 05.2**	**+0.6**
	374nm,0.4s						
MRKS				Lg	Lg	10 25 50.8	
	7μm,0.5s						
ARLS	**Aral**	**3.70**	**62**	⇑iP	**Pn**	**10 25 01.2**	**+2.3**
	baz=61						
ARLS				⇑iS	**Sn**	**10 25 45.0**	**+2.7**
	baz=61						
EKS2	**Erkin-Say**	**3.79**	**48**	⇓eP	**Pn**	**10 25 02.6**	**+2.5**
	baz=48						
EKS2				⇓iS	**Sn**	**10 25 46.6**	**+2.3**
	baz=48						
EKS2	**Erkin-Say**	**3.79**	**48**	P	**Pn**	**10 25 02.5**	**+2.5**
	SNR=82						
UCH	**Uchtor**	**4.00**	**58**	⇑eP	**Pn**	**10 25 05.3**	**+2.1**
	baz=58						
UCH				⇑iS	**Sn**	**10 25 52.0**	**+2.1**
	baz=58						
UCH	**Uchtor**	**4.00**	**58**	P	**Pn**	**10 25 05.4**	**+2.1**
	SNR=189						
AAK	**Ala-Archa**	**4.20**	**53**	P	**Pn**	**10 25 08.5**	**+2.8**
	SNR=83						
AAK	**Ala-Archa**	**4.20**	**53**	cePN	**Pn**	**10 25 08.0**	**+2.3**
AAK				pmax	pmax		
	comp=Z,138nm,0.6s						
AAK	**Ala-Archa**	**4.20**	**53**	Pn	**Pn**	**10 25 08.1**	**+2.4**
	comp=Z,27nm,0.3s,baz=219,slow=6.5,SNR=224						
AAK				Lg	Lg	10 26 09.4	
	comp=Z,177nm,0.3s,baz=332,slow=23,SNR=9.8						
AAK	**Ala-Archa**	**4.20**	**53**	⇑eP	**Pn**	**10 25 08.0**	**+2.3**
	baz=53						
AAK				⇑iS	**Sn**	**10 25 56.9**	**+2.4**
	baz=53						
AAK	**Ala-Archa**	**4.20**	**53**	P	**Pn**	**10 25 07.8**	**+2.1**
	SNR=230						
AAK	**Ala-Archa**	**4.20**	**53**		**Pn**	**10 25 08.4**	**+2.8**
AAK				Sn	**Sn**	**10 25 54.4**	**-0.1**
AAK	**Ala-Archa**	**4.20**	**53**	⇑Pn	**Pn**	**10 25 07.8**	**+2.1**
	comp=Z,15nm,0.6s						
AAK				⇓Pg	Pb	10 25 20.2	+4.5
	comp=Z,28nm,0.6s						
AAK				⇑Lg	Lg	10 26 12.3	
	comp=Z,284nm,1.1s						
FRU1	**Bishkek**	**4.38**	**52**	PN	**Pn**	**10 25 11.2**	**+3.1**
FRU1	**Bishkek**	**4.38**	**52**	⇑iP	**Pn**	**10 25 10.6**	**+2.5**
	baz=52						
FRU1				⇑iS	**Sn**	**10 26 00.6**	**+1.8**
	baz=52						
FRU1	**Bishkek**	**4.38**	**52**		**Pn**	**10 25 11.2**	**+3.1**
FRU1				Sn	**Sn**	**10 25 56.2**	**-2.6**
KZA	**Kyzart**	**4.42**	**63**	⇓iP	**Pn**	**10 25 11.5**	**+2.5**
	baz=63						
KZA				⇓iS	**Sn**	**10 26 02.4**	**+2.0**
	baz=63						
KZA	**Kyzart**	**4.42**	**63**	P	**Pn**	**10 25 11.8**	**+2.7**
	SNR=100						
KBK	**Karagaybulak**	**4.49**	**55**	⇑iP	**Pn**	**10 25 12.2**	**+2.5**
	baz=55						
KBK				⇑iS	**Sn**	**10 26 03.5**	**+1.8**
	baz=55						
KBK	**Karagaybulak**	**4.49**	**55**	P	**Pn**	**10 25 12.8**	**+3.1**
	SNR=199						
CHMS	**Chumysh**	**4.56**	**51**	⇑eP	**Pn**	**10 25 12.8**	**+2.2**
	baz=50						
CHMS				⇑iS	**Sn**	**10 26 04.9**	**+1.7**
	baz=50						
CHMS	**Chumysh**	**4.56**	**51**	P	**Pn**	**10 25 12.8**	**+2.2**
	SNR=109						
USP	**Ospenovka**	**4.58**	**47**	⇑iP	**Pn**	**10 25 12.9**	**+2.0**
	baz=46						
USP				⇑iS	**Sn**	**10 26 05.2**	**+1.5**
	baz=46						
USP	**Ospenovka**	**4.58**	**47**	P	**Pn**	**10 25 12.8**	**+2.0**
	SNR=15						
KSH	**Kashi**	**4.69**	**96**	Pn	**Pn**	**10 25 12.4**	**0.0**
KSH				Sn	**Sn**	**10 26 06.0**	**-0.6**
KSH				smax	smax		
	comp=Z,3μm,0.6s						
KSH				smax	smax		
	comp=Z,4μm,1.2s						
NRN	**Naryn**	**4.76**	**73**	PN	**Pn**	**10 25 14.6**	**+1.0**
NRN	**Naryn**	**4.76**	**73**	⇑iP	**Pn**	**10 25 14.5**	**+1.0**
	baz=72						
NRN				⇑iS	**Sn**	**10 26 09.1**	**+0.6**
	baz=72						
NRN	**Naryn**	**4.76**	**73**		**Pn**	**10 25 14.6**	**+1.0**
NRN				Sn	**Sn**	**10 26 05.2**	**-3.3**
SGDS	**Sogindy**	**4.78**	**46**	Pg	**Pb**	**10 25 28.5**	**+3.0**
	comp=Z,326nm,0.5s						
SGDS				Lg	Lg	10 26 31.0	
	comp=Z,2μm,0.4s						
TKM2	**Tokmak 2**	**5.04**	**56**	⇓iP	**Pn**	**10 25 19.8**	**+2.5**
	baz=55						
TKM2				⇓iS	**Sn**	**10 26 16.5**	**+1.3**
	baz=55						
TKM2	**Tokmak 2**	**5.04**	**56**	P	**Pn**	**10 25 19.7**	**+2.4**
	SNR=65						
TKM2	**Tokmak 2**	**5.04**	**56**	⇑Pn	**Pn**	**10 25 19.5**	**+2.2**
	comp=Z,110nm,0.7s						
TKM2				⇑Pg	Pb	10 25 35.2	+5.1
	comp=Z,295nm,0.6s						
TKM2				⇑Lg	Lg	10 26 46.7	
	comp=Z,1μm,0.8s						
BOOM	**Boomskoye usch**	**5.06**	**61**	PN	**Pn**	**10 25 18.8**	**+1.3**
BOOM	**Boomskoye usch**	**5.06**	**61**	⇑iP	**Pn**	**10 25 19.8**	**+2.3**
	baz=61						
BOOM				⇑iS	**Sn**	**10 26 17.0**	**+1.3**
	baz=61						
BOOM	**Boomskoye usch**	**5.06**	**61**		**Pn**	**10 25 18.8**	**+1.3**
ULHL	**Ulahol**	**5.17**	**65**	⇑iP	**Pn**	**10 25 21.3**	**+2.2**
	baz=64						
ULHL				⇑iS	**Sn**	**10 26 19.6**	**+1.1**
	baz=64						
ULHL	**Ulahol**	**5.17**	**65**	P	**Pn**	**10 25 21.6**	**+2.5**
	SNR=7.6						
DGS	**Degeres**	**5.31**	**53**	eP	**Pb**	**10 25 38.9**	**+4.1**
	comp=Z,307nm,0.5s						
DGS				eS	**Sg**	**10 26 48.5**	**-4.3**
	comp=Z,1μm,0.7s						
DGS	**Degeres**	**5.31**	**53**	Pg	**Pb**	**10 25 38.9**	**+4.1**
	comp=Z,307nm,0.5s						
DGS				Lg	Lg	10 26 48.5	
	comp=Z,1μm,0.7s						
KST	**Kastek**	**5.33**	**56**	eP	Pb	10 25 40.3	+5.3
	comp=Z,256nm,0.4s						
KST				eS	**Sg**	**10 26 51.2**	**-2.1**
	comp=Z,1μm,0.6s						
KST	**Kastek**	**5.33**	**56**	Pg	Pb	10 25 40.3	+5.3
	comp=Z,256nm,0.4s						
KST				Lg	Lg	10 26 51.2	
	comp=Z,1μm,0.6s						
KBL	**Kabul**	**5.70**	**187**	P	Pn	10 25 30.5	+4.1
KBL	**Kabul**	**5.70**	**187**	PN	**Pn**	**10 25 23.9**	**-2.5**
KBL						10 26 29.4	
KBL	**Kabul**	**5.70**	**187**		**Pn**	**10 25 23.9**	**-2.5**
KBL				Sn	**Sn**	**10 26 29.4**	**-2.1**
BTLS	**Baital**	**5.70**	**31**	Pg	**Pb**	**10 25 44.8**	**+3.5**
	comp=Z,59nm,0.4s						
BTLS				Lg	Lg	10 26 59.1	
	comp=Z,183nm,1.3s						
IZV	**Izvestkoviy**	**5.74**	**58**	Pg	Pb	10 25 46.6	+4.5
	comp=Z,149nm,0.5s						
IZV				Lg	Lg	10 27 02.2	
	comp=Z,1μm,0.7s						
KDJ	**Kajisay**	**5.79**	**68**	PN	**Pn**	**10 25 30.2**	**+2.6**
KDJ	**Kajisay**	**5.79**	**68**	⇓eP	**Pn**	**10 25 29.9**	**+2.3**
	baz=68						
KDJ				⇓iS	**Sn**	**10 26 33.7**	**0.0**
	baz=68						
KDJ	**Kajisay**	**5.79**	**68**		**Pn**	**10 25 30.2**	**+2.6**
TNSS	**Tian-Shan**	**5.96**	**59**	Pg	Pb	10 25 51.2	+5.2
	comp=Z,324nm,0.8s						
TNSS				Lg	Lg	10 27 10.1	
	comp=Z,821nm,0.5s						
AAA	**Alma-Ata**	**6.02**	**58**	eP	Pb	10 25 51.5	+4.8
	comp=Z,150nm,0.4s						
AAA				eS	**Sg**	**10 27 11.1**	**-4.3**
	comp=Z,713nm,0.6s						
AAA	**Alma-Ata**	**6.02**	**58**	ePN	Pn	10 25 38.7	+8.1
AAA	**Alma-Ata**	**6.02**	**58**	Pg	Pb	10 25 51.5	+4.8
	comp=Z,150nm,0.4s						
AAA				Lg	Lg	10 27 10.7	
	comp=Z,564nm,0.9s						
KNDC	**Almaty**	**6.06**	**58**	⇑Pn	**Pn**	**10 25 33.5**	**+2.3**
	comp=Z,328nm,0.6s						
KNDC				⇑Lg	Lg	10 27 19.0	
	comp=Z,3μm,0.9s						
MDOK	**Medeo**	**6.09**	**59**	eP	Pb	10 25 53.2	+5.2
	comp=Z,286nm,0.6s						
MDOK				eS	**Sg**	**10 27 13.4**	**-4.2**
	comp=Z,764nm,0.7s						
MDOK	**Medeo**	**6.09**	**59**	⇓Pn	**Pn**	**10 25 33.7**	**+2.1**
	comp=Z,300nm,0.5s						
MDOK				⇓Lg	Lg	10 27 19.9	
	comp=Z,1μm,0.8s						
MDOK	**Medeo**	**6.09**	**59**	Pg	Pb	10 25 53.7	+5.8
	comp=Z,286nm,0.6s						
MDOK				Lg	Lg	10 27 14.0	
	comp=Z,764nm,0.7s						
KTBS	**Karatobe**	**6.13**	**53**	Pg	Pb	10 25 53.0	+4.5
	comp=Z,77nm,0.4s						
KTBS				Lg	Lg	10 27 13.1	
	comp=Z,1μm,0.5s						
TARG	**Taragay, Kyrgy**	**6.14**	**73**	⇑iP	**Pn**	**10 25 34.5**	**+1.8**
	baz=72						
TARG				⇑iS	**Sn**	**10 26 42.4**	**-0.3**
	baz=72						
TARG	**Taragay, Kyrgy**	**6.14**	**73**		**Pn**	**10 25 34.2**	**+1.5**
KOTS	**Kotyrbulak**	**6.16**	**58**	Pg	Pb	10 25 55.1	+5.9
	comp=Z,476nm,0.7s						
KOTS				Lg	Lg	10 27 16.1	
	comp=Z,757nm,0.7s						
ANVS	**Anan'yevo**	**6.35**	**64**	⇑eP	**Pn**	**10 25 37.1**	**+1.9**
	baz=63						
ANVS				⇑iS	**Sn**	**10 26 47.1**	**-0.3**
	baz=63						
CHKK	**Chushkaly**	**6.39**	**53**	Pg	Pb	10 25 58.6	+5.6
	comp=Z,85nm,0.6s						
CHKK				Lg	Lg	10 27 22.3	
	comp=Z,520nm,0.8s						
CEP	**Cherat**	**6.56**	**166**	P	**Pn**	**10 25 41.4**	**+3.3**
CEP				S	**Sn**	**10 26 57.0**	**+4.4**
PRZ	**Przheval'sk**	**6.76**	**68**	PN	**Pn**	**10 25 41.6**	**+0.7**
PRZ	**Przheval'sk**	**6.76**	**68**	⇑iP	**Pn**	**10 25 43.0**	**+2.1**

PRZ ⇑*i*S **Sn** **10 26 57.0 -0.6**
baz=67
PRZ **Przheval'sk** **6.76 68** Pn **Pn** **10 25 41.6 +0.7**
SATY **Saty** **6.95 63** Pg Pb 10 26 09.0 +6.3
comp=Z,179nm,0.8s
SATY Lg Lg 10 27 40.8
comp=Z,597nm,0.9s
KURS **Kuram** **6.96 59** Pg Pg 10 26 10.4 -5.1
comp=Z,96nm,0.6s
KURS Lg Lg 10 27 42.9
comp=Z,352nm,1.7s
ZHN **Zhinishke** **7.01 62** Pg Pb 10 26 08.8 +5.1
comp=Z,56nm,0.7s
ZHN Lg Lg 10 27 40.2
comp=Z,87nm,0.6s
CHCP **Chirah Chowk** **7.05 157** P **Pn** **10 25 48.7 +3.9**
NIL **Nilore** **7.06 157** PN **Pn** **10 25 43.9 -0.9**
NIL **Nilore** **7.06 157** Pn **Pn** **10 25 43.9 -0.9**
NIL Sn **Sn** **10 27 01.0 -3.7**
ARXS **Arharly** **7.09 53** Pg Pb 10 26 10.9 +5.8
comp=Z,83nm,0.9s
ARXS Lg Lg 10 27 43.4
comp=Z,664nm,0.5s
UZB **Uzynbulak** **7.41 64** Pg Pb 10 26 17.8 +7.4
comp=Z,53nm,0.5s
UZB Lg Lg 10 27 55.3
comp=Z,254nm,0.5s
THW **Thamme Wali** **7.54 168** P **Pn** **10 25 54.3 +2.9**
PDGK **Podgornoye** **7.79 63** P **Pn** **10 25 56.0 +1.0**
PDGK **Podgornoye** **7.79 63** ⇑Pn **Pn** **10 25 58.4 +3.5**
comp=Z,51nm,1.0s
PDGK ⇑Pg 10 26 26.1
comp=Z,129nm,0.7s
PDGK ⇑Lg Lg 10 28 13.7
comp=Z,354nm,1.0s
TDK **Taldyqorghan** **7.87 50** Pg Pb 10 26 25.4 +7.2
comp=Z,175nm,0.4s
TDK Lg Lg 10 28 08.4
comp=Z,1µm,0.9s
DJR **Jarkent** **8.38 57** Pg Pb 10 26 36.0 +8.9
comp=Z,18nm,0.4s
DJR Lg Lg 10 28 26.8
comp=Z,215nm,1.1s
HRA **Herat** **8.44 229** **Pn** **10 26 04.9 +0.9**
HRA Sn **Sn** **10 27 36.8 -2.3**
JMU **Jammu** **8.47 150** *e*P Pn 10 26 08.5 +4.3
JMU *ex* x 10 27 35.0
KAPS **Kapalarasan** **8.59 51** Pg 10 26 37.7
comp=Z,45nm,0.6s
KAPS Lg Lg 10 28 29.4
comp=Z,180nm,0.6s
THN **Thein Dam** **9.04 147** *ex* **Sn** **10 27 52.0 -1.5**
DHRM **DHARAMSHALA** **9.45 145** *e*P **Pn** **10 26 21.9 +4.0**
DHRM *e*S **Sn** **10 27 57.8 -6.1**
DHRM IAML 10 28 15.9
comp=N,235nm,0.5s
DHRM IAML 10 28 16.1
comp=E,350nm,0.8s
GEYT **Alibeck** **9.47 260** Pn **Pn** **10 26 16.8 -1.2**
comp=E,1.2nm,0.3s,baz=92,slow=8.9,SNR=11
GEYT LR LR 10 30 13.1
comp=E,199nm,21.1s,baz=125,slow=39
GYA0B **ALIBECK ARRAY** **9.47 260** **Pn** **10 26 18.3 +0.3**
GYA0B Sn **Sn** **10 28 04.2 0.0**
GYA0B **ALIBECK ARRAY** **9.47 260** ⇓Pn **Pn** **10 26 17.6 -0.4**
GYA0B ⇑Pg 10 26 47.3
GYA0B ⇓Sn **Sn** **10 28 01.7 -2.5**
GYA0B ⇑Lg Lg 10 29 00.7
BHK **Bhakra** **10.22 147** *e*P Pn 10 26 34.4 +6.2
BHK *ex* x 10 28 24.2
SMLA **Simla** **10.79 145** *e*P **Pn** **10 26 37.0 +1.1**
SMLA *e*S **Sn** **10 28 31.9 -4.5**
SMLA IAML 10 28 35.1
comp=N,129nm,0.3s
SMLA IAML 10 28 45.1
comp=E,214nm,0.7s
MAKZ **Makanchi** **10.95 49** P **Pn** **10 26 39.2 +1.1**
MAKZ 10 28 38.6
MAKZ **Makanchi** **10.95 49** **Pn** **10 26 39.2 +1.1**
MAKZ Sn **Sn** **10 28 38.6 -1.5**
MAKZ **Makanchi** **10.95 49** ⇓Lg Lg 10 29 42.8
comp=E,154nm,0.9s
MK31 **Makanchi Array** **11.12 50** P **Pn** **10 26 41.0 +0.5**
MK31 **Makanchi Array** **11.12 50** **Pn** **10 26 41.0 +0.5**
MK31 **Makanchi Array** **11.12 50** ⇓Pn **Pn** **10 26 40.5 +0.1**
comp=E,22nm,0.6s,baz=234,slow=13,SNR=237
MK31 ⇑Lg Lg 10 29 54.6
comp=E,105nm,0.8s,baz=229,slow=32,SNR=3.5
MKAR **Makanchi Array** **11.12 50** *i*P **Pn** **10 26 41.2 +0.7**
MKAR pmax pmax
comp=Z,31nm,0.7s
MKAR **Makanchi Array** **11.12 50** Pn **Pn** **10 26 41.1 +0.7**
comp=Z,2.0nm,0.3s,baz=235,slow=13,SNR=155
MKAR Lg Lg 10 29 56.9
comp=Z,5.1nm,0.3s,baz=235,slow=30,SNR=3.9
AB31 **Akbulak array** **11.50 325** ⇑Pn **Pn** **10 26 42.9 -2.7**
comp=Z,25nm,0.5s,baz=129,slow=14,SNR=704
AB31 ⇑Sn Sn 10 28 45.1 -8.5
comp=Z,32nm,0.6s,baz=153,slow=24,SNR=4.1
AB31 ⇓Lg Lg 10 29 54.3
comp=Z,44nm,0.6s,baz=160,slow=24,SNR=3.6
ABKAR **Akbulak array** **11.50 325** **Pn** **10 26 44.1 -1.5**
DDI **Dehra Dun** **11.87 144** IAmb IAmb 10 29 10.8
comp=Z,374nm,1.3s
KURBB **Kurchatov Arra** **12.03 27** Pn **Pn** **10 26 51.2 -1.6**
comp=Z,0.8nm,0.3s,baz=216,slow=13,SNR=54
KURBB Lg Lg 10 30 19.8
comp=Z,1.8nm,0.3s,baz=214,slow=29,SNR=6.2
KURBB **Kurchatov Arra** **12.03 27** ⇓Pn Pn 10 26 47.6 -5.3
comp=Z,34nm,0.9s
KURK **Kurchatov** **12.14 27** *ce*P **Pn** **10 26 52.5 -1.9**
KURK pmax pmax
comp=Z,13nm,1.3s
KURK **Kurchatov** **12.14 27** **Pn** **10 26 52.4 -1.9**
JOSI **Joshimath** **12.41 138** *e*P **Pn** **10 26 59.1 +0.7**
JOSI *e*S Sn 10 29 04.9 -11
JOSI IAML 10 29 19.5
comp=E,238nm,0.5s
JOSI IAML 10 29 20.4
comp=N,210nm,1.0s
BVAR **Borovoye Array** **12.83 1** Pn **Pn** **10 27 02.5 -1.3**
comp=N,3.2nm,0.3s,baz=167,slow=13,SNR=56
BRVK **Borovoye** **12.86 1** P **Pn** **10 27 03.4 -0.8**
SNR=25
BRVK **Borovoye** **12.86 1** *ce*P **Pn** **10 27 03.1 -1.1**
BRVK pmax pmax
comp=Z,79nm,0.8s
BRVK **Borovoye** **12.86 1** **Pn** **10 27 03.3 -0.9**
AYAN **Aya Nagar** **13.11 151** *e*P **Pn** **10 27 10.0 +2.4**
AYAN *e*S **Sn** **10 29 27.0 -6.1**
KUDL **Kundal** **13.19 154** *e*P **Pn** **10 27 04.4 -4.4**
KUDL *e*S Sn 10 29 23.5 -12
KUDL IAML 10 29 32.5
comp=N,54nm,0.5s
KUDL IAML 10 29 33.7
comp=E,105nm,0.8s
AKTO **Aktyubinsk** **13.21 325** Pn **Pn** **10 27 07.8 -1.2**
comp=E,2.2nm,0.3s,baz=135,slow=13,SNR=29
AKTO Sn **Sn** **10 29 27.8 -7.7**
comp=E,3.3nm,0.3s,baz=163,slow=19,SNR=3.2
AKTO Lg Lg 10 31 09.8
comp=E,0.4nm,0.3s,baz=246,slow=1.9,SNR=3.7
AKTO LR LR 10 33 04.1
comp=E,340nm,20.8s,baz=135,slow=41
AKTO **Aktyubinsk** **13.21 325** ⇓Sn Sn 10 29 27.1 -8.4
comp=E,109nm,1.1s
WMQ **Urumqi** **13.69 69** *e*P **Pn** **10 27 18.7 +3.1**
WMQ pP P 10 27 25.1 +0.8
WMQ sP 10 27 28.4
WMQ pmax pmax
comp=E,14nm,0.6s
WMQ pmax pmax
comp=E,230nm,7.1s
WMQ LR LR
comp=E,970nm,8.7s
WMQ LR LR
comp=E,710nm,9.3s
WMQ LR LR
comp=E,680nm,9.7s
WMQ **Urumqi** **13.69 69** P **Pn** **10 27 16.3 +0.7**
WMQ **Urumqi** **13.69 69** **Pn** **10 27 16.2 +0.7**
DANN **Dangsing** **16.41 132** *e*P **Pn** **10 27 52.6 +0.4**
comp=E,101nm,0.7s
KOLN **Koldanda** **16.77 134** *e*P **Pn** **10 27 52.9 -3.7**
comp=E,33nm,0.6s

AKT **Akhty** **16.85 282** *e*P **P** **10 27 58.2 -1.3**
AKT pmax pmax
comp=Z,21nm,0.8s
BHUJ **Bhuj** **16.90 181** *e*P **P** **10 28 03.9 +3.9**
BHUJ IAmb IAmb 10 28 06.5
comp=Z,43nm,0.5s
MAK **Makhachkala** **17.00 287** *e*P **P** **10 28 00.4 -0.6**
MAK *e*S **Sn** **10 31 09.2 +1.4**
MAK pmax pmax
comp=Z,330nm,1.7s
MAK MLR MLR
comp=Z,731nm,15.0s
ZAA0 **Zalesovo Array** **17.03 31** **Pn** **10 27 59.3 -0.2**
ZAA0 **Zalesovo Array** **17.03 31** ⇑Pn **Pn** **10 27 58.9 -0.5**
comp=Z,7.3nm,0.7s
ZALV **Zalesovo Beam** **17.03 31** *i* P **Pn** **10 27 57.2 -2.2**
ZALV pmax pmax
comp=Z,36nm,0.8s
ZALV **Zalesovo Beam** **17.03 31** P **Pn** **10 27 57.2 -2.2**
comp=Z,2.9nm,0.3s,baz=224,slow=12,SNR=101
ZALV LR LR 10 34 54.4
comp=Z,386nm,19.5s,baz=208,slow=38
GKN **Gorkha** **17.18 131** *e*P **Pn** **10 28 01.3 -0.4**
comp=Z,81nm,0.7s
SEKA **Sheki** **17.27 281** P **P** **10 28 03.5 -0.6**
GNBR **Gunib** **17.40 285** *i* P **P** **10 28 07.7 +2.2**
SVE **Sverdlovsk** **17.71 343** *e*P **Pn** **10 28 05.7 -2.2**
SVE pmax pmax
comp=Z,91nm,0.9s
SVE MLR MLR
comp=Z,1µm,10.0s
KKN **Kakani** **17.72 130** *e*P **Pn** **10 28 08.4 0.0**
comp=Z,50nm,0.5s
DMN **Daman** **17.75 130** *e*P **Pn** **10 28 07.0 -1.9**
comp=Z,45nm,0.7s
ARU **Arti** **17.87 339** *c* i P **Pn** **10 28 09.2 -0.7**
ARU S **Sn** **10 31 26.5 -2.1**
ARU pmax pmax
comp=Z,31nm,0.7s
ARU **Arti** **17.87 339** P **Pn** **10 28 09.2 -0.7**
comp=Z,0.0nm,0.3s,baz=155,slow=9.7,SNR=11
ARU **Arti** **17.87 339** **Pn** **10 28 09.1 -0.9**
PKIN **Phulchoki** **17.94 130** *e*P **Pn** **10 28 09.8 -1.5**
comp=Z,64nm,0.7s
PKI **Pulchoki** **17.96 130** *e*P **Pn** **10 28 09.9 -1.6**
comp=Z,78nm,0.6s
GUN **Gumba** **17.98 128** *e*P **P** **10 28 13.5 +1.2**
comp=Z,40nm,0.5s
BHPL **Bhopal** **18.06 157** *e*P **P** **10 28 17.4 +4.6**
BHPL *ex* x 10 31 27.2
GROC **Groznyy** **18.26 287** *e*P **Pn** **10 28 14.5 -0.3**
GROC *e*S **Sn** **10 31 38.4 +0.1**
GROC pmax pmax
comp=Z,104nm,1.0s
JIRN **Jiri** **18.36 128** *e*P **P** **10 28 16.7 +0.2**
comp=Z,73nm,0.5s
UOSS **Minazif** **19.08 221** P **P** **10 28 21.1 -2.9**
RAMN **Ramite** **19.12 129** *e*P **P** **10 28 21.7 -3.1**
comp=Z,60nm,0.7s
GNI **Garni** **19.24 278** P **Pn** **10 28 30.0 +3.0**
SNR=11
GNI **Garni** **19.24 278** *ce*P **Pn** **10 28 29.4 +2.5**
GNI pmax pmax
comp=Z,161nm,1.3s
ASHO **Ashiyiah** **19.37 221** P **Pn** **10 28 33.1 +4.7**
SNR=5.4
WSAR **Wadi Sarin** **19.43 213** LR LR 10 37 58.5
comp=Z,444nm,18.3s,baz=62,slow=43
TAPN **Taplejung** **19.51 126** *e*P **Pn** **10 28 29.9 -0.4**
comp=Z,43nm,0.6s
NCK **Nalchik** **19.87 288** *i* P **Pn** **10 28 35.0 +0.8**
NCK pmax pmax
comp=Z,20nm,1.0s
PYA1 **Pyatigorsk** **20.24 290** P Pn 10 28 40.3 +1.7
LSA **Lhasa** **20.25 115** P **P** **10 28 36.9 -0.4**
LSA pmax pmax
comp=Z,30nm,0.9s
LSA **Lhasa** **20.25 115** P **P** **10 28 36.9 -0.4**
KBZ **Khabaz** **20.38 289** *i* P Pn 10 28 41.6 +1.4
KBZ **Khabaz** **20.38 289** P Pn 10 28 40.1 -0.1
comp=Z,8.8nm,0.8s,baz=132,slow=6.3,SNR=10
KBZ LR LR 10 37 21.8
comp=Z,276nm,18.2s,baz=90,slow=39
JMDO **Jabal Madar** **20.42 213** P Pn 10 28 39.9 -0.8
BSY **Bisya** **20.48 216** P Pn 10 28 41.7 +0.2
NEY **Neytrino** **20.51 287** *i* P Pn 10 28 41.4 -0.5
NEY pmax pmax
comp=Z,7.0nm,0.9s
KIV **Kislovodsk** **20.54 289** *e*P Pn 10 28 44.6 +2.5
KIV *e*S Sn 10 32 33.2 -0.1
KIV pmax pmax
comp=Z,72nm,1.1s
KIV MLR MLR
comp=Z,297nm,14.0s
KIV **Kislovodsk** **20.54 289** P **P** **10 28 40.2 +0.3**
SHA1 **Shidzhatmaz** **20.55 289** *i* P Pn 10 28 43.4 +0.9
BOK **Bokaro** **21.17 136** *e*P **P** **10 28 47.8 +1.1**
BOK IAmb IAmb 10 28 56.4
comp=Z,63nm,0.8s
POO **Poona** **21.86 170** *ex* **P** **10 29 00.0 +5.8**
VRH **Novokhopyorsk** **22.43 309** *e*P **P** **10 29 04.5 +4.4**
VRH pmax pmax
comp=Z,210nm,0.6s
GTA **Gaotai** **22.92 82** P **P** **10 29 05.9 +0.4**
GTA pP sP 10 29 10.3 -2.4
GTA sP pP 10 29 12.9 +2.5
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,77nm,5.6s
GTA LR LR
comp=Z,280nm,11.1s
GTA LR LR
comp=Z,430nm,12.4s
GTA LR LR
comp=Z,600nm,11.7s
SHL **Shillong** **23.42 122** P **P** **10 29 10.1 -0.7**
SHL pmax pmax
comp=Z,23nm,0.8s
SHL **Shillong** **23.42 122** P **P** **10 29 10.1 -0.7**
SHL IAmb IAmb 10 29 29.8
comp=Z,23nm,0.8s
VORD **Divnogorie** **23.83 307** *e*P **P** **10 29 17.2 +2.9**
VORD pmax pmax
comp=Z,40nm,0.7s
HYB **Hyderabad** **23.90 159** *i* P **P** **10 29 17.0 +1.7**
VSR **Storozhevoye** **23.97 308** *e*P **P** **10 29 15.3 -0.3**
VSR *e*S **S** **10 33 36.3 +4.8**
VSR pmax pmax
comp=Z,40nm,0.7s
VSR smax smax
comp=N,2µm,6.7s
VORR **Voronezh** **24.07 309** P **P** **10 29 16.0 -0.6**
VORR pmax pmax
comp=Z,300nm,1.2s
MOY **Mondy** **24.26 51** *e*P **P** **10 29 15.3 -3.2**
MOY pmax pmax
comp=Z,40nm,2.7s
ANN **Anapa** **24.31 292** *e*P **P** **10 29 25.1 +6.3**
ANN pmax pmax
comp=Z,71nm,0.9s
LPSR **Galich'ya Gora** **24.51 311** *e*P **P** **10 29 22.3 +1.7**
LPSR pmax pmax
comp=Z,70nm,0.8s
ZAK **Zakamensk** **25.37 55** *e*P **P** **10 29 25.9 -2.6**
ZAK pmax pmax
comp=Z,37nm,1.2s
GAZ **Gaziantep** **25.65 274** P **P** **10 29 29.8 -1.3**
TLY **Talaya** **25.86 52** P **P** **10 29 33.3 +0.4**
TLY pmax pmax
comp=Z,11nm,1.0s
TLY **Talaya** **25.86 52** P **P** **10 29 33.3 +0.4**
PRGR **Permogore** **26.07 333** *e*P **P** **10 29 34.3 -0.3**
PRGR *e*S **S** **10 34 02.7 -2.2**
PRGR pmax pmax
comp=Z,22nm,0.9s
WHFO **Wadi Hawf** **26.24 217** P **P** **10 29 37.2 +0.6**
MOS **Moscow** **26.32 317** *e*P **P** **10 29 39.9 +3.0**
MOS *e* 10 30 23.4
MOS *e* 10 30 39.4
MOS pmax pmax
comp=Z,45nm,1.0s
RAYN **Ar Rayn** **26.47 238** P **P** **10 29 38.3 -0.3**
RAYN pmax pmax
comp=Z,20nm,0.9s

RAYN **Ar Rayn** **26.47 238** P **P** **10 29 38.3 -0.3**
OBN **Obninsk** **26.65 315** ⇑*e*P **P** **10 29 40.8 +0.9**
OBN *PP **sP** **10 29 50.0 +2.7**
OBN *SP pP 10 29 54.8 +10
OBN PPP PPP 10 30 27.0
OBN pmax pmax
comp=Z,27nm,0.9s
OBN **Obninsk** **26.65 315** P **P** **10 29 40.2 +0.3**
OBN IAmb IAmb 10 29 45.7
comp=Z,32nm,0.7s
LZH **Lanzhou** **26.88 88** *e*P **P** **10 29 44.2 +1.8**
LZH pP sP 10 29 53.7 +3.9
LZH sP pP 10 29 56.5 +8.9
LZH PP **PnPn** **10 30 31.3 +7.1**
LZH pmax pmax
comp=Z,14nm,1.1s
LZH pmax pmax
comp=Z,59nm,4.3s
LZH LR LR
comp=Z,450nm,15.7s
LZH LR LR
comp=Z,480nm,14.1s
LZH LR LR
comp=Z,500nm,16.3s
SONM **Songino Array** **27.10 61** P **P** **10 29 45.3 +1.0**
comp=Z,4.2nm,1.1s,baz=271,slow=10,SNR=15
ILGA **Ilgaz** **27.39 284** P **P** **10 29 46.5 -0.4**
ULN **Ulaanbaatar** **27.55 61** *ce*P **P** **10 29 50.0 +1.7**
ULN pmax pmax
comp=Z,22nm,1.7s
ULN **Ulaanbaatar** **27.55 61** P **P** **10 29 48.7 +0.4**
BRTR **Keskin Array B** **27.71 281** *i* P **P** **10 29 53.7 +3.9**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR **Keskin Array B** **27.71 281** P **P** **10 29 50.5 +0.7**
comp=Z,6.3nm,0.9s,baz=94,slow=6.4,SNR=14
BRTR pP **P** **10 29 55.0 +5.2**
comp=Z,6.4nm,0.9s,baz=92,slow=6.7,SNR=14
BRTR **Keskin Array B** **27.71 281** P **P** **10 29 55.0 +5.2**
ANTO **Ankara** **28.31 282** P **P** **10 29 53.9 -1.2**
ANTO pmax pmax
comp=Z,14nm,1.1s
ANTO **Ankara** **28.31 282** P **P** **10 29 53.9 -1.2**
MMAI **Mount Meron Ar** **28.51 266** LR LR 10 44 00.3
comp=Z,106nm,18.0s,baz=110,slow=42
CD2 **Chengdu** **28.89 98** *e*P **P** **10 30 01.0 +0.7**
CD2 S **S** **10 34 50.2 +0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,500nm,9.6s
CD2 LR LR
comp=Z,620nm,8.2s
AKASG **Malin Array Be** **30.08 304** *i* P **P** **10 30 11.8 +1.3**
AKASG pmax pmax
comp=Z,10.0nm,0.8s
AKASG **Malin Array Be** **30.08 304** P **P** **10 30 09.9 -0.7**
comp=Z,0.5nm,0.4s,baz=81,slow=7.6,SNR=8.5
AKASG pP **sP** **10 30 14.8 -3.1**
comp=Z,9.0nm,0.8s,baz=75,slow=7.5,SNR=6.1
AKBB **Malin Array Si** **30.08 304** *i* P **P** **10 30 10.3 -0.2**
AKBB **Malin Array Si** **30.08 304** P **P** **10 30 09.7 -0.8**
AKBB IAmb IAmb 10 30 15.6
comp=Z,12nm,0.8s
EIL **Elat** **30.37 261** P **P** **10 30 15.1 +1.7**
comp=Z,3.6nm,0.5s,baz=78,slow=24,SNR=3.8
EIL LR LR 10 44 24.2
comp=Z,28nm,18.0s,baz=77,slow=40
NRIK **Noril'sk** **30.66 12** P **P** **10 30 17.0 +1.5**
NRIK **Noril'sk** **30.66 12** P **P** **10 30 17.0 +1.5**
comp=Z,9.2nm,0.9s,baz=190,slow=6.1,SNR=9.6
NRIK LR LR 10 42 23.9
comp=Z,142nm,19.8s,baz=200,slow=36
ELL **Elmali** **31.35 277** P **P** **10 30 20.5 -1.5**
ELL pmax pmax
comp=Z,23nm,0.8s
ELL **Elmali** **31.35 277** P **P** **10 30 20.5 -1.5**
ELL IAmb IAmb 10 30 36.0
comp=Z,23nm,0.8s
HHC **Hu-ho-hao-te** **31.43 75** *e*P **P** **10 30 25.3 +2.6**
HHC pmax pmax
comp=Z,7.0nm,0.9s
XAN **Xi'an** **31.50 89** P **P** **10 30 23.3 0.0**
XAN pP sP 10 30 33.9 +3.2
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN LR LR
comp=Z,300nm,15.2s
XAN LR LR
comp=Z,250nm,14.1s
XAN LR LR
comp=Z,320nm,16.3s
XAN **Xi'an** **31.50 89** P **P** **10 30 23.1 -0.2**
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN **Xi'an** **31.50 89** P **P** **10 30 23.1 -0.2**
PLOR **Plostina** **31.84 295** ⇓P **P** **10 30 28.3 +2.0**
PLOR **Plostina** **31.84 295** ⇓P **P** **10 30 28.3 +2.0**
MANT **Manisa** **31.85 280** P **P** **10 30 24.5 -2.0**
MANT IAmb IAmb 10 30 32.5
comp=Z,24nm,0.9s
MLR **Muntele Rosu** **32.38 294** ⇓P **P** **10 30 34.1 +3.1**
MLR **Muntele Rosu** **32.38 294** P **P** **10 30 33.8 +2.8**
comp=Z,16nm,0.8s,baz=138,slow=4.0,SNR=11
MLR **Muntele Rosu** **32.38 294** ⇓P **P** **10 30 34.1 +3.1**
MLR **Muntele Rosu** **32.38 294** P **P** **10 30 31.4 +0.4**
MLR IAmb IAmb 10 30 39.2
comp=Z,23nm,1.0s
BURAR **Bucovina Array** **32.69 298** ⇑P **P** **10 30 37.3 +3.6**
BURAR **Bucovina Array** **32.69 298** ⇑P **P** **10 30 37.3 +3.6**
BUR08 **Bucovina Ar. S** **32.70 298** P **P** **10 30 33.8 +0.1**
VOIR **33.01 294** ⇑P **P** **10 30 40.0 +3.5**
VOIR **33.01 294** ⇑P **P** **10 30 40.0 +3.5**
CMAR **Chiang Mai Arr** **33.05 122** *i* P **P** **10 30 38.5 +1.5**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR **Chiang Mai Arr** **33.05 122** P **P** **10 30 36.9 -0.1**
comp=Z,1.3nm,0.7s,baz=310,slow=8.6,SNR=5.4
BOD **Bodaibo** **33.10 43** *e*P **P** **10 30 37.5 +0.4**
BOD pmax pmax
comp=Z,16nm,1.3s
ARR **Arges** **33.31 294** ⇓P **P** **10 30 43.1 +4.1**
ARCR **ARCALIA** **33.31 297** ⇓P **P** **10 30 41.0 +1.9**
GYA **Guiyang** **33.36 103** *e*P P 10 30 45.0 +5.2
GYA pmax pmax
comp=Z,10.0nm,0.5s
LVV **L'vov** **33.38 302** *e*P **P** **10 30 42.3 +2.7**
LVZ **Lovozero** **33.72 337** P **P** **10 30 43.1 +0.7**
LVZ pmax pmax
comp=Z,15nm,1.0s
LVZ **Lovozero** **33.72 337** P **P** **10 30 43.1 +0.7**
LVZ IAmb IAmb 10 31 02.4
comp=Z,16nm,1.0s
APA **Apatity** **33.91 336** ⇑*i*P P 10 30 49.9 +5.9
APA pmax pmax
comp=Z,7.0nm,1.4s
APA MLR MLR
comp=Z,2µm,12.0s
FIA1 **FINESS Array S** **33.98 323** P **P** **10 30 45.6 +0.9**
FINES **FINESS Array B** **33.98 323** *i* P **P** **10 30 48.2 +3.5**
FINES pmax pmax
comp=Z,7.0nm,0.6s
FINES **FINESS Array B** **33.98 323** P **P** **10 30 45.5 +0.9**
comp=Z,7.1nm,0.6s,baz=116,slow=8.7,SNR=12
FINES LR LR 10 45 23.2
comp=Z,427nm,19.7s,baz=184,slow=38
PALK **Pallekele** **34.18 161** LR LR 10 45 28.4
comp=Z,173nm,18.2s,baz=326,slow=38
SLVN **Son La** **34.43 113** P **P** **10 30 47.2 -1.9**
SLVN IAmb IAmb 10 30 56.9
comp=Z,18nm,1.5s
DRGR **34.46 297** ⇑P P 10 30 54.4 +5.3
DRGR **34.46 297** ⇑P P 10 30 54.4 +5.3
KOLS **Kolonicke sedl** **34.57 301** *e*P **P** **10 30 51.0 +1.1**
KOLS pmax pmax
comp=Z,14nm,1.1s
KOLS **Kolonicke sedl** **34.57 301** *e*P **P** **10 30 51.0 +1.1**
KOLS *e*PP **PnPn** **10 32 03.9 -1.3**
UZH **Uzhgorod** **34.57 300** *e*P P 10 30 55.4 +5.5
UZH *e* 10 31 07.8
GZR **Gura Zlata** **34.60 294** ⇑P P 10 30 55.3 +5.0
GZR **Gura Zlata** **34.60 294** ⇑P P 10 30 55.3 +5.0
VTS **Vitosha** **34.77 290** ⇓P P 10 30 59.0 +7.1
VTS **Vitosha** **34.77 290** ⇓P P 10 30 59.0 +7.0
BZS **Buzias** **35.37 295** ⇑P P 10 31 03.1 +6.2

BZS Buzias 35.37 295 ⇑P P 10 31 03.1 +6.2
PBKT Sadao Pong 35.74 122 P **P** **10 31 01.7 +1.4**
HIA Hailar 35.94 58 P **P** **10 31 01.9 +0.2**
HIA pmax pmax
comp=Z,6.0nm,0.9s
HIA Hailar 35.94 58 P **P** **10 31 01.9 +0.2**
OJC Ojcow 36.09 303 P **P** **10 31 05.8 +2.8**
OJC pmax pmax
comp=Z,18nm,1.0s
OJC Ojcow 36.09 303 P **P** **10 31 05.8 +2.8**
OJC lAmb lAmb 10 31 09.8
comp=Z,18nm,1.0s
FNA Florina 36.56 287 P **P** **10 31 06.7 -0.5**
FNA pmax pmax
comp=Z,7.0nm,0.9s
FNA Florina 36.56 287 P **P** **10 31 06.7 -0.5**
VYHS Vyhne 36.87 300 *e*P **P** **10 31 11.4 +1.7**
VYHS pmax pmax
comp=Z,7.0nm,1.0s
VYHS Vyhne 36.87 300 *e*P **P** **10 31 11.4 +1.7**
TIA Tai'an 36.95 81 P **P** **10 31 11.9 +1.4**
TIA pmax pmax
comp=Z,10.0nm,0.8s
KEV Kevo 37.07 337 P **P** **10 31 10.6 -0.4**
KEV pmax pmax
comp=Z,24nm,1.1s
KEV Kevo 37.07 337 P **P** **10 31 10.6 -0.4**
KEV lAmb lAmb 10 31 17.9
comp=Z,24nm,1.1s
WHN Wuhan 37.14 91 P **P** **10 31 13.1 +1.0**
MORH Mrgy, Hungar 37.33 297 *e*P P 10 31 19.0 +5.5
ARCES ARCESS Array B 37.42 336 P **P** **10 31 14.8 +0.8**
comp=Z,19nm,0.8s,baz=116,slow=7.2,SNR=19
ARCES pP **sP** **10 31 19.7 -1.8**
comp=Z,16nm,0.7s,baz=112,slow=9.8,SNR=13
ARCES LR LR 10 47 27.9
comp=Z,494nm,18.5s,baz=136,slow=38
ARE0 ARCESS Array S 37.42 336 P **P** **10 31 15.4 +1.3**
MPLH Magyarpolny 37.92 298 *e*P **P** **10 31 18.1 -0.5**
DPC Dobruska-Polom 38.30 304 *e*P **P** **10 31 23.3 +1.5**
DPC Dobruska-Polom 38.30 304 *e*P **P** **10 31 23.3 +1.5**
DPC *epP* **sP** **10 31 26.5 -2.8**
UPC Upice 38.49 304 *e*P **P** **10 31 23.1 -0.2**
UPC *e* 10 31 28.6
UPC Upice 38.49 304 *e*P **P** **10 31 23.1 -0.2**
UPC *epP* **sP** **10 31 28.6 -2.2**
HFS Hagfors 39.68 319 P **P** **10 31 33.4 +0.2**
comp=Z,4.8nm,0.5s,baz=99,slow=9.2,SNR=12
BRG Berggiesshubel 39.75 305 *i* P P 10 31 39.5 +5.6
comp=Z,12nm,0.8s
BRG Berggiesshubel 39.75 305 *i* P P 10 31 39.5 +5.6
BRG pmax pmax
comp=Z,12nm,0.8s
NJ2 Nanjing 39.91 86 *e*P **P** **10 31 36.5 +1.1**
NJ2 pmax pmax
comp=Z,12nm,0.6s
GERES GERESS Array B 40.19 302 P **P** **10 31 38.9 +1.2**
comp=Z,3.4nm,0.7s,baz=70,slow=12,SNR=3.9
GERES pP **sP** **10 31 43.7 -1.5**
comp=Z,5.0nm,0.9s,baz=62,slow=7.4,SNR=8.0
GERES LR LR 10 50 00.5
comp=Z,199nm,18.9s,baz=86,slow=39
KHC Kasperske Hory 40.23 302 *i* P **P** **10 31 37.9 0.0**
KHC pmax pmax
comp=Z,6.0nm,0.9s
KHC Kasperske Hory 40.23 302 *e*P **P** **10 31 38.6 +0.7**
KHC *epP* **sP** **10 31 42.5 -2.9**
KHC Kasperske Hory 40.23 302 P **P** **10 31 37.9 0.0**
ZEA Zeya 40.27 51 *e*P **P** **10 31 40.0 +1.8**
CLL Collm 40.29 306 *e*P **P** **10 31 37.0 -1.3**
CLL *e* 10 31 44.0
CLL Collm 40.29 306 *e*P **P** **10 31 37.0 -1.3**
CLL *epP* **sP** **10 31 44.0 -1.8**
comp=Z,10.0nm,0.7s
CN2 Changchun 40.75 66 *e*P **P** **10 31 42.6 +0.3**
CN2 *es*P sP 10 31 55.9 +6.1
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,300nm,19.0s
NC303 NORSAR Array S 40.89 321 P **P** **10 31 41.9 -1.3**
NC303 lAmb lAmb 10 31 44.4
comp=Z,55nm,1.2s
NB201 NORSAR Array S 40.92 321 P **P** **10 31 43.1 -0.3**
NB2 NORSAR Subarra 40.96 321 P **P** **10 31 43.5 -0.3**
comp=Z,31nm,1.2s,baz=94,slow=8.6
NB2 NORSAR Subarra 40.96 321 P **P** **10 31 43.5 -0.3**
baz=94,slow=8.6
NOA NORSAR Array B 40.96 321 P **P** **10 31 43.4 -0.3**
comp=Z,13nm,1.1s,baz=93,slow=8.3,SNR=7.4
NOA pP **sP** **10 31 48.7 -2.5**
comp=Z,5.9nm,1.0s,baz=100,slow=8.0,SNR=9.6
NOA PP **PnPn** **10 33 21.2 -1.2**
comp=Z,4.7nm,0.9s,baz=91,slow=12,SNR=5.6
NBO00 NORSAR Array S 41.17 321 P **P** **10 31 47.2 +1.7**
NC204 NORSAR Array S 41.19 321 P **P** **10 31 45.1 -0.6**
NC204 lAmb lAmb 10 32 00.9
comp=Z,51nm,1.4s
YAK Yakutsk 41.50 38 *e*P **P** **10 31 48.4 +0.3**
YAK *e**PP **sP** **10 31 56.8 +1.2**
YAK *e* 10 33 25.1
YAK *e* 10 33 50.4
YAK *e*S **S** **10 37 57.4 -5.2**
YAK *e**SS **sS** **10 38 16.4 +5.1**
YAK *e*SS **SS** **10 41 02.3 -4.6**
YAK *e* 10 41 53.3
YAK pmax pmax
comp=Z,36nm,0.8s
YAK pmax pmax
comp=E,21nm,1.3s
YAK pmax pmax
comp=N,10.0nm,1.4s
YAK pmax pmax
comp=Z,73nm,2.8s
YAK pmax pmax
comp=N,60nm,2.5s
YAK smax smax
comp=E,71nm,2.6s
YAK smax smax
comp=N,63nm,2.2s
YAK MLR MLR
comp=Z,134nm,17.0s
YAK MLR MLR
comp=E,95nm,16.0s
YAK Yakutsk 41.50 38 P **P** **10 31 48.5 +0.4**
comp=E,8.7nm,0.5s,baz=209,slow=0.6,SNR=16
YAK Yakutsk 41.50 38 P **P** **10 31 48.7 +0.6**
YAK lAmb lAmb 10 31 60.0
comp=Z,33nm,0.8s
TIXI Tiksi 42.69 24⇑ *i*P **P** **10 31 58.1 +0.4**
TIXI pmax pmax
comp=Z,29nm,0.9s
TIXI MLR MLR
comp=Z,233nm,17.0s
TIXI Tiksi 42.69 24 P **P** **10 31 58.4 +0.7**
comp=Z,33nm,0.8s,baz=292,slow=5.1,SNR=37
TIXI Tiksi 42.69 24 P **P** **10 31 57.0 -0.6**
MLSI Meulaboh, Aceh 43.01 139 P **P** **10 32 01.2 +0.3**
comp=Z,32nm,1.0s,comp=Z,2um
MDJ Mudanjiang 43.41 64 P **P** **10 32 04.1 +0.2**
SPA0 Spitsbergen Ar 43.70 346 P **P** **10 32 06.7 +0.8**
SPA0 lAmb lAmb 10 32 12.9
comp=Z,28nm,0.8s
SPITS Spitsbergen Ar 43.70 346 P **P** **10 32 06.9 +1.0**
comp=Z,24nm,0.8s,baz=114,slow=15,SNR=9.9
SPITS pP **sP** **10 32 11.8 -1.7**
comp=Z,25nm,0.8s,baz=108,slow=15,SNR=6.8
KLR Kul'dur 43.72 57*c* *i*P **P** **10 32 07.4 +1.0**
KLR pmax pmax
comp=Z,19nm,1.5s
KLR MLR MLR
comp=Z,218nm,16.0s
KSRS Korea Array 44.56 74 P **P** **10 32 13.6 +0.4**
comp=Z,5.3nm,0.9s,baz=286,slow=6.1,SNR=12
KSRS PP **PcP** **10 33 55.1 -1.0**
comp=Z,2.3nm,0.9s,baz=265,slow=4.7,SNR=4.1
USA0B Ussuriysk Arra 45.18 64 *i* P **P** **10 32 17.7 -0.4**
USA0B Ussuriysk Arra 45.18 64 P **P** **10 32 18.7 +0.6**
USA0B lAmb lAmb 10 32 20.8
comp=Z,11nm,0.8s
USRK Ussuriysk Ar. 45.18 64 P **P** **10 32 18.3 +0.2**
comp=Z,7.5nm,0.6s,baz=281,slow=6.5,SNR=22
PSI Prapat 45.54 137 LR LR 10 52 47.7
comp=Z,48nm,21.1s,baz=303,slow=38
GSI Gunungsitoli 46.14 140 P **P** **10 32 27.3 +1.3**
GRNR Gornyy 46.31 54⇑ *i*P **P** **10 32 28.1 +1.2**
GRNR pmax pmax
comp=Z,7.0nm,1.0s
GRNR MLR MLR
comp=Z,220nm,17.0s
DGAR Diego Garcia 47.43 177 P **P** **10 32 34.4 -1.6**
DGAR pmax pmax
comp=Z,101nm,1.2s
DGAR Diego Garcia 47.43 177 P **P** **10 32 34.4 -1.6**
JNU Nakatsue 48.55 78 P **P** **10 32 45.0 +0.3**
comp=Z,23nm,1.1s,baz=32,slow=4.0,SNR=4.4
JNU Nakatsue 48.55 78 P **P** **10 32 44.8 +0.1**
JNU lAmb lAmb 10 32 47.0
comp=Z,22nm,1.0s
EKA Eskdalemuir Ar 49.09 314 pP pP 10 32 53.4 -0.5
comp=Z,5.3nm,0.8s,baz=80,slow=8.0,SNR=5.5
SISI Saibi 49.16 140 P **P** **10 32 49.8 +0.4**
comp=Z,23nm,1.0s
DAG Danmarks Havn 50.95 343 *i* P **P** **10 33 02.8 +0.6**
DAG pmax pmax
comp=Z,11nm,0.8s
DAG Danmarks Havn 50.95 343 *i* P **P** **10 33 02.8 +0.6**
comp=Z,14nm,0.8s
DAG *i* 10 33 07.8
YSS Yuzh-Sakhalins 51.43 57⇑ *e*P **P** **10 33 06.8 +0.5**
YSS *e* 10 35 01.1
YSS *e* 10 40 26.0
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,300nm,15.0s
YSS Yuzh-Sakhalins 51.43 57 P **P** **10 33 06.1 -0.1**
YSS lAmb lAmb 10 33 08.3
comp=Z,31nm,1.1s
INU Inuyama 52.10 73 P **P** **10 33 11.7 +0.3**
ASAJ Asahikawa 52.38 60 P **P** **10 33 13.5 +0.2**
comp=Z,7.1nm,0.8s,baz=278,slow=11,SNR=6.9
JKA Kamikawa-asahi 52.38 60 P **P** **10 33 13.5 +0.2**
MJB9 Matsu-Tunnel 52.44 71 P **P** **10 33 13.8 -0.2**
MAJO Matsushiro 52.44 71 P **P** **10 33 13.8 -0.2**
MAJO pmax pmax
comp=Z,39nm,0.9s
MAJO Matsushiro 52.44 71 P **P** **10 33 13.8 -0.2**
MAT Matsushiro 52.44 71 P **P** **10 33 13.5 -0.5**
MJAR Matsushiro Arr 52.44 71 P **P** **10 33 14.1 +0.1**
comp=Z,23nm,0.8s,baz=286,slow=11,SNR=34
MJAR LR LR 10 56 59.4
comp=Z,32nm,18.1s,baz=300,slow=38
ERM Erimo 53.59 62 P **P** **10 33 22.4 +0.1**
ERM pmax pmax
comp=Z,37nm,1.1s
ERM Erimo 53.59 62 P **P** **10 33 22.4 +0.1**
ESDC Sonseca Array 55.06 295 P **P** **10 33 33.7 +0.5**
comp=Z,0.3nm,0.4s,baz=59,slow=8.4,SNR=6.2
BILL Bilibino 55.67 27⇑ *e*P **P** **10 33 38.4 +1.3**
BILL *e**PP **sP** **10 33 48.0 +3.3**
BILL *e**SP pP 10 33 51.2 +8.7
BILL 10 35 46.0
BILL SSS SSS 10 47 13.0
BILL pmax pmax
comp=Z,16nm,1.3s
BILL MLR MLR
comp=Z,314nm,18.0s
BILL Bilibino 55.67 27 P **P** **10 33 37.7 +0.6**
BILL lAmb lAmb 10 33 44.1
comp=Z,12nm,1.0s
SUMG Summit 57.30 340 *i* P **P** **10 33 50.4 +1.4**
SUMG Summit 57.30 340 *i* P **P** **10 33 50.4 +1.4**
SUMG *i* 10 33 55.3
SUMG Summit 57.30 340 P **P** **10 33 50.5 +1.4**
PETK Petropavlovsk- 57.92 45 P **P** **10 33 52.9 -0.4**
comp=Z,2.4nm,0.8s,baz=132,slow=2.2,SNR=4.6
TOA0 Torodi Ar. Sit 65.05 266 P **P** **10 34 41.6 -0.4**
TOA0 lAmb lAmb 10 34 47.9
comp=Z,8.1nm,0.8s
TORD Torodi Ar. Bea 65.05 266 P **P** **10 34 41.5 -0.5**
comp=Z,4.2nm,0.6s,baz=52,slow=5.5,SNR=22
SANI Sanana 66.13 115 P **P** **10 34 47.9 -1.0**
comp=Z,13nm,0.9s
COLD Coldfoot 68.63 16 P **P** **10 35 04.4 +0.3**
COLD lAmb lAmb 10 35 10.9
comp=Z,13nm,1.0s
SIJI Sorong 69.03 110 P **P** **10 35 07.2 -0.1**
comp=Z,19nm,0.9s,baz=297,slow=9.0,SNR=4.8
FYU Fort Yukon 70.19 14 P **P** **10 35 15.0 +1.4**
C36M Paulatuk 70.28 5 P **P** **10 35 14.1 0.0**
baz=349
INK Inuvik 70.39 9 P **P** **10 35 15.8 +1.0**
INK pmax pmax
comp=Z,25nm,1.2s
INK Inuvik 70.39 9 P **P** **10 35 15.8 +1.0**
comp=Z,8.5nm,0.9s,baz=1.5,slow=8.6,SNR=28
INK Inuvik 70.39 9 P **P** **10 35 15.8 +1.0**
MLY Manley 70.39 17 P **P** **10 35 15.8 +0.9**
MLY lAmb lAmb 10 35 21.5
comp=Z,9.9nm,1.1s
POKR Poker Plat Res 71.03 16 P **P** **10 35 19.2 +0.4**
baz=331
BPAW Bear Paw Mtn. 71.12 18 P **P** **10 35 19.9 +0.5**
BPAW lAmb lAmb 10 35 25.6
comp=Z,14nm,1.2s
TCOL CIGO, UAF Yank 71.15 16 P **P** **10 35 20.2 +0.7**
baz=330
COLA College 71.16 16 P **P** **10 35 20.4 +0.9**
COLA pmax pmax
comp=Z,20nm,0.8s
COLA College 71.16 16 P **P** **10 35 20.4 +0.9**
FAKI Fak Fak 71.16 111 P **P** **10 35 20.5 +0.2**
FAKI lAmb lAmb 10 35 30.7
comp=Z,16nm,1.0s
CCB Clear Creek Bu 71.36 16 P **P** **10 35 21.1 +0.3**
CCB lAmb lAmb 10 35 27.7
comp=Z,11nm,1.2s
BWN Browne 71.41 17 P **P** **10 35 21.5 +0.4**
IL31 71.45 16 P **P** **10 35 20.4 -0.9**
IL31 lAmb lAmb 10 35 22.6
comp=Z,11nm,1.1s
ILAR Eielson Array 71.45 16 P **P** **10 35 21.6 +0.3**
comp=Z,4.7nm,0.9s,baz=323,slow=5.0,SNR=43
ILAR LR LR 11 10 26.6
comp=Z,61nm,18.1s,baz=303,slow=39
WRH Wood River Hil 71.45 16 P **P** **10 35 21.5 +0.2**
KTH Kantishna Hill 71.61 18 P **P** **10 35 22.7 +0.3**
KTH lAmb lAmb 10 35 28.6
comp=Z,18nm,1.0s
HDA Harding Lake 71.75 16 P **P** **10 35 22.7 -0.4**
baz=331
HDA Harding Lake 71.75 16 P **P** **10 35 21.8 -1.3**
EPYK Eagle Plains 71.79 11 P **P** **10 35 23.5 +0.1**
baz=339
EPYK Eagle Plains 71.79 11 P **P** **10 35 23.8 +0.4**
EPYK lAmb lAmb 10 35 42.4
comp=Z,15nm,1.2s
TRF Thorofare Moun 71.84 18 P **P** **10 35 24.4 +0.5**
TRF lAmb lAmb 10 35 29.0
comp=Z,16nm,1.4s
PPLA Purkeypile 71.86 19 P **P** **10 35 24.3 +0.3**
PPLA lAmb lAmb 10 35 31.7
comp=Z,22nm,1.4s
MCK McKinley 71.91 17 P **P** **10 35 24.3 +0.1**
MCK pmax pmax
comp=Z,10.0nm,1.1s
MCK McKinley 71.91 17 P **P** **10 35 24.3 +0.1**
RND Reindeer 72.21 17 P **P** **10 35 25.4 -0.6**
RND pmax pmax
comp=Z,14nm,1.3s
RND Reindeer 72.21 17 P **P** **10 35 25.4 -0.6**
RND lAmb lAmb 10 35 36.2
comp=Z,14nm,1.3s
SCRK Sand Creek 72.74 15 P **P** **10 35 29.8 +0.5**
SCRK lAmb lAmb 10 35 35.8
comp=Z,10nm,0.9s
RIDG Independent Ri 72.78 15 P **P** **10 35 28.4 -1.0**
RIDG lAmb lAmb 10 35 35.8
comp=Z,30nm,1.4s
SKT Skwentna 72.80 19 P **P** **10 35 29.7 +0.2**
DHY Denali Highway 72.83 17 P **P** **10 35 30.0 +0.2**
DHY lAmb lAmb 10 35 44.0
comp=Z,7.5nm,0.7s
DOT Dot Lake 73.02 15 P **P** **10 35 30.9 +0.1**
DOT lAmb lAmb 10 35 36.9
comp=Z,18nm,1.4s
PAX Paxson 73.34 16 P **P** **10 35 32.8 0.0**
PAX pmax pmax
comp=Z,11nm,1.0s
PAX Paxson 73.34 16 P **P** **10 35 32.8 0.0**
PAX lAmb lAmb 10 35 39.4
comp=Z,11nm,1.0s
SUA Susitna One 73.43 19 P **P** **10 35 33.5 +0.1**
SUA lAmb lAmb 10 35 43.5
comp=Z,19nm,1.3s
DAWY Dawson 73.51 13 P **P** **10 35 34.0 +0.4**
DAWY lAmb lAmb 10 35 40.9
comp=Z,16nm,1.2s
GHO Glory Hole Cre 73.61 18 P **P** **10 35 34.9 +0.6**
GHO lAmb lAmb 10 35 45.2
comp=Z,27nm,1.1s
PMR Palmer 73.72 18 P **P** **10 35 35.0 +0.2**
PMR pmax pmax
comp=Z,11nm,0.9s
PMR Palmer 73.72 18 P **P** **10 35 35.0 +0.2**
PMR lAmb lAmb 10 35 40.9
comp=Z,11nm,0.9s
SML Sawmill 73.72 18 P **P** **10 35 35.2 +0.2**
RSO Redoubt South 73.77 20 P **P** **10 35 36.5 +1.1**
SCM Sheep Creek Mo 73.93 17 P **P** **10 35 36.7 +0.4**
SCM pmax pmax
comp=Z,23nm,0.8s
SCM Sheep Creek Mo 73.93 17 P **P** **10 35 36.7 +0.4**
RC01 Rabbit Creek A 74.01 19 P **P** **10 35 36.7 +0.1**
RC01 lAmb lAmb 10 35 42.5
comp=Z,23nm,1.2s
KNK Knik Glacier 74.04 18 P **P** **10 35 37.3 +0.5**
DBIC Dimbokro 74.12 265 P **P** **10 35 36.8 -1.1**
DBIC pmax pmax
comp=Z,7.0nm,0.9s
DBIC Dimbokro 74.12 265 P **P** **10 35 37.7 -0.3**
comp=Z,5.3nm,0.8s,baz=30,slow=7.2,SNR=5.2
DBIC Dimbokro 74.12 265 P **P** **10 35 36.8 -1.1**
KIC Kosan Boka 74.23 265 *e*P **P** **10 35 38.2 -0.4**
comp=Z,26nm,0.9s
TIC Toumodi 74.26 265 *e*P **P** **10 35 38.3 -0.5**
LIC Lamto 74.53 265 *e*P **P** **10 35 39.9 -0.5**
comp=Z,21nm,0.7s
GLI Glacier Island 74.83 18 P **P** **10 35 41.9 +0.5**
GLI lAmb lAmb 10 35 47.5
comp=Z,15nm,0.9s
FID Port Fidalgo 75.08 18 P **P** **10 35 43.6 +0.7**
FID lAmb lAmb 10 35 50.7
comp=Z,26nm,1.4s
VRDI Verde Repeater 75.33 16 P **P** **10 35 45.3 +0.8**
EYAK Cordova Ski Ar 75.43 17 P **P** **10 35 46.3 +1.5**
EYAK lAmb lAmb 10 35 47.0
comp=Z,13nm,1.0s
BALM Baldy 75.73 16 P **P** **10 35 48.0 +1.3**
BARN Barnard Glacie 75.85 15 P **P** **10 35 48.8 +1.3**
BARN lAmb lAmb 10 35 54.4
comp=Z,13nm,1.3s
TGL Tana Glacier 75.88 16 P **P** **10 35 48.5 +0.9**
CTGM Chitina Glacie 76.00 15 P **P** **10 35 47.8 -0.5**
CTGM lAmb lAmb 10 35 55.3
comp=Z,20nm,1.2s
KDAK Kodiak Island 76.08 22 *i* P P 10 35 54.8 +6.2
YKA Yellowknife Ar 77.59 2 P **P** **10 35 57.4 +0.4**
comp=Z,4.0nm,0.7s,baz=352,slow=6.1,SNR=76
FITZ Fitzroy Crossi 77.76 126 P **P** **10 35 58.6 +0.1**
comp=Z,9.7nm,1.0s,baz=118,slow=4.9,SNR=4.5
FITZ Fitzroy Crossi 77.76 126 P **P** **10 35 58.5 0.0**
FITZ lAmb lAmb 10 35 59.5
comp=Z,12nm,1.1s
KNRA Kununurra 77.92 123 P **P** **10 35 58.6 -0.9**
KNRA lAmb lAmb 10 36 04.8
comp=Z,12nm,0.8s
SCHQ Schefferville 78.37 336 P **P** **10 36 01.6 +0.1**
comp=Z,5.2nm,0.8s,baz=33,slow=13,SNR=3.6
SCHQ Schefferville 78.37 336 P **P** **10 36 01.7 +0.1**
SCHQ lAmb lAmb 10 36 08.5
comp=Z,19nm,1.1s
BOSA Boshof 80.07 219 LR LR 11 13 03.0
comp=Z,30nm,18.3s,baz=12,slow=37
WRA Warramunga Arr 84.64 122 P **P** **10 36 34.5 -0.6**
comp=Z,6.9nm,0.8s,baz=319,slow=4.7,SNR=19
WRAB Tennant Creek 84.64 122 P **P** **10 36 33.9 -1.2**
WRAB pmax pmax
comp=Z,11nm,0.8s
WRAB Tennant Creek 84.64 122 P **P** **10 36 33.9 -1.2**
CHGQ Chibougamau 84.93 338 P **P** **10 36 36.9 +0.6**
baz=27
FFC Flin Flon 85.19 355 *i* P **P** **10 36 38.3 +0.9**
FFC Flin Flon 85.19 355 P **P** **10 36 38.0 +0.6**
D63A Stockholm 85.44 333 P **P** **10 36 39.5 +0.7**
baz=31
D62A Allapoint, All 85.73 333 P **P** **10 36 41.6 +1.3**
baz=30
MATQ Matagami 85.98 340 P **P** **10 36 42.4 +0.9**
baz=24
PMG Port Moresby 86.40 105 P **P** **10 36 43.5 -0.5**
PMG pmax pmax
comp=Z,6.0nm,0.8s
PMG Port Moresby 86.40 105 P **P** **10 36 43.9 -0.1**
comp=Z,3.3nm,0.4s,baz=297,slow=9.1,SNR=4.1
PMG Port Moresby 86.40 105 P **P** **10 36 43.5 -0.5**
PMG lAmb lAmb 10 36 45.3
comp=Z,6.4nm,0.8s
LSQQ Lebel-sur-Quev 86.44 339 P **P** **10 36 44.4 +0.6**
baz=25
E61A Lac Etchemin 86.79 334 P **P** **10 36 47.1 +1.6**
baz=29
F63A Nahmakanta, Br 86.94 333 P **P** **10 36 47.5 +1.2**
baz=30
AS31 Alice Springs 87.04 124 P **P** **10 36 46.0 -0.9**
ASAR Alice Springs 87.04 124 P **P** **10 36 46.5 -0.5**
comp=Z,5.0nm,0.9s,baz=324,slow=5.5,SNR=22
ASAR LR LR 11 22 02.0
comp=Z,37nm,18.2s,baz=80,slow=40
D57A Chemin Vers le 87.37 336 P **P** **10 36 48.5 +0.2**
baz=27
F60A Warwick 87.68 334 P **P** **10 36 50.5 +0.6**
baz=28
E58A La Victoria 87.75 335 P **P** **10 36 51.1 +0.9**
baz=27
D55A Sainte-Anne-du 87.85 337 P **P** **10 36 51.4 +0.8**
baz=26
I63A Otisfield 88.90 333 P **P** **10 36 55.6 0.0**
baz=29
ULM Lac du Bonnet 89.07 351 P **P** **10 36 56.4 +0.2**
comp=Z,7.7nm,0.8s,baz=19,slow=3.5,SNR=5.9
ULM LR LR 11 18 13.8
comp=Z,32nm,21.0s,baz=358,slow=36
ULM Lac du Bonnet 89.07 351 P **P** **10 36 56.5 +0.2**
ULM lAmb lAmb 10 37 01.8
comp=Z,11nm,0.9s
D48A Paudash Townsh 89.44 341 P **P** **10 36 58.6 +0.4**
baz=21
B05A Bryant 91.27 8 P **P** **10 37 07.0 +0.4**
baz=351
B08A Colville Reser 91.44 6 P **P** **10 37 08.7 +1.2**
NEW Newport 91.69 5 P **P** **10 37 09.8 +1.1**
baz=355
NEW Newport 91.69 5 P **P** **10 37 09.6 +0.9**
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 91.69 5 P **P** **10 37 09.6 +0.9**
D03D Eldon 91.88 9 P **P** **10 37 11.0 +1.5**
baz=350
C09A Chrisman Ranch 92.07 6 P **P** **10 37 11.2 +0.8**
LON Longmire 92.80 8 P **P** **10 37 14.8 +1.0**
LON pmax pmax
comp=Z,8.0nm,0.8s
LON Longmire 92.80 8 P **P** **10 37 14.8 +1.0**
CTA Charters Tower 92.82 114 P **P** **10 37 14.4 +0.3**
comp=Z,2.4nm,0.7s,baz=314,slow=6.6,SNR=4.1
E04D Cinebar 92.90 9 P **P** **10 37 16.2 +2.0**
baz=350
L55A Hinsdale 93.13 337 P **P** **10 37 15.7 +0.3**
baz=24
MSO Missoula 93.28 3 P **P** **10 37 16.3 +0.2**
baz=357
E08A Dider Farm, El 93.31 6 P **P** **10 37 16.8 +0.7**
LAO LASA Array 93.42 357 P **P** **10 37 18.2 +1.5**
baz=2.9
LAO LASA Array 93.42 357 P **P** **10 37 18.0 +1.3**
F05D White Salmon 93.69 8 P **P** **10 37 19.0 +1.1**
baz=351
F10A Beach Ranch, E 93.97 5 P **P** **10 37 20.5 +1.2**
F10A lAmb lAmb 10 37 25.6
comp=Z,5.5nm,0.8s

GCMT	Greycliff	94.39	360	P	P	10 37 20.7	-0.6
BOZ	Bozeman (W)	94.57	1	P	P	10 37 22.3	+0.2
	baz=359						
DLMT	Dillon	94.79	2	P	P	10 37 22.7	-0.4
DLMT				IAmb	IAmb	10 37 30.7	
	comp=Z,11nm,1.2s						
RLMT	Red Lodge	95.05	359	P	P	10 37 24.0	-0.4
	baz=0.6						
RLMT	Red Lodge	95.05	359	P	P	10 37 25.4	+1.0
RLMT				IAmb	IAmb	10 37 31.4	
	comp=Z,11nm,1.1s						
YNE	Yellowstone No	95.17	360	P	P	10 37 26.6	+1.6
MCMT	McKenzie Canyo	95.31	2	P	P	10 37 24.3	-1.4
ECSD	EROS Data Cent	95.57	350	P	P	10 37 26.8	+0.3
	baz=10						
ECSD	EROS Data Cent	95.57	350	P	P	10 37 26.9	+0.3
I03D	Drain, OR	95.62	10	P	P	10 37 28.0	+1.3
	baz=350						
I04A	Tendick Farm,	95.64	9	P	P	10 37 27.5	+0.6
	baz=351						
H17A	Grant Village	95.78	0	P	P	10 37 28.8	+1.0
	baz=360						
RSSD	Black Hills	95.88	356	P	P	10 37 28.3	+0.1
	baz=4.6						
RSSD	Black Hills	95.88	356	P	P	10 37 27.5	-0.7
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.8s						
RSSD	Black Hills	95.88	356	P	P	10 37 27.5	-0.7
RSSD				IAmb	IAmb	10 37 30.0	
	comp=Z,4.8nm,0.8s						
FLWY	Flagg Ranch	96.09	0	P	P	10 37 28.3	-0.9
J05D	Fort Rock, OR	96.28	8	P	P	10 37 31.4	+1.4
	baz=352						
MFID	Camas Ranch	96.60	4	P	P	10 37 30.8	-0.6
MFID				IAmb	IAmb	10 37 33.6	
	comp=Z,5.3nm,1.0s						
SCIA	State Center	96.85	347	P	P	10 37 30.1	-2.3
L04D	Klamath Falls	97.21	9	P	Pdif	10 37 35.6	+1.3
	baz=351						
BW06	Boulder Array	97.41	360	P	P	10 37 35.9	+0.7
	baz=0.4						
PD31	Pinedale Array	97.41	360	P	P	10 37 33.2	-2.0
PDAR	Pinedale Array	97.41	360	P	P	10 37 35.8	+0.6
	comp=Z,1.2nm,0.8s,baz=25,slow=3.0,SNR=11						
PDAR				LR	LR	11 25 03.0	
	comp=Z,61nm,18.7s,baz=24,slow=38						
MOD	Modoc Plateau	97.75	8	P	P	10 37 34.6	-2.1
MOD				IAmb	IAmb	10 37 44.4	
	comp=Z,4.9nm,1.1s						
SYO	Syowa Base	111.20	191⇓	*e*Pdiff	Pdif	10 38 34.6	-0.7
CPUP	Villa Florida	134.42	271	PKP	PKPdf	10 43 19.1	-0.4
	comp=Z,1.4nm,0.6s,baz=45,slow=1.4,SNR=3.3						
PMSA	Palmer Station	143.99	212	PKP	PKPbc	10 43 33.7	+0.1
	comp=Z,1.3nm,0.3s,baz=153,slow=8.2,SNR=7.4						
PMSA	Palmer Station	143.99	212	PKPdf	PKPbc	10 43 33.5	-0.1
GO03	Copiap	144.92	279	PKPdf	PKPbc	10 43 38.3	+0.4
PLCA	Paso Flores	150.11	256	PKIKP	PKPdf	10 43 44.2	-2.7
PLCA						10 43 52.8	
PLCA	Paso Flores	150.11	256	PKPbc	PKPbc	10 43 52.3	+0.4
	comp=Z,5.4nm,1.0s,baz=79,slow=1.4,SNR=7.4						
PLCA	Paso Flores	150.11	256	PKPdf	PKPdf	10 43 44.2	-2.7
PLCA					PKiKP	10 43 52.8	0.0
PLCA					sPKPab	10 44 03.9	-1.8
GO06	Curarrehue	150.54	259	PKPdf	PKPdf	10 43 47.3	-0.3
GO06				PKPbc	pPKPdf	10 43 51.9	-1.6

ISCJB ***06*** *10:25:51.2±0.9, 5°.9S±0°.2×149°.2E±0°.2, h58km, Error ellipse: s-maj=34.1km s-min=9.3km az=37.7*
IDC ***06*** *10:25:52.8±3.1, 5°.97S×149°.29E, h52km±43km, mb3.5/4, mb1 3.8/6, mb1mx3.4/38, mbtmp3.9/6, ML2.1/1, MS2.3/3, Ms1 2.3/3, ms1mx2.2/17, Error ellipse: s-maj=89.1km s-min=14.3km az=129.0*
ISC 06 10:25:53.1±1.0**, 6°.0S**±0°.2×**149°.4E**±0°.2**, h58km, n8,** σ**0^{s}71**/8**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	3.15	58	P	Pn	10 26 40.3	+0.1
	17nm,0.3s,baz=194,slow=4.0,SNR=10						
KRVT				LR	LR	10 28 01.8	
	comp=Z,68nm,18.9s,baz=230,slow=40						
PMG	Port Moresby	4.04	212	P	Pn	10 26 52.9	+0.5
	10nm,0.3s,baz=16,slow=8.6,SNR=31						
PMG				S	Sn	10 27 38.3	-0.1
	14nm,0.3s,baz=17,slow=20,SNR=8.3						
PMG				LR	LR	10 27 55.1	
	comp=Z,12nm,18.9s,baz=84,slow=30						
GUMO	Guam	19.94	347	LR	LR	10 37 22.1	
	comp=Z,22nm,19.6s,baz=158,slow=35						
WRA	Warramunga Arr	20.13	225	P	P	10 30 22.2	-0.4
	0.8nm,0.3s,baz=51,slow=11,SNR=20						
ASAR	Alice Springs	23.02	219	P	P	10 30 52.7	-0.8
	0.5nm,0.6s,baz=53,slow=9.4,SNR=13						
FITZ	Fitzroy Crossi	26.08	240	P	P	10 31 20.8	-0.7
	3.9nm,1.1s,baz=53,slow=8.4,SNR=9.2						
PETK	Petropavlovsk-	59.29	6	P	P	10 35 48.7	0.0
	1.6nm,0.6s,baz=166,slow=7.2,SNR=10.0						
TORD	Torodi Ar. Bea	147.34	285	PKPbc	PKPbc	10 45 32.3	+1.0
	0.4nm,0.8s,baz=72,slow=2.6,SNR=4.4						

IDC ***06*** *10:41:52.5±7.1, 20°.69N×147°.09E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.5/51, mbtmp3.8/6, Error ellipse: s-maj=280.0km s-min=21.6km az=80.0*
NEIC ***06*** *10:41:55.2±0.8, 20°.7N±0°.1×146°.8E±0°.2, h10km±2km, mb4.4/5*
ISCJB ***06*** *10:41:57.6±0.6, 20°.7N±0°.1×146°.8E±0°.2, h44km, mb3.9/6, Error ellipse: s-maj=22.9km s-min=12.8km az=150.8*
ISC 06 10:41:59.5±0.9**, 20°.7N**±0°.2×**146°.8E**±0°.2**, h44km, n13,** σ**0^{s}60**/13**, mb4.3**/9**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATS	Pohnpei	17.69	139		P	10 46 03.5	+0.4
WRA	Warramunga Arr	42.17	198	P	P	10 49 48.7	+0.7
	0.4nm,0.8s,baz=19,slow=8.5,SNR=3.4						
ASAR	Alice Springs	45.83	197	P	P	10 50 16.0	-1.3
	0.3nm,0.9s,baz=14,slow=6.8,SNR=3.1						
ZAA0	Zalesovo Array	57.12	322	P	P	10 51 41.4	-0.1
ZAA0				IAmb	IAmb	10 51 42.0	
	comp=Z,1.7nm,0.5s						
ZALV	Zalesovo Beam	57.12	322	P	P	10 51 41.4	-0.1
	comp=Z,1.7nm,0.5s,baz=107,slow=8.1,SNR=9.0						
RSO	Redoubt South	57.74	31	P	P	10 51 45.5	-0.5
MK31	Makanchi Array	57.89	313	P	P	10 51 47.4	+0.4
MKAR	Makanchi Array	57.89	313	P	P	10 51 47.5	+0.5
	comp=Z,0.9nm,0.6s,baz=87,slow=8.1,SNR=9.3						
MAKZ	Makanchi	58.10	313	P	P	10 51 48.9	+0.4
KURK	Kurchatov	60.53	317	P	P	10 52 04.9	-0.2
KURK				IAmb	IAmb	10 52 06.2	
	comp=Z,1.3nm,0.6s						
KURBB	Kurchatov Arra	60.59	317	P	P	10 52 05.8	+0.2
	comp=Z,2.0nm,0.8s,baz=94,slow=7.6,SNR=12						
BVAR	Borovoye Array	65.65	320	P	P	10 52 39.7	+0.6
	comp=Z,1.7nm,0.5s,baz=79,slow=7.7,SNR=12						
ORV	Oroville	78.39	52	P	P	10 53 55.9	+0.2
ORV				IAmb	IAmb	10 54 05.4	
	comp=Z,7.5nm,1.3s						

IDC ***06*** *10:57:43.1±1.4, 34°.72N×24°.78E, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.4/40, mbtmp3.8/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/62, Error ellipse: s-maj=328.0km s-min=24.8km az=140.0*
ISCJB ***06*** *10:57:45.8±1.5, 34°.25N±0°.08×25°.09E±0°.06, h26km±9km, mb3.7/3, Error ellipse: s-maj=12.8km s-min=8.2km az=173.0*
ATH ***06*** *10:57:47.9, 34°.48N×25°.06E, h34km±3km, ML3.0/7, Error ellipse: s-maj=4.8km s-min=1.7km az=1.0*
THE ***06*** *10:57:47.1, 34°.39N×25°.08E, h0km±1km, ML3.0/5, Error ellipse: s-maj=3.4km s-min=1.1km az=175.0*
ISC 06 10:57:46.0±1.8**, 34°.37N**±0°.08×**25°.08E**±0°.03**, h10km**±11km**, n29,** σ**1^{s}08**/36**, mb4.0**/3**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	0.68	341	P	Pb	10 58 00.0	0.0
SIVA				S	Sb	10 58 10.6	+1.1
	3μm,0.6s						
SIVA	Sivas	0.68	341	P	Pb	10 57 60.0	0.0
SIVA				S	Sb	10 58 09.2	-0.3
SIVA				AML	AML	10 58 21.0	
	comp=E,8927μm,0.6s						
SIVA				AML	AML	10 58 23.1	
	comp=N,4465μm,0.5s						
GVD	Gavdhos	0.94	300	P	Pg	10 58 04.3	+0.1
GVD				S	Sn	10 58 19.3	+0.5
	comp=N,1μm,0.3s						
GVD	Gavdhos	0.94	300	P	Pb	10 58 05.0	+0.6
GVD				S	Sb	10 58 17.0	0.0
GVD				AML	AML	10 58 24.5	
	comp=N,2302μm,0.4s						
GVD				AML	AML	10 58 27.6	
	comp=E,2761μm,0.3s						
GVDS	Gavdos	0.94	300	P	Pb	10 58 05.0	+0.6
GVDS				S	Sn	10 58 21.0	+2.2
	comp=E,778nm,0.5s						
NPS	Neapolis	0.99	26	P	Pb	10 58 05.2	-0.1
NPS				AML	AML	10 58 35.4	
	comp=N,778μm,0.4s						
NPS				AML	AML	10 58 36.2	
	comp=E,870μm,0.7s						
PRNS	Prines Rethymn	1.10	335	P	Pb	10 58 07.3	+0.2
STIA	Sitia Lasithi	1.17	45	P	Pb	10 58 09.2	+0.9
ZKR	Zakros	1.19	51	P	Pg	10 58 09.3	+0.4
ZKR				S	Sn	10 58 26.6	+1.6
	comp=E,268nm,0.5s						
ZKR	Zakros	1.19	51	P	Pg	10 58 09.1	+0.2
ZKR				AML	AML	10 58 39.8	
	comp=E,663μm,0.7s						
ZKR				AML	AML	10 58 41.7	
	comp=N,355μm,0.6s						
VAM	Vamos	1.26	325	P	Pb	10 58 09.9	0.0
VAM				S	Sn	10 58 28.6	+1.9
	comp=N,498nm,0.4s						
VAM	Vamos	1.26	325	P	Pb	10 58 09.9	0.0
VAM				S	Sb	10 58 26.0	-0.2
VAM				AML	AML	10 58 35.3	
	comp=E,997μm,0.4s						
VAM				AML	AML	10 58 44.0	
	comp=N,1135μm,0.6s						
IMMV	Iera Moni Meta	1.42	321	P	Pn	10 58 13.4	+1.6
IMMV	Iera Moni Meta	1.42	321	P	Pg	10 58 11.9	-1.3
IMMV				AML	AML	10 58 48.4	
	comp=N,817μm,0.7s						
IMMV				AML	AML	10 58 49.0	
	comp=E,1022μm,0.7s						
SANT	Santorini	2.02	9	P	Pn	10 58 20.2	+0.1
KARP	Karpathos	2.07	55	P	Pn	10 58 22.7	+1.8
ANKY	Antikythira Is	2.09	316	P	Pn	10 58 23.0	+2.0
ANKY	Antikythira Is	2.09	316	P	Pn	10 58 22.3	+1.2
IOSP	Ios island	2.35	4	P	Pn	10 58 24.8	+0.1
IOSP	Ios island	2.35	4	P	Pn	10 58 24.7	0.0
MHLO	Agia Marina, M	2.38	347	P	Pn	10 58 25.7	+0.6
MHLO				AML	AML	10 59 10.8	
	comp=N,486μm,0.7s						
MHLO				AML	AML	10 59 20.6	
	comp=E,641μm,0.8s						
KTHA	Kythira Island	2.50	319	P	Pn	10 58 26.4	-0.4
AMGA	Amorgos Island	2.54	15	P	Pn	10 58 26.4	-0.9
APE	Apeiranthos	2.72	8	P	Pn	10 58 29.8	+0.1
VLI	Veliai	2.92	324	P	Pn	10 58 34.1	+1.6
DAVOX	Davos/Dischmat	16.91	322	LR	LR	11 09 40.1	
	comp=E,70nm,21.3s,baz=272,slow=44						
TORD	Torodi Ar. Bea	29.94	231	P	P	11 03 53.2	-1.1
	comp=E,1.0nm,0.4s,baz=33,slow=8.8,SNR=13						
MKAR	Makanchi Array	44.27	56	P	P	11 05 54.2	-1.4
	comp=E,0.2nm,0.5s,baz=279,slow=7.1,SNR=4.2						
ZALV	Zalesovo Beam	45.60	46	P	P	11 06 04.2	-1.9
	comp=E,0.9nm,0.4s,baz=265,slow=7.8,SNR=3.5						

ISCJB ***06*** *11:45:14.5±0.4, 30°.01N±0°.04×88°.02E±0°.06, h10km, mb3.8/11, MS3.5/4, Error ellipse: s-maj=8.1km s-min=5.9km az=155.2*
NDI ***06*** *11:45:14.0±1.2, 30°.62N×88°.68E, h12km±9km, ML3.1*
BJI ***06*** *11:45:14.4±0.0, 29°.97N×88°.10E, h6km, mb3.9/4, Ms3.5/2, Ms7 3.5/1*
IDC ***06*** *11:45:15.2±1.1, 30°.16N×88°.12E, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.7/55, mbtmp3.8/13, ML3.7/2, MS3.5/5, Ms1 3.5/5, ms1mx3.1/35, Error ellipse: s-maj=30.8km s-min=20.2km az=45.0*
ISC 06 11:45:16.6±0.6**, 30°.05N**±0°.05×**88°.12E**±0°.06**, h10km, n23,** σ**1^{s}75**/27**, mb3.9**/11**, MS3.4**/4**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	Tadong	2.76	171	*e*P	Pb	11 46 05.6	-0.5
GTK				*e*S	Sb	11 46 43.3	+3.2
GTK				IAML		11 46 52.8	
	comp=E,58nm,0.8s						
GTK				IAML		11 46 53.0	
	comp=N,70nm,0.7s						
GTK				IAML		11 46 53.6	
	comp=N,70nm,0.2s						
SHL	Shillong	5.58	142	*e*P	Pn	11 46 39.4	-0.4
SHL				*e*PN	Pn	11 46 39.5	-0.4
SHL				*e*x	x	11 47 37.5	
BOK	Bokaro	6.54	198	*e*P	Pn	11 46 53.0	0.0
BOK				*e*S	Sn	11 48 07.0	-0.7
KOHI	KOHIMA	6.84	128	*e*P	Pn	11 46 58.1	+1.0
KOHI				*e*S	Sn	11 48 12.2	-3.0
KOHI				IAML		11 48 21.0	
	comp=N,17nm,0.5s						
SAIH	SAIHA	8.71	149	*e*P	Pn	11 47 22.4	-0.4
SAIH				*e*S	Sn	11 48 57.4	-3.8
SMLA	Simla	9.50	279	*e*P	Pn	11 47 35.1	+1.6
SMLA				*e*S	Sn	11 49 19.1	-1.2
SMLA				IAML		11 49 22.7	
	comp=N,8.6nm,0.8s						
SMLA				IAML		11 49 23.8	
WMQ	Urumqi	13.75	359	*e*P	Pn	11 48 33.0	+1.4
CMAR	Chiang Mai Arr	15.18	137	Pn	Pn	11 48 51.2	+0.1
	comp=N,0.1nm,0.3s,baz=312,slow=12,SNR=5.1						
MKAR	Makanchi Array	17.32	346	P	P	11 49 18.2	-1.7
	comp=N,0.3nm,0.3s,baz=155,slow=12,SNR=11						
MKAR				LR	LR	11 57 19.9	
	comp=N,84nm,18.5s,baz=353,slow=42						
XAN	Xi'an	18.07	72	P	P	11 49 33.1	+4.8
XAN				pmax	pmax		
	comp=N,7.0nm,0.7s						
KURBB	Kurchatov Arra	21.77	343	P	P	11 50 07.2	-1.2
	comp=N,4.7nm,0.8s,baz=158,slow=11,SNR=13						
SONM	Songino Array	22.65	33	P	P	11 50 17.6	-0.3
	comp=N,0.6nm,0.6s,baz=218,slow=12,SNR=3.9						
SONM				LR	LR	12 00 26.4	
	comp=N,81nm,21.2s,baz=161,slow=40						
ZALV	Zalesovo Beam	24.00	355	P	P	11 50 31.0	-0.3
	comp=N,0.7nm,0.5s,baz=188,slow=10,SNR=3.6						
GEYT	Alibeck	26.00	296	P	P	11 50 50.1	+0.3
	comp=N,1.7nm,0.6s,baz=140,slow=7.7,SNR=3.7						
GEYT				LR	LR	12 02 59.0	
	comp=N,102nm,19.7s,baz=15,slow=41						
KSRS	Korea Array	33.72	67	LR	LR	12 06 38.5	
	comp=N,87nm,18.7s,baz=316,slow=38						
AKASG	Malin Array Be	47.98	313	P	P	11 53 54.5	-0.9
	comp=N,0.3nm,0.3s,baz=81,slow=7.1,SNR=5.3						
FINES	FINESS Array B	50.78	327	P	P	11 54 16.2	-0.5
	comp=N,2.4nm,0.6s,baz=125,slow=10.0,SNR=9.5						
NOA	NORSAR Array B	57.93	326	LR	LR	12 19 29.6	
	comp=N,85nm,20.0s,baz=295,slow=36						
GERES	GERESS Array B	58.13	311	P	P	11 55 10.1	-0.4
	comp=N,0.6nm,0.5s,baz=97,slow=4.0,SNR=3.2						
WRA	Warramunga Arr	66.71	132	P	P	11 56 09.2	+1.1
	comp=N,0.7nm,0.5s,baz=322,slow=6.3,SNR=7.3						
ILAR	Eielson Array	76.28	21	P	P	11 57 04.2	-1.0
	comp=N,0.5nm,0.9s,baz=285,slow=5.0,SNR=4.3						
INK	Inuvik	77.19	15	P	P	11 57 09.9	-0.4
	comp=N,1.8nm,0.9s,baz=314,slow=6.6,SNR=7.3						
YKA	Yellowknife Ar	85.98	10	P	P	11 57 55.8	-1.1
	comp=N,0.8nm,0.8s,baz=335,slow=4.9,SNR=11						

IDC ***06*** *11:48:16.5±4.8, 16°.52S×174°.73W, h273km±20km, mb3.3/5, mb1 3.6/6, mb1mx3.2/32, mbtmp3.9/6, Error ellipse: s-maj=226.1km s-min=16.8km az=150.0*
ISCJB ***06*** *11:48:17.9±0.8, 16°.2S±0°.2×174°.8W±0°.1, h300km, mb3.5/5, Error ellipse: s-maj=23.8km s-min=12.1km az=151.4*
ISC 06 11:48:19.1±1.1**, 16°.2S**±0°.1×**174°.7W**±0°.1**, h300km, n9,** σ**1^{s}46**/10**, mb3.5**/5**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.66	52	P	Pn	11 49 21.5	-0.3
	6.5nm,0.3s,baz=191,slow=16,SNR=9.2						
AFI				S	S	11 50 10.0	-1.9
	32nm,0.3s,baz=76,slow=22,SNR=13						
AFI	Afiamalu	3.66	52		Pn	11 49 21.5	-0.3
AFI						11 50 10.0	
NIUE	Niue	5.41	123		Pn	11 49 41.2	-0.2
NIUE						11 50 51.3	
WRA	Warramunga Arr	48.41	258	P	P	11 56 31.2	-0.8
	0.6nm,0.3s,baz=96,slow=6.6,SNR=5.7						
ASAR	Alice Springs	48.64	253	P	P	11 56 32.6	-1.1
	2.2nm,0.6s,baz=88,slow=8.2,SNR=1.8						
YBH	Yreka Blue Hor	75.02	38	P	P	11 59 30.2	+2.0
	1.1nm,0.6s,baz=297,slow=4.5,SNR=4.6						
NVAR	Mina Array Bea	75.79	42	P	P	11 59 34.3	+1.5
	0.5nm,0.7s,baz=223,slow=8.6,SNR=5.0						
NVAR	Mina Array Bea	75.79	42	P	P	11 59 34.3	+1.5
PDAR	Pinedale Array	83.72	42	P	P	12 00 15.7	+0.6
	0.5nm,0.6s,baz=226,slow=4.0,SNR=5.9						

ISCJB ***06*** *11:48:37.4±0.4, 17°.67S±0°.08×178°.80W±0°.08, h547km, mb3.8/10, Error ellipse: s-maj=13.2km s-min=6.7km az=43.0*
NEIC ***06*** *11:48:38.9±1.3, 17°.7S±0°.1×178°.77W±0°.09, h554km±7km, mb4.3/31*
IDC ***06*** *11:48:38.1±5.7, 17°.48S×178°.87W, h535km±69km, mb3.3/9, mb1 3.6/10, mb1mx3.4/29, mbtmp4.2/10, Error ellipse: s-maj=45.6km s-min=23.5km az=151.0*
ISC 06 11:48:38.4±0.6**, 17°.67S**±0°.09×**178°.8W**±0°.1**, h547km, n47,** σ**0^{s}67**/46**, mb4.2**/26**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.06	268	P	P	11 49 55.4	+1.7
FUNA	Funafuti	9.31	347	P	P	11 50 49.9	+0.6
DZM	Mont Dzumac	14.60	250	P	P	11 51 43.3	-0.6
	1.8nm,0.3s,baz=87,slow=18,SNR=20						
DZM	Mont Dzumac	14.60	250	P	P	11 51 43.7	-0.2
KNTN	Kanton	16.33	26	P	P	11 52 00.3	-0.9
OUZ	Omahuta	18.76	200	P	P	11 52 24.4	+1.2
OUZ				IAmb	IAmb	11 52 34.8	
	comp=Z,7.4nm,1.2s						
EIDS	Eidsvold	29.05	249	P	P	11 53 54.8	-0.1
EIDS				IAmb	IAmb	11 53 55.5	
	comp=Z,7.2nm,0.8s						
MLZ	Mavora Lakes	29.72	199	P	P	11 53 60.0	-0.4
ARMA	Armidale	29.78	239	P	P	11 54 01.4	+0.1
ARMA				IAmb	IAmb	11 54 02.9	
	comp=Z,11nm,0.7s						
WHZ	Wether Hill Ro	30.24	199	P	P	11 54 04.1	-0.8
WHZ				IAmb	IAmb	11 54 15.2	
	comp=Z,15nm,1.2s						
CAN	Canberra	33.59	232	P	P	11 54 33.8	+0.2
CAN				IAmb	IAmb	11 54 34.6	
	comp=Z,14nm,0.9s						
PMG	Port Moresby	34.10	279	P	P	11 54 39.3	+1.2
PMG				IAmb	IAmb	11 54 40.8	
	comp=Z,13nm,0.9s						
COEN	Coen	36.78	270	P	P	11 55 00.8	+0.4
COEN				IAmb	IAmb	11 55 01.9	
	comp=Z,6.3nm,0.9s						
TOO	Toolangi	37.07	230	P	P	11 55 02.8	+0.3
STKA	Stephens Creek	38.47	241	P	P	11 55 14.5	+0.7
	comp=Z,6.7nm,0.5s,baz=89,slow=10,SNR=43						
STKA	Stephens Creek	38.47	241	P	P	11 55 14.5	+0.7
BBOO	Buckleboo	43.24	241	P	P	11 55 51.9	+0.1
WB2	Warramunga Arr	44.35	259	P	P	11 55 59.6	-1.0
WB2				IAmb	IAmb	11 56 06.6	
	comp=Z,7.7nm,0.7s						
WRA	Warramunga Arr	44.36	259	P	P	11 55 59.7	-1.0
	comp=Z,3.6nm,0.5s,baz=97,slow=7.1,SNR=85						
AS31	Alice Springs	44.55	254	P	P	11 56 02.0	-0.1
AS31				IAmb	IAmb	11 56 02.6	
	comp=Z,12nm,0.6s						
ASAR	Alice Springs	44.55	254	P	P	11 56 02.0	-0.1
	comp=Z,40nm,0.6s,baz=88,slow=8.2,SNR=645						
MTN	Manton Dam	48.48	268	P	P	11 56 31.6	-0.3
MTN				IAmb	IAmb	11 56 45.9	
	comp=Z,6.0nm,1.1s						
FORT	Forrest	49.82	244	P	P	11 56 40.8	-0.8
KNRA	Kununurra	50.19	264	P	P	11 56 44.1	-0.4
KNRA				IAmb	IAmb	11 56 45.0	
	comp=Z,11nm,0.7s						
FITZ	Fitzroy Crossi	52.75	260	P	P	11 57 03.3	+0.3
PSA00	Pilbara Seismi	57.66	255	P	P	11 57 36.6	-0.5
PSA00				IAmb	IAmb	11 57 37.4	
	comp=Z,14nm,1.1s						
CASY	Casey	66.22	205	P	P	11 58 31.7	-0.2
UGM	Wanagama	69.33	268	P	P	11 58 51.5	-0.4
GSTR	Great Sitkin T	69.50	2	P	P	11 58 52.3	+0.2
ATKA	Atka Island	69.69	3	P	P	11 58 52.6	-0.5
JNU	Nakatsue	69.75	316	P	P	11 58 52.6	-1.3
JNU				IAmb	IAmb	11 58 56.2	
	comp=Z,5.2nm,1.1s						
QSPA	South Pole Qui	72.38	180	P	P	11 59 08.8	-0.2
PEA0B	Petropavlovsk-	73.37	345	P	P	11 59 14.7	+0.1
PEA0B				IAmb	IAmb	11 59 19.8	
	comp=Z,7.6nm,1.1s						
PETK	Petropavlovsk-	73.37	345	P	P	11 59 14.8	+0.3
	comp=Z,2.2nm,0.6s,baz=131,slow=8.6,SNR=9.7						
OHAK	Old Harbor	77.58	14	P	P	11 59 37.9	+0.1
OHAK				IAmb	IAmb	11 59 47.2	
	comp=Z,12nm,1.0s						
PNTR	Pine Nut	78.98	43	P	P	11 59 46.4	+0.3
PNTR				IAmb	IAmb	11 59 47.7	
	comp=Z,6.0nm,0.9s						
YERR	Yerington	79.16	43	P	P	11 59 47.4	+0.3
NVAR	Mina Array Bea	79.47	44	P	P	11 59 49.3	+0.6
	comp=Z,1.1nm,0.7s,baz=227,slow=8.7,SNR=8.3						
NV11	Mina Array Sit	79.58	44	P	P	11 59 49.1	-0.1
U15A	North Rim	82.60	48	IAmb	IAmb	12 00 07.0	
	comp=Z,3.8nm,1.0s						
ELK	Elko	82.70	43	P	P	12 00 05.7	+0.4
	comp=Z,1.0nm,0.7s,baz=235,slow=4.1,SNR=4.7						
IL31		85.73	13	P	P	12 00 18.1	-1.1
ILAR	Eielson Array	85.73	13	P	P	12 00 18.4	-0.9
	comp=Z,0.7nm,0.4s,baz=222,slow=5.2,SNR=16						
TXAR	Lajitas Array	86.14	58	P	P	12 00 23.5	+1.3
	comp=Z,0.7nm,0.7s,baz=222,slow=6.0,SNR=7.3						
PDAR	Pinedale Array	87.40	44	P	P	12 00 28.2	+0.2
	comp=Z,0.5nm,0.5s,baz=216,slow=3.8,SNR=8.1						
YKA	Yellowknife Ar	94.25	25	P	P	12 00 58.3	-0.5
	comp=Z,0.4nm,0.8s,baz=229,slow=4.5,SNR=3.7						
GERES	GERESS Array B	147.30	345	PKPbc	PKPbc	12 07 20.9	+0.1
	comp=Z,0.8nm,0.4s,baz=31,slow=3.1,SNR=5.3						

ISCJB ***06*** *12:02:43.2±0.7, 47°.88N±0°.08×154°.6E±0°.2, h33km, mb3.6/8, Error ellipse: s-maj=22.1km s-min=6.5km az=27.6*
KRSC ***06*** *12:02:46.7±0.9, 48°.01N×156°.17E, h16km±16km, ML4.2*
IDC ***06*** *12:02:49.2±3.1, 48°.11N×154°.00E, h84km±29km, mb3.3/8, mb1 3.6/10, mb1mx3.3/34, mbtmp3.7/10, MS2.7/3, Ms1 2.7/3, ms1mx2.5/22, Error ellipse: s-maj=32.9km s-min=15.0km az=140.0*
ISC 06 12:02:44.1±0.8**, 47°.9N**±0°.1×**154°.5E**±0°.1**, h33km, n34,** σ**2^{s}19**/35**, mb3.6**/8**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.95	20	*e*P	Pn	12 03 30.7	+2.1
SKR				*e*S	Sn	12 04 02.9	+0.1
PAU	Pauzhetka	3.84	22	*e*P	Pn	12 03 43.3	+2.4
PAU				*e*S	Sn	12 04 25.7	+0.9
KDTR	Khodutka, Kamc	4.51	29	*e*P	Pn	12 03 50.8	+0.7
KDTR				*e*S	Sn	12 04 39.0	-2.4
ASAK	Asacha	4.96	25	*e*P	Pn	12 03 58.9	+2.6
MTVR	Mutnovka	5.13	26	*e*P	Pn	12 04 00.6	+1.9
MTVR				*e*S	Sn	12 04 55.0	-1.8
RUS	Russkaya	5.19	28	*e*P	Pn	12 04 01.1	+1.8
RUS				*e*S	Sn	12 04 55.6	-2.4
KRMR	Karymshinskiy	5.42	24	*e*P	Pn	12 04 05.7	+3.1
KRMR				*e*S	Sn	12 05 03.8	0.0
PETK	Petropavlovsk-	5.57	20	P	Pn	12 04 07.8	+3.2
	0.8nm,0.3s,baz=178,slow=11,SNR=31						
PETK				LR	LR	12 05 59.1	
	comp=Z,34nm,18.3s,baz=60,slow=34						
DALK	Dalny	5.78	26	*e*P	Pn	12 04 09.0	+1.6
DALK				*e*S	Sn	12 05 10.2	-2.3
UGLR	Uglovaya	5.96	26	*e*P	Pn	12 04 11.2	+1.2
KOK	Koryaka	5.98	24	*e*P	Pn	12 04 13.3	+3.1
AVH	Avacha	5.98	25	*e*P	Pn	12 04 12.6	+2.3
SMAR	Somma	6.00	25	*e*P	Pn	12 04 12.6	+2.0
KRER	Koryakskii	6.02	25	*e*P	Pn	12 04 12.9	+2.0
SDLR	Sedlovina	6.03	26	*e*P	Pn	12 04 13.4	+2.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NLC	Nalytchevo	6.08	28	eS	Sn	12 05 17.2	-2.8
SPN	Mys Shipunski	6.25	32	eP	Pn	12 04 14.9	+1.0
SPN				eS	Sn	12 05 19.9	-4.3
MKZ	Mys Kozlova	8.03	32	eP	Pn	12 04 39.1	+0.8
ASAJ	Asahikawa	9.13	250	P	Pn	12 04 55.8	+2.3
	0.8nm,0.3s,baz=72,slow=17,SNR=12						
ASAJ				LR	LR	12 07 49.0	
	comp=Z,65nm,18.2s,baz=346,slow=34						
MA2	Magadan	11.88	351	LR	LR	12 10 01.0	
	comp=Z,40nm,18.6s,baz=316,slow=37						
H11N2	WAKE ISLAND Hy	29.86	156	T	T	12 41 08.8	
	baz=343						
H11N1	WAKE ISLAND Hy	29.88	156	T	T	12 40 27.2	
	baz=343,slow=74,SNR=82						
H11N3	WAKE ISLAND Hy	29.88	156	T	T	12 40 38.7	
	baz=343,slow=74,SNR=58						
H11S1	WAKE ISLAND Hy	30.98	157	T	T	12 41 59.0	
	baz=344,slow=76,SNR=392						
H11S3	WAKE ISLAND Hy	30.98	157	T	T	12 41 59.0	
	baz=344,slow=76,SNR=485						
H11S2	WAKE ISLAND Hy	30.99	157	T	T	12 42 00.3	
	baz=344,slow=76,SNR=275						
ILAR	Eielson Array	35.03	40	P	P	12 09 33.8	+0.5
	0.6nm,0.9s,baz=274,slow=7.3,SNR=5.2						
MKAR	Makanchi Array	47.26	297	P	P	12 11 10.4	-3.5
	0.5nm,0.9s,baz=97,slow=4.5,SNR=3.3						
YKA	Yellowknife Ar	49.41	38	P	P	12 11 30.6	+0.4
	0.5nm,0.7s,baz=295,slow=6.8,SNR=5.2						
CMAR	Chiang Mai Arr	53.58	257	P	P	12 11 59.5	-2.5
	0.5nm,0.4s,baz=34,slow=6.1,SNR=4.3						
NVAR	Mina Array Bea	61.04	64	P	P	12 12 56.5	+1.8
	0.2nm,0.4s,baz=306,slow=7.7,SNR=2.9						
WRA	Warramunga Arr	69.94	200	P	P	12 13 51.0	-0.9
	0.9nm,0.7s,baz=19,slow=6.2,SNR=7.8						
ASAR	Alice Springs	73.63	200	P	P	12 14 14.0	-0.1
	0.3nm,0.6s,baz=10,slow=5.3,SNR=8.2						
TXAR	Lajitas Array	76.08	62	P	P	12 14 29.1	+0.6
	0.4nm,0.7s,baz=302,slow=5.1,SNR=6.1						

WEL 06 12:21:20.3, 42°S±2°×17°4E±°, h20km±2km, M3.8/30, ML4.0/19, MLv3.8/30, Error ellipse: s-maj=0.0km s-min=0.0km az=162.6, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.11	259	P	Pg	12 21 24.3	-0.1
BSWZ				S	Sg	12 21 27.2	+0.1
CMWZ	Cape Campbell	0.15	112	P	Pg	12 21 25.2	+0.3
CMWZ				S	Sg	12 21 28.8	+1.0
TUWZ	Tuamarina	0.27	347	P	Pg	12 21 27.1	+0.6
TUWZ				S	Sg	12 21 31.6	+0.8
TCW	Tory Channel	0.52	21	P	Pg	12 21 30.9	+0.1
TCW				S	Sg	12 21 38.5	+0.7
NNZ	Nelson	0.68	314	P	Pg	12 21 34.1	+0.3
NNZ				S	Sg	12 21 42.8	-0.1
BHW	Baring Head	0.70	66	P	Pn	12 21 34.6	-0.5
BHW				S	Sn	12 21 45.3	0.0
KHZ	Kahutara	0.81	206	P	Pg	12 21 36.2	+0.1
KHZ				S	Sn	12 21 48.5	+0.5
THZ	Tophouse	0.84	265	P	Pg	12 21 36.7	-0.1
THZ				S	Sg	12 21 48.3	+0.3
DUWZ	D'Urville Isla	0.89	355	P	Pg	12 21 37.6	-0.2
DUWZ				S	Sn	12 21 49.9	-0.3
PLWZ	Palliser	0.93	83	P	Pn	12 21 38.2	-0.2
MSWZ	Moikau Station	0.96	74	P	Pg	12 21 38.9	-0.1
CAW	Cannon Point	0.98	54	P	Pg	12 21 39.2	-0.2
PAWZ	Paruwai Farm	1.10	74	P	Pn	12 21 40.5	-0.1
OGWZ	Otaki Gorge	1.23	45	P	Pb	12 21 43.4	+0.5
OGWZ				S	Sg	12 22 00.5	+0.2
MTW	Mount Morrison	1.23	65	P	Pn	12 21 42.4	0.0
TRWZ	Traveller	1.28	77	P	Pn	12 21 42.7	-0.4
HOWZ	Holdsworth Sta	1.38	55	P	Pn	12 21 44.6	+0.1
QRZ	Quartz Range	1.42	307	P	Pb	12 21 46.9	+0.7
GVZ	Greta Valley S	1.47	210	P	Pn	12 21 45.8	+0.1
TMWZ	Te Maipa	1.52	68	P	Pn	12 21 46.0	-0.5
MRZ	Mangatainoka R	1.56	49	P	Pn	12 21 47.4	+0.5
MRZ	Mangatainoka R	1.56	49	S	Sb	12 22 08.3	+0.4
DSZ	Denniston Nort	1.66	267	P	Pb	12 21 50.4	+0.1
TIWZ	Tintock	1.68	57	P	Pn	12 21 49.2	+0.6
LTZ	Lake Taylor	1.70	230	P	Pn	12 21 49.5	+0.6
OHWZ	Ohakea	1.78	34	P	Pb	12 21 52.4	+0.2
OHWZ	Ohakea	1.78	34	S	Sg	12 22 20.0	+2.3
AMCZ	Amberley	1.80	214	P	Pn	12 21 50.0	-0.2
POWZ	Post Office Ro	1.85	46	P	Pn	12 21 51.7	+0.7
PRWZ	Pori Road	1.86	53	P	Pn	12 21 51.1	0.0
BFZ	Birch Farm	1.96	60	P	Pn	12 21 51.5	-0.9
DVHZ	Dannevirke	2.14	50	P	Pn	12 21 54.5	-0.4
CRLZ	Canterbury Las	2.15	208	P	Pn	12 21 53.9	-1.1
OKCZ	Okains Bay	2.15	199	P	Pn	12 21 54.3	-0.8
INZ	Inchbonnie	2.18	241	P	Pn	12 21 56.5	+1.0
OXZ	Oxford	2.19	221	P	Pn	12 21 54.9	-0.8
TSZ	Takapari Road	2.20	43	P	Pn	12 21 55.9	+0.2
ANWZ	Angora Road	2.23	57	P	Pn	12 21 55.1	-1.0
MQZ	McQueen's Vall	2.25	206	P	Pn	12 21 54.8	-1.6
AKCZ	Akaroa Harbour	2.33	200	P	Pn	12 21 56.5	-1.0
PNHZ	Pukenui	2.43	44	P	Pn	12 21 58.9	0.0
PRHZ	Porangahau	2.44	55	P	Pn	12 21 58.4	-0.6
WPHZ	Waipukurau	2.45	49	P	Pn	12 21 59.9	+0.7
VRZ	Vera Road	2.63	13	P	Pn	12 22 04.0	+2.4
BHHZ	Black Hill Sta	2.69	36	P	Pn	12 22 03.6	+1.0
KRHZ	Kereru	2.72	42	P	Pn	12 22 02.6	-0.2
PXZ	Pawanui	2.72	53	P	Pn	12 22 01.6	-1.3
WVZ	Waitaha Valley	2.80	239	P	Pn	12 22 05.3	+1.3
TWVZ	Taurewa	2.83	23	P	Pn	12 22 06.9	+2.4
KAHZ	Kahuranaki	2.88	50	P	Pn	12 22 04.0	-1.1
KWHZ	Kaweka Forest	2.91	40	P	Pn	12 22 06.6	+1.0
RPZ	Rata Peaks	2.98	226	P	Pn	12 22 06.7	+0.2
MCHZ	McNeill Hill	3.03	43	P	Pn	12 22 06.7	-0.4
BKZ	Black Stump Fm	3.15	38	P	Pn	12 22 09.0	+0.2
HIZ	Hauiti	3.24	12	P	Pn	12 22 12.6	+2.6
ARHZ	Aropaoanui	3.32	44	P	Pg	12 22 22.5	-1.5
NMHZ	Naumai	3.35	40	P	Pb	12 22 21.6	+2.5
MRHZ	Matea Rd	3.39	33	P	Pn	12 22 11.8	-0.4
KUTZ	Kaahu Road	3.48	24	P	Pb	12 22 23.2	+1.9
TLZ	Tolley Road	3.56	20	P	Pn	12 22 16.8	+2.4
WPRZ	Whakapapatarin	3.57	28	P	Pb	12 22 25.0	+2.2
WHHZ	Waihua	3.58	44	P	Pg	12 22 29.2	+0.2
ALRZ	Allen Road	3.60	30	P	Pb	12 22 24.8	+1.6
FOZ	Fox Glacier	3.61	238	P	Pn	12 22 16.9	+1.8
RAHZ	Arahi	3.63	41	P	Pg	12 22 27.6	-2.3
RAHZ				S	Sn	12 22 58.0	+0.3
GRRZ	Galatos Road	3.70	26	P	Pg	12 22 28.6	-2.6
HRRZ	Handcock Road	3.73	28	P	Pb	12 22 28.4	+2.9
HSRZ	Hossack Road	3.78	27	P	Pb	12 22 29.4	+3.0
RRRZ	Republican Roa	3.86	31	P	Pb	12 22 29.2	+1.5
SNGZ	Shannon Statio	3.86	42	P	Pg	12 22 33.8	-0.5
HLRZ	Highlands Stat	3.87	28	P	Pg	12 22 32.6	-1.9
UTU	Utuhina	3.89	26	P	Pb	12 22 31.5	+3.3
LBZ	Lake Benmore	3.89	225	P	Pn	12 22 19.4	+0.3
TARZ	Mount Tarawera	3.94	30	P	Pb	12 22 32.5	+3.3
OMRZ	Omania	4.01	27	P	Pn	12 22 19.7	-1.0
KARZ	Kaharoa	4.05	26	P	Pb	12 22 33.8	+2.9
KMRZ	Kaimai	4.12	22	P	Pb	12 22 31.4	-0.7
ODZ	Otahua Downs	4.16	215	P	Pn	12 22 21.3	-1.4
URZ	Urewera	4.17	36	P	Pn	12 22 22.5	-0.3
TGRZ	Tauranga	4.32	24	P	Pb	12 22 38.5	+2.9
RUGZ	Raukumara Rang	4.67	38	P	Pn	12 22 29.4	-0.3
MKAZ	Moumakai	4.67	11	P	Pn	12 22 31.8	+2.1
WKZ	Wanaka	4.81	228	P	Pn	12 22 31.2	-0.5
HHSZ	Highcliff Hill	4.87	209	P	Pn	12 22 31.6	-0.8
HAZ	Te Kaha	4.88	38	P	Pn	12 22 32.7	+0.1
EAZ	Earnscleugh	4.93	223	P	Pn	12 22 32.5	-0.7
SYZ	Scrubby Hill	5.98	214	P	Pn	12 22 47.2	-0.5
CTZ	Chatham Island	7.19	110	P	Pn	12 23 02.8	-1.4

DDA 06 12:26:06.8, 39°01N×40°46E, h10km±5km, MW3.8
ISK 06 12:26:07.1, 38°99N×40°55E, h6km, ML3.6/11
ISC 06 12:26:06.8±0.9, 38°99N±0°02×40°54E±0°01, h6km±8km, n53, σ1§28/93, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BGOL	Bingol	0.11	93	iP	Pg	12 26 08.9	-0.2
BNGB	Bingl	0.11	91	PG	Pg	12 26 09.2	0.0
BNGB				SG	Sg	12 26 11.4	+0.5
BNGL	BINGOL	0.48	95	iPA	Pg	12 26 17.0	+0.9
BNGL				iS	Sb	12 26 25.2	-0.1
KARO	Karliova-Bingo	0.51	52	PG	Pg	12 26 17.1	+0.5
KARO				SG	Sb	12 26 25.1	-1.0
HANI	Diyarbakir_Han	0.59	190	iP	Pg	12 26 17.8	-0.3
HANI				iS	Sb	12 26 27.7	-0.5
HANI				IAML		12 26 31.0	
	comp=N,1μm,0.5s						
ECAT	Cat-ERZURUM	0.70	29	iP	Pg	12 26 19.8	-0.5
ECAT				iS	Sg	12 26 29.6	+0.2
ECAT				IAML		12 26 33.0	
	comp=N,514nm,0.4s						
VRTB	Varto-Mus	0.74	77	iPA	Pg	12 26 22.0	+1.0
VRTB				iS	Sn	12 26 34.1	-1.5
VRTB				IAML		12 26 40.0	
	comp=N,2μm,0.4s						
VRTB	Varto-Mus	0.74	77	PG	Pg	12 26 22.0	+1.0
TNCL	Tunceli-Merkez	0.78	279	iPA	Pg	12 26 20.7	-1.2
TNCL				iS	Sg	12 26 31.3	-0.7
TNCL				IAML		12 26 34.0	
	comp=N,2μm,0.4s						
MUSM	Mu-Merkez	0.81	109	iP	Pg	12 26 21.5	-0.8
MUSM				iS	Sg	12 26 33.1	+0.2
MUSM				IAML		12 26 34.0	
	comp=N,626nm,0.5s						
EUZM	Uzumlu	0.96	318	iP	Pg	12 26 24.5	-0.9
EUZM				iS	Sb	12 26 38.8	-0.3
EUZM				IAML		12 26 46.0	
	comp=N,170nm,0.4s						
SVAN	Silvan-Diyarba	0.99	148	iPA	Pg	12 26 26.5	+0.7
SVAN				iS	Sb	12 26 39.8	+0.1
SVAN				IAML		12 26 44.0	
	comp=N,303nm,0.4s						
SVAN	Silvan-Diyarba	0.99	148	PG	Pg	12 26 26.5	+0.7
SVAN				SG	Sn	12 26 40.3	-1.4
KOPT	Kop Dagi	1.02	358	iP	Pg	12 26 26.2	-0.3
KOPT				iS	Sn	12 26 43.0	+0.1
KOPT				IAML		12 26 50.0	
	comp=N,601nm,0.8s						
EJDE	Erzurum, Palan	1.03	35	iP	Pg	12 26 26.0	-0.6
EJDE				iS	Sb	12 26 41.1	-0.1
EJDE				IAML		12 26 43.0	
	comp=N,2μm,0.3s						
DYBB	Diyarbakir	1.08	197	PN	Pn	12 26 28.5	-0.2
DYBB				SN	Sn	12 26 43.8	-0.3
DIYA	Diyarbakir	1.12	197	iPA	Pg	12 26 29.2	+1.0
DIYA				iS	Sn	12 26 45.2	+0.3
DIYA				IAML		12 26 47.0	
	comp=N,1μm,0.3s						
SVRC	Sivrice-ELAZID	1.14	238	PN	Pn	12 26 29.5	0.0
EKAR	Karacoban	1.22	77	iP	Pg	12 26 30.8	+0.6
EKAR				iS	Sn	12 26 49.6	+2.0
EKAR				IAML		12 26 55.0	
	comp=N,1.2nm,0.3s						
BTMN	Batman	1.24	152	iP	Pg	12 26 30.9	+0.3
BTMN				iS	Sn	12 26 47.2	-0.8
BTMN				IAML		12 26 51.0	
	comp=N,2μm,0.4s						
AKDA	Akdag	1.28	30	iP	Sg	12 26 43.8	-4.2
BAYB	BAYBURT	1.28	350	iPA	Pg	12 26 32.6	+1.2
ELZG	Elazig	1.31	248	iP	Pn	12 26 30.1	-1.8
ELZG				iS	Sn	12 26 51.8	+2.1
ELZG				IAML		12 26 57.0	
	comp=N,640nm,0.4s						
KRIK	Erzurum-spir	1.38	13	iPA	Pg	12 26 33.6	+0.4
KRIK				iS	Sg	12 26 52.8	+1.7
KRIK				IAML		12 27 00.0	
	comp=N,54nm,0.6s						
KOPR	Koprukoy-ERZUR	1.43	45	PN	Pg	12 26 34.4	+0.2
KOPR				SN	Sg	12 26 53.8	+1.1
BAYT	Aydıntepe-Bayb	1.43	348	PN	Pg	12 26 34.8	+0.5
REFA	Refahiye_ERZN	1.43	287	iP	Pg	12 26 36.6	+2.4
REFA				iS	Sg	12 26 58.6	+5.7
REFA				IAML		12 27 06.0	
	comp=N,134nm,0.7s						
SRTM	Siirt_Merkez	1.48	132	iP	Pb	12 26 34.7	-0.1
SRTM				iS	Sg	12 26 54.8	+0.5
SRTM				IAML		12 27 04.0	
	comp=N,898nm,0.5s						
HOMI	Horasan	1.49	45	iP	Pn	12 26 34.3	-0.1
HOMI				iS	Sn	12 26 53.5	-0.9
HOMI				IAML		12 27 08.0	
	comp=N,548nm,0.5s						
KELT	Kelkit	1.52	320	iP	Pg	12 26 35.7	-0.2
KELT				iS	Sg	12 26 55.3	-0.3
KELT				IAML		12 26 59.0	
	comp=N,275nm,0.5s						
MAZI	Mazidag	1.53	183	PN	Pb	12 26 35.1	-0.6
MLAZ	Malazgirt-MUS	1.57	84	PN	Pb	12 26 35.9	-0.6
KEMA	Kemaliye	1.61	280	iP	Pn	12 26 34.9	-1.0
KEMA				iS	Sb	12 26 56.9	-0.8
MARD	Mardin	1.69	173	iP	Pb	12 26 37.7	-0.7
MARD				iS	Sg	12 27 00.8	-0.3
MARD				IAML		12 27 05.0	
	comp=N,2μm,0.4s						
ARPR	Arapgir-MALATY	1.71	274	PN	Pb	12 26 38.4	-0.5
EATA	Eleskirt	1.75	60	iP	Pg	12 26 40.1	-0.2
EATA				iS	Sg	12 27 05.2	+2.3
EATA				IAML		12 27 08.0	
	comp=N,312nm,0.7s						
MALT	Malatya	1.78	248	PN	Pb	12 26 39.3	-0.7
HEKM	Malatya_Hekimh	2.01	268	iP	Pn	12 26 42.1	+0.6
HEKM				iS	Sg	12 27 11.5	+0.1
HEKM				IAML		12 27 19.0	
	comp=N,270nm,0.7s						
URFA	Urfa	2.06	222	PN	Pb	12 26 43.0	-1.6
GEVA	Gevas	2.09	108	iP	Pb	12 26 45.5	+0.3
GEVA				iS	Sg	12 27 16.4	+2.5
GEVA				IAML		12 27 22.0	
	comp=N,177nm,0.9s						
SENK	Senkaya-Erzuru	2.10	41	PN	Pn	12 26 43.4	+0.6
SIRT	Sirnak	2.11	134	PN	Pn	12 26 43.7	+0.9
SUSE	Susehri	2.17	305	iP	Pb	12 26 46.4	-0.2
SUSE				iS	Sb	12 27 14.4	+0.5
SUSE				IAML		12 27 24.0	
	comp=N,214nm,0.6s						
SANL	SANLIURFA_Merk	2.19	214	iP	Pb	12 26 45.0	-1.9
SANL				iS	Sg	12 27 16.5	-0.7
SANL				IAML		12 27 20.0	
	comp=N,339nm,0.4s						
DBAD	Bademkaya	2.21	23	iP	Pb	12 26 45.7	-1.6
DBAD				iS	Sb	12 27 15.2	+0.3
DBAD				IAML		12 27 23.0	
	comp=N,99nm,0.6s						
DAGI	Agillar	2.33	27	iP	Pn	12 26 47.0	+1.1
DAGI				iS	Sn	12 27 15.5	+0.5
DAGI				IAML		12 27 33.0	
	comp=N,30nm,0.6s						
CUKAN	kangal_SIVAS	2.41	279	iP	Pn	12 26 47.5	+0.6
CUKAN				iS	Sb	12 27 20.9	+0.2
CUKAN				IAML		12 27 31.0	
	comp=N,95nm,0.4s						
DBOC	Borcka	2.50	20	iP	Pn	12 26 48.9	+0.8
DBOC				iS	Sb	12 27 21.2	-2.1
DYDN	Diyadin	2.51	76	iP	Pb	12 26 51.4	-1.1
DYDN				iS	Sb	12 27 25.4	+1.8
DYDN				IAML		12 27 43.0	
	comp=N,80nm,0.7s						
CUGUR	Gurin_SVAS	2.56	265	iP	Pb	12 26 52.5	-0.8
CUGUR				iS	Sg	12 27 29.7	+0.6
CUGUR				IAML		12 27 38.0	
	comp=N,239nm,0.7s						
GZT	Gaziantep	2.86	236	iP	Pb	12 26 55.9	-2.4
GZT				iS	Sb	12 27 35.2	+1.6
GZT				IAML		12 27 47.0	
	comp=N,121nm,1.1s						
HAKT	HAKKARI	2.88	119	iP	Pb	12 26 56.2	-2.6
HAKT				iS	Sg	12 27 38.9	-0.4
HAKT				IAML		12 27 56.0	
	comp=E,75nm,0.8s						
CUALT	Altinyayla-SIV	2.96	277	iP	Pb	12 26 59.5	-0.5
CUALT				iS	Sb	12 27 36.9	+0.4
CUALT				IAML		12 27 54.0	
	comp=N,66nm,0.6s						

ISCJB 06 12:56:44.8±0.4, 24°77N±0°02×122°24E±0°02, h4km±2km, Error ellipse: s-maj=3.2km s-min=2.4km az=6.5
TAP 06 12:56:44.5, 24°80N×122°23E, h21km, ML3.1, C
JMA 06 12:56:46.4±0.1, 24°69N×122°15E, h26km, M2.4
ISC 06 12:56:44.7±0.9, 24°77N±0°02×122°22E±0°02, h13km±8km, n72, σ0§59/126, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EOS1	EOS1	0.23	202	P	Pb	12 56 50.7	0.0
	baz=205						
EOS1				S	Sb	12 56 56.0	+1.3
	baz=205						
TWB1	Santiao Chiao	0.32	319	P	Pg	12 56 51.5	+0.2
	baz=320						
TWB1				S	Sg	12 56 56.2	+0.4
	baz=320						
NTC	Toucheng	0.37	284	eP	Pg	12 56 52.0	-0.1
	baz=279						
NTC				eS	Sb	12 56 58.8	+0.1
	baz=279						
TWC	Suao	0.37	245	P	Pg	12 56 51.7	-0.5
	baz=239						
TWC				eS	Sb	12 56 58.3	-0.6
	baz=239						
TIPB	Shuangxi	0.41	300	P	Pg	12 56 53.3	+0.3
	baz=303						
TIPB				eS	Sg	12 56 58.3	-0.3
	baz=303						
TWE	Neicheng	0.51	265	iP	Pg	12 56 54.3	-0.4
	baz=260						
TWE				S	Sb	12 57 02.4	-0.3
	baz=260						
SLBB	Yuanshan	0.53	269	eP	Pg	12 56 55.6	+0.4
	baz=265						
SLBB				eS	Sg	12 57 02.5	+0.2
	baz=265						
NANB	Nanao	0.55	232	eP	Pg	12 56 55.2	-0.2
	baz=224						
NANB				eS	Sb	12 57 04.8	+1.0
	baz=224						
ENA	Nanau	0.55	233	iP	Pg	12 56 55.1	-0.4
	baz=224						
ENA				S	Sb	12 57 04.1	+0.1
	baz=224						
ENTT	Nioudou	0.61	258	iP	Pb	12 56 57.0	-0.2
	baz=245						
ENTT				eS	Sb	12 57 05.5	-0.2
	baz=245						
TWA	Mucha	0.62	290	P	Pb	12 56 57.6	+0.3
	baz=288						
TWA				S	Sb	12 57 06.4	+0.4
	baz=288						
NWLT	Wulai	0.65	271	eP	Pg	12 56 57.5	0.0
	baz=268						
NWLT				eS	Sg	12 57 06.0	-0.2
	baz=268						
NHDH	Xindian Distri	0.66	287	eP	Pb	12 56 58.4	+0.3
	baz=285						
NHDH				eS	Sb	12 57 07.2	-0.1
	baz=285						
NDT	Datong Townshi	0.67	256	P	Pg	12 56 57.6	-0.1
	baz=244						
NDT				S	Sb	12 57 08.2	+0.9
	baz=244						
TATO	Taipei	0.70	288	eP	Pb	12 56 59.3	+0.6
	baz=285						
TATO				eS	Sb	12 57 08.7	+0.5
	baz=285						
YM01	YM01	0.70	303	eP	Pb	12 56 59.0	+0.2
	baz=301						
YM01				eS	Sb	12 57 08.0	-0.4
	baz=301						
YM08	YM08	0.71	306	eP	Pb	12 56 59.2	+0.2
	baz=304						
YM10	YM10	0.71	303	eP	Pn	12 56 59.8	-0.7
	baz=300						
YM05	YM05	0.72	304	eP	Pb	12 56 59.2	+0.1
	baz=301						
JYNG	Yonagunijimaku	0.73	115	P	Pn	12 57 00.6	0.0
JYNG				eS	Sn	12 57 12.2	+0.6
YM04	YM04	0.73	302	eP	Pb	12 56 59.8	+0.5
	baz=299						
TWY	Chenhua	0.76	312	eP	Pb	12 57 00.1	+0.3
	baz=311						
TWY				eS	Sn	12 57 11.3	-1.1
	baz=311						
YHNB	Yeheng	0.78	263	P	Pg	12 56 59.6	-0.1
	baz=260						
YHNB				eS	Sg	12 57 10.1	+0.1
	baz=260						
YOJ	Yonaguni jima	0.78	113	P	Pn	12 57 01.6	+0.3
YOJ				S	Sn	12 57 13.5	+0.6
YOJ	Yonaguni jima	0.78	113	eP	Pg	12 56 59.5	-0.3
	baz=114						
YOJ				eS	Sg	12 57 10.1	+0.1
	baz=114						
NSK	Sanguang	0.79	264	eP	Pg	12 56 59.8	-0.3
	baz=260						
NSK				eS	Sb	12 57 10.9	-0.1
	baz=260						
TWS1	Kuangyinshan	0.80	295	eP	Pn	12 57 01.4	-0.3
	baz=293						
TWS1				eS	Sn	12 57 12.7	-0.8
	baz=293						
NTST	Danshui	0.81	300	eS	Sn	12 57 12.7	-0.8
	baz=298						
NACB	Ninganchiao	0.82	224	P	Pg	12 57 00.2	-0.4
	baz=221						
NACB				eS	Sb	12 57 12.3	+0.6
	baz=221						
NNSH	Datong	0.83	246	P	Pg	12 57 00.7	-0.2
	baz=235						
NNSH				eS	Sb	12 57 13.1	+0.8
	baz=235						
NNSB	Datong	0.83	246	P	Pg	12 57 00.6	-0.3
	baz=234						
NNSB				eS	Sn	12 57 13.5	-0.9
	baz=234						
NNS	Nan Shan	0.84	247	eP	Pb	12 57 01.2	0.0
	baz=235						
NNS				S	Sn	12 57 13.7	-0.8
	baz=235						
PCYT	Pengchaiyu	0.87	351	eP	Pb	12 57 01.1	-0.6
	baz=355						
WLTB	Daxi	0.89	276	eP	Pn	12 57 02.4	-0.4
	baz=274						
WLTB				eS	Sg	12 57 14.4	+0.9
	baz=274						
TWD	Chiawan	0.89	220	eP	Pb	12 57 01.5	-0.5
	baz=223						
TWD				S	Sn	12 57 15.5	0.0
	baz=223						
NCU	National Centr	0.96	282	eS	Sg	12 57 16.6	+0.7
	baz=281						
WHF	Hehuan Shan	1.07	235	P	Pn	12 57 06.1	+0.4
	baz=231						
WHF				eS	Sn	12 57 21.2	+0.6
	baz=231						
TWT	Tachien	1.08	242	eP	Pg	12 57 06.1	+0.5
	baz=232						
TWT				eS	Sn	12 57 21.9	+1.3
	baz=232						
TDCB	Techi	1.09	242	eP	Pn	12 57 05.7	-0.1
	baz=232						
TDCB				eS	Sn	12 57 20.7	-0.2
	baz=232						
LIOB	Emei	1.10	264	eP	Pg	12 57 07.3	+1.3
	baz=261						
LIOB				eS	Sn	12 57 23.3	+2.4
	baz=261						
NSTT	Nanjuang	1.12	263	eP	Pg	12 57 06.5	+0.2
	baz=260						
NSTT				eS	Sg	12 57 20.8	0.0
	baz=260						
SBCB	Hsinchu	1.12	272	eS	Sn	12 57 21.5	+0.1
	baz=287						
HSN	Hsinchu	1.14	272	eS	Sn	12 57 21.6	-0.1
	baz=271						
CHGB	Renai	1.19	234	P	Pg	12 57 07.8	+0.2
	baz=231						
CHGB				eS	Sg	12 57 23.9	+0.9
	baz=231						
ESL	Shilin	1.19	217	P	Pb	12 57 07.3	+0.2
	baz=231						
ESL				S	Sg	12 57 24.2	+1.1
	baz=231						
WHP	Taichung City	1.26	248	eP	Pb	12 57 08.6	+0.2
	baz=250						
WHP				eS	Sg	12 57 26.4	+1.0
	baz=250						
EGFH	Guangfu	1.31	214	eP	Pn	12 57 08.1	-0.6
	baz=196						
EGFH				eS	Sb	12 57 25.7	-0.1
	baz=196						
NMLH	Miaoli	1.32	260	eP	Pb	12 57 09.2	-0.1
	baz=257						
NMLH				eS	Sg	12 57 27.2	-0.2
	baz=257						
TWQ1	Liyutan	1.38	253	eP	Pb	12 57 10.4	0.0

	baz=249						
TWQ1				eS	Sg	12 57 28.7	-0.6
	baz=249						
DPDB	Guoxing	1.39	239	eP	Pg	12 57 11.0	-0.4
	baz=236						
DPDB				eS	Sg	12 57 30.5	+1.0
	baz=236						
PTSB	Yuanli	1.42	257	eS	Sg	12 57 30.2	-0.1
	baz=271						
IRIF	Iriomote-Funau	1.44	107	P	Pb	12 57 11.4	+0.1
IRIF				eS	Sg	12 57 31.1	0.0
HGSD	Ruisui	1.46	210	eP	Pn	12 57 10.5	-0.2
	baz=196						
HGSD				eS	Sb	12 57 30.8	+0.5
	baz=196						
SMLT	Sun Moon Lake	1.49	234	eP	Pg	12 57 13.2	-0.2
	baz=217						
EHY	Hungye	1.50	213	eP	Pn	12 57 10.6	-0.6
	baz=213						
EHY				eS	Sb	12 57 31.0	-0.3
	baz=213						
SSLB	Suanglung	1.51	230	eP	Pb	12 57 12.6	0.0
	baz=232						
SSLB				eS	Sg	12 57 33.4	-0.1
	baz=232						
TYC	Yuchr	1.51	236	eP	Pg	12 57 14.4	+0.6
	baz=233						
YULB	Yu-li	1.61	212	eP	Pb	12 57 13.6	-0.6
	baz=212						
YULB				eS	Sb	12 57 34.6	+0.2
	baz=212						
TWF1	Yuli	1.64	211	eP	Pn	12 57 13.5	+0.2
	baz=225						
TWF1				eS	Sb	12 57 35.0	-0.4
	baz=225						
WHYT	Xinyi Township	1.64	230	eP	Pb	12 57 14.6	-0.2
	baz=216						
WJS	Zhushan	1.66	236	eP	Pb	12 57 15.3	+0.2
	baz=233						
WNT	Mingjian	1.66	238	eS	Sg	12 57 38.4	+0.3
	baz=253						
JKRS	Kuro-shima	1.71	108	P	Pb	12 57 15.9	-0.1
JKRS				S	Sb	12 57 37.5	+0.1
YUS	Yu-Shan	1.72	223	eS	Sb	12 57 38.0	-0.1
	baz=221						
FULB	Fuli	1.78	209	eP	Pn	12 57 15.0	-0.1
	baz=193						
FULB				eS	Sb	12 57 38.6	-0.7
	baz=193						
JIJ	Ishigaki jima	1.79	102	P	Pb	12 57 17.1	-0.3
CHN5	Tsauling	1.83	231	eP	Pb	12 57 17.5	-0.6
	baz=229						
CHN5				eS	Sg	12 57 42.6	-0.9
	baz=229						
WTP	Ta-pu	2.11	225	eP	Pb	12 57 22.0	-0.8
	baz=211						
WTP				eS	Sb	12 57 50.0	+1.1
	baz=211						
TWK	Hsinying	2.18	227	eP	Pb	12 57 22.6	-1.3
	baz=226						
TWK				eS	Sb	12 57 51.4	+0.5
	baz=226						
CHN1	Nanshi	2.21	225	eP	Pb	12 57 23.3	-1.2
	baz=225						
CHN1				eS	Sb	12 57 52.4	+0.7
	baz=225						
SGST	Jiashian	2.25	222	eS	Sb	12 57 53.4	+0.4
	baz=209						
SLGT	Liugui	2.28	220	eP	Pb	12 57 24.3	-1.4
	baz=220						
SLGT				eS	Sb	12 57 53.9	+0.1
	baz=220						

ISC 06 13:17:04.7±1.3**, 42.°54N**±0.°06×**24.°11E**±0.°06**, h8^{km}, n8, σ0^{s}93**/11**, 9C, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VTS	Vitosha	0.65	277	⇑P	Pg	13 17 16.9	-0.4
VTS				⇑S	Sg	13 17 25.8	0.0
VTS				AML	AML	13 17 27.4	
PLVB	Pleven	0.93	24	⇑P	Pb	13 17 23.1	0.0
PLVB				AML	AML	13 17 40.4	
ELND	Elena	1.36	73	⇑P	Pn	13 17 30.0	-0.1
ELND				AML	AML	13 17 50.9	
STIP	Stip	1.66	240	*i* Pn	Pn	13 17 32.6	-1.6
VAY	Valandovo	1.67	224	*i* Pn	Pb	13 17 37.1	+1.3
MDVR	Moldovita	2.84	323	⇑P	Pn	13 17 50.3	-0.1
MDVR				⇑S	Sn	13 18 25.7	+1.0
MDVR				AML	AML	13 18 46.8	
GZR	Gura Zlata	3.01	342	⇑P	Pn	13 17 52.6	-0.1
GZR				⇑S	Sn	13 18 28.0	-1.1
BZS	Buzias	3.56	331	⇑P	Pn	13 18 00.9	+0.6

ISC 06 13:22:29.3±1.3**, 42.°50N**±0.°08×**24.°12E**±0.°06**, h8^{km}, n7, σ0^{s}74**/8**, 5C-1D, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VTS	Vitosha	0.67	281	⇑P	Pg	13 22 41.9	-0.3
VTS				⇑S	Sg	13 22 51.4	+0.5
VTS				AML	AML	13 22 52.1	
PLVB	Pleven	0.96	22	⇑P	Pg	13 22 47.3	-0.5
PLVB				AML	AML	13 23 08.3	
ELND	Elena	1.36	71	AML	AML	13 22 44.7	
ELND				⇑P	Pn	13 22 54.6	0.0
STIP	Stip	1.65	242	*i* Pn	Pn	13 22 57.4	-1.1
VAY	Valandovo	1.65	225	*i* Pn	Pb	13 23 00.7	+0.8
MDVR	Moldovita	2.88	323	⇑P	Pn	13 23 15.6	+0.1
MDVR				AML	AML	13 23 55.1	
GZR	Gura Zlata	3.06	342	⇓P	Pn	13 23 17.4	-0.5

*NNC **06** 13:29:34.5±3.9, 35.°45N×72.°30E, h0^{km}, mb3.9, mpv4.0, Error ellipse: s-maj=38.7km s-min=35.0km az=19.0*
*ISCJB **06** 13:29:47.9±0.6, 36.°43N±0.°05×73.°05E±0.°09, h10^{km}, mb3.6/7, Error ellipse: s-maj=11.1km s-min=5.1km az=151.1*
*IDC **06** 13:29:56.3±6.1, 36.°97N×73.°12E, h33^{km}±45^{km}, mb3.5/7, mb1 3.7/12, mb1mx3.5/52, mbtmp3.8/12, ML3.6/5, MS2.9/1, Ms1 2.9/1, ms1mx2.5/27, Error ellipse: s-maj=30.1km s-min=21.1km az=3.0*
ISC 06 13:29:51.2±0.6**, 36.°48N**±0.°05×**73.°09E**±0.°08**, h10^{km}, n40, σ2^{s}14**/36**, mb3.5**/7**, 4C-4D, Northwestern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	2.82	177	P	Pg	13 30 46.5	+1.2
THW	Thamme Wali	3.84	197	P	Pb	13 30 58.5	-0.6
JMU	Jammu	4.04	158	eP	Pb	13 31 02.5	0.0
JMU				eS	Sg	13 32 00.0	-1.0
AML	Almayashu	5.66	5	P	Pn	13 31 14.8	-0.9
	SNR=15						
UCH	Uchtor	5.84	10	P	Pn	13 31 17.1	-1.1
	SNR=31						
EKS2	Erkin-Say	6.19	5	P	Pn	13 31 23.4	+0.7
	SNR=13						
AAK	Ala-Archa	6.24	10	Pn	Pn	13 31 23.0	-0.4
	1.6nm,0.3s,baz=168,slow=7.1,SNR=24						
AAK				Lg	Lg	13 32 59.4	
	0.6nm,0.3s,baz=188,slow=20,SNR=2.6						
AAK				LR	LR	13 33 51.7	
	comp=Z,101nm,19.9s,baz=32,slow=41						
AAK	Ala-Archa	6.24	10	P	Pn	13 31 22.9	-0.6
	SNR=9.2						
KBK	Karagaybulak	6.33	13	P	Pn	13 31 25.4	+0.7
	SNR=9.5						
CHMS	Chumysh	6.63	11	P	Pn	13 31 28.1	-0.6
	SNR=6.7						
KK31	Karatay Array	6.90	344	⇓P	Pn	13 31 30.2	-2.2
	2.3nm,0.2s,baz=149,slow=11,SNR=139						
KK31				⇑S	Sn	13 32 57.0	+6.1
	14nm,0.8s,baz=165,slow=26,SNR=4.5						
MDOK	Medeo	7.33	23	⇑P	Pn	13 31 41.4	+3.0
MDOK				⇓S	Sb	13 33 19.6	-6.5
PDGK	Podgornoye	8.42	34	⇑P	Pn	13 31 54.4	+1.1
	4.5nm,0.7s						
GEYT	Alibeck	12.03	281	Pn	Pn	13 32 43.0	+0.3
	0.6nm,0.3s,baz=104,slow=9.5,SNR=5.4						
MK31	Makanchi Array	12.38	31	⇓P	Pn	13 32 49.8	+2.4
	1.3nm,0.8s,baz=194,slow=8.8,SNR=8.7						
MKAR	Makanchi Array	12.38	31	Pn	Pn	13 32 46.2	-1.2
	0.1nm,0.3s,baz=198,slow=9.1,SNR=5.8						
KOLN	Koldanda	12.43	131	eP	Pn	13 32 48.5	+0.1
	9.4nm,0.5s						
GKN	Gorkha	12.91	128	eP	Pn	13 32 54.4	-0.5
	16nm,0.3s						
KKN	Kakani	13.47	127	eP	Pn	13 33 01.4	-1.2
	9.3nm,0.5s						
DMN	Daman	13.48	128	eP	Pn	13 33 01.8	-1.0
	11nm,0.5s						
PKIN	Phulchoki	13.69	127	eP	Pn	13 33 04.4	-1.3
	11nm,0.4s						
PKI	Pulchoki	13.71	127	eP	Pn	13 33 04.6	-1.3
	9.1nm,0.4s						
GUN	Gumba	13.78	125	eP	Pn	13 33 04.6	-2.4
	6.5nm,0.4s						
JIRN	Jiri	14.16	125	eP	Pn	13 33 09.7	-2.4
	15nm,0.4s						
RAMN	Ramite	14.90	126	eP	Pn	13 33 19.6	-2.6
	7.8nm,0.5s						
ODAN	Odare	15.48	124	eP	Pn	13 33 27.5	-2.4
	9.9nm,0.5s						
AB31	Akbulak array	15.96	327	P	Pn	13 33 28.8	-6.9
	1.7nm,0.5s,baz=138,slow=11,SNR=57						
BVAR	Borovoye Array	16.65	354	Pn	Pn	13 33 40.2	-4.3
	0.3nm,0.3s,baz=148,slow=8.7,SNR=11						
AKTO	Aktyubinsk	17.68	327	Pn	Pn	13 33 54.2	-3.2
	0.6nm,0.3s,baz=118,slow=13,SNR=12						
AKTO	Aktyubinsk	17.68	327	⇑P	Pn	13 33 49.8	-7.6
	7.1nm,0.9s						
ZAA0	Zalesovo Array	19.27	21	⇓P	P	13 34 11.6	-4.1
	0.7nm,0.7s						
ZALV	Zalesovo Beam	19.27	21	P	P	13 34 12.0	-3.8
	0.4nm,0.3s,baz=214,slow=11,SNR=22						
ARU	Arti	22.23	338	P	P	13 34 45.0	-2.7
	0.4nm,0.3s,baz=107,slow=6.8,SNR=3.4						
SONM	Songino Array	26.96	55	P	P	13 35 33.9	+0.9
	0.5nm,0.6s,baz=253,slow=8.9,SNR=4.3						
ARCES	ARCESS Array B	41.81	337	P	P	13 37 38.8	-1.8
	7.3nm,1.0s,baz=117,slow=9.2,SNR=7.5						
BSD	Bornholm Skovb	43.22	315	*i* P	P	13 37 51.8	-0.4
TORD	Torodi Ar. Bea	67.40	270	P	P	13 40 49.5	+2.4
	0.4nm,0.5s,baz=54,slow=5.4,SNR=5.0						
WRA	Warramunga Arr	80.56	123	P	P	13 42 05.9	+1.9
	0.8nm,0.8s,baz=325,slow=5.2,SNR=7.1						
YKA	Yellowknife Ar	81.17	4	P	P	13 42 04.1	-2.5
	0.3nm,0.6s,baz=349,slow=5.2,SNR=5.5						
ASAR	Alice Springs	82.87	126	P	P	13 42 19.9	+3.8
	0.3nm,0.8s,baz=312,slow=4.9,SNR=4.1						

*ISCJB **06** 13:39:23.1±1.1, 9.°81N±0.°03×123.°99E±0.°04, h9^{km}±8^{km}, mb3.5/4, MS3.0/7, Error ellipse: s-maj=6.5km s-min=5.2km az=38.8*
*MAN **06** 13:39:23.6, 9.°83N×123.°98E, h18^{km}, mb4.0, ML2.8, MS2.4*
MAN Intensity II - Antequera Maribojoc and Loon Bohol.
*IDC **06** 13:39:23.1±2.0, 10.°05N×124.°75E, h0^{km}, mb3.7/5, mb1 3.9/5, mb1mx3.6/33, mbtmp3.8/5, MS3.1/7, Ms1 3.2/7, ms1mx2.9/39, Error ellipse: s-maj=80.9km s-min=20.9km az=60.0*
ISC 06 13:39:24.6±1.2**, 9.°85N**±0.°04×**123.°96E**±0.°04**, h15**^{km}±9^{km}**, n22, σ1^{s}63**/24**, mb3.6**/4**, MS3.0**/7**, 3C-5D, Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.46	1	⇓P	Pg	13 39 33.1	-0.8
LLP				S	Sb	13 39 40.8	-0.2
SNPH	Sibulan	0.88	235	⇓P	Pb	13 39 40.3	-1.1
SNPH				S	Sg	13 39 53.9	+0.8
DCPH	Dipolog City	1.40	205	⇑P	Pn	13 39 47.8	-1.7
DCPH				S	Sn	13 40 06.3	-1.4
DCPH	Dipolog City	1.40	205	⇑P	Sn	13 40 06.3	-1.4
SCPH	Surigao	1.51	93	⇓P	Pn	13 39 49.7	-1.3
SCPH				S	Sn	13 40 08.6	-1.8
GUIM	Jordan	1.55	300	P	Pn	13 39 51.5	-0.1
GUIM				S	Sn	13 40 11.2	-0.3
CGP	Cagayan de Oro	1.57	152	⇓P	Pn	13 39 48.9	-3.0
CGP				S	Sg	13 40 18.0	+2.9
PAGZ	Pagadian	2.07	196	P	Pn	13 39 56.7	-2.1
PAGZ				S	Sn	13 40 23.8	-0.5
BESP	Borongan	2.27	40	P	Pn	13 40 01.1	-0.3
BESP				S	Sb	13 40 31.4	-1.6
CTBH	Cotabato--PC H	2.63	174	⇑P	Pn	13 40 06.9	+0.5
CTBH				S	Sn	13 40 37.6	-0.5
KCP	Kidapawan	3.04	158	⇓P	Pn	13 40 14.2	+2.0
BATI	Baumata	19.93	181	P	Pn	13 43 57.4	-0.3
	25nm,0.9s,baz=163,slow=5.6,SNR=6.1						
GUMO	Guam	20.80	78	LR	LR	13 50 35.3	
	comp=Z,35nm,19.8s,baz=212,slow=34						
JNU	Nakatsue	24.02	14	LR	LR	13 53 20.8	
	comp=Z,24nm,20.4s,baz=243,slow=35						
JCJ	Chichijima	24.29	43	LR	LR	13 53 12.2	
	comp=Z,54nm,19.4s,baz=298,slow=35						
CMAR	Chiang Mai Arr	25.69	292	P	P	13 45 02.1	+7.8
	0.7nm,0.3s,baz=116,slow=8.4,SNR=3.8						
CMAR				LR	LR	13 55 18.0	
	comp=Z,40nm,18.0s,baz=10,slow=36						
MJAR	Matsushiro Arr	29.54	24	LR	LR	13 55 57.1	
	comp=Z,33nm,20.8s,baz=245,slow=34						
WRA	Warramunga Arr	31.32	161	P	P	13 45 46.8	+2.3
	0.2nm,0.7s,baz=342,slow=9.0,SNR=3.1						
ASAR	Alice Springs	34.70	164	P	P	13 46 13.9	-0.1
	0.7nm,0.8s,baz=341,slow=8.1,SNR=6.7						
SONM	Songino Array	40.66	342	LR	LR	14 03 30.8	
	comp=Z,68nm,18.7s,baz=118,slow=36						
PETK	Petropavlovsk-	50.97	26	LR	LR	14 08 10.3	
	comp=Z,33nm,21.2s,baz=242,slow=34						
MKAR	Makanchi Array	51.00	324	P	P	13 48 28.2	+2.3
	0.7nm,0.9s,baz=110,slow=6.4,SNR=3.1						

*IDC **06** 13:40:52.9±2.3, 10.°03N×124.°58E, h0^{km}, mb3.8/4, mb1 3.9/4, mb1mx3.5/33, mbtmp3.8/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/41, Error ellipse: s-maj=140.4km s-min=27.6km az=67.0*
*ISCJB **06** 13:40:54.0±1.1, 9.°78N±0.°03×124.°03E±0.°04, h7^{km}±8^{km}, mb3.5/3, Error ellipse: s-maj=6.6km s-min=5.1km az=33.4*
*MAN **06** 13:40:54.9, 9.°80N×123.°97E, h10^{km}, MS3.5*
MAN Intensity III - Antequera Loon Maribojoc and Malilihan Bohol; Intensity II - Tagbilaran City; Intensity I - Sibulan Negros Occidental.
ISC 06 13:40:54.2±1.3**, 9.°82N**±0.°04×**124.°07E**±0.°04**, h10**^{km}±10^{km}**, n14, σ1^{s}04**/21**, mb3.5**/3**, 1C-4D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.50	348	⇓P	Pg	13 41 04.4	+0.4
LLP				S	Sb	13 41 12.3	-0.3
SNPH	Sibulan	0.95	240	⇓P	Pb	13 41 12.1	-0.8
SNPH				S	Sg	13 41 25.0	0.0
SCPH	Surigao	1.40	92	⇑P	Pg	13 41 21.1	0.0
SCPH				S	Sg	13 41 40.1	+0.8
DCPH	Dipolog City	1.42	210	⇓P	Pn	13 41 18.9	-1.3
DCPH				S	Sn	13 41 38.0	-1.0
CGP	Cagayan de Oro	1.49	156	⇓P	Pn	13 41 18.4	-2.7
GUIM	Jordan	1.66	299	P	Pn	13 41 22.4	-1.1
GUIM				S	Sn	13 41 44.5	-0.4
PAGZ	Pagadian	2.08	199	P	Pn	13 41 29.3	+0.2
PAGZ				S	Sn	13 41 55.6	+0.5
BESP	Borongan	2.22	37	P	Pb	13 41 33.6	-0.9
BESP				S	Sb	13 42 02.3	+0.2
CTBH	Cotabato--PC H	2.59	176	P	Pn	13 41 37.1	+0.8
CTBH				S	Sn	13 42 07.0	-0.9
SIJI	Sorong	12.81	146	LR	LR	13 48 55.6	
	comp=Z,39nm,21.0s,baz=320,slow=38						
BATI	Baumata	19.90	181	P	Pn	13 45 28.8	+1.1
	15nm,0.4s,baz=349,slow=10,SNR=3.9						
WRA	Warramunga Arr	31.26	161	P	P	13 47 14.8	+0.4
	0.3nm,0.7s,baz=342,slow=9.5,SNR=2.5						
ASAR	Alice Springs	34.64	164	P	P	13 47 44.7	+0.7
	0.6nm,0.8s,baz=338,slow=7.3,SNR=4.6						
MKAR	Makanchi Array	51.09	324	P	P	13 49 58.1	+1.0
	0.6nm,0.8s,baz=127,slow=6.3,SNR=3.6						

*SJA **06** 14:06:21.7±0.9, 28.°57S×72.°05W, h33^{km}±11^{km}, ML4.1, MW4.4*
*NEIC **06** 14:06:22.4±2.7, 28.°62S±0.°04×71.°90W±0.°08, h7^{km}±4^{km}*
*IDC **06** 14:06:22.9±1.0, 28.°70S×71.°65W, h0^{km}, mb3.8/2, mb1 3.9/7, mb1mx3.8/24, mbtmp3.8/7, ML3.8/5, MS3.0/4, Ms1 3.0/4, ms1mx2.8/19, Error ellipse: s-maj=31.9km s-min=25.5km az=73.0*
*ISCJB **06** 14:06:23.5±0.8, 28.°61S±0.°03×72.°02W±0.°08, h35^{km}±13^{km}, MS3.5/1, Error ellipse: s-maj=11.2km s-min=4.6km az=1.8*
*GUC **06** 14:06:25.9±0.7, 28.°72S×71.°44W, h55^{km}±14^{km}, ML4.4*
ISC 06 14:06:23.9±3.9**, 28.°64S**±0.°04×**71.°90W**±0.°07**, h17**^{km}±26^{km}**, n64, σ1^{s}63**/66**, 2C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSCH	La Serena	1.38	156	eP	Pn	14 06 47.7	-0.8
LSCH				eS	Sb	14 07 03.6	-3.2
GO03	Copiap	1.80	55	⇑*i*P	Pn	14 06 53.1	-1.2
GO03				eS	Sn	14 07 13.2	-3.6
GO03				IAML		14 07 17.3	
	comp=E,3μm,0.4s						
GO03	Copiap	1.80	55		Pn	14 06 54.1	-0.2
GO03				Sn	Sn	14 07 14.5	-2.4
GO03	Copiap	1.80	55	*i* P	Pn	14 06 53.9	-0.4
GO03				eS	Sb	14 07 17.5	-1.4
GO04	Tololo Observa	1.80	148	⇓*i*P	Pn	14 06 53.6	-0.9
GO04				eS	Sn	14 07 14.1	-3.0
GO04				IAML		14 07 24.3	
	comp=N,9μm,0.6s						
GO04	Tololo Observa	1.80	148		Pn	14 06 54.0	-0.4
GO04				Sn	Sn	14 07 14.8	-2.3
GO04	Tololo Observa	1.80	148	*i* P	Pn	14 06 54.1	-0.4
GO04				eS	Sb	14 07 19.4	+0.4
AROD	Rodeo	2.60	126	*i* P	Pn	14 07 06.8	+1.2
CO02	Combarbal	2.67	163	⇑*i*P	Pn	14 07 06.5	+0.2
CO02				eS	Sn	14 07 36.9	-1.5
CO02				IAML		14 07 54.5	
	comp=N,2μm,0.2s						
ACDV	Cuesta del Vie	2.86	123	*i* P	Pn	14 07 10.6	+1.6
AGUA	GUANDACOL	3.10	107	*i* P	Pn	14 07 14.1	+1.9
ACCO	Cerro Coronel	3.14	129	*i* P	Pn	14 07 14.6	+1.6
VCA	Vinchina	3.24	93	*i* P	Pn	14 07 16.4	+2.1
VCA				IAML		14 08 04.0	
	comp=Z,751nm,0.5s						
AMOG	MOGNA	3.74	129	*i* P	Pn	14 07 22.7	+1.7
RTLL	Cerro Villicun	4.00	133	*i* P	Pn	14 07 25.9	+1.4
RTLL				IAML		14 08 23.8	
	comp=Z,222nm,0.4s						
GO02	Mina Guanaco	4.03	31		Pn	14 07 25.5	+0.3
GO02				Sn	Sn	14 08 00.8	-11
RTCV	Cerro Valdivia	4.33	139	*i* P	Pn	14 07 31.1	+2.0
CFA	Coronel Fontan	4.33	134	Pn	Pn	14 07 29.3	+0.2
	comp=Z,11nm,0.3s,baz=316,slow=11,SNR=62						
CFA				Sn	Sn	14 08 17.9	-1.4
	comp=Z,9.5nm,0.3s,baz=231,slow=21,SNR=5.8						
CFA	Coronel Fontan	4.33	134	*i* P	Pn	14 07 30.1	+1.0
ROCH	El Roble	4.38	170	eP	Pn	14 07 30.7	+0.7
ROCH				eS	Sn	14 08 19.7	-1.1
ROCH				IAML		14 08 51.7	
	comp=N,238nm,0.3s						
ROC1	El Roble	4.39	170		Pn	14 07 30.5	+0.5
ROC1	El Roble	4.39	170	*i* P	Pn	14 07 31.6	+1.5
PEL	Peldehue	4.61	167		Pn	14 07 33.7	+0.8
PEL	Peldehue	4.61	167	*i* P	Pn	14 07 33.5	+0.6
ARCO	CERRO ARCO	4.90	149	*i* P	Pn	14 07 38.7	+1.6
ARCO				IAML		14 08 55.9	
	comp=Z,81nm,0.5s						
AAGR	Agrelo	5.16	150	*i* P	Pn	14 07 44.7	+4.2
PB10	IPOC Station P	5.25	14	Pn	Pn	14 07 40.4	-1.3
PB10	IPOC Station P	5.25	14	*i* P	Pn	14 07 40.9	-0.8
CYA	Choya	5.37	89	*i* P	Pn	14 07 43.2	-0.1
FSA	Cafayete	5.83	66	*i* P	Pn	14 07 54.1	+4.2
PB15	IPOC Station P	5.83	23	*i* P	Pn	14 07 49.7	-0.2
AHML	Horco Molle	6.10	74	*i* P	Pn	14 07 54.8	+1.3
PB06	IPOC Station P	6.27	20	*i* P	Pn	14 07 55.1	-0.8
GO05	Huala	6.35	180	Pn	Pn	14 07 56.1	-0.7
MRA	San Martin	6.53	127	*i* P	Pn	14 07 59.0	-0.3
LVC	Limon Verde	6.58	25	Pn	Pn	14 08 00.1	-0.3
	comp=Z,0.9nm,0.3s,baz=196,slow=8.3,SNR=7.8						
LVC				LR	LR	14 10 06.0	
	comp=Z,30nm,19.5s,baz=210,slow=34						
LVC	Limon Verde	6.58	25	Pn	Pn	14 08 00.2	-0.1
RFA	San Rafael	6.77	155	*i* P	Pn	14 08 05.5	+2.8
TCA	Tanti	6.88	115	*i* P	Pn	14 08 06.1	+1.9
PB09	IPOC Station P	7.23	20	*i* P	Pn	14 08 08.5	-0.5
AZAP	Zapla	7.54	56	*i* P	Pn	14 08 15.8	+2.4
PB11	IPOC Station P	9.07	14	Pn	Pn	14 08 32.6	-1.8
TRQA	Tornquist	12.52	141	Pn	Pn	14 09 22.1	+0.7
LPAZ	La Paz	12.78	17	Pn	Pn	14 09 27.9	+2.4
	comp=Z,0.2nm,0.3s,baz=188,slow=5.5,SNR=5.7						
LPAZ				LR	LR	14 14 43.8	
	comp=Z,54nm,18.9s,baz=74,slow=39						
LPAZ	La Paz	12.78	17		Pn	14 09 22.9	-2.6
CPUP	Villa Florida	13.14	83	Pn	Pn	14 09 28.5	-1.3
	comp=Z,0.2nm,0.3s,baz=246,slow=14,SNR=3.2						
CPUP	Villa Florida	13.14	83		Pn	14 09 30.5	+0.7
SIV	San Ignacio	16.07	41	Pn	Pn	14 10 08.7	-0.6
	comp=Z,0.1nm,0.3s,baz=282,slow=13,SNR=2.3						
NNA	Nana	17.20	343	Pn	Pn	14 10 22.3	-1.4
NNA				IAmb	IAmb	14 10 37.1	
	comp=Z,29nm,1.4s						
SAML	Samuel	21.24	24	P	P	14 11 10.3	+1.0
SAML				IAmb	IAmb	14 11 11.3	
	comp=Z,2.5nm,0.9s						
BDFB	Brasilia	25.56	65	LR	LR	14 22 54.1	
	comp=Z,42nm,18.7s,baz=137,slow=39						
PAYG	Puerto Ayora	32.90	324	P	P	14 12 56.6	-0.9
PAYG				IAmb	IAmb	14 13 55.8	
	comp=Z,59nm,1.2s						
PDAR	Pinedale Array	79.06	333	P	P	14 18 31.1	+3.6
	comp=Z,0.2nm,0.4s,baz=145,slow=5.4,SNR=3.5						
TORD	Torodi Ar. Bea	82.29	71	P	P	14 18 44.9	-0.2
	comp=Z,1.1nm,0.6s,baz=268,slow=5.5,SNR=6.2						
TORD				LR	LR	14 55 42.3	
	comp=Z,21nm,18.0s,baz=345,slow=36						
ASAR	Alice Springs	122.36	208	PKP	PKiKP	14 25 19.9	+0.8
	comp=Z,0.3nm,0.5s,baz=122,slow=1.5,SNR=6.5						
WRA	Warramunga Arr	125.45	211	PKP	PKiKP	14 25 26.4	+1.2
	comp=Z,0.7nm,0.5s,baz=161,slow=1.7,SNR=14						
H11S2	WAKE ISLAND Hy	125.80	273	T	T	16 44 17.7	
	baz=112,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy	125.81	273	T	T	16 44 17.6	
	baz=112,slow=75,SNR=19						
H11S3	WAKE ISLAND Hy	125.81	273	T	T	16 44 21.3	
	baz=112,slow=75,SNR=20						
H11N3	WAKE ISLAND Hy	126.07	274	T	T	16 44 37.3	
	baz=113,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	126.09	274	T	T	16 44 37.4	
	baz=113,slow=75,SNR=7.6						
H11N2	WAKE ISLAND Hy	126.09	274	T	T	16 44 38.3	
	baz=113,slow=75,SNR=19						
ZALV	Zalesovo Beam	149.53	27	PKPbc	PKiKP	14 26 13.8	+0.8
	comp=Z,2.8nm,0.6s,baz=295,slow=3.0,SNR=13						
MKAR	Makanchi Array	152.89	41	PKPbc	PKiKP	14 26 20.6	+0.3
	comp=Z,0.7nm,0.7s,baz=314,slow=3.1,SNR=6.2						

*ISCJB **06** 14:09:01.4±0.5, 37.°32N±0.°04×72.°00E±0.°08, h200^{km}, mb3.4/8, Error ellipse: s-maj=9.5km s-min=4.4km az=151.7*
*IDC **06** 14:09:01.1±4.8, 37.°09N×72.°28E, h204^{km}±33^{km}, mb3.3/8, mb1 3.3/14, mb1mx3.0/61, mbtmp3.9/14, MS3.3/1, Ms1 3.1/1, ms1mx2.4/33, Error ellipse: s-maj=46.4km s-min=26.7km az=164.0*
*NNC **06** 14:09:05.6±5.8, 37.°63N×70.°23E, h0^{km}, mb4.1, mpv3.7, Error ellipse: s-maj=64.5km s-min=39.3km az=112.0*
ISC 06 14:09:02.3±0.8**, 37.°33N**±0.°08×**72.°2E**±0.°1**, h200^{km}, n38, σ1^{s}18**/39**, mb3.4**/8**, 3C, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	4.94	13	P	Pn	14 10 17.2	+0.9
	SNR=94						
UCH	Uchtor	5.22	20	P	Pn	14 10 20.6	+0.7
	SNR=26						
KZA	Kyzart	5.31	26	P	Pn	14 10 21.3	+0.3
	SNR=7.4						
EKS2	Erkin-Say	5.47	13	P	Pn	14 10 23.8	+1.0
	SNR=19						
AAK	Ala-Archa	5.60	18	P	Pn	14 10 25.6	+1.2
	3.9nm,0.3s,baz=184,slow=4.1,SNR=76						
AAK				S	Sn	14 11 27.7	-1.8
	2.3nm,0.3s,baz=307,slow=21,SNR=15						
AAK	Ala-Archa	5.60	18	P	Pn	14 10 25.6	+1.2
	SNR=23						
KBK	Karagaybulak	5.74	21	P	Pn	14 10 28.2	+1.9
	SNR=5.8						
ULHL	Ulahol	5.84	31	P	Pn	14 10 27.7	+0.1
	SNR=5.5						
KK31	Karatay Array	5.90	348	P	Pn	14 10 29.0	+0.8
	5.2nm,0.5s,baz=151,slow=10,SNR=144						
KK31				⇑S	Sn	14 11 32.9	-3.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	9.3nm,0.3s,baz=161,slow=16,SNR=20						
CHMS	Chumysh	6.00	19	P	Pn	14 10 30.4	+0.8
	SNR=7.1						
TKM2	Tokmak 2	6.18	24	P	Pn	14 10 32.8	+0.8
	SNR=6.8						
MKAR	Makanchi Array	12.08	35	P	Pn	14 11 48.5	+0.4
	0.1nm,0.3s,baz=223,slow=15,SNR=2.6						
DANN	Dangsing	13.23	129	eP	P	14 12 03.7	-2.3
	3.4nm,0.2s						
KOLN	Koldanda	13.56	131	eP	P	14 12 07.4	-2.0
	7.9nm,0.4s						
GKN	Gorkha	14.03	128	eP	P	14 12 13.5	-1.1
	31nm,0.3s						
KURBB	Kurchatov Arra	14.05	17	P	P	14 12 15.3	+0.9
	0.1nm,0.3s,baz=202,slow=11,SNR=7.5						
KKN	Kakani	14.58	127	eP	P	14 12 20.4	-0.4
DMN	Daman	14.60	128	eP	P	14 12 20.8	-0.2
	8.6nm,0.5s						
PKIN	Phulchoki	14.80	127	eP	P	14 12 23.3	0.0
	5.1nm,0.4s						
PKI	Pulchoki	14.82	127	eP	P	14 12 23.4	-0.1
	3.5nm,0.4s						
AB31	Akbulak array	14.85	327	P	Pn	14 12 21.5	-0.9
	0.8nm,0.5s,baz=136,slow=11,SNR=38						
AB31				⇑S	S	14 14 59.4	-7.7
	1.0nm,0.5s,baz=150,slow=22,SNR=5.7						
GUN	Gumba	14.89	125	eP	P	14 12 25.1	+0.8
	8.8nm,0.5s						
JIRN	Jiri	15.26	125	eP	P	14 12 29.0	+0.5
	12nm,0.3s						
BVAR	Borovoye Array	15.75	356	P	P	14 12 34.0	+0.8
	0.5nm,0.3s,baz=161,slow=10,SNR=12						
RAMN	Ramite	16.01	126	eP	Pn	14 12 37.1	+0.1
	4.9nm,0.4s						
TAPN	Taplejung	16.47	123	eP	Pn	14 12 43.6	+1.0
	4.4nm,0.5s						
AKTO	Aktyubinsk	16.56	327	P	P	14 12 43.9	+1.7
	0.8nm,0.3s,baz=128,slow=10,SNR=14						
AKTO	Aktyubinsk	16.56	327	⇑P	P	14 12 44.0	+1.8
	4.8nm,0.8s						
ZALV	Zalesovo Beam	18.79	24	P	P	14 13 06.3	0.0
	1.6nm,0.3s,baz=224,slow=10,SNR=40						
ARU	Arti	21.17	339	P	P	14 13 33.1	+1.3
	0.5nm,0.5s,baz=223,slow=24,SNR=3.3						
KBZ	Khabaz	23.06	295	LR	LR	14 26 29.6	
	comp=Z,64nm,19.1s,baz=316,slow=45						
FINES	FINESS Array B	37.32	325	P	P	14 15 55.6	+0.7
	1.9nm,0.8s,baz=114,slow=8.6,SNR=6.4						
ARCES	ARCESS Array B	40.74	337	P	P	14 16 23.6	+0.4
	3.2nm,0.9s,baz=116,slow=8.1,SNR=8.6						
HFS	Hagfors	42.99	321	P	P	14 16 41.8	+0.3
	4.4nm,0.8s,baz=99,slow=9.6,SNR=7.4						
NOA	NORSAR Array B	44.28	322	P	P	14 16 51.9	+0.1
	0.5nm,0.5s,baz=95,slow=7.6,SNR=2.7						
TORD	Torodi Ar. Bea	66.66	269	P	P	14 19 30.9	-0.9
	0.2nm,0.3s,baz=48,slow=5.7,SNR=4.1						
INK	Inuvik	72.94	10	P	P	14 20 09.2	0.0
	0.7nm,0.9s,baz=322,slow=2.4,SNR=4.3						
YKA	Yellowknife Ar	80.37	3	P	P	14 20 50.4	-0.4
	0.3nm,0.6s,baz=352,slow=5.6,SNR=4.7						

*ISCJB **06** 14:14:41.9±0.3, 51°.52N±0°.02×16°.21E±0°.03, h0km, Error ellipse: s-maj=2.9km s-min=2.2km az=21.4*

*IDC **06** 14:14:45.5±0.6, 51°.49N×16°.03E, h0km, mb1 3.6/9, mb1mx3.3/57, mbtmp3.5/9, ML3.4/9, Error ellipse: s-maj=9.9km s-min=6.1km az=104.0*

*BGR **06** 14:14:45.6±0.6, 51°.44N×16°.24E, h1km, ML3.2/11, Error ellipse: s-maj=8.9km s-min=4.4km az=37.0*

*LDG **06** 14:14:45.4±0.4, 51°.35N×16°.24E, h1km, Ml3.4/7, Error ellipse: s-maj=9.9km s-min=3.6km az=13.0, Suspected Mining induced.*

*VIE **06** 14:14:48.2±0.9, 51°.23N×16°.16E, h0km, mb2.8/7, ml3.2/7, Error ellipse: s-maj=6.8km s-min=5.3km az=22.0 61 km WNW of Wroclaw Suspected Mining induced.*

ISC 06 14:14:42.7±0.6, 51°.55N±0°.03×16°.12E±0°.02, h0km, n66, σ1s.90/126, 8D, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.71	171	ePg	Pg	14 14 57.2	+0.8
KSP				eSg	Sg	14 15 04.5	-1.0
KSP	Ksiaz	0.71	171	i Pg	Pg	14 14 57.1	+0.8
KSP				i Pg	Pg	14 14 57.1	+0.8
KSP				eSg	Sg	14 15 05.0	-0.5
KSP				eSg	Sg	14 15 05.0	-0.5
CHVC	Chvalec	0.96	183	ePG	Pg	14 15 02.1	+1.0
CHVC				eSG	Sg	14 15 13.5	0.0
UPC	Upice	1.04	184	⇓iPG	Pg	14 15 03.3	+0.7
UPC				eSG	Sg	14 15 16.3	+0.2
DPC	Dobruska-Polom	1.20	174	ePg	Pg	14 15 06.0	+0.2
DPC				eSg	Sg	14 15 20.8	-0.5
DPC	Dobruska-Polom	1.20	174	⇓iPG	Pg	14 15 05.9	+0.2
DPC				eSG	Sg	14 15 20.2	-1.1
	comp=Z,171nm,0.5s						
PVCC	Panska Ves	1.41	224	⇓ePG	Pb	14 15 11.3	+1.4
PVCC				eSG	Sn	14 15 30.3	+1.3
	comp=Z,475nm,0.3s						
BRG	Berggiesshubel	1.53	245	PN	Pn	14 15 12.6	+1.4
BRG				PG	Pg	14 15 14.4	+2.5
BRG				SG	Sn	14 15 34.7	+3.0
	162nm,0.4s						
BRG	Berggiesshubel	1.53	245	ePn	Pn	14 15 12.6	+1.4
PRA	Prague	1.82	217	⇓ePN	Pn	14 15 16.7	+1.4
GOPC	GO Pecny, Ondr	1.84	208	⇓ePG	Pb	14 15 18.1	+0.9
GOPC				eSG	Sb	14 15 41.4	+0.6
	comp=Z,53nm,0.2s						
FBE	Freiberg	1.85	251	ePn	Pb	14 15 18.1	+0.8
FBE				eSg	Sg	14 15 44.1	+2.0
PRU	Pruhonice	1.85	213	⇓ePN	Pn	14 15 16.5	+0.8
PRU				ePG	Pb	14 15 18.6	+1.2
PRU				eSG	Sb	14 15 42.0	+0.9
	comp=Z,73nm,0.3s						
CLL	Collm	1.97	264	ePn	Pn	14 15 19.0	+1.7
CLL				ePg	Pg	14 15 22.0	+1.6
CLL				eSg	Sg	14 15 49.0	+3.2
	comp=Z,52nm,0.6s						
CLL	Collm	1.97	264	ePn	Pn	14 15 19.2	+1.9
RAC	Raciborz	1.97	137	ePg	Pg	14 15 20.9	+0.5
RAC				ePg	Pg	14 15 20.9	+0.5
RAC				eSg	Sg	14 15 45.7	-0.2
RAC				eSg	Sg	14 15 45.7	-0.2
MORC	Moravsky Berou	1.99	152	ePn	Pn	14 15 17.8	+0.1
MORC	Moravsky Berou	1.99	152	ePN	Pn	14 15 17.7	+0.1
MORC				eSG	Sn	14 15 43.6	+0.4
OKC	Ostrava-Krasne	2.14	142	ePn	Pn	14 15 19.6	-0.1
OKC				eSg	Sn	14 15 47.8	+0.9
OKC	Ostrava-Krasne	2.14	142	⇓ePG	Pb	14 15 23.2	+0.9
OKC				eSG	Sb	14 15 48.8	-0.6
VRAC	Vranov	2.26	172	Pn	Pn	14 15 22.5	+1.2
	comp=Z,8.8nm,0.3s,baz=334,slow=16,SNR=30						
VRAC				Sn	Sb	14 15 53.1	+0.2
	comp=Z,15nm,0.3s,baz=254,slow=20,SNR=9.8						
VRAC	Vranov	2.26	172	ePN	Pn	14 15 22.1	+0.8
VRAC				eSG	Sb	14 15 52.8	-0.1
KRUC	Moravsky	2.49	176	ePN	Pn	14 15 25.8	+1.3
KRUC				eSG	Sb	14 16 00.5	+1.0
TANN	Tannenbergstha	2.57	245	ePn	Pn	14 15 28.1	+2.4
OJC	Ojcow	2.68	118	ePg	Pb	14 15 33.4	+1.9
OJC				ePg	Pb	14 15 33.4	+1.9
OJC				eSg	Sg	14 16 08.4	-0.4
OJC				eSg	Sg	14 16 08.4	-0.4
JAVC	Velka Javorina	2.87	159	ePN	Pn	14 15 31.9	+2.2
KHC	Kasperske Hory	2.91	215	⇓ePN	Pn	14 15 31.6	+1.2
KHC				ePG	Pb	14 15 37.8	+2.2
KHC				ex	x	14 16 06.0	
KHC				eSG	Sg	14 16 14.9	-1.4
	comp=Z,38nm,0.3s						
MOX	Moxa	2.98	254	ePn	Pn	14 15 33.7	+2.5
MANZ	Manzenberg	2.99	240	ePn	Pn	14 15 33.4	+2.0
ROTZ	Rotzenmuhle	3.06	236	ePn	Pn	14 15 34.2	+1.9
GEC2	GERESS Array S	3.12	211	ePn	Pn	14 15 35.0	+1.8
GERES	GERESS Array B	3.12	211	Pn	Pn	14 15 35.3	+2.1
	comp=Z,1.8nm,0.3s,baz=33,slow=13,SNR=28						
GERES				Pg	Pb	14 15 41.1	+2.0
	comp=Z,17nm,0.3s,baz=31,slow=18,SNR=89						
GERES				Lg	Lg	14 16 20.5	
	comp=Z,13nm,0.3s,baz=31,slow=27,SNR=10						
SMOL	Smolenice	3.15	164	ePG	Pg	14 15 43.3	+0.3
SMOL				eSG	Sg	14 16 23.7	-0.1
SMOL				eLG	Lg	14 16 28.7	
WET	Wettzell	3.18	222	ePn	Pn	14 15 35.6	+1.7
LANS	Liptovska Anna	3.22	137	ePN	Pn	14 15 35.6	+1.1
LANS				ePG	Pg	14 15 44.9	+0.6
LANS				eSG	Sg	14 16 26.9	+0.9
LANS				eLG	Lg	14 16 35.8	
MODS	Modra-Piesok	3.26	166	ePN	Pn	14 15 32.9	-2.2
MODS				ePG	Pb	14 15 43.9	+2.4
MODS				eSG	Sg	14 16 26.2	-1.2
MODS				eLG	Lg	14 16 31.1	
VYHS	Vyhne	3.52	149	ePN	Pn	14 15 39.1	+0.4
VYHS				ePG	Pg	14 15 50.2	0.0
VYHS				eSG	Sg	14 16 34.0	-1.8
CONA	Conrad Observa	3.62	183	ePn	Pn	14 15 41.7	+1.5
	comp=Z,2.1nm,0.2s,SNR=6.7						
CONA				eSg	Sg	14 16 37.5	-1.6
	comp=Z,24nm,0.3s						
BSD	Bornholm Skovb	3.65	349	i P	Pn	14 15 42.6	+2.2
BSD				i S	Sn	14 16 23.8	-0.3
MOA	Molln	3.89	199	ePn	Pn	14 15 45.3	+1.5
	comp=Z,3.8nm,0.2s,SNR=10						
MOA				Sg	Sg	14 16 46.8	-0.8
	comp=Z,49nm,0.6s						
STHS	Stebnicka Huta	3.90	121	ePN	Pn	14 15 43.6	-0.3
STHS				ePG	Pg	14 15 58.8	+1.3
STHS				eSG	Sg	14 16 52.4	+4.3
STHS				eLG	Lg	14 17 03.3	
ARSA	Arzberg	4.32	185	ePn	Pn	14 15 51.1	+1.5
	comp=Z,1.9nm,0.2s						
ARSA				Sg	Sg	14 17 01.8	+0.5
	comp=Z,14nm,0.4s						
KOLS	Kolonicke sedl	4.74	121	ePN	Pn	14 15 56.2	+0.8
KOLS				ePG	Pg	14 16 16.7	+3.3
KOLS				eSG	Sg	14 17 18.1	+3.3
KBA	Koelnbreinsper	4.83	203	Pn	Pn	14 15 58.8	+2.0
	comp=Z,5.6nm,0.5s						
WATA	Walderalm	5.15	217	ePn	Pn	14 16 04.1	+3.0
	comp=Z,4.2nm,0.3s						
MOTA	Moosalm	5.33	220	ePn	Pn	14 16 06.2	+2.6
	comp=Z,2.3nm,0.2s						
ABTA	Abfaltersbach	5.35	208	i Pn	Pn	14 16 06.9	+3.0
	comp=Z,2.8nm,0.4s						
RETA	Reutte	5.35	223	Pn	Pn	14 16 05.5	+1.6
	comp=Z,2.5nm,0.2s,SNR=4.3						
RETA				i Sn	Sn	14 17 06.7	+0.4
	comp=Z,5.9nm,0.4s						
DAVOX	Davos/Dischmat	6.28	223	Pn	Pn	14 16 18.0	+1.2
	comp=Z,0.7nm,0.3s,baz=315,slow=19,SNR=4.7						
DAVOX				Sn	Sn	14 17 31.4	+2.1
	comp=Z,0.4nm,0.3s,baz=342,slow=19,SNR=2.3						
DAVOX				Lg	Lg	14 18 02.2	
	comp=Z,0.6nm,0.3s,baz=35,slow=21,SNR=3.7						
CDF	Champ du Feu	6.51	245	ePn	Pn	14 16 20.7	+0.9
CDF				eSg	Sg	14 18 08.6	-3.0
	comp=Z,30nm,0.9s						
HINF	Hinteralfeld	7.08	242	ePn	Pn	14 16 28.4	+0.9
HINF	Hinteralfeld	7.08	242	ePg	Pg	14 16 56.5	-1.7
HINF				eSg	Sg	14 18 25.6	-4.2
	comp=Z,6.7nm,0.5s						
HAU	Haudompre	7.25	245	ePn	Pn	14 16 30.0	+0.1
HAU	Haudompre	7.25	245	ePg	Pg	14 16 59.8	-1.8
HAU				eSn	Sn	14 17 48.7	-4.2
HAU				eSg	Sg	14 18 31.2	-4.2
	comp=Z,8.0nm,0.5s						
GIVF	Givet	7.30	263	ePn	Pn	14 16 32.3	+1.7
GIVF	Givet	7.30	263	ePg	Pg	14 17 01.9	-0.6
GIVF				eSg	Sg	14 18 34.0	-3.1
	comp=Z,4.2nm,0.3s						
PAGF	Fort de Pagny	7.33	250	ePn	Pn	14 16 32.3	+1.3
	baz=70						
PAGF	Fort de Pagny	7.33	250	ePg	Pg	14 17 01.5	-1.6
	baz=70						
PAGF				eSn	Sn	14 17 49.9	-4.9
PAGF				eSg	Sg	14 18 34.7	-3.3
	comp=Z,6.2nm,0.4s						
CABF	La Chapelle	8.23	237	ePg	Pg	14 17 17.5	-2.8
CABF				eSg	Sg	14 19 01.4	-5.4
	comp=Z,0.9nm,0.3s						
AKASG	Malin Array Be	8.29	91	Pn	Pn	14 16 44.0	-0.1
	comp=Z,1.5nm,0.3s,baz=279,slow=12,SNR=4.6						
AKASG				Sn	Sn	14 18 14.1	-4.3
	comp=Z,1.2nm,0.3s,baz=264,slow=25,SNR=3.5						
AKASG				Lg	Lg	14 19 13.5	
	comp=Z,0.4nm,0.3s,baz=274,slow=26,SNR=3.1						
HFS	Hagfors	8.72	352	Pn	Pn	14 16 51.4	+1.5
	comp=Z,0.4nm,0.3s,baz=164,slow=15,SNR=7.7						
HFS				Sn	Sn	14 18 25.7	-3.1
	comp=Z,0.2nm,0.3s,baz=183,slow=29,SNR=5.1						
MBDF	Montbardon	9.25	226	ePn	Pn	14 16 58.4	+1.0
MBDF				eSn	Sn	14 18 34.2	-7.9
	comp=Z,2.5nm,0.6s						
NOA	NORSAR Array B	9.90	346	Pn	Pn	14 17 05.7	-0.4
	comp=Z,0.0nm,0.3s,baz=160,slow=12,SNR=4.8						
FINES	FINESS Array B	11.33	25	Pn	Pn	14 17 25.4	-0.2
	comp=Z,0.4nm,0.3s,baz=201,slow=11,SNR=12						
FINES				Sn	Sn	14 19 28.6	-4.2
	comp=Z,0.4nm,0.3s,baz=206,slow=20,SNR=4.3						
EKA	Eskdalemuir Ar	12.10	296	Pn	Pn	14 17 36.7	+0.5
	baz=96,slow=14,SNR=3.0						
ARCES	ARCESS Array B	18.59	10	Pn	P	14 19 00.8	-0.2
	comp=Z,0.6nm,0.3s,baz=195,slow=12,SNR=12						

*IDC **06** 14:33:26.7±3.9, 36°.24N×70°.38E, h174km±27km, mb3.4/5, mb1 3.3/11, mb1mx3.0/49, mbtmp3.8/11, MS3.5/2, Ms1 3.5/2, ms1mx2.6/43, Error ellipse: s-maj=43.4km s-min=17.2km az=150.0*

*ISCJB **06** 14:33:27.2±0.5, 36°.43N±0°.04×70°.34E±0°.06, h150km, mb3.8/4, Error ellipse: s-maj=8.3km s-min=4.0km az=139.3*

*NNC **06** 14:34:00.6±7.2, 39°.18N×68°.59E, h0km, mb3.6, mpv2.8, Error ellipse: s-maj=87.5km s-min=42.1km az=145.0*

ISC 06 14:33:26.9±0.7, 36°.30N±0°.07×70°.27E±0°.06, h150km, n33, σ2s.09/36, mb3.8/4, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMU	Jammu	5.23	132	eS	Sn	14 35 43.4	+0.4
THN	Thein Dam	5.93	129	eP	Pn	14 34 57.2	+4.6
THN				eS	Sn	14 36 04.2	+4.6
DHRM	DHARAMSHALA	6.42	127	eP	Pn	14 35 00.1	+0.7
DHRM				eS	Sn	14 36 14.5	+2.8
DHRM				IAML		14 36 16.5	
	comp=N,219nm,0.3s						
DHRM				IAML		14 36 17.0	
	comp=E,191nm,0.4s						
KK31	Karatay Array	6.80	1	Pn	Pn	14 35 06.1	+2.0
	comp=E,0.3nm,0.3s,baz=180,slow=12,SNR=9.3						
KK31				⇑Pg		14 35 15.7	
	comp=E,1.0nm,0.3s,baz=163,slow=12,SNR=9.2						
KK31				⇓Lg	Lg	14 36 14.5	
	comp=E,1.9nm,0.5s,baz=200,slow=28,SNR=5.0						
AAK	Ala-Archa	7.12	26	P	Pn	14 35 09.8	+1.2
	comp=E,0.9nm,0.3s,baz=138,slow=6.9,SNR=11						
AAK				S	Sn	14 36 26.7	-1.7
	comp=E,0.8nm,0.3s,baz=322,slow=22,SNR=23						
SMLA	Simla	7.72	130	eP	Pn	14 35 19.3	+2.9
SMLA				eS	Sn	14 36 44.5	+2.0
SMLA				IAML		14 36 47.3	
	comp=N,73nm,0.4s						
SMLA				IAML		14 36 48.1	
	comp=E,77nm,0.3s						
JOSI	Joshimath	9.64	124	eP	Pn	14 35 42.5	+0.2
JOSI				eS	Sn	14 37 26.6	-2.7
KUDL	Kundal	9.69	145	eP	Pn	14 35 32.6	-10
KUDL				eS	Sn	14 37 22.9	-7.1
GEYT	Alibeck	9.84	283	P	Pn	14 35 45.9	+1.1
	comp=E,0.5nm,0.3s,baz=103,slow=11,SNR=7.2						
GEYT				S	Sn	14 37 36.5	+2.8
	comp=E,0.3nm,0.3s,baz=68,slow=34,SNR=2.7						
MKAR	Makanchi Array	13.80	37	P	Pn	14 36 35.7	-0.4
	comp=E,0.3nm,0.3s,baz=224,slow=15,SNR=10						
DANN	Dangsing	13.88	121	eP	P	14 36 39.0	-1.9
	comp=E,18nm,0.4s						
KOLN	Koldanda	14.13	123	eP	P	14 36 42.3	-1.4
	comp=E,8.6nm,0.3s						
GKN	Gorkha	14.70	120	eP	P	14 36 49.6	-0.3
	comp=E,16nm,0.2s						
AB31	Akbulak array	14.98	333	Pn	Pn	14 36 52.3	+1.4
	comp=E,0.6nm,0.3s,baz=142,slow=11,SNR=40						
DMN	Daman	15.27	120	eP	P	14 36 56.7	+0.4
	comp=E,11nm,0.6s						
KKN	Kakani	15.28	119	eP	P	14 36 56.2	-0.2
	comp=E,12nm,0.3s						
PKIN	Phulchoki	15.49	120	eP	P	14 36 59.9	+1.1
	comp=E,13nm,0.4s						
KURBB	Kurchatov Arra	15.51	20	P	Pn	14 36 57.3	0.0
	comp=E,0.1nm,0.3s,baz=221,slow=11,SNR=3.0						
PKI	Pulchoki	15.51	120	eP	P	14 37 00.1	+1.1
	comp=E,34nm,0.6s						
GUN	Gumba	15.63	118	eP	P	14 37 01.3	+0.8
	comp=E,21nm,0.4s						
JIRN	Jiri	16.00	118	eP	P	14 37 05.0	+0.4
	comp=E,57nm,0.6s						
AKTO	Aktyubinsk	16.67	332	P	P	14 37 10.9	-0.4
	comp=E,0.4nm,0.3s,baz=140,slow=10,SNR=15						
AKTO	Aktyubinsk	16.67	332	⇑Pn	P	14 37 11.0	-0.3
	comp=E,8.0nm,0.9s						
RAMN	Ramite	16.72	119	eP	Pn	14 37 13.1	+0.5
	comp=E,23nm,0.5s						
BVAR	Borovoye Array	16.72	0	P	P	14 37 11.0	-0.8
	comp=E,0.3nm,0.3s,baz=168,slow=9.9,SNR=6.4						
TAPN	Taplejung	17.28	116	eP	Pn	14 37 19.7	+0.3
	comp=E,6.4nm,0.3s						
ZALV	Zalesovo Beam	20.34	25	P	P	14 37 49.6	-1.6
	comp=E,1.0nm,0.4s,baz=232,slow=11,SNR=5.1						
ARU	Arti	21.64	342	P	P	14 38 04.9	-0.1
	comp=E,0.8nm,0.4s,baz=157,slow=11,SNR=5.3						
ASF	Jabal al Asfar	27.82	271	LR	LR	14 51 13.1	
	comp=E,170nm,20.4s,baz=310,slow=38						
FINES	FINESS Array B	37.32	326	P	P	14 40 22.3	-1.9
	comp=E,5.6nm,1.0s,baz=145,slow=7.0,SNR=6.0						
ARCES	ARCESS Array B	41.11	338	P	P	14 40 53.7	-1.8
	comp=E,3.7nm,0.8s,baz=98,slow=7.5,SNR=8.0						
DAV	Davao City (W)	58.10	106	LR	LR	15 09 07.5	
	comp=E,25nm,19.7s,baz=132,slow=37						
TORD	Torodi Ar. Bea	65.12	268	P	P	14 43 49.3	-2.5
	comp=E,0.2nm,0.4s,baz=39,slow=4.6,SNR=2.6						

IDC 06 15:05:23.6±1.7, 0°.09N×124°.47E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/43, mbtmp3.2/3, Error ellipse: s-maj=177.0km s-min=25.2km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.13	155	P	P	15 10 20.5	-0.5
	0.4nm,0.5s,baz=332,slow=11,SNR=5.4						
ASAR	Alice Springs	25.32	159	P	P	15 10 52.6	+0.3
	0.2nm,0.6s,baz=341,slow=8.0,SNR=6.6						
MKAR	Makanchi Array	59.32	328	P	P	15 15 27.4	-0.1
	0.2nm,0.3s,baz=122,slow=7.4,SNR=3.7						

*BJI **06** 15:15:04.7±0.0, 22°.17N×111°.01E, h12km, mb4.0/4, mB4.1/2, ML4.4/8, Ms3.7/2, Ms7 3.6/3*

ISC 06 15:15:05.7±1.0, 22°.24N±0°.08×110°.94E±0°.07, h10km, n7, σ3s.84/10, Southeastern China

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GZH	Guangzhou	2.37	69	Pg	Pg	15 15 56.4	+5.2
GZH				Sg	Sg	15 16 32.9	+11
GZH				smax	smax		
	comp=N,1μm,0.8s						
GZH				smax	smax		
	comp=E,730nm,0.9s						
MCO	Taipa Grande	2.43	92	P	Pb	15 15 48.0	-1.5
QIZ	Qiongzhong	3.36	198	Pg	Pn	15 15 59.1	+0.9
QIZ				smax	smax		
	comp=N,280nm,0.7s						
QIZ				smax	smax		
	comp=E,550nm,0.7s						
GYA	Guiyang	5.73	318	ePn	Pn	15 16 32.1	+1.1
GYA				Pg	Pg	15 16 52.2	-3.4
GYA				Sn	Sn	15 17 44.9	+7.9
GYA				Sg	Sg	15 18 06.2	-3.6
GYA				smax	smax		
	comp=N,180nm,0.7s						
GYA				smax	smax		
	comp=E,170nm,0.7s						
GYA				LR	LR		
	comp=N,100nm,6.0s						
GYA				LR	LR		
	comp=E,130nm,6.0s						
GYA				LR	LR		
	comp=Z,190nm,6.7s						
WHN	Wuhan	8.81	20	P	Pn	15 17 15.0	+1.8
WHN				S	Sn	15 18 55.4	+2.8
WHN				LR	LR		
	comp=N,510nm,5.7s						
WHN				LR	LR		
	comp=Z,480nm,13.0s						
GTA	Gaotai	19.57	333	eP	P	15 19 32.9	-1.1
GTA				pP	sP	15 19 37.9	-0.3
GTA				sP	pP	15 19 41.2	+4.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
WMQ	Urumqi	28.86	324	eP	P	15 21 04.6	+0.1
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						

*ISCJB **06** 15:40:10.7±1.1, 20°.52S±0°.03×71°.04W±0°.08, h47km±15km, mb3.9/1, Error ellipse: s-maj=13.4km s-min=5.3km az=9.2*

*GUC **06** 15:40:11.6±0.7, 20°.51S×70°.87W, h61km±9km, ML3.4*

*IDC **06** 15:40:21.5±4.1, 20°.17S×70°.26W, h93km±31km, mb3.5/2, mb1 3.5/3, mb1mx3.2/17, mbtmp3.8/3, Error ellipse: s-maj=121.4km s-min=27.6km az=107.0*

ISC 06 15:40:10.3±2.0, 20°.51S±0°.05×71°.1W±0°.1, h41km±21km, n16, σ1s.12/27, 4D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TA01	Diego Aracena	0.86	94	eP	Pn	15 40 25.8	-0.2
TA01				i S	Sn	15 40 35.7	-1.8
PB02	IPOC Station P	1.38	126	⇓iP	Pn	15 40 33.9	+0.6
PB02				i S	Sn	15 40 49.8	-0.6
PB02				IAML		15 40 51.4	
	comp=E,3μm,0.6s						
PB11	IPOC Station P	1.54	61	eP	Pn	15 40 35.7	+0.1
PB11				i S	Sn	15 40 53.2	-1.3
PB07	IPOC Station P	1.66	137	eP	Pn	15 40 37.8	+0.7
PB07				i S	Sn	15 40 57.1	-0.2
PB07				IAML		15 41 07.6	
	comp=E,460nm,0.6s						
MNMC	Minye Minye	1.97	46	eP	Pn	15 40 42.0	+0.5
MNMC				i S	Sn	15 41 04.7	-0.5
GO01	Chusmiza	1.98	65	eP	Pn	15 40 42.1	+0.4
GO01				i S	Sn	15 41 05.1	-0.4
PB03	IPOC Station P	1.98	141	eP	Pn	15 40 42.3	+0.7
PB03				i S	Sn	15 41 04.8	-0.4
PB04	IPOC Station P	2.02	154	eP	Pn	15 40 43.0	+0.8
PB04				i S	Sn	15 41 06.7	+0.5
PB04				IAML		15 41 07.9	
	comp=E,568nm,0.2s						
PB09	IPOC Station P	2.15	127	eP	Pn	15 40 45.8	+1.8
PB09				i S	Sn	15 41 10.8	+1.3
PB09				IAML		15 41 14.6	
	comp=N,509nm,0.5s						
PB05	IPOC Station P	2.48	161	⇓iP	Pn	15 40 48.9	+0.6
PB05				i S	Sn	15 41 15.5	-1.9
PB05				IAML		15 41 19.3	
	comp=E,137nm,0.2s						
PB06	IPOC Station P	2.61	147	⇓iP	Pn	15 40 50.9	+0.7
PB06				i S	Sn	15 41 20.6	-0.1
PB10	IPOC Station P	3.03	171	⇓iP	Pn	15 40 56.4	+0.6
PB10				i S	Sn	15 41 28.9	-2.0
LPAZ	La Paz	5.05	34	P	Pn	15 41 26.1	+1.9
	comp=E,0.9nm,0.3s,baz=287,slow=1.5,SNR=21						
PLCA	Paso Flores	20.16	179	P	Pn	15 44 52.1	+8.7
	comp=E,3.1nm,1.1s,baz=342,slow=13,SNR=2.8						
TORD	Torodi Ar. Bea	78.96	71	P	P	15 52 10.9	+0.6
	comp=E,0.7nm,0.4s,baz=244,slow=5.2,SNR=8.4						
MKAR	Makanchi Array	145.98	33	PKPbc	PKiKP	15 59 47.4	-1.6
	comp=E,0.3nm,0.5s,baz=325,slow=2.5,SNR=4.7						

IDC 06 15:40:29.3±2.2, 0°.67N×126°.89E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/22, mbtmp3.3/3, Error ellipse: s-maj=185.8km s-min=27.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.75	161	P	P	15 45 24.4	+1.8
	0.6nm,0.5s,baz=340,slow=10,SNR=9.5						
ASAR	Alice Springs	25.13	165	P	P	15 45 54.8	-1.4
	0.2nm,0.7s,baz=342,slow=6.9,SNR=5.3						
MKAR	Makanchi Array	60.16	326	P	P	15 50 38.9	0.0
	0.3nm,0.6s,baz=120,slow=5.2,SNR=4.4						

*IDC **06** 15:59:09.4±1.6, 4°.88S×146°.15E, h0km, mb3.6/3, mb1 4.0/5, mb1mx3.6/31, mbtmp3.8/5, ML3.4/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/23, Error ellipse: s-maj=53.8km s-min=26.7km az=118.0*
*ISCJB **06** 15:59:16.9±0.6, 5°.13S±0°.05×146°.55E±0°.08, h100km, mb3.5/3, Error ellipse: s-maj=11.9km s-min=7.6km az=1.6*
*NEIC **06** 15:59:19.1±2.5, 5°.16S±0°.08×146°.5E±0°.1, h95km±14km, mb4.3/18*
ISC 06 15:59:19.1±0.8, **5°.18S**±0°.07×**146°.5E**±0°.1, **h100km, n26, σ1^{s}41**/25, **mb4.5**/9, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MANU	Manus Island	3.23	16	Pn	Pn	16 00 06.5	-1.5
PMG	Port Moresby	4.25	171	Pn	Pn	16 00 20.2	-1.5
	21nm,0.3s,baz=320,slow=10,SNR=96						
PMG				Sn	Sn	16 01 09.4	-1.0
	8.7nm,0.3s,baz=119,slow=23,SNR=6.5						
PMG	Port Moresby	4.25	171		Pn	16 00 20.4	-1.3
PMG					Sn	16 01 11.4	+1.0
COEN	Coen	9.32	200	Pn	Pn	16 01 28.6	-2.1
FAKI	Fak Fak	14.39	278	Pn	Pn	16 02 32.5	-5.6
CTA	Charters Tower	14.83	181	Pn	P	16 02 47.5	+0.5
	1.0nm,0.3s,baz=7.0,slow=14,SNR=10						
MTN	Manton Dam	16.97	242	Pn	Pn	16 03 09.3	-1.1
MTN				IAmb	IAmb	16 03 10.6	
	comp=Z,6.2nm,0.7s						
WB0	Warramunga Arr	18.69	218		Pn	16 03 31.1	-0.1
WR0	Warramunga Arr	18.75	217		P	16 03 31.2	+0.9
WB2	Warramunga Arr	18.85	218		Pn	16 03 32.6	-0.5
WRA	Warramunga Arr	18.86	218	P	Pn	16 03 32.5	-0.6
	comp=Z,0.4nm,0.3s,baz=40,slow=11,SNR=19						
KNRA	Kununurra	20.31	238		P	16 03 46.6	-0.6
KNRA				IAmb	IAmb	16 03 55.4	
	comp=Z,6.1nm,1.1s						
EIDS	Eidsvold	20.55	168	P	P	16 03 50.5	+0.6
EIDS				IAmb	IAmb	16 04 07.4	
	comp=Z,7.9nm,1.0s						
AS31	Alice Springs	22.03	212	P	P	16 04 06.9	+1.3
ASAR	Alice Springs	22.03	212	P	P	16 04 05.8	+0.2
	comp=Z,0.5nm,0.4s,baz=43,slow=7.8,SNR=22						
FITZ	Fitzroy Crossi	24.09	236	P	P	16 04 25.4	-0.1
	comp=Z,2.7nm,0.5s,baz=72,slow=8.6,SNR=5.9						
FITZ	Fitzroy Crossi	24.09	236	IAmb	IAmb	16 04 27.3	
	comp=Z,3.4nm,0.7s						
ARMA	Armidale	25.57	170	P	P	16 04 37.9	-1.1
ARMA				IAmb	IAmb	16 04 48.9	
	comp=Z,24nm,1.4s						
DZM	Mont Dzumac	25.59	133	P	P	16 04 38.6	-0.6
DZM				IAmb	IAmb	16 04 48.4	
	comp=Z,7.5nm,1.3s						
CAN	Canberra	30.09	176	P	P	16 05 21.9	+2.7
CAN				IAmb	IAmb	16 05 34.5	
	comp=Z,26nm,1.3s						
MORW	Morawa	37.36	227	P	P	16 06 23.4	+1.2
MORW				IAmb	IAmb	16 06 32.5	
	comp=Z,17nm,1.4s						
MAJO	Matsushiro	42.22	350	P	P	16 07 00.5	-1.8
MAJO				IAmb	IAmb	16 07 05.1	
	comp=Z,13nm,1.2s						
MJB9	Matsu-Tunnel	42.22	350	P	P	16 07 00.6	-1.7
MJB9				IAmb	IAmb	16 07 05.1	
	comp=Z,13nm,1.2s						
BFZ	Birch Farm	44.29	147	P	P	16 07 17.8	-1.2
PETK	Petropavlovsk-	58.83	8	LR	LR	16 30 33.0	
	comp=Z,15nm,21.2s,baz=62,slow=32						
ILAR	Eielson Array	84.92	23	P	P	16 11 45.5	+2.9
	comp=Z,0.3nm,0.7s,baz=237,slow=3.8,SNR=6.1						

*ISCJB **06** 16:03:22.4±0.7, 40°.99S±0°.09×91°.7W±0°.1, h10km, mb3.9/5, MS3.9/18, Error ellipse: s-maj=16.2km s-min=11.9km az=36.2*
*IDC **06** 16:03:22.9±1.0, 40°.97S×91°.80W, h0km, mb3.9/5, mb1 4.2/6, mb1mx4.0/25, mbtmp3.9/6, ML3.3/1, MS3.8/15, Ms1 3.8/15, ms1mx3.8/20, Error ellipse: s-maj=33.3km s-min=29.5km az=74.0*
*NEIC **06** 16:03:23.8±2.4, 40°.94S±0°.10×91°.8W±0°.2, h10km±1km, mb4.4/12*
ISC 06 16:03:24.0±0.8, **41°.0S**±0°.1×**91°.8W**±0°.1, **h10km, n35, σ1^{s}22**/18, **mb4.4**/9, **MS3.9**/18, **West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	Paso Flores	16.07	96	Pn	Pn	16 07 10.6	+0.6
	0.0nm,0.3s,baz=299,slow=19,SNR=2.7						
PLCA				LR	LR	16 11 56.2	
	comp=Z,724nm,19.9s,baz=296,slow=32						
GO05	Huala	16.74	76	Pn	Pn	16 07 18.9	+0.4
GO05				IAmb	IAmb	16 07 31.4	
	comp=Z,44nm,1.4s						
GO04	Tololo Observa	20.14	64	P	P	16 07 57.7	-0.8
GO04				IAmb	IAmb	16 08 15.6	
	comp=Z,25nm,1.4s						
CFA	Coronel Fontan	21.11	71	P	P	16 08 08.8	0.0
	comp=Z,3.3nm,0.7s,baz=235,slow=11,SNR=7.2						
CFA				LR	LR	16 14 31.2	
	comp=Z,472nm,19.8s,baz=259,slow=32						
GO03	Copiap	22.18	60	P	P	16 08 18.8	-1.6
GO03				IAmb	IAmb	16 08 28.3	
	comp=Z,23nm,1.5s						
GO02	Mina Guanaco	24.29	56	P	P	16 08 40.1	-1.8
GO02				IAmb	IAmb	16 08 52.4	
	comp=Z,15nm,1.3s						
PB10	IPOC Station P	24.91	52	P	P	16 08 44.4	-2.8
PB04	IPOC Station P	26.05	51	P	P	16 08 57.5	-0.2
LVC	Limon Verde	26.58	53	P	P	16 09 02.6	-0.1
PMSA	Palmer Station	28.66	155	P	P	16 09 19.7	-0.8
NNA	Nana	31.73	29	LR	LR	16 17 58.2	
	comp=Z,45nm,18.4s,baz=190,slow=28						
CPUP	Villa Florida	31.96	74	LR	LR	16 21 27.4	
	comp=Z,197nm,19.5s,baz=243,slow=34						
LPAZ	La Paz	32.00	47	LR	LR	16 20 00.9	
	comp=Z,113nm,19.2s,baz=220,slow=31						
BDFB	Brasilia	45.43	69	LR	LR	16 29 59.5	
	comp=Z,323nm,18.0s,baz=266,slow=35						
QSPA	South Pole Qui	49.25	180	P	P	16 12 13.3	+0.8
	comp=Z,0.8nm,0.7s,baz=128,slow=2.0,SNR=5.6						
QSPA	South Pole Qui	49.25	180	IAmb	IAmb	16 12 21.0	
	comp=Z,3.2nm,0.8s						
TBI	Tubuai	50.98	272	eLR	LR	16 26 54.6	
	comp=Z,369nm,26.5s,baz=122						
SNAA	Sanae	51.38	156	P	P	16 12 29.7	+1.3
SNAA				IAmb	IAmb	16 12 39.7	
	comp=Z,8.6nm,1.5s						
TAOE	Nuku Hiva Isla	53.34	293	eLR	LR	16 27 49.2	
	comp=Z,278nm,26.2s						
VNDA	Vanda	53.75	195	P	P	16 12 44.3	-1.5
VNDA				IAmb	IAmb	16 12 52.7	
	comp=Z,8.6nm,1.4s						
PPT2	Papeete2	54.47	277	eS	S	16 20 20.4	-10
	comp=Z,74nm,24.0s						
PPT2				eLR	LR	16 28 28.0	
	comp=Z,313nm,27.0s						
PPT	Papeete	54.48	277	LR	LR	16 30 38.6	
	comp=Z,97nm,18.3s,baz=136,slow=30						
RAR	Rarotonga	60.01	267	LR	LR	16 32 42.3	
	comp=Z,73nm,18.9s,baz=166,slow=29						
URZ	Urewera	66.96	239	LR	LR	16 36 01.3	
	comp=Z,143nm,20.6s,baz=176,slow=29						
RPZ	Rata Peaks	67.57	231	LR	LR	16 36 19.0	
	comp=Z,89nm,21.4s,baz=238,slow=29						
MAW	Mawson	70.05	170	LR	LR	16 43 53.0	
	comp=Z,38nm,18.0s,baz=242,slow=35						
TXAR	Lajitas Array	70.83	349	P	P	16 14 40.9	+0.1
	comp=Z,1.6nm,1.1s,baz=166,slow=6.6,SNR=5.5						
NVAR	Mina Array Bea	82.67	339	P	P	16 15 48.4	+0.8
	comp=Z,0.8nm,0.8s,baz=160,slow=5.6,SNR=5.8						
DZM	Mont Dzumac	84.21	246	eLR	LR	16 42 29.0	
	comp=Z,126nm,26.4s						
PDAR	Pinedale Array	84.90	347	P	P	16 16 00.1	+1.2
	comp=Z,1.8nm,0.7s,baz=150,slow=4.7,SNR=18						
PDAR				LR	LR	16 47 40.6	
	comp=Z,72nm,18.1s,baz=46,slow=31						
BOSA	Boshof	89.50	128	LR	LR	16 49 17.6	
	comp=Z,26nm,20.6s,baz=219,slow=31						
DBIC	Dimbokro	92.01	83	LR	LR	16 55 45.8	
	comp=Z,36nm,18.5s,baz=216,slow=34						
STKA	Stephens Creek	92.34	223	LR	LR	16 51 26.2	
	comp=Z,28nm,18.6s,baz=204,slow=31						
USRK	Ussuriysk Ar.	147.90	291	PKPbc	PKPbc	16 23 08.4	-0.4
	comp=Z,1.2nm,0.7s,baz=158,slow=5.3,SNR=3.4						
KSRS	Korea Array	149.22	277	PKPbc	PKPbc	16 23 12.0	-0.5

comp=Z,0.7nm,0.7s,baz=99,slow=3.8,SNR=3.4

TAP 06 16:06:16.0, 24°.33N×121°.45E, h5km, ML2.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNSB	Datong	0.11	328	P	Pg	16 06 18.8	+0.4
	baz=328						
NNSB				S	Sg	16 06 20.4	+0.5
	baz=328						
NNSH	Datong	0.11	329	iP	Pg	16 06 18.7	+0.4
	baz=326						
NNSH				S	Sg	16 06 20.3	+0.4
	baz=326						
NNS	Nan Shan	0.12	328	iP	Pg	16 06 19.0	+0.4
	baz=330						
NNS				iS	Sg	16 06 20.9	+0.5
	baz=330						
ETLH	Xiulin Townshi	0.13	166	P	Pg	16 06 19.4	+0.7
	baz=171						
ETLH				S	Sg	16 06 21.5	+1.0
	baz=171						
NACB	Ninganchiao	0.21	140	iP	Pg	16 06 20.8	+0.7
	baz=140						
NACB				S	Sg	16 06 23.9	+1.0
	baz=140						
NACB	Ninganchiao	0.21	140		Pg	16 06 20.9	+0.8
WHF	Hehuan Shan	0.25	221	P	Pg	16 06 21.2	+0.3
	baz=219						
WHF				eS	Sg	16 06 25.3	+1.0
	baz=219						
NDT	Datong Townshi	0.27	13	P	Pg	16 06 21.9	+0.6
	baz=13						
NDT				S	Sg	16 06 26.6	+1.6
	baz=13						
TDCB	Techi	0.28	253	P	Pg	16 06 22.0	+0.6
	baz=253						
TDCB				eS	Sg	16 06 26.0	+1.0
	baz=253						
ENA	Nanau	0.28	71	P	Pg	16 06 21.7	+0.2
	baz=71						
ENA				eS	Sg	16 06 26.6	+1.3
	baz=71						
TWD	Chiawan	0.29	152	P	Pg	16 06 22.4	+0.9
	baz=150						
TWD				eS	Sg	16 06 26.5	+1.1
	baz=150						
NANB	Nanao	0.29	71	P	Pg	16 06 21.8	+0.1
	baz=71						
NANB				eS	Sg	16 06 26.7	+1.1
	baz=71						
ENTT	Nioudou	0.32	20	P	Pg	16 06 22.8	+0.5
	baz=13						
ENTT				S	Sg	16 06 27.6	+1.1
	baz=13						
YHNB	Yeheng	0.34	349	P	Pg	16 06 23.5	+0.9
	baz=350						
YHNB				S	Sg	16 06 27.8	+0.7
	baz=350						
YHNB	Yeheng	0.34	349		Pg	16 06 23.6	+1.0
NSK	Sanguang	0.35	347	P	Pg	16 06 23.5	+0.7
	baz=349						
NSK				eS	Sg	16 06 28.4	+0.9
	baz=349						
CHGB	Renai	0.37	222	iP	Pg	16 06 23.5	+0.3
	baz=222						
CHGB				eS	Sb	16 06 30.0	-1.3
	baz=222						
TWE	Neicheng	0.43	28	P	Pg	16 06 24.9	+0.5
	baz=41						
TWE				eS	Sb	16 06 32.0	-1.0
	baz=41						
NWLT	Wulai	0.44	7	eP	Pg	16 06 25.2	+0.6
	baz=7.0						
NWLT				S	Sg	16 06 31.5	+1.1
	baz=7.0						
OWD	Renai	0.45	213	eP	Pg	16 06 24.7	0.0
	baz=212						
OWD				eS	Sg	16 06 31.4	+0.8
	baz=212						
SLBB	Yuanshan	0.45	22	eP	Pg	16 06 25.0	+0.3
	baz=16						
TWC	Suao	0.46	53	P	Pg	16 06 25.2	+0.4
	baz=53						
TWC				eS	Sg	16 06 32.2	+1.4
	baz=53						
WHP	Taichung City	0.46	263	P	Pb	16 06 26.0	-0.6
	baz=261						
WHP				eS	Sg	16 06 32.1	+1.2
	baz=261						
LIOB	Emei	0.50	308	P	Pb	16 06 26.8	-0.4
	baz=311						
LIOB				S	Sb	16 06 34.2	-0.7
	baz=311						
NSTT	Nanjuang	0.50	306	eP	Pb	16 06 26.9	-0.3
	baz=309						
NSTT				S	Sb	16 06 33.9	-1.1
	baz=309						
ESL	Shilin	0.52	181	P	Pg	16 06 26.4	+0.4
	baz=181						
ESL				S	Sb	16 06 34.2	-1.2
	baz=181						
WLTB	Daxi	0.55	341	eP	Pb	16 06 28.4	+0.3
	baz=353						
WLTB				eS	Sg	16 06 34.8	+1.2
	baz=353						
DPDB	Guoxing	0.56	238	P	Pb	16 06 27.6	-0.7
	baz=226						
DPDB				S	Sb	16 06 36.1	-0.6
	baz=226						
TWQ1	Liyutan	0.61	271	eP	Pg	16 06 28.4	+0.6
	baz=270						
TWQ1				eS	Sb	16 06 38.4	+0.2
	baz=270						
NTC	Toucheng	0.62	34	eP	Pb	16 06 29.2	-0.2
	baz=46						
NHDH	Xindian Distri	0.63	7	eP	Pg	16 06 27.9	-0.2
	baz=7.0						
NHDH				S	Sb	16 06 37.6	-1.1
	baz=7.0						
NMLH	Miaoli	0.63	289	eP	Pb	16 06 30.2	+0.7
	baz=290						
NMLH				eS	Sb	16 06 38.5	-0.1
	baz=290						
TATO	Taipei	0.64	3	eP	Pg	16 06 28.7	+0.4
	baz=4.0						
TATO				eS	Sb	16 06 38.2	-0.7
	baz=4.0						
VWDT	VWDT	0.64	206	P	Pg	16 06 28.2	-0.1
	baz=210						
VWDT				eS	Sg	16 06 37.2	+0.6
	baz=210						
EOS1	EOS1	0.66	71	eP	Pb	16 06 29.5	-0.4
	baz=59						
EOS1				S	Sb	16 06 39.7	+0.3
	baz=59						
EGFH	Guangfu	0.66	181	eP	Pg	16 06 29.2	+0.5
	baz=181						
EGFH				eS	Sb	16 06 38.8	-0.8
	baz=181						
PTSB	Yuanli	0.69	280	eS	Sb	16 06 41.6	+1.4
	baz=278						
SSLB	Suanglung	0.71	220	P	Pg	16 06 29.5	-0.1
	baz=219						
SSLB				eS	Sb	16 06 40.0	-0.8
	baz=219						
SSLB	Suanglung	0.71	220	P	Pg	16 06 29.6	0.0
TIPB	Shuangxi	0.72	28	P	Pg	16 06 30.2	+0.3
	baz=16						
TIPB				eS	Sg	16 06 39.8	+0.5
	baz=16						
TCU	Taichung	0.73	255	eS	Sb	16 06 42.6	+1.2
	baz=254						
WDJ	Dajia District	0.73	271	eP	Pb	16 06 31.3	0.0
	baz=270						
WDJ				eS	Sb	16 06 42.1	+0.5
	baz=270						
YM01	YM01	0.82	8	eP	Pb	16 06 33.4	+0.7
	baz=8.0						
YM01				eS	Sb	16 06 43.4	-0.7
	baz=8.0						
YM04	YM04	0.82	6	eP	Pb	16 06 33.1	+0.3
	baz=21						
YM04				eS	Sb	16 06 43.9	-0.3
	baz=21						
YM10	YM10	0.82	7	eP	Pb	16 06 33.2	+0.4
	baz=22						
YM10				eS	Sg	16 06 43.2	+0.7
	baz=22						
NTST	Danshui	0.83	0	eS	Sn	16 06 47.2	+0.4
	baz=10.0						
WJS	Zhushan	0.83	232	eS	Sb	16 06 45.5	+1.1
	baz=224						
WNT	Mingjian	0.83	237	P	Pn	16 06 33.9	-0.5
	baz=228						
WNT				eS	Sn	16 06 47.2	+0.3
	baz=228						
EHY	Hungye	0.83	188	P	Pg	16 06 32.4	+0.5
	baz=180						
EHY				S	Sb	16 06 43.9	-0.6
	baz=180						
TWB1	Santiao Chiao	0.83	36	eP	Pb	16 06 33.2	+0.3
	baz=36						
TWB1				eS	Sg	16 06 43.1	+0.3
	baz=36						
YM05	YM05	0.83	7	eP	Pb	16 06 33.5	+0.5
	baz=8.0						
YM05				eS	Sb	16 06 44.2	-0.4
	baz=8.0						
WHYT	Xinyi Township	0.83	221	eP	Pg	16 06 31.4	-0.6
	baz=220						
WHYT				eS	Sb	16 06 43.9	-0.7
	baz=220						
YM11	YM11	0.84	8	eP	Pn	16 06 34.5	0.0
	baz=8.0						
YM11				eS	Sb	16 06 44.5	-0.1
	baz=8.0						
HGSD	Ruisui	0.84	181	eP	Pb	16 06 32.7	-0.3
	baz=189						
HGSD				eS	Sb	16 06 45.6	+1.0
	baz=189						
YULB	Yu-li	0.95	188	P	Pg	16 06 34.5	+0.4
	baz=177						
YULB				eS	Sb	16 06 47.4	-0.3
	baz=177						
TWF1	Yuli	0.99	188	P	Pb	16 06 35.4	-0.2
	baz=177						
TWF1				eS	Sb	16 06 49.7	+0.8
	baz=177						
CHN5	Tsauling	1.02	224	P	Pn	16 06 36.7	-0.3
	baz=217						
CHN5				eS	Sn	16 06 52.6	+0.9
	baz=217						
WDLH	Douliu	1.05	232	eP	Pn	16 06 37.7	+0.4
	baz=233						
RLNB	Erlin	1.09	246	eS	Sn	16 06 52.6	-0.7
	baz=243						
FULB	Fuli	1.14	187	eP	Pn	16 06 38.9	+0.3
	baz=198						
FULB				eS	Sn	16 06 56.4	+1.8
	baz=198						
ELDTW	Lidau	1.21	199	eP	Pg	16 06 39.0	-0.1
	baz=189						
ELDTW				S	Sb	16 06 55.3	0.0
	baz=189						
TPUB	Ta-pu	1.27	216	eP	Pn	16 06 40.6	+0.2
	baz=214						
TPUB				eS	Sn	16 07 00.8	+2.9
	baz=214						
WTP	Ta-pu	1.32	215	eP	Pg	16 06 42.4	+1.1
	baz=214						
WTP				eS	Sn	16 06 59.8	+0.6
	baz=214						
SNST	Tainan City	1.41	218	eP	Pg	16 06 43.9	+0.9
	baz=215						
SNST				eS	Sg	16 07 04.5	+3.2
	baz=215						
CHN1	Nanshi	1.42	217	eP	Pg	16 06 44.0	+0.8
	baz=214						
CHN1				S	Sg	16 07 04.2	+2.6
	baz=214						
SGST	Jiashian	1.48	213	eP	Pg	16 06 44.7	+0.4
	baz=204						
SGST				S	Sg	16 07 05.2	+1.7
	baz=204						
CHN8	Yiju	1.50	229	S	Sg	16 07 06.8	+2.6
	baz=238						
SLGT	Liugui	1.52	209	eP	Pg	16 06 46.5	+1.3
	baz=198						
SLGT				eS	Sg	16 07 07.2	+2.3
	baz=198						

*ISCJB **06** 16:07:14.7±0.3, 7°.49S±0°.03×126°.61E±0°.03, h350km, mb3.7/8, Error ellipse: s-maj=4.6km s-min=4.1km az=153.5*
*DJA **06** 16:07:14.4±0.3, 8°S±3°×12°7E±°, h336km±6km, M4.4/21, mB5.0/12, mb4.4/21, MLv4.7/14, Mw(mB)4.3/12, Mwp6.0/1*
*IDC **06** 16:07:15.2±0.9, 7°.45S×126°.68E, h323km±11km, mb3.5/9, mb1 3.7/14, mb1mx3.5/33, mbtmp4.3/14, Error ellipse: s-maj=13.7km s-min=9.2km az=79.0*
*NEIC **06** 16:07:15.5±2.6, 7°.46S±0°.08×126°.61E±0°.07, h332km±9km, mb4.4/14*
ISC 06 16:07:15.5±0.5, **7°.47S**±0°.05×**126°.61E**±0°.05, **h350km, n60, σ2^{s}04**/71, **mb4.1**/13, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SOEI	Soe	3.24	225	P	Pn	16 08 16.1	-1.2
SOEI				S	S	16 09 02.4	-4.5
SOEI	Soe	3.24	225		Pn	16 08 16.8	-0.5
BATI	Baumata	3.98	227	P	Pn	16 08 24.5	+0.1
	119nm,0.3s,baz=61,slow=2.1,SNR=164						
BATI				S	S	16 09 18.2	-1.7
	277nm,0.3s,baz=19,slow=18,SNR=29						
BATI	Baumata	3.98	227	P	Pn	16 08 24.3	-0.1
BATI				S	S	16 09 15.0	-4.9
AAI	Ambon	4.08	23	P	Pn	16 08 25.1	-0.3
NLAI	Namlea	4.23	7	P	Pn	16 08 27.7	+0.7
BNDI	Bandanaira	4.40	48	P	Pn	16 08 28.1	-0.6
MMRI	Maumere	4.48	255	P	Pn	16 08 28.2	-1.4
MMRI				S	S	16 09 27.5	-1.8
MMRI	Maumere	4.48	255		Pn	16 08 28.4	-1.2
SAUI	Saumlaki	4.68	97	P	Pn	16 08 30.4	-1.3
SAUI				S	S	16 09 29.3	-3.9
SAUI	Saumlaki	4.68	97	Pn	Pn	16 08 30.8	-1.0
MSAI	Masohi	4.70	30	P	Pn	16 08 31.9	-0.1
SANI	Sanana	5.42	353	P	Pn	16 08 39.8	-0.1
	169nm,1.1s,2μm0.7nm						
WSI	Waingapu	6.61	250	P	Pn	16 08 51.4	-2.0
	880nm,0.6s,21μm6.8nm						
MTN	Manton Dam	6.96	141		Pn	16 08 56.7	-0.7
BNSI	Bone	7.15	295	P	Pn	16 09 00.0	+0.3
	34nm,0.7s,0.1nm						
KAPI	Kappang	7.24	289	P	Pn	16 09 01.6	+0.8
	4.0nm,0.3s,baz=135,slow=7.0,SNR=16						
SPSI	Sidrap Palu	7.64	297	P	Pn	16 09 05.3	-0.2
	11nm,0.9s,0.1nm						
KMPI	Kaimana, Papua	8.01	62	P	Pn	16 09 08.2	-1.7
	132nm,0.7s,2μm81μm						
SIJI	Sorong	8.04	36	P	Pn	16 09 08.2	-2.0
	14nm,0.3s,baz=104,slow=1.9,SNR=99						
SIJI				S	S	16 10 36.0	-7.7
	4.3nm,0.3s,baz=90,slow=22,SNR=14						
SWI	Sorong	8.04	35	P	Pn	16 09 08.3	-1.9
	58nm,0.5s,1μm						
TTSI	Tana Toraja	8.06	303	P	Pn	16 09 11.6	+1.1
	19nm,0.9s						
TNTI	Ternate	8.22	5	P	Pn	16 09 12.2	-0.2
	25nm,1.0s						
KNRA	Kununurra	8.43	166		Pn	16 09 14.5	-0.3
PLAI	Plampang	8.85	261	P	Pn	16 09 17.7	-2.1
	68nm,0.8s,2μm						
MRSI	Marisa	9.16	329	P	P	16 09 24.8	-1.0
	13nm,0.6s						
RKPI	Ransiki, Papua	9.59	52	P	Pn	16 09 28.2	-0.5
	32nm,0.8s,1μm						
TWSI	Taliwang, Sumb	9.71	262	P	Pn	16 09 27.1	-3.0
FITZ	Fitzroy Crossi	10.61	185	P	Pn	16 09 40.1	-0.7
	4.2nm,0.3s,baz=21,slow=9.8,SNR=52						
FITZ				S	S	16 11 42.5	+2.5
	0.7nm,0.3s,baz=157,slow=6.1,SNR=5.9						
FITZ	Fitzroy Crossi	10.61	185	P	Pn	16 09 40.2	-0.5
FITZ					S	16 11 42.7	+2.7
JAGI	Jajag, Banyuwa	12.38	265	Pn	P	16 09 58.3	-3.2
WB0	Warramunga Arr	14.37	149		P	16 10 24.3	+0.9
WRAB	Tennant Creek	14.49	150	P	P	16 10 22.2	-2.4
WRAB					S	16 12 59.7	-1.7
WRA	Warramunga Arr	14.49	150	P	P	16 10 25.3	+0.6
	1.4nm,0.3s,baz=322,slow=12,SNR=37						
WRA				S	S	16 12 59.4	-2.1
	1.2nm,0.3s,baz=322,slow=21,SNR=19						
WB2	Warramunga Arr	14.50	150	P	P	16 10 25.6	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WR0	Warramunga Arr	14.61	149	P	P	16 10 26.9	+1.0
PSA00	Pilbara Seismi	15.47	204	P	P	16 10 36.5	+1.2
SMRI	Semarang	16.04	270	P	P	16 10 39.1	-2.6
SBUM	Sibu	17.41	304	P	P	16 10 58.3	+1.9
COEN	Coen	17.50	113	P	P	16 10 58.4	+1.0
AS31	Alice Springs	17.56	157	P	P	16 10 59.7	+1.8
AS31				IAmb	IAmb	16 11 06.6	
	comp=Z,5.1nm,0.3s						
ASAR	Alice Springs	17.56	157	P	P	16 10 60.0	+2.0
	comp=Z,1.3nm,0.3s,baz=333,slow=11,SNR=213						
ASAR				S	S	16 14 01.1	-1.2
	comp=Z,0.6nm,0.3s,baz=345,slow=24,SNR=10						
PMG	Port Moresby	20.42	97	P	P	16 11 29.1	+1.5
	comp=Z,5.8nm,0.6s,baz=140,slow=8.9,SNR=3.9						
PMG	Port Moresby	20.42	97	P	P	16 11 26.2	-1.5
PMG				IAmb	IAmb	16 11 30.1	
	comp=Z,7.4nm,0.7s						
CTA	Charters Tower	22.80	125	P	P	16 11 51.6	+2.4
	comp=Z,10.0nm,0.6s,baz=296,slow=13,SNR=14						
FORT	Forrest	23.23	177	P	P	16 11 53.4	+0.5
FORT				IAmb	IAmb	16 11 55.1	
	comp=Z,22nm,0.8s						
MORW	Morawa	23.68	204	P	P	16 11 58.2	+1.2
MORW				IAmb	IAmb	16 12 11.5	
	comp=Z,32nm,1.4s						
BBOO	Buckleboo	26.70	162	P	P	16 12 25.7	+1.7
BBOO				IAmb	IAmb	16 12 38.3	
	comp=Z,32nm,1.4s						
NWAO	Narrogin (SRO)	26.78	198	P	P	16 12 25.6	+0.9
	comp=Z,5.2nm,0.9s,baz=221,slow=18,SNR=3.3						
NWAO	Narrogin (SRO)	26.78	198	P	P	16 12 23.7	-1.0
NWAO				IAmb	IAmb	16 12 28.4	
	comp=Z,19nm,1.4s						
STKA	Stephens Creek	28.02	152	P	P	16 12 37.6	+1.9
	comp=Z,3.1nm,0.4s,baz=332,slow=8.9,SNR=11						
STKA	Stephens Creek	28.02	152	P	P	16 12 37.6	+1.9
SARN	Sarigan	30.60	38	P	P	16 12 58.0	-0.5
SARN				IAmb	IAmb	16 12 58.5	
	comp=Z,14nm,1.0s						
ARMA	Armidale	32.73	137	P	P	16 13 17.9	+1.0
ARMA				IAmb	IAmb	16 13 28.7	
	comp=Z,18nm,1.4s						
TOO	Toolangi	34.52	153	P	P	16 13 34.4	+2.3
USRK	Ussuriysk Ar.	51.66	5	P	P	16 15 49.5	+2.0
	comp=Z,1.6nm,0.6s,baz=197,slow=9.3,SNR=4.5						
SONM	Songino Array	57.89	344	P	P	16 16 34.5	+2.5
	comp=Z,0.7nm,0.7s,baz=174,slow=5.8,SNR=5.0						
PETK	Petropavlovsk-	65.86	20	P	P	16 17 27.2	+2.9
	comp=Z,1.1nm,0.5s,baz=184,slow=5.6,SNR=16						
MKAR	Makanchi Array	66.82	329	P	P	16 17 32.4	+1.8
	comp=Z,0.4nm,0.6s,baz=116,slow=9.2,SNR=6.0						
ZALV	Zalesovo Beam	70.56	335	P	P	16 17 55.0	+1.8
	comp=Z,2.2nm,0.5s,baz=142,slow=4.2,SNR=10						

*IDC **06** 16:09:35.4±1.4, 20°.93N×146°.77E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.6/34, mbtmp4.0/6, ML3.9/1, Error ellipse: s-maj=57.9km s-min=20.0km az=86.0*
*ISCJB **06** 16:09:38.9±2.0, 20°.90N±0°.08×146°.8E±0°.6, h40km, Error ellipse: s-maj=75.9km s-min=10.4km az=2.7*
ISC 06 16:09:40.5±1.3**, 20°.9N**±0°.1×**146°.9E**±0°.4**, h40**km**, n13, σ0^{s}63**/8**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	7.56	195	Pn	Pn	16 11 27.4	-0.8
	1.7nm,0.3s,baz=30,slow=20,SNR=2.0						
GUMO				Sn	Sn	16 12 53.5	+0.9
	2.7nm,0.3s,baz=135,slow=19,SNR=3.0						
H11S3	WAKE ISLAND Hy	18.75	94	T	T	16 32 10.9	
	baz=280,slow=74,SNR=6.9						
H11N1	WAKE ISLAND Hy	18.75	90	T	T	16 32 15.0	
	baz=276,slow=74,SNR=8.2						
H11N2	WAKE ISLAND Hy	18.76	90	T	T	16 32 13.1	
	baz=276,slow=74,SNR=5.4						
H11S1	WAKE ISLAND Hy	18.76	94	T	T	16 32 11.4	
	baz=280,slow=74,SNR=6.2						
H11S2	WAKE ISLAND Hy	18.77	94	T	T	16 32 13.3	
	baz=280,slow=74,SNR=5.1						
H11N3	WAKE ISLAND Hy	18.77	90	T	T	16 32 14.3	
	baz=276,slow=74,SNR=7.4						
WRA	Warramunga Arr	42.45	198	P	P	16 17 31.3	-0.4
	0.5nm,0.7s,baz=20,slow=8.8,SNR=2.5						
ASAR	Alice Springs	46.10	197	P	P	16 18 01.2	+0.3
	0.3nm,0.7s,baz=16,slow=8.7,SNR=2.9						
ZALV	Zalesovo Beam	56.99	321	P	P	16 19 22.0	+0.1
	2.0nm,0.5s,baz=115,slow=7.8,SNR=11						
MKAR	Makanchi Array	57.79	313	P	P	16 19 28.1	+0.4
	0.7nm,0.5s,baz=87,slow=8.8,SNR=8.2						
FINES	FINESS Array B	85.36	336	P	P	16 22 13.0	-0.3
	3.1nm,0.8s,baz=83,slow=6.3,SNR=5.4						
LPAZ	La Paz	146.49	88	PKPbc	PKPab	16 29 20.5	+0.5
	0.9nm,0.6s,baz=243,slow=4.1,SNR=3.7						

*ISCJB **06** 16:26:54.2±0.3, 23°.57N±0°.01×121°.82E±0°.02, h17km±5km, Error ellipse: s-maj=3.4km s-min=1.8km az=31.8*
*JMA **06** 16:26:54.0±0.2, 23°.57N×121°.82E, h18km±5km, M2.6*
*TAP **06** 16:26:55.2, 23°.60N×121°.73E, h30km, ML3.3, C*
ISC 06 16:26:52.9±1.1**, 23°.57N**±0°.02×**121°.81E**±0°.02**, h8**km±9km**, n78, σ0^{s}69**/141**, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGFH	Guangfu	0.36	285	eP	Pb	16 27 02.6	+1.0
	baz=289						
EGFH				eS	Sb	16 27 08.2	+0.8
	baz=289						
HGSD	Ruisui	0.36	257	eP	Pb	16 27 02.6	+1.0
	baz=245						
HGSD				eS	Sb	16 27 07.6	+0.2
	baz=245						
ENLB	Shoufeng	0.38	330	eP	Pb	16 27 02.1	+0.2
	baz=347						
ESL	Shilin	0.42	305	P	Pb	16 27 03.0	+0.4
	baz=309						
ESL				eS	Sb	16 27 08.1	-1.1
	baz=309						
HWA	Hwalien	0.44	335	eP	Pb	16 27 04.2	+1.2
	baz=348						
EHY	Hungye	0.45	262	P	Pb	16 27 03.9	+0.8
	baz=269						
EHY				eS	Sb	16 27 10.3	+0.2
	baz=269						
YULB	Yu-li	0.51	249	eP	Pb	16 27 04.9	+0.9
	baz=256						
YULB				eS	Sb	16 27 11.8	+0.3
	baz=256						
TWF1	Yuli	0.52	245	P	Pb	16 27 05.3	+1.0
	baz=250						
TWF1				eS	Sb	16 27 12.5	+0.5
	baz=250						
TWD	Chiawan	0.54	339	P	Pb	16 27 05.2	+0.5
	baz=356						
TWD				eS	Sb	16 27 12.2	-0.4
	baz=356						
FULB	Fuli	0.60	232	eP	Pb	16 27 06.2	+0.5
	baz=216						
FULB				eS	Sb	16 27 14.8	+0.4
	baz=216						
CHKT	Chengkung	0.62	221	eP	Pb	16 27 06.2	+0.1
	baz=202						
CHKT				eS	Sg	16 27 13.9	+0.8
	baz=202						
NACB	Ninganchiao	0.63	342	eP	Pb	16 27 06.4	+0.3
	baz=355						
NACB				eS	Sb	16 27 14.5	-0.6
	baz=355						
VWDT	VWDT	0.64	286	eP	Pb	16 27 06.8	+0.5
	baz=286						
VWDT				eS	Sb	16 27 14.9	-0.5
	baz=286						
OWD	Renai	0.69	303	eP	Pb	16 27 07.5	+0.1
	baz=305						
ETLH	Xiulin Townshi	0.70	335	P	Pb	16 27 07.8	+0.5
	baz=340						
ETLH				eS	Sb	16 27 16.5	-0.7
	baz=340						
WHF	Hehuan Shan	0.76	319	P	Pb	16 27 08.4	-0.1
	baz=323						
WHF				eS	Sb	16 27 18.2	-1.1
	baz=323						
CHGB	Renai	0.76	310	eP	Pb	16 27 08.7	+0.2
	baz=321						
CHGB				eS	Sb	16 27 18.1	-1.0
	baz=321						
YUS	Yu-Shan	0.79	264	P	Pb	16 27 09.4	+0.2
	baz=261						
YUS				eS	Sg	16 27 19.1	+0.6
	baz=261						
SSLB	Suanglung	0.81	285	eP	Pb	16 27 09.1	-0.2
	baz=285						
SSLB				eS	Sg	16 27 18.4	-0.8
	baz=285						
ELDTW	Lidau	0.82	242	P	Pg	16 27 09.1	+0.4
	baz=238						
ELDTW				eS	Sg	16 27 19.0	-0.5
	baz=238						
NANB	Nanao	0.85	356	eP	Pb	16 27 10.2	+0.3
	baz=1.0						
NANB				eS	Sb	16 27 21.4	-0.1
	baz=1.0						
ENA	Nanau	0.85	356	eP	Pn	16 27 11.1	-0.1
	baz=1.0						
ENA				eS	Sb	16 27 21.6	0.0
	baz=1.0						
WHYT	Xinyi Township	0.89	278	eP	Pb	16 27 10.9	+0.3
	baz=271						
WHYT				eS	Sg	16 27 21.2	-0.3
	baz=271						
TWT	Tachien	0.89	319	eP	Pb	16 27 11.1	+0.4
	baz=322						
TWT				eS	Sg	16 27 22.0	+0.3
	baz=322						
TDCB	Techi	0.90	319	eP	Pb	16 27 11.2	+0.3
	baz=322						
TDCB				eS	Sg	16 27 21.7	-0.4
	baz=322						
DPDB	Guoxing	0.93	300	eP	Pb	16 27 11.4	+0.1
	baz=308						
DPDB				eS	Sb	16 27 23.4	-0.5
	baz=308						
NNSB	Datong	0.94	335	eP	Pb	16 27 11.6	+0.1
	baz=340						
NNSB				eS	Sg	16 27 22.6	-0.5
	baz=340						
NNSH	Datong	0.94	335	eP	Pb	16 27 11.6	+0.2
	baz=339						
NNSH				eS	Sg	16 27 22.6	-0.5
	baz=339						
NNS	Nan Shan	0.95	335	P	Pb	16 27 11.8	0.0
	baz=340						
NNS				eS	Sg	16 27 23.4	-0.2
	baz=340						
TWGBT	Beinan	1.01	222	eP	Pg	16 27 11.6	-0.7
	baz=227						
TWGBT				eS	Sg	16 27 23.9	-1.5
	baz=227						
TWG	Pinlang	1.01	222	eP	Pg	16 27 12.6	+0.3
	baz=227						
TWG				eS	Sg	16 27 23.9	-1.6
	baz=227						
EOS1	EOS1	1.01	17	eP	Pb	16 27 13.6	+0.9
	baz=29						
WJS	Zhushan	1.02	284	eP	Pn	16 27 13.7	+0.1
	baz=284						
WJS				eS	Sb	16 27 26.8	+0.3
	baz=284						
TWC	Suao	1.03	2	eP	Pb	16 27 13.5	+0.5
	baz=15						
TWC				S	Sg	16 27 26.6	+0.4
	baz=15						
CHN5	Tsauling	1.04	272	P	Pn	16 27 13.9	0.0
	baz=270						
CHN5				eS	Sb	16 27 27.2	+0.2
	baz=270						
STYT	Tauyuan	1.05	247	eP	Pb	16 27 13.7	+0.3
	baz=238						
STYT				eS	Sg	16 27 26.2	-0.5
	baz=238						
WHP	Taichung City	1.06	312	eP	Pb	16 27 13.7	+0.2
	baz=314						
NDT	Datong Townshi	1.06	345	P	Pb	16 27 13.8	+0.3
	baz=349						
NDT				eS	Sg	16 27 26.7	-0.4
	baz=349						
WNT	Mingjian	1.08	287	P	Pn	16 27 14.5	+0.2
	baz=286						
WNT				eS	Sb	16 27 28.0	0.0
	baz=286						
ENTT	Nioudou	1.08	348	P	Pg	16 27 14.1	+0.3
	baz=353						
ENTT				eS	Sg	16 27 27.5	-0.3
	baz=353						
TPUB	Ta-pu	1.12	256	eP	Pb	16 27 15.0	+0.5
	baz=253						
TPUB				eS	Sg	16 27 28.8	-0.1
	baz=253						
CHN4	Tsaushan	1.14	259	eP	Pn	16 27 15.7	+0.5
	baz=247						
CHN4				eS	Sb	16 27 30.4	+0.6
	baz=247						
WTP	Ta-pu	1.15	254	P	Pb	16 27 15.3	+0.3
	baz=250						
WTP				eS	Sb	16 27 30.1	+0.1
	baz=250						
TWE	Neicheng	1.15	353	eP	Pb	16 27 15.3	+0.3
	baz=358						
TWE				eS	Sg	16 27 29.9	0.0
	baz=358						
WGK	Gukeng	1.15	276	eP	Pn	16 27 15.5	+0.3
	baz=274						
WGK				eS	Sb	16 27 30.0	-0.1
	baz=274						
YHNB	Yeheng	1.16	340	eP	Pg	16 27 15.3	+0.1
	baz=344						
YHNB				eS	Sg	16 27 29.1	-1.2
	baz=344						
NSK	Sanguang	1.17	339	P	Pg	16 27 15.4	0.0
	baz=344						
NSK				eS	Sg	16 27 29.5	-1.1
	baz=344						
WDLH	Douliu	1.17	276	eP	Pn	16 27 15.8	+0.2
	baz=275						
SLBB	Yuanshan	1.19	352	eP	Pg	16 27 14.9	-0.8
	baz=356						
TCU	Taichung	1.19	299	eP	Pn	16 27 16.6	+0.9
	baz=300						
SLGT	Liugui	1.22	242	eP	Pn	16 27 16.8	+0.6
	baz=230						
TWQ1	Liyutan	1.22	309	P	Pn	16 27 17.0	+0.7
	baz=312						
TWQ1				eS	Sb	16 27 32.3	+0.1
	baz=312						
CHN2	Minshiung	1.23	268	eP	Pn	16 27 17.4	+1.1
	baz=266						
CHN2				eS	Sn	16 27 33.3	+0.2
	baz=266						
SGST	Jiashian	1.23	247	eP	Pn	16 27 17.3	+0.9
	baz=232						
SGST				eS	Sb	16 27 32.9	+0.5
	baz=232						
NWLT	Wulai	1.23	347	eP	Pg	16 27 16.4	-0.1
	baz=351						
CHN1	Nanshi	1.24	252	P	Pn	16 27 17.1	+0.6
	baz=249						
CHN1				eS	Sb	16 27 33.1	+0.4
	baz=249						
ECL	Taimali	1.25	219	eP	Pn	16 27 14.9	-1.7
	baz=215						
ECL				eS	Sg	16 27 29.7	-3.5
	baz=215						
TWK	Hsinying	1.25	256	P	Pg	16 27 17.1	+0.1
	baz=253						
TWK				eS	Sg	16 27 32.8	-0.4
	baz=253						
WCHH	Zhanghua	1.25	294	eP	Pn	16 27 17.5	+0.8
	baz=294						
WCHH				eS	Sn	16 27 33.7	-0.1
	baz=294						
SNST	Tainan City	1.26	254	eP	Pg	16 27 17.4	+0.3
	baz=251						
SNST				eS	Sg	16 27 33.3	0.0
	baz=251						
CHY	Chiayi	1.27	267	eP	Pg	16 27 17.5	+0.2
	baz=265						
NSY	Sanyi	1.27	311	P	Pg	16 27 18.0	+0.6
	baz=314						
NSY				eS	Sg	16 27 32.8	-1.1
	baz=314						
NSTT	Nanjuang	1.29	325	P	Pg	16 27 17.9	+0.3
	baz=329						
NSTT				eS	Sg	16 27 33.0	-1.3
	baz=329						
LIOB	Emei	1.29	326	eP	Pg	16 27 18.1	+0.5
	baz=330						
LIOB				eS	Sg	16 27 33.2	-1.2
	baz=330						
WDJ	Dajia District	1.32	306	eP	Pg	16 27 18.4	+0.2
	baz=308						
NMLH	Miaoli	1.34	316	eP	Pg	16 27 18.8	+0.2
	baz=318						
NMLH				eS	Sb	16 27 34.9	-0.7
	baz=318						
JYNG	Yonagunijimaku	1.36	50	P	Pb	16 27 19.2	+0.7
JYNG				eS	Sb	16 27 35.9	-0.1
SSD	Sandimen	1.36	233	eP	Pn	16 27 18.9	+0.7
	baz=224						
SSD				eS	Sb	16 27 35.0	-1.2
	baz=224						
WLTB	Daxi	1.37	338	eP	Pg	16 27 19.6	+0.4
	baz=353						
WLTB				eS	Sb	16 27 36.2	-0.3
	baz=353						
TIPB	Shuangxi	1.39	1	eP	Pb	16 27 19.5	+0.3
	baz=352						
TIPB				eS	Sb	16 27 36.5	-0.7
	baz=352						
YOJ	Yonaguni jima	1.41	51	eS	Sb	16 27 37.4	-0.2
MASBT	Mashibuluo	1.45	229	eP	Pn	16 27 18.9	-0.5
	baz=223						
MASBT				eS	Sn	16 27 37.3	-1.3
	baz=223						
CHN8	Yiju	1.49	262	eP	Pn	16 27 20.4	+0.5
	baz=258						
CHN8				eS	Sn	16 27 38.5	-1.0
	baz=258						
SCZT	Fangliau	1.62	223	eP	Pb	16 27 24.0	+1.0
	baz=215						
SCZT				eS	Sn	16 27 43.3	+0.4
	baz=215						
HATJ	Hateruma jima	1.89	75	eS	Sn	16 27 48.9	-0.5
IRIF	Iriomote-Funau	1.91	66	P	Pn	16 27 26.7	+0.9
IRIF				eS	Sn	16 27 50.3	+0.3
JKRS	Kuro-shima	2.12	71	eS	Sn	16 27 55.7	+0.6
JIJ	Ishigaki jima	2.27	69	P	Pn	16 27 31.5	+0.8
JIJ				eS	Sn	16 27 57.9	-1.1

IDC 06 16:32:59.4±6.5**, 25°.10S**×**115°.46W, h0**km**, mb3.5**/3**, mb1 4.0**/3**, mb1mx3.7**/20**, mbtmp3.5**/3**, Error ellipse: s-maj=372.1km s-min=55.7km az=114.0, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NVAR	Mina Array Bea	63.25	357	P	P	16 43 30.0	+0.1
	0.2nm,0.7s,baz=165,slow=7.5,SNR=2.4						
PDAR	Pinedale Array	67.75	5	P	P	16 43 58.9	0.0
	0.3nm,0.6s,baz=180,slow=7.1,SNR=4.0						
H11S2	WAKE ISLAND Hy	87.23	292	T	T	18 21 15.2	
	baz=118,slow=75						
H11S1	WAKE ISLAND Hy	87.24	292	T	T	18 21 14.4	
	baz=118,slow=75						
H11S3	WAKE ISLAND Hy	87.25	292	T	T	18 21 18.1	
	baz=118,slow=75						
YKA	Yellowknife Ar	87.29	0	P	P	16 45 47.3	-0.1
	0.4nm,0.7s,baz=174,slow=5.4,SNR=6.5						
CMAR	Chiang Mai Arr	147.44	265	PKPbc	PKPbc	16 52 45.2	-0.8
	0.3nm,0.7s,baz=81,slow=2.3,SNR=2.7						

*IDC **06** 16:37:22.6±0.7, 35°.22N×30°.54E, h0km, mb4.1/18, mb1 4.2/23, mb1mx4.0/43, mbtmp4.1/23, ML4.2/5, MS3.5/4, Ms1 3.4/4, ms1mx2.8/44, Error ellipse: s-maj=16.6km s-min=13.8km az=6.0*
*ISCJB **06** 16:37:26.9±0.2, 35°.05N±0°.02×30°.56E±0°.01, h49km±3km, mb4.2/22, MS3.8/2, Error ellipse: s-maj=3.1km s-min=1.8km az=16.4*
*ATH **06** 16:37:26.6, 35°.18N×30°.44E, h24km±5km, ML3.8/2, Error ellipse: s-maj=9.6km s-min=1.6km az=49.0*
*ISK **06** 16:37:27.1, 35°.08N×30°.62E, h67km, ML4.0/31*
*NIC **06** 16:37:27.4±0.0, 35°.17N×30°.56E, h43km±14km, Md4.9/7, Ml4.5/6*
*NEIC **06** 16:37:28.5±2.5, 35°.11N±0°.06×30°.61E±0°.06, h48km±7km, mb4.1/20, ML4.0(THE), ML4.1(ISK)*
*MED_RC **06** 16:37:28.0±2.3, 35°.12N×30°.59E, h29km±5km, MW4.5/5, Moment Tensor Solution.Mantle waves: s5,c5; Duration: 1^{s}0 Moment tensor: Scale 10^{15}Nm; M_{rr}-6.79±3.72; $M_{\theta\theta}$1.58±4.17; $M_{\phi\phi}$5.20±1.45; $M_{r\theta}$0.44±.99; $M_{\theta\phi}$-3.92±2.94; $M_{\phi r}$-0.53±.61; Best double couple: $M_0$7.28000×10^{15} NP1:ϕ_s327.00000°, δ48.00000°, λ-91.00000°. NP2: ϕ_s148.00000°, δ42.00000°, λ-89.00000°. Principal axes: T 7.7400, Plg3.0000°, Azm57.0000°; N -0.9300, Plg1.0000°, Azm327.0000°; P -6.8200, Plg87.0000°, Azm221.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*HLW **06** 16:37:29.5, 34°.81N×30°.36E, h12km±14km, Ml4.6*
*THE **06** 16:37:29.2, 35°.22N×30°.61E, h28km±24km, ML4.0/5, Error ellipse: s-maj=24.2km s-min=0.5km az=144.0*
*GII **06** 16:37:33.6±0.3, 34°.88N×31°.05E, h46km, mb4.0/1, MD3.6/6*
ISC 06 16:37:28.3±0.8**, 35°.02N**±0°.04×**30°.59E**±0°.03**, h47**km±9km**, n243, σ1^{s}32**/278**, mb4.1**/28**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSL	Kastellorizon	1.39	324	P	Pn	16 37 49.5	-1.8
KSL	Kastellorizon	1.39	324	P	Pn	16 37 49.2	-2.0
KSL				S	Sn	16 38 06.0	-2.4
AKMS	Akamas	1.44	90	P	Pn	16 37 51.6	-0.3
AKMS				AML	AML	16 38 09.2	
	17nm,0.3s						
AKMS				AML	AML	16 38 09.2	
	17nm,0.3s						
AKMS				AML	AML	16 38 09.4	
	19nm,0.3s						
AKMS				AML	AML	16 38 09.4	
	19nm,0.3s						
AKMS				S	Sn	16 38 09.5	-0.1
AKMS				AMd		16 40 38.2	
AKMS				AMd		16 40 38.2	
NATA	Nata	1.65	98	P	Pn	16 37 55.0	+0.2
NATA				S	Sn	16 38 16.0	+1.2
NATA				AML	AML	16 38 17.7	
	30nm,0.4s						
NATA				AML	AML	16 38 17.7	
	30nm,0.4s						
NATA				AML	AML	16 38 18.9	
	39nm,0.3s						
NATA				AML	AML	16 38 18.9	
	39nm,0.3s						
NATA				AMd		16 41 33.6	
NATA				AMd		16 41 33.6	
ALFC	Alefka	1.66	85	P	Pn	16 37 54.5	-0.4
ALFC				AML	AML	16 38 14.5	
	18nm,0.4s						
ALFC				AML	AML	16 38 14.5	
	18nm,0.4s						
ALFC				S	Sn	16 38 14.8	-0.2
ALFC				AML	AML	16 38 15.0	
	17nm,0.2s						
ALFC				AML	AML	16 38 15.0	
	17nm,0.2s						
ALFC				AMd		16 41 51.1	
ALFC				AMd		16 41 51.1	
ELL	Elmali	1.81	342	PN	Pn	16 37 56.9	-0.2
ELL				SN	Sn	16 38 17.8	-1.1
ELL	Elmali	1.81	342		Pn	16 37 56.6	-0.5
ANTB	Antalya	1.88	2	PN	Pn	16 37 57.2	-0.7
LEF	Lefka	1.89	86	PN	Pn	16 37 57.1	-1.0
LEF				SN	Sn	16 38 19.7	-1.1
SZAC	Souni	1.91	97	P	Pn	16 37 58.4	+0.1
SZAC				S	Sn	16 38 21.8	+0.6
SZAC				AML	AML	16 38 23.5	
	15nm,0.3s						
SZAC				AML	AML	16 38 23.5	
	15nm,0.3s						
SZAC				AML	AML	16 38 25.0	
	11nm,0.2s						
SZAC				AML	AML	16 38 25.0	
	11nm,0.2s						
SZAC				AMd		16 41 13.0	
SZAC				AMd		16 41 13.0	
ALAN	Alanya-ANTALYA	1.93	37	PN	Pn	16 37 57.9	-0.8

FETY	**Fethiye**	**2.02**	**323**	P	**Pn**	**16 37 58.0**	**-1.9**
FETY	**Fethiye**	**2.02**	**323**	PN	**Pn**	**16 37 59.7**	**-0.2**
ASGA	**Asgata**	**2.20**	**95**	P	**Pn**	**16 38 02.2**	**-0.1**
ASGA				S	**Sn**	**16 38 28.6**	**+0.3**
ASGA				AML	AML	16 38 29.3	
	9.5nm,0.3s						
ASGA				AML	AML	16 38 29.3	
	9.5nm,0.3s						
ASGA				AML	AML	16 38 36.5	
	7.7nm,0.4s						
ASGA				AML	AML	16 38 36.5	
	7.7nm,0.4s						
CSS	**Mathiatis**	**2.25**	**91**	P	**Pn**	**16 38 02.6**	**-0.5**
CSS				S	**Sn**	**16 38 29.9**	**+0.2**
CSS	**Mathiatis**	**2.25**	**91**	Pn	**Pn**	**16 38 02.5**	**-0.5**
CSS	**Mathiatis**	**2.25**	**91**	PN	**Pn**	**16 38 03.0**	**-0.1**
CSS	**Mathiatis**	**2.25**	**91**	P	**Pn**	**16 38 04.4**	**+1.3**
CSS	**Mathiatis**	**2.25**	**91**	P	**Pn**	**16 38 02.9**	**-0.2**
CSS				S	**Sn**	**16 38 29.6**	**-0.1**
CSS				AMd		16 41 20.7	
CSS				AMd		16 41 20.7	
CSS	**Mathiatis**	**2.25**	**91**		**Pn**	**16 38 02.6**	**-0.5**
GLHS	**Glhisar (BURDU**	**2.31**	**338**	PN	**Pn**	**16 38 04.0**	**+0.1**
ATHAL	**Athalassa**	**2.31**	**86**	P	**Pn**	**16 38 04.3**	**+0.5**
ATHAL				S	**Sn**	**16 38 32.4**	**+1.4**
ATHAL				AMd		16 40 27.7	
ATHAL				AMd		16 40 27.7	
TEKE	**Tekeli-Mersin**	**2.34**	**61**	PN	**Pn**	**16 38 04.0**	**-0.3**
AKIN	**Akıncılar- Kıb**	**2.36**	**89**	PN	**Pn**	**16 38 04.9**	**+0.3**
BCK	**Bucak**	**2.44**	**0**	PN	**Pn**	**16 38 05.2**	**-0.4**
MVOU	**Mavrovouni**	**2.50**	**89**	P	**Pn**	**16 38 06.5**	**+0.1**
MVOU				S	**Sn**	**16 38 36.0**	**+0.3**
MVOU				AML	AML	16 38 36.6	
	3.5nm,0.4s						
MVOU				AML	AML	16 38 36.6	
	3.5nm,0.4s						
MVOU				AML	AML	16 38 37.2	
	2.5nm,0.5s						
MVOU				AML	AML	16 38 37.2	
	2.5nm,0.5s						
MVOU				AMd		16 41 24.4	
MVOU				AMd		16 41 24.4	
BERE	**Bereket-Mersin**	**2.52**	**58**	PN	**Pn**	**16 38 06.4**	**-0.5**
BERE				SN	**Sn**	**16 38 35.4**	**-1.1**
YORU	**Yoruktepe-Mers**	**2.56**	**63**	PN	**Pn**	**16 38 06.8**	**-0.5**
MRSB	**Marmaris-Mugla**	**2.57**	**312**	PN	**Pn**	**16 38 08.2**	**+0.7**
OREN	**Orenkoy-Mersin**	**2.62**	**62**	PN	**Pn**	**16 38 07.9**	**-0.2**
AKK1	**Akkuyu-Mersin**	**2.66**	**64**	PN	**Pn**	**16 38 08.5**	**-0.1**
AKK2	**Akkuyu-Mersin**	**2.66**	**64**	PN	**Pn**	**16 38 08.4**	**-0.2**
AKKU	**Akkuyu-Mersin**	**2.67**	**64**	PN	**Pn**	**16 38 08.4**	**-0.4**
TEPE	**Tepekoy-Mersin**	**2.70**	**63**	PN	**Pn**	**16 38 08.9**	**-0.4**
TEVE	**Tevekalti-Mers**	**2.72**	**58**	PN	**Pn**	**16 38 09.2**	**-0.3**
TEVE				SN	**Sn**	**16 38 40.2**	**-1.0**
YESI	**Yesilovacik-Me**	**2.75**	**64**	PN	**Pn**	**16 38 10.0**	**+0.1**
TISA	**Tisan-Mersin**	**2.77**	**65**	PN	**Pn**	**16 38 10.2**	**+0.1**
IKL	**Isikli**	**2.80**	**63**	PN	**Pn**	**16 38 10.4**	**-0.2**
KARG	**Kargicak-Mersi**	**2.80**	**64**	PN	**Pn**	**16 38 10.6**	**0.0**
YER	**Yerkesik**	**2.82**	**319**	P	**Pn**	**16 38 10.6**	**-0.3**
YER	**Yerkesik**	**2.82**	**319**	PN	**Pn**	**16 38 11.2**	**+0.3**
PARAL	**Paralimni**	**2.83**	**90**	P	**Pn**	**16 38 13.4**	**+2.3**
KARP	**Karpathos**	**2.85**	**282**	P	**Pn**	**16 38 11.5**	**+0.2**
KARP				S	**Sn**	**16 38 44.3**	**-0.1**
	615nm,0.3s						
KARP	**Karpathos**	**2.85**	**282**	P	**Pn**	**16 38 11.8**	**+0.5**
KARP				S	**Sn**	**16 38 43.6**	**-0.8**
KARP				AML	AML	16 38 48.8	
	comp=N,1272µm,0.2s						
KARP				AML	AML	16 38 50.1	
	comp=E,1226µm,0.3s						
KARP	**Karpathos**	**2.85**	**282**	PN	**Pn**	**16 38 12.1**	**+0.8**
KARP	**Karpathos**	**2.85**	**282**		**Pn**	**16 38 11.8**	**+0.5**
KARP				Sn	**Sn**	**16 38 44.6**	**+0.2**
KEBE	**Keben-Mersin**	**2.91**	**60**	PN	**Pn**	**16 38 12.5**	**+0.3**
BASM	**Basmaki-Afyon**	**2.92**	**352**	PN	**Pn**	**16 38 12.5**	**+0.1**
DATC	**Datca-Mugla**	**2.94**	**307**	PN	**Pn**	**16 38 13.1**	**+0.6**
EREN	**Erenkoy**	**2.98**	**79**	PN	**Pn**	**16 38 13.3**	**+0.3**
DAT	**Datca**	**2.98**	**306**	PN	**Pn**	**16 38 13.5**	**+0.4**
SILI	**Silifke-Mersin**	**3.03**	**63**	PN	**Pn**	**16 38 14.0**	**+0.3**
SLFK	**Silifke-Mersin**	**3.06**	**62**	PN	**Pn**	**16 38 14.1**	**0.0**
MLSB	**Milas**	**3.21**	**316**	PN	**Pn**	**16 38 16.9**	**+0.6**
NISR	**Nisiros**	**3.23**	**300**	P	**Pn**	**16 38 16.0**	**-0.4**
KONT	**Konya--Tatoy**	**3.25**	**26**	PN	**Pn**	**16 38 17.1**	**+0.3**
BODT	**Bodrum**	**3.35**	**308**	P	**Pn**	**16 38 17.0**	**-1.1**
BODT				S	**Sn**	**16 38 53.4**	**-3.2**
BODT	**Bodrum**	**3.35**	**308**	PN	**Pn**	**16 38 17.9**	**-0.2**
LADK	**Ladik-KONYA**	**3.48**	**24**	PN	**Pn**	**16 38 19.9**	**-0.1**
SHUT	**Suhut-Afyon**	**3.52**	**360**	PN	**Pn**	**16 38 20.6**	**0.0**
ZKR	**Zakros**	**3.58**	**273**	P	**Pn**	**16 38 21.8**	**+0.5**
ZKR				S	**Sn**	**16 39 03.8**	**+1.3**
	comp=E,568nm,0.7s						
ZKR	**Zakros**	**3.58**	**273**	P	**Pn**	**16 38 21.8**	**+0.5**
ZKR				S	**Sn**	**16 39 01.8**	**-0.7**
ZKR				AML	AML	16 39 04.5	
	comp=N,707µm,0.5s						
ZKR				AML	AML	16 39 05.8	
	comp=E,1524µm,0.9s						
AYDB	**Zeytinkoy-Aydi**	**3.64**	**324**	PN	**Pn**	**16 38 21.8**	**-0.4**
STIA	**Sitia Lasithi**	**3.69**	**274**	P	**Pn**	**16 38 23.8**	**+1.0**
STIA				S	**Sn**	**16 39 05.0**	**0.0**
MANT	**Manisa**	**3.83**	**335**		**Pn**	**16 38 24.3**	**-0.5**
SULT	**Sultanhani-AKS**	**3.95**	**36**	PN	**Pn**	**16 38 26.6**	**+0.1**
FRMA	**Ierapetra Chan**	**3.98**	**271**	P	**Pn**	**16 38 25.9**	**-0.9**
KIZT	**Kizilcal**	**3.99**	**15**	PN	**Pn**	**16 38 26.3**	**-0.7**
CHBY	**Cihanbeyli**	**4.01**	**27**	PN	**Pn**	**16 38 27.3**	**+0.1**
SMG	**Samos**	**4.04**	**313**	P	**Pn**	**16 38 27.1**	**-0.5**
SMG				S	**Sn**	**16 39 10.8**	**-2.9**
	comp=E,325nm,0.4s						
NPS	**Neapolis**	**4.08**	**275**	P	**Pn**	**16 38 29.0**	**+0.7**
NPS				S	**Sn**	**16 39 14.7**	**0.0**
	comp=E,570nm,0.3s						
NPS	**Neapolis**	**4.08**	**275**	P	**Pn**	**16 38 28.9**	**+0.7**
NPS				S	**Sn**	**16 39 13.8**	**-0.9**
GEDZ	**Gediz**	**4.12**	**347**	PN	**Pn**	**16 38 29.6**	**+0.8**
LAST	**Lasithi**	**4.19**	**273**	P	**Pn**	**16 38 30.2**	**+0.5**
LAST	**Lasithi**	**4.19**	**273**	P	**Pn**	**16 38 30.3**	**+0.6**
AMGA	**Amorgos Island**	**4.21**	**297**	P	**Pn**	**16 38 29.6**	**-0.4**
AMGA	**Amorgos Island**	**4.21**	**297**	P	**Pn**	**16 38 29.8**	**-0.2**
KARA	**Karaisali**	**4.25**	**57**	PN	**Pn**	**16 38 30.9**	**+0.4**
HNTI	**Hanita**	**4.27**	**116**	Pn	**Pn**	**16 38 30.7**	**-0.1**
DQRL	**Deir Qamar**	**4.33**	**106**	*e*P	**Pn**	**16 38 31.4**	**-0.2**
BHL	**Bhannes**	**4.33**	**103**	*e*P	**Pn**	**16 38 30.6**	**-1.1**
CIFT	**Cifteler, Eski**	**4.35**	**5**	PN	**Pn**	**16 38 32.2**	**+0.3**
OFRI	**`Ofer**	**4.37**	**122**	Pn	**Pn**	**16 38 31.9**	**-0.3**
THR8	**Santorini-Mono**	**4.38**	**290**	P	**Pn**	**16 38 31.9**	**-0.3**
SANT	**Santorini**	**4.38**	**289**	P	**Pn**	**16 38 32.0**	**-0.4**
SANT	**Santorini**	**4.38**	**289**	P	**Pn**	**16 38 31.8**	**-0.5**
SANT	**Santorini**	**4.38**	**289**		**Pn**	**16 38 32.0**	**-0.4**
SANT				Sn	**Sn**	**16 39 20.0**	**-2.2**
THR7	**Fira-Santorini**	**4.42**	**290**	P	**Pn**	**16 38 32.8**	**-0.1**
CMRD	**Camardi-Nigde**	**4.42**	**52**	PN	**Pn**	**16 38 33.1**	**+0.1**
THR6	**Thira Island,**	**4.43**	**289**	P	**Pn**	**16 38 33.0**	**+0.1**
SAP1	**Santorini-Akro**	**4.43**	**289**	P	**Pn**	**16 38 32.5**	**-0.4**
THT2	**Imerovigli**	**4.43**	**290**	P	**Pn**	**16 38 32.8**	**-0.2**
THR3	**Thira Island,**	**4.44**	**290**	P	**Pn**	**16 38 32.8**	**-0.3**
CMBO	**Columbo, Santo**	**4.46**	**290**	P	**Pn**	**16 38 32.9**	**-0.4**
CMBO	**Columbo, Santo**	**4.46**	**290**	P	**Pn**	**16 38 32.9**	**-0.4**
KULU	**Kulu**	**4.46**	**25**	PN	**Pn**	**16 38 33.9**	**+0.5**
BLGI	**Bet Lehem HaGe**	**4.46**	**119**	Pn	**Pn**	**16 38 33.4**	**+0.1**
BLGI				Sn	**Sn**	**16 39 20.5**	**-3.5**
THR9	**Santorini-Faro**	**4.46**	**289**	P	**Pn**	**16 38 33.6**	**+0.3**
QRWL	**Qaraoun**	**4.47**	**108**	*e*P	**Pn**	**16 38 33.8**	**+0.2**
MMA0B	**Mount Meron ar**	**4.47**	**115**	Pn	**Pn**	**16 38 33.9**	**+0.3**
MMA0B				Sn	**Sn**	**16 39 21.6**	**-2.8**
MMAI	**Mount Meron Ar**	**4.47**	**115**	Pn	**Pn**	**16 38 33.9**	**+0.3**
	comp=E,43nm,0.3s,baz=308,slow=12,SNR=153						
MMAI				Sn	**Sn**	**16 39 23.6**	**-0.8**
	comp=E,166nm,0.3s,baz=315,slow=26,SNR=17						
AUSIV	**SIVRIHISAR**	**4.47**	**10**	PN	**Pn**	**16 38 33.8**	**+0.1**
HWQ	**Hawqa**	**4.48**	**98**	*e*P	**Pn**	**16 38 33.4**	**-0.3**
THR5	**Thira Island,**	**4.48**	**290**	P	**Pn**	**16 38 33.7**	**0.0**
ESKT	**Eskisehir**	**4.50**	**3**	PN	**Pn**	**16 38 34.4**	**+0.4**
TVSB	**Tavsanli**	**4.51**	**349**	PN	**Pn**	**16 38 34.5**	**+0.4**
APE	**Apeiranthos**	**4.58**	**298**	P	**Pn**	**16 38 34.6**	**-0.4**
GEM	**Giv'at Ha'Em**	**4.58**	**112**	Pn	**Pn**	**16 38 35.4**	**+0.4**
GEM				Sn	**Sn**	**16 39 23.7**	**-3.3**
SERE	**Sereflikochisa**	**4.58**	**30**	PN	**Pn**	**16 38 35.4**	**+0.2**
KSDI	**Kefar Szold**	**4.59**	**112**	Pn	**Pn**	**16 38 35.3**	**+0.2**
KSDI				Sn	**Sn**	**16 39 22.7**	**-4.4**
KSDI	**Kefar Szold**	**4.59**	**112**	P	**Pn**	**16 38 36.0**	**+0.9**
RCY	**Rachaya**	**4.61**	**108**	*e*P	**Pn**	**16 38 35.6**	**+0.1**
IOSP	**Ios island**	**4.62**	**293**	P	**Pn**	**16 38 35.2**	**-0.4**
SLTI	**Sal'it**	**4.64**	**125**	Pn	**Pn**	**16 38 36.1**	**+0.3**
YAYX	**Yaylak**	**4.69**	**32**	PN	**Pn**	**16 38 36.4**	**-0.1**
SIVA	**Sivas**	**4.74**	**272**	P	**Pn**	**16 38 38.0**	**+0.8**
SIVA				S	**Sn**	**16 39 31.0**	**+0.1**
SIVA	**Sivas**	**4.74**	**272**	P	**Pn**	**16 38 37.8**	**+0.6**
MMLI	**Mount Malkishu**	**4.78**	**121**	Pn	**Pn**	**16 38 38.0**	**+0.2**
AFSR	**Afar-Bala (An**	**4.84**	**23**	PN	**Pn**	**16 38 38.7**	**0.0**
BORA	**Eskisehir**	**4.85**	**359**	PN	**Pn**	**16 38 38.8**	**0.0**
AUMIH	**MIHALICIK**	**4.89**	**8**	PN	**Pn**	**16 38 39.4**	**0.0**
HMDT	**Nahal Hemdat**	**4.96**	**122**	Pn	**Pn**	**16 38 41.0**	**+0.8**
HMDT				Sn	**Sn**	**16 39 33.5**	**-2.8**
SRCK	**Saricakaya, Es**	**5.01**	**0**	PN	**Pn**	**16 38 41.3**	**+0.4**
AMAZ	**Amatzia**	**5.02**	**133**	Pn	**Pn**	**16 38 42.0**	**+0.9**
AMAZ	**Amatzia**	**5.02**	**133**	P	**Pn**	**16 38 42.5**	**+1.4**
KOT	**Kottamia**	**5.19**	**168**	P	**Pn**	**16 38 45.1**	**+1.7**
	baz=165						
KOT				AMP		16 39 00.0	
	baz=165						
KZIT	**Kziot**	**5.21**	**141**	Pn	**Pn**	**16 38 44.8**	**+1.2**
KZIT				Sn	**Sn**	**16 39 39.8**	**-2.6**
KZIT	**Kziot**	**5.21**	**141**	P	**Pn**	**16 38 45.2**	**+1.6**
CAVI	**Cavuskoy**	**5.21**	**354**	PN	**Pn**	**16 38 43.8**	**+0.2**
HHAG	**Hagoal**	**5.21**	**165**	P	**Pn**	**16 38 45.6**	**+1.8**
	baz=162						
HMYD	**Mayadein**	**5.21**	**178**	P	**Pn**	**16 38 45.2**	**+1.5**
	baz=175						
VAM	**Vamos**	**5.24**	**276**	P	**Pn**	**16 38 44.7**	**+0.6**
VAM	**Vamos**	**5.24**	**276**	P	**Pn**	**16 38 44.9**	**+0.8**
BR131	**Keskin Array S**	**5.29**	**26**		**Pn**	**16 38 43.1**	**-1.7**
BR131				Sn	**Sn**	**16 39 42.9**	**-1.6**
BRTR	**Keskin Array B**	**5.29**	**26**	Pn	**Pn**	**16 38 42.7**	**-2.1**
	comp=E,1.3nm,0.3s,baz=124,slow=16,SNR=31						
BRTR				Sn	**Sn**	**16 39 41.1**	**-3.4**
	comp=E,2.0nm,0.3s,baz=215,slow=23,SNR=7.7						
DSI	**Dead Sea**	**5.29**	**129**	Pn	**Pn**	**16 38 45.6**	**+0.9**
GVD	**Gavdhos**	**5.34**	**270**	P	**Pn**	**16 38 45.5**	**0.0**
GVD	**Gavdhos**	**5.34**	**270**	P	**Pn**	**16 38 46.0**	**+0.6**
IMMV	**Iera Moni Meta**	**5.42**	**277**	P	**Pn**	**16 38 46.8**	**+0.2**
IMMV	**Iera Moni Meta**	**5.42**	**277**	P	**Pn**	**16 38 46.7**	**+0.2**
YUVA	**Yuva-Kibriscik**	**5.43**	**9**	PN	**Pn**	**16 38 46.9**	**+0.1**
MZDA	**Masada**	**5.45**	**131**	Pn	**Pn**	**16 38 47.6**	**+0.7**
WALJ	**Wala**	**5.57**	**127**	P	**Pn**	**16 38 50.5**	**+1.9**
	comp=E,107nm,0.7s,comp=E,2µmcomp=E,0.9nm						
LISJ	**El Lisan**	**5.57**	**131**	P	**Pn**	**16 38 50.7**	**+2.1**
	comp=E,32nm,0.5s,comp=E,2µmcomp=E,0.3nm						
RODP	**Rodopos**	**5.61**	**277**	P	**Pn**	**16 38 49.5**	**+0.3**
RMNI	**Mount Ramon**	**5.64**	**140**	Pn	**Pn**	**16 38 50.7**	**+1.0**
SLUM	**Salum**	**5.71**	**233**	AMP		16 39 00.0	
	baz=234						
SLUM	**Salum**	**5.71**	**233**	AMP		16 39 00.0	
	baz=234						
GAZ	**Gaziantep**	**5.78**	**66**		**Pn**	**16 38 51.4**	**-0.1**
ZNM	**Zenema**	**5.95**	**160**	P	**Pn**	**16 38 55.8**	**+1.9**
	baz=157						
PRNI	**Paran**	**5.96**	**140**	Pn	**Pn**	**16 38 54.9**	**+0.9**
ASF	**Jabal al Asfar**	**5.98**	**117**	Pn	**Pn**	**16 38 54.6**	**+0.3**
	comp=E,3.0nm,0.3s,baz=269,slow=2.9,SNR=37						
ASF				Sn	**Sn**	**16 40 04.9**	**+3.3**
	comp=E,6.3nm,0.3s,baz=53,slow=23,SNR=7.6						
ASF	**Jabal al Asfar**	**5.98**	**117**	P	**Pn**	**16 38 55.7**	**+1.3**
	comp=E,12nm,0.5s,comp=E,476nmcomp=E,0.1nm						
ANKY	**Antikythira Is**	**6.01**	**280**	P	**Pn**	**16 38 54.0**	**-0.6**
ANKY	**Antikythira Is**	**6.01**	**280**	P	**Pn**	**16 38 55.0**	**+0.4**
KRMI	**Paran Flat**	**6.01**	**143**	Pn	**Pn**	**16 38 55.2**	**+0.5**
KRMI				Sn	**Sn**	**16 39 59.6**	**-2.6**
HRFI	**Mount Harif**	**6.23**	**142**	Pn	**Pn**	**16 38 58.8**	**+1.1**
HRFI	**Mount Harif**	**6.23**	**142**	P	**Pn**	**16 38 59.0**	**+1.3**
KTHA	**Kythira Island**	**6.25**	**284**	P	**Pn**	**16 38 57.5**	**-0.4**
MBRI	**Mt Berech**	**6.37**	**144**	Pn	**Pn**	**16 39 00.5**	**+0.9**
DID	**Didima**	**6.43**	**295**	P	**Pn**	**16 39 00.9**	**+0.4**
VLI	**Veliai**	**6.44**	**287**	P	**Pn**	**16 38 59.3**	**-1.2**
AQBJ	**Aqaba**	**6.49**	**143**	P	**Pn**	**16 39 02.8**	**+1.6**
	comp=E,97nm,0.6s,comp=E,2µmcomp=E,0.7nm						
EIL	**Elat**	**6.49**	**144**	Pn	**Pn**	**16 39 02.0**	**+0.8**
EIL	**Elat**	**6.49**	**144**	Pn	**Pn**	**16 39 02.6**	**+1.4**
	comp=E,5.0nm,0.3s,baz=352,slow=2.6,SNR=111						
EIL				Sn	**Sn**	**16 40 11.3**	**-2.6**
	comp=E,12nm,0.3s,baz=12,slow=15,SNR=9.1						
EIL	**Elat**	**6.49**	**144**	P	**Pn**	**16 39 02.2**	**+1.0**
HBST	**Basata**	**6.77**	**148**	S	**Sn**	**16 40 15.7**	**-5.2**
	baz=145						
HBST				AMP		16 40 00.0	
	baz=145						
HDHB	**Dhahab**	**7.15**	**150**	P	**Pn**	**16 39 11.5**	**+1.1**
	baz=148						
SWA2		**7.22**	**218**	P	**Pn**	**16 39 11.1**	**-0.1**
	baz=219						
TAMRE	**El Minia**	**7.32**	**178**	P	**Pn**	**16 39 13.6**	**+0.9**
	baz=176						
TAMRE				S	**Sn**	**16 40 28.3**	**-6.1**
	baz=176						
ITM	**Ithomi**	**7.33**	**290**	P	**Pn**	**16 39 13.4**	**+0.6**
ITM	**Ithomi**	**7.33**	**290**		**Pn**	**16 39 13.8**	**+1.0**
ITM				Sn	**Sn**	**16 40 33.1**	**-1.6**
AGG	**Agios Georgios**	**7.72**	**304**		**Pn**	**16 39 20.9**	**+2.8**
DRO	**Drossia**	**7.72**	**295**	P	**Pn**	**16 39 18.8**	**+0.7**
HFRF	**Wahat Farafira**	**8.09**	**195**	S	**Sn**	**16 40 46.9**	**-6.3**
	baz=194						
LIT	**Litokhoron**	**8.19**	**311**	Pn	**Pn**	**16 39 25.6**	**+1.1**
SCTE	**Santa Cesarea**	**10.86**	**301**	Pn	**Pn**	**16 40 02.3**	**+1.3**
TIP	**Timpagrande**	**11.79**	**295**	Pn	**Pn**	**16 40 12.3**	**-1.5**
KBZ	**Khabaz**	**12.88**	**44**	LR	LR	16 46 36.2	
	comp=E,90nm,20.7s,baz=296,slow=43						
ACER	**Acerenza**	**12.91**	**301**	Pn	**Pn**	**16 40 26.9**	**-2.2**
RAFF	**Raffo Rosso**	**13.30**	**284**	Pn	**Pn**	**16 40 32.6**	**-1.8**
PSZ	**Piszkesteto**	**15.15**	**331**	Pn	**Pn**	**16 40 55.4**	**-3.8**
KOLS	**Kolonicke sedl**	**15.20**	**339**	*e*P	**P**	**16 41 05.8**	**+1.9**
NRCA	**Norcia**	**15.66**	**305**	Pn	**Pn**	**16 41 04.5**	**-1.2**
AKASG	**Malin Array Be**	**15.70**	**357**	Pn	**Pn**	**16 41 07.4**	**+1.2**
	comp=E,2.6nm,0.3s,baz=175,slow=9.0,SNR=17						
AKBB	**Malin Array Si**	**15.70**	**357**	P	**Pn**	**16 41 07.6**	**+1.4**
AKBB				IAmb	IAmb	16 41 11.9	
	comp=Z,12nm,0.8s						
VYHS	**Vyhne**	**16.04**	**331**	*e*P	**P**	**16 41 14.0**	**+0.8**
MODS	**Modra-Piesok**	**16.60**	**328**	*e*P	**P**	**16 41 18.8**	**-0.7**
OJC	**Ojcow**	**17.11**	**336**	Pn	**Pn**	**16 41 20.5**	**-3.4**
OJC				IAmb	IAmb	16 41 26.7	
	comp=Z,6.1nm,0.8s						
DPC	**Dobruska-Polom**	**18.51**	**330**	*e*P	**Pn**	**16 41 42.7**	**+1.6**
GERES	**GERESS Array B**	**18.61**	**323**	Pn	**P**	**16 41 41.6**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=123,slow=9.7,SNR=7.9						
UPC	**Upice**	**18.76**	**330**	*e*P	**Pn**	**16 41 45.3**	**+1.2**
WATA	**Walderalm**	**18.81**	**317**	*e*Pn	**P**	**16 41 43.7**	**-0.3**
	comp=Z,5.6nm,0.7s						
KHC	**Kasperske Hory**	**18.86**	**324**	*e*P	**Pn**	**16 41 45.4**	**0.0**
KHC				*e*x	x	16 41 58.7	
KHC	**Kasperske Hory**	**18.86**	**324**	P	**P**	**16 41 43.9**	**-0.6**
PRU	**Pruhonice**	**19.01**	**327**	*e*P	**Pn**	**16 41 47.2**	**+0.2**
PBCC	**Pribram**	**19.04**	**325**	*e*P	**Pn**	**16 41 47.0**	**-0.5**
MOTA	**Moosalm**	**19.08**	**316**	*i* Pn	**Pn**	**16 41 48.8**	**+0.6**
	comp=Z,3.8nm,0.8s						
FETA	**Feichten**	**19.13**	**315**	*e*Pn	**Pn**	**16 41 49.5**	**+0.8**
	comp=Z,7.2nm,0.8s						
DAVOX	**Davos/Dischmat**	**19.50**	**313**	LR	LR	16 50 50.3	
	comp=Z,92nm,18.1s,baz=81,slow=42						
CLL	**Collm**	**20.64**	**327**	*e*(P)	Pn	16 42 07.0	+0.7
CLL				*e*		16 42 18.0	
BNI	**Bardonecchia**	**20.80**	**306**	P	**P**	**16 42 06.0**	**+0.3**
BNI				IAmb	IAmb	16 42 09.1	
	comp=Z,7.6nm,0.8s						
SENIN	**Lac Senin/Sane**	**20.90**	**310**	P	**P**	**16 42 06.5**	**-0.3**
GEYT	**Alibeck**	**22.30**	**74**	P	**P**	**16 42 22.4**	**+0.7**
	comp=Z,4.3nm,0.5s,baz=289,slow=9.0,SNR=7.5						
GYA0B	**ALIBECK ARRAY**	**22.30**	**74**	P	**P**	**16 42 18.9**	**-2.8**
GYA0B				IAmb	IAmb	16 42 30.0	
	comp=Z,5.7nm,0.6s						
UOSS	**Minazif**	**24.30**	**107**	P	**P**	**16 42 41.6**	**+0.3**
UOSS				IAmb	IAmb	16 43 01.0	
	comp=Z,5.7nm,0.9s						
AKTO	**Aktyubinsk**	**25.17**	**44**	P	**P**	**16 42 49.0**	**0.0**
	comp=Z,2.5nm,0.3s,baz=223,slow=5.8,SNR=9.7						
ABKAR	**Akbulak array**	**25.80**	**48**	P	**P**	**16 42 55.0**	**+0.1**
HRA	**Herat**	**25.98**	**82**	P	**P**	**16 42 57.4**	**+0.6**
FIA1	**FINESS Array S**	**26.60**	**355**	P	**P**	**16 43 00.5**	**-1.4**
FINES	**FINESS Array B**	**26.60**	**355**	P	**P**	**16 43 00.4**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=159,slow=11,SNR=15						
HFS	**Hagfors**	**27.42**	**342**	P	**P**	**16 43 08.4**	**-0.9**
	comp=Z,7.0nm,1.0s,baz=120,slow=8.5,SNR=4.5						
ESBB	**Sonseca Array**	**27.75**	**290**	P	**P**	**16 43 14.4**	**+1.9**
ESBB				IAmb	IAmb	16 43 16.2	
	comp=Z,3.0nm,1.0s						
ESDC	**Sonseca Array**	**27.75**	**290**	P	**P**	**16 43 13.9**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=81,slow=9.3,SNR=16						
ARU	**Arti**	**28.63**	**33**	P	**P**	**16 43 18.6**	**-1.5**
ARU				IAmb	IAmb	16 43 24.7	
	comp=Z,8.0nm,1.1s						
NOA	**NORSAR Array B**	**28.85**	**340**	P	**P**	**16 43 19.9**	**-2.1**
	comp=Z,0.6nm,0.7s,baz=147,slow=11,SNR=2.5						
KK31	**Karatay Array**	**31.79**	**63**	P	**P**	**16 43 49.2**	**+1.0**
KKAR	**Karatay Array**	**31.79**	**63**	P	**P**	**16 43 49.5**	**+1.2**
KKAR				IAmb	IAmb	16 43 53.2	
	comp=Z,3.2nm,0.7s						
ARSB	**Arslanbob**	**33.66**	**66**	P	**P**	**16 44 04.7**	**-0.1**
ARSB				IAmb	IAmb	16 44 09.2	
	comp=Z,3.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**33.99**	**237**	P	**P**	**16 44 09.1**	**+1.4**
	comp=Z,1.8nm,1.0s,baz=36,slow=7.6,SNR=7.2						
ARCES	**ARCESS Array B**	**34.68**	**357**	P	**P**	**16 44 11.9**	**-1.1**
	comp=Z,4.5nm,0.9s,baz=170,slow=8.3,SNR=11						
AAK	**Ala-Archa**	**34.72**	**64**	P	**P**	**16 44 13.5**	**-0.4**
KSH	**Kashi**	**36.10**	**69**	P	**P**	**16 44 25.9**	**+0.1**
KSH				S	**S**	**16 49 58.1**	**-4.0**
KSH				sS	sS	16 50 19.4	-2.4
KSH				ScP	**ScP**	**16 50 33.1**	**-0.2**
KSH				PcS	**PcS**	**16 50 38.8**	**+0.2**
KSH	**Kashi**	**36.10**	**69**	ScS	ScS	16 54 37.2	-2.0
KSH				pmax	pmax		
	comp=Z,340nm,8.0s						
KSH				LR	LR		
	comp=N,560nm,5.8s						
KSH				LR	LR		
	comp=E,590nm,5.9s						
KSH				LR	LR		
	comp=Z,370nm,8.4s						
MK31	**Makanchi Array**	**40.13**	**57**	P	**P**	**16 45 00.3**	**+0.9**
MKAR	**Makanchi Array**	**40.13**	**57**	P	**P**	**16 45 00.1**	**+0.6**
	comp=Z,5.2nm,0.6s,baz=269,slow=6.7,SNR=30						
MKAR				LR	LR	17 05 13.2	
	comp=Z,56nm,19.5s,baz=294,slow=42						
ZALV	**Zalesovo Beam**	**41.90**	**46**	P	**P**	**16 45 13.0**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=277,slow=12,SNR=5.9						
DBIC	**Dimbokro**	**43.10**	**237**	P	**P**	**16 45 24.6**	**+0.5**
	comp=Z,3.3nm,0.8s,baz=60,slow=7.5,SNR=4.7						
DBIC	**Dimbokro**	**43.10**	**237**	IAmb	IAmb	16 45 26.2	
	comp=Z,2.8nm,0.8s						
TIC	**Toumodi**	**43.24**	**238**	*e*P	**P**	**16 45 26.1**	**+0.9**
KIC	**Kosan Boka**	**43.25**	**237**	*e*P	**P**	**16 45 27.2**	**+2.0**
	comp=Z,10nm,0.7s						
LIC	**Lamto**	**43.54**	**237**	*e*P	**P**	**16 45 29.4**	**+1.8**
	comp=Z,16nm,0.7s						
WMQ	**Urumqi**	**44.21**	**61**	*e*P	**P**	**16 45 34.1**	**+1.3**
NRIK	**Noril'sk**	**46.14**	**24**	P	**P**	**16 45 47.9**	**+0.3**
	comp=Z,1.8nm,0.4s,baz=89,slow=2.3,SNR=5.4						
SONM	**Songino Array**	**56.10**	**52**	P	**P**	**16 47 03.6**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=284,slow=7.9,SNR=6.2						
LZH	**Lanzhou**	**58.23**	**66**	*e*P	**P**	**16 47 18.7**	**+0.6**
LZH				pP	pP	16 47 32.0	+1.5
LZH				sP	sP	16 47 38.3	+2.7
LZH				PP	PP	16 49 15.0	-12
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,68nm,4.9s						
HHC	**Hu-ho-hao-te**	**61.97**	**58**	*e*P	**P**	**16 47 44.0**	**+0.4**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HHC				AMB	AMB		
	comp=Z,4.0nm,5.6s						
CMAR	**Chiang Mai Arr**	**62.15**	**86**	P	**P**	**16 47 45.8**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=290,slow=8.8,SNR=8.7						
USRK	**Ussuriysk Ar.**	**73.73**	**47**	P	**P**	**16 48 56.6**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=340,slow=5.3,SNR=4.7						
KSRS	**Korea Array**	**74.78**	**55**	P	**P**	**16 49 03.0**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=305,slow=5.8,SNR=4.1						
YKA	**Yellowknife Ar**	**78.87**	**344**	P	**P**	**16 49 25.3**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=32,slow=5.6,SNR=7.5						
JCJ	**Chichijima**	**90.60**	**56**	LR	LR	17 36 12.8	
	comp=Z,64nm,18.0s,baz=112,slow=39						
PDAR	**Pinedale Array**	**94.44**	**332**	P	**P**	**16 50 42.4**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=60,slow=5.8,SNR=4.4						

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*BJI **06** 16:39:35.0±0.0, 20.°92N×122.°30E, h188km, mb4.5/48, mB4.6/31*

*NEIC **06** 16:39:36.4±1.9, 20.°90N±0.°06×122.°12E±0.°06, h184km±6km, mb4.5/68*

*TAP **06** 16:39:38.0, 21.°06N×122.°13E, h189km, ML4.9, D*

*JMA **06** 16:39:37.3±0.4, 20.°90N×122.°08E, h161km, M3.9*

*MOS **06** 16:39:37.6±0.9, 20.°94N×122.°23E, h211km, mb4.6/22, Error ellipse: s-maj=10.2km s-min=5.9km az=108.1*

*ISCJB **06** 16:39:38.0±0.3, 21.°13N±0.°03×122.°03E±0.°02, h197km±1km, mb4.3/74, Error ellipse: s-maj=4.4km s-min=3.6km az=160.9*

*IDC **06** 16:39:38.8±1.7, 20.°87N×122.°20E, h209km±17km, mb4.0/31, mb1 4.0/34, mb1mx3.9/50, mbtmp4.5/34, MS2.3/1, Ms1 2.3/1, ms1mx2.2/25, Error ellipse: s-maj=11.3km s-min=7.8km az=80.0*

ISC 06 16:39:37.2±0.6**, 20.°96N**±0.°04×**122.°14E**±0.°04**, h190**km±4km**, n324,** σ1.°65/415**, mb4.5**/88**, 9C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.21**	**333**	P	**Pn**	**16 40 07.2**	**-0.3**
	baz=332						
LAY				*e*S	**Sn**	**16 40 28.2**	**-2.9**
	baz=332						
TSEB	**Hengchuen, Pin**	**1.49**	**309**	P	**Pn**	**16 40 10.5**	**+0.7**
	baz=301						
TSEB				S	**Sn**	**16 40 34.8**	**-0.5**
	baz=301						
TWKBT	**Hengchun**	**1.58**	**309**	*e*P	**Pn**	**16 40 11.1**	**+0.4**
	baz=303						
TWKBT				*e*S	**Sn**	**16 40 34.6**	**-2.1**
	baz=303						
TWK1	**Hengchun**	**1.58**	**308**	P	**Pn**	**16 40 11.1**	**+0.4**
	baz=303						
TWK1				*e*S	**Sn**	**16 40 35.4**	**-1.4**
	baz=303						
HEN	**Hengchun**	**1.67**	**309**	*e*P	**Pn**	**16 40 12.2**	**+0.6**
	baz=299						
HEN				*e*S	**Sn**	**16 40 36.9**	**-1.4**
	baz=299						
TAW	**Tawu**	**1.81**	**320**	P	**Pn**	**16 40 12.4**	**-0.5**
	baz=321						
EAST	**Anshuo**	**1.86**	**320**	P	**Pn**	**16 40 13.0**	**-0.5**
	baz=318						
EAST				*e*S	**Sn**	**16 40 38.0**	**-3.8**
	baz=318						
ECL	**Taimali**	**1.97**	**326**	*e*P	**Pn**	**16 40 13.5**	**-1.1**
	baz=320						
ECL				*e*S	**Sn**	**16 40 39.3**	**-4.5**
	baz=320						
SCZT	**Fangliau**	**1.99**	**315**	P	**Pn**	**16 40 14.7**	**-0.1**
	baz=318						
SCZT				*e*S	**Sn**	**16 40 41.1**	**-3.2**
	baz=318						
TTN	**Taitung**	**2.01**	**333**	P	**Pn**	**16 40 15.3**	**+0.3**
	baz=326						
TTN				*e*S	**Sn**	**16 40 44.0**	**-0.6**
	baz=326						
TWGBT	**Beinan**	**2.10**	**332**	*e*P	**Pn**	**16 40 15.0**	**-0.9**
	baz=326						
TWGBT				*e*S	**Sn**	**16 40 42.8**	**-3.5**
	baz=326						
TWG	**Pinlang**	**2.10**	**332**	P	**Pn**	**16 40 15.0**	**-1.0**
	baz=326						
TWG				*e*S	**Sn**	**16 40 42.7**	**-3.7**
	baz=326						
TWG	**Pinlang**	**2.10**	**332**		**Pn**	**16 40 15.0**	**-1.0**
TWG				Sn	**Sn**	**16 40 44.4**	**-2.0**
SSPT	**Xinbi**	**2.11**	**316**	*e*P	**Pn**	**16 40 14.8**	**-1.3**
	baz=315						
WLCH	**Liuqiu**	**2.15**	**311**	P	**Pn**	**16 40 17.9**	**+1.5**
	baz=309						
WLCH				*e*S	**Sn**	**16 40 47.6**	**+0.5**
	baz=309						
TWP	**Hsiaoliuchiu**	**2.15**	**310**	*e*P	**Pn**	**16 40 18.0**	**+1.4**
	baz=308						
MASBT	**Mashibuluo**	**2.16**	**320**	*e*P	**Pn**	**16 40 16.5**	**-0.2**
	baz=322						
MASBT				*e*S	**Sn**	**16 40 44.4**	**-3.1**
	baz=322						
CHKT	**Chengkung**	**2.25**	**342**	*e*P	**Pn**	**16 40 17.0**	**-0.6**
	baz=345						
SSD	**Sandimen**	**2.26**	**322**	P	**Pn**	**16 40 17.6**	**-0.2**
	baz=321						
SSD				*e*S	**Sn**	**16 40 45.9**	**-3.6**
	baz=321						
SGLT	**Jiouru**	**2.33**	**319**	P	**Pn**	**16 40 19.5**	**+1.0**

baz=322
SGLT eS Sn 16 40 50.6 -0.3
baz=322
KAU Kaohsiung 2.34 314 eP Pn 16 40 19.9 +1.3
baz=305
KAU eS Sn 16 40 50.8 -0.1
baz=305
FULB Fuli 2.36 341 eP Pn 16 40 18.8 -0.1
baz=342
FULB eS Sn 16 40 50.3 -1.3
baz=342
TWM1 Shoushan 2.45 320 P Pn 16 40 20.9 +1.0
baz=325
TWM1 eS Sn 16 40 52.1 -1.1
baz=325
SNJT Kaohsiung City 2.45 317 eP Pn 16 40 20.6 +0.8
baz=308
SNJT eS Sn 16 40 51.8 -1.4
baz=308
ELDTW Lidau 2.45 335 eP Pn 16 40 19.0 -1.0
baz=334
ELDTW eS Sn 16 40 50.5 -3.0
baz=334
SLGT Liugui 2.45 326 eP Pn 16 40 19.9 0.0
baz=325
SLGT eS Sn 16 40 50.8 -2.5
baz=325
TWF1 Yuli 2.51 342 eP Pn 16 40 19.8 -0.7
baz=334
TWF1 eS Sn 16 40 51.2 -3.2
baz=334
STYT Tauyuan 2.54 330 eP Pn 16 40 20.9 -0.1
baz=323
STYT eS Sn 16 40 51.9 -3.4
baz=323
YULB Yu-li 2.54 342 eP Pn 16 40 20.1 -0.9
baz=333
YULB eS Sn 16 40 52.0 -3.2
baz=333
YULB Yu-li 2.54 342 Pn 16 40 19.7 -1.3
SGST Jiashian 2.56 326 eP Pn 16 40 21.0 -0.1
baz=325
SGST eS Sn 16 40 53.0 -2.5
baz=325
HGSD Ruisui 2.61 345 eP Pn 16 40 20.9 -0.7
baz=346
HGSD eS Sn 16 40 55.9 -0.6
baz=346
EHY Hungye 2.65 344 P Pn 16 40 21.9 -0.2
baz=336
EHY eS Sn 16 40 54.3 -3.0
baz=336
CHN1 Nanshi 2.67 326 P Pn 16 40 22.1 -0.4
baz=325
CHN1 eS Sn 16 40 55.3 -2.6
baz=325
CHN3 Shinhua 2.67 322 eP Pn 16 40 22.9 +0.4
baz=327
CHN3 eS Sn 16 40 56.8 -1.0
baz=327
WTP Ta-pu 2.68 328 P Pn 16 40 22.1 -0.5
baz=321
WTP eS Sn 16 40 55.2 -2.9
baz=321
SNST Tainan City 2.72 326 eP Pn 16 40 22.6 -0.4
baz=325
SNST eS Sn 16 40 56.2 -2.6
baz=325
TPUB Ta-pu 2.72 329 eP Pn 16 40 22.5 -0.5
baz=322
TPUB eS Sn 16 40 55.4 -3.5
baz=322
TPUB Ta-pu 2.72 329 Pn 16 40 22.4 -0.6
TPUB Sn Sn 16 40 56.2 -2.6
TAI1 Yung-k'ang 2.73 320 eP Pn 16 40 23.8 +0.8
baz=311
TAI1 eS Sn 16 40 57.1 -1.7
baz=311
YUS Yu-Shan 2.75 337 P Pn 16 40 23.7 -0.1
baz=336
YUS eS Sn 16 40 58.1 -2.1
baz=336
TWK Hsinying 2.76 327 P Pn 16 40 22.9 -0.6
baz=326
TWK S Sn 16 40 56.8 -3.0
baz=326
EGFH Guangfu 2.78 346 eP Pn 16 40 23.3 -0.3
baz=348
CHN4 Tsaushan 2.78 329 P Pn 16 40 23.2 -0.5
baz=323
CHN4 eS Sn 16 40 57.1 -3.0
baz=323
SCLT Jiali 2.85 321 P Pn 16 40 24.6 +0.1
baz=325
SCLT eS Sn 16 40 59.4 -2.1
baz=325
ESL Shilin 2.92 347 eP Pn 16 40 24.7 -0.5
baz=340
ESL eS Sn 16 40 59.4 -3.6
baz=340
VWDT VWDT 2.93 342 eP Pn 16 40 25.8 +0.3
baz=344
VWDT eS Sn 16 41 01.7 -1.6
baz=344
CHN5 Tsauling 2.95 333 P Pn 16 40 25.2 -0.6
baz=332
CHN5 eS Sn 16 41 00.4 -3.5
baz=332
ENLB Shoufeng 2.97 350 eS Sn 16 41 02.6 -1.6
baz=354
CHN8 Yiju 2.97 323 eP Pn 16 40 25.5 -0.4
baz=328
CHN8 eS Sn 16 41 01.2 -2.9
baz=328
WHYT Xinyi Township 2.97 337 eP Pn 16 40 25.5 -0.6
baz=336
WHYT eS Sn 16 41 01.6 -2.7
baz=336
CHY Chiayi 2.98 328 eP Pn 16 40 25.7 -0.4
baz=327
CHY eS Sn 16 41 01.2 -3.2
baz=327
CHN2 Minshiung 2.99 329 eP Pn 16 40 25.6 -0.6
baz=328
CHN2 eS Sn 16 41 02.2 -2.3
baz=328
SSLB Suanglung 3.02 339 eP Pn 16 40 26.0 -0.6
baz=331
SSLB eS Sn 16 41 02.2 -3.1
baz=331
SSLB Suanglung 3.02 339 Pn 16 40 26.0 -0.6
SSLB Sn Sn 16 41 02.7 -2.6
WLGB Puzi 3.03 326 eP Pn 16 40 26.1 -0.5
baz=325
WLGB eS Sn 16 41 02.7 -2.7
baz=325
WGK Gukeng 3.08 332 P Pn 16 40 26.6 -0.6
baz=331
WGK eS Sn 16 41 03.8 -2.7
baz=331
WDLH Douliu 3.10 332 eP Pn 16 40 27.0 -0.4
baz=331
WDLH eS Sn 16 41 04.1 -2.7
baz=331
WJS Zhushan 3.13 336 eP Pn 16 40 27.6 -0.3
baz=335
WJS eS Sn 16 41 05.7 -2.0
baz=335
TWD Chiawan 3.15 351 eP Pn 16 40 28.1 +0.1
baz=351
TYC Yuchr 3.16 338 P Pn 16 40 27.6 -0.6
baz=338
TYC eS Sn 16 41 05.6 -2.7
baz=338
WNT Mingjian 3.20 335 P Pn 16 40 28.4 -0.3
baz=335
WNT eS Sn 16 41 06.3 -2.8
baz=335
WSF Szhu 3.20 327 P Pn 16 40 27.8 -0.9
baz=326
WSF eS Sn 16 41 05.8 -3.3
baz=326
CHGB Renai 3.21 344 eP Pn 16 40 29.4 +0.4
baz=344
CHGB eS Sn 16 41 08.5 -1.3
baz=344
NACB Ninganchiao 3.24 351 eP Pn 16 40 28.9 -0.2
baz=357
NACB eS Sn 16 41 07.7 -2.3
baz=357
NACB Ninganchiao 3.24 351 Pn Pn 16 40 29.0 -0.2
NACB Sn 16 41 09.8 -0.2
WDGT Dungji 3.25 315 P Pn 16 40 28.6 -0.6
baz=314
WDGT eS Sn 16 41 06.3 -3.7
baz=314
DPDB Guoxing 3.26 340 eP Pn 16 40 29.0 -0.5
baz=332
DPDB eS Sn 16 41 08.1 -2.4
baz=332
WHF Hehuan Shan 3.27 346 P Pn 16 40 30.1 +0.1
baz=351
WHF eS Sn 16 41 09.9 -1.5
baz=351
ETLH Xiulin Townshi 3.29 349 eP Pn 16 40 30.0 +0.1
baz=355
RLNB Erlin 3.35 331 eP Pn 16 40 29.7 -0.8
baz=334
RLNB eS Sn 16 41 09.2 -3.1
baz=334
VCHM Qimei 3.37 312 eP Pn 16 40 30.0 -0.7
baz=311
VCHM eS Sn 16 41 09.5 -3.2
baz=311
TWT Tachien 3.40 345 eS Sn 16 41 12.6 -1.2
baz=337
TDCB Techi 3.40 345 eP Pn 16 40 31.7 +0.4
baz=337
TDCB eS Sn 16 41 12.2 -1.6
baz=337
WCHH Zhanghua 3.43 335 eP Pn 16 40 31.1 -0.5
baz=334
WCHH eS Sn 16 41 12.1 -2.0
baz=334
HATJ Hateruma jima 3.45 26 P Pn 16 40 32.5 +0.8
NANB Nanao 3.47 354 eP Pn 16 40 32.0 0.0
baz=354
ENA Nanau 3.47 354 eP Pn 16 40 31.9 -0.1
baz=354
PHUB P'eng-hu 3.48 317 eP Pn 16 40 31.3 -0.8
baz=321
PHUB eS Sn 16 41 11.1 -4.1
baz=321
WHP Taichung City 3.48 342 eP Pn 16 40 32.2 -0.1
baz=341
WHP eS Sn 16 41 13.5 -1.9
baz=341
NNSB Datong 3.52 349 eP Pn 16 40 33.1 +0.3
baz=354
NNSB eS Sn 16 41 13.7 -2.7
baz=354
NNSH Datong 3.52 349 eP Pn 16 40 33.3 +0.6
baz=354
NNSH eS Sn 16 41 13.7 -2.7
baz=354
PNG Penghu 3.53 318 P Pn 16 40 32.0 -0.7
baz=322
PNG eS Sn 16 41 12.4 -3.9
baz=322
NNS Nan Shan 3.54 349 P Pn 16 40 33.4 +0.4
baz=354
NNS eS Sn 16 41 14.7 -2.0
baz=354
JYNG Yonaguni jima 3.56 12 P Pn 16 40 34.2 +1.2
EOS1 EOS1 3.57 360 P Pn 16 40 34.8 +1.5
baz=360
YOJ Yonaguni jima 3.58 13 P Pn 16 40 34.6 +1.3
YOJ Yonaguni jima 3.58 13 P Pn 16 40 34.3 +1.0
YOJ Yonaguni jima 3.58 13 eP Pn 16 40 34.3 +1.0
baz=8.0
YOJ Yonaguni jima 3.58 13 Pn Pn 16 40 34.6 +1.3
TWC Suao 3.64 356 eP Pn 16 40 34.9 +0.7
baz=2.0
WDJ Daija District 3.65 338 eP Pn 16 40 34.0 -0.1
baz=337
IRIF Iriomote-Funau 3.67 23 P Pn 16 40 35.2 +0.8
NSY Sanyi 3.67 340 eP Pn 16 40 34.2 -0.3
baz=339
NSY eS Sn 16 41 16.7 -2.8
baz=339
NDT Datong Townshi 3.67 351 eP Pn 16 40 35.1 +0.6
baz=355
JKRS Kuro-shima 3.69 28 P Pn 16 40 35.9 +1.2
ENTT Nioudou 3.70 352 P Pn 16 40 35.5 +0.7
baz=357
ENTT eS Sn 16 41 17.5 -2.7
baz=357
PTSB Yuanli 3.72 339 eS Sn 16 41 18.3 -2.2
baz=347
YHNB Yeheng 3.76 349 eP Pn 16 40 36.5 +0.9
baz=355
YHNB eS Sn 16 41 17.9 -3.7
baz=355
YHNB Yeheng 3.76 349 Pn 16 40 36.8 +1.1
NSK Sanguang 3.77 349 P Pn 16 40 37.0 +1.2
baz=354
TWE Neicheng 3.77 353 eP Pn 16 40 36.5 +0.8
baz=353
NSTT Nanjuang 3.80 344 eP Pn 16 40 35.3 -0.8
baz=344
NSTT eS Sn 16 41 18.2 -4.2
baz=344
SLBB Yuanshan 3.81 353 eP Pn 16 40 36.4 +0.2
baz=353
LIOB Emei 3.81 344 eP Pn 16 40 36.0 -0.3
baz=344
LIOB eS Sn 16 41 18.6 -4.1
baz=344
NWLT Wulai 3.85 351 eP Pn 16 40 38.1 +1.4
baz=358
JIJ Ishigaki jima 3.86 28 P Pn 16 40 37.2 +0.4
WLTB Daxi 3.96 348 eS Sn 16 41 22.6 -3.3
baz=339
TIPB Shuangxi 4.00 356 eP Pn 16 40 39.8 +1.1
baz=2.0
TWB1 Santiao Chiao 4.03 358 eP Pn 16 40 38.4 -0.6
baz=358
TWA Mucha 4.04 353 eP Pn 16 40 40.5 +1.4
TATO Taipei 4.04 352 eP Pn 16 40 39.5 +0.4
baz=351
TATO Taipei 4.04 352 Pn Pn 16 40 39.0 -0.1
NWF Wu-fen Shan 4.11 355 eP Pn 16 40 40.1 +0.1
baz=1.0
WFSB Wu-fen Shan 4.11 355 eP Pn 16 40 40.4 +0.4
baz=1.0
JISG Ishigakijimahi 4.13 29 P Pn 16 40 40.6 +0.4
YM01 YM01 4.20 353 eP Pn 16 40 41.0 -0.2
baz=353
YM10 YM10 4.21 353 eP Pn 16 40 40.6 -0.7
baz=353
YM10 eS Sn 16 41 28.0 -3.8
baz=353
YM04 YM04 4.21 353 eP Pn 16 40 41.7 +0.4
baz=352
YM05 YM05 4.22 353 eP Pn 16 40 41.1 -0.3
baz=353
YM05 eS Sn 16 41 26.4 -5.6
baz=353
ANP Anpu 4.25 352 eP Pn 16 40 41.2 -0.5
baz=352
JTJ Tarama 4.36 32 P Pn 16 40 44.0 +0.9
VWUC VWUC 4.72 329 eP Pn 16 40 46.6 -1.1
baz=328
VWUC eS Sn 16 41 38.8 -4.4
baz=328
JIRB Irabujima 4.76 35 P Pn 16 40 48.9 +0.7
JMJ Miyako jima 2 4.81 37 eP Pn 16 40 49.4 +0.5
baz=37
JOGS Gusukube 4.84 38 P Pn 16 40 50.4 +1.2
KNM Kinmen 4.85 316 eP Pn 16 40 50.4 +0.9
baz=313
KNMB Chin-men Tao 4.92 316 eP Pn 16 40 49.7 -0.5
baz=315
PTMZ Houxiangcun 4.92 326 eP Pn 16 40 49.6 -0.7
baz=325
PTTC Pingtan 5.02 335 eP Pn 16 40 50.4 -1.1
baz=334
ZPLA Ao Xicun 5.02 307 eP Pn 16 40 52.3 +0.7
baz=305
VDOS Pratas Island 5.07 268 eP Pn 16 40 53.3 +1.1
baz=266
QZH Quanzhou 5.14 321 eP Pn 16 40 53.2 +0.1
QZH S Sn 16 41 50.0 -3.0
QZH smax smax
comp=N,120nm,0.3s
QZH smax smax
comp=E,76nm,0.3s
AXDP Jialang 5.49 316 eP Pn 16 40 57.5 -0.1
baz=315
MATB Ma-tsu 5.55 339 eP Pn 16 40 56.9 -1.5
baz=345
MHZQ Yeshan 5.86 331 eP Pn 16 41 01.8 -0.6
baz=331
MHZQ eS Sn 16 42 05.3 -4.5
baz=331
LYJJ Jianjiangzhen 5.98 339 eP Pn 16 41 02.9 -1.0
baz=338
XPSS Dashiqiu 6.21 344 eP Pn 16 41 05.7 -1.3
baz=343
JKE Kume jima 2 6.83 38 P Pn 16 41 15.5 +0.4
TGY Tagaytay City 6.92 190 P Pn 16 41 18.1 +1.7
33nm,0.3s,baz=301,slow=18,SNR=2.3
JAGN Aguni-jima 7.30 39 P Pn 16 41 22.3 +1.1
JJT3 Tamagusuku3 7.31 44 P Pn 16 41 22.7 +1.3
JIH Iheya 8.06 40 P Pn 16 41 31.4 +0.2
JOW Kunigami 8.10 43 P Pn 16 41 32.4 +0.6
JOW Kunigami 8.10 43 P Pn 16 41 32.7 +0.9
0.4nm,0.3s,baz=199,slow=16,SNR=10
JOW Kunigami 8.10 43 Pn 16 41 29.4 -2.4
JYRO Yoronjima 8.35 42 P Pn 16 41 35.4 +0.4
JOKE Okinoerabujima 8.66 41 P Pn 16 41 39.5 +0.4
JMZ Minamidaito 2 9.64 58 P Pn 16 41 53.7 +1.8
JTAJ Takarajima 10.37 37 P Pn 16 42 02.6 +1.3
NJ2 Nanjing 11.43 346 eP Pn 16 42 14.7 -0.3
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
WHN Wuhan 11.84 325 ⇑P P 16 42 28.4 +2.8
JNU Nakatsue 14.39 31 P P 16 42 53.2 -0.8
0.3nm,0.3s,baz=198,slow=8.9,SNR=5.3
KSRS Korea Array 17.19 16 P Pn 16 43 25.7 -0.4
0.7nm,0.3s,baz=199,slow=11,SNR=9.6
KSRS LR LR 16 50 23.6
comp=Z,10nm,21.9s,baz=320,slow=37
KS19 Wonju Array Si 17.22 16 Pn 16 43 26.5 0.0
KS19 IAmb IAmb 16 43 28.7
comp=Z,17nm,1.2s
XAN Xi'an 17.51 321 P Pn 16 43 29.8 -0.2
XAN pmax pmax
comp=Z,27nm,0.8s
XAN pmax pmax
comp=Z,75nm,3.3s
XAN LR LR
comp=Z,160nm,18.4s
XAN LR LR
comp=Z,150nm,13.0s
XAN Xi'an 17.51 321 P P 16 43 25.5 -2.8
XAN pmax pmax
comp=Z,21nm,0.8s
XAN Xi'an 17.51 321 P P 16 43 25.5 -2.8
XAN IAmb IAmb 16 43 31.4
comp=Z,21nm,0.8s
CD2 Chengdu 19.25 305 eP P 16 43 47.5 +0.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,4.6s
BJT Baijiatuau 19.67 346 P P 16 43 51.8 +0.2
BJT pmax pmax
comp=Z,11nm,0.6s
BJT Baijiatuau 19.67 346 P P 16 43 51.8 +0.2
BJT IAmb IAmb 16 43 55.5
comp=Z,11nm,0.6s
SBUM Sibu 20.78 209 P P 16 44 03.4 -0.4
HHC Hu-ho-hao-te 21.77 338 eP P 16 44 15.8 +1.8
HHC pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 21.91 268 P P 16 44 16.6 +1.1
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 21.91 268 P P 16 44 16.6 +1.1
CHTO IAmb IAmb 16 44 18.4
comp=Z,9.3nm,0.8s
CM31 Chiang Mai Arr 21.98 268 P P 16 44 16.1 -0.1
CMAR Chiang Mai Arr 21.98 268 P P 16 44 17.2 +1.1
comp=Z,4.7nm,0.6s,baz=72,slow=7.9,SNR=41
CMAR PcP PcP 16 48 07.8 +0.6
comp=Z,1.6nm,0.6s,baz=93,slow=0.7,SNR=13
LZH Lanzhou 21.98 317 eP P 16 44 17.4 +1.2
LZH pP pP 16 44 50.6 +1.6
LZH sP sP 16 45 12.8 -0.2
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,95nm,4.9s
KSM Kuching 22.55 212 P P 16 44 21.1 -0.4
KSM IAmb IAmb 16 44 26.6
comp=Z,33nm,1.5s
BKB Balikpapan 22.67 194 P P 16 44 22.9 +0.4
CN2 Changchun 22.95 6 eP P 16 44 24.4 -0.4
CN2 pmax pmax
comp=Z,10.0nm,6.0s
SIJI Sorong 23.46 157 P P 16 44 28.2 -1.5
comp=Z,1.7nm,0.4s,baz=359,slow=6.5,SNR=3.5
USRK Ussuriysk Ar. 24.58 17 P P 16 44 40.9 +1.3
comp=Z,2.4nm,0.5s,baz=205,slow=8.2,SNR=12
GTA Gaotai 26.54 319 P P 16 44 58.7 +1.2
GTA pP pP 16 45 36.8 +1.2
GTA sP sP 16 45 54.4 -3.2
GTA pmax pmax
comp=Z,4.0nm,1.5s
KLR Kul'dur 29.23 13 *i* P P 16 45 21.7 +0.6
KLR pmax pmax
comp=Z,5.0nm,0.6s
KLR Kul'dur 29.23 13 P P 16 45 22.2 +1.1
comp=Z,5.6nm,0.7s,baz=214,slow=7.5,SNR=19
KLR PcP PcP 16 48 22.8 -0.5
comp=Z,1.7nm,0.6s,baz=198,slow=4.1,SNR=7.4
LSA Lhasa 29.26 294 P P 16 45 19.4 -2.8
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 29.26 294 P P 16 45 19.4 -2.8
LSA IAmb IAmb 16 45 26.8
comp=Z,5.6nm,0.7s
ULN Ulaanbaatar 29.48 339 *ce* P P 16 45 23.8 +0.3
ULN pmax pmax
comp=Z,9.0nm,0.7s
ULN Ulaanbaatar 29.48 339 P P 16 45 24.2 +0.7
ULN IAmb IAmb 16 45 24.9
comp=Z,8.5nm,0.7s
SONM Songino Array 29.67 338 P P 16 45 25.6 +0.4
comp=Z,3.8nm,0.5s,baz=157,slow=9.9,SNR=36
SONM PcP PcP 16 48 24.4 -0.2
comp=Z,0.3nm,0.2s,baz=168,slow=4.3,SNR=7.1
YSS Yuzh-Sakhalins 30.87 28 eP P 16 45 37.3 +1.8
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,400nm,15.0s
TAPN Taplejung 31.98 288 eP P 16 45 47.8 +1.9
comp=Z,10.0nm,0.4s
ODAN Odare 32.24 287 eP P 16 45 49.3 +1.2
comp=Z,12nm,0.5s
RAMN Ramite 32.95 287 eP P 16 45 56.2 +1.9
comp=Z,9.8nm,0.4s
ZEA Zeya 32.96 6 eP P 16 45 54.2 +0.5
ZEA pmax pmax
comp=Z,20nm,0.8s
JIRN Jiri 33.35 289 eP P 16 45 59.3 +1.4
comp=Z,14nm,0.3s
GUN Gumba 33.64 289 eP P 16 46 01.9 +1.5
comp=Z,15nm,0.4s
TLY Talaya 33.89 339 *i* P P 16 46 02.1 +0.3
TLY pmax pmax
comp=Z,4.0nm,0.7s
TLY Talaya 33.89 339 P P 16 46 01.9 +0.1
TYV Tymovskoe 33.92 23 eP P 16 45 59.1 -2.9
TYV pmax pmax
comp=Z,11nm,1.5s
TYV pmax pmax
comp=Z,300nm,3.1s
MTN Manton Dam 34.73 164 P P 16 46 06.1 -3.3
KOLN Koldanda 35.65 289 eP P 16 46 18.5 +1.1
comp=Z,23nm,0.6s
WMQ Urumqi 36.56 317 eP P 16 46 26.3 +1.5
WMQ pmax pmax
comp=Z,7.0nm,0.7s
WMQ pmax pmax
comp=Z,170nm,6.3s
KNRA Kununurra 36.98 169 P P 16 46 26.6 -1.9
FITZ Fitzroy Crossi 38.97 175 P P 16 46 42.5 -2.5
comp=Z,0.8nm,0.5s,baz=36,slow=4.5,SNR=6.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FITZ	Fitzroy Crossi	38.97	175	IAmb	IAmb	16 46 48.4	
	comp=Z,1.8nm,1.0s						
COEN	Coen	40.39	147	P	P	16 46 53.6	-3.3
COEN				IAmb	IAmb	16 47 09.0	
	comp=Z,12nm,1.2s						
MK31	Makanchi Array	41.29	318	P	P	16 47 05.2	+1.3
MK31				pmax	pmax		
	comp=Z,12nm,0.7s						
MK31	Makanchi Array	41.29	318	P	P	16 47 05.2	+1.3
MK31				IAmb	IAmb	16 47 05.9	
	comp=Z,12nm,0.7s						
MKAR	Makanchi Array	41.29	318	P	P	16 47 05.2	+1.2
	comp=Z,15nm,0.5s,baz=111,slow=9.1,SNR=146						
MKAR				PcP	PcP	16 48 58.5	-0.3
	comp=Z,1.3nm,0.5s,baz=133,slow=2.5,SNR=4.5						
YAK	Yakutsk	41.37	5	*e*P	P	16 47 03.2	-1.1
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK	Yakutsk	41.37	5	P	P	16 47 02.4	-1.9
YAK				IAmb	IAmb	16 47 04.3	
	comp=Z,13nm,0.7s						
MAKZ	Makanchi	41.49	318	P	P	16 47 06.9	+1.3
MAKZ				pmax	pmax		
	comp=Z,13nm,0.7s						
MAKZ	Makanchi	41.49	318	P	P	16 47 06.9	+1.3
MAKZ				IAmb	IAmb	16 47 07.6	
	comp=Z,13nm,0.7s						
PEA0B	Petropavlovsk-	42.09	32	P	P	16 47 11.4	+1.1
PEA0B				pmax	pmax		
	comp=Z,26nm,1.1s						
PEA0B	Petropavlovsk-	42.09	32	P	P	16 47 11.4	+1.1
PETK	Petropavlovsk-	42.09	32	P	P	16 47 11.2	+0.9
	comp=Z,3.2nm,0.7s,baz=201,slow=4.8,SNR=20						
WB0	Warramunga Arr	42.22	163	P	P	16 47 10.3	-1.4
PALK	Pallekele	42.28	257	P	P	16 47 12.8	+0.4
PALK				pmax	pmax		
	comp=Z,38nm,1.2s						
PALK	Pallekele	42.28	257	P	P	16 47 12.8	+0.4
WRA	Warramunga Arr	42.37	163	P	P	16 47 11.5	-1.4
	comp=Z,0.7nm,0.4s,baz=343,slow=9.0,SNR=14						
WRA				PcP	PcP	16 49 02.3	-0.4
	comp=Z,0.4nm,0.4s,baz=342,slow=4.1,SNR=5.7						
WB2	Warramunga Arr	42.37	163	P	P	16 47 11.7	-1.2
WR0	Warramunga Arr	42.44	163	P	P	16 47 12.2	-1.2
KDJ	Kajisay	43.15	310	P	P	16 47 20.9	+1.7
KDJ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KDJ	Kajisay	43.15	310	P	P	16 47 20.9	+1.7
KDJ				IAmb	IAmb	16 47 22.0	
	comp=Z,10.0nm,1.1s						
ZAA0	Zalesovo Array	43.43	329	P	P	16 47 21.2	+0.2
ZALV	Zalesovo Beam	43.43	329	P	P	16 47 21.2	+0.2
	comp=Z,16nm,0.4s,baz=118,slow=8.3,SNR=80						
ZALV				PcP	PcP	16 49 04.4	-1.3
	comp=Z,1.5nm,0.5s,baz=117,slow=3.2,SNR=3.7						
KSH	Kashi	43.44	306	P	P	16 47 24.5	+3.0
KSH				sP	sP	16 48 23.3	-0.4
KSH				PcS	PcS	16 53 01.5	+2.2
KSH				S	S	16 53 40.6	+5.0
KSH				SS	SS	16 56 53.5	-3.6
KSH				pmax	pmax		
	comp=Z,23nm,0.6s						
KSH				pmax	pmax		
	comp=Z,220nm,4.9s						
KSH				LR	LR		
	comp=Z,600nm,6.6s						
KSH				LR	LR		
	comp=Z,760nm,5.7s						
KSH				LR	LR		
	comp=Z,580nm,6.1s						
NRN	Naryn	43.83	308	P	P	16 47 26.1	+1.2
NRN				pmax	pmax		
	comp=Z,16nm,1.0s						
NRN	Naryn	43.83	308	P	P	16 47 26.1	+1.2
NRN				IAmb	IAmb	16 47 28.1	
	comp=Z,16nm,0.9s						
TKM2	Tokmak 2	44.48	310	P	P	16 47 31.6	+1.8
	SNR=7.6						
KZA	Kyzart	44.53	309	P	P	16 47 32.8	+2.4
	SNR=6.6						
KBK	Karagaybulak	44.88	310	P	P	16 47 34.8	+1.9
	SNR=7.5						
UCH	Uchtor	45.09	309	P	P	16 47 37.4	+2.4
	SNR=11						
KURK	Kurchatov	45.14	322	P	P	16 47 35.0	+0.4
KURK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KURK	Kurchatov	45.14	322	P	P	16 47 35.0	+0.4
KURK				IAmb	IAmb	16 47 36.2	
	comp=Z,9.8nm,0.7s						
AAK	Ala-Archa	45.20	310	*ce*P	P	16 47 36.6	+1.1
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AML	Almayashu	45.67	309	P	P	16 47 41.5	+2.1
	SNR=10						
AS31	Alice Springs	45.81	165	P	P	16 47 39.6	-0.6
ASAR	Alice Springs	45.81	165	P	P	16 47 39.1	-1.1
	comp=Z,0.5nm,0.4s,baz=346,slow=6.8,SNR=17						
ARSB	Arslanbob	46.03	308	P	P	16 47 43.2	+1.3
GAR	Garm	47.70	304	P	P	16 47 56.2	+1.3
KK31	Karatay Array	48.16	310	P	P	16 47 59.3	+1.0
KK31						16 49 22.5	
KK31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KK31	Karatay Array	48.16	310	P	P	16 47 59.3	+1.0
KK31					PcP	16 49 22.5	-0.1
KKAR	Karatay Array	48.16	310	P	P	16 47 59.4	+1.1
KKAR						16 49 22.4	
KKAR				pmax	pmax		
	comp=Z,7.0nm,1.4s						
KKAR	Karatay Array	48.16	310	P	P	16 47 59.4	+1.1
KKAR					PcP	16 49 22.4	-0.2
KBL	Kabul	48.40	298	P	P	16 47 59.2	-1.2
KBL				pmax	pmax		
	comp=Z,11nm,0.7s						
KBL	Kabul	48.40	298	P	P	16 47 59.2	-1.2
KBL				IAmb	IAmb	16 48 02.6	
	comp=Z,11nm,0.7s						
CHGR	Chuyangaron	48.56	304	P	P	16 48 01.9	+0.4
CHGR				IAmb	IAmb	16 48 02.8	
	comp=Z,14nm,0.6s						
BRVK	Borovoye	50.81	322	*ce*P	P	16 48 18.5	+0.5
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BRVK	Borovoye	50.81	322	P	P	16 48 18.8	+0.7
BRVK				IAmb	IAmb	16 48 19.8	
	comp=Z,7.7nm,0.8s						
BRVK	Borovoye	50.81	322		P	16 48 19.2	+1.2
BRVK				IAmb	IAmb	16 48 19.8	
	comp=Z,7.3nm,0.8s						
TIXI	Tiksi	50.85	3	*ce*P	P	16 48 17.3	-0.8
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TIXI	Tiksi	50.85	3	P	P	16 48 18.0	0.0
TIXI				IAmb	IAmb	16 48 18.3	
	comp=Z,10nm,0.9s						
NRIK	Noril'sk	52.73	345	P	P	16 48 32.2	+0.2
	comp=Z,8.9nm,0.7s,baz=120,slow=7.2,SNR=21						
BILL	Bilibino	54.42	19	*ce*P	P	16 48 44.7	+0.4
BILL				*e*		16 49 42.1	
BILL						16 50 48.0	
BILL				S	S	16 56 22.0	+14
BILL				SS	SS	16 59 58.0	+5.6
BILL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BILL	Bilibino	54.42	19	P	P	16 48 45.0	+0.7
BILL				IAmb	IAmb	16 48 45.4	
	comp=Z,7.7nm,0.6s						
BBOO	Buckleboo	55.10	166	P	P	16 48 49.4	-0.1
BBOO				IAmb	IAmb	16 48 52.8	
	comp=Z,8.2nm,1.1s						
STKA	Stephens Creek	55.74	160	P	P	16 48 53.6	-0.6
	comp=Z,1.3nm,0.6s,baz=331,slow=7.1,SNR=5.5						
ABKAR	Akbulak array	56.34	316	P	P	16 48 58.6	+0.3
ABKAR				IAmb	IAmb	16 48 59.8	
	comp=Z,3.7nm,0.6s						
SVE	Sverdlovsk	57.17	325	*e*P	P	16 49 04.9	+0.9
SVE				pmax	pmax		
	comp=Z,17nm,0.8s						
GEYT	Alibeck	57.22	302	P	P	16 49 05.5	+0.7
	comp=Z,6.5nm,0.8s,baz=116,slow=3.4,SNR=11						
ARU	Arti	58.22	324	*c i*P	P	16 49 11.4	+0.1
ARU						16 49 59.4	
ARU						16 51 22.5	
ARU				S	S	16 57 01.8	+4.0
ARU				SS	SS	17 00 50.2	-2.2
ARU				pmax	pmax		
	comp=Z,14nm,0.7s						
ARU	Arti	58.22	324	P	P	16 49 11.3	+0.1
	comp=Z,3.8nm,0.4s,baz=110,slow=4.6,SNR=24						
ARU	Arti	58.22	324	P	P	16 49 11.1	-0.2
WSAR	Wadi Sarin	58.47	285	P	P	16 49 14.1	+0.4
	comp=Z,3.4nm,0.7s,baz=111,slow=4.0,SNR=5.7						
GAMB	Gambell	60.89	28	P	P	16 49 30.2	+0.7
PRGR	Permogore	65.38	329	*e*P	P	16 49 56.4	-2.6
PRGR				pmax	pmax		
	comp=Z,17nm,0.6s						
ZEI	Tsey	67.61	309	*e*P	P	16 50 12.7	-1.1
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
VRH	Novokhopyorsk	68.02	318	*e*P	P	16 50 14.5	-1.4
VRH				pmax	pmax		
	comp=Z,20nm,1.0s						
KBZ	Khabaz	68.20	310	P	P	16 50 17.8	+0.7
	comp=Z,6.6nm,0.8s,baz=105,slow=3.0,SNR=13						
KVAR	Kislovodsk Arr	68.31	310	P	P	16 50 19.7	+1.7
	comp=Z,5.4nm,0.8s,baz=246,slow=8.3,SNR=7.1						
KIV	Kislovodsk	68.31	310	*e*P	P	16 50 19.0	+1.0
KIV				pmax	pmax		
	comp=Z,55nm,0.9s						
NEY	Neytrino	68.40	309	*i* P	P	16 50 19.6	+1.0
NEY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LPSR	Galich'ya Gora	69.56	320	*e*P	P	16 50 24.1	-1.3
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VORD	Divnogorie	69.57	318	*e*P	P	16 50 23.9	-1.5
VORD				pmax	pmax		
	comp=Z,10.0nm,1.1s						
VSR	Storozhevoye	69.61	318	*e*P	P	16 50 24.4	-1.3
VSR				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MLY	Manley	70.01	27	P	P	16 50 29.5	+1.6
MLY				IAmb	IAmb	16 50 30.3	
	comp=Z,8.8nm,0.8s						
BPAW	Bear Paw Mtn.	70.01	28	P	P	16 50 29.4	+1.4
BPAW				IAmb	IAmb	16 50 29.7	
	comp=Z,6.8nm,0.6s						
KDAK	Kodiak Island	70.03	35	*i* P	P	16 50 28.4	+0.3
OBN	Obninsk	70.58	323⇑	*i*P	P	16 50 31.3	-0.2
OBN						16 50 53.0	
OBN				*SP	sP	16 51 41.0	+4.3
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
OBN	Obninsk	70.58	323	P	P	16 50 31.3	-0.2
	comp=Z,3.4nm,0.3s,baz=163,slow=17,SNR=3.5						
OBN	Obninsk	70.58	323	IAmb	IAmb	16 50 31.8	
	comp=Z,21nm,1.0s						
NEA	Nenana	70.77	27	P	P	16 50 32.8	+0.3
MCK	McKinley	70.96	28	P	P	16 50 33.8	+0.1
MCK				pmax	pmax		
	comp=Z,12nm,1.0s						
MCK	McKinley	70.96	28	P	P	16 50 33.8	+0.1
MCK				IAmb	IAmb	16 50 35.6	
	comp=Z,12nm,1.0s						
WRH	Wood River Hil	71.21	27	P	P	16 50 36.0	+0.8
WRH				IAmb	IAmb	16 50 37.4	
	comp=Z,6.1nm,0.6s						
IL31		71.67	27	P	P	16 50 37.1	-0.7
ILAR	Eielson Array	71.67	27	P	P	16 50 37.2	-0.7
	comp=Z,1.7nm,0.7s,baz=267,slow=4.7,SNR=20						
DHY	Denali Highway	71.76	29	P	P	16 50 38.4	-0.3
DHY				IAmb	IAmb	16 50 42.0	
	comp=Z,4.2nm,0.7s						
SCM	Sheep Creek Mo	72.01	30	P	P	16 50 41.0	+0.9
SCM				pmax	pmax		
	comp=Z,19nm,0.6s						
SCM	Sheep Creek Mo	72.01	30	P	P	16 50 41.0	+0.9
GLI	Glacier Island	72.30	31	P	P	16 50 41.9	+0.2
RIDG	Independent Ri	72.75	28	P	P	16 50 44.4	0.0
RIDG				IAmb	IAmb	16 50 45.4	
	comp=Z,6.0nm,0.6s						
ARCES	ARCESS Array B	72.85	339	P	P	16 50 45.1	+0.3
	comp=Z,4.1nm,0.7s,baz=68,slow=8.2,SNR=12						
SCRK	Sand Creek	73.07	27	P	P	16 50 46.7	+0.3
SCRK				IAmb	IAmb	16 50 48.0	
	comp=Z,5.3nm,0.5s						
CRQM	Cirque	74.22	31	P	P	16 50 53.2	+0.1
CRQM				IAmb	IAmb	16 50 54.8	
	comp=Z,8.6nm,1.0s						
FINES	FINESS Array B	74.67	330	P	P	16 50 55.4	-0.1
	comp=Z,8.2nm,0.6s,baz=40,slow=6.3,SNR=66						
BARN	Barnard Glacie	74.83	30	P	P	16 50 57.9	+1.2
BARN				IAmb	IAmb	16 50 58.6	
	comp=Z,7.0nm,0.6s						
DAWY	Dawson	75.00	27	P	P	16 50 58.3	+0.9
DAWY				IAmb	IAmb	16 50 59.1	
	comp=Z,8.6nm,0.8s						
CTGM	Chitina Glacie	75.01	30	P	P	16 50 59.2	+1.5
VSU	Vasula	75.15	327	*ce*P	P	16 50 58.8	+0.5
VSU				pmax	pmax		
	comp=Z,221nm,1.5s						
EPYK	Eagle Plains	75.37	24	P	P	16 50 59.6	+0.1
EPYK				IAmb	IAmb	16 51 00.6	
	comp=Z,10nm,0.7s						
BR131	Keskin Array S	75.81	307	P	P	16 51 01.9	-0.8
BR131				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BR131	Keskin Array S	75.81	307	P	P	16 51 01.9	-0.8
BRTR	Keskin Array B	75.81	307	P	P	16 51 02.6	0.0
	comp=Z,2.1nm,0.4s,baz=134,slow=3.0,SNR=18						
AKASG	Malin Array Be	75.86	319	P	P	16 51 01.6	-1.0
	comp=Z,1.8nm,0.4s,baz=61,slow=5.7,SNR=18						
INK	Inuvik	75.87	22	P	P	16 51 01.2	-1.0
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
INK	Inuvik	75.87	22	P	P	16 51 02.5	+0.2
	comp=Z,4.5nm,0.7s,baz=293,slow=6.7,SNR=18						
INK	Inuvik	75.87	22	P	P	16 51 01.2	-1.0
INK				IAmb	IAmb	16 51 03.3	
	comp=Z,4.6nm,0.8s						
CSS	Mathiatis	77.36	303	P	P	16 51 11.2	-0.1
ELL	Elmali	79.48	305	P	P	16 51 23.3	+0.3
ELL				pmax	pmax		
	comp=Z,31nm,0.6s						
ELL	Elmali	79.48	305	P	P	16 51 23.3	+0.3
HFS	Hagfors	80.80	331	P	P	16 51 28.8	-0.6
	comp=Z,4.9nm,0.7s,baz=117,slow=5.2,SNR=18						
NB2	NORSAR Subarra	81.48	333	P	P	16 51 32.1	-0.9
	comp=Z,5.5nm,0.8s,baz=63,slow=5.3						
NOA	NORSAR Array B	81.48	333	P	P	16 51 31.9	-1.2
	comp=Z,3.5nm,0.7s,baz=62,slow=4.7,SNR=11						
OJC	Ojcow	81.71	321	P	P	16 51 35.1	+0.7
OJC				pmax	pmax		
	comp=Z,11nm,0.7s						
OJC	Ojcow	81.71	321	P	P	16 51 35.1	+0.7
OJC				IAmb	IAmb	16 51 35.5	
	comp=Z,11nm,0.7s						
VTS	Vitosha	82.35	313	P	P	16 51 38.1	0.0
VTS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
VTS	Vitosha	82.35	313	P	P	16 51 38.1	0.0
VTS				IAmb	IAmb	16 51 39.5	
	comp=Z,9.3nm,0.8s						
VYHS	Vyhne	82.97	319	*e*P	P	16 51 41.7	+0.7
VYHS				pmax	pmax		
	comp=Z,11nm,1.1s						
VYHS	Vyhne	82.97	319	*e*P	P	16 51 41.7	+0.7
VRAC	Vranov	83.98	321	P	P	16 51 47.0	+0.9
	comp=Z,8.0nm,0.8s,baz=113,slow=2.8,SNR=7.0						
ITM	Ithomi	85.32	308	P	P	16 51 51.5	-1.6
YKW3	Yellowknife Ar	85.54	23	P	P	16 51 54.0	+0.4
YKA	Yellowknife Ar	85.58	23	P	P	16 51 54.0	+0.2
	comp=Z,6.9nm,0.5s,baz=309,slow=4.6,SNR=106						
GERES	GERESS Array B	85.89	321	P	P	16 51 55.5	-0.2
	comp=Z,0.6nm,0.3s,baz=60,slow=6.9,SNR=3.3						
TBI	Tubuai	96.67	112	*e*LR	LR	16 53 47.8	
	comp=Z,198nm,34.5s						
NVAR	Mina Array Bea	98.16	44	P	Pdif	16 52 53.9	+0.9
	comp=Z,0.5nm,0.6s,baz=328,slow=5.3,SNR=4.8						
TAOE	Nuku Hiva Isla	100.27	96	*e*LR	LR	16 52 57.9	
	comp=Z,466nm,25.6s						
SNAA	Sanae	120.45	198	PKPdf	PKPdf	16 58 04.0	-1.3
VNA2	Neumayer--Watz	122.10	197	PKPdf	PKPdf	16 58 07.9	-0.5
	baz=58,slow=0.9						
VNA3	Neumayer Olymp	122.55	197	PKPdf	PKPdf	16 58 08.6	-0.7

*IDC **06** 16:40:16.8±1.6, 24°.50S×116°.26W, h0km, mb3.4/5, mb1 3.8/5, mb1mx3.7/18, mbtmp3.4/5, MS3.5/5, Ms1 3.5/5, ms1mx3.4/9, Error ellipse: s-maj=48.9km s-min=36.7km az=41.0*

ISC 06 16:40:19.1±1.7, **24°.4S**±0°.3×**116°.1W**±0°.3, **h10km, n15, σ0s.44**/8, **mb3.5**/5, **MS3.5**/5, **Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPT	Papeete	31.91	276	LR	LR	16 55 38.5	
	comp=Z,135nm,21.6s,baz=108,slow=29						
PLCA	Paso Flores	41.24	125	LR	LR	17 00 46.2	
	comp=Z,67nm,21.8s,baz=328,slow=30						
LPAZ	La Paz	45.54	89	P	P	16 48 40.2	+0.2
	0.7nm,0.6s,baz=278,slow=7.1,SNR=2.5						
LPAZ				LR	LR	17 03 02.1	
	comp=Z,44nm,21.9s,baz=252,slow=30						
CPUP	Villa Florida	52.76	105	LR	LR	17 07 26.6	
	comp=Z,45nm,20.9s,baz=236,slow=31						
TXAR	Lajitas Array	54.74	13	P	P	16 49 48.5	-0.5
	0.3nm,0.8s,baz=194,slow=6.4,SNR=2.7						
NVAR	Mina Array Bea	62.52	358	P	P	16 50 44.0	+0.8
	0.2nm,0.5s,baz=183,slow=8.8,SNR=1.9						
BDFB	Brasilia	64.05	96	LR	LR	17 15 14.9	
	comp=Z,47nm,19.2s,baz=226,slow=33						
PDAR	Pinedale Array	67.10	5	P	P	16 51 12.9	0.0
	0.2nm,0.5s,baz=186,slow=6.4,SNR=2.5						
H11S2	WAKE ISLAND Hy	86.41	292	T	T	18 28 37.2	
	baz=118,slow=75,SNR=32						
H11S1	WAKE ISLAND Hy	86.42	292	T	T	18 28 36.2	
	baz=118,slow=75,SNR=22						
H11S3	WAKE ISLAND Hy	86.42	292	T	T	18 28 34.9	
	baz=118,slow=75,SNR=19						
YKA	Yellowknife Ar	86.59	1	P	P	16 53 02.0	-0.1
	0.4nm,0.8s,baz=175,slow=5.0,SNR=4.8						
ZALV	Zalesovo Beam	146.57	337	PKPbc	PKPdf	16 59 58.9	-0.1
	0.5nm,0.5s,baz=17,slow=1.5,SNR=2.9						
CMAR	Chiang Mai Arr	146.89	267	PKPbc	PKPdf	17 00 00.6	0.0
	0.7nm,1.0s,baz=85,slow=2.3,SNR=4.1						
BRTR	Keskin Array B	150.34	52	PKPbc	PKPbc	17 00 10.8	-0.2
	0.3nm,0.7s,baz=270,slow=1.8,SNR=3.1						

*ISCJB **06** 17:27:17.0±0.5, 20°.81N±0°.04×146°.9E±0°.1, h10km, mb3.9/11, MS2.8/3, Error ellipse: s-maj=14.4km s-min=6.4km az=174.8*

*IDC **06** 17:27:17.3±0.8, 20°.77N×146°.88E, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.8/49, mbtmp3.9/13, ML3.7/2, MS2.8/4, Ms1 2.8/4, ms1mx2.5/36, Error ellipse: s-maj=26.8km s-min=15.8km az=85.0*

*NEIC **06** 17:27:18.7±1.3, 20°.80N±0°.07×146°.9E±0°.1, h9km±4km, mb4.6/13*

ISC 06 17:27:18.8±0.6, **20°.86N**±0°.06×**146°.9E**±0°.1, **h10km, n39, σ1s.17**/34, **mb4.5**/17, **MS2.7**/3, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	7.47	195	Pn	Pn	17 29 05.8	-2.1
	1.0nm,0.3s,baz=66,slow=10.0,SNR=1.8						
GUMO				Sn	Sn	17 30 34.1	+1.3
	4.4nm,0.3s,baz=20,slow=12,SNR=2.2						
GUMO				LR	LR	17 31 11.7	
	comp=Z,25nm,19.8s,baz=70,slow=32						
GUMO	Guam	7.47	195	Pn	Pn	17 29 07.6	-0.4
JCJ	Chichijima	7.54	326	Pn	Pn	17 29 09.3	+0.4
	1.7nm,0.3s,baz=278,slow=19,SNR=3.1						
JCJ				Sn	Sn	17 30 30.2	-4.2
	4.1nm,0.3s,baz=300,slow=20,SNR=3.7						
PATS	Pohnpei	17.81	140		Pn	17 31 26.0	-1.0
PATS				IAmb	IAmb	17 31 39.9	
	comp=Z,34nm,0.9s						
H11S3	WAKE ISLAND Hy	18.82	94	T	T	17 50 00.3	
	baz=280,slow=75,SNR=7.9						
H11N1	WAKE ISLAND Hy	18.83	90	T	T	17 49 58.4	
	baz=276,slow=74,SNR=7.3						
H11S1	WAKE ISLAND Hy	18.83	94	T	T	17 49 53.3	
	baz=280,slow=75,SNR=5.3						
H11N2	WAKE ISLAND Hy	18.83	90	T	T	17 49 58.7	
	baz=276,slow=74,SNR=7.9						
H11S2	WAKE ISLAND Hy	18.84	94	T	T	17 49 53.1	
	baz=280,slow=75,SNR=5.0						
H11N3	WAKE ISLAND Hy	18.85	90	T	T	17 49 59.7	
	baz=276,slow=74,SNR=5.6						
KSRS	Korea Array	23.31	319	P	P	17 32 27.5	+0.5
	comp=Z,0.9nm,0.7s,baz=148,slow=7.0,SNR=4.3						
KSRS				LR	LR	17 42 03.8	
	comp=Z,27nm,18.8s,baz=8.5,slow=38						
DAV	Davao City (W)	24.73	239	LR	LR	17 41 16.3	
	comp=Z,55nm,21.9s,baz=96,slow=34						
PETK	Petropavlovsk-	33.26	12	LR	LR	17 44 58.3	
	comp=Z,15nm,19.9s,baz=41,slow=32						
KNRA	Kununurra	40.42	207	P	P	17 34 56.8	-0.7
WB0	Warramunga Arr	42.18	198	P	P	17 35 12.3	+0.4
SONM	Songino Array	42.19	319	P	P	17 35 13.1	+1.2
	comp=Z,0.4nm,0.5s,baz=99,slow=7.7,SNR=3.0						
WR0	Warramunga Arr	42.32	197	P	P	17 35 12.9	-0.2
WB2	Warramunga Arr	42.35	198	P	P	17 35 12.5	-0.8
WRA	Warramunga Arr	42.36	198	P	P	17 35 12.3	-1.0
	comp=Z,0.7nm,0.7s,baz=18,slow=8.5,SNR=5.7						
WRA				PcP	PcP	17 37 07.2	+0.3
	comp=Z,0.9nm,0.8s,baz=11,slow=3.2,SNR=6.9						
FITZ	Fitzroy Crossi	43.95	210	P	P	17 35 26.0	-0.3
FITZ				IAmb	IAmb	17 35 53.5	
	comp=Z,14nm,1.8s						
CMAR	Chiang Mai Arr	45.06	276	P	P	17 35 35.6	+0.3
	comp=Z,0.2nm,0.3s,baz=83,slow=7.4,SNR=3.1						
ASAR	Alice Springs	46.02	197	P	P	17 35 41.8	-0.9
	comp=Z,0.3nm,0.7s,baz=14,slow=5.7,SNR=6.1						
ASAR				PcP	PcP	17 37 19.1	-0.3
	comp=Z,0.4nm,0.7s,baz=33,slow=3.0,SNR=5.0						
ZALV	Zalesovo Beam	56.99	321	P	P	17 37 05.0	+0.4
	comp=Z,3.7nm,0.6s,baz=107,slow=7.3,SNR=17						
MK31	Makanchi Array	57.78	313	P	P	17 37 11.3	+1.0
MKAR	Makanchi Array	57.78	313	P	P	17 37 11.1	+0.8
	comp=Z,2.2nm,0.8s,baz=92,slow=8.7,SNR=14						
NRIK	Noril'sk	59.98	339	P	P	17 37 26.5	+1.4
	comp=Z,1.8nm,0.4s,baz=112,slow=12,SNR=4.0						
KURK	Kurchatov	60.42	317	P	P	17 37 29.2	+0.8
KURK				IAmb	IAmb	17 37 29.9	
	comp=Z,4.5nm,0.9s						
PRZ	Przheval'sk	60.51	308	P	P	17 37 29.1	-0.4
PRZ				IAmb	IAmb	17 37 32.5	
	comp=Z,6.1nm,0.8s						
BRVK	Borovoye	65.59	320	P	P	17 38 04.1	+1.3
BRVK	Borovoye	65.59	320		pP	17 38 04.3	+0.3
BKZ	Black Stump Fm	65.84	155	P	P	17 38 04.2	-0.3
KK31	Karatay Array	66.25	309	P	P	17 38 07.8	+0.5
KK31				IAmb	IAmb	17 38 09.0	
	comp=Z,2.9nm,0.8s						
KKAR	Karatay Array	66.25	309	P	P	17 38 08.2	+0.9
KKAR				IAmb	IAmb	17 38 09.0	
	comp=Z,2.9nm,0.8s						
INK	Inuvik	66.97	23	P	P	17 38 09.9	-1.5
INK				IAmb	IAmb	17 38 30.0	
	comp=Z,8.4nm,1.6s						
ARU	Arti	71.95	324	P	P	17 38 43.2	+0.8
ABKAR	Akbulak array	72.52	317	P	P	17 38 46.0	+0.1
YKA	Yellowknife Ar	75.58	28	P	P	17 39 03.7	+0.1
	comp=Z,0.4nm,0.7s,baz=284,slow=5.8,SNR=5.4						
NVAR	Mina Array Bea	80.96	52	P	P	17 39 35.0	+0.9
	comp=Z,1.3nm,0.6s,baz=278,slow=6.2,SNR=15						
FINES	FINESS Array B	85.39	336	P	P	17 39 55.3	-0.9
	comp=Z,7.8nm,1.1s,baz=70,slow=2.2,SNR=7.1						

SJA 06 17:55:49.5±0.9, **32°.15S**×**68°.42W, h123**km±3km, **ML3.3, MW3.5, Mendoza Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RTCV	Cerro Valdivia	0.30	340	*i* P	Pn	17 56 07.7	+0.7
RTCV				*e*S	Sn	17 56 20.4	+0.3
CFA	Coronel Fontan	0.56	16	*i* P	Pn	17 56 09.0	+0.7
CFA				*e*S	Sn	17 56 22.9	+0.4
SJA	San Juan	0.63	349	*i* P	Pn	17 56 09.7	+0.9
SJA				*e*S	Sn	17 56 24.1	+0.8
RTLL	Cerro Villicun	0.82	357	*i* P	Pn	17 56 11.0	+0.8
RTLL				*e*S	Sn	17 56 26.8	+1.0
RTLL				IAML		17 56 27.7	
	comp=Z,565nm,0.3s						
RTLS	Leoncito	0.82	295	*i* P	Pn	17 56 11.8	+1.3
RTLS				*e*S	Sn	17 56 27.7	+1.3
RTLS				IAML		17 56 29.0	
	comp=Z,710nm,0.2s						
ACAN	Cantantal	1.05	97	*i* P	Pn	17 56 13.6	+1.3
AMOG	MOGNA	1.21	357	*i* P	Pn	17 56 15.1	+1.1
ACCO	Cerro Coronel	1.65	340	*i* P	Pn	17 56 20.8	+1.5
PEL	Peldehue	2.16	242	*i* P	Pn	17 56 26.2	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AROD	Rodeo	2.17	335	iP	Pn	17 56 27.2	+1.6
MRA	San Martin	2.30	98	IAML	P	17 56 28.0	+1.0
	comp=Z,74nm,0.2s						
MRA				iP	P	17 56 28.0	+1.0
ROC1	El Roble	2.34	249	iP	Pn	17 56 28.4	+0.7
AGUA	GUANDACOL	2.65	359	iP	Pn	17 56 32.8	+1.3
GO04	Tololo Observa	2.83	313	iP	Pn	17 56 34.8	+0.8
TCA	Tanti	3.35	77	iP	Pn	17 56 41.0	+0.3
VCA	Vinchina	3.40	3	iP	Pn	17 56 42.7	+1.3
PUMA	Malargue	3.45	194	iP	Pn	17 56 43.6	+1.7
CYA	Choya	4.33	32	iP	Pn	17 56 52.6	-1.0
GO03	Copiap	4.80	340	iP	Pn	17 57 00.6	+0.7
TRQA	Tornquist	7.91	140	iP	Pn	17 57 42.0	+0.2

*MAN **06** 18:06:30.5, 3°.69N×123°.23E, h578km, MS4.4*
*ISCJB **06** 18:06:32.9±0.2, 3°.66N±0°.02×123°.07E±0°.03, h544km±2km, mb4.1/63, Error ellipse: s-maj=5.0km s-min=3.1km az=176.5*
*NEIC **06** 18:06:33.4±1.6, 3°.65N±0°.08×123°.01E±0°.09, h536km±6km, mb4.5/75*
*KLM **06** 18:06:33.0, 3°.68N×123°.20E, h533km, mb4.6*
*MOS **06** 18:06:33.2±0.9, 3°.68N×123°.00E, h549km, mb4.3/11, Error ellipse: s-maj=12.4km s-min=6.3km az=116.3*
*IDC **06** 18:06:34.3±0.6, 3°.66N×123°.09E, h548km±7km, mb3.6/27, mb1 3.6/31, mb1mx3.6/45, mbtmp4.5/31, Error ellipse: s-maj=9.8km s-min=5.6km az=83.0*
*DJA **06** 18:06:34.0±0.3, 4°N±3°×12°3E±°, h527km±3km, M4.5/28, mB5.0/21, mb4.5/28, MLv5.2/19, Mw(mB)4.3/21*
ISC 06 18:06:33.7±0.5**, 3°.66N**±0°.04**×123°.04E**±0°.05**, h542**km±5km**, n236, σ1s.11**/273**, mb4.4**/86**, 5C-3D, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	3.07	38	P	S	18 08 55.2	+5.5
KMSI	Cibinong	3.20	163	P	P	18 07 48.6	-0.8
MRSI	Marisa	3.34	199	P	P	18 07 49.4	-1.0
DDMP	Don Marcelino,	3.60	47	P	P	18 07 50.3	-1.8
DDMP				S	S	18 08 53.7	-2.2
CTBH	Cotabato--PC H	3.74	19	⇓P	P	18 07 53.6	+0.5
CTBH				S	S	18 08 57.9	+0.2
KCP	Kidapawan	3.91	31	⇓P	P	18 07 54.8	+0.4
KCP				S	S	18 09 03.3	+3.2
PAGZ	Pagadian	4.18	5	P	P	18 07 56.0	-0.3
PAGZ				S	S	18 09 04.3	+0.6
DAV	Davao City (W)	4.23	37	P	P	18 07 58.2	+1.4
	28nm,0.3s,baz=105,slow=2.0,SNR=5.2						
DAV				S	S	18 09 05.2	+0.7
	63nm,0.3s,baz=232,slow=21,SNR=10						
DAV	Davao City (W)	4.23	37	P	P	18 07 54.0	-2.8
DAV					S	18 09 02.5	-2.0
MPSI	Mapaga	4.55	224	P	P	18 07 58.6	-0.8
MATI	Mati	4.58	44	P	P	18 07 58.9	-0.6
MATI				S	S	18 09 07.4	-2.1
LUWI	Luwuk	4.68	183	P	P	18 07 59.0	-1.4
LUWI	Luwuk	4.68	183	P	P	18 07 59.0	-1.4
LUWI				S	S	18 09 05.5	-5.5
APSI	Ampana	4.75	197	P	P	18 08 00.2	-0.8
CGP	Cagayan de Oro	5.04	19	⇓P	P	18 08 04.2	+0.7
TNTI	Ternate	5.19	123	P	P	18 08 04.4	-0.3
	437nm,0.9s,4µm3.2nm						
TNTI	Ternate	5.19	123	P	P	18 08 04.1	-0.6
LBMI	Labuha	6.17	134	P	P	18 08 12.3	-1.3
	155nm,0.5s,4µm3.5nm						
SANI	Sanana	6.39	152	P	P	18 08 13.6	-2.0
	118nm,0.7s,2µm2.8nm						
SPMM	Sapulut	6.64	279	P	P	18 08 19.0	+1.0
LLP	Lapu-Lapu	6.68	8	⇑P	P	18 08 18.0	-0.3
LLP				S	S	18 09 41.2	-2.7
GUIM	Jordan	6.94	356	P	P	18 08 18.6	-2.2
GUIM				S	S	18 09 46.4	-2.1
SMKI	Samarinda	7.11	235	P	P	18 08 21.8	-0.7
KKM	Kota Kinabalu	7.20	289		P	18 08 23.0	-0.5
TTSI	Tana Toraja	7.40	206	P	P	18 08 25.0	-0.3
	534nm,0.9s,5µm2.0nm						
KDI	Kendari	7.58	183	P	P	18 08 27.2	+0.1
	155nm,1.1s,45µm						
BKB	Balikpapan	7.85	232	P	P	18 08 29.9	+0.2
	723nm,0.8s,5µm2.4nm						
BKB	Balikpapan	7.85	232	P	P	18 08 30.6	+0.9
NLAI	Namlea	7.96	149	P	P	18 08 31.9	+1.0
	372nm,0.6s,5µm1.3nm						
SPSI	Sidrap Palu	8.25	203	P	P	18 08 32.8	-0.9
	1µm,0.7s,7µm3.2nm						
ENPP	El Nido	8.31	335	P	P	18 08 32.9	-1.4
BNSI	Bone	8.52	200	P	P	18 08 37.5	+1.0
	464nm,0.7s,5µm1.3nm						
AAI	Ambon	8.93	145	P	P	18 08 41.2	+0.6
	182nm,0.8s,2µm						
BBSI	Bau Bau	9.10	183	P	P	18 08 42.1	-0.2
	34nm,0.9s,278nm						
MSAI	Masohi	9.11	140	P	P	18 08 42.0	-0.5
	25nm,0.5s,382nm						
KAPI	Kappang	9.22	201	ceP	P	18 08 43.5	-0.1
KAPI				pmax	pmax		
	comp=Z,172nm,1.3s						
KAPI	Kappang	9.22	201	P	P	18 08 42.5	-1.0
	comp=Z,4.0nm,0.3s,baz=44,slow=2.4,SNR=54						
KAPI				S	S	18 10 30.7	+0.5
	comp=Z,1.7nm,0.3s,baz=165,slow=20,SNR=1.7						
BKSI	Bulukumba	9.38	198	P	P	18 08 45.0	-0.3
	comp=Z,64nm,0.6s,comp=Z,664nm						
TGY	Tagaytay City	10.58	349	P	P	18 08 57.6	0.0
	comp=Z,37nm,0.3s,baz=164,slow=2.5,SNR=6.6						
BNDI	Bandanaira	10.63	140	P	P	18 08 59.0	+0.9
	comp=Z,289nm,0.8s,comp=Z,4µm						
SBUM	Sibu	10.87	264	P	P	18 09 02.0	+1.4
SBUM	Sibu	10.87	264	P	P	18 09 01.4	+0.8
FAKI	Fak Fak	11.29	125	P	P	18 09 05.8	+0.9
STKI	Sintang	12.09	253	P	P	18 09 13.8	+0.5
MMRI	Maumere	12.24	184	P	P	18 09 14.6	-0.2
	comp=Z,57nm,0.8s,comp=Z,917nm						
MMRI	Maumere	12.24	184	P	P	18 09 14.3	-0.4
KSM	Kuching	12.90	261	P	P	18 09 20.7	-1.0
SOEI	Soe	13.38	175	P	P	18 09 27.3	+0.6
	comp=Z,91nm,0.6s,comp=Z,1µm						
SOEI	Soe	13.38	175	P	P	18 09 26.0	-0.8
PLAI	Plampang	13.47	203	P	P	18 09 26.7	-0.8
	comp=Z,86nm,0.6s,comp=Z,904nm						
TWSI	Taliwang, Sumb	13.76	206	P	P	18 09 29.6	-0.9
	comp=Z,67nm,0.7s						
BATI	Baumata	13.79	177	P	P	18 09 30.8	-0.1
	comp=Z,47nm,0.3s,baz=346,slow=0.7,SNR=119						
BATI				S	S	18 11 56.8	0.0
	comp=Z,2.8nm,0.3s,baz=61,slow=19,SNR=7.5						
SRBI	Singaraja	14.04	214	P	P	18 09 33.1	-0.3
	comp=Z,142nm,0.8s						
JAGI	Jajag, Banyuwa	14.96	216	P	P	18 09 42.4	-0.6
PWJI	Pagerwojo	16.13	224	P	P	18 09 56.3	+1.4
	comp=Z,39nm,2.0s						
DLV	T Lat	16.59	301	P	P	18 10 00.0	+0.6
UGM	Wanagama	16.97	227	P	P	18 10 00.9	-1.8
KPJI	Karang Pucung	17.82	232	P	P	18 10 11.9	+1.5
	comp=Z,32nm,0.9s						
MTN	Manton Dam	18.26	154	P	P	18 10 14.7	+0.3
LEM	Lembang	18.59	236	P	P	18 10 19.2	+1.6
	comp=Z,4.8nm,0.3s,baz=166,slow=22,SNR=10						
JAY	Jayapura	18.69	109	P	P	18 10 19.1	+0.6
	comp=Z,1.2nm,0.3s,baz=212,slow=9.1,SNR=6.4						
TWG	Pinlang	19.14	354	P	P	18 10 22.5	0.0
MYKOM	Kota Tinggi	19.26	265	P	P	18 10 25.0	+1.4
MYKOM	Kota Tinggi	19.26	265	P	P	18 10 24.5	+0.9
TPUB	Ta-pu	19.67	353	P	P	18 10 28.1	+0.9
YULB	Yu-li	19.69	355	P	P	18 10 26.8	-0.6
KNRA	Kununurra	20.03	164	P	P	18 10 30.9	+0.4
SSLB	Suanglung	20.11	354	P	P	18 10 31.8	+0.6
NACB	Ninganchiao	20.45	356	P	P	18 10 35.0	+0.7
NACB				IAmb	IAmb	18 11 03.0	
	comp=Z,16nm,0.8s						
MDSI	Maura Dua	20.51	247	P	P	18 10 36.6	+1.7
	comp=Z,12nm,0.9s						
YOJ	Yonaguni jima	20.68	360	P	P	18 10 37.3	+1.0
YOJ				pmax	pmax		
	comp=Z,244nm,1.6s						
YOJ	Yonaguni jima	20.68	360	P	P	18 10 37.3	+1.0
YHNB	Yeheng	20.95	356	P	P	18 10 39.0	+0.1
FITZ	Fitzroy Crossi	21.77	173	P	P	18 10 46.4	+0.1
	comp=Z,6.5nm,0.7s,baz=4.4,slow=8.9,SNR=28						
FITZ	Fitzroy Crossi	21.77	173	P	P	18 10 46.0	-0.2
FITZ				IAmb	IAmb	18 10 47.1	
	comp=Z,7.8nm,0.8s						
KULM	Kulim	22.38	275	P	P	18 10 51.6	-0.2
KULM				IAmb	IAmb	18 11 05.8	
	comp=Z,28nm,1.5s						
JOW	Kunigami	23.58	12	P	P	18 11 03.0	+0.6
	comp=Z,1.3nm,0.5s,baz=172,slow=14,SNR=7.2						
JOW	Kunigami	23.58	12	P	P	18 11 03.3	+0.9
JOW				IAmb	IAmb	18 11 06.7	
	comp=Z,13nm,1.0s						
GUMO	Guam	23.70	64	P	P	18 11 04.0	+0.4
GUMO				pmax	pmax		
	comp=Z,130nm,1.2s						
GUMO	Guam	23.70	64	P	P	18 11 04.0	+0.4
PSAD1	Pilbara Seismi	25.16	187	P	P	18 11 16.2	-0.1
PSAD1				IAmb	IAmb	18 11 16.8	
	comp=Z,11nm,0.9s						
PBKT	Sadao Pong	25.19	302	P	P	18 11 17.8	+1.1
PBKT				IAmb	IAmb	18 11 22.5	
	comp=Z,19nm,1.9s						
PSAC1	Pilbara Seismi	25.23	187	P	P	18 11 16.6	-0.4
PSAC1				IAmb	IAmb	18 11 35.3	
	comp=Z,15nm,1.1s						
PSAB2	Pilbara Seismi	25.25	187	P	P	18 11 16.9	-0.3
PSAB2				IAmb	IAmb	18 11 17.6	
	comp=Z,8.6nm,0.8s						
PSAA2	Pilbara Seismi	25.26	187	P	P	18 11 17.0	-0.3
PSAA2				IAmb	IAmb	18 11 17.3	
	comp=Z,8.5nm,0.8s						
PSA00	Pilbara Seismi	25.27	187	P	P	18 11 17.0	-0.4
PSA00				IAmb	IAmb	18 11 44.0	
	comp=Z,17nm,1.2s						
GSI	Gunungsitoli	25.55	265	P	P	18 11 18.7	-1.2
GSI				IAmb	IAmb	18 11 19.6	
	comp=Z,18nm,0.9s						
WRAB	Tennant Creek	25.94	155	iP	P	18 11 22.8	-0.5
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.3s						
WRA	Warramunga Arr	25.95	155	P	P	18 11 23.0	-0.4
	comp=Z,2.3nm,0.4s,baz=336,slow=9.5,SNR=125						
WRA				PcP	PcP	18 14 34.0	+0.1
	comp=Z,2.3nm,0.6s,baz=327,slow=2.5,SNR=6.1						
WRA				S	S	18 15 12.3	-3.6
	comp=Z,3.1nm,0.7s,baz=335,slow=16,SNR=6.8						
WRA				ScP	ScP	18 17 21.9	-0.5
	comp=Z,1.1nm,0.6s,baz=339,slow=3.1,SNR=5.5						
COEN	Coen	26.56	132	P	P	18 11 29.0	+0.3
COEN				IAmb	IAmb	18 11 38.9	
	comp=Z,23nm,1.4s						
CMAR	Chiang Mai Arr	27.79	304	P	P	18 11 40.1	+0.6
	comp=Z,1.8nm,1.0s,baz=118,slow=7.2,SNR=9.6						
CMAR				PcP	PcP	18 14 38.6	+0.3
	comp=Z,1.8nm,0.8s,baz=158,slow=1.4,SNR=12						
CMAR				ScP	ScP	18 17 28.1	0.0
	comp=Z,0.7nm,0.9s,baz=138,slow=1.1,SNR=4.6						
CHTO	Chiang Mai	27.96	304	P	P	18 11 40.5	-0.6
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CHTO	Chiang Mai	27.96	304	P	P	18 11 40.5	-0.6
WHN	Wuhan	27.98	344	P	P	18 11 42.4	+1.4
NJ2	Nanjing	28.52	353	eP	P	18 11 47.6	+1.9
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
AS31	Alice Springs	29.15	159	P	P	18 11 51.2	-0.2
ASAR	Alice Springs	29.15	159	P	P	18 11 51.9	+0.5
	comp=Z,1.9nm,0.3s,baz=340,slow=7.1,SNR=162						
ASAR				PcP	PcP	18 14 40.9	-0.9
	comp=Z,1.5nm,0.5s,baz=342,slow=3.0,SNR=9.9						
ASAR				S	S	18 16 04.2	-1.6
	comp=Z,7.0nm,0.9s,baz=348,slow=20,SNR=25						
ASAR				ScP	ScP	18 17 31.5	-0.8
	comp=Z,0.9nm,0.8s,baz=336,slow=2.1,SNR=4.5						
ENH	Enshi	29.41	336	P	P	18 11 54.3	+0.8
ENH				IAmb	IAmb	18 11 55.3	
	comp=Z,14nm,0.7s						
JCJ	Chichijima	29.63	36	P	P	18 11 54.9	-0.6
	comp=Z,49nm,0.6s,baz=283,slow=23,SNR=13						
JCJ				S	S	18 16 09.0	-4.1
	comp=Z,35nm,0.6s,baz=249,slow=22,SNR=14						
JNU	Nakatsue	30.22	13	P	P	18 12 00.1	-0.3
JNU				IAmb	IAmb	18 12 06.4	
	comp=Z,11nm,1.0s						
MORW	Morawa	33.23	191	P	P	18 12 26.3	+0.1
MORW				IAmb	IAmb	18 12 26.5	
	comp=Z,11nm,0.5s						
KSRS	Korea Array	33.93	7	P	P	18 12 33.0	+1.0
	comp=Z,2.7nm,0.6s,baz=187,slow=9.4,SNR=16						
KSRS				ScP	ScP	18 17 49.2	+1.0
	comp=Z,2.0nm,0.7s,baz=191,slow=4.3,SNR=8.5						
INU	Inuyama	34.09	21	P	P	18 12 33.6	+0.3
FORT	Forrest	34.58	172	P	P	18 12 38.1	+0.7
MJAR	Matsushiro Arr	35.58	21	P	P	18 12 45.3	-0.5
	comp=Z,5.0nm,0.8s,baz=201,slow=9.8,SNR=12						
MJB9	Matsu-Tunnel	35.58	21	P	P	18 12 45.1	-0.7
MJB9				IAmb	IAmb	18 12 45.8	
	comp=Z,9.7nm,1.0s						
NWAO	Narrogin (SRO)	36.80	188	P	P	18 12 56.3	+0.5
NWAO				pmax	pmax		
	comp=Z,26nm,1.4s						
NWAO	Narrogin (SRO)	36.80	188	P	P	18 12 56.3	+0.5
	comp=Z,5.2nm,0.4s,baz=32,slow=7.8,SNR=15						
NWAO	Narrogin (SRO)	36.80	188	P	P	18 12 56.4	+0.5
NWAO				IAmb	IAmb	18 13 22.6	
	comp=Z,26nm,1.4s						
LZH	Lanzhou	36.81	334	eP	P	18 12 55.4	-0.7
LZH				pP	pP	18 14 28.1	-0.7
LZH				sP	sP	18 15 34.2	+4.2
LZH				pmax	pmax		
	comp=Z,14nm,1.3s						
LZH				pmax	pmax		
	comp=Z,69nm,5.4s						
SHL	Shillong	37.01	309	P	P	18 12 58.0	+0.1
SHL				pmax	pmax		
	comp=Z,11nm,0.6s						
SHL	Shillong	37.01	309	P	P	18 12 58.0	+0.1
SHL				IAmb	IAmb	18 12 59.6	
	comp=Z,11nm,0.6s						
BBOO	Buckleboo	38.31	162	P	P	18 13 09.1	+0.9
BBOO				IAmb	IAmb	18 13 12.7	
	comp=Z,33nm,1.6s						
HHC	Hu-ho-hao-te	38.44	346	eP	P	18 13 10.5	+1.2
HHC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HNR	Honiara	39.01	110	P	P	18 13 14.2	0.0
HNR				pmax	pmax		
	comp=Z,53nm,1.4s						
HNR	Honiara	39.01	110	P	P	18 13 14.2	0.0
STKA	Stephens Creek	39.50	155	P	P	18 13 19.0	+1.2
STKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
STKA	Stephens Creek	39.50	155	P	P	18 13 19.1	+1.2
	comp=Z,3.8nm,0.7s,baz=330,slow=9.0,SNR=9.5						
STKA	Stephens Creek	39.50	155	P	P	18 13 19.0	+1.2
LSA	Lhasa	39.78	314	P	P	18 13 22.0	+1.3
LSA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LSA	Lhasa	39.78	314	P	P	18 13 22.0	+1.3
LSA				IAmb	IAmb	18 13 23.2	
	comp=Z,6.6nm,0.7s						
TAPN	Taplejung	41.13	309	eP	P	18 13 31.8	+0.4
USA0B	Ussuriysk Arra	41.14	10	P	P	18 13 31.6	+0.9
USA0B				pmax	pmax		
	comp=Z,5.0nm,0.8s						
USA0B	Ussuriysk Arra	41.14	10	P	P	18 13 31.6	+0.9
USRK	Ussuriysk Ar.	41.14	10	P	P	18 13 31.4	+0.6
	comp=Z,4.5nm,0.6s,baz=195,slow=6.6,SNR=22						
ODAN	Odare	41.16	308	eP	P	18 13 31.7	+0.2
	comp=Z,15nm,0.7s						
MDJ	Mudanjiang	41.20	7	P	P	18 13 32.7	+1.5
MDJ				IAmb	IAmb	18 13 33.4	
	comp=Z,30nm,1.5s						
GTA	Gaotai	41.36	332	⇑P	P	18 13 34.2	+1.5
GTA				pP	pwP	18 15 12.3	-0.9
GTA				PcP	PcP	18 15 18.4	+0.3
GTA				sP	sP	18 16 10.7	+2.2
GTA				ScP	ScP	18 18 17.2	+0.4
GTA				PcS	PcS	18 19 09.2	-1.3
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,48nm,5.1s						
RAMN	Ramite	41.82	307	eP	P	18 13 37.5	+0.8
	comp=Z,28nm,0.7s						
JIRN	Jiri	42.47	308	eP	P	18 13 42.4	+0.4
	comp=Z,38nm,0.7s						
GUN	Gumba	42.83	308	eP	P	18 13 45.2	+0.4
	comp=Z,62nm,0.8s						
PKI	Pulchoki	43.05	307	eP	P	18 13 46.5	+0.1
	comp=Z,15nm,0.5s						
PKIN	Phulchoki	43.06	307	eP	P	18 13 46.5	0.0
	comp=Z,11nm,0.5s						
KKN	Kakani	43.25	308	eP	P	18 13 48.2	+0.3
	comp=Z,17nm,0.5s						
DMN	Daman	43.30	307	eP	P	18 13 48.7	+0.3
	comp=Z,28nm,0.9s						
ARMA	Armidale	43.53	143	P	P	18 13 52.2	+2.3
ARMA				IAmb	IAmb	18 14 02.1	
	comp=Z,17nm,1.2s						
GKN	Gorkha	43.85	308	eP	P	18 13 52.7	+0.2
	comp=Z,22nm,0.6s						
KOLN	Koldanda	44.58	307	eP	P	18 13 58.9	+0.8
	comp=Z,94nm,0.7s						
DANN	Dangsing	44.70	308	eP	P	18 13 59.6	+0.4
	comp=Z,101nm,0.6s						
CAN	Canberra	45.79	150	P	P	18 14 09.2	+2.1
CAN				pmax	pmax		
	comp=Z,18nm,0.8s						
CAN	Canberra	45.79	150	P	P	18 14 09.2	+2.1
CAN				IAmb	IAmb	18 14 10.1	
	comp=Z,18nm,0.8s						
KLR	Kul'dur	46.01	8	iP	P	18 14 08.2	-0.3
KLR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ULN	Ulaanbaatar	46.14	345	iP	P	18 14 10.1	+0.4
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	Songino Array	46.29	345	P	P	18 14 11.4	+0.7
	comp=Z,2.4nm,0.7s,baz=158,slow=8.7,SNR=20						
SONM				PcP	PcP	18 15 34.9	-0.1
	comp=Z,1.3nm,0.7s,baz=163,slow=2.7,SNR=6.3						
SONM				ScP	ScP	18 18 36.3	-0.6
	comp=Z,0.5nm,0.6s,baz=166,slow=3.3,SNR=3.4						
DZM	Mont Dzumac	49.54	123	P	P	18 14 37.2	+1.7
	comp=Z,3.6nm,0.7s,baz=114,slow=20,SNR=4.2						
DZM	Mont Dzumac	49.54	123	P	P	18 14 36.3	+0.8
TLY	Talaya	50.53	344	iP	P	18 14 41.5	-0.6
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TLY	Talaya	50.53	344	P	P	18 14 40.5	-1.5
WMQ	Urumqi	50.73	327	eP	P	18 14 45.0	+1.2
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,170nm,5.3s						
PRZ	Przheval'sk	55.39	321	P	P	18 15 18.6	+1.4
PRZ						18 16 09.4	
PRZ				pmax	pmax		
	comp=Z,15nm,0.6s						
PRZ	Przheval'sk	55.39	321	P	P	18 15 18.6	+1.4
PRZ				IAmb	IAmb	18 15 19.4	
	comp=Z,15nm,0.6s						
PRZ				PcP	PcP	18 16 09.4	-0.1
KSH	Kashi	55.53	317	P	P	18 15 19.0	+0.9
KSH				PcP	PcP	18 16 11.2	+1.2
KSH				sP	sP	18 18 02.9	+2.4
KSH				S	S	18 22 24.2	+1.5
KSH				ScS	ScS	18 24 10.8	-0.6
KSH				sS	sS	18 25 30.4	+2.0
KSH				pmax	pmax		
	comp=Z,340nm,6.8s						
MK31	Makanchi Array	55.56	327	P	P	18 15 18.3	+0.3
MK31						18 16 09.1	
MK31				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MK31	Makanchi Array	55.56	327	P	P	18 15 18.3	+0.3
MK31				IAmb	IAmb	18 15 19.0	
	comp=Z,8.7nm,0.5s						
MK31				PcP	PcP	18 16 09.1	-0.7
MKAR	Makanchi Array	55.56	327	P	P	18 15 18.6	+0.6
	comp=Z,10nm,0.4s,baz=124,slow=7.8,SNR=291						
MKAR				PcP	PcP	18 16 09.5	-0.3
	comp=Z,5.8nm,0.6s,baz=126,slow=4.1,SNR=18						
MKAR				ScP	ScP	18 19 16.6	-0.2
	comp=Z,2.4nm,0.8s,baz=116,slow=5.5,SNR=8.1						
MAKZ	Makanchi	55.74	327	P	P	18 15 19.6	+0.3
MAKZ						18 16 10.3	
MAKZ				pmax	pmax		
	comp=Z,12nm,0.5s						
MAKZ	Makanchi	55.74	327	P	P	18 15 19.6	+0.3
MAKZ				IAmb	IAmb	18 15 20.1	
	comp=Z,12nm,0.5s						
MAKZ				PcP	PcP	18 16 10.3	-0.1
KDJ	Kajisay	55.99	320	P	P	18 15 22.2	+0.9
KDJ				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KDJ	Kajisay	55.99	320	P	P	18 15 22.2	+0.9
KDJ				IAmb	IAmb	18 15 22.9	
	comp=Z,10nm,0.5s						
NRN	Naryn	56.41	319	P	P	18 15 24.6	+0.2
NRN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NRN	Naryn	56.41	319	P	P	18 15 24.6	+0.2
PETK	Petropavlovsk-	56.94	24	P	P	18 15 28.6	+1.2
	comp=Z,0.9nm,0.8s,baz=210,slow=4.8,SNR=7.1						
PETK				PcP	PcP	18 16 15.2	+0.2
	comp=Z,0.9nm,0.5s,baz=207,slow=4.3,SNR=6.3						
TKM2	Tokmak 2	57.40	320	P	P	18 15 31.8	+0.8
	SNR=9.9						
UCH	Uchtor	57.77	319	P	P	18 15 35.1	+1.3
	SNR=14						
AAK	Ala-Archa	57.97	319	iP	P	18 15 35.3	+0.5
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AAK	Ala-Archa	57.97	319	P	P	18 15 35.6	+0.8
AAK					PcP	18 16 20.1	+0.5
AML	Almayashu	58.27	318	P	P	18 15 38.2	+1.1
	SNR=11						
USP	Ospenovka	58.27	320	P	P	18 15 37.4	+0.7
	SNR=12						
ARSB	Arslanbob	58.38	317	P	P	18 15 38.0	+0.5
ARSB				IAmb	IAmb	18 15 38.7	
	comp=Z,8.0nm,0.6s						
YAK	Yakutsk	58.45	4	P	P	18 15 38.9	+1.5
YAK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
YAK	Yakutsk	58.45	4	P	P	18 15 38.9	+1.5
EKS2	Erkin-Say	58.45	319	P	P	18 15 38.9	+0.9
	SNR=9.8						
KBL	Kabul	58.66	309	P	P	18 15 39.7	0.0
KBL				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KBL	Kabul	58.66	309	P	P	18 15 39.7	0.0
KBL				IAmb	IAmb	18 15 40.6	
	comp=Z,10.0nm,0.7s						
ZAA0	Zalesovo Array	59.03	335	P	P	18 15 40.9	-0.6
ZALV	Zalesovo Beam	59.03	335	P	P	18 15 40.8	-0.7
	comp=Z,2.6nm,0.5s,baz=126,slow=4.7,SNR=12						
GAR	Garm	59.29	314	P	P	18 15 43.8	+0.1
GAR				IAmb	IAmb	18 15 44.8	
	comp=Z,21nm,0.8s						
BTK	Batken	59.35	315	P	P	18 15 44.3	+0.3
BTK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BTK	Batken	59.35	315	P	P	18 15 44.3	+0.3
KURK	Kurchatov	59.86	329	P	P	18 15 47.5	+0.4
KURK				pmax	pmax		
	comp=Z,20nm,0.8s						
KURK	Kurchatov	59.86	329	P	P	18 15 47.5	+0.4
KURK				IAmb	IAmb	18 15 48.0	
	comp=Z,20nm,0.8s						
CHGR	Chuyangaron	60.00	313	P	P	18 15 48.4	0.0
CHGR				IAmb	IAmb	18 15 49.4	
	comp=Z,17nm,1.0s						
KK31	Karatay Array	60.80	318	P	P	18 15 53.3	-0.2
KK31				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KK31	Karatay Array	60.80	318	P	P	18 15 53.3	-0.2
KKAR	Karatay Array	60.80	318	P	P	18 15 53.5	0.0
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KKAR	Karatay Array	60.80	318	P	P	18 15 53.5	0.0
LBZ	Lake Benmore	63.74	144	P	P	18 16 13.6	+1.2
THZ	Tophouse	63.95	140	P	P	18 16 14.8	+0.9
BKZ	Black Stump Fm	65.03	136	P	P	18 16 21.4	+0.5
BKZ				IAmb	IAmb	18 16 22.8	
	comp=Z,25nm,1.0s						
WSAR	Wadi Sarin	65.08	294	P	P	18 16 20.0	-1.4
	comp=Z,1.5nm,0.6s,baz=130,slow=11,SNR=4.4						
BRVK	Borovoye	65.48	328	iP	P	18 16 23.1	-0.1
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRVK	Borovoye	65.48	328	P	P	18 16 23.2	-0.1
BRVK				IAmb	IAmb	18 16 24.1	
	comp=Z,13nm,1.1s						

KNTN Kanton 65.52 95 P P 18 16 22.8 -1.5
TIXI Tiksi 68.00 2 *ce*P P 18 16 38.4 -0.1
GEYT Alibeck 68.08 309 P P 18 16 40.2 +0.5
comp=Z,4.6nm,0.7s,baz=150,slow=3.3,SNR=10
SOCY Socotra 68.77 282 P P 18 16 42.9 -1.5
SOCY IAmb IAmb 18 16 43.9
comp=Z,16nm,0.8s
NRIK Noril'sk 69.66 347 P P 18 16 48.9 +0.4
comp=Z,5.7nm,0.6s,baz=136,slow=3.9,SNR=6.1
ABKAR Akbulak array 69.89 322 P P 18 16 50.1 -0.2
CASY Casey 70.35 185 P P 18 16 53.0 +0.4
SVE Sverdlovsk 72.12 329 *e*P P 18 17 02.9 -0.3
SVE pmax pmax
comp=Z,10.0nm,0.6s
ARU Arti 73.05 328 *i* P P 18 17 07.7 -0.9
ARU pmax pmax
comp=Z,6.0nm,0.7s
ARU Arti 73.05 328 P P 18 17 07.6 -1.0
ARU IAmb IAmb 18 17 08.6
comp=Z,6.5nm,0.7s
RAYN Ar Rayn 77.12 293 P P 18 17 31.6 -0.5
RAYN pmax pmax
comp=Z,7.0nm,0.9s
RAYN Ar Rayn 77.12 293 P P 18 17 31.6 -0.5
OPO Ambohidratompo 77.80 250 P P 18 17 35.3 -0.7
comp=Z,4.9nm,0.8s,baz=68,slow=2.4,SNR=5.1
AKH Akhalkalaki 79.75 311 P P 18 17 46.8 +0.8
AKH pmax pmax
comp=Z,6.0nm,0.9s
AKH Akhalkalaki 79.75 311 P P 18 17 46.8 +0.8
PRGR Permogore 80.82 332 *e*P P 18 17 48.2 -2.6
PRGR pmax pmax
comp=Z,11nm,0.6s
GAZ Gaziantep 84.48 307 P P 18 18 10.1 +0.1
GAZ IAmb IAmb 18 18 11.2
comp=Z,10nm,1.0s
OBN Obninsk 85.00 325 *ce*P P 18 18 10.8 -1.1
OBN pmax pmax
comp=Z,9.0nm,1.0s
KMBO Kilima Mbogo 85.87 269 P P 18 18 18.0 +0.7
comp=Z,3.4nm,0.9s,baz=56,slow=7.2,SNR=7.6
KMBO Kilima Mbogo 85.87 269 P P 18 18 17.4 0.0
ILAR Eielson Array 86.75 25 P P 18 18 18.9 -1.3
comp=Z,0.4nm,0.6s,baz=245,slow=5.5,SNR=13
BRTR Keskin Array B 87.23 309 P P 18 18 21.8 -1.4
comp=Z,0.9nm,0.8s,baz=120,slow=6.6,SNR=4.6
ARCES ARCESS Array B 89.24 340 P P 18 18 30.1 -1.5
comp=Z,4.6nm,0.9s,baz=69,slow=6.8,SNR=9.0
AKASG Malin Array Be 89.62 321 *i* P P 18 18 33.0 -0.8
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 89.62 321 P P 18 18 32.3 -1.4
comp=Z,1.4nm,0.8s,baz=70,slow=4.8,SNR=5.3
SPITS Spitsbergen Ar 89.83 349 P P 18 18 34.1 -0.1
comp=Z,3.1nm,0.4s,baz=91,slow=8.5,SNR=16
FINES FINESS Array B 90.15 332 P P 18 18 34.8 -1.2
comp=Z,3.2nm,0.6s,baz=58,slow=5.3,SNR=17
INK Inuvik 91.57 21 P P 18 18 42.7 +0.3
INK pmax pmax
comp=Z,9.0nm,1.9s
INK Inuvik 91.57 21 P P 18 18 42.5 +0.1
comp=Z,0.6nm,0.5s,baz=311,slow=2.3,SNR=6.2
INK Inuvik 91.57 21 P P 18 18 42.7 +0.3
INK IAmb IAmb 18 19 05.6
comp=Z,9.4nm,1.9s
BUR08 Bucovina Ar. S 92.60 318 P P 18 18 47.1 -0.6
BUR08 IAmb IAmb 18 18 48.8
comp=Z,8.9nm,1.1s
KOLS Kolonicke sedl 94.32 319 *e*P P 18 18 56.0 +0.5
KOLS Kolonicke sedl 94.32 319 *e*P P 18 18 56.0 +0.5
MODS Modra-Piesok 97.67 320 *e*P P 18 19 12.0 +1.4
MODS Modra-Piesok 97.67 320 *e*PDIFF P 18 19 12.0 +1.4
YKA Yellowknife Ar 101.06 24 PKiKP PKiKP 18 23 46.7 -0.1
comp=Z,0.1nm,0.3s,baz=304,slow=1.5,SNR=4.7
NVAR Mina Array Bea 109.67 47 PKiKP PKiKP 18 24 04.8 +1.0
comp=Z,0.3nm,0.8s,baz=253,slow=1.5,SNR=3.9
TORD Torodi Ar. Bea 119.43 287 PKP PKPdf 18 24 22.1 -0.7
comp=Z,2.3nm,0.5s,baz=81,slow=1.8,SNR=18
SCHQ Schefferville 121.14 7 PKP PKiKP 18 24 25.2 +0.1
comp=Z,3.9nm,0.6s,baz=1.0,slow=3.7,SNR=4.0
TXAR Lajitas Array 124.52 50 PKP PKiKP 18 24 33.5 +0.7
comp=Z,0.7nm,0.6s,baz=222,slow=0.9,SNR=9.1
DBIC Dimbokro 126.98 281 PKIKP PKPdf 18 24 37.3 -0.1
DBIC Dimbokro 126.98 281 PKP PKPdf 18 24 37.1 -0.2
comp=Z,2.0nm,0.6s,baz=6.4,slow=3.3,SNR=4.2
DBIC Dimbokro 126.98 281 PKPdf 18 24 37.3 -0.1
CFA Coronel Fontan 150.24 160 PKPbc PKiKP 18 25 24.8 -0.2
comp=Z,12nm,0.6s,baz=237,slow=4.1,SNR=19

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*BJI **06** 18:28:14.4±0.0, 18.41N×145.73E, h198km, mb4.1/31, mB4.7/24*
*ISCJB **06** 18:28:17.4±0.5, 18.68N±0.02×145.57E±0.03, h206km±5km, mb4.4/39, Error ellipse: s-maj=4.9km s-min=3.5km az=1.7*
*IDC **06** 18:28:17.8±0.5, 18.71N×145.53E, h200km±5km, mb4.0/23, mb1 4.1/26, mb1mx4.0/39, mbtmp4.5/26, MS3.0/1, Ms1 3.0/1, ms1mx2.5/33, Error ellipse: s-maj=12.6km s-min=7.2km az=93.0*
*NEIC **06** 18:28:19.0±1.6, 18.65N±0.06×145.6E±0.1, h208km±5km, mb4.6/150*
*JMA **06** 18:28:19.9±0.3, 19.06N×145.53E, h194km*
ISC 06 18:28:18.3±0.4, **18.73N**±0.04×**145.63E**±0.06, **h204**km±3km, **h204**km**:pP-P, n235,** σ**1.42**/281, **mb4.6**/108, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SARN	**Sarigan**	**2.02**	**176**		**Pn**	**18 28 56.1**	**-1.3**
ANA2	**Anatahan**	**2.37**	**178**		**Pn**	**18 28 59.8**	**-1.3**
GUMO	**Guam**	**5.16**	**188**	P	**Pn**	**18 29 35.3**	**+0.4**
	60nm,0.3s,baz=322,slow=4.0,SNR=44						
GUMO				S	**S**	**18 30 35.8**	**+0.8**
	106nm,0.3s,baz=28,slow=23,SNR=9.5						
GUMO	**Guam**	**5.16**	**188**		**Pn**	**18 29 36.0**	**+1.2**
GUMO					**S**	**18 30 33.4**	**-1.6**
JHH2	**Haha-jima-NKT2**	**8.49**	**339**	P	**Pn**	**18 30 16.1**	**-1.8**
JHH2				*e*S	**S**	**18 31 46.6**	**-6.9**
CBIJ	**Chichi jima**	**8.91**	**340**	P	**Pn**	**18 30 21.3**	**-2.1**
CBIJ				*e*S	**S**	**18 31 57.1**	**-6.5**
JCJ	**Chichijima**	**8.91**	**340**	P	**Pn**	**18 30 21.5**	**-1.9**
	8.8nm,0.3s,baz=307,slow=22,SNR=14						
JCJ				S	**S**	**18 31 57.7**	**-5.9**
	21nm,0.3s,baz=290,slow=22,SNR=7.5						
JHJ2	**Mitsune**	**15.25**	**341**	P	**P**	**18 31 45.2**	**+1.7**
PATS	**Pohnpei**	**17.09**	**132**	P	**Pn**	**18 32 06.3**	**+0.8**
PATS					**S**	**18 35 09.3**	**-2.4**
JOD2	**Odawara 2**	**17.46**	**342**	P	**Pn**	**18 32 09.0**	**-0.8**
JTK	**Tokunoshima**	**17.77**	**304**	P	**Pn**	**18 32 13.8**	**+0.4**
JOW	**Kunigami**	**17.91**	**300**	P	**Pn**	**18 32 15.4**	**+0.4**
JOW	**Kunigami**	**17.91**	**300**	P	**Pn**	**18 32 15.5**	**+0.4**
	1.8nm,0.3s,baz=128,slow=13,SNR=37						
JOW	**Kunigami**	**17.91**	**300**	P	**Pn**	**18 32 15.0**	**-0.1**
JNY	**Yasuok**	**17.94**	**339**	P	**P**	**18 32 14.3**	**+1.1**
INU	**Inuyama**	**18.23**	**337**	P	**P**	**18 32 17.3**	**+1.0**
INU				IAmb	IAmb	18 32 38.7	
	comp=Z,31nm,1.4s						
JIH	**Iheya**	**18.24**	**300**	P	**Pn**	**18 32 18.9**	**0.0**
JAGN	**Aguni-jima**	**18.67**	**298**	P	**Pn**	**18 32 23.5**	**-0.5**
JNG	**Nsakai**	**18.82**	**341**	P	**P**	**18 32 23.3**	**+0.5**
MJAR	**Matsushiro Arr**	**18.91**	**341**	P	**P**	**18 32 24.5**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=172,slow=11,SNR=9.6						
MAJO	**Matsushiro**	**18.91**	**341**	P	**P**	**18 32 23.4**	**-0.3**
MAJO				IAmb	IAmb	18 32 36.2	
	comp=Z,12nm,0.6s						
MAT	**Matsushiro**	**18.91**	**341**	P	**P**	**18 32 23.9**	**+0.2**
MJB9	**Matsu-Tunnel**	**18.92**	**341**	P	**P**	**18 32 23.3**	**-0.5**
MJB9				IAmb	IAmb	18 32 36.2	
	comp=Z,12nm,0.6s						
JHK	**Hiroka**	**19.34**	**344**	P	**P**	**18 32 29.0**	**+0.7**
JNU	**Nakatsue**	**19.50**	**320**	P	**P**	**18 32 32.0**	**+1.9**
JNU				IAmb	IAmb	18 32 52.6	
	comp=Z,69nm,1.9s						
JOU	**Okura**	**20.04**	**349**	P	**P**	**18 32 37.9**	**+2.1**
JRG	**Rokugo**	**21.05**	**349**	P	**P**	**18 32 47.7**	**+1.3**
JYW	**Yuwa**	**21.27**	**348**	P	**P**	**18 32 50.8**	**+2.1**
JAY	**Jayapura**	**21.66**	**193**	P	**P**	**18 32 52.8**	**-0.2**
	comp=Z,70nm,1.0s,baz=1.0,slow=5.1,SNR=14						
JAY	**Jayapura**	**21.66**	**193**	P	**P**	**18 32 51.6**	**-1.4**
	comp=Z,51nm,1.1s,comp=Z,520nm						
SMPI	**Sarmi**	**21.68**	**199**	P	**P**	**18 32 53.7**	**+0.5**
	comp=Z,81nm,1.7s						
GENI	**Genyem**	**21.86**	**195**	P	**P**	**18 32 54.3**	**-0.6**
	comp=Z,181nm,1.0s						
YULB	**Yu-li**	**23.17**	**286**	P	**P**	**18 33 06.4**	**-0.5**
YULB				IAmb	IAmb	18 33 06.7	
	comp=Z,36nm,1.4s						
YHNB	**Yeheng**	**23.28**	**289**	P	**P**	**18 33 09.2**	**+1.1**
SSLB	**Suanglung**	**23.53**	**287**	P	**P**	**18 33 10.7**	**+0.5**
SSLB				IAmb	IAmb	18 33 16.2	
	comp=Z,14nm,0.7s						
KRVT	**Keravat (AS076**	**23.74**	**164**	P	**P**	**18 33 11.8**	**-0.3**
	comp=Z,38nm,0.6s,baz=65,slow=6.7,SNR=5.6						
TPUB	**Ta-pu**	**23.77**	**285**	P	**P**	**18 33 13.0**	**+0.6**
SWI	**Sorong**	**24.05**	**218**	P	**P**	**18 33 15.1**	**+0.1**
	comp=Z,27nm,0.7s						
SIJI	**Sorong**	**24.05**	**217**	P	**P**	**18 33 14.5**	**-0.5**
	comp=Z,12nm,0.5s,baz=12,slow=16,SNR=17						
KSRS	**Korea Array**	**24.26**	**324**	P	**P**	**18 33 16.0**	**-0.6**
	comp=Z,2.9nm,0.9s,baz=144,slow=8.5,SNR=7.3						
KS19	**Wonju Array Si**	**24.32**	**324**	P	**P**	**18 33 17.5**	**+0.3**
KS19				IAmb	IAmb	18 33 43.7	
	comp=Z,27nm,1.2s						
ASAJ	**Asahikawa**	**25.44**	**355**	P	**P**	**18 33 28.6**	**+1.3**
	comp=Z,7.1nm,0.8s,baz=220,slow=12,SNR=7.7						
NJ2	**Nanjing**	**27.50**	**304**	*e*P	**P**	**18 33 45.3**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
PMG	**Port Moresby**	**27.99**	**177**	P	**P**	**18 33 49.2**	**-1.1**
	comp=Z,18nm,0.7s,baz=16,slow=7.9,SNR=11						
PMG	**Port Moresby**	**27.99**	**177**	P	**P**	**18 33 48.7**	**-1.6**
MRSI	**Marisa**	**29.49**	**235**	P	**P**	**18 34 04.8**	**+1.2**
	comp=Z,29nm,1.0s						
LUWI	**Luwuk**	**29.84**	**231**	P	**P**	**18 34 07.3**	**+0.6**
	comp=Z,31nm,1.1s,comp=Z,566nm						
LUWI	**Luwuk**	**29.84**	**231**	P	**P**	**18 34 06.2**	**-0.6**
CN2	**Changchun**	**30.21**	**330**	*e*P	**P**	**18 34 10.5**	**+0.8**
WHN	**Wuhan**	**30.67**	**299**	P	**P**	**18 34 15.2**	**+1.4**
MPSI	**Mapaga**	**31.18**	**237**	P	**P**	**18 34 18.7**	**+0.2**
	comp=Z,13nm,0.9s						
KKM	**Kota Kinabalu**	**31.31**	**250**	P	**P**	**18 34 21.1**	**+1.3**
KKM				IAmb	IAmb	18 34 21.4	
	comp=Z,23nm,0.7s						
COEN	**Coen**	**32.57**	**184**	P	**P**	**18 34 30.4**	**-0.2**
COEN				IAmb	IAmb	18 34 32.6	
	comp=Z,13nm,0.7s						
BBSI	**Bau Bau**	**33.10**	**226**	P	**P**	**18 34 36.0**	**+0.8**
	comp=Z,6.1nm,0.8s						
TTSI	**Tana Toraja**	**33.37**	**232**	P	**P**	**18 34 39.0**	**+1.4**
	comp=Z,63nm,0.8s,comp=Z,507nm						
SPSI	**Sidrap Palu**	**34.02**	**231**	P	**P**	**18 34 43.6**	**+0.5**
	comp=Z,54nm,1.0s,comp=Z,536nm						
BNSI	**Bone**	**34.06**	**230**	P	**P**	**18 34 45.2**	**+1.7**
	comp=Z,40nm,0.9s,comp=Z,4μm						
MTN	**Manton Dam**	**34.47**	**206**	P	**P**	**18 34 46.9**	**-0.1**
BKSI	**Bulukumba**	**34.68**	**229**	P	**P**	**18 34 50.0**	**+1.1**
	comp=Z,18nm,0.8s						
KAPI	**Kappang**	**34.74**	**230**	P	**P**	**18 34 49.7**	**+0.4**
KAPI				IAmb	IAmb	18 34 50.9	
	comp=Z,21nm,0.9s						
SOEI	**Soe**	**35.28**	**218**	P	**P**	**18 34 51.3**	**-2.8**
	comp=Z,47nm,0.8s						
SOEI	**Soe**	**35.28**	**218**	P	**P**	**18 34 52.9**	**-1.3**
PEA0B	**Petropavlovsk-**	**35.58**	**13**	P	**P**	**18 34 57.7**	**+1.7**
PETK	**Petropavlovsk-**	**35.58**	**13**	P	**P**	**18 34 57.2**	**+1.2**
	comp=Z,2.1nm,0.7s,baz=199,slow=6.9,SNR=7.5						
PETK				LR	LR	18 47 32.6	
	comp=Z,24nm,21.7s,baz=232,slow=32						
MMRI	**Maumere**	**35.66**	**222**	P	**P**	**18 34 55.7**	**-1.5**
MMRI				IAmb	IAmb	18 34 57.5	
	comp=Z,25nm,0.7s						
SBUM	**Sibu**	**36.49**	**248**	P	**P**	**18 35 04.9**	**+0.6**
SBUM				IAmb	IAmb	18 35 06.0	
	comp=Z,8.3nm,0.7s						
HHC	**Hu-ho-hao-te**	**36.54**	**314**	*e*P	**P**	**18 35 05.2**	**+0.7**
HHC				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KNRA	**Kununurra**	**38.01**	**207**	P	**P**	**18 35 16.9**	**+0.1**
KSM	**Kuching**	**38.63**	**248**	P	**P**	**18 35 23.0**	**+0.7**
KSM	**Kuching**	**38.63**	**248**	P	**P**	**18 35 19.6**	**-2.7**
KSM				IAmb	IAmb	18 35 23.1	
	comp=Z,14nm,0.7s						
CD2	**Chengdu**	**39.68**	**296**	*e*P	**P**	**18 35 30.0**	**-0.8**
WRAB	**Tennant Creek**	**39.98**	**197**	P	**P**	**18 35 32.4**	**-0.8**
WRA	**Warramunga Arr**	**39.99**	**197**	P	**P**	**18 35 33.3**	**0.0**
	comp=Z,17nm,0.4s,baz=18,slow=8.7,SNR=155						
WRA				ScP	**ScP**	**18 41 01.3**	**-2.8**
	comp=Z,1.1nm,0.9s,baz=9.8,slow=3.9,SNR=5.6						
WRA				S	**S**	**18 41 21.7**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=18,slow=14,SNR=4.1						
LZH	**Lanzhou**	**40.58**	**304**	*e*P	**P**	**18 35 38.1**	**-0.2**
LZH				pP	pP	18 36 21.3	+0.9
LZH				sP	sP	18 36 46.0	+3.4
LZH				PP	**PP**	**18 37 17.0**	**+0.8**
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
LZH				pmax	pmax		
	comp=Z,59nm,4.3s						
JAGI	**Jajag, Banyuwa**	**41.16**	**232**	P	**P**	**18 35 42.3**	**-0.7**
JAGI				IAmb	IAmb	18 35 43.6	
	comp=Z,31nm,1.0s						
FITZ	**Fitzroy Crossi**	**41.53**	**209**	P	**P**	**18 35 46.4**	**+0.5**
FITZ				IAmb	IAmb	18 35 47.3	
	comp=Z,30nm,0.8s						
PBKT	**Sadao Pong**	**42.53**	**274**	P	**P**	**18 35 55.5**	**+1.4**
SONM	**Songino Array**	**43.08**	**321**	P	**P**	**18 35 58.0**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=130,slow=6.9,SNR=9.1						
SONM				ScP	**ScP**	**18 41 13.2**	**-3.0**
	comp=Z,0.5nm,0.9s,baz=132,slow=2.2,SNR=3.8						
UGM	**Wanagama**	**43.58**	**236**	P	**P**	**18 36 02.6**	**+0.1**
AS31	**Alice Springs**	**43.66**	**196**	P	**P**	**18 36 02.6**	**-0.5**
AS31				IAmb	IAmb	18 36 08.1	
	comp=Z,4.2nm,0.3s						
ASAR	**Alice Springs**	**43.66**	**196**	P	**P**	**18 36 02.8**	**-0.3**
	comp=Z,4.0nm,0.6s,baz=15,slow=6.4,SNR=143						
ASAR				ScP	**ScP**	**18 41 15.4**	**-3.2**
	comp=Z,0.7nm,0.8s,baz=31,slow=4.0,SNR=4.3						
ASAR				S	**S**	**18 42 16.9**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=22,slow=17,SNR=5.7						
EIDS	**Eidsvold**	**44.15**	**173**	P	**P**	**18 36 06.2**	**-0.7**
CM31	**Chiang Mai Arr**	**44.15**	**277**	P	**P**	**18 36 07.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**44.15**	**277**	P	**P**	**18 36 07.2**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=68,slow=6.7,SNR=14						
MYKOM	**Kota Tinggi**	**44.25**	**253**	P	**P**	**18 36 10.0**	**+2.1**
MYKOM	**Kota Tinggi**	**44.25**	**253**	P	**P**	**18 36 09.9**	**+2.1**
MYKOM				IAmb	IAmb	18 36 10.6	
	comp=Z,24nm,0.8s						
GTA	**Gaotai**	**44.48**	**308**	P	**P**	**18 36 11.2**	**+1.6**
GTA				pP	pP	18 36 52.5	+0.1
GTA				sP	sP	18 37 15.0	+0.1
GTA				PcP	**PcP**	**18 37 49.7**	**+0.4**
YAK	**Yakutsk**	**44.68**	**349**	P	**P**	**18 36 10.8**	**+0.3**
YAK				IAmb	IAmb	18 36 13.3	
	comp=Z,11nm,0.8s						
DZM	**Mont Dzumac**	**45.37**	**152**	P	**P**	**18 36 17.1**	**+0.5**
CISI	**Cisompet, Garu**	**45.52**	**238**	P	**P**	**18 36 16.9**	**-1.1**
CISI				IAmb	IAmb	18 36 18.4	
	comp=Z,21nm,0.6s						
KULM	**Kulim**	**45.83**	**259**	P	**P**	**18 36 23.0**	**+2.7**
KULM	**Kulim**	**45.83**	**259**	P	**P**	**18 36 22.1**	**+1.8**
KULM				IAmb	IAmb	18 36 23.0	
	comp=Z,19nm,1.0s						
PSA00	**Pilbara Seismi**	**47.34**	**213**	P	**P**	**18 36 32.3**	**+0.5**
PSA00				IAmb	IAmb	18 36 33.1	
	comp=Z,27nm,1.1s						
MSVF	**Nonsavu**	**48.25**	**137**	P	**P**	**18 36 40.8**	**+1.7**
MSVF				IAmb	IAmb	18 36 41.5	
	comp=Z,46nm,1.5s						
RPSI	**Rantau Prapat**	**48.39**	**257**	P	**P**	**18 36 41.0**	**+0.9**
ARMA	**Armidale**	**49.20**	**173**	P	**P**	**18 36 46.8**	**+0.8**
ARMA				IAmb	IAmb	18 36 48.8	
	comp=Z,20nm,1.4s						
SHL	**Shillong**	**49.97**	**288**	P	**P**	**18 36 52.5**	**+0.3**
GSI	**Gunungsitoli**	**50.17**	**256**	P	**P**	**18 36 54.3**	**+0.7**
GSI				IAmb	IAmb	18 36 54.9	
	comp=Z,26nm,0.8s						
STKA	**Stephens Creek**	**50.46**	**184**	P	**P**	**18 36 54.5**	**-0.9**
	comp=Z,3.0nm,0.6s,baz=354,slow=9.4,SNR=12						
STKA	**Stephens Creek**	**50.46**	**184**	P	**P**	**18 36 54.8**	**-0.6**
UNV	**Unalaska Valle**	**50.67**	**35**	P	**P**	**18 36 57.5**	**+0.8**
AKUT	**Akutan**	**51.18**	**35**	P	**P**	**18 37 01.9**	**+1.3**
FORT	**Forrest**	**52.04**	**199**	P	**P**	**18 37 07.6**	**+0.5**
BBOO	**Buckleboo**	**52.06**	**190**	P	**P**	**18 37 06.8**	**-0.5**
BBOO				IAmb	IAmb	18 37 08.8	
	comp=Z,41nm,1.5s						
GAMB	**Gambell**	**53.45**	**22**	P	**P**	**18 37 18.2**	**+1.2**
WMQ	**Urumqi**	**54.24**	**311**	*e*P	**P**	**18 37 25.4**	**+2.2**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,160nm,5.7s						
SDPT	**Sand Point**	**54.48**	**35**	P	**P**	**18 37 26.2**	**+1.6**
MORW	**Morawa**	**55.44**	**212**	P	**P**	**18 37 32.5**	**+0.6**
MORW				IAmb	IAmb	18 37 33.2	
	comp=Z,20nm,0.7s						
TOO	**Toolangi**	**55.99**	**180**	P	**P**	**18 37 35.8**	**+0.2**
TOO				IAmb	IAmb	18 37 36.5	
	comp=Z,16nm,0.8s						
ANM	**Nome**	**56.20**	**23**	P	**P**	**18 37 38.7**	**+2.0**
ANM				IAmb	IAmb	18 37 45.6	
	comp=Z,46nm,1.5s						
ZAA0	**Zalesovo Array**	**57.95**	**322**	P	**P**	**18 37 47.8**	**-1.4**
ZALV	**Zalesovo Beam**	**57.95**	**322**	P	**P**	**18 37 47.9**	**-1.3**
	comp=Z,1.1nm,0.4s,baz=98,slow=6.8,SNR=6.2						
ZALV				pP	**pP**	**18 38 32.8**	**-1.6**
	comp=Z,2.0nm,0.6s,baz=100,slow=7.0,SNR=4.3						
NWAO	**Narrogin (SRO)**	**58.09**	**208**	P	**P**	**18 37 50.8**	**+0.4**
NWAO				IAmb	IAmb	18 37 51.6	
	comp=Z,15nm,0.7s						
MK31	**Makanchi Array**	**58.40**	**314**	P	**P**	**18 37 52.3**	**-0.2**
MKAR	**Makanchi Array**	**58.40**	**314**	P	**P**	**18 37 52.0**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=90,slow=8.2,SNR=21						
MKAR				pP	**pP**	**18 38 37.3**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=92,slow=8.4,SNR=2.4						
MAKZ	**Makanchi**	**58.61**	**314**	P	**P**	**18 37 53.9**	**-0.1**
MAKZ				IAmb	IAmb	18 37 59.4	
	comp=Z,13nm,1.4s						
SVW2	**Sparrevohn**	**58.84**	**29**	P	**P**	**18 37 56.2**	**+1.0**
SVW2				IAmb	IAmb	18 38 09.5	
	comp=Z,26nm,1.9s						
OHAK	**Old Harbor**	**58.87**	**34**	P	**P**	**18 37 57.2**	**+1.8**
KDAK	**Kodiak Island**	**59.37**	**33**	P	**P**	**18 38 00.1**	**+1.2**
	comp=Z,6.0nm,0.8s,baz=142,slow=0.8,SNR=13						
KDAK	**Kodiak Island**	**59.37**	**33**	P	**P**	**18 38 00.0**	**+1.2**
BRLK	**Bradley Lake**	**60.70**	**31**	P	**P**	**18 38 08.3**	**+0.3**
PPLA	**Purkeypile**	**60.91**	**28**	P	**P**	**18 38 10.6**	**+1.2**
PPLA				IAmb	IAmb	18 38 17.4	
	comp=Z,39nm,1.6s						
KURK	**Kurchatov**	**61.21**	**318**	P	**P**	**18 38 09.8**	**-1.6**
KURK					**pP**	**18 38 59.2**	**+2.0**
TAU	**Tasmania Unive**	**61.35**	**179**	P	**P**	**18 38 12.1**	**-0.3**
NRIK	**Noril'sk**	**61.56**	**340**	P	**P**	**18 38 12.9**	**-0.6**
	comp=Z,2.2nm,0.4s,baz=118,slow=9.0,SNR=4.2						
BPAW	**Bear Paw Mtn.**	**61.76**	**26**	P	**P**	**18 38 16.1**	**+1.1**
BPAW				IAmb	IAmb	18 38 17.1	
	comp=Z,7.9nm,0.8s						
KDJ	**Kajisay**	**61.82**	**308**	P	**P**	**18 38 16.5**	**+0.5**
KDJ				pP	**pP**	**18 39 04.1**	**+2.5**
TRF	**Thorofare Moun**	**61.89**	**27**	P	**P**	**18 38 16.6**	**+0.6**
TRF				IAmb	IAmb	18 38 24.6	
	comp=Z,34nm,1.7s						
MLY	**Manley**	**62.12**	**25**	P	**P**	**18 38 18.5**	**+1.1**
MLY				IAmb	IAmb	18 38 19.6	
	comp=Z,5.2nm,0.8s						
SML	**Sawmill**	**62.38**	**29**	P	**P**	**18 38 20.2**	**+1.1**
SML				IAmb	IAmb	18 38 20.9	
	comp=Z,12nm,0.8s						
NRN	**Naryn**	**62.72**	**308**	P	**P**	**18 38 21.7**	**-0.5**
NRN				pP	**pP**	**18 39 10.4**	**+2.5**
KSH	**Kashi**	**62.80**	**305**	P	**P**	**18 38 25.8**	**+3.3**
KSH				ScP	**ScP**	**18 42 42.3**	**+0.7**
KSH				S	**S**	**18 46 37.1**	**+1.7**
KSH				ScS	**SKSac**	**18 47 54.8**	**-0.4**
KSH				sS	sS	18 48 00.7	+5.5
KSH				SS	**SS**	**18 50 49.9**	**+5.9**
KSH				pmax	pmax		
	comp=Z,290nm,4.6s						
KSH				LR	LR		
	comp=Z,690nm,6.8s						
KSH				LR	LR		
	comp=Z,740nm,5.0s						
KSH				LR	LR		
	comp=Z,580nm,6.3s						
SCM	**Sheep Creek Mo**	**62.85**	**29**	P	**P**	**18 38 23.8**	**+1.4**
SCM				IAmb	IAmb	18 38 24.4	
	comp=Z,17nm,0.9s						
MID	**Middleton Isla**	**62.90**	**32**	P	**P**	**18 38 24.1**	**+1.5**
WRH	**Wood River Hil**	**63.08**	**26**	P	**P**	**18 38 24.3**	**+0.6**
CCB	**Clear Creek Bu**	**63.24**	**26**	P	**P**	**18 38 24.4**	**-0.3**
EYAK	**Cordova Ski Ar**	**63.37**	**31**	P	**P**	**18 38 26.9**	**+1.3**
EYAK				IAmb	IAmb	18 38 51.8	
	comp=Z,12nm,1.2s						
HDA	**Harding Lake**	**63.55**	**27**	P	**P**	**18 38 26.1**	**-0.6**
IL31		**63.65**	**26**	P	**P**	**18 38 27.1**	**-0.3**
ILAR	**Eielson Array**	**63.65**	**26**	P	**P**	**18 38 26.9**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=257,slow=5.0,SNR=29						
ILAR				pP	**pP**	**18 39 12.7**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=259,slow=4.9,SNR=4.1						
AAK	**Ala-Archa**	**63.80**	**309**	P	**P**	**18 38 27.9**	**-1.1**
PAX	**Paxson**	**63.91**	**28**	P	**P**	**18 38 30.2**	**+0.9**
PAX				IAmb	IAmb	18 38 31.1	
	comp=Z,4.4nm,0.7s						
URZ	**Urewera**	**63.93**	**153**	P	**P**	**18 38 29.1**	**-0.5**
URZ				IAmb	IAmb	18 38 55.1	
	comp=Z,22nm,1.1s						
QRZ	**Quartz Range**	**64.31**	**158**	P	**P**	**18 38 32.3**	**+0.4**
BKZ	**Black Stump Fm**	**64.42**	**154**	P	**P**	**18 38 31.5**	**-1.3**
GLB	**Gilahina Butte**	**64.44**	**30**	P	**P**	**18 38 33.7**	**+1.0**
GLB				IAmb	IAmb	18 38 36.0	
	comp=Z,14nm,1.6s						
VRDI	**Verde Repeater**	**64.58**	**30**	P	**P**	**18 38 34.6**	**+0.9**
VRDI				IAmb	IAmb	18 38 49.3	
	comp=Z,28nm,1.9s						
DOT	**Dot Lake**	**64.65**	**28**	P	**P**	**18 38 34.8**	**+0.8**
DOT				IAmb	IAmb	18 38 53.2	
	comp=Z,17nm,1.4s						
CRQM	**Cirque**	**64.68**	**31**	P	**P**	**18 38 35.5**	**+1.1**
CRQM				IAmb	IAmb	18 38 36.9	
	comp=Z,18nm,1.4s						
CRQM				pP	**pP**	**18 39 22.2**	**+1.6**
SCRK	**Sand Creek**	**64.74**	**27**	P	**P**	**18 38 35.0**	**+0.3**
SCRK				IAmb	IAmb	18 38 36.1	
	comp=Z,9.0nm,1.2s						
MCARA	**McCarthy VSAT**	**64.81**	**30**	P	**P**	**18 38 36.2**	**+1.2**
MCARA				IAmb	IAmb	18 38 46.7	
	comp=Z,7.1nm,0.8s						
NNZ	**Nelson**	**64.96**	**157**	P	**P**	**18 38 35.8**	**-0.4**
NNZ				pP	**pP**	**18 39 22.7**	**+0.1**
ARSB	**Arslanbob**	**64.99**	**308**	P	**P**	**18 38 36.4**	**-0.3**
ARSB					**pwP**	**18 39 27.2**	**-0.4**
BALM	**Baldy**	**65.09**	**31**	P	**P**	**18 38 37.6**	**+0.6**
BALM				IAmb	IAmb	18 38 38.9	
	comp=Z,4.3nm,0.8s						
THZ	**Tophouse**	**65.26**	**158**	P	**P**	**18 38 38.2**	**+0.1**
TUWZ	**Tuamarina**	**65.35**	**157**	P	**P**	**18 38 37.4**	**-1.2**
BARN	**Barnard Glacie**	**65.43**	**31**	P	**P**	**18 38 40.3**	**+1.1**
BARN				IAmb	IAmb	18 39 00.9	
	comp=Z,11nm,1.6s						
SNZO	**South Karori**	**65.53**	**156**	P	**P**	**18 38 38.8**	**-1.0**
BSWZ	**Blackbirch Sta**	**65.57**	**157**	P	**P**	**18 38 41.5**	**+1.4**
CTGM	**Chitina Glacie**	**65.58**	**31**	P	**P**	**18 38 41.5**	**+1.4**
CTGM				IAmb	IAmb	18 38 42.8	
	comp=Z,5.0nm,0.8s						
BHW	**Baring Head**	**65.68**	**156**	P	**P**	**18 38 40.6**	**-0.1**
MSWZ	**Moikau Station**	**65.83**	**156**	P	**P**	**18 38 41.1**	**-0.7**
LTZ	**Lake Taylor**	**65.94**	**159**	P	**P**	**18 38 40.5**	**-1.9**
LTZ				IAmb	IAmb	18 38 48.1	
	comp=Z,19nm,0.9s						
PLWZ	**Palliser**	**65.97**	**156**	P	**P**	**18 38 42.2**	**-0.5**
KHZ	**Kahutara**	**66.06**	**158**	P	**P**	**18 38 41.3**	**-1.9**
KHZ				IAmb	IAmb	18 38 47.2	
	comp=Z,29nm,1.0s						
OXZ	**Oxford**	**66.34**	**159**	P	**P**	**18 38 43.5**	**-1.4**
RPZ	**Rata Peaks**	**66.36**	**160**	P	**P**	**18 38 43.8**	**-1.3**
RPZ				IAmb	IAmb	18 38 48.0	
	comp=Z,20nm,0.8s						
BRVK	**Borovoye**	**66.48**	**320**	P	**P**	**18 38 45.7**	**-0.1**
BRVK					**pP**	**18 39 32.1**	**0.0**
LBZ	**Lake Benmore**	**66.69**	**161**	P	**P**	**18 38 46.0**	**-1.1**
DAWY	**Dawson**	**66.76**	**28**	P	**P**	**18 38 48.6**	**+1.2**
MLZ	**Mavora Lakes**	**66.98**	**163**	P	**P**	**18 38 48.1**	**-0.9**
GAR	**Garm**	**67.22**	**305**	P	**P**	**18 38 49.6**	**-1.3**
EPYK	**Eagle Plains**	**68.05**	**25**	P	**P**	**18 38 55.8**	**+0.2**
EPYK				IAmb	IAmb	18 38 58.0	
	comp=Z,15nm,1.4s						
CHGR	**Chuyangaron**	**68.16**	**305**	P	**P**	**18 38 56.2**	**-0.5**
CHGR				IAmb	IAmb	18 38 57.5	
	comp=Z,6.5nm,0.8s						
CHGR					**pP**	**18 39 45.8**	**+2.5**
SKAG	**Skagway**	**68.51**	**33**	P	**P**	**18 38 59.7**	**+1.3**
INK	**Inuvik**	**69.37**	**23**	P	**P**	**18 39 03.6**	**+0.1**
CRAG	**Craig**	**69.85**	**37**	P	**P**	**18 39 08.5**	**+1.8**

ABKAR	Akbulak array	73.28	317	P	P	18 39 25.5	-1.7
ABKAR				pP	pP	18 40 16.5	+1.9
YKA	Yellowknife Ar	78.00	28	P	P	18 39 54.3	+0.6
	comp=Z,2.5nm,0.6s,baz=290,slow=5.4,SNR=29						
YKA				pP	pP	18 40 40.9	-0.9
	comp=Z,1.5nm,0.8s,baz=291,slow=5.5,SNR=3.1						
ORV	Oroville	80.46	52	P	P	18 40 07.5	-0.2
MOD	Modoc Plateau	80.67	49	P	P	18 40 09.8	+0.9
MOD				IAmb	IAmb	18 40 10.9	
	comp=Z,7.8nm,1.0s						
AFDM	Forest Hills D	81.03	52	P	P	18 40 11.1	+0.5
BEKR	Beckworth	81.22	51	P	P	18 40 12.5	+0.7
BEKR				IAmb	IAmb	18 40 14.1	
	comp=Z,8.5nm,0.9s						
WVOR	Wild Horse Val	81.69	48	P	P	18 40 14.9	+0.7
CMB	Columbia Colle	81.73	53	P	P	18 40 15.4	+1.0
CMB				IAmb	IAmb	18 40 16.4	
	comp=Z,6.3nm,0.8s						
BMO	Blue Mountains	81.87	45	P	P	18 40 15.8	+0.8
PAHR	Pah Rah Range	81.98	51	P	P	18 40 16.6	+0.8
PNTR	Pine Nut	82.01	52	P	P	18 40 16.8	+0.7
PNTR				IAmb	IAmb	18 40 18.7	
	comp=Z,9.7nm,0.8s						
WAKR	Walker	82.30	52	P	P	18 40 18.6	+1.0
YERR	Yerington	82.30	52	P	P	18 40 18.1	+0.5
YERR				IAmb	IAmb	18 40 19.6	
	comp=Z,6.2nm,0.8s						
ARCES	ARCESS Array B	82.45	342	P	P	18 40 17.4	0.0
	comp=Z,8.8nm,1.1s,baz=82,slow=9.3,SNR=22						
ARCES				pP	pP	18 41 06.8	+0.6
	comp=Z,5.5nm,1.0s,baz=52,slow=7.9,SNR=2.0						
RYN	Ryan	82.95	52	P	P	18 40 21.7	+0.8
RYN				IAmb	IAmb	18 40 22.9	
	comp=Z,6.2nm,0.8s						
KVN	Kaiserville	83.13	51	P	P	18 40 22.6	+0.8
KVN				IAmb	IAmb	18 40 23.8	
	comp=Z,6.4nm,0.8s						
KVN				pP	pP	18 41 11.1	+0.7
NVAR	Mina Array Bea	83.17	52	P	P	18 40 23.1	+1.0
	comp=Z,7.2nm,0.7s,baz=264,slow=5.9,SNR=60						
NVAR				pP	pP	18 41 11.7	+1.1
	comp=Z,3.1nm,0.8s,baz=265,slow=6.0,SNR=3.6						
NV11	Mina Array Sit	83.28	52	P	P	18 40 23.4	+0.8
NV11				IAmb	IAmb	18 40 24.6	
	comp=Z,5.6nm,0.8s						
NV11				pP	pP	18 41 12.0	+0.9
MFID	Camas Ranch	83.34	47	P	P	18 40 23.4	+0.7
ELK	Elko	84.65	49	P	P	18 40 30.3	+0.7
ELK					pP	18 41 19.0	+0.8
LRM	Limekiln Ridge	84.77	43	P	P	18 40 30.0	0.0
HRY	Holter Researc	84.84	42	P	P	18 40 31.2	+1.0
TPNV	Topopah Spring	85.20	53	P	P	18 40 33.0	+0.8
TPNV				IAmb	IAmb	18 40 34.1	
	comp=Z,6.0nm,0.7s						
BOZ	Bozeman (W)	85.38	43	P	P	18 40 33.5	+0.5
BOZ				IAmb	IAmb	18 40 34.5	
	comp=Z,22nm,1.8s						
QLMT	Earthquake Lak	85.80	44	P	P	18 40 36.2	+1.1
YHB	Horse Butte	85.99	44	P	P	18 40 37.3	+1.2
YHB				pP	pP	18 41 26.4	+1.5
SHPR	Sheep Range	86.17	53	P	P	18 40 37.9	+0.9
SHPR				pP	pP	18 41 27.6	+1.7
YMR	Madison River	86.17	44	P	P	18 40 38.5	+1.5
YHH	Holmes Hill	86.20	44	P	P	18 40 38.3	+1.2
YHH				pP	pP	18 41 25.9	-0.2
YNR	Norris Junctio	86.34	44	P	P	18 40 39.0	+1.2
YNR				pP	pP	18 41 27.8	+1.0
PSUT	Pine Spring	86.43	51	P	P	18 40 38.8	+0.4
PSUT				pP	pP	18 41 29.5	+2.3
FLWY	Flagg Ranch	86.57	45	P	P	18 40 40.1	+1.2
FLWY				pP	pP	18 41 28.6	+0.8
DUG	Dugway, Tooele	86.58	49	P	P	18 40 39.9	+1.0
MOOW	Moose Ponds	86.67	45	P	P	18 40 40.2	+0.8
FINES	FINESS Array B	86.83	335	P	P	18 40 38.3	-1.1
	comp=Z,1.2nm,0.3s,baz=64,slow=5.2,SNR=32						
FINES				pP	pP	18 41 28.1	-0.3
	comp=Z,2.5nm,0.6s,baz=79,slow=5.4,SNR=2.5						
FFC	Flin Flon	87.11	32	P	P	18 40 41.3	+0.4
FFC				IAmb	IAmb	18 40 42.3	
	comp=Z,12nm,1.0s						
CCUT	Cedar City	87.14	51	P	P	18 40 42.7	+0.9
KNB	Kanab	87.74	52	P	P	18 40 45.6	+1.0
KNB					pwP	18 41 37.2	-0.8
PDAR	Pinedale Array	87.85	45	P	P	18 40 44.9	-0.2
	comp=Z,0.5nm,0.5s,baz=135,slow=0.8,SNR=6.8						
U15A	North Rim	88.35	52	P	P	18 40 48.8	+1.2
U15A				IAmb	IAmb	18 40 49.9	
	comp=Z,4.7nm,0.9s						
Y14A	Wickenburg	88.73	55	P	P	18 40 49.7	+0.5
Y14A				IAmb	IAmb	18 40 51.2	
	comp=Z,7.5nm,0.8s						
Y14A					pwP	18 41 40.9	-1.8
WUAZ	Wupatki	89.39	53	P	P	18 40 53.3	+1.0
WUAZ				IAmb	IAmb	18 40 54.8	
	comp=Z,8.1nm,1.0s						
PV14	Lion Creek, Pa	89.99	49	P	P	18 40 55.8	+0.6
PV14				IAmb	IAmb	18 40 56.8	
	comp=Z,7.5nm,0.7s						
PV11	David Mesa, Pa	90.13	49	P	P	18 40 56.4	+0.6
PV11				IAmb	IAmb	18 40 58.1	
	comp=Z,8.7nm,0.8s						
PV03	Paradox Valley	90.17	49	P	P	18 40 56.4	+0.5
PV03				IAmb	IAmb	18 40 57.5	
	comp=Z,8.5nm,1.3s						
PV03				pP	pP	18 41 44.5	-0.7
PV01	Paradox Valley	90.42	49	P	P	18 40 57.6	+0.4
PV01				IAmb	IAmb	18 40 58.1	
	comp=Z,5.5nm,1.1s						
N23A	Red Feather La	91.09	46	P	P	18 41 01.5	+1.3
N23A				IAmb	IAmb	18 41 10.1	
	comp=Z,19nm,1.5s						
BRTR	Keskin Array B	94.05	314	P	P	18 41 12.2	-1.6
	comp=Z,0.9nm,0.8s,baz=180,slow=3.6,SNR=4.9						
ECSD	EROS Data Cent	95.75	40	P	P	18 41 22.1	+0.8
SNAA	Sanae	123.94	192	PKPdf	PKPdf	18 46 50.0	-1.4
VNA2	Neumayer--Watz	125.38	191	PKPdf	PKPdf	18 46 53.5	-0.7
	baz=20,slow=0.7						
VNA3	Neumayer Olymp	125.48	190	PKPdf	PKPdf	18 46 53.5	-0.9
PLCA	Paso Flores	142.07	133	PKhKP	PKPdf	18 47 22.1	-4.2
	comp=Z,1.6nm,0.6s,baz=283,slow=5.9,SNR=8.2						
PLCA	Paso Flores	142.07	133		PKPdf	18 47 21.9	-4.5
LPAZ	La Paz	147.74	91	PKPbc	PKPbc	18 47 40.2	-0.3
	comp=Z,7.7nm,0.7s,baz=290,slow=3.2,SNR=7.7						
LPAZ	La Paz	147.74	91	PKPdf	PKPdf	18 47 35.8	-1.6
LPAZ					PKPbc	18 47 40.8	+0.3
CPUP	Villa Florida	157.50	114	PKPab	PKPab	18 48 24.5	+0.9
	comp=Z,4.6nm,0.9s,baz=299,slow=3.1,SNR=7.4						
CPUP	Villa Florida	157.50	114		PKPab	18 48 23.9	+0.4

BJI ***06*** *18:49:30.8±0.0, 1°.15S×96°.14E, h27km, mb4.5/42, mB5.0/33, Ms4.5/23, Ms7 4.2/20*

IDC ***06*** *18:49:32.5±0.7, 0°.63S×96°.12E, h0km, mb4.3/19, mb1 4.4/23, mb1mx4.2/47, mbtmp4.4/23, ML4.1/4, MS3.8/20, Ms1 3.8/20, ms1mx3.6/44, Error ellipse: s-maj=20.2km s-min=12.0km az=45.0*

GCMT ***06*** *18:49:33.8±0.4, 0°.56S±0°.02×96°.14E±0°.02, h23km±1km, MW4.9/84, Moment Tensor Solution. s27,c30; s84,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.01±.12; $M_{\theta\theta}$-1.72±.10; $M_{\phi\phi}$1.70±.10; $M_{r\theta}$-0.52±.15; $M_{\theta\phi}$-1.48±.09; $M_{\phi r}$-0.70±.16; Best double couple: $M_0$2.42100×10^{16} NP1: ϕ_s24.00000°, δ87.00000°, λ-20.00000°. NP2: ϕ_s115.00000°, δ70.00000°, λ-177.00000°. Principal axes: T 2.3510, Plg12.0000°, Azm71.0000°; N 0.1320, Plg69.0000°, Azm196.0000°; P -2.4910, Plg17.0000°, Azm338.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISCJB ***06*** *18:49:35.2±0.2, 0°.57S±0°.03×96°.30E±0°.03, h33km, mb4.6/60, MS3.9/22 Error ellipse: s-maj=4.6km s-min=2.9km az=40.7*

MOS ***06*** *18:49:35.6±0.9, 0°.54S×96°.20E, h33km, mb4.9/12, Error ellipse: s-maj=10.2km s-min=6.4km az=108.7*

DJA ***06*** *18:49:35.0±0.8, 1°S±2°×9°6E±°, h22km±7km, M4.9/37, mB5.3/18, mb4.9/37, MLv5.2/19, Mw(mB)4.7/18*

NEIC ***06*** *18:49:36.8±2.0, 0°.57S±0°.07×96°.25E±0°.08, h30km±4km, mb4.9/49*

ISC 06 18:49:37.4±0.4**, 0°.59S**±0°.05×**96°.22E**±0°.05**, h35km, n196,** σ**1.43**/185**, mb4.8**/70**, MS3.9**/23**, 1C-2D, Southwest of**
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSI	Gunungsitoli	2.32	36	P	Pn	18 50 11.3	-1.8
GSI				S	Sn	18 50 38.3	-2.1
GSI	Gunungsitoli	2.32	36		Pn	18 50 11.4	-1.8
SISI	Saibi	2.97	104	P	Pn	18 50 21.0	-1.0
SISI				S	Sn	18 50 54.2	-2.2
SNSI	Sinabang, Aceh	2.98	2	P	Pn	18 50 19.3	-2.8
SNSI				S	Sn	18 50 52.6	-4.0
RPSI	Rantau Prapat	4.24	40		Pn	18 50 37.8	-1.7
RPSI	Rantau Prapat	4.24	40		Pn	18 50 38.9	-0.6
RPSI					Sn	18 51 28.2	+0.4
PDSI	Padang	4.26	94	P	Pn	18 50 38.6	-1.2
PSI	Prapat	4.32	39	P	Pn	18 50 37.8	-2.9
PSI						18 51 28.2	
PSI	Prapat	4.32	39	Pn	Pn	18 50 38.9	-1.8
	6.2nm,0.3s,baz=332,slow=17,SNR=21						
PSI				Sn	Sn	18 51 28.2	-1.8
	10nm,0.3s,baz=152,slow=6.9,SNR=6.3						
PSI				LR	LR	18 52 46.5	
	comp=Z,2µm,18.6s,baz=186,slow=45						
PPSI	Pulau Pagai	4.37	120	P	Pn	18 50 38.8	-2.4
MLSI	Meulaboh, Aceh	4.82	2	P	Pn	18 50 43.3	-4.3
BKNI	Bangkinang	4.91	79	P	Pn	18 50 47.2	-1.5
BKNI	Bangkinang	4.91	79		Pn	18 50 48.2	-0.5
SDSI	Sungai Dareh	5.22	94	P	Pn	18 50 52.1	-1.0
	86nm,0.7s,2µm0.7nm						
KRJI	Kerinci	5.45	106	P	Pn	18 50 55.2	-1.1
	2µm,1.1s,22µm12nm						
LHMI	Lhok Sumawe	5.82	7	P	Pn	18 50 59.2	-2.1
	176nm,1.2s,1.8nm						
LHMI	Lhok Sumawe	5.82	7		Pn	18 50 59.2	-2.1
MASI	Maura Aman, Be	6.53	113	P	Pn	18 51 09.2	-1.9
	426nm,0.8s,6µm4.8nm						
IPM	Ipoh	6.96	44		Pn	18 51 16.0	-0.9
KSI	Kapahiang	7.06	116	P	Pn	18 51 17.2	-1.2
	301nm,0.9s,4µm2.9nm						
KULM	Kulim	7.33	37		Pn	18 51 20.3	-1.7
MNAI	Manna	7.71	119	P	Pn	18 51 25.8	-1.4
	508nm,0.6s,6µm4.3nm						
MNAI	Manna	7.71	119		Pn	18 51 25.6	-1.6
MNAI					Sn	18 52 46.7	-6.6
LHSI	Lahat	7.98	114	P	Pn	18 51 29.9	-1.0
	183nm,0.7s,2µm1.0nm						
MYKOM	Kota Tinggi	7.99	73		Pn	18 51 30.3	-0.8
DSRI	Dabo	8.36	89	P	Pn	18 51 35.0	-1.2
	5.5nm,0.7s						
TPRI	Tanjung Pinang	8.45	80	P	Pn	18 51 36.0	-1.3
	173nm,0.9s						
MDSI	Maura Dua	8.85	116	P	Pn	18 51 41.2	-1.6
	59nm,0.8s,547nm						
LWLI	Liwa	8.98	119	P	Pn	18 51 43.3	-1.5
	177nm,0.7s,5µm						
KLSI		9.43	116	P	Pn	18 51 49.9	-1.0
	21nm,0.8s						
KASI	Kota Agung	9.61	121	P	Pn	18 51 51.7	-1.6
	81nm,0.7s						
TPI	Tanjungpandan	11.63	101	P	Pn	18 52 19.2	-1.8
	17nm,1.1s						
TNG	Tangerang	11.80	118	P	Pn	18 52 32.8	+10
DBJI	Dramaga	12.07	120	P	P	18 52 39.7	+0.4
LEM	Lembang	12.95	119	Pn	Pn	18 52 39.0	-0.3
	2.7nm,0.3s,baz=331,slow=19,SNR=2.8						
LEM				Sn	Sn	18 55 05.8	+3.5
	1.7nm,0.3s,baz=316,slow=22,SNR=3.9						
LEM				LR	LR	18 58 13.2	
	comp=Z,426nm,18.8s,baz=294,slow=40						
CISI	Cisompet, Garu	13.48	121	P	Pn	18 52 46.2	-0.1
	55nm,0.6s						
CISI	Cisompet, Garu	13.48	121		Pn	18 52 41.4	-4.9
KSM	Kuching	14.24	82		Pn	18 52 56.2	-0.5
KPJI	Karang Pucung	14.34	118	P	Pn	18 52 54.8	-3.2
	38nm,0.7s						
SBUM	Sibu	16.28	79	P	Pn	18 53 23.8	+0.3
PALK	Pallekele	17.33	297	*i* P	Pn	18 53 35.7	-1.1
PALK	Pallekele	17.33	297	P	Pn	18 53 34.9	-1.8
	0.2nm,0.3s,baz=131,slow=9.3,SNR=3.4						
PALK				LR	LR	18 59 45.3	
	comp=Z,152nm,18.1s,baz=118,slow=36						
PALK	Pallekele	17.33	297	P	Pn	18 53 34.5	-2.2
PBKT	Sadao Pong	17.68	15	P	P	18 53 41.5	-0.1
CM31	Chiang Mai Arr	19.11	8	P	P	18 53 57.0	-0.4
CM31				IAmb	IAmb	18 54 09.8	
	comp=Z,44nm,0.9s						
CMAR	Chiang Mai Arr	19.11	8	P	Pn	18 53 59.2	+0.7
	comp=Z,0.4nm,0.3s,baz=197,slow=12,SNR=53						
CHTO	Chiang Mai	19.46	8	P	P	18 54 01.8	+0.5
CHTO				pmax	pmax		
	comp=Z,22nm,0.8s						
CHTO	Chiang Mai	19.46	8	P	P	18 54 01.8	+0.5
SRBI	Singaraja	20.34	112	P	Pn	18 54 27.9	+15
SIMRM	Sittwe	20.85	351	P	P	18 54 16.9	+0.6
KKM	Kota Kinabalu	21.02	71	P	P	18 54 18.1	-0.3
SLVN	Son La	23.05	19	P	P	18 54 40.4	+0.6
SLVN				IAmb	IAmb	18 54 59.3	
	comp=Z,31nm,0.8s						
TTSI	Tana Toraja	23.72	96	P	P	18 54 54.1	+7.7
SPSI	Sidrap Palu	23.77	98	P	P	18 54 55.6	+8.7
KAPI	Kappang	23.91	101	P	P	18 54 49.5	+1.2
KAPI				pmax	pmax		
	comp=Z,72nm,1.4s						
KAPI	Kappang	23.91	101	P	P	18 54 50.0	+1.8
	comp=Z,2.6nm,0.3s,baz=207,slow=5.1,SNR=9.0						
KAPI				LR	LR	19 04 39.2	
	comp=Z,239nm,20.4s,baz=120,slow=38						
KAPI	Kappang	23.91	101	P	P	18 54 49.5	+1.2
KAPI				IAmb	IAmb	18 54 60.0	
	comp=Z,72nm,1.4s						
BNSI	Bone	24.16	99	P	P	18 54 51.3	+0.7
	comp=Z,60nm,1.1s,comp=Z,796nm						
BKSI	Bulukumba	24.33	102	P	P	18 54 50.6	-1.5
	comp=Z,28nm,1.2s						
H08S2	Diego Garcia H	24.66	253	T	T	19 20 46.1	
	baz=75,slow=74,SNR=74						
H08S3	Diego Garcia H	24.67	253	T	T	19 20 50.7	
	baz=75,slow=74,SNR=100						
H08S1	Diego Carcia H	24.68	253	T	T	19 20 36.9	
	baz=75,slow=74,SNR=63						
KMI	Kunming	26.33	13	P	P	18 55 10.9	+0.5
KMI				pP	sP	18 55 21.4	-1.1
KMI				sP	pwP	18 55 24.7	-0.7
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI				LR	LR		
	comp=Z,390nm,17.6s						
KMI				LR	LR		
	comp=Z,300nm,11.1s						
KMI				LR	LR		
	comp=Z,490nm,16.7s						
SHL	Shillong	26.34	351	P	P	18 55 10.5	+0.2
SHL				pmax	pmax		
	comp=Z,70nm,0.8s						
SHL	Shillong	26.34	351	P	P	18 55 10.5	+0.2
LUWI	Luwuk	26.56	91	P	P	18 55 12.6	+0.3
	comp=Z,135nm,1.2s,comp=Z,1µm						
LUWI	Luwuk	26.56	91	P	P	18 55 13.6	+1.2
BBSI	Bau Bau	26.76	101	P	P	18 55 25.8	+12
TGY	Tagaytay City	28.50	58	LR	LR	19 08 12.3	
	comp=Z,127nm,21.0s,baz=116,slow=39						
ODAN	Odare	28.58	343	*e*P	P	18 55 30.7	+0.1
	comp=Z,43nm,0.8s						
RAMN	Ramite	28.90	342	*e*P	P	18 55 32.4	-1.0
	comp=Z,38nm,0.5s						
BATI	Baumata	28.92	110	P	P	18 55 32.7	-0.8
	comp=Z,13nm,0.5s,baz=327,slow=4.6,SNR=2.0						
BATI				LR	LR	19 09 28.5	
	comp=Z,231nm,19.8s,baz=320,slow=41						
TAPN	Taplejung	28.95	344	*e*P	P	18 55 35.1	+1.1
	comp=Z,32nm,0.8s						
JIRN	Jiri	29.69	342	*e*P	P	18 55 41.2	+0.6
	comp=Z,62nm,0.7s						
SANI	Sanana	29.80	93	P	P	18 55 41.3	0.0
	comp=Z,12nm,1.2s						
PKI	Pulchoki	29.86	340	*e*P	P	18 55 42.2	+0.2
	comp=Z,13nm,0.6s						
PKIN	Phulchoki	29.87	340	*e*P	P	18 55 42.2	+0.2
	comp=Z,11nm,0.6s						
DMN	Daman	30.00	340	*e*P	P	18 55 42.8	-0.4
	comp=Z,20nm,0.9s						
GUN	Gumba	30.02	341	*e*P	P	18 55 44.5	+1.0
	comp=Z,38nm,0.6s						
DAV	Davao City (W)	30.27	75	LR	LR	19 09 37.4	
	comp=Z,133nm,21.6s,baz=246,slow=40						
LSA	Lhasa	30.50	351	P	P	18 55 47.9	+0.1
LSA				pmax	pmax		
	comp=Z,18nm,0.6s						
LSA	Lhasa	30.50	351	P	P	18 55 47.9	+0.1
GKN	Gorkha	30.52	340	*e*P	P	18 55 47.9	+0.2
	comp=Z,62nm,0.8s						
KOLN	Koldanda	30.69	338	*e*P	P	18 55 49.1	-0.1
	comp=Z,59nm,0.8s						
DANN	Dangsing	31.15	338	*e*P	P	18 55 54.0	+0.6
	comp=Z,78nm,0.8s						
CD2	Chengdu	32.13	12	*e*P	P	18 56 01.5	-0.2
CD2				S	S	19 01 13.5	+1.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,200nm,4.5s						
CD2				LR	LR		
	comp=Z,540nm,14.2s						
CD2				LR	LR		
	comp=Z,1µm,21.1s						
CD2				LR	LR		
	comp=Z,640nm,15.7s						
ENH	Enshi	33.19	21	P	P	18 56 11.6	+0.6
ENH				IAmb	IAmb	18 56 28.8	
	comp=Z,12nm,0.8s						
FITZ	Fitzroy Crossi	33.74	123	P	P	18 56 16.6	+0.7
KNRA	Kununurra	35.45	117	P	P	18 56 30.4	-0.3
KNRA				IAmb	IAmb	18 56 42.1	
	comp=Z,10nm,0.8s						
XAN	Xi'an	36.45	18	P	P	18 56 38.3	-0.8
XAN				pmax	pmax		
	comp=Z,12nm,1.0s						
XAN				pmax	pmax		
	comp=Z,140nm,6.4s						
XAN				LR	LR		
	comp=Z,240nm,24.9s						
XAN	Xi'an	36.45	18	P	P	18 56 38.1	-1.0
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
XAN	Xi'an	36.45	18	P	P	18 56 38.1	-1.0
XAN				IAmb	IAmb	18 56 57.0	
	comp=Z,12nm,0.7s						
LZH	Lanzhou	37.17	10	*e*P	P	18 56 45.5	+0.2
LZH				pP	pP	18 56 54.4	+0.4
LZH				sP	pwP	18 57 01.8	+1.5
LZH				PP	PnPn	18 58 16.7	+5.6
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
LZH				pmax	pmax		
	comp=Z,59nm,5.4s						
LZH				LR	LR		
	comp=Z,250nm,16.3s						
LZH				LR	LR		
	comp=Z,390nm,17.9s						
LZH				LR	LR		
	comp=Z,280nm,18.1s						
NJ2	Nanjing	38.89	31	*e*P	P	18 57 01.9	+2.2
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
GTA	Gaotai	39.94	4	P	P	18 57 09.0	+0.5
GTA				pP	pP	18 57 18.0	+0.7
GTA				sP	pwP	18 57 22.8	-0.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,37nm,4.5s						
GTA				LR	LR		
	comp=Z,140nm,17.5s						
GTA				LR	LR		
	comp=Z,170nm,15.9s						
GTA				LR	LR		
	comp=Z,130nm,16.2s						
NIL	Nilore	40.32	330	P	P	18 57 10.7	-0.9
NIL				pmax	pmax		
	comp=Z,19nm,0.6s						
NIL	Nilore	40.32	330	P	P	18 57 10.7	-0.9
WRA	Warramunga Arr	41.97	120	P	P	18 57 26.1	+0.7
	comp=Z,3.9nm,0.8s,baz=297,slow=9.0,SNR=27						
WRAB	Tennant Creek	41.98	120	*i* P	P	18 57 26.2	+0.8
ASAR	Alice Springs	43.15	125	P	P	18 57 36.0	+1.1
	comp=Z,3.3nm,0.7s,baz=298,slow=7.7,SNR=32						
ASAR				LR	LR	19 17 49.8	
	comp=Z,70nm,19.4s,baz=301,slow=39						
AS31	Alice Springs	43.15	125	P	P	18 57 35.0	0.0
WSAR	Wadi Sarin	43.54	305	LR	LR	19 13 13.0	
	comp=Z,124nm,20.2s,baz=142,slow=33						
HHC	Hu-ho-hao-te	43.54	17	*e*P	P	18 57 38.5	+0.6
HHC				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KSH	Kashi	44.01	337	P	P	18 57 42.8	+1.1
KSH				ScP	ScP	19 03 16.0	-0.3
KSH				PcS	PcS	19 03 19.7	-0.4
KSH				S	S	19 04 11.4	-0.2
KSH				sS	sS	19 04 28.6	+2.4
KSH				pmax	pmax		
	comp=Z,360nm,5.6s						
KSH				LR	LR		
	comp=Z,580nm,7.0s						
WMQ	Urumqi	44.86	351	*e*P	P	18 57 49.9	+1.5
WMQ				pP	pP	18 57 58.7	+1.4
WMQ				pmax	pmax		
	comp=Z,21nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,220nm,5.3s						
TARG	Taragay, Kyrgy	45.30	341	P	P	18 57 52.6	+0.3
NRN	Naryn	45.66	339	P	P	18 57 55.2	+0.1
NRN				pmax	pmax		
	comp=Z,38nm,1.6s						
NRN	Naryn	45.66	339	P	P	18 57 55.2	+0.1
KDJ	Kajisay	45.86	340	P	P	18 57 57.1	+0.6
KDJ				pmax	pmax		
	comp=Z,16nm,0.9s						
KDJ	Kajisay	45.86	340	P	P	18 57 57.1	+0.6
KDJ				IAmb	IAmb	18 58 06.6	
	comp=Z,16nm,0.8s						
GAR	Garm	46.01	332	P	P	18 57 57.0	-0.7
GAR				IAmb	IAmb	18 58 06.0	
	comp=Z,14nm,1.2s						
PDGK	Podgornoye	46.22	343	P	P	18 58 00.1	+0.9
PDGK				pmax	pmax		
	comp=Z,27nm,0.9s						
CHGR	Chuyangaron	46.30	330	P	P	18 58 00.5	+0.6
CHGR				IAmb	IAmb	18 58 07.4	
	comp=Z,9.7nm,0.6s						
BTK	Batken	46.62	333	P	P	18 58 02.6	+0.2
BTK				pmax	pmax		
	comp=Z,12nm,0.9s						
BTK	Batken	46.62	333	P	P	18 58 02.6	+0.2
BTK				IAmb	IAmb	18 58 12.1	
	comp=Z,12nm,0.8s						
ARSB	Arslanbob	46.73	336	P	P	18 58 03.5	+0.2
JNU	Nakatsue	46.79	41	P	P	18 58 03.7	0.0
	comp=Z,5.3nm,0.8s,baz=180,slow=9.1,SNR=2.7						
JNU	Nakatsue	46.79	41	P	P	18 58 02.1	-1.7
JNU				IAmb	IAmb	18 58 31.1	
	comp=Z,16nm,1.0s						
HRA	Herat	47.15	321	P	P	18 58 05.8	-1.0
AAK	Ala-Archa	47.26	338	*i* P	P	18 58 06.5	-0.9
AAK				pmax	pmax		
	comp=Z,1.0nm,1.3s						
AAK	Ala-Archa	47.26	338	P	P	18 58 10.0	+2.6
KSRS	Korea Array	47.87	34	P	P	18 58 12.3	+0.3
	comp=Z,1.7nm,0.8s,baz=223,slow=8.5,SNR=5.0						
MK31	Makanchi Array	48.74	347	*i* P	P	18 58 18.6	0.0
MK31				pmax	pmax		
	comp=Z,12nm,0.7s						
MK31	Makanchi Array	48.74	347	P	P	18 58 17.9	-0.7
MK31				IAmb	IAmb	18 58 28.3	
	comp=Z,11nm,0.7s						
MKAR	Makanchi Array	48.74	347	P	P	18 58 19.1	+0.5
	comp=Z,6.4nm,0.6s,baz=166,slow=8.1,SNR=40						
MKAR				LR	LR	19 21 18.2	
	comp=Z,102nm,20.6s,baz=158,slow=39						
MAKZ	Makanchi	48.83	347	P	P	18 58 18.6	-0.7
MAKZ	Makanchi	48.83	347	P	P	18 58 18.6	-0.7
SONM	Songino Array	49.03	9	P	P	18 58 22.0	+1.0
	comp=Z,1.8nm,0.8s,baz=191,slow=7.5,SNR=12						
ULN	Ulaanbaatar	49.17	10	*ce*P	P	18 58 22.7	+0.6
ULN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ULN	Ulaanbaatar	49.17	10	P	P	18 58 23.4	+1.4
KK31	Karatay Array	49.23	335	*i* P	P	18 58 21.7	-0.8
KK31				pmax	pmax		
	comp=Z,13nm,1.0s						
KK31	Karatay Array	49.23	335	P	P	18 58 22.1	-0.4
KK31				IAmb	IAmb	18 58 31.9	

	comp=Z,11nm,1.0s						
KKAR	**Karatay Array**	**49.23**	**335**	P	**P**	**18 58 22.1**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,11nm,1.0s						
KKAR	**Karatay Array**	**49.23**	**335**	P	**P**	**18 58 22.1**	**-0.4**
KKAR				IAmb	IAmb	18 58 31.9	
	comp=Z,11nm,1.0s						
BBOO	**Buckleboo**	**49.31**	**135**	P	**P**	**18 58 23.1**	**-0.1**
CN2	**Changchun**	**51.33**	**27**	eP	**P**	**18 58 37.4**	**-0.9**
CN2				eS	**S**	**19 05 51.5**	**-3.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
PMG	**Port Moresby**	**51.44**	**102**	P	**P**	**18 58 38.7**	**-0.9**
PMG				pmax	pmax		
	comp=Z,12nm,1.0s						
PMG	**Port Moresby**	**51.44**	**102**	P	**P**	**18 58 38.7**	**-0.9**
PMG				IAmb	IAmb	18 58 51.2	
	comp=Z,12nm,0.9s						
GEYT	**Alibeck**	**51.97**	**322**	P	**P**	**18 58 42.5**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=146,slow=11,SNR=3.9						
GEYT				LR	LR	19 22 20.7	
	comp=Z,77nm,18.1s,baz=10.0,slow=38						
INU	**Inuyama**	**52.20**	**43**	P	**P**	**18 58 43.5**	**-1.5**
TLY	**Talaya**	**52.45**	**6**	iP	**P**	**18 58 46.6**	**0.0**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TLY	**Talaya**	**52.45**	**6**	LR	LR	19 22 21.5	
	comp=Z,147nm,20.9s,baz=182,slow=38						
STKA	**Stephens Creek**	**52.92**	**131**	P	**P**	**18 58 51.2**	**+0.8**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
STKA	**Stephens Creek**	**52.92**	**131**	P	**P**	**18 58 51.4**	**+1.0**
	comp=Z,5.6nm,0.7s,baz=306,slow=6.3,SNR=23						
STKA	**Stephens Creek**	**52.92**	**131**	P	**P**	**18 58 51.2**	**+0.8**
KURBB	**Kurchatov Arra**	**53.20**	**346**	P	**P**	**18 58 52.4**	**+0.4**
	comp=Z,0.9nm,0.2s,baz=166,slow=6.8,SNR=8.7						
KURK	**Kurchatov**	**53.27**	**346**	P	**P**	**18 58 52.8**	**+0.3**
KURK				pmax	pmax		
	comp=Z,26nm,1.5s						
KURK	**Kurchatov**	**53.27**	**346**	P	**P**	**18 58 52.8**	**+0.3**
KURK				IAmb	IAmb	18 59 03.2	
	comp=Z,26nm,1.4s						
RAYN	**Ar Rayn**	**54.75**	**300**	P	**P**	**18 59 04.0**	**+0.1**
RAYN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
RAYN	**Ar Rayn**	**54.75**	**300**	P	**P**	**18 59 04.0**	**+0.1**
RAYN				IAmb	IAmb	18 59 13.7	
	comp=Z,8.9nm,1.1s						
USRK	**Ussuriysk Ar.**	**54.80**	**31**	P	**P**	**18 59 05.8**	**+1.9**
	comp=Z,2.8nm,0.7s,baz=242,slow=7.4,SNR=7.8						
ZAA0	**Zalesovo Array**	**55.16**	**352**	P	**P**	**18 59 06.1**	**-0.2**
ZALV	**Zalesovo Beam**	**55.16**	**352**	P	**P**	**18 59 06.5**	**+0.2**
	comp=Z,7.2nm,0.5s,baz=173,slow=7.6,SNR=22						
ZALV				LR	LR	19 25 22.5	
	comp=Z,96nm,18.0s,baz=182,slow=39						
BVAR	**Borovoye Array**	**57.62**	**342**	P	**P**	**18 59 22.7**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=133,slow=8.1,SNR=11						
BRVK	**Borovoye**	**57.68**	**342**	iP	**P**	**18 59 23.9**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**57.68**	**342**	P	**P**	**18 59 23.4**	**-0.8**
BRVK				IAmb	IAmb	18 59 33.1	
	comp=Z,21nm,1.6s						
KLR	**Kul'dur**	**58.28**	**27**	iP	**P**	**18 59 29.3**	**+0.8**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
EIDS	**Eidsvold**	**58.34**	**120**	P	**P**	**18 59 30.2**	**+0.8**
EIDS				IAmb	IAmb	18 59 52.9	
	comp=Z,20nm,1.4s						
AB31	**Akbulak array**	**58.63**	**333**	iP	**P**	**18 59 29.8**	**-1.2**
AB31				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ABKAR	**Akbulak array**	**58.63**	**333**	P	**P**	**18 59 30.2**	**-0.8**
ABKAR				IAmb	IAmb	18 59 39.1	
	comp=Z,8.3nm,0.8s						
KMBO	**Kilima Mbogo**	**58.96**	**269**	LR	LR	19 20 23.2	
	comp=Z,97nm,19.9s,baz=93,slow=31						
SVE	**Sverdlovsk**	**63.98**	**339**	eP	P	19 00 15.1	+8.1
SVE				pmax	pmax		
	comp=Z,16nm,1.0s						
ARU	**Arti**	**64.45**	**338**	d iP	P	19 00 17.5	+7.4
ARU						19 02 37.7	
ARU				S	S	19 09 01.8	+15
ARU				pmax	pmax		
	comp=Z,12nm,1.5s						
ARU	**Arti**	**64.45**	**338**	P	**P**	**19 00 10.2**	**+0.1**
ARU				IAmb	IAmb	19 00 18.9	
	comp=Z,10.0nm,1.2s						
KBZ	**Khabaz**	**64.78**	**320**	P	**P**	**19 00 13.8**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=110,slow=6.9,SNR=4.5						
KBZ				LR	LR	19 30 49.3	
	comp=Z,42nm,18.6s,baz=142,slow=38						
YAK	**Yakutsk**	**67.40**	**16**	eP	**P**	**19 00 28.9**	**0.0**
YAK				pmax	pmax		
	comp=Z,12nm,1.4s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.5s						
YAK	**Yakutsk**	**67.40**	**16**	LR	LR	19 32 39.6	
	comp=N,68nm,18.2s,baz=241,slow=38						
YAK	**Yakutsk**	**67.40**	**16**	P	**P**	**19 00 28.4**	**-0.5**
YAK				IAmb	IAmb	19 00 41.5	
	comp=Z,9.6nm,0.8s						
CSS	**Mathiatis**	**68.37**	**308**	P	**P**	**19 00 35.8**	**0.0**
CSS				IAmb	IAmb	19 00 45.1	
	comp=Z,18nm,1.4s						
LSZ	**Lusaka**	**68.67**	**254**	P	**P**	**19 00 38.8**	**+0.8**
LSZ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
LSZ	**Lusaka**	**68.67**	**254**	P	**P**	**19 00 38.8**	**+0.8**
VRH	**Novokhopyorsk**	**69.06**	**327**	eP	**P**	**19 00 43.0**	**+3.5**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BR131	**Keskin Array S**	**69.59**	**313**	P	**P**	**19 00 43.7**	**+0.3**
BR131				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BR131	**Keskin Array S**	**69.59**	**313**	P	**P**	**19 00 43.7**	**+0.3**
BRTR	**Keskin Array B**	**69.59**	**313**	P	**P**	**19 00 43.9**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=133,slow=7.3,SNR=4.9						
BRTR				LR	LR	19 31 33.0	
	comp=Z,43nm,20.6s,baz=98,slow=36						
VORD	**Divnogorie**	**70.29**	**326**	eP	**P**	**19 00 51.1**	**+3.9**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.4s						
VSR	**Storozhevoye**	**70.48**	**326**	eP	**P**	**19 00 51.3**	**+3.0**
VSR				pmax	pmax		
	comp=Z,30nm,1.4s						
LPSR	**Galich'ya Gora**	**71.24**	**327**	eP	P	19 00 58.4	+5.5
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BOSA	**Boshof**	**73.04**	**240**	P	**P**	**19 01 03.9**	**-0.5**
BOSA				pmax	pmax		
	comp=Z,60nm,2.0s						
BOSA	**Boshof**	**73.04**	**240**	P	**P**	**19 01 03.9**	**-0.5**
	comp=Z,3.4nm,1.0s,baz=121,slow=12,SNR=3.0						
BOSA				LR	LR	19 25 19.3	
	comp=Z,85nm,21.3s,baz=66,slow=29						
BOSA	**Boshof**	**73.04**	**240**	P	**P**	**19 01 03.9**	**-0.5**
TIXI	**Tiksi**	**75.11**	**10**	iP	**P**	**19 01 15.7**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIXI	**Tiksi**	**75.11**	**10**	LR	LR	19 35 59.6	
	comp=Z,90nm,19.4s,baz=213,slow=37						
TIXI	**Tiksi**	**75.11**	**10**	P	**P**	**19 01 15.3**	**-0.1**
TIXI				IAmb	IAmb	19 01 25.8	
	comp=Z,6.7nm,0.8s						
BUR08	**Bucovina Ar. S**	**77.73**	**319**	P	**P**	**19 01 30.7**	**-0.3**
BUR08				IAmb	IAmb	19 01 48.9	
	comp=Z,28nm,1.9s						
SYO	**Syowa Base**	**78.01**	**198**	⇓iP	**P**	**19 01 32.0**	**+0.1**
KOLS	**Kolonicke sedl**	**79.94**	**320**	eP	P	19 01 52.2	+9.3
KOLS				pmax	pmax		
	comp=Z,14nm,1.1s						
KOLS	**Kolonicke sedl**	**79.94**	**320**	eP	P	19 01 52.2	+9.3
FINES	**FINESS Array B**	**81.12**	**333**	P	**P**	**19 01 51.0**	**+2.1**
	comp=Z,1.9nm,0.8s,baz=108,slow=6.2,SNR=7.7						
VYHS	**Vyhne**	**82.08**	**319**	eP	P	19 02 03.2	+8.9
VYHS	**Vyhne**	**82.08**	**319**	eP	P	19 02 03.2	+8.9
ARCES	**ARCESS Array B**	**83.88**	**340**	P	**P**	**19 02 04.0**	**+0.9**
	comp=Z,4.1nm,0.9s,baz=84,slow=5.0,SNR=7.9						
TORD	**Torodi Ar. Bea**	**94.53**	**283**	LR	LR	19 43 19.5	
	comp=Z,55nm,20.6s,baz=350,slow=34						
TXAR	**Lajitas Array**	**145.69**	**32**	PKPbc	**PKPab**	**19 09 14.2**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=171,slow=1.2,SNR=6.0						
JCT	**Junction City**	**146.60**	**26**	PKP2	**PKPdf**	**19 09 14.8**	**+0.3**
JCT	**Junction City**	**146.60**	**26**		**PKPdf**	**19 09 14.8**	**+0.3**

*IDC **06** 18:58:35.6±0.8, 35°.29N×77°.01E, h0km, mb3.7/11, mb1 3.8/15, mb1mx3.6/51, mbtmp3.7/15, ML3.4/4, MS2.8/1, Ms1 2.8/1, ms1mx2.4/51, Error ellipse: s-maj=21.0km s-min=15.4km az=50.0*

*NNC **06** 18:58:36.4±7.1, 35°.98N×74°.21E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=59.6km s-min=49.1km az=44.0*

*BJI **06** 18:58:40.3±0.0, 35°.57N×77°.17E, h8km, mb3.9/3, ML3.7/2*

ISC 06 18:58:37.0±0.6**, 35°.28N**±0°.04×**77°.12E**±0°.09**, h10km, n37, σ1s70**/35**, mb3.7**/10**, 4C-1D, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.07**	**203**	eP	**Pb**	**18 59 32.0**	**+0.2**
THN				eS	**Sg**	**19 00 17.0**	**+1.3**
DHRM	**DHARAMSHALA**	**3.10**	**193**	eP	**Pb**	**18 59 32.1**	**-0.3**
DHRM				eS	**Sg**	**19 00 18.1**	**+1.4**
DHRM				IAML		19 00 24.6	
	comp=N,203nm,0.2s						
DHRM				IAML		19 00 25.2	
	comp=E,1μm,1.0s						
JMU	**Jammu**	**3.15**	**216**	ex	Pn	18 59 35.0	+8.3
JMU				ex	x	19 00 16.5	
SMLA	**Simla**	**4.14**	**179**	eP	**Pb**	**18 59 45.3**	**-4.7**
SMLA				eS	**Sg**	**19 00 48.1**	**-2.0**
SMLA				IAML		19 00 49.8	
	comp=E,191nm,0.6s						
SMLA				IAML		19 00 52.0	
	comp=N,211nm,0.5s						
JOSI	**Joshimath**	**5.14**	**156**	eP	Pb	19 00 00.8	-6.4
JOSI				ex	x	19 00 57.5	
AAK	**Ala-Archa**	**7.62**	**345**	Pn	Pn	19 00 32.2	+3.9
	comp=N,0.2nm,0.3s,baz=149,slow=18,SNR=2.4						
AAK				Lg	Lg	19 02 32.4	
	comp=N,0.5nm,0.3s,baz=342,slow=20,SNR=3.4						
AAK				LR	LR	19 03 40.0	
	comp=N,69nm,18.7s,baz=99,slow=40						
MDOK	**Medeo**	**7.87**	**360**	⇑Pg	**Pb**	**19 00 53.2**	**-0.4**
	comp=N,17nm,1.2s						
MDOK				⇑Lg	Lg	19 02 35.2	
	comp=N,30nm,0.9s						
KNDC	**Almaty**	**7.92**	**359**	⇑Lg	Lg	19 02 37.1	
PDGK	**Podgornoye**	**8.24**	**12**	⇓Pn	**Pn**	**19 00 39.1**	**+2.4**
	comp=N,6.4nm,0.9s						
DANN	**Dangsing**	**8.92**	**139**	eP	**Pn**	**19 00 47.7**	**+1.4**
	comp=N,6.9nm,0.2s						
KOLN	**Koldanda**	**9.31**	**142**	eP	**Pn**	**19 00 52.9**	**+1.4**
	comp=N,13nm,0.5s						
KK31	**Karatay Array**	**9.34**	**329**	Pg	Pn	19 00 56.3	+4.6
	comp=N,0.5nm,0.3s,baz=132,slow=12,SNR=18						
KK31				⇑Lg	Lg	19 02 38.0	
	comp=N,1.7nm,0.7s,baz=147,slow=12,SNR=6.2						
GKN	**Gorkha**	**9.68**	**137**	eP	**Pn**	**19 00 58.4**	**+1.9**
	comp=N,17nm,0.3s						
KKN	**Kakani**	**10.21**	**135**	eP	**Pn**	**19 01 04.9**	**+1.1**
	comp=N,11nm,0.5s						
DMN	**Daman**	**10.24**	**136**	eP	**Pn**	**19 01 06.1**	**+1.8**
	comp=N,12nm,0.4s						
PKIN	**Phulchoki**	**10.44**	**135**	eP	**Pn**	**19 01 08.5**	**+1.5**
	comp=N,11nm,0.5s						
PKI	**Pulchoki**	**10.45**	**135**	eP	**Pn**	**19 01 08.3**	**+1.1**
	comp=N,9.2nm,0.4s						
GUN	**Gumba**	**10.47**	**132**	eP	**Pn**	**19 01 08.5**	**+0.9**
	comp=N,8.8nm,0.4s						
JIRN	**Jiri**	**10.84**	**132**	eP	**Pn**	**19 01 13.7**	**+1.0**
	comp=N,22nm,0.3s						
RAMN	**Ramite**	**11.61**	**133**	eP	**Pn**	**19 01 22.7**	**-0.4**
	comp=N,6.9nm,0.3s						
WMQ	**Urumqi**	**11.79**	**41**	eP	**Pn**	**19 01 27.9**	**+2.6**
TAPN	**Taplejung**	**12.01**	**128**	eP	**Pn**	**19 01 27.9**	**-0.7**
	comp=N,5.0nm,0.3s						
MKAR	**Makanchi Array**	**12.14**	**17**	Pn	**Pn**	**19 01 30.3**	**+0.3**
	comp=N,0.3nm,0.3s,baz=197,slow=12,SNR=7.7						
MKAR				Sn	**Sn**	**19 03 41.5**	**-3.8**
	comp=N,0.1nm,0.3s,baz=200,slow=24,SNR=5.8						
ODAN	**Odare**	**12.16**	**131**	eP	**Pn**	**19 01 29.3**	**-1.2**
	comp=N,6.8nm,0.4s						
BVAR	**Borovoye Array**	**18.37**	**347**	P	**P**	**19 02 51.9**	**+0.1**
	comp=N,0.2nm,0.3s,baz=241,slow=40,SNR=3.7						
WSAR	**Wadi Sarin**	**20.07**	**238**	P	**Pn**	**19 03 10.9**	**-1.4**
	comp=N,0.2nm,0.3s,baz=77,slow=11,SNR=4.1						
AKTO	**Aktyubinsk**	**20.54**	**323**	P	Pn	19 03 15.6	-2.1
	comp=N,0.8nm,0.3s,baz=113,slow=11,SNR=2.9						
TLY	**Talaya**	**25.08**	**41**	P	**P**	**19 04 02.6**	**+1.1**
	comp=N,2.0nm,0.5s,baz=16,slow=7.4,SNR=2.4						
SONM	**Songino Array**	**25.08**	**51**	P	**P**	**19 04 02.3**	**+0.6**
	comp=N,0.8nm,0.6s,baz=16,slow=41,SNR=3.8						
CMAR	**Chiang Mai Arr**	**25.59**	**125**	P	**P**	**19 04 08.2**	**+1.7**
	comp=N,0.5nm,0.6s,baz=51,slow=13,SNR=3.0						
FINES	**FINESS Array B**	**41.28**	**326**	P	**P**	**19 06 21.4**	**-0.8**
	comp=N,1.0nm,0.4s,baz=106,slow=11,SNR=9.9						
ARCES	**ARCESS Array B**	**44.20**	**337**	P	**P**	**19 06 44.2**	**-1.5**
	comp=N,3.7nm,0.9s,baz=113,slow=9.3,SNR=3.0						
NOA	**NORSAR Array B**	**48.33**	**324**	P	**P**	**19 07 18.9**	**+0.5**
	comp=N,0.7nm,0.6s,baz=90,slow=7.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**70.70**	**273**	P	**P**	**19 09 52.4**	**-1.1**
	comp=N,0.8nm,0.6s,baz=44,slow=6.2,SNR=8.2						
WRA	**Warramunga Arr**	**77.19**	**126**	P	**P**	**19 10 30.5**	**-0.8**
	comp=N,0.3nm,0.9s,baz=326,slow=6.8,SNR=3.5						
ASAR	**Alice Springs**	**79.55**	**129**	P	**P**	**19 10 45.8**	**+1.5**
	comp=N,0.2nm,0.8s,baz=318,slow=5.4,SNR=3.2						
YKA	**Yellowknife Ar**	**82.11**	**5**	P	**P**	**19 10 58.7**	**+1.3**
	comp=N,0.1nm,0.4s,baz=343,slow=5.3,SNR=3.2						

*NIED **06** 19:22:00, 23°.80N×122°.50E, h32km, Mw4.7 Best double couple: $M_0$1.48000×10^{16} NP1:ϕ_s328.00000°, δ54.00000°, λ-178.00000°. NP2:ϕ_s237.00000°, δ89.00000°, λ-36.00000°.*

*BJI **06** 19:22:55.9±0.0, 23°.86N×122°.54E, h9km, mb4.5/60, mB4.8/42, ML4.5/10, Ms4.5/62, Ms7 4.5/58*

*IDC **06** 19:22:56.9±0.4, 24°.00N×122°.66E, h0km, mb4.6/34, mb1 4.6/36, mb1mx4.5/47, mbtmp4.5/36, ML3.0/2, MS4.0/25, Ms1 4.0/25, ms1mx3.9/39, Error ellipse: s-maj=12.6km s-min=10.5km az=78.0*

*NEIC **06** 19:22:59.6±1.5, 23°.86N±0°.05×122°.53E±0°.06, h20km±3km, mb5.0/141, Mwr4.7, ML5.1(TAP), Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.29; $M_{\theta\theta}$-0.32; $M_{\phi\phi}$0.61; $M_{r\theta}$-0.59; $M_{\theta\phi}$1.07; $M_{\phi r}$0.34; Fault plane solution: $M_0$1.37000×10^{16} NP1:ϕ_s172.55000°, δ67.60000°, λ-158.26000°. NP2:ϕ_s73.91000°, δ69.98000°, λ-23.93000°. Principal axes: T 1.3140, Plg2.0000°, Azm124.0000°; N 0.1124, Plg59.0000°, Azm216.0000°; P -1.4265, Plg31.0000°, Azm33.0000°;*

*MOS **06** 19:22:59.3±1.1, 23°.93N×122°.65E, h30km, mb5.0/25, MS4.2/5 Error ellipse: s-maj=7.1km s-min=4.6km az=110.6*

*JMA **06** 19:22:59.6±0.1, 23°.79N×122°.48E, h25km, M4.8*

*TAP **06** 19:23:00.5, 23°.81N×122°.49E, h31km, ML4.9, D*

*ISCJB **06** 19:23:00.4±0.2, 23°.78N±0°.01×122°.54E±0°.01, h40km±1km, mb4.8/102, MS4.1/32, Error ellipse: s-maj=2.4km s-min=1.7km az=147.7*

*GCMT **06** 19:23:01.7±0.3, 23°.65N±0°.02×122°.42E±0°.03, h27km±1km, MW4.8/71, Moment Tensor Solution. s27,c30; s71,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.29±.12; $M_{\theta\theta}$-1.53±.07; $M_{\phi\phi}$0.23±.07; $M_{r\theta}$1.30±.12; $M_{\theta\phi}$-0.21±.05; $M_{\phi r}$0.44±.13; Best double couple: $M_0$1.98000×10^{16} NP1:ϕ_s74.00000°, δ67.00000°, λ82.00000°. NP2: ϕ_s275.00000°, δ24.00000°, λ109.00000°. Principal axes: T 1.8680, Plg67.0000°, Azm329.0000°; N 0.2170, Plg8.0000°, Azm77.0000°; P -2.0930, Plg22.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 19:22:58.8±0.5**, 23°.80N**±0°.02×**122°.48E**±0°.02**, h15**km±3km**, h16**km**:pP-P, n559, σ1s48**/676**, mb4.9**/157**, MS4.1**/32**, 77C-20D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.77**	**33**	P	**Pn**	**19 23 14.3**	**-0.8**
JYNG				eS	**Sb**	**19 23 23.9**	**-0.3**
EOS1	**EOS1**	**0.81**	**337**	⇑P	**Pn**	**19 23 15.8**	**+0.3**
	baz=324						
EOS1				eS	**Sn**	**19 23 28.8**	**+1.5**
	baz=324						
ENLB	**Shoufeng**	**0.81**	**277**	⇑iP	**Pb**	**19 23 14.3**	**-0.2**
	baz=275						
ENLB				S	**Sn**	**19 23 25.8**	**-1.5**
	baz=275						
YOJ	**Yonaguni jima**	**0.82**	**36**	P	**Pg**	**19 23 13.9**	**-0.8**
YOJ	**Yonaguni jima**	**0.82**	**36**	P	**Pn**	**19 23 15.1**	**-0.6**
YOJ				eS	**Sb**	**19 23 25.1**	**-0.3**
YOJ	**Yonaguni jima**	**0.82**	**36**	eP	**Pn**	**19 23 15.1**	**-0.6**
	baz=36						
YOJ	**Yonaguni jima**	**0.82**	**36**		**Pg**	**19 23 13.9**	**-0.8**
HWA	**Hwalien**	**0.82**	**282**	⇑P	**Pn**	**19 23 15.5**	**-0.2**
	baz=268						
HWA				eS	**Sn**	**19 23 26.9**	**-0.6**
	baz=268						
TWD	**Chiawan**	**0.85**	**289**	⇑iP	**Pn**	**19 23 15.8**	**-0.4**
	baz=274						
TWD				S	**Sn**	**19 23 26.8**	**-1.6**
	baz=274						
NACB	**Ninganchiao**	**0.89**	**295**	⇑P	**Pn**	**19 23 16.3**	**-0.4**
	baz=293						
NACB	**Ninganchiao**	**0.89**	**295**		**Pn**	**19 23 16.2**	**-0.5**
NANB	**Nanao**	**0.91**	**313**	⇓iP	**Pn**	**19 23 17.4**	**+0.4**
	baz=310						
NANB				S	**Sn**	**19 23 30.0**	**+0.1**
	baz=310						
ENA	**Nanau**	**0.92**	**313**	⇓iP	**Pn**	**19 23 17.5**	**+0.4**
	baz=310						
ENA				S	**Sn**	**19 23 30.8**	**+0.8**
	baz=310						
ESL	**Shilin**	**0.96**	**271**	⇑iP	**Pn**	**19 23 16.9**	**-0.7**
	baz=268						
ESL				S	**Sb**	**19 23 28.7**	**-0.9**
	baz=268						
EGFH	**Guangfu**	**0.97**	**262**	eP	**Pn**	**19 23 17.5**	**-0.4**
	baz=260						
EGFH				eS	**Sn**	**19 23 30.2**	**-1.1**
	baz=260						
TWC	**Suao**	**0.99**	**325**	⇑iP	**Pn**	**19 23 18.1**	**+0.1**
	baz=323						
TWC				S	**Sn**	**19 23 31.7**	**0.0**
	baz=323						
ETLH	**Xiulin Townshi**	**1.00**	**294**	⇑eP	**Pn**	**19 23 18.0**	**-0.2**
	baz=292						
HGSD	**Ruisui**	**1.01**	**252**	P	**Pn**	**19 23 17.9**	**-0.6**
	baz=250						
HGSD				S	**Sb**	**19 23 30.5**	**-0.7**
	baz=250						
EHY	**Hungye**	**1.10**	**255**	⇑iP	**Pn**	**19 23 19.5**	**-0.1**
	baz=252						
EHY				eS	**Sb**	**19 23 32.1**	**-1.5**
	baz=252						
YULB	**Yu-li**	**1.16**	**250**	⇑P	**Pg**	**19 23 20.2**	**-0.9**
	baz=247						
YULB				S	**Sg**	**19 23 35.2**	**-1.0**
	baz=247						
YULB	**Yu-li**	**1.16**	**250**		**Pg**	**19 23 20.1**	**-1.0**
WHF	**Hehuan Shan**	**1.16**	**287**	⇑iP	**Pn**	**19 23 20.6**	**-0.2**
	baz=273						
WHF				S	**Sn**	**19 23 35.4**	**-1.2**
	baz=273						
ILA	**Ilan**	**1.17**	**325**	⇑iP	**Pg**	**19 23 21.7**	**+0.4**
	baz=323						
ILA				eS	**Sn**	**19 23 38.4**	**+2.3**
	baz=323						
TWF1	**Yuli**	**1.17**	**248**	⇓iP	**Pg**	**19 23 20.4**	**-1.0**
	baz=245						
TWF1				S	**Sb**	**19 23 34.8**	**-0.9**
	baz=245						
TWE	**Neicheng**	**1.18**	**321**	⇑iP	**Pg**	**19 23 21.6**	**+0.1**
	baz=320						
ENTT	**Nioudou**	**1.18**	**315**	⇑iP	**Pg**	**19 23 21.4**	**-0.1**
	baz=300						
NNSB	**Datong**	**1.18**	**302**	⇑P	**Pg**	**19 23 21.2**	**-0.3**
	baz=290						
NNSH	**Datong**	**1.18**	**302**	⇑P	**Pg**	**19 23 21.2**	**-0.3**
	baz=299						
NNSH				eS	**Sn**	**19 23 37.1**	**+0.5**
	baz=299						
NDT	**Datong Townshi**	**1.19**	**312**	⇑iP	**Pg**	**19 23 21.6**	**-0.2**
	baz=311						
NNS	**Nan Shan**	**1.19**	**302**	⇑iP	**Pg**	**19 23 21.4**	**-0.4**
	baz=299						
NNS				S	**Sn**	**19 23 37.3**	**+0.3**
	baz=299						
NTC	**Toucheng**	**1.20**	**331**	⇑P	**Pg**	**19 23 21.9**	**-0.1**
	baz=328						
NTC				eS	**Sn**	**19 23 40.1**	**+3.1**
	baz=328						
OWD	**Renai**	**1.20**	**277**	eP	**Pg**	**19 23 21.5**	**-0.5**
	baz=274						
OWD				eS	**Sn**	**19 23 36.8**	**-0.4**
	baz=274						
SLBB	**Yuanshan**	**1.22**	**321**	⇑iP	**Pg**	**19 23 21.6**	**-0.7**
	baz=320						
CHGB	**Renai**	**1.22**	**282**	⇑P	**Pg**	**19 23 21.7**	**-0.7**
	baz=270						
CHGB				S	**Sn**	**19 23 37.0**	**-0.8**
	baz=270						
VWDT	**VWDT**	**1.23**	**268**	⇑P	**Pg**	**19 23 21.7**	**-0.8**
	baz=256						
VWDT				S	**Sb**	**19 23 36.4**	**-0.8**
	baz=256						
CHKT	**Chengkung**	**1.24**	**236**	⇓P	**Pn**	**19 23 20.6**	**-0.9**
	baz=223						
CHKT				S	**Sb**	**19 23 35.5**	**-2.1**
	baz=223						
HATJ	**Hateruma jima**	**1.24**	**78**	P	**Pb**	**19 23 21.7**	**-0.2**
HATJ				eS	**Sb**	**19 23 37.9**	**+0.3**
FULB	**Fuli**	**1.24**	**241**	⇓P	**Pn**	**19 23 20.9**	**-0.7**
	baz=229						
FULB				S	**Sb**	**19 23 36.4**	**-1.4**
	baz=229						
IRIF	**Iriomote-Funau**	**1.26**	**65**	P	**Pb**	**19 23 22.3**	**+0.1**
IRIF				eS	**Sg**	**19 23 39.0**	**-0.5**
TWT	**Tachien**	**1.27**	**291**	⇑iP	**Pg**	**19 23 23.0**	**-0.4**
	baz=287						
TWT				eS	**Sn**	**19 23 38.9**	**-0.1**
	baz=287						
TWB1	**Santiao Chiao**	**1.28**	**340**	⇑eP	**Pg**	**19 23 22.5**	**-1.0**
	baz=339						
TDCB	**Techi**	**1.29**	**291**	⇑P	**Pg**	**19 23 23.0**	**-0.7**
	baz=287						
TDCB				S	**Sg**	**19 23 38.6**	**-1.8**
	baz=287						
TIPB	**Shuangxi**	**1.31**	**333**	⇑iP	**Pg**	**19 23 23.2**	**-0.7**
	baz=332						
NWLT	**Wulai**	**1.32**	**318**	eP	**Pg**	**19 23 23.6**	**-0.6**
	baz=314						
NWLT				eS	**Sg**	**19 23 42.3**	**+1.0**
	baz=314						
YHNB	**Yeheng**	**1.33**	**311**	⇑P	**Pg**	**19 23 23.7**	**-0.7**
	baz=307						
YHNB				eS	**Sg**	**19 23 42.9**	**+1.2**
	baz=307						
YHNB	**Yeheng**	**1.33**	**311**		**Pg**	**19 23 23.5**	**-0.8**
NSK	**Sanguang**	**1.34**	**311**	⇑iP	**Pg**	**19 23 23.9**	**-0.7**
	baz=309						
SSLB	**Suanglung**	**1.40**	**270**	⇑P	**Pb**	**19 23 24.0**	**-0.6**
	baz=266						
SSLB				eS	**Sb**	**19 23 39.3**	**-2.9**
	baz=266						
SSLB	**Suanglung**	**1.40**	**270**		**Pb**	**19 23 24.0**	**-0.6**
WFSB	**Wu-fen Shan**	**1.41**	**333**	P	**Pg**	**19 23 24.9**	**-1.2**
	baz=332						
TWA	**Mucha**	**1.43**	**325**	⇑iP	**Pg**	**19 23 25.6**	**-0.6**
	baz=322						
TWA				eS	**Sg**	**19 23 46.5**	**+1.6**
	baz=322						
YUS	**Yu-Shan**	**1.43**	**258**	⇑iP	**Pg**	**19 23 25.2**	**-1.3**
	baz=254						
YUS				eS	**Sb**	**19 23 41.9**	**-1.8**
	baz=254						
DPDB	**Guoxing**	**1.44**	**279**	⇑P	**Pg**	**19 23 25.3**	**-1.2**
	baz=277						
NHDH	**Xindian Distri**	**1.45**	**323**	⇑P	**Pg**	**19 23 26.0**	**-0.6**
	baz=320						
NHDH				eS	**Sg**	**19 23 43.8**	**-1.6**
	baz=320						
SMLT	**Sun Moon Lake**	**1.45**	**273**	⇑iP	**Pg**	**19 23 25.2**	**-1.4**
	baz=270						
SMLT				eS	**Sn**	**19 23 42.2**	**-1.0**
	baz=270						
JKRS	**Kuro-shima**	**1.47**	**73**	P	**Pb**	**19 23 25.2**	**-0.5**
ELDTW	**Lidau**	**1.47**	**246**	⇓iP	**Pn**	**19 23 24.6**	**-0.2**

baz=243
ELDTW eS Sn 19 23 42.6 -1.3
baz=243
TATO Taipei 1.48 322 Pg 19 23 26.0 -1.2
WHP Taichung City 1.48 289 eP **Pg 19 23 26.5 -0.8**
baz=278
TYC Yuchr 1.49 274⇑*i*P **Pg 19 23 25.8 -1.7**
TYC eS **Sb 19 23 44.1 -0.7**
baz=271
WHYT Xinyi Township 1.49 266 eP **Pb 19 23 25.8 -0.4**
baz=257
TAP1 Taipei 1.51 325 P **Pg 19 23 26.9 -0.9**
baz=323
TAP Taipei 1.52 324 eP **Pg 19 23 26.4 -1.6**
baz=323
WLTB Daxi 1.53 313 ⇑P **Pg 19 23 27.5 -0.7**
baz=311
YM01 YM01 1.57 328⇑eP **Pb 19 23 26.9 -0.7**
baz=343
LIOB Emei 1.58 302⇑*i*P **Pg 19 23 28.5 -0.7**
baz=288
LIOB eS **Sg 19 23 47.4 -2.3**
baz=288
NSTT Nanjuang 1.58 302⇑*i*P **Pg 19 23 28.4 -0.8**
baz=287
NSTT eS **Sg 19 23 48.9 -0.9**
baz=287
YM10 YM10 1.58 328 eP **Pb 19 23 27.3 -0.5**
baz=343
YM11 YM11 1.59 329 eP **Pb 19 23 27.1 -0.7**
baz=344
YM05 YM05 1.59 329 eP **Pb 19 23 27.2 -0.7**
baz=344
YM04 YM04 1.59 328 ⇑P **Pb 19 23 27.2 -0.8**
baz=343
YM08 YM08 1.60 330 eP **Pb 19 23 27.1 -1.0**
baz=328
WJS Zhushan 1.60 271 eP **Pg 19 23 28.3 -1.3**
baz=258
WJS eS **Sg 19 23 49.7 -0.7**
baz=258
TTN Taitung 1.61 230 eP **Pn 19 23 26.0 -0.6**
baz=227
TTN eS **Sn 19 23 46.4 -0.7**
baz=227
TWS1 Kuangyinshan 1.61 323 eP **Pg 19 23 28.0 -1.8**
baz=322
TWGBT Beinan 1.62 233 ⇓P **Pn 19 23 26.3 -0.4**
baz=222
TWGBT eS **Sn 19 23 45.2 -2.1**
baz=222
JIJ Ishigaki jima 1.62 70 P **Pn 19 23 26.8 0.0**
JIJ eS **Sn 19 23 46.2 -1.1**
TWG Pinlang 1.62 233⇓*i*P **Pn 19 23 26.5 -0.3**
baz=222
TWG eS **Sn 19 23 45.3 -2.1**
baz=222
TWG Pinlang 1.62 233 Pn 19 23 26.3 -0.5
ANP Anpu 1.63 328 eP **Pb 19 23 28.1 -0.5**
baz=343
WNT Mingjian 1.65 273⇑*i*P **Pg 19 23 29.2 -1.2**
baz=269
WNT eS **Sg 19 23 49.8 -2.0**
baz=269
NTST Danshui 1.65 326 eP **Pb 19 23 27.9 -1.0**
baz=340
TWQ1 Liyutan 1.65 290⇑*i*P **Pg 19 23 29.6 -0.9**
baz=286
TWQ1 eS **Sg 19 23 51.5 -0.5**
baz=286
NCU National Centr 1.65 315 eP **Pg 19 23 28.8 -1.8**
baz=313
NCUH Zhongli 1.65 315 eP **Pb 19 23 28.6 -0.3**
baz=313
CHN5 Tsauling 1.66 263⇑*i*P **Pg 19 23 29.2 -1.6**
baz=260
CHN5 eS **Sb 19 23 49.2 -0.8**
baz=260
TWY Chenhua 1.67 332 eP **Pg 19 23 30.0 -0.9**
baz=330
SBCB Hsinchu 1.68 306 eP **Pg 19 23 29.2 -1.9**
baz=304
NSY Sanyi 1.68 292⇑*i*P **Pg 19 23 30.2 -0.9**
baz=288
NSY S **Sg 19 23 51.2 -1.9**
baz=288
TCU Taichung 1.68 282 eP **Pg 19 23 30.0 -1.1**
baz=278
TCU eS **Sg 19 23 52.0 -1.1**
baz=278
HSN Hsinchu 1.70 306 eP **Pb 19 23 29.0 -0.7**
baz=305
STYT Tauyuan 1.70 248 P **Pb 19 23 28.9 -1.0**
baz=245
STYT eS **Sn 19 23 49.1 -0.4**
baz=245
NMLH Miaoli 1.71 296 eP **Pg 19 23 30.0 -1.6**
baz=293
PTSB Yuanli 1.74 292 eP **Pg 19 23 30.6 -1.6**
baz=289
WGK Gukeng 1.76 267 P **Pg 19 23 30.8 -1.8**
baz=263
WGK S **Sg 19 23 53.0 -2.4**
baz=263
WDJ Dajia District 1.77 288 eP **Pg 19 23 31.0 -1.7**
baz=284
WDJ eS **Sg 19 23 53.5 -2.1**
baz=284
TPUB Ta-pu 1.77 254 ⇑P **Pb 19 23 30.5 -0.4**
baz=243
TPUB S **Sb 19 23 51.5 -1.4**
baz=243
TPUB Ta-pu 1.77 254 Pb 19 23 30.1 -0.8
WCHH Zhanghua 1.78 279 eP **Pg 19 23 31.4 -1.6**
baz=275
WCHH eS **Sg 19 23 55.0 -1.1**
baz=275
WDLH Douliu 1.78 267 eP **Pg 19 23 31.4 -1.6**
baz=264
CHN4 Tsaushan 1.79 256⇑*i*P **Pb 19 23 31.1 -0.1**
baz=243
CHN4 eS **Sb 19 23 53.3 -0.1**
baz=243
WTP Ta-pu 1.80 252⇑*i*P **Pb 19 23 31.1 -0.3**
baz=249
WTP eS **Sb 19 23 53.4 -0.4**
baz=249
ECL Taimali 1.85 230⇓*i*P **Pn 19 23 29.2 -0.6**
baz=238
ECL eS **Sn 19 23 50.4 -2.5**
baz=238
JISG Ishigakijimahi 1.85 65 P **Pn 19 23 29.8 -0.1**
JISG eS **Sn 19 23 53.1 +0.2**
PCYT Pengchaiyu 1.85 349 ⇑P **Pn 19 23 30.3 +0.3**
baz=334
CHN2 Minshiung 1.86 262 eP **Pg 19 23 32.8 -1.7**
baz=258
CHN2 eS **Sg 19 23 56.1 -2.5**
baz=258
SLGT Liugui 1.87 245 eP **Pb 19 23 31.6 -1.0**
baz=234
SGST Jiashian 1.88 248 eP **Pb 19 23 31.4 -1.5**
baz=235
SGST eS **Sb 19 23 54.7 -1.5**
baz=235
CHN1 Nanshi 1.89 251⇑*i*P **Pb 19 23 32.8 -0.2**
baz=248
CHN1 eS **Sb 19 23 56.8 +0.3**
baz=248
TWK Hsinying 1.90 254⇑*i*P **Pb 19 23 33.0 -0.3**
baz=250
TWK eS **Sb 19 23 57.1 +0.3**
baz=250
CHY Chiayi 1.91 261 eP **Pb 19 23 32.2 -1.1**
baz=257
CHY eS **Sg 19 23 57.6 -2.6**
baz=257
SNST Tainan City 1.91 253 eP **Pb 19 23 33.0 -0.3**
baz=249
SNST eS **Sb 19 23 56.9 0.0**
baz=249
RLNB Erlin 1.94 273 P **Pb 19 23 33.7 -0.1**
baz=259
RLNB eS **Sg 19 23 58.9 -2.4**
baz=259
LAY Lan-yu 1.95 206 eP **Pn 19 23 29.5 -1.8**
baz=205

SSD Sandimen 2.00 239 eP **Pn 19 23 32.8 +0.8**
baz=229
WTCT Ta-ch'eng 2.01 272 eP **Pb 19 23 34.7 -0.3**
baz=268
WTCT eS **Sg 19 24 00.6 -3.0**
baz=268
WLGB Puzi 2.02 261 eP **Pb 19 23 34.7 -0.5**
baz=257
WLGB eS **Sb 19 24 00.4 +0.2**
baz=257
TAW Tawu 2.05 226 eP **Pn 19 23 32.4 -0.2**
baz=233
EAST Anshuo 2.06 227 eP **Pn 19 23 32.4 -0.4**
baz=234
WMLT Mailiao 2.07 270 eP **Pb 19 23 35.6 -0.3**
baz=268
MASBT Mashibuluo 2.07 235⇓eP **Pn 19 23 33.5 +0.5**
baz=227
CHN3 Shinhua 2.07 250 eP **Pb 19 23 36.2 +0.1**
baz=246
CHN3 eS **Sg 19 24 03.4 -2.1**
baz=246
WSF Szhu 2.08 266 P **Pb 19 23 34.9 -1.2**
baz=262
WSF eS **Sb 19 24 02.0 +0.4**
baz=262
SGLT Jiouru 2.12 240 eP **Pb 19 23 37.0 +0.1**
baz=232
TWM1 Shoushan 2.13 243 eP **Pb 19 23 37.2 +0.2**
baz=240
CHN8 Yiju 2.13 258 P **Pb 19 23 35.9 -1.1**
baz=254
CHN8 eS **Sb 19 24 02.6 -0.6**
baz=254
SCLT Jiali 2.19 254 P **Pb 19 23 36.8 -1.3**
baz=250
SCLT S **Sb 19 24 04.3 -0.6**
baz=250
JTJ Tarama 2.19 67 P **Pn 19 23 35.2 +0.5**
SCZT Fangliau 2.23 231 eP **Pn 19 23 36.1 +1.0**
baz=222
SNJT Kaohsiung City 2.23 242 eP **Pb 19 23 38.0 -0.7**
baz=239
KAU Kaohsiung 2.34 239 eP **Pb 19 23 40.6 -0.1**
baz=250
TSEB Hengchuen, Pin 2.39 218 eP **Pn 19 23 37.9 +0.6**
baz=224
TSEB eS **Sn 19 24 06.6 +0.3**
baz=224
HEN Hengchun 2.40 222 eP **Pn 19 23 37.5 0.0**
baz=220
TWKBT Hengchun 2.41 220 eP **Pn 19 23 38.0 +0.4**
baz=225
TWKBT eS **Sn 19 24 05.7 -1.1**
baz=225
TWK1 Hengchun 2.41 220 eP **Pn 19 23 38.7 +1.1**
baz=225
TWK1 eS **Sn 19 24 06.3 -0.5**
baz=225
WLCH Liuqiu 2.41 234 eP **Pb 19 23 42.2 +0.3**
baz=225
TWP Hsiaoliuchiu 2.43 234 eP **Pb 19 23 41.2 -0.9**
baz=225
WDGT Dungji 2.64 259 ⇑P **Pn 19 23 42.3 +1.4**
baz=254
WDGT S **Sn 19 24 11.9 -0.7**
baz=254
JIRB Irabujima 2.66 67 P **Pn 19 23 41.7 +0.6**
PHUB P'eng-hu 2.68 264 P **Pn 19 23 42.0 +0.6**
baz=250
PHUB S **Sn 19 24 14.1 +0.6**
baz=250
PNG Penghu 2.69 266 eP **Pn 19 23 42.6 +1.1**
baz=250
PNG eS **Sn 19 24 15.8 +2.1**
baz=250
JIKM Ikemajima 2.76 66 P **Pn 19 23 44.4 +2.0**
JIKM eS **Sn 19 24 17.2 +1.7**
JMJ2 Miyako jima3 2.76 70 P **Pn 19 23 44.0 +1.5**
JOGS Gusukube 2.84 70 P **Pn 19 23 45.4 +1.9**
VCHM Qimei 2.86 259 eP **Pn 19 23 45.5 +1.6**
baz=254
VCHM eS **Sn 19 24 17.2 -0.8**
baz=254
PTTC Pingtan 2.99 305⇑eP **Pn 19 23 45.6 +0.1**
baz=313
PTTC eS **Sn 19 24 20.0 -1.1**
baz=313
VWUC VWUC 3.00 294⇑eP **Pn 19 23 46.3 +0.5**
baz=289
VWUC eS **Sn 19 24 19.9 -1.6**
baz=289
MATB Ma-tsu 3.28 316 eP **Pn 19 23 49.7 +0.2**
baz=314
PTMZ Houxiangcun 3.30 293⇑eP **Pn 19 23 50.7 +0.8**
baz=289
LYJJ Jianjiangzhen 3.68 319 eP **Pn 19 23 54.5 -0.6**
baz=317
QZH Quanzhou 3.72 289⇑*i*Pn **Pn 19 23 56.1 +0.4**
QZH Sn **Sn 19 24 37.6 -1.6**
QZH LR LR
comp=N,4μm,13.5s
QZH LR LR
comp=Z,3μm,14.2s
XPSS Dashiqiu 3.74 327⇑eP **Pn 19 23 56.2 +0.3**
baz=314
KNM Kinmen 3.75 280⇑*i*P **Pn 19 23 58.5 +2.5**
baz=274
KNMB Chin-men Tao 3.79 281 ⇑P **Pn 19 23 57.3 +0.6**
baz=276
KNMB Chin-men Tao 3.79 281 Pn 19 23 56.9 +0.3
MHZQ Yeshan 3.88 307 eP **Pn 19 23 57.3 -0.5**
baz=304
AXDP Jialang 4.25 286 eP **Pn 19 24 03.6 +0.6**
baz=281
ZPLA Ao Xicun 4.33 273 ⇑P **Pn 19 24 05.0 +0.9**
baz=267
ZPLA eS **Sn 19 24 51.7 -2.5**
baz=267
ZZJH Jiuhuzhen 4.48 280⇑eP **Pn 19 24 06.6 +0.5**
baz=274
ZZJH eS **Sn 19 24 56.2 -1.7**
baz=274
JOW Kunigami 6.05 59 Pn **Pn 19 24 26.3 -1.4**
1.5nm,0.3s,baz=191,slow=16,SNR=18
JOW Sn **Sn 19 25 33.6 -3.1**
0.4nm,0.3s,baz=220,slow=22,SNR=2.0
JOW Kunigami 6.05 59 Pn 19 24 25.8 -1.9
JOW **Sn 19 25 31.0 -5.7**
VDOS Pratas Island 6.15 241 eP **Pn 19 24 31.6 +2.5**
baz=236
SSE Sheshan 7.35 351 Pn 19 24 45.0 -0.6
HKPS Hong Kong Po S 7.83 260 Pn **Pn 19 24 53.3 +1.2**
GZH Guangzhou 8.42 267 P **Pn 19 24 57.4 -2.8**
GZH S Sn 19 26 22.3 -13
GZH smax smax
comp=N,180nm,0.9s
GZH smax smax
comp=E,150nm,1.0s
NJ2 Nanjing 8.82 340 eP **Pn 19 25 04.8 -0.9**
NJ2 pP 19 25 10.1
NJ2 sP 19 25 13.7
NJ2 S **Sn 19 26 45.4 +0.6**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 smax smax
comp=N,120nm,1.1s
NJ2 smax smax
comp=E,100nm,1.4s
NJ2 LR LR
comp=N,3μm,12.3s
NJ2 LR LR
comp=E,1μm,11.8s
NJ2 LR LR
comp=Z,3μm,12.3s
TGY Tagaytay City 9.76 189 LR LR 19 29 13.1
comp=Z,760nm,21.0s,baz=99,slow=38
WHN Wuhan 9.87 315 P **Pn 19 25 16.7 -3.4**
WHN S **Sn 19 27 10.0 -0.6**
WHN LR LR
comp=N,2μm,10.7s
WHN LR LR
comp=E,7μm,18.3s
WHN LR LR
comp=Z,5μm,17.8s
QIZ Qiongzhong 12.69 250 P **Pn 19 25 55.7 -3.0**
QIZ S **Sn 19 28 24.5 +4.7**
QIZ pmax pmax
comp=Z,16nm,1.4s
QIZ LR LR
comp=Z,650nm,13.0s
QIZ LR LR
comp=Z,500nm,13.9s
QIZ LR LR
comp=Z,460nm,13.1s
TJN Taejon 13.22 17i P **Pn 19 26 04.2 -1.7**
ENH Enshi 13.24 302 Pn 19 26 05.8 -0.5
INCN Inchon 14.09 14 P **P 19 26 22.4 -3.1**
INCN Inchon 14.09 14 P **P 19 26 22.4 -3.1**
KSRS Korea Array 14.39 18 Pn **Pn 19 26 23.3 +1.5**
comp=Z,2.0nm,0.3s,baz=195,slow=12,SNR=26
KSRS LR LR 19 32 55.5
comp=Z,1μm,18.5s,baz=194,slow=42
KS19 Wonju Array Si 14.41 17 Pn 19 26 24.7 +2.5
GYA Guiyang 14.57 284 eP **P 19 26 27.7 -3.3**
GYA PP **PnPn 19 26 39.1 +6.6**
GYA S **Sn 19 29 11.7 +5.9**
GYA pmax pmax
comp=Z,10.0nm,0.6s
GYA pmax pmax
comp=Z,140nm,4.4s
GYA LR LR
comp=Z,2μm,11.2s
GYA LR LR
comp=Z,720nm,10.8s
GYA LR LR
comp=Z,940nm,14.0s
DL2 Dalian 15.07 357 P **P 19 26 38.4 +2.0**
DL2 eS **S 19 29 33.6 -1.5**
DL2 pmax pmax
comp=Z,27nm,1.2s
DL2 pmax pmax
comp=Z,380nm,8.9s
DL2 LR LR
comp=N,1μm,12.6s
DL2 LR LR
comp=E,450nm,17.3s
DL2 LR LR
comp=Z,2μm,13.7s
XAN Xi'an 15.63 314 P **Pn 19 26 38.2 -0.4**
XAN pmax pmax
comp=Z,31nm,1.0s
XAN Xi'an 15.63 314 P **Pn 19 26 38.2 -0.4**
KCP Kidapawan 16.89 171 ⇓P **P 19 26 56.1 -0.6**
DAV Davao City (W) 16.90 169 LR LR 19 34 20.7
comp=Z,453nm,18.8s,baz=338,slow=40
BJT Baijiatuau 17.02 343 P **Pn 19 26 56.4 +0.2**
BJT pmax pmax
comp=Z,18nm,1.1s
BJT Baijiatuau 17.02 343 Pn 19 26 56.4 +0.2
SLVN Son La 17.33 265 P **P 19 27 02.9 +1.3**
JHJ2 Mitsune 17.82 55 P **Pn 19 27 06.3 +0.1**
JHJ2 IAmb IAmb 19 27 34.7
comp=Z,215nm,1.0s
KMI Kunming 18.02 278 P **Pn 19 27 07.5 -1.5**
KMI pmax pmax
comp=Z,9.0nm,0.9s
KMI LR LR
comp=Z,570nm,9.7s
KMI LR LR
comp=Z,680nm,13.8s
KMI LR LR
comp=Z,1μm,13.3s
CD2 Chengdu 18.06 297 P **P 19 27 10.9 +1.3**
CD2 S **S 19 30 33.8 -2.5**
CD2 pmax pmax
comp=Z,60nm,0.6s
CD2 pmax pmax
comp=Z,260nm,7.9s
CD2 LR LR
comp=Z,2μm,10.8s
CD2 LR LR
comp=Z,3μm,14.7s
CD2 LR LR
comp=Z,4μm,15.7s
JCJ Chichijima 18.09 75 P **Pn 19 27 09.0 -0.6**
comp=Z,1.5nm,0.3s,baz=285,slow=17,SNR=2.1
JCJ LR LR 19 33 05.0
comp=Z,331nm,20.3s,baz=262,slow=34
MAJO Matsushiro 18.57 43i P **P 19 27 12.5 -2.7**
MAJO pmax pmax
comp=Z,10.0nm,1.1s
MJAR Matsushiro Arr 18.57 43 P **P 19 27 13.2 -2.0**
comp=Z,0.0nm,0.3s,baz=211,slow=9.3,SNR=2.9
KKM Kota Kinabalu 18.66 200 P **Pn 19 27 19.0 +2.3**
HHC Hu-ho-hao-te 19.31 334 eP **Pn 19 27 25.2 +0.8**
HHC PP **PnPn 19 27 38.0 +0.5**
HHC pmax pmax
comp=Z,5.0nm,0.8s
BTO Baotou 19.76 331 eP **Pn 19 27 31.5 +1.8**
BTO S **Sn 19 31 12.1 +0.6**
CN2 Changchun 20.10 6 eP **P 19 27 31.6 -0.2**
CN2 epP pwP 19 27 36.9 -2.9
CN2 eS **S 19 31 11.5 -5.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,800nm,15.0s
CN2 LR LR
comp=Z,2μm,16.0s
LZH Lanzhou 20.22 312 ⇓P Pn 19 27 36.4 +1.1
LZH pP pwP 19 27 42.9 +1.6
LZH sS Sn 19 31 23.5 +0.7
LZH pmax pmax
comp=Z,29nm,1.0s
LZH pmax pmax
comp=Z,230nm,4.3s
LZH LR LR
comp=Z,860nm,15.2s
LZH LR LR
comp=Z,1μm,15.7s
LZH LR LR
comp=Z,2μm,15.7s
PBKT Sadao Pong 21.42 254 P **P 19 27 49.6 +3.3**
MDJ Mudanjiang 21.56 14 P **P 19 27 47.9 +0.3**
MDJ pP pwP 19 27 54.1 -1.6
MDJ S **S 19 31 46.3 +0.3**
MDJ pmax pmax
comp=Z,8.0nm,0.9s
MDJ LR LR
comp=Z,2μm,15.0s
MDJ LR LR
comp=Z,480nm,14.2s
MDJ LR LR
comp=Z,2μm,15.7s
USA0B Ussuriysk Arra 21.79 19 P **P 19 27 48.1 -1.9**
USA0B pmax pmax
comp=Z,11nm,1.0s
USA0B Ussuriysk Arra 21.79 19 P **P 19 27 48.1 -1.9**
USRK Ussuriysk Ar. 21.79 19 P **P 19 27 48.3 -1.7**
comp=Z,5.0nm,0.7s,baz=212,slow=11,SNR=10
USRK LR LR 19 37 07.5
comp=Z,662nm,18.6s,baz=181,slow=40
CHTO Chiang Mai 22.47 262 P **P 19 27 59.1 +1.5**
CHTO pmax pmax
comp=Z,10.0nm,1.0s
CHTO Chiang Mai 22.47 262 P **P 19 27 59.1 +1.5**
CMAR Chiang Mai Arr 22.58 261 P **P 19 28 01.8 +3.0**
comp=Z,1.2nm,0.3s,baz=66,slow=8.1,SNR=16
CMAR LR LR 19 37 29.5
comp=Z,212nm,18.7s,baz=79,slow=38
TNTI Ternate 23.38 168 P **P 19 28 06.0 -1.0**
comp=Z,51nm,0.9s
TNTI Ternate 23.38 168 P **P 19 28 07.2 +0.2**
TNTI IAmb IAmb 19 28 12.5
comp=Z,48nm,1.0s
SBUM Sibu 23.43 207 P **P 19 28 08.0 +0.5**
SBUM Sibu 23.43 207 P **P 19 28 06.5 -1.0**
GTA Gaotai 24.69 314 ⇑P **P 19 28 19.7 +0.3**
GTA pP sP 19 28 23.3 -1.2
GTA sP pwP 19 28 26.1 -1.6
GTA PcP **PcP 19 31 56.9 +0.5**
GTA S **S 19 32 43.0 +2.3**
GTA pmax pmax
comp=Z,35nm,1.0s
GTA pmax pmax
comp=Z,140nm,4.5s
GTA LR LR
comp=Z,350nm,14.6s

GTA LR LR
comp=Z,730nm,15.9s
GTA LR LR
comp=Z,1μm,15.6s
LUWI Luwuk 24.70 179 P **P** **19 28 20.7 +1.3**
comp=Z,40nm,1.1s,comp=Z,412nm
LUWI Luwuk 24.70 179 P **P** **19 28 21.4 +2.1**
LUWI IAmb IAmb 19 28 49.4
comp=Z,42nm,1.1s
HIA Hailar 25.51 356 P **P** **19 28 24.7 -1.8**
HIA pmax pmax
comp=Z,12nm,1.0s
HIA Hailar 25.51 356 P **P** **19 28 24.7 -1.8**
SANI Sanana 25.92 172 P **P** **19 28 29.7 -0.8**
comp=Z,21nm,0.8s
SWI Sorong 25.96 160 P **P** **19 28 31.3 +0.5**
comp=Z,10nm,0.8s
SIJI Sorong 25.97 160 P **P** **19 28 33.2 +2.3**
comp=Z,5.6nm,0.6s,baz=309,slow=5.7,SNR=6.9
ASAJ Asahikawa 26.12 34 P **P** **19 28 30.2 -1.8**
comp=Z,3.4nm,0.4s,baz=238,slow=31,SNR=4.0
ASAJ LR LR 19 40 08.0
comp=Z,325nm,18.8s,baz=349,slow=40
KLR Kul'dur 26.41 14 *i* P **P** **19 28 32.0 -2.6**
KLR pmax pmax
comp=Z,6.0nm,1.0s
KLR Kul'dur 26.41 14 P **P** **19 28 33.9 -0.7**
comp=Z,4.6nm,0.9s,baz=236,slow=8.1,SNR=11
ULN Ulaanbaatar 26.97 337 P **P** **19 28 38.8 -1.1**
ULN pmax pmax
comp=Z,27nm,1.3s
ULN Ulaanbaatar 26.97 337 P **P** **19 28 38.9 -1.1**
ULN **pP** **19 28 39.4 -4.1**
SONM Songino Array 27.19 336 P **P** **19 28 41.5 -0.3**
comp=Z,15nm,0.8s,baz=151,slow=9.3,SNR=81
SONM PcP **PcP** **19 32 02.2 +0.3**
comp=Z,0.8nm,0.8s,baz=155,slow=4.8,SNR=3.5
SONM LR LR 19 40 41.1
comp=Z,644nm,20.8s,baz=172,slow=39
NLAI Namlea 27.25 170 P **P** **19 28 43.3 +0.8**
comp=Z,145nm,0.8s
SIMRM Sittwe 27.66 268 P **P** **19 28 45.9 -0.3**
SIMRM IAmb IAmb 19 28 50.6
comp=Z,51nm,2.0s
SHL Shillong 27.83 280 P **P** **19 28 47.8 -0.1**
SHL pmax pmax
comp=Z,36nm,1.6s
SHL Shillong 27.83 280 P **P** **19 28 47.8 -0.1**
SHL IAmb IAmb 19 29 05.2
comp=Z,36nm,1.6s
YUK Yuzh-Kuril'sk 27.83 38 *e*P **P** **19 28 43.9 -3.5**
YUK *e* 19 29 31.2
YUK *e*PPP PPP 19 29 41.3
YUK *e*S **S** **19 33 23.8 -6.1**
YUK *e*SS **SnSn** **19 34 37.0 -6.1**
YUK pmax pmax
comp=Z,122nm,1.1s
YUK pmax pmax
comp=Z,110nm,1.5s
YUK MLR MLR
comp=Z,182nm,16.0s
YUK MLR MLR
comp=E,132nm,15.0s
YUK MLR MLR
comp=N,252nm,17.0s
IPM Ipoh 28.23 230 P **P** **19 28 52.9 +1.6**
YSS Yuzh-Sakhalins 28.24 30 *e*P **P** **19 28 52.6 +1.5**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,500nm,15.0s
YSS MLR MLR
comp=N,400nm,17.0s
YSS MLR MLR
comp=E,300nm,17.0s
MYKOM Kota Tinggi 28.36 222 P **P** **19 28 53.9 +1.5**
MYKOM IAmb IAmb 19 29 10.8
comp=Z,77nm,1.8s
LSA Lhasa 28.53 289 *i* P **P** **19 28 56.4 +1.9**
SNR=11
LSA Lhasa 28.53 289 P **P** **19 28 55.3 +0.9**
LSA pmax pmax
comp=Z,9.0nm,0.7s
LSA Lhasa 28.53 289 P **P** **19 28 55.3 +0.9**
GRNR Gornyy 29.01 18 *e*P P 19 28 47.4 -11
GRNR MLR MLR
comp=Z,440nm,17.0s
ZEA Zeya 30.11 6 *e*P **P** **19 29 11.0 +3.4**
ZEA *e* 19 29 25.4
ZEA pmax pmax
comp=Z,12nm,1.0s
ZEA MLR MLR
comp=Z,600nm,14.0s
ZEA MLR MLR
comp=N,500nm,15.0s
ZAK Zakamensk 30.45 335 *e*P P 19 29 04.7 -6.1
ZAK pmax pmax
comp=Z,7.0nm,1.1s
PBA Port Blair 30.72 252 P P 19 29 14.0 +0.6
PSI Prapat 30.89 231 P P 19 29 20.2 +5.2
comp=Z,4.3nm,0.7s,baz=38,slow=2.6,SNR=3.7
RPSI Rantau Prapat 30.97 231 P **P** **19 29 20.2 +4.7**
TLY Talaya 31.37 337 *e*P **P** **19 29 19.1 +0.3**
TLY *e*S **S** **19 34 29.2 +3.7**
TLY pmax pmax
comp=Z,17nm,0.6s
TLY MLR MLR
comp=Z,2μm,13.0s
TLY Talaya 31.37 337 P **P** **19 29 18.9 +0.1**
comp=Z,7.8nm,0.5s,baz=228,slow=5.4,SNR=4.4
TLY LR LR 19 42 54.5
comp=Z,224nm,20.6s,baz=168,slow=38
TAPN Taplejung 31.50 284 *e*P **P** **19 29 22.2 +1.7**
comp=Z,20nm,0.8s
ODAN Odare 31.80 283 *e*P **P** **19 29 24.3 +1.2**
comp=Z,22nm,0.7s
MMRI Maumere 32.24 180 P **P** **19 29 26.1 -0.6**
MMRI IAmb IAmb 19 30 06.3
comp=Z,24nm,0.9s
RAMN Ramite 32.50 283 *e*P **P** **19 29 30.7 +1.4**
comp=Z,14nm,0.8s
JIRN Jiri 32.84 285 *e*P **P** **19 29 33.8 +1.4**
comp=Z,30nm,1.0s
GUN Gumba 33.11 285 *e*P **P** **19 29 35.8 +1.1**
comp=Z,25nm,0.9s
MDSI Maura Dua 33.30 215 P **P** **19 29 33.0 -3.0**
comp=Z,7.1nm,0.9s
PKIN Phulchoki 33.55 284 *e*P **P** **19 29 39.2 +0.7**
comp=Z,5.4nm,0.5s
KPJI Karang Pucung 33.66 205 P **P** **19 29 40.0 +0.9**
comp=Z,22nm,1.1s
DMN Daman 33.80 284 *e*P **P** **19 29 41.5 +0.8**
GKN Gorkha 34.20 285 *e*P **P** **19 29 44.6 +0.6**
WMQ Urumqi 34.77 314 *e*P **P** **19 29 50.2 +1.5**
WMQ pP pwP 19 29 56.2 -0.9
WMQ sP sP 19 30 00.6 +6.8
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ pmax pmax
comp=Z,200nm,6.3s
WMQ LR LR
comp=Z,330nm,14.7s
WMQ LR LR
comp=Z,300nm,18.5s
WMQ LR LR
comp=Z,250nm,16.9s
WMQ Urumqi 34.77 314 P **P** **19 29 49.1 +0.4**
WMQ pmax pmax
comp=Z,23nm,1.0s
WMQ Urumqi 34.77 314 P **P** **19 29 49.1 +0.4**
WMQ IAmb IAmb 19 29 50.8
comp=Z,23nm,1.0s
DANN Dangsing 34.97 286 *e*P **P** **19 29 52.1 +1.3**
comp=Z,19nm,0.7s
KOLN Koldanda 35.13 285 *e*P **P** **19 29 53.0 +0.9**
comp=Z,19nm,0.8s
MTN Manton Dam 37.39 166 P **P** **19 30 09.7 -1.5**
MTN IAmb IAmb 19 30 11.1
comp=Z,29nm,1.2s
YAK Yakutsk 38.52 5 *e*P **P** **19 30 17.4 -2.8**
YAK *e**PP **pwP** **19 30 27.8 -0.9**
YAK *e* 19 31 44.0
YAK *e* 19 32 32.0
YAK *e*S **S** **19 36 11.2 -4.0**
YAK *e**SS **ScP** **19 36 27.0 +6.7**
YAK *e*SS **SnSn** **19 38 51.0 -11**
YAK *e* 19 40 25.8
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=Z,71nm,3.3s
YAK smax smax
comp=E,116nm,3.2s
YAK smax smax
comp=N,128nm,2.8s
YAK MLR MLR
comp=Z,241nm,20.0s
YAK MLR MLR
comp=N,148nm,15.0s
YAK MLR MLR
comp=E,182nm,22.0s
YAK Yakutsk 38.52 5 P **P** **19 30 17.9 -2.4**
comp=E,5.6nm,0.6s,baz=336,slow=1.5,SNR=8.4
YAK Yakutsk 38.52 5 P **P** **19 30 17.2 -3.0**
MK31 Makanchi Array 39.43 316 *i* P **P** **19 30 28.4 +0.2**
MK31 pmax pmax
comp=Z,49nm,1.1s
MK31 Makanchi Array 39.43 316 P **P** **19 30 27.8 -0.4**
MK31 IAmb IAmb 19 30 30.2
comp=Z,28nm,1.0s
MKAR Makanchi Array 39.43 316 P **P** **19 30 28.9 +0.7**
comp=Z,25nm,0.8s,baz=107,slow=9.6,SNR=124
MKAR PcP **PcP** **19 32 36.2 +0.1**
comp=Z,2.5nm,0.7s,baz=88,slow=4.0,SNR=5.2
MKAR LR LR 19 48 28.2
comp=Z,389nm,18.6s,baz=102,slow=39
PETK Petropavlovsk- 39.53 33 LR LR 19 47 12.1
comp=Z,179nm,20.0s,baz=240,slow=37
MAKZ Makanchi 39.64 316 P **P** **19 30 29.8 -0.1**
MAKZ pmax pmax
comp=Z,42nm,1.0s
MAKZ Makanchi 39.64 316 P **P** **19 30 29.8 -0.1**
MAKZ IAmb IAmb 19 30 32.0
comp=Z,42nm,1.0s
KNRA Kununurra 39.72 171 P **P** **19 30 29.6 -1.1**
KNRA IAmb IAmb 19 30 31.5
comp=Z,33nm,1.1s
PDGK Podgornoye 40.24 310 P **P** **19 30 34.8 -0.3**
PDGK pmax pmax
comp=Z,75nm,1.0s
PRZ Przheval'sk 40.82 308 P **P** **19 30 41.5 +1.6**
PRZ pmax pmax
comp=Z,28nm,1.0s
PRZ Przheval'sk 40.82 308 P **P** **19 30 41.5 +1.6**
PRZ IAmb IAmb 19 30 43.4
comp=Z,28nm,1.0s
PMG Port Moresby 40.88 141 *i* P **P** **19 30 40.0 -0.4**
PMG pmax pmax
comp=Z,28nm,0.9s
TARG Taragay, Kyrgy 41.09 307 P **P** **19 30 43.2 +0.7**
ZAA0 Zalesovo Array 41.21 327 P **P** **19 30 41.4 -1.3**
ZAA0 IAmb IAmb 19 30 53.6
comp=Z,23nm,0.8s
ZALV Zalesovo Beam 41.21 327 *i* P **P** **19 30 41.5 -1.2**
ZALV pmax pmax
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 41.21 327 P **P** **19 30 41.7 -1.0**
comp=Z,12nm,0.7s,baz=115,slow=7.5,SNR=53
ZALV PcP **PcP** **19 32 41.5 -0.1**
comp=Z,1.2nm,0.5s,baz=119,slow=4.2,SNR=2.8
ZALV LR LR 19 48 59.6
comp=Z,282nm,20.1s,baz=120,slow=38
H11S3 WAKE ISLAND Hy 41.45 89 T T 20 15 02.3
baz=284,slow=75,SNR=6.8
H11S1 WAKE ISLAND Hy 41.45 89 T T 20 15 00.8
baz=284,slow=75,SNR=4.1
H11S2 WAKE ISLAND Hy 41.46 89 T T 20 14 56.9
baz=284,slow=75,SNR=4.7
KDJ Kajisay 41.63 307 P **P** **19 30 48.2 +1.6**
KDJ pmax pmax
comp=Z,24nm,0.8s
KDJ Kajisay 41.63 307 P **P** **19 30 48.2 +1.6**
KDJ IAmb IAmb 19 30 49.3
comp=Z,24nm,0.8s
FITZ Fitzroy Crossi 41.76 175 P **P** **19 30 46.4 -1.1**
KSH Kashi 42.10 303 P **P** **19 30 54.8 +4.4**
KSH PcP **PcP** **19 32 47.2 +2.2**
KSH S **S** **19 37 14.9 +5.4**
KSH sS sS 19 37 24.0 +8.0
KSH SS **SS** **19 40 17.6 +0.6**
KSH pmax pmax
comp=Z,82nm,1.4s
KSH pmax pmax
comp=Z,440nm,4.8s
KSH LR LR
comp=Z,300nm,5.7s
KSH LR LR
comp=Z,370nm,5.3s
KSH LR LR
comp=Z,450nm,6.0s
ULHL Ulahol 42.33 307 P **P** **19 30 54.2 +1.8**
SNR=22
NRN Naryn 42.37 306 P **P** **19 30 53.9 +1.1**
NRN pmax pmax
comp=Z,40nm,0.8s
NRN Naryn 42.37 306 P **P** **19 30 53.9 +1.1**
NRN IAmb IAmb 19 30 55.6
comp=Z,40nm,0.8s
COEN Coen 42.64 150 P **P** **19 30 55.7 +0.9**
COEN IAmb IAmb 19 31 16.8
comp=Z,56nm,1.8s
TKM2 Tokmak 2 42.93 308 P **P** **19 30 59.0 +1.8**
SNR=46
KZA Kyzart 43.03 307 P **P** **19 31 00.5 +2.2**
SNR=14
KURK Kurchatov 43.14 320 P **P** **19 30 58.3 -0.2**
KURK pmax pmax
comp=Z,22nm,1.1s
KURK Kurchatov 43.14 320 P **P** **19 30 58.3 -0.2**
KURBB Kurchatov Arra 43.16 320 P **P** **19 30 58.5 -0.2**
comp=Z,4.4nm,0.8s,baz=112,slow=7.8,SNR=19
KBK Karagaybulak 43.35 308 P **P** **19 31 02.6 +2.0**
SNR=38
CHMS Chumysh 43.55 308 P **P** **19 31 03.6 +1.5**
SNR=18
UCH Uchtor 43.59 307 P **P** **19 31 05.3 +2.4**
SNR=50
FRU1 Bishkek 43.61 308 P **P** **19 31 03.6 +1.1**
FRU1 pmax pmax
comp=Z,29nm,1.0s
FRU1 Bishkek 43.61 308 P **P** **19 31 03.6 +1.1**
FRU1 IAmb IAmb 19 31 05.1
comp=Z,29nm,0.9s
AAK Ala-Archa 43.68 307 *i* P **P** **19 31 04.8 +1.6**
SNR=29
AAK Ala-Archa 43.68 307 *ce*P **P** **19 31 04.7 +1.5**
AAK pmax pmax
comp=Z,16nm,0.8s
AAK Ala-Archa 43.68 307 P **P** **19 31 04.8 +1.6**
comp=Z,15nm,0.8s,baz=108,slow=6.1,SNR=66
AAK PcP **PcP** **19 32 51.0 +0.7**
comp=Z,1.8nm,0.7s,baz=91,slow=6.5,SNR=2.9
AAK Ala-Archa 43.68 307 P **P** **19 31 04.8 +1.6**
SNR=18
AAK Ala-Archa 43.68 307 P **P** **19 31 04.4 +1.2**
AAK **PcP** **19 32 50.4 +0.1**
USP Ospenovka 43.78 308 P **P** **19 31 05.2 +1.3**
SNR=12
NIL Nilore 43.92 294 P **P** **19 31 06.2 +1.1**
NIL pmax pmax
comp=Z,20nm,1.0s
NIL Nilore 43.92 294 P **P** **19 31 06.2 +1.1**
NIL IAmb IAmb 19 31 19.1
comp=Z,20nm,1.0s
SEY Seymchan 43.94 19 *i* P **P** **19 31 03.4 -1.3**
SEY Seymchan 43.94 19 PcP **PcP** **19 32 50.5 +0.1**
comp=Z,1.6nm,0.5s,baz=219,slow=7.4,SNR=5.8
AML Almayashu 44.18 307 P **P** **19 31 09.7 +2.1**
SNR=35
EKS2 Erkin-Say 44.20 307 P **P** **19 31 08.8 +1.4**
SNR=30
ARSB Arslanbob 44.60 305 P **P** **19 31 12.1 +1.6**
ARSB IAmb IAmb 19 31 13.2
comp=Z,24nm,1.1s
WB0 Warramunga Arr 44.84 164 P **P** **19 31 12.5 +0.1**
WRAB Tennant Creek 44.99 164 *ce*P **P** **19 31 13.5 -0.1**
WRAB pmax pmax
comp=Z,18nm,1.3s
WRAB Tennant Creek 44.99 164 P **P** **19 31 13.5 -0.1**
WRAB IAmb IAmb 19 31 15.0
comp=Z,14nm,0.8s
WRA Warramunga Arr 44.99 164 P **P** **19 31 13.9 +0.2**
comp=Z,8.2nm,0.8s,baz=345,slow=8.8,SNR=48
WRA PcP **PcP** **19 32 55.5 +0.7**
comp=Z,1.4nm,0.9s,baz=336,slow=3.8,SNR=2.8
WB2 Warramunga Arr 44.99 164 P **P** **19 31 14.0 +0.3**
WR0 Warramunga Arr 45.06 164 P **P** **19 31 14.4 +0.2**
PSA00 Pilbara Seismi 45.18 183 P **P** **19 31 15.4 +0.4**
PSA00 IAmb IAmb 19 31 28.8
comp=Z,31nm,1.6s
BTK Batken 46.10 303 P **P** **19 31 23.1 +0.6**
BTK pmax pmax
comp=Z,13nm,1.1s
BTK Batken 46.10 303 P **P** **19 31 23.1 +0.6**
GAR Garm 46.42 302 P **P** **19 31 25.7 +0.7**
KK31 Karatay Array 46.64 307 P **P** **19 31 27.5 +0.9**
KK31 pmax pmax
comp=Z,6.0nm,0.5s
KK31 Karatay Array 46.64 307 P **P** **19 31 27.2 +0.7**
KK31 IAmb IAmb 19 31 28.8
comp=Z,14nm,0.6s
KKAR Karatay Array 46.64 307 P **P** **19 31 27.1 +0.5**
KKAR pmax pmax
comp=Z,14nm,0.6s
KKAR Karatay Array 46.64 307 P **P** **19 31 27.1 +0.5**
KKAR IAmb IAmb 19 31 28.8
comp=Z,14nm,0.6s
CHGR Chuyangaron 47.31 301 P **P** **19 31 32.4 +0.4**
CHGR IAmb IAmb 19 31 50.3
comp=Z,20nm,0.8s
KBL Kabul 47.39 296 P **P** **19 31 33.0 +0.2**
KBL pmax pmax
comp=Z,36nm,1.0s
KBL Kabul 47.39 296 P **P** **19 31 33.0 +0.2**
TIXI Tiksi 48.01 3 *e*P **P** **19 31 34.1 -2.6**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
TIXI Tiksi 48.01 3 P **P** **19 31 34.1 -2.6**
comp=Z,4.5nm,0.9s,baz=192,slow=4.3,SNR=12
TIXI Tiksi 48.01 3 P **P** **19 31 34.2 -2.6**
SMY Shemya 48.36 40 P **P** **19 31 37.6 -2.1**
SMY pmax pmax
comp=Z,429nm,1.6s
SMY Shemya 48.36 40 P **P** **19 31 37.6 -2.1**
AS31 Alice Springs 48.47 166 P **P** **19 31 41.5 +0.6**
ASAR Alice Springs 48.47 166 P **P** **19 31 41.8 +0.8**
comp=Z,7.3nm,0.8s,baz=352,slow=14,SNR=65
ASAR PcP **PcP** **19 33 08.1 +1.1**
comp=Z,0.9nm,0.8s,baz=344,slow=2.0,SNR=1.9
ASAR LR LR 19 52 45.6
comp=Z,48nm,20.2s,baz=355,slow=37
BVAR Borovoye Array 48.72 321 P **P** **19 31 42.5 0.0**
comp=Z,4.3nm,0.6s,baz=107,slow=8.0,SNR=38
BVAR PcP **PcP** **19 33 07.4 -0.1**
comp=Z,2.2nm,0.6s,baz=90,slow=4.4,SNR=4.1
BRVK Borovoye 48.79 321 *ce*P **P** **19 31 42.9 -0.1**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 48.79 321 P **P** **19 31 42.7 -0.4**
BRVK IAmb IAmb 19 31 54.6
comp=Z,12nm,0.8s
NRIK Noril'sk 50.08 345 P **P** **19 31 51.6 -1.0**
comp=Z,2.1nm,0.5s,baz=129,slow=10,SNR=4.5
NRIK PcP **PcP** **19 33 11.9 -0.2**
comp=Z,2.6nm,0.5s,baz=142,slow=4.4,SNR=4.1
NRIK LR LR 19 54 41.9
comp=Z,336nm,19.2s,baz=135,slow=38
BILL Bilibino 51.64 19 *i* P **P** **19 32 03.5 -0.9**
BILL pmax pmax
comp=Z,1.0nm,1.0s
HRA Herat 53.01 296 P **P** **19 32 16.0 +0.6**
GSTR Great Sitkin T 54.14 42 P **P** **19 32 22.4 -0.7**
FORT Forrest 54.53 174 P **P** **19 32 27.5 +1.3**
FORT IAmb IAmb 19 32 57.1
comp=Z,17nm,0.8s
AB31 Akbulak array 54.55 314 *i* P **P** **19 32 25.8 -0.4**
AB31 pmax pmax
comp=Z,9.0nm,0.6s
ABKAR Akbulak array 54.55 314 P **P** **19 32 26.6 +0.4**
ABKAR IAmb IAmb 19 32 40.0
comp=Z,20nm,0.8s
SVE Sverdlovsk 55.05 324 *ie*P **P** **19 32 29.8 +0.2**
SVE pmax pmax
comp=Z,12nm,0.8s
GEYT Alibeck 56.01 301 P **P** **19 32 38.7 +1.8**
comp=Z,14nm,0.9s,baz=90,slow=3.0,SNR=26
GEYT LR LR 20 01 43.7
comp=Z,161nm,18.3s,baz=325,slow=42
ARU Arti 56.12 323 *d* *i* P **P** **19 32 36.0 -1.4**
ARU 19 33 30.4
ARU 19 34 37.5
ARU S **S** **19 40 25.7 0.0**
ARU SS **SS** **19 44 15.4 +3.7**
ARU pmax pmax
comp=Z,6.0nm,0.8s
ARU Arti 56.12 323 P **P** **19 32 36.3 -1.0**
ARU IAmb IAmb 19 32 48.2
comp=Z,9.2nm,0.7s
EIDS Eidsvold 56.19 149 P **P** **19 32 38.9 +0.8**
EIDS IAmb IAmb 19 32 39.3
comp=Z,9.8nm,0.8s
NWAO Narrogin (SRO) 56.63 185 P **P** **19 32 41.4 +0.2**
NWAO pmax pmax
comp=Z,56nm,1.7s
NWAO Narrogin (SRO) 56.63 185 P **P** **19 32 41.4 +0.2**
BBOO Buckleboo 57.77 166 P **P** **19 32 49.7 +0.5**
BBOO IAmb IAmb 19 32 51.2
comp=Z,20nm,0.9s
STKA Stephens Creek 58.31 161 P **P** **19 32 53.4 +0.4**
STKA pmax pmax
comp=Z,3.0nm,0.7s
STKA Stephens Creek 58.31 161 P **P** **19 32 54.3 +1.3**
comp=Z,13nm,0.7s,baz=334,slow=7.3,SNR=38
STKA Stephens Creek 58.31 161 P **P** **19 32 53.4 +0.4**
BANOM Banah 59.49 287 P **P** **19 33 03.5 +1.9**
SHME Shamm 59.60 287 P **P** **19 33 04.1 +1.7**
MSFE Esma-Masafi 59.75 286 P **P** **19 33 05.3 +1.9**
UOSS Minazif 59.81 286 P **P** **19 33 04.5 +0.8**
HATD Hatta, Dubai 59.90 286 P **P** **19 33 06.4 +2.0**
ASHO Ashiyiah 60.00 286 P **P** **19 33 06.1 +1.0**
ASUD Al Ashush, Dub 60.66 286 *i* P **P** **19 33 10.8 +1.3**
SNR=6.9
ARMA Armidale 60.74 151 P **P** **19 33 12.5 +2.5**
ANM Nome 61.10 28 P **P** **19 33 12.9 +0.9**
ANM pmax pmax
comp=Z,84nm,1.8s
ANM Nome 61.10 28 P **P** **19 33 12.9 +0.9**
PRGR Permogore 63.12 329 *e*P P 19 33 19.4 -6.1
PRGR pmax pmax
comp=Z,14nm,0.8s
CAN Canberra 63.95 156 P **P** **19 33 31.9 +0.6**
CAN pmax pmax
comp=Z,88nm,1.6s
CAN Canberra 63.95 156 P **P** **19 33 31.9 +0.6**
TOO Toolangi 64.78 160 P **P** **19 33 38.6 +1.9**
TOO pmax pmax
comp=Z,26nm,1.4s
TOO Toolangi 64.78 160 P **P** **19 33 38.6 +1.9**
TOO IAmb IAmb 19 35 37.4
comp=Z,26nm,1.4s
TTA Tatalina 65.25 30 P **P** **19 33 39.7 +0.2**
TTA Tatalina 65.25 30 P **P** **19 33 39.7 +0.2**
SVW2 Sparrevohn 65.59 32 P **P** **19 33 41.9 +0.1**
SOCY Socotra 65.64 273 P **P** **19 33 42.4 -0.4**
GNI Garni 65.99 305 P **P** **19 33 46.2 +1.3**
GNI Garni 65.99 305 P **P** **19 33 46.5 +1.6**
GNI pmax pmax
comp=Z,23nm,1.1s
GNI Garni 65.99 305 P **P** **19 33 46.5 +1.6**
GNI IAmb IAmb 19 33 55.3
comp=Z,23nm,1.1s
ZEI Tsey 66.10 308 *e*P **P** **19 33 43.8 -1.8**
ZEI pmax pmax
comp=Z,12nm,0.7s
VRH Novokhopyorsk 66.14 317 *e*P **P** **19 33 44.4 -1.0**
VRH *e**SP **pwP** **19 33 55.7 +1.7**
VRH pmax pmax
comp=Z,30nm,1.4s
NCK Nalchik 66.19 309 *i* P **P** **19 33 45.2 -0.7**
NCK pmax pmax
comp=Z,5.0nm,0.7s
KBZ Khabaz 66.64 309 *c* *i* P **P** **19 33 49.3 +0.6**
KBZ Khabaz 66.64 309 P **P** **19 33 49.9 +1.1**
comp=Z,10nm,0.8s,baz=110,slow=3.8,SNR=17
KBZ LR LR 20 08 20.6
comp=Z,112nm,19.2s,baz=76,slow=41
AKH Akhalkalaki 66.67 306 P **P** **19 33 50.3 +1.1**

AKH pmax pmax
comp=Z,22nm,0.9s
AKH Akhalkalaki 66.67 306 ⇑P **P 19 33 51.2 +2.0**
AKH Akhalkalaki 66.67 306 P P 19 33 50.3 +1.1
KIV Kislovodsk 66.75 309 *i* P P 19 33 50.7 +1.1
SNR=6.5
KIV Kislovodsk 66.75 309 P P 19 33 50.4 +0.8
KIV pmax pmax
comp=Z,29nm,1.0s
KIV Kislovodsk 66.75 309 ⇓P **P 19 33 50.9 +1.3**
KIV Kislovodsk 66.75 309 P P 19 33 50.4 +0.8
NEY Neytrino 66.86 309 *i* P P 19 33 51.5 +1.1
NEY pmax pmax
comp=Z,2.0nm,0.8s
PPLA Purkeypile 66.99 30 P P 19 33 51.3 +0.5
OHAK Old Harbor 67.24 36 P P 19 33 51.6 -0.7
MLY Manley 67.34 27 P P 19 33 53.1 +0.2
BPAW Bear Paw Mtn. 67.36 28 P P 19 33 53.1 +0.1
BPAW IAmb IAmb 19 34 38.4
comp=Z,33nm,2.0s
SKT Skwentna 67.42 31 P P 19 33 53.2 -0.2
SKT IAmb IAmb 19 35 01.7
comp=Z,12nm,1.4s
KTH Kantishna Hill 67.47 29 P P 19 33 53.6 -0.2
KTH IAmb IAmb 19 35 33.1
comp=Z,40nm,2.0s
KDAK Kodiak Island 67.53 35 P P 19 33 53.8 -0.3
KDAK pmax pmax
comp=Z,165nm,1.8s
KDAK Kodiak Island 67.53 35 P P 19 33 53.8 -0.3
comp=Z,3.5nm,0.4s,baz=266,slow=2.1,SNR=8.4
KDAK Kodiak Island 67.53 35 P P 19 33 53.8 -0.3
LPSR Galich'ya Gora 67.62 319 *e*P P 19 33 53.8 -1.0
LPSR *e**SP **pwP 19 34 05.3 +1.9**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
VORD Divnogorie 67.69 317 *e*P P 19 33 53.7 -1.6
VORD *e**SP **pwP 19 34 05.1 +1.2**
VORD pmax pmax
comp=Z,7.0nm,0.9s
VSR Storozhevoye 67.72 318 *e*P P 19 33 53.0 -2.5
VSR *e**SP **pwP 19 34 04.9 +0.8**
VSR pmax pmax
comp=Z,7.0nm,0.6s
TRF Thorofare Moun 67.77 29 P P 19 33 55.9 +0.2
SUA Susitna One 67.87 31 P P 19 33 56.3 -0.1
CNPM China Poot 67.94 33 P P 19 33 57.6 +0.9
BRLK Bradley Lake 68.08 33 P P 19 33 57.3 -0.3
NEA Nenana 68.11 28 P P 19 33 58.5 +0.8
NEA IAmb IAmb 19 35 05.3
comp=Z,17nm,0.9s
MCK McKinley 68.32 29 P P 19 33 59.2 +0.2
MCK pmax pmax
comp=Z,20nm,1.5s
MCK McKinley 68.32 29 P P 19 33 59.2 +0.2
MCK IAmb IAmb 19 34 19.6
comp=Z,20nm,1.5s
MDM Murphy Dome 68.41 27 P P 19 34 00.2 +0.6
MDM IAmb IAmb 19 34 15.7
comp=Z,21nm,1.4s
RC01 Rabbit Creek A 68.41 31 P P 19 33 59.1 -0.6
RND Reindeer 68.41 29 P P 19 33 59.0 -0.7
RND pmax pmax
comp=Z,13nm,0.7s
RND Reindeer 68.41 29 P P 19 33 59.0 -0.7
RND IAmb IAmb 19 34 00.8
comp=Z,12nm,0.7s
OBN Obninsk 68.53 322 ⇓*e*P P 19 33 58.8 -1.6
OBN *e**PP **pwP 19 34 11.1 +2.0**
OBN 19 34 24.0
OBN 19 36 32.0
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,172nm,17.0s
WRH Wood River Hil 68.55 28 P P 19 34 00.7 +0.2
WRH IAmb IAmb 19 35 08.4
comp=Z,19nm,1.5s
COLA College 68.58 27 *i* P P 19 33 58.3 -2.3
COLA pmax pmax
comp=Z,2.0nm,0.9s
CCB Clear Creek Bu 68.64 28 P P 19 34 00.7 -0.3
CCB IAmb IAmb 19 35 03.9
comp=Z,23nm,2.0s
GHO Glory Hole Cre 68.67 31 P P 19 34 00.8 -0.5
SEW Seward 68.73 32 P P 19 34 00.7 -0.9
SML Sawmill 68.94 31 P P 19 34 03.1 +0.1
SML IAmb IAmb 19 36 24.2
comp=Z,38nm,1.8s
KNK Knik Glacier 68.96 31 P P 19 34 02.4 -0.7
KNK IAmb IAmb 19 34 38.7
comp=Z,11nm,1.0s
IL31 69.01 27 P P 19 34 02.6 -0.6
IL31 IAmb IAmb 19 35 10.0
comp=Z,24nm,1.9s
ILAR Eielson Array 69.01 27 P P 19 34 02.0 -1.3
ILAR Eielson Array 69.01 27 P P 19 34 01.9 -1.3
comp=Z,1.0nm,0.5s,baz=260,slow=5.5,SNR=20
ILAR PcP **PcP 19 34 27.4 0.0**
comp=Z,0.4nm,0.5s,baz=263,slow=4.5,SNR=3.4
HDA Harding Lake 69.05 28 P P 19 34 02.5 -1.1
HDA IAmb IAmb 19 34 04.7
comp=Z,12nm,1.3s
DHY Denali Highway 69.13 29 P P 19 34 03.2 -1.0
DHY IAmb IAmb 19 35 11.4
comp=Z,27nm,1.8s
SCM Sheep Creek Mo 69.40 30 P P 19 34 05.3 -0.6
SCM pmax pmax
comp=Z,51nm,1.6s
SCM Sheep Creek Mo 69.40 30 P P 19 34 05.3 -0.6
RAYN Ar Rayn 69.59 287 *i* P P 19 34 08.0 +0.3
SNR=8.8
RAYN Ar Rayn 69.59 287 P P 19 34 07.6 -0.1
RAYN pmax pmax
comp=Z,8.0nm,1.0s
RAYN Ar Rayn 69.59 287 P P 19 34 07.6 -0.1
GLI Glacier Island 69.71 31 P P 19 34 07.6 -0.2
GLI IAmb IAmb 19 34 31.9
comp=Z,8.8nm,0.8s
KEV Kevo 69.77 338 P P 19 34 07.6 -0.3
KEV pmax pmax
comp=Z,227nm,1.9s
KEV Kevo 69.77 338 P P 19 34 07.6 -0.3
PAX Paxson 70.00 29 P P 19 34 09.3 -0.3
PAX pmax pmax
comp=Z,15nm,1.6s
PAX Paxson 70.00 29 P P 19 34 09.3 -0.3
PAX IAmb IAmb 19 35 20.8
comp=Z,15nm,1.6s
FID Port Fidalgo 70.04 31 P P 19 34 09.4 -0.3
FID IAmb IAmb 19 34 36.6
comp=Z,21nm,1.5s
RIDG Independent Ri 70.10 28 P P 19 34 09.4 -0.7
RIDG IAmb IAmb 19 34 40.9
comp=Z,20nm,1.3s
SPA0 Spitsbergen Ar 70.10 348 P P 19 34 09.7 -0.2
SPITS Spitsbergen Ar 70.10 348 P P 19 34 09.3 -0.6
comp=Z,7.8nm,0.8s,baz=36,slow=7.6,SNR=4.1
HIN Hinchinbrook I 70.11 32 P P 19 34 10.1 -0.1
ARCES ARCESS Array B 70.33 338 P P 19 34 10.9 -0.5
comp=Z,2.9nm,0.8s,baz=62,slow=8.2,SNR=6.9
ARE0 ARCESS Array S 70.33 338 P P 19 34 10.6 -0.8
SCRK Sand Creek 70.41 28 P P 19 34 11.2 -1.0
SCRK IAmb IAmb 19 35 52.4
comp=Z,24nm,1.9s
MENT Mentasta 70.78 29 P P 19 34 13.6 -0.8
RAGM Ragged Mountai 70.99 32 P P 19 34 15.6 0.0
RAGM IAmb IAmb 19 34 38.9
comp=Z,12nm,1.1s
GLB Gilahina Butte 71.13 30 P P 19 34 16.3 -0.1
HMT Hamilton 71.20 32 P P 19 34 16.8 -0.1
HMT IAmb IAmb 19 34 58.4
comp=Z,33nm,1.6s
VRDI Verde Repeater 71.35 31 P P 19 34 17.6 -0.3
VRDI IAmb IAmb 19 35 07.0
comp=Z,37nm,1.9s
SUCK Suckling Hills 71.50 32 P P 19 34 19.4 +0.7
MCARA McCarthy VSAT 71.51 30 P P 19 34 18.6 -0.1
MCARA IAmb IAmb 19 34 56.8
comp=Z,9.2nm,0.9s
CRQM Cirque 71.62 31 P P 19 34 19.3 -0.3
CRQM IAmb IAmb 19 34 32.5
comp=Z,19nm,1.2s
TGL Tana Glacier 71.77 31 P P 19 34 20.2 -0.2

WAX Waxell Ridge 71.84 31 P P 19 34 19.7 -1.1
WAX IAmb IAmb 19 34 29.8
comp=Z,9.3nm,0.8s
BALM Baldy 71.92 31 P P 19 34 19.6 -1.7
BARN Barnard Glacie 72.23 31 P P 19 34 21.5 -1.8
DAWY Dawson 72.33 27 P P 19 34 23.4 -0.2
DAWY IAmb IAmb 19 34 42.3
comp=Z,21nm,1.7s
FIA1 FINESS Array S 72.37 330 P P 19 34 23.1 -0.7
FINES FINESS Array B 72.37 330 P P 19 34 23.6 -0.2
comp=Z,4.8nm,0.6s,baz=67,slow=6.4,SNR=19
FINES LR LR 20 09 40.2
comp=Z,397nm,18.9s,baz=48,slow=39
CTGM Chitina Glacie 72.41 31 P P 19 34 24.8 +0.5
CTGM IAmb IAmb 19 34 25.4
comp=Z,7.8nm,0.6s
GAZ Gaziantep 72.43 303 P P 19 34 25.3 +0.5
GAZ IAmb IAmb 19 34 27.1
comp=Z,12nm,0.8s
EPYK Eagle Plains 72.66 25 P P 19 34 25.4 -0.1
EPYK IAmb IAmb 19 34 36.2
comp=Z,15nm,1.3s
INK Inuvik 73.13 22 P P 19 34 27.4 -0.8
INK pmax pmax
comp=Z,10.0nm,1.3s
INK Inuvik 73.13 22 P P 19 34 27.4 -0.8
AKASG Malin Array Be 73.94 319 *i* P P 19 34 32.7 -0.6
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 73.94 319 P P 19 34 32.8 -0.6
comp=Z,2.1nm,0.6s,baz=58,slow=6.4,SNR=9.1
AKASG LR LR 20 11 08.3
comp=Z,67nm,19.9s,baz=275,slow=39
BR131 Keskin Array S 74.35 307 P P 19 34 35.8 -0.3
BR131 pmax pmax
comp=Z,15nm,0.8s
BR131 Keskin Array S 74.35 307 P P 19 34 35.8 -0.3
BR131 IAmb IAmb 19 34 48.9
comp=Z,14nm,0.8s
BRTR Keskin Array B 74.35 307 P P 19 34 36.8 +0.7
comp=Z,11nm,0.8s,baz=108,slow=6.5,SNR=47
BRTR LR LR 20 10 35.8
comp=Z,52nm,19.0s,baz=24,slow=38
ANTO Ankara 74.92 307 ⇑P P 19 34 40.3 +0.9
ANTO Ankara 74.92 307 ⇑P P 19 34 40.3 +0.9
ANTO Ankara 74.92 307 P P 19 34 39.8 +0.4
SKAG Skagway 75.74 31 P P 19 34 44.3 +0.8
CSS Mathiatis 76.11 302 P P 19 34 44.8 -1.4
DAG Danmarks Havn 76.92 351 *i* P P 19 34 48.7 -1.3
DAG *i* 19 34 59.0
DAG Danmarks Havn 76.92 351 *i* P P 19 34 48.7 -1.3
comp=Z,0.2nm,0.4s
DAG *i* 19 34 59.0
BIZ Bicaz 77.14 316 ⇑P P 19 34 52.5 +0.7
BUR08 Bucovina Ar. S 77.45 317 P P 19 34 54.2 +0.6
BUR08 IAmb IAmb 19 35 07.3
comp=Z,31nm,1.8s
BURAR Bucovina Array 77.45 317 ⇑P P 19 34 54.5 +0.9
BURAR Bucovina Array 77.45 317 ⇑P P 19 34 54.5 +0.9
MLR Muntele Rosu 77.76 314 ⇑P P 19 34 56.6 +1.2
MLR Muntele Rosu 77.76 314 ⇑P P 19 34 56.6 +1.2
DOPR Dopca 77.95 315 ⇑P P 19 34 57.6 +1.3
ELL Elmali 78.11 305 P P 19 34 57.5 0.0
ELL pmax pmax
comp=Z,238nm,1.7s
ELL Elmali 78.11 305 P P 19 34 57.5 0.0
VOIR 78.37 315 ⇓P P 19 34 59.7 +1.0
VOIR 78.37 315 ⇓P P 19 34 59.7 +1.0
KOLS Kolonicke sedl 78.77 319 *e*P P 19 35 01.4 +0.6
KOLS *e* 19 35 12.4
KOLS Kolonicke sedl 78.77 319 *e*P P 19 35 01.3 +0.5
KOLS *e* 19 35 12.4
RES Resolute Bay 78.84 9 P P 19 35 00.4 -0.3
comp=Z,2.0nm,0.8s,baz=282,slow=4.5,SNR=4.3
NC405 NORSAR Array S 78.86 332 P P 19 35 00.6 -0.5
NC303 NORSAR Array S 78.95 333 P P 19 35 00.9 -0.6
NB201 NORSAR Array S 79.07 332 P P 19 35 01.9 -0.4
NB2 NORSAR Subarra 79.11 332 P P 19 35 01.8 -0.7
comp=Z,1.6nm,0.5s,baz=52,slow=5.9
NOA NORSAR Array B 79.11 332 P P 19 35 01.7 -0.7
comp=Z,2.9nm,0.7s,baz=57,slow=5.3,SNR=7.7
NOA LR LR 20 14 03.2
comp=Z,294nm,18.2s,baz=70,slow=39
NC204 NORSAR Array S 79.18 333 P P 19 35 02.5 -0.4
KARP Karpathos 80.61 305 P P 19 35 10.8 -0.3
VTS Vitosha 80.67 312 ⇑P P 19 35 12.2 +0.8
VTS Vitosha 80.67 312 ⇑P P 19 35 12.2 +0.8
VTS Vitosha 80.67 312 P P 19 35 11.4 0.0
VTS IAmb IAmb 19 35 24.0
comp=Z,12nm,0.8s
MDVR Moldovita 80.80 315 ⇓P P 19 35 12.4 +0.5
VYHS Vyhne 81.03 319 *e*P P 19 35 13.5 +0.5
VYHS *e* 19 35 25.0
VYHS pmax pmax
comp=Z,17nm,1.0s
VYHS Vyhne 81.03 319 *e*P P 19 35 13.5 +0.5
VYHS *e* 19 35 25.0
DPC Dobruska-Polom 81.67 322 *e*P P 19 35 17.4 +0.9
DPC *e* 19 35 28.4
DPC Dobruska-Polom 81.67 322 *e*P P 19 35 17.4 +0.9
DPC *es*P **pwP 19 35 28.4 +3.7**
VRAC Vranov 81.99 321 ⇓P P 19 35 19.0 +0.9
VRAC Vranov 81.99 321 ⇓P P 19 35 19.0 +0.9
YKW3 Yellowknife Ar 82.81 23 P P 19 35 21.2 -0.9
YKW3 IAmb IAmb 19 35 22.6
comp=Z,12nm,0.9s
PRU Pruhonice 82.85 322 *e*P P 19 35 24.0 +1.4
PRU *e* 19 35 34.4
PRU Pruhonice 82.85 322 *e*P P 19 35 24.0 +1.4
PRU *es*P **pwP 19 35 34.4 +3.6**
YKA Yellowknife Ar 82.86 23 P P 19 35 21.7 -0.6
comp=Z,7.8nm,0.8s,baz=313,slow=4.9,SNR=96
SUMG Summit 83.00 354 *e*P P 19 35 23.5 +0.1
SUMG *i* 19 35 34.3
SUMG Summit 83.00 354 *i* P P 19 35 23.5 +0.1
SUMG *i* 19 35 34.3
CONA Conrad Observa 83.06 320 *e*P P 19 35 23.5 -0.3
comp=Z,7.8nm,1.6s
CLL Collm 83.06 323 *e*P P 19 35 25.0 +1.4
CLL Collm 83.06 323 *e*P P 19 35 25.0 +1.4
ARSA Arzberg 83.58 319 *e*PcP P 19 35 27.0 +0.6
comp=Z,5.7nm,0.9s
KHC Kasperske Hory 83.81 321 *e*P P 19 35 27.2 -0.4
KHC *e* 19 35 39.4
KHC Kasperske Hory 83.81 321 *e*P P 19 35 27.2 -0.4
KHC *es*P **pwP 19 35 39.4 +3.5**
GEC2 GERESS Array S 83.88 321 P P 19 35 27.8 -0.3
GEC2 IAmb IAmb 19 35 40.1
comp=Z,6.4nm,0.8s
GERES GERESS Array B 83.88 321 P P 19 35 28.4 +0.4
comp=Z,4.4nm,0.8s,baz=54,slow=6.8,SNR=9.2
MOA Molln 84.04 320 *e*PcP P 19 35 29.6 +0.8
comp=Z,6.7nm,1.1s
SOKA Soboth 84.15 319 *e*PcP P 19 35 29.8 +0.4
comp=Z,4.8nm,0.9s
OBKA Obir 84.52 319 *e*PcP P 19 35 31.3 0.0
comp=Z,4.6nm,0.8s
ABTA Abfaltersbach 85.62 320 *e*P P 19 35 36.1 -0.7
comp=Z,9.8nm,1.2s
WATA Walderalm 85.87 320 *i* PcP P 19 35 38.0 -0.2
comp=Z,5.8nm,1.0s
WTTA Wattenberg 85.88 320 *i* P P 19 35 37.3 -0.9
comp=Z,10nm,1.2s
KMBO Kilima Mbogo 86.08 267 P P 19 35 39.4 -0.5
KMBO pmax pmax
comp=Z,4.0nm,1.1s
KMBO Kilima Mbogo 86.08 267 P P 19 35 41.8 +1.9
comp=Z,0.5nm,0.3s,baz=16,slow=12,SNR=3.1
KMBO LR LR 20 16 39.4
comp=Z,23nm,18.1s,baz=92,slow=37
KMBO Kilima Mbogo 86.08 267 P P 19 35 39.4 -0.5
MOTA Moosalm 86.14 321 *i* PcP P 19 35 39.4 -0.1
comp=Z,7.7nm,1.1s
SQTA Sankt Quirin 86.15 320 *e*PcP P 19 35 38.8 -0.7
comp=Z,4.8nm,1.0s
FETA Feichten 86.53 320 *i* PcP P 19 35 41.3 -0.1
comp=Z,7.3nm,1.1s
FUORN Ofenpass-Fuorn 87.02 320 P P 19 35 43.9 0.0
FUORN IAmb IAmb 19 35 56.5
comp=Z,6.0nm,0.8s
B08A Colville Reser 89.40 36 P P 19 35 55.4 +0.4
B08A IAmb IAmb 19 36 08.0
comp=Z,7.0nm,0.7s
NEW Newport 90.64 35 P P 19 36 00.8 0.0

NEW pmax pmax
comp=Z,6.0nm,0.8s
NEW Newport 90.64 35 P P 19 36 01.1 +0.3
NEW Newport 90.64 35 P P 19 36 00.8 0.0
NEW IAmb IAmb 19 36 19.0
comp=Z,5.8nm,0.8s
FFC Flin Flon 93.00 24 P P 19 36 11.2 -0.3
FFC pmax pmax
comp=Z,9.0nm,0.9s
FFC Flin Flon 93.00 24 P P 19 36 11.2 -0.3
FFC IAmb IAmb 19 36 12.5
comp=Z,8.5nm,0.8s
PPT Papeete 95.11 107 LR LR 20 11 00.2
comp=Z,39nm,19.4s,baz=334,slow=30
NVAR Mina Array Bea 95.90 44 P P 19 36 25.4 0.0
comp=Z,0.5nm,0.7s,baz=305,slow=3.2,SNR=3.9
NVAR LR LR 20 15 52.0
comp=Z,34nm,19.8s,baz=274,slow=33
PDAR Pinedale Array 98.24 36 LR LR 20 23 06.3
comp=Z,21nm,18.8s,baz=354,slow=37
ESDC Sonseca Array 99.48 321 LR LR 20 25 48.8
comp=Z,66nm,18.6s,baz=305,slow=38
TORD Torodi Ar. Bea 111.47 296 PKiKP **PKiKP 19 41 35.3 +2.1**
comp=Z,0.3nm,0.7s,baz=85,slow=1.6,SNR=3.3
TORD PP **PP 19 42 14.4 +0.7**
comp=Z,0.9nm,0.8s,baz=64,slow=6.7,SNR=4.2
SDV Santo Domingo 145.07 23 PKP **PKPab 19 42 36.2 +0.1**
comp=Z,19nm,0.8s,baz=322,slow=3.6,SNR=8.6
SDV Santo Domingo 145.07 23 **PKPbc 19 42 35.3 -0.7**
PTBC PUERTO BERRIO 145.61 31 *e*P **PKPdf 19 42 36.5 -1.0**
PAMC Pamplona, Colo 145.68 27 *e*P **PKPbc 19 42 38.3 0.0**
BARC Barichara 146.14 29 *e*P **PKPbc 19 42 39.6 +0.1**
GUY2C Guyana, Caldas 146.31 33 *e*P **PKPdf 19 42 39.5 +0.3**
RUSC La Rusia 146.81 29 *e*P **PKPbc 19 42 41.0 -0.8**
YOTC Yotoco, Valle 146.84 36 *e*P **PKPbc 19 42 41.2 -0.2**
VILC Villavicencio, 148.09 32 *e*P **PKPbc 19 42 45.0 +0.2**
SOTA Rioblanco 148.23 38 *e*P **PKPbc 19 42 46.1 +0.4**
BETC Betania 148.42 36 *e*P **PKPbc 19 42 45.5 -0.2**
CRUC La Cruz 148.49 40 *e*P **PKPbc 19 42 46.4 +0.2**
RCBR Riachuelo 152.58 307 PKP **PKPdf 19 42 47.0 -1.6**
comp=Z,69nm,0.8s,baz=70,slow=2.0,SNR=3.2
LVC Limon Verde 169.46 86 PKP **PKPdf 19 43 08.3 +1.6**
comp=Z,3.5nm,0.8s,baz=267,slow=7.2,SNR=3.7
SIV San Ignacio 171.54 24 PKPab **PKPab 19 44 27.7 -0.6**
comp=Z,0.6nm,0.3s,baz=346,slow=9.0,SNR=3.7

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*IDC **06** 19:37:14.2±0.9, 40.°23N×78.°88E, h0km, mb3.8/9, mb1 3.9/14, mb1mx3.6/40, mbtmp3.7/14, ML3.1/5, Error ellipse: s-maj=21.1km s-min=15.9km az=50.0*
*SOME **06** 19:37:16.1, 40.°55N×79.°00E, h15km*
*BJI **06** 19:37:16.9±0.0, 40.°42N×78.°93E, h20km, mb3.9/9, mB4.1/1, ML3.9/8*
*NNC **06** 19:37:18.9±1.0, 40.°67N×78.°92E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=6.9km s-min=5.8km az=166.0*
*KRNET **06** 19:37:18.8±0.1, 40.°51N×78.°74E, mb3.9*
ISC 06 19:37:17.5±1.3, 40.°53N±0.°03×79.°08E±0.°03, h13km±9km, n102, σ2°02/138, mb4.0/10, 21C-13D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.53**	**322**	⇓*i*P	**Pn**	**19 37 45.6**	**+0.6**
TARG	baz=30			⇓*i*S	**Sn**	**19 38 04.8**	**-0.2**
	baz=30						
PRZ	**Przheval'sk**	**2.01**	**346**	⇑*i*P	**Pb**	**19 37 55.4**	**+1.3**
PRZ	baz=53			⇑*i*S	**Sg**	**19 38 22.4**	**+0.1**
	baz=53						
KDJ	**Kajisay**	**2.14**	**319**	⇓*i*P	**Pb**	**19 37 56.0**	**-0.3**
KDJ	baz=25			⇓*i*S	**Sb**	**19 38 23.1**	**+0.3**
	baz=25						
ANVS	**Anan'yevo**	**2.48**	**335**	⇑*i*P	**Pb**	**19 38 01.6**	**-0.5**
ANVS	baz=41			⇑*i*S	**Sb**	**19 38 32.7**	**0.0**
	baz=41						
NRN	**Naryn**	**2.50**	**292**	⇑*i*P	**Pn**	**19 38 00.0**	**+1.8**
NRN	baz=94			⇑*i*S	**Sn**	**19 38 29.8**	**+1.1**
	baz=94						
SATY	**Saty**	**2.57**	**349**	*e*P	**Pb**	**19 38 02.8**	**-0.8**
SATY	244nm,0.4s			*e*S	**Sb**	**19 38 36.8**	**+1.6**
	425nm,0.7s						
SATY	**Saty**	**2.57**	**349**	Pg	**Pb**	**19 38 02.8**	**-0.8**
SATY	246nm,0.5s			Lg	Lg	19 38 36.8	
	625nm,0.8s						
KSH	**Kashi**	**2.59**	**248**	Pn	**Pg**	**19 38 06.0**	**-1.2**
KSH				Sn	**Sg**	**19 38 43.3**	**+2.5**
KSH	comp=N,1μm,0.5s			smax	smax		
KSH	comp=E,800nm,0.6s			smax	smax		
UZB	**Uzynbulak**	**2.61**	**359**	*e*P	**Pb**	**19 38 03.4**	**-0.9**
UZB	109nm,0.4s			*e*S	**Sb**	**19 38 37.4**	**+1.1**
	231nm,0.6s						
UZB	**Uzynbulak**	**2.61**	**359**	Pg	**Pb**	**19 38 03.4**	**-0.9**
UZB	109nm,0.4s			Lg	Lg	19 38 37.4	
	231nm,0.6s						
SHLS	**Shalkode**	**2.64**	**6**	*e*P	**Pb**	**19 38 05.4**	**+0.7**
SHLS	219nm,0.4s			*e*S	**Sg**	**19 38 40.8**	**-1.5**
	594nm,0.5s						
SHLS	**Shalkode**	**2.64**	**6**	Pg	**Pb**	**19 38 05.2**	**+0.5**
SHLS	219nm,0.4s			Lg	Lg	19 38 40.8	
	594nm,0.5s						
ZHN	**Zhinishke**	**2.67**	**350**	*e*P	**Pb**	**19 38 04.3**	**-1.0**
ZHN	49nm,0.2s			*e*S	**Sb**	**19 38 39.2**	**+1.1**
	204nm,0.2s						
ZHN	**Zhinishke**	**2.67**	**350**	Pg	**Pb**	**19 38 04.3**	**-1.0**
ZHN	49nm,0.2s			Lg	Lg	19 38 39.2	
	204nm,0.2s						
ULHL	**Ulahol**	**2.73**	**310**	⇓*i*P	**Pn**	**19 38 03.6**	**+2.3**
ULHL	baz=14			⇓*i*S	**Sn**	**19 38 36.3**	**+1.9**
	baz=14						
ULHL	**Ulahol**	**2.73**	**310**	P	**Pb**	**19 38 04.4**	**-2.0**
PDGK	SNR=21			⇓Pn	**Pn**	**19 38 04.9**	**+2.6**
	136nm,0.5s						
PDGK				⇑Lg	Lg	19 38 43.5	
	264nm,0.6s						
KPKS	**Kokpek**	**2.94**	**354**	*e*P	**Pb**	**19 38 08.2**	**-1.8**
KPKS	50nm,0.4s			*e*S	**Sb**	**19 38 45.5**	**-0.4**
	473nm,0.3s						
TNSS	**Tian-Shan**	**2.96**	**328**	*e*P	**Pn**	**19 38 07.6**	**+2.9**
TNSS	91nm,0.3s			*e*S	**Sb**	**19 38 44.9**	**-1.8**
	180nm,0.6s						
TNSS	**Tian-Shan**	**2.96**	**328**	Pg	**Pn**	**19 38 07.6**	**+2.9**
TNSS	91nm,0.3s			Lg	Lg	19 38 44.9	
	180nm,0.6s						
KURS	**Kuram**	**3.03**	**347**	*e*P	**Pn**	**19 38 08.8**	**+3.6**
KURS	83nm,0.6s			*e*S	**Sb**	**19 38 46.8**	**-1.4**
	159nm,0.5s						
KURS	**Kuram**	**3.03**	**347**	Pg	**Pn**	**19 38 08.8**	**+3.6**
KURS	83nm,0.6s			Lg	Lg	19 38 46.8	
	159nm,0.5s						
MDOK	**Medeo**	**3.03**	**331**	*e*P	**Pb**	**19 38 11.3**	**-0.1**
MDOK	58nm,0.5s			*e*S	**Sb**	**19 38 51.3**	**+2.8**
	328nm,0.8s						
MDOK	**Medeo**	**3.03**	**331**	⇑Pn	**Pn**	**19 38 06.7**	**+1.3**
MDOK	81nm,0.5s			⇑Lg	Lg	19 38 51.2	
	426nm,0.8s						
MDOK	**Medeo**	**3.03**	**331**	Pg	**Pb**	**19 38 11.3**	**-0.1**
MDOK	58nm,0.5s			Lg	Lg	19 38 51.3	
	328nm,0.8s						
BOOM	**Boomskoye usch**	**3.06**	**311**	⇑*i*P	**Pn**	**19 38 08.4**	**+2.6**
BOOM	baz=14			⇑*i*S	**Sn**	**19 38 43.9**	**+1.5**
	baz=14						
KTMS	**Ketmen**	**3.06**	**18**	*e*P	**Pb**	**19 38 13.1**	**+1.2**

50nm,0.6s
KTMS eS Sg 19 38 54.0 -1.8
259nm,0.6s
KTMS Ketmen 3.06 18 Pg Pb 19 38 13.0 +1.1
50nm,0.6s
KTMS Lg Lg 19 38 54.0
259nm,0.6s
KOTS Kotyrbulak 3.07 332 eP Pb 19 38 12.3 +0.2
82nm,0.3s
KOTS eS Sg 19 38 53.0 -3.2
502nm,0.6s
KOTS Kotyrbulak 3.07 332 Pg Pb 19 38 12.3 +0.2
82nm,0.3s
KOTS Lg Lg 19 38 53.0
502nm,0.6s
KNDC Almaty 3.11 330 ⇑Pn Pn 19 38 07.0 +0.6
125nm,0.8s
KNDC ⇑Lg Lg 19 38 54.0
507nm,1.0s
AAA Alma-Ata 3.12 330 eP Pb 19 38 13.1 +0.1
70nm,0.2s
AAA eS Sb 19 38 53.9 +2.9
217nm,0.6s
AAA Alma-Ata 3.12 330 Pg Pb 19 38 13.1 +0.1
70nm,0.2s
AAA Lg Lg 19 38 53.9
217nm,0.6s
KZA Kyzart 3.27 299 ⇑iP Pn 19 38 10.4 +1.5
baz=2.0
KZA ⇑iS Sn 19 38 48.7 +0.8
baz=2.0
KZA Kyzart 3.27 299 P Pn 19 38 10.7 +1.8
SNR=20
KST Kastek 3.42 318 eP Pb 19 38 18.4 +0.3
54nm,0.3s
KST eS Sb 19 39 02.9 +3.2
415nm,0.7s
KST Kastek 3.42 318 Pg Pb 19 38 18.4 +0.3
54nm,0.3s
KST Lg Lg 19 39 02.9
415nm,0.7s
TKM2 Tokmak 2 3.53 314 P Pn 19 38 15.3 +3.0
SNR=14
MNBS Baschi 3.58 352 eP Pb 19 38 20.8 +0.1
48nm,0.6s
MNBS eS Sb 19 39 07.3 +3.2
278nm,0.5s
MNBS Baschi 3.58 352 Pg Pb 19 38 20.8 +0.1
48nm,0.6s
MNBS Lg Lg 19 39 07.3
278nm,0.5s
KTBS Karatobe 3.64 332 eP Pb 19 38 21.1 -0.6
25nm,0.3s
KTBS eS Sb 19 39 08.1 +2.3
211nm,0.4s
KTBS Karatobe 3.64 332 Pg Pb 19 38 21.2 -0.6
25nm,0.3s
KTBS Lg Lg 19 39 08.1
211nm,0.4s
DGS Degeres 3.66 319 eP Pb 19 38 22.0 -0.2
14nm,0.5s
DGS eS Sb 19 39 09.3 +2.8
171nm,0.5s
DGS Degeres 3.66 319 Pg Pb 19 38 22.0 -0.2
14nm,0.5s
DGS Lg Lg 19 39 09.3
171nm,0.5s
CHKK Chushkaly 3.66 336 eP Pb 19 38 23.2 +1.1
58nm,0.5s
CHKK eS Sg 19 39 11.2 -3.9
168nm,0.5s
CHKK Chushkaly 3.66 336 Pg Pb 19 38 23.2 +1.1
58nm,0.5s
CHKK Lg Lg 19 39 11.2
168nm,0.5s
KBK Karagaybulak 3.75 306 P Pn 19 38 18.3 +3.0
SNR=8.8
ARXS Arharly 3.79 346 eP Pb 19 38 25.9 +1.5
31nm,0.6s
ARXS eS Sg 19 39 16.2 -3.1
148nm,0.5s
ARXS Arharly 3.79 346 Pg Pb 19 38 25.9 +1.5
31nm,0.6s
ARXS Lg Lg 19 39 16.2
148nm,0.5s
ARLS Aral 3.82 292 ⇓iP Pn 19 38 17.3 +1.0
baz=94
ARLS ⇓iS Sn 19 39 00.7 -0.5
baz=94
UCH Uchtor 3.83 298 P Pn 19 38 18.1 +1.5
SNR=16
KUU Kurty 3.92 330 eP Pb 19 38 26.5 0.0
9.7nm,0.7s
KUU eS Sb 19 39 17.5 +3.5
83nm,0.8s
KUU Kurty 3.92 330 Pg Pb 19 38 26.5 0.0
9.7nm,0.7s
KUU Lg Lg 19 39 17.5
83nm,0.8s
AAK Ala-Archa 4.03 303 Pn Pn 19 38 21.7 +2.6
0.6nm,0.3s,baz=95,slow=7.8,SNR=13
AAK Pg Pb 19 38 29.7 +1.2
10nm,0.3s,baz=135,slow=10.0,SNR=40
AAK Lg Lg 19 39 20.0
9.3nm,0.3s,baz=161,slow=23,SNR=12
AAK Ala-Archa 4.03 303 P Pb 19 38 29.6 +1.1
SNR=14
FRU1 Bishkek 4.03 306 ⇓iP Pn 19 38 21.4 +2.4
baz=8.0
FRU1 ⇓iS Sn 19 39 06.9 +0.7
baz=8.0
CHMS Chumysh 4.07 309 P Pb 19 38 30.4 +1.4
SNR=12
AML Almayashu 4.36 293 P Pn 19 38 25.4 +1.6
SNR=7.2
USP Ospenovka 4.37 310 P Pb 19 38 36.5 +2.3
SNR=18
SGDS Sogindy 4.41 313 Pg Pb 19 38 35.5 +0.6
16nm,0.5s
SGDS Lg Lg 19 39 32.8
68nm,0.6s
TDK Taldyqorghan 4.49 354 eP Pb 19 38 38.5 +2.2
65nm,0.4s
TDK eS Sg 19 39 37.4 -4.3
197nm,0.9s
TDK Taldyqorghan 4.49 354 Pg Pb 19 38 38.5 +2.2
65nm,0.4s
TDK Lg Lg 19 39 37.4
197nm,0.9s
EKS2 Erkin-Say 4.51 300 P Pn 19 38 27.6 +2.0
SNR=17
ARSB Arslanbob 4.68 282 ⇑eP Pn 19 38 29.6 +1.5
baz=82
ARSB ⇑iS Sn 19 39 21.7 -0.7
baz=82
KAPS Kapalarasan 4.75 2 Pg Pb 19 38 44.3 +3.6
31nm,0.6s
KAPS Lg Lg 19 39 48.0
94nm,0.6s
MRKS Merke 4.91 299 eP Pb 19 38 43.9 +0.5
8.4nm,0.5s
MRKS eS Sb 19 39 47.2 +4.8
29nm,0.7s
MRKS Merke 4.91 299 Pg Pb 19 38 43.9 +0.5
8.4nm,0.5s
MRKS Lg Lg 19 39 47.2
29nm,0.7s
MK31 Makanchi Array 6.68 19 Pn Pn 19 38 58.1 +2.8
1.7nm,0.4s,baz=202,slow=12,SNR=112
MK31 ⇓Sn Sn 19 40 14.0 +2.8
5.1nm,0.5s
MK31 ⇑Lg Lg 19 40 47.3
7.8nm,0.6s
MKAR Makanchi Array 6.68 19 Pn Pn 19 38 58.4 +3.1
2.9nm,0.3s,baz=201,slow=13,SNR=121
MKAR Sn Sn 19 40 11.8 +0.5
2.3nm,0.3s,baz=196,slow=21,SNR=3.8
KK31 Karatay Array 6.89 295 Pg Pb 19 39 21.3 +4.2
4.9nm,0.7s,baz=118,slow=16,SNR=23
KK31 ⇑Lg Lg 19 40 54.0
6.9nm,0.6s,baz=108,slow=27,SNR=5.5
WMQ Urumqi 7.19 60 ePn Pn 19 39 06.0 +3.6
WMQ Sn Sn 19 40 27.9 +3.9
WMQ smax smax
comp=N,33nm,0.7s
WMQ smax smax
comp=E,25nm,0.9s
CHCP Chirah Chowk 8.28 216 P Pn 19 39 18.4 +1.0

CEP Cherat 8.80 223 ⇓P Pn 19 39 24.8 +0.2
CEP S Sn 19 40 56.0 -7.8
THW Thamme Wali 9.71 220 P Pn 19 39 37.2 +0.2
KURBB Kurchatov Arra 10.10 358 Pn Pn 19 39 44.8 +2.6
0.1nm,0.3s,baz=196,slow=13,SNR=3.5
KURBB Lg Lg 19 42 31.1
0.2nm,0.3s,baz=208,slow=28,SNR=4.1
KURBB Kurchatov Arra 10.10 358 ⇑Pn Pn 19 39 43.7 +1.6
4.4nm,1.3s
KURBB ⇑Lg Lg 19 42 36.3
36nm,0.8s
DANN Dangsing 12.75 161 eP Pn 19 40 18.2 -0.6
8.1nm,0.4s
GKN Gorkha 13.31 158 eP Pn 19 40 26.5 +0.1
7.5nm,0.2s
KKN Kakani 13.70 156 eP Pn 19 40 31.5 -0.3
7.5nm,0.6s
BVAR Borovoye Array 13.82 338 Pn Pn 19 40 33.5 +0.4
0.2nm,0.3s,baz=152,slow=16,SNR=3.5
PKIN Phulchoki 13.94 156 eP Pn 19 40 35.5 +0.5
7.5nm,0.5s
PKI Pulchoki 13.95 156 eP Pn 19 40 35.7 +0.5
11nm,0.6s
ZALV Zalesovo Beam 13.97 14 Pn Pn 19 40 35.9 +0.9
0.2nm,0.3s,baz=192,slow=13,SNR=4.1
ZALV Lg Lg 19 44 49.9
0.2nm,0.3s,baz=201,slow=23,SNR=2.2
JIRN Jiri 14.12 153 eP Pn 19 40 38.4 +0.8
15nm,0.5s
RAMN Ramite 14.91 153 eP Pn 19 40 47.7 -0.6
8.0nm,0.4s
ODAN Odare 15.28 151 eP Pn 19 40 53.3 +0.1
7.6nm,0.5s
GTA Gaotai 15.94 87 eP P 19 41 08.7 +3.5
GTA pP pP 19 41 11.5 +2.4
GTA sP sP 19 41 14.5 +3.5
GTA pmax pmax
comp=Z,2.0nm,0.9s
LZH Lanzhou 19.91 95 eP P 19 41 46.7 -2.3
LZH pP sP 19 41 58.9 +4.1
LZH sP pP 19 42 05.6 +13
LZH PP PnPn 19 42 08.6 +4.0
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,62nm,4.9s
LZH LR LR
comp=N,170nm,10.8s
LZH LR LR
comp=E,200nm,10.3s
LZH LR LR
comp=Z,250nm,11.2s
SONM Songino Array 20.83 60 P Pn 19 42 02.3 +0.9
comp=Z,1.7nm,0.6s,baz=262,slow=10.0,SNR=13
CD2 Chengdu 22.16 108 eP P 19 42 12.0 -1.2
HHC Hu-ho-hao-te 24.56 79 eP P 19 42 34.3 -2.9
HHC pmax pmax
comp=Z,6.0nm,0.9s
NJ2 Nanjing 32.93 92 eP P 19 43 47.7 -4.0
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
CN2 Changchun 34.18 69 eP P 19 44 01.9 -0.5
FINES FINESS Array B 37.99 321 P P 19 44 34.1 -0.6
comp=Z,4.8nm,1.1s,baz=126,slow=9.7,SNR=5.6
ARCES ARCESS Array B 40.08 334 P P 19 44 51.5 -0.7
comp=Z,7.0nm,1.0s,baz=96,slow=8.3,SNR=3.9
NB2 NORSAR Subarra 45.15 321 P P 19 45 32.0 -1.5
comp=Z,0.5nm,0.4s,baz=85,slow=8.6
NOA NORSAR Array B 45.15 321 P P 19 45 32.4 -1.1
comp=Z,0.2nm,0.4s,baz=83,slow=5.9,SNR=3.2
INK Inuvik 68.76 12 P P 19 48 20.2 -0.4
comp=Z,1.4nm,1.0s,baz=299,slow=2.4,SNR=3.2
TORD Torodi Ar. Bea 72.03 272 P P 19 48 39.1 -2.4
comp=Z,0.3nm,0.3s,baz=56,slow=5.7,SNR=5.1
YKA Yellowknife Ar 76.73 6 P P 19 49 07.5 -0.5
comp=Z,0.5nm,0.6s,baz=344,slow=5.5,SNR=7.8
WRA Warramunga Arr 79.10 128 P P 19 49 20.5 -1.3
comp=Z,0.2nm,0.6s,baz=311,slow=7.3,SNR=5.4
ASAR Alice Springs 81.71 131 P P 19 49 35.3 -0.5
comp=Z,0.4nm,0.6s,baz=326,slow=5.6,SNR=5.5

*IDC **06** 20:05:39.2±3.8, 20˚27S×176˚62E, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/24, mbtmp4.2/4, Error ellipse: s-maj=149.2km s-min=38.2km az=142.0*
*NEIC **06** 20:05:44.6±0.8, 20˚3S±0˚3×176˚6E±0˚3, h35km±2km, mb4.3/7*
ISC 06 20:05:44.4±3.2, 20˚3S±0˚7×176˚5E±0˚6, h35km, n11, σ1s53/11, mb4.3/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.29**	**243**	P	P	P	**20 12 19.6**	**+0.8**
	1.4nm,0.5s,baz=100,slow=9.6,SNR=7.7							
STKA	**Stephens Creek**	**33.29**	**243**	P	P	P	**20 12 19.7**	**+0.8**
STKA				IAmb	IAmb	IAmb	20 12 36.4	
	comp=Z,3.0nm,1.6s							
BBOO	**Buckleboo**	**38.06**	**242**	P	P	P	**20 12 57.5**	**-2.3**
WR0	**Warramunga Arr**	**39.33**	**263**	P	P	P	**20 13 12.0**	**+1.4**
WR0				IAmb	IAmb	IAmb	20 13 12.6	
	comp=Z,3.2nm,1.0s							
WB0	**Warramunga Arr**	**39.49**	**263**	P	P	P	**20 13 12.8**	**+0.8**
WB0				IAmb	IAmb	IAmb	20 13 13.2	
	comp=Z,5.6nm,0.5s							
WB2	**Warramunga Arr**	**39.51**	**263**	P	P	P	**20 13 12.7**	**+0.6**
WB2				IAmb	IAmb	IAmb	20 13 13.4	
	comp=Z,7.9nm,1.1s							
WRA	**Warramunga Arr**	**39.52**	**263**	P	P	P	**20 13 12.8**	**+0.6**
	comp=Z,3.0nm,0.5s,baz=98,slow=8.0,SNR=66							
AS31	**Alice Springs**	**39.55**	**257**	P	P	P	**20 13 12.9**	**+0.4**
ASAR	**Alice Springs**	**39.55**	**257**	P	P	P	**20 13 12.8**	**+0.3**
	comp=Z,6.9nm,0.8s,baz=95,slow=7.6,SNR=95							
KNRA	**Kununurra**	**45.52**	**268**	P	P	P	**20 13 58.1**	**-2.9**
KNRA				IAmb	IAmb	IAmb	20 14 01.6	
	comp=Z,13nm,1.4s							
ILAR	**Eielson Array**	**89.31**	**15**	P	P	P	**20 18 36.8**	**+0.2**
	comp=Z,0.5nm,1.1s,baz=219,slow=7.0,SNR=1.6							

*SJA **06** 20:11:52.9±1.0, 26˚03S×68˚97W, h129km±13km, ML3.8, MW4.1*
*ISCJB **06** 20:11:53.4±0.3, 26˚04S±0˚03×68˚96W±0˚05, h117km±6km, mb4.0/5, Error ellipse: s-maj=7.7km s-min=4.1km az=169.2*
*IDC **06** 20:11:54.2±1.8, 26˚05S×68˚81W, h95km±15km, mb3.4/4, mb1 3.6/8, mb1mx3.4/24, mbtmp3.7/8, Error ellipse: s-maj=26.1km s-min=13.5km az=76.0*
*GUC **06** 20:11:54.3±0.7, 26˚01S×69˚16W, h114km±6km, ML4.1*
ISC 06 20:11:54.1±0.8, 26˚05S±0˚04×68˚92W±0˚06, h103km±8km, n44, σ1s31/57, mb3.9/5, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**1.07**	**325**	⇓iP	P	P	**20 12 16.7**	**+0.9**
GO02				*i* S	S	Sn	20 12 33.5	+1.4
GO03	**Copiap**	**1.94**	**217**	⇑iP	P	Pn	**20 12 26.4**	**+0.4**
GO03				eS	S	Sn	20 12 51.4	+1.0
PB14	**IPOC Station P**	**1.95**	**316**	eP	P	Pn	**20 12 26.9**	**+0.4**
PB14				eS	S	Sn	20 12 51.2	+0.1
PB14				IAML			20 12 58.0	
	comp=N,999nm,0.4s							
PB14	**IPOC Station P**	**1.95**	**316**	*i* P	P	Pn	**20 12 27.4**	**+0.9**
PB14				eS	S	Sn	20 12 52.0	+0.8
FSA	**Cafayete**	**2.65**	**92**	*i* P	P	Pn	**20 12 36.8**	**+1.4**
FSA				eS	S	Sn	20 13 09.1	+2.0
PB15	**IPOC Station P**	**2.87**	**350**	⇑iP	P	Pn	**20 12 39.1**	**+0.7**
PB15				eS	S	Sn	20 13 13.8	+1.3
PB15	**IPOC Station P**	**2.87**	**350**	*i* P	P	Pn	**20 12 39.1**	**+0.7**
PB10	**IPOC Station P**	**2.93**	**329**	⇑iP	P	Pn	**20 12 38.9**	**-0.1**
PB10				eS	S	Sn	20 13 12.0	-1.5
PB10				IAML			20 13 25.0	
	comp=E,304nm,0.3s							
PB10	**IPOC Station P**	**2.93**	**329**	*i* P	P	Pn	**20 12 39.2**	**+0.2**
SLA	**San Lorenzo**	**3.36**	**68**	*i* P	P	Pn	**20 12 46.6**	**+1.6**
PB06	**IPOC Station P**	**3.38**	**350**	eP	P	Pn	**20 12 45.5**	**+0.3**
PB06				eS	S	Sn	**20 13 25.0**	**+0.4**
PB06				IAML			20 13 32.6	
	comp=E,284nm,0.3s							
PB06	**IPOC Station P**	**3.38**	**350**	*i* P	P	Pn	**20 12 46.0**	**+0.8**
PB05	**IPOC Station P**	**3.39**	**340**	⇑iP	P	Pn	**20 12 44.9**	**-0.4**
PB05				eS	S	Sn	20 13 24.2	-0.5
PB05				IAML			20 13 35.5	
	comp=E,417nm,0.4s							
PB05	**IPOC Station P**	**3.39**	**340**	*i* P	P	Pn	**20 12 44.9**	**-0.4**
LVC	**Limon Verde**	**3.42**	**0**	P	P	Pn	**20 12 46.8**	**+0.9**
	comp=E,8.3nm,0.3s,baz=167,slow=6.8,SNR=52							
LVC				S	S	Sn	**20 13 25.4**	**-0.5**
	comp=E,18nm,0.3s,baz=66,slow=23,SNR=8.9							
PB04	**IPOC Station P**	**3.86**	**343**	eP	P	Pn	**20 12 51.0**	**-0.7**
PB04				eS	S	Sn	**20 13 34.9**	**-1.3**
PB04				IAML			20 13 52.0	
	comp=E,230nm,0.5s							
PB04	**IPOC Station P**	**3.86**	**343**	*i* P	P	Pn	**20 12 51.4**	**-0.3**
PB04				IAML			20 13 50.7	
	comp=Z,148nm,0.4s							
PB03	**IPOC Station P**	**4.05**	**349**	*i* P	P	Pn	**20 12 54.1**	**-0.2**
PB09	**IPOC Station P**	**4.24**	**356**	*i* P	P	Pn	**20 12 57.5**	**+0.7**
PB09				IAML			20 14 03.4	
	comp=Z,100nm,0.3s							
PB07	**IPOC Station P**	**4.39**	**348**	*i* P	P	Pn	**20 12 57.8**	**-1.0**
PB02	**IPOC Station P**	**4.79**	**349**	*i* P	P	Pn	**20 13 03.2**	**-1.0**
AMOG	**MOGNA**	**4.89**	**176**	*i* P	P	Pn	**20 13 05.7**	**+0.3**
RTLL	**Cerro Villicun**	**5.28**	**176**	*i* P	P	Pn	**20 13 11.0**	**+0.3**
CFA	**Coronel Fontan**	**5.57**	**174**	P	P	Pn	**20 13 14.9**	**+0.2**
	comp=Z,5.1nm,0.3s,baz=18,slow=13,SNR=24							
CFA				S	S	Sn	**20 14 14.0**	**-3.4**
	comp=Z,3.8nm,0.3s,baz=358,slow=13,SNR=4.0							
CFA	**Coronel Fontan**	**5.57**	**174**	*i* P	P	Pn	**20 13 14.8**	**+0.2**
RTCV	**Cerro Valdivia**	**5.80**	**177**	*i* P	P	Pn	**20 13 18.3**	**+0.5**
ACAN	**Cantantal**	**6.39**	**167**	*i* P	P	Pn	**20 13 25.8**	**+0.1**
ASAL	**Salagasta**	**6.52**	**179**	⇑iP	P	Pn	**20 13 27.8**	**+0.2**
AAGR	**Agrelo**	**7.01**	**179**	*i* P	P	Pn	**20 13 34.3**	**0.0**
LPAZ	**La Paz**	**9.74**	**4**	P	P	Pn	**20 14 13.9**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=167,slow=5.3,SNR=3.6							
CPUP	**Villa Florida**	**10.42**	**94**	P	P	Pn	**20 14 19.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=282,slow=16,SNR=2.3							
SIV	**San Ignacio**	**12.40**	**38**	P	P	Pn	**20 14 43.5**	**-3.6**
	comp=Z,0.7nm,0.3s,baz=245,slow=13,SNR=7.5							
PLCA	**Paso Flores**	**14.71**	**185**	P	P	P	**20 15 20.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=31,slow=14,SNR=2.5							
RCBR	**Riachuelo**	**37.39**	**63**	P	P	P	**20 18 56.3**	**-1.1**
	comp=Z,30nm,0.6s,baz=221,slow=0.3,SNR=3.5							
RCBR				PcP	PcP	PcP	**20 21 17.1**	**+2.8**
	comp=Z,22nm,0.5s,baz=251,slow=1.6,SNR=2.8							
SNAA	**Sanae**	**58.02**	**160**	P	P	P	**20 21 36.0**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=282,slow=9.7,SNR=7.4							
TXAR	**Lajitas Array**	**64.37**	**326**	P	P	P	**20 22 20.2**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=125,slow=5.6,SNR=4.5							
PDAR	**Pinedale Array**	**78.04**	**331**	P	P	P	**20 23 43.2**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=134,slow=8.9,SNR=2.8							
TORD	**Torodi Ar. Bea**	**78.92**	**69**	P	P	P	**20 23 46.8**	**0.0**
	comp=Z,1.1nm,0.5s,baz=269,slow=5.2,SNR=12							
ASAR	**Alice Springs**	**125.87**	**206**	PKP	PKiKP	PKiKP	**20 30 44.7**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=151,slow=2.1,SNR=3.5							
WRA	**Warramunga Arr**	**129.01**	**209**	PKP	PKiKP	PKiKP	**20 30 50.7**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=154,slow=2.0,SNR=5.5							
ZALV	**Zalesovo Beam**	**146.01**	**28**	PKPbc	PKiKP	PKiKP	**20 31 22.5**	**-2.4**
	comp=Z,3.5nm,0.7s,baz=302,slow=4.3,SNR=15							
KSH	**Kashi**	**147.79**	**57**	PKPbc	PKPbc	PKPbc	**20 31 25.1**	**-2.2**
KSH				pPKP	pPKPdf	pPKPdf	20 31 51.4	-2.6
MKAR	**Makanchi Array**	**149.21**	**40**	PKPbc	PKiKP	PKiKP	**20 31 31.2**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=310,slow=2.6,SNR=18							
WHN	**Wuhan**	**174.67**	**328**	PKP	PKPdf	PKPdf	**20 31 55.3**	**+3.2**

IDC 06 20:51:35.6±1.1, 12˚41N×143˚39E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/26, mbtmp3.6/6, Error ellipse: s-maj=95.6km s-min=24.4km az=109.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**23.24**	**72**	T	T	T	21 20 47.0	
	SNR=3.0							
H11S1	**WAKE ISLAND Hy**	**23.25**	**72**	T	T	T	21 20 42.4	
H11S2	**WAKE ISLAND Hy**	**23.26**	**72**	T	T	T	21 20 42.4	
H11N1	**WAKE ISLAND Hy**	**23.70**	**69**	T	T	T	21 21 18.4	
	baz=249							
H11N2	**WAKE ISLAND Hy**	**23.71**	**69**	T	T	T	21 21 20.7	
	baz=249							
H11N3	**WAKE ISLAND Hy**	**23.72**	**69**	T	T	T	21 21 20.9	
	baz=249							
WRA	**Warramunga Arr**	**33.36**	**196**	P	P	P	20 58 14.9	-0.8
	0.3nm,0.7s,baz=21,slow=9.7,SNR=4.9							
ASAR	**Alice Springs**	**37.04**	**195**	P	P	P	20 58 47.9	+0.5
	0.3nm,0.8s,baz=23,slow=12,SNR=3.3							
ILAR	**Eielson Array**	**70.24**	**25**	P	P	P	21 02 49.4	-1.0
	0.3nm,0.7s,baz=246,slow=5.5,SNR=5.5							
YKA	**Yellowknife Ar**	**84.56**	**27**	P	P	P	21 04 11.3	+0.7
	0.2nm,0.4s,baz=286,slow=5.0,SNR=3.6							
NVAR	**Mina Array Bea**	**88.78**	**51**	P	P	P	21 04 32.6	+0.6
	0.1nm,0.3s,baz=264,slow=6.2,SNR=3.1							
FINES	**FINESS Array B**	**91.61**	**335**	P	P	P	21 04 44.7	+0.3
	1.4nm,0.8s,baz=96,slow=13,SNR=1.1							

*SJA **06** 21:00:42.2±0.9, 30˚59S×72˚47W, h31km±22km, ML4.3, MW4.7*
*ISCJB **06** 21:00:43.3±1.4, 30˚43S±0˚03×72˚36W±0˚06, h32km±11km, mb4.1/5, MS3.4/3, Error ellipse: s-maj=8.3km s-min=4.4km az=178.1*
*IDC **06** 21:00:43.1±0.9, 30˚49S×72˚06W, h0km, mb4.2/5, mb1 4.2/11, mb1mx4.1/23, mbtmp4.1/11, ML3.9/6, MS3.4/7, Ms1 3.4/7, ms1mx3.2/20, Error ellipse: s-maj=25.2km s-min=20.9km az=72.0*
*GUC **06** 21:00:44.1±0.5, 30˚54S×71˚97W, h10km±3km, ML4.4*
*NEIC **06** 21:00:46.0±2.5, 30˚47S±0˚04×72˚12W±0˚10, h34km±2km*
ISC 06 21:00:42.1±2.0, 30˚49S±0˚03×72˚04W±0˚06, h1km±12km, n66, σ1s72/74, mb4.5/7, MS3.3/3, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**1.12**	**74**	⇓iP	P	Pn	**21 01 05.9**	**+0.7**
GO04				*i* S	S	Sn	**21 01 22.0**	**+0.7**
GO04				IAML			21 01 24.6	
	comp=N,24μm,0.5s							
GO04	**Tololo Observa**	**1.12**	**74**		P	Pn	**21 01 06.0**	**+0.9**
CO02	**Combarbal**	**1.15**	**129**	⇓iP	P	Pb	**21 01 04.9**	**+0.1**
CO02				*i* S	S	Sn	**21 01 21.1**	**-0.7**
AROD	**Rodeo**	**2.24**	**82**	*i* P	P	Pg	**21 01 25.1**	**0.0**
ACDV	**Cuesta del Vie**	**2.54**	**84**	*i* P	P	Pb	**21 01 29.6**	**+0.9**
ACCO	**Cerro Coronel**	**2.57**	**93**	*i* P	P	Pb	**21 01 30.1**	**+0.9**
ROCH	**El Roble**	**2.63**	**161**	eP	P	Pn	**21 01 26.0**	**+0.1**
ROCH				eS	S	Sb	**21 02 03.2**	**+0.2**
ROCH				IAML			21 02 08.5	
	comp=N,1μm,0.4s							
ROC1	**El Roble**	**2.63**	**161**	Pn	Pn	Pn	**21 01 26.5**	**+0.5**
ROC1	**El Roble**	**2.63**	**161**	*i* P	Pn	Pn	**21 01 26.1**	**+0.1**
ROC1				eS	S	Sn	**21 01 58.7**	**0.0**
RTLS	**Leoncito**	**2.69**	**120**	*i* P	P	Pb	**21 01 31.1**	**-0.2**
RTLS				IAML			21 01 34.7	
	comp=Z,701nm,0.4s							
PEL	**Peldehue**	**2.89**	**157**		P	Pn	**21 01 29.9**	**+0.6**
PEL	**Peldehue**	**2.89**	**157**	*i* P	Pn	Pn	**21 01 29.9**	**+0.6**
PEL				eS	S	Sb	**21 02 12.0**	**+1.6**
AMOG	**MOGNA**	**3.09**	**99**	*i* P	P	Pb	**21 01 36.9**	**-1.1**
RTLL	**Cerro Villicun**	**3.18**	**106**	*i* P	P	Pb	**21 01 36.8**	**-2.6**
AGUA	**GUANDACOL**	**3.24**	**73**	*i* P	P	Pb	**21 01 39.8**	**-0.6**
GO03	**Copiap**	**3.29**	**29**	eP	P	Pn	**21 01 36.3**	**+1.5**
GO03				eS	S	Sb	**21 02 20.1**	**-1.7**
GO03				IAML			21 02 39.9	
	comp=E,538nm,0.6s							
GO03	**Copiap**	**3.29**	**29**	Pn	P	Pn	**21 01 36.0**	**+1.1**
RTCV	**Cerro Valdivia**	**3.30**	**115**	*i* P	P	Pb	**21 01 39.4**	**-2.1**
ASAL	**Salagasta**	**3.45**	**128**	*i* P	P	Pb	**21 01 41.6**	**-2.5**
CFA	**Coronel Fontan**	**3.45**	**110**	Pn	P	Pn	**21 01 40.3**	**+3.3**
	comp=E,20nm,0.3s,baz=296,slow=13,SNR=66							
CFA				Sn	S	Sb	**21 02 23.0**	**-3.5**
	comp=E,27nm,0.3s,baz=158,slow=18,SNR=2.6							
CFA				LR	LR		21 02 55.9	
	comp=E,608nm,18.3s,baz=256,slow=38							
CFA	**Coronel Fontan**	**3.45**	**110**	*i* P	P	Pb	**21 01 40.9**	**-3.1**
ARCO	**CERRO ARCO**	**3.54**	**132**	*i* P	P	Pb	**21 01 43.3**	**-2.4**
ARCO				IAML			21 02 48.2	
	comp=Z,314nm,0.6s							
LMEL	**Las Melosas**	**3.70**	**156**	eP	P	Pn	**21 01 43.6**	**+3.0**
LMEL				eS	S	Sn	**21 02 24.9**	**0.0**
LMEL				IAML			21 02 47.5	
	comp=E,351nm,0.6s							
VCA	**Vinchina**	**3.77**	**63**	*i* P	P	Pb	**21 01 47.1**	**-2.5**
VCA				IAML			21 02 51.4	
	comp=Z,691nm,0.8s							
AAGR	**Agrelo**	**3.77**	**134**	*i* P	P	Pb	**21 01 46.2**	**-3.3**
GO05	**Huala**	**4.51**	**179**	Pn	Pn	Pn	**21 01 50.1**	**-1.6**
ACAN	**Cantantal**	**4.52**	**114**	*i* P	P	Pn	**21 01 56.4**	**+4.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GO02	Mina Guanaco	5.73	23		Pn	21 02 08.3	-0.3
MRA	San Martin	5.74	111	i P	Pn	21 02 10.5	+2.0
CYA	Choya	5.81	71	i P	Pn	21 02 12.4	+2.9
TCA	Tanti	6.45	99	i P	Pn	21 02 19.9	+1.5
PB04	IPOC Station P	8.29	12	Pn	Pn	21 02 43.8	+0.1
LVC	Limon Verde	8.33	20	Pn	Pn	21 02 44.0	-0.4
	comp=Z,0.2nm,0.3s,baz=161,slow=5.6,SNR=3.4						
LVC				Sn	Sn	21 04 17.5	-1.8
	baz=274,slow=19,SNR=1.9						
LVC				LR	LR	21 06 17.8	
	comp=Z,148nm,21.2s,baz=207,slow=40						
GO06	Curarrehue	9.09	177	Pn	Pn	21 02 54.7	+0.2
PLCA	Paso Flores	10.30	174	Pn	Pn	21 03 10.7	-0.3
	comp=Z,0.3nm,0.3s,baz=356,slow=11,SNR=10						
PLCA				LR	LR	21 07 28.0	
	comp=Z,182nm,18.1s,baz=20,slow=39						
PLCA	Paso Flores	10.30	174		Pn	21 03 11.0	-0.1
PB11	IPOC Station P	10.89	12	Pn	Pn	21 03 19.4	0.0
GO01	Chusmiza	11.07	14	Pn	Pn	21 03 22.1	0.0
TRQA	Tornquist	11.23	135	Pn	Pn	21 03 25.9	+2.1
MNMC	Minye Minye	11.52	12	Pn	Pn	21 03 28.4	+0.4
CPUP	Villa Florida	13.59	76	Pn	Pn	21 03 57.5	+1.4
	comp=Z,0.2nm,0.3s,baz=104,slow=17,SNR=2.3						
CPUP				Sn	Sn	21 06 26.9	-0.9
	comp=Z,0.1nm,0.3s,baz=242,slow=16,SNR=1.8						
LPAZ	La Paz	14.58	15	Pn	Pn	21 04 12.4	+2.2
	comp=Z,0.2nm,0.3s,baz=210,slow=6.5,SNR=8.2						
LPAZ				Sn	Sn	21 06 49.5	-3.3
	comp=Z,0.1nm,0.3s,baz=91,slow=20,SNR=1.5						
LPAZ	La Paz	14.58	15	P	Pn	21 04 13.9	+3.7
SIV	San Ignacio	17.58	37	P	P	21 04 50.5	+0.8
	comp=Z,0.5nm,0.3s,baz=245,slow=13,SNR=37						
SIV				S	Sn	21 08 03.2	-1.8
	comp=Z,0.1nm,0.3s,baz=267,slow=4.4,SNR=2.4						
SIV				LR	LR	21 12 52.4	
	comp=Z,194nm,18.9s,baz=250,slow=42						
SAML	Samuel	22.97	23	P	P	21 05 48.4	+0.2
ATAH	Atahualpa	23.98	344	P	P	21 05 59.1	+0.4
	comp=Z,2.2nm,0.6s,baz=95,slow=22,SNR=1.6						
ATAH				LR	LR	21 13 16.5	
	comp=Z,62nm,18.6s,baz=95,slow=31						
BDFB	Brasilia	26.51	62	P	P	21 06 21.4	0.0
	comp=Z,6.6nm,0.7s,baz=228,slow=9.6,SNR=11						
BDFB				LR	LR	21 18 20.8	
	comp=Z,89nm,21.9s,baz=273,slow=40						
BDFB	Brasilia	26.51	62	P	P	21 06 22.0	+0.6
BDFB				IAmb	IAmb	21 06 22.5	
	comp=Z,6.9nm,0.7s						
VNA3	Neumayer Olymp	52.62	159	P	P	21 09 57.3	+0.1
VNA2	Neumayer--Watz	53.26	158	P	P	21 10 02.5	+0.6
	baz=283,slow=8.0						
SNAA	Sanae	54.84	159	P	P	21 10 14.0	+0.4
SNAA	Sanae	54.84	159	P	P	21 10 13.5	-0.1
SNAA				IAmb	IAmb	21 10 14.9	
	comp=Z,5.5nm,0.7s						
QSPA	South Pole Qui	59.74	180	P	P	21 10 48.6	+0.2
QSPA				IAmb	IAmb	21 10 50.0	
	comp=Z,5.8nm,1.0s						
GOGA	Godfrey	64.47	349	P	P	21 11 18.8	-1.4
TXAR	Lajitas Array	66.69	330	P	P	21 11 37.0	+2.2
	comp=Z,0.4nm,0.8s,baz=154,slow=8.9,SNR=2.7						
SYO	Syowa Base	69.13	159⇑	eP	P	21 11 44.7	-4.9
MAW	Mawson	76.54	164	P	P	21 12 34.3	+0.7
	comp=Z,3.7nm,0.8s,baz=12,slow=21,SNR=3.1						
MAW				LR	LR	21 48 15.1	
	comp=Z,43nm,18.1s,baz=242,slow=37						
TORD	Torodi Ar. Bea	83.03	70	P	P	21 13 10.4	+0.8
	comp=Z,2.8nm,0.7s,baz=254,slow=4.7,SNR=17						
WRA	Warramunga Arr	123.81	210	PKP	PKiKP	21 19 43.2	+0.4
	comp=Z,0.2nm,0.5s,baz=172,slow=1.2,SNR=5.0						
H11S2	WAKE ISLAND Hy	125.74	272	T	T	23 38 28.8	
	baz=115,slow=74,SNR=14						
H11S1	WAKE ISLAND Hy	125.76	272	T	T	23 38 29.3	
	baz=115,slow=74,SNR=18						
H11S3	WAKE ISLAND Hy	125.76	272	T	T	23 38 29.3	
	baz=115,slow=74,SNR=16						
KURBB	Kurchatov Arra	150.23	39	PKPbc	PKiKP	21 20 35.8	+0.4
	comp=Z,1.3nm,0.6s,baz=295,slow=2.9,SNR=4.1						
AAK	Ala-Archa	150.70	56	PKPbc	PKiKP	21 20 37.9	+1.0
	comp=Z,3.8nm,0.9s,baz=250,slow=3.4,SNR=3.7						
ZALV	Zalesovo Beam	151.21	29	PKPbc	PKiKP	21 20 38.0	+0.7
	comp=Z,13nm,0.5s,baz=296,slow=3.3,SNR=59						
WHN	Wuhan	174.49	272	PKP	PKPdf	21 20 50.1	-3.8

ANF 06 21:02:40.5±0.3**, 37°.37N**×**81°.95W, ML2.6**/18**, ML2.4**/30**, Error ellipse: s-maj=4.1km s-min=3.1km az=171.0, West Virginia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T54A	Tazewell	0.43	136	P	Pg	21 02 48.9	+0.1
	baz=316						
T53A	Wise	0.61	231	P	Pg	21 02 51.3	-0.9
	baz=50						
T53A				S	Sg	21 02 59.3	-0.7
	baz=50						
S54A	Dingess, Beckl	0.66	49	P	Pg	21 02 53.8	+0.5
	baz=230						
S54A				S	Sg	21 03 02.9	+1.0
	baz=230						
U54A	Nelsons Funny	0.85	173	P	Pg	21 02 55.5	-1.4
	baz=353						
T52A	Hallie	0.87	253	S	Sg	21 03 08.3	-0.1
	baz=72						
S52A	Salyersville	0.95	289	P	Pg	21 02 57.8	-0.9
	baz=109						
T55A	Pulaski	0.96	105	P	Pg	21 02 59.5	+0.5
	baz=286						
R54A	Victor	1.11	43	P	Pg	21 03 01.1	-0.8
	baz=223						
U55A	TA2, Sparta	1.13	140	P	Pg	21 03 00.9	-1.2
	baz=320						
S55A	Lewisburg	1.22	70	P	Pg	21 03 03.7	-0.3
	baz=251,SNR=6.8						
S51A	Beattyville	1.33	282	P	Pg	21 03 05.2	-1.0
	baz=101						
U52A	Thorn Hill	1.50	230	P	Pn	21 03 08.2	-0.5
	baz=49,SNR=10						
TZTN	Tazewell	1.52	238	P	Pn	21 03 08.4	-0.7
	baz=57						
Q53A	Leroy	1.52	13	P	Pn	21 03 09.2	+0.1
	baz=193						
T56A	Rocky Mt	1.57	102	P	Pb	21 03 10.2	-0.2
	baz=283,SNR=12						
V54A	Nebo	1.59	180	P	Pn	21 03 09.9	0.0
	baz=360,SNR=9.6						
R51A	Hillsboro	1.59	306	P	Pn	21 03 09.1	-0.9
	baz=125						
Q52A	Bidwell	1.61	351	P	Pn	21 03 10.6	+0.4
	baz=171						
V55A	Taylorsville	1.62	158	P	Pn	21 03 10.0	-0.4
	baz=339,SNR=8.1						
T51A	Gray	1.65	256	P	Pn	21 03 10.1	-0.6
	baz=75						
R55A	Marlinton	1.71	57	P	Pn	21 03 11.8	+0.1
	baz=238,SNR=14						
V53A	Saluda	1.83	203	P	Pn	21 03 12.1	-1.3
	baz=22,SNR=8.1						
Q54A	Coxs Mills	1.84	28	P	Pn	21 03 14.0	+0.7
	baz=209						
U51A	La Follette	1.93	240	P	Pn	21 03 14.8	+0.1
	baz=58						
S50A	Richmond	1.97	280	Pb	Pb	21 03 16.3	-1.0
	baz=98						
Q51A	Peebles	1.99	327	Pb	Pb	21 03 16.9	-0.7
	baz=146						
V52A	Sevierville	2.02	222	P	Pn	21 03 15.7	-0.2
	baz=40						
P53A	Whipple	2.16	12	P	Pn	21 03 17.1	-0.8
	baz=192						
R56A	Bull Pasture M	2.27	62	P	Pn	21 03 19.7	+0.3
	baz=244,SNR=9.0						
V57A	Coltrane Farms	2.29	130	P	Pn	21 03 19.7	+0.1
	baz=311,SNR=5.6						
T50A	Nancy	2.33	262	P	Pn	21 03 19.8	-0.4
	baz=80						
W53A	Cullowhee	2.40	204	P	Pn	21 03 21.6	+0.4
	baz=24						
V51A	Loudon	2.49	232	P	Pn	21 03 22.8	+0.5
	baz=50						

ANF 06 21:03:01.9±0.4**, 37°.22N**×**81°.36W, Error ellipse: s-maj=2.1km s-min=1.5km az=125.0, West Virginia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
T54A	Tazewell	0.23	228	P	Pg	21 03 06.8	+0.4
	baz=48						
T54A				S	Sg	21 03 09.5	+0.1
	baz=48						
S54A	Dingess, Beckl	0.58	4	S	Sg	21 03 21.4	+0.8
	baz=184						
U55A	TA2, Sparta	0.76	161	Sb	Sb	21 03 29.4	+0.5
	baz=341						
U54A	Nelsons Funny	0.79	208	S	Sg	21 03 27.9	+0.8
	baz=28						
R54A	Victor	1.00	17	S	Sb	21 03 35.9	-0.1
	baz=197						
R53A	Hurricane	1.21	337	S	Sb	21 03 41.6	-0.2
	baz=157						
T52A	Hallie	1.30	266	S	Sn	21 03 45.2	-0.3
	baz=85						
S52A	Salyersville	1.45	289	S	Sn	21 03 49.5	+0.5
	baz=108						
R55A	Marlinton	1.45	42	S	Sn	21 03 50.2	+1.1
	baz=223						
R52A	Catlettsburg	1.51	318	S	Sn	21 03 51.6	+0.9
	baz=137						
Q54A	Coxs Mills	1.81	13	Sb	Sg	21 04 01.1	+1.0
	baz=193						
Q52A	Bidwell	1.89	338	S	Sb	21 04 00.6	-0.7
	baz=157						
Q55A	Buckhannon	2.04	29	Sb	Sg	21 04 07.6	+0.1
	baz=210						
R51A	Hillsboro	2.07	302	S	Sn	21 04 05.3	+0.9
	baz=121						
T51A	Gray	2.08	264	S	Sn	21 04 05.4	+0.6
	baz=82						
W56A	Indian Trail	2.17	163	Sb	Sg	21 04 11.0	-0.6
	baz=344						
W54A	Cherokee Point	2.23	198	Sb	Sg	21 04 12.8	-0.7
	baz=17						
V52A	Sevierville	2.27	233	Sb	Sg	21 04 13.6	-1.1
	baz=52						

*IDC **06** 21:14:56.9±0.6, 28°.17N×66°.55E, h0km, mb4.1/23, mb1 4.3/25, mb1mx4.1/50, mbtmp4.1/25, ML3.7/2, MS3.5/14, Ms1 3.5/14, ms1mx3.2/53, Error ellipse: s-maj=17.5km s-min=12.7km az=17.0*

*ISCJB **06** 21:14:59.5±0.2, 28°.22N±0°.03×66°.59E±0°.02, h33km, mb4.2/45, MS3.5/12, Error ellipse: s-maj=4.0km s-min=2.9km az=165.0*

*MOS **06** 21:15:00.5±1.1, 28°.28N×66°.60E, h33km, mb4.5/8, Error ellipse: s-maj=7.5km s-min=5.3km az=95.6*

*BJI **06** 21:15:00.7±0.0, 28°.39N×66°.70E, h17km, mb4.4/28, mB4.8/21, Ms4.2/11, Ms7 3.9/6*

*NEIC **06** 21:15:01.9±1.3, 28°.26N±0°.09×66°.57E±0°.08, h33km±7km, mb4.2/25*

ISC 06 21:15:01.8±0.4**, 28°.23N**±0°.05×**66°.52E**±0°.04**, h35km, n157,** σ1s.**72**/164**, mb4.3**/49**, MS3.4**/13**, 10C-2D, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BHUJ	Bhuj	5.70	150	eP	Pn	21 16 25.0	+1.0
BHUJ				eS	Sn	21 17 29.9	+1.7
BHUJ				IAML		21 17 33.8	
	comp=E,154nm,0.7s						
BHUJ				IAML		21 17 36.1	
	comp=N,161nm,0.7s						
THW	Thamme Wali	6.40	43	P	Pn	21 16 32.8	-0.9
SARP	Sargodha	6.48	54	P	Pn	21 16 33.7	-1.0
KBL	Kabul	6.65	18	P	Pn	21 16 36.9	-0.4
KBL	Kabul	6.65	18		Pn	21 16 36.9	-0.4
HRA	Herat	7.15	330		Pn	21 16 43.8	-0.3
CEP	Cherat	7.24	38	P	Pn	21 16 44.2	-1.1
CEP				S	Sn	21 18 04.0	-2.4
NIL	Nilore	7.91	45	P	Pn	21 16 54.0	-0.4
NIL	Nilore	7.91	45		Pn	21 16 54.0	-0.4
CHCP	Chirah Chowk	7.92	45	P	Pn	21 16 53.3	-1.3
WSAR	Wadi Sarin	8.68	237	P	Pn	21 17 02.8	-2.0
	SNR=19						
WSAR				S	Sn	21 18 30.7	-11
WSAR	Wadi Sarin	8.68	237	Pn	Pn	21 17 03.1	-1.8
	comp=N,1.5nm,0.3s,baz=91,slow=11,SNR=28						
WSAR				Sn	Sn	21 18 30.5	-11
	comp=N,0.7nm,0.3s,baz=182,slow=4.8,SNR=2.9						
WSAR				LR	LR	21 21 29.7	
	comp=N,399nm,19.6s,baz=92,slow=45						
WBK	Wadi Bani Khal	8.82	232	P	Pn	21 17 05.2	-1.7
	SNR=52						
WBK				S	Sn	21 18 36.1	-9.1
THN	Thein Dam	8.98	60	eP	Pn	21 17 10.5	+1.5
THN				eS	Sn	21 18 51.0	+2.1
SMDO	Samad	9.21	238	P	Pn	21 17 10.7	-1.7
	SNR=10						
DHRM	DHARAMSHALA	9.36	62	eP	Pn	21 17 13.8	-0.6
DHRM				eS	Sn	21 18 58.0	-0.6
DHRM				IAML		21 19 04.6	
	comp=E,100nm,0.4s						
BANOM	Banah	9.40	258	P	Pn	21 17 15.1	+0.3
HOQ	Hoqain	9.49	243	P	Pn	21 17 14.2	-1.9
	SNR=10						
JMDO	Jabal Madar	9.59	234	P	Pn	21 17 17.6	+0.2
JMDO				S	Sn	21 19 00.5	-3.5
MDH	Madha	9.59	255	P	Pn	21 17 17.0	-0.4
MDH				S	Sn	21 18 56.6	-7.3
SMLA	Simla	9.70	70	eP	Pn	21 17 18.3	-0.5
SMLA				eS	Sn	21 19 03.9	-2.6
SMLA				IAML		21 19 09.8	
	comp=E,78nm,0.3s						
SMLA				IAML		21 19 10.2	
	comp=N,63nm,0.6s						
UOSS	Minazif	9.80	253	P	Pn	21 17 19.8	-0.4
UOSS	Minazif	9.80	253		Pn	21 17 20.7	+0.4
HATD	Hatta, Dubai	9.90	252	P	Pn	21 17 23.7	+2.0
ASHO	Ashiyiah	10.02	252	P	Pn	21 17 24.5	+1.2
	SNR=16						
BSY	Bisya	10.03	239	P	Pn	21 17 23.8	+0.3
ARQ	Araqi	10.24	244	P	Pn	21 17 27.5	+1.2
	SNR=17						
CHGR	Chuyangaron	10.63	11		Pn	21 17 30.4	-1.3
BHPL	Bhopal	11.01	114	eP	Pn	21 17 37.5	+0.6
GAR	Garm	11.20	15		Pn	21 17 38.8	-0.7
JOSI	Joshimath	11.60	75	eP	Pn	21 17 44.8	-0.4
ASHT	Ashkhabad	11.84	327	P	Pn	21 17 48.2	0.0
ASHT	Ashkhabad	11.84	327	Pn	Pn	21 17 48.2	0.0
GEYT	Alibeck	11.96	326	Pn	Pn	21 17 50.5	+0.7
	comp=N,0.2nm,0.3s,baz=151,slow=9.1,SNR=2.4						
GEYT				Sn	Sn	21 19 59.7	-2.4
	comp=N,0.2nm,0.3s,baz=102,slow=14,SNR=2.4						
GEYT				LR	LR	21 22 16.0	
	comp=N,145nm,19.1s,baz=120,slow=36						
BTK	Batken	12.32	16	P	Pn	21 17 55.2	+0.4
BTK						21 20 11.1	
BTK	Batken	12.32	16		Pn	21 17 55.2	+0.4
BTK					Sn	21 20 11.1	+0.2
KSH	Kashi	13.72	32	P	Pn	21 18 09.0	-4.9
KSH				S	Sn	21 20 38.4	-6.6
KSH				pmax	pmax		
	comp=N,33nm,0.6s						
KSH				pmax	pmax		
	comp=N,460nm,7.1s						
KSH				LR	LR		
	comp=N,1µm,7.8s						
KSH				LR	LR		
	comp=N,1µm,8.0s						
KSH				LR	LR		
	comp=N,490nm,9.7s						
ARSB	Arslanbob	14.10	20		Pn	21 18 19.0	-0.1
KOLN	Koldanda	15.10	88	eP	Pn	21 18 29.2	-3.5
	comp=N,16nm,0.4s						
DANN	Dangsing	15.19	85	eP	Pn	21 18 30.9	-3.1
	comp=N,29nm,0.5s						
KK31	Karatay Array	15.19	11	P	Pn	21 18 33.5	-0.2
KK31				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KK31	Karatay Array	15.19	11		Pn	21 18 33.5	-0.2
KKAR	Karatay Array	15.19	11	P	Pn	21 18 33.7	0.0
KKAR				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KKAR	Karatay Array	15.19	11		Pn	21 18 33.7	0.0
NRN	Naryn	15.29	28	P	Pn	21 18 33.1	-2.2
NRN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NRN	Naryn	15.29	28		Pn	21 18 33.1	-2.2
AAK	Ala-Archa	15.77	22	i P	Pn	21 18 38.6	-2.7
AAK	Ala-Archa	15.77	22	Pn	Pn	21 18 38.8	-2.5
	comp=Z,0.6nm,0.3s,baz=157,slow=5.5,SNR=11						
AAK				Sn	Sn	21 21 30.5	-4.4
	comp=Z,0.1nm,0.3s,baz=15,slow=14,SNR=3.1						
AAK				LR	LR	21 26 16.4	
	comp=Z,123nm,19.5s,baz=178,slow=43						
AAK	Ala-Archa	15.77	22		Pn	21 18 38.7	-2.6
GKN	Gorkha	15.99	87	eP	Pn	21 18 40.6	-3.6
	comp=Z,12nm,0.4s						
TARG	Taragay, Kyrgy	16.32	31	Pn	Pn	21 18 47.7	-0.9
KDJ	Kajisay	16.36	29	P	Pn	21 18 48.9	0.0
KDJ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KDJ	Kajisay	16.36	29	P	Pn	21 18 48.9	0.0
DMN	Daman	16.44	88	eP	Pn	21 18 46.9	-3.2
	comp=Z,15nm,0.6s						
KKN	Kakani	16.57	87	eP	Pn	21 18 48.5	-3.3
	comp=Z,23nm,0.7s						
PKIN	Phulchoki	16.70	88	eP	Pn	21 18 50.1	-3.3
PKI	Pulchoki	16.71	88	eP	Pn	21 18 50.2	-3.4
GUN	Gumba	17.09	86	eP	Pn	21 18 55.5	-2.9
	comp=Z,115nm,0.6s						
JIRN	Jiri	17.39	87	eP	Pn	21 18 58.5	-3.6
	comp=Z,93nm,0.5s						
RAMN	Ramite	17.85	89	eP	Pn	21 19 04.6	-3.0
	comp=Z,34nm,0.5s						
TAPN	Taplejung	18.77	88	eP	P	21 19 17.1	-1.2
	comp=Z,17nm,0.5s						
RAYN	Ar Rayn	19.48	261	P	Pn	21 19 27.0	-0.2
RAYN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
RAYN	Ar Rayn	19.48	261	P	Pn	21 19 27.0	-0.2
RAYN				IAmb	IAmb	21 19 40.3	
	comp=Z,5.6nm,0.9s						
AKT	Akhty	20.26	316	eP	P	21 19 34.2	-0.1
AKT				e		21 19 51.5	
AKT				pmax	pmax		
	comp=Z,17nm,0.7s						
GNI	Garni	21.53	309	P	P	21 19 48.7	+0.7
	comp=Z,4.9nm,0.8s,baz=62,slow=20,SNR=2.4						
GNI				LR	LR	21 29 18.8	
	comp=Z,77nm,20.5s,baz=118,slow=40						
LSA	Lhasa	21.59	80	P	P	21 19 49.3	+0.2
LSA				pmax	pmax		
	comp=Z,13nm,1.1s						
LSA	Lhasa	21.59	80	P	P	21 19 49.3	+0.2
LSA				IAmb	IAmb	21 20 06.6	
	comp=Z,12nm,1.1s						
ABKAR	Akbulak array	21.60	348	P	P	21 19 48.2	-0.3
ABKAR				IAmb	IAmb	21 19 51.5	
	comp=Z,6.9nm,0.8s						
MAKZ	Makanchi	22.16	29	P	P	21 19 54.0	-0.6
MAKZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MAKZ	Makanchi	22.16	29	P	P	21 19 54.0	-0.6
MAKZ				IAmb	IAmb	21 19 57.4	
	comp=Z,8.3nm,0.8s						
MK31	Makanchi Array	22.28	29	P	P	21 19 55.9	-0.1
MK31				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MK31	Makanchi Array	22.28	29	P	P	21 19 55.9	-0.1
MK31				IAmb	IAmb	21 20 01.1	
	comp=Z,4.6nm,0.8s						
MKAR	Makanchi Array	22.28	29	i P	P	21 19 55.7	-0.2
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	Makanchi Array	22.28	29	P	P	21 19 54.3	-1.6
	comp=Z,2.0nm,0.5s,baz=211,slow=10,SNR=18						
MKAR				PcP	PcP	21 23 51.9	+1.0
	comp=Z,0.2nm,0.5s,baz=174,slow=1.4,SNR=2.6						
MKAR				LR	LR	21 30 51.2	
	comp=Z,122nm,18.7s,baz=217,slow=43						
TBLG	Delisi	22.28	313	P	P	21 19 57.2	+1.2
TBLG				pmax	pmax		
	comp=Z,16nm,1.3s						
TBLG	Delisi	22.28	313	P	P	21 19 57.2	+1.2
TBLG				IAmb	IAmb	21 20 04.2	
	comp=Z,16nm,1.3s						
SHL	Shillong	22.76	91	P	P	21 20 01.5	+0.1
SHL				pmax	pmax		
	comp=Z,20nm,1.2s						
SHL	Shillong	22.76	91	eP	P	21 20 01.0	-0.4
SHL	Shillong	22.76	91	P	P	21 20 01.6	+0.1
WMQ	Urumqi	23.04	42	eP	P	21 20 04.6	+0.6
WMQ				pP	pP	21 20 14.0	+0.1
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,90nm,4.5s						
WMQ				LR	LR		
	comp=Z,260nm,10.5s						
AKTO	Aktyubinsk	23.10	346	P	P	21 20 06.3	+1.9
	comp=Z,3.9nm,0.7s,baz=164,slow=12,SNR=6.9						
AKTO				LR	LR	21 30 22.0	
	comp=Z,107nm,18.9s,baz=147,slow=40						
NCK	Nalchik	23.92	316	i P	P	21 20 14.4	+2.0
NCK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KURBB	Kurchatov Arra	24.15	19	P	P	21 20 15.1	+0.7
	comp=Z,3.1nm,0.8s,baz=210,slow=8.7,SNR=8.8						
KURK	Kurchatov	24.26	19	P	P	21 20 15.1	-0.4
NEY	Neytrino	24.34	314	i P	P	21 20 15.5	-1.0
NEY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KBZ	Khabaz	24.47	315	i P	P	21 20 18.3	+0.8
KBZ	Khabaz	24.47	315	P	P	21 20 18.7	+1.2
	comp=Z,3.4nm,0.6s,baz=102,slow=7.6,SNR=10						
DAMY	Dhamar	24.62	241	P	P	21 20 19.8	+0.4
DAMY				IAmb	IAmb	21 20 26.6	
	comp=Z,14nm,1.1s						
SHA1	Shidzhatmaz	24.63	315	i P	P	21 20 19.3	+0.1
KIV	Kislovodsk	24.72	316	P	P	21 20 20.3	+0.5
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KIV	Kislovodsk	24.72	316	P	P	21 20 20.4	+0.5
KIV				IAmb	IAmb	21 20 24.8	
	comp=Z,11nm,1.0s						
BVAR	Borovoye Array	24.94	6	P	P	21 20 20.8	-0.8
	comp=Z,2.0nm,0.6s,baz=249,slow=2.5,SNR=13						
BRVK	Borovoye	24.96	5	i P	P	21 20 19.9	-1.9
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BRVK	Borovoye	24.96	5	P	P	21 20 20.8	-1.0
BRVK				IAmb	IAmb	21 20 27.6	
	comp=Z,9.4nm,1.0s						
ASF	Jabal al Asfar	25.86	286	P	P	21 20 29.9	-0.5
	comp=Z,0.9nm,0.5s,baz=135,slow=5.7,SNR=2.1						
EIL	Elat	27.62	281	LR	LR	21 33 14.1	
	comp=Z,77nm,18.2s,baz=93,slow=40						
ATD	Arta Tunnel	27.69	238	LR	LR	21 32 32.5	
	comp=Z,51nm,19.2s,baz=28,slow=38						
ARU	Arti	28.75	351	c iP	P	21 20 57.3	+1.4
ARU						21 21 44.1	
ARU				S	S	21 25 45.8	+3.0
ARU				SS	SnSn	21 27 09.1	+3.6
ARU				pmax	pmax		
	comp=Z,15nm,1.9s						
ZALV	Zalesovo Beam	28.99	23	LR	LR	21 33 24.0	
	comp=Z,69nm,18.2s,baz=15,slow=38						
BR131	Keskin Array S	29.43	302	P	P	21 21 01.8	-0.5
BR131				pmax	pmax		
	comp=Z,5.0nm,1.4s						
BR131	Keskin Array S	29.43	302	P	P	21 21 01.8	-0.5
BR131				IAmb	IAmb	21 21 17.1	
	comp=Z,5.1nm,1.4s						
GTA	Gaotai	29.67	59	P	P	21 21 05.3	+0.9
GTA				pP	pP	21 21 15.4	+0.5
GTA				sP	sP	21 21 20.2	+0.8
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CHTO	Chiang Mai	31.09	100	P	P	21 21 17.4	+0.4
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.4s						
CHTO	Chiang Mai	31.09	100	P	P	21 21 17.4	+0.4
CHTO				IAmb	IAmb	21 21 18.9	
	comp=Z,7.2nm,1.4s						
CMAR	Chiang Mai Arr	31.23	101	P	P	21 21 18.0	-0.2
	comp=Z,0.7nm,0.8s,baz=290,slow=10,SNR=4.3						
CMAR				PcP	PcP	21 24 14.2	+1.8
	comp=Z,0.8nm,0.7s,baz=293,slow=5.1,SNR=4.7						
CMAR				LR	LR	21 35 29.8	
	comp=Z,50nm,19.7s,baz=204,slow=40						
ELL	Elmali	31.88	295	P	P	21 21 24.7	+0.8
ELL				pmax	pmax		
	comp=Z,15nm,0.8s						
ELL	Elmali	31.88	295	P	P	21 21 24.7	+0.8

LZH	Lanzhou	32.40	66	eP	P	21 21 29.6	+1.1
LZH				pP	pP	21 21 38.9	-0.3
LZH				sP	sP	21 21 44.6	+1.0
LZH				PP	PP	21 22 39.7	-2.3
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
LZH				pmax	pmax		
	comp=Z,89nm,4.9s						
AKASG	Malin Array Be	35.95	319	i P	P	21 21 58.7	-0.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	35.95	319	P	P	21 21 58.6	-0.2
	comp=Z,1.8nm,0.6s,baz=109,slow=7.4,SNR=7.5						
MLR	Muntele Rosu	36.31	309	⇑P	P	21 22 02.8	+0.6
MLR	Muntele Rosu	36.31	309	P	P	21 22 04.6	+2.4
	comp=Z,11nm,1.1s,baz=52,slow=7.5,SNR=4.2						
MLR	Muntele Rosu	36.31	309	⇑P	P	21 22 02.8	+0.6
MLR	Muntele Rosu	36.31	309	P	P	21 22 03.2	+1.1
SONM	Songino Array	36.49	47	P	P	21 22 04.9	+1.1
	comp=Z,2.5nm,0.8s,baz=229,slow=7.0,SNR=4.6						
SONM				LR	LR	21 40 13.3	
	comp=Z,135nm,18.3s,baz=216,slow=42						
XAN	Xi'an	36.56	70	P	P	21 22 05.1	+0.7
XAN				pP	pP	21 22 14.2	-0.9
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,130nm,6.1s						
XAN				LR	LR		
	comp=Z,140nm,16.3s						
XAN				LR	LR		
	comp=Z,160nm,18.4s						
DOPR	Dopca	36.80	310	⇑P	P	21 22 07.4	+1.1
VOIR		36.91	309	⇓P	P	21 22 12.6	+5.4
VOIR		36.91	309	⇓P	P	21 22 12.6	+5.4
ARR	Arges	37.18	309	⇑P	P	21 22 06.8	-2.7
BURAR	Bucovina Array	37.35	313	⇑P	P	21 22 10.1	-0.9
BURAR	Bucovina Array	37.35	313	⇑P	P	21 22 10.1	-0.9
BUR08	Bucovina Ar. S	37.37	313	P	P	21 22 11.3	+0.1
HHC	Hu-ho-hao-te	38.78	59	eP	P	21 22 23.7	+0.5
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MDVR	Moldovita	39.09	307	⇑P	P	21 22 17.9	-7.7
BZS	Buzias	39.30	309	⇑P	P	21 22 27.7	+0.4
BZS	Buzias	39.30	309	⇑P	P	21 22 27.7	+0.4
KOLS	Kolonicke sedl	39.60	314	eP	P	21 22 31.4	+1.6
KOLS	Kolonicke sedl	39.60	314	eP	P	21 22 31.4	+1.6
VSU	Vasula	40.83	329	i P	P	21 22 41.9	+2.1
VSU				pmax	pmax		
	comp=Z,46nm,1.1s						
WHN	Wuhan	41.50	75	P	P	21 22 46.4	+0.8
VYHS	Vyhne	41.72	312	eP	P	21 22 49.2	+1.9
VYHS	Vyhne	41.72	312	eP	P	21 22 49.2	+1.9
FINES	FINESS Array B	42.67	333	i P	P	21 22 57.2	+2.4
FINES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FINES	FINESS Array B	42.67	333	P	P	21 22 54.8	0.0
	comp=Z,6.5nm,0.8s,baz=123,slow=8.2,SNR=21						
FINES				LR	LR	21 42 40.7	
	comp=Z,151nm,19.4s,baz=346,slow=39						
NRIK	Noril'sk	42.93	11	LR	LR	21 43 59.3	
	comp=Z,99nm,18.6s,baz=230,slow=40						
TIA	Tai'an	43.14	66	P	P	21 23 00.3	+1.3
TIA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GERES	GERESS Array B	45.13	312	P	P	21 23 17.2	+2.3
	comp=Z,1.5nm,0.7s,baz=137,slow=4.9,SNR=3.4						
BRG	Berggiesshubel	45.27	315	eP	P	21 23 18.8	+3.0
	comp=Z,10nm,1.4s						
BRG	Berggiesshubel	45.27	315	eP	P	21 23 18.8	+3.0
BRG				pmax	pmax		
	comp=Z,10.0nm,1.4s						
HIA	Hailar	45.45	47	i P	P	21 23 16.7	-0.6
HIA				pmax	pmax		
	comp=Z,22nm,0.9s						
CLL	Collm	45.93	315	epP	pP	21 23 31.0	-1.0
ARCES	ARCESS Array B	47.58	342	P	P	21 23 35.8	+2.2
	comp=Z,2.5nm,0.8s,baz=111,slow=6.6,SNR=5.1						
NB2	NORSAR Subarra	49.05	328	P	P	21 23 46.4	+1.2
	comp=Z,2.6nm,0.7s,baz=108,slow=7.9						
NOA	NORSAR Array B	49.05	328	P	P	21 23 46.7	+1.6
	comp=Z,2.3nm,0.6s,baz=108,slow=7.5,SNR=7.1						
NOA				LR	LR	21 47 42.8	
	comp=Z,56nm,18.5s,baz=280,slow=40						
KSRS	Korea Array	51.61	63	P	P	21 24 04.6	-0.2
	comp=Z,3.2nm,0.8s,baz=284,slow=8.8,SNR=7.5						
KLR	Kul'dur	53.30	48	i P	P	21 24 16.6	-0.6
KLR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ESDC	Sonseca Array	58.22	301	P	P	21 24 51.8	-0.9
	comp=Z,1.2nm,0.7s,baz=63,slow=7.7,SNR=9.0						
TOA0	Torodi Ar. Sit	61.84	270	P	P	21 25 18.6	+0.7
TOA0				IAmb	IAmb	21 25 23.5	
	comp=Z,2.2nm,0.8s						
TORD	Torodi Ar. Bea	61.84	270	P	P	21 25 17.8	0.0
	comp=Z,2.0nm,0.9s,baz=62,slow=5.5,SNR=9.2						
DBIC	Dimbokro	70.48	267	P	P	21 26 13.9	+0.6
	comp=Z,6.1nm,1.1s,baz=110,slow=6.6,SNR=3.0						
FITZ	Fitzroy Crossi	73.41	122	P	P	21 26 31.4	+0.8
WRA	Warramunga Arr	81.15	118	P	P	21 27 14.8	+0.7
	comp=Z,2.2nm,0.9s,baz=316,slow=4.7,SNR=15						
WB2	Warramunga Arr	81.16	118	P	P	21 27 13.7	-0.4
WB2				IAmb	IAmb	21 27 15.5	
	comp=Z,3.3nm,0.9s						
ASAR	Alice Springs	82.91	121	P	P	21 27 23.8	+0.4
	comp=Z,2.1nm,0.6s,baz=306,slow=5.3,SNR=28						
ILAR	Eielson Array	83.72	14	P	P	21 27 26.4	-0.3
	comp=Z,0.5nm,0.6s,baz=351,slow=3.3,SNR=6.0						
YKA	Yellowknife Ar	89.59	1	P	P	21 27 55.8	+0.3
	comp=Z,1.0nm,0.8s,baz=349,slow=5.2,SNR=13						

ISK 06 21:20:28.1, 39°.07N×30°.19E, h5km, ML2.2/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	Suhut-Afyon	0.58	151	PG	Pb	21 20 40.3	-0.6
SHUT				SG	Sg	21 20 48.1	+1.1
GEDZ	Gediz	0.61	268	PG	Pg	21 20 40.5	+0.7
GEDZ				SG	Sg	21 20 48.7	+0.9
ESKT	Eskisehir	0.68	48	PG	Pg	21 20 41.1	-0.1
TVSB	Tavsanli	0.69	304	PG	Pg	21 20 41.6	+0.3
CIFT	Cifteler, Eski	0.74	66	PG	Pg	21 20 42.7	+0.4
BORA	Eskisehir	0.84	14	PG	Pg	21 20 44.1	-0.1
SRCK	Saricakaya, Es	1.03	19	PG	Pg	21 20 47.9	0.0
AUSIV	SIVRIHISAR	1.11	70	PN	Pn	21 20 50.2	-0.2
BASM	Basmaki-Afyon	1.15	186	PN	Pb	21 20 50.6	+0.1
CAVI	Cavuskoy	1.17	347	PN	Pb	21 20 50.8	+0.1
AUMIH	MIHALICIK	1.28	51	PN	Pb	21 20 52.7	0.0
KIZT	Kizilcal	1.33	98	PN	Pg	21 20 53.6	0.0
GULT	Gulveren	1.39	10	PN	Pg	21 20 54.8	+0.1
ADVT	Abdulvahap	1.41	346	PN	Pg	21 20 55.1	0.0
YLV	Yalova	1.63	337	PN	Pb	21 20 58.6	0.0
MDNY	Mudanya-Bursa	1.65	323	PN	Pb	21 20 58.9	0.0
YUVA	Yuva-Kibriscik	1.75	41	PN	Pb	21 21 00.1	-0.7
ARMT	Armutlu	1.81	326	PN	Pb	21 21 01.4	-0.4
KCTX	Karacabey (Bur	1.86	311	PN	Pb	21 21 02.3	-0.2

IDC ***06*** *21:27:38.0±1.9, 55°.29N×166°.88E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.2/40, mbtmp3.4/4, ML3.0/1, MS2.1/1, Ms1 2.1/1, ms1mx2.0/32, Error ellipse: s-maj=81.2km s-min=26.0km az=167.0*

ISCJB ***06*** *21:27:39.9±0.7, 55°.33N±0°.04×166°.30E±0°.08, h20km, mb3.4/3, Error ellipse: s-maj=6.7km s-min=5.7km az=39.7*

KRSC ***06*** *21:27:39.2±1.5, 55°.30N×166°.30E, h40km±8km, ML4.0, FELT [II] at Nikolskoe.*

ISC 06 21:27:40.4±1.1, 55°.37N±0°.06×166°.45E±0°.08, h20km, n37, σ1s40/52, mb3.3/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.32	239	i P	Pb	21 27 46.9	-0.5
BKI				eS	Sb	21 27 52.3	+0.2
KBTR	Krutoberegovo	2.22	294	eP	Pn	21 28 13.5	-2.5
KBTR				eS	Sn	21 28 41.0	-1.7
KBG	Krutoberegovo	2.29	294	eP	Pn	21 28 15.5	-1.5
KBG				eS	Sn	21 28 43.9	-0.7
MKZ	Mys Kozlova	2.84	255	eP	Pn	21 28 23.9	-0.6
MKZ				eS	Sn	21 28 56.0	-2.1
SMKR	Semkarok	3.05	295	P	Pn	21 28 26.9	-0.6
BDR	Baidarnaya	3.18	294	eP	Pn	21 28 29.1	-0.2
BDR				eS	Sn	21 29 06.3	-0.4
SRKR	Sorokina	3.23	296	eP	Pn	21 28 29.6	-0.4
KLY	Klyuchi	3.40	288	eP	Pn	21 28 31.1	-1.2
KLY				eS	Sn	21 29 09.4	-2.6
TUMD	Tumrok D	3.46	270	eP	Pn	21 28 33.9	+0.7
TUMD				eS	Sn	21 29 13.5	-0.1
KZV	Kizimen	3.53	268	eP	Pn	21 28 34.6	+0.4
KZV				eS	Sn	21 29 15.4	-0.1
KMNR	Kamenistaya	3.55	279	eP	Pn	21 28 35.2	+0.8
KPT	Kopyto	3.58	282	eP	Pn	21 28 36.1	+1.3
TUMR	Tumrok	3.60	271	eP	Pn	21 28 36.4	+1.3
TUMR				eS	Sn	21 29 18.0	+0.9
KOZ	Kozyrevsk	3.78	283	eP	Pn	21 28 38.7	+1.2
SRDR	Sredinnyy	3.91	287	eP	Pn	21 28 39.8	+0.4
KII	Karymskiy	4.28	255	eP	Pn	21 28 45.0	+0.6
KII				eS	Sn	21 29 33.6	-0.1
SPN	Mys Shipunski	4.41	242	eP	Pn	21 28 44.8	-1.2
SPN				eS	Sn	21 29 33.9	-2.8
NLC	Nalytchevo	4.71	245	eP	Pn	21 28 50.6	+0.4
NLC				eS	Sn	21 29 42.7	-1.5
SMAR	Somma	4.95	248	eP	Pn	21 28 54.4	+0.6
KRER	Koryakskii	4.96	248	eP	Pn	21 28 55.0	+1.1
UGLR	Uglovaya	4.96	247	eP	Pn	21 28 54.7	+0.8
AVH	Avacha	4.98	248	eP	Pn	21 28 55.1	+1.0
AVH				eS	Sn	21 29 50.5	-0.6
KRX	Arik	4.99	249	eP	Pn	21 28 54.8	+0.6
KOK	Koryaka	5.03	249	eP	Pn	21 28 55.5	+0.8
KRMR	Karymshinskiy	5.52	246	eP	Pn	21 29 01.6	+0.3
KRMR				eS	Sn	21 30 01.6	-2.5
RUS	Russkaya	5.54	241	eS	Sn	21 30 02.8	-1.8
PETK	Petropavlovsk-	5.61	250	Pn	Pn	21 29 03.6	+1.0
	2.2nm,0.3s,baz=77,slow=16,SNR=40						
PETK				Sn	Sn	21 30 07.6	+1.2
	0.8nm,0.3s,baz=91,slow=18,SNR=3.6						
PETK				LR	LR	21 30 51.5	
	comp=Z,16nm,19.0s,baz=58,slow=33						
MTVR	Mutnovka	5.68	243	eP	Pn	21 29 04.4	+0.8
MTVR				eS	Sn	21 30 06.0	-2.2
GRL	Gorelyy	5.69	244	eP	Pn	21 29 04.7	+0.8
ASAK	Asacha	5.88	243	eP	Pn	21 29 07.1	+0.8
ASAK				eS	Sn	21 30 12.2	-0.9
KDTR	Khodutka, Kamc	6.13	238	eP	Pn	21 29 10.1	+0.4
KDTR				eS	Sn	21 30 15.7	-3.5
ILAR	Eielson Array	24.53	49	P	P	21 32 56.6	-1.6
	0.8nm,0.9s,baz=256,slow=9.6,SNR=7.3						
H11N2	WAKE ISLAND Hy	35.58	179	T	T	22 11 47.6	
	baz=360,slow=76,SNR=89						
H11N3	WAKE ISLAND Hy	35.60	179	T	T	22 11 47.9	
	baz=360,slow=76,SNR=59						
H11N1	WAKE ISLAND Hy	35.60	179	T	T	22 11 49.0	
	baz=360,slow=76,SNR=65						
MKAR	Makanchi Array	50.47	298	P	P	21 36 39.9	+3.4
	0.1nm,0.3s,baz=66,slow=7.0,SNR=2.8						
TXAR	Lajitas Array	66.35	72	P	P	21 38 27.7	0.0
	0.3nm,0.6s,baz=292,slow=4.8,SNR=2.3						

JMA ***06*** *21:45:00.7±0.1, 35°.82N×141°.14E, h34km±1km, M3.3*

IDC ***06*** *21:45:02.0±3.8, 35°.60N×141°.10E, h38km±33km, mb3.3/6, mb1 3.6/9, mb1mx3.4/46, mbtmp3.6/9, ML2.1/2, MS2.7/3, Ms1 2.7/3, ms1mx2.4/29, Error ellipse: s-maj=31.6km s-min=17.6km az=68.0*

ISC 06 21:44:58.4±1.5, 35°.79N±0°.04×141°.25E±0°.07, h12km±10km, n29, σ1s15/27, mb3.6/6, 2C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.33	255	⇓P	Pn	21 45 07.7	-1.2
CHOJ				eS	Sb	21 45 12.6	+1.2
JSMT	Sammumatsuo	0.67	258	P	Pn	21 45 12.7	-0.9
JSMT				eS	Sb	21 45 21.1	0.0
JHYU	Hitachinakayam	0.77	316	⇑P	Pn	21 45 14.2	-0.8
JCN	Nagara	0.93	247	P	Pn	21 45 17.2	0.0
JYT	Yasato	0.96	298	P	Pb	21 45 16.2	-0.8
JHO	Hitachi	0.99	326	⇑P	Pg	21 45 17.2	-0.3
BSO4	Boso 4	1.09	223	P	Pg	21 45 19.4	+0.1
BSO4				eS	Sb	21 45 32.0	-1.1
BSO2	Boso 2	1.11	202	eS	Sg	21 45 34.2	+0.2
BSO1	Boso 1	1.15	191	P	Pg	21 45 20.6	+0.2
BSO3	Boso 3	1.15	212	P	Pb	21 45 19.8	-0.2
JAG	Ashikaga	1.59	294	P	Pn	21 45 25.2	-1.1
JFK	Kawauchi	1.61	349	P	Pb	21 45 26.4	-1.6
MJAR	Matsushiro Arr	2.57	288	Pn	Pn	21 45 39.6	-0.3
	0.9nm,0.3s,baz=101,slow=11,SNR=30						
MJAR				Sn	Sn	21 46 10.1	-1.0
	0.7nm,0.3s,baz=107,slow=32,SNR=5.3						
MJAR				LR	LR	21 46 49.1	
	comp=Z,73nm,19.2s,baz=130,slow=43						
MAT	Matsushiro	2.58	288	P	Pn	21 45 40.8	+0.9
MAT				S	Sb	21 46 15.5	-0.6
JCJ	Chichijima	8.70	174	Pn	Pn	21 47 02.9	-1.2
	8.5nm,0.3s,baz=96,slow=22,SNR=12						
JCJ				Sn	Sn	21 48 31.1	-11
	0.9nm,0.3s,baz=115,slow=23,SNR=2.6						
KSRS	Korea Array	10.84	283	LR	LR	21 51 34.8	
	comp=Z,59nm,18.4s,baz=153,slow=36						
USRK	Ussuriysk Ar.	11.00	323	Pn	Pn	21 47 38.4	+3.0
	baz=139,slow=15,SNR=3.2						
USRK				LR	LR	21 51 30.8	
	comp=Z,64nm,20.7s,baz=299,slow=35						
H11N2	WAKE ISLAND Hy	27.65	119	T	T	22 19 43.0	
	baz=311,slow=75,SNR=34						
H11N1	WAKE ISLAND Hy	27.65	119	T	T	22 19 43.4	
	baz=311,slow=75,SNR=31						
H11N3	WAKE ISLAND Hy	27.66	119	T	T	22 19 44.3	
	baz=311,slow=75,SNR=41						
H11S1	WAKE ISLAND Hy	28.32	121	T	T	22 20 32.4	
	baz=313,slow=75,SNR=25						
H11S3	WAKE ISLAND Hy	28.32	121	T	T	22 20 34.0	
	baz=313,slow=75,SNR=37						
H11S2	WAKE ISLAND Hy	28.33	121	T	T	22 20 38.5	
	baz=313,slow=75,SNR=25						
SONM	Songino Array	28.39	306	P	P	21 50 52.8	+0.2
	0.2nm,0.5s,baz=108,slow=8.2,SNR=2.2						
ZALV	Zalesovo Beam	42.66	313	P	P	21 52 55.5	+0.8
	0.4nm,0.4s,baz=109,slow=9.3,SNR=2.7						
MKAR	Makanchi Array	44.68	303	P	P	21 53 10.5	-0.5
	0.7nm,0.7s,baz=87,slow=8.3,SNR=6.8						
ILAR	Eielson Array	50.62	32	P	P	21 53 58.3	+1.5
	0.2nm,0.6s,baz=269,slow=5.4,SNR=3.8						
WRA	Warramunga Arr	55.81	188	P	P	21 54 33.7	-1.8
	0.5nm,0.3s,baz=2.6,slow=7.4,SNR=8.0						
ASAR	Alice Springs	59.54	188	P	P	21 55 00.6	-1.1
	0.5nm,0.7s,baz=11,slow=10,SNR=5.4						

NEIC ***06*** *21:53:35.7±1.9, 14°.75S±0°.09×167°.47E±0°.09, h156km±5km, mb4.3/11*

IDC ***06*** *21:53:35.5±0.7, 14°.74S×167°.47E, h154km±5km, mb3.8/14, mb1 3.9/16, mb1mx3.8/31, mbtmp4.2/16, MS3.3/1, Ms1 3.3/1, ms1mx2.6/36, Error ellipse: s-maj=13.1km s-min=12.6km az=122.0*

ISCJB ***06*** *21:53:36.0±1.5, 14°.76S±0°.06×167°.45E±0°.09, h174km±13km, mb3.9/12, Error ellipse: s-maj=15.5km s-min=8.4km az=154.8*

GCMT ***06*** *21:53:36.7±0.3, 14°.81S±0°.02×167°.24E±0°.02, h154km±3km, MW4.9/95, Moment Tensor Solution. s25,c25; s95,c118; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.15±.11; Mθθ-0.47±.13; Mφφ-1.68±.11; Mrθ-1.66±.10; Mθφ1.82±.13; Mφr-0.45±.10; Best double couple: M0 3.17300×10^16 NP1:φs295.00000°, δ60.00000°, λ52.00000°. NP2: φs173.00000°, δ47.00000°, λ138.00000°. Principal axes: T 3.2720, Plg56.0000°, Azm153.0000°; N -0.1980, Plg33.0000°, Azm316.0000°; P -3.0740, Plg8.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 21:53:35.7±0.6, 14°.73S±0°.06×167°.50E±0°.07, h157km±4km, h157km:pP-P, n39, σ1s38/54, mb4.1/20, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.37	188	ePn	Pn	21 55 20.5	-0.3
	18nm,0.3s						
DZM	Mont Dzumac	7.37	188	P	Pn	21 55 20.2	-0.6
	4.6nm,0.3s,baz=328,slow=11,SNR=32						
DZM				S	Sn	21 56 44.4	+1.0
	3.3nm,0.3s,baz=299,slow=23,SNR=4.6						
DZM	Mont Dzumac	7.37	188		Pn	21 55 21.2	+0.4
HNR	Honiara	9.07	305	P	Pn	21 55 43.8	+0.5
	13nm,0.3s,baz=60,slow=1.2,SNR=6.5						
HNR				S	Sn	21 57 23.5	-0.7
	84nm,0.3s,baz=77,slow=23,SNR=8.5						
HNR	Honiara	9.07	305	P	Pn	21 55 44.0	+0.7
HNR				S	Sn	21 57 24.0	-0.2
HNR	Honiara	9.07	305		Pn	21 55 44.1	+0.7
KRVT	Keravat (AS076	18.43	303	S	S	22 01 03.5	+1.9
	2.5nm,0.3s,baz=31,slow=18,SNR=2.3						
KRVT				LR	LR	22 04 43.9	
	comp=Z,87nm,20.3s,baz=109,slow=36						
EIDS	Eidsvold	18.69	233		Pn	21 57 43.7	-0.5
EIDS				IAmb	IAmb	21 57 57.0	
	comp=Z,14nm,0.9s						
PMG	Port Moresby	20.58	283	P	P	21 58 03.3	+0.8
	comp=Z,8.6nm,0.8s,baz=118,slow=12,SNR=3.7						
PMG				pP	pP	21 58 28.6	-0.9
	comp=Z,12nm,0.6s,baz=91,slow=8.4,SNR=4.3						
PMG				S	S	22 01 44.5	+0.4
	comp=Z,6.5nm,0.6s,baz=273,slow=13,SNR=3.3						
PMG	Port Moresby	20.58	283	IAmb	IAmb	21 58 05.3	
	comp=Z,13nm,0.9s						
CTA	Charters Tower	20.95	252	P	P	21 58 06.8	+0.4
	comp=Z,3.4nm,0.7s,baz=52,slow=12,SNR=5.3						
URZ	Urewera	24.93	162	P	P	21 58 44.8	+0.5
	comp=Z,5.5nm,0.8s,baz=191,slow=10,SNR=2.3						
BKZ	Black Stump Fm	25.60	164	P	P	21 58 50.4	0.0
BKZ				IAmb	IAmb	21 58 56.4	
	comp=Z,9.7nm,1.1s						
STKA	Stephens Creek	29.16	230	P	P	21 59 22.6	+0.3
	comp=Z,5.2nm,0.4s,baz=52,slow=8.7,SNR=21						
STKA				PcP	PcP	22 02 26.0	0.0
	comp=Z,3.4nm,0.8s,baz=74,slow=3.4,SNR=4.4						
STKA				S	S	22 04 08.0	+5.0
	comp=Z,1.3nm,0.8s,baz=159,slow=22,SNR=1.9						
STKA	Stephens Creek	29.16	230	P	P	21 59 22.6	+0.3
STKA					pwP	22 00 03.5	+8.3
WRA	Warramunga Arr	32.04	256	P	P	21 59 46.2	-1.6
	comp=Z,0.8nm,0.5s,baz=86,slow=9.3,SNR=9.5						
WRA				pP	pP	22 00 21.6	+1.7
	comp=Z,1.3nm,0.7s,baz=84,slow=9.0,SNR=2.7						
WRA				PcP	PcP	22 02 33.8	+0.1
	comp=Z,0.8nm,0.9s,baz=91,slow=2.8,SNR=3.3						
AS31	Alice Springs	32.88	249	P	P	21 59 53.6	-1.4
ASAR	Alice Springs	32.88	249	P	P	21 59 53.7	-1.4
	comp=Z,3.1nm,0.5s,baz=81,slow=9.0,SNR=71						
ASAR				pP	pP	22 00 27.4	+0.1
	comp=Z,2.1nm,0.8s,baz=80,slow=9.1,SNR=2.8						
ASAR				PcP	PcP	22 02 35.9	-0.1
	comp=Z,1.4nm,0.8s,baz=69,slow=3.4,SNR=6.0						
ASAR				S	S	22 04 55.1	-6.2
	comp=Z,0.5nm,0.8s,baz=81,slow=18,SNR=4.1						
BBOO	Buckleboo	33.76	232	P	P	22 00 02.2	-0.2
FITZ	Fitzroy Crossi	40.23	259	P	P	22 00 56.7	-0.6
FITZ				IAmb	IAmb	22 01 01.5	
	comp=Z,4.9nm,1.1s						
MJAR	Matsushiro Arr	58.01	332	pP	pP	22 03 47.2	-0.9
	comp=Z,3.0nm,1.1s,baz=145,slow=4.6,SNR=3.2						
KSRS	Korea Array	63.86	326	pP	pP	22 04 28.2	-0.1
	comp=Z,2.5nm,1.0s,baz=104,slow=5.1,SNR=2.8						
USRK	Ussuriysk Ar.	66.99	333	pP	pP	22 04 48.8	+0.3
	comp=Z,2.6nm,0.8s,baz=149,slow=4.0,SNR=5.1						
USRK				sP	sP	22 05 05.0	-0.2
	comp=Z,2.0nm,0.7s,baz=126,slow=7.3,SNR=3.2						
PETK	Petropavlovsk-	68.08	354	P	P	22 04 19.1	+1.0
	comp=Z,1.5nm,0.7s,baz=147,slow=8.6,SNR=3.1						
CMAR	Chiang Mai Arr	75.15	294	P	P	22 05 02.1	+0.9
	comp=Z,1.2nm,0.7s,baz=132,slow=4.6,SNR=11						
CMAR				pP	pP	22 05 38.4	-0.7
	comp=Z,1.5nm,1.0s,baz=125,slow=4.5,SNR=3.7						
CMAR				sP	sP	22 05 54.9	-0.8
	comp=Z,2.2nm,0.9s,baz=129,slow=4.1,SNR=5.5						
QSPA	South Pole Qui	75.30	180	P	P	22 05 01.6	+0.2
QSPA				IAmb	IAmb	22 05 02.2	
	comp=Z,12nm,1.1s						
ULN	Ulaanbaatar	82.27	324	P	P	22 05 40.7	+1.1
ULN				IAmb	IAmb	22 05 41.0	
	comp=Z,2.3nm,0.8s						
ULN					pP	22 06 18.5	+0.4
SONM	Songino Array	82.63	324	P	P	22 05 42.3	+0.8
	comp=Z,0.7nm,0.6s,baz=122,slow=4.4,SNR=5.0						
SONM				pP	pP	22 06 19.5	-0.5
	comp=Z,0.5nm,0.6s,baz=151,slow=3.4,SNR=2.7						
SHL	Shillong	83.76	298	P	P	22 05 48.4	+0.6
ILAR	Eielson Array	86.46	18	P	P	22 05 59.8	-0.4
	comp=Z,0.7nm,0.7s,baz=231,slow=5.9,SNR=8.2						
ILAR				pP	pP	22 06 39.9	+0.6
	comp=Z,0.8nm,0.7s,baz=238,slow=5.2,SNR=3.9						
DOT	Dot Lake	86.54	20	P	P	22 05 59.9	-0.7
DOT				IAmb	IAmb	22 06 06.3	
	comp=Z,5.4nm,0.9s						
TXAR	Lajitas Array	96.08	61	P	P	22 06 44.2	-1.7
	comp=Z,0.1nm,0.3s,baz=245,slow=5.9,SNR=4.4						
MKAR	Makanchi Array	97.36	316	P	P	22 06 50.7	-0.5
	comp=Z,1.2nm,0.7s,baz=86,slow=6.2,SNR=7.2						
MKAR				pP	pP	22 07 30.4	-0.1
	comp=Z,1.1nm,0.9s,baz=89,slow=8.6,SNR=3.7						
YKA	Yellowknife Ar	97.44	27	P	P	22 06 50.8	-0.3
	comp=Z,0.1nm,0.6s,baz=80,slow=34,SNR=2.7						
ZALV	Zalesovo Beam	97.52	324	P	P	22 06 50.8	-0.9
	comp=Z,0.3nm,0.3s,baz=125,slow=2.8,SNR=5.4						
ARCES	ARCESS Array B	120.31	345	PKP	PKPdf	22 12 07.6	0.0
	comp=Z,3.7nm,0.8s,baz=71,slow=2.0,SNR=12						
FINES	FINESS Array B	125.80	338	PKP	PKiKP	22 12 19.2	+0.5
	comp=Z,4.9nm,1.1s,baz=170,slow=3.5,SNR=5.0						
ESDC	Sonseca Array	154.04	345	PKPab	PKPab	22 13 32.1	+1.1
	comp=Z,0.3nm,0.7s,baz=326,slow=4.2,SNR=3.7						
TORD	Torodi Ar. Bea	166.13	265	PKPab	PKPab	22 14 23.7	-0.8
	comp=Z,1.9nm,0.8s,baz=106,slow=4.0,SNR=9.5						

IDC 06 22:02:16.0±2.5, 21°.79S×170°.04E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/40, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=95.7km s-min=37.1km az=159.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.35	265	Pn	Pn	22 03 11.0	+1.3
	6.3nm,0.3s,baz=116,slow=14,SNR=80						
DZM				Sn	Sn	22 03 50.9	+0.6
	4.0nm,0.3s,baz=85,slow=23,SNR=4.6						
STKA	Stephens Creek	27.23	242	P	P	22 08 02.2	+0.4
	1.6nm,0.5s,baz=92,slow=12,SNR=5.0						
ASAR	Alice Springs	33.33	260	P	P	22 08 55.1	-0.8
	0.2nm,0.6s,baz=81,slow=9.2,SNR=3.9						
WRA	Warramunga Arr	33.36	267	P	P	22 08 55.7	-0.6
	0.4nm,0.5s,baz=100,slow=8.4,SNR=4.7						
GERES	GERESS Array B	147.08	331	PKPbc	PKPbc	22 22 00.4	-0.5
	0.3nm,0.3s,baz=20,slow=3.1,SNR=2.1						

ISCJB ***06*** *22:04:11.5±0.4, 23°.35S±0°.06×170°.66E±0°.06, h10km, mb4.5/12, MS3.7/17, Error ellipse: s-maj=9.7km s-min=7.2km az=155.6*

IDC ***06*** *22:04:12.1±0.8, 23°.26S×170°.51E, h0km, mb4.6/11, mb1 4.7/13, mb1mx4.4/41, mbtmp4.6/13, ML4.3/2, MS3.8/18, Ms1 3.8/18, ms1mx3.6/34, Error ellipse: s-maj=25.7km s-min=17.7km az=162.0*

NEIC ***06*** *22:04:13.1±0.8, 23°.32S±0°.08×170°.52E±0°.06, h10km±4km, mb4.9/15*

BJI ***06*** *22:04:13.0±0.0, 23°.30S×170°.50E, h10km, mb4.6/8, mB5.0/1, Ms5.1/1, Ms7 4.9/1*

ISC 06 22:04:13.6±0.5, 23°.21S±0°.08×170°.50E±0°.06, h10km, n126, σ1s20/104, mb4.7/18, MS3.7/17, 10C-4D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.92	286	ePn	Pn	22 05 12.2	-1.7
	668nm,1.1s						
DZM				eSn	Sn	22 05 57.2	-2.8
	2μm,1.5s						
DZM				eLR	LR	22 06 02.7	
	comp=Z,1μm,22.7s						
DZM	Mont Dzumac	3.92	286	Pn	Pn	22 05 12.4	-1.5
	16nm,0.3s,baz=120,slow=15,SNR=27						
DZM				Sn	Sn	22 05 54.5	-5.5
	24nm,0.3s,baz=84,slow=20,SNR=3.0						
DZM				LR	LR	22 06 43.0	
	comp=Z,2μm,18.4s,baz=214,slow=38						
DZM	Mont Dzumac	3.92	286	Pn	Pn	22 05 12.6	-1.3
NFK	Norfolk Island	6.25	201	P	Pn	22 05 44.5	-1.4
	baz=6.0,SNR=60						
MSVF	Nonsavu	8.93	54	Pn	Pn	22 06 22.7	-0.1
URZ	Urewera	16.03	161	LR	LR	22 12 56.6	
	comp=Z,434nm,18.9s,baz=342,slow=33						
HNR	Honiara	17.02	322	LR	LR	22 14 11.3	

comp=Z,310nm,18.9s,baz=150,slow=35
EIDS Eidsvold 17.84 259 P **P 22 08 24.2 +1.4**
baz=18,SNR=4.5
AFI Afiamalu 19.16 64 P **P 22 08 36.5 -1.0**
1.3nm,0.3s,baz=39,slow=20,SNR=5.2
AFI Afiamalu 19.16 64 IAmb IAmb 22 08 38.1
comp=Z,72nm,0.9s
RMQ Roma 20.00 256 P **Pn 22 08 51.2 +3.0**
baz=20,SNR=6.2
OXZ Oxford 20.10 177 P **P 22 08 45.5 -1.9**
RPZ Rata Peaks 20.45 179 LR LR 22 15 20.9
comp=Z,559nm,20.5s,baz=321,slow=33
RPZ Rata Peaks 20.45 179 P **P 22 08 49.5 -1.8**
RPZ IAmb IAmb 22 08 56.0
comp=Z,45nm,1.0s
CTA Charters Tower 22.74 273 P **P 22 09 16.9 +0.8**
comp=Z,5.8nm,0.8s,baz=106,slow=11,SNR=5.9
CMSA Cobar Meteorol 23.50 244 P **P 22 09 24.4 +0.6**
baz=23,SNR=30
MTSU Mount Surprise 25.00 277 P **P 22 09 40.7 +2.9**
baz=25,SNR=6.0
TOO Toolangi 25.79 231 P **P 22 09 46.0 +1.1**
baz=26,SNR=4.7
PMG Port Moresby 26.22 298 P **P 22 09 50.2 +1.4**
comp=Z,17nm,0.7s,baz=135,slow=7.1,SNR=3.9
PMG LR LR 22 18 42.0
comp=Z,115nm,18.5s,baz=124,slow=33
PMG Port Moresby 26.22 298 IAmb IAmb 22 09 59.5
comp=Z,19nm,0.7s
KNTN Kanton 26.63 43 P **P 22 09 52.6 +0.1**
KNTN IAmb IAmb 22 10 08.2
comp=Z,25nm,1.0s
STKA Stephens Creek 26.98 245 P **P 22 09 56.2 +0.5**
baz=27,SNR=13
STKA Stephens Creek 26.98 245 P **P 22 09 55.8 +0.2**
comp=Z,5.6nm,0.7s,baz=90,slow=12,SNR=12
STKA LR LR 22 19 56.9
comp=Z,275nm,18.1s,baz=68,slow=35
STKA Stephens Creek 26.98 245 P **P 22 09 54.6 -1.1**
COEN Coen 27.45 285 P **P 22 10 02.8 +2.9**
baz=28,SNR=7.7
COEN Coen 27.45 285 P **P 22 10 00.1 +0.1**
RAR Rarotonga 27.57 92 LR LR 22 18 28.1
comp=Z,142nm,19.7s,baz=301,slow=31
HTT Hallett 29.50 243 P **P 22 10 18.3 +0.1**
baz=29,SNR=11
BBOO Buckleboo 31.76 245 P **P 22 10 39.8 +1.7**
baz=32,SNR=5.1
AS31 Alice Springs 33.52 262 P **P 22 10 53.5 -0.2**
ASAR Alice Springs 33.52 262 P **P 22 10 53.0 -0.7**
comp=Z,4.6nm,0.6s,baz=78,slow=8.1,SNR=45
ASAR LR LR 22 24 18.7
comp=Z,104nm,19.5s,baz=101,slow=36
WR0 Warramunga Arr 33.54 269 P **P 22 10 53.9 +0.1**
WR0 IAmb IAmb 22 11 08.8
comp=Z,15nm,0.8s
WB0 Warramunga Arr 33.72 269 P **P 22 10 55.2 -0.2**
WB0 IAmb IAmb 22 11 09.8
comp=Z,13nm,1.1s
WB2 Warramunga Arr 33.72 269 P **P 22 10 54.0 -1.5**
WB2 IAmb IAmb 22 11 05.8
comp=Z,7.8nm,0.8s
WRA Warramunga Arr 33.73 269 P **P 22 10 54.0 -1.5**
comp=Z,4.9nm,0.8s,baz=105,slow=7.7,SNR=22
WRA LR LR 22 24 27.3
comp=Z,419nm,18.1s,baz=95,slow=36
TBI Tubuai 36.70 98 *e*LR LR 22 21 01.0
comp=Z,249nm,34.5s
KDU Kakadu 37.56 279 P **P 22 11 30.2 +1.8**
baz=38,SNR=5.5
PPT2 Papeete2 37.75 89 *e*LR LR 22 21 34.7
comp=Z,238nm,26.0s
PPT2 Papeete2 37.75 89 *e*LR LR 22 12 25.9
comp=Z,63nm,26.5s
FORT Forrest 38.38 249 P **P 22 11 37.6 +2.4**
baz=38,SNR=7.0
FORT Forrest 38.38 249 P **P 22 11 34.9 -0.3**
WRKA Warakurna 38.45 259 P **P 22 11 35.8 -0.2**
baz=38,SNR=15
MTN Manton Dam 38.72 278 P **P 22 11 39.0 +0.8**
baz=39,SNR=4.9
MTN Manton Dam 38.72 278 P **P 22 11 38.1 -0.1**
MTN IAmb IAmb 22 11 46.1
comp=Z,26nm,0.8s
KNRA Kununurra 39.96 273 P **P 22 11 49.9 +1.4**
baz=40,SNR=5.1
KNRA Kununurra 39.96 273 P **P 22 11 48.1 -0.4**
KNRA IAmb IAmb 22 11 56.8
comp=Z,35nm,0.8s
FITZ Fitzroy Crossi 42.16 268 P **P 22 12 06.7 +0.1**
baz=42,SNR=45
FITZ Fitzroy Crossi 42.16 268 P **P 22 12 06.3 -0.4**
GUMO Guam 44.35 323 LR LR 22 29 59.8
comp=Z,77nm,19.4s,baz=138,slow=35
MEEK Meekatharra 46.92 255 P **P 22 12 45.8 +1.1**
baz=47,SNR=8.3
KLBR Kellerberrin 47.19 248 P **P 22 12 47.5 +0.8**
baz=47,SNR=4.8
BLDU Ballidu 48.16 249 P **P 22 12 55.4 +1.2**
baz=48,SNR=4.9
MORW Morawa 48.89 251 P **P 22 13 00.8 +0.9**
baz=49,SNR=4.7
MRSI Marisa 52.73 290 P P 22 13 38.6 +10
KCP Kidapawan 53.59 299 ⇑P P 22 13 40.8 +5.4
MJAR Matsushiro Arr 66.80 332 LR LR 22 41 46.8
comp=Z,21nm,21.0s,baz=145,slow=34
QSPA South Pole Qui 66.86 180 P **P 22 15 05.8 +0.1**
comp=Z,9.8nm,0.8s,baz=19,slow=2.1,SNR=21
SISI Saibi 72.41 276 P P 22 15 50.7 +10
KSRS Korea Array 72.43 326 LR LR 22 44 18.0
comp=Z,29nm,20.0s,baz=150,slow=33
USRK Ussuriysk Ar. 75.79 332 LR LR 22 43 35.5
comp=Z,38nm,21.9s,baz=101,slow=31
WHN Wuhan 75.88 312 P P 22 16 10.2 +10
PETK Petropavlovsk- 76.81 352 P **P 22 16 05.8 +0.6**
comp=Z,4.1nm,0.7s,baz=156,slow=8.1,SNR=7.6
MLSI Meulaboh, Aceh 77.15 280 P P 22 16 17.5 +9.4
KLR Kul'dur 79.96 335 LR LR 22 47 22.8
comp=Z,57nm,21.5s,baz=182,slow=32
CMAR Chiang Mai Arr 81.20 294 P **P 22 16 31.3 +1.2**
comp=Z,2.9nm,0.8s,baz=140,slow=4.3,SNR=12
CMAR LR LR 22 55 58.7
comp=Z,18nm,18.7s,baz=145,slow=38
KMI Kunming 81.36 302 P P 22 16 41.9 +11
KMI pmax pmax
comp=Z,17nm,1.3s
SYO Syowa Base 81.46 196⇑*e*PcP **PcP 22 16 37.0 +0.4**
SNAA Sanae 85.26 182 P **P 22 16 48.2 -2.1**
VNA3 Neumayer Olymp 85.80 180 P **P 22 16 51.6 -1.3**
VNA2 Neumayer--Watz 86.11 181 P **P 22 16 53.5 -0.9**
baz=187,slow=3.5
VNA1 Neumayer--Stat 86.39 180 P **P 22 16 53.0 -2.8**
NVAR Mina Array Bea 90.55 48 P **P 22 17 16.9 +0.5**
comp=Z,2.1nm,0.8s,baz=225,slow=8.5,SNR=12
SONM Songino Array 91.08 323 P **P 22 17 19.4 +0.9**
comp=Z,2.4nm,0.9s,baz=137,slow=4.0,SNR=12
ILAR Eielson Array 93.66 17 P **P 22 17 28.6 -1.1**
comp=Z,3.5nm,0.8s,baz=234,slow=6.2,SNR=24
ILAR LR LR 23 01 57.6
comp=Z,35nm,18.4s,baz=266,slow=37
ELK Elko 93.74 47 LR LR 22 53 24.7
comp=Z,60nm,18.2s,baz=239,slow=32
PDAR Pinedale Array 98.44 47 LR LR 22 54 29.6
comp=Z,49nm,19.7s,baz=250,slow=31
ARCES ARCESS Array B 129.19 345 PKP **PKPdf 22 23 21.1 -0.3**
comp=Z,1.5nm,0.6s,baz=103,slow=4.0,SNR=6.1
FINES FINESS Array B 134.69 337 PKP **PKPdf 22 23 31.7 -0.3**
comp=Z,2.0nm,1.0s,baz=122,slow=1.8,SNR=3.1
ARCR ARCALIA 143.92 320 ⇑P PKPbc 22 23 47.4 +0.4
BMR Baia Mare 144.13 321 ⇑P PKPbc 22 23 48.2 +0.6
KOLS Kolonicke sedl 144.13 324 *e*PKP **PKPdf 22 23 49.0 -0.5**
VOIR 144.28 317 ⇓P **PKPdf 22 23 49.0 -1.0**
TRPA Tarpa 144.43 322 ⇓P **PKPdf 22 23 49.4 -0.6**
CJR Cluj-Napoca 144.56 320 ⇑P **PKPdf 22 23 50.1 -0.3**
ARR Arges 144.57 317 ⇑P **PKPdf 22 23 50.6 +0.1**
HUMR Humele 144.72 315 ⇓P PKPbc 22 23 49.8 +0.2
DRGR 145.04 320 ⇑P **PKPdf 22 23 51.9 +0.6**
KECS Kecovo 145.36 324 *e*PKP **PKPab 22 23 53.0 +1.3**
LANS Liptovska Anna 145.50 326 *e*PKP **PKPab 22 23 53.6 +1.4**
GZR Gura Zlata 145.71 318 ⇓P **PKPdf 22 23 52.2 -0.2**
OKC Ostrava-Krasne 145.72 328 *e*PKP **PKPab 22 23 53.3 +0.3**
PSZ Piszkesteto 146.01 324 *e*PKiKP **PKPbc 22 23 53.1 -0.6**
MORC Moravsky Berou 146.06 328 ⇑P **PKPab 22 23 54.8 +0.5**
MORC Moravsky Berou 146.06 328 *e*PKP **PKPab 22 23 54.2 -0.1**
CHVC Chvalec 146.21 330 *e*PKP **PKPdf 22 23 53.0 -0.1**
VYHS Vyhne 146.23 325 *e*PKP **PKPab 22 23 55.3 +0.3**
DPC Dobruska-Polom 146.25 330 *e*PKP **PKPab 22 23 54.9 -0.1**
DPC *e*x x 22 24 04.2
UPC Upice 146.28 330 *e*PKP **PKPab 22 23 54.9 -0.2**
BZS Buzias 146.30 319 ⇑P **PKPdf 22 23 53.0 -0.4**
JAVC Velka Javorina 146.60 327 *e*PKP **PKiKP 22 23 57.2 -1.0**
VRAC Vranov 146.83 328 ⇑P **PKPab 22 23 57.0 -0.3**
VRAC Vranov 146.83 328 *e*PKP **PKPbc 22 23 56.2 +0.2**
BRG Berggiesshubel 146.93 332 *i* PKP **PKPab 22 23 56.9 -0.6**
comp=Z,17nm,1.1s
CLL Collm 146.99 334 *e*PKPbc **PKPab 22 23 57.0 -0.8**
comp=Z,12nm,1.2s
CLL *e*PKPab **sPKPbc 22 23 59.0 0.0**
comp=Z,9.0nm,0.9s
CLL *e* 22 24 07.0
KRUC Moravsky 147.10 328 *e*PKP **PKPbc 22 23 57.1 +0.4**
GOPC GO Pecny, Ondr 147.26 331 *e*PKP **PKPbc 22 23 57.4 +0.2**
GOPC *e*x x 22 24 06.3
PRU Pruhonice 147.32 331 *e*PKP **PKPbc 22 23 57.4 +0.1**
PRU *e*x x 22 24 06.8
MORH Mrgy, Hungar 147.71 322 *e*PKiKP **PKPbc 22 23 58.1 -0.4**
MPLH Magyarpolny 147.74 324 *e*PKiKP **PKPbc 22 23 58.1 -0.5**
PBCC Pribram 147.78 331 *e*PKP **PKPbc 22 23 59.0 +0.4**
PBCC *e*x x 22 24 08.1
CONA Conrad Observa 148.12 327 *e*PKiKP **PKiKP 22 24 00.5 -0.9**
comp=Z,8.2nm,1.0s
KHC Kasperske Hory 148.37 331 *e*PKP **PKPbc 22 24 00.4 +0.2**
KHC *e*x x 22 24 09.8
GERES GERESS Array B 148.52 330 PKPbc **PKPbc 22 24 00.7 0.0**
comp=Z,4.5nm,0.8s,baz=35,slow=3.6,SNR=9.7
ARSA Arzberg 148.74 326 *e*PKiKP **PKPbc 22 24 01.3 +0.1**
comp=Z,6.3nm,1.1s
MOA Molln 148.96 328 *i* PKPbc **PKPbc 22 24 00.7 -1.0**
comp=Z,4.1nm,1.2s
SOKA Soboth 149.37 326 *e*PKiKP **PKPbc 22 24 03.0 +0.1**
comp=Z,9.3nm,1.2s,SNR=4.1
OBKA Obir 149.73 326 *i* PKPbc **PKPbc 22 24 02.9 -0.9**
comp=Z,3.2nm,0.8s
MYKA Terra Mystica 150.11 327 *e*PKPbc **PKPbc 22 24 04.3 -0.4**
comp=Z,3.9nm,0.7s
ABTA Abfaltersbach 150.58 328 *e*PKPbc **PKPbc 22 24 05.5 -0.4**
comp=Z,8.1nm,0.7s
WATA Walderalm 150.60 330 *e*PKiKP **PKPbc 22 24 06.0 +0.1**
comp=Z,10.0nm,0.9s,SNR=5.8
WTTA Wattenberg 150.62 330 *i* PKiKP **PKiKP 22 24 06.3 -0.5**
comp=Z,13nm,1.0s
MOTA Moosalm 150.81 331 *i* PKiKP **PKiKP 22 24 06.5 -0.6**
comp=Z,11nm,0.8s,SNR=11
RETA Reutte 150.85 331 *e*PKiKP **PKiKP 22 24 06.5 -0.5**
comp=Z,5.1nm,1.0s
SQTA Sankt Quirin 150.85 330 *i* PKiKP **PKiKP 22 24 06.8 -0.4**
comp=Z,12nm,0.8s,SNR=8.7
FETA Feichten 151.22 331 *e*PKiKP **PKiKP 22 24 07.9 -0.1**
comp=Z,9.8nm,0.9s,SNR=8.1
DAVA Damuels 151.39 332 *i* PKiKP **PKiKP 22 24 08.0 -0.3**
comp=Z,6.1nm,0.9s

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*ISCJB **06** 22:04:57.4±0.2, 6.̊80N±0.̊02×73.̊08W±0.̊02, h163km±1km, mb4.2/18, Error ellipse: s-maj=3.3km s-min=2.7km az=25.8*
*UPA **06** 22:04:57.6±1.8, 7.̊05N×73.̊21W, h0km±21km, MW4.8*
*NEIC **06** 22:04:58.7±1.2, 6.̊74N±0.̊07×73.̊00W±0.̊07, h166km±6km, mb4.3/138*
*IDC **06** 22:04:58.6±0.6, 6.̊75N×72.̊96W, h162km±6km, mb3.9/15, mb1 4.1/22, mb1mx3.9/39, mbtmp4.5/22, MS3.6/1, Ms1 3.6/1, ms1mx2.7/31, Error ellipse: s-maj=10.6km s-min=7.3km az=130.0*
*RSNC **06** 22:04:59.5±1.2, 6.̊81N×73.̊14W, h153km±5km, ML4.7, Mw4.4, Fault plane solution: NP1:φs94.00000°, δ47.00000°, λ-143.00000°.*
ISC 06 22:04:58.3±0.5, **6.̊83N**±0.̊03×**73.̊07W**±0.̊04, **h160**km±5km, **n255**, σ**1.̊28**/289, **mb4.3**/75, **11C-8D, Northern Colombia**

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

BARC Barichara 0.26 206 *i* P **Pn 22 05 20.2 -0.2**
BARC *e*S **Sn 22 05 35.4 -1.7**
PAMC Pamplona, Colo 0.62 36⇓*i*P **Pn 22 05 23.0 +0.9**
PAMC *e*S **Sn 22 05 40.1 -0.2**
PAMC *i* 22 05 42.5
comp=Z,12μm,0.5s
BRRC Barranca, Sant 0.69 293⇓*i*P **Pn 22 05 22.1 +0.1**
BRRC *e*S **Sn 22 05 39.6 -0.3**
BRRC *i* 22 05 42.8
comp=Z,7μm,0.3s
RUSC La Rusia 0.93 181⇓*i*P **Pn 22 05 24.0 -0.2**
RUSC *e*S **Sn 22 05 42.4 -1.5**
RUSC *i* 22 05 44.1
comp=Z,11μm,0.8s
TAMC Tame, Arauca 1.33 107⇓*i*P **Pn 22 05 28.4 +1.3**
TAMC *e*S **Sn 22 05 49.4 +0.3**
TAMC *i* 22 05 56.9
comp=Z,1μm,0.5s
PTBC PUERTO BERRIO, 1.41 258⇑*i*P **Pn 22 05 26.8 -1.0**
PTBC *e*S **Sn 22 05 48.3 -2.1**
PTBC *i* 22 05 53.7
comp=Z,9μm,0.6s
OCAC Ocana 1.42 350⇑*i*P **Pn 22 05 28.2 +0.1**
OCAC *e*S **Sn 22 05 50.4 -0.7**
OCAC *i* 22 05 55.3
comp=Z,9μm,0.5s
SPBC San Pablo de B 1.54 220 *e*P **Pn 22 05 28.9 -0.3**
SPBC *e*S **Sn 22 05 51.0 -1.9**
SPBC *i* 22 05 53.9
comp=Z,7μm,0.3s
ZARC Zaragoza, Cauc 1.89 290 *e*P **Pn 22 05 32.5 -0.4**
ZARC *e*S **Sn 22 05 58.6 -1.0**
ZARC *i* 22 06 05.1
comp=Z,6μm,0.3s
NORC Norcasia 2.19 235⇑*e*P **Pn 22 05 35.7 -0.6**
NORC *e*S **Sn 22 06 04.6 -1.1**
NORC *i* 22 06 06.3
comp=Z,3μm,0.6s
SMLC San Martn de 2.20 333 *e*P **Pn 22 05 36.5 +0.1**
SMLC *e*S **Sn 22 06 04.8 -1.0**
SMLC *i* 22 06 10.8
comp=Z,3μm,0.4s
CHIC Chingaza 2.28 197⇑*e*P **Pn 22 05 37.9 +0.1**
CHIC *e*S **Sn 22 06 07.5 -0.8**
CHIC *i* 22 06 17.2
comp=Z,3μm,0.4s
ROSC El Rosal 2.34 212⇑*i*P **Pn 22 05 39.7 +1.3**
ROSC *e*S **Sn 22 06 09.7 +0.4**
ROSC *i* 22 06 13.5
comp=Z,4μm,0.5s
ROSC El Rosal 2.34 212 P **Pn 22 05 39.8 +1.3**
comp=Z,471nm,0.3s,baz=40,slow=22,SNR=789
ROSC S **Sn 22 06 09.8 +0.4**
comp=Z,233nm,0.3s,baz=29,slow=19,SNR=5.5
HELC Santa Helena 2.52 256 *e*P **Pn 22 05 40.4 -0.2**
HELC *e*S **Sn 22 06 11.9 -1.4**
HELC *i* 22 06 18.5
comp=Z,3μm,0.4s
HELC Santa Helena 2.52 256 *e*P **Pn 22 05 40.5 -0.2**
HELC *e*S **Sn 22 06 11.5 -1.8**
VILC Villavicencio, 2.77 193 *e*P **Pn 22 05 43.0 -0.4**
VILC *e*S **Sn 22 06 18.4 0.0**
VILC *i* 22 06 25.9
comp=Z,2μm,1.1s
PTGC Puerto Gaitan, 2.77 160⇓*i*P **Pn 22 05 43.0 -0.4**
PTGC *e*S **Sn 22 06 16.2 -2.1**
PTGC *i* 22 06 19.5
comp=Z,1μm,0.5s
GUY2C Guyana, Caldas 2.79 235 *e*P **Pn 22 05 43.9 0.0**
GUY2C *e*S **Sn 22 06 19.4 +0.3**
GUY2C *i* 22 06 25.4
comp=Z,3μm,0.7s
RREF El Recreo 2.97 230 *e*S **Sn 22 06 24.7 +1.2**
CBOC Ciudad Bolivar 3.08 252 *e*P **Pn 22 05 48.0 +0.7**
CBOC *e*S **Sn 22 06 22.9 -2.3**
CBOC *i* 22 06 34.2
comp=Z,1μm,0.6s
CODC Agustn Codazz 3.11 353 *e*P **Pn 22 05 47.5 0.0**
CODC *e*S **Sn 22 06 24.8 -0.9**
CODC *i* 22 06 32.6
comp=Z,1μm,0.8s
DBBC Dabeiba 3.12 274 *e*P **Pn 22 05 47.5 -0.2**
SDV Santo Domingo 3.16 50 P **Pn 22 05 49.5 +1.1**
comp=Z,89nm,0.3s,baz=233,slow=11,SNR=170
SDV S **Sn 22 06 26.8 -0.3**
comp=Z,449nm,0.3s,baz=24,slow=18,SNR=42
ARGC Ariguani, Magd 3.23 339 *e*P **Pn 22 05 50.5 +1.5**
ARGC *e*S **Sn 22 06 29.0 +0.6**
ARGC *i* 22 06 38.1
comp=Z,1μm,0.6s
ARGC *i* 22 06 38.8
comp=Z,1μm,0.3s
PRAC Prado 3.58 210⇑*i*P **Pn 22 05 52.9 -0.7**
PRAC *e*S **Sn 22 06 36.2 -0.4**
PRAC *i* 22 06 41.9
comp=Z,2μm,0.3s
ORTC Ortega, Tolima 3.62 217⇑*i*P **Pn 22 05 53.7 -0.4**
ORTC *e*S **Sn 22 06 35.7 -1.8**
ORTC *i* 22 06 43.6
comp=Z,2μm,0.7s
SJCC San Jacinto, C 3.69 326 *e*P **Pn 22 05 53.9 -1.1**
SJCC *e*S **Sn 22 06 35.5 -3.6**
SJCC *i* 22 06 42.9
comp=Z,1μm,0.8s
SJCC San Jacinto, C 3.69 326 *e*P **Pn 22 05 53.8 -1.2**
SJCC *e*S **Sn 22 06 34.2 -5.0**
PLMC San Jos del P 3.73 239 *e*P **Pn 22 05 55.8 +0.4**
PLMC *e*S **Sn 22 06 41.1 +1.3**
PLMC *i* 22 06 43.8
comp=Z,1μm,0.2s
PLMC *i* 22 06 44.6
comp=Z,1μm,0.3s
GUVC San Jose del G 4.28 174 *e*P **Pn 22 06 02.6 0.0**
GUVC *e*S **Sn 22 06 50.6 -2.1**
GUVC *i* 22 06 59.2
comp=Z,930nm,0.3s
SMRC Santa Marta, M 4.46 345 *e*P **Pn 22 06 04.6 -0.2**
SMRC *e*S **Sn 22 06 53.3 -3.5**
SMRC *i* 22 06 56.1
comp=Z,943nm,0.4s
PTAC Punta Ardita, 4.71 274 *e*P **Pn 22 06 07.1 -1.1**
PTAC *i* 22 07 14.2
comp=Z,786nm,0.3s
MACC Macarena, Meta 4.72 190 *e*P **Pn 22 06 06.7 -1.6**
MACC *e*S **Sn 22 06 57.4 -5.6**
MACC *i* 22 07 04.0
comp=Z,624nm,0.9s
BETC Betania 4.75 210 *e*P **Pn 22 06 07.6 -1.1**
MALC Bahia Malaga 5.09 237 *e*P **Pn 22 06 14.1 +1.0**
MALC *i* 22 07 16.8
comp=Z,255nm,1.1s
UPD2 Meteti 5.19 290 *e*P **Pn 22 06 13.1 -1.3**
UPD2 *e*S **Sn 22 07 11.6 -2.4**
PCON Cinco Dias 5.57 217 *e*P **Pn 22 06 20.5 +0.5**
PCON *i* 22 07 55.0
comp=Z,264nm,1.1s
POPC Popayan, Colom 5.57 220 *e*P **Pn 22 06 19.3 -0.4**
POPC *e*S **Sn 22 07 20.2 -3.3**
POPC *i* 22 07 37.5
comp=Z,104nm,1.0s
FLOC Florencia 5.81 206 *e*P **Pn 22 06 22.0 -0.8**
FLOC *e*S Sn 22 07 45.1 +16
FLOC *i* 22 08 04.6
comp=Z,312nm,0.8s
UPA Univ. de Panam 6.75 289 *e*P **Pn 22 06 34.8 -0.3**
UPA *e*S **Sn 22 07 49.4 -1.8**
BCIP Isla Barro Col 7.09 290 *e*P **Pn 22 06 38.0 -1.7**
BCIP *e*S **Sn 22 07 57.2 -2.1**
BCIP Isla Barro Col 7.09 290 **Pn 22 06 38.2 -1.5**
VTON El Valle, Cocl 7.20 285 *e*P **Pn 22 06 41.4 +0.2**
VTON *e*S **Sn 22 07 59.2 -2.9**
OTAV Otavalo 8.47 220 **Pn 22 06 57.2 -1.3**
PCRV Puerto La Cruz 8.98 68 P **Pn 22 07 05.6 +0.8**
comp=Z,2.9nm,0.3s,baz=345,slow=4.1,SNR=18
PCRV S **Sn 22 08 40.6 -4.1**
comp=Z,1.9nm,0.3s,baz=260,slow=18,SNR=2.6
PLCV Puerto La Cruz 9.02 68 **Pn 22 07 05.6 +0.3**
PLCV **Sn 22 08 40.6 -5.0**
BRU2 Volcan 9.73 282 *e*P **Pn 22 07 14.7 -0.2**
JAKH Jacmel 11.35 3 Pn **Pn 22 07 36.2 +0.2**
HDC Heredia 11.37 287 Pn **Pn 22 07 37.0 +0.6**
PCJ Portland Cotta 11.56 340⇓*i*P **Pn 22 07 41.9 +3.3**
HOJ Hope 11.67 342⇑*i*P **P 22 07 43.9 -3.1**
STH Stony Hill 11.76 342⇑*i*P **Pn 22 07 43.9 +2.6**
BANI BANI 11.79 13 Pn **Pn 22 07 42.5 +0.7**
MCJ Malvern 11.91 338⇓*i*P **Pn 22 07 46.5 +3.1**
MCJ ⇓*i*P **P 22 07 47.5 -2.2**
BNJ Bonny Gate 12.03 342⇑*i*P **Pn 22 07 48.0 +3.1**
MTDJ Mount Denham 12.13 339 **P 22 07 49.7 -2.5**
BBJ Bamboo Saint A 12.19 341⇑*i*P **P 22 07 51.1 -1.7**
SDDR Presa de Saban 12.20 8 **Pn 22 07 48.6 +1.5**
JTS Las Juntas de 12.24 287 P **Pn 22 07 49.3 +1.7**
comp=Z,1.1nm,0.3s,baz=163,slow=12,SNR=5.5
JTS Las Juntas de 12.24 287 P **Pn 22 07 49.8 +2.1**
ESPN Las Esperanzas 12.29 297 Pn **Pn 22 07 47.8 -0.4**
MLPR Magueyes Islan 12.54 27 Pn **Pn 22 07 50.3 -0.9**
CRPR Cabo Rojo, PR 12.54 27 Pn **Pn 22 07 51.0 -0.3**
ACON Acoyapa 12.99 294 **Pn 22 07 57.8 +0.7**
AOPR Arecibo Observ 13.00 28 Pn **Pn 22 07 57.3 +0.1**
PDPR Patillas Dam, 13.07 31 Pn **Pn 22 07 57.6 -0.6**
SJG San Juan 13.09 30 P **Pn 22 07 57.8 -0.5**
comp=Z,6.8nm,0.3s,baz=196,slow=11,SNR=15
SJG San Juan 13.09 30 **Pn 22 07 58.4 +0.1**
GTBY Guantanamo Bay 13.17 352 Pn **Pn 22 08 01.2 +1.8**
HUMP Col San Antoni 13.27 31 Pn **Pn 22 08 00.7 +0.1**
SVB Belmont 13.28 60 Pn **Pn 22 08 00.3 -0.5**
GCPR Guaynabo City 13.29 30 Pn **Pn 22 08 00.9 0.0**
CBYP Canovanas 13.37 31 Pn **Pn 22 08 02.3 +0.3**
CDVI St. Croix 13.54 36 Pn **Pn 22 08 05.5 +1.4**
CUPR Culebra, Puert 13.70 33 Pn **Pn 22 08 07.2 +1.1**
MCLT Moule a Chique 13.75 59 **P 22 08 12.1 +2.0**
STVI Saint Thomas 13.92 34 Pn **Pn 22 08 10.1 +1.3**
FDF Fort de France 14.09 55 Pn **Pn 22 08 11.5 +0.4**
CBCY The Bluff, Cay 14.38 334 Pn **P 22 08 16.2 -0.8**
ABVI Anegada Island 14.57 35 Pn **Pn 22 08 16.8 -0.2**
ATAH Atahualpa 14.85 201 P **P 22 08 22.2 -0.6**
comp=Z,1.6nm,0.3s,baz=129,slow=6.7,SNR=11
SAML Samuel 18.51 148 P **P 22 09 02.3 -0.3**
PAYG Puerto Ayora 18.73 247 P **P 22 09 05.5 +0.5**
APG El Apazote 18.90 297 P **P 22 09 07.7 +0.6**
comp=Z,0.3nm,0.3s,baz=256,slow=20,SNR=10.0
TEIG Tepich 19.87 314 P **P 22 09 18.6 +1.3**
comp=Z,19nm,0.3s,baz=139,slow=18,SNR=11
TEIG Tepich 19.87 314 P **P 22 09 19.0 +1.7**
061Z Ochoppi 20.36 339 P **P 22 09 24.1 +1.8**
CCIG Comitan 20.89 298 P **P 22 09 28.4 0.0**
CCIG IAmb IAmb 22 09 35.5
comp=Z,20nm,0.9s
060A Indiantown 21.26 342 P **P 22 09 32.9 +0.9**
LPAZ La Paz 23.48 168 P **P 22 09 53.5 -0.9**
comp=Z,1.5nm,0.3s,baz=340,slow=13,SNR=10
LPAZ La Paz 23.48 168 P **P 22 09 53.2 -1.2**
SIV San Ignacio 25.60 152 P **P 22 10 11.5 -1.5**
comp=Z,0.8nm,0.6s,baz=1.5,slow=11,SNR=4.9
MNMC Minye Minye 26.02 172 P **P 22 10 15.7 -1.3**
TIGA Tifton 26.39 339 P **P 22 10 20.9 +1.0**
TIGA IAmb IAmb 22 10 28.3
comp=Z,11nm,1.0s
255A Hazlehurst 26.47 342 P **P 22 10 21.7 +1.1**
PB11 IPOC Station P 26.64 173 P **P 22 10 21.8 -0.6**
PB11 IAmb IAmb 22 10 25.4
comp=Z,5.7nm,1.0s
250A Grady 27.89 335 P **P 22 10 34.4 +1.2**
Z50A Ashland 28.87 337 P **P 22 10 43.9 +1.9**
Z50A IAmb IAmb 22 10 45.4
comp=Z,8.4nm,0.8s
LVC Limon Verde 29.54 172 P **P 22 10 45.1 -3.3**
LVC IAmb IAmb 22 10 46.9
comp=Z,5.8nm,0.9s
CPCT Cooper Cave 30.37 341 P **P 22 10 55.9 +0.8**
CPCT IAmb IAmb 22 10 58.5
comp=Z,4.7nm,0.7s
W50A Signal Mountai 30.40 340 P **P 22 10 56.3 +0.8**
W50A IAmb IAmb 22 10 58.9
comp=Z,6.5nm,0.7s
U54A Nelsons Funny 30.62 346 P **P 22 10 57.8 +0.4**
V51A Loudon 30.64 342 P **P 22 10 58.3 +0.8**
V51A IAmb IAmb 22 11 04.1
comp=Z,4.3nm,0.8s
V51A **PcP 22 13 50.2 -1.7**
S57A Dark Hollow, R 31.25 351 P **P 22 11 01.7 -1.2**
V48A Smith Brothers 31.42 338 P **P 22 11 05.9 +1.4**
WVT Waverly 32.14 337 P **P 22 11 11.4 +0.7**
WVT IAmb IAmb 22 11 13.2
comp=Z,8.5nm,0.8s
UALR University of 33.00 330 P **P 22 11 19.0 +0.8**
UALR IAmb IAmb 22 11 21.4
comp=Z,5.8nm,1.1s
X40A Basin Creek Fa 33.02 329 P **P 22 11 19.0 +0.6**
X40A IAmb IAmb 22 11 20.4
comp=Z,8.3nm,0.8s

W41B	**Gary Mavity, V**	**33.27**	**331**	P	**P**	**22 11 22.1**	**+1.5**
Q51A	**Peebles**	**33.37**	**345**		**PcP**	**22 13 57.0**	**-2.4**
WHAR	**Wooly Hollow**	**33.38**	**331**	P	**P**	**22 11 22.2**	**+0.6**
WHAR				IAmb	IAmb	22 11 23.2	
	comp=Z,9.0nm,0.9s						
MIAR	**Mount Ida**	**33.45**	**328**	P	**P**	**22 11 23.0**	**+0.9**
MIAR				IAmb	IAmb	22 11 24.5	
	comp=Z,8.0nm,1.1s						
WHTX	**Lake Whitney,**	**33.82**	**321**	P	**P**	**22 11 25.4**	**0.0**
WHTX				IAmb	IAmb	22 11 38.6	
	comp=Z,10nm,0.9s						
W39A	**Magazine**	**34.06**	**329**	P	**P**	**22 11 28.0**	**+0.6**
O52A	**Adamsville**	**34.06**	**348**	P	**P**	**22 11 28.5**	**+1.1**
O52A				IAmb	IAmb	22 11 30.6	
	comp=Z,8.5nm,0.7s						
U40A	**Yellville**	**34.51**	**331**	P	**P**	**22 11 31.8**	**+0.5**
FVM	**French Village**	**34.78**	**336**	P	**P**	**22 11 34.9**	**+1.3**
M56A	**Emporium**	**34.81**	**353**	P	**P**	**22 11 35.0**	**+1.3**
M56A				IAmb	IAmb	22 11 38.5	
	comp=Z,3.6nm,0.6s						
MGMO	**Mountain Grove**	**34.89**	**333**	P	**P**	**22 11 34.9**	**+0.4**
MGMO				IAmb	IAmb	22 11 36.6	
	comp=Z,7.8nm,0.9s						
CCM	**Cathedral Cave**	**35.19**	**335**	P	**P**	**22 11 38.2**	**+1.1**
N49A	**Columbus Grove**	**35.37**	**345**	P	**P**	**22 11 37.6**	**-0.9**
N49A				IAmb	IAmb	22 11 52.6	
	comp=Z,5.6nm,0.8s						
ABTX	**Abilene, Hawle**	**35.63**	**320**	P	**P**	**22 11 41.3**	**+0.4**
SFIN	**Lafayette**	**35.69**	**341**	P	**P**	**22 11 42.6**	**+1.3**
W35A	**Tecumseh**	**35.69**	**325**	P	**P**	**22 11 41.3**	**-0.1**
FNO	**Franklin**	**36.06**	**325**	P	**P**	**22 11 44.9**	**+0.3**
TX31	**Lajitas Ar. Si**	**36.49**	**312**	P	**P**	**22 11 49.8**	**+1.3**
TX31				IAmb	IAmb	22 11 50.5	
	comp=Z,4.6nm,0.8s						
TX32	**Lajitas Array**	**36.49**	**312**	P	**P**	**22 11 49.8**	**+1.3**
TX32				IAmb	IAmb	22 11 50.5	
	comp=Z,4.7nm,0.8s						
TXAR	**Lajitas Array**	**36.49**	**312**	P	**P**	**22 11 49.5**	**+1.1**
	comp=Z,2.7nm,0.5s,baz=129,slow=8.9,SNR=35						
TXAR				PcP	**PcP**	**22 14 10.7**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=146,slow=5.1,SNR=4.8						
WMOK	**Wichita Mounta**	**36.50**	**323**	IAmb	IAmb	22 11 49.3	
	comp=Z,5.9nm,0.8s						
J57A	**Williamstown**	**36.52**	**356**	P	**P**	**22 11 49.1**	**+0.7**
J47A	**Sunmer**	**37.71**	**346**	P	**P**	**22 11 58.7**	**+0.3**
U32A	**Winter Ranch,**	**37.77**	**325**	P	**P**	**22 11 58.8**	**-0.3**
EMMW	**East Machias**	**38.05**	**6**	P	**P**	**22 12 01.2**	**+0.1**
K43A	**Burlington**	**38.19**	**342**	P	**P**	**22 12 03.0**	**+0.6**
CFA	**Coronel Fontan**	**38.50**	**173**	LR	LR	22 28 38.7	
	comp=Z,102nm,21.9s,baz=112,slow=37						
MSTX	**Muleshoe**	**38.51**	**319**	P	**P**	**22 12 05.7**	**+0.4**
MSTX				IAmb	IAmb	22 12 07.6	
	comp=Z,11nm,0.9s						
MNTX	**Cornudas Mount**	**39.00**	**314**	P	**P**	**22 12 10.6**	**+1.3**
JFWS	**Jewell Farm**	**39.00**	**340**	P	**P**	**22 12 10.1**	**+1.0**
I42A	**Draeger Farm,**	**39.44**	**342**	P	**P**	**22 12 12.9**	**+0.2**
BATG	**Bathurst New B**	**40.75**	**7**	P	**P**	**22 12 24.7**	**+1.3**
LENM	**Lemitar**	**41.46**	**316**	P	**P**	**22 12 29.9**	**+0.2**
T25A	**Trinidad**	**41.52**	**321**	P	**P**	**22 12 30.6**	**+0.4**
ANMO	**Albuquerque**	**41.54**	**317**	P	**P**	**22 12 31.4**	**+1.0**
SDCO	**Great Sand Dun**	**42.57**	**321**	P	**P**	**22 12 39.7**	**+0.8**
SDCO				IAmb	IAmb	22 12 41.8	
	comp=Z,6.2nm,0.8s						
S22A	**4UR Ranch, Cre**	**43.41**	**320**	P	**P**	**22 12 46.9**	**+1.3**
S22A				IAmb	IAmb	22 12 48.7	
	comp=Z,7.4nm,1.1s						
EYMN	**Ely**	**43.88**	**342**	P	**P**	**22 12 49.1**	**+0.4**
W18A	**Petrified Fore**	**43.90**	**315**	P	**P**	**22 12 50.7**	**+1.3**
ISCO	**Idaho Springs**	**43.93**	**323**	IAmb	IAmb	22 12 52.5	
	comp=Z,12nm,1.1s						
MVCO	**Mesa Verde**	**44.18**	**318**	P	**P**	**22 12 52.5**	**+0.8**
MVCO				IAmb	IAmb	22 12 53.7	
	comp=Z,7.4nm,1.0s						
PV01	**Paradox Valley**	**44.75**	**319**	P	**P**	**22 12 57.1**	**+0.9**
PV01				IAmb	IAmb	22 12 59.3	
	comp=Z,8.6nm,1.0s						
X16A	**Lo Mia Camp, P**	**44.76**	**313**	P	**P**	**22 12 57.4**	**+1.1**
PHWY	**Pilot Hill**	**44.81**	**325**	P	**P**	**22 12 57.0**	**+0.3**
N23A	**Red Feather La**	**44.83**	**324**	IAmb	IAmb	22 13 00.3	
	comp=Z,9.0nm,1.0s						
PV02	**Paradox Valley**	**44.90**	**319**	P	**P**	**22 12 57.8**	**+0.4**
PV02				IAmb	IAmb	22 12 59.8	
	comp=Z,7.9nm,0.9s						
PV13	**Radium Mtn., P**	**44.93**	**319**	P	**P**	**22 12 58.7**	**+1.1**
PV13				IAmb	IAmb	22 13 00.3	
	comp=Z,9.6nm,0.7s						
PV07	**Paradox Valley**	**44.98**	**320**	P	**P**	**22 12 58.6**	**+0.6**
PV07				IAmb	IAmb	22 13 00.9	
	comp=Z,9.5nm,1.1s						
PV03	**Paradox Valley**	**45.00**	**319**	P	**P**	**22 12 59.5**	**+1.3**
PV03				IAmb	IAmb	22 13 00.4	
	comp=Z,6.1nm,0.9s						
PV12	**Saucer Basin,**	**45.01**	**319**	P	**P**	**22 12 58.8**	**+0.6**
PV12				IAmb	IAmb	22 13 01.1	
	comp=Z,9.4nm,0.8s						
PV11	**David Mesa, Pa**	**45.04**	**319**	P	**P**	**22 12 59.4**	**+1.0**
PV05	**Paradox Valley**	**45.07**	**319**	P	**P**	**22 12 58.2**	**-0.4**
PV05				IAmb	IAmb	22 13 00.8	
	comp=Z,6.4nm,0.8s						
PV16	**Nyswonger Mesa**	**45.08**	**319**	P	**P**	**22 13 00.3**	**+1.5**
PV17	**East Wray Mesa**	**45.09**	**319**	P	**P**	**22 12 59.5**	**+0.7**
PV17				IAmb	IAmb	22 13 02.8	
	comp=Z,6.4nm,0.8s						
PV22	**Blue Mesa, Par**	**45.12**	**320**	P	**P**	**22 12 59.7**	**+0.6**
PV22				IAmb	IAmb	22 13 01.7	
	comp=Z,6.6nm,0.9s						
PV14	**Lion Creek, Pa**	**45.18**	**319**	P	**P**	**22 12 58.6**	**-1.0**
PV14				IAmb	IAmb	22 13 03.5	
	comp=Z,8.3nm,0.9s						
WUAZ	**Wupatki**	**45.25**	**315**	P	**P**	**22 13 00.9**	**+0.8**
AGMN	**Agassiz Nation**	**45.63**	**339**	P	**P**	**22 13 02.9**	**+0.2**
AGMN				IAmb	IAmb	22 13 03.8	
	comp=Z,7.0nm,0.8s						
113A	**Mohawk Valley,**	**45.74**	**310**	P	**P**	**22 13 03.8**	**0.0**
RSSD	**Black Hills**	**45.96**	**329**	P	**P**	**22 13 05.5**	**-0.1**
U15A	**North Rim**	**46.35**	**315**	P	**P**	**22 13 09.9**	**+1.0**
SRU	**San Rafael Swe**	**46.57**	**319**	P	**P**	**22 13 11.2**	**+0.8**
GLA	**Glamis**	**46.67**	**310**	P	**P**	**22 13 11.8**	**+0.8**
GLA				IAmb	IAmb	22 13 13.7	
	comp=Z,10nm,1.1s						
RDMU	**Red Mountain**	**46.80**	**322**	P	**P**	**22 13 12.0**	**-0.1**
P17A	**Butcher Ranch,**	**46.91**	**320**	P	**P**	**22 13 13.7**	**+0.7**
KNB	**Kanab**	**47.01**	**316**	P	**P**	**22 13 15.0**	**+1.2**
MTPU	**Mount Pierson**	**47.09**	**317**	P	**P**	**22 13 15.4**	**+0.7**
TMUT	**Trail Mountain**	**47.11**	**319**	P	**P**	**22 13 15.2**	**+0.4**
ULM	**Lac du Bonnet**	**47.30**	**340**	P	**P**	**22 13 15.7**	**+0.1**
	comp=Z,6.2nm,0.3s,baz=136,slow=7.8,SNR=13						
ULM	**Lac du Bonnet**	**47.30**	**340**	P	**P**	**22 13 15.3**	**-0.2**
ULM				IAmb	IAmb	22 13 17.1	
	comp=Z,8.8nm,0.8s						
MSU	**Marysvale**	**47.33**	**318**	P	**P**	**22 13 17.4**	**+1.0**
TCRU	**Three Creeks R**	**47.56**	**318**	P	**P**	**22 13 18.1**	**-0.1**
MPU	**Maple Canyon**	**47.78**	**320**	P	**P**	**22 13 20.6**	**+0.8**
JLU	**Jordanelle**	**47.99**	**320**	P	**P**	**22 13 21.8**	**+0.3**
NLU	**North Lily Min**	**48.03**	**319**	P	**P**	**22 13 22.1**	**+0.4**
PD31	**Pinedale Array**	**48.10**	**324**	P	**P**	**22 13 23.0**	**+0.8**
PDAR	**Pinedale Array**	**48.10**	**324**	P	**P**	**22 13 23.0**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=127,slow=9.4,SNR=16						
SCHQ	**Schefferville**	**48.13**	**5**	P	**P**	**22 13 23.8**	**+1.8**
	comp=Z,18nm,0.6s,baz=198,slow=7.2,SNR=24						
SCHQ	**Schefferville**	**48.13**	**5**	P	**P**	**22 13 22.8**	**+0.9**
TCUT	**Toone Canyon**	**48.25**	**321**	P	**P**	**22 13 24.9**	**+1.4**
SHPR	**Sheep Range**	**48.42**	**314**	P	**P**	**22 13 25.1**	**+0.4**
PSUT	**Pine Spring**	**48.47**	**317**	P	**P**	**22 13 25.6**	**+0.4**
DUG	**Dugway, Tooele**	**48.64**	**319**	P	**P**	**22 13 27.3**	**+1.0**
LAO	**LASA Array**	**48.85**	**330**	P	**P**	**22 13 27.7**	**0.0**
LAO				IAmb	IAmb	22 13 29.0	
	comp=Z,4.6nm,0.7s						
BGU	**Big Grassy Mou**	**49.17**	**320**	P	**P**	**22 13 30.7**	**+0.3**
REDW	**Red Top Meadow**	**49.22**	**324**	P	**P**	**22 13 31.7**	**+1.0**
REDW				IAmb	IAmb	22 13 32.9	
	comp=Z,12nm,0.9s						
TPAW	**Teton Pass**	**49.35**	**324**	IAmb	IAmb	22 13 33.9	
	comp=Z,5.8nm,0.9s						
TPNV	**Topopah Spring**	**49.40**	**314**	P	**P**	**22 13 32.8**	**+0.7**
TPNV				IAmb	IAmb	22 13 35.1	
	comp=Z,7.1nm,1.0s						
IMW	**Indian Meadow**	**49.59**	**324**	IAmb	IAmb	22 13 35.6	
	comp=Z,5.2nm,0.8s						
GCMT	**Greycliff**	**50.04**	**327**	P	**P**	**22 13 38.2**	**+1.4**
YMR	**Madison River**	**50.07**	**325**	P	**P**	**22 13 38.0**	**+0.8**
YHH	**Holmes Hill**	**50.07**	**325**	P	**P**	**22 13 38.5**	**+1.2**
YHB	**Horse Butte**	**50.25**	**325**	P	**P**	**22 13 39.1**	**+0.6**
QLMT	**Earthquake Lak**	**50.43**	**325**	P	**P**	**22 13 40.5**	**+0.6**
ELK	**Elko**	**50.51**	**319**	P	**P**	**22 13 40.9**	**+0.4**
BOZ	**Bozeman (W)**	**51.00**	**326**	P	**P**	**22 13 44.6**	**+0.6**
MCMT	**McKenzie Canyo**	**51.24**	**324**	P	**P**	**22 13 46.9**	**+1.0**
NV11	**Mina Array Sit**	**51.41**	**315**	P	**P**	**22 13 46.4**	**-0.8**
NVAR	**Mina Array Bea**	**51.51**	**315**	P	**P**	**22 13 49.3**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=122,slow=7.7,SNR=15						
KVN	**Kaiserville**	**51.64**	**315**	P	**P**	**22 13 49.3**	**+0.4**
RYN	**Ryan**	**51.75**	**315**	P	**P**	**22 13 50.0**	**+0.3**
HRY	**Holter Researc**	**51.79**	**327**	P	**P**	**22 13 50.0**	**+0.2**
MFID	**Camas Ranch**	**52.25**	**321**	P	**P**	**22 13 53.3**	**0.0**
MFID				IAmb	IAmb	22 13 56.6	
	comp=Z,6.3nm,0.8s						
YERR	**Yerington**	**52.41**	**315**	P	**P**	**22 13 55.4**	**+0.7**
YERR				IAmb	IAmb	22 13 57.8	
	comp=Z,8.7nm,1.0s						
PLID	**Pearl Lake**	**53.24**	**323**	P	**P**	**22 14 01.0**	**+0.3**
PLID				IAmb	IAmb	22 14 02.1	
	comp=Z,6.2nm,1.0s						
WVOR	**Wild Horse Val**	**53.55**	**319**	P	**P**	**22 14 03.4**	**+0.5**
WVOR				IAmb	IAmb	22 14 06.5	
	comp=Z,8.9nm,1.1s						
BEKR	**Beckworth**	**53.57**	**315**	P	**P**	**22 14 01.3**	**-1.8**
ORV	**Oroville**	**54.25**	**315**	P	**P**	**22 14 08.4**	**+0.7**
F10A	**Beach Ranch, E**	**54.45**	**323**	IAmb	IAmb	22 14 10.1	
	comp=Z,4.1nm,0.8s						
G08A	**Pilot Rock**	**55.14**	**322**	P	**P**	**22 14 14.5**	**+0.2**
G08A				IAmb	IAmb	22 14 16.3	
	comp=Z,9.0nm,0.9s						
PINE	**Pine Mountain**	**55.68**	**319**	P	**P**	**22 14 18.7**	**+0.5**
B08A	**Colville Reser**	**56.91**	**325**	P	**P**	**22 14 27.0**	**+0.3**
B08A				IAmb	IAmb	22 14 27.8	
	comp=Z,4.1nm,0.9s						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**22 15 10.1**	**+0.5**
	comp=Z,5.0nm,0.5s,baz=132,slow=6.7,SNR=108						
YKW3	**Yellowknife Ar**	**63.32**	**340**	P	**P**	**22 15 10.3**	**+0.3**
TIC	**Toumodi**	**67.52**	**86**	*e*P	**P**	**22 15 36.6**	**-1.3**
LIC	**Lamto**	**67.55**	**86**	*e*P	**P**	**22 15 37.1**	**-1.0**
	comp=Z,20nm,0.5s						
DBIC	**Dimbokro**	**67.68**	**86**	P	**P**	**22 15 38.0**	**-0.9**
	comp=Z,5.4nm,0.7s,baz=282,slow=4.0,SNR=10.0						
DBIC	**Dimbokro**	**67.68**	**86**	IAmb	IAmb	22 15 39.2	
	comp=Z,6.2nm,0.8s						
KIC	**Kosan Boka**	**67.82**	**86**	*e*P	**P**	**22 15 38.9**	**-0.9**
	comp=Z,16nm,0.6s						
SUMG	**Summit**	**68.97**	**11**	*i* P	**P**	**22 15 46.9**	**+0.6**
	comp=Z,52nm,0.8s						
SUMG	**Summit**	**68.97**	**11**	P	**P**	**22 15 46.5**	**+0.2**
INK	**Inuvik**	**73.04**	**340**	P	**P**	**22 16 10.9**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=65,slow=4.5,SNR=13						
INK	**Inuvik**	**73.04**	**340**	P	**P**	**22 16 11.3**	**+1.0**
CTGM	**Chitina Glacie**	**73.59**	**332**	P	**P**	**22 16 14.7**	**+0.7**
CTGM				IAmb	IAmb	22 16 16.6	
	comp=Z,4.7nm,0.9s						
YAH	**Yahtse**	**73.62**	**331**	P	**P**	**22 16 14.6**	**+0.3**
YAH				IAmb	IAmb	22 16 17.4	
	comp=Z,6.3nm,1.1s						
TOA0	**Torodi Ar. Sit**	**73.69**	**78**	P	**P**	**22 16 13.4**	**-1.8**
TORD	**Torodi Ar. Bea**	**73.69**	**78**	P	**P**	**22 16 14.2**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=282,slow=6.2,SNR=10						
BARN	**Barnard Glacie**	**73.77**	**332**	P	**P**	**22 16 16.0**	**+0.9**
BARN				IAmb	IAmb	22 16 29.7	
	comp=Z,5.7nm,1.2s						
BALM	**Baldy**	**74.08**	**332**	P	**P**	**22 16 17.4**	**+0.6**
WAX	**Waxell Ridge**	**74.17**	**331**	P	**P**	**22 16 18.0**	**+0.8**
WAX				IAmb	IAmb	22 16 19.7	
	comp=Z,4.9nm,1.0s						
TGL	**Tana Glacier**	**74.24**	**331**	P	**P**	**22 16 18.6**	**+0.9**
TGL				IAmb	IAmb	22 16 27.5	
	comp=Z,6.9nm,1.1s						
RAGM	**Ragged Mountai**	**75.04**	**331**	P	**P**	**22 16 23.6**	**+1.4**
RAGM				IAmb	IAmb	22 16 34.6	
	comp=Z,6.8nm,1.0s						
DOT	**Dot Lake**	**75.52**	**334**	P	**P**	**22 16 25.8**	**+0.9**
DAG	**Danmarks Havn**	**75.64**	**11**	*i* P	**P**	**22 16 25.3**	**0.0**
	comp=Z,4.4nm,0.8s						
ILAR	**Eielson Array**	**76.98**	**335**	P	**P**	**22 16 33.5**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=111,slow=4.4,SNR=8.6						
RND	**Reindeer**	**77.57**	**333**	P	**P**	**22 16 37.4**	**+1.0**
RND				IAmb	IAmb	22 16 39.9	
	comp=Z,4.4nm,0.8s						
NOA	**NORSAR Array B**	**81.30**	**29**	P	**P**	**22 16 58.0**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=266,slow=5.3,SNR=2.6						
ARCES	**ARCESS Array B**	**86.65**	**20**	P	**P**	**22 17 23.2**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=273,slow=3.9,SNR=6.3						
ZALV	**Zalesovo Beam**	**116.65**	**14**	PKP	**PKPdf**	**22 23 23.3**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=325,slow=1.8,SNR=6.4						
MKAR	**Makanchi Array**	**122.30**	**20**	PKP	**PKPdf**	**22 23 34.5**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=302,slow=2.4,SNR=20						
SONM	**Songino Array**	**125.57**	**0**	PKP	**PKiKP**	**22 23 41.7**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=327,slow=1.6,SNR=5.5						
KSH	**Kashi**	**125.72**	**29**	PKP	**PKPdf**	**22 23 41.4**	**-0.1**
KSH				PKS	**PKSdf**	**22 27 17.0**	**-1.2**
KSH	**Kashi**	**125.72**	**29**	SS	SS	22 42 22.2	+0.6
KSH				LR	LR		
	comp=N,510nm,5.9s						
KSH				LR	LR		
	comp=E,310nm,7.4s						
KSH				LR	LR		
	comp=Z,520nm,6.2s						
ASAR	**Alice Springs**	**149.16**	**234**	PKP	**PKPdf**	**22 24 24.1**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=118,slow=3.1,SNR=3.5						
ASAR				PKPbc	**PKPbc**	**22 24 28.0**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=118,slow=3.3,SNR=24						
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	**PKPbc**	**22 24 31.2**	**-0.6**
	comp=Z,1.8nm,0.3s,baz=105,slow=2.8,SNR=25						
CMAR	**Chiang Mai Arr**	**153.67**	**17**	PKPbc	**PKiKP**	**22 24 40.0**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=324,slow=3.2,SNR=13						

IDC 06 22:14:04.2±1.6**, 23°.93S**×**111°.75W, h0**km**, mb3.9**/3**, mb1 4.3**/3**, mb1mx3.8**/28**, mbtmp3.9**/3**, Error ellipse: s-maj=99.0km s-min=50.2km az=102.0, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**62.34**	**354**	P	P	22 24 29.6	+0.9
	2.0nm,0.9s,baz=173,slow=8.2,SNR=4.2						
PDAR	**Pinedale Array**	**66.39**	**2**	P	P	22 24 54.8	-0.4
	1.0nm,0.9s,baz=175,slow=5.2,SNR=4.7						
YKA	**Yellowknife Ar**	**86.15**	**359**	P	P	22 26 47.0	+0.3
	0.5nm,0.9s,baz=173,slow=3.9,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**89.97**	**290**	T	T	00 05 33.3	
	baz=115,slow=74,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**89.98**	**290**	T	T	00 05 29.5	
	baz=115,slow=74,SNR=5.7						
H11S3	**WAKE ISLAND Hy**	**89.99**	**290**	T	T	00 05 36.0	
	baz=115,slow=74,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**90.31**	**291**	T	T	00 05 57.1	
	baz=116,slow=74						
H11N1	**WAKE ISLAND Hy**	**90.33**	**291**	T	T	00 05 56.9	
	baz=116						
H11N2	**WAKE ISLAND Hy**	**90.33**	**291**	T	T	00 05 59.3	
	baz=116,slow=74						
BRTR	**Keskin Array B**	**146.88**	**53**	PKPbc	PKPbc	22 33 48.9	0.0
	0.9nm,0.9s,baz=268,slow=4.3,SNR=3.2						
ZALV	**Zalesovo Beam**	**147.54**	**342**	PKPbc	PKPbc	22 33 49.4	-0.6
	1.1nm,0.6s,baz=9.5,slow=3.6,SNR=5.7						
CMAR	**Chiang Mai Arr**	**150.91**	**265**	PKPbc	PKiKP	22 34 00.2	0.0
	0.8nm,0.4s,baz=94,slow=0.9,SNR=10						
KURBB	**Kurchatov Arra**	**152.18**	**346**	PKPbc	PKPbc	22 33 59.9	-1.7
	1.0nm,0.5s,baz=4.9,slow=2.4,SNR=9.0						
MKAR	**Makanchi Array**	**154.55**	**337**	PKPbc	PKPbc	22 34 05.8	-1.2
	0.6nm,0.8s,baz=26,slow=4.2,SNR=3.8						

*NIED **06** 22:21:00, 44°.00N×147°.90E, h53km, Mw3.9 Best double couple: M0 8.85000×10[14] NP1:φs245.00000°, δ12.00000°, λ111.00000°. NP2:φs43.00000°, δ79.00000°, λ86.00000°.*
*JMA **06** 22:21:27.2±0.3, 44°.01N×147°.95E, h0km, M4.8*
*MOS **06** 22:21:27.5±1.2, 44°.44N×148°.15E, h65km, mb4.2/2, Error ellipse: s-maj=9.9km s-min=8.7km az=135.3*
*ISCJB **06** 22:21:27.4±0.7, 44°.39N±0°.05×148°.11E±0°.07, h64km±5km, mb3.7/19, Error ellipse: s-maj=10.8km s-min=4.8km az=42.0*
*SKHL **06** 22:21:28.4±0.3, 44°.44N×148°.11E, h71km±5km, mb4.6/7*
*IDC **06** 22:21:31.2±2.5, 44°.51N×148°.07E, h82km±22km, mb3.4/17, mb1 3.7/21, mb1mx3.5/44, mbtmp3.8/21, MS2.8/7, Ms1 2.8/7, ms1mx2.6/40, Error ellipse: s-maj=20.9km s-min=13.7km az=150.0*
ISC 06 22:21:27.9±1.2**, 44°.37N**±0°.05×**148°.20E**±0°.07**, h53**km±10km**, n89, σ1°.53**/102**, mb3.7**/19**, 5C-6D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.90**	**345** *d*	*i* PN	**Pn**	**22 21 43.6**	**-0.6**
KUR				*i* S	**Sn**	**22 21 55.1**	**-1.2**
KUR				pmax	pmax		
	comp=Z,1μm,0.4s						
KUR				pmax	pmax		
	comp=E,147nm,0.5s						
KUR				pmax	pmax		
	comp=N,264nm,0.4s						
KUR				smax	smax		
	comp=E,4μm,0.4s						
KUR				smax	smax		
	comp=N,1μm,0.3s						
KUR				smax	smax		
	comp=N,4μm,1.3s						
KUR				smax	smax		
	comp=E,6μm,1.3s						
KUR	**Kuril'sk**	**0.90**	**345** ⇓	*i* P	**Pn**	**22 21 43.8**	**-0.4**
KUR				AMB	AMB	22 21 45.0	
	comp=E,260nm,0.4s						
KUR				AMB	AMB	22 21 45.0	
	comp=E,150nm,0.4s						
KUR				AMB	AMB	22 21 45.0	
	comp=E,360nm,0.4s						
KUR				*i* S	**Sn**	**22 21 55.1**	**-1.2**
KUR				A	A	22 21 56.2	
	comp=E,1μm,0.4s						
KUR				A	A	22 21 56.2	
	comp=E,4μm,0.4s						
KUR				A	A	22 21 56.3	
	comp=E,4μm,1.3s						
KUR				A	A	22 21 56.3	
	comp=E,6μm,1.3s						
YUK	**Yuzh-Kuril'sk**	**1.71**	**260** *c*	*i* PN	**Pn**	**22 21 55.2**	**-0.1**
YUK				*i* S	**Sn**	**22 22 15.1**	**-0.9**
YUK				pmax	pmax		
	comp=N,108nm,0.2s						
YUK				pmax	pmax		
	comp=Z,688nm,0.2s						
YUK				pmax	pmax		
	comp=E,109nm,0.1s						
YUK				smax	smax		
	comp=E,1μm,0.2s						
YUK				smax	smax		
	comp=N,3μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.71**	**260** ⇑	*i* P	**Pn**	**22 21 55.2**	**-0.1**
YUK				AMB	AMB	22 21 57.0	
	comp=N,110nm,0.4s						
YUK				AMB	AMB	22 21 57.0	
	comp=N,430nm,0.4s						
YUK				*i* S	**Sn**	**22 22 15.1**	**-0.9**
YUK				A	A	22 22 19.0	
	comp=N,3μm,0.4s						
YUK				A	A	22 22 19.0	
	comp=N,1μm,0.4s						
GRPR	**Tuman**	**1.78**	**259** ⇓	*i* PN	**Pn**	**22 21 56.0**	**-0.2**
GRPR				*i* S	**Sn**	**22 22 16.7**	**-1.1**
GRPR				pmax	pmax		
	comp=N,126nm,0.1s						
GRPR				pmax	pmax		
	comp=E,32nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,149nm,0.1s						
GRPR				smax	smax		
	comp=N,1μm,0.2s						
GRPR				smax	smax		
	comp=E,2μm,0.2s						
GRPR	**Tuman**	**1.78**	**259** ⇓	*i* P	**Pn**	**22 21 56.0**	**-0.2**
GRPR				AMB	AMB	22 21 57.0	
	comp=E,130nm,0.3s						
GRPR				AMB	AMB	22 21 57.0	
	comp=E,30nm,0.3s						
GRPR				AMB	AMB	22 21 57.0	
	comp=E,150nm,0.3s						
GRPR				*i* S	**Sn**	**22 22 17.0**	**-0.8**
GRPR				A	A	22 22 17.0	
	comp=E,1μm,0.4s						
GRPR				A	A	22 22 17.0	
	comp=E,2μm,0.4s						
GLVR	**Golovnino**	**2.03**	**253** ⇑	*i* PN	**Pn**	**22 21 59.7**	**+0.1**
GLVR				*i* S	**Sn**	**22 22 24.1**	**+0.3**
GLVR				pmax	pmax		
	comp=N,118nm,0.1s						
GLVR				pmax	pmax		
	comp=E,122nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,303nm,0.1s						
GLVR				smax	smax		
	comp=E,2μm,0.3s						
GLVR				smax	smax		
	comp=N,4μm,0.4s						
GLVR	**Golovnino**	**2.03**	**253** ⇑	*i* P	**Pn**	**22 21 59.7**	**+0.1**
GLVR				AMB	AMB	22 22 03.0	
	comp=N,110nm,0.3s						
GLVR				AMB	AMB	22 22 03.0	
	comp=N,120nm,0.3s						
GLVR				AMB	AMB	22 22 03.0	
	comp=N,300nm,0.3s						
GLVR				*i* S	**Sn**	**22 22 23.0**	**-0.8**
GLVR				A	A	22 22 26.3	
	comp=N,2μm,0.5s						
GLVR				A	A	22 22 26.3	
	comp=N,2μm,0.5s						
NEM2	**Nemuro 2**	**2.04**	**241**	P	**Pn**	**22 21 58.8**	**-0.9**
NEM2				*e*S	**Sn**	**22 22 21.4**	**-2.6**
NMR	**Nemuro--Hokkai**	**2.05**	**242** *d*	*i* PN	**Pn**	**22 21 58.8**	**-1.0**
NMR				*i* S	**Sn**	**22 22 21.6**	**-2.5**
NMR	**Nemuro--Hokkai**	**2.05**	**242** ⇓	*i* P	**Pn**	**22 21 58.0**	**-1.8**
JRA	**Rausu**	**2.25**	**260**	P	**Pn**	**22 22 03.5**	**+0.8**
JRA				*e*S	**Sn**	**22 22 30.2**	**+0.9**
JNSB	**Nemuroshibetsu**	**2.38**	**257**	P	**Pn**	**22 22 04.5**	**+0.2**
JKHN	**Kushirohamanak**	**2.55**	**241**	P	**Pn**	**22 22 06.3**	**-0.4**
JKHN				*e*S	**Sn**	**22 22 34.4**	**-2.1**
JNK	**Nakash**	**2.63**	**254**	P	**Pn**	**22 22 08.2**	**+0.4**
JNK				*e*S	**Sn**	**22 22 38.1**	**-0.4**
JAK	**Akkeshi**	**2.89**	**243**	P	**Pn**	**22 22 11.0**	**-0.3**
JAK				*e*S	**Sn**	**22 22 43.2**	**-1.6**
JTKR	**Abashiri--Toko**	**3.11**	**264**	P	**Pn**	**22 22 15.0**	**+0.6**
JAR	**Ashorobuto**	**3.38**	**253**	P	**Pn**	**22 22 19.0**	**+0.9**
JAR				*e*S	**Sn**	**22 22 57.8**	**+0.9**
JOB	**Onbets**	**3.49**	**247**	P	**Pn**	**22 22 20.3**	**+0.7**
JOB				*e*S	**Sn**	**22 22 59.3**	**-0.3**
JCH	**Churui**	**3.93**	**245**	P	**Pn**	**22 22 25.8**	**+0.2**
JCH				*e*S	**Sn**	**22 23 09.1**	**-1.4**
JKK2	**Kamakawa 2**	**3.95**	**265**	P	**Pn**	**22 22 28.1**	**+2.1**
JKA	**Kamikawa-asahi**	**4.03**	**268**	*e*P	**Pn**	**22 22 28.8**	**+1.8**
ASAJ	**Asahikawa**	**4.03**	**268**	P	**Pn**	**22 22 28.8**	**+1.7**
	comp=N,3.7nm,0.3s,baz=54,slow=22,SNR=7.0						
ASAJ				S	Sn	22 23 20.4	+7.5
	comp=N,2.4nm,0.3s,baz=259,slow=33,SNR=1.3						
ASAJ				LR	LR	22 24 09.5	
	comp=N,120nm,21.8s,baz=311,slow=40						
ERM	**Erimo**	**4.37**	**239**	*e*PN	**Pn**	**22 22 34.1**	**+2.4**
JWK2	**Keihoku**	**4.58**	**284**	P	**Pn**	**22 22 36.6**	**+2.1**
YSS	**Yuzh-Sakhalins**	**4.61**	**306**	*e*PN	**Pn**	**22 22 35.6**	**+0.7**
YSS				*e*S	**Sn**	**22 23 32.2**	**+5.2**
YSS				pmax	pmax		
	comp=Z,40nm,0.4s						
YSS				MLR	MLR		
	comp=Z,100nm,12.0s						
YSS	**Yuzh-Sakhalins**	**4.61**	**306** ⇑	*i* P	**Pn**	**22 22 35.6**	**+0.7**
YSS				AMB	AMB	22 22 35.8	
	comp=Z,40nm,0.4s						
YSS				*e*S	**Sn**	**22 23 23.5**	**-3.5**
JKB	**Kayabe**	**5.80**	**247**	P	**Pn**	**22 22 52.0**	**+0.8**
JKB				*e*S	**Sn**	**22 23 55.3**	**-1.1**
TYV	**Tymovskoe**	**7.50**	**332**	*e*PN	**Pn**	**22 23 10.6**	**-3.8**
TYV				pmax	pmax		
	comp=Z,19nm,2.1s						
TYV	**Tymovskoe**	**7.50**	**332**	*e*P	**Pn**	**22 23 15.1**	**+0.7**
TYV				AMB	AMB	22 23 16.1	
	comp=Z,40nm,0.9s						
PETK	**Petropavlovsk-**	**10.75**	**32**	P	**Pn**	**22 24 01.4**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=208,slow=15,SNR=2.3						
PETK				LR	LR	22 28 37.8	
	comp=Z,13nm,19.2s,baz=244,slow=40						
MAJO	**Matsushiro**	**10.90**	**228**	*i* PN	**Pn**	**22 24 05.2**	**+4.0**
MJAR	**Matsushiro Arr**	**10.90**	**228**	LR	LR	22 28 26.7	
	comp=Z,34nm,18.1s,baz=85,slow=38						
USA0B	**Ussuriysk Arra**	**11.62**	**275**	*i* PN	**Pn**	**22 24 13.5**	**+2.6**
USRK	**Ussuriysk Ar.**	**11.62**	**275**	P	**Pn**	**22 24 11.9**	**+1.0**
	baz=90,slow=10,SNR=15						
USRK				LR	LR	22 28 22.1	
	comp=Z,56nm,19.7s,baz=19,slow=36						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KLR	**Kul'dur**	**12.27**	**299**	*i* PN	**Pn**	**22 24 21.4**	**+1.7**
KLR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KLR	**Kul'dur**	**12.27**	**299**	LR	LR	22 28 55.4	
	comp=Z,50nm,19.3s,baz=118,slow=37						
KLR	**Kul'dur**	**12.27**	**299**	*i* P	**Pn**	**22 24 21.4**	**+1.7**
EKMR	**Ekimchan**	**13.28**	**316**	*e*P	**Pn**	**22 24 31.5**	**-2.0**
BMKR	**Bomnak**	**16.22**	**316**	*e*P	**Pn**	**22 25 08.0**	**-3.9**
KSRS	**Korea Array**	**16.79**	**253**	LR	LR	22 30 54.9	
	comp=Z,38nm,18.7s,baz=134,slow=34						
KROS	**Kirovskiy**	**17.03**	**314**	*e*P	**Pn**	**22 25 17.5**	**-4.6**
JNU	**Nakatsue**	**17.53**	**236**	P	**P**	**22 25 30.7**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=9.6,slow=5.2,SNR=3.8						
YAK	**Yakutsk**	**20.74**	**335**	P	**P**	**22 26 04.3**	**+0.6**
YAK	**Yakutsk**	**20.74**	**335**	*e*P	**P**	**22 26 04.3**	**+0.6**
TIXI	**Tiksi**	**28.91**	**347**	*i* P	**P**	**22 27 22.2**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TIXI	**Tiksi**	**28.91**	**347**	*i* P	**P**	**22 27 22.2**	**+0.9**
SONM	**Songino Array**	**28.93**	**292**	*e*P	**P**	**22 27 22.8**	**+0.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	**Songino Array**	**28.93**	**292**	P	**P**	**22 27 21.5**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=62,slow=5.6,SNR=4.0						
SONM				LR	LR	22 40 40.9	
	comp=Z,58nm,19.4s,baz=20,slow=40						
H11N2	**WAKE ISLAND Hy**	**29.10**	**142**	T	T	22 58 44.3	
	baz=330,slow=75,SNR=92						
H11N1	**WAKE ISLAND Hy**	**29.11**	**142**	T	T	22 58 19.6	
	baz=330,slow=75,SNR=69						
H11N3	**WAKE ISLAND Hy**	**29.11**	**142**	T	T	22 58 20.9	
	baz=330,slow=75,SNR=73						
H11S1	**WAKE ISLAND Hy**	**30.09**	**143**	T	T	22 59 30.1	
	baz=332,slow=76,SNR=124						
H11S3	**WAKE ISLAND Hy**	**30.09**	**143**	T	T	22 59 36.9	
	baz=332,slow=76,SNR=122						
H11S2	**WAKE ISLAND Hy**	**30.11**	**143**	T	T	22 59 32.6	
	baz=332,slow=76,SNR=80						
ILAR	**Eielson Array**	**40.54**	**37**	P	**P**	**22 29 01.6**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=264,slow=8.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**41.23**	**307**	PcP	**PcP**	**22 31 04.8**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=100,slow=3.6,SNR=7.2						
MKAR	**Makanchi Array**	**44.97**	**297**	P	**P**	**22 29 36.9**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=82,slow=6.6,SNR=11						
MKAR				PcP	**PcP**	**22 31 17.5**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=77,slow=4.1,SNR=4.3						
INK	**Inuvik**	**45.48**	**31**	P	**P**	**22 29 42.4**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=286,slow=5.1,SNR=4.6						
KURK	**Kurchatov**	**45.81**	**304**	P	**P**	**22 29 44.3**	**+0.2**
KURK						22 31 20.5	
KURK	**Kurchatov**	**45.81**	**304**	*e*P	**P**	**22 29 44.3**	**+0.2**
KURBB	**Kurchatov Arra**	**45.90**	**304**	P	**P**	**22 29 44.3**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=72,slow=8.7,SNR=4.9						
KURBB				PcP	**PcP**	**22 31 20.4**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=78,slow=3.3,SNR=5.6						
CMAR	**Chiang Mai Arr**	**48.42**	**254**	P	**P**	**22 30 05.7**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=46,slow=7.8,SNR=3.8						
JIRN	**Jiri**	**51.66**	**273**	*e*P	**P**	**22 30 29.6**	**-0.1**
GUN	**Gumba**	**51.73**	**273**	*e*P	**P**	**22 30 30.1**	**-0.1**
	comp=Z,12nm,0.7s						
AAK	**Ala-Archa**	**51.77**	**296**	*i* P	**P**	**22 30 29.6**	**-0.5**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	**Ala-Archa**	**51.77**	**296**	*e*P	**P**	**22 30 29.6**	**-0.5**
RAMN	**Ramite**	**51.78**	**272**	*e*P	**P**	**22 30 30.2**	**-0.3**
	comp=Z,24nm,0.5s						
KKN	**Kakani**	**52.23**	**274**	*e*P	**P**	**22 30 33.9**	**+0.1**
	comp=Z,6.2nm,0.5s						
PKI	**Pulchoki**	**52.27**	**273**	*e*P	**P**	**22 30 33.5**	**-0.7**
	comp=Z,5.2nm,0.7s						
PKIN	**Phulchoki**	**52.27**	**273**	*e*P	**P**	**22 30 33.7**	**-0.5**
	comp=Z,3.1nm,0.4s						
DMN	**Daman**	**52.46**	**274**	*e*P	**P**	**22 30 35.4**	**-0.2**
	comp=Z,8.7nm,0.6s						
GKN	**Gorkha**	**52.56**	**274**	*e*P	**P**	**22 30 35.9**	**-0.3**
	comp=Z,7.6nm,0.4s						
DANN	**Dangsing**	**52.99**	**275**	*e*P	**P**	**22 30 40.0**	**+0.5**
KOLN	**Koldanda**	**53.44**	**275**	*e*P	**P**	**22 30 42.1**	**-0.6**
	comp=Z,2.2nm,0.2s						
YKA	**Yellowknife Ar**	**54.87**	**34**	P	**P**	**22 30 52.6**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=303,slow=7.7,SNR=4.1						
ARCES	**ARCESS Array B**	**58.93**	**340**	P	**P**	**22 31 19.8**	**-1.2**
	comp=Z,2.2nm,1.0s,baz=46,slow=7.7,SNR=4.2						
FINES	**FINESS Array B**	**64.66**	**333**	*e*P	**P**	**22 31 57.1**	**-2.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**64.66**	**333**	P	**P**	**22 31 56.8**	**-2.8**
	comp=Z,2.1nm,0.9s,baz=38,slow=9.6,SNR=6.0						
GEYT	**Alibeck**	**64.80**	**299**	P	**P**	**22 32 00.5**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=49,slow=4.4,SNR=3.4						
WRA	**Warramunga Arr**	**65.24**	**194**	P	**P**	**22 32 04.4**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=24,slow=6.5,SNR=3.8						
NVAR	**Mina Array Bea**	**66.61**	**59**	P	**P**	**22 32 12.7**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=299,slow=6.0,SNR=2.7						
PDAR	**Pinedale Array**	**68.93**	**50**	P	**P**	**22 32 27.1**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=325,slow=1.4,SNR=2.3						
ASAR	**Alice Springs**	**68.96**	**194**	P	**P**	**22 32 27.8**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=27,slow=6.3,SNR=3.8						
NOA	**NORSAR Array B**	**69.29**	**339**	P	**P**	**22 32 27.7**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=41,slow=5.4,SNR=4.9						
BRTR	**Keskin Array B**	**77.66**	**314**	*e*P	**P**	**22 33 20.1**	**+1.4**
BRTR	**Keskin Array B**	**77.66**	**314**	P	**P**	**22 33 18.1**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=106,slow=2.5,SNR=4.2						
TXAR	**Lajitas Array**	**81.68**	**57**	P	**P**	**22 33 40.7**	**0.0**
	comp=Z,0.2nm,0.5s,baz=270,slow=3.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**115.16**	**324**	PKP	**PKiKP**	**22 40 01.9**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=14,slow=2.3,SNR=4.1						

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*ISCJB **06** 22:28:10.7±0.3, 49.°86N±0.°02×18.°46E±0.°02, h0km, Error ellipse: s-maj=3.4km s-min=2.0km az=17.6*
*VIE **06** 22:28:11.3±0.9, 49.°71N×18.°60E, h0km, mb2.2/3, ml2.7/5, Error ellipse: s-maj=6.9km s-min=4.5km az=87.0 29 km ESE of Ostrava Suspected Mining induced.*
*IPEC **06** 22:28:12.1±0.2, 49.°83N×18.°58E, h2km±4km, ML2.2/3, Error ellipse: s-maj=2.1km s-min=1.1km az=160.0*
*PRU **06** 22:28:13.0±0.0, 49.°83N×18.°48E, h0km, Mining Induced Event Csm, E=6.1e+05*
ISC 06 22:28:11.9±0.7**, 49.°80N**±0.°02×**18.°55E**±0.°02**, h0km, n38, σ1§31**/81**, 5C-3D, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.26**	**279**	*e*PG	**Pg**	**22 28 18.0**	**+1.0**
OKC				*e*SG	**Sg**	**22 28 21.6**	**+1.2**
	comp=Z,276nm,0.6s						
RAC	**Raciborz**	**0.37**	**321**	*e*Pg	**Pb**	**22 28 21.3**	**-0.1**
RAC				*e*Pg	**Pb**	**22 28 21.3**	**-0.1**
RAC				*e*Sg	**Sb**	**22 28 27.9**	**+0.3**
RAC				*e*Sg	**Sb**	**22 28 27.9**	**+0.3**
RAC				*e*Sg	**Sb**	**22 28 27.9**	**+0.3**
RAC				*e*Sg	**Sb**	**22 28 27.9**	**+0.3**
MORC	**Moravsky Berou**	**0.65**	**268**	⇑P	**Pg**	**22 28 24.8**	**+0.4**
MORC				⇑S	**Sg**	**22 28 34.2**	**+1.3**
MORC				AML	AML	22 28 41.5	
MORC	**Moravsky Berou**	**0.65**	**268**	*e*PG	**Pg**	**22 28 25.3**	**+0.8**
MORC				*e*SG	**Sg**	**22 28 33.4**	**+0.5**
MORC	**Moravsky Berou**	**0.65**	**268**	*e*Pg	**Pg**	**22 28 25.2**	**+0.8**
	baz=86						
MORC				*e*Sg	**Sg**	**22 28 33.4**	**+0.5**
	57nm,0.3s,baz=86						
LANS	**Liptovska Anna**	**0.88**	**137**	*e*PG	**Pb**	**22 28 29.8**	**-0.4**
LANS				*e*SG	**Sb**	**22 28 43.2**	**+0.7**
LANS				*e*LG	Lg	22 28 47.7	
OJC	**Ojcow**	**0.91**	**62**	*e*Pg	**Pb**	**22 28 29.2**	**-1.4**
OJC				*e*Pg	**Pb**	**22 28 29.2**	**-1.4**
OJC				*e*Sg	**Sb**	**22 28 41.3**	**-1.9**
OJC				*e*Sg	**Sb**	**22 28 41.3**	**-1.9**
JAVC	**Velka Javorina**	**1.10**	**212**	*e*PG	**Pb**	**22 28 34.4**	**+0.5**
NIE	**Niedzica**	**1.20**	**108**	*e*Pg	**Pn**	**22 28 35.6**	**-0.4**
NIE				*e*Pg	**Pn**	**22 28 35.6**	**-0.4**
NIE				*e*Sg	**Sn**	**22 28 54.0**	**+0.9**
NIE				*e*Sg	**Sn**	**22 28 54.0**	**+0.9**
VYHS	**Vyhne**	**1.32**	**172**	*e*PG	**Pg**	**22 28 37.2**	**0.0**
VYHS				*e*SG	**Sn**	**22 28 56.1**	**+0.2**
VRAC	**Vranov**	**1.36**	**250**	⇑P	**Pn**	**22 28 37.8**	**-0.5**
VRAC				⇓S	**Sg**	**22 28 55.7**	**0.0**
VRAC				AML	AML	22 29 00.6	
VRAC	**Vranov**	**1.36**	**250**	*e*PG	**Pn**	**22 28 38.0**	**-0.3**
VRAC				*e*SG	**Sg**	**22 28 55.9**	**+0.1**
VRAC	**Vranov**	**1.36**	**250**	*e*Pg	**Pn**	**22 28 37.9**	**-0.3**
	baz=68						
VRAC				*e*Sg	**Sg**	**22 28 55.8**	**0.0**
	31nm,0.3s,baz=68						
SMOL	**Smolenice**	**1.48**	**210**	*e*PG	**Pg**	**22 28 40.7**	**+0.4**
SMOL				*e*SG	**Sb**	**22 29 00.4**	**+0.7**
SMOL				*e*LG	Lg	22 29 02.5	
DPC	**Dobruska-Polom**	**1.54**	**292**	*e*PG	**Pn**	**22 28 40.1**	**-0.6**
DPC				*e*SG	**Sn**	**22 29 00.9**	**-0.5**
	comp=Z,28nm,0.5s						
KRUC	**Moravsky**	**1.59**	**243**	*e*PG	**Pn**	**22 28 41.3**	**0.0**
KRUC				*e*SG	**Sn**	**22 29 02.8**	**+0.2**
KRUC	**Moravsky**	**1.59**	**243**	*e*Pg	**Pn**	**22 28 41.3**	**0.0**
	baz=61						
KRUC				*e*Sg	**Sn**	**22 29 02.7**	**+0.2**
	25nm,0.2s,baz=61						
MODS	**Modra-Piesok**	**1.65**	**211**	*e*PN	**Pn**	**22 28 41.9**	**-0.3**
MODS				*e*SN	**Sn**	**22 29 03.9**	**-0.3**
MODS				*e*LG	Lg	22 29 07.9	
UPC	**Upice**	**1.78**	**294**	*e*PG	**Pb**	**22 28 44.6**	**-0.8**
UPC				*e*SG	**Sb**	**22 29 08.1**	**-0.2**
	comp=Z,26nm,0.5s						
KSP	**Ksiaz**	**1.78**	**307**	*e*Pg	**Pn**	**22 28 43.7**	**-0.3**
KSP				*e*Pg	**Pn**	**22 28 43.7**	**-0.3**
KSP				*e*Sg	**Sb**	**22 29 08.0**	**-0.4**
KSP				*e*Sg	**Sb**	**22 29 08.0**	**-0.4**
CHVC	**Chvalec**	**1.79**	**297**	*e*PG	**Pn**	**22 28 44.3**	**+0.2**
CHVC				*e*SG	**Sn**	**22 29 07.6**	**+0.1**
STHS	**Stebnicka Huta**	**1.79**	**101**	*e*PN	**Pg**	**22 28 45.8**	**-0.5**
STHS				*e*SN	**Sg**	**22 29 12.4**	**+2.9**
STHS				*e*LG	Lg	22 29 22.0	
KECS	**Kecovo**	**1.83**	**135**	*e*PN	**Pn**	**22 28 44.5**	**-0.1**
KECS				*e*SN	**Sb**	**22 29 09.2**	**-0.5**
KECS				*e*LG	Lg	22 29 15.8	
PSZ	**Piszkesteto**	**2.08**	**154**	⇑P	**Pb**	**22 28 49.8**	**-0.8**
PSZ				⇓S	**Sb**	**22 29 17.3**	**+0.2**
PSZ	**Piszkesteto**	**2.08**	**154**	*e*Pn	**Pn**	**22 28 48.1**	**-0.1**
PSZ				Sn	**Sb**	**22 29 17.1**	**0.0**
GOPC	**GO Pecny, Ondr**	**2.44**	**274**	*e*SG	**Sb**	**22 29 28.6**	**+1.4**
	comp=Z,13nm,0.6s						
CONA	**Conrad Observa**	**2.58**	**224**	Pn	**Pn**	**22 28 54.8**	**-0.3**
	2.1nm,0.3s						
CONA				Sn	**Sn**	**22 29 26.1**	**-1.0**
	4.8nm,0.3s						
KOLS	**Kolonicke sedl**	**2.58**	**108**	*e*PG	**Pg**	**22 29 02.7**	**+1.3**
KOLS				*e*SG	**Sg**	**22 29 40.1**	**+5.2**
PRU	**Pruhonice**	**2.60**	**276**	*e*SG	**Sb**	**22 29 33.1**	**+1.3**
	comp=Z,13nm,0.4s						
MPLH	**Magyarpolny**	**2.71**	**195**	*e*Pn	**Pb**	**22 29 00.0**	**-1.4**
MPLH				Sn	**Sn**	**22 29 27.1**	**-3.3**
TRPA	**Tarpa**	**3.11**	**121**	⇑P	**Pn**	**22 29 03.7**	**+1.4**
BRG	**Berggiesshubel**	**3.14**	**292**	PG	**Pb**	**22 29 09.7**	**+1.1**
BRG				SG	**Sg**	**22 29 50.9**	**-1.9**
	11nm,0.5s						
ARSA	**Arzberg**	**3.25**	**219**	*e*Pn	**Pn**	**22 29 04.0**	**-0.2**
	0.5nm,0.2s						
ARSA				Sn	**Sn**	**22 29 42.6**	**-0.9**
	2.2nm,0.5s						
KHC	**Kasperske Hory**	**3.31**	**260**	*e*PN	**Pn**	**22 29 04.5**	**-0.5**
KHC				*e*PG	**Pb**	**22 29 12.1**	**+0.6**
KHC				*e*SG	**Sb**	**22 29 55.4**	**+3.0**
	comp=Z,11nm,0.5s						
MOA	**Molln**	**3.44**	**237**	*e*Pn	**Pn**	**22 29 06.2**	**-0.6**
	0.6nm,0.1s						
MOA				*i* Sn	**Sn**	**22 29 47.9**	**-0.3**
	0.9nm,0.1s						
MORH	**Mrgy, Hungar**	**3.59**	**179**	*e*Pn	**Pn**	**22 29 06.1**	**-2.7**
MORH				Sn	**Sn**	**22 29 47.1**	**-4.7**
CLL	**Collm**	**3.85**	**295**	*e*Sg	**Sg**	**22 30 13.0**	**-2.4**
	comp=Z,15nm,0.9s						
DRGR		**4.09**	**136**	⇓P	**Pn**	**22 29 16.1**	**+0.3**

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*ISCJB **06** 22:30:49.1±0.3, 16.°45S±0.°03×69.°75W±0.°04, h189km, mb4.3/13, Error ellipse: s-maj=5.6km s-min=4.4km az=161.1*
*NEIC **06** 22:30:50.4±2.7, 16.°53S±0.°06×69.°75W±0.°08, h190km±5km, mb4.6/23*
*IDC **06** 22:30:52.1±0.9, 16.°45S×69.°58W, h195km±6km, mb3.9/12, mb1 4.0/15, mb1mx3.9/32, mbtmp4.4/15, Error ellipse: s-maj=15.0km s-min=13.5km az=83.0*
*VAO **06** 22:30:52.7±0.5, 16.°47S×69.°57W, h195km±4km, mb4.5*
ISC 06 22:30:50.4±0.4**, 16.°57S**±0.°04×**69.°80W**±0.°05**, h189km, n122, σ1§54**/131**, mb4.6**/22**, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
I08BO	**LAS PENAS INFR**	**1.34**	**75**	P	**Pn**	**22 31 23.2**	**+0.9**
	baz=267,slow=14,SNR=4.3						
LPAZ	**La Paz**	**1.63**	**80**	P	**Pn**	**22 31 26.2**	**+1.2**
	658nm,0.3s,baz=321,slow=6.5						
LPAZ				S	**Sn**	**22 31 50.8**	**-1.0**
	18nm,0.3s,baz=323,slow=20,SNR=2.6						
LPAZ	**La Paz**	**1.63**	**80**	*e*P	**Pn**	**22 31 26.2**	**+1.2**
LPAZ	**La Paz**	**1.63**	**80**	*e*P	**Pn**	**22 31 26.2**	**+1.2**
MNMC	**Minye Minye**	**2.56**	**176**		**Pn**	**22 31 35.1**	**+0.5**
GO01	**Chusmiza**	**3.14**	**169**		**Pn**	**22 31 42.9**	**+1.3**
PB11	**IPOC Station P**	**3.18**	**177**		**Pn**	**22 31 42.3**	**+0.6**
PB04	**IPOC Station P**	**5.75**	**183**		**Pn**	**22 32 14.2**	**-0.1**
PB04				Sn	**Sn**	**22 33 18.0**	**-2.6**
LVC	**Limon Verde**	**6.07**	**172**	P	**Pn**	**22 32 20.4**	**+1.6**
	3.6nm,0.3s,baz=20,slow=8.6,SNR=34						
LVC				S	**Sn**	**22 33 25.2**	**-3.3**
	24nm,0.3s,baz=139,slow=20,SNR=14						
LVC	**Limon Verde**	**6.07**	**172**	*e*P	**Pn**	**22 32 20.9**	**+2.2**
LVC	**Limon Verde**	**6.07**	**172**	*e*P	**Pn**	**22 32 20.9**	**+2.2**
LVC	**Limon Verde**	**6.07**	**172**		**Pn**	**22 32 19.4**	**+0.7**
PB10	**IPOC Station P**	**6.95**	**186**		**Pn**	**22 32 29.4**	**-0.4**
PB10				Sn	**Sn**	**22 33 44.4**	**-4.2**
NNA	**Nana**	**8.20**	**303**	P	**Pn**	**22 32 46.7**	**+0.3**
	12nm,0.3s,baz=135,slow=12,SNR=20						
NNA				S	**Sn**	**22 34 13.5**	**-5.0**
	12nm,0.3s,baz=214,slow=20,SNR=7.7						
NNA	**Nana**	**8.20**	**303**		**Pn**	**22 32 46.5**	**+0.1**
NNA					**Sn**	**22 34 17.3**	**-1.3**
SIV	**San Ignacio**	**8.40**	**87**	P	**Pn**	**22 32 46.6**	**-2.4**
	1.9nm,0.3s,baz=289,slow=9.6,SNR=23						
SIV				S	Sn	22 34 03.2	-20
	2.4nm,0.3s,baz=332,slow=18,SNR=3.7						
GO02	**Mina Guanaco**	**8.55**	**179**		**Pn**	**22 32 51.3**	**+0.1**
SAML	**Samuel**	**9.95**	**41**	*e*P	**Pn**	**22 33 07.2**	**-2.0**
SAML	**Samuel**	**9.95**	**41**	*e*P	**Pn**	**22 33 07.2**	**-2.0**
SAML	**Samuel**	**9.95**	**41**		**Pn**	**22 33 07.4**	**-1.8**
GO04	**Tololo Observa**	**13.57**	**184**	Pn	**Pn**	**22 33 56.1**	**+0.5**
AQDB	**Aquidauana**	**13.93**	**108**	*e*P	**P**	**22 34 00.1**	**-2.0**
AQDB	**Aquidauana**	**13.93**	**108**	*e*P	**P**	**22 34 00.1**	**-2.0**
PP1B	**Ponte de Pedra**	**14.31**	**96**	*e*P	**P**	**22 34 04.8**	**-1.6**
PP1B	**Ponte de Pedra**	**14.31**	**96**	*e*P	**P**	**22 34 04.8**	**-1.6**
CLDB	**Colider**	**14.73**	**69**	*e*P	**Pn**	**22 34 08.6**	**-1.3**
CLDB	**Colider**	**14.73**	**69**	*e*P	**Pn**	**22 34 08.6**	**-1.3**
CFA	**Coronel Fontan**	**15.04**	**175**	P	**P**	**22 34 16.1**	**+1.7**
	0.9nm,0.3s,baz=353,slow=9.8,SNR=4.8						
CPUP	**Villa Florida**	**15.13**	**132**	P	**Pn**	**22 34 12.7**	**-2.0**
	0.5nm,0.3s,baz=312,slow=8.3,SNR=7.6						
CPUP	**Villa Florida**	**15.13**	**132**	*e*P	**P**	**22 34 16.0**	**+0.6**
CPUP	**Villa Florida**	**15.13**	**132**	*e*P	**P**	**22 34 16.0**	**+0.6**
CPUP	**Villa Florida**	**15.13**	**132**		**Pn**	**22 34 14.7**	**0.0**
ROC1	**El Roble**	**16.38**	**184**	P	**P**	**22 34 28.3**	**-1.1**
ARAG	**Araguaiana, MT**	**17.31**	**90**	*e*P	**Pn**	**22 34 39.5**	**-1.5**
ARAG	**Araguaiana, MT**	**17.31**	**90**	*e*P	**Pn**	**22 34 39.5**	**-1.5**
TRCB	**Terra Rica**	**17.31**	**114**	*e*P	**Pn**	**22 34 40.1**	**-0.8**
TRCB	**Terra Rica**	**17.31**	**114**	*e*P	**Pn**	**22 34 40.1**	**-0.8**
PCMB	**Pacaembu**	**18.22**	**109**	*e*P	**P**	**22 34 49.6**	**+0.2**
PCMB	**Pacaembu**	**18.22**	**109**	*e*P	**P**	**22 34 49.6**	**+0.2**
PTGB	**Pitanga**	**18.46**	**119**	*e*P	**Pn**	**22 34 53.0**	**-1.5**
PTGB	**Pitanga**	**18.46**	**119**	*e*P	**Pn**	**22 34 53.0**	**-1.5**
ITRB	**Iturama**	**18.74**	**103**	*e*P	**Pn**	**22 34 55.5**	**-2.3**
ITRB	**Iturama**	**18.74**	**103**	*e*P	**Pn**	**22 34 55.5**	**-2.3**
OTAV	**Otavalo**	**18.75**	**332**	*e*P	**Pn**	**22 34 58.0**	**-0.3**
OTAV	**Otavalo**	**18.75**	**332**	*e*P	**Pn**	**22 34 58.0**	**-0.3**
OTAV	**Otavalo**	**18.75**	**332**		**P**	**22 34 55.3**	**-0.4**
ITAB	**Concordia**	**19.51**	**126**	*e*P	**P**	**22 35 03.4**	**+0.1**
ITAB	**Concordia**	**19.51**	**126**	*e*P	**P**	**22 35 03.4**	**+0.1**
FRTB	**Fartura**	**20.17**	**113**	*e*P	**P**	**22 35 11.4**	**+0.9**
FRTB	**Fartura**	**20.17**	**113**	*e*P	**P**	**22 35 11.4**	**+0.9**
BB19B	**Bebedouro**	**20.62**	**106**	*e*P	**P**	**22 35 14.5**	**-0.9**
BB19B	**Bebedouro**	**20.62**	**106**	*e*P	**P**	**22 35 14.5**	**-0.9**
IPMB	**Ipameri, GO**	**20.67**	**97**	*e*P	**P**	**22 35 14.2**	**-1.6**
IPMB	**Ipameri, GO**	**20.67**	**97**	*e*P	**P**	**22 35 14.2**	**-1.6**
BDFB	**Brasilia**	**20.95**	**91**	P	**P**	**22 35 17.7**	**-1.2**
	15nm,0.5s,baz=257,slow=10,SNR=21						
BDFB	**Brasilia**	**20.95**	**91**	P	**P**	**22 35 17.8**	**-1.2**
PLTB	**Pedras Altas**	**21.11**	**139**	*e*P	**P**	**22 35 19.8**	**-0.5**
PLTB	**Pedras Altas**	**21.11**	**139**	*e*P	**P**	**22 35 19.8**	**-0.5**
PEXB	**Peixe**	**21.30**	**81**	*e*P	**P**	**22 35 21.3**	**-1.2**
PEXB	**Peixe**	**21.30**	**81**	*e*P	**P**	**22 35 21.3**	**-1.2**
CNLB	**Canela**	**21.54**	**129**	*e*P	**P**	**22 35 25.4**	**+0.5**
CNLB	**Canela**	**21.54**	**129**	*e*P	**P**	**22 35 25.4**	**+0.5**
RCLB	**Rio Claro- Sao**	**21.78**	**109**	*e*P	**P**	**22 35 26.9**	**-0.5**
RCLB	**Rio Claro- Sao**	**21.78**	**109**	*e*P	**P**	**22 35 26.9**	**-0.5**
SPB	**Sao Paulo**	**22.13**	**112**	*e*P	**P**	**22 35 30.1**	**-0.6**
SPB	**Sao Paulo**	**22.13**	**112**	*e*P	**P**	**22 35 30.1**	**-0.6**
PMNB	**Patos De Minas**	**22.36**	**99**	*e*P	**P**	**22 35 32.9**	**-0.3**
PMNB	**Patos De Minas**	**22.36**	**99**	*e*P	**P**	**22 35 32.9**	**-0.3**
VAO	**Valinhos**	**22.41**	**110**	*e*P	**P**	**22 35 34.2**	**+0.7**
VAO	**Valinhos**	**22.41**	**110**	*e*P	**P**	**22 35 34.2**	**+0.7**
GO06	**Curarrehue**	**22.98**	**183**	P	**P**	**22 35 39.2**	**+0.6**
GO06				IAmb	IAmb	22 35 42.2	
	comp=Z,20nm,0.8s						
PLCA	**Paso Flores**	**24.09**	**181**	P	**P**	**22 35 50.8**	**+2.2**
	comp=Z,13nm,0.7s,baz=23,slow=11,SNR=28						
PLCA	**Paso Flores**	**24.09**	**181**	*e*P	**P**	**22 35 50.8**	**+2.2**
PLCA	**Paso Flores**	**24.09**	**181**	*e*P	**P**	**22 35 50.8**	**+2.2**
PLCA	**Paso Flores**	**24.09**	**181**	P	**P**	**22 35 49.3**	**+0.7**
PLCA				IAmb	IAmb	22 35 53.3	
	comp=Z,16nm,0.8s						
PLCA	**Paso Flores**	**24.09**	**181**		**P**	**22 35 49.9**	**+1.3**
BSCB	**Bom Sucesso**	**24.09**	**104**	*e*P	**P**	**22 35 49.9**	**+1.1**
BSCB	**Bom Sucesso**	**24.09**	**104**	*e*P	**P**	**22 35 49.9**	**+1.1**
MDP	**Montagnes des**	**27.41**	**40**	P	**P**	**22 36 18.4**	**-0.3**
	comp=Z,8.4nm,0.8s,baz=210,slow=7.5,SNR=5.6						
MLPR	**Magueyes Islan**	**34.43**	**5**	P	**P**	**22 37 19.5**	**-0.4**
MLPR				IAmb	IAmb	22 37 20.0	
	comp=Z,20nm,0.9s						
CRPR	**Cabo Rojo, PR**	**34.46**	**5**	P	**P**	**22 37 18.9**	**-1.3**
PDPR	**Patillas Dam,**	**34.57**	**6**	P	**P**	**22 37 19.9**	**-1.3**
PDPR				IAmb	IAmb	22 37 26.4	
	comp=Z,12nm,0.8s						
MTP	**Monte Pirata**	**34.70**	**7**	P	**P**	**22 37 19.8**	**-2.5**
MTP				IAmb	IAmb	22 37 34.8	
	comp=Z,12nm,0.9s						
HUMP	**Col San Antoni**	**34.71**	**7**	P	**P**	**22 37 21.5**	**-0.9**
HUMP				IAmb	IAmb	22 37 22.4	
	comp=Z,16nm,0.9s						
AOPR	**Arecibo Observ**	**34.82**	**5**	P	**P**	**22 37 21.9**	**-1.5**
CBYP	**Canovanas**	**34.84**	**7**	P	**P**	**22 37 21.6**	**-2.0**
GCPR	**Guaynabo City**	**34.85**	**6**	P	**P**	**22 37 21.7**	**-1.9**
RCBR	**Riachuelo**	**34.87**	**76**	*e*P	**P**	**22 37 23.5**	**-0.5**
RCBR	**Riachuelo**	**34.87**	**76**	*e*P	**P**	**22 37 23.5**	**-0.5**
RCBR	**Riachuelo**	**34.87**	**76**	P	**P**	**22 37 22.7**	**-1.2**
RCBR				IAmb	IAmb	22 37 24.0	
	comp=Z,12nm,0.8s						
TXAR	**Lajitas Array**	**56.14**	**324**	P	**P**	**22 40 11.2**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=146,slow=9.1,SNR=7.0						
VNA3	**Neumayer Olymp**	**65.00**	**162**	P	**P**	**22 41 11.9**	**+2.2**
VNA1	**Neumayer--Stat**	**65.20**	**161**	P	**P**	**22 41 10.5**	**-0.5**
VNA2	**Neumayer--Watz**	**65.57**	**161**	P	**P**	**22 41 13.4**	**0.0**
	baz=309,slow=3.3						
SNAA	**Sanae**	**67.20**	**162**	P	**P**	**22 41 25.7**	**+1.9**
SNAA	**Sanae**	**67.20**	**162**	P	**P**	**22 41 25.7**	**+1.9**
SNAA				IAmb	IAmb	22 41 26.6	
	comp=Z,4.2nm,0.8s						
LIC	**Lamto**	**67.93**	**76**	*e*P	**P**	**22 41 27.9**	**-1.4**
	comp=Z,46nm,0.8s						
TIC	**Toumodi**	**68.08**	**76**	*e*P	**P**	**22 41 28.6**	**-1.6**
KIC	**Kosan Boka**	**68.24**	**76**	*e*P	**P**	**22 41 30.2**	**-1.0**
	comp=Z,74nm,0.8s						
DBIC	**Dimbokro**	**68.24**	**76**	P	**P**	**22 41 30.3**	**-0.9**
	comp=Z,15nm,0.5s,baz=236,slow=7.9,SNR=34						
PSUT	**Pine Spring**	**68.61**	**324**	P	**P**	**22 41 33.9**	**+0.7**
PDAR	**Pinedale Array**	**69.44**	**330**	P	**P**	**22 41 39.0**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=128,slow=8.5,SNR=3.3						
ULM	**Lac du Bonnet**	**70.38**	**343**	P	**P**	**22 41 43.0**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=153,slow=7.0,SNR=4.9						
NVAR	**Mina Array Bea**	**71.11**	**322**	P	**P**	**22 41 49.8**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=165,slow=8.6,SNR=5.2						
YNE	**Yellowstone No**	**71.35**	**331**	P	**P**	**22 41 50.9**	**+1.1**
QSPA	**South Pole Qui**	**73.60**	**180**	P	**P**	**22 42 04.2**	**+1.5**
QSPA				IAmb	IAmb	22 42 06.1	
	comp=Z,7.4nm,1.1s						
TOA0	**Torodi Ar. Sit**	**76.56**	**72**	P	**P**	**22 42 19.8**	**-0.6**
TOA0				IAmb	IAmb	22 42 20.3	
	comp=Z,14nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.56**	**72**	P	**P**	**22 42 19.4**	**-0.9**
	comp=Z,12nm,0.5s,baz=256,slow=5.4,SNR=91						
PAB	**San Pablo**	**82.63**	**45**	P	**P**	**22 42 52.9**	**+0.3**
ESDC	**Sonseca Array**	**82.95**	**45**	P	**P**	**22 42 54.6**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=253,slow=5.4,SNR=21						
ESBB	**Sonseca Array**	**82.95**	**45**	P	**P**	**22 42 55.1**	**+0.8**
TAM	**Tamanrasset**	**83.39**	**64**	P	**P**	**22 42 57.4**	**+0.4**
YKA	**Yellowknife Ar**	**86.28**	**341**	P	**P**	**22 43 11.0**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=134,slow=5.0,SNR=17						
MAW	**Mawson**	**89.28**	**164**	P	**P**	**22 43 26.8**	**+2.2**
	comp=Z,3.0nm,0.7s,baz=202,slow=5.4,SNR=5.2						
ASAR	**Alice Springs**	**133.79**	**211**	PKP	**PKiKP**	**22 49 46.5**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=157,slow=2.8,SNR=6.1						
WRA	**Warramunga Arr**	**136.65**	**214**	PKP	**PKiKP**	**22 49 52.3**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=147,slow=1.7,SNR=6.0						
WRA				SKP		22 53 07.4	
	comp=Z,1.4nm,0.9s,baz=146,slow=2.5,SNR=5.6						
ZALV	**Zalesovo Beam**	**137.79**	**22**	PKP	**PKPdf**	**22 49 50.2**	**-1.7**
	comp=Z,1.1nm,0.5s,baz=290,slow=4.4,SNR=5.8						
ZALV				SKP		22 53 09.8	
	comp=Z,2.0nm,0.7s,baz=328,slow=2.2,SNR=9.0						
MKAR	**Makanchi Array**	**142.02**	**32**	PKhKP	PKPpre	22 49 56.1	
	comp=Z,0.2nm,0.4s,baz=351,slow=2.7,SNR=5.1						
MKAR				SKPbc	**SKPbc**	**22 53 18.4**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=335,slow=2.3,SNR=8.3						
KSH	**Kashi**	**142.46**	**46**	PKP	**PKiKP**	**22 50 04.4**	**+0.2**
KSH				sPKP		22 51 03.5	
KSH				PP	**PP**	**22 53 16.6**	**+6.3**
KSH				PKS	**PKSdf**	**22 53 38.8**	**+1.9**
KSH				SKS	**SKSdf**	**22 56 55.5**	**+2.3**
MJAR	**Matsushiro Arr**	**148.19**	**314**	PKPbc	**PKiKP**	**22 50 16.3**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=87,slow=4.3,SNR=6.3						
SONM	**Songino Array**	**148.66**	**5**	PKPbc	**PKiKP**	**22 50 16.9**	**+0.2**
	comp=Z,2.8nm,0.4s,baz=319,slow=2.0,SNR=46						
LZH	**Lanzhou**	**159.75**	**15**	*e*PKP	**PKPdf**	**22 50 30.4**	**+3.2**
LZH				pPKP	PKPab	22 51 10.7	+3.9
LZH				sPKP		22 51 29.5	

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*NEIC **06** 23:19:19.8±1.5, 19.°06N±0.°03×66.°19W±0.°02, h26km±5km*
*IDC **06** 23:19:20.1±7.4, 19.°07N×66.°19W, h28km±54km, mb3.6/10, mb1 3.9/11, mb1mx3.6/40, mbtmp3.8/11, ML3.8/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/39, Error ellipse: s-maj=21.2km s-min=16.5km az=66.0*
*RSPR **06** 23:19:20.9, 19.°11N×66.°21W, h20km±4km, MD3.6/16*
ISC 06 23:19:17.2±1.3**, 19.°07N**±0.°04×**66.°21W**±0.°02**, h9km**±8km**, n95, σ1§24**/112**, mb3.7**/10**, 25C-2D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.67**	**207**	⇑*e*P	**Pn**	**23 19 33.0**	**+0.2**
EMPR	**Esperanza - Ma**	**0.67**	**207**	*e*S	**Sb**	**23 19 42.2**	**+1.8**
EMPR	**Esperanza - Ma**	**0.67**	**207**		**Pn**	**23 19 33.0**	**+0.2**
EMPR	**Esperanza - Ma**	**0.67**	**207**		**Sb**	**23 19 42.2**	**+1.8**
EMPR	**Esperanza - Ma**	**0.67**	**207**		**Pn**	**23 19 33.6**	**+0.8**
GCPR	**Guaynabo City**	**0.77**	**171**		**Pb**	**23 19 34.0**	**+1.2**
CBYP	**Canovanas**	**0.86**	**157**	⇑*e*P	**Pn**	**23 19 35.7**	**+0.1**
CBYP	**Canovanas**	**0.86**	**157**	⇑*e*P	**Pn**	**23 19 35.8**	**+0.2**
CBYP				*e*S	**Sb**	**23 19 47.3**	**+1.2**
CBYP	**Canovanas**	**0.86**	**157**	⇑*e*P	**Pn**	**23 19 35.7**	**+0.1**
CBYP				*e*S	**Sb**	**23 19 47.1**	**+1.0**
CBYP	**Canovanas**	**0.86**	**157**		**Pn**	**23 19 35.7**	**+0.1**
CBYP					**Pn**	**23 19 35.9**	**+0.2**
CBYP					**Sb**	**23 19 47.7**	**+1.6**
AOPR	**Arecibo Observ**	**0.89**	**216**	⇑*e*P	**Pn**	**23 19 35.9**	**0.0**
AOPR	**Arecibo Observ**	**0.89**	**216**	⇑*e*P	**Pn**	**23 19 35.9**	**0.0**
AOPR				*e*S	**Sb**	**23 19 47.9**	**+1.1**
AOPR	**Arecibo Observ**	**0.89**	**216**		**Pn**	**23 19 35.9**	**0.0**
AOPR	**Arecibo Observ**	**0.89**	**216**		**Sb**	**23 19 47.9**	**+1.1**
AOPR	**Arecibo Observ**	**0.89**	**216**		**Pn**	**23 19 36.6**	**+0.6**
SJG	**San Juan**	**0.96**	**177**	Pn	**Pn**	**23 19 37.1**	**+0.3**
	272nm,0.3s,baz=327,slow=23,SNR=332						
SJG				Sn	**Sb**	**23 19 50.2**	**+1.5**
	571nm,0.3s,baz=299,slow=19,SNR=35						
SJG	**San Juan**	**0.96**	**177**		**Pn**	**23 19 37.4**	**+0.5**
HUMP	**Col San Antoni**	**0.99**	**160**	⇑*e*P	**Pb**	**23 19 37.4**	**+0.9**
HUMP	**Col San Antoni**	**0.99**	**160**	⇑*e*P	**Pb**	**23 19 37.4**	**+0.9**
HUMP				*e*S	**Sb**	**23 19 51.2**	**+1.6**
HUMP	**Col San Antoni**	**0.99**	**160**		**Pb**	**23 19 37.3**	**+0.9**
HUMP	**Col San Antoni**	**0.99**	**160**		**Sb**	**23 19 51.2**	**+1.6**
AGPR	**Aguadilla, PR**	**1.05**	**235**	⇑*e*P	**Pg**	**23 19 37.2**	**-0.1**
AGPR	**Aguadilla, PR**	**1.05**	**235**	⇑*e*P	**Pg**	**23 19 37.2**	**-0.1**
AGPR	**Aguadilla, PR**	**1.05**	**235**		**Pg**	**23 19 37.2**	**-0.1**
PDPR	**Patillas Dam,**	**1.06**	**170**	⇑*e*P	**Pn**	**23 19 38.8**	**+0.5**
PDPR	**Patillas Dam,**	**1.06**	**170**	*e*S	**Sb**	**23 19 52.4**	**+0.5**
PDPR	**Patillas Dam,**	**1.06**	**170**		**Pn**	**23 19 38.8**	**+0.5**

PDPR					Sb	23 19 52.4	+0.5
OBIP	**Obispado Ponce**	**1.09**	**200**	⇑eP	**Pn**	**23 19 39.1**	**+0.4**
OBIP	**Obispado Ponce**	**1.09**	**200**	⇑eP	**Pn**	**23 19 39.1**	**+0.4**
OBIP				eS	**Sg**	**23 19 52.6**	**+0.2**
OBIP	**Obispado Ponce**	**1.09**	**200**		**Pn**	**23 19 39.1**	**+0.4**
OBIP	**Obispado Ponce**	**1.09**	**200**		**Sg**	**23 19 52.6**	**+0.2**
OBIP	**Obispado Ponce**	**1.09**	**200**		**Pn**	**23 19 40.0**	**+1.3**
MTP	**Monte Pirata**	**1.15**	**147**		**Pg**	**23 19 39.4**	**+0.1**
CUPR	**Culebra, Puert**	**1.16**	**131**	⇑eP	**Pg**	**23 19 39.1**	**-0.4**
CUPR	**Culebra, Puert**	**1.16**	**131**	eS	**Sg**	**23 19 53.6**	**-1.0**
CUPR	**Culebra, Puert**	**1.16**	**131**		**Pg**	**23 19 39.1**	**-0.4**
CUPR					**Sg**	**23 19 53.6**	**-1.0**
CUPR	**Culebra, Puert**	**1.16**	**131**		**Pg**	**23 19 38.9**	**-0.6**
ICMP	**Isla Caja de M**	**1.22**	**194**	⇑eP	**Pn**	**23 19 41.7**	**+1.2**
ICMP	**Isla Caja de M**	**1.22**	**194**	eS	**Sn**	**23 19 57.7**	**+0.6**
ICMP	**Isla Caja de M**	**1.22**	**194**		**Pn**	**23 19 41.7**	**+1.2**
ICMP	**Isla Caja de M**	**1.22**	**194**		**Sn**	**23 19 57.7**	**+0.6**
ICMP	**Isla Caja de M**	**1.22**	**194**		**Pn**	**23 19 42.0**	**+1.6**
LSP	**Las Mesas**	**1.22**	**223**	⇓eP	**Pb**	**23 19 40.7**	**+0.2**
LSP	**Las Mesas**	**1.22**	**223**	⇓eP	**Pb**	**23 19 40.7**	**+0.2**
LSP				eS	**Sg**	**23 19 56.2**	**-0.3**
LSP	**Las Mesas**	**1.22**	**223**		**Pb**	**23 19 40.7**	**+0.2**
LSP					**Sg**	**23 19 56.2**	**-0.3**
MPR	**Mayaguez**	**1.23**	**226**		**Pg**	**23 19 40.3**	**-0.5**
GBPR	**Guanica, Bosqu**	**1.27**	**210**	⇑eP	**Pn**	**23 19 41.9**	**+0.8**
GBPR	**Guanica, Bosqu**	**1.27**	**210**	⇑eP	**Pn**	**23 19 41.9**	**+0.8**
GBPR				eS	**Sg**	**23 19 56.7**	**-1.2**
GBPR	**Guanica, Bosqu**	**1.27**	**210**		**Pn**	**23 19 41.9**	**+0.8**
GBPR					**Sg**	**23 19 56.7**	**-1.2**
MLPR	**Magueyes Islan**	**1.36**	**216**	⇑eP	**Pn**	**23 19 42.8**	**+0.5**
MLPR	**Magueyes Islan**	**1.36**	**216**	eS	**Sg**	**23 19 59.4**	**-1.4**
MLPR	**Magueyes Islan**	**1.36**	**216**		**Pn**	**23 19 42.8**	**+0.5**
MLPR	**Magueyes Islan**	**1.36**	**216**		**Sg**	**23 19 59.4**	**-1.4**
MLPR	**Magueyes Islan**	**1.36**	**216**		**Pb**	**23 19 43.0**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.36**	**219**	⇑eP	**Pn**	**23 19 42.7**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.36**	**219**	⇑eP	**Pn**	**23 19 42.7**	**+0.3**
CRPR				eS	Sg	23 19 42.9	-18
CRPR				eS	**Sg**	**23 19 59.6**	**-1.5**
CRPR	**Cabo Rojo, PR**	**1.36**	**219**		**Pn**	**23 19 42.7**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.36**	**219**		**Sg**	**23 19 59.6**	**-1.5**
CRPR	**Cabo Rojo, PR**	**1.36**	**219**		**Pb**	**23 19 44.0**	**+1.2**
STVI	**Saint Thomas**	**1.39**	**121**	⇑eP	**Pn**	**23 19 42.7**	**0.0**
STVI	**Saint Thomas**	**1.39**	**121**	⇑eP	**Pn**	**23 19 42.7**	**0.0**
STVI	**Saint Thomas**	**1.39**	**121**		**Pn**	**23 19 42.7**	**0.0**
TBVI	**Tortola**	**1.64**	**113**	⇑eP	**Pn**	**23 19 46.2**	**-0.1**
TBVI	**Tortola**	**1.64**	**113**	⇑eP	**Pn**	**23 19 46.2**	**-0.1**
TBVI				eS	**Sn**	**23 20 06.8**	**-0.7**
TBVI	**Tortola**	**1.64**	**113**		**Pn**	**23 19 46.2**	**-0.1**
TBVI					**Sn**	**23 20 06.8**	**-0.7**
VGBI	**Virgin Gorda,**	**1.81**	**108**	⇑eP	**Pn**	**23 19 48.9**	**+0.4**
VGBI	**Virgin Gorda,**	**1.81**	**108**	eS	**Sn**	**23 20 10.3**	**-1.3**
VGBI	**Virgin Gorda,**	**1.81**	**108**		**Pn**	**23 19 48.9**	**+0.4**
VGBI					**Sn**	**23 20 10.3**	**-1.3**
CDVI	**St. Croix**	**1.90**	**134**		**Pb**	**23 19 51.6**	**-0.4**
PCDR	**Punta Cana, DR**	**2.13**	**255**		**Pb**	**23 19 55.1**	**-0.9**
DR12	**Loma Pena Alta**	**3.02**	**265**		**Pn**	**23 20 06.4**	**+1.2**
SABA	**Saba**	**3.17**	**117**		**Pn**	**23 20 09.8**	**+2.5**
SKI	**Saint Kitts**	**3.72**	**117**		**Pn**	**23 20 17.9**	**+2.9**
BANI	**BANI**	**3.99**	**261**	Pn	**Pn**	**23 20 21.3**	**+2.6**
SC01	**Santiago de lo**	**4.29**	**275**	Pn	**Pn**	**23 20 25.3**	**+2.7**
ANWB	**Willy Bob**	**4.43**	**108**	Pn	**Pn**	**23 20 26.7**	**+2.2**
SDDR	**Presa de Saban**	**4.81**	**270**		**Pn**	**23 20 31.9**	**+2.0**
GRTK	**Grand Turk**	**5.22**	**299**	Pn	**Pn**	**23 20 36.2**	**+0.7**
SVB	**Belmont**	**7.48**	**140**	Pn	**Pn**	**23 21 08.4**	**+1.8**
PCRV	**Puerto La Cruz**	**8.98**	**170**	Pn	**Pn**	**23 21 28.4**	**+1.3**
	0.9nm,0.3s,baz=354,slow=10,SNR=3.6						
PCRV				Sn	**Sn**	**23 23 03.5**	**-5.0**
	0.5nm,0.3s,baz=225,slow=19,SNR=3.0						
PLCV	**Puerto La Cruz**	**9.00**	**170**		**Pn**	**23 21 28.4**	**+1.0**
PLCV					**Sn**	**23 23 03.5**	**-5.4**
ROSC	**El Rosal**	**16.21**	**210**	LR	LR	23 30 33.4	
	comp=Z,40nm,18.6s,baz=16,slow=42						
TKL	**Tuckaleechee C**	**22.66**	**320**	LR	LR	23 32 48.1	
	comp=Z,45nm,20.3s,baz=93,slow=36						
LPAZ	**La Paz**	**35.19**	**183**	P	**P**	**23 26 13.2**	**+0.7**
	0.7nm,0.5s,baz=41,slow=5.4,SNR=2.4						
TXAR	**Lajitas Array**	**35.53**	**294**	P	**P**	**23 26 15.4**	**+0.6**
	0.9nm,0.8s,baz=106,slow=9.5,SNR=6.2						
NVAR	**Mina Array Bea**	**48.90**	**305**	P	**P**	**23 28 04.7**	**+0.9**
	0.2nm,0.3s,baz=101,slow=4.9,SNR=2.6						
YKA	**Yellowknife Ar**	**54.60**	**335**	P	**P**	**23 28 44.4**	**-1.4**
	0.3nm,0.7s,baz=106,slow=7.5,SNR=4.5						
ESDC	**Sonseca Array**	**56.87**	**55**	P	**P**	**23 29 02.8**	**+0.2**
	0.4nm,0.6s,baz=266,slow=6.0,SNR=7.7						
DBIC	**Dimbokro**	**60.80**	**93**	P	**P**	**23 29 30.3**	**+0.1**
	1.3nm,0.5s,baz=260,slow=8.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**65.17**	**84**	P	**P**	**23 29 58.6**	**-0.7**
	0.8nm,0.6s,baz=278,slow=7.4,SNR=5.8						
ILAR	**Eielson Array**	**68.95**	**333**	P	**P**	**23 30 22.2**	**-0.3**
	0.2nm,0.5s,baz=116,slow=4.4,SNR=5.2						
ARCES	**ARCESS Array B**	**72.89**	**22**	P	**P**	**23 30 46.5**	**+0.1**
	1.4nm,0.6s,baz=291,slow=3.8,SNR=8.6						
FINES	**FINESS Array B**	**74.53**	**30**	P	**P**	**23 30 56.2**	**+0.1**
	6.1nm,1.0s,baz=251,slow=5.8,SNR=5.8						
SEY	**Seymchan**	**92.83**	**343**	LR	LR	00 15 51.3	
	comp=Z,281nm,20.7s,baz=330,slow=36						
STKA	**Stephens Creek**	**151.94**	**238**	PKPbc	**PKPbc**	**23 39 12.3**	**-0.9**
	2.4nm,0.7s,baz=104,slow=4.2,SNR=5.2						

IDC 06 23:33:23.7±2.1**, 1.°62N**×**127.°10E, h0**km**, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.5**/22**, mbtmp3.7**/4**, Error ellipse: s-maj=172.7km s-min=25.5km az=65.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.57**	**162**	P	P	23 38 26.2	+0.3
	1.5nm,0.4s,baz=340,slow=10,SNR=22						
ASAR	**Alice Springs**	**25.98**	**166**	P	P	23 38 58.7	+0.3
	0.5nm,0.3s,baz=345,slow=11,SNR=7.8						
STKA	**Stephens Creek**	**36.03**	**159**	P	P	23 40 25.8	-1.1
	1.0nm,0.4s,baz=343,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**59.50**	**326**	P	P	23 43 29.0	+0.2
	0.2nm,0.3s,baz=119,slow=8.6,SNR=4.2						

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*NORS **06** 23:49:06.1±0.0, 42.°79N×45.°93E, h16km, MPVA3.8*
*TIF **06** 23:49:07.0, 42.°90N×45.°97E, h17km±4km*
*DRS **06** 23:49:07.2±0.0, 42.°89N×45.°79E, h14km*
*MOS **06** 23:49:07.1±0.0, 42.°88N×45.°90E, h12km, MPVA3.8*
*ISCJB **06** 23:49:10.0±0.4, 42.°91N±0.°02×45.°92E±0.°03, h19km±4km, Error ellipse: s-maj=4.5km s-min=3.0km az=29.5*
ISC 06 23:49:09.5±1.1**, 42.°89N**±0.°03×**45.°88E**±0.°02**, h22**km±5km**, n40, σ1.°72**/76**, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.32**	**349**	i Pg	**Pb**	**23 49 15.5**	**-1.1**
GROC				eSg	**Sb**	**23 49 22.2**	**+0.8**
DBC	**Dubki**	**0.71**	**79**	ePg	**Pb**	**23 49 21.3**	**-1.9**
DBC				eSg	**Sn**	**23 49 32.6**	**-2.0**
KMGR	**Komgaron**	**0.76**	**283**	ePg	**Pn**	**23 49 23.6**	**-1.4**
KMGR				eSg	**Sn**	**23 49 37.5**	**+1.5**
VLKR	**Vladikavkaz**	**0.90**	**281**	ePg	**Pn**	**23 49 26.7**	**-0.2**
VLKR				eSg	**Sn**	**23 49 40.2**	**+1.0**
LGD	**Lagodekhi**	**1.09**	**166**	P	**Pb**	**23 49 27.9**	**-1.7**
BTKR	**Batakoyurt**	**1.09**	**297**	ePg	**Pb**	**23 49 30.2**	**+0.5**
BTKR				eSg	**Sn**	**23 49 47.1**	**+3.1**
GUDG	**Gudauri**	**1.12**	**248**	P	**Pn**	**23 49 28.3**	**-1.8**
GUDG	**Gudauri**	**1.12**	**248**	ePg	**Pn**	**23 49 28.2**	**-1.8**
GUDG				eSg	**Sb**	**23 49 42.6**	**-1.9**
LACR	**Lac**	**1.17**	**268**	ePg	**Pn**	**23 49 29.4**	**-1.2**
LACR				eSg	**Sn**	**23 49 45.6**	**-0.3**
TRKR	**Terskaya**	**1.18**	**315**	ePg	**Pb**	**23 49 31.5**	**+0.2**
TRKR				eSg	**Sn**	**23 49 48.8**	**+2.7**
MAK	**Makhachkala**	**1.20**	**86**	ePg	**Pb**	**23 49 31.8**	**+0.3**
MAK				eSg	**Sn**	**23 49 48.8**	**+2.3**
ARNR	**Ardon**	**1.21**	**285**	ePg	**Pb**	**23 49 31.8**	**+0.1**
ARNR				eSg	**Sn**	**23 49 50.0**	**+3.2**
KORR	**Kora**	**1.34**	**279**	ePg	**Pb**	**23 49 33.7**	**-0.4**
KORR				eSg	**Sb**	**23 49 53.9**	**+3.1**
STDR	**Stavd-Durt**	**1.41**	**291**	ePg	**Pb**	**23 49 35.4**	**+0.2**
STDR				eSg	**Sb**	**23 49 56.4**	**+3.6**
TBLG	**Delisi**	**1.43**	**217**	P	**Pb**	**23 49 34.4**	**-1.1**
TBLG				S	**Sb**	**23 49 54.6**	**+1.3**
BTNK	**Botanikuri**	**1.45**	**214**	P	**Pb**	**23 49 34.7**	**-1.1**
BTNK				S	**Sb**	**23 49 55.2**	**+1.5**
PRTR	**Priterechnaya**	**1.45**	**307**	ePg	**Pb**	**23 49 35.0**	**-0.8**
PRTR				eSg	**Sb**	**23 49 56.4**	**+2.6**
DDFL	**Dedoflistskaro**	**1.45**	**173**	P	**Pb**	**23 49 37.8**	**+1.9**
ZEI	**Tsey**	**1.46**	**267**	ePg	**Pb**	**23 49 34.9**	**-1.2**
ZEI				eSg	**Sb**	**23 49 54.4**	**+0.1**
URKR	**Urkarakh**	**1.48**	**119**	ePg	**Pb**	**23 49 35.6**	**-0.9**
URKR				eSg	**Sb**	**23 49 57.8**	**+2.9**
DGRG	**David-gareji**	**1.48**	**195**	P	**Pb**	**23 49 36.5**	**+0.1**
DGRG	**David-gareji**	**1.48**	**195**	ePg	**Pb**	**23 49 36.3**	**-0.1**
DGRG				eSg	**Sb**	**23 49 57.1**	**+2.3**
LSNR	**Lesken**	**1.55**	**285**	ePg	**Pb**	**23 49 37.1**	**-0.5**
LSNR				eSg	**Sb**	**23 49 59.5**	**+2.6**
DIGR	**Digorskoe uzhe**	**1.69**	**271**	ePg	**Pb**	**23 49 38.4**	**-1.7**
DIGR				eSg	**Sb**	**23 50 01.3**	**+0.4**
NCK	**Nalchik**	**1.78**	**291**	ePg	**Pb**	**23 49 40.7**	**-0.7**
NCK				eSg	**Sb**	**23 50 02.9**	**-0.4**
ONI	**Oni**	**1.81**	**261**	P	**Pb**	**23 49 40.9**	**-1.1**
ONI				S	**Sb**	**23 50 05.9**	**+1.6**
ONI	**Oni**	**1.81**	**261**	ePg	**Pb**	**23 49 40.7**	**-1.3**
ONI				eSg	**Sb**	**23 50 05.8**	**+1.5**
KZRT	**Kazreti**	**1.86**	**217**	P	**Pb**	**23 49 42.0**	**-0.9**
KZRT				S	**Sb**	**23 50 06.2**	**+0.6**
AKT	**Akhty**	**1.97**	**135**	ePg	**Pb**	**23 49 43.2**	**-1.5**
AKT				eSg	**Sb**	**23 50 08.3**	**-0.5**
KBTC	**Kuba-Taba**	**2.03**	**298**	ePg	**Pb**	**23 49 44.5**	**-1.2**
KBTC				eSg	**Sb**	**23 50 09.3**	**-1.1**
TKB	**Tkibuli**	**2.20**	**257**	P	**Pb**	**23 49 49.0**	**+0.5**
TKB				S	**Sb**	**23 50 18.3**	**+3.0**
AKH	**Akhalkalaki**	**2.31**	**231**	P	**Pb**	**23 49 48.7**	**-1.9**
AKH				S	**Sb**	**23 50 19.8**	**+1.1**
AKH	**Akhalkalaki**	**2.31**	**231**	i Pn	**Pb**	**23 49 48.4**	**-2.2**
AKH				eSn	**Sb**	**23 50 16.9**	**-1.8**
NEY	**Neytrino**	**2.34**	**280**	ePn	**Pb**	**23 49 48.1**	**-3.0**
NEY				eSn	**Sb**	**23 50 18.7**	**-1.0**
PYA1	**Pyatigorsk**	**2.34**	**301**	ePn	**Pn**	**23 49 46.2**	**-0.5**
PYA1				eSn	**Sn**	**23 50 15.7**	**+0.8**
BEYR	**Belyy Ugol+**	**2.50**	**298**	ePn	**Pn**	**23 49 48.3**	**-0.6**
BEYR				eSn	**Sn**	**23 50 18.4**	**-0.2**
SHA1	**Shidzhatmaz**	**2.50**	**291**	ePn	**Pb**	**23 49 50.5**	**-3.4**
SHA1				eSn	**Sb**	**23 50 21.8**	**-2.5**
KIV0	**Kislovodsk Arr**	**2.55**	**296**	ePn	**Pn**	**23 49 49.4**	**-0.3**
KIV0				eSn	**Sn**	**23 50 20.8**	**+0.6**
ALER	**Alexandrovskoy**	**2.85**	**312**	ePn	**Pn**	**23 49 54.8**	**+1.1**
ALER				eSn	**Sn**	**23 50 28.6**	**+1.3**
GOF	**Gofitskoye**	**2.98**	**318**	ePn	**Pn**	**23 49 56.5**	**+1.0**
GOF				eSn	**Sb**	**23 50 34.0**	**-3.9**

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*DJA **06** 23:52:23.2±0.4, 1°N±3°×12°7E±°, h10km, M4.5/9, MLv4.5/9*
*IDC **06** 23:52:23.1±1.4, 0.°98N×127.°32E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.5/63, mbtmp3.8/5, ML3.8/2, Error ellipse: s-maj=41.2km s-min=23.6km az=58.0*
*ISCJB **06** 23:52:25.5±1.0, 0.°9N±0.°1×127.°30E±0.°07, h33km, mb3.6/3, Error ellipse: s-maj=15.6km s-min=10.4km az=12.3*
ISC 06 23:52:27.3±1.3**, 0.°9N**±0.°1×**127.°31E**±0.°09**, h35**km**, n11, σ1.°95**/11**, mb3.7**/3**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.13**	**153**	P	Pn	23 52 28.8	-4.8
TNTI				S	**Sn**	**23 52 33.4**	**-4.4**
LBMI	**Labuha**	**1.53**	**173**	P	**Pn**	**23 52 52.6**	**+0.4**
SANI	**Sanana**	**3.20**	**204**	P	**Pn**	**23 53 14.6**	**-0.6**
KMSI	**Cibinong**	**3.34**	**265**	P	**Pn**	**23 53 16.6**	**-0.4**
NLAI	**Namlea**	**4.11**	**183**	P	**Pn**	**23 53 28.3**	**+0.7**
SWI	**Sorong**	**4.32**	**114**	P	**Pn**	**23 53 30.4**	**-0.1**
SIJI	**Sorong**	**4.33**	**114**	Pn	**Pn**	**23 53 32.4**	**+1.8**
	2.6nm,0.3s,baz=287,slow=8.5,SNR=5.8						
KAPI	**Kappang**	**9.56**	**232**	Pn	**Pn**	**23 54 44.1**	**+1.6**
	1.9nm,0.3s,baz=69,slow=13,SNR=7.3						
WRA	**Warramunga Arr**	**21.82**	**162**	P	**P**	**23 57 16.7**	**0.0**
	2.1nm,0.6s,baz=343,slow=11,SNR=10.0						
ASAR	**Alice Springs**	**25.24**	**166**	P	**P**	**23 57 52.0**	**+1.9**
	1.2nm,0.7s,baz=344,slow=9.6,SNR=12						
MKAR	**Makanchi Array**	**60.21**	**326**	P	**P**	**00 02 32.5**	**+0.6**
	0.3nm,0.5s,baz=119,slow=8.1,SNR=8.2						

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*IDC **06** 23:54:02.0±0.5, 0.°95N×127.°41E, h0km, mb4.6/27, mb1 4.7/30, mb1mx4.5/65, mbtmp4.6/30, ML4.2/3, MS3.8/17, Ms1 3.8/17, ms1mx3.6/38, Error ellipse: s-maj=16.9km s-min=9.2km az=76.0*
*NEIC **06** 23:54:03.0±1.3, 0.°96N±0.°07×127.°39E±0.°07, h6km±4km, mb5.0/61*
*ISCJB **06** 23:54:02.3±0.2, 1.°00N±0.°02×127.°44E±0.°03, h10km, mb4.7/61, MS3.9/18, Error ellipse: s-maj=4.2km s-min=3.2km az=169.4*
*BJI **06** 23:54:03.0±0.0, 1.°10N×127.°50E, h10km, mb4.8/52, mB5.0/39, Ms4.4/22, Ms7 4.1/24*
*GCMT **06** 23:54:04.0±0.3, 1.°01N±0.°01×127.°31E±0.°02, h20km±1km, MW5.0/101, Moment Tensor Solution. s26,c27; s101,c133; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.76±.12; Mθθ-1.19±.10; Mφφ1.95±.11; Mrθ-1.20±.21; Mθφ-2.34±.09; Mφr1.92±.23; Best double couple: Mo3.34500×10^16 NP1:φs287.00000°, δ81.00000°, λ154.00000°. NP2:φs21.00000°, δ65.00000°, λ10.00000°. Principal axes: T 4.2230, Plg24.0000°, Azm241.0000°; N -1.7530, Plg63.0000°, Azm88.0000°; P -2.4680, Plg11.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **06** 23:54:05.3±1.2, 0.°98N×127.°34E, h33km, mb5.1/25 Error ellipse: s-maj=13.4km s-min=6.9km az=114.5*
*DJA **06** 23:54:05.0±0.3, 1°N±3°×12°8E±°, h10km, M4.8/18, mb5.0/18, mB5.3/17, MLv4.9/18, Mw(mB)4.7/17, Mwp4.9/3*
ISC 06 23:54:04.3±0.3**, 0.°96N**±0.°04×**127.°39E**±0.°05**, h10**km**, n192, σ1.°78**/191**, mb4.8**/83**, MS3.9**/20**, 7C-1D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.18**	**186**	P	**Pg**	**23 54 09.7**	**+1.4**
TNTI	**Ternate**	**0.18**	**186**		**Pg**	**23 54 10.1**	**+1.9**
LBMI	**Labuha**	**1.59**	**176**	P	**Pb**	**23 54 32.6**	**-1.2**
SANI	**Sanana**	**3.30**	**205**	P	**Pn**	**23 54 55.4**	**-0.7**
KMSI	**Cibinong**	**3.43**	**264**	P	**Pn**	**23 55 00.2**	**+2.4**
NLAI	**Namlea**	**4.18**	**184**	P	**Pn**	**23 55 10.2**	**+2.0**
SWI	**Sorong**	**4.28**	**115**	P	**Pn**	**23 55 09.3**	**-0.2**
SIJI	**Sorong**	**4.28**	**115**	Pn	**Pn**	**23 55 09.7**	**0.0**
	9.5nm,0.3s,baz=308,slow=9.1,SNR=26						
SIJI				Sn	**Sn**	**23 55 59.3**	**-0.4**
	10nm,0.3s,baz=217,slow=20,SNR=3.5						
SIJI				LR	LR	23 57 12.2	
	comp=Z,3μm,18.5s,baz=120,slow=45						
MSAI	**Masohi**	**4.54**	**160**	P	**Pn**	**23 55 13.2**	**0.0**
AAI	**Ambon**	**4.68**	**170**	P	**Pn**	**23 55 16.9**	**+1.8**
LUWI	**Luwuk**	**5.02**	**247**	P	**Pn**	**23 55 23.2**	**+3.4**
	562nm,1.0s,8μm3.5nm						
LUWI	**Luwuk**	**5.02**	**247**		Pn	23 55 23.7	+3.9
MRSI	**Marisa**	**5.46**	**265**	P	**Pn**	**23 55 28.0**	**+2.1**
	302nm,0.6s,3μm3μm1.0nm						
APSI	**Ampana**	**6.03**	**252**	P	Pn	23 55 37.7	+4.1
	262nm,1.0s,3μm1.1nm						
DAV	**Davao City (W)**	**6.33**	**344**	Pn	Pn	23 55 41.8	+4.0
	75nm,0.3s,baz=241,slow=21,SNR=4.1						
DAV				Sn	**Sn**	**23 56 57.4**	**+7.0**
	48nm,0.3s,baz=246,slow=20,SNR=3.0						
DAV	**Davao City (W)**	**6.33**	**344**		**Pn**	**23 55 39.1**	**+1.2**
KCP	**Kidapawan**	**6.43**	**339**	⇓P	**Pn**	**23 55 41.3**	**+2.0**
KDI	**Kendari**	**6.82**	**224**	P	**Pn**	**23 55 46.4**	**+1.9**
	484nm,1.0s,16μm1.5nm						
MPSI	**Mapaga**	**7.51**	**265**	P	**Pn**	**23 55 57.0**	**+3.0**
	78nm,0.9s,2μm2μm0.3nm						
KAPI	**Kappang**	**9.66**	**232**	Pn	**Pn**	**23 56 24.5**	**+1.0**
	7.1nm,0.3s,baz=38,slow=8.4,SNR=74						
KAPI				Sn	**Sn**	**23 58 13.4**	**+1.2**
	2.1nm,0.3s,baz=150,slow=20,SNR=4.1						
KAPI				LR	LR	00 00 59.4	
	comp=Z,398nm,19.9s,baz=299,slow=43						
I39PW	**PALAU INFRASON**	**9.68**	**47**	i		00 52 40.0	
	baz=227,slow=318,SNR=1.3						
SOEI	**Soe**	**11.09**	**196**	P	Pn	23 57 01.1	+18
SOEI	**Soe**	**11.09**	**196**	Pn	**Pn**	**23 56 43.3**	**+0.2**
BATI	**Baumata**	**11.69**	**198**	Pn	Pn	23 56 55.2	+3.8
	2.3nm,0.3s,baz=220,slow=2.1,SNR=4.5						
BATI				LR	LR	00 02 35.8	
	comp=Z,587nm,19.9s,baz=32,slow=44						
SMPI	**Sarmi**	**11.70**	**104**	P	Pn	23 56 59.0	+7.6
KKM	**Kota Kinabalu**	**12.24**	**295**		**Pn**	**23 56 58.5**	**-0.5**
PLAI	**Plampang**	**13.64**	**224**	P	**Pn**	**23 57 21.2**	**+3.1**
	95nm,1.0s,1μm						
JAY	**Jayapura**	**13.76**	**105**	Pn	**Pn**	**23 57 22.2**	**+2.6**
	0.4nm,0.3s,baz=30,slow=3.5,SNR=3.7						
JAY				LR	LR	00 02 02.2	
	comp=Z,799nm,20.2s,baz=286,slow=35						
JAY	**Jayapura**	**13.76**	**105**	P	**P**	**23 57 30.7**	**+2.4**
MTN	**Manton Dam**	**14.21**	**165**		**Pn**	**23 57 26.9**	**+1.1**
TWSI	**Taliwang, Sumb**	**14.22**	**227**	P	**P**	**23 57 32.3**	**-1.1**
	75nm,1.0s,747nm						
SRBI	**Singaraja**	**15.10**	**233**	P	**P**	**23 57 40.3**	**-2.9**
	148nm,1.0s,1μm						
SBUM	**Sibu**	**15.23**	**276**		**Pn**	**23 57 40.8**	**+1.1**
DNP	**Denpasar**	**15.45**	**231**	P	P	23 57 55.0	+7.9
KMMI	**Kalianget**	**15.57**	**239**	P	**P**	**23 57 53.3**	**+4.9**
IGBI	**Denpasar**	**15.59**	**231**	P	P	23 57 55.4	+6.8
JAGI	**Jajag, Banyuwa**	**16.18**	**234**	P	**P**	**23 57 57.1**	**+1.9**
	185nm,1.3s						
JAGI	**Jajag, Banyuwa**	**16.18**	**234**		**P**	**23 57 52.3**	**-2.8**
JAGI				IAmb	IAmb	23 58 04.5	
	comp=Z,189nm,1.1s						
KNRA	**Kununurra**	**16.58**	**175**		**Pn**	**23 57 54.9**	**-2.2**
GRJI	**Gresik**	**16.80**	**242**	P	**P**	**23 58 05.0**	**+2.9**
	comp=Z,92nm,0.8s,comp=Z,954nm						
KSM	**Kuching**	**17.08**	**272**	P	**P**	**23 58 03.7**	**-1.5**
KSM				IAmb	IAmb	23 58 08.9	
	comp=Z,123nm,0.9s						
TBJI	**Tambak Boyo**	**17.32**	**243**	P	**P**	**23 58 10.5**	**+2.6**
	comp=Z,191nm,1.0s,comp=Z,2μm						
PWJI	**Pagerwojo**	**17.91**	**240**	P	**P**	**23 58 15.8**	**+1.4**
	comp=Z,198nm,1.3s						
SMRI	**Semarang**	**18.68**	**245**	P	**Pn**	**23 58 25.7**	**+2.4**
SMRI	**Semarang**	**18.68**	**245**	P	**Pn**	**23 58 23.2**	**-0.1**
UGM	**Wanagama**	**18.98**	**242**		**Pn**	**23 58 25.9**	**-1.0**
UGM				IAmb	IAmb	23 58 34.3	
	comp=Z,98nm,1.0s						
FITZ	**Fitzroy Crossi**	**19.01**	**185**	P	**P**	**23 58 25.4**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=23,slow=11,SNR=12						
FITZ	**Fitzroy Crossi**	**19.01**	**185**	P	**P**	**23 58 24.9**	**-1.5**
LEM	**Lembang**	**21.19**	**248**	P	**P**	**23 58 50.5**	**+0.1**
	comp=Z,46nm,0.8s,baz=72,slow=13,SNR=6.1						
LEM				LR	LR	00 08 49.7	
	comp=Z,281nm,18.8s,baz=68,slow=42						
GUMO	**Guam**	**21.38**	**53**	LR	LR	00 05 58.5	
	comp=Z,615nm,21.4s,baz=237,slow=34						
WB0	**Warramunga Arr**	**21.71**	**162**	P	**P**	**23 58 55.3**	**-0.5**
WB0				IAmb	IAmb	23 59 04.0	
	comp=Z,49nm,0.9s						
WRAB	**Tennant Creek**	**21.86**	**162**	ceP	**P**	**23 58 56.7**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,63nm,1.3s						
WRAB	**Tennant Creek**	**21.86**	**162**	P	**P**	**23 58 56.7**	**-0.6**
WRAB				IAmb	IAmb	23 59 06.6	
	comp=Z,81nm,1.0s						
WRA	**Warramunga Arr**	**21.86**	**162**	P	**P**	**23 58 57.2**	**-0.2**
	comp=Z,26nm,0.7s,baz=340,slow=11,SNR=35						
WRA				S	**S**	**00 02 58.4**	**-0.8**
	comp=Z,2.7nm,1.1s,baz=343,slow=18,SNR=6.2						
WB2	**Warramunga Arr**	**21.86**	**162**	P	**P**	**23 58 57.0**	**-0.5**
WB2				IAmb	IAmb	23 59 06.2	
	comp=Z,83nm,1.0s						
WR0	**Warramunga Arr**	**21.94**	**162**	P	**P**	**23 58 57.4**	**-0.9**
WR0				IAmb	IAmb	23 59 07.5	
	comp=Z,61nm,0.9s						
PMG	**Port Moresby**	**22.22**	**118**	P	**P**	**23 58 59.4**	**-1.9**
PMG				pmax	pmax		
	comp=Z,14nm,0.7s						
PMG	**Port Moresby**	**22.22**	**118**	P	**P**	**23 59 04.9**	**+3.6**
	comp=Z,8.6nm,0.4s,baz=309,slow=6.5,SNR=4.3						
PMG				LR	LR	00 10 14.7	
	comp=Z,592nm,19.2s,baz=309,slow=44						
PMG	**Port Moresby**	**22.22**	**118**	P	**P**	**23 58 59.4**	**-1.9**
TWG	**Pinlang**	**22.58**	**345**	P	**P**	**23 59 04.1**	**-1.0**
TPUB	**Ta-pu**	**23.16**	**344**	P	**P**	**23 59 09.1**	**-2.1**
TPUB				IAmb	IAmb	23 59 17.4	
	comp=Z,54nm,0.8s						
SSLB	**Suanglung**	**23.54**	**345**	P	**P**	**23 59 13.7**	**-1.2**
MYKOM	**Kota Tinggi**	**23.54**	**272**	P	**P**	**23 59 13.7**	**-1.4**
MYKOM				IAmb	IAmb	23 59 18.2	
	comp=Z,32nm,1.0s						
PSA00	**Pilbara Seismi**	**23.57**	**198**	P	**P**	**23 59 13.8**	**-1.5**
PSA00				IAmb	IAmb	23 59 21.5	
	comp=Z,21nm,0.8s						
YHNB	**Yeheng**	**24.28**	**347**	P	**P**	**23 59 21.4**	**-0.7**
YHNB				IAmb	IAmb	23 59 33.5	
	comp=Z,47nm,0.9s						
XMIS	**Christmas Isla**	**24.43**	**242**	P	**P**	**23 59 21.2**	**-2.3**
MNAI	**Manna**	**24.98**	**258**	P	**P**	**23 59 27.8**	**-0.7**
AS31	**Alice Springs**	**25.28**	**166**	P	**P**	**23 59 29.6**	**-1.5**
ASAR	**Alice Springs**	**25.28**	**166**	P	**P**	**23 59 30.4**	**-0.7**
	comp=Z,22nm,0.8s,baz=340,slow=8.7,SNR=54						
ASAR				S	**S**	**00 04 04.5**	**+7.4**
	comp=Z,3.6nm,1.0s,baz=346,slow=19,SNR=7.2						
IPM	**Ipoh**	**26.56**	**278**	P	**P**	**23 59 41.3**	**-1.6**
IPM				IAmb	IAmb	23 59 45.2	
	comp=Z,15nm,0.8s						
KULM	**Kulim**	**27.03**	**280**	P	**P**	**23 59 45.7**	**-1.4**
KULM				IAmb	IAmb	23 59 52.0	
	comp=Z,20nm,1.0s						
RPSI	**Rantau Prapat**	**28.50**	**274**	P	**P**	**23 59 57.5**	**-2.6**
PSI	**Prapat**	**28.50**	**274**	P	**P**	**23 59 57.5**	**-2.9**
PSI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
FORT	**Forrest**	**31.57**	**179**	P	**P**	**00 00 26.7**	**-0.4**
WHN	**Wuhan**	**31.92**	**338**	P	P	00 00 40.3	+10
WHN				S	**S**	**00 05 43.9**	**+2.5**
WHN				pmax	pmax		
	comp=Z,42nm,0.9s						
WHN				LR	LR		
	comp=N,880nm,16.2s						
WHN				LR	LR		
	comp=E,2μm,25.2s						
WHN				LR	LR		
	comp=Z,640nm,22.5s						
JNU	**Nakatsue**	**32.16**	**6**	P	**P**	**00 00 32.8**	**+0.4**
	comp=Z,18nm,1.0s,baz=49,slow=4.3,SNR=5.1						
JNU				LR	LR	00 13 24.4	
	comp=Z,238nm,20.6s,baz=168,slow=36						
JNU	**Nakatsue**	**32.16**	**6**	P	**P**	**00 00 31.5**	**-0.9**
JNU				IAmb	IAmb	00 00 37.1	
	comp=Z,26nm,1.0s						
GYA	**Guiyang**	**32.25**	**324**	P	**P**	**00 00 36.8**	**+3.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**32.89**	**304**	P	**P**	**00 00 38.5**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=134,slow=7.0,SNR=9.8						
CHTO	**Chiang Mai**	**33.06**	**304**	P	**P**	**00 00 39.5**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**33.06**	**304**	P	**P**	**00 00 39.5**	**-0.9**
KMI	**Kunming**	**33.82**	**317**	P	**P**	**00 00 46.9**	**-0.3**
KMI				pP	sP	00 00 51.6	+0.1
KMI				sP	pP	00 00 52.8	+2.5
KMI				PP	**PP**	**00 02 01.8**	**-2.0**
KMI				S	**S**	**00 06 12.3**	**+0.7**
KMI				sS	sS	00 06 16.8	+0.5
KMI				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,170nm,4.8s						
KMI				LR	LR		
	comp=Z,300nm,17.2s						
KMI				LR	LR		
	comp=Z,290nm,19.7s						
KMI				LR	LR		
	comp=Z,170nm,20.5s						
BBOO	**Buckleboo**	**34.57**	**167**	IAmb	IAmb	00 00 57.2	
	comp=Z,17nm,0.9s						
EIDS	**Eidsvold**	**34.79**	**140**	P	**P**	**00 00 54.4**	**-1.0**
TJN	**Taejon**	**35.24**	**360**	i P	**P**	**00 00 57.9**	**-1.2**
STKA	**Stephens Creek**	**35.32**	**159**	P	**P**	**00 01 00.0**	**+0.1**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
STKA	**Stephens Creek**	**35.32**	**159**	P	**P**	**00 00 59.5**	**-0.4**
	comp=Z,12nm,0.8s,baz=322,slow=7.7,SNR=9.6						
STKA				LR	LR	00 18 36.2	
	comp=Z,241nm,18.4s,baz=356,slow=42						
STKA	**Stephens Creek**	**35.32**	**159**	P	**P**	**00 00 60.0**	**+0.1**
INU	**Inuyama**	**35.37**	**14**	IAmb	IAmb	00 01 13.5	
	comp=Z,28nm,1.1s						
KSRS	**Korea Array**	**36.32**	**1**	P	**P**	**00 01 07.3**	**-1.0**
	comp=Z,3.2nm,0.7s,baz=180,slow=10.0,SNR=11						
TIA	**Tai'an**	**36.35**	**346**	P	**P**	**00 01 09.4**	**+0.8**
TIA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MAJO	**Matsushiro**	**36.80**	**15**	i P	**P**	**00 01 10.2**	**-2.3**
MAJO				pmax	pmax		
	comp=Z,19nm,0.9s						
MAJO	**Matsushiro**	**36.80**	**15**	P	**P**	**00 01 11.8**	**-0.7**
MAJO				IAmb	IAmb	00 01 14.6	
	comp=Z,28nm,0.9s						

MAT	**Matsushiro**	**36.80**	**15**	P	**P**	**00 01 13.9**	**+1.4**
MAT				*e*S	**S**	**00 06 55.2**	**-1.5**
MJAR	**Matsushiro Arr**	**36.80**	**15**	P	**P**	**00 01 10.8**	**-1.7**
	comp=Z,12nm,0.8s,baz=187,slow=9.9,SNR=23						
MJB9	**Matsu-Tunnel**	**36.80**	**15**		**pP**	**00 01 12.7**	**-2.9**
MJB9				IAmb	IAmb	00 01 14.6	
	comp=Z,28nm,0.9s						
XAN	**Xi'an**	**37.18**	**334**	P	**P**	**00 01 17.7**	**+1.9**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,170nm,5.7s						
XAN				LR	LR		
	comp=Z,180nm,20.6s						
XAN				LR	LR		
	comp=Z,120nm,21.7s						
XAN	**Xi'an**	**37.18**	**334**	P	**P**	**00 01 14.8**	**-1.0**
XAN				pmax	pmax		
	comp=Z,14nm,1.0s						
XAN	**Xi'an**	**37.18**	**334**	P	**P**	**00 01 14.8**	**-1.0**
CD2	**Chengdu**	**37.27**	**325**	*e*P	**P**	**00 01 16.0**	**-0.6**
CD2				S	**S**	**00 07 05.0**	**+0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,550nm,16.7s						
CD2				LR	LR		
	comp=Z,380nm,10.3s						
ARMA	**Armidale**	**38.81**	**146**	P	**P**	**00 01 29.1**	**-0.6**
ARMA				IAmb	IAmb	00 01 36.0	
	comp=Z,21nm,0.9s						
BJT	**Baijiatuau**	**40.20**	**347**	P	**P**	**00 01 40.2**	**-0.8**
BJT				pmax	pmax		
	comp=Z,21nm,0.7s						
BJT	**Baijiatuau**	**40.20**	**347**	P	**P**	**00 01 40.2**	**-0.8**
BJT				IAmb	IAmb	00 01 47.6	
	comp=Z,21nm,0.7s						
BJI	**Beijing**	**40.22**	**347**	P	**P**	**00 01 42.4**	**+1.3**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LZH	**Lanzhou**	**41.22**	**331**	*e*P	**P**	**00 01 51.3**	**+1.6**
LZH				pP	sP	00 01 53.5	-0.5
LZH				sP	pP	00 01 55.9	+3.1
LZH				pmax	pmax		
	comp=Z,11nm,1.1s						
LZH				pmax	pmax		
	comp=Z,68nm,5.4s						
LZH				LR	LR		
	comp=Z,270nm,16.2s						
LZH				LR	LR		
	comp=Z,250nm,15.2s						
LZH				LR	LR		
	comp=Z,280nm,17.1s						
HHC	**Hu-ho-hao-te**	**42.22**	**342**	*e*P	**P**	**00 01 57.6**	**-0.2**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
USA0B	**Ussuriysk Arra**	**43.25**	**5**	P	**P**	**00 02 04.7**	**-1.2**
USA0B				pmax	pmax		
	comp=Z,14nm,1.0s						
USA0B	**Ussuriysk Arra**	**43.25**	**5**	P	**P**	**00 02 04.7**	**-1.2**
USRK	**Ussuriysk Ar.**	**43.25**	**5**	P	**P**	**00 02 04.7**	**-1.2**
	comp=Z,5.2nm,0.6s,baz=191,slow=3.9,SNR=9.8						
USRK				LR	LR	00 19 37.4	
	comp=Z,83nm,21.1s,baz=172,slow=36						
MDJ	**Mudanjiang**	**43.52**	**2**	P	**P**	**00 02 06.6**	**-1.5**
MDJ				IAmb	IAmb	00 02 13.0	
	comp=Z,23nm,1.1s						
GTA	**Gaotai**	**45.80**	**330**	*e*P	**P**	**00 02 29.1**	**+2.5**
GTA				pP	sP	00 02 36.1	+5.2
GTA				sP	pP	00 02 39.3	+10
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,61nm,5.2s						
GTA				LR	LR		
	comp=Z,200nm,17.9s						
GTA				LR	LR		
	comp=Z,120nm,18.6s						
GTA				LR	LR		
	comp=Z,220nm,21.3s						
TAPN	**Taplejung**	**46.20**	**308**	*e*P	**P**	**00 02 30.1**	**-0.1**
RAMN	**Ramite**	**46.90**	**307**	*e*P	**P**	**00 02 35.5**	**-0.1**
JIRN	**Jiri**	**47.55**	**308**	*e*P	**P**	**00 02 40.1**	**-0.7**
GUN	**Gumba**	**47.90**	**308**	*e*P	**P**	**00 02 42.7**	**-0.8**
	comp=Z,24nm,0.6s						
KLR	**Kul'dur**	**48.24**	**4**	*i* P	**P**	**00 02 43.3**	**-2.0**
KLR				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KLR	**Kul'dur**	**48.24**	**4**	P	**P**	**00 02 44.4**	**-0.9**
	comp=Z,3.0nm,0.6s,baz=196,slow=6.3,SNR=7.4						
KOLN	**Koldanda**	**49.66**	**306**	*e*P	**P**	**00 02 55.7**	**-1.2**
	comp=Z,16nm,0.5s						
DANN	**Dangsing**	**49.78**	**307**	*e*P	**P**	**00 02 56.7**	**-1.1**
	comp=Z,21nm,0.7s						
ULN	**Ulaanbaatar**	**49.94**	**342**	*i* P	**P**	**00 02 57.1**	**-1.5**
ULN				pmax	pmax		
	comp=Z,12nm,0.8s						
ULN	**Ulaanbaatar**	**49.94**	**342**	P	**P**	**00 02 58.1**	**-0.5**
ULN				IAmb	IAmb	00 03 03.0	
	comp=Z,12nm,0.9s						
SONM	**Songino Array**	**50.12**	**342**	P	**P**	**00 02 58.7**	**-1.2**
	comp=Z,5.3nm,0.8s,baz=154,slow=7.4,SNR=18						
SONM				LR	LR	00 25 14.1	
	comp=Z,112nm,20.3s,baz=172,slow=37						
TLY	**Talaya**	**54.35**	**342**	*i* P	**P**	**00 03 27.7**	**-3.5**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TLY	**Talaya**	**54.35**	**342**	P	**P**	**00 03 31.4**	**+0.3**
WMQ	**Urumqi**	**55.37**	**326**	*e*P	**P**	**00 03 40.4**	**+1.7**
WMQ				pP	sP	00 03 45.1	+2.0
WMQ				sP	pP	00 03 49.4	+7.5
WMQ				pmax	pmax		
	comp=Z,19nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.9s						
WMQ				LR	LR		
	comp=Z,450nm,28.8s						
WMQ				LR	LR		
	comp=Z,880nm,29.2s						
WMQ				LR	LR		
	comp=Z,250nm,29.0s						
WMQ	**Urumqi**	**55.37**	**326**	P	**P**	**00 03 39.0**	**+0.3**
WMQ				pmax	pmax		
	comp=Z,21nm,0.9s						
WMQ	**Urumqi**	**55.37**	**326**	P	**P**	**00 03 39.0**	**+0.3**
BOD	**Bodaibo**	**57.69**	**352**	*e*P	**P**	**00 03 54.0**	**-0.9**
BOD				pmax	pmax		
	comp=Z,11nm,1.8s						
PETK	**Petropavlovsk-**	**57.75**	**21**	P	**P**	**00 03 54.3**	**-1.1**
	comp=Z,8.6nm,0.9s,baz=168,slow=4.6,SNR=9.6						
MK31	**Makanchi Array**	**60.20**	**326**	P	**P**	**00 04 11.9**	**-0.7**
MK31				pmax	pmax		
	comp=Z,20nm,1.1s						
MK31	**Makanchi Array**	**60.20**	**326**	P	**P**	**00 04 11.9**	**-0.7**
MKAR	**Makanchi Array**	**60.20**	**326**	P	**P**	**00 04 11.8**	**-0.8**
	comp=Z,5.1nm,0.5s,baz=120,slow=7.7,SNR=68						
PRZ	**Przheval'sk**	**60.23**	**320**	P	**P**	**00 04 12.4**	**-0.7**
PRZ				pmax	pmax		
	comp=Z,21nm,0.9s						
PRZ	**Przheval'sk**	**60.23**	**320**	P	**P**	**00 04 12.4**	**-0.7**
TARG	**Taragay, Kyrgy**	**60.25**	**319**	P	**P**	**00 04 13.1**	**-0.4**
TARG				IAmb	IAmb	00 04 28.2	
	comp=Z,9.3nm,0.7s						
MAKZ	**Makanchi**	**60.38**	**326**	P	**P**	**00 04 13.2**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,17nm,0.9s						
MAKZ	**Makanchi**	**60.38**	**326**	P	**P**	**00 04 13.2**	**-0.7**
MSWZ	**Moikau Station**	**60.42**	**140**	P	**P**	**00 04 13.5**	**-0.7**
KSH	**Kashi**	**60.47**	**316**	P	**P**	**00 04 16.9**	**+2.2**
KSH				PcP	**PcP**	**00 05 00.6**	**+1.1**
KSH				S	**S**	**00 12 30.7**	**+0.3**
KSH				ScS	SKKSac	00 14 02.4	-3.5
KSH				pmax	pmax		
	comp=Z,51nm,1.4s						
YAK	**Yakutsk**	**60.95**	**1**	*e*P	**P**	**00 04 19.4**	**+2.1**
YAK				*e**PP	**sP**	**00 04 27.3**	**+5.6**
YAK				*e*		00 04 56.6	
YAK				*e*		00 06 34.1	
YAK				*e*PPP	PPP	00 07 59.3	
YAK				*e*S	**S**	**00 12 34.6**	**-0.7**
YAK				*e**SS	sS	00 12 56.2	+16
YAK				*e*		00 14 05.3	
YAK				pmax	pmax		
	comp=N,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,22nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,64nm,2.5s						
YAK				pmax	pmax		
	comp=N,84nm,2.5s						
YAK				pmax	pmax		
	comp=E,43nm,2.7s						
YAK				smax	smax		
	comp=N,97nm,2.8s						
YAK				smax	smax		
	comp=E,55nm,2.8s						
YAK	**Yakutsk**	**60.95**	**1**	P	**P**	**00 04 18.2**	**+0.8**
KZA	**Kyzart**	**62.10**	**318**	P	**P**	**00 04 29.0**	**+2.9**
	SNR=9.7						
TKM2	**Tokmak 2**	**62.25**	**319**	P	**P**	**00 04 23.0**	**-3.9**
	SNR=5.2						
UCH	**Uchtor**	**62.66**	**318**	P	**P**	**00 04 29.3**	**-0.5**
	SNR=22						
CHMS	**Chumysh**	**62.84**	**319**	P	**P**	**00 04 33.7**	**+3.1**
	SNR=5.2						
AAK	**Ala-Archa**	**62.85**	**319**	*ce*P	**P**	**00 04 31.0**	**+0.2**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
AAK	**Ala-Archa**	**62.85**	**319**	P	**P**	**00 04 31.4**	**+0.7**
	comp=Z,2.8nm,0.6s,baz=127,slow=6.6,SNR=9.5						
USP	**Ospenovka**	**63.13**	**319**	P	**P**	**00 04 31.9**	**-0.6**
	SNR=20						
AML	**Almayashu**	**63.16**	**318**	P	**P**	**00 04 33.2**	**+0.1**
	SNR=14						
EKS2	**Erkin-Say**	**63.34**	**318**	P	**P**	**00 04 36.6**	**+2.7**
	SNR=15						
ZAA0	**Zalesovo Array**	**63.34**	**333**	P	**P**	**00 04 32.9**	**-0.7**
ZAA0				IAmb	IAmb	00 04 39.1	
	comp=Z,7.1nm,1.0s						
ZALV	**Zalesovo Beam**	**63.34**	**333**	*i* P	**P**	**00 04 35.0**	**+1.4**
ZALV				pmax	pmax		
	comp=Z,11nm,1.1s						
ZALV	**Zalesovo Beam**	**63.34**	**333**	P	**P**	**00 04 31.4**	**-2.2**
	comp=Z,1.7nm,0.5s,baz=129,slow=7.3,SNR=11						
ZALV				LR	LR	00 35 40.4	
	comp=Z,43nm,21.0s,baz=138,slow=39						
KURBB	**Kurchatov Arra**	**64.42**	**328**	P	**P**	**00 04 39.4**	**-1.3**
	comp=Z,24nm,0.8s,baz=126,slow=6.3,SNR=24						
KURK	**Kurchatov**	**64.42**	**328**	P	**P**	**00 04 39.6**	**-1.2**
KURK				pmax	pmax		
	comp=Z,41nm,0.8s						
KURK	**Kurchatov**	**64.42**	**328**	P	**P**	**00 04 39.6**	**-1.2**
SEY	**Seymchan**	**64.58**	**12**	*i* P	**P**	**00 04 41.6**	**+0.1**
SEY	**Seymchan**	**64.58**	**12**	P	**P**	**00 04 41.1**	**-0.4**
	comp=Z,6.9nm,0.8s,baz=209,slow=10,SNR=13						
BVAR	**Borovoye Array**	**69.99**	**327**	P	**P**	**00 05 14.4**	**-1.7**
	comp=Z,5.5nm,0.8s,baz=125,slow=7.4,SNR=19						
BRVK	**Borovoye**	**70.06**	**327**	*ce*P	**P**	**00 05 14.3**	**-2.2**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BRVK	**Borovoye**	**70.06**	**327**	P	**P**	**00 05 15.6**	**-0.9**
BRVK				IAmb	IAmb	00 05 23.4	
	comp=Z,18nm,1.1s						
TIXI	**Tiksi**	**70.59**	**0**	⇑*e*P	**P**	**00 05 19.7**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,19nm,3.1s						
MSEY	**Mahe Island**	**72.05**	**265**	P	**P**	**00 05 28.1**	**-1.4**
MSEY				pmax	pmax		
	comp=Z,23nm,1.1s						
MSEY	**Mahe Island**	**72.05**	**265**	P	**P**	**00 05 28.1**	**-1.4**
BILL	**Bilibino**	**72.06**	**14**	⇑*e*P	**P**	**00 05 31.6**	**+3.3**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s						
UOSS	**Minazif**	**72.56**	**296**	P	**P**	**00 05 31.3**	**-1.0**
UOSS				IAmb	IAmb	00 05 41.5	
	comp=Z,5.3nm,0.7s						
GEYT	**Alibeck**	**73.14**	**309**	P	**P**	**00 05 34.5**	**-1.0**
	comp=Z,3.0nm,0.7s,baz=138,slow=5.2,SNR=4.5						
NRIK	**Noril'sk**	**73.26**	**346**	P	**P**	**00 05 34.8**	**-0.7**
	comp=Z,3.5nm,0.7s,baz=130,slow=3.5,SNR=10						
SOCY	**Socotra**	**73.57**	**282**	P	**P**	**00 05 38.0**	**-0.5**
AKTO	**Aktyubinsk**	**76.23**	**322**	P	**P**	**00 05 51.5**	**-1.6**
	comp=Z,4.6nm,0.7s,baz=83,slow=9.6,SNR=4.5						
SVE	**Sverdlovsk**	**76.65**	**329**	*e*P	**P**	**00 05 53.9**	**-1.4**
SVE				pmax	pmax		
	comp=Z,20nm,1.2s						
ARU	**Arti**	**77.62**	**328**	*c i*P	**P**	**00 05 59.4**	**-1.3**
ARU						00 08 49.9	
ARU				S	**S**	**00 15 51.7**	**-0.7**
ARU				SS	**SS**	**00 20 48.0**	**-3.9**
ARU				pmax	pmax		
	comp=Z,25nm,2.7s						
ARU	**Arti**	**77.62**	**328**	P	**P**	**00 05 59.6**	**-1.1**
ARU				IAmb	IAmb	00 06 06.7	
	comp=Z,5.9nm,0.5s						
MAW	**Mawson**	**81.40**	**200**	LR	LR	00 37 08.4	
	comp=Z,38nm,20.7s,baz=59,slow=32						
RAYN	**Ar Rayn**	**82.17**	**293**	P	**P**	**00 06 25.3**	**-0.9**
RAYN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
RAYN	**Ar Rayn**	**82.17**	**293**	P	**P**	**00 06 25.3**	**-0.9**
KDAK	**Kodiak Island**	**83.87**	**32**	P	**P**	**00 06 34.8**	**+0.6**
	comp=Z,7.2nm,0.7s,baz=283,slow=6.7,SNR=3.6						
ZEI	**Tsey**	**84.56**	**313**	*e*P	**P**	**00 06 40.0**	**+1.7**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SKT	**Skwentna**	**84.96**	**28**	P	**P**	**00 06 38.9**	**-0.8**
SKT				IAmb	IAmb	00 06 43.9	
	comp=Z,9.0nm,0.8s						
SUA	**Susitna One**	**85.27**	**28**	P	**P**	**00 06 40.5**	**-0.9**
KBZ	**Khabaz**	**85.35**	**314**	P	**P**	**00 06 42.6**	**+0.7**
	comp=Z,3.5nm,1.0s,baz=129,slow=8.5,SNR=4.0						
KIV	**Kislovodsk**	**85.52**	**314**	*e*P	P	00 06 46.7	+3.7
KIV				pmax	pmax		
	comp=Z,25nm,1.0s						
KNK	**Knik Glacier**	**86.36**	**29**	P	**P**	**00 06 46.4**	**-0.3**
KNK				IAmb	IAmb	00 06 51.0	
	comp=Z,15nm,1.0s						
SML	**Sawmill**	**86.45**	**28**	P	**P**	**00 06 46.7**	**-0.5**
SML				IAmb	IAmb	00 06 53.0	
	comp=Z,9.9nm,0.9s						
GLI	**Glacier Island**	**86.98**	**29**	P	**P**	**00 06 49.0**	**-0.7**
GLI				IAmb	IAmb	00 06 59.3	
	comp=Z,4.3nm,0.6s						
ILAR	**Eielson Array**	**87.31**	**25**	P	**P**	**00 06 51.2**	**0.0**
	comp=Z,0.5nm,0.5s,baz=243,slow=5.6,SNR=7.3						
SYO	**Syowa Base**	**90.09**	**201**	⇑*e*X	P	00 07 11.8	+7.6
BRTR	**Keskin Array B**	**92.28**	**310**	P	**P**	**00 07 15.3**	**0.0**
	comp=Z,1.1nm,0.9s,baz=103,slow=6.4,SNR=2.5						
BRTR				LR	LR	00 54 22.3	
	comp=Z,16nm,19.5s,baz=89,slow=39						
ARCES	**ARCESS Array B**	**93.26**	**340**	P	**P**	**00 07 19.6**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=69,slow=6.8,SNR=6.4						
ARCES				LR	LR	00 52 34.4	
	comp=Z,40nm,19.6s,baz=5.5,slow=38						
AKASG	**Malin Array Be**	**94.44**	**321**	LR	LR	00 54 39.9	
	comp=Z,22nm,18.0s,baz=140,slow=38						
FINES	**FINESS Array B**	**94.57**	**332**	P	**P**	**00 07 25.5**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=48,slow=2.1,SNR=2.5						
FINES				LR	LR	00 54 01.1	
	comp=Z,59nm,18.3s,baz=22,slow=38						
TORD	**Torodi Ar. Bea**	**124.37**	**287**	PKP	**PKPdf**	**00 13 03.0**	**-1.8**
	comp=Z,0.7nm,0.7s,baz=118,slow=2.1,SNR=3.5						

ISCJB ***07*** *00:02:57.4±0.9, 33°.35S±0°.05×178°.2W±0°.2, h32km, mb4.4/4, Error ellipse: s-maj=19.8km s-min=4.7km az=15.5*

IDC ***07*** *00:02:57.6±1.7, 33°.15S×178°.76W, h0km, mb4.5/4, mb1 4.6/5, mb1mx4.1/32, mbtmp4.5/5, ML4.0/1, Error ellipse: s-maj=44.7km s-min=33.8km az=147.0*

WEL ***07*** *00:03:01.7±0.8, 33°S±6°×17°8W±1°4, h33km, M4.6/20, mB5.2/6, ML4.9/19, MLv4.7/20, Mw(mB)4.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=108.8*

ISC 07 00:03:00.0±1.1**, 33°.32S**±0°.07×**178°.3W**±0°.1**, h32km, n40,** σ**1ˢ87**/49**, mb4.2**/4**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.06**	**5**	P	**Pn**	**00 04 01.4**	**+1.5**
GLKZ				S	**Sn**	**00 04 45.5**	**-0.7**
MXZ	**Matakaoa Point**	**5.06**	**212**	P	**Pn**	**00 04 15.5**	**+1.8**
MXZ				S	**Sn**	**00 05 10.9**	**-0.2**
WMGZ	**Waiomatatini S**	**5.23**	**210**	P	**Pn**	**00 04 20.3**	**+4.3**
WMGZ				S	**Sn**	**00 05 18.5**	**+3.3**
HAZ	**Te Kaha**	**5.46**	**215**	P	**Pn**	**00 04 22.4**	**+3.2**
HAZ				S	**Sn**	**00 05 22.4**	**+1.5**
PUZ	**Puketiti**	**5.51**	**210**	P	**Pn**	**00 04 21.9**	**+2.0**
PUZ				S	**Sn**	**00 05 23.3**	**+1.2**
GRZ	**Great Barrier**	**5.92**	**239**	P	**Pn**	**00 04 27.6**	**+2.2**
KUZ	**Kuaotunu**	**5.98**	**233**	P	**Pn**	**00 04 27.9**	**+1.5**
URZ	**Urewera**	**6.18**	**216**	Pn	**Pn**	**00 04 29.0**	**-0.1**
	4.1nm,0.3s,baz=45,slow=1.4,SNR=57						
URZ				Sn	**Sn**	**00 05 33.8**	**-4.8**
	2.4nm,0.3s,baz=18,slow=20,SNR=1.9						
URZ	**Urewera**	**6.18**	**216**	P	**Pn**	**00 04 29.7**	**+0.6**
URZ				S	**Sn**	**00 05 36.7**	**-2.0**
KNZ	**Kokohu**	**6.56**	**209**	P	**Pn**	**00 04 34.7**	**+0.5**
WCZ	**Waipu Caves**	**6.61**	**245**	P	**Pn**	**00 04 37.0**	**+2.1**
TOZ	**Tahuroa Road**	**6.71**	**227**	P	**Pn**	**00 04 38.9**	**+2.6**
WHHZ	**Waihua**	**6.79**	**211**	P	**Pn**	**00 04 39.9**	**+2.5**
WHHZ				S	**Sn**	**00 05 53.0**	**-0.5**
OUZ	**Omahuta**	**6.98**	**252**	P	**Pn**	**00 04 41.3**	**+1.3**
NMHZ	**Naumai**	**7.00**	**213**	P	**Pn**	**00 04 42.5**	**+2.2**
NMHZ				S	**Sn**	**00 05 58.9**	**+0.1**
ARHZ	**Aropaoanui**	**7.05**	**211**	P	**Pn**	**00 04 42.4**	**+1.5**
ARHZ				S	**Sn**	**00 05 58.8**	**-1.2**
BKZ	**Black Stump Fm**	**7.20**	**214**	P	**Pn**	**00 04 43.8**	**+0.7**
CKHZ	**Cape Kidnapper**	**7.34**	**209**	P	**Pn**	**00 04 46.6**	**+1.6**
KWHZ	**Kaweka Forest**	**7.43**	**213**	P	**Pn**	**00 04 47.3**	**+0.9**
KAHZ	**Kahuranaki**	**7.54**	**210**	P	**Pn**	**00 04 47.2**	**-0.5**
WTVZ	**West Tongariro**	**7.61**	**219**	P	**Pn**	**00 04 50.0**	**+1.3**
KRHZ	**Kereru**	**7.64**	**213**	P	**Pn**	**00 04 49.2**	**+0.2**
TWVZ	**Taurewa**	**7.66**	**220**	P	**Pn**	**00 04 50.9**	**+1.5**
MOVZ	**Moawhango**	**7.74**	**217**	P	**Pn**	**00 04 51.0**	**+0.4**
PXZ	**Pawanui**	**7.75**	**209**	P	Pn	00 04 44.3	-6.2
PNHZ	**Pukenui**	**7.93**	**212**	P	**Pn**	**00 04 53.0**	**-0.1**
TSZ	**Takapari Road**	**8.16**	**213**	P	**Pn**	**00 04 55.7**	**-0.4**
DVHZ	**Dannevirke**	**8.26**	**211**	P	**Pn**	**00 04 57.8**	**+0.2**
MRZ	**Mangatainoka R**	**8.81**	**212**	P	**Pn**	**00 05 03.5**	**-1.6**
HOWZ	**Holdsworth Sta**	**9.04**	**211**	P	**Pn**	**00 05 06.5**	**-1.7**
TMWZ	**Te Maipa**	**9.05**	**209**	P	**Pn**	**00 05 07.0**	**-1.4**
MTW	**Mount Morrison**	**9.26**	**211**	P	**Pn**	**00 05 09.3**	**-1.9**
TCW	**Tory Channel**	**9.85**	**215**	P	**Pn**	**00 05 16.2**	**-3.2**
CTA	**Charters Tower**	**34.13**	**284**	P	**P**	**00 09 41.7**	**-0.5**
	1.8nm,0.5s,baz=112,slow=9.6,SNR=5.2						
KRVT	**Keravat (AS076**	**39.99**	**310**	P	**P**	**00 10 30.5**	**-1.4**
	36nm,0.6s,baz=185,slow=18,SNR=5.0						
ASAR	**Alice Springs**	**42.79**	**270**	P	**P**	**00 10 53.7**	**-1.2**
	1.0nm,0.3s,baz=111,slow=7.8,SNR=17						
WRA	**Warramunga Arr**	**44.04**	**275**	P	**P**	**00 11 03.4**	**-1.6**
	2.1nm,0.4s,baz=116,slow=7.7,SNR=38						
MKAR	**Makanchi Array**	**119.43**	**309**	PKP	**PKiKP**	**00 21 47.6**	**+1.6**
	0.3nm,0.7s,baz=107,slow=1.5,SNR=3.0						
FINES	**FINESS Array B**	**147.78**	**338**	PKPbc	**PKPbc**	**00 22 42.3**	**+1.5**
	2.3nm,0.5s,baz=41,slow=4.6,SNR=27						
NOA	**NORSAR Array B**	**151.59**	**350**	PKPbc	**PKiKP**	**00 22 52.1**	**+1.4**
	0.6nm,0.5s,baz=14,slow=4.1,SNR=3.1						

IDC ***07*** *00:04:05.2±0.8, 36°.67N×71°.20E, h0km, mb3.9/15, mb1 4.1/23, mb1mx3.9/53, mbtmp4.0/23, ML3.7/8, MS3.3/9, Ms1 3.2/9, ms1mx3.0/47, Error ellipse: s-maj=16.6km s-min=14.9km az=135.0*

NNC ***07*** *00:04:08.0±3.1, 36°.78N×70°.57E, h0km, mb4.6, mpv4.4, Error ellipse: s-maj=34.2km s-min=17.0km az=148.0*

BJI ***07*** *00:04:10.0±0.0, 37°.00N×71°.00E, h10km, mb4.3/17, mB4.6/13, ML4.3/4, Ms4.0/6, Ms7 3.7/4*

MOS ***07*** *00:04:13.8±0.9, 36°.96N×71°.10E, h70km, mb4.4/19, Error ellipse: s-maj=8.0km s-min=5.2km az=81.3*

ISCJB ***07*** *00:04:14.3±0.2, 36°.88N±0°.02×71°.19E±0°.04, h88km, mb3.9/34, Error ellipse: s-maj=4.2km s-min=3.3km az=164.5*

NEIC ***07*** *00:04:15.3±2.5, 36°.93N±0°.06×71°.02E±0°.08, h75km±7km, mb4.2/21*

ISC 07 00:04:15.7±0.4**, 36°.82N**±0°.04×**71°.05E**±0°.04**, h88km, n158,** σ**2ˢ68**/157**, mb4.1**/37**, 4C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GAR	**Garm**	**2.26**	**345**	Pn	**Pn**	**00 04 49.0**	**-2.4**
CHGR	**Chuyangaron**	**2.37**	**321**	Pn	**Pn**	**00 04 49.9**	**-3.0**
KBL	**Kabul**	**2.79**	**216**	PN	**Pn**	**00 04 59.8**	**+1.2**
KBL	**Kabul**	**2.79**	**216**	Pn	**Pn**	**00 04 59.8**	**+1.2**
CEP	**Cherat**	**3.07**	**166**	P	**Pn**	**00 05 02.4**	**+0.2**
CEP				S	**Sn**	**00 05 46.0**	**+7.9**
BTK	**Batken**	**3.24**	**357**	PN	**Pn**	**00 05 01.5**	**-3.0**
BTK	**Batken**	**3.24**	**357**		**Pn**	**00 05 01.5**	**-3.0**
CHCP	**Chirah Chowk**	**3.63**	**149**	P	**Pn**	**00 05 10.3**	**+0.5**
NIL	**Nilore**	**3.64**	**150**	PN	**Pn**	**00 05 10.7**	**+0.9**
NIL	**Nilore**	**3.64**	**150**		**Pn**	**00 05 10.7**	**+0.9**
THW	**Thamme Wali**	**4.05**	**172**	P	**Pn**	**00 05 15.3**	**-0.2**
KSH	**Kashi**	**4.73**	**54**	Pn	Pn	00 05 18.9	-5.8
KSH				Sn	Sn	00 06 06.7	-12
KSH				smax	smax		
	comp=N,720nm,0.7s						
KSH				smax	smax		
	comp=E,540nm,0.7s						
ARSB	**Arslanbob**	**4.75**	**18**		**Pn**	**00 05 23.1**	**-1.9**
AML	**Almayashu**	**5.69**	**20**	P	**Pn**	**00 05 36.6**	**-1.4**
	SNR=27						
THN	**Thein Dam**	**5.82**	**137**	*e*P	**Pn**	**00 05 40.5**	**+1.0**
THN				*e*S	**Sn**	**00 06 46.5**	**+1.6**
NRN	**Naryn**	**6.01**	**38**	PN	**Pn**	**00 05 40.8**	**-1.5**
NRN	**Naryn**	**6.01**	**38**		**Pn**	**00 05 40.8**	**-1.5**
UCH	**Uchtor**	**6.03**	**25**	P	**Pn**	**00 05 41.9**	**-0.9**
	SNR=12						
KZA	**Kyzart**	**6.18**	**30**	P	**Pn**	**00 05 43.5**	**-1.2**
	SNR=11						
EKS2	**Erkin-Say**	**6.21**	**19**	P	**Pn**	**00 05 44.0**	**-0.8**
	SNR=18						
DHRM	**DHARAMSHALA**	**6.29**	**135**	*e*P	**Pn**	**00 05 43.3**	**-2.7**
DHRM				*e*S	**Sn**	**00 06 55.7**	**-0.9**
DHRM				IAML		00 06 59.5	
	comp=N,314nm,0.6s						
DHRM				IAML		00 07 00.4	
	comp=E,868nm,0.5s						
KK31	**Karatay Array**	**6.29**	**356**	PN	**Pn**	**00 05 43.5**	**-2.4**
KK31	**Karatay Array**	**6.29**	**356**	Pn	**Pn**	**00 05 43.5**	**-2.4**
KK31	**Karatay Array**	**6.29**	**356**	Pn	**Pn**	**00 05 43.6**	**-2.3**
	comp=E,9.6nm,0.3s,baz=182,slow=13,SNR=396						
KK31				⇓Sn	**Sn**	**00 06 55.4**	**-0.9**
	comp=E,7.8nm,0.3s,baz=184,slow=24,SNR=3.6						
KKAR	**Karatay Array**	**6.29**	**356**	PN	**Pn**	**00 05 43.4**	**-2.5**
KKAR	**Karatay Array**	**6.29**	**356**	Pn	**Pn**	**00 05 43.4**	**-2.5**
AAK	**Ala-Archa**	**6.39**	**23**	*i* PN	**Pn**	**00 05 45.8**	**-1.6**
AAK	**Ala-Archa**	**6.39**	**23**	Pn	**Pn**	**00 05 44.6**	**-2.7**
	comp=E,5.2nm,0.3s,baz=156,slow=4.8,SNR=38						
AAK				Sn	**Sn**	**00 06 57.5**	**-1.5**
	comp=E,1.3nm,0.3s,baz=142,slow=19,SNR=2.5						
AAK				Lg	Lg	00 07 31.2	
	comp=E,0.3nm,0.3s,baz=30,slow=20,SNR=1.9						
AAK				LR	LR	00 07 41.5	
	comp=E,42nm,18.8s,baz=208,slow=33						
AAK	**Ala-Archa**	**6.39**	**23**	P	**Pn**	**00 05 47.0**	**-0.4**
	SNR=11						
AAK	**Ala-Archa**	**6.39**	**23**	Pn	**Pn**	**00 05 45.8**	**-1.6**
AAK	**Ala-Archa**	**6.39**	**23**	⇑Pn	**Pn**	**00 05 46.1**	**-1.3**
	comp=E,17nm,0.6s						
AAK				⇑Sn	**Sn**	**00 07 02.8**	**+3.9**
	comp=E,60nm,0.8s						
KBK	**Karagaybulak**	**6.56**	**26**	P	**Pn**	**00 05 48.6**	**-1.1**
	SNR=8.6						
FRU1	**Bishkek**	**6.59**	**24**	PN	**Pn**	**00 05 47.7**	**-2.3**
FRU1	**Bishkek**	**6.59**	**24**		**Pn**	**00 05 47.7**	**-2.3**
CHMS	**Chumysh**	**6.80**	**24**	P	**Pn**	**00 05 51.2**	**-1.6**
	SNR=23						
USP	**Ospenovka**	**6.97**	**21**	P	**Pn**	**00 05 53.8**	**-1.3**
	SNR=11						
TKM2	**Tokmak 2**	**7.03**	**28**	P	**Pn**	**00 05 55.0**	**-1.1**
	SNR=13						
TKM2	**Tokmak 2**	**7.03**	**28**	⇓Pn	**Pn**	**00 05 54.4**	**-1.7**
	comp=E,14nm,0.6s						
TKM2				⇑Sn	**Sn**	**00 07 20.7**	**+6.1**
	comp=E,20nm,0.8s						
KDJ	**Kajisay**	**7.12**	**40**	PN	**Pn**	**00 05 56.4**	**-0.9**
KDJ	**Kajisay**	**7.12**	**40**		**Pn**	**00 05 56.4**	**-0.9**
TARG	**Taragay, Kyrgy**	**7.18**	**45**		**Pn**	**00 05 56.8**	**-1.6**
HRA	**Herat**	**7.57**	**254**	Pn	**Pn**	**00 06 04.3**	**+0.8**
SMLA	**Simla**	**7.61**	**136**	*e*P	**Pn**	**00 06 01.7**	**-2.2**
SMLA				*e*S	**Sn**	**00 07 25.0**	**-3.6**
SMLA				IAML		00 07 31.3	
	comp=N,152nm,0.4s						
SMLA				IAML		00 07 32.7	
	comp=E,111nm,0.2s						
PRZ	**Przheval'sk**	**8.01**	**43**	P	**Pn**	**00 06 08.1**	**-1.4**
PRZ	**Przheval'sk**	**8.01**	**43**		**Pn**	**00 06 08.1**	**-1.4**
DDI	**Dehra Dun**	**8.72**	**136**	*e*x	**Sn**	**00 07 55.3**	**-0.4**
JOSI	**Joshimath**	**9.44**	**129**	*e*P	**Pn**	**00 06 26.9**	**-2.1**

JOSI ex x 00 08 07.3
GEYT Alibeck 10.35 280 Pn Pn 00 06 35.8 -5.5
comp=E,2.7nm,0.3s,baz=117,slow=11,SNR=21
GEYT Sn **Sn** **00 08 30.2 -5.2**
comp=E,3.0nm,0.3s,baz=104,slow=17,SNR=8.6
GEYT LR LR 00 11 58.1
comp=E,200nm,19.6s,baz=115,slow=45
GYA0B ALIBECK ARRAY 10.35 280 Pn Pn 00 06 36.3 -4.9
MAKZ Makanchi 12.88 36 P **Pn** **00 07 13.6 -1.6**
MAKZ Makanchi 12.88 36 **Pn** **00 07 13.6 -1.6**
MK31 Makanchi Array 13.01 36 P **Pn** **00 07 14.9 -2.2**
MK31 Makanchi Array 13.01 36 **Pn** **00 07 14.9 -2.2**
MKAR Makanchi Array 13.01 36 *i* P **Pn** **00 07 16.7 -0.4**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 13.01 36 Pn **Pn** **00 07 13.9 -3.2**
comp=Z,0.3nm,0.3s,baz=225,slow=14,SNR=12
MKAR LR LR 00 12 26.1
comp=Z,135nm,21.7s,baz=228,slow=38
DANN Dangsing 13.63 125 *e*P **Pn** **00 07 21.0 -4.6**
comp=Z,39nm,0.5s
DANN Dangsing 13.63 125 *e*P **Pn** **00 07 21.0 -4.6**
comp=Z,19nm,0.4s
KOLN Koldanda 13.92 127 *e*P **Pn** **00 07 24.6 -4.6**
comp=Z,28nm,0.5s
GKN Gorkha 14.44 124 *e*P Pn 00 07 30.6 -5.4
comp=Z,31nm,0.3s
WMQ Urumqi 14.49 56 *e*P **P** **00 07 38.6 -2.0**
WMQ pP Pn 00 07 42.0 +5.7
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,120nm,5.3s
WMQ Urumqi 14.49 56 P **Pn** **00 07 35.3 -1.1**
WMQ Urumqi 14.49 56 Pn **Pn** **00 07 35.2 -1.1**
KURBB Kurchatov Arra 14.81 19 Pn **Pn** **00 07 35.6 -4.8**
comp=Z,0.0nm,0.3s,baz=209,slow=11,SNR=4.7
AB31 Akbulak array 14.83 330 P Pn 00 07 35.9 -4.8
comp=Z,1.8nm,0.3s,baz=142,slow=12,SNR=105
ABKAR Akbulak array 14.83 330 **Pn** **00 07 36.3 -4.3**
KURK Kurchatov 14.92 19 P **Pn** **00 07 38.3 -3.5**
KURK Kurchatov 14.92 19 **Pn** **00 07 38.3 -3.5**
KKN Kakani 15.01 123 *e*P Pn 00 07 38.1 -5.2
comp=Z,35nm,0.7s
DMN Daman 15.01 124 *e*P Pn 00 07 37.8 -5.6
comp=Z,27nm,0.6s
PKIN Phulchoki 15.23 123 *e*P **Pn** **00 07 41.0 -5.1**
comp=Z,12nm,0.4s
PKIN Phulchoki 15.23 123 *e*P **Pn** **00 07 41.1 -5.1**
comp=Z,16nm,0.4s
PKI Pulchoki 15.24 123 *e*P **Pn** **00 07 40.8 -5.5**
comp=Z,17nm,0.5s
GUN Gumba 15.34 121 *e*P **Pn** **00 07 42.1 -5.6**
JIRN Jiri 15.71 121 *e*P **Pn** **00 07 46.6 -5.8**
comp=Z,37nm,0.4s
BVAR Borovoye Array 16.22 359 P **Pn** **00 07 53.0 -5.1**
BVAR Borovoye Array 16.22 359 Pn **Pn** **00 07 53.0 -5.1**
comp=Z,0.2nm,0.3s,baz=168,slow=12,SNR=3.6
BRVK Borovoye 16.25 358 *i* P **Pn** **00 07 54.9 -3.6**
BRVK Borovoye 16.25 358 P **Pn** **00 07 58.7 +0.2**
RAMN Ramite 16.45 122 *e*P **Pn** **00 07 55.7 -5.7**
comp=Z,12nm,0.5s
AKTO Aktyubinsk 16.53 330 Pn **Pn** **00 07 58.0 -3.9**
comp=Z,0.3nm,0.3s,baz=131,slow=16,SNR=4.5
AKTO Sn Sn 00 10 54.5 -10
comp=Z,0.1nm,0.3s,baz=135,slow=20,SNR=3.5
AKTO Aktyubinsk 16.53 330 ||P **Pn** **00 07 59.7 -2.3**
comp=Z,15nm,0.9s
TAPN Taplejung 16.96 119 *e*P **Pn** **00 08 01.5 -6.3**
comp=Z,23nm,0.6s
ODAN Odare 17.05 121 *e*P **Pn** **00 08 01.9 -6.8**
comp=Z,22nm,0.7s
WSAR Wadi Sarin 17.26 222 P **Pn** **00 08 06.0 -5.2**
comp=Z,0.1nm,0.3s,baz=68,slow=5.4,SNR=1.8
LSA Lhasa 18.23 107 P **Pn** **00 08 22.9 -0.4**
LSA pmax pmax
comp=Z,4.0nm,0.8s
LSA Lhasa 18.23 107 P **Pn** **00 08 22.9 -0.4**
ZAA0 Zalesovo Array 19.61 25 P **P** **00 08 36.4 -0.5**
ZAA0 IAmb IAmb 00 08 39.3
comp=Z,7.8nm,0.6s
ZALV Zalesovo Beam 19.61 25 *i* P **P** **00 08 36.2 -0.6**
ZALV pmax pmax
comp=Z,7.0nm,0.5s
ZALV Zalesovo Beam 19.61 25 P **P** **00 08 35.5 -1.4**
comp=Z,2.2nm,0.3s,baz=217,slow=11,SNR=22
ZALV LR LR 00 16 27.3
comp=Z,78nm,19.0s,baz=278,slow=38
TBLG Delisi 20.92 292 P **P** **00 08 50.7 -0.4**
TBLG pmax pmax
comp=Z,9.0nm,1.2s
TBLG Delisi 20.92 292 P **P** **00 08 50.6 -0.4**
SHL Shillong 21.01 116 P **P** **00 08 50.9 -1.5**
SHL pmax pmax
comp=Z,11nm,0.9s
SHL Shillong 21.01 116 P **P** **00 08 50.9 -1.5**
SHL IAmb IAmb 00 08 59.6
comp=Z,11nm,0.9s
SVE Sverdlovsk 21.20 344 *e*P **P** **00 08 59.4 +5.5**
SVE *e*S **S** **00 12 47.7 +3.1**
SVE pmax pmax
comp=Z,12nm,1.1s
ARU Arti 21.35 341 *c i*P **P** **00 08 59.9 +4.4**
ARU 00 09 25.7
ARU S Sn 00 12 56.5 -3.9
ARU SS SnSn 00 13 34.8 +17
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 21.35 341 P **P** **00 08 56.0 +0.5**
comp=Z,2.1nm,0.6s,baz=174,slow=7.0,SNR=9.1
ARU Arti 21.35 341 P **P** **00 08 55.5 0.0**
ARU IAmb IAmb 00 09 01.0
comp=Z,11nm,1.0s
AKH Akhalkalaki 21.83 291 P **P** **00 09 02.5 +1.5**
AKH pmax pmax
comp=Z,9.0nm,1.0s
AKH Akhalkalaki 21.83 291 P **P** **00 09 02.5 +1.5**
AKH IAmb IAmb 00 09 18.9
comp=Z,9.3nm,1.0s
NCK Nalchik 21.96 296 *i* P **P** **00 09 01.7 -0.5**
NCK pmax pmax
comp=Z,19nm,0.8s
KARS Kars 22.11 289 P **P** **00 09 04.3 +0.3**
KARS Kars 22.11 289 P **P** **00 09 04.3 +0.3**
KBZ Khabaz 22.49 297 *i* P **P** **00 09 08.0 +0.2**
KBZ Khabaz 22.49 297 P **P** **00 09 08.5 +0.7**
comp=Z,4.8nm,0.7s,baz=123,slow=6.7,SNR=10
KBZ LR LR 00 21 01.4
comp=Z,54nm,18.8s,baz=46,slow=45
NEY Neytrino 22.56 295 *i* P **P** **00 09 10.4 +1.7**
NEY pmax pmax
comp=Z,2.0nm,1.3s
SHA1 Shidzhatmaz 22.67 297 *i* P **P** **00 09 10.5 +0.6**
KVAR Kislovodsk Arr 22.67 297 P **P** **00 09 12.6 +2.8**
comp=Z,1.4nm,0.4s,baz=81,slow=19,SNR=3.4
KIV Kislovodsk 22.68 297 *e*P **P** **00 09 10.7 +0.8**
KIV pmax pmax
comp=Z,34nm,1.0s
KIV MLR MLR
comp=Z,122nm,14.0s
KIV Kislovodsk 22.68 297 P **P** **00 09 10.5 +0.6**
KIV IAmb IAmb 00 09 15.8
comp=Z,8.9nm,0.8s
GTA Gaotai 22.74 75 P **P** **00 09 15.6 +5.0**
GTA pP pP 00 09 19.2 -10
GTA sP sP 00 09 21.7 -19
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA pmax pmax
comp=Z,29nm,4.6s
GTA LR LR
comp=Z,200nm,14.4s
GTA LR LR
comp=Z,170nm,13.1s
GTA LR LR
comp=Z,210nm,17.2s
RAYN Ar Rayn 25.66 246 P **P** **00 09 39.7 +2.3**
RAYN pmax pmax
comp=Z,4.0nm,1.0s
RAYN Ar Rayn 25.66 246 P **P** **00 09 39.7 +2.3**
LZH Lanzhou 26.32 82 *e*P **P** **00 09 47.7 +4.3**
LZH pP pP 00 09 53.2 -12
LZH sP sP 00 09 55.7 -20
LZH PP **PnPn** **00 10 25.1 -2.7**
LZH pmax pmax
comp=Z,12nm,1.2s
LZH pmax pmax
comp=Z,56nm,4.3s
VSR Storozhevoye 26.82 313 *i* P **P** **00 09 47.7 +0.2**
VSR pmax pmax
comp=Z,7.0nm,1.1s
GAZ Gaziantep 26.95 281 P **P** **00 09 48.6 -0.4**
GAZ IAmb IAmb 00 09 58.1
comp=Z,7.3nm,1.2s
TLY Talaya 27.40 47 P **P** **00 09 53.2 +0.5**
TLY pmax pmax
comp=Z,17nm,1.5s
TLY Talaya 27.40 47 P **P** **00 09 53.2 +0.5**
TLY IAmb IAmb 00 10 00.7
comp=Z,17nm,1.5s
SONM Songino Array 28.12 56 P **P** **00 10 01.6 +2.2**
comp=Z,0.6nm,0.6s,baz=279,slow=9.5,SNR=4.1
ULN Ulaanbaatar 28.57 56 *i* P **P** **00 10 05.6 +2.2**
ULN pmax pmax
comp=Z,2.0nm,1.0s
BR131 Keskin Array S 29.38 287 P **P** **00 10 11.9 +1.3**
BR131 pmax pmax
comp=Z,3.0nm,1.0s
BR131 Keskin Array S 29.38 287 P **P** **00 10 11.9 +1.3**
BRTR Keskin Array B 29.38 287 P **P** **00 10 12.8 +2.1**
comp=Z,0.6nm,0.7s,baz=110,slow=9.9,SNR=4.2
BRTR LR LR 00 24 34.6
comp=Z,36nm,20.0s,baz=54,slow=42
OBN Obninsk 29.73 319 *e*P **P** **00 10 13.0 -0.3**
OBN pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 30.57 119 *i* P P 00 10 27.2 +6.0
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 30.57 119 P **P** **00 10 19.8 -1.4**
comp=Z,0.4nm,0.3s,baz=301,slow=8.5,SNR=2.6
PALK Pallekele 30.70 161 **S** **00 15 25.9 +7.2**
XAN Xi'an 30.85 84 P **P** **00 10 24.1 +0.5**
XAN pmax pmax
comp=Z,4.0nm,1.0s
XAN Xi'an 30.85 84 P **P** **00 10 24.1 +0.5**
XAN IAmb IAmb 00 10 41.0
comp=Z,3.6nm,1.0s
AKASG Malin Array Be 32.78 308 P **P** **00 10 41.8 +1.6**
comp=Z,0.2nm,0.3s,baz=80,slow=6.6,SNR=3.6
NRIK Noril'sk 33.81 10 P **P** **00 10 49.6 +0.7**
comp=Z,0.8nm,0.4s,baz=196,slow=5.4,SNR=2.0
ATD Arta Tunnel 35.74 232 P **P** **00 11 06.0 -0.2**
WHN Wuhan 36.34 87 P **P** 00 11 18.6 +7.5
SANT Santorini 36.34 283 P **P** **00 11 10.9 -0.2**
FINES FINESS Array B 37.24 326 P **P** **00 11 20.0 +1.6**
FINES FINESS Array B 37.24 326 P **P** **00 11 19.9 +1.6**
comp=Z,5.2nm,1.0s,baz=121,slow=7.9,SNR=13
OJC Ojcow 38.75 307 P **P** **00 11 32.5 +1.3**
OJC pmax pmax
comp=Z,4.0nm,0.6s
OJC Ojcow 38.75 307 P **P** **00 11 32.5 +1.3**
OJC IAmb IAmb 00 11 46.1
comp=Z,4.0nm,0.6s
ARCES ARCESS Array B 40.87 337 P **P** **00 11 48.9 +0.3**
comp=Z,4.2nm,1.0s,baz=108,slow=8.6,SNR=3.8
NB2 NORSAR Subarra 44.15 323 P **P** **00 12 17.0 +1.7**
comp=Z,3.6nm,1.0s,baz=97,slow=7.9
NOA NORSAR Array B 44.15 323 P **P** **00 12 16.4 +1.1**
comp=Z,1.4nm,0.8s,baz=97,slow=7.9,SNR=2.7
NOA LR LR 00 32 34.3
comp=Z,38nm,18.5s,baz=265,slow=38
GRA1 Grafenberg Arr 44.30 307 P **P** **00 12 17.9 +1.3**
GRF Grafenberg Arr 44.30 307 P **P** **00 12 17.9 +1.3**
GRF pmax pmax
comp=Z,9.0nm,0.9s
YSS Yuzh-Sakhalins 52.61 55 *e*P **P** **00 13 18.1 -2.3**
YSS MLR MLR
comp=Z,200nm,15.0s
BILL Bilibino 58.31 26 *e*P **P** **00 14 02.6 +1.7**
BILL pmax pmax
comp=Z,2.0nm,1.0s
TORD Torodi Ar. Bea 65.76 269 P **P** **00 14 53.0 +1.4**
comp=Z,0.5nm,0.4s,baz=54,slow=6.2,SNR=9.5
BATI Baumata 68.00 122 LR LR 00 48 04.0
comp=Z,37nm,18.1s,baz=88,slow=39
INK Inuvik 73.59 9 P **P** **00 15 40.5 +1.7**
INK pmax pmax
comp=Z,5.0nm,1.2s
INK Inuvik 73.59 9 P **P** **00 15 40.5 +1.7**
comp=Z,0.7nm,0.5s,baz=327,slow=4.1,SNR=8.5
INK Inuvik 73.59 9 IAmb IAmb 00 15 49.5
comp=Z,5.1nm,1.2s
NEA Nenana 74.14 17 P **P** **00 15 42.6 +0.5**
COLA College 74.16 16 P **P** **00 15 43.2 +1.0**
COLA pmax pmax
comp=Z,26nm,1.5s
COLA College 74.16 16 P **P** **00 15 43.2 +1.0**
IL31 74.47 16 P **P** **00 15 45.1 +1.2**
IL31 IAmb IAmb 00 16 02.1
comp=Z,6.4nm,1.5s
ILAR Eielson Array 74.47 16 P **P** **00 15 45.5 +1.5**
comp=Z,0.5nm,1.0s,baz=308,slow=4.4,SNR=3.5
BOSA Boshof 78.01 220 LR LR 00 53 42.4
comp=Z,32nm,18.4s,baz=60,slow=38
YKA Yellowknife Ar 80.93 3 P **P** **00 16 21.7 +1.7**
comp=Z,0.5nm,0.4s,baz=349,slow=5.7,SNR=11
WRA Warramunga Arr 82.12 122 P **P** **00 16 26.9 +0.1**
comp=Z,0.3nm,0.4s,baz=330,slow=4.8,SNR=2.8
ASAR Alice Springs 84.40 125 P **P** **00 16 38.9 +0.4**
comp=Z,0.3nm,0.6s,baz=323,slow=5.7,SNR=3.0

*GCG **07** 00:16:11.6±0.3, 13°.40N×90°.87W, h48km±386km, MD3.7*
*SNET **07** 00:16:13.8±1.2, 13°.52N×90°.68W, h6km±14km, ML2.9*
ISC 07 00:16:11.8±2.4, 13°.4N±0°.1×90°.84W±0°.09, h29km, n12,
σ0s96/16, 5C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
IXG	**Ixpaco**	**0.84**	**27**	*e*P	**Pn**	**00 16 28.1**	**+0.3**
IXG	**Ixpaco**	**0.84**	**27**	*e*P	**Pb**	**00 16 27.2**	**-0.7**
FUG	**Fuego 3**	**1.02**	**360**	*e*P	**Pn**	**00 16 30.4**	**+0.1**
CEVE	**Cerro Verde**	**1.25**	**71↑**	*e*P	**Pb**	**00 16 34.2**	**-0.6**
CEVE				*e*S	**Sb**	**00 16 49.6**	**-1.0**
CEVE				IAML		00 16 55.3	
	comp=Z,1μm,0.2s						
RTR	**El Retiro**	**1.25**	**68↑**	*i*P	**Pb**	**00 16 34.5**	**-0.4**
RTR				*e*S	**Sb**	**00 16 49.8**	**-0.8**
SBLS	**San Blas**	**1.25**	**70↑**	*e*P	**Pn**	**00 16 34.2**	**+0.7**
SBLS				*e*S	**Sb**	**00 16 49.6**	**-1.1**
NBG	**Las Nubes**	**1.25**	**22**	*e*P	**Pb**	**00 16 35.8**	**+0.8**
NBG				*e*S	**Sb**	**00 16 51.7**	**+0.8**
SNJE	**San Jose**	**1.27**	**69↑**	*e*P	**Pb**	**00 16 34.7**	**-0.6**
STG3	**Santiaguito 3,**	**1.47**	**331**	*e*P	**Pn**	**00 16 36.4**	**-0.1**
LFU	**La Fuente**	**1.71**	**79**	*e*P	**Pb**	**00 16 41.6**	**-0.9**
MTO3	**Montecristo**	**1.73**	**56↑**	*e*P	**Pn**	**00 16 41.2**	**+1.1**
TECA	**Tecapa**	**2.27**	**88**	*e*P	**Pn**	**00 16 49.5**	**+1.9**

*ISCJB **07** 00:33:02.5±0.4, 3°.29S±0°.04×139°.95E±0°.05, h56km, mb3.9/8, MS3.0/8, Error ellipse: s-maj=6.7km s-min=5.0km az=21.3*
*IDC **07** 00:33:04.7±1.2, 3°.21S×139°.92E, h66km±14km, mb3.7/9, mb1 4.0/12, mb1mx3.7/35, mbtmp4.1/12, MS3.1/9, Ms1 3.1/9, ms1mx2.8/31, Error ellipse: s-maj=23.8km s-min=12.6km az=107.0*
*NEIC **07** 00:33:04.4±2.6, 3°.23S±0°.05×139°.92E±0°.09, h69km±9km, mb4.4/13*
*DJA **07** 00:33:04.5±0.4, 3°S±6"×14°0E±°, h66km±9km, M4.6/8, mB5.2/5, mb4.6/8, MLv4.6/6, Mw(mB)4.6/5, Mwp5.6/1*
ISC 07 00:33:02.9±0.5, 3°.32S±0°.05×139°.88E±0°.05, h56km, n38,
σ2s65/42, mb4.0/11, MS3.1/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
GENI	**Genyem**	**0.78**	**22**	P	**Pn**	**00 33 18.7**	**+0.7**
GENI				S	**Sn**	**00 33 28.4**	**-0.6**
JAY	**Jayapura**	**1.15**	**46**	P	**Pn**	**00 33 23.6**	**+0.6**
	222nm,0.3s,baz=214,slow=11,SNR=274						
JAY				S	**Sn**	**00 33 37.9**	**+0.1**
	baz=252,slow=19						
JAY	**Jayapura**	**1.15**	**46**	P	**Pn**	**00 33 23.2**	**+0.3**
JAY				S	**Sn**	**00 33 36.7**	**-1.1**
WAMI	**Wamena**	**1.29**	**244**	P	Pn	00 33 30.4	+5.7
SMPI	**Sarmi**	**1.77**	**319**	P	**Pn**	**00 33 32.4**	**+1.3**
SMPI				S	**Sn**	**00 33 54.6**	**+2.1**
RKPI	**Ransiki, Papua**	**5.97**	**287**	P	**Pn**	**00 34 32.2**	**+3.4**
	128nm,0.7s,4μm0.7nm						
FAKI Fak Fak 7.63 273 P **Pn** **00 34 54.9 +3.4**
27nm,0.7s,4μm0.1nm
SIJI Sorong 8.94 286 P **Pn** **00 35 12.1 +2.5**
7.2nm,0.3s,baz=184,slow=23,SNR=20
SIJI S **Sn** **00 36 43.4 -5.5**
1.1nm,0.3s,baz=300,slow=20,SNR=2.3
SWI Sorong 8.95 286 P **Pn** **00 35 13.1 +3.5**
46nm,0.6s
PMG Port Moresby 9.43 130 P **Pn** **00 35 19.6 +3.5**
1.8nm,0.3s,baz=290,slow=11,SNR=2.5
PMG LR LR 00 39 35.7
comp=Z,92nm,19.6s,baz=274,slow=41
MTN Manton Dam 12.82 222 Pn **Pn** **00 36 05.2 +2.7**
KNRA Kununurra 16.44 221 **P** **00 36 52.6 +0.7**
KNRA IAmb IAmb 00 37 05.2
comp=Z,18nm,0.8s
SOEI Soe 16.77 247 P **P** **00 36 58.5 +2.8**
comp=Z,60nm,0.9s,comp=Z,909nm
SOEI Soe 16.77 247 **P** **00 36 57.2 +1.5**
SOEI IAmb IAmb 00 37 14.3
comp=Z,19nm,0.7s
WRAB Tennant Creek 17.37 198 **Pn** **00 37 02.9 +1.4**
WRAB IAmb IAmb 00 37 10.8
comp=Z,12nm,0.7s
WB2 Warramunga Arr 17.38 198 **P** **00 37 04.7 +2.4**
WB2 IAmb IAmb 00 37 21.0
comp=Z,7.8nm,0.7s
WRA Warramunga Arr 17.38 198 P **P** **00 37 04.4 +2.1**
comp=Z,0.8nm,0.3s,baz=23,slow=12,SNR=30
WRA S **Sn** **00 40 06.1 -8.3**
comp=Z,0.4nm,0.3s,baz=12,slow=22,SNR=4.2
KAPI Kappang 20.14 265 P **P** **00 37 31.1 -1.6**
comp=Z,5.1nm,0.6s,baz=171,slow=18,SNR=5.0
KAPI LR LR 00 46 06.4
comp=Z,30nm,20.2s,baz=87,slow=39
KAPI Kappang 20.14 265 P **P** **00 37 32.2 -0.4**
FITZ Fitzroy Crossi 20.25 223 P **P** **00 37 34.5 +0.7**
comp=Z,2.8nm,0.5s,baz=35,slow=10,SNR=16
FITZ S **S** **00 41 11.3 -6.7**
comp=Z,5.4nm,0.7s,baz=82,slow=15,SNR=5.7
FITZ LR LR 00 46 14.4
comp=Z,95nm,18.5s,baz=32,slow=39
FITZ Fitzroy Crossi 20.25 223 P **P** **00 37 35.5 +1.7**
ASAR Alice Springs 21.03 195 P **P** **00 37 45.2 +3.0**
comp=Z,2.8nm,0.7s,baz=26,slow=10.0,SNR=37
ASAR S **S** **00 41 32.5 -1.0**
comp=Z,1.2nm,0.6s,baz=16,slow=28,SNR=4.3
ASAR LR LR 00 45 26.1
comp=Z,53nm,18.1s,baz=38,slow=35
TGY Tagaytay City 25.55 313 LR LR 00 49 53.6
comp=Z,99nm,19.7s,baz=110,slow=40
STKA Stephens Creek 28.45 177 P **P** **00 38 55.0 +2.4**
comp=Z,0.7nm,0.3s,baz=355,slow=11,SNR=4.9
STKA LR LR 00 50 55.8
comp=Z,97nm,18.5s,baz=18,slow=38
STKA Stephens Creek 28.45 177 IAmb IAmb 00 38 59.7
comp=Z,0.8nm,1.1s
FORT Forrest 29.50 201 P **P** **00 39 01.2 -0.7**
FORT IAmb IAmb 00 39 02.6
comp=Z,14nm,0.9s
KWAJ Kwajalein Atol 30.16 66 P **P** **00 39 06.3 -1.7**
JOW Kunigami 32.01 340 P **P** **00 39 22.0 -2.1**
JOW IAmb IAmb 00 39 25.2
comp=Z,18nm,1.1s
YHNB Yeheng 33.13 328 P **P** **00 39 33.3 -0.7**
KSRS Korea Array 42.07 346 P **P** **00 40 50.6 +1.4**
comp=Z,1.9nm,0.6s,baz=159,slow=9.0,SNR=7.1
KSRS LR LR 00 58 43.8
comp=Z,16nm,18.9s,baz=126,slow=37
USRK Ussuriysk Ar. 47.84 352 P **P** **00 41 35.9 +0.9**
comp=Z,1.4nm,0.7s,baz=125,slow=7.6,SNR=3.2
BKZ Black Stump Fm 48.76 142 P **P** **00 41 41.1 -1.3**
KLR Kul'dur 52.82 353 P **P** **00 42 12.6 0.0**
comp=Z,2.0nm,0.5s,baz=210,slow=3.4,SNR=5.6
KLR LR LR 01 03 13.4
comp=Z,21nm,18.1s,baz=292,slow=34
PETK Petropavlovsk- 58.19 13 LR LR 01 07 22.6
comp=Z,4.9nm,19.9s,baz=59,slow=35
MKAR Makanchi Array 70.98 322 P **P** **00 44 14.7 0.0**
comp=Z,0.8nm,0.7s,baz=107,slow=8.1,SNR=4.8
ZALV Zalesovo Beam 73.05 330 P **P** **00 44 25.9 -1.0**
comp=Z,0.5nm,0.6s,baz=145,slow=2.9,SNR=2.6
IL31 85.91 24 P **P** **00 45 36.0 -0.5**
IL31 IAmb IAmb 00 45 36.9
comp=Z,2.6nm,0.8s
ILAR Eielson Array 85.91 24 P **P** **00 45 35.8 -0.8**
comp=Z,1.9nm,0.9s,baz=261,slow=4.7,SNR=16

*ISCJB **07** 00:33:40.2±0.5, 67°.81N±0°.02×20°.28E±0°.10, h0km, mb3.4/1, Error ellipse: s-maj=5.4km s-min=3.1km az=167.8*
*HEL **07** 00:33:40.9±0.1, 67°.82N×20°.20E, h0km, ML2.0, ML2.0(UPP), Explosion*
*UPP **07** 00:33:40.3±0.0, 67°.82N×20°.20E, h0km, ML2.0, Explosion*
*IDC **07** 00:33:44.5±2.3, 67°.77N×21°.49E, h0km, mb3.4/1, mb1 3.2/3, mb1mx3.0/53, mbtmp3.2/3, ML1.9/2, Error ellipse: s-maj=35.8km s-min=7.6km az=105.0*
ISC 07 00:33:41.3±0.8, 67°.82N±0°.02×20°.27E±0°.03, h0km, n30,
σ1s33/45, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**10**	P	**Pg**	**00 33 43.4**	**-0.6**
KUA				S	**Sg**	**00 33 45.3**	**-0.4**
KUA	**Kurravaara**	**0.14**	**10**	*i* P	**Pg**	**00 33 43.4**	**-0.6**
KUA				*i* S	**Sg**	**00 33 45.3**	**-0.4**
RATU	**Laukkuluspa**	**0.26**	**272**	P	**Pg**	**00 33 45.0**	**-1.2**
RATU	**Laukkuluspa**	**0.26**	**272**	*i* P	**Pg**	**00 33 45.0**	**-1.2**
KOVU	**Salmi**	**0.41**	**354**	P	**Pg**	**00 33 48.2**	**-0.9**
KOVU				S	**Sg**	**00 33 53.7**	**-0.8**
KOVU	**Salmi**	**0.41**	**354**	*i* P	**Pg**	**00 33 48.2**	**-0.9**
KOVU				*i* S	**Sg**	**00 33 53.7**	**-0.8**
LANU	**Lannavaara**	**0.69**	**69**	P	**Pg**	**00 33 53.8**	**-0.7**
LANU	**Lannavaara**	**0.69**	**69**	*e*P	**Pg**	**00 33 53.5**	**-1.0**
LANU				*e*S	**Sg**	**00 34 03.1**	**-0.2**
DUNU	**Dundret**	**0.71**	**171**	P	**Pg**	**00 33 53.7**	**-1.0**
DUNU	**Dundret**	**0.71**	**171**	*i* P	**Pg**	**00 33 53.7**	**-1.0**
MASU	**Masugnsbyn**	**0.75**	**118**	P	**Pg**	**00 33 55.0**	**-0.7**
MASU	**Masugnsbyn**	**0.75**	**118**	*i* P	**Pg**	**00 33 55.0**	**-0.7**
KIF	**Kilpisjarvi**	**1.21**	**9**	*e*P	**Pg**	**00 34 03.3**	**-1.1**
	baz=193						
KIF				MSG		00 34 18.9	
	comp=Z,20nm,0.2s						
KIF				*e*S	**Sg**	**00 34 19.4**	**-0.6**
KIF	**Kilpisjarvi**	**1.21**	**9**	*e*P	**Pg**	**00 34 03.5**	**-0.9**
PAJU	**Pajala**	**1.35**	**125**	P	**Pg**	**00 34 05.6**	**-1.6**
PAJU				S	**Sg**	**00 34 23.6**	**-1.1**
PAJU	**Pajala**	**1.35**	**125**	*e*P	**Pg**	**00 34 05.6**	**-1.6**
PAJU				*e*S	**Sg**	**00 34 23.6**	**-1.1**
HEF	**Hetta**	**1.40**	**63**	*e*P	**Pn**	**00 34 06.2**	**-1.9**
	baz=246						
HEF				MSG		00 34 23.8	
	comp=Z,11nm,0.2s						
HEF				*e*SN	**Sn**	**00 34 29.0**	**+1.8**
HEF	**Hetta**	**1.40**	**63**	*e*P	**Pn**	**00 34 06.7**	**-1.4**
ERTU	**Ertsjaerv**	**1.47**	**149**	*e*P	**Pn**	**00 34 07.4**	**-1.6**
ERTU				*e*SB	**Sg**	**00 34 27.4**	**-1.0**
KALU	**Kalix**	**2.31**	**147**	*e*P	**Pn**	**00 34 20.8**	**+0.3**
KALU				*e*SB	**Sb**	**00 34 51.1**	**-1.8**
SGF	**Sodankyl**	**2.42**	**96**	*e*P	**Pn**	**00 34 22.2**	**+0.2**
RNF	**Rovaniemi**	**2.54**	**116**	*e*PB	**Pn**	**00 34 24.8**	**+1.1**
RNF				*e*SB	**Sb**	**00 34 58.5**	**-1.0**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**00 34 23.9**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=227,slow=15,SNR=36						
ARCES				Lg	Lg	00 34 57.1	
	comp=Z,2.2nm,0.3s,baz=233,slow=24,SNR=13						
ARE0	**ARCESS Array S**	**2.58**	**46**	*e*P	**Pn**	**00 34 24.6**	**+0.4**
ARE0				*e*SB	**Sb**	**00 34 57.9**	**-2.6**
OUL	**Oulu**	**3.55**	**138**	*e*PG	**Pb**	**00 34 46.0**	**+1.1**
	baz=324						
MSF	**Maaselka**	**3.95**	**115**	*e*P	**Pn**	**00 34 43.8**	**+0.7**
MSF				*e*SG	**Sb**	**00 35 42.2**	**+2.2**
UMAU	**Umeaa**	**3.95**	**177**	*e*P	**Pn**	**00 34 44.9**	**+1.8**
	baz=360						
KU6	**Riekki**	**4.19**	**111**	*e*P	**Pn**	**00 34 46.6**	**+0.3**
	baz=299						
FINES	**FINESS Array B**	**6.86**	**156**	Pn	**Pn**	**00 35 22.7**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=345,slow=9.3,SNR=2.8						
FINES				Sn	**Sn**	**00 36 38.8**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=346,slow=22,SNR=3.5						
FINES				Lg	Lg	00 37 13.7	
	comp=Z,0.2nm,0.3s,baz=346,slow=26,SNR=6.0						
BRTR	**Keskin Array B**	**29.09**	**158**	P	**P**	**00 39 46.5**	**+3.1**

comp=Z,0.7nm,1.1s,baz=353,slow=10,SNR=2.1

ISCJB ***07*** *00:45:49.4±1.3, 1°.1N±0°.1×127°.5E±0°.2, h10km, mb3.4/3, Error ellipse: s-maj=26.1km s-min=11.3km az=24.1*
IDC ***07*** *00:45:49.9±2.7, 0°.99N×127°.45E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/37, mbtmp3.5/3, Error ellipse: s-maj=246.2km s-min=25.2km az=67.0*
DJA ***07*** *00:45:50.6±0.4, 1°N±3°×12°7E±°, h10km, M3.4/5, MLv3.4/5*
ISC 07 00:45:51.2±1.5**, 1°.0N**±0°.1×**127°.5E**±0°.2**, h10km, n6, σ0s.39**/7**, mb3.4**/3**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	Ternate	0.26	215	P	Pg	00 45 56.8	+0.2
TNTI				S	Sg	00 46 00.2	0.0
LBMI	Labuha	1.62	181	P	Pn	00 46 19.4	-0.5
SANI	Sanana	3.38	207	P	Pn	00 46 43.8	-0.4
WRA	Warramunga Arr	21.85	163	P	P	00 50 44.6	+0.4
	0.9nm,0.6s,baz=341,slow=11,SNR=4.8						
ASAR	Alice Springs	25.28	166	P	P	00 51 18.3	+0.3
	0.2nm,0.4s,baz=346,slow=11,SNR=3.8						
MKAR	Makanchi Array	60.24	326	P	P	00 55 59.8	0.0
	0.8nm,0.8s,baz=122,slow=8.1,SNR=7.9						

BJI ***07*** *01:06:37.0±0.0, 11°.30N×93°.65E, h157km, mb4.7/46, mB4.8/27*
MOS ***07*** *01:06:37.5±1.0, 11°.41N×93°.71E, h160km, mb4.4/18, Error ellipse: s-maj=12.0km s-min=6.3km az=103.8*
DJA ***07*** *01:06:37.6±0.4, 11°N±3°×9°4E±°, h154km±7km, M4.6/13, mB5.0/7, mb4.8/13, MLv4.8/4, Mw(mB)4.3/7*
ISCJB ***07*** *01:06:37.1±0.2, 11°.40N±0°.03×93°.72E±0°.04, h150km, mb4.4/51, Error ellipse: s-maj=6.5km s-min=3.4km az=146.6*
NEIC ***07*** *01:06:38.9±1.5, 11°.44N±0°.06×93°.75E±0°.07, h154km±4km, mb4.6/38*
IDC ***07*** *01:06:40.2±0.8, 11°.48N×93°.83E, h168km±6km, mb3.9/20, mb1 4.0/21, mb1mx3.8/34, mbtmp4.4/21, MS3.0/1, Ms1 3.0/1, ms1mx2.5/32, Error ellipse: s-maj=12.5km s-min=8.0km az=56.0*
KLM ***07*** *01:06:41.0, 11°.55N×93°.80E, h171km, mb4.9*
NDI ***07*** *01:06:42.8±4.4, 11°.82N×93°.44E, h159km±16km, mb4.6, ML4.5, mb4.6(NEIC)*
ISC 07 01:06:38.6±0.3**, 11°.51N**±0°.05×**93°.72E**±0°.06**, h150km, h150km:pP-P, n155, σ1s.64**/166**, mb4.5**/59**, 7C-2D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	Port Blair	0.97	279	eP	Pn	01 07 03.7	+0.6
PBA				eS	Sn	01 07 23.2	+1.5
PBA				IAML		01 07 25.5	
	comp=N,27μm,0.3s						
PBA				IAML		01 07 27.5	
	comp=E,11μm,0.1s						
PBA	Port Blair	0.97	279		Pn	01 07 03.8	+0.7
DGPR	DIGLIPUR	1.83	335	⇑iP	Pn	01 07 12.6	+0.8
DGPR				eS	Sn	01 07 36.8	-0.5
DGPR				IAML		01 07 38.5	
	comp=E,5μm,0.3s						
DGPR				IAML		01 07 39.0	
	comp=N,3μm,0.3s						
LHMI	Lhok Sumawe	7.01	153	P	Pn	01 08 18.5	-0.3
	comp=N,99nm,0.6s,comp=N,2μmcomp=N,0.4nm						
LHMI	Lhok Sumawe	7.01	153	Pn	Pn	01 08 18.3	-0.5
MLSI	Meulaboh, Aceh	7.67	160	P	Pn	01 08 24.5	-3.2
	comp=N,79nm,0.6s,comp=N,3μmcomp=N,0.8nm						
CM31	Chiang Mai Arr	8.55	36		Pn	01 08 41.4	+1.9
CMAR	Chiang Mai Arr	8.55	36	P	Pn	01 08 41.0	+1.5
	comp=N,3.0nm,0.3s,baz=224,slow=14,SNR=119						
SIMRM	Sittwe	8.61	355	Pn	Pn	01 08 40.0	-0.2
PBKT	Sadao Pong	8.65	54		Pn	01 08 41.6	+1.0
CHTO	Chiang Mai	8.84	34	P	Pn	01 08 44.4	+1.1
CHTO	Chiang Mai	8.84	34		Pn	01 08 44.4	+1.1
KULM	Kulim	9.23	131	P	Pn	01 08 49.0	+0.5
KULM	Kulim	9.23	131		Pn	01 08 47.9	-0.6
PSI	Prapat	10.07	149	P	Pn	01 09 01.1	+1.3
RPSI	Rantau Prapat	10.16	149	Pn	Pn	01 09 01.1	+0.2
BWNR	Bhubaneshwar	11.58	320	ex	Pn	01 09 20.7	+1.2
BWNR				ex	x	01 11 19.4	
AZL	Aizawl	12.20	356	eP	Pn	01 09 28.6	+1.0
AZL				ex	x	01 11 39.2	
SLVN	Son La	13.81	44		P	01 09 53.4	+1.6
MYKOM	Kota Tinggi	13.94	133		P	01 09 54.1	+1.0
PDSI	Padang	14.04	151	P	P	01 09 56.8	+2.5
SHL	Shillong	14.09	353	P	P	01 09 54.5	-0.4
SHL	Shillong	14.09	353	eP	Pn	01 09 53.5	+1.6
SHL				eS	Sn	01 12 21.7	-6.5
SHL				IAML		01 12 27.3	
	comp=N,81nm,0.4s						
SHL				IAML		01 12 29.9	
	comp=E,92nm,0.3s						
SHL	Shillong	14.09	353	P	P	01 09 54.5	-0.4
KOHI	KOHIMA	14.14	1	eP	Pn	01 09 52.3	-0.2
KOHI				ex	x	01 12 23.3	
BOK	Bokaro	14.31	330	eP	Pn	01 09 52.7	-1.8
BOK				ex	x	01 09 58.0	
BOK				IAmb	IAmb	01 10 03.1	
	comp=Z,34nm,0.8s						
BOK				ex	x	01 12 20.1	
HYB	Hyderabad	15.81	294	i P	Pn	01 10 12.0	-1.2
ZIRO	ZIRO	15.94	0	eP	Pn	01 10 14.4	-0.4
ZIRO				ex	x	01 13 04.1	
KMI	Kunming	16.01	31	P	P	01 10 17.7	+1.4
KMI				PP	pP	01 10 34.4	-7.2
KMI				sP	sP	01 10 59.6	-1.1
KMI				pmax	pmax		
	comp=Z,51nm,0.9s						
KMI				pmax	pmax		
	comp=Z,96nm,4.1s						
KMI	Kunming	16.01	31	P	P	01 10 19.3	+3.0
KMI				pmax	pmax		
	comp=Z,37nm,0.7s						
KMI	Kunming	16.01	31	Pn	P	01 10 19.4	+3.0
KMI				IAmb	IAmb	01 10 20.3	
	comp=Z,37nm,0.7s						
DSRI	Dabo	16.07	137	P	Pn	01 10 16.5	+0.2
	comp=Z,194nm,1.3s						
ODAN	Odare	16.39	340	eP	P	01 10 22.8	+2.3
	comp=Z,110nm,0.4s						
TAPN	Taplejung	16.74	341	eP	Pn	01 10 26.9	+2.2
RAMN	Ramite	16.76	337	eP	Pn	01 10 27.4	+2.5
NGP	Nagpur	17.02	306	ex	Pn	01 10 30.5	+2.7
NGP				IAmb	IAmb	01 10 40.2	
	comp=Z,10nm,0.6s						
NGP				ex	x	01 13 32.8	
JIRN	Jiri	17.55	337	eP	Pn	01 10 36.1	+1.6
	comp=Z,102nm,0.5s						
PKI	Pulchoki	17.78	335	eP	Pn	01 10 38.3	+1.1
PKIN	Phulchoki	17.79	335	eP	Pn	01 10 38.3	+1.0
	comp=Z,79nm,0.6s						
GUN	Gumba	17.90	337	eP	Pn	01 10 39.6	+1.0
	comp=Z,67nm,0.3s						
DMN	Daman	17.94	334	eP	Pn	01 10 40.0	+1.0
KKN	Kakani	18.03	335	eP	Pn	01 10 40.8	+0.8
	comp=Z,43nm,0.4s						
LSA	Lhasa	18.26	353	P	P	01 10 42.2	+1.0
LSA				pmax	pmax		
	comp=Z,50nm,0.4s						
LSA	Lhasa	18.26	353	P	P	01 10 42.2	+1.0
GKN	Gorkha	18.49	334	eP	Pn	01 10 45.9	+0.6
	comp=Z,271nm,0.4s						
KOLN	Koldanda	18.76	331	eP	Pn	01 10 49.1	+0.5
MDSI	Maura Dua	18.99	146	P	P	01 10 45.6	-3.2
	comp=Z,16nm,0.8s						
DANN	Dangsing	19.17	332	eP	Pn	01 10 53.5	0.0
	comp=Z,484nm,0.6s						
GYA	Guiyang	19.24	38	⇑iP	P	01 10 53.1	+1.6
GYA				pmax	pmax		
	comp=Z,30nm,0.6s						
KSM	Kuching	19.25	120	P	P	01 10 52.0	+0.4
KSM	Kuching	19.25	120	P	P	01 10 48.3	-3.3
KSM				IAmb	IAmb	01 10 57.2	
	comp=Z,39nm,0.8s						
BHPL	Bhopal	19.42	309	eP	P	01 10 52.5	-0.9
BHPL				IAmb	IAmb	01 11 00.7	
	comp=Z,33nm,1.0s						
TPI	Tanjungpandan	19.82	135	P	P	01 10 57.4	-0.4
SBUM	Sibu	20.43	115	P	P	01 11 05.0	+0.6
SBUM	Sibu	20.43	115	P	P	01 11 02.2	-2.2
SBUM				IAmb	IAmb	01 11 08.5	
	comp=Z,18nm,1.3s						
CD2	Chengdu	21.43	24	eP	P	01 11 16.0	+1.0
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SMLA	Simla	24.82	324	eP	P	01 11 47.8	+0.9
SMLA				IAmb	IAmb	01 11 53.5	
	comp=Z,14nm,0.4s						
SMRI	Semarang	24.83	137	P	P	01 11 48.6	+1.3
LZH	Lanzhou	26.13	19	eP	P	01 11 58.9	0.0
LZH				pP	pwP	01 12 35.6	+3.2
LZH				sP	sP	01 12 51.1	+4.3
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
LZH				pmax	pmax		
	comp=Z,59nm,4.9s						
XAN	Xi'an	26.38	29	P	P	01 12 00.4	-0.7
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XAN	Xi'an	26.38	29	P	P	01 12 00.2	-0.8
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XAN	Xi'an	26.38	29	P	P	01 12 00.2	-0.8
WHN	Wuhan	26.92	42	⇓P	P	01 12 10.6	+4.7
WHN				pmax	pmax		
	comp=Z,22nm,0.4s						
GTA	Gaotai	28.31	10	P	P	01 12 19.4	+1.1
GTA				pP	pwP	01 12 52.7	+0.5
GTA				sP	sP	01 13 11.6	+5.2
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NIL	Nilore	28.92	323	P	P	01 12 24.0	+0.4
NIL				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NIL	Nilore	28.92	323	P	P	01 12 24.1	+0.4
NIL				IAmb	IAmb	01 12 26.2	
	comp=Z,9.7nm,0.6s						
KAPI	Kappang	30.66	121	P	P	01 12 39.5	+0.3
KAPI				pmax	pmax		
	comp=Z,19nm,0.7s						
KAPI	Kappang	30.66	121	P	P	01 12 39.5	+0.3
NJ2	Nanjing	30.89	45	eP	P	01 12 42.1	+1.1
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
LUWI	Luwuk	31.45	111	P	P	01 12 47.0	+0.9
KSH	Kashi	32.03	334	P	P	01 12 51.1	0.0
KSH				PP	PnPn	01 14 04.5	+1.7
KSH				PcP	PcP	01 15 37.5	+0.2
KSH				S	S	01 17 50.7	-1.3
KSH				sS	sS	01 18 51.2	+4.0
KSH				ScP	ScP	01 19 04.4	-2.6
KSH				SS	SnSn	01 19 55.3	-4.7
KSH				pmax	pmax		
	comp=Z,51nm,0.8s						
KSH				pmax	pmax		
	comp=Z,220nm,4.8s						
KSH				LR	LR		
	comp=Z,400nm,5.3s						
KSH				LR	LR		
	comp=Z,260nm,4.2s						
KSH				LR	LR		
	comp=Z,550nm,6.2s						
KBL	Kabul	32.10	320	P	P	01 12 52.3	+0.4
KBL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KBL	Kabul	32.10	320	P	P	01 12 52.2	+0.4
KBL				IAmb	IAmb	01 12 54.0	
	comp=Z,6.5nm,1.0s						
WMQ	Urumqi	32.61	352	eP	P	01 12 58.6	+2.5
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,130nm,4.9s						
HHC	Hu-ho-hao-te	33.18	25	eP	P	01 13 03.2	+2.1
KDJ	Kajisay	33.76	338	P	P	01 13 07.5	+1.4
KDJ				pmax	pmax		
	comp=Z,12nm,0.8s						
KDJ	Kajisay	33.76	338	P	P	01 13 07.5	+1.4
KDJ				IAmb	IAmb	01 13 08.8	
	comp=Z,12nm,0.8s						
PDGK	Podgornoye	34.02	341	P	P	01 13 08.5	+0.1
PDGK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
GAR	Garm	34.40	327	P	P	01 13 12.2	+0.6
MMRI	Maumere	34.71	124	P	P	01 13 13.6	-0.9
UCH	Uchtor	34.90	335	P	P	01 13 18.1	+1.8
	SNR=9.8						
BTK	Batken	34.91	329	IAmb	IAmb	01 13 20.2	
	comp=Z,16nm,0.8s						
TKM2	Tokmak 2	35.04	337	i P	P	01 13 17.6	+0.4
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TKM2	Tokmak 2	35.04	337	P	P	01 13 18.8	+1.6
	SNR=8.6						
KBK	Karagaybulak	35.07	336	P	P	01 13 19.9	+2.4
	SNR=15						
AML	Almayashu	35.16	334	P	P	01 13 20.4	+1.8
	SNR=16						
AAK	Ala-Archa	35.24	335	i P	P	01 13 19.6	+0.7
AAK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
AAK	Ala-Archa	35.24	335	P	P	01 13 20.7	+1.8
	SNR=9.1						
AAK	Ala-Archa	35.24	335	P	P	01 13 20.0	+1.1
AAK				IAmb	IAmb	01 13 22.2	
	comp=Z,7.2nm,0.8s						
CHMS	Chumysh	35.44	336	P	P	01 13 22.1	+1.7
	SNR=10.0						
EKS2	Erkin-Say	35.56	334	P	P	01 13 23.6	+2.0
	SNR=19						
USP	Ospenovka	35.76	336	P	P	01 13 24.6	+1.4
	SNR=20						
MK31	Makanchi Array	36.48	347	eP	P	01 13 29.8	+0.6
MK31				pmax	pmax		
	comp=Z,15nm,1.0s						
MK31	Makanchi Array	36.48	347	IAmb	IAmb	01 13 31.1	
	comp=Z,8.8nm,0.9s						
MKAR	Makanchi Array	36.48	347	P	P	01 13 29.8	+0.6
	comp=Z,8.5nm,0.7s,baz=164,slow=9.0,SNR=44						
MKAR				pP	pwP	01 14 06.2	+2.6
	comp=Z,2.4nm,0.8s,baz=168,slow=7.8,SNR=3.0						
MKAR				PcP	PcP	01 15 49.2	-0.7
	comp=Z,0.4nm,0.5s,baz=195,slow=2.6,SNR=3.2						
MAKZ	Makanchi	36.56	346	P	P	01 13 23.5	-6.4
MAKZ				pmax	pmax		
	comp=Z,16nm,1.5s						
BATI	Baumata	36.76	125	P	P	01 13 29.9	-2.1
	comp=Z,28nm,0.3s,baz=273,slow=2.5,SNR=5.5						
KK31	Karatay Array	37.37	332	i P	P	01 13 37.4	+0.6
KK31				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KK31	Karatay Array	37.37	332	P	P	01 13 37.7	+0.9
KKAR	Karatay Array	37.37	332	P	P	01 13 37.7	+0.9
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KKAR	Karatay Array	37.37	332	P	P	01 13 37.7	+0.9
SONM	Songino Array	37.74	14	P	P	01 13 39.7	-0.3
	comp=Z,1.4nm,0.6s,baz=211,slow=10,SNR=6.3						
SONM				pP	pwP	01 14 16.9	+2.1
	comp=Z,0.4nm,0.5s,baz=188,slow=8.7,SNR=2.4						
SONM				ScP	ScP	01 19 24.9	-2.5
	comp=Z,1.4nm,0.7s,baz=191,slow=4.4,SNR=5.9						
ULN	Ulaanbaatar	37.93	15	ceP	P	01 13 40.8	-0.8
ULN				pmax	pmax		
	comp=Z,7.0nm,1.7s						
TJN	Taejon	39.14	45	ceP	P	01 13 52.5	+0.8
SIJI	Sorong	39.28	106	P	P	01 13 52.5	-0.7
	comp=Z,12nm,0.6s,baz=323,slow=10,SNR=8.7						
KSRS	Korea Array	40.08	44	P	P	01 13 58.6	-0.8
	comp=Z,2.6nm,0.6s,baz=241,slow=8.5,SNR=7.1						
KSRS				LR	LR	01 33 13.9	
	comp=Z,19nm,18.9s,baz=320,slow=40						
TLY	Talaya	40.87	9	eP	P	01 14 07.1	+1.4
TLY				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURK	Kurchatov	41.01	345	P	P	01 14 07.7	+0.9
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KURK	Kurchatov	41.01	345	P	P	01 14 07.7	+0.9
GEYT	Alibeck	41.28	316	P	P	01 14 11.3	+2.0
	comp=Z,43nm,0.4s,baz=135,slow=8.1,SNR=171						
ZAA0	Zalesovo Array	42.92	352	P	P	01 14 22.8	+0.5
ZAA0				IAmb	IAmb	01 14 24.1	
	comp=Z,17nm,0.8s						
ZALV	Zalesovo Beam	42.92	352	P	P	01 14 23.1	+0.8
	comp=Z,10nm,0.3s,baz=178,slow=8.9,SNR=80						
ZALV				pP	pwP	01 14 58.0	+2.9
	comp=Z,2.5nm,0.5s,baz=180,slow=8.4,SNR=2.6						
ZALV				ScP	ScP	01 19 45.7	-1.7
	comp=Z,0.4nm,0.3s,baz=188,slow=2.9,SNR=2.4						
ZALV				S	S	01 20 33.8	-1.9
	comp=Z,0.8nm,0.6s,baz=166,slow=18,SNR=3.4						
FITZ	Fitzroy Crossi	43.11	133	P	P	01 14 22.9	-1.4
	comp=Z,9.8nm,0.4s,baz=334,slow=7.1,SNR=81						
FITZ	Fitzroy Crossi	43.11	133	P	P	01 14 23.3	-0.9
FITZ				IAmb	IAmb	01 14 24.3	
	comp=Z,13nm,0.7s						
KNRA	Kununurra	43.97	127	P	P	01 14 30.3	-0.8
KNRA				IAmb	IAmb	01 14 30.9	
	comp=Z,11nm,0.8s						
MTN	Manton Dam	44.32	122	IAmb	IAmb	01 14 33.1	
	comp=Z,9.6nm,0.6s						
BRVK	Borovoye	45.51	340	i P	P	01 14 41.8	-1.1
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	Borovoye	45.51	340	P	P	01 14 43.0	+0.2
AB31	Akbulak array	46.88	330	P	P	01 14 53.5	-0.1
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ABKAR	Akbulak array	46.88	330	P	P	01 14 54.2	+0.6
ABKAR				IAmb	IAmb	01 14 55.5	
	comp=Z,7.8nm,0.9s						
WB0	Warramunga Arr	50.69	128	P	P	01 15 22.4	-0.8
WB0				IAmb	IAmb	01 15 23.2	
	comp=Z,19nm,1.1s						
WRA	Warramunga Arr	50.75	128	P	P	01 15 22.3	-1.3
	comp=Z,12nm,0.6s,baz=305,slow=8.5,SNR=104						
WRA				ScP	ScP	01 20 17.2	-3.6
	comp=Z,0.3nm,0.8s,baz=334,slow=7.4,SNR=3.8						
WRAB	Tennant Creek	50.75	128	ceP	P	01 15 22.9	-0.8
WRAB				pmax	pmax		
	comp=Z,13nm,0.6s						
WR0	Warramunga Arr	50.92	128	P	P	01 15 24.2	-0.6
WR0				IAmb	IAmb	01 15 25.1	
	comp=Z,18nm,1.1s						
SVE	Sverdlovsk	51.90	338	eP	P	01 15 32.7	+1.1
SVE				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AS31	Alice Springs	52.60	132	P	P	01 15 36.3	-1.0
ASAR	Alice Springs	52.60	132	P	P	01 15 36.4	-1.0
	comp=Z,3.3nm,0.5s,baz=307,slow=6.5,SNR=61						
OPO	Ambohidratompo	54.77	237	P	P	01 15 54.1	+0.8
	comp=Z,1.4nm,0.5s,baz=76,slow=8.3,SNR=3.6						
NRIK	Noril'sk	57.91	357	P	P	01 16 14.5	-0.1
	comp=Z,4.0nm,0.5s,baz=169,slow=6.5,SNR=8.3						
BRTR	Keskin Array B	59.78	309	P	P	01 16 27.6	-0.7
	comp=Z,1.9nm,0.5s,baz=137,slow=6.4,SNR=18						
BRTR				pP	pP	01 17 06.5	+3.0
	comp=Z,1.0nm,0.8s,baz=119,slow=6.3,SNR=3.8						
BR131	Keskin Array S	59.79	309	P	P	01 16 28.0	-0.2
BR131				pmax	pmax		
	comp=Z,19nm,1.8s						
BR131	Keskin Array S	59.79	309	P	P	01 16 28.0	-0.2
BR131				IAmb	IAmb	01 17 33.1	
	comp=Z,19nm,1.8s						
OBN	Obninsk	62.11	327	eP	P	01 16 43.1	-0.3
OBN				e		01 17 23.2	
OBN				e		01 19 04.2	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
STKA	Stephens Creek	62.93	135	P	P	01 16 48.2	-1.0
STKA				pmax	pmax		
	comp=Z,6.0nm,2.0s						
STKA	Stephens Creek	62.93	135	P	P	01 16 48.2	-1.0
	comp=Z,1.8nm,0.6s,baz=311,slow=6.6,SNR=7.7						
TIXI	Tiksi	63.78	12	ceP	P	01 16 53.4	-0.8
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	FINESS Array B	69.33	332	P	P	01 17 29.6	0.0
	comp=Z,1.3nm,0.4s,baz=82,slow=4.8,SNR=21						
VYHS	Vyhne	71.45	317	eP	P	01 17 44.7	+1.9
VYHS	Vyhne	71.45	317	eP	P	01 17 44.7	+1.9
ARCES	ARCESS Array B	71.73	340	P	P	01 17 43.5	-0.6
	comp=Z,2.6nm,0.6s,baz=96,slow=6.5,SNR=20						
BILL	Bilibino	72.89	22	eP	P	01 17 53.0	+2.1
BILL				e		01 18 06.5	
BILL				e		01 20 31.0	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.4s						
GERES	GERESS Array B	74.87	318	P	P	01 18 03.0	+0.1
	comp=Z,0.8nm,0.5s,baz=72,slow=6.3,SNR=3.0						
NOA	NORSAR Array B	76.39	330	P	P	01 18 10.7	-0.5
	comp=Z,0.9nm,0.7s,baz=91,slow=6.6,SNR=3.0						
BOSA	Boshof	77.18	237	P	P	01 18 16.1	-0.3
BOSA				pmax	pmax		
	comp=Z,89nm,2.0s						
BOSA	Boshof	77.18	237	P	P	01 18 16.1	-0.3
	comp=Z,4.6nm,0.8s,baz=90,slow=4.5,SNR=7.8						
KEST	Kesra	78.85	304	P	P	01 18 25.3	-0.2
	comp=Z,2.4nm,0.9s,baz=113,slow=7.7,SNR=3.9						
ESDC	Sonseca Array	88.57	310	P	P	01 19 15.0	+0.2
	comp=Z,0.1nm,0.4s,baz=55,slow=4.4,SNR=4.4						
SYO	Syowa Base	88.74	197	⇑eP	P	01 19 14.0	-0.7
SYO	Syowa Base	88.74	197	⇓ePcP	PcP	01 19 16.4	+0.3
TORD	Torodi Ar. Bea	89.36	283	P	P	01 19 18.7	-0.2
	comp=Z,0.6nm,0.9s,baz=82,slow=3.1,SNR=2.8						
TXAR	Lajitas Array	136.07	22	SKP	SKPbc	01 28 59.7	-1.2
	comp=Z,0.9nm,0.9s,baz=243,slow=2.5,SNR=5.6						
PLCA	Paso Flores	147.76	203	PKPbc	PKPbc	01 26 06.2	+0.1
	comp=Z,2.8nm,0.8s,baz=218,slow=4.1,SNR=6.0						
CFA	Coronel Fontan	153.97	217	PKPab	PKPab	01 26 34.2	-0.6
	comp=Z,4.2nm,0.6s,baz=153,slow=2.3,SNR=2.7						
SIV	San Ignacio	155.12	257	PKPab	PKPab	01 26 40.3	+0.1
	comp=Z,2.9nm,1.3s,baz=165,slow=9.4,SNR=4.1						
LPAZ	La Paz	161.75	253	PKPab	PKPab	01 27 08.8	-1.0
	comp=Z,0.6nm,0.4s,baz=63,slow=4.5,SNR=4.0						

GCMT 07 01:18:14.0±0.4**, 40°.78S**±0°.05×**91°.93W**±0°.04**, h20**km±1km**, MW4.8**/72**, Moment Tensor Solution. s19,c19; s72,c86; Duration: 0 Moment tensor: Scale** 10^{16}**Nm;** Mrr-1.66±.15; Mθθ-0.07±.10; Mφφ1.74±.11; Mrθ0.41±.23; Mθφ-0.27±.05; Mφr-0.02±.18; **Best double couple:** M0 1.77200×10^{16} **NP1:**φs338.00000°, δ48.00000°, λ-109.00000°. **NP2:**φs185.00000°, δ45.00000°, λ-70.00000°. **Principal axes:** T 1.7820, Plg1.0000°, Azm81.0000°; N -0.0150, Plg14.0000°, Azm351.0000°; P -1.7610, Plg76.0000°, Azm177.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	49.55	155	P	P	01 27 05.2	+2.2
VNA3	Neumayer Olymp	49.55	155	sP	sP	01 27 12.3	+2.1
VNA1	Neumayer--Stat	50.11	154	P	P	01 27 09.9	+2.8
VNA1	Neumayer--Stat	50.11	154	sP	sP	01 27 15.9	+1.6
VNA2	Neumayer--Watz	50.34	155	P	P	01 27 11.3	+2.3
	baz=274,slow=7.0						
VNA2	Neumayer--Watz	50.34	155	sP	sP	01 27 18.0	+1.9
	baz=290,slow=6.1						
TBI	Tubuai	50.87	272	eLR	LR	01 41 47.0	
	comp=Z,362nm,26.8s,baz=128						
SNAA	Sanae	51.61	156	P	P	01 27 19.7	+1.1
SNAA	Sanae	51.61	156	sP	sP	01 27 27.1	+1.3
PPT2	Papeete2	54.34	277	eS	S	01 35 19.5	+3.0
	105nm,25.0s						
PPT2				eLR	LR	01 43 23.4	
	comp=Z,304nm,28.0s						
DZM	Mont Dzumac	84.20	246	eLR	LR	01 57 14.7	
	comp=Z,98nm,24.9s						

ISCJB ***07*** *01:21:23.9±0.4, 28°.04S±0°.03×66°.79W±0°.05, h167km, mb3.4/4 Error ellipse: s-maj=6.9km s-min=3.9km az=14.9*
SJA ***07*** *01:21:23.4±0.8, 28°.06S×66°.82W, h189km±5km, ML3.9, MW3.7*
IDC ***07*** *01:21:23.7±1.1, 28°.02S×66°.80W, h148km±12km, mb3.2/4, mb1 3.4/9, mb1mx3.3/23, mbtmp3.7/9, Error ellipse: s-maj=20.4km s-min=10.7km az=94.0*
ISC 07 01:21:24.7±0.7**, 28°.02S**±0°.05×**66°.80W**±0°.07**, h167km, n28, σ0s.99**/38**, mb3.4**/4**, Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CYA	Choya	0.97	115	eP	Pn	01 21 52.3	+1.3
CYA				IAML		01 21 52.4	
	comp=Z,759nm,0.3s						
VCA	Vinchina	1.43	240	i P	Pn	01 21 55.9	+0.9

VCA				eS	Sn	01 22 19.9	+1.5
AGUA	GUANDACOL	2.08	225	i P	Pn	01 22 02.2	+0.3
AGUA				eS	Sn	01 22 30.9	+0.2
APLL	PUNTA DE LOS L	2.37	174	i P	Pn	01 22 05.8	+0.6
APLL				eS	Sn	01 22 36.0	-0.7
ACDV	Cuesta del Vie	2.95	223	i P	Pn	01 22 12.6	+0.4
ACDV				eS	Sn	01 22 49.3	+0.1
ACDV				IAML		01 22 49.6	
	comp=Z,283nm,0.6s						
GO03	Copiap	3.07	277	i P	Pn	01 22 13.4	-0.3
AROD	Rodeo	3.17	227	i P	Pn	01 22 15.6	+0.5
AROD				eS	Sn	01 22 54.5	+0.2
AMOG	MOGNA	3.26	207	i P	Pn	01 22 15.9	-0.1
AMOG				eS	Sn	01 22 54.9	-1.1
RTLL	Cerro Villicun	3.60	203	i P	Pn	01 22 20.0	-0.3
RTLL				eS	Sn	01 23 01.7	-2.0
RTLL				IAML		01 23 05.4	
	comp=Z,186nm,0.4s						
CFA	Coronel Fontan	3.78	199	P	Pn	01 22 22.2	-0.4
	comp=Z,25nm,0.3s,baz=342,slow=8.5,SNR=134						
CFA				S	Sn	01 23 05.5	-2.3
	comp=Z,9.6nm,0.3s,baz=11,slow=17,SNR=9.8						
TCA	Tanti	3.82	150	i P	Pn	01 22 23.7	+0.6
GO04	Tololo Observa	4.10	238	i P	Pn	01 22 26.1	-0.8
RTCV	Cerro Valdivia	4.11	201	i P	Pn	01 22 26.5	-0.3
RTCV				eS	Sn	01 23 13.0	-2.5
PB14	IPOC Station P	4.68	316	eP	Pn	01 22 34.7	+0.1
PB15	IPOC Station P	5.37	333	eP	Pn	01 22 43.5	+0.1
LVC	Limon Verde	5.72	340	P	Pn	01 22 48.0	-0.3
	comp=Z,2.8nm,0.3s,baz=172,slow=9.7,SNR=17						
LVC				S	Sn	01 23 51.3	-2.4
	comp=Z,3.0nm,0.3s,baz=311,slow=20,SNR=17						
PB05	IPOC Station P	6.00	328	eP	Pn	01 22 51.7	+0.1
PEL	Peldehue	6.10	212	i P	Pn	01 22 51.9	-1.0
CPUP	Villa Florida	8.60	81	P	Pn	01 23 25.7	-0.3
	comp=Z,0.2nm,0.3s,baz=260,slow=14,SNR=4.8						
LPAZ	La Paz	11.74	354	P	Pn	01 24 07.3	-0.6
	comp=Z,0.5nm,0.3s,baz=162,slow=6.9,SNR=8.2						
SIV	San Ignacio	13.10	25	P	Pn	01 24 24.3	-0.4
	comp=Z,0.1nm,0.3s,baz=226,slow=9.3,SNR=5.3						
BDFB	Brasilia	21.32	59	P	P	01 25 58.3	-0.4
	comp=Z,1.3nm,0.4s,baz=210,slow=14,SNR=3.8						
TXAR	Lajitas Array	67.06	325	P	P	01 32 01.4	+1.3
	comp=Z,0.3nm,0.5s,baz=153,slow=10,SNR=3.5						
TORD	Torodi Ar. Bea	77.88	68	P	P	01 33 04.8	+0.5
	comp=Z,0.4nm,0.5s,baz=259,slow=5.6,SNR=5.5						
PDAR	Pinedale Array	80.69	330	P	P	01 33 19.9	+0.6
	comp=Z,0.3nm,0.6s,baz=116,slow=6.2,SNR=3.8						
ASAR	Alice Springs	124.87	203	PKP	PKiKP	01 40 05.6	-0.1
	comp=Z,0.4nm,0.7s,baz=49,slow=2.8,SNR=3.4						
ZALV	Zalesovo Beam	146.80	31	PKPbc	PKiKP	01 40 48.8	-0.3
	comp=Z,2.2nm,0.5s,baz=296,slow=5.0,SNR=8.3						
MKAR	Makanchi Array	149.40	44	PKPbc	PKiKP	01 40 55.2	+0.4
	comp=Z,1.4nm,1.0s,baz=286,slow=3.3,SNR=5.0						

MEX ***07*** *01:30:10.9±0.5, 14°.39N×92°.01W, h75km±18km, MD3.9*
ISCJB ***07*** *01:30:11.7±1.9, 14°.5N±0°.4×92°.1W±0°.2, h73km±17km, Error ellipse: s-maj=67.1km s-min=7.5km az=25.3*
GCG ***07*** *01:30:12.6±0.6, 14°.76N×91°.90W, h71km±10km, MD3.7*
ISC 07 01:30:12.4±2.5, 14°.6N±0°.4×92°.0W±0°.2, h69km±18km, n5, σ0.52/12, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.40	325	i P	Pn	01 30 23.7	-0.6
THIG				eS	Sn	01 30 33.8	+0.9
STG3	Santiaguito 3,	0.47	73	eP	Pn	01 30 24.7	-0.3
STG3				eS	Sn	01 30 34.3	0.0
FUG	Fuego 3	1.16	96	eP	Pn	01 30 33.0	0.0
FUG				eP	Pn	01 30 33.1	0.0
FUG				eS	Sn	01 30 48.1	-0.3
FUG				eS	Sn	01 30 48.5	+0.1
IXG	Ixpaco	1.59	104	eP	Pn	01 30 38.4	-0.3
IXG				eS	Sn	01 30 59.2	+0.7
PCIG		1.60	314	eP	Pn	01 30 38.4	-0.3
PCIG				eS	Sn	01 30 59.0	+0.4

JMA 07 01:35:28.5, 33°.64N×135°.61E, h33km, M3.5, 4C-4D Broadband fault plane solution: P waves. NP1: φs66.00000°, δ87.00000°, λ164.00000°. NP2: φs156.00000°, δ74.00000°, λ3.00000°. Principal axes: T Plg13.0000°, Azm20.0000°; N Plg74.0000°, Azm236.0000°; P Plg9.0000°, Azm112.0000°; Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTNC	Tanabenakahech	0.18	0	⇓P	Pb	01 35 34.8	-0.1
JTNC				S	Sb	01 35 39.1	-0.2
JWKM	Wakayamakushim	0.23	147	⇑P	Pn	01 35 35.2	0.0
JWKM				S	Sb	01 35 40.1	+0.1
JWM	Minabe	0.30	315	⇓P	Pb	01 35 36.0	-0.2
JWM				S	Sn	01 35 41.3	-0.1
JWY	Kouya	0.58	359	⇑P	Pb	01 35 40.0	-0.4
JWY				S	Sb	01 35 47.8	-0.8
JKN2	Miekihoku	0.81	43	⇑P	Pn	01 35 43.3	-0.3
JKN2				S	Sn	01 35 54.0	-0.5
JAI	Aioi	0.98	279	⇓P	Pn	01 35 45.8	-0.1
TTO1	TONANKAI O.B.S	0.98	91	P	Pn	01 35 45.6	-0.1
JAJ2	Tsuna	0.98	322	⇓P	Pn	01 35 46.1	+0.1
JAJ2				S	Sn	01 35 58.9	+0.1
JHE	Heguri	1.01	4	⇑P	Pn	01 35 46.3	-0.1
JHE				S	Sn	01 35 59.3	-0.2
MAT	Matsushiro	3.59	36	P	Pn	01 36 22.3	+0.4
MAT				S	Sn	01 37 08.1	+4.9

JMA 07 01:47:17.9±0.3, 37°.31N×144°.52E, h44km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.62	293	P	Pn	01 47 59.3	+1.7
JIKH				S	Sn	01 48 29.7	+1.5
JIO	Ouri	2.76	295	P	Pn	01 48 01.3	+1.7
JIO				eS	Sn	01 48 33.4	+1.8
JKMT	Kesennumamotoy	2.83	303	P	Pn	01 48 02.0	+1.4
JKMT				eS	Sn	01 48 34.8	+1.3
OFUJ	Ofunato	2.86	309	P	Pn	01 48 02.3	+1.3
OFUJ				eS	Sn	01 48 35.1	+1.0
JMK	Ichinoseki	3.08	303	P	Pn	01 48 05.9	+2.0
JMK				eS	Sn	01 48 41.3	+1.8
JOU	Okura	3.23	290	P	Pn	01 48 08.4	+2.3
JOU				eS	Sn	01 48 46.9	+3.6
JOM	Ohasama	3.33	311	P	Pn	01 48 09.7	+2.2
JOM				eS	Sn	01 48 48.5	+2.7
JFT	Otama	3.34	275	P	Pn	01 48 10.2	+2.6
JFT				eS	Sn	01 48 48.0	+2.0
JRY	Ryogami san	4.70	256	P	Pn	01 48 27.1	+0.8
JCH	Churui	5.37	351	P	Pn	01 48 35.4	-0.1
JCH				eS	Sn	01 49 33.0	-3.0
NEM2	Nemuro 2	6.12	8	P	Pn	01 48 42.5	-3.2
NEM2				eS	Sn	01 49 47.7	-6.7

IDC 07 01:54:16.6±43.0, 15°.44S×179°.88E, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/24, mbtmp4.2/3, Error ellipse: s-maj=793.3km s-min=69.8km az=81.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	29.54	289	P	P	02 00 23.2	-0.1
	45nm,0.5s,baz=346,slow=4.2,SNR=3.6						
STKA	Stephens Creek	38.47	238	P	P	02 01 41.1	+0.6
	1.6nm,0.7s,baz=45,slow=8.6,SNR=4.7						
WRA	Warramunga Arr	43.52	257	P	P	02 02 21.7	-0.7
	0.6nm,0.4s,baz=94,slow=8.2,SNR=8.0						
ASAR	Alice Springs	43.94	252	P	P	02 02 25.7	-0.1
	6.6nm,0.3s,baz=84,slow=8.7,SNR=86						

IDC 07 02:30:13.3±2.6, 16°.70S×173°.64W, h46km±27km, mb3.7/4, mb1 4.0/5, mb1mx3.6/23, mbtmp4.0/5, ML4.2/1, MS2.7/2, Ms1 2.7/2, ms1mx2.4/21, Error ellipse: s-maj=51.0km s-min=17.7km az=130.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.31	33	P	Pn	02 31 04.4	+1.8
	26nm,0.3s,baz=206,slow=1.2,SNR=19						
AFI				LR	LR	02 31 32.4	
	comp=Z,30nm,21.8s,baz=78,slow=24						
AFI				S	Sn	02 31 40.7	-0.1
	24nm,0.3s,baz=85,slow=20,SNR=7.2						
URZ	Urewera	22.96	199	P	P	02 35 13.5	-0.2
	11nm,0.6s,baz=34,slow=3.4,SNR=11						
RPZ	Rata Peaks	29.90	203	LR	LR	02 47 44.0	
	comp=Z,53nm,19.6s,baz=200,slow=35						
ASAR	Alice Springs	49.50	253	P	P	02 38 59.2	-0.3
	1.1nm,0.6s,baz=88,slow=8.8,SNR=17						
TXAR	Lajitas Array	81.53	56	P	P	02 42 26.4	+0.1
	0.5nm,0.8s,baz=268,slow=5.4,SNR=3.1						
PDAR	Pinedale Array	83.38	42	P	P	02 42 36.1	+0.2
	0.5nm,0.9s,baz=210,slow=3.1,SNR=4.1						

ISCJB ***07*** *03:08:02.9±1.6, 14°.4N±0°.1×92°.14W±0°.09, h81km±13km, Error ellipse: s-maj=25.3km s-min=7.5km az=32.9*
MEX ***07*** *03:08:02.9±0.6, 14°.28N×92°.08W, h50km±20km, MD3.6*
GCG ***07*** *03:08:03.9±0.5, 15°.10N×91°.85W, h75km±23km, MD3.6*
ISC 07 03:08:04.0±2.2, 14°.5N±0°.1×92°.10W±0°.10, h77km±16km, n6, σ0.92/11, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.42	338	eP	Pn	03 08 05.0	-12
THIG				eS	Sn	03 08 27.6	+1.3
STG3	Santiaguito 3,	0.55	69	eP	Pn	03 08 17.4	-0.8
STG3				eS	Sn	03 08 28.3	-0.3
FUG	Fuego 3	1.22	93	eP	Pn	03 08 25.7	-0.1
FUG				eS	Sn	03 08 42.1	-0.1
PCIG		1.60	318	eP	Pn	03 08 29.9	-0.7
PCIG				eS	Sn	03 08 51.0	+0.4
IXG	Ixpaco	1.65	102	eP	Pn	03 08 31.7	+0.4
IXG				eS	Sn	03 08 52.1	+0.2
CCIG	Comitan	1.76	359	eP	Pn	03 08 32.0	-0.9
CCIG				eS	Sn	03 08 56.1	+1.4

NIED ***07*** *03:22:00, 37°.30N×142°.00E, h26km, Mw3.6 Best double couple: M0 2.70000×10^14 NP1: φs236.00000°, δ42.00000°, λ-106.00000°. NP2: φs77.00000°, δ50.00000°, λ-76.00000°.*
ISCJB ***07*** *03:22:23.6±1.1, 37°.35N±0°.04×142°.09E±0°.06, h17km±6km, mb3.5/7, Error ellipse: s-maj=8.3km s-min=6.2km az=37.0*
JMA ***07*** *03:22:24.9±0.2, 37°.34N×142°.03E, h33km±4km, M3.5*
IDC ***07*** *03:22:29.5±4.6, 37°.24N×142°.02E, h58km±44km, mb3.2/7, mb1 3.4/8, mb1mx3.3/34, mbtmp3.4/8, ML2.2/1, MS2.4/2, Ms1 2.4/2, ms1mx2.1/23, Error ellipse: s-maj=30.3km s-min=24.0km az=115.0*
ISC 07 03:22:23.8±3.4, 37°.39N±0°.05×142°.03E±0°.06, h10km±21km, n26, σ0.91/31, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.92	269	P	Pb	03 22 41.8	-0.1
JFK				S	Sb	03 22 53.3	-0.9
JMST	Minamisoumatoc	0.96	290	P	Pb	03 22 42.6	-0.1
JMST				S	Sb	03 22 55.0	-0.5
JIKH	Ishinomakikobu	1.02	334	P	Pb	03 22 43.5	-0.1
JIKH				eS	Sb	03 22 57.5	+0.4
ONAJ	Iwakimizuishiy	1.02	254	P	Pb	03 22 43.1	-0.6
ONAJ				S	Sb	03 22 55.3	-1.9
JMM	Marumori	1.09	296	P	Pb	03 22 44.6	-0.2
JMM				eS	Sb	03 22 58.3	-0.8
JIO	Ouri	1.19	333	P	Pn	03 22 46.1	-0.5
JIO				eS	Sb	03 23 01.7	-0.3
JFT	Otama	1.35	276	P	Pn	03 22 49.2	+0.4
JFT				S	Sn	03 23 05.8	-1.1
JOU	Okura	1.45	312	P	Pn	03 22 50.8	+0.6
JOU				S	Sn	03 23 09.3	-0.1
JMK	Ichinoseki	1.68	338	P	Pn	03 22 53.8	+0.4
JMK				eS	Sn	03 23 15.0	0.0
JFY	Yanaizu	1.85	271	P	Pn	03 22 57.4	+1.7
JFY				S	Sn	03 23 19.6	+0.4
JYK	Kaneyama	2.01	320	P	Pn	03 22 58.5	+0.6
JYK				eS	Sn	03 23 23.3	+0.1
MJAR	Matsushiro Arr	3.17	256	P	Pn	03 23 16.2	+2.3
	0.3nm,0.3s,baz=81,slow=15,SNR=8.5						
MJAR				S	Sn	03 23 53.0	+1.2
	0.2nm,0.3s,baz=82,slow=23,SNR=5.4						
MJAR				LR	LR	03 24 48.1	
	comp=Z,54nm,19.1s,baz=115,slow=45						
KSRS	Korea Array	11.22	275	LR	LR	03 28 49.8	
	comp=Z,20nm,19.1s,baz=335,slow=34						
H11N2	WAKE ISLAND Hy	27.92	122	T	T	03 57 38.5	
	baz=315,slow=75,SNR=22						
H11N1	WAKE ISLAND Hy	27.93	122	T	T	03 57 39.9	
	baz=315,slow=75,SNR=24						
H11N3	WAKE ISLAND Hy	27.93	122	T	T	03 57 27.0	
	baz=315,slow=75,SNR=25						
H11S1	WAKE ISLAND Hy	28.65	124	T	T	03 58 31.3	
	baz=317,slow=76,SNR=21						
H11S3	WAKE ISLAND Hy	28.65	124	T	T	03 58 34.7	
	baz=317,slow=76,SNR=24						
H11S2	WAKE ISLAND Hy	28.66	124	T	T	03 58 23.0	
	baz=317,slow=76,SNR=18						
ZALV	Zalesovo Beam	42.04	312	P	P	03 30 16.0	+0.7
	0.5nm,0.4s,baz=90,slow=7.9,SNR=2.7						
MKAR	Makanchi Array	44.34	302	P	P	03 30 34.1	0.0
	0.8nm,0.9s,baz=91,slow=8.6,SNR=2.4						
ILAR	Eielson Array	48.93	33	P	P	03 31 09.7	-0.2
	0.3nm,0.7s,baz=270,slow=7.1,SNR=4.5						
INK	Inuvik	53.84	27	P	P	03 31 47.2	+0.7
	1.0nm,1.0s,baz=290,slow=5.9,SNR=4.1						
WRA	Warramunga Arr	57.48	189	P	P	03 32 11.5	-1.7
	0.4nm,0.5s,baz=3.3,slow=7.0,SNR=2.5						
YKA	Yellowknife Ar	63.25	30	P	P	03 32 52.7	+0.5
	0.2nm,0.6s,baz=301,slow=6.1,SNR=3.2						
PDAR	Pinedale Array	77.07	46	P	P	03 34 17.6	0.0
	0.2nm,0.6s,baz=299,slow=0.9,SNR=3.1						

ISCJB ***07*** *03:22:26.1±1.1, 7°.7S±0°.4×12°8E±°, h100km, mb3.5/3, Error ellipse: s-maj=155.7km s-min=11.7km az=156.7*
IDC ***07*** *03:22:29.2±6.4, 7°.33S×128°.45E, h114km±58km, mb3.4/3, mb1 3.6/5, mb1mx3.2/32, mbtmp3.8/5, Error ellipse: s-maj=182.2km s-min=24.8km az=63.0*
ISC 07 03:22:28.2±1.2, 7°.9S±0°.5×127°.5E±1°.0, h100km, n7, σ2.43/8, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.70	152	P	Pn	03 25 38.3	0.0
	0.5nm,0.3s,baz=337,slow=13,SNR=22						
WRA				S	Sn	03 28 01.1	-8.1
	1.1nm,0.3s,baz=332,slow=22,SNR=6.8						
ASAR	Alice Springs	16.86	159	P	P	03 26 22.4	+3.7
	0.4nm,0.3s,baz=338,slow=11,SNR=39						
ASAR				S	Sn	03 29 21.9	-3.6
	0.4nm,0.3s,baz=336,slow=23,SNR=7.6						
STKA	Stephens Creek	27.24	153	P	P	03 28 03.6	+0.6
	0.5nm,0.5s,baz=323,slow=6.2,SNR=3.0						
MKAR	Makanchi Array	67.64	328	P	P	03 33 14.6	+0.1
	0.4nm,0.5s,baz=128,slow=7.9,SNR=3.4						
ZALV	Zalesovo Beam	71.30	335	P	P	03 33 35.5	-1.3
	0.6nm,0.3s,baz=122,slow=5.2,SNR=3.5						
TORD	Torodi Ar. Bea	126.57	281	PKP	PKPdf	03 41 20.6	-0.2
	0.4nm,1.0s,baz=75,slow=1.5,SNR=3.4						
LPAZ	La Paz	151.43	147	PKPbc	PKPbc	03 42 11.3	-0.9
	0.9nm,0.4s,baz=203,slow=7.7,SNR=7.3						

SOME ***07*** *03:23:42.1, 41°.22N×71°.83E, h0km*
NNC ***07*** *03:23:45.5±3.8, 41°.33N×71°.89E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=33.9km s-min=10.4km az=171.0*
KRNET ***07*** *03:23:45.2±0.1, 41°.36N×71°.75E, h5km, mb2.2*
ISC 07 03:23:45.6±1.3, 41°.34N±0°.04×71°.81E±0°.03, h4km±13km, n17, σ1.19/30, 14C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	Arkit	0.47	14	⇑iP	Pg	03 23 54.0	-0.7
	baz=22						
ARK				⇑iS	Sg	03 24 00.8	-0.1
	baz=22						
ARSB	Arslanbob	0.88	91	⇑eP	Pb	03 24 03.2	-0.3
	baz=92						
ARSB				⇑iS	Sb	03 24 15.8	+0.1
	baz=92						
BTK	Batken	1.49	211	⇓iP	Pb	03 24 13.2	-0.6
	baz=9.0						
BTK				⇓iS	Sg	03 24 34.0	+0.6
	baz=9.0						
IUG	Iuzhnay	1.56	302	eP	Pb	03 24 14.3	-0.7
	0.3nm,0.1s						
IUG				eS	Sg	03 24 37.6	+1.8
	11nm,0.4s						
IUG	Iuzhnay	1.56	302	P	Pb	03 24 14.3	-0.7
	0.8nm,0.1s						
IUG				S	Sg	03 24 37.6	+1.8
	13nm,0.2s						
AML	Almayashu	1.61	60	⇑eP	Pg	03 24 16.6	0.0
	baz=61						
AML				⇑iS	Sg	03 24 40.3	+2.8
	baz=61						
MRKS	Merke	1.76	36	eP	Pb	03 24 18.1	-0.3
	4.4nm,0.3s						
MRKS				eS	Sg	03 24 44.3	+2.3
	4.0nm,0.3s						
MRKS	Merke	1.76	36	Pg	Pb	03 24 18.1	-0.3
	3.8nm,0.2s						
MRKS				Lg	Lg	03 24 44.3	
	4.5nm,0.4s						
ARLS	Aral	1.95	74	⇑iP	Pg	03 24 22.4	-0.7
	baz=74						
ARLS				⇑iS	Sg	03 24 49.2	+0.8
	baz=74						
EKS2	Erkin-Say	1.97	47	⇑iP	Pb	03 24 22.1	0.0
	baz=48						
EKS2				⇑iS	Sg	03 24 50.1	+1.1
	baz=48						
KK31	Karatay Array	2.01	332	⇓Pn	Pb	03 24 22.6	-0.2
	1.0nm,0.5s,baz=142,slow=14,SNR=10						
KK31				⇓Sn	Sg	03 24 49.7	-0.5
	0.7nm,0.3s,baz=146,slow=25,SNR=8.3						
UCH	Uchtor	2.21	65	⇑iP	Pb	03 24 24.5	-1.8
	baz=66						
UCH				⇑iS	Sb	03 24 53.7	-0.4
	baz=66						
BRLS	Borolday	2.24	320	Pg	Pn	03 24 23.5	0.0
	0.7nm,0.3s						
BRLS				Lg	Lg	03 24 53.2	
	3.3nm,0.2s						
KZA	Kyzart	2.68	73	⇑iP	Pn	03 24 30.2	+0.4
	baz=73						
KZA				⇑iS	Sn	03 25 03.5	+0.6
	baz=73						
SGDS	Sogindy	2.97	44	Pg	Pb	03 24 37.2	-1.9
	1.8nm,0.5s						
SGDS				Lg	Lg	03 25 16.6	
	1.9nm,0.4s						
KST	Kastek	3.52	60	eP	Pb	03 24 48.9	+0.3
	1.2nm,0.2s						
KST				eS	Sg	03 25 36.7	-2.0
	2.3nm,0.4s						
KST	Kastek	3.52	60	Pg	Pb	03 24 48.9	+0.3
	1.4nm,0.1s						
KST				Lg	Lg	03 25 36.7	
	1.6nm,0.3s						

IDC 07 03:48:33.1±12.0, 6°.46S×129°.93E, h110km±119km, mb3.6/2, mb1 3.5/4, mb1mx3.3/22, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=137.9km s-min=41.2km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.07	163	P	Pn	03 51 46.2	-1.3
	0.4nm,0.3s,baz=346,slow=13,SNR=11						
WRA				S	Sn	03 54 12.6	-10
	1.0nm,0.3s,baz=342,slow=22,SNR=11						
ASAR	Alice Springs	17.53	168	P	Pn	03 52 31.6	+1.0
	0.3nm,0.3s,baz=337,slow=9.6,SNR=22						
ASAR				S	Sn	03 55 41.5	-4.7
	0.1nm,0.3s,baz=347,slow=21,SNR=4.1						
STKA	Stephens Creek	27.53	158	P	P	03 54 09.2	-0.3
	0.7nm,0.3s,baz=339,slow=8.4,SNR=2.8						
MKAR	Makanchi Array	67.74	327	P	P	03 59 18.9	0.0
	0.7nm,0.5s,baz=122,slow=7.2,SNR=9.7						

ISCJB ***07*** *03:53:08.3±0.7, 24°.89N±0°.04×122°.41E±0°.02, h13km±5km, Error ellipse: s-maj=6.2km s-min=3.3km az=13.7*
TAP ***07*** *03:53:08.6, 24°.88N×122°.34E, h20km, ML2.6, D*
JMA ***07*** *03:53:08.3±0.2, 24°.83N×122°.39E, h2km±3km, M2.5*
ISC 07 03:53:08.2±1.1, 24°.86N±0°.04×122°.38E±0°.02, h12km±12km, n24, σ0.35/48, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	EOS1	0.38	217	P	Pb	03 53 17.1	+0.3
	baz=209						
EOS1				eS	Sb	03 53 23.4	+0.8
	baz=209						
TWB1	Santiao Chiao	0.38	293	P	Pg	03 53 16.4	+0.5
	baz=292						
TWB1				eS	Sb	03 53 22.2	-0.6
	baz=292						
TIPB	Shuangxi	0.51	283	i P	Pg	03 53 18.7	+0.5
	baz=281						
TIPB				eS	Sb	03 53 26.6	0.0
	baz=281						
TWC	Suao	0.54	243	P	Pb	03 53 19.5	-0.1
	baz=238						
TWC				eS	Sb	03 53 27.2	-0.1
	baz=238						
NWF	Wu-fen Shan	0.58	292	P	Pg	03 53 19.9	+0.3
	baz=291						
NWF				eS	Sb	03 53 28.0	-0.6
	baz=291						
WFSB	Wu-fen Shan	0.58	292	P	Pg	03 53 20.0	+0.5
	baz=291						
WFSB				eS	Sb	03 53 28.2	-0.4
	baz=291						
JYNG	Yonagunijimaku	0.66	128	P	Pg	03 53 20.6	-0.3
JYNG				eS	Sg	03 53 29.4	-0.1
TWE	Neicheng	0.66	258	eP	Pb	03 53 21.6	0.0
	baz=255						
TWE				eS	Sb	03 53 30.6	-0.2
	baz=255						
YOJ	Yonaguni jima	0.70	124	P	Pg	03 53 21.6	-0.1
YOJ				S	Sg	03 53 30.3	-0.6
NANB	Nanao	0.71	233	eP	Pb	03 53 22.7	+0.2
	baz=229						
NANB				eS	Sb	03 53 32.3	0.0
	baz=229						
ENA	Nanau	0.72	234	P	Pb	03 53 22.7	+0.1
	baz=229						
ENA				eS	Sb	03 53 32.9	+0.4
	baz=229						
TWA	Mucha	0.73	280	eP	Pg	03 53 22.3	-0.1
	baz=278						
TWA				eS	Sb	03 53 32.5	-0.4
	baz=278						
ENTT	Nioudou	0.77	254	eP	Pb	03 53 24.0	+0.5
	baz=251						
ENTT				eS	Sb	03 53 34.1	+0.2
	baz=251						
NWLT	Wulai	0.80	265	eP	Pb	03 53 24.0	0.0
	baz=262						
NWLT				eS	Sb	03 53 34.9	+0.1
	baz=262						
NDT	Datong Townshi	0.83	252	eP	Pb	03 53 24.5	0.0
	baz=249						
NDT				eS	Sb	03 53 36.0	+0.4
	baz=249						
YHNB	Yeheng	0.93	259	eP	Pg	03 53 25.8	-0.3
	baz=256						
YHNB				eS	Sb	03 53 38.5	-0.1
	baz=256						
NSK	Sanguang	0.94	259	eP	Pg	03 53 26.0	-0.4
	baz=257						
NSK				eS	Sg	03 53 38.8	0.0
	baz=257						
NACB	Ninganchiao	0.98	227	eP	Pg	03 53 27.0	-0.1
	baz=223						
NACB				eS	Sb	03 53 40.7	+0.5
	baz=223						
NNSB	Datong	1.00	245	eP	Pg	03 53 26.9	-0.6
	baz=242						
NNSB				eS	Sb	03 53 41.0	+0.3
	baz=242						
NNSH	Datong	1.00	245	eP	Pg	03 53 27.5	0.0
	baz=242						
NNSH				eS	Sb	03 53 41.1	+0.4
	baz=242						
ETLH	Xiulin Townshi	1.04	232	eP	Pg	03 53 28.0	-0.2
	baz=229						
ETLH				eS	Sb	03 53 42.2	+0.3
	baz=229						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WHF	**Hehuan Shan**	**1.24**	**235**	*e*P	**Pb**	**03 53 31.5**	**-0.3**
	baz=232						
WHF				*e*S	**Sg**	**03 53 48.0**	**-0.1**
	baz=232						
IRIF	**Iriomote-Funau**	**1.34**	**113**	P	**Pb**	**03 53 33.5**	**+0.3**
IRIF				S	**Sb**	**03 53 50.7**	**+0.5**
CHGB	**Renai**	**1.35**	**234**	*e*P	**Pn**	**03 53 33.1**	**0.0**
	baz=232						
CHGB				*e*S	**Sg**	**03 53 51.9**	**+0.1**
	baz=232						

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*SJA **07** 03:58:26.6±0.7, 21.°74S×68.°10W, h218km±8km, ML2.4, MW2.6*
*GUC **07** 03:58:33.4±0.8, 21.°24S×68.°68W, h126km±6km, ML2.9*
*ISCJB **07** 03:58:34.1±1.0, 21.°24S±0.°03×68.°8W±0.°1, h135km±11km, Error ellipse: s-maj=17.3km s-min=5.5km az=1.5*
ISC 07 03:58:34.6±2.0**, 21.°24S**±0.°04×**68.°7W**±0.°1**, h128**km±17km**, n17,** σ**0.s65**/25**, 3C-6D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.73**	**221**	⇓*i*P	**Pn**	**03 58 55.1**	**-0.2**
PB09				*i* S	**Sn**	**03 59 10.9**	**0.0**
PB09				IAML		03 59 12.3	
	comp=N,186nm,0.3s						
PB08	**IPOC Station P**	**1.17**	**340**	⇓*i*P	**Pn**	**03 58 59.2**	**-0.2**
PB08				*i* S	**Sn**	**03 59 18.2**	**0.0**
PB08				IAML		03 59 20.6	
	comp=N,142nm,0.6s						
PB07	**IPOC Station P**	**1.18**	**246**	⇓*i*P	**Pn**	**03 58 59.2**	**-0.1**
PB07				*i* S	**Sn**	**03 59 18.2**	**+0.1**
PB07				IAML		03 59 20.0	
	comp=E,306nm,0.4s						
PB03	**IPOC Station P**	**1.25**	**230**	⇑*i*P	**Pn**	**03 58 59.9**	**-0.1**
PB03				*i* S	**Sn**	**03 59 19.3**	**+0.1**
PB03				IAML		03 59 20.0	
	comp=E,387nm,0.2s						
LVC	**Limon Verde**	**1.37**	**187**	⇓*i*P	**Pn**	**03 59 00.8**	**-0.8**
LVC	**Limon Verde**	**1.37**	**187**	*i* P	**Pn**	**03 59 00.3**	**-1.2**
LVC				IAML		03 59 01.1	
	comp=Z,21nm,0.6s						
LVC				*e*S	**Sn**	**03 59 24.3**	**+2.3**
TA01	**Diego Aracena**	**1.52**	**296**	*e*P	**Pn**	**03 59 02.8**	**0.0**
TA01				*i* S	**Sn**	**03 59 24.7**	**+0.5**
GO01	**Chusmiza**	**1.63**	**344**	⇓*i*P	**Pn**	**03 59 04.2**	**-0.4**
GO01				*i* S	**Sn**	**03 59 27.5**	**+0.2**
PB06	**IPOC Station P**	**1.65**	**208**	⇑*i*P	**Pn**	**03 59 04.2**	**-0.3**
PB06				*i* S	**Sn**	**03 59 27.3**	**-0.1**
PB06				IAML		03 59 29.1	
	comp=E,152nm,0.3s						
PB06	**IPOC Station P**	**1.65**	**208**	*i* P	**Pn**	**03 59 04.4**	**-0.1**
PB04	**IPOC Station P**	**1.71**	**230**	*e*P	**Pn**	**03 59 05.1**	**-0.1**
PB11	**IPOC Station P**	**1.71**	**329**	⇑*i*P	**Pn**	**03 59 04.8**	**-0.5**
PB11				*i* S	**Sn**	**03 59 28.3**	**-0.2**
PB11				IAML		03 59 29.7	
	comp=N,170nm,0.2s						
PB15	**IPOC Station P**	**2.07**	**199**	⇓*i*P	**Pn**	**03 59 09.4**	**-0.3**
PB15				*i* S	**Sn**	**03 59 36.6**	**+0.2**
PB05	**IPOC Station P**	**2.11**	**220**	*i* P	**Pn**	**03 59 09.3**	**-0.7**
PB14	**IPOC Station P**	**3.70**	**204**	*i* P	Pn	03 59 24.7	-6.0
AZAP	**Zapla**	**4.50**	**132**	*i* P	Pn	03 59 26.9	-14
LPAZ	**La Paz**	**4.96**	**7**	*e*P	**Pn**	**03 59 48.0**	**+0.3**

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*SJA **07** 04:42:02.3±1.2, 32.°42S×72.°03W, h7km±69km, ML3.1, MW3.2*
*GUC **07** 04:42:06.9±0.5, 32.°26S×71.°73W, h32km±6km, ML3.1*
ISC 07 04:42:03.8±1.6**, 32.°22S**±0.°03×**71.°74W**±0.°07**, h14**km±10km**, n22,** σ**1.s48**/37**, 3C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.81**	**174**	*e*P	**Pn**	**04 42 21.5**	**+0.7**
VA01				*i* S	**Sn**	**04 42 31.4**	**-1.2**
ROCH	**El Roble**	**0.97**	**141**	⇓*i*P	**Pn**	**04 42 23.9**	**+0.7**
ROCH				*i* S	**Sn**	**04 42 36.9**	**-0.1**
ROCH				IAML		04 42 39.5	
	comp=E,931nm,0.4s						
ROC1	**El Roble**	**0.97**	**141**	*i* P	**Pn**	**04 42 23.9**	**+0.6**
ROC1				*e*S	**Sn**	**04 42 37.2**	**+0.2**
CO02	**Combarbal**	**1.19**	**32**	⇑*i*P	**Pg**	**04 42 28.4**	**+1.6**
CO02				*i* S	**Sn**	**04 42 44.6**	**+2.4**
PEL	**Peldehue**	**1.28**	**136**	*e*P	**Pg**	**04 42 28.7**	**+0.2**
PEL				*i* S	**Sg**	**04 42 45.2**	**+0.1**
PEL				IAML		04 42 48.2	
	comp=N,532nm,0.1s						
PEL	**Peldehue**	**1.28**	**136**	*i* P	**Pg**	**04 42 28.8**	**+0.4**
PEL				*e*S	**Sg**	**04 42 46.7**	**+1.5**
RCDM	**Rinconada Maip**	**1.49**	**148**	*e*P	**Pg**	**04 42 32.6**	**+0.2**
RCDM				*i* S	**Sg**	**04 42 51.7**	**-0.2**
FCH	**Farellones**	**1.65**	**133**	⇑*i*P	**Pg**	**04 42 34.6**	**-0.9**
FCH				*i* S	**Sb**	**04 42 56.0**	**+1.1**
FCH				IAML		04 42 57.8	
	comp=E,289nm,0.2s						
LMEL	**Las Melosas**	**2.08**	**142**	⇑*i*P	**Pb**	**04 42 41.0**	**-0.3**
RTLS	**Leoncito**	**2.12**	**79**	*i* P	**Pg**	**04 42 45.6**	**+1.2**
RTLS				*e*S	**Sg**	**04 43 13.8**	**+2.0**
RTLS				IAML		04 43 20.0	
	comp=Z,33nm,1.6s						
GO04	**Tololo Observa**	**2.19**	**22**	*i* P	**Pb**	**04 42 42.5**	**-0.8**
GO04				*e*S	**Sg**	**04 43 14.2**	**-0.1**
RTCV	**Cerro Valdivia**	**2.74**	**83**	*i* P	**Pb**	**04 42 54.3**	**+1.7**
RTCV				IAML		04 43 39.6	
	comp=Z,45nm,1.0s						
ACCO	**Cerro Coronel**	**2.81**	**55**	*i* P	**Pb**	**04 42 54.8**	**+1.0**
ACCO				*e*S	**Sg**	**04 43 35.0**	**+1.1**
ACCO				IAML		04 43 42.7	
	comp=Z,67nm,0.7s						
AROD	**Rodeo**	**2.82**	**44**	*i* P	**Pb**	**04 42 55.1**	**+1.0**
AROD				*e*S	**Sg**	**04 43 34.0**	**-0.4**
ACDV	**Cuesta del Vie**	**3.03**	**48**	*i* P	**Pg**	**04 42 59.6**	**-2.3**
ACDV				*e*S	**Sg**	**04 43 40.7**	**-0.6**
ACDV				IAML		04 43 50.2	
	comp=Z,38nm,0.3s						
CFA	**Coronel Fontan**	**3.04**	**79**	*i* P	**Pb**	**04 42 57.6**	**-0.1**
CFA				*e*S	**Sg**	**04 43 40.9**	**-0.5**
AMOG	**MOGNA**	**3.05**	**66**	*i* P	**Pb**	**04 42 57.8**	**-0.1**
AMOG				*e*S	**Sg**	**04 43 39.8**	**-1.9**
AMOG				IAML		04 43 46.8	
	comp=Z,62nm,0.3s						
ACAN	**Cantantal**	**3.86**	**92**	*i* P	**Pb**	**04 43 08.8**	**-2.8**
ACAN				*e*S	**Sb**	**04 43 57.9**	**-0.3**
ACAN				IAML		04 44 04.4	
	comp=Z,20nm,0.4s						
AGUA	**GUANDACOL**	**3.90**	**47**	*i* P	**Pb**	**04 43 11.0**	**-1.4**
AGUA				IAML		04 44 17.6	
	comp=Z,15nm,0.6s						
VCA	**Vinchina**	**4.62**	**42**	*i* P	**Pb**	**04 43 22.0**	**-2.7**
VCA				IAML		04 44 33.0	
	comp=Z,58nm,0.4s						
APLL	**PUNTA DE LOS L**	**4.82**	**69**	*i* P	**Pb**	**04 43 23.8**	**-4.2**
ACLC	**CERRO LA CRUZ**	**4.97**	**57**	*i* P	Pb	04 43 24.7	-5.9

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*ISCJB **07** 04:42:55.6±0.4, 56.°76N±0.°03×154.°91W±0.°05, h74km±4km, mb4.0/6, Error ellipse: s-maj=6.1km s-min=4.5km az=155.6*
*NEIC **07** 04:42:56.7±1.2, 56.°73N±0.°04×155.°04W±0.°06, h50km±8km*
*AEIC **07** 04:42:57.3±1.0, 56.°73N±0.°03×155.°04W±0.°06, h62km±6km, ML3.2*
*IDC **07** 04:42:59.9±2.4, 57.°22N×155.°24W, h51km±8km, mb3.8/6, mb1 3.8/8, mb1mx3.5/51, mbtmp3.9/8, MS3.3/2, Ms1 3.5/2, ms1mx2.7/40, Error ellipse: s-maj=55.5km s-min=19.8km az=170.0*
ISC 07 04:42:57.2±0.7**, 56.°79N**±0.°05×**155.°02W**±0.°04**, h55**km±7km**, n90,** σ**1.s02**/100**, mb4.1**/8**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.52**	**116**		**Pn**	**04 43 09.0**	**+0.1**
SII					**Sn**	**04 43 19.4**	**+2.0**
CHIR	**Chirikof Islan**	**1.02**	**199**		**Pn**	**04 43 14.1**	**-1.2**
CHIR					**Sn**	**04 43 27.1**	**-1.6**
OHAK	**Old Harbor**	**1.04**	**64**		**Pn**	**04 43 15.9**	**+0.4**
OHAK					**Sn**	**04 43 29.1**	**-0.1**
PLK4	**Peulik 4**	**1.12**	**320**		**Pn**	**04 43 16.8**	**+0.2**
PLK3	**Peulik 3**	**1.13**	**324**		**Pn**	**04 43 17.0**	**+0.3**
PLK3					**Sn**	**04 43 32.1**	**+0.8**
CAHL	**Cahill**	**1.28**	**353**		**Pn**	**04 43 18.9**	**+0.1**
KJL	**Kejulik**	**1.31**	**347**		**Pn**	**04 43 19.3**	**+0.1**
PLK1	**Peulik 1**	**1.33**	**320**		**Pn**	**04 43 19.6**	**+0.1**
PLBL	**Peulik Blue Cr**	**1.34**	**314**		**Pn**	**04 43 20.4**	**+0.8**
KABR	**Katmai Barrier**	**1.35**	**1**		**Pn**	**04 43 20.1**	**+0.4**
KABR					**Sn**	**04 43 38.3**	**+1.6**
ACHA	**Angle Creek He**	**1.44**	**354**		**Pn**	**04 43 21.4**	**+0.4**
ANCK	**Angle Creek**	**1.44**	**350**		**Pn**	**04 43 21.2**	**+0.2**
KCG	**Knife Ck. Glac**	**1.53**	**358**		**Pn**	**04 43 22.6**	**+0.4**
KVTA	**Katmai Vly 10**	**1.61**	**355**		**Pn**	**04 43 23.8**	**+0.6**
KDAK	**Kodiak Island**	**1.66**	**52**	P	**Pn**	**04 43 24.3**	**+0.4**
	3.9nm,0.3s,baz=188,slow=4.5,SNR=164						
KDAK				S	**Sn**	**04 43 43.5**	**-0.6**
	39nm,0.3s,baz=143,slow=20,SNR=13						
ANNE	**Aniakchak Nort**	**1.67**	**276**		**Pn**	**04 43 23.6**	**-0.5**
KELA	**Mount Kelaz**	**1.70**	**347**		**Pn**	**04 43 24.6**	**0.0**
KAHC	**Katmai Hardscr**	**1.87**	**0**		**Pn**	**04 43 27.2**	**+0.4**
SDPT	**Sand Point**	**3.38**	**247**		**Pn**	**04 43 46.6**	**-0.7**
CNPM	**China Poot**	**3.40**	**35**		**Pn**	**04 43 48.5**	**+0.8**
CNPM					**Sn**	**04 44 25.7**	**-1.0**
BRLK	**Bradley Lake**	**3.70**	**34**		**Pn**	**04 43 51.9**	**+0.1**
BRLK					**Sn**	**04 44 32.0**	**-2.1**
BRSE	**Bradley Lake S**	**3.73**	**36**		**Pn**	**04 43 52.5**	**+0.4**
BRSE					**Sn**	**04 44 33.0**	**-1.7**
RED	**Redoubt Volcan**	**3.83**	**17**		**Pn**	**04 43 54.3**	**+0.7**
RSO	**Redoubt South**	**3.87**	**17**		**Pn**	**04 43 54.4**	**+0.1**
RDWB	**Redoubt West**	**3.88**	**16**		**Pn**	**04 43 55.5**	**+1.0**
NCT	**North Crescent**	**3.94**	**15**		**Pn**	**04 43 56.3**	**+1.2**
DFR	**Drift River**	**4.01**	**17**		**Pn**	**04 43 56.7**	**+0.7**
SVW2	**Sparrevohn**	**4.33**	**356**		**Pn**	**04 44 00.5**	**+0.1**
SEW	**Seward**	**4.43**	**39**		**Pn**	**04 44 01.5**	**-0.2**
SLKM	**Skilak Lake**	**4.50**	**32**		**Pn**	**04 44 02.5**	**-0.2**
CKL	**Chakachamna La**	**4.64**	**16**		**Pn**	**04 44 05.6**	**+0.9**
SPBG	**Spurr Blockage**	**4.69**	**16**		**Pn**	**04 44 06.4**	**+1.0**
SPNN	**North Nagishla**	**4.75**	**14**		**Pn**	**04 44 06.7**	**+0.5**
CGLM	**Capps Glacier**	**4.80**	**18**		**Pn**	**04 44 07.6**	**+0.8**
RC01	**Rabbit Creek A**	**5.11**	**30**		**Pn**	**04 44 11.0**	**0.0**
FALS	**False Pass**	**5.11**	**251**	Pn	**Pn**	**04 44 11.5**	**+0.4**
SUA	**Susitna One**	**5.18**	**23**		**Pn**	**04 44 12.8**	**+0.6**
PWL	**Port Wells**	**5.36**	**38**		**Pn**	**04 44 14.2**	**-0.3**
SKT	**Skwentna**	**5.51**	**17**	Pn	**Pn**	**04 44 17.2**	**+0.7**
PMR	**Palmer**	**5.69**	**30**	Pn	**Pn**	**04 44 18.0**	**-1.0**
HIN	**Hinchinbrook I**	**5.74**	**47**		**Pn**	**04 44 19.5**	**-0.2**
KNK	**Knik Glacier**	**5.74**	**33**		**Pn**	**04 44 19.5**	**-0.2**
GLI	**Glacier Island**	**5.81**	**42**		**Pn**	**04 44 19.8**	**-0.9**
GHO	**Glory Hole Cre**	**5.90**	**29**	Pn	**Pn**	**04 44 22.5**	**+0.6**
FID	**Port Fidalgo**	**5.96**	**45**		**Pn**	**04 44 21.3**	**-1.4**
SML	**Sawmill**	**6.09**	**31**	Pn	**Pn**	**04 44 26.1**	**+1.6**
EYAK	**Cordova Ski Ar**	**6.13**	**48**	Pn	**Pn**	**04 44 25.1**	**+0.1**
TT01	**Tatalina**	**6.16**	**356**		**Pn**	**04 44 25.5**	**0.0**
SCM	**Sheep Creek Mo**	**6.41**	**35**		**Pn**	**04 44 28.6**	**-0.3**
RAGM	**Ragged Mountai**	**6.50**	**52**	Pn	**Pn**	**04 44 30.6**	**+0.5**
GOAT	**Goat Mountain**	**6.58**	**50**		**Pn**	**04 44 30.7**	**-0.4**
HMT	**Hamilton**	**6.66**	**53**	Pn	**Pn**	**04 44 32.3**	**0.0**
WAT6	**Susitna Watana**	**6.88**	**29**		**Pn**	**04 44 35.1**	**-0.3**
WAT1	**Susitna Watana**	**6.88**	**26**		**Pn**	**04 44 34.9**	**-0.4**
WAT2	**Susitna Watana**	**6.99**	**25**		**Pn**	**04 44 36.1**	**-0.8**
TRF	**Thorofare Moun**	**7.09**	**17**		**Pn**	**04 44 37.6**	**-0.7**
RND	**Reindeer**	**7.32**	**22**	Pn	**Pn**	**04 44 41.5**	**+0.2**
WAX	**Waxell Ridge**	**7.34**	**55**	Pn	**Pn**	**04 44 41.7**	**+0.1**
CRQM	**Cirque**	**7.35**	**52**	Pn	**Pn**	**04 44 41.9**	**+0.1**
DHY	**Denali Highway**	**7.38**	**28**	Pn	**Pn**	**04 44 42.4**	**+0.1**
GLB	**Gilahina Butte**	**7.42**	**46**	Pn	**Pn**	**04 44 42.4**	**-0.3**
VRDI	**Verde Repeater**	**7.45**	**48**	Pn	**Pn**	**04 44 43.4**	**+0.2**
TGL	**Tana Glacier**	**7.48**	**53**	Pn	**Pn**	**04 44 43.2**	**-0.4**
MCK	**McKinley**	**7.59**	**21**	Pn	**Pn**	**04 44 45.3**	**+0.2**
BPAW	**Bear Paw Mtn.**	**7.60**	**14**	Pn	**Pn**	**04 44 45.1**	**-0.1**
MCARA	**McCarthy VSAT**	**7.71**	**48**	Pn	**Pn**	**04 44 47.2**	**+0.7**
KIAG	**Kiagna River**	**7.76**	**52**		**Pn**	**04 44 47.0**	**-0.5**
YAH	**Yahtse**	**7.81**	**57**	Pn	**Pn**	**04 44 46.7**	**-1.5**
BALM	**Baldy**	**7.82**	**52**		**Pn**	**04 44 47.5**	**-0.7**
PAX	**Paxson**	**7.84**	**34**	Pn	**Pn**	**04 44 48.3**	**-0.2**
BARN	**Barnard Glacie**	**8.13**	**53**	Pn	**Pn**	**04 44 52.8**	**+0.3**
CTGM	**Chitina Glacie**	**8.23**	**54**	Pn	**Pn**	**04 44 53.6**	**-0.3**
PCA	**Pinnacle**	**8.42**	**61**	Pn	**Pn**	**04 44 56.5**	**+0.1**
WRH	**Wood River Hil**	**8.42**	**21**		**Pn**	**04 44 55.0**	**-1.4**
RIDG	**Independent Ri**	**8.61**	**32**	Pn	**Pn**	**04 44 59.7**	**+0.8**
CCB	**Clear Creek Bu**	**8.64**	**21**	Pn	**Pn**	**04 44 57.0**	**-2.2**
BCPM	**Bancas Point**	**8.68**	**62**	Pn	**Pn**	**04 45 00.3**	**+0.4**
IL31		**8.94**	**23**		**Pn**	**04 45 02.0**	**-1.3**
ILAR	**Eielson Array**	**8.94**	**23**	P	**Pn**	**04 45 01.9**	**-1.5**
	0.3nm,0.3s,baz=214,slow=14,SNR=11						
ILAR				S	**Sn**	**04 46 36.7**	**-5.7**
	0.2nm,0.3s,baz=207,slow=23,SNR=2.9						
INK	**Inuvik**	**15.10**	**32**	P	**Pn**	**04 46 26.7**	**0.0**
	0.1nm,0.3s,baz=229,slow=9.3,SNR=4.0						
YKA	**Yellowknife Ar**	**20.93**	**57**	P	**P**	**04 47 36.6**	**+1.8**
	0.2nm,0.6s,baz=275,slow=9.7,SNR=4.3						
PETK	**Petropavlovsk-**	**26.97**	**282**	P	**P**	**04 48 34.8**	**+1.6**
	1.3nm,0.5s,baz=71,slow=10,SNR=7.1						
PETK				LR	LR	04 57 17.7	
	comp=Z,18nm,21.6s,baz=59,slow=32						
SPITS	**Spitsbergen Ar**	**45.19**	**2**	P	**P**	**04 51 07.6**	**-0.2**
	12nm,1.0s,baz=11,slow=8.5,SNR=7.5						
ARCES	**ARCESS Array B**	**53.98**	**360**	P	**P**	**04 52 13.3**	**-1.4**
	3.1nm,0.9s,baz=19,slow=8.6,SNR=3.8						
NOA	**NORSAR Array B**	**62.02**	**8**	pP	pP	04 53 25.5	-0.6
	0.7nm,0.6s,baz=354,slow=6.6,SNR=1.9						
FINES	**FINESS Array B**	**62.11**	**359**	P	**P**	**04 53 12.1**	**+0.5**
	2.2nm,0.9s,baz=22,slow=7.8,SNR=6.7						
FINES				pP	**pP**	**04 53 25.8**	**-0.8**
	7.2nm,1.1s,baz=12,slow=9.8,SNR=2.2						
BVAR	**Borovoye Array**	**64.40**	**332**	P	**P**	**04 53 27.0**	**0.0**
	1.3nm,0.6s,baz=32,slow=8.5,SNR=7.0						
BVAR				pP	**pP**	**04 53 41.2**	**-0.8**
	0.9nm,0.6s,baz=35,slow=5.4,SNR=3.7						
AKASG	**Malin Array Be**	**72.82**	**357**	pP	pP	04 54 33.5	-1.3
	1.0nm,0.4s,baz=5.8,slow=6.0,SNR=3.7						
ESDC	**Sonseca Array**	**80.84**	**22**	P	**P**	**04 55 06.2**	**+1.4**
	0.1nm,0.3s,baz=343,slow=4.1,SNR=4.9						
ESDC				pP	**pP**	**04 55 21.1**	**+0.7**
	0.1nm,0.3s,baz=3.5,slow=1.3,SNR=2.8						
CMAR	**Chiang Mai Arr**	**83.20**	**293**	LR	LR	05 34 43.6	
	comp=Z,64nm,18.1s,baz=135,slow=37						

MEX 07 04:48:00.8±0.3**, 14.°66N**×**92.°91W, h43**km±79km**, MD3.5, Near coast of Chiapas**

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*SKHL **07** 04:49:51.4±1.0, 43.°93N×148.°37E, h30km±5km, mb4.1/3*
*JMA **07** 04:49:51.7±0.3, 43.°71N×148.°17E, h12km, M3.6*
ISC 07 04:49:47.8±3.3**, 43.°9N**±0.°1×**148.°2E**±0.°2**, h4**km±20km**, n12,** σ**1.s23**/18**, 1C, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.34**	**349**	*e*P	**Pg**	**04 50 13.6**	**+0.1**
KUR				AMB	AMB	04 50 13.8	
	20nm,0.2s						
KUR				*i* S	**Sb**	**04 50 30.7**	**-0.3**
KUR				A	A	04 50 31.0	
	240nm,0.2s						
KUR				A	A	04 50 31.0	
	180nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.72**	**275**	*e*P	**Pb**	**04 50 20.0**	**+0.1**
YUK				AMB	AMB	04 50 22.0	
	20nm,0.3s						
YUK				AMB	AMB	04 50 22.0	
	30nm,0.3s						
YUK				AMB	AMB	04 50 22.0	
	80nm,0.3s						
YUK				*i* S	**Sb**	**04 50 42.0**	**+0.2**
YUK				A	A	04 50 45.0	
	310nm,0.3s						
YUK				A	A	04 50 45.0	
	250nm,0.3s						
GRPR	**Tuman**	**1.78**	**273**	*i* P	**Pb**	**04 50 20.7**	**-0.3**
GRPR				AMB	AMB	04 50 20.9	
	80nm,0.3s						
GRPR				*i* S	**Sn**	**04 50 42.7**	**+0.3**
GRPR				A	A	04 50 43.0	
	220nm,0.2s						
GRPR				A	A	04 50 43.0	
	160nm,0.2s						
NEM2	**Nemuro 2**	**1.89**	**254**	P	**Pb**	**04 50 23.3**	**+0.4**
NEM2				*e*S	**Sn**	**04 50 46.1**	**+1.0**
NMR	**Nemuro--Hokkai**	**1.90**	**254**	⇑*i*P	**Pb**	**04 50 23.3**	**+0.3**
NMR				*i* S	**Sn**	**04 50 46.1**	**+0.7**
JNSB	**Nemuroshibetsu**	**2.34**	**268**	P	**Pb**	**04 50 30.4**	**-0.2**
JNSB				*e*S	**Sb**	**04 50 58.8**	**-1.0**
JKHN	**Kushirohamanak**	**2.39**	**251**	*e*S	**Sn**	**04 50 58.8**	**+1.4**
JNK	**Nakash**	**2.57**	**264**	*e*S	**Sn**	**04 51 03.2**	**+1.3**
JAK	**Akkeshi**	**2.73**	**252**	*e*S	**Sn**	**04 51 06.5**	**+0.5**
JCH	**Churui**	**3.79**	**252**	*e*S	**Sn**	**04 51 33.8**	**+1.8**
JKB	**Kayabe**	**5.67**	**251**	*e*S	**Sn**	**04 52 16.3**	**-1.9**
JOT	**Ohata**	**5.87**	**247**	*e*S	**Sn**	**04 52 20.7**	**-2.7**

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*UCR **07** 04:54:14.4±0.3, 12.°95N×93.°07W, h136km, MD3.5, mb4.1(NEIC)*
*GCG **07** 04:54:28.4±0.8, 13.°85N×92.°15W, h136km±139km, MD3.8*
*NEIC **07** 04:54:30.4±1.9, 13.°65N±0.°02×92.°29W±0.°07, h10km±3km, Md4.1(MEX)*
*MEX **07** 04:54:31.5±0.7, 13.°50N×92.°29W, h20km, MD4.1*
ISC 07 04:54:32.2±2.2**, 13.°6N**±0.°1×**92.°18W**±0.°08**, h32**km**, n16,** σ**1.s28**/23**, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**1.01**	**36**	*e*P	**Pn**	**04 54 50.4**	**+0.3**
ERG				*e*S	**Sn**	**04 55 02.2**	**-1.0**
STG3	**Santiaguito 3,**	**1.24**	**29**	*e*P	**Pn**	**04 54 52.8**	**-0.6**
THIG		**1.28**	**356**	*e*P	**Pn**	**04 54 53.4**	**-0.5**
THIG				*e*S	**Sn**	**04 55 10.5**	**+0.5**
THIG		**1.28**	**356**		**Pn**	**04 54 53.4**	**-0.5**
THIG					**Sn**	**04 55 10.5**	**+0.5**
FUG	**Fuego 3**	**1.54**	**57**	*e*P	**Pn**	**04 54 57.3**	**-0.2**
FUG	**Fuego 3**	**1.54**	**57**	*e*P	**Pn**	**04 54 57.3**	**-0.2**
IXG	**Ixpaco**	**1.77**	**72**	*e*P	**Pn**	**04 54 59.8**	**-1.1**
IXG	**Ixpaco**	**1.77**	**72**	*e*P	**Pn**	**04 54 59.8**	**-1.1**
PCIG		**2.30**	**334**	*e*P	**Pn**	**04 55 07.6**	**-0.4**
PCIG				*e*S	**Sn**	**04 55 33.5**	**-1.7**
PCIG		**2.30**	**334**		**Pn**	**04 55 07.6**	**-0.4**
PCIG					**Sn**	**04 55 33.5**	**-1.7**
CCIG	**Comitan**	**2.65**	**1**	*e*P	**Pn**	**04 55 15.3**	**+2.4**
CCIG				*e*S	**Sb**	**04 55 50.2**	**-1.0**
CCIG	**Comitan**	**2.65**	**1**		**Pn**	**04 55 15.3**	**+2.4**
CCIG					**Sb**	**04 55 50.2**	**-1.0**
CCIG	**Comitan**	**2.65**	**1**	Pn	**Pn**	**04 55 14.6**	**+1.8**
SNET	**Serv Nac Est T**	**2.87**	**88**	Pn	**Pn**	**04 55 17.1**	**+1.3**
TEIG	**Tepich**	**7.56**	**29**	Pn	**Pn**	**04 56 21.6**	**+1.5**
ETX02	**Prairie Street**	**18.32**	**354**	P	**Pn**	**04 58 45.0**	**+1.1**

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*IDC **07** 05:13:49.1±0.6, 8.°76N×126.°39E, h0km, mb4.0/15, mb1 4.1/15, mb1mx4.0/45, mbtmp4.0/15, MS3.3/6, Ms1 3.3/6, ms1mx3.0/33, Error ellipse: s-maj=28.4km s-min=12.8km az=83.0*
*MAN **07** 05:13:52.0, 8.°73N×126.°24E, h5km, mb4.6, ML3.5, MS3.3*
*NEIC **07** 05:13:54.6±2.7, 8.°86N±0.°08×126.°3E±0.°1, h35km±2km, mb4.5/21*
ISC 07 05:13:53.5±1.3**, 8.°76N**±0.°03×**126.°29E**±0.°05**, h23**km±9km**, n71,** σ**1.s61**/79**, mb4.3**/26**, MS3.3**/4**, 4C-4D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.58**	**173**	⇑P	**Pb**	**05 14 02.8**	**-2.3**
BIPH				S	**Sb**	**05 14 10.0**	**-2.9**
BUTP	**Butuan**	**0.69**	**287**	P	**Pb**	**05 14 05.1**	**-1.8**
BUTP				S	**Sb**	**05 14 15.2**	**-0.8**
SCPH	**Surigao**	**1.28**	**322**	⇓P	**Pn**	**05 14 15.5**	**-0.5**
BUKP	**Musuan**	**1.50**	**234**	P	**Pn**	**05 14 18.7**	**-0.4**
BUKP				S	**Sn**	**05 14 40.0**	**+2.0**
CGP	**Cagayan de Oro**	**1.60**	**259**	⇑P	**Pn**	**05 14 20.1**	**-0.4**
CGP				S	**Sn**	**05 14 41.0**	**+0.5**
MATI	**Mati**	**1.81**	**181**	P	**Pn**	**05 14 23.2**	**-0.1**
MATI				S	**Sb**	**05 14 49.4**	**+1.3**
DAV	**Davao City (W)**	**1.82**	**203**	Pn	**Pn**	**05 14 23.7**	**+0.2**
	136nm,0.3s,baz=57,slow=4.8,SNR=21						
DAV				Sn	**Sn**	**05 14 47.8**	**+1.9**
	111nm,0.3s,baz=90,slow=19,SNR=6.6						
DAV				LR	LR	05 15 01.1	
	comp=Z,2µm,20.8s,baz=295,slow=39						
DAV	**Davao City (W)**	**1.82**	**203**		**Pb**	**05 14 26.4**	**+0.1**
MSLP	**Maasin**	**1.96**	**314**	P	**Pn**	**05 14 25.2**	**-0.2**
MSLP				S	**Sn**	**05 14 50.4**	**+1.1**
KCP	**Kidapawan**	**2.11**	**214**	⇓P	**Pn**	**05 14 27.2**	**-0.3**
KCP				S	**Sn**	**05 14 53.9**	**+0.9**
CTBH	**Cotabato--PC H**	**2.54**	**233**	⇑P	**Pn**	**05 14 33.6**	**+0.2**
CTBH				S	**Sn**	**05 15 06.8**	**+3.2**
DDMP	**Don Marcelino,**	**2.70**	**192**	P	**Pn**	**05 14 36.1**	**+0.5**
DDMP				S	**Sb**	**05 15 15.6**	**+1.6**
LLP	**Lapu-Lapu**	**2.76**	**304**	⇓P	**Pn**	**05 14 37.8**	**+1.4**
LLP				S	**Sb**	**05 15 15.6**	**0.0**
DCPH	**Dipolog City**	**2.91**	**267**	⇑P	**Pn**	**05 14 39.5**	**+1.1**
DCPH				S	**Sn**	**05 15 12.7**	**0.0**
BESP	**Borongan**	**2.94**	**344**	P	**Pn**	**05 14 40.9**	**+2.0**
BESP				S	**Sb**	**05 15 19.7**	**-1.1**
PAGZ	**Pagadian**	**3.02**	**253**	P	**Pn**	**05 14 39.9**	**0.0**
CNP	**Catarman**	**4.05**	**337**	P	**Pn**	**05 14 57.2**	**+3.0**
CNP				S	**Sn**	**05 15 45.3**	**+4.3**
RCP	**Roxas**	**4.46**	**309**	⇓P	**Pn**	**05 15 01.6**	**+1.8**
I39PW	**PALAU INFRASON**	**8.27**	**98**	*i*		06 08 40.0	
	baz=280,slow=312,SNR=0.8						
SIJI	**Sorong**	**10.78**	**152**	Pn	**Pn**	**05 16 29.9**	**+3.3**
	3.5nm,0.3s,baz=353,slow=19,SNR=5.6						
FAKI	**Fak Fak**	**13.04**	**153**	Pn	**Pn**	**05 17 01.2**	**+3.7**
KAPI	**Kappang**	**15.16**	**206**	LR	LR	05 23 55.0	
	comp=Z,148nm,20.8s,baz=52,slow=40						
GUMO	**Guam**	**18.85**	**74**	LR	LR	05 23 33.3	
	comp=Z,104nm,20.6s,baz=254,slow=31						
MTN	**Manton Dam**	**22.00**	**167**	P	**P**	**05 18 47.4**	**+1.1**
MTN				IAmb	IAmb	05 18 56.7	
	comp=Z,9.1nm,0.5s						
JCJ	**Chichijima**	**23.64**	**38**	LR	LR	05 28 43.6	
	comp=Z,91nm,18.2s,baz=85,slow=38						
KNRA	**Kununurra**	**24.41**	**174**	P	**P**	**05 19 11.3**	**+0.8**
KNRA				IAmb	IAmb	05 19 19.6	
	comp=Z,8.3nm,0.6s						
PBKT	**Sadao Pong**	**25.87**	**290**	P	**P**	**05 19 21.8**	**-1.9**
PBKT				IAmb	IAmb	05 19 40.4	
	comp=Z,15nm,1.4s						
FITZ	**Fitzroy Crossi**	**26.70**	**181**	P	**P**	**05 19 30.2**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=357,slow=10,SNR=8.0						
RPSI	**Rantau Prapat**	**27.87**	**259**	P	**P**	**05 19 45.8**	**+3.9**
RPSI				IAmb	IAmb	05 20 01.7	
	comp=Z,7.4nm,0.5s						
COEN	**Coen**	**28.11**	**143**	P	**P**	**05 19 45.6**	**+1.6**
COEN				IAmb	IAmb	05 19 48.0	
	comp=Z,9.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**28.23**	**293**	P	**P**	**05 19 46.5**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=103,slow=7.0,SNR=4.0						
WB0	**Warramunga Arr**	**29.45**	**164**		**P**	**05 19 55.8**	**0.0**
WRAB	**Tennant Creek**	**29.60**	**165**	P	**P**	**05 19 56.9**	**-0.2**
WRA	**Warramunga Arr**	**29.61**	**165**	P	**P**	**05 19 55.5**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=346,slow=9.4,SNR=4.6						
WRA				PcP	**PcP**	**05 23 01.4**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=342,slow=2.7,SNR=2.9						
WRA				LR	LR	05 32 33.2	
	comp=Z,43nm,21.8s,baz=275,slow=38						
WB2	**Warramunga Arr**	**29.61**	**165**	P	**P**	**05 19 56.2**	**-1.0**
WB2				IAmb	IAmb	05 19 59.4	
	comp=Z,6.1nm,1.4s						
WR0	**Warramunga Arr**	**29.68**	**164**	P	**P**	**05 19 57.2**	**-0.6**
AS31	**Alice Springs**	**33.08**	**167**	P	**P**	**05 20 26.8**	**-1.0**
ASAR	**Alice Springs**	**33.08**	**167**	P	**P**	**05 20 26.6**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=346,slow=7.0,SNR=12						
ASAR				PcP	**PcP**	**05 23 10.4**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=345,slow=2.5,SNR=6.5						
USA0B	**Ussuriysk Arra**	**35.65**	**7**	P	**P**	**05 20 50.1**	**+0.3**
USRK	**Ussuriysk Ar.**	**35.65**	**7**	P	**P**	**05 20 50.1**	**+0.3**
	comp=Z,5.0nm,0.7s,baz=188,slow=7.6,SNR=11						
MORW	**Morawa**	**38.89**	**194**	P	**P**	**05 21 19.4**	**+1.9**
MORW				IAmb	IAmb	05 21 33.4	
	comp=Z,15nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**40.35**	**72**	T	T	06 04 25.8	
	baz=262,slow=75,SNR=516						
H11S1	**WAKE ISLAND Hy**	**40.37**	**72**	T	T	06 04 25.4	
	baz=262,slow=75,SNR=277						
H11S2	**WAKE ISLAND Hy**	**40.37**	**72**	T	T	06 04 26.9	
	baz=262,slow=75,SNR=226						
KLR	**Kul'dur**	**40.59**	**6**	P	**P**	**05 21 31.2**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=164,slow=5.7,SNR=9.4						
BBOO	**Buckleboo**	**42.38**	**168**	P	**P**	**05 21 45.9**	**-0.3**
BBOO				IAmb	IAmb	05 22 00.8	
	comp=Z,24nm,1.5s						
STKA	**Stephens Creek**	**42.98**	**161**	P	**P**	**05 21 49.9**	**-1.2**
	comp=Z,1.2nm,0.3s,baz=356,slow=6.8,SNR=5.9						
STKA	**Stephens Creek**	**42.98**	**161**	P	**P**	**05 21 50.7**	**-0.4**
TOO	**Toolangi**	**49.47**	**160**	P	**P**	**05 22 42.5**	**+0.3**
PETK	**Petropavlovsk-**	**51.00**	**24**	P	**P**	**05 22 53.3**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=216,slow=7.1,SNR=2.6						
MKAR	**Makanchi Array**	**53.23**	**323**	P	**P**	**05 23 09.5**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=123,slow=3.7,SNR=6.0						
MKAR				PcP	**PcP**	**05 24 16.9**	**-1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,0.3nm,0.5s,baz=128,slow=2.5,SNR=2.7						
ZALV	Zalesovo Beam	55.95	332	P	P	05 23 28.4	-1.5
	comp=Z,0.4nm,0.3s,baz=113,slow=7.7,SNR=2.9						
KURK	Kurchatov	57.31	326	P	P	05 23 38.1	-1.5
KURK				IAmb	IAmb	05 23 45.9	
	comp=Z,6.4nm,1.4s						
KURBB	Kurchatov Arra	57.32	326	P	P	05 23 39.7	+0.1
	comp=Z,1.4nm,0.7s,baz=123,slow=7.0,SNR=7.1						
THZ	Tophouse	65.95	143	P	P	05 24 38.2	+0.1
PPLA	Purkeypile	78.39	28	P	P	05 25 49.3	-3.0
MLY	Manley	79.14	25	P	P	05 25 58.4	+2.1
MLY				IAmb	IAmb	05 26 11.6	
	comp=Z,5.7nm,1.2s						
GHO	Glory Hole Cre	79.87	29	P	P	05 26 02.5	+2.2
SCM	Sheep Creek Mo	80.63	29	P	P	05 26 03.8	-0.6
SCM				IAmb	IAmb	05 26 05.9	
	comp=Z,12nm,1.4s						
ILAR	Eielson Array	80.78	26	P	P	05 26 04.2	-0.9
	comp=Z,0.3nm,0.8s,baz=226,slow=5.4,SNR=5.5						
ARCES	ARCESS Array B	85.60	340	P	P	05 26 28.3	-1.6
	comp=Z,2.3nm,0.8s,baz=82,slow=6.8,SNR=7.4						
BRTR	Keskin Array B	86.50	309	LR	LR	06 11 57.7	
	comp=Z,16nm,18.6s,baz=316,slow=40						
FINES	FINESS Array B	87.22	332	P	P	05 26 35.9	-2.0
	comp=Z,1.6nm,0.6s,baz=49,slow=4.0,SNR=8.4						
MAW	Mawson	88.30	200	LR	LR	06 07 20.7	
	comp=Z,14nm,19.6s,baz=52,slow=36						
YKA	Yellowknife Ar	95.12	24	P	P	05 27 13.0	-1.7
	comp=Z,0.1nm,0.3s,baz=291,slow=3.9,SNR=3.6						
TORD	Torodi Ar. Bea	120.83	291	PKP	PKPdf	05 32 42.9	-2.1
	comp=Z,0.4nm,0.8s,baz=79,slow=1.8,SNR=5.0						
PLCA	Paso Flores	144.82	158	PKP	PKPab	05 33 27.3	-0.8
	comp=Z,3.5nm,1.1s,baz=271,slow=1.7,SNR=3.6						
PLCA	Paso Flores	144.82	158		PKPab	05 33 26.5	-1.6
BCIP	Isla Barro Col	148.47	56		PKPbc	05 33 39.6	+0.1
GO05	Huala	149.00	150	PKPdf	PKPdf	05 33 35.6	-0.7
GCPR	Guaynabo City	150.46	24	PKPbc	PKPbc	05 33 42.0	-2.2

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*IDC **07** 05:17:52.5±1.1, 24.84N×122.42E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/44, mbtmp3.7/5, MS3.6/10, Ms1 3.6/10, ms1mx3.3/41, Error ellipse: s-maj=58.1km s-min=21.8km az=81.0*

*ISCJB **07** 05:17:53.4±0.9, 24.91N±0.06×122.8E±0.1, h16km, mb3.7/4, MS3.6/8, Error ellipse: s-maj=16.8km s-min=7.1km az=159.5*

*JMA **07** 05:17:53.5±0.2, 24.91N×122.78E, h23km±3km, M3.1*

ISC 07 05:17:54.4±1.1**, 24.92N**±0.08×**122.9E**±0.2**, h16**km**, n20, σ0.77**/12**, mb3.6**/4**, MS3.6**/8**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.47	167	P	Pg	05 18 03.2	-0.5
YOJ				*e*S	Sg	05 18 10.1	+0.1
JYNG	Yonagunijimaku	0.47	175	P	Pg	05 18 03.3	-0.4
JYNG				*e*S	Sg	05 18 09.9	-0.2
IRIF	Iriomote-Funau	0.95	127	P	Pn	05 18 12.4	-0.7
HATJ	Hateruma jima	1.19	136	P	Pn	05 18 16.4	0.0
JKRS	Kuro-shima	1.22	124	P	Pn	05 18 17.0	+0.2
JIJ	Ishigaki jima	1.26	116	P	Pn	05 18 16.9	-0.5
KSRS	Korea Array	13.21	18	LR	LR	05 26 41.7	
	comp=Z,193nm,19.0s,baz=193,slow=40						
DAV	Davao City (W)	17.93	171	LR	LR	05 28 34.3	
	comp=Z,136nm,20.0s,baz=4.0,slow=36						
USRK	Ussuriysk Ar.	20.62	19	P	Pn	05 22 37.6	+2.3
	2.5nm,0.8s,baz=216,slow=12,SNR=3.1						
KLR	Kul'dur	25.24	14	LR	LR	05 34 08.0	
	comp=Z,130nm,18.6s,baz=228,slow=38						
SONM	Songino Array	26.34	334	LR	LR	05 35 16.6	
	comp=Z,203nm,18.3s,baz=189,slow=40						
JAY	Jayapura	32.28	145	LR	LR	05 34 24.0	
	comp=Z,65nm,21.7s,baz=350,slow=30						
PETK	Petropavlovsk-	38.39	34	LR	LR	05 43 31.5	
	comp=Z,63nm,18.1s,baz=243,slow=40						
ZALV	Zalesovo Beam	40.50	326	P	P	05 25 31.6	-0.8
	0.3nm,0.2s,baz=120,slow=8.5,SNR=2.5						
ZALV				LR	LR	05 43 38.9	
	comp=Z,92nm,18.8s,baz=124,slow=38						
WRA	Warramunga Arr	45.96	165	P	P	05 26 17.1	+0.2
	2.0nm,0.8s,baz=346,slow=8.4,SNR=9.4						
ASAR	Alice Springs	49.46	167	P	P	05 26 45.8	+1.8
	0.5nm,0.7s,baz=347,slow=9.0,SNR=5.2						
GEYT	Alibeck	55.78	300	LR	LR	05 57 33.9	
	comp=Z,42nm,18.0s,baz=355,slow=43						
KBZ	Khabaz	66.24	309	LR	LR	06 02 16.9	
	comp=Z,59nm,18.0s,baz=0.0,slow=40						
FINES	FINESS Array B	71.60	330	LR	LR	06 05 17.5	
	comp=Z,113nm,18.6s,baz=89,slow=40						
YKA	Yellowknife Ar	81.69	23	P	P	05 30 12.2	+0.4
	0.5nm,0.7s,baz=310,slow=5.0,SNR=6.1						

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*ISCJB **07** 05:27:48.8±0.5, 24.48N±0.06×125.45E±0.05, h57km±4km, mb4.2/5, Error ellipse: s-maj=11.4km s-min=5.7km az=152.4*

*JMA **07** 05:27:49.1±0.1, 24.45N×125.47E, h53km±2km, M3.6*

JMA Felt I J1.

*NEIC **07** 05:27:50.2±1.8, 24.5N±0.1×125.43E±0.08, h51km±9km, mb4.0/7*

*IDC **07** 05:27:50.3±1.0, 24.57N×125.52E, h54km±9km, mb3.6/4, mb1 3.6/5, mb1mx3.3/40, mbtmp3.8/5, Error ellipse: s-maj=35.9km s-min=16.4km az=69.0*

ISC 07 05:27:50.0±0.8**, 24.44N**±0.07×**125.47E**±0.06**, h49**km±6km**, n36, σ0.99**/46**, mb3.9**/11**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.33	350	P	Pn	05 27 58.7	-0.6
JOGS				*e*S	Sn	05 28 05.7	-0.3
JMJ2	Miyako jima3	0.33	337	P	Pn	05 27 58.5	-0.8
JMJ2				S	Sn	05 28 05.4	-0.6
JIRB	Irabujima	0.47	326	P	Pn	05 28 00.0	-0.9
JIRB				S	Sn	05 28 07.9	-0.8
JIKM	Ikemajima	0.52	338	P	Pn	05 28 00.7	-0.8
JIKM				S	Sn	05 28 09.3	-0.4
JTJ	Tarama	0.72	286	P	Pn	05 28 03.4	-0.6
JTJ				*e*S	Sn	05 28 13.8	-0.4
JISG	Ishigakijimahi	1.06	278	P	Pn	05 28 07.9	-0.7
JISG				*e*S	Sn	05 28 21.6	-0.7
JIJ	Ishigaki jima	1.21	267	P	Pn	05 28 10.2	-0.3
JIJ				S	Sn	05 28 24.8	-1.0
JKRS	Kuro-shima	1.34	262	P	Pn	05 28 12.2	-0.2
HATJ	Hateruma jima	1.56	256	P	Pn	05 28 14.9	-0.5
IRIF	Iriomote-Funau	1.59	267	P	Pn	05 28 15.2	-0.5
YOJ	Yonaguni jima	2.24	271	Pn	Pn	05 28 25.2	+0.6
JOW	Kunigami	3.48	46	P	Pn	05 28 40.4	-1.3
	1.7nm,0.3s,baz=193,slow=14,SNR=48						
JOW				S	Sn	05 29 20.2	-1.4
	1.3nm,0.3s,baz=240,slow=20,SNR=4.0						
NACB	Ninganchiao	3.54	267		Pn	05 28 41.5	-1.1
TATO	Taipei	3.66	279	Pn	Pn	05 28 45.4	+1.3
YHNB	Yeheng	3.73	274	Pn	Pn	05 28 45.7	+0.5
YULB	Yu-li	3.95	256		Pn	05 28 46.1	-2.0
SSLB	Suanglung	4.17	262		Pn	05 28 49.9	-1.3
TWG	Pinlang	4.34	249		Pn	05 28 50.5	-3.0
TPUB	Ta-pu	4.57	257		Pn	05 28 56.1	-0.6
KNMB	Chin-men Tao	6.45	272	Pn	Pn	05 29 21.7	-0.7
HKPS	Hong Kong Po S	10.62	261		Pn	05 30 19.4	-0.2
MJAR	Matsushiro Arr	16.29	39	P	P	05 31 38.7	+0.9
	0.1nm,0.3s,baz=230,slow=11,SNR=8.1						
MK31	Makanchi Array	40.92	314	P	P	05 35 27.1	-0.5
MK31				IAmb	IAmb	05 35 43.0	
	comp=Z,7.4nm,1.4s						
MKAR	Makanchi Array	40.92	314	P	P	05 35 26.7	-0.9
	comp=Z,0.7nm,0.4s,baz=101,slow=9.6,SNR=13						
MKAR				pP	pP	05 35 41.5	+1.1
	comp=Z,0.8nm,0.8s,baz=102,slow=9.2,SNR=2.3						
ZALV	Zalesovo Beam	42.22	325	P	P	05 35 36.1	-1.9
	comp=Z,0.7nm,0.3s,baz=136,slow=7.6,SNR=3.6						
KDJ	Kajisay	43.44	306	P	P	05 35 48.6	+0.2
KDJ				IAmb	IAmb	05 35 53.8	
	comp=Z,2.9nm,0.8s						
KURK	Kurchatov	44.45	319	P	P	05 35 55.6	-0.5
KURK				IAmb	IAmb	05 35 57.0	
	comp=Z,2.9nm,1.3s						
WB0	Warramunga Arr	44.79	168	P	P	05 35 60.0	+0.9
WRA	Warramunga Arr	44.95	168	P	P	05 36 00.9	+0.5
	comp=Z,85nm,0.3s,baz=353,slow=8.3,SNR=7.5						
WRA				pP	pP	05 36 14.2	+1.1
	comp=Z,0.4nm,0.6s,baz=346,slow=8.6,SNR=3.0						
WB2	Warramunga Arr	44.95	168	P	P	05 36 01.4	+1.0
WB2				IAmb	IAmb	05 36 01.7	
	comp=Z,1.9nm,0.8s						
AS31	Alice Springs	48.51	170	P	P	05 36 28.5	+0.3
AS31				IAmb	IAmb	05 36 30.1	
	comp=Z,0.8nm,1.2s						
ASAR	Alice Springs	48.51	170	P	P	05 36 29.3	+1.1
	comp=Z,0.4nm,0.6s,baz=356,slow=14,SNR=8.9						
ASAR				pP	pwP	05 36 43.4	0.0
	comp=Z,0.3nm,0.5s,baz=354,slow=7.6,SNR=2.9						
ABKAR	Akbulak array	56.07	314	P	P	05 37 24.4	+0.4
GLI	Glacier Island	67.74	32	P	P	05 38 42.4	+0.1
FINES	FINESS Array B	73.18	330	P	P	05 39 15.0	-0.3
	comp=Z,2.8nm,1.0s,baz=74,slow=7.4,SNR=5.0						
YKA	Yellowknife Ar	81.19	24	pP	pP	05 40 15.4	+1.3
	comp=Z,0.4nm,0.7s,baz=308,slow=5.4,SNR=3.3						

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*IDC **07** 05:32:38.3±0.8, 16.23N×98.54W, h0km, mb4.3/17, mb1 4.4/21, mb1mx4.2/43, mbtmp4.2/21, ML3.8/4, MS3.7/14, Ms1 3.7/14, ms1mx3.3/38, Error ellipse: s-maj=24.9km s-min=12.6km az=52.0*

*ISCJB **07** 05:32:41.7±0.9, 16.24N±0.04×98.51W±0.02, h31km±6km, mb4.2/17, MS3.6/12, Error ellipse: s-maj=7.2km s-min=3.4km az=17.6*

*NEIC **07** 05:32:41.6±1.9, 16.22N±0.05×98.54W±0.04, h21km±4km*

*MEX **07** 05:32:44.1±0.6, 16.13N×98.60W, h15km, MD4.5*

ISC 07 05:32:42.7±1.3**, 16.23N**±0.06×**98.57W**±0.05**, h29**km±8km**, n345, σ1.09**/283**, mb4.6**/81**, MS3.7**/12**, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.46	69	*e*P	Pb	05 32 50.7	-1.7
PNIG				*e*S	Sb	05 33 00.0	+1.0
PNIG	Pinotepa	0.46	69		Pb	05 32 50.7	-1.7
PNIG					Sb	05 33 00.0	+1.0
TLIG	Tlapa	1.33	0	*e*P	Pn	05 33 04.5	-1.0
TLIG				*e*S	Sn	05 33 22.8	+0.4
TLIG	Tlapa	1.33	0		Pn	05 33 04.5	-1.0
TLIG					Sn	05 33 22.8	+0.4
TLIG	Tlapa	1.33	0		Pn	05 33 03.0	-2.5
TLIG				Sn	Sn	05 33 22.8	+0.4
CAIG	El Cayaco	1.82	297	*e*P	Pn	05 33 11.4	-0.7
CAIG				*e*S	Sn	05 33 33.8	-0.5
CAIG	El Cayaco	1.82	297		Pn	05 33 11.4	-0.7
CAIG					Sn	05 33 33.8	-0.5
PLIG	Platanillo	2.33	338	*e*P	Pn	05 33 19.6	+0.3
PLIG				*e*S	Sn	05 33 49.2	+2.1
PLIG	Platanillo	2.33	338		Pn	05 33 19.6	+0.3
PLIG					Sn	05 33 49.2	+2.1
HUIG	Huatulco	2.41	101	*e*P	Pn	05 33 18.6	-1.7
HUIG				*e*S	Sb	05 34 01.6	+6.9
HUIG	Huatulco	2.41	101		Pn	05 33 18.6	-1.7
HUIG					Lg	05 34 01.6	
ARIG	Puente Sto Nin	2.66	321	*e*P	Pn	05 33 24.3	+0.6
ARIG				*e*S	Sn	05 33 55.2	+0.2
ARIG	Puente Sto Nin	2.66	321		Pn	05 33 24.3	+0.6
ARIG					Sn	05 33 55.2	+0.2
ZIIG	Zihuatanejo	3.09	297	*e*P	Pn	05 33 30.2	+0.6
ZIIG				*e*S	Sn	05 34 06.3	+0.6
ZIIG	Zihuatanejo	3.09	297		Pn	05 33 30.2	+0.6
ZIIG					Sn	05 34 06.3	+0.6
CMIG	Matias Romero	3.64	76	Pn	Pn	05 33 35.3	-1.9
	14nm,0.3s,baz=243,slow=11,SNR=173						
CMIG				Sn	Sn	05 34 19.3	+0.2
	40nm,0.3s,baz=30,slow=20,SNR=4.4						
CMIG				Lg	Lg	05 34 36.2	
	40nm,0.3s,baz=273,slow=13,SNR=3.5						
CCIG	Comitan	6.18	89		Pn	05 34 12.7	+0.4
ZAIG	Zacatecas	7.52	331	Pn	Pn	05 34 31.4	+0.5
APG	El Apazote	7.90	98	Pn	Pn	05 34 35.8	-0.3
	0.9nm,0.3s,baz=334,slow=15,SNR=4.7						
APG				Sn	Sn	05 36 03.4	-1.3
	0.6nm,0.3s,baz=8.7,slow=15,SNR=5.0						
TEIG	Tepich	10.56	66		Pn	05 35 09.2	-3.0
H06E1	SOCORRO T-PHAS	12.06	284	T	T	05 47 34.2	
	SNR=671						
LPIG	La Paz	13.52	307	LR	LR	05 41 13.5	
	comp=Z,220nm,18.2s,baz=82,slow=38						
TX31	Lajitas Ar. Si	13.87	341		Pn	05 35 57.6	+0.1
TX32	Lajitas Array	13.87	341		Pn	05 35 57.7	+0.2
TXAR	Lajitas Array	13.87	341	Pn	Pn	05 35 57.1	-0.4
	0.1nm,0.3s,baz=161,slow=15,SNR=13						
TXAR				Lg	Lg	05 39 59.0	
	0.1nm,0.3s,baz=162,slow=33,SNR=3.7						
TXAR				LR	LR	05 41 17.6	
	comp=Z,139nm,21.2s,baz=0.0,slow=37						
JCT	Junction City	14.23	356	P	Pn	05 36 02.2	-0.3
	baz=175						
JCT	Junction City	14.23	356		Pn	05 36 01.7	-0.8
JTS	Las Juntas de	14.50	112	Pn	Pn	05 36 09.0	+2.8
	1.4nm,0.3s,baz=27,slow=15,SNR=7.9						
JTS	Las Juntas de	14.50	112		P	05 36 10.1	-2.5
435B	Jarrell	14.52	3		Pn	05 36 06.8	+0.4
HDC	Heredia	15.37	112	P	P	05 36 21.1	-1.2
HDC				IAmb	IAmb	05 36 24.9	
	comp=Z,25nm,0.7s						
WHTX	Lake Whitney,	15.73	3	P	P	05 36 25.9	-0.2
	baz=184,SNR=9.1						
WHTX	Lake Whitney,	15.73	3	P	P	05 36 25.4	-0.6
WHTX				IAmb	IAmb	05 36 27.1	
	comp=Z,67nm,1.0s						
NATX	Nacogdoches	15.87	12	P	P	05 36 27.4	-0.3
	baz=194						
NATX	Nacogdoches	15.87	12	P	Pn	05 36 26.3	+2.2
NATX				IAmb	IAmb	05 36 28.1	
	comp=Z,35nm,0.9s						
ABTX	Abilene, Hawle	16.36	357	P	P	05 36 33.3	+0.2
	baz=176,SNR=26						
ABTX	Abilene, Hawle	16.36	357	P	Pn	05 36 31.9	+1.5
ABTX				IAmb	IAmb	05 36 34.2	
	comp=Z,50nm,0.8s						
MNTX	Cornudas Mount	16.61	339	P	Pn	05 36 32.9	-0.7
	baz=156						
MNTX	Cornudas Mount	16.61	339		Pn	05 36 32.1	-1.5
GDL2	Guadalupe Moun	16.75	343	P	Pn	05 36 37.1	+1.5
HSIG		17.09	320		Pn	05 36 40.9	+1.2
Z41A	Richland Creek	17.74	16	P	Pn	05 36 48.1	+0.4
	baz=198,SNR=5.2						
MSTX	Muleshoe	18.07	349	P	Pn	05 36 51.6	-0.2
	baz=167,SNR=13						
121A	Cookes Peak, D	18.26	334	P	P	05 36 54.9	+0.6
	baz=151,SNR=8.2						
X34A	Smith Ranch, M	18.31	2	IAmb	IAmb	05 37 04.9	
	comp=Z,38nm,1.1s						
WMOK	Wichita Mounta	18.44	359	P	P	05 36 55.9	-0.1
	baz=179,SNR=5.7						
MIAR	Mount Ida	18.79	13	P	P	05 36 59.9	+0.1
	baz=195,SNR=6.1						
AMTX	Amarillo	18.79	352	P	P	05 36 59.2	-0.8
	baz=171						
AMTX	Amarillo	18.79	352	IAmb	IAmb	05 37 04.4	
	comp=Z,50nm,0.9s						
X40A	Basin Creek Fa	18.90	15	P	P	05 37 00.8	-0.3
	baz=197						
W35A	Tecumseh	18.91	4	P	P	05 36 59.5	-1.8
FNO	Franklin	18.98	3	P	P	05 37 01.9	-0.1
OKCSW	OKLAHOMA CITY	19.13	3	P	P	05 37 02.8	-0.8
UALR	University of	19.30	16	P	P	05 37 04.1	-1.3
W39A	Magazine	19.37	12	P	P	05 37 07.0	+0.7
	baz=194,SNR=6.6						
TUC	Tucson	19.48	327	P	P	05 37 08.4	+0.9
	baz=142						
TUC	Tucson	19.48	327	P	P	05 37 08.2	+0.7
352A	Blakely	19.62	37	P	P	05 37 09.2	+0.2
	baz=222						
352A	Blakely	19.62	37	IAmb	IAmb	05 37 26.9	
	comp=Z,30nm,1.0s						
W41B	Gary Mavity, V	19.70	16	P	P	05 37 10.5	+0.7
	baz=198						
LRAL	Lakeview Retre	19.74	30	P	P	05 37 10.4	+0.1
	baz=215						
TUL1	Leonard	19.76	7	P	P	05 37 09.1	-1.4
	baz=188,SNR=8.0						
TUL1	Leonard	19.76	7	IAmb	IAmb	05 37 12.6	
	comp=Z,20nm,0.8s						
WHAR	Wooly Hollow	19.80	15	IAmb	IAmb	05 37 19.8	
	comp=Z,31nm,1.1s						
ANMO	Albuquerque	19.94	341	P	P	05 37 13.4	+0.8
	baz=157						
ANMO	Albuquerque	19.94	341	P	P	05 37 12.8	+0.2
	comp=Z,0.3nm,0.3s,baz=154,slow=11,SNR=40						
ANMO				Lg	Lg	05 43 09.9	
	comp=Z,0.1nm,0.3s,baz=234,slow=19,SNR=2.0						
ANMO	Albuquerque	19.94	341	P	P	05 37 12.8	+0.2
OXF	Oxford	19.98	23	P	P	05 37 13.4	+0.5
	baz=206						
OXF	Oxford	19.98	23	IAmb	IAmb	05 37 20.6	
	comp=Z,32nm,0.9s						
U32A	Winter Ranch,	20.08	359	IAmb	IAmb	05 37 14.1	
	comp=Z,39nm,0.8s						
252A	Lumpkin	20.11	36	P	P	05 37 14.0	-0.4
	baz=222						
214A	Organ Pipe Nat	20.32	323	P	P	05 37 17.5	+0.9
	baz=137,SNR=6.2						
HHAR	Hobbs	20.40	11	P	P	05 37 18.6	+1.2
Z50A	Ashland	20.45	32	P	P	05 37 17.5	-0.5
	baz=217,SNR=9.9						
Z50A	Ashland	20.45	32	IAmb	IAmb	05 37 20.2	
	comp=Z,35nm,1.2s						
152A	Waverly Hall	20.63	35	P	P	05 37 18.9	-1.1
	baz=220						
557A	Orange Park	20.66	45	P	Pn	05 37 24.8	+2.1
	baz=232						
U40A	Yellville	20.69	13	P	P	05 37 20.2	-0.4
	baz=196,SNR=12						
U40A	Yellville	20.69	13	IAmb	IAmb	05 37 26.6	
	comp=Z,27nm,1.0s						
Y49A	Blount Mountai	20.69	30	P	P	05 37 19.7	-1.0
	baz=215						
X48A	Hartselle	20.89	28	P	P	05 37 21.7	-1.2
	baz=212,SNR=5.7						
X18A	Snowflake	20.90	333	IAmb	IAmb	05 37 28.0	
	comp=Z,16nm,0.8s						
PLAL	Pickwick Lake	20.91	25	IAmb	IAmb	05 37 31.0	
	comp=Z,40nm,1.0s						
254A	Abbeville	20.93	39	P	Pn	05 37 26.1	+0.3
	baz=225						
Z52A	Williamson	21.19	35	P	P	05 37 25.4	-0.6
	baz=220						
W18A	Petrified Fore	21.31	334	P	P	05 37 28.1	+0.6
	baz=149						
Y51A	Rockmart	21.39	32	P	P	05 37 27.6	-0.6
	baz=218,SNR=9.6						
T25A	Trinidad	21.46	347	P	P	05 37 30.6	+1.4
	baz=164,SNR=18						
T25A	Trinidad	21.46	347	IAmb	IAmb	05 37 35.2	
	comp=Z,17nm,0.8s						
X16A	Lo Mia Camp, P	21.49	330	IAmb	IAmb	05 37 41.3	
	comp=Z,18nm,0.8s						
MGMO	Mountain Grove	21.58	14	IAmb	IAmb	05 37 33.3	
	comp=Z,28nm,1.1s						
PBMO	Poplar Bluff	21.71	18	IAmb	IAmb	05 37 34.2	
	comp=Z,33nm,1.0s						
Z53A	Monticello	21.72	36	P	P	05 37 31.0	-0.7
	baz=222,SNR=8.5						
W49A	Belvidere	21.80	28	P	P	05 37 31.5	-1.1
	baz=213,SNR=11						
GOGA	Godfrey	21.88	36	P	P	05 37 32.3	-1.1
	baz=222,SNR=7.4						
GOGA	Godfrey	21.88	36	IAmb	IAmb	05 37 33.0	
	comp=Z,21nm,1.0s						
Y52A	Lilburn	21.89	34	P	P	05 37 32.1	-1.4
	baz=220,SNR=12						
155A	Kite	21.89	39	P	P	05 37 32.4	-1.2
	baz=225						
Y14A	Wickenburg	21.91	326	IAmb	IAmb	05 37 35.5	
	comp=Z,22nm,1.1s						
WVT	Waverly	22.01	24	P	P	05 37 35.7	+0.9
	baz=208						
WVT	Waverly	22.01	24	P	P	05 37 35.7	+0.9
WVT				IAmb	IAmb	05 37 47.5	
	comp=Z,26nm,0.8s						
X51A	Calhoun	22.02	31	P	P	05 37 34.7	-0.2
	baz=217						
X51A	Calhoun	22.02	31	IAmb	IAmb	05 37 37.0	
	comp=Z,26nm,1.1s						
SWET	Sewanee	22.04	29	IAmb	IAmb	05 37 39.0	
	comp=Z,21nm,0.9s						
V48A	Smith Brothers	22.08	26	P	P	05 37 34.5	-1.1
	baz=211,SNR=9.3						
Z54A	Sparta	22.11	37	P	P	05 37 34.6	-1.3
	baz=224,SNR=11						
Y53A	Monroe	22.14	35	P	P	05 37 35.4	-0.9
	baz=221,SNR=8.7						
GLA	Glamis	22.29	322	IAmb	IAmb	05 37 39.5	
	comp=Z,20nm,1.0s						
SDCO	Great Sand Dun	22.29	345	P	P	05 37 38.5	+0.3
	baz=162,SNR=12						
W50A	Signal Mountai	22.31	30	P	P	05 37 37.7	-0.4
	baz=215,SNR=14						
W50A	Signal Mountai	22.31	30	IAmb	IAmb	05 37 40.3	
	comp=Z,37nm,1.0s						
WUAZ	Wupatki	22.36	332	P	P	05 37 39.7	+0.9
	baz=146,SNR=20						
WUAZ	Wupatki	22.36	332	IAmb	IAmb	05 37 47.9	
	comp=Z,32nm,1.0s						
V49A	McMinnville	22.50	28	P	P	05 37 40.9	+0.8
	baz=213,SNR=8.8						
156A	Sylvania	22.51	40	P	P	05 37 41.6	+1.4
	baz=227						
CBKS	Cedar Bluff	22.53	358	P	P	05 37 41.4	+1.0
	baz=177,SNR=5.5						
CBKS	Cedar Bluff	22.53	358	IAmb	IAmb	05 37 49.1	
	comp=Z,20nm,0.9s						
W51A	Cleveland	22.55	31	P	P	05 37 40.0	-0.6
	baz=216						
X52A	Dahlonega	22.55	33	P	P	05 37 40.2	-0.4
	baz=219						
Y12C	Blythe	22.61	323	P	P	05 37 42.7	+1.4
	baz=137						
Y12C	Blythe	22.61	323	IAmb	IAmb	05 37 49.5	
	comp=Z,21nm,1.3s						
S22A	4UR Ranch, Cre	22.64	343	P	P	05 37 42.0	+0.1
	baz=159,SNR=15						
S22A	4UR Ranch, Cre	22.64	343	IAmb	IAmb	05 37 44.8	
	comp=Z,14nm,1.0s						
Y54A	Tignall	22.65	36	P	P	05 37 39.5	-2.2
	baz=223,SNR=15						
MVCO	Mesa Verde	22.68	339	P	P	05 37 42.2	0.0
	baz=154,SNR=22						
MVCO	Mesa Verde	22.68	339	IAmb	IAmb	05 37 43.1	
	comp=Z,38nm,1.1s						
CCM	Cathedral Cave	22.68	15	P	P	05 37 42.4	+0.4
	baz=198						
CCM	Cathedral Cave	22.68	15	P	P	05 37 41.7	-0.3
CCM				IAmb	IAmb	05 37 43.0	
	comp=Z,16nm,1.1s						
X53A	Estanollee	22.79	34	P	P	05 37 42.2	-0.9
	baz=221						
V50A	Pikevile	22.80	29	P	P	05 37 42.6	-0.6
	baz=215,SNR=14						
W52A	Murphy	22.91	32	P	P	05 37 44.1	-0.3
	baz=218,SNR=18						
S44A	Carbondale	22.91	19	P	P	05 37 44.7	+0.3
	baz=203,SNR=12						
SIUC	Southern Illin	22.95	19	IAmb	IAmb	05 37 49.7	
	comp=Z,25nm,0.8s						
KSCO	Kaye Shedlock’	22.98	352	P	P	05 37 45.0	-0.2
	baz=170						
T47A	Sharon Grove	23.04	24	P	P	05 37 45.8	+0.1
	baz=209,SNR=18						
Z56A	Williston	23.05	39	P	P	05 37 44.9	-0.9
	baz=226						
BC3	Big Chuckawall	23.08	322	P	P	05 37 46.9	+0.6
	baz=135						
MONP2	Monument Peak	23.16	319	P	P	05 37 47.4	+0.2
	baz=132						
Y55A	Saluda	23.18	37	P	P	05 37 46.1	-1.1
	baz=224,SNR=8.6						
U49A	Red Boiling Sp	23.18	27	P	P	05 37 46.8	-0.3
	baz=212,SNR=7.3						
IRM	Iron Mountain	23.26	323	P	P	05 37 48.8	+0.8
	baz=136,SNR=14						
V51A	Loudon	23.26	30	P	P	05 37 47.6	-0.3
	baz=216,SNR=9.5						
X54A	Belton	23.33	36	P	P	05 37 47.9	-0.8
	baz=222						
BG3	Lake Jocassee	23.36	34	IAmb	IAmb	05 37 51.7	
	comp=Z,18nm,0.9s						
W53A	Cullowhee	23.37	33	P	P	05 37 49.3	+0.2
	baz=220,SNR=10						
Q24A	Divide	23.38	347	P	P	05 37 49.7	+0.2
	baz=164,SNR=6.7						
TKL	Tuckaleechee C	23.43	32	P	P	05 37 49.2	-0.4
	comp=Z,7.2nm,0.9s,baz=192,slow=13,SNR=5.8						
Z57A	Bowman	23.43	40	P	P	05 37 51.2	+1.5
	baz=228,SNR=7.1						
SLM	Saint Louis	23.50	17	P	P	05 37 49.9	-0.3
U50A	Jamestown	23.52	29	P	P	05 37 50.3	-0.3
	baz=215						
U15A	North Rim	23.53	331	IAmb	IAmb	05 37 58.7	
	comp=Z,14nm,0.9s						
NHSC	New Hope	23.64	41	P	P	05 37 52.9	+1.3

baz=229,SNR=7.2
NHSC New Hope 23.64 41 P P 05 37 52.6 +1.0
BELC Belle Mtn. Jos 23.65 322 P P 05 37 52.9 +1.0
baz=134
PFO Pinyon Flats O 23.66 320 P P 05 37 52.9 +0.9
baz=133
PFO Pinyon Flats O 23.66 320 P P 05 37 52.5 +0.4
comp=Z,4.5nm,1.0s,baz=146,slow=7.4,SNR=4.6
PFO LR LR 05 47 30.2
comp=Z,223nm,18.9s,baz=148,slow=38
PFO Pinyon Flats O 23.66 320 P P 05 37 52.1 +0.1
V52A Sevierville 23.66 32 P P 05 37 51.9 0.0
baz=218
V52A Sevierville 23.66 32 IAmb IAmb 05 37 54.2
comp=Z,22nm,1.1s
X55A Gracelyn & Ava 23.69 37 P P 05 37 51.6 -0.5
baz=224
T49A Edmonton 23.79 27 P P 05 37 53.9 +0.8
baz=212
T49A Edmonton 23.79 27 IAmb IAmb 05 37 54.4
comp=Z,36nm,1.4s
W54A Cherokee Point 23.83 35 P P 05 37 53.9 +0.5
baz=222,SNR=11
PAULI Pauline 23.84 36 IAmb IAmb 05 37 55.7
comp=Z,26nm,1.1s
U51A La Follette 23.88 30 P P 05 37 54.1 +0.1
baz=216
V53A Saluda 23.93 33 P P 05 37 54.4 -0.1
baz=220
V53A Saluda 23.93 33 IAmb IAmb 05 37 58.0
comp=Z,13nm,1.0s
GMRC Granite Mounta 24.01 324 P P 05 37 55.9 +0.7
baz=136,SNR=7.4
Z58A St. Stephen 24.02 41 P P 05 37 55.8 +0.6
baz=229
T50A Nancy 24.02 28 P P 05 37 54.1 -1.1
baz=214,SNR=8.5
X56A White Oak 24.06 38 P P 05 37 55.5 -0.1
baz=225
MURC Murrieta 24.11 319 P P 05 37 57.4 +1.2
baz=131
Y57A Sumter 24.11 39 P P 05 37 56.1 0.0
baz=227
U52A Thorn Hill 24.21 31 P P 05 37 57.8 +0.7
baz=218
TZTN Tazewell 24.24 31 P P 05 37 57.2 -0.1
baz=217
ISCO Idaho Springs 24.28 347 P P 05 37 58.4 +0.5
baz=163
ISCO Idaho Springs 24.28 347 IAmb IAmb 05 37 59.4
comp=Z,16nm,0.9s
KMSC Kings Mountain 24.35 36 P P 05 37 58.4 +0.1
baz=224,SNR=5.8
KMSC Kings Mountain 24.35 36 IAmb IAmb 05 38 02.7
comp=Z,27nm,1.1s
T51A Gray 24.39 29 P P 05 37 59.4 +0.7
baz=216
WCI Wyandotte Cave 24.44 24 P P 05 37 58.7 -0.4
baz=209
WCI Wyandotte Cave 24.44 24 P P 05 37 58.5 -0.5
S49A Springfield 24.47 26 P P 05 37 58.4 -0.9
baz=212
V54A Nebo 24.47 34 P P 05 38 00.6 +1.1
baz=221,SNR=8.6
Y58A Scranton 24.49 41 P P 05 38 00.6 +1.1
baz=228
Y58A Scranton 24.49 41 P P 05 38 00.4 +0.9
BIRD Birdtown, Kers 24.50 38 IAmb IAmb 05 38 02.6
comp=Z,17nm,0.9s
X57A Johnson Farm, 24.60 39 P P 05 38 01.3 +0.7
baz=227
TUQ Turquoise Moun 24.62 324 P P 05 38 01.9 +1.0
baz=137,SNR=19
S50A Richmond 24.76 28 P P 05 38 01.7 -0.4
baz=214,SNR=6.9
W56A Indian Trail 24.77 37 P P 05 38 02.3 +0.2
baz=225
OGNE Ogallala 24.82 354 P P 05 38 03.7 +1.2
baz=172
BFSC Mount Baldy Ra 24.82 320 P P 05 38 04.0 +1.3
baz=132
V55A Taylorsville 24.93 35 P P 05 38 05.0 +1.5
baz=223
R49A Shelbyville 24.94 26 P P 05 38 02.3 -1.4
baz=212
R49A Shelbyville 24.94 26 IAmb IAmb 05 38 03.2
comp=Z,24nm,1.3s
T52A Hallie 24.96 31 P P 05 38 04.3 +0.5
baz=218,SNR=6.3
SHPR Sheep Range 25.00 327 P P 05 38 05.2 +0.8
GSC Goldstone, Bar 25.03 323 P P 05 38 05.4 +0.8
baz=135
GSC Goldstone, Bar 25.03 323 IAmb IAmb 05 38 10.5
comp=Z,11nm,1.1s
Y59A Loris 25.04 41 P P 05 38 05.2 +0.7
baz=230
Y59A Loris 25.04 41 P P 05 38 04.9 +0.3
T53A Wise 25.09 31 P P 05 38 05.5 +0.5
baz=219
S51A Beattyville 25.10 29 P P 05 38 04.9 -0.1
baz=216,SNR=7.4
U54A Nelsons Funny 25.10 33 P P 05 38 05.8 +0.7
baz=221
X58A Rowland 25.12 40 P P 05 38 05.8 +0.5
baz=228,SNR=8.8
W57A Gilead 25.13 38 P P 05 38 06.0 +0.6
baz=226,SNR=8.5
SHOC Shoshone, Teco 25.16 324 P P 05 38 07.2 +1.6
baz=137
Q48A North Vernon 25.27 24 P P 05 38 06.3 -0.2
baz=210
O20A White River Ci 25.27 342 P P 05 38 08.1 +1.3
baz=158,SNR=6.8
O20A White River Ci 25.27 342 IAmb IAmb 05 38 12.0
comp=Z,21nm,1.1s
R50A Paris 25.30 27 P P 05 38 06.1 -0.7
baz=213
R50A Paris 25.30 27 IAmb IAmb 05 38 07.1
comp=Z,11nm,0.8s
V56A Mocksville 25.30 36 P P 05 38 10.4 +3.5
baz=224
N23A Red Feather La 25.40 347 P P 05 38 09.1 +1.0
baz=163,SNR=9.1
N23A Red Feather La 25.40 347 IAmb IAmb 05 38 10.4
comp=Z,15nm,0.9s
O44A Mansfield 25.41 18 IAmb IAmb 05 38 07.5
comp=Z,18nm,1.1s
EDW2 Edwards Air Fo 25.45 320 P P 05 38 10.7 +2.3
baz=132
W58A Raeford 25.49 39 P P 05 38 09.2 +0.5
baz=228,SNR=7.0
U55A TA2, Sparta 25.50 34 P P 05 38 08.8 0.0
baz=222
HDIL Hopedale 25.55 17 P P 05 38 08.5 -0.5
baz=201
T54A Tazewell 25.64 33 P P 05 38 09.4 -0.6
baz=220
R51A Hillsboro 25.64 28 P P 05 38 09.9 0.0
baz=215,SNR=7.0
Q49A Aurora 25.66 25 P P 05 38 09.7 -0.5
baz=211
PHWY Pilot Hill 25.69 348 IAmb IAmb 05 38 13.0
comp=Z,12nm,0.9s
U56A King 25.75 35 P P 05 38 12.8 +1.8
baz=223
U56A King 25.75 35 IAmb IAmb 05 38 13.2
comp=Z,23nm,1.1s
V57A Coltrane Farms 25.77 37 P P 05 38 10.9 -0.2
baz=225,SNR=7.6
FURC Furnace Creek, 25.90 325 P P 05 38 13.3 +1.1
baz=136
Q50A Georgetown 25.91 27 P P 05 38 11.6 -0.8
baz=213,SNR=6.5
TPNV Topopah Spring 25.91 326 P P 05 38 14.3 +1.7
baz=138,SNR=7.4
TPNV Topopah Spring 25.91 326 IAmb IAmb 05 38 24.3
comp=Z,17nm,1.1s
MPMC Manual Prospec 25.96 323 P P 05 38 13.9 +0.8
baz=135,SNR=7.9
SCIA State Center 26.01 9 P P 05 38 13.1 -0.1
baz=192
SCIA State Center 26.01 9 P P 05 38 12.6 -0.7
SFIN Lafayette 26.05 20 P P 05 38 13.5 -0.1
baz=206
V58A Windy Hill, Pi 26.09 38 P P 05 38 15.4 +1.3
baz=226,SNR=9.0
R52A Catlettsburg 26.10 29 P P 05 38 14.2 +0.1
baz=217

P49A Miami Univ. Ec 26.19 25 P P 05 38 14.4 -0.5
baz=211,SNR=6.9
ISA Isabella, Lake 26.27 321 P P 05 38 19.2 +3.4
baz=132
ISA Isabella, Lake 26.27 321 IAmb IAmb 05 38 25.9
comp=Z,14nm,1.4s
S54A Dingess, Beckl 26.34 32 P P 05 38 17.9 +1.5
baz=220
Q51A Peebles 26.34 27 P P 05 38 16.0 -0.3
baz=214,SNR=7.2
Q51A Peebles 26.34 27 P P 05 38 15.0 -1.3
BLA Blacksburg 26.36 34 P P 05 38 18.7 +2.1
baz=222,SNR=5.2
R53A Hurricane 26.43 30 P P 05 38 17.5 +0.4
baz=218,SNR=5.4
T56A Rocky Mt 26.44 35 P P 05 38 16.7 -0.5
baz=223
RWWY Rawlins 26.45 345 IAmb IAmb 05 38 20.9
comp=Z,13nm,1.0s
CNNC Cliffs of the 26.46 40 P P 05 38 18.6 +1.1
baz=229
CWC Cottonwood Cre 26.57 323 P P 05 38 18.0 -0.6
baz=134
V59A Middlesex 26.59 39 P P 05 38 19.7 +1.1
baz=228,SNR=15
O48A Farmland 26.64 23 P P 05 38 17.9 -1.0
baz=210,SNR=8.2
R11A Troy Canyon, C 26.64 329 P P 05 38 19.4 +0.2
baz=141,SNR=5.5
Q52A Bidwell 26.78 29 P P 05 38 20.1 -0.1
baz=217
P51A Williamsport 26.84 27 P P 05 38 20.6 -0.2
baz=214
P51A Williamsport 26.84 27 P P 05 38 20.5 -0.3
O49A Covington 26.90 25 P P 05 38 20.5 -0.8
baz=211
O49A Covington 26.90 25 IAmb IAmb 05 38 27.3
comp=Z,17nm,0.8s
DUG Dugway, Tooele 26.91 335 P P 05 38 22.9 +1.4
baz=148,SNR=6.2
N47A Urbana 26.98 22 P P 05 38 20.7 -1.3
baz=208,SNR=9.1
Q53A Leroy 27.05 30 P P 05 38 22.6 -0.1
baz=218
O50A Cable 27.15 26 P P 05 38 25.3 +1.7
baz=213
TCUT Toone Canyon 27.18 338 P P 05 38 24.7 +0.6
K22A Casper 27.20 347 P P 05 38 24.6 +0.3
baz=163
N48A Decatur 27.21 23 P P 05 38 22.6 -1.5
baz=209
T58A Grand View Acr 27.22 37 P P 05 38 26.2 +1.9
baz=226
R55A Marlinton 27.32 33 P P 05 38 25.2 0.0
baz=221
P52A Corning 27.38 28 P P 05 38 25.7 0.0
baz=216
ECSD EROS Data Cent 27.47 3 P P 05 38 26.7 +0.2
baz=184
ECSD EROS Data Cent 27.47 3 IAmb IAmb 05 38 30.4
comp=Z,20nm,1.2s
Q54A Coxs Mills 27.49 31 P P 05 38 28.9 +2.3
baz=219
ACSO Alum Creek Sta 27.49 26 P P 05 38 25.7 -1.0
baz=214
ACSO Alum Creek Sta 27.49 26 IAmb IAmb 05 38 32.6
comp=Z,17nm,1.0s
S57A Dark Hollow, R 27.56 35 P P 05 38 27.3 0.0
baz=224
S57A Dark Hollow, R 27.56 35 IAmb IAmb 05 38 31.9
comp=Z,23nm,1.1s
BW06 Boulder Array 28.07 343 P P 05 38 32.3 +0.1
baz=157,SNR=5.1
BW06 Boulder Array 28.07 343 IAmb IAmb 05 38 37.9
comp=Z,8.3nm,1.0s
PD31 Pinedale Array 28.07 343 IAmb IAmb 05 38 36.4
comp=Z,7.5nm,1.0s
PDAR Pinedale Array 28.07 343 P P 05 38 32.0 -0.1
comp=Z,5.2nm,0.8s,baz=135,slow=10,SNR=25
PDAR LR LR 05 50 28.7
comp=Z,229nm,18.3s,baz=169,slow=38
NVAR Mina Array Bea 28.11 326 P P 05 38 33.4 +1.0
comp=Z,5.0nm,1.0s,baz=150,slow=9.3,SNR=19
NVAR LR LR 05 51 31.0
comp=Z,171nm,18.2s,baz=93,slow=40
L47A Sherwood 28.12 21 P P 05 38 31.1 -1.1
baz=208
RSSD Black Hills 28.19 352 P P 05 38 34.0 +0.9
baz=169
RSSD Black Hills 28.19 352 P P 05 38 33.6 +0.5
SDV Santo Domingo 28.20 102 LR LR 05 51 47.4
comp=Z,350nm,18.3s,baz=83,slow=41
HVU Hansel Valley 28.25 337 P P 05 38 34.1 +0.5
ELK Elko 28.39 333 P P 05 38 36.5 +1.6
comp=Z,3.2nm,1.1s,baz=169,slow=8.7,SNR=5.8
ELK LR LR 05 51 41.3
comp=Z,238nm,18.5s,baz=292,slow=40
SNOW Snow King Moun 29.07 342 IAmb IAmb 05 38 43.8
comp=Z,12nm,0.9s
TPAW Teton Pass 29.15 341 IAmb IAmb 05 38 50.0
comp=Z,7.5nm,0.9s
IMW Indian Meadow 29.52 342 IAmb IAmb 05 38 53.6
comp=Z,5nm,1.0s
RLMT Red Lodge 30.18 345 P P 05 38 51.7 +1.0
baz=159
RLMT Red Lodge 30.18 345 IAmb IAmb 05 38 59.5
comp=Z,9.6nm,1.1s
BEKR Beckworth 30.25 325 IAmb IAmb 05 38 56.9
comp=Z,7.5nm,1.1s
GCMT Greycliff 30.91 345 P P 05 38 57.9 +0.8
MCMT McKenzie Canyo 30.95 340 P P 05 38 59.2 +1.6
SJG San Juan 31.01 82 P P 05 38 58.4 +0.3
comp=Z,110nm,0.8s,baz=317,slow=9.6,SNR=3.1
SJG San Juan 31.01 82 P P 05 38 57.8 -0.4
DLMT Dillon 31.35 341 IAmb IAmb 05 39 03.0
comp=Z,9.7nm,1.0s
PLID Pearl Lake 32.30 337 IAmb IAmb 05 39 10.6
comp=Z,10nm,1.1s
HRY Holter Researc 32.34 343 P P 05 39 10.4 +0.8
YBH Yreka Blue Hor 32.83 326 LR LR 05 53 41.9
comp=Z,81nm,18.8s,baz=162,slow=38
SADO Sadowa 32.84 26 LR LR 05 56 30.4
comp=Z,59nm,18.2s,baz=208,slow=44
F10A Beach Ranch, E 33.51 336 IAmb IAmb 05 39 29.2
comp=Z,9.1nm,0.9s
G08A Pilot Rock 33.66 334 IAmb IAmb 05 39 22.0
comp=Z,6.0nm,0.9s
ULM Lac du Bonnet 34.01 3 P P 05 39 22.6 -1.4
comp=Z,3.2nm,0.7s,baz=222,slow=4.9,SNR=4.9
ULM Lac du Bonnet 34.01 3 IAmb IAmb 05 39 26.6
comp=Z,11nm,1.1s
NEW Newport 35.40 338 LR LR 05 55 27.3
comp=Z,177nm,18.8s,baz=162,slow=39
C09A Chrisman Ranch 35.43 337 P P 05 39 36.6 +0.3
C09A IAmb IAmb 05 39 38.1
comp=Z,6.8nm,0.8s
LTY Liberty 35.94 334 IAmb IAmb 05 39 42.3
comp=Z,5.0nm,0.8s
FFC Flin Flon 38.51 357 P P 05 40 02.0 -0.5
FFC IAmb IAmb 05 40 03.0
comp=Z,9.5nm,1.1s
LPAZ La Paz 44.11 136 P P 05 40 49.6 0.0
comp=Z,1.0nm,0.8s,baz=0.1,slow=8.3,SNR=4.3
LPAZ LR LR 05 57 59.2
comp=Z,52nm,18.2s,baz=324,slow=34
LPAZ La Paz 44.11 136 P P 05 40 49.5 0.0
SCHQ Schefferville 45.64 25 P P 05 40 60.0 -0.6
comp=Z,10nm,1.0s,baz=235,slow=5.9,SNR=5.2
SCHQ Schefferville 45.64 25 P P 05 41 00.2 -0.3
SCHQ IAmb IAmb 05 41 18.1
comp=Z,9.1nm,1.0s
YKA Yellowknife Ar 47.58 350 P P 05 41 14.7 -0.9
comp=Z,1.9nm,0.8s,baz=158,slow=7.2,SNR=21
SIV San Ignacio 48.93 129 P P 05 41 25.8 -0.9
comp=Z,1.2nm,0.6s,baz=306,slow=8.3,SNR=7.0
GLB Gilahina Butte 55.35 335 IAmb IAmb 05 42 16.4
comp=Z,7.2nm,1.2s
EGAK Eagle 56.36 340 IAmb IAmb 05 42 21.7
comp=Z,5.1nm,0.8s
INK Inuvik 56.60 345 P P 05 42 22.3 -0.3
comp=Z,4.0nm,0.9s,baz=127,slow=8.7,SNR=15
INK Inuvik 56.60 345 P P 05 42 22.4 -0.2
INK IAmb IAmb 05 42 23.3
comp=Z,5.5nm,0.9s
SCRK Sand Creek 56.86 338 P P 05 42 25.4 +0.7
RIDG Independent Ri 57.04 337 P P 05 42 26.4 +0.5
RIDG IAmb IAmb 05 42 28.1
comp=Z,9.2nm,1.0s

SUA Susitna One 58.23 334 IAmb IAmb 05 42 35.8
comp=Z,7.2nm,0.8s
IL31 58.35 338 IAmb IAmb 05 42 36.2
comp=Z,6.1nm,1.0s
ILAR Eielson Array 58.35 338 P P 05 42 34.9 -0.2
comp=Z,4.9nm,1.1s,baz=138,slow=4.9,SNR=25
BDFB Brasilia 59.09 120 P P 05 42 42.5 +1.4
comp=Z,2.3nm,0.6s,baz=281,slow=5.0,SNR=4.9
BDFB Brasilia 59.09 120 IAmb IAmb 05 42 52.7
comp=Z,4.9nm,1.1s
KTH Kantishna Hill 59.27 336 P P 05 42 41.3 -0.3
KTH IAmb IAmb 05 42 42.2
comp=Z,8.0nm,1.0s
PPLA Purkeypile 59.48 335 P P 05 42 42.8 -0.4
PPLA IAmb IAmb 05 42 59.3
comp=Z,8.8nm,1.1s
MLY Manley 59.90 337 P P 05 42 46.0 +0.1
MLY IAmb IAmb 05 42 46.8
comp=Z,6.7nm,1.0s
PLCA Paso Flores 62.36 156 P P 05 43 02.3 -0.5
comp=Z,1.9nm,0.8s,baz=6.5,slow=7.0,SNR=4.1
PLCA LR LR 06 04 36.2
comp=Z,34nm,19.8s,baz=356,slow=31
PLCA Paso Flores 62.36 156 P P 05 43 02.8 0.0
RCBR Riachuelo 65.74 104 P P 05 43 26.6 +1.0
SUMG Summit 65.86 17 P P 05 43 26.4 +0.6
SUMG IAmb IAmb 05 43 32.2
comp=Z,7.4nm,1.1s
ESDC Sonseca Array 83.28 51 P P 05 45 06.2 -0.9
comp=Z,0.6nm,0.7s,baz=310,slow=5.6,SNR=7.2
ARCES ARCESS Array B 85.95 17 P P 05 45 19.5 -0.4
comp=Z,7.7nm,1.1s,baz=295,slow=6.7,SNR=3.6
DBIC Dimbokro 91.71 83 LR LR 06 21 19.6
comp=Z,15nm,21.8s,baz=10.0,slow=32
NRIK Noril'sk 94.55 358 LR LR 06 31 51.7
comp=Z,30nm,19.9s,baz=24,slow=38
VYHS Vyhne 94.98 36 eP P 05 46 02.5 -0.2
YHNB Yeheng 123.70 315 PKPdf PKPdf 05 51 38.6 0.0
LZH Lanzhou 123.82 338 ePKP PKPdf 05 51 35.2 -3.5
LZH pPKP pPKPdf 05 51 45.8 -2.3
LZH sPKP 05 51 51.7
KSH Kashi 124.32 5 PKP PKiKP 05 51 41.2 +1.4
KSH PKS PKSdf 05 55 17.4 +1.1
KSH SKKS 06 00 23.1
KSH LR LR
comp=N,600nm,6.1s
KSH LR LR
comp=E,370nm,5.8s
KSH LR LR
comp=Z,440nm,5.4s
WRA Warramunga Arr 129.73 257 PKP PKPdf 05 51 49.3 -0.8
comp=Z,0.9nm,0.9s,baz=91,slow=2.5,SNR=5.8
ASAR Alice Springs 130.34 253 PKP PKPdf 05 51 50.5 -0.7
comp=Z,0.5nm,0.8s,baz=82,slow=2.0,SNR=4.4
MORW Morawa 145.73 242 PKPdf PKPdf 05 52 17.9 -1.2
ABPO Ambohimpanom 147.31 100 PKPab 05 52 25.6 -1.0

NEIC ***07*** *05:36:49.4±1.2, 16.0N±0.2×98.7W±0.2, h22km±37km*
MEX ***07*** *05:36:53.2±0.8, 16.21N×98.82W, h88km±37km, MD4.0*
ISC 07 05:36:49.5±3.8, 16.0N±0.2×98.8W±0.2, h35km, n8, σ1°§42/13, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.76	57	eP	Pn	05 37 02.8	-1.0
PNIG				eS	Sn	05 37 12.0	-2.1
PNIG	Pinotepa	0.76	57		Pn	05 37 02.8	-1.0
PNIG					Pn	05 37 12.0	+8.2
TLIG	Tlapa	1.59	8	eP	Pn	05 37 15.7	+0.4
TLIG				eS	Sn	05 37 34.2	-0.4
TLIG	Tlapa	1.59	8		Pn	05 37 15.7	+0.4
TLIG					Sn	05 37 34.2	-0.4
TLIG	Tlapa	1.59	8	Pn	Pn	05 37 15.4	+0.1
TLIG				Sn	Sn	05 37 34.4	-0.3
VHO	Vista Hermosa	2.26	61	eP	Pn	05 37 25.4	+0.9
VHO				eS	Sn	05 37 54.7	+3.4
HUIG	Huatulco	2.60	94	eP	Sn	05 37 59.3	-0.1
HUIG				eS	Sg	05 38 18.6	
HUIG	Huatulco	2.60	94		Sn	05 37 59.3	-0.1
HUIG					Sg	05 38 18.6	

TIR 07 05:39:39.0, 41.85N×20.54E, h7km, Md2.2/3, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	Peshkopia	0.18	204	i Pg	Pg	05 39 43.1	+0.4
PHP				i Sg	Sg	05 39 24.4	-21
BCI	Bajram Curri	0.62	326	i Pg	Pg	05 39 51.5	+0.5
BCI				i Sg	Sb	05 40 01.2	-0.1
FNA	Florina	1.24	149	i Pn	Pn	05 40 03.1	+0.3
FNA				i Sn	Sn	05 40 21.5	+1.8

SKO 07 05:40:03.1, 41.92N×23.00E, h15km, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKB	Krupnik	0.08	131	i Pg	Pg	05 40 06.3	+0.1
KKB				i Sg	Sg	05 40 08.8	+0.6
STIP	Stip	0.65	250	i Pg	Pg	05 40 12.2	-3.6
STIP				i Sg	Sg	05 40 17.7	-6.7
STIP				eLg	Lg	05 40 18.0	
STIP	comp=N,3.0nm,0.2s			eLg	Lg	05 40 18.0	
	comp=E,3.8nm,0.2s						
VTS	Vitosha	0.72	14	i Pg	Pg	05 40 16.7	-0.5
VTS				i Sg	Sg	05 40 25.8	-0.9
KNT	Kendrikon	0.76	186	i Pg	Pb	05 40 18.2	+0.2
KNT				i Sg	Sb	05 40 28.2	0.0

NNC 07 05:41:12.0±5.9, 36.66N×69.59E, h0km, mb3.7, mpv3.3, 3C-2D, Error ellipse: s-maj=57.2km s-min=40.1km az=137.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	6.48	6	⇑Pn	Pn	05 42 50.0	+1.3
	0.5nm,0.2s,baz=203,slow=16,SNR=70						
KK31				⇓Sn	Sn	05 44 04.8	+1.6
	1.1nm,0.4s						
KK31				Lg	Lg	05 44 42.4	
	2.9nm,0.5s,baz=187,slow=28,SNR=5.2						
AAK	Ala-Archa	7.07	31	⇑Pn	Pn	05 42 58.1	+1.2
	0.8nm,0.3s						
AAK				⇑Sn	Sn	05 44 17.3	-0.7
	2.7nm,0.5s						
AB31	Akbulak array	14.42	334	P	Pn	05 44 35.2	-2.1
	0.4nm,0.3s,baz=161,slow=13,SNR=37						
AKTO	Aktyubinsk	16.10	332	⇓P	Pn	05 44 57.7	-1.9
	0.9nm,0.6s						

CNRM ***07*** *05:43:39.2, 36.53N×7.91W, h10km*
ISCJB ***07*** *05:43:43.6±0.7, 36.80N±0.04×7.87W±0.04, h55km±9km, Error ellipse: s-maj=6.7km s-min=5.3km az=17.4*
MDD ***07*** *05:43:47.3±0.8, 36.90N×7.94W, h36km±8km, mb3.7/3, mbLg1.8/7, Error ellipse: s-maj=8.1km s-min=4.6km az=173.0, PRXIMO*
INMG ***07*** *05:43:47.4±1.2, 36.90N×7.98W, h29km±3km, ML1.6, Error ellipse: s-maj=4.1km s-min=3.1km az=11.0*
IGIL ***07*** *05:43:47.6, 36.90N×7.94W, h32km, ML1.3*
SFS ***07*** *05:43:48.0, 36.86N×7.93W, h31km, ML2.2, GOLFO DE CADIZ*
ISC 07 05:43:43.3±1.3, 36.71N±0.04×7.92W±0.03, h43km±17km, n41, σ1°§93/71, 3C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBDV	Barranco-do-Ve	0.53	359	⇑iPg	Pn	05 43 55.4	+0.8
PBDV				eSg	Sn	05 44 01.1	-1.6
PBDV				A	A	05 44 01.5	
	18nm,0.2s						
PBDV	Barranco-do-Ve	0.53	359	P	Pn	05 43 55.4	+0.8
PBDV				S	Sn	05 44 01.1	-1.6
	18nm,0.2s						
PVAQ	Vaqueiros	0.71	13	ePg	Pn	05 43 57.9	+1.0
PVAQ				eSg	Sn	05 44 05.3	-1.5
PVAQ				A	A	05 44 06.0	
	27nm,0.3s						
PVAQ	Vaqueiros	0.71	13	P	Pn	05 43 57.4	+0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVAQ				S	Sn	05 44 06.5	-0.3
PVAQ	Vaqueiros	0.71	13	P	Pn	05 43 57.9	+1.0
PVAQ				S	Sn	05 44 05.3	-1.5
	27nm,0.3s						
MORF	Marmelete	0.84	316	eP	Pn	05 43 60.0	+1.3
MORF				eS	Sn	05 44 09.0	-0.9
MORF				AML	AML	05 44 10.3	
	comp=N,7.0nm,0.0s						
MORF	Marmelete	0.84	316	ePg	Pn	05 44 00.0	+1.3
MORF				eSg	Sn	05 44 09.2	-0.7
MORF				A	A	05 44 11.1	
	comp=N,6.4nm,0.1s						
MORF	Marmelete	0.84	316	P	Pn	05 43 60.0	+1.3
MORF				S	Sn	05 44 09.0	-0.9
	comp=N,7.0nm,0.0s						
PFVI	Vila Bisbo	0.84	300	ePg	Pn	05 44 00.6	+1.9
PFVI				eSg	Sn	05 44 10.1	+0.1
PFVI				A	A	05 44 10.7	
	comp=N,6.4nm,0.2s						
PFVI	Vila Bisbo	0.84	300	P	Pn	05 44 00.7	+1.9
	comp=N,1.4nm,0.1s,SNR=11						
PFVI				S	Sn	05 44 10.1	+0.1
	comp=N,14nm,0.1s,SNR=5.5						
EGRO	El Granado	0.89	23	⇑P	Pn	05 44 00.8	+1.4
	comp=N,6.0nm,0.1s,SNR=18						
EGRO				S	Sn	05 44 10.4	-0.8
	comp=N,13nm,0.1s,SNR=20						
PCVE	Castro Verde	0.93	354	ePg	Pn	05 44 01.1	+1.2
PCVE				eSg	Sn	05 44 10.2	-1.8
PCVE				A	A	05 44 11.2	
	comp=N,17nm,0.2s						
PCVE	Castro Verde	0.93	354	P	Pn	05 44 01.1	+1.2
PCVE				S	Sn	05 44 10.2	-1.8
	comp=N,17nm,0.2s						
MESJ	Messejana	1.15	348	eS	Sn	05 44 15.4	-2.2
MESJ				AML	AML	05 44 17.7	
	comp=N,10.0nm,0.2s						
MESJ	Messejana	1.15	348	S	Sn	05 44 15.4	-2.2
	comp=N,10.0nm,0.2s						
EMIN	Mina Concepcio	1.45	43	P	Pn	05 44 08.5	+1.5
	comp=N,0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	05 44 24.6	-0.2
	comp=N,0.4nm,0.0s,SNR=7.9						
PNCL	Nicolau / Gran	1.48	341	⇑eP	Pn	05 44 08.6	+1.2
PNCL				eS	Sn	05 44 24.0	-1.6
PNCL				A	A	05 44 27.7	
	comp=N,2.4nm,0.2s						
PNCL	Nicolau / Gran	1.48	341	P	Pn	05 44 08.6	+1.2
PNCL				S	Sn	05 44 24.0	-1.6
	comp=N,2.4nm,0.2s						
ESPR	Espera	1.66	84	S	Sn	05 44 32.6	+2.6
	comp=N,10nm,0.3s,SNR=7.9						
EVO	Evora	1.82	358	eS	Sn	05 44 31.6	-2.4
EVO				A	A	05 44 36.8	
	comp=N,2.9nm,0.4s						
EVO	Evora	1.82	358	eP	Pn	05 44 24.4	+12
EVO				eS	Sn	05 44 31.3	-2.7
EBAD	Badajoz	2.17	19	P	Pn	05 44 17.8	+1.0
	comp=N,0.6nm,0.0s,SNR=6.7						
EBAD				S	Sn	05 44 41.1	-1.3
	comp=N,1.7nm,0.1s,SNR=7.3						
PESTR	Estremoz	2.17	7	eP	Pn	05 44 18.7	+1.8
PESTR				eS	Sn	05 44 41.3	-1.3
PESTR				A	A	05 44 53.6	
	comp=N,1.3nm,0.7s						
PESTR	Estremoz	2.17	7	P	Pn	05 44 17.1	+0.2
PESTR				S	Sn	05 44 49.2	+6.7
PMTG	Montargil	2.37	354	eP	Pn	05 44 20.3	+0.7
PMTG				eS	Sn	05 44 44.7	-2.7
PMTG				A	A	05 44 45.0	
	comp=N,1.4nm,0.3s						
PMTG	Montargil	2.37	354	P	Pn	05 44 20.3	+0.7
PMTG				S	Sn	05 44 44.7	-2.7
	comp=N,1.4nm,0.3s						
ECAB	El Cabril	2.41	55	P	Pn	05 44 22.4	+2.2
	comp=N,0.2nm,0.1s,SNR=9.0						
ECAB				S	Sn	05 44 47.6	-1.0
	comp=N,0.4nm,0.0s,SNR=9.8						
PMAFR	Mafra	2.49	335	ePn	Pn	05 44 23.0	+1.7
PMAFR				eSn	Sn	05 44 49.7	-0.7
PMAFR				A	A	05 44 59.2	
	comp=N,9.7nm,0.6s						
CHEFC	Chefchaouen	2.63	127	P	Pn	05 44 21.9	-1.4
CHEFC				S	Sn	05 44 50.1	-3.9
PMRV	Marv??o	2.75	9	ePn	Pn	05 44 25.9	+1.1
PMRV				eSn	Sn	05 44 54.9	-1.9
PMRV	Marv??o	2.75	9	P	Pn	05 44 25.9	+1.1
PMRV				S	Sn	05 44 54.9	-1.9
EADA	Adamuz	3.03	60	⇓P	Pn	05 44 31.3	+2.6
	comp=N,0.7nm,0.1s,SNR=18						
EADA				S	Sn	05 45 02.6	-1.2
	comp=N,0.4nm,0.0s,SNR=7.9						
EPLA	Plasencia	3.65	23	P	Pn	05 44 38.1	+0.9
	comp=N,0.2nm,0.1s,SNR=7.9						
EPLA				S	Sn	05 45 16.7	-2.3
	comp=N,0.2nm,0.1s,SNR=7.9						
PAB	San Pablo	3.99	44	P	Pn	05 44 43.9	+2.0
	comp=N,0.7nm,0.1s,SNR=7.9						
PAB				S	Sn	05 45 24.2	-3.3
	SNR=7.9						
EQES	Quesada	4.02	73	S	Sn	05 45 27.9	-0.3
	comp=N,0.4nm,0.1s,SNR=7.9						
ESDC	Sonseca Array	4.30	45	P	Pn	05 44 48.0	+1.8
	comp=N,0.1nm,0.2s,baz=230,slow=14,SNR=3.5						
MVO	Moncorvo	4.50	9	S	Sn	05 45 36.1	-4.0
	comp=N,0.4nm,0.2s,SNR=7.9						
SESP	Santiago Espad	4.50	70	P	Pn	05 44 51.9	+2.8
	comp=N,0.4nm,0.3s,SNR=4.0						
SESP				S	Sn	05 45 39.4	-0.8
	comp=N,0.7nm,0.1s,SNR=7.9						
MDT	Midelt	4.75	144	P	Pn	05 44 49.2	-3.1
MDT				S	Sn	05 45 45.0	-1.2
ETOB	Tobarra	5.41	67	P	Pn	05 45 03.6	+2.2
	comp=N,0.2nm,0.1s,SNR=7.9						
ETOB				S	Sn	05 46 00.1	-2.3
	comp=N,0.1nm,0.1s,SNR=7.9						
OUK	Oukaimeden	5.49	180	P	Pn	05 45 01.7	-1.1
OUK				S	Sn	05 45 58.0	-6.8

MEX 07 05:44:29.2±0.8, 17°.44N×95°.34W, h16km±38km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	Vista Hermosa	1.38	255	eP	Pn	05 44 51.2	-2.9
VHO				eS	Sn	05 45 06.4	-5.7
HUIG	Huatulco	1.82	204	eP	Pn	05 44 55.8	-4.1
HUIG				eS	Sn	05 45 17.5	-5.1

MEX 07 05:54:26.1±0.8, 16°.12N×98°.83W, h72km±85km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.73	68	eP	Pn	05 54 36.5	-5.1
PNIG				eS	Sn	05 54 45.1	-7.8
TLIG	Tlapa	1.45	10	eP	Pn	05 54 49.0	-1.6
TLIG				eS	Sn	05 55 08.0	-1.2
VHO	Vista Hermosa	2.22	65	eP	Pn	05 54 59.0	-1.9
VHO				eS	Sn	05 55 29.3	+1.7

NEIC 07 06:02:25.7±2.0, 16°.0N±0°.2×98°.5W±0°.1, h21km±36km
MEX 07 06:02:27.2±0.4, 15°.94N×98°.50W, h6km±16km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	Tlapa	1.62	358	eP	Pn	06 02 52.7	-3.8
TLIG				eS	Sn	06 03 11.7	-6.0
TLIG	Tlapa	1.62	358		Pn	06 02 52.4	-4.1
TLIG				Sn	Sn	06 03 11.7	-6.0
TLIG	Tlapa	1.62	358		Pn	06 02 52.7	-3.8
TLIG					Sn	06 03 11.7	-6.0
CAIG	El Cayaco	2.02	303	eP	Pn	06 02 58.5	-3.3
CAIG				eS	Sn	06 03 22.4	-5.0
CAIG	El Cayaco	2.02	303		Pn	06 02 58.5	-3.3
CAIG					Sn	06 03 22.4	-5.0
MEIG	Mezcala	2.25	332	eP	Pn	06 03 01.6	-3.5
MEIG				eS	Sn	06 03 27.6	-5.7
MEIG	Mezcala	2.25	332		Pn	06 03 01.6	-3.5
MEIG					Sn	06 03 27.6	-5.7
PLIG	Platanillo	2.62	339	eP	Pn	06 03 07.4	-2.8
PLIG				eS	Sn	06 03 38.7	-3.8
PLIG	Platanillo	2.62	339		Pn	06 03 07.4	-2.8
PLIG					Sn	06 03 38.7	-3.8
ARIG	Puente Sto Nin	2.92	323	eP	Pn	06 03 11.7	-2.6
ARIG				eS	Sn	06 03 45.9	-3.8
ARIG	Puente Sto Nin	2.92	323		Pn	06 03 11.7	-2.6
ARIG					Sn	06 03 45.9	-3.8
ZIIG	Zihuatanejo	3.29	301	eP	Pn	06 03 16.6	-2.7
ZIIG				eS	Sn	06 03 55.0	-3.7
ZIIG	Zihuatanejo	3.29	301		Pn	06 03 16.6	-2.7
ZIIG					Sn	06 03 55.0	-3.7

ISCJB 07 06:07:49.9±0.6, 9°.35N±0°.03×82°.72W±0°.02, h9km±4km, Error ellipse: s-maj=5.5km s-min=3.7km az=25.4
UPA 07 06:07:49.5±2.4, 9°.27N×82°.74W, h0km±8km, MW3.5
UCR 07 06:07:49.9±2.4, 9°.32N×82°.74W, h3km±8km
ISC 07 06:07:49.0±1.2, 9°.39N±0°.03×82°.74W±0°.03, h8km±11km, n23, σ0s.89/39, 1C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI2	El Empalme, Bo	0.27	83	eP	Pb	06 07 55.1	-1.1
CNI2				eS	Sb	06 08 00.1	-0.9
EDBA	Buenos Aires	0.57	247	eP	Pb	06 08 01.2	-0.1
EDBA				eS	Sb	06 08 10.0	+0.4
BRU2	Volcan	0.59	175	⇓iP	Pg	06 08 00.4	-0.2
BRU2				eS	Sg	06 08 08.7	+0.3
BRU2	Volcan	0.59	175	⇓iP	Pg	06 08 00.4	-0.2
BRU2				eS	Sg	06 08 07.8	-0.6
EDSV	San Vito	0.61	202	eP	Pg	06 08 01.3	+0.5
EDSV				eS	Sb	06 08 10.7	-0.1
BCO2	Palmira	0.70	162	⇓iP	Pg	06 08 02.2	-0.4
BCO2				eS	Sg	06 08 11.6	-0.1
CHGR2	Aguacate	0.74	127	eP	Pb	06 08 03.4	-0.9
CHGR2				eS	Sb	06 08 13.6	-1.0
EDPN	Palmar Norte	0.82	239	eP	Pb	06 08 05.6	0.0
DVD	David	0.99	163	eP	Pg	06 08 07.6	-0.5
DVD				eS	Sg	06 08 21.1	+0.1
DVD	David	0.99	163	eP	Pg	06 08 07.6	-0.5
DVD				eS	Sg	06 08 21.1	+0.1
EDDO	Dominical	1.11	263	eP	Pb	06 08 10.6	0.0
LCR2	La Lucha 2	1.29	286	eP	Pb	06 08 13.5	-0.3
REME3	Remedios, Chir	1.47	142	eP	Pb	06 08 16.2	-0.3
REME3				eS	Sn	06 08 34.8	-0.4
HDC	Heredia	1.48	294	eP	Pg	06 08 17.7	+0.2
HDC				eS	Sg	06 08 36.4	-0.3
HDC	Heredia	1.48	294	eP	Pg	06 08 17.7	+0.2
HDC				eS	Sg	06 08 36.4	-0.3
GMAL	Guarumal, Vera	2.20	137	⇑iP	Pn	06 08 26.0	0.0
GMAL				eS	Sn	06 08 53.3	-0.1
JTS	Las Juntas de	2.35	293	eP	Pb	06 08 30.2	-1.5
JTS				eS	Sb	06 09 01.6	+0.6
JTS	Las Juntas de	2.35	293	eP	Pb	06 08 30.3	-1.5
JTS				eS	Sb	06 09 01.6	+0.6
VTON	El Valle, Cocl	2.71	106	eP	Pg	06 08 44.0	+2.9
VTON				eS	Sg	06 09 17.0	+0.7
BCIP	Isla Barro Col	2.88	94	eP	Pn	06 08 34.5	-0.7
BCIP				eS	Sn	06 08 58.6	-12
BCIP	Isla Barro Col	2.88	94	eP	Pn	06 08 34.5	-0.7
BCIP				eS	Sn	06 08 58.6	-12
AZU	Azuero	2.91	123	eP	Pn	06 08 37.5	+1.8
AZU	Azuero	2.91	123	eP	Pn	06 08 37.5	+1.8

IDC 07 06:14:17.9±1.1, 56°.54S×25°.45W, h0km, mb4.1/4, mb1 4.1/5, mb1mx3.8/27, mbtmp4.0/5, ML3.5/1, MS3.1/2, Ms1 3.0/2, ms1mx2.6/23, Error ellipse: s-maj=41.8km s-min=23.9km az=68.0
ISCJB 07 06:14:19.9±0.8, 56°.6S±0°.1×25°.5W±0°.3, h29km, mb4.0/4, MS3.4/1, Error ellipse: s-maj=26.0km s-min=8.7km az=143.8
NEIC 07 06:14:23.1±1.9, 56°.6S±0°.1×25°.6W±0°.3, h35km±4km, mb4.4/8
ISC 07 06:14:21.8±0.8, 56°.6S±0°.1×25°.5W±0°.2, h29km, n24, σ1s.17/23, mb4.3/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.65	285	Pn	Pn	06 15 59.5	+2.0
VNA1	Neumayer--Stat	15.98	159	P	Pn	06 18 03.8	-0.4
VNA3	Neumayer Olymp	16.21	162	P	Pn	06 18 06.3	-0.8
VNA2	Neumayer--Watz	16.38	159	P	Pn	06 18 08.3	-0.9
	baz=332,slow=16						
SNAA	Sanae	17.90	157	P	P	06 18 29.9	+1.1
SNAA	Sanae	17.90	157	P	Pn	06 18 28.8	+0.4
	0.2nm,0.3s,baz=328,slow=14,SNR=19						
SNAA				LR	LR	06 24 23.5	
	comp=Z,24nm,21.1s,baz=9.5,slow=34						
SNAA	Sanae	17.90	157	P	P	06 18 30.7	+1.9
TRQA	Tornquist	30.38	292		P	06 20 28.9	-2.2
TRQA				IAmb	IAmb	06 20 43.8	
	comp=Z,8.8nm,1.4s						
QSPA	South Pole Qui	33.70	180	P	P	06 21 00.1	+0.1
	comp=Z,2.4nm,0.6s,baz=209,slow=1.3,SNR=8.0						
QSPA	South Pole Qui	33.70	180	P	P	06 21 00.2	+0.2
CPUP	Villa Florida	37.85	310	P	P	06 21 35.8	-0.1
	comp=Z,1.3nm,0.7s,baz=124,slow=11,SNR=3.7						
CPUP	Villa Florida	37.85	310	P	P	06 21 36.3	+0.5
CPUP				IAmb	IAmb	06 21 40.4	
	comp=Z,9.4nm,1.5s						
BOSA	Boshof	45.20	74	LR	LR	06 39 38.7	
	comp=Z,45nm,18.8s,baz=292,slow=34						
VNDA	Vanda	46.11	182	P	P	06 22 42.9	+0.3
VNDA				IAmb	IAmb	06 22 43.9	
	comp=Z,7.1nm,1.2s						
LVC	Limon Verde	46.37	299	P	P	06 22 45.9	+0.2
MNMC	Minye Minye	49.66	300	P	P	06 23 08.7	-2.5
LPAZ	La Paz	51.44	304	P	P	06 23 25.8	+0.9
	comp=Z,4.3nm,0.7s,baz=163,slow=6.6,SNR=26						
LPAZ	La Paz	51.44	304	P	P	06 23 26.1	+1.1
LPAZ				IAmb	IAmb	06 23 26.6	
	comp=Z,5.6nm,0.9s						
TORD	Torodi Ar. Bea	73.05	28	P	P	06 25 49.3	+0.4
	comp=Z,0.3nm,0.5s,baz=205,slow=7.0,SNR=2.8						
MSWZ	Moikau Station	80.83	196	P	P	06 26 31.0	-1.6
YKA	Yellowknife Ar	137.18	317	PKP	PKiKP	06 33 41.9	-0.5
	comp=Z,0.5nm,0.9s,baz=120,slow=1.6,SNR=5.2						
INK	Inuvik	146.79	320	PKPdf	PKPbc	06 33 59.7	+0.4
DAWY	Dawson	147.83	311		PKPbc	06 34 02.4	0.0
ILAR	Eielson Array	151.15	311	PKPbc	PKPbc	06 34 10.8	+0.2
	comp=Z,1.1nm,0.9s,baz=118,slow=1.8,SNR=8.3						

ISCJB 07 06:19:48.1±0.5, 20°.08S±0°.08×177°.97W±0°.08, h450km, mb3.7/5, Error ellipse: s-maj=10.6km s-min=9.7km az=38.1
IDC 07 06:19:49.6±2.8, 20°.20S×177°.90W, h459km±29km, mb3.4/5, mb1 3.5/7, mb1mx3.3/29, mbtmp4.2/7, Error ellipse: s-maj=29.7km s-min=16.6km az=156.0
NEIC 07 06:19:50.1±1.6, 20°.1S±0°.1×178°.0W±0°.2, h463km±7km, mb4.2/23
ISC 07 06:19:48.9±0.6, 20°.1S±0°.1×177°.9W±0°.1, h450km, n46, σ1s.04/47, mb4.1/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.53	301	P	P	06 21 08.2	-0.7
DZM	Mont Dzumac	14.78	260	P	P	06 22 59.8	+1.9
	0.2nm,0.3s,baz=93,slow=16,SNR=3.4						
DZM	Mont Dzumac	14.78	260	P	P	06 23 00.2	+2.3
URZ	Urewera	18.61	192	P	P	06 23 35.4	-1.9
	0.7nm,0.3s,baz=338,slow=19,SNR=3.5						
URZ	Urewera	18.61	192	P	P	06 23 35.5	-1.8
URZ				IAmb	IAmb	06 23 43.9	
	comp=Z,16nm,1.0s						
BKZ	Black Stump Fm	19.61	193	P	P	06 23 46.3	-0.4
BKZ				IAmb	IAmb	06 24 03.4	
	comp=Z,26nm,1.4s						
SNZO	South Karori	22.07	195	P	P	06 24 10.2	+1.3
QRZ	Quartz Range	22.23	200	P	P	06 24 11.1	+0.8
KHZ	Kahutara	23.40	196	P	P	06 24 22.4	+1.6
WHZ	Wether Hill Ro	28.25	201	P	P	06 25 04.2	+0.4
WHZ				IAmb	IAmb	06 25 18.9	
	comp=Z,14nm,1.3s						
EIDS	Eidsvold	29.08	254	P	P	06 25 11.9	+0.5
EIDS				IAmb	IAmb	06 25 19.2	
	comp=Z,18nm,1.4s						
ARMA	Armidale	29.36	243	P	P	06 25 14.9	+1.0
ARMA				IAmb	IAmb	06 25 31.7	
	comp=Z,13nm,1.3s						
TOO	Toolangi	36.24	233	P	P	06 26 12.8	+0.4
TOO				IAmb	IAmb	06 26 29.7	
	comp=Z,13nm,1.3s						
STKA	Stephens Creek	38.08	244	P	P	06 26 27.5	-0.1
	comp=Z,3.3nm,0.5s,baz=92,slow=11,SNR=14						
STKA	Stephens Creek	38.08	244	P	P	06 26 27.9	+0.2
BBOO	Buckleboo	42.84	243	P	P	06 27 05.3	-0.7
BBOO				IAmb	IAmb	06 27 09.0	
	comp=Z,11nm,1.2s						
WR0	Warramunga Arr	44.60	262	P	P	06 27 18.9	-1.0
AS31	Alice Springs	44.74	256	P	P	06 27 20.7	-0.2
ASAR	Alice Springs	44.74	256	P	P	06 27 20.6	-0.4
	comp=Z,9.9nm,0.7s,baz=92,slow=7.7,SNR=143						
ASAR				PcP	PcP	06 28 54.0	-0.1
	comp=Z,0.5nm,0.5s,baz=99,slow=4.5,SNR=4.2						
ASAR				S	S	06 33 23.2	-1.0
	comp=Z,0.6nm,0.7s,baz=97,slow=15,SNR=5.1						
WB0	Warramunga Arr	44.76	262	P	P	06 27 20.2	-1.0
WB0				IAmb	IAmb	06 27 22.1	
	comp=Z,13nm,1.5s						
WB2	Warramunga Arr	44.78	262	P	P	06 27 20.4	-0.9
WB2				IAmb	IAmb	06 27 27.2	
	comp=Z,8.9nm,1.4s						
WRAB	Tennant Creek	44.78	262	P	P	06 27 20.4	-0.8
WRAB				IAmb	IAmb	06 27 24.1	
	comp=Z,9.3nm,1.4s						
WRA	Warramunga Arr	44.79	262	P	P	06 27 20.2	-1.1
	comp=Z,1.6nm,0.3s,baz=98,slow=7.0,SNR=59						
MTN	Manton Dam	49.29	270	P	P	06 27 55.0	-0.6
MTN				IAmb	IAmb	06 28 00.2	
	comp=Z,9.8nm,1.2s						
KNRA	Kununurra	50.82	266	P	P	06 28 06.3	-0.5
KNRA				IAmb	IAmb	06 28 07.4	
	comp=Z,6.4nm,0.8s						
FITZ	Fitzroy Crossi	53.21	262	P	P	06 28 24.2	+0.1
VNDA	Vanda	58.31	185	P	P	06 29 00.4	+1.6
QSPA	South Pole Qui	69.96	180	P	P	06 30 14.6	+0.9
QSPA				IAmb	IAmb	06 30 15.3	
	comp=Z,8.1nm,0.8s						
SUA	Susitna One	84.15	13	P	P	06 31 31.9	+0.7
GHO	Glory Hole Cre	84.81	13	P	P	06 31 34.2	-0.2
ILAR	Eielson Array	87.90	13	P	P	06 31 49.1	+0.1
	comp=Z,0.2nm,0.6s,baz=219,slow=4.8,SNR=6.2						
SNAA	Sanae	88.40	178	P	P	06 31 49.2	-2.4
VNA3	Neumayer Olymp	88.53	176	P	P	06 31 51.5	-0.5
PDAR	Pinedale Array	88.58	43	P	P	06 31 53.6	+0.6
	comp=Z,0.2nm,0.5s,baz=214,slow=2.7,SNR=3.6						
VNA2	Neumayer--Watz	88.97	177	P	P	06 31 54.0	-0.1
	baz=188,slow=4.3						
VNA1	Neumayer--Stat	89.20	177	P	P	06 31 54.4	-0.7
LAO	LASA Array	92.52	41	P	P	06 32 09.9	-1.0
SUSD	Miller	96.25	45	P	P	06 32 29.7	+1.8
MKAR	Makanchi Array	111.02	314	PKiKP	PKiKP	06 37 29.1	-1.0
	comp=Z,2.4nm,1.1s,baz=125,slow=2.5,SNR=3.8						
CUPR	Culebra, Puert	116.71	79	PKPdf	PKPdf	06 37 42.0	+0.3
ARCES	ARCESS Array B	128.56	350	PKP	PKPdf	06 38 02.5	-0.6
	comp=Z,5.8nm,1.1s,baz=47,slow=1.6,SNR=6.4						
FINES	FINESS Array B	135.43	344	PKP	PKPdf	06 38 15.8	-0.4
	comp=Z,6.3nm,1.1s,baz=42,slow=4.3,SNR=3.8						
SHEL	Horse Pasture	143.34	167	PKPdf	PKPbc	06 38 31.3	+1.3
KHC	Kasperske Hory	149.62	345	PKPbc	PKPbc	06 38 47.3	+0.6
GERES	GERESS Array B	149.85	345	PKPbc	PKPbc	06 38 47.1	-0.2
	comp=Z,0.8nm,0.5s,baz=29,slow=2.2,SNR=4.2						
TORD	Torodi Ar. Bea	173.07	176	PKPab	PKPab	06 40 36.2	-0.2
	comp=Z,0.5nm,0.8s,baz=172,slow=4.3,SNR=3.0						

SJA 07 06:31:04.9±1.1, 31°.81S×69°.86W, h117km±6km, ML3.2, MW3.1
ISCJB 07 06:31:05.3±0.7, 31°.79S±0°.03×69°.86W±0°.05, h122km±7km, Error ellipse: s-maj=7.6km s-min=4.3km az=30.8
GUC 07 06:31:05.5±0.6, 31°.80S×70°.24W, h146km±6km, ML3.2
ISC 07 06:31:06.3±1.6, 31°.79S±0°.04×69°.88W±0°.05, h114km±13km, n21, σ0s.68/34, 1C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.49	91	iP	Pn	06 31 23.6	-0.3
RTLS				eS	Sn	06 31 37.7	+0.5
RTLS				IAML		06 31 38.2	
	comp=Z,427nm,0.2s						
CO02	Combarbal	1.13	301	⇓iP	Pn	06 31 28.6	-0.7
CO02				iS	Sn	06 31 46.2	-0.4
RTCV	Cerro Valdivia	1.14	94	iP	Pn	06 31 29.4	+0.1
RTCV				eS	Sn	06 31 47.0	+0.3
RTLL	Cerro Villicun	1.28	69	⇓iP	Pn	06 31 30.7	-0.2
RTLL				eS	Sn	06 31 49.4	-0.1
RTLL				IAML		06 31 51.2	
	comp=Z,260nm,0.5s						
ACCO	Cerro Coronel	1.39	30	iP	Pn	06 31 32.5	+0.1
ACCO				eS	Sn	06 31 52.5	+0.3
CFA	Coronel Fontan	1.41	83	iP	Pn	06 31 32.0	-0.3
CFA				eS	Sn	06 31 50.8	-1.2
PEL	Peldehue	1.51	207	eP	Pn	06 31 33.0	-0.5
PEL				iS	Sn	06 31 54.4	+0.1
PEL				IAML		06 31 56.6	
	comp=E,213nm,0.3s						
PEL	Peldehue	1.51	207	iP	Pn	06 31 33.0	-0.5
ROCH	El Roble	1.52	219	⇓iP	Pn	06 31 32.9	-0.8
ROCH				iS	Sn	06 31 53.9	-0.8
ROCH				IAML		06 31 58.6	
	comp=N,229nm,0.3s						
ROC1	El Roble	1.52	219	iP	Pn	06 31 33.0	-0.9
FCH	Farellones	1.57	193	⇓iP	Pn	06 31 35.0	+0.5
FCH				iS	Sn	06 31 57.3	+1.4
FCH				IAML		06 31 58.8	
	comp=E,276nm,0.2s						
AROD	Rodeo	1.66	12	iP	Pn	06 31 36.3	+0.7
AROD				eS	Sn	06 31 58.6	+0.8
CLCH	Cerro Calan	1.69	199	⇓iP	Pn	06 31 35.8	0.0
CLCH				iS	Sn	06 31 58.7	+0.6
CLCH				IAML		06 32 04.5	
	comp=N,209nm,0.5s						
ACDV	Cuesta del Vie	1.74	22	iP	Pn	06 31 36.9	+0.5
ACDV				eS	Sn	06 31 59.7	+0.3
LMEL	Las Melosas	2.07	188	⇑iP	Pn	06 31 41.0	+0.5
LMEL				iS	Sn	06 32 08.1	+1.5
LMEL				IAML		06 32 12.1	
	comp=N,167nm,0.4s						
AGUA	GUANDACOL	2.59	28	iP	Pn	06 31 47.4	+0.3
APLL	PUNTA DE LOS L	3.19	65	iP	Pn	06 31 54.2	-0.8
RFA	San Rafael	3.19	159	iP	Pn	06 31 54.7	-0.3
VCA	Vinchina	3.37	26	iP	Pn	06 31 57.5	0.0
ACLC	CERRO LA CRUZ	3.45	48	iP	Pn	06 31 58.0	-0.6
MRA	San Martin	3.58	101	iP	Pn	06 31 59.5	-0.7

IDC 07 06:42:10.2±29.0, 22°.55S×173°.88W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/24, mbtmp4.0/4, Error ellipse: s-maj=533.7km s-min=159.1km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.15	266	P	P	06 49 24.1	+1.0
	2.3nm,0.3s,baz=92,slow=11,SNR=5.9						
STKA	Stephens Creek	40.44	247	P	P	06 49 49.6	-1.0
	0.5nm,0.3s,baz=66,slow=10.0,SNR=3.8						
ASAR	Alice Springs	47.82	258	P	P	06 50 49.5	-0.4
	0.4nm,0.4s,baz=94,slow=8.5,SNR=13						
WRA	Warramunga Arr	48.14	263	P	P	06 50 52.4	-0.1
	1.0nm,0.4s,baz=97,slow=8.4,SNR=9.5						

HLW 07 07:03:31.7, 33°.20N×34°.37E, h10km±21km, Ml2.8
ISCJB 07 07:03:32.5±0.9, 33°.14N±0°.04×34°.34E±0°.04, h30km±5km, Error ellipse: s-maj=7.2km s-min=4.7km az=137.8
GII 07 07:03:32.8±0.0, 33°.14N×34°.41E, h20km, MD2.3/4
ISC 07 07:03:31.9±1.8, 33°.17N±0°.06×34°.37E±0°.05, h18km±8km, n27, σ0s.66/46, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	Hanita	0.68	97	Pg	Pb	07 03 45.9	+0.7
HNTI				Sg	Sb	07 03 55.5	+1.2
OFRI	`Ofer	0.75	137	Pg	Pb	07 03 46.9	+0.4
OFRI				Sg	Sb	07 03 57.2	+0.7
BLGI	Bet Lehem HaGe	0.81	122	Pg	Pg	07 03 47.5	-0.3
BLGI				Sg	Sb	07 03 58.7	+0.5
MMA0B	Mount Meron ar	0.88	100	Pg	Pb	07 03 48.9	+0.2
MMA0B				Sg	Sg	07 04 00.8	+0.1
KSDI	Kefar Szold	1.08	89	Pg	Pb	07 03 52.3	+0.2
KSDI				Sg	Sb	07 04 06.1	+0.3

GEM	Giv'at Ha'Em	1.08	88	Pg	Pb	07 03 52.3	+0.2
GEM				Sg	Sb	07 04 06.0	+0.1
DQRL	Deir Qamar	1.14	62	eP	Pb	07 03 53.0	-0.1
MMLI	Mount Malkishu	1.15	129	Pg	Pb	07 03 52.6	-0.6
MMLI				Sg	Sb	07 04 07.3	-0.5
SHBL	Chebaa	1.16	81	eP	Pb	07 03 53.5	-0.1
KSHT	Keshet	1.22	98	Pg	Pn	07 03 53.8	-0.4
RCY	Rachaya	1.27	75	eP	Pn	07 03 55.1	+0.2
HMDT	Nahal Hemdat	1.33	133	Pn	Pn	07 03 55.8	+0.1
HMDT				Sn	Sn	07 04 12.8	-0.2
AMAZ	Amatzia	1.70	164	Pn	Pn	07 04 01.2	+0.5
AMAZ				Sn	Sn	07 04 21.9	-0.1
DSI	Dead Sea	1.81	152	Pn	Pn	07 04 02.7	+0.5
DSI				Sn	Sn	07 04 24.5	-0.2
YTIR	Yattir	1.91	161	Pn	Pn	07 04 04.0	+0.3
YTIR				Sn	Sn	07 04 26.9	-0.4
MZDA	Masada	2.04	155	Pn	Pn	07 04 05.6	+0.3
MZDA				Sn	Sn	07 04 30.8	+0.6
KZIT	Kziot	2.26	179	Pn	Pn	07 04 08.7	+0.3
KZIT				Sn	Sn	07 04 35.1	-0.7
ZFRI	Zfri	2.70	165	Pn	Pn	07 04 14.8	+0.4
ZFRI				Sn	Sn	07 04 45.8	-0.8
PRNI	Paran	2.86	169	Pn	Pn	07 04 16.9	+0.2
PRNI				Sn	Sn	07 04 49.5	-1.2
HRFI	Mount Harif	3.18	170	Pn	Pn	07 04 21.7	+0.7
HRFI				Sn	Sn	07 04 56.9	-1.6
MBRI	Mt Berech	3.40	172	Pn	Pn	07 04 24.8	+0.7
MBRI				Sn	Sn	07 05 03.3	-0.7
SUZ	Suez	3.57	202	P	Pn	07 04 27.6	+1.1
	baz=202						
SUZ				S	Sn	07 05 07.6	-0.6
	baz=202						
KOT	Kottamia	3.89	215	P	Pn	07 04 31.2	+0.3
	baz=215						
KOT				S	Sn	07 05 14.9	-1.3
	baz=215						
ZNM	Zenema	3.99	199	P	Pn	07 04 33.5	+1.2
	baz=199						
ZAF	Zafarana	4.18	202	P	Pn	07 04 35.5	+0.7
	baz=203						
HDHB	Dhahab	4.44	177	P	Pn	07 04 39.0	+0.6
	baz=177						
GRB	Gharib	5.07	196	P	Pn	07 04 47.3	+0.2
	baz=196						

*JMA **07** 07:21:59.6±0.1, 23°.61N×121°.51E, h37km±2km, M3.1*
*ISCJB **07** 07:22:00.4±0.2, 23°.63N±0°.01×121°.57E±0°.02, h30km±1km, Error ellipse: s-maj=2.8km s-min=1.8km az=38.0*
*TAP **07** 07:22:00.3, 23°.63N×121°.52E, h37km, ML3.5, B*
ISC 07 07:22:00.6±0.9, **23°.63N**±0°.02×**121°.54E**±0°.02, **h31**km±5km, **n104**, σ0s.**76**/163, **22C-8D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGFH	Guangfu	0.11	289	⇓iP	Pn	07 22 06.7	+0.4
	baz=296						
EGFH				S	Sb	07 22 10.9	+1.0
	baz=296						
HGSD	Ruisui	0.18	218	⇓P	Pn	07 22 07.8	+0.6
	baz=226						
HGSD				S	Sn	07 22 13.1	+1.7
	baz=226						
ESL	Shilin	0.21	331	⇓iP	Pb	07 22 07.2	+0.1
	baz=332						
ESL				S	Sb	07 22 11.6	+0.2
	baz=332						
EHY	Hungye	0.24	238	⇓iP	Pb	07 22 07.3	-0.1
	baz=242						
EHY				S	Sb	07 22 11.7	-0.3
	baz=242						
ENLB	Shoufeng	0.28	11	eP	Pb	07 22 07.8	-0.1
	baz=21						
ENLB				eS	Sn	07 22 14.2	+0.4
	baz=21						
YULB	Yu-li	0.33	223	⇑P	Pb	07 22 08.3	-0.3
	baz=230						
YULB				S	Sb	07 22 13.5	-0.5
	baz=230						
HWA	Hwalien	0.35	9	P	Pn	07 22 09.5	-0.1
	baz=1.0						
HWA				eS	Sn	07 22 16.4	+0.8
	baz=1.0						
TWF1	Yuli	0.36	219	⇑iP	Pb	07 22 08.7	-0.3
	baz=224						
TWF1				S	Sb	07 22 13.9	-0.7
	baz=224						
VWDT	VWDT	0.39	288	⇓P	Pb	07 22 09.8	+0.5
	baz=294						
VWDT				S	Sn	07 22 16.1	-0.4
	baz=294						
TWD	Chiawan	0.45	6	⇑iP	Pb	07 22 10.2	-0.2
	baz=359						
TWD				S	Sb	07 22 16.8	-0.1
	baz=359						
OWD	Renai	0.46	314	eP	Pb	07 22 10.4	-0.2
	baz=319						
FULB	Fuli	0.49	208	⇑P	Pb	07 22 10.8	-0.1
	baz=217						
FULB				S	Sb	07 22 18.6	+0.6
	baz=217						
NACB	Ninganchiao	0.54	5	⇑P	Pb	07 22 11.0	-0.8
	baz=359						
NACB				S	Sb	07 22 18.4	-1.0
	baz=359						
CHGB	Renai	0.54	322	P	Pb	07 22 11.9	0.0
	baz=331						
CHGB				S	Sb	07 22 19.2	-0.5
	baz=331						
CHKT	Chengkung	0.56	197	⇑P	Pb	07 22 11.6	-0.4
	baz=184						
CHKT				S	Sb	07 22 20.4	+0.7
	baz=184						
YUS	Yu-Shan	0.56	255	⇑iP	Pb	07 22 12.3	-0.1
	baz=256						
YUS				S	Sb	07 22 20.1	-0.4
	baz=256						
SSLB	Suanglung	0.56	286	⇓P	Pb	07 22 11.8	-0.3
	baz=291						
SSLB				S	Sb	07 22 19.5	-0.5
	baz=291						
WHF	Hehuan Shan	0.57	334	⇑iP	Pb	07 22 12.1	-0.5
	baz=336						
WHF				S	Sb	07 22 20.1	-0.6
	baz=336						
ETLH	Xiulin Townshi	0.57	354	⇑P	Pb	07 22 11.5	-0.9
	baz=356						
ETLH				eS	Sb	07 22 19.1	-1.3
	baz=356						
WHYT	Xinyi Township	0.64	276	eP	Pn	07 22 13.6	0.0
	baz=275						
WHYT				eS	Sb	07 22 22.3	+0.2
	baz=275						
SMLT	Sun Moon Lake	0.64	293	P	Pb	07 22 13.3	-0.2
	baz=297						
SMLT				eS	Sb	07 22 21.9	-0.4
	baz=297						
ELDTW	Lidau	0.65	228	⇑iP	Pb	07 22 12.6	-1.2
	baz=225						
ELDTW				eS	Sb	07 22 20.6	-2.1
	baz=225						
ALS	Alishan	0.69	260	⇑iP	Pb	07 22 14.3	-0.1
	baz=267						
ALS				S	Sb	07 22 23.5	-0.2
	baz=267						
DPDB	Guoxing	0.69	305	eP	Pb	07 22 14.3	0.0
	baz=309						
TWT	Tachien	0.70	332	⇑P	Pb	07 22 14.6	0.0
	baz=336						
TWT				S	Sb	07 22 23.4	-0.7
	baz=336						
TDCB	Techi	0.71	330	⇑P	Pb	07 22 14.6	-0.1
	baz=336						
TDCB				S	Sb	07 22 23.3	-1.0
	baz=336						
WJS	Zhushan	0.77	284	eP	Pb	07 22 15.7	+0.2
	baz=285						
CHN5	Tsauling	0.79	268	⇑iP	Pn	07 22 16.0	+0.2
	baz=278						
CHN5				i S	Sn	07 22 27.1	+0.4
	baz=278						
NNSB	Datong	0.81	350	⇑P	Pn	07 22 15.2	-0.8
	baz=357						
NNSB				S	Sb	07 22 25.6	-1.2
	baz=357						
NNSH	Datong	0.81	350	P	Pn	07 22 15.5	-0.5
	baz=357						
NNSH				S	Sb	07 22 25.7	-1.2
	baz=357						
ENA	Nanau	0.81	13	⇑P	Pn	07 22 15.0	-1.0
	baz=4.0						
NANB	Nanao	0.81	13	⇑iP	Pn	07 22 15.1	-0.9
	baz=2.0						
NANB				S	Sb	07 22 25.6	-1.4
	baz=2.0						
NNS	Nan Shan	0.82	349	P	Pn	07 22 15.6	-0.6
	baz=357						
NNS				S	Sb	07 22 25.8	-1.4
	baz=357						
WNT	Mingjian	0.82	287	eP	Pb	07 22 17.1	+0.6
	baz=288						
WHP	Taichung City	0.84	320	eP	Pn	07 22 16.7	+0.1
	baz=325						
TPUB	Ta-pu	0.90	249	⇑P	Pn	07 22 17.5	+0.3
	baz=250						
TPUB				S	Sb	07 22 29.8	+0.3
	baz=250						
CHN4	Tsaushan	0.92	252	eP	Pb	07 22 18.0	0.0
	baz=253						
CHN4				eS	Sb	07 22 31.1	+1.2
	baz=253						
TWGBT	Beinan	0.92	208	eP	Pn	07 22 15.2	-2.3
	baz=196						
TWG	Pinlang	0.92	208	P	Pn	07 22 15.2	-2.2
	baz=196						
WDLH	Douliu	0.92	274	eP	Pn	07 22 17.7	+0.2
	baz=274						
WTP	Ta-pu	0.94	246	⇑iP	Pn	07 22 18.0	+0.3
	baz=247						
WTP				eS	Sb	07 22 30.6	+0.1
	baz=247						
NDT	Datong Townshi	0.97	358	eP	Pn	07 22 17.6	-0.6
	baz=6.0						
TWQ1	Liyutan	1.00	315	P	Pb	07 22 19.8	+0.4
	baz=317						
TWQ1				S	Sb	07 22 33.3	+1.0
	baz=317						
ENTT	Nioudou	1.00	1	eP	Pn	07 22 18.1	-0.6
	baz=1.0						
ENTT				eS	Sn	07 22 30.8	-1.0
	baz=1.0						
WCHH	Zhanghua	1.00	296	eP	Pb	07 22 20.1	+0.6
	baz=297						
TWC	Suao	1.01	16	eP	Pn	07 22 18.3	-0.4
	baz=5.0						
TWC				eS	Sn	07 22 32.2	+0.3
	baz=5.0						
CHN1	Nanshi	1.03	245	⇓P	Pn	07 22 19.5	+0.4
	baz=246						
CHN1				eS	Sb	07 22 34.2	+1.0
	baz=246						
CHY	Chiayi	1.03	263	eP	Pn	07 22 19.5	+0.4
	baz=264						
CHY				eS	Sb	07 22 33.4	+0.1
	baz=264						
SGST	Jiashian	1.04	238	⇓P	Pn	07 22 18.9	-0.2
	baz=233						
SGST				eS	Sb	07 22 33.3	-0.1
	baz=233						
SLGT	Liugui	1.04	232	⇑eP	Pn	07 22 19.5	+0.3
	baz=232						
YHNB	Yeheng	1.04	352	⇑P	Pn	07 22 19.2	-0.1
	baz=352						
YHNB				eS	Sn	07 22 32.0	-0.9
	baz=352						
SNST	Tainan City	1.04	247	eP	Pn	07 22 19.4	+0.2
	baz=248						
SNST				S	Sb	07 22 34.4	+0.9
	baz=248						
NSK	Sanguang	1.05	351	⇑iP	Pn	07 22 19.3	-0.1
	baz=351						
NSK				eS	Sn	07 22 32.4	-0.7
	baz=351						
NSY	Sanyi	1.06	318	eP	Pb	07 22 20.6	+0.2
	baz=331						
NSY				eS	Sb	07 22 35.4	+1.5
	baz=331						
EOS1	EOS1	1.06	30	eP	Pb	07 22 20.3	-0.1
	baz=42						
TWE	Neicheng	1.09	6	eP	Pn	07 22 19.2	-0.6
	baz=7.0						
WDJ	Dajia District	1.09	311	eP	Pb	07 22 21.1	+0.2
	baz=312						
NSTT	Nanjuang	1.11	334	eP	Pb	07 22 20.9	-0.4
	baz=335						
NSTT				S	Sb	07 22 35.8	+0.4
	baz=335						
RLNB	Erlin	1.11	284	eP	Pb	07 22 21.4	+0.1
	baz=276						
RLNB				eS	Sb	07 22 36.8	+1.3
	baz=276						
LIOB	Emei	1.12	335	eP	Pb	07 22 21.4	0.0
	baz=322						
LIOB				eS	Sb	07 22 35.8	+0.2
	baz=322						
SLBB	Yuanshan	1.12	4	eP	Pn	07 22 19.4	-0.9
	baz=12						
NWLT	Wulai	1.14	358	eP	Pn	07 22 20.1	-0.5
	baz=9.0						
ECL	Taimali	1.17	208	eP	Pn	07 22 18.8	-2.1
	baz=199						
WTCT	Ta-ch'eng	1.18	282	eP	Pb	07 22 22.0	-0.5
	baz=274						
WTCT				eS	Sb	07 22 37.8	+0.5
	baz=274						
SSD	Sandimen	1.22	224	eP	Pn	07 22 21.5	0.0
	baz=223						
WLTB	Daxi	1.24	348	eP	Pb	07 22 23.5	0.0
	baz=355						
WLTB				eS	Sb	07 22 39.4	+0.2
	baz=355						
CHN8	Yiju	1.25	257	eP	Pb	07 22 24.1	+0.4
	baz=258						
CHN8				eS	Sb	07 22 38.8	-0.7
	baz=258						
EGS		1.26	16	eP	Pn	07 22 23.0	+0.9
	baz=6.0						
TWM1	Shoushan	1.31	232	eP	Pb	07 22 25.2	+0.6
	baz=232						
MASBT	Mashibuluo	1.32	220	eP	Pn	07 22 22.4	-0.5
	baz=206						
MASBT				S	Sb	07 22 41.2	-0.1
	baz=206						
NHDH	Xindian Distri	1.32	359	eP	Pn	07 22 23.5	+0.5
	baz=7.0						
TATO	Taipei	1.34	358	eP	Pn	07 22 23.4	+0.1
	baz=5.0						
TATO				eS	Sn	07 22 40.3	+0.3
	baz=5.0						
TWA	Mucha	1.34	2	eP	Pn	07 22 23.5	+0.2
	baz=9.0						
TIPB	Shuangxi	1.36	11	eP	Pn	07 22 23.6	0.0
	baz=1.0						
TIPB				eS	Sn	07 22 41.1	+0.6
	baz=1.0						
EAST	Anshuo	1.40	207	eP	Pn	07 22 22.2	-1.9
	baz=201						
TWB1	Santiao Chiao	1.43	16	eP	Pn	07 22 25.0	+0.5
	baz=5.0						
NWF	Wu-fen Shan	1.45	9	eP	Pn	07 22 25.2	+0.3
	baz=8.0						
WFSB	Wu-fen Shan	1.45	9	eP	Pn	07 22 25.1	+0.3
	baz=8.0						
SSPT	Xinbi	1.45	218	eP	Pn	07 22 24.0	-0.8
	baz=218						
YM01	YM01	1.51	1	eP	Pn	07 22 26.4	+0.8
YM04	YM04	1.51	360	eP	Pn	07 22 26.7	+1.0
	baz=359						
SCZT	Fangliau	1.52	214	eP	Pn	07 22 25.5	-0.2
	baz=214						
YM10	YM10	1.52	1	eP	Pn	07 22 26.9	+1.1
	baz=360						
JYNG	Yonagunijimaku	1.52	57	P	Pn	07 22 26.2	+0.5
JYNG				eS	Sn	07 22 45.6	+1.1
YM05	YM05	1.52	1	eP	Pn	07 22 25.8	-0.1
	baz=360						
YM11	YM11	1.53	1	eP	Pn	07 22 26.0	+0.1
YOJ	Yonaguni jima	1.58	58	P	Pn	07 22 27.0	+0.5
YOJ				eS	Sn	07 22 46.8	+0.9
YOJ	Yonaguni jima	1.58	58	eP	Pn	07 22 27.1	+0.7
	baz=56						
YOJ				eS	Sn	07 22 47.0	+1.1
	baz=56						
WLCH	Liuqiu	1.67	220	eP	Pb	07 22 29.5	-1.2
	baz=220						
WDGT	Dungji	1.77	258	eP	Pn	07 22 28.6	-0.5
	baz=258						
PHUB	P'eng-hu	1.81	267	eP	Pn	07 22 29.5	-0.2
	baz=256						
PHUB				eS	Sn	07 22 50.3	-1.4
	baz=256						
TWKBT	Hengchun	1.81	202	eP	Pn	07 22 30.3	+0.5
	baz=192						
PNG	Penghu	1.82	268	eP	Pn	07 22 29.8	-0.2
	baz=269						
VCHM	Qimei	1.99	258	eP	Pn	07 22 31.5	-0.7
	baz=259						
HATJ	Hateruma jima	2.11	78	eS	Sn	07 23 00.3	+1.2
IRIF	Iriomote-Funau	2.12	70	P	Pn	07 22 34.7	+0.7
IRIF				eS	Sn	07 23 00.9	+1.6
JKRS	Kuro-shima	2.34	75	P	Pn	07 22 38.2	+1.2
JKRS				S	Sn	07 23 06.0	+1.4
VWUC	VWUC	2.34	306	eP	Pn	07 22 36.3	-0.7
	baz=307						
JIJ	Ishigaki jima	2.49	72	P	Pn	07 22 39.4	+0.4
JIJ				eS	Sn	07 23 07.9	-0.5
JISG	Ishigakijimahi	2.70	69	P	Pn	07 22 41.7	-0.3
JISG				S	Sn	07 23 13.0	-0.7
KNM	Kinmen	2.95	286	eP	Pn	07 22 46.5	+1.1
	baz=285						
KNMB	Chin-men Tao	3.00	287	eP	Pn	07 22 45.7	-0.3
	baz=287						
JTJ	Tarama	3.06	70	S	Sn	07 23 23.2	+0.8
AXDP	Jialang	3.50	292	eP	Pn	07 22 52.6	-0.3
	baz=292						

*NNC **07** 07:28:32.5±0.5, 50°.01N×78°.43E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=5.9km s-min=2.7km az=85.0, Suspected Mining explosion.*
*ASRS **07** 07:28:39.5±0.4, 50°N±2°×7°9E±°, h10km, MLh3.5/7, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
ISC 07 07:28:34.2±0.9, **50°.15N**±0°.04×**78°.74E**±0°.05, **h0**km, **n35**, σ1s.**65**/54, **14C-7D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.46	342	⇑P	Pg	07 28 43.4	+0.4
KUR07				⇓S	Sb	07 28 52.3	-0.3
KUR06	Kurchatov Arra	0.48	343	⇑P	Pg	07 28 43.8	+0.4
KUR06				⇑S	Sb	07 28 52.9	-0.2
KUR14	Kurchatov Arra	0.48	349	⇑P	Pg	07 28 43.7	+0.3
KUR14				⇓S	Sb	07 28 52.7	-0.5
KUR15	Kurchatov Arra	0.49	347	⇑P	Pg	07 28 43.8	+0.3
KUR15				⇓S	Sb	07 28 53.1	-0.3
KURBB	Kurchatov Arra	0.49	345	⇑P	Pg	07 28 44.2	+0.4
	40nm,0.3s						
KURBB				⇑S	Sb	07 28 53.0	-0.6
	52nm,0.3s						
KUR16	Kurchatov Arra	0.51	343	⇓P	Pg	07 28 44.3	+0.4
KUR16				⇑S	Sb	07 28 53.6	-0.3
KUR05	Kurchatov Arra	0.51	346	⇑P	Pg	07 28 44.3	+0.2
KUR05				⇓S	Sb	07 28 53.5	-0.6
KUR17	Kurchatov Arra	0.52	341	⇑P	Pg	07 28 44.6	+0.5
KUR17				⇓S	Sb	07 28 54.3	+0.1
KUR04	Kurchatov Arra	0.53	347	⇑P	Pg	07 28 44.6	+0.2
KUR04				⇑S	Sb	07 28 54.1	-0.6
SEM	Semipalatinsk	1.00	74	P	Pn	07 28 56.5	+0.7
SEM				S	Sn	07 29 13.4	+2.6
BRZS	Berezniki	3.91	270	Pg	Pb	07 29 43.9	-0.1
	15nm,0.3s						
MK31	Makanchi Array	4.10	143	⇑Pn	Pn	07 29 36.3	-1.9
	0.3nm,0.2s,baz=323,slow=11,SNR=30						
MK31				⇑Pg	Pb	07 29 47.0	-0.4
	0.5nm,0.2s,baz=318,slow=12,SNR=9.2						
MK31				⇓Lg	Lg	07 30 38.9	
	9.3nm,0.4s,baz=331,slow=26,SNR=11						
MKAR	Makanchi Array	4.10	143	P	Pb	07 29 44.4	-2.9
MKAR				S	Sb	07 30 35.8	-1.7
ZSN	Zaisan	4.87	121	Pg	Pb	07 30 01.9	+1.6
	5.1nm,0.3s						
KAPS	Kapalarasan	4.88	175	Pg	Pb	07 29 57.6	-3.0
	2.2nm,0.2s						
KAPS				Lg	Lg	07 30 59.5	
	12nm,0.4s						
NVS	Novosibirsk	5.45	29	P	Pn	07 29 57.0	+0.4
NVS				S	Sn	07 30 55.7	-4.1
ELT	Eltsovka	5.61	53	P	Pn	07 29 60.0	+1.1
ELT				S	Sn	07 31 04.0	+0.1
CHBI	Chibit, Altay	5.63	85	P	Pn	07 29 59.6	+0.3
CHBI				S	Sn	07 31 04.9	+0.3
DGZ	Jazzator, Alta	5.63	91	P	Pn	07 30 00.1	+0.7
DGZ				S	Sn	07 31 05.3	+0.5
ARTR	Artybash	5.64	70	P	Pn	07 29 59.9	+0.5
ARTR				S	Sn	07 31 03.3	-1.6
AKAR	Aktash	5.70	85	P	Pn	07 30 00.6	+0.4
AKAR				S	Sn	07 31 07.2	+0.8
ULGR	Ulagan, Altay	5.92	82	P	Pn	07 30 03.7	+0.5
ULGR				S	Sn	07 31 10.4	-1.3
ARXS	Arharly	5.97	186	Pg	Pb	07 30 18.3	-0.8
	9.0nm,0.7s						
ARXS				Lg	Lg	07 31 34.2	
	13nm,0.4s						
TASR	Tashtagol	6.29	62	S	Sn	07 31 16.7	-3.9
KTBS	Karatobe	6.59	193	Pg	Pb	07 30 30.1	+0.4
	1.0nm,0.5s						
KTBS				Lg	Lg	07 31 54.4	
	18nm,0.5s						
KTMS	Ketmen	6.79	170	Pg	Pb	07 30 37.4	+4.1
	0.7nm,0.1s						
KTMS				Lg	Lg	07 32 06.8	
	6.4nm,0.3s						
KOTS	Kotyrbulak	7.00	190	Pg	Pb	07 30 37.5	+0.7
	4.2nm,0.4s						
KOTS				Lg	Lg	07 32 08.4	
	29nm,0.9s						
SATY	Saty	7.09	182	Pg	Pb	07 30 40.7	+2.3
	1.6nm,0.4s						
SATY				Lg	Lg	07 32 12.2	
	6.1nm,0.4s						
DGS	Degeres	7.20	198	Pg	Pb	07 30 42.5	+2.4
	4.0nm,0.4s						
DGS				Lg	Lg	07 32 16.0	
	15nm,0.5s						
LUZB	Luzhba, Kemero	7.20	57	P	Pn	07 30 21.4	+0.7
LUZB				S	Sn	07 31 41.6	-1.7
IZV	Izvestkoviy	7.26	192	Pg	Pb	07 30 42.9	+1.7
	1.3nm,0.4s						
IZV				Lg	Lg	07 32 16.7	
	3.5nm,0.6s						
TEL	Teeli	7.35	79	S	Sn	07 31 49.0	+2.1
VEH	Verkhnyaya Baz	7.84	62	P	Pn	07 30 31.2	+1.7
VEH				S	Sn	07 31 54.5	-4.5
BOOM	Boomskoye usch	7.90	195	S	Sn	07 32 13.4	+13
AAK	Ala-Archa	8.06	203	S	Sn	07 32 15.7	+11

*BJI **07** 07:36:23.0±0.0, 56°.90N×155°.20W, h50km, mb5.7/74, mB5.4/51, Ms5.2/71, Ms7 4.9/68*
*ISCJB **07** 07:36:24.6±0.2, 56°.85N±0°.01×155°.18W±0°.02, h41km±1km, mb5.5/214, MS4.7/65, Error ellipse: s-maj=2.4km s-min=1.8km az=7.6*
*MOS **07** 07:36:24.8±1.0, 56°.89N×155°.37W, h43km, mb5.9/95, MS4.7/10, Error ellipse: s-maj=7.6km s-min=3.6km az=92.1*
*NEIC **07** 07:36:26.9±2.1, 56°.76N±0°.03×155°.09W±0°.06, h51km±3km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.57; $M_{\theta\theta}$0.16; $M_{\phi\phi}$0.41; $M_{r\theta}$0.77; $M_{\theta\phi}$0.58; $M_{\phi r}$0.63; Fault plane solution: $M_0$1.26000×10^{17} NP1:ϕ_s18.22000°, δ20.37000°, λ-121.32000°. NP2:ϕ_s231.21000°, δ72.70000°, λ-79.08000°. Principal axes: T 1.3710, Plg27.0000°, Azm313.0000°; N -0.2697, Plg10.0000°, Azm48.0000°; P -1.1013, Plg61.0000°, Azm157.0000°;*
*IDC **07** 07:36:27.2±0.5, 56°.91N×155°.37W, h47km±4km, mb5.2/49, mb1 5.2/52, mb1mx5.2/58, mbtmp5.4/52, MS4.5/37, Ms1 4.5/37, ms1mx4.5/40 Error ellipse: s-maj=11.2km s-min=6.7km az=15.0*
*AEIC **07** 07:36:27±2.2, 56°.75N±0°.04×155°.07W±0°.01, h52km±3km, ML5.4, mb5.7/572(NEIC), Mwc5.4(GCMT), Mwr5.3(NEIC)*
*GCMT **07** 07:36:28.0±0.1, 56°.92N±0°.01×155°.12W±0°.01, h39km, MW5.4/144, Moment Tensor Solution. s131, c223; s144, c258; Duration: 1s.2 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.03±.02; $M_{\theta\theta}$0.18±.02; $M_{\phi\phi}$0.85±.02;*

Mrθ0.90±.03; Mθϕ0.90±.01; Mϕr0.24±.02; Best double couple: Mo1.60500×10[17] NP1:ϕs240.00000°,δ65.00000°, λ-61.00000°. NP2:ϕs7.00000°,δ37.00000°,λ-137.00000°. Principal axes: T 1.6800, Plg16.0000°, Azm309.0000°; N -0.1480, Plg26.0000°, Azm47.0000°; P -1.5300, Plg59.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*NEIC **07** 07:36:29, 56.°93N×155.°10W, h38km, Moment Tensor Solution. Moment tensor: Scale 10[17]Nm; Mrr-1.05; Mθθ0.17; Mϕϕ0.88; Mrθ0.79; Mθϕ0.93; Mϕr0.28; Fault plane solution: Mo1.58000×10[17] NP1:ϕs8.00000°,δ37.00000°, λ-133.00000°. NP2:ϕs237.00000°,δ64.00000°, λ-63.00000°. Principal axes: T 1.6896, Plg14.0000°, Azm308.0000°; N -0.2423, Plg24.0000°, Azm44.0000°; P -1.4472, Plg61.0000°, Azm190.0000°;*

ISC 07 07:36:26.8±0.2**, 56.°83N**±0.°03×**155.°25W**±0.°03**, h50**km±1km**, h50**km**:pP-P, n1664,** σ1.s31/1693**, mb5.7**/457**, MS4.7**/66**, 85C-26D, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.65**	**115**		**Pn**	**07 36 38.9**	**-0.9**
SII					**Sn**	**07 36 48.2**	**-1.1**
PLK3	**Peulik 3**	**1.02**	**328**		**Pn**	**07 36 46.5**	**+1.7**
CHIR	**Chirikof Islan**	**1.03**	**192**		**Pn**	**07 36 43.9**	**-1.1**
CHIR					**Sn**	**07 36 57.2**	**-1.2**
PLK2	**Peulik 2**	**1.10**	**328**		**Pn**	**07 36 47.8**	**+1.9**
OHAK	**Old Harbor**	**1.14**	**69**		**Pn**	**07 36 45.8**	**-0.6**
OHAK					**Sn**	**07 36 59.0**	**-1.9**
PLBL	**Peulik Blue Cr**	**1.22**	**316**		**Pn**	**07 36 49.4**	**+1.9**
CAHL	**Cahill**	**1.22**	**359**		**Pn**	**07 36 48.6**	**+1.1**
KJL	**Kejulik**	**1.24**	**352**		**Pn**	**07 36 49.0**	**+1.3**
KABR	**Katmai Barrier**	**1.31**	**6**		**Pn**	**07 36 49.6**	**+0.9**
PLWL	**Peulik Whale M**	**1.35**	**334**		**Pn**	**07 36 50.9**	**+1.7**
PLWL					**Sn**	**07 37 09.0**	**+3.0**
ANCK	**Angle Creek**	**1.38**	**354**		**Pn**	**07 36 50.9**	**+1.2**
KBM	**Katmai Bkd Mtn**	**1.45**	**1**		**Pn**	**07 36 52.2**	**+1.7**
PLK5	**Peulik 5**	**1.47**	**324**		**Pn**	**07 36 52.8**	**+2.0**
KCG	**Knife Ck. Glac**	**1.48**	**3**		**Pn**	**07 36 52.6**	**+1.5**
ANNE	**Aniakchak Nort**	**1.55**	**274**		**Pn**	**07 36 53.0**	**+1.0**
KELA	**Mount Kelaz**	**1.63**	**351**		**Pn**	**07 36 54.4**	**+1.2**
KAHG	**Katmai Hook Gl**	**1.71**	**12**		**Pn**	**07 36 55.5**	**+1.3**
KDAK	**Kodiak Island**	**1.73**	**55**	*i* P	**Pn**	**07 36 53.7**	**-0.7**
KDAK	**Kodiak Island**	**1.73**	**55**	P	**Pn**	**07 36 54.1**	**-0.3**
	751nm,0.3s,baz=194,slow=4.5,SNR=9475						
KDAK				S	**Sn**	**07 37 13.9**	**-1.4**
	2µm,0.3s,baz=41,slow=19,SNR=45						
KDAK				LR	LR	07 37 36.5	
	comp=Z,5µm,21.8s,baz=236,slow=40						
FOSS	**Fourpeaked Sta**	**2.14**	**22**		**Pn**	**07 37 01.4**	**+1.4**
VNNF	**Veniaminof 3**	**2.32**	**258**		**Pn**	**07 37 04.3**	**+1.8**
VNSS	**Veniaminof 8**	**2.41**	**257**		**Pn**	**07 37 05.9**	**+2.1**
VNFG	**Fog Glacier, M**	**2.45**	**259**		**Pn**	**07 37 05.9**	**+1.6**
VNWF	**Veniaminof 8**	**2.49**	**256**		**Pn**	**07 37 05.5**	**+0.6**
AUI	**Augustine Isla**	**2.69**	**20**		**Pn**	**07 37 08.8**	**+1.3**
AUH	**Augustine H**	**2.71**	**20**		**Pn**	**07 37 09.7**	**+1.8**
AUP	**Augustine Pinn**	**2.72**	**20**	P	**Pn**	**07 37 09.5**	**+1.6**
AUP	**Augustine Pinn**	**2.72**	**20**		**Pn**	**07 37 09.6**	**+1.6**
AUL	**Augustine Lava**	**2.73**	**20**		**Pn**	**07 37 09.6**	**+1.5**
AU22	**Augustine Moun**	**2.73**	**21**		**Pn**	**07 37 09.3**	**+1.2**
CNBA	**Chernabura Isl**	**3.17**	**232**		**Sn**	**07 37 49.6**	**-1.1**
CNBA	**Chernabura Isl**	**3.17**	**232**	Pn	**Pn**	**07 37 13.6**	**-0.5**
SDPT	**Sand Point**	**3.29**	**245**		**Pn**	**07 37 16.1**	**+0.4**
HOM	**Homer**	**3.41**	**32**		**Pn**	**07 37 18.7**	**+1.3**
HOM	**Homer**	**3.41**	**32**		**Sn**	**07 37 57.1**	**+0.5**
CNPM	**China Poot**	**3.44**	**36**		**Sn**	**07 37 55.8**	**-1.4**
CNPM	**China Poot**	**3.44**	**36**		**Pn**	**07 37 18.5**	**+0.7**
BRLK	**Bradley Lake**	**3.73**	**36**		**Pn**	**07 37 21.7**	**-0.1**
BRLK	**Bradley Lake**	**3.73**	**36**		**Sn**	**07 38 02.3**	**-2.2**
BRSE	**Bradley Lake S**	**3.76**	**37**		**Pn**	**07 37 22.2**	**0.0**
RED	**Redoubt Volcan**	**3.82**	**19**		**Pn**	**07 37 24.1**	**+1.0**
RSO	**Redoubt South**	**3.87**	**19**		**Pn**	**07 37 25.0**	**+1.1**
RDWB	**Redoubt West**	**3.88**	**18**		**Pn**	**07 37 25.1**	**+1.2**
NCT	**North Crescent**	**3.93**	**17**		**Pn**	**07 37 26.0**	**+1.4**
RDJH	**Redoubt Jeurge**	**3.98**	**18**		**Pn**	**07 37 26.7**	**+1.4**
DFR	**Drift River**	**4.00**	**18**		**Pn**	**07 37 26.8**	**+1.2**
SVW2	**Sparrevohn**	**4.28**	**358**		**Pn**	**07 37 30.0**	**+0.7**
SEW	**Seward**	**4.47**	**40**		**Pn**	**07 37 31.1**	**-0.8**
CAPN	**Captain Cook N**	**4.48**	**27**		**Pn**	**07 37 34.1**	**+2.1**
SLKM	**Skilak Lake**	**4.52**	**33**		**Pn**	**07 37 32.3**	**-0.4**
CKL	**Chakachamna La**	**4.63**	**18**		**Pn**	**07 37 35.4**	**+1.3**
SPCR	**Spurr Chakacha**	**4.65**	**18**		**Pn**	**07 37 35.5**	**+1.0**
SPWE	**Spurr West**	**4.67**	**16**		**Pn**	**07 37 36.4**	**+1.7**
SPBG	**Spurr Blockage**	**4.68**	**17**		**Pn**	**07 37 36.3**	**+1.4**
SPCP	**Crater Peak Br**	**4.72**	**18**		**Pn**	**07 37 36.7**	**+1.2**
SPNN	**North Nagishla**	**4.73**	**15**		**Pn**	**07 37 37.2**	**+1.5**
SPCG	**Spurr Capps Gl**	**4.77**	**19**		**Pn**	**07 37 37.2**	**+1.0**
CGLM	**Capps Glacier**	**4.79**	**19**		**Pn**	**07 37 37.4**	**+1.0**
FALS	**False Pass**	**5.01**	**250**		**Pn**	**07 37 39.7**	**+0.4**
FIS	**Fire Island**	**5.04**	**29**		**Pn**	**07 37 41.1**	**+1.4**
RC01	**Rabbit Creek A**	**5.13**	**31**		**Pn**	**07 37 41.1**	**+0.1**
SUA	**Susitna One**	**5.19**	**25**		**Pn**	**07 37 42.5**	**+0.6**
MID	**Middleton Isla**	**5.39**	**57**	P	**Pn**	**07 37 42.2**	**-2.3**
MID	**Middleton Isla**	**5.39**	**57**		**Pn**	**07 37 42.1**	**-2.3**
PWL	**Port Wells**	**5.40**	**39**		**Pn**	**07 37 44.0**	**-0.7**
SKT	**Skwentna**	**5.50**	**19**		**Pn**	**07 37 46.4**	**+0.4**
PMR	**Palmer**	**5.71**	**31**	P	**Pn**	**07 37 48.3**	**-0.6**
PMR	**Palmer**	**5.71**	**31**		**Pn**	**07 37 48.3**	**-0.6**
KNK	**Knik Glacier**	**5.77**	**34**		**Pn**	**07 37 48.9**	**-0.8**
HIN	**Hinchinbrook I**	**5.80**	**48**		**Pn**	**07 37 49.4**	**-0.8**
GLI	**Glacier Island**	**5.86**	**43**		**Pn**	**07 37 49.5**	**-1.4**
GHO	**Glory Hole Cre**	**5.92**	**31**		**Pn**	**07 37 51.1**	**-0.7**
FID	**Port Fidalgo**	**6.01**	**46**		**Pn**	**07 37 51.0**	**-2.0**
SML	**Sawmill**	**6.11**	**32**		**Pn**	**07 37 53.8**	**-0.7**
TTA	**Tatalina**	**6.13**	**357**	P	**Pn**	**07 37 55.4**	**+0.7**
TTA	**Tatalina**	**6.13**	**357**		**Pn**	**07 37 55.4**	**+0.7**
JPK	**Jack Peak**	**6.16**	**43**		**Pn**	**07 37 53.9**	**-1.2**
EYAK	**Cordova Ski Ar**	**6.19**	**49**		**Pn**	**07 37 54.4**	**-1.1**
VMT	**TAPS Tl Valdez**	**6.26**	**43**		**Pn**	**07 37 56.2**	**-0.3**
PPLA	**Purkeypile**	**6.28**	**13**		**Pn**	**07 37 58.5**	**+1.8**
SCM	**Sheep Creek Mo**	**6.44**	**36**	P	**Pn**	**07 37 58.5**	**-0.5**
SCM	**Sheep Creek Mo**	**6.44**	**36**		**Pn**	**07 37 58.5**	**-0.5**
AKUT	**Akutan**	**6.56**	**250**		**Pn**	**07 38 01.6**	**+1.0**
RAGM	**Ragged Mountai**	**6.57**	**53**		**Pn**	**07 37 59.5**	**-1.2**
GOAT	**Goat Mountain**	**6.64**	**51**		**Pn**	**07 38 00.8**	**-0.9**
HUR	**Hurricane**	**6.78**	**22**		**Pn**	**07 38 03.9**	**+0.4**
NICHA	**Nichawak Mount**	**6.82**	**55**		**Pn**	**07 38 02.9**	**-1.2**
SUCK	**Suckling Hills**	**6.84**	**57**		**Pn**	**07 38 02.9**	**-1.4**
WAT1	**Susitna Watana**	**6.89**	**26**		**Pn**	**07 38 04.5**	**-0.6**
WAT6	**Susitna Watana**	**6.90**	**30**		**Pn**	**07 38 04.7**	**-0.6**
WAT2	**Susitna Watana**	**7.00**	**26**		**Pn**	**07 38 06.2**	**-0.5**
KTH	**Kantishna Hill**	**7.08**	**16**		**Pn**	**07 38 07.8**	**+0.1**
TRF	**Thorofare Moun**	**7.08**	**18**		**Pn**	**07 38 07.5**	**-0.3**
UNV	**Unalaska Valle**	**7.08**	**250**		**Pn**	**07 38 07.6**	**-0.1**
MTBL	**Makushin Table**	**7.11**	**251**		**Pn**	**07 38 08.6**	**+0.4**
GRIN	**Grindle Hills**	**7.13**	**56**		**Pn**	**07 38 07.4**	**-1.0**
MSW	**Makushin Switc**	**7.19**	**251**		**Pn**	**07 38 09.1**	**-0.2**
MREP	**Makushin Rep't**	**7.23**	**250**		**Pn**	**07 38 09.8**	**0.0**
KHIT	**Khitrov Hills**	**7.23**	**55**		**Pn**	**07 38 08.2**	**-1.5**
MCIR	**Makushin Cirqu**	**7.23**	**251**		**Pn**	**07 38 09.8**	**0.0**
PS11	**TAPS Pump St11**	**7.24**	**39**		**Pn**	**07 38 10.0**	**+0.2**
RND	**Reindeer**	**7.32**	**23**	P	**Pn**	**07 38 10.5**	**-0.5**
RND	**Reindeer**	**7.32**	**23**		**Pn**	**07 38 10.5**	**-0.5**
KULT	**Kultieth River**	**7.39**	**57**		**Pn**	**07 38 10.4**	**-1.6**
CRQM	**Cirque**	**7.41**	**53**		**Pn**	**07 38 11.0**	**-1.4**
GLB	**Gilahina Butte**	**7.47**	**47**		**Pn**	**07 38 12.2**	**-0.9**
VRDI	**Verde Repeater**	**7.51**	**49**		**Pn**	**07 38 12.5**	**-1.2**
BPAW	**Bear Paw Mtn.**	**7.59**	**14**		**Pn**	**07 38 14.5**	**-0.1**
MCK	**McKinley**	**7.59**	**22**	P	**Pn**	**07 38 14.6**	**-0.1**
MCK	**McKinley**	**7.59**	**22**		**Pn**	**07 38 14.6**	**-0.1**
MESA	**MESA**	**7.73**	**59**		**Pn**	**07 38 15.2**	**-1.5**
MCARA	**McCarthy VSAT**	**7.76**	**49**		**Pn**	**07 38 16.1**	**-0.9**
KIAG	**Kiagna River**	**7.83**	**53**		**Pn**	**07 38 16.8**	**-1.3**
PAX	**Paxson**	**7.87**	**35**	P	**Pn**	**07 38 18.0**	**-0.6**
PAX	**Paxson**	**7.87**	**35**		**Pn**	**07 38 17.9**	**-0.6**
YAH	**Yahtse**	**7.89**	**58**		**Pn**	**07 38 17.5**	**-1.4**
BALM	**Baldy**	**7.89**	**52**		**Pn**	**07 38 17.6**	**-1.2**
BWN	**Browne**	**7.89**	**19**		**Pn**	**07 38 18.3**	**-0.5**
PTPK	**Patty Peak**	**7.91**	**51**		**Pn**	**07 38 18.1**	**-1.0**
GRNC	**Granite Creek**	**8.02**	**55**		**Pn**	**07 38 19.5**	**-1.2**
OKFG	**Magazine Ridge**	**8.03**	**250**		**Pn**	**07 38 20.3**	**-0.4**
RKAV	**Rock Avalanche**	**8.05**	**59**		**Pn**	**07 38 19.6**	**-1.5**
CHX	**Chaix Hills**	**8.08**	**61**		**Pn**	**07 38 20.1**	**-1.4**
OKTU	**Okmok Mt. Tuli**	**8.11**	**250**		**Pn**	**07 38 21.3**	**-0.5**
PS10	**TAPS Pump St10**	**8.12**	**32**		**Pn**	**07 38 22.3**	**+0.4**
BARN	**Barnard Glacie**	**8.20**	**53**		**Pn**	**07 38 22.0**	**-1.1**
SPIA	**Saint Paul Isl**	**8.20**	**279**		**Pn**	**07 38 23.5**	**+0.5**
SAMH	**Samovar Hills**	**8.27**	**60**		**Pn**	**07 38 22.6**	**-1.3**
CTGM	**Chitina Glacie**	**8.30**	**54**		**Pn**	**07 38 23.4**	**-1.1**
OKSP	**Okmok Steeple**	**8.30**	**250**		**Pn**	**07 38 23.4**	**-1.0**
NEA	**Nenana**	**8.33**	**19**		**Pn**	**07 38 24.5**	**-0.3**
WRH	**Wood River Hil**	**8.43**	**22**		**Pn**	**07 38 24.5**	**-1.5**
MLY	**Manley**	**8.51**	**13**		**Pn**	**07 38 26.5**	**-0.8**
HDA	**Harding Lake**	**8.62**	**25**	P	**Pn**	**07 38 27.8**	**-0.9**
	baz=211,SNR=61						
HDA	**Harding Lake**	**8.62**	**25**		**Pn**	**07 38 28.5**	**-0.2**
RIDG	**Independent Ri**	**8.63**	**32**		**Pn**	**07 38 28.7**	**-0.2**
CCB	**Clear Creek Bu**	**8.64**	**22**		**Pn**	**07 38 27.1**	**-1.8**
YKU2	**Yakutat**	**8.66**	**65**	Pn	**Pn**	**07 38 27.0**	**-2.1**
PS08	**TAPS Pump Stn8**	**8.76**	**25**		**Pn**	**07 38 29.9**	**-0.7**
DOT	**Dot Lake**	**8.80**	**34**		**Pn**	**07 38 30.7**	**-0.5**
PNL	**Peninsula**	**8.82**	**65**		**Pn**	**07 38 29.6**	**-1.9**
TCOL	**CIGO, UAF Yank**	**8.83**	**21**	P	**Pn**	**07 38 29.9**	**-1.6**
	baz=207,SNR=43						
TCOL	**CIGO, UAF Yank**	**8.83**	**21**		**Pn**	**07 38 30.7**	**-0.8**
COLA	**College**	**8.83**	**21**	*c i*P	**Pn**	**07 38 29.7**	**-1.8**
COLA	**College**	**8.83**	**21**		**Pn**	**07 38 30.4**	**-1.1**
MDM	**Murphy Dome**	**8.83**	**20**		**Pn**	**07 38 30.5**	**-1.2**
YUK2	**White River**	**8.87**	**50**		**Pn**	**07 38 32.3**	**0.0**
IL31		**8.94**	**24**		**Pn**	**07 38 31.4**	**-1.7**
ILAR	**Eielson Array**	**8.94**	**24**	P	**Pn**	**07 38 31.2**	**-1.9**
	11nm,0.3s,baz=211,slow=14,SNR=316						
ILAR				S	**Sn**	**07 40 06.5**	**-5.7**
	18nm,0.3s,baz=208,slow=23,SNR=4.2						
ILAR				LR	LR	07 42 27.3	
	comp=Z,3µm,20.6s,baz=226,slow=40						
ILAR				ScP	**ScP**	**07 48 22.2**	**+1.1**
	baz=255,slow=2.1,SNR=8.2						
ILAR				PKPPKP	**P'P'df**	**08 16 44.0**	**-3.9**
	0.0nm,0.3s,baz=101,slow=0.9,SNR=4.4						
YUK3	**Moose Creek**	**9.03**	**51**		**Pn**	**07 38 34.2**	**-0.3**
SCRK	**Sand Creek**	**9.06**	**33**		**Pn**	**07 38 34.2**	**-0.7**
POKR	**Poker Plat Res**	**9.13**	**21**	P	**Pn**	**07 38 34.4**	**-1.3**
	baz=207,SNR=28						
POKR	**Poker Plat Res**	**9.13**	**21**		**Pn**	**07 38 34.7**	**-1.0**
YUK1	**Sand Pete Hill**	**9.18**	**48**		**Pn**	**07 38 36.3**	**-0.2**
BC03		**9.19**	**42**		**Pn**	**07 38 36.8**	**+0.3**
ANM	**Nome**	**9.20**	**332**	P	**Pn**	**07 38 37.7**	**+1.1**
ANM	**Nome**	**9.20**	**332**		**Pn**	**07 38 37.7**	**+1.1**
IM03		**9.21**	**4**		**Pn**	**07 38 37.3**	**+0.6**
DHAK	**Deception Hill**	**9.33**	**69**		**Pn**	**07 38 36.0**	**-2.4**
PS06	**TAPS Pump Stn6**	**9.43**	**14**		**Pn**	**07 38 39.2**	**-0.5**
YUK7	**Dusty Glacier**	**9.64**	**60**		**Pn**	**07 38 41.6**	**-1.2**
YUK6	**Outpost Mounta**	**9.65**	**58**		**Pn**	**07 38 41.9**	**-1.2**
YUK4	**Talbot Arm**	**9.65**	**55**		**Pn**	**07 38 43.4**	**+0.3**
PRP	**Porcupine Dome**	**9.88**	**24**		**Pn**	**07 38 44.6**	**-1.5**
YUK5	**Granite Creek**	**9.94**	**57**		**Pn**	**07 38 45.9**	**-1.0**
EGAK	**Eagle**	**10.50**	**35**		**Pn**	**07 38 54.1**	**-0.3**
DAWY	**Dawson**	**10.64**	**41**		**Pn**	**07 38 56.7**	**+0.2**
COLD	**Coldfoot**	**10.69**	**11**		**Pn**	**07 38 55.6**	**-1.4**
GAMB	**Gambell**	**10.70**	**317**		**Pn**	**07 38 57.8**	**+0.7**
SKAG	**Skagway**	**10.84**	**68**		**Pn**	**07 38 58.0**	**-1.1**
FYU	**Fort Yukon**	**10.84**	**22**		**Pn**	**07 38 57.7**	**-1.3**
BESE	**Bessie Mountai**	**11.04**	**72**		**Pn**	**07 39 00.0**	**-1.9**
JIS	**Juneau Island**	**11.29**	**74**		**Pn**	**07 39 03.2**	**-2.0**
RDOG	**Red Dog Mine**	**11.79**	**346**	Pn	**Pn**	**07 39 13.3**	**+1.2**
CRAG	**Craig**	**12.40**	**87**		**Pn**	**07 39 17.1**	**-3.2**
WRAK	**Wrangell Islan**	**12.60**	**82**		**Pn**	**07 39 21.9**	**-1.2**
EPYK	**Eagle Plains**	**12.94**	**35**	P	**Pn**	**07 39 28.8**	**+1.0**
	baz=231,SNR=33						
ADK	**Adak**	**13.42**	**257**	P	**Pn**	**07 39 32.9**	**-1.4**
ADK	**Adak**	**13.42**	**257**		**Pn**	**07 39 32.9**	**-1.4**
DLBC	**Dease Lake**	**13.58**	**73**	P	**Pn**	**07 39 35.7**	**-0.8**
	1.5nm,0.3s,baz=275,slow=2.1,SNR=15						
DLBC				S	**Sn**	**07 41 59.1**	**-6.5**
	8.1nm,0.3s,baz=184,slow=19,SNR=9.4						
KIWB	**Kanaga Island**	**13.69**	**258**		**Pn**	**07 39 37.4**	**-0.6**
MOBC	**Moresby Island**	**13.84**	**96**		**Pn**	**07 39 39.2**	**-0.8**
INK	**Inuvik**	**15.13**	**32**	P	**Pn**	**07 39 55.5**	**-1.4**
	2.1nm,0.3s,baz=220,slow=11,SNR=55						
INK				LR	LR	07 46 23.1	
	comp=Z,3µm,21.6s,baz=212,slow=40						
BBB	**Bella Bella**	**16.37**	**95**	P	**Pn**	**07 40 13.4**	**+0.6**
	0.5nm,0.3s,baz=282,slow=11,SNR=4.1						
BBB				S	**Sn**	**07 43 06.5**	**-6.8**
	0.5nm,0.3s,baz=331,slow=19,SNR=7.7						
BBB				LR	LR	07 45 16.5	
	comp=Z,3µm,21.3s,baz=312,slow=32						
C36M	**Paulatuk**	**18.58**	**35**	P	**P**	**07 40 38.9**	**-0.3**
	baz=243,SNR=237						
BILL	**Bilibino**	**20.63**	**318**	*ce*P	**P**	**07 41 01.3**	**-0.3**
BILL				*e*		07 41 18.5	
BILL				*i* S	**S**	**07 44 50.2**	**+1.2**
BILL				*e*		07 45 09.0	
BILL				pmax	pmax		
	comp=Z,458nm,1.3s						
BILL				MLR	MLR		
	comp=Z,2µm,16.0s						
BILL	**Bilibino**	**20.63**	**318**	P	**P**	**07 41 01.0**	**-0.5**
BILL				IAmb	IAmb	07 41 02.8	
	comp=Z,310nm,1.0s						
YKA	**Yellowknife Ar**	**21.01**	**58**	P	**P**	**07 41 05.9**	**+0.3**
	comp=Z,84nm,0.6s,baz=274,slow=9.7,SNR=1369						
YKA				PcP	**PcP**	**07 45 11.0**	**+0.4**
	comp=Z,3.7nm,0.5s,baz=271,slow=1.5,SNR=5.3						
YKA				ScP	**ScP**	**07 48 43.0**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=283,slow=2.1,SNR=6.2						
YKA				LR	LR	07 50 15.3	
	comp=Z,155nm,18.5s,baz=266,slow=39						
YKA				P3KPbc		08 15 04.0	
	comp=Z,0.4nm,0.6s,baz=95,slow=5.0,SNR=11						
A04D	**Lummi Island**	**21.12**	**99**	P	**P**	**07 41 12.4**	**+5.4**
	baz=305,SNR=6.2						
D03D	**Eldon**	**21.61**	**102**	P	**P**	**07 41 15.3**	**+3.0**
	baz=307,SNR=10						
B05A	**Bryant**	**21.72**	**99**	P	**P**	**07 41 15.9**	**+2.6**
	baz=306,SNR=46						
D05A	**Enumclaw**	**22.42**	**101**	IAmb	IAmb	07 41 41.4	
	comp=Z,703nm,1.4s						
E04D	**Cinebar**	**22.50**	**103**	P	**P**	**07 41 25.5**	**+3.8**
	baz=309,SNR=21						
F04D	**Rainier, OR**	**22.57**	**105**	P	**P**	**07 41 26.4**	**+3.9**
	baz=310,SNR=7.5						
C06D	**Leavenworth**	**22.57**	**99**	P	**P**	**07 41 25.7**	**+3.2**
	baz=306,SNR=7.8						
F04A	**Amboy**	**22.98**	**104**	IAmb	IAmb	07 41 43.3	
	comp=Z,720nm,1.3s						
G03D	**McMinnville, O**	**23.00**	**107**	P	**P**	**07 41 29.6**	**+2.5**
	baz=312,SNR=9.9						
LTY	**Liberty**	**23.09**	**100**	IAmb	IAmb	07 41 43.3	
	comp=Z,384nm,1.3s						
B08A	**Colville Reser**	**23.17**	**96**	IAmb	IAmb	07 41 44.3	
	comp=Z,278nm,1.2s						
COR	**Corvallis**	**23.41**	**108**	P	**P**	**07 41 34.0**	**+3.0**
COR				pmax	pmax		
	comp=Z,546nm,1.2s						
COR	**Corvallis**	**23.41**	**108**	P	**P**	**07 41 34.0**	**+3.0**
COR				IAmb	IAmb	07 41 47.4	
	comp=Z,546nm,1.1s						
I02D	**Swisshome**	**23.45**	**109**	P	**P**	**07 41 34.4**	**+3.0**
	baz=314						
F05D	**White Salmon**	**23.52**	**103**	P	**P**	**07 41 34.5**	**+2.4**
	baz=310,SNR=7.1						
H04D	**Lebanon**	**23.74**	**107**	P	**P**	**07 41 36.9**	**+2.7**
	baz=313,SNR=22						
I03D	**Drain, OR**	**24.00**	**110**	P	**P**	**07 41 39.3**	**+2.9**
	baz=314						
G05D	**Wamic, OR**	**24.02**	**104**	P	**P**	**07 41 39.2**	**+2.5**
	baz=311,SNR=15						
J01E	**Myrtle Point**	**24.07**	**111**	P	**P**	**07 41 40.1**	**+2.9**
	baz=316,SNR=8.0						
F07A	**Phinny Hill Vi**	**24.34**	**102**	P	**P**	**07 41 42.0**	**+2.5**
F07A				PcP	**PcP**	**07 45 16.9**	**-0.9**
I04A	**Tendick Farm,**	**24.42**	**108**	P	**P**	**07 41 43.0**	**+2.7**
	baz=314,SNR=21						
NEW	**Newport**	**24.43**	**94**	P	**P**	**07 41 42.2**	**+1.8**
	baz=305,SNR=64						
NEW	**Newport**	**24.43**	**94**	P	**P**	**07 41 41.5**	**+1.1**
	comp=Z,80nm,1.0s,baz=306,slow=8.4,SNR=76						
NEW				ScP	**ScP**	**07 48 53.0**	**+0.9**
	comp=Z,10nm,1.1s,baz=305,slow=4.4,SNR=4.0						
NEW				LR	LR	07 50 10.5	
	comp=Z,2µm,20.8s,baz=320,slow=34						
E08A	**Dider Farm, El**	**24.43**	**100**	IAmb	IAmb	07 41 57.2	
	comp=Z,223nm,1.2s						
K02D	**Willamette Mer**	**24.54**	**112**	P	**P**	**07 41 44.5**	**+2.9**
	baz=316,SNR=8.0						
I05D	**Terrebonne, OR**	**24.61**	**106**	P	**P**	**07 41 44.5**	**+2.4**
	baz=312,SNR=23						
J04D	**Umpqua Nationa**	**24.96**	**109**	P	**P**	**07 41 48.4**	**+2.9**
	baz=315,SNR=22						
L02E	**Cave Junction**	**24.97**	**112**	P	**P**	**07 41 47.9**	**+2.6**
	baz=317						
PINE	**Pine Mountain**	**25.19**	**106**	IAmb	IAmb	07 42 05.5	
	comp=Z,272nm,1.1s						
J05D	**Fort Rock, OR**	**25.39**	**108**	P	**P**	**07 41 52.2**	**+2.9**
	baz=314,SNR=46						
K04D	**Chiloquin, OR**	**25.58**	**109**	P	**P**	**07 41 54.0**	**+3.0**
	baz=315						
L04D	**Klamath Falls**	**25.59**	**111**	P	**P**	**07 41 53.8**	**+2.7**
	baz=316,SNR=9.7						
YBH	**Yreka Blue Hor**	**25.73**	**112**	P	**P**	**07 41 54.2**	**+1.9**
	comp=Z,20nm,0.8s,baz=333,slow=3.1,SNR=30						
YBH				LR	LR	07 49 50.1	
	comp=Z,2µm,21.5s,baz=326,slow=31						
M02C	**Callahan**	**25.91**	**113**	P	**P**	**07 41 57.2**	**+3.3**
	baz=318,SNR=7.3						
M04C	**Macdoel**	**26.14**	**111**	P	**P**	**07 41 59.1**	**+3.0**
	baz=317,SNR=18						
JTMT	**Jette**	**26.29**	**93**	P	**P**	**07 41 58.3**	**+0.9**
JTMT				IAmb	IAmb	07 42 17.2	
	comp=Z,207nm,1.2s						
N02D	**Trinity Center**	**26.29**	**113**	P	**P**	**07 42 00.8**	**+3.4**
	baz=318,SNR=6.7						
SEY	**Seymchan**	**26.32**	**305**	*ce*P	**P**	**07 41 56.3**	**-1.0**
SEY	**Seymchan**	**26.32**	**305**	P	**P**	**07 41 56.0**	**-1.3**
	comp=Z,51nm,1.0s,baz=88,slow=8.2,SNR=54						
SEY				LR	LR	07 53 12.5	
	comp=Z,2µm,19.0s,baz=4.5,slow=38						
PET	**Petropavlovsk**	**26.37**	**281**	⇓*i*P	**P**	**07 41 57.6**	**-0.2**
PET				*e**PP	**pP**	**07 42 12.5**	**+1.9**
PET				*e*S	**S**	**07 46 24.9**	**-2.3**
PET				pmax	pmax		
	comp=Z,800nm,5.2s						
PET				pmax	pmax		
	comp=Z,238nm,1.2s						
PET				pmax	pmax		
	comp=Z,300nm,8.8s						
PET				MLR	MLR		
	comp=Z,800nm,19.0s						
PET				MLR	MLR		
	comp=Z,1µm,16.0s						
PET	**Petropavlovsk**	**26.37**	**281**	P	**P**	**07 41 57.4**	**-0.4**
PET				IAmb	IAmb	07 41 59.5	
	comp=Z,358nm,1.3s						
PEA0B	**Petropavlovsk-**	**26.84**	**282**	IAmb	IAmb	07 42 05.9	
	comp=Z,142nm,0.7s						
PETK	**Petropavlovsk-**	**26.84**	**282**	P	**P**	**07 42 01.8**	**-0.4**
	comp=Z,122nm,0.6s,baz=73,slow=12,SNR=41						
PETK				PcP	**PcP**	**07 45 24.4**	**+1.1**
	comp=Z,3.2nm,0.5s,baz=91,slow=4.6,SNR=8.3						
PETK				ScP	**ScP**	**07 49 00.7**	**+1.7**
	comp=Z,5.3nm,0.9s,baz=94,slow=4.6,SNR=3.8						
PETK				LR	LR	07 53 12.0	
	comp=Z,672nm,20.4s,baz=79,slow=38						
MOD	**Modoc Plateau**	**26.85**	**109**	P	**P**	**07 42 04.0**	**+1.5**
MOD					**PcP**	**07 45 24.6**	**+0.8**
O02D	**Mt. Diablo Mer**	**26.85**	**114**	P	**P**	**07 42 05.4**	**+2.9**
	baz=319						
MSO	**Missoula**	**27.02**	**94**	P	**P**	**07 42 05.2**	**+1.2**
	baz=307,SNR=18						
O03E	**Paynes Creek**	**27.26**	**113**	P	**P**	**07 42 08.2**	**+2.1**
	baz=319,SNR=18						
WVOR	**Wild Horse Val**	**27.34**	**106**	IAmb	IAmb	07 42 26.6	
	comp=Z,160nm,1.1s						
MA2	**Magadan**	**27.92**	**298**	*c i*P	**P**	**07 42 11.4**	**-0.4**
MA2				pmax	pmax		
	comp=Z,142nm,1.4s						
MA2	**Magadan**	**27.92**	**298**	P	**P**	**07 42 11.3**	**-0.4**
	comp=Z,41nm,0.9s,baz=79,slow=8.5,SNR=8.8						
MA2				LR	LR	07 54 27.2	
	comp=Z,2µm,19.1s,baz=87,slow=39						
MA2	**Magadan**	**27.92**	**298**	P	**P**	**07 42 11.5**	**-0.4**
RES	**Resolute Bay**	**28.64**	**29**	P	**P**	**07 42 18.2**	**+0.2**
	comp=Z,15nm,0.7s,baz=254,slow=12,SNR=27						
RES				LR	LR	07 56 09.9	
	comp=Z,680nm,20.3s,baz=253,slow=41						
AFDM	**Forest Hills D**	**28.69**	**114**	P	**P**	**07 42 20.6**	**+1.7**
AFDM				PcP	**PcP**	**07 45 28.5**	**+0.4**
SKR	**Severo-Kuril's**	**28.88**	**279**	*ce*P	**P**	**07 42 19.4**	**-0.9**
BOZ	**Bozeman (W)**	**29.04**	**94**	P	**P**	**07 42 23.4**	**+1.4**
	baz=309,SNR=27						
PNTR	**Pine Nut**	**29.28**	**112**	IAmb	IAmb	07 42 41.0	
	comp=Z,220nm,1.3s						
FFC	**Flin Flon**	**29.41**	**71**	*i* P	**P**	**07 42 25.9**	**+0.9**
FFC	**Flin Flon**	**29.41**	**71**	P	**P**	**07 42 25.2**	**+0.3**
YHB	**Horse Butte**	**29.82**	**95**	P	**P**	**07 42 30.0**	**+1.0**
YHB				PcP	**PcP**	**07 45 31.4**	**+0.2**
ELK	**Elko**	**30.34**	**105**	P	**P**	**07 42 35.3**	**+1.6**
ELK				*PP	**pP**	**07 42 49.3**	**+2.7**
ELK				pmax	pmax		
	comp=Z,82nm,1.2s						
ELK	**Elko**	**30.34**	**105**	P	**P**	**07 42 35.3**	**+1.6**
ELK				pP	**pP**	**07 42 49.3**	**+2.7**
H17A	**Grant Village**	**30.38**	**95**	P	**P**	**07 42 37.5**	**+3.5**
	baz=310,SNR=58						
H17A	**Grant Village**	**30.38**	**95**	IAmb	IAmb	07 42 38.5	
	comp=Z,108nm,0.9s						
NVAR	**Mina Array Bea**	**30.44**	**111**	P	**P**	**07 42 36.8**	**+2.2**
	comp=Z,28nm,0.8s,baz=301,slow=8.9,SNR=130						
NVAR				PcP	**PcP**	**07 45 33.9**	**+1.1**
	comp=Z,12nm,0.9s,baz=299,slow=2.7,SNR=7.5						
NVAR				pScP		07 45 50.0	
	comp=Z,5.7nm,0.8s,baz=284,slow=3.1,SNR=4.3						
NVAR				ScP	**ScP**	**07 49 11.4**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=289,slow=2.7,SNR=7.8						
NVAR				LR	LR	07 53 06.1	
	comp=Z,2µm,18.9s,baz=296,slow=33						
FLWY	**Flagg Ranch**	**30.52**	**95**	IAmb	IAmb	07 42 39.0	
	comp=Z,180nm,0.8s						
RLMT	**Red Lodge**	**30.64**	**93**	P	**P**	**07 42 38.2**	**+2.0**
	baz=309,SNR=34						
MDPB	**Devils Postpil**	**30.66**	**113**	P	**P**	**07 42 38.4**	**+1.9**
MDPB				pP	**pP**	**07 42 50.9**	**+1.5**
MDPB				PcP	**PcP**	**07 45 34.4**	**+0.9**
OMMB	**Old Mammoth Mi**	**30.71**	**113**	IAmb	IAmb	07 42 54.0	
	comp=Z,144nm,1.3s						
MLAC	**Mammoth, Mammo**	**30.78**	**113**	P	**P**	**07 42 41.3**	**+3.7**
	baz=320,SNR=8.8						
LAO	**LASA Array**	**31.34**	**88**	P	**P**	**07 42 44.1**	**+1.9**
	baz=307,SNR=22						
TIN	**Tinemaha, Big**	**31.53**	**113**	P	**P**	**07 42 47.3**	**+3.3**
	baz=321,SNR=8.4						
PAGB	**Antelope Grade**	**31.57**	**117**	P	**P**	**07 42 46.6**	**+2.4**
PAGB				pP	**pP**	**07 42 59.3**	**+2.1**
PAGB				IAmb	IAmb	07 43 01.0	
	comp=Z,115nm,1.2s						
PAGB				PcP	**PcP**	**07 45 35.9**	**+0.3**
R11A	**Troy Canyon, C**	**31.91**	**108**	P	**P**	**07 42 49.5**	**+2.0**
	baz=318,SNR=68						
BW06	**Boulder Array**	**32.01**	**96**	P	**P**	**07 42 49.9**	**+1.5**
	baz=312,SNR=77						
PDAR	**Pinedale Array**	**32.01**	**96**	P	**P**	**07 42 49.8**	**+1.4**
	comp=Z,53nm,0.7s,baz=313,slow=5.1,SNR=423						
PDAR				pP	**pP**	**07 43 02.7**	**+1.4**
	comp=Z,12nm,0.7s,baz=319,slow=3.9,SNR=6.6						
PDAR				ScP	**ScP**	**07 49 16.8**	**+0.8**
	comp=Z,1.9nm,1.0s,baz=349,slow=1.5,SNR=3.7						
PDAR				LR	LR	07 55 25.5	
	comp=Z,647nm,19.6s,baz=312,slow=36						
PDAR				P3KPbc		08 14 17.8	
	comp=Z,0.5nm,0.6s,baz=114,slow=6.0,SNR=5.9						
GRAC	**Grapevine Rang**	**32.02**	**112**	P	**P**	**07 42 51.0**	**+2.8**
	baz=320,SNR=30						
SMMC	**Simmler**	**32.02**	**117**	P	**P**	**07 42 51.3**	**+3.0**
	baz=323,SNR=10						
DUG	**Dugway, Tooele**	**32.03**	**103**	P	**P**	**07 42 50.3**	**+1.9**
	baz=316,SNR=17						
DUG	**Dugway, Tooele**	**32.03**	**103**	P	**P**	**07 42 50.0**	**+1.6**
DUG						07 45 37.6	
DUG				pmax	pmax		
	comp=Z,52nm,1.2s						
DUG	**Dugway, Tooele**	**32.03**	**103**	P	**P**	**07 42 50.0**	**+1.6**
DUG				PcP	**PcP**	**07 45 37.6**	**+0.6**
VES	**Vestal, Richgr**	**32.05**	**115**	P	**P**	**07 42 50.7**	**+2.3**
	baz=322,SNR=8.1						
CWC	**Cottonwood Cre**	**32.09**	**113**	P	**P**	**07 42 51.7**	**+2.8**
	baz=321						
PKM	**Mcpherson Peak**	**32.45**	**117**	P	**P**	**07 42 55.1**	**+2.9**
	baz=324,SNR=7.2						
DAC	**Darwin (Calif)**	**32.46**	**113**	P	**P**	**07 42 56.1**	**+3.8**
DAC				*SP	**sP**	**07 43 09.4**	**-1.8**
DAC				pmax	pmax		
	comp=Z,93nm,1.4s						
DAC	**Darwin (Calif)**	**32.46**	**113**	P	**P**	**07 42 56.1**	**+3.8**
DAC					**sP**	**07 43 09.4**	**-1.8**
ISA	**Isabella, Lake**	**32.50**	**115**	P	**P**	**07 42 54.6**	**+2.1**
	baz=322,SNR=18						

TPNV	Topopah Spring	32.62	111	P	P	07 42 56.1	+2.4
	baz=320,SNR=52						
FURC	Furnace Creek,	32.68	112	P	P	07 42 56.7	+2.8
	baz=321,SNR=29						
MPMC	Manual Prospec	32.68	113	P	P	07 42 56.6	+2.3
	baz=322,SNR=41						
ARVC	Arvin	32.74	116	P	P	07 42 56.2	+1.7
	baz=323,SNR=7.8						
EDW2	Edwards Air Fo	33.35	115	P	P	07 43 01.8	+1.9
	baz=323,SNR=9.0						
TIXI	Tiksi	33.40	326c	iP	P	07 42 58.9	-1.0
TIXI				pmax	pmax		
	comp=Z,116nm,1.0s						
TIXI	Tiksi	33.40	326	P	P	07 42 59.0	-1.0
	comp=Z,71nm,0.8s,baz=105,slow=11,SNR=85						
TIXI				LR	LR	07 57 38.0	
	comp=Z,596nm,19.0s,baz=78,slow=38						
TIXI	Tiksi	33.40	326	P	P	07 42 59.2	-0.7
TIXI				IAmb	IAmb	07 43 00.8	
	comp=Z,87nm,0.9s						
SHOC	Shoshone, Teco	33.42	112	P	P	07 43 03.3	+2.8
	baz=321,SNR=16						
BLG	Laguna Peak, P	33.44	117	P	P	07 43 03.3	+2.6
	baz=324						
GSC	Goldstone, Bar	33.62	113	P	P	07 43 04.7	+2.5
	baz=322,SNR=27						
K22A	Casper	33.75	94	P	P	07 43 04.8	+1.3
	baz=312,SNR=25						
RRX	Edison Barstow	33.86	114	P	P	07 43 07.2	+3.0
	baz=322						
MTPU	Mount Pierson	33.93	105	P	P	07 43 06.6	+1.3
MTPU				pP	pP	07 43 20.6	+2.3
TUQ	Turquoise Moun	33.96	112	P	P	07 43 07.8	+2.5
	baz=322						
BFSC	Mount Baldy Ra	34.03	115	P	P	07 43 08.4	+2.5
	baz=323,SNR=29						
RSSD	Black Hills	34.15	90	P	P	07 43 08.4	+1.4
	baz=310						
RSSD	Black Hills	34.15	90	P	P	07 43 08.2	+1.2
RSSD				*PP	pP	07 43 20.9	+0.9
RSSD						07 45 43.0	
RSSD				pmax	pmax		
	comp=Z,88nm,0.8s						
RSSD	Black Hills	34.15	90	P	P	07 43 08.2	+1.2
RSSD				pP	pP	07 43 20.9	+0.9
RSSD				IAmb	IAmb	07 43 27.7	
	comp=Z,88nm,0.8s						
RSSD				PcP	PcP	07 45 43.0	+0.1
HEC	Hector,Ludlow	34.23	113	P	P	07 43 09.8	+2.3
	baz=322,SNR=34						
MDND	Maddock	34.27	81	P	P	07 43 09.3	+1.6
	baz=306,SNR=30						
CIS	Catalina Islan	34.33	117	P	P	07 43 10.7	+2.2
	baz=324						
O20A	White River Ci	34.54	99	P	P	07 43 12.1	+1.8
	baz=315,SNR=176						
GMRC	Granite Mounta	34.60	113	P	P	07 43 13.0	+2.1
	baz=322,SNR=34						
MURC	Murrieta	34.77	116	P	P	07 43 14.2	+1.9
	baz=324,SNR=7.7						
ULM	Lac du Bonnet	34.89	75	P	P	07 43 13.2	+0.3
	comp=Z,58nm,0.7s,baz=306,slow=8.9,SNR=83						
ULM				LR	LR	07 57 39.1	
	comp=Z,1µm,18.9s,baz=308,slow=36						
ULM	Lac du Bonnet	34.89	75	P	P	07 43 13.1	+0.1
ULM				IAmb	IAmb	07 43 14.8	
	comp=Z,90nm,0.9s						
TULEG	Thule	34.90	24	P	P	07 43 12.9	+0.2
TULEG				pP	pP	07 43 26.1	+0.3
TULEG				IAmb	IAmb	07 43 27.5	
	comp=Z,82nm,0.8s						
BELC	Belle Mtn. Jos	35.05	114	P	P	07 43 16.9	+2.1
	baz=323,SNR=30						
PFO	Pinyon Flats O	35.13	115	P	P	07 43 17.4	+2.0
	baz=323						
PFO	Pinyon Flats O	35.13	115	i P	P	07 43 17.3	+1.9
PFO	Pinyon Flats O	35.13	115	P	P	07 43 16.4	+1.0
	comp=Z,26nm,1.0s,baz=312,slow=8.1,SNR=17						
PFO	Pinyon Flats O	35.13	115	P	P	07 43 16.9	+1.4
PFO				pP	pP	07 43 30.2	+1.8
XPFO	Pion Flat	35.13	115	P	P	07 43 16.5	+1.1
XPFO				pP	pP	07 43 30.3	+1.7
NEE2	Needles Airpor	35.15	111	P	P	07 43 17.4	+2.0
	baz=322,SNR=21						
N23A	Red Feather La	35.26	95	P	P	07 43 18.5	+1.8
	baz=314,SNR=44						
N23A	Red Feather La	35.26	95	IAmb	IAmb	07 43 37.2	
	comp=Z,105nm,1.1s						
PV21	Cone Mtn., Par	35.27	101	IAmb	IAmb	07 43 19.5	
	comp=Z,104nm,1.0s						
W13A	Hualapai Mount	35.27	110	IAmb	IAmb	07 43 34.1	
	comp=Z,87nm,1.2s						
PV23	Carpenter Ridg	35.33	101	IAmb	IAmb	07 43 20.6	
	comp=Z,123nm,1.0s						
IRM	Iron Mountain	35.36	113	P	P	07 43 19.6	+2.4
	baz=322,SNR=93						
PV14	Lion Creek, Pa	35.38	101	IAmb	IAmb	07 43 38.4	
	comp=Z,177nm,1.5s						
PV22	Blue Mesa, Par	35.39	101	IAmb	IAmb	07 43 21.1	
	comp=Z,186nm,1.3s						
109C	Camp Elliot, M	35.39	116	P	P	07 43 19.7	+2.2
	baz=324,SNR=12						
109C	Camp Elliot, M	35.39	116	IAmb	IAmb	07 43 34.1	
	comp=Z,110nm,1.3s						
KIP	Kipapa	35.42	184⇑	eP	P	07 43 19.7	+1.9
KIP				pmax	pmax		
	comp=Z,420nm,2.5s						
KIP	Kipapa	35.42	184	P	P	07 43 18.9	+1.1
KIP				IAmb	IAmb	07 43 20.5	
	comp=Z,131nm,1.0s						
PV04	Paradox Valley	35.42	101	IAmb	IAmb	07 43 21.4	
	comp=Z,109nm,1.0s						
PV20	West Nyswonger	35.43	101	IAmb	IAmb	07 43 38.9	
	comp=Z,100nm,1.2s						
PV19	Morning Glory	35.44	101	IAmb	IAmb	07 43 21.8	
	comp=Z,85nm,1.2s						
PV16	Nyswonger Mesa	35.48	101	IAmb	IAmb	07 43 21.9	
	comp=Z,86nm,1.0s						
PV17	East Wray Mesa	35.48	101	IAmb	IAmb	07 43 39.2	
	comp=Z,130nm,1.1s						
PV11	David Mesa, Pa	35.51	101	IAmb	IAmb	07 43 22.1	
	comp=Z,165nm,1.1s						
PV18	Skein Mesa, Pa	35.53	101	IAmb	IAmb	07 43 22.4	
	comp=Z,89nm,1.1s						
PV07	Paradox Valley	35.53	101	IAmb	IAmb	07 43 21.6	
	comp=Z,129nm,1.1s						
PV12	Saucer Basin,	35.54	101	P	P	07 43 20.0	+1.0
PV12				IAmb	IAmb	07 43 22.4	
	comp=Z,106nm,1.0s						
PV05	Paradox Valley	35.55	102	IAmb	IAmb	07 43 21.9	
	comp=Z,88nm,1.2s						
PV03	Paradox Valley	35.56	101	IAmb	IAmb	07 43 22.5	
	comp=Z,96nm,1.1s						
BC3	Big Chuckawall	35.60	114	P	P	07 43 21.0	+1.6
	baz=323,SNR=19						
PV13	Radium Mtn., P	35.64	101	IAmb	IAmb	07 43 23.3	
	comp=Z,143nm,1.0s						
PV02	Paradox Valley	35.65	101	IAmb	IAmb	07 43 23.3	
	comp=Z,118nm,0.9s						
MONP2	Monument Peak	35.73	115	P	P	07 43 22.8	+2.2
	baz=324,SNR=26						
NKL	Nikolayevsk	35.75	292	eP	P	07 43 18.4	-1.9
NKL				pmax	pmax		
	comp=N,5.0nm,0.7s						
NKL				pmax	pmax		
	comp=Z,175nm,1.2s						
NKL				pmax	pmax		
	comp=E,66nm,1.1s						
NKL				pmax	pmax		
	comp=Z,169nm,3.1s						
NKL				MLR	MLR		
	comp=E,264nm,12.0s						
NKL				MLR	MLR		
	comp=N,148nm,14.0s						
NKL				MLR	MLR		
	comp=Z,706nm,17.0s						
PV01	Paradox Valley	35.79	101	IAmb	IAmb	07 43 24.0	
	comp=Z,108nm,1.0s						
TYV	Tymovskoe	35.98	288	eP	P	07 43 22.4	+0.1
TYV				e		07 49 00.4	
TYV				pmax	pmax		
	comp=Z,600nm,1.7s						
TYV				pmax	pmax		
	comp=Z,163nm,1.2s						
TYV				MLR	MLR		
	comp=Z,1µm,17.0s						
SWSC	Sam W. Stewart	35.99	115	P	P	07 43 24.5	+1.9
	baz=324,SNR=16						
Y12C	Blythe	36.00	112	P	P	07 43 24.9	+2.3
	baz=322,SNR=41						
Y12C	Blythe	36.00	112	IAmb	IAmb	07 43 26.0	
	comp=Z,104nm,0.8s						
IKP	In-Ko-Pah, Jac	36.08	115	P	P	07 43 25.6	+2.1
	baz=324,SNR=14						
ISCO	Idaho Springs	36.21	96	P	P	07 43 26.1	+1.3
	baz=315						
WUAZ	Wupatki	36.25	107	P	P	07 43 27.2	+2.2
	baz=320,SNR=24						
WUAZ	Wupatki	36.25	107	IAmb	IAmb	07 43 41.9	
	comp=Z,70nm,1.1s						
GLA	Glamis	36.40	113	P	P	07 43 28.2	+2.0
	baz=323,SNR=12						
GLA	Glamis	36.40	113	IAmb	IAmb	07 43 29.3	
	comp=Z,63nm,0.9s						
MVCO	Mesa Verde	36.51	102	P	P	07 43 28.5	+1.2
	baz=318,SNR=36						
YAK	Yakutsk	36.54	310c	iP	P	07 43 25.8	-1.1
YAK				e*PP	pP	07 43 37.7	-2.3
YAK				e		07 44 46.2	
YAK				eS	S	07 49 01.9	-3.4
YAK				eSS	SnSn	07 51 26.0	-12
YAK				e		07 53 34.4	
YAK				pmax	pmax		
	comp=Z,179nm,0.8s						
YAK				pmax	pmax		
	comp=N,31nm,0.9s						
YAK				pmax	pmax		
	comp=E,92nm,1.0s						
YAK				pmax	pmax		
	comp=Z,123nm,2.7s						
YAK				pmax	pmax		
	comp=N,80nm,2.1s						
YAK				pmax	pmax		
	comp=E,135nm,2.3s						
YAK				smax	smax		
	comp=N,175nm,1.8s						
YAK				smax	smax		
	comp=E,119nm,1.5s						
YAK	Yakutsk	36.54	310	P	P	07 43 25.4	-1.5
	comp=E,154nm,0.7s,baz=70,slow=2.5,SNR=85						
YAK				LR	LR	07 59 42.8	
	comp=E,2µm,20.9s,baz=82,slow=38						
YAK	Yakutsk	36.54	310	P	P	07 43 25.5	-1.5
KUR	Kuril'sk	36.55	276de	P	P	07 43 26.9	-0.4
Y14A	Wickenburg	36.62	110	IAmb	IAmb	07 43 45.4	
	comp=Z,93nm,1.2s						
SUSD	Miller	36.73	85	P	P	07 43 29.6	+0.7
	baz=310,SNR=13						
SUSD	Miller	36.73	85	P	P	07 43 29.2	+0.3
SUSD				pP	pP	07 43 41.4	-0.6
S22A	4UR Ranch, Cre	37.02	100	P	P	07 43 33.8	+2.1
	baz=317,SNR=54						
POHA	Pohakuloa	37.02	180	P	P	07 43 32.5	+0.8
Q24A	Divide	37.05	97	P	P	07 43 33.9	+1.9
	baz=316,SNR=59						
Q24A	Divide	37.05	97	IAmb	IAmb	07 43 35.0	
	comp=Z,73nm,0.8s						
113A	Mohawk Valley,	37.16	113	IAmb	IAmb	07 43 49.0	
	comp=Z,84nm,1.2s						
HMH	Humu'ula Sheep	37.17	180	P	P	07 43 34.8	+1.7
KHLU	Kahalu`u	37.19	181	IAmb	IAmb	07 43 35.0	
	comp=Z,119nm,0.9s						
NPH	North Pit	37.36	180	P	P	07 43 35.6	+1.1
NPH				IAmb	IAmb	07 43 36.8	
	comp=Z,103nm,0.9s						
OGNE	Ogallala	37.37	92	P	P	07 43 35.8	+1.4
	baz=314,SNR=16						
OGNE	Ogallala	37.37	92	IAmb	IAmb	07 43 51.5	
	comp=Z,94nm,0.8s						
W18A	Petrified Fore	37.42	106	P	P	07 43 37.0	+2.0
	baz=320						
KHU	Kahuku	37.53	181	P	P	07 43 37.5	+1.4
KHU				pmax	pmax		
	comp=Z,452nm,1.0s						
KHU	Kahuku	37.53	181	P	P	07 43 37.5	+1.4
SDCO	Great Sand Dun	37.74	99	P	P	07 43 39.6	+1.8
	baz=317,SNR=79						
YSS	Yuzh-Sakhalins	38.25	282⇑	eP	P	07 43 41.2	-0.4
YSS				e*SP	sP	07 44 00.4	-0.2
YSS				e		07 45 14.0	
YSS				e		07 46 00.8	
YSS				eS	S	07 49 28.6	-3.0
YSS				e		07 53 44.2	
YSS				pmax	pmax		
	comp=Z,500nm,3.0s						
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS				MLR	MLR		
	comp=Z,800nm,12.0s						
YSS				MLR	MLR		
	comp=N,400nm,18.0s						
YSS				MLR	MLR		
	comp=E,500nm,17.0s						
YSS	Yuzh-Sakhalins	38.25	282	P	P	07 43 41.6	+0.1
214A	Organ Pipe Nat	38.29	112	P	P	07 43 44.3	+2.1
	baz=323,SNR=31						
214A	Organ Pipe Nat	38.29	112	P	P	07 43 43.4	+1.2
214A				PcP	PcP	07 45 56.0	+0.7
KULLO	Kullorsuaq	38.34	25	i P	P	07 43 42.6	+0.6
KULLO				i		07 43 55.9	
KULLO				pmax	pmax		
	comp=Z,50nm,0.8s						
KULLO	Kullorsuaq	38.34	25	i P	P	07 43 42.6	+0.6
	comp=Z,50nm,0.8s						
KULLO				i		07 43 55.9	
KSCO	Kaye Shedlock'	38.40	95	P	P	07 43 44.9	+1.8
	baz=315,SNR=8.3						
YUK	Yuzh-Kuril'sk	38.42	276	eP	P	07 43 35.3	-7.8
YUK				eS	S	07 49 26.9	-7.4
YUK				eSSS	SSS	07 52 49.3	
YUK				pmax	pmax		
	comp=Z,756nm,1.7s						
YUK				pmax	pmax		
	comp=Z,440nm,1.3s						
YUK				pmax	pmax		
	comp=E,678nm,1.5s						
YUK				pmax	pmax		
	comp=N,330nm,1.4s						
ECSD	EROS Data Cent	38.47	84	P	P	07 43 43.5	-0.1
	baz=311,SNR=43						
EYMN	Ely	38.57	75	P	P	07 43 45.1	+0.7
	baz=308,SNR=31						
EYMN	Ely	38.57	75	P	P	07 43 44.8	+0.4
T25A	Trinidad	38.77	98	P	P	07 43 48.2	+1.8
	baz=317,SNR=58						
T25A	Trinidad	38.77	98	IAmb	IAmb	07 43 49.5	
	comp=Z,79nm,0.9s						
TUC	Tucson	39.05	110	P	P	07 43 50.9	+2.3
	baz=322						
TUC	Tucson	39.05	110	P	P	07 43 50.1	+1.5
TUC				*PP	pP	07 44 04.1	+2.3
TUC						07 45 58.7	
TUC				pmax	pmax		
	comp=Z,54nm,1.2s						
TUC	Tucson	39.05	110	P	P	07 43 50.1	+1.5
TUC				pP	pP	07 44 04.1	+2.3
TUC				PcP	PcP	07 45 58.6	+0.9
BGNE	Belgrade	39.19	88	P	P	07 43 50.6	+1.0
	baz=313,SNR=18						
GRNR	Gornyy	39.27	291⇑	iP	P	07 43 49.5	-0.6
GRNR				eS	S	07 49 48.8	+1.9
GRNR				pmax	pmax		
	comp=Z,110nm,1.0s						
GRNR				smax	smax		
	comp=N,5.0nm,1.3s						
GRNR				MLR	MLR		
	comp=Z,360nm,20.0s						
ANMO	Albuquerque	39.30	103	P	P	07 43 52.4	+1.5
	baz=319						
ANMO	Albuquerque	39.30	103d	iP	P	07 43 52.3	+1.5
ANMO				pmax	pmax		
	comp=Z,29nm,1.3s						
ANMO	Albuquerque	39.30	103	P	P	07 43 52.0	+1.2
	comp=Z,13nm,0.9s,baz=321,slow=8.9,SNR=69						
ANMO				PcP	PcP	07 45 59.9	+1.3
	comp=Z,20nm,1.0s,baz=260,slow=3.1,SNR=7.4						
ANMO				pPcP		07 46 14.8	
	comp=Z,7.1nm,0.8s,baz=259,slow=2.6,SNR=3.7						
ANMO	Albuquerque	39.30	103	P	P	07 43 52.0	+1.2
SPMN	Marine on St.	39.58	80	P	P	07 43 53.6	+0.8
	baz=310,SNR=43						
CBKS	Cedar Bluff	40.12	92	P	P	07 43 58.8	+1.4
	baz=315,SNR=22						
CBKS	Cedar Bluff	40.12	92	P	P	07 43 58.4	+1.0
CBKS				pmax	pmax		
	comp=Z,95nm,1.0s						
CBKS	Cedar Bluff	40.12	92	P	P	07 43 58.4	+1.0
CBKS				IAmb	IAmb	07 44 15.1	
	comp=Z,95nm,1.0s						
JKA	Kamikawa-asahi	40.14	279		PcP	07 46 02.0	+1.1
ASAJ	Asahikawa	40.15	279	P	P	07 43 57.5	0.0
	comp=Z,93nm,0.9s,baz=31,slow=3.5,SNR=27						
ASAJ				PcP	PcP	07 46 02.0	+1.1
	comp=Z,11nm,0.6s,baz=69,slow=3.3,SNR=4.3						
121A	Cookes Peak, D	40.45	106	P	P	07 44 02.5	+2.2
	baz=321,SNR=26						
121A	Cookes Peak, D	40.45	106	P	P	07 44 02.2	+1.9
D41A	Chassel	40.67	74	P	P	07 44 02.6	+0.8
D41A				IAmb	IAmb	07 44 04.0	
	comp=Z,124nm,0.9s						
G40A	Rib Lake	40.95	78	IAmb	IAmb	07 44 05.7	
	comp=Z,112nm,0.7s						
ERM	Erimo	41.24	276ce	P	P	07 44 06.6	+0.1
ERM				pmax	pmax		
	comp=Z,223nm,1.3s						
ERM	Erimo	41.24	276	P	P	07 44 06.2	-0.3
ERM				IAmb	IAmb	07 44 08.6	
	comp=Z,189nm,1.1s						
ERM				pP	pP	07 44 21.1	+1.3
SCIA	State Center	41.55	84	P	P	07 44 09.4	+0.3
	baz=313,SNR=8.7						
SCIA	State Center	41.55	84	IAmb	IAmb	07 44 10.7	
	comp=Z,112nm,1.1s						
HSIG		41.60	113	P	P	07 44 10.9	+1.3
HSIG				pP	pP	07 44 24.5	+1.6
KSU1	Kansas State U	41.64	89	P	P	07 44 10.3	+0.4
	baz=315,SNR=14						
F42A	Maple Grove Fa	41.74	76	IAmb	IAmb	07 44 12.7	
	comp=Z,194nm,0.8s						
AMTX	Amarillo	41.93	98	P	P	07 44 13.7	+1.3
	baz=319						
E43A	Lone Tree Farm	41.94	74	IAmb	IAmb	07 44 14.2	
	comp=Z,181nm,0.8s						
MSTX	Muleshoe	42.02	100	P	P	07 44 14.2	+1.1
	baz=319,SNR=50						
ZEA	Zeya	42.04	300	eP	P	07 44 11.7	-1.2
ZEA				ePPP	PPP	07 46 22.0	
ZEA				eS	S	07 50 26.0	-2.1
ZEA				eSSS	SSS	07 54 19.0	
ZEA				pmax	pmax		
	comp=N,36nm,1.2s						
ZEA				pmax	pmax		
	comp=E,50nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,140nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,400nm,4.0s						
ZEA				smax	smax		
	comp=E,500nm,14.0s						
ZEA				smax	smax		
	comp=N,300nm,13.0s						
ZEA				MLR	MLR		
	comp=E,1µm,18.0s						
ZEA				MLR	MLR		
	comp=Z,2µm,18.0s						
ZEA				MLR	MLR		
	comp=N,500nm,13.0s						
E44A	Grand Marais A	42.35	73	P	P	07 44 17.0	+1.4
	baz=310						
MNTX	Cornudas Mount	42.37	105	P	P	07 44 17.9	+2.0
	baz=322,SNR=45						
MNTX	Cornudas Mount	42.37	105	P	P	07 44 17.3	+1.4
JFWS	Jewell Farm	42.49	80	P	P	07 44 16.5	-0.2
	baz=312,SNR=42						
JFWS	Jewell Farm	42.49	80	IAmb	IAmb	07 44 17.6	
	comp=Z,182nm,0.7s						
L40A	Anamosa	42.53	82	IAmb	IAmb	07 44 18.1	
	comp=Z,192nm,0.8s						
I42A	Draeger Farm,	42.55	78	IAmb	IAmb	07 44 18.8	
	comp=Z,145nm,0.8s						
KLR	Kul'dur	42.59	292c	iP	P	07 44 17.2	-0.3
KLR				pmax	pmax		
	comp=Z,408nm,1.0s						
KLR	Kul'dur	42.59	292	P	P	07 44 17.2	-0.3
	comp=Z,266nm,0.9s,baz=52,slow=8.2,SNR=376						
TEY	Ternei	42.77	284⇑	iP	P	07 44 17.5	-1.4
TEY				pmax	pmax		
	comp=N,10.0nm,1.1s						
TEY				pmax	pmax		
	comp=E,20nm,1.1s						
TEY				pmax	pmax		
	comp=Z,40nm,1.1s						
H43A	Windswept, Lux	42.78	77	P	P	07 44 19.4	+0.4
D46A	Sault St. Mari	43.16	72	P	P	07 44 22.6	+0.4
	baz=310						
F45A	CMU Biological	43.18	74	P	P	07 44 22.8	+0.6
	baz=311,SNR=6.8						
E46A	Sault Ste Mari	43.37	72	IAmb	IAmb	07 44 25.4	
	comp=Z,166nm,0.8s						
L42A	Oliver, Polo	43.42	81	IAmb	IAmb	07 44 24.8	
	comp=Z,123nm,0.8s						
G45A	Suttons Bay	43.53	75	P	P	07 44 25.6	+0.5
	baz=312						
G45A	Suttons Bay	43.53	75	IAmb	IAmb	07 44 26.7	
	comp=Z,141nm,0.9s						
D47A	Chapleau	43.54	71	P	P	07 44 25.5	+0.3
	baz=310						
H45A	Beulah	43.60	75	P	P	07 44 26.1	+0.5
	baz=312						
WMOK	Wichita Mounta	43.62	96	P	P	07 44 27.0	+1.0
	baz=318,SNR=51						
K43A	Burlington	43.66	79	P	P	07 44 25.8	-0.4
G46A	Petoskey	43.76	74	P	P	07 44 27.8	+0.8
	baz=312,SNR=19						
SUMG	Summit	43.79	23	i P	P	07 44 28.0	+0.7
SUMG				i		07 44 41.3	
SUMG				pmax	pmax		
	comp=Z,65nm,0.8s						
SUMG	Summit	43.79	23	i P	P	07 44 28.0	+0.7
	comp=Z,65nm,0.8s						
SUMG				i		07 44 41.3	
SUMG	Summit	43.79	23	P	P	07 44 27.8	+0.5
SUMG				pP	pP	07 44 40.9	+0.3
SUMG				IAmb	IAmb	07 44 42.5	
	comp=Z,229nm,1.1s						
E47A	Iron Bridge	43.84	72	P	P	07 44 27.7	+0.1
	baz=311,SNR=10						
DAG	Danmarks Havn	43.87	13⇑	iP	P	07 44 27.4	0.0
DAG				pmax	pmax		
	comp=Z,180nm,1.0s						
DAG	Danmarks Havn	43.87	13⇑	iP	P	07 44 27.4	0.0
	comp=Z,175nm,1.0s						
I45A	Fountain	43.89	76	P	P	07 44 28.6	+0.6
	baz=312,SNR=6.5						
H46A	Fife Lake	44.10	75	P	P	07 44 30.2	+0.5
	baz=312,SNR=17						
D48A	Paudash Townsh	44.14	70	P	P	07 44 30.1	+0.2
	baz=311						
GLMI	Grayling	44.22	74	P	P	07 44 31.5	+0.8
	baz=312,SNR=16						
GLMI	Grayling	44.22	74	IAmb	IAmb	07 44 32.5	
	comp=Z,232nm,0.8s						
L44A	Lake County Fo	44.25	79	P	P	07 44 30.9	0.0
	baz=313,SNR=8.3						
L44A	Lake County Fo	44.25	79	IAmb	IAmb	07 44 32.0	
	comp=Z,207nm,0.9s						
KBS	Kingsbay	44.27	4c	iP	P	07 44 31.8	+1.2
KBS				pmax	pmax		
	comp=Z,569nm,1.3s						
KBS	Kingsbay	44.27	4	eP	P	07 44 32.5	+1.9
KBS	Kingsbay	44.27	4	P	P	07 44 32.1	+1.5
KBS				IAmb	IAmb	07 44 33.2	
	comp=Z,125nm,1.0s						
D49A	Beulah Townshi	44.30	69	P	P	07 44 31.6	+0.3
	baz=311						
I46A	Reed City	44.37	76	P	P	07 44 32.6	+0.7
	baz=312,SNR=18						
TUL1	Leonard	44.39	92	P	P	07 44 32.3	+0.2
	baz=317,SNR=19						
G47A	Hillman	44.39	73	P	P	07 44 32.1	+0.1
	baz=312						
E48A	Lockeyer	44.41	71	P	P	07 44 32.7	+0.6
	baz=311,SNR=10						
SFJD	Kangerlussuaq	44.47	33	i P	P	07 44 33.0	+0.7
SFJD	Kangerlussuaq	44.47	33	i P	P	07 44 33.0	+0.7
SFJD	Kangerlussuaq	44.47	33	P	P	07 44 31.7	-0.6
SFJD				pP	pP	07 44 46.4	+0.7
SFJD				IAmb	IAmb	07 44 47.9	
	comp=Z,114nm,0.9s						
MATQ	Matagami	44.57	64	P	P	07 44 33.2	-0.1

baz=310,SNR=17
H47A Mio 44.59 74 P P 07 44 34.1 +0.5
baz=312,SNR=9.1
HDIL Hopedale 44.62 82 P P 07 44 33.9 0.0
baz=314
J46A Howard City 44.67 77 P P 07 44 34.7 +0.5
baz=313,SNR=14
M44A Midewin, Midew 44.73 80 IAmb IAmb 07 44 35.8
comp=Z,195nm,0.8s
ABTX Abilene, Hawle 44.74 98 P P 07 44 35.8 +0.8
baz=320,SNR=52
ABTX Abilene, Hawle 44.74 98 IAmb IAmb 07 44 36.9
comp=Z,109nm,0.9s
I47A Gladwin 44.82 75 P P 07 44 36.3 +0.9
baz=312,SNR=13
I47A Gladwin 44.82 75 IAmb IAmb 07 44 37.2
comp=Z,90nm,0.8s
F49A Sandfield 44.95 72 P P 07 44 36.8 +0.4
baz=312,SNR=5.9
H48A Harrisville 44.99 74 P P 07 44 37.4 +0.7
baz=312
H48A Harrisville 44.99 74 IAmb IAmb 07 44 38.4
comp=Z,129nm,1.1s
K46A Dorr 45.05 77 P P 07 44 37.3 +0.1
baz=313,SNR=13
I48A Sherman Twp 45.13 74 P P 07 44 38.8 +0.9
baz=313,SNR=16
TXAR Lajitas Array 45.13 105 P P 07 44 39.7 +1.5
comp=Z,38nm,0.7s,baz=313,slow=6.0,SNR=257
TXAR PcP **PcP** 07 46 18.2 +0.3
comp=Z,8.3nm,0.8s,baz=205,slow=1.1,SNR=4.3
TXAR LR LR 08 02 56.5
comp=Z,654nm,18.4s,baz=0.0,slow=35
P43A Skaggs, Pawnee 45.14 83 P P 07 44 37.8 -0.2
SPA0 Spitsbergen Ar 45.15 2 *eP* P 07 44 37.7 +0.1
SPA0 Spitsbergen Ar 45.15 2 IAmb IAmb 07 44 39.4
comp=Z,236nm,1.1s
SPITS Spitsbergen Ar 45.15 2 P P 07 44 37.4 -0.2
comp=Z,14nm,0.4s,baz=27,slow=5.8,SNR=194
D50A G1974 Best Tow 45.15 69 P P 07 44 38.3 +0.2
baz=311,SNR=23
E50A Wahnapitae 45.18 70 P P 07 44 38.5 +0.2
baz=312,SNR=10
J47A Sunmer 45.19 76 P P 07 44 38.9 +0.6
baz=313,SNR=19
J47A Sunmer 45.19 76 IAmb IAmb 07 44 39.9
comp=Z,136nm,0.8s
L46A Eue Claire 45.24 78 P P 07 44 39.1 +0.4
baz=314,SNR=18
CCM Cathedral Cave 45.33 86 P P 07 44 38.9 -0.7
baz=316
CCM Cathedral Cave 45.33 86 P P 07 44 38.6 -0.9
CCM 07 46 18.3
CCM pmax pmax
comp=Z,57nm,0.9s
CCM Cathedral Cave 45.33 86 P P 07 44 38.6 -0.9
CCM PcP **PcP** 07 46 18.3 0.0
LSQQ Lebel-sur-Quev 45.35 65 P P 07 44 39.5 -0.1
baz=311
O44A Mansfield 45.36 82 IAmb IAmb 07 44 40.5
comp=Z,107nm,0.5s
BOD Bodaibo 45.43 311 *eP* P 07 44 38.7 -1.3
BOD pmax pmax
comp=Z,139nm,1.0s
D51A Lot 18 Range I 45.44 68 P P 07 44 40.6 +0.3
baz=312,SNR=17
SLM Saint Louis 45.47 85 IAmb IAmb 07 44 41.6
comp=Z,107nm,1.1s
K47A Vermontville 45.48 77 P P 07 44 41.0 +0.3
baz=313,SNR=15
U40A Yellville 45.68 89 P P 07 44 41.5 -0.8
baz=317,SNR=25
J48A Bridge Port 45.70 75 P P 07 44 42.7 +0.3
baz=313,SNR=11
J48A Bridge Port 45.70 75 IAmb IAmb 07 44 43.8
comp=Z,85nm,0.8s
E51A G1948 Merrick 45.75 69 P P 07 44 42.8 0.0
baz=312,SNR=15
I49A Point Hope 45.77 74 P P 07 44 43.5 +0.6
baz=313,SNR=6.2
I49A Point Hope 45.77 74 P P 07 44 43.0 +0.1
I49A pP **pP** 07 44 56.2 -0.2
USRK Ussuriysk Ar. 45.77 287 P P 07 44 41.5 -1.5
comp=Z,7.2nm,0.7s,baz=54,slow=8.5,SNR=13
USRK PcP **PcP** 07 46 20.6 +0.9
comp=Z,3.1nm,0.5s,baz=27,slow=3.5,SNR=7.7
USRK pPcP 07 46 34.8
comp=Z,4.0nm,0.5s,baz=23,slow=3.2,SNR=6.0
USRK LR LR 08 03 56.4
comp=Z,551nm,21.2s,baz=48,slow=36
L47A Sherwood 45.85 78 P P 07 44 43.6 0.0
baz=314,SNR=36
K48A Perry 45.86 76 P P 07 44 44.1 +0.5
baz=314,SNR=20
F51A Arnstein 45.94 70 P P 07 44 44.0 -0.2
baz=312,SNR=7.9
SFIN Lafayette 45.94 81 P P 07 44 44.7 +0.3
baz=315,SNR=29
J49A Marlette 46.00 75 P P 07 44 45.3 +0.6
baz=313,SNR=15
D52A ZEK Kipawa Sen 46.01 68 P P 07 44 45.0 +0.3
baz=312,SNR=12
W39A Magazine 46.02 91 P P 07 44 45.1 +0.1
baz=318,SNR=18
W39A Magazine 46.02 91 IAmb IAmb 07 44 46.2
comp=Z,110nm,1.2s
M47A Cromwell 46.05 79 P P 07 44 45.3 +0.1
baz=314,SNR=19
CHGQ Chibougamau 46.08 62 P P 07 44 44.9 -0.4
baz=311
K49A Clarkson 46.23 76 P P 07 44 47.3 +0.7
baz=314,SNR=21
NRIK Noril'sk 46.23 334 P P 07 44 46.1 -0.1
comp=Z,146nm,1.0s,baz=55,slow=6.5,SNR=91
NRIK LR LR 08 06 49.6
comp=Z,680nm,19.8s,baz=44,slow=40
L48A N Adams 46.28 77 P P 07 44 47.2 +0.2
baz=314,SNR=30
HSPB Hornsund (broa 46.30 3 *eP* P 07 44 46.8 +0.2
D53A Lac Vacive, Po 46.30 67 P P 07 44 47.3 +0.3
baz=312,SNR=22
D53A Lac Vacive, Po 46.30 67 IAmb IAmb 07 44 48.4
comp=Z,107nm,0.9s
JCT Junction City 46.31 100 P P 07 44 48.4 +1.0
baz=321,SNR=74
F52A Sundridge 46.34 70 P P 07 44 47.4 0.0
baz=312,SNR=14
E52A Mattawa 46.35 69 P P 07 44 47.4 -0.1
baz=312,SNR=11
N47A Urbana 46.35 79 P P 07 44 47.2 -0.3
baz=315,SNR=58
SCHQ Schefferville 46.35 53 P P 07 44 47.4 0.0
comp=Z,51nm,0.7s,baz=310,slow=7.3,SNR=79
SCHQ LR LR 08 05 24.5
comp=Z,1μm,18.4s,baz=304,slow=38
SCHQ Schefferville 46.35 53 IAmb IAmb 07 44 48.6
comp=Z,61nm,0.7s
WHTX Lake Whitney, 46.42 97 P P 07 44 48.9 +0.8
baz=320,SNR=8.2
WHTX Lake Whitney, 46.42 97 P P 07 44 48.5 +0.4
WHTX IAmb IAmb 07 44 50.2
comp=Z,74nm,0.9s
P46A Rosedale 46.42 81 P P 07 44 48.4 +0.3
baz=315,SNR=55
M48A Edgerton 46.45 78 P P 07 44 48.2 -0.1
baz=314,SNR=12
L49A Milan 46.53 76 P P 07 44 49.5 +0.6
baz=314,SNR=24
VLA Vladivostok 46.57 286 *d iP* P 07 44 49.8 +0.6
VLA pmax pmax
comp=Z,82nm,1.0s
MIAR Mount Ida 46.62 91 P P 07 44 50.0 +0.3
baz=318,SNR=42
MIAR Mount Ida 46.62 91 P P 07 44 49.5 -0.2
MIAR 07 46 22.2
MIAR pmax pmax
comp=Z,101nm,1.0s
MIAR Mount Ida 46.62 91 P P 07 44 49.5 -0.2
MIAR IAmb IAmb 07 44 51.2
comp=Z,101nm,1.0s
MIAR PcP **PcP** 07 46 22.2 -0.7
K50A Casco 46.67 75 P P 07 44 50.4 +0.4
baz=314,SNR=10
K50A Casco 46.67 75 P P 07 44 49.7 -0.4
K50A IAmb IAmb 07 44 51.4
comp=Z,105nm,0.8s
K50A pP **pP** 07 45 01.9 -1.6

S44A Carbondale 46.68 85 P P 07 44 50.0 -0.2
baz=316,SNR=30
SIUC Southern Illin 46.69 85 IAmb IAmb 07 44 51.1
comp=Z,180nm,1.3s
N48A Decatur 46.72 79 P P 07 44 50.1 -0.3
baz=315,SNR=56
MDJ Mudanjiang 46.74 289 P P 07 44 49.5 -1.1
MDJ pP pP 07 44 57.7 -6.3
MDJ S **S** 07 51 37.4 +0.8
MDJ pmax pmax
comp=Z,86nm,0.9s
MDJ pmax pmax
comp=Z,330nm,4.8s
MDJ LR LR
comp=Z,1μm,19.2s
MDJ LR LR
comp=Z,660nm,26.6s
MDJ LR LR
comp=Z,820nm,26.3s
MDJ Mudanjiang 46.74 289 IAmb IAmb 07 44 50.9
comp=Z,75nm,1.0s
D54A Lac Fusel, La 46.78 67 P P 07 44 50.7 -0.1
baz=312,SNR=16
E53A Dumoine, Ponti 46.79 68 P P 07 44 51.0 +0.1
baz=312
I51A Listowel 46.81 73 P P 07 44 52.1 +1.0
baz=313,SNR=16
H52A Wyevale 46.83 71 P P 07 44 51.4 +0.2
baz=313,SNR=10
M49A Liberty Center 46.86 77 P P 07 44 51.6 +0.1
baz=314,SNR=20
W41B Gary Mavity, V 46.88 90 P P 07 44 51.2 -0.5
baz=318,SNR=9.3
ALGO Algonquin Park 46.88 69 P P 07 44 51.8 +0.2
baz=313,SNR=9.5
HOPEN Hopen 46.92 360 *eP* P 07 44 51.7 +0.1
E54A Lac Daplat, Po 47.00 68 P P 07 44 52.5 0.0
baz=313
X40A Basin Creek Fa 47.07 91 P P 07 44 52.9 -0.3
baz=318,SNR=11
O48A Farmland 47.08 79 P P 07 44 52.5 -0.7
baz=315,SNR=62
L50A Kingsville 47.08 76 P P 07 44 53.4 +0.2
baz=314,SNR=7.4
N49A Columbus Grove 47.13 78 P P 07 44 53.5 -0.1
baz=315,SNR=59
G53A Haliburton 47.15 70 P P 07 44 54.0 +0.3
baz=313,SNR=23
G54A Lake Saint Pet 47.24 69 P P 07 44 54.6 +0.1
baz=313,SNR=18
435B Jarrell 47.27 98 P P 07 44 56.1 +1.3
baz=321,SNR=37
K51A Iona Station 47.30 74 P P 07 44 55.7 +0.8
baz=314,SNR=6.7
MSHR Mys Shultsa 47.33 285 *c iP* P 07 44 55.2 +0.1
M50A Fremont 47.41 77 P P 07 44 55.6 -0.1
baz=315,SNR=5.7
M50A Fremont 47.41 77 P P 07 44 55.7 -0.1
D55A Sainte-Anne-du 47.47 66 P P 07 44 56.2 0.0
baz=313,SNR=24
P48A Milroy 47.50 80 P P 07 44 56.0 -0.5
baz=316,SNR=83
H53A Bobcaygeon 47.55 70 P P 07 44 57.1 +0.2
baz=314,SNR=10
E55A Montcerf-Lytto 47.56 67 P P 07 44 56.8 0.0
baz=313,SNR=5.2
O49A Covington 47.57 79 P P 07 44 56.5 -0.6
baz=315,SNR=15
O49A Covington 47.57 79 IAmb IAmb 07 44 57.5
comp=Z,63nm,0.7s
K52A Tillsonburg 47.68 74 P P 07 44 58.3 +0.4
baz=314,SNR=8.6
Q48A North Vernon 47.71 81 P P 07 44 57.8 -0.4
baz=316,SNR=42
N50A Nevada 47.80 77 P P 07 44 58.8 0.0
baz=315,SNR=19
D56A ZEC Mazanza, M 47.81 66 P P 07 44 58.7 -0.1
baz=313,SNR=32
MJAR Matsushiro Arr 47.82 274 P P 07 44 58.7 -0.4
comp=Z,5.0nm,0.6s,baz=8.3,slow=5.2,SNR=16
MJAR LR LR 08 04 20.1
comp=Z,560nm,21.8s,baz=80,slow=35
MAJO Matsushiro 47.82 274 *de* P 07 44 58.8 -0.3
MAJO pmax pmax
comp=Z,50nm,1.0s
MAJO Matsushiro 47.82 274 P P 07 44 58.7 -0.4
MAT Matsushiro 47.82 274 P P 07 44 58.9 -0.2
MAT S **S** 07 51 54.0 +1.9
P49A Miami Univ. Ec 47.83 80 P P 07 44 58.2 -0.9
baz=316,SNR=35
F55A Otter Lake 47.83 68 P P 07 44 58.9 -0.1
baz=313,SNR=8.1
WCI Wyandotte Cave 47.91 82 P P 07 44 59.6 -0.1
baz=316
WCI Wyandotte Cave 47.91 82 P P 07 44 59.3 -0.4
WCI *PP **pP** 07 45 13.0 -0.3
WCI 07 46 27.2
WCI pmax pmax
comp=Z,88nm,0.9s
WCI Wyandotte Cave 47.91 82 P P 07 44 59.3 -0.4
WCI IAmb IAmb 07 45 00.7
comp=Z,88nm,0.8s
WCI pP **pP** 07 45 13.0 -0.3
WCI PcP **PcP** 07 46 27.2 -0.3
M51A Elyria 47.92 76 P P 07 44 59.4 -0.3
baz=315
O50A Cable 47.99 78 P P 07 45 00.2 -0.1
baz=315,SNR=28
Z41A Richland Creek 48.01 92 P P 07 45 01.1 +0.6
baz=319,SNR=7.9
E56A St. Veronique 48.01 66 P P 07 45 00.2 -0.2
baz=313,SNR=8.1
G55A Calabogie 48.04 69 P P 07 45 00.7 +0.1
baz=314,SNR=22
DELO Deloro Mine 48.09 70 IAmb IAmb 07 45 02.5
comp=Z,96nm,1.1s
N51A Ashland 48.11 77 P P 07 45 00.8 -0.4
baz=315,SNR=10
N51A Ashland 48.11 77 P P 07 45 00.6 -0.6
N51A IAmb IAmb 07 45 01.9
comp=Z,78nm,0.8s
N51A pP **pP** 07 45 13.5 -1.2
Q49A Aurora 48.11 80 P P 07 45 00.7 -0.6
baz=316,SNR=33
X43A Marvell 48.12 89 P P 07 45 01.3 0.0
baz=318,SNR=7.2
NATX Nacogdoches 48.12 95 P P 07 45 02.4 +1.0
baz=320,SNR=15
NATX Nacogdoches 48.12 95 IAmb IAmb 07 45 03.5
comp=Z,117nm,0.9s
MET Memphis--Engin 48.19 88 P P 07 45 01.9 0.0
M52A Chesterland 48.21 75 P P 07 45 01.9 -0.1
baz=315,SNR=8.0
M52A Chesterland 48.21 75 P P 07 45 02.2 +0.2
M52A IAmb IAmb 07 45 03.1
comp=Z,95nm,0.8s
M52A pP **pP** 07 45 14.8 -0.7
833A Chaparral WMA, 48.22 102 P P 07 45 03.4 +1.2
baz=322,SNR=14
833A Chaparral WMA, 48.22 102 IAmb IAmb 07 45 04.6
comp=Z,69nm,1.0s
D57A Chemin Vers le 48.26 65 P P 07 45 02.1 -0.3
baz=313
I55A Frankford 48.27 70 P P 07 45 02.7 +0.3
baz=314,SNR=8.3
ACSO Alum Creek Sta 48.27 78 P P 07 45 02.4 -0.1
baz=315,SNR=22
ACSO Alum Creek Sta 48.27 78 IAmb IAmb 07 45 03.4
comp=Z,89nm,0.8s
P50A Jamestown 48.27 79 P P 07 45 02.2 -0.3
baz=316,SNR=42
H55A Tweed 48.29 70 P P 07 45 02.9 +0.4
baz=314,SNR=14
T47A Sharon Grove 48.37 84 P P 07 45 03.4 +0.2
baz=317,SNR=60
J54A Appleton 48.42 72 P P 07 45 04.2 +0.6
baz=314,SNR=12
J54A Appleton 48.42 72 P P 07 45 03.5 -0.1
J54A pP **pP** 07 45 17.0 -0.1
R49A Shelbyville 48.48 81 P P 07 45 03.8 -0.3
baz=316,SNR=21
R49A Shelbyville 48.48 81 IAmb IAmb 07 45 05.0
comp=Z,87nm,1.1s
L53A Girard 48.50 74 P P 07 45 04.5 +0.3
baz=315,SNR=11
HIA Hailar 48.51 299 P P 07 45 03.0 -1.2
HIA pmax pmax
comp=Z,73nm,1.1s
HIA Hailar 48.51 299 P P 07 45 03.0 -1.2
HIA IAmb IAmb 07 45 04.6
comp=Z,73nm,1.1s
ERPA Erie 48.53 74 P P 07 45 04.8 +0.4
baz=315,SNR=18
O51A Pataskala 48.53 78 P P 07 45 04.3 -0.2
baz=316,SNR=23
E57A Chemin Saint G 48.55 66 P P 07 45 04.3 -0.3
baz=314,SNR=27
N52A McGinn's Farm, 48.55 76 P P 07 45 04.1 -0.5
baz=315,SNR=13
LATQ La Tuque 48.56 64 P P 07 45 04.2 -0.4
baz=313
WVT Waverly 48.60 85 P P 07 45 05.4 +0.4
baz=317
WVT Waverly 48.60 85 P P 07 45 04.8 -0.2
WVT *PP **pP** 07 45 18.2 -0.4
WVT pmax pmax
comp=Z,152nm,0.9s
WVT Waverly 48.60 85 P P 07 45 04.8 -0.2
WVT pP **pP** 07 45 18.2 -0.4
M53A WI Miller and 48.64 75 P P 07 45 05.5 +0.2
baz=315,SNR=20
F57A Harrington 48.69 67 P P 07 45 05.6 +0.1
baz=314,SNR=6.1
SCO Scoresbysund 48.69 19 *i* P P 07 45 06.0 +0.7
SCO *i* 07 45 19.8
SCO pmax pmax
comp=Z,42nm,1.3s
SCO Scoresbysund 48.69 19 *i* P P 07 45 06.0 +0.7
comp=Z,42nm,1.3s
SCO *i* 07 45 19.8
SCO Scoresbysund 48.69 19 IAmb IAmb 07 45 21.1
comp=Z,54nm,0.9s
D58A Chemin du LacG 48.71 64 P P 07 45 05.4 -0.3
baz=313,SNR=13
Q50A Georgetown 48.73 80 P P 07 45 05.8 -0.2
baz=316,SNR=31
H56A Elgin 48.74 69 P P 07 45 06.2 +0.2
baz=314,SNR=21
P51A Williamsport 48.76 78 P P 07 45 05.9 -0.3
baz=316,SNR=17
P51A Williamsport 48.76 78 IAmb IAmb 07 45 06.9
comp=Z,114nm,1.1s
S49A Springfield 48.78 82 P P 07 45 06.2 -0.3
baz=317,SNR=20
L54A Sinclairville 48.80 73 P P 07 45 07.0 +0.4
baz=315,SNR=28
J55A Hilton 48.86 71 P P 07 45 07.3 +0.3
baz=314,SNR=11
J55A Hilton 48.86 71 IAmb IAmb 07 45 08.3
comp=Z,110nm,0.8s
K54A Basiliko Farm, 48.86 72 P P 07 45 07.4 +0.4
baz=315,SNR=21
HKT Hockley 48.87 97 P P 07 45 08.4 +1.3
HKT pmax pmax
comp=Z,106nm,1.4s
HKT Hockley 48.87 97 P P 07 45 08.4 +1.3
HKT IAmb IAmb 07 45 09.9
comp=Z,106nm,1.4s
OXF Oxford 48.93 88 P P 07 45 07.8 +0.2
baz=318,SNR=38
Q51A Peebles 48.94 79 P P 07 45 07.7 +0.1
baz=316,SNR=56
R50A Paris 48.94 81 P P 07 45 07.8 +0.1
baz=316,SNR=97
O52A Adamsville 48.97 77 P P 07 45 07.5 -0.3
baz=316,SNR=21
N53A Lisbon 49.01 76 P P 07 45 07.9 -0.3
baz=315,SNR=26
N53A Lisbon 49.01 76 IAmb IAmb 07 45 08.9
comp=Z,121nm,0.8s
E58A La Victoria 49.01 65 P P 07 45 07.5 -0.6
baz=314,SNR=11
G57A Newington 49.03 68 P P 07 45 08.0 -0.2
baz=314,SNR=18
K55A Perry 49.11 72 P P 07 45 09.1 +0.2
baz=315,SNR=18
M54A Oil Creek Stat 49.13 74 P P 07 45 09.2 +0.1
baz=315,SNR=22
T49A Edmonton 49.14 83 P P 07 45 09.3 +0.1
baz=317,SNR=21
T49A Edmonton 49.14 83 IAmb IAmb 07 45 10.2
comp=Z,64nm,0.9s
P52A Corning 49.15 78 P P 07 45 08.8 -0.4
baz=316,SNR=13
O53A New Philadelph 49.20 76 P P 07 45 09.3 -0.4
baz=316,SNR=13
IVI Ivigtut 49.25 38 IAmb IAmb 07 45 11.5
comp=Z,76nm,1.0s
H57A Richville 49.27 68 P P 07 45 10.1 0.0
baz=314,SNR=10
L55A Hinsdale 49.30 73 P P 07 45 10.8 +0.4
baz=315,SNR=32
R51A Hillsboro 49.33 80 P P 07 45 11.1 +0.4
baz=316,SNR=240
S50A Richmond 49.34 81 P P 07 45 10.8 +0.1
baz=317,SNR=58
N54A Moraine State 49.35 75 P P 07 45 10.6 -0.1
baz=316,SNR=20
N54A Moraine State 49.35 75 IAmb IAmb 07 45 11.6
comp=Z,80nm,0.8s
J56A Wolcott 49.35 71 P P 07 45 10.8 +0.1
baz=315
J56A Wolcott 49.35 71 IAmb IAmb 07 45 12.0
comp=Z,85nm,0.9s
V48A Smith Brothers 49.44 85 P P 07 45 11.8 +0.3
baz=318,SNR=46
V48A Smith Brothers 49.44 85 IAmb IAmb 07 45 12.9
comp=Z,149nm,1.1s
U49A Red Boiling Sp 49.44 83 P P 07 45 11.6 +0.1
baz=317,SNR=29
CN2 Changchun 49.46 291 *e*P P 07 45 10.8 -0.7
CN2 *e*pP pP 07 45 23.2 -1.8
CN2 *e*S **S** 07 52 14.3 -0.6
CN2 *e*SS **SS** 07 55 43.2 -3.4
CN2 pmax pmax
comp=Z,470nm,3.0s
CN2 LR LR
comp=Z,500nm,19.0s
CN2 LR LR
comp=Z,500nm,19.0s
CN2 LR LR
comp=Z,600nm,20.0s
G58A Ormstown 49.47 67 P P 07 45 11.2 -0.4
baz=314,SNR=28
CIT Chita 49.48 306 *e*P P 07 45 12.1 +0.4
CIT *e* 07 45 23.9
CIT *e* 07 45 33.8
CIT pmax pmax
comp=Z,258nm,1.4s
I57A Carthage 49.50 69 P P 07 45 11.9 0.0
baz=315,SNR=17
K56A Middlesex 49.52 71 P P 07 45 12.4 +0.4
baz=315,SNR=16
Q52A Bidwell 49.56 78 P P 07 45 11.8 -0.6
baz=316,SNR=20
LONY Lake Ozonia 49.57 68 P P 07 45 12.0 -0.4
baz=314,SNR=15
LONY Lake Ozonia 49.57 68 IAmb IAmb 07 45 13.1
comp=Z,56nm,0.9s
T50A Nancy 49.58 82 P P 07 45 12.6 0.0
baz=317,SNR=30
F59A Saint Guilaume 49.62 65 P P 07 45 12.7 0.0
baz=314,SNR=9.6
M55A Ridgway 49.63 74 P P 07 45 13.2 +0.2
baz=315,SNR=31
M55A Ridgway 49.63 74 P P 07 45 12.7 -0.3
P53A Whipple 49.66 77 P P 07 45 12.7 -0.4
baz=316,SNR=20
J57A Williamstown 49.70 70 P P 07 45 13.5 +0.2
baz=315,SNR=14
J57A Williamstown 49.70 70 P P 07 45 13.3 0.0
J57A IAmb IAmb 07 45 14.7
comp=Z,92nm,0.9s
L56A Greenwood 49.79 72 P P 07 45 14.6 +0.4
baz=315,SNR=53
D60A Saint Jean D'O 49.80 63 P P 07 45 13.7 -0.3
baz=314,SNR=13
S51A Beattyville 49.81 81 P P 07 45 14.3 0.0
baz=317,SNR=43
R52A Catlettsburg 49.81 79 P P 07 45 14.0 -0.3
baz=317,SNR=8.6
K57A Scipio Center 49.91 71 P P 07 45 15.2 +0.2
baz=315,SNR=7.5
H58A Gabriels 49.92 68 P P 07 45 14.8 -0.2

	baz=315,SNR=14						
E60A	Ste Agathe de	49.92	64	P	P	07 45 14.8	-0.2
	baz=314,SNR=9.2						
V49A	McMinnville	49.92	84	P	P	07 45 15.2	+0.1
	baz=318,SNR=61						
FRNY	Flat Rock	49.93	67	IAmb	IAmb	07 45 15.4	
	comp=Z,80nm,0.8s						
M56A	Emporium	49.93	73	P	P	07 45 15.4	+0.3
	baz=316,SNR=27						
F60A	Warwick	49.95	65	P	P	07 45 14.6	-0.6
	baz=314,SNR=13						
D61A	St Aubert, Com	49.96	63	P	P	07 45 15.1	-0.2
	baz=314,SNR=7.3						
G59A	Clarenceville	49.96	66	P	P	07 45 15.2	-0.1
	baz=315,SNR=11						
N55A	Marion Center	50.01	74	P	P	07 45 15.6	-0.2
	baz=316,SNR=20						
H59A	Cadyville	50.01	67	P	P	07 45 15.4	-0.3
	baz=315,SNR=33						
U50A	Jamestown	50.02	83	P	P	07 45 15.8	-0.1
	baz=318,SNR=24						
I58A	Old Forge	50.03	69	P	P	07 45 16.1	+0.2
	baz=315,SNR=16						
Q53A	Leroy	50.04	78	P	P	07 45 15.7	-0.3
	baz=316,SNR=11						
VBMS	Vicksburg	50.05	91	P	P	07 45 17.0	+0.9
	baz=320,SNR=21						
S52A	Salyersville	50.06	80	P	P	07 45 16.2	0.0
	baz=317,SNR=7.6						
P54A	Burton	50.06	76	P	P	07 45 15.8	-0.4
	baz=316,SNR=32						
J58A	Remsen	50.10	69	P	P	07 45 16.8	+0.4
	baz=315,SNR=32						
T51A	Gray	50.11	81	P	P	07 45 16.5	0.0
	baz=317,SNR=44						
R53A	Hurricane	50.19	79	P	P	07 45 17.0	-0.1
	baz=317,SNR=14						
R53A	Hurricane	50.19	79	IAmb	IAmb	07 45 18.1	
	comp=Z,148nm,1.2s						
W49A	Belvidere	50.20	85	P	P	07 45 17.2	-0.1
	baz=318,SNR=33						
NCB	Newcomb	50.21	68	IAmb	IAmb	07 45 18.6	
	comp=Z,96nm,1.1s						
O55A	Ligonier	50.25	75	P	P	07 45 17.2	-0.5
	baz=316,SNR=19						
L57A	Andrews Acres	50.26	72	P	P	07 45 18.0	+0.4
	baz=316,SNR=28						
N56A	West Decatur	50.27	74	P	P	07 45 17.9	+0.1
	baz=316,SNR=31						
X48A	Hartselle	50.27	86	P	P	07 45 17.5	-0.3
	baz=318,SNR=43						
X48A	Hartselle	50.27	86	IAmb	IAmb	07 45 18.7	
	comp=Z,129nm,1.1s						
Q54A	Coxs Mills	50.32	77	P	P	07 45 17.7	-0.4
	baz=316,SNR=18						
Q54A	Coxs Mills	50.32	77	IAmb	IAmb	07 45 18.8	
	comp=Z,55nm,0.7s						
K58A	Earlville	50.34	70	P	P	07 45 18.5	+0.3
	baz=315,SNR=8.1						
K58A	Earlville	50.34	70	IAmb	IAmb	07 45 19.8	
	comp=Z,58nm,0.9s						
E61A	Lac Etchemin	50.35	63	P	P	07 45 17.9	-0.4
	baz=315,SNR=6.7						
MCWV	Mont Chateau	50.36	76	P	P	07 45 18.1	-0.3
	baz=316,SNR=24						
MCWV	Mont Chateau	50.36	76	IAmb	IAmb	07 45 19.2	
	comp=Z,67nm,0.8s						
G60A	Masonville	50.37	66	P	P	07 45 18.4	-0.1
	baz=315,SNR=10						
F61A	St Evariste	50.42	64	P	P	07 45 18.6	-0.2
	baz=315,SNR=7.3						
J59A	Piesco	50.43	69	P	P	07 45 18.9	0.0
	baz=315,SNR=10						
J59A	Piesco	50.43	69	IAmb	IAmb	07 45 20.0	
	comp=Z,79nm,0.9s						
V50A	Pikevile	50.43	83	P	P	07 45 18.9	-0.1
	baz=318,SNR=26						
P55A	Reedsville	50.48	76	P	P	07 45 19.1	-0.2
	baz=316,SNR=20						
U51A	La Follette	50.50	82	P	P	07 45 19.4	-0.1
	baz=318,SNR=28						
I59A	Olmsteadville	50.52	68	P	P	07 45 19.6	+0.1
	baz=315,SNR=23						
T52A	Hallie	50.52	81	P	P	07 45 20.0	+0.3
	baz=317,SNR=38						
BINY	Binghamton	50.57	71	P	P	07 45 20.4	+0.5
	baz=316,SNR=18						
H60A	Morristown	50.57	67	P	P	07 45 19.6	-0.4
	baz=315,SNR=7.6						
M57A	Sunshine Farm,	50.59	73	P	P	07 45 20.3	+0.2
	baz=316,SNR=16						
M57A	Sunshine Farm,	50.59	73	IAmb	IAmb	07 45 21.4	
	comp=Z,97nm,0.7s						
O56A	Blue Knob Stat	50.60	74	P	P	07 45 19.9	-0.4
	baz=316,SNR=18						
O56A	Blue Knob Stat	50.60	74	IAmb	IAmb	07 45 20.9	
	comp=Z,109nm,0.8s						
TZTN	Tazewell	50.63	81	P	P	07 45 20.6	+0.1
	baz=318,SNR=31						
TZTN	Tazewell	50.63	81	IAmb	IAmb	07 45 21.8	
	comp=Z,126nm,1.0s						
G61A	St-Isidore-de-	50.65	65	P	P	07 45 20.2	-0.3
	baz=315,SNR=7.7						
W50A	Signal Mountai	50.67	84	P	P	07 45 20.8	-0.1
	baz=318,SNR=40						
E62A	Clayton Lake	50.69	63	P	P	07 45 20.4	-0.4
	baz=315						
E62A	Clayton Lake	50.69	63	IAmb	IAmb	07 45 21.7	
	comp=Z,115nm,1.3s						
SSPA	Standing Stone	50.69	74	P	P	07 45 20.8	-0.1
	baz=316						
SSPA	Standing Stone	50.69	74	P	P	07 45 20.9	0.0
VT1	Waterbury	50.70	67	IAmb	IAmb	07 45 21.9	
	comp=Z,85nm,1.0s						
Q55A	Buckhannon	50.71	77	P	P	07 45 21.0	-0.2
	baz=317,SNR=13						
K59A	Cooperstown	50.74	70	P	P	07 45 21.6	+0.3
	baz=316,SNR=28						
V51A	Loudon	50.74	83	P	P	07 45 21.2	-0.2
	baz=318,SNR=15						
V51A	Loudon	50.74	83	IAmb	IAmb	07 45 22.4	
	comp=Z,84nm,1.1s						
L58A	Harry Jones Me	50.75	71	P	P	07 45 21.9	+0.6
	baz=316,SNR=18						
I60A	Shoreham	50.78	68	P	P	07 45 21.7	+0.2
	baz=315						
N57A	Milroy	50.78	73	P	P	07 45 21.8	+0.2
	baz=316,SNR=25						
R54A	Victor	50.82	78	P	P	07 45 21.7	-0.3
	baz=317,SNR=9.6						
U52A	Thorn Hill	50.84	81	P	P	07 45 22.4	+0.2
	baz=318,SNR=30						
T53A	Wise	50.86	80	P	P	07 45 22.6	+0.3
	baz=317,SNR=47						
CPCT	Cooper Cave	50.91	83	IAmb	IAmb	07 45 23.5	
	comp=Z,72nm,1.0s						
M58A	Price's Panora	50.91	72	P	P	07 45 22.8	+0.2
	baz=316,SNR=12						
ACCN	Adirondack Com	50.91	68	IAmb	IAmb	07 45 23.9	
	comp=Z,86nm,1.1s						
S54A	Dingess, Beckl	50.92	79	P	P	07 45 22.9	+0.1
	baz=317,SNR=14						
S54A	Dingess, Beckl	50.92	79	IAmb	IAmb	07 45 23.6	
	comp=Z,71nm,0.8s						
H61A	Lyndonville	50.98	66	P	P	07 45 23.3	+0.2
	baz=315,SNR=8.7						
F62A	Pittston Farm,	50.98	64	P	P	07 45 23.0	0.0
	baz=315						
F62A	Pittston Farm,	50.98	64	IAmb	IAmb	07 45 24.0	
	comp=Z,130nm,1.2s						
FPAL	Fort Paine	50.99	85	IAmb	IAmb	07 45 24.3	
	comp=Z,140nm,1.3s						
W51A	Cleveland	51.00	84	P	P	07 45 23.2	-0.1
	baz=318,SNR=40						
P56A	Dayton Farm, R	51.01	75	P	P	07 45 23.2	-0.1
	baz=317,SNR=14						
L59A	Walton	51.06	70	P	P	07 45 24.3	+0.5
	baz=316,SNR=16						
Y49A	Blount Mountai	51.07	86	P	P	07 45 23.5	-0.3
	baz=319,SNR=27						
Y49A	Blount Mountai	51.07	86	IAmb	IAmb	07 45 24.5	
	comp=Z,69nm,0.8s						
D63A	Stockholm	51.08	61	P	P	07 45 23.8	+0.1
	baz=315,SNR=7.1						
V52A	Sevierville	51.13	82	P	P	07 45 24.3	0.0
	baz=318,SNR=21						
V52A	Sevierville	51.13	82	IAmb	IAmb	07 45 25.4	
	comp=Z,182nm,1.4s						
O57A	Amberson	51.13	74	P	P	07 45 24.5	+0.3
	baz=316,SNR=48						
J60A	Lant Hill Farm	51.14	68	P	P	07 45 24.9	+0.6
	baz=316,SNR=31						
Q56A	Snyder Ridge,	51.16	76	P	P	07 45 24.4	0.0
	baz=317,SNR=9.1						
Q56A	Snyder Ridge,	51.16	76	IAmb	IAmb	07 45 25.3	
	comp=Z,50nm,0.8s						
N58A	Sunbury	51.16	73	P	P	07 45 24.6	+0.2
	baz=316,SNR=17						
N58A	Sunbury	51.16	73	IAmb	IAmb	07 45 25.6	
	comp=Z,102nm,0.8s						
G62A	West of Eustis	51.19	65	P	P	07 45 25.0	+0.4
	baz=315,SNR=18						
G62A	West of Eustis	51.19	65	IAmb	IAmb	07 45 25.8	
	comp=Z,117nm,1.1s						
LBNH	Lisbon	51.19	66	P	P	07 45 25.0	+0.4
	baz=316						
R55A	Marlinton	51.21	77	P	P	07 45 25.1	+0.2
	baz=317,SNR=11						
R55A	Marlinton	51.21	77	IAmb	IAmb	07 45 26.1	
	comp=Z,68nm,1.1s						
I61A	Oroboro, Fairl	51.27	67	P	P	07 45 25.9	+0.7
	baz=316,SNR=16						
U53A	Fall Branch	51.29	81	P	P	07 45 25.6	+0.1
	baz=318,SNR=28						
T54A	Tazewell	51.32	80	P	P	07 45 25.9	+0.1
	baz=318,SNR=14						
M59A	Waymart	51.33	71	P	P	07 45 25.9	+0.2
	baz=316,SNR=9.6						
H62A	Milan	51.34	66	P	P	07 45 25.7	0.0
	baz=316,SNR=8.5						
H62A	Milan	51.34	66	P	P	07 45 25.7	0.0
H62A				IAmb	IAmb	07 45 26.8	
	comp=Z,83nm,0.9s						
H62A				pP	pP	07 45 38.9	-0.4
K60A	Five Rivers En	51.35	69	P	P	07 45 26.4	+0.7
	baz=316,SNR=7.4						
LRAL	Lakeview Retre	51.36	87	P	P	07 45 25.3	-0.7
	baz=319,SNR=15						
E63A	Oxbow	51.37	62	P	P	07 45 25.4	-0.5
	baz=315,SNR=8.5						
E63A	Oxbow	51.37	62	IAmb	IAmb	07 45 40.1	
	comp=Z,58nm,0.9s						
S55A	Lewisburg	51.38	78	P	P	07 45 26.2	+0.1
	baz=317,SNR=30						
TRY	Troy	51.38	69	IAmb	IAmb	07 45 27.5	
	comp=Z,75nm,0.8s						
PQI	Presque Isle	51.39	62	P	P	07 45 25.1	-0.9
PQI				IAmb	IAmb	07 45 26.5	
	comp=Z,105nm,1.4s						
X51A	Calhoun	51.39	84	P	P	07 45 26.2	+0.1
	baz=318,SNR=19						
HNH	Hanover	51.39	67	IAmb	IAmb	07 45 27.5	
	comp=Z,78nm,1.0s						
P57A	Homestead Farm	51.46	75	P	P	07 45 26.6	0.0
	baz=317,SNR=27						
W52A	Murphy	51.50	83	P	P	07 45 27.0	-0.1
	baz=318,SNR=34						
W52A	Murphy	51.50	83	IAmb	IAmb	07 45 28.1	
	comp=Z,132nm,1.1s						
R56A	Bull Pasture M	51.50	77	P	P	07 45 26.8	-0.3
	baz=317,SNR=8.1						
J61A	Chester	51.51	68	P	P	07 45 27.7	+0.7
	baz=316,SNR=10						
F63A	Nahmakanta, Br	51.55	63	P	P	07 45 27.0	-0.3
	baz=316						
F63A	Nahmakanta, Br	51.55	63	IAmb	IAmb	07 45 28.6	
	comp=Z,60nm,0.8s						
O58A	Lewisberry	51.57	73	P	P	07 45 27.6	+0.1
	baz=317,SNR=23						
Q57A	Strasburg	51.57	75	P	P	07 45 27.4	-0.2
	baz=317,SNR=19						
U54A	Nelsons Funny	51.59	80	P	P	07 45 28.1	+0.4
	baz=318,SNR=27						
N59A	State Game Lan	51.60	72	P	P	07 45 28.0	+0.3
	baz=316,SNR=10						
N59A	State Game Lan	51.60	72	IAmb	IAmb	07 45 29.0	
	comp=Z,63nm,0.8s						
PAGS	Pennsylvania G	51.60	73	IAmb	IAmb	07 45 28.6	
	comp=Z,95nm,0.8s						
L60A	Shokan	51.63	70	P	P	07 45 28.6	+0.7
	baz=316,SNR=11						
K61A	Williamstown	51.63	69	P	P	07 45 28.5	+0.6
	baz=316,SNR=8.9						
E64A	Bridgewater	51.66	62	P	P	07 45 27.4	-0.7
	baz=316,SNR=12						
V53A	Saluda	51.68	82	P	P	07 45 28.7	+0.3
	baz=318,SNR=75						
T55A	Pulaski	51.71	79	P	P	07 45 28.9	+0.3
	baz=318,SNR=6.1						
G63A	Kingsbury	51.71	64	P	P	07 45 28.7	+0.1
	baz=316,SNR=8.5						
I62A	Tamworth	51.75	66	P	P	07 45 29.2	+0.5
	baz=316						
PKME	Peaks-Kenny Pk	51.77	64	P	P	07 45 29.0	+0.2
	baz=316,SNR=9.1						
PKME	Peaks-Kenny Pk	51.77	64	P	P	07 45 28.6	-0.3
PKME				IAmb	IAmb	07 45 29.9	
	comp=Z,98nm,1.1s						
Y51A	Rockmart	51.77	85	P	P	07 45 28.4	-0.7
	baz=319,SNR=25						
Z50A	Ashland	51.79	86	P	P	07 45 28.7	-0.5
	baz=319,SNR=28						
Z50A	Ashland	51.79	86	IAmb	IAmb	07 45 29.9	
	comp=Z,155nm,1.3s						
F64A	Sherman	51.80	63	P	P	07 45 28.8	-0.3
	baz=316,SNR=17						
F64A	Sherman	51.80	63	IAmb	IAmb	07 45 29.9	
	comp=Z,171nm,1.2s						
O59A	Robesonia	51.82	73	P	P	07 45 29.6	+0.2
	baz=317,SNR=37						
L61A	Hillsdale 1, H	51.83	69	P	P	07 45 30.3	+1.0
	baz=316,SNR=23						
H63A	New Sharon	51.83	65	P	P	07 45 29.6	+0.2
	baz=316						
P58A	Pank, Wackersv	51.83	74	P	P	07 45 29.4	0.0
	baz=317,SNR=9.8						
BLA	Blacksburg	51.84	79	P	P	07 45 29.6	0.0
	baz=318,SNR=14						
BLA	Blacksburg	51.84	79	IAmb	IAmb	07 45 30.6	
	comp=Z,87nm,0.8s						
W53A	Cullowhee	51.86	82	P	P	07 45 30.0	+0.1
	baz=318,SNR=25						
X52A	Dahlonega	51.89	83	P	P	07 45 30.0	0.0
	baz=319,SNR=48						
BATG	Bathurst New B	51.89	60	IAmb	IAmb	07 45 44.9	
	comp=Z,111nm,1.0s						
M60A	Port Jervis	51.90	71	P	P	07 45 30.2	+0.3
	baz=316,SNR=24						
S56A	Natural Bridge	51.95	77	P	P	07 45 30.5	+0.1
	baz=317,SNR=22						
MVL	Millersville	51.96	73	IAmb	IAmb	07 45 31.4	
	comp=Z,52nm,0.7s						
J62A	Henniker	51.97	67	P	P	07 45 30.9	+0.4
	baz=316,SNR=9.8						
N60A	Cedar Hill Far	51.98	72	P	P	07 45 30.9	+0.3
	baz=316,SNR=9.8						
I63A	Otisfield	52.00	66	P	P	07 45 30.9	+0.3
	baz=316,SNR=6.0						
I63A	Otisfield	52.00	66	IAmb	IAmb	07 45 32.0	
	comp=Z,201nm,1.5s						
U55A	TA2, Sparta	52.02	80	P	P	07 45 31.2	+0.2
	baz=318,SNR=37						
Q58A	Fox Den Farm,	52.03	75	P	P	07 45 30.7	-0.2
	baz=317,SNR=39						
G64A	Maxfield	52.04	63	P	P	07 45 30.7	-0.2
	baz=316						
R57A	Stanardsville	52.05	76	P	P	07 45 31.0	-0.2
	baz=317,SNR=13						
ODNJ	Ogdensburg	52.09	71	IAmb	IAmb	07 45 32.6	
	comp=Z,68nm,0.9s						
WVL	Waterville	52.09	65	IAmb	IAmb	07 45 32.6	
	comp=Z,100nm,1.2s						
L61B	Northampton	52.09	68	P	P	07 45 32.0	+0.6
	baz=316						
BG3	Lake Jocassee	52.12	82	IAmb	IAmb	07 45 32.9	
	comp=Z,72nm,0.9s						
SDMD	Soldier's Deli	52.13	74	IAmb	IAmb	07 45 32.4	
	comp=Z,47nm,0.8s						
Z51A	Franklin	52.15	85	P	P	07 45 31.3	-0.6
	baz=319,SNR=21						
K62A	Royalston	52.16	68	P	P	07 45 32.4	+0.6
	baz=316,SNR=16						
K62A	Royalston	52.16	68	P	P	07 45 32.3	+0.4
K62A				pP	pP	07 45 46.2	+0.6
T56A	Rocky Mt	52.18	78	P	P	07 45 32.3	+0.2
	baz=318,SNR=10						
P59A	Jarrettsville	52.20	74	P	P	07 45 32.5	+0.3
	baz=317,SNR=11						
S57A	Dark Hollow, R	52.22	77	P	P	07 45 32.7	+0.4
	baz=318,SNR=13						
S57A	Dark Hollow, R	52.22	77	IAmb	IAmb	07 45 33.5	
	comp=Z,67nm,1.0s						
O60A	Telford	52.23	72	P	P	07 45 32.7	+0.4
	baz=317,SNR=12						
H64A	Troy	52.25	64	P	P	07 45 32.5	0.0
	baz=316						
X53A	Estanollee	52.28	83	P	P	07 45 32.9	+0.1
	baz=319,SNR=34						
J63A	Strafford	52.30	67	P	P	07 45 33.3	+0.4
	baz=316						
R58A	Rapidan	52.33	76	P	P	07 45 33.1	-0.1
	baz=317,SNR=13						
Y52A	Lilburn	52.35	84	P	P	07 45 33.2	-0.2
	baz=319,SNR=15						
Y52A	Lilburn	52.35	84	IAmb	IAmb	07 45 34.3	
	comp=Z,98nm,1.2s						
M61A	Granite Spring	52.36	70	P	P	07 45 33.7	+0.4
	baz=317,SNR=7.8						
BRNJ	Basking Ridge	52.40	71	IAmb	IAmb	07 45 35.1	
	comp=Z,88nm,0.8s						
L62A	Suffield	52.40	69	P	P	07 45 34.6	+0.9
	baz=316,SNR=8.8						
W54A	Cherokee Point	52.46	82	P	P	07 45 34.0	-0.1
	baz=318,SNR=14						
P60A	Greenville	52.48	73	P	P	07 45 34.5	+0.3
	baz=317						
P60A	Greenville	52.48	73	IAmb	IAmb	07 45 34.7	
	comp=Z,88nm,1.4s						
N61A	South Mountain	52.49	71	P	P	07 45 34.9	+0.6
	baz=317,SNR=11						
U56A	King	52.49	79	P	P	07 45 34.5	+0.1
	baz=318,SNR=22						
U56A	King	52.49	79	IAmb	IAmb	07 45 35.5	
	comp=Z,80nm,0.7s						
K63A	Dunstable	52.50	67	P	P	07 45 34.8	+0.4
	baz=316,SNR=9.5						
PAL	Palisades	52.51	71	P	P	07 45 35.0	+0.6
	baz=317,SNR=7.1						
PAL	Palisades	52.51	71	IAmb	IAmb	07 45 35.7	
	comp=Z,67nm,0.9s						
250A	Grady	52.56	87	P	P	07 45 34.7	-0.2
	baz=320,SNR=21						
I64A	Boothbay	52.57	65	P	P	07 45 34.8	0.0
	baz=316,SNR=8.0						
Y53A	Monroe	52.62	84	P	P	07 45 35.0	-0.3
	baz=319,SNR=22						
T57A	Hurt	52.62	78	P	P	07 45 35.2	-0.1
	baz=318,SNR=8.6						
HRV	Adam Dziewonsk	52.62	68	P	P	07 45 35.8	+0.6
	baz=316						
HRV	Adam Dziewonsk	52.62	68	P	P	07 45 35.3	0.0
HRV				*PP	pP	07 45 50.3	+1.3
HRV				pmax	pmax		
	comp=Z,59nm,1.0s						
HRV	Adam Dziewonsk	52.62	68	P	P	07 45 35.3	0.0
HRV				IAmb	IAmb	07 45 36.2	
	comp=Z,59nm,0.9s						
HRV					pP	07 45 50.2	+1.3
CPNY	Central Park	52.63	71	IAmb	IAmb	07 45 36.9	
	comp=Z,66nm,0.9s						
R58B	Mineral	52.64	76	P	P	07 45 35.7	+0.3
	baz=318,SNR=14						
R58B	Mineral	52.64	76	IAmb	IAmb	07 45 37.4	
	comp=Z,80nm,1.0s						
Z52A	Williamson	52.66	85	P	P	07 45 35.0	-0.7
	baz=319,SNR=17						
H65A	Eastbrook	52.69	64	P	P	07 45 35.9	+0.1
	baz=316,SNR=5.4						
M62A	Hamden	52.71	69	P	P	07 45 36.4	+0.4
	baz=317,SNR=22						
KS19	Wonju Array Si	52.73	283	IAmb	IAmb	07 45 38.0	
	comp=Z,67nm,1.1s						
KSRS	Korea Array	52.73	283	P	P	07 45 36.8	+0.6
	comp=Z,45nm,1.0s,baz=48,slow=6.9,SNR=85						
KSRS				LR	LR	08 08 03.2	
	comp=Z,310nm,21.8s,baz=47,slow=36						
CBN	Corbin Frederi	52.73	75	P	P	07 45 36.1	-0.1
	baz=318						
CBN	Corbin Frederi	52.73	75	IAmb	IAmb	07 45 37.1	
	comp=Z,97nm,0.9s						
BRAL	Brewton	52.75	89	P	P	07 45 36.7	+0.3
	baz=320,SNR=6.8						
X54A	Belton	52.76	82	P	P	07 45 36.4	0.0
	baz=319,SNR=33						
S58A	Poland Farm, P	52.81	76	P	P	07 45 36.8	+0.1
	baz=318,SNR=14						
S58A	Poland Farm, P	52.81	76	IAmb	IAmb	07 45 37.7	
	comp=Z,48nm,0.8s						
HAMF	Hammerfest	52.82	0	*e*P	P	07 45 36.2	-0.1
JCJ	Chichijima	52.83	263	P	P	07 45 37.0	+0.1
	comp=Z,237nm,0.8s,baz=284,slow=20,SNR=9.2						
O61A	Allentown	52.84	72	P	P	07 45 37.3	+0.5
	baz=317,SNR=5.1						
PAULI	Pauline	52.86	82	IAmb	IAmb	07 45 37.8	
	comp=Z,67nm,0.8s						
R59A	King George, V	52.88	75	P	P	07 45 37.6	+0.4
	baz=318,SNR=11						
KMSC	Kings Mountain	52.88	81	P	P	07 45 37.0	-0.2
	baz=318,SNR=38						
KMSC	Kings Mountain	52.88	81	IAmb	IAmb	07 45 38.1	
	comp=Z,130nm,0.9s						
152A	Waverly Hall	52.89	86	P	P	07 45 36.5	-0.9
	baz=320,SNR=16						
152A	Waverly Hall	52.89	86	IAmb	IAmb	07 45 37.4	
	comp=Z,71nm,1.2s						
Q60A	Greensboro	52.96	74	P	P	07 45 38.2	+0.4
	baz=317						
U57A	Blanch	52.99	78	P	P	07 45 37.9	-0.2
	baz=318,SNR=22						
GOGA	Godfrey	53.02	84	P	P	07 45 37.4	-0.9
	baz=319,SNR=20						
P61A	Hammonton	53.02	72	P	P	07 45 38.8	+0.6
	baz=317						
T58A	Grand View Acr	53.05	77	P	P	07 45 37.9	-0.5
	baz=318,SNR=17						
HODGE	Hodges	53.06	82	IAmb	IAmb	07 45 39.3	
	comp=Z,99nm,0.8s						
Z53A	Monticello	53.06	84	P	P	07 45 37.7	-0.8
	baz=319,SNR=36						
BRYW	Bryant College	53.06	68	P	P	07 45 38.3	-0.2
BRYW				IAmb	IAmb	07 45 39.7	
	comp=Z,105nm,0.8s						
BRYW				pP	pP	07 45 52.2	0.0
L63A	North Scituate	53.06	68	P	P	07 45 38.6	+0.1
	baz=317,SNR=5.3						
EMMW	East Machias	53.07	63	IAmb	IAmb	07 45 39.2	
	comp=Z,122nm,1.3s						
H66A	Whiting	53.09	63	P	P	07 45 38.6	0.0
	baz=317						
Y54A	Tignall	53.10	83	P	P	07 45 38.4	-0.5
	baz=319,SNR=26						
S59A	Mechanicsville	53.10	76	P	P	07 45 39.0	+0.2
	baz=318,SNR=16						
R60A	Leonardtown, M	53.11	75	P	P	07 45 39.4	+0.5
	baz=318						
M63A	Gales Ferry	53.17	69	P	P	07 45 39.8	+0.4
	baz=317,SNR=15						
X55A	Gracelyn & Ava	53.22	82	P	P	07 45 39.5	-0.3
	baz=319,SNR=32						
W56A	Indian Trail	53.29	80	P	P	07 45 40.0	-0.3
	baz=319,SNR=15						
IRK	Irkutsk	53.32	311	*e*P	P	07 45 39.3	-1.0
IRK				*e*		07 46 53.9	
IRK				pmax	pmax		
	comp=Z,132nm,2.3s						
153A	Fort Valley	53.39	85	P	P	07 45 39.9	-1.1
	baz=320,SNR=5.7						
252A	Lumpkin	53.39	86	P	P	07 45 39.9	-1.2
	baz=320,SNR=13						
L64A	Middleborough	53.40	68	P	P	07 45 40.8	-0.2
	baz=317						
U58A	Oxford	53.45	78	P	P	07 45 41.0	-0.4
	baz=318,SNR=9.4						
S60A	Water View	53.49	75	P	P	07 45 41.8	+0.1
	baz=318,SNR=5.9						
Z54A	Sparta	53.49	84	P	P	07 45 40.9	-0.8
	baz=319,SNR=31						
M64A	Tiverton	53.49	68	P	P	07 45 42.1	+0.4
	baz=317,SNR=9.5						
Y55A	Saluda	53.50	82	P	P	07 45 41.4	-0.4
	baz=319,SNR=26						
X56A	White Oak	53.53	81	P	P	07 45 41.8	-0.3
	baz=319,SNR=27						
T59A	Double "B" Far	53.55	77	P	P	07 45 42.2	+0.1

baz=318,SNR=17
T59A Double "B" Far 53.55 77 IAmb IAmb 07 45 43.3
comp=Z,79nm,0.8s
JSC Jenkinsville 53.56 82 IAmb IAmb 07 45 43.0
comp=Z,44nm,0.8s
V58A Windy Hill, Pi 53.59 79 P **P** **07 45 42.3 -0.1**
baz=318,SNR=18
V58A Windy Hill, Pi 53.59 79 IAmb IAmb 07 45 43.5
comp=Z,105nm,0.9s
W57A Gilead 53.59 80 P **P** **07 45 42.1 -0.4**
baz=319,SNR=17
W57A Gilead 53.59 80 IAmb IAmb 07 45 43.2
comp=Z,63nm,0.8s
253A Americus 53.67 86 P **P** **07 45 41.9 -1.3**
baz=320,SNR=16
352A Blakely 53.68 87 P **P** **07 45 42.1 -1.1**
baz=320,SNR=11
352A Blakely 53.68 87 IAmb IAmb 07 45 43.2
comp=Z,78nm,1.0s
KEV Kevo 53.70 359 P **P** **07 45 42.4 -0.4**
KEV pmax pmax
comp=Z,142nm,0.8s
KEV Kevo 53.70 359 P **P** **07 45 42.4 -0.4**
BIRD Birdtown, Kers 53.72 81 IAmb IAmb 07 45 44.2
comp=Z,85nm,0.9s
TRO Tromso 53.77 3 *e*P **P** **07 45 43.9 +0.6**
154A Montrose 53.82 84 P **P** **07 45 43.0 -1.1**
baz=320,SNR=21
TJN Taejon 53.83 283 *c i*P **P** **07 45 44.6 +0.4**
T60A Surry 53.86 76 P **P** **07 45 44.5 +0.1**
baz=318
U59A Littleton 53.88 77 P **P** **07 45 44.7 +0.1**
baz=318,SNR=25
U59A Littleton 53.88 77 P **P** **07 45 44.4 -0.2**
U59A IAmb IAmb 07 45 45.8
comp=Z,92nm,0.8s
U59A pP **pP** **07 45 57.8 -0.5**
Z55A Blythe 53.88 83 P **P** **07 45 43.9 -0.7**
baz=319,SNR=6.1
Y56A Pelion 53.91 82 P **P** **07 45 44.5 -0.3**
baz=319,SNR=14
ARCES ARCESS Array B 53.94 360 P **P** **07 45 43.9 -0.6**
comp=Z,49nm,0.8s,baz=15,slow=5.9,SNR=73
ARCES PcP **PcP** **07 46 50.1 +0.9**
comp=Z,14nm,0.8s,baz=358,slow=3.1,SNR=4.0
ARCES pPcP 07 47 05.1
comp=Z,42nm,0.8s,baz=358,slow=3.6,SNR=8.1
ARCES LR LR 08 08 25.7
comp=Z,345nm,21.9s,baz=349,slow=36
ARE0 ARCESS Array S 53.94 360 *e*P **P** **07 45 44.4 -0.1**
TLY Talaya 54.00 311 P **P** **07 45 46.0 +0.7**
SNR=17
TLY Talaya 54.00 311 *c i*P **P** **07 45 45.3 -0.1**
TLY *e*PPP PPP 07 48 55.7
TLY *e*S **S** **07 53 19.1 +1.9**
TLY pmax pmax
comp=Z,267nm,1.7s
TLY MLR MLR
comp=Z,3μm,19.0s
TLY Talaya 54.00 311 P **P** **07 45 45.2 -0.1**
comp=Z,17nm,1.0s,baz=32,slon=8.1,SNR=13
TLY Talaya 54.00 311 P **P** **07 45 45.0 -0.3**
X57A Johnson Farm, 54.06 81 P **P** **07 45 45.8 -0.1**
baz=319,SNR=20
V59A Middlesex 54.08 78 P **P** **07 45 46.0 0.0**
baz=319,SNR=17
W58A Raeford 54.10 79 P **P** **07 45 46.1 -0.1**
baz=319,SNR=21
U60A Pendleton 54.13 77 P **P** **07 45 46.7 +0.3**
baz=318,SNR=26
155A Kite 54.16 84 P **P** **07 45 46.0 -0.7**
baz=320,SNR=14
353A Camilla 54.17 86 P **P** **07 45 45.4 -1.4**
baz=320,SNR=6.6
254A Abbeville 54.22 85 P **P** **07 45 45.8 -1.3**
baz=320,SNR=13
Z56A Williston 54.23 82 P **P** **07 45 46.7 -0.4**
baz=319,SNR=22
Y57A Sumter 54.23 81 P **P** **07 45 46.9 -0.3**
baz=319,SNR=14
DRLN Deer Lake 54.37 53 IAmb IAmb 07 45 48.7
comp=Z,84nm,0.8s
JNU Nakatsue 54.38 277 P **P** **07 45 48.1 -0.2**
comp=Z,13nm,0.8s,baz=20,slow=4.5,SNR=5.6
X58A Rowland 54.40 80 P **P** **07 45 48.3 -0.1**
baz=319,SNR=13
X58A Rowland 54.40 80 IAmb IAmb 07 45 49.4
comp=Z,111nm,1.1s
W59A Clinton 54.42 79 P **P** **07 45 48.7 +0.1**
baz=319,SNR=7.5
TIGA Tifton 54.45 86 P **P** **07 45 47.9 -0.9**
baz=320,SNR=8.7
TIGA Tifton 54.45 86 IAmb IAmb 07 45 48.6
comp=Z,84nm,1.1s
KTK1 Kautokeino 54.46 1 *e*P **P** **07 45 48.5 +0.1**
453A Whigham 54.49 87 P **P** **07 45 48.7 -0.4**
baz=320
453A Whigham 54.49 87 IAmb IAmb 07 45 49.5
comp=Z,99nm,1.3s
V60A Jim Taylor Roa 54.61 77 P **P** **07 45 49.9 0.0**
baz=319,SNR=10.0
V60A Jim Taylor Roa 54.61 77 IAmb IAmb 07 45 50.9
comp=Z,96nm,0.8s
Z57A Bowman 54.61 82 P **P** **07 45 49.6 -0.3**
baz=320,SNR=16
U61A Possum Corner 54.62 76 P **P** **07 45 50.5 +0.5**
baz=319
XMAS Kiritimati 54.65 183 P **P** **07 45 51.3 +1.0**
156A Sylvania 54.66 83 P **P** **07 45 50.1 -0.2**
baz=320,SNR=11
CNNC Cliffs of the 54.66 78 P **P** **07 45 50.2 -0.1**
baz=319
255A Hazlehurst 54.68 84 P **P** **07 45 49.4 -1.1**
baz=320,SNR=6.0
255A Hazlehurst 54.68 84 IAmb IAmb 07 45 50.3
comp=Z,135nm,1.3s
Y58A Scranton 54.71 81 P **P** **07 45 50.5 -0.1**
baz=319,SNR=12
W60A Pink Hill 54.90 78 P **P** **07 45 52.2 +0.2**
baz=319,SNR=6.4
157A Early Branch 54.92 83 P **P** **07 45 52.1 0.0**
baz=320,SNR=9.2
553A Crawfordville 54.94 87 P **P** **07 45 52.2 -0.1**
baz=321,SNR=12
V61A Roper 54.95 77 P **P** **07 45 52.6 +0.2**
baz=319
V61A Roper 54.95 77 IAmb IAmb 07 45 53.6
comp=Z,128nm,0.9s
454A Quitman 54.98 86 P **P** **07 45 51.4 -1.3**
baz=320
DL2 Dalian 54.98 289 P **P** **07 45 52.5 0.0**
DL2 pP **pP** **07 46 07.3 +1.1**
DL2 PP **PP** **07 47 59.9 +4.3**
DL2 S **S** **07 53 29.8 -0.8**
DL2 SS **SS** **07 57 09.0 -5.1**
DL2 pmax pmax
comp=Z,95nm,1.0s
DL2 pmax pmax
comp=Z,220nm,5.0s
DL2 LR LR
comp=Z,420nm,23.3s
DL2 LR LR
comp=Z,370nm,24.1s
DL2 LR LR
comp=Z,570nm,18.6s
NHSC New Hope 55.04 82 P **P** **07 45 53.0 0.0**
baz=320,SNR=11
NHSC New Hope 55.04 82 P **P** **07 45 52.5 -0.5**
Z58A St. Stephen 55.06 81 P **P** **07 45 53.0 -0.2**
baz=320,SNR=15
LOF Lofoten 55.07 5 *e*P **P** **07 45 53.4 +0.6**
Y59A Loris 55.08 80 P **P** **07 45 52.9 -0.3**
baz=319,SNR=6.7
Y59A Loris 55.08 80 IAmb IAmb 07 45 54.0
comp=Z,102nm,0.8s
X60A Albert Glenn T 55.12 79 P **P** **07 45 53.4 -0.1**
baz=319,SNR=8.3
ZAK Zakamensk 55.13 310 *e*P **P** **07 45 49.8 -3.8**
ZAK pmax pmax
comp=Z,22nm,1.4s
ZAK pmax pmax
comp=Z,30nm,1.3s
W61A Ground Anchor 55.20 78 P **P** **07 45 54.4 +0.3**
baz=319,SNR=6.8
455A Stateville 55.29 86 P **P** **07 45 53.8 -1.1**
baz=320,SNR=7.1
356A Blackshear 55.33 85 P **P** **07 45 54.1 -1.1**
baz=320
STEI Steigen 55.35 4 *e*P **P** **07 45 54.9 +0.1**
LVZ Lovozero 55.37 355 *c i*P **P** **07 45 55.0 0.0**
LVZ pmax pmax
comp=Z,318nm,1.0s
LVZ Lovozero 55.37 355 P **P** **07 45 55.0 0.0**
ULN Ulaanbaatar 55.39 306 P **P** **07 45 55.9 +0.3**
SNR=16
ULN P **P** **07 45 55.9 +0.3**
SNR=16
ULN Ulaanbaatar 55.39 306 *c i*P **P** **07 45 55.3 -0.3**
ULN pmax pmax
comp=Z,66nm,1.3s
ULN Ulaanbaatar 55.39 306 P **P** **07 45 55.4 -0.2**
GBN Guysborough 55.41 59 IAmb IAmb 07 45 56.9
comp=Z,145nm,1.3s
Y60A Bolivia 55.42 79 P **P** **07 45 55.6 -0.2**
baz=319
SONM Songino Array 55.70 306 P **P** **07 45 58.3 +0.5**
comp=Z,66nm,0.8s,baz=42,slow=6.4,SNR=77
SONM PcP **PcP** **07 46 57.6 +1.0**
comp=Z,9.7nm,0.5s,baz=86,slow=1.5,SNR=5.9
SONM pPcP 07 47 12.1
comp=Z,17nm,0.5s,baz=94,slow=1.5,SNR=11
SONM ScP **ScP** **07 50 52.2 +1.3**
comp=Z,2.9nm,0.9s,baz=20,slow=4.6,SNR=4.2
SONM LR LR 08 11 34.5
comp=Z,2μm,19.8s,baz=36,slow=38
APA Apatity 55.74 356 *j i*P **P** **07 45 56.3 -1.3**
APA pmax pmax
comp=Z,61nm,0.7s
APA MLR MLR
comp=Z,2μm,18.0s
456A Hilliard 55.85 85 P **P** **07 45 58.2 -0.7**
baz=320
557A Orange Park 56.56 85 P **P** **07 46 03.4 -0.5**
baz=321,SNR=12
656A Willston 56.62 86 P **P** **07 46 03.7 -0.7**
baz=321,SNR=5.5
656A Willston 56.62 86 P **P** **07 46 03.9 -0.5**
656A IAmb IAmb 07 46 04.9
comp=Z,98nm,1.2s
656A PcP **PcP** **07 46 59.4 -0.8**
KONS Konsvik 56.68 6 *e*P **P** **07 46 05.0 +0.7**
BJI Beijing 56.92 294 P **P** **07 46 06.7 +0.3**
BJI S **S** **07 53 56.6 +0.3**
BJI pmax pmax
comp=Z,70nm,0.9s
BJI LR LR
comp=Z,560nm,21.4s
BJI LR LR
comp=Z,360nm,17.9s
BJI LR LR
comp=Z,580nm,24.2s
BJT Baijiatuan 56.94 294 P **P** **07 46 06.5 -0.1**
BJT pmax pmax
comp=Z,90nm,0.9s
BJT Baijiatuan 56.94 294 P **P** **07 46 06.5 -0.1**
BJT IAmb IAmb 07 46 07.8
comp=Z,90nm,0.9s
MOR8 Moi Rana 57.07 5 *e*P **P** **07 46 06.8 -0.3**
TLIG Tlapa 57.41 109 IAmb IAmb 07 46 12.3
comp=Z,91nm,0.9s
DWPF Disney Wildern 58.20 86 P **P** **07 46 15.2 -0.3**
baz=322
DWPF Disney Wildern 58.20 86 P **P** **07 46 15.0 -0.5**
DWPF IAmb IAmb 07 46 16.1
comp=Z,64nm,1.1s
NSS Namsos 58.57 6 *e*P **P** **07 46 18.2 +0.7**
HHC Hu-ho-hao-te 58.59 297 *e*P **P** **07 46 20.0 +1.7**
HHC pP pP 07 46 30.7 -1.4
HHC sP sP 07 46 36.0 -1.8
HHC PP **PP** **07 48 31.2 +3.3**
HHC pmax pmax
comp=Z,51nm,0.8s
TMCR Tamitsa 58.90 353 *e*P **P** **07 46 18.2 -1.7**
TMCR pmax pmax
comp=Z,216nm,1.0s
ZAA0 Zalesovo Array 59.23 323 **P** **07 46 22.3 0.0**
ZAA0 IAmb IAmb 07 46 23.7
comp=Z,89nm,0.9s
ZALV Zalesovo Beam 59.23 323 P **P** **07 46 22.5 +0.2**
comp=Z,58nm,0.8s,baz=33,slow=6.2,SNR=22
ZALV LR LR 08 14 36.3
comp=Z,1μm,18.3s,baz=26,slow=39
ZALV PKPPKP **P'P'df** **08 15 57.7 -1.1**
comp=Z,0.4nm,0.3s,baz=234,slow=5.1,SNR=3.7
TIA Tai'an 59.35 290 P **P** **07 46 23.4 -0.1**
TIA pmax pmax
comp=Z,72nm,1.1s
TIA LR LR
comp=Z,400nm,18.6s
TIA LR LR
comp=Z,290nm,22.1s
TIA LR LR
comp=Z,760nm,17.6s
BTO Baotou 59.53 298 *e*P **P** **07 46 23.9 -0.9**
060A Indiantown 59.63 86 P **P** **07 46 25.3 -0.2**
baz=322
AKN Aaknes 60.52 9 *e*P **P** **07 46 32.3 +1.3**
TIY Taiyuan 60.58 295 *e*P **P** **07 46 32.9 +1.0**
TIY S **S** **07 54 46.6 +2.5**
TIY pmax pmax
comp=Z,130nm,1.0s
TIY LR LR
comp=Z,550nm,15.3s
TIY LR LR
comp=Z,480nm,15.0s
TIY LR LR
comp=Z,630nm,19.1s
JOW Kunigami 60.67 275 P **P** **07 46 32.6 0.0**
comp=Z,3.9nm,0.9s,baz=101,slon=13,SNR=7.6
TEIG Tepich 60.72 98 P **P** **07 46 32.8 -0.2**
TEIG IAmb IAmb 07 46 33.8
comp=Z,53nm,0.9s
PRGR Permogore 60.74 349 ⇑ *i*P **P** **07 46 32.8 +0.3**
PRGR *e* 07 46 52.2
PRGR pmax pmax
comp=Z,129nm,0.8s
DOMB Dombas 60.83 8 *e*P **P** **07 46 33.8 +0.5**
KNTN Kanton 60.90 199 P **P** **07 46 34.3 +0.2**
KNTN IAmb IAmb 07 46 34.7
comp=Z,61nm,0.9s
SSE Sheshan 61.17 283 P **P** **07 46 36.2 +0.2**
SSE IAmb IAmb 07 46 38.6
comp=Z,50nm,0.7s
NJ2 Nanjing 61.67 286 *e*P **P** **07 46 39.3 0.0**
NJ2 S **S** **07 54 57.7 -0.1**
NJ2 sS **sS** **07 55 18.2 -3.1**
NJ2 SS **SS** **07 58 56.7 -2.7**
NJ2 pmax pmax
comp=Z,69nm,1.0s
NJ2 pmax pmax
comp=Z,240nm,3.6s
NJ2 LR LR
comp=Z,550nm,20.1s
NJ2 LR LR
comp=Z,720nm,20.6s
NJ2 LR LR
comp=Z,710nm,22.6s
CCIG Comitan 61.87 104 IAmb IAmb 07 46 43.1
comp=Z,63nm,1.1s
NB2 NORSAR Subarra 61.99 7 P **P** **07 46 41.7 +0.7**
comp=Z,612nm,2.5s,baz=352,slow=6.9
NB2 NORSAR Subarra 61.99 7 P **P** **07 46 41.7 +0.7**
baz=352,slow=6.9
NOA NORSAR Array B 61.99 7 P **P** **07 46 41.6 +0.5**
comp=Z,34nm,0.8s,baz=352,slow=6.8,SNR=84
NOA pP **pP** **07 46 54.6 -0.3**
comp=Z,42nm,1.1s,baz=354,slow=8.0,SNR=24
ASK Askoy 62.01 11 *e*P **P** **07 46 42.3 +1.2**
FINES FINESS Array B 62.06 359 P **P** **07 46 41.6 +0.2**
comp=Z,65nm,1.0s,baz=15,slow=7.3,SNR=90
FINES PKPPKP **P'P'df** **08 15 49.6 -5.2**
comp=Z,5.2nm,0.9s,baz=207,slon=1.6,SNR=4.9
SKAR Skarslia 62.11 9 *e*P **P** **07 46 42.8 +0.9**
BER Bergen 62.12 11 *e*P **P** **07 46 42.5 +0.7**
NAO01 NORSAR Array S 62.16 8 *e*P **P** **07 46 42.9 +0.7**
GUMO Guam 62.41 252 P **P** **07 46 42.1 -2.3**
GUMO pmax pmax
comp=Z,332nm,1.5s
GUMO Guam 62.41 252 P **P** **07 46 42.1 -2.3**
comp=Z,74nm,0.4s,baz=27,slow=3.4,SNR=11
GUMO Guam 62.41 252 IAmb IAmb 07 46 44.5
comp=Z,332nm,1.5s
RSC Scourie 62.70 17 *e*P **P** **07 46 47.5 +1.7**
ODD1 Odda 62.72 10 *e*P **P** **07 46 46.7 +0.7**
SVE Sverdlovsk 63.06 339 *d i*P **P** **07 46 48.6 +0.4**
SVE pmax pmax
comp=Z,286nm,1.1s
BLS5 Blasjo 63.18 10 *e*P **P** **07 46 49.9 +0.9**
KONO Kongsberg 63.24 9 ‖ *e*P **P** **07 46 50.7 +1.3**
KONO pmax pmax
comp=Z,151nm,1.3s
KONO Kongsberg 63.24 9 *e*P **P** **07 46 50.9 +1.6**
KONO Kongsberg 63.24 9 P **P** **07 46 50.7 +1.3**
KONO pP **pP** **07 47 04.1 +0.8**
KMY Karmoy 63.27 11 *e*P **P** **07 46 51.3 +1.8**
KAC Achnashellach 63.49 18 *e*P **P** **07 46 51.5 +0.5**
KAC *e* 07 47 05.7
KPL Plockton 63.59 18 *e*P **P** **07 46 52.8 +1.2**
KPL *e* 07 47 05.9
PUL Pulkovo 63.66 357 ‖ *e*P **P** **07 46 53.0 +1.0**
PUL pmax pmax
comp=Z,73nm,0.4s
MCD Coleburn Disti 63.74 16 *e*P **P** **07 46 53.9 +1.2**
MCD *e* 07 47 07.0
ARU Arti 63.84 340 *c i*P **P** **07 46 53.1 -0.2**
ARU 07 47 27.7
ARU S **S** **07 55 26.2 +1.8**
ARU SS **SS** **07 59 29.9 -2.1**
ARU pmax pmax
comp=Z,265nm,1.1s
ARU Arti 63.84 340 P **P** **07 46 52.9 -0.5**
comp=Z,46nm,0.8s,baz=20,slow=4.0,SNR=150
ARU Arti 63.84 340 P **P** **07 46 52.9 -0.5**
ARU pP **pP** **07 47 07.1 -0.2**
BBSR BB Station 63.85 70 P **P** **07 46 52.9 -0.9**
BBSR IAmb IAmb 07 46 54.3
comp=Z,119nm,0.9s
KURK Kurchatov 63.97 325 P **P** **07 46 55.2 +0.9**
KURK Kurchatov 63.97 325 P **P** **07 46 55.1 +0.9**
KURK Kurchatov 63.97 325 IAmb IAmb 07 46 55.7
comp=Z,104nm,0.9s
KURBB Kurchatov Arra 64.08 325 P **P** **07 46 55.1 +0.1**
comp=Z,68nm,0.9s,baz=28,slow=6.1,SNR=30
BRVK Borovoye 64.30 331 P **P** **07 46 56.8 +0.3**
SNR=68
BRVK P **P** **07 46 56.8 +0.3**
SNR=68
BRVK Borovoye 64.30 331 P **P** **07 46 56.4 0.0**
BRVK *PP **pP** **07 47 10.5 +0.1**
BRVK pmax pmax
comp=Z,194nm,0.8s
BRVK Borovoye 64.30 331 P **P** **07 46 56.4 0.0**
BRVK pP **pP** **07 47 10.5 +0.1**
BVAR Borovoye Array 64.30 331 P **P** **07 46 56.5 +0.1**
comp=Z,174nm,0.7s,baz=38,slow=7.5,SNR=557
BVAR pP **pP** **07 47 10.6 +0.1**
comp=Z,59nm,0.7s,baz=27,slow=4.1,SNR=8.1
SNART Snartemo 64.32 10 *e*P **P** **07 46 58.3 +1.8**
DRUM Mains of Drumt 64.50 16 *e*P **P** **07 46 58.5 +0.9**
DRUM IAmb IAmb 07 47 01.1
comp=Z,131nm,0.8s
DRUM *e* 07 47 11.4
HOMB Homborsund 64.51 9 *e*P **P** **07 46 59.3 +1.6**
ZSN Zaisan 64.68 319 *e*P **P** **07 46 59.1 +0.1**
comp=Z,73nm,0.8s
ZSN Zaisan 64.68 319 *e*P **P** **07 46 59.1 +0.1**
ZSN pmax pmax
comp=Z,73nm,0.9s
INVG Invergeldie, C 64.72 17 *e*P **P** **07 46 60.0 +0.8**
INVG IAmb IAmb 07 47 05.7
comp=Z,48nm,0.9s
INVG *e* 07 47 13.6
EDU Dundee 64.77 17 *e*P **P** **07 47 00.2 +0.7**
EAB Aberfoyle 64.90 17 *e*P **P** **07 47 01.4 +1.1**
VSU Vasula 65.04 359 *c i*P **P** **07 47 01.5 +0.4**
VSU pmax pmax
comp=Z,264nm,0.8s
VSU Vasula 65.04 359 *e*P **P** **07 47 01.6 +0.5**
VSU IAmb IAmb 07 47 02.8
comp=Z,258nm,0.9s
WHN Wuhan 65.22 288 ⇑ *i*P **P** **07 47 03.0 +0.2**
WHN S **S** **07 55 40.5 -1.6**
WHN pmax pmax
comp=Z,120nm,0.7s
WHN LR LR
comp=Z,910nm,20.6s
WHN LR LR
comp=Z,640nm,13.7s
WHN LR LR
comp=Z,1μm,20.4s
XAN Xi'an 65.22 295 ⇑ P **P** **07 47 02.9 +0.1**
XAN pP pP 07 47 16.3 -0.5
XAN sP sP 07 47 21.8 -0.7
XAN PcP **PcP** **07 47 34.6 -0.3**
XAN S **S** **07 55 40.9 -1.3**
XAN sS sS 07 56 03.7 -2.0
XAN ScS **SKSac** **07 56 50.6 -2.8**
XAN pmax pmax
comp=Z,110nm,1.2s
XAN pmax pmax
comp=Z,440nm,3.5s
XAN LR LR
comp=Z,710nm,16.3s
XAN LR LR
comp=Z,370nm,15.2s
XAN LR LR
comp=Z,690nm,15.2s
XAN Xi'an 65.22 295 IAmb IAmb 07 47 04.8
comp=Z,167nm,1.2s
PGBU Glenifferbraes 65.24 18 *e*P **P** **07 47 02.8 +0.3**
PGBU IAmb IAmb 07 47 05.4
comp=Z,91nm,1.0s
GTA Gaotai 65.26 304 ⇑ P **P** **07 47 03.0 -0.1**
GTA pP pP 07 47 15.8 -1.3
GTA sP sP 07 47 21.6 -1.2
GTA S **S** **07 55 42.8 +0.1**
GTA sS sS 07 56 03.8 -2.5
GTA pmax pmax
comp=Z,94nm,1.1s
GTA pmax pmax
comp=Z,280nm,5.6s
GTA LR LR
comp=Z,1μm,17.2s
GTA LR LR
comp=Z,2μm,17.9s
GTA LR LR
comp=Z,2μm,18.6s
EAU Auchinoon 65.38 17 *e*P **P** **07 47 04.4 +1.0**
EBL Broad Law 65.51 17 *e*P **P** **07 47 05.3 +1.1**
EBL *e* 07 47 18.2
SLIT Slitere, Latvi 65.87 1 *e*P **P** **07 47 06.9 +0.4**
EKA Eskdalemuir Ar 65.92 17 LR LR 08 15 54.6
comp=Z,172nm,21.3s,baz=30,slow=36
ESK Eskdalemuir 65.93 17 *e*P **P** **07 47 07.8 +0.9**
ESK IAmb IAmb 07 47 10.2
comp=Z,63nm,1.0s
ESK *e* 07 47 21.5
ESK Eskdalemuir 65.93 17 P **P** **07 47 08.5 +1.6**
ESK *PP **pP** **07 47 21.5 +0.6**
ESK pmax pmax
comp=Z,139nm,1.0s
ESK Eskdalemuir 65.93 17 P **P** **07 47 08.5 +1.6**
ESK pP **pP** **07 47 21.5 +0.6**
ESK IAmb IAmb 07 47 22.9
comp=Z,140nm,0.9s
LZH Lanzhou 66.07 300 ⇑ P **P** **07 47 08.8 +0.4**
LZH PP **PP** **07 49 32.0 -1.8**
LZH S **S** **07 55 50.4 -2.3**
LZH pmax pmax
comp=Z,170nm,1.4s
LZH pmax pmax
comp=Z,310nm,4.8s
LZH LR LR
comp=Z,1μm,16.3s
LZH LR LR
comp=Z,780nm,16.3s
LZH LR LR
comp=Z,1μm,17.4s
GAL1 Galloway 66.11 18 *e*P **P** **07 47 09.0 +1.0**
MK31 Makanchi Array 66.16 321 P **P** **07 47 08.4 -0.2**
MK31 pmax pmax
comp=Z,46nm,0.9s
MK31 Makanchi Array 66.16 321 P **P** **07 47 07.8 -0.8**
MKAR Makanchi Array 66.16 321 P **P** **07 47 08.5 -0.1**
comp=Z,47nm,0.9s,baz=48,slow=7.2,SNR=23
MKAR pP **pP** **07 47 22.4 -0.2**
comp=Z,21nm,0.7s,baz=38,slow=5.0,SNR=7.5

MKAR PKPPKP 08 15 41.9
comp=Z,2.7nm,1.0s,baz=214,slow=3.9,SNR=5.3
MKAR LR LR 08 19 23.4
comp=Z,925nm,18.1s,baz=21,slow=39
MAKZ Makanchi 66.25 321 P **P** **07 47 08.4 -0.8**
MAKZ pmax pmax
comp=Z,57nm,1.1s
MAKZ Makanchi 66.25 321 P **P** **07 47 09.0 -0.2**
MAKZ IAmb IAmb 07 47 10.3
comp=Z,75nm,1.1s
TGUH Tegucigalpa,Un 66.32 101 IAmb IAmb 07 47 13.0
comp=Z,118nm,1.0s
MUD Monsted U'grnd 66.37 9 *i* P **P** **07 47 11.8 +2.1**
MUD pmax pmax
comp=Z,72nm,1.0s
MUD Monsted U'grnd 66.37 9 *i* P **P** **07 47 11.8 +2.1**
comp=Z,72nm,1.0s
BRZS Berezniki 66.41 328⇑ *i*P **P** **07 47 09.6 -0.6**
comp=Z,142nm,1.4s
BRZS Berezniki 66.41 328*c i*P **P** **07 47 09.5 -0.6**
BRZS pmax pmax
comp=Z,142nm,1.4s
EDMD Edmundbyers 66.59 16 *e*P **P** **07 47 12.7 +1.5**
EDMD *e* 07 47 25.7
TAOE Nuku Hiva Isla 66.63 164 *e*LR LR 08 07 10.0
comp=Z,1µm,23.7s
WMQ Urumqi 66.71 315 P **P** **07 47 13.5 +1.3**
WMQ pP pP 07 47 27.3 +1.0
WMQ pmax pmax
comp=Z,47nm,0.9s
WMQ pmax pmax
comp=Z,270nm,5.5s
WMQ LR LR
comp=Z,480nm,14.7s
WMQ LR LR
comp=Z,410nm,18.1s
WMQ LR LR
comp=Z,750nm,17.9s
WMQ Urumqi 66.71 315 IAmb IAmb 07 47 14.3
comp=Z,68nm,1.1s
MOS Moscow 67.30 352 *e*P **P** **07 47 14.4 -1.2**
MOS *e* 07 47 29.9
MOS *e* 07 49 44.2
MOS *e*S **S** **07 56 03.9 -2.7**
MOS *e* 07 57 05.6
MOS pmax pmax
comp=Z,92nm,0.9s
MOS MLR MLR
comp=Z,600nm,22.0s
ENH Enshi 67.95 292 IAmb IAmb 07 47 22.5
comp=Z,94nm,0.8s
OBN Obninsk 68.00 353*c i*P **P** **07 47 20.1 +0.1**
OBN *e* 07 47 33.3
OBN *i* 07 47 47.7
OBN *e*PPP PPP 07 51 28.0
OBN *e*S **S** **07 56 17.4 +2.5**
OBN *e*SS **SS** **08 00 40.4 +4.0**
OBN pmax pmax
comp=Z,191nm,1.7s
OBN MLR MLR
comp=Z,362nm,21.0s
OBN Obninsk 68.00 353 P **P** **07 47 19.8 -0.3**
comp=Z,12nm,0.5s,baz=23,slow=3.2,SNR=18
OBN Obninsk 68.00 353⇓P **P** **07 47 20.5 +0.5**
OBN mb 07 47 35.5
OBN Obninsk 68.00 353 P **P** **07 47 19.8 -0.3**
PABE Paberze 68.02 0 *e*P **P** **07 47 20.9 +0.7**
PABE IAmb IAmb 07 47 35.9
comp=Z,223nm,0.8s
BSD Bornholm Skovb 68.12 6 *i* P **P** **07 47 21.5 +0.7**
BSD pmax pmax
comp=Z,5.0nm,0.4s
BSD Bornholm Skovb 68.12 6 *i* P **P** **07 47 21.5 +0.7**
comp=Z,5.4nm,0.4s
FOEL Foel Wylfa 68.26 18 *e*P **P** **07 47 22.9 +1.1**
FOEL IAmb IAmb 07 47 25.5
comp=Z,65nm,0.9s
FOEL *e* 07 47 36.4
NACGM Naroch 68.61 359 *e* **P** **07 47 23.0 -0.9**
CWF Charnwood Fore 68.72 17 *e*P **P** **07 47 25.8 +1.2**
CWF *e* 07 47 39.6
RSBS Rosebush, Pemb 68.89 19 *e*P **P** **07 47 26.6 +0.9**
RSBS IAmb IAmb 07 47 30.1
comp=Z,23nm,1.0s
MICGM Minsk 69.00 358⇓ *e*P **P** **07 47 26.0 -0.3**
MICGM PM 07 47 29.0
comp=Z,0.4nm,1.0s
MICGM *e*PcP **pP** **07 47 40.0 -0.4**
MICGM *e*S **S** **07 56 28.0 +1.2**
MNK Minsk 69.00 358⇓ *e*P **P** **07 47 26.0 -0.3**
MNK *e* 07 47 40.5
MNK *e*S **S** **07 56 28.0 +1.2**
MNK pmax pmax
comp=Z,380nm,1.0s
WACR West Acre 69.02 15 *e*P **P** **07 47 27.6 +1.1**
WACR IAmb IAmb 07 47 30.4
comp=Z,278nm,0.9s
WACR *e* 07 47 41.1
TDK Taldygorghan 69.05 322 *e*P **P** **07 47 26.3 -0.5**
comp=Z,203nm,1.3s
TDK Taldyqorghan 69.05 322 *e*P **P** **07 47 26.3 -0.5**
TDK pmax pmax
comp=Z,203nm,1.3s
MCH1 Michaelchurch 69.16 18 *e*P **P** **07 47 28.4 +1.1**
MCH1 IAmb IAmb 07 47 31.6
comp=Z,53nm,1.0s
MCH1 *e* 07 47 42.4
SUW Suwalki 69.51 1 *e*P **P** **07 47 30.0 +0.6**
SUW Suwalki 69.51 1 *e*P **P** **07 47 30.0 +0.6**
SUW *e*P **P** **07 47 30.0 +0.6**
OLDB Oldbury-Upon-S 69.56 18 *e*P **P** **07 47 30.7 +0.9**
OLDB *e* 07 47 44.2
AKTO Aktyubinsk 69.62 338 P **P** **07 47 29.6 -0.6**
AKTO pmax pmax
comp=Z,191nm,1.3s
AKTO Aktyubinsk 69.62 338 P **P** **07 47 30.3 +0.1**
comp=Z,81nm,0.9s,baz=25,slow=6.2,SNR=103
PDGK Podgornoye 70.15 321 P **P** **07 47 34.3 +0.5**
PDGK pmax pmax
comp=Z,139nm,1.2s
KPKS Kokpek 70.31 321⇑ *e*P **P** **07 47 35.0 +0.3**
comp=Z,136nm,1.2s
KPKS Kokpek 70.31 321*ce*P **P** **07 47 35.0 +0.3**
KPKS pmax pmax
comp=Z,136nm,1.2s
SHLS Shalkode 70.31 321⇑ *i*P **P** **07 47 34.7 -0.1**
comp=Z,142nm,1.3s
SHLS Shalkode 70.31 321*c i*P **P** **07 47 34.6 -0.2**
SHLS pmax pmax
comp=Z,141nm,1.3s
LPSR Galich'ya Gora 70.31 351 *e*P **P** **07 47 33.8 -0.6**
LPSR *e**SP **pP** **07 47 48.0 -0.5**
LPSR *e*S **S** **07 56 40.1 -2.2**
LPSR pmax pmax
comp=Z,80nm,1.0s
LPSR smax smax
comp=N,60nm,1.9s
CD2 Chengdu 70.31 296⇑P **P** **07 47 35.3 +0.4**
CD2 pP pP 07 47 50.0 +1.0
CD2 S **S** **07 56 42.8 -0.3**
CD2 pmax pmax
comp=N,360nm,4.9s
CD2 LR LR
comp=N,1µm,19.1s
CD2 LR LR
comp=N,1µm,16.2s
CD2 LR LR
comp=N,940nm,12.7s
AB31 Akbulak array 70.32 336 *i* P **P** **07 47 34.6 +0.1**
AB31 pmax pmax
comp=Z,47nm,0.6s
ABKAR Akbulak array 70.32 336 IAmb IAmb 07 47 35.9
comp=Z,256nm,1.4s
UZB Uzynbulak 70.47 321⇑ *i*P **P** **07 47 36.2 +0.4**
UZB Uzynbulak 70.47 321*c i*P **P** **07 47 36.1 +0.4**
CCA1 Carnmenellis 70.50 20 *e*P **P** **07 47 36.8 +1.2**
CCA1 IAmb IAmb 07 47 40.2
comp=Z,38nm,0.7s
CCA1 *e* 07 47 49.9
RUE Ruedersdorf 70.68 7 *e*P **P** **07 47 40.0 +3.4**
SATY Saty 70.76 321⇑ *i*P **P** **07 47 38.2 +0.6**
comp=Z,48nm,0.9s
SATY Saty 70.76 321*c i*P **P** **07 47 38.1 +0.6**
SATY pmax pmax
comp=Z,48nm,0.9s

SC01 Santiago de lo 70.99 84 IAmb IAmb 07 47 41.6
comp=Z,176nm,1.2s
SDDR Presa de Saban 71.04 84 P **P** **07 47 38.6 -0.9**
SDDR IAmb IAmb 07 47 40.5
comp=Z,81nm,0.8s
MDOK Medeo 71.13 322 *i* P **P** **07 47 39.9 0.0**
MDOK Medeo 71.13 322 *i* P **P** **07 47 39.8 0.0**
TNSS Tian-Shan 71.28 322⇑ *i*P **P** **07 47 41.4 +0.3**
TNSS Tian-Shan 71.28 322⇑ *i*P **P** **07 47 41.3 +0.3**
MTBS Maitube 71.37 323⇑ *i*P **P** **07 47 41.3 +0.1**
MTBS Maitube 71.37 323⇑ *i*P **P** **07 47 41.2 +0.1**
UCC Uccle 71.42 13 IAmb IAmb 07 47 57.4
comp=Z,96nm,1.0s
VRH Novokhopyorsk 71.42 349 *e*P **P** **07 47 40.2 -1.0**
VRH *e**SP **pP** **07 47 54.6 -0.7**
VRH *e*S **S** **07 56 52.7 -2.5**
VRH pmax pmax
comp=Z,110nm,1.6s
VRH smax smax
comp=N,570nm,4.5s
HGN Heimansgroeve 71.64 12 *e*P **P** **07 47 43.7 +1.2**
comp=N,48nm,1.2s
HGN *e*pP **pP** **07 47 56.1 -0.6**
HGN *e*sP **sP** **07 48 04.1 +1.7**
VSR Storozhevoye 71.66 351 *e*P **P** **07 47 41.6 -1.0**
VSR *e**SP **pP** **07 47 55.8 -1.0**
VSR *e*S **S** **07 56 53.7 -4.3**
VSR pmax pmax
comp=Z,140nm,1.6s
VSR smax smax
comp=N,160nm,1.5s
SGDS Sogindy 71.67 324⇑ *i*P **P** **07 47 43.4 +0.5**
comp=N,131nm,2.1s
BSTI Sart Tilman 71.78 13 P **P** **07 47 44.6 +1.2**
comp=Z,38nm,1.1s
BSTI pP **pP** **07 47 58.2 +0.7**
CLL Collm 71.79 8⇑ *i*P **P** **07 47 44.3 +0.9**
CLL *i* 07 47 57.6
CLL *e*S **S** **07 57 01.0 +1.5**
CLL pmax pmax
comp=Z,21nm,0.9s
CLL Collm 71.79 8⇑ *i*P **P** **07 47 44.3 +0.9**
comp=Z,21nm,0.9s
CLL ⇓ *i*pP **pP** **07 47 57.6 0.0**
comp=Z,107nm,1.0s
CLL *e*S **S** **07 57 01.0 +1.5**
CLL *e*SSS SSS 08 05 12.0
CLL Collm 71.79 8 IAmb IAmb 07 47 59.4
comp=Z,95nm,1.0s
MEM Membach 71.81 12 ⇓P **P** **07 47 44.6 +1.1**
comp=Z,97nm,1.1s
MEM pP **pP** **07 47 58.3 +0.6**
TKM2 Tokmak 2 71.83 323 *i* P **P** **07 47 44.9 +0.8**
TKM2 pmax pmax
comp=Z,137nm,1.0s
TKM2 Tokmak 2 71.83 323 P **P** **07 47 45.1 +1.1**
SNR=114
USP Ospenovka 71.88 324 P **P** **07 47 45.2 +1.0**
SNR=72
VORD Divnogorie 71.90 350 *e*P **P** **07 47 42.6 -1.4**
VORD *e**SP **pP** **07 47 57.0 -1.2**
VORD pmax pmax
comp=Z,60nm,0.7s
BCLA Clavier 71.91 13⇑P **P** **07 47 45.3 +1.2**
comp=Z,59nm,1.1s
BCLA pP **pP** **07 47 58.6 +0.3**
KDJ Kajisay 72.00 322 IAmb IAmb 07 47 47.3
comp=Z,97nm,1.1s
JSA Saint Aubin 72.01 18 *e*P **P** **07 47 45.8 +1.1**
CHMS Chumysh 72.03 324 P **P** **07 47 46.4 +1.3**
SNR=60
BHOU Houvegnez 72.06 12 pP pP 07 47 59.4 +0.2
BOOM Boomskoye usch 72.10 323 IAmb IAmb 07 47 47.9
comp=Z,104nm,0.8s
DOU Dourbes 72.14 13 P **P** **07 47 46.2 +0.7**
comp=Z,79nm,1.2s
DOU pP **pP** **07 47 59.0 -0.7**
ULHL Ulahol 72.22 322 P **P** **07 47 47.1 +0.7**
SNR=58
KBK Karagaybulak 72.28 323 P **P** **07 47 48.0 +1.3**
SNR=68
BRG Berggiesshubel 72.29 7⇑ *i*P **P** **07 47 47.6 +1.2**
comp=Z,30nm,1.0s
BRG *i* pP **pP** **07 48 01.4 +0.8**
comp=Z,130nm,1.1s
BRG Berggiesshubel 72.29 7⇑ *i*P **P** **07 47 47.6 +1.2**
BRG *i**PP **pP** **07 48 01.4 +0.8**
BRG pmax pmax
comp=Z,30nm,1.0s
BRG pmax pmax
comp=Z,130nm,1.1s
AAK Ala-Archa 72.44 324 P **P** **07 47 49.0 +1.3**
SNR=48
AAK Ala-Archa 72.44 324*c i*P **P** **07 47 48.7 +1.0**
AAK pmax pmax
comp=Z,118nm,0.9s
AAK Ala-Archa 72.44 324 P **P** **07 47 48.5 +0.8**
comp=Z,88nm,0.9s,baz=86,slow=2.2,SNR=188
AAK Ala-Archa 72.44 324 P **P** **07 47 48.6 +1.0**
SNR=95
AAK Ala-Archa 72.44 324 P **P** **07 47 48.3 +0.6**
AAK IAmb IAmb 07 47 49.9
comp=Z,106nm,0.9s
AAK pP **pP** **07 48 02.4 +0.6**
KSP Ksiaz 72.46 6 *e*P **P** **07 47 48.8 +1.4**
KSP Ksiaz 72.46 6 *e*P **P** **07 47 48.8 +1.4**
KSP *e*P **P** **07 47 48.8 +1.4**
GYA Guiyang 72.49 291⇑ *i*P **P** **07 47 48.7 +0.6**
GYA PP **PP** **07 50 34.2 +4.8**
GYA S **S** **07 57 08.3 -0.2**
GYA SS **SS** **08 01 50.0 +2.8**
GYA pmax pmax
comp=Z,80nm,0.7s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=Z,380nm,17.7s
GYA LR LR
comp=Z,220nm,16.0s
GYA LR LR
comp=Z,430nm,21.8s
EKS2 Erkin-Say 72.65 324 P **P** **07 47 50.2 +1.3**
SNR=125
PVCC Panska Ves 72.67 7 *e*P **P** **07 47 49.8 +1.1**
PVCC *e* 07 48 04.1
PVCC Panska Ves 72.67 7 *e*P **P** **07 47 49.8 +1.1**
PVCC *e*pP **pP** **07 48 04.1 +1.2**
KZA Kyzart 72.70 323 P **P** **07 47 50.7 +1.2**
SNR=56
CHVC Chvalec 72.70 6 *e*P **P** **07 47 49.7 +0.8**
CHVC *ex* x 07 48 03.1
WLF Walferdange 72.75 13 IAmb IAmb 07 48 06.2
comp=Z,89nm,1.0s
AKASG Malin Array Be 72.77 357 *i* P **P** **07 47 49.2 0.0**
AKASG pmax pmax
comp=Z,40nm,0.7s
AKASG Malin Array Be 72.77 357 P **P** **07 47 49.3 0.0**
comp=Z,38nm,0.7s,baz=7.6,slow=6.0,SNR=42
AKASG pP **pP** **07 48 03.4 0.0**
comp=Z,126nm,0.8s,baz=6.2,slow=5.6,SNR=23
AKASG PP **PP** **07 50 26.1 -4.7**
comp=Z,3.6nm,0.8s,baz=3.9,slow=9.5,SNR=4.3
AKASG LR LR 08 18 55.2
comp=Z,233nm,21.7s,baz=350,slow=35
UPC Upice 72.78 6 *e*P **P** **07 47 50.6 +1.2**
UPC *e* 07 48 03.7
UPC Upice 72.78 6 *e*P **P** **07 47 50.6 +1.2**
UPC *e*pP **pP** **07 48 03.7 +0.1**
UCH Uchtor 72.80 324 P **P** **07 47 51.3 +1.1**
SNR=35
DPC Dobruska-Polom 72.95 6 *e*P **P** **07 47 51.9 +1.5**
DPC *e* 07 48 05.1
DPC Dobruska-Polom 72.95 6 *e*P **P** **07 47 51.9 +1.5**
DPC *e*pP **pP** **07 48 05.1 +0.4**
NRN Naryn 73.02 322 IAmb IAmb 07 47 54.0
comp=Z,126nm,1.1s
AML Almayashu 73.16 324 P **P** **07 47 53.6 +1.4**
SNR=95
PRU Pruhonice 73.21 7 *e*P **P** **07 47 53.0 +1.1**
PRU *e* 07 48 06.2
PRU Pruhonice 73.21 7 *e*P **P** **07 47 53.0 +1.1**
PRU *e*pP **pP** **07 48 06.2 +0.1**
DZA Taraz 73.21 326 *e*P **P** **07 47 51.3 -0.8**
DZA Taraz 73.21 326 *e*P **P** **07 47 51.3 -0.8**
OJC Ojcow 73.23 3 *e*P **P** **07 47 52.9 +0.9**

OJC Ojcow 73.23 3 *e*P **P** **07 47 52.9 +0.9**
OJC *e*P **P** **07 47 52.9 +0.9**
GRA1 Grafenberg Arr 73.25 9 IAmb IAmb 07 48 08.8
comp=Z,116nm,1.1s
KRLC Kraliky 73.25 5 *e*P **P** **07 47 53.3 +1.1**
KRLC Kraliky 73.25 5 *e*P **P** **07 47 53.3 +1.1**
KK31 Karatay Array 73.27 327 *i* P **P** **07 47 52.7 +0.3**
KK31 pmax pmax
comp=Z,98nm,0.9s
KK31 Karatay Array 73.27 327 IAmb IAmb 07 47 54.1
comp=Z,124nm,0.9s
KKAR Karatay Array 73.27 327 IAmb IAmb 07 47 54.1
comp=Z,124nm,0.9s
GOPC GO Pecny, Ondr 73.30 7 *e*P **P** **07 47 53.3 +0.9**
GOPC *e* 07 48 06.1
GOPC GO Pecny, Ondr 73.30 7 *e*P **P** **07 47 53.3 +0.9**
GOPC *e*pP **pP** **07 48 06.1 -0.6**
PBCC Pribram 73.47 7 *e*P **P** **07 47 54.5 +1.0**
PBCC *ex* x 07 48 08.2
OKC Ostrava-Krasne 73.56 4 *e*P **P** **07 47 55.1 +1.2**
OKC *e* 07 48 08.2
OKC Ostrava-Krasne 73.56 4 *e*P **P** **07 47 55.1 +1.2**
OKC *e*pP **pP** **07 48 08.2 +0.1**
MORC Moravsky Berou 73.59 5⇑P **P** **07 47 55.3 +1.2**
MORC mb 07 48 10.4
MORC Moravsky Berou 73.59 5 *e*P **P** **07 47 55.0 +0.8**
MORC *e* 07 48 08.8
LVV L'vov 73.71 0 *e*P **P** **07 47 56.0 +1.2**
JBG Jabagly 73.88 326*c i*P **P** **07 47 57.6 +1.5**
JBG pmax pmax
comp=Z,114nm,1.4s
KWP Kalwaria Pacla 73.89 1 *e*P **P** **07 47 57.2 +1.3**
KWP Kalwaria Pacla 73.89 1 *e*P **P** **07 47 57.2 +1.3**
KWP *e*P **P** **07 47 57.2 +1.3**
STU Stuttgart 73.97 11 IAmb IAmb 07 48 12.9
comp=Z,122nm,1.2s
KHC Kasperske Hory 74.00 8*de*P **P** **07 47 58.0 +1.4**
KHC pmax pmax
comp=Z,53nm,0.8s
KHC Kasperske Hory 74.00 8 *e*P **P** **07 47 57.9 +1.4**
KHC *e*pP **PcP** **07 48 11.4 -0.2**
VRAC Vranov 74.01 6⇓P **P** **07 47 58.0 +1.4**
VRAC mb 07 48 13.2
VRAC Vranov 74.01 6 *e*P **P** **07 47 57.8 +1.2**
VRAC *e* 07 48 11.5
NIE Niedzica 74.05 3 *e*P **P** **07 47 58.1 +1.2**
NIE Niedzica 74.05 3 *e*P **P** **07 47 58.1 +1.2**
NIE *e*P **P** **07 47 58.1 +1.2**
STHS Stebnicka Huta 74.08 2 *e*P **P** **07 47 57.4 +0.4**
STHS pmax pmax
comp=Z,86nm,0.9s
STHS Stebnicka Huta 74.08 2 *e*P **P** **07 47 57.4 +0.4**
ARSB Arslanbob 74.11 324 IAmb IAmb 07 47 59.5
comp=Z,142nm,1.3s
KRUC Moravsky 74.24 6 *e*P **P** **07 47 58.9 +0.9**
KRUC *e* 07 48 12.7
PPT Papeete 74.27 174 LR LR 08 13 41.8
comp=Z,389nm,18.9s,baz=354,slow=30
IUG Iuzhnay 74.28 327⇑ *i*P **P** **07 47 59.4 +0.9**
IUG Iuzhnay 74.28 327*c i*P **P** **07 47 59.4 +0.9**
PPT2 Papeete2 74.29 174 *e*S **S** **07 57 31.5 +3.0**
comp=Z,110nm,27.8s
PPT2 Papeete2 74.29 174 *e*LR LR 08 10 51.6
comp=Z,793nm,23.8s
GEC2 GERESS Array S 74.29 8 IAmb IAmb 07 48 14.7
comp=Z,82nm,1.1s
GERES GERESS Array B 74.29 8 P **P** **07 47 59.3 +1.0**
comp=Z,7.2nm,0.5s,baz=356,slow=4.4,SNR=49
LANS Liptovska Anna 74.29 4 *e*P **P** **07 48 00.2 +1.9**
LANS pmax pmax
comp=Z,75nm,1.0s
LANS Liptovska Anna 74.29 4 *e*P **P** **07 48 00.2 +1.9**
ECH Echery 74.30 12 IAmb IAmb 07 48 14.8
comp=Z,97nm,0.9s
BFO Black Forest 74.32 11 *i* P **P** **07 47 59.6 +1.2**
BFO Black Forest 74.32 11 P **P** **07 47 58.6 +0.2**
BFO pP **PcP** **07 48 13.4 +0.4**
OBIP Obispado Ponce 74.36 81 IAmb IAmb 07 48 00.1
comp=Z,88nm,0.9s
GCPR Guaynabo City 74.43 80 P **P** **07 47 58.9 -0.5**
GCPR IAmb IAmb 07 48 00.1
comp=Z,120nm,0.9s
JAVC Velka Javorina 74.51 5 *e*P **P** **07 48 01.7 +2.1**
JAVC *e* 07 48 15.5
SJG San Juan 74.55 81 P **P** **07 47 59.3 -0.8**
SJG pmax pmax
comp=Z,32nm,0.8s
SJG San Juan 74.55 81 P **P** **07 47 59.4 -0.8**
KOLS Kolonicke sedl 74.58 2 *e*P **P** **07 48 01.5 +1.6**
KOLS pmax pmax
comp=Z,58nm,1.1s
KOLS Kolonicke sedl 74.58 2 *e*P **P** **07 48 01.5 +1.6**
KSH Kashi 74.75 321 P **P** **07 48 05.1 +3.9**
KSH pP sP 07 48 18.5 -2.6
KSH S **S** **07 57 38.2 +4.6**
KSH pmax pmax
comp=Z,620nm,6.0s
KSH LR LR
comp=Z,3µm,17.3s
KSH LR LR
comp=Z,2µm,16.3s
KSH LR LR
comp=Z,3µm,18.7s
SMOL Smolenice 74.84 5 *e*P **P** **07 48 03.3 +1.8**
SMOL pmax pmax
comp=Z,63nm,1.0s
SMOL Smolenice 74.84 5 *e*P **P** **07 48 03.2 +1.8**
UZH Uzhgorod 74.88 2 *e*P **P** **07 48 01.7 +0.1**
UZH *e**PP **pP** **07 48 15.7 -0.2**
UZH *e* 07 48 19.8
UZH *e*S **S** **07 57 32.5 -2.1**
MTP Monte Pirata 74.89 80 P **P** **07 48 01.9 -0.2**
MTP IAmb IAmb 07 48 03.1
comp=Z,78nm,1.1s
VYHS Vyhne 74.93 4 *e*P **P** **07 48 03.2 +1.3**
VYHS pmax pmax
comp=Z,123nm,1.1s
VYHS Vyhne 74.93 4 *e*P **P** **07 48 03.2 +1.3**
MODS Modra-Piesok 74.98 5 *e*P **P** **07 48 02.8 +0.6**
MODS pmax pmax
comp=Z,140nm,1.1s
MODS Modra-Piesok 74.98 5 *e*P **P** **07 48 02.8 +0.6**
KECS Kecovo 74.99 3 *e*P **P** **07 48 03.5 +1.2**
KECS pmax pmax
comp=Z,40nm,1.0s
KECS Kecovo 74.99 3 *e*P **P** **07 48 03.5 +1.2**
TAS Tashkent 75.26 327 P **P** **07 48 04.8 +0.8**
TAS *PP **pP** **07 48 19.5 +1.2**
TAS pmax pmax
comp=Z,256nm,1.1s
TAS Tashkent 75.26 327 P **P** **07 48 04.8 +0.8**
TAS pP **pP** **07 48 19.5 +1.2**
MOA Molln 75.32 7 *e*P **P** **07 48 04.9 +0.7**
comp=Z,11nm,1.4s
MOA *e*pP **pP** **07 48 20.3 +1.8**
comp=Z,61nm,1.1s
CONA Conrad Observa 75.34 6 *e*P **P** **07 48 05.7 +1.3**
comp=Z,16nm,0.8s,SNR=8.0
CONA *i* pP **pP** **07 48 19.8 +1.1**
comp=Z,69nm,0.9s
SORM Soroca 75.36 358⇑P **P** **07 48 04.6 +0.2**
TRPA Tarpa 75.39 2 *e*PcP **PcP** **07 48 20.0 +2.5**
TRPA Tarpa 75.39 2 *e*P **P** **07 48 05.0 +0.5**
RETA Reutte 75.39 10 *i* P **P** **07 48 06.0 +1.3**
comp=Z,12nm,1.1s
RETA *e*pP **pP** **07 48 20.0 +1.0**
comp=Z,42nm,1.1s
DAVA Damuels 75.51 10 *e*P **P** **07 48 06.7 +1.2**
comp=Z,6.0nm,0.7s
DAVA *e*pP **pP** **07 48 20.5 +0.7**
comp=Z,41nm,0.8s
PSZ Piszkesteto 75.54 3⇑P **P** **07 48 07.3 +1.8**
PSZ mb 07 48 22.4
PSZ Piszkesteto 75.54 3 *e*P **P** **07 48 06.1 +0.5**
PSZ *e*PcP **pP** **07 48 21.0 +1.2**
PSZ Piszkesteto 75.54 3 IAmb IAmb 07 48 22.3
comp=Z,142nm,1.2s
MOTA Moosalm 75.57 10 *e*P **P** **07 48 06.7 +0.9**
comp=Z,28nm,1.1s,SNR=7.9
MOTA *e*pP **pP** **07 48 21.0 +0.9**
comp=Z,130nm,1.2s
KMI Kunming 75.58 294 P **P** **07 48 04.7 -1.6**
KMI pP pP 07 48 20.5 -0.1
KMI sP sP 07 48 25.6 -0.6

KMI PP **PP** **07 50 55.4 -0.4**
KMI S **S** **07 57 41.0 -2.5**
KMI pmax pmax
comp=Z,28nm,0.9s
KMI pmax pmax
comp=Z,130nm,3.6s
KMI LR LR
comp=Z,340nm,19.3s
KMI LR LR
comp=Z,380nm,20.8s
KMI LR LR
comp=Z,610nm,19.0s
WATA Walderalm 75.62 9 *e*P **P** **07 48 07.2 +1.1**
comp=Z,20nm,0.7s,SNR=11
WATA *i* pP **pP** **07 48 21.4 +1.0**
comp=Z,185nm,1.1s
SOP Sopron 75.63 6 *e*PcP **PcP** **07 48 20.1 +1.4**
SOP Sopron 75.63 6 *e*P **P** **07 48 07.1 +1.1**
WTTA Wattenberg 75.69 9 *i* P **P** **07 48 07.8 +1.2**
comp=Z,31nm,0.9s,SNR=10
WTTA *i* pP **pP** **07 48 22.1 +1.2**
comp=Z,166nm,1.2s
SQTA Sankt Quirin 75.70 9 *i* P **P** **07 48 07.8 +1.3**
comp=Z,26nm,0.8s,SNR=12
SQTA *e*pP **pP** **07 48 22.2 +1.3**
comp=Z,194nm,1.1s
SMRC Santa Marta, M 75.82 91 *e*P **P** **07 48 06.4 -1.1**
SMRC Santa Marta, M 75.82 91 *e*P **P** **07 48 06.4 -1.1**
FETA Feichten 75.85 10 *e*P **P** **07 48 08.8 +1.3**
comp=Z,27nm,0.9s,SNR=14
FETA *e*pP **pP** **07 48 23.1 +1.3**
comp=Z,103nm,1.0s
BURAR Bucovina Array 75.92 360 ⇑P **P** **07 48 08.6 +0.9**
BURAR mb 07 48 24.4
BTK Batken 75.95 325 IAmb IAmb 07 48 24.8
comp=Z,130nm,1.0s
ARSA Arzberg 76.00 6 *e*P **P** **07 48 09.4 +1.3**
comp=Z,14nm,1.0s
ARSA *e*pP **pP** **07 48 23.4 +1.0**
comp=Z,52nm,1.1s
KBA Koelnbreinsper 76.02 8 *e*P **P** **07 48 10.0 +1.5**
comp=Z,42nm,0.9s
KBA *e*pP **pP** **07 48 24.2 +1.5**
comp=Z,188nm,1.1s
LTVH Ltavrtes, Hu 76.12 2 *e*P **P** **07 48 13.1 +4.3**
LTVH *e*PcP **pP** **07 48 24.0 +1.0**
MPLH Magyarpolny 76.19 5 *e*P **P** **07 48 10.1 +0.9**
MPLH *e*PcP **pP** **07 48 24.0 +0.6**
FUORN Ofenpass-Fuorn 76.21 10 IAmb IAmb 07 48 26.6
comp=Z,144nm,1.3s
ABTA Abfaltersbach 76.28 9 *i* P **P** **07 48 10.5 +0.7**
comp=Z,17nm,1.1s
ABTA *e*pP **pP** **07 48 25.0 +0.9**
comp=Z,67nm,1.1s
SJCC San Jacinto, C 76.34 93 *e*P **P** **07 48 09.7 -0.9**
SJCC San Jacinto, C 76.34 93 *e*P **P** **07 48 09.7 -0.9**
ARCR ARCALIA 76.45 0 ⇑P **P** **07 48 12.1 +1.4**
TIH Tihany 76.48 5 *e*P **P** **07 48 14.0 +3.3**
TIH *e*PcP **pP** **07 48 26.0 +0.9**
KIS Kishinev 76.48 357 *e*P **P** **07 48 11.0 +0.2**
KIS XM 07 48 26.0
comp=Z,340nm,2.0s
KIS Kishinev 76.48 357 *e*P **P** **07 48 11.0 +0.2**
KIS *i* 07 48 23.0
KIS *i* 07 48 25.0
KIS pmax pmax
comp=Z,340nm,2.0s
MYKA Terra Mystica 76.49 8 *e*P **P** **07 48 12.7 +1.8**
comp=Z,5.0nm,0.5s
MYKA *e*pP **pP** **07 48 26.1 +0.8**
comp=Z,43nm,1.5s
SOKA Soboth 76.54 7 *i* P **P** **07 48 12.7 +1.5**
comp=Z,8.4nm,0.4s,SNR=5.4
SOKA *e*pP **pP** **07 48 26.5 +0.9**
comp=Z,86nm,1.1s
MILM Milestii Mici 76.56 357 ⇑P **P** **07 48 11.4 +0.2**
BIZ Bicaz 76.59 359 ⇑P **P** **07 48 12.6 +1.2**
OBKA Obir 76.67 7 *e*P **P** **07 48 13.0 +1.0**
comp=Z,43nm,0.5s,SNR=15
OBKA *e*pP **pP** **07 48 27.4 +1.1**
comp=Z,106nm,1.0s
DRGR 76.73 1 ⇑P **P** **07 48 13.2 +0.9**
GROS Grobnik 76.78 7 *i* P **P** **07 48 13.6 +1.0**
GROS *i* pP **pP** **07 48 27.7 +0.7**
BEHE Becsehely 76.85 6 ePcP **PcP** **07 48 27.1 +3.2**
SSB Saint Sauveur 76.86 15 P **P** **07 48 13.5 +0.5**
SSB pmax pmax
comp=Z,38nm,0.9s
SSB Saint Sauveur 76.86 15 P **P** **07 48 13.5 +0.5**
CADS Cadrg 76.89 8 *i* P **P** **07 48 13.3 0.0**
CADS *i* pP **pP** **07 48 27.6 0.0**
CTI Castel Tesino 76.90 9 IAmb IAmb 07 48 29.1
comp=Z,65nm,1.2s
QIZ Qiongzhong 76.92 285 IAmb IAmb 07 48 31.5
comp=Z,78nm,1.4s
KALN Kalnik 77.17 6 P **P** **07 48 15.4 +0.7**
MORH Mrgy, Hungar 77.19 4 *e*P **P** **07 48 15.3 +0.5**
MORH Mrgy, Hungar 77.19 4 *e*P **P** **07 48 16.0 +1.2**
MORH *e*PcP **pP** **07 48 29.0 -0.1**
SALO Salr 77.22 10 P **P** **07 48 15.4 +0.3**
LSA Lhasa 77.27 305 P **P** **07 48 17.7 +1.6**
LSA P **P** **07 48 17.7 +1.6**
LSA Lhasa 77.27 305 P **P** **07 48 17.5 +1.4**
LSA pmax pmax
comp=Z,106nm,0.9s
LSA Lhasa 77.27 305 P **P** **07 48 17.5 +1.4**
LSA IAmb IAmb 07 48 18.7
comp=Z,106nm,0.9s
GOF Gofitskoye 77.33 347 ⇑*i*P **P** **07 48 16.7 +1.1**
GOF pmax pmax
comp=Z,384nm,0.9s
BNI Bardonecchia 77.36 13 IAmb IAmb 07 48 33.6
comp=Z,80nm,1.0s
PTJ Puntijarka 77.36 6 P **P** **07 48 16.2 +0.3**
CEY Cerknica 77.43 7 ⇑*i*P **P** **07 48 16.6 +0.4**
DOPR Dopca 77.57 360 ⇑P **P** **07 48 18.6 +1.6**
MSVF Nonsavu 77.58 206 P **P** **07 48 18.5 +1.2**
MSVF pmax pmax
comp=Z,123nm,1.1s
MSVF Nonsavu 77.58 206 P **P** **07 48 18.5 +1.2**
MSVF IAmb IAmb 07 48 20.0
comp=Z,123nm,1.1s
TEOL Teolo 77.59 9 P **P** **07 48 17.5 +0.5**
TEOL pP **pP** **07 48 31.8 +0.4**
VRI Vrincioaia 77.66 359 ⇑P **P** **07 48 18.3 +0.9**
CHGR Chuyangaron 77.75 326 P **P** **07 48 18.7 +0.5**
SMLC San Martn de 77.86 93 *e*P **P** **07 48 17.4 -1.6**
SMLC San Martn de 77.86 93 *e*P **P** **07 48 17.4 -1.6**
BZS Buzias 77.89 2 ⇑P **P** **07 48 19.7 +1.0**
PCAB Cabril 78.01 24 *e*P **P** **07 48 21.3 +1.8**
comp=Z,50nm,1.3s
PCAB *e*pP **pP** **07 48 35.5 +1.6**
MLR Muntele Rosu 78.04 359 ⇑P **P** **07 48 21.3 +1.6**
MLR Muntele Rosu 78.04 359 IAmb IAmb 07 48 36.5
comp=Z,90nm,1.4s
VOIR 78.10 360 ⇓P **P** **07 48 20.7 +0.7**
GZR Gura Zlata 78.13 1 ⇑P **P** **07 48 21.2 +1.0**
SLVN Son La 78.13 291 IAmb IAmb 07 48 22.6
comp=Z,152nm,1.4s
ARR Arges 78.17 0 ⇑P **P** **07 48 22.2 +1.8**
ANN Anapa 78.18 351 *e*P P 07 48 14.3 -6.0
ANN *e**PP **PcP** **07 48 25.5 -4.2**
ANN *e* 07 48 33.6
ANN *e*S S 07 58 01.3 -9.4
ANN pmax pmax
comp=Z,94nm,1.2s
PBRG Braganca 78.21 24 *e*P **P** **07 48 22.2 +1.6**
comp=Z,33nm,1.6s
PBRG *e*pP **pP** **07 48 36.2 +1.2**
SIM Simferopol' 78.28 353 *e*P **P** **07 48 22.2 +1.3**
SIM *e* 07 48 35.0
SIM *e*S **S** **07 58 14.0 +2.1**
SIM pmax pmax
comp=Z,52µm,1.0s
TLCR 78.29 357 ⇑P **P** **07 48 21.7 +0.8**
TLCR mb 07 48 37.1
FRGS Fruska Gora 78.29 4 ⇑*i*P **P** **07 48 21.6 +0.6**
CFR Carcaliu 78.32 358 ⇑P **P** **07 48 21.3 +0.2**
POLO Lamas de Olo 78.38 24 *e*P **P** **07 48 22.9 +1.2**
comp=Z,32nm,1.2s
POLO *e*pP **pP** **07 48 37.7 +1.7**
MSSA Maissana 78.41 11 IAmb IAmb 07 48 37.4
comp=Z,112nm,1.2s
KIV Kislovodsk 78.46 347 P **P** **07 48 23.4 +1.4**
SNR=18
KIV P **P** **07 48 23.4 +1.4**
SNR=18
KIV Kislovodsk 78.46 347 *e*P **P** **07 48 23.0 +1.0**
KIV *e*S **S** **07 58 16.1 +2.2**
KIV pmax pmax
comp=Z,314nm,0.9s
KIV pmax pmax
comp=Z,222nm,4.8s
KIV MLR MLR
comp=Z,587nm,19.0s
KIV Kislovodsk 78.46 347 P **P** **07 48 22.4 +0.4**
KIV *e*pP **pP** **07 48 37.0 +0.6**
PVRL Vila Real 78.50 24 *e*P **P** **07 48 24.0 +1.8**
comp=Z,71nm,1.3s
PVRL *e*pP **pP** **07 48 38.4 +1.8**
ZARC Zaragoza, Cauc 78.51 94 *e*P **P** **07 48 21.3 -1.3**
ZARC Zaragoza, Cauc 78.51 94 *e*P **P** **07 48 21.3 -1.3**
ZCCA Zocca 78.52 10 IAmb IAmb 07 48 40.9
comp=Z,65nm,1.0s
TOPG Topolog 78.61 357 ⇓P **P** **07 48 23.9 +1.2**
NVLJ Novalja 78.63 7 P **P** **07 48 23.0 +0.2**
KBZ Khabaz 78.65 347 P **P** **07 48 24.3 +1.4**
comp=Z,68nm,0.8s,baz=335,slow=4.6,SNR=64
KBZ LR LR 08 27 23.8
comp=Z,193nm,20.3s,baz=7.0,slow=39
VLC Villacollemand 78.66 10 P **P** **07 48 24.0 +0.9**
VLC IAmb IAmb 07 48 40.3
comp=Z,57nm,0.6s
MDVR Moldovita 78.72 2 ⇑P **P** **07 48 24.3 +0.9**
OCAC Ocana 78.73 92 *e*P **P** **07 48 22.4 -1.6**
OCAC Ocana 78.73 92 *e*P **P** **07 48 22.4 -1.6**
MVO Moncorvo 78.75 24 *e*P **P** **07 48 25.3 +1.6**
comp=Z,58nm,1.1s
MVO *e*pP **pP** **07 48 39.3 +1.2**
MVO Moncorvo 78.75 24 *e*LR LR 08 15 02.6
comp=Z,278nm,22.0s
NCK Nalchik 78.79 346 *i* P **P** **07 48 25.7 +1.9**
NCK pmax pmax
comp=Z,194nm,0.9s
HARR Harsova 78.81 358 ⇑P **P** **07 48 24.7 +0.9**
HARR mb 07 48 40.1
MGRS Mrkonjic Grad 78.91 6 *e*P **P** **07 48 25.7 +1.2**
PVIS Viseu 78.99 25 *e*P **P** **07 48 26.2 +1.3**
comp=Z,61nm,1.1s
PVIS *e*pP **pP** **07 48 40.3 +1.0**
TIRR Tirgusor 79.03 357 P **P** **07 48 25.6 +0.6**
TIRR *PP **pP** **07 48 39.8 +0.4**
TIRR pmax pmax
comp=Z,259nm,1.0s
TIRR Tirgusor 79.03 357 P **P** **07 48 25.6 +0.6**
TIRR pP **pP** **07 48 39.8 +0.4**
NEY Neytrino 79.15 347 ⇓*e*P **P** **07 48 28.0 +2.1**
NEY pmax pmax
comp=Z,29nm,1.9s
SOC Sochi 79.16 349 *e*P **P** **07 48 26.0 +0.2**
SOC *e*SP **pP** **07 48 39.3 -0.8**
SOC *e* 07 51 23.6
SOC *e*S **S** **07 58 24.2 +2.9**
SOC *e*SS **SS** **08 03 25.5 -1.2**
SOC *e*SSS SSS 08 06 54.8
SOC pmax pmax
comp=Z,56nm,0.8s
DUGI Dugi Otok 79.21 7 P **P** **07 48 26.6 +0.5**
HELC Santa Helena 79.22 95 *e*P **P** **07 48 25.5 -1.4**
HELC Santa Helena 79.22 95 *e*P **P** **07 48 25.5 -1.4**
CBOC Ciudad Bolivar 79.23 96 *e*P **P** **07 48 25.4 -1.3**
CBOC Ciudad Bolivar 79.23 96 *e*P **P** **07 48 25.4 -1.3**
KIJV Kijevo 79.29 6 P **P** **07 48 27.3 +0.8**
MFTR Murfatlar 79.31 357 ⇓P **P** **07 48 27.7 +1.2**
MFTR mb 07 48 38.9
HAPS Han Pijesak,Bl 79.33 4 *e*P **P** **07 48 26.6 -0.2**
COI Coimbra 79.35 25 *e*P **P** **07 48 28.6 +1.8**
comp=Z,72nm,1.1s
COI Coimbra 79.35 25 IAmb IAmb 07 48 43.9
comp=Z,100nm,1.0s
DIVS Divibare 79.36 3 ⇓*i*P **P** **07 48 27.4 +0.4**
MTE Manteigas 79.37 25 *e*P **P** **07 48 28.6 +1.5**
comp=Z,86nm,1.1s
MTE *e*pP **pP** **07 48 42.8 +1.4**
MTE Manteigas 79.37 25 *e*LR LR 08 15 06.3
comp=Z,256nm,22.0s
MTE Manteigas 79.37 25 IAmb IAmb 07 48 44.1
comp=Z,130nm,1.0s
MORI Morici 79.38 7 P **P** **07 48 27.1 +0.2**
ZEI Tsey 79.45 346 *e*P **P** **07 48 27.8 +0.2**
ZEI pmax pmax
comp=Z,98nm,1.2s
BRRC Barranca, Sant 79.46 93 *e*P **P** **07 48 26.6 -1.1**
BRRC Barranca, Sant 79.46 93 *e*P **P** **07 48 26.6 -1.1**
PCAS Casmilo, Conde 79.48 25 *e*P **P** **07 48 28.9 +1.3**
comp=Z,58nm,1.4s
PCAS *e*pP **pP** **07 48 43.6 +1.6**
PTBC PUERTO BERRIO, 79.52 94 *e*P **P** **07 48 26.5 -1.6**
PTBC PUERTO BERRIO, 79.52 94 *e*P **P** **07 48 26.5 -1.6**
BBLS Lazići 79.57 4 ⇓*i*P **P** **07 48 28.8 +0.7**
ZIRJ Zirje 79.59 7 P **P** **07 48 28.4 +0.4**
SDV Santo Domingo 79.68 90 *e*P **P** **07 48 28.9 -0.3**
SDV Santo Domingo 79.68 90 *e*P **P** **07 48 28.9 -0.3**
SDV Santo Domingo 79.68 90 P **P** **07 48 28.4 -0.8**
MURB Monte Urbino 79.74 9 IAmb IAmb 07 48 47.3
comp=Z,188nm,1.3s
RUDO Rudo 79.82 4 ⇑*i*P **P** **07 48 29.8 +0.4**
PLMC San Jos del P 79.87 97 *e*P **P** **07 48 29.2 -0.9**
PLMC San Jos del P 79.87 97 *e*P **P** **07 48 29.2 -0.9**
PTOM Tomar 79.91 25 *e*P **P** **07 48 31.2 +1.3**
comp=Z,53nm,1.2s
PTOM *e*pP **pP** **07 48 45.3 +1.0**
PCBR Castelo Branco 79.92 25 *e*P **P** **07 48 31.1 +1.2**
comp=Z,60nm,1.2s
PCBR Castelo Branco 79.92 25 *e*PcP **PcP** **07 48 36.7 -0.7**
PCBR *e*pP **pP** **07 48 45.3 +1.0**
TBI Tubuai 80.02 175 *e*S **S** **07 58 33.0 +2.7**
comp=Z,575nm,33.0s
TBI Tubuai 80.02 175 *e*LR LR 08 13 21.8
comp=Z,799nm,28.2s
FDF Fort de France 80.03 78 IAmb IAmb 07 48 41.7
comp=Z,121nm,1.2s
CASP Castiglione de 80.06 10 IAmb IAmb 07 48 46.9
comp=Z,93nm,1.2s
NORC Norcasia 80.10 95 *e*P **P** **07 48 30.2 -1.1**
NORC Norcasia 80.10 95 *e*P **P** **07 48 30.2 -1.1**
AKT Akhty 80.16 343 *e*P **P** **07 48 32.0 +0.6**
AKT *e* 07 51 32.2
AKT pmax pmax
comp=Z,89nm,0.9s
UPM Unac-Piva 80.21 4 ⇑*i*P **P** **07 48 32.3 +0.6**
LATE Laterza 80.32 10 IAmb IAmb 07 48 48.2
comp=Z,72nm,0.9s
PMRV Marv??o 80.33 25 *e*P **P** **07 48 33.4 +1.2**
comp=Z,38nm,1.4s
PMRV *e*pP **pP** **07 48 48.1 +1.5**
PMAFR Mafra 80.33 26 *e*P **P** **07 48 33.7 +1.5**
comp=Z,156nm,0.9s
PMAFR *e*pP **pP** **07 48 48.1 +1.5**
RREF El Recreo 80.39 96 *e*P **P** **07 48 33.0 -0.5**
RREF El Recreo 80.39 96 *e*P **P** **07 48 33.0 -0.5**
SPBC San Pablo de B 80.46 94 *e*P **P** **07 48 31.9 -1.4**
SPBC San Pablo de B 80.46 94 *e*P **P** **07 48 31.9 -1.4**
SHL Shillong 80.47 302 P **P** **07 48 32.9 -0.5**
SNR=12
SHL Shillong 80.47 302 *e*P **P** **07 48 34.0 +0.6**
PMTG Montargil 80.48 25 *e*P **P** **07 48 32.9 -0.1**
comp=Z,32nm,1.0s
PMTG *e*pP **pP** **07 48 47.3 -0.1**
BRY Bratogost 80.50 5 ⇓*i*P **P** **07 48 33.4 +0.2**
YOTC Yotoco, Valle 80.61 97 *e*P **P** **07 48 31.6 -2.5**
YOTC Yotoco, Valle 80.61 97 *e*P **P** **07 48 31.6 -2.5**
TREB Trebinje 80.67 5 ⇑*i*P **P** **07 48 33.9 -0.1**
RUSC La Rusia 80.81 93 *e*P **P** **07 48 34.2 -1.4**
RUSC La Rusia 80.81 93 *e*P **P** **07 48 34.2 -1.4**
PESTR Estremoz 80.82 25 P **P** **07 48 35.2 +0.4**
TAPN Taplejung 80.83 307 *e*P **P** **07 48 36.0 +0.6**
comp=Z,277nm,0.8s
ESBB Sonseca Array 80.84 22 IAmb IAmb 07 48 52.0
comp=Z,102nm,1.1s
ESDC Sonseca Array 80.84 22 P **P** **07 48 36.3 +1.3**
comp=Z,39nm,0.8s,baz=341,slow=4.9,SNR=176
ESDC PKKPbc **PKKPbc** **08 07 10.9 +0.8**
comp=Z,0.1nm,0.3s,baz=140,slow=1.2,SNR=4.2
ESDC LR LR 08 27 08.6
comp=Z,106nm,20.1s,baz=10.0,slow=38
AKH Akhalkalaki 80.86 346 ⇓P **P** **07 48 37.1 +1.9**
PAB San Pablo 80.89 22 P **P** **07 48 36.3 +1.1**
PAB *PP **pP** **07 48 50.7 +1.0**
PAB pmax pmax
comp=Z,70nm,1.1s
PAB San Pablo 80.89 22 P **P** **07 48 36.3 +1.1**
PAB pP **pP** **07 48 50.7 +1.0**
VTS Vitosha 80.91 1 ⇑P **P** **07 48 35.6 +0.1**
VTS mb 07 48 53.0
HCY Herceg Novi 80.95 5 ⇑*i*P **P** **07 48 35.3 -0.1**
NIL Nilore 80.97 321 P **P** **07 48 36.8 +1.0**
NIL *PP **pP** **07 48 49.0 -1.1**
NIL pmax pmax
comp=Z,168nm,0.8s
NIL Nilore 80.97 321 P **P** **07 48 36.8 +1.0**
NIL pP **pP** **07 48 49.0 -1.1**
PDG Podgorica 81.00 4 ⇑*i*P **P** **07 48 36.3 +0.6**
PDG Podgorica 81.00 4 ⇑P **P** **07 48 36.3 +0.6**
PDG mb 07 48 52.1
PDG Podgorica 81.00 4 IAmb IAmb 07 48 52.1
comp=Z,129nm,1.0s
ROSC El Rosal 81.00 95 P **P** **07 48 36.8 +0.2**
comp=Z,28nm,1.0s,baz=1.1,slow=8.0,SNR=14
ROSC LR LR 08 26 35.7
comp=Z,248nm,21.6s,baz=21,slow=37
EVO Evora 81.04 25 *e*P **P** **07 48 36.9 +0.9**
comp=Z,25nm,1.3s
EVO *e*pP **pP** **07 48 51.9 +1.5**
BCA Borcka 81.06 347 ⇑P **P** **07 48 37.2 +1.1**
TAMC Tame, Arauca 81.07 92 *e*P **P** **07 48 36.1 -0.4**
TAMC Tame, Arauca 81.07 92 *e*P **P** **07 48 36.1 -0.4**
PMG Port Moresby 81.08 237 P **P** **07 48 35.7 -0.7**
PMG pmax pmax
comp=Z,37nm,1.0s
PMG Port Moresby 81.08 237 P **P** **07 48 35.7 -0.7**
INTR Introdacqua 81.10 8 IAmb IAmb 07 48 53.4
comp=Z,51nm,0.8s
GUN Gumba 81.14 308 *e*P **P** **07 48 37.7 +0.6**
comp=Z,278nm,1.0s
JIRN Jiri 81.22 308 *e*P **P** **07 48 38.5 +0.9**
DRME Dracevica, Mon 81.24 4 *e*P **P** **07 48 37.7 +0.7**
ORTC Ortega, Tolima 81.27 96 *e*P **P** **07 48 36.1 -1.4**
ORTC *e*P **P** **07 48 39.8 +2.3**
ORTC Ortega, Tolima 81.27 96 *e*P **P** **07 48 36.1 -1.4**
ORTC *e*P **P** **07 48 39.8 +2.3**
PNCL Nicolau / Gran 81.32 26 *e*P **P** **07 48 38.6 +1.2**
comp=Z,65nm,0.9s
PNCL *e*pP **pP** **07 48 53.0 +1.1**
ODAN Odare 81.39 307 *e*P **P** **07 48 38.9 +0.6**
comp=Z,168nm,0.9s
GEYT Alibeck 81.47 334 P **P** **07 48 39.6 +1.3**
comp=Z,38nm,0.8s,baz=328,slow=4.5,SNR=52
GEYT pP **pP** **07 48 52.7 0.0**
comp=Z,64nm,0.8s,baz=5.0,slow=6.9,SNR=17
GEYT LR LR 08 30 21.5
comp=Z,681nm,19.3s,baz=20,slow=40
GYA0B ALIBECK ARRAY 81.47 334 IAmb IAmb 07 48 55.6
comp=Z,99nm,0.9s
CHIC Chingaza 81.50 95 *e*P **P** **07 48 37.8 -1.5**
CHIC Chingaza 81.50 95 *e*P **P** **07 48 37.8 -1.5**
KKN Kakani 81.50 309 *e*P **P** **07 48 39.5 +0.6**
comp=Z,128nm,0.9s
SKO Skopje 81.52 2 *i* P **P** **07 48 36.5 -2.1**
PBEJ Beja 81.56 25 *e*P **P** **07 48 40.1 +1.4**
comp=Z,30nm,1.9s
PBEJ *e*pP **pP** **07 48 54.2 +1.0**
KBL Kabul 81.56 324 P **P** **07 48 38.7 -0.5**
KBL P **P** **07 48 38.7 -0.5**
KBL Kabul 81.56 324 P **P** **07 48 38.2 -0.9**
KBL *PP **pP** **07 48 51.1 -2.4**
KBL pmax pmax
comp=Z,75nm,1.0s
KBL Kabul 81.56 324 P **P** **07 48 38.2 -0.9**
KBL pP **pP** **07 48 51.1 -2.4**
KBL IAmb IAmb 07 48 54.4
comp=Z,75nm,0.9s
GKN Gorkha 81.59 309 *e*P **P** **07 48 39.8 +0.5**
comp=Z,218nm,0.8s
PRAC Prado 81.63 96 *e*P **P** **07 48 37.8 -1.7**
PRAC Prado 81.63 96 *e*P **P** **07 48 37.8 -1.7**
PKI Pulchoki 81.64 309 *e*P **P** **07 48 39.9 +0.2**
comp=Z,156nm,0.8s
PKIN Phulchoki 81.64 309 *e*P **P** **07 48 40.1 +0.4**
comp=Z,120nm,0.8s
MESJ Messejana 81.65 26 *e*P **P** **07 48 40.1 +0.8**
MESJ AMb AMB 07 48 57.3
comp=Z,54nm,1.0s
MESJ Messejana 81.65 26 *e*P **P** **07 48 40.0 +0.8**
DANN Dangsing 81.66 310 *e*P **P** **07 48 40.8 +1.0**
comp=Z,1µm,0.9s
RAMN Ramite 81.66 307 *e*P **P** **07 48 40.1 +0.3**
comp=Z,312nm,0.9s
DMN Daman 81.73 309 *e*P **P** **07 48 40.9 +0.7**
comp=Z,165nm,0.8s
BBAC Balboa, Cauca 81.75 99 *e*P **P** **07 48 39.4 -0.9**
BBAC Balboa, Cauca 81.75 99 *e*P **P** **07 48 39.4 -0.9**
STIP Stip 81.82 2 *i* P **P** **07 48 40.4 +0.4**
PCVE Castro Verde 81.89 26 *e*P **P** **07 48 41.7 +1.2**
comp=Z,29nm,1.1s
PCVE *e*pP **pP** **07 48 56.1 +1.2**
GNI Garni 81.92 345 *c i*P **P** **07 48 42.8 +2.0**
GNI pmax pmax
comp=Z,201nm,1.5s
GNI Garni 81.92 345 P **P** **07 48 42.8 +2.0**
GNI IAmb IAmb 07 49 00.7
comp=Z,143nm,1.4s
MORF Marmelete 82.05 26 *e*P **P** **07 48 42.0 +0.6**
MORF AMb AMB 07 48 59.2
comp=Z,112nm,2.0s
MORF Marmelete 82.05 26 *e*P **P** **07 48 42.4 +1.0**
comp=Z,76nm,1.8s
MORF *e*pP **pP** **07 48 57.2 +1.3**
MORF Marmelete 82.05 26 *e*P **P** **07 48 42.0 +0.6**
PFVI Vila Bisbo 82.17 27 *e*P **P** **07 48 43.5 +1.5**
comp=Z,93nm,1.3s
PFVI *e*pP **pP** **07 48 57.7 +1.3**
PVAQ Vaqueiros 82.18 26 *e*P **P** **07 48 43.5 +1.5**
comp=Z,59nm,1.4s
PVAQ *e*pP **pP** **07 48 58.2 +1.7**
PVAQ Vaqueiros 82.18 26 *e*LR LR 08 17 00.2
comp=Z,322nm,22.0s
PVAQ Vaqueiros 82.18 26 IAmb IAmb 07 48 59.2
comp=Z,116nm,1.2s
ILGA Ilgaz 82.19 353 IAmb IAmb 07 48 59.4
comp=Z,64nm,0.9s
VAY Valandovo 82.20 2 *i* P **P** **07 48 43.3 +1.3**
KOLN Koldanda 82.23 310 *e*P **P** **07 48 43.4 +0.7**
comp=Z,353nm,1.1s
PBDV Barranco-do-Ve 82.29 26 *e*P **P** **07 48 44.3 +1.7**
comp=Z,90nm,1.5s
PBDV *e*pP **pP** **07 48 59.0 +1.9**
HORN Hornachuelos 82.32 24 P **P** **07 48 44.2 +1.5**
HORN Hornachuelos 82.32 24 P **P** **07 48 44.2 +1.5**
GCUF Volcan Galeras 82.36 99 *e*P **P** **07 48 42.9 -0.9**
GCUF Volcan Galeras 82.36 99 *e*P **P** **07 48 42.9 -0.9**
OTAV Otavalo 82.59 101 *e*P **P** **07 48 44.3 -0.7**
OTAV Otavalo 82.59 101 *e*P **P** **07 48 44.3 -0.7**
OTAV Otavalo 82.59 101 P **P** **07 48 44.9 0.0**
OTAV pmax pmax
comp=Z,36nm,1.3s
OTAV Otavalo 82.59 101 *e*P **P** **07 48 44.6 -0.4**
OTAV Otavalo 82.59 101 *e*P **P** **07 48 44.6 -0.4**
OTAV Otavalo 82.59 101 P **P** **07 48 44.9 0.0**
SESP Santiago Espad 82.63 21 P **P** **07 48 46.1 +1.6**
SESP Santiago Espad 82.63 21 P **P** **07 48 46.1 +1.6**
ALN Alexandroupoli 82.63 359 IAmb IAmb 07 49 00.6
comp=Z,60nm,1.0s
TOKT Tokat 82.70 351 *e*P **P** **07 48 46.7 +1.9**
FNA Florina 82.71 3 P **P** **07 48 45.2 +0.4**
FNA *PP **pP** **07 48 59.3 0.0**
FNA pmax pmax
comp=Z,107nm,1.1s
FNA Florina 82.71 3 P **P** **07 48 45.2 +0.4**
FNA pP **pP** **07 48 59.3 0.0**
FNA IAmb IAmb 07 49 00.8
comp=Z,107nm,1.1s
PTGC Puerto Gaitan, 82.73 93 *e*P **P** **07 48 43.3 -1.9**
PTGC Puerto Gaitan, 82.73 93 *e*P **P** **07 48 43.3 -1.9**
CHTO Chiang Mai 82.77 293 P **P** **07 48 44.4 -0.9**
CHTO *PP **pP** **07 48 59.3 -0.5**
CHTO pmax pmax
comp=Z,81nm,1.5s
CHTO Chiang Mai 82.77 293 P **P** **07 48 44.4 -0.9**
CHTO pP **pP** **07 48 59.3 -0.5**
CHTO IAmb IAmb 07 49 02.8
comp=Z,80nm,1.5s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FAKI	**Fak Fak**	**82.95**	**254**	IAmb	IAmb	07 48 47.4	
	comp=Z,107nm,1.3s						
YUVA	**Yuva-Kibriscik**	**82.97**	**355**	eP	**P**	**07 48 47.5**	**+1.3**
FLOC	**Florencia**	**82.98**	**98**	eP	**P**	**07 48 46.0**	**-0.5**
FLOC	**Florencia**	**82.98**	**98**	eP	**P**	**07 48 46.0**	**-0.5**
SVSK	**Karacayir**	**83.06**	**351**	eP	**P**	**07 48 48.7**	**+2.2**
CM31	**Chiang Mai Arr**	**83.07**	**293**	P	**P**	**07 48 47.2**	**+0.3**
CM31				IAmb	IAmb	07 48 49.2	
	comp=Z,53nm,0.8s						
CM31				pP	**pP**	**07 49 01.3**	**0.0**
CMAR	**Chiang Mai Arr**	**83.07**	**293**	iP	**P**	**07 48 47.0**	**+0.1**
CMAR				pmax	pmax		
	comp=Z,33nm,0.8s						
CMAR	**Chiang Mai Arr**	**83.07**	**293**	P	**P**	**07 48 47.0**	**+0.1**
	comp=Z,30nm,0.8s,baz=11,slow=5.4,SNR=80						
CMAR				PKKPbc	**PKKPbc**	**08 07 07.2**	**+2.1**
	comp=Z,1.0nm,0.3s,baz=216,slow=4.4,SNR=4.1						
CMAR				LR	LR	08 27 52.2	
	comp=Z,153nm,21.8s,baz=31,slow=37						
GIBL	**Gibalbin**	**83.14**	**24**	iP	**P**	**07 48 49.0**	**+2.0**
LIJA	**Lijar**	**83.19**	**24**	iP	**P**	**07 48 49.0**	**+1.6**
SCTE	**Santa Cesarea**	**83.31**	**5**	IAmb	IAmb	07 49 04.3	
	comp=Z,115nm,0.9s						
SRCK	**Saricakaya, Es**	**83.36**	**355**	eP	**P**	**07 48 48.9**	**+0.8**
LIT	**Litokhoron**	**83.41**	**2**	P	**P**	**07 48 48.8**	**+0.4**
LIT				pmax	pmax		
	comp=Z,107nm,1.0s						
LIT	**Litokhoron**	**83.41**	**2**	P	**P**	**07 48 48.8**	**+0.4**
LIT				IAmb	IAmb	07 49 04.5	
	comp=Z,107nm,1.0s						
ANTO	**Ankara**	**83.42**	**354**	P	**P**	**07 48 49.8**	**+1.3**
	SNR=17						
ANTO	**Ankara**	**83.42**	**354**	P	**P**	**07 48 49.8**	**+1.3**
ANTO				pmax	pmax		
	comp=Z,151nm,1.0s						
ANTO	**Ankara**	**83.42**	**354**	eP	**P**	**07 48 50.2**	**+1.7**
ANTO	**Ankara**	**83.42**	**354**	P	**P**	**07 48 49.8**	**+1.3**
ALJ	**Aljibe**	**83.50**	**24**	eP	**P**	**07 48 51.0**	**+2.1**
AUMIH	**MIHALICIK**	**83.50**	**355**	eP	**P**	**07 48 50.3**	**+1.3**
MACC	**Macarena, Meta**	**83.50**	**96**	eP	**P**	**07 48 46.8**	**-2.4**
MACC	**Macarena, Meta**	**83.50**	**96**	eP	**P**	**07 48 46.8**	**-2.4**
BR131	**Keskin Array S**	**83.52**	**353**	P	**P**	**07 48 50.3**	**+1.3**
	SNR=19						
BR131	**Keskin Array S**	**83.52**	**353**	IAmb	IAmb	07 49 05.5	
	comp=Z,92nm,1.0s						
BRTR	**Keskin Array B**	**83.52**	**353**	P	**P**	**07 48 50.1**	**+1.1**
	comp=Z,20nm,0.8s,baz=22,slow=2.7,SNR=58						
BRTR				PKKPbc	**PKKPbc**	**08 07 04.7**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=152,slow=5.5,SNR=5.4						
BRTR				LR	LR	08 31 53.6	
	comp=Z,75nm,20.6s,baz=358,slow=40						
BRTR	**Keskin Array B**	**83.52**	**353**	eP	**P**	**07 48 49.9**	**+0.8**
CNIL	**Conil**	**83.56**	**25**	iP	**P**	**07 48 51.5**	**+2.4**
HRA	**Herat**	**83.75**	**330**	P	**P**	**07 48 51.2**	**+0.8**
HRA				pP	**pP**	**07 49 05.6**	**+0.7**
HRA				IAmb	IAmb	07 49 07.1	
	comp=Z,63nm,1.1s						
AFSR	**Afar-Bala (An**	**83.83**	**354**	eP	**P**	**07 48 52.1**	**+1.5**
PMPST	**Porto Santo, M**	**83.92**	**34**	eP	**P**	**07 48 52.2**	**+1.1**
PMPS	**Porto Santo**	**83.94**	**34**	eP	**P**	**07 48 52.1**	**+1.0**
	comp=Z,130nm,1.2s						
NDI	**New Delhi**	**84.00**	**316**	eP	P	07 49 02.5	+11
PMAR	**Madeira**	**84.07**	**34**	eP	**P**	**07 48 53.8**	**+1.7**
	comp=Z,177nm,1.4s						
KKM	**Kota Kinabalu**	**84.19**	**272**	IAmb	IAmb	07 49 12.1	
	comp=Z,149nm,1.2s						
BNN	**Bunyan**	**84.22**	**351**	eP	**P**	**07 48 54.5**	**+1.8**
YAYX	**Yaylak**	**84.29**	**353**	eP	**P**	**07 48 54.0**	**+1.0**
SERE	**Sereflikochisa**	**84.30**	**353**	eP	**P**	**07 48 54.5**	**+1.4**
KIZT	**Kizilcal**	**84.46**	**354**	eP	**P**	**07 48 54.6**	**+0.7**
AGG	**Agios Georgios**	**84.49**	**2**	IAmb	IAmb	07 49 09.5	
	comp=Z,81nm,1.0s						
PTLC	**Puerto Leguiza**	**84.62**	**98**	eP	**P**	**07 48 56.0**	**+1.1**
PTLC	**Puerto Leguiza**	**84.62**	**98**	eP	**P**	**07 48 56.0**	**+1.1**
DZM	**Mont Dzumac**	**84.95**	**215**	eS	**S**	**07 59 22.7**	**+1.6**
	comp=Z,85nm,29.7s						
DZM	**Mont Dzumac**	**84.95**	**215**	eLR	LR	08 15 37.7	
	comp=Z,516nm,26.8s						
DZM	**Mont Dzumac**	**84.95**	**215**	IAmb	IAmb	07 48 59.2	
	comp=Z,106nm,1.2s						
SULT	**Sultanhani-AKS**	**85.04**	**353**	eP	**P**	**07 48 57.6**	**+0.8**
LADK	**Ladik-KONYA**	**85.11**	**354**	eP	**P**	**07 48 57.8**	**+0.6**
SPMM	**Sapulut**	**85.16**	**271**	P	**P**	**07 48 58.0**	**+0.4**
KONT	**Konya--Tatoy**	**85.37**	**354**	eP	**P**	**07 48 59.4**	**+1.1**
CMRD	**Camardi-Nigde**	**85.47**	**352**	eP	**P**	**07 49 00.2**	**+1.2**
KARA	**Karaisali**	**85.86**	**352**	eP	**P**	**07 49 02.1**	**+1.3**
CEYT	**Ceyhan**	**86.06**	**351**	eP	**P**	**07 49 03.7**	**+2.0**
JBK	**JBK**	**86.28**	**22**	P	**P**	**07 49 04.0**	**+0.8**
JBK	**JBK**	**86.28**	**22**	P	**P**	**07 49 04.0**	**+0.8**
LUWI	**Luwuk**	**86.47**	**263**	P	**P**	**07 49 02.4**	**-1.7**
KEBE	**Keben-Mersin**	**86.77**	**353**	eP	**P**	**07 49 06.3**	**+1.0**
KEST	**Kesra**	**86.87**	**13**	P	**P**	**07 49 07.7**	**+1.8**
	comp=Z,14nm,1.0s,baz=275,slow=5.5,SNR=6.8						
KEST				LR	LR	08 32 09.1	
	comp=Z,102nm,19.4s,baz=282,slow=38						
KEST	**Kesra**	**86.87**	**13**	IAmb	IAmb	07 49 23.2	
	comp=Z,64nm,1.1s						
BERE	**Bereket-Mersin**	**86.90**	**353**	eP	**P**	**07 49 06.5**	**+0.4**
COEN	**Coen**	**86.92**	**239**	IAmb	IAmb	07 49 06.9	
	comp=Z,59nm,1.2s						
OUK	**Oukaimeden**	**88.05**	**28**	P	**P**	**07 49 13.1**	**+1.1**
OUK	**Oukaimeden**	**88.05**	**28**	P	**P**	**07 49 13.1**	**+1.1**
CSS	**Mathiatis**	**88.27**	**353**	P	**P**	**07 49 13.7**	**+1.2**
CSS	**Mathiatis**	**88.27**	**353**	P	**P**	**07 49 13.3**	**+0.8**
CSS				pP	**pP**	**07 49 27.7**	**+0.6**
TTIG	**Tnine Tigouga,**	**88.53**	**28**	P	**P**	**07 49 14.0**	**+0.1**
TTIG	**Tnine Tigouga,**	**88.53**	**28**	P	**P**	**07 49 14.0**	**+0.1**
KAPI	**Kappang**	**91.42**	**263**	P	**P**	**07 49 27.2**	**-0.2**
KAPI				pmax	pmax		
	comp=Z,72nm,1.3s						
KAPI	**Kappang**	**91.42**	**263**	P	**P**	**07 49 27.2**	**-0.2**
KAPI				IAmb	IAmb	07 49 46.3	
	comp=Z,72nm,1.2s						
MTN	**Manton Dam**	**91.91**	**249**	IAmb	IAmb	07 49 30.6	
	comp=Z,67nm,1.2s						
HYB	**Hyderabad**	**93.52**	**309**	iP	P	07 49 31.0	-6.2
IPM	**Ipoh**	**93.74**	**284**	IAmb	IAmb	07 49 40.3	
	comp=Z,24nm,1.0s						
KNRA	**Kununurra**	**95.52**	**250**	IAmb	IAmb	07 49 46.7	
	comp=Z,37nm,1.4s						
PSI	**Prapat**	**96.27**	**285**	P	**P**	**07 49 49.1**	**-0.8**
PSI				pmax	pmax		
	comp=Z,16nm,0.7s						
WRAB	**Tennant Creek**	**96.30**	**243**⇓	eP	**P**	**07 49 48.8**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,14nm,1.2s						
WRAB	**Tennant Creek**	**96.30**	**243**	P	**P**	**07 49 48.9**	**-0.8**
WB2	**Warramunga Arr**	**96.31**	**243**	P	**P**	**07 49 48.9**	**-0.7**
WRA	**Warramunga Arr**	**96.31**	**243**	iP	**P**	**07 49 48.7**	**-1.0**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**96.31**	**243**	P	**P**	**07 49 48.8**	**-0.8**
	comp=Z,3.1nm,0.7s,baz=33,slow=5.6,SNR=18						
WRA				PKiKP	**PKiKP**	**07 54 27.2**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=22,slow=1.9,SNR=8.0						
WRA				LR	LR	08 29 38.1	
	comp=Z,110nm,21.3s,baz=30,slow=33						
RPSI	**Rantau Prapat**	**96.36**	**285**	P	**P**	**07 49 49.1**	**-1.0**
RPSI				IAmb	IAmb	07 50 06.2	
	comp=Z,16nm,0.7s						
RAYN	**Ar Rayn**	**98.06**	**341**	P	Pdif	07 49 58.1	+0.3
RAYN				*PP	pP	07 50 12.6	+0.2
RAYN				pmax	pmax		
	comp=Z,77nm,1.2s						
RAYN	**Ar Rayn**	**98.06**	**341**	P	Pdif	07 49 58.1	+0.3
RAYN				pP	pP	07 50 12.6	+0.2
SAML	**Samuel**	**98.55**	**93**	P	**P**	**07 49 58.1**	**-1.8**
SAML				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SAML	**Samuel**	**98.55**	**93**	eP	**P**	**07 49 58.1**	**-1.8**
SAML	**Samuel**	**98.55**	**93**	eP	**P**	**07 49 58.1**	**-1.8**
SAML	**Samuel**	**98.55**	**93**	P	**P**	**07 49 58.1**	**-1.8**
FITZ	**Fitzroy Crossi**	**99.16**	**251**	P	**Pdif**	**07 50 03.7**	**+1.3**
ASAR	**Alice Springs**	**99.68**	**241**	P	**Pdif**	**07 50 04.3**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=35,slow=5.3,SNR=12						
ASAR				PKiKP	**PKiKP**	**07 54 32.5**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=12,slow=3.1,SNR=6.5						
ASAR				PKKPbc	**PKKPbc**	**08 06 25.0**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=202,slow=2.4,SNR=4.2						
ASAR				LR	LR	08 31 43.1	
	comp=Z,183nm,20.4s,baz=27,slow=33						
LPAZ	**La Paz**	**101.90**	**101**	P	**Pdif**	**07 50 13.7**	**-1.8**
	comp=Z,1.2nm,0.8s,baz=297,slow=4.1,SNR=8.8						
LPAZ				PP	**PP**	**07 54 30.0**	**+2.8**
	comp=Z,0.7nm,0.7s,baz=333,slow=9.0,SNR=3.6						
LPAZ	**La Paz**	**101.90**	**101**	eP	**Pdif**	**07 50 13.4**	**-2.1**
LPAZ	**La Paz**	**101.90**	**101**	eP	**Pdif**	**07 50 13.4**	**-2.1**
STKA	**Stephens Creek**	**103.17**	**231**	PP	**PKiKP**	**07 54 37.7**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=18,slow=9.6,SNR=4.0						
CLDB	**Colider**	**104.19**	**88**	eP	**Pdif**	**07 50 23.1**	**-1.9**
CLDB	**Colider**	**104.19**	**88**	eP	**Pdif**	**07 50 23.1**	**-1.9**
TORD	**Torodi Ar. Bea**	**107.69**	**24**	Pdiff	**Pdif**	**07 50 45.3**	**+4.6**
	comp=Z,0.7nm,0.8s,baz=351,slow=4.7,SNR=2.2						
TORD				PP	**PP**	**07 55 10.3**	**+2.0**
	comp=Z,3.0nm,1.1s,baz=347,slow=8.6,SNR=4.8						
TORD				PKKPbc	**PKKPbc**	**08 05 59.9**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=169,slow=2.3,SNR=12						
TORD				PKKP	**PKKPdf**	**08 06 14.4**	**+2.8**
	comp=Z,5.9nm,1.0s,baz=166,slow=3.3,SNR=12						
NBLI	**Livramento-PB**	**111.39**	**70**	eP	**Pdif**	**07 50 57.9**	**+0.7**
NBLI	**Livramento-PB**	**111.39**	**70**	eP	**Pdif**	**07 50 57.9**	**+0.7**
CPUP	**Villa Florida**	**115.88**	**99**	PKKP	**PKKPdf**	**08 05 56.3**	**-1.6**
	comp=Z,2.8nm,0.9s,baz=126,slow=5.2,SNR=4.2						
PLCA	**Paso Flores**	**120.29**	**119**	PKP	**PKPdf**	**07 55 11.2**	**-0.3**
	comp=Z,4.6nm,0.9s,baz=301,slow=3.2,SNR=8.4						
PLCA				PKKPab	**PKKPab**	**08 05 18.6**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=200,slow=2.1,SNR=5.2						
PLCA	**Paso Flores**	**120.29**	**119**	eP	**PKiKP**	**07 55 11.5**	**0.0**
PLCA	**Paso Flores**	**120.29**	**119**	eP	**PKiKP**	**07 55 11.5**	**0.0**
PLCA	**Paso Flores**	**120.29**	**119**		**PKPdf**	**07 55 11.0**	**-0.5**
PLTB	**Pedras Altas**	**122.15**	**100**	eP	**PKPdf**	**07 55 14.7**	**-0.6**
PLTB	**Pedras Altas**	**122.15**	**100**	eP	**PKPdf**	**07 55 14.7**	**-0.6**
TRQA	**Tornquist**	**122.52**	**111**	PKIKP	**PKPdf**	**07 55 14.6**	**-1.2**
TRQA	**Tornquist**	**122.52**	**111**	eP	**PKiKP**	**07 55 16.0**	**0.0**
TRQA	**Tornquist**	**122.52**	**111**	eP	**PKiKP**	**07 55 16.0**	**0.0**
TRQA	**Tornquist**	**122.52**	**111**		**PKPdf**	**07 55 14.6**	**-1.2**
KMBO	**Kilima Mbogo**	**123.56**	**345**	PKP	**PKiKP**	**07 55 19.9**	**+0.8**
	comp=Z,5.9nm,0.5s,baz=31,slow=4.5,SNR=20						
KMBO				PP	**PP**	**07 56 59.8**	**-0.3**
	comp=Z,6.5nm,1.0s,baz=4.3,slow=8.4,SNR=4.4						
KMBO	**Kilima Mbogo**	**123.56**	**345**		**PKiKP**	**07 55 19.4**	**+0.2**
KMBO				pPKPdf	**pPKPdf**	**07 55 34.7**	**+0.7**
LSZ	**Lusaka**	**138.44**	**355**	PKIKP	**PKPdf**	**07 55 45.0**	**-1.7**
LSZ	**Lusaka**	**138.44**	**355**		**PKPdf**	**07 55 45.0**	**-1.7**
PMSA	**Palmer Station**	**139.44**	**139**	eP	**PKPdf**	**07 55 47.2**	**+0.4**
PMSA	**Palmer Station**	**139.44**	**139**	eP	**PKPdf**	**07 55 47.2**	**+0.4**
PMSA	**Palmer Station**	**139.44**	**139**		**PKPdf**	**07 55 46.2**	**-0.5**
MATP	**Matopo**	**143.54**	**354**	iP	PKPbc	07 55 53.6	+0.4
MATP	**Matopo**	**143.54**	**354**	iP	PKPbc	07 55 53.6	+0.4
MSNA	**Messina**	**145.34**	**351**	iP	**PKPab**	**07 55 59.4**	**+0.7**
MSNA	**Messina**	**145.34**	**351**	iP	**PKPab**	**07 55 59.4**	**+0.7**
HOPE	**Hope Point**	**146.28**	**112**	PKP2	**PKPbc**	**07 56 00.1**	**-0.3**
HOPE	**Hope Point**	**146.28**	**112**		**PKPbc**	**07 56 00.1**	**-0.3**
QSPA	**South Pole Qui**	**146.62**	**180**	PKPbc	**PKPbc**	**07 56 01.1**	**-0.1**
	comp=Z,263nm,1.1s,baz=1.8,slow=0.3,SNR=224						
QSPA	**South Pole Qui**	**146.62**	**180**		**PKPdf**	**07 55 56.7**	**-2.8**
LBTB	**Lobatse**	**148.21**	**359**	iP	**PKiKP**	**07 56 07.7**	**-0.9**
LBTB	**Lobatse**	**148.21**	**359**	PKP2	**PKPbc**	**07 56 07.1**	**+0.2**
LBTB	**Lobatse**	**148.21**	**359**	iP	**PKiKP**	**07 56 07.7**	**-0.9**
LBTB	**Lobatse**	**148.21**	**359**		**PKPbc**	**07 56 07.1**	**+0.2**
LBTB					**pPKPbc**	**07 56 22.2**	**+0.3**
BOSA	**Boshof**	**151.79**	**359**	iP	**PKPbc**	**07 56 15.6**	**+0.1**
BOSA	**Boshof**	**151.79**	**359**	PKIKP	**PKPbc**	**07 56 14.9**	**-0.6**
BOSA	**Boshof**	**151.79**	**359**	PKPbc	**PKPbc**	**07 56 15.6**	**+0.1**
	comp=Z,20nm,0.5s,baz=5.8,slow=1.9,SNR=45						
BOSA	**Boshof**	**151.79**	**359**	iP	**PKPbc**	**07 56 15.6**	**+0.1**
BOSA	**Boshof**	**151.79**	**359**		**PKPbc**	**07 56 14.9**	**-0.6**
VNA3	**Neumayer Olymp**	**159.58**	**148**	PKPab	**PKPab**	**07 56 56.1**	**-0.6**
VNA3	**Neumayer Olymp**	**159.58**	**148**	PKPdf	**PKPdf**	**07 56 14.4**	**-3.6**
MAW	**Mawson**	**159.61**	**223**	PKP	**PKPdf**	**07 56 20.4**	**+2.3**
	comp=Z,6.1nm,1.2s,baz=117,slow=2.3,SNR=3.1						
MAW				PKPab	**PKPab**	**07 56 56.7**	**-0.2**
	comp=Z,18nm,1.0s,baz=114,slow=4.6,SNR=8.7						
VNA1	**Neumayer--Stat**	**160.26**	**147**	PKPab	**PKPab**	**07 56 59.0**	**-0.7**
VNA1	**Neumayer--Stat**	**160.26**	**147**	PKPdf	**PKPdf**	**07 56 15.9**	**-2.8**
VNA2	**Neumayer--Watz**	**160.38**	**149**	PKPab	**PKPab**	**07 56 59.3**	**-0.9**
	baz=260,slow=3.5						
VNA2	**Neumayer--Watz**	**160.38**	**149**	PKPdf	**PKPdf**	**07 56 15.3**	**-3.6**
	baz=260,slow=3.5						
SNAA	**Sanae**	**161.19**	**153**	PKPab	**PKPab**	**07 57 03.1**	**-0.7**
SNAA	**Sanae**	**161.19**	**153**	PKPdf	**PKPdf**	**07 56 16.4**	**-3.4**
SNAA	**Sanae**	**161.19**	**153**	PKIKP	**PKPdf**	**07 56 17.5**	**-2.3**
SNAA						07 57 02.3	
SNAA	**Sanae**	**161.19**	**153**		**PKPdf**	**07 56 17.5**	**-2.3**
SNAA					**PKPab**	**07 57 02.3**	**-1.5**
NVL	**N'lazarevskaya**	**164.96**	**163**	ePKP2	**PKPab**	**07 57 19.0**	**-1.2**
NVL				pmax	pmax		
	comp=Z,41nm,1.2s						
SYO	**Syowa Base**	**166.10**	**203**⇓	iX	**PKPdf**	**07 56 21.6**	**-2.7**

ASRS 07 07:42:05.6, 53°.31N×91°.34E, M3.6, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

DJA 07 07:47:58.3±1.5**, 2°S**±16°×**13°0E**±°**, h241**km±24km**, M3.1**/5**, MLv3.1**/5**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.93**	**51**	P	Pn	07 48 39.8	+0.4
SWI				S	S	07 49 12.2	+0.5
FAKI	**Fak Fak**	**2.62**	**108**	P	Pn	07 48 46.3	+0.1
NLAI	**Namlea**	**2.89**	**247**	P	Pn	07 49 01.9	+13
SANI	**Sanana**	**3.77**	**271**	P	Pn	07 48 59.2	+0.2
TNG	**Tangerang**	**23.40**	**259**	P	P	07 52 42.2	-3.8

*MDD **07** 08:01:26.6±1.9, 36°.82N×12°.35W, h0km, mb3.9/5, Error ellipse: s-maj=17.0km s-min=16.5km az=169.0, PRXIMO*
*IGIL **07** 08:01:26.5, 36°.89N×12°.38W, h0km, ML1.9*
*INMG **07** 08:01:28.2±0.9, 36°.63N×12°.73W, h10km, ML2.1, Error ellipse: s-maj=5.8km s-min=4.6km az=90.0*
ISC 07 08:01:24.1±3.8**, 36°.9N**±0°.1×**12°.5W**±0°.2**, h10**km**, n39,** σ1.76/72**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.94**	**84**	eP	**Pn**	**08 02 11.8**	**+0.8**
PFVI				eS	**Sn**	**08 02 44.6**	**-1.7**
PFVI	**Vila Bisbo**	**2.94**	**84**	P	**Pn**	**08 02 11.8**	**+0.8**
	2.9nm,0.1s,SNR=19						
PFVI				S	**Sn**	**08 02 44.7**	**-1.7**
	0.0nm,0.2s,SNR=5.6						
MORF	**Marmelete**	**3.10**	**81**	eP	**Pn**	**08 02 13.5**	**+0.4**
MORF				eS	**Sn**	**08 02 47.9**	**-2.4**
MORF				AML	AML	08 02 52.7	
	comp=N,7.4nm,0.5s						
MORF	**Marmelete**	**3.10**	**81**	eP	**Pn**	**08 02 14.7**	**+1.6**
MORF				eS	**Sn**	**08 02 49.2**	**-1.1**
MORF				A	A	08 02 50.5	
	comp=N,4.0nm,0.1s						
MORF	**Marmelete**	**3.10**	**81**	P	**Pn**	**08 02 13.5**	**+0.4**
MORF				S	**Sn**	**08 02 47.9**	**-2.4**
	comp=N,7.4nm,0.5s						
PMAFR	**Mafra**	**3.27**	**50**	eP	**Pn**	**08 02 17.6**	**+2.2**
PMAFR				eS	**Sn**	**08 02 55.3**	**+0.9**
PMAFR				A	A	08 02 59.4	
	comp=N,15nm,0.7s						
PMAFR	**Mafra**	**3.27**	**50**	P	**Pn**	**08 02 17.4**	**+1.9**
	comp=N,1.1nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**08 02 55.5**	**+1.1**
	comp=N,15nm,0.2s,SNR=6.6						
PNCL	**Nicolau / Gran**	**3.38**	**68**	eP	**Pn**	**08 02 18.5**	**+1.6**
PNCL				eS	**Sn**	**08 02 57.3**	**+0.2**
PNCL				A	A	08 03 00.3	
	comp=N,1.4nm,0.1s						
PNCL	**Nicolau / Gran**	**3.38**	**68**	P	**Pn**	**08 02 18.5**	**+1.6**
PNCL				S	**Sn**	**08 02 57.3**	**+0.2**
	comp=N,1.4nm,0.1s						
MESJ	**Messejana**	**3.53**	**73**	eP	**Pn**	**08 02 19.5**	**+0.5**
MESJ				eS	**Sn**	**08 02 58.3**	**-2.6**
MESJ				AML	AML	08 03 01.7	
	comp=E,1.7nm,0.2s						
MESJ	**Messejana**	**3.53**	**73**	P	**Pn**	**08 02 19.5**	**+0.5**
MESJ				S	**Sn**	**08 02 58.3**	**-2.6**
	comp=E,1.7nm,0.2s						
PCVE	**Castro Verde**	**3.63**	**77**	eP	**Pn**	**08 02 22.3**	**+1.9**
PCVE				eS	**Sn**	**08 03 01.9**	**-1.4**
PCVE	**Castro Verde**	**3.63**	**77**	P	**Pn**	**08 02 22.3**	**+1.9**
PCVE				S	**Sn**	**08 03 01.9**	**-1.4**
PBDV	**Barranco-do-Ve**	**3.67**	**83**	eP	**Pn**	**08 02 22.8**	**+1.9**
PBDV				eS	**Sn**	**08 03 03.9**	**-0.3**
PBDV				A	A	08 03 17.1	
	comp=E,3.5nm,0.8s						
PBDV	**Barranco-do-Ve**	**3.67**	**83**	P	**Pn**	**08 02 22.8**	**+1.9**
PBDV				S	**Sn**	**08 03 03.9**	**-0.3**
	comp=E,3.5nm,0.8s						
PVAQ	**Vaqueiros**	**3.85**	**81**	eP	**Pn**	**08 02 24.7**	**+1.3**
PVAQ				eS	**Sn**	**08 03 07.0**	**-1.7**
PVAQ				A	A	08 03 12.8	
	comp=E,2.3nm,0.4s						
PVAQ	**Vaqueiros**	**3.85**	**81**	P	**Pn**	**08 02 24.7**	**+1.3**
PVAQ				S	**Sn**	**08 03 07.0**	**-1.7**
	comp=E,2.3nm,0.4s						
EVO	**Evora**	**3.91**	**64**	eP	**Pn**	**08 02 26.4**	**+2.1**
EVO				eS	**Sn**	**08 03 09.5**	**-0.7**
EVO	**Evora**	**3.91**	**64**	P	**Pn**	**08 02 26.4**	**+2.1**
EVO				S	**Sn**	**08 03 09.5**	**-0.7**
PMTG	**Montargil**	**4.01**	**56**	eP	**Pn**	**08 02 26.3**	**+0.7**
PMTG				eS	**Sn**	**08 03 11.8**	**-0.9**
PMTG				A	A	08 03 30.9	
	comp=E,2.1nm,1.1s						
PMTG	**Montargil**	**4.01**	**56**	P	**Pn**	**08 02 26.3**	**+0.7**
PMTG				S	**Sn**	**08 03 11.8**	**-0.9**
	comp=E,2.1nm,1.1s						
EGRO	**El Granado**	**4.05**	**79**	P	**Pn**	**08 02 27.5**	**+1.4**
	comp=E,0.5nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**08 03 12.3**	**-1.4**
	comp=E,1.2nm,0.1s,SNR=5.2						
PTOM	**Tomar**	**4.21**	**48**	eS	**Sn**	**08 03 18.6**	**+1.0**
PTOM	**Tomar**	**4.21**	**48**	S	**Sn**	**08 03 18.6**	**+1.0**
PESTR	**Estremoz**	**4.35**	**62**	eP	**Pn**	**08 02 32.0**	**+1.7**
PESTR				eS	**Sn**	**08 03 21.1**	**0.0**
PESTR				A	A	08 03 26.5	
	comp=E,2.8nm,0.6s						
PCAS	**Casmilo, Conde**	**4.45**	**44**	eP	**Pn**	**08 02 33.7**	**+2.1**
PCAS				eS	**Sn**	**08 03 23.2**	**-0.3**
PCAS				A	A	08 03 40.6	
	comp=E,2.1nm,0.6s						
PCAS	**Casmilo, Conde**	**4.45**	**44**	P	**Pn**	**08 02 33.7**	**+2.1**
PCAS				S	**Sn**	**08 03 23.2**	**-0.3**
	comp=E,2.1nm,0.6s						
EBAD	**Badajoz**	**4.72**	**65**	P	**Pn**	**08 02 36.9**	**+1.6**
	comp=E,1.0nm,0.1s,SNR=5.9						
EBAD				S	**Sn**	**08 03 30.8**	**+0.6**
	comp=E,0.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.72**	**78**	P	**Pn**	**08 02 36.6**	**+1.2**
	comp=E,0.5nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**08 03 27.7**	**-2.5**
	comp=E,0.7nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**4.75**	**56**	eP	**Pn**	**08 02 37.5**	**+1.7**
PMRV				eS	**Sn**	**08 03 29.5**	**-1.5**
PMRV				A	A	08 03 39.7	
	comp=E,1.5nm,0.8s						
PMRV	**Marv??o**	**4.75**	**56**	P	**Pn**	**08 02 37.5**	**+1.7**
PMRV				S	**Sn**	**08 03 29.5**	**-1.5**
	comp=E,1.5nm,0.8s						
ECAB	**El Cabril**	**5.75**	**76**	P	**Pn**	**08 02 50.9**	**+1.4**
	comp=E,0.5nm,0.2s,SNR=6.9						
ECAB				S	**Sn**	**08 03 53.7**	**-1.8**
	comp=E,0.8nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**5.95**	**56**	P	**Pn**	**08 02 54.2**	**+1.9**
	comp=E,1.0nm,0.2s,SNR=7.9						
EPLA				S	**Sn**	**08 03 58.5**	**-1.9**
	comp=E,1.5nm,0.3s,SNR=7.9						
EZAM	**Zamans**	**6.01**	**28**	S	**Sn**	**08 03 58.9**	**-3.2**
	comp=E,0.3nm,0.0s,SNR=7.9						
ELOB	**Lobios**	**6.04**	**33**	S	**Sn**	**08 04 00.4**	**-2.3**
	comp=E,0.8nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.42**	**76**	P	**Pn**	**08 02 59.7**	**+0.9**
	comp=E,0.5nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**08 04 10.1**	**-1.9**
	comp=E,0.6nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.62**	**23**	S	**Sn**	**08 04 12.1**	**-5.0**
	comp=E,1.4nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.73**	**40**	P	**Pn**	**08 03 04.8**	**+1.7**
	comp=E,1.1nm,0.3s,SNR=7.9						
ECAL				S	**Sn**	**08 04 18.3**	**-1.5**
	comp=E,1.3nm,0.2s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.81**	**28**	S	**Sn**	**08 04 16.9**	**-4.7**
	comp=E,1.2nm,0.2s,SNR=7.9						

*ISK **07** 08:08:32.2, 35°.95N×26°.57E, h15km, ML2.8/10*
*ATH **07** 08:08:32.4, 35°.89N×26°.55E, h35km±4km, ML2.9/5, Error ellipse: s-maj=4.7km s-min=1.1km az=138.0*
*ISCJB **07** 08:08:33.6±0.8, 35°.86N±0°.04×26°.58E±0°.04, h48km±21km, Error ellipse: s-maj=6.8km s-min=5.3km az=10.9*
*THE **07** 08:08:34.5, 35°.85N×26°.58E, h28km±4km, ML2.7/4, Error ellipse: s-maj=4.9km s-min=0.5km az=87.0*
ISC 07 08:08:33.4±1.0**, 35°.89N**±0°.03×**26°.56E**±0°.03**, h30**km±12km**, n24,** σ0.57/39**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.60**	**125**	P	**Pb**	**08 08 45.3**	**-0.2**
KARP				S	**Sn**	**08 08 53.8**	**-0.8**
	1μm,0.2s						
KARP	**Karpathos**	**0.60**	**125**	P	**Pb**	**08 08 45.3**	**-0.2**
KARP				S	**Sn**	**08 08 53.8**	**-0.8**
KARP				AML	AML	08 08 56.0	
	comp=E,2597μm,0.2s						
KARP				AML	AML	08 08 57.3	
	comp=N,2087μm,0.2s						
KARP	**Karpathos**	**0.60**	**125**	PG	**Pb**	**08 08 45.2**	**-0.2**
KARP				SG	**Sn**	**08 08 54.4**	**-0.2**
STIA	**Sitia Lasithi**	**0.79**	**209**	P	**Pn**	**08 08 48.0**	**-0.5**
STIA				S	**Sb**	**08 08 58.7**	**-0.1**
ZKR	**Zakros**	**0.82**	**200**	P	**Pn**	**08 08 48.8**	**-0.2**
ZKR				S	**Sb**	**08 08 59.6**	**-0.3**
	comp=N,252nm,0.5s						
ZKR	**Zakros**	**0.82**	**200**	P	**Pn**	**08 08 48.8**	**-0.2**
ZKR				S	**Sn**	**08 09 00.3**	**+0.1**
ZKR	**Zakros**	**0.82**	**200**	PG	**Pb**	**08 08 49.7**	**+0.5**
ZKR				SG	**Sn**	**08 09 02.1**	**+2.0**
NISR	**Nisiros**	**0.85**	**32**	P	**Pb**	**08 08 49.8**	**+0.1**
NPS	**Neapolis**	**0.99**	**231**	P	**Pn**	**08 08 51.4**	**0.0**
NPS				S	**Sn**	**08 09 04.2**	**-0.2**
	comp=N,815nm,0.3s						
NPS	**Neapolis**	**0.99**	**231**	P	**Pn**	**08 08 51.1**	**-0.3**
NPS				S	**Sb**	**08 09 04.6**	**-0.2**
NPS				AML	AML	08 09 06.7	
	comp=E,1608μm,0.3s						
NPS				AML	AML	08 09 07.5	
	comp=N,1656μm,0.3s						
SANT	**Santorini**	**1.01**	**299**	P	**Pb**	**08 08 51.8**	**-0.6**
SANT				S	**Sb**	**08 09 05.8**	**+0.4**
	comp=N,518nm,0.2s						
SANT	**Santorini**	**1.01**	**299**	P	**Pn**	**08 08 51.7**	**0.0**
SANT				S	**Sb**	**08 09 06.0**	**+0.6**
SANT				AML	AML	08 09 08.6	
	comp=N,398μm,0.2s						
SANT				AML	AML	08 09 09.9	
	comp=E,1643μm,0.3s						
SANT	**Santorini**	**1.01**	**299**	PG	**Pb**	**08 08 51.8**	**-0.6**
SANT				SG	**Sb**	**08 09 05.9**	**+0.6**
THR3	**Thira Island,**	**1.07**	**299**	P	**Pb**	**08 08 53.2**	**-0.2**
AMGA	**Amorgos Island**	**1.08**	**330**	P	**Pn**	**08 08 52.1**	**-0.4**
AMGA				S	**Sb**	**08 09 08.2**	**+0.8**
AMGA				AML	AML	08 09 10.2	
	comp=N,686μm,0.4s						
AMGA				AML	AML	08 09 11.1	
	comp=E,817μm,0.2s						
CMBO	**Columbo, Santo**	**1.10**	**302**	P	**Pn**	**08 08 52.6**	**-0.2**
CMBO				S	**Sb**	**08 09 07.5**	**-0.3**
CMBO				AML	AML	08 09 13.2	
	comp=N,2906μm,0.6s						
CMBO				AML	AML	08 09 13.2	
	comp=E,2316μm,0.6s						
DAT	**Datca**	**1.17**	**44**	PN	**Pn**	**08 08 53.7**	**-0.2**
BODT	**Bodrum**	**1.32**	**27**	PN	**Pb**	**08 08 56.7**	**-0.8**
IOSP	**Ios island**	**1.32**	**309**	P	**Pn**	**08 08 55.9**	**+0.1**
IOSP				S	**Sb**	**08 09 13.8**	**-0.3**
APE	**Apeiranthos**	**1.44**	**325**	PN	**Pn**	**08 08 58.2**	**+0.7**
MRSB	**Marmaris-Mugla**	**1.56**	**58**	PN	**Pn**	**08 08 59.3**	**+0.2**
YER	**Yerkesik**	**1.86**	**48**	PN	**Pn**	**08 09 03.8**	**+0.4**
FETY	**Fethiye**	**2.17**	**69**	PN	**Pn**	**08 09 07.9**	**+0.3**
ELL	**Elmali**	**2.84**	**71**	PN	**Pn**	**08 09 17.7**	**+0.9**

*NEIC **07** 08:25:06.9±2.0, 57°.98N±0°.08×156°.4W±0°.2, h132km±6km*
AEIC 07 08:25:10.0±1.8**, 57°.85N**±0°.05×**156°.1W**±0°.1**, h114**km±4km**, ML3.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLK3	**Peulik 3**	**0.18**	**203**		Pn	08 25 25.1	-0.8
PLK3					Sn	08 25 38.0	+0.1
PLK1	**Peulik 1**	**0.26**	**259**		Pn	08 25 25.0	-1.1

KJL	**Kejulik**	**0.36**	**56**		Pn	08 25 25.8	-0.8
ANCK	**Angle Creek**	**0.49**	**44**		Pn	08 25 26.3	-1.0
CAHL	**Cahill**	**0.49**	**65**		Pn	08 25 26.2	-1.1
ACHA	**Angle Creek He**	**0.56**	**50**		Pn	08 25 27.1	-0.8
KELA	**Mount Kelaz**	**0.62**	**20**		Pn	08 25 26.8	-1.5
KELA					Sn	08 25 40.8	-1.3
KCE	**Katmai Mt Cerb**	**0.64**	**52**		Pn	08 25 28.0	-0.4
KBM	**Katmai Bkd Mtn**	**0.65**	**49**		Pn	08 25 27.5	-1.0
KCG	**Knife Ck. Glac**	**0.71**	**50**		Pn	08 25 27.8	-1.1
KAHC	**Katmai Hardscr**	**1.00**	**36**		Pn	08 25 30.1	-1.5
KAHC					Sn	08 25 47.5	-0.5
KAHG	**Katmai Hook Gl**	**1.06**	**52**		Pn	08 25 31.2	-1.0
OHAK	**Old Harbor**	**1.66**	**111**		Pn	08 25 37.0	-1.9
OHAK					Sn	08 25 58.5	-2.5
KDAK	**Kodiak Island**	**1.90**	**91**		Pn	08 25 40.4	-1.5
KDAK					Pn	08 25 40.9	-1.0
AUW	**Augustine West**	**2.06**	**41**		Pn	08 25 42.8	-1.1
AUJK	**Augustine Jueg**	**2.07**	**42**		Pn	08 25 43.0	-1.1
AU22	**Augustine Moun**	**2.10**	**43**		Pn	08 25 43.4	-1.0
CNPM	**China Poot**	**3.06**	**55**		Pn	08 25 55.6	-1.3
RSO	**Redoubt South**	**3.14**	**32**		Pn	08 25 56.0	-2.1
SVW2	**Sparrevohn**	**3.27**	**5**		Pn	08 25 57.1	-2.5
BRLK	**Bradley Lake**	**3.34**	**53**		Pn	08 25 59.0	-1.5
BRLK					Sn	08 26 34.7	-4.9
BRSE	**Bradley Lake S**	**3.39**	**54**		Pn	08 25 59.0	-2.1
SLKM	**Skilak Lake**	**4.04**	**46**		Pn	08 26 08.9	-1.1
SEW	**Seward**	**4.13**	**54**		Pn	08 26 09.5	-1.5
SUA	**Susitna One**	**4.54**	**35**		Pn	08 26 14.9	-1.8
RC01	**Rabbit Creek A**	**4.60**	**42**		Pn	08 26 15.1	-2.3
SKT	**Skwentna**	**4.74**	**27**		Pn	08 26 17.9	-1.5
PWL	**Port Wells**	**5.00**	**50**		Pn	08 26 19.7	-3.1
KNK	**Knik Glacier**	**5.28**	**44**		Pn	08 26 23.8	-2.8
GHO	**Glory Hole Cre**	**5.36**	**40**		Pn	08 26 24.1	-3.5
PPLA	**Purkeypile**	**5.42**	**19**	Pn	Pn	08 26 28.4	-0.2
GLI	**Glacier Island**	**5.53**	**53**		Pn	08 26 26.9	-3.0
HIN	**Hinchinbrook I**	**5.58**	**59**		Pn	08 26 28.5	-2.1
FID	**Port Fidalgo**	**5.74**	**56**		Sn	08 27 32.1	-5.1
FID	**Port Fidalgo**	**5.74**	**56**		Pn	08 26 29.5	-3.2
SCM	**Sheep Creek Mo**	**5.97**	**44**		Pn	08 26 32.9	-3.0
EYAK	**Cordova Ski Ar**	**5.98**	**59**		Pn	08 26 33.5	-2.4
KTH	**Kantishna Hill**	**6.26**	**22**	Pn	Pn	08 26 37.1	-2.8
TRF	**Thorofare Moun**	**6.31**	**25**		Pn	08 26 37.5	-3.0
WAT2	**Susitna Watana**	**6.34**	**33**		Pn	08 26 37.5	-3.5
RAGM	**Ragged Mountai**	**6.42**	**62**		Pn	08 26 39.6	-2.4
GOAT	**Goat Mountain**	**6.46**	**60**		Pn	08 26 40.5	-2.1
HMT	**Hamilton**	**6.61**	**63**		Pn	08 26 42.4	-2.1
RND	**Reindeer**	**6.62**	**30**		Pn	08 26 41.8	-2.9
NICHA	**Nichawak Mount**	**6.72**	**64**		Pn	08 26 44.0	-2.0
BERG	**Berg Lake**	**6.89**	**63**		Pn	08 26 46.0	-2.3
KHIT	**Khitrov Hills**	**7.12**	**63**		Pn	08 26 49.4	-2.1
MSW	**Makushin Switc**	**7.17**	**241**		Pn	08 26 49.7	-2.4
GLB	**Gilahina Butte**	**7.21**	**55**		Pn	08 26 50.5	-2.1
VRDI	**Verde Repeater**	**7.28**	**57**		Pn	08 26 51.5	-2.2
WAX	**Waxell Ridge**	**7.31**	**64**		Pn	08 26 52.0	-2.0
TGL	**Tana Glacier**	**7.41**	**61**		Pn	08 26 53.5	-1.8
KIAG	**Kiagna River**	**7.68**	**61**		Pn	08 26 57.5	-1.6
MESA	**MESA**	**7.68**	**66**	Pn	Pn	08 26 58.0	-1.2
WRH	**Wood River Hil**	**7.69**	**27**		Pn	08 26 54.9	-4.2
BALM	**Baldy**	**7.72**	**60**		Pn	08 26 57.5	-2.1
CCB	**Clear Creek Bu**	**7.91**	**27**		Pn	08 26 57.7	-4.3
GRNC	**Granite Creek**	**7.91**	**63**		Pn	08 27 00.5	-1.8
HDA	**Harding Lake**	**7.93**	**30**		Pn	08 26 58.1	-4.3
RIDG	**Independent Ri**	**8.07**	**38**	Pn	Pn	08 27 02.2	-2.1
IL31		**8.24**	**29**		Pn	08 27 02.2	-4.3
PCA	**Pinnacle**	**8.51**	**68**	Pn	Pn	08 27 08.9	-1.3
YKU2	**Yakutat**	**8.74**	**72**	Pn	Pn	08 27 16.6	+3.4
PNL	**Peninsula**	**8.89**	**71**		Pn	08 27 13.4	-2.0

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*ISCJB **07** 08:25:36.4±0.4, 60°.83S±0°.07×42°.8W±0°.1, h10km, mb4.2/11, MS4.0/7, Error ellipse: s-maj=11.5km s-min=7.1km az=44.5*

*NEIC **07** 08:25:38.9±2.0, 60°.44S±0°.09×42°.5W±0°.2, h7km±3km, mb4.8/28*

*IDC **07** 08:25:38.1±0.6, 60°.54S×42°.75W, h0km, mb4.3/11, mb1 4.4/13, mb1mx4.3/28, mbtmp4.3/13, ML3.9/2, MS4.0/9, Ms1 4.0/9, ms1mx3.8/19, Error ellipse: s-maj=24.6km s-min=14.2km az=56.0*

*GCMT **07** 08:25:43.9±0.3, 60°.77S±0°.02×42°.80W±0°.05, h20km±2km, MW4.8/76, Moment Tensor Solution. s12,c14; s76,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.93±.19; $M_{\theta\theta}$-2.53±.13; $M_{\phi\phi}$1.60±.11; $M_{r\theta}$-0.14±.22; $M_{\theta\phi}$0.66±.09; $M_{\phi r}$0.19±.25; Best double couple: $M_0$2.19000×10^{16} NP1:ϕ_s323.00000°, δ84.00000°, λ170.00000°. NP2: ϕ_s54.00000°, δ80.00000°, λ6.00000°. Principal axes: T 1.7390, Plg12.0000°, Azm278.0000°; N 0.9000, Plg78.0000°, Azm112.0000°; P -2.6420, Plg3.0000°, Azm9.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 08:25:38.8±0.4**, 60°.60S**±0°.07×**42°.67W**±0°.07**, h10**km**, n91, σ1^{s}74**/84**, mb4.6**/20**, MS4.1**/7**, 1C, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.15**	**30**		**Pn**	**08 27 21.2**	**-2.1**
PMSA	**Palmer Station**	**10.65**	**238**	Pn	**Pn**	**08 28 11.4**	**+0.3**
	1.0nm,0.3s,baz=69,slow=11,SNR=12						
PMSA				Sn	**Sn**	**08 30 06.2**	**-4.1**
	0.5nm,0.3s,baz=107,slow=20,SNR=3.6						
PMSA				LR	LR	08 32 21.0	
	comp=Z,528nm,19.8s,baz=76,slow=38						
EFI	**East Falkland**	**12.36**	**309**	Pn	Pn	08 28 38.4	+3.8
VNA3	**Neumayer Olymp**	**16.89**	**143**	P	**Pn**	**08 29 31.1**	**-3.8**
VNA3				S	Sn	08 32 24.7	-18
GO10	**Punta Arenas**	**17.10**	**283**	P	**P**	**08 29 42.8**	**+3.5**
GO10				IAmb	IAmb	08 29 53.3	
	comp=Z,61nm,0.8s						
VNA1	**Neumayer--Stat**	**17.11**	**140**	P	**Pn**	**08 29 34.8**	**-2.9**
VNA1				S	Sn	08 32 36.1	-11
VNA2	**Neumayer--Watz**	**17.47**	**141**	P	**Pn**	**08 29 39.3**	**-2.8**
	baz=288,slow=14						
VNA2				S	Sn	08 32 42.9	-13
	baz=291,slow=23						
GO09	**Cerro Castillo**	**18.90**	**286**	P	**Pn**	**08 29 59.7**	**-0.1**
GO09				IAmb	IAmb	08 30 08.8	
	comp=Z,65nm,1.0s						
SNAA	**Sanae**	**19.09**	**142**	P	**Pn**	**08 30 02.9**	**+0.9**
SNAA				S	Sn	08 33 21.1	-15
SNAA	**Sanae**	**19.09**	**142**	P	**Pn**	**08 30 02.7**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=293,slow=15,SNR=28						
SNAA				S	Sn	08 33 22.0	-14
	comp=Z,0.2nm,0.3s,baz=297,slow=17,SNR=4.4						
SNAA				LR	LR	08 36 12.4	
	comp=Z,308nm,18.6s,baz=296,slow=33						
SNAA	**Sanae**	**19.09**	**142**	P	**Pn**	**08 30 03.1**	**+1.1**
TRQA	**Tornquist**	**25.64**	**323**	P	**P**	**08 31 10.8**	**+2.5**
PLCA	**Paso Flores**	**26.26**	**307**	P	**P**	**08 31 13.4**	**-0.5**
	comp=Z,12nm,0.7s,baz=178,slow=8.2,SNR=9.0						
PLCA				LR	LR	08 40 48.6	
	comp=Z,270nm,19.9s,baz=255,slow=35						
PLCA	**Paso Flores**	**26.26**	**307**	P	**P**	**08 31 13.6**	**-0.5**
PLCA				IAmb	IAmb	08 31 17.0	
	comp=Z,14nm,0.8s						
GO06	**Curarrehue**	**27.60**	**307**	P	**P**	**08 31 25.3**	**-0.8**
QSPA	**South Pole Qui**	**29.64**	**180**	P	**P**	**08 31 45.1**	**+1.0**
	comp=Z,2.9nm,0.6s,baz=186,slow=4.0,SNR=19						
QSPA	**South Pole Qui**	**29.64**	**180**	P	**P**	**08 31 48.0**	**+3.9**
GO05	**Huala**	**31.77**	**310**	P	**P**	**08 32 02.4**	**-0.6**
PEL	**Peldehue**	**32.99**	**314**	P	**P**	**08 32 13.9**	**+0.3**
PEL				IAmb	IAmb	08 32 14.3	
	comp=Z,15nm,0.8s						
ROC1	**El Roble**	**33.26**	**313**	P	**P**	**08 32 15.8**	**-0.4**
SYO	**Syowa Base**	**33.35**	**140**	⇑*e*sP	sP	08 32 19.6	-0.8
CFA	**Coronel Fontan**	**33.55**	**318**	P	**P**	**08 32 18.5**	**-0.1**
	comp=Z,2.7nm,0.4s,baz=181,slow=13,SNR=6.4						
CPUP	**Villa Florida**	**35.70**	**337**	P	**P**	**08 32 38.3**	**+1.2**
	comp=Z,5.0nm,0.8s,baz=180,slow=7.0,SNR=10						
CPUP				LR	LR	08 48 32.3	
	comp=Z,335nm,19.7s,baz=352,slow=39						
CPUP	**Villa Florida**	**35.70**	**337**	P	**P**	**08 32 38.4**	**+1.2**
CPUP				IAmb	IAmb	08 32 39.0	
	comp=Z,9.1nm,0.9s						
GO04	**Tololo Observa**	**35.73**	**316**	P	**P**	**08 32 37.4**	**-0.2**
GO03	**Copiap**	**37.91**	**318**	P	**P**	**08 32 55.7**	**-0.3**
GO03				IAmb	IAmb	08 32 56.8	
	comp=Z,18nm,0.7s						
GO02	**Mina Guanaco**	**39.96**	**320**	P	**P**	**08 33 14.3**	**+0.8**
MAW	**Mawson**	**41.17**	**146**	P	**P**	**08 33 25.2**	**+2.5**
	comp=Z,4.3nm,0.9s,baz=220,slow=4.8,SNR=4.8						
MAW	**Mawson**	**41.17**	**146**	P	**P**	**08 33 27.2**	**+4.5**
PB10	**IPOC Station P**	**41.80**	**320**	P	**P**	**08 33 28.9**	**+0.6**
PB10				IAmb	IAmb	08 33 29.5	
	comp=Z,18nm,0.9s						
LVC	**Limon Verde**	**42.14**	**322**	P	**P**	**08 33 32.2**	**+0.6**
	comp=Z,6.2nm,0.8s,baz=164,slow=8.4,SNR=2.9						
LVC	**Limon Verde**	**42.14**	**322**	P	**P**	**08 33 30.8**	**-0.8**
PB04	**IPOC Station P**	**42.78**	**321**	P	**P**	**08 33 36.6**	**0.0**
PB04				IAmb	IAmb	08 33 37.7	
	comp=Z,20nm,0.8s						
GO01	**Chusmiza**	**45.00**	**323**	P	**P**	**08 33 55.7**	**+0.9**
GO01				IAmb	IAmb	08 33 56.6	
	comp=Z,10nm,0.9s						
PB11	**IPOC Station P**	**45.05**	**323**	P	**P**	**08 33 55.2**	**+0.4**
PB11				IAmb	IAmb	08 33 56.2	
	comp=Z,12nm,1.0s						
BDFB	**Brasilia**	**45.06**	**353**	P	**P**	**08 33 55.4**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=178,slow=8.2,SNR=3.4						
BDFB				LR	LR	08 50 23.1	
	comp=Z,178nm,21.7s,baz=194,slow=33						
MNMC	**Minye Minye**	**45.63**	**323**	P	**P**	**08 34 00.7**	**+1.2**
LPAZ	**La Paz**	**47.91**	**326**	P	**P**	**08 34 18.1**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=174,slow=6.5,SNR=11						
LPAZ	**La Paz**	**47.91**	**326**	P	**P**	**08 34 18.7**	**+1.0**
SAML	**Samuel**	**53.77**	**335**	P	**P**	**08 35 01.4**	**+0.2**
SAML				IAmb	IAmb	08 35 02.7	
	comp=Z,6.6nm,0.7s						
BOSA	**Boshof**	**54.73**	**86**	LR	LR	08 53 56.2	
	comp=Z,240nm,19.8s,baz=208,slow=31						
H10N3	**ASCENSION HYDR**	**56.71**	**34**	T	T	09 37 45.0	
	baz=199,slow=75,SNR=18						
H10N1	**ASCENSION HYDR**	**56.71**	**34**	T	T	09 38 16.5	
	baz=199,slow=75,SNR=15						
H10N2	**ASCENSION HYDR**	**56.73**	**34**	T	T	09 37 52.0	
	baz=199,slow=75,SNR=16						
LBTB	**Lobatse**	**57.89**	**84**	P	**P**	**08 35 31.0**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=202,slow=11,SNR=4.0						
LBTB	**Lobatse**	**57.89**	**84**	P	**P**	**08 35 30.9**	**+0.1**
LBTB				IAmb	IAmb	08 35 44.6	
	comp=Z,7.7nm,1.1s						
DBIC	**Dimbokro**	**73.33**	**39**	LR	LR	09 01 23.6	
	comp=Z,85nm,19.8s,baz=122,slow=29						
JTS	**Las Juntas de**	**78.18**	**317**	P	**P**	**08 37 38.9**	**+0.8**
JTS				IAmb	IAmb	08 37 39.8	
	comp=Z,11nm,1.1s						
CUPR	**Culebra, Puert**	**80.72**	**338**	P	**P**	**08 37 51.7**	**-0.1**
MLPR	**Magueyes Islan**	**80.73**	**337**	P	**P**	**08 37 52.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**80.78**	**336**	P	**P**	**08 37 53.9**	**+1.7**
TOA0	**Torodi Ar. Sit**	**81.54**	**44**	P	**P**	**08 37 56.6**	**+0.3**
TOA0				IAmb	IAmb	08 38 03.4	
	comp=Z,6.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**81.54**	**44**	P	**P**	**08 37 57.1**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=200,slow=6.1,SNR=14						
TORD				LR	LR	09 07 20.9	
	comp=Z,87nm,21.8s,baz=340,slow=31						
PPT	**Papeete**	**82.87**	**247**	LR	LR	09 07 25.6	
	comp=Z,86nm,20.2s,baz=180,slow=30						
ASAR	**Alice Springs**	**96.00**	**177**	P	**P**	**08 39 07.4**	**+1.4**
	comp=Z,0.3nm,0.9s,baz=181,slow=4.5,SNR=4.1						
FINES	**FINESS Array B**	**132.60**	**37**	PKP	**PKiKP**	**08 44 52.6**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=198,slow=4.1,SNR=2.6						
YKA	**Yellowknife Ar**	**134.37**	**322**	PKhKP	PKPpre	08 44 42.3	
	comp=Z,0.1nm,0.4s,baz=131,slow=2.3,SNR=6.4						
YKA				PKP	**PKPdf**	**08 44 54.7**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=140,slow=2.1,SNR=7.0						
KSH	**Kashi**	**137.24**	**91**	PKP	**PKiKP**	**08 45 03.2**	**-0.2**
KSH				PKS	**PKSdf**	**08 48 36.9**	**-0.9**
KSH				SKS	**SKSdf**	**08 52 11.5**	**-0.5**
KSH				LR	LR		
	comp=N,490nm,7.1s						
KSH				LR	LR		
	comp=E,230nm,7.2s						
KSH				LR	LR		
	comp=Z,400nm,7.3s						
CTGM	**Chitina Glacie**	**142.70**	**307**	PKPpre	**PKPdf**	**08 45 08.0**	**-2.8**
BARN	**Barnard Glacie**	**142.89**	**307**	PKPpre	**PKPdf**	**08 45 08.1**	**-3.1**
DAWY	**Dawson**	**143.76**	**312**	PKPpre	PKPab	08 45 09.4	+0.1
GLB	**Gilahina Butte**	**143.96**	**307**	PKPdf	**PKPdf**	**08 45 11.8**	**-1.1**
EPYK	**Eagle Plains**	**144.10**	**317**		PKPbc	08 45 10.7	-0.4
INK	**Inuvik**	**144.11**	**321**	PKP	PKPbc	08 45 10.7	-0.2
	comp=Z,3.8nm,0.8s,baz=72,slow=2.1,SNR=16						
HIN	**Hinchinbrook I**	**144.45**	**304**	PKPdf	**PKPdf**	**08 45 12.7**	**-1.0**
FID	**Port Fidalgo**	**144.64**	**305**	PKPdf	**PKPdf**	**08 45 13.6**	**-0.4**
MENT	**Mentasta**	**144.76**	**309**		**PKPdf**	**08 45 13.7**	**-0.5**
DOT	**Dot Lake**	**145.27**	**310**		**PKPdf**	**08 45 15.0**	**0.0**
SCRK	**Sand Creek**	**145.42**	**310**		**PKPab**	**08 45 15.0**	**-0.7**
PAX	**Paxson**	**145.45**	**308**		**PKPab**	**08 45 15.5**	**-0.3**
SEW	**Seward**	**145.50**	**302**	PKPdf	**PKPab**	**08 45 15.8**	**0.0**
KDAK	**Kodiak Island**	**145.54**	**297**	PKPdf	**PKPab**	**08 45 16.1**	**0.0**
SCM	**Sheep Creek Mo**	**145.58**	**306**		**PKPab**	**08 45 16.0**	**-0.2**
RIDG	**Independent Ri**	**145.62**	**310**		**PKPab**	**08 45 16.0**	**-0.3**
MKAR	**Makanchi Array**	**145.72**	**88**	PKPbc	**PKPab**	**08 45 16.6**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=242,slow=1.6,SNR=6.7						
SML	**Sawmill**	**145.97**	**305**		**PKPab**	**08 45 17.3**	**-0.4**
RC01	**Rabbit Creek A**	**146.16**	**303**		**PKPab**	**08 45 17.2**	**-1.1**
GHO	**Glory Hole Cre**	**146.19**	**305**		**PKPab**	**08 45 17.6**	**-1.0**
KURK	**Kurchatov**	**146.54**	**80**		**PKPbc**	**08 45 18.8**	**-0.3**
ILAR	**Eielson Array**	**146.91**	**310**	PKPbc	**PKPab**	**08 45 19.6**	**-1.6**
	comp=Z,4.3nm,0.8s,baz=153,slow=2.7,SNR=43						
RND	**Reindeer**	**146.99**	**307**	PKPbc	**PKPab**	**08 45 20.3**	**-1.4**
FYU	**Fort Yukon**	**147.15**	**314**	PKPbc	**PKPab**	**08 45 21.1**	**-1.0**
COLA	**College**	**147.32**	**310**		**PKPbc**	**08 45 20.5**	**-0.3**
LZH	**Lanzhou**	**147.50**	**124**	*e*PKPbc	**PKPdf**	**08 45 18.9**	**-1.0**
LZH				pPKP	sPKPab	08 45 27.9	-0.9
LZH				sPKP		08 45 33.6	
XAN	**Xi'an**	**147.68**	**132**	pP	**pPKPdf**	**08 45 18.4**	**-4.9**
XAN				P	**PKPdf**	**08 45 13.6**	**-6.5**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KTH	**Kantishna Hill**	**147.88**	**307**	PKPbc	**PKPbc**	**08 45 22.0**	**-0.5**
MLY	**Manley**	**148.49**	**309**	PKPbc	**PKPbc**	**08 45 23.8**	**-0.2**
GTA	**Gaotai**	**148.56**	**115**	PKPbc	**PKPab**	**08 45 30.0**	**+1.3**
NJ2	**Nanjing**	**148.96**	**149**	*e*P	**PKPdf**	**08 45 22.9**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
ZALV	**Zalesovo Beam**	**151.53**	**80**	PKPbc	**PKiKP**	**08 45 33.2**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=247,slow=3.4,SNR=3.5						
HHC	**Hu-ho-hao-te**	**154.66**	**130**	*e*P	**PKPdf**	**08 45 27.3**	**-3.3**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.2s						
HHC				AMB	AMB		
	comp=Z,8.0nm,6.1s						

NNC 07 08:33:40.3±1.4**, 38°.52N×71°.68E, h0**km**, mb3.7, mpv3.3, 3C-3D, Error ellipse: s-maj=14.1km s-min=7.5km az=151.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.63**	**27**	⇓Pn	Pn	08 34 51.7	0.0
	1.8nm,0.4s						
AAK				⇑Sn	Sn	08 35 47.6	+1.3
	9.1nm,0.9s						
KK31	**Karatay Array**	**4.66**	**349**	Pn	Pn	08 34 52.0	+0.1
	5.4nm,0.5s,baz=171,slow=10,SNR=28						
KK31				⇑Sn	Sn	08 35 47.8	+1.0
	3.2nm,0.5s,baz=162,slow=22,SNR=3.5						
TKM2	**Tokmak 2**	**5.31**	**33**	⇓Pn	Pn	08 35 01.1	+0.1
	0.9nm,0.5s						
TKM2				⇓Sn	Sn	08 36 03.8	+0.9
	2.3nm,0.6s						
AB31	**Akbulak array**	**13.65**	**326**	⇑P	Pn	08 36 54.4	-0.6
	0.9nm,0.8s,baz=132,slow=13,SNR=7.7						

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*ISCJB **07** 08:33:41.0±0.6, 20°.29S±0°.08×177°.7W±0°.1, h500km, mb4.0/4, Error ellipse: s-maj=13.1km s-min=10.3km az=16.8*

*NEIC **07** 08:33:43.1±1.1, 20°.3S±0°.1×177°.6W±0°.1, h517km±11km, mb4.5/28*

*IDC **07** 08:33:49.8±11.0, 20°.42S×178°.02W, h566km±95km, mb3.5/4, mb1 3.6/5, mb1mx3.2/28, mbtmp4.4/5, Error ellipse: s-maj=120.9km s-min=31.1km az=40.0*

ISC 07 08:33:42.1±0.7**, 20°.4S**±0°.1×**177°.4W**±0°.1**, h500**km**, n42, σ1^{s}29**/41**, mb4.3**/16**, 2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.00**	**301**		**P**	**08 35 11.0**	**+1.7**
AFI	**Afiamalu**	**8.40**	**41**	P	**P**	**08 35 43.9**	**+1.1**
DZM	**Mont Dzumac**	**15.12**	**261**	P	**P**	**08 36 55.2**	**+1.4**
	0.3nm,0.3s,baz=83,slow=17,SNR=5.1						
DZM	**Mont Dzumac**	**15.12**	**261**	P	**P**	**08 36 56.8**	**+3.1**
OUZ	**Omahuta**	**16.77**	**206**	P	**P**	**08 37 12.4**	**+1.7**
OUZ				IAmb	IAmb	08 37 22.1	
	comp=Z,26nm,1.5s						
BKZ	**Black Stump Fm**	**19.45**	**194**	P	**P**	**08 37 34.6**	**-1.0**
BKZ				IAmb	IAmb	08 37 43.8	
	comp=Z,29nm,1.5s						
QRZ	**Quartz Range**	**22.12**	**201**	P	**P**	**08 37 59.3**	**-0.5**
TUWZ	**Tuamarina**	**22.24**	**197**	P	**P**	**08 38 01.4**	**+0.6**
THZ	**Tophouse**	**22.85**	**199**	P	**P**	**08 38 06.2**	**-0.2**
KHZ	**Kahutara**	**23.27**	**197**	P	**P**	**08 38 09.8**	**-0.1**
LTZ	**Lake Taylor**	**23.97**	**199**	P	**P**	**08 38 17.4**	**+1.1**
OXZ	**Oxford**	**24.54**	**199**	P	**P**	**08 38 21.0**	**-0.3**
WKZ	**Wanaka**	**26.86**	**202**	P	**P**	**08 38 42.6**	**+0.8**
MLZ	**Mavora Lakes**	**27.64**	**202**	P	**P**	**08 38 49.6**	**+0.9**
MLZ				IAmb	IAmb	08 38 49.6	
	comp=Z,44nm,1.4s						
WHZ	**Wether Hill Ro**	**28.15**	**202**		**P**	**08 38 53.3**	**+0.1**
EIDS	**Eidsvold**	**29.39**	**254**	P	**P**	**08 39 03.6**	**-0.7**
EIDS				IAmb	IAmb	08 39 09.6	
	comp=Z,12nm,1.4s						
ARMA	**Armidale**	**29.59**	**244**	P	**P**	**08 39 06.1**	**0.0**
ARMA				IAmb	IAmb	08 39 08.7	
	comp=Z,14nm,1.3s						
TOO	**Toolangi**	**36.40**	**234**	P	**P**	**08 40 03.0**	**-0.7**
TOO				IAmb	IAmb	08 40 03.9	
	comp=Z,7.6nm,0.8s						
STKA	**Stephens Creek**	**38.32**	**244**	P	**P**	**08 40 18.8**	**-0.7**
	comp=Z,3.6nm,0.8s,baz=80,slow=11,SNR=12						
STKA	**Stephens Creek**	**38.32**	**244**	P	**P**	**08 40 18.9**	**-0.5**
BBOO	**Buckleboo**	**43.07**	**243**	P	**P**	**08 40 56.2**	**-1.3**
BBOO				IAmb	IAmb	08 40 56.7	
	comp=Z,8.3nm,0.6s						
WR0	**Warramunga Arr**	**44.95**	**262**	P	**P**	**08 41 10.8**	**-1.4**
AS31	**Alice Springs**	**45.06**	**257**	P	**P**	**08 41 11.9**	**-1.1**
ASAR	**Alice Springs**	**45.06**	**257**	P	**P**	**08 41 11.8**	**-1.2**
	comp=Z,8.7nm,0.8s,baz=95,slow=8.0,SNR=107						
ASAR				PcP	**PcP**	**08 42 42.8**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=96,slow=3.9,SNR=5.3						
WB0	**Warramunga Arr**	**45.11**	**262**	P	**P**	**08 41 12.1**	**-1.4**
WB2	**Warramunga Arr**	**45.12**	**262**	P	**P**	**08 41 12.2**	**-1.4**
WB2				IAmb	IAmb	08 41 12.6	
	comp=Z,10nm,1.2s						
WRAB	**Tennant Creek**	**45.13**	**262**	P	**P**	**08 41 12.2**	**-1.4**
WRAB				IAmb	IAmb	08 41 12.8	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**45.14**	**262**	P	**P**	**08 41 12.2**	**-1.4**
	comp=Z,2.2nm,0.4s,baz=99,slow=8.2,SNR=19						
FORT	**Forrest**	**49.83**	**246**	P	**P**	**08 41 47.5**	**-1.2**
FORT				IAmb	IAmb	08 41 48.0	
	comp=Z,16nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.56**	**262**	P	**P**	**08 42 15.5**	**-0.5**
PSA00	**Pilbara Seismi**	**58.21**	**257**	P	**P**	**08 42 47.0**	**-1.2**
NWAO	**Narrogin (SRO)**	**58.90**	**243**	P	**P**	**08 42 51.4**	**-1.3**
NWAO				IAmb	IAmb	08 42 57.3	
	comp=Z,34nm,1.5s						
MORW	**Morawa**	**60.36**	**247**	P	**P**	**08 43 01.8**	**-0.8**
MORW				IAmb	IAmb	08 43 20.9	
	comp=Z,14nm,1.2s						
QSPA	**South Pole Qui**	**69.70**	**180**	P	**P**	**08 44 02.8**	**+1.8**
	comp=Z,2.7nm,0.6s,baz=350,slow=0.9,SNR=18						
QSPA	**South Pole Qui**	**69.70**	**180**	P	**P**	**08 44 02.8**	**+1.8**
SUA	**Susitna One**	**84.31**	**13**	P	**P**	**08 45 20.0**	**-0.5**
SUA				IAmb	IAmb	08 45 33.4	
	comp=Z,17nm,1.1s						
SKT	**Skwentna**	**84.63**	**12**	P	**P**	**08 45 21.2**	**-0.8**
SKT				IAmb	IAmb	08 45 21.8	
	comp=Z,8.5nm,0.8s						
SYO	**Syowa Base**	**86.97**	**193**	⇓*e*P	**P**	**08 45 31.2**	**-2.1**
SYO	**Syowa Base**	**86.97**	**193**	⇓*e*PcP	**PcP**	**08 45 37.0**	**+2.2**
MNMC	**Minye Minye**	**99.16**	**114**		pP	08 48 21.7	-0.5
GO01	**Chusmiza**	**99.27**	**115**		pP	08 48 30.6	+7.7
BCLA	**Clavier**	**149.93**	**356**	PKPdf	**PKPdf**	**08 52 28.4**	**-1.6**

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*GUC **07** 08:59:27.0±0.8, 34°.07S×72°.79W, h37km±11km, ML4.6*

*IDC **07** 08:59:28.4±0.6, 33°.93S×72°.23W, h0km, mb4.5/11, mb1 4.6/13, mb1mx4.4/27, mbtmp4.5/13, ML4.4/2, MS3.7/5, Ms1 3.7/5, ms1mx3.4/23, Error ellipse: s-maj=25.9km s-min=14.7km az=85.0*

*ISCJB **07** 08:59:30.7±1.0, 33°.93S±0°.02×72°.40W±0°.05, h27km±7km, mb4.5/12, MS3.6/3, Error ellipse: s-maj=6.6km s-min=3.9km az=2.0*

*VAO **07** 08:59:30.2±0.7, 33°.90S×72°.39W, h10km, mb4.8*

*NEIC **07** 08:59:31.0±1.3, 33°.93S±0°.05×72°.33W±0°.10, h17km±3km, mb4.8/77, ML4.5(GUC)*

*SJA **07** 08:59:30.1±1.0, 33°.96S×72°.48W, h43km±14km, ML4.4, MW4.4*

ISC 07 08:59:30.7±1.7**, 33°.92S**±0°.03×**72°.38W**±0°.05**, h16**km±9km**, n203, σ1^{s}16**/214**, mb4.8**/47**, MS3.8**/3**, 6C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VA01	**Torpederas**	**1.09**	**35**	*e*P	**Pb**	**08 59 50.8**	**-0.3**
VA01				*i* S	**Sb**	**09 00 04.8**	**-0.2**
GO05	**Huala**	**1.15**	**161**		**Pn**	**08 59 50.8**	**-1.3**
GO05				Sn	**Sb**	**09 00 06.1**	**-0.8**
GO05	**Huala**	**1.15**	**161**	*i* P	**Pn**	**08 59 50.9**	**-1.3**
GO05				*e*S	**Sb**	**09 00 05.8**	**-1.1**
ROC1	**El Roble**	**1.48**	**51**		**Pn**	**08 59 57.0**	**+0.1**
ROC1	**El Roble**	**1.48**	**51**	*i* P	**Pn**	**08 59 57.0**	**+0.1**
ROCH	**El Roble**	**1.49**	**51**	⇑*i*P	**Pn**	**08 59 57.0**	**0.0**
ROCH				*i* S	**Sg**	**09 00 20.7**	**+2.0**
ROCH				IAML		09 00 29.3	
	comp=N,8µm,0.5s						
ANTU	**Antumapu**	**1.50**	**77**	⇑*e*P	**Pb**	**08 59 58.3**	**+0.1**
ANTU				*i* S	**Sg**	**09 00 19.7**	**+0.7**
PEL	**Peldehue**	**1.62**	**62**	⇑*i*P	**Pn**	**08 59 59.1**	**+0.5**
PEL				*i* S	**Sg**	**09 00 23.3**	**+0.6**
PEL				IAML		09 00 29.5	
	comp=N,7µm,0.5s						
PEL	**Peldehue**	**1.62**	**62**		**Pn**	**08 59 59.3**	**+0.7**
PEL	**Peldehue**	**1.62**	**62**	⇑*i*P	**Pb**	**08 59 59.5**	**-0.7**
CLCH	**Cerro Calan**	**1.63**	**72**	⇑*i*P	**Pn**	**08 59 59.3**	**+0.5**
LMEL	**Las Melosas**	**1.81**	**88**	⇑*i*P	**Pn**	**09 00 02.1**	**+0.7**
FCH	**Farellones**	**1.84**	**72**	*e*P	**Pn**	**09 00 02.4**	**+0.5**
FCH				*i* S	**Sg**	**09 00 29.7**	**-0.3**
COCH	**Cobquecura**	**2.23**	**188**	*i* P	**Pn**	**09 00 05.3**	**-1.7**
COIS	**El Sosneado**	**2.59**	**118**	*i* P	**Pn**	**09 00 12.4**	**+0.4**
CCHI	**Chillan**	**2.69**	**175**	*i* P	**Pn**	**09 00 13.7**	**+0.4**
PUMA	**Malargue**	**2.88**	**124**	*i* P	**Pn**	**09 00 18.9**	**+2.9**
EDS3	**Malargue**	**3.07**	**128**	*i* P	**Pb**	**09 00 24.2**	**-0.8**
RTLS	**Leoncito**	**3.35**	**52**	*i* P	**Pn**	**09 00 25.3**	**+2.6**
RTLS				IAML		09 01 23.1	
	comp=Z,447nm,0.9s						
RFA	**San Rafael**	**3.35**	**106**	*i* P	**Pn**	**09 00 24.6**	**+2.1**
RFA				*i* P	**Pb**	**09 00 26.0**	**-3.7**
RFA				IAML		09 01 24.3	
	comp=Z,617nm,0.7s						
GO04	**Tololo Observa**	**3.97**	**20**		**Pn**	**09 00 30.8**	**-0.4**
GO04	**Tololo Observa**	**3.97**	**20**	*i* P	**Pn**	**09 00 30.8**	**-0.4**
CANA	**Caviahue**	**4.10**	**165**	*i* P	**Pn**	**09 00 34.0**	**+1.1**
CANA				IAML		09 01 58.1	
	comp=Z,457nm,0.9s						
CFA	**Coronel Fontan**	**4.19**	**58**	Pn	**Pn**	**09 00 35.6**	**+1.6**
	comp=Z,2.3nm,0.3s,baz=240,slow=12,SNR=23						
CFA				Pg	**Pb**	**09 00 42.4**	**-1.7**
	comp=Z,41nm,0.3s,baz=234,slow=14,SNR=47						
CFA				Lg	Lg	09 01 38.9	
	comp=Z,46nm,0.3s,baz=15,slow=15,SNR=4.2						
AROD	**Rodeo**	**4.48**	**34**	*i* P	**Pn**	**09 00 40.8**	**+2.5**
AROD				*e*S	**Sg**	**09 01 52.5**	**-2.2**
ACDV	**Cuesta del Vie**	**4.65**	**37**	*i* P	**Pn**	**09 00 43.0**	**+2.5**
ACDV				IAML		09 02 04.0	
	comp=Z,237nm,1.0s						
GO06	**Curarrehue**	**5.70**	**173**		**Pn**	**09 00 54.3**	**-0.5**
GO06	**Curarrehue**	**5.70**	**173**	*i* P	**Pn**	**09 00 54.3**	**-0.5**
MRA	**San Martin**	**5.79**	**77**	⇓*i*P	**Pn**	**09 00 57.5**	**+1.5**
MRA				IAML		09 02 24.0	
	comp=Z,59nm,0.8s						
APLL	**PUNTA DE LOS L**	**6.08**	**56**	*i* P	**Pn**	**09 01 00.1**	**+0.1**
APLL				*e*S	**Sb**	**09 02 23.8**	**-5.1**
VCA	**Vinchina**	**6.28**	**36**	*i* P	**Pn**	**09 01 04.1**	**+1.2**
VCA				IAML		09 02 49.8	
	comp=Z,385nm,1.2s						
ACLC	**CERRO LA CRUZ**	**6.44**	**47**	*i* P	**Pn**	**09 01 05.2**	**+0.1**
GO03	**Copiap**	**6.57**	**17**		**Pn**	**09 01 05.4**	**-1.4**
GO03	**Copiap**	**6.57**	**17**	*i* P	**Pn**	**09 01 05.2**	**-1.5**
PLCA	**Paso Flores**	**6.96**	**168**	Pn	**Pn**	**09 01 11.9**	**-0.1**
	comp=Z,1.9nm,0.3s,baz=6.7,slow=11,SNR=78						
PLCA				Lg	Lg	09 03 08.0	
	comp=Z,1.0nm,0.3s,baz=107,slow=19,SNR=2.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PLCA	**Paso Flores**	**6.96**	**168**	*e*P	**Pn**	**09 01 12.6**	**+0.6**
PLCA	**Paso Flores**	**6.96**	**168**	*e*P	**Pn**	**09 01 12.6**	**+0.6**
PLCA	**Paso Flores**	**6.96**	**168**		**Pn**	**09 01 12.3**	**+0.3**
PLCA	**Paso Flores**	**6.96**	**168**	*i* P	**Pn**	**09 01 12.3**	**+0.3**
PLCA				IAML		09 03 16.5	
	comp=Z,35nm,1.9s						
TCA	**Tanti**	**7.05**	**71**	*i* P	**Pn**	**09 01 13.3**	**-0.1**
TCA				IAML		09 02 49.0	
	comp=Z,205nm,1.6s						
CYA	**Choya**	**7.85**	**48**	*i* P	**Pn**	**09 01 22.2**	**-2.1**
CYA				IAML		09 03 30.9	
	comp=Z,86nm,1.0s						
GO02	**Mina Guanaco**	**9.06**	**16**		**Pn**	**09 01 38.3**	**-2.8**
AHML	**Horco Molle**	**9.36**	**42**	*i* P	**Pn**	**09 01 41.6**	**-3.4**
AHML				*i* P	**Pn**	**09 01 41.6**	**-3.4**
TRQA	**Tornquist**	**9.38**	**119**	*e*P	**Pn**	**09 01 45.9**	**+0.6**
TRQA	**Tornquist**	**9.38**	**119**	*e*P	**Pn**	**09 01 45.9**	**+0.6**
TRQA	**Tornquist**	**9.38**	**119**		**Pn**	**09 01 46.1**	**+0.8**
LVC	**Limon Verde**	**11.68**	**16**	Pn	**Pn**	**09 02 13.2**	**-3.8**
	comp=Z,0.8nm,0.3s,baz=191,slow=9.1,SNR=6.8						
LVC				LR	LR	09 06 51.1	
	comp=Z,279nm,19.6s,baz=209,slow=38						
PB04	**IPOC Station P**	**11.71**	**10**	Pn	**Pn**	**09 02 17.6**	**+0.3**
PB11	**IPOC Station P**	**14.31**	**10**		**Pn**	**09 02 53.4**	**+0.5**
GO01	**Chusmiza**	**14.48**	**12**		**Pn**	**09 02 56.3**	**+0.9**
MNMC	**Minye Minye**	**14.94**	**10**		**Pn**	**09 03 01.4**	**-0.1**
CPUP	**Villa Florida**	**15.05**	**64**	Pn	**Pn**	**09 03 03.6**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=248,slow=13,SNR=6.7						
CPUP				Sn	**Sn**	**09 05 50.1**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=282,slow=14,SNR=1.8						
CPUP				Lg	Lg	09 07 04.2	
	comp=Z,0.2nm,0.3s,baz=306,slow=19,SNR=3.2						
CPUP				LR	LR	09 09 40.2	
	comp=Z,310nm,19.6s,baz=243,slow=41						
CPUP	**Villa Florida**	**15.05**	**64**		**Pn**	**09 03 05.1**	**+2.3**
PLTB	**Pedras Altas**	**15.93**	**87**	*e*P	**Pn**	**09 03 14.7**	**+0.5**
PLTB	**Pedras Altas**	**15.93**	**87**	*e*P	**Pn**	**09 03 14.7**	**+0.5**
LPAZ	**La Paz**	**17.97**	**13**	P	**P**	**09 03 41.4**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=186,slow=7.7,SNR=50						
LPAZ	**La Paz**	**17.97**	**13**	*e*P	**Pn**	**09 03 40.4**	**-0.1**
LPAZ	**La Paz**	**17.97**	**13**	*e*P	**Pn**	**09 03 40.4**	**-0.1**
LPAZ	**La Paz**	**17.97**	**13**	P	**P**	**09 03 41.6**	**+0.6**
ITAB	**Concordia**	**18.65**	**74**	*e*P	**P**	**09 03 48.0**	**+0.1**
ITAB	**Concordia**	**18.65**	**74**	*e*P	**P**	**09 03 48.0**	**+0.1**
AQDB	**Aquidauana**	**19.95**	**52**	*e*P	**P**	**09 04 02.6**	**+0.4**
AQDB	**Aquidauana**	**19.95**	**52**	*e*P	**P**	**09 04 02.6**	**+0.4**
EFI	**East Falkland**	**20.55**	**154**		**P**	**09 04 07.7**	**-0.8**
EFI				IAmb	IAmb	09 04 09.5	
	comp=Z,46nm,0.9s						
SIV	**San Ignacio**	**20.56**	**32**	P	**P**	**09 04 08.2**	**-0.6**
	comp=Z,17nm,0.9s,baz=225,slow=9.8,SNR=54						
SIV				LR	LR	09 13 29.5	
	comp=Z,366nm,18.1s,baz=239,slow=41						
TRCB	**Terra Rica**	**20.57**	**63**	*e*P	**P**	**09 04 08.5**	**-0.5**
TRCB	**Terra Rica**	**20.57**	**63**	*e*P	**P**	**09 04 08.5**	**-0.5**
NNA	**Nana**	**22.21**	**348**	P	**P**	**09 04 27.3**	**+0.8**
	comp=Z,12nm,0.8s,baz=139,slow=5.8,SNR=4.6						
NNA				LR	LR	09 11 22.1	
	comp=Z,84nm,18.4s,baz=177,slow=32						
NNA	**Nana**	**22.21**	**348**	IAmb	IAmb	09 04 30.2	
	comp=Z,14nm,0.9s						
FRTB	**Fartura**	**22.59**	**68**	*e*P	**P**	**09 04 30.3**	**-0.3**
FRTB	**Fartura**	**22.59**	**68**	*e*P	**P**	**09 04 30.3**	**-0.3**
SPB	**Sao Paulo**	**24.12**	**71**	*e*P	**P**	**09 04 46.0**	**+0.2**
SPB	**Sao Paulo**	**24.12**	**71**	*e*P	**P**	**09 04 46.0**	**+0.2**
SPB	**Sao Paulo**	**24.12**	**71**	P	**P**	**09 04 45.2**	**-0.6**
SPB				IAmb	IAmb	09 04 46.9	
	comp=Z,42nm,1.0s						
RCLB	**Rio Claro- Sao**	**24.66**	**69**	*e*P	**P**	**09 04 50.2**	**-0.7**
RCLB				*e*S	**S**	**09 09 14.3**	**+2.4**
RCLB	**Rio Claro- Sao**	**24.66**	**69**	*e*P	**P**	**09 04 50.2**	**-0.7**
RCLB				*e*S	**S**	**09 09 14.3**	**+2.4**
BB19B	**Bebedouro**	**24.66**	**65**	*e*P	**P**	**09 04 51.6**	**+0.7**
BB19B	**Bebedouro**	**24.66**	**65**	*e*P	**P**	**09 04 51.6**	**+0.7**
ARAG	**Araguaiana, MT**	**25.94**	**51**	*e*P	**P**	**09 05 04.0**	**+1.5**
ARAG	**Araguaiana, MT**	**25.94**	**51**	*e*P	**P**	**09 05 04.0**	**+1.5**
SAML	**Samuel**	**26.26**	**21**	*e*P	**P**	**09 05 05.3**	**0.0**
SAML	**Samuel**	**26.26**	**21**	*e*P	**P**	**09 05 05.3**	**0.0**
SAML	**Samuel**	**26.26**	**21**	P	**P**	**09 05 05.1**	**-0.2**
IPMB	**Ipameri, GO**	**26.81**	**60**	*e*P	**P**	**09 05 09.7**	**-0.7**
IPMB	**Ipameri, GO**	**26.81**	**60**	*e*P	**P**	**09 05 09.7**	**-0.7**
CLDB	**Colider**	**27.51**	**37**	*e*P	**P**	**09 05 16.8**	**+0.2**
CLDB	**Colider**	**27.51**	**37**	*e*P	**P**	**09 05 16.8**	**+0.2**
BDFB	**Brasilia**	**28.53**	**56**	P	**P**	**09 05 24.7**	**-1.1**
	comp=Z,8.0nm,0.7s,baz=227,slow=8.1,SNR=11						
BDFB				LR	LR	09 17 51.9	
	comp=Z,301nm,19.3s,baz=258,slow=39						
BDFB	**Brasilia**	**28.53**	**56**	P	**P**	**09 05 24.7**	**-1.1**
HOPE	**Hope Point**	**32.34**	**140**		**P**	**09 06 00.2**	**+1.3**
TOSP	**Speyside**	**46.36**	**16**		**P**	**09 07 57.0**	**+0.8**
SVB	**Belmont**	**48.11**	**15**	P	**P**	**09 08 09.6**	**-0.3**
VNA3	**Neumayer Olymp**	**49.54**	**158**	P	**P**	**09 08 21.0**	**+0.7**
VNA1	**Neumayer--Stat**	**49.86**	**157**	P	**P**	**09 08 23.6**	**+1.0**
VNA2	**Neumayer--Watz**	**50.20**	**157**	P	**P**	**09 08 25.7**	**+0.5**
	baz=291,slow=9.1						
SNAA	**Sanae**	**51.77**	**158**	P	**P**	**09 08 37.6**	**+0.5**
SNAA	**Sanae**	**51.77**	**158**	P	**P**	**09 08 37.8**	**+0.6**
MLPR	**Magueyes Islan**	**51.85**	**6**	P	**P**	**09 08 37.9**	**-0.3**
CRPR	**Cabo Rojo, PR**	**51.88**	**6**	P	**P**	**09 08 38.1**	**-0.3**
OBIP	**Obispado Ponce**	**51.97**	**7**	P	**P**	**09 08 39.0**	**0.0**
PDPR	**Patillas Dam,**	**52.00**	**8**	P	**P**	**09 08 38.9**	**-0.4**
PDPR				IAmb	IAmb	09 08 49.6	
	comp=Z,16nm,0.9s						
GTBY	**Guantanamo Bay**	**53.61**	**357**	P	**P**	**09 08 51.7**	**+0.5**
TEIG	**Tepich**	**55.94**	**342**	P	**P**	**09 09 08.8**	**+0.8**
TEIG				IAmb	IAmb	09 09 26.7	
	comp=Z,21nm,1.1s						
QSPA	**South Pole Qui**	**56.31**	**180**	P	**P**	**09 09 11.1**	**+0.5**
	comp=Z,5.9nm,0.9s,baz=332,slow=1.5,SNR=28						
QSPA	**South Pole Qui**	**56.31**	**180**	P	**P**	**09 09 10.5**	**0.0**
QSPA				IAmb	IAmb	09 09 20.3	
	comp=Z,9.8nm,1.1s						
656A	**Willston**	**63.68**	**350**	P	**P**	**09 10 01.2**	**0.0**
SYO	**Syowa Base**	**66.04**	**159**⇑	*e*P	**P**	**09 10 14.7**	**-1.5**
SYO	**Syowa Base**	**66.04**	**159**⇓	*e*sP	sP	09 10 21.0	-1.6
GOGA	**Godfrey**	**67.78**	**350**	P	**P**	**09 10 27.3**	**-0.3**
GOGA				IAmb	IAmb	09 10 28.0	
	comp=Z,4.2nm,0.8s						
Z50A	**Ashland**	**68.02**	**348**	P	**P**	**09 10 29.4**	**+0.2**
Z50A				IAmb	IAmb	09 10 29.7	
	comp=Z,9.6nm,0.9s						
HPIG		**68.27**	**328**	P	**P**	**09 10 32.0**	**+0.9**
HPIG				IAmb	IAmb	09 10 32.9	
	comp=Z,5.5nm,1.0s						
Y49A	**Blount Mountai**	**68.70**	**347**	P	**P**	**09 10 33.8**	**+0.4**
JCT	**Junction City**	**69.09**	**335**	P	**P**	**09 10 37.3**	**+1.4**
JCT				IAmb	IAmb	09 10 37.6	
	comp=Z,12nm,0.9s						
X51A	**Calhoun**	**69.12**	**349**	P	**P**	**09 10 36.5**	**+0.5**
FPAL	**Fort Paine**	**69.22**	**348**	P	**P**	**09 10 37.4**	**+0.7**
FPAL				IAmb	IAmb	09 10 44.3	
	comp=Z,5.7nm,1.2s						
X48A	**Hartselle**	**69.39**	**347**	P	**P**	**09 10 37.7**	**+0.1**
X48A				IAmb	IAmb	09 10 38.7	
	comp=Z,10nm,0.8s						
TX32	**Lajitas Array**	**69.53**	**331**	P	**P**	**09 10 39.7**	**+1.0**
TX32				IAmb	IAmb	09 10 40.4	
	comp=Z,3.7nm,0.8s						
TXAR	**Lajitas Array**	**69.53**	**331**	P	**P**	**09 10 39.7**	**+1.0**
	comp=Z,2.6nm,0.6s,baz=154,slow=8.2,SNR=30						
TX31	**Lajitas Ar. Si**	**69.53**	**331**	P	**P**	**09 10 39.9**	**+1.1**
V58A	**Windy Hill, Pi**	**69.64**	**354**	P	**P**	**09 10 39.1**	**0.0**
V58A				IAmb	IAmb	09 10 39.7	
	comp=Z,7.0nm,0.8s						
WHTX	**Lake Whitney,**	**69.69**	**337**	P	**P**	**09 10 40.8**	**+1.3**
V55A	**Taylorsville**	**69.90**	**352**	P	**P**	**09 10 40.9**	**+0.2**
V55A				IAmb	IAmb	09 10 47.3	
	comp=Z,12nm,1.1s						
V53A	**Saluda**	**69.91**	**351**	P	**P**	**09 10 41.1**	**+0.2**
V53A				IAmb	IAmb	09 10 41.3	
	comp=Z,6.5nm,0.8s						
SWET	**Sewanee**	**69.94**	**348**	P	**P**	**09 10 41.5**	**+0.4**
CPCT	**Cooper Cave**	**69.94**	**349**	P	**P**	**09 10 40.5**	**-0.5**
CPCT				IAmb	IAmb	09 10 41.8	
	comp=Z,8.3nm,0.8s						
PLAL	**Pickwick Lake**	**70.10**	**346**	P	**P**	**09 10 42.1**	**+0.1**
V52A	**Sevierville**	**70.19**	**350**	P	**P**	**09 10 42.4**	**-0.1**
V52A				IAmb	IAmb	09 10 53.7	
	comp=Z,9.8nm,1.1s						
V51A	**Loudon**	**70.26**	**350**	P	**P**	**09 10 42.8**	**-0.1**
V51A				IAmb	IAmb	09 10 55.5	
	comp=Z,5.0nm,0.8s						
V48A	**Smith Brothers**	**70.60**	**348**	P	**P**	**09 10 45.6**	**+0.6**
U54A	**Nelsons Funny**	**70.63**	**352**	P	**P**	**09 10 45.5**	**+0.2**
T59A	**Double "B" Far**	**70.69**	**356**	P	**P**	**09 10 46.2**	**+0.6**
T59A				IAmb	IAmb	09 10 58.2	
	comp=Z,15nm,1.1s						
CLTN	**Cedars of Leba**	**70.86**	**348**	P	**P**	**09 10 47.2**	**+0.6**
CLTN				IAmb	IAmb	09 10 47.6	
	comp=Z,5.7nm,0.8s						
TZTN	**Tazewell**	**70.87**	**350**	P	**P**	**09 10 46.7**	**0.0**
TZTN				IAmb	IAmb	09 10 58.8	
	comp=Z,7.7nm,1.1s						
WVT	**Waverly**	**71.17**	**347**	P	**P**	**09 10 48.8**	**+0.3**
WHAR	**Wooly Hollow**	**71.33**	**343**	P	**P**	**09 10 50.6**	**+1.1**
WHAR				IAmb	IAmb	09 10 50.7	
	comp=Z,6.0nm,0.9s						
S57A	**Dark Hollow, R**	**71.58**	**355**	P	**P**	**09 10 51.3**	**+0.4**
S57A				IAmb	IAmb	09 11 00.0	
	comp=Z,7.0nm,0.8s						
W39A	**Magazine**	**71.62**	**342**	P	**P**	**09 10 52.5**	**+1.3**
W39A				IAmb	IAmb	09 10 53.4	
	comp=Z,15nm,1.1s						
T49A	**Edmonton**	**71.72**	**349**	P	**P**	**09 10 51.8**	**0.0**
T49A				IAmb	IAmb	09 11 00.1	
	comp=Z,7.9nm,0.7s						
T47A	**Sharon Grove**	**71.87**	**348**	P	**P**	**09 10 52.9**	**+0.3**
T47A				IAmb	IAmb	09 10 53.3	
	comp=Z,11nm,0.7s						
PBMO	**Poplar Bluff**	**72.32**	**345**	P	**P**	**09 10 55.6**	**+0.2**
PBMO				IAmb	IAmb	09 11 03.9	
	comp=Z,8.1nm,0.7s						
U40A	**Yellville**	**72.48**	**343**	P	**P**	**09 10 56.6**	**+0.2**
U40A				IAmb	IAmb	09 11 05.0	
	comp=Z,7.8nm,0.8s						
HHAR	**Hobbs**	**72.68**	**342**	P	**P**	**09 10 58.5**	**+0.8**
HHAR				IAmb	IAmb	09 11 06.2	
	comp=Z,4.8nm,0.7s						
MAW	**Mawson**	**73.34**	**164**	P	**P**	**09 11 01.3**	**+0.2**
	comp=Z,5.6nm,0.8s,baz=202,slow=7.1,SNR=11						
MAW	**Mawson**	**73.34**	**164**	P	**P**	**09 11 01.8**	**+0.7**
CCM	**Cathedral Cave**	**73.73**	**345**	P	**P**	**09 11 04.0**	**+0.3**
CCM				IAmb	IAmb	09 11 12.4	
	comp=Z,11nm,0.8s						
AMTX	**Amarillo**	**73.74**	**335**	P	**P**	**09 11 05.1**	**+1.1**
AMTX				IAmb	IAmb	09 11 06.6	
	comp=Z,5.1nm,0.8s						
P48A	**Milroy**	**74.01**	**350**	P	**P**	**09 11 05.1**	**-0.2**
P48A				IAmb	IAmb	09 11 05.4	
	comp=Z,18nm,1.1s						
ACSO	**Alum Creek Sta**	**74.43**	**352**	P	**P**	**09 11 07.7**	**-0.1**
O49A	**Covington**	**74.56**	**351**	P	**P**	**09 11 08.4**	**-0.1**
O49A				IAmb	IAmb	09 11 16.6	
	comp=Z,9.4nm,0.8s						
LIC	**Lamto**	**75.02**	**72**	*e*P	**P**	**09 11 11.6**	**-0.2**
	comp=Z,18nm,0.8s						
M55A	**Ridgway**	**75.25**	**355**	P	**P**	**09 11 12.5**	**0.0**
TIC	**Toumodi**	**75.28**	**71**	*e*P	**P**	**09 11 13.0**	**-0.3**
KIC	**Kosan Boka**	**75.33**	**72**	*e*P	**P**	**09 11 13.5**	**-0.1**
	comp=Z,28nm,0.9s						
DBIC	**Dimbokro**	**75.42**	**72**	P	**P**	**09 11 14.1**	**-0.1**
	comp=Z,8.1nm,0.7s,baz=220,slow=5.6,SNR=4.5						
DBIC	**Dimbokro**	**75.42**	**72**	P	**P**	**09 11 14.3**	**+0.1**
DBIC				IAmb	IAmb	09 11 15.0	
	comp=Z,8.5nm,0.7s						
N47A	**Urbana**	**75.44**	**350**	P	**P**	**09 11 12.2**	**-1.4**
T25A	**Trinidad**	**76.74**	**334**	P	**P**	**09 11 23.0**	**+1.6**
T25A				IAmb	IAmb	09 11 31.5	
	comp=Z,7.0nm,0.9s						
X16A	**Lo Mia Camp, P**	**77.22**	**328**	P	**P**	**09 11 25.8**	**+1.8**
SDCO	**Great Sand Dun**	**77.67**	**334**	P	**P**	**09 11 27.9**	**+1.2**
HAL	**Halifax**	**78.60**	**6**	P	**P**	**09 11 33.1**	**+1.9**
U15A	**North Rim**	**79.28**	**328**	P	**P**	**09 11 36.2**	**+0.7**
SMCO	**Snowmass**	**79.48**	**333**	P	**P**	**09 11 37.2**	**+0.4**
BOSA	**Boshof**	**80.36**	**118**	P	**P**	**09 11 41.7**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=225,slow=3.7,SNR=5.7						
ECSD	**EROS Data Cent**	**80.39**	**342**	P	**P**	**09 11 40.3**	**-0.7**
ECSD				IAmb	IAmb	09 11 41.9	
	comp=Z,6.8nm,0.8s						
SHPR	**Sheep Range**	**80.63**	**326**	P	**P**	**09 11 44.4**	**+1.6**
CCUT	**Cedar City**	**80.69**	**328**	P	**P**	**09 11 44.6**	**+1.5**
RDMU	**Red Mountain**	**81.68**	**332**	P	**P**	**09 11 47.1**	**-1.2**
R11A	**Troy Canyon, C**	**82.33**	**327**	P	**P**	**09 11 52.9**	**+1.2**
PDAR	**Pinedale Array**	**83.56**	**333**	P	**P**	**09 11 58.8**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=152,slow=6.7,SNR=5.5						
NVAR	**Mina Array Bea**	**83.66**	**325**	P	**P**	**09 11 59.7**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=151,slow=6.8,SNR=4.6						
KVN	**Kaiserville**	**84.06**	**326**	P	**P**	**09 12 00.4**	**-0.2**
KVN				IAmb	IAmb	09 12 06.1	
	comp=Z,6.2nm,1.0s						
ELK	**Elko**	**84.15**	**329**	P	**P**	**09 12 01.1**	**0.0**
TOA0	**Torodi Ar. Sit**	**84.45**	**70**	P	**P**	**09 12 01.6**	**-1.4**
TOA0				IAmb	IAmb	09 12 03.7	
	comp=Z,8.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**84.45**	**70**	P	**P**	**09 12 02.8**	**-0.2**
	comp=Z,7.0nm,0.7s,baz=269,slow=4.1,SNR=34						
YHH	**Holmes Hill**	**85.78**	**334**	P	**P**	**09 12 09.7**	**+0.4**
ORV	**Oroville**	**86.08**	**324**	P	**P**	**09 12 10.8**	**+0.3**
WR0	**Warramunga Arr**	**120.59**	**210**	PKPdf	**PKPdf**	**09 18 21.5**	**-0.8**
WB2	**Warramunga Arr**	**120.69**	**209**	PKPdf	**PKPdf**	**09 18 21.6**	**-0.8**
WRA	**Warramunga Arr**	**120.69**	**209**	PKP	**PKPdf**	**09 18 21.7**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=163,slow=1.4,SNR=7.1						
BRTR	**Keskin Array B**	**122.05**	**61**	PKP	**PKPdf**	**09 18 24.3**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=222,slow=1.7,SNR=5.7						
AKASG	**Malin Array Be**	**122.35**	**48**	PKP	**PKPdf**	**09 18 23.8**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=264,slow=3.0,SNR=5.2						
ARCES	**ARCESS Array B**	**124.06**	**25**	PKP	**PKPdf**	**09 18 27.3**	**0.0**
	comp=Z,3.2nm,0.9s,baz=292,slow=3.8,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**125.49**	**269**	T	T	11 37 30.0	
	baz=118,slow=74,SNR=3.0						
H11S1	**WAKE ISLAND Hy**	**125.50**	**269**	T	T	11 37 28.8	
	baz=118						
H11S3	**WAKE ISLAND Hy**	**125.50**	**269**	T	T	11 37 31.0	
	baz=118,slow=74,SNR=2.6						
ABKAR	**Akbulak array**	**141.86**	**52**		PKPpre	09 18 55.1	
BRVK	**Borovoye**	**147.34**	**43**		**PKPab**	**09 19 14.1**	**-0.9**
RPSI	**Rantau Prapat**	**147.89**	**163**	PKPbc	**PKPbc**	**09 19 15.5**	**-0.2**
RPSI					**PKPab**	**09 19 19.9**	**+1.8**
CHGR	**Chuyangaron**	**148.80**	**70**	PKPbc	**PKPbc**	**09 19 17.5**	**0.0**
GAR	**Garm**	**149.72**	**69**	PKPbc	**PKPbc**	**09 19 20.1**	**+0.3**
KK31	**Karatay Array**	**149.76**	**61**	PKPbc	**PKPbc**	**09 19 19.4**	**-0.3**
KKAR	**Karatay Array**	**149.76**	**61**	PKPbc	**PKPbc**	**09 19 19.7**	**+0.1**
BTK	**Batken**	**150.12**	**67**		**PKiKP**	**09 19 21.2**	**-0.4**
NIL	**Nilore**	**151.51**	**81**	PKPbc	**PKPbc**	**09 19 24.4**	**+0.2**
ARSB	**Arslanbob**	**151.73**	**65**		**PKiKP**	**09 19 25.2**	**+0.3**
AAK	**Ala-Archa**	**152.72**	**62**		**PKiKP**	**09 19 27.8**	**+0.8**
KURK	**Kurchatov**	**153.02**	**43**		**PKiKP**	**09 19 27.4**	**+0.3**
KSH	**Kashi**	**154.11**	**68**	SKS	**SKSdf**	**09 26 22.7**	**-5.3**
KSH				PKPbc	**PKPdf**	**09 19 20.1**	**-1.6**
KSH	**Kashi**	**154.11**	**68**	SS	SS	09 42 51.9	-5.5
KSH				LR	LR		
	comp=N,630nm,7.1s						
KSH				LR	LR		
	comp=E,460nm,7.3s						
KSH				LR	LR		
	comp=Z,540nm,7.0s						
ZAA0	**Zalesovo Array**	**154.31**	**32**		**PKPbc**	**09 19 29.5**	**-0.1**
ZALV	**Zalesovo Beam**	**154.31**	**32**	PKP	**PKPdf**	**09 19 21.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=289,slow=4.5,SNR=4.5						
ZALV				PKPbc	**PKiKP**	**09 19 29.6**	**0.0**
	comp=Z,4.5nm,0.5s,baz=302,slow=3.1,SNR=17						
MKAR	**Makanchi Array**	**156.93**	**49**	PKPbc	PKPdf	09 19 35.3	+10
	comp=Z,1.5nm,0.9s,baz=251,slow=1.9,SNR=3.4						
MKAR				PKPab	**PKPab**	**09 19 55.0**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=295,slow=3.1,SNR=11						
LZH	**Lanzhou**	**176.22**	**54**	*e*PKP	**PKPdf**	**09 19 39.7**	**-0.7**
LZH				pPKP	sPKPdf	09 19 49.2	+2.2
LZH				sPKP		09 19 54.6	

*IDC **07** 09:07:58.1±2.4, 53°.91N×165°.54W, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.6/47, mbtmp3.7/9, ML3.2/2, MS3.3/3, Ms1 3.3/3, ms1mx2.7/45, Error ellipse: s-maj=42.3km s-min=25.7km az=66.0*

*AEIC **07** 09:08:06.1±3.0, 53°.72N±0°.06×165°.16W±0°.07, h44km±6km, ML3.7, mb3.6/6(NEIC)*

ISC 07 09:08:03.4±1.4**, 53°.59N**±0°.06×**165°.03W**±0°.04**, h31**km±10km**, n83,** σ**1°.46**/86**, mb3.9**/7**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.68**	**324**		**Pn**	**09 08 17.4**	**+0.6**
AKSA					**Sn**	**09 08 26.8**	**+0.4**
AKUT	**Akutan**	**0.70**	**321**	Pn	**Pn**	**09 08 18.0**	**+0.8**
AKUT					**Pn**	**09 08 18.0**	**+0.8**
AKUT				Sn	**Sb**	**09 08 25.7**	**-0.8**
AKUT					**Sn**	**09 08 27.2**	**+0.2**
AKBBA	**Akutan Broad B**	**0.74**	**314**		**Pn**	**09 08 17.5**	**-0.2**
AKBBA					**Sb**	**09 08 27.6**	**0.0**
AKMO	**Akutan Morgan**	**0.77**	**311**		**Pn**	**09 08 19.0**	**+0.8**
AKMO					**Sn**	**09 08 29.1**	**+0.4**
AKLV	**Akutan Long Va**	**0.79**	**317**		**Pn**	**09 08 19.1**	**+0.5**
AKLV					**Sb**	**09 08 29.3**	**+0.1**
AKRB	**Akutan Reef Bi**	**0.82**	**312**		**Pn**	**09 08 19.7**	**+0.8**
AKRB					**Sn**	**09 08 30.9**	**+0.9**
AKGG	**Akutan Green G**	**0.83**	**317**		**Pn**	**09 08 19.8**	**+0.7**
AKGG					**Sn**	**09 08 30.4**	**+0.1**
UNV	**Unalaska Valle**	**0.92**	**287**	Pn	**Pn**	**09 08 20.8**	**+0.7**
UNV				Sn	**Sb**	**09 08 31.8**	**-0.8**
UNV	**Unalaska Valle**	**0.92**	**287**		**Sn**	**09 08 32.7**	**+0.5**
WEBT	**Westdahl Beart**	**1.01**	**9**		**Pn**	**09 08 22.8**	**+1.2**
MREP	**Makushin Rep't**	**1.05**	**283**		**Pb**	**09 08 23.4**	**+0.4**
MTBL	**Makushin Table**	**1.05**	**292**		**Pb**	**09 08 23.3**	**+0.2**
MSW	**Makushin Switc**	**1.09**	**288**		**Pb**	**09 08 23.5**	**-0.2**
MSW					**Sn**	**09 08 37.7**	**+1.0**
MGOD	**Makushin Gods**	**1.12**	**281**		**Pb**	**09 08 24.4**	**+0.3**
MCIR	**Makushin Cirqu**	**1.17**	**289**		**Pb**	**09 08 24.8**	**-0.2**
SSBA	**Shishaldin**	**1.30**	**24**		**Pb**	**09 08 27.3**	**+0.1**
SSBA					**Sb**	**09 08 43.9**	**+0.3**
FALS	**False Pass**	**1.58**	**36**	Pn	**Pb**	**09 08 31.1**	**-0.9**
FALS				Sn	**Sb**	**09 08 51.5**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**1.81**	**265**		**Pb**	**09 08 35.1**	**-0.9**
OKNC	**Okmok New Cone**	**1.85**	**267**		**Pb**	**09 08 36.2**	**-0.4**
OKSP	**Okmok Steeple**	**1.98**	**261**		**Pb**	**09 08 37.5**	**-1.3**
NIKH	**Nikolski High**	**2.38**	**256**		LR	09 09 10.7	
NIKH	**Nikolski High**	**2.38**	**256**		**Pn**	**09 08 41.9**	**+1.6**
NIKH				Sn	**Sn**	**09 09 09.2**	**+0.7**
SDPT	**Sand Point**	**3.19**	**55**		**Pn**	**09 08 51.1**	**-0.2**
KDAK	**Kodiak Island**	**8.19**	**54**	Pn	**Pn**	**09 09 59.7**	**-0.2**
	0.9nm,0.3s,baz=210,slow=12,SNR=17						
KDAK	**Kodiak Island**	**8.19**	**54**		**Pn**	**09 10 02.7**	**+2.7**
SVW2	**Sparrevohn**	**9.08**	**30**	Pn	**Pn**	**09 10 14.2**	**+2.0**
CNPM	**China Poot**	**9.65**	**46**	Pn	**Pn**	**09 10 20.4**	**+0.4**
BRLK	**Bradley Lake**	**9.93**	**46**	Pn	**Pn**	**09 10 24.5**	**+0.7**
TTA	**Tatalina**	**10.49**	**23**	Pn	**Pn**	**09 10 33.0**	**+1.5**
SEW	**Seward**	**10.72**	**46**	Pn	**Pn**	**09 10 34.1**	**-0.5**
SUA	**Susitna One**	**10.98**	**38**	Pn	**Pn**	**09 10 39.6**	**+1.3**
SKT	**Skwentna**	**11.05**	**35**	Pn	**Pn**	**09 10 42.2**	**+3.0**
RC01	**Rabbit Creek A**	**11.14**	**42**	Pn	**Pn**	**09 10 40.6**	**+0.2**
KNK	**Knik Glacier**	**11.84**	**42**	Pn	**Pn**	**09 10 50.6**	**+0.6**
GHO	**Glory Hole Cre**	**11.86**	**40**	Pn	**Pn**	**09 10 51.0**	**+0.6**
GLI	**Glacier Island**	**12.12**	**46**	Pn	**Pn**	**09 10 55.0**	**+1.2**
HIN	**Hinchinbrook I**	**12.15**	**49**		**Pn**	**09 10 53.5**	**-0.8**
FID	**Port Fidalgo**	**12.32**	**47**	Pn	**Pn**	**09 10 54.2**	**-2.3**
KTH	**Kantishna Hill**	**12.37**	**31**	Pn	**Pn**	**09 11 00.6**	**+3.4**
SCM	**Sheep Creek Mo**	**12.52**	**42**		**Pn**	**09 10 58.5**	**-0.8**
EYAK	**Cordova Ski Ar**	**12.56**	**49**	Pn	**Pn**	**09 10 58.5**	**-1.2**
RND	**Reindeer**	**12.93**	**34**	Pn	**Pn**	**09 11 06.2**	**+1.4**
RAGM	**Ragged Mountai**	**12.98**	**50**	Pn	**Pn**	**09 11 05.6**	**+0.1**
HMT	**Hamilton**	**13.15**	**51**		**Pn**	**09 11 07.3**	**-0.6**
SUCK	**Suckling Hills**	**13.28**	**52**	Pn	**Pn**	**09 11 11.3**	**+1.7**
MLY	**Manley**	**13.55**	**27**	Pn	**Pn**	**09 11 16.1**	**+2.9**
GLB	**Gilahina Butte**	**13.79**	**47**		**Pn**	**09 11 15.4**	**-1.3**
CRQM	**Cirque**	**13.82**	**50**	Pn	**Pn**	**09 11 16.8**	**-0.3**
WAX	**Waxell Ridge**	**13.84**	**51**	Pn	**Pn**	**09 11 16.4**	**-1.0**
VRDI	**Verde Repeater**	**13.86**	**48**	Pn	**Pn**	**09 11 16.6**	**-1.1**
TGL	**Tana Glacier**	**13.96**	**50**	Pn	**Pn**	**09 11 19.1**	**+0.1**
CCB	**Clear Creek Bu**	**14.11**	**32**	Pn	**Pn**	**09 11 21.2**	**+0.3**
MCARA	**McCarthy VSAT**	**14.11**	**48**	Pn	**Pn**	**09 11 21.7**	**+0.7**
YAH	**Yahtse**	**14.34**	**53**	Pn	**Pn**	**09 11 22.4**	**-1.9**
IL31		**14.49**	**32**	Pn	**Pn**	**09 11 26.5**	**+0.5**
ILAR	**Eielson Array**	**14.49**	**32**	Pn	Pn	09 11 20.3	-5.7
	0.0nm,0.3s,baz=226,slow=13,SNR=2.8						
RIDG	**Independent Ri**	**14.54**	**38**	Pn	**Pn**	**09 11 28.3**	**+1.6**
BARN	**Barnard Glacie**	**14.60**	**50**	Pn	**Pn**	**09 11 27.6**	**-0.2**
SCRK	**Sand Creek**	**14.99**	**38**	Pn	**Pn**	**09 11 32.6**	**-0.3**
DAWY	**Dawson**	**16.78**	**41**		**Pn**	**09 11 55.7**	**-0.1**
DAWY				IAmb	IAmb	09 12 01.4	
	comp=Z,4.1nm,1.1s						
SKAG	**Skagway**	**17.30**	**58**	P	**P**	**09 12 05.6**	**+2.1**
SKAG				IAmb	IAmb	09 12 13.3	
	comp=Z,6.9nm,1.2s						
EPYK	**Eagle Plains**	**18.86**	**36**	P	**P**	**09 12 19.1**	**-1.6**
EPYK				IAmb	IAmb	09 12 33.7	
	comp=Z,3.5nm,0.9s						
INK	**Inuvik**	**20.88**	**33**	P	**P**	**09 12 39.9**	**-2.7**
	comp=Z,0.6nm,0.4s,baz=251,slow=14,SNR=9.5						
INK	**Inuvik**	**20.88**	**33**	P	**P**	**09 12 38.7**	**-3.9**
PETK	**Petropavlovsk-**	**22.10**	**284**	P	**P**	**09 12 55.0**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=84,slow=13,SNR=16						
MA2	**Magadan**	**24.68**	**302**	LR	LR	09 21 59.4	
	comp=Z,30nm,20.8s,baz=266,slow=35						
YKA	**Yellowknife Ar**	**27.45**	**51**	P	**P**	**09 13 45.1**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=277,slow=8.7,SNR=12						
NEW	**Newport**	**30.19**	**80**	LR	LR	09 25 01.7	
	comp=Z,44nm,18.9s,baz=37,slow=34						
YBH	**Yreka Blue Hor**	**30.42**	**96**	P	**P**	**09 14 16.0**	**+3.2**
	comp=Z,1.2nm,0.6s,baz=350,slow=6.1,SNR=5.5						
YBH	**Yreka Blue Hor**	**30.42**	**96**	P	**P**	**09 14 16.9**	**+4.1**
PAHR	**Pah Rah Range**	**33.65**	**96**	P	**P**	**09 14 44.4**	**+3.1**
LRM	**Limekiln Ridge**	**34.18**	**81**	P	**P**	**09 14 43.6**	**-2.4**
NVAR	**Mina Array Bea**	**35.12**	**96**	P	**P**	**09 14 55.7**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=302,slow=7.8,SNR=7.0						
PDAR	**Pinedale Array**	**37.62**	**84**	P	**P**	**09 15 16.4**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=302,slow=5.1,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**40.10**	**223**	T	T	09 58 29.1	
	baz=25,slow=76,SNR=38						
H11N3	**WAKE ISLAND Hy**	**40.11**	**223**	T	T	09 58 29.7	
	baz=25,slow=76,SNR=39						
H11N1	**WAKE ISLAND Hy**	**40.12**	**223**	T	T	09 58 29.7	
	baz=25,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**41.28**	**223**	T	T	09 59 59.1	
	baz=25,slow=76,SNR=61						
H11S2	**WAKE ISLAND Hy**	**41.29**	**223**	T	T	10 00 00.1	
	baz=25,slow=76,SNR=52						
H11S3	**WAKE ISLAND Hy**	**41.30**	**223**	T	T	10 00 01.5	
	baz=25,slow=76,SNR=48						
TXAR	**Lajitas Array**	**50.15**	**93**	P	**P**	**09 16 57.4**	**+1.4**
	comp=Z,2.0nm,0.6s,baz=299,slow=5.3,SNR=23						
ARCES	**ARCESS Array B**	**56.94**	**356**	P	**P**	**09 17 42.0**	**-3.1**
	comp=Z,4.7nm,1.0s,baz=9.2,slow=7.3,SNR=3.6						
KBZ	**Khabaz**	**80.14**	**340**	LR	LR	09 59 59.7	
	comp=Z,64nm,19.3s,baz=205,slow=39						

*IDC **07** 09:10:33.2±2.3, 56°.08N×155°.85W, h0km, mb3.7/4, mb1 3.8/7, mb1mx3.5/46, mbtmp3.6/7, ML3.5/3, Error ellipse: s-maj=36.8km s-min=32.9km az=31.0*

*ISCJB **07** 09:10:43.8±0.5, 56°.78N±0°.04×155°.03W±0°.06, h78km±5km, mb4.0/3, Error ellipse: s-maj=6.5km s-min=5.7km az=0.6*

*AEIC **07** 09:10:45.7±1.0, 56°.77N±0°.05×155°.05W±0°.07, h61km±8km, ML3.0*

ISC 07 09:10:45.7±1.1**, 56°.80N**±0°.07×**155°.03W**±0°.05**, h60**km±11km**, n63,** σ**1°.06**/67**, mb4.4**/3**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.52**	**117**		**Pn**	**09 10 57.5**	**-0.5**
SII					Pn	09 10 58.2	+0.2
SII				Sn	**Sn**	**09 11 06.8**	**-0.1**
SII					Sn	09 11 07.6	+0.7
CHIR	**Chirikof Islan**	**1.03**	**199**		**Pn**	**09 11 03.5**	**-0.6**
OHAK	**Old Harbor**	**1.04**	**65**		**Pn**	**09 11 05.9**	**+1.7**
OHAK					Pn	09 11 06.2	+2.0
OHAK					**Sn**	**09 11 18.5**	**+0.5**
PLK4	**Peulik 4**	**1.11**	**320**		**Pn**	**09 11 04.8**	**-0.4**
PLK3	**Peulik 3**	**1.12**	**323**		**Pn**	**09 11 04.7**	**-0.6**
PLK3					**Sn**	**09 11 20.2**	**+0.3**
PLK2	**Peulik 2**	**1.20**	**324**		**Pn**	**09 11 06.1**	**-0.2**
CAHL	**Cahill**	**1.27**	**353**		**Pn**	**09 11 06.8**	**-0.4**
KJL	**Kejulik**	**1.29**	**347**		**Pn**	**09 11 07.2**	**-0.5**
KJL					**Sn**	**09 11 24.4**	**+0.3**
PLK1	**Peulik 1**	**1.32**	**320**		**Pn**	**09 11 07.3**	**-0.6**
PLBL	**Peulik Blue Cr**	**1.33**	**314**		**Pn**	**09 11 07.7**	**-0.4**
KABR	**Katmai Barrier**	**1.34**	**1**		**Sn**	**09 11 26.7**	**+1.6**
ACHA	**Angle Creek He**	**1.42**	**354**		**Sn**	**09 11 28.2**	**+1.0**
ANCK	**Angle Creek**	**1.43**	**350**		**Pn**	**09 11 09.0**	**-0.5**
KDAK	**Kodiak Island**	**1.65**	**52**	Pn	**Pn**	**09 11 12.3**	**0.0**
	8.3nm,0.3s,baz=232,slow=8.9,SNR=16						
KDAK				Sn	Sn	09 11 43.1	+11
	18nm,0.3s,baz=102,slow=14,SNR=5.9						
KDAK	**Kodiak Island**	**1.65**	**52**		**Pn**	**09 11 12.6**	**+0.2**
ANNE	**Aniakchak Nort**	**1.67**	**275**		**Pn**	**09 11 11.6**	**-1.1**
KELA	**Mount Kelaz**	**1.69**	**347**		**Pn**	**09 11 12.2**	**-0.8**
KAHC	**Katmai Hardscr**	**1.85**	**0**		**Pn**	**09 11 14.9**	**-0.3**
AUJK	**Augustine Jueg**	**2.70**	**18**		**Pn**	**09 11 26.3**	**-0.3**
HOM	**Homer**	**3.38**	**31**		**Pn**	**09 11 36.2**	**+0.3**
SDPT	**Sand Point**	**3.38**	**247**		**Pn**	**09 11 35.1**	**-0.8**
CNPM	**China Poot**	**3.39**	**35**		**Pn**	**09 11 36.5**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRLK	**Bradley Lake**	**3.69**	**35**		**Pn**	**09 11 39.8**	**-0.4**
BRSE	**Bradley Lake S**	**3.72**	**36**		**Pn**	**09 11 40.4**	**-0.1**
RED	**Redoubt Volcan**	**3.82**	**17**		**Pn**	**09 11 42.0**	**0.0**
RSO	**Redoubt South**	**3.86**	**17**	Pn	**Pn**	**09 11 44.2**	**+1.5**
RDWB	**Redoubt West**	**3.87**	**16**		**Pn**	**09 11 42.8**	**0.0**
NCT	**North Crescent**	**3.93**	**15**		**Pn**	**09 11 43.8**	**+0.3**
DFR	**Drift River**	**4.00**	**17**		**Pn**	**09 11 44.6**	**+0.2**
SVW2	**Sparrevohn**	**4.32**	**356**		**Pn**	**09 11 49.5**	**+0.7**
SEW	**Seward**	**4.42**	**39**		**Pn**	**09 11 49.5**	**-0.6**
CAPN	**Captain Cook N**	**4.46**	**25**		**Pn**	**09 11 50.7**	**0.0**
SLKM	**Skilak Lake**	**4.49**	**32**		**Pn**	**09 11 50.5**	**-0.6**
SPCP	**Crater Peak Br**	**4.72**	**17**		**Pn**	**09 11 54.3**	**-0.1**
SPNN	**North Nagishla**	**4.74**	**14**		**Pn**	**09 11 54.1**	**-0.5**
RC01	**Rabbit Creek A**	**5.10**	**30**	Pn	**Pn**	**09 11 59.6**	**+0.2**
SUA	**Susitna One**	**5.17**	**23**		**Pn**	**09 12 00.8**	**+0.3**
PWL	**Port Wells**	**5.35**	**38**		**Pn**	**09 12 02.2**	**-0.7**
SKT	**Skwentna**	**5.49**	**17**	Pn	**Pn**	**09 12 05.1**	**+0.3**
HIN	**Hinchinbrook I**	**5.73**	**47**		**Pn**	**09 12 08.0**	**-0.1**
EYAK	**Cordova Ski Ar**	**6.12**	**48**	Pn	**Pn**	**09 12 14.6**	**+1.2**
TT01	**Tatalina**	**6.15**	**356**		**Pn**	**09 12 12.7**	**-1.1**
TTA	**Tatalina**	**6.17**	**356**	Pn	**Pn**	**09 12 14.9**	**+0.8**
PPLA	**Purkeypile**	**6.28**	**12**		**Pn**	**09 12 15.6**	**-0.1**
SCM	**Sheep Creek Mo**	**6.40**	**35**		**Pn**	**09 12 17.5**	**+0.2**
RAGM	**Ragged Mountai**	**6.50**	**52**	Pn	**Pn**	**09 12 19.2**	**+0.6**
GOAT	**Goat Mountain**	**6.57**	**50**		**Pn**	**09 12 18.4**	**-1.2**
AKUT	**Akutan**	**6.67**	**251**	Pn	**Pn**	**09 12 19.6**	**-1.3**
KTH	**Kantishna Hill**	**7.08**	**15**	Pn	**Pn**	**09 12 26.7**	**+0.2**
TRF	**Thorofare Moun**	**7.08**	**18**	Pn	**Pn**	**09 12 26.7**	**+0.1**
BALM	**Baldy**	**7.81**	**52**	Pn	**Pn**	**09 12 36.6**	**-0.1**
NEA	**Nenana**	**8.33**	**18**	Pn	**Pn**	**09 12 41.5**	**-2.1**
MLY	**Manley**	**8.52**	**12**	Pn	**Pn**	**09 12 45.3**	**-0.9**
HDA	**Harding Lake**	**8.60**	**24**	Pn	**Pn**	**09 12 46.5**	**-0.8**
IL31		**8.92**	**23**	Pn	**Pn**	**09 12 50.0**	**-1.7**
ILAR	**Eielson Array**	**8.92**	**23**	Pn	**Pn**	**09 12 49.9**	**-1.8**
	0.1nm,0.3s,baz=212,slow=14,SNR=4.4						
ILAR				Sn	**Sn**	**09 14 24.8**	**-5.8**
	0.1nm,0.3s,baz=232,slow=19,SNR=2.8						
SCRK	**Sand Creek**	**9.03**	**33**	Pn	**Pn**	**09 12 53.2**	**0.0**
ANM	**Nome**	**9.28**	**331**	Pn	**Pn**	**09 12 56.9**	**+0.3**
INK	**Inuvik**	**15.09**	**32**	Pn	**P**	**09 14 19.2**	**+0.3**
	0.3nm,0.3s,baz=226,slow=6.8,SNR=5.5						
YKA	**Yellowknife Ar**	**20.92**	**57**	P	**P**	**09 15 24.2**	**+1.3**
	0.4nm,0.6s,baz=274,slow=9.8,SNR=4.5						
PDAR	**Pinedale Array**	**31.89**	**96**	P	P	09 17 03.9	-1.4
	0.4nm,0.6s,baz=288,slow=7.5,SNR=2.2						
ARCES	**ARCESS Array B**	**53.97**	**360**	P	**P**	**09 20 02.9**	**+0.2**
	3.4nm,0.9s,baz=16,slow=6.8,SNR=2.8						
FINES	**FINESS Array B**	**62.09**	**359**	P	**P**	**09 20 60.0**	**+0.5**
	4.6nm,1.1s,baz=10,slow=8.5,SNR=4.5						

*ISCJB **07** 09:16:32.4±0.3, 31°.97S±0°.05×57°.31E±0°.07, h11km, mb4.4/18, MS3.8/8, Error ellipse: s-maj=8.2km s-min=7.0km az=179.6*

*IDC **07** 09:16:32.8±0.6, 31°.97S×57°.31E, h0km, mb4.3/13, mb1 4.4/14, mb1mx4.1/50, mbtmp4.3/14, ML4.5/1, MS3.6/8, Ms1 3.7/8, ms1mx3.4/42, Error ellipse: s-maj=21.1km s-min=16.3km az=40.0*

*NEIC **07** 09:16:33.8±1.7, 31°.96S±0°.08×57°.3E±0°.1, h10km±1km, mb4.6/47*

ISC 07 09:16:34.3±0.4**, 31°.96S**±0°.07×**57°.29E**±0°.08**, h11**km**, n94, σ1s19**/83**, mb4.5**/33**, MS3.7**/8**, 1C, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.84**	**352**	Pn	**Pn**	**09 19 07.0**	**-2.6**
CRZF	**Crozet Islands**	**15.05**	**195**	Pn	**Pn**	**09 20 06.2**	**-0.5**
ABPO	**Ambohimpanom**	**15.75**	**322**		**Pn**	**09 20 15.6**	**-0.8**
OPO	**Ambohidratompo**	**16.14**	**323**	Pn	**Pn**	**09 20 21.8**	**+0.4**
	1.7nm,0.3s,baz=132,slow=14,SNR=9.2						
OPO				Sn	Sn	09 23 06.7	-14
	0.9nm,0.3s,baz=38,slow=19,SNR=4.4						
OPO				LR	LR	09 25 32.0	
	comp=Z,176nm,18.8s,baz=347,slow=33						
MSEY	**Mahe Island**	**27.20**	**356**	P	**P**	**09 22 18.7**	**+0.5**
H08S1	**Diego Carcia H**	**28.02**	**34**	T	T	09 51 39.4	
	baz=207,slow=76,SNR=62						
H08S2	**Diego Garcia H**	**28.03**	**34**	T	T	09 51 40.5	
	baz=207,slow=76,SNR=30						
H08S3	**Diego Garcia H**	**28.04**	**34**	T	T	09 51 41.4	
	baz=207,slow=76,SNR=72						
DGAR	**Diego Garcia**	**28.21**	**33**	P	**P**	**09 22 26.9**	**-0.4**
H08N3	**Diego Garcia H**	**28.52**	**30**	T	T	09 52 09.3	
	baz=204,slow=76,SNR=32						
H08N1	**Diego Carcia H**	**28.53**	**30**	T	T	09 52 10.0	
	baz=204,slow=76,SNR=27						
H08N2	**Diego Garcia H**	**28.54**	**30**	T	T	09 52 10.9	
	baz=204,slow=76,SNR=30						
LBTB	**Lobatse**	**28.63**	**276**	P	**P**	**09 22 30.1**	**-0.9**
LSZ	**Lusaka**	**31.27**	**295**	LR	LR	09 34 18.9	
	comp=Z,119nm,18.8s,baz=166,slow=34						
LSZ	**Lusaka**	**31.27**	**295**	P	**P**	**09 22 55.4**	**+0.9**
MAW	**Mawson**	**35.84**	**176**	LR	LR	09 33 55.6	
	comp=Z,150nm,20.8s,baz=1.0,slow=29						
KMBO	**Kilima Mbogo**	**36.03**	**324**	P	**P**	**09 23 36.2**	**+0.2**
	0.9nm,0.3s,baz=165,slow=10,SNR=3.1						
KMBO				LR	LR	09 38 14.4	
	comp=Z,97nm,18.1s,baz=96,slow=36						
KMBO	**Kilima Mbogo**	**36.03**	**324**	P	**P**	**09 23 34.2**	**-1.8**
TSUM	**Tsumeb**	**37.79**	**280**	P	**P**	**09 23 50.8**	**-0.1**
	2.1nm,0.8s,baz=64,slow=6.8,SNR=4.8						
TSUM	**Tsumeb**	**37.79**	**280**	P	**P**	**09 23 50.1**	**-0.8**
TSUM				IAmb	IAmb	09 24 06.7	
	comp=Z,12nm,1.4s						
SYO	**Syowa Base**	**38.45**	**190⇑**	eP	**P**	**09 23 55.0**	**-0.7**
COCO	**West Island**	**41.29**	**71**	P	**P**	**09 24 20.2**	**+0.3**
HMDM	**Hanimaadhoo**	**41.39**	**24**	P	**P**	**09 24 18.3**	**-2.4**
MNCI	**Minicoy**	**42.76**	**23**	P	**P**	**09 24 30.3**	**-1.5**
PALK	**Pallekele**	**44.96**	**34**	P	**P**	**09 24 48.5**	**-1.1**
ATD	**Arta Tunnel**	**45.40**	**340**	LR	LR	09 41 33.3	
	comp=Z,98nm,19.9s,baz=6.0,slow=33						
DAMY	**Dhamar**	**47.89**	**343**	P	**P**	**09 25 11.2**	**-1.7**
SNAA	**Sanae**	**50.68**	**201**	P	**P**	**09 25 34.1**	**+0.7**
SNAA	**Sanae**	**50.68**	**201**	P	**P**	**09 25 33.8**	**+0.4**
	comp=Z,5.4nm,0.9s,baz=74,slow=7.9,SNR=14						
SNAA	**Sanae**	**50.68**	**201**	P	**P**	**09 25 33.0**	**-0.4**
SNAA				IAmb	IAmb	09 25 37.0	
	comp=Z,7.5nm,1.0s						
VNA2	**Neumayer--Watz**	**51.91**	**202**	P	**P**	**09 25 43.4**	**+0.8**
	baz=66,slow=6.2						
VNA1	**Neumayer--Stat**	**52.13**	**203**	P	**P**	**09 25 45.3**	**+1.2**
VNA3	**Neumayer Olymp**	**52.70**	**202**	P	**P**	**09 25 49.2**	**+0.8**
RAYN	**Ar Rayn**	**56.31**	**347**	P	**P**	**09 26 15.3**	**+0.2**
RAYN				IAmb	IAmb	09 26 23.3	
	comp=Z,4.8nm,1.0s						
QSPA	**South Pole Qui**	**58.21**	**180**	P	**P**	**09 26 28.5**	**+0.1**
	comp=Z,8.6nm,1.0s,baz=260,slow=5.1,SNR=19						
QSPA	**South Pole Qui**	**58.21**	**180**	P	**P**	**09 26 27.6**	**-0.8**
KSM	**Kuching**	**60.15**	**67**	P	**P**	**09 26 44.5**	**+2.2**
CM31	**Chiang Mai Arr**	**64.08**	**45**	P	**P**	**09 27 09.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**64.08**	**45**	P	**P**	**09 27 08.9**	**+0.4**
	comp=Z,2.9nm,0.4s,baz=231,slow=7.2,SNR=12						
CMAR				LR	LR	09 52 21.0	
	comp=Z,55nm,18.6s,baz=186,slow=34						
SHL	**Shillong**	**66.05**	**34**	P	**P**	**09 27 20.5**	**-0.9**
ASAR	**Alice Springs**	**67.00**	**104**	P	**P**	**09 27 27.6**	**0.0**
	comp=Z,3.0nm,0.9s,baz=243,slow=5.6,SNR=16						
AS31	**Alice Springs**	**67.01**	**104**	P	**P**	**09 27 25.1**	**-2.5**
WRA	**Warramunga Arr**	**69.03**	**101**	P	**P**	**09 27 40.3**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=241,slow=5.1,SNR=14						
WB2	**Warramunga Arr**	**69.05**	**101**	P	**P**	**09 27 39.7**	**-0.7**
WB2				IAmb	IAmb	09 27 43.8	
	comp=Z,3.2nm,0.9s						
WRAB	**Tennant Creek**	**69.05**	**101**	P	**P**	**09 27 37.5**	**-3.0**
WRAB				IAmb	IAmb	09 27 43.7	
	comp=Z,5.8nm,1.0s						
TAU	**Tasmania Unive**	**69.08**	**128**	P	**P**	**09 27 38.2**	**-2.1**
WB0	**Warramunga Arr**	**69.16**	**101**	P	**P**	**09 27 39.8**	**-1.4**
WB0				IAmb	IAmb	09 27 41.5	
	comp=Z,6.6nm,1.1s						
WR0	**Warramunga Arr**	**69.19**	**101**	P	**P**	**09 27 41.6**	**+0.2**
WR0				IAmb	IAmb	09 27 41.9	
	comp=Z,6.2nm,1.1s						
LSA	**Lhasa**	**69.24**	**31**	P	**P**	**09 27 40.5**	**-1.3**
SLVN	**Son La**	**69.28**	**46**	P	**P**	**09 27 41.9**	**+0.2**
SLVN				IAmb	IAmb	09 27 43.1	
	comp=Z,5.9nm,1.0s						
GYA0B	**ALIBECK ARRAY**	**69.53**	**1**	P	**P**	**09 27 42.4**	**-0.5**
GYA0B				IAmb	IAmb	09 27 43.8	
	comp=Z,4.9nm,0.8s						
TOA0	**Torodi Ar. Sit**	**69.58**	**301**	P	**P**	**09 27 43.3**	**-0.4**
TOA0				IAmb	IAmb	09 27 51.8	
	comp=Z,3.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**69.58**	**301**	P	**P**	**09 27 43.8**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=124,slow=6.0,SNR=10						
STKA	**Stephens Creek**	**69.60**	**115**	P	**P**	**09 27 43.8**	**+0.1**
	comp=Z,2.9nm,0.9s,baz=240,slow=8.3,SNR=6.3						
STKA	**Stephens Creek**	**69.60**	**115**	P	**P**	**09 27 42.7**	**-1.0**
DBIC	**Dimbokro**	**70.50**	**291**	P	**P**	**09 27 50.7**	**+1.3**
	comp=Z,4.0nm,0.9s,baz=243,slow=3.2,SNR=3.1						
DBIC	**Dimbokro**	**70.50**	**291**	P	**P**	**09 27 48.3**	**-1.1**
CHGR	**Chuyangaron**	**71.12**	**10**	P	**P**	**09 27 52.4**	**-0.2**
GAR	**Garm**	**71.63**	**11**	P	**P**	**09 27 55.4**	**-0.4**
GAR				IAmb	IAmb	09 28 06.8	
	comp=Z,7.1nm,1.1s						
ARSB	**Arslanbob**	**74.34**	**12**	P	**P**	**09 28 11.1**	**-0.8**
ARSB				IAmb	IAmb	09 28 15.1	
	comp=Z,4.7nm,0.9s						
BR131	**Keskin Array S**	**74.62**	**341**	P	**P**	**09 28 12.8**	**-0.7**
BR131				IAmb	IAmb	09 28 21.3	
	comp=Z,4.6nm,0.9s						
BRTR	**Keskin Array B**	**74.62**	**341**	P	**P**	**09 28 13.5**	**0.0**
	comp=Z,1.9nm,0.8s,baz=161,slow=7.9,SNR=8.3						
BRTR				LR	LR	09 58 59.5	
	comp=Z,34nm,18.4s,baz=96,slow=34						
NRN	**Naryn**	**75.04**	**14**	P	**P**	**09 28 17.1**	**+0.9**
KK31	**Karatay Array**	**75.67**	**10**	P	**P**	**09 28 19.2**	**-0.2**
KK31				IAmb	IAmb	09 28 23.0	
	comp=Z,7.0nm,1.2s						
KKAR	**Karatay Array**	**75.67**	**10**	P	**P**	**09 28 19.4**	**+0.1**
KKAR				IAmb	IAmb	09 28 23.0	
	comp=Z,7.0nm,1.2s						
AAK	**Ala-Archa**	**75.89**	**13**	P	**P**	**09 28 21.4**	**+0.6**
AAK				IAmb	IAmb	09 28 34.0	
	comp=Z,5.2nm,1.1s						
KDJ	**Kajisay**	**75.96**	**15**	P	**P**	**09 28 21.2**	**0.0**
KDJ				IAmb	IAmb	09 28 24.0	
	comp=Z,5.3nm,0.9s						
BOOM	**Boomskoye usch**	**76.04**	**14**	P	**P**	**09 28 22.2**	**+0.5**
BOOM				IAmb	IAmb	09 28 23.1	
	comp=Z,5.9nm,1.2s						
PRZ	**Przheval'sk**	**76.58**	**16**	P	**P**	**09 28 26.1**	**+1.4**
ENH	**Enshi**	**79.25**	**44**	P	**P**	**09 28 39.5**	**-0.2**
WMQ	**Urumqi**	**80.37**	**22**	eP	**P**	**09 28 46.5**	**+1.0**
WMQ				pP	PcP	09 28 52.6	+0.1
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,150nm,6.3s						
LZH	**Lanzhou**	**80.53**	**37**	eP	**P**	**09 28 49.9**	**+3.3**
LZH				pP	pwP	09 28 53.2	0.0
LZH				sP	PcP	09 28 56.9	+3.4
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
LZH				pmax	pmax		
	comp=Z,120nm,5.4s						
LZH				LR	LR		
	comp=Z,160nm,17.5s						
LZH				LR	LR		
	comp=Z,170nm,17.2s						
LZH				LR	LR		
	comp=Z,220nm,18.7s						
ABKAR	**Akbulak array**	**80.88**	**2**	P	**P**	**09 28 47.8**	**-0.2**
GTA	**Gaotai**	**81.24**	**32**	P	**P**	**09 28 50.6**	**+0.3**
GTA				pP	sP	09 28 54.9	+0.9
GTA				sP	pwP	09 28 57.6	+0.7
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MKAR	**Makanchi Array**	**81.57**	**17**	P	**P**	**09 28 53.1**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=203,slow=4.6,SNR=4.7						
WHN	**Wuhan**	**82.39**	**47**	P	**P**	**09 28 58.4**	**+2.0**
BRVK	**Borovoye**	**85.41**	**8**	P	**P**	**09 29 11.4**	**+0.1**
NJ2	**Nanjing**	**86.24**	**48**	eP	**P**	**09 29 17.5**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
VYHS	**Vyhne**	**87.16**	**336**	eP	**P**	**09 29 24.3**	**+4.2**
ARU	**Arti**	**88.04**	**1**	P	**P**	**09 29 25.4**	**+1.3**
HHC	**Hu-ho-hao-te**	**88.09**	**38**	eP	**P**	**09 29 26.3**	**+1.4**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZALV	**Zalesovo Beam**	**88.81**	**16**	P	**P**	**09 29 28.6**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=212,slow=5.1,SNR=3.1						
KSRS	**Korea Array**	**95.43**	**49**	LR	LR	10 11 44.7	
	comp=Z,17nm,18.9s,baz=55,slow=35						
ILAR	**Eielson Array**	**143.93**	**17**	PKhKP	PKPab	09 36 05.7	-0.4
	comp=Z,1.0nm,0.8s,baz=312,slow=3.9,SNR=10						
EPYK	**Eagle Plains**	**144.54**	**10**		**PKPab**	**09 36 08.5**	**+0.1**
EGAK	**Eagle**	**145.23**	**14**		**PKPdf**	**09 36 11.5**	**+0.3**
SCRK	**Sand Creek**	**145.30**	**16**		**PKPdf**	**09 36 11.9**	**+0.4**
SUA	**Susitna One**	**145.32**	**23**		**PKPbc**	**09 36 11.1**	**-0.3**
DOT	**Dot Lake**	**145.56**	**17**		**PKPab**	**09 36 12.2**	**-0.1**
PMR	**Palmer**	**145.75**	**22**		**PKPdf**	**09 36 11.6**	**-0.6**
PAX	**Paxson**	**145.76**	**18**		**PKPab**	**09 36 13.1**	**0.0**
SML	**Sawmill**	**145.85**	**21**		**PKPdf**	**09 36 12.7**	**+0.3**
DAWY	**Dawson**	**146.21**	**13**		**PKPdf**	**09 36 12.1**	**-0.9**
YKA	**Yellowknife Ar**	**149.01**	**353**	PKPbc	**PKPbc**	**09 36 21.1**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=3.4,slow=2.4,SNR=48						

*NEIC **07** 09:23:44.5±3.9, 33°.85S±0°.04×72°.90W±0°.09, h12km±2km*

*IDC **07** 09:23:48.4±0.6, 33°.93S×72°.29W, h0km, mb4.7/14, mb1 4.8/17, mb1mx4.6/25, mbtmp4.7/17, ML4.4/3, MS4.4/12, Ms1 4.4/12, ms1mx4.2/20, Error ellipse: s-maj=22.8km s-min=14.3km az=80.0*

*VAO **07** 09:23:48.0±0.8, 33°.74S×72°.67W, h10km, mb5.0*

*GUC **07** 09:23:49.6±0.6, 33°.92S×72°.55W, h44km±5km, ML4.8*

*BJI **07** 09:23:49.5±0.0, 33°.90S×72°.20W, h10km, mB5.2/5, Ms5.4/3, Ms7 5.4/4*

*ISCJB **07** 09:23:50.3±0.8, 33°.92S±0°.02×72°.44W±0°.03, h22km±6km, mb4.8/22, MS4.4/12, Error ellipse: s-maj=4.6km s-min=3.4km az=8.7*

*SJA **07** 09:23:50.7±0.8, 33°.90S×72°.49W, h45km±12km, MW5.4*

*MOS **07** 09:23:53.1±1.6, 34°.06S×72°.02W, h33km, mb5.0/11, Error ellipse: s-maj=16.4km s-min=10.7km az=96.0*

*GCMT **07** 09:23:56.0±0.3, 33°.88S±0°.02×72°.58W±0°.02, h20km±1km, MW5.0/78, Moment Tensor Solution. s53,c58; s78,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.62±.15; $M_{\theta\theta}$-0.18±.08; $M_{\phi\phi}$-2.44±.10; $M_{r\theta}$-0.81±.18; $M_{\theta\phi}$-0.56±.05; $M_{\phi r}$-3.82±.30; Best double couple: $M_0$4.68900×10^{16} NP1:ϕ_s192.00000°, δ73.00000°, λ89.00000°. NP2: ϕ_s14.00000°, δ17.00000°, λ92.00000°. Principal axes: T 4.7140, Plg62.0000°, Azm101.0000°; N -0.0500, Plg1.0000°, Azm192.0000°; P -4.6640, Plg28.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 09:23:50.9±0.4**, 33°.90S**±0°.03×**72°.53W**±0°.05**, h18**km±4km**, n387, σ1s98**/366**, mb5.0**/34**, MS4.5**/12**, 11C-11D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**1.14**	**40⇑**	eP	**Pn**	**09 24 10.3**	**-1.7**
VA01				i S	**Sb**	**09 24 26.2**	**-0.4**
GO05	**Huala**	**1.22**	**156⇑**	iP	**Pn**	**09 24 10.8**	**-2.3**
GO05				i S	**Sb**	**09 24 26.8**	**-2.0**
GO05				IAML		09 24 32.0	
	comp=E,16μm,1.0s						
GO05	**Huala**	**1.22**	**156**		**Pn**	**09 24 11.2**	**-1.9**
GO05				Sn	**Sn**	**09 24 29.7**	**+0.6**
ROC1	**El Roble**	**1.56**	**54**		**Pn**	**09 24 17.4**	**-0.7**
ROC1	**El Roble**	**1.56**	**54**	i P	**Pn**	**09 24 17.0**	**-1.1**
ROCH	**El Roble**	**1.57**	**54⇑**	eP	**Pn**	**09 24 16.8**	**-1.3**
ROCH				i S	**Sn**	**09 24 37.2**	**-1.0**
ROCH				IAML		09 24 48.7	
	comp=N,13μm,0.6s						
ANTU	**Antumapu**	**1.61**	**79**	eP	**Pn**	**09 24 17.9**	**-0.6**
ANTU				eS	**Sn**	**09 24 38.9**	**0.0**
ANTU				IAML		09 24 42.9	
	comp=E,19μm,0.4s						
PEL	**Peldehue**	**1.71**	**64**	P	**Pn**	**09 24 19.5**	**-0.5**
PEL	**Peldehue**	**1.71**	**64⇑**	iP	**Pn**	**09 24 19.2**	**-0.7**
PEL				i S	**Sn**	**09 24 40.9**	**-0.6**
PEL				IAML		09 24 51.4	
	comp=N,11μm,0.5s						
PEL	**Peldehue**	**1.71**	**64**		**Pn**	**09 24 19.4**	**-0.5**
PEL	**Peldehue**	**1.71**	**64**	i P	**Pn**	**09 24 19.3**	**-0.7**
CLCH	**Cerro Calan**	**1.74**	**74⇑**	eP	**Pn**	**09 24 18.9**	**-1.4**
CLCH				i S	**Sn**	**09 24 41.1**	**-0.9**
LMEL	**Las Melosas**	**1.94**	**89⇑**	iP	**Pn**	**09 24 21.9**	**-1.2**
LMEL				i S	**Sn**	**09 24 46.6**	**-0.5**
LMEL				IAML		09 24 54.8	
	comp=E,15μm,0.4s						
FCH	**Farellones**	**1.95**	**74⇑**	eP	**Pn**	**09 24 22.5**	**-1.0**
FCH				i S	**Sn**	**09 24 48.3**	**+0.6**
FCH				IAML		09 24 53.7	
	comp=N,7μm,0.5s						
COIS	**El Sosneado**	**2.71**	**117**	i P	**Pn**	**09 24 33.6**	**0.0**
CCHI	**Chillan**	**2.72**	**172**	eP	**Pn**	**09 24 33.1**	**-0.7**
CCHI				i S	**Sn**	**09 25 05.5**	**-0.8**
CCHI				IAML		09 25 23.0	
	comp=E,7μm,0.6s						
CCHI	**Chillan**	**2.72**	**172**	i P	**Pn**	**09 24 33.6**	**-0.1**
CCSP	**San Pedro de C**	**2.98**	**189**	eP	**Pn**	**09 24 35.1**	**-2.1**
CCSP				i S	**Sn**	**09 25 08.5**	**-4.0**
CCSP				IAML		09 25 56.1	
	comp=N,2μm,0.4s						
CO02	**Combarbal**	**2.98**	**26⇑**	eP	**Pn**	**09 24 36.4**	**-1.0**
CO02				i S	**Sn**	**09 25 11.4**	**-1.4**
PUMA	**Malargue**	**3.00**	**123**	i P	**Pn**	**09 24 39.1**	**+1.5**
RTLS	**Leoncito**	**3.43**	**53**	i P	**Pn**	**09 24 45.2**	**+1.4**
RFA	**San Rafael**	**3.47**	**106**	i P	**Pn**	**09 24 46.8**	**+2.6**
GO04	**Tololo Observa**	**3.99**	**22**		**Pn**	**09 24 50.5**	**-1.0**
GO04				Sn	**Sn**	**09 25 33.3**	**-4.7**
CANA	**Caviahue**	**4.16**	**164**	i P	**Pn**	**09 24 54.9**	**+1.2**
RTLL	**Cerro Villicun**	**4.27**	**54**	i P	**Pn**	**09 24 55.4**	**+0.2**
CFA	**Coronel Fontan**	**4.28**	**59**	Pn	**Pn**	**09 24 55.4**	**+0.2**
	comp=N,11nm,0.3s,baz=223,slow=14,SNR=80						
CFA				Pg	Pb	09 25 00.7	-5.0
	comp=N,46nm,0.3s,baz=237,slow=13,SNR=48						
CFA				Lg	Lg	09 25 59.5	
	comp=N,123nm,0.3s,baz=111,slow=15,SNR=7.5						
CFA	**Coronel Fontan**	**4.28**	**59**	i P	**Pn**	**09 24 55.4**	**+0.2**
ACCO	**Cerro Coronel**	**4.42**	**43**	i P	**Pn**	**09 24 58.7**	**+1.3**
AMOG	**MOGNA**	**4.51**	**50**	i P	**Pn**	**09 24 59.5**	**+1.0**
AROD	**Rodeo**	**4.54**	**36**	i P	**Pn**	**09 25 00.6**	**+1.6**
ACAN	**Cantantal**	**4.77**	**72**	i P	**Pn**	**09 25 02.2**	**+0.3**
GO06	**Curarrehue**	**5.74**	**172**		**Pn**	**09 25 14.3**	**-1.0**
MRA	**San Martin**	**5.90**	**77**	i P	**Pn**	**09 25 17.8**	**+0.2**
APLL	**PUNTA DE LOS L**	**6.17**	**57**	i P	**Pn**	**09 25 21.6**	**+0.3**
VCA	**Vinchina**	**6.34**	**37**	i P	**Pn**	**09 25 23.9**	**+0.3**
ACLC	**CERRO LA CRUZ**	**6.52**	**48**	i P	**Pn**	**09 25 25.4**	**-0.8**
GO03	**Copiap**	**6.59**	**18**		**Pn**	**09 25 24.1**	**-2.9**
GO03	**Copiap**	**6.59**	**18**	i P	**Pn**	**09 25 25.9**	**-1.1**
PLCA	**Paso Flores**	**7.00**	**168**	Pn	**Pn**	**09 25 32.0**	**-0.6**
	comp=N,1.7nm,0.3s,baz=3.3,slow=11,SNR=62						
PLCA				Sn	**Sn**	**09 26 53.1**	**+1.3**
	comp=N,0.8nm,0.3s,baz=301,slow=15,SNR=1.4						
PLCA				Lg	Lg	09 27 27.7	
	comp=N,0.8nm,0.3s,baz=84,slow=21,SNR=2.0						
PLCA				LR	LR	09 28 09.4	
	comp=N,2μm,18.2s,baz=12,slow=38						
PLCA	**Paso Flores**	**7.00**	**168**	eP	**Pn**	**09 25 32.9**	**+0.2**
PLCA	**Paso Flores**	**7.00**	**168**	eP	**Pn**	**09 25 32.9**	**+0.2**
PLCA	**Paso Flores**	**7.00**	**168**	i P	**Pn**	**09 25 32.1**	**-0.6**
TCA	**Tanti**	**7.16**	**71**	i P	**Pn**	**09 25 33.8**	**-1.1**
CYA	**Choya**	**7.92**	**48**	i P	**Pn**	**09 25 42.1**	**-3.2**
GO02	**Mina Guanaco**	**9.07**	**17**		**Pn**	**09 25 57.2**	**-4.2**
AHML	**Horco Molle**	**9.43**	**43**	i P	**Pn**	**09 26 01.9**	**-4.0**
TRQA	**Tornquist**	**9.50**	**119**	eP	**Pn**	**09 26 06.2**	**-0.7**
TRQA	**Tornquist**	**9.50**	**119**	eP	**Pn**	**09 26 06.7**	**-0.2**
TRQA	**Tornquist**	**9.50**	**119**	eP	**Pn**	**09 26 06.7**	**-0.2**
TRQA	**Tornquist**	**9.50**	**119**		**Pn**	**09 26 03.5**	**-3.4**
PB10	**IPOC Station P**	**10.49**	**10**	Pn	**Pn**	**09 26 16.4**	**-4.1**
LVC	**Limon Verde**	**11.69**	**17**	P	**Pn**	**09 26 33.0**	**-4.2**
LVC	**Limon Verde**	**11.69**	**17**	Pn	**Pn**	**09 26 37.9**	**+0.7**
	comp=N,1.0nm,0.3s,baz=200,slow=6.0,SNR=8.3						
LVC				Sn	Sn	09 29 11.3	+24
	comp=N,0.7nm,0.3s,baz=128,slow=4.1,SNR=3.1						
LVC				LR	LR	09 31 10.7	
	comp=N,2μm,18.2s,baz=208,slow=38						
LVC	**Limon Verde**	**11.69**	**17**	eP	Pn	09 26 31.5	-5.7
LVC	**Limon Verde**	**11.69**	**17**	eP	Pn	09 26 31.5	-5.7
LVC	**Limon Verde**	**11.69**	**17**		**Pn**	**09 26 33.0**	**-4.2**
PB04	**IPOC Station P**	**11.71**	**11**		**Pn**	**09 26 34.2**	**-3.2**
PB11	**IPOC Station P**	**14.31**	**11**	P	**Pn**	**09 27 13.8**	**+0.9**
GO01	**Chusmiza**	**14.48**	**13**		**Pn**	**09 27 15.1**	**-0.4**
MNMC	**Minye Minye**	**14.94**	**11**	P	**Pn**	**09 27 22.6**	**+1.0**
CPUP	**Villa Florida**	**15.15**	**64**	P	**Pn**	**09 27 20.9**	**-3.2**
CPUP						09 30 10.3	
CPUP				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CPUP	**Villa Florida**	**15.15**	**64**	Pn	**Pn**	**09 27 25.2**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=248,slow=12,SNR=11						
CPUP				Sn	**Sn**	**09 30 10.3**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=293,slow=15,SNR=1.9						
CPUP				Lg	Lg	09 31 20.2	
	comp=Z,0.3nm,0.3s,baz=151,slow=19,SNR=2.1						
CPUP				LR	LR	09 33 59.3	
	comp=Z,2μm,18.2s,baz=241,slow=41						
CPUP	**Villa Florida**	**15.15**	**64**		**Pn**	**09 27 20.9**	**-3.2**
LPAZ	**La Paz**	**17.98**	**14**	eP	**P**	**09 28 01.3**	**+0.2**
LPAZ	**La Paz**	**17.98**	**14**	P	**Pn**	**09 28 00.6**	**0.0**
	comp=Z,0.9nm,0.3s,baz=186,slow=7.3,SNR=69						
LPAZ	**La Paz**	**17.98**	**14**	eP	**Pn**	**09 27 56.6**	**-4.0**
LPAZ	**La Paz**	**17.98**	**14**	eP	**Pn**	**09 27 56.6**	**-4.0**
LPAZ	**La Paz**	**17.98**	**14**	P	**P**	**09 28 01.3**	**+0.2**
ITAB	**Concordia**	**18.76**	**75**	eP	**P**	**09 28 08.0**	**-1.1**
ITAB	**Concordia**	**18.76**	**75**	eP	**P**	**09 28 08.0**	**-1.1**
CNLB	**Canela**	**19.01**	**82**	eP	**P**	**09 28 11.3**	**-0.6**
CNLB	**Canela**	**19.01**	**82**	eP	**P**	**09 28 11.3**	**-0.6**
AQDB	**Aquidauana**	**20.03**	**52**	eP	**P**	**09 28 22.3**	**-0.7**
AQDB	**Aquidauana**	**20.03**	**52**	eP	**P**	**09 28 22.3**	**-0.7**
SIV	**San Ignacio**	**20.61**	**33**	P	**P**	**09 28 28.5**	**-0.8**
	comp=Z,24nm,0.8s,baz=221,slow=11,SNR=53						
SIV				LR	LR	09 37 49.7	
	comp=Z,2μm,18.3s,baz=228,slow=41						
EFI	**East Falkland**	**20.63**	**154⇓**	eP	**P**	**09 28 28.0**	**-1.2**
EFI				pmax	pmax		
	comp=Z,187nm,2.2s						
EFI	**East Falkland**	**20.63**	**154**	P	**P**	**09 28 27.7**	**-1.5**
EFI				IAmb	IAmb	09 28 40.8	
	comp=Z,72nm,0.9s						
TRCB	**Terra Rica**	**20.67**	**63**	eP	**P**	**09 28 28.4**	**-1.7**
TRCB	**Terra Rica**	**20.67**	**63**	eP	**P**	**09 28 28.4**	**-1.7**
NNA	**Nana**	**22.16**	**349**	P	**P**	**09 28 39.5**	**-6.6**
NNA				pmax	pmax		
	comp=Z,60nm,1.3s						
NNA	**Nana**	**22.16**	**349**	P	**P**	**09 28 48.2**	**+2.1**
	comp=Z,17nm,0.7s,baz=192,slow=9.9,SNR=8.1						
NNA				LR	LR	09 33 53.2	
	comp=Z,150nm,20.7s,baz=179,slow=27						
NNA	**Nana**	**22.16**	**349**	P	**P**	**09 28 39.5**	**-6.6**
NNA				IAmb	IAmb	09 28 55.4	
	comp=Z,60nm,1.3s						
PP1B	**Ponte de Pedra**	**22.66**	**49**	eP	**P**	**09 28 49.3**	**-2.0**
PP1B	**Ponte de Pedra**	**22.66**	**49**	eP	**P**	**09 28 49.3**	**-2.0**
FRTB	**Fartura**	**22.69**	**68**	eP	**P**	**09 28 49.0**	**-2.6**
FRTB	**Fartura**	**22.69**	**68**	eP	**P**	**09 28 49.0**	**-2.6**
SPB	**Sao Paulo**	**24.23**	**72**	eP	**P**	**09 29 06.6**	**-0.2**
SPB	**Sao Paulo**	**24.23**	**72**	eP	**P**	**09 29 06.6**	**-0.2**
SPB	**Sao Paulo**	**24.23**	**72**	P	**P**	**09 28 59.8**	**-7.0**
RCLB	**Rio Claro- Sao**	**24.76**	**69**	eP	**P**	**09 29 10.3**	**-1.4**
RCLB	**Rio Claro- Sao**	**24.76**	**69**	eP	**P**	**09 29 10.3**	**-1.4**
BB19B	**Bebedouro**	**24.76**	**65**	eP	**P**	**09 29 09.5**	**-2.2**
BB19B	**Bebedouro**	**24.76**	**65**	eP	**P**	**09 29 09.5**	**-2.2**
VAO	**Valinhos**	**24.89**	**71**	eP	**P**	**09 29 11.4**	**-1.6**
VAO	**Valinhos**	**24.89**	**71**	eP	**P**	**09 29 11.4**	**-1.6**
ARAG	**Araguaiana, MT**	**26.02**	**51**	eP	**P**	**09 29 21.6**	**-1.5**
ARAG	**Araguaiana, MT**	**26.02**	**51**	eP	**P**	**09 29 21.6**	**-1.5**
SAML	**Samuel**	**26.28**	**21**	P	**P**	**09 29 18.8**	**-6.6**
SAML				pmax	pmax		
	comp=Z,20nm,0.8s						
SAML	**Samuel**	**26.28**	**21**	eP	**P**	**09 29 23.1**	**-2.3**
SAML	**Samuel**	**26.28**	**21**	eP	**P**	**09 29 23.1**	**-2.3**
SAML	**Samuel**	**26.28**	**21**	P	**P**	**09 29 18.8**	**-6.6**
IPMB	**Ipameri, GO**	**26.91**	**60**	eP	**P**	**09 29 30.5**	**-0.6**
IPMB	**Ipameri, GO**	**26.91**	**60**	eP	**P**	**09 29 30.5**	**-0.6**
CLDB	**Colider**	**27.57**	**38**	eP	**P**	**09 29 35.9**	**-1.2**
CLDB	**Colider**	**27.57**	**38**	eP	**P**	**09 29 35.9**	**-1.2**
BSCB	**Bom Sucesso**	**27.68**	**69**	eP	**P**	**09 29 36.5**	**-1.7**
BSCB	**Bom Sucesso**	**27.68**	**69**	eP	**P**	**09 29 36.5**	**-1.7**
PMNB	**Patos De Minas**	**27.85**	**63**	eP	**P**	**09 29 39.3**	**-0.4**
PMNB	**Patos De Minas**	**27.85**	**63**	eP	**P**	**09 29 39.3**	**-0.4**
BDFB	**Brasilia**	**28.62**	**57**	P	P	09 29 41.1	-5.5
BDFB				pmax	pmax		
	comp=Z,14nm,0.7s						
BDFB	**Brasilia**	**28.62**	**57**	P	**P**	**09 29 44.8**	**-1.7**
	comp=Z,11nm,0.8s,baz=233,slow=11,SNR=14						
BDFB				LR	LR	09 42 12.2	
	comp=Z,2μm,18.9s,baz=235,slow=39						
BDFB	**Brasilia**	**28.62**	**57**	P	P	09 29 41.1	-5.5
PMSA	**Palmer Station**	**31.34**	**173**	P	**P**	**09 30 10.9**	**+0.9**
	comp=Z,8.4nm,1.0s,baz=24,slow=8.6,SNR=3.6						
PMSA	**Palmer Station**	**31.34**	**173**	P	P	09 30 02.9	-7.1
PMSA				IAmb	IAmb	09 30 18.4	

comp=Z,28nm,1.3s
BSFB Barra de Sao F 31.95 70 *e*P **P 09 30 14.0 -1.9**
BSFB Barra de Sao F 31.95 70 *e*P **P** 09 30 14.0 -1.9
HOPE Hope Point 32.43 140 P P 09 30 14.3 -5.4
HOPE pmax pmax
comp=Z,60nm,1.4s
HOPE Hope Point 32.43 140 P P 09 30 14.3 -5.4
HOPE IAmb IAmb 09 30 14.7
comp=Z,60nm,1.4s
PAYG Puerto Ayora 37.01 330 P P 09 30 53.1 -6.6
SDV Santo Domingo 42.59 3 P P 09 31 39.8 -6.4
JTS Las Juntas de 45.50 343‖ *e*P **P 09 32 12.0 +2.5**
JTS pmax pmax
comp=Z,13nm,1.6s
TOSP Speyside 46.37 16 P P 09 32 10.3 -5.9
VNA3 Neumayer Olymp 49.61 158 P **P 09 32 40.8 +0.1**
VNA1 Neumayer--Stat 49.93 157 P **P 09 32 43.1 0.0**
VNA2 Neumayer--Watz 50.26 157 P **P 09 32 45.7 0.0**
baz=292,slow=8.8
SNAA Sanae 51.83 158 P **P 09 32 57.5 -0.1**
SNAA Sanae 51.83 158 *c iP* **P 09 32 57.5 -0.1**
SNAA Sanae 51.83 158 P **P 09 32 57.5 -0.1**
SNAA IAmb IAmb 09 33 07.4
comp=Z,22nm,0.9s
OBIP Obispado Ponce 51.96 7 P P 09 32 53.8 -5.1
GCPR Guaynabo City 52.28 8 P P 09 32 55.4 -5.9
ABVI Anegada Island 52.91 10 P P 09 32 58.3 -7.7
TEIG Tepich 55.88 342 P P 09 33 22.1 -5.5
QSPA South Pole Qui 56.34 180 P P 09 33 25.0 -5.6
QSPA IAmb IAmb 09 33 41.4
comp=Z,13nm,0.9s
656A Willston 63.63 350 P **P 09 34 21.6 +0.8**
baz=170
557A Orange Park 64.16 351 P **P 09 34 24.7 +0.4**
baz=171
353A Camilla 65.83 349 P **P 09 34 35.5 +0.4**
baz=169
352A Blakely 66.07 348 P **P 09 34 37.2 +0.5**
baz=168
352A Blakely 66.07 348 P P 09 34 30.6 -6.1
SYO Syowa Base 66.11 159‖ *e*X **P 09 34 33.0 -3.5**
254A Abbeville 66.27 350 P **P 09 34 38.1 +0.1**
baz=170
253A Americus 66.51 349 P **P 09 34 39.4 -0.1**
baz=169
252A Lumpkin 66.55 349 P **P 09 34 40.3 +0.6**
baz=169
154A Montrose 66.90 350 P **P 09 34 42.9 +0.9**
baz=170
154A Montrose 66.90 350 P P 09 34 35.4 -6.6
833A Chaparral WMA, 66.91 334 P **P 09 34 44.7 +2.6**
baz=156,SNR=6.1
833A Chaparral WMA, 66.91 334 P **P 09 34 44.8 +2.6**
TBI Tubuai 66.94 257 *e*S **S 09 43 37.4 +2.2**
comp=Z,416nm,29.8s
TBI Tubuai 66.94 257 *e*LR LR 09 55 00.2
comp=Z,501nm,27.0s,baz=118
152A Waverly Hall 67.20 349 P **P 09 34 44.2 +0.3**
baz=169
152A Waverly Hall 67.20 349 P P 09 34 37.7 -6.2
152A IAmb IAmb 09 34 45.1
comp=Z,9.1nm,0.8s
Z56A Williston 67.38 352 P P 09 34 38.4 -6.6
Z54A Sparta 67.48 351 P **P 09 34 46.2 +0.6**
baz=170
Z53A Monticello 67.62 350 P **P 09 34 47.4 +0.9**
baz=170
Z52A Williamson 67.66 349 P **P 09 34 47.8 +1.0**
baz=169
GOGA Godfrey 67.74 350 P **P 09 34 47.7 +0.5**
baz=170
GOGA Godfrey 67.74 350 P P 09 34 40.8 -6.4
GOGA pmax pmax
comp=Z,10.0nm,0.9s
GOGA Godfrey 67.74 350 P P 09 34 40.8 -6.4
GOGA IAmb IAmb 09 34 48.6
comp=Z,10nm,0.8s
VBMS Vicksburg 67.91 344 P **P 09 34 50.1 +1.8**
baz=164
VBMS Vicksburg 67.91 344 P P 09 34 38.0 -10
VBMS IAmb IAmb 09 34 51.6
comp=Z,18nm,0.7s
LRAL Lakeview Retre 67.96 347 P **P 09 34 49.4 +0.8**
baz=167
Z50A Ashland 67.97 348 P **P 09 34 49.4 +0.6**
baz=168
Z50A Ashland 67.97 348 P P 09 34 42.5 -6.2
Z50A IAmb IAmb 09 34 50.8
comp=Z,14nm,0.9s
Y54A Tignall 68.08 351 P **P 09 34 49.8 +0.5**
baz=171
HPIG 68.18 328 P P 09 34 42.1 -8.3
Y53A Monroe 68.19 350 P **P 09 34 50.6 +0.5**
baz=170
Y52A Lilburn 68.27 350 P **P 09 34 51.1 +0.5**
baz=169
Y52A Lilburn 68.27 350 P P 09 34 44.3 -6.3
Y52A IAmb IAmb 09 34 52.1
comp=Z,17nm,0.9s
X58A Rowland 68.39 354 P **P 09 34 52.1 +0.8**
baz=174
Y51A Rockmart 68.46 349 P **P 09 34 52.4 +0.6**
baz=169,SNR=6.3
435B Jarrell 68.55 337 P **P 09 34 54.2 +1.8**
baz=158
435B Jarrell 68.55 337 P P 09 34 45.3 -7.1
435B pP **P 09 34 55.1 +2.7**
435B IAmb IAmb 09 34 55.3
comp=Z,12nm,0.8s
NATX Nacogdoches 68.56 340 P **P 09 34 54.9 +2.5**
baz=160
NATX Nacogdoches 68.56 340 P P 09 34 46.6 -5.8
NATX pP **P 09 34 54.9 +2.5**
X54A Belton 68.71 351 P **P 09 34 53.9 +0.6**
baz=171
X53A Estanollee 68.79 350 P **P 09 34 54.6 +0.8**
baz=170
W58A Raeford 68.85 354 P **P 09 34 55.7 +1.5**
baz=174
X52A Dahlonega 68.97 350 P **P 09 34 55.5 +0.5**
baz=170,SNR=6.7
JCT Junction City 69.02 335 P **P 09 34 57.2 +1.8**
baz=156,SNR=12
JCT Junction City 69.02 335 P P 09 34 49.6 -5.8
JCT *PP **P 09 34 57.8 +2.4**
JCT pmax pmax
comp=Z,32nm,1.1s
JCT Junction City 69.02 335 P P 09 34 49.6 -5.8
JCT pP **P 09 34 57.8 +2.4**
JCT IAmb IAmb 09 35 06.4
comp=Z,32nm,1.1s
W57A Gilead 69.05 353 P **P 09 34 55.9 +0.5**
baz=173
X51A Calhoun 69.08 349 P **P 09 34 56.4 +0.8**
baz=169,SNR=5.3
KMSC Kings Mountain 69.17 352 P **P 09 34 56.5 +0.3**
baz=172
W54A Cherokee Point 69.22 352 P **P 09 34 57.1 +0.6**
baz=171
X48A Hartselle 69.34 347 P **P 09 34 58.1 +0.9**
baz=167,SNR=7.3
X48A Hartselle 69.34 347 P **P 09 34 57.7 +0.5**
X48A IAmb IAmb 09 35 07.0
comp=Z,17nm,0.8s
W53A Cullowhee 69.43 351 P **P 09 34 58.7 +0.8**
baz=170
TXAR Lajitas Array 69.45 331 P **P 09 34 59.7 +1.6**
comp=Z,4.7nm,0.7s,baz=151,slow=8.2,SNR=43
TXAR LR LR 10 01 09.6
comp=Z,204nm,18.1s,baz=0.0,slow=32
TX31 Lajitas Ar. Si 69.45 331 P P 09 34 53.0 -5.1
TX32 Lajitas Array 69.45 331 P P 09 34 52.6 -5.5
TX32 pP **P 09 35 00.6 +2.4**
W52A Murphy 69.46 350 P **P 09 34 59.5 +1.5**
baz=170
W52A Murphy 69.46 350 P P 09 34 52.2 -5.8
W52A IAmb IAmb 09 35 00.3
comp=Z,20nm,1.1s
Z41A Richland Creek 69.47 342 P **P 09 34 60.0 +2.0**
baz=162
WHTX Lake Whitney, 69.62 338 P **P 09 35 00.3 +1.3**
baz=158
W51A Cleveland 69.65 349 P **P 09 35 01.1 +2.0**
baz=169
V56A Mocksville 69.75 353 P **P 09 35 00.5 +0.8**
baz=173
W50A Signal Mountai 69.77 349 P **P 09 35 00.7 +0.7**
baz=168,SNR=9.4
W50A Signal Mountai 69.77 349 P P 09 34 53.7 -6.2
W50A pP **P 09 35 01.9 +2.0**
PPT2 Papeete2 69.84 262 *e*S **S 09 44 09.0 -1.1**
comp=Z,194nm,22.8s
PPT2 Papeete2 69.84 262 *e*LR LR 09 56 22.6
comp=Z,412nm,28.0s
W49A Belvidere 69.85 348 P **P 09 35 01.0 +0.6**
baz=168
PPT Papeete 69.86 262 LR LR 09 57 17.9
comp=Z,182nm,18.2s,baz=172,slow=29
V55A Taylorsville 69.86 352 P **P 09 35 01.0 +0.5**
baz=172
V55A Taylorsville 69.86 352 P P 09 34 53.7 -6.7
V55A IAmb IAmb 09 35 05.6
comp=Z,17nm,1.1s
OXF Oxford 69.87 345 P **P 09 35 01.1 +0.6**
baz=165
V54A Nebo 69.87 352 P **P 09 35 00.8 +0.3**
baz=171
V53A Saluda 69.87 351 P **P 09 35 01.2 +0.6**
baz=171,SNR=5.1
V52A Sevierville 70.15 350 P **P 09 35 02.8 +0.6**
baz=170
V50A Pikeville 70.20 349 P **P 09 35 03.0 +0.4**
baz=169,SNR=7.0
V51A Loudon 70.22 350 P **P 09 35 03.4 +0.8**
baz=169
U57A Blanch 70.26 354 P **P 09 35 04.1 +1.3**
baz=174
U56A King 70.27 353 P **P 09 35 04.1 +1.2**
baz=173
V49A McMinnville 70.42 348 P **P 09 35 04.2 +0.4**
baz=168,SNR=11
V48A Smith Brothers 70.56 348 P **P 09 35 05.3 +0.6**
baz=167,SNR=20
U54A Nelsons Funny 70.59 352 P **P 09 35 05.8 +0.8**
baz=172
X40A Basin Creek Fa 70.64 342 P **P 09 35 07.2 +2.0**
baz=162
T59A Double "B" Far 70.66 356 P **P 09 35 06.3 +1.0**
baz=175
T58A Grand View Acr 70.70 355 P **P 09 35 06.8 +1.2**
baz=174
U51A La Follette 70.73 350 P **P 09 35 06.2 +0.5**
baz=170
MIAR Mount Ida 70.89 342 P **P 09 35 08.6 +1.9**
baz=161
U50A Jamestown 70.89 350 P **P 09 35 07.5 +0.8**
baz=169
T56A Rocky Mt 70.91 354 P **P 09 35 07.6 +0.8**
baz=173
ABTX Abilene, Hawle 70.92 336 P **P 09 35 08.9 +1.9**
baz=156,SNR=8.1
T54A Tazewell 71.10 352 P **P 09 35 08.4 +0.3**
baz=172
WVT Waverly 71.12 347 P **P 09 35 08.7 +0.6**
baz=166
U49A Red Boiling Sp 71.13 349 P **P 09 35 08.5 +0.3**
baz=168
W41B Gary Mavity, V 71.15 343 P **P 09 35 09.1 +0.8**
baz=162
T51A Gray 71.30 350 P **P 09 35 09.7 +0.5**
baz=170
T50A Nancy 71.48 350 P **P 09 35 10.3 0.0**
baz=169
S56A Natural Bridge 71.51 354 P **P 09 35 10.9 +0.4**
baz=174
S57A Dark Hollow, R 71.55 355 P **P 09 35 11.6 +0.9**
baz=174
W39A Magazine 71.56 342 P **P 09 35 12.5 +1.8**
baz=161,SNR=8.2
T49A Edmonton 71.67 349 P **P 09 35 11.7 +0.3**
baz=168,SNR=6.0
S55A Lewisburg 71.69 353 P **P 09 35 12.0 +0.5**
baz=173
T47A Sharon Grove 71.82 348 P **P 09 35 12.7 +0.4**
baz=167,SNR=9.3
S51A Beattyville 71.92 351 P **P 09 35 12.8 -0.1**
baz=170
S50A Richmond 72.06 350 P **P 09 35 14.0 +0.2**
baz=169
R55A Marlinton 72.16 354 P **P 09 35 15.4 +1.0**
baz=173
MNTX Cornudas Mount 72.22 331 P **P 09 35 15.5 +0.6**
baz=152
R56A Bull Pasture M 72.22 354 P **P 09 35 15.6 +0.8**
baz=174
U40A Yellville 72.42 343 P **P 09 35 16.9 +0.9**
baz=162,SNR=7.5
WMOK Wichita Mounta 72.58 338 P **P 09 35 18.3 +1.4**
baz=157
R50A Paris 72.65 350 P **P 09 35 17.9 +0.7**
baz=170
TUL1 Leonard 72.77 340 P **P 09 35 19.0 +0.9**
baz=160
R49A Shelbyville 72.78 350 P **P 09 35 18.2 +0.2**
baz=169
WCI Wyandotte Cave 72.89 349 P **P 09 35 19.0 +0.3**
baz=168
S44A Carbondale 72.91 346 P **P 09 35 19.0 +0.2**
baz=165,SNR=5.6
Q52A Bidwell 73.06 352 P **P 09 35 21.2 +1.5**
baz=171
P58A Pank, Wackersv 73.15 356 P **P 09 35 22.0 +1.8**
baz=176
P59A Jarrettsville 73.23 357 P **P 09 35 23.1 +2.5**
baz=176
MSTX Muleshoe 73.24 334 P **P 09 35 22.9 +2.0**
baz=154,SNR=9.3
Q51A Peebles 73.25 351 P **P 09 35 20.9 +0.1**
baz=170
MAW Mawson 73.39 164 P **P 09 35 21.6 +0.2**
comp=Z,9.2nm,0.8s,baz=197,slow=6.5,SNR=14
MAW LR LR 10 09 50.7
comp=Z,319nm,18.9s,baz=234,slow=38
Q49A Aurora 73.44 350 P **P 09 35 22.1 +0.2**
baz=169
Q48A North Vernon 73.49 349 P **P 09 35 22.6 +0.4**
baz=168
P54A Burton 73.50 354 P **P 09 35 23.1 +0.8**
baz=173
P51A Williamsport 73.66 352 P **P 09 35 23.4 +0.2**
baz=171
AMTX Amarillo 73.67 335 P **P 09 35 25.7 +2.2**
baz=155
CCM Cathedral Cave 73.67 345 P **P 09 35 24.1 +0.8**
baz=164
P50A Jamestown 73.88 351 P **P 09 35 25.1 +0.6**
baz=170
P49A Miami Univ. Ec 73.93 350 P **P 09 35 24.7 -0.1**
baz=169
121A Cookes Peak, D 73.94 330 P **P 09 35 28.2 +2.9**
baz=150
P48A Milroy 73.96 350 P **P 09 35 25.0 0.0**
baz=169
O51A Skala 74.26 352 P **P 09 35 27.1 +0.4**
baz=171
O50A Cable 74.39 351 P **P 09 35 28.2 +0.8**
baz=170
ACSO Alum Creek Sta 74.39 352 P **P 09 35 27.7 +0.3**
baz=171
O49A Covington 74.52 351 P **P 09 35 28.8 +0.6**
baz=170
N55A Marion Center 74.55 355 P **P 09 35 30.1 +1.7**
baz=174
N50A Nevada 74.94 352 P **P 09 35 30.8 +0.2**
baz=171
TUC Tucson 75.06 327 P **P 09 35 35.0 +3.4**
baz=148
LIC Lamto 75.13 72 *e*P **P 09 35 31.5 -0.9**
comp=Z,33nm,0.6s
M55A Ridgway 75.22 355 P **P 09 35 33.4 +1.1**
baz=174
N49A Columbus Grove 75.22 351 P **P 09 35 32.8 +0.6**
baz=170
N48A Decatur 75.28 350 P **P 09 35 33.1 +0.6**
baz=169
TIC Toumodi 75.39 72 *e*P **P 09 35 33.6 -0.3**
N47A Urbana 75.39 350 P **P 09 35 33.7 +0.5**
baz=168
KIC Kosan Boka 75.44 72 *e*P **P 09 35 33.4 -0.8**
comp=Z,54nm,1.0s
ANMO Albuquerque 75.50 332 P **P 09 35 37.5 +3.3**
baz=151
ANMO Albuquerque 75.50 332‖ *e*P **P 09 35 35.4 +1.2**
ANMO pmax pmax
comp=Z,8.0nm,1.1s
DBIC Dimbokro 75.53 72 P **P 09 35 34.1 -0.6**
comp=Z,12nm,0.7s,baz=212,slow=6.4,SNR=17
DBIC LR LR 10 07 41.5
comp=Z,194nm,18.1s,baz=206,slow=35
214A Organ Pipe Nat 75.70 325 P **P 09 35 38.6 +3.3**
baz=146
L56A Greenwood 75.81 356 P **P 09 35 37.7 +2.0**
baz=175
L55A Hinsdale 75.91 355 P **P 09 35 38.2 +2.0**
baz=175
K59A Cooperstown 76.33 358 P **P 09 35 40.2 +1.6**
baz=178
T25A Trinidad 76.66 334 P **P 09 35 43.6 +2.7**
baz=153
J48A Bridge Port 77.51 352 P **P 09 35 46.1 +0.9**
baz=170
SDCO Great Sand Dun 77.60 334 P **P 09 35 48.2 +2.0**
baz=152
KSCO Kaye Shedlock' 77.72 336 P **P 09 35 49.4 +2.8**
baz=155
Y12C Blythe 77.99 325 P **P 09 35 51.5 +3.4**
baz=145
WUAZ Wupatki 78.03 328 P **P 09 35 51.8 +3.4**
baz=148
S22A 4UR Ranch, Cre 78.10 333 P **P 09 35 51.5 +2.5**
baz=151
MVCO Mesa Verde 78.28 331 P **P 09 35 52.6 +2.6**
baz=150
BC3 Big Chuckawall 78.36 325 P **P 09 35 53.5 +3.3**
baz=145
Q24A Divide 78.55 335 P **P 09 35 54.3 +2.8**
baz=153
IRM Iron Mountain 78.62 325 P **P 09 35 54.8 +3.2**
baz=145
PFO Pinyon Flats O 78.81 324‖ *e*P **P 09 35 56.2 +3.4**
PFO pmax pmax
comp=Z,20nm,1.4s
GMRC Granite Mounta 79.38 325 P **P 09 35 59.0 +3.1**
baz=144
ISCO Idaho Springs 79.46 335 P **P 09 35 58.0 +1.6**
baz=152
HEC Hector,Ludlow 79.74 325 P **P 09 36 01.0 +3.2**
baz=144
BFSC Mount Baldy Ra 79.91 323 P **P 09 36 01.5 +2.7**
baz=143
ECSD EROS Data Cent 80.33 343 P **P 09 36 01.2 +0.5**
baz=160
BOSA Boshof 80.48 118 P **P 09 36 01.8 -0.4**
comp=Z,5.0nm,0.8s,baz=222,slow=5.7,SNR=5.2
BOSA LR LR 10 08 54.8
comp=Z,122nm,18.0s,baz=211,slow=34
N23A Red Feather La 80.54 335 P **P 09 36 04.8 +2.5**
baz=152
EDW2 Edwards Air Fo 80.59 324 P **P 09 36 04.8 +2.5**
baz=143
O20A White River Ci 80.72 333 P **P 09 36 05.1 +2.1**
baz=150
TPNV Topopah Spring 81.41 326 P **P 09 36 10.4 +3.5**
baz=144
ISA Isabella, Lake 81.44 324 P **P 09 36 10.3 +3.4**
baz=143
CWC Cottonwood Cre 81.87 324 P **P 09 36 12.3 +3.0**
baz=143
VES Vestal, Richgr 81.89 323 P **P 09 36 12.3 +3.1**
baz=142
R11A Troy Canyon, C 82.25 327 P **P 09 36 14.1 +2.9**
baz=145
K22A Casper 82.30 335 P **P 09 36 13.7 +2.3**
baz=152
DUG Dugway, Tooele 82.58 330 P **P 09 36 15.2 +2.3**
baz=147
DUG Dugway, Tooele 82.58 330 P P 09 36 05.7 -7.1
DUG *PP **PcP 09 36 15.7 -2.1**
DUG pmax pmax
comp=Z,10.0nm,1.2s
DUG Dugway, Tooele 82.58 330 P P 09 36 05.7 -7.1
DUG pP **PcP 09 36 15.7 -2.1**
LBTB Lobatse 82.72 115 P **P 09 36 13.7 -0.4**
comp=Z,11nm,0.7s,baz=239,slow=5.9,SNR=14
RSSD Black Hills 82.78 338 P **P 09 36 14.9 +1.0**
baz=154
BW06 Boulder Array 83.49 333 P **P 09 36 19.6 +2.0**
baz=150
PDAR Pinedale Array 83.49 333 P **P 09 36 18.6 +1.0**
comp=Z,1.2nm,0.8s,baz=167,slow=4.2,SNR=9.6
NVAR Mina Array Bea 83.57 326 P **P 09 36 20.0 +1.9**
comp=Z,1.3nm,0.7s,baz=153,slow=6.6,SNR=8.4
TORD Torodi Ar. Bea 84.56 70 P **P 09 36 22.9 -0.5**
comp=Z,11nm,0.7s,baz=265,slow=3.8,SNR=47
TORD LR LR 10 13 33.4
comp=Z,216nm,18.0s,baz=295,slow=35
RLMT Red Lodge 85.42 335 P **P 09 36 28.3 +1.0**
baz=150
LAO LASA Array 85.77 337 P **P 09 36 30.1 +1.3**
baz=152
ULM Lac du Bonnet 86.30 345 P **P 09 36 31.0 -0.2**
comp=Z,4.5nm,0.9s,baz=66,slow=4.1,SNR=4.7
LRM Limekiln Ridge 87.18 333 P **P 09 36 35.1 -0.9**
LRM pP **pwP 09 36 46.3 +2.5**
M04C Macdoel 87.88 325 P **P 09 36 41.7 +2.4**
baz=141
BMO Blue Mountains 88.30 330 P P 09 36 35.3 -5.9
BMO pmax pmax
comp=Z,3.0nm,1.2s
BMO Blue Mountains 88.30 330 P P 09 36 35.2 -5.9
PINE Pine Mountain 89.03 327 P P 09 36 37.9 -6.9
PINE IAmb IAmb 09 36 48.8
comp=Z,12nm,1.2s
LSZ Lusaka 90.22 109 P P 09 36 44.5 -6.6
LSZ pmax pmax
comp=Z,12nm,1.2s
LSZ Lusaka 90.22 109 P **P 09 36 51.1 +0.1**
comp=Z,1.8nm,0.5s,baz=194,slow=4.1,SNR=5.6
LSZ Lusaka 90.22 109 P P 09 36 44.5 -6.6
LSZ IAmb IAmb 09 36 54.2
comp=Z,12nm,1.2s
E08A Dider Farm, El 90.34 330 P P 09 36 43.3 -7.3
E08A IAmb IAmb 09 36 43.4
comp=Z,24nm,1.5s
DZM Mont Dzumac 100.97 234 *e*LR LR 10 10 47.7
comp=Z,158nm,20.8s
YKA Yellowknife Ar 101.83 341 P **Pdif 09 37 42.5 +0.1**
comp=Z,2.2nm,0.6s,baz=143,slow=4.9,SNR=3.9
MODS Modra-Piesok 114.32 47 *e*P **Pdif 09 38 43.1 +4.7**
MODS Modra-Piesok 114.32 47 *e*PDIFF **Pdif 09 38 43.1 +4.7**
ASAR Alice Springs 117.47 207 PKP **PKPdf 09 42 35.1 -1.1**
comp=Z,0.6nm,0.9s,baz=138,slow=2.1,SNR=3.4
WRA Warramunga Arr 120.65 210 PKP **PKPdf 09 42 41.4 -0.9**
comp=Z,1.0nm,0.3s,baz=146,slow=1.9,SNR=27
WRAB Tennant Creek 120.65 210‖ *i* PKIKP **PKPdf 09 42 42.0 -0.3**
BR131 Keskin Array S 122.14 61 PKIKP **PKPdf 09 42 37.8 -6.8**
BR131 Keskin Array S 122.14 61 **PKPdf 09 42 37.8 -6.8**
BRTR Keskin Array B 122.14 61 PKP **PKPdf 09 42 44.2 -0.4**
comp=Z,2.1nm,0.7s,baz=187,slow=3.8,SNR=8.9
KIF Kilpisjarvi 122.36 25 *e*P **PKPdf 09 42 42.1 -1.8**
AKASG Malin Array Be 122.42 48 PKP **PKPdf 09 42 43.8 -0.8**
comp=Z,1.8nm,0.7s,baz=260,slow=2.8,SNR=8.7
VSU Vasula 122.86 38‖ *i* PKIKP **PKiKP 09 42 46.2 +0.8**
H11S2 WAKE ISLAND Hyl 25.36 269 T T 12 01 46.1
baz=118,slow=74,SNR=8.8
H11S1 WAKE ISLAND Hyl 25.38 270 T T 12 02 04.7
baz=118,slow=74,SNR=5.4
H11S3 WAKE ISLAND Hyl 25.38 269 T T 12 01 52.4
baz=118,slow=74,SNR=6.1
FITZ Fitzroy Crossi 125.47 201 PKP **PKiKP 09 42 51.7 -0.2**
comp=Z,1.9nm,0.8s,baz=166,slow=4.7,SNR=4.3
FITZ Fitzroy Crossi 125.47 201 **PKPdf 09 42 44.0 -7.5**
OBN Obninsk 127.64 43 *e* PKIKP **PKPdf 09 42 54.6 +0.2**
OBN *e* 09 44 56.5
OBN pmax pmax
comp=Z,4.0nm,1.0s
BILL Bilibino 132.57 334‖ *i* PKIKP **PKiKP 09 43 05.8 +1.3**
SEY Seymchan 139.74 330‖ *i* PKIKP **PKiKP 09 43 19.6 +0.3**
ARU Arti 139.93 41 *i* PKIKP **PKiKP 09 43 19.0 -0.9**
ARU 09 46 10.4
GEYT Alibeck 140.20 70 PKP **PKPdf 09 43 16.0 -2.6**
comp=Z,0.9nm,0.4s,baz=270,slow=1.4,SNR=2.7
TIXI Tiksi 140.52 350‖ *e* PKIKP **PKPdf 09 43 18.5 +0.4**
ABKAR Akbulak array 141.94 52 **PKPdf 09 43 14.9 -6.4**
BRVK Borovoye 147.41 43 *ce* PKIKP **PKPdf 09 43 31.3 +0.7**
BRVK *i* 09 43 35.2
BRVK Borovoye 147.41 43 **PKPdf 09 43 25.6 -5.0**
RPSI Rantau Prapat 147.95 164 PKPdf 09 43 24.2 -8.5
PSI Prapat 148.05 164 PKHKP PKPdf 09 43 24.2 -8.9
SBUM Sibu 148.40 189 PKPdf 09 43 25.8 -7.7

YAK	**Yakutsk**	**148.50**	**340**	*e*PKIKP	**PKPbc**	**09 43 35.6**	**-0.1**
YAK				*e*		09 47 10.1	
YAK				*e*		09 50 27.0	
YAK				*e*SS	SS	10 06 20.4	+8.1
YAK				pmax	pmax		
	comp=Z,17nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,44nm,2.2s						
YAK				pmax	pmax		
	comp=E,34nm,2.2s						
YAK				pmax	pmax		
	comp=N,44nm,1.8s						
KKAR	**Karatay Array**	**149.85**	**61**	PKP2	**PKiKP**	**09 43 40.5**	**-0.2**
KKAR	**Karatay Array**	**149.85**	**61**		**PKiKP**	**09 43 40.5**	**-0.2**
BTK	**Batken**	**150.23**	**67**	PKP2	**PKPbc**	**09 43 41.1**	**+0.2**
BTK	**Batken**	**150.23**	**67**		**PKPbc**	**09 43 41.1**	**+0.2**
AML	**Almayashu**	**152.29**	**63**	P	**PKPbc**	**09 43 46.1**	**+0.1**
	SNR=9.6						
EKS2	**Erkin-Say**	**152.29**	**62**	P	**PKiKP**	**09 43 46.5**	**+0.6**
	SNR=7.1						
USP	**Ospenovka**	**152.73**	**60**	P	**PKiKP**	**09 43 47.1**	**+0.4**
	SNR=6.5						
AAK	**Ala-Archa**	**152.82**	**62**	*c i*PKIKP	**PKiKP**	**09 43 47.4**	**+0.4**
AAK	**Ala-Archa**	**152.82**	**62**	P	**PKiKP**	**09 43 47.5**	**+0.4**
	SNR=9.3						
UCH	**Uchtor**	**152.88**	**62**	P	**PKiKP**	**09 43 48.2**	**+0.6**
	SNR=10						
TKM2	**Tokmak 2**	**153.58**	**61**	P	**PKPbc**	**09 43 48.3**	**-0.3**
	SNR=5.3						
KSH	**Kashi**	**154.21**	**68**	PKPbc	**PKPdf**	**09 43 43.7**	**+1.9**
KSH				PP	**PP**	**09 47 42.3**	**+3.0**
KSH				SKS	**SKSdf**	**09 50 48.8**	**+1.0**
KSH				SKKS	**SKKSac**	**09 54 29.6**	**+1.3**
KSH				AMB	AMB		
	comp=N,580nm,4.8s						
KSH				LR	LR		
	comp=N,610nm,7.0s						
ZAA0	**Zalesovo Array**	**154.36**	**32**		**PKPdf**	**09 43 42.0**	**+0.7**
ZALV	**Zalesovo Beam**	**154.36**	**32**	PKP	**PKPdf**	**09 43 41.7**	**+0.4**
	comp=N,1.6nm,0.8s,baz=296,slow=2.2,SNR=8.1						
ZALV				PKPbc	**PKiKP**	**09 43 49.8**	**+0.2**
	comp=N,6.4nm,0.6s,baz=301,slow=3.4,SNR=20						
BOD	**Bodaibo**	**155.67**	**352**	*e*PKP2	**PKPab**	**09 44 10.0**	**+0.8**
BOD				pmax	pmax		
	comp=Z,11nm,1.3s						
MKAR	**Makanchi Array**	**157.00**	**48**	PKP	**PKPdf**	**09 43 44.9**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=306,slow=4.1,SNR=4.2						
MKAR				PKPbc	**sPKPdf**	**09 43 54.5**	**+2.3**
	comp=Z,1.3nm,0.7s,baz=324,slow=0.5,SNR=5.2						
MKAR				PKPab	**PKPab**	**09 44 15.1**	**-0.3**
	comp=Z,4.4nm,0.7s,baz=297,slow=4.5,SNR=12						
WMQ	**Urumqi**	**161.73**	**51**	*e*PKP	**PKPdf**	**09 43 51.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**162.84**	**152**	PKP	**PKPdf**	**09 43 53.3**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=267,slow=2.8,SNR=5.7						
ULN	**Ulaanbaatar**	**166.04**	**1**	*e*PKIKP	**PKPdf**	**09 43 54.0**	**-0.7**
NJ2	**Nanjing**	**170.26**	**262**	*e*PKP	**PKPdf**	**09 44 00.5**	**+2.7**
GTA	**Gaotai**	**171.75**	**46**	PKP	**PKPdf**	**09 44 00.4**	**+1.8**
GTA				PKPab	**PKPab**	**09 45 22.0**	**+1.5**
GTA				LR	LR		
	comp=Z,99nm,21.6s						
GTA				LR	LR		
	comp=Z,140nm,18.9s						
GTA				LR	LR		
	comp=Z,100nm,21.6s						
HHC	**Hu-ho-hao-te**	**172.34**	**336**	PKP	**PKPdf**	**09 43 55.2**	**-3.6**
CD2	**Chengdu**	**175.67**	**132**	PKP	**PKPdf**	**09 44 00.0**	**-0.1**
LZH	**Lanzhou**	**176.31**	**53**	*e*PKP	**PKPdf**	**09 43 57.2**	**-3.1**
LZH				pPKP	pPKPdf	09 44 06.4	+0.8
LZH				sPKP		09 44 09.4	

IDC ***07*** *10:16:29.3±1.1, 31°.09N×142°.67E, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.6/57, mbtmp3.7/8, ML3.2/2, MS3.0/2, Ms1 3.0/2, ms1mx2.4/42, Error ellipse: s-maj=42.7km s-min=19.6km az=84.0*

ISCJB ***07*** *10:16:32.5±0.5, 31°.09N±0°.05×142°.3E±0°.1, h37km, mb3.8/6, MS3.5/1, Error ellipse: s-maj=15.0km s-min=5.0km az=162.6*

JMA ***07*** *10:16:33.1±0.6, 31°.51N×142°.30E, h0km, M3.8*

NEIC ***07*** *10:16:33.8±1.4, 31°.02N±0°.05×142°.2E±0°.2, h25km±7km, mb4.3/7*

ISC 07 10:16:35.2±0.8, 31°.07N±0°.07×142°.2E±0°.1, h37km, n28, σ1s63/30, mb3.9/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.89**	**315**	P	**Pn**	**10 17 18.0**	**-0.7**
JHJ2				*e*S	**Sn**	**10 17 50.7**	**-1.5**
JHJ2	**Mitsune**	**2.89**	**315**	Pn	**Pn**	**10 17 15.9**	**-2.9**
JHJ2				Sn	**Sn**	**10 17 52.9**	**+0.7**
BSO1	**Boso 1**	**3.73**	**344**	P	**Pn**	**10 17 27.6**	**-2.1**
JCJ	**Chichijima**	**3.96**	**181**	Pn	**Pn**	**10 17 31.4**	**-2.0**
	4.3nm,0.3s,baz=12,slow=19,SNR=6.4						
JCJ				Sn	**Sn**	**10 18 17.1**	**-1.4**
	3.5nm,0.3s,baz=288,slow=20,SNR=3.2						
BSO3	**Boso 3**	**4.00**	**339**	P	**Pn**	**10 17 32.6**	**-1.1**
JOD2	**Odawara 2**	**4.95**	**329**	P	**Pn**	**10 17 46.0**	**-1.0**
JHU	**Hanno**	**5.37**	**333**	P	**Pn**	**10 17 52.2**	**-0.6**
JRY	**Ryogami san**	**5.67**	**331**	P	**Pn**	**10 17 56.1**	**-0.8**
JHO	**Hitachi**	**5.70**	**346**	P	**Pn**	**10 17 54.1**	**-3.2**
JAG	**Ashikaga**	**5.82**	**337**	P	**Pn**	**10 17 58.1**	**-0.9**
MJAR	**Matsushiro Arr**	**6.41**	**330**	Pn	**Pn**	**10 18 07.0**	**0.0**
	0.1nm,0.3s,baz=146,slow=13,SNR=11						
MJAR				Sn	**Sn**	**10 19 18.1**	**-0.8**
	0.1nm,0.3s,baz=224,slow=13,SNR=5.1						
MAJO	**Matsushiro**	**6.41**	**330**	Pn	**Pn**	**10 18 06.8**	**-0.2**
MJB9	**Matsu-Tunnel**	**6.41**	**330**	Pn	**Pn**	**10 18 06.8**	**-0.3**
KSRS	**Korea Array**	**13.44**	**302**	LR	LR	10 26 05.1	
	comp=Z,22nm,18.3s,baz=345,slow=42						
MKAR	**Makanchi Array**	**48.06**	**307**	P	**P**	**10 25 12.8**	**+1.8**
	0.7nm,0.7s,baz=75,slow=9.6,SNR=2.8						
KURK	**Kurchatov**	**50.30**	**312**	P	**P**	**10 25 27.4**	**-0.6**
KURBB	**Kurchatov Arra**	**50.36**	**312**	P	**P**	**10 25 29.8**	**+1.4**
	0.3nm,0.5s,baz=90,slow=7.3,SNR=2.6						
WR0	**Warramunga Arr**	**51.27**	**189**	P	**P**	**10 25 35.5**	**0.0**
WR0				IAmb	IAmb	10 25 46.0	
	comp=Z,5.8nm,1.2s						
WRAB	**Tennant Creek**	**51.27**	**190**	P	**P**	**10 25 35.8**	**+0.3**
WRA	**Warramunga Arr**	**51.28**	**190**	P	**P**	**10 25 35.8**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=9.4,slow=7.8,SNR=8.6						
RND	**Reindeer**	**53.31**	**32**	P	**P**	**10 25 49.3**	**-1.0**
RND				IAmb	IAmb	10 25 49.3	
	comp=Z,6.4nm,1.3s						
ILAR	**Eielson Array**	**54.24**	**30**	P	**P**	**10 25 55.1**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=256,slow=6.5,SNR=6.8						
ASAR	**Alice Springs**	**55.01**	**189**	P	**P**	**10 26 03.3**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=20,slow=11,SNR=4.9						
FINES	**FINESS Array B**	**74.42**	**333**	P	**P**	**10 28 09.2**	**+0.2**
	comp=Z,7.8nm,1.1s,baz=77,slow=7.3,SNR=3.5						
BOZ	**Bozeman (W)**	**78.57**	**43**	P	**P**	**10 28 36.6**	**+3.5**
BOZ				IAmb	IAmb	10 28 39.7	
	comp=Z,4.1nm,1.1s						
AKASG	**Malin Array Be**	**79.46**	**323**	LR	LR	11 07 44.0	
	comp=Z,25nm,20.7s,baz=315,slow=39						
AHID	**Auburn Hatcher**	**80.43**	**46**	P	**P**	**10 28 44.2**	**+0.8**
LAO	**LASA Array**	**81.05**	**40**	P	**P**	**10 28 49.7**	**+3.3**
LAO				IAmb	IAmb	10 28 58.8	
	comp=Z,2.9nm,1.5s						

NNC 07 10:37:14.2±13.0, 36°.83N×71°.04E, h0km, mb3.8, mpv3.4, 1C-1D, Error ellipse: s-maj=140.2km s-min=84.0km az=147.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.28**	**356**	⇓P	Pn	10 38 48.2	+0.1
	5.5nm,0.6s,baz=173,slow=12,SNR=58						
KK31				⇑S	Sn	10 39 59.9	-0.7
	1.6nm,0.6s,baz=168,slow=24,SNR=4.0						
AAK	**Ala-Archa**	**6.39**	**24**	P	Pn	10 38 50.6	+1.0
	0.5nm,0.4s						
AAK				S	Sn	10 40 05.2	+1.8
	3.2nm,0.8s						
AB31	**Akbulak array**	**14.81**	**330**	P	Pn	10 40 39.8	-5.0
	1.2nm,0.8s,baz=265,slow=38,SNR=6.5						

ROM 07 10:44:17.8±0.1, 43°.047N±0°.003×12°.891E±0°.004, h7km, ML2.3/21, Error ellipse: s-maj=0.3km s-min=0.3km az=213.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CESI	**CESI - Serrava**	**0.04**	**166**	P	Pg	10 44 19.6	+0.2
CESI				S	Sg	10 44 20.5	0.0
CESI				AML	AML		
	comp=E,3065µm,0.3s						
CESI				AML	AML		
	comp=N,5760µm,1.1s						
FDMO	**Fiordimonte**	**0.14**	**94**	P	Pg	10 44 21.5	+0.7
FDMO				S	Sg	10 44 24.4	+1.5
FDMO				AML	AML		
	comp=E,776µm,0.4s						
FDMO				AML	AML		
	comp=N,1014µm,0.2s						
FDMO				AML	AML		
	comp=E,2205µm,0.4s						
FDMO				AML	AML		
	comp=N,2285µm,0.2s						
FIU1	**Fiuminata**	**0.14**	**12**	P	Pg	10 44 21.5	+0.6
FIU1				S	Sg	10 44 23.8	+0.9
ASSB	**Assisi San Ben**	**0.17**	**269**	P	Pg	10 44 22.0	+0.7
ASSB				S	Sg	10 44 24.9	+1.2
ASSB				AML	AML		
	comp=E,811µm,1.3s						
ASSB				AML	AML		
	comp=N,878µm,0.2s						
SNTG	**Esanatoglia**	**0.21**	**10**	P	Pg	10 44 22.7	+0.6
SNTG				S	Sg	10 44 26.3	+1.4
SNTG				AML	AML		
	comp=E,621µm,0.4s						
SNTG				AML	AML		
	comp=N,735µm,0.1s						
SNTG				AML	AML		
	comp=E,167µm,1.4s						
SNTG				AML	AML		
	comp=N,248µm,1.2s						
SNTG				AML	AML		
	comp=N,1520µm,0.1s						
SNTG				AML	AML		
	comp=E,1175µm,0.2s						
ATCC	**AVT- Casa Cast**	**0.23**	**307**	P	Pg	10 44 23.1	+0.7
ATCC				S	Sg	10 44 27.2	+1.7
ATCC				AML	AML		
	comp=E,412µm,0.5s						
ATCC				AML	AML		
	comp=N,446µm,0.3s						
ATCC				AML	AML		
	comp=E,1247µm,0.5s						
ATCC				AML	AML		
	comp=N,1063µm,0.3s						
CSP1	**Cessapalombo**	**0.23**	**79**	P	Pg	10 44 23.3	+0.8
CSP1				S	Sg	10 44 27.6	+1.9
CSP1				AML	AML		
	comp=E,1194µm,0.4s						
CSP1				AML	AML		
	comp=N,1360µm,0.5s						
FOSV	**Fossato di Vic**	**0.27**	**339**	P	Pg	10 44 23.8	+0.7
FOSV				S	Sb	10 44 28.4	-1.3
FOSV				AML	AML		
	comp=E,272µm,0.2s						
FOSV				AML	AML		
	comp=N,352µm,0.3s						
FOSV				AML	AML		
	comp=N,910µm,0.3s						
FOSV				AML	AML		
	comp=E,638µm,0.7s						
NRCA	**Norcia**	**0.27**	**142**	P	Pg	10 44 23.9	+0.7
NRCA				S	Sb	10 44 28.8	-1.0
NRCA				AML	AML		
	comp=N,1590µm,1.3s						
NRCA				AML	AML		
	comp=E,1180µm,0.1s						
EL6	**Elcito**	**0.32**	**29**	P	Pg	10 44 24.8	+0.6
EL6				S	Sb	10 44 30.3	-1.0
EL6				AML	AML		
	comp=N,3170µm,0.9s						
EL6				AML	AML		
	comp=E,4745µm,1.3s						
MOMA	**Monte Martano**	**0.34**	**224**	P	Pb	10 44 25.8	-0.4
MOMA				S	Sb	10 44 31.1	-0.7
MOMA				AML	AML		
	comp=N,380µm,1.4s						
MOMA				AML	AML		
	comp=E,478µm,1.4s						
MURB	**Monte Urbino**	**0.34**	**309**	P	Pg	10 44 25.2	+0.6
MURB				S	Sb	10 44 31.7	-0.3
MURB				AML	AML		
	comp=E,1450µm,0.2s						
MURB				AML	AML		
	comp=N,1258µm,0.3s						
MURB				AML	AML		
	comp=E,1405µm,0.2s						
MURB				AML	AML		
	comp=N,1335µm,1.0s						
ATFO	**Monte Foce - G**	**0.40**	**324**	P	Pg	10 44 26.4	+0.8
ATFO				S	Sb	10 44 33.2	-0.3
ATFO				AML	AML		
	comp=N,522µm,0.2s						
ATFO				AML	AML		
	comp=E,558µm,0.5s						
CING	**Cingoli**	**0.40**	**34**	P	Pg	10 44 26.2	+0.6
CING				S	Sb	10 44 32.9	-0.6
CING				AML	AML		
	comp=E,957µm,0.3s						
CING				AML	AML		
	comp=N,1775µm,0.4s						
SSFR	**Montelago di S**	**0.40**	**349**	P	Pg	10 44 26.0	+0.4
SSFR				S	Sb	10 44 32.6	-0.9
SSFR				AML	AML		
	comp=E,1560µm,1.2s						
SSFR				AML	AML		
	comp=E,1680µm,1.2s						
SSFR				AML	AML		
	comp=N,1405µm,0.2s						
SSFR				AML	AML		
	comp=N,1320µm,0.7s						
ARVD	**Arcevia**	**0.45**	**5**	P	Pg	10 44 26.9	+0.3
ARVD				S	Sb	10 44 34.5	-0.6
ARVD				AML	AML		
	comp=N,208µm,0.1s						
ARVD				AML	AML		
	comp=E,308µm,0.7s						
LNSS	**Leonessa**	**0.46**	**166**	P	Pg	10 44 27.2	+0.5
LNSS				S	Sb	10 44 34.7	-0.6
LNSS				AML	AML		
	comp=N,950µm,0.3s						
LNSS				AML	AML		
	comp=E,1230µm,0.2s						
FRON	**Frontone**	**0.49**	**346**	P	Pg	10 44 27.8	+0.5
FRON				S	Sb	10 44 35.5	-0.6
FRON				AML	AML		
	comp=E,258µm,0.7s						
FRON				AML	AML		
	comp=N,334µm,0.6s						
ATVO	**AVT- Monte Val**	**0.49**	**314**	P	Pg	10 44 27.7	+0.4
ATVO				S	Sb	10 44 35.8	-0.3
ATVO				AML	AML		
	comp=E,472µm,0.8s						
ATVO				AML	AML		
	comp=N,312µm,0.3s						
SMA1	**SAN MARTINO**	**0.53**	**142**	P	Pb	10 44 29.0	-0.5
SMA1				AML	AML		
	comp=N,262µm,0.3s						
SMA1				AML	AML		
	comp=E,326µm,1.4s						
ATPI	**Pietralunga -**	**0.54**	**319**	P	Pg	10 44 28.7	+0.5
ATPI				S	Sb	10 44 37.4	-0.2
ATPI				AML	AML		
	comp=N,318µm,0.2s						
ATPI				AML	AML		
	comp=E,218µm,0.4s						
MPAG	**Monte Paganucc**	**0.59**	**351**	P	Pb	10 44 29.9	-0.6
MPAG				S	Sb	10 44 39.2	+0.1
MPAG				AML	AML		
	comp=E,302µm,0.6s						
MPAG				AML	AML		
	comp=N,192µm,0.7s						
NARO	**Abbazia di Nar**	**0.61**	**338**	P	Pg	10 44 29.7	+0.1
NARO				S	Sb	10 44 39.6	+0.1
NARO				AML	AML		
	comp=E,142µm,0.3s						
NARO				AML	AML		
	comp=N,93µm,1.6s						
FSSB	**Fossombrone**	**0.65**	**353**	P	Pg	10 44 30.6	+0.3
FSSB				S	Sb	10 44 41.4	+0.7
FSSB				AML	AML		
	comp=N,419µm,1.4s						
FSSB				AML	AML		
	comp=E,352µm,0.4s						
FIAM	**Fiamignano**	**0.80**	**168**	S	Sb	10 44 46.0	+1.0

ROM 07 10:45:01.8±0.1, 43°.048N±0°.003×12°.889E±0°.005, h7km, ML2.3/28, Error ellipse: s-maj=0.3km s-min=0.3km az=215.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CESI	**CESI - Serrava**	**0.04**	**165**	P	Pg	10 45 03.5	+0.2
CESI				S	Sg	10 45 04.5	0.0
CESI				AML	AML		
	comp=N,5760µm,1.1s						
CESI				AML	AML		
	comp=E,3065µm,0.3s						
FIU1	**Fiuminata**	**0.14**	**13**	P	Pg	10 45 05.5	+0.7
FIU1				S	Sg	10 45 07.7	+0.8
FIU1				AML	AML		
	comp=N,2348µm,0.2s						
FIU1				AML	AML		
	comp=E,2845µm,0.2s						
FDMO	**Fiordimonte**	**0.15**	**94**	P	Pg	10 45 05.5	+0.6
FDMO				S	Sg	10 45 08.3	+1.4
FDMO				AML	AML		
	comp=E,2210µm,0.4s						
FDMO				AML	AML		
	comp=N,2285µm,0.2s						
FDMO				AML	AML		
	comp=E,2205µm,0.4s						
SNTG	**Esanatoglia**	**0.21**	**10**	P	Pg	10 45 06.6	+0.6
SNTG				S	Sg	10 45 10.2	+1.4
SNTG				AML	AML		
	comp=N,1520µm,0.1s						
SNTG				AML	AML		
	comp=E,1175µm,0.2s						
ATCC	**AVT- Casa Cast**	**0.23**	**307**	P	Pg	10 45 07.0	+0.7
ATCC				S	Sg	10 45 11.2	+1.7
ATCC				AML	AML		
	comp=E,1248µm,0.5s						
ATCC				AML	AML		
	comp=E,1246µm,0.5s						
ATCC				AML	AML		
	comp=N,1062µm,0.3s						
ATCC				AML	AML		
	comp=E,1247µm,0.5s						
ATCC				AML	AML		
	comp=N,1063µm,0.3s						
CSP1	**Cessapalombo**	**0.24**	**79**	P	Pg	10 45 07.2	+0.7
CSP1				S	Sg	10 45 11.5	+1.8
CSP1				AML	AML		
	comp=E,1195µm,0.4s						
CSP1				AML	AML		
	comp=N,1360µm,0.5s						
CSP1				AML	AML		
	comp=E,1190µm,0.4s						
CSP1				AML	AML		
	comp=N,1358µm,0.5s						
CSP1				AML	AML		
	comp=E,1194µm,0.4s						
CSP1				AML	AML		
	comp=N,1360µm,0.5s						
FOSV	**Fossato di Vic**	**0.26**	**339**	P	Pg	10 45 07.7	+0.7
FOSV				S	Sb	10 45 12.3	-1.3
FOSV				AML	AML		
	comp=E,638µm,0.7s						
FOSV				AML	AML		
	comp=N,910µm,0.3s						
NRCA	**Norcia**	**0.27**	**142**	P	Pg	10 45 07.8	+0.6
NRCA				S	Sb	10 45 12.7	-1.1
NRCA				AML	AML		
	comp=E,1180µm,0.1s						
NRCA				AML	AML		
	comp=N,1590µm,1.3s						
EL6	**Elcito**	**0.32**	**29**	P	Pg	10 45 08.8	+0.6
EL6				S	Sb	10 45 14.2	-1.1
EL6				AML	AML		
	comp=E,4735µm,1.3s						
EL6				AML	AML		
	comp=N,3165µm,0.9s						
EL6				AML	AML		
	comp=N,3160µm,0.9s						
EL6				AML	AML		
	comp=N,3170µm,0.9s						
EL6				AML	AML		
	comp=E,4745µm,1.3s						
MOMA	**Monte Martano**	**0.34**	**224**	P	Pb	10 45 09.6	-0.6
MOMA				S	Sb	10 45 15.1	-0.6
MOMA				AML	AML		
	comp=E,478µm,1.4s						
MOMA				AML	AML		
	comp=N,379µm,1.4s						
MOMA				AML	AML		
	comp=N,380µm,1.4s						
MURB	**Monte Urbino**	**0.34**	**309**	P	Pg	10 45 09.2	+0.7
MURB				S	Sb	10 45 15.6	-0.4
MURB				AML	AML		
	comp=N,1260µm,0.3s						
MURB				AML	AML		
	comp=N,1258µm,0.3s						
MURB				AML	AML		
	comp=E,1405µm,0.2s						
MURB				AML	AML		
	comp=E,1450µm,0.2s						
MURB				AML	AML		
	comp=N,1335µm,1.0s						
ATFO	**Monte Foce - G**	**0.39**	**324**	P	Pg	10 45 10.1	+0.6
ATFO				S	Sb	10 45 16.8	-0.6
ATFO				AML	AML		
	comp=E,558µm,0.5s						
ATFO				AML	AML		
	comp=N,522µm,0.2s						
SSFR	**Montelago di S**	**0.40**	**349**	P	Pg	10 45 09.9	+0.4
SSFR				S	Sb	10 45 16.6	-0.9
SSFR				AML	AML		
	comp=E,1565µm,1.2s						
SSFR				AML	AML		
	comp=N,1400µm,0.2s						
SSFR				AML	AML		
	comp=E,1675µm,1.2s						
SSFR				AML	AML		
	comp=N,1315µm,0.7s						
SSFR				AML	AML		
	comp=E,1680µm,1.2s						
SSFR				AML	AML		
	comp=N,1400µm,0.2s						
SSFR				AML	AML		
	comp=N,1320µm,0.7s						
SSFR				AML	AML		
	comp=E,1560µm,1.2s						
CING	**Cingoli**	**0.40**	**34**	P	Pg	10 45 10.1	+0.6
CING				S	Sb	10 45 16.9	-0.6
CING				AML	AML		
	comp=N,1775µm,0.4s						
CING				AML	AML		
	comp=E,957µm,0.3s						
ATTE	**AVT- Monte Tez**	**0.42**	**291**	P	Pg	10 45 10.4	+0.5
ATTE				S	Sb	10 45 17.8	-0.3
ATTE				AML	AML		
	comp=E,138µm,1.4s						
ATTE				AML	AML		
	comp=N,136µm,1.4s						
ATTE				AML	AML		
	comp=E,139µm,1.4s						
ATTE				AML	AML		
	comp=N,137µm,1.4s						
ARVD	**Arcevia**	**0.45**	**5**	P	Pg	10 45 10.9	+0.3
ARVD				S	Sb	10 45 18.4	-0.7
ARVD				AML	AML		
	comp=E,307µm,0.7s						
ARVD				AML	AML		
	comp=N,208µm,0.1s						
ARVD				AML	AML		
	comp=N,208µm,0.1s						
ARVD				AML	AML		
	comp=E,308µm,0.7s						
LNSS	**Leonessa**	**0.46**	**166**	P	Pg	10 45 11.1	+0.5
LNSS				S	Sb	10 45 18.6	-0.6
LNSS				AML	AML		
	comp=E,1225µm,0.2s						
LNSS				AML	AML		
	comp=N,952µm,0.3s						
LNSS				AML	AML		
	comp=E,1230µm,0.2s						

LNSS				AML	AML		
	comp=N,950μm,0.3s						
ATVO	**AVT- Monte Val**	**0.49**	**314**	P	Pg	10 45 11.5	+0.4
ATVO				S	Sb	10 45 19.6	-0.4
ATVO				AML	AML		
	comp=E,473μm,0.8s						
ATVO				AML	AML		
	comp=N,313μm,0.3s						
ATVO				AML	AML		
	comp=E,472μm,0.8s						
ATVO				AML	AML		
	comp=N,312μm,0.3s						
SMA1	**SAN MARTINO**	**0.53**	**142**	P	Pg	10 45 12.4	+0.4
SMA1				S	Sb	10 45 21.6	+0.3
SMA1				AML	AML		
	comp=E,324μm,1.4s						
SMA1				AML	AML		
	comp=N,262μm,0.3s						
SMA1				AML	AML		
	comp=E,326μm,1.4s						
ATMI	**Monte Miggiano**	**0.54**	**302**	P	Pb	10 45 13.7	+0.1
ATMI				S	Sb	10 45 21.6	+0.1
ATMI				AML	AML		
	comp=E,265μm,0.4s						
ATMI				AML	AML		
	comp=N,204μm,1.1s						
ATMI				AML	AML		
	comp=E,266μm,0.4s						
ATPI	**Pietralunga -**	**0.54**	**319**	P	Pg	10 45 12.6	+0.4
ATPI				S	Sb	10 45 21.3	-0.2
ATPI				AML	AML		
	comp=N,318μm,0.2s						
ATPI				AML	AML		
	comp=E,218μm,0.4s						
MPAG	**Monte Paganucc**	**0.59**	**351**	P	Pg	10 45 13.4	+0.2
MPAG				S	Sb	10 45 23.1	0.0
MPAG				AML	AML		
	comp=E,301μm,0.6s						
MPAG				AML	AML		
	comp=N,192μm,0.7s						
MPAG				AML	AML		
	comp=E,302μm,0.6s						
MPAG				AML	AML		
	comp=N,192μm,0.7s						
NARO	**Abbazia di Nar**	**0.61**	**338**	P	Pg	10 45 13.6	+0.1
NARO				S	Sb	10 45 23.5	+0.1
NARO				AML	AML		
	comp=E,142μm,0.3s						
NARO				AML	AML		
	comp=N,93μm,1.6s						
NARO				AML	AML		
	comp=E,142μm,0.3s						
NARO				AML	AML		
	comp=N,93μm,1.6s						
FSSB	**Fossombrone**	**0.65**	**353**	P	Pg	10 45 14.5	+0.2
FSSB				S	Sb	10 45 25.1	+0.3
FSSB				AML	AML		
	comp=N,420μm,1.4s						
FSSB				AML	AML		
	comp=E,352μm,0.4s						
FSSB				AML	AML		
	comp=N,419μm,1.4s						
TERO	**Teramo**	**0.68**	**129**	P	Pg	10 45 14.8	0.0
TERO				S	Sb	10 45 25.6	+0.1
TERO				AML	AML		
	comp=N,60μm,0.4s						
TERO				AML	AML		
	comp=E,43μm,0.8s						
CAFI	**Castiglion Fio**	**0.73**	**293**	P	Pb	10 45 16.4	-0.4
CAFI				AML	AML		
	comp=N,62μm,0.4s						
CAFI				AML	AML		
	comp=N,62μm,0.4s						
CAFI				AML	AML		
	comp=E,77μm,0.3s						
PARC	**Parchiule**	**0.77**	**322**	P	Pg	10 45 16.8	+0.3
PARC				S	Sn	10 45 29.7	-1.1
PARC				AML	AML		
	comp=E,127μm,0.5s						
PARC				AML	AML		
	comp=N,108μm,0.2s						
GUMA	**Gualdo di Mace**	**0.77**	**89**	P	Pg	10 45 09.2	-7.3
GUMA				S	Sg	10 45 15.2	-11
GUMA				AML	AML		
	comp=E,1940μm,0.4s						
GUMA				AML	AML		
	comp=N,1835μm,0.3s						
GUMA				AML	AML		
	comp=E,2880μm,0.3s						
GUMA				AML	AML		
	comp=E,1945μm,0.4s						
GUMA				AML	AML		
	comp=N,1940μm,0.5s						
FIAM	**Fiamignano**	**0.80**	**168**	AML	AML		
	comp=N,102μm,1.4s						
FIAM				AML	AML		
	comp=N,101μm,1.4s						
FIAM				AML	AML		
	comp=E,122μm,0.3s						

*ISCJB **07** 10:47:02.8±0.5, 53.°70N±0.°07×174.°4W±0.°1, h200km, mb3.0/4, Error ellipse: s-maj=13.1km s-min=5.3km az=135.7*

*IDC **07** 10:47:03.0±6.5, 53.°01N×174.°11W, h223km±67km, mb2.8/4, mb1 3.2/7, mb1mx2.9/69, mbtmp3.6/7, Error ellipse: s-maj=52.2km s-min=28.3km az=169.0*

*AEIC **07** 10:47:05.1±2.3, 50.°25N±0.°07×173.°9W±0.°1, h20km±9km, ML2.6*

ISC 07 10:47:03.0±0.7, **53.°7N**±0.°1×**174.°27W**±0.°08, **h200**km, **n27**, σ1§**74**/34, **mb3.1**/4, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**1.38**	**176**		**Pn**	**10 47 38.0**	**+2.3**
KOFP					**Sn**	**10 48 05.1**	**+4.1**
ATKA	**Atka Island**	**1.45**	**178**		**Pn**	**10 47 35.9**	**-0.3**
ATKA				Sn	**Sn**	**10 48 03.7**	**+1.8**
GSTR	**Great Sitkin T**	**1.90**	**216**		**Pn**	**10 47 41.4**	**+0.9**
GSTR				Sn	**Sn**	**10 48 10.3**	**+0.7**
GSMY	**Great Sitkin M**	**1.94**	**215**		**Pn**	**10 47 41.2**	**+0.4**
GSIG	**Igitkin Island**	**1.94**	**212**		**Pn**	**10 47 40.8**	**-0.1**
GSIG					**Sn**	**10 48 08.5**	**-1.8**
GSTD	**Great Sitkin T**	**1.96**	**216**		**Pn**	**10 47 41.7**	**+0.5**
GSTD					**Sn**	**10 48 10.5**	**-0.2**
ADAG	**Mount Adagdak**	**2.19**	**221**		**Pn**	**10 47 44.3**	**+0.9**
ADK	**Adak**	**2.30**	**221**		**Pn**	**10 47 44.6**	**0.0**
ADK	**Adak**	**2.30**	**221**	Pn	**Pn**	**10 47 44.2**	**-0.4**
ADK				Sn	**Sn**	**10 48 14.8**	**-2.1**
KINC	**Kanaga Island**	**2.44**	**226**		**Pn**	**10 47 46.7**	**+0.5**
KIWB	**Kanaga Island**	**2.51**	**225**	Pn	**Pn**	**10 47 46.7**	**-0.2**
KIMD	**Kanaga Island**	**2.61**	**225**		**Pn**	**10 47 47.5**	**-0.6**
TAFP	**Tanaga Falls P**	**2.85**	**234**		**Pn**	**10 47 51.6**	**+0.7**
TASE	**Tanaga Southea**	**2.92**	**233**		**Pn**	**10 47 52.3**	**+0.6**
KDAK	**Kodiak Island**	**12.89**	**63**	P	**Pn**	**10 50 00.4**	**+1.6**
	1.9nm,0.3s,baz=282,slow=9.3,SNR=32						
KDAK				S	**S**	**10 52 18.5**	**-3.8**
	0.2nm,0.3s,baz=332,slow=11,SNR=3.5						
PETK	**Petropavlovsk-**	**16.70**	**280**	P	**P**	**10 50 45.1**	**+0.8**
	0.5nm,0.3s,baz=78,slow=14,SNR=8.7						
PETK	**Petropavlovsk-**	**16.70**	**280**		**P**	**10 50 45.1**	**+0.8**
ILAR	**Eielson Array**	**17.73**	**40**	P	**Pn**	**10 50 59.2**	**+1.8**
	0.1nm,0.3s,baz=239,slow=9.8,SNR=14						
ILAR	**Eielson Array**	**17.73**	**40**		**Pn**	**10 50 59.2**	**+1.8**
INK	**Inuvik**	**24.00**	**37**	P	**P**	**10 52 01.1**	**+2.3**
	0.4nm,0.3s,baz=243,slow=6.0,SNR=4.9						
INK	**Inuvik**	**24.00**	**37**		**P**	**10 52 01.1**	**+2.3**
YKA	**Yellowknife Ar**	**31.65**	**50**	P	**P**	**10 53 07.7**	**+0.7**
	0.1nm,0.5s,baz=281,slow=8.9,SNR=4.1						
YKA	**Yellowknife Ar**	**31.65**	**50**		**P**	**10 53 07.7**	**+0.7**
PDAR	**Pinedale Array**	**43.04**	**77**	P	**P**	**10 54 41.2**	**-1.7**
	0.3nm,0.6s,baz=317,slow=2.6,SNR=3.9						
PDAR	**Pinedale Array**	**43.04**	**77**		**P**	**10 54 41.2**	**-1.7**
TXAR	**Lajitas Array**	**55.65**	**86**	P	**P**	**10 56 15.6**	**-2.7**
	0.2nm,0.4s,baz=297,slow=3.5,SNR=4.5						
TXAR	**Lajitas Array**	**55.65**	**86**		**P**	**10 56 15.6**	**-2.7**

IDC 07 10:55:04.8±58.0, **15.°81S**×**168.°03E**, **h0**km, **mb4.1**/3, **mb1 4.3**/3, **mb1mx3.7**/39, **mbtmp4.1**/3, **Error ellipse: s-maj=977.1km s-min=117.8km az=68.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**28.88**	**232**	P	P	11 01 05.3	0.0
	0.8nm,0.4s,baz=70,slow=6.3,SNR=3.9						
WRA	**Warramunga Arr**	**32.30**	**258**	P	P	11 01 35.7	-0.1
	0.6nm,0.4s,baz=90,slow=8.8,SNR=4.2						
ASAR	**Alice Springs**	**33.00**	**251**	P	P	11 01 41.9	0.0
	2.2nm,0.5s,baz=78,slow=9.2,SNR=69						

ROM 07 11:04:50.0±0.1, **38.°140N**±0.°004×**14.°881E**±0.°005, **h15**km±1km, **ML2.4**/10, **Error ellipse: s-maj=0.4km s-min=0.3km az=25.0, Sicily**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MUCR	**Ucria**	**0.10**	**183**	P	Pg	11 04 53.5	+0.2
MUCR				S	Sg	11 04 56.2	+0.7
MUCR				AML	AML		
	comp=N,1240μm,0.9s						
MUCR				AML	AML		
	comp=E,1925μm,0.1s						
MCPD	**Capo d'Orlando**	**0.12**	**260**	P	Pg	11 04 53.6	+0.1
MCPD				S	Sg	11 04 56.2	+0.4
MCPD				AML	AML		
	comp=N,2720μm,0.2s						
MCPD				AML	AML		
	comp=E,1945μm,0.2s						
NOV	**Novara**	**0.23**	**119**	P	Pg	11 04 55.4	+0.2
NOV				S	Sb	11 04 59.4	-0.6
NOV				AML	AML		
	comp=E,1905μm,1.4s						
NOV				AML	AML		
	comp=N,1415μm,0.3s						
VPL	**Vulcano Piano**	**0.25**	**19**	P	Pb	11 04 56.0	-0.3
VPL				AML	AML		
	comp=N,2190μm,0.8s						
VPL				AML	AML		
	comp=E,2315μm,0.2s						
MNO	**Monte Soro**	**0.25**	**215**	P	Pg	11 04 56.0	+0.4
MNO				S	Sb	11 05 00.2	-0.6
MNO				AML	AML		
	comp=E,944μm,0.2s						
MNO				AML	AML		
	comp=N,1250μm,0.6s						
MNO				AML	AML		
	comp=E,944μm,0.2s						
MCSR	**Castroreale**	**0.30**	**105**	P	Pg	11 04 56.2	-0.2
MCSR				S	Sg	11 05 01.1	+0.4
MCSR				AML	AML		
	comp=N,898μm,0.2s						
MCSR				AML	AML		
	comp=E,764μm,0.3s						
AIO	**Antillo**	**0.33**	**121**	P	Pg	11 04 57.0	+0.2
AIO				S	Sg	11 05 02.0	+0.6
MPNC	**Port Mandanici**	**0.37**	**89**	P	Pg	11 04 57.8	+0.2
MPNC				S	Sb	11 05 03.8	-0.2
MPNC				AML	AML		
	comp=E,401μm,0.6s						
MPNC				AML	AML		
	comp=N,304μm,1.4s						
IFIL	**Filicudi i Eol**	**0.49**	**330**	P	Pg	11 05 00.0	+0.2
IFIL				S	Sb	11 05 07.3	-0.1
IFIL				AML	AML		
	comp=E,3290μm,0.8s						
IFIL				AML	AML		
	comp=N,1110μm,0.5s						
MSRU	**Castanea**	**0.51**	**76**	P	Pg	11 05 00.1	-0.1
IACL	**Alicudi**	**0.57**	**314**	P	Pg	11 05 00.5	-0.8
IACL				S	Sb	11 05 09.6	0.0
IACL				AML	AML		
	comp=E,518μm,0.4s						
IACL				AML	AML		
	comp=N,578μm,0.9s						
GMB	**Gambarie**	**0.75**	**88**	AML	AML		
	comp=N,350μm,1.0s						
GMB				AML	AML		
	comp=E,325μm,0.9s						
HLNI	**Lentini**	**0.79**	**181**	P	Pg	11 05 05.1	-0.3

ROM 07 11:05:47.9±0.2, **38.°114N**±0.°007×**14.°86E**±0.°01, **h19**km±1km, **ML1.7**/4, **Error ellipse: s-maj=0.9km s-min=0.7km az=240.0, Sicily**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MUCR	**Ucria**	**0.07**	**169**	P	Pg	11 05 51.7	+0.1
MUCR				S	Sg	11 05 54.6	+0.4
MUCR				AML	AML		
	comp=N,314μm,0.4s						
MUCR				AML	AML		
	comp=E,312μm,1.3s						
MCPD	**Capo d'Orlando**	**0.10**	**274**	P	Pg	11 05 51.8	+0.1
MCPD				S	Sg	11 05 54.5	+0.2
MCPD				AML	AML		
	comp=N,558μm,0.1s						
MCPD				AML	AML		
	comp=E,382μm,0.7s						
NOV	**Novara**	**0.24**	**111**	P	Pg	11 05 53.7	+0.1
NOV				S	Sg	11 05 57.8	+0.3
NOV				AML	AML		
	comp=E,304μm,0.9s						
NOV				AML	AML		
	comp=N,210μm,0.3s						
VPL	**Vulcano Piano**	**0.28**	**21**	P	Pb	11 05 54.3	0.0
VPL				S	Sg	11 05 59.3	+0.7
MCSR	**Castroreale**	**0.31**	**99**	P	Pg	11 05 54.5	-0.3
MCSR				S	Sg	11 05 59.3	-0.3
MCSR				AML	AML		
	comp=E,134μm,0.2s						
MCSR				AML	AML		
	comp=N,154μm,0.2s						
AIO	**Antillo**	**0.33**	**115**	P	Pb	11 05 55.5	+0.3
AIO				S	Sb	11 06 00.3	+0.2

ROM 07 11:06:01.6±0.2, **38.°125N**±0.°007×**14.°867E**±0.°008, **h19**km±1km, **ML1.7**/2, **Error ellipse: s-maj=0.8km s-min=0.6km az=223.0, Sicily**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MUCR	**Ucria**	**0.08**	**176**	P	Pg	11 06 05.5	+0.1
MUCR				S	Sg	11 06 08.3	+0.5
MUCR				AML	AML		
	comp=E,312μm,1.3s						
MUCR				AML	AML		
	comp=N,314μm,0.4s						
MCPD	**Capo d'Orlando**	**0.11**	**267**	P	Pg	11 06 05.5	+0.1
MCPD				S	Sg	11 06 08.1	+0.1
MCPD				AML	AML		
	comp=N,558μm,0.1s						
MCPD				AML	AML		
	comp=E,382μm,0.7s						
NOV	**Novara**	**0.23**	**114**	P	Pg	11 06 07.4	+0.2
NOV				S	Sg	11 06 11.2	+0.2
VPL	**Vulcano Piano**	**0.27**	**20**	P	Pb	11 06 08.0	+0.2
VPL				S	Sb	11 06 12.6	+0.7
MCSR	**Castroreale**	**0.31**	**101**	P	Pg	11 06 08.2	-0.2
MCSR				S	Sg	11 06 12.8	-0.2
AIO	**Antillo**	**0.33**	**118**	P	Pb	11 06 09.2	+0.2
AIO				S	Sb	11 06 13.8	0.0
MPNC	**Port Mandanici**	**0.38**	**87**	P	Pg	11 06 09.7	+0.1
MPNC				S	Sb	11 06 15.5	0.0

*SOME **07** 11:11:10.2, 44.°60N×82.°22E, h20km*
*NNC **07** 11:11:13.4±1.1, 44.°75N×82.°00E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=11.8km s-min=4.5km az=119.0*

ISC 07 11:11:07.2±2.1, **44.°55N**±0.°07×**82.°6E**±0.°1, **h2**km±17km, **n15**, σ1§**54**/27, **4C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.93**	**236**	P	**Pg**	**11 11 44.5**	**+0.3**
	3.0nm,0.1s						
KTMS				S	**Sb**	**11 12 08.9**	**+1.2**
	35nm,0.4s						
DJR	**Jarkent**	**1.99**	**265**	*e*P	**Pn**	**11 11 42.3**	**+0.4**
	2.8nm,0.3s						
DJR				*e*S	**Sn**	**11 12 05.2**	**-2.3**
	16nm,0.4s						
MK31	**Makanchi Array**	**2.25**	**356**	⇓Pn	**Pb**	**11 11 49.0**	**+0.3**
	2.7nm,0.2s,baz=191,slow=14,SNR=116						
MK31				⇑Sn	**Sb**	**11 12 16.7**	**-0.4**
	1.7nm,0.2s,baz=182,slow=27,SNR=20						
MAKZ	**Makanchi**	**2.30**	**350**	⇑Pn	**Pb**	**11 11 48.6**	**-0.8**
	4.9nm,0.5s						
MAKZ				⇑Sn	**Sb**	**11 12 17.7**	**-0.6**
	15nm,0.5s						
KAPS	**Kapalarasan**	**2.38**	**289**	*e*P	**Pn**	**11 11 48.2**	**+0.8**
	3.9nm,0.2s						
KAPS				*e*S	**Sn**	**11 12 15.8**	**-1.5**
	11nm,0.3s						
KAPS	**Kapalarasan**	**2.38**	**289**	Pg	**Pn**	**11 11 48.2**	**+0.8**
	3.9nm,0.2s						
KAPS				Lg	Lg	11 12 15.4	
	11nm,0.3s						
PDGK	**Podgornoye**	**2.52**	**242**	⇓Pn	**Pb**	**11 11 52.3**	**-1.0**
	1.6nm,0.4s						
PDGK				⇑Sn	**Sb**	**11 12 24.9**	**+0.1**
	8.1nm,0.4s						
SHLS	**Shalkode**	**2.63**	**239**	*e*P	**Pn**	**11 11 51.0**	**+0.2**
	8.7nm,0.2s						
SHLS				*e*S	**Sn**	**11 12 20.4**	**-3.0**
	36nm,0.3s						
TDK	**Taldyqorghan**	**2.98**	**280**	*e*P	**Pb**	**11 11 59.4**	**-1.7**
	43nm,0.5s						
TDK				*e*S	**Sn**	**11 12 35.0**	**+3.0**
	43nm,0.3s						
TDK	**Taldyqorghan**	**2.98**	**280**	Pg	**Pb**	**11 11 59.4**	**-1.7**
	33nm,0.2s						
TDK				Lg	Lg	11 12 35.0	
	31nm,0.3s						
KPKS	**Kokpek**	**2.99**	**250**	*e*P	**Pb**	**11 12 00.9**	**-0.3**
	7.0nm,0.2s						
KPKS				*e*S	**Sb**	**11 12 37.5**	**-0.7**
	32nm,0.4s						
MNBS	**Baschi**	**3.01**	**263**	*e*P	**Pb**	**11 11 59.9**	**-1.8**
	28nm,0.2s						
MNBS				*e*S	**Sn**	**11 12 35.9**	**+3.1**
	21nm,0.2s						
MNBS	**Baschi**	**3.01**	**263**	Pg	**Pb**	**11 11 59.9**	**-1.8**
	15nm,0.3s						
MNBS				Lg	Lg	11 12 36.1	
	21nm,0.2s						
CHKK	**Chushkaly**	**4.06**	**262**	*e*P	**Pb**	**11 12 19.8**	**+0.4**
	1.0nm,0.1s						
CHKK				*e*S	**Sb**	**11 13 09.6**	**+0.7**
	13nm,0.1s						
TNSS	**Tian-Shan**	**4.33**	**252**	*e*P	**Pb**	**11 12 24.6**	**+0.4**
	0.7nm,0.2s						
TNSS				*e*S	**Sb**	**11 13 17.8**	**+0.8**
	4.1nm,0.4s						

IDC 07 11:11:31.8±7.2, **20.°06S**×**177.°63W**, **h490**km±78km, **mb3.1**/3, **mb1 3.4**/4, **mb1mx3.0**/20, **mbtmp4.0**/4, **Error ellipse: s-maj=47.1km s-min=37.7km az=3.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.70**	**193**	P	P	11 15 18.9	0.0
	0.5nm,0.3s,baz=180,slow=1.0,SNR=3.3						
ASAR	**Alice Springs**	**44.96**	**256**	P	P	11 19 02.6	-0.1
	0.6nm,0.7s,baz=98,slow=7.5,SNR=6.6						
ASAR				PcP	PcP	11 20 34.0	+0.1
	0.5nm,0.5s,baz=102,slow=3.9,SNR=6.2						
WRA	**Warramunga Arr**	**45.01**	**262**	P	P	11 19 02.6	-0.5
	3.8nm,0.3s,baz=97,slow=8.3,SNR=14						
WRA				PcP	PcP	11 20 34.6	+0.6
	0.3nm,0.6s,baz=103,slow=3.6,SNR=2.8						
ILAR	**Eielson Array**	**87.81**	**13**	P	P	11 23 28.4	+0.7
	0.2nm,0.4s,baz=214,slow=5.6,SNR=5.6						
AKASG	**Malin Array Be**	**142.80**	**332**	PKP	PKPdf	11 30 06.2	-2.5
	0.5nm,0.3s,baz=42,slow=4.4,SNR=5.9						
GERES	**GERESS Array B**	**149.87**	**345**	PKPbc	PKPbc	11 30 25.5	-0.7
	0.8nm,0.7s,baz=19,slow=3.3,SNR=3.0						

*NNC **07** 11:19:23.4±0.4, 43.°12N×78.°15E, h0km, mb2.3, mpv2.5, Error ellipse: s-maj=5.5km s-min=2.2km az=173.0*
*KRNET **07** 11:19:23.5±0.1, 43.°10N×78.°18E, h28km, mb2.2*
*SOME **07** 11:19:24.0, 43.°10N×78.°18E, h15km*

ISC 07 11:19:23.8±1.0, **43.°09N**±0.°02×**78.°19E**±0.°02, **h33**km±1km, **n35**, σ0§**75**/69, **12C-7D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**0.16**	**100**	*e*P	**Pn**	**11 19 27.8**	**-0.8**
	48nm,0.1s						
SATY				*e*S	**Sn**	**11 19 30.7**	**+1.3**
	169nm,0.1s						
SATY	**Saty**	**0.16**	**100**	P	**Pn**	**11 19 27.8**	**-0.8**
	48nm,0.1s						
SATY				S	**Sn**	**11 19 31.0**	**+1.6**
	169nm,0.1s						
ZHN	**Zhinishke**	**0.20**	**66**	*e*P	**Pn**	**11 19 28.4**	**-1.2**
	7.3nm,0.1s						
ZHN				*e*S	**Sn**	**11 19 31.7**	**+0.1**
	100nm,0.1s						
ZHN	**Zhinishke**	**0.20**	**66**	*e*P	**Pn**	**11 19 28.4**	**-1.2**
	baz=69						
ZHN				*e*S	**Sn**	**11 19 31.7**	**+0.1**
	baz=69						
ZHN	**Zhinishke**	**0.20**	**66**	P	**Pn**	**11 19 28.4**	**-1.2**
	2.7nm,0.1s						
ZHN				S	**Sn**	**11 19 31.7**	**+0.1**
	92nm,0.2s						
ANVS	**Anan'yevo**	**0.49**	**231**	⇑*i*P	**Pb**	**11 19 34.1**	**-0.3**
	baz=31						
ANVS				⇑*i*S	**Sb**	**11 19 40.7**	**-1.0**
	baz=31						
KPKS	**Kokpek**	**0.52**	**44**	*e*P	**Pb**	**11 19 34.1**	**-0.8**
	20nm,0.1s						
KPKS				*e*S	**Sb**	**11 19 41.4**	**-1.0**
	84nm,0.3s						
KPKS	**Kokpek**	**0.52**	**44**	*e*P	**Pb**	**11 19 34.1**	**-0.8**
	baz=46						
KPKS				*e*S	**Sb**	**11 19 41.5**	**-1.0**
	baz=46						
PRZ	**Przheval'sk**	**0.62**	**165**	⇑*i*P	**Pb**	**11 19 37.0**	**+0.4**
	baz=64						
PRZ				⇑*i*S	**Sb**	**11 19 45.3**	**0.0**
	baz=64						
KOTS	**Kotyrbulak**	**0.80**	**281**	*e*P	**Pn**	**11 19 39.0**	**+0.2**
	4.1nm,0.1s						
KOTS				*e*S	**Sb**	**11 19 49.9**	**-0.1**
	14nm,0.2s						
KOTS	**Kotyrbulak**	**0.80**	**281**	*e*P	**Pn**	**11 19 39.0**	**+0.2**
	baz=80						
KOTS				*e*S	**Sb**	**11 19 49.9**	**-0.1**
	baz=80						
KOTS	**Kotyrbulak**	**0.80**	**281**	P	**Pn**	**11 19 39.0**	**+0.2**
	3.9nm,0.1s						
KOTS				S	**Sb**	**11 19 50.0**	**-0.1**
	14nm,0.2s						
MDOK	**Medeo**	**0.84**	**275**	P	**Pn**	**11 19 39.3**	**-0.1**
	0.4nm,0.2s						
MDOK				⇑S	**Sb**	**11 19 50.9**	**-0.2**
	0.2nm,0.2s						
TNSS	**Tian-Shan**	**0.91**	**267**	*e*P	**Pn**	**11 19 40.5**	**-0.1**
	2.8nm,0.3s						
TNSS				*e*S	**Sn**	**11 19 52.3**	**-0.5**
	6.2nm,0.3s						
TNSS	**Tian-Shan**	**0.91**	**267**	*e*P	**Pn**	**11 19 40.5**	**-0.1**
	baz=67						
TNSS				*e*S	**Sb**	**11 19 53.3**	**-0.1**
	baz=67						
TNSS	**Tian-Shan**	**0.91**	**267**	P	**Pn**	**11 19 40.4**	**-0.1**
	2.3nm,0.3s						
TNSS				S	**Sn**	**11 19 52.3**	**-0.5**
	6.3nm,0.3s						
PDGK	**Podgornoye**	**0.98**	**75**	⇓P	**Pn**	**11 19 41.1**	**-0.3**
	0.8nm,0.3s						
PDGK				⇑S	**Sn**	**11 19 54.3**	**+0.1**
	0.7nm,0.3s						
ARXS	**Arharly**	**1.15**	**347**	*e*P	**Pb**	**11 19 45.1**	**-0.2**
	1.6nm,0.3s						
ARXS				*e*S	**Sb**	**11 20 00.2**	**+0.2**
	4.8nm,0.2s						
ARXS	**Arharly**	**1.15**	**347**	P	**Pb**	**11 19 45.1**	**-0.2**
	1.7nm,0.3s						
ARXS				S	**Sb**	**11 20 00.2**	**+0.2**
	4.7nm,0.2s						
IZV	**Izvestkoviy**	**1.15**	**268**	*e*P	**Pb**	**11 19 44.9**	**-0.5**
	1.7nm,0.1s						
IZV				*e*S	**Sb**	**11 19 59.9**	**-0.2**
	4.7nm,0.3s						
IZV	**Izvestkoviy**	**1.15**	**268**	*e*P	**Pb**	**11 19 44.9**	**-0.5**
	baz=67						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
IZV				eS	Sb	11 20 00.0	-0.2
	baz=67						
IZV	Izvestkoviy	1.15	268	P	Pb	11 19 44.9	-0.5
	1.4nm,0.1s						
IZV				S	Sb	11 19 59.9	-0.2
	4.2nm,0.2s						
KDJ	Kajisay	1.21	218	⇑eP	Pb	11 19 46.8	+0.5
	baz=17						
KDJ				⇑iS	Sb	11 20 01.8	0.0
	baz=17						
TARG	Taragay, Kyrgy	1.39	192	⇓iP	Pb	11 19 48.6	-0.8
	baz=92						
TARG				⇓iS	Sb	11 20 07.1	+0.1
	baz=92						
ULHL	Ulahol	1.66	240	⇓iP	Pb	11 19 53.3	-0.7
	baz=40						
ULHL				⇓iS	Sb	11 20 14.7	+0.1
	baz=40						
DJR	Jarkent	1.70	43	eP	Pb	11 19 54.5	0.0
	0.4nm,0.1s						
DJR				eS	Sb	11 20 16.5	+0.8
	2.9nm,0.3s						
DJR	Jarkent	1.70	43	P	Pb	11 19 54.5	0.0
	0.5nm,0.1s						
DJR				S	Sb	11 20 16.5	+0.8
	4.0nm,0.2s						
BOOM	Boomskoye usch	1.76	251	⇓iP	Pb	11 19 54.6	-0.9
	baz=51						
BOOM				⇓iS	Sb	11 20 17.1	-0.2
	baz=51						
DGS	Degeres	1.77	276	eP	Pb	11 19 55.3	-0.5
	1.5nm,0.4s						
DGS				eS	Sb	11 20 17.7	+0.1
	4.6nm,0.5s						
DGS	Degeres	1.77	276	eP	Pb	11 19 55.3	-0.5
	baz=76						
DGS				eS	Sb	11 20 17.8	+0.1
	baz=76						
DGS	Degeres	1.77	276	P	Pb	11 19 55.3	-0.5
	1.9nm,0.3s						
DGS				S	Sb	11 20 17.7	+0.1
	3.8nm,0.6s						
TKM2	Tokmak 2	1.91	266	⇑iP	Pb	11 19 57.4	-0.7
	baz=66						
TKM2				⇑iS	Sb	11 20 20.5	-1.1
	baz=66						
TKM2	Tokmak 2	1.91	266	⇑P	Pn	11 19 56.0	+1.9
	0.3nm,0.5s						
TKM2				⇑S	Sb	11 20 23.1	+1.5
	0.4nm,0.2s						
KAPS	Kapalarasan	2.35	21	eP	Pb	11 20 06.4	+0.8
	1.2nm,0.7s						
KAPS				eS	Sb	11 20 36.8	+2.6
	2.9nm,0.4s						
KAPS	Kapalarasan	2.35	21	Pg	Pb	11 20 06.4	+0.8
	0.8nm,0.4s						
KAPS				Lg	Lg	11 20 36.9	
	2.4nm,0.4s						

*THR **07** 11:34:03.4, 27.°31N×56.°09E, h14km, ML3.0*
*ISCJB **07** 11:34:09.8±1.1, 27.°66N±0.°07×56.°3E±0.°3, h14km, Error ellipse: s-maj=39.1km s-min=8.3km az=9.6*
*OMAN **07** 11:34:19.5±4.5, 27.°11N×56.°27E, h84km±5km, ml2.5/6, Error ellipse: s-maj=89.5km s-min=14.0km az=352.0*
ISC 07 11:34:10.1±1.9**, 27.°7N**±0.°1×**56.°3E**±0.°3**, h14km, n13, σ0.s86**/11**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.27	197	ePg	Pg	11 34 07.0	-8.9
BNDS	Bandar-Abbas	0.27	197	eAML	AML	11 34 11.2	
	comp=E,6μm,0.4s						
BANOM	Banah	1.73	179	P	Pb	11 34 41.0	-0.7
	SNR=20						
BANOM				P	Pb	11 34 41.0	-0.7
	SNR=20						
MDH	Madha	2.35	179	P	Pn	11 34 49.3	+1.0
KRBR	Kerman	2.36	11	ePn	Pn	11 34 49.0	+0.3
KRBR	Kerman	2.36	11	eAML	AML	11 35 29.9	
	comp=E,56nm,0.2s						
KRBR	Kerman	2.36	11	eAML	AML	11 35 26.1	
	comp=N,51nm,0.3s						
UOSS	Minazif	2.70	181	P	Pn	11 34 53.7	+0.5
	SNR=5.6						
HATD	Hatta, Dubai	2.82	182	P	Pn	11 34 55.2	+0.4
ASHO	Ashiyiah	2.97	184	P	Pn	11 34 57.8	+1.0
WSAR	Wadi Sarin	4.89	154	P	Pn	11 35 24.1	+0.8
	SNR=8.2						
BSRN	Basiran	4.96	29	eSg	Sg	11 36 48.6	-0.9
BSRN				ePn	Pn	11 35 25.4	+1.1
WHFO	Wadi Hawf	9.96	194	P	Pn	11 36 33.0	+0.1
	SNR=11						

*IDC **07** 11:38:40.4±47.0, 48.°44S×116.°47E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.7/31, mbtmp4.1/4, ML2.2/1, Error ellipse: s-maj=791.2km s-min=78.8km az=48.0*
ISC 07 11:39:02.1±1.2**, 46.°2S**±0.°2×**118.°0E**±0.°3**, h10km, n7, σ1.s13**/7**, mb3.8**/3**, South of Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	13.29	357	Pn	P	11 42 20.0	-0.6
	0.5nm,0.3s,baz=181,slow=13,SNR=12						
STKA	Stephens Creek	23.17	60	P	P	11 44 07.5	-1.2
	0.9nm,0.3s,baz=247,slow=7.7,SNR=3.8						
ASAR	Alice Springs	25.93	35	P	P	11 44 35.8	+1.3
	2.3nm,0.7s,baz=203,slow=8.4,SNR=29						
WRA	Warramunga Arr	29.46	33	P	P	11 45 07.4	+1.2
	0.8nm,0.6s,baz=202,slow=8.5,SNR=5.3						
SNAA	Sanae	55.23	199	P	P	11 48 34.8	+0.1
VNA2	Neumayer--Watz	56.79	199	P	P	11 48 46.0	+0.1
	baz=124,slow=7.3						
VNA3	Neumayer Olymp	57.05	198	P	P	11 48 47.4	-0.3

*NNC **07** 11:43:11.1±3.0, 39.°33N×75.°17E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=21.4km s-min=17.4km az=149.0*
*KRNET **07** 11:43:23.4±0.1, 39.°67N×75.°30E, mb2.7*
ISC 07 11:43:20.0±2.2**, 39.°62N**±0.°08×**75.°24E**±0.°04**, h3km**±15km**, n25, σ1.s56**/37**, 16C-11D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.90	17	⇑eP	Pg	11 43 57.0	+0.6
	baz=16						
NRN				⇑iS	Sg	11 44 22.0	+1.0
	baz=16						
ARLS	Aral	2.34	343	⇑iP	Pg	11 44 05.4	+0.5
	baz=42						
ARLS				⇑iS	Sg	11 44 35.2	-0.1
	baz=42						
ARSB	Arslanbob	2.42	315	⇓iP	Pg	11 44 06.5	+0.1
	baz=14						
ARSB				⇓iS	Sg	11 44 38.3	+0.5
	baz=14						
KZA	Kyzart	2.45	0	⇑iP	Pg	11 44 06.2	-0.8
	baz=59						
KZA				⇑iS	Sb	11 44 37.0	+1.2
	baz=59						
UCH	Uchtor	2.66	348	⇑iP	Pb	11 44 09.2	+0.6
	baz=47						
UCH				⇑iS	Sb	11 44 42.4	+0.6
	baz=47						
AML	Almayashu	2.77	335	⇑iP	Pb	11 44 10.7	+0.4
	baz=34						
AML				⇑iS	Sb	11 44 45.2	+0.4
	baz=34						
TARG	Taragay, Kyrgy	2.87	42	⇑iP	Pb	11 44 11.9	-0.2
	baz=42						
TARG				⇑iS	Sb	11 44 47.1	-0.6
	baz=42						
KDJ	Kajisay	2.91	30	⇓eP	Pb	11 44 12.0	-0.5
	baz=30						
KDJ				⇓iS	Sb	11 44 47.4	-1.1
	baz=30						
BOOM	Boomskoye usch	2.91	10	⇓iP	Pb	11 44 12.1	-0.6
	baz=10.0						
BOOM				⇓eS	Sb	11 44 48.4	-0.4
	baz=10.0						
KBK	Karagaybulak	3.04	356	⇑iP	Pb	11 44 13.9	-0.9
	baz=55						
KBK				⇑iS	Sb	11 44 50.8	-1.6
	baz=55						
AAK	Ala-Archa	3.06	350	⇓Pg	Pb	11 44 14.7	-0.6
	3.1nm,0.8s						
AAK				Lg	Lg	11 44 59.8	
	4.3nm,0.7s						
TKM2	Tokmak 2	3.31	5	⇑iP	Pb	11 44 17.8	-1.6
	baz=4.0						
TKM2				⇑iS	Sb	11 44 57.6	-2.5
	baz=4.0						
TKM2	Tokmak 2	3.31	5	⇓Pg	Pb	11 44 18.3	-1.1
	3.1nm,0.6s						
TKM2				⇓Lg	Lg	11 45 02.2	
	4.2nm,0.5s						
BTK	Batken	3.43	279	⇓iP	Pb	11 44 20.7	-0.8
	baz=78						
BTK				⇓iS	Sb	11 45 02.1	-1.6
	baz=78						
KST	Kastek	3.46	9	Pg	Pn	11 44 17.2	+2.3
	2.9nm,0.3s						
KST				Lg	Lg	11 45 08.5	
	9.0nm,0.5s						
MRKS	Merke	3.47	335	Pg	Pn	11 44 16.3	+1.3
	2.9nm,0.4s						
MRKS				Lg	Lg	11 45 06.9	
	2.7nm,0.5s						
IZV	Izvestkoviy	3.56	16	Pg	Pb	11 44 21.6	-2.1
	1.2nm,0.4s						
IZV				Lg	Lg	11 45 16.3	
	9.7nm,0.6s						
DGS	Degeres	3.64	6	Pg	Pb	11 44 22.1	-2.9
	3.5nm,0.5s						
DGS				Lg	Lg	11 45 17.2	
	6.8nm,0.5s						
TNSS	Tian-Shan	3.65	20	Pg	Pb	11 44 22.3	-3.0
	1.9nm,0.5s						
TNSS				Lg	Lg	11 45 18.0	
	5.4nm,0.6s						
MDOK	Medeo	3.79	20	Pg	Pb	11 44 25.1	-2.5
	1.4nm,0.3s						
MDOK				Lg	Lg	11 45 22.8	
	3.0nm,0.4s						
SGDS	Sogindy	3.85	353	Pg	Pb	11 44 25.7	-3.0
	1.4nm,0.6s						
SGDS				Lg	Lg	11 45 23.0	
	2.8nm,0.7s						
KOTS	Kotyrbulak	3.87	21	Pg	Pb	11 44 26.6	-2.4
	4.5nm,0.5s						
KOTS				Lg	Lg	11 45 25.2	
	18nm,0.5s						
SATY	Saty	4.18	34	Pg	Pb	11 44 32.8	-1.4
	2.2nm,0.5s						
IUG	Iuzhnay	4.69	304	Pg	Pb	11 44 41.2	-1.6
	0.4nm,0.2s						
ARXS	Arharly	4.98	22	Pg	Pb	11 44 48.3	+0.5
	2.0nm,0.5s						

*IDC **07** 11:49:58.0±1.6, 1.°64N×127.°47E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/41, mbtmp3.9/5, ML3.9/1, Error ellipse: s-maj=101.7km s-min=21.2km az=68.0*
*ISCJB **07** 11:50:10.8±0.6, 1.°54N±0.°07×127.°43E±0.°07, h128km, mb3.9/4, Error ellipse: s-maj=10.4km s-min=8.5km az=42.7*
*NEIC **07** 11:50:13.5±0.5, 1.°4N±0.°1×127.°40E±0.°10, h137km±5km, mb4.1/12*
ISC 07 11:50:12.9±0.9**, 1.°5N**±0.°1×**127.°42E**±0.°09**, h128km, n22, σ0.s77**/24**, mb4.1**/9**, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.69	184		Pn	11 50 34.3	+1.3
TNTI				Sn	Sn	11 50 49.7	+1.6
LUWI	Luwuk	5.27	242	Pn	Pn	11 51 29.9	+0.4
LUWI					Sn	11 52 29.6	+0.3
FAKI	Fak Fak	6.50	132	Pn	Pn	11 51 46.4	+0.3
SAUI	Saumlaki	10.15	158	Pn	Pn	11 52 36.0	+0.8
MTN	Manton Dam	14.68	166	Pn	Pn	11 53 32.7	-1.7
KNRA	Kununurra	17.08	176	P	P	11 54 03.3	-0.4
KNRA				IAmb	IAmb	11 54 04.9	
	comp=Z,12nm,1.1s						
FITZ	Fitzroy Crossi	19.51	185	P	P	11 54 29.6	-0.7
	comp=Z,0.3nm,0.3s,baz=23,slow=9.2,SNR=9.4						
FITZ	Fitzroy Crossi	19.51	185	P	P	11 54 29.6	-0.7
WRAB	Tennant Creek	22.32	163	P	P	11 54 59.7	-0.5
WRAB				IAmb	IAmb	11 55 07.3	
	comp=Z,9.2nm,0.8s						
WRA	Warramunga Arr	22.33	163	P	P	11 54 59.7	-0.5
	comp=Z,3.2nm,0.4s,baz=341,slow=11,SNR=2.9						
WB2	Warramunga Arr	22.33	163	P	P	11 54 59.8	-0.5
AS31	Alice Springs	25.76	166	P	P	11 55 31.3	-0.5
ASAR	Alice Springs	25.76	166	P	P	11 55 31.5	-0.3
	comp=Z,0.8nm,0.5s,baz=350,slow=7.4,SNR=25						
BBOO	Buckleboo	35.05	167	P	P	11 56 53.0	-0.5
BBOO				IAmb	IAmb	11 57 11.2	
	comp=Z,5.1nm,1.1s						
EIDS	Eidsvold	35.16	141	P	P	11 56 55.3	+0.8
STKA	Stephens Creek	35.78	159	P	P	11 57 00.2	+0.5
	comp=Z,0.6nm,0.3s,baz=344,slow=10,SNR=4.2						
STKA	Stephens Creek	35.78	159	P	P	11 56 59.0	-0.7
ARMA	Armidale	39.21	146	P	P	11 57 28.4	-0.4
ARMA				IAmb	IAmb	11 57 40.3	
	comp=Z,3.9nm,1.1s						
TLY	Talaya	53.89	342	P	P	11 59 23.2	+0.4
MK31	Makanchi Array	59.80	326	P	P	12 00 04.3	-0.3
MK31				IAmb	IAmb	12 00 15.2	
	comp=Z,2.9nm,1.1s						
MKAR	Makanchi Array	59.80	326	P	P	12 00 04.3	-0.3
	comp=Z,0.7nm,0.4s,baz=119,slow=7.8,SNR=17						
KURK	Kurchatov	64.01	328	P	P	12 00 32.1	-0.6
KURK				IAmb	IAmb	12 00 33.0	
	comp=Z,2.1nm,1.0s						

*KRNET **07** 12:02:16.6±0.1, 41.°40N×78.°57E, h17km, mb2.3*
*SOME **07** 12:02:16.9, 41.°60N×78.°72E, h15km*
*NNC **07** 12:02:17.6±1.0, 41.°61N×78.°69E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=7.3km s-min=4.1km az=170.0*
ISC 07 12:02:15.9±2.0**, 41.°44N**±0.°07×**78.°61E**±0.°05**, h4km**±13km**, n35, σ1.s04**/57**, 14C-5D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	0.67	296	⇑iP	Pg	12 02 29.1	+0.3
	baz=0.0						
TARG				⇑iS	Sg	12 02 38.4	+0.8
	baz=0.0						
PRZ	Przheval'sk	1.06	351	⇑iP	Pn	12 02 37.4	-0.3
	baz=54						
PRZ				⇑iS	Sn	12 02 52.5	-0.5
	baz=54						
KDJ	Kajisay	1.27	303	⇓iP	Pg	12 02 40.7	+0.4
	baz=6.0						
KDJ				⇓iS	Sg	12 02 57.7	+0.8
	baz=6.0						
ANVS	Anan'yevo	1.52	333	⇑iP	Pb	12 02 44.8	+0.1
	baz=35						
ANVS				⇑iS	Sg	12 03 06.0	+1.4
	baz=35						
ULHL	Ulahol	1.95	295	⇑iP	Pb	12 02 52.3	+0.2
	baz=97						
ULHL				⇑iS	Sg	12 03 18.3	-0.1
	baz=97						
NRN	Naryn	1.96	271	⇑iP	Pb	12 02 52.2	-0.2
	baz=72						
NRN				⇑iS	Sg	12 03 18.3	-0.7
	baz=72						
PDGK	Podgornoye	2.00	19	⇑Pg	Pn	12 02 50.1	-0.5
	0.5nm,0.3s						
PDGK				Lg	Lg	12 03 15.4	
	7.1nm,0.4s						
TNSS	Tian-Shan	2.02	323	eP	Pb	12 02 53.4	0.0
	4.6nm,0.2s						
TNSS				eS	Sb	12 03 19.8	+0.7
	5.5nm,0.2s						
TNSS	Tian-Shan	2.02	323	Pg	Pb	12 02 53.4	0.0
	5.3nm,0.2s						
TNSS				Lg	Lg	12 03 19.8	
	5.5nm,0.3s						
KPKS	Kokpek	2.03	1	eP	Pn	12 02 51.3	+0.4
	7.2nm,0.2s						
KPKS				eS	Sn	12 03 15.9	-0.9
	18nm,0.3s						
MDOK	Medeo	2.08	327	eP	Pb	12 02 53.5	-0.8
	0.9nm,0.3s						
MDOK				eS	Sb	12 03 20.0	-0.5
	5.0nm,0.6s						
MDOK	Medeo	2.08	327	Pg	Pb	12 02 53.0	-1.3
	3.2nm,0.6s						
MDOK				Lg	Lg	12 03 20.1	
	4.7nm,0.6s						
MDOK	Medeo	2.08	327	Pg	Pb	12 02 53.5	-0.8
	3.4nm,0.4s						
MDOK				Lg	Lg	12 03 20.0	
	6.3nm,0.5s						
KOTS	Kotyrbulak	2.11	329	eP	Pb	12 02 54.7	-0.1
	5.6nm,0.4s						
KOTS				eS	Sb	12 03 22.1	+0.6
	17nm,0.3s						
KOTS	Kotyrbulak	2.11	329	Pg	Pb	12 02 54.7	-0.1
	5.4nm,0.3s						
KOTS				Lg	Lg	12 03 22.1	
	14nm,0.4s						
IZV	Izvestkoviy	2.18	318	eP	Pb	12 02 55.7	-0.3
	2.2nm,0.2s						
IZV				eS	Sb	12 03 23.5	0.0
	8.1nm,0.5s						
IZV	Izvestkoviy	2.18	318	Pg	Pb	12 02 55.7	-0.3
	2.9nm,0.4s						
IZV				Lg	Lg	12 03 23.5	
	6.7nm,0.3s						
BOOM	Boomskoye usch	2.25	299	⇓iP	Pb	12 02 56.0	-1.3
	baz=0.0						
BOOM				⇓iS	Sb	12 03 25.2	-0.4
	baz=0.0						
MTBS	Maitube	2.34	317	eP	Pb	12 02 59.4	+0.6
	2.9nm,0.1s						
MTBS				eS	Sg	12 03 29.9	-1.2
	8.2nm,0.2s						
MTBS	Maitube	2.34	317	Pg	Pb	12 02 59.4	+0.6
	3.1nm,0.2s						
MTBS				Lg	Lg	12 03 30.4	
	9.9nm,0.2s						
KTMS	Ketmen	2.38	32	eP	Pn	12 02 57.8	+1.9
	0.9nm,0.1s						
KTMS				eS	Sn	12 03 27.3	+1.7
	13nm,0.5s						
KTMS	Ketmen	2.38	32	Pg	Pn	12 02 57.8	+1.9
	0.8nm,0.1s						
KTMS				Lg	Lg	12 03 27.3	
	14nm,0.5s						
KST	Kastek	2.54	310	eP	Pb	12 03 03.1	+1.0
	1.2nm,0.2s						
KST				eS	Sg	12 03 36.2	-1.2
	14nm,0.5s						
KST	Kastek	2.54	310	Pg	Pb	12 03 03.1	+1.0
	3.1nm,0.3s						
KST				Lg	Lg	12 03 36.2	
	13nm,0.5s						
KZA	Kyzart	2.60	285	⇑iP	Pb	12 03 01.6	-1.7
	baz=86						
KZA				⇑iS	Sb	12 03 34.2	-1.5
	baz=86						
KTBS	Karatobe	2.68	329	eP	Pb	12 03 03.8	-0.7
	2.2nm,0.4s						
KTBS				eS	Sb	12 03 37.5	-0.3
	7.1nm,0.4s						
KTBS	Karatobe	2.68	329	Pg	Pb	12 03 03.8	-0.7
	2.4nm,0.3s						
KTBS				Lg	Lg	12 03 37.5	
	6.5nm,0.3s						
TKM2	Tokmak 2	2.69	304	⇓Pg	Pb	12 03 04.9	+0.2
	1.1nm,0.5s						
TKM2				⇑Lg	Lg	12 03 41.4	
	3.7nm,0.4s						
CHKK	Chushkaly	2.69	334	eP	Pb	12 03 05.6	+0.9
	2.8nm,0.5s						
CHKK				eS	Sb	12 03 40.3	+2.1
	7.7nm,0.2s						
DGS	Degeres	2.77	311	eP	Pb	12 03 07.3	+1.2
	1.3nm,0.4s						
DGS				eS	Sg	12 03 43.4	-1.5
	8.1nm,0.5s						
DGS	Degeres	2.77	311	Pg	Pb	12 03 07.3	+1.2
	2.4nm,0.6s						
DGS				Lg	Lg	12 03 43.4	
	8.8nm,0.4s						
ARXS	Arharly	2.83	348	eP	Pb	12 03 05.9	-1.2
	2.6nm,0.8s						
ARXS				eS	Sb	12 03 40.9	-1.3
	10nm,0.6s						
ARXS	Arharly	2.83	348	Pg	Pb	12 03 05.9	-1.2
	2.5nm,0.6s						
ARXS				Lg	Lg	12 03 40.9	
	12nm,0.5s						
DJR	Jarkent	3.02	16	eP	Pb	12 03 08.5	-1.8
	0.6nm,0.2s						
DJR				eS	Sb	12 03 45.2	-2.3
	6.2nm,0.3s						
KAPS	Kapalarasan	3.88	8	eP	Pb	12 03 24.7	-0.3
	1.4nm,1.0s						
KAPS				eS	Sb	12 04 13.0	+0.6
	1.8nm,0.4s						

WEL 07 12:02:51.8, 45.°S±4.°×**16.°8E**±.°**, h73km**±8km**, M3.5**/15**, ML3.6**/7**, MLv3.5**/15**, Error ellipse: s-maj=0.0km s-min=0.0km az=78.3, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.29	30	P	Pn	12 03 03.7	+0.5
MSZ				S	Sn	12 03 12.6	+1.0
MLZ	Mavora Lakes	0.52	148	P	Pn	12 03 06.0	+0.9
MLZ				S	Sn	12 03 16.2	+1.3
DCZ	Deep Cove	0.67	217	P	Pn	12 03 06.7	+0.1
DCZ				S	Sn	12 03 18.6	+1.1
WKZ	Wanaka	0.93	84	P	Pn	12 03 10.5	+0.9
WKZ				S	Sn	12 03 23.5	+0.7
WHZ	Wether Hill Ro	0.98	171	P	Pn	12 03 10.9	+0.7
WHZ				S	Sn	12 03 25.5	+1.6
JCZ	Jackson Bay	1.14	42	P	Pn	12 03 11.9	-0.5
JCZ				S	Sn	12 03 29.0	+1.3
EAZ	Earnscleugh	1.16	106	P	Pn	12 03 13.5	+1.0
EAZ				S	Sn	12 03 28.7	+0.8
TUZ	Tuapeka	1.69	128	P	Pn	12 03 20.3	+1.0
TUZ				S	Sn	12 03 40.2	0.0
LBZ	Lake Benmore	1.84	74	P	Pn	12 03 20.8	-0.5
SYZ	Scrubby Hill	1.89	149	P	Pn	12 03 22.7	+0.7
SYZ				S	Sn	12 03 45.7	+0.8
APZ	The Paps	1.91	175	P	Pn	12 03 23.1	+0.7
FOZ	Fox Glacier	2.05	48	P	Pn	12 03 23.5	-0.7
ODZ	Otahua Downs	2.08	94	P	Pn	12 03 24.3	-0.2
HHSZ	Highcliff Hill	2.24	116	P	Pn	12 03 27.5	+0.8
RPZ	Rata Peaks	2.68	64	P	Pn	12 03 31.2	-1.5
WVZ	Waitaha Valley	2.86	51	P	Pn	12 03 34.4	-0.7
OXZ	Oxford	3.50	64	P	Pn	12 03 41.2	-2.6
MQZ	McQueen's Vall	3.74	73	P	Pn	12 03 45.1	-2.0
CRLZ	Canterbury Las	3.77	71	P	Pn	12 03 46.4	-1.1
AKCZ	Akaroa Harbour	3.86	76	P	Pn	12 03 47.3	-1.5
LTZ	Lake Taylor	3.93	58	P	Pn	12 03 47.0	-2.6
OKCZ	Okains Bay	4.01	74	P	Pn	12 03 49.6	-1.3
GVZ	Greta Valley S	4.31	65	P	Pn	12 03 52.8	-2.0
DSZ	Denniston Nort	4.36	45	P	Pn	12 03 54.8	-0.7
THZ	Tophouse	4.93	52	P	Pn	12 04 00.8	-2.6
QRZ	Quartz Range	5.41	42	P	Pn	12 04 09.4	-0.5
TUWZ	Tuamarina	5.74	55	P	Pn	12 04 15.4	+1.0

*IDC **07** 12:04:57.8±1.2, 24.°30S×179.°81W, h483km±11km, mb3.8/17, mb1 3.9/21, mb1mx3.7/51, mbtmp4.7/21, Error ellipse: s-maj=14.2km s-min=11.5km az=77.0*
*ISCJB **07** 12:04:58.3±0.3, 24.°18S±0.°03×179.°89W±0.°06, h500km, mb4.2/18, Error ellipse: s-maj=7.8km s-min=3.8km az=172.0*
*NEIC **07** 12:04:59.2±1.8, 24.°27S±0.°10×179.°8W±0.°1, h498km±6km, mb4.4/28*
ISC 07 12:04:58.8±0.4**, 24.°25S**±0.°05×**179.°76W**±0.°07**, h500km, n94, σ1.s68**/119**, mb4.4**/32**, 1D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	5.24	162	P	P	12 06 28.4	+0.6
RAO	Raoul Island	5.25	162	P	P	12 06 27.6	-0.3
	86nm,0.3s,baz=60,slow=20,SNR=3.5						
RAO	Raoul Island	5.25	162	P	P	12 06 28.1	+0.3
GLKZ	Green Lake	5.26	162	P	P	12 06 29.9	+1.9
GLKZ				S	S	12 07 40.1	-0.8
MSVF	Nonsavu	6.80	342	P	P	12 06 43.9	+0.7
OUZ	Omahuta	12.36	206	P	P	12 07 42.7	+1.8
OUZ	Omahuta	12.36	206	P	P	12 07 41.8	+0.9
WCZ	Waipu Caves	12.71	202	P	P	12 07 46.6	+1.8
AFI	Afiamalu	12.75	38	P	P	12 07 44.5	-1.0

	4.8nm,0.3s,baz=169,slow=6.1,SNR=9.7						
AFI				S	**S**	**12 09 57.3**	**-5.6**
	3.2nm,0.3s,baz=303,slow=16,SNR=4.4						
AFI	**Afiamalu**	**12.75**	**38**	P	**P**	**12 07 45.2**	**-0.3**
DZM	**Mont Dzumac**	**12.88**	**277**	P	**P**	**12 07 46.3**	**-0.4**
	0.8nm,0.3s,baz=98,slow=18,SNR=8.7						
DZM	**Mont Dzumac**	**12.88**	**277**	P	**P**	**12 07 47.1**	**+0.3**
KUZ	**Kuaotunu**	**13.05**	**196**	P	**P**	**12 07 48.5**	**+0.3**
WMGZ	**Waiomatatini S**	**13.62**	**186**	P	**P**	**12 07 55.8**	**+1.6**
WMGZ				S	**S**	**12 10 18.5**	**-0.5**
HAZ	**Te Kaha**	**13.63**	**188**	P	**P**	**12 07 53.9**	**-0.5**
HAZ				S	**S**	**12 10 19.2**	**0.0**
PKGZ	**Pakihiroa**	**13.72**	**187**	P	**P**	**12 07 58.3**	**+2.9**
PKGZ				S	**S**	**12 10 17.0**	**-4.1**
PUZ	**Puketiti**	**13.88**	**187**	S	**S**	**12 10 21.2**	**-3.0**
TOZ	**Tahuroa Road**	**14.04**	**196**	P	**P**	**12 08 02.3**	**+3.6**
URZ	**Urewera**	**14.22**	**190**	P	**P**	**12 07 57.5**	**-3.1**
	3.1nm,0.3s,baz=278,slow=3.2,SNR=12						
URZ				S	**S**	**12 10 26.4**	**-4.2**
	1.1nm,0.3s,baz=43,slow=22,SNR=12						
URZ	**Urewera**	**14.22**	**190**	P	**P**	**12 07 59.7**	**-0.8**
URZ				S	**S**	**12 10 28.5**	**-2.1**
URZ	**Urewera**	**14.22**	**190**	P	**P**	**12 07 59.9**	**-0.7**
MWZ	**Matawai**	**14.23**	**189**	P	**P**	**12 08 01.4**	**+0.7**
MWZ				S	**S**	**12 10 31.0**	**+0.1**
CNGZ	**Carnagh Statio**	**14.30**	**186**	P	**P**	**12 08 03.6**	**+2.2**
RIGZ	**Rimuhau**	**14.57**	**188**	P	**P**	**12 08 05.5**	**+1.2**
RIGZ				S	**S**	**12 10 35.5**	**-1.8**
SNGZ	**Shannon Statio**	**14.70**	**189**	P	**P**	**12 08 06.8**	**+1.1**
SNGZ				S	**S**	**12 10 38.0**	**-1.8**
RAHZ	**Arahi**	**14.87**	**190**	P	**P**	**12 08 08.7**	**+1.3**
RAHZ				S	**S**	**12 10 42.1**	**-0.9**
KNZ	**Kokohu**	**14.89**	**188**	P	**P**	**12 08 07.1**	**-0.5**
KNZ				S	**S**	**12 10 42.3**	**-1.0**
MRHZ	**Matea Rd**	**14.90**	**192**	P	**P**	**12 08 08.3**	**+0.5**
HIZ	**Hauiti**	**14.94**	**197**	P	**P**	**12 08 08.2**	**+0.1**
OXZ	**Oxford**	**20.19**	**198**	P	**P**	**12 08 56.9**	**-2.0**
RPZ	**Rata Peaks**	**20.83**	**199**	P	**P**	**12 09 02.3**	**-2.5**
	15nm,0.5s,baz=62,slow=0.7,SNR=14						
ARMA	**Armidale**	**26.11**	**250**	P	**P**	**12 09 53.1**	**+0.9**
ARMA				IAmb	IAmb	12 09 54.1	
	comp=Z,9.2nm,0.8s						
EIDS	**Eidsvold**	**26.47**	**261**	P	**P**	**12 09 55.6**	**+0.2**
EIDS				IAmb	IAmb	12 09 56.5	
	comp=Z,11nm,0.8s						
CAN	**Canberra**	**29.16**	**241**	P	**P**	**12 10 19.4**	**+0.5**
CAN				IAmb	IAmb	12 10 20.2	
	comp=Z,21nm,1.3s						
CTA	**Charters Tower**	**31.70**	**271**	P	**P**	**12 10 41.4**	**+0.5**
	comp=Z,26nm,0.3s,baz=94,slow=11,SNR=98						
TOO	**Toolangi**	**32.45**	**238**	P	**P**	**12 10 47.2**	**+0.1**
TOO				IAmb	IAmb	12 10 48.2	
	comp=Z,7.5nm,0.7s						
TAU	**Tasmania Unive**	**32.86**	**227**	P	**P**	**12 10 50.7**	**+0.2**
STKA	**Stephens Creek**	**34.80**	**249**	P	**P**	**12 11 07.2**	**+0.1**
	comp=Z,6.7nm,0.5s,baz=94,slow=10,SNR=48						
STKA				PcP	**PcP**	**12 13 27.4**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=104,slow=5.5,SNR=3.7						
STKA	**Stephens Creek**	**34.80**	**249**	P	**P**	**12 11 06.9**	**-0.1**
PMG	**Port Moresby**	**34.82**	**289**	P	**P**	**12 11 07.1**	**-0.2**
	comp=Z,22nm,0.8s,baz=109,slow=7.1,SNR=5.4						
PMG	**Port Moresby**	**34.82**	**289**	P	**P**	**12 11 07.1**	**-0.2**
BBOO	**Buckleboo**	**39.51**	**247**	P	**P**	**12 11 44.9**	**-0.9**
BBOO				IAmb	IAmb	12 11 45.6	
	comp=Z,23nm,1.2s						
AS31	**Alice Springs**	**42.20**	**261**	P	**P**	**12 12 07.0**	**-0.4**
ASAR	**Alice Springs**	**42.20**	**261**	P	**P**	**12 12 06.8**	**-0.6**
	comp=Z,4.6nm,0.4s,baz=93,slow=6.5,SNR=154						
ASAR				PcP	**PcP**	**12 13 50.2**	**0.0**
	comp=Z,1.9nm,0.9s,baz=82,slow=7.0,SNR=6.0						
ASAR				ScP	**ScP**	**12 16 55.1**	**+2.1**
	comp=Z,1.1nm,0.8s,baz=106,slow=4.5,SNR=6.3						
ASAR				S	**S**	**12 17 48.5**	**-2.6**
	comp=Z,0.5nm,0.9s,baz=102,slow=14,SNR=4.4						
WRAB	**Tennant Creek**	**42.59**	**266**	P	**P**	**12 12 09.7**	**-0.8**
WRA	**Warramunga Arr**	**42.60**	**266**	P	**P**	**12 12 09.8**	**-0.9**
	comp=Z,8.4nm,0.3s,baz=97,slow=8.5,SNR=144						
WRA				PcP	**PcP**	**12 13 51.9**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=95,slow=3.2,SNR=5.1						
WRA				ScP	**ScP**	**12 16 57.7**	**+3.0**
	comp=Z,3.2nm,0.9s,baz=104,slow=4.0,SNR=12						
WRA				S	**S**	**12 17 53.5**	**-3.5**
	comp=Z,0.9nm,0.8s,baz=114,slow=14,SNR=3.9						
FORT	**Forrest**	**46.40**	**250**	P	**P**	**12 12 38.7**	**-1.1**
MTN	**Manton Dam**	**47.70**	**275**	P	**P**	**12 12 48.8**	**-1.0**
MTN				IAmb	IAmb	12 12 50.7	
	comp=Z,8.0nm,0.7s						
KNRA	**Kununurra**	**48.91**	**270**	P	**P**	**12 12 58.7**	**-0.1**
FAKI	**Fak Fak**	**50.89**	**287**	P	**P**	**12 13 13.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**51.02**	**266**	P	**P**	**12 13 14.3**	**0.0**
FITZ				IAmb	IAmb	12 13 15.6	
	comp=Z,14nm,0.7s						
SIJI	**Sorong**	**52.75**	**289**	P	**P**	**12 13 26.1**	**-0.8**
	comp=Z,26nm,0.6s,baz=107,slow=6.0,SNR=19						
SBA	**Scott Base**	**54.04**	**183**	P	**P**	**12 13 37.0**	**+1.9**
SBA				IAmb	IAmb	12 13 51.4	
	comp=Z,20nm,1.2s						
VNDA	**Vanda**	**54.05**	**185**	P	**P**	**12 13 36.3**	**+1.1**
PSA00	**Pilbara Seismi**	**55.32**	**260**	P	**P**	**12 13 43.8**	**-1.2**
MORW	**Morawa**	**56.96**	**250**	P	**P**	**12 13 55.3**	**-1.0**
MORW				IAmb	IAmb	12 13 55.8	
	comp=Z,7.8nm,0.6s						
CASY	**Casey**	**59.90**	**206**	P	**P**	**12 14 14.9**	**-0.5**
CASY				IAmb	IAmb	12 14 15.8	
	comp=Z,12nm,0.8s						
QSPA	**South Pole Qui**	**65.84**	**180**	P	**P**	**12 14 54.8**	**+0.9**
	comp=Z,5.3nm,0.7s,baz=2.4,slow=0.6,SNR=48						
QSPA	**South Pole Qui**	**65.84**	**180**	P	**P**	**12 14 55.0**	**+1.0**
KKM	**Kota Kinabalu**	**69.22**	**287**	P	**P**	**12 15 15.7**	**+0.1**
JOW	**Kunigami**	**71.39**	**312**	P	**P**	**12 15 28.1**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=189,slow=12,SNR=3.6						
MJAR	**Matsushiro Arr**	**72.31**	**326**	P	**P**	**12 15 33.3**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=157,slow=6.6,SNR=6.2						
KSM	**Kuching**	**72.38**	**280**	P	**P**	**12 15 34.0**	**-0.1**
KSM				IAmb	IAmb	12 15 34.9	
	comp=Z,15nm,0.7s						
MAW	**Mawson**	**77.50**	**200**	P	**P**	**12 16 02.5**	**+0.6**
	comp=Z,4.0nm,0.5s,baz=138,slow=5.1,SNR=16						
MAW	**Mawson**	**77.50**	**200**	P	**P**	**12 16 02.7**	**+0.8**
PMSA	**Palmer Station**	**78.50**	**157**	P	**P**	**12 16 08.0**	**+0.7**
PMSA				IAmb	IAmb	12 16 21.8	
	comp=Z,29nm,1.4s						
KSRS	**Korea Array**	**78.65**	**320**	P	**P**	**12 16 09.8**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=136,slow=5.4,SNR=8.9						
PETK	**Petropavlovsk-**	**79.49**	**346**	P	**P**	**12 16 13.5**	**+0.9**
	comp=Z,6.8nm,0.9s,baz=98,slow=10,SNR=7.0						
USRK	**Ussuriysk Ar.**	**81.17**	**327**	P	**P**	**12 16 22.9**	**+1.3**
	comp=Z,3.2nm,0.8s,baz=141,slow=4.0,SNR=5.9						
KULM	**Kulim**	**82.71**	**279**	P	**P**	**12 16 30.6**	**+0.4**
KULM				IAmb	IAmb	12 16 36.9	
	comp=Z,27nm,1.5s						
WHN	**Wuhan**	**83.39**	**308**	P	P	12 16 38.7	+5.5
CN2	**Changchun**	**84.30**	**324**	*e*P	**P**	**12 16 35.1**	**-2.3**
SNAA	**Sanae**	**84.32**	**179**	P	**P**	**12 16 36.5**	**-0.7**
SUA	**Susitna One**	**88.56**	**13**	P	**P**	**12 16 58.0**	**+0.6**
SUA				IAmb	IAmb	12 16 58.8	
	comp=Z,4.7nm,0.8s						
XAN	**Xi'an**	**89.13**	**308**	P	**P**	**12 17 01.9**	**+1.3**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SEY	**Seymchan**	**89.66**	**348**	P	**P**	**12 17 03.2**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=210,slow=17						
CMAR	**Chiang Mai Arr**	**89.85**	**290**	P	**P**	**12 17 06.2**	**+1.9**
	comp=Z,1.9nm,0.8s,baz=137,slow=2.7,SNR=13						
TXAR	**Lajitas Array**	**90.43**	**58**	P	**P**	**12 17 08.6**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=210,slow=7.1,SNR=6.7						
ILAR	**Eielson Array**	**92.32**	**13**	P	**P**	**12 17 14.3**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=222,slow=5.5,SNR=4.8						
ZALV	**Zalesovo Beam**	**112.36**	**320**	PKiKP	**PKiKP**	**12 22 36.7**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=93,slow=2.9,SNR=3.4						
MKAR	**Makanchi Array**	**112.55**	**313**	PKiKP	**PKiKP**	**12 22 36.5**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=128,slow=0.3,SNR=4.0						
KSH	**Kashi**	**115.65**	**304**	PKP	**PKPdf**	**12 22 40.7**	**-3.4**
KSH				PP	**PP**	**12 23 59.2**	**+3.1**
KSH				sPKP		12 25 39.1	
KSH				PKS	**PKSdf**	**12 26 16.7**	**-4.1**
KSH				SKS	**SKSdf**	**12 29 01.6**	**-7.0**
KSH				AMB	AMB		
	comp=Z,310nm,9.6s						
KSH				LR	LR		
	comp=N,350nm,8.2s						
KSH				LR	LR		
	comp=E,330nm,7.9s						
KSH				LR	LR		
	comp=Z,350nm,5.3s						
ARCES	**ARCESS Array B**	**132.27**	**348**	PKP	**PKPdf**	**12 23 15.4**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=20,slow=1.7,SNR=8.8						
ARCES				SKPbc	**SKPbc**	**12 25 55.7**	**+1.2**
	comp=Z,2.6nm,0.8s,baz=357,slow=2.6,SNR=3.7						
FINES	**FINESS Array B**	**138.84**	**341**	PKhKP	PKPpre	12 23 18.9	
	comp=Z,8.2nm,1.1s,baz=73,slow=6.4,SNR=5.6						
FINES				PKP	**PKPdf**	**12 23 28.6**	**+1.4**
	comp=Z,1.7nm,0.6s,baz=30,slow=2.4,SNR=8.2						
FINES				SKPbc	**SKPbc**	**12 26 15.5**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=55,slow=3.4,SNR=9.9						
AKASG	**Malin Array Be**	**145.38**	**327**	PKPbc	**PKPdf**	**12 23 39.7**	**+0.6**
	comp=Z,2.6nm,0.5s,baz=46,slow=4.0,SNR=12						
AKBB	**Malin Array Si**	**145.38**	**327**		**PKPdf**	**12 23 39.9**	**+0.9**
BR131	**Keskin Array S**	**147.96**	**307**		**PKPbc**	**12 23 47.9**	**+0.2**
BR131				PKPab	**PKPab**	**12 23 53.2**	**+0.9**
BRTR	**Keskin Array B**	**147.96**	**307**	PKPbc	**PKPbc**	**12 23 47.6**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=129,slow=3.9,SNR=10						
BUR08	**Bucovina Ar. S**	**149.37**	**326**		**PKiKP**	**12 23 52.2**	**+0.5**
LANS	**Liptovska Anna**	**150.92**	**334**	*e*PKP	**PKiKP**	**12 23 56.6**	**+1.8**
CLL	**Collm**	**151.25**	**343**	*i* PKPbc	**PKPbc**	**12 23 55.2**	**+0.2**
	comp=Z,11nm,0.8s						
BRG	**Berggiesshubel**	**151.38**	**342**	⇓*i*PKP	**PKiKP**	**12 23 55.9**	**+0.2**
	comp=Z,6.3nm,0.6s						
VYHS	**Vyhne**	**151.69**	**333**	*e*PKP	**PKiKP**	**12 23 57.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**168.87**	**187**	PKP	**PKPdf**	**12 24 07.8**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=202,slow=0.8,SNR=3.8						
TORD				PKPab	**PKPab**	**12 25 22.7**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=170,slow=3.6,SNR=4.9						

*NNC **07** 12:20:01.6±5.0, 43°.37N×78°.72E, h0km, mb2.0, mpv2.2, Error ellipse: s-maj=35.9km s-min=19.4km az=47.0*
*SOME **07** 12:20:02.0, 44°.25N×81°.45E, h0km*
ISC 07 12:20:00.5±4.4**, 43°.4N**±0°.2×**78°.6E**±0°.2**, h10**km**, n6, σ0s.73**/12**, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.25**	**85**	*e*P	**Pb**	**12 20 24.0**	**-0.2**
	0.4nm,0.1s						
KTMS				*e*S	**Sg**	**12 20 40.0**	**-0.7**
	1.1nm,0.1s						
KTMS	**Ketmen**	**1.25**	**85**	P	**Pb**	**12 20 24.0**	**-0.2**
	0.7nm,0.1s						
KTMS				S	**Sg**	**12 20 40.0**	**-0.7**
	2.0nm,0.3s						
DJR	**Jarkent**	**1.28**	**40**	*e*P	**Pg**	**12 20 25.7**	**+0.7**
	0.5nm,0.2s						
DJR				*e*S	**Sn**	**12 20 42.7**	**+0.9**
	1.2nm,0.2s						
DJR	**Jarkent**	**1.28**	**40**	P	**Pg**	**12 20 25.7**	**+0.7**
	0.4nm,0.3s						
DJR				S	**Sn**	**12 20 42.7**	**+0.9**
	0.9nm,0.1s						
KAPS	**Kapalarasan**	**2.00**	**15**	*e*P	**Pb**	**12 20 36.5**	**-0.4**
	1.1nm,1.2s						
KAPS				*e*S	**Sb**	**12 21 01.2**	**-0.6**
	1.8nm,0.2s						
KAPS	**Kapalarasan**	**2.00**	**15**	P	**Pb**	**12 20 36.5**	**-0.4**
	0.6nm,0.4s						
KAPS				S	**Sb**	**12 21 01.2**	**-0.6**
	2.1nm,0.2s						

*GCMT **07** 12:35:18.9±0.4, 3°.61N±0°.04×63°.88E±0°.05, h18km±1km, MW4.7/70, Moment Tensor Solution. s12,c12; s70,c89; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.67±.15; Mθθ1.44±.11; Mφφ0.23±.09; Mrθ0.17±.29; Mθφ-0.24±.06; Mφr0.23±.32; Best double couple: M0 1.60000×10^16 NP1:φs273.00000°, δ48.00000°, λ-100.00000°. NP2: φs108.00000°, δ43.00000°, λ-79.00000°. Principal axes: T 1.4900, Plg2.0000°, Azm10.0000°; N 0.2260, Plg8.0000°, Azm280.0000°; P -1.7090, Plg82.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*ISCJB **07** 12:35:19.3±0.6, 3°.9N±0°.1×64°.10E±0°.08, h10km, mb3.7/6, MS3.8/30 Error ellipse: s-maj=14.8km s-min=11.6km az=161.6*
*IDC **07** 12:35:19.7±1.0, 3°.85N×64°.09E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/36, mbtmp3.8/6, MS3.7/32, Ms1 3.7/32, ms1mx3.6/49, Error ellipse: s-maj=36.8km s-min=24.1km az=7.0*
*NEIC **07** 12:35:20.9±1.0, 3°.81N±0°.07×64°.07E±0°.10, h10km±1km, mb4.2/10*
ISC 07 12:35:21.1±0.8**, 3°.9N**±0°.1×**64°.1E**±0°.1**, h10**km**, n49, σ0s.62**/18**, mb4.1**/11**, MS3.8**/30**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNCI	**Minicoy**	**9.96**	**63**	Pn	**Pn**	**12 37 45.1**	**+0.7**
H08N2	**Diego Garcia H**	**12.24**	**146**	T	T	12 50 35.5	
	baz=324,slow=76,SNR=268						
H08N3	**Diego Garcia H**	**12.26**	**146**	T	T	12 50 36.3	
	baz=324,slow=76,SNR=310						
H08N1	**Diego Carcia H**	**12.27**	**146**	T	T	12 50 37.1	
	baz=324,slow=76,SNR=279						
PALK	**Pallekele**	**16.89**	**78**	LR	LR	12 44 26.7	
	comp=Z,236nm,19.3s,baz=259,slow=32						
WSAR	**Wadi Sarin**	**19.98**	**345**	LR	LR	12 46 12.7	
	comp=Z,340nm,19.2s,baz=186,slow=33						
ATD	**Arta Tunnel**	**22.37**	**291**	LR	LR	12 47 18.8	
	comp=Z,93nm,21.0s,baz=96,slow=32						
RER	**Riviere de l'E**	**26.16**	**198**	P	**P**	**12 40 55.5**	**-0.5**
RAYN	**Ar Rayn**	**26.55**	**319**	P	**P**	**12 40 59.4**	**-0.1**
KMBO	**Kilima Mbogo**	**27.26**	**260**	P	**P**	**12 41 07.5**	**+1.3**
	1.0nm,0.3s,baz=112,slow=2.8,SNR=4.5						
KMBO				LR	LR	12 50 05.3	
	comp=Z,117nm,21.4s,baz=100,slow=32						
KMBO	**Kilima Mbogo**	**27.26**	**260**	P	**P**	**12 41 06.3**	**+0.1**
OPO	**Ambohidratompo**	**27.81**	**216**	LR	LR	12 50 29.7	
	comp=Z,199nm,18.3s,baz=188,slow=33						
NIL	**Nilore**	**30.86**	**15**	P	**P**	**12 41 37.0**	**-0.7**
GEYT	**Alibeck**	**34.35**	**352**	LR	LR	12 55 57.8	
	comp=Z,110nm,19.1s,baz=60,slow=36						
LSA	**Lhasa**	**36.30**	**42**	P	**P**	**12 42 25.2**	**-0.5**
LSA				IAmb	IAmb	12 42 31.0	
	comp=Z,3.6nm,1.0s						
BTK	**Batken**	**36.56**	**9**	P	**P**	**12 42 26.9**	**-0.4**
BTK				IAmb	IAmb	12 42 31.9	
	comp=Z,3.8nm,1.1s						
CM31	**Chiang Mai Arr**	**37.05**	**64**	P	**P**	**12 42 31.4**	**-0.3**
CM31				IAmb	IAmb	12 42 37.4	
	comp=Z,4.8nm,1.1s						
CMAR	**Chiang Mai Arr**	**37.05**	**64**	P	**P**	**12 42 33.0**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=259,slow=8.9,SNR=7.3						
CMAR				LR	LR	12 57 22.2	
	comp=Z,83nm,18.9s,baz=194,slow=36						
CHTO	**Chiang Mai**	**37.17**	**64**	P	**P**	**12 42 32.9**	**+0.2**
CHTO				IAmb	IAmb	12 42 37.5	
	comp=Z,7.0nm,1.4s						
GNI	**Garni**	**40.14**	**337**	LR	LR	12 59 26.1	
	comp=Z,94nm,20.9s,baz=174,slow=36						
KBZ	**Khabaz**	**43.91**	**338**	LR	LR	13 01 47.9	
	comp=Z,83nm,18.0s,baz=109,slow=36						
BR131	**Keskin Array S**	**45.10**	**327**	P	**P**	**12 43 38.4**	**+0.6**
BRTR	**Keskin Array B**	**45.10**	**327**	LR	LR	13 03 06.1	
	comp=Z,118nm,18.5s,baz=106,slow=37						
BOSA	**Boshof**	**49.33**	**227**	LR	LR	13 02 25.5	
	comp=Z,54nm,21.9s,baz=30,slow=33						
ARU	**Arti**	**52.61**	**356**	LR	LR	13 06 29.4	
	comp=Z,114nm,19.4s,baz=132,slow=36						
ZAA0	**Zalesovo Array**	**52.75**	**15**	P	**P**	**12 44 36.0**	**-0.1**
ZAA0				IAmb	IAmb	12 44 36.6	
	comp=Z,5.3nm,1.3s						
ZALV	**Zalesovo Beam**	**52.75**	**15**	P	**P**	**12 44 35.6**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=222,slow=6.0,SNR=5.9						
ZALV				LR	LR	13 07 08.7	
	comp=Z,81nm,21.6s,baz=220,slow=36						
AKASG	**Malin Array Be**	**55.10**	**334**	LR	LR	13 11 16.1	
	comp=Z,46nm,19.0s,baz=325,slow=39						
SONM	**Songino Array**	**56.88**	**33**	LR	LR	13 09 36.1	
	comp=Z,192nm,20.7s,baz=224,slow=36						
TLY	**Talaya**	**57.92**	**28**	LR	LR	13 10 17.3	
	comp=Z,167nm,20.1s,baz=232,slow=36						
TORD	**Torodi Ar. Bea**	**62.25**	**283**	LR	LR	13 11 52.4	
	comp=Z,60nm,19.1s,baz=340,slow=35						
DAVOX	**Davos/Dischmat**	**63.28**	**321**	LR	LR	13 13 14.9	
	comp=Z,86nm,18.6s,baz=191,slow=36						
FINES	**FINESS Array B**	**64.13**	**341**	LR	LR	13 14 37.2	
	comp=Z,110nm,18.1s,baz=222,slow=37						
KSRS	**Korea Array**	**67.02**	**51**	LR	LR	13 16 09.6	
	comp=Z,68nm,20.0s,baz=250,slow=37						
NRIK	**Noril'sk**	**67.22**	**9**	LR	LR	13 17 37.0	
	comp=Z,65nm,19.2s,baz=222,slow=38						
DBIC	**Dimbokro**	**68.66**	**276**	LR	LR	13 14 41.4	
	comp=Z,41nm,19.9s,baz=23,slow=34						
NOA	**NORSAR Array B**	**69.43**	**336**	LR	LR	13 17 53.5	
	comp=Z,93nm,18.5s,baz=285,slow=37						
ARCES	**ARCESS Array B**	**70.32**	**347**	LR	LR	13 18 28.1	
	comp=Z,62nm,20.1s,baz=170,slow=37						
ESDC	**Sonseca Array**	**70.71**	**311**	P	**P**	**12 46 37.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=90,slow=6.3,SNR=4.3						
MAW	**Mawson**	**71.30**	**180**	LR	LR	13 10 37.3	
	comp=Z,55nm,18.9s,baz=352,slow=30						
KLR	**Kul'dur**	**72.61**	**39**	LR	LR	13 19 54.8	
	comp=Z,52nm,18.4s,baz=281,slow=37						
WRA	**Warramunga Arr**	**72.88**	**112**	P	**P**	**12 46 50.8**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=286,slow=5.5,SNR=7.4						
ASAR	**Alice Springs**	**73.21**	**116**	P	**P**	**12 46 52.7**	**-0.2**
	comp=Z,1.0nm,1.0s,baz=281,slow=6.2,SNR=6.1						
ASAR				LR	LR	13 13 54.9	
	comp=Z,25nm,21.2s,baz=312,slow=32						
MJAR	**Matsushiro Arr**	**74.97**	**53**	LR	LR	13 25 05.9	
	comp=Z,20nm,18.2s,baz=55,slow=40						
GUMO	**Guam**	**80.16**	**77**	LR	LR	13 21 29.5	
	comp=Z,19nm,19.0s,baz=306,slow=35						
STKA	**Stephens Creek**	**81.46**	**123**	LR	LR	13 19 29.5	
	comp=Z,38nm,21.0s,baz=207,slow=32						
MA2	**Magadan**	**85.02**	**31**	LR	LR	13 27 52.2	
	comp=Z,95nm,18.9s,baz=270,slow=37						
PETK	**Petropavlovsk-**	**89.13**	**37**	LR	LR	13 28 42.6	
	comp=Z,76nm,20.8s,baz=241,slow=36						
TXAR	**Lajitas Array**	**144.97**	**341**	PKP	**PKPab**	**12 54 59.0**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=180,slow=0.4,SNR=5.0						

IDC 07 12:40:49.0±2.6**, 17°.12S**×**173°.10W, h0**km**, mb3.8**/4**, mb1 4.1**/5**, mb1mx3.7**/26**, mbtmp3.8**/5**, ML4.1**/1**, Error ellipse: s-maj=185.0km s-min=25.5km az=149.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.89**	**252**	P	P	12 45 22.3	+0.1
	0.6nm,0.3s,baz=90,slow=20,SNR=6.7						
STKA	**Stephens Creek**	**43.46**	**242**	P	P	12 48 53.9	-0.2
	0.6nm,0.4s,baz=79,slow=12,SNR=4.9						
WRA	**Warramunga Arr**	**49.76**	**258**	P	P	12 49 43.5	-0.2
	0.3nm,0.3s,baz=94,slow=7.8,SNR=5.6						
ASAR	**Alice Springs**	**49.88**	**253**	P	P	12 49 44.5	-0.1
	1.8nm,0.6s,baz=92,slow=8.5,SNR=33						
NVAR	**Mina Array Bea**	**75.41**	**42**	P	P	12 52 35.0	0.0
	0.3nm,0.5s,baz=232,slow=4.4,SNR=2.8						

*SOME **07** 13:08:39.2, 42°.23N×80°.85E, h15km*
*KRNET **07** 13:08:40.6±0.1, 42°.40N×80°.79E, mb3.1*
ISC 07 13:08:40.2±1.7**, 42°.36N**±0°.06×**80°.89E**±0°.06**, h10**km**, n31, σ2s.02**/62**, 17C-6D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.16**	**340**	*e*P	**Pn**	**13 09 03.2**	**+0.6**
	7.9nm,0.1s						
KTMS				*e*S	**Sn**	**13 09 20.5**	**+1.9**
	66nm,0.4s						
SHLS	**Shalkode**	**1.32**	**308**	*e*P	**Pn**	**13 09 02.3**	**-2.5**
	65nm,0.4s						
SHLS				*e*S	**Sb**	**13 09 18.9**	**-3.3**
	219nm,0.4s						
PDGK	**Podgornoye**	**1.42**	**314**	⇓P	**Pg**	**13 09 07.4**	**+0.1**
	4.7nm,0.3s						
PDGK				⇑S	**Sg**	**13 09 27.2**	**+1.5**
	11nm,0.3s						
PRZ	**Przheval'sk**	**1.85**	**275**	⇑*i*P	**Pb**	**13 09 13.4**	**-0.8**
	baz=73						
PRZ				⇑*i*S	**Sb**	**13 09 37.3**	**-0.2**
	baz=73						
SATY	**Saty**	**1.96**	**292**	*e*P	**Pb**	**13 09 15.8**	**-0.3**
	36nm,0.6s						
SATY				*e*S	**Sg**	**13 09 42.1**	**-1.2**
	88nm,0.2s						
KPKS	**Kokpek**	**1.96**	**305**	*e*P	**Pb**	**13 09 16.4**	**+0.4**
	64nm,0.5s						
KPKS				*e*S	**Sg**	**13 09 43.5**	**+0.2**
	217nm,0.5s						
ZHN	**Zhinishke**	**1.98**	**295**	*e*P	**Pb**	**13 09 16.5**	**+0.1**
	31nm,0.3s						
ZHN				*e*S	**Sg**	**13 09 43.0**	**-0.9**
	28nm,0.3s						
DJR	**Jarkent**	**2.13**	**338**	*e*P	**Pg**	**13 09 20.9**	**-0.1**
	1.6nm,0.2s						
DJR				*e*S	**Sg**	**13 09 50.8**	**+2.2**
	40nm,0.4s						
KURS	**Kuram**	**2.30**	**300**	*e*P	**Pg**	**13 09 22.7**	**-1.5**
	6.3nm,0.4s						
KURS				*e*S	**Sg**	**13 09 53.9**	**-0.1**
	35nm,0.6s						
TARG	**Taragay, Kyrgy**	**2.38**	**256**	⇓*i*P	**Pb**	**13 09 22.0**	**-1.5**
	baz=54						
TARG				⇓*i*S	**Sb**	**13 09 52.4**	**-0.7**
	baz=54						
ANVS	**Anan'yevo**	**2.42**	**281**	⇑*i*P	**Pb**	**13 09 22.2**	**-1.7**
	baz=81						
ANVS				⇑*i*S	**Sb**	**13 09 52.7**	**-1.2**
	baz=81						
MNBS	**Baschi**	**2.50**	**314**	*e*P	**Pb**	**13 09 26.0**	**+0.7**
	118nm,0.3s						
MNBS				*e*S	**Sg**	**13 09 59.7**	**-0.9**
	416nm,0.2s						
KDJ	**Kajisay**	**2.77**	**266**	⇑*e*P	**Pb**	**13 09 27.2**	**-2.6**
	baz=65						
KDJ				⇑*i*S	**Sb**	**13 10 00.9**	**-2.9**
	baz=65						
ARXS	**Arharly**	**2.91**	**311**	*e*P	**Pb**	**13 09 33.0**	**+0.9**
	3.7nm,0.3s						
ARXS				*e*S	**Sg**	**13 10 12.0**	**-1.5**
	27nm,0.7s						
KOTS	**Kotyrbulak**	**2.92**	**289**	*e*P	**Pb**	**13 09 32.9**	**+0.5**
	19nm,0.2s						
KOTS				*e*S	**Sg**	**13 10 11.9**	**-2.0**
	87nm,0.6s						
MDOK	**Medeo**	**2.94**	**287**	*e*P	**Pb**	**13 09 33.3**	**+0.5**
	5.1nm,0.2s						
MDOK				*e*S	**Sg**	**13 10 11.9**	**-2.8**
	22nm,0.6s						
TNSS	**Tian-Shan**	**2.99**	**284**	*e*P	**Pb**	**13 09 34.3**	**+0.6**
	6.7nm,0.6s						
TNSS				*e*S	**Sg**	**13 10 13.7**	**-2.4**
	26nm,0.4s						
AAA	**Alma-Ata**	**3.05**	**287**	*e*P	**Pb**	**13 09 34.5**	**-0.1**
	21nm,0.1s						
AAA				*e*S	**Sb**	**13 10 14.1**	**+2.3**
	21nm,0.1s						
KAPS	**Kapalarasan**	**3.13**	**340**	*e*P	**Pg**	**13 09 37.8**	**-2.3**
	1.7nm,0.3s						
KAPS				*e*S	**Sg**	**13 10 20.1**	**-0.5**
	23nm,0.3s						
CHKK	**Chushkaly**	**3.23**	**299**	*e*P	**Pb**	**13 09 38.8**	**+1.2**
	2.9nm,0.1s						
CHKK				*e*S	**Sg**	**13 10 21.3**	**-2.5**
	24nm,0.2s						
IZV	**Izvestkoviy**	**3.23**	**284**	*e*P	**Pb**	**13 09 38.0**	**+0.4**
	8.6nm,0.3s						
IZV				*e*S	**Sg**	**13 10 20.5**	**-3.3**
	27nm,0.5s						
KTBS	**Karatobe**	**3.37**	**295**	*e*P	**Pb**	**13 09 40.5**	**+0.5**
	4.9nm,0.5s						
KTBS				*e*S	**Sg**	**13 10 24.9**	**-3.5**
	31nm,0.4s						
ULHL	**Ulahol**	**3.45**	**270**	⇑*i*P	**Pn**	**13 09 37.0**	**+2.8**
	baz=69						
ULHL				⇑*i*S	**Sn**	**13 10 17.5**	**+2.2**
	baz=69						
KUU	**Kurty**	**3.67**	**296**	*e*P	**Pb**	**13 09 45.9**	**+0.8**
	1.0nm,0.1s						
KUU				*e*S	**Sg**	**13 10 33.6**	**-4.3**
	14nm,0.4s						
BOOM	**Boomskoye usch**	**3.67**	**274**	⇑*i*P	**Pn**	**13 09 39.6**	**+2.5**
	baz=73						
BOOM				⇑*i*S	**Sn**	**13 10 22.4**	**+1.9**
	baz=73						
KST	**Kastek**	**3.70**	**282**	*e*P	**Pb**	**13 09 46.8**	**+1.2**
	11nm,0.5s						
KST				*e*S	**Sg**	**13 10 35.7**	**-3.2**
	13nm,0.6s						
NRN	**Naryn**	**3.77**	**257**	⇑*i*P	**Pn**	**13 09 41.3**	**+2.7**
	baz=56						
NRN				⇑*i*S	**Sn**	**13 10 25.9**	**+2.7**
	baz=56						
DGS	**Degeres**	**3.87**	**285**	*e*P	**Pb**	**13 09 48.9**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	5.0nm,0.2s						
DGS				eS	Sb	13 10 39.2	+3.7
	27nm,0.5s						
TKM2	**Tokmak 2**	**3.95**	**280**	⇑iP	**Pn**	**13 09 43.8**	**+2.8**
	baz=79						
TKM2				⇑iS	**Sn**	**13 10 29.0**	**+1.5**
	baz=79						
KZA	**Kyzart**	**4.20**	**268**	⇓eP	**Pn**	**13 09 47.2**	**+2.5**
	baz=67						
KZA				⇓eS	**Sn**	**13 10 35.9**	**+1.9**
	baz=67						
MK31	**Makanchi Array**	**4.54**	**12**	⇓Pg	**Pb**	**13 10 00.2**	**+0.2**
	0.1nm,0.2s,baz=198,slow=14,SNR=6.2						
MK31				⇑Sn	**Sb**	**13 10 50.5**	**-4.3**
	1.4nm,0.5s,baz=312,slow=81,SNR=4.3						
MK31				⇑Lg	Lg	13 11 07.0	
	2.4nm,0.6s,baz=201,slow=30,SNR=3.6						

*NIED **07** 13:14:00, 39.°60N×142.°40E, h59km, Mw3.9 Best double couple: $M_0$8.40000×10^{14} NP1:φs27.00000°, δ28.00000°, λ99.00000°. NP2:φs197.00000°, δ63.00000°, λ85.00000°.*
*ISCJB **07** 13:14:55.0±0.6, 39.°58N±0.°03×142.°32E±0.°08, h63km±4km, mb3.8/12, Error ellipse: s-maj=10.3km s-min=4.3km az=16.3*
*JMA **07** 13:14:55.2±0.1, 39.°60N×142.°40E, h49km±1km, M3.9*
JMA Felt I J1.
*IDC **07** 13:14:57.0±2.1, 39.°55N×142.°29E, h65km±19km, mb3.5/12, mb1 3.6/17, mb1mx3.5/54, mbtmp3.8/17, Error ellipse: s-maj=19.6km s-min=11.7km az=107.0*
*NEIC **07** 13:14:57.3±2.0, 39.°56N±0.°07×142.°4E±0.°2, h68km±7km, mb4.4/11*
ISC 07 13:14:56.0±0.9**, 39.°57N**±0.°04×**142.°27E**±0.°07**, h56**km±8km**, n56, σ1.°41**/59**, mb4.0**/17**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.34**	**272**	P	**Pn**	**13 15 05.8**	**-0.3**
MIYJ				S	**Sn**	**13 15 13.2**	**-0.2**
JTH	**Tanohata**	**0.48**	**320**	P	**Pn**	**13 15 06.8**	**-0.7**
JTH				S	**Sn**	**13 15 15.0**	**-0.8**
OFUJ	**Ofunato**	**0.67**	**224**	P	**Pn**	**13 15 09.7**	**0.0**
OFUJ				S	**Sn**	**13 15 20.1**	**+0.5**
JOM	**Ohasama**	**0.76**	**263**	P	**Pn**	**13 15 11.3**	**+0.5**
JOM				S	**Sn**	**13 15 23.1**	**+1.5**
JKZ	**Kuzumaki**	**0.83**	**300**	P	**Pn**	**13 15 11.9**	**+0.1**
JKZ				S	**Sn**	**13 15 23.9**	**+0.5**
JKMT	**Kesennumamotoy**	**0.97**	**220**	P	**Pn**	**13 15 13.7**	**+0.1**
JKMT				S	**Sn**	**13 15 27.0**	**+0.5**
JANG	**Nango**	**0.99**	**325**	P	**Pn**	**13 15 13.2**	**-0.6**
JANG				S	**Sn**	**13 15 26.6**	**-0.4**
JMK	**Ichinoseki**	**1.02**	**233**	P	**Pn**	**13 15 14.6**	**+0.5**
JMK				S	**Sn**	**13 15 29.0**	**+1.5**
JRG	**Rokugo**	**1.27**	**263**	P	**Pn**	**13 15 18.4**	**+0.8**
JIO	**Ouri**	**1.32**	**213**	P	**Pn**	**13 15 18.1**	**-0.1**
JAH	**Hinai**	**1.40**	**297**	P	**Pn**	**13 15 20.0**	**+0.7**
JTM	**Tenmabayashi**	**1.53**	**323**	P	**Pn**	**13 15 20.8**	**-0.2**
ERM	**Erimo**	**2.54**	**15**	Pn	**Pn**	**13 15 37.4**	**+2.6**
MAJO	**Matsushiro**	**4.40**	**228**		**Pn**	**13 16 02.9**	**+2.6**
MAT	**Matsushiro**	**4.40**	**228**	P	**Pn**	**13 16 02.9**	**+2.6**
MAT				eS	**Sn**	**13 16 50.8**	**+0.5**
MJAR	**Matsushiro Arr**	**4.40**	**228**	P	**Pn**	**13 16 02.9**	**+2.6**
	0.3nm,0.3s,baz=45,slow=11,SNR=32						
MJB9	**Matsu-Tunnel**	**4.40**	**228**		**Pn**	**13 16 03.0**	**+2.6**
ASAJ	**Asahikawa**	**4.55**	**3**	P	**Pn**	**13 16 02.0**	**-0.4**
	1.1nm,0.3s,baz=226,slow=9.8,SNR=9.9						
ASAJ				S	**Sn**	**13 16 55.6**	**+1.6**
	0.9nm,0.3s,baz=109,slow=18,SNR=2.4						
JKA	**Kamikawa-asahi**	**4.55**	**3**		**Pn**	**13 16 02.0**	**-0.4**
JKA					**Sn**	**13 16 55.6**	**+1.6**
INU	**Inuyama**	**5.93**	**226**	Pn	Pn	13 16 25.3	+4.0
YSS	**Yuzh-Sakhalins**	**7.39**	**3**	Pn	**Pn**	**13 16 43.0**	**+1.7**
USRK	**Ussuriysk Ar.**	**8.95**	**304**	P	**Pn**	**13 17 04.6**	**+2.0**
	baz=106,slow=16,SNR=3.3						
USA0B	**Ussuriysk Arra**	**8.95**	**304**	Pn	**Pn**	**13 17 06.0**	**+3.4**
KSRS	**Korea Array**	**11.44**	**264**	P	**Pn**	**13 17 39.6**	**+3.0**
	0.6nm,0.3s,baz=74,slow=14,SNR=7.8						
KS19	**Wonju Array Si**	**11.47**	**264**	Pn	Pn	13 17 42.5	+5.5
KLR	**Kul'dur**	**12.23**	**326**	P	**Pn**	**13 17 47.1**	**-0.3**
	0.1nm,0.3s,baz=171,slow=13,SNR=3.1						
SSE	**Sheshan**	**19.13**	**250**	P	**P**	**13 19 12.1**	**-2.4**
SSE				IAmb	IAmb	13 19 15.2	
	comp=Z,38nm,0.6s						
YOJ	**Yonaguni jima**	**22.14**	**233**	P	**P**	**13 19 44.5**	**-2.5**
YHNB	**Yeheng**	**23.02**	**236**	P	**P**	**13 19 53.7**	**-2.7**
YAK	**Yakutsk**	**23.77**	**345**	P	**P**	**13 20 00.1**	**-3.0**
YAK				IAmb	IAmb	13 20 01.9	
	comp=Z,8.4nm,0.7s						
SONM	**Songino Array**	**27.02**	**300**	P	**P**	**13 20 32.4**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=76,slow=6.1,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**28.98**	**126**	T	T	13 51 25.1	
	baz=318,slow=75,SNR=264						
H11N1	**WAKE ISLAND Hy**	**28.99**	**126**	T	T	13 51 23.9	
	baz=318,slow=75,SNR=361						
H11N3	**WAKE ISLAND Hy**	**28.99**	**126**	T	T	13 51 26.8	
	baz=318,slow=75,SNR=237						
H11S1	**WAKE ISLAND Hy**	**29.77**	**128**	T	T	13 52 21.0	
	baz=320,slow=76,SNR=51						
H11S3	**WAKE ISLAND Hy**	**29.78**	**128**	T	T	13 52 23.8	
	baz=320,slow=76,SNR=38						
H11S2	**WAKE ISLAND Hy**	**29.79**	**128**	T	T	13 52 24.0	
	baz=320,slow=76,SNR=40						
ZAA0	**Zalesovo Array**	**40.75**	**310**	P	**P**	**13 22 31.5**	**+0.2**
ZAA0				IAmb	IAmb	13 22 32.9	
	comp=Z,2.4nm,0.6s						
ZALV	**Zalesovo Beam**	**40.75**	**310**	P	**P**	**13 22 31.4**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=92,slow=8.2,SNR=16						
MK31	**Makanchi Array**	**43.39**	**300**	P	**P**	**13 22 53.3**	**+0.4**
MK31				IAmb	IAmb	13 23 05.1	
	comp=Z,5.0nm,1.2s						
MKAR	**Makanchi Array**	**43.39**	**300**	P	**P**	**13 22 53.1**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=79,slow=10,SNR=6.5						
MAKZ	**Makanchi**	**43.60**	**300**	P	**P**	**13 22 54.4**	**-0.2**
MAKZ				IAmb	IAmb	13 23 04.6	
	comp=Z,11nm,1.1s						
KURK	**Kurchatov**	**44.94**	**306**	P	**P**	**13 23 06.0**	**+0.8**
KURK				IAmb	IAmb	13 23 08.6	
	comp=Z,4.9nm,0.5s						
PMR	**Palmer**	**46.21**	**38**	P	**P**	**13 23 15.2**	**+0.2**
ILAR	**Eielson Array**	**47.01**	**34**	P	**P**	**13 23 21.4**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=270,slow=5.8,SNR=7.4						
INK	**Inuvik**	**51.83**	**28**	P	**P**	**13 23 58.6**	**+0.7**
	comp=Z,1.2nm,1.0s,baz=302,slow=4.7,SNR=6.2						
INK	**Inuvik**	**51.83**	**28**	P	**P**	**13 23 58.3**	**+0.4**
INK				IAmb	IAmb	13 24 08.5	
	comp=Z,3.0nm,1.4s						
WRA	**Warramunga Arr**	**59.66**	**189**	P	**P**	**13 24 53.6**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=7.2,slow=7.0,SNR=13						
YKA	**Yellowknife Ar**	**61.29**	**31**	P	**P**	**13 25 05.3**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=307,slow=10,SNR=2.8						
ASAR	**Alice Springs**	**63.39**	**189**	P	**P**	**13 25 18.8**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=3.4,slow=5.1,SNR=11						
FINES	**FINESS Array B**	**66.89**	**332**	P	**P**	**13 25 42.5**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=27,slow=9.4,SNR=3.2						
STKA	**Stephens Creek**	**71.08**	**181**	P	**P**	**13 26 08.1**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=349,slow=5.2,SNR=2.3						
STKA	**Stephens Creek**	**71.08**	**181**	P	**P**	**13 26 07.5**	**-0.6**
AKASG	**Malin Array Be**	**72.71**	**322**	P	**P**	**13 26 17.4**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=44,slow=6.4,SNR=3.9						
PDAR	**Pinedale Array**	**75.42**	**46**	P	**P**	**13 26 34.4**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=252,slow=2.0,SNR=4.9						
LPAZ	**La Paz**	**144.80**	**57**	PKP	**PKPab**	**13 34 26.9**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=288,slow=3.2,SNR=2.6						

*IDC **07** 13:20:05.0±1.1, 52.°40N×168.°70W, h0km, mb3.6/9, mb1 3.9/9, mb1mx3.6/52, mbtmp3.7/9, Error ellipse: s-maj=32.6km s-min=18.9km az=176.0*
*ISCJB **07** 13:20:06.8±1.9, 52.°09N±0.°05×168.°59W±0.°09, h29km±15km, mb3.8/10, Error ellipse: s-maj=11.2km s-min=6.9km az=42.2*
*AEIC **07** 13:20:07.1±1.6, 52.°19N±0.°04×168.°50W±0.°09, h5km±4km, ML3.0*
*NEIC **07** 13:20:09.1±1.9, 52.°20N±0.°03×168.°63W±0.°08, h30km±6km*
ISC 07 13:20:09.5±1.9**, 52.°25N**±0.°09×**168.°59W**±0.°07**, h31**km±12km**, n33, σ1.°16**/32**, mb3.7**/10**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.74**	**348**		**Pb**	**13 20 23.5**	**-0.4**
NIKH					**Sn**	**13 20 36.0**	**+2.1**
OKSP	**Okmok Steeple**	**1.02**	**10**		**Pn**	**13 20 27.0**	**-0.6**
OKSP					**Sb**	**13 20 43.1**	**+1.5**
OKTU	**Okmok Mt. Tuli**	**1.18**	**16**		**Pn**	**13 20 30.0**	**+0.2**
OKWR	**Okmok West Rim**	**1.21**	**11**		**Pn**	**13 20 30.5**	**+0.2**
OKFG	**Magazine Ridge**	**1.23**	**19**		**Pn**	**13 20 30.6**	**+0.1**
OKFG					**Sb**	**13 20 49.1**	**+1.5**
OKNC	**Okmok New Cone**	**1.24**	**13**		**Pb**	**13 20 31.4**	**-0.8**
MCIR	**Makushin Cirqu**	**1.99**	**30**		**Pn**	**13 20 41.6**	**+0.7**
MSW	**Makushin Switc**	**1.99**	**33**		**Pn**	**13 20 41.2**	**+0.2**
MSW					**Sb**	**13 21 07.5**	**-1.9**
UNV	**Unalaska Valle**	**2.03**	**38**		**Pn**	**13 20 41.6**	**+0.1**
UNV					**Sn**	**13 21 07.9**	**+2.1**
MTBL	**Makushin Table**	**2.07**	**33**		**Pn**	**13 20 42.5**	**+0.4**
AKBBA	**Akutan Broad B**	**2.44**	**40**		**Pn**	**13 20 47.7**	**+0.5**
ATKA	**Atka Island**	**3.44**	**271**	Pn	**Pn**	**13 21 01.1**	**+0.1**
ADK	**Adak**	**5.00**	**269**	Pn	**Pn**	**13 21 23.0**	**+0.6**
SPIA	**Saint Paul Isl**	**5.03**	**350**	Pn	**Pn**	**13 21 21.4**	**-1.2**
OHAK	**Old Harbor**	**10.14**	**55**	Pn	**Pn**	**13 22 32.4**	**-0.4**
KDAK	**Kodiak Island**	**10.72**	**53**	Pn	**Pn**	**13 22 39.3**	**-1.3**
	0.4nm,0.3s,baz=175,slow=4.3,SNR=20						
PETK	**Petropavlovsk-**	**20.35**	**286**	P	**P**	**13 24 42.6**	**-0.4**
	3.5nm,0.7s,baz=85,slow=15,SNR=16						
DLBC	**Dease Lake**	**22.54**	**59**	P	**P**	**13 25 09.2**	**+2.6**
	24nm,1.0s,baz=287,slow=0.5,SNR=5.7						
INK	**Inuvik**	**23.18**	**33**	P	**P**	**13 25 11.3**	**-1.7**
	0.7nm,0.5s,baz=229,slow=9.1,SNR=6.2						
YKA	**Yellowknife Ar**	**29.96**	**49**	P	**P**	**13 26 14.7**	**+0.3**
	0.1nm,0.4s,baz=272,slow=7.6,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**37.66**	**220**	T	T	14 07 57.6	
	baz=24						
H11N3	**WAKE ISLAND Hy**	**37.67**	**220**	T	T	14 07 55.3	
	baz=24						
H11N1	**WAKE ISLAND Hy**	**37.68**	**220**	T	T	14 07 58.1	
	baz=24						
H11S1	**WAKE ISLAND Hy**	**38.85**	**219**	T	T	14 09 10.8	
	baz=23,slow=76,SNR=6.5						
H11S2	**WAKE ISLAND Hy**	**38.86**	**219**	T	T	14 09 13.6	
	baz=23,slow=76,SNR=3.5						
H11S3	**WAKE ISLAND Hy**	**38.87**	**219**	T	T	14 09 13.0	
	baz=23,slow=76,SNR=2.9						
PDAR	**Pinedale Array**	**39.96**	**79**	P	**P**	**13 27 42.0**	**+0.9**
	0.4nm,0.5s,baz=286,slow=2.7,SNR=8.0						
SPITS	**Spitsbergen Ar**	**49.80**	**359**	P	**P**	**13 28 57.0**	**-1.5**
	15nm,1.0s,baz=351,slow=7.3,SNR=5.1						
TXAR	**Lajitas Array**	**52.27**	**89**	P	**P**	**13 29 18.3**	**+0.5**
	0.2nm,0.5s,baz=321,slow=5.0,SNR=3.1						
MKAR	**Makanchi Array**	**64.23**	**314**	P	**P**	**13 30 40.4**	**-0.7**
	1.0nm,1.0s,baz=33,slow=11,SNR=4.0						
FINES	**FINESS Array B**	**66.05**	**352**	P	**P**	**13 30 52.0**	**-0.6**
	2.3nm,0.8s,baz=17,slow=7.9,SNR=9.9						
CMAR	**Chiang Mai Arr**	**77.11**	**283**	P	**P**	**13 32 00.4**	**+0.6**
	0.5nm,0.6s,baz=34,slow=7.2,SNR=5.5						
ASAR	**Alice Springs**	**90.69**	**231**	P	**P**	**13 33 08.5**	**-0.4**
	0.2nm,0.6s,baz=23,slow=4.2,SNR=4.1						

*DJA **07** 13:23:52.7±0.6, 7°S±3°×10°4E±°, h10km, M3.8/7, MLv3.8/7*
*ISCJB **07** 13:23:53.7±1.1, 6.°42S±0.°06×103.°81E±0.°10, h10km, mb3.6/5, Error ellipse: s-maj=13.8km s-min=8.2km az=175.7*
*IDC **07** 13:23:55.8±4.8, 5.°31S×104.°58E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/36, mbtmp3.6/5, Error ellipse: s-maj=227.3km s-min=23.0km az=53.0*
ISC 07 13:23:53.3±1.3**, 6.°40S**±0.°08×**103.°79E**±0.°09**, h10**km**, n12, σ2.°05**/15**, mb3.7**/5**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.12**	**39**	P	**Pn**	**13 24 14.6**	**-0.5**
KASI				S	**Sb**	**13 24 29.4**	**-0.1**
LWLI	**Liwa**	**1.40**	**11**	P	**Pn**	**13 24 19.1**	**0.0**
LWLI				S	**Sn**	**13 24 38.5**	**+0.8**
KLSI		**1.94**	**29**	P	**Pn**	**13 24 27.8**	**+1.4**
MDSI	**Maura Dua**	**1.94**	**12**	P	**Pn**	**13 24 27.1**	**+0.7**
MDSI				S	**Sn**	**13 24 52.1**	**+1.2**
MNAI	**Manna**	**2.19**	**338**	P	**Pn**	**13 24 30.5**	**+0.7**
LHSI	**Lahat**	**2.57**	**354**	P	**Pn**	**13 24 36.4**	**+1.3**
TNG	**Tangerang**	**2.85**	**86**	P	**Pn**	**13 24 37.7**	**-1.2**
CMAR	**Chiang Mai Arr**	**25.16**	**349**	P	**P**	**13 29 15.4**	**-3.6**
	0.8nm,0.7s,baz=178,slow=8.9,SNR=6.9						
WRA	**Warramunga Arr**	**32.57**	**117**	P	**P**	**13 30 28.0**	**+2.8**
	1.0nm,0.8s,baz=291,slow=7.7,SNR=5.7						
ASAR	**Alice Springs**	**33.65**	**124**	P	**P**	**13 30 38.1**	**+3.5**
	0.1nm,0.4s,baz=300,slow=8.1,SNR=3.0						
MKAR	**Makanchi Array**	**56.30**	**342**	P	**P**	**13 33 32.3**	**-2.0**
	0.7nm,0.8s,baz=153,slow=8.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**62.21**	**347**	P	**P**	**13 34 12.7**	**-2.3**
	0.5nm,0.4s,baz=164,slow=5.0,SNR=3.0						

*IDC **07** 13:47:32.5±1.3, 38.°09N×22.°03E, h0km, mb3.8/7, mb1 3.8/8, mb1mx3.6/33, mbtmp3.8/8, ML3.3/1, Error ellipse: s-maj=27.1km s-min=20.7km az=154.0*
*ATH **07** 13:47:33.8, 38.°05N×21.°95E, h21km±1km, ML3.5/13, Error ellipse: s-maj=1.3km s-min=0.7km az=287.0*
*ISCJB **07** 13:47:34.3±0.2, 38.°06N±0.°02×21.°92E±0.°02, h19km±2km, mb3.7/7, Error ellipse: s-maj=2.9km s-min=2.7km az=165.2*
*THE **07** 13:47:34.4, 38.°04N×21.°95E, h7km, ML3.5/12, Error ellipse: s-maj=0.8km s-min=0.3km az=31.0*
ISC 07 13:47:34.3±0.7**, 38.°05N**±0.°02×**21.°95E**±0.°02**, h15**km±4km**, n94, σ0.°87**/131**, mb3.7**/7**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	**0.16**	**92**	P	**Pg**	**13 47 37.8**	**-0.6**
KLV				S	**Sg**	**13 47 40.2**	**-1.0**
KLV	**Kalavryta, Ach**	**0.16**	**92**	P	**Pg**	**13 47 37.8**	**-0.6**
KLV				S	**Sg**	**13 47 40.3**	**-0.9**
KLV				AML	AML	13 47 41.1	
	comp=N,28844µm,0.3s						
KLV				AML	AML	13 47 41.1	
	comp=E,27652µm,0.2s						
LAKA	**Lakka**	**0.19**	**8**	P	**Pg**	**13 47 38.6**	**-0.3**
LAKA				S	**Sg**	**13 47 41.5**	**-0.4**
LAKA	**Lakka**	**0.19**	**8**	P	**Pg**	**13 47 38.6**	**-0.3**
LAKA				S	**Sg**	**13 47 41.4**	**-0.6**
LAKA				AML	AML	13 47 42.0	
	comp=E,47189µm,0.1s						
LAKA				AML	AML	13 47 42.0	
	comp=N,68712µm,0.2s						
DRO	**Drossia**	**0.21**	**242**	P	**Pg**	**13 47 38.9**	**-0.2**
DRO				S	**Sg**	**13 47 42.1**	**-0.3**
	comp=N,32µm,0.6s						
DRO	**Drossia**	**0.21**	**242**	P	**Pg**	**13 47 39.0**	**-0.2**
DRO				S	**Sg**	**13 47 42.3**	**-0.1**
DRO				AML	AML	13 47 44.7	
	comp=E,57048µm,0.2s						
DRO				AML	AML	13 47 46.1	
	comp=N,64748µm,0.5s						
ALIK	**Aliki, Aigiali**	**0.25**	**32**	P	**Pg**	**13 47 39.6**	**-0.1**
ALIK				S	**Sg**	**13 47 43.5**	**+0.1**
UPR	**University Cam**	**0.27**	**332**	P	**Pg**	**13 47 39.9**	**-0.1**
UPR				S	**Sg**	**13 47 44.1**	**+0.2**
UPR	**University Cam**	**0.27**	**332**	P	**Pb**	**13 47 40.4**	**-0.4**
UPR				S	**Sg**	**13 47 44.2**	**+0.2**
TRIZ	**Trizonia**	**0.33**	**18**	P	**Pg**	**13 47 41.1**	**-0.1**
TRIZ				S	**Sg**	**13 47 46.0**	**+0.2**
	comp=N,25µm,0.3s						
TRIZ	**Trizonia**	**0.33**	**18**	P	**Pg**	**13 47 41.0**	**-0.1**
TRIZ				S	**Sg**	**13 47 45.7**	**-0.1**
KALE	**Kalithea**	**0.37**	**24**	P	**Pg**	**13 47 41.9**	**-0.1**
KALE				S	**Sg**	**13 47 47.2**	**0.0**
	comp=N,21µm,0.2s						
KALE	**Kalithea**	**0.37**	**24**	P	**Pg**	**13 47 41.9**	**-0.1**
KALE				S	**Sb**	**13 47 47.4**	**-0.9**
KALE				AML	AML	13 47 48.7	
	comp=N,47944µm,0.2s						
KALE				AML	AML	13 47 49.0	
	comp=E,37227µm,0.2s						
SERG	**Sergoula**	**0.37**	**13**	P	**Pg**	**13 47 41.8**	**-0.1**
SERG				S	**Sg**	**13 47 47.3**	**+0.2**
	comp=E,15µm,0.2s						
SERG	**Sergoula**	**0.37**	**13**	P	**Pg**	**13 47 41.9**	**-0.1**
SERG				S	**Sg**	**13 47 47.1**	**0.0**
SERG				AML	AML	13 47 48.4	
	comp=E,28124µm,0.4s						
SERG				AML	AML	13 47 48.6	
	comp=N,35907µm,0.4s						
EFP	**Efpalio**	**0.38**	**355**	P	**Pg**	**13 47 41.9**	**-0.1**
EFP				S	**Sg**	**13 47 47.4**	**+0.1**
	comp=N,12µm,0.4s						
EFP	**Efpalio**	**0.38**	**355**	P	**Pb**	**13 47 42.1**	**-0.6**
EFP				S	**Sg**	**13 47 47.4**	**+0.1**
EFP				AML	AML	13 47 48.7	
	comp=E,19253µm,0.2s						
EFP				AML	AML	13 47 50.4	
	comp=N,19606µm,0.5s						
RLS	**Riolos of Patr**	**0.38**	**271**	P	**Pg**	**13 47 41.6**	**-0.4**
RLS				S	**Sb**	**13 47 47.7**	**-0.7**
	comp=N,13µm,0.2s						
AMT	**Artemida-Makis**	**0.55**	**200**	P	**Pg**	**13 47 44.9**	**-0.3**
AMT				S	**Sg**	**13 47 52.7**	**+0.2**
	comp=N,5µm,0.4s						
AMT	**Artemida-Makis**	**0.55**	**200**	P	**Pg**	**13 47 44.9**	**-0.3**
AMT				S	**Sg**	**13 47 52.1**	**-0.4**
AMT				AML	AML	13 47 56.4	
	comp=N,10799µm,0.4s						
AMT				AML	AML	13 47 58.8	
	comp=E,6359µm,0.4s						
THAL	**Thalero**	**0.57**	**91**	P	**Pg**	**13 47 45.0**	**-0.5**
THAL				S	**Sb**	**13 47 53.1**	**-0.7**
	comp=E,11µm,0.3s						
THAL	**Thalero**	**0.57**	**91**	P	**Pg**	**13 47 45.0**	**-0.5**
DLFA	**Delphi**	**0.61**	**45**	P	**Pg**	**13 47 45.5**	**-0.8**
DLFA				S	**Sg**	**13 47 53.7**	**-0.7**
PVO	**Paravola**	**0.66**	**330**	P	**Pb**	**13 47 47.1**	**-0.3**
PVO				S	**Sb**	**13 47 56.8**	**+0.4**
	comp=E,3µm,0.3s						
PVO	**Paravola**	**0.66**	**330**	P	**Pb**	**13 47 47.2**	**-0.3**
VLX	**Vlachokerasia**	**0.76**	**153**	P	**Pg**	**13 47 48.3**	**-0.8**
VLX				S	**Sb**	**13 47 59.6**	**+0.2**
	comp=E,2µm,0.5s						
VLX	**Vlachokerasia**	**0.76**	**153**	P	**Pg**	**13 47 48.5**	**-0.6**
VLX				S	**Sb**	**13 47 59.7**	**+0.2**
VLX				AML	AML	13 48 02.0	
	comp=N,4082µm,0.5s						
VLX				AML	AML	13 48 02.2	
	comp=E,4971µm,0.4s						
PROD	**Prodromos**	**0.78**	**74**	P	**Pg**	**13 47 49.1**	**-0.4**
PROD				S	**Sb**	**13 48 00.5**	**+0.5**
PROD	**Prodromos**	**0.78**	**74**	P	**Pb**	**13 47 49.3**	**-0.3**
LOUT	**Loutraki**	**0.81**	**94**	P	**Pg**	**13 47 49.7**	**-0.4**
LOUT	**Loutraki**	**0.81**	**94**	P	**Pg**	**13 47 49.1**	**-1.1**
ITM	**Ithomi**	**0.87**	**181**	P	**Pg**	**13 47 50.4**	**-0.8**
ITM	**Ithomi**	**0.87**	**181**	P	**Pg**	**13 47 50.4**	**-0.8**
ITM				S	**Sb**	**13 48 03.8**	**+1.3**
ITM				AML	AML	13 48 08.4	
	comp=E,2430µm,0.3s						
ITM				AML	AML	13 48 09.1	
	comp=N,1893µm,0.3s						
EVR	**Evrytania**	**0.87**	**353**	P	**Pg**	**13 47 50.7**	**-0.5**
EVR				S	**Sb**	**13 48 04.0**	**+1.3**
	comp=N,2µm,0.4s						
EVR	**Evrytania**	**0.87**	**353**	P	**Pg**	**13 47 50.6**	**-0.7**
EVR				S	**Sb**	**13 48 03.6**	**+0.9**
EVR				AML	AML	13 48 07.8	
	comp=E,3849µm,0.4s						
EVR				AML	AML	13 48 08.1	
	comp=N,5319µm,0.3s						
AXAR	**Agios Charalam**	**0.91**	**38**	P	**Pg**	**13 47 51.3**	**-0.6**
MAKR	**Makrakomi, Fth**	**0.97**	**9**	P	**Pb**	**13 47 53.3**	**+0.5**
AGG	**Agios Georgios**	**1.02**	**17**	P	**Pg**	**13 47 53.0**	**-0.9**
AGG				S	**Sn**	**13 48 08.5**	**+0.4**
	comp=N,2µm,0.3s						
AGG	**Agios Georgios**	**1.02**	**17**	P	**Pg**	**13 47 53.0**	**-0.9**
AGG				S	**Sb**	**13 48 07.0**	**+0.2**
AGG				AML	AML	13 48 10.6	
	comp=E,4204µm,0.3s						
AGG				AML	AML	13 48 12.3	
	comp=N,3859µm,0.4s						
LKR	**Lokris**	**1.02**	**54**	P	**Pg**	**13 47 52.8**	**-1.3**
LKR	**Lokris**	**1.02**	**54**	P	**Pg**	**13 47 52.6**	**-1.4**
LKR				S	**Sb**	**13 48 07.0**	**+0.1**
LKR				AML	AML	13 48 10.9	
	comp=E,6488µm,0.5s						
LKR				AML	AML	13 48 12.0	
	comp=N,7209µm,0.3s						
VLMS	**Volimes, Zakyn**	**1.03**	**261**	P	**Pg**	**13 47 53.3**	**-0.9**
VIL2	**Platees**	**1.05**	**81**	P	**Pn**	**13 47 54.8**	**+0.3**
VLS	**Valsamata**	**1.08**	**277**	P	**Pg**	**13 47 54.1**	**-1.0**
VLS	**Valsamata**	**1.08**	**277**	P	**Pg**	**13 47 54.1**	**-1.0**
VILL	**Villia**	**1.08**	**84**	P	**Pg**	**13 47 54.4**	**-0.8**
DID	**Didima**	**1.16**	**118**	P	**Pg**	**13 47 55.8**	**-0.8**
DID	**Didima**	**1.16**	**118**	P	**Pb**	**13 47 56.1**	**+0.1**
DID				S	**Sn**	**13 48 12.1**	**+0.6**
DID				AML	AML	13 48 15.7	
	comp=E,3685µm,0.4s						
DID				AML	AML	13 48 16.3	
	comp=N,2751µm,0.3s						
EVGI	**Lefkada island**	**1.16**	**300**	P	**Pg**	**13 47 56.0**	**-0.8**
EVGI	**Lefkada island**	**1.16**	**300**	P	**Pg**	**13 47 55.9**	**-0.8**
FSK	**Fiskardo**	**1.16**	**291**	P	**Pg**	**13 47 55.9**	**-0.9**
FSK	**Fiskardo**	**1.16**	**291**	P	**Pg**	**13 47 55.8**	**-0.9**
KRND	**KRANIDI**	**1.16**	**125**	P	**Pb**	**13 47 56.2**	**+0.1**
KRND	**KRANIDI**	**1.16**	**125**	P	**Pn**	**13 47 56.3**	**+0.3**
PYL	**PYLOS**	**1.16**	**188**	P	**Pg**	**13 47 55.7**	**-1.0**
LKD2	**Lefkada island**	**1.25**	**306**	P	**Pn**	**13 47 57.4**	**+0.1**
TSLK	**Tsoukalades, L**	**1.27**	**308**	P	**Pn**	**13 47 58.0**	**+0.4**
TSLK	**Tsoukalades, L**	**1.27**	**308**	P	**Pg**	**13 47 58.3**	**-0.6**
DYR	**Agios Nikonas**	**1.32**	**166**	P	**Pn**	**13 47 58.2**	**0.0**
ATH	**Athens Observa**	**1.40**	**93**	P	**Pb**	**13 48 00.3**	**+0.2**
MRKA	**Markates**	**1.45**	**63**	P	**Pn**	**13 48 00.4**	**+0.5**
ATHU	**Athens Univers**	**1.46**	**93**	P	**Pb**	**13 48 00.9**	**-0.2**
VLY	**Voula,Athens**	**1.47**	**97**	P	**Pn**	**13 48 00.9**	**+0.6**
VLY	**Voula,Athens**	**1.47**	**97**	P	**Pb**	**13 48 01.1**	**-0.3**
THL	**Klokotos Trika**	**1.51**	**2**	P	**Pn**	**13 48 01.5**	**+0.7**
THL	**Klokotos Trika**	**1.51**	**2**	P	**Pb**	**13 48 02.0**	**0.0**
PTL	**Penteli**	**1.52**	**89**	P	**Pn**	**13 48 01.4**	**+0.5**
VLI	**Veliai**	**1.55**	**149**	P	**Pn**	**13 48 01.8**	**+0.5**
VLI	**Veliai**	**1.55**	**149**	P	**Pb**	**13 48 02.9**	**+0.3**
NEO	**Neokhori**	**1.60**	**38**	P	**Pn**	**13 48 02.8**	**+0.7**
SKIA	**Skiathos**	**1.63**	**46**	P	**Pn**	**13 48 03.0**	**+0.6**
XOR	**Xorichti**	**1.64**	**36**	P	**Pn**	**13 48 03.2**	**+0.6**
XOR	**Xorichti**	**1.64**	**36**	P	**Pn**	**13 48 03.1**	**+0.6**
LIT	**Litokhoron**	**2.09**	**12**	P	**Pn**	**13 48 09.6**	**+0.8**
FNA	**Florina**	**2.77**	**351**	P	**Pb**	**13 48 21.1**	**-2.3**
STIP	**Stip**	**3.65**	**3**	i Pn	**Pn**	**13 48 33.6**	**+3.4**
STON	**Ston**	**5.80**	**327**	ePn	**Pn**	**13 49 01.1**	**+1.3**
STON				Sn	**Sn**	**13 50 04.6**	**-1.3**
MAKA	**Makarska**	**6.43**	**326**	Sn	**Sn**	**13 50 19.6**	**-1.9**
RICI	**Ricice**	**6.55**	**328**	iPn		13 49 10.6	
RICI				Sn	**Sn**	**13 50 22.5**	**-2.0**
KIJV	**Kijevo**	**7.27**	**327**	ePn	**Pn**	**13 49 20.8**	**+0.8**
KIJV				Sn	**Sn**	**13 50 42.6**	**+0.3**
ZIRJ	**Zirje**	**7.36**	**322**	ePn	**Pn**	**13 49 21.5**	**+0.4**
ZIRJ				Sn	**Sn**	**13 50 42.0**	**-2.2**
MORI	**Morici**	**7.48**	**323**	i Pn	**Pn**	**13 49 24.0**	**+1.2**
MORI				Sn	**Sn**	**13 50 44.9**	**-2.5**
DUGI	**Dugi Otok**	**7.89**	**321**	ePn	**Pn**	**13 49 30.6**	**+2.1**
DUGI				Sn	**Sn**	**13 50 56.4**	**-1.1**
UDBI	**Udbina**	**7.97**	**326**	ePn	**Pn**	**13 49 31.1**	**+1.6**
UDBI				Sn	**Sn**	**13 50 57.5**	**-2.0**
BRTR	**Keskin Array B**	**9.27**	**76**	Pn	**Pn**	**13 49 49.1**	**+1.6**
	comp=N,0.3nm,0.3s,baz=258,slow=13,SNR=7.6						
VYHS	**Vyhne**	**10.68**	**349**	ePN	Pn	13 50 01.7	-5.0
ESDC	**Sonseca Array**	**20.22**	**283**	P	Pn	13 52 10.4	-0.3
	comp=N,0.1nm,0.3s,baz=81,slow=11,SNR=2.6						
HFS	**Hagfors**	**22.72**	**349**	P	**P**	**13 52 34.6**	**-0.7**
	comp=N,2.1nm,0.7s,baz=173,slow=15,SNR=4.5						
FINES	**FINESS Array B**	**23.56**	**5**	P	**P**	**13 52 44.0**	**+0.2**
	comp=N,2.0nm,0.9s,baz=164,slow=16,SNR=2.6						
NOA	**NORSAR Array B**	**23.98**	**347**	P	**P**	**13 52 47.5**	**-0.4**
	comp=N,0.8nm,0.8s,baz=170,slow=12,SNR=3.0						
EKA	**Eskdalemuir Ar**	**24.19**	**324**	P	**P**	**13 52 51.0**	**+1.2**
	comp=N,1.2nm,0.5s,baz=126,slow=7.9,SNR=5.4						
TORD	**Torodi Ar. Bea**	**30.66**	**221**	P	**P**	**13 53 49.0**	**+0.8**
	comp=N,0.7nm,0.7s,baz=26,slow=8.2,SNR=3.8						
MKAR	**Makanchi Array**	**44.41**	**59**	P	**P**	**13 55 44.1**	**-0.2**
	comp=N,1.8nm,0.7s,baz=268,slow=6.9,SNR=6.3						
ZALV	**Zalesovo Beam**	**44.94**	**48**	P	**P**	**13 55 48.4**	**+0.1**
	comp=N,1.4nm,0.5s,baz=272,slow=8.9,SNR=7.0						

*IDC **07** 14:00:45.3±3.1, 55.°60S×29.°70W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.8/15, mbtmp4.0/2, MS3.3/7, Ms1 3.3/7, ms1mx3.2/15, Error ellipse: s-maj=113.1km s-min=49.7km az=174.0*
*ISCJB **07** 14:00:46.0±0.7, 55.°4S±0.°1×29.°8W±0.°2, h10km, mb4.1/2, MS3.3/7, Error ellipse: s-maj=18.2km s-min=10.7km az=135.6*
*NEIC **07** 14:00:51.6±2.6, 55.°4S±0.°1×29.°8W±0.°1, h35km±1km, mb4.5/12*
ISC 07 14:00:47.6±0.9**, 55.°4S**±0.°1×**29.°9W**±0.°1**, h10**km**, n26,**

σ1♀31/16, mb4.4/7, MS3.3/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.98**	**283**		**Pn**	**14 01 48.0**	**-0.6**
EFI	**East Falkland**	**17.11**	**271**		**P**	**14 04 48.4**	**+0.1**
PMSA	**Palmer Station**	**19.23**	**227**	P	**Pn**	**14 05 12.8**	**+0.3**
SNAA	**Sanae**	**19.99**	**155**	P	**P**	**14 05 19.6**	**-0.3**
GO09	**Cerro Castillo**	**25.40**	**261**		P	14 06 07.2	-7.6
PLCA	**Paso Flores** comp=Z,81nm,19.8s,baz=166,slow=36	**30.38**	**282**	LR	LR	14 18 50.0	
QSPA	**South Pole Qui**	**34.88**	**180**	P	**P**	**14 07 39.1**	**+0.2**
QSPA	comp=Z,8.2nm,1.4s			IAmb	IAmb	14 07 46.6	
CPUP	**Villa Florida** comp=Z,32nm,19.7s,baz=174,slow=34	**35.23**	**314**	LR	LR	14 20 52.2	
MAW	**Mawson** comp=Z,28nm,18.1s,baz=238,slow=34	**41.59**	**145**	LR	LR	14 24 12.3	
MAW	**Mawson**	**41.59**	**145**	P	**P**	**14 08 33.9**	**-1.1**
GO02	**Mina Guanaco**	**41.83**	**300**	P	**P**	**14 08 35.8**	**-2.1**
GO02	comp=Z,16nm,1.4s			IAmb	IAmb	14 08 50.0	
BDFB	**Brasilia** comp=Z,38nm,18.4s,baz=140,slow=33	**42.04**	**333**	LR	LR	14 24 14.7	
GO01	**Chusmiza**	**46.30**	**304**	P	**P**	**14 09 15.2**	**+1.2**
GO01	comp=Z,3.4nm,0.9s			IAmb	IAmb	14 09 17.9	
PB11	**IPOC Station P**	**46.44**	**304**	P	**P**	**14 09 14.2**	**-0.5**
PB11	comp=Z,6.4nm,1.0s			IAmb	IAmb	14 09 29.7	
MNMC	**Minye Minye**	**46.95**	**304**	P	**P**	**14 09 20.8**	**+1.9**
VNDA	**Vanda**	**47.17**	**183**	P	**P**	**14 09 20.8**	**+1.3**
VNDA	comp=Z,10nm,1.5s			IAmb	IAmb	14 09 31.5	
BOSA	**Boshof** comp=Z,54nm,19.7s,baz=211,slow=32	**47.30**	**79**	LR	LR	14 25 47.5	
LPAZ	**La Paz** comp=Z,1.4nm,0.5s,baz=136,slow=8.5,SNR=7.0	**48.75**	**308**	P	**P**	**14 09 34.0**	**+0.8**
LPAZ	comp=Z,14nm,19.8s,baz=116,slow=38			LR	LR	14 31 39.2	
LPAZ	**La Paz**	**48.75**	**308**	P	**P**	**14 09 35.9**	**+2.7**
LPAZ	comp=Z,6.3nm,1.3s			IAmb	IAmb	14 09 45.8	
H10N1	**ASCENSION HYDR** baz=201	**48.96**	**20**	T	T	15 02 37.1	
H10N3	**ASCENSION HYDR** baz=201,slow=74,SNR=7.7	**48.96**	**20**	T	T	15 02 38.8	
H10N2	**ASCENSION HYDR** baz=201,slow=74	**48.97**	**20**	T	T	15 02 38.8	
ROSC	**El Rosal** comp=Z,58nm,18.3s,baz=182,slow=39	**70.29**	**312**	LR	LR	14 46 16.0	
TORD	**Torodi Ar. Bea** comp=Z,1.4nm,0.9s,baz=194,slow=6.1,SNR=6.0	**73.25**	**32**	P	**P**	**14 12 19.0**	**+0.2**
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.5s,baz=134,slow=1.8,SNR=3.0	**134.66**	**319**	PKP	**PKPdf**	**14 20 04.4**	**-0.4**
ILAR	**Eielson Array** comp=Z,1.5nm,0.8s,baz=116,slow=1.8,SNR=14	**148.53**	**313**	PKPbc	**PKPbc**	**14 20 32.4**	**-0.8**

*IDC **07** 14:38:09.3±3.1, 15°.95N×145°.47E, h206km±14km, mb3.1/6, mb1 3.2/7, mb1mx3.0/46, mbtmp3.6/7, MS3.4/1, Ms1 3.4/1, ms1mx2.3/18, Error ellipse: s-maj=68.5km s-min=15.0km az=77.0*

*NEIC **07** 14:38:09.6±1.6, 15°.96N±0°.09×145°.4E±0°.2, h208km±13km, mb3.3/1*

ISC 07 14:38:09.2±1.0, 15°.94N±0°.08×145°.4E±0°.2, h200km, n16, σ1♀30/13, mb3.3/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**0.50**	**38**		**Pn**	**14 38 38.1**	**+1.8**
SARN	**Sarigan**	**0.84**	**26**		**Pn**	**14 38 39.1**	**+1.1**
GUMO	**Guam** 3.7nm,0.3s,baz=323,slow=20,SNR=2.6	**2.39**	**192**	P	**Pn**	**14 38 53.6**	**+1.6**
GUMO	6.6nm,0.3s,baz=93,slow=14,SNR=4.5			S	**Sn**	**14 39 26.9**	**+1.6**
GUMO	**Guam**	**2.39**	**192**		**Pn**	**14 38 53.2**	**+1.2**
GUMO					**Sn**	**14 39 25.2**	**-0.2**
H11N1	**WAKE ISLAND Hy** baz=262	**20.80**	**76**	T	T	15 03 48.3	
H11N2	**WAKE ISLAND Hy** baz=262	**20.81**	**76**	T	T	15 03 46.8	
H11N3	**WAKE ISLAND Hy** baz=262	**20.82**	**76**	T	T	15 03 50.2	
SIJI	**Sorong** comp=Z,81nm,18.2s,baz=48,slow=34	**21.76**	**221**	LR	LR	14 50 29.9	
KSRS	**Korea Array** 1.2nm,0.9s,baz=153,slow=10,SNR=4.9	**26.42**	**328**	P	**P**	**14 43 27.7**	**+0.3**
COEN	**Coen**	**29.79**	**184**	P	**P**	**14 43 55.6**	**-1.9**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=18,slow=9.5,SNR=13	**37.28**	**197**	P	**P**	**14 45 01.4**	**-0.7**
ASAR	**Alice Springs** 0.3nm,0.6s,baz=18,slow=7.0,SNR=13	**40.94**	**196**	P	**P**	**14 45 32.1**	**-0.3**
CMAR	**Chiang Mai Arr** 0.2nm,0.4s,baz=85,slow=5.8,SNR=4.2	**44.35**	**280**	P	**P**	**14 46 00.6**	**+0.6**
STKA	**Stephens Creek** 1.5nm,0.9s,baz=357,slow=6.9,SNR=4.0	**47.68**	**184**	P	**P**	**14 46 25.8**	**+0.1**
STKA	**Stephens Creek** comp=Z,1.7nm,1.4s	**47.68**	**184**	IAmb	IAmb	14 46 39.5	
MKAR	**Makanchi Array** comp=Z,1.6nm,1.0s,baz=96,slow=8.2,SNR=3.5	**60.17**	**315**	P	**P**	**14 47 54.9**	**-1.1**

*ISCJB **07** 14:48:33.9±0.5, 36°.00N±0°.03×140°.13E±0°.05, h76km±4km, mb3.5/6, Error ellipse: s-maj=7.1km s-min=5.4km az=176.0*

*IDC **07** 14:48:35.1±2.5, 35°.97N×140°.18E, h74km±21km, mb3.2/6, mb1 3.4/8, mb1mx3.2/40, mbtmp3.6/8, MS2.3/1, Ms1 2.3/1, ms1mx2.0/22, Error ellipse: s-maj=22.3km s-min=20.2km az=95.0*

*JMA **07** 14:48:35.6±0.1, 36°.04N×140°.10E, h61km±1km, M3.3 Broadband fault plane solution: P waves. NP1: φs=358.00000°, δ66.00000°, λ80.00000°. NP2: φs=202.00000°, δ26.00000°, λ111.00000°. Principal axes: T Plg68.0000°, Azm249.0000°; N Plg9.0000°, Azm3.0000°; P Plg20.0000°, Azm96.0000°;*

JMA Felt I J1.

ISC 07 14:48:34.9±0.9, 36°.01N±0°.04×140°.12E±0°.05, h68km±7km, n28, σ1♀01/34, mb3.6/6, 2C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.22**	**17**	↑P	**Pn**	**14 48 45.3**	**-0.1**
JYT				S	**Sn**	**14 48 52.5**	**-0.5**
JIHU	**Itakohorinouch**	**0.34**	**98**	↑P	**Pn**	**14 48 46.7**	**+0.6**
TOK	**Tokyo**	**0.44**	**222**	P	**Pn**	**14 48 48.4**	**+1.5**
JAG	**Ashikaga**	**0.68**	**308**	↓P	**Pn**	**14 48 49.5**	**+0.1**
JAG				S	**Sn**	**14 48 59.7**	**-0.4**
JRY	**Ryogami san**	**0.98**	**271**	↓P	**Pn**	**14 48 53.3**	**+0.2**
JRY				*eS*	**Sn**	**14 49 06.3**	**-0.4**
JKT	**Katashina**	**1.03**	**317**	↓P	**Pn**	**14 48 53.7**	**-0.1**
JKT				*eS*	**Sn**	**14 49 06.7**	**-1.0**
JOD2	**Odawara 2**	**1.12**	**228**	↓P	**Pn**	**14 48 54.8**	**-0.1**
JOD2				S	**Sn**	**14 49 08.6**	**-1.2**
BSO3	**Boso 3**	**1.25**	**165**	P	**Pn**	**14 48 57.3**	**+1.0**
BSO3				*eS*	**Sn**	**14 49 13.5**	**+1.2**
JYN	**Shimob**	**1.38**	**249**	↓P	**Pn**	**14 48 58.8**	**+0.5**
JYN				*eS*	**Sn**	**14 49 16.1**	**+0.3**
JIM2	**Oshima 3**	**1.41**	**204**	P	**Pn**	**14 48 58.2**	**-0.5**
JIM2				S	**Sn**	**14 49 14.9**	**-1.6**
JFNN	**Fujinakano**	**1.42**	**235**	P	**Pn**	**14 48 58.8**	**0.0**
JFNN				S	**Sn**	**14 49 16.0**	**-0.8**
JFY	**Yanaizu**	**1.43**	**347**	↓P	**Pn**	**14 48 59.4**	**+0.5**
JFY				*eS*	**Sn**	**14 49 17.7**	**+0.8**
MJAR	**Matsushiro Arr** 6.1nm,0.3s,baz=99,slow=10,SNR=360	**1.63**	**289**	P	**Pn**	**14 49 02.0**	**+0.5**
MJAR	1.8nm,0.3s,baz=89,slow=32,SNR=10.0			S	**Sn**	**14 49 23.0**	**+1.3**
MJAR	comp=Z,26nm,18.4s,baz=25,slow=41			LR	LR	14 49 42.9	
MAT	**Matsushiro**	**1.63**	**289**	P	**Pn**	**14 49 02.4**	**+0.8**
MAT				S	**Sn**	**14 49 22.8**	**+1.1**
ASAJ	**Asahikawa** 0.3nm,0.3s,baz=221,slow=19,SNR=4.0	**8.31**	**12**	P	**Pn**	**14 50 31.6**	**-1.1**
KSRS	**Korea Array** 0.2nm,0.3s,baz=93,slow=13,SNR=3.9	**9.89**	**282**	P	**Pn**	**14 50 57.5**	**+3.2**
KSRS	comp=Z,18nm,20.5s,baz=340,slow=35			LR	LR	14 54 26.4	
SONM	**Songino Array** 1.1nm,0.6s,baz=106,slow=11,SNR=2.6	**27.51**	**306**	P	**P**	**14 54 14.4**	**-0.7**
H11N2	**WAKE ISLAND Hy** baz=325	**28.57**	**117**	T	T	15 24 20.6	
H11N1	**WAKE ISLAND Hy** baz=325	**28.57**	**117**	T	T	15 24 19.4	
H11N3	**WAKE ISLAND Hy** baz=325	**28.58**	**117**	T	T	15 24 18.3	
H11S1	**WAKE ISLAND Hy** baz=319	**29.23**	**120**	T	T	15 25 11.7	
H11S3	**WAKE ISLAND Hy** baz=313	**29.23**	**120**	T	T	15 25 16.8	
H11S2	**WAKE ISLAND Hy** baz=313	**29.24**	**120**	T	T	15 25 17.9	
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=86,slow=8.8,SNR=3.1	**41.84**	**313**	P	**P**	**14 56 17.9**	**-0.1**
MKAR	**Makanchi Array** 0.9nm,0.7s,baz=71,slow=10,SNR=3.4	**43.78**	**303**	P	**P**	**14 56 33.9**	**+0.1**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=276,slow=6.2,SNR=4.0	**50.91**	**32**	P	**P**	**14 57 29.2**	**+0.4**
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=2.7,slow=7.4,SNR=7.8	**55.92**	**187**	P	**P**	**14 58 05.0**	**-1.0**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=18,slow=12,SNR=4.8	**59.65**	**187**	P	**P**	**14 58 31.2**	**-0.9**

*NEIC **07** 15:09:14.8±2.0, 16°.0S±0°.1×176°.2W±0°.1, h333km±8km, mb4.2/17*

*IDC **07** 15:09:14.9±1.9, 16°.24S×176°.03W, h341km±21km, mb3.5/11, mb1 3.7/13, mb1mx3.5/36, mbtmp4.2/13, Error ellipse: s-maj=27.5km s-min=12.0km az=143.0*

*ISCJB **07** 15:09:15.5±0.4, 16°.1S±0°.1×176°.09W±0°.08, h360km, mb3.8/11, Error ellipse: s-maj=15.1km s-min=7.9km az=150.6*

ISC 07 15:09:16.6±0.5, 16°.1S±0°.1×175°.96W±0°.09, h360km, n34, σ1♀67/33, mb4.0/19, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 14nm,0.3s,baz=285,slow=12,SNR=23	**4.58**	**63**	P	**Pn**	**15 10 31.9**	**-0.4**
AFI	4.0nm,0.3s,baz=308,slow=19,SNR=2.6			S	**S**	**15 11 29.3**	**-4.1**
AFI	**Afiamalu**	**4.58**	**63**		**Pn**	**15 10 32.1**	**-0.2**
MSVF	**Nonsavu**	**5.97**	**253**		**Pn**	**15 10 50.7**	**+3.2**
NIUE	**Niue**	**6.48**	**118**	Pn	**Pn**	**15 10 54.5**	**+1.2**
DZM	**Mont Dzumac** 0.1nm,0.3s,baz=139,slow=19,SNR=1.8	**17.66**	**248**	P	**P**	**15 12 56.7**	**-2.9**
URZ	**Urewera** 2.1nm,0.4s,baz=340,slow=18,SNR=5.1	**22.93**	**194**	P	**P**	**15 13 47.9**	**-2.5**
URZ	**Urewera** comp=Z,15nm,1.2s	**22.93**	**194**	IAmb	IAmb	15 14 01.6	
EIDS	**Eidsvold**	**32.11**	**248**	P	**P**	**15 15 08.0**	**-3.8**
EIDS	comp=Z,10nm,1.3s			IAmb	IAmb	15 15 17.0	
CTA	**Charters Tower** comp=Z,1.6nm,0.8s,baz=66,slow=10.0,SNR=2.6	**36.09**	**258**	P	**P**	**15 15 43.6**	**-2.1**
CAN	**Canberra**	**36.67**	**232**	P	**P**	**15 15 50.4**	**-0.1**
CAN	comp=Z,21nm,1.4s			IAmb	IAmb	15 16 06.3	
COEN	**Coen**	**39.48**	**267**	P	**P**	**15 16 15.2**	**+1.2**
COEN	comp=Z,9.5nm,0.9s			IAmb	IAmb	15 16 16.0	
KHLU	**Kahalu`u**	**40.56**	**30**	P	**P**	**15 16 21.9**	**-0.7**
AIN	**Ainahou**	**40.59**	**31**	P	**P**	**15 16 23.8**	**+0.8**
STKA	**Stephens Creek** comp=Z,1.5nm,0.6s,baz=102,slow=10,SNR=7.1	**41.57**	**240**	P	**P**	**15 16 29.3**	**-1.3**
STKA	**Stephens Creek** comp=Z,2.2nm,1.5s	**41.57**	**240**	IAmb	IAmb	15 16 37.7	
MCQ	**Macquarie Isla**	**43.00**	**201**	P	**P**	**15 16 41.8**	**+0.2**
BBOO	**Buckleboo**	**46.34**	**240**	P	**P**	**15 17 07.7**	**-0.5**
BBOO	comp=Z,30nm,1.4s			IAmb	IAmb	15 17 17.6	
WR0	**Warramunga Arr**	**47.10**	**258**	P	**P**	**15 17 13.2**	**-0.9**
WB0	**Warramunga Arr**	**47.25**	**258**	P	**P**	**15 17 14.9**	**-0.4**
WB0	comp=Z,9.4nm,0.8s			IAmb	IAmb	15 17 15.6	
WB2	**Warramunga Arr**	**47.28**	**258**	P	**P**	**15 17 15.2**	**-0.3**
WB2	comp=Z,7.2nm,0.7s			IAmb	IAmb	15 17 15.9	
WRAB	**Tennant Creek**	**47.28**	**258**	P	**P**	**15 17 15.2**	**-0.3**
WRAB	comp=Z,6.4nm,0.7s			IAmb	IAmb	15 17 15.9	
WRA	**Warramunga Arr** comp=Z,4.2nm,0.5s,baz=97,slow=6.3,SNR=29	**47.29**	**258**	P	**P**	**15 17 15.4**	**-0.2**
AS31	**Alice Springs**	**47.56**	**252**	P	**P**	**15 17 17.6**	**0.0**
ASAR	**Alice Springs** comp=Z,9.8nm,0.4s,baz=88,slow=7.8,SNR=633	**47.56**	**252**	P	**P**	**15 17 17.4**	**-0.2**
FORT	**Forrest**	**52.91**	**243**	P	**P**	**15 17 55.8**	**-1.4**
FORT	comp=Z,11nm,0.7s			IAmb	IAmb	15 17 57.1	
PSA00	**Pilbara Seismi**	**60.65**	**254**	P	**P**	**15 18 50.6**	**-0.6**
CASY	**Casey**	**68.77**	**205**	P	**P**	**15 19 44.7**	**+2.4**
PETK	**Petropavlovsk-** comp=Z,10nm,1.2s,baz=138,slow=9.1,SNR=3.2	**72.55**	**344**	P	**P**	**15 20 05.4**	**+0.5**
NVAR	**Mina Array Bea** comp=Z,0.7nm,0.7s,baz=225,slow=9.0,SNR=5.1	**76.49**	**43**	P	**P**	**15 20 29.6**	**+1.6**
TXAR	**Lajitas Array** comp=Z,1.3nm,0.9s,baz=224,slow=5.2,SNR=6.2	**83.04**	**57**	P	**P**	**15 21 04.6**	**+1.7**
ILAR	**Eielson Array** comp=Z,1.1nm,0.6s,baz=219,slow=5.8,SNR=19	**83.60**	**12**	P	**P**	**15 21 05.2**	**+0.4**
PDAR	**Pinedale Array** comp=Z,0.6nm,0.7s,baz=213,slow=2.5,SNR=6.7	**84.42**	**43**	P	**P**	**15 21 10.2**	**+0.5**
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.8s,baz=134,slow=2.6,SNR=3.7	**90.49**	**289**	P	**P**	**15 21 40.0**	**+1.2**
BRTR	**Keskin Array B** comp=Z,2.1nm,0.8s,baz=82,slow=3.3,SNR=8.1	**145.07**	**318**	PKPbc	**PKPbc**	**15 28 12.2**	**-0.1**

*IDC **07** 15:26:28.8±0.9, 8°.70S×124°.61E, h0km, mb4.0/6, mb1 4.2/9, mb1mx3.9/28, mbtmp4.1/9, ML4.1/3, MS2.5/2, Ms1 2.5/2, ms1mx2.3/25, Error ellipse: s-maj=35.5km s-min=16.0km az=74.0*

*ISCJB **07** 15:26:37.8±0.3, 9°.20S±0°.04×124°.23E±0°.05, h100km, mb3.9/6, Error ellipse: s-maj=7.9km s-min=4.3km az=138.4*

*NEIC **07** 15:26:38.9±3.0, 9°.26S±0°.08×124°.13E±0°.09, h103km±7km, mb4.4/12*

*DJA **07** 15:26:40.0±0.4, 9°.S±4°×12°.4E±°, h86km±9km, M4.3/7, mb4.5/5, mB4.9/1, MLv4.2/7, Mw(mB)4.1/1*

ISC 07 15:26:39.0±0.5, 9°.31S±0°.05×124°.18E±0°.06, h100km, n48, σ1♀93/56, mb4.2/11, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.45**	**169**	P	**Pn**	**15 26 56.0**	**+1.3**
SOEI	**Soe**	**0.45**	**169**	Pn	**Pn**	**15 26 56.2**	**+1.6**
BATI	**Baumata** 90nm,0.3s,baz=28,slow=2.0,SNR=166	**1.02**	**209**	Pn	**Pn**	**15 27 01.8**	**+2.0**
BATI	93nm,0.3s,baz=61,slow=19,SNR=28			Sn	**Sn**	**15 27 16.1**	**+0.7**
BATI	comp=Z,159nm,18.2s,baz=87,slow=38			LR	LR	15 27 35.2	
BATI	**Baumata**	**1.02**	**209**	P	**Pn**	**15 27 01.6**	**+1.8**
BATI				S	**Sn**	**15 27 18.6**	**+3.2**
MMRI	**Maumere**	**2.03**	**289**	P	**Pn**	**15 27 11.3**	**-0.7**
MMRI				S	**Sn**	**15 27 35.8**	**-1.4**
MMRI	**Maumere**	**2.03**	**289**	Pn	**Pn**	**15 27 11.5**	**-0.5**
MMRI				Sn	**Sn**	**15 27 37.5**	**+0.4**
KAPI	**Kappang** comp=Z,46nm,20.4s,baz=298,slow=41	**6.12**	**314**	LR	LR	15 30 34.7	
PLAI	**Plampang** 36nm,0.9s,0.2nm	**6.34**	**274**	P	**Pn**	**15 28 10.4**	**+0.4**
SANI	**Sanana** 18nm,0.6s,0.1nm	**7.43**	**14**	P	**Pn**	**15 28 26.6**	**+1.7**
MTN	**Manton Dam**	**7.68**	**118**	Pn	**Pn**	**15 28 30.6**	**+2.4**
KNRA	**Kununurra**	**7.75**	**145**		**Pn**	**15 28 30.6**	**+1.4**
FITZ	**Fitzroy Crossi** 1.3nm,0.3s,baz=6.2,slow=8.0,SNR=42	**8.85**	**171**	Pn	**Pn**	**15 28 44.1**	**0.0**
FITZ	7.8nm,0.3s,baz=274,slow=19,SNR=26			Sn	**Sn**	**15 30 18.3**	**-3.8**
FITZ	comp=Z,29nm,19.4s,baz=350,slow=38			LR	LR	15 32 24.8	
FITZ	**Fitzroy Crossi**	**8.85**	**171**	Pn	**Pn**	**15 28 44.8**	**+0.7**
FITZ					**Sn**	**15 30 20.8**	**-1.4**
WB0	**Warramunga Arr**	**14.34**	**138**	Pn	**Pn**	**15 29 56.4**	**-1.0**
WRA	**Warramunga Arr** 0.9nm,0.3s,baz=318,slow=13,SNR=34	**14.43**	**138**	Pn	**Pn**	**15 29 57.8**	**-0.8**
WRA	1.8nm,0.3s,baz=320,slow=23,SNR=15			Sn	Sn	15 32 28.6	-9.1
WRAB	**Tennant Creek**	**14.43**	**138**	Pn	**Pn**	**15 29 58.7**	**+0.1**
WB2	**Warramunga Arr**	**14.44**	**138**		**Pn**	**15 29 58.4**	**-0.3**
WR0	**Warramunga Arr**	**14.57**	**138**	Pn	**Pn**	**15 30 00.2**	**-0.2**
SBUM	**Sibu**	**16.68**	**314**	P	**P**	**15 30 27.9**	**+0.3**
AS31	**Alice Springs**	**17.04**	**148**	P	**P**	**15 30 32.7**	**+1.2**
ASAR	**Alice Springs** 0.6nm,0.3s,baz=320,slow=12,SNR=44	**17.04**	**148**	P	**P**	**15 30 32.5**	**+1.0**
ASAR	0.6nm,0.3s,baz=315,slow=21,SNR=7.4			S	**Sn**	**15 33 32.8**	**-8.0**
KKM	**Kota Kinabalu**	**17.19**	**332**	P	**P**	**15 30 34.0**	**+0.8**
KKM	comp=Z,16nm,1.0s			IAmb	IAmb	15 30 52.7	
XMIS	**Christmas Isla**	**18.29**	**265**	P	**P**	**15 30 44.5**	**-0.8**
MORW	**Morawa**	**21.09**	**200**		**P**	**15 31 18.3**	**+2.9**
MORW	comp=Z,12nm,1.1s			IAmb	IAmb	15 31 23.3	
FORT	**Forrest**	**21.67**	**171**	P	**P**	**15 31 24.5**	**+2.9**
FORT	comp=Z,26nm,1.2s			IAmb	IAmb	15 31 28.6	
PMG	**Port Moresby**	**22.68**	**92**	P	**P**	**15 31 32.7**	**+0.3**
PMG	comp=Z,22nm,1.2s			IAmb	IAmb	15 31 46.2	
BBOO	**Buckleboo**	**25.84**	**157**	P	**P**	**15 32 05.6**	**+4.4**
DLV	**T Lat**	**26.25**	**323**	P	**P**	**15 32 02.8**	**-2.5**
STKA	**Stephens Creek** comp=Z,1.5nm,0.8s,baz=330,slow=14,SNR=2.5	**27.67**	**147**	P	**P**	**15 32 21.2**	**+3.6**
STKA	**Stephens Creek**	**27.67**	**147**	P	**P**	**15 32 17.7**	**+0.1**
EIDS	**Eidsvold**	**30.15**	**125**	P	**P**	**15 32 39.9**	**+0.2**
EIDS	comp=Z,9.4nm,1.2s			IAmb	IAmb	15 32 57.3	
CMAR	**Chiang Mai Arr** comp=Z,1.3nm,0.8s,baz=142,slow=6.5,SNR=9.9	**37.17**	**318**	P	**P**	**15 33 41.2**	**+0.7**
LSA	**Lhasa**	**50.15**	**322**	P	**P**	**15 35 26.4**	**+1.3**
LSA	comp=Z,4.2nm,0.7s			IAmb	IAmb	15 35 27.0	
ODAN	**Odare** comp=Z,9.2nm,0.7s	**50.66**	**316**	*eP*	**P**	**15 35 29.1**	**+0.4**
TAPN	**Taplejung** comp=Z,8.1nm,0.5s	**50.76**	**317**	*eP*	**P**	**15 35 29.8**	**+0.3**
RAMN	**Ramite** comp=Z,19nm,0.8s	**51.26**	**316**	*eP*	**P**	**15 35 33.8**	**+0.6**
JIRN	**Jiri** comp=Z,12nm,0.6s	**51.99**	**316**	*eP*	**P**	**15 35 39.1**	**+0.3**
GUN	**Gumba** comp=Z,15nm,0.7s	**52.36**	**316**	*eP*	**P**	**15 35 41.9**	**+0.4**
PKI	**Pulchoki** comp=Z,6.3nm,0.4s	**52.47**	**316**	*eP*	**P**	**15 35 42.1**	**-0.2**
PKIN	**Phulchoki** comp=Z,5.5nm,0.3s	**52.48**	**315**	*eP*	**P**	**15 35 42.0**	**-0.3**
GKN	**Gorkha** comp=Z,7.9nm,0.3s	**53.27**	**315**	*eP*	**P**	**15 35 48.2**	**+0.2**
USRK	**Ussuriysk Ar.** comp=Z,1.4nm,0.6s,baz=184,slow=6.0,SNR=5.6	**53.73**	**7**	P	**P**	**15 35 49.3**	**-1.4**
KOLN	**Koldanda** comp=Z,8.2nm,0.5s	**53.86**	**314**	*eP*	**P**	**15 35 52.3**	**0.0**
DANN	**Dangsing** comp=Z,18nm,0.7s	**54.10**	**315**	*eP*	**P**	**15 35 54.3**	**+0.1**
SONM	**Songino Array** comp=Z,0.6nm,0.5s,baz=155,slow=6.5,SNR=3.2	**59.04**	**346**	P	**P**	**15 36 27.5**	**-1.1**
KSH	**Kashi**	**65.98**	**321**	P	**P**	**15 37 13.2**	**-1.8**
KSH				sP	sP	15 37 49.3	-0.3
KSH				PP	**PP**	**15 39 42.1**	**+0.5**
KSH				S	**S**	**15 45 58.0**	**+2.9**
KSH	comp=Z,700nm,5.9s			LR	LR		
MKAR	**Makanchi Array** comp=Z,2.5nm,0.8s,baz=135,slow=6.3,SNR=10	**67.16**	**330**	P	**P**	**15 37 22.2**	**0.0**
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.5s,baz=120,slow=5.3,SNR=7.8	**71.25**	**337**	P	**P**	**15 37 45.7**	**-1.6**

IDC 07 15:53:30.6±2.3, 7°.44S×127°.88E, h0km, mb3.9/1, mb1 3.2/3, mb1mx3.1/23, mbtmp3.1/3, ML2.8/2, Error ellipse: s-maj=282.1km s-min=31.5km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=330,slow=14,SNR=4.6	**13.92**	**154**	Pn	Pn	15 56 48.5	-0.9
WRA	0.0nm,0.3s,baz=332,slow=21,SNR=2.8			Sn	Sn	15 59 13.2	-12
ASAR	**Alice Springs** 0.0nm,0.3s,baz=343,slow=11,SNR=4.0	**17.14**	**161**	P	Pn	15 57 32.5	+0.7
MKAR	**Makanchi Array** 1.7nm,1.1s,baz=123,slow=5.3,SNR=2.4	**67.46**	**328**	P	P	16 04 28.3	0.0

*ISCJB **07** 16:05:30.4±0.5, 44°.63N±0°.04×124°.19E±0°.05, h10km, mb4.3/1, Error ellipse: s-maj=6.5km s-min=5.2km az=12.5*

*NEIC **07** 16:05:32.7±1.6, 44°.61N±0°.03×124°.0E±0°.1, h13km±6km, mb4.2/3*

*BJI **07** 16:05:32.0±0.0, 44°.65N×124°.10E, h8km, mb4.0/3, ML4.0/15*

*IDC **07** 16:05:33.1±1.9, 44°.68N×124°.23E, h0km, mb4.2/1, mb1 3.7/4, mb1mx3.2/50, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=24.6km s-min=20.9km az=2.0*

ISC 07 16:05:32.6±0.7, 44°.58N±0°.06×124°.07E±0°.05, h10km, n19, σ1♀79/24, mb4.3/3, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**1.26**	**128**	Pg	**Pn**	**16 05 55.0**	**-1.3**
CN2				Sg	**Sb**	**16 06 11.9**	**-0.8**
CN2	comp=N,3μm,0.5s			smax	smax		
CN2	comp=E,2μm,0.5s			smax	smax		
MDJ	**Mudanjiang**	**3.94**	**88**	Pg	**Pb**	**16 06 43.1**	**+0.9**
MDJ				Sg	**Sg**	**16 07 37.6**	**-1.6**
MDJ	comp=N,260nm,0.9s			smax	smax		
MDJ	comp=E,180nm,0.6s			smax	smax		
MDJ	**Mudanjiang**	**3.94**	**88**		**Pn**	**16 06 33.6**	**+0.4**
HIA	**Hailar**	**5.54**	**329**		**Pn**	**16 06 54.2**	**-1.0**
USA0B	**Ussuriysk Arra**	**5.69**	**91**		**Pn**	**16 06 58.1**	**+1.0**
USRK	**Ussuriysk Ar.**	**5.69**	**91**	Pn	**Pn**	**16 06 57.5**	**+0.4**

	baz=264,slow=13,SNR=5.1						
USRK				Pg	Pb	16 07 15.5	+3.6
	baz=278,slow=13,SNR=8.6						
USRK				Sn	Sn	16 08 05.2	+2.7
	baz=306,slow=23,SNR=4.3						
USRK				Lg	Lg	16 08 31.2	
	baz=237,slow=45,SNR=5.1						
KLR	Kul'dur	7.02	46	Pn	Pn	16 07 13.4	-1.9
	0.7nm,0.3s,baz=230,slow=16,SNR=11						
KLR				Pg	Pb	16 07 36.1	+1.6
	0.7nm,0.3s,baz=228,slow=14,SNR=4.6						
KLR				Sn	Sn	16 08 35.1	-0.1
	1.0nm,0.3s,baz=314,slow=6.6,SNR=3.8						
KLR				Lg	Lg	16 09 09.9	
	2.6nm,0.3s,baz=164,slow=10,SNR=5.7						
KS19	Wonju Array Si	7.63	157	Pn	Pn	16 07 24.2	+0.4
KSRS	Korea Array	7.69	156	Pn	Pn	16 07 25.5	+0.9
	0.3nm,0.3s,baz=343,slow=13,SNR=8.8						
KSRS				Pg	Pg	16 07 54.6	-5.3
	0.6nm,0.3s,baz=328,slow=18,SNR=7.9						
KSRS				Lg	Lg	16 09 33.9	
	1.6nm,0.3s,baz=328,slow=28,SNR=5.4						
SONM	Songino Array	12.67	291	Lg	Lg	16 12 09.4	
	0.2nm,0.3s,baz=84,slow=22,SNR=3.8						
YSS	Yuzh-Sakhalins	13.26	73	Pn	Pn	16 08 37.8	-3.0
INU	Inuyama	13.54	129	Pn	Pn	16 08 42.0	-2.6
XAN	Xi'an	15.73	233	P	Pn	16 09 15.8	+1.5
XAN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
WHN	Wuhan	15.97	212	P	Pn	16 09 17.4	+0.1
JOW	Kunigami	18.03	168	Pn	Pn	16 09 42.0	-1.2
JOW				IAmb	IAmb	16 09 57.9	
	comp=Z,8.0nm,0.7s						
WMQ	Urumqi	25.96	281	eP	P	16 11 07.1	+1.9
MAKZ	Makanchi	29.23	289	P	P	16 11 34.1	-0.4
MAKZ				IAmb	IAmb	16 11 34.7	
	comp=Z,9.4nm,1.0s						
AAK	Ala-Archa	35.51	285	P	P	16 12 28.0	-1.6
AAK				IAmb	IAmb	16 12 35.4	
	comp=Z,2.2nm,0.6s						
FINES	FINESS Array B	55.55	325	P	P	16 15 10.0	+2.4
	comp=Z,3.8nm,1.1s,baz=66,slow=6.7,SNR=3.3						

*IDC **07** 16:08:14.6±0.9, 45°.25N×151°.49E, h0^{km}, mb3.7/8, mb1 3.8/11, mb1mx3.6/45, mbtmp3.7/11, ML3.2/2, MS2.8/7, Ms1 2.8/7, ms1mx2.6/57, Error ellipse: s-maj=25.7km s-min=18.1km az=127.0*
*JMA **07** 16:08:18.6±0.6, 45°.59N×151°.02E, h30^{km}, M4.2*
*ISCJB **07** 16:08:18.2±0.5, 45°.33N±0°.05×151°.05E±0°.05, h42^{km}, mb3.7/10, MS3.1/1, Error ellipse: s-maj=8.1km s-min=3.9km az=150.0*
*NEIC **07** 16:08:20.1±1.5, 45°.34N±0°.10×151°.3E±0°.1, h45^{km}±8^{km}, mb4.5/9*
*SKHL **07** 16:08:20.1±0.8, 45°.29N×151°.07E, h67^{km}±4^{km}, mb4.4/5*
*MOS **07** 16:08:20.5±1.2, 45°.50N×150°.87E, h63^{km}, mb4.3/5, Error ellipse: s-maj=11.4km s-min=8.6km az=50.0*
ISC 07 16:08:19.2±0.6, **45°.24N**±0°.06×**151°.19E**±0°.06, **h42**^{km}, **n79**, σ**1**^{s}**92**/83, **mb4.1**/15, **4C-9D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.34	271	d iPN	Pn	16 08 54.6	-0.6
KUR				iS	Sn	16 09 20.9	-1.8
KUR				pmax	pmax		
	comp=Z,67nm,0.2s						
KUR				pmax	pmax		
	comp=N,18nm,0.1s						
KUR				pmax	pmax		
	comp=E,9.0nm,0.2s						
KUR				smax	smax		
	comp=N,302nm,0.2s						
KUR				smax	smax		
	comp=E,164nm,0.6s						
KUR	Kuril'sk	2.34	271	⇓iP	Pn	16 08 54.6	-0.6
KUR				AMB	AMB	16 08 56.0	
	comp=E,20nm,0.4s						
KUR				AMB	AMB	16 08 56.0	
	comp=E,10.0nm,0.4s						
KUR				AMB	AMB	16 08 56.0	
	comp=E,70nm,0.4s						
KUR				iS	Sn	16 09 20.8	-1.9
KUR				A	A	16 09 25.0	
	comp=E,240nm,0.3s						
KUR				A	A	16 09 25.0	
	comp=E,260nm,0.3s						
YUK	Yuzh-Kuril'sk	3.99	254	ePN	Pn	16 09 18.4	+0.7
YUK				eS	Sn	16 10 01.2	-1.9
YUK				pmax	pmax		
	comp=N,5.0nm,0.2s						
YUK				pmax	pmax		
	comp=E,18nm,0.2s						
YUK				pmax	pmax		
	comp=Z,95nm,0.2s						
YUK				smax	smax		
	comp=E,86nm,0.4s						
YUK				smax	smax		
	comp=N,153nm,0.5s						
YUK	Yuzh-Kuril'sk	3.99	254	eP	Pn	16 09 18.4	+0.7
YUK				AMB	AMB	16 09 21.0	
	comp=N,10.0nm,0.5s						
YUK				AMB	AMB	16 09 21.0	
	comp=N,20nm,0.5s						
YUK				AMB	AMB	16 09 21.0	
	comp=N,50nm,0.5s						
YUK				eS	Sn	16 10 01.3	-1.9
YUK				A	A	16 10 07.5	
	comp=N,150nm,0.4s						
YUK				A	A	16 10 07.5	
	comp=N,90nm,0.4s						
GRPR	Tuman	4.06	254	ePN	Pn	16 09 19.7	+0.9
GRPR				eS	Sn	16 10 04.3	-0.7
GRPR				pmax	pmax		
	comp=E,58nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,98nm,0.3s						
GRPR				smax	smax		
	comp=N,126nm,0.4s						
GRPR				smax	smax		
	comp=E,184nm,0.5s						
GRPR	Tuman	4.06	254	eP	Pn	16 09 19.7	+0.9
GRPR				AMB	AMB	16 09 29.0	
	comp=E,50nm,0.5s						
GRPR				eS	Sn	16 10 04.3	-0.7
GRPR				A	A	16 10 09.0	
	comp=E,130nm,0.5s						
GRPR				A	A	16 10 09.0	
	comp=E,180nm,0.5s						
GLVR	Golovnino	4.32	252	ePN	Pn	16 09 23.4	+1.1
GLVR				eS	Sn	16 10 10.3	-1.1
GLVR	Golovnino	4.32	252	eP	Pn	16 09 23.4	+1.1
GLVR				eS	Sn	16 10 10.3	-1.1
NEM2	Nemuro 2	4.33	246	P	Pn	16 09 22.3	-0.2
NEM2				eS	Sn	16 10 09.2	-2.5
NMR	Nemuro--Hokkai	4.34	246	⇑iPN	Pn	16 09 22.4	-0.2
NMR				eS	Sn	16 10 09.7	-2.2
NMR	Nemuro--Hokkai	4.34	246	⇑iP	Pn	16 09 22.4	-0.2
NMR				eS	Sn	16 10 09.7	-2.2
JNK	Nakash	4.92	253	P	Pn	16 09 31.4	+0.9
JNK				eS	Sn	16 10 26.3	+0.1
JAK	Akkeshi	5.18	247	P	Pn	16 09 33.7	-0.4
JAK				eS	Sn	16 10 29.6	-3.0
JTKR	Abashiri--Toko	5.35	259	P	Pn	16 09 37.7	+1.3
JAR	Ashorobuto	5.67	253	P	Pn	16 09 42.4	+1.6
JAR				eS	Sn	16 10 44.2	-0.4
JMP	Maruseppu	5.72	260	P	Pn	16 09 43.7	+2.1
YSS	Yuzh-Sakhalins	6.11	289	⇑ePN	Pn	16 09 48.9	+2.1
YSS				eS	Sn	16 10 56.7	+1.3
YSS				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YSS				MLR	MLR		
	comp=Z,100nm,17.0s						
YSS	Yuzh-Sakhalins	6.11	289	⇑eP	Pn	16 09 47.7	+0.8
YSS				AMB	AMB	16 09 49.3	
	comp=Z,10.0nm,0.4s						
YSS				eS	Sn	16 10 53.5	-1.9
YSS	Yuzh-Sakhalins	6.11	289	Pn	Pn	16 09 47.7	+0.8
JKK2	Kamakawa 2	6.18	260	P	Pn	16 09 50.5	+2.6
JKA	Kamikawa-asahi	6.22	263	eP	Pn	16 09 50.9	+2.4
JKA	Kamikawa-asahi	6.22	263		Pn	16 09 50.9	+2.4
ASAJ	Asahikawa	6.23	263	Pn	Pn	16 09 50.9	+2.4
	comp=Z,0.8nm,0.3s,baz=66,slow=11,SNR=9.4						
JCH	Churui	6.23	248	P	Pn	16 09 48.5	0.0
JCH				eS	Sn	16 10 55.8	-2.6
ERM	Erimo	6.66	244	⇓ePN	Pn	16 09 56.6	+2.2
ERM	Erimo	6.66	244	Pn	Pn	16 09 56.6	+2.2
JNBK	Urakawa-nobuka	6.78	247	P	Pn	16 09 55.9	-0.2
JBT2	Biratori 2	6.82	252	P	Pn	16 09 56.9	+0.3
TYV	Tymovskoe	8.02	318	ePN	Pn	16 10 08.9	-4.1
TYV				pmax	pmax		
	comp=Z,11nm,1.3s						
TYV	Tymovskoe	8.02	318	⇓eP	Pn	16 10 13.5	+0.5
TYV				AMB	AMB	16 10 14.5	
	comp=Z,10.0nm,0.5s						
JANG	Nango	8.61	239	eS	Sn	16 11 48.6	-8.3
PEA0B	Petropavlovsk-	8.95	26	⇓ePN	Pn	16 10 28.5	+2.7
PETK	Petropavlovsk-	8.95	26	Pn	Pn	16 10 25.2	-0.7
	comp=Z,0.4nm,0.3s,baz=180,slow=12,SNR=17						
TEY	Ternei	10.31	274	eP	Pn	16 10 46.5	+2.1
GRNR	Gornyy	11.33	305	⇓iPN	Pn	16 10 57.2	-1.1
GRNR				eS	Sn	16 13 02.2	-1.2
GRNR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
GRNR				smax	smax		
	comp=N,5.0nm,0.5s						
GRNR	Gornyy	11.33	305	⇓iP	Pn	16 10 57.2	-1.1
GRNR				AMB	AMB	16 11 10.0	
	comp=N,10.0nm,0.9s						
MJAR	Matsushiro Arr	13.10	233	LR	LR	16 17 06.1	
	comp=N,26nm,21.3s,baz=40,slow=40						
USRK	Ussuriysk Ar.	13.69	272	LR	LR	16 16 53.5	
	comp=N,58nm,18.1s,baz=60,slow=37						
USA0B	Ussuriysk Arra	13.69	272	PN	Pn	16 11 33.8	+3.2
USA0B	Ussuriysk Arra	13.69	272	Pn	Pn	16 11 33.8	+3.2
KLR	Kul'dur	13.79	294	LR	LR	16 16 59.1	
	comp=N,36nm,19.3s,baz=338,slow=38						
MA2	Magadan	14.36	359	LR	LR	16 18 22.6	
	comp=N,14nm,18.3s,baz=148,slow=42						
MSHR	Mys Shultsa	14.68	267	⇓eP	Pn	16 11 42.4	-1.5
KSRS	Korea Array	19.08	254	P	Pn	16 12 39.6	+0.5
	baz=60,slow=10,SNR=4.1						
KSRS				LR	LR	16 20 43.0	
	comp=N,28nm,18.3s,baz=1.5,slow=39						
JNU	Nakatsue	19.79	239	LR	LR	16 20 23.9	
	comp=N,31nm,20.1s,baz=357,slow=36						
YAK	Yakutsk	20.93	331	P	P	16 12 55.8	-2.2
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YAK	Yakutsk	20.93	331	P	Pn	16 13 00.2	-0.6
	comp=Z,2.7nm,0.5s,baz=271,slow=2.5,SNR=5.1						
YAK	Yakutsk	20.93	331	eP	P	16 12 55.8	-2.2
YAK	Yakutsk	20.93	331	P	P	16 12 55.8	-2.2
YAK				IAmb	IAmb	16 13 01.5	
	comp=Z,6.9nm,0.8s						
BILL	Bilibino	24.17	14	⇓eP	P	16 13 30.9	-0.2
BILL				e		16 14 04.2	
BILL				ePPP	PPP	16 14 11.6	
BILL				pmax	pmax		
	comp=Z,9.0nm,1.5s						
BILL	Bilibino	24.17	14	eP	P	16 13 31.8	+0.7
BILL	Bilibino	24.17	14	P	P	16 13 31.0	-0.2
BILL				IAmb	IAmb	16 13 34.6	
	comp=Z,10.0nm,1.4s						
JOW	Kunigami	25.94	233	P	P	16 13 47.5	-0.1
JOW				IAmb	IAmb	16 13 49.1	
	comp=Z,20nm,1.3s						
SSE	Sheshan	27.30	249	P	P	16 13 59.9	+0.2
SSE				IAmb	IAmb	16 14 17.3	
	comp=Z,39nm,0.7s						
UNV	Unalaska Valle	28.40	57	P	P	16 14 08.9	-0.4
UNV				IAmb	IAmb	16 14 25.2	
	comp=Z,53nm,1.2s						
TIXI	Tiksi	28.57	345	P	P	16 14 09.2	-1.4
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.4s						
TIXI	Tiksi	28.57	345	eP	P	16 14 09.2	-1.4
TIXI	Tiksi	28.57	345	P	P	16 14 09.2	-1.4
TIXI				IAmb	IAmb	16 14 13.1	
	comp=Z,3.4nm,1.4s						
H11N2	WAKE ISLAND Hy	28.57	148	T	T	16 44 49.2	
	baz=337,slow=75,SNR=187						
H11N1	WAKE ISLAND Hy	28.59	148	T	T	16 44 50.4	
	baz=337,slow=75,SNR=120						
H11N3	WAKE ISLAND Hy	28.59	148	T	T	16 44 50.6	
	baz=337,slow=75,SNR=143						
WAKE	Wake Island	28.89	149	P	P	16 14 11.8	-2.2
WAKE				IAmb	IAmb	16 14 26.9	
	comp=Z,53nm,1.2s						
H11S1	WAKE ISLAND Hy	29.62	149	T	T	16 46 10.7	
	baz=338,slow=76,SNR=119						
H11S3	WAKE ISLAND Hy	29.63	149	T	T	16 46 13.9	
	baz=338,slow=76,SNR=98						
H11S2	WAKE ISLAND Hy	29.64	149	T	T	16 46 11.3	
	baz=338,slow=76,SNR=84						
TLY	Talaya	31.71	299	LR	LR	16 27 26.7	
	comp=Z,35nm,18.7s,baz=90,slow=36						
BRLK	Bradley Lake	36.85	46	P	P	16 15 20.8	-2.3
BRLK				IAmb	IAmb	16 15 29.4	
	comp=Z,13nm,1.2s						
ILAR	Eielson Array	38.57	37	eP	P	16 15 37.6	+0.1
ILAR	Eielson Array	38.57	37	P	P	16 15 37.0	-0.5
	comp=Z,0.3nm,0.7s,baz=255,slow=7.1,SNR=4.2						
ZALV	Zalesovo Beam	42.42	307	P	P	16 16 13.4	+4.0
	comp=Z,0.3nm,0.4s,baz=76,slow=7.6,SNR=2.3						
INK	Inuvik	43.64	31	P	P	16 16 18.8	-0.3
	comp=Z,0.9nm,0.9s,baz=276,slow=9.8,SNR=2.7						
INK	Inuvik	43.64	31	IAmb	IAmb	16 16 20.9	
	comp=Z,2.1nm,1.1s						
FINES	FINESS Array B	64.83	334	eP	P	16 18 54.3	+1.1
FINES				pmax	pmax		
	comp=Z,4.0nm,1.1s						
FINES	FINESS Array B	64.83	334	P	P	16 18 53.4	+0.2
	comp=Z,3.5nm,1.1s,baz=32,slow=13,SNR=4.1						
OBN	Obninsk	65.79	325	eP	P	16 19 00.0	+0.5
OBN				e		16 19 30.2	
OBN				e		16 21 20.9	
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
OBN	Obninsk	65.79	325	eP	P	16 19 00.0	+0.5
WRA	Warramunga Arr	66.66	197	P	P	16 19 07.2	+1.8
	comp=Z,0.5nm,0.8s,baz=16,slow=6.6,SNR=3.8						
ASAR	Alice Springs	70.36	197	P	P	16 19 31.3	+2.8
	comp=Z,0.3nm,0.8s,baz=8.0,slow=5.8,SNR=4.4						
TXAR	Lajitas Array	79.41	59	P	P	16 20 22.1	+1.0
	comp=Z,0.5nm,0.5s,baz=270,slow=3.6,SNR=6.1						

*NNC **07** 16:10:29.5±0.4, 44°.79N×78°.91E, h0^{km}, mb3.1, mpv3.0, Error ellipse: s-maj=4.0km s-min=2.7km az=134.0*
*SOME **07** 16:10:31.2, 44°.83N×78°.93E, h25^{km}*
ISC 07 16:10:30.2±1.0, **44°.82N**±0°.03×**78°.94E**±0°.02, **h8**^{km}±11^{km}, **n31**, σ**0**^{s}**66**/54, **4C-2D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDK	Taldyqorghan	0.42	297	eP	Pg	16 10 38.9	+0.5
	263nm,0.3s						
TDK				eS	Sg	16 10 44.8	+0.8
	291nm,0.3s						
KAPS	Kapalarasan	0.56	32	eP	Pg	16 10 41.0	0.0
	6.8nm,0.1s						
KAPS				eS	Sg	16 10 48.4	0.0
	113nm,0.4s						
KAPS	Kapalarasan	0.56	32	P	Pg	16 10 41.0	0.0
	7.2nm,0.2s						
KAPS				S	Sg	16 10 48.3	0.0
	108nm,0.3s						
DJR	Jarkent	0.78	128	eP	Pg	16 10 45.0	-0.2
	3.6nm,0.2s						
DJR				eS	Sg	16 10 55.1	-0.2
	37nm,0.3s						
DJR	Jarkent	0.78	128	P	Pg	16 10 45.0	-0.2
	4.0nm,0.2s						
DJR				S	Sg	16 10 55.1	-0.2
	36nm,0.2s						
MNBS	Baschi	0.83	208	eP	Pg	16 10 45.7	-0.4
	22nm,0.2s						
MNBS				eS	Sg	16 10 56.7	-0.3
	72nm,0.1s						
MNBS	Baschi	0.83	208	P	Pg	16 10 45.7	-0.4
	12nm,0.1s						
MNBS				S	Sg	16 10 56.7	-0.3
	91nm,0.2s						
ARXS	Arharly	1.00	233	eP	Pg	16 10 49.1	-0.2
	7.3nm,0.2s						
ARXS				eS	Sb	16 11 02.4	-0.6
	54nm,0.2s						
ARXS	Arharly	1.00	233	P	Pg	16 10 49.1	-0.2
	8.5nm,0.1s						
ARXS				S	Sb	16 11 02.4	-0.6
	53nm,0.2s						
KPKS	Kokpek	1.36	188	eP	Pb	16 10 55.6	-0.3
	19nm,0.2s						
KPKS				eS	Sn	16 11 13.3	-0.4
	30nm,0.2s						
PDGK	Podgornoye	1.54	165	⇑Pn	Pb	16 10 58.3	-0.7
	0.6nm,0.2s						
PDGK				⇑Sn	Sb	16 11 18.9	+0.2
	15nm,0.6s						
ZHN	Zhinishke	1.69	193	eP	Pb	16 11 01.5	0.0
	6.5nm,0.1s						
ZHN				eS	Sg	16 11 23.6	-0.8
	15nm,0.2s						
CHKK	Chushkaly	1.70	236	eP	Pb	16 11 01.2	-0.4
	3.5nm,0.1s						
CHKK				eS	Sb	16 11 22.9	-0.2
	73nm,0.2s						
SHLS	Shalkode	1.70	167	eP	Pg	16 11 03.8	+1.0
	4.1nm,0.1s						
SHLS				eS	Sg	16 11 27.4	+2.6
	34nm,0.3s						
KTMS	Ketmen	1.71	143	eP	Pb	16 11 01.4	-0.4
	2.8nm,0.1s						
KTMS				eS	Sb	16 11 23.7	+0.2
	30nm,0.1s						
KTMS	Ketmen	1.71	143	P	Pb	16 11 01.4	-0.4
	4.3nm,0.1s						
KTMS				S	Sb	16 11 23.7	+0.2
	25nm,0.1s						
KTBS	Karatobe	1.96	237	eP	Pb	16 11 05.9	-0.2
	1.4nm,0.2s						
KTBS				eS	Sb	16 11 31.1	+0.4
	57nm,0.5s						
KTBS	Karatobe	1.96	237	Pg	Pb	16 11 05.9	-0.2
	2.9nm,0.3s						
KTBS				Lg	Lg	16 11 31.1	
	54nm,0.5s						
KOTS	Kotyrbulak	2.06	220	eP	Pb	16 11 07.5	-0.4
	3.5nm,0.3s						
KOTS				eS	Sb	16 11 33.8	+0.2
	44nm,0.3s						
KOTS	Kotyrbulak	2.06	220	Pg	Pb	16 11 07.5	-0.4
	4.0nm,0.2s						
KOTS				Lg	Lg	16 11 33.8	
	35nm,0.2s						
KUU	Kurty	2.08	245	eP	Pb	16 11 07.9	-0.2
	2.9nm,0.3s						
KUU				eS	Sb	16 11 34.4	+0.3
	40nm,0.4s						
IZV	Izvestkoviy	2.44	224	eP	Pb	16 11 14.4	-0.1
	1.0nm,0.1s						
IZV				eS	Sb	16 11 45.7	+0.9
	11nm,0.3s						
IZV	Izvestkoviy	2.44	224	Pg	Pb	16 11 14.4	-0.1
	1.0nm,0.1s						
IZV				Lg	Lg	16 11 46.3	
	11nm,0.3s						
MTBS	Maitube	2.47	228	eP	Pb	16 11 14.9	+0.1
	4.2nm,0.3s						
MTBS				eS	Sb	16 11 46.5	+1.0
	24nm,0.4s						
DGS	Degeres	2.77	237	eP	Pb	16 11 19.6	-0.4
	2.8nm,0.4s						
DGS				eS	Sb	16 11 54.9	+0.8
	16nm,0.4s						
DGS	Degeres	2.77	237	Pg	Pb	16 11 19.6	-0.4
	2.8nm,0.4s						
DGS				Lg	Lg	16 11 54.9	
	16nm,0.4s						
KST	Kastek	2.78	232	eP	Pb	16 11 19.8	-0.4
	3.8nm,0.5s						
KST				eS	Sb	16 11 55.3	+0.8
	7.6nm,0.4s						
KST	Kastek	2.78	232	Pg	Pb	16 11 19.8	-0.4
	3.2nm,0.4s						
KST				Lg	Lg	16 11 55.4	
	6.8nm,0.4s						
MK31	Makanchi Array	3.07	49	Pn	Pn	16 11 19.8	+0.8
	1.1nm,0.6s,baz=226,slow=15,SNR=6.5						
MK31				⇓Pg	Pg	16 11 27.6	-1.3
	0.6nm,0.4s,baz=222,slow=16,SNR=7.7						
MK31				⇓Lg	Lg	16 12 05.1	
	0.8nm,0.3s,baz=231,slow=30,SNR=7.5						
TKM2	Tokmak 2	3.07	233	⇑Pg	Pg	16 11 27.4	-1.6
	2.0nm,0.7s						
TKM2				⇑Lg	Lg	16 12 03.7	
	1.3nm,0.3s						
AAK	Ala-Archa	3.89	237	Lg	Lg	16 12 28.9	
	3.7nm,0.8s						

IDC 07 16:31:09.7±8.9, **31°.69S**×**179°.97E**, **h321**^{km}±99^{km}, **mb2.7**/2, **mb1 3.0**/3, **mb1mx2.8**/36, **mbtmp3.6**/3, **Error ellipse: s-maj=104.7km s-min=49.5km az=179.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.96	199	P	Pn	16 32 51.7	+0.8
	1.6nm,0.3s,baz=271,slow=4.8,SNR=14						
URZ				S	S	16 34 12.2	-0.7
	2.5nm,0.3s,baz=256,slow=22,SNR=21						
ASAR	Alice Springs	41.33	269	P	P	16 38 25.1	0.0
	0.7nm,1.1s,baz=109,slow=8.0,SNR=5.1						
WRA	Warramunga Arr	42.44	275	P	P	16 38 33.8	-0.1
	0.6nm,1.0s,baz=113,slow=8.2,SNR=2.4						
FINES	FINESS Array B	145.72	338	PKPbc	PKPdf	16 50 09.2	0.0
	2.8nm,0.9s,baz=25,slow=4.6,SNR=4.6						

*NIED **07** 16:34:00, 29°.80N×139°.30E, h400^{km}, Mw4.3 Best double couple: $M_0$2.80000×10^{15} NP1:ϕ_s91.00000°, δ21.00000°, λ-84.00000°. NP2:ϕ_s264.00000°, δ69.00000°, λ-92.00000°.*
*ISCJB **07** 16:34:11.5±0.2, 29°.80N±0°.02×138°.92E±0°.05, h417^{km}±3^{km}, mb3.8/37, Error ellipse: s-maj=6.2km s-min=3.5km az=174.1*
*JMA **07** 16:34:11.6±0.2, 29°.85N×139°.32E, h440^{km}±2^{km}, M4.4*
*NEIC **07** 16:34:12.6±1.5, 29°.81N±0°.07×138°.9E±0°.1, h411^{km}±6^{km}, mb4.3/48*
*IDC **07** 16:34:13.2±0.9, 29°.82N×138°.80E, h416^{km}±10^{km}, mb3.5/37, mb1 3.6/43, mb1mx3.6/68, mbtmp4.4/43, Error ellipse: s-maj=11.3km s-min=6.1km az=86.0*
ISC 07 16:34:12.3±0.5, **29°.83N**±0°.04×**138°.95E**±0°.06, **h410**^{km}±5^{km}, **n150**, σ**1**^{s}**42**/171, **mb4.0**/55, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	Hachijojimakas	3.32	12	S	S	16 36 14.3	+1.5
JHJ2	Mitsune	3.36	13	P	P	16 35 20.6	+1.6
JHJ2	Mitsune	3.36	13	P	P	16 35 21.3	+2.3
CBIJ	Chichi jima	3.94	133	P	P	16 35 24.2	-0.1
CBIJ				S	S	16 36 21.4	-1.6
JCJ	Chichijima	3.94	133	P	P	16 35 24.6	+0.3
	56nm,0.3s,baz=358,slow=19,SNR=112						
JCJ				S	S	16 36 21.3	-1.7
	68nm,0.3s,baz=295,slow=21,SNR=5.7						
JMKN	Mikurajimanish	4.09	8	P	P	16 35 26.9	+1.3
JHH2	Haha-jima-NKT2	4.27	137	P	P	16 35 27.1	-0.4
JHH2				S	S	16 36 27.3	-1.4
JIE	Ise	4.93	338	P	P	16 35 37.0	+3.2
BSO1	Boso 1	5.11	19	P	P	16 35 36.2	+1.2
BSO1				eS	S	16 36 42.3	-0.5
JOD2	Odawara 2	5.42	1	P	P	16 35 39.7	+0.9
JOD2				eS	S	16 36 48.7	-1.1
INU	Inuyama	5.74	344	P	P	16 35 45.3	+3.1
JGF	Kuroka	5.91	347	P	P	16 35 46.6	+2.6
JRY	Ryogami san	6.17	360	P	P	16 35 47.5	+0.7
JRY				eS	S	16 36 59.6	-4.8
JWT	Wachi	6.21	332	P	P	16 35 49.7	+2.6
JYT	Yasato	6.47	9	P	P	16 35 49.5	-0.4
JYT				eS	S	16 37 04.7	-5.5
JGN	Niukaw	6.53	348	P	P	16 35 52.5	+1.2
MJAR	Matsushiro Arr	6.73	355	P	P	16 35 53.0	-0.5
	1.3nm,0.3s,baz=164,slow=8.2,SNR=114						
MJAR				S	S	16 37 14.5	-1.0
	0.8nm,0.3s,baz=272,slow=26,SNR=5.6						
MAJO	Matsushiro	6.73	355	P	P	16 35 53.6	+0.1
MAT	Matsushiro	6.73	355	P	P	16 35 53.8	+0.3
MAT				S	S	16 37 12.2	-3.2
MAT	Matsushiro	6.73	355	P	P	16 35 53.8	+0.3
MAT				eS	S	16 37 13.2	-2.2
MJB9	Matsu-Tunnel	6.73	355	P	P	16 35 54.0	+0.5
JNU	Nakatsue	7.63	298	P	P	16 36 05.7	+2.1
JMM	Marumori	8.16	10	P	P	16 36 09.5	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JSD	Sado	8.21	356	P	P	16 36 08.9	-0.8
JYA	Atsumi	8.77	4	P	P	16 36 16.4	+0.5
JMK	Ichinoseki	9.29	11	P	P	16 36 22.6	+0.9
JMK				S	S	16 38 05.8	-2.6
JOM	Ohasama	9.81	11	P	P	16 36 28.7	+1.2
JOM				*e*S	S	16 38 16.3	-2.8
JTM	Tenmabayashi	11.07	8	P	P	16 36 43.0	+1.7
JOT	Ohata	11.66	8	P	P	16 36 49.6	+1.8
KSRS	Korea Array	11.92	313	P	P	16 36 52.0	+1.2
	0.6nm,0.3s,baz=126,slow=11,SNR=32						
KS19	Wonju Array Si	11.98	313	P	P	16 36 52.9	+1.4
JKB	Kayabe	12.15	7	P	P	16 36 54.6	+1.4
JOSM	Okushiri--Mats	12.24	2	P	P	16 36 55.8	+1.6
ERM	Erimo	12.63	14	P	P	16 37 00.6	+2.1
JEM	Erimo	12.63	14	P	P	16 37 00.8	+2.3
JSH	Shimam	12.82	4	P	P	16 37 02.1	+1.6
JEW	Eniwo	13.14	8	P	P	16 37 05.7	+1.6
SARN	Sarigan	14.49	153	P	P	16 37 19.7	+0.6
ASAJ	Asahikawa	14.56	11	P	P	16 37 21.6	+2.1
	4.3nm,0.3s,baz=216,slow=13,SNR=40						
JKA	Kamikawa-asahi	14.56	11	P	P	16 37 21.6	+2.1
USA0B	Ussuriysk Arra	15.38	341	P	P	16 37 29.0	+0.7
USRK	Ussuriysk Ar.	15.38	341	P	P	16 37 28.9	+0.6
	baz=161,slow=8.0,SNR=88						
YHNB	Yeheng	16.45	256	P	P	16 37 38.8	-1.3
NACB	Ninganchiao	16.45	254	P	P	16 37 39.1	-1.0
NACB				IAmb	IAmb	16 37 44.5	
	comp=Z,18nm,0.8s						
MDJ	Mudanjiang	16.52	336	P	P	16 37 41.0	+0.5
MDJ				pmax	pmax		
	comp=Z,31nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,120nm,4.0s						
MDJ	Mudanjiang	16.52	336	P	P	16 37 40.2	-0.3
YULB	Yu-li	17.03	252	P	P	16 37 44.0	-2.3
YULB				IAmb	IAmb	16 37 51.0	
	comp=Z,16nm,0.8s						
GUMO	Guam	17.06	160	P	P	16 37 47.5	+0.8
	comp=Z,3.8nm,0.3s,baz=8.3,slow=19,SNR=2.7						
GUMO	Guam	17.06	160	P	P	16 37 43.7	-3.0
YSS	Yuzh-Sakhalins	17.36	9	P	P	16 37 50.7	+1.3
TWG	Pinlang	17.47	251	P	P	16 37 50.9	0.0
TPUB	Ta-pu	17.62	253	P	P	16 37 52.0	-0.5
TPUB				IAmb	IAmb	16 38 09.5	
	comp=Z,26nm,1.1s						
KLR	Kul'dur	20.14	346	P	P	16 38 17.6	+0.5
	comp=Z,6.5nm,0.4s,baz=157,slow=11,SNR=39						
HIA	Hailar	24.29	328	P	P	16 38 52.5	-2.3
HIA				IAmb	IAmb	16 38 55.3	
	comp=Z,4.7nm,0.6s						
PETK	Petropavlovsk-	27.01	25	P	P	16 39 20.9	+2.1
	comp=Z,4.2nm,0.8s,baz=183,slow=3.4,SNR=17						
WAKE	Wake Island	27.23	106	P	P	16 39 17.5	-3.7
SONM	Songino Array	30.78	315	P	P	16 39 51.9	-0.1
	comp=Z,0.7nm,0.5s,baz=129,slow=8.3,SNR=6.2						
SONM				PcP	PcP	16 42 37.4	-0.3
	comp=Z,0.6nm,0.5s,baz=102,slow=2.6,SNR=3.6						
SONM				ScP	ScP	16 45 38.9	-1.8
	comp=Z,2.3nm,0.8s,baz=147,slow=3.2,SNR=9.0						
MA2	Magadan	30.81	12	P	P	16 39 51.3	-0.7
SIJI	Sorong	31.39	195	P	P	16 39 57.8	+0.2
	comp=Z,4.0nm,0.4s,baz=346,slow=18,SNR=7.4						
FAKI	Fak Fak	33.19	192	P	P	16 40 12.7	-0.3
FAKI				IAmb	IAmb	16 40 14.5	
	comp=Z,14nm,0.9s						
SEY	Seymchan	34.24	11	P	P	16 40 22.4	+1.0
	comp=Z,4.0nm,0.8s,baz=189,slow=8.8,SNR=5.7						
PBKT	Sadao Pong	37.14	258	P	P	16 40 46.5	+0.2
SBUM	Sibu	37.21	228	P	P	16 40 47.1	+0.2
CHTO	Chiang Mai	37.90	262	P	P	16 40 52.1	-0.4
CHTO				IAmb	IAmb	16 40 53.0	
	comp=Z,6.4nm,0.8s						
CM31	Chiang Mai Arr	38.04	262	P	P	16 40 54.2	+0.4
CMAR	Chiang Mai Arr	38.04	262	P	P	16 40 53.7	-0.1
	comp=Z,1.5nm,0.7s,baz=62,slow=6.0,SNR=16						
CMAR				PcP	PcP	16 42 59.5	+0.3
	comp=Z,0.6nm,0.5s,baz=31,slow=1.6,SNR=5.7						
KSM	Kuching	39.19	229	P	P	16 41 03.6	+0.4
KSM				IAmb	IAmb	16 41 06.2	
	comp=Z,15nm,1.0s						
PMG	Port Moresby	39.80	167	P	P	16 41 08.4	+0.4
	comp=Z,9.7nm,1.0s,baz=328,slow=13,SNR=3.6						
TIXI	Tiksi	42.24	355	P	P	16 41 26.6	-0.3
BATI	Baumata	42.44	203	P	P	16 41 28.1	-1.2
	comp=Z,5.5nm,0.3s,baz=11,slow=5.2,SNR=3.1						
BATI				PcP	PcP	16 43 14.2	+0.7
	comp=Z,12nm,0.7s,baz=108,slow=3.2,SNR=3.3						
MTN	Manton Dam	43.09	191	P	P	16 41 34.1	-0.2
MTN				IAmb	IAmb	16 41 34.8	
	comp=Z,8.2nm,0.6s						
KULM	Kulim	43.58	244	P	P	16 41 38.2	-0.2
KULM				IAmb	IAmb	16 41 53.9	
	comp=Z,18nm,1.3s						
COEN	Coen	43.72	174	P	P	16 41 40.0	+0.7
COEN				IAmb	IAmb	16 41 51.4	
	comp=Z,18nm,1.4s						
TAPN	Taplejung	44.76	280	*e*P	P	16 41 47.5	-0.3
ODAN	Odare	45.17	279	*e*P	P	16 41 50.7	-0.2
ZALV	Zalesovo Beam	45.56	318	P	P	16 41 52.5	-0.7
	comp=Z,0.5nm,0.3s,baz=106,slow=8.9,SNR=3.4						
ZALV				PcP	PcP	16 43 23.0	-0.7
	comp=Z,1.8nm,0.5s,baz=122,slow=3.2,SNR=8.5						
ZALV				ScP	ScP	16 46 33.9	-2.8
	comp=Z,1.3nm,0.6s,baz=123,slow=5.5,SNR=6.1						
RAMN	Ramite	45.82	280	*e*P	P	16 41 55.8	-0.2
	comp=Z,21nm,0.7s						
JIRN	Jiri	45.98	281	*e*P	P	16 41 57.3	0.0
	comp=Z,31nm,0.7s						
GUN	Gumba	46.17	281	*e*P	P	16 41 58.7	-0.1
	comp=Z,16nm,0.7s						
KNRA	Kununurra	46.29	194	P	P	16 41 59.6	+0.3
KNRA				IAmb	IAmb	16 42 00.0	
	comp=Z,15nm,0.8s						
MKAR	Makanchi Array	46.55	308	P	P	16 42 00.5	-0.5
	comp=Z,0.5nm,0.5s,baz=81,slow=8.7,SNR=6.2						
MKAR				ScP	ScP	16 46 39.0	-2.1
	comp=Z,0.2nm,0.4s,baz=68,slow=3.8,SNR=4.1						
PKI	Pulchoki	46.67	281	*e*P	P	16 42 01.7	-0.8
PKIN	Phulchoki	46.67	281	*e*P	P	16 42 01.8	-0.7
KKN	Kakani	46.72	281	*e*P	P	16 42 02.2	-0.6
DANN	Dangsing	47.85	283	*e*P	P	16 42 11.6	+0.1
	comp=Z,14nm,0.5s						
KOLN	Koldanda	48.15	282	*e*P	P	16 42 13.3	-0.4
	comp=Z,16nm,0.8s						
NRIK	Noril'sk	49.08	338	P	P	16 42 19.6	0.0
	comp=Z,2.9nm,0.4s,baz=113,slow=9.6,SNR=7.1						
FITZ	Fitzroy Crossi	49.34	197	P	P	16 42 21.8	-0.5
	comp=Z,4.2nm,0.8s,baz=4.5,slow=7.1,SNR=11						
WRAB	Tennant Creek	49.67	186	P	P	16 42 24.6	-0.1
WRAB				IAmb	IAmb	16 42 25.3	
	comp=Z,9.0nm,0.9s						
WB2	Warramunga Arr	49.68	186	P	P	16 42 24.8	0.0
WB2				IAmb	IAmb	16 42 25.5	
	comp=Z,9.8nm,0.8s						
WR0	Warramunga Arr	49.68	185	P	P	16 42 24.8	0.0
WR0				IAmb	IAmb	16 42 25.4	
	comp=Z,11nm,0.6s						
WRA	Warramunga Arr	49.68	186	P	P	16 42 24.6	-0.2
	comp=Z,6.1nm,0.3s,baz=3.7,slow=8.1,SNR=201						
WRA				PcP	PcP	16 43 39.4	+0.4
	comp=Z,1.1nm,0.4s,baz=359,slow=4.1,SNR=5.9						
WRA				S	S	16 48 58.6	-3.3
	comp=Z,0.4nm,0.7s,baz=1.0,slow=13,SNR=3.4						
CTA	Charters Tower	50.12	171	P	P	16 42 28.6	+0.5
	comp=Z,3.9nm,0.7s,baz=343,slow=11,SNR=4.7						
KSH	Kashi	51.75	299	P	P	16 42 44.8	+4.7
KSH				sP	sP	16 44 53.8	+7.3
KSH				PcS	PcS	16 47 47.3	+1.6
KSH				S	S	16 49 34.1	+4.0
KSH				ScS	ScS	16 51 47.0	+0.5
KSH				sS	sS	16 52 03.3	+5.9
KSH				pmax	pmax		
	comp=Z,420nm,5.9s						
KSH				LR	LR		
	comp=N,380nm,6.1s						
KSH				LR	LR		
	comp=E,410nm,8.9s						
KSH				LR	LR		
	comp=Z,340nm,7.3s						
AS31	Alice Springs	53.40	186	P	P	16 42 52.0	0.0
AS31				IAmb	IAmb	16 42 53.3	
	comp=Z,3.7nm,0.5s						
ASAR	Alice Springs	53.41	186	P	P	16 42 51.9	-0.1
	comp=Z,3.7nm,0.3s,baz=23,slow=11,SNR=146						
ASAR				PcP	PcP	16 43 53.6	+0.6
	comp=Z,0.7nm,0.6s,baz=6.6,slow=4.6,SNR=3.0						
ASAR				S	S	16 49 51.5	-0.7
	comp=Z,0.6nm,1.0s,baz=17,slow=20,SNR=4.1						
ARSB	Arslanbob	53.70	301	P	P	16 42 54.6	+0.5
KDAK	Kodiak Island	53.94	38	P	P	16 42 56.1	+0.8
	comp=Z,11nm,1.0s,baz=253,slow=2.9,SNR=8.2						
KDAK	Kodiak Island	53.94	38	IAmb	IAmb	16 42 59.1	
	comp=Z,33nm,1.3s						
KK31	Karatay Array	55.19	304	P	P	16 43 04.3	-0.3
KKAR	Karatay Array	55.19	304	P	P	16 43 04.3	-0.2
TRF	Thorofare Moun	55.20	31	P	P	16 43 05.2	+0.8
SML	Sawmill	56.08	33	P	P	16 43 10.5	0.0
SML				IAmb	IAmb	16 43 15.7	
	comp=Z,9.8nm,1.4s						
GAR	Garm	56.16	299	P	P	16 43 10.6	-1.0
GAR				IAmb	IAmb	16 43 12.2	
	comp=Z,6.2nm,0.9s						
ILAR	Eielson Array	56.72	30	P	P	16 43 14.8	0.0
	comp=Z,0.3nm,0.6s,baz=297,slow=8.0,SNR=8.6						
DZM	Mont Dzumac	57.98	150	P	P	16 43 26.0	+1.8
	comp=Z,4.6nm,0.7s,baz=162,slow=22,SNR=6.2						
DZM	Mont Dzumac	57.98	150	IAmb	IAmb	16 43 32.2	
	comp=Z,20nm,1.2s						
ARU	Arti	60.52	321	P	P	16 43 40.6	-0.2
	comp=Z,0.6nm,0.3s,baz=193,slow=19,SNR=3.1						
ARU	Arti	60.52	321	IAmb	IAmb	16 43 41.5	
	comp=Z,8.9nm,1.5s						
FORT	Forrest	61.16	191	P	P	16 43 45.7	+0.5
ABKAR	Akbulak array	61.16	313	P	P	16 43 44.3	-0.8
STKA	Stephens Creek	61.42	177	P	P	16 43 47.3	+0.3
	comp=Z,10nm,0.6s,baz=351,slow=6.8,SNR=33						
STKA	Stephens Creek	61.42	177	P	P	16 43 47.3	+0.3
INK	Inuvik	61.75	25	P	P	16 43 48.8	+0.1
	comp=Z,0.6nm,0.6s,baz=272,slow=12,SNR=3.4						
INK	Inuvik	61.75	25	P	P	16 43 48.4	-0.3
BBOO	Buckleboo	62.35	183	P	P	16 43 53.4	+0.3
MORW	Morawa	62.51	203	P	P	16 43 53.6	-0.7
MORW				IAmb	IAmb	16 44 03.8	
	comp=Z,17nm,1.3s						
JIS	Juneau Island	63.46	36	P	P	16 44 01.8	+1.8
JIS				IAmb	IAmb	16 44 05.2	
	comp=Z,9.4nm,1.1s						
NWAO	Narrogin (SRO)	65.72	200	P	P	16 44 14.9	+0.2
	comp=Z,16nm,0.5s,baz=25,slow=5.9,SNR=21						
NWAO	Narrogin (SRO)	65.72	200	IAmb	IAmb	16 44 15.7	
	comp=Z,16nm,0.8s						
ARCES	ARCESS Array B	70.02	340	P	P	16 44 41.0	+0.2
	comp=Z,2.1nm,0.8s,baz=58,slow=8.6,SNR=7.9						
YKA	Yellowknife Ar	71.09	28	P	P	16 44 47.5	+0.3
	comp=Z,0.3nm,0.5s,baz=296,slow=6.1,SNR=4.0						
KBZ	Khabaz	74.07	311	P	P	16 45 04.6	-0.3
	comp=Z,3.0nm,0.8s,baz=106,slow=8.9,SNR=5.8						
FINES	FINESS Array B	74.23	333	P	P	16 45 05.2	-0.3
	comp=Z,2.0nm,0.6s,baz=68,slow=4.3,SNR=12						
URZ	Urewera	76.54	150	P	P	16 45 18.4	-0.3
	comp=Z,2.7nm,0.3s,baz=225,slow=7.1,SNR=4.8						
URZ	Urewera	76.54	150	IAmb	IAmb	16 45 21.8	
	comp=Z,23nm,1.3s						
AKASG	Malin Array Be	78.73	322	P	P	16 45 29.8	-0.8
	comp=Z,0.2nm,0.3s,baz=53,slow=5.8,SNR=4.6						
HFS	Hagfors	79.78	335	P	P	16 45 35.7	-0.3
	comp=Z,2.9nm,0.7s,baz=112,slow=6.7,SNR=5.7						
NB2	NORSAR Subarra	80.01	337	P	P	16 45 36.0	-1.3
	comp=Z,0.8nm,0.6s,baz=47,slow=5.1						
NOA	NORSAR Array B	80.01	337	P	P	16 45 36.6	-0.7
	comp=Z,1.1nm,0.5s,baz=46,slow=5.0,SNR=4.5						
NVAR	Mina Array Bea	81.04	51	P	P	16 45 44.5	+1.1
	comp=Z,0.9nm,0.5s,baz=288,slow=5.5,SNR=7.5						
BOZ	Bozeman (W)	81.40	42	P	P	16 45 46.0	+1.0
RAYN	Ar Rayn	81.46	292	P	P	16 45 45.2	-0.4
RAYN				IAmb	IAmb	16 45 46.1	
	comp=Z,4.7nm,0.8s						
BRTR	Keskin Array B	82.06	311	P	P	16 45 48.2	-0.3
	comp=Z,2.4nm,0.7s,baz=97,slow=3.6,SNR=9.5						
BUR08	Bucovina Ar. S	82.65	321	P	P	16 45 51.0	-0.4
BUR08				IAmb	IAmb	16 45 51.7	
	comp=Z,3.9nm,0.7s						
PDAR	Pinedale Array	84.24	44	P	P	16 46 00.5	+0.9
	comp=Z,0.1nm,0.4s,baz=300,slow=2.0,SNR=2.9						
BORG	Borgarnes	84.48	352	P	P	16 46 00.3	+0.3
	comp=Z,4.8nm,0.4s,baz=22,slow=9.4,SNR=3.1						
GERES	GERESS Array B	87.69	327	P	P	16 46 15.0	-0.9
	comp=Z,0.5nm,0.6s,baz=33,slow=5.8,SNR=3.3						
DAVOX	Davos/Dischmat	90.97	328	P	P	16 46 30.5	-0.8
	comp=Z,0.6nm,0.6s,baz=179,slow=20,SNR=3.5						
VAE	Valguarnera	95.28	319	P	P	16 46 51.9	+0.8
	comp=Z,13nm,0.4s,baz=14,slow=4.2,SNR=2.6						
TXAR	Lajitas Array	96.19	51	P	P	16 46 56.8	+1.4
	comp=Z,0.4nm,0.8s,baz=317,slow=3.8,SNR=3.4						
TORD	Torodi Ar. Bea	120.65	310	PKP	PKPdf	16 52 15.9	-1.1
	comp=Z,0.4nm,0.6s,baz=153,slow=1.0,SNR=5.6						
BOSA	Boshof	122.87	253	PKP	PKPdf	16 52 20.8	-0.2
	comp=Z,1.6nm,0.8s,baz=45,slow=1.4,SNR=2.7						
GO10	Punta Arenas	148.03	145	PKPbc	PKiKP	16 53 11.6	+0.1
SAML	Samuel	150.66	49		PKiKP	16 53 17.9	-0.2
LPAZ	La Paz	151.76	68	PKPbc	PKiKP	16 53 21.7	+0.7
	comp=Z,2.0nm,0.6s,baz=290,slow=4.3,SNR=12						
LPAZ	La Paz	151.76	68		PKiKP	16 53 22.2	+1.2
MNMC	Minye Minye	152.00	74	PKPbc	PKiKP	16 53 22.0	+1.0
PB11	IPOC Station P	152.23	75	PKPbc	PKiKP	16 53 21.9	+0.7
PLCA	Paso Flores	153.69	122	PKPbc	PKiKP	16 53 24.6	+1.0
	comp=Z,1.9nm,0.6s,baz=254,slow=4.4,SNR=6.5						

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*IDC **07** 16:44:05.8±0.5, 55°.34N×158°.17W, h0km, mb5.2/39, mb1 5.3/41, mb1mx5.2/46, mbtmp5.1/41, ML4.3/3, MS4.5/33, Ms1 4.5/33, ms1mx4.5/37, Error ellipse: s-maj=15.3km s-min=9.2km az=7.0*

*ISCJB **07** 16:44:07.0±0.5, 55°.38N±0°.02×157°.93W±0°.02, h18km±3km, mb5.4/202, MS4.7/60, Error ellipse: s-maj=2.9km s-min=1.8km az=179.4*

*BJI **07** 16:44:08.7±0.0, 55°.69N×158°.69W, h13km, mb5.4/76, mB5.4/50, Ms5.0/62, Ms7 4.8/58*

*MOS **07** 16:44:09.3±0.9, 55°.39N×158°.10W, h33km, mb5.8/53, MS4.8/11, Error ellipse: s-maj=7.8km s-min=4.0km az=90.8*

*AEIC **07** 16:44:09±2.0, 55°.19N±0°.06×157°.83W±0°.06, h11km±3km, ML5.2, mb5.5/219(NEIC), Mwb5.2(NEIC)*

*NEIC **07** 16:44:09.0±1.7, 55°.25N±0°.06×157°.89W±0°.05, h23km±3km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}6.46; $M_{\theta\theta}$-2.78; $M_{\phi\phi}$-3.68; $M_{r\theta}$1.90; $M_{\theta\phi}$-3.37; $M_{\phi r}$-2.00; Fault plane solution: $M_0$7.10000×10^{16} NP1:ϕ_s60.42000°, δ47.40000°, λ118.47000°. NP2:ϕ_s201.71000°, δ49.68000°, λ62.60000°. Principal axes: T 7.4913, Plg69.0000°, Azm44.0000°; N -0.8629, Plg21.0000°, Azm220.0000°; P -6.6284, Plg1.0000°, Azm311.0000°;*

*PMR **07** 16:44:11±3.2, 55°.28N±0°.06×157°.93W±0°.07, h64km±3km*

*GCMT **07** 16:44:12.0±0.2, 55°.20N±0°.01×157°.70W±0°.02, h38km, MW5.1/119, Moment Tensor Solution. s103,c146; s119,c182; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.21±.13; $M_{\theta\theta}$-3.40±.11; $M_{\phi\phi}$-0.81±.11; $M_{r\theta}$4.27±.14; $M_{\theta\phi}$-2.64±.08; $M_{\phi r}$1.82±.11; Best double couple: $M_0$6.56100×10^{16} NP1:ϕ_s65.00000°, δ68.00000°, λ96.00000°. NP2:ϕ_s229.00000°, δ23.00000°, λ75.00000°. Principal axes: T 6.1790, Plg67.0000°, Azm346.0000°; N 0.7620, Plg6.0000°, Azm243.0000°; P -6.9430, Plg22.0000°, Azm150.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 16:44:08.8±0.5**, 55°.38N**±0°.04×**158°.08W**±0°.03**, h17**km±2km**, n1288,** σ1°.43/1377**, mb5.5**/293**, MS4.7**/62**, 87C-25D,**
Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNSG	Veniaminof 6	0.94	323		Pg	16 44 29.5	+2.4
CNBA	Chernabura Isl	1.03	238		Pg	16 44 28.5	-0.2
CNBA				Sg	Sb	16 44 39.8	-1.6
VNWF	Veniaminof 8	1.14	313		Pg	16 44 33.0	+2.1
VNNF	Veniaminof 3	1.15	323		Pg	16 44 33.5	+2.5
VNSS	Veniaminof 8	1.15	318		Pg	16 44 33.1	+1.9
VNFG	Fog Glacier, M	1.23	318		Pg	16 44 34.6	+2.0
SDPT	Sand Point	1.37	270		Pg	16 44 34.7	-0.5
SDPT					Sg	16 44 54.4	+1.3
CHIR	Chirikof Islan	1.46	71		Pn	16 44 34.0	-0.4
CHIR	Chirikof Islan	1.46	71		Sn	16 44 51.3	-1.8
ANNE	Aniakchak Nort	1.54	0		Pb	16 44 38.1	+1.2
PN6	Pavlof North-6	2.19	274		Pb	16 44 47.0	-1.0
BLHA	Black Hill	2.29	280		Pb	16 44 48.3	-1.3
PLBL	Peulik Blue Cr	2.43	16		Pb	16 44 50.3	-1.8
SII	Sitkinak Islan	2.49	60		Pn	16 44 48.5	0.0
SII					Sn	16 45 18.4	-0.1
PLK3	Peulik 3	2.53	23		Pn	16 44 51.4	+2.4
PLK5	Peulik 5	2.71	14		Pn	16 44 53.5	+2.0
KJL	Kejulik	3.02	26		Pn	16 44 57.5	+1.6
CAHL	Cahill	3.09	29		Pn	16 44 58.2	+1.5
FALS	False Pass	3.11	263		Pn	16 44 58.7	+1.7
ANCK	Angle Creek	3.17	26		Pn	16 44 59.6	+1.7
OHAK	Old Harbor	3.25	53		Pn	16 44 58.6	-0.3
OHAK					Sn	16 45 39.0	+1.9
KABR	Katmai Barrier	3.25	31		Pn	16 45 00.3	+1.3
KELA	Mount Kelaz	3.33	22		Pn	16 45 01.8	+1.7
KCG	Knife Ck. Glac	3.36	28		Pn	16 45 02.2	+1.7
SSBA	Shishaldin	3.53	263		Pn	16 45 05.0	+2.2
KAHC	Katmai Hardscr	3.69	26		Pn	16 45 06.5	+1.4
KDAK	Kodiak Island	3.88	49	*i* P	Pn	16 45 06.9	-0.7
KDAK	Kodiak Island	3.88	49	Pn	Pn	16 45 07.3	-0.3
	32nm,0.3s,baz=215,slow=4.0,SNR=900						
KDAK				Sn	Sn	16 45 50.0	-2.6
	150nm,0.3s,baz=190,slow=17,SNR=6.1						
KDAK				LR	LR	16 45 57.3	
	comp=Z,1μm,20.0s,baz=228,slow=28						
KDAK				Lg	Lg	16 46 15.6	
	101nm,0.3s,baz=130,slow=17,SNR=7.8						
KDAK	Kodiak Island	3.88	49		Pn	16 45 07.2	-0.4
WEBT	Westdahl Beart	3.92	261		Pn	16 45 10.4	+2.1
FOSS	Fourpeaked Sta	4.18	33		Pn	16 45 12.9	+1.1
AKUT	Akutan	4.63	258		Pn	16 45 19.6	+1.7
AUW	Augustine West	4.72	30		Pn	16 45 21.0	+1.9
AUJK	Augustine Jueg	4.72	30		Pn	16 45 21.1	+2.0
AUH	Augustine H	4.72	30		Pn	16 45 20.8	+1.6
AKLV	Akutan Long Va	4.72	258		Pn	16 45 20.6	+1.4
AUP	Augustine Pinn	4.72	30	P	Pn	16 45 21.2	+1.9
AUP	Augustine Pinn	4.72	30		Pn	16 45 21.2	+1.9
AKMO	Akutan Morgan	4.77	258		Pn	16 45 21.3	+1.4
UNV	Unalaska Valle	5.13	256		Pn	16 45 25.4	+0.6
MTBL	Makushin Table	5.19	258		Pn	16 45 26.5	+0.9
MNAT	Makushin Natee	5.22	257		Pn	16 45 26.9	+0.9
MSW	Makushin Switc	5.26	257		Pn	16 45 27.3	+0.7
MREP	Makushin Rep't	5.28	256		Pn	16 45 27.8	+0.9
MCIR	Makushin Cirqu	5.31	258		Pn	16 45 28.9	+1.5
ILS	Iliamna Low So	5.32	28		Pn	16 45 29.1	+1.6
MGOD	Makushin Gods	5.36	256		Pn	16 45 28.9	+1.0
HOM	Homer	5.52	36		Pn	16 45 30.5	+0.5
CNPM	China Poot	5.56	39		Pn	16 45 31.1	+0.4
RSO	Redoubt South	5.83	27		Pn	16 45 36.2	+1.6
RDWB	Redoubt West	5.83	26		Pn	16 45 36.1	+1.6
BRLK	Bradley Lake	5.86	38		Pn	16 45 34.5	-0.2
SVW2	Sparrevohn	5.89	12		Pn	16 45 37.1	+2.0
BRSE	Bradley Lake S	5.89	39		Pn	16 45 35.2	0.0
RDJH	Redoubt Jeurge	5.93	26		Pn	16 45 37.5	+1.6
OKFG	Magazine Ridge	6.07	255		Pn	16 45 38.6	+0.9
OKNC	Okmok New Cone	6.17	256		Pn	16 45 40.1	+1.0
CAPN	Captain Cook N	6.53	31		Pn	16 45 46.1	+2.1
SPCR	Spurr Chakacha	6.61	25		Pn	16 45 46.7	+1.6
SEW	Seward	6.61	41		Pn	16 45 44.1	-1.0
SPBG	Spurr Blockage	6.62	25		Pn	16 45 47.1	+1.8
SLKM	Skilak Lake	6.63	36		Pn	16 45 45.2	-0.2
SPNN	North Nagishla	6.64	23		Pn	16 45 47.7	+2.1
SPCP	Crater Peak Br	6.68	25		Pn	16 45 47.5	+1.4
SPCG	Spurr Capps Gl	6.73	26		Pn	16 45 48.3	+1.4
CGLM	Capps Glacier	6.75	26		Pn	16 45 48.5	+1.4
NIKH	Nikolski High	6.77	254		Pn	16 45 47.4	+0.1
SPIA	Saint Paul Isl	7.01	290		Pn	16 45 51.2	+0.7
FIS	Fire Island	7.11	32		Pn	16 45 53.8	+1.9
SUA	Susitna One	7.21	29		Pn	16 45 54.1	+0.7
RC01	Rabbit Creek A	7.22	34		Pn	16 45 53.3	-0.1
SKT	Skwentna	7.45	25		Pn	16 45 57.4	+0.8
MID	Middleton Isla	7.53	53	P	Pn	16 45 57.2	-0.4
MID	Middleton Isla	7.53	53		Pn	16 45 57.2	-0.4
PWL	Port Wells	7.53	39		Pn	16 45 56.8	-0.9
TT01	Tatalina	7.63	7		Pn	16 46 00.6	+1.6
TTA	Tatalina	7.65	7	P	Pn	16 46 00.9	+1.5
TTA	Tatalina	7.65	7		Pn	16 46 00.9	+1.5
PMR	Palmer	7.79	33	P	Pn	16 46 01.6	+0.3
PMR	Palmer	7.79	33		Pn	16 46 01.6	+0.3
KNK	Knik Glacier	7.88	36		Pn	16 46 01.8	-0.7
HIN	Hinchinbrook I	7.96	46		Pn	16 46 02.5	-1.0
GHO	Glory Hole Cre	7.99	33	Pn	Pn	16 46 03.9	-0.3
GLI	Glacier Island	8.01	42		Pn	16 46 02.5	-1.7
FID	Port Fidalgo	8.17	44		Pn	16 46 04.7	-1.7
SML	Sawmill	8.21	34		Pn	16 46 07.0	0.0
JPK	Jack Peak	8.31	42		Pn	16 46 08.4	0.0
EYAK	Cordova Ski Ar	8.35	47		Pn	16 46 08.1	-0.8
SCM	Sheep Creek Mo	8.56	36	P	Pn	16 46 11.7	-0.2
SCM	Sheep Creek Mo	8.56	36		Pn	16 46 11.7	-0.2
RAGM	Ragged Mountai	8.72	49		Pn	16 46 12.9	-1.2
HUR	Hurricane	8.76	26		Pn	16 46 14.5	-0.1
GOAT	Goat Mountain	8.80	48		Pn	16 46 14.1	-1.1
HMT	Hamilton	8.88	50		Pn	16 46 15.7	-0.5
WAT1	Susitna Watana	8.93	29		Pn	16 46 15.7	-1.2
KTH	Kantishna Hill	8.97	21		Pn	16 46 18.1	+0.7
WAT6	Susitna Watana	8.97	32		Pn	16 46 16.4	-1.2
SUCK	Suckling Hills	8.98	53		Pn	16 46 17.9	+0.4
TRF	Thorofare Moun	9.01	23		Pn	16 46 19.4	+1.3
WAT2	Susitna Watana	9.03	29		Pn	16 46 16.9	-1.4
GRIN	Grindle Hills	9.27	52		Pn	16 46 20.5	-1.1
RND	Reindeer	9.32	26	P	Pn	16 46 21.9	-0.3
RND	Reindeer	9.32	26		Pn	16 46 21.9	-0.3
PS11	TAPS Pump St11	9.37	39		Pn	16 46 23.6	+0.6
KHIT	Khitrov Hills	9.38	51		Pn	16 46 23.0	0.0
BPAW	Bear Paw Mtn.	9.45	19		Pn	16 46 24.1	+0.1
DHY	Denali Highway	9.46	31		Pn	16 46 22.8	-1.4
KULT	Kultieth River	9.53	53		Pn	16 46 24.7	-0.5
CRQM	Cirque	9.57	50		Pn	16 46 25.5	-0.3
MCK	McKinley	9.57	25	P	Pn	16 46 25.5	-0.1
MCK	McKinley	9.57	25		Pn	16 46 25.5	-0.1
GLB	Gilahina Butte	9.63	45		Pn	16 46 25.5	-1.0
VRDI	Verde Repeater	9.66	47		Pn	16 46 26.0	-1.1
TGL	Tana Glacier	9.70	50		Pn	16 46 27.7	+0.2
MESA	MESA	9.86	54	Pn	Pn	16 46 30.0	+0.3
ANM	Nome	9.91	341	P	Pn	16 46 33.3	+3.1
ANM	Nome	9.91	341		Pn	16 46 33.3	+3.1
MCARA	McCarthy VSAT	9.92	47		Pn	16 46 30.6	+0.1
PAX	Paxson	9.97	35	P	Pn	16 46 31.4	+0.2
PAX	Paxson	9.97	35		Pn	16 46 31.4	+0.2
KIAG	Kiagna River	9.98	50		Pn	16 46 30.5	-0.9
YAH	Yahtse	10.02	53		Pn	16 46 30.9	-1.1
BALM	Baldy	10.04	49		Pn	16 46 32.1	0.0
ATKA	Atka Island	10.05	258		Pn	16 46 32.9	+0.7
NEA	Nenana	10.26	22	Pn	Pn	16 46 33.8	-1.2
MLY	Manley	10.34	18		Pn	16 46 36.1	-0.1
BARN	Barnard Glacie	10.35	50	Pn	Pn	16 46 36.1	-0.4
WRH	Wood River Hil	10.39	25		Pn	16 46 35.4	-1.5
CTGM	Chitina Glacie	10.45	51	Pn	Pn	16 46 38.2	+0.4
MENT	Mentasta	10.55	38		Pn	16 46 39.7	+0.7
CCB	Clear Creek Bu	10.61	25		Pn	16 46 37.9	-1.9
PCA	Pinnacle	10.62	56		Pn	16 46 40.0	-0.1
HDA	Harding Lake	10.62	27	P	Pn	16 46 38.7	-1.3
	baz=216,SNR=99						
HDA	Harding Lake	10.62	27		Pn	16 46 38.9	-1.2
RIDG	Independent Ri	10.72	33		Pn	16 46 41.3	-0.1
YKU2	Yakutat	10.74	60	Pn	Pn	16 46 41.8	+0.3
MDM	Murphy Dome	10.77	23		Pn	16 46 40.9	-1.2
TCOL	CIGO, UAF Yank	10.78	24	P	Pn	16 46 40.7	-1.5
	baz=212,SNR=40						
COLA	College	10.79	24	*d i*P	Pn	16 46 40.3	-1.9
COLA	College	10.79	24		Pn	16 46 41.2	-1.1
BCPM	Bancas Point	10.88	58		Pn	16 46 43.3	-0.2
DOT	Dot Lake	10.90	35		Pn	16 46 44.3	+0.4
IL31		10.93	26		Pn	16 46 42.5	-1.7
ILAR	Eielson Array	10.93	26	Pn	Pn	16 46 42.6	-1.7
	2.4nm,0.3s,baz=216,slow=14,SNR=76						
ILAR				Sn	Sn	16 48 37.8	-8.2
	baz=212,slow=25,SNR=2.5						
ILAR				Lg	Lg	16 49 57.2	
	baz=198,slow=26,SNR=3.2						
ILAR				LR	LR	16 51 09.7	
	comp=Z,3μm,21.6s,baz=230,slow=39						
POKR	Poker Plat Res	11.09	24	P	Pn	16 46 44.7	-1.7
	baz=212,SNR=64						
SCRK	Sand Creek	11.16	34		Pn	16 46 46.2	-1.3
DHAK	Deception Hill	11.38	63		Pn	16 46 50.2	-0.2
ADK	Adak	11.58	260	P	Pn	16 46 53.6	+0.5
ADK	Adak	11.58	260		Pn	16 46 53.6	+0.5
KIWB	Kanaga Island	11.86	261		Pn	16 46 57.4	+0.4
PRP	Porcupine Dome	11.88	26		Pn	16 46 55.5	-1.8
COLD	Coldfoot	12.46	14		Pn	16 47 07.0	+1.9
EGAK	Eagle	12.61	35		Pn	16 47 07.8	+0.7
DAWY	Dawson	12.78	40		Pn	16 47 10.1	+0.5

FYU **Fort Yukon** 12.80 24 Pn 16 47 08.2 -1.5
SKAG **Skagway** 12.90 62 Pn 16 47 12.6 +1.5
RDOG **Red Dog Mine** 12.92 352 Pn Pn 16 47 15.4 +4.1
JIS **Juneau Island** 13.27 68 Pn 16 47 16.8 +0.6
CRAG **Craig** 14.15 79 Pn 16 47 26.9 -1.3
EPYK **Eagle Plains** 15.05 34 P Pn 16 47 39.7 -0.6
baz=232,SNR=37
EPYK **Eagle Plains** 15.05 34 Pn 16 47 41.1 +0.8
DLBC **Dease Lake** 15.57 67 Pn P 16 47 49.6 -1.9
1.0nm,0.3s,baz=265,slow=11,SNR=7.8
DLBC Sn **Sn** 16 50 35.7 -3.5
0.9nm,0.3s,baz=177,slow=19,SNR=5.3
INK **Inuvik** 17.20 31 P Pn 16 48 06.8 -1.1
INK pmax pmax
comp=Z,258nm,0.8s
INK **Inuvik** 17.20 31 P Pn 16 48 05.8 -2.1
comp=Z,2.1nm,0.3s,baz=229,slow=16,SNR=85
INK S **Sn** 16 51 22.2 +3.7
baz=44,slow=31,SNR=11
INK LR LR 16 55 19.7
comp=Z,4μm,19.2s,baz=217,slow=39
INK **Inuvik** 17.20 31 Pn 16 48 06.8 -1.1
INK IAmb IAmb 16 48 10.8
comp=Z,258nm,0.8s
BBB **Bella Bella** 17.92 88 P P 16 48 17.4 -0.1
comp=Z,0.2nm,0.3s,baz=291,slow=16,SNR=2.4
BBB LR LR 16 53 42.9
comp=Z,2μm,19.7s,baz=294,slow=32
C36M **Paulatuk** 20.68 34 P P 16 48 47.4 -0.1
baz=244,SNR=157
BILL **Bilibino** 20.73 322*c iP* P 16 48 48.1 +0.1
BILL *eS* **S** 16 52 38.6 +0.1
BILL pmax pmax
comp=Z,131nm,1.3s
BILL MLR MLR
comp=Z,4μm,17.0s
BILL **Bilibino** 20.73 322 P P 16 48 48.3 +0.2
NLWA **Neilton Lookou** 22.60 96 P P 16 49 09.2 +0.8
NLWA IAmb IAmb 16 49 22.6
comp=Z,146nm,1.0s
D03D **Eldon** 22.97 95 P P 16 49 13.9 +1.7
baz=303,SNR=6.8
YKW3 **Yellowknife Ar** 23.13 54 P P 16 49 12.5 -1.1
YKA **Yellowknife Ar** 23.14 54 P P 16 49 12.8 -1.0
comp=Z,27nm,0.7s,baz=268,slow=8.5,SNR=183
YKA LR LR 16 59 20.6
comp=Z,159nm,18.0s,baz=272,slow=39
B05A **Bryant** 23.14 93 P P 16 49 15.6 +1.6
baz=301,SNR=5.8
E04D **Cinebar** 23.81 97 P P 16 49 22.4 +1.8
baz=304,SNR=11
C06D **Leavenworth** 24.01 92 P P 16 49 24.2 +1.8
baz=302
LON **Longmire** 24.13 96 P P 16 49 24.5 +0.9
LON pmax pmax
comp=Z,89nm,1.3s
LON **Longmire** 24.13 96 P P 16 49 24.5 +0.9
G03D **McMinnville, O** 24.21 100 P P 16 49 26.8 +2.5
baz=307,SNR=5.7
I02D **Swisshome** 24.57 103 P P 16 49 28.9 +1.3
baz=309
B08A **Colville Reser** 24.67 90 P P 16 49 29.7 +1.2
F05D **White Salmon** 24.83 97 P P 16 49 31.3 +1.4
baz=306
H04D **Lebanon** 24.93 101 P P 16 49 32.6 +1.8
baz=308,SNR=8.1
I03D **Drain, OR** 25.11 103 P P 16 49 33.7 +1.3
baz=310
PET **Petropavlovsk** 25.12 283 *eP* P 16 49 31.8 -0.6
PET *eS* **S** 16 53 53.3 -2.8
PET pmax pmax
comp=Z,130nm,0.9s
PET pmax pmax
comp=Z,300nm,6.9s
PET MLR MLR
comp=Z,2μm,18.0s
PET MLR MLR
comp=Z,1μm,17.0s
PET **Petropavlovsk** 25.12 283 P P 16 49 32.1 -0.3
PET IAmb IAmb 16 49 33.0
comp=Z,96nm,0.9s
J01E **Myrtle Point** 25.13 105 P P 16 49 34.2 +1.5
baz=311,SNR=5.6
G05D **Wamic, OR** 25.29 98 P P 16 49 35.7 +1.6
baz=307,SNR=22
I04A **Tendick Farm,** 25.57 102 P P 16 49 37.3 +0.7
baz=309,SNR=8.8
K02D **Willamette Mer** 25.59 105 P P 16 49 39.1 +2.2
baz=311,SNR=6.8
PEA0B **Petropavlovsk-** 25.62 283 P P 16 49 36.8 -0.1
PEA0B pmax pmax
comp=Z,168nm,1.0s
PEA0B **Petropavlovsk-** 25.62 283 P P 16 49 36.9 -0.1
PEA0B IAmb IAmb 16 49 38.1
comp=Z,168nm,1.0s
PETK **Petropavlovsk-** 25.62 283 P P 16 49 36.4 -0.6
comp=Z,131nm,0.8s,baz=75,slow=7.8,SNR=107
PETK PcP **PcP** 16 53 07.0 -0.2
comp=Z,5.5nm,0.9s,baz=96,slow=2.8,SNR=5.3
PETK LR LR 16 59 48.2
comp=Z,1μm,20.1s,baz=77,slow=37
HAWA **Hanford** 25.63 94 P P 16 49 34.3 -2.9
F07A **Phinny Hill Vi** 25.69 96 P P 16 49 36.7 -1.0
F07A IAmb IAmb 16 49 50.5
comp=Z,122nm,0.9s
I05D **Terrebonne, OR** 25.83 100 P P 16 49 40.3 +1.2
baz=308
SEY **Seymchan** 25.89 307*ceP* P 16 49 38.5 -0.9
SEY **Seymchan** 25.89 307 P P 16 49 38.6 -0.8
comp=Z,58nm,0.8s,baz=99,slow=7.6,SNR=61
NEW **Newport** 25.98 89 P P 16 49 41.4 +1.1
baz=301,SNR=26
NEW **Newport** 25.98 89 P P 16 49 40.8 +0.4
NEW pmax pmax
comp=Z,61nm,1.2s
NEW **Newport** 25.98 89 P P 16 49 40.7 +0.3
comp=Z,11nm,0.9s,baz=302,slow=7.8,SNR=15
NEW LR LR 16 58 12.8
comp=Z,2μm,21.7s,baz=292,slow=32
NEW **Newport** 25.98 89 P P 16 49 40.8 +0.4
L02E **Cave Junction** 25.98 106 P P 16 49 41.7 +1.3
baz=312
J04D **Umpqua Nationa** 26.09 103 P P 16 49 43.2 +1.6
baz=310,SNR=6.7
J05D **Fort Rock, OR** 26.55 102 P P 16 49 46.7 +1.0
baz=310,SNR=14
G08A **Pilot Rock** 26.59 96 P P 16 49 47.1 +1.1
L04D **Klamath Falls** 26.66 105 P P 16 49 47.2 +0.6
baz=312,SNR=6.7
YBH **Yreka Blue Hor** 26.76 106 P P 16 49 48.8 +1.3
comp=Z,3.4nm,0.7s,baz=304,slow=5.9,SNR=4.9
YBH PcP **PcP** 16 53 09.5 -0.6
comp=Z,2.0nm,0.9s,baz=297,slow=2.3,SNR=2.8
YBH LR LR 16 58 00.9
comp=Z,3μm,20.6s,baz=312,slow=31
M02C **Callahan** 26.91 107 P P 16 49 50.5 +1.6
baz=313
M04C **Macdoel** 27.21 105 P P 16 49 52.6 +1.1
baz=312,SNR=6.4
MA2 **Magadan** 27.25 300⇑*eP* P 16 49 51.2 -0.4
MA2 pmax pmax
comp=Z,69nm,1.8s
MA2 **Magadan** 27.25 300 P P 16 49 51.3 -0.4
comp=Z,15nm,0.6s,baz=70,slow=13,SNR=14
MA2 LR LR 17 02 29.9
comp=Z,1μm,18.2s,baz=93,slow=41
MA2 **Magadan** 27.25 300 P P 16 49 51.0 -0.7
MA2 IAmb IAmb 16 50 32.2
comp=Z,131nm,1.6s
N02D **Trinity Center** 27.28 107 P P 16 49 53.7 +1.5
baz=314,SNR=5.9
WALA **Waterton Lakes** 27.41 85 P P 16 49 53.8 +0.5
SKR **Severo-Kuril's** 27.54 279‖*eP* P 16 49 53.4 -0.9
O02D **Mt. Diablo Mer** 27.80 108 P P 16 49 58.0 +1.2
baz=315
JTMT **Jette** 27.88 87 P P 16 49 57.5 -0.1
JTMT IAmb IAmb 16 50 08.3
comp=Z,85nm,1.1s
O03E **Paynes Creek** 28.25 107 P P 16 50 01.3 +0.4
baz=314,SNR=6.2
HOPS **Hopland Field** 28.49 110 P P 16 50 00.0 -2.9
HOPS IAmb IAmb 16 50 13.7
comp=Z,102nm,1.2s
WVOR **Wild Horse Val** 28.56 100 P P 16 50 03.6 0.0
WVOR pmax pmax
comp=Z,61nm,1.2s
WVOR **Wild Horse Val** 28.56 100 P P 16 50 03.6 0.0
MSO **Missoula** 28.57 89 P P 16 50 04.3 +0.6
baz=304
MFID **Camas Ranch** 29.52 96 P P 16 50 12.9 +0.7
HRY **Holter Researc** 29.84 87 P P 16 50 16.1 +1.2
PAHR **Pah Rah Range** 29.99 105 P P 16 50 16.3 -0.1
PAHR PcP 16 53 18.0 -0.3
EGMT **Eagleton** 30.30 84 P P 16 50 19.2 +0.2
baz=302
PNTR **Pine Nut** 30.30 106 P P 16 50 19.8 +0.5
PNTR IAmb IAmb 16 50 30.3
comp=Z,86nm,1.0s
MCMT **McKenzie Canyo** 30.35 91 P P 16 50 20.6 +0.9
YERR **Yerington** 30.57 106 P P 16 50 22.4 +0.8
BOZ **Bozeman (W)** 30.59 89 P P 16 50 23.0 +1.4
baz=305
CMB **Columbia Colle** 30.63 109 P P 16 50 22.2 +0.2
CMB pmax pmax
comp=Z,30nm,1.1s
CMB **Columbia Colle** 30.63 109 P P 16 50 22.2 +0.2
RES **Resolute Bay** 30.68 28 P P 16 50 21.8 -0.1
comp=Z,24nm,0.7s,baz=257,slow=11,SNR=70
WAKR **Walker** 30.81 107 P P 16 50 24.4 +0.7
WAKR IAmb IAmb 16 50 34.8
comp=Z,73nm,1.3s
KVN **Kaiserville** 31.16 105 P P 16 50 27.2 +0.5
KVN pmax pmax
comp=Z,96nm,1.6s
KVN **Kaiserville** 31.16 105 P P 16 50 27.2 +0.5
KVN IAmb IAmb 16 50 37.5
comp=Z,96nm,1.6s
RYN **Ryan** 31.22 106 P P 16 50 28.0 +0.7
FFC **Flin Flon** 31.41 68 *i* P P 16 50 28.8 +0.3
NVAR **Mina Array Bea** 31.48 106 P P 16 50 30.3 +0.6
comp=Z,7.8nm,0.7s,baz=304,slow=8.6,SNR=38
NVAR PcP **PcP** 16 53 21.2 -1.1
comp=Z,2.8nm,0.7s,baz=282,slow=2.4,SNR=4.8
NVAR ScP **ScP** 16 57 02.7 -1.6
comp=Z,0.2nm,0.3s,baz=316,slow=2.5,SNR=3.9
NVAR LR LR 17 00 56.5
comp=Z,3μm,20.6s,baz=309,slow=32
YHH **Holmes Hill** 31.52 90 P P 16 50 31.1 +1.1
YMR **Madison River** 31.52 90 P P 16 50 31.1 +1.2
NV11 **Mina Array Sit** 31.56 106 P P 16 50 29.8 -0.5
NV11 PcP **PcP** 16 53 22.7 +0.3
ELK **Elko** 31.59 99 P P 16 50 31.1 +0.5
ELK pmax pmax
comp=Z,52nm,1.2s
ELK **Elko** 31.59 99 P P 16 50 31.1 +0.5
H17A **Grant Village** 31.91 90 P P 16 50 35.9 +2.5
baz=307,SNR=23
FXWY **Fox Creek** 32.11 91 P P 16 50 35.6 +0.5
MOOW **Moose Ponds** 32.21 91 P P 16 50 36.9 +1.0
RLMT **Red Lodge** 32.22 88 P P 16 50 37.6 +1.5
baz=306,SNR=32
RLMT **Red Lodge** 32.22 88 P P 16 50 37.1 +1.0
RLMT IAmb IAmb 16 50 47.2
comp=Z,67nm,1.2s
BGU **Big Grassy Mou** 32.71 97 P P 16 50 40.9 +0.6
VES **Vestal, Richgr** 32.95 110 P P 16 50 42.5 +0.2
baz=319,SNR=8.8
GRAC **Grapevine Rang** 33.03 107 P P 16 50 44.2 +1.2
baz=317
LAO **LASA Array** 33.04 83 P P 16 50 43.5 +0.4
baz=304,SNR=7.7
R11A **Troy Canyon, C** 33.04 103 P P 16 50 43.5 +0.2
baz=315,SNR=15
R11A **Troy Canyon, C** 33.04 103 P P 16 50 44.1 +0.8
R11A IAmb IAmb 16 50 53.9
comp=Z,96nm,1.6s
CWC **Cottonwood Cre** 33.05 108 P P 16 50 44.2 +0.9
baz=318
DUG **Dugway, Tooele** 33.32 98 P P 16 50 46.7 +0.9
baz=312,SNR=16
DUG **Dugway, Tooele** 33.32 98 P P 16 50 46.6 +0.9
DUG pmax pmax
comp=Z,129nm,1.5s
DUG **Dugway, Tooele** 33.32 98 P P 16 50 46.6 +0.9
DUG IAmb IAmb 16 50 57.3
comp=Z,129nm,1.4s
ISA **Isabella, Lake** 33.42 110 P P 16 50 46.8 +0.4
baz=318,SNR=6.9
BW06 **Boulder Array** 33.50 91 P P 16 50 48.5 +1.2
baz=309,SNR=7.2
BW06 **Boulder Array** 33.50 91 P P 16 50 47.3 0.0
PD31 **Pinedale Array** 33.50 91 P P 16 50 48.0 +0.7
PDAR **Pinedale Array** 33.50 91 P P 16 50 47.8 +0.5
comp=Z,3.5nm,0.7s,baz=312,slow=5.3,SNR=38
PDAR LR LR 17 02 57.4
comp=Z,155nm,18.8s,baz=323,slow=34
MPMC **Manual Prospec** 33.65 108 P P 16 50 49.4 +0.8
baz=318,SNR=6.6
TPNV **Topopah Spring** 33.68 106 P P 16 50 49.8 +1.0
baz=316,SNR=7.7
FURC **Furnace Creek,** 33.69 107 P P 16 50 49.6 +0.9
baz=317,SNR=8.2
TIXI **Tiksi** 33.74 327*c iP* P 16 50 47.9 -0.9
TIXI pmax pmax
comp=Z,70nm,1.0s
TIXI MLR MLR
comp=Z,2μm,16.0s
TIXI **Tiksi** 33.74 327 P P 16 50 48.7 -0.1
TIXI IAmb IAmb 16 50 49.3
comp=Z,62nm,1.0s
TIXI PcP 16 53 27.5 -0.2
NLU **North Lily Min** 33.90 98 P P 16 50 50.7 -0.2
SHOC **Shoshone, Teco** 34.43 107 P P 16 50 56.0 +0.8
baz=318
GSC **Goldstone, Bar** 34.59 108 P P 16 50 57.4 +0.7
baz=318,SNR=9.8
TYV **Tymovskoe** 34.91 288 *eP* P 16 50 59.4 +0.3
TYV pmax pmax
comp=Z,75nm,0.9s
TYV pmax pmax
comp=Z,200nm,3.6s
BFSC **Mount Baldy Ra** 34.93 110 P P 16 51 00.3 +0.6
baz=320,SNR=6.9
Q16A **Castle Valley** 35.12 98 P P 16 51 03.1 +1.8
HEC **Hector,Ludlow** 35.20 108 P P 16 51 02.7 +0.8
baz=319,SNR=7.5
LCMT **Little Creek M** 35.30 102 P P 16 51 03.9 +1.1
K22A **Casper** 35.30 89 P P 16 51 03.2 +0.4
baz=309,SNR=11
SRU **San Rafael Swe** 35.36 97 P P 16 51 04.6 +1.3
SRU pmax pmax
comp=Z,121nm,0.9s
SRU **San Rafael Swe** 35.36 97 P P 16 51 04.6 +1.3
GMRC **Granite Mounta** 35.60 107 P P 16 51 06.0 +0.6
baz=318,SNR=7.3
RSSD **Black Hills** 35.80 85 P P 16 51 07.7 +0.5
baz=308
RSSD **Black Hills** 35.80 85 P P 16 51 07.5 +0.3
RSSD pmax pmax
comp=Z,106nm,1.5s
RSSD **Black Hills** 35.80 85 P P 16 51 07.5 +0.3
RSSD IAmb IAmb 16 51 18.3
comp=Z,106nm,1.5s
O20A **White River Ci** 35.96 94 P P 16 51 09.8 +1.3
baz=312,SNR=34
O20A **White River Ci** 35.96 94 P P 16 51 09.3 +0.7
PFO **Pinyon Flats O** 36.05 110 P P 16 51 09.5 +0.3
baz=320,SNR=5.8
PFO **Pinyon Flats O** 36.05 110‖*eP* P 16 51 08.2 -1.1
PFO pmax pmax
comp=Z,24nm,1.5s
TPFO **Pinon Flats** 36.06 110 P P 16 51 09.4 +0.1
baz=320,SNR=7.1
MDND **Maddock** 36.11 77 P P 16 51 10.0 +0.6
baz=304
109C **Camp Elliot, M** 36.26 111 P P 16 51 11.7 +0.8
baz=321
YAK **Yakutsk** 36.27 311*c iP* P 16 51 09.7 -1.0
YAK *e*PP* **sP** 16 51 18.3 +0.3
YAK *e* 16 52 27.5
YAK *ePPP* PPP 16 52 55.1
YAK *e* 16 53 33.9
YAK *eS* **S** 16 56 48.8 -1.3
YAK *e*SS* sS 16 57 09.1 +10
YAK *eSS* **SnSn** 16 59 16.8 +0.1
YAK *eSSS* SSS 16 59 37.3
YAK *e* 17 01 25.2
YAK pmax pmax
comp=Z,137nm,0.7s
YAK pmax pmax
comp=N,9.0nm,0.7s
YAK pmax pmax
comp=E,52nm,0.8s
YAK pmax pmax
comp=Z,71nm,2.5s
YAK pmax pmax
comp=N,121nm,2.8s
YAK pmax pmax
comp=E,127nm,2.8s
YAK smax smax
comp=N,121nm,2.3s
YAK smax smax
comp=E,72nm,2.2s
YAK MLR MLR
comp=Z,667nm,20.0s
YAK MLR MLR
comp=N,907nm,19.0s
YAK **Yakutsk** 36.27 311 P P 16 51 10.0 -0.7
IRM **Iron Mountain** 36.35 108 P P 16 51 12.2 +0.5
baz=319,SNR=11
N23A **Red Feather La** 36.77 91 P P 16 51 16.6 +1.1
baz=311,SNR=9.4
ULM **Lac du Bonnet** 36.83 71 P P 16 51 15.1 -0.5
ULM pmax pmax
comp=Z,35nm,1.0s
ULM **Lac du Bonnet** 36.83 71 P P 16 51 15.0 -0.6
comp=Z,13nm,0.8s,baz=285,slow=9.1,SNR=18
ULM LR LR 17 06 25.9
comp=Z,1μm,18.6s,baz=299,slow=36
ULM **Lac du Bonnet** 36.83 71 P P 16 51 15.1 -0.5
TULEG **Thule** 36.87 23 P P 16 51 15.3 -0.4
TULEG IAmb IAmb 16 51 16.6
comp=Z,80nm,1.1s
IKP **In-Ko-Pah, Jac** 36.98 110 P P 16 51 17.6 +0.5
baz=320,SNR=5.4
Y12C **Blythe** 36.99 107 P P 16 51 17.9 +0.8
baz=319,SNR=9.5
YUK **Yuzh-Kuril'sk** 37.00 276 *eP* P 16 51 20.7 +3.6
YUK *eS* **S** 16 57 03.8 +2.2
YUK pmax pmax
comp=Z,580nm,1.4s
YUK pmax pmax
comp=N,232nm,1.5s
YUK pmax pmax
comp=E,239nm,0.9s
YUK MLR MLR
comp=Z,273nm,19.0s
YSS **Yuzh-Sakhalins** 37.00 282⇑*eP* P 16 51 17.1 0.0
YSS *e* 16 51 26.3
YSS *eS* **S** 16 57 03.0 +1.5
YSS pmax pmax
comp=Z,50nm,1.1s
YSS pmax pmax
comp=N,30nm,0.9s
YSS MLR MLR
comp=Z,400nm,19.0s
YSS MLR MLR
comp=N,300nm,18.0s
YSS **Yuzh-Sakhalins** 37.00 282 P P 16 51 17.2 +0.1
WUAZ **Wupatki** 37.42 102 P P 16 51 22.2 +1.3
baz=317,SNR=5.1
ISCO **Idaho Springs** 37.68 92 P P 16 51 24.5 +1.1
baz=312
ISCO **Idaho Springs** 37.68 92 P P 16 51 25.8 +2.5
ISCO pmax pmax
comp=Z,33nm,1.3s
ISCO **Idaho Springs** 37.68 92 P P 16 51 25.8 +2.5
MVCO **Mesa Verde** 37.82 98 P P 16 51 24.5 +0.1
baz=315,SNR=40
MVCO **Mesa Verde** 37.82 98 P P 16 51 25.2 +0.7
AGMN **Agassiz Nation** 37.92 74 P P 16 51 24.5 -0.3
baz=304
AGMN **Agassiz Nation** 37.92 74 P P 16 51 24.5 -0.3
GRNR **Gornyy** 38.31 291⇑*iP* P 16 51 25.1 -3.1
GRNR *eS* **S** 16 57 19.5 -1.9
GRNR pmax pmax
comp=Z,40nm,0.9s
GRNR smax smax
comp=N,3.0nm,1.4s
GRNR MLR MLR
comp=Z,360nm,17.0s
S22A **4UR Ranch, Cre** 38.39 95 P P 16 51 30.4 +1.1
baz=314,SNR=12
Q24A **Divide** 38.51 93 P P 16 51 30.5 +0.2
baz=313
W18A **Petrified Fore** 38.63 101 P P 16 51 31.5 +0.3
baz=317,SNR=9.8
SDCO **Great Sand Dun** 39.15 94 P P 16 51 36.7 +1.1
baz=314,SNR=13
214A **Organ Pipe Nat** 39.29 108 P P 16 51 37.0 +0.4
baz=320,SNR=5.5
ERM **Erimo** 39.82 276*ceP* P 16 51 40.5 -0.3
ERM pmax pmax
comp=Z,154nm,1.0s
ERM **Erimo** 39.82 276 P P 16 51 41.1 +0.3
ERM IAmb IAmb 16 51 41.7
comp=Z,111nm,0.8s
KSCO **Kaye Shedlock'** 39.92 90 P P 16 51 42.9 +1.0
baz=313,SNR=6.7
TUC **Tucson** 40.13 105 P P 16 51 44.4 +0.8
baz=319
T25A **Trinidad** 40.19 94 P P 16 51 45.8 +1.5
baz=314,SNR=14
ECSD **EROS Data Cent** 40.24 80 P P 16 51 43.0 -1.4
baz=309,SNR=7.1
ECSD **EROS Data Cent** 40.24 80 P P 16 51 43.1 -1.2
KULLO **Kullorsuaq** 40.32 24 *i* P P 16 51 44.7 +0.1
KULLO *i* 16 51 56.7
KULLO pmax pmax
comp=Z,87nm,1.0s
KULLO **Kullorsuaq** 40.32 24 *i* P P 16 51 44.7 +0.1
comp=Z,87nm,1.0s
KULLO *i* 16 51 56.7
EYMN **Ely** 40.51 72 P P 16 51 46.2 -0.3
baz=306,SNR=9.4
EYMN **Ely** 40.51 72 P P 16 51 46.1 -0.3
EYMN IAmb IAmb 16 51 59.8
comp=Z,83nm,0.9s
ANMO **Albuquerque** 40.59 98 P P 16 51 47.9 +0.2
baz=316
ANMO **Albuquerque** 40.59 98⇓*eP* P 16 51 47.8 +0.2
ANMO pmax pmax
comp=Z,4.0nm,0.9s
BGNE **Belgrade** 40.87 84 P P 16 51 49.7 +0.1
baz=311,SNR=6.1
ZEA **Zeya** 41.40 300 *eP* P 16 51 52.1 -1.6
ZEA pmax pmax
comp=E,56nm,1.4s
ZEA pmax pmax
comp=Z,67nm,1.0s
ZEA MLR MLR
comp=Z,1μm,16.0s
ZEA MLR MLR
comp=E,800nm,18.0s
ZEA MLR MLR
comp=N,500nm,17.0s
SPMN **Marine on St.** 41.44 76 P P 16 51 53.7 -0.5
baz=308
TEY **Ternei** 41.58 284⇑*iP* P 16 51 54.1 -1.2
TEY pmax pmax
comp=E,30nm,1.1s
TEY pmax pmax
comp=N,10.0nm,1.4s
TEY pmax pmax
comp=Z,40nm,1.0s
121A **Cookes Peak, D** 41.63 102 P P 16 51 56.9 +0.8
baz=318,SNR=9.1
KLR **Kul'dur** 41.67 292*c iP* P 16 51 55.1 -0.9
KLR pmax pmax
comp=Z,68nm,1.3s
CBKS **Cedar Bluff** 41.70 88 P P 16 51 57.1 +0.6
baz=313,SNR=6.9
KSU1 **Kansas State U** 43.29 86 P P 16 52 08.6 -0.7
baz=313,SNR=7.5
AMTX **Amarillo** 43.35 94 P P 16 52 11.1 +1.1
baz=316
MSTX **Muleshoe** 43.39 96 P P 16 52 10.3 0.0
baz=317,SNR=16
I40A **Norwalk** 43.49 76 P P 16 52 09.7 -1.2
MNTX **Cornudas Mount** 43.60 101 P P 16 52 12.7 +0.8
baz=319,SNR=26
JFWS **Jewell Farm** 44.33 77 P P 16 52 16.3 -1.3
baz=311,SNR=5.8
JFWS **Jewell Farm** 44.33 77 P P 16 52 16.2 -1.4
JFWS pmax pmax
comp=Z,109nm,1.7s
JFWS **Jewell Farm** 44.33 77 P P 16 52 16.2 -1.4
JFWS IAmb IAmb 16 52 26.2

comp=Z,109nm,1.6s
I42A **Draeger Farm,** **44.43** **75** IAmb IAmb 16 52 31.6
comp=Z,48nm,0.8s
USRK **Ussuriysk Ar.** **44.66** **286** P **P** **16 52 18.8 -1.4**
comp=Z,3.4nm,0.5s,baz=54,slow=9.8,SNR=11
USRK PcP **PcP** **16 54 02.4 -0.2**
comp=Z,5.0nm,0.9s,baz=48,slow=2.8,SNR=4.6
USRK LR LR 17 11 02.7
comp=Z,649nm,21.9s,baz=46,slow=36
WMOK **Wichita Mounta** **45.11** **92** P **P** **16 52 23.9 0.0**
baz=316,SNR=25
D46A **Sault St. Mari** **45.16** **68** P **P** **16 52 23.4 -0.7**
baz=309
BOD **Bodaibo** **45.19** **311** *e*P **P** **16 52 22.5 -1.8**
BOD pmax pmax
comp=Z,138nm,1.2s
E46A **Sault Ste Mari** **45.34** **69** P **P** **16 52 24.5 -1.1**
E46A IAmb IAmb 16 52 39.0
comp=Z,75nm,0.8s
VLA **Vladivostok** **45.42** **285***c i*P **P** **16 52 26.0 -0.2**
VLA pmax pmax
comp=Z,105nm,1.5s
D47A **Chapleau** **45.54** **68** P **P** **16 52 26.5 -0.8**
baz=309
DAG **Danmarks Havn** **45.64** **12**⇑ *i*P **P** **16 52 27.5 -0.1**
DAG *i* 16 52 39.0
DAG **Danmarks Havn** **45.64** **12**⇑ *i*P **P** **16 52 27.5 -0.1**
DAG *i* 16 52 39.0
MDJ **Mudanjiang** **45.70** **288** P **P** **16 52 27.2 -1.2**
MDJ ScP **ScP** **16 57 56.3 -1.7**
MDJ S **S** **16 59 14.7 +4.2**
MDJ sS sS 16 59 18.2 -1.1
MDJ ScS **ScS** **17 02 20.1 -3.3**
MDJ pmax pmax
comp=Z,40nm,0.9s
MDJ pmax pmax
comp=Z,110nm,3.1s
MDJ LR LR
comp=Z,670nm,22.5s
MDJ LR LR
comp=Z,630nm,22.8s
MDJ LR LR
comp=Z,1µm,22.9s
G46A **Petoskey** **45.72** **71** P **P** **16 52 28.1 -0.6**
baz=310
SUMG **Summit** **45.74** **21** *i*P **P** **16 52 29.4 +0.5**
SUMG *i* 16 52 41.4
SUMG pmax pmax
comp=Z,270nm,1.0s
SUMG **Summit** **45.74** **21** *i*P **P** **16 52 29.4 +0.5**
comp=Z,267nm,1.0s
SUMG *i* 16 52 41.4
SUMG **Summit** **45.74** **21** P **P** **16 52 29.7 +0.8**
KBS **Kingsbay** **45.82** **3***ce*P **P** **16 52 29.9 +0.9**
KBS pmax pmax
comp=Z,712nm,2.5s
KBS **Kingsbay** **45.82** **3** *e*P **P** **16 52 29.8 +0.8**
KBS **Kingsbay** **45.82** **3** P **P** **16 52 30.0 +1.0**
TUL1 **Leonard** **45.98** **88** P **P** **16 52 29.9 -0.9**
baz=315,SNR=9.0
TUL1 **Leonard** **45.98** **88** P **P** **16 52 29.4 -1.4**
TUL1 IAmb IAmb 16 52 40.2
comp=Z,78nm,0.8s
H46A **Fife Lake** **46.04** **72** P **P** **16 52 30.6 -0.6**
baz=310
D48A **Paudash Townsh** **46.15** **67** P **P** **16 52 30.8 -1.2**
baz=310
ABTX **Abilene, Hawle** **46.16** **94** P **P** **16 52 32.1 -0.2**
baz=318,SNR=6.9
GLMI **Grayling** **46.17** **71** P **P** **16 52 31.8 -0.4**
baz=310
MSHR **Mys Shultsa** **46.18** **285***c i*P **P** **16 52 31.9 -0.3**
I46A **Reed City** **46.30** **72** P **P** **16 52 32.2 -1.0**
baz=311
D49A **Beulah Townshi** **46.32** **66** P **P** **16 52 32.5 -0.9**
baz=310
MAJO **Matsushiro** **46.34** **274***c i*P **P** **16 52 33.4 -0.3**
MAJO pmax pmax
comp=Z,108nm,1.2s
MAJO **Matsushiro** **46.34** **274** P **P** **16 52 33.4 -0.3**
MAT **Matsushiro** **46.34** **274** P **P** **16 52 33.4 -0.3**
MAT S **S** **16 59 21.8 +1.8**
MJAR **Matsushiro Arr** **46.34** **274** P **P** **16 52 33.3 -0.4**
comp=Z,13nm,0.6s,baz=38,slow=8.4,SNR=50
MJAR LR LR 17 10 29.4
comp=Z,432nm,21.9s,baz=65,slow=34
MJB9 **Matsu-Tunnel** **46.34** **274** P **P** **16 52 33.9 +0.2**
TX31 **Lajitas Ar. Si** **46.35** **101** P **P** **16 52 34.4 +0.5**
TX31 IAmb IAmb 16 52 44.4
comp=Z,76nm,0.9s
TX32 **Lajitas Array** **46.35** **101** P **P** **16 52 34.7 +0.8**
TX32 IAmb IAmb 16 52 44.4
comp=Z,78nm,0.9s
TXAR **Lajitas Array** **46.35** **101** P **P** **16 52 34.5 +0.6**
comp=Z,11nm,0.9s,baz=306,slow=5.7,SNR=50
TXAR PcP **PcP** **16 54 08.2 -0.6**
comp=Z,3.0nm,0.7s,baz=298,slow=1.9,SNR=2.2
TXAR ScP **ScP** **16 57 58.2 -2.8**
comp=Z,1.6nm,0.9s,baz=298,slow=1.9,SNR=4.4
TXAR LR LR 17 10 50.4
comp=Z,1µm,19.3s,baz=0.0,slow=35
HDIL **Hopedale** **46.44** **79** P **P** **16 52 33.2 -1.1**
baz=313,SNR=9.4
HDIL **Hopedale** **46.44** **79** P **P** **16 52 32.6 -1.7**
SFJD **Kangerlussuaq** **46.55** **31** *i*P **P** **16 52 34.9 +0.1**
SFJD **Kangerlussuaq** **46.55** **31** *i*P **P** **16 52 34.9 +0.1**
SFJD **Kangerlussuaq** **46.55** **31** P **P** **16 52 35.0 +0.2**
comp=Z,48nm,0.9s,baz=315,slow=7.4,SNR=12
SFJD **Kangerlussuaq** **46.55** **31** P **P** **16 52 34.7 -0.1**
SFJD IAmb IAmb 16 52 35.6
comp=Z,47nm,0.8s
MATQ **Matagami** **46.65** **62** P **P** **16 52 34.5 -1.3**
baz=309
SPA0 **Spitsbergen Ar** **46.66** **2** *e*P **P** **16 52 35.1 -0.6**
I47A **Gladwin** **46.76** **72** P **P** **16 52 36.5 -0.3**
baz=311
NRIK **Noril'sk** **46.84** **334** P **P** **16 52 37.2 +0.2**
comp=Z,159nm,0.8s,baz=54,slow=7.1,SNR=144
NRIK LR LR 17 15 59.6
comp=Z,1µm,18.5s,baz=52,slow=41
K46A **Dorr** **46.95** **74** P **P** **16 52 37.3 -1.0**
baz=312
CCM **Cathedral Cave** **47.05** **83** P **P** **16 52 37.5 -1.7**
baz=314
X37A **Clayton** **47.16** **89** P **P** **16 52 39.9 -0.2**
D50A **G1974 Best Tow** **47.18** **66** P **P** **16 52 38.9 -1.2**
baz=310
U40A **Yellville** **47.33** **85** P **P** **16 52 39.5 -1.9**
baz=315,SNR=8.3
LSQQ **Lebel-sur-Quev** **47.42** **62** P **P** **16 52 40.8 -1.1**
baz=310
D51A **Lot 18 Range I** **47.48** **65** P **P** **16 52 41.4 -0.9**
baz=310
W39A **Magazine** **47.63** **87** P **P** **16 52 42.9 -0.8**
baz=316,SNR=18
W39A **Magazine** **47.63** **87** P **P** **16 52 42.9 -0.8**
JCT **Junction City** **47.66** **97** P **P** **16 52 43.5 -0.6**
baz=319,SNR=7.7
L47A **Sherwood** **47.74** **74** P **P** **16 52 43.3 -1.2**
baz=312,SNR=6.0
E51A **G1948 Merrick** **47.78** **66** P **P** **16 52 43.7 -1.1**
baz=311
K48A **Perry** **47.78** **73** P **P** **16 52 44.0 -0.8**
baz=312
SFIN **Lafayette** **47.78** **77** P **P** **16 52 44.0 -0.8**
baz=313,SNR=9.0
HSPB **Hornsund (broa** **47.82** **2** *e*P **P** **16 52 44.2 -0.4**
M47A **Cromwell** **47.93** **75** P **P** **16 52 44.8 -1.2**
baz=313,SNR=8.6
J49A **Marlette** **47.94** **72** P **P** **16 52 45.2 -0.8**
baz=312
D52A **ZEK Kipawa Sen** **48.05** **65** P **P** **16 52 45.7 -1.1**
baz=311
K49A **Clarkson** **48.15** **72** P **P** **16 52 47.1 -0.6**
baz=312
CHGQ **Chibougamau** **48.17** **60** P **P** **16 52 46.1 -1.6**
baz=310
L48A **N Adams** **48.19** **74** P **P** **16 52 47.1 -0.9**
baz=312,SNR=5.9
MIAR **Mount Ida** **48.22** **88** P **P** **16 52 47.5 -0.8**
baz=316,SNR=18
MIAR **Mount Ida** **48.22** **88** P **P** **16 52 47.5 -0.8**
MIAR pmax pmax
comp=Z,74nm,1.0s
MIAR **Mount Ida** **48.22** **88** P **P** **16 52 47.5 -0.8**
N47A **Urbana** **48.22** **76** P **P** **16 52 46.6 -1.6**
baz=313,SNR=13
N47A **Urbana** **48.22** **76** P **P** **16 52 46.5 -1.7**
P46A **Rosedale** **48.24** **78** P **P** **16 52 47.5 -0.9**
baz=314,SNR=10
M48A **Edgerton** **48.34** **74** P **P** **16 52 47.9 -1.2**
baz=313
D53A **Lac Vacive, Po** **48.35** **64** P **P** **16 52 49.0 -0.2**
baz=311
D53A **Lac Vacive, Po** **48.35** **64** IAmb IAmb 16 53 02.6
comp=Z,37nm,0.8s
F52A **Sundridge** **48.35** **67** P **P** **16 52 48.3 -0.9**
baz=311
E52A **Mattawa** **48.38** **66** P **P** **16 52 48.0 -1.3**
baz=311,SNR=6.0
S44A **Carbondale** **48.43** **81** P **P** **16 52 48.5 -1.4**
baz=314,SNR=10
L49A **Milan** **48.44** **73** P **P** **16 52 49.5 -0.4**
baz=313
CN2 **Changchun** **48.47** **290** *e*P **P** **16 52 48.6 -1.5**
CN2 *es*P sP 16 53 02.4 +4.8
CN2 *e*S **S** **16 59 47.1 -3.0**
CN2 *e*SS **SS** **17 03 12.4 -7.0**
CN2 pmax pmax
comp=Z,170nm,0.8s
CN2 pmax pmax
comp=Z,300nm,3.0s
CN2 LR LR
comp=Z,600nm,20.0s
CN2 LR LR
comp=Z,500nm,20.0s
CN2 LR LR
comp=Z,500nm,20.0s
SCHQ **Schefferville** **48.51** **51** P **P** **16 52 49.2 -1.0**
comp=Z,25nm,0.6s,baz=314,slow=7.7,SNR=36
SCHQ LR LR 17 14 47.3
comp=Z,958nm,18.9s,baz=296,slow=38
SCHQ **Schefferville** **48.51** **51** IAmb IAmb 16 52 50.2
comp=Z,30nm,0.7s
W41B **Gary Mavity, V** **48.52** **86** P **P** **16 52 49.0 -1.6**
baz=316,SNR=6.3
N48A **Decatur** **48.60** **75** P **P** **16 52 49.6 -1.5**
baz=313,SNR=14
X40A **Basin Creek Fa** **48.68** **87** P **P** **16 52 50.9 -0.9**
baz=316,SNR=5.4
M49A **Liberty Center** **48.76** **74** P **P** **16 52 51.1 -1.2**
baz=313,SNR=5.3
E53A **Dumoine, Ponti** **48.83** **65** P **P** **16 52 51.6 -1.2**
baz=311
D54A **Lac Fusel, La** **48.83** **64** P **P** **16 52 51.6 -1.3**
baz=311
ALGO **Algonquin Park** **48.91** **66** P **P** **16 52 52.2 -1.2**
baz=312,SNR=5.5
BLO **Bloomington** **48.93** **78** IAmb IAmb 16 53 02.7
comp=Z,92nm,1.1s
O48A **Farmland** **48.94** **76** P **P** **16 52 51.9 -1.9**
baz=314,SNR=18
L50A **Kingsville** **49.01** **73** P **P** **16 52 53.0 -1.3**
baz=313
N49A **Columbus Grove** **49.02** **75** P **P** **16 52 53.0 -1.4**
baz=313,SNR=12
CIT **Chita** **49.03** **305** *e*P **P** **16 52 54.7 +0.3**
CIT *e* 16 53 07.4
CIT pmax pmax
comp=Z,214nm,1.1s
E54A **Lac Daplat, Po** **49.04** **65** P **P** **16 52 53.3 -1.2**
baz=312,SNR=7.9
G53A **Haliburton** **49.17** **67** P **P** **16 52 54.5 -1.0**
baz=312
G54A **Lake Saint Pet** **49.26** **66** P **P** **16 52 55.3 -0.9**
baz=312
P48A **Milroy** **49.34** **77** P **P** **16 52 55.2 -1.7**
baz=314,SNR=8.8
O49A **Covington** **49.44** **75** P **P** **16 52 55.8 -1.8**
baz=314
D55A **Sainte-Anne-du** **49.53** **63** P **P** **16 52 56.9 -1.3**
baz=312,SNR=6.9
Q48A **North Vernon** **49.54** **78** P **P** **16 52 56.6 -1.8**
baz=314
NATX **Nacogdoches** **49.63** **91** P **P** **16 52 59.5 +0.3**
baz=318,SNR=8.1
P49A **Miami Univ. Ec** **49.69** **76** P **P** **16 52 57.3 -2.2**
baz=314,SNR=11
N50A **Nevada** **49.70** **74** P **P** **16 52 58.6 -1.0**
baz=314,SNR=6.0
WCI **Wyandotte Cave** **49.72** **79** P **P** **16 52 58.3 -1.5**
baz=315
WCI **Wyandotte Cave** **49.72** **79** P **P** **16 52 58.3 -1.5**
WCI pmax pmax
comp=Z,56nm,0.8s
WCI **Wyandotte Cave** **49.72** **79** P **P** **16 52 58.3 -1.5**
WCI IAmb IAmb 16 54 30.2
comp=Z,56nm,0.8s
O50A **Cable** **49.87** **75** P **P** **16 52 59.4 -1.5**
baz=314,SNR=12
D56A **ZEK Mazanza, M** **49.87** **63** P **P** **16 52 59.6 -1.2**
baz=312,SNR=15
Q49A **Aurora** **49.96** **77** P **P** **16 53 00.0 -1.5**
baz=314
N51A **Ashland** **50.02** **73** P **P** **16 53 00.6 -1.4**
baz=314
E56A **St. Veronique** **50.07** **63** P **P** **16 53 01.0 -1.3**
baz=312
G55A **Calabogie** **50.07** **66** P **P** **16 53 01.5 -0.8**
baz=312,SNR=6.1
T47A **Sharon Grove** **50.14** **80** P **P** **16 53 02.1 -0.8**
baz=315,SNR=8.3
P50A **Jamestown** **50.14** **76** P **P** **16 53 01.6 -1.4**
baz=314,SNR=14
ACSO **Alum Creek Sta** **50.16** **74** P **P** **16 53 01.7 -1.4**
baz=314,SNR=6.2
I55A **Frankford** **50.27** **67** P **P** **16 53 03.1 -0.8**
baz=313
H55A **Twed** **50.31** **67** P **P** **16 53 03.2 -0.9**
baz=313
D57A **Chemin Vers le** **50.33** **62** P **P** **16 53 03.0 -1.3**
baz=312,SNR=8.2
WVT **Waverly** **50.34** **82** P **P** **16 53 03.6 -0.9**
baz=316
WVT **Waverly** **50.34** **82** P **P** **16 53 03.6 -0.9**
WVT pmax pmax
comp=Z,85nm,0.9s
WVT **Waverly** **50.34** **82** P **P** **16 53 03.6 -0.9**
J54A **Appleton** **50.41** **69** P **P** **16 53 04.2 -0.7**
baz=313
O51A **Pataskala** **50.43** **74** P **P** **16 53 03.6 -1.5**
baz=314,SNR=8.2
N52A **McGinn's Farm,** **50.47** **73** P **P** **16 53 03.8 -1.5**
baz=314
ERPA **Erie** **50.48** **71** P **P** **16 53 04.8 -0.7**
baz=313
SCO **Scoresbysund** **50.58** **18** *i*P **P** **16 53 06.0 +0.2**
SCO pmax pmax
comp=Z,47nm,1.1s
SCO **Scoresbysund** **50.58** **18** *i*P **P** **16 53 06.0 +0.2**
comp=Z,47nm,1.1s
SCO **Scoresbysund** **50.58** **18** P **P** **16 53 06.1 +0.4**
SCO IAmb IAmb 16 53 19.1
comp=Z,74nm,1.3s
Q50A **Georgetown** **50.58** **76** P **P** **16 53 04.8 -1.4**
baz=315,SNR=10
M53A **WI Miller and** **50.58** **72** P **P** **16 53 05.5 -0.7**
baz=314,SNR=8.4
MEDO **Medina** **50.59** **69** P **P** **16 53 05.5 -0.7**
MEDO IAmb IAmb 16 53 15.7
comp=Z,74nm,0.8s
E57A **Chemin Saint G** **50.61** **63** P **P** **16 53 05.0 -1.4**
baz=312,SNR=12
OXF **Oxford** **50.61** **84** P **P** **16 53 05.6 -0.9**
baz=316,SNR=6.3
LATQ **La Tuque** **50.64** **61** P **P** **16 53 05.2 -1.4**
baz=312
P51A **Williamsport** **50.64** **75** P **P** **16 53 05.1 -1.5**
baz=314
H56A **Elgin** **50.76** **66** P **P** **16 53 06.9 -0.7**
baz=313,SNR=7.3
L54A **Sinclairville** **50.77** **70** P **P** **16 53 06.9 -0.7**
baz=314,SNR=6.8
R50A **Paris** **50.78** **77** P **P** **16 53 06.7 -1.1**
baz=315,SNR=15
R50A **Paris** **50.78** **77** P **P** **16 53 06.9 -0.9**
R50A IAmb IAmb 16 53 17.4
comp=Z,118nm,1.2s
D58A **Chemin du LacG** **50.78** **61** P **P** **16 53 06.2 -1.5**
baz=313,SNR=6.9
Q51A **Peebles** **50.80** **76** P **P** **16 53 07.0 -0.9**
baz=315,SNR=27
Q51A **Peebles** **50.80** **76** P **P** **16 53 06.5 -1.5**
K54A **Basiliko Farm,** **50.84** **69** P **P** **16 53 07.5 -0.7**
baz=314,SNR=6.1
J55A **Hilton** **50.85** **68** P **P** **16 53 07.6 -0.6**
baz=313
O52A **Adamsville** **50.87** **74** P **P** **16 53 07.0 -1.5**
baz=314
N53A **Lisbon** **50.93** **72** P **P** **16 53 07.4 -1.5**
baz=314,SNR=5.4
T49A **Edmonton** **50.94** **79** P **P** **16 53 07.8 -1.3**
baz=315
WVNY **West Valley, N** **51.03** **69** P **P** **16 53 08.6 -1.0**
WVNY IAmb IAmb 16 53 19.0
comp=Z,80nm,0.9s
PLAL **Pickwick Lake** **51.03** **83** P **P** **16 53 08.6 -1.1**
P52A **Corning** **51.04** **74** P **P** **16 53 08.5 -1.3**
baz=314
G57A **Newington** **51.07** **65** P **P** **16 53 08.6 -1.3**
baz=313,SNR=5.3
E58A **La Victoria** **51.08** **62** P **P** **16 53 08.3 -1.6**
baz=313
M54A **Oil Creek Stat** **51.08** **71** P **P** **16 53 08.7 -1.3**
baz=314,SNR=5.8
M54A **Oil Creek Stat** **51.08** **71** P **P** **16 53 08.6 -1.4**
M54A IAmb IAmb 16 53 18.9
comp=Z,49nm,0.9s
K55A **Perry** **51.09** **69** P **P** **16 53 09.2 -0.9**
baz=314
O53A **New Philadelph** **51.12** **73** P **P** **16 53 08.4 -1.9**
baz=314
S50A **Richmond** **51.17** **78** P **P** **16 53 09.3 -1.4**
baz=315
MMNY **Mt. Morris Dam** **51.17** **69** P **P** **16 53 09.4 -1.3**
MMNY IAmb IAmb 16 53 19.2
comp=Z,42nm,0.8s
R51A **Hillsboro** **51.18** **77** P **P** **16 53 10.0 -0.8**
baz=315,SNR=59
V48A **Smith Brothers** **51.19** **81** P **P** **16 53 09.8 -1.1**
baz=316,SNR=8.6
CLTN **Cedars of Leba** **51.22** **81** P **P** **16 53 10.5 -0.6**
U49A **Red Boiling Sp** **51.23** **80** P **P** **16 53 10.0 -1.2**
baz=316
L55A **Hinsdale** **51.27** **70** P **P** **16 53 10.6 -0.9**
baz=314,SNR=7.5
N54A **Moraine State** **51.29** **72** P **P** **16 53 10.2 -1.4**
baz=314
H57A **Richville** **51.30** **66** P **P** **16 53 11.0 -0.6**
baz=313
D59A **Saint-Raymond** **51.37** **61** P **P** **16 53 10.8 -1.2**
baz=313
T50A **Nancy** **51.39** **79** P **P** **16 53 11.3 -1.1**
baz=316,SNR=5.5
Q52A **Bidwell** **51.44** **75** P **P** **16 53 10.9 -1.9**
baz=315
KS19 **Wonju Array Si** **51.50** **282** P **P** **16 53 13.7 +0.4**
KS19 IAmb IAmb 16 53 14.8
comp=Z,46nm,0.9s
KSRS **Korea Array** **51.51** **282** P **P** **16 53 13.6 +0.4**
comp=Z,35nm,0.8s,baz=49,slow=6.9,SNR=121
KSRS LR LR 17 15 53.6
comp=Z,164nm,20.2s,baz=38,slow=37
K56A **Middlesex** **51.51** **68** P **P** **16 53 12.6 -0.7**
baz=314
G58A **Ormstown** **51.52** **64** P **P** **16 53 11.8 -1.4**
baz=313,SNR=7.0
I57A **Carthage** **51.52** **66** P **P** **16 53 12.6 -0.7**
baz=314,SNR=5.2
P53A **Whipple** **51.56** **74** P **P** **16 53 12.0 -1.5**
baz=315
P53A **Whipple** **51.56** **74** P **P** **16 53 11.7 -1.9**
P53A IAmb IAmb 16 53 27.3
comp=Z,70nm,1.3s
M55A **Ridgway** **51.59** **70** P **P** **16 53 12.8 -1.1**
baz=314,SNR=8.8
M55A **Ridgway** **51.59** **70** P **P** **16 53 12.8 -1.1**
LONY **Lake Ozonia** **51.61** **65** P **P** **16 53 12.6 -1.4**
baz=314,SNR=8.9
LONY **Lake Ozonia** **51.61** **65** P **P** **16 53 11.9 -2.1**
S51A **Beattyville** **51.65** **77** P **P** **16 53 13.0 -1.2**
baz=315,SNR=8.4
S51A **Beattyville** **51.65** **77** P **P** **16 53 12.9 -1.4**
R52A **Catlettsburg** **51.68** **76** P **P** **16 53 13.4 -1.1**
baz=315
F59A **Saint Guilaume** **51.69** **63** P **P** **16 53 13.1 -1.3**
baz=313
V49A **McMinnville** **51.69** **81** P **P** **16 53 13.6 -1.1**
baz=316,SNR=10.0
J57A **Williamstown** **51.71** **67** P **P** **16 53 13.5 -1.2**
baz=314
J57A **Williamstown** **51.71** **67** P **P** **16 53 13.3 -1.4**
J57A IAmb IAmb 16 53 23.6
comp=Z,47nm,0.8s
L56A **Greenwood** **51.77** **69** P **P** **16 53 14.5 -0.7**
baz=314,SNR=16
L56A **Greenwood** **51.77** **69** P **P** **16 53 14.2 -1.0**
U50A **Jamestown** **51.82** **79** P **P** **16 53 14.3 -1.4**
baz=316,SNR=5.5
D60A **Saint Jean D'O** **51.89** **60** P **P** **16 53 14.7 -1.2**
baz=313,SNR=7.1
M56A **Emporium** **51.90** **70** P **P** **16 53 15.1 -1.0**
baz=314,SNR=7.7
M56A **Emporium** **51.90** **70** P **P** **16 53 14.9 -1.2**
M56A IAmb IAmb 16 53 25.3
comp=Z,89nm,0.9s
S52A **Salyersville** **51.90** **77** P **P** **16 53 15.1 -1.1**
baz=315
Q53A **Leroy** **51.92** **75** P **P** **16 53 14.6 -1.8**
baz=315
T51A **Gray** **51.93** **78** P **P** **16 53 15.1 -1.3**
baz=316,SNR=8.5
N55A **Marion Center** **51.95** **71** P **P** **16 53 15.1 -1.5**
baz=314,SNR=6.6
W49A **Belvidere** **51.95** **81** P **P** **16 53 15.3 -1.3**
baz=316,SNR=6.1
H58A **Gabriels** **51.96** **65** P **P** **16 53 15.0 -1.6**
baz=314
P54A **Burton** **51.97** **73** P **P** **16 53 15.1 -1.7**
baz=315,SNR=7.8
X48A **Hartselle** **52.00** **83** P **P** **16 53 15.2 -1.7**
baz=317,SNR=6.8
E60A **Ste Agathe de** **52.00** **61** P **P** **16 53 15.5 -1.3**
baz=314
F60A **Warwick** **52.02** **62** P **P** **16 53 15.4 -1.5**
baz=314,SNR=6.1
D61A **St Aubert, Com** **52.05** **60** P **P** **16 53 16.1 -1.1**
baz=314
I58A **Old Forge** **52.05** **66** P **P** **16 53 16.4 -0.9**
baz=314,SNR=6.1
H59A **Cadyville** **52.06** **64** P **P** **16 53 16.1 -1.2**
baz=314,SNR=9.2
R53A **Hurricane** **52.06** **75** P **P** **16 53 16.0 -1.4**
baz=315
R53A **Hurricane** **52.06** **75** P **P** **16 53 15.1 -2.3**
R53A IAmb IAmb 16 53 26.4
comp=Z,131nm,1.4s
SWET **Sewanee** **52.07** **81** IAmb IAmb 16 53 26.3
comp=Z,111nm,1.6s
J58A **Remsen** **52.12** **66** P **P** **16 53 16.9 -0.9**
baz=314,SNR=7.4
J58A **Remsen** **52.12** **66** P **P** **16 53 17.2 -0.6**
J58A IAmb IAmb 16 53 27.3
comp=Z,75nm,0.9s
O55A **Ligonier** **52.19** **72** P **P** **16 53 16.7 -1.6**
baz=315,SNR=6.2
INCN **Inchon** **52.20** **283** P **P** **16 53 18.7 +0.3**
SNR=5.2
V50A **Pikevile** **52.21** **80** P **P** **16 53 17.2 -1.3**
baz=316,SNR=7.4
Q54A **Coxs Mills** **52.22** **74** P **P** **16 53 16.9 -1.6**
baz=315
Q54A **Coxs Mills** **52.22** **74** P **P** **16 53 17.2 -1.3**
Q54A IAmb IAmb 16 54 41.1
comp=Z,84nm,1.4s
N56A **West Decatur** **52.23** **71** P **P** **16 53 17.4 -1.2**
baz=314,SNR=14
L57A **Andrews Acres** **52.25** **69** P **P** **16 53 17.8 -0.9**
baz=314,SNR=6.5
NCB **Newcomb** **52.25** **65** P **P** **16 53 17.6 -1.1**
MCWV **Mont Chateau** **52.28** **73** P **P** **16 53 17.7 -1.2**
baz=315
U51A **La Follette** **52.31** **79** P **P** **16 53 17.9 -1.4**
baz=316,SNR=5.2
K58A **Earlville** **52.35** **67** P **P** **16 53 18.6 -0.9**
baz=314
T52A **Hallie** **52.36** **77** P **P** **16 53 18.7 -1.0**
baz=316,SNR=8.0
T52A **Hallie** **52.36** **77** P **P** **16 53 18.7 -1.0**
T52A IAmb IAmb 16 53 29.7
comp=Z,94nm,1.0s

P55A	Reedsville	52.40	73	P	P	16 53 18.4	-1.5
	baz=315,SNR=6.0						
W50A	Signal Mountai	52.43	81	P	P	16 53 18.9	-1.3
	baz=316,SNR=10						
W50A	Signal Mountai	52.43	81	P	P	16 53 19.1	-1.2
G60A	Masonville	52.44	63	P	P	16 53 18.7	-1.4
	baz=314						
E61A	Lac Etchemin	52.44	61	P	P	16 53 19.2	-0.8
	baz=314						
TZTN	Tazewell	52.45	78	P	P	16 53 19.3	-1.0
	baz=316,SNR=5.1						
TZTN	Tazewell	52.45	78	P	P	16 53 19.2	-1.2
TZTN				IAmb	IAmb	16 53 30.2	
	comp=Z,98nm,1.4s						
J59A	Piesco	52.46	66	P	P	16 53 19.3	-1.0
	baz=314,SNR=5.2						
J59A	Piesco	52.46	66	P	P	16 53 19.2	-1.0
J59A				IAmb	IAmb	16 53 29.4	
	comp=Z,44nm,0.8s						
F61A	St Evariste	52.50	61	P	P	16 53 19.9	-0.6
	baz=314						
V51A	Loudon	52.54	79	P	P	16 53 19.3	-1.6
	baz=316						
V51A	Loudon	52.54	79	P	P	16 53 19.3	-1.6
O56A	Blue Knob Stat	52.54	71	P	P	16 53 19.4	-1.6
	baz=315,SNR=5.4						
O56A	Blue Knob Stat	52.54	71	P	P	16 53 19.1	-1.8
O56A				IAmb	IAmb	16 53 29.5	
	comp=Z,49nm,0.9s						
I59A	Olmsteadville	52.55	65	P	P	16 53 19.7	-1.2
	baz=314,SNR=5.8						
M57A	Sunshine Farm,	52.56	69	P	P	16 53 20.1	-1.0
	baz=315,SNR=5.7						
M57A	Sunshine Farm,	52.56	69	P	P	16 53 19.9	-1.1
M57A				IAmb	IAmb	16 53 33.6	
	comp=Z,47nm,0.8s						
BINY	Binghamton	52.56	68	P	P	16 53 20.4	-0.6
	baz=314						
BINY	Binghamton	52.56	68	P	P	16 53 20.2	-0.9
BINY				IAmb	IAmb	16 53 30.6	
	comp=Z,65nm,1.1s						
TJN	Taejon	52.59	282	*c i*P	P	16 53 21.2	-0.1
Q55A	Buckhannon	52.62	74	P	P	16 53 20.0	-1.5
	baz=315						
H60A	Morristown	52.62	64	P	P	16 53 20.2	-1.3
	baz=314						
SSPA	Standing Stone	52.65	71	P	P	16 53 20.6	-1.1
	baz=315						
SSPA	Standing Stone	52.65	71	P	P	16 53 20.5	-1.2
U52A	Thorn Hill	52.66	78	P	P	16 53 20.6	-1.3
	baz=316						
CPCT	Cooper Cave	52.70	80	P	P	16 53 20.4	-1.7
R54A	Victor	52.70	75	P	P	16 53 20.9	-1.2
	baz=316						
T53A	Wise	52.70	77	P	P	16 53 21.2	-1.0
	baz=316,SNR=10						
G61A	St-Isidore-de-	52.72	62	P	P	16 53 20.9	-1.3
	baz=314						
FPAL	Fort Paine	52.74	81	IAmb	IAmb	16 53 30.8	
	comp=Z,38nm,0.7s						
L58A	Harry Jones Me	52.74	68	P	P	16 53 21.5	-0.9
	baz=314						
N57A	Milroy	52.75	70	P	P	16 53 21.4	-1.0
	baz=315,SNR=7.0						
K59A	Cooperstown	52.76	67	P	P	16 53 21.9	-0.6
	baz=314,SNR=8.7						
W51A	Cleveland	52.77	80	P	P	16 53 21.2	-1.4
	baz=316,SNR=6.7						
E62A	Clayton Lake	52.78	60	P	P	16 53 21.4	-1.3
	baz=314,SNR=5.2						
E62A	Clayton Lake	52.78	60	IAmb	IAmb	16 53 35.4	
	comp=Z,48nm,0.8s						
Y49A	Blount Mountai	52.79	83	P	P	16 53 21.0	-1.9
	baz=317,SNR=8.3						
S54A	Dingess, Beckl	52.80	75	P	P	16 53 21.5	-1.4
	baz=316						
I60A	Shoreham	52.82	65	P	P	16 53 22.4	-0.5
	baz=314						
M58A	Price's Panora	52.90	69	P	P	16 53 22.6	-1.0
	baz=315						
V52A	Sevierville	52.93	79	P	P	16 53 22.4	-1.4
	baz=316						
V52A	Sevierville	52.93	79	P	P	16 53 22.2	-1.7
V52A				IAmb	IAmb	16 53 33.6	
	comp=Z,58nm,1.1s						
P56A	Dayton Farm, R	52.94	72	P	P	16 53 22.5	-1.3
	baz=315						
H61A	Lyndonville	53.04	63	P	P	16 53 23.3	-1.2
	baz=314						
LRAL	Lakeview Retre	53.06	84	P	P	16 53 22.8	-2.0
	baz=317,SNR=5.5						
L59A	Walton	53.07	67	P	P	16 53 23.9	-1.0
	baz=315						
L59A	Walton	53.07	67	P	P	16 53 23.5	-1.4
L59A				IAmb	IAmb	16 53 35.0	
	comp=Z,93nm,1.2s						
F62A	Pittston Farm,	53.07	61	P	P	16 53 23.6	-1.2
	baz=314,SNR=5.3						
IRK	Irkutsk	53.07	310	*e*P	P	16 53 22.8	-1.9
IRK				pmax	pmax		
	comp=Z,85nm,2.0s						
Q56A	Snyder Ridge,	53.08	73	P	P	16 53 23.5	-1.4
	baz=315						
O57A	Amberson	53.09	71	P	P	16 53 23.8	-1.1
	baz=315,SNR=17						
R55A	Marlinton	53.11	74	P	P	16 53 23.9	-1.3
	baz=316						
R55A	Marlinton	53.11	74	P	P	16 53 24.1	-1.1
U53A	Fall Branch	53.12	78	P	P	16 53 24.0	-1.3
	baz=316,SNR=6.0						
N58A	Sunbury	53.13	70	P	P	16 53 24.0	-1.3
	baz=315						
N58A	Sunbury	53.13	70	P	P	16 53 23.9	-1.3
X51A	Calhoun	53.15	81	P	P	16 53 24.2	-1.3
	baz=317						
J60A	Lant Hill Farm	53.17	65	P	P	16 53 25.2	-0.4
	baz=315,SNR=10						
T54A	Tazewell	53.18	76	P	P	16 53 24.8	-1.0
	baz=316,SNR=8.1						
D63A	Stockholm	53.19	59	P	P	16 53 24.1	-1.5
	baz=314,SNR=7.0						
LBNH	Lisbon	53.24	64	P	P	16 53 24.9	-1.1
	baz=314						
LBNH	Lisbon	53.24	64	P	P	16 53 24.8	-1.3
LBNH	Lisbon	53.24	64	P	P	16 53 24.8	-1.3
G62A	West of Eustis	53.26	62	P	P	16 53 25.2	-1.0
	baz=314,SNR=5.1						
G62A	West of Eustis	53.26	62	P	P	16 53 24.5	-1.7
G62A				IAmb	IAmb	16 53 35.4	
	comp=Z,75nm,1.1s						
S55A	Lewisburg	53.26	75	P	P	16 53 25.1	-1.2
	baz=316,SNR=7.5						
W52A	Murphy	53.29	80	P	P	16 53 25.3	-1.2
	baz=317						
I61A	Oroboro, Fairl	53.31	64	P	P	16 53 25.8	-0.8
	baz=315,SNR=5.2						
M59A	Waymart	53.32	68	P	P	16 53 25.4	-1.3
	baz=315						
H62A	Milan	53.40	63	P	P	16 53 25.9	-1.3
	baz=315						
H62A	Milan	53.40	63	P	P	16 53 26.3	-0.9
H62A				IAmb	IAmb	16 53 35.9	
	comp=Z,43nm,0.8s						
P57A	Homestead Farm	53.40	72	P	P	16 53 26.0	-1.2
	baz=315,SNR=10.0						
P57A	Homestead Farm	53.40	72	P	P	16 53 25.6	-1.6
P57A				IAmb	IAmb	16 53 36.2	
	comp=Z,77nm,0.9s						
R56A	Bull Pasture M	53.41	74	P	P	16 53 26.0	-1.4
	baz=316						
U54A	Nelsons Funny	53.43	77	P	P	16 53 26.8	-0.8
	baz=316						
E63A	Oxbow	53.47	59	P	P	16 53 25.8	-1.8
	baz=314						
E63A	Oxbow	53.47	59	P	P	16 53 25.4	-2.2
E63A				IAmb	IAmb	16 53 35.9	
	comp=Z,46nm,0.9s						
V53A	Saluda	53.50	78	P	P	16 53 26.9	-1.2
	baz=316,SNR=7.4						
V53A	Saluda	53.50	78	P	P	16 53 26.4	-1.7
V53A				IAmb	IAmb	16 53 37.3	
	comp=Z,80nm,1.1s						
Q57A	Strasburg	53.50	72	P	P	16 53 26.3	-1.7
	baz=316,SNR=6.4						
Z50A	Ashland	53.51	83	P	P	16 53 26.3	-1.8
	baz=317,SNR=6.1						
Z50A	Ashland	53.51	83	P	P	16 53 26.3	-1.8
Z50A				IAmb	IAmb	16 53 36.5	
	comp=Z,65nm,1.0s						
Y51A	Rockmart	53.52	82	P	P	16 53 26.1	-2.1
	baz=317,SNR=8.3						
O58A	Lewisberry	53.53	70	P	P	16 53 26.9	-1.4
	baz=315,SNR=5.2						
J61A	Chester	53.55	65	P	P	16 53 27.5	-0.8
	baz=315						
PAGS	Pennsylvania G	53.57	70	P	P	16 53 27.0	-1.4
PAGS				IAmb	IAmb	16 53 37.3	
	comp=Z,51nm,0.9s						
N59A	State Game Lan	53.59	69	P	P	16 53 27.6	-1.0
	baz=315						
N59A	State Game Lan	53.59	69	P	P	16 53 26.8	-1.8
N59A				IAmb	IAmb	16 53 38.5	
	comp=Z,104nm,1.6s						
F63A	Nahmakanta, Br	53.64	60	P	P	16 53 27.4	-1.5
	baz=315						
F63A	Nahmakanta, Br	53.64	60	P	P	16 53 27.5	-1.5
F63A				IAmb	IAmb	16 53 39.1	
	comp=Z,55nm,0.8s						
L60A	Shokan	53.64	67	P	P	16 53 28.4	-0.6
	baz=315						
K61A	Williamstown	53.66	66	P	P	16 53 29.0	-0.1
	baz=315						
W53A	Cullowhee	53.66	79	P	P	16 53 28.1	-1.3
	baz=317,SNR=6.1						
X52A	Dahlonega	53.67	80	P	P	16 53 27.9	-1.4
	baz=317,SNR=11						
BLA	Blacksburg	53.71	75	P	P	16 53 28.6	-1.1
	baz=316						
TLY	Talaya	53.74	310	P	P	16 53 30.1	+0.5
	SNR=18						
TLY				P	P	16 53 30.1	+0.5
	SNR=18						
TLY	Talaya	53.74	310	*c i*P	P	16 53 29.7	+0.1
TLY				pmax	pmax		
	comp=Z,257nm,1.1s						
TLY				MLR	MLR		
	comp=Z,1µm,17.0s						
TLY	Talaya	53.74	310	P	P	16 53 29.8	+0.1
E64A	Bridgewater	53.76	59	P	P	16 53 28.1	-1.7
	baz=315,SNR=6.5						
P58A	Pank, Wackersv	53.78	71	P	P	16 53 28.6	-1.5
	baz=316						
G63A	Kingsbury	53.79	61	P	P	16 53 28.8	-1.2
	baz=315						
O59A	Robesonia	53.79	70	P	P	16 53 29.0	-1.2
	baz=315,SNR=6.1						
S56A	Natural Bridge	53.85	74	P	P	16 53 29.6	-1.0
	baz=316,SNR=9.3						
L61A	Hillsdale 1, H	53.85	66	P	P	16 53 30.3	-0.2
	baz=315,SNR=6.3						
PKME	Peaks-Kenny Pk	53.85	61	P	P	16 53 29.3	-1.2
	baz=315						
U55A	TA2, Sparta	53.88	76	P	P	16 53 29.9	-1.0
	baz=316						
Z51A	Franklin	53.89	82	P	P	16 53 28.8	-2.0
	baz=317,SNR=6.0						
F64A	Sherman	53.90	60	P	P	16 53 29.1	-1.6
	baz=315,SNR=6.2						
F64A	Sherman	53.90	60	P	P	16 53 29.2	-1.6
M60A	Port Jervis	53.90	68	P	P	16 53 30.2	-0.7
	baz=315						
V54A	Nebo	53.90	78	P	P	16 53 30.7	-0.3
	baz=317						
BG3	Lake Jocassee	53.92	79	P	P	16 53 29.8	-1.3
BG3				IAmb	IAmb	16 53 40.8	
	comp=Z,53nm,1.2s						
MVL	Millersville	53.93	70	P	P	16 53 29.6	-1.5
DL2	Dalian	53.94	288	P	P	16 53 30.8	-0.4
DL2				*e*S	S	17 01 05.4	-0.3
DL2				pmax	pmax		
	comp=Z,54nm,0.9s						
DL2				pmax	pmax		
	comp=Z,160nm,5.7s						
DL2				LR	LR		
	comp=Z,490nm,18.4s						
DL2				LR	LR		
	comp=Z,420nm,15.3s						
DL2				LR	LR		
	comp=Z,810nm,18.5s						
Q58A	Fox Den Farm,	53.97	72	P	P	16 53 29.9	-1.5
	baz=316,SNR=12						
R57A	Stanardsville	53.97	73	P	P	16 53 30.1	-1.4
	baz=316,SNR=7.3						
N60A	Cedar Hill Far	53.98	69	P	P	16 53 30.4	-1.1
	baz=315						
BATG	Bathurst New B	54.01	57	P	P	16 53 30.7	-0.9
J62A	Henniker	54.02	64	P	P	16 53 31.0	-0.7
	baz=315						
LUPA	Lehigh Univers	54.02	69	P	P	16 53 30.8	-1.0
T56A	Rocky Mt	54.06	75	P	P	16 53 31.2	-1.0
	baz=316						
I63A	Otisfield	54.06	63	P	P	16 53 31.2	-0.9
	baz=315						
I63A	Otisfield	54.06	63	P	P	16 53 31.1	-0.9
X53A	Estanollee	54.07	80	P	P	16 53 31.0	-1.3
	baz=317						
Y52A	Lilburn	54.11	81	P	P	16 53 30.9	-1.6
	baz=317						
S57A	Dark Hollow, R	54.12	74	P	P	16 53 31.4	-1.2
	baz=316						
P59A	Jarrettsville	54.16	71	P	P	16 53 31.3	-1.6
	baz=316						
K62A	Royalston	54.20	65	P	P	16 53 32.5	-0.6
	baz=315						
K62A	Royalston	54.20	65	P	P	16 53 32.3	-0.7
O60A	Telford	54.21	69	P	P	16 53 32.2	-0.9
	baz=316						
KSCT	Kent School, K	54.22	67	IAmb	IAmb	16 53 46.6	
	comp=Z,55nm,0.8s						
R58A	Rapidan	54.25	73	P	P	16 53 32.2	-1.3
	baz=316						
250A	Grady	54.26	84	P	P	16 53 31.9	-1.7
	baz=318,SNR=7.2						
V55A	Taylorsville	54.26	77	P	P	16 53 32.4	-1.2
	baz=317,SNR=5.8						
V55A	Taylorsville	54.26	77	P	P	16 53 32.1	-1.5
V55A				IAmb	IAmb	16 53 42.5	
	comp=Z,36nm,0.9s						
W54A	Cherokee Point	54.27	78	P	P	16 53 32.2	-1.5
	baz=317						
HAMF	Hammerfest	54.28	359	*e*P	P	16 53 31.9	-1.2
H64A	Troy	54.33	61	P	P	16 53 32.5	-1.4
	baz=315						
Y53A	Monroe	54.39	81	P	P	16 53 32.7	-1.9
	baz=317,SNR=5.9						
BRNJ	Basking Ridge	54.39	68	P	P	16 53 33.0	-1.5
BRNJ				IAmb	IAmb	16 53 44.2	
	comp=Z,61nm,1.0s						
Z52A	Williamson	54.41	82	P	P	16 53 32.5	-2.2
	baz=318,SNR=5.2						
K63A	Dunstable	54.55	65	P	P	16 53 35.0	-0.5
	baz=315						
R58B	Mineral	54.56	73	P	P	16 53 35.6	-0.2
	baz=316						
152A	Waverly Hall	54.62	82	P	P	16 53 33.8	-2.5
	baz=318,SNR=5.7						
I64A	Boothbay	54.63	62	P	P	16 53 35.0	-1.2
	baz=315						
V56A	Mocksville	54.69	77	P	P	16 53 35.2	-1.5
	baz=317						
KMSC	Kings Mountain	54.71	78	P	P	16 53 35.3	-1.5
	baz=317,SNR=5.1						
S58A	Poland Farm, P	54.72	73	P	P	16 53 35.8	-1.1
	baz=316						
M62A	Hamden	54.73	67	P	P	16 53 36.2	-0.7
	baz=316,SNR=5.6						
G65A	Princeton	54.76	60	P	P	16 53 35.7	-1.3
	baz=316						
G65A	Princeton	54.76	60	P	P	16 53 34.0	-3.1
G65A				IAmb	IAmb	16 53 50.0	
	comp=Z,37nm,0.9s						
H65A	Eastbrook	54.78	61	P	P	16 53 36.0	-1.2
	baz=316						
GOGA	Godfrey	54.78	81	P	P	16 53 35.2	-2.1
	baz=318,SNR=6.0						
GOGA	Godfrey	54.78	81	P	P	16 53 35.1	-2.3
GOGA				pmax	pmax		
	comp=Z,34nm,0.9s						
GOGA	Godfrey	54.78	81	P	P	16 53 35.1	-2.3
GOGA				IAmb	IAmb	16 53 45.4	
	comp=Z,34nm,0.9s						
Z53A	Monticello	54.82	81	P	P	16 53 35.5	-2.1
	baz=318,SNR=6.4						
ZAK	Zakamensk	54.84	309	*e*P	P	16 53 33.4	-4.3
ZAK				*e*		16 54 36.1	
ZAK				pmax	pmax		
	comp=Z,23nm,1.2s						
ZAK				pmax	pmax		
	comp=Z,20nm,1.0s						
HODGE	Hodges	54.86	79	P	P	16 53 36.2	-1.7
HODGE				IAmb	IAmb	16 53 46.3	
	comp=Z,41nm,0.7s						
WES	Weston	54.87	65	P	P	16 53 36.9	-1.0
WES				pmax	pmax		
	comp=Z,79nm,1.1s						
WES	Weston	54.87	65	P	P	16 53 36.9	-1.0
WES				IAmb	IAmb	16 53 47.3	
	comp=Z,79nm,1.1s						
U57A	Blanch	54.87	75	P	P	16 53 36.6	-1.4
	baz=317						
Y54A	Tignall	54.89	80	P	P	16 53 36.3	-1.9
	baz=317,SNR=6.4						
MOY	Mondy	54.90	312	*e*P	P	16 53 38.7	+0.5
MOY				pmax	pmax		
	comp=Z,66nm,2.1s						
ULN	Ulaanbaatar	54.94	305	P	P	16 53 38.7	+0.1
	SNR=12						
ULN				P	P	16 53 38.7	+0.1
	SNR=12						
ULN	Ulaanbaatar	54.94	305	*c i*P	P	16 53 38.4	-0.1
ULN				pmax	pmax		
	comp=Z,37nm,1.0s						
ULN	Ulaanbaatar	54.94	305	P	P	16 53 38.4	-0.1
T58A	Grand View Acr	54.94	74	P	P	16 53 36.8	-1.7
	baz=317,SNR=5.0						
S59A	Mechanicsville	55.03	73	P	P	16 53 38.0	-1.1
	baz=316,SNR=5.8						
V57A	Coltrane Farms	55.03	76	P	P	16 53 37.4	-1.7
	baz=317						
BRYW	Bryant College	55.09	65	P	P	16 53 38.4	-1.2
252A	Lumpkin	55.11	83	P	P	16 53 37.4	-2.3
	baz=318						
KEV	Kevo	55.12	358	P	P	16 53 38.9	-0.4
KEV				pmax	pmax		
	comp=Z,100nm,0.9s						
KEV	Kevo	55.12	358	P	P	16 53 38.9	-0.4
EMMW	East Machias	55.16	60	P	P	16 53 38.6	-1.4
EMMW				IAmb	IAmb	16 53 50.2	
	comp=Z,42nm,0.9s						
H66A	Whiting	55.18	60	P	P	16 53 39.1	-1.0
	baz=316						
M63A	Gales Ferry	55.20	66	P	P	16 53 39.5	-0.8
	baz=316						
Z54A	Sparta	55.26	80	P	P	16 53 38.5	-2.4
	baz=318,SNR=7.6						
SONM	Songino Array	55.27	305	P	P	16 53 41.1	+0.2
	comp=Z,32nm,0.8s,baz=46,slow=6.8,SNR=128						
SONM				PcP	PcP	16 54 41.9	+0.4
	comp=Z,24nm,0.8s,baz=72,slow=2.1,SNR=8.9						
SONM				ScP	ScP	16 58 39.4	+0.2
	comp=Z,3.2nm,1.2s,baz=14,slow=3.1,SNR=4.5						
SONM				LR	LR	17 19 10.2	
	comp=Z,1µm,19.8s,baz=40,slow=38						
TRO	Tromso	55.28	1	*e*P	P	16 53 40.3	-0.1
Y55A	Saluda	55.30	79	P	P	16 53 39.2	-1.9
	baz=318,SNR=5.4						
ARCES	ARCESS Array B	55.37	358	P	P	16 53 40.4	-0.8
	comp=Z,21nm,0.8s,baz=20,slow=7.3,SNR=54						
ARCES				PcP	PcP	16 54 41.0	-0.3
	comp=Z,16nm,0.9s,baz=353,slow=4.7,SNR=4.1						
ARCES				LR	LR	17 18 38.9	
	comp=Z,443nm,18.8s,baz=344,slow=37						
ARE0	ARCESS Array S	55.37	358	*e*P	P	16 53 40.5	-0.7
JSC	Jenkinsville	55.38	78	P	P	16 53 39.1	-2.6
JSC				pmax	pmax		
	comp=Z,75nm,1.6s						
JSC	Jenkinsville	55.38	78	P	P	16 53 39.1	-2.6
JSC				IAmb	IAmb	16 53 50.9	
	comp=Z,75nm,1.6s						
352A	Blakely	55.39	83	P	P	16 53 39.8	-1.9
	baz=318						
253A	Americus	55.41	82	P	P	16 53 39.8	-2.1
	baz=318						
W57A	Gilead	55.45	77	P	P	16 53 40.5	-1.6
	baz=317						
T59A	Double "B" Far	55.46	74	P	P	16 53 41.2	-1.0
	baz=317,SNR=5.6						
T59A	Double "B" Far	55.46	74	P	P	16 53 40.9	-1.4
T59A				IAmb	IAmb	16 53 50.9	
	comp=Z,52nm,0.8s						
V58A	Windy Hill, Pi	55.46	76	P	P	16 53 41.3	-0.9
	baz=317,SNR=5.4						
BORG	Borgarnes	55.71	21	P	P	16 53 44.7	+1.1
	comp=Z,18nm,0.8s,baz=350,slow=6.1,SNR=3.1						
U59A	Littleton	55.78	74	P	P	16 53 43.5	-1.1
	baz=317						
KTK1	Kautokeino	55.92	359	*e*P	P	16 53 44.3	-0.8
155A	Kite	55.93	81	P	P	16 53 43.6	-2.1
	baz=318,SNR=5.4						
W58A	Raeford	55.96	76	P	P	16 53 44.8	-1.0
	baz=317						
V59A	Middlesex	55.97	75	P	P	16 53 44.6	-1.3
	baz=317						
Z56A	Williston	56.02	79	P	P	16 53 44.6	-1.7
	baz=318						
BJI	Beijing	56.04	293	P	P	16 53 46.2	-0.1
BJI				S	S	17 01 37.9	+4.1
BJI				pmax	pmax		
	comp=Z,27nm,0.9s						
BJI				LR	LR		
	comp=Z,410nm,17.8s						
BJI				LR	LR		
	comp=Z,490nm,18.9s						
BJI				LR	LR		
	comp=Z,450nm,26.3s						
U60A	Pendleton	56.04	74	P	P	16 53 45.6	-0.8
	baz=317						
Z57A	Bowman	56.42	79	P	P	16 53 48.0	-1.2
	baz=318						
156A	Sylvania	56.45	80	P	P	16 53 47.9	-1.5
	baz=318						
DRLN	Deer Lake	56.52	51	P	P	16 53 48.1	-1.5
DRLN				IAmb	IAmb	16 53 49.1	
	comp=Z,46nm,0.8s						
553A	Crawfordville	56.63	84	P	P	16 53 49.2	-1.5
	baz=319,SNR=5.8						
LVZ	Lovozero	56.68	354	*ce*P	P	16 53 50.0	-0.6
LVZ				pmax	pmax		
	comp=Z,133nm,1.7s						
LVZ	Lovozero	56.68	354	P	P	16 53 50.3	-0.3
STEI	Steigen	56.91	3	*e*P	P	16 53 52.4	+0.3
APA	Apatity	57.07	355	⇓*i*P	P	16 53 52.5	-0.8
APA				pmax	pmax		
	comp=Z,18nm,0.8s						
APA				MLR	MLR		
	comp=Z,2µm,19.0s						
GBN	Guysborough	57.53	56	P	P	16 53 55.6	-1.3
HHC	Hu-ho-hao-te	57.84	296	*e*P	P	16 54 00.8	+1.5
HHC				sP	sP	16 54 11.7	+4.9
HHC				PcP	PcP	16 54 52.7	+1.1
HHC				S	S	17 02 00.2	+2.4
HHC				pmax	pmax		
	comp=Z,16nm,1.2s						
KONS	Konsvik	58.26	4	*e*P	P	16 54 01.4	-0.3
TIA	Tai'an	58.34	289	P	P	16 54 01.7	-1.0
MOR8	Moi Rana	58.64	4	*e*P	P	16 54 03.4	-1.0
BTO	Baotou	58.81	297	*e*P	P	16 54 03.9	-2.1
ZALV	Zalesovo Beam	59.43	322	P	P	16 54 09.9	-0.1
	comp=Z,19nm,0.7s,baz=35,slow=5.7,SNR=72						
ZALV				PcP	PcP	16 54 57.9	+0.3
	comp=Z,12nm,0.9s,baz=128,slow=2.4,SNR=4.8						
ZALV				LR	LR	17 22 25.2	
	comp=Z,1µm,18.9s,baz=35,slow=39						
TIY	Taiyuan	59.72	293	*e*P	P	16 54 12.8	+0.5
TIY				S	S	17 02 22.8	+0.5
TIY				pmax	pmax		
	comp=Z,67nm,1.0s						
TIY				pmax	pmax		
	comp=Z,210nm,4.0s						
TIY				LR	LR		
	comp=Z,390nm,15.8s						
TIY				LR	LR		
	comp=Z,410nm,15.4s						
TIY				LR	LR		
	comp=Z,360nm,19.0s						
TMCR	Tamitsa	60.14	352	*e*P	P	16 54 14.0	-0.7
TMCR				*e*S	S	17 02 30.6	+3.9
TMCR				pmax	pmax		
	comp=Z,123nm,0.9s						
NSS	Namsos	60.18	5	*e*P	P	16 54 14.8	-0.1

NJ2 Nanjing 60.52 284 *e*P **P** **16 54 16.9 -0.9**
NJ2 sP **sP** **16 54 25.2 -0.1**
NJ2 S **S** **17 02 34.8 +2.4**
NJ2 sS **sS** **17 02 41.2 -0.2**
NJ2 pmax pmax
comp=Z,28nm,0.8s
NJ2 pmax pmax
comp=Z,170nm,3.8s
NJ2 LR LR
comp=Z,330nm,20.6s
NJ2 LR LR
comp=Z,380nm,17.7s
NJ2 LR LR
comp=Z,500nm,18.1s
PRGR Permogore 61.84 347⇑*i*P **P** **16 54 26.0 -0.3**
PRGR *e* 16 54 36.7
PRGR pmax pmax
comp=Z,117nm,1.0s
MOL Molde 61.85 7 *e*P **P** **16 54 26.6 +0.2**
AKN Aaknes 62.20 8 *e*P **P** **16 54 29.3 +0.6**
DOMB Dombas 62.49 7 *e*P **P** **16 54 30.5 -0.1**
HYA Hoyanger 63.14 8 *e*P **P** **16 54 34.9 0.0**
NC204 NORSAR Array S 63.36 6 P **P** **16 54 36.3 -0.2**
LRW Lerwick 63.38 13 *e*P **P** **16 54 37.0 +0.5**
NC303 NORSAR Array S 63.44 6 P **P** **16 54 37.0 0.0**
FIA1 FINESS Array S 63.48 358 P **P** **16 54 37.1 0.0**
FINES FINESS Array B 63.48 358 P **P** **16 54 36.7 -0.4**
comp=Z,76nm,0.8s,baz=16,slow=7.3,SNR=146
NC405 NORSAR Array S 63.57 6 P **P** **16 54 37.5 -0.4**
NBO00 NORSAR Array S 63.60 6 P **P** **16 54 38.2 +0.1**
NB201 NORSAR Array S 63.61 6 P **P** **16 54 37.9 -0.3**
NB2 NORSAR Subarra 63.62 6 P **P** **16 54 37.9 -0.3**
comp=Z,64nm,0.8s,baz=354,slow=6.9
NB2 NORSAR Subarra 63.62 6 P **P** **16 54 37.9 -0.3**
baz=354,slow=6.9
NOA NORSAR Array B 63.62 6 P **P** **16 54 38.1 -0.1**
comp=Z,44nm,0.8s,baz=353,slow=6.6,SNR=108
NOA LR LR 17 24 42.4
comp=Z,193nm,18.2s,baz=0.0,slow=38
ASK Askoy 63.72 9 *e*P **P** **16 54 39.1 +0.3**
SKAR Skarslia 63.78 7 *e*P **P** **16 54 39.6 +0.3**
NAO01 NORSAR Array S 63.79 6 *e*P **P** **16 54 39.0 -0.3**
SVE Sverdlovsk 63.83 337 *d i*P **P** **16 54 39.4 -0.2**
SVE pmax pmax
comp=Z,65nm,0.8s
BER Bergen 63.84 9 *e*P **P** **16 54 40.0 +0.5**
NC602 NORSAR Array S 63.94 6 P **P** **16 54 40.1 -0.2**
WHN Wuhan 64.15 287⇑*i*P **P** **16 54 41.2 -0.9**
WHN S **S** **17 03 14.8 -3.4**
WHN pmax pmax
comp=Z,110nm,1.5s
WHN LR LR
comp=Z,500nm,10.8s
WHN LR LR
comp=Z,570nm,10.8s
WHN LR LR
comp=Z,1µm,21.0s
KURK Kurchatov 64.24 324 P **P** **16 54 42.7 +0.3**
KURK P **P** **16 54 42.7 +0.3**
KURK Kurchatov 64.24 324 P **P** **16 54 43.0 +0.6**
KURK pmax pmax
comp=Z,38nm,1.0s
KURK Kurchatov 64.24 324 P **P** **16 54 43.0 +0.6**
KURK IAmb IAmb 16 54 56.3
comp=Z,38nm,1.0s
XAN Xi'an 64.36 293 P **P** **16 54 43.1 -0.4**
XAN pP sP 16 54 50.3 -0.8
XAN sP pP 16 54 53.3 +4.3
XAN pmax pmax
comp=Z,47nm,0.9s
XAN pmax pmax
comp=Z,240nm,4.3s
XAN LR LR
comp=Z,350nm,22.8s
XAN LR LR
comp=Z,520nm,20.6s
XAN LR LR
comp=Z,390nm,20.6s
XAN Xi'an 64.36 293 P **P** **16 54 43.4 -0.1**
XAN pmax pmax
comp=Z,35nm,0.8s
XAN Xi'an 64.36 293 P **P** **16 54 43.4 -0.1**
XAN IAmb IAmb 16 54 43.7
comp=Z,35nm,0.8s
ODD1 Odda 64.41 8 *e*P **P** **16 54 43.7 +0.3**
RSC Scourie 64.55 15 *e*P **P** **16 54 44.9 +0.6**
ARU Arti 64.64 338 *c i*P **P** **16 54 44.3 -0.6**
ARU 16 55 13.7
ARU S **S** **17 03 24.9 +1.3**
ARU SS **SS** **17 07 32.7 -0.5**
ARU SSS SSS 17 10 25.2
ARU pmax pmax
comp=Z,56nm,0.7s
ARU MLR MLR
comp=Z,883nm,22.0s
ARU Arti 64.64 338 P **P** **16 54 44.7 -0.2**
HFS Hagfors 64.65 5 P **P** **16 54 44.6 -0.3**
comp=Z,80nm,0.9s,baz=15,slow=6.2,SNR=54
GTA Gaotai 64.76 303 ⇑P **P** **16 54 45.8 -0.3**
GTA pP pP 16 54 52.6 +1.0
GTA sP sP 16 54 56.5 +2.8
GTA S **S** **17 03 25.4 -0.4**
GTA sS sS 17 03 35.3 +0.4
GTA pmax pmax
comp=Z,39nm,1.2s
GTA pmax pmax
comp=Z,170nm,4.6s
GTA LR LR
comp=Z,480nm,18.6s
GTA LR LR
comp=Z,650nm,18.2s
GTA LR LR
comp=Z,1µm,18.9s
BRVK Borovoye 64.80 330 P **P** **16 54 46.3 +0.2**
SNR=16
BRVK P **P** **16 54 46.3 +0.2**
SNR=16
BRVK Borovoye 64.80 330 *c i*P **P** **16 54 45.8 -0.2**
BRVK pmax pmax
comp=Z,46nm,0.8s
BRVK Borovoye 64.80 330 P **P** **16 54 46.1 +0.1**
BRVK IAmb IAmb 16 54 47.1
comp=Z,41nm,0.8s
BLS5 Blasjo 64.88 9 *e*P **P** **16 54 46.8 +0.3**
KONO Kongsberg 64.90 7⇓*e*P **P** **16 54 47.3 +0.8**
KONO pmax pmax
comp=Z,78nm,0.8s
KONO Kongsberg 64.90 7 *e*P **P** **16 54 46.9 +0.4**
KONO Kongsberg 64.90 7 P **P** **16 54 47.1 +0.5**
PUL Pulkovo 65.00 355 *de*P **P** **16 54 47.5 +0.3**
PUL pmax pmax
comp=Z,221nm,0.8s
KAC Achnashellach 65.34 16 *e*P **P** **16 54 49.5 0.0**
LZH Lanzhou 65.38 298 ⇑P **P** **16 54 50.3 0.0**
LZH pP pP 16 54 54.7 -1.1
LZH sP sP 16 54 58.0 +0.1
LZH pmax pmax
comp=Z,25nm,1.4s
LZH pmax pmax
comp=Z,130nm,6.1s
LZH LR LR
comp=Z,660nm,16.3s
LZH LR LR
comp=Z,760nm,17.9s
LZH LR LR
comp=Z,740nm,18.4s
KPL Plockton 65.44 16 *e*P **P** **16 54 49.3 -0.8**
MCD Coleburn Disti 65.57 15 *e*P **P** **16 54 51.2 +0.3**
SSLB Suanglung 65.71 277 P **P** **16 54 51.2 -1.1**
SSLB IAmb IAmb 16 55 06.8
comp=Z,34nm,1.0s
YULB Yu-li 65.82 276 P **P** **16 54 52.5 -0.6**
YULB IAmb IAmb 16 55 30.1
comp=Z,53nm,1.5s
HOMB Homborsund 66.19 8 *e*P **P** **16 54 55.2 +0.4**
MK31 Makanchi Array 66.25 319 *i*P **P** **16 54 54.7 -0.9**
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 66.25 319 P **P** **16 54 55.0 -0.5**
comp=Z,9.1nm,0.5s,baz=46,slow=6.2,SNR=31
MKAR LR LR 17 26 10.4
comp=Z,1µm,19.6s,baz=34,slow=38
DRUM Mains of Drumt 66.33 14 *e*P **P** **16 54 55.9 +0.1**
DRUM IAmb IAmb 16 54 56.7
comp=Z,249nm,0.9s

MAKZ Makanchi 66.36 319 P **P** **16 54 55.6 -0.6**
MAKZ pmax pmax
comp=Z,30nm,1.2s
MAKZ Makanchi 66.36 319 P **P** **16 54 55.6 -0.6**
VSU Vasula 66.45 357 *c i*P **P** **16 54 56.1 -0.4**
VSU pmax pmax
comp=Z,540nm,0.8s
VSU Vasula 66.45 357 *e*P **P** **16 54 56.3 -0.2**
VSU IAmb IAmb 16 54 57.9
comp=Z,586nm,0.9s
LAWE Loch Awe, Argy 66.52 16 *e*P **P** **16 54 56.6 -0.4**
LAWE IAmb IAmb 16 54 58.0
comp=Z,48nm,0.8s
INVG Invergeldie, C 66.57 15 *e*P **P** **16 54 57.0 -0.3**
INVG IAmb IAmb 16 54 58.7
comp=Z,60nm,0.9s
EDU Dundee 66.61 15 *e*P **P** **16 54 57.5 -0.1**
WMQ Urumqi 66.61 314 *e*P **P** **16 54 58.7 +0.8**
WMQ pP pP 16 55 04.6 +1.1
WMQ sP sP 16 55 10.4 +4.9
WMQ PP **PP** **16 57 25.1 +1.0**
WMQ pmax pmax
comp=Z,26nm,0.7s
WMQ pmax pmax
comp=Z,250nm,5.1s
WMQ LR LR
comp=Z,500nm,26.5s
WMQ LR LR
comp=Z,450nm,19.1s
WMQ LR LR
comp=Z,490nm,18.5s
EAB Aberfoyle 66.75 16 *e*P **P** **16 54 58.8 +0.2**
PGBU Glenifferbraes 67.10 16 *e*P **P** **16 55 01.0 +0.3**
PGBU IAmb IAmb 16 55 02.1
comp=Z,64nm,0.9s
EDI Edinburgh 67.19 15 *e*P **P** **16 55 01.3 0.0**
EDI IAmb IAmb 16 55 01.8
comp=Z,176nm,0.9s
SLIT Slitere, Latvi 67.35 360 *e*P **P** **16 55 01.6 -0.7**
SLIT IAmb IAmb 16 55 03.4
comp=Z,1µm,1.1s
EBL Broad Law 67.35 15 *e*P **P** **16 55 02.6 +0.3**
ESK Eskdalemuir 67.77 15 *e*P **P** **16 55 05.1 +0.1**
ESK IAmb IAmb 16 55 06.0
comp=Z,53nm,0.9s
ESK Eskdalemuir 67.77 15 *i*P **P** **16 55 05.7 +0.7**
ESK Eskdalemuir 67.77 15 P **P** **16 55 05.0 0.0**
ESK IAmb IAmb 16 55 06.3
comp=Z,56nm,0.9s
GAL1 Galloway 67.97 16 *e*P **P** **16 55 06.0 -0.2**
GAL1 IAmb IAmb 16 55 07.5
comp=Z,66nm,0.8s
MUD Monsted U'grnd 68.05 8 *i*P **P** **16 55 07.4 +0.7**
MUD *i* 16 55 19.7
MUD pmax pmax
comp=Z,55nm,0.9s
MUD Monsted U'grnd 68.05 8 *i*P **P** **16 55 07.4 +0.7**
comp=Z,55nm,0.9s
MUD *i* 16 55 19.7
EDMD Edmundbyers 68.42 15 *e*P **P** **16 55 09.2 +0.1**
EDMD IAmb IAmb 16 55 09.8
comp=Z,64nm,1.0s
MOS Moscow 68.50 351 *e*P **P** **16 55 07.7 -1.9**
MOS *e* 16 55 18.6
MOS pmax pmax
comp=Z,80nm,0.8s
MOS pmax pmax
comp=Z,100nm,1.0s
MOS MLR MLR
comp=Z,600nm,18.0s
OBN Obninsk 69.22 351 *c i*P **P** **16 55 13.3 -0.7**
OBN *e* 16 55 22.8
OBN *e* 16 55 34.2
OBN *e* 16 57 44.6
OBN *e*PPP PPP 16 59 25.0
OBN *e*S **S** **17 04 20.7 +1.9**
OBN pmax pmax
comp=Z,119nm,1.0s
OBN MLR MLR
comp=Z,517nm,20.0s
OBN Obninsk 69.22 351 P **P** **16 55 13.3 -0.7**
comp=Z,18nm,0.8s,baz=326,slow=1.0,SNR=20
HPK Haverah Park 69.32 15 *e*P **P** **16 55 13.9 -0.8**
WME Myndd Eilian 69.45 16 *e*P **P** **16 55 14.4 -1.1**
PABE Paberze 69.47 359 *e*P **P** **16 55 15.2 -0.3**
PABE IAmb IAmb 16 55 28.7
comp=Z,174nm,0.7s
CD2 Chengdu 69.51 295 P **P** **16 55 16.8 +0.5**
CD2 pP pP 16 55 22.2 +0.3
CD2 PP **PP** **16 57 49.0 -0.6**
CD2 S **S** **17 04 22.7 -0.4**
CD2 pmax pmax
comp=Z,440nm,4.7s
CD2 LR LR
comp=Z,790nm,16.2s
CD2 LR LR
comp=Z,1µm,19.6s
CD2 LR LR
comp=Z,690nm,18.6s
LBWR Ladybower, Pea 69.84 15 *e*P **P** **16 55 18.0 +0.1**
LBWR IAmb IAmb 16 55 19.9
comp=Z,64nm,0.9s
NACGM Naroch 70.01 357 *e*P **P** **16 55 18.0 -0.9**
NACGM PM 16 55 19.0
comp=Z,0.3nm,1.0s
LLW Llanuwychllyn 70.08 16 *e*P **P** **16 55 19.2 -0.3**
LLW IAmb IAmb 16 55 19.9
comp=Z,24nm,0.9s
FOEL Foel Wylfa 70.12 16 *e*P **P** **16 55 19.3 -0.4**
FOEL IAmb IAmb 16 55 20.8
comp=Z,116nm,1.0s
PDGK Podgornoye 70.24 319 P **P** **16 55 20.7 0.0**
PDGK pmax pmax
comp=Z,69nm,1.0s
AKTO Aktyubinsk 70.35 336 P **P** **16 55 20.2 -0.9**
AKTO pmax pmax
comp=Z,81nm,0.9s
AKTO Aktyubinsk 70.35 336 P **P** **16 55 20.9 -0.2**
comp=Z,79nm,0.8s,baz=20,slow=5.2,SNR=172
MICGM Minsk 70.37 356⇓*e*P **P** **16 55 21.0 -0.2**
MICGM PM 16 55 22.0
comp=Z,0.3nm,1.0s
MICGM *e* 16 55 34.0
MNK Minsk 70.37 356⇓*e*P **P** **16 55 21.5 +0.3**
MNK *e* 16 55 34.0
MNK pmax pmax
comp=Z,300nm,1.0s
HLM1 Long Mynd 70.53 16 *e*P **P** **16 55 22.4 +0.2**
HLM1 IAmb IAmb 16 55 23.3
comp=Z,44nm,1.0s
CWF Charnwood Fore 70.55 15 *e*P **P** **16 55 22.3 0.0**
CWF IAmb IAmb 16 55 23.4
comp=Z,46nm,1.0s
RSBS Rosebush, Pemb 70.77 17 *e*P **P** **16 55 23.1 -0.6**
RSBS IAmb IAmb 16 55 24.4
comp=Z,37nm,0.9s
WACR West Acre 70.83 14 *e*P **P** **16 55 24.1 +0.1**
WACR IAmb IAmb 16 55 24.9
comp=Z,290nm,0.9s
SUW Suwalki 70.97 359 *e*P **P** **16 55 24.1 -0.7**
SUW Suwalki 70.97 359 *e*P **P** **16 55 24.1 -0.7**
SUW *e*P **P** **16 55 24.1 -0.7**
AB31 Akbulak array 70.99 335 *i*P **P** **16 55 24.7 -0.3**
AB31 pmax pmax
comp=Z,37nm,0.6s
ABKAR Akbulak array 70.99 335 P **P** **16 55 25.2 +0.2**
MCH1 Michaelchurch 71.01 16 *e*P **P** **16 55 25.2 +0.1**
MCH1 IAmb IAmb 16 55 26.6
comp=Z,43nm,0.9s
MONM Monmouth 71.20 16 *e*P **P** **16 55 26.6 +0.4**
MONM IAmb IAmb 16 55 33.4
comp=Z,42nm,1.0s
STRD Stroud 71.36 16 *e*P **P** **16 55 27.6 +0.4**
STRD IAmb IAmb 16 55 28.4
comp=Z,101nm,1.1s
LPSR Galich'ya Gora 71.47 349 *e*P **P** **16 55 26.7 -1.1**
LPSR *e* 16 55 38.9
LPSR pmax pmax
comp=Z,100nm,1.0s
GYA Guiyang 71.52 290⇑*i*P **P** **16 55 28.5 -0.2**
GYA PcP **PcP** **16 55 50.0 +1.9**
GYA S **S** **17 04 44.5 -2.3**
GYA SKS **SKSac** **17 05 26.4 -4.9**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.6s
GYA LR LR
comp=Z,220nm,17.8s
GYA LR LR
comp=Z,260nm,18.2s
GYA LR LR
comp=Z,470nm,18.0s
SWN1 Swindon 71.67 15 *e*P **P** **16 55 28.9 -0.1**
SWN1 IAmb IAmb 16 55 30.4
comp=Z,96nm,1.0s
TKM2 Tokmak 2 72.01 322 P **P** **16 55 31.6 0.0**
TKM2 pmax pmax
comp=Z,40nm,1.1s
TKM2 Tokmak 2 72.01 322 P **P** **16 55 32.1 +0.5**
SNR=36
USP Ospenovka 72.10 322 P **P** **16 55 32.4 +0.5**
SNR=21
KDJ Kajisay 72.13 320 P **P** **16 55 31.3 -1.0**
KDJ pmax pmax
comp=Z,32nm,1.0s
KDJ Kajisay 72.13 320 P **P** **16 55 31.4 -1.0**
KDJ IAmb IAmb 16 55 33.9
comp=Z,32nm,0.9s
CHMS Chumysh 72.24 322 P **P** **16 55 33.4 +0.7**
SNR=34
TARG Taragay, Kyrgy 72.25 319 P **P** **16 55 33.1 -0.1**
RUE Ruedersdorf 72.30 5 *e*P **P** **16 55 32.7 -0.1**
VORR Voronezh 72.36 349 *e*P **P** **16 55 31.0 -2.2**
VORR pmax pmax
comp=Z,300nm,1.6s
ULHL Ulahol 72.37 321 P **P** **16 55 34.7 +1.0**
SNR=10
CCA1 Carnmenellis 72.39 18 *e*P **P** **16 55 33.5 +0.1**
CCA1 IAmb IAmb 16 55 34.4
comp=Z,85nm,1.1s
KBK Karagaybulak 72.47 322 P **P** **16 55 35.1 +0.8**
SNR=46
VRH Novokhopyorsk 72.52 347 *e*P **P** **16 55 32.7 -1.4**
VRH *e* 16 55 45.2
VRH pmax pmax
comp=Z,80nm,0.9s
AAK Ala-Archa 72.65 322 *i*P **P** **16 55 36.0 +0.6**
SNR=62
AAK Ala-Archa 72.65 322 P **P** **16 55 35.9 +0.6**
SNR=23
AAK P **P** **16 55 35.9 +0.6**
SNR=23
AAK Ala-Archa 72.65 322 *c i*P **P** **16 55 35.6 +0.3**
AAK pmax pmax
comp=Z,41nm,0.8s
AAK Ala-Archa 72.65 322 P **P** **16 55 34.0 -1.3**
SNR=37
AAK Ala-Archa 72.65 322 P **P** **16 55 35.8 +0.5**
AAK IAmb IAmb 16 55 37.1
comp=Z,46nm,1.0s
SDDR Presa de Saban 72.80 82 P **P** **16 55 35.1 -1.3**
SDDR IAmb IAmb 16 55 45.5
comp=Z,34nm,0.7s
VSR Storozhevoye 72.81 349 *e*P **P** **16 55 34.4 -1.5**
VSR *e* 16 55 46.3
VSR pmax pmax
comp=Z,170nm,1.1s
KZA Kyzart 72.88 321 P **P** **16 55 37.8 +0.8**
SNR=20
EKS2 Erkin-Say 72.88 323 P **P** **16 55 37.1 +0.4**
SNR=41
UCH Uchtor 73.00 322 P **P** 16 55 32.0 -5.8
SNR=5.2
PPT Papeete 73.01 172 LR LR 17 20 26.7
comp=Z,410nm,19.1s,baz=340,slow=30
PPT2 Papeete2 73.03 172 *e*S **S** **17 05 09.0 +5.2**
comp=Z,1µm,28.5s
PPT2 Papeete2 73.03 172 *e*LR LR 17 17 58.5
comp=Z,519nm,22.0s,baz=351
VORD Divnogorie 73.04 349 *e*P **P** **16 55 36.2 -1.1**
VORD *e* 16 55 48.4
VORD pmax pmax
comp=Z,120nm,0.9s
BEL Belsk 73.15 1 *e*P **P** **16 55 38.1 +0.2**
BEL Belsk 73.15 1 *e*P **P** **16 55 38.1 +0.2**
BEL *e*P **P** **16 55 38.1 +0.2**
NRN Naryn 73.17 320 P **P** **16 55 39.5 +0.9**
NRN pmax pmax
comp=Z,44nm,1.0s
NRN Naryn 73.17 320 P **P** **16 55 39.5 +0.9**
NRN IAmb IAmb 16 55 40.7
comp=Z,44nm,1.0s
AML Almayashu 73.38 322 P **P** **16 55 41.0 +1.0**
SNR=48
CLL Collm 73.42 6⇑*i*P **P** **16 55 39.5 0.0**
CLL *i* 16 55 51.5
CLL pmax pmax
comp=Z,38nm,1.0s
CLL MLR MLR
comp=Z,300nm,20.0s
CLL Collm 73.42 6⇑*i*P **P** **16 55 39.5 0.0**
comp=Z,38nm,1.0s
CLL ⇓*i* 16 55 51.5
comp=Z,53nm,1.1s
CLL LmV 17 30 00.0
comp=Z,300nm,20.0s
CLL Collm 73.42 6 P **P** **16 55 38.1 -1.4**
CLL IAmb IAmb 16 55 52.7
comp=Z,46nm,1.0s
BSTI Sart Tilman 73.53 11 ⇑P **P** **16 55 40.6 +0.4**
BSTI x x 16 55 53.0
MEM Membach 73.55 10 P **P** **16 55 40.3 0.0**
comp=Z,28nm,1.0s
MEM x x 16 55 52.5
KK31 Karatay Array 73.59 325 *i*P **P** **16 55 40.4 -0.3**
KK31 pmax pmax
comp=Z,77nm,1.1s
KK31 Karatay Array 73.59 325 P **P** **16 55 40.9 +0.2**
KK31 IAmb IAmb 16 55 41.9
comp=Z,83nm,1.1s
KKAR Karatay Array 73.59 325 P **P** **16 55 40.8 +0.1**
KKAR pmax pmax
comp=Z,83nm,1.1s
KKAR Karatay Array 73.59 325 P **P** **16 55 40.9 +0.1**
KKAR IAmb IAmb 16 55 41.9
comp=Z,83nm,1.1s
BCLA Clavier 73.67 11 P **P** **16 55 40.9 -0.1**
BMRD Maredsous 73.72 11 ⇑P **P** **16 55 41.4 +0.1**
BMRD x x 16 55 52.5
DOU Dourbes 73.91 12 ⇑P **P** **16 55 42.1 -0.3**
DOU x x 16 55 54.6
BRG Berggiesshubel 73.91 5⇑*i*P **P** **16 55 42.6 +0.2**
comp=Z,41nm,1.0s
BRG *i* pP **PcP** **16 55 55.0 -2.8**
comp=Z,73nm,1.2s
BRG Berggiesshubel 73.91 5⇑*i*P **P** **16 55 42.6 +0.2**
BRG *i* *PP **PcP** **16 55 55.0 -2.8**
BRG pmax pmax
comp=Z,41nm,1.0s
BRG pmax pmax
comp=Z,73nm,1.2s
KSP Ksiaz 74.05 4 *e*P **P** **16 55 43.1 -0.1**
KSP Ksiaz 74.05 4 *e*P **P** **16 55 43.1 -0.1**
KSP *e*P **P** **16 55 43.1 -0.1**
AKASG Malin Array Be 74.12 355 P **P** **16 55 42.8 -0.8**
comp=Z,48nm,0.7s,baz=9.3,slow=6.1,SNR=58
AKASG LR LR 17 31 55.7
comp=Z,334nm,19.1s,baz=10.0,slow=39
AKBB Malin Array Si 74.12 355 P **P** **16 55 43.1 -0.5**
AKBB pmax pmax
comp=Z,92nm,0.9s
AKBB Malin Array Si 74.12 355 P **P** **16 55 43.1 -0.5**
PVCC Panska Ves 74.29 5 *e*P **P** **16 55 44.8 +0.2**
PVCC *e**PP **PcP** **16 55 56.6 -2.8**
PVCC Panska Ves 74.29 5 *e*P **P** **16 55 44.8 +0.2**
PVCC *e*pP **PcP** **16 55 56.6 -2.8**
CHVC Chvalec 74.29 4 *e*P **P** **16 55 44.7 0.0**
CHVC *e*pP **PcP** **16 55 57.3 -2.2**
ARSB Arslanbob 74.34 323 P **P** **16 55 45.5 +0.3**
ARSB IAmb IAmb 16 55 47.2
comp=Z,45nm,0.9s
UPC Upice 74.37 4 *e*P **P** **16 55 45.2 +0.1**
UPC *e**PP **PcP** **16 55 57.6 -2.2**
UPC Upice 74.37 4 *e*P **P** **16 55 45.2 +0.1**
UPC *e*pP **PcP** **16 55 57.6 -2.2**
WLF Walferdange 74.50 11 P **P** **16 55 46.8 +0.9**
WLF x x 16 55 57.5
DPC Dobruska-Polom 74.54 4 *e*P **P** **16 55 46.6 +0.5**
DPC *e**PP **PcP** **16 55 58.9 -1.6**

DPC	Dobruska-Polom	74.54	4	eP	P	16 55 46.6	+0.5
DPC				epP	PcP	16 55 58.9	-1.6
KMI	Kunming	74.68	292	P	P	16 55 50.6	+3.0
KMI				pP	sP	16 55 55.3	+0.1
KMI				sS	sS	17 05 35.7	+3.5
KMI				pmax	pmax		
	comp=Z,13nm,0.7s						
KMI				pmax	pmax		
	comp=Z,230nm,4.6s						
KMI				LR	LR		
	comp=Z,380nm,21.6s						
KMI				LR	LR		
	comp=Z,320nm,21.0s						
KMI				LR	LR		
	comp=Z,440nm,24.7s						
PRA	Prague	74.74	5	eP	P	16 55 47.9	+0.7
PRA	Prague	74.74	5	eP	P	16 55 47.9	+0.7
OJC	Ojcow	74.76	1	eP	P	16 55 47.3	-0.1
OJC	Ojcow	74.76	1	eP	P	16 55 47.3	-0.1
OJC				eP	P	16 55 47.3	-0.1
OJC	Ojcow	74.76	1	P	P	16 55 47.7	+0.3
PRU	Pruhonice	74.82	5	eP	P	16 55 48.1	+0.4
PRU				e*PP	PcP	16 56 00.3	-1.4
PRU	Pruhonice	74.82	5	eP	P	16 55 48.1	+0.4
PRU				epP	PcP	16 56 00.3	-1.4
KRLC	Kraliky	74.83	3	eP	P	16 55 48.4	+0.6
KRLC				e*PP	PcP	16 56 00.7	-1.1
KRLC	Kraliky	74.83	3	eP	P	16 55 48.4	+0.6
KRLC				epP	PcP	16 56 00.7	-1.1
KSH	Kashi	74.86	320	P	P	16 55 51.6	+3.3
KSH				PP	PP	16 58 44.7	+10
KSH				S	S	17 05 25.3	+0.9
KSH				ScS	SKKSac	17 05 57.4	+1.0
KSH				SS	SS	17 10 17.8	+6.5
KSH				pmax	pmax		
	comp=Z,160nm,1.0s						
KSH				pmax	pmax		
	comp=Z,510nm,8.0s						
KSH				LR	LR		
	comp=Z,320nm,7.8s						
KSH				LR	LR		
	comp=Z,520nm,6.7s						
KSH				LR	LR		
	comp=Z,1µm,6.6s						
GOPC	GO Pecny, Ondr	74.91	5	eP	P	16 55 48.3	0.0
GOPC				e*PP	PcP	16 56 00.6	-1.5
GOPC	GO Pecny, Ondr	74.91	5	eP	P	16 55 48.3	0.0
GOPC				epP	PcP	16 56 00.6	-1.5
GRA1	Grafenberg Arr	74.92	7	P	P	16 55 48.5	+0.2
GRA1				IAmb	IAmb	16 56 02.1	
	comp=Z,41nm,1.0s						
GRF	Grafenberg Arr	74.92	7	P	P	16 55 48.5	+0.2
GRF				pmax	pmax		
	comp=Z,41nm,1.0s						
PBCC	Pribram	75.10	5	eP	P	16 55 49.3	0.0
PBCC				epP	PcP	16 56 02.0	-0.9
OKC	Ostrava-Krasne	75.11	3	eP	P	16 55 49.6	+0.2
OKC				e*PP	PcP	16 56 01.9	-1.0
OKC	Ostrava-Krasne	75.11	3	eP	P	16 55 49.6	+0.2
OKC				epP	PcP	16 56 01.9	-1.0
MORC	Moravsky Berou	75.15	3	P	P	16 55 49.4	-0.3
MORC				pmax	pmax		
	comp=Z,34nm,1.0s						
MORC	Moravsky Berou	75.15	3	⇓P	P	16 55 50.1	+0.4
MORC				mb		16 56 03.0	
MORC	Moravsky Berou	75.15	3	eP	P	16 55 49.6	-0.1
MORC				ePCP	PcP	16 56 02.1	-1.1
MORC	Moravsky Berou	75.15	3	P	P	16 55 49.4	-0.3
LVV	L'vov	75.16	359	eP	P	16 55 49.2	-0.5
KWP	Kalwaria Pacla	75.36	359	eP	P	16 55 51.2	+0.4
KWP	Kalwaria Pacla	75.36	359	eP	P	16 55 51.2	+0.4
KWP				eP	P	16 55 51.2	+0.4
NIE	Niedzica	75.57	1	eP	P	16 55 52.6	+0.5
NIE	Niedzica	75.57	1	eP	P	16 55 52.6	+0.5
NIE				eP	P	16 55 52.6	+0.5
VRAC	Vranov	75.59	4	P	P	16 55 52.4	+0.3
	comp=Z,18nm,0.9s,baz=3.2,slow=5.1,SNR=20						
VRAC	Vranov	75.59	4	⇑P	P	16 55 52.8	+0.6
VRAC				mb		16 56 06.5	
VRAC	Vranov	75.59	4	eP	P	16 55 52.3	+0.1
VRAC				ePCP	PcP	16 56 04.9	-0.1
KHC	Kasperske Hory	75.63	6c	iP	P	16 55 52.9	+0.5
KHC				pmax	pmax		
	comp=Z,99nm,1.0s						
KHC	Kasperske Hory	75.63	6	eP	P	16 55 52.9	+0.5
KHC				epP	PcP	16 56 05.1	-0.2
KHC	Kasperske Hory	75.63	6	P	P	16 55 53.2	+0.7
LANS	Liptovska Anna	75.82	2	eP	P	16 55 55.0	+1.4
LANS				pmax	pmax		
	comp=Z,52nm,1.3s						
LANS	Liptovska Anna	75.82	2	eP	P	16 55 55.0	+1.4
KRUC	Moravsky	75.83	4	eP	P	16 55 53.4	-0.1
KRUC				ePCP	PcP	16 56 06.0	-0.1
GEC2	GERESS Array S	75.92	6	P	P	16 55 54.6	+0.4
GERES	GERESS Array B	75.92	6	P	P	16 55 54.5	+0.4
	comp=Z,16nm,0.9s,baz=356,slow=4.4,SNR=45						
BFO	Black Forest	76.04	9	P	P	16 55 54.7	-0.1
BFO				pmax	pmax		
	comp=Z,23nm,1.0s						
BFO	Black Forest	76.04	9	P	P	16 55 54.7	-0.1
ECH	Echery	76.04	10	P	P	16 55 54.8	+0.1
ECH				pmax	pmax		
	comp=Z,38nm,0.9s						
ECH	Echery	76.04	10	P	P	16 55 54.8	+0.1
ECH				IAmb	IAmb	16 56 08.2	
	comp=Z,38nm,0.9s						
KOLS	Kolonicke sedl	76.06	360	eP	P	16 55 55.6	+0.7
KOLS				pmax	pmax		
	comp=Z,41nm,1.3s						
KOLS	Kolonicke sedl	76.06	360	eP	P	16 55 55.6	+0.7
JAVC	Velka Javorina	76.07	3	eP	P	16 55 56.1	+1.1
JAVC				ePCP	PcP	16 56 08.7	+1.5
OBIP	Obispado Ponce	76.18	78	P	P	16 55 53.8	-2.2
JAY	Jayapura	76.19	244	P	P	16 56 07.0	+11
BTK	Batken	76.21	323	IAmb	IAmb	16 55 57.3	
	comp=Z,56nm,1.0s						
UZH	Uzhgorod	76.36	360	⇑iP	P	16 55 53.4	-3.1
UZH				e		16 56 00.7	
UZH				e		16 56 07.3	
SMOL	Smolenice	76.41	3	eP	P	16 55 58.0	+1.1
SMOL				pmax	pmax		
	comp=Z,35nm,0.9s						
SMOL	Smolenice	76.41	3	eP	P	16 55 58.0	+1.1
VYHS	Vyhne	76.47	2	eP	P	16 55 58.2	+1.0
VYHS				pmax	pmax		
	comp=Z,68nm,1.2s						
VYHS	Vyhne	76.47	2	eP	P	16 55 58.2	+1.0
KECS	Kecovo	76.50	1	eP	P	16 55 58.1	+0.7
KECS				pmax	pmax		
	comp=Z,24nm,0.9s						
KECS	Kecovo	76.50	1	eP	P	16 55 58.1	+0.7
MODS	Modra-Piesok	76.55	3	eP	P	16 55 57.7	0.0
MODS				pmax	pmax		
	comp=Z,98nm,1.2s						
MODS	Modra-Piesok	76.55	3	eP	P	16 55 57.7	0.0
SORM	Soroca	76.72	356	⇑P	P	16 55 58.0	-0.5
SMPI	Sarmi	76.78	246	P	P	16 55 59.6	+0.3
	comp=Z,36nm,1.0s						
LSA	Lhasa	76.78	303	iP	P	16 56 00.0	+0.2
	SNR=6.3						
LSA	Lhasa	76.78	303	P	P	16 56 00.5	+0.6
LSA				P	P	16 56 00.5	+0.6
LSA	Lhasa	76.78	303	IAmb	IAmb	16 56 01.6	
	comp=Z,49nm,0.8s						
KCP	Kidapawan	76.78	263	⇑P	P	16 55 59.8	+0.3
TRPA	Tarpa	76.86	360	⇓P	P	16 56 00.1	+0.8
TRPA				mb		16 56 13.2	
TRPA	Tarpa	76.86	360	eP	P	16 55 59.1	-0.3
CONA	Conrad Observa	76.94	4	eP	P	16 56 00.4	+0.5
	comp=Z,26nm,0.9s,SNR=12						
CONA				ePcP	PcP	16 56 12.1	+1.1
	comp=Z,52nm,1.4s						
MOA	Molln	76.94	5	eP	P	16 56 00.4	+0.5
	comp=Z,14nm,1.2s,SNR=5.2						
MOA				ePcP	PcP	16 56 11.7	+0.7
	comp=Z,25nm,1.3s						
PSZ	Piszkesteto	77.06	1	P	P	16 56 01.5	+0.9
PSZ				pmax	pmax		
	comp=Z,71nm,1.1s						
PSZ	Piszkesteto	77.06	1	⇓P	P	16 56 01.6	+0.9
PSZ				mb		16 56 14.8	
PSZ	Piszkesteto	77.06	1	eP	P	16 56 00.1	-0.5
PSZ	Piszkesteto	77.06	1	P	P	16 56 01.5	+0.9
PSZ				IAmb	IAmb	16 56 14.7	
	comp=Z,71nm,1.1s						
RETA	Reutte	77.08	8	eP	P	16 56 00.8	+0.1
	comp=Z,24nm,1.7s,SNR=5.3						
SRO	Srobarova	77.14	2	eP	P	16 56 02.0	+1.1
SRO				pmax	pmax		
	comp=Z,41nm,1.1s						
SRO	Srobarova	77.14	2	eP	P	16 56 02.0	+1.1
DAVA	Damuels	77.21	8	eP	P	16 56 01.6	+0.1
	comp=Z,12nm,0.9s						
DAVA				ePcP	PcP	16 56 14.2	+1.9
	comp=Z,14nm,1.0s						
MOTA	Moosalm	77.25	8	eP	P	16 56 02.0	+0.2
	comp=Z,48nm,1.1s,SNR=15						
MOTA				ePcP	PcP	16 56 13.6	+1.2
	comp=Z,41nm,1.0s						
WATA	Walderalm	77.29	7	eP	P	16 56 02.3	+0.3
	comp=Z,56nm,1.1s,SNR=14						
WATA				ePcP	PcP	16 56 14.1	+1.5
	comp=Z,59nm,1.1s						
BMR	Baia Mare	77.31	359	⇑P	P	16 56 01.0	-0.9
BURAR	Bucovina Array	77.34	358	⇑P	P	16 56 02.4	+0.1
BURAR				mb		16 56 15.1	
WTTA	Wattenberg	77.36	7	eP	P	16 56 03.0	+0.5
	comp=Z,40nm,0.8s,SNR=14						
WTTA				ePcP	PcP	16 56 14.5	+1.5
	comp=Z,30nm,0.8s						
SQTA	Sankt Quirin	77.38	7	eP	P	16 56 02.8	+0.3
	comp=Z,51nm,0.9s,SNR=23						
SQTA				ePcP	PcP	16 56 14.6	+1.6
	comp=Z,43nm,0.8s						
FETA	Feichten	77.54	8	eP	P	16 56 03.9	+0.5
	comp=Z,38nm,1.0s,SNR=16						
FETA				ePcP	PcP	16 56 15.5	+1.8
	comp=Z,25nm,0.9s						
CSKK	Cskako	77.59	3	eP	P	16 56 04.0	+0.6
ARSA	Arzberg	77.60	4	eP	P	16 56 04.2	+0.5
	comp=Z,20nm,0.9s,SNR=8.8						
ARSA				ePcP	PcP	16 56 15.7	+1.9
	comp=Z,28nm,1.0s						
LTVH	Ltavrtes, Hu	77.61	0	eP	P	16 56 04.0	+0.4
BSZH	Besenyszg	77.69	1	eP	P	16 56 08.0	+4.0
MPLH	Magyarpolny	77.76	3	eP	P	16 56 04.1	-0.4
KIS	Kishinev	77.83	355	⇓iP	P	16 56 04.0	-0.8
	comp=Z,18µm,1.4s						
KIS	Kishinev	77.83	355	⇓iP	P	16 56 04.0	-0.8
KIS				e		16 56 13.0	
KIS				i		16 56 17.0	
KIS				pmax	pmax		
	comp=Z,180nm,1.4s						
ARCR	ARCALIA	77.89	358	⇑P	P	16 56 06.0	+0.9
FUORN	Ofenpass-Fuorn	77.90	8	P	P	16 56 06.1	+0.5
FUORN				IAmb	IAmb	16 56 19.6	
	comp=Z,69nm,1.4s						
MILM	Milestii Mici	77.91	355	⇓P	P	16 56 05.1	-0.2
ABTA	Abfaltersbach	77.94	7	eP	P	16 56 05.4	-0.2
	comp=Z,28nm,1.1s,SNR=9.2						
TUE	Stuetta	77.97	9		PcP	16 56 18.3	+2.7
BIZ	Bicaz	78.00	357	⇑P	P	16 56 06.2	+0.4
CHGR	Chuyangaron	78.03	324	P	P	16 56 06.5	+0.3
TIH	Tihany	78.04	3	eP	P	16 56 06.1	+0.1
MYKA	Terra Mystica	78.13	6	eP	P	16 56 06.2	-0.4
	comp=Z,14nm,0.9s,SNR=5.5						
MYKA				ePcP	PcP	16 56 18.9	+2.7
	comp=Z,18nm,0.9s						
SOKA	Soboth	78.15	5	eP	P	16 56 07.0	+0.3
	comp=Z,60nm,1.1s,SNR=23						
SOKA				ePcP	PcP	16 56 18.8	+2.5
	comp=Z,56nm,1.1s						
PERS	Pernice	78.20	5	i P	P	16 56 07.2	+0.2
PERS				i pP	PcP	16 56 19.4	+2.9
DRGR		78.20	359	⇑P	P	16 56 07.7	+0.7
OBKA	Obir	78.30	5	eP	P	16 56 07.8	+0.3
	comp=Z,72nm,0.8s,SNR=19						
OBKA				ePcP	PcP	16 56 19.5	+2.6
	comp=Z,51nm,0.7s						
GOF	Gofitskoye	78.35	345	⇑iP	P	16 56 08.1	+0.3
GOF				pmax	pmax		
	comp=Z,200nm,0.7s						
LEOM	Leova	78.38	356	⇑P	P	16 56 08.3	+0.4
BEHE	Becsehely	78.43	4	⇑iP	P	16 56 08.8	+0.6
BEHE	Becsehely	78.43	4	eP	P	16 56 08.1	-0.1
CADS	Cadrg	78.53	6	i P	P	16 56 08.1	-0.7
SSB	Saint Sauveur	78.64	12	P	P	16 56 09.5	0.0
SSB				pmax	pmax		
	comp=Z,19nm,1.0s						
SSB	Saint Sauveur	78.64	12	P	P	16 56 09.5	0.0
MORH	Mrgy, Hungar	78.74	2	eP	P	16 56 09.7	-0.2
MORH	Mrgy, Hungar	78.74	2	eP	P	16 56 09.1	-0.8
TBI	Tubuai	78.75	172	eS	S	17 06 11.7	+5.2
	comp=Z,401nm,31.5s						
TBI	Tubuai	78.75	172	eLR	LR	17 20 42.6	
	comp=Z,541nm,25.0s,baz=350						
DOPR	Dopca	78.99	358	⇑P	P	16 56 12.2	+0.9
CRES	Cresnjev	79.02	5	⇑iP	P	16 56 11.0	-0.5
VRI	Vrincioaia	79.05	357	⇑P	P	16 56 11.3	-0.3
CEY	Cerknica	79.06	5	⇑iP	P	16 56 11.1	-0.6
PLOR	Plostina	79.07	357	⇑P	P	16 56 12.7	+0.9
BNI	Bardonecchia	79.11	11	P	P	16 56 13.2	+1.0
BNI				pmax	pmax		
	comp=Z,34nm,1.0s						
BNI	Bardonecchia	79.11	11	P	P	16 56 13.2	+1.0
TEOL	Teolo	79.26	7	P	P	16 56 12.8	+0.1
BOJS	Bojanci	79.33	5	i P	P	16 56 13.0	-0.2
BOJS				i pP	PcP	16 56 25.1	+3.8
ANN	Anapa	79.33	349	eP	P	16 56 05.2	-7.9
ANN				e*PP	pP	16 56 10.3	-8.4
ANN				eS	S	17 05 59.4	-13
ANN				eSSS	SSS	17 14 43.5	
ANN				pmax	pmax		
	comp=Z,101nm,1.3s						
BZS	Buzias	79.38	0	⇑P	P	16 56 13.3	-0.1
SMLC	San Martn de	79.41	90	eP	P	16 56 11.8	-2.2
SMLC	San Martn de	79.41	90	eP	P	16 56 11.8	-2.2
MLR	Muntele Rosu	79.45	357	P	P	16 56 14.4	+0.4
	comp=Z,5.6nm,0.5s,baz=354,slow=5.0,SNR=6.5						
KIV	Kislovodsk	79.48	345	i P	P	16 56 14.2	+0.1
	SNR=14						
KIV	Kislovodsk	79.48	345	P	P	16 56 14.6	+0.5
KIV				P	P	16 56 14.6	+0.5
KIV	Kislovodsk	79.48	345	eP	P	16 56 14.0	-0.1
KIV				pmax	pmax		
	comp=Z,196nm,1.1s						
KIV				MLR	MLR		
	comp=Z,895nm,19.0s						
KIV	Kislovodsk	79.48	345	⇓P	P	16 56 14.9	+0.7
KIV				mb		16 56 27.6	
KIV	Kislovodsk	79.48	345	P	P	16 56 14.3	+0.2
KIV				IAmb	IAmb	16 56 15.5	
	comp=Z,49nm,0.8s						
SIM	Simferopol'	79.52	351	eP	P	16 56 14.4	+0.3
SIM				e		16 56 27.0	
SIM				pmax	pmax		
	comp=Z,39nm,1.0s						
SIM				MLR	MLR		
	comp=N,300nm,17.0s						
VOIR		79.52	358	⇑P	P	16 56 14.2	-0.1
GZR	Gura Zlata	79.60	359	⇓P	P	16 56 15.1	+0.4
ARR	Arges	79.60	358	⇑P	P	16 56 15.1	+0.3
TLCR		79.64	355	⇓P	P	16 56 14.7	-0.1
TLCR				mb		16 56 27.6	
DBBC	Dabeiba	79.64	93	eP	P	16 56 15.5	+0.1
DBBC	Dabeiba	79.64	93	eP	P	16 56 15.5	+0.1
KBZ	Khabaz	79.67	345	P	P	16 56 16.0	+1.0
	comp=N,34nm,0.8s,baz=335,slow=3.6,SNR=38						
KBZ				LR	LR	17 35 01.4	
	comp=N,396nm,21.2s,baz=10.0,slow=38						
CFR	Carcaliu	79.68	356	⇑P	P	16 56 14.7	-0.3
NCK	Nalchik	79.80	344	⇑eP	P	16 56 16.5	+0.8
NCK				pmax	pmax		
	comp=Z,68nm,0.6s						
FRGS	Fruska Gora	79.82	2	⇑iP	P	16 56 15.3	-0.6
SWI	Sorong	79.82	253	P	P	16 56 15.8	-0.4
	comp=Z,79nm,1.1s,comp=Z,703nm						
SHL	Shillong	79.88	300	P	P	16 56 15.6	-1.1
	SNR=6.9						
TOPG	Topolog	79.97	355	⇑P	P	16 56 16.7	+0.1
PCAB	Cabril	79.98	22	eP	P	16 56 17.2	+0.4
	comp=Z,31nm,1.2s						
PGOR	Pogoanele	80.00	356	⇓P	P	16 56 16.5	-0.2
BLY	Banja Luka	80.17	3	eP	P	16 56 29.1	+11
NEY	Neytrino	80.17	345	⇑iP	P	16 56 19.8	+1.8
NEY				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HARR	Harsova	80.18	356	⇑P	P	16 56 17.8	+0.1
HARR				mb		16 56 30.6	
SOC	Sochi	80.26	347	eP	P	16 56 17.0	-1.2
SOC				eS	S	17 06 23.0	+0.6
POLO	Lamas de Olo	80.35	22	eP	P	16 56 19.3	+0.4
	comp=Z,24nm,1.2s						
TAPN	Taplejung	80.38	305	⇑iP	P	16 56 19.5	0.0
	comp=Z,94nm,0.7s						
TIRR	Tirgusor	80.39	355	P	P	16 56 18.8	0.0
TIRR				pmax	pmax		
	comp=Z,103nm,0.9s						
TIRR	Tirgusor	80.39	355	P	P	16 56 18.8	0.0
TEKS	Tekeris	80.43	2	eP	P	16 56 19.1	0.0
HUMR	Humele	80.43	358	⇑P	P	16 56 19.1	-0.1
LEHL	Lehliu	80.44	356	⇑P	P	16 56 19.0	-0.1
ZEI	Tsey	80.44	344	eP	P	16 56 18.8	-0.6
ZEI				pmax	pmax		
	comp=Z,39nm,1.0s						
PVRL	Vila Real	80.46	22	eP	P	16 56 20.2	+0.8
	comp=Z,42nm,1.1s						
MGRS	Mrkonjic Grad	80.50	4	eP	P	16 56 20.2	+0.7
MVO	Moncorvo	80.72	22	eP	P	16 56 21.3	+0.5
	comp=Z,64nm,0.9s						
MVO	Moncorvo	80.72	22	eLR	LR	17 25 24.4	
	comp=Z,370nm,22.0s						
GUN	Gumba	80.76	306	⇑iP	P	16 56 21.6	0.0
	comp=Z,243nm,1.0s						
JIRN	Jiri	80.83	306	⇑iP	P	16 56 22.3	+0.3
	comp=Z,266nm,0.7s						
HAPS	Han Pijesak,Bl	80.88	2	eP	P	16 56 21.2	-0.5
DIVS	Divibare	80.88	1	⇑iP	P	16 56 21.4	-0.3
ODAN	Odare	80.95	305	⇑iP	P	16 56 22.2	-0.3
	comp=Z,93nm,0.9s						
PVIS	Viseu	80.96	23	eP	P	16 56 22.5	+0.4
	comp=Z,50nm,1.0s						
FAKI	Fak Fak	81.00	251	P	P	16 56 21.5	-1.0
	comp=Z,72nm,0.9s,comp=Z,779nm						
FAKI	Fak Fak	81.00	251	P	P	16 56 21.4	-1.0
FAKI				IAmb	IAmb	16 56 37.9	
	comp=Z,49nm,0.9s						
PTBC	PUERTO BERRIO,	81.03	92	eP	P	16 56 19.9	-2.9
PTBC	PUERTO BERRIO,	81.03	92	eP	P	16 56 19.9	-2.9
AKT	Akhty	81.04	341	eP	P	16 56 23.0	+0.4
AKT				pmax	pmax		
	comp=Z,58nm,0.9s						
NIL	Nilore	81.06	319	P	P	16 56 23.2	+0.5
NIL				P	P	16 56 23.2	+0.5
NIL	Nilore	81.06	319	P	P	16 56 22.9	+0.2
NIL				pmax	pmax		
	comp=Z,126nm,0.9s						
NIL	Nilore	81.06	319	P	P	16 56 22.9	+0.2
BBLS	Lazići	81.11	2	⇑iP	P	16 56 23.1	+0.3
KKN	Kakani	81.14	307	⇑iP	P	16 56 23.3	-0.1
	comp=Z,74nm,1.0s						
UBPT	Khong Chiam	81.19	284	P	P	16 56 23.9	+0.3
UBPT				IAmb	IAmb	16 56 24.7	
	comp=Z,68nm,1.0s						
RAMN	Ramite	81.24	305	⇑iP	P	16 56 23.8	-0.2
	comp=Z,202nm,0.9s						
GKN	Gorkha	81.25	307	⇑iP	P	16 56 23.8	-0.2
	comp=Z,99nm,0.9s						
PKI	Pulchoki	81.27	307	⇑iP	P	16 56 23.9	-0.4
	comp=Z,90nm,0.9s						
PKIN	Phulchoki	81.27	307	⇑iP	P	16 56 23.9	-0.3
	comp=Z,52nm,0.7s						
SDV	Santo Domingo	81.31	87	eP	P	16 56 32.2	+7.8
SDV	Santo Domingo	81.31	87	eP	P	16 56 32.2	+7.8
COI	Coimbra	81.33	23	eP	P	16 56 25.2	+1.2
MTE	Manteigas	81.34	22	eP	P	16 56 24.6	+0.5
	comp=Z,78nm,1.1s						
MTE	Manteigas	81.34	22	eLR	LR	17 25 33.8	
	comp=Z,278nm,18.0s						
MTE	Manteigas	81.34	22	P	P	16 56 24.0	-0.1
MTE				IAmb	IAmb	16 56 25.7	
	comp=Z,45nm,0.9s						
DANN	Dangsing	81.35	308	⇑iP	P	16 56 24.9	+0.3
	comp=Z,391nm,0.8s						
RUDO	Rudo	81.35	2	eP	P	16 56 23.5	-0.6
DMN	Daman	81.37	307	⇑iP	P	16 56 24.7	0.0
	comp=Z,63nm,0.7s						
PAMC	Pamplona, Colo	81.38	90	eP	P	16 56 23.2	-2.0
PAMC	Pamplona, Colo	81.38	90	eP	P	16 56 23.2	-2.0
PCAS	Casmilo, Conde	81.46	23	eP	P	16 56 25.1	+0.4
	comp=Z,36nm,1.6s						
GUY2C	Guyana, Caldas	81.58	93	eP	P	16 56 22.3	-3.9
GUY2C	Guyana, Caldas	81.58	93	eP	P	16 56 22.3	-3.9
NORC	Norcasia	81.59	92	eP	P	16 56 24.2	-1.6
NORC	Norcasia	81.59	92	eP	P	16 56 24.2	-1.6
BARC	Barichara	81.72	90	eP	P	16 56 24.9	-1.7
BARC	Barichara	81.72	90	eP	P	16 56 24.9	-1.7
CASP	Castiglione de	81.75	8	P	P	16 56 26.0	-0.2
CASP				IAmb	IAmb	16 56 39.5	
	comp=Z,45nm,1.1s						
KBL	Kabul	81.79	322	P	P	16 56 25.7	-1.1
KBL				P	P	16 56 25.7	-1.1
AKH	Akhalkalaki	81.85	344	⇑P	P	16 56 27.7	+0.8
CHTO	Chiang Mai	81.85	291	P	P	16 56 26.4	-0.7
	SNR=8.5						
CHTO				P	P	16 56 26.4	-0.7
	SNR=8.5						
CHTO	Chiang Mai	81.85	291	P	P	16 56 26.3	-0.7
CHTO				pmax	pmax		
	comp=Z,18nm,1.1s						
CHTO	Chiang Mai	81.85	291	P	P	16 56 26.3	-0.7
PCBR	Castelo Branco	81.89	22	eP	P	16 56 27.2	+0.3
	comp=Z,40nm,1.1s						
PTOM	Tomar	81.89	23	eP	P	16 56 27.5	+0.5
	comp=Z,42nm,1.6s						
KOLN	Koldanda	81.92	308	⇑iP	P	16 56 27.4	-0.1
	comp=Z,154nm,1.1s						
YOTC	Yotoco, Valle	82.04	95	eP	P	16 56 27.2	-1.0
YOTC	Yotoco, Valle	82.04	95	eP	P	16 56 27.2	-1.0
GEYT	Alibeck	82.05	332	P	P	16 56 28.6	+0.7
	comp=Z,30nm,0.8s,baz=328,slow=5.3,SNR=53						
GEYT				PP	PP	16 59 31.6	-3.3
	comp=Z,3.2nm,0.9s,baz=345,slow=11,SNR=2.6						
GEYT				LR	LR	17 37 57.3	
	comp=Z,804nm,18.6s,baz=50,slow=39						
GYA0B	ALIBECK ARRAY	82.05	332	IAmb	IAmb	16 56 29.7	
	comp=Z,42nm,0.9s						
BRY	Bratogost	82.05	3	eP	P	16 56 27.4	-0.5
CM31	Chiang Mai Arr	82.14	291	P	P	16 56 28.9	+0.3
	SNR=29						
CMAR	Chiang Mai Arr	82.14	291	P	P	16 56 28.3	-0.3
	comp=Z,43nm,0.8s,baz=13,slow=5.3,SNR=172						
CMAR				PKKPbc	PKKPbc	17 14 54.1	+0.1
	comp=Z,0.4nm,0.7s,baz=254,slow=3.4,SNR=3.9						
CMAR				LR	LR	17 37 23.3	
	comp=Z,240nm,18.2s,baz=19,slow=39						
TREB	Trebinje	82.23	3	eP	P	16 56 27.9	-0.8
PMRV	Marv??o	82.30	22	eP	P	16 56 29.3	+0.1
	comp=Z,54nm,1.5s						
PMRV	Marv??o	82.30	22	eLR	LR	17 25 57.2	
	comp=Z,281nm,20.0s						
PMAFR	Mafra	82.33	24	eP	P	16 56 29.7	+0.4
	comp=Z,95nm,1.1s						
RUSC	La Rusia	82.34	91	eP	P	16 56 27.9	-2.3
RUSC	La Rusia	82.34	91	eP	P	16 56 27.9	-2.3
VTS	Vitosha	82.37	359	⇑P	P	16 56 29.0	-0.6
VTS				mb		16 56 42.6	
PMTG	Montargil	82.46	23	eP	P	16 56 28.9	-1.0
	comp=Z,30nm,1.2s						
ROSC	El Rosal	82.49	92	LR	LR	17 36 01.0	
	comp=Z,110nm,19.0s,baz=345,slow=38						
PDG	Podgorica	82.54	2	⇑iP	P	16 56 29.9	-0.3
PDG	Podgorica	82.54	2	⇓P	P	16 56 30.0	-0.3
PDG				mb		16 56 43.3	
DIKM	Dikmen	82.68	350	⇓P	P	16 56 32.6	+1.5
DIKM				mb		16 56 45.6	
ESDC	Sonseca Array	82.77	20	P	P	16 56 32.0	+0.3
	comp=Z,39nm,0.8s,baz=341,slow=4.7,SNR=221						
ESDC				PP	PP	16 59 40.2	-0.6
	comp=Z,3.3nm,0.7s,baz=351,slow=7.9,SNR=7.7						
ESDC				LR	LR	17 35 40.4	
	comp=Z,147nm,20.0s,baz=330,slow=37						
DRME	Dracevica, Mon	82.78	2	⇑iP	P	16 56 31.3	-0.3
PAB	San Pablo	82.82	20	P	P	16 56 32.2	+0.2
PAB				pmax	pmax		
	comp=Z,42nm,1.1s						
PAB	San Pablo	82.82	20	P	P	16 56 32.2	+0.2
PAB				IAmb	IAmb	16 56 45.7	
	comp=Z,42nm,1.1s						
DZM	Mont Dzumac	82.86	213	eP	P	16 56 39.8	+7.7
	comp=Z,37nm,1.2s						
DZM	Mont Dzumac	82.86	213	eLR	LR	17 22 39.5	

	comp=Z,515nm,25.1s						
GNI	**Garni**	**82.87**	**343**	P	**P**	**16 56 32.9**	**+0.6**
GNI	**Garni**	**82.87**	**343**	c *i*P	**P**	**16 56 33.4**	**+1.1**
GNI				pmax	pmax		
	comp=Z,99nm,1.0s						
CHIC	**Chingaza**	**83.00**	**92**	*e*P	**P**	**16 56 34.1**	**+0.5**
CHIC	**Chingaza**	**83.00**	**92**	*e*P	**P**	**16 56 34.1**	**+0.5**
SKO	**Skopje**	**83.02**	**0**	*i*P	**P**	**16 56 33.5**	**+0.6**
EVO	**Evora**	**83.02**	**23**	*e*P	**P**	**16 56 33.1**	**+0.2**
	comp=Z,49nm,1.3s						
POPC	**Popayan, Colom**	**83.03**	**96**	*e*P	**P**	**16 56 31.6**	**-1.9**
POPC	**Popayan, Colom**	**83.03**	**96**	*e*P	**P**	**16 56 31.6**	**-1.9**
BBAC	**Balboa, Cauca**	**83.13**	**96**	*e*P	P	16 56 41.7	+7.7
BBAC	**Balboa, Cauca**	**83.13**	**96**	*e*P	P	16 56 41.7	+7.7
STIP	**Stip**	**83.30**	**360**	*i*P	**P**	**16 56 33.8**	**-0.5**
PNCL	**Nicolau / Gran**	**83.31**	**24**	*e*P	**P**	**16 56 34.7**	**+0.4**
	comp=Z,83nm,1.0s						
PCON	**Cinco Dias**	**83.36**	**96**	*e*P	**P**	**16 56 34.1**	**-1.5**
PCON	**Cinco Dias**	**83.36**	**96**	*e*P	**P**	**16 56 34.1**	**-1.5**
SOTA	**Rioblanco**	**83.40**	**96**	*e*P	**P**	**16 56 34.2**	**-1.5**
SOTA	**Rioblanco**	**83.40**	**96**	*e*P	**P**	**16 56 34.2**	**-1.5**
PBEJ	**Beja**	**83.54**	**23**	*e*P	**P**	**16 56 35.9**	**+0.3**
	comp=Z,29nm,1.1s						
PBEJ				*i*LQ	LQ	16 56 49.2	
BNDI	**Bandanaira**	**83.61**	**253**	P	P	16 56 46.3	+10
BETC	**Betania**	**83.61**	**95**	*e*P	**P**	**16 56 35.0**	**-1.3**
BETC	**Betania**	**83.61**	**95**	*e*P	**P**	**16 56 35.0**	**-1.3**
MESJ	**Messejana**	**83.64**	**24**	*e*P	**P**	**16 56 36.1**	**0.0**
MESJ				AMb	AMB	16 56 50.5	
	comp=Z,39nm,1.3s						
MESJ	**Messejana**	**83.64**	**24**	*e*P	**P**	**16 56 36.1**	**0.0**
CRUC	**La Cruz**	**83.67**	**96**	*e*P	P	16 56 44.0	+7.1
CRUC	**La Cruz**	**83.67**	**96**	*e*P	P	16 56 44.0	+7.1
VAY	**Valandovo**	**83.67**	**360**	*i*P	**P**	**16 56 36.6**	**+0.4**
SANI	**Sanana**	**83.72**	**257**	P	**P**	**16 56 35.0**	**-1.7**
	comp=Z,28nm,1.3s,comp=Z,405nm						
AAI	**Ambon**	**83.85**	**254**	P	**P**	**16 56 36.7**	**-0.7**
	comp=Z,58nm,0.9s,comp=Z,1μm						
PCVE	**Castro Verde**	**83.88**	**24**	*e*P	**P**	**16 56 37.5**	**+0.2**
	comp=Z,45nm,2.2s						
OTAV	**Otavalo**	**83.91**	**98**	*e*P	P	16 56 46.1	+7.8
OTAV	**Otavalo**	**83.91**	**98**	*e*P	P	16 56 46.1	+7.8
MORF	**Marmelete**	**84.05**	**24**	*e*P	**P**	**16 56 38.4**	**+0.2**
MORF				AMb	AMB	16 56 40.6	
	comp=Z,90nm,1.8s						
MORF	**Marmelete**	**84.05**	**24**	*e*P	**P**	**16 56 38.5**	**+0.3**
	comp=Z,70nm,1.7s						
MORF	**Marmelete**	**84.05**	**24**	*e*P	**P**	**16 56 38.4**	**+0.2**
PVAQ	**Vaqueiros**	**84.17**	**23**	*e*P	**P**	**16 56 39.2**	**+0.4**
	comp=Z,51nm,2.3s						
PVAQ	**Vaqueiros**	**84.17**	**23**	*e*LR	LR	17 26 48.7	
	comp=Z,247nm,16.0s						
PVAQ	**Vaqueiros**	**84.17**	**23**	P	**P**	**16 56 39.2**	**+0.4**
PFVI	**Vila Bisbo**	**84.17**	**24**	*e*P	**P**	**16 56 39.3**	**+0.5**
	comp=Z,86nm,2.0s						
FNA	**Florina**	**84.21**	**0**	P	**P**	**16 56 38.0**	**-1.0**
FNA				pmax	pmax		
	comp=Z,23nm,0.9s						
FNA	**Florina**	**84.21**	**0**	P	**P**	**16 56 38.0**	**-1.0**
FNA				IAmb	IAmb	16 56 51.5	
	comp=Z,23nm,0.9s						
PBDV	**Barranco-do-Ve**	**84.27**	**24**	*e*P	**P**	**16 56 40.3**	**+0.9**
	comp=Z,62nm,2.3s						
FLOC	**Florencia**	**84.39**	**95**	*e*P	**P**	**16 56 38.6**	**-1.6**
FLOC	**Florencia**	**84.39**	**95**	*e*P	**P**	**16 56 38.6**	**-1.6**
ANTO	**Ankara**	**84.67**	**352**	P	**P**	**16 56 42.3**	**+0.9**
	SNR=5.6						
ANTO				P	**P**	**16 56 42.3**	**+0.9**
	SNR=5.6						
ANTO	**Ankara**	**84.67**	**352**	⇑P	**P**	**16 56 42.4**	**+1.0**
ANTO				mb		16 56 55.6	
BR131	**Keskin Array S**	**84.74**	**351**	P	**P**	**16 56 42.4**	**+0.5**
	SNR=9.6						
BR131	**Keskin Array S**	**84.74**	**351**	P	**P**	**16 56 41.8**	**0.0**
BR131				pmax	pmax		
	comp=Z,43nm,1.0s						
BR131	**Keskin Array S**	**84.74**	**351**	P	**P**	**16 56 41.8**	**0.0**
BR131				IAmb	IAmb	16 56 55.5	
	comp=Z,43nm,0.9s						
BRTR	**Keskin Array B**	**84.74**	**351**	P	**P**	**16 56 42.1**	**+0.3**
	comp=Z,23nm,0.9s,baz=36,slow=2.8,SNR=62						
BRTR				PKKPbc	**PKKPbc**	**17 14 48.0**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=174,slow=5.4,SNR=2.7						
BRTR				LR	LR	17 41 01.3	
	comp=Z,147nm,19.8s,baz=354,slow=40						
TIP	**Timpagrande**	**85.71**	**4**	⇓P	**P**	**16 56 46.6**	**0.0**
TIP				mb		16 56 47.2	
TIP	**Timpagrande**	**85.71**	**4**	P	**P**	**16 56 46.0**	**-0.6**
TIP				IAmb	IAmb	16 56 47.6	
	comp=Z,46nm,1.0s						
PMPS	**Porto Santo**	**86.02**	**31**	*e*P	**P**	**16 56 48.3**	**+0.2**
PMAR	**Madeira**	**86.16**	**32**	*e*P	**P**	**16 56 50.0**	**+0.9**
	comp=Z,134nm,1.8s						
KEST	**Kesra**	**88.62**	**10**	P	**P**	**16 57 00.1**	**-0.6**
	comp=Z,14nm,0.8s,baz=307,slow=4.4,SNR=12						
KEST				LR	LR	17 37 54.0	
	comp=Z,161nm,21.7s,baz=312,slow=36						
KAPI	**Kappang**	**89.65**	**261**	P	**P**	**16 57 05.2**	**-0.5**
KAPI				P	**P**	**16 57 05.2**	**-0.5**
SHME	**Shamm**	**93.78**	**330**	P	**P**	**16 57 23.4**	**-1.4**
WR0	**Warramunga Arr**	**94.14**	**241**	P	**P**	**16 57 24.5**	**-1.7**
WRAB	**Tennant Creek**	**94.21**	**241**	⇓*e*P	**P**	**16 57 25.1**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.2s						
WRAB	**Tennant Creek**	**94.21**	**241**	P	**P**	**16 57 24.9**	**-1.8**
WRA	**Warramunga Arr**	**94.22**	**241**	P	**P**	**16 57 24.8**	**-1.9**
	comp=Z,3.4nm,0.9s,baz=40,slow=5.4,SNR=20						
HATD	**Hatta, Dubai**	**94.94**	**329**	P	**P**	**16 57 28.9**	**-1.2**
ASHO	**Ashiyiah**	**95.09**	**329**	P	**P**	**16 57 29.2**	**-1.6**
ASUD	**Al Ashush, Dub**	**95.36**	**330**	P	**P**	**16 57 31.2**	**-0.8**
ASUD	**Al Ashush, Dub**	**95.36**	**330**	P	**P**	**16 57 31.5**	**-0.5**
WSAR	**Wadi Sarin**	**95.67**	**326**	P	**P**	**16 57 33.4**	**-0.1**
ARQ	**Araqi**	**96.22**	**328**	P	**P**	**16 57 35.3**	**-0.7**
ARQ				P	**P**	**16 57 35.3**	**-0.7**
ASAR	**Alice Springs**	**97.58**	**239**	P	**P**	**16 57 40.2**	**-1.7**
	comp=Z,1.2nm,1.0s,baz=26,slow=4.8,SNR=11						
ASAR				PP	**PP**	**17 01 39.6**	**-0.3**
	comp=Z,1.9nm,1.2s,baz=48,slow=7.6,SNR=2.9						
ASAR				PKKPbc	**PKKPbc**	**17 14 16.1**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=193,slow=2.1,SNR=5.8						
ASAR				LR	LR	17 38 18.5	
	comp=Z,137nm,19.9s,baz=44,slow=33						
RAYN	**Ar Rayn**	**98.88**	**338**	*i*P	**P**	**16 57 47.8**	**-0.2**
	SNR=9.4						
RAYN	**Ar Rayn**	**98.88**	**338**	P	**P**	**16 57 47.8**	**-0.2**
RAYN				pmax	pmax		
	comp=Z,14nm,1.3s						
RAYN	**Ar Rayn**	**98.88**	**338**	P	**P**	**16 57 47.8**	**-0.2**
RAYN				IAmb	IAmb	16 58 01.8	
	comp=Z,14nm,1.2s						
SAML	**Samuel**	**100.08**	**91**	*e*P	**Pdif**	**16 57 59.8**	**+6.5**
SAML	**Samuel**	**100.08**	**91**	*e*P	**Pdif**	**16 57 59.8**	**+6.5**
SHAO	**Shalim**	**101.50**	**327**	P	**Pdif**	**16 57 59.6**	**-0.1**
LPAZ	**La Paz**	**103.20**	**99**	Pdiff	**Pdif**	**16 58 08.6**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=18,slow=5.3,SNR=3.1						
LPAZ	**La Paz**	**103.20**	**99**	*e*P	**Pdif**	**16 58 15.1**	**+7.2**
LPAZ	**La Paz**	**103.20**	**99**	*e*P	**Pdif**	**16 58 15.1**	**+7.2**
TORD	**Torodi Ar. Bea**	**109.64**	**21**	PP	**PP**	**17 03 02.2**	**-6.5**
	comp=Z,1.4nm,0.9s,baz=333,slow=6.1,SNR=5.5						
TORD				PKKPbc	**PKKPbc**	**17 13 39.7**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=158,slow=1.6,SNR=3.5						
TORD				PKKPab	**PKKPab**	**17 13 60.0**	**+3.4**
	comp=Z,2.6nm,0.8s,baz=161,slow=4.1,SNR=9.7						
PLCA	**Paso Flores**	**121.00**	**118**	PKP	**PKPdf**	**17 02 57.9**	**-1.7**
	comp=Z,3.3nm,0.8s,baz=226,slow=21,SNR=8.8						
PLCA	**Paso Flores**	**121.00**	**118**	*e*P	**PKiKP**	**17 03 07.0**	**+7.3**
PLCA	**Paso Flores**	**121.00**	**118**	*e*P	**PKiKP**	**17 03 07.0**	**+7.3**
PLTB	**Pedras Altas**	**123.48**	**99**	*e*P	**PKiKP**	**17 03 11.2**	**+6.4**
PLTB	**Pedras Altas**	**123.48**	**99**	*e*P	**PKiKP**	**17 03 11.2**	**+6.4**
TRQA	**Tornquist**	**123.50**	**110**	*e*P	**PKiKP**	**17 03 10.8**	**+6.1**
TRQA	**Tornquist**	**123.50**	**110**	*e*P	**PKiKP**	**17 03 10.8**	**+6.1**
KMBO	**Kilima Mbogo**	**124.50**	**341**	P	**PKPdf**	**17 03 07.4**	**0.0**
KMBO	**Kilima Mbogo**	**124.50**	**341**	PKP	**PKiKP**	**17 03 07.8**	**+0.1**
	comp=Z,3.6nm,0.6s,baz=360,slow=3.1,SNR=15						
LBTB	**Lobatse**	**149.55**	**353**	PKP2	**PKPbc**	**17 03 56.7**	**-0.3**
LBTB	**Lobatse**	**149.55**	**353**		**PKPbc**	**17 03 56.7**	**-0.3**
BOSA	**Boshof**	**153.15**	**354**	PKIKP	**PKPbc**	**17 04 04.7**	**-0.6**
BOSA	**Boshof**	**153.15**	**354**	PKPbc	**PKPbc**	**17 04 04.3**	**-0.9**
	comp=Z,9.3nm,0.8s,baz=72,slow=2.1,SNR=8.3						
BOSA	**Boshof**	**153.15**	**354**		**PKPbc**	**17 04 04.7**	**-0.6**
VNA3	**Neumayer Olymp**	**159.11**	**152**	PKPab	**PKPab**	**17 04 48.1**	**+6.8**
VNA3	**Neumayer Olymp**	**159.11**	**152**	PKPdf	**PKPdf**	**17 03 59.9**	**-4.3**
VNA1	**Neumayer--Stat**	**159.82**	**151**	PKPab	**PKPab**	**17 04 50.6**	**+6.3**
VNA1	**Neumayer--Stat**	**159.82**	**151**	PKPdf	PKPdf	17 04 12.9	+7.9
VNA2	**Neumayer--Watz**	**159.90**	**152**	PKPab	**PKPab**	**17 04 51.2**	**+6.5**
	baz=257,slow=3.5						
VNA2	**Neumayer--Watz**	**159.90**	**152**	PKPdf	**PKPdf**	**17 04 01.0**	**-4.1**
	baz=257,slow=3.5						
SNAA	**Sanae**	**160.55**	**157**	PKPab	**PKPab**	**17 04 53.7**	**+6.1**
SNAA	**Sanae**	**160.55**	**157**	PKPdf	**PKPdf**	**17 04 05.9**	**0.0**
SYO	**Syowa Base**	**164.14**	**204**	⇑*e*PKPdf	**PKPdf**	**17 04 12.0**	**+2.6**

WEL 07 16:57:41.3±0.4,**42°S**±3°×**17°2E**±°,**h5**km,**M3.1**/15, **ML3.4**/13,**MLv3.1**/15,**Error ellipse: s-maj=0.0km s-min=0.0km az=134.9,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSZ	**Denniston Nort**	**0.34**	**258**	P	Pg	16 57 48.4	+0.4
DSZ				S	Sg	16 57 53.4	+0.8
THZ	**Tophouse**	**0.49**	**101**	P	Pg	16 57 50.6	-0.3
THZ				S	Sg	16 57 57.1	-0.2
THZ	**Tophouse**	**0.49**	**101**		Pg	16 57 50.6	-0.2
QRZ	**Quartz Range**	**0.87**	**14**	P	Pg	16 57 58.1	0.0
QRZ				S	Sg	16 58 09.8	+0.5
NNZ	**Nelson**	**0.96**	**62**	P	Pg	16 57 59.2	-0.6
LTZ	**Lake Taylor**	**1.11**	**179**	P	Pg	16 58 02.3	-0.3
LTZ				S	Sg	16 58 16.9	-0.1
INZ	**Inchbonnie**	**1.21**	**210**	P	Pg	16 58 03.6	-1.0
INZ				S	Sg	16 58 19.7	-0.6
KHZ	**Kahutara**	**1.21**	**128**	P	Pb	16 58 04.7	0.0
BSWZ	**Blackbirch Sta**	**1.21**	**93**	P	Pg	16 58 04.2	-0.4
TUWZ	**Tuamarina**	**1.29**	**80**	P	Pn	16 58 04.9	-1.1
GVZ	**Greta Valley S**	**1.42**	**156**	P	Pn	16 58 07.8	0.0
DUWZ	**D'Urville Isla**	**1.53**	**56**	P	Pn	16 58 09.7	+0.4
AMCZ	**Amberley**	**1.53**	**169**	P	Pn	16 58 09.2	-0.2
TCW	**Tory Channel**	**1.59**	**74**	P	Pn	16 58 10.1	0.0
OXZ	**Oxford**	**1.66**	**185**	P	Pn	16 58 10.5	-0.6
WVZ	**Waitaha Valley**	**1.80**	**218**	P	Pn	16 58 13.5	+0.6
CRLZ	**Canterbury Las**	**1.92**	**172**	P	Pn	16 58 13.7	-1.0
BHW	**Baring Head**	**1.98**	**83**	P	Pn	16 58 16.6	+1.1
MQZ	**McQueen's Vall**	**2.05**	**172**	P	Pn	16 58 15.0	-1.5
OKCZ	**Okains Bay**	**2.13**	**164**	P	Pn	16 58 16.7	-0.9
OKCZ				S	Sn	16 58 42.9	-1.6
KIW	**Kapiti Island**	**2.16**	**69**	P	Pb	16 58 20.0	-0.9
CAW	**Cannon Point**	**2.19**	**76**	P	Pn	16 58 19.6	+1.2
RPZ	**Rata Peaks**	**2.22**	**203**	P	Pn	16 58 19.4	+0.5
AKCZ	**Akaroa Harbour**	**2.25**	**168**	P	Pn	16 58 18.2	-1.1
OGWZ	**Otaki Gorge**	**2.36**	**70**	P	Pn	16 58 22.2	+1.5
MTW	**Mount Morrison**	**2.50**	**79**	P	Pn	16 58 22.5	-0.1
HOWZ	**Holdsworth Sta**	**2.58**	**74**	P	Pn	16 58 24.0	+0.3
FOZ	**Fox Glacier**	**2.59**	**223**	P	Pn	16 58 22.9	-0.9
MRZ	**Mangatainoka R**	**2.71**	**69**	P	Pn	16 58 26.1	+0.7
KHEZ	**Kahui Hut**	**2.73**	**30**	P	Pn	16 58 27.4	+1.5
LBZ	**Lake Benmore**	**3.11**	**209**	P	Pn	16 58 30.9	-0.2
VRZ	**Vera Road**	**3.18**	**38**	P	Pn	16 58 33.1	+1.1
JCZ	**Jackson Bay**	**3.50**	**226**	P	Pn	16 58 35.5	-1.0
ODZ	**Otahua Downs**	**3.57**	**199**	P	Pn	16 58 36.1	-1.2
WTVZ	**West Tongariro**	**3.61**	**46**	P	Pn	16 58 40.0	+2.0
HIZ	**Hauiti**	**3.73**	**33**	P	Pn	16 58 40.0	+0.4
WKZ	**Wanaka**	**3.94**	**216**	P	Pn	16 58 43.2	+0.7
MKAZ	**Moumakai**	**5.09**	**27**	P	Pn	16 58 59.0	+0.8

IDC 07 17:33:32.4±3.0,**22.77N**×**11.48W**,**h0**km,**mb3.6**/1, **mb1 3.7**/3,**mb1mx3.3**/44,**mbtmp3.6**/3,**ML3.6**/2,**Error ellipse: s-maj=79.0km s-min=33.6km az=79.0, Mauritania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.76**	**125**	Pn	Pn	17 37 16.7	+0.9
	0.1nm,0.3s,baz=314,slow=11,SNR=3.7						
TORD				Sn	Sn	17 40 12.4	+1.1
	0.1nm,0.3s,baz=310,slow=22,SNR=3.7						
DBIC	**Dimbokro**	**17.23**	**157**	P	Pn	17 37 32.9	-1.7
	0.4nm,0.3s,baz=324,slow=10,SNR=4.9						
I48TN	**KESRA INFRASON**	**22.26**	**50**	*i*		19 50 00.0	
	baz=241,slow=310,SNR=4.6						
GERES	**GERESS Array B**	**32.79**	**31**	P	P	17 40 06.9	-0.5
	0.4nm,0.5s,baz=224,slow=8.3,SNR=3.4						
ASAR	**Alice Springs**	**148.22**	**99**	PKPbc	PKPbc	17 53 21.2	+0.1
	0.3nm,0.5s,baz=277,slow=2.5,SNR=4.8						

IDC ***07*** *17:37:41.0±10.0, 14.50N×125.61E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/37, mbtmp3.4/3, Error ellipse: s-maj=326.6km s-min=30.9km az=43.0*
MAN ***07*** *17:37:43.6, 13.80N×125.12E, h1km, mb4.7, ML3.6, MS3.5*
ISCJB ***07*** *17:37:44.4±1.3, 13.91N±0.08×125.12E±0.08, h10km, mb3.3/3, Error ellipse: s-maj=13.1km s-min=8.7km az=40.0*
ISC 07 17:37:46.9±1.5,**13.78N**±0.09×**124.96E**±0.08,**h10**km,**n15**, σ**1.04**/15,**mb3.3**/3,**1D,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.80**	**257**	P	**Pg**	**17 38 02.0**	**-0.3**
PVCP				S	**Sg**	**17 38 12.0**	**-0.7**
CNP	**Catarman**	**1.29**	**193**	P	**Pg**	**17 38 11.2**	**-0.5**
CNP				S	**Sg**	**17 38 29.3**	**+0.8**
AUQP	**San Andres**	**2.26**	**259**	P	**Pb**	**17 38 27.8**	**-0.1**
AUQP				S	**Sg**	**17 39 00.3**	**+0.7**
GQP	**Guinayangan**	**2.44**	**273**	⇓P	**Pn**	**17 38 27.2**	**+0.4**
GQP				S	**Sn**	**17 38 58.2**	**+1.5**
BOAC	**Boac**	**3.04**	**264**	P	**Pn**	**17 38 34.1**	**-1.0**
BOAC				S	**Sb**	**17 39 17.3**	**-1.1**
POLP	**Polilio Island**	**3.07**	**288**	P	**Pb**	**17 38 40.6**	**-1.1**
POLP				S	**Sb**	**17 39 21.3**	**+2.0**
CMAR	**Chiang Mai Arr**	**25.41**	**284**	P	**P**	**17 43 14.7**	**-0.2**
	0.5nm,0.7s,baz=86,slow=9.1,SNR=5.4						
WRA	**Warramunga Arr**	**34.76**	**164**	P	**P**	**17 44 38.7**	**+1.0**
	0.5nm,0.9s,baz=347,slow=11,SNR=1.9						
ASAR	**Alice Springs**	**38.23**	**167**	P	**P**	**17 45 07.0**	**-0.3**
	0.2nm,0.3s,baz=339,slow=6.8,SNR=7.5						
H11S3	**WAKE ISLAND Hy**	**40.30**	**78**	T	T	18 28 56.3	
	baz=289,slow=78,SNR=7.9						
H11S1	**WAKE ISLAND Hy**	**40.31**	**78**	T	T	18 28 59.7	
	baz=289,slow=78,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**40.31**	**78**	T	T	18 28 51.0	
	baz=289,slow=78,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**40.51**	**76**	T	T	18 29 17.1	
	baz=267,slow=74,SNR=9.9						
H11N2	**WAKE ISLAND Hy**	**40.52**	**76**	T	T	18 29 21.3	
	baz=267,slow=74,SNR=3.4						
H11N3	**WAKE ISLAND Hy**	**40.53**	**76**	T	T	18 29 18.4	
	baz=267,slow=74,SNR=7.6						

ISCJB ***07*** *17:41:08.8±1.2, 40.08N±0.06×69.85E±0.06, h10km, Error ellipse: s-maj=10.2km s-min=4.9km az=26.3*
NNC ***07*** *17:41:08.9±4.1, 40.10N×69.94E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=29.9km s-min=19.6km az=23.0*
KRNET ***07*** *17:41:09.0±0.1, 40.22N×69.95E, mb3.2*
SOME ***07*** *17:41:09.1, 40.18N×70.02E, h15km*
ISC 07 17:41:11.3±1.4,**40.26N**±0.06×**69.95E**±0.05,**h10**km,**n27**, σ**2.13**/45,**14C-11D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.70**	**107**	⇓*i*P	**Pg**	**17 41 22.7**	**-2.1**
	baz=4.0						
BTK				⇓*i*S	**Sg**	**17 41 32.8**	**-1.1**
	baz=4.0						
TAS	**Tashkent**	**1.17**	**335**	⇓*i*P	**Pb**	**17 41 32.7**	**-1.0**
	baz=36						
TAS				⇓*i*S	**Sn**	**17 41 49.2**	**-0.7**
	baz=36						
IUG	**Iuzhnay**	**1.89**	**2**	*e*P	**Pb**	**17 41 44.9**	**-1.0**
	13nm,0.4s						
IUG				*e*S	**Sg**	**17 42 10.9**	**-1.1**
	459nm,0.3s						
IUG	**Iuzhnay**	**1.89**	**2**	Pg	**Pb**	**17 41 44.9**	**-1.0**
	10nm,0.4s						
IUG				Lg	Lg	17 42 10.9	
	433nm,0.3s						
CHM	**Chimkent**	**2.07**	**353**	*e*P	**Pg**	**17 41 49.8**	**-1.2**
	39nm,0.3s						
CHM				*e*S	**Sg**	**17 42 19.1**	**+1.1**
	242nm,0.6s						
ARK	**Arkit**	**2.16**	**44**	⇓*i*P	**Pn**	**17 41 48.8**	**+1.3**
	baz=44						
ARK				⇓*i*S	**Sb**	**17 42 18.4**	**+0.8**
	baz=44						
ARSB	**Arslanbob**	**2.54**	**64**	⇑*e*P	**Pn**	**17 41 53.7**	**+1.0**
	baz=64						
ARSB				⇑*i*S	**Sb**	**17 42 26.5**	**-1.8**
	baz=64						
BRLS	**Boroldy**	**2.77**	**358**	*e*P	**Pn**	**17 41 56.7**	**+1.0**
	0.4nm,0.3s						
BRLS				*e*S	**Sn**	**17 42 31.4**	**+2.1**
	4.6nm,0.5s						
BRLS	**Boroldy**	**2.77**	**358**	Pg	**Pn**	**17 41 56.7**	**+1.0**
	0.7nm,0.3s						
BRLS				Lg	Lg	17 42 31.4	
	38nm,0.2s						
KK31	**Karatay Array**	**2.87**	**8**	Pn	**Pn**	**17 41 58.4**	**+1.3**
	0.3nm,0.2s,baz=204,slow=17,SNR=53						
KK31				⇑Pg	**Pb**	**17 42 03.6**	**+1.0**
	2.0nm,0.3s,baz=191,slow=16,SNR=9.7						
KK31				⇑Sn	**Sg**	**17 42 42.2**	**-1.4**
	16nm,0.3s,baz=190,slow=28,SNR=18						
AML	**Almayashu**	**3.39**	**55**	⇑*i*P	**Pn**	**17 42 05.4**	**+0.8**
	baz=55						
AML				⇑*e*S	**Sn**	**17 42 47.7**	**+2.6**
	baz=55						
MRKS	**Merke**	**3.50**	**44**	*e*P	**Pb**	**17 42 12.0**	**-1.4**
	2.9nm,0.3s						
MRKS				*e*S	**Sb**	**17 42 57.3**	**+1.4**
	20nm,0.5s						
MRKS	**Merke**	**3.50**	**44**	Pg	**Pb**	**17 42 12.0**	**-1.4**
	5.6nm,0.3s						
MRKS				Lg	Lg	17 42 57.3	
	20nm,0.4s						
ARLS	**Aral**	**3.67**	**63**	⇓*i*P	**Pn**	**17 42 09.2**	**+0.9**
	baz=62						
ARLS				⇓*i*S	**Sn**	**17 42 54.0**	**+2.2**
	baz=62						
EKS2	**Erkin-Say**	**3.75**	**49**	⇑*i*P	**Pn**	**17 42 10.9**	**+1.6**
	baz=49						
EKS2				⇑*i*S	**Sn**	**17 42 56.0**	**+2.5**
	baz=49						
UCH	**Uchtor**	**3.96**	**59**	⇑*e*P	**Pn**	**17 42 13.9**	**+1.3**
	baz=58						
UCH				⇑*i*S	**Sn**	**17 43 01.6**	**+2.3**
	baz=58						
AAK	**Ala-Archa**	**4.16**	**54**	⇑Pn	**Pn**	**17 42 15.8**	**+0.7**
	2.4nm,0.5s						
AAK				⇑Lg	Lg	17 43 26.9	
	6.2nm,0.6s						
KZA	**Kyzart**	**4.39**	**64**	⇓*e*P	**Pn**	**17 42 19.8**	**+1.4**
	baz=63						
KZA				⇓*i*S	**Sn**	**17 43 11.5**	**+1.6**
	baz=63						
SGDS	**Sogindy**	**4.73**	**46**	Pg	**Pb**	**17 42 35.9**	**+1.6**
	3.9nm,0.4s						
SGDS				Lg	Lg	17 43 39.6	
	6.7nm,0.3s						
TKM2	**Tokmak 2**	**5.00**	**56**	⇑Pn	**Pn**	**17 42 27.9**	**+1.3**
	1.4nm,0.6s						
TKM2				⇓Lg	Lg	17 43 50.4	
	3.0nm,0.5s						
DGS	**Degeres**	**5.28**	**54**	*e*P	**Pb**	**17 42 46.6**	**+2.9**
	3.1nm,0.5s						
DGS				*e*S	**Sg**	**17 43 56.8**	**-3.9**
	10nm,0.7s						
DGS	**Degeres**	**5.28**	**54**	Pg	**Pb**	**17 42 46.6**	**+2.9**
	3.1nm,0.5s						
DGS				Lg	Lg	17 43 56.8	
	10nm,0.7s						
KST	**Kastek**	**5.29**	**56**	*e*P	**Pg**	**17 42 48.5**	**-4.2**
	2.0nm,0.3s						
KST				*e*S	**Sg**	**17 43 59.8**	**-1.4**
	6.3nm,0.6s						
KST	**Kastek**	**5.29**	**56**	Pg	**Pg**	**17 42 48.5**	**-4.2**
	1.5nm,0.3s						
KST				Lg	Lg	17 43 59.9	
	7.8nm,0.6s						
BTLS	**Baital**	**5.65**	**31**	*e*P	**Pb**	**17 42 54.2**	**+4.2**
	1.5nm,0.4s						
BTLS				*e*S	**Sg**	**17 44 09.3**	**-3.4**
	5.4nm,0.8s						
BTLS	**Baital**	**5.65**	**31**	Pg	**Pb**	**17 42 54.2**	**+4.2**
	1.5nm,0.4s						
BTLS				Lg	Lg	17 44 09.3	
	5.4nm,0.8s						
AB31	**Akbulak array**	**11.46**	**325**	⇑P	**Pn**	**17 43 55.1**	**+0.3**
	0.3nm,0.3s,baz=168,slow=10,SNR=16						

ASRS 07 18:06:13.5±0.3,**51°N**±4°×**9°8E**±°,**h5**km,**MLh4.0**/6, **smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDJR	**Todzha**	**1.48**	**318**	P	Pn	18 06 39.2	-1.7
TDJR				S	Sg	18 07 02.0	+0.8
ZAK	**Zakamensk**	**3.65**	**103**	P	Pn	18 07 09.6	-1.1
ZAK				S	Sn	18 07 55.0	+1.0
TLY	**Talaya**	**3.72**	**82**	P	Pn	18 07 12.8	+1.2
TLY				S	Sn	18 07 57.2	+1.4
LUZB	**Luzhba, Kemero**	**5.88**	**297**	P	Pn	18 07 41.9	+0.6
LUZB				S	Sn	18 08 48.8	-0.2
ULGR	**Ulagan, Altay**	**6.21**	**267**	P	Pn	18 07 46.5	+0.7
ULGR				S	Sn	18 08 59.7	+2.6
TASR	**Tashtagol**	**6.24**	**287**	P	Pn	18 07 45.5	-0.7
TASR				S	Sn	18 08 57.5	-0.5
AKAR	**Aktash**	**6.48**	**265**	P	Pn	18 07 47.7	-1.9
AKAR				S	Sn	18 09 03.7	-0.2
CHBI	**Chibit, Altay**	**6.55**	**265**	P	Pn	18 07 50.6	0.0
CHBI				S	Sn	18 09 07.6	+2.0
DGZ	**Jazzator, Alta**	**6.76**	**260**	P	Pn	18 07 51.1	-2.4
DGZ				S	Sn	18 09 12.6	+1.8
ELT	**Eltsovka**	**7.31**	**290**	P	Pn	18 08 01.7	+0.9
ELT				S	Sn	18 09 25.5	+1.4
GALT	**Gorno-Altaysk,**	**7.36**	**280**	P	Pn	18 08 04.0	+2.5
GALT				S	Sn	18 09 32.9	+7.5

ISCJB ***07*** *18:10:22.2±0.3, 35.69N±0.01×97.319W±0.009, h14km±2km, mb4.1/20, MS3.9/25, Error ellipse: s-maj=2.2km s-min=1.3km az=3.0*
GCMT ***07*** *18:10:22.6±0.6, 35.63N±0.04×97.35W±0.03, h12km, MW4.7/65, Moment Tensor Solution. s22,c24; s65,c80; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.09±.08; Mθθ0.06±.10; Mφφ-0.15±.08; Mrθ-0.14±.34; Mθφ1.58±.07; Mφr-0.22±.29; Best double couple: M0 1.60700×10^16 NP1:φs182.00000°, δ85.00000°, λ172.00000°. NP2: φs272.00000°, δ82.00000°, λ5.00000°. Principal axes: T 1.5800, Plg10.0000°, Azm137.0000°; N 0.0530, Plg80.0000°, Azm329.0000°; P -1.6330, Plg2.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ANF ***07*** *18:10:23.6±0.2, 35.64N×97.37W, h5km, ML5.8/17 Error ellipse: s-maj=3.1km s-min=2.3km az=171.0*
NEIC ***07*** *18:10:23.2±3.0, 35.68N±0.04×97.35W±0.05, h5km±1km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr-0.67; Mθθ5.72; Mφφ-5.05; Mrθ0.35; Mθφ4.89; Mφr-0.91; Fault plane solution: M0 7.36000×10^15 NP1: φs293.56000°, δ83.92000°, λ-6.11000°. NP2:φs24.21000°, δ83.93000°, λ-173.89000°. Principal axes: T 7.6130, Plg0.0000°, Azm339.0000°; N -0.5263, Plg81.0000°, Azm69.0000°; P -7.0867, Plg9.0000°, Azm249.0000°;*
IDC ***07*** *18:10:23.5±0.5, 35.65N×97.39W, h0km, mb4.2/20, mb1 4.3/29, mb1mx4.2/48, mbtmp4.2/29, ML4.0/9, MS3.8/34, Ms1 3.8/34, ms1mx3.8/47 Error ellipse: s-maj=10.5km s-min=9.9km az=180.0*
TUL ***07*** *18:10:24.6, 35.61N×97.39W, h8km, MWR4.5(NEIC)*
ISC 07 18:10:23.9±0.9,**35.67N**±0.03×**97.38W**±0.03,**h13**km±5km, **n659**,σ**1.63**/691,**mb4.3**/29,**MS4.0**/25,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.02**	**162**		**Pg**	**18 10 26.2**	**0.0**
OK009	**Oakdale Elemen**	**0.10**	**202**	Pg	**Pg**	**18 10 25.5**	**-1.3**
OK005	**Luther M Schoo**	**0.15**	**96**		**Pg**	**18 10 28.2**	**+0.6**
OKCSW	**OKLAHOMA CITY**	**0.27**	**190**		**Pg**	**18 10 28.4**	**-1.1**
FNO	**Franklin**	**0.41**	**182**		**Pg**	**18 10 32.0**	**-0.1**
W35A	**Tecumseh**	**0.66**	**141**		**Pb**	**18 10 36.1**	**-1.3**
X34A	**Smith Ranch, M**	**1.13**	**199**		**Pn**	**18 10 44.6**	**-0.9**
TUL1	**Leonard**	**1.31**	**79**	P	**Pn**	**18 10 48.2**	**+0.2**
	baz=259						
TUL1				S	**Sn**	**18 11 07.1**	**+1.8**
	baz=259						

TUL1 Leonard 1.31 79 Pn 18 10 48.2 +0.2
WMOK Wichita Mounta 1.48 231 P Pn 18 10 50.0 -0.3
baz=52
WMOK S Sb 18 11 09.5 -0.4
baz=52
WMOK Wichita Mounta 1.48 231 Pn 18 10 49.9 -0.3
U32A Winter Ranch, 1.49 299 Pg 18 10 51.8 -0.8
X37A Clayton 1.97 123 Pn 18 10 58.1 +1.1
HHAR Hobbs 2.85 77 Pn 18 11 10.6 +1.4
W39A Magazine 2.97 98 P Pn 18 11 12.2 +1.4
baz=280
W39A S Sn 18 11 48.4 +2.1
baz=280
W39A Magazine 2.97 98 Pn 18 11 12.1 +1.3
MIAR Mount Ida 3.31 109 P Pn 18 11 17.1 +1.5
baz=291
MIAR S Sn 18 11 57.1 +2.4
baz=291
MIAR Mount Ida 3.31 109 Pn 18 11 17.0 +1.5
KSU1 Kansas State U 3.48 10 P Pn 18 11 20.0 +2.2
baz=190
KSU1 S Sb 18 12 02.9 -4.7
baz=190
ABTX Abilene, Hawle 3.57 212 P Pn 18 11 19.7 +0.7
baz=32
ABTX S Sn 18 12 02.1 +0.9
baz=32
ABTX Abilene, Hawle 3.57 212 Pn 18 11 19.8 +0.7
AMTX Amarillo 3.61 259 P Pn 18 11 21.6 +2.0
baz=76
AMTX Amarillo 3.61 259 Pn 18 11 21.4 +1.9
CBKS Cedar Bluff 3.66 330 P Pn 18 11 22.4 +2.2
baz=148
CBKS S Sb 18 12 06.9 -5.8
baz=148
CBKS Cedar Bluff 3.66 330 Pn 18 11 22.3 +2.0
WHTX Lake Whitney, 3.67 181 P Pn 18 11 21.0 +0.6
baz=1.6
WHTX Lake Whitney, 3.67 181 Pn 18 11 20.9 +0.5
U40A Yellville 3.73 78 P Pn 18 11 22.4 +1.1
baz=260
U40A S Sn 18 12 08.3 +3.2
baz=260
U40A Yellville 3.73 78 Pn 18 11 22.3 +1.1
X40A Basin Creek Fa 3.91 106 P Pn 18 11 25.7 +2.0
baz=289
X40A Basin Creek Fa 3.91 106 Pn 18 11 24.9 +1.2
WLAR White Oak Lake 4.04 118 Pn 18 11 26.1 +0.7
WHAR Wooly Hollow 4.17 94 Pn 18 11 28.2 +0.9
UALR University of 4.22 101 Pn 18 11 29.1 +1.2
W41B Gary Mavity, V 4.22 95 P Pn 18 11 29.4 +1.5
baz=278
W41B S Sn 18 12 18.8 +1.7
baz=278
W41B Gary Mavity, V 4.22 95 Pn 18 11 29.4 +1.5
FCAR Ozark Folk Cen 4.28 86 Pn 18 11 29.3 +0.5
MGMO Mountain Grove 4.38 69 Pn 18 11 31.2 +1.1
Z41A Richland Creek 4.48 121 P Pn 18 11 32.1 +0.6
baz=304
Z41A S Sn 18 12 22.6 -0.9
baz=304
Z41A Richland Creek 4.48 121 Pn 18 11 32.1 +0.6
ETX02 Prairie Street 4.50 146 Pn Pn 18 11 32.6 +0.9
NATX Nacogdoches 4.51 149 P Pn 18 11 31.9 0.0
baz=331
NATX S Sn 18 12 23.7 -0.6
baz=331
NATX Nacogdoches 4.51 149 Pn 18 11 31.9 0.0
MSTX Muleshoe 4.75 251 P Pn 18 11 36.3 +0.9
baz=68
MSTX S Sn 18 12 31.6 +1.2
baz=68
MSTX Muleshoe 4.75 251 Pn 18 11 36.0 +0.7
435B Jarrell 4.88 182 P Pn 18 11 37.5 +0.5
baz=2.5
435B S Sn 18 12 34.2 +0.8
baz=2.5
435B Jarrell 4.88 182 Pn 18 11 37.1 +0.1
CCAR Cane Creek 4.94 109 Pn Pn 18 11 38.8 +1.0
LCAR Lake Charles 5.07 84 Pn 18 11 39.5 -0.1
KSCO Kaye Shedlock' 5.35 310 P Pn 18 11 45.9 +2.3
baz=127
KSCO S Sn 18 12 47.9 +2.8
baz=127
KSCO Kaye Shedlock' 5.35 310 Pn 18 11 45.1 +1.5
X43A Marvell 5.45 100 P Pn 18 11 46.2 +1.4
baz=284
X43A S Sn 18 12 49.2 +1.8
baz=284
X43A Marvell 5.45 100 Pn 18 11 46.1 +1.3
CCM Cathedral Cave 5.46 62 P Pn 18 11 46.4 +1.3
baz=246
CCM S Sn 18 12 49.7 +2.0
baz=246
CCM Cathedral Cave 5.46 62 Pn 18 11 46.1 +1.1
JCT Junction City 5.56 202 P Pn 18 11 47.3 +0.9
baz=21
JCT S Sn 18 12 49.9 -0.4
baz=21
JCT Junction City 5.56 202 Pn 18 11 46.8 +0.4
PBMO Poplar Bluff 5.72 77 Pn 18 11 48.9 +0.3
BGNE Belgrade 5.76 354 P Pn 18 11 50.5 +1.3
baz=173
BGNE S Sn 18 12 57.5 +2.4
baz=173
BGNE Belgrade 5.76 354 Pn Pn 18 11 50.3 +1.2
HKT Hockley 5.85 167 Pn Pn 18 11 50.9 +0.6
T25A Trinidad 5.86 287 P Pn 18 11 52.3 +1.6
baz=102
T25A S Sn 18 12 58.2 +0.4
baz=102
T25A Trinidad 5.86 287 Pn 18 11 51.7 +1.0
MET Memphis--Engin 6.11 93 Pn Pn 18 11 54.5 +0.7
PVMO Portageville 6.27 81 Pn Pn 18 11 56.7 +0.7
CLNB Carlsbad 6.38 240 Pn Pn 18 11 57.5 -0.2
OGNE Ogallala 6.41 327 P Pn 18 12 00.3 +2.2
baz=144
OGNE S Sn 18 13 13.6 +2.3
baz=144
OGNE Ogallala 6.41 327 Pn 18 12 00.3 +2.2
SLM Saint Louis 6.43 60 Pn 18 11 58.6 +0.3
OXF Oxford 6.63 98 P Pn 18 12 01.5 +0.4
baz=282
OXF S Sn 18 13 16.2 -0.4
baz=282
OXF Oxford 6.63 98 Pn 18 12 01.1 0.0
VBMS Vicksburg 6.66 119 S Sn 18 13 16.9 -0.3
baz=303
VBMS Vicksburg 6.66 119 Pn Pn 18 12 01.2 -0.3
GDL2 Guadalupe Moun 6.76 241 Pn Pn 18 12 02.8 -0.2
S44A Carbondale 6.83 70 P Pn 18 12 04.7 +0.9
baz=255
S44A S Sn 18 13 22.5 +1.0
baz=255
SDCO Great Sand Dun 6.84 290 P Pn 18 12 06.5 +2.3
baz=105
SDCO S Sn 18 13 22.1 -0.1
baz=105
SDCO Great Sand Dun 6.84 290 Pn 18 12 06.2 +1.9
SIUC Southern Illin 6.87 70 Pn 18 12 04.6 +0.3
Q24A Divide 7.01 300 P Pn 18 12 07.9 +1.4
baz=116
Q24A S Sn 18 13 26.6 +0.3
baz=116
Q24A Divide 7.01 300 Pn 18 12 07.3 +0.8
SCIA State Center 7.02 26 P Pn 18 12 08.3 +1.9
baz=208
SCIA S Sn 18 13 26.7 +0.6
baz=208
SCIA State Center 7.02 26 Pn 18 12 07.9 +1.5
N41A Harden Midland 7.19 44 Pn 18 12 10.4 +1.7
P43A Skaggs, Pawnee 7.38 55 Pn 18 12 12.3 +0.9
ANMO Albuquerque 7.46 267 P Pn 18 12 14.6 +2.0
baz=82
ANMO Albuquerque 7.46 267 Pn Pn 18 12 15.0 +2.3
0.7nm,0.3s,baz=90,slow=15,SNR=12
ANMO Pg Pg 18 12 39.4 -7.3
4.6nm,0.3s,baz=77,slow=14,SNR=11
ANMO Lg Lg 18 14 17.7
35nm,0.3s,baz=14,slow=13,SNR=5.7
ANMO Albuquerque 7.46 267 Pn 18 12 12.8 +0.2
ANMO Pb 18 12 34.3 +1.0
833A Chaparral WMA, 7.52 194 P Pn 18 12 14.3 +1.0
baz=13
833A S Sn 18 13 36.2 -2.3
baz=13
833A Chaparral WMA, 7.52 194 Pn 18 12 13.3 0.0
PLAL Pickwick Lake 7.64 92 Pn 18 12 15.2 +0.4
LPM Los Pinos Moun 7.71 263 Pn 18 12 15.8 -0.3
ISCO Idaho Springs 7.71 305 P Pn 18 12 17.7 +1.5
baz=120
ISCO S Sn 18 13 42.0 -1.6
baz=120
ISCO Idaho Springs 7.71 305 Pn 18 12 17.6 +1.3
BNM Barren Site 7.75 261 Pn 18 12 17.0 +0.4
MNTX Cornudas Mount 7.76 242 P Pn 18 12 17.3 +0.7
baz=57
MNTX S Sn 18 13 43.8 -0.5
baz=57
MNTX Cornudas Mount 7.76 242 Pn 18 12 16.5 0.0
WVT Waverly 7.76 84 P Pn 18 12 16.7 +0.1
baz=269
WVT S Sn 18 13 44.2 -0.2
baz=269
WVT Waverly 7.76 84 Pn 18 12 16.2 -0.4
S22A 4UR Ranch, Cre 7.87 288 Pn 18 12 19.7 +1.4
L40A Anamosa 7.99 35 Pn 18 12 19.4 -0.2
Y22D IRIS PASSCAL I 8.00 261 Pn Pn 18 12 20.7 +0.7
OLIL Olney 8.01 65 Pn 18 12 21.5 +1.6
HDIL Hopedale 8.02 50 P Pn 18 12 21.1 +1.0
baz=235
HDIL S Sn 18 13 49.7 -1.1
baz=235
HDIL Hopedale 8.02 50 Pn 18 12 20.8 +0.6
LENM Lemitar 8.02 262 Pn Pn 18 12 20.9 +0.5
ECSD EROS Data Cent 8.07 4 P Pn 18 12 21.0 +0.2
baz=184
ECSD S Sn 18 13 50.1 -1.9
baz=184
ECSD EROS Data Cent 8.07 4 Pn 18 12 20.6 -0.2
KVTX Kingsville 8.11 183 Pn Pn 18 12 19.8 -1.6
USIN University of 8.12 71 Pn Pn 18 12 20.8 -0.7
TX31 Lajitas Ar. Si 8.25 222 Pn 18 12 22.5 -1.0
TX32 Lajitas Array 8.25 222 Pn Pn 18 12 22.3 -1.1
TXAR Lajitas Array 8.25 222 Pn Pn 18 12 22.8 -0.6
1.5nm,0.3s,baz=41,slow=11,SNR=52
TXAR Pg Pb 18 12 54.7 +7.9
19nm,0.3s,baz=50,slow=14,SNR=26
TXAR Sn Sn 18 13 54.4 -2.2
20nm,0.3s,baz=24,slow=26,SNR=3.6
TXAR Lg Lg 18 14 38.8
43nm,0.3s,baz=38,slow=27,SNR=9.1
TXAR LR LR 18 15 56.5
comp=Z,435nm,18.1s,baz=0.0,slow=40
O44A Mansfield 8.34 55 Pn 18 12 24.9 +0.4
T47A Sharon Grove 8.39 78 P Pn 18 12 26.4 +1.1
baz=264
T47A Sharon Grove 8.39 78 Pn 18 12 24.9 -0.3
SMCO Snowmass 8.40 297 Pn 18 12 28.6 +3.0
PHWY Pilot Hill 8.47 314 Pn 18 12 27.6 +1.0
N23A Red Feather La 8.52 310 P Pn 18 12 29.1 +2.0
baz=125
N23A Red Feather La 8.52 310 Pn Pn 18 12 28.4 +1.3
X48A Hartselle 8.56 95 P Pn 18 12 27.4 -0.1
baz=281
X48A Hartselle 8.56 95 Pn 18 12 27.3 -0.3
V48A Smith Brothers 8.59 86 P Pn 18 12 29.3 +1.4
baz=273
V48A Smith Brothers 8.59 86 Pn 18 12 28.0 0.0
L42A Oliver, Polo 8.72 41 Pn Pn 18 12 30.6 +0.8
SUSD Miller 8.84 353 Pn 18 12 31.1 -0.3
CLTN Cedars of Leba 8.98 84 Pn 18 12 34.0 +0.8
LRAL Lakeview Retre 8.98 104 P Pn 18 12 33.5 +0.2
baz=290
LRAL S Sn 18 14 14.1 -0.1
baz=290
LRAL Lakeview Retre 8.98 104 Pn 18 12 33.5 +0.2
P46A Rosedale 8.98 61 P Pn 18 12 35.4 +2.2
baz=247
P46A S Sn 18 14 11.7 -2.5
baz=247
MVCO Mesa Verde 9.09 283 P Pn 18 12 39.8 +4.7
baz=96
MVCO Mesa Verde 9.09 283 Pn 18 12 37.4 +2.3
W49A Belvidere 9.09 90 P Pn 18 12 36.7 +1.9
baz=277
JFWS Jewell Farm 9.10 35 P Pn 18 12 35.3 +0.4
baz=219
JFWS S Sn 18 14 17.2 0.0
baz=219
JFWS Jewell Farm 9.10 35 Pn 18 12 35.0 +0.1
121A Cookes Peak, D 9.18 253 Pn 18 12 37.3 +1.1
Y49A Blount Mountai 9.20 98 P Pn 18 12 36.4 +0.1
baz=284
Y49A S Sn 18 14 18.1 -1.7
baz=284
Y49A Blount Mountai 9.20 98 Pn 18 12 36.0 -0.4
WCI Wyandotte Cave 9.23 71 P Pn 18 12 38.7 +2.0
baz=257
WCI Wyandotte Cave 9.23 71 Pn 18 12 37.8 +1.1
M44A Midewin, Midew 9.28 49 Pn 18 12 37.3 0.0
PV01 Paradox Valley 9.29 289 Pn Pn 18 12 39.1 +1.3
BLO Bloomington 9.31 65 Pn Pn 18 12 39.2 +1.3
V49A McMinnville 9.33 86 P Pn 18 12 40.5 +2.3
baz=273
SWET Sewanee 9.35 89 Pn 18 12 39.3 +0.8
SFIN Lafayette 9.37 57 S Sn 18 14 21.3 -2.6
baz=243
SFIN Lafayette 9.37 57 Pn 18 12 39.8 +1.1
PV07 Paradox Valley 9.42 290 Pn Pn 18 12 40.8 +1.2
U49A Red Boiling Sp 9.43 82 P Pn 18 12 41.9 +2.5
baz=268
PV02 Paradox Valley 9.44 289 Pn 18 12 42.1 +2.3
PV13 Radium Mtn., P 9.49 289 Pn 18 12 42.6 +2.0
PV12 Saucer Basin, 9.51 289 Pn 18 12 41.0 +0.2
PV03 Paradox Valley 9.53 289 Pn 18 12 43.0 +1.9
PV22 Blue Mesa, Par 9.55 291 Pn Pn 18 12 41.0 -0.3
PV11 David Mesa, Pa 9.56 289 Pn Pn 18 12 42.9 +1.5
PV18 Skein Mesa, Pa 9.58 289 Pn 18 12 43.4 +1.6
PV16 Nyswonger Mesa 9.60 289 Pn 18 12 43.5 +1.5
PV04 Paradox Valley 9.61 290 Pn 18 12 43.4 +1.4
PV17 East Wray Mesa 9.62 289 Pn 18 12 44.9 +2.6
PV20 West Nyswonger 9.64 289 Pn 18 12 44.6 +2.0
PV19 Morning Glory 9.65 289 Pn 18 12 45.2 +2.6
T49A Edmonton 9.66 78 P Pn 18 12 43.9 +1.3
baz=265
T49A Edmonton 9.66 78 Pn 18 12 42.0 -0.6
O20A White River Ci 9.67 301 Pn 18 12 45.6 +2.7
PV14 Lion Creek, Pa 9.69 290 Pn 18 12 44.4 +1.0
PV21 Cone Mtn., Par 9.70 291 Pn 18 12 46.6 +3.2
PV23 Carpenter Ridg 9.70 290 Pn 18 12 46.2 +2.8
FPAL Fort Paine 9.71 93 Pn 18 12 43.3 -0.1
I40A Norwalk 9.72 30 Pn 18 12 43.7 +0.4
BRAL Brewton 9.73 115 Pn Pn 18 12 42.5 -1.1
RWWY Rawlins 9.75 311 Pn 18 12 45.8 +1.5
Z50A Ashland 9.76 101 P Pn 18 12 44.3 +0.2
baz=288
Z50A S Sn 18 14 32.2 -1.4
baz=288
Z50A Ashland 9.76 101 Pn 18 12 43.5 -0.5
PV09 Paradox Valley 9.81 290 Pn 18 12 47.5 +2.6
L44A Lake County Fo 9.82 46 P Pn 18 12 46.1 +1.3
baz=231
L44A Lake County Fo 9.82 46 Pn 18 12 44.8 -0.1
Q48A North Vernon 9.83 67 P Pn 18 12 45.9 +0.9
baz=254
W50A Signal Mountai 9.86 89 P Pn 18 12 47.4 +2.0
baz=276
W50A Signal Mountai 9.86 89 Pn 18 12 46.9 +1.5
RSSD Black Hills 9.86 331 P Pn 18 12 47.4 +1.8
baz=146
RSSD Black Hills 9.86 331 Pn 18 12 46.1 +0.5
K43A Burlington 9.93 42 Pn 18 12 46.4 +0.1
S49A Springfield 9.93 74 P Pn 18 12 47.2 +0.8
baz=261
K22A Casper 9.95 317 P Pn 18 12 48.8 +2.1
baz=131
K22A Casper 9.95 317 Pn 18 12 47.4 +0.8
250A Grady 9.95 109 P Pn 18 12 47.6 +1.0
baz=295
250A Grady 9.95 109 Pn 18 12 46.3 -0.3
V50A Pikeville 9.99 86 P Pn 18 12 48.5 +1.3
baz=274
W18A Petrified Fore 10.10 270 Pn Pn 18 12 50.0 +1.1
R49A Shelbyville 10.11 71 P Pn 18 12 49.6 +0.8
baz=259
R49A Shelbyville 10.11 71 Pn 18 12 48.1 -0.6
SPMN Marine on St. 10.16 19 S Sn 18 14 40.6 -2.5
baz=201
SPMN Marine on St. 10.16 19 Pn 18 12 48.1 -1.3
U50A Jamestown 10.18 82 P Pn 18 12 51.0 +1.2
baz=269
T50A Nancy 10.21 79 P Pn 18 12 51.4 +1.3
baz=266
P48A Milroy 10.21 65 P Pn 18 12 50.6 +0.4
baz=252
P48A S Sn 18 14 41.3 -3.3
baz=252
P48A Milroy 10.21 65 Pn 18 12 50.1 0.0
X51A Calhoun 10.32 93 Pn 18 12 51.7 +0.1
Z51A Franklin 10.34 100 P Pn 18 12 52.1 +0.1
baz=287
Z51A S Sn 18 14 46.3 -1.5
baz=287
X18A Snowflake 10.36 267 Pn Pn 18 12 52.5 0.0
I42A Draeger Farm, 10.47 36 Pn 18 12 53.7 0.0
CPCT Cooper Cave 10.48 87 Pn 18 12 54.7 +0.9
Q49A Aurora 10.48 68 P Pn 18 12 54.4 +0.6
baz=255,SNR=15
N47A Urbana 10.55 57 Pn 18 12 53.8 -1.0
V51A Loudon 10.59 85 P Pn 18 12 56.9 +1.5
baz=273
V51A Loudon 10.59 85 Pn 18 12 55.6 +0.3
S50A Richmond 10.62 75 P Pn 18 12 56.6 +0.9
baz=263
O48A Farmland 10.68 61 P Pn 18 12 57.0 +0.4
baz=248
L46A Eue Claire 10.71 50 P Pn 18 12 58.4 +1.4
baz=237
L46A Eue Claire 10.71 50 Pn 18 12 55.9 -1.0
P49A Miami Univ. Ec 10.76 65 P Pn 18 12 57.3 -0.3
baz=253
R50A Paris 10.76 72 P Pn 18 12 58.8 +1.1
baz=260,SNR=7.7
R50A Paris 10.76 72 Pn 18 12 56.9 -0.8
RDMU Red Mountain 10.77 301 Pn 18 13 01.6 +3.5
319A Douglas 10.82 250 Pn 18 12 59.6 +1.0
M47A Cromwell 10.82 55 P Pn 18 12 58.7 +0.3
baz=242
U51A La Follette 10.85 82 P Pn 18 13 00.6 +1.7
baz=270
152A Waverly Hall 10.91 102 S Sn 18 15 00.2 -1.4
baz=290
152A Waverly Hall 10.91 102 Pn 18 12 59.5 -0.2
T51A Gray 10.92 79 P Pn 18 13 01.3 +1.5
baz=267
Z52A Williamson 10.99 99 P Pn 18 13 01.1 +0.2
baz=287
W52A Murphy 11.00 89 Pn 18 13 00.9 -0.1
SRU San Rafael Swe 11.01 292 Pn 18 13 03.8 +2.6
G40A Rib Lake 11.03 27 Pn 18 13 01.4 +0.1
TKL Tuckaleechee C 11.07 86 Pn Pn 18 13 03.9 +1.9
1.1nm,0.3s,baz=249,slow=12,SNR=13
TKL Sn Sn 18 15 03.6 -2.0
3.7nm,0.3s,baz=310,slow=16,SNR=3.3
TKL Lg Lg 18 16 07.7
14nm,0.3s,baz=173,slow=19,SNR=11
Y52A Lilburn 11.10 96 Pn Pn 18 13 02.1 -0.3
Q50A Georgetown 11.14 70 P Pn 18 13 02.7 -0.1
baz=258,SNR=20
352A Blakely 11.19 108 Pn Pn 18 13 03.6 0.0
V52A Sevierville 11.20 85 P Pn 18 13 04.9 +1.2
baz=273
V52A Sevierville 11.20 85 Pn 18 13 04.7 +0.9
HPIG 11.22 221 Pn Pn 18 13 00.9 -3.4
TZTN Tazewell 11.22 82 P Pn 18 13 06.8 +2.7
baz=270
TZTN Tazewell 11.22 82 Pn 18 13 04.0 0.0
O49A Covington 11.24 62 P Pn 18 13 04.3 +0.1
baz=250
O49A Covington 11.24 62 Pn 18 13 03.1 -1.1
S51A Beattyville 11.25 76 P Pn 18 13 05.5 +1.1
baz=264
S51A Beattyville 11.25 76 Pn 18 13 02.5 -1.9
P17A Butcher Ranch, 11.26 294 Pn 18 13 04.6 -0.1
R51A Hillsboro 11.34 73 P Pn 18 13 06.1 +0.4
baz=261,SNR=8.6
U52A Thorn Hill 11.37 82 P Pn 18 13 08.3 +2.2
baz=270
L47A Sherwood 11.39 53 P Pn 18 13 06.3 0.0
baz=240
K46A Dorr 11.40 49 P Pn 18 13 06.1 -0.2
baz=236
WUAZ Wupatki 11.40 273 Pn Pn 18 13 06.3 -0.3
Q16A Castle Valley 11.45 291 Pn 18 13 09.8 +2.4
H43A Windswept, Lux 11.46 37 Pn 18 13 06.6 -0.5
P50A Jamestown 11.46 66 P Pn 18 13 07.8 +0.5
baz=254,SNR=5.6
M48A Edgerton 11.48 56 Pn Pn 18 13 08.2 +0.7
J45A Montague 11.48 44 Pn Pn 18 13 06.7 -0.8
Y53A Monroe 11.49 95 P Pn 18 13 07.3 -0.4
baz=283
TMUT Trail Mountain 11.57 292 Pn 18 13 11.3 +2.3
253A Americus 11.59 104 Pn Pn 18 13 09.6 +0.6
X16A Lo Mia Camp, P 11.60 268 Pn 18 13 11.5 +2.2
W53A Cullowhee 11.61 88 P Pn 18 13 10.3 +0.9
baz=277
N49A Columbus Grove 11.62 59 P Pn 18 13 08.5 -0.9
baz=247
N49A Columbus Grove 11.62 59 Pn 18 13 07.8 -1.6
TUC Tucson 11.62 257 Pn Pn 18 13 10.4 +0.8
Z53A Monticello 11.64 98 P Pn 18 13 10.4 +0.6
baz=286
S52A Salyersville 11.66 76 P Pn 18 13 10.2 +0.2
baz=264
Q51A Peebles 11.66 69 P Pn 18 13 09.5 -0.5
baz=258,SNR=6.9
Q51A Peebles 11.66 69 Pn 18 13 08.8 -1.2
T52A Hallie 11.69 79 P Pn 18 13 10.8 +0.4
baz=267
T52A Hallie 11.69 79 Pn 18 13 10.4 0.0
GOGA Godfrey 11.69 97 P Pn 18 13 09.7 -0.8
baz=285
GOGA S Sn 18 15 16.5 -4.4
baz=285
GOGA Godfrey 11.69 97 Pn 18 13 09.4 -1.0
GOGA Sn 18 15 18.1 -2.7
E38A The Farm, Brul 11.77 20 Pn 18 13 10.4 -1.0
353A Camilla 11.80 108 P Pn 18 13 11.3 -0.6
baz=295
BW06 Boulder Array 11.80 311 P Pn 18 13 12.9 +0.8
baz=123
BW06 Boulder Array 11.80 311 Pn 18 13 11.3 -0.9
PD31 Pinedale Array 11.80 311 Pn 18 13 12.1 0.0
PDAR Pinedale Array 11.80 311 Pn Pn 18 13 12.9 +0.8
1.0nm,0.3s,baz=114,slow=15,SNR=83
PDAR Pg 18 14 00.2
2.8nm,0.3s,baz=123,slow=16,SNR=5.8
PDAR Lg Lg 18 16 38.6
3.4nm,0.3s,baz=118,slow=30,SNR=10
PDAR LR LR 18 17 41.3
comp=Z,434nm,18.8s,baz=126,slow=37
BG3 Lake Jocassee 11.82 89 Pn 18 13 12.8 +0.5
V53A Saluda 11.85 86 P Pn 18 13 12.6 -0.1
baz=274
V53A Saluda 11.85 86 Pn 18 13 11.8 -0.8
L48A N Adams 11.88 54 P Pn 18 13 12.7 -0.2
baz=242
I45A Fountain 11.95 42 Pn Pn 18 13 13.3 -0.7
P51A Williamsport 11.98 67 P Pn 18 13 13.9 -0.5
baz=256
P51A Williamsport 11.98 67 Pn 18 13 13.5 -0.8
U53A Fall Branch 12.01 82 P Pn 18 13 15.2 +0.4
baz=271
T53A Wise 12.05 79 P Pn 18 13 17.2 +1.9
baz=268
MTPU Mount Pierson 12.09 286 Pn Pn 18 13 15.0 -1.3
U15A North Rim 12.10 278 Pn Pn 18 13 14.6 -1.7
JLU Jordanelle 12.12 298 Pn 18 13 17.6 +1.1
COWI Conover 12.13 28 Pn 18 13 15.4 -1.1
PKCU Pink Cliffs 12.14 283 Pn 18 13 16.7 -0.2
MSU Marysvale 12.15 288 Pn Pn 18 13 18.3 +1.3
154A Montrose 12.21 100 Pn Pn 18 13 16.2 -1.3
Y54A Tignall 12.22 94 P Pn 18 13 17.1 -0.5
baz=283
ACSO Alum Creek Sta 12.24 64 P Pn 18 13 17.2 -0.7
baz=252
ACSO Alum Creek Sta 12.24 64 Pn 18 13 16.8 -1.1
Z54A Sparta 12.24 97 P Pn 18 13 17.3 -0.7
baz=286
Z54A S Sn 18 15 30.3 -4.0
baz=286
TIGA Tifton 12.25 106 Pn Pn 18 13 17.6 -0.4
F42A Maple Grove Fa 12.27 32 Pn 18 13 17.3 -1.0
TCUT Toone Canyon 12.27 300 Pn 18 13 19.8 +1.2

MDND **Maddock** 12.28 353 S Sn 18 15 28.5 -6.7
baz=171
MDND **Maddock** 12.28 353 Pn 18 13 18.8 +0.3
J47A **Sunmer** 12.29 48 P Pn 18 13 19.1 +0.6
baz=236
J47A **Sunmer** 12.29 48 Pn 18 13 18.7 +0.1
N50A **Nevada** 12.29 61 P Pn 18 13 18.7 +0.1
baz=250
N50A S Sn 18 15 30.0 -5.4
baz=250
254A **Abbeville** 12.29 104 P Pn 18 13 19.5 +0.8
baz=292
I46A **Reed City** 12.33 44 P Pn 18 13 18.8 -0.3
baz=232
X54A **Belton** 12.34 91 P Pn 18 13 20.8 +1.5
baz=280
CTU **Camp Tracy** 12.37 298 Pn Pn 18 13 19.7 -0.1
TCRU **Three Creeks R** 12.38 288 Pn Pn 18 13 19.9 -0.1
NLU **North Lily Min** 12.38 295 Pn 18 13 21.3 +1.2
W54A **Cherokee Point** 12.42 88 P Pn 18 13 21.1 +0.7
baz=277
Q52A **Bidwell** 12.47 70 P Pn 18 13 20.8 -0.2
baz=259
Q52A S Sn 18 15 38.5 -1.4
baz=259
HODGE **Hodges** 12.49 92 Pn Pn 18 13 22.3 +0.9
O51A **Pataskala** 12.49 65 P Pn 18 13 21.1 -0.3
baz=254
K48A **Perry** 12.50 51 P Pn 18 13 20.4 -1.0
baz=239
K48A S Sn 18 15 34.7 -5.8
baz=239
KNB **Kanab** 12.53 281 Pn 18 13 23.4 +1.3
454A **Quitman** 12.53 109 P Pn 18 13 21.6 -0.3
baz=297
V54A **Nebo** 12.54 85 P Pn 18 13 22.3 +0.2
baz=274
M50A **Fremont** 12.59 59 P Pn 18 13 22.0 -0.7
baz=247
M50A **Fremont** 12.59 59 18 13 21.5 -1.3
U54A **Nelsons Funny** 12.62 82 P Pn 18 13 24.3 +1.1
baz=271
U54A **Nelsons Funny** 12.62 82 18 13 22.9 -0.2
R53A **Hurricane** 12.62 73 P Pn 18 13 24.0 +1.0
baz=262
R53A **Hurricane** 12.62 73 Pn 18 13 22.6 -0.4
AGMN **Agassiz Nation** 12.67 5 P Pn 18 13 21.5 -2.2
baz=185
P52A **Corning** 12.71 67 P Pn 18 13 23.7 -0.7
baz=256,SNR=16
P52A S Sn 18 15 42.9 -2.9
baz=256
155A **Kite** 12.72 100 P Pn 18 13 23.6 -0.9
baz=288
PAULI **Pauline** 12.76 89 Pn 18 13 24.2 -0.8
SZCU **Shurtz Canyon** 12.77 283 Pn Pn 18 13 24.7 -0.6
AHID **Auburn Hatcher** 12.77 308 Pn 18 13 25.7 +0.3
T54A **Tazewell** 12.81 79 P Pn 18 13 26.4 +0.6
baz=268
H46A **Fife Lake** 12.85 43 P Pn 18 13 25.4 -0.8
baz=230
LAO **LASA Array** 12.85 332 P Pn 18 13 26.4 +0.1
baz=146
LAO **LASA Array** 12.85 332 Pn 18 13 25.4 -0.9
LCMT **Little Creek M** 12.86 281 Pn 18 13 27.1 +0.5
Y55A **Saluda** 12.88 93 P Pn 18 13 26.0 -0.7
baz=282
N51A **Ashland** 12.89 62 P Pn 18 13 27.2 +0.3
baz=251
N51A **Ashland** 12.89 62 Pn 18 13 26.2 -0.6
K49A **Clarkson** 12.91 52 P Pn 18 13 26.1 -1.0
baz=241
SNOW **Snow King Moun** 12.91 311 Pn 18 13 27.6 +0.3
REDW **Red Top Meadow** 12.92 311 Pn 18 13 27.5 +0.1
I47A **Gladwin** 12.92 46 P Pn 18 13 27.5 +0.3
baz=234
I47A **Gladwin** 12.92 46 Pn 18 13 25.7 -1.5
255A **Hazlehurst** 12.95 103 Pn Pn 18 13 26.7 -0.8
X55A **Gracelyn & Ava** 12.96 91 P Pn 18 13 27.6 -0.1
baz=280
Y14A **Wickenburg** 12.96 267 Pn Pn 18 13 27.7 -0.1
J48A **Bridge Port** 12.96 50 P Pn 18 13 26.6 -1.1
baz=238
J48A S Sn 18 15 47.6 -4.2
baz=238
J48A **Bridge Port** 12.96 50 Pn 18 13 25.9 -1.8
CCUT **Cedar City** 12.98 283 Pn Pn 18 13 28.8 +0.5
DUG **Dugway, Tooele** 12.99 295 Pn 18 13 26.9 -1.5
L50A **Kingsville** 13.01 56 P Pn 18 13 29.5 +1.1
baz=245
EYMN **Ely** 13.02 18 P Pn 18 13 26.4 -2.2
baz=202
EYMN S Sn 18 15 48.6 -4.7
baz=202
EYMN **Ely** 13.02 18 Pn 18 13 26.3 -2.2
Q53A **Leroy** 13.02 71 P Pn 18 13 28.4 -0.2
baz=261,SNR=11
TPAW **Teton Pass** 13.05 311 Pn 18 13 29.2 0.0
O52A **Adamsville** 13.05 66 P Pn 18 13 28.7 -0.3
baz=255
O52A **Adamsville** 13.05 66 Pn 18 13 28.7 -0.3
MOOW **Moose Ponds** 13.06 312 Pn 18 13 29.1 -0.3
S54A **Dingess, Beckl** 13.06 76 P Pn 18 13 28.9 -0.3
baz=265
S54A **Dingess, Beckl** 13.06 76 Pn 18 13 28.6 -0.6
RLMT **Red Lodge** 13.07 320 P Pn 18 13 30.9 +1.4
baz=132
RLMT **Red Lodge** 13.07 320 Pn 18 13 29.7 +0.2
KMSC **Kings Mountain** 13.10 88 P Pn 18 13 29.1 -0.6
baz=277
KMSC **Kings Mountain** 13.10 88 Pn 18 13 28.1 -1.6
V55A **Taylorsville** 13.13 84 P Pn 18 13 29.6 -0.5
baz=274
V55A **Taylorsville** 13.13 84 Pn 18 13 29.0 -1.1
D41A **Chassel** 13.15 27 Pn 18 13 27.9 -2.5
FXWY **Fox Creek** 13.17 311 Pn 18 13 30.1 -0.8
FLWY **Flagg Ranch** 13.22 313 Pn 18 13 32.7 +1.1
U55A **TA2, Sparta** 13.24 82 P Pn 18 13 32.0 +0.4
baz=271
P53A **Whipple** 13.24 69 P Pn 18 13 31.5 -0.1
baz=258
P53A **Whipple** 13.24 69 Pn 18 13 29.9 -1.7
E43A **Lone Tree Farm** 13.24 33 Pn 18 13 29.6 -2.0
HSIG 13.24 244 Pn Pn 18 13 29.5 -2.2
IMW **Indian Meadow** 13.26 312 Pn 18 13 32.5 +0.4
JSC **Jenkinsville** 13.29 91 Pn Pn 18 13 31.6 -0.7
YMP **Mirror Lake Pl** 13.30 317 Pn 18 13 32.9 +0.1
H17A **Grant Village** 13.33 315 Pn 18 13 31.6 -1.5
LKWY **Lake** 13.34 316 Pn Pn 18 13 33.5 +0.4
GLMI **Grayling** 13.35 43 P Pn 18 13 32.6 -0.4
baz=231
GLMI **Grayling** 13.35 43 Pn 18 13 32.0 -1.0
214A **Organ Pipe Nat** 13.36 258 Pn Pn 18 13 33.5 +0.3
BGU **Big Grassy Mou** 13.36 298 Pn Pn 18 13 31.8 -1.6
YNE **Yellowstone No** 13.39 318 Pn 18 13 31.4 -2.5
Z56A **Williston** 13.41 95 Pn Pn 18 13 31.6 -2.4
H47A **Mio** 13.44 44 P Pn 18 13 33.4 -0.9
baz=233
K50A **Casco** 13.45 54 Pn 18 13 32.7 -1.7
T55A **Pulaski** 13.45 79 P Pn 18 13 34.7 +0.2
baz=269
PSUT **Pine Spring** 13.46 287 Pn 18 13 36.9 +2.1
HVU **Hansel Valley** 13.47 302 Pn Pn 18 13 33.4 -1.5
W13A **Hualapai Mount** 13.48 272 Pn Pn 18 13 34.9 -0.2
YUF **Upper Falls** 13.49 316 Pn Pn 18 13 33.7 -1.5
I48A **Sherman Twp** 13.49 47 P Pn 18 13 34.2 -0.8
baz=235
G46A **Petoskey** 13.53 41 P Pn 18 13 34.5 -1.0
baz=229
O53A **New Philadelph** 13.55 65 P Pn 18 13 34.2 -1.5
baz=255,SNR=7.0
Q54A **Coxs Mills** 13.58 71 P Pn 18 13 35.9 -0.3
baz=261
Q54A **Coxs Mills** 13.58 71 Pn 18 13 34.4 -1.8
YNR **Norris Junctio** 13.58 316 Pn Pn 18 13 35.3 -1.2
YNM **Yellowstone No** 13.61 316 Pn Pn 18 13 35.7 -1.0
ZAIG **Zacatecas** 13.63 201 Pn Pn 18 13 36.1 -1.1
S55A **Lewisburg** 13.70 76 P Pn 18 13 38.4 +0.5
baz=266
W56A **Indian Trail** 13.71 87 P Pn 18 13 37.5 -0.6
baz=277
V56A **Mocksville** 13.72 84 P Pn 18 13 37.9 -0.2
baz=274
YMR **Madison River** 13.72 315 Pn 18 13 37.6 -0.7
YHH **Holmes Hill** 13.73 316 Pn 18 13 39.1 +0.7

GCMT **Greycliff** 13.73 321 Pn 18 13 37.7 -0.7
BLA **Blacksburg** 13.74 79 P Pn 18 13 38.8 +0.3
baz=269
BLA **Blacksburg** 13.74 79 Pn 18 13 37.5 -0.9
456A **Hilliard** 13.77 107 Pn Pn 18 13 37.9 -0.9
U56A **King** 13.78 82 Pn Pn 18 13 39.0 0.0
M52A **Chesterland** 13.82 60 P Pn 18 13 38.5 -1.0
baz=250
M52A **Chesterland** 13.82 60 Pn Pn 18 13 37.8 -1.7
113A **Mohawk Valley,** 13.87 263 Pn Pn 18 13 41.5 +1.3
BIRD **Birdtown, Kers** 13.88 89 Pn Pn 18 13 39.7 -0.7
I49A **Point Hope** 13.89 49 Pn Pn 18 13 39.9 -0.5
YHB **Horse Butte** 13.90 315 Pn 18 13 40.6 -0.2
E44A **Grand Marais A** 13.92 35 Pn Pn 18 13 40.0 -0.7
P54A **Burton** 13.95 69 P Pn 18 13 41.0 -0.3
baz=259
N53A **Lisbon** 13.97 64 P Pn 18 13 39.1 -2.4
baz=254
N53A **Lisbon** 13.97 64 Pn 18 13 39.2 -2.4
G47A **Hillman** 13.99 43 P Pn 18 13 40.3 -1.5
baz=232
656A **Willston** 14.01 112 Pn Pn 18 13 41.5 -0.5
H48A **Harrisville** 14.01 46 Pn Pn 18 13 42.3 +0.2
R55A **Marlinton** 14.04 74 P Pn 18 13 41.9 -0.8
baz=264,SNR=12
R55A **Marlinton** 14.04 74 Pn 18 13 41.0 -1.6
T56A **Rocky Mt** 14.05 79 P Pn 18 13 42.9 +0.2
baz=270
QLMT **Earthquake Lak** 14.08 315 Pn 18 13 44.0 +0.7
Q55A **Buckhannon** 14.16 71 P Pn 18 13 43.3 -0.8
baz=262
W57A **Gilead** 14.19 87 Pn Pn 18 13 42.7 -1.9
M53A **Wt Miller and** 14.28 61 P Pn 18 13 46.4 +0.7
baz=251
SHPR **Sheep Range** 14.41 279 P Pn 18 13 46.2 -1.5
P55A **Reedsville** 14.43 69 P Pn 18 13 45.9 -2.0
baz=260
MCWV **Mont Chateau** 14.45 69 Pn Pn 18 13 44.5 -3.5
E46A **Sault Ste Mari** 14.52 39 Pn 18 13 47.0 -2.1
ULM **Lac du Bonnet** 14.61 4 Pn Pn 18 13 46.9 -3.4
2.8nm,0.3s,baz=183,slow=12,SNR=17
ULM Sn Sn 18 16 19.6 -12
2.2nm,0.3s,baz=270,slow=19,SNR=4.0
ULM Lg Lg 18 17 56.5
2.0nm,0.3s,baz=280,slow=11,SNR=3.8
ULM LR LR 18 19 50.3
comp=Z,426nm,21.4s,baz=194,slow=39
R56A **Bull Pasture M** 14.62 74 P Pn 18 13 47.9 -2.6
baz=265
N54A **Moraine State** 14.63 64 P Pn 18 13 48.1 -2.5
baz=254
N54A **Moraine State** 14.63 64 Pn 18 13 47.3 -3.3
BOZ **Bozeman (W)** 14.65 317 P P 18 13 53.3 -4.1
baz=128
BOZ **Bozeman (W)** 14.65 317 Pn 18 13 52.2 +1.2
Y58A **Scranton** 14.66 92 Pn Pn 18 13 48.3 -2.7
T57A **Hurt** 14.67 79 P Pn 18 13 51.4 +0.2
baz=270
T57A **Hurt** 14.67 79 Pn 18 13 49.8 -1.3
R11A **Troy Canyon, C** 14.79 286 P 18 13 55.5 -3.5
V58A **Windy Hill, Pi** 14.84 84 Pn 18 13 53.6 +0.1
Q56A **Snyder Ridge,** 14.85 72 Pn 18 13 51.3 -2.3
MCMT **McKenzie Canyo** 14.92 312 Pn 18 13 56.2 +1.5
ELK **Elko** 14.92 295 Pn P 18 13 57.1 -3.3
0.1nm,0.3s,baz=92,slow=8.0,SNR=8.4
ELK Lg Lg 18 18 09.0
0.1nm,0.3s,baz=90,slow=8.1,SNR=3.8
ELK LR LR 18 19 51.6
comp=Z,357nm,20.0s,baz=98,slow=38
ELK **Elko** 14.92 295 P 18 13 56.7 -3.8
S57A **Dark Hollow, R** 14.93 77 P Pn 18 13 53.6 -1.0
baz=268
S57A **Dark Hollow, R** 14.93 77 Pn 18 13 52.8 -1.8
O55A **Ligonier** 14.96 67 P Pn 18 13 54.5 -0.6
baz=258
ERPA **Erie** 14.98 59 Pn Pn 18 13 53.0 -2.3
M54A **Oil Creek Stat** 15.02 62 P Pn 18 13 53.9 -2.0
baz=253
M54A **Oil Creek Stat** 15.02 62 Pn 18 13 51.9 -4.0
DLMT **Dillon** 15.06 315 Pn 18 13 55.7 -0.9
DLMT IAmb IAmb 18 14 07.0
comp=Z,29nm,1.0s
E47A **Iron Bridge** 15.11 40 P Pn 18 13 54.5 -2.6
baz=229
P56A **Dayton Farm, R** 15.19 70 P Pn 18 13 56.9 -1.1
baz=261
LRM **Limekiln Ridge** 15.25 316 P 18 14 02.5 -1.5
N55A **Marion Center** 15.32 65 P Pn 18 13 58.3 -1.6
baz=256
F49A **Sandfield** 15.36 44 P Pn 18 13 56.2 -4.2
baz=234
EGMT **Eagleton** 15.38 327 Pn 18 13 59.3 -1.4
Q57A **Strasburg** 15.45 72 P Pn 18 13 59.4 -2.1
baz=263
HRY **Holter Researc** 15.46 320 Pn 18 13 59.4 -2.4
O56A **Blue Knob Stat** 15.53 67 P Pn 18 14 00.5 -2.1
baz=259
O56A **Blue Knob Stat** 15.53 67 Pn 18 13 60.0 -2.6
O56A IAmb IAmb 18 14 08.2
comp=Z,41nm,1.0s
D47A **Chapleau** 15.60 39 P Pn 18 13 59.9 -3.5
baz=228
M55A **Ridgway** 15.66 63 P Pn 18 14 03.3 -0.9
baz=254
M55A **Ridgway** 15.66 63 Pn 18 14 02.1 -2.2
R58A **Rapidan** 15.71 75 P Pn 18 14 05.1 +0.3
baz=266
E48A **Lockeyer** 15.73 42 P Pn 18 14 02.9 -2.2
baz=232
R58B **Mineral** 15.79 76 Pn Pn 18 14 03.3 -2.6
P57A **Homestead Farm** 15.82 70 Pn 18 14 06.3 0.0
P57A IAmb IAmb 18 14 12.4
comp=Z,27nm,1.1s
Y60A **Bolivia** 15.82 90 Pn Pn 18 14 05.0 -1.4
PFO **Pinyon Flats O** 15.84 268 Lg Lg 18 18 45.7
comp=Z,0.1nm,0.3s,baz=217,slow=15,SNR=3.5
PFO LR LR 18 19 29.5
comp=Z,212nm,21.4s,baz=112,slow=34
T59A **Double "B" Far** 16.03 80 P Pn 18 14 10.5 +1.4
baz=271
T59A **Double "B" Far** 16.03 80 Pn Pn 18 14 08.4 -0.7
T59A IAmb IAmb 18 14 37.8
comp=Z,43nm,1.4s
WVNY **West Valley, N** 16.05 60 Pn 18 14 05.5 -3.7
WVNY IAmb IAmb 18 14 15.9
comp=Z,25nm,0.7s
LPIG **La Paz** 16.06 228 LR LR 18 20 28.7
comp=Z,386nm,18.2s,baz=40,slow=38
M56A **Emporium** 16.08 63 P Pn 18 14 09.2 -0.6
baz=255
M56A **Emporium** 16.08 63 Pn 18 14 07.2 -2.5
M56A IAmb IAmb 18 14 15.2
comp=Z,59nm,0.9s
L55A **Hinsdale** 16.10 60 P Pn 18 14 07.9 -2.0
baz=252
SSPA **Standing Stone** 16.11 66 P Pn 18 14 07.2 -2.8
baz=258
SSPA **Standing Stone** 16.11 66 Pn 18 14 07.6 -2.4
SSPA IAmb IAmb 18 14 15.3
comp=Z,22nm,0.8s
MFID **Camas Ranch** 16.18 304 Pn 18 14 11.4 +0.4
O57A **Amberson** 16.21 68 P Pn 18 14 08.6 -2.9
baz=260
P58A **Pank, Wackersv** 16.36 71 P Pn 18 14 10.7 -2.6
baz=263
DAC **Darwin (Calif)** 16.38 278 Pn Pn 18 14 13.1 -0.7
N57A **Milroy** 16.38 66 P Pn 18 14 10.3 -3.3
baz=258
MEDO **Medina** 16.41 57 Pn Pn 18 14 11.3 -2.5
MEDO IAmb IAmb 18 14 46.4
comp=Z,24nm,0.7s
E50A **Wahnapitae** 16.49 44 P Pn 18 14 14.0 -0.8
baz=235
E50A S Sn 18 17 09.7 -7.9
baz=235
SADO **Sadowa** 16.60 51 Pn Pn 18 14 12.1 -4.2
comp=Z,0.2nm,0.3s,baz=273,slow=9.7,SNR=1.9
SADO Sn Sn 18 17 12.5 -8.0
comp=Z,1.1nm,0.3s,baz=285,slow=11,SNR=2.9
SADO Lg Lg 18 18 58.5
comp=Z,1.5nm,0.3s,baz=325,slow=3.1,SNR=3.4
SADO LR LR 18 20 43.5
comp=Z,815nm,19.6s,baz=246,slow=37
MMNY **Mt. Morris Dam** 16.64 59 Pn Pn 18 14 14.3 -2.5
MMNY IAmb IAmb 18 14 21.3
comp=Z,72nm,1.5s

MSO **Missoula** 16.68 317 Pn 18 14 17.0 -0.4
L56A **Greenwood** 16.71 61 P Pn 18 14 17.1 -0.6
baz=254
L56A **Greenwood** 16.71 61 Pn 18 14 15.1 -2.6
SDMD **Soldier's Deli** 16.71 71 Pn Pn 18 14 16.4 -1.3
SDMD LR 18 19 06.7
O58A **Lewisberry** 16.74 68 P Pn 18 14 17.4 -0.7
baz=261
KVN **Kaiserville** 16.81 288 P P 18 14 20.5 -0.9
NV11 **Mina Array Sit** 16.81 286 P P 18 14 21.3 0.0
M57A **Sunshine Farm,** 16.82 64 Pn 18 14 17.6 -1.5
M57A IAmb IAmb 18 14 24.0
comp=Z,108nm,1.6s
H53A **Bobcaygeon** 16.87 52 P Pn 18 14 17.9 -1.8
baz=244
J55A **Hilton** 16.88 57 Pn 18 14 17.6 -2.2
J55A IAmb IAmb 18 14 23.4
comp=Z,44nm,0.8s
PAGS **Pennsylvania G** 16.91 68 P Pn 18 14 20.7 +0.5
PAGS IAmb IAmb 18 14 23.8
comp=Z,30nm,1.0s
NVAR **Mina Array Bea** 16.93 286 Pn P 18 14 25.6 +3.0
comp=Z,0.1nm,0.3s,baz=92,slow=10,SNR=8.5
NVAR Sn Sn 18 17 25.0 -3.8
comp=Z,0.1nm,0.3s,baz=102,slow=15,SNR=2.6
NVAR Lg Lg 18 19 19.7
comp=Z,0.1nm,0.3s,baz=66,slow=27,SNR=3.1
NVAR LR LR 18 20 20.8
comp=Z,130nm,20.1s,baz=92,slow=36
PLID **Pearl Lake** 16.99 309 P P 18 14 23.4 +0.1
MWC **Mount Wilson** 17.02 271 P P 18 14 23.1 -0.6
N58A **Sunbury** 17.02 66 P Pn 18 14 20.0 -1.6
N58A IAmb IAmb 18 14 41.0
comp=Z,71nm,1.6s
RYN **Ryan** 17.11 286 P P 18 14 23.5 -1.1
MVL **Millersville** 17.16 69 P Pn 18 14 20.6 -2.8
MVL IAmb IAmb 18 15 08.1
comp=Z,18nm,0.9s
L57A **Andrews Acres** 17.18 62 P P 18 14 26.8 +1.6
baz=255
E51A **G1948 Merrick** 17.26 46 P Pn 18 14 24.0 -0.6
baz=237
M58A **Price's Panora** 17.32 65 P Pn 18 14 24.4 -1.0
baz=258
JTMT **Jette** 17.41 319 Pn P 18 14 26.6 -1.3
D50A **G1974 Best Tow** 17.42 43 P Pn 18 14 24.1 -2.4
baz=235
DELO **Deloro Mine** 17.48 54 P Pn 18 14 27.4 +0.1
J56A **Wolcott** 17.54 58 P Pn 18 14 28.1 0.0
E52A **Mattawa** 17.63 47 P Pn 18 14 29.8 +0.6
baz=240
P60A **Greenville** 17.68 70 P Pn 18 14 29.3 -0.5
P60A IAmb IAmb 18 14 32.8
comp=Z,34nm,1.2s
BMO **Blue Mountains** 17.72 307 P P 18 14 31.1 -0.2
N59A **State Game Lan** 17.74 66 P Pn 18 14 31.7 +1.1
baz=260
N59A **State Game Lan** 17.74 66 P Pn 18 14 29.9 -0.7
N59A IAmb IAmb 18 14 33.4
comp=Z,30nm,1.1s
H55A **Tweed** 17.78 54 P P 18 14 32.5 +0.8
baz=247
ALGO **Algonquin Park** 17.83 49 P Pn 18 14 32.9 +1.2
baz=241
BINY **Binghamton** 17.85 62 P P 18 14 34.4 +1.7
baz=256
BINY **Binghamton** 17.85 62 P Pn 18 14 30.8 -1.2
BINY IAmb IAmb 18 14 35.5
comp=Z,44nm,0.9s
KSPA **Keystone Colle** 17.86 64 P Pn 18 14 29.2 -2.9
KSPA IAmb IAmb 18 14 34.7
comp=Z,92nm,1.4s
L58A **Harry Jones Me** 17.91 63 P Pn 18 14 32.1 -0.6
baz=256
O60A **Telford** 17.92 68 P Pn 18 14 32.8 0.0
baz=262
LUPA **Lehigh Univers** 17.98 68 P Pn 18 14 34.9 +1.3
F10A **Beach Ranch, E** 18.16 311 P P 18 14 35.4 -0.7
J57A **Williamstown** 18.18 58 P P 18 14 37.6 +1.4
baz=252
J57A **Williamstown** 18.18 58 P Pn 18 14 32.8 -3.2
J57A IAmb IAmb 18 14 38.9
comp=Z,36nm,0.8s
K58A **Earlville** 18.24 61 P Pn 18 14 34.8 -2.0
baz=254
K58A **Earlville** 18.24 61 P Pn 18 14 35.1 -1.7
K58A IAmb IAmb 18 14 40.0
comp=Z,44nm,1.0s
H56A **Elgin** 18.40 55 P Pn 18 14 40.3 +1.6
baz=248
L59A **Walton** 18.53 63 P P 18 14 41.3 +1.1
baz=257
L59A **Walton** 18.53 63 P P 18 14 39.2 -0.9
L59A IAmb IAmb 18 14 43.5
comp=Z,48nm,0.8s
E54A **Lac Daplat, Po** 18.59 48 P P 18 14 41.1 +0.4
baz=242
D53A **Lac Vacive, Po** 18.60 46 P P 18 14 40.8 0.0
baz=239
D53A **Lac Vacive, Po** 18.60 46 P P 18 14 39.5 -1.3
D53A IAmb IAmb 18 14 48.3
comp=Z,92nm,1.9s
ODNJ **Ogdensburg** 18.64 66 P P 18 14 39.9 -1.3
ODNJ IAmb IAmb 18 14 59.1
comp=Z,89nm,1.7s
CMIG **Matias Romero** 18.64 173 P Pn 18 14 43.0 +1.3
comp=Z,0.4nm,0.3s,baz=343,slow=9.6,SNR=5.7
CMIG S Sn 18 17 59.8 -10
comp=Z,0.3nm,0.3s,baz=231,slow=18,SNR=3.0
CMIG LR LR 18 25 28.0
comp=Z,142nm,18.1s,baz=356,slow=49
J58A **Remsen** 18.66 59 P P 18 14 42.6 +1.1
baz=253
J58A **Remsen** 18.66 59 P P 18 14 40.4 -1.1
J58A IAmb IAmb 18 14 44.6
comp=Z,57nm,1.4s
M60A **Port Jervis** 18.66 66 P P 18 14 41.0 -0.6
baz=260
K59A **Cooperstown** 18.81 61 P P 18 14 42.5 -0.7
baz=255
MOD **Modoc Plateau** 18.90 296 P Pn 18 14 44.6 -0.3
H57A **Richville** 18.94 56 P Pn 18 14 46.7 +1.6
baz=250
G08A **Pilot Rock** 18.97 307 P Pn 18 14 45.6 -0.2
I58A **Old Forge** 18.98 58 P P 18 14 45.4 +0.4
baz=252
L60A **Shokan** 19.08 64 P P 18 14 45.4 -0.8
baz=258
J59A **Piesco** 19.24 59 P P 18 14 48.7 +0.8
baz=254
J59A **Piesco** 19.24 59 P P 18 14 47.2 -0.7
J59A IAmb IAmb 18 14 53.0
comp=Z,24nm,1.1s
NEW **Newport** 19.27 317 P Pn 18 14 50.5 +1.3
comp=Z,0.1nm,0.3s,baz=131,slow=11,SNR=7.0
NEW Lg Lg 18 20 18.1
comp=Z,0.1nm,0.3s,baz=0.0,slow=20,SNR=1.9
NEW LR LR 18 22 56.7
comp=Z,432nm,19.2s,baz=120,slow=39
NEW **Newport** 19.27 317 P Pn 18 14 50.0 +0.8
NEW IAmb IAmb 18 14 53.0
comp=Z,35nm,1.6s
M61A **Granite Spring** 19.30 66 P P 18 14 50.2 +1.7
baz=261
FFC **Flin Flon** 19.32 352 P Pn 18 14 50.0 +0.3
E08A **Dider Farm, El** 19.53 310 P Pn 18 14 52.5 +0.2
LONY **Lake Ozonia** 19.54 56 P P 18 14 50.9 -0.2
baz=250
LONY **Lake Ozonia** 19.54 56 P P 18 14 50.3 -0.8
LONY IAmb IAmb 18 14 59.5
comp=Z,32nm,1.1s
KSCT **Kent School, K** 19.58 65 P P 18 14 51.2 -0.3
NCB **Newcomb** 19.58 58 P P 18 14 51.4 -0.2
NCB IAmb IAmb 18 14 54.8
comp=Z,20nm,0.8s
L61A **Hillsdale 1, H** 19.61 63 P P 18 14 52.6 +0.6
baz=258
TRY **Troy** 19.64 62 P P 18 14 52.8 +0.5
TRY IAmb IAmb 18 14 55.5
comp=Z,37nm,0.9s
C09A **Chrisman Ranch** 19.68 314 P Pn 18 14 53.7 -0.4
C09A IAmb IAmb 18 15 13.0
comp=Z,18nm,0.8s
H58A **Gabriels** 19.74 57 P P 18 14 53.8 +0.4
baz=252
I59A **Olmsteadville** 19.77 59 P P 18 14 54.9 +1.3

baz=254
HAWA Hanford 19.78 310 P **Pn** **18 14 55.4 +0.1**
HAWA IAmb IAmb 18 14 58.0
comp=Z,14nm,0.9s
PINE Pine Mountain 19.81 301 P **Pn** **18 14 55.9 +0.1**
PINE IAmb IAmb 18 14 59.2
comp=Z,19nm,0.8s
J05D Fort Rock, OR 19.88 300 P **Pn** **18 14 57.9 +1.2**
baz=104
D55A Sainte-Anne-du 19.90 49 P **Pn** **18 14 57.0 +0.2**
baz=243
K61A Williamstown 19.92 62 P **P** **18 14 56.2 +0.9**
baz=257
J60A Lant Hill Farm 19.94 60 P **P** **18 14 56.0 +0.5**
baz=256
E56A St. Veronique 19.97 50 P **P** **18 14 57.5 +1.7**
baz=245
M04C Macdoel 20.00 295 P **Pn** **18 14 59.9 +1.8**
baz=100
E07A Sunnyside 20.06 310 P **P** **18 14 55.2 -1.6**
E07A IAmb IAmb 18 15 00.3
comp=Z,11nm,0.9s
MATQ Matagami 20.13 40 P Pn 18 14 59.2 -0.2
baz=233
H59A Cadyville 20.15 56 P **P** **18 14 59.1 +1.4**
baz=252
I60A Shoreham 20.19 59 P **P** **18 14 58.5 +0.4**
baz=254
FRNY Flat Rock 20.27 56 P **P** **18 14 58.9 -0.3**
L61B Northampton 20.30 63 P **P** **18 15 01.4 +1.9**
baz=259
D56A ZEC Mazanza, M 20.36 49 P Pn 18 15 02.5 +0.4
baz=244
E57A Chemin Saint G 20.47 51 P **P** **18 15 02.2 +0.8**
baz=246
B08A Colville Reser 20.57 315 P Pn 18 15 02.6 -2.0
YBH Yreka Blue Hor 20.64 295 P Pn 18 15 06.5 +1.0
comp=Z,6.9nm,0.8s,baz=93,slow=5.2,SNR=9.7
YBH LR LR 18 24 36.2
comp=Z,211nm,18.1s,baz=95,slow=41
YBH Yreka Blue Hor 20.64 295 P Pn 18 15 04.9 -0.6
YBH IAmb IAmb 18 15 10.1
comp=Z,13nm,1.1s
VT1 Waterbury 20.69 58 P **P** **18 15 03.5 -0.2**
I04A Tendick Farm, 20.84 301 P Pn 18 15 07.6 -0.2
baz=104
D57A Chemin Vers le 20.88 50 P **P** **18 15 07.4 +1.7**
baz=245
I61A Oroboro, Fairl 20.97 59 P **P** **18 15 10.2 +3.6**
baz=255
E58A La Victoria 21.01 52 P **P** **18 15 08.8 +1.7**
baz=248
J62A Henniker 21.08 61 P **P** **18 15 10.7 +2.8**
baz=258
HRV Adam Dziewonsk 21.12 63 P **P** **18 15 11.2 +2.8**
baz=260
G60A Masonville 21.20 56 P **P** **18 15 11.7 +2.5**
baz=252
M64A Tiverton 21.23 66 P **P** **18 15 09.0 -0.5**
baz=262
H61A Lyndonville 21.32 58 P **P** **18 15 13.0 +2.5**
baz=254
LON Longmire 21.37 309 P **P** **18 15 11.9 +0.9**
LON IAmb IAmb 18 15 20.1
comp=Z,14nm,1.1s
APG El Apazote 21.50 161 P **P** **18 15 13.7 +1.0**
comp=Z,12nm,0.7s,baz=274,slow=23,SNR=7.7
APG S **S** **18 19 05.3 -5.7**
comp=Z,5.7nm,0.7s,baz=357,slow=18,SNR=3.5
APG LR LR 18 27 07.1
comp=Z,82nm,18.7s,baz=325,slow=47
D58A Chemin du LacG 21.54 50 P **P** **18 15 13.9 +1.1**
baz=247
LATQ La Tuque 21.72 50 P **P** **18 15 16.3 +1.6**
baz=246
LATQ La Tuque 21.72 50 P **P** **18 15 15.2 +0.5**
F60A Warwick 21.73 54 P **P** **18 15 16.2 +1.3**
baz=251
G61A St-Isidore-de- 21.80 56 P **P** **18 15 17.0 +1.4**
baz=253
H62A Milan 21.86 58 P **P** **18 15 18.1 +1.9**
baz=255
H62A Milan 21.86 58 P **P** **18 15 17.6 +1.3**
CHGQ Chibougamau 21.96 43 P **P** **18 15 18.6 +1.3**
baz=238
I63A Otisfield 22.14 60 P **P** **18 15 21.6 +2.4**
baz=257
F61A St Evariste 22.37 55 P **P** **18 15 23.3 +1.6**
baz=252
G62A West of Eustis 22.46 57 P **P** **18 15 26.4 +3.7**
baz=254
F63A Nahmakanta, Br 23.56 56 P **P** **18 15 36.4 +2.4**
baz=255
G64A Maxfield 23.68 57 P **P** **18 15 37.4 +2.2**
baz=256
E63A Oxbow 24.21 55 P **P** **18 15 41.0 +0.9**
BBB Bella Bella 27.33 317 LR LR 18 28 08.4
comp=Z,421nm,18.4s,baz=132,slow=39
JTS Las Juntas de 27.68 153 LR LR 18 29 49.2
comp=Z,97nm,19.2s,baz=24,slow=42
SCHQ Schefferville 28.45 38 P **P** **18 16 19.9 +1.5**
comp=Z,6.2nm,0.7s,baz=229,slow=2.7,SNR=8.0
SCHQ Lg Lg 18 25 05.3
comp=Z,31nm,1.1s,baz=320,slow=18,SNR=3.0
SCHQ LR LR 18 27 50.3
comp=Z,362nm,19.0s,baz=358,slow=37
SCHQ Schefferville 28.45 38 P **P** **18 16 19.6 +1.3**
YKA Yellowknife Ar 28.92 343 P **P** **18 16 24.0 +1.6**
comp=Z,1.0nm,0.6s,baz=143,slow=8.6,SNR=15
YKA Lg Lg 18 25 34.4
comp=Z,2.3nm,0.8s,baz=142,slow=28,SNR=2.8
YKA LR LR 18 28 30.3
comp=Z,47nm,19.4s,baz=144,slow=38
DLBC Dease Lake 31.31 327 P **P** **18 16 47.3 +3.6**
comp=Z,19nm,0.8s,baz=104,slow=1.1,SNR=4.9
ROSC El Rosal 37.33 140 LR LR 18 35 01.7
comp=Z,66nm,21.2s,baz=238,slow=40
INK Inuvik 38.43 339 P **P** **18 17 46.8 +2.0**
comp=Z,2.9nm,1.0s,baz=119,slow=6.8,SNR=7.2
INK Inuvik 38.43 339 P **P** **18 17 46.3 +1.5**
INK IAmb IAmb 18 19 09.1
comp=Z,10nm,1.4s
EGAK Eagle 39.06 332 P **P** **18 17 51.9 +1.6**
EGAK IAmb IAmb 18 17 53.4
comp=Z,7.3nm,1.1s
RES Resolute Bay 39.12 1 P **P** **18 17 51.7 +1.2**
comp=Z,0.9nm,0.6s,baz=185,slow=13,SNR=3.5
IL31 41.31 330 P **P** **18 18 10.9 +2.1**
IL31 IAmb IAmb 18 18 12.6
comp=Z,5.8nm,0.9s
ILAR Eielson Array 41.31 330 P **P** **18 18 11.7 +2.8**
comp=Z,3.9nm,0.8s,baz=107,slow=7.3,SNR=37
ILAR LR LR 18 36 49.6
comp=Z,271nm,21.0s,baz=118,slow=38
CCB Clear Creek Bu 41.64 330 P **P** **18 18 13.5 +2.0**
WRH Wood River Hil 41.70 330 P **P** **18 18 12.7 +0.6**
WRH IAmb IAmb 18 19 43.4
comp=Z,17nm,1.7s
BRLK Bradley Lake 41.77 322 P **P** **18 18 14.2 +1.4**
SUA Susitna One 42.05 325 P **P** **18 18 16.7 +1.5**
TRF Thorofare Moun 42.33 328 P **P** **18 18 19.3 +1.9**
TRF IAmb IAmb 18 18 20.9
comp=Z,26nm,1.5s
KTH Kantishna Hill 42.63 328 **P** **18 18 21.8 +2.0**
KTH IAmb IAmb 18 19 37.8
comp=Z,19nm,1.6s
RSO Redoubt South 42.82 323 P **P** **18 18 24.1 +2.7**
MLY Manley 42.95 330 P **P** **18 18 25.0 +2.7**
MLY IAmb IAmb 18 19 57.4
comp=Z,18nm,1.8s
PPLA Purkeypile 43.03 327 P **P** **18 18 26.4 +3.3**
SVW2 Sparrevohn 44.28 324 P **P** **18 18 35.8 +2.7**
SDPT Sand Point 46.61 316 P **P** **18 18 52.8 +1.3**
SUMG Summit 47.14 21 P **P** **18 18 58.4 +2.4**
SUMG IAmb IAmb 18 19 45.6
comp=Z,8.5nm,1.3s
SCO Scoresbysund 52.00 24 P **P** **18 19 34.7 +2.2**
SCO IAmb IAmb 18 20 53.8
comp=Z,12nm,1.4s
LPAZ La Paz 58.64 147 P **P** **18 20 21.8 +0.1**
comp=Z,0.6nm,0.5s,baz=288,slow=3.2,SNR=2.8
LPAZ La Paz 58.64 147 P **P** **18 20 20.7 -1.0**
LPAZ IAmb IAmb 18 20 51.8
comp=Z,9.0nm,1.9s
ARCES ARCESS Array B 67.17 19 P **P** **18 21 18.5 +1.4**
comp=Z,1.9nm,0.6s,baz=334,slow=6.0,SNR=18
NOA NORSAR Array B 67.62 30 P **P** **18 21 21.7 +1.6**
comp=Z,0.7nm,0.7s,baz=305,slow=6.8,SNR=3.0
NOA LR LR 18 49 42.2
comp=Z,119nm,18.9s,baz=295,slow=35
BDFB Brasilia 69.19 129 LR LR 18 52 54.6
comp=Z,111nm,21.8s,baz=14,slow=37
PETK Petropavlovsk- 70.32 322 LR LR 18 55 57.3
comp=Z,56nm,18.6s,baz=63,slow=39
ESDC Sonseca Array 70.63 55 P **P** **18 21 40.9 +1.6**
comp=Z,0.9nm,0.7s,baz=303,slow=7.2,SNR=7.5
ESDC LR LR 18 50 06.4
comp=Z,93nm,18.1s,baz=345,slow=34
CPUP Villa Florida 72.35 143 P **P** **18 21 50.4 +0.9**
comp=Z,2.2nm,0.7s,baz=12,slow=2.4,SNR=5.7
CPUP LR LR 18 58 23.5
comp=Z,54nm,18.4s,baz=50,slow=40
CPUP Villa Florida 72.35 143 P **P** **18 21 50.1 +0.6**
PPT Papeete 72.43 232 LR LR 18 47 51.2
comp=Z,75nm,21.4s,baz=3.0,slow=31
FINES FINESS Array B 72.94 25 P **P** **18 21 54.4 +1.8**
comp=Z,2.1nm,0.6s,baz=336,slow=4.2,SNR=12
FINES LR LR 18 51 06.3
comp=Z,56nm,21.9s,baz=298,slow=34
NRIK Noril'sk 75.23 358 LR LR 18 58 07.7
comp=Z,71nm,18.1s,baz=354,slow=38
GERES GERESS Array B 75.97 39 P **P** **18 22 12.7 +2.1**
comp=Z,0.7nm,0.7s,baz=335,slow=6.0,SNR=5.5
GERES LR LR 18 53 42.7
comp=Z,76nm,18.0s,baz=310,slow=34
KEST Kesra 81.55 52 LR LR 18 58 19.8
comp=Z,115nm,18.1s,baz=264,slow=35
AKASG Malin Array Be 81.99 31 P **P** **18 22 44.0 +0.5**
comp=Z,1.0nm,0.6s,baz=312,slow=4.5,SNR=6.7
DBIC Dimbokro 88.20 83 P **P** **18 23 17.2 +2.1**
comp=Z,1.3nm,0.5s,baz=268,slow=6.7,SNR=3.6
DBIC LR LR 18 58 04.7
comp=Z,56nm,20.2s,baz=231,slow=32
DBIC Dimbokro 88.20 83 P **P** **18 23 17.4 +2.2**
TORD Torodi Ar. Bea 89.65 74 P **P** **18 23 22.9 +0.9**
comp=Z,0.7nm,0.8s,baz=333,slow=2.3,SNR=4.0
TORD LR LR 19 03 16.8
comp=Z,54nm,18.1s,baz=325,slow=35
ZALV Zalesovo Beam 90.73 359 P **P** **18 23 28.5 +2.2**
comp=Z,0.9nm,0.7s,baz=321,slow=4.9,SNR=4.3
MJAR Matsushiro Arr 91.51 318 LR LR 19 02 29.9
comp=Z,22nm,21.6s,baz=80,slow=34
KBZ Khabaz 93.10 28 LR LR 19 05 45.5
comp=Z,86nm,18.4s,baz=333,slow=36
SONM Songino Array 94.19 344 P **P** **18 23 44.6 +1.9**
comp=Z,0.2nm,0.4s,baz=357,slow=9.5,SNR=3.0
SONM LR LR 19 12 18.4
comp=Z,57nm,18.8s,baz=14,slow=39
KSRS Korea Array 95.98 325 LR LR 19 11 50.0
comp=Z,51nm,18.6s,baz=40,slow=38
HHC Hu-ho-hao-te 99.34 338 *e*P **Pdif** **18 24 04.9 -1.2**
HHC pmax pmax
comp=Z,4.0nm,1.3s
WMQ Urumqi 100.75 356 *e*P **Pdif** **18 24 13.8 +1.6**
WMQ pmax pmax
comp=Z,9.0nm,0.6s
WMQ pmax pmax
comp=Z,100nm,5.5s
WMQ LR LR
comp=N,560nm,28.8s
WMQ LR LR
comp=E,800nm,29.1s
WMQ LR LR
comp=Z,140nm,29.2s
MAW Mawson 146.09 167 PKPbc **PKPab** **18 30 03.9 +0.7**
comp=Z,1.7nm,0.7s,baz=205,slow=5.2,SNR=5.6
MAW Mawson 146.09 167 **PKPdf** **18 30 02.5 +0.8**

*ISCJB **07** 18:14:46.0±0.8, 44°.25N±0°.05×144°.74E±0°.04, h25km±6km, Error ellipse: s-maj=9.1km s-min=4.3km az=172.9*
*JMA **07** 18:14:46.0, 44°.26N×144°.73E, h19km±1km, M3.4*
JMA Felt I J1.
*SKHL **07** 18:14:47.1±0.2, 44°.25N×144°.80E, h19km±3km, mb4.2/4*

ISC 07 18:14:46.1±1.5, 44°.23N±0°.06×144°.73E±0°.03, h19km±3km, n13, σ0°.48/23, 1C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
JRA	**Rausu**	**0.41**	**136**	⇓P	**Pg**	**18 14 54.4**	**-0.1**
JRA				*e*S	**Sg**	**18 15 00.5**	**+0.3**
JNSB	**Nemuroshibetsu**	**0.50**	**156**	⇓P	**Pg**	**18 14 56.4**	**+0.2**
JNK	**Nakash**	**0.65**	**181**	⇓P	**Pb**	**18 14 58.5**	**-0.2**
JNK				*e*S	**Sb**	**18 15 07.3**	**-0.1**
JTKR	**Abashiri--Toko**	**0.65**	**246**	P	**Pb**	**18 14 58.4**	**-0.3**
JTKR				*e*S	**Sb**	**18 15 07.2**	**-0.1**
GLVR	**Golovnino**	**0.76**	**131**	*i* P	**Pb**	**18 15 01.1**	**+0.5**
GLVR				AMB	AMB	18 15 01.5	
	320nm,0.4s						
GLVR				*e*S	**Sg**	**18 15 11.6**	**+0.7**
GLVR				A	A	18 15 13.0	
	2μm,0.4s						
GLVR				A	A	18 15 13.0	
	2μm,0.4s						
GRPR	**Tuman**	**0.79**	**107**	*i* P	**Pb**	**18 15 01.1**	**-0.1**
GRPR				AMB	AMB	18 15 02.0	
	110nm,0.3s						
GRPR				*e*S	**Sb**	**18 15 11.6**	**+0.1**
GRPR				A	A	18 15 12.0	
	730nm,0.2s						
GRPR				A	A	18 15 12.0	
	920nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.84**	**103**	⇓*i*P	**Pb**	**18 15 02.0**	**0.0**
YUK				AMB	AMB	18 15 04.0	
	190nm,0.3s						
YUK				*e*S	**Sb**	**18 15 13.0**	**+0.1**
YUK				A	A	18 15 13.0	
	2μm,0.4s						
YUK				A	A	18 15 13.0	
	640nm,0.4s						
JMP	**Maruseppu**	**1.01**	**258**	⇑P	**Pb**	**18 15 05.0**	**0.0**
JMP				*e*S	**Sb**	**18 15 19.0**	**+1.0**
NMR	**Nemuro--Hokkai**	**1.13**	**140**	*i* P	**Pn**	**18 15 06.0**	**-0.9**
NEM2	**Nemuro 2**	**1.14**	**139**	P	**Pn**	**18 15 06.3**	**-0.7**
NEM2				*e*S	**Sb**	**18 15 22.1**	**+0.6**
JAR	**Ashorobuto**	**1.17**	**217**	P	**Pn**	**18 15 07.2**	**-0.2**
JAR				*e*S	**Sb**	**18 15 23.1**	**+0.7**
JKHN	**Kushirohamanak**	**1.19**	**165**	⇓P	**Pn**	**18 15 07.6**	**-0.2**
KUR	**Kuril'sk**	**2.45**	**65**	*i* P	**Pn**	**18 15 25.2**	**+0.2**
KUR				AMB	AMB	18 15 25.9	
	20nm,0.3s						
KUR				AMB	AMB	18 15 25.9	
	30nm,0.3s						
KUR				*e*S	**Sn**	**18 15 54.0**	**-0.4**
KUR				A	A	18 15 56.0	
	230nm,0.3s						
KUR				A	A	18 15 56.0	
	140nm,0.3s						

TIR 07 18:16:51.7, 41°.21N×20°.27E, h7km, Md2.2/4, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
TIR	**Tirane**	**0.34**	**294**	*i* PG	Pg	18 16 58.4	+0.2
TIR				*i* SG	Sb	18 17 04.6	-1.0
TIR	**Tirane**	**0.34**	**294**	*i* PG	Pg	18 16 58.4	+0.2
TIR				*i* SG	Sb	18 17 04.6	-1.0
PHP	**Peshkopia**	**0.49**	**15**	*i* PG	Pg	18 17 01.3	+0.1
PHP				*i* SG	Sb	18 17 09.1	-1.0
PHP	**Peshkopia**	**0.49**	**15**	*i* PG	Pg	18 17 01.3	+0.1
PHP				*i* SG	Sb	18 17 09.1	-1.0
PUK	**Puka**	**0.88**	**341**	*i* PG	Pg	18 17 08.6	0.0
PUK				*i* SG	Sn	18 17 22.7	-0.9
PUK	**Puka**	**0.88**	**341**	*i* PG	Pg	18 17 08.6	0.0
PUK				*i* SG	Sn	18 17 22.7	-0.9
FNA	**Florina**	**0.94**	**117**	*i* PN	Pg	18 17 10.0	+0.3
FNA				*i* SN	Sn	18 17 24.8	-0.3
FNA	**Florina**	**0.94**	**117**	*i* PG	Pg	18 17 10.0	+0.3
FNA				*i* SG	Sn	18 17 24.8	-0.3

*BJI **07** 18:25:49.9±0.0, 1°.65S×129°.16E, h42km, mb4.9/31, mB5.1/21, Ms4.9/10, Ms7 4.6/3*
*IDC **07** 18:25:50.4±0.5, 1°.10S×128°.79E, h0km, mb4.7/18, mb1 4.7/21, mb1mx4.4/39, mbtmp4.7/21, ML4.5/3, MS3.5/7, Ms1 3.4/7, ms1mx3.1/33, Error ellipse: s-maj=20.0km s-min=12.4km az=83.0*
*MOS **07** 18:25:52.6±1.1, 1°.07S×128°.81E, h30km, mb5.2/13, Error ellipse: s-maj=11.1km s-min=6.3km az=109.7*
*DJA **07** 18:25:53.0±0.2, 1°.S±2°×12°.9E±°, h10km, M4.8/13, mb5.0/13, mB5.2/6, MLv4.8/13, Mw(mB)4.6/6*
*ISCJB **07** 18:25:54.7±0.4, 1°.12S±0°.03×128°.76E±0°.02, h50km±4km, mb4.8/47, MS3.6/4, Error ellipse: s-maj=4.4km s-min=3.9km az=25.6*
*NEIC **07** 18:25:54.9±2.5, 1°.08S±0°.03×128°.71E±0°.04, h33km±4km, mb4.8/65*

ISC 07 18:25:55.2±0.7, 1°.11S±0°.03×128°.77E±0°.04, h33km±3km, n200, σ1°.72/210, mb4.8/67, MS3.5/4, 3C-6D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
LBMI	**Labuha**	**1.35**	**290**	P	**Pn**	**18 26 16.5**	**-1.3**
LBMI				S	**Sn**	**18 26 33.8**	**-0.8**
MSAI	**Masohi**	**2.23**	**176**	P	**Pn**	**18 26 31.8**	**+1.9**
MSAI				S	**Sb**	**18 27 03.3**	**+1.2**
TNTI	**Ternate**	**2.33**	**323**	P	**Pn**	**18 26 30.8**	**-0.5**
TNTI				S	**Sn**	**18 26 59.4**	**+0.5**
TNTI	**Ternate**	**2.33**	**323**		**Pn**	**18 26 30.1**	**-1.2**
SWI	**Sorong**	**2.50**	**84**	P	**Pn**	**18 26 34.0**	**+0.4**
SWI				S	**Sn**	**18 27 05.1**	**+2.1**
SIJI	**Sorong**	**2.51**	**85**	Pn	**Pn**	**18 26 33.9**	**+0.2**
	57nm,0.3s,baz=76,slow=23,SNR=128						
SIJI				Sn	**Sn**	**18 27 05.0**	**+1.9**
	34nm,0.3s,baz=284,slow=15,SNR=3.8						
AAI	**Ambon**	**2.63**	**193**	P	**Pn**	**18 26 37.0**	**+1.7**
AAI				S	**Sb**	**18 27 11.9**	**-1.6**
NLAI	**Namlea**	**2.70**	**218**	P	**Pn**	**18 26 36.9**	**+0.6**
NLAI				S	**Sn**	**18 27 08.9**	**+1.1**
SANI	**Sanana**	**2.93**	**251**	P	**Pn**	**18 26 38.4**	**-1.1**
BNDI	**Bandanaira**	**3.58**	**162**	P	**Pn**	**18 26 50.0**	**+1.6**
FAKI	**Fak Fak**	**3.92**	**117**	P	**Pn**	**18 26 53.0**	**-0.1**
FAKI	**Fak Fak**	**3.92**	**117**		**Pn**	**18 26 52.6**	**-0.5**
RKPI	**Ransiki, Papua**	**5.42**	**94**	P	**Pb**	**18 27 27.6**	**-1.6**
LUWI	**Luwuk**	**6.00**	**271**	P	**Pn**	**18 27 20.8**	**-0.9**
	315nm,0.7s,3μm1.6nm						
LUWI	**Luwuk**	**6.00**	**271**		**Pn**	**18 27 20.6**	**-1.0**
LUWI				Sn	**Sn**	**18 28 27.1**	**-2.2**
APSI	**Ampana**	**7.12**	**272**	P	**Pn**	**18 27 36.6**	**-0.5**
SAUI	**Saumlaki**	**7.28**	**160**	P	**Pn**	**18 27 40.3**	**+1.0**
	587nm,0.7s,2.0nm						
SAUI	**Saumlaki**	**7.28**	**160**		**Pn**	**18 27 39.4**	**+0.1**
BBSI	**Bau Bau**	**7.56**	**235**	P	**Pn**	**18 27 47.0**	**+3.8**
DAV	**Davao City (W)**	**8.72**	**339**	LR	LR	18 31 37.0	
	comp=Z,347nm,20.4s,baz=184,slow=40						
KCP	**Kidapawan**	**8.86**	**336**	⇑P	**Pn**	**18 28 04.1**	**+3.0**
BNSI	**Bone**	**9.25**	**249**	P	**Pn**	**18 28 08.0**	**+1.6**
BKSI	**Bulukumba**	**9.59**	**244**	P	**Pn**	**18 28 14.8**	**+3.7**
SOEI	**Soe**	**9.69**	**207**	P	Pn	18 28 22.6	+10
SOEI	**Soe**	**9.69**	**207**		**Pn**	**18 28 15.3**	**+2.9**
KAPI	**Kappang**	**9.80**	**246**	P	**Pn**	**18 28 16.5**	**+2.5**
KAPI						18 30 01.7	
KAPI	**Kappang**	**9.80**	**246**	Pn	**Pn**	**18 28 17.2**	**+3.2**
	5.2nm,0.3s,baz=80,slow=6.8,SNR=33						
KAPI				Sn	**Sn**	**18 30 03.6**	**+0.7**
	0.4nm,0.3s,baz=52,slow=19,SNR=1.8						
KAPI				LR	LR	18 32 20.9	
	comp=Z,93nm,18.5s,baz=304,slow=40						
KAPI	**Kappang**	**9.80**	**246**		**Pn**	**18 28 16.5**	**+2.5**
KAPI					**Sn**	**18 30 01.7**	**-1.3**
MMRI	**Maumere**	**9.91**	**221**	Pn	**Pn**	**18 28 18.7**	**+3.3**
SMPI	**Sarmi**	**9.97**	**95**	P	Pn	18 28 31.4	+15
BATI	**Baumata**	**10.37**	**209**	Pn	**Pn**	**18 28 24.4**	**+2.6**
	3.5nm,0.3s,baz=121,slow=1.1,SNR=4.1						
BATI				LR	LR	18 32 47.1	
	comp=Z,224nm,21.5s,baz=26,slow=40						
BATI	**Baumata**	**10.37**	**209**	P	Pn	18 28 34.4	+13
BKB	**Balikpapan**	**11.87**	**269**	Pn	**Pn**	**18 28 44.1**	**+1.8**
MTN	**Manton Dam**	**11.89**	**169**		**Pn**	**18 28 40.7**	**-1.9**
TWSI	**Taliwang, Sumb**	**14.05**	**237**	P	P	18 29 24.4	+4.9
KKM	**Kota Kinabalu**	**14.41**	**300**	Pn	**Pn**	**18 29 16.1**	**-0.9**
KNRA	**Kununurra**	**14.48**	**180**		**Pn**	**18 29 15.2**	**-2.6**
JAGI	**Jajag, Banyuwa**	**16.29**	**243**		**Pn**	**18 29 42.3**	**+0.6**
GMJI	**Gumukmas**	**16.84**	**245**	P	**P**	**18 29 56.0**	**+5.5**
SBUM	**Sibu**	**16.92**	**282**	P	**P**	**18 29 51.6**	**+0.3**
FITZ	**Fitzroy Crossi**	**17.16**	**190**	P	**Pn**	**18 29 50.3**	**-2.3**
	0.9nm,0.3s,baz=14,SNR=18						
FITZ				S	**Sn**	**18 33 06.5**	**+3.9**
	0.3nm,0.3s,baz=92,slow=17,SNR=2.1						
FITZ				LR	LR	18 37 06.4	
	comp=Z,170nm,20.4s,baz=20,slow=39						
FITZ	**Fitzroy Crossi**	**17.16**	**190**	P	**Pn**	**18 29 50.3**	**-2.3**
PWJI	**Pagerwojo**	**18.25**	**247**	P	**Pn**	**18 30 11.0**	**+5.0**
KSM	**Kuching**	**18.64**	**278**		**Pn**	**18 30 10.5**	**-0.3**
COEN	**Coen**	**19.13**	**133**	P	**P**	**18 30 15.6**	**-0.1**
WB0	**Warramunga Arr**	**19.34**	**164**	P	**P**	**18 30 15.3**	**-2.8**
WB0				IAmb	IAmb	18 30 20.0	
	comp=Z,32nm,0.7s						
UGM	**Wanagama**	**19.40**	**249**	P	**P**	**18 30 18.9**	**+0.2**
UGM				IAmb	IAmb	18 30 31.2	
	comp=Z,111nm,1.2s						
WRAB	**Tennant Creek**	**19.49**	**164**	*de*P	**P**	**18 30 18.1**	**-1.5**
WRAB	**Tennant Creek**	**19.49**	**164**	P	**P**	**18 30 18.3**	**-1.4**
WRAB				IAmb	IAmb	18 30 22.3	
	comp=Z,42nm,0.7s						
WRA	**Warramunga Arr**	**19.50**	**164**	P	**P**	**18 30 18.5**	**-1.2**
	comp=Z,2.9nm,0.3s,baz=344,slow=12,SNR=68						
WRA				S	S	18 33 43.3	-15
	comp=Z,0.4nm,0.3s,baz=339,slow=22,SNR=3.4						
WB2	**Warramunga Arr**	**19.50**	**164**	P	**P**	**18 30 18.1**	**-1.7**
WB2				IAmb	IAmb	18 30 19.8	
	comp=Z,38nm,0.8s						
WR0	**Warramunga Arr**	**19.57**	**164**	P	**P**	**18 30 18.9**	**-1.6**
PMG	**Port Moresby**	**20.07**	**115**	P	Pn	18 30 27.0	-0.9
PMG				pmax	pmax		
	comp=Z,31nm,1.1s						
PMG	**Port Moresby**	**20.07**	**115**	LR	LR	18 39 28.3	
	comp=Z,153nm,19.4s,baz=268,slow=41						
PMG	**Port Moresby**	**20.07**	**115**	P	Pn	18 30 27.1	-0.9
KPJI	**Karang Pucung**	**20.72**	**252**	P	Pn	18 30 38.7	+3.2
CISI	**Cisompet, Garu**	**21.84**	**252**	P	**P**	**18 30 41.9**	**-3.3**
CISI				IAmb	IAmb	18 30 55.9	
	comp=Z,101nm,1.6s						
PSA00	**Pilbara Seismi**	**22.12**	**203**	P	**P**	**18 30 45.1**	**-3.0**
AS31	**Alice Springs**	**22.97**	**168**	P	**P**	**18 30 56.1**	**-1.0**
AS31				IAmb	IAmb	18 31 03.5	
	comp=Z,21nm,0.6s						
ASAR	**Alice Springs**	**22.97**	**168**	P	**P**	**18 30 56.2**	**-0.8**
	comp=Z,19nm,0.5s,baz=350,slow=13,SNR=89						
ASAR				S	**S**	**18 35 04.5**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=348,slow=22,SNR=4.7						
ASAR				LR	LR	18 40 33.1	
	comp=Z,135nm,19.1s,baz=358,slow=38						
DLV	**T Lat**	**23.96**	**303**	P	**P**	**18 31 06.8**	**-0.2**
DLV				IAmb	IAmb	18 31 08.7	
	comp=Z,33nm,1.1s						
KLSI		**24.27**	**261**	P	**P**	**18 31 13.6**	**+4.0**
MDSI	**Maura Dua**	**24.79**	**262**	P	**P**	**18 31 15.1**	**+0.7**
	comp=Z,13nm,1.0s						
XMIS	**Christmas Isla**	**24.79**	**247**	P	**P**	**18 31 13.0**	**-1.4**
XMIS				IAmb	IAmb	18 31 17.4	
	comp=Z,44nm,1.1s						
TWG	**Pinlang**	**24.94**	**343**	P	**P**	**18 31 13.4**	**-2.2**
MYKOM	**Kota Tinggi**	**25.08**	**277**	P	**P**	**18 31 17.5**	**+0.4**
MYKOM				IAmb	IAmb	18 31 19.1	
	comp=Z,36nm,1.2s						
YULB	**Yu-li**	**25.41**	**344**	P	**P**	**18 31 24.2**	**+4.2**
YULB				IAmb	IAmb	18 31 37.4	
	comp=Z,41nm,1.4s						
TPUB	**Ta-pu**	**25.52**	**342**	P	**P**	**18 31 19.9**	**-1.1**
TPUB				IAmb	IAmb	18 31 20.9	
	comp=Z,53nm,1.4s						
SSLB	**Suanglung**	**25.89**	**343**	P	**P**	**18 31 22.9**	**-1.4**
SSLB				IAmb	IAmb	18 31 26.1	
	comp=Z,25nm,1.0s						
YOJ	**Yonaguni jima**	**26.02**	**348**	P	**P**	**18 31 25.0**	**-0.4**
YOJ				pmax	pmax		
	comp=Z,315nm,1.7s						
YOJ	**Yonaguni jima**	**26.02**	**348**	P	**P**	**18 31 25.0**	**-0.4**
YHNB	**Yeheng**	**26.61**	**345**	P	**P**	**18 31 30.4**	**-0.4**
IPM	**Ipoh**	**28.27**	**282**	P	**P**	**18 31 45.9**	**0.0**
IPM				IAmb	IAmb	18 31 58.9	
	comp=Z,32nm,1.5s						
KULM	**Kulim**	**28.80**	**283**	P	**P**	**18 31 50.0**	**-0.5**
KULM				IAmb	IAmb	18 32 00.2	
	comp=Z,43nm,1.8s						
FORT	**Forrest**	**29.52**	**181**	P	**P**	**18 31 53.6**	**-3.0**
FORT				IAmb	IAmb	18 32 12.0	
	comp=Z,22nm,0.8s						
RPSI	**Rantau Prapat**	**30.08**	**277**	P	**P**	**18 32 00.9**	**-0.9**
PSI	**Prapat**	**30.09**	**277**	P	**P**	**18 32 00.9**	**-1.2**
PSI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MORW	**Morawa**	**30.34**	**202**	P	**P**	**18 32 00.6**	**-3.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	31.28	274	P	P	18 32 11.3	-1.2
GSI				IAmb	IAmb	18 32 17.0	
	comp=Z,16nm,0.9s						
BBOO	Buckleboo	32.27	168	P	P	18 32 21.4	+0.4
LHMI	Lhok Sumawe	32.40	281	P	P	18 32 21.9	-0.4
PBKT	Sadao Pong	32.57	304	P	P	18 32 23.2	-0.5
MLSI	Meulaboh, Aceh	32.78	280	P	P	18 32 26.6	+1.0
	comp=Z,28nm,0.8s						
STKA	Stephens Creek	32.91	160	eP	P	18 32 27.4	+0.8
STKA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
STKA	Stephens Creek	32.91	160	P	P	18 32 25.9	-0.7
	comp=Z,2.2nm,0.6s,baz=330,slow=7.8,SNR=9.9						
STKA				LR	LR	18 48 22.1	
	comp=Z,87nm,18.5s,baz=330,slow=41						
STKA	Stephens Creek	32.91	160	P	P	18 32 27.1	+0.6
SLVN	Son La	32.99	314	P	P	18 32 28.1	+0.6
SLVN				IAmb	IAmb	18 32 34.8	
	comp=Z,18nm,1.4s						
NWAO	Narrogin (SRO)	33.46	198	P	P	18 32 32.2	+0.9
NWAO				pmax	pmax		
	comp=Z,41nm,1.6s						
NWAO	Narrogin (SRO)	33.46	198	P	P	18 32 32.2	+0.9
NWAO	Narrogin (SRO)	33.46	198	P	P	18 32 32.2	+0.9
NWAO				IAmb	IAmb	18 32 58.1	
	comp=Z,41nm,1.6s						
JNU	Nakatsue	34.10	3	P	P	18 32 36.6	-0.3
	comp=Z,16nm,1.1s,baz=38,slow=14,SNR=3.9						
JNU	Nakatsue	34.10	3	P	P	18 32 36.4	-0.6
WHN	Wuhan	34.34	338	P	P	18 32 40.2	+1.2
WHN				pmax	pmax		
	comp=Z,52nm,1.3s						
GYA	Guiyang	34.73	324⇓	iP	P	18 32 43.2	+0.7
GYA				pP	sP	18 32 54.3	-1.4
GYA				sP	pP	18 33 01.1	+9.3
GYA				S	S	18 38 07.2	-3.6
GYA				ScP	ScP	18 38 58.5	-0.7
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,5.3s						
GYA				LR	LR		
	comp=Z,180nm,16.5s						
GYA				LR	LR		
	comp=Z,140nm,16.6s						
CM31	Chiang Mai Arr	35.19	305	P	P	18 32 46.4	-0.1
CMAR	Chiang Mai Arr	35.19	305	P	P	18 32 46.9	+0.3
	comp=Z,3.0nm,0.9s,baz=132,slow=7.6,SNR=25						
CMAR				PcP	PcP	18 35 19.3	+1.9
	comp=Z,1.5nm,0.8s,baz=176,slow=2.3,SNR=10						
CHTO	Chiang Mai	35.37	306	P	P	18 32 48.0	-0.1
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CHTO	Chiang Mai	35.37	306	P	P	18 32 48.0	-0.1
CHTO				IAmb	IAmb	18 32 49.2	
	comp=Z,7.9nm,0.8s						
ENH	Enshi	36.22	331	P	P	18 32 54.7	-0.5
ENH				IAmb	IAmb	18 32 56.1	
	comp=Z,21nm,1.3s						
KMI	Kunming	36.27	318	P	P	18 32 57.7	+1.8
KMI				pP	pP	18 33 03.6	-1.7
KMI				pmax	pmax		
	comp=Z,20nm,0.9s						
KMI				pmax	pmax		
	comp=Z,75nm,4.3s						
KMI	Kunming	36.27	318	P	P	18 32 56.1	+0.2
KMI				pmax	pmax		
	comp=Z,36nm,1.3s						
KMI	Kunming	36.27	318	P	P	18 32 56.1	+0.2
TJN	Taejon	37.32	358⇑	eP	P	18 33 04.5	+0.1
PBA	Port Blair	37.98	291	P	P	18 33 10.1	-0.2
KSRS	Korea Array	38.38	359	P	P	18 33 13.7	+0.4
	comp=Z,4.4nm,0.8s,baz=177,slow=10,SNR=16						
KSRS				PcP	PcP	18 35 27.4	+0.8
	comp=Z,1.4nm,0.7s,baz=200,slow=3.5,SNR=6.6						
KS19	Wonju Array Si	38.42	359	P	P	18 33 13.4	-0.3
KS19				IAmb	IAmb	18 33 14.4	
	comp=Z,9.5nm,0.8s						
MJAR	Matsushiro Arr	38.47	12	P	P	18 33 12.8	-1.4
	comp=Z,7.2nm,0.8s,baz=188,slow=9.3,SNR=18						
MAJO	Matsushiro	38.47	12	deP	P	18 33 13.2	-1.0
MAJO				pmax	pmax		
	comp=Z,21nm,0.9s						
MAJO	Matsushiro	38.47	12	P	P	18 33 12.3	-1.9
MAJO				IAmb	IAmb	18 33 14.4	
	comp=Z,17nm,0.8s						
MAT	Matsushiro	38.47	12	P	P	18 33 12.9	-1.3
MJB9	Matsu-Tunnel	38.48	12	P	P	18 33 11.6	-2.6
MJB9				IAmb	IAmb	18 33 14.3	
	comp=Z,18nm,0.8s						
MJA0	Matsu Arr-Jizo	38.48	12	eP	P	18 33 12.8	-1.5
MJA0				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LHI	Lord Howe Isla	41.65	140	P	P	18 33 39.4	-1.3
LKP	Lekhapani	42.45	314	ex	P	18 33 47.2	0.0
LKP				IAmb	IAmb	18 33 49.2	
	comp=Z,107nm,0.1s						
LZH	Lanzhou	43.68	330	eP	P	18 33 59.5	+2.2
LZH				pP	sP	18 34 10.8	+0.2
LZH				sP	pP	18 34 14.2	+7.5
LZH				pmax	pmax		
	comp=Z,21nm,1.1s						
LZH				pmax	pmax		
	comp=Z,85nm,4.3s						
ZIRO	ZIRO	44.01	313	ex	P	18 34 00.6	+0.5
ZIRO				IAmb	IAmb	18 34 07.2	
	comp=Z,11nm,0.7s						
SHL	Shillong	44.44	309	P	P	18 34 03.1	-0.4
SHL				pmax	pmax		
	comp=Z,22nm,0.7s						
SHL	Shillong	44.44	309	eP	P	18 34 05.0	+1.5
SHL				ex	x	18 35 00.9	
SHL	Shillong	44.44	309	P	P	18 34 03.1	-0.4
SHL				IAmb	IAmb	18 34 04.1	
	comp=Z,22nm,0.7s						
HHC	Hu-ho-hao-te	44.60	341	P	P	18 34 10.0	+5.5
USA0B	Ussuriysk Arra	45.20	3	P	P	18 34 09.0	0.0
USA0B				pmax	pmax		
	comp=Z,12nm,0.8s						
USA0B	Ussuriysk Arra	45.20	3	P	P	18 34 09.0	0.0
USA0B				IAmb	IAmb	18 34 10.4	
	comp=Z,12nm,0.8s						
USRK	Ussuriysk Ar.	45.20	3	P	P	18 34 09.6	+0.6
	comp=Z,9.2nm,0.7s,baz=187,slow=7.2,SNR=20						
MDJ	Mudanjiang	45.53	1	P	P	18 34 12.1	+0.4
MDJ				S	S	18 40 59.4	+7.9
MDJ				pmax	pmax		
	comp=Z,15nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,73nm,2.6s						
MDJ				LR	LR		
	comp=Z,570nm,7.4s						
MDJ				LR	LR		
	comp=Z,380nm,8.8s						
MDJ				LR	LR		
	comp=Z,740nm,9.1s						
MDJ	Mudanjiang	45.53	1	P	P	18 34 11.2	-0.5
MDJ				IAmb	IAmb	18 34 13.1	
	comp=Z,13nm,1.0s						
GTK	Tadong	47.86	309	IAmb	IAmb	18 34 31.8	
	comp=Z,9.8nm,0.9s						
TAPN	Taplejung	48.56	309	eP	P	18 34 36.0	0.0
	comp=Z,17nm,0.7s						
ODAN	Odare	48.58	308	eP	P	18 34 36.1	0.0
	comp=Z,34nm,0.8s						
RAMN	Ramite	49.25	308	eP	P	18 34 41.5	+0.3
	comp=Z,53nm,0.6s						
JIRN	Jiri	49.90	308	eP	P	18 34 46.3	0.0
	comp=Z,28nm,0.6s						
KLR	Kul'dur	50.21	3	deP	P	18 34 47.9	+0.1
KLR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KLR	Kul'dur	50.21	3	P	P	18 34 47.9	+0.1
	comp=Z,6.9nm,0.8s,baz=232,slow=3.9,SNR=18						
GUN	Gumba	50.26	308	eP	P	18 34 48.9	-0.1
	comp=Z,33nm,0.7s						
PKI	Pulchoki	50.47	308	eP	P	18 34 50.0	-0.6
	comp=Z,7.1nm,0.7s						
PKIN	Phulchoki	50.48	308	eP	P	18 34 50.0	-0.7
KKN	Kakani	50.67	308	eP	P	18 34 51.6	-0.4
DMN	Daman	50.73	308	eP	P	18 34 52.2	-0.3
	comp=Z,21nm,0.8s						
GKN	Gorkha	51.28	308	eP	P	18 34 56.3	-0.2
	comp=Z,25nm,0.8s						
KOLN	Koldanda	52.00	307	eP	P	18 35 02.0	+0.1
	comp=Z,77nm,0.7s						
GRNR	Gornyy	52.09	6	eP	P	18 34 57.3	-4.7
GRNR				pmax	pmax		
	comp=Z,7.0nm,1.5s						
DANN	Dangsing	52.12	308	eP	P	18 35 02.8	-0.2
	comp=Z,70nm,0.7s						
ZEA	Zeya	54.67	359	eP	P	18 35 20.8	0.0
ZEA				e		18 43 02.0	
ZEA				pmax	pmax		
	comp=Z,15nm,1.0s						
TUWZ	Tuamarina	57.13	141	P	P	18 35 37.4	-1.3
BKZ	Black Stump Fm	57.66	137	P	P	18 35 43.1	+0.6
WMQ	Urumqi	57.84	326	eP	P	18 35 44.5	+0.8
WMQ				pmax	pmax		
	comp=Z,49nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,28nm,3.7s						
PEA0B	Petropavlovsk-	59.19	20	P	P	18 35 51.5	-1.4
PEA0B				pmax	pmax		
	comp=Z,50nm,1.3s						
PEA0B	Petropavlovsk-	59.19	20	P	P	18 35 51.5	-1.4
PETK	Petropavlovsk-	59.19	20	P	P	18 35 53.0	+0.2
	comp=Z,8.8nm,0.8s,baz=175,slow=7.0,SNR=9.3						
MK31	Makanchi Array	62.67	326	P	P	18 36 15.2	-1.5
MK31				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MK31	Makanchi Array	62.67	326	P	P	18 36 15.2	-1.5
MK31				IAmb	IAmb	18 36 16.9	
	comp=Z,6.3nm,0.8s						
MKAR	Makanchi Array	62.67	326	P	P	18 36 16.3	-0.4
	comp=Z,5.4nm,0.6s,baz=127,slow=8.9,SNR=4.2						
PRZ	Przheval'sk	62.69	320	P	P	18 36 17.1	0.0
PRZ				pmax	pmax		
	comp=Z,21nm,1.0s						
PRZ	Przheval'sk	62.69	320	P	P	18 36 17.1	0.0
YAK	Yakutsk	62.98	0	eP	P	18 36 18.2	-0.1
YAK				e*PP	pP	18 36 24.7	-3.5
YAK				e		18 36 54.6	
YAK				e		18 38 35.2	
YAK				eS	S	18 44 45.8	-0.3
YAK				e*SS	sS	18 45 08.3	+6.1
YAK				e		18 46 08.9	
YAK				eSSS	SSS	18 51 43.4	
YAK				pmax	pmax		
	comp=Z,25nm,0.8s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,95nm,2.4s						
YAK				pmax	pmax		
	comp=N,101nm,2.5s						
YAK				pmax	pmax		
	comp=E,107nm,2.3s						
YAK				smax	smax		
	comp=N,88nm,3.2s						
YAK				smax	smax		
	comp=E,271nm,3.3s						
YAK	Yakutsk	62.98	0	P	P	18 36 19.0	+0.7
	comp=E,22nm,0.7s,baz=226,slow=0.2,SNR=27						
YAK	Yakutsk	62.98	0	P	P	18 36 18.5	+0.1
KDJ	Kajisay	63.30	319	P	P	18 36 19.9	-1.4
KDJ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KDJ	Kajisay	63.30	319	P	P	18 36 19.9	-1.4
KDJ				IAmb	IAmb	18 36 22.2	
	comp=Z,8.4nm,0.8s						
AAK	Ala-Archa	65.30	319	P	P	18 36 32.4	-1.9
AAK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
AAK	Ala-Archa	65.30	319	P	P	18 36 32.4	-1.9
AAK				IAmb	IAmb	18 36 41.5	
	comp=Z,8.4nm,1.1s						
SEY	Seymchan	66.30	12⇓	eP	P	18 36 40.3	+0.3
KURBB	Kurchatov Arra	66.89	328	P	P	18 36 43.7	-0.4
	comp=Z,7.8nm,0.6s,baz=127,slow=6.2,SNR=15						
KURK	Kurchatov	66.89	328	P	P	18 36 43.7	-0.4
KURK	Kurchatov	66.89	328	P	P	18 36 43.1	-0.9
KK31	Karatay Array	68.15	318	P	P	18 36 51.1	-1.2
KK31				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KK31	Karatay Array	68.15	318	P	P	18 36 51.1	-1.2
KK31				IAmb	IAmb	18 36 52.7	
	comp=Z,7.5nm,0.9s						
KKAR	Karatay Array	68.15	318	P	P	18 36 51.1	-1.2
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KKAR	Karatay Array	68.15	318	P	P	18 36 51.1	-1.2
KKAR				IAmb	IAmb	18 36 52.7	
	comp=Z,7.5nm,0.9s						
TAS	Tashkent	68.30	316	P	P	18 36 52.0	-1.2
TAS				pmax	pmax		
	comp=Z,36nm,0.5s						
TAS	Tashkent	68.30	316	P	P	18 36 52.0	-1.2
HRA	Herat	71.42	307	P	P	18 37 10.9	-1.9
TIXI	Tiksi	72.63	0⇑	iP	P	18 37 18.7	-0.3
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TIXI	Tiksi	72.63	0	P	P	18 37 18.2	-0.8
TIXI				IAmb	IAmb	18 37 19.8	
	comp=Z,6.8nm,0.6s						
BILL	Bilibino	73.71	14	eP	P	18 37 25.5	+0.1
BILL				e		18 37 40.0	
BILL				e		18 40 11.0	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.3s						
NRIK	Noril'sk	75.58	346	P	P	18 37 37.0	+0.8
	comp=Z,13nm,0.6s,baz=125,slow=7.5,SNR=16						
MAW	Mawson	79.97	201	P	P	18 38 02.2	+1.5
MAW				pmax	pmax		
	comp=Z,6.0nm,1.7s						
MAW	Mawson	79.97	201	P	P	18 38 02.4	+1.7
	comp=Z,2.9nm,0.9s,baz=96,slow=10,SNR=3.6						
MAW	Mawson	79.97	201	P	P	18 38 02.2	+1.5
ARU	Arti	80.09	328d	iP	P	18 38 01.2	-0.4
ARU				S	S	18 48 07.9	+4.1
ARU				SS	SS	18 53 13.3	-1.2
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s						
RAYN	Ar Rayn	84.26	294	P	P	18 38 23.9	-0.4
RAYN				pmax	pmax		
	comp=Z,15nm,1.8s						
RAYN	Ar Rayn	84.26	294	P	P	18 38 23.9	-0.4
RAYN				IAmb	IAmb	18 38 36.9	
	comp=Z,15nm,1.8s						
ILAR	Eielson Array	88.57	25	P	P	18 38 43.5	-0.9
	comp=Z,1.0nm,0.9s,baz=260,slow=4.5,SNR=7.7						
KMBO	Kilima Mbogo	91.50	269	eP	P	18 39 01.1	+1.6
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KMBO	Kilima Mbogo	91.50	269	P	P	18 39 00.7	+1.2
	comp=Z,2.4nm,0.9s,baz=63,slow=8.3,SNR=7.1						
KMBO	Kilima Mbogo	91.50	269	P	P	18 38 59.7	+0.2
OBN	Obninsk	92.17	325	eP	P	18 39 00.9	-0.5
OBN				e		18 42 39.5	
OBN				pmax	pmax		
	comp=Z,28nm,1.5s						
ARCES	ARCESS Array B	95.66	340	eP	P	18 39 16.9	-0.3
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARCES	ARCESS Array B	95.66	340	P	P	18 39 16.5	-0.7
	comp=Z,5.2nm,0.9s,baz=62,slow=5.9,SNR=5.4						
FINES	FINESS Array B	97.03	332	P	P	18 39 21.9	-1.6
	comp=Z,4.4nm,1.1s,baz=70,slow=2.2,SNR=3.9						
VYHS	Vyhne	103.95	320	eP	Pdif	18 39 55.7	+0.9
VYHS	Vyhne	103.95	320	ePDIFF	Pdif	18 39 55.7	+0.9
NOA	NORSAR Array B	104.00	334	Pdiff	Pdif	18 39 54.0	-0.7
	comp=Z,1.0nm,0.9s,baz=39,slow=5.0,SNR=3.5						
ESDC	Sonseca Array	122.40	318	PKP	PKiKP	18 44 47.7	0.0
	comp=Z,0.2nm,0.6s,baz=112,slow=1.6,SNR=3.1						
TORD	Torodi Ar. Bea	126.26	285	PKP	PKiKP	18 44 56.0	0.0
	comp=Z,1.7nm,0.7s,baz=58,slow=2.4,SNR=9.7						
CFA	Coronel Fontan	143.69	155	PKP	PKPdf	18 45 26.4	-1.2
	comp=Z,1.4nm,0.7s,baz=256,slow=4.2,SNR=3.2						
JTS	Las Juntas de	145.26	74	PKIKP	PKPdf	18 45 31.9	+1.2
JTS	Las Juntas de	145.26	74		PKPdf	18 45 31.9	+1.2
CPUP	Villa Florida	152.09	168	PKIKP	PKiKP	18 45 48.3	-0.1
CPUP	Villa Florida	152.09	168	PKPbc	PKiKP	18 45 48.8	+0.4
	comp=Z,2.3nm,0.8s,baz=180,slow=1.7,SNR=5.7						
CPUP	Villa Florida	152.09	168		PKiKP	18 45 48.3	-0.1

JMA 07 18:27:52.0±0.2, 37°.03N×144°.33E, h48km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.61	300	P	Pn	18 28 32.9	+1.3
JIKH				S	Sn	18 29 03.9	+1.8
JIO	Ouri	2.76	302	P	Pn	18 28 35.2	+1.5
JIO				eS	Sn	18 29 07.2	+1.4
JFK	Kawauchi	2.78	278	P	Pn	18 28 35.1	+1.1
JFK				eS	Sn	18 29 07.6	+1.2
ONAJ	Iwakimizuishiy	2.83	273	eS	Sn	18 29 08.6	+1.1
JMST	Minamisoumatoc	2.83	285	P	Pn	18 28 36.0	+1.3
JMST				eS	Sn	18 29 09.0	+1.5
JKMT	Kesennumamotoy	2.87	309	P	Pn	18 28 36.5	+1.2
JKMT				eS	Sn	18 29 09.5	+0.9
JMK	Ichinoseki	3.12	309	P	Pn	18 28 40.1	+1.5
JMK				eS	Sn	18 29 16.3	+1.7
JFT	Otama	3.22	280	P	Pn	18 28 42.7	+2.6
JFT				eS	Sn	18 29 20.3	+3.1
JOM	Ohasama	3.42	316	P	Pn	18 28 44.4	+1.7
JOM				eS	Sn	18 29 23.3	+1.3
BSO1	Boso 1	3.61	230	P	Pn	18 28 44.8	-0.1
JRY	Ryogami san	4.49	259	P	Pn	18 28 58.3	+0.8
JRY				eS	Sn	18 29 48.4	0.0
JOD2	Odawara 2	4.59	249	eS	Sn	18 29 51.0	0.0
JCH	Churui	5.63	353	P	Pn	18 29 12.8	-0.2
JCH				eS	Sn	18 30 14.3	-2.0
JTKR	Abashiri--Toko	6.94	357	P	Pn	18 29 30.7	-0.3
JTKR				eS	Sn	18 30 44.1	-4.5

*ISCJB **07** 18:30:58.8±0.1, 41°.04N±0°.02×100°.15E±0°.03, h10km, mb4.4/63, MS3.5/6, Error ellipse: s-maj=3.1km s-min=2.6km az=32.9*
*IDC **07** 18:30:59.1±0.5, 41°.06N×100°.19E, h0km, mb4.1/24, mb1 4.3/30, mb1mx4.2/45, mbtmp4.2/30, ML3.8/5, MS3.6/10, Ms1 3.6/10, ms1mx3.3/41, Error ellipse: s-maj=13.6km s-min=11.1km az=25.0*
*BJI **07** 18:30:59.4±0.0, 41°.04N×100°.22E, h7km, mb4.3/35, mB4.8/26, ML4.9/16, Ms4.4/39, Ms7 4.1/36*
*NEIC **07** 18:31:01.7±1.8, 41°.02N±0°.07×100°.13E±0°.09, h17km±3km, mb4.8/114*
*MOS **07** 18:31:02.0±1.4, 41°.06N×100°.08E, h33km, mb4.8/12, Error ellipse: s-maj=6.6km s-min=5.2km az=130.8*
ISC 07 18:31:00.7±0.3, **41°.06N**±0°.03×**100°.15E**±0°.04, **h10km, n266, σ1§72**/284, **mb4.7**/109, **MS3.4**/6, **6C-3D, Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTA	Gaotai	1.67	189	⇓Pg	Pn	18 31 30.2	+0.1
GTA				Sg	Sb	18 31 51.9	-0.7
GTA				smax	smax		
	comp=N,12μm,0.5s						
GTA				smax	smax		
	comp=E,11μm,0.6s						
LZH	Lanzhou	5.75	149	Pn	Pn	18 32 29.8	+3.6
LZH				Sn	Sn	18 33 35.8	+3.5
LZH				Sg	Sg	18 33 58.3	-6.9
LZH				smax	smax		
	comp=N,1μm,0.9s						
LZH				smax	smax		
	comp=E,1μm,1.1s						
LZH				LR	LR		
	comp=N,4μm,7.1s						
LZH				LR	LR		
	comp=E,3μm,5.4s						
LZH				LR	LR		
	comp=Z,1μm,9.8s						
BTO	Baotou	7.50	90	ePn	Pn	18 32 47.5	-2.7
BTO				Sn	Sn	18 34 11.5	-3.9
SONM	Songino Array	8.11	31	Pn	Pn	18 32 58.9	+0.3
	20nm,0.3s,baz=212,slow=15,SNR=118						
SONM				Pg	Pb	18 33 27.3	+5.9
	18nm,0.3s,baz=218,slow=17,SNR=9.6						
SONM				Lg	Lg	18 35 12.2	
	13nm,0.3s,baz=215,slow=31,SNR=9.0						
SONM				LR	LR	18 36 31.5	
	comp=Z,604nm,19.6s,baz=203,slow=41						
ULN	Ulaanbaatar	8.40	34	ceP	Pn	18 33 02.8	+0.1
ULN	Ulaanbaatar	8.40	34		Pn	18 33 02.5	-0.1
HHC	Hu-ho-hao-te	8.64	88	P	Pn	18 33 07.1	+1.2
HHC				S	Sn	18 34 43.0	-0.5
HHC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC				smax	smax		
	comp=N,470nm,0.6s						
HHC				smax	smax		
	comp=E,250nm,0.7s						
ZAK	Zakamensk	9.58	12	eP	Pn	18 33 15.0	-3.7
ZAK				pmax	pmax		
	comp=Z,56nm,1.0s						
WMQ	Urumqi	9.61	291	eP	Pn	18 33 18.9	-0.3
WMQ				S	Sn	18 35 07.5	+0.3
WMQ	Urumqi	9.61	291	P	Pn	18 33 18.7	-0.5
WMQ	Urumqi	9.61	291		Pn	18 33 18.7	-0.5
XAN	Xi'an	9.88	132	P	Pn	18 33 23.2	+0.4
XAN				S	Sn	18 35 13.1	-0.6
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
XAN				LR	LR		
	comp=Z,2μm,9.0s						
XAN				LR	LR		
	comp=Z,1μm,8.4s						
XAN				LR	LR		
	comp=Z,840nm,9.8s						
XAN	Xi'an	9.88	132	P	Pn	18 33 21.3	-1.4
XAN	Xi'an	9.88	132		Pn	18 33 21.3	-1.4
TIY	Taiyuan	10.08	105	P	Pn	18 33 29.2	+3.6
TIY				S	Sn	18 35 26.1	+7.4
CD2	Chengdu	10.54	163	P	Pn	18 33 31.8	-0.1
CD2				S	Sn	18 35 30.9	+0.9
CD2				LR	LR		
	comp=Z,1μm,7.5s						
CD2				LR	LR		
	comp=Z,5μm,9.0s						
CD2				LR	LR		
	comp=Z,1μm,7.3s						
MOY	Mondy	10.63	3	eP	Pn	18 33 34.9	+1.8
TLY	Talaya	10.89	12	eP	Pn	18 33 38.3	+1.7
TLY				pmax	pmax		
	comp=Z,5.0nm,0.3s						
TLY	Talaya	10.89	12	Pn	Pn	18 33 37.8	+1.2
	comp=Z,0.0nm,0.3s,baz=189,slow=10,SNR=8.1						
TLY				Pg		18 34 18.6	
	comp=Z,0.0nm,0.3s,baz=240,slow=11,SNR=6.0						
TLY				Lg	Lg	18 36 43.9	
	comp=Z,0.0nm,0.3s,baz=102,slow=6.6,SNR=5.6						
TLY				LR	LR	18 38 03.3	
	comp=Z,471nm,18.4s,baz=182,slow=39						
TLY	Talaya	10.89	12	Pn	Pn	18 33 36.7	+0.1
TLY					Pg	18 34 19.0	
BJI	Beijing	12.24	90	P	Pn	18 33 54.6	-0.4
BJI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BJI				LR	LR		
	comp=Z,680nm,13.1s						
BJI				LR	LR		
	comp=Z,650nm,11.6s						
BJI				LR	LR		
	comp=Z,490nm,18.5s						
ENH	Enshi	13.16	142	Pn	Pn	18 34 06.4	-1.3
LSA	Lhasa	13.49	216	P	Pn	18 34 12.2	-0.4
LSA	Lhasa	13.49	216	P	Pn	18 34 11.8	-0.8
LSA	Lhasa	13.49	216		Pn	18 34 11.8	-0.8
MK31	Makanchi Array	14.08	300	P	Pn	18 34 17.4	-2.8
MK31	Makanchi Array	14.08	300		Pn	18 34 17.4	-2.8
MKAR	Makanchi Array	14.08	300	Pn	Pn	18 34 18.1	-2.0
	comp=Z,0.6nm,0.3s,baz=104,slow=15,SNR=21						
MKAR				Lg	Lg	18 38 26.0	
	comp=Z,0.9nm,0.3s,baz=110,slow=23,SNR=3.6						
MKAR				LR	LR	18 39 20.9	
	comp=Z,141nm,18.0s,baz=110,slow=36						
TIA	Tai'an	14.12	105	P	P	18 34 28.5	0.0
TIA				S	Sn	18 36 55.3	-2.2
TIA				LR	LR		
	comp=N,500nm,10.2s						
TIA				LR	LR		
	comp=E,360nm,8.4s						
TIA				LR	LR		
	comp=Z,610nm,11.0s						
MAKZ	Makanchi	14.29	300	P	Pn	18 34 20.7	-2.4
MAKZ	Makanchi	14.29	300	Pn	Pn	18 34 20.6	-2.4

PDGK Podgornoye 15.48 285 P Pn 18 34 34.5 -4.7
PDGK pmax pmax
comp=Z,33nm,1.0s
GYA Guiyang 15.53 158⇑ *i*P **P 18 34 45.2 +0.9**
GYA pP sP 18 34 49.8 +1.0
GYA sP pP 18 34 52.2 +4.8
GYA PP **PnPn 18 34 55.9 +7.7**
GYA S **S 18 37 40.6 -7.2**
GYA pmax pmax
comp=Z,10.0nm,0.6s
GYA pmax pmax
comp=Z,40nm,4.0s
GYA LR LR
comp=Z,190nm,7.9s
GYA LR LR
comp=Z,250nm,7.4s
GYA LR LR
comp=Z,270nm,8.7s
WHN Wuhan 15.56 128 P P 18 34 46.1 +1.6
WHN S **Sn 18 37 36.9 +4.3**
WHN LR LR
comp=N,1µm,10.5s
WHN LR LR
comp=E,1µm,9.4s
WHN LR LR
comp=Z,2µm,8.8s
KMI Kunming 16.04 171 P Pn 18 34 48.3 +1.7
KMI pP P 18 34 51.3 +1.2
KMI sP pP 18 34 53.7 +0.6
KMI S **Sn 18 37 44.5 -0.1**
KMI sS S 18 37 52.7 -5.7
KMI SS **SnSn 18 38 06.2 +8.6**
KMI pmax pmax
comp=Z,8.0nm,1.1s
KMI pmax pmax
comp=Z,120nm,4.1s
KMI LR LR
comp=Z,280nm,11.3s
KMI LR LR
comp=Z,510nm,18.0s
KMI LR LR
comp=Z,290nm,12.3s
HIA Hailar 16.04 53 P Pn 18 34 45.3 -1.0
HIA pmax pmax
comp=Z,14nm,1.2s
HIA Hailar 16.04 53 Pn **Pn 18 34 45.2 -1.0**
PRZ Przheval'sk 16.29 282 P **Pn 18 34 46.2 -3.5**
PRZ pmax pmax
comp=Z,17nm,0.9s
PRZ Przheval'sk 16.29 282 Pn 18 34 46.2 -3.5
ZAA0 Zalesovo Array 16.49 327 Pn 18 34 49.9 -2.1
ZAA0 **PcP 18 39 40.2 -2.9**
ZALV Zalesovo Beam 16.49 327 *e*P **Pn 18 34 52.1 +0.1**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 16.49 327 Pn **Pn 18 34 51.0 -1.0**
comp=Z,0.7nm,0.3s,baz=140,slow=10,SNR=11
ZALV Lg Lg 18 39 36.2
comp=Z,0.2nm,0.3s,baz=134,slow=23,SNR=8.1
ZALV LR LR 18 41 19.5
comp=Z,79nm,18.4s,baz=132,slow=38
TARG Taragay, Kyrgy 16.78 280 Pn 18 34 53.0 -3.1
TARG IAmb IAmb 18 35 03.1
comp=Z,57nm,1.0s
SHL Shillong 16.91 207 P Pn 18 34 55.0 -2.6
SHL pmax pmax
comp=Z,68nm,0.7s
SHL Shillong 16.91 207 Pn 18 34 55.0 -2.6
SHL IAmb IAmb 18 35 02.7
comp=Z,68nm,0.7s
KDJ Kajisay 17.21 281 P Pn 18 34 58.3 -3.0
KDJ pmax pmax
comp=Z,49nm,1.1s
KDJ Kajisay 17.21 281 Pn 18 34 58.3 -3.0
NJ2 Nanjing 17.48 115 *e*P **Pn 18 35 05.4 +0.8**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
KURK Kurchatov 17.77 310 P Pn 18 35 08.8 +0.8
KURK Kurchatov 17.77 310 P Pn 18 35 08.4 +0.4
KURBB Kurchatov Arra 17.78 310 P Pn 18 35 08.8 +0.6
comp=Z,0.3nm,0.3s,baz=116,slow=11,SNR=10
KURBB Lg Lg 18 40 16.4
comp=Z,0.2nm,0.3s,baz=109,slow=29,SNR=6.6
NRN Naryn 18.16 279 P Pn 18 35 11.3 -1.9
NRN pmax pmax
comp=Z,47nm,1.5s
NRN Naryn 18.16 279 P Pn 18 35 11.3 -1.9
TKM2 Tokmak 2 18.33 284 P Pn 18 35 14.3 -0.9
TKM2 pmax pmax
comp=Z,19nm,1.1s
TKM2 Tokmak 2 18.33 284 P Pn 18 35 15.0 -0.3
SNR=12
KSH Kashi 18.50 273 P Pn 18 35 22.3 +5.1
KSH S **S 18 38 49.6 +1.4**
KSH SS SnSn 18 39 13.7 +16
KSH PcP **PcP 18 39 49.3 +2.5**
KSH pmax pmax
comp=Z,54nm,0.9s
KSH pmax pmax
comp=Z,550nm,5.7s
KSH LR LR
comp=Z,780nm,7.0s
KSH LR LR
comp=Z,670nm,8.5s
KSH LR LR
comp=Z,380nm,5.8s
KZA Kyzart 18.65 281 P Pn 18 35 21.6 +2.3
SNR=11
KBK Karagaybulak 18.82 283 P Pn 18 35 22.8 +1.6
SNR=23
CN2 Changchun 18.86 73 *e*P **P 18 35 21.7 +0.9**
CN2 *e*S **Sn 18 38 48.8 -3.5**
CN2 *e*SS **SnSn 18 39 13.6 +7.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,500nm,8.0s
CN2 LR LR
comp=Z,900nm,8.0s
CN2 LR LR
comp=Z,1µm,9.0s
FRU1 Bishkek 19.05 284 P P 18 35 21.9 -1.1
FRU1 pmax pmax
comp=Z,28nm,1.3s
FRU1 Bishkek 19.05 284 P P 18 35 21.9 -1.1
USP Ospenovka 19.12 285 P Pn 18 35 25.6 +0.9
SNR=16
AAK Ala-Archa 19.16 283⇑ *e*P **Pn 18 35 26.6 +1.4**
AAK pmax pmax
comp=Z,14nm,1.0s
AAK Ala-Archa 19.16 283 P P 18 35 24.5 +0.1
comp=Z,0.4nm,0.3s,baz=122,slow=6.1,SNR=15
AAK Lg Lg 18 41 06.5
baz=217,slow=20,SNR=2.3
AAK LR LR 18 43 13.5
comp=Z,128nm,20.1s,baz=68,slow=38
AAK Ala-Archa 19.16 283 P Pn 18 35 26.4 +1.2
SNR=11
AAK Ala-Archa 19.16 283 P P 18 35 24.1 -0.2
UCH Uchtor 19.18 282 P P 18 35 25.2 +0.3
SNR=44
EKS2 Erkin-Say 19.68 283 P Pn 18 35 32.1 +0.7
SNR=10.0
AML Almayashu 19.79 282 P Pn 18 35 34.1 +1.1
SNR=28
SLVN Son La 19.92 170 P Pn 18 35 34.4 +0.1
ARSB Arslanbob 20.42 280 P P 18 35 40.0 +1.9
ARSB IAmb IAmb 18 35 45.3
comp=Z,23nm,0.8s
INCN Inchon 20.78 91 P P 18 35 42.5 +0.5
INCN pmax pmax
comp=Z,19nm,0.7s
INCN Inchon 20.78 91 P P 18 35 42.5 +0.5
INCN IAmb IAmb 18 35 45.4
comp=Z,19nm,0.7s
SMLA Simla 21.00 249 *ex* **P 18 35 44.7 +0.5**
SMLA IAmb IAmb 18 35 49.6
comp=Z,94nm,1.2s
DHRM DHARAMSHALA 21.01 253 *ex* **P 18 35 45.0 +0.4**
KS19 Wonju Array Si 21.71 90 P P 18 35 52.4 +0.5
SIMRM Sittwe 21.76 199 P P 18 35 53.1 +0.7
KSRS Korea Array 21.77 90 P P 18 35 52.8 +0.3
comp=Z,7.8nm,0.9s,baz=277,slow=10,SNR=25
MDJ Mudanjiang 21.83 71 P P 18 35 53.4 +0.3
MDJ pmax pmax
comp=Z,9.0nm,2.4s
MDJ pmax pmax
comp=Z,190nm,5.3s
MDJ Mudanjiang 21.83 71 P P 18 35 53.3 +0.3
KK31 Karatay Array 22.04 285 *i* P **P 18 35 55.5 +0.1**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KK31 Karatay Array 22.04 285 P P 18 35 53.0 -2.4
KKAR Karatay Array 22.04 285 P P 18 35 51.8 -3.6
KKAR pmax pmax
comp=Z,12nm,1.2s
KKAR Karatay Array 22.04 285 P P 18 35 51.8 -3.6
HKPS Hong Kong Po S 22.14 144 P P 18 35 55.8 -0.8
CHTO Chiang Mai 22.20 183 P P 18 35 56.2 -1.0
CHTO pmax pmax
comp=Z,12nm,1.0s
CHTO Chiang Mai 22.20 183 P P 18 35 56.1 -1.0
BTK Batken 22.27 277 P P 18 35 57.6 -0.3
BTK pmax pmax
comp=Z,51nm,1.6s
BTK Batken 22.27 277 P P 18 35 57.6 -0.3
BTK IAmb IAmb 18 36 04.5
comp=Z,51nm,1.6s
CM31 Chiang Mai Arr 22.55 183 P P 18 36 01.3 +0.3
CMAR Chiang Mai Arr 22.55 183 P P 18 36 01.2 +0.2
comp=Z,2.3nm,0.7s,baz=353,slow=9.2,SNR=21
CMAR LR LR 18 45 51.9
comp=Z,94nm,19.0s,baz=6.5,slow=40
NIL Nilore 22.57 260 P P 18 36 02.0 +0.9
NIL pmax pmax
comp=Z,45nm,1.1s
NIL Nilore 22.57 260 P P 18 36 02.0 +0.9
NIL IAmb IAmb 18 36 07.3
comp=Z,45nm,1.1s
GAR Garm 22.89 275 P P 18 36 05.2 +0.6
BVAR Borovoye Array 23.36 311 P P 18 36 08.3 -0.9
comp=Z,2.0nm,0.4s,baz=114,slow=12,SNR=13
BVAR Lg Lg 18 43 27.0
comp=Z,4.1nm,1.0s,baz=104,slow=18,SNR=4.0
BRVK Borovoye 23.43 311 *i*P **P 18 36 10.8 +0.9**
BRVK pmax pmax
comp=Z,8.0nm,1.1s
BRVK Borovoye 23.43 311 P P 18 36 09.5 -0.4
USA0B Ussuriysk Arra 23.56 72 P P 18 36 11.5 +0.3
USA0B pmax pmax
comp=Z,18nm,1.3s
USA0B Ussuriysk Arra 23.56 72 P P 18 36 11.5 +0.3
USRK Ussuriysk Ar. 23.56 72 P P 18 36 11.8 +0.6
comp=Z,5.6nm,0.6s,baz=265,slow=9.9,SNR=14
USRK LR LR 18 46 18.1
comp=Z,159nm,18.9s,baz=152,slow=39
KLR Kul'dur 23.60 59 P P 18 36 10.9 -0.7
comp=Z,1.6nm,0.5s,baz=273,slow=14,SNR=5.3
KLR Lg Lg 18 43 27.9
comp=Z,2.1nm,1.1s,baz=279,slow=19,SNR=2.4
KLR LR LR 18 44 48.2
comp=Z,95nm,18.6s,baz=258,slow=35
CHGR Chuyangaron 23.85 274 P P 18 36 14.1 -0.1
TATO Taipei 23.93 126 P P 18 36 17.1 +2.2
PBKT Sadao Pong 24.41 178 P P 18 36 19.7 +0.3
PBKT IAmb IAmb 18 36 24.1
comp=Z,37nm,1.3s
KBL Kabul 25.34 265 P P 18 36 29.4 +1.5
KBL pmax pmax
comp=Z,39nm,0.9s
KBL Kabul 25.34 265 P P 18 36 29.4 +1.5
KBL IAmb IAmb 18 36 43.4
comp=Z,39nm,0.8s
BHPL Bhopal 26.06 234 *ex* **P 18 36 34.6 +0.2**
YAK Yakutsk 27.47 30 LR LR 18 48 18.6
comp=Z,280nm,18.2s,baz=258,slow=38
AB31 Akbulak array 29.22 300 *i* P **P 18 37 02.7 +0.2**
AB31 pmax pmax
comp=Z,9.0nm,0.7s
ABKAR Akbulak array 29.22 300 P P 18 37 02.8 +0.4
ABKAR IAmb IAmb 18 37 04.0
comp=Z,11nm,0.8s
AKTO Aktyubinsk 30.50 302 P P 18 37 14.0 +0.3
AKTO pmax pmax
comp=Z,9.0nm,1.1s
ARU Arti 30.88 314*c i*P **P 18 37 17.3 +0.3**
ARU 18 38 16.4
ARU S **S 18 42 23.2 +2.5**
ARU SS **SnSn 18 44 02.0 +2.3**
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 30.88 314 P P 18 37 16.4 -0.5
ARU IAmb IAmb 18 37 18.1
comp=Z,9.0nm,0.7s
GEYT Alibeck 32.36 278 P P 18 37 31.8 +1.5
comp=Z,5.9nm,0.7s,baz=46,slow=6.4,SNR=11
GYA0B ALIBECK ARRAY 32.36 278 P P 18 37 31.1 +0.8
GYA0B IAmb IAmb 18 37 37.4
comp=Z,9.4nm,0.8s
TIXI Tiksi 33.83 16⇓ *e*P **P 18 37 42.3 -0.4**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
TIXI Tiksi 33.83 16 P P 18 37 41.4 -1.3
TIXI IAmb IAmb 18 37 44.6
comp=Z,4.5nm,0.5s
KULM Kulim 35.62 179 P P 18 37 59.0 +0.4
KULM IAmb IAmb 18 38 00.9
comp=Z,18nm,1.3s
PRGR Permogore 38.33 321 *e*P **P 18 38 19.6 -1.7**
PRGR pmax pmax
comp=Z,15nm,1.1s
BUJR Buynaksk 38.95 291 *e*P **P 18 38 26.7 -0.1**
KRNR Karanay 39.09 291 *e*P **P 18 38 24.5 -3.6**
DBC Dubki 39.09 291⇑ *i*P **P 18 38 26.5 -1.6**
DBC pmax pmax
comp=Z,11nm,0.1s
GNBR Gunib 39.18 290 *e*P **P 18 38 30.9 +2.2**
GNBR pmax pmax
comp=Z,7.0nm,1.0s
UNCR Uncukul 39.20 291 P P 18 38 25.0 -4.0
DLMR Dylym 39.22 291 *e*P **P 18 38 27.5 -1.6**
GSI Gunungsitoli 39.64 184 P P 18 38 33.1 +0.3
GSI IAmb IAmb 18 38 46.2
comp=Z,17nm,0.9s
PETK Petropavlovsk- 39.95 52 P P 18 38 33.9 -1.1
comp=Z,3.2nm,0.8s,baz=292,slow=4.5,SNR=3.6
DAV Davao City (W) 40.73 139 LR LR 18 56 27.8
comp=Z,42nm,18.7s,baz=5.5,slow=38
VRH Novokhopyorsk 40.74 305 *e*P **P 18 38 41.6 +0.1**
VRH pmax pmax
comp=Z,40nm,1.7s
KBZ Khabaz 41.65 293 *e*P **P 18 38 50.2 +1.2**
KBZ pmax pmax
comp=Z,3.0nm,0.7s
KBZ Khabaz 41.65 293 P P 18 38 49.8 +0.7
comp=Z,2.5nm,0.7s,baz=117,slow=3.4,SNR=9.3
KIV Kislovodsk 41.73 294 *e*P **P 18 38 51.5 +1.6**
KIV pmax pmax
comp=Z,20nm,1.1s
KIV MLR MLR
comp=Z,160nm,16.0s
LPSR Galich'ya Gora 42.22 307 *e*P **P 18 38 53.3 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
VORD Divnogorie 42.29 305 *e*P **P 18 38 53.9 -0.3**
VORD pmax pmax
comp=Z,9.0nm,1.0s
VSR Storozhevoye 42.32 305 *e*P **P 18 38 53.9 -0.6**
VSR pmax pmax
comp=Z,10.0nm,0.5s
BILL Bilibino 43.83 30 *e*P **P 18 39 07.0 +0.5**
BILL *e* 18 40 49.3
BILL pmax pmax
comp=Z,5.0nm,1.1s
ARCES ARCESS Array B 46.92 332 P P 18 39 32.3 +1.3
comp=Z,3.3nm,0.8s,baz=80,slow=8.8,SNR=6.5
FIA1 FINESS Array S 47.66 321 P P 18 39 36.7 -0.1
FINES FINESS Array B 47.66 321 P P 18 39 36.9 +0.1
comp=Z,2.9nm,0.5s,baz=86,slow=9.2,SNR=16
VSU Vasula 47.92 317⇑ *i*P **P 18 39 38.7 -0.2**
VSU pmax pmax
comp=Z,99nm,1.5s
AKASG Malin Array Be 48.54 307 P P 18 39 43.5 -0.2
comp=Z,3.8nm,0.6s,baz=62,slow=8.4,SNR=12
AKBB Malin Array Si 48.54 307 P P 18 39 43.8 0.0
AKBB pmax pmax
comp=Z,8.0nm,0.9s
AKBB Malin Array Si 48.54 307 P P 18 39 43.8 0.0
AKBB IAmb IAmb 18 39 47.6
comp=Z,7.8nm,0.8s
RAYN Ar Rayn 48.60 266 P P 18 39 44.7 +0.1
RAYN pmax pmax
comp=Z,7.0nm,1.5s
RAYN Ar Rayn 48.60 266 P P 18 39 44.7 +0.1
BR131 Keskin Array S 49.53 292 P P 18 39 51.0 -0.8
BR131 pmax pmax
comp=Z,7.0nm,1.1s
BR131 Keskin Array S 49.53 292 P P 18 39 51.0 -0.8
BR131 IAmb IAmb 18 39 53.4
comp=Z,7.4nm,1.1s
BRTR Keskin Array B 49.53 292 P P 18 39 52.3 +0.5
comp=Z,1.9nm,0.8s,baz=103,slow=6.7,SNR=8.3
BR231 Keskin MP Arra 50.09 292 P P 18 39 55.8 -0.2
BR231 IAmb IAmb 18 39 57.6
comp=Z,6.0nm,0.7s
JAGI Jajag, Banyuwa 50.94 162 P P 18 40 02.7 +0.3
CSS Mathiatis 51.85 286 P P 18 40 09.8 +0.6
BUR08 Bucovina Ar. S 52.06 304 P P 18 40 11.2 +0.6
BUR08 IAmb IAmb 18 40 16.1
comp=Z,21nm,1.8s
ELL Elmali 53.48 290 P P 18 40 21.4 +0.1
ELL pmax pmax
comp=Z,85nm,1.3s
ELL Elmali 53.48 290 P P 18 40 21.4 +0.1
OJC Ojcow 54.35 309 P P 18 40 27.1 -0.2
OJC pmax pmax
comp=Z,7.0nm,0.7s
OJC Ojcow 54.35 309 P P 18 40 27.1 -0.2
OJC IAmb IAmb 18 40 28.1
comp=Z,7.0nm,0.7s
NC405 NORSAR Array S 54.41 323 P P 18 40 27.7 +0.1
NB201 NORSAR Array S 54.62 323 P P 18 40 28.4 -0.7
NC602 NORSAR Array S 54.62 323 P P 18 40 29.1 -0.1
NB2 NORSAR Subarra 54.66 323 P P 18 40 28.2 -1.2
comp=Z,1.0nm,0.7s,baz=92,slow=5.3
NOA NORSAR Array B 54.66 323 P P 18 40 28.7 -0.7
comp=Z,0.7nm,0.6s,baz=76,slow=7.7,SNR=4.8
NC204 NORSAR Array S 54.77 324 P P 18 40 30.3 0.0
SOEI Soe 55.23 151 P P 18 40 32.0 -2.1
VTS Vitosha 55.40 299 P P 18 40 35.3 +0.1
VTS pmax pmax
comp=Z,6.0nm,0.7s
VTS Vitosha 55.40 299 P P 18 40 35.3 +0.1
VTS IAmb IAmb 18 40 37.3
comp=Z,5.8nm,0.7s
VYHS Vyhne 55.63 307 *e*P **P 18 40 37.5 +0.9**
VYHS Vyhne 55.63 307 *e*P **P 18 40 37.5 +0.9**
CONA Conrad Observa 57.66 308 *e*pP **P 18 40 52.4 +1.3**
comp=Z,10nm,1.7s
GERES GERESS Array B 58.52 309 *e*P **P 18 40 58.2 +1.0**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 58.52 309 P P 18 40 56.6 -0.6
comp=Z,0.8nm,0.7s,baz=69,slow=7.3,SNR=5.7
SOKA Soboth 58.74 307 *e*pP **P 18 40 59.3 +0.6**
comp=Z,3.3nm,0.9s
COLD Coldfoot 59.75 25 P P 18 41 05.8 +0.5
ABTA Abfaltersbach 60.23 308 *e*pP **P 18 41 09.7 +0.6**
comp=Z,4.4nm,0.7s
WATA Walderalm 60.50 309 *i* P **P 18 41 11.3 +0.4**
comp=Z,4.5nm,0.9s
WTTA Wattenberg 60.50 309 *e*pP **P 18 41 11.7 +0.8**
comp=Z,5.0nm,0.6s
MOTA Moosalm 60.77 309 *e*pP **P 18 41 13.5 +0.8**
comp=Z,5.0nm,0.9s
SQTA Sankt Quirin 60.77 309 *e*pP **P 18 41 13.3 +0.6**
comp=Z,9.5nm,1.2s
MTN Manton Dam 60.80 145 P P 18 41 12.6 -0.5
MTN IAmb IAmb 18 41 24.1
comp=Z,19nm,1.6s
MLY Manley 60.83 27 P P 18 41 11.8 -1.0
RETA Reutte 60.90 309 *e*P **P 18 41 11.4 -2.2**
comp=Z,2.6nm,0.8s
FETA Feichten 61.16 309 *e*P **P 18 41 15.7 +0.3**
comp=Z,3.9nm,1.2s
SVW2 Sparrevohn 61.23 32 P P 18 41 16.4 +1.0
TEOL Teolo 61.43 307 P P 18 41 14.2 -3.0
TEOL IAmb IAmb 18 41 18.6
comp=Z,7.8nm,0.7s
DAVA Damuels 61.52 309 *e*P **P 18 41 17.8 0.0**
comp=Z,6.9nm,1.6s
PPLA Purkeypile 61.54 30 P P 18 41 17.9 +0.2
KTH Kantishna Hill 61.63 29 P P 18 41 18.7 +0.5
KTH IAmb IAmb 18 41 22.4
comp=Z,12nm,0.9s
FUORN Ofenpass-Fuorn 61.63 308 P P 18 41 18.5 -0.3
MDM Murphy Dome 61.74 27 P P 18 41 19.6 +0.7
MDM IAmb IAmb 18 41 21.1
comp=Z,7.1nm,0.8s
BWN Browne 61.78 28 P P 18 41 19.5 +0.4
NRCA Norcia 61.83 304 P P 18 41 20.9 +0.9
NRCA IAmb IAmb 18 41 21.1
comp=Z,5.3nm,0.9s
TRF Thorofare Moun 61.92 29 P P 18 41 20.1 -0.2
TRF IAmb IAmb 18 41 28.4
comp=Z,7.8nm,1.2s
CCB Clear Creek Bu 62.07 27 P P 18 41 22.1 +1.0
CCB IAmb IAmb 18 41 24.1
comp=Z,9.0nm,1.3s
WRH Wood River Hil 62.08 27 P P 18 41 21.2 +0.1
WRH IAmb IAmb 18 41 43.6
comp=Z,14nm,1.7s
IL31 62.31 26 P P 18 41 21.9 -0.7
IL31 IAmb IAmb 18 41 25.7
comp=Z,6.4nm,1.2s
ILAR Eielson Array 62.31 26 P P 18 41 22.2 -0.5
comp=Z,1.8nm,0.7s,baz=293,slow=5.5,SNR=18
KNRA Kununurra 62.37 149 P P 18 41 23.9 +0.3
RND Reindeer 62.46 28 P P 18 41 23.8 0.0
RND pmax pmax
comp=Z,12nm,1.6s
RND Reindeer 62.46 28 P P 18 41 23.8 0.0
RND IAmb IAmb 18 41 49.2
comp=Z,12nm,1.6s
HDA Harding Lake 62.51 27 P P 18 41 24.1 0.0
RSO Redoubt South 62.73 32 P P 18 41 27.1 +1.3
SUA Susitna One 62.93 31 P P 18 41 26.8 -0.3
DHY Denali Highway 63.19 28 P P 18 41 28.5 -0.3
MSSA Maissana 63.28 307 P P 18 41 29.9 +0.2
FITZ Fitzroy Crossi 63.44 153 P P 18 41 30.8 +0.1
GHO Glory Hole Cre 63.44 30 P P 18 41 30.2 -0.1
GHO IAmb IAmb 18 41 58.6
comp=Z,5.0nm,0.9s
SENIN Lac Senin/Sane 63.51 309 P P 18 41 31.2 0.0
SENIN IAmb IAmb 18 41 33.2
comp=Z,14nm,1.8s
SML Sawmill 63.63 30 P P 18 41 31.6 0.0
SML IAmb IAmb 18 41 38.4
comp=Z,14nm,1.1s
RIDG Independent Ri 63.65 27 P P 18 41 30.7 -1.0
RIDG IAmb IAmb 18 41 33.9
comp=Z,16nm,1.2s
SCRK Sand Creek 63.79 26 P P 18 41 32.1 -0.6
KNK Knik Glacier 63.83 30 P P 18 41 33.0 +0.1
KNK IAmb IAmb 18 41 35.5
comp=Z,12nm,1.2s
INK Inuvik 63.84 19 P P 18 41 33.2 +0.4
INK pmax pmax
comp=Z,3.0nm,0.8s
INK Inuvik 63.84 19 P P 18 41 33.2 +0.4
INK IAmb IAmb 18 41 36.8
comp=Z,3.4nm,0.8s
BRLK Bradley Lake 63.90 32 P P 18 41 32.7 -0.7
CNPM China Poot 63.90 33 P P 18 41 34.3 +0.9
SCM Sheep Creek Mo 63.99 29 P P 18 41 33.9 -0.1
SCM pmax pmax
comp=Z,11nm,0.8s
SCM Sheep Creek Mo 63.99 29 P P 18 41 33.9 -0.1
SCM IAmb IAmb 18 41 37.6
comp=Z,11nm,0.8s
SEW Seward 64.26 31 P P 18 41 34.8 -0.8
SEW IAmb IAmb 18 41 51.6
comp=Z,10nm,1.1s
KDAK Kodiak Island 64.39 35 P P 18 41 35.8 -0.7
KDAK pmax pmax
comp=Z,92nm,1.7s
KDAK Kodiak Island 64.39 35 P P 18 41 35.8 -0.7
BNI Bardonecchia 64.59 308 P P 18 41 38.6 +0.3
BNI pmax pmax
comp=Z,25nm,1.8s
BNI Bardonecchia 64.59 308 P P 18 41 38.6 +0.3
BNI IAmb IAmb 18 41 39.6
comp=Z,25nm,1.8s
FID Port Fidalgo 65.00 30 P P 18 41 40.2 -0.3
FID IAmb IAmb 18 41 43.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,6.7nm,0.9s						
HIN	Hinchinbrook I	65.22	30	P	P	18 41 42.2	+0.2
HIN				IAmb	IAmb	18 41 53.4	
	comp=Z,19nm,1.4s						
DAWY	Dawson	65.22	25	P	P	18 41 41.7	-0.2
GLB	Gilahina Butte	65.53	28	P	P	18 41 42.8	-1.2
GLB				IAmb	IAmb	18 41 47.1	
	comp=Z,9.9nm,1.2s						
VRDI	Verde Repeater	65.80	28	P	P	18 41 46.8	+0.9
VRDI				IAmb	IAmb	18 41 48.5	
	comp=Z,4.2nm,0.9s						
MCARA	McCarthy VSAT	65.85	28	P	P	18 41 46.4	+0.4
RAGM	Ragged Mountai	65.91	29	P	P	18 41 47.7	+1.2
RAGM				IAmb	IAmb	18 41 50.1	
	comp=Z,12nm,1.0s						
HMT	Hamilton	66.10	29	P	P	18 41 47.8	+0.1
HMT				IAmb	IAmb	18 42 05.7	
	comp=Z,18nm,1.4s						
BALM	Baldy	66.32	28	P	P	18 41 50.6	+1.4
BALM				IAmb	IAmb	18 42 02.3	
	comp=Z,6.0nm,1.1s						
TGL	Tana Glacier	66.34	29	P	P	18 41 48.2	-1.1
TGL				IAmb	IAmb	18 41 52.0	
	comp=Z,18nm,1.4s						
WAX	Waxell Ridge	66.54	29	P	P	18 41 51.0	+0.4
BARN	Barnard Glacie	66.55	28	P	P	18 41 51.4	+0.7
BARN				IAmb	IAmb	18 41 53.8	
	comp=Z,12nm,1.1s						
CTGM	Chitina Glacie	66.73	28	P	P	18 41 52.5	+0.7
YAH	Yahtse	67.00	28	P	P	18 41 53.0	-0.6
YAH				IAmb	IAmb	18 41 57.7	
	comp=Z,8.7nm,1.0s						
COEN	Coen	67.67	134	P	P	18 41 57.9	-0.2
PCA	Pinnacle	67.72	28	P	P	18 41 58.5	+0.5
PCA				IAmb	IAmb	18 42 01.1	
	comp=Z,13nm,1.2s						
WB0	Warramunga Arr	68.36	145	P	P	18 42 02.7	+0.3
WRA	Warramunga Arr	68.49	145	*e*P	P	18 42 01.7	-1.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	Warramunga Arr	68.49	145	P	P	18 42 02.7	-0.5
	comp=Z,1.1nm,0.8s,baz=340,slow=7.4,SNR=11						
WB2	Warramunga Arr	68.50	145	P	P	18 42 02.8	-0.5
WB2				IAmb	IAmb	18 42 03.8	
	comp=Z,4.9nm,1.1s						
WR0	Warramunga Arr	68.59	145	P	P	18 42 03.8	-0.1
SKAG	Skagway	69.90	27	P	P	18 42 12.4	+1.0
SKAG				IAmb	IAmb	18 42 14.7	
	comp=Z,14nm,1.2s						
KMBO	Kilima Mbogo	70.63	251	P	P	18 42 16.8	-0.2
	comp=Z,0.5nm,0.3s,baz=34,slow=7.5,SNR=3.8						
KMBO	Kilima Mbogo	70.63	251	P	P	18 42 16.4	-0.5
ASAR	Alice Springs	71.62	148	P	P	18 42 22.4	0.0
	comp=Z,1.1nm,0.6s,baz=333,slow=5.7,SNR=19						
YKA	Yellowknife Ar	73.08	16	P	P	18 42 30.7	+0.1
	comp=Z,3.3nm,0.9s,baz=332,slow=6.0,SNR=13						
ESDC	Sonseca Array	74.11	309	P	P	18 42 37.5	+0.3
	comp=Z,0.5nm,0.6s,baz=48,slow=5.9,SNR=5.8						
BBOO	Buckleboo	80.62	150	P	P	18 43 13.3	-0.1
BBOO				IAmb	IAmb	18 43 33.1	
	comp=Z,28nm,1.6s						
STKA	Stephens Creek	82.05	145	P	P	18 43 20.6	-0.4
	comp=Z,3.3nm,1.0s,baz=318,slow=4.5,SNR=4.3						
STKA	Stephens Creek	82.05	145	P	P	18 43 20.8	-0.2
FFC	Flin Flon	82.73	13	P	P	18 43 24.0	-0.4
FFC				pmax	pmax		
	comp=Z,11nm,1.7s						
FFC	Flin Flon	82.73	13	P	P	18 43 24.0	-0.4
FFC				IAmb	IAmb	18 43 45.2	
	comp=Z,11nm,1.6s						
SCHQ	Schefferville	83.83	352	P	P	18 43 30.1	0.0
	comp=Z,5.0nm,0.9s,baz=34,slow=7.3,SNR=3.1						
SCHQ	Schefferville	83.83	352	P	P	18 43 29.6	-0.6
C09A	Chrisman Ranch	85.19	25	P	P	18 43 37.4	+0.2
C09A				IAmb	IAmb	18 43 40.2	
	comp=Z,18nm,1.5s						
TORD	Torodi Ar. Bea	87.73	285	P	P	18 43 50.0	-0.1
	comp=Z,0.7nm,0.5s,baz=35,slow=4.2,SNR=6.4						
PLID	Pearl Lake	88.32	25	P	P	18 43 54.1	+1.3
PLID				IAmb	IAmb	18 43 56.3	
	comp=Z,5.9nm,1.1s						
BOZ	Bozeman (W)	89.17	22	P	P	18 43 56.7	+0.1
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BOZ	Bozeman (W)	89.17	22	P	P	18 43 56.7	+0.1
IMW	Indian Meadow	90.92	22	P	P	18 44 05.9	+0.8
IMW				IAmb	IAmb	18 44 10.5	
	comp=Z,4.3nm,1.0s						
PDAR	Pinedale Array	92.35	21	P	P	18 44 11.7	+0.1
	comp=Z,0.3nm,0.6s,baz=304,slow=1.8,SNR=3.0						
RSSD	Black Hills	92.46	17	P	P	18 44 12.5	+0.4
RSSD				pmax	pmax		
	comp=Z,11nm,1.2s						
RSSD	Black Hills	92.46	17	P	P	18 44 12.4	+0.4
SAML	Samuel	144.77	331	PKIKP	PKPab	18 50 36.4	-0.7
SAML	Samuel	144.77	331		PKPab	18 50 36.4	-0.7

*IDC **07** 18:42:33.7±2.4, 0°.28N×99°.70E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/32, mbtmp3.7/6, MS3.4/1, Ms1 3.4/1, ms1mx2.6/38, Error ellipse: s-maj=115.9km s-min=22.4km az=55.0*
*ISCJB **07** 18:42:36.6±0.5, 0°.65N±0°.04×99°.74E±0°.05, h10km, mb3.7/6, MS3.4/1, Error ellipse: s-maj=7.8km s-min=5.1km az=155.4*
*NEIC **07** 18:42:37.1±1.6, 0°.37N±0°.09×99°.72E±0°.05, h20km±7km, mb4.2/1*
*DJA **07** 18:42:37.1±0.3, 1°N±2°×10°0E±°, h10km, M4.1/9, mb4.1/1, MLv4.1/9*
ISC 07 18:42:36.7±0.7**, 0°.59N**±0°.04×**99°.69E**±0°.05**, h10**km**, n24,** σ**1s.96**/29**, mb4.0**/7**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKNI	Bangkinang	1.37	101	P	Pn	18 43 01.3	-0.6
BKNI				S	Sn	18 43 22.3	+2.2
BKNI	Bangkinang	1.37	101		Pn	18 43 00.4	-1.5
PDSI	Padang	1.68	153	P	Pn	18 43 05.8	-0.3
PDSI				S	Sn	18 43 30.1	+2.4
SISI	Saibi	2.00	198	P	Pn	18 43 08.7	-1.8
SISI				S	Sb	18 43 37.9	-0.2
RPSI	Rantau Prapat	2.23	340		Pb	18 43 16.6	-0.5
GSI	Gunungsitoli	2.23	289	P	Pn	18 43 13.8	0.0
GSI	Gunungsitoli	2.23	289		Pn	18 43 14.4	+0.6
SDSI	Sungai Dareh	2.30	131	P	Pn	18 43 17.6	+2.9
SDSI				S	Pn	18 43 17.7	+3.0
KRJI	Kerinci	3.19	146	P	Pn	18 43 29.4	+2.3
KRJI				S	Pb	18 43 32.0	-1.6
TPTI		3.65	317	P	Pn	18 43 35.0	+1.7
IPM	Ipoh	4.09	19		Pn	18 43 40.9	+1.5
MYKOM	Kota Tinggi	4.32	74	Pn	Pn	18 43 42.8	+0.2
MASI	Maura Aman, Be	4.50	146	P	Pn	18 43 48.1	+3.2
KULM	Kulim	4.77	12		Pn	18 43 49.0	+0.3
DSRI	Dabo	5.00	102	P	Pn	18 43 51.1	-0.7
LHMI	Lhok Sumawe	5.36	329	Pn	Pn	18 43 59.0	+2.1
MDSI	Maura Dua	6.74	138	P	Pn	18 44 18.3	+2.5
WRA	Warramunga Arr	39.60	123	P	P	18 50 05.9	-2.9
	0.3nm,0.6s,baz=304,slow=8.6,SNR=2.9						
WRA				LR	LR	19 07 12.0	
	comp=Z,55nm,21.8s,baz=90,slow=38						
WB2	Warramunga Arr	39.62	123	P	P	18 50 06.1	-2.7
WB2				IAmb	IAmb	18 50 10.0	
	comp=Z,6.7nm,1.2s						
ASAR	Alice Springs	41.05	128	P	P	18 50 17.2	-3.5
	comp=Z,0.5nm,0.7s,baz=308,slow=7.5,SNR=5.8						
SONM	Songino Array	47.42	6	P	P	18 51 12.8	+1.3
	comp=Z,0.6nm,0.8s,baz=191,slow=8.8,SNR=4.1						
MKAR	Makanchi Array	48.47	344	P	P	18 51 18.9	-0.6
	comp=Z,0.8nm,0.5s,baz=162,slow=8.6,SNR=7.6						
ZALV	Zalesovo Beam	54.59	349	P	P	18 52 06.0	+0.9
	comp=Z,1.1nm,0.5s,baz=179,slow=8.3,SNR=8.0						
FINES	FINESS Array B	81.69	332	P	P	18 54 56.1	+1.0
	comp=Z,2.2nm,0.9s,baz=108,slow=9.1,SNR=3.5						

*NIED **07** 19:00:00, 35°.70N×140°.80E, h17km, Mw3.6 Best double couple: M0 3.25000×10^14 NP1:φs303.00000°, δ46.00000°, λ-176.00000°. NP2:φs210.00000°, δ87.00000°, λ-44.00000°.*
*IDC **07** 19:00:02.2±2.2, 35°.92N×141°.02E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/35, mbtmp3.4/5, ML2.1/1, Error ellipse: s-maj=63.7km s-min=21.9km az=53.0*
*ISCJB **07** 19:00:04.9±0.8, 35°.76N±0°.04×140°.89E±0°.07, h26km±3km, mb3.4/4, Error ellipse: s-maj=9.6km s-min=6.6km az=164.5*
*JMA **07** 19:00:06.5±0.2, 35°.75N×140°.75E, h14km±2km, M3.7*
JMA Felt II J1.
ISC 07 19:00:04.7±1.6**, 35°.83N**±0°.05×**140°.90E**±0°.08**, h14**km±7km**, n19,** σ**0s.61**/21**, mb3.5**/4**, 4C-2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.13	195	⇑P	Pb	19 00 09.5	+0.5
CHOJ				S	Sb	19 00 11.7	-0.1
JIHU	Itakohorinouch	0.33	295	⇓P	Pb	19 00 13.1	+0.7
JIHU				S	Sb	19 00 18.3	+0.6
JSMT	Sammumatsuo	0.41	243	⇑P	Pg	19 00 12.6	-0.3
JSMT				S	Sg	19 00 17.9	-0.5
JHYU	Hitachinakayam	0.57	334	⇓P	Pn	19 00 18.4	-0.1
JHYU				S	Sn	19 00 27.1	-0.6
JYT	Yasato	0.70	305	⇑P	Pb	19 00 18.8	+0.1
JYT				S	Sg	19 00 27.5	0.0
JCN	Nagara	0.70	234	⇑P	Pg	19 00 18.3	0.0
JCN				S	Sg	19 00 27.4	-0.1
BSO4	Boso 4	0.95	209	P	Pb	19 00 22.9	-0.1
MJAR	Matsushiro Arr	2.29	289	Pn	Pn	19 00 41.7	-0.5
	0.5nm,0.3s,baz=93,slow=11,SNR=72						
MJAR				Sn	Sn	19 01 11.4	+1.2
	1.4nm,0.3s,baz=250,slow=21,SNR=6.7						
MAT	Matsushiro	2.29	289	P	Pn	19 00 42.0	-0.2
MAT				*e*S	Sn	19 01 09.2	-1.0
H11N2	WAKE ISLAND Hy	27.92	118	T	T	19 34 52.7	
	baz=312,slow=75						
H11N1	WAKE ISLAND Hy	27.92	118	T	T	19 34 53.2	
	baz=312,slow=75						
H11N3	WAKE ISLAND Hy	27.93	118	T	T	19 34 54.1	
	baz=312,slow=75						
H11S1	WAKE ISLAND Hy	28.58	120	T	T	19 35 41.1	
	baz=314,slow=75						
H11S3	WAKE ISLAND Hy	28.58	120	T	T	19 35 41.9	
	baz=314,slow=75						
H11S2	WAKE ISLAND Hy	28.60	120	T	T	19 35 41.4	
	baz=314,slow=75						
ZALV	Zalesovo Beam	42.43	313	P	P	19 07 57.9	-0.9
	0.5nm,0.6s,baz=101,slow=7.7,SNR=3.6						
MKAR	Makanchi Array	44.42	303	P	P	19 08 15.2	+0.2
	0.7nm,0.9s,baz=108,slow=6.3,SNR=2.5						
WRA	Warramunga Arr	55.81	187	P	P	19 09 42.4	+0.8
	0.4nm,0.7s,baz=12,slow=8.9,SNR=4.5						
ASAR	Alice Springs	59.54	187	P	P	19 10 07.7	-0.1
	0.4nm,1.0s,baz=15,slow=7.7,SNR=3.2						

*ISCJB **07** 19:26:29.6±0.3, 35°.62N±0°.02×97°.40W±0°.02, h9km±2km, Error ellipse: s-maj=4.1km s-min=2.9km az=155.2*
*TUL **07** 19:26:30.1, 35°.61N×97°.40W, h6km, ML3.0*
*ANF **07** 19:26:30.0±2.2, 35°.62N×97°.41W, h12km±16km, ML3.5/12, Error ellipse: s-maj=10.9km s-min=5.0km az=155.0*
*NEIC **07** 19:26:30.0±1.7, 35°.60N±0°.02×97°.41W±0°.03, h5km*
ISC 07 19:26:30.1±0.8**, 35°.62N**±0°.02×**97°.41W**±0°.02**, h7**km±5km**, n45,** σ**0s.96**/68**, Oklahoma**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OK009	Oakdale Elemen	0.04	193		Pg	19 26 31.1	-0.5
OK009				Sg	Sg	19 26 32.0	-0.6
ADOK	Arcadia Dam	0.04	47		Pg	19 26 31.8	+0.2
ADOK				Sg	Sg	19 26 33.3	+0.6
OK001	Jones High Sch	0.12	121	Pg	Pg	19 26 32.4	-0.3
OK001				Sg	Sg	19 26 34.3	-0.1
OK005	Luther M Schoo	0.18	80	Pg	Pg	19 26 34.0	+0.1
OK005				Sg	Sg	19 26 37.0	+0.7
OKCSW	OKLAHOMA CITY	0.22	186	Pg	Pg	19 26 34.0	-0.4
OKCSW				Sg	Sg	19 26 37.1	-0.3
FNO	Franklin	0.36	179		Pg	19 26 37.6	+0.4
FNO				Sg	Sg	19 26 42.7	+0.7
W35A	Tecumseh	0.64	137		Pg	19 26 41.6	-0.8
W35A				Sg	Sg	19 26 50.2	-0.6
X34A	Smith Ranch, M	1.08	199		Pg	19 26 50.1	-0.7
X34A				Sg	Sb	19 27 05.0	-0.3
TUL1	Leonard	1.35	77	P	Pn	19 26 53.9	-1.5
	baz=257						
TUL1				S	Sb	19 27 12.8	-0.4
	baz=257						
TUL1	Leonard	1.35	77		Pn	19 26 53.9	-1.5
TUL1				Sn	Sb	19 27 12.7	-0.5
WMOK	Wichita Mounta	1.43	232	P	Pn	19 26 55.6	-0.9
	baz=52						
WMOK				S	Sb	19 27 14.8	-0.7
	baz=52						
WMOK	Wichita Mounta	1.43	232		Pn	19 26 55.5	-0.9
WMOK				Sn	Sb	19 27 14.9	-0.7
U32A	Winter Ranch,	1.50	301		Pn	19 26 57.4	-0.1
U32A					Sg	19 27 18.0	-0.2
X37A	Clayton	1.96	121		Pn	19 27 04.2	+0.3
X37A				Sn	Sb	19 27 29.9	-1.0
HHAR	Hobbs	2.89	76		Pn	19 27 18.1	+1.4
W39A	Magazine	2.99	97	P	Pn	19 27 18.0	0.0
	baz=279						
W39A				S	Sn	19 27 54.1	0.0
	baz=279						
W39A	Magazine	2.99	97	Pn	Pn	19 27 17.6	-0.4
MIAR	Mount Ida	3.32	108	P	Pn	19 27 22.1	-0.4
	baz=290						
MIAR				S	Sn	19 28 02.6	+0.3
	baz=290						
MIAR	Mount Ida	3.32	108	Pn	Pn	19 27 23.2	+0.7
ABTX	Abilene, Hawle	3.52	212	Pb	Pb	19 27 31.5	-1.2
	baz=31						
ABTX				S	Sn	19 28 08.4	+1.3
	baz=31						
ABTX	Abilene, Hawle	3.52	212		Pn	19 27 25.5	+0.2
KSU1	Kansas State U	3.53	10	P	Pn	19 27 25.5	+0.1
	baz=190						
KSU1				Sb	Sg	19 28 20.5	-3.1
	baz=190						
AMTX	Amarillo	3.57	259	P	Pn	19 27 26.0	0.0
	baz=77						
AMTX				Sb	Sb	19 28 20.0	+2.7
	baz=77						
AMTX	Amarillo	3.57	259	Pn	Pn	19 27 26.7	+0.6
WHTX	Lake Whitney,	3.62	181	Pb	Pb	19 27 35.0	+0.5
	baz=0.8						
WHTX				Sb	Sb	19 28 21.0	+2.4
	baz=0.8						
WHTX	Lake Whitney,	3.62	181	Pn	Pn	19 27 26.3	-0.4
CBKS	Cedar Bluff	3.69	330	Pb	Pb	19 27 36.3	+0.6
	baz=149						
CBKS	Cedar Bluff	3.69	330		Pn	19 27 27.8	+0.2
U40A	Yellville	3.77	77	P	Pn	19 27 28.3	-0.4
	baz=260						
U40A				Sb	Sb	19 28 25.3	+2.4
	baz=260						
U40A	Yellville	3.77	77		Pn	19 27 28.5	-0.2
X40A	Basin Creek Fa	3.92	105	Pb	Pb	19 27 40.5	+0.9
	baz=288						
X40A				S	Sn	19 28 17.6	+0.5
	baz=288						
X40A	Basin Creek Fa	3.92	105		Pn	19 27 31.4	+0.7
WLAR	White Oak Lake	4.04	117	Pn	Pn	19 27 33.1	+0.8
WHAR	Wooly Hollow	4.20	93	Pn	Pn	19 27 34.2	-0.3
UALR	University of	4.24	100	Pn	Pn	19 27 35.4	+0.3
W41B	Gary Mavity, V	4.24	95	Pb	Pb	19 27 44.5	-0.6
	baz=277						
W41B				S	Sn	19 28 24.9	0.0
	baz=277						
W41B	Gary Mavity, V	4.24	95	Pn	Pn	19 27 35.3	+0.1
FCAR	Ozark Folk Cen	4.31	85	Pn	Pn	19 27 35.2	-0.9
MGMO	Mountain Grove	4.42	68	Pn	Pn	19 27 39.0	+1.3
435B	Jarrell	4.83	182	Pn	Pn	19 27 43.0	-0.2
LCAR	Lake Charles	5.10	83	Pn	Pn	19 27 45.8	-1.2
JCT	Junction City	5.51	202	Pn	Pn	19 27 51.1	-1.5
CCM	Cathedral Cave	5.51	62	Pn	Pn	19 27 52.1	-0.5
PBMO	Poplar Bluff	5.76	76	Pn	Pn	19 27 55.2	-0.8
T25A	Trinidad	5.85	287	Pn	Pn	19 27 56.9	-0.6

*IDC **07** 19:33:36.8±1.4, 51°.75N×173°.27W, h0km, mb3.8/12, mb1 4.0/15, mb1mx3.8/58, mbtmp3.8/15, ML3.5/3, Error ellipse: s-maj=39.5km s-min=15.8km az=177.0*
*AEIC **07** 19:33:39.7±4.2, 51°.52N±0°.05×173°.50W±0°.07, h2km±4km*
*ISCJB **07** 19:33:40.1±0.6, 51°.60N±0°.08×173°.19W±0°.04, h37km, mb3.8/12, Error ellipse: s-maj=11.7km s-min=3.3km az=173.4*
*NEIC **07** 19:33:42.8±1.2, 51°.72N±0°.07×173°.34W±0°.09, h42km±8km, mb3.7/18, ML3.1(AEIC)*
ISC 07 19:33:42.2±0.8**, 51°.7N**±0°.1×**173°.29W**±0°.04**, h37**km**, n54,** σ**0s.79**/55**, mb3.8**/12**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.77	314		Pn	19 33 56.3	-0.2
ATKA					Sn	19 34 06.2	-0.7
KOFP	Korovin Flat P	0.79	321		Pn	19 33 57.6	+0.8
KOKL	Mount Kliuchef	0.86	320		Pn	19 33 58.0	+0.2
KOWE	Korovin West	0.92	320		Pn	19 33 58.8	+0.2
GSTR	Great Sitkin T	1.77	285	Pn	Pn	19 34 09.9	-0.3
GSTD	Great Sitkin T	1.81	283		Pn	19 34 11.0	+0.1
GSTD					Sn	19 34 35.2	+2.6
ADAG	Mount Adagdak	2.08	280		Pn	19 34 14.7	+0.2
ADK	Adak	2.12	277		Pn	19 34 14.8	-0.2
ADK	Adak	2.12	277	Sn	Sn	19 34 40.8	+0.8
KIWB	Kanaga Island	2.41	276		Pn	19 34 19.0	0.0
KIWB				Sn	Sn	19 34 47.0	-0.2
KIMD	Kanaga Island	2.46	274		Pn	19 34 19.5	-0.1
TAFP	Tanaga Falls P	2.92	276		Pn	19 34 26.8	+0.7
TAFP					Sn	19 35 01.4	+1.5
TASE	Tanaga Southea	2.95	275		Pn	19 34 27.1	+0.6
NIKH	Nikolski High	3.02	63	Pn	Pn	19 34 27.8	+0.4
UNV	Unalaska Valle	4.66	59	Pn	Pn	19 34 51.7	+1.7
KDAK	Kodiak Island	13.41	55	Pn	Pn	19 36 48.8	-0.8
	0.3nm,0.3s,baz=277,slow=3.7,SNR=5.9						
SVW2	Sparrevohn	13.57	39	Pn	Pn	19 36 53.2	+1.4
RSO	Redoubt South	14.40	44	Pn	Pn	19 37 01.9	-1.4
CNPM	China Poot	14.68	49	Pn	Pn	19 37 06.3	-0.7
SUA	Susitna One	15.74	43	Pn	Pn	19 37 21.3	+0.3
HIN	Hinchinbrook I	17.22	49	Pn	Pn	19 37 38.1	-1.4
HIN				IAmb	IAmb	19 37 44.5	
	comp=Z,8.4nm,1.1s						
PEA0B	Petropavlovsk-	17.72	286		Pn	19 37 45.5	-0.2
PETK	Petropavlovsk-	17.72	286	P	P	19 37 46.3	0.0
	comp=Z,0.2nm,0.3s,baz=90,slow=11,SNR=3.9						
MLY	Manley	17.72	32		P	19 37 46.5	+0.2
HMT	Hamilton	18.27	50	P	P	19 37 52.1	-0.2
HMT				IAmb	IAmb	19 37 57.8	
	comp=Z,11nm,1.2s						
MDM	Murphy Dome	18.54	35	Pn	Pn	19 37 57.1	+1.5
MDM				IAmb	IAmb	19 38 10.9	
	comp=Z,4.2nm,0.9s						
HDA	Harding Lake	18.71	37	P	Pn	19 37 58.2	+0.5
HDA				IAmb	IAmb	19 38 00.6	
	comp=Z,3.5nm,1.0s						
IL31		18.92	36	P	P	19 37 59.9	+0.5
ILAR	Eielson Array	18.92	36	P	P	19 37 59.4	-0.1
	comp=Z,0.7nm,0.3s,baz=225,slow=8.9,SNR=22						
WAX	Waxell Ridge	18.97	51	P	P	19 37 59.8	-0.3
WAX				IAmb	IAmb	19 38 12.8	
	comp=Z,6.0nm,0.8s						
TGL	Tana Glacier	19.06	50	P	P	19 38 01.4	+0.3
TGL				IAmb	IAmb	19 38 03.5	
	comp=Z,6.6nm,1.0s						
RIDG	Independent Ri	19.21	40	P	P	19 38 02.7	+0.1
RIDG				IAmb	IAmb	19 38 05.2	
	comp=Z,1.9nm,0.5s						
DOT	Dot Lake	19.49	41	P	P	19 38 05.5	-0.1
SCRK	Sand Creek	19.66	40	P	P	19 38 07.7	+0.1
SCRK				IAmb	IAmb	19 38 26.0	
	comp=Z,3.1nm,1.0s						
FYU	Fort Yukon	20.46	33	P	P	19 38 17.4	+1.2
FYU				IAmb	IAmb	19 38 28.6	
	comp=Z,5.5nm,1.1s						
SEY	Seymchan	21.41	315	P	P	19 38 25.2	-1.1
	comp=Z,5.1nm,1.2s,baz=138,slow=14,SNR=1.8						
INK	Inuvik	25.27	34	P	P	19 39 04.0	-0.5
	comp=Z,1.7nm,0.4s,baz=239,slow=7.4,SNR=18						
INK	Inuvik	25.27	34	P	P	19 39 04.2	-0.2
INK				IAmb	IAmb	19 39 06.6	
	comp=Z,2.8nm,0.7s						
YKA	Yellowknife Ar	32.52	48	P	P	19 40 09.0	0.0
	comp=Z,0.3nm,0.6s,baz=274,slow=9.1,SNR=4.1						
B06A	Marblemount	32.81	75	P	P	19 40 11.9	+0.2
H11N2	WAKE ISLAND Hy	35.46	213	T	T	20 18 47.2	
	baz=21,slow=76,SNR=15						
H11N3	WAKE ISLAND Hy	35.47	213	T	T	20 18 47.8	
	baz=21,slow=76,SNR=18						
H11N1	WAKE ISLAND Hy	35.48	213	T	T	20 18 49.8	
	baz=21,slow=76,SNR=12						
PDAR	Pinedale Array	42.92	76	P	P	19 41 37.6	+0.3
	comp=Z,0.5nm,0.7s,baz=316,slow=4.1,SNR=4.4						
SONM	Songino Array	49.55	299	P	P	19 42 29.5	+0.3
	comp=Z,0.6nm,0.6s,baz=50,slow=7.9,SNR=5.3						
TXAR	Lajitas Array	55.20	85	P	P	19 43 10.9	-0.4
	comp=Z,0.2nm,0.5s,baz=294,slow=6.8,SNR=2.5						
MKAR	Makanchi Array	62.49	311	P	P	19 44 00.5	-1.0
	comp=Z,1.1nm,1.0s,baz=43,slow=6.1,SNR=3.0						
FINES	FINESS Array B	66.18	350	P	P	19 44 24.5	-0.9
	comp=Z,5.1nm,1.1s,baz=10,slow=8.6,SNR=3.5						
AAK	Ala-Archa	69.25	313	P	P	19 44 45.8	+0.5
	comp=Z,1.5nm,0.7s,baz=112,slow=3.5,SNR=8.4						
AAK	Ala-Archa	69.25	313	P	P	19 44 45.8	+0.5
CMAR	Chiang Mai Arr	74.38	280	P	P	19 45 16.2	0.0
	comp=Z,0.6nm,1.0s,baz=21,slow=5.8,SNR=3.2						
AKASG	Malin Array Be	76.23	345	P	P	19 45 25.3	-1.0
	comp=Z,0.7nm,0.4s,baz=18,slow=6.1,SNR=3.7						
GERES	GERESS Array B	79.69	355	P	P	19 45 46.0	+0.4
	comp=Z,0.5nm,0.7s,baz=15,slow=7.6,SNR=4.0						
BUR08	Bucovina Ar. S	79.80	347	P	P	19 45 46.5	+0.2

*IDC **07** 19:34:59.7±0.6, 15°.72S×173°.84W, h0km, mb4.4/12, mb1 4.6/13, mb1mx4.3/39, mbtmp4.3/13, ML3.2/1, MS3.1/11, Ms1 3.1/11, ms1mx3.0/42, Error ellipse: s-maj=34.1km s-min=15.3km az=140.0*
*ISCJB **07** 19:35:03.3±0.3, 15°.65S±0°.05×173°.91W±0°.05, h35km, mb4.3/12, MS3.2/11, Error ellipse: s-maj=9.2km s-min=5.3km az=137.3*
*NEIC **07** 19:35:05.3±0.9, 15°.74S±0°.06×173°.86W±0°.07, h38km±5km, mb4.6/31*
ISC 07 19:35:04.9±0.4**, 15°.74S**±0°.05×**173°.79W**±0°.07**, h35**km**, n91,** σ**0s.91**/74**, mb4.5**/28**, MS3.2**/11**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.66	47	Pn	Pn	19 35 47.3	+1.9
	66nm,0.3s,baz=195,slow=2.7,SNR=110						
AFI				Sn	Sn	19 36 14.8	-1.7
	316nm,0.3s,baz=49,slow=18,SNR=14						
AFI	Afiamalu	2.66	47	Pn	Pn	19 35 47.4	+1.9
AFI				Sn	Sn	19 36 15.4	-1.1
NIUE	Niue	4.96	133	Pn	Pn	19 36 18.8	+1.8
NIUE				Sn	Sn	19 37 09.5	-3.7
MSVF	Nonsavu	8.06	255	Pn	Pn	19 36 59.9	+0.2
FUNA	Funafuti	9.91	315	Pn	Pn	19 37 26.0	+1.0
KNTN	Kanton	13.04	9	Pn	Pn	19 38 07.4	-0.4
KNTN				Sn	Sn	19 40 29.3	-2.4
RAR	Rarotonga	14.37	114	LR	LR	19 43 43.0	
	comp=Z,24nm,18.6s,baz=340,slow=36						
DZM	Mont Dzumac	19.72	248	*e*LR	LR	19 44 49.4	
	comp=Z,141nm,28.3s						
DZM	Mont Dzumac	19.72	248	P	P	19 39 30.0	-1.7
	0.1nm,0.3s,baz=113,slow=15,SNR=1.9						
DZM				LR	LR	19 46 05.6	
	comp=Z,87nm,18.5s,baz=38,slow=34						
DZM	Mont Dzumac	19.72	248	P	P	19 39 32.0	+0.3
PAE	Paea	23.27	98	*e*T	T	20 03 08.0	
	2.7nm,0.3s						
PPT	Papeete	23.27	98	LR	LR	19 46 40.2	
	comp=Z,25nm,21.6s,baz=236,slow=30						
PPT2	Papeete2	23.27	98	*e*LR	LR	19 45 32.1	
	comp=Z,152nm,28.2s,baz=265						
PPT2	Papeete2	23.27	98	*e*T	T	20 03 11.2	
	9.0nm,0.4s						
URZ	Urewera	23.83	198	P	P	19 40 14.3	-0.4
	5.7nm,0.6s,baz=183,slow=1.7,SNR=7.0						
URZ	Urewera	23.83	198	P	P	19 40 14.9	+0.2
URZ				IAmb	IAmb	19 40 16.8	
	comp=Z,8.8nm,0.9s						
TBI	Tubuai	24.12	112	*e*LR	LR	19 46 01.2	
	comp=Z,137nm,30.5s						
TBI	Tubuai	24.12	112	*e*T	T	20 04 23.3	
	comp=Z,10nm,0.4s						
HNR	Honiara	26.37	281	LR	LR	19 49 44.4	
	comp=Z,44nm,18.9s,baz=142,slow=34						
KHZ	Kahutara	28.73	200	P	P	19 40 59.8	+0.8
KHZ				IAmb	IAmb	19 41 07.5	
	comp=Z,26nm,1.0s						
ARMA	Armidale	34.85	239	P	P	19 41 52.8	-0.2

ARMA				IAmb	IAmb	19 41 53.6	
	comp=Z,4.2nm,0.9s						
CAN	Canberra	38.53	233	P	P	19 42 23.8	-0.5
CAN				IAmb	IAmb	19 42 23.8	
	comp=Z,10nm,1.1s						
H11S2	WAKE ISLAND Hy	39.06	330	T	T	20 23 34.4	
	baz=146,slow=76,SNR=8.9						
H11S3	WAKE ISLAND Hy	39.07	330	T	T	20 23 37.4	
	baz=146,slow=76,SNR=8.1						
H11S1	WAKE ISLAND Hy	39.08	330	T	T	20 23 35.4	
	baz=146,slow=76,SNR=7.6						
H11N3	WAKE ISLAND Hy	40.02	331	T	T	20 25 15.8	
	baz=149,slow=76,SNR=2.5						
H11N1	WAKE ISLAND Hy	40.02	331	T	T	20 25 17.1	
	baz=149,slow=76,SNR=9.2						
H11N2	WAKE ISLAND Hy	40.03	331	T	T	20 25 12.5	
	baz=149,slow=76,SNR=3.2						
TOO	Toolangi	41.96	231	P	P	19 42 52.4	-0.2
TOO				IAmb	IAmb	19 43 10.7	
	comp=Z,11nm,1.1s						
STKA	Stephens Creek	43.54	240	P	P	19 43 05.2	-0.3
	comp=Z,7.6nm,0.9s,baz=89,slow=11,SNR=14						
STKA				LR	LR	20 00 15.1	
	comp=Z,28nm,18.1s,baz=26,slow=35						
STKA	Stephens Creek	43.54	240	P	P	19 43 05.1	-0.4
BBOO	Buckleboo	48.32	240	P	P	19 43 42.2	-0.9
WR0	Warramunga Arr	49.21	257	P	P	19 43 49.7	-0.5
WR0				IAmb	IAmb	19 43 52.7	
	comp=Z,7.0nm,1.1s						
WB2	Warramunga Arr	49.39	257	P	P	19 43 50.9	-0.6
WB2				IAmb	IAmb	19 43 52.0	
	comp=Z,5.4nm,0.7s						
WRAB	Tennant Creek	49.39	257	P	P	19 43 50.8	-0.8
WRAB				IAmb	IAmb	19 43 53.5	
	comp=Z,6.6nm,0.9s						
WRA	Warramunga Arr	49.40	257	P	P	19 43 51.4	-0.2
	comp=Z,3.5nm,0.5s,baz=94,slow=6.6,SNR=85						
WRA				PcP	PcP	19 45 13.2	-0.6
	comp=Z,0.7nm,0.8s,baz=92,slow=3.3,SNR=2.5						
AS31	Alice Springs	49.65	252	P	P	19 43 53.0	-0.5
AS31				IAmb	IAmb	19 43 54.7	
	comp=Z,7.2nm,0.7s						
ASAR	Alice Springs	49.65	252	P	P	19 43 53.1	-0.4
	comp=Z,32nm,0.7s,baz=85,slow=8.1,SNR=290						
MTN	Manton Dam	53.33	266	P	P	19 44 20.8	-0.4
MTN				IAmb	IAmb	19 44 27.3	
	comp=Z,8.6nm,1.0s						
KNRA	Kununurra	55.14	262	P	P	19 44 33.9	-0.4
KNRA				IAmb	IAmb	19 44 48.8	
	comp=Z,9.6nm,1.1s						
FITZ	Fitzroy Crossi	57.77	258	P	P	19 44 52.6	-0.4
FITZ				IAmb	IAmb	19 45 07.9	
	comp=Z,2.7nm,1.0s						
SOEI	Soe	60.54	268	P	P	19 45 12.6	+0.2
PSA00	Pilbara Seismi	62.75	254	P	P	19 45 26.6	-0.4
SBA	Scott Base	62.89	185	P	P	19 45 28.9	+1.9
VNDA	Vanda	63.01	186	P	P	19 45 29.2	+1.4
NWAO	Narrogin (SRO)	64.13	241	P	P	19 45 35.6	-0.4
NWAO				IAmb	IAmb	19 45 35.9	
	comp=Z,14nm,1.1s						
MJAR	Matsushiro Arr	68.95	320	LR	LR	20 11 42.2	
	comp=Z,6.2nm,20.3s,baz=5.0,slow=32						
JAGI	Jajag, Banyuwa	70.55	266	P	P	19 46 15.3	-1.8
JNU	Nakatsue	71.75	313	LR	LR	20 09 49.6	
	comp=Z,23nm,21.6s,baz=1.5,slow=29						
YBH	Yreka Blue Hor	74.09	37	P	P	19 46 38.2	+0.6
	comp=Z,3.2nm,0.8s,baz=3.3,slow=3.3,SNR=5.2						
YBH	Yreka Blue Hor	74.09	37	P	P	19 46 38.0	+0.3
QSPA	South Pole Qui	74.31	180	P	P	19 46 38.9	+0.2
QSPA				IAmb	IAmb	19 46 39.7	
	comp=Z,4.8nm,0.8s						
NVAR	Mina Array Bea	74.83	42	P	P	19 46 42.8	+0.6
	comp=Z,2.0nm,0.8s,baz=234,slow=10,SNR=7.2						
KVN	Kaiserville	75.31	42	P	P	19 46 44.8	-0.1
KVN				IAmb	IAmb	19 46 46.0	
	comp=Z,2.7nm,0.6s						
CISI	Cisompet, Garu	76.86	266	P	P	19 46 53.7	-0.4
CISI				IAmb	IAmb	19 47 04.3	
	comp=Z,11nm,0.8s						
SUA	Susitna One	79.10	11	P	P	19 47 05.8	+0.2
SUA				IAmb	IAmb	19 47 10.7	
	comp=Z,3.6nm,0.9s						
MA2	Magadan	80.37	343	LR	LR	20 19 19.9	
	comp=Z,12nm,19.9s,baz=316,slow=33						
KLR	Kul'dur	80.59	327	LR	LR	20 19 41.4	
	comp=Z,14nm,18.7s,baz=8.5,slow=33						
MNTX	Cornudas Mount	80.73	53	P	P	19 47 15.2	+0.3
TRF	Thorofare Moun	81.02	10	P	P	19 47 15.2	-0.7
TXAR	Lajitas Array	81.11	56	P	P	19 47 17.8	+0.6
	comp=Z,2.0nm,0.8s,baz=214,slow=8.7,SNR=11						
PDAR	Pinedale Array	82.77	42	P	P	19 47 26.1	+0.4
	comp=Z,1.7nm,0.9s,baz=210,slow=5.2,SNR=2.8						
ILAR	Eielson Array	82.85	11	P	P	19 47 25.1	-0.2
	comp=Z,0.7nm,0.5s,baz=234,slow=7.0,SNR=12						
DAWY	Dawson	83.84	14	P	P	19 47 30.9	+0.4
ABTX	Abilene, Hawle	85.56	55	P	P	19 47 39.7	-0.2
MAW	Mawson	87.36	199	P	P	19 47 47.9	-0.1
	comp=Z,5.9nm,0.8s,baz=131,slow=6.9,SNR=8.3						
MAW	Mawson	87.36	199	P	P	19 47 48.2	+0.2
YKA	Yellowknife Ar	90.55	24	P	P	19 48 02.8	-0.1
	comp=Z,0.5nm,0.8s,baz=229,slow=5.0,SNR=5.4						
JTS	Las Juntas de	91.64	80	LR	LR	20 22 40.5	
	comp=Z,13nm,18.2s,baz=284,slow=31						
CMAR	Chiang Mai Arr	92.36	288	P	P	19 48 13.1	+0.7
	comp=Z,1.0nm,0.9s,baz=90,slow=3.1,SNR=4.9						
TIXI	Tiksi	95.22	344	LR	LR	20 28 13.4	
	comp=Z,12nm,19.1s,baz=262,slow=34						
ARCES	ARCESS Array B	124.89	352	PKP	PKPdf	19 54 00.1	-0.5
	comp=Z,3.3nm,0.8s,baz=20,slow=1.4,SNR=6.2						
DPC	Dobruska-Polom	144.52	349	ePKP	PKPbc	19 54 36.6	+0.3
KMBO	Kilima Mbogo	145.05	244	PKPbc	PKPab	19 54 39.5	+0.1
	comp=Z,1.5nm,0.7s,baz=47,slow=6.9,SNR=7.2						
KMBO	Kilima Mbogo	145.05	244		PKPab	19 54 38.9	-0.5
PBCC	Pribram	145.55	351	ePKP	PKPdf	19 54 39.4	0.0
KHC	Kasperske Hory	146.15	351	ePKP	PKPab	19 54 42.6	+0.4
BR131	Keskin Array S	146.18	320		PKPdf	19 54 41.8	+0.8
BRTR	Keskin Array B	146.18	320	PKPbc	PKPdf	19 54 41.6	+0.6
	comp=Z,3.9nm,0.8s,baz=112,slow=2.9,SNR=14						
GERES	GERESS Array B	146.41	351	PKPbc	PKPbc	19 54 42.1	-0.2
	comp=Z,0.7nm,0.6s,baz=25,slow=4.0,SNR=6.2						
CONA	Conrad Observa	146.92	348	ePKPab	PKPbc	19 54 44.2	+0.3
	comp=Z,5.8nm,1.2s						
MOA	Molln	147.29	350	ePKPab	PKPbc	19 54 45.1	+0.3
	comp=Z,8.8nm,1.8s						
ARSA	Arzberg	147.64	348	ePKPab	PKPbc	19 54 45.7	-0.1
	comp=Z,1.8nm,1.0s						
WATA	Walderalm	148.18	353	ePKiKP	PKPbc	19 54 47.3	0.0
	comp=Z,1.6nm,0.5s						
MOTA	Moosalm	148.22	354	ePKiKP	PKPbc	19 54 47.6	+0.1
	comp=Z,6.3nm,1.1s						
WTTA	Wattenberg	148.24	353	i PKiKP	PKPbc	19 54 47.3	-0.3
	comp=Z,4.4nm,0.5s						
MYKA	Terra Mystica	148.58	350	ePKPbc	PKPbc	19 54 47.5	-0.8
	comp=Z,2.1nm,0.5s						
ABTA	Abfaltersbach	148.64	352	ePKPbc	PKPbc	19 54 47.8	-0.7
	comp=Z,3.2nm,0.7s						
FUORN	Ofenpass-Fuorn	149.02	355		PKPbc	19 54 50.0	+0.3
ESDC	Sonseca Array	154.55	18	PKP	PKPdf	19 54 53.7	-0.2
	comp=Z,0.1nm,0.3s,baz=256,slow=2.0,SNR=4.3						
TORD	Torodi Ar. Bea	174.93	120	PKPab	PKPab	19 56 47.5	+0.6
	comp=Z,0.6nm,1.0s,baz=237,slow=4.6,SNR=3.6						

*SJA **07** 19:56:54.7±0.3, 24.°39S×67.°16W, h222km±4km, ML3.6, MW3.6*
*ISCJB **07** 19:56:57.7±0.7, 24.°23S±0.°06×67.°26W±0.°04, h186km±8km, mb3.0/1, Error ellipse: s-maj=9.8km s-min=5.8km az=21.5*
*GUC **07** 19:56:59.5±0.7, 24.°24S×68.°00W, h235km±11km, ML4.0*
*IDC **07** 19:57:01.3±1.2, 23.°90S×67.°30W, h201km±13km, mb3.0/1, mb1 3.1/5, mb1mx3.0/40, mbtmp3.5/5, Error ellipse: s-maj=22.3km s-min=21.7km az=158.0*

ISC 07 19:56:59.0±0.8**, 24.°20S**±0.°06×**67.°30W**±0.°05**, h185**km±9km**, n29, σ1.s69**/42**, 9C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.71	108	i P	Pn	19 57 31.6	-2.1
AZAP	Zapla	2.04	91	i P	Pn	19 57 35.0	-2.1
AZAP				i S	Sn	19 58 05.0	-1.6
LVC	Limon Verde	2.17	317	P	Pn	19 57 39.6	+1.0
	14nm,0.3s,baz=126,slow=8.5,SNR=279						
LVC				S	Sn	19 58 10.0	+0.6
	36nm,0.3s,baz=301,slow=22,SNR=64						
LVC	Limon Verde	2.17	317	i P	Pn	19 57 39.7	+1.0
LVC				IAML		19 58 14.9	
	comp=Z,76nm,0.5s						
PB15	IPOC Station P	2.22	296	⇑iP	Pn	19 57 40.0	+0.9
PB15				eS	Sn	19 58 10.3	+0.2
PB15	IPOC Station P	2.22	296	i P	Pn	19 57 39.9	+0.8
PB15				i S	Sn	19 58 13.4	+3.2
GO02	Mina Guanaco	2.30	245	⇑iP	Pn	19 57 39.7	-0.3
GO02				eS	Sn	19 58 10.7	-1.1
GO02				IAML		19 58 12.5	
	comp=N,610nm,0.3s						
PB06	IPOC Station P	2.56	305	⇑iP	Pn	19 57 43.7	+0.8
PB06				eS	Sn	19 58 16.9	-0.1
PB06				IAML		19 58 19.7	
	comp=N,457nm,0.4s						
PB06	IPOC Station P	2.56	305	i P	Pn	19 57 43.7	+0.8
PB06				IAML		19 58 21.9	
	comp=Z,241nm,0.5s						
ASTB	Santa Barbara	2.61	85	i P	Pn	19 57 41.1	-2.3
PB14	IPOC Station P	2.86	261	⇑iP	Pn	19 57 46.0	-0.6
PB14				i S	Sn	19 58 20.9	-2.7
PB14	IPOC Station P	2.86	261	i P	Pn	19 57 46.1	-0.5
PB14				IAML		19 58 27.1	
	comp=Z,138nm,0.4s						
PB05	IPOC Station P	2.98	296	⇑iP	Pn	19 57 48.1	+0.3
PB05				eS	Sn	19 58 23.2	-2.6
PB05				IAML		19 58 27.9	
	comp=N,178nm,0.3s						
PB05	IPOC Station P	2.98	296	i P	Pn	19 57 48.1	+0.3
PB05				IAML		19 58 29.5	
	comp=Z,84nm,0.4s						
PB09	IPOC Station P	2.99	323	⇑iP	Pn	19 57 49.2	+1.2
PB09				i S	Sn	19 58 26.9	+0.9
PB09				IAML		19 58 30.0	
	comp=N,171nm,0.2s						
PB09	IPOC Station P	2.99	323	i P	Pn	19 57 48.9	+1.0
PB09				IAML		19 58 32.9	
	comp=Z,128nm,0.3s						
PB03	IPOC Station P	3.11	313	⇑iP	Pn	19 57 50.0	+0.6
PB03				eS	Sn	19 58 28.5	-0.3
PB03				IAML		19 58 29.1	
	comp=E,356nm,0.2s						
PB04	IPOC Station P	3.21	305	⇑iP	Pn	19 57 50.6	0.0
PB04				eS	Sn	19 58 29.0	-2.0
PB04				IAML		19 58 33.7	
	comp=N,283nm,0.1s						
PB04	IPOC Station P	3.21	305	i P	Pn	19 57 51.2	+0.6
PB07	IPOC Station P	3.43	315	⇑iP	Pn	19 57 53.9	+0.6
PB07				eS	Sn	19 58 34.7	-1.0
PB07				IAML		19 58 38.0	
	comp=N,317nm,0.5s						
PB02	IPOC Station P	3.74	320	eP	Pn	19 57 57.1	0.0
PB02				i S	Sn	19 58 39.7	-2.8
LPAZ	La Paz	7.91	354	P	Pn	19 58 51.8	+0.1
	comp=N,0.4nm,0.3s,baz=164,slow=6.5,SNR=8.1						
CPUP	Villa Florida	9.27	105	P	Pn	19 59 13.2	+4.3
	comp=N,0.2nm,0.3s,baz=275,slow=11,SNR=6.2						
SIV	San Ignacio	10.04	37	P	Pn	19 59 16.2	-2.9
	comp=N,0.3nm,0.3s,baz=232,slow=14,SNR=5.9						
PLCA	Paso Flores	16.71	189	P	Pn	20 00 46.5	+4.0
	comp=N,0.2nm,0.3s,baz=19,slow=16,SNR=3.7						
TORD	Torodi Ar. Bea	76.89	69	P	P	20 08 30.6	-0.6
	comp=N,0.2nm,0.5s,baz=247,slow=5.2,SNR=4.0						
ASAR	Alice Springs	128.16	205	PKP	PKPdf	20 15 43.3	-0.5
	comp=N,0.2nm,0.3s,baz=132,slow=1.4,SNR=4.8						
WRA	Warramunga Arr	131.33	208	PKP	PKPdf	20 15 50.1	+0.3
	comp=N,0.6nm,1.0s,baz=150,slow=1.7,SNR=5.4						
MKAR	Makanchi Array	146.85	39	PKPbc	PKPbc	20 16 19.9	+0.6
	comp=N,0.5nm,0.6s,baz=292,slow=2.2,SNR=6.1						

*ISCJB **07** 20:01:32.8±0.4, 41.°86N±0.°03×142.°40E±0.°05, h65km±5km, mb3.5/5, Error ellipse: s-maj=6.8km s-min=4.1km az=40.3*
*JMA **07** 20:01:32.8±0.2, 41.°87N×142.°42E, h62km±3km, M3.3*
*IDC **07** 20:01:35.3±2.1, 41.°92N×142.°59E, h79km±16km, mb3.4/5, mb1 3.4/8, mb1mx3.1/67, mbtmp3.7/8, MS2.3/1, Ms1 2.3/1, ms1mx1.9/37, Error ellipse: s-maj=36.5km s-min=14.2km az=100.0*

ISC 07 20:01:33.6±0.9**, 41.°87N**±0.°04×**142.°39E**±0.°04**, h54**km±9km**, n34, σ0.s84**/40**, mb3.4**/5**, 9D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.49	33	⇓P	Pn	20 01 44.1	-0.9
JNBK				eS	Sn	20 01 54.4	+1.2
JSHD	Hidakashinhida	0.54	6	⇓P	Pn	20 01 45.4	-0.2
JSHD				eS	Sn	20 01 54.8	+0.6
JEM	Erimo	0.59	76	⇓P	Pn	20 01 45.8	-0.3
JTHR	Tokachihiroo	0.79	58	⇓P	Pn	20 01 48.7	0.0
JTHR				eS	Sn	20 02 00.2	+0.5
JIAM	Iburiatsuma	0.83	335	⇓P	Pn	20 01 49.8	+0.6
JIAM				eS	Sn	20 02 02.4	+1.9
JBT2	Biratori 2	0.91	359	⇓P	Pn	20 01 49.6	-0.6
JKB	Kayabe	1.02	271	P	Pn	20 01 51.3	-0.3
JKB				eS	Sn	20 02 04.9	-0.1
JCH	Churui	1.03	44	⇓P	Pn	20 01 51.8	-0.1
JOT	Ohata	1.12	245	P	Pn	20 01 53.0	-0.1
JOT				eS	Sn	20 02 07.5	0.0
JNB	Noboribetsu	1.17	301	P	Pn	20 01 53.1	-0.6
JEW	Eniwo	1.19	324	P	Pn	20 01 54.2	+0.2
JEW				eS	Sn	20 02 09.2	0.0
JFR	Furan	1.30	6	P	Pn	20 01 55.1	-0.4
JTM	Tenmabayashi	1.48	223	⇓P	Pn	20 01 58.4	+0.6
JTM				eS	Sn	20 02 16.5	+0.5
JOB	Onbets	1.48	46	⇓P	Pn	20 01 58.9	+1.0
JSR	Shiriuchi	1.52	258	P	Pn	20 01 58.6	+0.2
JSR				eS	Sn	20 02 17.8	+0.7
JYM2	Yakumo 2	1.53	280	P	Pn	20 01 58.9	+0.4
JISS	Ishikarishitsu	1.58	333	P	Pn	20 01 59.8	+0.6
JISS				eS	Sn	20 02 19.3	+0.8
JAB	Ashibetsu	1.64	356	P	Pn	20 02 00.8	+0.8
JANG	Nango	1.64	204	P	Pn	20 02 00.1	0.0
JANG				eS	Sn	20 02 20.5	+0.5
JAR	Ashorobuto	1.75	35	P	Pn	20 02 01.8	+0.2
JAR				eS	Sn	20 02 23.2	+0.5
ASAJ	Asahikawa	2.25	4	P	Pn	20 02 09.6	+1.2
	10nm,0.3s,baz=200,slow=12,SNR=90						
ASAJ				S	Sn	20 02 37.0	+2.0
	8.1nm,0.3s,baz=41,slow=20,SNR=21						
ASAJ				LR	LR	20 03 14.1	
	comp=Z,64nm,18.1s,baz=198,slow=45						
MJAR	Matsushiro Arr	6.24	213	P	Pn	20 03 05.5	+2.4
	0.1nm,0.3s,baz=164,slow=17,SNR=12						
KSRS	Korea Array	11.99	253	P	Pn	20 04 27.6	+5.9
	0.4nm,0.3s,baz=62,slow=14,SNR=6.5						
SONM	Songino Array	26.04	296	P	P	20 07 02.0	+0.2
	0.3nm,0.6s,baz=85,slow=8.6,SNR=2.4						
H11N2	WAKE ISLAND Hy	30.30	129	T	T	20 39 08.9	
	baz=323,slow=76,SNR=16						
H11N1	WAKE ISLAND Hy	30.32	129	T	T	20 39 21.2	
	baz=323,slow=76,SNR=21						
H11N3	WAKE ISLAND Hy	30.32	129	T	T	20 39 21.6	
	baz=323,slow=76,SNR=12						
H11S1	WAKE ISLAND Hy	31.16	131	T	T	20 41 21.2	
	baz=323,slow=76,SNR=3.6						
H11S3	WAKE ISLAND Hy	31.17	131	T	T	20 41 21.6	
	baz=323,slow=76,SNR=3.6						
H11S2	WAKE ISLAND Hy	31.18	131	T	T	20 41 22.6	
	baz=323,slow=76,SNR=3.2						
KURBB	Kurchatov Arra	43.76	304	P	P	20 09 32.7	-0.8
	0.3nm,0.4s,baz=77,slow=8.9,SNR=3.9						
WRA	Warramunga Arr	61.95	189	P	P	20 11 47.4	-0.5
	0.3nm,0.9s,baz=7.0,slow=6.9,SNR=3.9						
FINES	FINESS Array B	64.91	332	P	P	20 12 06.3	-0.6
	2.4nm,0.8s,baz=66,slow=6.5,SNR=11						
HFS	Hagfors	70.00	335	P	P	20 12 38.3	-0.8
	1.7nm,0.8s,baz=43,slow=6.5,SNR=7.4						

*ISCJB **07** 20:07:57.6±0.4, 43.°58N±0.°03×105.°20W±0.°05, h0km, Error ellipse: s-maj=5.1km s-min=4.4km az=149.9*
*IDC **07** 20:07:57.5±1.4, 43.°50N×105.°46W, h0km, mb1 3.4/4, mb1mx3.2/68, mbtmp3.2/4, ML3.1/4, Error ellipse: s-maj=26.1km s-min=9.0km az=152.0*
*NEIC **07** 20:07:59.3±1.8, 43.°59N±0.°05×105.°22W±0.°02, h0km±2km, ML3.3/51*

ISC 07 20:07:58.6±0.9**, 43.°57N**±0.°06×**105.°28W**±0.°06**, h0**km**, n53, σ1.s30**/51**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	Black Hills	1.05	58	Pg	Pg	20 08 19.1	+0.4
K22A	Casper	1.29	225		Pg	20 08 22.2	-1.2
K22A				IAML		20 08 47.0	
	comp=E,384nm,0.3s						
K22A				IAML		20 08 49.0	
	comp=N,432nm,0.4s						
PHWY	Pilot Hill	2.27	183	Pn	Pn	20 08 38.4	+0.8
PHWY				IAML		20 09 13.4	
	comp=N,217nm,0.4s						
PHWY				IAML		20 09 17.1	
	comp=N,157nm,0.4s						
RWWY	Rawlins	2.36	218		Pn	20 08 40.6	+1.8
RWWY				IAML		20 09 17.8	
	comp=N,178nm,0.6s						
N23A	Red Feather La	2.72	191		Pn	20 08 45.2	+1.4
LAO	LASA Array	3.19	348		Pn	20 08 49.8	-0.3
BW06	Boulder Array	3.23	257	Pn	Pn	20 08 51.3	+0.5
BW06				IAML		20 09 44.3	
	comp=N,47nm,0.4s						
BW06				IAML		20 09 47.8	
	comp=E,44nm,0.6s						
PD31	Pinedale Array	3.23	257	Pn	Pn	20 08 51.2	+0.5
PDAR	Pinedale Array	3.23	257	Pn	Pn	20 08 50.8	0.0
	comp=E,1.9nm,0.3s,baz=78,slow=17,SNR=41						
PDAR				Pg	Pb	20 08 56.5	-0.4
	comp=E,6.3nm,0.3s,baz=74,slow=18,SNR=63						
PDAR				Lg	Lg	20 09 34.5	
	comp=E,17nm,0.3s,baz=75,slow=31,SNR=10						
RLMT	Red Lodge	3.25	300	Pn	Pn	20 08 51.2	+0.2
RLMT				IAML		20 09 46.2	
	comp=E,59nm,0.5s						
RLMT				IAML		20 09 49.9	
	comp=E,66nm,0.4s						
OGNE	Ogallala	3.56	136	Pn	Pn	20 08 54.6	-0.6
YNE	Yellowstone No	3.69	295	Pn	Pn	20 08 57.2	+0.1
YMP	Mirror Lake Pl	3.70	290	Pn	Pn	20 08 58.3	+1.0
ISCO	Idaho Springs	3.78	184		Pn	20 08 59.6	+1.3
LKWY	Lake	3.82	287		Pn	20 09 01.4	+2.4
LKWY				IAML		20 10 08.1	
	comp=E,54nm,0.5s						
LKWY				IAML		20 10 14.3	
	comp=E,36nm,1.5s						
GCMT	Greycliff	3.84	307	Pn	Pn	20 08 59.9	+0.9
H17A	Grant Village	3.91	284	Pn	Pn	20 09 01.4	+1.3
H17A				IAML		20 10 11.0	
	comp=N,33nm,1.4s						
FLWY	Flagg Ranch	3.96	279	Pn	Pn	20 09 02.5	+1.8
FLWY				IAML		20 10 16.3	
	comp=N,47nm,2.9s						
FLWY				IAML		20 10 27.4	
	comp=N,42nm,2.7s						
MOOW	Moose Ponds	3.97	274		Pn	20 09 02.2	+1.2
REDW	Red Top Meadow	4.06	269		Pn	20 09 03.4	+1.2
O20A	White River Ci	4.08	214		Pn	20 09 03.6	+1.1
TPAW	Teton Pass	4.13	271	IAML		20 10 21.9	
	comp=N,33nm,2.1s						
TPAW				IAML		20 10 23.4	
	comp=N,48nm,1.5s						
YMR	Madison River	4.24	287		Pn	20 09 06.5	+1.8
RDMU	Red Mountain	4.38	228		Pn	20 09 07.6	+1.0
YHB	Horse Butte	4.42	288		Pn	20 09 09.1	+2.0
QLMT	Earthquake Lak	4.60	288		Pn	20 09 11.8	+2.2
BOZ	Bozeman (W)	4.97	296	Pn	Pn	20 09 15.9	+1.3
BOZ				IAML		20 11 40.2	
	comp=N,15nm,4.8s						
BOZ				IAML		20 12 14.7	
	comp=N,23nm,4.2s						
KSCO	Kaye Shedlock'	4.97	155		Pn	20 09 16.0	+1.3
TCUT	Toone Canyon	5.16	244		Pn	20 09 18.8	+1.5
EGMT	Eagleton	5.44	326		Pn	20 09 23.1	+2.1
LRM	Limekiln Ridge	5.59	296		Pn	20 09 29.9	+6.8
HRY	Holter Researc	5.60	306	Pn	Pn	20 09 24.0	+0.9
CTU	Camp Tracy	5.61	241		Pn	20 09 23.7	+0.4
PV22	Blue Mesa, Par	5.69	209	Pn	Pn	20 09 25.9	+1.4
SPUT	South Promonto	5.77	249	Pn	Pn	20 09 27.2	+1.7
P17A	Butcher Ranch,	5.79	227		Pn	20 09 27.3	+1.4
SDCO	Great Sand Dun	5.82	182		Pn	20 09 28.1	+1.7
MDND	Maddock	5.84	41		Pn	20 09 25.9	-0.4
S22A	4UR Ranch, Cre	5.94	192		Pn	20 09 29.2	+1.2
SRU	San Rafael Swe	5.95	223		Pn	20 09 29.4	+1.2
TMUT	Trail Mountain	6.17	228		Pn	20 09 32.6	+1.4
ECSD	EROS Data Cent	6.29	86	Pn	Pn	20 09 33.4	+0.8
CBKS	Cedar Bluff	6.33	137		Pn	20 09 32.8	-0.3
Q16A	Castle Valley	6.43	226		Pn	20 09 35.3	+0.7
T25A	Trinidad	6.46	174		Pn	20 09 35.4	+0.2
DUG	Dugway, Tooele	6.56	242	Pn	Pn	20 09 37.2	+0.8
JTMT	Jette	7.56	307		Pn	20 09 52.4	+2.2
ANMO	Albuquerque	8.66	186	Pn	Pn	20 10 03.8	-1.5
	comp=N,0.2nm,0.3s,baz=353,slow=10,SNR=6.1						
ANMO				Pg	Pg	20 10 33.2	-11
	comp=N,0.2nm,0.3s,baz=210,slow=20,SNR=4.6						
ANMO	Albuquerque	8.66	186		Pn	20 10 05.0	-0.3
I10CA	LAC DU BONNET	9.17	40	i		21 00 40.0	
	baz=218,slow=330,SNR=2.9						
ULM	Lac du Bonnet	9.27	41	Pn	Pn	20 10 11.6	-1.8
	comp=N,0.8nm,0.3s,baz=257,slow=4.8,SNR=4.7						
ULM				Lg	Lg	20 12 50.0	
	comp=N,0.2nm,0.3s,baz=145,slow=21,SNR=4.1						
ULM	Lac du Bonnet	9.27	41		Pn	20 10 11.9	-1.5
YKA	Yellowknife Ar	19.73	347	P	P	20 12 30.0	+0.5
	comp=N,0.1nm,0.3s,baz=156,slow=12,SNR=3.5						

*IDC **07** 20:12:28.8±1.4, 43.°79N×128.°56W, h0km, mb3.6/6, mb1 3.6/12, mb1mx3.5/77, mbtmp3.5/12, ML3.1/5, MS3.8/25, Ms1 3.8/25, ms1mx3.7/33, Error ellipse: s-maj=35.7km s-min=12.8km az=39.0*
*ISCJB **07** 20:12:29.4±0.4, 43.°85N±0.°04×128.°40W±0.°04, h13km, mb3.5/5, MS3.8/18, Error ellipse: s-maj=6.1km s-min=3.3km az=38.9*
*NEIC **07** 20:12:30.5±1.6, 43.°80N±0.°08×128.°5W±0.°1, h10km±1km, mb4.3/35*
*ANF **07** 20:12:31.2±2.3, 43.°82N×128.°21W, h5km, ML3.6/11, Error ellipse: s-maj=26.4km s-min=10.7km az=54.0*
*GCMT **07** 20:12:31.5±0.3, 43.°93N±0.°04×128.°64W±0.°03, h17km±1km, MW4.8/94, Moment Tensor Solution. s27,c31; s94,c115; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}-1.77±.14; $M_{\theta\theta}$0.03±.10; $M_{\phi\phi}$1.75±.10; $M_{r\theta}$0.11±.34; $M_{\theta\phi}$0.54±.06; $M_{\phi r}$-1.10±.26; Best double couple: $M_0$2.14600×10^{16} NP1:ϕ_s5.00000°, δ61.00000°, λ-102.00000°. NP2: ϕ_s208.00000°, δ31.00000°, λ-70.00000°. Principal axes: T 2.1760, Plg15.0000°, Azm103.0000°; N -0.0530, Plg10.0000°, Azm11.0000°; P -2.1170, Plg72.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 20:12:30.9±0.8**, 43.°84N**±0.°07×**128.°46W**±0.°07**, h13**km**, n113, σ1.s16**/94**, mb4.3**/15**, MS3.7**/18**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEBM	Edson Butte	3.16	106	Pn	Pn	20 13 17.6	-2.7
KEBM				Sn	Sn	20 13 56.6	-1.2
I02D	Swisshome	3.34	84	P	Pn	20 13 20.5	-2.2
	baz=266,SNR=40						
J01E	Myrtle Point	3.36	100	P	Pn	20 13 21.0	-2.0
	baz=282,SNR=12						
J01E				S	Sn	20 14 00.6	-2.1
	baz=282						
KBO	Bosley Butte	3.50	116	Pn	Pn	20 13 23.9	-1.1
K02D	Willamette Mer	3.68	106	P	Pn	20 13 25.6	-1.9
	baz=289,SNR=6.3						
K02D				S	Sn	20 14 09.1	-1.7
	baz=289						
I03D	Drain, OR	3.70	90	P	Pn	20 13 25.9	-1.8
	baz=273,SNR=36						
COR	Corvallis	3.78	77	Pn	Pn	20 13 27.5	-1.2
COR				Sn	Sn	20 14 12.7	-0.4
G03D	McMinnville, O	3.96	68	P	Pn	20 13 29.6	-1.7
	baz=251,SNR=13						
KRMB	Red Mountain	4.07	123	Pn	Pn	20 13 33.0	+0.1
H04D	Lebanon	4.17	79	P	Pn	20 13 33.4	-0.7
	baz=262						
HUMO	Hull Mountain	4.20	105		Pn	20 13 34.2	-0.5
HUMO				Sn	Sn	20 14 22.8	-0.8
I04A	Tendick Farm,	4.38	88	P	Pn	20 13 36.2	-0.9
	baz=272,SNR=21						
E03A	Lebam	4.39	50	Pn	Pn	20 13 36.5	-0.7
H04A	Detroit Lake	4.58	77	Pn	Pn	20 13 39.0	-0.9
H04A				Sn	Sn	20 14 34.8	+1.8
J04D	Umpqua Nationa	4.65	95	P	Pn	20 13 41.7	+0.7
	baz=279,SNR=13						
YBH	Yreka Blue Hor	4.72	114	Pn	Pn	20 13 41.7	-0.1
	0.4nm,0.3s,baz=308,slow=8.5,SNR=5.9						
YBH				Sn	Sn	20 14 37.3	+0.8

0.2nm,0.3s,baz=129,slow=15,SNR=2.0
YBH Yreka Blue Hor 4.72 114 Pn Pn 20 13 42.0 +0.1
F04A Amboy 4.78 62 Pn Pn 20 13 41.6 -0.9
L04D Klamath Falls 4.79 108 P Pn 20 13 43.9 +1.1
baz=291,SNR=9.8
L04D S **Sn 20 14 39.1 +0.9**
baz=291
E04D Cinebar 4.97 55 P Pn 20 13 44.8 -0.4
baz=239
D03D Eldon 5.27 44 P Pn 20 13 48.9 -0.5
baz=227
J05D Fort Rock, OR 5.28 94 P Pn 20 13 49.4 -0.1
baz=278
G05D Wamic, OR 5.29 72 P Pn 20 13 50.3 +0.7
baz=257
PINE Pine Mountain 5.44 88 Pn 20 13 51.4 -0.4
WDC Whiskeytown Da 5.47 125 Pn Pn 20 13 53.1 +1.1
LON Longmire 5.52 56 Pn 20 13 52.3 -0.5
D05A Enumclaw 5.65 51 Pn 20 13 54.9 +0.4
G06A Carlson Farm, 5.76 73 Pn Pn 20 13 56.8 +0.7
LTY Liberty 6.45 55 Pn 20 14 06.2 +0.6
ORV Oroville 6.74 127 Pn 20 14 10.2 +0.8
HAWA Hanford 6.81 65 Pn 20 14 10.1 -0.4
G08A Pilot Rock 6.94 75 Pn 20 14 12.2 -0.1
E08A Dider Farm, El 7.15 65 Pn 20 14 15.6 +0.5
BEKR Beckworth 7.23 121 Pn Pn 20 14 16.5 +0.1
AFDM Forest Hills D 7.45 128 Pn 20 14 19.4 +0.2
F10A Beach Ranch, E 8.25 71 Pn 20 14 31.1 +0.8
BBB Bella Bella 8.36 1 Pn Pn 20 14 32.0 +0.5
0.3nm,0.3s,baz=120,slow=14,SNR=3.6
BBB LR LR 20 16 58.0
comp=Z,130nm,21.9s,baz=188,slow=32
CMB Columbia Colle 8.42 131 Pn 20 14 33.5 +1.0
YERR Yerington 8.45 122 Pn 20 14 33.1 0.0
WAKR Walker 8.64 125 Pn 20 14 36.2 +0.5
NEW Newport 9.04 57 LR LR 20 18 15.9
comp=Z,526nm,19.0s,baz=244,slow=38
KVN Kaiserville 9.13 118 Pn 20 14 43.0 +0.6
NVAR Mina Array Bea 9.37 122 Pn Pn 20 14 48.3 +2.5
0.2nm,0.3s,baz=294,slow=19,SNR=2.6
NVAR LR LR 20 18 26.4
comp=Z,1μm,20.6s,baz=272,slow=38
ELK Elko 10.27 103 Pn Pn 20 15 00.4 +2.3
0.1nm,0.3s,baz=301,slow=12,SNR=4.4
ELK LR LR 20 19 04.5
comp=Z,846nm,20.1s,baz=278,slow=38
ELK Elko 10.27 103 Pn 20 14 58.8 +0.7
ISA Isabella, Lake 11.20 133 Pn 20 15 10.7 0.0
MCMT McKenzie Canyo 11.23 80 Pn Pn 20 15 12.4 +1.2
TPNV Topopah Spring 11.57 122 Pn 20 15 16.5 +0.7
HVU Hansel Valley 11.70 95 Pn Pn 20 15 19.1 +1.5
BGU Big Grassy Mou 11.78 99 Pn 20 15 19.4 +0.8
YHH Holmes Hill 12.65 80 Pn 20 15 30.6 -0.1
PDAR Pinedale Array 13.81 88 Pn Pn 20 15 50.2 +3.8
baz=278,slow=15,SNR=2.6
PDAR LR LR 20 21 20.1
comp=Z,899nm,18.6s,baz=279,slow=38
PFO Pinyon Flats O 13.84 134 LR LR 20 20 50.8
comp=Z,472nm,19.0s,baz=331,slow=36
W13A Hualapai Mount 14.22 123 Pn 20 15 52.7 +0.6
O20A White River Ci 15.48 97 IAmb IAmb 20 16 18.2
comp=Z,17nm,1.1s
Y14A Wickenburg 15.55 124 IAmb IAmb 20 16 24.6
comp=Z,14nm,1.3s
SKAG Skagway 16.20 347 P Pn 20 16 20.5 +2.5
MVCO Mesa Verde 16.54 107 Pn 20 16 23.0 +0.3
W18A Petrified Fore 16.84 115 P Pn 20 16 28.0 +1.5
W18A IAmb IAmb 20 16 45.0
comp=Z,21nm,1.1s
N23A Red Feather La 16.89 92 IAmb IAmb 20 16 39.4
comp=Z,49nm,1.6s
X18A Snowflake 17.06 117 Pn 20 16 28.7 -0.6
X18A IAmb IAmb 20 16 43.6
comp=Z,20nm,1.3s
TUC Tucson 18.01 124 P Pn 20 16 40.1 -0.8
CRQM Cirque 19.10 338 P P 20 16 53.0 -0.3
ANMO Albuquerque 19.14 110 P P 20 16 55.4 +1.5
comp=Z,0.1nm,0.3s,baz=314,slow=11,SNR=5.0
ANMO LR LR 20 24 44.3
comp=Z,1μm,19.3s,baz=320,slow=38
ANMO Albuquerque 19.14 110 P P 20 16 54.1 +0.3
T25A Trinidad 19.44 102 P P 20 16 57.7 +0.5
T25A IAmb IAmb 20 17 10.5
comp=Z,24nm,1.4s
VRDI Verde Repeater 19.57 338 P P 20 16 56.8 -1.6
319A Douglas 19.58 123 P P 20 16 59.4 +0.8
319A IAmb IAmb 20 17 11.6
comp=Z,22nm,1.3s
SCRK Sand Creek 22.04 342 P P 20 17 25.4 +0.5
SCRK IAmb IAmb 20 17 37.5
comp=Z,18nm,1.5s
RIDG Independent Ri 22.04 340 IAmb IAmb 20 17 37.5
comp=Z,23nm,1.3s
RND Reindeer 22.84 336 P P 20 17 33.6 +0.1
RND IAmb IAmb 20 17 44.4
comp=Z,16nm,1.5s
ULM Lac du Bonnet 22.98 62 P P 20 17 36.3 +1.3
comp=Z,1.5nm,0.4s,baz=214,slow=8.9,SNR=3.6
ULM LR LR 20 26 50.8
comp=Z,289nm,18.1s,baz=245,slow=37
ULM Lac du Bonnet 22.98 62 P P 20 17 35.0 0.0
ILAR Eielson Array 23.39 340 P P 20 17 40.0 +0.9
comp=Z,0.4nm,0.8s,baz=151,slow=10,SNR=4.8
ILAR LR LR 20 25 14.0
comp=Z,212nm,21.1s,baz=148,slow=33
WRH Wood River Hil 23.46 339 P P 20 17 39.0 -0.7
WRH IAmb IAmb 20 17 48.6
comp=Z,18nm,1.5s
CCB Clear Creek Bu 23.52 339 P P 20 17 40.9 +0.6
CCB IAmb IAmb 20 17 49.0
comp=Z,19nm,1.6s
BPAW Bear Paw Mtn. 23.99 336 IAmb IAmb 20 17 47.6
comp=Z,11nm,1.4s
TX32 Lajitas Array 24.49 118 P P 20 17 50.3 +0.5
TX32 IAmb IAmb 20 18 01.4
comp=Z,12nm,1.5s
TXAR Lajitas Array 24.49 118 P P 20 17 51.0 +1.1
comp=Z,0.8nm,1.0s,baz=316,slow=5.2,SNR=5.3
TXAR LR LR 20 28 04.0
comp=Z,227nm,20.1s,baz=0.0,slow=38
WMOK Wichita Mounta 24.59 102 P P 20 17 50.5 -0.1
INK Inuvik 24.68 355 LR LR 20 27 04.4
comp=Z,131nm,18.5s,baz=202,slow=35
LPIG La Paz 24.68 137 LR LR 20 27 10.4
comp=Z,174nm,18.6s,baz=337,slow=36
SCHQ Schefferville 40.37 52 LR LR 20 36 35.1
comp=Z,165nm,18.0s,baz=304,slow=36
PETK Petropavlovsk- 47.78 309 LR LR 20 38 04.7
comp=Z,134nm,21.0s,baz=60,slow=32
H11N3 WAKE ISLAND Hy 58.43 268 T T 21 25 32.1
baz=49,slow=75,SNR=115
H11N2 WAKE ISLAND Hy 58.43 268 T T 21 25 32.6
baz=49,slow=75,SNR=121
H11N1 WAKE ISLAND Hy 58.45 268 T T 21 25 41.5
baz=49,slow=75,SNR=122
H11S1 WAKE ISLAND Hy 59.36 267 T T 21 26 52.9
baz=50,slow=75,SNR=34
H11S2 WAKE ISLAND Hy 59.37 267 T T 21 26 49.7
baz=50,slow=75,SNR=32
H11S3 WAKE ISLAND Hy 59.38 267 T T 21 26 45.2
baz=50,slow=75,SNR=38
ROSC El Rosal 61.30 113 LR LR 20 51 33.2
comp=Z,60nm,21.3s,baz=3.0,slow=38
NRIK Noril'sk 64.06 347 LR LR 20 53 44.0
comp=Z,35nm,18.5s,baz=52,slow=39
USRK Ussuriysk Ar. 66.85 310 LR LR 20 49 59.3
comp=Z,60nm,21.6s,baz=28,slow=34
MJAR Matsushiro Arr 67.96 300 LR LR 20 50 35.3
comp=Z,42nm,19.6s,baz=5.0,slow=34
NOA NORSAR Array B 70.46 20 LR LR 20 56 40.8
comp=Z,21nm,18.9s,baz=285,slow=38

KSRS Korea Array 73.60 306 LR LR 20 51 50.5
comp=Z,35nm,19.4s,baz=52,slow=32
SARN Sarigan 75.62 279 P P 20 24 14.2 -1.6
SONM Songino Array 76.74 326 P P 20 24 21.6 -0.3
comp=Z,1.8nm,1.0s,baz=1.1,slow=7.4,SNR=9.3
SONM LR LR 20 57 51.7
comp=Z,121nm,20.8s,baz=29,slow=36
ZAA0 Zalesovo Array 78.52 341 P P 20 24 31.7 +0.3
ZAA0 IAmb IAmb 20 24 45.4
comp=Z,7.1nm,1.6s
ZALV Zalesovo Beam 78.52 341 LR LR 21 03 12.8
comp=Z,48nm,18.9s,baz=16,slow=39
SUW Suwalki 79.55 17 P P 20 24 37.5 +0.4
COI Coimbra 80.42 42 P P 20 24 39.5 -2.6
KURK Kurchatov 82.93 343 P P 20 24 55.1 0.0
KURK IAmb IAmb 20 24 56.8
comp=Z,3.4nm,1.2s
KURBB Kurchatov Arra 83.03 343 P P 20 24 54.9 -0.7
comp=Z,0.9nm,0.8s,baz=19,slow=5.5,SNR=3.6
MKAR Makanchi Array 85.75 339 LR LR 21 05 36.9
comp=Z,105nm,19.7s,baz=18,slow=37
GEYT Alibeck 98.39 355 LR LR 21 16 12.2
comp=Z,26nm,18.1s,baz=25,slow=39

*ISCJB **07** 20:21:46.3±0.8, 1°.75N±0°.09×124°.7E±0°.2, h250km, mb3.4/5, Error ellipse: s-maj=21.4km s-min=13.0km az=175.1*
*DJA **07** 20:21:46.0±0.6, 2°.N±6°×12°.5E±°, h228km±5km, M3.6/7, MLv3.6/7*
*IDC **07** 20:21:56.3±10.0, 1°.74N×124°.84E, h343km±131km, mb2.9/5, mb1 3.1/6, mb1mx2.7/44, mbtmp3.6/6, Error ellipse: s-maj=50.4km s-min=23.8km az=73.0*
ISC 07 20:21:47.2±0.9, 1°.6N±0°.1×124°.9E±0°.1, h250km, n10, σ1§70/10, mb3.3/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.37**	**220**	P		P	**Pn**	**20 22 23.5**	**-1.1**
MRSI	**Marisa**	**3.13**	**248**	P		P	**Pn**	**20 22 41.1**	**0.0**
LUWI	**Luwuk**	**3.38**	**218**	P		P	**Pn**	**20 22 42.4**	**-1.5**
SANI	**Sanana**	**3.84**	**163**	P		P	**Pn**	**20 22 47.4**	**-1.7**
FITZ	**Fitzroy Crossi**	**19.63**	**178**	P		P	**Pn**	**20 26 01.8**	**-0.2**
	0.3nm,0.3s,baz=14,slow=12,SNR=14								
WRA	**Warramunga Arr**	**23.38**	**157**	P		P	**P**	**20 26 36.5**	**+2.6**
	2.4nm,0.5s,baz=336,slow=10,SNR=30								
ASAR	**Alice Springs**	**26.65**	**161**	P		P	**P**	**20 27 05.9**	**+2.6**
	0.4nm,0.7s,baz=339,slow=7.8,SNR=10.0								
USRK	**Ussuriysk Ar.**	**42.85**	**8**	P		P	**P**	**20 29 20.8**	**0.0**
	0.6nm,0.4s,baz=191,slow=7.2,SNR=5.9								
SONM	**Songino Array**	**48.71**	**344**	P		P	**P**	**20 30 06.7**	**0.0**
	0.3nm,0.5s,baz=148,slow=8.5,SNR=3.3								
MKAR	**Makanchi Array**	**58.23**	**327**	P		P	**P**	**20 31 14.8**	**-0.8**
	0.3nm,0.3s,baz=125,slow=7.6,SNR=9.1								

*IDC **07** 20:23:34.7±1.2, 7°.22N×127°.72E, h0km, mb3.8/5, mb1 3.8/7, mb1mx3.5/45, mbtmp3.8/7, ML4.0/2, MS2.2/2, Ms1 2.2/2, ms1mx2.0/31, Error ellipse: s-maj=46.6km s-min=21.3km az=64.0*
*NEIC **07** 20:23:35.8±2.2, 7°.1N±0°.1×127°.61E±0°.08, h10km±1km, mb4.3/9*
ISC 07 20:23:39.1±2.0, 7°.06N±0°.10×127°.46E±0°.08, h32km±13km, n27, σ1§67/32, mb4.0/8, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.20**	**265**	P		P	**Pb**	**20 24 02.7**	**+1.4**
MATI				S		S	**Sb**	**20 24 16.9**	**+0.4**
DAV	**Davao City (W)**	**1.87**	**271**	Pn		Pn	**Pb**	**20 24 12.1**	**-0.5**
	97nm,0.3s,baz=275,slow=1.3,SNR=5.3								
DAV				Sn		**Sn**		**20 24 34.5**	**+3.1**
	76nm,0.3s,baz=282,slow=23,SNR=11								
DAV				LR		LR		20 25 35.9	
	comp=Z,29nm,20.2s,baz=124,slow=57								
DAV	**Davao City (W)**	**1.87**	**271**				**Pn**	**20 24 10.7**	**+1.8**
DAV							**Sn**	**20 24 34.6**	**+3.1**
DMPH	**Davao City--Mi**	**1.94**	**271**	⇑		P	**Pb**	**20 24 14.2**	**+0.4**
DDMP	**Don Marcelino,**	**1.98**	**242**	P		P	**Pn**	**20 24 06.8**	**-3.7**
DDMP				S		Sn		20 24 25.6	-8.6
KCP	**Kidapawan**	**2.35**	**269**	⇑		P	**Pn**	**20 24 15.4**	**-0.3**
KCP				S		**Sn**		**20 24 41.3**	**-2.3**
BUKP	**Musuan**	**2.52**	**289**	P		P	**Pb**	**20 24 23.8**	**+0.1**
BUKP				S		**Sb**		**20 24 52.5**	**-1.8**
CTBH	**Cotabato--PC H**	**3.19**	**273**	P		P	**Pn**	**20 24 30.2**	**+3.0**
CTBH				S		**Sn**		**20 25 00.9**	**-3.3**
TNTI	**Ternate**	**6.24**	**181**	Pn		Pn	**Pn**	**20 25 09.1**	**0.0**
SIJI	**Sorong**	**8.74**	**154**	Pn		Pn	**Pn**	**20 25 42.0**	**-1.5**
	0.9nm,0.3s,baz=348,slow=18,SNR=11								
SIJI				Sn		Sn		20 27 06.6	-14
	0.5nm,0.3s,baz=143,slow=20,SNR=3.7								
LUWI	**Luwuk**	**9.31**	**210**	Pn		Pn	**Pn**	**20 25 50.8**	**-0.4**
FAKI	**Fak Fak**	**11.00**	**154**	Pn		Pn	**Pn**	**20 26 13.4**	**-1.1**
SBUM	**Sibu**	**15.86**	**254**	Pn		Pn	**Pn**	**20 27 19.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**25.06**	**184**	P		P	**P**	**20 29 01.0**	**+0.2**
KRVT	**Keravat (AS076**	**26.99**	**114**	LR		LR		20 37 58.8	
	comp=Z,9.1nm,21.1s,baz=272,slow=32								
WRA	**Warramunga Arr**	**27.67**	**166**	P		P	**P**	**20 29 26.0**	**+1.6**
	0.2nm,0.6s,baz=344,slow=10,SNR=2.8								
MK31	**Makanchi Array**	**55.29**	**324**	P		P	**P**	**20 33 10.8**	**+1.1**
MK31				IAmb		IAmb		20 33 11.0	
	comp=Z,5.3nm,1.1s								
MKAR	**Makanchi Array**	**55.29**	**324**	P		P	**P**	**20 33 11.0**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=118,slow=8.3,SNR=9.7								
MAKZ	**Makanchi**	**55.48**	**324**	P		P	**P**	**20 33 11.4**	**+0.3**
ZALV	**Zalesovo Beam**	**57.99**	**332**	P		P	**P**	**20 33 29.8**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=109,slow=7.8,SNR=3.8								
BTK	**Batken**	**60.19**	**312**	P		P	**P**	**20 33 44.0**	**-0.3**
GAR	**Garm**	**60.26**	**311**	P		P	**P**	**20 33 44.1**	**-0.8**
KK31	**Karatay Array**	**61.34**	**316**	P		P	**P**	**20 33 51.4**	**-0.7**
KK31				IAmb		IAmb		20 33 52.0	
	comp=Z,0.8nm,0.7s								
ABKAR	**Akbulak array**	**70.07**	**320**	P		P	**P**	**20 34 48.0**	**-0.2**
ABKAR				IAmb		IAmb		20 34 48.5	
	comp=Z,2.1nm,0.8s								
AKTO	**Aktyubinsk**	**71.54**	**321**	P		P	**P**	**20 34 56.9**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=94,slow=6.3,SNR=5.4								
ARU	**Arti**	**72.54**	**327**	P		P	**P**	**20 35 02.6**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=79,slow=5.2,SNR=6.1								
ARU	**Arti**	**72.54**	**327**	P		P	**P**	**20 35 02.6**	**-0.4**
ARU				IAmb		IAmb		20 35 04.1	
	comp=Z,1.7nm,0.7s								

TAP 07 20:25:45.8, 24°.82N×121°.81E, h113km, ML2.4, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.04**	**25**	*e*P			Pn	20 26 01.5	+0.3
	baz=24								
ILA	**Ilan**	**0.08**	**227**	*e*P			Pn	20 26 01.7	+0.4
	baz=222								
TIPB	**Shuangxi**	**0.15**	**4**	P			Pn	20 26 00.6	-0.9
	baz=4.0								
TIPB				S			Sn	20 26 13.5	+0.2
	baz=4.0								
TWE	**Neicheng**	**0.17**	**233**	P			Pn	20 26 01.7	+0.3
	baz=229								
TWE				S			Sn	20 26 13.3	+0.1
	baz=229								
SLBB	**Yuanshan**	**0.17**	**248**	P			Pn	20 26 00.6	-1.0
	baz=247								
SLBB				S			Sn	20 26 12.7	-0.6
	baz=247								
TWC	**Suao**	**0.21**	**171**	P			Pn	20 26 01.9	+0.3
	baz=168								
TWC				S			Sn	20 26 13.7	+0.3
	baz=168								
TWB1	**Santiao Chiao**	**0.24**	**40**	P			Pn	20 26 00.9	-0.7
	baz=42								
NWF	**Wu-fen Shan**	**0.25**	**353**	*e*S			Sn	20 26 13.7	-0.2
	baz=353								
WFSB	**Wu-fen Shan**	**0.25**	**353**	*e*S			Sn	20 26 13.7	0.0
	baz=353								
TWA	**Mucha**	**0.26**	**307**	*e*P			Pn	20 26 01.7	0.0
	baz=307								
TWA				*e*S			Sn	20 26 13.1	-0.6
	baz=307								
NWLT	**Wulai**	**0.29**	**261**	*e*P			Pn	20 26 01.5	-0.3
	baz=261								
NWLT				*e*S			Sn	20 26 12.9	-1.0
	baz=261								
ENTT	**Nioudou**	**0.29**	**231**	⇑ *i*	P		Pn	20 26 02.1	+0.3
	baz=230								
ENTT				S			Sn	20 26 13.8	-0.1
	baz=230								
NHDH	**Xindian Distri**	**0.30**	**298**	P			Pn	20 26 01.9	0.0
	baz=298								
NHDH				*e*S			Sn	20 26 14.0	+0.1
	baz=298								
TATO	**Taipei**	**0.33**	**298**	*e*P			Pn	20 26 02.1	+0.1
	baz=297								
TATO				*e*S			Sn	20 26 13.9	-0.3
	baz=297								
NDT	**Datong Townshi**	**0.35**	**232**	*i* P			Pn	20 26 02.3	+0.2
	baz=231								
NDT				*i* S			Sn	20 26 14.2	-0.1
	baz=231								
YM01	**YM01**	**0.39**	**326**	*e*P			Pn	20 26 01.5	-0.9
	baz=325								
YM01				S			Sn	20 26 14.8	0.0
	baz=325								
EOS1	**EOS1**	**0.39**	**133**	*e*P			Pn	20 26 02.3	0.0
	baz=133								
EOS1				*e*S			Sn	20 26 14.0	-0.6
	baz=133								
NANB	**Nanao**	**0.40**	**188**	P			Pn	20 26 02.3	-0.1
	baz=188								
NANB				*e*S			Sn	20 26 14.6	-0.2
	baz=188								
NANB	**Nanao**	**0.40**	**188**	S			Sn	20 26 14.8	0.0
	baz=19								
ENA	**Nanau**	**0.40**	**190**	P			Pn	20 26 02.5	+0.1
	baz=188								
ENA				S			Sn	20 26 15.2	+0.4
	baz=188								
ENA	**Nanau**	**0.40**	**190**	S			Sn	20 26 14.7	-0.1
	baz=18								
YM10	**YM10**	**0.40**	**326**	*e*P			Pn	20 26 02.5	0.0
	baz=325								
YM10				S			Sn	20 26 15.4	+0.4
	baz=325								
YM11	**YM11**	**0.41**	**328**	*e*S			Sn	20 26 15.0	-0.1
	baz=327								
YM05	**YM05**	**0.41**	**327**	*e*S			Sn	20 26 14.8	-0.3
	baz=326								
YM04	**YM04**	**0.42**	**323**	*e*P			Pn	20 26 02.8	+0.4
	baz=322								
YM04				*e*S			Sn	20 26 14.6	-0.4
	baz=322								
YHNB	**Yeheng**	**0.42**	**249**	P			Pn	20 26 02.6	+0.1
	baz=249								
YHNB				S			Sn	20 26 14.4	-0.8
	baz=249								
NSK	**Sanguang**	**0.44**	**251**	P			Pn	20 26 02.6	0.0
	baz=250								
NSK				S			Sn	20 26 14.6	-0.7
	baz=250								
TWS1	**Kuangyinshan**	**0.45**	**308**	P			Pn	20 26 02.6	0.0
	baz=308								
TWS1				S			Sn	20 26 15.7	+0.4
	baz=308								
TWY	**Chenhua**	**0.49**	**337**	*e*S			Sn	20 26 16.1	+0.4
	baz=337								
NNS	**Nan Shan**	**0.55**	**227**	*e*P			Pn	20 26 03.8	+0.3
	baz=225								
NNS				*e*S			Sn	20 26 16.7	0.0
	baz=225								
NNS	**Nan Shan**	**0.55**	**227**	S			Sn	20 26 16.7	0.0
	baz=323								
NNSB	**Datong**	**0.55**	**225**	*e*P			Pn	20 26 03.8	+0.3
	baz=225								
NNSB				*e*S			Sn	20 26 16.1	-0.6
	baz=225								
NNSB	**Datong**	**0.55**	**225**	*e*S			Sn	20 26 16.5	-0.2
	baz=323								
NNSH	**Datong**	**0.55**	**225**	*e*P			Pn	20 26 03.8	+0.3
	baz=225								
NNSH				*e*S			Sn	20 26 16.1	-0.6
	baz=225								
NNSH	**Datong**	**0.55**	**225**	*e*S			Sn	20 26 16.2	-0.5
	baz=323								
NCU	**National Centr**	**0.59**	**285**	*e*P			Pn	20 26 03.2	-0.3
	baz=284								
NCU				*e*S			Sn	20 26 17.1	+0.2
	baz=284								
LIOB	**Emei**	**0.75**	**257**	*e*P			Pn	20 26 05.3	+0.5
	baz=256								
LIOB				*e*S			Sn	20 26 18.4	-0.8
	baz=256								
NSTT	**Nanjuang**	**0.76**	**256**	*e*P			Pn	20 26 05.3	+0.4
	baz=255								
NSTT				*e*S			Sn	20 26 19.1	-0.2
	baz=255								
TDCB	**Techi**	**0.82**	**227**	*e*P			Pn	20 26 06.6	+1.0
	baz=226								
TDCB				*e*S			Sn	20 26 20.9	+0.3
	baz=226								
WHF	**Hehuan Shan**	**0.84**	**217**	*e*P			Pn	20 26 06.8	+0.7
	baz=216								
CHGB	**Renai**	**0.95**	**218**	*e*P			Pn	20 26 08.0	+0.9
	baz=217								
WHP	**Taichung City**	**0.96**	**236**	*e*P			Pn	20 26 08.0	+1.1
	baz=235								
WHP				*e*S			Sn	20 26 22.9	+0.2
	baz=235								
SSLB	**Suanglung**	**1.29**	**217**	*e*P			Pn	20 26 11.2	+0.8
	baz=217								
WHYT	**Xinyi Township**	**1.42**	**218**	*e*P			Pn	20 26 13.3	+1.4
	baz=218								
WHYT				*e*S			Sn	20 26 31.1	-0.6
	baz=218								
YULB	**Yu-li**	**1.50**	**198**	*e*P			Pn	20 26 13.8	+1.1
	baz=198								
YULB				*e*S			Sn	20 26 33.2	-0.1
	baz=198								
ELDTW	**Lidau**	**1.78**	**204**	*e*P			Pn	20 26 17.1	+0.8
	baz=203								
TPUB	**Ta-pu**	**1.86**	**216**	*e*P			Pn	20 26 18.2	+1.0
	baz=215								
WTP	**Ta-pu**	**1.91**	**215**	*e*P			Pn	20 26 18.6	+0.7
	baz=214								
WLGB	**Puzi**	**1.92**	**226**	*e*P			Pn	20 26 18.6	+0.7
	baz=225								

TAP 07 20:26:01.9, 24°.12N×121°.64E, h11km, ML1.2, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.05**	**221**	*i* P			Pg	20 26 04.6	+0.5
	baz=214								
TWD				*i* S			Sg	20 26 06.4	+0.6
	baz=214								
NACB	**Ninganchiao**	**0.06**	**325**	P			Pg	20 26 04.8	+0.5
	baz=325								
NACB				S			Sg	20 26 06.5	+0.5
	baz=325								
ETLH	**Xiulin Townshi**	**0.16**	**301**	P			Pb	20 26 06.7	-0.3
	baz=301								
ETLH				*e*S			Sg	20 26 09.9	+1.6
	baz=301								
ENA	**Nanau**	**0.32**	**18**	*e*P			Pb	20 26 09.6	-0.1
	baz=18								
NANB	**Nanao**	**0.32**	**19**	*e*P			Pb	20 26 09.2	-0.5
	baz=19								
WHF	**Hehuan Shan**	**0.34**	**274**	P			Pg	20 26 09.4	+0.5
	baz=273								
WHF				S			Sb	20 26 15.1	-0.7
	baz=273								
ESL	**Shilin**	**0.36**	**211**	*e*P			Pb	20 26 09.7	-0.6
	baz=209								
ESL				*e*S			Sb	20 26 15.7	-0.2
	baz=209								
NNSB	**Datong**	**0.38**	**323**	*e*P			Pb	20 26 10.6	-0.2
	baz=323								
NNS	**Nan Shan**	**0.40**	**323**	*e*P			Pb	20 26 10.6	-0.4
	baz=323								
CHGB	**Renai**	**0.43**	**262**	*e*P			Pg	20 26 10.6	+0.2
	baz=261								
CHGB				*e*S			Sb	20 26 18.0	-0.1
	baz=261								
TWT	**Tachien**	**0.44**	**288**	*e*S			Sb	20 26 18.8	+0.3
	baz=286								

*ISCJB **07** 20:38:54.3±0.9, 5°.78S±0°.07×102°.33E±0°.09, h10km, mb3.6/6, Error ellipse: s-maj=13.2km s-min=9.2km az=14.0*
*IDC **07** 20:38:54.6±3.6, 5°.72S×102°.33E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/34, mbtmp3.7/6, Error ellipse:*

s-maj=149.4km s-min=19.6km az=57.0

*DJA **07** 20:39:00.3±0.9, 6°S±6°×10°3E±°, h10km, M3.6/7, MLv3.6/7*

ISC 07 20:38:56.8±1.1, **5°.75S**±0°.08×**102°.47E**±0°.10, **h10**km, **n15**, σ**1^{s}61**/14, **mb3.6**/6, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.46**	**19**	P	**Pn**	**20 39 23.2**	**0.0**
MNAI				S	**Sb**	**20 39 42.6**	**-0.1**
LWLI	**Liwa**	**1.74**	**65**	P	**Pn**	**20 39 27.4**	**+0.2**
KASI	**Kota Agung**	**2.03**	**84**	P	**Pn**	**20 39 31.3**	**+0.3**
MDSI	**Maura Dua**	**2.11**	**54**	P	**Pn**	**20 39 32.6**	**+0.4**
MDSI				S	**Sn**	**20 39 58.1**	**-0.4**
KLSI		**2.48**	**65**	P	**Pn**	**20 39 41.1**	**+3.8**
MASI	**Maura Aman, Be**	**2.60**	**355**	P	**Pn**	**20 39 41.8**	**+2.9**
CMAR	**Chiang Mai Arr**	**24.30**	**352**	P	**P**	**20 44 12.9**	**-1.8**
	0.5nm,0.3s,baz=182,slow=10,SNR=6.4						
H08S2	**Diego Garcia H**	**29.83**	**265**	T	T	21 16 23.4	
	baz=88,slow=75,SNR=18						
H08S3	**Diego Garcia H**	**29.84**	**265**	T	T	21 16 12.2	
	baz=88,slow=75,SNR=16						
H08S1	**Diego Carcia H**	**29.85**	**265**	T	T	21 16 10.0	
	baz=88,slow=75,SNR=16						
WRA	**Warramunga Arr**	**34.03**	**117**	P	**P**	**20 45 42.1**	**+0.7**
	0.2nm,0.6s,baz=301,slow=8.9,SNR=4.1						
ASAR	**Alice Springs**	**35.10**	**124**	P	**P**	**20 45 50.4**	**-0.2**
	0.6nm,1.0s,baz=292,slow=7.7,SNR=4.3						
STKA	**Stephens Creek**	**44.85**	**130**	P	**P**	**20 47 11.9**	**+0.5**
	1.7nm,0.6s,baz=304,slow=8.4,SNR=6.0						
SONM	**Songino Array**	**53.46**	**3**	P	**P**	**20 48 16.9**	**-0.4**
	0.7nm,0.7s,baz=183,slow=8.9,SNR=7.3						
MKAR	**Makanchi Array**	**55.29**	**343**	P	**P**	**20 48 29.4**	**-1.1**
	1.7nm,1.1s,baz=165,slow=6.0,SNR=3.5						

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*ISCJB **07** 20:52:34.6±0.6, 9°.55S±0°.06×121°.34E±0°.05, h100km, mb3.5/2, Error ellipse: s-maj=9.1km s-min=6.4km az=14.6*

*DJA **07** 20:52:35.7±0.5, 9°S±5°×12°1E±°, h106km±7km, M3.5/7, MLv3.5/7*

*IDC **07** 20:52:37.4±4.1, 9°.83S×121°.23E, h98km±40km, mb3.5/2, mb1 3.4/6, mb1mx3.2/23, mbtmp3.6/6, Error ellipse: s-maj=42.4km s-min=22.1km az=78.0*

ISC 07 20:52:35.3±0.9, **9°.51S**±0°.07×**121°.33E**±0°.05, **h100**km, **n12**, σ**2^{s}60**/18, **Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.03**	**261**	P	**Pn**	**20 52 56.9**	**+0.9**
WSI				S	**Sn**	**20 53 13.5**	**+1.9**
MMRI	**Maumere**	**1.25**	**46**	P	**Pn**	**20 52 57.7**	**-0.8**
MMRI				S	**Sn**	**20 53 15.8**	**-0.3**
BATI	**Baumata**	**2.41**	**107**	P	**Pn**	**20 53 15.1**	**+2.0**
	4.4nm,0.3s,baz=293,slow=13,SNR=8.2						
BATI				S	**Sn**	**20 53 45.4**	**+3.1**
	12nm,0.3s,baz=127,slow=5.9,SNR=7.4						
BATI	**Baumata**	**2.41**	**107**	P	**Pn**	**20 53 15.2**	**+2.0**
SOEI	**Soe**	**2.91**	**95**	P	**Pn**	**20 53 21.1**	**+1.1**
PLAI	**Plampang**	**3.57**	**281**	P	**Pn**	**20 53 28.7**	**0.0**
PLAI				S	**Sn**	**20 54 07.8**	**-2.2**
BKSI	**Bulukumba**	**4.33**	**344**	P	**Pn**	**20 53 36.4**	**-2.5**
FITZ	**Fitzroy Crossi**	**9.51**	**154**	P	**Pn**	**20 54 48.8**	**-0.6**
	0.3nm,0.3s,baz=330,slow=12,SNR=11						
FITZ				S	**Sn**	**20 56 30.9**	**-3.6**
	0.4nm,0.3s,baz=212,slow=17,SNR=4.0						
WRA	**Warramunga Arr**	**16.30**	**131**	P	**Pn**	**20 56 17.5**	**-0.8**
	0.2nm,0.3s,baz=299,slow=14,SNR=13						
WRA				S	Sn	20 59 07.1	-12
	0.6nm,0.3s,baz=307,slow=21,SNR=14						
ASAR	**Alice Springs**	**18.51**	**141**	P	**Pn**	**20 56 45.6**	**+0.3**
	0.2nm,0.3s,baz=321,slow=12,SNR=9.2						
ASAR				S	**S**	**21 00 04.0**	**-6.1**
	0.1nm,0.3s,baz=311,slow=22,SNR=4.8						
STKA	**Stephens Creek**	**29.13**	**143**	P	**P**	**20 58 26.9**	**0.0**
	0.8nm,0.5s,baz=302,slow=8.6,SNR=4.0						
MKAR	**Makanchi Array**	**65.97**	**332**	P	**P**	**21 03 14.7**	**+3.8**
	0.4nm,0.6s,baz=150,slow=7.7,SNR=3.5						

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*MDD **07** 21:00:30.8±2.1, 36°.64N×12°.96W, h0km, mb3.9/3, Error ellipse: s-maj=19.5km s-min=18.3km az=135.0, PRXIMO*

*IGIL **07** 21:00:30.6, 36°.61N×13°.01W, h2km, ML1.7*

*INMG **07** 21:00:31.8±0.8, 36°.47N×13°.36W, h31km, ML1.8, Error ellipse: s-maj=6.6km s-min=4.4km az=124.0*

ISC 07 21:00:31.6±3.8, **36°.8N**±0°.1×**12°.9W**±0°.2, **h10**km, **n39**, σ**1^{s}14**/69, **1D, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.29**	**83**	*e*P	**Pn**	**21 01 22.9**	**-0.2**
PFVI				*e*S	**Sn**	**21 02 01.3**	**-1.0**
PFVI	**Vila Bisbo**	**3.29**	**83**	P	**Pn**	**21 01 22.9**	**-0.2**
	2.0nm,0.1s,SNR=7.8						
PFVI				S	**Sn**	**21 02 01.6**	**-0.7**
	2.3nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**3.44**	**80**	*e*P	**Pn**	**21 01 25.4**	**0.0**
MORF				*e*S	**Sn**	**21 02 04.8**	**-1.4**
MORF				AML	AML	21 02 08.9	
	comp=N,2.9nm,0.2s						
MORF	**Marmelete**	**3.44**	**80**	*e*P	**Pn**	**21 01 25.4**	**0.0**
MORF				*e*S	**Sn**	**21 02 05.7**	**-0.5**
MORF				A	A	21 02 12.5	
	comp=N,1.3nm,0.5s						
MORF	**Marmelete**	**3.44**	**80**	P	**Pn**	**21 01 25.4**	**0.0**
MORF				S	**Sn**	**21 02 04.8**	**-1.4**
	comp=N,2.9nm,0.2s						
PMAFR	**Mafra**	**3.59**	**52**⇓	*e*P	**Pn**	**21 01 28.5**	**+1.2**
PMAFR				*e*S	**Sn**	**21 02 10.7**	**+1.0**
PMAFR				A	A	21 02 12.9	
	comp=N,10nm,0.6s						
PMAFR	**Mafra**	**3.59**	**52**	P	**Pn**	**21 01 28.5**	**+1.2**
	comp=N,1.2nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**21 02 11.1**	**+1.4**
	comp=N,6.4nm,0.1s,SNR=7.1						
PNCL	**Nicolau / Gran**	**3.72**	**68**	*e*P	**Pn**	**21 01 29.6**	**+0.5**
PNCL				*e*S	**Sn**	**21 02 13.1**	**+0.1**
PNCL				A	A	21 02 16.6	
	comp=N,0.8nm,0.1s						
PNCL	**Nicolau / Gran**	**3.72**	**68**	P	**Pn**	**21 01 29.6**	**+0.5**
PNCL				S	**Sn**	**21 02 13.1**	**+0.1**
	comp=N,0.8nm,0.1s						
MESJ	**Messejana**	**3.88**	**73**	*e*P	**Pn**	**21 01 31.5**	**+0.2**
MESJ				*e*S	**Sn**	**21 02 15.4**	**-1.4**
MESJ				AML	AML	21 02 18.2	
	comp=N,1.1nm,0.4s						
MESJ	**Messejana**	**3.88**	**73**	P	**Pn**	**21 01 31.5**	**+0.2**
MESJ				S	**Sn**	**21 02 15.4**	**-1.4**
	comp=N,1.1nm,0.4s						
PCVE	**Castro Verde**	**3.98**	**76**	*e*P	**Pn**	**21 01 33.3**	**+0.7**
PCVE				*e*S	**Sn**	**21 02 21.1**	**+1.8**
PCVE	**Castro Verde**	**3.98**	**76**	P	**Pn**	**21 01 33.3**	**+0.7**
PCVE				S	**Sn**	**21 02 21.1**	**+1.8**
PBDV	**Barranco-do-Ve**	**4.01**	**82**	*e*P	**Pn**	**21 01 33.7**	**+0.6**
PBDV				*e*S	**Sn**	**21 02 20.6**	**+0.5**
PBDV	**Barranco-do-Ve**	**4.01**	**82**	P	**Pn**	**21 01 33.7**	**+0.6**
PBDV				S	**Sn**	**21 02 20.6**	**+0.5**
PVAQ	**Vaqueiros**	**4.19**	**80**	*e*P	**Pn**	**21 01 36.5**	**+0.9**
PVAQ				*e*S	**Sn**	**21 02 23.5**	**-1.1**
PVAQ				A	A	21 02 34.2	
	comp=N,1.2nm,0.8s						
PVAQ	**Vaqueiros**	**4.19**	**80**	P	**Pn**	**21 01 36.5**	**+0.9**
PVAQ				S	**Sn**	**21 02 23.5**	**-1.1**
	comp=N,1.2nm,0.8s						
EVO	**Evora**	**4.25**	**65**	*e*P	**Pn**	**21 01 36.9**	**+0.5**
EVO				*e*S	**Sn**	**21 02 26.1**	**0.0**
EVO	**Evora**	**4.25**	**65**	P	**Pn**	**21 01 36.9**	**+0.5**
EVO				S	**Sn**	**21 02 26.1**	**0.0**
PMTG	**Montargil**	**4.34**	**57**	*e*P	**Pn**	**21 01 37.2**	**-0.4**
PMTG				*e*S	**Sn**	**21 02 27.4**	**-0.9**
PMTG				A	A	21 02 32.3	
	comp=N,1.1nm,0.5s						
PMTG	**Montargil**	**4.34**	**57**	P	**Pn**	**21 01 37.2**	**-0.4**
PMTG				S	**Sn**	**21 02 27.4**	**-0.9**
	comp=N,1.1nm,0.5s						
EGRO	**El Granado**	**4.39**	**79**	P	**Pn**	**21 01 38.8**	**+0.4**
	comp=N,0.3nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**21 02 30.0**	**+0.4**
	comp=N,0.2nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**4.52**	**50**	*e*S	**Sn**	**21 02 33.8**	**+1.0**
PTOM	**Tomar**	**4.52**	**50**	S	**Sn**	**21 02 33.8**	**+1.0**
PESTR	**Estremoz**	**4.69**	**62**	*e*P	**Pn**	**21 01 42.9**	**+0.5**
PESTR				*e*S	**Sn**	**21 02 36.2**	**-0.7**
PCAS	**Casmilo, Conde**	**4.75**	**45**	*e*P	**Pn**	**21 01 44.9**	**+1.7**
PCAS				*e*S	**Sn**	**21 02 38.5**	**+0.2**
PCAS				A	A	21 02 45.8	
	comp=N,1.0nm,0.4s						
PCAS	**Casmilo, Conde**	**4.75**	**45**	P	**Pn**	**21 01 44.9**	**+1.7**
PCAS				S	**Sn**	**21 02 38.5**	**+0.2**
	comp=N,1.0nm,0.4s						
EBAD	**Badajoz**	**5.06**	**66**	P	**Pn**	**21 01 48.2**	**+0.7**
	comp=N,0.5nm,0.1s,SNR=4.0						
EBAD				S	**Sn**	**21 02 45.9**	**-0.2**
	comp=N,0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.07**	**77**	P	**Pn**	**21 01 47.4**	**-0.2**
	comp=N,0.2nm,0.1s,SNR=4.0						
EMIN				S	**Sn**	**21 02 44.6**	**-1.5**
	comp=N,0.1nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**5.08**	**57**	*e*P	**Pn**	**21 01 48.4**	**+0.6**
PMRV				*e*S	**Sn**	**21 02 45.6**	**-0.9**
PMRV				A	A	21 02 47.5	
	comp=N,0.7nm,0.5s						
PMRV	**Marv??o**	**5.08**	**57**	P	**Pn**	**21 01 48.4**	**+0.6**
PMRV				S	**Sn**	**21 02 45.6**	**-0.9**
	comp=N,0.7nm,0.5s						
ECAB	**El Cabril**	**6.09**	**76**	P	**Pn**	**21 02 02.0**	**+0.2**
	comp=N,0.2nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**6.26**	**30**	S	**Sn**	**21 03 14.4**	**-1.1**
	comp=N,0.2nm,0.0s,SNR=4.0						
EPLA	**Plasencia**	**6.27**	**57**	P	**Pn**	**21 02 04.9**	**+0.7**
	comp=N,0.1nm,0.1s,SNR=4.0						
ELOB	**Lobios**	**6.30**	**35**	P	**Pn**	**21 02 06.8**	**+2.1**
	comp=N,0.1nm,0.1s,SNR=4.0						
ELOB				S	**Sn**	**21 03 16.2**	**-0.6**
	comp=N,0.3nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.32**	**45**	*e*S	**Sn**	**21 03 15.4**	**-1.8**
MVO	**Moncorvo**	**6.32**	**45**	S	**Sn**	**21 03 15.7**	**-1.5**
	comp=N,0.5nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.84**	**25**	S	**Sn**	**21 03 26.3**	**-3.7**
	comp=N,0.5nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**7.05**	**30**	S	**Sn**	**21 03 31.4**	**-3.6**
	comp=N,0.3nm,0.1s,SNR=7.9						

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*IDC **07** 21:11:11.7±0.8, 19°.26N×108°.69W, h0km, mb4.0/11, mb1 4.3/14, mb1mx4.1/45, mbtmp4.1/14, ML4.4/3, MS3.9/27, Ms1 3.9/27, ms1mx3.9/34, Error ellipse: s-maj=21.3km s-min=13.8km az=51.0*

*NEIC **07** 21:11:13.6±1.8, 19°.23N±0°.08×108°.58W±0°.06, h10km±1km, mb4.4/151*

*ISCJB **07** 21:11:14.2±0.3, 19°.30N±0°.03×108°.46W±0°.02, h22km, mb4.0/10, MS4.0/26, Error ellipse: s-maj=4.5km s-min=3.0km az=24.2*

*GCMT **07** 21:11:14.6±0.2, 19°.46N±0°.01×108°.58W±0°.01, h26km, MW5.0/115, Moment Tensor Solution. s50,c55; s115,c161; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.57±.13; $M_{\theta\theta}$-3.38±.12; $M_{\phi\phi}$3.95±.12; $M_{r\theta}$-1.16±.24; $M_{\theta\phi}$-2.34±.10; $M_{\phi r}$1.10±.22; Best double couple: $M_0$4.61600×10^{16} NP1:ϕ_s299.00000°, δ89.00000°, λ161.00000°. NP2:ϕ_s29.00000°, δ71.00000°, λ1.00000°. Principal axes: T 4.9810, Plg14.0000°, Azm252.0000°; N -0.7310, Plg71.0000°, Azm117.0000°; P -4.2500, Plg13.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MEX **07** 21:11:30.4±0.3, 19°.62N×107°.21W, h10km, MD4.6*

ISC 07 21:11:15.2±0.5, **19°.32N**±0°.06×**108°.57W**±0°.05, **h22**km, **n288**, σ**1^{s}50**/258, **mb4.4**/39, **MS4.0**/26, **Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**2.29**	**257**	Pn	**Pn**	**21 11 48.8**	**-3.0**
H06E1				Sn	**Sn**	**21 12 20.7**	**+1.3**
H06E1				T	T	21 14 23.5	
	SNR=204						
H06N1	**SOCORRO T-PHAS**	**2.33**	**259**	Pn	**Pn**	**21 11 48.2**	**-4.1**
H06N1				Sn	**Sb**	**21 12 23.9**	**-1.1**
H06N1				T	T	21 14 29.0	
	SNR=113						
H06S1	**SOCORRO T**	**2.34**	**256**	Pn	**Pn**	**21 11 49.3**	**-3.0**
H06S1				Sn	**Sn**	**21 12 20.0**	**-0.4**
	SNR=32						
H06S1				T	T	21 14 29.2	
	SNR=1906						
CJM	**Chamela**	**3.33**	**86**	*e*P	**Pn**	**21 12 01.5**	**-4.5**
CJM				*e*S	Sn	21 12 25.9	-19
R15V		**4.33**	**91**	*e*P	**Pn**	**21 12 16.3**	**-3.6**
R15V				*e*S	Sn	21 12 52.4	-17
EZ5V		**4.69**	**87**	*e*P	**Pn**	**21 12 22.9**	**-2.0**
ZAIG	**Zacatecas**	**6.57**	**57**		**Pn**	**21 12 49.3**	**-1.6**
ARIG	**Puente Sto Nin**	**7.85**	**96**	*e*P	**Pn**	**21 13 06.9**	**-1.3**
HPIG		**8.04**	**19**		**Pn**	**21 13 11.4**	**+0.5**
SRIG	**Santa Rosalia**	**8.65**	**338**	Pn	**Pn**	**21 13 20.9**	**+1.9**
TLIG	**Tlapa**	**9.65**	**99**		**Pn**	**21 13 32.2**	**-0.8**
HSIG		**9.90**	**348**		**Pn**	**21 13 38.0**	**+1.8**
TX31	**Lajitas Ar. Si**	**10.92**	**23**		**Pn**	**21 13 50.7**	**+0.3**
TX32	**Lajitas Array**	**10.92**	**23**		**Pn**	**21 13 50.4**	**+0.1**
TXAR	**Lajitas Array**	**10.92**	**23**	Pn	**Pn**	**21 13 50.6**	**+0.2**
	0.3nm,0.3s,baz=203,slow=12,SNR=26						
TXAR				LR	LR	21 17 36.3	
	comp=Z,585nm,19.7s,baz=0.0,slow=35						
319A	**Douglas**	**12.02**	**357**		**Pn**	**21 14 06.6**	**+1.2**
833A	**Chaparral WMA,**	**12.27**	**41**	P	**Pn**	**21 14 09.5**	**+0.8**
	baz=225						
833A	**Chaparral WMA,**	**12.27**	**41**		**Pn**	**21 14 08.8**	**0.0**
MNTX	**Cornudas Mount**	**12.66**	**12**	P	**Pn**	**21 14 16.0**	**+2.0**
	baz=194,SNR=7.5						
MNTX	**Cornudas Mount**	**12.66**	**12**		**Pn**	**21 14 14.8**	**+0.8**
KVTX	**Kingsville**	**12.76**	**48**	Pn	**Pn**	**21 14 13.7**	**-1.7**
TUC	**Tucson**	**13.09**	**352**	Pn	**Pn**	**21 14 19.9**	**-0.1**
214A	**Organ Pipe Nat**	**13.15**	**344**		**Pn**	**21 14 22.2**	**+1.4**
121A	**Cookes Peak, D**	**13.18**	**3**	P	**Pn**	**21 14 25.4**	**+4.2**
	baz=183						
121A	**Cookes Peak, D**	**13.18**	**3**		**Pn**	**21 14 22.5**	**+1.2**
CMIG	**Matias Romero**	**13.19**	**97**	Pn	**Pn**	**21 14 21.5**	**+0.2**
	7.2nm,0.3s,baz=273,slow=9.5,SNR=59						
CMIG				LR	LR	21 19 14.5	
	comp=Z,332nm,18.3s,baz=284,slow=36						
JCT	**Junction City**	**13.65**	**34**	P	**Pn**	**21 14 30.5**	**+2.8**
	baz=217,SNR=5.3						
JCT	**Junction City**	**13.65**	**34**		**Pn**	**21 14 27.3**	**-0.4**
GLA	**Glamis**	**14.78**	**339**	Pn	**Pn**	**21 14 45.2**	**+2.2**
LENM	**Lemitar**	**14.86**	**5**		**Pn**	**21 14 46.5**	**+2.3**
BNM	**Barren Site**	**14.87**	**6**		**Pn**	**21 14 46.8**	**+2.3**
LPM	**Los Pinos Moun**	**15.03**	**6**	Pn	**Pn**	**21 14 46.8**	**+0.3**
LPM					**S**	**21 17 49.7**	**0.0**
Y14A	**Wickenburg**	**15.09**	**346**	Pn	**Pn**	**21 14 49.1**	**+1.9**
Y14A				IAmb	IAmb	21 14 51.3	
	comp=Z,21nm,1.4s						
435B	**Jarrell**	**15.13**	**39**	Pn	**Pn**	**21 14 47.2**	**-0.4**
435B				IAmb	IAmb	21 14 54.5	
	comp=Z,27nm,1.2s						
BAR	**Barrett**	**15.16**	**333**	Pn	**Pn**	**21 14 50.5**	**+2.4**
BAR				IAmb	IAmb	21 15 05.5	
	comp=Z,14nm,1.2s						
X18A	**Snowflake**	**15.20**	**356**	P	**Pn**	**21 14 50.9**	**+2.1**
X18A				IAmb	IAmb	21 14 52.1	
	comp=Z,16nm,1.0s						
X16A	**Lo Mia Camp, P**	**15.25**	**351**		**Pn**	**21 14 50.6**	**+1.1**
X16A				IAmb	IAmb	21 14 57.6	
	comp=Z,17nm,1.4s						
Y12C	**Blythe**	**15.32**	**341**	Pn	**Pn**	**21 14 52.2**	**+2.1**
Y12C				IAmb	IAmb	21 15 08.1	
	comp=Z,13nm,1.1s						
ABTX	**Abilene, Hawle**	**15.48**	**29**	P	**Pn**	**21 14 53.2**	**+1.0**
	baz=213						
ABTX	**Abilene, Hawle**	**15.48**	**29**		**Pn**	**21 14 53.4**	**+1.1**
ABTX				IAmb	IAmb	21 15 06.4	
	comp=Z,29nm,1.2s						
MSTX	**Muleshoe**	**15.48**	**18**	P	**P**	**21 14 55.7**	**-0.9**
	baz=201						
MSTX	**Muleshoe**	**15.48**	**18**		**Pn**	**21 14 54.6**	**+2.3**
MSTX				IAmb	IAmb	21 15 08.3	
	comp=Z,19nm,1.1s						
BC3	**Big Chuckawall**	**15.54**	**338**	P	**P**	**21 14 57.3**	**-0.1**
	baz=155						
HKT	**Hockley**	**15.67**	**45**		**Pn**	**21 14 54.6**	**-0.1**
HKT				IAmb	IAmb	21 15 01.2	
	comp=Z,46nm,1.4s						
ANMO	**Albuquerque**	**15.68**	**6**	P	**P**	**21 14 58.3**	**-0.7**
	baz=187						
ANMO	**Albuquerque**	**15.68**	**6**	Pn	**Pn**	**21 14 56.1**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=202,slow=10,SNR=7.9						
ANMO				LR	LR	21 19 47.8	
	comp=Z,592nm,19.1s,baz=189,slow=33						
ANMO	**Albuquerque**	**15.68**	**6**		**Pn**	**21 14 57.0**	**+2.0**
W18A	**Petrified Fore**	**15.77**	**356**	Pn	**Pn**	**21 14 57.3**	**+1.1**
W18A				IAmb	IAmb	21 15 04.2	
	comp=Z,48nm,1.4s						
XPFO	**Pion Flat**	**15.88**	**335**	Pn	**Pn**	**21 14 57.9**	**+0.3**
PFO	**Pinyon Flats O**	**15.88**	**335**	LR	LR	21 20 43.7	
	comp=Z,797nm,18.9s,baz=164,slow=36						
PFO	**Pinyon Flats O**	**15.88**	**335**	Pn	**Pn**	**21 14 57.9**	**+0.3**
CCIG	**Comitan**	**15.93**	**98**		**Pn**	**21 14 57.5**	**-0.9**
CCIG				IAmb	IAmb	21 15 01.9	
	comp=Z,41nm,0.9s						
BELC	**Belle Mtn. Jos**	**16.05**	**337**	P	**P**	**21 15 03.4**	**+0.4**
	baz=154						
WHTX	**Lake Whitney,**	**16.09**	**36**	P	**Pn**	**21 15 00.8**	**+0.6**
	baz=221						
WHTX	**Lake Whitney,**	**16.09**	**36**	Pn	**Pn**	**21 15 00.2**	**+0.1**
WHTX				IAmb	IAmb	21 15 04.5	
	comp=Z,21nm,1.0s						
MURC	**Murrieta**	**16.17**	**333**	P	**P**	**21 15 05.5**	**+1.2**
	baz=150						
WUAZ	**Wupatki**	**16.32**	**352**	P	**P**	**21 15 07.8**	**+1.7**
	baz=171						
WUAZ	**Wupatki**	**16.32**	**352**		**P**	**21 15 05.4**	**-0.7**
WUAZ				IAmb	IAmb	21 15 10.0	
	comp=Z,28nm,1.1s						
W13A	**Hualapai Mount**	**16.41**	**344**	P	**P**	**21 15 06.4**	**-0.7**
GMRC	**Granite Mounta**	**16.64**	**339**	P	**P**	**21 15 10.0**	**+0.4**
	baz=156						
AMTX	**Amarillo**	**16.66**	**20**	P	**P**	**21 15 09.7**	**0.0**
	baz=203						
AMTX	**Amarillo**	**16.66**	**20**	P	**Pn**	**21 15 08.2**	**+0.8**
AMTX				IAmb	IAmb	21 15 14.9	
	comp=Z,30nm,1.4s						
PASC	**Pasadena Art C**	**17.09**	**332**		**P**	**21 15 14.2**	**-0.2**
TUQ	**Turquoise Moun**	**17.32**	**339**	P	**P**	**21 15 19.1**	**+2.0**
	baz=156						
U15A	**North Rim**	**17.36**	**350**		**P**	**21 15 17.9**	**+0.3**
GSC	**Goldstone, Bar**	**17.51**	**337**	P	**P**	**21 15 21.4**	**+2.3**
	baz=154						
GSC	**Goldstone, Bar**	**17.51**	**337**		**P**	**21 15 19.2**	**+0.1**
NATX	**Nacogdoches**	**17.61**	**43**	P	**Pn**	**21 15 19.4**	**+0.1**
	baz=228						
NATX	**Nacogdoches**	**17.61**	**43**	P	**Pn**	**21 15 18.7**	**-0.6**
WMOK	**Wichita Mounta**	**17.64**	**28**	P	**P**	**21 15 21.1**	**+0.6**
	baz=212						
WMOK	**Wichita Mounta**	**17.64**	**28**	P	**Pn**	**21 15 18.9**	**-0.7**
OSI	**Osito Audit: C**	**17.70**	**331**	P	**P**	**21 15 22.1**	**+0.8**
OSI				IAmb	IAmb	21 15 31.8	
	comp=Z,25nm,1.4s						
APG	**El Apazote**	**17.82**	**101**	P	**P**	**21 15 24.2**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=308,slow=11,SNR=16						
APG				LR	LR	21 21 06.2	
	comp=Z,436nm,20.9s,baz=294,slow=33						
MVCO	**Mesa Verde**	**17.83**	**0**	P	**P**	**21 15 24.5**	**+1.7**
	baz=180,SNR=5.7						
MVCO	**Mesa Verde**	**17.83**	**0**	P	**P**	**21 15 23.3**	**+0.5**
MVCO				IAmb	IAmb	21 15 40.0	
	comp=Z,25nm,1.4s						
X34A	**Smith Ranch, M**	**17.96**	**30**		**Pn**	**21 15 23.0**	**-0.5**
KNB	**Kanab**	**18.02**	**349**	P	**P**	**21 15 26.3**	**+1.4**
SHPR	**Sheep Range**	**18.08**	**343**	P	**P**	**21 15 27.1**	**+1.6**
LCMT	**Little Creek M**	**18.10**	**348**	P	**P**	**21 15 27.7**	**+2.1**
T25A	**Trinidad**	**18.12**	**11**		**P**	**21 15 26.4**	**+0.4**
PKCU	**Pink Cliffs**	**18.35**	**350**	P	**Pn**	**21 15 29.7**	**+1.0**
S22A	**4UR Ranch, Cre**	**18.42**	**4**	P	**Pn**	**21 15 31.2**	**+1.7**
	baz=185						
S22A	**4UR Ranch, Cre**	**18.42**	**4**	P	**P**	**21 15 28.8**	**-0.6**
MPMC	**Manual Prospec**	**18.43**	**337**	P	**Pn**	**21 15 30.9**	**+1.3**
	baz=153						
ISA	**Isabella, Lake**	**18.48**	**334**	P	**P**	**21 15 29.7**	**-0.1**
SDCO	**Great Sand Dun**	**18.55**	**8**	P	**Pn**	**21 15 34.9**	**+3.8**
	baz=189						
SDCO	**Great Sand Dun**	**18.55**	**8**	P	**Pn**	**21 15 31.3**	**+0.2**
SZCU	**Shurtz Canyon**	**18.63**	**349**	P	**P**	**21 15 30.4**	**-1.3**
CCUT	**Cedar City**	**18.64**	**348**	P	**Pn**	**21 15 32.5**	**+0.4**
DAC	**Darwin (Calif)**	**18.67**	**337**	P	**Pn**	**21 15 33.9**	**+1.5**
FNO	**Franklin**	**18.70**	**30**	P	**P**	**21 15 31.1**	**-1.0**
PV01	**Paradox Valley**	**18.75**	**360**	P	**Pn**	**21 15 34.0**	**+0.6**
PV13	**Radium Mtn., P**	**18.77**	**359**	P	**Pn**	**21 15 34.8**	**+1.1**
TPNV	**Topopah Spring**	**18.81**	**341**	P	**Pn**	**21 15 36.3**	**+2.2**
	baz=157						
TPNV	**Topopah Spring**	**18.81**	**341**	P	**Pn**	**21 15 35.1**	**+1.0**
PV18	**Skein Mesa, Pa**	**18.86**	**359**	P	**Pn**	**21 15 35.5**	**+0.7**
W35A	**Tecumseh**	**18.86**	**31**	P	**P**	**21 15 34.4**	**+0.4**
VES	**Vestal, Richgr**	**18.89**	**333**	P	**Pn**	**21 15 38.0**	**+3.1**
	baz=148						
PV11	**David Mesa, Pa**	**18.91**	**359**	P	**Pn**	**21 15 35.7**	**+0.4**
PV11				IAmb	IAmb	21 15 48.6	
	comp=Z,20nm,1.3s						
MTPU	**Mount Pierson**	**18.92**	**351**	P	**Pn**	**21 15 36.4**	**+0.8**
PV16	**Nyswonger Mesa**	**18.93**	**359**	P	**Pn**	**21 15 35.9**	**+0.3**
PV19	**Morning Glory**	**18.93**	**359**	P	**Pn**	**21 15 36.2**	**+0.6**
PV20	**West Nyswonger**	**18.96**	**359**	P	**Pn**	**21 15 36.2**	**+0.3**
PV04	**Paradox Valley**	**19.01**	**359**	P	**Pn**	**21 15 37.2**	**+0.7**
PV04				IAmb	IAmb	21 15 51.9	
	comp=Z,34nm,1.1s						
PV07	**Paradox Valley**	**19.05**	**360**	P	**Pn**	**21 15 37.4**	**+0.4**
PV23	**Carpenter Ridg**	**19.07**	**359**	P	**Pn**	**21 15 37.9**	**+0.5**
PV23				IAmb	IAmb	21 15 56.0	
	comp=Z,17nm,1.2s						
PV22	**Blue Mesa, Par**	**19.15**	**359**	P	**Pn**	**21 15 38.6**	**+0.4**
PV21	**Cone Mtn., Par**	**19.18**	**359**	P	**Pn**	**21 15 38.9**	**+0.3**
PV21				IAmb	IAmb	21 15 53.2	
	comp=Z,17nm,1.3s						
X37A	**Clayton**	**19.20**	**35**	P	**Pn**	**21 15 38.2**	**-0.4**
X37A				IAmb	IAmb	21 15 54.5	
	comp=Z,28nm,1.4s						
MSU	**Marysvale**	**19.38**	**351**	P	**Pn**	**21 15 41.5**	**+0.5**
TCRU	**Three Creeks R**	**19.52**	**351**	P	**Pn**	**21 15 43.0**	**+0.3**
Q16A	**Castle Valley**	**19.66**	**354**	P	**Pn**	**21 15 44.3**	**0.0**
PSUT	**Pine Spring**	**19.69**	**348**	P	**Pn**	**21 15 44.8**	**+0.1**
Z41A	**Richland Creek**	**19.77**	**42**	P	**P**	**21 15 44.3**	**+0.4**
	baz=229						
Z41A	**Richland Creek**	**19.77**	**42**	P	**Pn**	**21 15 44.9**	**-0.6**
SRU	**San Rafael Swe**	**19.80**	**355**	P	**P**	**21 15 44.9**	**+0.6**
Q24A	**Divide**	**19.80**	**8**	P	**P**	**21 15 44.8**	**+0.3**
SMCO	**Snowmass**	**19.84**	**4**	P	**Pn**	**21 15 46.8**	**+0.1**
SMCO				IAmb	IAmb	21 16 05.4	
	comp=Z,14nm,0.8s						
WLAR	**White Oak Lake**	**19.86**	**41**	P	**P**	**21 15 44.9**	**0.0**
R11A	**Troy Canyon, C**	**19.92**	**344**	P	**Pn**	**21 15 47.9**	**+0.5**
	baz=160,SNR=7.6						
R11A	**Troy Canyon, C**	**19.92**	**344**	P	**P**	**21 15 46.5**	**+0.8**
TUL1	**Leonard**	**20.00**	**32**	P	**P**	**21 15 45.8**	**-0.6**
TUL1				IAmb	IAmb	21 16 02.7	
	comp=Z,13nm,1.1s						
TMUT	**Trail Mountain**	**20.04**	**354**	P	**P**	**21 15 47.7**	**+0.6**
P17A	**Butcher Ranch,**	**20.17**	**355**	P	**P**	**21 15 49.6**	**+1.2**
MIAR	**Mount Ida**	**20.18**	**38**	P	**P**	**21 15 48.0**	**-0.2**
	baz=225						
MIAR	**Mount Ida**	**20.18**	**38**	P	**P**	**21 15 48.1**	**-0.2**
MIAR				IAmb	IAmb	21 15 49.5	
	comp=Z,12nm,1.1s						
KSCO	**Kaye Shedlock'**	**20.29**	**13**	P	Pn	21 15 51.2	-0.4
	baz=196						
KSCO	**Kaye Shedlock'**	**20.29**	**13**	P	**P**	**21 15 50.4**	**+0.8**
KSCO				IAmb	IAmb	21 15 58.8	
	comp=Z,24nm,1.1s						
OMMB	**Old Mammoth Mi**	**20.38**	**336**	P	**P**	**21 15 51.4**	**+0.6**
OMMB				IAmb	IAmb	21 15 57.4	
	comp=Z,32nm,1.2s						
W39A	**Magazine**	**20.52**	**37**	P	**P**	**21 15 52.9**	**+0.8**
	baz=223						
W39A	**Magazine**	**20.52**	**37**	IAmb	IAmb	21 15 53.4	
	comp=Z,38nm,1.2s						
ISCO	**Idaho Springs**	**20.57**	**6**	P	**P**	**21 15 54.0**	**+1.2**
	baz=188						
ISCO	**Idaho Springs**	**20.57**	**6**	P	**P**	**21 15 53.2**	**+0.3**
X40A	**Basin Creek Fa**	**20.57**	**40**	P	Pn	21 15 53.9	-1.0
	baz=226						
VBMS	**Vicksburg**	**20.68**	**48**	P	**P**	**21 15 54.2**	**+0.5**
	baz=236						
O20A	**White River Ci**	**20.75**	**1**	P	Pn	21 15 57.1	0.0
	baz=181						
O20A	**White River Ci**	**20.75**	**1**	P	Pn	21 15 56.7	-0.4
O20A				IAmb	IAmb	21 16 14.1	
	comp=Z,17nm,1.1s						
NLU	**North Lily Min**	**20.79**	**352**	P	**P**	**21 15 56.5**	**+1.4**
NV11	**Mina Array Sit**	**20.79**	**338**	P	**P**	**21 15 55.9**	**+0.8**
NVAR	**Mina Array Bea**	**20.84**	**338**	P	**P**	**21 15 55.6**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=163,slow=11,SNR=9.0						
NVAR				LR	LR	21 23 11.0	
	comp=Z,597nm,21.4s,baz=134,slow=35						
CBKS	**Cedar Bluff**	**20.88**	**20**	P	**P**	**21 15 57.0**	**+1.1**
	baz=204						
CBKS	**Cedar Bluff**	**20.88**	**20**	P	**P**	**21 15 57.2**	**+1.2**
CBKS				IAmb	IAmb	21 16 06.0	

comp=Z,32nm,1.1s
TGUH Tegucigalpa,Un 21.05 101 P **P** **21 15 58.0 -0.1**
UALR University of 21.07 40 P **P** **21 15 58.7 +0.8**
UALR IAmb IAmb 21 16 02.2
comp=Z,15nm,0.9s
DUG Dugway, Tooele 21.12 351 P **P** **21 16 01.1 +2.4**
baz=169,SNR=14
DUG Dugway, Tooele 21.12 351 P **P** **21 15 59.9 +1.2**
DUG IAmb IAmb 21 16 02.0
comp=Z,32nm,1.4s
RDMU Red Mountain 21.20 358 P **P** **21 16 00.8 +1.2**
HHAR Hobbs 21.24 34 P **P** **21 16 00.4 +0.6**
HHAR IAmb IAmb 21 16 08.3
comp=Z,12nm,1.2s
WAKR Walker 21.32 336 P **P** **21 16 02.4 +1.5**
WAKR IAmb IAmb 21 16 06.7
comp=Z,10nm,1.1s
KVN Kaiserville 21.32 339 P **P** **21 16 02.2 +1.3**
JLU Jordanelle 21.36 354 P **P** **21 16 02.7 +1.4**
W41B Gary Mavity, V 21.39 39 P **P** **21 16 01.8 +0.4**
baz=226,SNR=10
W41B Gary Mavity, V 21.39 39 P **P** **21 16 00.5 -1.0**
WHAR Wooly Hollow 21.45 39 P **P** **21 16 01.8 -0.3**
CTU Camp Tracy 21.48 353 P **P** **21 16 04.5 +2.0**
N23A Red Feather La 21.62 5 P **P** **21 16 05.4 +1.3**
baz=187
N23A Red Feather La 21.62 5 P **P** **21 16 05.1 +1.0**
N23A IAmb IAmb 21 16 06.5
comp=Z,20nm,1.4s
YERR Yerington 21.67 337 P **P** **21 16 06.6 +2.0**
YERR IAmb IAmb 21 16 25.2
comp=Z,25nm,1.4s
X43A Marvell 21.81 42 P **P** **21 16 06.6 +0.8**
baz=230
TCUT Toone Canyon 21.86 354 P **P** **21 16 07.9 +1.2**
BGU Big Grassy Mou 21.87 351 P **P** **21 16 07.9 +1.2**
U40A Yellville 21.88 36 P **P** **21 16 07.6 +0.9**
baz=223
PNTR Pine Nut 21.89 336 P **P** **21 16 07.5 +0.5**
PNTR IAmb IAmb 21 16 16.8
comp=Z,13nm,0.9s
PHWY Pilot Hill 22.07 6 IAmb IAmb 21 16 27.8
comp=Z,14nm,1.4s
ELK Elko 22.11 346 P **P** **21 16 09.6 +0.2**
comp=Z,2.4nm,0.9s,baz=178,slow=5.9,SNR=8.8
ELK LR LR 21 24 27.6
comp=Z,237nm,18.4s,baz=181,slow=36
SPUT South Promonto 22.17 352 P **P** **21 16 11.3 +1.4**
RWWY Rawlins 22.33 3 P **P** **21 16 13.0 +1.3**
RWWY IAmb IAmb 21 16 24.3
comp=Z,9.2nm,1.1s
PAHR Pah Rah Range 22.36 338 P **P** **21 16 12.8 +0.9**
PAHR IAmb IAmb 21 16 16.1
comp=Z,22nm,1.4s
LCAR Lake Charles 22.66 39 P **P** **21 16 15.7 +0.7**
LCAR IAmb IAmb 21 16 28.7
comp=Z,19nm,1.0s
BEKR Beckworth 22.86 336 P **P** **21 16 18.1 +0.8**
ORV Oroville 23.05 334 P **P** **21 16 20.4 +1.4**
ORV IAmb IAmb 21 16 32.6
comp=Z,14nm,1.5s
K22A Casper 23.32 4 P **P** **21 16 23.6 +1.6**
baz=185
K22A Casper 23.32 4 P **P** **21 16 23.3 +1.3**
K22A IAmb IAmb 21 16 25.1
comp=Z,24nm,1.4s
BW06 Boulder Array 23.39 358 P **P** **21 16 24.6 +1.9**
PD31 Pinedale Array 23.39 358 P **P** **21 16 23.4 +0.7**
PDAR Pinedale Array 23.39 358 P **P** **21 16 23.0 +0.3**
comp=Z,1.1nm,0.8s,baz=158,slow=12,SNR=9.5
PDAR LR LR 21 24 35.0
comp=Z,162nm,20.4s,baz=190,slow=34
LRAL Lakeview Retre 23.63 50 P **P** **21 16 25.1 +0.3**
baz=240,SNR=7.2
ACON Acoyapa 23.66 105 P **P** **21 16 25.9 +0.6**
250A Grady 23.67 53 P **P** **21 16 25.3 0.0**
baz=243,SNR=10
O03E Paynes Creek 23.80 334 P **P** **21 16 28.1 +1.5**
baz=148
PLAL Pickwick Lake 23.92 45 IAmb IAmb 21 16 27.8
comp=Z,19nm,1.2s
CCM Cathedral Cave 24.00 35 P **P** **21 16 29.0 +0.7**
baz=224
CCM Cathedral Cave 24.00 35 P **P** **21 16 28.1 -0.3**
CCM IAmb IAmb 21 16 39.8
comp=Z,15nm,1.2s
REDW Red Top Meadow 24.05 356 P **P** **21 16 29.2 +0.2**
REDW IAmb IAmb 21 16 32.0
comp=Z,23nm,1.3s
KCPM Cahto Peak 24.07 331 P **P** **21 16 28.9 -0.3**
HICK Hickman 24.13 41 P **P** **21 16 29.9 +0.3**
SNOW Snow King Moun 24.14 356 IAmb IAmb 21 16 32.9
comp=Z,22nm,1.2s
TPAW Teton Pass 24.18 356 IAmb IAmb 21 16 33.5
comp=Z,29nm,1.4s
X48A Hartselle 24.33 47 P **P** **21 16 31.4 0.0**
baz=237,SNR=8.7
X48A Hartselle 24.33 47 P **P** **21 16 31.5 0.0**
FXWY Fox Creek 24.33 356 IAmb IAmb 21 16 34.6
comp=Z,12nm,1.2s
MOOW Moose Ponds 24.43 356 IAmb IAmb 21 16 47.1
comp=Z,8.6nm,1.1s
Y49A Blount Mountai 24.46 49 P **P** **21 16 33.1 +0.4**
baz=239
352A Blakely 24.49 56 P **P** **21 16 33.3 +0.4**
baz=246
JTS Las Juntas de 24.50 108 P **P** **21 16 34.6 +1.4**
comp=Z,11nm,1.1s,baz=315,slow=10,SNR=6.4
JTS Las Juntas de 24.50 108 P **P** **21 16 33.5 +0.3**
Z50A Ashland 24.52 51 P **P** **21 16 33.8 +0.6**
baz=241,SNR=9.1
WVOR Wild Horse Val 24.57 342 P **P** **21 16 34.8 +1.1**
WVOR IAmb IAmb 21 16 37.1
comp=Z,19nm,1.2s
MOD Modoc Plateau 24.62 339 IAmb IAmb 21 16 38.1
comp=Z,23nm,1.2s
453A Whigham 24.72 58 P **P** **21 16 36.0 +1.0**
baz=248
WVT Waverly 24.76 43 P **P** **21 16 35.9 +0.6**
baz=233
WVT Waverly 24.76 43 P **P** **21 16 35.6 +0.2**
252A Lumpkin 24.85 55 P **P** **21 16 38.3 +2.1**
baz=245
RSSD Black Hills 25.02 8 P **P** **21 16 38.5 +0.7**
RSSD IAmb IAmb 21 16 52.1
comp=Z,12nm,1.5s
H17A Grant Village 25.06 357 P **P** **21 16 39.2 +0.9**
baz=176
H17A Grant Village 25.06 357 P **P** **21 16 39.8 +1.6**
H17A IAmb IAmb 21 16 44.2
comp=Z,12nm,1.5s
152A Waverly Hall 25.15 53 P **P** **21 16 39.3 +0.4**
baz=244,SNR=6.5
454A Quitman 25.23 58 P **P** **21 16 40.6 +1.0**
baz=249
W49A Belvidere 25.23 47 P **P** **21 16 39.9 +0.3**
baz=237,SNR=11
253A Americus 25.34 55 P **P** **21 16 40.9 +0.3**
baz=246
YMR Madison River 25.36 356 P **P** **21 16 42.8 +1.9**
YBH Yreka Blue Hor 25.38 335 LR LR 21 26 03.1
comp=Z,287nm,21.7s,baz=160,slow=35
Y51A Rockmart 25.46 50 P **P** **21 16 41.3 -0.4**
baz=241,SNR=11
YHH Holmes Hill 25.47 356 P **P** **21 16 43.1 +1.1**
SWET Sewanee 25.51 47 IAmb IAmb 21 16 49.6
comp=Z,15nm,1.1s
TIGA Tifton 25.52 57 P **P** **21 16 43.4 +1.2**
baz=248,SNR=5.1
TIGA Tifton 25.52 57 P **P** **21 16 42.6 +0.4**
QLMT Earthquake Lak 25.55 355 P **P** **21 16 44.3 +1.6**
Z52A Williamson 25.61 53 P **P** **21 16 43.8 +0.7**
baz=243,SNR=9.7
YNE Yellowstone No 25.64 358 P **P** **21 16 45.1 +1.6**
MCMT McKenzie Canyo 25.68 353 P **P** **21 16 44.4 +0.5**
455A Stateville 25.72 59 P **P** **21 16 45.5 +1.4**
baz=250,SNR=8.4
T47A Sharon Grove 25.74 42 P **P** **21 16 45.5 +1.2**
baz=232
T47A Sharon Grove 25.74 42 IAmb IAmb 21 16 46.1
comp=Z,20nm,1.3s
153A Fort Valley 25.82 54 P **P** **21 16 45.5 +0.6**
baz=245
V49A McMinnville 25.83 46 P **P** **21 16 46.2 +1.1**
baz=236,SNR=5.2
W50A Signal Mountai 25.93 48 P **P** **21 16 46.8 +0.8**
baz=238
W50A Signal Mountai 25.93 48 P **P** **21 16 45.8 -0.2**
254A Abbeville 25.95 56 P **P** **21 16 46.0 -0.1**
baz=247,SNR=6.9
J05D Fort Rock, OR 26.17 339 P **P** **21 16 49.7 +1.5**
baz=152
Y52A Lilburn 26.18 51 P **P** **21 16 50.2 +2.0**
baz=242
Y52A Lilburn 26.18 51 P **P** **21 16 48.6 +0.3**
DLMT Dillon 26.18 354 P **P** **21 16 49.2 +0.9**
DLMT IAmb IAmb 21 17 07.2
comp=Z,12nm,1.4s
Z53A Monticello 26.28 53 P **P** **21 16 48.9 -0.3**
baz=244
BOZ Bozeman (W) 26.33 355 P **P** **21 16 51.0 +1.4**
baz=174
V50A Pikeville 26.33 47 P **P** **21 16 49.6 0.0**
baz=238
154A Montrose 26.36 55 P **P** **21 16 49.9 0.0**
baz=246
GOGA Godfrey 26.42 53 P **P** **21 16 52.2 +1.8**
baz=244
GOGA Godfrey 26.42 53 P **P** **21 16 50.5 +0.2**
PINE Pine Mountain 26.52 340 P **P** **21 16 52.0 +0.6**
PINE IAmb IAmb 21 16 55.1
comp=Z,13nm,1.4s
X52A Dahlonega 26.65 50 P **P** **21 16 52.7 +0.2**
baz=241
Z54A Sparta 26.82 54 P **P** **21 16 54.1 +0.1**
baz=245
155A Kite 26.86 55 P **P** **21 16 55.7 +1.4**
baz=247
W52A Murphy 26.86 49 P **P** **21 16 55.2 +0.8**
baz=240
Y54A Tignall 27.20 53 P **P** **21 16 57.3 -0.1**
baz=244
W53A Cullowhee 27.44 50 P **P** **21 17 00.8 +1.0**
baz=241
HRY Holter Researc 27.45 355 P **P** **21 17 00.1 +0.4**
MSO Missoula 27.79 352 P **P** **21 17 04.2 +1.6**
baz=169
NEW Newport 29.70 348 LR LR 21 30 11.4
comp=Z,137nm,19.7s,baz=169,slow=38
ULM Lac du Bonnet 32.48 15 LR LR 21 30 54.1
comp=Z,237nm,20.6s,baz=197,slow=36
OTAV Otavalo 35.09 119 P **P** **21 18 09.3 +1.7**
SADO Sadowa 35.24 37 LR LR 21 32 05.6
comp=Z,286nm,19.0s,baz=238,slow=36
SDV Santo Domingo 38.14 100 P **P** **21 18 34.5 +1.1**
TAOE Nuku Hiva Isla 41.86 231 *e*LR LR 21 30 29.0
comp=Z,523nm,25.5s
TAOE Nuku Hiva Isla 41.86 231 *e*T T 22 03 23.5
comp=Z,56nm,0.2s
YKA Yellowknife Ar 43.34 356 P **P** **21 19 14.9 -0.5**
comp=Z,0.5nm,0.7s,baz=163,slow=7.9,SNR=5.9
YKA LR LR 21 37 53.8
comp=Z,38nm,18.5s,baz=168,slow=37
SCHQ Schefferville 47.47 32 P **P** **21 19 49.2 +0.9**
comp=Z,6.1nm,0.9s,baz=234,slow=8.7,SNR=2.6
SCHQ LR LR 21 39 33.2
comp=Z,189nm,18.0s,baz=332,slow=36
SCHQ Schefferville 47.47 32 IAmb IAmb 21 19 51.0
comp=Z,4.9nm,1.0s
KDAK Kodiak Island 50.10 331 LR LR 21 37 58.7
comp=Z,175nm,19.4s,baz=124,slow=32
INK Inuvik 51.42 348 P **P** **21 20 18.5 +0.3**
comp=Z,3.5nm,1.1s,baz=147,slow=9.7,SNR=6.0
INK Inuvik 51.42 348 IAmb IAmb 21 20 34.9
comp=Z,13nm,1.5s
ILAR Eielson Array 52.07 340 P **P** **21 20 23.1 -0.1**
comp=Z,0.8nm,0.7s,baz=153,slow=5.4,SNR=8.6
ILAR LR LR 21 40 53.0
comp=Z,88nm,21.0s,baz=148,slow=34
SAML Samuel 52.81 118 P **P** **21 20 27.9 -1.4**
SAML IAmb IAmb 21 20 28.6
comp=Z,13nm,1.3s
LPAZ La Paz 53.23 129 P **P** **21 20 33.2 +0.1**
comp=Z,4.6nm,0.9s,baz=330,slow=9.2,SNR=17
LPAZ LR LR 21 38 35.6
comp=Z,80nm,21.9s,baz=314,slow=31
LPAZ La Paz 53.23 129 IAmb IAmb 21 20 34.2
comp=Z,6.9nm,0.9s
PB11 IPOC Station P 54.44 133 P **P** **21 20 42.1 +0.8**
PPT Papeete 54.47 230 LR LR 21 38 04.2
comp=Z,134nm,18.2s,baz=3.0,slow=30
PPT2 Papeete2 54.48 230 *e*S **S** **21 28 21.9 +2.3**
comp=Z,123nm,27.2s
PPT2 *e*LR LR 21 36 20.9
comp=Z,458nm,26.5s,baz=42
TBI Tubuai 58.23 225 *e*S **S** **21 29 14.9 +5.9**
comp=Z,77nm,27.8s
TBI *e*LR LR 21 38 00.9
comp=Z,360nm,27.2s,baz=41
TBI Tubuai 58.23 225 *e*T T 22 23 51.6
comp=Z,3.9nm,0.3s
CPUP Villa Florida 67.32 131 P **P** **21 22 08.7 0.0**
comp=Z,5.9nm,1.0s,baz=309,slow=6.8,SNR=10
CPUP LR LR 21 50 12.9
comp=Z,59nm,18.5s,baz=316,slow=35
GO06 Curarrehue 68.07 150 P **P** **21 22 13.7 +0.4**
BDFB Brasilia 68.95 116 P **P** **21 22 19.6 +0.3**
comp=Z,4.7nm,0.9s,baz=295,slow=6.2,SNR=7.4
BDFB Brasilia 68.95 116 P **P** **21 22 19.7 +0.4**
PLCA Paso Flores 69.41 150 LR LR 21 45 43.2
comp=Z,217nm,20.9s,baz=348,slow=30
PLCA Paso Flores 69.41 150 P **P** **21 22 21.4 -0.2**
PLCA Paso Flores 69.41 150 P **P** **21 22 22.6 +1.0**
PETK Petropavlovsk- 76.98 322 LR LR 21 49 56.7
comp=Z,40nm,21.9s,baz=61,slow=30
ARCES ARCESS Array B 85.59 15 LR LR 22 02 21.0
comp=Z,61nm,20.6s,baz=312,slow=36
NOA NORSAR Array B 86.62 25 LR LR 22 02 18.8
comp=Z,68nm,18.2s,baz=300,slow=35
NRIK Noril'sk 90.83 354 LR LR 22 06 36.4
comp=Z,100nm,20.3s,baz=35,slow=37
DZM Mont Dzumac 92.66 248 *e*LR LR 21 54 14.4
comp=Z,425nm,27.9s
GERES GERESS Array B 94.94 34 LR LR 22 06 20.9
comp=Z,110nm,18.0s,baz=296,slow=35
MJAR Matsushiro Arr 96.02 312 LR LR 22 00 28.6
comp=Z,44nm,20.8s,baz=55,slow=31
KEST Kesra 99.70 47 LR LR 22 08 44.4
comp=Z,48nm,20.9s,baz=266,slow=35
LZH Lanzhou 116.93 331 *e*PKP **PKPdf** **21 29 54.8 -4.1**
LZH pPKP sPKPdf 21 30 06.1 -0.6
LZH sPKP 21 30 11.0
KSH Kashi 121.32 356 PKP **PKPdf** **21 30 04.5 -2.7**
KSH PP **PP** **21 31 40.6 +4.0**
KSH SKS **SKSdf** **21 37 11.4 -6.9**
KSH SKKS **SKKSac** **21 38 28.4 -8.1**
KSH Kashi 121.32 356 SS SS 21 48 09.6 +1.0
KSH AMB AMB
comp=Z,560nm,4.7s
KSH LR LR
comp=N,350nm,6.2s
KSH LR LR
comp=E,390nm,5.4s
KSH LR LR
comp=Z,340nm,6.0s

IDC 07 21:18:49.6±6.0, 16.74S×174.69W, h78km±51km, mb3.5/3, mb1 3.7/4, mb1mx3.3/57, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=334.6km s-min=27.2km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.98**	**45**	P	Pn	21 19 49.4	+1.2
	4.5nm,0.3s,baz=246,slow=19,SNR=9.1						
AFI				S	Sn	21 20 34.0	+0.2
	27nm,0.3s,baz=94,slow=23,SNR=9.9						
WRA	**Warramunga Arr**	**48.34**	**258**	P	P	21 27 23.5	-0.2
	0.6nm,0.5s,baz=97,slow=7.5,SNR=4.8						
ASAR	**Alice Springs**	**48.52**	**253**	P	P	21 27 24.9	-0.3
	0.7nm,0.7s,baz=88,slow=8.3,SNR=4.6						
ILAR	**Eielson Array**	**84.00**	**12**	P	P	21 31 11.2	+0.2
	0.1nm,0.5s,baz=230,slow=7.0,SNR=4.5						

*ISCJB **07** 21:21:30.8±0.7, 1.32N×0.07×127.0E±0.1, h150km, mb3.7/6, Error ellipse: s-maj=16.1km s-min=9.6km az=3.3*
*IDC **07** 21:21:33.5±4.5, 1.41N×127.34E, h155km±49km, mb3.4/6, mb1 3.5/8, mb1mx3.2/44, mbtmp3.8/8, Error ellipse: s-maj=59.4km s-min=14.2km az=80.0*
*DJA **07** 21:21:34.1±0.8, 1.1N±5×12.7E±, h94km±11km, M3.8/6, MLv3.8/6*

ISC 07 21:21:32.5±0.9, 1.29N±0.08×127.1E±0.1, h150km, n12, σ1=44/11, mb3.8/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.57**	**154**	P	**Pn**	**21 21 52.5**	**-1.7**
SANI	**Sanana**	**3.51**	**199**	P	**Pn**	**21 22 26.1**	**-0.3**
SANI				S	**Sn**	**21 23 05.8**	**-2.4**
SIJI	**Sorong**	**4.67**	**117**	P	**Pn**	**21 22 40.9**	**-0.7**
	1.0nm,0.3s,baz=328,slow=19,SNR=4.2						
AAI	**Ambon**	**5.06**	**168**	P	Pn	21 23 05.1	+18
PCI	**Palu**	**7.60**	**253**	P	Pn	21 23 15.5	-5.2
FITZ	**Fitzroy Crossi**	**19.32**	**184**	P	**P**	**21 25 48.2**	**+2.0**
	0.3nm,0.3s,baz=19,slow=7.6,SNR=6.7						
WRA	**Warramunga Arr**	**22.26**	**162**	P	**P**	**21 26 18.3**	**+0.9**
	3.3nm,0.4s,baz=340,slow=11,SNR=35						
ASAR	**Alice Springs**	**25.67**	**166**	P	**P**	**21 26 49.8**	**+1.1**
	0.8nm,0.5s,baz=351,slow=7.6,SNR=20						
STKA	**Stephens Creek**	**35.73**	**159**	P	**P**	**21 28 17.5**	**+0.6**
	1.0nm,0.4s,baz=334,slow=12,SNR=4.4						
KSRS	**Korea Array**	**35.99**	**1**	P	**P**	**21 28 18.3**	**-0.6**
	0.7nm,0.4s,baz=176,slow=9.5,SNR=3.7						
SONM	**Songino Array**	**49.72**	**342**	P	**P**	**21 30 09.3**	**-0.2**
	0.5nm,0.6s,baz=155,slow=8.4,SNR=4.2						
MKAR	**Makanchi Array**	**59.77**	**326**	P	**P**	**21 31 22.4**	**+0.7**
	0.8nm,0.4s,baz=120,slow=7.8,SNR=27						

*IDC **07** 22:17:01.6±1.4, 7.55S×128.60E, h0km, mb3.6/3, mb1 3.6/7, mb1mx3.4/41, mbtmp3.5/7, ML3.3/4, MS2.5/1, Ms1 2.5/1, ms1mx2.0/30, Error ellipse: s-maj=35.4km s-min=19.8km az=85.0*
*ISCJB **07** 22:17:04.5±0.9, 7.60S±0.06×128.60E±0.08, h35km, mb3.6/3, Error ellipse: s-maj=11.1km s-min=8.5km az=160.2*

ISC 07 22:17:05.0±1.6, 7.6S±0.1×128.7E±0.1, h35km, n8, σ3=51/8, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.62**	**242**	Pn	**Pn**	**22 18 25.0**	**-1.1**
	4.2nm,0.3s,baz=45,slow=2.0,SNR=3.8						
BATI				Sn	**Sn**	**22 19 31.3**	**+1.7**
	1.6nm,0.3s,baz=359,slow=17,SNR=3.5						
FITZ	**Fitzroy Crossi**	**10.87**	**196**	Pn	Pn	22 19 40.7	+2.4
	0.0nm,0.3s,baz=40,slow=11,SNR=1.5						
FITZ				Sn	**Sn**	**22 21 39.6**	**+0.9**
	0.2nm,0.3s,baz=103,slow=22,SNR=3.8						
WRA	**Warramunga Arr**	**13.45**	**157**	Pn	**Pn**	**22 20 14.2**	**+0.6**
	0.2nm,0.3s,baz=336,slow=13,SNR=8.1						
WRA				Sn	**Sn**	**22 22 45.1**	**+3.1**
	0.3nm,0.3s,baz=333,slow=22,SNR=4.0						
ASAR	**Alice Springs**	**16.76**	**163**	Pn	**P**	**22 21 00.3**	**+1.1**
	0.1nm,0.3s,baz=335,slow=9.0,SNR=10						
ASAR				Sn	**S**	**22 24 05.8**	**-6.7**
	0.1nm,0.3s,baz=348,slow=25,SNR=5.5						
PMG	**Port Moresby**	**18.35**	**97**	LR	LR	22 28 53.0	
	comp=Z,15nm,20.8s,baz=314,slow=39						
SONM	**Songino Array**	**58.59**	**343**	P	P	22 27 01.8	+3.3
	0.2nm,0.7s,baz=134,slow=4.2,SNR=1.6						
MKAR	**Makanchi Array**	**68.01**	**328**	P	**P**	**22 28 00.8**	**0.0**
	0.6nm,0.3s,baz=133,slow=6.1,SNR=2.1						
ZALV	**Zalesovo Beam**	**71.53**	**334**	P	P	22 28 23.4	+1.1
	0.5nm,0.4s,baz=121,slow=5.4,SNR=2.9						

*ISCJB **07** 22:19:15.1±0.4, 30.08N±0.04×139.41E±0.10, h450km, mb3.5/20, Error ellipse: s-maj=11.5km s-min=5.9km az=177.7*
*IDC **07** 22:19:15.3±0.8, 29.94N×139.07E, h425km±10km, mb3.2/21, mb1 3.2/25, mb1mx3.2/52, mbtmp4.0/25, Error ellipse: s-maj=18.1km s-min=9.1km az=75.0*
*JMA **07** 22:19:18.1±0.6, 30.26N×139.44E, h430km, M3.7*

ISC 07 22:19:16.5±0.7, 30.06N±0.07×139.4E±0.1, h450km, n36, σ1=99/43, mb3.5/20, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.86**	**139**	P	**P**	**22 20 29.1**	**-1.4**
	14nm,0.3s,baz=264,slow=21,SNR=11						
JCJ				S	**S**	**22 21 26.5**	**-4.2**
	43nm,0.3s,baz=297,slow=21,SNR=11						
BSO1	**Boso 1**	**4.78**	**16**	P	**P**	**22 20 38.7**	**+0.6**
BSO3	**Boso 3**	**4.83**	**11**	P	**P**	**22 20 38.4**	**-0.4**
JIE	**Ise**	**4.87**	**333**	P	**P**	**22 20 40.2**	**+0.7**
JTNC	**Tanabenakahech**	**4.92**	**321**	P	**P**	**22 20 39.4**	**-0.6**
JNY	**Yasuok**	**5.43**	**347**	P	**P**	**22 20 45.3**	**+0.2**
JHU	**Hanno**	**5.78**	**359**	P	**P**	**22 20 47.5**	**-0.9**
JHU				S	**S**	**22 21 58.7**	**-4.9**
JRY	**Ryogami san**	**5.95**	**356**	P	**P**	**22 20 50.1**	**-0.2**
JRY				S	**S**	**22 22 02.8**	**-4.1**
JYT	**Yasato**	**6.19**	**6**	P	**P**	**22 20 51.9**	**-0.7**
JYT				S	**S**	**22 22 07.3**	**-4.0**
JAG	**Ashikaga**	**6.35**	**1**	P	**P**	**22 20 53.1**	**-1.2**
JAG				S	**S**	**22 22 08.6**	**-5.7**
MJAR	**Matsushiro Arr**	**6.54**	**352**	P	**P**	**22 20 55.2**	**-1.0**
	0.1nm,0.3s,baz=130,slow=23,SNR=6.8						
MJAR				S	**S**	**22 22 19.4**	**+1.5**
	0.0nm,0.3s,baz=143,slow=46,SNR=1.1						
JHO	**Hitachi**	**6.61**	**9**	P	**P**	**22 20 57.3**	**+0.3**
JHO				S	**S**	**22 22 16.0**	**-3.3**
KSRS	**Korea Array**	**12.03**	**311**	P	**P**	**22 21 54.8**	**-0.8**
	0.3nm,0.3s,baz=126,slow=11,SNR=11						
USRK	**Ussuriysk Ar.**	**15.28**	**340**	P	**P**	**22 22 31.1**	**+0.8**
	baz=140,slow=9.6,SNR=13						
KLR	**Kul'dur**	**20.00**	**345**	P	**P**	**22 23 19.6**	**+1.9**
	1.2nm,0.6s,baz=153,slow=14,SNR=5.7						
SONM	**Songino Array**	**30.86**	**314**	P	**P**	**22 24 54.2**	**-0.2**
	0.5nm,0.4s,baz=124,slow=8.0,SNR=7.4						
CMAR	**Chiang Mai Arr**	**38.42**	**262**	P	**P**	**22 25 56.5**	**-1.8**
	0.5nm,0.5s,baz=75,slow=5.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**45.63**	**318**	P	**P**	**22 26 54.7**	**-0.2**
	0.8nm,0.4s,baz=102,slow=7.0,SNR=5.4						
MKAR	**Makanchi Array**	**46.69**	**308**	P	**P**	**22 27 02.7**	**-0.5**
	0.4nm,0.3s,baz=82,slow=10,SNR=15						
NRIK	**Noril'sk**	**48.99**	**338**	P	**P**	**22 27 21.0**	**+0.9**
	2.6nm,0.5s,baz=100,slow=7.2,SNR=6.3						
FITZ	**Fitzroy Crossi**	**49.67**	**197**	P	**P**	**22 27 25.5**	**-0.2**
	0.3nm,0.3s,baz=45,slow=13,SNR=1.0						
WRA	**Warramunga Arr**	**49.95**	**186**	P	**P**	**22 27 27.9**	**+0.1**
	0.8nm,0.5s,baz=1.7,slow=7.7,SNR=14						
ASAR	**Alice Springs**	**53.67**	**186**	P	**P**	**22 27 55.2**	**+0.3**
	0.5nm,0.7s,baz=19,slow=9.9,SNR=5.5						
BVAR	**Borovoye Array**	**54.19**	**316**	P	**P**	**22 27 58.5**	**+0.3**
	2.7nm,0.5s,baz=105,slow=7.9,SNR=22						
ILAR	**Eielson Array**	**56.34**	**30**	P	**P**	**22 28 15.7**	**+2.6**
	0.2nm,0.5s,baz=286,slow=7.3,SNR=5.8						
ARU	**Arti**	**60.56**	**321**	P	**P**	**22 28 41.5**	**-0.3**
	1.0nm,0.4s,baz=97,slow=10,SNR=8.1						
AKTO	**Aktyubinsk**	**62.18**	**314**	P	**P**	**22 28 51.7**	**-0.9**
	1.1nm,0.5s,baz=75,slow=15,SNR=4.8						
ARCES	**ARCESS Array B**	**69.92**	**340**	P	**P**	**22 29 42.1**	**+1.4**
	4.5nm,0.9s,baz=60,slow=7.3,SNR=12						
YKA	**Yellowknife Ar**	**70.72**	**28**	P	**P**	**22 29 48.6**	**+3.0**
	0.3nm,0.4s,baz=300,slow=5.9,SNR=4.8						
KBZ	**Khabaz**	**74.18**	**312**	P	**P**	**22 30 06.5**	**+0.4**
	1.6nm,0.8s,baz=149,slow=5.9,SNR=3.3						
FINES	**FINESS Array B**	**74.19**	**333**	P	**P**	**22 30 06.4**	**+0.7**
	1.2nm,0.4s,baz=74,slow=5.3,SNR=17						
AKASG	**Malin Array Be**	**78.76**	**323**	P	**P**	**22 30 31.3**	**+0.1**
	0.7nm,0.5s,baz=52,slow=5.2,SNR=5.2						
HFS	**Hagfors**	**79.72**	**336**	P	**P**	**22 30 36.9**	**+0.8**
	2.2nm,0.6s,baz=86,slow=4.8,SNR=12						
NB2	**NORSAR Subarra**	**79.93**	**337**	P	**P**	**22 30 38.0**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=45,slow=4.8						
NOA	**NORSAR Array B**	**79.93**	**337**	P	**P**	**22 30 37.7**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=58,slow=6.9,SNR=5.3						
BRTR	**Keskin Array B**	**82.17**	**311**	P	**P**	**22 30 50.2**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=312,slow=33,SNR=3.1						

MAN 07 22:28:49.5, 11.51N×125.36E, h26km, mb3.5, ML2.1, MS1.5, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.12**	**39**	P	Pn	22 28 55.7	0.0
BESP				S	Sb	22 29 01.5	+3.7
CNP	**Catarman**	**1.21**	**325**	P	Pn	22 29 10.1	-0.6
CNP				S	Sb	22 29 27.0	0.0
MSLP	**Maasin**	**1.46**	**200**	P	Pn	22 29 14.2	+0.1
MSLP				S	Sb	22 29 34.0	0.0

IDC ***07*** *22:36:45.7±1.1, 14.°36N×119.°29E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/49, mbtmp3.7/5, ML4.3/1, MS3.6/2, Ms1 3.6/2, ms1mx2.7/47, Error ellipse: s-maj=31.2km s-min=18.2km az=42.0*
ISCJB ***07*** *22:36:48.7±0.8, 14.°3N±0.°1×119.°19E±0.°08, h36km, mb3.7/4, MS4.5/1, Error ellipse: s-maj=21.7km s-min=9.7km az=18.2*
ISC 07 22:36:50.6±1.0**, 14.°3N**±0.°2×**119.°3E**±0.°1**, h36**km**, n7, σ0.s92**/7**, mb3.8**/4**, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	1.64	98	Pn	Pn	22 37 15.7	-1.2
	70nm,0.3s,baz=288,slow=0.4,SNR=9.7						
TGY				Sn	Sn	22 37 37.8	+1.1
	73nm,0.3s,baz=126,slow=21,SNR=3.8						
CMAR	Chiang Mai Arr	19.92	285	P	P	22 41 19.1	-0.3
	0.3nm,0.3s,baz=94,slow=8.2,SNR=1.7						
CMAR				LR	LR	22 48 33.5	
	comp=Z,28nm,21.5s,baz=355,slow=36						
SONM	Songino Array	35.07	345	P	P	22 43 40.7	+0.4
	0.6nm,0.8s,baz=166,slow=11,SNR=4.3						
WRA	Warramunga Arr	37.15	156	P	P	22 43 58.1	-0.1
	1.7nm,0.9s,baz=336,slow=9.4,SNR=9.6						
ASAR	Alice Springs	40.39	159	P	P	22 44 26.1	+0.7
	1.4nm,0.8s,baz=337,slow=6.7,SNR=19						
ZALV	Zalesovo Beam	47.86	333	P	P	22 45 24.8	0.0
	0.3nm,0.3s,baz=111,slow=7.9,SNR=1.7						
KVAR	Kislovodsk Arr	70.56	312	LR	LR	23 23 15.3	
	comp=Z,261nm,19.9s,baz=250,slow=40						

IDC ***07*** *22:56:17.9±6.7, 16.°69N×104.°56W, h0km, mb3.7/6, mb1 4.1/8, mb1mx3.8/30, mbtmp3.8/8, ML3.5/2, MS3.5/15, Ms1 3.4/15, ms1mx3.3/40, Error ellipse: s-maj=145.6km s-min=80.8km az=118.0*
NEIC ***07*** *22:56:21.9±1.1, 16.°9N±0.°1×105.°2W±0.°1, h10km±2km*
MEX ***07*** *22:56:27.1±0.4, 17.°56N×105.°45W, h10km, MD3.9*
ISC 07 22:56:22.7±1.8**, 17.°1N**±0.°2×**105.°3W**±0.°1**, h10**km**, n95, σ1.s14**/81**, mb4.3**/23**, MS3.4**/12**, Off coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	2.19	56	eP	Pn	22 56 59.2	0.0
MMIG	Aquila	2.19	56		Pn	22 56 59.2	0.0
R15V		2.42	30	eP	Pn	22 56 59.6	-2.9
R15V		2.42	30		Pn	22 56 59.6	-2.9
CJM	Chamela	2.43	5	eP	Pn	22 56 57.2	-5.3
CJM				eS	Sn	22 57 20.6	-12
H06E1	SOCORRO T-PHAS	5.66	288	T	T	23 03 20.3	
	SNR=7.9						
H06S1	SOCORRO T	5.67	288	T	T	23 03 16.5	
	SNR=34						
ZAIG	Zacatecas	6.21	24	Pn	Pn	22 57 56.2	+1.4
TX31	Lajitas Ar. Si	12.30	7		Pn	22 59 19.9	+1.8
TX32	Lajitas Array	12.30	7		Pn	22 59 19.7	+1.6
TXAR	Lajitas Array	12.30	7	Pn	Pn	22 59 19.8	+1.7
	0.1nm,0.3s,baz=189,slow=12,SNR=55						
TXAR				LR	LR	23 03 59.0	
	comp=Z,319nm,18.4s,baz=0.0,slow=36						
833A	Chaparral WMA,	12.44	25	Pn	Pn	22 59 20.9	+1.0
KVTX	Kingsville	12.45	32	Pn	Pn	22 59 20.3	+0.2
JCT	Junction City	14.25	19		Pn	22 59 46.9	+2.2
MNTX	Cornudas Mount	14.57	360		Pn	22 59 49.9	+0.8
435B	Jarrell	15.34	26	Pn	Pn	22 59 59.8	+0.4
HKT	Hockley	15.45	32	Pn	Pn	23 00 00.9	+0.1
HKT				IAmb	IAmb	23 00 06.9	
	comp=Z,13nm,1.4s						
121A	Cookes Peak, D	15.57	352		Pn	23 00 03.2	+0.6
121A				IAmb	IAmb	23 00 10.5	
	comp=Z,12nm,0.8s						
TUC	Tucson	15.98	343	P	Pn	23 00 09.6	+1.8
ABTX	Abilene, Hawle	16.30	17	P	Pn	23 00 12.7	+0.8
ABTX				IAmb	IAmb	23 00 17.1	
	comp=Z,31nm,1.4s						
WHTX	Lake Whitney,	16.46	24	Pn	Pn	23 00 13.2	-0.6
MSTX	Muleshoe	16.98	7	P	Pn	23 00 20.6	+0.1
BNM	Barren Site	17.06	356	P	Pn	23 00 22.3	+0.7
LENM	Lemitar	17.10	355	P	Pn	23 00 23.3	+1.3
LPM	Los Pinos Moun	17.22	356		S	23 03 43.5	-1.1
113A	Mohawk Valley,	17.42	335		Pn	23 00 26.9	+1.0
ANMO	Albuquerque	17.84	357	P	Pn	23 00 32.3	+1.0
	comp=Z,0.1nm,0.3s,baz=181,slow=7.9,SNR=4.3						
ANMO				LR	LR	23 07 00.7	
	comp=Z,236nm,19.8s,baz=180,slow=35						
ANMO	Albuquerque	17.84	357		Pn	23 00 32.3	+1.0
WMOK	Wichita Mounta	18.53	17	P	P	23 00 38.5	-0.9
X34A	Smith Ranch, M	18.68	19	P	Pn	23 00 42.7	+1.2
PFO	Pinyon Flats O	19.31	331	LR	LR	23 06 24.5	
	comp=Z,172nm,20.7s,baz=172,slow=30						
T25A	Trinidad	20.01	2	P	P	23 00 56.3	+0.5
T25A				IAmb	IAmb	23 01 00.8	
	comp=Z,22nm,1.3s						
TUL1	Leonard	20.57	22	P	P	23 01 02.0	+0.3
TUL1				IAmb	IAmb	23 01 09.1	
	comp=Z,13nm,0.8s						
SDCO	Great Sand Dun	20.60	359	P	P	23 01 02.7	+0.3
S22A	4UR Ranch, Cre	20.65	356	P	P	23 01 03.7	+0.8
W39A	Magazine	20.76	27	P	P	23 01 04.0	+0.3
JTS	Las Juntas de	20.84	106	LR	LR	23 06 36.2	
	comp=Z,25nm,18.1s,baz=5.5,slow=31						
KNB	Kanab	20.96	343	P	P	23 01 06.7	+0.5
LCMT	Little Creek M	21.08	342	P	P	23 01 08.4	+0.9
PV01	Paradox Valley	21.19	353	P	P	23 01 09.3	+0.6
PV01				IAmb	IAmb	23 01 23.4	
	comp=Z,14nm,1.3s						
PV05	Paradox Valley	21.20	352	P	P	23 01 10.5	+1.7
PV05				IAmb	IAmb	23 01 12.2	
	comp=Z,15nm,1.1s						
PV13	Radium Mtn., P	21.24	352	P	P	23 01 10.2	+1.0
PV13				IAmb	IAmb	23 01 12.2	
	comp=Z,8.6nm,0.9s						
SHPR	Sheep Range	21.26	338	P	P	23 01 10.0	+0.7
PV02	Paradox Valley	21.28	352	P	P	23 01 10.3	+0.7
PV02				IAmb	IAmb	23 01 16.4	
	comp=Z,13nm,1.3s						
PV03	Paradox Valley	21.34	352	P	P	23 01 10.3	+0.1
PV03				IAmb	IAmb	23 01 13.2	
	comp=Z,16nm,1.3s						
PV18	Skein Mesa, Pa	21.34	352	P	P	23 01 10.6	+0.3
PV18				IAmb	IAmb	23 01 12.6	
	comp=Z,21nm,1.3s						
PV17	East Wray Mesa	21.38	352	P	P	23 01 10.6	-0.1
PV11	David Mesa, Pa	21.39	352	P	P	23 01 10.1	-0.6
PV11				IAmb	IAmb	23 01 14.5	
	comp=Z,20nm,1.2s						
PV12	Saucer Basin,	21.40	352	P	P	23 01 11.1	+0.2
PV16	Nyswonger Mesa	21.41	352	P	P	23 01 11.3	+0.3
PV19	Morning Glory	21.41	352	P	P	23 01 12.1	+1.0
PV19				IAmb	IAmb	23 01 13.4	
	comp=Z,18nm,1.2s						
PV20	West Nyswonger	21.44	352	P	P	23 01 11.6	+0.2
PV20				IAmb	IAmb	23 01 14.1	
	comp=Z,16nm,1.2s						
PV14	Lion Creek, Pa	21.48	352	P	P	23 01 12.2	+0.4
PV14				IAmb	IAmb	23 01 27.3	
	comp=Z,10.0nm,0.7s						
PV04	Paradox Valley	21.48	352	P	P	23 01 12.7	+0.9
PV07	Paradox Valley	21.50	353	P	P	23 01 12.3	+0.4
PV07				IAmb	IAmb	23 01 15.1	
	comp=Z,15nm,1.1s						
WHAR	Wooly Hollow	21.52	30	P	P	23 01 13.3	+1.3
WHAR				IAmb	IAmb	23 01 20.4	
	comp=Z,16nm,1.2s						
PV23	Carpenter Ridg	21.56	352	P	P	23 01 13.1	+0.4
PV23				IAmb	IAmb	23 01 15.5	
	comp=Z,19nm,1.1s						
PV22	Blue Mesa, Par	21.61	352	P	P	23 01 13.9	+0.7
PV22				IAmb	IAmb	23 01 16.0	
	comp=Z,16nm,1.0s						
CCUT	Cedar City	21.62	342	P	P	23 01 14.3	+1.1
PV09	Paradox Valley	21.62	352	P	P	23 01 14.0	+0.6
MTPU	Mount Pierson	21.76	345	P	P	23 01 16.0	+1.0
Q24A	Divide	21.82	0	P	P	23 01 15.7	+0.3
TPNV	Topopah Spring	22.06	336	P	P	23 01 18.3	+0.3
CBKS	Cedar Bluff	22.20	11	P	P	23 01 19.0	-0.3
MSU	Marysvale	22.21	346	P	P	23 01 20.2	+0.6
Q16A	Castle Valley	22.38	348	P	P	23 01 21.8	+0.5
SRU	San Rafael Swe	22.44	349	P	P	23 01 22.5	+0.5
ISCO	Idaho Springs	22.65	359	P	P	23 01 24.1	-0.4
PSUT	Pine Spring	22.67	342	P	P	23 01 24.2	-0.4
LCAR	Lake Charles	22.70	31	P	P	23 01 25.2	+0.6
TMUT	Trail Mountain	22.75	348	P	P	23 01 25.5	0.0
P17A	Butcher Ranch,	22.83	349	P	P	23 01 25.8	-0.4
RDMU	Red Mountain	23.72	352	P	P	23 01 35.1	0.0
NVAR	Mina Array Bea	24.16	334	P	P	23 01 41.1	+1.7
	comp=Z,0.6nm,0.7s,baz=126,slow=7.5,SNR=4.0						
NVAR				LR	LR	23 10 10.4	
	comp=Z,99nm,19.5s,baz=107,slow=34						
CCM	Cathedral Cave	24.26	28	P	P	23 01 40.7	+0.6
TCUT	Toone Canyon	24.55	349	P	P	23 01 43.3	+0.4
KVN	Kaiserville	24.61	335	P	P	23 01 44.3	+0.9
KVN				IAmb	IAmb	23 01 50.4	
	comp=Z,12nm,1.4s						
ELK	Elko	25.12	342	P	P	23 01 51.0	+2.9
	comp=Z,1.7nm,0.8s,baz=142,slow=5.1,SNR=4.9						
ELK				LR	LR	23 11 04.0	
	comp=Z,82nm,18.6s,baz=198,slow=34						
PDAR	Pinedale Array	25.88	353	P	P	23 01 56.6	+1.7
	comp=Z,0.7nm,0.8s,baz=170,slow=10,SNR=6.2						
PDAR				LR	LR	23 11 54.3	
	comp=Z,63nm,18.7s,baz=181,slow=36						
ORV	Oroville	26.49	331	P	P	23 02 00.9	+0.6
TKL	Tuckaleechee C	26.61	42	LR	LR	23 13 37.5	
	comp=Z,82nm,18.8s,baz=238,slow=39						
FXWY	Fox Creek	26.93	351	P	P	23 02 05.6	+1.1
FXWY				IAmb	IAmb	23 02 15.3	
	comp=Z,6.8nm,1.2s						
MOOW	Moose Ponds	27.00	351	P	P	23 02 06.2	+1.1
MOOW				IAmb	IAmb	23 02 11.0	
	comp=Z,5.9nm,1.1s						
ROSC	El Rosal	32.65	108	LR	LR	23 13 33.9	
	comp=Z,100nm,20.6s,baz=320,slow=32						
ULM	Lac du Bonnet	33.95	11	LR	LR	23 17 10.9	
	comp=Z,223nm,18.4s,baz=232,slow=37						
ATAH	Atahualpa	35.83	130	LR	LR	23 15 07.6	
	comp=Z,149nm,19.4s,baz=344,slow=32						
NNA	Nana	40.27	134	LR	LR	23 17 12.2	
	comp=Z,61nm,21.3s,baz=308,slow=32						
YKA	Yellowknife Ar	45.85	354	P	P	23 04 44.8	0.0
	comp=Z,0.6nm,0.9s,baz=166,slow=6.8,SNR=5.3						
YKA				LR	LR	23 23 52.3	
	comp=Z,6.8nm,18.8s,baz=137,slow=36						
INK	Inuvik	54.27	347	P	P	23 05 49.1	+0.5
	comp=Z,1.9nm,0.8s,baz=134,slow=9.5,SNR=6.4						
INK	Inuvik	54.27	347	IAmb	IAmb	23 05 49.9	
	comp=Z,2.6nm,0.9s						
ILAR	Eielson Array	55.25	340	P	P	23 05 56.4	+0.5
	comp=Z,0.7nm,1.0s,baz=152,slow=4.1,SNR=3.9						
PPT	Papeete	55.57	234	LR	LR	23 23 57.2	
	comp=Z,35nm,21.9s,baz=14,slow=30						
BWN	Browne	55.77	338	P	P	23 05 52.9	-6.6
HFS	Hagfors	88.81	26	LR	LR	23 52 44.2	
	comp=Z,24nm,18.7s,baz=253,slow=38						
LZH	Lanzhou	120.39	333	ePKP	PKPdf	23 15 10.8	-4.3
LZH				pPKP	sPKPdf	23 15 18.6	+0.2
LZH				sPKP		23 15 22.4	

ISCJB ***07*** *23:12:40.4±0.5, 36.°83N±0.°02×58.°49E±0.°02, h1km±3km, mb4.2/32, MS3.6/15, Error ellipse: s-maj=2.9km s-min=2.5km az=20.6*
NNC ***07*** *23:12:41.1±4.0, 36.°63N×58.°12E, h32km±70km, mb4.3, Error ellipse: s-maj=43.2km s-min=15.2km az=43.0*
BJI ***07*** *23:12:41.0±0.0, 36.°90N×58.°60E, h7km, mb4.3/21, mB4.7/17, Ms4.2/10, Ms7 3.9/7*
IDC ***07*** *23:12:41.9±0.7, 36.°79N×58.°45E, h0km, mb4.0/22, mb1 4.1/28, mb1mx3.9/58, mbtmp4.0/28, ML3.1/5, MS3.6/20, Ms1 3.6/20, ms1mx3.4/38, Error ellipse: s-maj=12.4km s-min=10.7km az=19.0*
TEH ***07*** *23:12:41.1, 36.°78N×58.°49E, h10km, ML4.4*
MOS ***07*** *23:12:41.4±1.4, 36.°88N×58.°51E, h10km, mb4.5/10, Error ellipse: s-maj=5.5km s-min=5.2km az=42.1*
THR ***07*** *23:12:42.5, 36.°79N×58.°44E, h14km, ML4.2*
NEIC ***07*** *23:12:43.4±2.3, 36.°90N±0.°06×58.°53E±0.°08, h10km±1km*
ISC 07 23:12:41.8±1.1**, 36.°83N**±0.°03×**58.°50E**±0.°03**, h1**km±7km**, n253, σ1.s48**/243**, mb4.2**/39**, MS3.5**/15**, 29C-10D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRD	Kardeh	0.05	169	ePg	Pg	23 12 57.4	+15
IKRD				IAMB	IAmb	23 13 14.2	
	comp=Z,2μm,0.3s						
IAKL	Akhelmad	0.30	138	ePg	Pg	23 12 46.8	-0.8
IAKL				eSg	Sg	23 12 51.0	-0.5
IPAY	Payeh	0.55	133	ePg	Pg	23 12 51.5	-0.7
IPAY				IAMB	IAmb	23 13 03.0	
	comp=Z,95μm,0.2s						
IEMG	Emamgholi	0.60	11	ePg	Pg	23 12 53.5	+0.2
IEMG				eSg	Sb	23 13 03.6	-0.7
SBZV	Sabzevar	0.84	239	ePg	Pg	23 12 56.0	-1.9
SBZV				eSg	Sg	23 13 07.6	-1.2
IMOG	Moghan	0.98	136	ePg	Pg	23 12 59.9	-0.7
IMOG				eSg	Sg	23 13 13.0	-0.4
IMOG				IAMB	IAmb	23 13 16.0	
	comp=Z,45μm,0.3s						
ASHT	Ashkhabad	1.12	355	P	Pn	23 13 04.6	+0.1
ASHT	Ashkhabad	1.12	355	ePg	Pn	23 13 04.4	-0.1
ASHT	Ashkhabad	1.12	355		Pn	23 13 04.6	+0.1
GEYT	Alibeck	1.14	345	Pg	Pg	23 13 03.0	-0.6
	comp=Z,383nm,0.3s,baz=160,slow=16,SNR=1263						
GEYT				Lg	Lg	23 13 20.6	
	comp=Z,272nm,0.3s,baz=175,slow=34,SNR=20						
GYA0	ALIBECK ARRAY	1.14	345	ePn	Pg	23 13 03.2	-0.5
GYA0B	ALIBECK ARRAY	1.14	345		Pg	23 13 03.2	-0.5
GYA0B	ALIBECK ARRAY	1.14	345	⇑P	Pg	23 13 03.0	-0.7
GYA0B				⇓S	Sg	23 13 19.2	+0.7
BJRD	Bojnurd	1.23	315	ePn	Pg	23 13 05.2	-0.2
BJRD	Bojnurd	1.23	315	ePg	Pg	23 13 05.2	-0.2
BJRD	Bojnurd	1.23	315	eSg	Sb	23 13 22.2	-0.2
JRKH	Jarkhoshk	1.75	121	ePn	Pn	23 13 12.2	-1.1
SHRO	Shahrood	2.18	248	ePn	Pn	23 13 19.3	+0.1
SHRO	Shahrood	2.18	248	ePn	Pn	23 13 19.3	+0.1
IMND	Minoodasht	2.51	281	ePn	Pn	23 13 23.7	0.0
IMND				IAMB	IAmb	23 14 22.4	
	comp=Z,0.0nm,0.9s						
TNSJ	Nastanj	3.25	209	ePn	Pn	23 13 33.6	-0.3
TNSJ				IAMB	IAmb	23 14 37.1	
	comp=Z,0.0nm,0.8s						
TABS	Tabas	3.37	200	ePn	Pn	23 13 36.1	+0.5
TABS	Tabas	3.37	200	ePn	Pn	23 13 36.1	+0.5
TKDS	Koohdasht(Taba	3.40	200	ePn	Pn	23 13 36.5	+0.5
TKDS				IAMB	IAmb	23 14 53.4	
	comp=Z,0.0nm,0.9s						
AFRZ	Afriz	3.42	173	ePn	Pn	23 13 36.7	+0.4
AFRZ				IAMB	IAmb	23 14 52.9	
	comp=Z,0.0nm,0.8s						
SHRT	Shahrakht	3.49	155	ePn	Pn	23 13 38.4	+1.1
SHRT	Shahrakht	3.49	155	ePn	Pn	23 13 38.4	+1.1
IGLO	Ghaloghah	3.77	266	ePn	Pn	23 13 42.2	+1.0
HRA	Herat	3.90	128		Pn	23 13 43.1	+0.1
ITEG	Tejag	3.92	177	ePn	Pn	23 13 43.9	+0.6
ITEG				IAMB	IAmb	23 14 55.9	
	comp=Z,4μm,0.9s						
IKIA	Kiasar	3.93	262	ePn	Pn	23 13 44.5	+1.1
IANJ	Anjilo	3.95	251	ePn	Pn	23 13 44.3	+0.6
IANJ				IAMB	IAmb	23 15 03.3	
	comp=Z,7μm,1.0s						
TPRV	Parvadeh(Tabas	4.07	202	ePn	Pn	23 13 45.3	+0.1
TPRV				IAMB	IAmb	23 15 08.5	
	comp=Z,0.0nm,0.7s						
IDAH	Dahanechah	4.23	164	ePn	Pn	23 13 48.3	+0.8
IDAH				IAMB	IAmb	23 14 16.6	
	comp=Z,3μm,0.8s						
ISHM	Shahmirzad	4.33	258	ePn	Pn	23 13 50.1	+1.2
ISHM				IAMB	IAmb	23 15 15.1	
	comp=Z,4μm,0.6s						
IKOO	Kooshah	4.41	174	ePn	Pn	23 13 50.1	+0.1
IALA	Alasht	4.65	263	ePn	Pn	23 13 55.3	+2.0
IALA				IAMB	IAmb	23 15 32.7	
	comp=Z,4μm,0.9s						
ILAS	Lasjerd	4.71	254	ePn	Pn	23 13 54.4	+0.2
ILAS				IAMB	IAmb	23 15 25.0	
	comp=Z,3μm,0.8s						
IPRN	Peran	5.00	265	ePn	Pn	23 13 59.0	+1.0
ANAR	Anarak	5.34	229	ePn	Pn	23 14 01.9	-0.8
ANAR				IAMB	IAmb	23 16 16.9	
	comp=Z,0.0nm,1.1s						
IDMV	Damavand	5.38	259	ePn	Pn	23 14 03.7	+0.3
YZKH	Yazd	5.47	217	ePn	Pn	23 14 05.2	+0.7
YZKH	Yazd	5.47	217	ePn	Pn	23 14 05.2	+0.7
YZKH	Yazd	5.47	217	eAML	AML	23 15 51.9	
	comp=E,106nm,0.7s						
NHDN	Nehbandan	5.57	166	ePn	Pn	23 14 06.7	+0.8
NHDN				IAMB	IAmb	23 16 14.4	
	comp=Z,0.0nm,0.9s						
ICHK	Chekchek	5.68	218	ePn	Pn	23 14 07.6	+0.1
IBAF	Bafgh	5.76	206	ePn	Pn	23 14 09.1	+0.6
IVRN	Varamin	5.79	254	ePn	Pn	23 14 08.8	-0.1
KRSH	Karshahi	5.93	243	ePn	Pn	23 14 10.6	-0.2
KRSH				IAMB	IAmb	23 16 09.3	
	comp=Z,0.0nm,0.9s						
QALM	Alamut, Qazvin	6.33	269	ePn	Pn	23 14 17.3	+0.9
IZEF	Zefreh	6.41	234	ePn	Pn	23 14 18.4	+0.8
QAM	Ghamsar	6.54	244	ePn	Pn	23 14 19.0	-0.2
KHGB	Koh Gabri	6.65	195	ePn	Pn	23 14 22.1	+1.3
IKLH	Kolahrood	6.67	240	ePn	Pn	23 14 21.0	-0.1
TVBK	TV Kerman	6.97	193	ePn	Pn	23 14 26.8	+1.4
TVBK				IAMB	IAmb	23 14 31.3	
	comp=Z,0.0nm,0.4s						
KRBR	Kerman	6.98	193	eAML	AML	23 16 31.2	
	comp=E,49nm,0.8s						
CHMN	Cheshme madani	6.99	187	ePn	Pn	23 14 26.3	+0.7
IRAM	Ramesheh	7.12	227	ePn	Pn	23 14 27.5	+0.3
QABG	Abgarm-Qazvin	7.29	264	ePn	Pn	23 14 30.1	+0.5
GALA	Gala	7.45	301	ePn	Pn	23 14 31.4	-0.1
IPIR	Pirpir	7.50	239	ePn	Pn	23 14 32.1	-0.5
ROKH	ROKH	7.61	236	ePn	Pn	23 14 34.7	+0.8
NDR	Nardaran	7.64	302	ePn	Pn	23 14 34.5	+0.4
LKRN	Lenkeran, Azer	7.93	287	ePn	Pn	23 14 37.6	-0.5
CHGR	Chuyangaron	8.64	75		Pn	23 14 47.7	-0.2
KBL	Kabul	8.87	102	P	Pn	23 14 53.1	+1.8
KBL	Kabul	8.87	102		Pn	23 14 53.1	+1.8
IHRS	Heris	9.22	283	ePn	Pn	23 14 55.7	-0.4
IKFM	Kafar-mosalman	9.32	252	ePn	Pn	23 14 56.1	-1.1
AKT	Akhty	9.57	302	eP	Pn	23 15 00.5	-0.2
AKT				eS	Sn	23 16 47.2	-1.7
AKT				pmax	pmax		
	comp=Z,9.0nm,0.5s						
AKT				smax	smax		
	comp=N,28nm,0.6s						
AKT				smax	smax		
	comp=E,30nm,0.6s						
GAR	Garm	9.59	73		Pn	23 14 59.5	-1.4
MNGR	Mingechevir, A	9.74	297	P	Pn	23 15 03.2	+0.2
SEKA	Sheki	9.82	300	P	Pn	23 15 04.4	+0.3
BTK	Batken	10.19	68	P	Pn	23 15 09.2	+0.1
BTK	Batken	10.19	68		Pn	23 15 09.2	+0.1
NAX	Nakhchivan	10.53	287	P	Pn	23 15 12.8	-1.0
KK31	Karatay Array	11.14	52	P	Pn	23 15 21.9	-0.2
KK31	Karatay Array	11.14	52		Pn	23 15 21.9	-0.2
KK31	Karatay Array	11.14	52	⇑Pn	Pn	23 15 22.2	+0.1
	comp=E,5.7nm,0.7s,baz=292,slow=4.7,SNR=15						
KK31				⇓Sn	Sn	23 17 36.7	+9.4
	comp=E,17nm,0.8s						
KK31				⇓Lg	Lg	23 18 49.3	
	comp=E,66nm,1.0s						
KKAR	Karatay Array	11.14	52	P	Pn	23 15 22.1	0.0
KKAR	Karatay Array	11.14	52		Pn	23 15 22.1	0.0
GNI	Garni	11.28	291	⇑eP	Pn	23 15 26.0	+1.8
GNI	Garni	11.28	291		Pn	23 15 25.0	+0.8
GROC	Groznyy	11.63	307	eP	Pn	23 15 26.2	-2.6
GROC				eS	Sn	23 17 37.4	-1.9
GROC				pmax	pmax		
	comp=Z,19nm,0.7s						
TBLG	Delisi	11.73	299	P	Pn	23 15 31.8	+1.5
TBLG	Delisi	11.73	299	Pn	Pn	23 15 31.8	+1.5
ARSB	Arslanbob	12.11	64	Pn	Pn	23 15 34.0	-1.6
AB31	Akbulak array	12.47	4	Pn	Pn	23 15 37.8	-2.4
	comp=Z,3.9nm,0.6s,baz=192,slow=13,SNR=14						
AB31				⇓Sn	Sn	23 17 48.4	-11
	comp=Z,4.7nm,0.6s,baz=190,slow=24,SNR=5.7						
ABKAR	Akbulak array	12.47	4		Pn	23 15 38.3	-1.9
NIL	Nilore	12.47	100	P	Pn	23 15 40.8	+0.5
NIL	Nilore	12.47	100		Pn	23 15 40.8	+0.5
AKH	Akhalkalaki	12.52	296	P	Pn	23 15 42.4	+1.2
AKH	Akhalkalaki	12.52	296	Pn	Pn	23 15 42.4	+1.2
NCK	Nalchik	13.20	305	⇓eP	Pn	23 15 49.6	-0.6
NCK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
WSAR	Wadi Sarin	13.54	179	LR	LR	23 22 24.8	
	comp=Z,130nm,18.3s,baz=2.5,slow=43						
AAK	Ala-Archa	13.60	60	⇑eP	Pn	23 15 55.7	-0.2
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AAK	Ala-Archa	13.60	60	Pn	Pn	23 15 55.3	-0.5
	comp=Z,0.5nm,0.3s,baz=225,slow=8.3,SNR=14						
AAK				Sn	Sn	23 18 22.0	-5.6
	comp=Z,0.1nm,0.3s,baz=24,slow=23,SNR=2.5						
AAK				Lg	Lg	23 19 49.7	
	baz=340,slow=13,SNR=2.5						
AAK				LR	LR	23 21 50.9	
	comp=Z,119nm,18.3s,baz=248,slow=40						
AAK	Ala-Archa	13.60	60	⇑Pn	Pn	23 15 54.8	-1.1
	comp=Z,12nm,0.8s						
AAK				⇑Sn	Sn	23 18 25.9	-1.7
	comp=Z,20nm,1.1s						
AKTO	Aktyubinsk	13.61	359	Pn	Pn	23 15 53.1	-2.7
	comp=Z,0.5nm,0.3s,baz=174,slow=15,SNR=13						
AKTO				Sn	Sn	23 18 18.5	-9.1
	comp=Z,0.3nm,0.3s,baz=77,slow=23,SNR=3.7						
AKTO				LR	LR	23 22 02.8	
	comp=Z,326nm,18.9s,baz=176,slow=41						
AKTO	Aktyubinsk	13.61	359	⇑Pn	Pn	23 15 52.8	-2.9
	comp=Z,8.8nm,0.7s						
AKTO				⇓Sn	Sn	23 18 18.3	-9.3
	comp=Z,14nm,0.7s						
KBZ	Khabaz	13.75	305	Pn	Pn	23 15 55.0	-2.7
	comp=Z,0.3nm,0.3s,baz=114,slow=9.4,SNR=9.6						
KVAR	Kislovodsk Arr	13.98	305	Pn	Pn	23 15 58.6	-2.5
	baz=256,slow=19,SNR=5.7						
KIV	Kislovodsk	13.99	305	eP	Pn	23 15 59.4	-1.7
KIV				eS	Sn	23 18 34.7	-2.3
KIV				pmax	pmax		
	comp=Z,34nm,1.0s						
KIV				MLR	MLR		
	comp=Z,101nm,11.0s						
KIV	Kislovodsk	13.99	305		Pn	23 15 59.7	-1.4
KSH	Kashi	14.01	74	P	Pn	23 15 54.6	-6.8
KSH				S	Sn	23 18 22.6	-15
KSH				sS	S	23 18 35.7	-24
KSH				SS	SnSn	23 18 46.0	-3.8
KSH				pmax	pmax		
	comp=Z,26nm,0.7s						
KSH				pmax	pmax		
	comp=Z,410nm,4.9s						
KSH				LR	LR		
	comp=Z,900nm,5.4s						
KSH				LR	LR		
	comp=Z,850nm,7.5s						
KSH				LR	LR		
	comp=Z,890nm,4.8s						
TKM2	Tokmak 2	14.46	60	⇑Pn	Pn	23 16 08.2	+0.6
	comp=Z,8.3nm,1.3s						
BOOM	Boomskoye usch	14.57	62	P	Pn	23 16 08.3	-0.8
BOOM	Boomskoye usch	14.57	62	Pn	Pn	23 16 08.3	-0.8
KDJ	Kajisay	15.36	64	IAmb	IAmb	23 16 20.2	
	comp=Z,12nm,0.8s						
DHRM	DHARAMSHALA	15.36	102	eP	Pn	23 16 20.7	+0.8
TARG	Taragay, Kyrgy	15.72	66	P	Pn	23 16 23.3	-1.5
PRZ	Przheval'sk	16.32	64	P	Pn	23 16 31.4	-0.9
PRZ				pmax	pmax		
	comp=Z,22nm,0.9s						
PRZ	Przheval'sk	16.32	64	P	Pn	23 16 31.4	-0.9
PRZ				IAmb	IAmb	23 16 40.1	
	comp=Z,22nm,0.9s						
SMLA	Simla	16.48	105	eP	Pn	23 16 31.5	-2.6
GAZ	Gaziantep	17.01	278		Pn	23 16 40.9	-0.1
GAZ				IAmb	IAmb	23 16 49.2	
	comp=Z,24nm,1.0s						
PDGK	Podgornoye	17.30	61	⇑Pn	P	23 16 45.7	-0.5
	comp=Z,11nm,1.0s						
RAYN	Ar Rayn	17.36	224	P	Pn	23 16 45.9	+0.6
RAYN				pmax	pmax		
	comp=Z,7.0nm,1.4s						
RAYN	Ar Rayn	17.36	224	P	Pn	23 16 45.9	+0.6
BRVK	Borovoye	18.21	23	⇓eP	P	23 16 56.8	+0.9
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BRVK	Borovoye	18.21	23	P	Pn	23 16 54.4	-1.1
BRVK	Borovoye	18.21	23	⇑Pn	P	23 16 56.6	+0.7
	comp=Z,19nm,1.6s						
BVAR	Borovoye Array	18.21	23	P	Pn	23 16 54.5	-1.1
	comp=Z,1.6nm,0.3s,baz=207,slow=7.3,SNR=50						
ASF	Jabal al Asfar	18.39	262	P	Pn	23 16 56.9	-1.2
	comp=Z,0.1nm,0.3s,baz=39,slow=8.6,SNR=1.8						
ASF				LR	LR	23 25 09.5	
	comp=Z,184nm,19.4s,baz=17,slow=41						

ARU Arti 19.61 0 *c i*P P 23 17 11.7 +0.4
ARU S S 23 20 53.7 +0.6
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 19.61 0 P P 23 17 11.0 -0.3
comp=Z,0.0nm,0.3s,baz=180,slow=10,SNR=10
ARU LR LR 23 25 27.1
comp=Z,142nm,19.4s,baz=256,slow=39
ARU Arti 19.61 0 P P 23 17 11.0 -0.3
ARU IAmb IAmb 23 17 21.2
comp=Z,14nm,0.8s
VORD Divnogorie 19.70 322 *e*P P 23 17 12.3 0.0
VORD pmax pmax
comp=Z,7.0nm,0.6s
BR131 Keskin Array S 19.72 286 P P 23 17 13.2 +0.4
BR131 pmax pmax
comp=Z,12nm,1.1s
BR131 Keskin Array S 19.72 286 P P 23 17 13.2 +0.4
BRTR Keskin Array B 19.72 286 P Pn 23 17 13.8 -0.3
comp=Z,0.1nm,0.3s,baz=108,slow=7.9,SNR=9.7
KURBB Kurchatov Arra 19.91 40 P Pn 23 17 16.6 +0.5
comp=Z,0.1nm,0.3s,baz=238,slow=12,SNR=12
KURBB Kurchatov Arra 19.91 40 ⇓Pn Pn 23 17 16.5 +0.4
comp=Z,9.5nm,1.0s
VSR Storozhevoye 19.92 322⇑*e*P P 23 17 14.2 -0.5
VSR pmax pmax
comp=Z,14nm,0.6s
KURK Kurchatov 20.01 40 P P 23 17 16.0 +0.4
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 20.01 40 P P 23 17 16.0 +0.4
SVE Sverdlovsk 20.06 3 *e*P Pn 23 17 17.4 -0.5
SVE *e*S S 23 20 53.7 -8.4
MAKZ Makanchi 20.07 53 P P 23 17 16.8 +0.4
MAKZ pmax pmax
comp=Z,11nm,1.1s
MAKZ Makanchi 20.07 53 P P 23 17 16.8 +0.4
SIM Simferopol' 20.09 301 *e*P Pn 23 17 18.9 +0.5
SIM *e**PP sP 23 17 23.0 +5.2
SIM pmax pmax
comp=Z,25nm,0.8s
MK31 Makanchi Array 20.27 53 P P 23 17 16.2 -2.3
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 20.27 53 P P 23 17 16.2 -2.3
MK31 Makanchi Array 20.27 53 Pn P 23 17 19.4 +0.8
comp=Z,5.5nm,0.8s,baz=241,slow=11,SNR=18
MKAR Makanchi Array 20.27 53 P Pn 23 17 20.0 -0.5
MKAR Makanchi Array 20.27 53 P Pn 23 17 20.0 -0.5
comp=Z,3.3nm,0.8s,baz=246,slow=10,SNR=10
ANTO Ankara 20.37 286 P P 23 17 19.4 -0.4
ANTO pmax pmax
comp=Z,12nm,1.2s
ANTO Ankara 20.37 286 P P 23 17 19.4 -0.4
ANTO IAmb IAmb 23 17 24.5
comp=Z,12nm,1.1s
BR231 Keskin MP Arra 20.38 286 P P 23 17 20.4 +0.4
CSS Mathiatis 20.46 272 P Pn 23 17 22.3 -0.5
CSS IAmb IAmb 23 17 25.5
comp=Z,34nm,1.0s
EIL Elat 20.92 257 P P 23 17 25.7 0.0
comp=Z,6.1nm,1.1s,baz=40,slow=7.5,SNR=3.1
EIL LR LR 23 27 09.3
comp=Z,263nm,18.7s,baz=66,slow=42
LPSR Galich'ya Gora 20.92 325 *e*P P 23 17 26.0 +0.4
LPSR pmax pmax
comp=Z,20nm,0.8s
DANN Dangsing 22.85 104 *e*P P 23 17 46.9 +0.2
comp=Z,48nm,0.8s
ELL Elmali 22.87 278 P P 23 17 48.6 +1.9
ELL pmax pmax
comp=Z,90nm,1.2s
ELL Elmali 22.87 278 P P 23 17 48.6 +1.9
KOLN Koldanda 23.00 106 *e*P P 23 17 48.1 -0.2
comp=Z,26nm,0.9s
WMQ Urumqi 23.25 63 *e*P P 23 17 50.9 +0.4
WMQ pmax pmax
comp=Z,11nm,0.9s
WMQ pmax pmax
comp=Z,110nm,4.3s
WMQ LR LR
comp=Z,350nm,7.3s
WMQ LR LR
comp=Z,290nm,7.9s
WMQ LR LR
comp=Z,170nm,9.3s
WMQ Urumqi 23.25 63 P P 23 17 50.4 -0.1
WMQ pmax pmax
comp=Z,14nm,1.2s
WMQ Urumqi 23.25 63 P P 23 17 50.4 -0.1
WMQ IAmb IAmb 23 17 55.9
comp=Z,14nm,1.2s
OBN Obninsk 23.64 328 *e*P P 23 17 55.3 +1.1
OBN *e*PPP PPP 23 18 26.0
OBN pmax pmax
comp=Z,20nm,1.5s
OBN Obninsk 23.64 328 P P 23 17 55.2 +1.1
comp=Z,2.4nm,0.6s,baz=332,slow=11,SNR=4.3
OBN Obninsk 23.64 328 P P 23 17 55.4 +1.2
OBN IAmb IAmb 23 18 12.5
comp=Z,13nm,0.8s
GKN Gorkha 23.70 104 *e*P P 23 17 55.3 +0.1
MANT Manisa 23.72 283 P P 23 17 56.0 +0.5
MILM Milestii Mici 24.17 304 ⇑P P 23 18 00.9 +1.6
KIS Kishinev 24.18 304 *e* P 23 18 09.0 +9.5
DMN Daman 24.25 105 *e*P P 23 18 02.0 +1.4
comp=Z,51nm,0.9s
CFR Carcaliu 24.28 300 ⇑P P 23 18 00.7 +0.3
CFR Carcaliu 24.28 300 ⇑P P 23 18 00.7 +0.3
KKN Kakani 24.30 104 *e*P P 23 18 01.4 +0.4
PKIN Phulchoki 24.49 104 *e*P P 23 18 04.4 +1.6
comp=Z,13nm,0.7s
PKI Pulchoki 24.50 104 *e*P P 23 18 04.5 +1.5
comp=Z,86nm,1.4s
GUN Gumba 24.71 103 *e*P P 23 18 06.4 +1.5
comp=Z,58nm,0.9s
SOCY Socotra 24.87 191 P P 23 18 04.9 -1.1
ZAA0 Zalesovo Array 24.97 38 P P 23 18 07.4 +0.8
ZAA0 IAmb IAmb 23 18 11.9
comp=Z,5.6nm,0.9s
ZALV Zalesovo Beam 24.97 38 *i* P P 23 18 08.6 +2.0
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 24.97 38 P P 23 18 07.9 +1.3
comp=Z,4.0nm,0.7s,baz=248,slow=9.8,SNR=17
ZALV LR LR 23 29 10.9
comp=Z,106nm,20.5s,baz=236,slow=40
JIRN Jiri 25.07 103 *e*P P 23 18 10.1 +2.0
comp=Z,46nm,0.9s
AKASG Malin Array Be 25.09 313 P P 23 18 08.5 +0.9
comp=Z,12nm,0.9s,baz=109,slow=8.3,SNR=16
DAMY Dhamar 25.49 213 P P 23 18 12.2 +0.3
TESR Tescani 25.54 302 ⇑P P 23 18 13.6 +1.8
RAMN Ramite 25.73 104 *e*P P 23 18 15.4 +1.4
comp=Z,47nm,0.8s
MLR Muntele Rosu 25.85 300 ⇑P P 23 18 18.8 +4.0
MLR Muntele Rosu 25.85 300 P P 23 18 17.4 +2.6
comp=Z,6.7nm,0.7s,baz=98,slow=9.2,SNR=5.0
MLR Muntele Rosu 25.85 300 ⇑P P 23 18 18.8 +4.0
MLR Muntele Rosu 25.85 300 P P 23 18 15.7 +0.8
MLR IAmb IAmb 23 18 24.4
comp=Z,9.7nm,0.9s
ODAN Odare 26.39 104 *e*P P 23 18 22.1 +2.1
comp=Z,58nm,1.1s
TAPN Taplejung 26.40 103 *e*P P 23 18 23.7 +3.5
VOIR 26.47 299 ⇑P P 23 18 24.4 +4.0
VOIR 26.47 299 ⇑P P 23 18 24.4 +4.0
BURAR Bucovina Array 26.71 304 ⇑P P 23 18 24.8 +2.3
BURAR Bucovina Array 26.71 304 ⇑P P 23 18 24.8 +2.3
BUR08 Bucovina Ar. S 26.73 304 P P 23 18 23.8 +1.0
BUR08 IAmb IAmb 23 18 31.0
comp=Z,6.5nm,1.0s
GZR Gura Zlata 28.06 299 ⇑P P 23 18 29.5 -5.1
LSA Lhasa 28.11 95 P P 23 18 35.0 -0.7
LSA pmax pmax
comp=Z,2.0nm,0.8s
LSA Lhasa 28.11 95 P P 23 18 35.0 -0.7
DRGR 28.26 302 ⇑P P 23 18 40.1 +3.7
DRGR 28.26 302 ⇑P P 23 18 40.1 +3.7
TRPA Tarpa 28.58 305 ⇑P P 23 18 45.4 +6.3
KOLS Kolonicke sedl 28.90 306 *e*P P 23 18 49.8 +7.8
KOLS Kolonicke sedl 28.90 306 *e*P P 23 18 49.8 +7.8
SHL Shillong 30.54 102 P P 23 18 57.2 +0.3
SHL pmax pmax
comp=Z,9.0nm,1.4s
SHL Shillong 30.54 102 P P 23 18 57.2 +0.3
SHL IAmb IAmb 23 19 16.0
comp=Z,8.8nm,1.4s
FINES FINESS Array B 31.91 331 P P 23 19 08.8 +0.4
comp=Z,5.2nm,1.1s,baz=134,slow=5.5,SNR=6.7
FINES LR LR 23 32 52.0
comp=Z,81nm,18.0s,baz=188,slow=38
GTA Gaotai 32.40 73 *e*P P 23 19 16.7 +3.5
GTA pP sP 23 19 21.7 +7.2
GTA sP pP 23 19 25.0 +11
GERES GERESS Array B 34.50 305 P P 23 19 31.2 -0.1
comp=Z,0.4nm,0.6s,baz=96,slow=9.0,SNR=2.5
MURB Monte Urbino 35.42 295 P P 23 19 39.8 +0.4
TEOL Teolo 35.88 299 P P 23 19 44.0 +0.9
TEOL IAmb IAmb 23 20 01.2
comp=Z,5.9nm,0.9s
NRIK Noril'sk 36.21 17 P P 23 19 47.7 +2.1
comp=Z,0.9nm,0.3s,baz=232,slow=12,SNR=3.7
NRIK LR LR 23 37 09.7
comp=Z,78nm,21.7s,baz=214,slow=40
LZH Lanzhou 36.21 77 *e*P P 23 19 46.8 +0.5
LZH pP sP 23 19 51.5 +3.9
LZH sP pP 23 19 55.9 +8.7
LZH PP PP 23 21 13.0 +4.6
LZH pmax pmax
comp=Z,12nm,1.0s
LZH pmax pmax
comp=Z,59nm,4.8s
SONM Songino Array 36.53 57 P P 23 19 49.0 +0.1
SONM Songino Array 36.53 57 P P 23 19 49.0 +0.1
comp=Z,0.3nm,0.3s,baz=139,slow=22,SNR=2.0
SONM LR LR 23 37 08.1
comp=Z,73nm,18.8s,baz=326,slow=40
SALO Salr 36.67 299 P P 23 19 51.2 +1.3
FUORN Ofenpass-Fuorn 36.80 301 P P 23 19 51.8 +0.5
FUORN IAmb IAmb 23 19 58.7
comp=Z,7.1nm,1.4s
ULN Ulaanbaatar 36.98 57⇑*e*P P 23 19 54.1 +1.4
ULN pmax pmax
comp=Z,13nm,3.7s
ARCES ARCESS Array B 37.31 342 P P 23 19 55.6 +0.6
comp=Z,3.2nm,1.0s,baz=146,slow=8.3,SNR=4.9
ARCES LR LR 23 37 05.9
comp=Z,214nm,18.9s,baz=146,slow=39
MSSA Maissana 37.49 297 P P 23 19 57.2 +0.3
NC405 NORSAR Array S 37.95 325 P P 23 20 00.9 +0.3
NB2 NORSAR Subarra 38.16 325 P P 23 20 02.8 +0.4
comp=Z,1.1nm,0.6s,baz=108,slow=8.6
NOA NORSAR Array B 38.16 325 P P 23 20 03.1 +0.7
comp=Z,1.8nm,0.7s,baz=109,slow=8.1,SNR=7.0
NOA LR LR 23 37 08.8
comp=Z,58nm,18.4s,baz=295,slow=38
CHTO Chiang Mai 39.67 106 P P 23 20 16.1 +0.7
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 39.67 106 P P 23 20 16.1 +0.7
CHTO IAmb IAmb 23 20 17.5
comp=Z,5.6nm,0.8s
CM31 Chiang Mai Arr 39.87 106 P P 23 20 15.6 -1.6
CM31 IAmb IAmb 23 20 22.6
comp=Z,5.5nm,0.8s
CMAR Chiang Mai Arr 39.87 106 *ce*P P 23 20 18.7 +1.6
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CMAR Chiang Mai Arr 39.87 106 P P 23 20 17.1 0.0
comp=Z,5.1nm,0.7s,baz=301,slow=8.6,SNR=26
CMAR LR LR 23 39 34.5
comp=Z,36nm,18.7s,baz=316,slow=40
XAN Xi'an 40.79 78 P P 23 20 26.7 +2.0
XAN pP sP 23 20 34.9 +8.9
XAN pmax pmax
comp=Z,4.0nm,0.9s
HHC Hu-ho-hao-te 41.01 68 *e*P P 23 20 25.7 -0.7
HHC pmax pmax
comp=Z,6.0nm,1.1s
KMBO Kilima Mbogo 42.61 212 LR LR 23 39 51.3
comp=Z,116nm,19.0s,baz=100,slow=38
WHN Wuhan 46.34 81 P P 23 21 19.7 +10
ESDC Sonseca Array 48.26 293 P P 23 21 24.4 +0.1
comp=Z,1.0nm,0.8s,baz=70,slow=7.6,SNR=10
TIXI Tiksi 49.35 23⇑*e*P P 23 21 34.5 +2.4
TIXI Tiksi 49.35 23 P P 23 21 34.0 +1.9
comp=Z,0.5nm,0.2s,baz=334,slow=5.5,SNR=3.4
YAK Yakutsk 49.58 36 P P 23 21 33.6 -0.4
YAK pmax pmax
comp=Z,7.0nm,0.8s
YAK Yakutsk 49.58 36 P P 23 21 33.6 -0.4
PSI Prapat 50.27 123 P P 23 21 40.1 +0.1
PSI pmax pmax
comp=Z,8.0nm,1.1s
RPSI Rantau Prapat 50.35 123 P P 23 21 40.1 -0.3
RPSI IAmb IAmb 23 21 47.4
comp=Z,8.3nm,1.1s
MDT Midelt 51.14 285 LR LR 23 48 49.9
comp=Z,36nm,18.1s,baz=356,slow=42
PESTR Estremoz 51.18 294 P P 23 21 47.1 +0.6
PESTR IAmb IAmb 23 21 48.1
comp=Z,3.4nm,1.0s
KSRS Korea Array 54.14 67 P P 23 22 09.3 +1.0
comp=Z,2.8nm,0.8s,baz=282,slow=6.8,SNR=11
KSRS LR LR 23 48 14.9
comp=Z,48nm,20.5s,baz=294,slow=39
USRK Ussuriysk Ar. 54.64 58 P P 23 22 13.2 +1.2
comp=Z,1.5nm,0.8s,baz=119,slow=22,SNR=2.9
TORD Torodi Ar. Bea 55.75 260 P P 23 22 21.4 +1.0
comp=Z,1.7nm,0.8s,baz=42,slow=6.5,SNR=9.5
SEY Seymchan 59.61 32⇓*e*P P 23 22 46.2 -0.6
MA2 Magadan 60.16 36⇓*e*P P 23 22 49.4 -1.3
BILL Bilibino 62.56 24 *e*P P 23 23 07.7 +0.9
BILL *e* 23 23 42.6
BILL *e* 23 25 25.9
BILL pmax pmax
comp=Z,1.0nm,0.9s
DBIC Dimbokro 64.77 259 LR LR 23 55 15.9
comp=Z,61nm,18.7s,baz=353,slow=40
PETK Petropavlovsk- 66.49 40 LR LR 23 54 54.4
comp=Z,40nm,19.0s,baz=246,slow=38
BOSA Boshof 72.20 210 LR LR 23 55 42.7
comp=Z,34nm,19.3s,baz=18,slow=36
INK Inuvik 74.80 5 LR LR 00 01 58.4
comp=Z,43nm,19.0s,baz=37,slow=40
ILAR Eielson Array 76.79 11 P P 23 24 34.2 -0.3
comp=Z,0.3nm,0.7s,baz=323,slow=4.6,SNR=3.6
YKA Yellowknife Ar 80.87 357 P P 23 24 55.9 -1.0
comp=Z,0.3nm,0.6s,baz=1.9,slow=5.8,SNR=4.7
ULM Lac du Bonnet 90.39 344 P P 23 25 43.5 -1.1
comp=Z,0.9nm,0.4s,baz=69,slow=8.6,SNR=2.6
ULM Lac du Bonnet 90.39 344 IAmb IAmb 23 25 58.2
comp=Z,5.7nm,1.5s
WRA Warramunga Arr 91.01 114 *i* P P 23 25 48.7 +0.8
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 91.01 114 P P 23 25 47.8 -0.1
comp=Z,1.1nm,0.9s,baz=316,slow=4.4,SNR=5.8
ASAR Alice Springs 93.03 117 P P 23 25 56.6 -0.6
comp=Z,0.3nm,0.8s,baz=310,slow=5.7,SNR=3.9

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*SJA **07** 23:14:48.9±1.1, 21°.05S×68°.02W, h180km±7km, ML4.0, MW4.2*
*ISCJB **07** 23:14:49.8±0.2, 21°.11S±0°.02×68°.00W±0°.03, h166km±2km, mb4.1/12, Error ellipse: s-maj=4.5km s-min=3.2km az=167.5*
*NEIC **07** 23:14:50.6±1.4, 21°.06S±0°.04×67°.92W±0°.08, h158km±5km, mb4.4/60*
*IDC **07** 23:14:50.3±0.7, 21°.05S×67°.89W, h150km±7km, mb3.9/10, mb1 4.2/17, mb1mx4.1/33, mbtmp4.6/17, MS3.2/1, Ms1 3.2/1, ms1mx2.6/24, Error ellipse: s-maj=13.2km s-min=9.1km az=99.0*
*GUC **07** 23:14:52.0±0.5, 21°.05S×68°.21W, h173km±4km, ML4.6*
*SCB **07** 23:14:52.5±1.5, 21°.10S×68°.01W, h172km±8km, ML4.5/3, Error ellipse: s-maj=4.4km s-min=3.5km az=1.0*
ISC 07 23:14:50.5±0.6**, 21°.06S**±0°.03×**67°.96W**±0°.04**, h156**km±6km**, n179, σ1ˢ10**/208**, mb4.3**/35**, 11C-1D, Chile-Bolivia border region**

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

PB09 IPOC Station P 1.40 238⇑*i*P Pn 23 15 20.7 +1.0
PB09 *i* S Sn 23 15 42.8 +0.7
PB09 IAML 23 15 44.6
comp=N,3μm,0.4s
PB09 IPOC Station P 1.40 238 *i* P Pn 23 15 20.5 +0.8
PB09 *e*S Sn 23 15 42.9 +0.7
PB09 IAML 23 15 44.3
comp=Z,3μm,0.8s
PB08 IPOC Station P 1.45 309⇑*i*P Pn 23 15 21.3 +0.9
PB08 *i* S Sn 23 15 43.8 +0.5
PB08 IAML 23 15 44.8
comp=E,10μm,0.3s
PB08 IPOC Station P 1.45 309 P Pn 23 15 21.4 +1.0
PB08 S Sn 23 15 44.0 +0.6
PB08 IPOC Station P 1.45 309 *i* P Pn 23 15 21.3 +0.9
PB08 *e*S Sn 23 15 43.9 +0.6
LVC Limon Verde 1.78 210 P Pn 23 15 24.7 +0.8
comp=E,26nm,0.3s,baz=28,slow=9.1,SNR=152
LVC S Sn 23 15 49.4 -0.2
comp=E,60nm,0.3s,baz=232,slow=18,SNR=31
LVC LR LR 23 15 56.2
comp=E,70nm,19.5s,baz=226,slow=36
LVC Limon Verde 1.78 210 Pn 23 15 23.9 +0.1
LVC Limon Verde 1.78 210 *i* P Pn 23 15 24.7 +0.8
LVC *e*S Sn 23 15 50.9 +1.2
LVC IAML 23 15 51.7
comp=Z,140nm,0.3s
GO01 Chusmiza 1.81 320⇑*i*P Pn 23 15 24.8 +0.5
GO01 *i* S Sn 23 15 50.6 +0.3
GO01 IAML 23 15 55.4
comp=N,5μm,0.3s
GO01 Chusmiza 1.81 320 Pn 23 15 24.9 +0.5
GO01 Sn Sn 23 15 50.6 +0.3
PB07 IPOC Station P 1.92 249⇑*i*P Pn 23 15 25.3 0.0
PB07 *i* S Sn 23 15 50.5 -1.5
PB07 IAML 23 15 52.4
comp=E,8μm,0.3s
PB07 IPOC Station P 1.92 249 *i* P Pn 23 15 25.2 0.0
PB03 IPOC Station P 1.94 239⇑*i*P Pn 23 15 25.6 +0.1
PB03 *i* S Sn 23 15 51.4 -1.0
PB03 IAML 23 15 53.8
comp=E,4μm,0.4s
PB03 IPOC Station P 1.94 239 *i* P Pn 23 15 25.6 +0.1
PB11 IPOC Station P 2.05 309⇑*i*P Pn 23 15 26.8 0.0
PB11 *i* S Sn 23 15 53.6 -1.1
PB11 IPOC Station P 2.05 309 P Pn 23 15 27.0 +0.2
PB11 S Sn 23 15 53.7 -1.0
PB11 IPOC Station P 2.05 309 Pn 23 15 26.7 0.0
PB11 Sn Sn 23 15 53.7 -1.0
PB11 IPOC Station P 2.05 309 *i* P Pn 23 15 26.8 0.0
TA01 Diego Aracena 2.14 283⇑*i*P Pn 23 15 27.0 -0.6
TA01 *e*S Sn 23 15 53.2 -3.0
TA01 IAML 23 15 56.7
comp=E,5μm,0.3s
PB06 IPOC Station P 2.22 222 *e*P Pn 23 15 28.9 +0.2
PB06 *i* S Sn 23 15 57.5 -0.7
PB06 IAML 23 15 59.3
comp=E,2μm,0.3s
PB06 IPOC Station P 2.22 222 P Pn 23 15 29.2 +0.5
PB06 IPOC Station P 2.22 222 *i* P Pn 23 15 29.1 +0.3
PB04 IPOC Station P 2.40 238⇑*i*P Pn 23 15 30.6 -0.2
PB04 IPOC Station P 2.40 238 P Pn 23 15 30.7 -0.2
PB04 S Sn 23 15 59.9 -2.2
PB04 IPOC Station P 2.40 238 Pn 23 15 30.7 -0.2
PB04 Sn Sn 23 16 00.2 -1.9
PB04 IPOC Station P 2.40 238 *i* P Pn 23 15 30.6 -0.2
PB04 IAML 23 16 05.9
comp=Z,1μm,0.4s
MNMC Minye Minye 2.46 321⇑*i*P Pn 23 15 32.3 +0.5
MNMC *i* S Sn 23 16 03.3 -0.3
MNMC Minye Minye 2.46 321 P Pn 23 15 32.3 +0.5
MNMC S Sn 23 16 03.2 -0.3
MNMC AML AML 23 16 04.9
comp=Z,12μm,0.3s
MNMC Minye Minye 2.46 321 Pn 23 15 31.6 -0.2
MNMC Sn Sn 23 16 03.3 -0.3
MNMCX Minye Minye 2.46 321 *i* P Pn 23 15 32.4 +0.6
PSGC Pisagua 2.50 305⇑*i*P Pn 23 15 31.0 -1.0
PSGC *i* S Sn 23 16 02.2 -1.9
PSGC IAML 23 16 04.8
comp=N,4μm,0.3s
PSGC Pisagua 2.50 305 P Pn 23 15 31.7 -0.4
PSGC S Sn 23 16 02.3 -1.8
PSGC AML AML 23 16 02.9
comp=N,580nm,0.9s
PSGCX Pisagua 2.50 305 *i* P Pn 23 15 31.0 -1.0
YJA Yavi 2.53 116 P Pn 23 15 34.2 +1.5
YJA S Sn 23 16 05.3 0.0
YJA AML AML 23 16 08.0
comp=N,616nm,0.7s
YJA Yavi 2.53 116 *i* P Pn 23 15 34.2 +1.5
PB15 IPOC Station P 2.56 213 *i* P Pn 23 15 33.6 +0.8
PB05 IPOC Station P 2.74 229 *e*P Pn 23 15 34.8 -0.2
PB05 IPOC Station P 2.74 229 *i* P Pn 23 15 34.7 -0.3
PB16 IPOC Station P 3.08 331⇑*i*P Pn 23 15 40.8 +1.0
HJA Humahuaca 3.19 133 *i* P Pn 23 15 42.5 +1.7
PB10 IPOC Station P 3.43 224 P Pn 23 15 43.0 -0.5
PB10 IPOC Station P 3.43 224 Pn 23 15 43.0 -0.5
PB10 IPOC Station P 3.43 224 *i* P Pn 23 15 42.7 -0.8
BS03 Mojotorillo 3.78 63 P Pn 23 15 49.2 +0.6
BS03 S Sn 23 16 31.1 -2.5
BBOJ La Paz, Jacaqu 4.07 357 P Pn 23 15 54.3 +1.9
AZAP Zapla 4.13 140 *i* P Pn 23 15 53.1 +0.3
BS05 Cuyupaya 4.14 14 P Pn 23 15 54.0 +0.8
PB14 IPOC Station P 4.21 212 *i* P Pn 23 15 53.5 -0.4
BBOE La Paz, Chanca 4.22 360 P Pn 23 15 56.8 +2.4
BS06 Camiri 4.28 77 P Pn 23 15 55.9 +1.2
BS06 S Sn 23 16 41.8 -2.9
SLA San Lorenzo 4.29 149 P Pn 23 15 56.2 +1.4
SLA San Lorenzo 4.29 149 *i* P Pn 23 15 56.5 +1.6
GO02 Mina Guanaco 4.35 200 Pn 23 15 55.2 -0.5
BS08 Valle Grande 4.43 56 P Pn 23 15 57.2 +0.4
BBOD La Paz, Gloria 4.44 352 P Pn 23 15 58.8 +1.6
LPAZ La Paz 4.75 358 P Pn 23 16 02.7 +1.3
LPAZ S Sn 23 16 53.2 -3.3
LPAZ La Paz 4.75 358 P Pn 23 16 02.7 +1.3
comp=N,34nm,0.3s,baz=172,slow=6.5,SNR=374
LPAZ S Sn 23 16 57.4 +0.9
comp=N,4.8nm,0.3s,baz=267,slow=21,SNR=3.9
LPAZ La Paz 4.75 358 Pn 23 16 02.3 +1.0
BS09 Huarina 4.88 353 P Pn 23 16 04.6 +1.6
BBOB La Paz, Bander 4.90 358 P Pn 23 16 04.8 +1.6
BB02 La Guardia 5.38 55 P Pn 23 16 09.5 +0.3
AHML Horco Molle 6.18 158 P Pn 23 16 20.3 +0.6
AHML Horco Molle 6.18 158 *i* P Pn 23 16 19.1 -0.6
GO03 Copiap 6.83 197 Pn 23 16 25.6 -2.7
GO03 Copiap 6.83 197 *i* P Pn 23 16 25.6 -2.8
CYA Choya 7.61 166 *i* P Pn 23 16 39.0 +0.4
SIV San Ignacio 8.25 53 P Pn 23 16 45.0 -2.4
comp=N,12nm,0.3s,baz=246,slow=13,SNR=170
SIV S Sn 23 18 04.9 -14
comp=N,1.7nm,0.3s,baz=235,slow=17,SNR=2.9
ACLC CERRO LA CRUZ 8.38 174 *i* P Pn 23 16 47.5 -1.6
APLL PUNTA DE LOS L 9.38 172 *i* P Pn 23 17 00.6 -1.7
GO04 Tololo Observa 9.43 195 Pn Pn 23 17 00.6 -2.5
ACCO Cerro Coronel 9.54 186 *i* P Pn 23 17 03.0 -1.6
CFA Coronel Fontan 10.50 181 P Pn 23 17 14.9 -2.2
comp=N,1.0nm,0.3s,baz=350,slow=12,SNR=8.1
CFA S Sn 23 19 03.4 -10
comp=N,1.9nm,0.3s,baz=223,slow=20,SNR=8.7
CFA Coronel Fontan 10.50 181 *i* P Pn 23 17 14.8 -2.2
TCA Tanti 10.67 164 *i* P Pn 23 17 16.4 -2.9
RTLS Leoncito 10.76 186 *i* P Pn 23 17 18.6 -2.1
RTCV Cerro Valdivia 10.77 183 *i* P Pn 23 17 17.7 -2.8
CPUP Villa Florida 11.06 120 P Pn 23 17 23.4 -1.0
comp=N,3.7nm,0.3s,baz=304,slow=12,SNR=102
CPUP Villa Florida 11.06 120 Pn 23 17 23.1 -1.2
ROC1 El Roble 12.18 192 Pn 23 17 37.5 -1.6
PEL Peldehue 12.28 191 Pn Pn 23 17 39.2 -1.0
NNA Nana 12.40 315 P Pn 23 17 41.1 -0.8
comp=N,3.2nm,0.3s,baz=169,slow=16,SNR=5.9
NNA Nana 12.40 315 Pn 23 17 41.3 -0.6
SAML Samuel 12.89 22 Pn 23 17 47.5 -0.7
GO05 Huala 14.33 193 Pn 23 18 05.1 -1.2
ATAH Atahualpa 17.14 322 P Pn 23 18 42.5 +1.3
comp=N,0.5nm,0.3s,baz=136,slow=12,SNR=6.1
TRQA Tornquist 17.71 164 P P 23 18 45.8 -0.3
TRQA IAmb IAmb 23 18 49.7
comp=Z,13nm,0.6s
GO06 Curarrehue 18.71 188 P P 23 18 57.4 +0.3
GO06 IAmb IAmb 23 18 58.9
comp=Z,27nm,1.0s
SPB Sao Paulo 19.16 101 P P 23 19 01.6 -0.3
SPB IAmb IAmb 23 19 02.9
comp=Z,39nm,1.0s
BDFB Brasilia 19.68 77 P P 23 19 07.8 0.0
comp=Z,7.6nm,0.3s,baz=250,slow=9.6,SNR=36
BDFB Brasilia 19.68 77 P P 23 19 07.3 -0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PLCA	**Paso Flores**	**19.73**	**186**	P	**P**	**23 19 09.0**	**+0.9**
	comp=Z,1.9nm,0.3s,baz=30,slow=10.0,SNR=22						
PLCA				PcP	**PcP**	**23 23 20.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=243,slow=3.8,SNR=3.6						
PLCA	**Paso Flores**	**19.73**	**186**	P	**P**	**23 19 07.7**	**-0.4**
OTAV	**Otavalo**	**23.52**	**333**	P	**P**	**23 19 46.7**	**-0.4**
RCBR	**Riachuelo**	**34.55**	**69**	P	**P**	**23 21 24.1**	**-0.3**
RCBR				IAmb	IAmb	23 21 25.5	
	comp=Z,9.6nm,0.8s						
SWET	**Sewanee**	**58.51**	**343**	P	**P**	**23 24 30.3**	**-0.1**
V48A	**Smith Brothers**	**59.25**	**342**	P	**P**	**23 24 35.5**	**0.0**
VNA3	**Neumayer Olymp**	**60.21**	**162**	P	**P**	**23 24 42.6**	**+1.0**
VNA2	**Neumayer--Watz**	**60.77**	**161**	P	**P**	**23 24 46.7**	**+1.3**
	baz=285,slow=7.7						
TXAR	**Lajitas Array**	**60.78**	**324**	P	**P**	**23 24 46.9**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=151,slow=8.3,SNR=12						
TXAR				PcP	**PcP**	**23 25 27.6**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=150,slow=7.6,SNR=4.0						
LPIG	**La Paz**	**60.94**	**315**	LR	LR	23 47 19.4	
	comp=Z,20nm,18.8s,baz=40,slow=32						
SNAA	**Sanae**	**62.40**	**161**	P	**P**	**23 24 57.3**	**+0.8**
SNAA	**Sanae**	**62.40**	**161**	P	**P**	**23 24 56.1**	**-0.3**
SNAA				IAmb	IAmb	23 24 58.5	
	comp=Z,6.1nm,0.7s						
N54A	**Moraine State**	**62.71**	**350**	P	**P**	**23 24 59.2**	**+0.6**
N54A				IAmb	IAmb	23 24 59.5	
	comp=Z,9.0nm,1.1s						
KSPA	**Keystone Colle**	**62.72**	**353**	P	**P**	**23 24 59.0**	**+0.3**
KSPA				IAmb	IAmb	23 25 01.3	
	comp=Z,5.5nm,1.0s						
CCM	**Cathedral Cave**	**62.74**	**339**	P	**P**	**23 24 59.0**	**0.0**
BRYW	**Bryant College**	**62.75**	**357**	P	**P**	**23 24 59.0**	**+0.1**
WMOK	**Wichita Mounta**	**62.75**	**332**	P	**P**	**23 24 59.3**	**+0.2**
M56A	**Emporium**	**62.94**	**351**	P	**P**	**23 25 00.6**	**+0.3**
M55A	**Ridgway**	**63.01**	**351**	P	**P**	**23 25 00.8**	**+0.1**
N51A	**Ashland**	**63.10**	**348**	P	**P**	**23 25 00.9**	**-0.4**
M54A	**Oil Creek Stat**	**63.19**	**350**	P	**P**	**23 25 02.0**	**+0.1**
BINY	**Binghamton**	**63.38**	**353**	P	**P**	**23 25 03.2**	**+0.2**
O44A	**Mansfield**	**63.83**	**343**		pP	23 25 47.1	+2.8
MSTX	**Muleshoe**	**63.99**	**328**	IAmb	IAmb	23 25 08.4	
	comp=Z,5.9nm,0.7s						
F64A	**Sherman**	**66.60**	**360**	P	**P**	**23 25 24.4**	**+0.6**
F64A				IAmb	IAmb	23 25 26.8	
	comp=Z,10nm,1.1s						
E63A	**Oxbow**	**67.16**	**360**	P	**P**	**23 25 28.0**	**+0.7**
T25A	**Trinidad**	**67.32**	**329**	P	**P**	**23 25 27.6**	**-1.3**
E62A	**Clayton Lake**	**67.38**	**359**	P	**P**	**23 25 29.3**	**+0.7**
E62A				IAmb	IAmb	23 25 44.6	
	comp=Z,8.6nm,1.1s						
LIC	**Lamto**	**67.41**	**74**	*e*P	**P**	**23 25 31.4**	**+1.8**
	comp=Z,8.0nm,0.6s						
I42A	**Draeger Farm,**	**67.43**	**344**	P	**P**	**23 25 28.6**	**-0.4**
I42A				IAmb	IAmb	23 25 39.4	
	comp=Z,1.2nm,0.5s						
TIC	**Toumodi**	**67.60**	**73**	*e*P	**P**	**23 25 29.3**	**-1.5**
H43A	**Windswept, Lux**	**67.68**	**345**	P	**P**	**23 25 29.5**	**-1.1**
KIC	**Kosan Boka**	**67.73**	**74**	*e*P	**P**	**23 25 31.4**	**-0.2**
	comp=Z,13nm,0.7s						
DBIC	**Dimbokro**	**67.76**	**73**	P	**P**	**23 25 31.7**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=210,slow=7.9,SNR=9.3						
DBIC	**Dimbokro**	**67.76**	**73**	IAmb	IAmb	23 25 50.3	
	comp=Z,5.6nm,1.1s						
BGNE	**Belgrade**	**68.17**	**336**	P	**P**	**23 25 33.9**	**+0.1**
D53A	**Lac Vacive, Po**	**68.39**	**353**	P	**P**	**23 25 34.9**	**-0.1**
D53A				IAmb	IAmb	23 25 52.5	
	comp=Z,3.7nm,0.8s						
QSPA	**South Pole Qui**	**69.13**	**180**	P	**P**	**23 25 41.4**	**+1.8**
QSPA				IAmb	IAmb	23 25 42.0	
	comp=Z,8.4nm,0.7s						
ECSD	**EROS Data Cent**	**69.64**	**338**	P	**P**	**23 25 43.1**	**+0.3**
SRU	**San Rafael Swe**	**71.90**	**326**	P	**P**	**23 25 56.6**	**-0.2**
MSU	**Marysvale**	**72.33**	**325**	P	**P**	**23 25 59.5**	**+0.1**
RSSD	**Black Hills**	**72.79**	**334**	P	**P**	**23 26 02.3**	**+0.2**
RSSD				IAmb	IAmb	23 26 04.0	
	comp=Z,5.0nm,0.9s						
PSUT	**Pine Spring**	**73.25**	**324**	P	**P**	**23 26 05.2**	**+0.3**
PD31	**Pinedale Array**	**74.18**	**329**	P	**P**	**23 26 10.1**	**-0.1**
PDAR	**Pinedale Array**	**74.18**	**329**	P	**P**	**23 26 10.8**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=124,slow=8.5,SNR=6.9						
ULM	**Lac du Bonnet**	**75.17**	**342**	P	**P**	**23 26 15.3**	**0.0**
	comp=Z,2.7nm,0.6s,baz=154,slow=10,SNR=3.7						
IMW	**Indian Meadow**	**75.69**	**329**	P	**P**	**23 26 18.7**	**-0.2**
IMW				IAmb	IAmb	23 26 21.4	
	comp=Z,3.7nm,0.9s						
FLWY	**Flagg Ranch**	**75.72**	**330**	P	**P**	**23 26 19.4**	**+0.4**
FLWY				IAmb	IAmb	23 26 21.7	
	comp=Z,8.4nm,1.0s						
RLMT	**Red Lodge**	**75.85**	**331**	P	**P**	**23 26 20.2**	**+0.5**
RLMT				IAmb	IAmb	23 26 22.1	
	comp=Z,4.2nm,0.8s						
YNE	**Yellowstone No**	**76.10**	**331**	P	**P**	**23 26 20.8**	**-0.4**
YMR	**Madison River**	**76.29**	**330**	P	**P**	**23 26 23.9**	**+1.8**
YHH	**Holmes Hill**	**76.32**	**330**	P	**P**	**23 26 23.1**	**+0.6**
TOA0	**Torodi Ar. Sit**	**76.37**	**70**	P	**P**	**23 26 22.4**	**-0.6**
TOA0				IAmb	IAmb	23 26 23.5	
	comp=Z,6.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**76.37**	**70**	P	**P**	**23 26 22.6**	**-0.4**
	comp=Z,3.6nm,0.5s,baz=252,slow=5.4,SNR=41						
YHB	**Horse Butte**	**76.46**	**330**	P	**P**	**23 26 23.4**	**+0.2**
SAO	**San Andreas Ge**	**76.51**	**318**	P	**P**	**23 26 23.7**	**+0.3**
SAO				IAmb	IAmb	23 26 28.3	
	comp=Z,15nm,1.1s						
GCMT	**Greycliff**	**76.55**	**331**	P	**P**	**23 26 23.9**	**+0.4**
SYO	**Syowa Base**	**76.60**	**159**⇓	*e*P	**P**	**23 26 20.6**	**-2.7**
PAHR	**Pah Rah Range**	**77.18**	**322**	P	**P**	**23 26 27.9**	**+0.7**
PAHR				IAmb	IAmb	23 26 29.7	
	comp=Z,3.8nm,0.8s						
MCMT	**McKenzie Canyo**	**77.30**	**329**	P	**P**	**23 26 27.6**	**-0.3**
VNDA	**Vanda**	**77.43**	**190**	P	**P**	**23 26 28.4**	**+0.5**
PLID	**Pearl Lake**	**79.03**	**328**	P	**P**	**23 26 37.4**	**0.0**
PLID				IAmb	IAmb	23 26 39.7	
	comp=Z,5.0nm,1.0s						
WDC	**Whiskeytown Da**	**79.59**	**321**	P	**P**	**23 26 40.2**	**0.0**
YBH	**Yreka Blue Hor**	**80.41**	**322**	P	**P**	**23 26 43.7**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=184,slow=9.3,SNR=4.1						
G08A	**Pilot Rock**	**80.69**	**326**	P	**P**	**23 26 46.3**	**+0.2**
KEBM	**Edson Butte**	**82.07**	**322**	P	**P**	**23 26 52.5**	**-0.9**
PESTR	**Estremoz**	**82.11**	**43**	P	**P**	**23 26 52.2**	**-1.4**
BOSA	**Boshof**	**82.87**	**118**	P	**P**	**23 26 58.6**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=236,slow=2.8,SNR=9.5						
BOSA	**Boshof**	**82.87**	**118**	P	**P**	**23 26 58.4**	**+0.3**
BOSA				IAmb	IAmb	23 27 02.3	
	comp=Z,3.7nm,0.9s						
LTY	**Liberty**	**82.89**	**327**	P	**P**	**23 26 57.6**	**+0.1**
LTY				IAmb	IAmb	23 26 59.5	
	comp=Z,3.4nm,0.7s						
D05A	**Enumclaw**	**83.52**	**326**	P	**P**	**23 27 00.7**	**0.0**
D05A				IAmb	IAmb	23 27 02.5	
	comp=Z,7.7nm,0.7s						
TAM	**Tamanrasset**	**83.83**	**63**	P	**P**	**23 27 02.6**	**-0.4**
LBTB	**Lobatse**	**84.39**	**115**	P	**P**	**23 27 05.7**	**-0.2**
LBTB				IAmb	IAmb	23 27 07.3	
	comp=Z,2.5nm,0.9s						
MAW	**Mawson**	**84.49**	**163**	P	**P**	**23 27 06.8**	**+1.4**
	comp=Z,4.4nm,0.5s,baz=209,slow=8.7,SNR=5.1						
PAB	**San Pablo**	**84.58**	**44**	P	**P**	**23 27 07.1**	**+0.8**
PAB				IAmb	IAmb	23 27 08.2	
	comp=Z,3.5nm,1.1s						
NLWA	**Neilton Lookou**	**84.63**	**326**	P	**P**	**23 27 05.6**	**-0.8**
NLWA				IAmb	IAmb	23 27 13.1	
	comp=Z,9.5nm,1.1s						
ESDC	**Sonseca Array**	**84.90**	**44**	P	**P**	**23 27 07.6**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=250,slow=5.1,SNR=8.9						
YKA	**Yellowknife Ar**	**91.07**	**340**	P	**P**	**23 27 37.4**	**+0.7**
	comp=Z,4.2nm,0.5s,baz=134,slow=4.5,SNR=82						
YKW3	**Yellowknife Ar**	**91.13**	**340**	P	**P**	**23 27 37.6**	**+0.7**
NRIK	**Noril'sk**	**129.47**	**11**	PKP	**PKiKP**	**23 33 41.4**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=20,slow=5.0,SNR=3.5						
ASAR	**Alice Springs**	**130.71**	**207**	PKP	**PKPdf**	**23 33 44.4**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=133,slow=1.7,SNR=32						
PETK	**Petropavlovsk-**	**132.74**	**324**	PKP	**PKiKP**	**23 33 47.4**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=196,slow=2.5,SNR=4.6						
WRA	**Warramunga Arr**	**133.78**	**210**	PKP	**PKiKP**	**23 33 50.5**	**-0.4**
	comp=Z,3.8nm,0.7s,baz=157,slow=1.8,SNR=35						
ZALV	**Zalesovo Beam**	**141.18**	**26**	PKP	**PKPdf**	**23 34 01.9**	**-0.1**
	comp=Z,4.7nm,0.6s,baz=287,slow=2.7,SNR=17						
KSH	**Kashi**	**144.13**	**51**	PKP	**PKPab**	**23 34 06.2**	**+0.2**
KSH				pPKP	pPKPdf	23 34 48.0	-2.6
KSH				PP	**PP**	**23 37 26.8**	**+2.6**
KSH				AMB	AMB		
	comp=Z,230nm,7.6s						
KSH				LR	LR		
	comp=N,290nm,5.3s						
KSH				LR	LR		
	comp=E,240nm,8.6s						
KSH				LR	LR		
	comp=Z,190nm,7.4s						
MKAR	**Makanchi Array**	**144.76**	**36**	PKP	**PKPdf**	**23 34 09.1**	**+0.4**
	comp=Z,9.1nm,0.4s,baz=341,slow=2.7,SNR=161						
USRK	**Ussuriysk Ar.**	**151.60**	**329**	PKPbc	**PKPbc**	**23 34 26.3**	**0.0**
	comp=Z,3.2nm,0.6s,baz=38,slow=4.0,SNR=8.1						
SONM	**Songino Array**	**152.90**	**8**	PKP	**PKPdf**	**23 34 23.3**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=294,slow=1.5,SNR=7.0						
SONM				PKPbc	**PKiKP**	**23 34 30.3**	**+0.9**
	comp=Z,2.3nm,0.4s,baz=319,slow=1.4,SNR=16						
SONM				PKPab	**PKPab**	**23 34 41.3**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=341,slow=4.6,SNR=5.8						
LZH	**Lanzhou**	**163.40**	**24**	*e*PKP	**PKPdf**	**23 34 32.2**	**-2.8**
LZH				pPKP	pPKPdf	23 35 14.5	-3.4
LZH				sPKP		23 35 32.0	

*IDC **07** 23:18:36.2±1.6, 62°.45N×152°.94W, h130km±15km, mb3.5/7, mb1 3.5/10, mb1mx3.2/47, mbtmp3.7/10, Error ellipse: s-maj=23.3km s-min=10.6km az=106.0*
*ISCJB **07** 23:18:38.7±0.3, 62°.51N±0°.02×152°.50W±0°.06, h161km±3km, mb3.7/7, Error ellipse: s-maj=4.9km s-min=3.2km az=16.8*
*NEIC **07** 23:18:39.0±0.9, 62°.47N±0°.05×152°.6W±0°.1, h161km±4km*
*AEIC **07** 23:18:40.7±0.9, 62°.49N±0°.05×152°.49W±0°.06, h154km±4km, ML3.0*
ISC 07 23:18:39.2±0.7, **62°.48N**±0°.03×**152°.55W**±0°.04, **h159**km±5km, **n112**, σ**0.94**/128, **mb3.8**/7, **Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PPLA	**Purkeypile**	**0.45**	**21**		**Pn**	**23 19 01.7**	**+0.3**
PPLA	**Purkeypile**	**0.45**	**21**	Sn	**Sn**	**23 19 18.2**	**-0.3**
SKT	**Skwentna**	**0.69**	**136**		**Pn**	**23 19 02.5**	**0.0**
SKT					**Sn**	**23 19 20.1**	**-0.3**
SPNN	**North Nagishla**	**1.11**	**184**		**Pn**	**23 19 06.2**	**+0.3**
CGLM	**Capps Glacier**	**1.20**	**168**		**Pn**	**23 19 06.7**	**+0.1**
SPWE	**Spurr West**	**1.21**	**180**		**Pn**	**23 19 07.0**	**+0.4**
SPCG	**Spurr Capps Gl**	**1.21**	**168**		**Pn**	**23 19 06.8**	**+0.1**
SPBG	**Spurr Blockage**	**1.22**	**176**		**Pn**	**23 19 07.1**	**+0.3**
SPCP	**Crater Peak Br**	**1.23**	**171**		**Pn**	**23 19 07.2**	**+0.2**
CKL	**Chakachamna La**	**1.29**	**176**		**Pn**	**23 19 07.7**	**+0.2**
SPCR	**Spurr Chakacha**	**1.29**	**173**		**Pn**	**23 19 07.5**	**+0.1**
KTH	**Kantishna Hill**	**1.31**	**34**		**Pn**	**23 19 07.8**	**+0.3**
KTH					**Sn**	**23 19 28.8**	**-0.6**
SPU	**Mount Spurr**	**1.32**	**170**	Pn	**Pn**	**23 19 06.2**	**-1.5**
SUA	**Susitna One**	**1.32**	**139**		**Pn**	**23 19 08.1**	**+0.3**
SUA					**Sn**	**23 19 30.1**	**+0.4**
CHUM	**Lake Minchumin**	**1.42**	**4**		**Pn**	**23 19 08.6**	**+0.2**
CHUM					**Sn**	**23 19 30.6**	**-0.4**
TRF	**Thorofare Moun**	**1.42**	**45**		**Pn**	**23 19 08.8**	**+0.1**
TRF					**Sn**	**23 19 31.6**	**+0.1**
HUR	**Hurricane**	**1.43**	**68**		**Pn**	**23 19 08.8**	**+0.1**
TT01	**Tatalina**	**1.66**	**287**		**Pn**	**23 19 10.8**	**-0.2**
TTA	**Tatalina**	**1.66**	**287**		**Pn**	**23 19 10.8**	**-0.3**
FIS	**Fire Island**	**1.73**	**139**		**Pn**	**23 19 13.0**	**+1.2**
BPAW	**Bear Paw Mtn.**	**1.78**	**23**		**Pn**	**23 19 12.4**	**+0.1**
BPAW					**Sn**	**23 19 37.0**	**-0.8**
PMR	**Palmer**	**1.84**	**117**		**Pn**	**23 19 12.4**	**-0.5**
PMR					**Sn**	**23 19 38.3**	**-0.5**
CAPN	**Captain Cook N**	**1.84**	**158**		**Pn**	**23 19 14.5**	**+1.6**
GHO	**Glory Hole Cre**	**1.84**	**111**		**Pn**	**23 19 12.9**	**-0.1**
GHO					**Sn**	**23 19 39.3**	**+0.1**
WAT1	**Susitna Watana**	**1.88**	**77**		**Pn**	**23 19 13.4**	**0.0**
WAT1					**Sn**	**23 19 39.1**	**-0.7**
WAT2	**Susitna Watana**	**1.89**	**73**		**Pn**	**23 19 13.7**	**0.0**
WAT2					**Sn**	**23 19 39.6**	**-0.6**
DFR	**Drift River**	**1.89**	**182**		**Pn**	**23 19 14.3**	**+0.6**
DFR	**Drift River**	**1.89**	**182**		**Pn**	**23 19 13.8**	**+0.2**
RDJH	**Redoubt Jeurge**	**1.90**	**184**		**Pn**	**23 19 14.2**	**+0.4**
RC01	**Rabbit Creek A**	**1.93**	**135**		**Pn**	**23 19 13.6**	**-0.3**
RND	**Reindeer**	**1.93**	**59**		**Pn**	**23 19 14.1**	**+0.1**
NCT	**North Crescent**	**1.93**	**186**		**Pn**	**23 19 14.4**	**+0.3**
SVW2	**Sparrevohn**	**2.00**	**228**		**Pn**	**23 19 14.6**	**-0.2**
RDWB	**Redoubt West**	**2.00**	**184**		**Pn**	**23 19 15.3**	**+0.4**
RSO	**Redoubt South**	**2.02**	**183**		**Pn**	**23 19 15.6**	**+0.3**
RED	**Redoubt Volcan**	**2.07**	**183**		**Pn**	**23 19 15.9**	**+0.3**
MCK	**McKinley**	**2.07**	**51**		**Pn**	**23 19 15.8**	**+0.3**
SML	**Sawmill**	**2.09**	**107**		**Pn**	**23 19 15.5**	**-0.4**
BWN	**Browne**	**2.20**	**38**		**Pn**	**23 19 17.9**	**+0.9**
KNK	**Knik Glacier**	**2.21**	**117**		**Pn**	**23 19 16.9**	**-0.3**
SLKM	**Skilak Lake**	**2.27**	**150**		**Pn**	**23 19 17.5**	**-0.4**
DHY	**Denali Highway**	**2.45**	**74**		**Pn**	**23 19 20.5**	**+0.3**
IVE	**Iliamna Volcan**	**2.48**	**185**		**Pn**	**23 19 21.0**	**+0.5**
SCM	**Sheep Creek Mo**	**2.53**	**102**		**Pn**	**23 19 20.5**	**-0.6**
PWL	**Port Wells**	**2.58**	**127**		**Pn**	**23 19 20.9**	**-0.8**
NEA	**Nenana**	**2.62**	**35**		**Pn**	**23 19 22.0**	**-0.1**
MLY	**Manley**	**2.69**	**17**		**Pn**	**23 19 22.9**	**0.0**
SEW	**Seward**	**2.81**	**147**		**Pn**	**23 19 24.0**	**-0.4**
WRH	**Wood River Hil**	**2.83**	**43**		**Pn**	**23 19 24.5**	**-0.1**
BRLK	**Bradley Lake**	**2.84**	**163**		**Pn**	**23 19 24.6**	**-0.3**
BRSE	**Bradley Lake S**	**2.88**	**162**		**Pn**	**23 19 24.7**	**-0.7**
CNPM	**China Poot**	**3.03**	**167**		**Pn**	**23 19 27.2**	**0.0**
CCB	**Clear Creek Bu**	**3.04**	**42**		**Pn**	**23 19 27.0**	**-0.2**
GLI	**Glacier Island**	**3.05**	**119**		**Pn**	**23 19 26.7**	**-0.8**
AUL	**Augustine Lava**	**3.13**	**188**		**Pn**	**23 19 31.0**	**+2.5**
AU22	**Augustine Moun**	**3.14**	**188**		**Pn**	**23 19 31.0**	**+2.4**
MDM	**Murphy Dome**	**3.15**	**36**		**Pn**	**23 19 28.5**	**-0.1**
AUP	**Augustine Pinn**	**3.15**	**188**		**Pn**	**23 19 31.4**	**+2.5**
AUJK	**Augustine Jueg**	**3.17**	**188**		**Pn**	**23 19 31.1**	**+2.2**
JPK	**Jack Peak**	**3.17**	**114**		**Pn**	**23 19 28.7**	**-0.2**
HDA	**Harding Lake**	**3.18**	**50**	P	**Pn**	**23 19 28.9**	**-0.1**
	baz=235						
HDA				S	**Sn**	**23 20 06.5**	**-1.2**
	baz=235						
HDA	**Harding Lake**	**3.18**	**50**		**Pn**	**23 19 29.1**	**+0.1**
TCOL	**CIGO, UAF Yank**	**3.19**	**39**	P	**Pn**	**23 19 28.6**	**-0.4**
	baz=223						
TCOL				S	**Sn**	**23 20 07.1**	**-0.7**
	baz=223						
COLA	**College**	**3.19**	**39**		**Pn**	**23 19 28.9**	**-0.2**
PS10	**TAPS Pump St10**	**3.24**	**70**		**Pn**	**23 19 31.4**	**+1.6**
PAX	**Paxson**	**3.29**	**78**		**Pn**	**23 19 31.1**	**+0.5**
FID	**Port Fidalgo**	**3.38**	**118**		**Pn**	**23 19 30.7**	**-0.9**
IL31		**3.42**	**45**		**Pn**	**23 19 31.5**	**-0.5**
ILAR	**Eielson Array**	**3.42**	**45**	P	**Pn**	**23 19 31.6**	**-0.5**
	1.9nm,0.3s,baz=228,slow=12,SNR=101						
ILAR				S	**Sn**	**23 20 11.7**	**-1.5**
	1.3nm,0.3s,baz=237,slow=16,SNR=6.4						
POKR	**Poker Plat Res**	**3.49**	**38**	P	**Pn**	**23 19 33.0**	**0.0**
	baz=223						
POKR				S	**Sn**	**23 20 15.1**	**+0.3**
	baz=223						
POKR	**Poker Plat Res**	**3.49**	**38**		**Pn**	**23 19 32.8**	**-0.1**
IM03		**3.56**	**352**		**Pn**	**23 19 34.1**	**+0.3**
HIN	**Hinchinbrook I**	**3.57**	**123**		**Pn**	**23 19 33.5**	**-0.6**
RIDG	**Independent Ri**	**3.72**	**67**		**Pn**	**23 19 36.3**	**+0.3**
EYAK	**Cordova Ski Ar**	**3.79**	**118**		**Pn**	**23 19 36.5**	**-0.3**
DOT	**Dot Lake**	**4.04**	**69**		**Pn**	**23 19 39.8**	**-0.2**
SCRK	**Sand Creek**	**4.16**	**65**		**Pn**	**23 19 41.3**	**-0.4**
GOAT	**Goat Mountain**	**4.20**	**113**		**Pn**	**23 19 42.3**	**+0.1**
RAGM	**Ragged Mountai**	**4.32**	**116**		**Pn**	**23 19 43.9**	**+0.1**
PS05	**TAPS Pump Stn5**	**4.43**	**10**		**Pn**	**23 19 45.9**	**+0.8**
VRDI	**Verde Repeater**	**4.49**	**102**		**Pn**	**23 19 46.4**	**+0.3**
HMT	**Hamilton**	**4.52**	**115**		**Pn**	**23 19 46.2**	**-0.2**
MCARA	**McCarthy VSAT**	**4.63**	**99**		**Pn**	**23 19 48.6**	**+0.8**
KDAK	**Kodiak Island**	**4.71**	**180**	P	**Pn**	**23 19 46.3**	**-2.5**
	0.5nm,0.3s,baz=40,slow=6.1,SNR=21						
KDAK				S	**Sn**	**23 20 38.0**	**-5.1**
	3.3nm,0.3s,baz=330,slow=23,SNR=15						
BERG	**Berg Lake**	**4.73**	**112**		**Pn**	**23 19 49.1**	**0.0**
KHIT	**Khitrov Hills**	**4.90**	**110**		**Pn**	**23 19 52.0**	**+0.6**
PTPK	**Patty Peak**	**4.95**	**101**		**Pn**	**23 19 52.8**	**+0.6**
GRIN	**Grindle Hills**	**4.95**	**112**		**Pn**	**23 19 53.1**	**+1.1**
BC03		**4.98**	**78**		**Pn**	**23 19 52.2**	**0.0**
BALM	**Baldy**	**5.06**	**102**		**Pn**	**23 19 54.1**	**+0.6**
KIAG	**Kiagna River**	**5.09**	**103**		**Pn**	**23 19 54.5**	**+0.5**
KULT	**Kultieth River**	**5.23**	**111**		**Pn**	**23 19 56.0**	**+0.3**
BARN	**Barnard Glacie**	**5.36**	**101**		**Pn**	**23 19 57.9**	**+0.4**
GRNC	**Granite Creek**	**5.44**	**104**		**Pn**	**23 19 59.2**	**+0.5**
YUK2	**White River**	**5.53**	**92**		**Pn**	**23 20 00.7**	**+0.9**
CTGM	**Chitina Glacie**	**5.54**	**101**		**Pn**	**23 20 00.3**	**+0.3**
EGAK	**Eagle**	**5.58**	**61**		**Pn**	**23 20 00.0**	**-0.1**
MESA	**MESA**	**5.60**	**110**		**Pn**	**23 20 01.8**	**+1.1**
YAH	**Yahtse**	**5.60**	**107**		**Pn**	**23 20 01.8**	**+1.0**
YUK1	**Sand Pete Hill**	**5.61**	**88**		**Pn**	**23 20 02.2**	**+1.3**
YUK3	**Moose Creek**	**5.71**	**92**		**Pn**	**23 20 02.8**	**+0.5**
BM03	**Burnt Mountain**	**6.00**	**31**		**Pn**	**23 20 05.0**	**-0.7**
DAWY	**Dawson**	**6.15**	**69**		**Pn**	**23 20 07.9**	**+0.1**
C36M	**Paulatuk**	**13.39**	**47**	P	**P**	**23 21 46.8**	**+0.3**
	baz=253						
C36M				S	**S**	**23 24 17.1**	**-3.5**
	baz=253						
YKA	**Yellowknife Ar**	**17.37**	**73**	P	**Pn**	**23 22 32.3**	**+0.8**
	0.1nm,0.3s,baz=287,slow=9.3,SNR=4.2						
NVAR	**Mina Array Bea**	**31.81**	**123**	P	**P**	**23 24 50.3**	**+1.5**
	0.2nm,0.5s,baz=320,slow=8.3,SNR=1.8						
PDAR	**Pinedale Array**	**31.86**	**108**	P	**P**	**23 24 49.5**	**+0.4**
	0.2nm,0.5s,baz=321,slow=5.0,SNR=4.2						
SCHQ	**Schefferville**	**42.07**	**59**	P	**P**	**23 26 16.4**	**+1.7**
	5.6nm,0.9s,baz=207,slow=4.5,SNR=2.4						
ARCES	**ARCESS Array B**	**48.27**	**1**	P	**P**	**23 27 03.3**	**-0.1**
	2.8nm,0.8s,baz=10,slow=5.5,SNR=1.3						
ZALV	**Zalesovo Beam**	**55.52**	**323**	P	**P**	**23 27 56.8**	**-0.3**
	0.4nm,0.4s,baz=16,slow=6.4,SNR=2.5						
FINES	**FINESS Array B**	**56.40**	**1**	P	**P**	**23 28 02.8**	**-0.4**
	2.5nm,1.0s,baz=15,slow=8.1,SNR=3.4						
AKASG	**Malin Array Be**	**67.16**	**359**	P	**P**	**23 29 15.1**	**-0.3**
	0.7nm,0.4s,baz=4.0,slow=6.7,SNR=4.8						

IDC 07 23:19:59.6±58.0, **15°.16S**×**171°.26W**, **h0**km, **mb3.9**/3, **mb1 4.1**/3, **mb1mx3.7**/33, **mbtmp3.9**/3, **Error ellipse: s-maj=1145.0km s-min=218.0km az=79.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.95**	**240**	P	P	23 28 24.8	+0.2
	0.7nm,0.5s,baz=90,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**51.91**	**256**	P	P	23 29 10.4	-0.1
	0.4nm,0.5s,baz=90,slow=7.0,SNR=8.0						
ASAR	**Alice Springs**	**52.15**	**252**	P	P	23 29 12.0	-0.3
	3.3nm,0.6s,baz=89,slow=8.2,SNR=60						

*TEH **07** 23:42:16.4, 32°.55N×50°.04E, h10km, ML3.0*
*ISCJB **07** 23:42:17.9±0.5, 32°.51N±0°.05×49°.99E±0°.04, h11km, Error ellipse: s-maj=7.2km s-min=3.6km az=21.4*
*THR **07** 23:42:18.5, 32°.61N×49°.93E, h14km, ML3.0*
ISC 07 23:42:17.3±1.0, **32°.53N**±0°.04×**49°.99E**±0°.03, **h11**km, **n35**, σ**1.27**/37, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHBN	**Jahan bin**	**0.65**	**117**	*e*Pg	**Pg**	**23 42 29.8**	**-0.2**
JHBN				*e*Sg	**Sg**	**23 42 39.0**	**+0.5**
JHBN				IAMB	IAmb	23 42 44.9	
	comp=Z,0.0nm,0.3s						
IPIR	**Pirpir**	**0.78**	**78**	*e*Pg	**Pg**	**23 42 31.1**	**-1.3**
IPIR				*e*Sg	**Sb**	**23 42 42.8**	**-1.0**
ROKH	**ROKH**	**0.90**	**102**	*e*Pg	**Pg**	**23 42 33.6**	**-1.2**
SHGR	**Shooshtar-Gavs**	**1.09**	**248**	*e*AML	AML	23 42 57.0	
	comp=N,316nm,0.4s						
SHGR				*e*Pg	**Pb**	**23 42 38.6**	**+0.4**
KHMZ	**Khomeyn**	**1.21**	**359**	*e*Pg	**Pb**	**23 42 39.7**	**-0.6**
KHMZ	**Khomeyn**	**1.21**	**359**	*e*Pg	**Pb**	**23 42 39.7**	**-0.6**
IBRJ	**Brojen**	**1.24**	**120**	*e*Pn	**Pn**	**23 42 40.8**	**-0.1**
IBRJ				IAMB	IAmb	23 43 09.6	
	comp=Z,2μm,0.5s						
IKLH	**Kolahrood**	**1.55**	**59**	*e*Pg	**Pb**	**23 42 45.5**	**-0.8**
IKLH				IAMB	IAmb	23 42 49.2	
	comp=Z,3μm,0.4s						
IKMR	**Kamar-syah**	**1.67**	**306**	*e*Pn	**Pb**	**23 42 47.6**	**-0.5**
IKMR				IAMB	IAmb	23 43 20.3	
	comp=Z,0.0nm,0.4s						
BDRS	**Dareh Seyedi**	**1.70**	**327**	*e*Pn	**Pb**	**23 42 48.1**	**-0.6**
BDRS				IAMB	IAmb	23 43 16.0	
	comp=Z,0.0nm,0.4s						
QAM	**Ghamsar**	**1.73**	**44**	*e*Pn	**Pb**	**23 42 48.2**	**-1.0**
QAM				IAMB	IAmb	23 42 53.0	
	comp=Z,836nm,0.2s						
IGAR	**Gharneh**	**1.74**	**94**	*e*Pn	**Pb**	**23 42 49.4**	**-0.1**
IDOB	**Doab**	**1.97**	**310**	*e*Pn	**Pb**	**23 42 52.3**	**-1.1**
IZEF	**Zefreh**	**2.01**	**79**	*e*Pn	**Pb**	**23 42 53.3**	**-0.7**
IZEF				IAMB	IAmb	23 42 55.0	
	comp=Z,2μm,0.3s						
ASAO	**Ashtian**	**2.01**	**1**	*e*Pn	**Pb**	**23 42 53.4**	**-0.7**
ASAO	**Ashtian**	**2.01**	**1**	*e*Pn	**Pb**	**23 42 53.4**	**-0.7**
HSAM	**Samen**	**2.04**	**326**	*e*Pn	**Pb**	**23 42 54.0**	**-0.6**
HSAM				IAMB	IAmb	23 43 29.1	
	comp=Z,0.0nm,0.6s						
KLNJ	**Kolanjah**	**2.04**	**138**	*e*Pn	**Pb**	**23 42 53.7**	**-1.0**
KLNJ				IAMB	IAmb	23 43 30.1	
	comp=Z,0.0nm,0.5s						
IKFM	**Kafar-mosalman**	**2.05**	**299**	*e*Pn	**Pb**	**23 42 53.6**	**-1.0**
IRAM	**Ramesheh**	**2.15**	**109**	*e*Pn	**Pb**	**23 42 55.6**	**-0.9**
IRAM				IAMB	IAmb	23 43 37.3	
	comp=Z,621nm,0.6s						
GHVR	**GHOM**	**2.23**	**29**	*e*Pg	**Pb**	**23 42 57.9**	**+0.2**
GHVR	**GHOM**	**2.23**	**29**	*e*Pg	**Pb**	**23 42 57.9**	**+0.2**
KRSH	**Karshahi**	**2.30**	**51**	*e*Pn	**Pb**	**23 42 58.0**	**-1.0**
KRSH				IAMB	IAmb	23 43 04.1	
	comp=Z,0.0nm,0.3s						
HAGD	**Aghdareh**	**2.39**	**343**	*e*Pn	**Pn**	**23 42 58.3**	**+1.6**
HAGD				IAMB	IAmb	23 43 38.7	
	comp=Z,0.0nm,0.3s						
IQOM	**Qom**	**2.48**	**21**	*e*Pn	**Pb**	**23 43 00.2**	**-1.8**
IQOM				IAMB	IAmb	23 43 39.9	
	comp=Z,0.0nm,0.4s						
IKOM	**Komasi**	**2.64**	**309**	*e*Pn	**Pn**	**23 43 01.5**	**+1.4**
IVRN	**Varamin**	**2.85**	**30**	IAMB	IAmb	23 43 13.9	
	comp=Z,0.0nm,0.3s						
IVRN				*e*Pn	**Pn**	**23 43 04.9**	**+2.0**
KER	**Kermanshah**	**3.02**	**309**	*e*Pn	**Pn**	**23 43 06.7**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.19**	**354**	*e*Pn	**Pn**	**23 43 07.9**	**+0.3**
ANAR	**Anarak**	**3.22**	**77**	*e*Pn	**Pn**	**23 43 10.2**	**+2.3**
IGHG	**Ghaleghazi**	**3.38**	**303**	*e*Pn	**Pn**	**23 43 11.0**	**+0.8**
IDHR	**Dehrash**	**3.70**	**307**	*e*Pn	**Pn**	**23 43 15.2**	**+0.5**
IDHR				IAMB	IAmb	23 44 05.3	
	comp=Z,0.0nm,0.3s						
ICHK	**Chekchek**	**3.75**	**93**	*e*Pn	**Pn**	**23 43 17.7**	**+2.3**
ICHK				IAMB	IAmb	23 43 33.2	
	comp=Z,291nm,0.4s						
ILAS	**Lasjerd**	**3.77**	**40**	*e*Pn	**Pn**	**23 43 18.6**	**+3.0**
IANJ	**Anjilo**	**4.38**	**47**	*e*Pn	**Pn**	**23 43 26.5**	**+2.4**

IDC 07 23:48:10.2±5.8, **30°.39S**×**179°.12W**, **h335**km±51km, **mb2.6**/2, **mb1 3.0**/4, **mb1mx2.9**/22, **mbtmp3.7**/4, **Error ellipse: s-maj=62.1km s-min=38.8km az=56.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.45**	**201**	P	Pn	23 50 10.2	+0.9
	1.4nm,0.3s,baz=271,slow=5.0,SNR=12						
URZ				S	S	23 51 45.6	-0.9
	1.3nm,0.3s,baz=90,slow=23,SNR=9.5						
DZM	**Mont Dzumac**	**15.37**	**299**	P	P	23 51 28.9	-0.8
	0.9nm,0.3s,baz=154,slow=16,SNR=10						
ASAR	**Alice Springs**	**42.14**	**267**	P	P	23 55 31.6	+0.5
	0.1nm,0.3s,baz=108,slow=7.9,SNR=1.3						
WRA	**Warramunga Arr**	**43.13**	**273**	P	P	23 55 38.7	-0.2
	0.4nm,0.6s,baz=109,slow=8.2,SNR=4.6						
FINES	**FINESS Array B**	**144.80**	**339**	PKP	PKPbc	00 07 05.7	-1.0
	1.2nm,0.4s,baz=57,slow=2.5,SNR=15						

*ISCJB **07** 23:58:17.2±0.4, 35°.63N±0°.03×97°.48W±0°.02, h10km±2km, Error ellipse: s-maj=4.3km s-min=3.1km az=167.2*
*ANF **07** 23:58:18.0±0.7, 35°.59N×97°.41W, h5km, ML3.9/10, Error ellipse: s-maj=8.4km s-min=5.2km az=161.0*
*TUL **07** 23:58:18.7, 35°.61N×97°.40W, h7km, ML3.2*
*NEIC **07** 23:58:18.5±1.7, 35°.58N±0°.01×97°.45W±0°.03, h4km±5km*
ISC 07 23:58:18.2±0.8, **35°.61N**±0°.02×**97°.47W**±0°.02, **h8**km±6km, **n50**, σ**1.28**/77, **Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OK009	**Oakdale Elemen**	**0.05**	**128**	Pg	**Pg**	**23 58 19.6**	**-0.3**
ADOK	**Arcadia Dam**	**0.09**	**63**	Pg	**Pg**	**23 58 20.4**	**0.0**
ADOK				Sg	**Sg**	**23 58 21.5**	**-0.5**
OK001	**Jones High Sch**	**0.16**	**109**	Pg	**Pg**	**23 58 20.9**	**-0.5**
OK001				Sg	**Sg**	**23 58 22.6**	**-1.1**
OKCSW	**OKLAHOMA CITY**	**0.21**	**173**	Sg	**Sg**	**23 58 26.2**	**+1.0**
OK005	**Luther M Schoo**	**0.23**	**79**	Pg	**Pg**	**23 58 22.5**	**-0.3**
FNO	**Franklin**	**0.36**	**171**	Pg	**Pb**	**23 58 26.4**	**-0.4**
FNO				Sg	**Sb**	**23 58 31.6**	**-1.0**
W35A	**Tecumseh**	**0.67**	**133**		**Pg**	**23 58 30.3**	**-0.8**
W35A				Sg	**Sg**	**23 58 39.4**	**-0.4**
X34A	**Smith Ranch, M**	**1.05**	**197**		**Pg**	**23 58 38.9**	**+0.6**
X34A				Sg	**Sb**	**23 58 51.5**	**-1.1**
WMOK	**Wichita Mounta**	**1.38**	**231**	P	**Pn**	**23 58 44.1**	**+0.3**
	baz=52						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WMOK				S	Sb	23 59 03.1	+1.0
	baz=52						
WMOK	Wichita Mounta	1.38	231		Pn	23 58 44.0	+0.3
WMOK					Sn	23 59 02.8	+0.5
TUL1	Leonard	1.40	77	P	Pn	23 58 42.6	-1.4
	baz=257						
TUL1				S	Sg	23 59 01.2	-1.9
	baz=257						
TUL1	Leonard	1.40	77	Pn	Pn	23 58 42.8	-1.2
TUL1				Sn	Sg	23 59 02.2	-1.0
U32A	Winter Ranch,	1.46	302		Pb	23 58 46.0	+0.4
U32A					Sg	23 59 06.6	+1.5
HHAR	Hobbs	2.94	76		Pn	23 59 05.3	+0.1
W39A	Magazine	3.04	97	P	Pn	23 59 06.5	-0.1
	baz=279						
W39A				S	Sn	23 59 42.8	-0.4
	baz=279						
W39A	Magazine	3.04	97		Pn	23 59 06.6	0.0
MIAR	Mount Ida	3.37	107	P	Pn	23 59 11.4	+0.3
	baz=290						
MIAR				S	Sn	23 59 51.1	-0.1
	baz=290						
MIAR	Mount Ida	3.37	107		Pn	23 59 11.6	+0.5
ABTX	Abilene, Hawle	3.48	212	Pn	Pn	23 59 13.4	+0.7
ABTX					Pb	23 59 19.7	-0.4
ABTX					Pg	23 59 24.3	-0.6
AMTX	Amarillo	3.52	259		Pn	23 59 12.5	-0.8
AMTX				Pg	Pg	23 59 25.4	-0.2
KSU1	Kansas State U	3.55	11	P	Pn	23 59 14.5	+0.9
	baz=190						
KSU1				Sb	Sg	00 00 07.6	-4.6
	baz=190						
KSU1	Kansas State U	3.55	11	Pn	Pn	23 59 15.1	+1.5
KSU1				Pg	Pg	23 59 25.3	-0.9
WHTX	Lake Whitney,	3.61	180	P	Pn	23 59 15.2	+0.8
	baz=0.7						
WHTX				Sb	Sb	00 00 09.2	+2.9
	baz=0.7						
WHTX	Lake Whitney,	3.61	180	Pn	Pn	23 59 12.8	-1.7
WHTX					Pg	23 59 26.1	-1.3
CBKS	Cedar Bluff	3.67	331	Pb	Pb	23 59 25.4	+2.1
	baz=149						
CBKS				Sb	Sg	00 00 13.5	-2.6
	baz=149						
CBKS	Cedar Bluff	3.67	331	Pn	Pn	23 59 15.1	-0.2
CBKS					Pb	23 59 25.7	+2.4
U40A	Yellville	3.82	77	P	Pn	23 59 16.8	-0.5
	baz=260						
U40A				Sb	Sb	00 00 14.4	+2.2
	baz=260						
X40A	Basin Creek Fa	3.96	105	Pb	Pb	23 59 28.3	-0.1
	baz=288						
X40A				Sb	Sb	00 00 18.4	+1.9
	baz=288						
X40A	Basin Creek Fa	3.96	105	Pn	Pn	23 59 20.3	+1.0
WLAR	White Oak Lake	4.07	117	Pn	Pn	23 59 20.4	-0.4
WHAR	Wooly Hollow	4.24	93	Sn	Sn	00 00 13.1	+0.2
UALR	University of	4.28	100	Pn	Pn	23 59 24.6	+1.0
UALR				Sn	Sn	00 00 14.7	+0.9
W41B	Gary Mavity, V	4.29	94	P	Pn	23 59 23.4	-0.4
	baz=277						
W41B				S	Sn	00 00 13.7	-0.2
	baz=277						
MGMO	Mountain Grove	4.47	68	Pn	Pn	23 59 27.7	+1.4
NATX	Nacogdoches	4.50	148	Pn	Pn	23 59 26.6	0.0
Z41A	Richland Creek	4.51	120	Pn	Pn	23 59 27.4	+0.5
MSTX	Muleshoe	4.66	251	Pn	Pn	23 59 29.0	0.0
435B	Jarrell	4.82	181	Pn	Pn	23 59 31.1	+0.1
X43A	Marvell	5.51	100	Pn	Pn	23 59 42.5	+2.0
HBAR	Harrisburg	5.55	89	Pn	Pn	23 59 41.0	-0.1
CCM	Cathedral Cave	5.56	62	Pn	Pn	23 59 41.8	+0.7
CCM					Pb	23 59 57.5	+2.1
T25A	Trinidad	5.80	287	Pn	Pn	23 59 46.4	+1.6
T25A					Pg	00 00 06.2	-3.2
BGNE	Belgrade	5.81	355	Pn	Pn	23 59 45.5	+0.8
LPAR	Lepanto	5.84	88	Pn	Pn	23 59 45.8	+0.7
N41A	Harden Midland	7.28	44	Pn	Pn	00 00 06.7	+1.8
833A	Chaparral WMA,	7.45	193	Pn	Pn	00 00 07.2	+0.1
LPM	Los Pinos Moun	7.63	263	Pn	Pn	00 00 08.9	-0.9
LPM				Pg	Pg	00 00 38.4	-5.9
BNM	Barren Site	7.67	262	Pn	Pn	00 00 11.2	+0.8
ISCO	Idaho Springs	7.69	305	Pn	Pn	00 00 11.7	+0.9
ISCO					Pg	00 00 41.0	-4.5
SZCU	Shurtz Canyon	12.71	284		Pn	00 01 18.3	-1.1

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*ISCJB **08** 00:24:51.4±0.6, 36°.02N±0°.03×140°.12E±0°.05, h75km±5km, mb3.5/4, Error ellipse: s-maj=7.5km s-min=5.2km az=29.3*
*IDC **08** 00:24:51.5±6.0, 36°.03N×140°.27E, h73km±43km, mb3.3/4, mb1 3.4/4, mb1mx3.0/38, mbtmp3.6/4, Error ellipse: s-maj=66.3km s-min=26.2km az=63.0*
*JMA **08** 00:24:52.6±0.1, 36°.03N×140°.09E, h61km±1km, M2.9*
ISC 08 00:24:52.1±1.0**, 36°.03N**±0°.04×**140°.10E**±0°.05**, h67**km±8km**, n20,** σ**0^{s}87**/33**, mb3.6**/4**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.21	20	P	Pn	00 25 02.4	0.0
JYT				S	Sn	00 25 09.6	-0.4
JIHU	Itakohorinouch	0.35	100	P	Pn	00 25 04.0	+0.7
JAG	Ashikaga	0.66	307	P	Pn	00 25 06.6	+0.3
JAG				S	Sn	00 25 16.7	-0.1
JRY	Ryogami san	0.97	270	P	Pn	00 25 10.4	+0.3
JRY				S	Sn	00 25 24.0	+0.4
JKT	Katashina	1.01	317	P	Pn	00 25 10.8	+0.1
JKT				S	Sn	00 25 25.1	+0.6
JOD2	Odawara 2	1.12	228	P	Pn	00 25 11.8	-0.2
JOD2				S	Sn	00 25 26.6	-0.3
BSO3	Boso 3	1.27	165	P	Pn	00 25 15.4	+1.8
JYN	Shimob	1.37	248	P	Pn	00 25 15.8	+0.5
JYN				S	Sn	00 25 33.1	+0.3
JFY	Yanaizu	1.42	347	P	Pn	00 25 16.5	+0.6
JFY				S	Sn	00 25 34.8	+1.1
JIM2	Oshima 3	1.42	203	P	Pn	00 25 17.4	+1.5
JFNN	Fujinakano	1.42	235	P	Pn	00 25 16.1	+0.2
JFNN				S	Sn	00 25 34.0	+0.1
JFK	Kawauchi	1.48	25	P	Pn	00 25 17.1	+0.4
JFK				S	Sn	00 25 34.9	-0.3
JFT	Otama	1.50	7	P	Pn	00 25 17.7	+0.7
JFT				S	Sn	00 25 37.0	+1.2
JHK	Hiroka	1.50	325	P	Pn	00 25 17.6	+0.6
JHK				S	Sn	00 25 36.2	+0.5
MJAR	Matsushiro Arr	1.61	289	P	Pn	00 25 19.2	+0.7
	3.5nm,0.3s,baz=98,slow=10,SNR=276						
MJAR				S	Sn	00 25 40.7	+2.2
	1.2nm,0.3s,baz=91,slow=32,SNR=7.2						
MJAR				LR	LR	00 25 58.7	
	comp=Z,12nm,19.8s,baz=325,slow=39						
MAT	Matsushiro	1.62	289	P	Pn	00 25 19.5	+1.0
MAT				S	Sn	00 25 39.7	+1.2
ZALV	Zalesovo Beam	41.82	313	P	P	00 32 34.7	-0.3
	0.4nm,0.3s,baz=107,slow=4.8,SNR=2.5						
MKAR	Makanchi Array	43.77	303	P	P	00 32 50.4	-0.4
	0.6nm,0.8s,baz=74,slow=8.4,SNR=3.6						
KURBB	Kurchatov Arra	45.80	309	P	P	00 33 06.5	-0.4
	0.8nm,0.7s,baz=85,slow=8.4,SNR=5.6						
WRA	Warramunga Arr	55.93	187	P	P	00 34 21.9	-1.3
	0.2nm,0.5s,baz=0.2,slow=7.3,SNR=4.9						

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*ISCJB **08** 00:52:07.5±1.0, 33°.89S±0°.03×72°.61W±0°.04, h20km±8km, mb4.1/5, Error ellipse: s-maj=6.2km s-min=4.4km az=23.5*
*SJA **08** 00:52:07.6±1.2, 33°.85S×72°.64W, h36km±22km, ML3.9, MW4.3*
*GUC **08** 00:52:08.6±0.8, 33°.92S×72°.49W, h34km±4km, ML4.0*
*NEIC **08** 00:52:11.1±1.2, 33°.88S±0°.05×72°.4W±0°.1, h33km±2km, mb4.5/12*
*IDC **08** 00:52:11.3±0.9, 33°.91S×72°.24W, h24km±4km, mb4.0/6, mb1 4.1/10, mb1mx3.9/29, mbtmp4.1/10, ML3.9/4, MS3.2/3, Ms1 3.2/3, ms1mx3.0/16, Error ellipse: s-maj=28.1km s-min=16.7km az=87.0*
ISC 08 00:52:11.1±0.7**, 33°.85S**±0°.04×**72°.37W**±0°.05**, h31**km±5km**, n70,** σ**1^{s}44**/86**, mb4.4**/8**, 5C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VA01	Torpederas	1.02	36	eP	Pn	00 52 28.9	-0.4
VA01				eS	Sb	00 52 43.9	+0.5
VA01				IAML		00 52 45.2	
	comp=N,3μm,0.2s						
GO05	Huala	1.21	163	⇑iP	Pn	00 52 29.8	-2.1
GO05				i S	Sn	00 52 45.3	-1.9
GO05	Huala	1.21	163		Pn	00 52 31.0	-0.9
GO05	Huala	1.21	163	eP	Pn	00 52 29.9	-2.0
GO05				eS	Sn	00 52 45.5	-1.8
ROC1	El Roble	1.43	53		Pn	00 52 35.2	0.0
ROC1	El Roble	1.43	53	i P	Pn	00 52 35.4	+0.2
ROC1				eS	Sb	00 52 56.5	+1.2
ROCH	El Roble	1.44	53	eP	Pn	00 52 35.4	+0.2
ROCH				i S	Sb	00 52 55.8	+0.3
ROCH				IAML		00 53 06.3	
	comp=N,4μm,0.6s						
ANTU	Antumapu	1.48	79	eP	Pb	00 52 37.0	-1.0
ANTU				i S	Sb	00 52 57.5	+1.2
PEL	Peldehue	1.58	64	⇑iP	Pn	00 52 37.8	+0.9
PEL				i S	Sb	00 53 00.2	+0.9
PEL				IAML		00 53 07.8	
	comp=N,3μm,0.4s						
PEL	Peldehue	1.58	64		Pn	00 52 37.1	+0.2
PEL	Peldehue	1.58	64	i P	Pn	00 52 38.0	+1.0
CLCH	Cerro Calan	1.60	74	⇑iP	Pn	00 52 37.8	+0.6
CLCH				i S	Sb	00 52 59.6	-0.2
CLCH				IAML		00 53 12.0	
	comp=N,4μm,0.8s						
LMEL	Las Melosas	1.80	90	⇑iP	Pn	00 52 40.9	+0.7
LMEL				i S	Sb	00 53 05.7	-0.2
LMEL				IAML		00 53 10.3	
	comp=E,4μm,0.3s						
FCH	Farellones	1.81	74	eP	Pn	00 52 41.0	+0.5
FCH				i S	Sb	00 53 05.7	-0.7
FCH				IAML		00 53 15.2	
	comp=E,2μm,0.4s						
COCH	Cobquecura	2.30	188	⇑iP	Pn	00 52 44.4	-2.4
COCH	Cobquecura	2.30	188	i P	Pn	00 52 44.4	-2.4
COIS	El Sosneado	2.61	119	i P	Pn	00 52 52.1	+0.9
CCHI	Chillan	2.75	175	eP	Pn	00 52 52.9	-0.2
CCHI				eS	Sb	00 53 38.7	+5.7
RTLS	Leoncito	3.30	52	i P	Pn	00 53 03.6	+2.7
RTLS				IAML		00 54 06.9	
	comp=Z,170nm,0.6s						
GO04	Tololo Observa	3.90	20		Pn	00 53 09.2	0.0
GO04	Tololo Observa	3.90	20	i P	Pn	00 53 09.1	0.0
RTLL	Cerro Villicun	4.14	54	eP	Pn	00 53 14.1	+1.9
RTLL				i P	Pb	00 53 14.6	-8.7
RTLL				IAML		00 54 24.3	
	comp=Z,170nm,0.7s						
CFA	Coronel Fontan	4.14	58	Pn	Pn	00 53 14.3	+2.0
	comp=Z,3.4nm,0.3s,baz=240,slow=13,SNR=30						
CFA				Lg	Lg	00 54 19.7	
	comp=Z,17nm,0.3s,baz=119,slow=19,SNR=4.6						
CFA	Coronel Fontan	4.14	58	i P	Pn	00 53 14.3	+2.0
ACCO	Cerro Coronel	4.29	42	i P	Pn	00 53 17.6	+3.0
ACCO				IAML		00 54 36.8	
	comp=Z,191nm,0.5s						
AROD	Rodeo	4.42	35	i P	Pn	00 53 19.3	+2.9
ACAN	Cantantal	4.63	72	i P	Pn	00 53 21.4	+2.5
ACAN				IAML		00 54 53.5	
	comp=Z,48nm,0.7s						
AGUA	GUANDACOL	5.47	38	i P	Pn	00 53 32.6	+2.1
AGUA				IAML		00 55 06.6	
	comp=Z,23nm,0.6s						
GO06	Curarrehue	5.76	173		Pn	00 53 33.8	-0.8
APLL	PUNTA DE LOS L	6.04	57	i P	Pn	00 53 38.7	+0.4
ACLC	CERRO LA CRUZ	6.39	48	i P	Pn	00 53 43.8	+0.5
GO03	Copiap	6.50	17		Pn	00 53 44.6	-0.2
PLCA	Paso Flores	7.02	169	Pn	Pn	00 53 51.1	-0.6
	comp=Z,0.4nm,0.3s,baz=7.1,slow=15,SNR=5.8						
PLCA				Lg	Lg	00 55 49.0	
	comp=Z,0.3nm,0.3s,baz=90,slow=18,SNR=2.3						
PLCA				LR	LR	00 56 37.5	
	comp=Z,166nm,19.8s,baz=10,slow=38						
PLCA	Paso Flores	7.02	169		Pn	00 53 51.8	0.0
GO02	Mina Guanaco	8.99	16		Pn	00 54 18.5	-0.6
AHML	Horco Molle	9.30	43	eP	Pn	00 54 20.2	-3.0
AHML				IAML		00 56 30.3	
	comp=Z,15nm,1.5s						
TRQA	Tornquist	9.41	119	Pn	Pn	00 54 23.9	-0.6
LVC	Limon Verde	11.61	16	Pn	Pn	00 54 55.6	+0.6
	comp=Z,1.6nm,0.3s,baz=114,slow=7.4,SNR=48						
LVC				LR	LR	00 59 28.8	
	comp=Z,117nm,18.3s,baz=206,slow=38						
LVC	Limon Verde	11.61	16		Pn	00 54 55.1	+0.1
PB11	IPOC Station P	14.24	10	Pn	Pn	00 55 31.2	+0.4
GO01	Chusmiza	14.41	12	Pn	Pn	00 55 34.6	+1.2
MNMC	Minye Minye	14.87	10	Pn	Pn	00 55 40.5	+1.1
CPUP	Villa Florida	15.01	64	Pn	P	00 55 44.9	-1.2
	comp=Z,0.1nm,0.3s,baz=229,slow=10.0,SNR=4.0						
CPUP				LR	LR	01 02 17.9	
	comp=Z,111nm,19.1s,baz=240,slow=41						
CPUP	Villa Florida	15.01	64	IAmb	IAmb	00 55 48.0	
	comp=Z,1.5nm,0.8s						
LPAZ	La Paz	17.90	13	P	P	00 56 20.0	+1.2
	comp=Z,0.2nm,0.3s,baz=190,slow=6.2,SNR=21						
LPAZ	La Paz	17.90	13	P	P	00 56 18.6	-0.2
SIV	San Ignacio	20.50	33	P	P	00 56 46.6	0.0
	comp=Z,4.2nm,0.8s,baz=229,slow=11,SNR=15						
EFI	East Falkland	20.61	154	P	P	00 56 46.8	-0.8
EFI				IAmb	IAmb	00 56 47.8	
	comp=Z,14nm,0.9s						
NNA	Nana	22.15	348	P	P	00 57 04.8	+0.4
NNA				IAmb	IAmb	00 57 17.9	
	comp=Z,12nm,1.1s						
SAML	Samuel	26.19	21	P	P	00 57 42.9	-0.1
BDFB	Brasilia	28.48	56	P	P	00 58 03.5	-0.2
	comp=Z,1.7nm,0.6s,baz=212,slow=13,SNR=2.8						
VNA3	Neumayer Olymp	49.60	158	P	P	01 01 00.1	+1.1
VNA1	Neumayer--Stat	49.92	157	P	P	01 01 01.0	-0.3
VNA2	Neumayer--Watz	50.25	157	P	P	01 01 04.9	+1.0
	baz=288,slow=7.9						
SNAA	Sanae	51.83	158	P	P	01 01 16.6	+0.8
SNAA	Sanae	51.83	158	P	P	01 01 16.8	+1.0
	comp=Z,2.7nm,0.8s,baz=269,slow=8.9,SNR=12						
SNAA	Sanae	51.83	158	P	P	01 01 16.1	+0.3
SNAA				IAmb	IAmb	01 01 17.4	
	comp=Z,5.9nm,1.1s						
AOPR	Arecibo Observ	52.18	7	P	P	01 01 19.0	0.0
ANWB	Willy Bob	52.22	13	P	P	01 01 18.8	-0.4
TAOE	Nuku Hiva Isla	66.68	275	P	P	01 02 58.6	-0.8
TXAR	Lajitas Array	69.47	331	P	P	01 03 18.1	+1.6
	comp=Z,0.4nm,0.6s,baz=154,slow=8.5,SNR=7.2						
TXAR				pP	pP	01 03 26.1	+0.4
	comp=Z,0.6nm,0.6s,baz=149,slow=8.3,SNR=7.0						
WVT	Waverly	71.11	347	P	P	01 03 27.4	+1.2
WVT				IAmb	IAmb	01 03 36.5	
	comp=Z,6.4nm,0.8s						
LCAR	Lake Charles	71.74	344	P	P	01 03 29.6	-0.4
LCAR				IAmb	IAmb	01 03 39.8	
	comp=Z,4.7nm,0.9s						
DBIC	Dimbokro	75.39	72	P	P	01 03 53.1	+1.0
	comp=Z,2.9nm,0.6s,baz=198,slow=5.4,SNR=5.8						
DBIC	Dimbokro	75.39	72	P	P	01 03 51.4	-0.7
DBIC				IAmb	IAmb	01 03 53.2	
	comp=Z,4.6nm,0.9s						
TORD	Torodi Ar. Bea	84.42	70	P	P	01 04 41.8	+0.9
	comp=Z,1.9nm,0.7s,baz=267,slow=4.3,SNR=10						
TORD				pP	pP	01 04 49.0	-1.4
	comp=Z,2.4nm,0.9s,baz=268,slow=5.6,SNR=7.0						
KSH	Kashi	154.07	68	PKPbc	PKPdf	01 11 58.1	-1.5
KSH				pPKP	pPKPdf	01 12 09.4	-0.1
KSH				PP	PP	01 15 58.2	+1.5
KSH				SKS	SKSdf	01 19 00.4	-3.8
ZALV	Zalesovo Beam	154.25	32	PKPbc	PKiKP	01 12 08.6	+1.1
	comp=Z,1.1nm,0.5s,baz=285,slow=3.1,SNR=6.1						
ZALV				pPKPbc	pPKPbc	01 12 17.2	-0.1
	comp=Z,1.9nm,0.5s,baz=285,slow=2.7,SNR=7.6						
MKAR	Makanchi Array	156.88	48	PKPab	PKPab	01 12 33.4	+0.4
	comp=Z,0.4nm,0.5s,baz=272,slow=4.7,SNR=6.0						
MKAR				pPKPab	pPKPab	01 12 42.4	-0.4
	comp=Z,0.5nm,0.8s,baz=283,slow=3.6,SNR=2.8						
LZH	Lanzhou	176.18	53	ePKP	PKPdf	01 12 17.7	-0.6
LZH				pPKP	pPKPdf	01 12 29.1	+0.9
LZH				sPKP		01 12 33.9	

IDC 08 01:01:15.8±4.1**, 15°.72S**×**173°.77W, h74**km±32km**, mb3.3**/4**, mb1 3.6**/5**, mb1mx3.4**/22**, mbtmp3.6**/5**, Error ellipse: s-maj=173.0km s-min=24.1km az=146.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.64	47	P	Pn	01 01 56.4	+0.1
	15nm,0.3s,baz=213,slow=4.2,SNR=21						
AFI				S	Sn	01 02 23.5	-3.9
	54nm,0.3s,baz=50,slow=24,SNR=20						
WRA	Warramunga Arr	49.42	257	P	P	01 09 58.8	+0.1
	0.3nm,0.5s,baz=90,slow=6.7,SNR=4.5						
ASAR	Alice Springs	49.67	252	P	P	01 10 00.3	-0.3
	0.8nm,0.6s,baz=89,slow=8.1,SNR=12						
PDAR	Pinedale Array	82.74	42	P	P	01 13 32.0	0.0
	0.6nm,0.9s,baz=225,slow=8.9,SNR=3.4						
ILAR	Eielson Array	82.83	11	P	P	01 13 31.8	+0.1
	2.5nm,1.4s,baz=226,slow=6.7,SNR=5.8						

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*ISCJB **08** 01:29:51.0±0.7, 9°.74N±0°.05×122°.17E±0°.05, h10km, mb3.7/3, MS4.2/2, Error ellipse: s-maj=8.7km s-min=5.3km az=41.2*
*MAN **08** 01:29:53.7, 9°.84N×122°.28E, h26km, MS3.2*
*IDC **08** 01:30:04.1±33.0, 8°.61N×124°.28E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/32, mbtmp3.7/3, MS4.2/2, Ms1 4.3/2, ms1mx3.2/32, Error ellipse: s-maj=575.8km s-min=229.7km az=154.0*
ISC 08 01:29:51.2±0.9**, 9°.76N**±0°.05×**122°.18E**±0°.06**, h10**km**, n11,** σ**1^{s}26**/14**, mb3.8**/3**, 1C, Negros**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.94	25	P	Pg	01 30 09.0	-0.4
GUIM				S	Sg	01 30 21.2	-0.5
SNPH	Sibulan	1.12	112	⇑P	Pg	01 30 13.1	+0.4
SNPH				S	Sg	01 30 27.1	-0.3
CUYO	Cuyo Island	1.57	313	P	Pn	01 30 20.8	+1.6
CUYO				S	Sn	01 30 40.6	+1.0
PAGZ	Pagadian	2.24	148	P	Pn	01 30 29.9	+1.6
OTRP	Odiongan	2.59	356	P	Pn	01 30 34.7	+1.6
OTRP				S	Sg	01 31 14.5	+0.1
ENPP	El Nido	3.07	298	P	Pn	01 30 41.2	+1.4
ENPP				S	Sn	01 31 14.7	-1.9
CMAR	Chiang Mai Arr	24.11	294	LR	LR	01 47 27.4	
	comp=Z,352nm,20.7s,baz=105,slow=39						
WRA	Warramunga Arr	31.85	158	P	P	01 36 15.0	-1.6
	0.5nm,0.5s,baz=340,slow=9.3,SNR=4.7						
ASAR	Alice Springs	35.15	161	P	P	01 36 44.9	-0.4
	0.9nm,0.6s,baz=345,slow=7.5,SNR=23						
STKA	Stephens Creek	45.38	157	P	P	01 38 09.6	-0.4
	0.6nm,0.5s,baz=321,slow=14,SNR=2.5						
RAR	Rarotonga	82.53	113	LR	LR	02 13 01.9	
	comp=Z,235nm,21.2s,baz=246,slow=32						

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*DJA **08** 01:33:15.3±4.5, 11°N±36°×12°3E±1°0, h41km±16km, M5.0/13, mB5.5/9, mb5.1/13, Mw(mB)5.0/9, Mwp6.1/1*
*KLM **08** 01:33:17.0, 9°.62N×122°.62E, h26km, mb4.8*
*GCMT **08** 01:33:18.8±0.3, 9°.80N±0°.02×122°.25E±0°.02, h29km, MW5.0/87, Moment Tensor Solution. s61,c74; s87,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.76±.15; $M_{\theta\theta}$0.86±.11; $M_{\phi\phi}$-3.62±.11; $M_{r\theta}$-1.69±.17; $M_{\theta\phi}$-0.58±.07; $M_{\phi r}$-1.58±.17; Best double couple: $M_0$4.04600×10^{16} NP1:ϕ_s211.00000°, δ64.00000°, λ117.00000°. NP2: ϕ_s342.00000°, δ36.00000°, λ47.00000°. Principal axes: T 3.9110, Plg61.0000°, Azm162.0000°; N 0.2740, Plg24.0000°, Azm19.0000°; P -4.1810, Plg15.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **08** 01:33:18.1±1.0, 9°.75N×122°.45E, h33km, mb5.2/49 Error ellipse: s-maj=8.2km s-min=4.4km az=114.0*
*IDC **08** 01:33:19.8±2.0, 9°.74N×122°.46E, h33km±14km, mb4.5/29, mb1 4.6/31, mb1mx4.6/35, mbtmp4.7/31, ML5.0/2, MS4.1/20, Ms1 4.1/20, ms1mx3.9/42, Error ellipse: s-maj=14.3km s-min=8.7km az=75.0*
*MAN **08** 01:33:19.2, 9°.88N×122°.27E, h41km, MS4.7*
MAN Intensity IV - Hinoba-an Negros Occidental; Intensity III - Sipalay Negros Occidental; Intensity II - Bayawan Negros Oriental.
*NEIC **08** 01:33:20.8±1.1, 9°.71N±0°.06×122°.46E±0°.07, h45km±4km, mb4.9/121*
*ISCJB **08** 01:33:21.4±0.4, 9°.73N±0°.02×122°.44E±0°.03, h63km±4km, mb4.8/92, Error ellipse: s-maj=4.7km s-min=3.2km az=169.5*
*BJI **08** 01:33:22.0±0.0, 9°.70N×122°.60E, h45km, mb4.9/60, mB5.0/48, Ms4.5/45, Ms7 4.3/43*
ISC 08 01:33:19.7±0.7**, 9°.77N**±0°.03×**122°.40E**±0°.03**, h32**km±4km**, n379,** σ**1^{s}78**/415**, mb4.9**/128**, MS4.2**/30**, 35C-19D, Negros**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.93	117	⇓P	Pn	01 33 37.2	+0.6
SNPH				S	Sn	01 33 53.1	+4.1
DCPH	Dipolog City	1.51	141	⇑P	Pb	01 33 44.9	-2.3
DCPH				S	Sb	01 34 07.8	+1.8
CUYO	Cuyo Island	1.73	308	P	Pn	01 33 45.0	-2.6
CUYO				S	Sn	01 34 05.2	-3.4
PAGZ	Pagadian	2.15	153	P	Pn	01 33 53.7	+0.3
PAGZ				S	Sb	01 34 25.6	+1.4
MSLP	Maasin	2.45	81	P	Pb	01 33 59.2	-3.9
MSLP				S	Sn	01 34 27.3	+0.8
CGP	Cagayan de Oro	2.62	120	⇓P	Pb	01 34 02.5	-3.5
CGP				S	Sb	01 34 41.8	+4.0
ZMPH	Zamboanga City	2.82	187	⇓P	Pn	01 34 04.5	+1.9
ZMPH				S	Sb	01 34 40.2	-3.3
SCPH	Surigao	3.05	90	⇑P	Pn	01 34 06.5	+0.8
CTBH	Cotabato--PC H	3.13	144	⇑P	Pn	01 34 08.9	+2.1
CTBH				S	Sb	01 34 48.5	-3.8
BUKP	Musuan	3.24	125	P	Pn	01 34 11.0	+2.5
BUKP				S	Sb	01 35 01.9	+6.3
BUTP	Butuan	3.28	104	P	Pn	01 34 11.0	+2.0
BUTP				S	Sb	01 34 53.0	-3.8
BESP	Borongan	3.50	58	P	Pn	01 34 12.6	+0.6
BESP				S	Sn	01 34 54.8	+2.5
CNP	Catarman	3.52	39	P	Pn	01 34 14.6	+2.4
CNP				S	Sn	01 34 51.3	-1.4
KCP	Kidapawan	3.83	136	⇓P	Pb	01 34 20.6	-6.0
SKMP	Bagumbayan, Su	3.87	146	P	Pn	01 34 18.2	+1.2
SKMP				S	Sn	01 35 03.8	+2.3
DAV	Davao City (W)	4.14	130	Pn	Pb	01 34 26.3	-5.6
	109nm,0.3s,baz=277,slow=20,SNR=4.0						
DAV				Lg	Lg	01 35 30.2	
	20nm,0.3s,baz=144,slow=16,SNR=3.7						
DAV				LR	LR	01 36 12.6	
	comp=Z,3μm,19.7s,baz=208,slow=42						
DAV	Davao City (W)	4.14	130	P	Pn	01 34 23.9	+3.1
DAV	Davao City (W)	4.14	130	Pn	Pn	01 34 20.2	-0.6
PVCP	Virac	4.17	24	P	Pn	01 34 22.7	+1.4
PVCP				S	Sb	01 35 14.9	-7.5
LUBP	Lubang	4.46	332	P	Pn	01 34 23.9	-1.4
LUBP				S	Sn	01 35 11.1	-5.1
TGY	Tagaytay City	4.54	342	Pn	Pn	01 34 28.9	+2.6
	56nm,0.3s,baz=158,slow=6.9,SNR=2.8						
TGY				Pg	Pb	01 34 41.7	+3.0
	101nm,0.3s,baz=115,slow=16,SNR=5.7						
TGY				Sn	Sn	01 35 14.4	-3.6
	33nm,0.3s,baz=194,slow=7.1,SNR=3.6						
TGY				LR	LR	01 36 36.0	
	comp=Z,4μm,19.0s,baz=118,slow=43						
MATI	Mati	4.74	126	P	Pn	01 34 33.2	+4.2
MATI				S	Sb	01 35 35.3	-3.5
SMPP	San Manuel, Pa	6.56	345	P	Pn	01 34 54.1	+0.1
KKM	Kota Kinabalu	7.16	239		Pn	01 35 01.4	-0.9
SPMM	Sapulut	7.74	230	P	Pn	01 35 10.0	-0.3
TNTI	Ternate	10.22	151	P	Pn	01 35 47.9	+3.6
	122nm,0.9s						
LUWI	Luwuk	10.75	178	P	Pn	01 35 57.2	+5.6
	122nm,0.8s,4μm						
SANI	Sanana	12.28	163	P	Pn	01 36 13.3	+0.8
SBUM	Sibu	12.46	235		Pn	01 36 16.1	+1.2
NLAI	Namlea	13.75	160	P	Pn	01 36 35.3	+2.7
	79nm,1.1s,6μm						
SIJI	Sorong	13.77	140	LR	LR	01 42 02.3	
	comp=Z,1μm,21.6s,baz=12,slow=38						
MSAI	Masohi	14.57	153	P	P	01 36 52.8	+2.9
YHNB	Yeheng	14.85	356	Pn	P	01 36 49.8	-3.2
KAPI	Kappang	14.92	190	P	Pn	01 36 50.1	+1.5
KAPI	Kappang	14.92	190	Pn	Pn	01 36 51.1	+2.6
	baz=36,slow=9.5,SNR=5.9						
KAPI				LR	LR	01 42 32.5	
	comp=Z,884nm,21.4s,baz=114,slow=37						
KAPI	Kappang	14.92	190	Pn	Pn	01 36 50.1	+1.5
QZH	Quanzhou	15.52	347	eP	P	01 37 05.2	+4.8
QZH				S	S	01 39 59.4	-2.8
QZH				LR	LR		
	comp=N,780nm,18.9s						

QZH LR LR
comp=Z,1μm,17.6s
FAKI Fak Fak 15.98 142 P **P** **01 37 03.8 -1.8**
43nm,1.0s,908nm
FAKI Fak Fak 15.98 142 P **P** **01 37 03.6 -2.0**
BNDI Bandanaira 16.05 152 P **P** **01 37 06.2 -0.1**
171nm,1.6s,17μm
UBPT Khong Chiam 17.40 290 **P** **01 37 23.1 +1.7**
JOW Kunigami 17.86 17 P **P** **01 37 28.7 +2.4**
0.1nm,0.3s,baz=166,slow=12,SNR=4.7
JOW Kunigami 17.86 17 **P** **01 37 26.1 -0.2**
MMRI Maumere 18.29 180 P **Pn** **01 37 34.7 +3.5**
144nm,1.6s,3μm
PLAI Plampang 19.04 194 P **Pn** **01 37 41.4 +1.1**
142nm,1.2s,2μm
SOEI Soe 19.49 174 P **Pn** **01 37 47.0 +1.2**
SOEI Soe 19.49 174 **Pn** **01 37 47.1 +1.3**
SOEI IAmb IAmb 01 37 57.0
comp=Z,64nm,1.1s
BATI Baumata 19.89 176 P **Pn** **01 37 49.8 -0.7**
comp=Z,6.1nm,0.3s,baz=83,slow=3.3,SNR=18
BATI LR LR 01 46 05.2
comp=Z,287nm,20.9s,baz=316,slow=39
JAGI Jajag, Banyuwa 19.89 205 **Pn** **01 37 50.8 +0.3**
JAGI IAmb IAmb 01 37 57.4
comp=Z,35nm,0.8s
MYKOM Kota Tinggi 20.07 248 P **P** **01 37 50.0 -0.6**
SLVN Son La 21.17 305 P **P** **01 38 03.6 +1.0**
IPM Ipoh 21.84 258 P **P** **01 38 10.7 +0.9**
PBKT Sadao Pong 21.92 290 P **P** **01 38 11.9 +1.3**
JAY Jayapura 21.95 123 P **P** **01 38 10.4 -0.5**
comp=Z,9.5nm,0.7s,baz=274,slow=6.1,SNR=5.1
WHN Wuhan 21.99 341 ⇑P **P** **01 38 15.2 +4.0**
LEM Lembang 22.10 222 P **P** **01 38 14.4 +1.6**
comp=Z,36nm,0.8s,baz=122,slow=11,SNR=7.1
LEM LR LR 01 47 55.8
comp=Z,591nm,19.5s,baz=45,slow=40
GYA Guiyang 22.30 320 ⇑*iP* **P** **01 38 17.3 +2.6**
GYA PP **PnPn** **01 38 44.4 +6.4**
GYA PcP **PcP** **01 42 10.9 +0.9**
GYA S **S** **01 42 19.2 +0.8**
GYA SS **SnSn** **01 42 59.4 +12**
GYA ScP **ScP** **01 45 47.9 +2.5**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=Z,510nm,14.7s
GYA LR LR
comp=Z,610nm,14.2s
GYA LR LR
comp=Z,800nm,15.3s
GUMO Guam 22.33 78 P **P** **01 38 16.0 +1.0**
GUMO pmax pmax
comp=Z,181nm,1.3s
GUMO Guam 22.33 78 P **P** **01 38 16.0 +1.0**
comp=Z,69nm,0.7s,baz=199,slow=3.9,SNR=4.1
GUMO LR LR 01 45 27.5
comp=Z,460nm,21.5s,baz=243,slow=33
GUMO Guam 22.33 78 IAmb IAmb 01 38 24.5
comp=Z,181nm,1.2s
NJ2 Nanjing 22.41 352 *eP* **P** **01 38 17.4 +1.6**
NJ2 pP **sP** **01 38 28.4 +0.2**
NJ2 sP pP 01 38 32.3 +8.1
NJ2 pmax pmax
comp=Z,22nm,0.8s
ENH Enshi 23.69 331 P **P** **01 38 29.6 +0.8**
MTN Manton Dam 24.09 159 P **P** **01 38 31.2 -1.3**
baz=24,SNR=11
MTN Manton Dam 24.09 159 P **P** **01 38 31.8 -0.7**
MTN IAmb IAmb 01 38 35.2
comp=Z,50nm,0.8s
KMI Kunming 24.13 312 P **P** **01 38 34.6 +1.4**
KMI pP sP 01 38 47.1 +1.2
KMI sP pP 01 38 52.5 +10
KMI PP 01 39 10.2
KMI S **S** **01 42 50.0 +0.7**
KMI sS sS 01 43 05.0 +2.1
KMI SS **SnSn** **01 43 44.4 +12**
KMI pmax pmax
comp=Z,15nm,0.6s
KMI pmax pmax
comp=Z,160nm,3.8s
KMI LR LR
comp=Z,550nm,13.6s
KMI LR LR
comp=Z,850nm,17.8s
KMI LR LR
comp=Z,1μm,17.5s
KMI Kunming 24.13 312 P **P** **01 38 33.8 +0.6**
KMI pmax pmax
comp=Z,30nm,1.1s
KMI Kunming 24.13 312 P **P** **01 38 33.8 +0.6**
KMI IAmb IAmb 01 38 43.5
comp=Z,30nm,1.1s
CM31 Chiang Mai Arr 24.30 293 P **P** **01 38 35.0 +0.4**
CMAR Chiang Mai Arr 24.30 293 P **P** **01 38 34.9 +0.2**
comp=Z,1.2nm,0.3s,baz=125,slow=7.8,SNR=9.8
CMAR PcP **PcP** **01 42 14.6 +0.4**
comp=Z,0.9nm,0.3s,baz=24,slow=1.5,SNR=4.7
PSI Prapat 24.32 255 P **P** **01 38 35.2 +0.2**
PSI pmax pmax
comp=Z,28nm,1.2s
PSI Prapat 24.32 255 P **P** **01 38 34.7 -0.2**
comp=Z,5.7nm,0.6s,baz=94,slow=9.2,SNR=7.7
RPSI Rantau Prapat 24.35 255 P **P** **01 38 35.2 0.0**
CHTO Chiang Mai 24.41 294 P **P** **01 38 35.7 +0.1**
CHTO pmax pmax
comp=Z,10.0nm,1.0s
CHTO Chiang Mai 24.41 294 P **P** **01 38 35.7 +0.1**
KDU Kakadu 24.45 156 P **P** **01 38 34.2 -1.7**
baz=24,SNR=52
JNU Nakatsue 24.52 17 P **P** **01 38 35.6 -0.9**
comp=Z,8.2nm,0.9s,baz=128,slow=7.6,SNR=4.6
JNU LR LR 01 48 19.9
comp=Z,286nm,20.1s,baz=213,slow=37
JNU Nakatsue 24.52 17 **P** **01 38 35.6 -0.9**
JCJ Chichijima 25.42 45 LR LR 01 47 17.3
comp=Z,492nm,21.0s,baz=271,slow=33
KNRA Kununurra 26.06 166 P **P** **01 38 50.4 -0.1**
baz=26,SNR=13
KNRA Kununurra 26.06 166 P **P** **01 38 49.4 -1.0**
KNRA IAmb IAmb 01 38 53.9
comp=Z,44nm,0.8s
GSI Gunungsitoli 26.07 253 IAmb IAmb 01 39 01.8
comp=Z,39nm,0.9s
TJN Taejon 26.87 9 ⇓*eP* **P** **01 38 58.9 +1.3**
XAN Xi'an 27.14 335 P **P** **01 39 07.1 +6.9**
XAN pP sP 01 39 21.7 +8.6
XAN S **S** **01 43 37.1 +0.4**
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN LR LR
comp=Z,450nm,18.4s
XAN LR LR
comp=Z,300nm,16.3s
XAN LR LR
comp=Z,520nm,15.3s
XAN Xi'an 27.14 335 P **P** **01 38 58.5 -1.7**
XAN pmax pmax
comp=Z,9.0nm,1.1s
XAN Xi'an 27.14 335 P **P** **01 38 58.5 -1.7**
CD2 Chengdu 27.26 323 P **P** **01 39 01.3 0.0**
CD2 pP sP 01 39 14.8 +0.8
CD2 sP pP 01 39 24.6 +14
CD2 S **S** **01 43 47.0 +8.3**
CD2 sS sS 01 44 03.9 +11
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,110nm,3.7s
CD2 LR LR
comp=Z,990nm,18.1s
CD2 LR LR
comp=Z,1μm,16.7s
CD2 LR LR
comp=Z,1μm,17.2s
FITZ Fitzroy Crossi 27.88 173 P **P** **01 39 06.2 -0.6**
baz=28,SNR=24
FITZ Fitzroy Crossi 27.88 173 P **P** **01 39 06.5 -0.3**
comp=Z,21nm,0.8s,baz=5.4,slow=7.8,SNR=48
FITZ PcP **PcP** **01 42 20.7 -1.7**
comp=Z,6.6nm,0.6s,baz=62,slow=1.2,SNR=10
FITZ LR LR 01 52 30.3
comp=Z,132nm,18.8s,baz=352,slow=41
FITZ Fitzroy Crossi 27.88 173 P **P** **01 39 05.8 -1.0**
FITZ IAmb IAmb 01 39 07.6
comp=Z,24nm,0.8s
KSRS Korea Array 28.01 9 P **P** **01 39 08.4 +0.6**
comp=Z,4.3nm,0.9s,baz=186,slow=10,SNR=11
KSRS LR LR 01 51 25.0
comp=Z,293nm,19.6s,baz=202,slow=39
MJAR Matsushiro Arr 30.26 26 P **P** **01 39 26.4 -1.5**
comp=Z,4.7nm,0.9s,baz=200,slow=8.1,SNR=11
MJAR LR LR 01 51 10.0
comp=Z,247nm,20.0s,baz=205,slow=35
BJT Baijiatuau 30.63 351 P **P** **01 39 31.8 +0.7**
BJT pmax pmax
comp=Z,8.0nm,1.0s
BJT Baijiatuau 30.63 351 P **P** **01 39 31.8 +0.7**
BJI Beijing 30.65 351 *eP* **P** **01 39 32.1 +0.9**
BJI sP sP 01 39 51.2 +7.0
BJI S **S** **01 44 33.8 +2.2**
BJI pmax pmax
comp=Z,7.0nm,1.1s
BJI pmax pmax
comp=Z,130nm,5.1s
BJI LR LR
comp=Z,230nm,13.1s
BJI LR LR
comp=Z,260nm,19.2s
BJI LR LR
comp=Z,710nm,34.1s
LZH Lanzhou 31.15 330 *eP* **P** **01 39 37.4 +1.4**
LZH pP sP 01 39 51.2 +2.2
LZH sP pP 01 39 54.6 +10
LZH PP **PP** **01 40 49.0 +2.4**
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,64nm,4.9s
LZH LR LR
comp=Z,540nm,15.7s
LZH LR LR
comp=Z,700nm,17.3s
LZH LR LR
comp=Z,880nm,16.3s
PSA00 Pilbara Seismi 31.25 185 P **P** **01 39 35.9 -0.8**
WB0 Warramunga Arr 31.64 158 P **P** **01 39 38.2 -2.0**
WRAB Tennant Creek 31.78 158 *diP* **P** **01 39 39.5 -1.9**
WRAB pmax pmax
comp=Z,21nm,1.2s
WRAB Tennant Creek 31.78 158 P **P** **01 39 39.9 -1.5**
WRAB IAmb IAmb 01 39 42.3
comp=Z,23nm,1.1s
WRA Warramunga Arr 31.78 158 P **P** **01 39 39.2 -2.3**
comp=Z,9.7nm,0.7s,baz=341,slow=9.1,SNR=36
WRA PcP **PcP** **01 42 31.4 -1.0**
comp=Z,2.3nm,0.8s,baz=312,slow=4.1,SNR=14
WRA ScP **ScP** **01 46 14.1 +0.4**
comp=Z,0.9nm,0.6s,baz=341,slow=3.4,SNR=6.7
WB2 Warramunga Arr 31.79 158 P **P** **01 39 39.7 -1.8**
WB2 IAmb IAmb 01 39 41.9
comp=Z,13nm,0.8s
WR0 Warramunga Arr 31.87 158 IAmb IAmb 01 39 42.2
comp=Z,12nm,0.8s
HHC Hu-ho-hao-te 32.41 345 *eP* **P** **01 39 50.4 +3.6**
HHC pmax pmax
comp=Z,4.0nm,1.3s
SHL Shillong 32.93 302 P **P** **01 39 51.3 -0.4**
SHL pmax pmax
comp=Z,16nm,1.0s
SHL Shillong 32.93 302 P **P** **01 39 51.3 -0.4**
SHL IAmb IAmb 01 39 53.5
comp=Z,16nm,1.0s
MSHR Mys Shultsa 33.57 12 ⇓*eP* **P** **01 39 58.6 +1.7**
CN2 Changchun 34.01 4 *eP* **P** **01 40 00.7 +0.1**
CN2 *e*pP sP 01 40 11.4 -2.2
CN2 pmax pmax
comp=Z,30nm,0.6s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,400nm,17.0s
VLA Vladivostok 34.24 12 ⇑*eP* **P** **01 40 03.9 +1.3**
VLA pmax pmax
comp=Z,24nm,0.7s
QIS Mount Isa 34.57 151 P **P** **01 40 04.3 -1.5**
baz=35,SNR=4.9
WRKA Warakurna 35.07 171 P **P** **01 40 09.7 -0.4**
baz=35,SNR=53
AS31 Alice Springs 35.09 161 P **P** **01 40 09.3 -0.9**
AS31 IAmb IAmb 01 40 11.0
comp=Z,11nm,0.7s
ASAR Alice Springs 35.09 161 P **P** **01 40 09.2 -1.0**
comp=Z,31nm,0.6s,baz=344,slow=7.2,SNR=414
ASAR PcP **PcP** **01 42 41.0 -0.7**
comp=Z,8.1nm,0.8s,baz=346,slow=2.5,SNR=17
ASAR S **S** **01 45 39.3 -1.7**
comp=Z,0.7nm,0.8s,baz=352,slow=19,SNR=4.2
ASAR ScP **ScP** **01 46 24.8 -0.4**
comp=Z,0.6nm,0.7s,baz=343,slow=3.1,SNR=5.6
MDJ Mudanjiang 35.27 9 P **P** **01 40 12.3 +0.7**
MDJ pmax pmax
comp=Z,55nm,0.9s
MDJ pmax pmax
comp=Z,160nm,4.0s
MDJ Mudanjiang 35.27 9 P **P** **01 40 12.4 +0.9**
LSA Lhasa 35.28 309 P **P** **01 40 12.8 +0.4**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 35.28 309 P **P** **01 40 12.8 +0.4**
USA0B Ussuriysk Arra 35.30 12 P **P** **01 40 12.7 +0.9**
USA0B pmax pmax
comp=Z,37nm,1.1s
USA0B Ussuriysk Arra 35.30 12 P **P** **01 40 12.7 +0.9**
USRK Ussuriysk Ar. 35.30 12 P **P** **01 40 13.0 +1.2**
USRK Ussuriysk Ar. 35.30 12 P **P** **01 40 13.0 +1.2**
comp=Z,21nm,0.8s,baz=199,slow=6.9,SNR=37
USRK LR LR 01 54 54.7
comp=Z,275nm,21.0s,baz=175,slow=37
GTA Gaotai 35.74 329 ⇓P **P** **01 40 16.7 +0.9**
GTA PcP **PcP** **01 42 43.8 +0.3**
GTA S **S** **01 45 51.1 +0.1**
GTA ScP **ScP** **01 46 31.5 +4.0**
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,87nm,5.0s
GTA LR LR
comp=Z,450nm,16.5s
GTA LR LR
comp=Z,440nm,15.1s
GTA LR LR
comp=Z,720nm,15.8s
MEEK Meekatharra 36.38 186 P **P** **01 40 20.4 -0.8**
baz=36,SNR=11
TAPN Taplejung 37.06 303 *eP* **P** **01 40 27.9 +0.4**
comp=Z,30nm,0.6s
ODAN Odare 37.15 302 *eP* **P** **01 40 28.4 +0.2**
RAMN Ramite 37.85 302 *eP* **P** **01 40 34.7 +0.6**
comp=Z,24nm,0.6s
JIRN Jiri 38.43 303 *eP* **P** **01 40 39.6 +0.4**
comp=Z,85nm,0.6s
GUN Gumba 38.78 303 *eP* **P** **01 40 42.1 0.0**
comp=Z,52nm,0.6s
PKI Pulchoki 39.05 302 *eP* **P** **01 40 43.7 -0.6**
comp=Z,16nm,0.5s
PKIN Phulchoki 39.07 302 *eP* **P** **01 40 43.7 -0.7**
comp=Z,11nm,0.5s
MORW Morawa 39.10 189 P **P** **01 40 43.8 -0.4**
baz=39,SNR=8.3
MORW Morawa 39.10 189 P **P** **01 40 43.8 -0.4**
MORW IAmb IAmb 01 40 46.0
comp=Z,27nm,1.0s
KKN Kakani 39.23 302 *eP* **P** **01 40 45.1 -0.6**
DMN Daman 39.32 302 *eP* **P** **01 40 46.4 -0.1**
HIA Hailar 39.43 357 ⇑*eP* **P** **01 40 45.7 -1.1**
HIA pmax pmax
comp=Z,123nm,1.4s
HIA Hailar 39.43 357 P **P** **01 40 47.2 +0.4**
HIA IAmb IAmb 01 40 49.8
comp=Z,27nm,1.4s
GKN Gorkha 39.84 302 *eP* **P** **01 40 50.5 -0.2**
KLR Kul'dur 40.10 10 ⇓*eP* **P** **01 40 52.0 -0.3**
KLR pmax pmax
comp=Z,24nm,1.2s
ULN Ulaanbaatar 40.12 344 P **P** **01 40 53.2 +0.5**
ULN pmax pmax
comp=Z,13nm,0.9s
ULN Ulaanbaatar 40.12 344 P **P** **01 40 53.2 +0.5**
ULN IAmb IAmb 01 40 54.1
comp=Z,13nm,0.8s
SONM Songino Array 40.27 343 P **P** **01 40 54.1 +0.1**
comp=Z,5.8nm,0.6s,baz=164,slow=11,SNR=42
SONM PcP **PcP** **01 42 56.9 -0.4**
comp=Z,2.4nm,0.8s,baz=164,slow=4.0,SNR=5.2
SONM LR LR 01 58 55.3
comp=Z,430nm,21.7s,baz=152,slow=38
KOLN Koldanda 40.63 302 *eP* **P** **01 40 57.2 -0.1**
comp=Z,46nm,0.8s
FORT Forrest 40.68 173 P **P** **01 40 56.8 -0.5**
baz=41,SNR=23
FORT Forrest 40.68 173 P **P** **01 40 56.5 -0.8**
FORT **PcP** **01 42 58.6 -0.1**
DANN Dangsing 40.69 302 *eP* **P** **01 40 57.0 -0.9**
comp=Z,38nm,0.8s
YSS Yuzh-Sakhalins 40.90 21 *eP* **P** **01 40 59.3 +0.4**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=Z,100nm,19.0s
YSS Yuzh-Sakhalins 40.90 21 P **P** **01 40 59.4 +0.5**
YSS IAmb IAmb 01 41 00.2
comp=Z,34nm,1.0s
KMBL Kambalda 40.91 181 P **P** **01 40 58.7 -0.4**
baz=41,SNR=8.4
KLBR Kellerberrin 41.37 186 P **P** **01 41 02.6 -0.4**
baz=41,SNR=5.9
NWAO Narrogin (SRO) 42.74 186 P **P** **01 41 14.8 +0.6**
baz=43,SNR=5.2
NWAO Narrogin (SRO) 42.74 186 P **P** **01 41 13.0 -1.2**
NWAO pmax pmax
comp=Z,38nm,1.0s
NWAO Narrogin (SRO) 42.74 186 P **P** **01 41 13.0 -1.2**
NWAO IAmb IAmb 01 41 16.0
comp=Z,38nm,0.9s
ZEA Zeya 44.02 4 *eP* **P** **01 41 24.1 -0.1**
ZEA pmax pmax
comp=N,36nm,0.8s
ZEA pmax pmax
comp=Z,36nm,0.8s
ZEA MLR MLR
comp=Z,400nm,17.0s
ZEA MLR MLR
comp=N,300nm,18.0s
BBOO Buckleboo 44.30 163 P **P** **01 41 26.2 -0.6**
baz=44,SNR=7.2
BBOO Buckleboo 44.30 163 P **P** **01 41 26.0 -0.8**
BBOO IAmb IAmb 01 41 27.1
comp=Z,17nm,0.9s
TLY Talaya 44.52 343 *deP* **P** **01 41 28.9 +0.6**
TLY pmax pmax
comp=Z,14nm,0.8s
TLY Talaya 44.52 343 P **P** **01 41 28.5 +0.2**
TLY IAmb IAmb 01 41 29.7
comp=Z,14nm,0.9s
EIDS Eidsvold 44.73 142 P **P** **01 41 28.6 -1.7**
baz=45,SNR=5.6
EIDS Eidsvold 44.73 142 P **P** **01 41 27.5 -2.8**
EIDS IAmb IAmb 01 41 29.5
comp=Z,16nm,0.7s
MOY Mondy 45.29 341 *eP* **P** **01 41 35.4 +0.8**
MOY pmax pmax
comp=Z,17nm,1.0s
STKA Stephens Creek 45.30 157 P **P** **01 41 33.8 -1.0**
baz=45,SNR=20
STKA Stephens Creek 45.30 157 P **P** **01 41 33.8 -1.0**
comp=Z,23nm,0.7s,baz=328,slow=7.3,SNR=46
STKA PP **PP** **01 43 21.1 -0.2**
comp=Z,6.0nm,0.8s,baz=328,slow=9.6,SNR=4.5
STKA Stephens Creek 45.30 157 P **P** **01 41 33.5 -1.2**
WMQ Urumqi 45.34 325 *eP* **P** **01 41 36.7 +1.7**
WMQ sP sP 01 41 53.5 +5.2
WMQ pmax pmax
comp=Z,10.0nm,1.1s
WMQ pmax pmax
comp=Z,78nm,4.5s
WMQ LR LR
comp=Z,330nm,14.9s
WMQ LR LR
comp=Z,450nm,15.7s
WMQ LR LR
comp=Z,370nm,17.5s
HTT Hallett 45.75 161 P **P** **01 41 37.9 -0.4**
baz=46,SNR=11
CMSA Cobar Meteorol 46.74 152 P **P** **01 41 45.6 -0.5**
baz=47,SNR=28
BOD Bodaibo 48.37 354 *eP* **P** **01 41 58.6 +0.2**
BOD pmax pmax
comp=Z,10.0nm,0.9s
ARMA Armidale 48.85 146 P **P** **01 42 02.6 +0.1**
baz=49,SNR=9.3
ARMA Armidale 48.85 146 P **P** **01 42 01.5 -1.1**
ARMA IAmb IAmb 01 42 03.2
comp=Z,12nm,0.8s
ARPS Mount Arapiles 49.77 160 P **P** **01 42 09.0 -0.4**
baz=50,SNR=5.8
PDGK Podgornoye 50.05 320 P **P** **01 42 12.0 +0.3**
PDGK pmax pmax
comp=Z,14nm,0.7s
MK31 Makanchi Array 50.17 325 P **P** **01 42 12.8 +0.4**
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MK31 Makanchi Array 50.17 325 P **P** **01 42 12.6 +0.2**
MK31 IAmb IAmb 01 42 14.4
comp=Z,13nm,0.9s
MKAR Makanchi Array 50.17 325 P **P** **01 42 13.0 +0.6**
comp=Z,9.9nm,0.7s,baz=126,slow=8.1,SNR=61
MKAR PcP **PcP** **01 43 31.1 -0.3**
comp=Z,4.4nm,0.6s,baz=124,slow=3.9,SNR=11
MKAR LR LR 02 04 54.3
comp=Z,250nm,18.7s,baz=114,slow=38
MAKZ Makanchi 50.36 325 P **P** **01 42 13.8 0.0**
MAKZ pmax pmax
comp=Z,27nm,1.4s
MAKZ Makanchi 50.36 325 P **P** **01 42 14.0 +0.2**
PRZ Przheval'sk 50.36 318 P **P** **01 42 15.0 +0.9**
PRZ pmax pmax
comp=Z,29nm,1.2s
PRZ Przheval'sk 50.36 318 P **P** **01 42 15.1 +0.9**
KSH Kashi 50.77 314 P **P** **01 42 20.0 +2.8**
KSH sP sP 01 42 38.3 +8.1
KSH PcS **PcS** **01 47 32.7 +1.2**
KSH S **S** **01 49 33.4 +2.4**
KSH ScS **ScS** **01 52 03.4 -2.6**
KSH pmax pmax
comp=Z,51nm,1.1s
KSH pmax pmax
comp=Z,210nm,6.3s
KSH LR LR
comp=Z,580nm,9.1s
KSH LR LR
comp=Z,430nm,10.4s
KSH LR LR
comp=Z,670nm,12.8s
NIL Nilore 50.89 306 P **P** **01 42 18.5 +0.4**
NIL pmax pmax
comp=Z,52nm,0.8s
NIL Nilore 50.89 306 P **P** **01 42 18.5 +0.4**
KDJ Kajisay 51.01 317 P **P** **01 42 20.0 +1.0**
KDJ pmax pmax
comp=Z,11nm,1.0s
KDJ Kajisay 51.01 317 P **P** **01 42 20.0 +1.0**
KDJ IAmb IAmb 01 42 22.1
comp=Z,11nm,1.0s
CAN Canberra 51.42 152 P **P** **01 42 20.5 -1.4**
CAN pmax pmax
comp=Z,19nm,0.8s
CAN Canberra 51.42 152 P **P** **01 42 20.5 -1.4**
NRN Naryn 51.51 316 IAmb IAmb 01 42 25.1
comp=Z,11nm,1.1s
CNB Canberra Magne 51.58 152 P **P** **01 42 23.0 -0.2**
baz=52,SNR=5.3
ULHL Ulahol 51.69 317 P **P** **01 42 25.8 +1.6**
SNR=12
PETK Petropavlovsk- 51.72 26 P **P** **01 42 24.2 +0.3**
comp=Z,3.6nm,0.5s,baz=207,slow=5.1,SNR=14
TOO Toolangi 51.83 157 P **P** **01 42 23.9 -1.0**
TOO pmax pmax
comp=Z,13nm,1.1s
TOO Toolangi 51.83 157 P **P** **01 42 23.9 -1.0**
TOO IAmb IAmb 01 42 26.2
comp=Z,12nm,1.1s
KZA Kyzart 52.29 316 P **P** **01 42 30.5 +1.7**

SNR=12
TKM2 Tokmak 2 52.41 317 *i* P **P** **01 42 29.9 +0.4**
TKM2 pmax pmax
comp=Z,14nm,0.8s
TKM2 Tokmak 2 52.41 317 P **P** **01 42 30.5 +1.0**
SNR=19
YAK Yakutsk 52.44 4 P **P** **01 42 29.0 0.0**
YAK pmax pmax
comp=Z,26nm,0.7s
YAK Yakutsk 52.44 4 P **P** **01 42 29.0 0.0**
KBK Karagaybulak 52.73 317 P **P** **01 42 33.1 +1.2**
SNR=14
UCH Uchtor 52.85 316 P **P** **01 42 34.7 +1.6**
SNR=18
MILA Mila 52.92 153 P **P** **01 42 33.7 +0.6**
baz=53,SNR=3.3
CHMS Chumysh 53.00 317 P **P** **01 42 34.6 +1.0**
SNR=7.5
AAK Ala-Archa 53.03 317 *de*P **P** **01 42 35.7 +1.7**
AAK pmax pmax
comp=Z,9.0nm,0.9s
AAK Ala-Archa 53.03 317 LR LR 02 06 37.9
comp=Z,202nm,19.4s,baz=96,slow=38
AAK Ala-Archa 53.03 317 P **P** **01 42 35.1 +1.1**
SNR=7.2
AAK Ala-Archa 53.03 317 P **P** **01 42 35.4 +1.4**
USP Ospenovka 53.28 317 P **P** **01 42 36.5 +0.8**
SNR=16
ZAA0 Zalesovo Array 53.29 333 P **P** **01 42 35.2 -0.3**
ZAA0 IAmb IAmb 01 42 36.0
comp=Z,13nm,1.0s
ZALV Zalesovo Beam 53.29 333 P **P** **01 42 35.0 -0.5**
comp=Z,8.0nm,0.7s,baz=124,slow=6.6,SNR=34
ZALV PcP **PcP** **01 43 41.7 -1.2**
comp=Z,1.3nm,0.5s,baz=121,slow=2.9,SNR=2.5
ZALV LR LR 02 07 56.7
comp=Z,129nm,18.3s,baz=111,slow=39
AML Almayashu 53.37 316 P **P** **01 42 38.4 +1.5**
SNR=16
EKS2 Erkin-Say 53.52 317 P **P** **01 42 38.9 +1.3**
SNR=8.7
ARSB Arslanbob 53.56 315 IAmb IAmb 01 42 48.0
comp=Z,8.6nm,0.8s
MA2 Magadan 54.09 17⇑ *i*P **P** **01 42 41.9 +0.6**
KURK Kurchatov 54.37 327 P **P** **01 42 44.0 +0.6**
KURK pmax pmax
comp=Z,66nm,1.3s
KURK Kurchatov 54.37 327 P **P** **01 42 44.0 +0.6**
KBL Kabul 54.49 306 P **P** **01 42 45.6 +0.7**
KBL pmax pmax
comp=Z,15nm,0.8s
KBL Kabul 54.49 306 P **P** **01 42 45.6 +0.7**
BTK Batken 54.67 313 IAmb IAmb 01 42 48.0
comp=Z,14nm,0.9s
KK31 Karatay Array 55.92 316 *i* P **P** **01 42 54.9 +0.1**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KK31 Karatay Array 55.92 316 P **P** **01 42 55.6 +0.8**
KK31 IAmb IAmb 01 42 56.1
comp=Z,7.9nm,0.6s
KKAR Karatay Array 55.92 316 P **P** **01 42 55.6 +0.8**
KKAR pmax pmax
comp=Z,8.0nm,0.6s
KKAR Karatay Array 55.92 316 P **P** **01 42 55.6 +0.8**
KKAR IAmb IAmb 01 42 56.1
comp=Z,7.9nm,0.6s
TAS Tashkent 56.18 314 P **P** **01 42 57.1 +0.3**
TAS pmax pmax
comp=Z,39nm,0.4s
TAS Tashkent 56.18 314 P **P** **01 42 57.1 +0.3**
SEY Seymchan 57.28 16⇓ *i*P **P** **01 43 05.4 +1.3**
HRA Herat 59.97 304 IAmb IAmb 01 43 24.8
comp=Z,6.5nm,0.8s
BRVK Borovoye 60.01 327 *c i*P **P** **01 43 23.4 +0.1**
BRVK pmax pmax
comp=Z,27nm,1.0s
BRVK Borovoye 60.01 327 P **P** **01 43 23.5 +0.2**
TIXI Tiksi 61.96 2 *ce*P **P** **01 43 35.2 -0.9**
TIXI pmax pmax
comp=Z,15nm,0.8s
TIXI Tiksi 61.96 2 P **P** **01 43 35.3 -0.9**
TIXI IAmb IAmb 01 43 36.3
comp=Z,13nm,0.8s
GEYT Alibeck 63.80 307 P **P** **01 43 50.3 +1.2**
comp=Z,6.8nm,0.7s,baz=131,slow=6.1,SNR=23
GEYT PcP **PcP** **01 44 25.3 +0.4**
comp=Z,3.8nm,0.8s,baz=156,slow=1.5,SNR=4.9
GEYT LR LR 02 14 18.7
comp=Z,141nm,18.9s,baz=85,slow=38
GYA0B ALIBECK ARRAY 63.80 307 P **P** **01 43 49.6 +0.4**
AB31 Akbulak array 64.78 320 *i* P **P** **01 43 55.0 -0.3**
AB31 pmax pmax
comp=Z,10.0nm,0.8s
ABKAR Akbulak array 64.78 320 P **P** **01 43 55.1 -0.1**
ABKAR IAmb IAmb 01 43 56.2
comp=Z,13nm,0.9s
BILL Bilibino 64.94 17 *c i*P **P** **01 43 55.7 -0.3**
BILL *e* 01 44 28.7
BILL *e* 01 46 17.6
BILL pmax pmax
comp=Z,36nm,1.7s
BILL Bilibino 64.94 17 P **P** **01 43 55.8 -0.2**
SVE Sverdlovsk 66.59 328 *e*P **P** **01 44 06.3 -0.5**
SVE pmax pmax
comp=Z,21nm,0.8s
ARU Arti 67.56 327 *c i*P **P** **01 44 12.2 -0.8**
ARU 01 46 39.2
ARU S **S** **01 53 06.9 -0.6**
ARU SS **SS** **01 57 25.8 -2.5**
ARU pmax pmax
comp=Z,12nm,0.7s
ARU Arti 67.56 327 P **P** **01 44 12.0 -1.0**
ARU IAmb IAmb 01 44 13.1
comp=Z,13nm,0.7s
BKZ Black Stump Fm 69.92 138 P **P** **01 44 26.6 -1.4**
NIUE Niue 72.58 114 P **P** **01 44 42.9 -1.6**
baz=73,SNR=3.5
RAYN Ar Rayn 74.21 292 P **P** **01 44 53.8 -0.3**
RAYN Ar Rayn 74.21 292 P **P** **01 44 53.8 -0.3**
RAYN IAmb IAmb 01 44 55.4
comp=Z,17nm,1.2s
GNI Garni 74.35 309⇓ *e*P **P** **01 44 54.8 +0.1**
GNI pmax pmax
comp=Z,154nm,1.5s
ZEI Tsey 75.00 312 *e*P **P** **01 44 58.3 -0.2**
ZEI pmax pmax
comp=Z,7.0nm,0.7s
AKH Akhalkalaki 75.30 310⇑P **P** **01 45 01.8 +1.6**
KBZ Khabaz 75.74 313 P **P** **01 45 02.8 +0.3**
comp=Z,7.3nm,1.0s,baz=94,slow=3.5,SNR=4.7
KBZ PP **PP** **01 47 53.2 +0.9**
comp=Z,3.4nm,1.1s,baz=191,slow=0.9,SNR=3.6
NEY Neytrino 75.86 312⇑ *e*P **P** **01 45 04.5 +1.1**
NEY pmax pmax
comp=Z,4.0nm,1.0s
KIV Kislovodsk 75.89 313 *e*P **P** **01 45 04.3 +0.8**
KIV pmax pmax
comp=Z,53nm,1.1s
KIV MLR MLR
comp=Z,280nm,18.0s
KIV Kislovodsk 75.89 313 P **P** **01 45 04.1 +0.6**
KIV IAmb IAmb 01 45 06.4
comp=Z,14nm,0.8s
CASY Casey 76.35 185 P **P** **01 45 04.4 -0.9**
VRH Novokhopyorsk 76.61 320 *e*P **P** **01 45 06.7 -0.5**
VRH pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 78.22 320⇓ *e*P **P** **01 45 15.3 -1.0**
VSR pmax pmax
comp=Z,25nm,0.8s
LPSR Galich'ya Gora 78.34 322 *e*P **P** **01 45 16.3 -0.6**
LPSR pmax pmax
comp=Z,20nm,1.0s
TMCR Tamitsa 78.81 334 *e*P **P** **01 45 17.7 -1.5**
TMCR pmax pmax
comp=Z,16nm,1.0s
RSO Redoubt South 79.03 30 P **P** **01 45 19.2 -1.6**
MOS Moscow 79.06 325 *e*P **P** **01 45 18.8 -2.0**
OBN Obninsk 79.68 324⇓ *e*P **P** **01 45 23.4 -0.7**
OBN *e* 01 45 30.5
OBN *e* 01 48 23.1
OBN pmax pmax
comp=Z,33nm,1.8s
OBN MLR MLR
comp=Z,97nm,15.0s

BPAW Bear Paw Mtn. 79.80 26 IAmb IAmb 01 45 25.6
comp=Z,24nm,1.2s
MLY Manley 79.89 26 IAmb IAmb 01 45 26.3
comp=Z,12nm,1.2s
BRLK Bradley Lake 79.98 31 P **P** **01 45 24.7 -1.0**
BRLK IAmb IAmb 01 45 27.1
comp=Z,13nm,0.9s
SUA Susitna One 79.99 29 IAmb IAmb 01 45 25.6
comp=Z,12nm,0.9s
GAZ Gaziantep 80.36 306 P **P** **01 45 27.9 -0.4**
RC01 Rabbit Creek A 80.49 29 P **P** **01 45 27.2 -1.2**
SEW Seward 80.69 30 IAmb IAmb 01 45 29.4
comp=Z,17nm,1.0s
MCK McKinley 80.72 27 P **P** **01 45 28.8 -0.9**
MCK pmax pmax
comp=Z,11nm,0.8s
MCK McKinley 80.72 27 P **P** **01 45 28.8 -0.9**
MCK IAmb IAmb 01 45 31.6
comp=Z,11nm,0.8s
PMR Palmer 80.76 29 IAmb IAmb 01 45 30.1
comp=Z,11nm,1.2s
RND Reindeer 80.78 27 IAmb IAmb 01 45 30.4
comp=Z,16nm,1.3s
KNK Knik Glacier 81.09 29 IAmb IAmb 01 45 32.0
comp=Z,18nm,1.2s
SML Sawmill 81.12 29 IAmb IAmb 01 45 32.7
comp=Z,12nm,1.0s
ILAR Eielson Array 81.54 26 P **P** **01 45 33.2 -0.8**
comp=Z,1.4nm,0.8s,baz=250,slow=5.7,SNR=13
ILAR PP **PP** **01 48 43.1 +2.8**
comp=Z,0.4nm,0.8s,baz=273,slow=7.6,SNR=4.1
ILAR PKKPbc **PKKPbc** **02 04 06.4 -3.1**
comp=Z,0.5nm,0.9s,baz=124,slow=1.4,SNR=4.4
GLI Glacier Island 81.79 30 P **P** **01 45 34.6 -0.8**
GLI IAmb IAmb 01 45 36.3
comp=Z,16nm,1.4s
PAX Paxson 82.34 27 P **P** **01 45 37.7 -0.7**
PAX pmax pmax
comp=Z,9.0nm,1.2s
PAX Paxson 82.34 27 P **P** **01 45 37.6 -0.7**
PAX IAmb IAmb 01 45 39.0
comp=Z,9.4nm,1.2s
RIDG Independent Ri 82.54 27 IAmb IAmb 01 45 40.0
comp=Z,15nm,1.1s
SCRK Sand Creek 82.88 26 P **P** **01 45 41.3 +0.1**
BR131 Keskin Array S 82.89 309 P **P** **01 45 41.7 -0.1**
BR131 pmax pmax
comp=Z,9.0nm,0.9s
BR131 Keskin Array S 82.89 309 P **P** **01 45 41.7 -0.1**
BR131 IAmb IAmb 01 45 42.6
comp=Z,8.8nm,0.8s
BRTR Keskin Array B 82.89 309 P **P** **01 45 41.6 -0.1**
comp=Z,5.8nm,0.6s,baz=118,slow=3.8,SNR=33
ARCES ARCESS Array B 83.32 339 P **P** **01 45 43.0 -0.2**
comp=Z,7.1nm,0.8s,baz=78,slow=7.1,SNR=13
ANTO Ankara 83.52 309 P **P** **01 45 44.8 -0.1**
ANTO pmax pmax
comp=Z,26nm,1.2s
ANTO Ankara 83.52 309 P **P** **01 45 44.8 -0.1**
CSS Mathiatis 83.72 304 P **P** **01 45 45.7 -0.3**
CRQM Cirque 83.73 30 P **P** **01 45 45.3 -0.4**
CRQM IAmb IAmb 01 45 47.7
comp=Z,10nm,1.0s
TGL Tana Glacier 83.88 29 P **P** **01 45 46.2 -0.1**
WAX Waxell Ridge 83.92 30 P **P** **01 45 46.4 -0.1**
WAX IAmb IAmb 01 45 50.4
comp=Z,9.3nm,0.9s
BALM Baldy 84.07 29 P **P** **01 45 46.8 -0.6**
BARN Barnard Glacie 84.39 29 P **P** **01 45 49.0 -0.1**
FINES FINESS Array B 84.51 331 P **P** **01 45 48.5 -0.8**
comp=Z,4.6nm,0.9s,baz=79,slow=4.5,SNR=10
AKASG Malin Array Be 84.52 320 *ce*P **P** **01 45 49.0 -0.6**
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 84.52 320 P **P** **01 45 49.1 -0.6**
comp=Z,6.0nm,0.8s,baz=69,slow=4.6,SNR=23
AKASG LR LR 02 26 49.0
comp=Z,102nm,19.6s,baz=115,slow=38
AKBB Malin Array Si 84.52 320 IAmb IAmb 01 45 49.8
comp=Z,12nm,0.9s
CTGM Chitina Glacie 84.57 29 P **P** **01 45 50.1 +0.2**
VSU Vasula 84.70 328⇓ *e*P **P** **01 45 49.7 -0.7**
VSU pmax pmax
comp=Z,115nm,2.5s
DAWY Dawson 84.86 26 P **P** **01 45 50.8 -0.4**
DAWY IAmb IAmb 01 45 52.5
comp=Z,11nm,1.0s
PCA Pinnacle 85.25 30 P **P** **01 45 53.2 -0.1**
MILM Milestii Mici 85.38 317⇑P **P** **01 45 53.2 -0.9**
KMBO Kilima Mbogo 85.40 268 P **P** **01 45 56.1 +0.9**
comp=Z,3.8nm,0.8s,baz=46,slow=8.3,SNR=14
KMBO Kilima Mbogo 85.40 268 P **P** **01 45 54.2 -0.9**
KMBO IAmb IAmb 01 45 57.2
comp=Z,5.6nm,0.9s
SORM Soroca 85.49 318⇑P **P** **01 45 53.7 -0.9**
SORM Soroca 85.49 318⇑P **P** **01 45 53.7 -0.9**
TLCR 85.66 315⇓P **P** **01 45 55.8 +0.3**
TLCR 85.66 315⇓P **P** **01 45 55.8 +0.3**
TOPG Topolog 86.02 315⇑P **P** **01 45 57.8 +0.5**
CFR Carcaliu 86.13 315⇑P **P** **01 45 58.0 +0.2**
CFR Carcaliu 86.13 315⇑P **P** **01 45 58.0 +0.2**
INK Inuvik 86.14 21 P **P** **01 45 57.3 -0.1**
INK pmax pmax
comp=Z,17nm,0.9s
INK Inuvik 86.14 21 P **P** **01 45 57.3 -0.1**
ELL Elmali 86.21 306 P **P** **01 45 58.3 -0.3**
ELL pmax pmax
comp=Z,120nm,1.4s
ELL Elmali 86.21 306 P **P** **01 45 58.3 -0.3**
PETR Petresti 86.67 316⇑P **P** **01 46 01.5 +1.1**
TESR Tescani 86.92 317⇑P **P** **01 46 01.3 -0.4**
VRI Vrincioaia 86.98 316⇑P **P** **01 46 03.0 +0.9**
VRI Vrincioaia 86.98 316⇑P **P** **01 46 03.0 +0.9**
MLR Muntele Rosu 87.60 316⇑P **P** **01 46 05.4 +0.2**
MLR Muntele Rosu 87.60 316⇑P **P** **01 46 05.4 +0.2**
MLR Muntele Rosu 87.60 316 P **P** **01 46 04.3 -0.9**
BURAR Bucovina Array 87.66 318⇑P **P** **01 46 05.5 +0.1**
BURAR Bucovina Array 87.66 318⇑P **P** **01 46 05.5 +0.1**
BUR08 Bucovina Ar. S 87.67 318 IAmb IAmb 01 46 07.1
comp=Z,4.4nm,0.7s
SKAG Skagway 87.83 30 P **P** **01 46 06.2 +0.4**
SKAG IAmb IAmb 01 46 07.8
comp=Z,5.7nm,1.0s
MAW Mawson 87.95 199 P **P** **01 46 05.3 -0.8**
comp=Z,3.7nm,0.8s,baz=98,slow=6.9,SNR=4.5
VOIR 88.22 316⇑P **P** **01 46 07.0 -1.1**
VOIR 88.22 316⇑P **P** **01 46 07.0 -1.1**
KOLS Kolonicke sedl 89.28 320 *e*P **P** **01 46 13.1 +0.1**
KOLS Kolonicke sedl 89.28 320 *e*P **P** **01 46 13.0 +0.1**
UZH Uzhgorod 89.34 319⇓ *i*P **P** **01 46 10.6 -2.6**
UZH *e* 01 46 17.1
UZH *e* 01 46 25.1
DRGR 89.51 317⇑P **P** **01 46 12.3 -1.8**
DRGR 89.51 317⇑P **P** **01 46 12.3 -1.8**
VNDA Vanda 89.94 172 P **P** **01 46 14.2 -1.1**
VNDA Vanda 89.94 172 P **P** **01 46 14.2 -1.1**
VTS Vitosha 90.12 313 P **P** **01 46 15.9 -1.2**
VTS pmax pmax
comp=Z,6.0nm,1.5s
VTS Vitosha 90.12 313 P **P** **01 46 15.9 -1.2**
VTS IAmb IAmb 01 46 20.1
comp=Z,6.0nm,1.5s
BZS Buzias 90.53 316⇑P **P** **01 46 17.7 -1.1**
BZS Buzias 90.53 316⇑P **P** **01 46 17.7 -1.1**
NOA NORSAR Array B 91.49 333 P **P** **01 46 22.1 -0.9**
comp=Z,2.3nm,0.9s,baz=63,slow=4.6,SNR=3.4
DPC Dobruska-Polom 92.60 322 *e*P **P** **01 46 28.3 -0.1**
DPC Dobruska-Polom 92.60 322 *e*P **P** **01 46 28.3 -0.1**
PRU Pruhonice 93.80 322 *e*P **P** **01 46 33.3 -0.5**
PRU Pruhonice 93.80 322 *e*P **P** **01 46 33.3 -0.5**
BRG Berggiesshubel 93.85 323 *i* P **P** **01 46 34.1 0.0**
comp=Z,9.6nm,1.1s
BRG Berggiesshubel 93.85 323 *i* P **P** **01 46 34.1 0.0**
BRG pmax pmax
comp=Z,10.0nm,1.2s
PBCC Pribram 94.24 322 *e*P **P** **01 46 36.0 +0.1**
CLL Collm 94.25 324 *e*P **P** **01 46 35.0 -0.9**
CLL Collm 94.25 324 *e*P **P** **01 46 35.0 -0.9**
CLL *e*PP **PP** **01 50 22.0 -0.6**
CLL Lm MLR 02 34 00.0
comp=N,200nm,20.4s
CLL Lm MLR 02 34 00.0
comp=E,200nm,19.9s
CLL Lm MLR 02 34 00.0

comp=Z,200nm,19.5s
KHC Kasperske Hory 94.69 321 *e*P **P** **01 46 37.9 -0.1**
KHC Kasperske Hory 94.69 321 *e*P **P** **01 46 37.9 -0.1**
GERES GERESS Array B 94.71 321 P **P** **01 46 37.7 -0.5**
comp=Z,0.9nm,0.6s,baz=60,slow=5.4,SNR=10
GERES LR LR 02 31 28.2
comp=Z,120nm,18.1s,baz=60,slow=37
YKA Yellowknife Ar 95.73 23 P **P** **01 46 41.8 -0.5**
comp=Z,3.1nm,0.9s,baz=304,slow=4.5,SNR=22
YKA PKiKP **PKiKP** **01 51 21.8 0.0**
comp=Z,0.4nm,0.7s,baz=299,slow=1.4,SNR=4.9
YKA PKKPbc **PKKPdf** **02 03 29.3 -4.9**
comp=Z,0.3nm,0.6s,baz=123,slow=3.3,SNR=4.6
VNA2 Neumayer--Watz 111.51 196 PKiKP **PKiKP** **01 51 49.9 -0.4**
baz=27,slow=2.7
VNA3 Neumayer Olymp 111.91 195 PKiKP **PKiKP** **01 51 50.8 -0.3**
TORD Torodi Ar. Bea 116.88 290 PKP **PKPdf** **01 52 01.0 -1.2**
comp=Z,1.4nm,0.7s,baz=46,slow=1.8,SNR=9.9
TORD PP PP 01 53 01.8 -9.3
comp=Z,0.9nm,0.9s,baz=67,slow=5.2,SNR=3.8
MNTX Cornudas Mount 118.45 46 **PKPdf** **01 52 04.3 -0.5**
TX32 Lajitas Array 121.00 47 **PKPdf** **01 52 08.8 -1.2**
TXAR Lajitas Array 121.00 47 PKiKP **PKiKP** **01 52 10.0 -0.1**
TXAR Lajitas Array 121.00 47 PKP **PKiKP** **01 52 10.0 -0.1**
comp=Z,1.7nm,0.8s,baz=254,slow=0.7,SNR=16
JCT Junction City 123.05 44 PKiKP **PKPdf** **01 52 13.2 -0.6**
JCT Junction City 123.05 44 **PKPdf** **01 52 13.2 -0.6**
U40A Yellville 123.39 34 **PKPdf** **01 52 13.7 -0.5**
DBIC Dimbokro 124.97 285 PKP **PKPdf** **01 52 17.3 -0.5**
comp=Z,3.9nm,0.8s,baz=255,slow=2.3,SNR=4.6
HKT Hockley 126.03 42 PKiKP **PKiKP** **01 52 19.8 0.0**
HKT Hockley 126.03 42 **PKiKP** **01 52 19.8 0.0**
WVT Waverly 126.19 30 PKiKP **PKPdf** **01 52 19.4 -0.2**
WVT Waverly 126.19 30 **PKPdf** **01 52 19.4 -0.2**
ACON Acoyapa 145.11 52 **PKPab** **01 52 54.3 -0.3**
ESPN Las Esperanzas 145.65 51 **PKPdf** **01 52 55.4 -0.6**
JTS Las Juntas de 146.27 55 PKP2 **PKPbc** **01 52 57.9 -0.4**
JTS Las Juntas de 146.27 55 **PKPbc** **01 52 57.9 -0.4**
PLCA Paso Flores 147.10 162 PKP **PKPdf** **01 52 57.5 -0.3**
comp=Z,23nm,0.8s,baz=248,slow=2.8,SNR=43
PLCA PKPbc **PKPbc** **01 53 00.4 +0.4**
comp=Z,23nm,0.8s,baz=237,slow=4.0,SNR=42
PLCA Paso Flores 147.10 162 **PKPbc** **01 52 59.1 -0.9**
GO06 Curarrehue 147.84 160 PKPbc **PKPdf** **01 53 00.2 +1.0**
TRQA Tornquist 151.56 173 PKiKP **PKPbc** **01 53 10.2 -1.0**
TRQA Tornquist 151.56 173 **PKPbc** **01 53 10.2 -1.0**
SDV Santo Domingo 157.38 35 **PKPdf** **01 53 12.8 -1.2**
SDV PKPab **PKPab** **01 53 43.8 -1.4**
CPUP Villa Florida 163.53 181 PKP **PKPdf** **01 53 20.3 +0.2**
comp=Z,1.5nm,0.7s,baz=214,slow=2.5,SNR=4.7
CPUP PKPab **PKPab** **01 54 11.5 +0.2**
comp=Z,3.3nm,1.0s,baz=258,slow=2.7,SNR=5.0
MNMC Minye Minye 165.13 130 **PKPdf** **01 53 22.1 0.0**
LPAZ La Paz 167.87 123 PKiKP **PKPdf** **01 53 24.8 +0.1**
LPAZ La Paz 167.87 123 PKP **PKPdf** **01 53 25.4 +0.7**
comp=Z,5.5nm,0.9s,baz=18,slow=2.1,SNR=21
LPAZ La Paz 167.87 123 **PKPdf** **01 53 24.9 +0.1**
SAML Samuel 174.43 82 PKiKP **PKPdf** **01 53 26.4 -1.0**
SAML Samuel 174.43 82 **PKPdf** **01 53 26.4 -1.0**

*SJA **08** 01:37:01.6±0.9, 31°.81S×71°.94W, h40km±10km, ML3.5, MW3.4*
*GUC **08** 01:37:04.0±0.6, 31°.73S×71°.41W, h50km±5km, ML3.4*
ISC 08 01:37:00.5±1.8, **31°.68S**±0°.04×**71°.62W**±0°.08, **h10**km±13km, **n19**, σ1s**38**/29, **6C-1D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.71**	**48**	⇓ *i*P	**Pn**	**01 37 17.9**	**+1.2**
CO02				*i* S	**Sn**	**01 37 28.7**	**+0.9**
VA01	**Torpederas**	**1.34**	**181**	IAML		01 37 46.0	
	comp=E,537nm,0.2s						
ROCH	**El Roble**	**1.39**	**158**	⇑ *i*P	**Pn**	**01 37 26.3**	**+0.1**
ROCH				*i* S	**Sb**	**01 37 43.9**	**-0.7**
ROC1	**El Roble**	**1.39**	**159**	*i* P	**Pn**	**01 37 26.2**	**0.0**
ROC1				*e*S	**Sb**	**01 37 44.4**	**-0.4**
GO04	**Tololo Observa**	**1.66**	**25**	⇑ *i*P	**Pg**	**01 37 32.5**	**+0.2**
GO04				*i* S	**Sg**	**01 37 55.1**	**+1.3**
GO04	**Tololo Observa**	**1.66**	**25**	*i* P	**Pg**	**01 37 32.8**	**+0.4**
PEL	**Peldehue**	**1.66**	**152**	⇑ *i*P	**Pn**	**01 37 30.8**	**+1.0**
PEL				*i* S	**Sn**	**01 37 51.1**	**-0.2**
PEL				IAML		01 37 53.8	
	comp=E,705nm,0.1s						
CLCH	**Cerro Calan**	**1.94**	**152**	⇑ *i*P	**Pn**	**01 37 35.0**	**+1.3**
CLCH				*i* S	**Sn**	**01 37 58.7**	**+0.5**
CLCH				IAML		01 38 08.7	
	comp=N,731nm,0.3s						
RTLS	**Leoncito**	**1.98**	**94**	*e*P	**Pg**	**01 37 38.7**	**+0.2**
RTLS				IAML		01 38 05.1	
	comp=Z,244nm,0.3s						
FCH	**Farellones**	**1.99**	**146**	⇑ *i*P	**Pn**	**01 37 35.9**	**+1.3**
FCH				*i* S	**Sn**	**01 38 00.5**	**+0.7**
FCH				IAML		01 38 03.5	
	comp=E,632nm,0.2s						
ANTU	**Antumapu**	**2.06**	**156**	IAML		01 38 09.4	
	comp=E,455nm,0.3s						
AROD	**Rodeo**	**2.38**	**51**	*e*P	**Pg**	**01 37 45.5**	**-0.7**
AROD				*e*S	**Sg**	**01 38 17.1**	**0.0**
ACCO	**Cerro Coronel**	**2.44**	**64**	*e*P	**Pg**	**01 37 46.6**	**-0.8**
ACCO				*e*S	**Sg**	**01 38 19.1**	**0.0**
LMEL	**Las Melosas**	**2.47**	**152**	⇑ *i*P	**Pn**	**01 37 42.8**	**+1.7**
LMEL				*i* S	**Sn**	**01 38 11.5**	**+0.1**
LMEL				IAML		01 38 18.4	
	comp=N,499nm,0.2s						
RTCV	**Cerro Valdivia**	**2.63**	**95**	*e*P	**Pb**	**01 37 47.8**	**0.0**
RTLL	**Cerro Villicun**	**2.71**	**83**	*e*P	**Pb**	**01 37 48.9**	**-0.2**
RTLL				*e*S	**Sb**	**01 38 23.8**	**+1.4**
RTLL				IAML		01 38 34.3	
	comp=Z,163nm,0.2s						
CFA	**Coronel Fontan**	**2.88**	**89**	*i* P	**Pb**	**01 37 51.5**	**-0.6**
CFA				*e*S	**Sb**	**01 38 27.7**	**+0.2**
GO05	**Huala**	**3.33**	**184**	*i* P	**Pn**	**01 37 51.9**	**-0.9**
ACLC	**CERRO LA CRUZ**	**4.61**	**62**	*e*S	**Sb**	**01 39 11.8**	**-5.5**

PRU 08 01:44:26.6±0.0, **51°.47N**×**16°.11E**, **h0**km, **Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHVC	**Chvalec**	**0.88**	**182**	*e*PG	Pg	01 44 43.0	-0.5
CHVC				*e*SG	Sg	01 44 55.3	+0.4
OSTC	**Ostas**	**0.92**	**176**	*e*PG	Pg	01 44 43.9	-0.2
OSTC				*e*SG	Sg	01 44 56.4	+0.4
DPC	**Dobruska-Polom**	**1.13**	**173**	*e*SG	Sg	01 45 01.7	-1.1
PVCC	**Panska Ves**	**1.36**	**227**	*e*PG	Pg	01 44 51.9	-0.7
PVCC				*e*SG	Sg	01 45 09.2	-0.9
BRG	**Berggiesshubel**	**1.49**	**247**	PG	Pn	01 44 54.2	-0.4
BRG				SG	Sb	01 45 14.5	-0.1
	1.5nm,0.4s						

*MOS **08** 01:53:44.8±1.0, 15°.49S×167°.42E, h115km, mb5.4/30, Error ellipse: s-maj=8.9km s-min=6.9km az=132.3*
*IDC **08** 01:53:45.6±1.1, 15°.52S×167°.27E, h108km±8km, mb4.9/15, mb1 5.0/17, mb1mx4.8/24, mbtmp5.3/17, MS4.1/26, Ms1 4.1/26, ms1mx3.9/36, Error ellipse: s-maj=12.1km s-min=10.9km az=101.0*
*ISCJB **08** 01:53:45.5±0.8, 15°.48S±0°.03×167°.45E±0°.03, h124km±7km, mb5.3/99, Error ellipse: s-maj=5.1km s-min=4.2km az=151.3*
*NEIC **08** 01:53:45.6±1.2, 15°.54S±0°.02×167°.53E±0°.09, h116km±1km, mb5.2/108, Mwb5.4, Mwc5.5(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr0.69; Mθθ-0.78; Mφφ0.09; Mrθ0.09; Mrφ0.89; Mθφ1.34; Fault plane solution: M0 1.77000×10^17^ NP1:ϕs89.87000°, δ40.25000°, λ23.89000°. NP2:ϕs341.19000°, δ74.83000°, λ127.74000°. Principal axes: T 1.9215, Plg46.0000°, Azm290.0000°; N -0.3442, Plg36.0000°, Azm150.0000°; P -1.5773, Plg21.0000°, Azm44.0000°;*
*GCMT **08** 01:53:47.6±0.1, 15°.56S±0°.01×167°.41E±0°.01, h119km, MW5.5/152, Moment Tension Solution. s138,c221; s152,c284; Duration: 1s3 Moment tensor: Scale 10^17^ Nm; Mrr0.86±.02; Mθθ-1.30±.02; Mφφ0.43±.02; Mrθ-0.10±.02; Mrφ1.02±.02; Mθφ1.16±.01; Best double couple: M0 1.92600×10^17^ NP1:ϕs331.00000°, δ70.00000°, λ135.00000°. NP2:ϕs79.00000°, δ48.00000°, λ27.00000°. Principal axes: T 1.9410, Plg45.0000°, Azm286.0000°; N -0.0310, Plg42.0000°, Azm132.0000°; P -1.9100,*

Plg13.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

BJI **08** 01:53:47.0±0.0, 14°.84S×167°.44E, h117km, mb5.3/71, mB5.2/50

NEIC **08** 01:53:47, 15°.57S×167°.43E, h127km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.98; $M_{\theta\theta}$-1.38; $M_{\phi\phi}$0.39; $M_{r\theta}$-0.10; $M_{\theta\phi}$1.08; $M_{\phi r}$1.23; Fault plane solution: $M_0$2.05000×10^{17} NP1:ϕ_s81.00000°, δ47.00000°, λ29.00000°. NP2:ϕ_s330.00000°, δ69.00000°, λ133.00000°. Principal axes: T 2.0642, Plg47.0000°, Azm286.0000°; N -0.0283, Plg40.0000°, Azm132.0000°; P -2.0360, Plg13.0000°, Azm30.0000°;

ISC 08 01:53:46.0±0.4, **15°.53S**±0°.04×**167°.55E**±0°.05, **h119**km±3km, **h119**km**:pP-P, n551**, σ**1.37**/614, **mb5.3**/130, **58C-34D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.59	189	ePn	Pn	01 55 20.9	+0.5
	862nm,0.3s						
DZM				eSn	Sn	01 56 33.9	-0.3
	933nm,0.3s						
DZM	Mont Dzumac	6.59	189	P	Pn	01 55 21.2	+0.8
	187nm,0.3s,baz=27,slow=11,SNR=1278						
DZM				S	Sn	01 56 31.2	-3.0
	45nm,0.3s,baz=311,slow=19,SNR=2.2						
DZM				LR	LR	01 56 38.6	
	comp=Z,1μm,21.4s,baz=28,slow=26						
DZM	Mont Dzumac	6.59	189		Pn	01 55 20.1	-0.3
DZM				Sn	Sn	01 56 33.8	-0.4
HNR	Honiara	9.58	308	P	Pn	01 56 01.2	+0.3
HNR						01 57 49.1	
HNR	Honiara	9.58	308	P	Pn	01 56 02.1	+1.2
	33nm,0.3s,baz=182,slow=3.3,SNR=94						
HNR				S	Sn	01 57 49.1	+2.3
	30nm,0.3s,baz=254,slow=20,SNR=2.8						
HNR	Honiara	9.58	308	eP	Pn	01 56 02.0	+1.1
HNR				eS	Sn	01 57 57.0	+10
HNR	Honiara	9.58	308		Pn	01 56 01.2	+0.3
MSVF	Nonsavu	10.30	104	P	Pn	01 56 12.3	+1.6
MSVF	Nonsavu	10.30	104		Pn	01 56 12.3	+1.6
TARA	Tarawa	17.60	18	P	Pn	01 57 43.7	-0.2
TARA				IAmb	IAmb	01 57 48.0	
	comp=Z,255nm,1.1s						
EIDS	Eidsvold	18.25	235	P	Pn	01 57 52.4	+0.8
	baz=18,SNR=53						
EIDS	Eidsvold	18.25	235	P	Pn	01 57 52.0	+0.4
EIDS				IAmb	IAmb	01 57 54.0	
	comp=Z,94nm,0.7s						
KRVT	Keravat (AS076	18.91	305	P	P	01 57 56.5	-1.0
	comp=Z,2.5nm,0.3s,baz=336,slow=3.5,SNR=11						
KRVT				LR	LR	02 05 36.9	
	comp=Z,476nm,19.5s,baz=123,slow=38						
AFI	Afiamalu	20.06	88	LR	LR	02 04 45.0	
	comp=Z,1μm,19.0s,baz=260,slow=32						
OUZ	Omahuta	20.34	166	P	Pn	01 58 15.5	-0.5
OUZ	Omahuta	20.34	166	P	Pn	01 58 15.0	-1.0
OUZ				IAmb	IAmb	01 58 19.7	
	comp=Z,104nm,1.4s						
RMQ	Roma	20.62	235	P	Pn	01 58 18.3	-1.1
	baz=21,SNR=18						
CTA	Charters Tower	20.77	254	P	P	01 58 18.2	+0.6
	comp=Z,69nm,0.9s,baz=79,slow=13,SNR=33						
ARMA	Armidale	20.80	222	P	Pn	01 58 20.1	-1.5
	baz=21,SNR=20						
ARMA	Armidale	20.80	222	P	Pn	01 58 20.9	-0.7
ARMA				IAmb	IAmb	01 58 38.6	
	comp=Z,59nm,0.9s						
PMG	Port Moresby	20.81	285	c iP	P	01 58 19.0	+1.0
PMG				pmax	pmax		
	comp=Z,1μm,1.3s						
PMG	Port Moresby	20.81	285	P	P	01 58 16.1	-1.9
	comp=Z,126nm,0.9s,baz=95,slow=7.8,SNR=26						
PMG				LR	LR	02 05 19.3	
	comp=Z,905nm,19.1s,baz=108,slow=34						
PMG	Port Moresby	20.81	285	P	P	01 58 18.8	+0.7
PMG				IAmb	IAmb	01 58 22.2	
	comp=Z,162nm,0.9s						
WCZ	Waipu Caves	21.21	165	P	P	01 58 22.8	+0.6
MTSU	Mount Surprise	22.38	260	P	P	01 58 35.6	+0.9
	baz=22,SNR=33						
MGCD	Mangrove Creek	23.05	217	P	P	01 58 42.9	+1.9
	baz=23,SNR=11						
TOZ	Tahuroa Road	23.21	164	P	P	01 58 43.2	+0.8
COEN	Coen	23.62	271	P	P	01 58 47.0	+0.6
	baz=24,SNR=22						
COEN	Coen	23.62	271	P	P	01 58 46.2	-0.2
HAZ	Te Kaha	23.92	160	P	P	01 58 51.3	+2.5
HAZ				S	S	02 02 57.8	+1.2
MANU	Manus Island	23.99	302	P	P	01 58 49.9	+0.2
MANU				IAmb	IAmb	01 58 55.2	
	comp=Z,137nm,1.2s						
PATS	Pohnpei	24.03	337	P	P	01 58 50.4	+0.3
PATS				IAmb	IAmb	01 58 53.9	
	comp=Z,52nm,0.8s						
KNTN	Kanton	24.04	60	P	P	01 58 50.5	+0.3
KNTN				IAmb	IAmb	01 58 55.2	
	comp=Z,92nm,1.1s						
URZ	Urewera	24.16	161	P	P	01 58 52.0	+0.9
	comp=Z,17nm,0.8s,baz=8.2,slow=11,SNR=5.6						
URZ				S	S	02 03 04.4	+3.9
	comp=Z,14nm,0.8s,baz=165,slow=15,SNR=4.2						
URZ	Urewera	24.16	161	P	P	01 58 52.1	+1.1
URZ				S	S	02 03 04.2	+3.8
MWZ	Matawai	24.36	161	P	P	01 58 54.6	+1.7
MWZ				S	S	02 03 04.1	+0.3
PUZ	Puketiti	24.36	159	P	P	01 58 57.9	+5.0
PUZ				S	S	02 03 04.1	+0.3
SNGZ	Shannon Statio	24.71	161	P	P	01 58 57.4	+1.3
SNGZ				S	S	02 03 09.6	+0.3
RIGZ	Rimuhau	24.77	161	P	P	01 58 58.2	+1.6
RIGZ				S	S	02 03 10.5	+0.1
BKZ	Black Stump Fm	24.82	163	P	P	01 58 58.0	+0.9
BKZ	Black Stump Fm	24.82	163	P	P	01 58 57.4	+0.3
NMHZ	Naumai	24.84	163	P	P	01 58 59.1	+1.8
BHHZ	Black Hill Sta	25.01	164	P	P	01 59 00.6	+1.8
KWHZ	Kaweka Forest	25.04	164	P	P	01 59 00.3	+1.1
YNG	Young	25.43	219	P	P	01 59 04.3	+1.7
	baz=26,SNR=5.0						
CMSA	Cobar Meteorol	25.52	228	P	P	01 59 04.1	+0.6
	baz=26,SNR=34						
CNB	Canberra Magne	25.56	216	P	P	01 59 04.8	+0.9
	baz=26,SNR=4.8						
MSWZ	Moikau Station	26.64	167	P	P	01 59 12.8	-0.7
MILA	Mila	26.95	214	P	P	01 59 17.8	+1.4
	baz=27,SNR=4.2						
QIS	Mount Isa	27.01	255	P	P	01 59 17.4	+0.3
	baz=27,SNR=28						
MMPI	Merauke	27.46	282	P	P	01 59 25.9	+4.8
STKA	Stephens Creek	28.69	231	P	P	01 59 32.9	+1.0
	baz=29,SNR=50						
STKA	Stephens Creek	28.69	231	P	P	01 59 32.3	+0.4
	comp=Z,17nm,0.4s,baz=46,slow=7.1,SNR=45						
STKA				PcP	PcP	02 02 39.7	+0.1
	comp=Z,18nm,0.8s,baz=17,slow=4.7,SNR=6.8						
STKA				ScP	ScP	02 06 11.5	+1.4
	comp=Z,3.9nm,0.8s,baz=3.1,slow=1.3,SNR=4.0						
STKA				LR	LR	02 09 25.3	
	comp=Z,842nm,21.6s,baz=60,slow=33						
STKA	Stephens Creek	28.69	231	P	P	01 59 32.3	+0.4
TOO	Toolangi	29.37	217	P	P	01 59 38.8	+0.9
	baz=30,SNR=7.6						
TOO	Toolangi	29.37	217	P	P	01 59 38.3	+0.4
TOO				pmax	pmax		
	comp=Z,23nm,0.9s						
TOO	Toolangi	29.37	217	P	P	01 59 38.3	+0.4
TOO				IAmb	IAmb	01 59 39.9	
	comp=Z,23nm,0.8s						
JAY	Jayapura	29.44	293	P	P	01 59 37.0	-1.7
JAY	Jayapura	29.44	293	P	P	01 59 37.0	-1.7
	comp=Z,19nm,0.8s,baz=109,slow=3.9,SNR=13						
JAY	Jayapura	29.44	293	P	P	01 59 37.3	-1.4
	comp=Z,18nm,0.8s,comp=Z,396nm						
ARPS	Mount Arapiles	31.13	222	P	P	01 59 54.5	+1.2
	baz=31,SNR=7.0						
HTT	Hallett	31.41	230	P	P	01 59 56.7	+0.8
	baz=32,SNR=17						
SMPI	Sarmi	31.45	293	P	P	01 59 56.2	-0.2
	comp=Z,356nm,1.3s,comp=Z,4μm						
WR0	Warramunga Arr	31.71	257	P	P	01 59 57.6	-1.1
WR0				IAmb	IAmb	01 59 59.0	
	comp=Z,63nm,0.9s						
WB2	Warramunga Arr	31.89	257	P	P	01 59 59.1	-1.1
WB2				IAmb	IAmb	02 00 00.5	
	comp=Z,88nm,0.9s						
WRAB	Tennant Creek	31.89	257	ceP	P	01 59 58.8	-1.4
WRAB				pmax	pmax		
	comp=Z,101nm,1.0s						
WRAB	Tennant Creek	31.89	257	P	P	01 59 59.3	-0.9
WRAB				IAmb	IAmb	02 00 00.4	
	comp=Z,93nm,1.0s						
WRA	Warramunga Arr	31.90	257	P	P	01 59 59.4	-1.0
	comp=Z,66nm,0.8s,baz=87,slow=8.5,SNR=147						
WRA				PP	PP	02 01 13.8	-0.8
	comp=Z,12nm,1.1s,baz=89,slow=10,SNR=4.5						
WRA				PcP	PcP	02 02 48.0	-0.3
	comp=Z,7.6nm,0.9s,baz=88,slow=2.0,SNR=6.0						
WRA				S	S	02 04 57.9	-4.8
	comp=Z,3.1nm,0.9s,baz=90,slow=15,SNR=3.6						
WRA				ScP	ScP	02 06 22.7	+1.9
	comp=Z,7.5nm,1.0s,baz=84,slow=3.6,SNR=9.3						
WRA				LR	LR	02 12 34.8	
	comp=Z,518nm,19.6s,baz=80,slow=36						
MOO	Moorlands	32.02	209	P	P	02 00 02.5	+1.5
	baz=32,SNR=6.9						
TAU	Tasmania Unive	32.32	208	P	P	02 00 03.8	+0.1
TAU				pmax	pmax		
	comp=Z,54nm,1.2s						
TAU	Tasmania Unive	32.32	208	P	P	02 00 03.8	+0.1
TAU				IAmb	IAmb	02 00 05.4	
	comp=Z,54nm,1.2s						
AS31	Alice Springs	32.65	250	P	P	02 00 06.2	-0.6
AS31				IAmb	IAmb	02 00 07.4	
	comp=Z,47nm,0.8s						
ASAR	Alice Springs	32.65	250	P	P	02 00 06.2	-0.7
	comp=Z,138nm,0.8s,baz=78,slow=9.2,SNR=692						
ASAR				PcP	PcP	02 02 49.9	-0.4
	comp=Z,8.5nm,0.9s,baz=89,slow=2.4,SNR=5.0						
ASAR				S	S	02 05 10.2	-4.2
	comp=Z,0.9nm,0.9s,baz=68,slow=8.1,SNR=2.4						
ASAR				ScP	ScP	02 06 24.4	+1.0
	comp=Z,7.2nm,0.9s,baz=84,slow=3.6,SNR=12						
ASAR				LR	LR	02 13 22.1	
	comp=Z,750nm,18.9s,baz=88,slow=36						
BBOO	Buckleboo	33.31	233	P	P	02 00 13.6	+1.1
	baz=33,SNR=58						
BBOO	Buckleboo	33.31	233	P	P	02 00 12.0	-0.4
KDU	Kakadu	34.11	270	P	P	02 00 19.0	-0.5
	baz=34,SNR=20						
KMPI	Kaimana, Papua	35.32	286	P	P	02 00 32.9	+2.9
	comp=Z,302nm,0.8s,comp=Z,3μm						
MTN	Manton Dam	35.38	270	P	P	02 00 30.1	-0.3
	baz=35,SNR=8.7						
MTN	Manton Dam	35.38	270	P	P	02 00 29.7	-0.8
MTN				IAmb	IAmb	02 00 30.6	
	comp=Z,49nm,1.0s						
RKPI	Ransiki, Papua	35.73	290	P	P	02 00 36.0	+2.4
	comp=Z,471nm,1.3s,comp=Z,14μmcomp=Z,9μm						
GUMO	Guam	36.61	321	LR	LR	02 17 23.3	
	comp=Z,112nm,18.2s,baz=143,slow=39						
FAKI	Fak Fak	36.95	286	P	P	02 00 44.4	+0.5
	comp=Z,342nm,1.2s,comp=Z,4μm						
KNRA	Kununurra	37.32	264	P	P	02 00 46.2	-0.7
	baz=37,SNR=113						
WRKA	Warakurna	37.90	249	P	P	02 00 51.5	-0.3
	baz=38,SNR=57						
SARN	Sarigan	38.56	325	P	P	02 00 56.9	-0.5
SARN				IAmb	IAmb	02 00 57.1	
	comp=Z,60nm,1.0s						
BNDI	Bandanaira	38.58	282	P	P	02 00 57.6	0.0
	comp=Z,633nm,1.5s,comp=Z,8μmcomp=Z,2μm						
SIJI	Sorong	38.65	289	LR	LR	02 17 03.6	
	comp=Z,363nm,18.8s,baz=122,slow=36						
SWI	Sorong	38.66	289	P	P	02 00 57.6	-0.7
	comp=Z,394nm,0.9s,comp=Z,4μm						
FORT	Forrest	39.12	240	P	P	02 01 02.5	+0.5
	baz=39,SNR=64						
FORT	Forrest	39.12	240	P	P	02 01 02.3	+0.3
PALU	Palau	39.88	302	P	P	02 01 09.9	+1.5
	baz=40,SNR=12						
MSAI	Masohi	39.89	284	P	P	02 01 10.1	+1.6
	comp=Z,18nm,1.2s,comp=Z,1μm						
FITZ	Fitzroy Crossi	40.14	260	P	P	02 01 10.1	-0.4
	baz=40,SNR=236						
FITZ	Fitzroy Crossi	40.14	260	LR	LR	02 18 05.3	
	comp=Z,814nm,18.3s,baz=90,slow=37						
FITZ	Fitzroy Crossi	40.14	260	P	P	02 01 10.2	-0.4
PPT2	Papeete2	41.09	99	eS	S	02 07 24.0	+1.3
	comp=Z,224nm,24.8s						
PPT2				eLQ	LQ	02 11 12.7	
	comp=Z,3μm,26.5s						
PPT2				eLR	LR	02 12 57.9	
	comp=Z,1μm,27.8s,baz=260						
TBI	Tubuai	41.16	108	eS	S	02 07 24.5	+1.0
	comp=Z,303nm,28.8s						
TBI				eLQ	LQ	02 11 17.4	
	comp=Z,1μm,25.5s						
TBI				eLR	LR	02 13 02.2	
	comp=Z,786nm,34.8s						
NLAI	Namlea	41.64	283	P	P	02 01 24.2	+1.3
SOEI	Soe	42.56	272	P	P	02 01 33.7	+3.2
	comp=Z,152nm,1.5s,comp=Z,2μm						
TNTI	Ternate	42.87	289	P	P	02 01 33.0	+0.1
	comp=Z,40nm,1.3s,comp=Z,2μmcomp=Z,1μm						
BATI	Baumata	43.05	272	LR	LR	02 18 54.7	
	comp=Z,340nm,19.4s,baz=130,slow=35						
BATI	Baumata	43.05	272	P	P	02 01 37.2	+2.9
	comp=Z,212nm,1.0s,comp=Z,2μm						
SANI	Sanana	43.09	284	P	P	02 01 34.3	-0.3
	comp=Z,171nm,0.8s,comp=Z,3μm						
KMBL	Kambalda	44.43	241	P	P	02 01 45.3	+0.1
	baz=44,SNR=23						
MMRI	Maumere	44.76	273	P	P	02 01 48.8	+0.8
	comp=Z,213nm,1.0s,comp=Z,3μm						
PSA00	Pilbara Seismi	45.48	255	P	P	02 01 53.9	+0.2
KMSI	Cibinong	45.91	286	P	P	02 01 59.9	+2.8
LUWI	Luwuk	46.45	284	P	P	02 02 02.6	+1.3
	comp=Z,198nm,1.1s						
MEEK	Meekatharra	46.73	248	P	P	02 02 03.6	+0.2
	baz=47,SNR=44						
DAV	Davao City (W)	47.25	295	LR	LR	02 21 25.3	
	comp=Z,110nm,18.1s,baz=157,slow=35						
DMPH	Davao City--Mi	47.32	295	⇓P	P	02 02 10.1	+2.1
APSI	Ampana	47.55	283	P	P	02 02 11.0	+1.2
BKSI	Bulukumba	47.63	277	P	P	02 02 10.1	-0.4
	comp=Z,75nm,1.4s						
KCP	Kidapawan	47.65	295	⇑P	P	02 02 10.6	0.0
BNSI	Bone	47.91	278	P	P	02 02 13.4	+0.8
	comp=Z,151nm,1.2s,comp=Z,2μmcomp=Z,13μm						
KLBR	Kellerberrin	47.95	241	P	P	02 02 12.7	-0.1
	baz=48,SNR=10						
KAPI	Kappang	48.07	277	P	P	02 02 14.7	+0.9
	SNR=40						
KAPI	Kappang	48.07	277	P	P	02 02 13.9	0.0
KAPI				pmax	pmax		
	comp=Z,155nm,1.1s						
KAPI	Kappang	48.07	277	P	P	02 02 13.9	0.0
SPSI	Sidrap Palu	48.35	279	P	P	02 02 15.1	-0.9
	comp=Z,63nm,1.3s,comp=Z,2μm						
NWAO	Narrogin (SRO)	48.57	240	P	P	02 02 17.4	-0.1
	baz=49,SNR=16						
NWAO	Narrogin (SRO)	48.57	240	P	P	02 02 17.6	+0.1
NWAO	Narrogin (SRO)	48.57	240	P	P	02 02 17.4	-0.1
NWAO				pmax	pmax		
	comp=Z,120nm,1.0s						
NWAO	Narrogin (SRO)	48.57	240	P	P	02 02 17.4	-0.1
TTSI	Tana Toraja	48.58	280	P	P	02 02 21.2	+3.4
	comp=Z,39nm,0.8s						
BLDU	Ballidu	48.73	243	P	P	02 02 18.4	-0.3
	baz=49,SNR=11						
PLAI	Plampang	49.02	272	P	P	02 02 21.7	+0.6
	comp=Z,162nm,1.1s,comp=Z,2μm						
RKGY	Rocky Gully	49.05	238	P	P	02 02 22.0	+1.0
	baz=49,SNR=5.6						
MORW	Morawa	49.17	245	P	P	02 02 22.1	+0.1
	baz=49,SNR=49						
MORW	Morawa	49.17	245	P	P	02 02 22.0	-0.1
MUN	Mundaring	49.31	241	P	P	02 02 23.4	+0.3
	baz=49,SNR=5.9						
DNP	Denpasar	51.52	271	P	P	02 02 40.8	+0.8
	comp=Z,544nm,0.7s						
IGBI	Denpasar	51.55	271	P	P	02 02 40.6	+0.4
	comp=Z,290nm,0.9s,comp=Z,3μm						
JAGI	Jajag, Banyuwa	52.59	271	P	P	02 02 46.7	-1.2
	comp=Z,99nm,1.1s,comp=Z,1μm						
SPMM	Sapulut	54.42	288	P	P	02 03 01.0	-0.3
SPMM	Sapulut	54.42	288	P	P	02 03 01.0	-0.3
TGY	Tagaytay City	54.69	300	LR	LR	02 23 58.5	
	comp=Z,97nm,20.1s,baz=92,slow=33						
PWJI	Pagerwojo	54.95	271	P	P	02 03 05.4	+0.3
	comp=Z,84nm,1.0s						
KKM	Kota Kinabalu	55.17	289	P	P	02 03 06.8	+0.1
NGJI	Ngawi	55.43	272	P	P	02 03 10.2	+1.6
	comp=Z,116nm,1.2s						
WOJI	Wonogiri, Jawa	55.84	271	P	P	02 03 12.0	+0.5
	comp=Z,129nm,1.0s						
UGM	Wanagama	56.21	271	P	P	02 03 14.0	-0.2
	comp=Z,250nm,1.1s						
YOGI	Yogyakarta	56.45	271	P	P	02 03 17.2	+1.3
	comp=Z,211nm,0.9s						
SMRI	Semarang	56.49	272	P	P	02 03 16.5	+0.3
	comp=Z,218nm,1.0s						
JOW	Kunigami	56.82	317	P	P	02 03 17.8	-0.3
JOW				IAmb	IAmb	02 03 19.9	
	comp=Z,22nm,0.7s						
SBUM	Sibu	57.55	283	P	P	02 03 25.0	+1.4
SBUM	Sibu	57.55	283	P	P	02 03 23.6	0.0
SBUM				IAmb	IAmb	02 03 25.6	
	comp=Z,22nm,0.9s						
KPJI	Karang Pucung	57.88	271	P	P	02 03 26.4	+0.5
	comp=Z,185nm,0.8s,comp=Z,2μm						
INU	Inuyama	58.30	331	IAmb	IAmb	02 03 29.5	
	comp=Z,55nm,1.5s						
MJAR	Matsushiro Arr	58.74	333	P	P	02 03 30.2	-1.2
	comp=Z,15nm,0.9s,baz=165,slow=7.8,SNR=27						
MAJO	Matsushiro	58.74	333	⇓iP	P	02 03 31.1	-0.3
MAJO				pmax	pmax		
	comp=Z,38nm,1.1s						
MAJO	Matsushiro	58.74	333	P	P	02 03 31.1	-0.3
MAJO				IAmb	IAmb	02 03 31.8	
	comp=Z,21nm,0.7s						
MAT	Matsushiro	58.74	333	P	P	02 03 30.4	-1.0
MAT				S	S	02 11 26.0	-1.2
MJB9	Matsu-Tunnel	58.74	333	P	P	02 03 30.8	-0.6
MJB9				IAmb	IAmb	02 03 31.8	
	comp=Z,22nm,0.7s						
KSM	Kuching	59.02	281	P	P	02 03 34.0	+0.1
KSM	Kuching	59.02	281	P	P	02 03 33.5	-0.4
LEM	Lembang	59.27	271	P	P	02 03 36.2	+0.5
	comp=Z,172nm,1.0s,comp=Z,1μm						
JNU	Nakatsue	59.73	325	P	P	02 03 38.1	-0.2
SSLB	Suanglung	60.00	310	IAmb	IAmb	02 03 40.6	
	comp=Z,28nm,0.7s						
DBJI	Dramaga	60.17	271	P	P	02 03 41.7	0.0
	comp=Z,247nm,1.2s						
YHNB	Yeheng	60.21	311	P	P	02 03 41.8	0.0
SKJI	Sukabumi	60.25	271	P	P	02 03 42.4	+0.2
	comp=Z,426nm,0.9s,comp=Z,4μm						
XMIS	Christmas Isla	60.35	267	P	P	02 03 42.5	-0.4
VNDA	Vanda	62.07	181	P	P	02 03 53.7	+0.2
VNDA	Vanda	62.07	181	P	P	02 03 53.7	+0.2
SBA	Scott Base	62.34	180	P	P	02 03 55.3	+0.1
SBA				pmax	pmax		
	comp=Z,24nm,1.0s						
SBA	Scott Base	62.34	180	P	P	02 03 55.3	+0.1
SBA				IAmb	IAmb	02 03 57.5	
	comp=Z,24nm,0.9s						
KASI	Kota Agung	62.59	272	P	P	02 03 56.8	-1.2
	comp=Z,247nm,0.9s,comp=Z,2μm						
CASY	Casey	62.89	202	P	P	02 03 59.2	+0.1
CASY				IAmb	IAmb	02 03 60.0	
	comp=Z,39nm,1.1s						
LWLI	Liwa	63.14	272	P	P	02 04 00.3	-1.5
	comp=Z,101nm,1.0s						
MDSI	Maura Dua	63.16	273	P	P	02 04 00.0	-1.8
	comp=Z,88nm,0.9s						
ASAJ	Asahikawa	63.58	340	LR	LR	02 26 58.3	
	comp=Z,161nm,21.5s,baz=95,slow=31						
TJN	Taejon	64.08	325	⇑iP	P	02 04 06.6	-0.7
DLV	T Lat	64.51	292	P	P	02 04 10.8	0.0
DLV				IAmb	IAmb	02 04 13.8	
	comp=Z,47nm,1.0s						
KSRS	Korea Array	64.55	326	P	P	02 04 10.8	+0.4
	comp=Z,7.7nm,0.8s,baz=138,slow=6.9,SNR=27						
KSRS				LR	LR	02 29 31.7	
	comp=Z,59nm,20.9s,baz=145,slow=33						
KS19	Wonju Array Si	64.61	326	P	P	02 04 10.9	+0.1
YSS	Yuzh-Sakhalins	66.07	342	⇑iP	P	02 04 20.8	+0.8
YSS				eS	S	02 12 58.7	+0.1
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				smax	smax		
	comp=N,100nm,16.0s						
YSS				smax	smax		
	comp=E,200nm,11.0s						
YSS				MLR	MLR		
	comp=Z,100nm,16.0s						
YSS	Yuzh-Sakhalins	66.07	342	P	P	02 04 20.3	+0.3
YSS				IAmb	IAmb	02 04 21.5	
	comp=Z,39nm,1.1s						
NJ2	Nanjing	66.44	316	⇑iP	P	02 04 22.8	+0.2
NJ2				pmax	pmax		
	comp=Z,39nm,0.7s						
MSHR	Mys Shultsa	66.81	332	ceP	P	02 04 25.3	+0.5
VLA	Vladivostok	66.91	332	deP	P	02 04 26.8	+1.4
VLA				pmax	pmax		
	comp=Z,40nm,1.1s						
JRMM	Jerantut	67.20	281	P	P	02 04 28.0	+0.1
JRMM	Jerantut	67.20	281	P	P	02 04 28.0	+0.1
USA0B	Ussuriysk Arra	67.72	333	P	P	02 04 30.3	-0.2
USA0B				pmax	pmax		
	comp=Z,77nm,1.2s						
USA0B	Ussuriysk Arra	67.72	333	P	P	02 04 30.3	-0.2
USA0B				IAmb	IAmb	02 04 32.5	
	comp=Z,77nm,1.2s						
USRK	Ussuriysk Ar.	67.72	333	P	P	02 04 31.4	+1.0
	comp=Z,35nm,1.0s,baz=149,slow=5.3,SNR=49						
UBPT	Khong Chiam	68.53	294	IAmb	IAmb	02 04 38.2	
	comp=Z,65nm,1.0s						
WHN	Wuhan	68.68	312	⇑iP	P	02 04 36.7	-0.1
WHN				pmax	pmax		
	comp=Z,120nm,1.1s						
IPM	Ipoh	68.76	281	P	P	02 04 38.0	+0.3
IPM	Ipoh	68.76	281	P	P	02 04 37.1	-0.6
PETK	Petropavlovsk-	68.88	354	P	P	02 04 37.8	+0.2
	comp=Z,7.1nm,0.9s,baz=139,slow=7.0,SNR=6.1						
DL2	Dalian	69.10	323	P	P	02 04 39.9	+0.7
DL2				pP	pP	02 05 13.7	+5.1
DL2				S	S	02 13 34.6	-0.5
DL2				pmax	pmax		
	comp=Z,63nm,0.7s						
DL2				pmax	pmax		
	comp=Z,190nm,6.7s						
MDJ	Mudanjiang	69.11	332	P	P	02 04 39.6	+0.4
MDJ				PcP	PcP	02 05 02.2	-0.1
MDJ				pP	pP	02 05 10.3	+1.9
MDJ				sP	sP	02 05 24.5	+3.3
MDJ				PP	PP	02 07 14.7	+1.1
MDJ				S	S	02 13 36.7	+1.6
MDJ				ScS	ScS	02 14 28.7	-0.1
MDJ				pmax	pmax		
	comp=Z,78nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,160nm,4.4s						
MDJ	Mudanjiang	69.11	332	P	P	02 04 39.3	+0.1
MDJ				IAmb	IAmb	02 04 40.9	
	comp=Z,69nm,1.0s						
KULM	Kulim	69.37	282	P	P	02 04 42.0	+0.6
KULM	Kulim	69.37	282	P	P	02 04 40.8	-0.6
KULM					P	02 04 41.5	0.0
KULM				IAmb	IAmb	02 04 42.6	
	comp=Z,77nm,1.1s						
TIA	Tai'an	70.11	318	P	P	02 04 45.1	-0.4
TIA				pmax	pmax		
	comp=Z,25nm,0.8s						
RPSI	Rantau Prapat	70.21	279	P	P	02 04 45.7	-0.9
PSI	Prapat	70.24	279	P	P	02 04 45.7	-1.2
PSI				pmax	pmax		
	comp=Z,106nm,1.1s						
CN2	Changchun	70.47	329	⇑P	P	02 04 47.6	+0.1
CN2				epP	pP	02 05 18.5	+1.6
CN2				eS	S	02 13 49.7	-1.3
CN2				pmax	pmax		
	comp=Z,30nm,0.8s						
GSI	Gunungsitoli	71.09	277	P	P	02 04 53.1	+1.1
GRNR	Gornyy	71.43	340	⇑iP	P	02 04 54.1	+0.9
GRNR				pmax	pmax		
	comp=Z,30nm,1.1s						
KLR	Kul'dur	71.85	336	c iP	P	02 04 56.0	+0.3
KLR				pmax	pmax		
	comp=Z,88nm,1.5s						
ENH	Enshi	72.08	310	P	P	02 04 57.5	0.0
ENH				IAmb	IAmb	02 04 58.4	
	comp=Z,67nm,0.8s						
SLVN	Son La	72.38	299	IAmb	IAmb	02 05 01.1	

comp=Z,20nm,1.1s
GYA Guiyang 72.39 305⇑ *i*P P 02 04 59.9 +0.3
GYA pP pP 02 05 27.6 -1.8
GYA sP sP 02 05 44.5 +2.2
GYA PP **PP** **02 07 40.3 -2.0**
GYA S **S** **02 14 15.2 +1.2**
GYA pmax pmax
comp=Z,20nm,0.6s
GYA pmax pmax
comp=Z,140nm,6.0s
PBKT Sadao Pong 73.02 293 IAmb IAmb 02 05 05.6
comp=Z,39nm,1.0s
BJT Baijiatuau 73.05 321 P **P** **02 05 03.5 +0.5**
BJT pmax pmax
comp=Z,27nm,0.9s
BJT Baijiatuau 73.05 321 P **P** **02 05 03.5 +0.5**
BJT IAmb IAmb 02 05 04.7
comp=Z,27nm,0.9s
BJI Beijing 73.06 321⇑ *i*P **P** **02 05 03.4 +0.4**
BJI sP **sP** **02 05 46.0 +0.5**
BJI S **S** **02 14 22.1 +1.4**
BJI pmax pmax
comp=Z,34nm,0.8s
BJI pmax pmax
comp=Z,270nm,4.2s
BJI LR LR
comp=Z,190nm,23.7s
BJI LR LR
comp=Z,170nm,24.1s
TIY Taiyuan 74.03 317 *e*P **P** **02 05 10.1 +1.2**
TIY S **S** **02 14 34.0 +2.0**
TIY pmax pmax
comp=Z,70nm,0.8s
XAN Xi'an 74.43 313⇑ P **P** **02 05 11.4 +0.1**
XAN S **SKiKP** **02 14 30.3 +4.1**
XAN sS sS 02 15 27.8 -0.1
XAN pmax pmax
comp=Z,55nm,0.9s
XAN pmax pmax
comp=Z,360nm,4.7s
XAN LR LR
comp=Z,170nm,23.9s
XAN Xi'an 74.43 313 P **P** **02 05 11.2 -0.1**
XAN pmax pmax
comp=Z,46nm,0.8s
XAN Xi'an 74.43 313 P **P** **02 05 11.2 -0.1**
XAN IAmb IAmb 02 05 12.7
comp=Z,46nm,0.8s
QSPA South Pole Qui 74.50 180 P **P** **02 05 11.3 0.0**
QSPA IAmb IAmb 02 05 12.7
comp=Z,54nm,0.9s
KMI Kunming 74.95 302 P **P** **02 05 15.9 +1.2**
KMI sP sP 02 06 02.0 +4.5
KMI PP **PP** **02 08 02.5 -1.7**
KMI S **S** **02 14 46.2 +3.1**
KMI pmax pmax
comp=Z,62nm,0.9s
KMI pmax pmax
comp=Z,410nm,3.9s
KMI LR LR
comp=Z,140nm,5.4s
KMI LR LR
comp=Z,90nm,4.9s
KMI LR LR
comp=Z,89nm,4.7s
KMI Kunming 74.95 302 IAmb IAmb 02 05 17.1
comp=Z,61nm,1.0s
CM31 Chiang Mai Arr 75.52 294 P **P** **02 05 18.7 +0.9**
CM31 IAmb IAmb 02 05 19.7
comp=Z,41nm,1.1s
CMAR Chiang Mai Arr 75.52 294*c* *e*P **P** **02 05 19.5 +1.7**
CMAR pmax pmax
comp=Z,19nm,0.8s
CMAR Chiang Mai Arr 75.52 294 P **P** **02 05 18.9 +1.1**
comp=Z,18nm,0.8s,baz=131,slow=4.4,SNR=6.9
CMAR LR LR 02 36 46.4
comp=Z,32nm,21.4s,baz=154,slow=34
CHTO Chiang Mai 75.65 294 P **P** **02 05 19.7 +1.2**
SNR=14
CHTO Chiang Mai 75.65 294 P **P** **02 05 19.0 +0.4**
CHTO pmax pmax
comp=Z,32nm,1.0s
CHTO Chiang Mai 75.65 294 P **P** **02 05 19.0 +0.4**
CHTO IAmb IAmb 02 05 20.1
comp=Z,32nm,1.0s
MA2 Magadan 76.08 351⇓ *e*P **P** **02 05 21.2 +1.1**
MA2 pmax pmax
comp=Z,64nm,1.3s
MA2 Magadan 76.08 351 P **P** **02 05 20.5 +0.4**
MA2 IAmb IAmb 02 05 23.1
comp=Z,58nm,1.2s
HHC Hu-ho-hao-te 76.37 320 P **P** **02 05 24.3 +2.0**
HHC pmax pmax
comp=Z,14nm,0.9s
CD2 Chengdu 76.71 308 P **P** **02 05 24.9 +0.5**
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 pmax pmax
comp=Z,230nm,5.0s
HIA Hailar 77.11 330*c* *i*P **P** **02 05 26.1 -0.1**
HIA pmax pmax
comp=Z,227nm,1.2s
HIA Hailar 77.11 330 P **P** **02 05 26.2 -0.1**
HIA IAmb IAmb 02 05 27.5
comp=Z,24nm,0.9s
ZEA Zeya 77.13 337 *e*P **P** **02 05 27.0 +0.9**
ZEA pmax pmax
comp=E,36nm,0.8s
ZEA pmax pmax
comp=N,38nm,0.9s
ZEA pmax pmax
comp=Z,38nm,0.9s
BTO Baotou 77.20 319 *e*P **P** **02 05 27.1 +0.1**
LZH Lanzhou 79.06 312⇑ P **P** **02 05 38.7 +1.3**
LZH pP pP 02 06 09.5 +2.0
LZH S **S** **02 15 29.9 +2.8**
LZH pmax pmax
comp=Z,24nm,1.3s
LZH pmax pmax
comp=Z,180nm,4.9s
LZH LR LR
comp=Z,200nm,14.6s
LZH LR LR
comp=Z,310nm,16.3s
LZH LR LR
comp=Z,220nm,16.6s
SEY Seymchan 79.11 353⇓ *e*P **P** **02 05 37.8 +1.0**
MAW Mawson 81.24 202 P **P** **02 05 48.9 +0.5**
MAW pmax pmax
comp=Z,6.0nm,1.2s
MAW Mawson 81.24 202 P **P** **02 05 49.4 +1.0**
comp=Z,13nm,0.9s,baz=99,slow=5.0,SNR=9.2
MAW LR LR 02 37 39.0
comp=Z,249nm,19.9s,baz=70,slow=32
MAW Mawson 81.24 202 P **P** **02 05 48.9 +0.5**
SAIH SAIHA 82.17 296 *ex* **P** **02 05 55.0 +0.7**
SAIH IAmb IAmb 02 06 01.7
comp=Z,20nm,0.6s
KOHI KOHIMA 82.36 299 *ex* **P** **02 05 55.7 +0.5**
KOHI IAmb IAmb 02 05 58.3
comp=Z,25nm,1.0s
AZL Aizawl 82.86 297 *ex* **P** **02 05 57.7 -0.1**
AZL IAmb IAmb 02 06 02.5
comp=Z,21nm,0.9s
YAK Yakutsk 82.87 343 *e*P **P** **02 05 55.9 -0.9**
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK Yakutsk 82.87 343 P **P** **02 05 57.0 +0.2**
YAK IAmb IAmb 02 05 58.8
comp=Z,38nm,1.0s
ULN Ulaanbaatar 82.94 324 P **P** **02 05 58.5 +0.8**
SNR=30
ULN Ulaanbaatar 82.94 324*c* *i*P **P** **02 05 57.7 0.0**
ULN pmax pmax
comp=Z,107nm,1.0s
ULN Ulaanbaatar 82.94 324 P **P** **02 05 57.6 -0.2**
SONM Songino Array 83.30 324 P **P** **02 05 59.8 +0.2**
comp=Z,36nm,1.0s,baz=149,slow=7.3,SNR=14.4
SONM LR LR 02 40 02.0
comp=Z,51nm,21.7s,baz=152,slow=33
BILL Bilibino 83.34 360⇑ *i*P **P** **02 05 59.1 0.0**
BILL *e* 02 09 07.9
BILL *e*PPP PPP 02 11 06.2
BILL pmax pmax
comp=Z,33nm,2.5s
BILL Bilibino 83.34 360 P **P** **02 05 58.7 -0.5**
GTA Gaotai 83.41 314⇑ P **P** **02 06 01.1 +0.8**
GTA pP pP 02 06 34.0 +3.2
GTA sP sP 02 06 47.5 +4.1
GTA S **S** **02 16 13.3 +1.3**
GTA pmax pmax
comp=Z,60nm,1.4s
GTA pmax pmax
comp=Z,290nm,6.1s
GTA LR LR
comp=Z,76nm,18.9s
GTA LR LR
comp=Z,72nm,18.2s
GTA LR LR
comp=Z,130nm,19.9s
SHL Shillong 84.18 298 P **P** **02 06 04.8 +0.2**
SNR=16
SHL Shillong 84.18 298 P **P** **02 06 04.2 -0.4**
SHL pmax pmax
comp=Z,70nm,0.8s
SHL Shillong 84.18 298 *ex* **P** **02 06 05.0 +0.4**
SHL IAmb IAmb 02 06 06.3
comp=Z,32nm,1.1s
SHL Shillong 84.18 298 P **P** **02 06 04.2 -0.4**
BOD Bodaibo 85.31 334 *e*P **P** **02 06 08.3 -1.0**
BOD pmax pmax
comp=Z,13nm,1.7s
RND Reindeer 85.61 18 P **P** **02 06 10.5 -0.2**
RND pmax pmax
comp=Z,6.0nm,1.2s
RND Reindeer 85.61 18 P **P** **02 06 10.5 -0.2**
YBH Yreka Blue Hor 85.80 45 LR LR 02 36 00.4
comp=Z,68nm,21.2s,baz=244,slow=30
LSA Lhasa 86.21 302 P **P** **02 06 15.0 0.0**
LSA pmax pmax
comp=Z,12nm,0.8s
LSA Lhasa 86.21 302 P **P** **02 06 15.0 0.0**
LSA IAmb IAmb 02 06 16.0
comp=Z,12nm,0.8s
ZAK Zakamensk 86.36 325 *e*P **P** **02 06 11.0 -3.8**
ZAK pmax pmax
comp=Z,33nm,1.1s
ISA Isabella, Lake 86.44 52 P **P** **02 06 15.6 +0.1**
ISA pmax pmax
comp=Z,3.0nm,0.9s
ISA Isabella, Lake 86.44 52 P **P** **02 06 15.6 +0.1**
WRH Wood River Hil 86.63 18 P **P** **02 06 16.0 +0.4**
BEKR Beckworth 86.66 47 P **P** **02 06 17.5 +0.9**
OMMB Old Mammoth Mi 86.77 50 P **P** **02 06 18.0 +0.6**
OMMB IAmb IAmb 02 06 24.8
comp=Z,17nm,1.4s
TLY Talaya 86.80 326 P **P** **02 06 17.5 +0.7**
SNR=5.9
TLY Talaya 86.80 326*c* *i*P **P** **02 06 16.4 -0.4**
TLY *e*S **S** **02 16 44.4 -0.2**
TLY pmax pmax
comp=Z,52nm,0.8s
TLY Talaya 86.80 326 P **P** **02 06 17.3 +0.4**
TLY IAmb IAmb 02 06 17.9
comp=Z,22nm,1.0s
CCB Clear Creek Bu 86.84 18 P **P** **02 06 16.1 -0.5**
COLA College 87.00 17⇓ *e*P **P** **02 06 17.2 -0.2**
COLA pmax pmax
comp=Z,29nm,4.0s
ILAR Eielson Array 87.20 18 P **P** **02 06 16.5 -1.9**
comp=Z,2.7nm,0.7s,baz=234,slow=4.5,SNR=29
ILAR pP **pP** **02 06 45.5 -2.6**
comp=Z,2.8nm,0.8s,baz=238,slow=4.7,SNR=6.4
ILAR LR LR 02 37 53.8
comp=Z,190nm,21.8s,baz=264,slow=30
PFO Pinyon Flats O 87.25 54 LR LR 02 36 05.6
comp=Z,216nm,21.8s,baz=234,slow=29
NVAR Mina Array Bea 87.59 49 P **P** **02 06 21.6 +0.4**
comp=Z,0.4nm,0.5s,baz=227,slow=7.8,SNR=3.7
NVAR pP **pP** **02 06 50.4 -1.6**
comp=Z,3.7nm,0.9s,baz=230,slow=8.5,SNR=9.2
NVAR PKKP **PKKPbc** **02 24 08.6 -2.0**
comp=Z,0.5nm,0.6s,baz=92,slow=2.5,SNR=4.9
NVAR LR LR 02 41 54.7
comp=Z,95nm,18.2s,baz=272,slow=33
NV11 Mina Array Sit 87.70 49 P **P** **02 06 21.4 -0.2**
KVN Kaiserville 87.97 49 P **P** **02 06 23.0 0.0**
KVN pmax pmax
comp=Z,2.0nm,0.9s
KVN Kaiserville 87.97 49 P **P** **02 06 22.9 0.0**
SYO Syowa Base 88.02 197⇓ *e*P **P** **02 06 20.4 -2.0**
SYO Syowa Base 88.02 197⇓ *i*PcP **PcP** **02 06 23.6 -0.4**
TAPN Taplejung 88.30 299 *e*P **P** **02 06 24.4 -0.5**
comp=Z,18nm,0.7s
GLA Glamis 88.34 55 P **P** **02 06 24.5 -0.1**
GLA pmax pmax
comp=Z,5.0nm,0.8s
GLA Glamis 88.34 55 P **P** **02 06 24.5 -0.1**
ODAN Odare 88.42 298 *e*P **P** **02 06 24.9 -0.5**
comp=Z,38nm,0.7s
LON Longmire 88.48 40 P **P** **02 06 25.1 +0.1**
LON pmax pmax
comp=Z,3.0nm,1.1s
LON Longmire 88.48 40 P **P** **02 06 25.1 +0.1**
Y12C Blythe 88.81 55 P **P** **02 06 27.7 +1.0**
RAMN Ramite 89.12 298 *e*P **P** **02 06 28.0 -0.7**
E07A Sunnyside 89.64 41 P **P** **02 06 30.5 +0.1**
JIRN Jiri 89.68 299 *e*P **P** **02 06 30.5 -0.9**
G08A Pilot Rock 89.72 43 P **P** **02 06 30.1 -0.8**
HAWA Hanford 89.78 41 P **P** **02 06 31.3 +0.3**
GUN Gumba 90.02 299 *e*P **P** **02 06 32.1 -0.9**
comp=Z,17nm,0.8s
PKI Pulchoki 90.31 298 *e*P **P** **02 06 33.3 -1.1**
PKIN Phulchoki 90.33 298 *e*P **P** **02 06 33.3 -1.0**
comp=Z,11nm,0.6s
KKN Kakani 90.49 299 *e*P **P** **02 06 34.2 -0.8**
comp=Z,25nm,0.8s
DMN Daman 90.58 298 *e*P **P** **02 06 34.6 -0.9**
comp=Z,22nm,0.8s
TIXI Tiksi 90.81 349⇓ *i*P **P** **02 06 34.3 -0.9**
TIXI pmax pmax
comp=Z,9.0nm,1.2s
TIXI Tiksi 90.81 349 P **P** **02 06 34.6 -0.6**
TIXI IAmb IAmb 02 06 38.4
comp=Z,14nm,1.5s
PMSA Palmer Station 90.93 160 P **P** **02 06 35.9 -0.1**
PMSA IAmb IAmb 02 06 37.0
comp=Z,19nm,1.1s
CCUT Cedar City 90.95 51 P **P** **02 06 36.9 0.0**
GKN Gorkha 91.09 299 *e*P **P** **02 06 36.6 -1.2**
KNB Kanab 91.18 52 P **P** **02 06 38.0 0.0**
KNB pmax pmax
comp=Z,4.0nm,0.9s
KNB Kanab 91.18 52 P **P** **02 06 38.0 0.0**
KOLN Koldanda 91.91 298 *e*P **P** **02 06 40.6 -1.0**
DANN Dangsing 91.93 299 *e*P **P** **02 06 39.8 -2.0**
MTPU Mount Pierson 91.99 51 P **P** **02 06 42.7 +0.8**
NEW Newport 92.00 40 LR LR 02 41 42.9
comp=Z,93nm,19.4s,baz=72,slow=31
MSU Marysvale 92.14 51 P **P** **02 06 43.1 +0.6**
MSU Marysvale 92.14 51 P **P** **02 06 43.1 +0.6**
SNAA Sanae 92.77 183 P **P** **02 06 43.9 -0.7**
SNAA Sanae 92.77 183 P **P** **02 06 43.5 -1.1**
SNAA pmax pmax
comp=Z,13nm,0.9s
SNAA Sanae 92.77 183 P **P** **02 06 43.5 -1.1**
SNAA IAmb IAmb 02 06 45.6
comp=Z,13nm,0.9s
VNA3 Neumayer Olymp 93.42 181 P **P** **02 06 46.6 -0.9**
WMQ Urumqi 93.48 314 *e*P **P** **02 06 48.8 +0.5**
WMQ sP sP 02 07 34.8 +3.3
WMQ pmax pmax
comp=Z,12nm,0.9s
WMQ pmax pmax
comp=Z,120nm,5.1s
WMQ Urumqi 93.48 314 P **P** **02 06 47.8 -0.5**
WMQ pmax pmax
comp=Z,54nm,1.4s
WMQ Urumqi 93.48 314 P **P** **02 06 47.8 -0.5**
VNA2 Neumayer--Watz 93.69 182 P **P** **02 06 48.1 -0.6**
baz=180,slow=3.1
VNA1 Neumayer--Stat 93.99 181 P **P** **02 06 49.4 -0.6**
PDAR Pinedale Array 95.29 47 pP **pP** **02 07 27.7 +0.2**
comp=Z,0.2nm,0.6s,baz=207,slow=3.8,SNR=3.1
PDAR PP **PP** **02 10 43.6 -5.2**
comp=Z,0.2nm,0.6s,baz=226,slow=2.4,SNR=4.2
PDAR PKKPbc **PKKPbc** **02 23 48.9 -2.2**
comp=Z,0.9nm,0.8s,baz=91,slow=5.5,SNR=10.0
PDAR LR LR 02 45 46.1
comp=Z,46nm,18.4s,baz=293,slow=33
TXAR Lajitas Array 96.42 61 P **P** **02 07 02.8 +0.7**
comp=Z,0.2nm,0.7s,baz=270,slow=4.5,SNR=3.1
TXAR pP **pP** **02 07 33.8 +0.6**
comp=Z,0.5nm,0.8s,baz=226,slow=5.6,SNR=4.8
TXAR PKKPbc **PKKPdf** **02 23 48.7 +0.1**
comp=Z,0.4nm,0.8s,baz=74,slow=4.4,SNR=3.6
TXAR LR LR 02 44 36.0
comp=Z,61nm,18.7s,baz=0.0,slow=32
MKAR Makanchi Array 97.97 316 P **P** **02 07 08.3 -0.3**
comp=Z,5.6nm,0.7s,baz=103,slow=6.1,SNR=28
MKAR PP **PP** **02 11 12.9 +3.9**
comp=Z,0.8nm,0.8s,baz=105,slow=9.2,SNR=3.5
YKA Yellowknife Ar 98.13 27 P **P** **02 07 07.7 -1.1**
comp=Z,1.0nm,0.8s,baz=251,slow=4.7,SNR=10
YKA pP **pP** **02 07 39.2 +0.2**
comp=Z,1.2nm,0.8s,baz=257,slow=4.5,SNR=5.9
YKA LR LR 02 46 18.7
comp=Z,8.9nm,19.3s,baz=256,slow=32
MAKZ Makanchi 98.18 316 P **P** **02 07 09.3 -0.2**
MAKZ pmax pmax
comp=Z,17nm,1.4s
MAKZ Makanchi 98.18 316 P **P** **02 07 09.3 -0.2**
MAKZ IAmb IAmb 02 07 11.4
comp=Z,17nm,1.4s
ZAA0 Zalesovo Array 98.19 324 P **P** **02 07 08.7 -0.7**
ZALV Zalesovo Beam 98.19 324 P **P** **02 07 08.6 -0.8**
comp=Z,10nm,0.8s,baz=119,slow=4.7,SNR=35
ZALV PKiKP **PKiKP** **02 11 42.2 +0.7**
comp=Z,0.3nm,0.3s,baz=109,slow=3.6,SNR=4.0
KSH Kashi 100.90 308 *e*P **Pdif** **02 07 23.4 +1.4**
KURK Kurchatov 101.18 320 *i* P **Pdif** **02 07 22.8 +0.1**
KURK Kurchatov 101.18 320 **Pdif** **02 07 22.8 +0.1**
KURBB Kurchatov Arra 101.22 320 P Pdiff **Pdif** **02 07 22.6 -0.3**
comp=Z,0.9nm,0.6s,baz=93,slow=4.7,SNR=7.1
KURBB PP **PP** **02 11 31.8 -1.7**
comp=Z,1.7nm,0.9s,baz=106,slow=7.0,SNR=4.4
KURBB PKiKP **PKiKP** **02 11 47.0 0.0**
comp=Z,1.3nm,0.8s,baz=86,slow=1.7,SNR=6.1
AAK Ala-Archa 102.56 311⇓ *e*P **Pdif** **02 07 28.9 -0.4**
AAK Ala-Archa 102.56 311 P **Pdif** **02 07 32.5 +3.2**
comp=Z,0.4nm,0.3s,baz=54,slow=23,SNR=3.6
BVAR Borovoye Array 106.54 321 Pdiff **Pdif** **02 07 46.7 +0.1**
comp=Z,0.7nm,0.6s,baz=84,slow=4.6,SNR=6.6
BVAR PKiKP **PKiKP** **02 11 56.7 0.0**
comp=Z,1.0nm,0.4s,baz=161,slow=2.2,SNR=9.1
ARU Arti 113.30 325 *i* PKIKP **PKiKP** **02 12 09.3 0.0**
ARU 02 13 07.3
ARU 02 19 10.2
ARU SP SP 02 22 28.2 +4.1
ARU SS **SS** **02 28 33.9 -3.9**
BSY Bisya 114.31 288 P PKPdf 02 12 11.4 -0.9
GEYT Alibeck 114.61 305 PKP PKPdf 02 12 12.4 -0.1
comp=Z,3.3nm,0.6s,baz=232,slow=1.7,SNR=15
HATD Hatta, Dubai 115.53 290 P **PKPdf** **02 12 14.3 -0.3**
ASHO Ashiyiah 115.58 290 P **PKPdf** **02 12 14.2 -0.6**
DMTO DMTO 115.69 282 P **PKPdf** **02 12 14.6 -0.5**
SNR=5.8
RBK Rabkut 116.36 282 P **PKPdf** **02 12 16.2 -0.3**
WHFO Wadi Hawf 116.83 282 P **PKPdf** **02 12 16.7 -0.7**
ABTO Aybut 117.19 282 P **PKiKP** **02 12 18.2 +0.1**
PRGR Permogore 118.50 333 *e*PKiKP **PKPdf** **02 12 16.2 -3.0**
PRGR pmax pmax
comp=Z,9.0nm,0.8s
LVZ Lovozero 119.64 341⇓ *i*PKIKP **PKiKP** **02 12 22.2 +0.8**
ARCES ARCESS Array B 121.09 345 PKP **PKPdf** **02 12 23.3 -0.7**
comp=Z,5.1nm,0.4s,baz=68,slow=1.7,SNR=89
AKT Akhty 122.39 309 *e*PKIKP **PKiKP** **02 12 27.8 +0.1**
AKT *e* 02 14 03.7
AKT pmax pmax
comp=Z,21nm,0.8s
BOSA Boshof 122.94 220 PKP **PKiKP** **02 12 29.2 0.0**
comp=Z,6.8nm,0.7s,baz=105,slow=1.6,SNR=11
VRH Novokhopyorsk 124.18 322 *e*PKIKP **PKPdf** **02 12 29.1 -1.3**
VRH pmax pmax
comp=Z,30nm,0.8s
TBLG Delisi 124.57 310 PKIKP **PKPdf** **02 12 31.6 0.0**
TBLG Delisi 124.57 310 **PKPdf** **02 12 31.6 0.0**
MOS Moscow 124.70 328 *e*PKIKP **PKPdf** **02 12 30.0 -1.3**
GNI Garni 124.83 308*d* *i*PKIKP **PKPdf** **02 12 31.4 -0.9**
ZEI Tsey 124.98 312 *i* PKIKP **PKPdf** **02 12 28.1 -4.4**
ZEI pmax pmax
comp=Z,12nm,0.9s
NCK Nalchik 125.05 312⇑ *i*PKIKP **PKiKP** **02 12 32.8 0.0**
RAYN Ar Rayn 125.10 288 PKIKP **PKPdf** **02 12 32.9 -0.2**
RAYN Ar Rayn 125.10 288 **PKPdf** **02 12 32.9 -0.2**
DAMY Dhamar 125.24 277 P **PKiKP** **02 12 36.0 +1.7**
SNR=6.8
DAMY Dhamar 125.24 277 **PKPdf** **02 12 34.5 +0.3**
LPSR Galich'ya Gora 125.30 324 *e*PKIKP **PKPdf** **02 12 32.3 -0.2**
LPSR pmax pmax
comp=Z,40nm,1.0s
KBZ Khabaz 125.49 313 PKP **PKiKP** **02 12 33.4 -0.1**
comp=Z,6.1nm,0.9s,baz=167,slow=2.1,SNR=6.3
OBN Obninsk 125.52 328⇑ *i*PKIKP **PKiKP** **02 12 33.1 -0.1**
OBN *e* 02 13 07.6
OBN *e* 02 14 26.2
OBN *e*PPP PPP 02 17 04.1
OBN pmax pmax
comp=Z,68nm,2.5s
AKH Akhalkalaki 125.55 310 ⇑P **PKiKP** **02 12 34.4 +0.4**
KIV Kislovodsk 125.59 313 *i* PKIKP **PKiKP** **02 12 33.8 -0.1**
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,113nm,23.0s
VSR Storozhevoye 125.68 323*d* *i*PKIKP **PKPdf** **02 12 32.5 -0.8**
VORD Divnogorie 125.70 322 *e*PKIKP **PKPdf** **02 12 32.5 -0.8**
VORD pmax pmax
comp=Z,20nm,1.0s
NEY Neytrino 125.72 312⇑ *i*PKIKP **PKPdf** **02 12 33.6 -0.3**
FINES FINESS Array B 126.56 338*c* *i*PKIKP **PKiKP** **02 12 35.0 -0.1**
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 126.56 338 PKP **PKPdf** **02 12 34.3 -0.4**
comp=Z,4.5nm,0.9s,baz=118,slow=4.5,SNR=20
KIBK Kibwezi 127.00 255 P **PKiKP** **02 12 37.8 +0.2**
SNR=6.1
KMBO Kilima Mbogo 128.18 256 P **PKiKP** **02 12 40.9 +0.7**
SNR=6.2
KMBO Kilima Mbogo 128.18 256 PKIKP **PKPdf** **02 12 39.4 -0.2**
KMBO Kilima Mbogo 128.18 256 PKP **PKPdf** **02 12 39.7 +0.2**
comp=Z,7.4nm,1.1s,baz=29,slow=4.4,SNR=16
KMBO Kilima Mbogo 128.18 256 **PKPdf** **02 12 39.4 -0.2**
LSZ Lusaka 129.51 235 PKIKP **PKPdf** **02 12 41.1 -0.8**
LSZ Lusaka 129.51 235 **PKPdf** **02 12 41.1 -0.8**
NB2 NORSAR Subarra131.46 345 PKPdf **PKPdf** **02 12 44.3 +0.2**
comp=Z,7.3nm,1.1s,baz=31,slow=1.9
NB2 NORSAR Subarra131.46 345 PKPdf **PKPdf** **02 12 44.3 +0.2**
baz=31,slow=1.9
NOA NORSAR Array B 131.46 345 PKP **PKPdf** **02 12 44.5 +0.3**
comp=Z,1.9nm,0.7s,baz=36,slow=2.0,SNR=6.8
NOA SKPbc **SKPab** **02 15 59.4 +0.2**
comp=Z,6.8nm,0.8s,baz=34,slow=2.7,SNR=14
AKASG Malin Array Be 131.54 326*c* *i*PKIKP **PKiKP** **02 12 45.2 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 131.54 326 PKP **PKPdf** **02 12 44.2 -0.3**
comp=Z,2.9nm,0.6s,baz=61,slow=2.0,SNR=14
AKASG SKPbc **SKPab** **02 15 59.7 0.0**
comp=Z,12nm,0.8s,baz=45,slow=4.7,SNR=40
AKBB Malin Array Si 131.54 326 PKIKP **PKPdf** **02 12 44.2 -0.3**
AKBB Malin Array Si 131.54 326 **PKPdf** **02 12 44.1 -0.3**
BR131 Keskin Array S 133.23 310 PKIKP **PKPdf** **02 12 48.4 +0.1**
BR131 Keskin Array S 133.23 310 **PKPdf** **02 12 48.4 +0.1**
BRTR Keskin Array B 133.23 310*c* *i*PKIKP **PKPdf** **02 12 48.7 +0.5**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 133.23 310 PKP **PKPdf** **02 12 48.0 -0.2**
comp=Z,4.1nm,0.9s,baz=107,slow=2.5,SNR=12
BRTR SKPbc **SKPbc** **02 16 06.5 +1.0**
comp=Z,3.7nm,1.0s,baz=59,slow=3.2,SNR=7.3
SORM Soroca 133.34 323 ⇑PKIKP **PKPdf** **02 12 47.9 -0.1**
SORM Soroca 133.34 323 ⇑P **PKPdf** **02 12 47.9 -0.1**
MMAI Mount Meron Ar 133.45 301 PKP **PKPdf** **02 12 49.4 +0.6**
comp=Z,5.2nm,0.7s,baz=82,slow=6.0,SNR=9.4
MMAI SKPbc **SKPab** **02 16 08.9 +0.2**
comp=Z,18nm,0.8s,baz=60,slow=3.3,SNR=12
MILM Milestii Mici 133.66 321 ⇑P **PKPdf** **02 12 48.4 -0.2**
ANTO Ankara 133.81 311 ⇓PKIKP **PKPdf** **02 12 48.6 -0.6**
ANTO Ankara 133.81 311 ⇓P **PKPdf** **02 12 48.6 -0.6**
ANTO Ankara 133.81 311 **PKPdf** **02 12 49.3 +0.1**
EIL Elat 134.34 296 PKP **PKiKP** **02 12 51.4 -0.4**
comp=Z,5.7nm,0.7s,baz=339,slow=4.6,SNR=6.1
EIL SKPbc **SKPbc** **02 16 10.7 +1.4**

	comp=Z,11nm,1.0s,baz=347,slow=4.7,SNR=6.5						
TLCR		**134.47**	**319**	⇑PKIKP	**PKPdf**	**02 12 50.4**	**+0.2**
TLCR		**134.47**	**319**	⇑P	**PKPdf**	**02 12 50.4**	**+0.2**
CFR	**Carcaliu**	**134.90**	**319**	⇓PKIKP	**PKiKP**	**02 12 52.0**	**-0.4**
CFR	**Carcaliu**	**134.90**	**319**	⇓P	**PKiKP**	**02 12 52.0**	**-0.4**
GHRR		**134.93**	**321**	⇓P	**PKPdf**	**02 12 51.7**	**+0.7**
GHRR		**134.93**	**321**	⇓P	**SKPbc**	**02 16 13.6**	**+2.9**
BIZ	**Bicaz**	**135.26**	**323**	⇑P	**PKPdf**	**02 12 52.3**	**+0.7**
BIZ	**Bicaz**	**135.26**	**323**	⇓P	**SKPbc**	**02 16 14.1**	**+2.3**
BUR08	**Bucovina Ar. S**	**135.41**	**324**		**PKPdf**	**02 12 52.1**	**+0.1**
BURAR	**Bucovina Array**	**135.41**	**324**	⇑PKIKP	**PKPdf**	**02 12 52.0**	**0.0**
BURAR	**Bucovina Array**	**135.41**	**324**	⇑P	**PKPdf**	**02 12 52.0**	**0.0**
DOPR	**Dopca**	**136.19**	**322**	⇓P	**PKPdf**	**02 12 53.8**	**+0.4**
DOPR	**Dopca**	**136.19**	**322**	⇑P	**SKPbc**	**02 16 16.5**	**+1.8**
SECR		**136.25**	**320**	⇑P	**SKPbc**	**02 16 16.9**	**+2.1**
KOLS	**Kolonicke sedl**	**136.26**	**327**	*e*PKIKP	**PKPdf**	**02 12 54.2**	**+0.8**
KOLS	**Kolonicke sedl**	**136.26**	**327**	*e*PKP	**PKPdf**	**02 12 54.2**	**+0.8**
TRPA	**Tarpa**	**136.60**	**326**	*e*PP	**SKPbc**	**02 16 17.0**	**+1.3**
VOIR		**136.67**	**321**	⇓PKIKP	**PKiKP**	**02 12 55.8**	**-0.4**
VOIR		**136.67**	**321**	⇓P	**PKiKP**	**02 12 55.8**	**-0.4**
VOIR		**136.67**	**321**	⇓P	**SKPbc**	**02 16 15.9**	**-0.2**
CJR	**Cluj-Napoca**	**136.83**	**324**	⇑P	**SKPbc**	**02 16 17.6**	**+1.0**
ARR	**Arges**	**136.96**	**321**	⇑P	**PKiKP**	**02 12 56.1**	**-0.7**
ARR	**Arges**	**136.96**	**321**	⇑P	**SKPbc**	**02 16 19.1**	**+2.1**
HUMR	**Humele**	**137.18**	**320**	⇑P	**PKPdf**	**02 12 54.9**	**-0.4**
HUMR	**Humele**	**137.18**	**320**	⇑P	**SKPbc**	**02 16 18.5**	**+0.9**
DRGR		**137.29**	**324**	⇑PKIKP	**PKPdf**	**02 12 56.0**	**+0.5**
DRGR		**137.29**	**324**	⇑P	**PKPdf**	**02 12 56.0**	**+0.5**
DRGR		**137.29**	**324**	⇑P	**SKPbc**	**02 16 18.4**	**+0.5**
LTVH	**Ltavrtes, Hu**	**137.39**	**325**	*e*PP	**SKPbc**	**02 16 22.0**	**+3.9**
OKC	**Ostrava-Krasne**	**137.73**	**331**	*e*SKP	**SKPbc**	**02 16 20.3**	**+1.2**
PLVB	**Pleven**	**137.97**	**319**	⇑P	**PKPdf**	**02 12 57.3**	**+0.6**
PLVB	**Pleven**	**137.97**	**319**	⇑P	**SKPbc**	**02 16 21.1**	**+1.2**
GZR	**Gura Zlata**	**138.04**	**323**	⇓PKIKP	**PKPdf**	**02 12 56.1**	**-0.8**
GZR	**Gura Zlata**	**138.04**	**323**	⇓P	**PKPdf**	**02 12 56.1**	**-0.8**
GZR	**Gura Zlata**	**138.04**	**323**	⇑P	**SKPbc**	**02 16 20.8**	**+0.6**
MORC	**Moravsky Berou**	**138.06**	**331**	⇑PKIKP	**PKPdf**	**02 12 55.9**	**-0.9**
MORC	**Moravsky Berou**	**138.06**	**331**	⇑P	**PKPdf**	**02 12 55.9**	**-0.9**
MORC	**Moravsky Berou**	**138.06**	**331**	⇓P	**SKPbc**	**02 16 18.9**	**-1.2**
MORC	**Moravsky Berou**	**138.06**	**331**	*e*PKP	**PKPdf**	**02 12 56.7**	**-0.1**
MORC				*e*		02 16 21.2	
OSTC	**Ostas**	**138.11**	**333**	*e*PKP	**PKPdf**	**02 12 57.2**	**+0.4**
OSTC				*e*x	x	02 12 59.3	
OSTC				*e*SKP		02 16 20.6	
PSZ	**Piszkesteto**	**138.13**	**327**	PKIKP	**PKPdf**	**02 12 57.2**	**+0.2**
PSZ	**Piszkesteto**	**138.13**	**327**	⇑P	**SKPbc**	**02 16 21.5**	**+1.1**
PSZ	**Piszkesteto**	**138.13**	**327**	*e*PP	**SKPbc**	**02 16 21.0**	**+0.7**
PSZ	**Piszkesteto**	**138.13**	**327**	*e*PKiKP	**PKPdf**	**02 12 57.0**	**0.0**
PSZ	**Piszkesteto**	**138.13**	**327**		**PKPdf**	**02 12 57.2**	**+0.2**
CHVC	**Chvalec**	**138.16**	**333**	*e*PKP	**PKPdf**	**02 12 57.7**	**+0.8**
CHVC				*e*x	x	02 13 01.9	
CHVC				*e*SKP		02 16 21.6	
SIRR	**Siria**	**138.19**	**324**	⇑P	**SKPbc**	**02 16 21.6**	**+1.0**
KRLC	**Kraliky**	**138.20**	**332**	*e*PKIKP	**PKPdf**	**02 12 57.5**	**+0.5**
KRLC	**Kraliky**	**138.20**	**332**	*e*PKP	**PKPdf**	**02 12 57.5**	**+0.5**
KRLC				*e*SKP	**SKPbc**	**02 16 21.9**	**+1.4**
DPC	**Dobruska-Polom**	**138.21**	**332**	*e*PKIKP	**PKiKP**	**02 12 59.4**	**+0.3**
DPC	**Dobruska-Polom**	**138.21**	**332**	*e*PKP	**PKiKP**	**02 12 59.4**	**+0.3**
DPC				*e*SKP	**SKPbc**	**02 16 21.4**	**+0.9**
UPC	**Upice**	**138.24**	**333**	*e*SKP	**SKPbc**	**02 16 22.1**	**+1.6**
VYHS	**Vyhne**	**138.30**	**329**	*e*PKIKP	**PKiKP**	**02 12 59.1**	**-0.2**
VYHS	**Vyhne**	**138.30**	**329**	*e*PKP	**PKiKP**	**02 12 59.1**	**-0.2**
BZS	**Buzias**	**138.59**	**324**	⇑PKIKP	**PKPdf**	**02 12 57.6**	**-0.2**
BZS	**Buzias**	**138.59**	**324**	⇑P	**PKPdf**	**02 12 57.6**	**-0.2**
BZS	**Buzias**	**138.59**	**324**	⇑P	**SKPbc**	**02 16 21.9**	**+0.3**
TIM	**Timisoara**	**138.74**	**324**	⇓PKIKP	**PKiKP**	**02 12 59.3**	**-1.0**
TIM	**Timisoara**	**138.74**	**324**	⇓P	**PKiKP**	**02 12 59.3**	**-1.0**
VRAC	**Vranov**	**138.83**	**331**	⇓P	**SKPbc**	**02 16 21.8**	**-0.5**
VRAC	**Vranov**	**138.83**	**331**	*e*PKP	**PKPdf**	**02 12 57.9**	**-0.3**
VRAC				*e*		02 16 23.3	
PVCC	**Panska Ves**	**138.84**	**334**	*e*PKIKP	**PKPdf**	**02 12 58.5**	**+0.4**
PVCC	**Panska Ves**	**138.84**	**334**	*e*PKP	**PKPdf**	**02 12 58.5**	**+0.4**
PVCC				*e*SKP		02 16 23.9	
BRG	**Berggiesshubel**	**138.85**	**335**	*e*PKP	**PKPdf**	**02 12 52.5**	**-5.6**
	comp=Z,3.5nm,0.9s						
BRG				*i*		02 12 57.8	
	comp=Z,11nm,1.1s						
BRG				*i* SKP	**SKPbc**	**02 16 23.0**	**+0.8**
	comp=Z,19nm,1.1s						
BRG	**Berggiesshubel**	**138.85**	**335**	*e*PKIKP	**PKPdf**	**02 12 52.5**	**-5.6**
BRG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRG				pmax	pmax		
	comp=Z,11nm,1.1s						
BRG				pmax	pmax		
	comp=N,19nm,1.1s						
CLL	**Collm**	**138.89**	**336**	*e*PKIKP	**PKPdf**	**02 12 57.0**	**-1.2**
CLL				*e*		02 13 32.0	
CLL	**Collm**	**138.89**	**336**	*e*PKPdf	**PKPdf**	**02 12 57.0**	**-1.2**
CLL				*e*pPKPdf	**pPKPdf**	**02 13 32.0**	**+2.1**
CLL				*i* SKPdf	**SKPbc**	**02 16 23.0**	**+0.7**
	comp=Z,19nm,1.1s						
CLL				LmV		03 08 00.0	
	comp=Z,200nm,19.4s						
MDVR	**Moldovita**	**139.01**	**322**	⇓P	**PKPdf**	**02 12 58.4**	**-0.3**
KRUC	**Moravsky**	**139.09**	**331**	*e*PKP	**PKPdf**	**02 12 58.4**	**-0.2**
KRUC				*e*		02 16 23.8	
MODS	**Modra-Piesok**	**139.15**	**330**	*e*PKIKP	**PKPdf**	**02 12 58.5**	**-0.3**
MODS	**Modra-Piesok**	**139.15**	**330**	*e*PKP	**PKPdf**	**02 12 58.5**	**-0.3**
GOPC	**GO Pecny, Ondr**	**139.21**	**333**	*e*SKP	**SKPbc**	**02 16 24.4**	**+1.1**
VTS	**Vitosha**	**139.24**	**319**	⇓PKIKP	**PKPdf**	**02 12 59.4**	**+0.1**
VTS	**Vitosha**	**139.24**	**319**	⇓P	**PKPdf**	**02 12 59.4**	**+0.1**
PRA	**Prague**	**139.24**	**333**	*e*SKP	**SKPbc**	**02 16 24.7**	**+1.4**
PRU	**Pruhonice**	**139.26**	**333**	*e*PKIKP	**PKPdf**	**02 12 59.4**	**+0.5**
PRU	**Pruhonice**	**139.26**	**333**	*e*PKP	**PKPdf**	**02 12 59.4**	**+0.5**
PRU				*e*x	x	02 13 06.1	
PRU				*e*x	x	02 13 25.1	
PRU				*e*SKP		02 16 23.9	
CSKK	**Cskako**	**139.34**	**328**	*e*PP	**SKPbc**	**02 16 25.0**	**+1.4**
PBCC	**Pribram**	**139.72**	**333**	*e*PKP	**PKPdf**	**02 13 00.3**	**+0.5**
PBCC				*e*SKP	**SKPbc**	**02 16 25.6**	**+1.0**
TIH	**Tihany**	**139.83**	**328**	*e*PP	**SKPbc**	**02 16 25.0**	**+0.1**
MPLH	**Magyarpolny**	**139.83**	**328**	*e*PP	**SKPbc**	**02 16 24.1**	**-0.9**
MPLH	**Magyarpolny**	**139.83**	**328**	*e*PKiKP	**PKPdf**	**02 12 59.1**	**-1.0**
MORH	**Mrgy, Hungar**	**139.88**	**326**	*e*P	**PKPdf**	**02 12 59.2**	**-0.9**
MORH	**Mrgy, Hungar**	**139.88**	**326**	*e*PP	**SKPbc**	**02 16 25.1**	**-0.1**
MORH	**Mrgy, Hungar**	**139.88**	**326**	*e*PKiKP	**PKPdf**	**02 12 58.1**	**-2.0**
FRGS	**Fruska Gora**	**139.89**	**324**	*e*P	**PKPdf**	**02 12 58.9**	**-1.3**
SOP	**Sopron**	**139.98**	**329**	*e*PP	**SKPbc**	**02 16 26.0**	**+0.6**
SOP	**Sopron**	**139.98**	**329**	*e*PKiKP	**PKPdf**	**02 12 54.1**	**-6.2**
CONA	**Conrad Observa**	**140.14**	**330**	*e*PKPdf	**PKPdf**	**02 12 57.4**	**-3.4**
	comp=Z,6.6nm,1.1s						
CONA				*e*SKPbc	**SKPbc**	**02 16 27.2**	**+1.3**
	comp=Z,11nm,1.2s						
KHC	**Kasperske Hory**	**140.32**	**333**	*e*PKIKP	**PKPdf**	**02 13 01.1**	**+0.2**
KHC				*e*		02 13 29.2	
KHC	**Kasperske Hory**	**140.32**	**333**	*e*PKP	**PKPdf**	**02 13 01.1**	**+0.2**
KHC				*e*x	x	02 13 14.4	
KHC				*e*pPKP	**pPKPdf**	**02 13 29.2**	**-3.4**
KHC				*e*SKP	**SKPbc**	**02 16 26.7**	**+0.4**
KHC	**Kasperske Hory**	**140.32**	**333**		**PKPdf**	**02 12 59.5**	**-1.5**
DIVS	**Divibare**	**140.41**	**323**	*e*P	**PKPdf**	**02 12 59.8**	**-1.5**
GERES	**GERESS Array B**	**140.48**	**333**	PKhKP	PKPpre	02 12 53.0	
	comp=Z,0.7nm,0.7s,baz=56,slow=5.0,SNR=6.1						
GERES				PKP	**PKPdf**	**02 13 01.4**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=48,slow=1.5,SNR=16						
GERES				SKPbc	**SKiKP**	**02 16 28.0**	**-1.2**
	comp=Z,7.6nm,0.9s,baz=60,slow=3.2,SNR=23						
BEHE	**Becsehely**	**140.69**	**328**	*e*PP	**SKPbc**	**02 16 28.0**	**+0.7**
ARSA	**Arzberg**	**140.78**	**330**	*e*PKPdf	**PKPdf**	**02 12 58.4**	**-3.4**
	comp=Z,3.5nm,1.1s						
ARSA				*e*SKPbc	**SKPbc**	**02 16 28.1**	**+0.6**
	comp=Z,2.7nm,0.8s						
BBLS	**Lazići**	**140.89**	**323**	*e*P	**PKPdf**	**02 13 02.1**	**-0.1**
MOA	**Molln**	**140.95**	**331**	*e*SKPbc	**SKPbc**	**02 16 28.2**	**+0.3**
	comp=Z,12nm,1.7s						
HAPS	**Han Pijesak,Bl**	**141.02**	**323**	*e*P	**PKPdf**	**02 13 01.0**	**-1.4**
RUDO	**Rudo**	**141.06**	**322**	*e*P	**PKPdf**	**02 12 58.5**	**-3.9**
SOKA	**Soboth**	**141.42**	**329**	PKPdf	**PKPdf**	**02 12 58.3**	**-4.8**
	comp=Z,6.0nm,0.8s						
SOKA				*e*SKPbc	**SKPbc**	**02 16 29.6**	**+0.3**
	comp=Z,10nm,1.0s,SNR=6.0						
BLY	**Banja Luka**	**141.60**	**325**	*e*P	**PKPdf**	**02 13 02.4**	**-0.9**
CRES	**Cresnjev**	**141.80**	**328**	*e*P	**PKPdf**	**02 13 01.8**	**-1.9**
PDG	**Podgorica**	**141.81**	**321**	*e*P	**PKPdf**	**02 13 03.2**	**-0.5**
PDG	**Podgorica**	**141.81**	**321**	⇑P	**PKPdf**	**02 13 03.8**	**0.0**
BRY	**Bratogost**	**141.97**	**322**	*e*P	**PKPdf**	**02 12 58.7**	**-5.5**
LJU	**Ljubljana**	**142.12**	**329**	*e*P	**PKPdf**	**02 13 00.2**	**-4.0**
MYKA	**Terra Mystica**	**142.13**	**330**	PKPdf	**PKPdf**	**02 12 59.8**	**-4.5**
	comp=Z,4.7nm,1.0s						
MYKA				*e*SKPbc	**SKPbc**	**02 16 31.1**	**+0.1**
	comp=Z,7.7nm,0.9s						
BCLA	**Clavier**	**142.35**	**341**	PKPdf	**PKPdf**	**02 13 02.0**	**-2.4**
CEY	**Cerknica**	**142.38**	**329**	*e*P	**PKPdf**	**02 12 59.9**	**-4.8**
WATA	**Walderalm**	**142.55**	**333**	*e*PKPdf	**PKPdf**	**02 13 00.8**	**-4.4**
	comp=Z,12nm,1.6s						
WATA				*e*SKPbc	**SKPbc**	**02 16 32.2**	**+0.1**
	comp=Z,11nm,1.2s						
ABTA	**Abfaltersbach**	**142.57**	**331**	*e*PKPdf	**PKPdf**	**02 13 00.6**	**-4.5**
	comp=Z,6.6nm,0.8s						
ABTA				*e*SKPbc	**SKPbc**	**02 16 32.1**	**-0.1**
	comp=Z,5.3nm,0.9s						
WTTA	**Wattenberg**	**142.58**	**333**	*e*PKPdf	**PKPdf**	**02 13 01.3**	**-3.9**
	comp=Z,14nm,1.3s						
WTTA				*e*SKPbc	**SKPbc**	**02 16 32.9**	**+0.6**
	comp=Z,18nm,1.1s						
WLF	**Walferdange**	**142.74**	**340**	PKPdf	**PKPdf**	**02 13 02.1**	**-3.0**
MOTA	**Moosalm**	**142.75**	**333**	*e*PKPdf	**PKPdf**	**02 13 02.2**	**-3.3**
	comp=Z,20nm,1.0s,SNR=6.1						
MOTA				*e*SKPbc	**SKPbc**	**02 16 32.9**	**+0.2**
	comp=Z,16nm,1.1s,SNR=5.9						
RETA	**Reutte**	**142.79**	**334**	*e*PKPdf	**PKPdf**	**02 13 01.6**	**-3.8**
	comp=Z,6.4nm,1.1s						
RETA				*e*SKPbc	**SKPbc**	**02 16 33.2**	**+0.6**
	comp=Z,7.1nm,1.2s						
SQTA	**Sankt Quirin**	**142.80**	**333**	*e*PKPdf	**PKPdf**	**02 13 02.2**	**-3.3**
	comp=Z,16nm,1.0s,SNR=8.3						
SQTA				*e*SKPbc	**SKPbc**	**02 16 33.1**	**+0.4**
	comp=Z,16nm,1.0s						
DOU	**Dourbes**	**142.85**	**342**	PKPdf	**PKPdf**	**02 13 02.9**	**-2.4**
DOU				x	x	02 13 05.0	
FETA	**Feichten**	**143.16**	**333**	PKPdf	PKPbc	02 13 03.6	+0.2
	comp=Z,26nm,0.9s,SNR=9.4						
FETA				*e*SKPbc	**SKPbc**	**02 16 34.2**	**+0.5**
	comp=Z,15nm,1.2s						
DAVA	**Damuels**	**143.31**	**334**	PKPdf	PKPbc	02 13 04.1	+0.2
	comp=Z,16nm,0.9s,SNR=6.5						
DAVA				*e*SKPbc	**SKPbc**	**02 16 34.5**	**+0.4**
	comp=Z,13nm,1.2s						
FUORN	**Ofenpass-Fuorn**	**143.68**	**333**		PKPbc	02 13 05.3	+0.3
TUE	**Stuetta**	**144.18**	**334**		PKPbc	02 13 07.0	+0.5
MATE	**Matera**	**144.41**	**320**	⇓P	**PKPab**	**02 13 06.9**	**+0.1**
NRCA	**Norcia**	**145.08**	**326**		**PKPbc**	**02 13 08.9**	**-0.3**
MURB	**Monte Urbino**	**145.09**	**327**		**PKPdf**	**02 13 09.5**	**0.0**
SENIN	**Lac Senin/Sane**	**145.11**	**336**		**PKPbc**	**02 13 09.3**	**-0.1**
INTR	**Introdacqua**	**145.20**	**325**		**PKPbc**	**02 13 09.0**	**-0.7**
TIP	**Timpagrande**	**145.22**	**318**	⇑P	**PKPbc**	**02 13 09.7**	**-0.1**
TIP	**Timpagrande**	**145.22**	**318**		**PKPab**	**02 13 10.0**	**0.0**
AQU	**L'Aquila**	**145.25**	**325**	PKIKP	**PKPdf**	**02 13 09.9**	**0.0**
AQU	**L'Aquila**	**145.25**	**325**	*e*P	**PKPbc**	**02 13 09.6**	**-0.2**
AQU	**L'Aquila**	**145.25**	**325**		**PKPdf**	**02 13 09.9**	**0.0**
BNI	**Bardonecchia**	**146.43**	**335**	PKIKP	**PKPdf**	**02 13 11.4**	**-0.5**
BNI						02 13 14.2	
BNI	**Bardonecchia**	**146.43**	**335**		**PKPdf**	**02 13 11.4**	**-0.5**
BNI				PKPbc	**PKPab**	**02 13 14.2**	**-0.3**
SSB	**Saint Sauveur**	**147.07**	**338**	PKIKP	**PKPdf**	**02 13 12.2**	**-0.7**
SSB						02 13 15.6	
SSB	**Saint Sauveur**	**147.07**	**338**		**PKPdf**	**02 13 12.2**	**-0.7**
SSB				PKPbc	**PKPbc**	**02 13 15.6**	**+0.5**
RAFF	**Raffo Rosso**	**147.89**	**317**		**PKPbc**	**02 13 18.3**	**+0.8**
KEST	**Kesra**	**152.00**	**320**	PKPbc	**PKiKP**	**02 13 28.0**	**0.0**
	comp=Z,26nm,0.8s,baz=96,slow=3.8,SNR=55						
KEST	**Kesra**	**152.00**	**320**		**PKPbc**	**02 13 27.6**	**0.0**
PVRL	**Vila Real**	**154.02**	**352**	*e*PKPab	**PKPab**	**02 13 47.0**	**+1.4**
MVO	**Moncorvo**	**154.03**	**351**	*e*PKPab	**PKPab**	**02 13 46.3**	**+0.6**
PVIS	**Viseu**	**154.60**	**352**	*e*PKPab	**PKPab**	**02 13 49.2**	**+1.1**
ESDC	**Sonseca Array**	**154.83**	**344**	PKPbc	**PKPbc**	**02 13 33.2**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=13,slow=2.5,SNR=8.5						
ESDC				PKPab	**PKPab**	**02 13 49.1**	**0.0**
	comp=Z,1.3nm,0.7s,baz=13,slow=4.0,SNR=11						
MTE	**Manteigas**	**154.86**	**351**	*e*PKPab	**PKPab**	**02 13 50.9**	**+1.7**
COI	**Coimbra**	**155.16**	**353**	PKIKP	**PKPdf**	**02 13 24.2**	**-1.1**
COI	**Coimbra**	**155.16**	**353**	PKPdf	**PKPdf**	**02 13 24.2**	**-1.1**
COI					**PKPab**	**02 13 51.5**	**+1.1**
PCAS	**Casmilo, Conde**	**155.33**	**353**	*e*PKPab	**PKPab**	**02 13 52.4**	**+1.3**
PESTR	**Estremoz**	**156.36**	**350**	PKPdf	**PKPdf**	**02 13 26.9**	**-0.1**
PESTR					**PKPab**	**02 13 56.1**	**+0.5**
EVO	**Evora**	**156.76**	**351**	*e*PKPab	**PKPab**	**02 13 58.0**	**+0.7**
PCVE	**Castro Verde**	**157.64**	**351**	*e*PKPab	**PKPab**	**02 14 02.7**	**+1.6**
MORF	**Marmelete**	**158.05**	**352**	*e*PKPab	**PKPab**	**02 14 05.8**	**+2.8**
TAM	**Tamanrasset**	**161.56**	**296**	PKIKP	**PKPdf**	**02 13 34.2**	**+0.5**
TAM						02 14 16.3	
TAM	**Tamanrasset**	**161.56**	**296**		**PKPdf**	**02 13 34.2**	**+0.5**
TAM				PKPab	**sPKPdf**	**02 14 16.3**	**-1.3**
TOA0	**Torodi Ar. Sit**	**166.09**	**262**		**PKPdf**	**02 13 37.2**	**-0.6**
TOA0					**PKPab**	**02 14 38.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**166.09**	**262**	PKP	**PKPdf**	**02 13 37.2**	**-0.6**
	comp=Z,2.2nm,0.9s,baz=2.8,slow=3.2,SNR=9.7						
TORD				PKPab	**PKPab**	**02 14 38.4**	**-0.6**
	comp=Z,9.2nm,0.9s,baz=88,slow=3.1,SNR=22						
TORD				PP	**PP**	**02 18 24.5**	**-2.4**
	comp=Z,6.3nm,1.3s,baz=85,slow=3.3,SNR=7.0						
KIC	**Kosan Boka**	**168.16**	**221**	*e*PKP1	**PKPab**	**02 14 47.6**	**-0.3**
	comp=Z,46nm,1.2s						
LIC	**Lamto**	**168.23**	**219**	*e*PKP1	**PKPab**	**02 14 47.7**	**-0.5**
	comp=Z,114nm,1.4s						
DBIC	**Dimbokro**	**168.47**	**221**	PKP	**PKPdf**	**02 13 37.9**	**-1.7**
	comp=Z,3.9nm,1.0s,baz=108,slow=3.1,SNR=3.6						
DBIC				PKPab	**PKPab**	**02 14 49.4**	**+0.1**
	comp=Z,5.9nm,1.0s,baz=111,slow=8.8,SNR=4.1						
TIC	**Toumodi**	**168.55**	**220**	*e*PKP1	**PKPab**	**02 14 49.0**	**-0.7**
	comp=Z,58nm,1.1s						

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*ISCJB **08** 02:12:19.2±0.6, 36°.40N±0°.03×141°.07E±0°.06, h53km±5km, mb3.5/3, Error ellipse: s-maj=7.9km s-min=4.6km az=10.8*
*JMA **08** 02:12:20.9±0.1, 36°.42N×140°.92E, h49km±1km, M3.9*
JMA Felt I J1.
*NEIC **08** 02:12:20.7±1.1, 36°.37N±0°.08×141°.1E±0°.1, h51km±4km, mb4.1/1*
*IDC **08** 02:12:22.0±3.2, 36°.30N×140°.99E, h62km±32km, mb3.2/3, mb1 3.6/5, mb1mx3.1/62, mbtmp3.8/5, ML2.8/1, Error ellipse: s-maj=30.3km s-min=20.2km az=46.0*
ISC 08 02:12:19.7±1.1**, 36°.36N**±0°.04×**141°.11E**±0°.07**, h42**km±11km**, n31,** σ**1s.61**/40**, mb3.6**/4**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.42**	**268**	P	**Pn**	**02 12 29.8**	**+0.3**
JHYU				S	**Sn**	**02 12 36.2**	**-0.2**
JHO	**Hitachi**	**0.51**	**300**	P	**Pn**	**02 12 30.2**	**-0.4**
JHO				S	**Sn**	**02 12 36.7**	**-1.6**
JIHU	**Itakohorinouch**	**0.61**	**231**	P	**Pn**	**02 12 33.4**	**+1.4**
JIHU				S	**Sn**	**02 12 42.7**	**+2.0**
JYT	**Yasato**	**0.75**	**261**	P	**Pn**	**02 12 33.4**	**-0.4**
JYT				S	**Sn**	**02 12 42.3**	**-1.8**
ONAJ	**Iwakimizuishiy**	**0.79**	**341**	P	**Pn**	**02 12 34.1**	**-0.3**
ONAJ				S	**Sn**	**02 12 43.8**	**-1.2**
JSMT	**Sammumatsuo**	**0.89**	**217**	P	**Pn**	**02 12 37.3**	**+1.5**
JSMT				S	**Sn**	**02 12 49.4**	**+1.9**
JFK	**Kawauchi**	**1.03**	**349**	P	**Pn**	**02 12 37.3**	**-0.4**
JFK				S	**Sn**	**02 12 49.3**	**-1.6**
JFT	**Otama**	**1.32**	**332**	P	**Pn**	**02 12 41.9**	**+0.3**
JFT				S	**Sn**	**02 12 57.5**	**-0.5**
JAG	**Ashikaga**	**1.34**	**273**	P	**Pn**	**02 12 41.3**	**-0.6**
JAG				S	**Sn**	**02 12 56.3**	**-2.2**
JMM	**Marumori**	**1.53**	**351**	P	**Pn**	**02 12 44.8**	**+0.3**
JMM				S	**Sn**	**02 13 02.6**	**-0.6**
JFY	**Yanaizu**	**1.54**	**313**	P	**Pn**	**02 12 44.5**	**-0.2**
JFY				*e*S	**Sn**	**02 13 01.8**	**-1.7**
JKT	**Katashina**	**1.56**	**286**	P	**Pn**	**02 12 44.7**	**-0.2**
JKT				S	**Sn**	**02 13 02.2**	**-1.7**
MJAR	**Matsushiro Arr**	**2.35**	**275**	P	**Pn**	**02 12 55.6**	**-0.2**
	2.5nm,0.3s,baz=97,slow=8.2,SNR=120						
MJAR				S	**Sn**	**02 13 23.9**	**+0.5**
	2.9nm,0.3s,baz=354,slow=32,SNR=9.2						
MAJO	**Matsushiro**	**2.35**	**275**		**Pn**	**02 12 56.3**	**+0.5**
MAT	**Matsushiro**	**2.35**	**275**	P	**Pn**	**02 12 56.2**	**+0.4**
MAT				S	**Sn**	**02 13 23.9**	**+0.5**
MJB9	**Matsu-Tunnel**	**2.35**	**275**		**Pn**	**02 12 56.3**	**+0.5**
JHJ2	**Mitsune**	**3.41**	**199**	Pn	**Pn**	**02 13 11.3**	**+1.0**
JHJ2					**Sn**	**02 13 49.0**	**-0.5**
INU	**Inuyama**	**3.47**	**254**		**Pn**	**02 13 13.1**	**+1.9**
ERM	**Erimo**	**5.87**	**15**	Pn	**Pn**	**02 13 44.8**	**+0.7**
JCJ	**Chichijima**	**9.28**	**174**	P	**Pn**	**02 14 31.8**	**+0.9**
	baz=306,slow=19						
JCJ				S	**Sn**	**02 16 07.1**	**-6.9**
	2.5nm,0.3s,baz=217,slow=20,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**28.02**	**119**	T	T	02 48 06.1	
	baz=312,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**28.03**	**119**	T	T	02 48 06.7	
	baz=312,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**28.04**	**119**	T	T	02 48 16.0	
	baz=312,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**28.70**	**121**	T	T	02 48 55.2	
	baz=314,slow=76,SNR=60						
H11S3	**WAKE ISLAND Hy**	**28.70**	**121**	T	T	02 48 47.5	
	baz=314,slow=76,SNR=36						
H11S2	**WAKE ISLAND Hy**	**28.72**	**121**	T	T	02 49 02.8	
	baz=314,slow=76,SNR=40						
KURK	**Kurchatov**	**46.16**	**309**	P	**P**	**02 20 39.2**	**-0.7**
KURK	**Kurchatov**	**46.16**	**309**	IAmb	IAmb	02 20 42.4	
	comp=Z,3.5nm,1.3s						
KURBB	**Kurchatov Arra**	**46.23**	**308**	P	**P**	**02 20 39.2**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=82,slow=8.5,SNR=3.2						
ILAR	**Eielson Array**	**50.20**	**32**	P	**P**	**02 21 12.4**	**+1.4**
	comp=Z,0.3nm,0.8s,baz=280,slow=6.2,SNR=4.0						
WRA	**Warramunga Arr**	**56.36**	**188**	P	**P**	**02 21 56.6**	**0.0**
	comp=Z,0.3nm,0.7s,baz=6.3,slow=7.8,SNR=5.2						

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*ISCJB **08** 02:14:14.1±1.4, 3°.6S±0°.2×151°.9E±0°.2, h250km, Error ellipse: s-maj=34.4km s-min=27.4km az=7.3*
*IDC **08** 02:14:14.4±1.2, 3°.58S×152°.01E, h245km±11km, mb3.0/3, mb1 3.2/3, mb1mx2.9/39, mbtmp3.6/3, Error ellipse: s-maj=71.2km s-min=20.5km az=111.0*
ISC 08 02:14:14.5±1.7**, 3°.6S**±0°.2×**152°.1E**±0°.4**, h250**km**, n6,** σ**0s.74**/7**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.68**	**187**	P	**Pn**	**02 14 48.1**	**+0.2**
	25nm,0.3s,baz=137,slow=1.1,SNR=11						
KRVT				S	**S**	**02 15 14.2**	**-0.2**
	11nm,0.3s,baz=82,slow=23,SNR=10						
WRA	**Warramunga Arr**	**23.73**	**226**	P	**P**	**02 19 05.0**	**+0.6**
	12nm,0.3s,baz=47,slow=9.6,SNR=288						
ASAR	**Alice Springs**	**26.57**	**220**	P	**P**	**02 19 30.2**	**+0.3**
	0.4nm,0.5s,baz=53,slow=8.5,SNR=12						
FITZ	**Fitzroy Crossi**	**29.63**	**239**	P	**P**	**02 19 56.6**	**-0.4**
	0.6nm,0.3s,baz=55,slow=7.7,SNR=9.6						
SONM	**Songino Array**	**64.97**	**328**	P	**P**	**02 24 28.4**	**+0.5**
	0.1nm,0.4s,baz=118,slow=8.3,SNR=1.8						
TORD	**Torodi Ar. Bea**	**149.27**	**290**	PKPbc	**PKPbc**	**02 33 33.5**	**-1.1**
	1.0nm,0.4s,baz=97,slow=2.7,SNR=27						

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*IDC **08** 02:38:04.0±0.8, 63°.30N×151°.65W, h0km, mb3.8/6, mb1 3.9/10, mb1mx3.6/39, mbtmp3.7/10, ML3.2/4, Error ellipse: s-maj=19.2km s-min=12.3km az=141.0*
*ISCJB **08** 02:38:05.0±0.4, 63°.18N±0°.02×151°.49W±0°.04, h23km±4km, mb3.8/6, Error ellipse: s-maj=3.5km s-min=2.6km az=21.8*
*AEIC **08** 02:38:04.6±1.9, 63°.16N±0°.03×151°.50W±0°.09, h12km±4km, ML3.6*
*NEIC **08** 02:38:04.4±1.7, 63°.13N±0°.03×151°.48W±0°.05, h8km±3km*
ISC 08 02:38:04.3±1.1**, 63°.15N**±0°.02×**151°.42W**±0°.03**, h7**km±8km**, n130,** σ**1s.16**/146**, mb3.8**/6**, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAST	**Castle Rocks**	**0.40**	**312**		**Pb**	**02 38 12.5**	**-1.3**
CAST					**Sg**	**02 38 17.6**	**+0.2**
PPLA	**Purkeypile**	**0.43**	**234**		**Pg**	**02 38 11.9**	**-0.9**
PPLA					**Sg**	**02 38 17.2**	**-1.3**
KTH	**Kantishna Hill**	**0.46**	**29**		**Pg**	**02 38 14.1**	**+0.8**
KTH					**Sb**	**02 38 21.3**	**-0.6**
TRF	**Thorofare Moun**	**0.59**	**59**		**Pg**	**02 38 16.5**	**+0.7**
TRF					**Sb**	**02 38 25.9**	**+0.2**
HUR	**Hurricane**	**0.83**	**101**		**Pg**	**02 38 20.4**	**+0.1**
CHUM	**Lake Minchumin**	**0.84**	**332**		**Pb**	**02 38 21.2**	**0.0**
CHUM					**Sb**	**02 38 32.1**	**-0.4**
BPAW	**Bear Paw Mtn.**	**0.97**	**11**		**Pb**	**02 38 23.3**	**-0.2**
BPAW					**Sb**	**02 38 37.2**	**+0.7**
TRAP	**Trapper Creek**	**0.98**	**146**		**Pg**	**02 38 22.8**	**-0.4**
SKT	**Skwentna**	**1.18**	**183**		**Pb**	**02 38 25.5**	**-1.5**
RND	**Reindeer**	**1.19**	**76**		**Pb**	**02 38 26.8**	**-0.4**
MCK	**McKinley**	**1.26**	**61**		**Pn**	**02 38 28.2**	**-0.1**
WAT2	**Susitna Watana**	**1.30**	**97**		**Pn**	**02 38 28.8**	**-0.3**
WAT2					**Sb**	**02 38 46.7**	**+0.6**
BWN	**Browne**	**1.34**	**40**		**Pn**	**02 38 29.7**	**+0.3**
WAT1	**Susitna Watana**	**1.35**	**103**		**Pn**	**02 38 29.5**	**0.0**
WAT1					**Sb**	**02 38 47.2**	**-0.1**
SUA	**Susitna One**	**1.72**	**169**		**Pn**	**02 38 34.6**	**-0.1**
SUA					**Sn**	**02 38 57.6**	**+0.6**
NEA	**Nenana**	**1.77**	**35**		**Pn**	**02 38 34.5**	**-0.8**
WAT6	**Susitna Watana**	**1.78**	**107**		**Pn**	**02 38 34.6**	**-1.0**
GHO	**Glory Hole Cre**	**1.81**	**139**		**Pn**	**02 38 35.4**	**-0.5**
DHY	**Denali Highway**	**1.84**	**91**		**Pn**	**02 38 36.5**	**+0.1**
CGLM	**Capps Glacier**	**1.87**	**189**		**Pn**	**02 38 36.5**	**-0.3**
SPCG	**Spurr Capps Gl**	**1.89**	**189**		**Pn**	**02 38 36.6**	**-0.4**
SPNN	**North Nagishla**	**1.89**	**199**		**Pn**	**02 38 36.9**	**-0.2**
PMR	**Palmer**	**1.89**	**145**		**Pn**	**02 38 37.0**	**+0.1**
MLY	**Manley**	**1.91**	**9**		**Pn**	**02 38 37.1**	**-0.2**
SPCP	**Crater Peak Br**	**1.92**	**191**		**Pn**	**02 38 37.4**	**-0.2**
SPBG	**Spurr Blockage**	**1.95**	**194**		**Pn**	**02 38 37.8**	**-0.1**
SPWE	**Spurr West**	**1.96**	**196**		**Pn**	**02 38 38.5**	**+0.5**
SML	**Sawmill**	**1.97**	**132**		**Pn**	**02 38 37.5**	**-0.6**
WRH	**Wood River Hil**	**1.98**	**47**		**Pn**	**02 38 37.5**	**-0.7**
SPCR	**Spurr Chakacha**	**1.99**	**191**		**Pn**	**02 38 38.9**	**+0.4**
CKL	**Chakachamna La**	**2.01**	**193**		**Pn**	**02 38 39.4**	**+0.7**
FIS	**Fire Island**	**2.09**	**164**		**Pn**	**02 38 40.9**	**+1.2**
TTA	**Tatalina**	**2.10**	**266**		**Pg**	**02 38 47.8**	**+3.2**
TTA	**Tatalina**	**2.10**	**266**		**Pn**	**02 38 38.6**	**-1.3**
TT01	**Tatalina**	**2.11**	**265**		**Pn**	**02 38 38.5**	**-1.5**
CCB	**Clear Creek Bu**	**2.19**	**45**		**Pn**	**02 38 40.3**	**-0.8**
RC01	**Rabbit Creek A**	**2.21**	**158**		**Pn**	**02 38 41.0**	**-0.4**
KNK	**Knik Glacier**	**2.23**	**140**		**Pn**	**02 38 42.0**	**+0.5**
MDM	**Murphy Dome**	**2.29**	**36**		**Pn**	**02 38 41.8**	**-0.7**
SCM	**Sheep Creek Mo**	**2.31**	**123**		**Pn**	**02 38 43.9**	**+1.0**
TCOL	**CIGO, UAF Yank**	**2.33**	**41**	P	**Pn**	**02 38 42.5**	**-0.5**
	baz=225						
TCOL				S	**Sn**	**02 39 12.3**	**+0.5**
	baz=225						
TCOL	**CIGO, UAF Yank**	**2.33**	**41**		**Pn**	**02 38 42.5**	**-0.5**
COLA	**College**	**2.34**	**41**		**Pn**	**02 38 42.4**	**-0.6**
HDA	**Harding Lake**	**2.35**	**56**	P	**Pn**	**02 38 42.9**	**-0.4**
	baz=240						
HDA				S	**Sn**	**02 39 12.9**	**+0.5**
	baz=240						
HDA	**Harding Lake**	**2.35**	**56**		**Pn**	**02 38 43.1**	**-0.2**
CAPN	**Captain Cook N**	**2.40**	**177**		**Pn**	**02 38 45.2**	**+1.4**
PS10	**TAPS Pump St10**	**2.57**	**81**		**Pn**	**02 38 48.3**	**+2.0**
IL31		**2.58**	**49**		**Pn**	**02 38 45.7**	**-0.6**
ILAR	**Eielson Array**	**2.58**	**49**	Pn	**Pn**	**02 38 45.7**	**-0.7**
	1.9nm,0.3s,baz=237,slow=14,SNR=105						
ILAR				Lg	Lg	02 39 25.1	
	59nm,0.3s,baz=251,slow=28,SNR=21						
POKR	**Poker Plat Res**	**2.63**	**40**	P	**Pn**	**02 38 46.8**	**-0.4**
	baz=224						
POKR				S	**Sn**	**02 39 19.0**	**-0.3**
	baz=224						
POKR	**Poker Plat Res**	**2.63**	**40**		**Pn**	**02 38 46.7**	**-0.4**
DFR	**Drift River**	**2.64**	**194**		**Pn**	**02 38 48.8**	**+1.4**
RDJH	**Redoubt Jeurge**	**2.65**	**195**		**Pn**	**02 38 49.3**	**+1.7**
NCT	**North Crescent**	**2.70**	**196**		**Pn**	**02 38 49.1**	**+1.0**
SLKM	**Skilak Lake**	**2.71**	**167**		**Pn**	**02 38 49.5**	**+1.2**
PAX	**Paxson**	**2.71**	**91**		**Pn**	**02 38 49.5**	**+1.1**
PWL	**Port Wells**	**2.72**	**146**		**Pn**	**02 38 49.5**	**+1.1**
RDWB	**Redoubt West**	**2.76**	**195**		**Pn**	**02 38 49.6**	**+0.6**
RSO	**Redoubt South**	**2.77**	**194**		**Pn**	**02 38 51.2**	**+2.0**
PS06	**TAPS Pump Stn6**	**2.81**	**14**		**Pn**	**02 38 49.9**	**+0.3**
RED	**Redoubt Volcan**	**2.82**	**194**		**Pn**	**02 38 50.9**	**+1.1**
SVW2	**Sparrevohn**	**2.84**	**225**		**Pn**	**02 38 49.7**	**-0.3**
PS11	**TAPS Pump St11**	**2.95**	**109**		**Pn**	**02 38 53.4**	**+1.9**
RIDG	**Independent Ri**	**3.01**	**76**		**Pn**	**02 38 53.0**	**+0.6**
IM03		**3.02**	**342**		**Pn**	**02 38 52.5**	**+0.1**
GLI	**Glacier Island**	**3.06**	**136**		**Pn**	**02 38 54.0**	**+1.1**
JPK	**Jack Peak**	**3.09**	**131**		**Pn**	**02 38 55.5**	**+2.0**
SEW	**Seward**	**3.20**	**162**		**Pn**	**02 38 57.5**	**+2.6**
DOT	**Dot Lake**	**3.35**	**78**		**Pn**	**02 38 57.6**	**+0.6**
FID	**Port Fidalgo**	**3.35**	**134**		**Pn**	**02 38 58.5**	**+1.4**
BRLK	**Bradley Lake**	**3.41**	**175**		**Pn**	**02 38 59.2**	**+1.3**
SCRK	**Sand Creek**	**3.43**	**73**		**Pn**	**02 38 58.5**	**+0.4**
BRSE	**Bradley Lake S**	**3.44**	**174**		**Pn**	**02 38 59.1**	**+0.9**
MENT	**Mentasta**	**3.51**	**90**		**Pn**	**02 39 01.6**	**+2.3**
HIN	**Hinchinbrook I**	**3.62**	**138**		**Pn**	**02 39 01.7**	**+1.0**
CNPM	**China Poot**	**3.64**	**179**	Pn	**Pn**	**02 39 01.4**	**+0.4**
PS05	**TAPS Pump Stn5**	**3.69**	**5**		**Pn**	**02 39 02.3**	**+0.6**
EYAK	**Cordova Ski Ar**	**3.75**	**132**		**Pn**	**02 39 03.6**	**+1.3**
GLB	**Gilahina Butte**	**3.94**	**112**		**Pn**	**02 39 06.7**	**+1.4**
GOAT	**Goat Mountain**	**4.08**	**126**		**Pn**	**02 39 07.6**	**+0.4**
COLD	**Coldfoot**	**4.12**	**7**		**Pn**	**02 39 08.0**	**+0.4**
VRDI	**Verde Repeater**	**4.20**	**114**		**Pn**	**02 39 10.5**	**+1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
RAGM	**Ragged Mountai**	**4.24**	**128**		**Pn**	**02 39 12.1**	**+2.9**
MCARA	**McCarthy VSAT**	**4.30**	**111**		**Pn**	**02 39 13.0**	**+2.9**
FYU	**Fort Yukon**	**4.33**	**35**		**Pn**	**02 39 10.2**	**-0.1**
BC03		**4.38**	**87**		**Pn**	**02 39 12.3**	**+1.3**
HMT	**Hamilton**	**4.42**	**126**		**Pn**	**02 39 11.6**	**-0.2**
CRQM	**Cirque**	**4.59**	**118**		**Pn**	**02 39 16.0**	**+1.9**
PTPK	**Patty Peak**	**4.64**	**111**		**Pn**	**02 39 15.7**	**+0.9**
TGL	**Tana Glacier**	**4.71**	**117**		**Pn**	**02 39 17.7**	**+1.9**
KHIT	**Khitrov Hills**	**4.73**	**121**		**Pn**	**02 39 16.7**	**+0.6**
BALM	**Baldy**	**4.76**	**112**		**Pn**	**02 39 17.9**	**+1.5**
SUCK	**Suckling Hills**	**4.78**	**127**	Pn	**Pn**	**02 39 16.0**	**-0.6**
EGAK	**Eagle**	**4.81**	**66**		**Pn**	**02 39 17.5**	**+0.6**
KIAG	**Kiagna River**	**4.81**	**114**		**Pn**	**02 39 18.6**	**+1.3**
WAX	**Waxell Ridge**	**4.88**	**120**	Pn	**Pn**	**02 39 18.9**	**+0.8**
BARN	**Barnard Glacie**	**5.04**	**110**		**Pn**	**02 39 21.9**	**+1.5**
KULT	**Kultieth River**	**5.06**	**121**		**Pn**	**02 39 21.4**	**+0.8**
YUK2	**White River**	**5.09**	**101**		**Pn**	**02 39 23.5**	**+2.4**
YUK1	**Sand Pete Hill**	**5.12**	**96**		**Pn**	**02 39 24.0**	**+2.6**
BM03	**Burnt Mountain**	**5.15**	**31**		**Pn**	**02 39 21.1**	**-0.7**
GRNC	**Granite Creek**	**5.17**	**114**		**Pn**	**02 39 24.0**	**+1.9**
CTGM	**Chitina Glacie**	**5.22**	**110**		**Pn**	**02 39 24.5**	**+1.7**
YUK3	**Moose Creek**	**5.27**	**100**		**Pn**	**02 39 25.9**	**+2.4**
YAH	**Yahtse**	**5.38**	**117**	Pn	**Pn**	**02 39 25.5**	**+0.5**
KDAK	**Kodiak Island**	**5.42**	**187**	Pn	**Pn**	**02 39 25.9**	**+0.5**
	0.2nm,0.3s,baz=29,slow=14,SNR=5.5						
DAWY	**Dawson**	**5.44**	**75**		**Pn**	**02 39 26.1**	**+0.4**
RKAV	**Rock Avalanche**	**5.58**	**116**		**Pn**	**02 39 29.6**	**+1.9**
SAMH	**Samovar Hills**	**5.91**	**116**		**Pn**	**02 39 34.6**	**+2.5**
PCA	**Pinnacle**	**6.14**	**115**		**Pn**	**02 39 36.5**	**+1.1**
YUK4	**Talbot Arm**	**6.24**	**101**		**Pn**	**02 39 38.8**	**+2.0**
ANM	**Nome**	**6.33**	**289**	Pn	**Pn**	**02 39 37.7**	**-0.2**
BCPM	**Bancas Point**	**6.48**	**114**		**Pn**	**02 39 41.4**	**+1.5**
YUK5	**Granite Creek**	**6.67**	**102**		**Pn**	**02 39 44.5**	**+1.8**
EPYK	**Eagle Plains**	**7.06**	**56**	P	**Pn**	**02 39 47.8**	**-0.1**
	baz=250						
EPYK				S	**Sn**	**02 41 09.1**	**+0.9**
	baz=250						
EPYK	**Eagle Plains**	**7.06**	**56**		**Pn**	**02 39 47.8**	**-0.1**
DHAK	**Deception Hill**	**7.57**	**117**	Pn	**Pn**	**02 39 55.3**	**+0.4**
SKAG	**Skagway**	**8.57**	**108**		**Pn**	**02 40 09.1**	**+0.5**
INK	**Inuvik**	**8.98**	**47**	Pn	**Pn**	**02 40 14.1**	**0.0**
	0.4nm,0.3s,baz=232,slow=13,SNR=14						
INK				Sn	**Sn**	**02 41 52.3**	**-2.9**
	0.2nm,0.3s,baz=162,slow=32,SNR=3.1						
INK				Lg	Lg	02 42 44.8	
	0.2nm,0.3s,baz=73,slow=12,SNR=3.4						
INK	**Inuvik**	**8.98**	**47**		**Pn**	**02 40 14.5**	**+0.4**
BESE	**Bessie Mountai**	**9.28**	**112**	Pn	**Pn**	**02 40 18.5**	**+0.2**
JIS	**Juneau Island**	**9.66**	**113**		**Pn**	**02 40 23.3**	**-0.1**
C36M	**Paulatuk**	**12.55**	**49**	P	**Pn**	**02 41 02.1**	**-0.9**
	baz=254						
C36M				S	**Sn**	**02 43 22.6**	**-0.1**
	baz=254						
YKA	**Yellowknife Ar**	**16.68**	**76**	Pn	**Pn**	**02 41 57.5**	**-0.7**
	0.2nm,0.3s,baz=282,slow=9.2,SNR=9.6						
RES	**Resolute Bay**	**22.25**	**36**	P	**P**	**02 43 03.0**	**+1.9**
	0.8nm,0.7s,baz=236,slow=15,SNR=3.8						
TXAR	**Lajitas Array**	**45.51**	**115**	P	**P**	**02 46 24.4**	**+0.2**
	4.7nm,1.4s,baz=334,slow=5.6,SNR=6.6						
TXAR				PcP	**PcP**	**02 48 02.8**	**-0.1**
	0.3nm,0.8s,baz=328,slow=4.4,SNR=3.4						
SONM	**Songino Array**	**53.57**	**305**	P	**P**	**02 47 26.7**	**+1.2**
	0.9nm,0.8s,baz=35,slow=5.4,SNR=5.3						
ZALV	**Zalesovo Beam**	**55.28**	**323**	P	**P**	**02 47 36.6**	**-1.1**
	0.7nm,0.3s,baz=43,slow=7.1,SNR=4.7						
MKAR	**Makanchi Array**	**62.44**	**321**	P	**P**	**02 48 26.1**	**-1.5**
	0.4nm,0.6s,baz=42,slow=7.0,SNR=6.5						
ESDC	**Sonseca Array**	**74.27**	**26**	P	**P**	**02 49 40.8**	**-0.9**
	0.5nm,0.7s,baz=346,slow=6.0,SNR=8.6						

*ISCJB **08** 02:55:59.6±0.4, 29°.19N±0°.03×51°.20E±0°.04, h10km, mb3.8/6, Error ellipse: s-maj=5.7km s-min=3.9km az=146.5*
*IDC **08** 02:55:59.8±1.6, 29°.30N×51°.10E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.4/52, mbtmp3.8/7, ML3.1/1, Error ellipse: s-maj=35.9km s-min=29.8km az=86.0*
*THR **08** 02:56:00.1, 29°.38N×51°.15E, h4km, ML3.1*
*TEH **08** 02:56:01.4, 29°.38N×51°.28E, h10km, ML3.5*
*OMAN **08** 02:56:08.8±1.8, 28°.75N×51°.23E, h30km, ml3.7/1, Error ellipse: s-maj=11.1km s-min=6.1km az=150.0*
ISC 08 02:56:00.2±0.7**, 29°.26N**±0°.05×**51°.23E**±0°.06**, h10**km**, n56,** σ**2s.23**/61**, mb3.8**/6**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**0.75**	**46**	*e*Pg	**Pg**	**02 56 13.5**	**-1.2**
SHI	**Shiraz**	**1.19**	**71**	*e*Pg	**Pg**	**02 56 22.3**	**-0.8**
SHI				*e*Sg	**Sn**	**02 56 38.6**	**-0.8**
KLNJ	**Kolanjah**	**1.77**	**10**	*e*Pg	**Pg**	**02 56 33.0**	**-1.3**
KLNJ				IAMB	IAmb	02 57 02.2	
	comp=Z,0.0nm,0.5s						
JHRM	**Jahrom**	**2.19**	**109**	*e*Pn	**Pb**	**02 56 39.8**	**-0.3**
JHRM				IAMB	IAmb	02 57 23.8	
	comp=Z,0.0nm,0.3s						
IBRJ	**Brojen**	**2.64**	**1**	*e*Pn	**Pb**	**02 56 45.6**	**-2.2**
IRAM	**Ramesheh**	**2.73**	**21**	*e*Pn	**Pn**	**02 56 46.0**	**+1.6**
JHBN	**Jahan bin**	**3.00**	**351**	*e*Pn	**Pn**	**02 56 50.2**	**+2.0**
ROKH	**ROKH**	**3.08**	**357**	*e*Pn	**Pn**	**02 56 50.7**	**+1.5**
IGAR	**Gharneh**	**3.21**	**12**	*e*Pn	**Pn**	**02 56 53.3**	**+2.3**
IPIR	**Pirpir**	**3.43**	**355**	*e*Pn	**Pn**	**02 56 55.4**	**+1.4**
IMEH	**Mehriz**	**3.62**	**53**	*e*Pn	**Pn**	**02 56 59.4**	**+2.8**
IZEF	**Zefreh**	**3.75**	**14**	*e*Pn	**Pn**	**02 57 00.3**	**+1.9**
ICHK	**Chekchek**	**4.04**	**42**	*e*Pn	**Pn**	**02 57 04.8**	**+2.3**
YZKH	**Yazd**	**4.26**	**42**	*e*Pn	**Pn**	**02 57 07.4**	**+2.1**
YZKH	**Yazd**	**4.26**	**42**	*e*AML	AML	02 57 59.4	
	comp=N,21nm,0.3s						
YZKH	**Yazd**	**4.26**	**42**	*e*Pn	**Pn**	**02 57 07.4**	**+2.1**
IBAF	**Bafgh**	**4.41**	**57**	*e*Pn	**Pn**	**02 57 09.2**	**+1.8**
QAM	**Ghamsar**	**4.49**	**2**	*e*Pn	**Pn**	**02 57 11.2**	**+2.6**
KHMZ	**Khomeyn**	**4.60**	**347**	*e*Pn	**Pn**	**02 57 10.9**	**+0.9**
KHMZ	**Khomeyn**	**4.60**	**347**	*e*Pn	**Pn**	**02 57 10.9**	**+0.9**
KHGB	**Koh Gabri**	**4.70**	**75**	*e*Pn	**Pn**	**02 57 13.0**	**+1.6**
KHGB				IAMB	IAmb	02 58 10.4	
	comp=Z,0.0nm,0.4s						
GENO	**Geno**	**4.74**	**112**	*e*Pn	**Pn**	**02 57 15.9**	**+4.0**
KRSH	**Karshahi**	**4.76**	**9**	*e*Pn	**Pn**	**02 57 13.6**	**+1.4**
NGRK	**Negar Kerman**	**4.82**	**84**	*e*Pn	**Pn**	**02 57 16.1**	**+2.9**
NGRK				IAMB	IAmb	02 57 16.7	
	comp=Z,0.0nm,0.3s						
TVBK	**TV Kerman**	**4.87**	**80**	*e*Pn	**Pn**	**02 57 16.5**	**+2.5**
TVBK				IAMB	IAmb	02 57 33.6	
	comp=Z,0.0nm,0.3s						
IKMR	**Kamar-syah**	**4.89**	**331**	*e*Pn	**Pn**	**02 57 15.2**	**+1.3**
BDRS	**Dareh Seyedi**	**5.09**	**337**	*e*Pn	**Pn**	**02 57 18.7**	**+1.8**
IKFM	**Kafar-mosalman**	**5.14**	**327**	*e*Pn	**Pn**	**02 57 20.1**	**+2.8**
NIAN	**Nian**	**5.22**	**108**	*e*Pn	**Pn**	**02 57 21.8**	**+3.4**
ASAO	**Ashtian**	**5.37**	**349**	*e*Pn	**Pn**	**02 57 21.6**	**+0.9**
ASAO	**Ashtian**	**5.37**	**349**	*e*Pn	**Pn**	**02 57 21.6**	**+0.9**
CHMN	**Cheshme madani**	**5.53**	**82**	*e*Pn	**Pn**	**02 57 25.3**	**+2.3**
BANOM	**Banah**	**5.59**	**125**	P	**Pn**	**02 57 27.0**	**+3.4**
BANOM				S	**Sn**	**02 58 27.5**	**-0.5**
NAZ	**Nazwa, Dubai**	**5.81**	**136**	P	**Pn**	**02 57 29.6**	**+3.1**
IKOM	**Komasi**	**5.83**	**328**	*e*Pn	**Pn**	**02 57 28.5**	**+1.5**
ASUD	**Al Ashush, Dub**	**5.89**	**141**	P	**Pn**	**02 57 31.3**	**+3.6**
MDH	**Madha**	**5.99**	**130**	S	**Sn**	**02 58 32.8**	**-5.0**
TPRV	**Parvadeh(Tabas**	**6.00**	**50**	*e*Pn	**Pn**	**02 57 31.4**	**+2.2**
UOSS	**Minazif**	**6.17**	**133**	P	**Pn**	**02 57 35.9**	**+4.3**
ASHO	**Ashiyiah**	**6.27**	**135**	P	**Pn**	**02 57 36.0**	**+3.1**
	SNR=9.7						
ASHO				S	**Sn**	**02 58 41.8**	**-2.9**
TNSJ	**Nastanj**	**6.56**	**43**	*e*Pn	**Pn**	**02 57 38.4**	**+1.4**
TKDS	**Koohdasht(Taba**	**6.65**	**48**	*e*Pn	**Pn**	**02 57 39.2**	**+1.0**
BSRN	**Basiran**	**7.32**	**66**	*e*Pn	**Pn**	**02 57 50.7**	**+3.2**
BSRN	**Basiran**	**7.32**	**66**	*e*Pn	**Pn**	**02 57 50.7**	**+3.2**
BSY	**Bisya**	**8.42**	**139**	P	**Pn**	**02 58 03.5**	**+1.0**
BSY				S	**Sn**	**02 59 35.8**	**-1.8**
WSAR	**Wadi Sarin**	**8.95**	**130**	Pn	**Pn**	**02 58 10.1**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=336,slow=9.7,SNR=4.0						
WSAR				Sn	**Sn**	**02 59 47.4**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=77,slow=17,SNR=2.8						
WHFO	**Wadi Hawf**	**11.53**	**168**	P	**Pn**	**02 58 46.0**	**+1.0**
	SNR=20						
WHFO				S	Sn	03 00 47.3	-6.5
DMTO	**DMTO**	**11.98**	**163**	P	**Pn**	**02 58 51.3**	**+0.1**
DMTO				S	Sn	03 00 58.1	-7.0
ABTO	**Aybut**	**12.00**	**170**	P	**Pn**	**02 58 52.8**	**+1.3**
	SNR=14						
ABTO				S	**Sn**	**03 01 02.3**	**-3.2**
AKTO	**Aktyubinsk**	**21.77**	**12**	P	**P**	**03 00 53.0**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=205,slow=9.8,SNR=7.5						
FINES	**FINESS Array B**	**36.24**	**340**	P	**P**	**03 03 03.2**	**0.0**
	comp=Z,1.1nm,0.6s,baz=179,slow=15,SNR=4.0						
HFS	**Hagfors**	**39.84**	**332**	P	**P**	**03 03 33.9**	**+0.3**
	comp=Z,1.8nm,0.4s,baz=125,slow=9.6,SNR=12						
NB2	**NORSAR Subarra**	**41.37**	**332**	P	**P**	**03 03 45.9**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=123,slow=8.6						
NOA	**NORSAR Array B**	**41.37**	**332**	P	**P**	**03 03 45.9**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=127,slow=9.1,SNR=3.9						
ARCES	**ARCESS Array B**	**42.94**	**347**	P	**P**	**03 03 59.5**	**+0.6**
	comp=Z,4.4nm,1.1s,baz=158,slow=7.3,SNR=5.3						
TORD	**Torodi Ar. Bea**	**48.52**	**262**	P	**P**	**03 04 45.0**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=44,slow=12,SNR=3.4						

*ISCJB **08** 02:56:40.6±0.6, 22°.66N±0°.04×142°.2E±0°.1, h250km, mb3.6/16, Error ellipse: s-maj=18.2km s-min=6.2km az=1.7*
*IDC **08** 02:56:42.2±2.1, 22°.58N×142°.06E, h247km±20km, mb3.4/16, mb1 3.6/18, mb1mx3.3/62, mbtmp4.1/18, Error ellipse: s-maj=17.6km s-min=10.0km az=90.0*
*JMA **08** 02:56:44.6±0.3, 22°.95N×141°.73E, h269km±1km, M5.3*
ISC 08 02:56:42.3±0.6**, 22°.67N**±0°.07×**142°.1E**±0°.1**, h250**km**, n38,** σ**1s.30**/40**, mb3.6**/16**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**3.94**	**1**	P	**Pn**	**02 57 46.1**	**+0.7**
JHH2				*e*S	**S**	**02 58 34.1**	**-1.4**
CBIJ	**Chichi jima**	**4.40**	**1**	P	**Pn**	**02 57 51.1**	**+0.3**
CBIJ				*e*S	**S**	**02 58 43.0**	**-2.4**
JCJ	**Chichijima**	**4.40**	**1**	P	**Pn**	**02 57 51.3**	**+0.5**
	112nm,0.3s,baz=280,slow=23,SNR=125						
JCJ				S	**S**	**02 58 43.2**	**-2.2**
	79nm,0.3s,baz=313,slow=20,SNR=8.6						
JHJ2	**Mitsune**	**10.60**	**349**	P	**Pn**	**02 59 07.3**	**-1.0**
BSO1	**Boso 1**	**11.98**	**355**	P	**Pn**	**02 59 24.0**	**-1.0**
BSO3	**Boso 3**	**12.17**	**354**	P	**Pn**	**02 59 26.3**	**-1.3**
BSO4	**Boso 4**	**12.37**	**353**	P	**Pn**	**02 59 29.0**	**-1.3**
JKN2	**Miekihoku**	**12.62**	**337**	P	**P**	**02 59 35.4**	**-0.3**
JOD2	**Odawara 2**	**12.82**	**349**	P	**Pn**	**02 59 35.4**	**-0.6**
JTO	**Tosashimizu**	**13.08**	**323**	P	**P**	**02 59 41.6**	**+0.8**
JNY	**Yasuok**	**13.18**	**345**	P	**Pn**	**02 59 38.7**	**-1.7**
JHU	**Hanno**	**13.37**	**350**	P	**Pn**	**02 59 41.1**	**-1.5**
JRY	**Ryogami san**	**13.59**	**349**	P	**Pn**	**02 59 43.9**	**-1.5**
JHO	**Hitachi**	**13.96**	**355**	P	**Pn**	**02 59 48.5**	**-1.3**
MJAR	**Matsushiro Arr**	**14.23**	**347**	P	**Pn**	**02 59 52.5**	**-0.7**
	0.1nm,0.3s,baz=172,slow=11,SNR=8.7						
JNU	**Nakatsue**	**14.39**	**319**	P	**P**	**02 59 58.1**	**+2.8**
	1.0nm,0.3s,baz=128,slow=2.2,SNR=8.5						
JFK	**Kawauchi**	**14.69**	**356**	P	**P**	**02 59 57.3**	**-1.3**
JMK	**Ichinoseki**	**16.25**	**357**	P	**Pn**	**03 00 18.4**	**+1.2**
KSRS	**Korea Array**	**19.16**	**323**	P	**Pn**	**03 00 50.7**	**-0.6**
	0.5nm,0.3s,baz=145,slow=9.0,SNR=6.1						
ASAJ	**Asahikawa**	**21.39**	**1**	P	**P**	**03 01 13.5**	**+3.0**
	12nm,1.0s,baz=155,slow=14,SNR=2.9						
USRK	**Ussuriysk Ar.**	**23.04**	**341**	P	**P**	**03 01 26.1**	**+0.4**
	1.8nm,0.7s,baz=124,slow=13,SNR=4.2						
SONM	**Songino Array**	**37.97**	**320**	P	**P**	**03 03 35.9**	**-0.3**
	0.4nm,0.5s,baz=133,slow=6.0,SNR=4.3						
WRA	**Warramunga Arr**	**43.03**	**191**	P	**P**	**03 04 17.4**	**-0.3**
	3.7nm,0.6s,baz=11,slow=8.1,SNR=12						
FITZ	**Fitzroy Crossi**	**43.61**	**203**	P	**P**	**03 04 21.7**	**-0.6**
	1.1nm,0.3s,baz=24,slow=8.3,SNR=5.2						
ASAR	**Alice Springs**	**46.75**	**190**	P	**P**	**03 04 46.1**	**-0.8**
	0.9nm,0.6s,baz=17,slow=12,SNR=23						
ZALV	**Zalesovo Beam**	**52.85**	**321**	P	**P**	**03 05 31.4**	**-0.8**
	0.8nm,0.4s,baz=116,slow=6.9,SNR=4.2						
MKAR	**Makanchi Array**	**53.33**	**312**	P	**P**	**03 05 36.7**	**+0.8**
	0.5nm,0.4s,baz=84,slow=9.5,SNR=11						
STKA	**Stephens Creek**	**54.24**	**181**	P	**P**	**03 05 41.1**	**-1.4**
	0.7nm,0.4s,baz=8.5,slow=7.2,SNR=3.9						
KURBB	**Kurchatov Arra**	**56.15**	**317**	P	**P**	**03 05 56.4**	**+0.4**
	1.1nm,0.4s,baz=94,slow=7.4,SNR=9.6						
BVAR	**Borovoye Array**	**61.30**	**319**	P	**P**	**03 06 32.1**	**+0.7**
	1.3nm,0.4s,baz=94,slow=8.3,SNR=12						
ILAR	**Eielson Array**	**61.62**	**27**	P	**P**	**03 06 33.5**	**+0.3**
	0.7nm,0.6s,baz=263,slow=5.4,SNR=11						
INK	**Inuvik**	**67.07**	**24**	P	**P**	**03 07 09.3**	**+1.0**
	0.8nm,0.6s,baz=285,slow=5.7,SNR=5.9						
YKA	**Yellowknife Ar**	**76.05**	**28**	P	**P**	**03 08 02.8**	**+0.9**
	0.8nm,0.6s,baz=292,slow=5.8,SNR=9.8						
PPT2	**Papeete2**	**77.83**	**115**	*e*LR	LR	03 07 41.2	
	comp=Z,90nm,23.5s						
FINES	**FINESS Array B**	**81.89**	**334**	P	**P**	**03 08 33.5**	**-0.1**
	1.1nm,0.3s,baz=67,slow=5.0,SNR=26						
NVAR	**Mina Array Bea**	**83.30**	**51**	P	**P**	**03 08 43.3**	**+1.7**
	1.3nm,0.6s,baz=281,slow=5.5,SNR=10						
LPAZ	**La Paz**	**150.80**	**83**	PKPbc	**PKiKP**	**03 16 07.7**	**+0.5**
	0.9nm,0.5s,baz=279,slow=1.4,SNR=5.3						
CPUP	**Villa Florida**	**161.92**	**106**	PKPab	**PKPab**	**03 17 00.2**	**-1.3**
	0.7nm,0.7s,baz=242,slow=8.6,SNR=2.9						

*IDC **08** 03:06:43.7±0.9, 39°.56N×72°.02E, h0km, mb3.7/10, mb1 3.8/16, mb1mx3.6/53, mbtmp3.7/16, ML3.3/6, MS4.1/2, Ms1 4.1/2, ms1mx2.8/59, Error ellipse: s-maj=17.3km s-min=11.5km az=140.0*
*ISCJB **08** 03:06:44.7±0.5, 39°.60N±0°.04×71°.89E±0°.03, h10km, mb3.7/10, MS4.2/2, Error ellipse: s-maj=5.8km s-min=3.3km az=165.6*
*KRNET **08** 03:06:45.4±0.1, 39°.80N×71°.90E, h12km, mb3.9*
*SOME **08** 03:06:47.1, 40°.05N×72°.37E, h10km*
*NNC **08** 03:06:55.1±2.1, 40°.36N×72°.38E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=17.9km s-min=8.7km az=179.0*
ISC 08 03:06:46.0±0.7**, 39°.78N**±0°.05×**71°.97E**±0°.03**, h10**km**, n75,** σ**2s.58**/102**, mb4.0**/10**, 28C-12D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.93**	**288**	⇑*i*P	**Pg**	**03 07 01.8**	**-2.1**
	baz=87						
BTK				⇑*i*S	**Sb**	**03 07 14.5**	**-2.2**
	baz=87						
ARSB	**Arslanbob**	**1.72**	**26**	⇓*i*P	**Pg**	**03 07 18.0**	**-1.1**
	baz=28						
ARSB				⇓*i*S	**Sg**	**03 07 41.0**	**-0.5**
	baz=28						
ARK	**Arkit**	**2.02**	**360**	⇑*i*P	**Pb**	**03 07 22.3**	**-0.5**
	baz=2.0						
ARK				⇑*i*S	**Sg**	**03 07 49.0**	**-1.8**
	baz=2.0						
TAS	**Tashkent**	**2.56**	**308**	⇑*e*P	**Pb**	**03 07 29.5**	**-2.5**
	baz=8.0						
TAS				⇑*i*S	**Sb**	**03 08 01.4**	**-2.1**
	baz=8.0						
AML	**Almayashu**	**2.69**	**29**	⇑*i*P	**Pb**	**03 07 32.7**	**-1.7**
	baz=30						
AML				⇑*i*S	**Sb**	**03 08 06.5**	**-1.1**
	baz=30						
AML	**Almayashu**	**2.69**	**29**	P	**Pb**	**03 07 32.5**	**-1.9**
	SNR=82						
ARLS	**Aral**	**2.74**	**40**	⇑*i*P	**Pb**	**03 07 33.3**	**-1.9**
	baz=41						
ARLS				⇑*i*S	**Sb**	**03 08 07.8**	**-1.1**
	baz=41						
IUG	**Iuzhnay**	**2.78**	**329**	*e*P	**Pg**	**03 07 37.8**	**-1.6**
	10nm,0.2s						
IUG				*e*S	**Sg**	**03 08 14.3**	**-1.2**
	419nm,0.3s						
IUG	**Iuzhnay**	**2.78**	**329**	Pg	**Pg**	**03 07 36.9**	**-2.5**
	17nm,0.4s						
IUG				Lg	Lg	03 08 14.7	
	322nm,0.3s						
MRKS	**Merke**	**3.11**	**17**	*e*P	**Pb**	**03 07 38.4**	**-3.1**
	30nm,0.4s						
MRKS				*e*S	**Sn**	**03 08 15.2**	**+2.7**
	90nm,0.5s						
MRKS	**Merke**	**3.11**	**17**	Pg	**Pb**	**03 07 38.1**	**-3.4**
	30nm,0.4s						
MRKS				Lg	Lg	03 08 16.9	
	90nm,0.5s						
UCH	**Uchtor**	**3.11**	**37**	⇑*i*P	**Pb**	**03 07 38.4**	**-3.3**
	baz=38						
UCH				⇑*i*S	**Sb**	**03 08 16.6**	**-3.3**
	baz=38						
UCH	**Uchtor**	**3.11**	**37**	P	**Pb**	**03 07 40.0**	**-1.7**
	SNR=68						
EKS2	**Erkin-Say**	**3.18**	**25**	P	**Pb**	**03 07 39.2**	**-3.5**
	SNR=9.8						
KZA	**Kyzart**	**3.38**	**46**	⇑*i*P	**Pn**	**03 07 42.4**	**+3.1**
	baz=47						
KZA				⇑*i*S	**Sb**	**03 08 23.8**	**-3.8**
	baz=47						
KZA	**Kyzart**	**3.38**	**46**	P	**Pb**	**03 07 43.9**	**-2.4**
	SNR=51						
AAK	**Ala-Archa**	**3.43**	**33**	Pn	**Pb**	**03 07 43.7**	**-3.2**
	8.0nm,0.3s,baz=177,slow=5.5,SNR=50						
AAK				Sn	**Sb**	**03 08 30.4**	**+1.6**
	18nm,0.3s,baz=144,slow=23,SNR=9.1						
AAK	**Ala-Archa**	**3.43**	**33**	P	**Pb**	**03 07 45.0**	**-1.9**
	SNR=20						
AAK	**Ala-Archa**	**3.43**	**33**	⇑Pn	**Pb**	**03 07 44.1**	**-2.9**
	26nm,0.5s						
AAK				Lg	Lg	03 08 27.6	
	58nm,0.5s						
NRN	**Naryn**	**3.48**	**60**	⇑*i*P	**Pn**	**03 07 42.8**	**+2.2**
	baz=61						
NRN				⇑*i*S	**Sn**	**03 08 26.4**	**+4.4**
	baz=61						
KK31	**Karatay Array**	**3.50**	**342**	⇓Pn	**Pb**	**03 07 43.5**	**-4.5**
	2.9nm,0.4s,baz=146,slow=11,SNR=116						
KK31				⇑Pg	**Pg**	**03 07 52.0**	**-1.0**
	10.0nm,0.4s,baz=148,slow=12,SNR=28						
KK31				⇑Sn	**Sn**	**03 08 24.4**	**+2.5**
	38nm,0.7s,baz=147,slow=20						
KK31				⇑Lg	Lg	03 08 36.6	
	40nm,0.5s,baz=145,slow=30						
BRLS	**Boroldav**	**3.62**	**334**	*e*P	**Pb**	**03 07 49.7**	**-0.4**
	0.6nm,0.4s						
BRLS				*e*S	**Sb**	**03 08 34.6**	**+0.4**
	53nm,0.2s						
BRLS	**Boroldav**	**3.62**	**334**	Pg	**Pb**	**03 07 49.5**	**-0.7**
	0.6nm,0.4s						
BRLS				Lg	Lg	03 08 35.9	
	12nm,0.3s						
FRU1	**Bishkek**	**3.63**	**33**	⇑*e*P	**Pn**	**03 07 44.8**	**+2.4**
	baz=33						
FRU1				⇑*i*S	**Sn**	**03 08 29.0**	**+3.7**
	baz=33						
KBK	**Karagaybulak**	**3.65**	**37**	P	**Pn**	**03 07 46.2**	**+3.5**
	SNR=39						
CHMS	**Chumysh**	**3.83**	**32**	P	**Pn**	**03 07 48.2**	**+3.1**
	SNR=34						
USP	**Ospenovka**	**3.97**	**28**	P	**Pn**	**03 07 50.1**	**+3.2**
	SNR=21						
BOOM	**Boomskoye usch**	**4.04**	**47**	⇓*e*P	**Pn**	**03 07 51.2**	**+3.1**
	baz=47						
BOOM				⇓*i*S	**Sn**	**03 08 39.0**	**+3.5**
	baz=47						
ULHL	**Ulahol**	**4.06**	**51**	P	**Pn**	**03 07 52.0**	**+3.5**
	SNR=23						
TKM2	**Tokmak 2**	**4.16**	**40**	P	**Pb**	**03 07 55.7**	**-3.7**
	SNR=13						
TKM2	**Tokmak 2**	**4.16**	**40**	⇑Pn	**Pn**	**03 07 51.9**	**+2.2**
	6.3nm,0.3s						
TKM2				⇑Pg	**Pg**	**03 08 03.8**	**-1.8**
	22nm,0.6s						
TKM2				⇓Lg	Lg	03 08 49.1	
	45nm,0.6s						
SGDS	**Sogindy**	**4.17**	**28**	Pg	**Pb**	**03 07 57.3**	**-2.3**
	29nm,0.6s						
SGDS				Lg	Lg	03 08 49.0	
	45nm,0.4s						
KST	**Kastek**	**4.43**	**41**	*e*P	**Pb**	**03 08 01.1**	**-2.9**
	6.6nm,0.3s						
KST				*e*S	**Sb**	**03 08 54.6**	**-2.9**
	70nm,0.6s						
KST	**Kastek**	**4.43**	**41**	Pg	**Pb**	**03 08 02.4**	**-1.6**
	18nm,0.5s						
KST				Lg	Lg	03 08 58.3	
	70nm,0.6s						
DGS	**Degeres**	**4.48**	**38**	*e*P	**Pb**	**03 08 01.8**	**-3.1**
	3.1nm,0.3s						
DGS				*e*S	**Sb**	**03 08 55.8**	**-3.2**
	99nm,0.5s						
DGS	**Degeres**	**4.48**	**38**	Pg	**Pb**	**03 08 03.6**	**-1.3**
	24nm,0.7s						
DGS				Lg	Lg	03 09 00.3	
	99nm,0.5s						
KDJ	**Kajisay**	**4.59**	**58**	⇑*i*P	**Pn**	**03 07 58.7**	**+3.1**
	baz=58						
KDJ				⇑*i*S	**Sn**	**03 08 52.7**	**+3.6**
	baz=58						
MTBS	**Maitube**	**4.73**	**44**	*e*P	**Pb**	**03 08 06.2**	**-3.0**
	7.8nm,0.3s						
MTBS				*e*S	**Sb**	**03 09 03.1**	**-3.1**
	40nm,0.4s						
MTBS	**Maitube**	**4.73**	**44**	Pg	**Pb**	**03 08 06.4**	**-2.7**
	14nm,0.5s						
MTBS				Lg	Lg	03 09 04.7	
	40nm,0.4s						
IZV	**Izvestkoviy**	**4.77**	**46**	*e*P	**Pb**	**03 08 07.5**	**-2.3**
	23nm,0.6s						
IZV				*e*S	**Sb**	**03 09 05.5**	**-1.9**
	91nm,0.8s						
IZV	**Izvestkoviy**	**4.77**	**46**	Pg	**Pb**	**03 08 07.6**	**-2.2**
	23nm,0.6s						
IZV				Lg	Lg	03 09 07.3	
	91nm,0.8s						
TNSS	**Tian-Shan**	**4.96**	**47**	*e*P	**Pb**	**03 08 11.2**	**-2.0**
	21nm,0.6s						
TNSS				*e*S	**Sb**	**03 09 11.6**	**-1.4**
	60nm,0.6s						
TNSS	**Tian-Shan**	**4.96**	**47**	Pg	**Pb**	**03 08 09.2**	**-3.9**
	21nm,0.6s						
TNSS				Lg	Lg	03 09 09.5	
	60nm,0.6s						
AAA	**Alma-Ata**	**5.05**	**46**	Pg	**Pb**	**03 08 14.7**	**+0.1**
	32nm,0.1s						
AAA				Lg	Lg	03 09 19.4	
MDOK	**Medeo**	**5.09**	**47**	*e*P	**Pb**	**03 08 13.2**	**-2.1**
	3.7nm,0.4s						
MDOK				*e*S	**Sb**	**03 09 15.2**	**-1.5**
	76nm,0.9s						
MDOK	**Medeo**	**5.09**	**47**	Pn	**Pn**	**03 08 06.0**	**+3.4**
	6.6nm,0.7s						
MDOK				Pg	**Pg**	**03 08 19.5**	**-4.1**
	16nm,0.9s						
MDOK				Lg	Lg	03 09 21.1	
	104nm,0.9s						
MDOK	**Medeo**	**5.09**	**47**	Pg	**Pb**	**03 08 12.4**	**-3.0**
	12nm,0.9s						
MDOK				Lg	Lg	03 09 15.3	
	76nm,0.9s						
KOTS	**Kotyrbulak**	**5.18**	**47**	Pg	**Pb**	**03 08 16.0**	**-0.8**
KOTS				Lg	Lg	03 09 21.2	
KUU	**Kurty**	**5.25**	**37**	*e*P	**Pb**	**03 08 16.8**	**-1.0**
	1.8nm,0.1s						
KUU				*e*S	**Sb**	**03 09 21.3**	**+0.5**
	64nm,0.6s						
KUU	**Kurty**	**5.25**	**37**	Pg	**Pb**	**03 08 16.8**	**-1.0**
	8.0nm,0.5s						
KUU				Lg	Lg	03 09 22.5	
	64nm,0.6s						
CHKK	**Chushkaly**	**5.53**	**41**	Pg	**Pb**	**03 08 20.5**	**-2.2**
	4.5nm,0.5s						
CHKK				Lg	Lg	03 09 28.7	
	36nm,0.5s						
SATY	**Saty**	**5.84**	**54**	Pg	**Pb**	**03 08 26.4**	**-1.6**
	19nm,0.8s						
SATY				Lg	Lg	03 09 38.8	
	44nm,0.7s						
ARXS	**Arharly**	**6.21**	**43**	Pg	**Pb**	**03 08 33.4**	**-1.0**
	6.2nm,0.8s						
ARXS				Lg	Lg	03 09 51.8	
	42nm,0.7s						
PDGK	**Podgornoye**	**6.66**	**55**	⇓Pn	**Pn**	**03 08 26.3**	**+2.2**
	7.6nm,0.8s						
PDGK				⇓Lg	Lg	03 10 12.8	
	22nm,0.6s						
MKAR	**Makanchi Array**	**10.28**	**44**	Pn	**Pn**	**03 09 16.7**	**+3.2**
	0.0nm,0.3s,baz=228,slow=13,SNR=3.5						
MKAR				Lg	Lg	03 12 12.0	
	0.2nm,0.3s,baz=220,slow=22,SNR=4.0						
GEYT	**Alibeck**	**10.96**	**265**	Pn	**Pn**	**03 09 22.5**	**-0.5**
	0.4nm,0.3s,baz=75,slow=12,SNR=4.6						
GEYT				Sn	**Sn**	**03 11 27.7**	**+2.1**
	0.6nm,0.3s,baz=115,slow=18,SNR=4.3						
GYA0B	**ALIBECK ARRAY**	**10.96**	**265**	⇑Pn	Pn	03 09 40.7	+18
GYA0B				⇑Sn	Sn	03 11 50.3	+25
KURBB	**Kurchatov Arra**	**11.78**	**21**	Pn	**Pn**	**03 09 34.0**	**-0.1**
	0.1nm,0.3s,baz=214,slow=12,SNR=5.4						
KURBB				Lg	Lg	03 12 56.9	
	0.1nm,0.3s,baz=213,slow=29,SNR=6.6						
AB31	**Akbulak array**	**12.77**	**322**	⇓Pn	Pn	03 09 53.8	+6.3
	1.1nm,0.5s,baz=127,slow=13,SNR=44						
AB31				⇓Sn	**Sn**	**03 12 15.9**	**+6.3**
	3.7nm,0.7s,baz=136,slow=23,SNR=6.6						
BVAR	**Borovoye Array**	**13.29**	**356**	Pn	**Pn**	**03 09 54.3**	**-0.4**
	0.1nm,0.3s,baz=167,slow=13,SNR=4.1						
AKTO	**Aktyubinsk**	**14.48**	**322**	Pn	**Pn**	**03 10 10.9**	**0.0**
	0.2nm,0.3s,baz=130,slow=16,SNR=4.0						
AKTO				Sn	**Sn**	**03 12 43.6**	**-7.9**
	0.3nm,0.3s,baz=294,slow=13,SNR=3.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	**14.48**	**322**	⇓Pn	**P**	**03 10 17.3**	**-0.4**
	3.1nm,0.9s						
AKTO				⇓Sn	**Sn**	**03 12 54.7**	**+3.2**
	5.1nm,1.2s						
ZALV	**Zalesovo Beam**	**16.63**	**27**	Pn	**P**	**03 10 43.6**	**+2.1**
	0.3nm,0.3s,baz=222,slow=12,SNR=5.3						
SONM	**Songino Array**	**25.94**	**61**	P	**P**	**03 12 19.0**	**+0.4**
	0.4nm,0.7s,baz=264,slow=10.0,SNR=3.1						
FINES	**FINESS Array B**	**35.25**	**323**	P	**P**	**03 13 40.9**	**+0.5**
	2.1nm,0.8s,baz=134,slow=8.2,SNR=4.6						
ARCES	**ARCESS Array B**	**38.44**	**336**	P	**P**	**03 14 08.4**	**+0.9**
	3.7nm,1.0s,baz=105,slow=8.3,SNR=6.7						
YAK	**Yakutsk**	**40.88**	**38**	LR	LR	03 31 39.9	
	comp=Z,200nm,21.7s,baz=214,slow=36						
HFS	**Hagfors**	**41.01**	**320**	P	**P**	**03 14 28.9**	**-0.1**
	2.2nm,0.7s,baz=97,slow=12,SNR=5.0						
ESDC	**Sonseca Array**	**56.65**	**296**	P	**P**	**03 16 29.2**	**-0.2**
	0.2nm,0.5s,baz=56,slow=6.7,SNR=5.1						
TORD	**Torodi Ar. Bea**	**66.59**	**268**	P	**P**	**03 17 36.8**	**+0.1**
	0.6nm,0.6s,baz=52,slow=5.8,SNR=14						
INK	**Inuvik**	**70.55**	**10**	P	**P**	**03 18 01.4**	**+0.8**
	0.8nm,0.8s,baz=337,slow=6.3,SNR=4.2						
YKA	**Yellowknife Ar**	**77.94**	**3**	P	**P**	**03 18 43.7**	**-0.1**
	0.2nm,0.6s,baz=352,slow=5.3,SNR=3.6						
WRA	**Warramunga Arr**	**83.10**	**123**	P	**P**	**03 19 10.7**	**-1.4**
	1.4nm,1.1s,baz=327,slow=4.9,SNR=4.0						
ASAR	**Alice Springs**	**85.52**	**126**	P	**P**	**03 19 22.9**	**-1.5**
	0.4nm,0.7s,baz=323,slow=4.9,SNR=5.4						
CTA	**Charters Tower**	**91.23**	**115**	LR	LR	04 04 30.0	
	comp=Z,145nm,20.9s,baz=230,slow=38						

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*ISCJB **08** 03:22:00.4±0.3, 8°.21S±0°.03×130°.51E±0°.04, h33km, mb4.1/13, MS3.2/3, Error ellipse: s-maj=6.0km s-min=4.2km az=29.9*

*IDC **08** 03:22:00.1±0.7, 7°.87S×130°.44E, h0km, mb4.2/13, mb1 4.2/15, mb1mx4.0/45, mbtmp4.2/15, ML4.4/2, MS3.1/5, Ms1 3.1/5, ms1mx2.8/35, Error ellipse: s-maj=30.3km s-min=18.0km az=83.0*

*NEIC **08** 03:22:03.4±1.2, 8°.00S±0°.08×130°.31E±0°.06, h25km±5km, mb4.4/11*

*DJA **08** 03:22:04.4±0.3, 8°S±2°×13°0E±°, h70km, M4.6/7, mB4.9/3, mb4.6/7, MLv4.6/7, Mw(mB)4.2/3*

ISC 08 03:22:03.1±0.5**, 8°.16S**±0°.05×**130°.35E**±0°.05**, h35km, n53, σ2s.29**/60**, mb4.2**/18**, MS3.2**/3**, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.96**	**79**	P	**Pn**	**03 22 22.1**	**+2.0**
SAUI				S	**Sn**	**03 22 37.9**	**+5.4**
SAUI	**Saumlaki**	**0.96**	**79**		**Pn**	**03 22 22.0**	**+1.9**
BNDI	**Bandanaira**	**3.64**	**353**	P	**Pn**	**03 22 57.5**	**+0.5**
BNDI				S	**Sn**	**03 23 36.0**	**-2.8**
MTN	**Manton Dam**	**4.72**	**171**		**Pn**	**03 23 13.9**	**+2.1**
AAI	**Ambon**	**4.94**	**334**	P	**Pn**	**03 23 14.5**	**-0.3**
FAKI	**Fak Fak**	**5.54**	**20**	P	**Pn**	**03 23 21.1**	**-2.1**
	87nm,0.6s,973nm0.3nm						
FAKI				S	**Sn**	**03 24 24.0**	**-1.7**
	87nm,0.6s,973nm0.3nm						
FAKI	**Fak Fak**	**5.54**	**20**		**Pn**	**03 23 21.6**	**-1.6**
KMPI	**Kaimana, Papua**	**5.58**	**37**	P	**Pn**	**03 23 23.2**	**-0.5**
KMPI				S	**Sn**	**03 24 24.8**	**-1.8**
SOEI	**Soe**	**6.22**	**255**	P	**Pn**	**03 23 34.3**	**+1.7**
	55nm,0.7s,0.7nm						
SOEI				S	**Sn**	**03 24 45.9**	**+3.4**
	55nm,0.7s,0.7nm						
SOEI	**Soe**	**6.22**	**255**		**Pn**	**03 23 34.5**	**+1.9**
BATI	**Baumata**	**6.91**	**252**	Pn	Pn	03 23 46.9	+4.9
	8.9nm,0.3s,baz=110,slow=4.3,SNR=6.2						
BATI				Sn	**Sn**	**03 25 01.5**	**+2.0**
	15nm,0.3s,baz=321,slow=23,SNR=8.1						
BATI	**Baumata**	**6.91**	**252**	P	**Pn**	**03 23 44.8**	**+2.8**
	33nm,0.5s,0.2nm						
SIJI	**Sorong**	**7.30**	**7**	Pn	**Pn**	**03 23 46.1**	**-1.2**
	4.9nm,0.3s,baz=236,slow=22,SNR=15						
SIJI				Sn	**Sn**	**03 25 05.0**	**-4.1**
	1.9nm,0.3s,baz=127,slow=20,SNR=3.1						
KNRA	**Kununurra**	**7.63**	**192**		**Pn**	**03 23 52.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**10.89**	**204**	Pn	**Pn**	**03 24 37.0**	**+0.4**
	1.9nm,0.3s,baz=19,slow=9.0,SNR=25						
FITZ				Sn	**Sn**	**03 26 34.1**	**-3.2**
	4.7nm,0.3s,baz=143,slow=17,SNR=7.7						
FITZ				LR	LR	03 28 59.0	
	comp=Z,76nm,20.3s,baz=24,slow=37						
FITZ	**Fitzroy Crossi**	**10.89**	**204**		**Pn**	**03 24 36.8**	**+0.3**
WRAB	**Tennant Creek**	**12.33**	**162**		**Pn**	**03 24 53.4**	**-2.9**
WRA	**Warramunga Arr**	**12.33**	**162**	Pn	**Pn**	**03 24 54.0**	**-2.3**
	2.4nm,0.3s,baz=340,slow=13,SNR=55						
WRA				Sn	**Sn**	**03 27 06.4**	**-6.3**
	5.3nm,0.3s,baz=340,slow=22,SNR=9.7						
WRA				LR	LR	03 29 31.4	
	comp=Z,82nm,22.0s,baz=350,slow=36						
WR0	**Warramunga Arr**	**12.41**	**161**	Pn	**Pn**	**03 24 55.8**	**-1.6**
PLAI	**Plampang**	**12.46**	**266**	P	**Pn**	**03 24 57.4**	**-0.6**
	35nm,0.8s						
TWSI	**Taliwang, Sumb**	**13.34**	**267**	P	**Pn**	**03 25 10.7**	**+0.6**
COEN	**Coen**	**13.84**	**116**	Pn	**Pn**	**03 25 14.8**	**-2.1**
AS31	**Alice Springs**	**15.79**	**168**	Pn	**Pn**	**03 25 40.9**	**-2.1**
ASAR	**Alice Springs**	**15.79**	**168**	Pn	**Pn**	**03 25 40.0**	**-2.9**
	1.4nm,0.3s,baz=341,slow=9.1,SNR=49						
ASAR				Sn	**Sn**	**03 28 30.4**	**-6.6**
	1.1nm,0.3s,baz=355,slow=30,SNR=4.3						
STKA	**Stephens Creek**	**25.81**	**158**	P	**P**	**03 27 35.5**	**+4.3**
	1.4nm,0.5s,baz=338,slow=11,SNR=8.5						
STKA				LR	LR	03 38 48.6	
	comp=Z,116nm,19.1s,baz=12,slow=39						
STKA	**Stephens Creek**	**25.81**	**158**	P	**P**	**03 27 33.5**	**+2.4**
MJAR	**Matsushiro Arr**	**45.07**	**9**	P	**P**	**03 30 15.0**	**-0.9**
	0.8nm,0.6s,baz=191,slow=10,SNR=5.3						
KSRS	**Korea Array**	**45.43**	**357**	P	**P**	**03 30 18.9**	**+0.3**
	0.6nm,0.5s,baz=176,slow=9.2,SNR=4.9						
KSRS				LR	LR	03 49 55.3	
	comp=Z,16nm,19.1s,baz=328,slow=37						
ULN	**Ulaanbaatar**	**59.47**	**342**	P	**P**	**03 32 02.2**	**-0.5**
ULN				IAmb	IAmb	03 32 04.1	
	comp=Z,1.9nm,0.6s						
SONM	**Songino Array**	**59.65**	**342**	P	**P**	**03 32 04.8**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=158,slow=5.8,SNR=4.5						
PETK	**Petropavlovsk-**	**65.31**	**18**	P	**P**	**03 32 42.5**	**+1.0**
	comp=Z,2.9nm,0.6s,baz=186,slow=5.1,SNR=11						
KSH	**Kashi**	**69.11**	**318**	P	**P**	**03 33 06.6**	**+0.6**
KSH				ScP		03 37 24.7	
KSH				PcS		03 37 33.7	
KSH				S	**S**	**03 42 06.8**	**-2.5**
KSH				ScS	**SKiKP**	**03 42 56.7**	**+2.4**
KSH	**Kashi**	**69.11**	**318**	SS	SS	03 46 36.1	0.0
KSH				pmax	pmax		
	comp=Z,520nm,4.7s						
KSH				LR	LR		
	comp=N,290nm,6.3s						
KSH				LR	LR		
	comp=E,250nm,5.0s						
KSH				LR	LR		
	comp=Z,290nm,5.2s						
MK31	**Makanchi Array**	**69.38**	**327**	P	**P**	**03 33 08.0**	**+0.6**
MKAR	**Makanchi Array**	**69.38**	**327**	P	**P**	**03 33 08.7**	**+1.3**
	comp=Z,7.2nm,0.5s,baz=116,slow=8.3,SNR=129						
MAKZ	**Makanchi**	**69.56**	**327**	P	**P**	**03 33 09.3**	**+0.7**
AAK	**Ala-Archa**	**71.65**	**320**	LR	LR	04 07 08.0	
	comp=Z,13nm,19.5s,baz=317,slow=38						
ZAA0	**Zalesovo Array**	**72.77**	**334**	P	**P**	**03 33 28.3**	**+0.6**
ZAA0				IAmb	IAmb	03 33 28.5	
	comp=Z,2.1nm,0.8s						
ZALV	**Zalesovo Beam**	**72.77**	**334**	P	**P**	**03 33 28.2**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=112,slow=4.8,SNR=7.7						
SEY	**Seymchan**	**72.88**	**10**	P	**P**	**03 33 29.6**	**+1.4**
	comp=Z,1.2nm,0.4s,baz=236,slow=3.3,SNR=6.6						
KURK	**Kurchatov**	**73.68**	**329**	P	**P**	**03 33 33.9**	**+0.7**
KURK				IAmb	IAmb	03 33 43.2	
	comp=Z,2.2nm,0.6s						
BVAR	**Borovoye Array**	**79.22**	**328**	P	**P**	**03 34 05.2**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=132,slow=6.6,SNR=12						
BRVK	**Borovoye**	**79.30**	**328**	P	**P**	**03 34 05.2**	**+0.3**
BRVK				IAmb	IAmb	03 34 06.5	
	comp=Z,3.2nm,0.7s						
TIXI	**Tiksi**	**79.65**	**360**	P	**P**	**03 34 07.0**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=214,slow=4.9,SNR=10						
TIXI	**Tiksi**	**79.65**	**360**	IAmb	IAmb	03 34 08.2	
	comp=Z,2.6nm,0.5s						
ABKAR	**Akbulak array**	**83.63**	**322**	P	**P**	**03 34 28.8**	**+0.8**
ABKAR				IAmb	IAmb	03 34 30.1	
	comp=Z,1.9nm,0.6s						
AKTO	**Aktyubinsk**	**85.20**	**322**	P	**P**	**03 34 37.5**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=90,slow=15,SNR=3.9						
ARU	**Arti**	**86.87**	**328**	P	**P**	**03 34 45.7**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=298,slow=11,SNR=3.4						
ARU	**Arti**	**86.87**	**328**	IAmb	IAmb	03 35 03.4	
	comp=Z,2.6nm,0.9s						
ILAR	**Eielson Array**	**94.24**	**25**	P	**P**	**03 35 18.0**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=264,slow=4.4,SNR=9.5						
TXAR	**Lajitas Array**	**125.21**	**60**	PKP	**PKiKP**	**03 41 02.5**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=191,slow=2.4,SNR=3.3						
CPUP	**Villa Florida**	**144.91**	**168**	PKPbc	**PKPdf**	**03 41 38.9**	**+1.5**
	comp=Z,1.9nm,0.8s,baz=120,slow=1.9,SNR=5.9						
LPAZ	**La Paz**	**149.59**	**143**	PKPbc	**PKiKP**	**03 41 54.0**	**+2.1**
	comp=Z,0.8nm,0.5s,baz=225,slow=2.9,SNR=4.5						

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*IDC **08** 03:23:47.9±1.0, 7°.70S×130°.61E, h0km, mb4.1/7, mb1 4.2/7, mb1mx3.8/43, mbtmp4.1/7, MS2.9/1, Ms1 2.9/1, ms1mx2.4/31, Error ellipse: s-maj=91.0km s-min=23.4km az=66.0*

*ISCJB **08** 03:23:48.8±0.5, 8°.39S±0°.04×130°.39E±0°.06, h35km, mb4.0/7, MS2.9/1, Error ellipse: s-maj=9.3km s-min=5.9km az=168.6*

*NEIC **08** 03:23:51.1±1.2, 8°.4S±0°.1×130°.3E±0°.1, h35km±5km, mb4.3/7*

ISC 08 03:23:50.7±0.7**, 8°.41S**±0°.07×**130°.51E**±0°.08**, h35km, n26, σ1s.87**/26**, mb4.2**/9**, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.89**	**62**	Pn	**Pn**	**03 24 09.4**	**+2.8**
BATI	**Baumata**	**6.99**	**255**	Sn	**Sn**	**03 26 48.6**	**-0.4**
	5.3nm,0.3s,baz=148,slow=18,SNR=2.9						
SIJI	**Sorong**	**7.53**	**6**	Sn	Sn	03 26 52.3	-10
	1.4nm,0.3s,baz=229,slow=19,SNR=3.3						
FITZ	**Fitzroy Crossi**	**10.73**	**206**	Pn	**Pn**	**03 26 24.7**	**+2.7**
	0.9nm,0.3s,baz=34,slow=15,SNR=2.3						
FITZ				Sn	**Sn**	**03 28 21.1**	**+0.1**
	2.4nm,0.3s,baz=275,slow=20,SNR=3.3						
WB0	**Warramunga Arr**	**11.90**	**162**	Pn	**Pn**	**03 26 39.4**	**+1.4**
WRAB	**Tennant Creek**	**12.05**	**162**	Pn	**Pn**	**03 26 41.1**	**+1.2**
WRA	**Warramunga Arr**	**12.05**	**162**	Pn	**Pn**	**03 26 43.3**	**+3.3**
	1.4nm,0.3s,baz=346,slow=13,SNR=3.1						
WRA				Sn	**Sn**	**03 28 47.2**	**-6.1**
	baz=337,slow=32,SNR=5.6						
WB2	**Warramunga Arr**	**12.06**	**162**	Pn	**Pn**	**03 26 42.3**	**+2.2**
WR0	**Warramunga Arr**	**12.13**	**162**	Pn	**Pn**	**03 26 41.4**	**+0.3**
ASAR	**Alice Springs**	**15.52**	**168**	Pn	**Pn**	**03 27 28.6**	**+1.5**
	1.0nm,0.3s,baz=344,slow=9.2,SNR=4.0						
ASAR				Sn	**Sn**	**03 30 18.3**	**+0.4**
	0.4nm,0.3s,baz=346,slow=25,SNR=3.2						
STKA	**Stephens Creek**	**25.53**	**158**	P	P	03 29 24.2	+8.1
	1.9nm,0.5s,baz=350,slow=11,SNR=2.6						
STKA	**Stephens Creek**	**25.53**	**158**	P	**P**	**03 29 16.0**	**-0.1**
JNU	**Nakatsue**	**41.30**	**0**	LR	LR	03 49 29.6	
	comp=Z,14nm,18.4s,baz=193,slow=38						
SONM	**Songino Array**	**59.93**	**341**	P	**P**	**03 33 52.2**	**-1.1**
	0.4nm,0.6s,baz=159,slow=4.5,SNR=2.6						
MK31	**Makanchi Array**	**69.67**	**327**	P	**P**	**03 34 56.7**	**-0.1**
MKAR	**Makanchi Array**	**69.67**	**327**	P	**P**	**03 34 56.4**	**-0.4**
	3.5nm,0.5s,baz=123,slow=8.0,SNR=13						
MAKZ	**Makanchi**	**69.85**	**327**	P	**P**	**03 34 57.7**	**-0.2**
GAR	**Garm**	**73.01**	**315**	P	**P**	**03 35 16.8**	**-0.4**
ZAA0	**Zalesovo Array**	**73.06**	**334**	P	**P**	**03 35 16.2**	**-0.8**
ZAA0				IAmb	IAmb	03 35 16.8	
	comp=Z,3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**73.06**	**334**	P	**P**	**03 35 15.5**	**-1.5**
	comp=Z,2.2nm,0.7s,baz=117,slow=5.2,SNR=7.6						
CHGR	**Chuyangaron**	**73.68**	**314**	P	**P**	**03 35 20.1**	**-1.0**
KURK	**Kurchatov**	**73.97**	**329**	P	**P**	**03 35 22.1**	**-0.4**
KURK				IAmb	IAmb	03 35 24.8	
	comp=Z,2.2nm,0.6s						
BVAR	**Borovoye Array**	**79.52**	**328**	P	**P**	**03 35 53.6**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=122,slow=5.6,SNR=8.4						
AKTO	**Aktyubinsk**	**85.49**	**322**	P	**P**	**03 36 24.9**	**0.0**
	comp=Z,0.7nm,0.5s,baz=117,slow=6.8,SNR=3.3						
ILAR	**Eielson Array**	**94.40**	**25**	P	**P**	**03 37 05.9**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=264,slow=4.2,SNR=4.8						
CPUP	**Villa Florida**	**144.64**	**168**	PKPbc	**PKiKP**	**03 43 27.1**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=202,slow=12,SNR=2.9						

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*ISCJB **08** 03:25:00.3±0.6, 60°.27S±0°.06×47°.1W±0°.1, h10km, mb3.8/5, MS3.0/1, Error ellipse: s-maj=10.4km s-min=9.0km az=12.9*

*IDC **08** 03:25:00.2±1.0, 60°.16S×46°.61W, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.8/22, mbtmp3.9/6, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/15, Error ellipse: s-maj=36.8km s-min=23.5km az=66.0*

*NEIC **08** 03:25:01.5±1.8, 60°.2S±0°.1×46°.6W±0°.2, h10km±2km, mb4.0/6*

ISC 08 03:25:01.8±0.6**, 60°.18S**±0°.08×**46°.76W**±0°.09**, h10km, n25, σ1s.71**/20**, mb4.0**/7**, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.11**	**48**	Pn	**Pn**	**03 26 57.0**	**-2.5**
PMSA	**Palmer Station**	**9.22**	**233**	Pn	**Pn**	**03 27 13.4**	**-1.2**
	1.2nm,0.3s,baz=57,slow=9.4,SNR=10						
PMSA				Sn	**Sn**	**03 28 56.7**	**-1.6**
	0.5nm,0.3s,baz=201,slow=11,SNR=6.8						
VNA3	**Neumayer Olymp**	**18.46**	**142**	P	**Pn**	**03 29 19.0**	**+1.7**
VNA2	**Neumayer--Watz**	**19.09**	**140**	P	**P**	**03 29 25.0**	**+0.8**
	baz=282,slow=13						
SNAA	**Sanae**	**20.68**	**142**	P	**P**	**03 29 44.2**	**+2.6**
SNAA	**Sanae**	**20.68**	**142**	P	**P**	**03 29 43.0**	**+1.4**
	3.6nm,0.8s,baz=296,slow=9.7,SNR=13						
SNAA	**Sanae**	**20.68**	**142**	P	**P**	**03 29 41.7**	**+0.1**
SNAA				IAmb	IAmb	03 29 45.8	
	comp=Z,4.2nm,0.9s						
TRQA	**Tornquist**	**24.16**	**330**	P	**P**	**03 30 18.4**	**+0.5**
PLCA	**Paso Flores**	**24.42**	**312**	P	**P**	**03 30 25.2**	**+4.8**
	comp=Z,1.6nm,1.0s,baz=183,slow=9.4,SNR=3.9						
PLCA				LR	LR	03 39 22.9	
	comp=Z,53nm,18.9s,baz=90,slow=35						
PLCA	**Paso Flores**	**24.42**	**312**	P	**P**	**03 30 20.8**	**+0.4**
QSPA	**South Pole Qui**	**30.06**	**180**	P	**P**	**03 31 10.1**	**-0.8**
QSPA				IAmb	IAmb	03 31 10.8	
	comp=Z,4.1nm,1.1s						
CPUP	**Villa Florida**	**34.61**	**343**	P	**P**	**03 31 51.1**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=170,slow=7.6,SNR=5.5						
CPUP	**Villa Florida**	**34.61**	**343**	IAmb	IAmb	03 31 51.8	
	comp=Z,1.4nm,0.7s						
LVC	**Limon Verde**	**40.64**	**328**	P	**P**	**03 32 43.1**	**+0.9**
LVC				IAmb	IAmb	03 32 53.1	
	comp=Z,5.8nm,1.1s						
BDFB	**Brasilia**	**44.48**	**358**	P	**P**	**03 33 13.1**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=185,slow=11,SNR=2.5						
SIV	**San Ignacio**	**45.34**	**340**	P	**P**	**03 33 19.8**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=154,slow=9.8,SNR=7.5						
H10S2	**ASCENSION HYDR**	**56.48**	**39**	T	T	04 36 15.5	
	baz=202						
H10S3	**ASCENSION HYDR**	**56.48**	**39**	T	T	04 36 15.7	
	baz=18						
H10N3	**ASCENSION HYDR**	**57.58**	**39**	T	T	04 37 39.1	
	baz=199,slow=75,SNR=6.2						
H10N1	**ASCENSION HYDR**	**57.58**	**39**	T	T	04 37 37.5	
	baz=199,slow=75,SNR=9.4						
H10N2	**ASCENSION HYDR**	**57.59**	**39**	T	T	04 37 40.0	
	baz=199,slow=75,SNR=7.4						
TORD	**Torodi Ar. Bea**	**82.69**	**47**	P	**P**	**03 37 25.0**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=193,slow=9.4,SNR=4.2						
ILAR	**Eielson Array**	**145.11**	**312**	PKPbc	**PKPdf**	**03 44 38.5**	**+0.7**
	comp=Z,1.5nm,1.0s,baz=146,slow=2.3,SNR=7.2						
BVAR	**Borovoye Array**	**145.89**	**73**	PKPbc	**PKPdf**	**03 44 38.3**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=200,slow=3.3,SNR=10						
MKAR	**Makanchi Array**	**147.74**	**91**	PKPbc	**PKPdf**	**03 44 43.1**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=228,slow=2.9,SNR=6.6						

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*ISCJB **08** 03:30:55.4±0.4, 67°.82N±0°.02×20°.22E±0°.07, h0km, Error ellipse: s-maj=4.0km s-min=2.7km az=11.4*

*UPP **08** 03:30:56.2±0.1, 67°.83N×20°.19E, h0km, ML2.3, Explosion*

*NAO **08** 03:30:56.7±0.8, 67°.83N×20°.39E, ML2.2*

*HEL **08** 03:30:57.1±0.2, 67°.84N×20°.34E, h0km, ML2.0, ML2.3(UPP), Explosion*

*IDC **08** 03:30:57.8±0.8, 67°.79N×20°.73E, h0km, mb1 3.3/5, mb1mx3.0/55, mbtmp3.3/5, ML2.0/4, Error ellipse: s-maj=14.3km s-min=6.2km az=116.0*

*BER **08** 03:30:58.6±4.1, 67°.83N×20°.27E, h0km, ML1.7, ML2.2(NAO), Suspected explosion*

ISC 08 03:30:55.8±0.7**, 67°.80N**±0°.02×**20°.14E**±0°.03**, h0km, n50, σ1s.34**/78**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.17**	**26**	P	**Pg**	**03 30 59.0**	**0.0**
KUA				S	**Sg**	**03 31 00.8**	**-0.4**
KUA	**Kurravaara**	**0.17**	**26**	*i* P	**Pg**	**03 30 59.0**	**0.0**
KUA				*i* S	**Sg**	**03 31 00.8**	**-0.4**
DUNU	**Dundret**	**0.70**	**166**	P	**Pg**	**03 31 10.0**	**+0.7**
DUNU				S	**Sg**	**03 31 19.9**	**+1.5**
DUNU	**Dundret**	**0.70**	**166**	*i* P	**Pg**	**03 31 10.0**	**+0.7**
DUNU				*i* S	**Sg**	**03 31 19.9**	**+1.5**
LANU	**Lannavaara**	**0.74**	**70**	P	**Pg**	**03 31 09.7**	**-0.3**
LANU	**Lannavaara**	**0.74**	**70**	*e*P	**Pg**	**03 31 09.5**	**-0.5**
LANU				*e*S	**Sg**	**03 31 19.1**	**-0.4**
MASU	**Masugnsbyn**	**0.79**	**115**	P	**Pg**	**03 31 11.1**	**+0.1**
MASU	**Masugnsbyn**	**0.79**	**115**	*i* P	**Pg**	**03 31 11.1**	**+0.1**
KIF	**Kilpisjarvi**	**1.23**	**11**	Pg	**Pg**	**03 31 19.1**	**-0.3**
KIF				Lg	Lg	03 31 35.0	
KIF	**Kilpisjarvi**	**1.23**	**11**	*e*P	**Pg**	**03 31 18.7**	**-0.7**
	baz=186						
KIF				MSG		03 31 34.1	
	comp=Z,20nm,0.2s						
KIF				*e*SB	**Sg**	**03 31 35.2**	**-0.1**
KIF	**Kilpisjarvi**	**1.23**	**11**	Pg	**Pg**	**03 31 19.1**	**-0.3**
KIF				Sg	**Sg**	**03 31 35.0**	**-0.3**
PAJU	**Pajala**	**1.39**	**123**	P	**Pg**	**03 31 21.7**	**-0.6**
PAJU	**Pajala**	**1.39**	**123**	*e*P	**Pg**	**03 31 21.7**	**-0.6**
HEF	**Hetta**	**1.45**	**64**	Pg	**Pn**	**03 31 22.3**	**-1.0**
HEF				Lg	Lg	03 31 40.2	
HEF	**Hetta**	**1.45**	**64**	*e*PB	**Pn**	**03 31 22.3**	**-1.0**
	baz=244						
HEF				MSG		03 31 39.0	
	comp=Z,13nm,0.2s						
HEF				*e*SN	**Sg**	**03 31 42.1**	**-0.3**
HEF	**Hetta**	**1.45**	**64**	*e*P	**Pn**	**03 31 22.4**	**-1.0**
HEF				*e*S	**Sg**	**03 31 41.8**	**-0.6**
ERTU	**Ertsjaerv**	**1.49**	**147**	P	**Pn**	**03 31 23.6**	**-0.1**
ERTU	**Ertsjaerv**	**1.49**	**147**	*e*P	**Pn**	**03 31 23.4**	**-0.4**
	baz=328						
ERTU				*e*SN	**Sb**	**03 31 44.6**	**+1.0**
KTK1	**Kautokeino**	**1.67**	**42**	*e*P	**Pn**	**03 31 26.1**	**-0.2**
KTK1				*e*S	**Sn**	**03 31 47.7**	**-0.7**
KTK1				IAML		03 31 52.0	
	comp=Z,11nm,0.3s						
STEI	**Steigen**	**1.86**	**276**	*e*P	**Pb**	**03 31 30.9**	**+0.3**
STEI				*e*S	**Sb**	**03 31 54.5**	**+0.1**
STEI				IAML		03 31 57.1	
	comp=Z,13nm,0.3s						
KALU	**Kalix**	**2.33**	**145**	*e*P	**Pn**	**03 31 36.9**	**+1.6**
KALU				*e*SB	**Sb**	**03 32 07.4**	**-0.4**
TOF	**Tornio**	**2.39**	**134**	*e*PB	**Pn**	**03 31 38.0**	**+1.9**
	baz=318						
TOF				MSG		03 32 06.0	
	comp=Z,8.1nm,0.2s						
TOF				*e*SG	**Sb**	**03 32 09.3**	**-0.3**
SGF	**Sodankyl**	**2.47**	**95**	*e*P	**Pn**	**03 31 36.3**	**-0.9**
SGF				*e*SB	**Sn**	**03 32 09.4**	**+1.3**
RNF	**Rovaniemi**	**2.58**	**115**	*e*PB	**Pn**	**03 31 41.0**	**+2.3**
	baz=298						
RNF				*e*SG	**Sb**	**03 32 14.3**	**-0.8**
ARA0	**ARCESS Array S**	**2.62**	**46**	Pn	**Pn**	**03 31 40.1**	**+0.7**
	baz=235,slow=14						
ARA0				Sn	**Sn**	**03 32 12.1**	**+0.2**
	baz=231,slow=28						
ARA0	**ARCESS Array S**	**2.62**	**46**	Pn	**Pn**	**03 31 40.1**	**+0.7**
	baz=235,slow=14						
ARA0				Sn	**Sn**	**03 32 12.1**	**+0.2**
	baz=231,slow=28						
ARCES	**ARCESS Array B**	**2.62**	**46**	Pn	**Pn**	**03 31 40.5**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=227,slow=14,SNR=40						
ARCES				Lg	Lg	03 32 13.8	
	comp=Z,2.2nm,0.3s,baz=229,slow=25,SNR=13						
ARE0	**ARCESS Array S**	**2.62**	**46**	*e*P	**Pn**	**03 31 40.1**	**+0.7**
	baz=227						
KEV	**Kevo**	**3.17**	**49**	Pn	**Pn**	**03 31 47.5**	**+0.6**
KEV				Sn	**Sn**	**03 32 25.5**	**+0.1**
KEV	**Kevo**	**3.17**	**49**	Pn	**Pn**	**03 31 47.5**	**+0.6**
KEV				Sn	**Sn**	**03 32 25.5**	**+0.1**
BURU	**Burvik**	**3.27**	**171**	*e*P	**Pn**	**03 31 50.7**	**+2.5**
OUL	**Oulu**	**3.58**	**137**	*e*PG	**Pb**	**03 32 00.5**	**+0.7**
VRF	**Varrio**	**3.60**	**86**	*e*SG	**Sb**	**03 32 46.0**	**+1.6**
UMAU	**Umeaa**	**3.94**	**177**	*e*P	**Pn**	**03 31 59.7**	**+2.2**
MSF	**Maaselka**	**3.99**	**114**	*e*P	**Pn**	**03 31 59.8**	**+1.6**
	baz=298						
KU6	**Riekki**	**4.23**	**110**	*e*PG	**Pb**	**03 32 12.1**	**+1.1**
	baz=302						
FIA0	**FINESS Array S**	**6.87**	**155**	Pn	**Pn**	**03 32 39.2**	**+1.6**
	baz=346,slow=14						
FIA0				Sn	**Sn**	**03 33 55.4**	**-1.1**
	baz=341,slow=28						
FIA0				Lg	Lg	03 34 29.1	
	baz=349,slow=28						
FIA0	**FINESS Array S**	**6.87**	**155**	Pn	**Pn**	**03 32 39.2**	**+1.6**
	baz=346,slow=14						
FIA0				Sn	**Sn**	**03 33 55.4**	**-1.1**
	baz=341,slow=28						
FIA0				Sg	**Sg**	**03 34 29.1**	**-7.1**
	baz=349,slow=28						
FINES	**FINESS Array B**	**6.87**	**155**	Pn	**Pn**	**03 32 39.2**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=345,slow=11,SNR=3.7						
FINES				Sn	**Sn**	**03 33 56.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=351,slow=22,SNR=4.2						
FINES				Lg	Lg	03 34 30.0	
	comp=Z,0.4nm,0.3s,baz=351,slow=27,SNR=7.3						
NB2	**NORSAR Subarra**	**7.80**	**214**	Pn	**Pn**	**03 32 51.2**	**+0.8**
NB2	**NORSAR Subarra**	**7.80**	**214**	Pn	**Pn**	**03 32 51.2**	**+0.8**
NOA	**NORSAR Array B**	**7.80**	**214**	Pn	**Pn**	**03 32 51.7**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=21,slow=11,SNR=3.0						
NOA				Lg	Lg	03 35 01.2	
	comp=Z,0.0nm,0.3s,baz=38,slow=14,SNR=3.7						
NRA0	**NORESS Array S**	**8.01**	**212**	Pn	**Pn**	**03 32 54.7**	**+1.4**
	baz=21,slow=14						
NRA0				Lg	Lg	03 35 11.3	
	baz=14,slow=37						
NRA0	**NORESS Array S**	**8.01**	**212**	Pn	**Pn**	**03 32 54.7**	**+1.4**
	baz=21,slow=14						
NRA0				Sg	**Sg**	**03 35 11.3**	**-1.5**
	baz=14,slow=37						
HFS	**Hagfors**	**8.20**	**203**	Pn	**Pn**	**03 32 56.1**	**+0.2**
	baz=28,slow=12						
HFS				Sn	**Sn**	**03 34 27.1**	**-2.0**
	baz=33,slow=28						
HFS	**Hagfors**	**8.20**	**203**	Pn	**Pn**	**03 32 56.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=21,slow=14,SNR=4.5						
HFS				Sn	**Sn**	**03 34 27.4**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=34,slow=26,SNR=3.4						
HFS				Lg	Lg	03 35 15.3	
	comp=Z,0.2nm,0.3s,baz=14,slow=24,SNR=4.6						
HFS	**Hagfors**	**8.20**	**203**	Pn	**Pn**	**03 32 56.1**	**+0.2**
	baz=28,slow=12						
HFS				Sn	**Sn**	**03 34 27.1**	**-2.0**
	baz=33,slow=28						
SPA0	**Spitsbergen Ar**	**10.49**	**356**	Pn	**Pn**	**03 33 26.2**	**-0.9**
	baz=146,slow=12						
SPA0	**Spitsbergen Ar**	**10.49**	**356**	Pn	**Pn**	**03 33 26.2**	**-0.9**
	baz=146,slow=12						
SPITS	**Spitsbergen Ar**	**10.49**	**356**	Pn	**Pn**	**03 33 28.9**	**+1.8**
	baz=141,slow=17,SNR=2.5						

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*IDC **08** 03:50:19.8±1.3, 8°.19S×130°.51E, h0km, mb4.2/4, mb1 4.1/8, mb1mx3.8/33, mbtmp4.0/8, ML3.7/4, MS3.0/5, Ms1 3.0/5, ms1mx2.6/34, Error ellipse: s-maj=51.9km s-min=23.3km az=85.0*

*ISCJB **08** 03:50:21.9±0.5, 8°.23S±0°.04×130°.56E±0°.05, h33km, mb4.1/4, MS3.2/2, Error ellipse: s-maj=7.7km s-min=5.4km az=171.0*

*NEIC **08** 03:50:22.5±2.4, 8°.21S±0°.07×130°.41E±0°.07, h23km±8km, mb4.2/3*

ISC 08 03:50:24.3±0.8**, 8°.21S**±0°.05×**130°.52E**±0°.08**, h35km, n22, σ2s.06**/25**, mb4.2**/5**, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.80**	**74**	Pn	**Pn**	**03 50 43.6**	**+4.5**
MTN	**Manton Dam**	**4.64**	**173**		**Pn**	**03 51 33.6**	**+1.6**
FAKI	**Fak Fak**	**5.53**	**18**		**Pn**	**03 51 42.8**	**-1.3**
SOEI	**Soe**	**6.37**	**256**	Pn	**Pn**	**03 51 57.0**	**+1.1**
SOEI					**Sn**	**03 53 09.9**	**+2.5**
BATI	**Baumata**	**7.06**	**253**	Sn	**Sn**	**03 53 23.3**	**-1.0**
	5.3nm,0.3s,baz=96,slow=16,SNR=4.9						
SIJI	**Sorong**	**7.33**	**6**	Pn	**Pn**	**03 52 08.4**	**-0.5**
	0.7nm,0.3s,baz=180,slow=20,SNR=4.3						
SIJI				Sn	**Sn**	**03 53 27.7**	**-3.3**
	0.9nm,0.3s,baz=50,slow=17,SNR=2.7						
KNRA	**Kununurra**	**7.62**	**193**		**Pn**	**03 52 12.0**	**-0.9**
KNRA					**Sn**	**03 53 39.7**	**+1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.92	205	Pn	Pn	03 52 58.9	+0.8
	0.5nm,0.3s,baz=34,slow=11,SNR=14						
FITZ				Sn	Sn	03 54 53.1	-6.0
	1.0nm,0.3s,baz=209,slow=20,SNR=6.4						
FITZ				LR	LR	03 57 04.3	
	comp=Z,45nm,19.4s,baz=2.0,slow=37						
FITZ	Fitzroy Crossi	10.92	205		Pn	03 52 58.1	0.0
WB0	Warramunga Arr	12.09	162	Pn	Pn	03 53 13.5	-0.7
WRA	Warramunga Arr	12.24	163	Pn	Pn	03 53 15.9	-0.2
	0.6nm,0.3s,baz=341,slow=13,SNR=16						
WRA				Sn	Sn	03 55 30.8	-0.7
	1.3nm,0.3s,baz=340,slow=22,SNR=10						
WRA				LR	LR	03 57 55.1	
	comp=Z,29nm,19.5s,baz=115,slow=37						
WB2	Warramunga Arr	12.24	163	Pn	Pn	03 53 15.4	-0.8
AS31	Alice Springs	15.71	168	Pn	Pn	03 54 02.5	-0.6
AS31				IAmb	IAmb	03 54 13.9	
	comp=Z,1.7nm,0.8s						
ASAR	Alice Springs	15.71	168	Pn	Pn	03 54 02.0	-1.1
	comp=Z,0.4nm,0.3s,baz=341,slow=8.5,SNR=25						
ASAR				Sn	Sn	03 56 56.2	+0.1
	comp=Z,0.4nm,0.3s,baz=346,slow=26,SNR=7.2						
ASAR				LR	LR	04 00 58.6	
	comp=Z,64nm,19.1s,baz=320,slow=41						
STKA	Stephens Creek	25.70	158	LR	LR	04 05 53.0	
	comp=Z,40nm,20.4s,baz=57,slow=36						
RAO	Raoul Island	52.64	121	LR	LR	04 20 48.1	
	comp=Z,39nm,18.2s,baz=36,slow=35						
MK31	Makanchi Array	69.52	327	P	P	04 01 30.1	+0.7
MK31				IAmb	IAmb	04 01 31.1	
	comp=Z,1.9nm,0.6s						
MKAR	Makanchi Array	69.52	327	P	P	04 01 30.6	+1.1
	comp=Z,2.5nm,0.5s,baz=115,slow=8.5,SNR=36						
AAK	Ala-Archa	71.80	320	P	P	04 01 45.6	+2.0
	comp=Z,1.1nm,0.6s,baz=140,slow=7.0,SNR=3.8						
AAK	Ala-Archa	71.80	320	IAmb	IAmb	04 01 45.7	
	comp=Z,5.7nm,1.6s						
ZALV	Zalesovo Beam	72.89	334	P	P	04 01 49.3	-0.3
	comp=Z,0.6nm,0.4s,baz=130,slow=4.6,SNR=4.6						
ILAR	Eielson Array	94.21	25	P	P	04 03 39.6	+0.2
	comp=Z,0.6nm,1.0s,baz=271,slow=5.1,SNR=4.5						

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*ISCJB **08** 03:50:48.4±0.5, 12°.92N±0°.06×88°.76W±0°.03, h71^{km}±5^{km}, mb3.6/6, Error ellipse: s-maj=10.9km s-min=3.3km az=26.0*
*SNET **08** 03:50:49.3±1.0, 12°.91N×88°.79W, h49^{km}±9^{km}, ML4.2*
*UCR **08** 03:50:49.3±1.2, 12°.92N×88°.78W, h53^{km}±9^{km}, MD3.6, ML4.1*
*IDC **08** 03:50:51.0±2.1, 13°.27N×88°.52W, h67^{km}±19^{km}, mb3.3/6, mb1 3.7/10, mb1mx3.5/34, mbtmp3.7/10, MS2.3/1, Ms1 2.3/1, ms1mx2.1/26, Error ellipse: s-maj=51.7km s-min=16.3km az=37.0*
ISC 08 03:50:49.1±1.0**, 12°.93N**±0°.07×**88°.76W**±0°.04**, h59**^{km}±8^{km}**, n66, σ0^{s}.85**/103**, mb3.5**/6**, 10D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.43	26	eP	Pn	03 51 00.4	+0.1
ALJI				eS	Sn	03 51 09.3	+0.8
ALJI				IAML		03 51 11.8	
	comp=Z,19µm,0.2s						
JUCU	Jucuar¡n	0.59	57	eP	Pn	03 51 02.0	-0.1
JUCU				eS	Sn	03 51 11.9	+0.2
JUCU				IAML		03 51 14.0	
	comp=Z,18µm,0.2s						
COEB	Comit de Eme	0.61	22	⇓iP	Pn	03 51 02.5	+0.2
COEB				eS	Sn	03 51 12.5	+0.6
COEB				IAML		03 51 15.0	
	comp=Z,16µm,0.4s						
TECA	Tecapa	0.61	24	⇓iP	Pn	03 51 02.8	+0.2
TECA	Tecapa	0.61	24	⇓iP	Pn	03 51 02.8	+0.2
LCY	Lacayo	0.67	43	⇓iP	Pn	03 51 03.4	+0.3
LCY	Lacayo	0.67	43	⇓iP	Pn	03 51 03.4	+0.3
VSM	San Miguel	0.69	44	⇓iP	Pn	03 51 03.9	+0.5
VSM	San Miguel	0.69	44	⇓iP	Pn	03 51 03.9	+0.5
COEG	Centro de Oper	0.69	351	i P	Pn	03 51 03.2	-0.1
COEG				eS	Sn	03 51 13.6	-0.1
COEG				IAML		03 51 17.8	
	comp=Z,13µm,0.3s						
UESV	Universidad de	0.70	358	eP	Pn	03 51 03.5	+0.1
UESV				eS	Sn	03 51 14.4	+0.6
UESV				IAML		03 51 16.1	
	comp=Z,11µm,0.1s						
UESV	Universidad de	0.70	358	eP	Pn	03 51 03.5	+0.1
UESV				eS	Sn	03 51 14.4	+0.6
UESV				IAML		03 51 16.1	
	comp=Z,11µm,0.1s						
LFRS	El Faro	0.75	337	⇓iP	Pn	03 51 03.8	-0.2
PAVA	Las Pavas	0.80	348	i P	Pn	03 51 04.8	+0.2
PAVA				eS	Sn	03 51 17.2	+1.3
PAVA				IAML		03 51 18.2	
	comp=Z,15µm,0.3s						
PAVA	Las Pavas	0.80	348	i P	Pn	03 51 04.8	+0.2
PAVA				eS	Sn	03 51 17.2	+1.3
PAVA				IAML		03 51 18.2	
	comp=Z,15µm,0.3s						
AEIL	Aeropuerto Ilo	0.83	336	eP	Pn	03 51 05.4	+0.3
AEIL				eS	Sn	03 51 18.2	+1.5
AEIL				IAML		03 51 19.8	
	comp=Z,9µm,0.3s						
LBRS	Las Brisas	0.85	341	eP	Pn	03 51 05.4	+0.2
UDBS	Universidad Do	0.87	334	eP	Pn	03 51 05.6	+0.1
UDBS				eS	Sn	03 51 17.9	+0.4
UDBS				IAML		03 51 20.1	
	comp=Z,9µm,0.3s						
UDBS	Universidad Do	0.87	334	eP	Pn	03 51 05.6	+0.1
UDBS				eS	Sn	03 51 17.9	+0.4
UDBS				IAML		03 51 20.1	
	comp=Z,9µm,0.3s						
SNET	Serv Nac Est T	0.88	329	eP	Pn	03 51 05.5	-0.1
SNET				eS	Sn	03 51 17.7	-0.1
SNET				IAML		03 51 19.3	
	comp=Z,6µm,0.2s						
SNET	Serv Nac Est T	0.88	329	eP	Pn	03 51 05.5	-0.1
SNET				eS	Sn	03 51 17.7	-0.1
SNET				IAML		03 51 19.3	
	comp=Z,6µm,0.2s						
LFU	La Fuente	0.88	337	⇓iP	Pn	03 51 05.8	+0.2
LFU	La Fuente	0.88	337	⇓iP	Pn	03 51 05.8	+0.2
OPAM	Oficina de Pla	0.88	331	eP	Pn	03 51 05.7	0.0
OPAM				eS	Sn	03 51 18.2	+0.3
OPAM				IAML		03 51 21.5	
	comp=Z,5µm,0.4s						
OPAM	Oficina de Pla	0.88	331	eP	Pn	03 51 05.7	0.0
OPAM				eS	Sn	03 51 18.2	+0.3
OPAM				IAML		03 51 21.5	
	comp=Z,5µm,0.4s						
UEES	Universidad Ev	0.91	329	i P	Pn	03 51 06.1	+0.1
UEES				eS	Sn	03 51 18.5	0.0
UEES	Universidad Ev	0.91	329	i P	Pn	03 51 06.1	+0.1
UEES				eS	Sn	03 51 18.5	0.0
LCND	La Caada	0.93	66	eP	Pn	03 51 06.6	+0.4
LCND				eS	Sn	03 51 20.0	+1.2
LCND				IAML		03 51 21.6	
	comp=Z,9µm,0.3s						
LCND	La Caada	0.93	66	eP	Pn	03 51 06.6	+0.4
LCND				eS	Sn	03 51 20.0	+1.2
LCND				IAML		03 51 21.6	
	comp=Z,9µm,0.3s						
BOQS	Boqueron	0.94	328	eP	Pn	03 51 06.7	+0.1
BOQS				eP		03 51 06.8	
CNCH	Conchagua	0.97	69	eP	Pn	03 51 07.2	+0.4
CNCH	Conchagua	0.97	69	eP	Pn	03 51 07.2	+0.4
FAGO	Alcalda de S	0.99	40	eP	Pn	03 51 07.3	+0.3
FAGO				eS	Sn	03 51 21.2	+0.9
VICT	Victoria	1.03	7	eP	Pn	03 51 07.9	+0.3
VICT				eS	Sn	03 51 22.6	+1.2
VICT				IAML		03 51 25.6	
	comp=Z,2µm,0.3s						
VICT	Victoria	1.03	7	eP	Pn	03 51 07.9	+0.3
VICT				eS	Sn	03 51 22.6	+1.2
VICT				IAML		03 51 25.6	
	comp=Z,2µm,0.3s						
CEVE	Cerro Verde	1.22	317	eP	Pn	03 51 11.1	+0.8
CEVE				eS	Sn	03 51 27.5	+1.4
CEVE				IAML		03 51 35.9	
	comp=Z,4µm,0.5s						
CEVE	Cerro Verde	1.22	317	eP	Pn	03 51 11.1	+0.8
CEVE				eS	Sn	03 51 27.5	+1.4
CEVE				IAML		03 51 35.9	
	comp=Z,4µm,0.5s						
SBLS	San Blas	1.23	317	eP	Pn	03 51 11.1	+0.7
SBLS	San Blas	1.23	317	eP	Pn	03 51 11.1	+0.7
LLGN	La Laguna	1.24	352	eP	Pn	03 51 10.7	+0.3
LLGN				eS	Sn	03 51 28.6	+2.4
LLGN	La Laguna	1.24	352	eP	Pn	03 51 10.7	+0.3
LLGN				eS	Sn	03 51 28.6	+2.4
SNJE	San Jose	1.24	319	eP	Pn	03 51 11.1	+0.5
SNJE	San Jose	1.24	319	eP	Pn	03 51 11.1	+0.5
RTR	El Retiro	1.29	318	eP	Pn	03 51 11.9	+0.8
RTR	El Retiro	1.29	318	eP	Pn	03 51 11.9	+0.8
UNIC	Universidad Ca	1.29	324	eP	Pn	03 51 11.5	+0.4
UNIC				eS	Sn	03 51 28.3	+0.8
UNIC				IAML		03 51 29.9	
	comp=Z,826nm,0.2s						
UNIC	Universidad Ca	1.29	324	eP	Pn	03 51 11.5	+0.4
UNIC				eS	Sn	03 51 28.3	+0.8
UNIC				IAML		03 51 29.9	
	comp=Z,826nm,0.2s						
MTO3	Montecristo	1.57	338	eP	Pn	03 51 15.3	+0.4
MTO3	Montecristo	1.57	338	eP	Pn	03 51 15.3	+0.4
CRIN	San Cristobal	1.69	98	eP	Pn	03 51 17.3	+0.9
CRIN				eS	Sn	03 51 39.2	+2.2
IXG	Ixpaco	2.04	307	eP	Pn	03 51 21.6	+0.3
IXG	Ixpaco	2.04	307	eP	Pn	03 51 21.6	+0.3
CNGN	Cerro Negro	2.06	102	eP	Pn	03 51 20.8	-0.6
CNGN				eS	Sn	03 51 45.0	-1.1
CNGN				IAML		03 51 49.0	
	comp=N,347nm,0.3s						
MOMN	Momotombo	2.23	103	eP	Pn	03 51 23.8	0.0
ESTN	Estel	2.34	86	eP	Pn	03 51 25.9	+0.6
ESTN				eS	Sn	03 51 54.1	+1.1
APG	El Apazote	2.64	321	P	Pn	03 51 30.6	+1.0
	comp=N,2.7nm,0.3s,baz=272,slow=21,SNR=12						
APG				LR	LR	03 52 36.2	
	comp=N,60nm,21.7s,baz=96,slow=41						
MATN	Matagalpa	2.77	90	eP	Pn	03 51 31.5	+0.3
MATN				eS	Sn	03 52 04.2	+0.8
JTS	Las Juntas de	4.56	125	P	Pn	03 51 57.7	+2.0
	comp=N,2.4nm,0.3s,baz=14,slow=17,SNR=16						
JTS				S	Sn	03 52 46.0	-1.5
	baz=342,slow=20,SNR=2.5						
JTS				Lg	Lg	03 53 04.0	
	comp=N,6.3nm,0.3s,baz=146,slow=20,SNR=10						
CMIG	Matias Romero	7.21	306	P	Pn	03 52 34.3	+2.3
	comp=N,0.7nm,0.3s,baz=121,slow=8.2,SNR=7.0						
CMIG				S	Sn	03 53 53.1	+0.5
	comp=N,0.8nm,0.3s,baz=51,slow=13,SNR=3.2						
SDV	Santo Domingo	18.25	101	P	P	03 54 57.4	-0.7
	comp=N,0.3nm,0.3s,baz=338,slow=11,SNR=3.0						
TXAR	Lajitas Array	21.40	322	P	P	03 55 33.6	+1.4
	comp=N,1.0nm,0.7s,baz=141,slow=9.6,SNR=14						
TXAR				PcP	PcP	03 59 35.0	+0.9
	comp=N,0.1nm,0.8s,baz=116,slow=2.1,SNR=3.7						
PDAR	Pinedale Array	34.75	333	P	P	03 57 34.4	+0.3
	comp=N,0.4nm,0.5s,baz=128,slow=11,SNR=5.8						
PDAR				PcP	PcP	04 00 05.6	-1.0
	comp=N,0.3nm,0.7s,baz=152,slow=5.8,SNR=2.9						
NVAR	Mina Array Bea	36.50	319	P	P	03 57 49.5	+0.4
	comp=N,0.3nm,0.5s,baz=141,slow=5.8,SNR=3.2						
NVAR				PcP	PcP	04 00 12.8	+0.9
	comp=N,0.7nm,0.7s,baz=116,slow=4.3,SNR=4.6						
ULM	Lac du Bonnet	37.67	353	P	P	03 57 56.6	-1.8
	comp=N,1.6nm,0.6s,baz=180,slow=11,SNR=2.5						
YKA	Yellowknife Ar	52.82	345	P	P	03 59 57.1	-1.2
	comp=N,0.8nm,0.4s,baz=140,slow=7.7,SNR=20						
ILAR	Eielson Array	65.07	336	P	P	04 01 21.9	-1.2
	comp=N,0.3nm,0.7s,baz=133,slow=5.7,SNR=7.0						

IDC 08 03:58:53.0±2.0**, 8°.12S**×**130°.66E, h0**^{km}**, mb3.9**/1**, mb1 3.7**/3**, mb1mx3.4**/29**, mbtmp3.5**/3**, ML3.4**/2**, Error ellipse: s-maj=68.4km s-min=28.5km az=79.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.05	206	Pn	Pn	04 01 32.8	+0.3
	baz=30,slow=12						
WRA	Warramunga Arr	12.28	164	Pn	Pn	04 01 49.8	+0.5
	0.3nm,0.3s,baz=344,slow=12,SNR=6.4						
WRA				Sn	Sn	04 04 00.9	-6.1
	0.5nm,0.3s,baz=338,slow=22,SNR=6.1						
ASAR	Alice Springs	15.77	169	Pn	Pn	04 02 35.6	-1.0
	0.1nm,0.3s,baz=343,slow=8.4,SNR=6.4						
ASAR				Sn	Sn	04 05 25.4	-6.7
	0.1nm,0.3s,baz=348,slow=26,SNR=5.0						
MKAR	Makanchi Array	69.52	327	P	P	04 10 03.6	0.0
	0.6nm,0.4s,baz=118,slow=8.0,SNR=7.8						

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*ISCJB **08** 04:07:20.8±0.5, 4°.03N±0°.06×126°.22E±0°.10, h35^{km}, mb3.9/12, MS2.8/1, Error ellipse: s-maj=14.9km s-min=6.4km az=158.1*
*NEIC **08** 04:07:24.3±1.2, 4°.02N±0°.07×126°.11E±0°.07, h51^{km}±10^{km}, mb4.1/5*
*IDC **08** 04:07:25.8±5.1, 4°.01N×126°.25E, h68^{km}±52^{km}, mb3.7/12, mb1 3.8/13, mb1mx3.6/44, mbtmp4.0/13, ML4.2/1, MS2.7/3, Ms1 2.7/3, ms1mx2.3/38, Error ellipse: s-maj=48.5km s-min=14.8km az=81.0*
ISC 08 04:07:23.2±0.6**, 3°.90N**±0°.05×**126°.13E**±0°.09**, h35**^{km}**, n25, σ2^{s}.06**/22**, mb3.9**/13**, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.19	350	LR	LR	04 09 40.7	
	comp=Z,82nm,21.2s,baz=144,slow=43						
DAV	Davao City (W)	3.19	350	Pn	Pn	04 08 10.3	-0.6
KCP	Kidapawan	3.25	342	⇑P	Pn	04 08 16.0	+4.2
KCP				S	Sn	04 08 53.4	+4.0
TNTI	Ternate	3.35	158		Pn	04 08 14.4	+1.3
LUWI	Luwuk	5.95	214	Pn	Pn	04 08 51.3	+2.5
SIJI	Sorong	6.99	133	P	Pn	04 09 05.8	+2.6
	4.3nm,0.3s,baz=337,slow=21,SNR=7.7						
SIJI				S	Sn	04 10 21.1	-0.3
	0.8nm,0.3s,baz=156,slow=22,SNR=2.2						
JAY	Jayapura	15.90	113	LR	LR	04 16 00.4	
	comp=Z,33nm,20.9s,baz=5.0,slow=32						
KNRA	Kununurra	19.63	172	P	P	04 11 49.7	+0.8
KNRA				IAmb	IAmb	04 11 58.3	
	comp=Z,11nm,1.1s						
FITZ	Fitzroy Crossi	21.87	181	P	P	04 12 15.1	+2.1
	comp=Z,3.3nm,0.8s,baz=11,slow=9.8,SNR=11						
FITZ	Fitzroy Crossi	21.87	181	IAmb	IAmb	04 12 17.8	
	comp=Z,9.2nm,1.5s						
PMG	Port Moresby	24.78	122	LR	LR	04 23 04.0	
	comp=Z,27nm,18.9s,baz=188,slow=38						
WRA	Warramunga Arr	25.03	161	P	P	04 12 44.4	+0.2
	comp=Z,2.2nm,0.6s,baz=339,slow=10,SNR=16						
WB2	Warramunga Arr	25.04	161	P	P	04 12 44.1	-0.2
WB2				IAmb	IAmb	04 12 55.9	
	comp=Z,9.8nm,1.1s						
ASAR	Alice Springs	28.43	165	P	P	04 13 15.5	+0.7
	comp=Z,0.4nm,0.5s,baz=344,slow=9.6,SNR=3.8						
KSRS	Korea Array	33.43	3	P	P	04 13 58.2	-0.5
	comp=Z,0.9nm,0.4s,baz=181,slow=10,SNR=6.0						
STKA	Stephens Creek	38.51	159	P	P	04 14 42.7	+0.4
	comp=Z,1.1nm,0.4s,baz=328,slow=8.3,SNR=4.5						
STKA	Stephens Creek	38.51	159	IAmb	IAmb	04 14 52.0	
	comp=Z,1.4nm,1.2s						
USRK	Ussuriysk Ar.	40.46	6	P	P	04 14 57.7	-0.7
	comp=Z,0.9nm,0.5s,baz=191,slow=6.4,SNR=2.9						
KLR	Kul'dur	45.42	5	P	P	04 15 37.0	-1.4
	comp=Z,1.0nm,0.6s,baz=176,slow=8.5,SNR=4.4						
SONM	Songino Array	46.95	342	P	P	04 15 49.4	-1.3
	comp=Z,0.2nm,0.3s,baz=150,slow=6.3,SNR=4.1						
MKAR	Makanchi Array	57.07	325	P	P	04 17 04.4	-1.6
	comp=Z,0.9nm,0.5s,baz=123,slow=7.6,SNR=11						
ZALV	Zalesovo Beam	60.16	333	P	P	04 17 24.7	-2.6
	comp=Z,0.4nm,0.4s,baz=120,slow=8.5,SNR=2.0						
GAR	Garm	61.37	313	P	P	04 17 35.2	-0.7
ARCES	ARCESS Array B	90.08	340	P	P	04 20 16.7	-2.4
	comp=Z,3.7nm,1.0s,baz=52,slow=7.0,SNR=6.3						
FINES	FINESS Array B	91.40	332	P	P	04 20 23.0	-2.4
	comp=Z,3.2nm,1.0s,baz=106,slow=6.2,SNR=6.7						

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*MOS **08** 04:19:02.4±0.0, 42°.44N×41°.06E, h5^{km}, MPVA3.3*
*NORS **08** 04:19:03.6±0.0, 42°.48N×41°.07E, h4^{km}, MPVA3.2*
*ISK **08** 04:19:03.3, 42°.32N×40°.94E, h20^{km}, ML2.3/2*
*TIF **08** 04:19:03.7, 42°.35N×41°.08E, h26^{km}±3^{km}*
*ISCJB **08** 04:19:05.5±1.2, 42°.32N±0°.05×41°.00E±0°.05, h33^{km}±15^{km}, Error ellipse: s-maj=9.9km s-min=5.5km az=28.1*
ISC 08 04:19:03.9±1.4**, 42°.40N**±0°.03×**41°.16E**±0°.05**, h15**^{km}±11^{km}**, n16, σ0^{s}.65**/30**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATM	Batumi	0.89	153	P	Pg	04 19 21.4	+0.2
BATM				S	Sn	04 19 33.5	-1.1
BATM	Batumi	0.89	153	PG	Pg	04 19 21.3	+0.2
BATM				SG	Sn	04 19 34.7	+0.1
BATM	Batumi	0.89	153	i Pg	Pg	04 19 21.3	+0.2
BATM				i Sg	Sn	04 19 35.1	+0.5
BCA	Borcka	1.02	160	PG	Pb	04 19 22.7	-0.5
BCA				SG	Sg	04 19 37.2	+0.4
TKB	Tkibuli	1.36	91	P	Pb	04 19 29.3	+0.1
TKB				S	Sg	04 19 48.5	+0.6
NEY	Neytrino	1.43	53	i Pg	Pb	04 19 30.3	-0.2
NEY				eSg	Sg	04 19 50.8	+0.7
RPOR	Krasnaya Polya	1.45	334	i Pg	Pn	04 19 28.2	-1.5
RPOR				i Sg	Sn	04 19 48.0	-0.5
SOC	Sochi	1.58	319	i Pg	Pn	04 19 30.9	-0.6
SOC				i Sg	Sn	04 19 52.0	+0.2
ONI	Oni	1.71	83	P	Pb	04 19 35.1	0.0
ONI				S	Sg	04 19 58.1	-0.9
ONI	Oni	1.71	83	PN	Pb	04 19 35.1	0.0
ONI				SN	Sg	04 19 58.5	-0.4
ONI	Oni	1.71	83	i Pg	Pb	04 19 35.0	0.0
ONI				i Sg	Sg	04 19 58.2	-0.8
SHA1	Shidzhatmaz	1.73	39	i Pg	Pb	04 19 35.8	+0.2
SHA1				eSg	Sb	04 19 58.3	+1.1
KBZ	Khabaz	1.84	43	i Pg	Pb	04 19 37.5	+0.2
KBZ				i Sg	Sg	04 20 02.3	-0.9
KIV	Kislovodsk	1.92	35	PN	Pb	04 19 38.2	-0.4
LZRR	Lazarevskoye	2.01	320	ePg	Pn	04 19 38.1	+0.7
LZRR				eSg	Sn	04 20 03.2	+1.0
SENK	Senkaya-Erzuru	2.04	154	PN	Pn	04 19 38.0	0.0

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*SOME **08** 04:46:27.8, 40°.52N×72°.72E, h25^{km}*
*KRNET **08** 04:46:29.3±0.1, 40°.65N×72°.73E, h7^{km}, mb3.2*
*NNC **08** 04:46:31.3±1.6, 40°.80N×72°.73E, h0^{km}, mb3.9, mpv3.5, Error ellipse: s-maj=14.9km s-min=6.7km az=173.0*
*ISCJB **08** 04:46:32.2±0.6, 40°.64N±0°.04×72°.71E±0°.04, h10^{km}, Error ellipse: s-maj=6.6km s-min=3.4km az=158.1*
ISC 08 04:46:30.8±1.0**, 40°.72N**±0°.05×**72°.68E**±0°.02**, h10**^{km}**, n59, σ2^{s}.06**/91**, 27C-13D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARSB	Arslanbob	0.65	21	⇓iP	Pg	04 46 43.4	0.0
	baz=16						
ARSB				⇓iS	Sb	04 46 53.1	-0.4
	baz=16						
ARK	Arkit	1.20	334	⇑iP	Pg	04 46 53.8	-0.2
	baz=34						
ARK				⇑iS	Sn	04 47 11.2	+0.9
	baz=34						
BTK	Batken	1.57	246	⇑iP	Pb	04 46 58.4	-1.5
	baz=49						
BTK				⇑iS	Sg	04 47 21.0	-0.2
	baz=49						
AML	Almayashu	1.60	28	⇓iP	Pb	04 47 00.8	0.0
	baz=26						
AML				⇓iS	Sg	04 47 23.1	+0.6
	baz=26						
AML	Almayashu	1.60	28	P	Pb	04 47 00.1	-0.7
	SNR=117						
ARLS	Aral	1.69	47	⇑iP	Pb	04 47 01.5	-0.5
	baz=44						
ARLS				⇑iS	Sg	04 47 24.9	-0.1
	baz=44						
UCH	Uchtor	2.04	42	⇑iP	Pb	04 47 08.0	-0.3
	baz=40						
UCH				⇑iS	Sg	04 47 35.7	-0.8
	baz=40						
UCH	Uchtor	2.04	42	P	Pb	04 47 08.3	0.0
	SNR=137						
MRKS	Merke	2.06	11	eP	Pb	04 47 08.0	-0.4
	54nm,0.4s						
MRKS				eS	Sg	04 47 36.8	-0.4
	110nm,0.3s						
MRKS	Merke	2.06	11	Pg	Pb	04 47 08.0	-0.4
	54nm,0.4s						
MRKS				Lg	Lg	04 47 37.8	
	110nm,0.3s						
EKS2	Erkin-Say	2.11	23	⇑iP	Pb	04 47 09.2	0.0
	baz=21						
EKS2				⇑iS	Sg	04 47 37.3	-1.3
	baz=21						
EKS2	Erkin-Say	2.11	23	P	Pb	04 47 09.1	0.0
	SNR=35						
AAK	Ala-Archa	2.35	35	⇑eP	Pb	04 47 12.2	-1.2
	baz=33						
AAK				⇑iS	Sb	04 47 42.9	+0.4
	baz=33						
AAK	Ala-Archa	2.35	35	P	Pb	04 47 12.7	-0.7
	SNR=51						
AAK	Ala-Archa	2.35	35	Pn	Pb	04 47 12.7	-0.7
	14nm,0.5s						
AAK				Lg	Lg	04 47 46.0	
	172nm,1.1s						
KZA	Kyzart	2.36	54	P	Pb	04 47 13.2	-0.5
	SNR=57						
IUG	Iuzhnay	2.45	307	eP	Pb	04 47 14.5	-0.5
	2.1nm,0.2s						
IUG				eS	Sg	04 47 48.2	-1.2
	158nm,0.4s						
IUG	Iuzhnay	2.45	307	Pg	Pb	04 47 14.5	-0.5
	2.1nm,0.2s						
IUG				Lg	Lg	04 47 48.4	
	158nm,0.4s						
FRU1	Bishkek	2.55	34	⇓iP	Pb	04 47 14.6	-2.1
	baz=33						
FRU1				⇓iS	Sb	04 47 47.6	-0.5
	baz=33						
KBK	Karagaybulak	2.58	41	⇓iP	Pb	04 47 14.8	-2.4
	baz=39						
KBK				⇓iS	Sb	04 47 48.0	-1.0
	baz=39						
KBK	Karagaybulak	2.58	41	P	Pb	04 47 16.7	-0.6
	SNR=26						
NRN	Naryn	2.61	73	⇑iP	Pn	04 47 14.7	+1.3
	baz=71						
NRN				⇑iS	Sn	04 47 47.5	+2.2
	baz=71						
TAS	Tashkent	2.63	284	⇑eP	Pb	04 47 16.3	-1.8
	baz=86						
TAS				⇑iS	Sb	04 47 51.1	+0.5
	baz=86						
CHMS	Chumysh	2.75	34	⇓eP	Pb	04 47 17.6	-2.6
	baz=32						
CHMS				⇓iS	Sb	04 47 52.6	-1.4
	baz=32						
CHMS	Chumysh	2.75	34	P	Pb	04 47 18.1	-2.1
	SNR=9.2						
KK31	Karatay Array	2.88	327	⇑Pn	Pn	04 47 18.0	+1.2
	17nm,0.8s,baz=144,slow=15,SNR=70						
KK31				⇓Lg	Lg	04 47 59.2	
	35nm,0.6s,baz=142,slow=29,SNR=16						
USP	Ospenovka	2.88	27	⇑iP	Pb	04 47 19.7	-2.7
	baz=26						
USP				⇑eS	Sb	04 47 56.2	-1.6
	baz=26						
USP	Ospenovka	2.88	27	P	Pb	04 47 19.9	-2.5
	SNR=6.6						
BOOM	Boomskoye usch	3.02	53	⇑eP	Pn	04 47 21.1	+2.3
	baz=52						
BOOM				⇑iS	Sn	04 47 58.3	+3.1
	baz=52						
ULHL	Ulahol	3.08	59	⇓eP	Pn	04 47 21.9	+2.2
	baz=58						
ULHL				⇓eS	Sn	04 47 59.6	+2.8
	baz=58						
SGDS	Sogindy	3.09	27	Pg	Pb	04 47 25.8	-0.2
	8.4nm,0.3s						
SGDS				Lg	Lg	04 48 07.9	
	38nm,0.5s						
TKM2	Tokmak 2	3.10	44	⇑iP	Pn	04 47 22.6	+2.6
	baz=42						
TKM2				⇑iS	Sn	04 48 00.3	+3.1
	baz=42						
TKM2	Tokmak 2	3.10	44	P	Pb	04 47 24.1	-2.0
	SNR=17						
TKM2	Tokmak 2	3.10	44	⇑Pn	Pb	04 47 23.0	-3.1
	5.4nm,0.5s						
TKM2				⇑Lg	Lg	04 48 06.2	
	24nm,0.7s						
BRLS	Borolday	3.13	318	eP	Pb	04 47 24.7	-1.9
	0.6nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRLS				eS	Sb	04 48 05.6	+0.7
	18nm,0.5s						
BRLS	Borolday	3.13	318	Pg	Pb	04 47 24.7	-1.9
	0.6nm,0.2s						
BRLS				Lg	Lg	04 48 06.1	
	18nm,0.5s						
KST	Kastek	3.38	46	eP	Pb	04 47 30.1	-0.7
	6.6nm,0.3s						
KST				eS	Sb	04 48 14.8	+2.7
	28nm,0.5s						
KST	Kastek	3.38	46	Pg	Pb	04 47 30.1	-0.7
	6.6nm,0.3s						
KST				Lg	Lg	04 48 14.8	
	28nm,0.5s						
DGS	Degeres	3.42	41	eP	Pb	04 47 30.7	-0.8
	9.3nm,0.5s						
DGS				eS	Sb	04 48 16.0	+2.8
	35nm,0.5s						
DGS	Degeres	3.42	41	Pg	Pb	04 47 30.7	-0.8
	9.3nm,0.5s						
DGS				Lg	Lg	04 48 16.5	
	35nm,0.5s						
MTBS	Maitube	3.69	48	eP	Pb	04 47 35.3	-0.9
	5.5nm,0.4s						
MTBS				eS	Sb	04 48 23.6	+2.6
	18nm,0.5s						
MTBS	Maitube	3.69	48	Pg	Pb	04 47 35.3	-0.9
	5.5nm,0.4s						
MTBS				Lg	Lg	04 48 23.7	
	13nm,0.5s						
IZV	Izvestkoviy	3.74	50	eP	Pb	04 47 35.8	-1.2
	5.5nm,0.5s						
IZV				eS	Sb	04 48 24.7	+2.2
	31nm,0.6s						
IZV	Izvestkoviy	3.74	50	Pg	Pb	04 47 35.8	-1.2
	5.5nm,0.5s						
IZV				Lg	Lg	04 48 24.7	
	31nm,0.6s						
TNSS	Tian-Shan	3.94	53	eP	Pb	04 47 40.7	+0.1
	4.7nm,0.3s						
TNSS				eS	Sg	04 48 33.1	-4.3
	20nm,0.6s						
TNSS	Tian-Shan	3.94	53	Pg	Pb	04 47 40.7	+0.1
	7.0nm,0.6s						
TNSS				Lg	Lg	04 48 33.1	
	20nm,0.6s						
MDOK	Medeo	4.07	52	eP	Pb	04 47 42.9	+0.2
	6.6nm,0.5s						
MDOK				eS	Sb	04 48 36.7	+4.7
	16nm,0.9s						
MDOK	Medeo	4.07	52	Pg	Pb	04 47 42.9	+0.2
	6.6nm,0.5s						
MDOK				Lg	Lg	04 48 36.7	
	16nm,0.9s						
KOTS	Kotyrbulak	4.15	51	eP	Pb	04 47 44.4	+0.3
	15nm,0.5s						
KOTS				eS	Sg	04 48 39.4	-4.7
	55nm,0.9s						
KOTS	Kotyrbulak	4.15	51	Pg	Pb	04 47 44.4	+0.3
	15nm,0.5s						
KOTS				Lg	Lg	04 48 39.4	
	55nm,0.9s						
KUU	Kurty	4.17	39	eP	Pb	04 47 45.6	+1.2
	6.8nm,0.5s						
KUU				eS	Sg	04 48 41.4	-3.4
	29nm,0.8s						
KUU	Kurty	4.17	39	Pg	Pb	04 47 45.6	+1.2
	6.8nm,0.5s						
KUU				Lg	Lg	04 48 41.4	
	29nm,0.8s						
KTBS	Karatobe	4.22	44	eP	Pb	04 47 46.6	+1.5
	5.7nm,0.3s						
KTBS				eS	Sg	04 48 42.6	-3.6
	35nm,0.3s						
CHKK	Chushkaly	4.48	44	eP	Pb	04 47 50.5	+1.0
	3.4nm,0.5s						
CHKK				eS	Sg	04 48 50.0	-4.5
	15nm,0.6s						
CHKK	Chushkaly	4.48	44	Pg	Pb	04 47 50.4	+1.0
	3.4nm,0.5s						
CHKK				Lg	Lg	04 48 50.0	
	15nm,0.6s						
SATY	Saty	4.87	59	eP	Pb	04 47 57.2	+0.9
	6.2nm,0.6s						
SATY				eS	Sg	04 49 01.2	-6.1
	24nm,0.5s						
SATY	Saty	4.87	59	Pg	Pb	04 47 57.2	+0.9
	6.2nm,0.6s						
SATY				Lg	Lg	04 49 01.2	
	24nm,0.5s						
KURS	Kuram	4.93	54	eP	Pb	04 47 58.5	+1.2
	3.2nm,0.4s						
KURS				eS	Sg	04 49 03.1	-6.1
	6.6nm,0.5s						
PDGK	Podgornoye	5.71	61	⇑Pg	Pg	04 48 16.0	-4.0
	3.3nm,0.7s						
PDGK				⇑Lg	Lg	04 49 29.8	
	6.2nm,0.6s						

*ISCJB **08** 05:01:09.1±0.5, 44°.55N±0°.05×124°.24E±0°.08, h10km, mb3.9/6, MS3.3/6, Error ellipse: s-maj=8.6km s-min=6.6km az=34.9*
*IDC **08** 05:01:09.6±0.9, 44°.55N×124°.22E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.6/33, mbtmp3.8/8, ML3.0/2, MS3.3/8, Ms1 3.3/8, ms1mx2.9/42, Error ellipse: s-maj=20.6km s-min=19.1km az=3.0*
*BJI **08** 05:01:11.4±0.0, 44°.65N×124°.14E, h9km, mb3.9/11, mB4.4/10, ML4.4/16, Ms4.3/10, Ms7 4.0/7*
ISC 08 05:01:10.9±0.6, **44°.58N**±0°.06×**124°.29E**±0°.06, **h10**km, **n27**, σ**1s.68**/24, **mb4.1**/6, **MS3.4**/7, **Northeastern China**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CN2	Changchun	1.14	132	Pg	Pg	05 01 34.4	+1.7
CN2				Sg	Sn	05 01 51.8	+3.3
CN2				smax	smax		
	comp=N,14μm,0.5s						
CN2				smax	smax		
	comp=E,6μm,0.5s						
USRK	Ussuriysk Ar.	5.53	91	Pn	Pn	05 02 34.2	+1.0
	baz=270,slow=12,SNR=6.0						
USRK				Pg	Pg	05 02 54.6	-2.2
	baz=278,slow=17,SNR=13						
USRK				Lg	Lg	05 04 09.2	
	baz=274,slow=28,SNR=8.3						
DL2	Dalian	6.00	200	ePn	Pn	05 02 39.7	0.0
DL2				Sn	Sn	05 03 47.0	-1.5
DL2				smax	smax		
	comp=N,140nm,1.0s						
DL2				smax	smax		
	comp=E,160nm,0.9s						
DL2				LR	LR		
	comp=N,450nm,11.8s						
DL2				LR	LR		
	comp=E,1μm,10.3s						
KLR	Kul'dur	6.91	45	Pn	Pn	05 02 52.5	+0.3
	2.7nm,0.3s,baz=236,slow=11,SNR=28						
KLR				Pg	Pg	05 03 21.2	-1.9
	4.7nm,0.3s,baz=219,slow=19,SNR=9.0						
KLR				Lg	Lg	05 04 49.6	
	14nm,0.3s,baz=328,slow=12,SNR=6.6						
KLR				LR	LR	05 06 14.9	
	comp=Z,73nm,18.9s,baz=222,slow=44						
BJI	Beijing	7.53	236	eP	Pg	05 03 33.6	-1.4
BJI				pmax	pmax		
	comp=Z,21nm,0.8s						
BJI				LR	LR		
	comp=N,900nm,8.0s						
BJI				LR	LR		
	comp=E,760nm,10.0s						
BJI				LR	LR		
	comp=Z,320nm,37.9s						
KSRS	Korea Array	7.63	158	Pn	Pn	05 03 04.6	+2.6
	comp=Z,0.6nm,0.3s,baz=343,slow=13,SNR=11						
KSRS				Pg	Pg	05 03 33.3	-3.6
	comp=Z,0.6nm,0.3s,baz=331,slow=17,SNR=4.6						
KSRS				Lg	Lg	05 05 14.2	
	comp=Z,2.0nm,0.3s,baz=333,slow=30,SNR=5.5						
TIA	Tai'an	9.98	216	P	Pn	05 03 29.3	-5.0
TIA				S	Sn	05 05 27.4	+1.1
TIA				LR	LR		
	comp=N,100nm,7.1s						
TIA				LR	LR		
	comp=E,280nm,12.8s						
TIA				LR	LR		
	comp=Z,79nm,15.0s						
JNU	Nakatsue	12.53	154	Lg	Lg	05 07 55.9	
	comp=Z,0.2nm,0.3s,baz=221,slow=19,SNR=3.3						
SONM	Songino Array	12.81	291	Sn	Sn	05 06 23.2	-13
	comp=Z,0.4nm,0.3s,baz=95,slow=16,SNR=3.8						
SONM				Lg	Lg	05 07 55.0	
	comp=Z,0.9nm,0.3s,baz=82,slow=30,SNR=7.1						
ASAJ	Asahikawa	13.12	86	LR	LR	05 09 15.0	
	comp=Z,88nm,20.5s,baz=284,slow=37						
MAT	Matsushiro	13.27	122	P	Pn	05 04 17.3	-2.0
TLY	Talaya	15.48	305	Lg	Lg	05 09 17.1	
	comp=Z,0.0nm,0.3s,baz=279,slow=16,SNR=2.9						
XAN	Xi'an	15.85	234	P	P	05 04 57.0	-0.9
XAN				pP	sP	05 05 03.7	+1.6
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
XAN				LR	LR		
	comp=Z,260nm,11.9s						
XAN				LR	LR		
	comp=Z,320nm,13.0s						
LZH	Lanzhou	17.71	248	eP	Pn	05 05 15.7	-2.0
LZH				pP	pP	05 05 21.5	+0.1
LZH				sP	sP	05 05 26.0	+3.2
LZH				PP	PnPn	05 05 29.0	+0.9
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH				pmax	pmax		
	comp=Z,59nm,4.8s						
LZH				LR	LR		
	comp=Z,350nm,7.0s						
LZH				LR	LR		
	comp=Z,260nm,7.6s						
LZH				LR	LR		
	comp=Z,220nm,9.8s						
GTA	Gaotai	18.88	263	eP	Pn	05 05 32.7	+0.7
GTA				pP	sP	05 05 42.9	+7.3
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,54nm,4.8s						
GTA				LR	LR		
	comp=Z,190nm,9.6s						
GTA				LR	LR		
	comp=Z,380nm,7.9s						
GTA				LR	LR		
	comp=Z,270nm,11.7s						
JCJ	Chichijima	22.61	135	LR	LR	05 13 08.2	
	comp=Z,56nm,21.9s,baz=321,slow=32						
PETK	Petropavlovsk-	23.41	57	LR	LR	05 16 25.2	
	comp=Z,66nm,18.9s,baz=238,slow=39						
WMQ	Urumqi	26.11	281	eP	P	05 06 45.4	+0.6
WMQ				LR	LR		
	comp=Z,280nm,19.1s						
WMQ				LR	LR		
	comp=Z,320nm,24.5s						
CMAR	Chiang Mai Arr	33.57	227	LR	LR	05 23 36.0	
	comp=Z,37nm,19.1s,baz=315,slow=40						
ILAR	Eielson Array	50.34	34	P	P	05 10 07.1	-0.3
	comp=Z,0.4nm,0.7s,baz=267,slow=7.2,SNR=4.8						
ARCES	ARCESS Array B	51.95	334	P	P	05 10 20.2	+0.8
	comp=Z,2.5nm,0.8s,baz=55,slow=7.8,SNR=3.7						
ARCES				LR	LR	05 36 46.3	
	comp=Z,36nm,18.2s,baz=294,slow=41						
FINES	FINESS Array B	55.64	325	P	P	05 10 47.0	+0.5
	comp=Z,2.5nm,0.9s,baz=66,slow=6.7,SNR=8.9						
AKASG	Malin Array Be	60.02	313	P	P	05 11 17.8	+0.4
	comp=Z,1.7nm,0.8s,baz=48,slow=7.5,SNR=4.9						
BRTR	Keskin Array B	63.96	301	LR	LR	05 42 56.8	
	comp=Z,22nm,18.8s,baz=288,slow=39						
WRA	Warramunga Arr	64.86	170	P	P	05 11 49.9	-0.2
	comp=Z,0.7nm,0.8s,baz=352,slow=7.2,SNR=6.7						
ASAR	Alice Springs	68.48	171	P	P	05 12 13.6	+0.5
	comp=Z,0.3nm,0.7s,baz=355,slow=7.9,SNR=3.9						
GERES	GERESS Array B	68.95	318	LR	LR	05 47 06.9	
	comp=Z,52nm,18.1s,baz=302,slow=40						

*NORS **08** 05:21:21.8±0.0, 42°.84N×45°.79E, h14km, MPVA4.0*
*MOS **08** 05:21:21.8±0.0, 42°.83N×45°.74E, h17km, MPVA3.8*
*DRS **08** 05:21:22.1±0.0, 42°.85N×45°.62E, h14km*
*TIF **08** 05:21:22.7, 42°.81N×45°.72E, h6km±5km*
*ISCJB **08** 05:21:24.8±0.4, 42°.89N±0°.02×45°.78E±0°.03, h15km±5km, Error ellipse: s-maj=4.1km s-min=2.9km az=30.7*
ISC 08 05:21:23.3±1.0, **42°.84N**±0°.02×**45°.71E**±0°.02, **h17**km±9km, **n31**, σ**1s.53**/61, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GROC	Groznyy	0.37	10	i Pg	Pb	05 21 30.6	-0.8
GROC				eSg	Sb	05 21 37.2	+0.4
DBC	Dubki	0.84	77	ePg	Pb	05 21 38.6	-0.9
DBC				eSg	Sg	05 21 49.5	-1.4
GUDG	Gudauri	0.98	248	P	Pn	05 21 42.1	-0.5
GUDG				S	Sn	05 21 55.6	-0.5
GUDG	Gudauri	0.98	248	ePg	Pn	05 21 42.0	-0.5
GUDG				eSg	Sn	05 21 55.5	-0.7
BTKR	Batakoyurt	1.01	302	ePg	Pn	05 21 43.7	+1.0
BTKR				eSg	Sn	05 22 00.4	+3.9
GNBR	Gunib	1.03	116	ePg	Pn	05 21 42.6	-0.4
GNBR				eSg	Sn	05 21 57.3	+0.2
LACR	Lac	1.04	270	ePg	Pn	05 21 43.0	-0.2
LACR				eSg	Sn	05 21 58.3	+0.9
LGD	Lagodekhi	1.08	158	P	Pg	05 21 44.0	-0.3
LGD				S	Sn	05 21 58.6	+0.3
TRKR	Terskaya	1.13	321	ePg	Pg	05 21 45.8	+0.5
TRKR				eSg	Sn	05 22 02.4	+2.9
KORR	Kora	1.23	282	ePg	Pg	05 21 47.3	+0.2
KORR				eSg	Sg	05 22 05.5	+2.4
STDR	Stavd-Durt	1.32	294	ePg	Pg	05 21 48.8	+0.1
STDR				eSg	Sg	05 22 08.1	+2.2
TBLG	Delisi	1.32	213	P	Pg	05 21 49.0	+0.2
TBLG				S	Sg	05 22 07.2	+1.1
ZEI	Tsey	1.33	268	ePg	Pg	05 21 48.0	-1.0
ZEI				eSg	Sg	05 22 06.5	0.0
BTNK	Botanikuri	1.34	211	P	Pg	05 21 49.1	-0.1
BTNK				S	Sg	05 22 07.9	+1.3
PRTR	Priterechnaya	1.38	312	ePg	Pg	05 21 49.4	-0.6
PRTR				eSg	Sg	05 22 10.0	+1.9
DGRG	David-gareji	1.41	190	P	Pg	05 21 51.2	+0.7
DGRG				S	Sg	05 22 11.2	+2.2
DGRG	David-gareji	1.41	190	ePg	Pg	05 21 51.5	+1.0
DGRG				eSg	Sg	05 22 13.0	+4.1
DDFL	Dedoflistskaro	1.43	168	P	Pg	05 21 53.0	+2.2
LSNR	Lesken	1.45	288	ePg	Pb	05 21 48.6	-1.2
LSNR				eSg	Sg	05 22 12.0	+1.9
DIGR	Digorskoe uzhe	1.57	273	ePg	Pg	05 21 52.0	-1.5
DIGR				eSg	Sg	05 22 13.3	-0.6
URKR	Urkarakh	1.57	115	ePg	Pg	05 21 52.3	-1.4
URKR				eSg	Sg	05 22 13.6	-0.6
ONI	Oni	1.68	262	P	Pg	05 21 54.7	-1.0
ONI				S	Sg	05 22 18.1	+0.5
ONI	Oni	1.68	262	ePg	Pg	05 21 54.7	-1.0
ONI				eSg	Sg	05 22 17.7	+0.1
KZRT	Kazreti	1.75	214	P	Pg	05 21 55.7	-1.3
KZRT				S	Sg	05 22 19.7	0.0
AKT	Akhty	2.03	131	ePg	Pb	05 21 59.2	-0.6
AKT				eSg	Sb	05 22 24.5	-0.2
NEY	Neytrino	2.23	282	ePn	Pb	05 22 02.3	-0.9
NEY				eSn	Sg	05 22 32.1	-2.9
PYA1	Pyatigorsk	2.26	304	i Pn	Pb	05 22 01.2	-2.5
PYA1				eSn	Sn	05 22 27.5	+0.1
SHA1	Shidzhatmaz	2.40	293	ePn	Pb	05 22 04.6	-1.6
SHA1				eSn	Sb	05 22 35.0	-0.6
BEYR	Belyy Ugol+	2.41	300	ePn	Pb	05 22 04.0	-2.2
BEYR				eSn	Sb	05 22 32.9	-2.8
KIV0	Kislovodsk Arr	2.46	298	ePn	Pn	05 22 03.7	+0.9
KIV0				eSn	Sb	05 22 37.6	+0.3
ALER	Alexandrovskoy	2.79	314	ePn	Pn	05 22 09.2	+1.9
ALER				eSn	Sn	05 22 42.6	+2.1

*IDC **08** 05:40:46.5±1.0, 23°.27S×68°.63W, h101km±11km, mb3.9/1, mb1 3.4/4, mb1mx3.1/23, mbtmp3.7/4, Error ellipse: s-maj=40.3km s-min=17.0km az=85.0*
*ISCJB **08** 05:40:47.5±0.5, 23°.10S±0°.04×68°.58W±0°.05, h121km±7km, mb3.9/1, Error ellipse: s-maj=8.2km s-min=6.6km az=178.9*
*SJA **08** 05:40:47.3±1.0, 23°.08S×68°.58W, h109km±7km, ML2.8, MW2.8*
*GUC **08** 05:40:47.8±0.7, 23°.11S×68°.69W, h121km±5km, ML3.3*
ISC 08 05:40:47.7±0.9, **23°.13S**±0°.05×**68°.52W**±0°.06, **h107**km±9km, **n26**, σ**1s.69**/40, **6C-1D**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.63	325	P	Pn	05 41 05.8	+0.1
	45nm,0.3s,baz=161,slow=7.0,SNR=1320						
LVC				S	Sn	05 41 18.8	-0.4
	194nm,0.3s,baz=222,slow=23,SNR=90						
LVC	Limon Verde	0.63	325	⇑iP	Pn	05 41 05.8	+0.1
LVC				eS	Sn	05 41 18.7	-0.6
LVC				IAML		05 41 21.7	
	comp=Z,380nm,0.2s						
PB15	IPOC Station P	0.88	265	⇑iP	Pn	05 41 08.3	+0.6
PB15				i S	Sn	05 41 23.9	+1.0
PB15	IPOC Station P	0.88	265	eP	Pn	05 41 08.4	+0.6
PB15				eS	Sn	05 41 23.3	+0.5
PB06	IPOC Station P	1.06	293	i P	Pn	05 41 09.9	+0.4
PB06				i S	Sn	05 41 26.3	+0.3
PB06				IAML		05 41 27.5	
	comp=N,2μm,0.4s						
PB09	IPOC Station P	1.49	333	⇓iP	Pn	05 41 15.4	+0.9
PB09				i S	Sn	05 41 35.8	+1.2
PB09				IAML		05 41 40.0	
	comp=N,288nm,0.7s						
PB03	IPOC Station P	1.57	313	⇑iP	Pn	05 41 15.6	+0.2
PB03				i S	Sn	05 41 36.5	+0.1
PB03				IAML		05 41 41.4	
	comp=E,479nm,0.2s						
PB05	IPOC Station P	1.58	280	⇑iP	Pn	05 41 15.3	-0.1
PB05				i S	Sn	05 41 36.3	-0.2
PB05				IAML		05 41 40.2	
	comp=E,261nm,0.1s						
PB05	IPOC Station P	1.58	280	eP	Pn	05 41 14.9	-0.6
PB05				eS	Sn	05 41 35.9	-0.7
PB04	IPOC Station P	1.70	297	⇑iP	Pn	05 41 17.1	0.0
PB04				i S	Sn	05 41 38.8	-0.5
PB04				IAML		05 41 44.1	
	comp=N,540nm,0.3s						
PB07	IPOC Station P	1.89	318	⇑iP	Pn	05 41 19.7	+0.3
PB07				i S	Sn	05 41 43.1	-0.3
PB07				IAML		05 41 46.7	
	comp=E,613nm,0.3s						
PB10	IPOC Station P	1.91	258	eP	Pn	05 41 19.8	+0.3
PB10				i S	Sn	05 41 46.5	+2.7
GO02	Mina Guanaco	2.25	206	⇑iP	Pn	05 41 24.9	+0.7
GO02				i S	Sn	05 41 53.7	+1.7
PB14	IPOC Station P	2.28	229	i P	Pn	05 41 25.4	+0.9
HJA	Humahuaca	2.86	92	eP	Pn	05 41 34.1	+1.9
YJA	Yavi	2.93	72	eP	Pn	05 41 35.5	+2.3
YJA				IAML		05 41 35.8	
	comp=Z,16nm,0.4s						
PB08	IPOC Station P	3.03	349	eP	Pn	05 41 34.9	+0.4
SLA	San Lorenzo	3.18	120	i P	Pn	05 41 38.5	+2.3
AZAP	Zapla	3.35	110	i P	Pn	05 41 40.6	+2.1
AGUA	GUANDACOL	6.33	180	i P	Pn	05 42 19.3	+0.6
LPAZ	La Paz	6.82	3	P	Pn	05 42 26.8	+1.0
	comp=Z,0.6nm,0.3s,baz=188,slow=5.5,SNR=16						
CFA	Coronel Fontan	8.45	178	P	Pn	05 42 45.8	-1.5
	comp=Z,0.4nm,0.3s,baz=225,slow=21,SNR=5.5						
CFA				S	Sn	05 44 14.1	-6.9
	comp=Z,0.4nm,0.3s,baz=133,slow=19,SNR=4.1						
SIV	San Ignacio	9.98	46	P	Pn	05 43 04.4	-3.8
	comp=Z,1.4nm,0.3s,baz=250,slow=8.2,SNR=52						
CPUP	Villa Florida	10.66	110	P	Pn	05 43 17.8	+0.5
	comp=Z,0.1nm,0.3s,baz=291,slow=14,SNR=3.5						
TORD	Torodi Ar. Bea	77.57	70	P	P	05 52 31.9	-0.5
	comp=Z,1.2nm,0.5s,baz=260,slow=5.6,SNR=14						
MKAR	Makanchi Array	146.72	38	PKPbc	PKPbc	06 00 17.5	+0.4
	comp=Z,0.3nm,0.7s,baz=338,slow=1.6,SNR=1.4						

*ISCJB **08** 05:42:58.7±0.6, 11°.76S±0°.08×118°.36E±0°.06, h33km, mb3.7/3, Error ellipse: s-maj=12.5km s-min=6.4km az=29.1*
*DJA **08** 05:42:58.9±0.4, 12°S±4°×11°8E±°, h10km, M4.6/12, mB5.4/5, mb4.6/12, MLv4.5/12, Mw(mB)4.9/5*
*IDC **08** 05:43:08.1±3.5, 11°.32S×118°.80E, h83km±38km, mb3.4/3, mb1 3.5/6, mb1mx3.3/31, mbtmp3.8/6, MS2.5/1, Ms1 2.5/1, ms1mx2.1/24, Error ellipse: s-maj=30.6km s-min=16.6km az=68.0*
ISC 08 05:43:00.2±0.8, **11°.67S**±0°.08×**118°.44E**±0°.07, **h35**km, **n21**, σ**2s.41**/26, **mb3.8**/3, **South of Sumbawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLAI	Plampang	2.89	347	P	Pn	05 43 45.1	+1.2
TWSI	Taliwang, Sumb	3.29	332	P	Pn	05 43 50.7	+1.4
DNP	Denpasar	4.35	313	P	Pn	05 44 05.1	+1.2
SRBI	Singaraja	4.77	318	P	Pn	05 44 10.9	+1.2
JAGI	Jajag, Banyuwa	5.28	307	P	Pn	05 44 16.7	0.0
BATI	Baumata	5.33	75	P	Pn	05 44 19.1	+1.7
	3.7nm,0.3s,baz=207,slow=2.3,SNR=3.3						
BATI				S	Sn	05 45 15.9	-1.8
	17nm,0.3s,baz=51,slow=5.5,SNR=9.2						
BATI				LR	LR	05 46 32.4	
	comp=Z,52nm,18.8s,baz=232,slow=42						
BATI	Baumata	5.33	75	P	Pn	05 44 22.0	+4.6
	31nm,1.0s,717nm0.2nm						
GMJI	Gumukmas	5.96	304	P	Pn	05 44 26.2	+0.1
	56nm,0.8s,1μm0.2nm						
SOEI	Soe	6.04	72	P	Pn	05 44 28.7	+1.5
	30nm,0.4s,0.2nm						
BKSI	Bulukumba	6.52	15	P	Pn	05 44 35.9	+2.2
	18nm,0.6s,0.1nm						
KAPI	Kappang	6.74	11	P	Pn	05 44 39.7	+3.0
	1.9nm,0.3s,baz=184,slow=7.0,SNR=10						
KAPI				S	Sn	05 45 49.6	-2.7
	4.1nm,0.3s,baz=310,slow=24,SNR=5.7						
PWJI	Pagerwojo	7.47	298	P	Pn	05 44 48.2	+1.4
	38nm,0.6s,0.2nm						
WOJI	Wonogiri, Jawa	8.32	297	P	Pn	05 44 59.9	+1.4
	24nm,0.7s						
FITZ	Fitzroy Crossi	9.45	133	P	Pn	05 45 15.3	+1.4
	1.9nm,0.3s,baz=329,slow=12,SNR=33						
FITZ				S	Sn	05 46 53.9	-5.1
	0.4nm,0.3s,baz=180,slow=20,SNR=4.3						
KPJI	Karang Pucung	10.32	294	P	Pn	05 45 26.5	+0.7
	24nm,0.5s						
WRA	Warramunga Arr	17.36	120	P	Pn	05 46 59.7	-0.3
	0.3nm,0.3s,baz=293,slow=14,SNR=19						
WRA				S	Sn	05 50 01.5	-11
	0.2nm,0.3s,baz=305,slow=27,SNR=5.4						
ASAR	Alice Springs	18.94	131	P	Pn	05 47 21.8	+2.5
	0.4nm,0.3s,baz=310,slow=12,SNR=17						
ASAR				S	Sn	05 50 38.0	-13
	0.0nm,0.3s,baz=306,slow=24,SNR=3.8						
NWAO	Narrogin (SRO)	21.19	183	P	P	05 47 50.8	+8.0
	8.2nm,1.1s,baz=10,slow=15,SNR=5.3						
SONM	Songino Array	60.20	351	P	P	05 53 05.7	+1.0
	0.2nm,0.4s,baz=171,slow=7.1,SNR=1.8						
KSH	Kashi	64.43	325	P	P	05 53 33.1	-0.1
KSH				sP	pP	05 53 40.7	-1.6
KSH				PcP	PcP	05 54 07.7	+0.3
KSH				S	S	06 02 07.2	-2.5
KSH				sS	pS	06 02 14.0	-6.7
KSH				ScS	SKSac	06 03 19.7	-5.3
KSH				pmax	pmax		
	comp=Z,290nm,4.6s						
KSH				LR	LR		
	comp=N,430nm,5.2s						
KSH				LR	LR		
	comp=E,210nm,6.8s						
KSH				LR	LR		
	comp=Z,490nm,5.0s						
MKAR	Makanchi Array	66.58	334	P	P	05 53 48.3	+1.5
	comp=Z,0.6nm,0.7s,baz=136,slow=8.5,SNR=1.8						

*ISCJB **08** 05:45:35.4±0.5, 44°.42N±0°.03×74°.33E±0°.05, h0km, Error ellipse: s-maj=5.8km s-min=4.0km az=163.4*
*NNC **08** 05:45:35.4±0.5, 44°.43N×74°.32E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=4.1km s-min=3.1km az=65.0, Suspected Mining explosion.*
*SOME **08** 05:45:35.3, 44°.35N×74°.40E*
*KNET **08** 05:45:37.0±0.5, 44°.28N×74°.39E, h7km±3km, ml2.0, Error ellipse: s-maj=4.2km s-min=2.5km az=106.0*
ISC 08 05:45:32.5±0.9, **44°.52N**±0°.04×**74°.30E**±0°.03, **h0**km, **n28**, σ**0s.63**/41, **12C-7D**, **Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BTLS	Baital	0.55	341	P	Pn	05 45 47.4	-0.2
	5.1nm,0.2s						
BTLS				S	Sn	05 45 57.6	+0.1
	11nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SGDS	Sogindy	1.09	167	P	Pg	05 45 53.4	0.0
	15nm,0.1s						
SGDS				S	Sg	05 46 08.0	+0.4
	12nm,0.1s						
USP	Ospenovka	1.26	173	⇑P	Pg	05 45 56.5	-0.1
	13nm,0.1s,SNR=67						
USP				⇑S	Sg	05 46 11.9	-1.1
	10.0nm,0.1s						
CHMS	Chumysh	1.56	168	⇑P	Pn	05 46 01.8	+0.4
	6.7nm,0.1s,SNR=14						
CHMS				⇑S	Sn	05 46 21.3	-1.1
	13nm,0.1s						
KUU	Kurty	1.60	112	P	Pg	05 46 03.7	+0.6
	12nm,0.2s						
KUU				S	Sg	05 46 25.6	+1.9
	21nm,0.2s						
DGS	Degeres	1.66	140	P	Pg	05 46 04.6	+0.2
	13nm,0.2s						
DGS				S	Sg	05 46 26.6	+0.7
	18nm,0.3s						
TKM2	Tokmak 2	1.86	149	⇓P	Pb	05 46 07.0	-0.3
	10nm,0.1s,SNR=12						
TKM2	Tokmak 2	1.86	149	⇓Pn	Pb	05 46 06.9	-0.5
	2.0nm,0.3s						
TKM2				⇓Sn	Sb	05 46 31.3	+0.1
	1.8nm,0.3s						
AAK	Ala-Archa	1.89	176	⇑P	Pb	05 46 08.1	+0.2
	7.6nm,0.2s,SNR=24						
AAK				⇓S	Sb	05 46 31.8	-0.3
	19nm,0.3s						
AAK	Ala-Archa	1.89	176	⇓Pn	Pb	05 46 07.8	-0.1
	4.3nm,0.3s						
AAK				⇓Sn	Sg	05 46 33.2	+0.1
	7.5nm,0.3s						
EKS2	Erkin-Say	1.90	192	⇑P	Pb	05 46 08.4	+0.4
	18nm,0.2s,SNR=76						
EKS2				⇑S	Sb	05 46 32.9	+0.6
	15nm,0.2s						
KTBS	Karatobe	1.90	114	P	Pg	05 46 09.4	+0.6
	16nm,0.2s						
KTBS				S	Sg	05 46 34.8	+1.4
	30nm,0.2s						
KST	Kastek	1.91	140	P	Pg	05 46 09.0	0.0
	10nm,0.1s						
KST				S	Sg	05 46 33.6	-0.1
	3.9nm,0.3s						
KBK	Karagaybulak	1.92	166	⇑P	Pb	05 46 08.8	+0.3
	17nm,0.1s,SNR=9.3						
MRKS	Merke	1.94	204	P	Pb	05 46 08.7	0.0
	11nm,0.2s						
MRKS				S	Sb	05 46 33.6	+0.2
	19nm,0.2s						
CHKK	Chushkaly	2.05	108	Pg	Pg	05 46 11.6	0.0
	3.8nm,0.2s						
CHKK				Lg	Lg	05 46 38.7	
	17nm,0.3s						
MTBS	Maitube	2.08	131	Pg	Pg	05 46 11.7	-0.5
	15nm,0.2s						
MTBS				Lg	Lg	05 46 38.2	
	9.8nm,0.2s						
IZV	Izvestkoviy	2.24	131	Pg	Pg	05 46 14.8	-0.5
	9.2nm,0.1s						
IZV				Lg	Lg	05 46 44.2	
	8.0nm,0.2s						
UCH	Uchtor	2.30	176	⇑P	Pb	05 46 15.0	0.0
	4.3nm,0.2s,SNR=26						
KOTS	Kotyrbulak	2.41	121	Pg	Pb	05 46 16.3	-0.4
	9.9nm,0.2s						
KOTS				Lg	Lg	05 46 46.7	
	9.9nm,0.2s						
TNSS	Tian-Shan	2.42	127	Pg	Pb	05 46 17.1	-0.1
	2.7nm,0.2s						
TNSS				Lg	Lg	05 46 47.5	
	3.1nm,0.3s						
AML	Almayashu	2.43	191	⇑P	Pb	05 46 17.0	-0.3
	7.0nm,0.2s,SNR=11						
KZA	Kyzart	2.54	164	⇑P	Pb	05 46 19.0	-0.1
	5.9nm,0.2s,SNR=21						
ARXS	Arharly	2.55	96	Pg	Pg	05 46 20.8	-0.5
	2.6nm,0.2s						
ARXS				Lg	Lg	05 46 53.9	
	11nm,0.3s						
KK31	Karatay Array	3.09	244	⇑Pg	Pg	05 46 31.7	+0.1
	0.5nm,0.5s,baz=69,slow=14,SNR=11						
KK31				⇓Lg	Lg	05 47 08.9	
	1.3nm,0.5s,baz=63,slow=26,SNR=4.3						
SATY	Saty	3.31	115	Pg	Pg	05 46 34.3	-1.7
	4.5nm,0.2s						
SATY				Lg	Lg	05 47 17.0	
	8.7nm,0.1s						
KAPS	Kapalarasan	3.67	76	Pg	Pg	05 46 42.0	-0.9
	2.3nm,0.3s						
KAPS				Lg	Lg	05 47 30.3	
	1.8nm,0.2s						
DJR	Jarkent	3.94	91	Pg	Pg	05 46 48.0	0.0
	0.7nm,0.2s						
DJR				Lg	Lg	05 47 40.5	
	1.3nm,0.2s						

VIE 08 05:50:49.3±1.4, 51°.41N×16°.04E, h0km, mb2.1/4, ml2.2/5, Error ellipse: s-maj=16.0km s-min=9.1km az=50.0 76 km WNW of Wroclaw Suspected Mining induced., Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.59	164	*e*Pg	Pg	05 51 01.2	+0.7
KSP				*e*Pg	Pg	05 51 01.2	+0.7
KSP				*e*Sg	Sb	05 51 10.9	-0.4
KSP				*e*Sg	Sb	05 51 10.9	-0.4
CHVC	Chvalec	0.82	179	*e*PG	Pg	05 51 05.7	+0.7
CHVC				*e*SG	Sb	05 51 18.8	+0.7
	comp=Z,7.2nm,0.5s						
UPC	Upice	0.90	181	*e*PG	Pb	05 51 07.2	-0.6
UPC				*e*SG	Sb	05 51 21.0	+0.6
	comp=Z,19nm,0.4s						
DPC	Dobruska-Polom	1.07	170	*e*PG	Pg	05 51 09.9	0.0
DPC				*e*SG	Sb	05 51 25.9	+0.5
	comp=Z,7.9nm,0.2s						
PVCC	Panska Ves	1.28	227	*e*PG	Pb	05 51 14.3	+0.1
PVCC				*e*SG	Sn	05 51 33.2	+0.9
	comp=Z,37nm,0.6s						
KRLC	Kraliky	1.42	160	*e*PG	Pn	05 51 15.2	-1.1
KRLC				*e*SG	Sn	05 51 35.5	-0.2
	comp=Z,11nm,0.3s						
BRG	Berggiesshubel	1.43	249	PG	Pn	05 51 16.3	-0.1
BRG				SG	Sn	05 51 36.7	+0.9
	38nm,0.4s						
GOPC	GO Pecny, Ondr	1.70	208	*e*PG	Pb	05 51 21.2	-0.1
GOPC				*e*SG	Sg	05 51 45.8	+2.1
	comp=Z,10nm,0.6s						
PRU	Pruhonice	1.71	214	*e*PG	Pb	05 51 21.3	-0.3
PRU				*e*SG	Sg	05 51 46.0	+1.8
	comp=Z,13nm,0.7s						
MORC	Moravsky Berou	1.90	149	*e*PN	Pn	05 51 21.5	-1.4
MORC				*e*SG	Sg	05 51 50.3	+0.2
CLL	Collm	1.91	268	*e*Pn	Pn	05 51 21.0	-2.0
CLL				*e*Pg	Pb	05 51 23.0	-1.9
CLL				*i* Sg	Sg	05 51 50.1	-0.4
	comp=Z,9.0nm,0.8s						
OKC	Ostrava-Krasne	2.07	139	*e*PG	Pb	05 51 27.2	-0.5
OKC				*e*SG	Sg	05 51 55.3	-0.4
VRAC	Vranov	2.13	170	*e*PN	Pn	05 51 26.5	+0.3
VRAC				*e*SG	Sg	05 51 59.3	+1.5
PBCC	Pribram	2.16	218	*e*PG	Pg	05 51 30.2	-0.5
PBCC				*e*SG	Sg	05 52 00.6	+1.9
	comp=Z,1.3nm,0.4s						
KRUC	Moravsky	2.36	174	*e*PN	Pn	05 51 29.5	+0.2
KRUC				*e*SG	Sg	05 52 06.0	+0.9
OJC	Ojcow	2.67	115	*e*Pg	Pg	05 51 39.3	-1.0
OJC				*e*Pg	Pg	05 51 39.3	-1.0
OJC				*e*Sg	Sg	05 52 14.2	-0.6
OJC				*e*Sg	Sg	05 52 14.2	-0.6
KHC	Kasperske Hory	2.77	216	*e*PN	Pn	05 51 35.3	+0.3
KHC				*e*PG	Pb	05 51 40.5	+0.8
KHC				*e*SN	Sn	05 52 10.0	+0.8
KHC				*e*SG	Sg	05 52 19.4	+1.1
	comp=Z,3.5nm,0.5s						
VYHS	Vyhne	3.43	147	*e*PG	Pg	05 51 55.2	+0.2
CONA	Conrad Observa	3.49	182	Pn	Pn	05 51 44.9	+0.1
MOA	Molln	3.75	199	*i* Pn	Pn	05 51 48.4	0.0
	comp=Z,0.7nm,0.2s,SNR=4.2						
MOA				Sg	Sg	05 52 54.7	+5.2
	comp=Z,1.3nm,0.3s						
ARSA	Arzberg	4.18	185	Pg	Pg	05 52 09.6	+0.3
	comp=Z,1.6nm,0.3s						
ARSA				Sg	Sg	05 53 09.0	+5.6
	comp=Z,1.6nm,0.5s						
ARSA	Arzberg	4.18	185	Pg	Pg	05 52 09.6	+0.3
	comp=Z,1.6nm,0.3s						

LJU 08 05:51:52.5, 46°.39N×15°.07E, h0km, ML0.4 Rockburst

VIE 08 05:51:52.3±0.5, 46°.36N×15°.07E, h0km, ml0.9/3, Error ellipse: s-maj=4.5km s-min=2.5km az=11.0 21 km NW of Celje Suspected Mining induced., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PERS	Pernice	0.28	7	*i* Pg	Pg	05 51 57.7	0.0
	comp=Z,5.0nm,0.2s						
GROS	Grobnik	0.32	72	*i* Pg	Pg	05 51 58.5	+0.1
	comp=Z,1.0nm,0.1s						
SOKA	Soboth	0.32	356	*e*Pg	Pg	05 51 58.4	0.0
	comp=Z,2.0nm,0.3s,SNR=10						
SOKA				Sg	Sg	05 52 03.1	+0.6
	comp=Z,1.7nm,0.3s						
OBKA	Obir	0.39	293	*e*Pg	Pg	05 52 00.1	+0.4
	comp=Z,0.8nm,0.2s						
MOZS	Mozjanca	0.44	261	*i* Pg	Pg	05 52 00.8	+0.2
	comp=Z,5.0nm,0.3s						

ISCJB 08 05:59:25.0±1.3, 15°.4S±0°.6×174°.3W±0°.3, h100km, mb3.9/5, Error ellipse: s-maj=91.1km s-min=9.6km az=151.6

IDC 08 05:59:27.6±2.8, 15°.81S×173°.96W, h121km±25km, mb3.6/5, mb1 3.9/6, mb1mx3.5/44, mbtmp4.0/6, MS2.6/2, Ms1 2.6/2, ms1mx2.4/27, Error ellipse: s-maj=117.2km s-min=18.4km az=144.0

ISC 08 05:59:26.5±1.4, 15°.4S±0°.6×174°.3W±0°.3, h100km, n8, σ1s.04/8, mb4.0/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.86	59	P	Pn	06 00 11.9	+1.4
	21nm,0.3s,baz=38,slow=0.5,SNR=26						
AFI				S	Sn	06 00 43.1	-1.2
	109nm,0.3s,baz=81,slow=17,SNR=12						
AFI				LR	LR	06 00 50.2	
	comp=Z,51nm,19.9s,baz=76,slow=29						
URZ	Urewera	23.98	197	LR	LR	06 11 39.3	
	comp=Z,34nm,18.7s,baz=73,slow=31						
STKA	Stephens Creek	43.28	240	P	P	06 07 17.8	-0.6
	1.4nm,0.5s,baz=90,slow=13,SNR=5.2						
WRA	Warramunga Arr	49.00	257	P	P	06 08 03.9	+0.4
	1.6nm,0.8s,baz=94,slow=6.9,SNR=28						
ASAR	Alice Springs	49.29	252	P	P	06 08 06.0	+0.3
	11nm,0.7s,baz=90,slow=7.2,SNR=130						
ILAR	Eielson Array	82.64	11	P	P	06 11 38.3	0.0
	0.3nm,0.5s,baz=228,slow=6.1,SNR=9.1						
PDAR	Pinedale Array	82.86	42	P	P	06 11 39.3	-1.0
	0.2nm,0.6s,baz=270,slow=0.9,SNR=2.8						
BRTR	Keskin Array B	145.63	320	PKPbc	PKPdf	06 18 54.1	+0.5
	0.9nm,0.7s,baz=65,slow=2.7,SNR=4.3						

ISCJB 08 06:01:04.9±0.4, 23°.09S±0°.07×176°.97W±0°.06, h100km, mb4.1/7, Error ellipse: s-maj=10.5km s-min=6.8km az=142.9

NEIC 08 06:01:07.2±1.4, 23°.09S±0°.08×177°.0W±0°.1, h109km±5km, mb4.5/20

IDC 08 06:01:14.8±11.0, 23°.09S×177°.12W, h170km±99km, mb3.8/7, mb1 4.0/7, mb1mx3.6/40, mbtmp4.2/7, Error ellipse: s-maj=40.0km s-min=29.6km az=115.0

ISC 08 06:01:06.3±0.5, 23°.10S±0°.08×176°.94W±0°.08, h100km, n42, σ1s.18/41, mb4.5/15, 2C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	6.19	188	Pn	Pn	06 02 34.9	-0.3
MSVF	Nonsavu	7.11	318	Pn	Pn	06 02 48.5	+0.6
NIUE	Niue	7.67	60	Pn	Pn	06 02 56.3	+0.9
NIUE					Sn	06 04 20.2	-0.6
THZ	Tophouse	20.46	202	P	P	06 05 37.4	+1.5
THZ				IAmb	IAmb	06 05 40.6	
	comp=Z,45nm,1.2s						
FOZ	Fox Glacier	23.13	205	P	P	06 06 04.0	+0.3
CTA	Charters Tower	34.30	268	P	P	06 07 44.7	+1.4
	comp=Z,9.2nm,0.4s,baz=91,slow=11,SNR=27						
TOO	Toolangi	35.24	237	P	P	06 07 50.9	-0.4
TOO				IAmb	IAmb	06 07 59.4	
	comp=Z,9.4nm,1.2s						
TAU	Tasmania Unive	35.54	228	P	P	06 07 51.0	-2.7
STKA	Stephens Creek	37.62	247	P	P	06 08 11.7	+0.1
	comp=Z,1.1nm,0.4s,baz=98,slow=10,SNR=5.8						
STKA	Stephens Creek	37.62	247	P	P	06 08 11.6	0.0
COEN	Coen	38.79	276	P	P	06 08 20.3	-1.3
COEN				IAmb	IAmb	06 08 31.3	
	comp=Z,12nm,1.1s						
BBOO	Buckleboo	42.34	246	P	P	06 08 50.4	-0.2
ASAR	Alice Springs	44.94	259	P	P	06 09 11.5	-0.2
	comp=Z,2.1nm,0.8s,baz=100,slow=8.2,SNR=6.6						
ASAR				PcP	PcP	06 10 50.9	-0.6
	comp=Z,0.5nm,0.5s,baz=111,slow=4.1,SNR=5.4						
WR0	Warramunga Arr	45.09	264	P	P	06 09 10.7	-2.1
WR0				IAmb	IAmb	06 09 11.9	
	comp=Z,10nm,1.3s						
WB2	Warramunga Arr	45.26	264	P	P	06 09 13.4	-0.8
WRAB	Tennant Creek	45.27	264	P	P	06 09 12.8	-1.4
WRAB				IAmb	IAmb	06 09 13.9	
	comp=Z,8.4nm,1.1s						
WRA	Warramunga Arr	45.27	264	P	P	06 09 13.4	-0.9
	comp=Z,3.5nm,0.6s,baz=103,slow=8.3,SNR=29						
MWH	Moku'aweowe	47.18	28	P	P	06 09 27.5	-2.1
FORT	Forrest	49.22	249	P	P	06 09 46.1	+1.4
KNRA	Kununurra	51.51	268	P	P	06 10 02.0	-0.2
FITZ	Fitzroy Crossi	53.70	264	P	P	06 10 18.6	+0.3
FITZ				IAmb	IAmb	06 10 18.6	
	comp=Z,3.8nm,0.9s						
SARN	Sarigan	53.80	314	P	P	06 10 20.7	+1.7
VNDA	Vanda	55.42	185	P	P	06 10 30.1	+0.2
QSPA	South Pole Qui	66.98	180	P	P	06 11 49.8	+1.6
QSPA				IAmb	IAmb	06 11 51.0	
	comp=Z,8.9nm,1.4s						
MAW	Mawson	79.46	200	P	P	06 13 01.9	+0.5
	comp=Z,2.5nm,0.7s,baz=145,slow=8.3,SNR=4.2						
MAW	Mawson	79.46	200	P	P	06 13 02.4	+1.0
NVAR	Mina Array Bea	82.25	43	P	P	06 13 18.1	+1.2
	comp=Z,0.4nm,0.6s,baz=216,slow=4.5,SNR=4.6						
SYO	Syowa Base	84.41	192	⇑*e*P	P	06 13 26.0	-1.3
SYO	Syowa Base	84.41	192	⇑*e*PcP	PcP	06 13 30.4	-0.3
U15A	North Rim	84.99	47		pP	06 13 57.5	+1.2
SNAA	Sanae	85.39	178	P	P	06 13 32.3	+0.1
LTY	Liberty	86.41	35		pP	06 14 04.6	+1.7
TRF	Thorofare Moun	88.78	12	P	P	06 13 49.0	+0.4
TRF				IAmb	IAmb	06 13 50.8	
	comp=Z,7.2nm,1.0s						
RND	Reindeer	89.01	12	P	P	06 13 51.2	+1.6
RND				IAmb	IAmb	06 13 51.5	
	comp=Z,5.4nm,1.2s						
NEA	Nenana	90.03	12		pP	06 14 22.8	+3.2
ILAR	Eielson Array	90.63	12	P	P	06 13 56.9	-0.1
	comp=Z,0.3nm,0.5s,baz=219,slow=5.5,SNR=7.2						
ARCES	ARCESS Array B	131.65	350	PKP	PKPdf	06 20 06.9	+0.1
	comp=Z,6.3nm,1.1s,baz=90,slow=1.8,SNR=9.1						
FINES	FINESS Array B	138.53	344	PKP	PKPdf	06 20 16.7	-3.1
	comp=Z,3.1nm,0.9s,baz=56,slow=3.5,SNR=3.6						
AKASG	Malin Array Be	145.75	330	PKPbc	PKPdf	06 20 32.4	-0.6
	comp=Z,0.7nm,0.4s,baz=42,slow=3.7,SNR=7.9						
BRTR	Keskin Array B	149.28	310	PKPbc	PKPbc	06 20 43.1	-0.7
	comp=Z,1.1nm,0.6s,baz=145,slow=4.9,SNR=6.6						
GERES	GERESS Array B	152.96	344	PKPbc	PKPbc	06 20 51.6	-0.4
	comp=Z,0.9nm,1.0s,baz=354,slow=3.9,SNR=4.2						
TORD	Torodi Ar. Bea	170.01	172	PKPab	PKPab	06 22 18.2	-0.2
	comp=Z,1.3nm,1.0s,baz=176,slow=2.9,SNR=4.6						

IDC 08 06:10:00.7±3.3, 33°.01N×97°.36W, h0km, mb3.4/2, mb1 3.7/6, mb1mx3.4/40, mbtmp3.3/6, ML3.6/4, MS2.9/1, Ms1 2.9/1, ms1mx2.3/30, Error ellipse: s-maj=47.1km s-min=15.4km az=115.0

ANF 08 06:10:03.2±0.2, 32°.94N×97°.55W, h5km, ML4.3/16, Error ellipse: s-maj=3.1km s-min=3.0km az=58.0

NEIC 08 06:10:04.0±1.1, 32°.91N±0°.03×97°.58W±0°.03, h5km±2km, mb_Lg3.6/58

ISC 08 06:10:03.0±1.4, 32°.93N±0°.03×97°.55W±0°.03, h5km±11km, n129, σ1s.09/155, Central Texas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WHTX	Lake Whitney,	0.94	175	P	Pg	06 10 21.4	+0.4
	baz=354						
WHTX				S	Sb	06 10 34.7	+0.1
	baz=354						
WHTX	Lake Whitney,	0.94	175		Pg	06 10 21.6	+0.5
WHTX				Sg	Sg	06 10 33.5	+0.2
X34A	Smith Ranch, M	1.68	352	Pn	Pb	06 10 34.3	-0.1
X34A					Sn	06 10 55.6	+0.6
ABTX	Abilene, Hawle	1.79	261	P	Pn	06 10 34.6	+0.1
	baz=80						
ABTX				S	Sb	06 10 59.0	0.0
	baz=80						
ABTX	Abilene, Hawle	1.79	261		Pn	06 10 35.2	+0.6
ABTX				Sn	Sb	06 10 58.9	0.0
ABTX				IAmb_Lg		06 11 00.9	
	comp=Z,404nm,0.8s						
WMOK	Wichita Mounta	2.07	331	P	Pn	06 10 39.0	+0.5
	baz=151						
WMOK				S	Sn	06 11 05.4	+0.7
	baz=151						
WMOK	Wichita Mounta	2.07	331		Pn	06 10 39.6	+1.1
WMOK				Sn	Sn	06 11 05.0	+0.4
435B	Jarrell	2.14	181	P	Pn	06 10 39.9	+0.4
	baz=0.2						
435B				S	Sb	06 11 08.5	-0.7
	baz=0.2						
435B	Jarrell	2.14	181		Pn	06 10 40.2	+0.8
435B				Sn	Sn	06 11 07.0	+0.6
435B				IAmb_Lg		06 11 13.6	
	comp=Z,266nm,0.8s						
W35A	Tecumseh	2.28	14		Pn	06 10 43.0	+1.6
W35A				Sn	Sn	06 11 11.0	+1.1
FNO	Franklin	2.32	3	Pn	Pb	06 10 44.0	-1.3
FNO				Sn	Sb	06 11 14.6	+0.3
OKCSW	OKLAHOMA CITY	2.47	2		Pn	06 10 45.2	+1.3
OKCSW				Sn	Sb	06 11 18.5	0.0
NATX	Nacogdoches	2.71	115	P	Pn	06 10 47.8	+0.6
	baz=296						
NATX				S	Sn	06 11 21.6	+1.2
	baz=296						
NATX	Nacogdoches	2.71	115		Pn	06 10 48.1	+0.9
JCT	Junction City	3.11	219	P	Pn	06 10 53.1	+0.4
	baz=37						
JCT				S	Sn	06 11 30.8	+0.5
	baz=37						
JCT	Junction City	3.11	219	Pn	Pn	06 10 53.0	+0.3
JCT				IAmb_Lg		06 11 48.0	
	comp=Z,250nm,1.0s						
TUL1	Leonard	3.31	26	P	Pn	06 10 55.7	+0.3
	baz=207						
TUL1	Leonard	3.31	26		Pn	06 10 56.0	+0.6
TUL1				Sn	Sn	06 11 37.0	+1.9
HKT	Hockley	3.32	153		Pn	06 10 57.2	+1.7
HKT				Sn	Sn	06 11 37.1	+1.8
U32A	Winter Ranch,	3.64	341		Pn	06 11 00.7	+0.7
U32A				IAmb_Lg		06 12 05.7	
	comp=Z,143nm,0.7s						
MIAR	Mount Ida	3.68	63	P	Pn	06 11 00.2	-0.3
	baz=245						
MIAR				Sb	Sb	06 11 56.9	+3.4
	baz=245						
MIAR	Mount Ida	3.68	63		Pn	06 11 00.2	-0.3
MIAR				IAmb_Lg		06 12 05.3	
	comp=Z,147nm,0.8s						
WLAR	White Oak Lake	3.79	77		Pn	06 11 02.3	+0.2
WLAR				Sn	Sn	06 11 47.5	+0.5
WLAR				IAmb_Lg		06 12 11.2	
	comp=Z,182nm,0.8s						
W39A	Magazine	3.86	53	P	Pn	06 11 03.6	+0.6
	baz=235						
W39A	Magazine	3.86	53		Pn	06 11 04.0	+1.0
W39A				IAmb_Lg		06 12 10.7	
	comp=Z,209nm,0.9s						
AMTX	Amarillo	3.95	301	P	Pn	06 11 04.8	+0.5
	baz=119						
AMTX				S	Sn	06 11 52.4	+1.3
	baz=119						
AMTX	Amarillo	3.95	301		Pn	06 11 05.3	+1.0
Z41A	Richland Creek	4.00	84	P	Pn	06 11 05.1	+0.2
	baz=266						
Z41A				S	Sn	06 11 51.6	-0.5
	baz=266						
Z41A	Richland Creek	4.00	84		Pn	06 11 05.1	+0.2
Z41A				Sn	Sn	06 11 53.1	+1.0
Z41A				IAmb_Lg		06 12 10.6	
	comp=Z,98nm,0.8s						
X40A	Basin Creek Fa	4.23	67	P	Pn	06 11 07.3	-0.7
	baz=250						
X40A	Basin Creek Fa	4.23	67		Pn	06 11 07.3	-0.7
X40A				Sn	Sn	06 11 55.9	-1.9
HHAR	Hobbs	4.47	41		Pn	06 11 11.3	-0.2
HHAR				IAmb_Lg		06 12 38.5	
	comp=Z,104nm,0.8s						
MSTX	Muleshoe	4.49	285	P	Pn	06 11 12.0	+0.3
	baz=102						
MSTX				Sb	Sb	06 12 19.9	+3.2
	baz=102						
MSTX	Muleshoe	4.49	285		Pn	06 11 11.8	0.0
UALR	University of	4.71	66		Pn	06 11 14.6	0.0
UALR				Sn	Sn	06 12 09.3	-0.3
UALR				IAmb_Lg		06 12 42.7	
	comp=Z,132nm,1.2s						
833A	Chaparral WMA,	4.86	200	P	Pn	06 11 18.0	+1.2
	baz=18						
833A				S	Sn	06 12 13.9	+0.5
	baz=18						
833A	Chaparral WMA,	4.86	200		Pn	06 11 18.0	+1.2
CCAR	Cane Creek	4.93	77		Pn	06 11 17.8	+0.1
CCAR				IAmb_Lg		06 12 49.0	
	comp=Z,98nm,0.8s						
W41B	Gary Mavity, V	4.94	62	P	Pn	06 11 18.0	+0.2
	baz=244						
W41B				Sb	Sb	06 12 33.6	+4.0
	baz=244						
W41B	Gary Mavity, V	4.94	62		Pn	06 11 17.8	0.0
WHAR	Wooly Hollow	4.96	60		Pn	06 11 18.3	+0.2
WHAR				Sn	Sn	06 12 15.5	-0.3
U40A	Yellville	5.16	47	P	Pn	06 11 21.4	+0.5
	baz=230						
U40A	Yellville	5.16	47		Pn	06 11 21.2	+0.3
U40A				IAmb_Lg		06 12 51.6	
	comp=Z,75nm,0.9s						
CLNB	Carlsbad	5.38	265	Pn	Pn	06 11 24.0	0.0
X43A	Marvell	5.78	72	P	Pn	06 11 29.5	+0.2
	baz=256						
X43A	Marvell	5.78	72		Pn	06 11 29.4	+0.1
GDL2	Guadalupe Moun	5.80	265	Pn	Pn	06 11 29.2	-0.5
MGMO	Mountain Grove	6.04	44		Pn	06 11 32.7	-0.4
MGMO				IAmb_Lg		06 13 11.7	
	comp=Z,94nm,0.8s						
CBKS	Cedar Bluff	6.13	344	P	Pn	06 11 34.5	+0.2
	baz=163						
CBKS	Cedar Bluff	6.13	344		Pn	06 11 34.2	-0.1
CBKS				IAmb_Lg		06 13 21.3	
	comp=Z,120nm,0.8s						
KSU1	Kansas State U	6.20	7	P	Pn	06 11 35.4	+0.2
	baz=188						
TX31	Lajitas Ar. Si	6.35	237		Pn	06 11 37.0	-0.4
TX32	Lajitas Array	6.35	237		Pn	06 11 37.0	-0.4
TXAR	Lajitas Array	6.35	237	Pn	Pn	06 11 36.9	-0.4
	comp=Z,0.5nm,0.3s,baz=69,slow=13,SNR=28						
TXAR				Pg	Pb	06 11 54.3	+0.3
	comp=Z,1.0nm,0.3s,baz=62,slow=14,SNR=9.2						
TXAR				Lg	Lg	06 13 24.2	
	comp=Z,3.2nm,0.3s,baz=61,slow=24,SNR=5.1						
MNTX	Cornudas Mount	6.74	262		Pn	06 11 43.2	+0.6
MNTX				IAmb_Lg		06 13 42.0	
	comp=Z,112nm,0.9s						
OXF	Oxford	6.96	75	Pn	Pn	06 11 45.0	-0.6
OXF				IAmb_Lg		06 13 56.9	
	comp=Z,81nm,1.1s						
PBMO	Poplar Bluff	7.00	55		Pn	06 11 45.7	-0.4
PBMO				IAmb_Lg		06 13 57.6	
	comp=Z,66nm,0.8s						
T25A	Trinidad	7.02	309		Pn	06 11 46.5	-0.1
CCM	Cathedral Cave	7.25	43		Pn	06 11 49.0	-0.6
CCM				Sn	Sn	06 13 09.5	-2.7
KSCO	Kaye Shedlock'	7.33	327		Pn	06 11 50.9	+0.1
KSCO				IAmb_Lg		06 14 06.5	
	comp=Z,104nm,0.8s						
ANMO	Albuquerque	7.67	288	Pn	Pn	06 11 55.4	-0.1
	comp=Z,0.2nm,0.3s,baz=139,slow=20,SNR=3.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ANMO				Lg	Lg	06 14 00.6	
	comp=Z,5.1nm,0.3s,baz=189,slow=19,SNR=6.9						
ANMO				LR	LR	06 15 12.6	
	comp=Z,71nm,18.4s,baz=154,slow=40						
ANMO	Albuquerque	7.67	288	IAmb_Lg		06 14 16.5	
	comp=Z,63nm,1.1s						
ANMO	Albuquerque	7.67	288	IAmb_Lg		06 14 08.1	
	comp=Z,60nm,1.1s						
BNM	Barren Site	7.67	282	Pn	Pn	06 11 56.1	+0.5
LPM	Los Pinos Moun	7.70	283	Pn	Pn	06 11 56.3	+0.4
LENM	Lemitar	7.96	281	Pn	Pn	06 11 59.0	-0.6
SDCO	Great Sand Dun	8.07	309	Pn	Pn	06 12 01.1	-0.1
SDCO				IAmb_Lg		06 14 22.6	
	comp=Z,50nm,1.0s						
PLAL	Pickwick Lake	8.13	73	Pn	Pn	06 12 00.4	-1.3
SIUC	Southern Illin	8.31	53	Pn	Pn	06 12 03.9	-0.3
SIUC				IAmb_Lg		06 14 28.8	
	comp=Z,40nm,0.8s						
BGNE	Belgrade	8.47	357		Pn	06 12 05.1	-1.3
Q24A	Divide	8.61	316		Pn	06 12 07.9	-0.7
Q24A				IAmb_Lg		06 14 50.2	
	comp=Z,74nm,0.9s						
121A	Cookes Peak, D	8.63	270	Pn	Pn	06 12 08.5	-0.2
121A				IAmb_Lg		06 14 54.9	
	comp=Z,57nm,0.8s						
WVT	Waverly	8.63	66		Pn	06 12 07.6	-0.9
LRAL	Lakeview Retre	8.87	86	Pn	Pn	06 12 11.3	-0.5
X48A	Hartselle	8.89	77	Pn	Pn	06 12 11.0	-1.0
S22A	4UR Ranch, Cre	8.97	305	Pn	Pn	06 12 12.5	-1.0
S22A				IAmb_Lg		06 15 10.0	
	comp=Z,45nm,1.2s						
P43A	Skaggs, Pawnee	9.31	42	Pn	Pn	06 12 18.5	+0.6
Y49A	Blount Mountai	9.36	81	Pn	Pn	06 12 17.1	-1.5
N41A	Harden Midland	9.43	33	Pn	Pn	06 12 18.9	-0.6
N41A				IAmb_Lg		06 15 08.6	
	comp=Z,59nm,0.9s						
ISCO	Idaho Springs	9.44	319		Pn	06 12 19.3	-0.6
T47A	Sharon Grove	9.48	62	Pn	Pn	06 12 20.0	-0.2
SCIA	State Center	9.60	20	Pn	Pn	06 12 22.7	+1.0
SCIA				IAmb_Lg		06 15 26.5	
	comp=Z,47nm,0.8s						
OLIL	Olney	9.61	50	Pn	Pn	06 12 21.7	-0.2
OLIL				IAmb_Lg		06 15 33.0	
	comp=Z,46nm,1.0s						
Z50A	Ashland	9.76	85	Pn	Pn	06 12 22.5	-1.6
CLTN	Cedars of Leba	9.78	68	Pn	Pn	06 12 23.4	-0.9
SWET	Sewanee	9.90	74	Pn	Pn	06 12 25.0	-1.1
MVCO	Mesa Verde	9.93	298	Pn	Pn	06 12 27.1	+0.5
319A	Douglas	10.06	264	Pn	Pn	06 12 28.0	-0.3
FPAL	Fort Paine	10.07	78	Pn	Pn	06 12 28.9	+0.6
HDIL	Hopedale	10.08	39	Pn	Pn	06 12 28.6	+0.2
O44A	Mansfield	10.26	43	Pn	Pn	06 12 30.6	-0.2
PV01	Paradox Valley	10.37	303	Pn	Pn	06 12 32.4	-0.1
N23A	Red Feather La	10.40	322		Pn	06 12 33.7	+0.7
W50A	Signal Mountai	10.40	74	Pn	Pn	06 12 31.0	-1.9
L40A	Anamosa	10.40	27	Pn	Pn	06 12 30.9	-1.9
X18A	Snowflake	10.45	282	Pn	Pn	06 12 33.2	-0.4
PHWY	Pilot Hill	10.46	325	Pn	Pn	06 12 34.0	+0.1
PV02	Paradox Valley	10.52	303	Pn	Pn	06 12 34.3	-0.3
PV07	Paradox Valley	10.56	304	Pn	Pn	06 12 35.8	+0.6
152A	Waverly Hall	10.80	88	Pn	Pn	06 12 37.3	-1.1
ECSD	EROS Data Cent	10.81	4		Pn	06 12 36.1	-2.3
BLO	Bloomington	10.88	52	Pn	Pn	06 12 38.7	-0.6
L42A	Oliver, Polo	11.00	32	Pn	Pn	06 12 42.4	+1.3
CPCT	Cooper Cave	11.08	73	Pn	Pn	06 12 43.8	+1.7
SFIN	Lafayette	11.21	46	Pn	Pn	06 12 42.8	-1.0
JFWS	Jewell Farm	11.51	28	Pn	Pn	06 12 46.3	-1.6
P48A	Milroy	11.76	53	Pn	Pn	06 12 49.5	-1.8
GOGA	Godfrey	11.81	84	Pn	Pn	06 12 51.0	-1.2
V52A	Sevierville	11.89	72	Pn	Pn	06 12 51.1	-2.1
K22A	Casper	12.01	326		Pn	06 12 54.2	-0.7
TZTN	Tazewell	12.07	69	Pn	Pn	06 12 54.5	-1.2
K43A	Burlington	12.17	34	Pn	Pn	06 12 54.4	-2.5
RSSD	Black Hills	12.26	337		Pn	06 12 57.1	-1.4
S51A	Beattyville	12.33	64	Pn	Pn	06 12 59.9	+0.7
N47A	Urbana	12.36	47	Pn	Pn	06 12 57.3	-2.2
V53A	Saluda	12.49	73	Pn	Pn	06 13 02.6	+1.1
U15A	North Rim	12.62	290	Pn	Pn	06 13 04.6	+1.2
T52A	Hallie	12.64	67	Pn	Pn	06 13 02.9	-0.6
255A	Hazlehurst	12.78	90	Pn	Pn	06 13 06.0	+0.7
SPMN	Marine on St.	12.81	15	Pn	Pn	06 13 03.8	-1.9
I42A	Draeger Farm,	12.86	29	Pn	Pn	06 13 03.3	-3.1
G40A	Rib Lake	13.57	23	Pn	Pn	06 13 14.3	-1.7
PD31	Pinedale Array	13.64	319	Pn	Pn	06 13 18.5	+1.3
PDAR	Pinedale Array	13.64	319	Pn	Pn	06 13 15.7	-1.5
	comp=Z,0.1nm,0.3s,baz=105,slow=14,SNR=3.9						
PDAR				Lg	Lg	06 17 12.0	
	comp=Z,0.1nm,0.3s,baz=123,slow=23,SNR=4.9						
BW06	Boulder Array	13.64	319	Pn	Pn	06 13 17.4	+0.2
ULM	Lac du Bonnet	17.35	4	Lg	Lg	06 18 53.8	
	comp=Z,0.2nm,0.3s,baz=137,slow=19,SNR=1.4						
NVAR	Mina Array Bea	17.72	294	Pn	P	06 14 12.8	+1.2
	comp=Z,0.0nm,0.3s,baz=110,slow=11,SNR=4.1						
NEW	Newport	21.25	322	P	P	06 14 49.9	0.0
	comp=Z,3.7nm,0.9s,baz=154,slow=10.0,SNR=5.3						
ILAR	Eielson Array	43.64	332	P	P	06 18 07.6	-0.5
	comp=Z,0.2nm,0.7s,baz=116,slow=8.1,SNR=2.9						

*ISCJB **08** 06:27:32.7±0.4, 35°.59N±0°.04×97°.38W±0°.03, h9km±3km, Error ellipse: s-maj=6.9km s-min=3.9km az=158.6*
*ANF **08** 06:27:32.5±0.5, 35°.54N×97°.40W, h5km, ML3.9/13, Error ellipse: s-maj=7.8km s-min=3.5km az=161.0*
*TUL **08** 06:27:33.0, 35°.61N×97°.40W, h6km, ML3.3*
*NEIC **08** 06:27:33.1±0.9, 35°.60N±0°.02×97°.38W±0°.04, h5km±1km*
ISC 08 06:27:33.0±0.9**, 35°.59N**±0°.03×**97°.40W**±0°.03**, h6**km±6km**, n26,** σ1s.20/37**, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK009	Oakdale Elemen	0.02	248		Pg	06 27 34.1	0.0
OK009				Sg	Sg	06 27 35.2	+0.3
ADOK	Arcadia Dam	0.07	18		Pg	06 27 34.9	+0.3
OK005	Luther M Schoo	0.18	69		Pg	06 27 37.0	+0.5
OKCSW	OKLAHOMA CITY	0.19	191		Pg	06 27 37.3	+0.6
W35A	Tecumseh	0.61	136	Pg	Pg	06 27 44.7	0.0
X34A	Smith Ranch, M	1.05	200		Pg	06 27 53.5	+0.4
TUL1	Leonard	1.34	76	P	Pn	06 27 57.0	-1.3
	baz=257						
TUL1				S	Sb	06 28 15.7	-0.3
	baz=257						
TUL1	Leonard	1.34	76		Pn	06 27 57.3	-1.0
WMOK	Wichita Mounta	1.42	234	P	Pn	06 27 58.4	-0.9
	baz=53						
WMOK				S	Sb	06 28 17.6	-0.6
	baz=53						
WMOK	Wichita Mounta	1.42	234		Pn	06 27 58.5	-0.9
U32A	Winter Ranch,	1.52	302		Pn	06 28 00.5	-0.3
HHAR	Hobbs	2.89	75		Pn	06 28 19.6	+0.1
W39A	Magazine	2.98	97	P	Pn	06 28 21.0	+0.2
	baz=279						
W39A				Sb	Sb	06 29 04.0	+1.0
	baz=279						
W39A	Magazine	2.98	97		Pn	06 28 20.8	+0.1
MIAR	Mount Ida	3.30	107	P	Pn	06 28 25.7	+0.5
	baz=290						
MIAR				S	Sn	06 29 05.0	+0.3
	baz=290						
MIAR	Mount Ida	3.30	107		Pn	06 28 26.2	+1.0
ABTX	Abilene, Hawle	3.50	213	Pb	Pb	06 28 33.8	-1.5
	baz=32						
ABTX				Sb	Sb	06 29 19.0	+1.0
	baz=32						
ABTX	Abilene, Hawle	3.50	213		Pn	06 28 29.5	+1.6
KSU1	Kansas State U	3.56	10	Pb	Pb	06 28 38.1	+1.7
	baz=190						
AMTX	Amarillo	3.58	260	P	Pn	06 28 29.0	-0.1
	baz=77						
AMTX				Sb	Sb	06 29 23.5	+3.1
	baz=77						
WHTX	Lake Whitney,	3.59	181	Pb	Pb	06 28 35.4	-1.4
	baz=1.1						
WHTX				Sb	Sb	06 29 23.3	+2.6
	baz=1.1						
CBKS	Cedar Bluff	3.72	331	P	Pn	06 28 31.4	+0.3
	baz=149						
CBKS				Sb	Sg	06 29 29.2	-3.3
	baz=149						
U40A	Yellville	3.76	77	P	Pn	06 28 30.9	-0.6
	baz=260						
X40A	Basin Creek Fa	3.90	105	P	Pn	06 28 32.5	-0.9
	baz=288						
X40A				S	Sn	06 29 19.5	-0.1
	baz=288						
W41B	Gary Mavity, V	4.23	94	P	Pn	06 28 38.0	+0.1
	baz=277						
W41B				S	Sn	06 29 27.1	-0.5
	baz=277						
MSTX	Muleshoe	4.71	251	P	Pn	06 28 44.3	-0.4
	baz=68						

*IDC **08** 07:09:48.8±0.7, 15°.73S×167°.34E, h0km, mb4.3/13, mb1 4.4/15, mb1mx4.1/44, mbtmp4.3/15, ML4.3/2, MS3.6/8, Ms1 3.6/8, ms1mx3.3/23, Error ellipse: s-maj=23.4km s-min=16.3km az=92.0*
*ISCJB **08** 07:09:51.5±0.5, 15°.72S±0°.06×167°.20E±0°.09, h27km, mb4.2/12, MS3.5/7, Error ellipse: s-maj=13.9km s-min=7.7km az=156.2*
*NEIC **08** 07:09:55.3±1.9, 15°.88S±0°.08×167°.05E±0°.08, h35km±1km, mb4.5/13*
ISC 08 07:09:53.1±0.5**, 15°.81S**±0°.06×**167°.2E**±0°.1**, h27**km**, n52,** σ1s.53/49**, mb4.3**/14**, MS3.5**/7**, 1C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.27	187	*e*Pn	Pn	07 11 23.9	0.0
	38nm,0.2s						
DZM				*e*Sn	Sn	07 12 29.5	-5.3
	47nm,0.3s						
DZM				*e*LR	LR	07 12 42.1	
	comp=Z,723nm,23.6s						
DZM	Mont Dzumac	6.27	187	Pn	Pn	07 11 24.0	0.0
	8.2nm,0.3s,baz=319,slow=9.4,SNR=13						
DZM				Sn	Sn	07 12 32.8	-2.0
	7.8nm,0.3s,baz=341,slow=23,SNR=8.8						
DZM				LR	LR	07 13 42.1	
	comp=Z,780nm,18.7s,baz=20,slow=37						
DZM	Mont Dzumac	6.27	187		Pn	07 11 23.8	-0.1
DZM					Sn	07 12 32.6	-2.2
HNR	Honiara	9.52	311	Pn	Pn	07 12 09.2	+0.7
	2.6nm,0.3s,baz=101,slow=5.2,SNR=2.0						
HNR				Sn	Sn	07 13 52.0	-2.7
	5.0nm,0.3s,baz=39,slow=14,SNR=1.7						
HNR				LR	LR	07 15 30.7	
	comp=Z,405nm,21.6s,baz=156,slow=36						
HNR	Honiara	9.52	311		Pn	07 12 13.2	+4.7
MSVF	Nonsavu	10.55	102	Pn	Pn	07 12 30.0	+7.4
EIDS	Eidsvold	17.84	235		P	07 14 02.7	+2.7
RAO	Raoul Island	19.14	137	LR	LR	07 19 38.8	
	comp=Z,168nm,21.7s,baz=339,slow=31						
OUZ	Omahuta	20.15	165	P	Pn	07 14 27.3	0.0
OUZ				IAmb	IAmb	07 14 33.8	
	comp=Z,30nm,1.2s						
AFI	Afiamalu	20.39	87	LR	LR	07 20 18.6	
	comp=Z,138nm,20.6s,baz=92,slow=31						
CTA	Charters Tower	20.39	255	P	Pn	07 14 30.4	+0.1
	comp=Z,3.9nm,0.7s,baz=76,slow=11,SNR=2.5						
HIZ	Hauiti	23.59	165	P	P	07 15 05.2	+3.5
MXZ	Matakaoa Point	23.78	158	P	P	07 15 05.3	+1.8
URZ	Urewera	24.00	161	P	P	07 15 06.3	+0.7
	comp=Z,13nm,0.8s,baz=17,slow=2.5,SNR=3.0						
URZ				LR	LR	07 23 38.3	
	comp=Z,192nm,18.2s,baz=354,slow=34						
URZ	Urewera	24.00	161	P	P	07 15 06.6	+1.0
URZ				IAmb	IAmb	07 15 16.8	
	comp=Z,21nm,1.0s						
BKZ	Black Stump Fm	24.64	163	P	P	07 15 12.1	+0.6
MSWZ	Moikau Station	26.44	166	P	P	07 15 28.5	+0.7
RPZ	Rata Peaks	28.00	174	P	P	07 15 42.9	+1.2
	comp=Z,9.7nm,0.7s,baz=240,slow=8.1,SNR=2.7						
RPZ				LR	LR	07 25 20.3	
	comp=Z,154nm,21.8s,baz=350,slow=33						
STKA	Stephens Creek	28.27	231	P	P	07 15 45.8	+1.5
	comp=Z,2.6nm,0.8s,baz=78,slow=9.3,SNR=4.2						
WRA	Warramunga Arr	31.53	258	ScP	ScP	07 22 49.6	+2.2
	comp=Z,0.3nm,0.8s,baz=107,slow=4.5,SNR=1.6						
WRA				LR	LR	07 28 17.1	
	comp=Z,139nm,20.0s,baz=85,slow=35						
RAR	Rarotonga	31.72	105	LR	LR	07 26 00.5	
	comp=Z,48nm,19.9s,baz=266,slow=31						
ASAR	Alice Springs	32.26	251	P	P	07 16 19.0	-0.7
	comp=Z,5.7nm,0.7s,baz=78,slow=9.2,SNR=25						
ASAR				PcP	PcP	07 19 08.8	+1.0
	comp=Z,0.6nm,0.8s,baz=72,slow=3.0,SNR=3.2						
ASAR				ScP	ScP	07 22 51.0	+1.1
	comp=Z,0.4nm,0.9s,baz=99,slow=4.0,SNR=3.0						
FITZ	Fitzroy Crossi	39.78	261	P	P	07 17 23.8	-0.3
	comp=Z,2.2nm,0.8s,baz=76,slow=8.9,SNR=2.2						
FITZ	Fitzroy Crossi	39.78	261	P	P	07 17 24.2	+0.2
PPT2	Papeete2	41.35	99	*e*LR	LR	07 29 40.3	
	comp=Z,104nm,23.5s						
TBI	Tubuai	41.37	107	*e*LR	LR	07 29 41.8	
	comp=Z,64nm,23.2s						
MJAR	Matsushiro Arr	58.84	333	P	P	07 19 47.6	-1.8
	comp=Z,1.8nm,1.0s,baz=179,slow=8.1,SNR=2.5						
VNDA	Vanda	61.78	181		P	07 20 10.3	+1.3
VNDA	Vanda	61.78	181	P	P	07 20 10.2	+1.2
VNDA				IAmb	IAmb	07 20 10.3	
	comp=Z,2.8nm,0.9s						
SBA	Scott Base	62.06	180	P	P	07 20 12.4	+1.6
USRK	Ussuriysk Ar.	67.83	333	P	P	07 20 49.0	+0.3
	comp=Z,0.6nm,0.3s,baz=126,slow=7.3,SNR=1.2						
PETK	Petropavlovsk-	69.13	354	P	P	07 20 57.0	+0.3
	comp=Z,4.6nm,0.8s,baz=134,slow=13,SNR=4.3						
QSPA	South Pole Qui	74.22	180	P	P	07 21 27.7	+0.3
	comp=Z,7.7nm,0.9s,baz=345,slow=2.0,SNR=18						
QSPA	South Pole Qui	74.22	180	P	P	07 21 28.6	+1.1
ULN	Ulaanbaatar	82.98	324	P	P	07 22 16.6	+0.6
ULN				IAmb	IAmb	07 22 17.8	
	comp=Z,5.9nm,1.0s						
YAK	Yakutsk	83.05	343	P	P	07 22 16.4	+0.8
SONM	Songino Array	83.34	324	P	P	07 22 18.5	+0.8
	comp=Z,2.2nm,0.9s,baz=140,slow=5.2,SNR=8.7						
SHL	Shillong	84.04	299	P	P	07 22 22.3	+0.4
ILAR	Eielson Array	87.56	18	P	P	07 22 37.1	-1.1
	comp=Z,0.7nm,0.5s,baz=237,slow=5.0,SNR=7.0						
SYO	Syowa Base	87.66	197	⇑*e*P	P	07 22 36.8	-2.0
NVAR	Mina Array Bea	88.01	49	P	P	07 22 39.2	-2.1
	comp=Z,0.3nm,0.8s,baz=241,slow=5.6,SNR=2.4						
SNAA	Sanae	92.47	183	P	P	07 23 00.7	-0.6
VNA2	Neumayer--Watz	93.40	182	P	P	07 23 05.4	-0.2
	baz=182,slow=3.6						
ARCES	ARCESS Array B	121.28	345	PKP	PKPdf	07 28 42.3	-0.8
	comp=Z,3.1nm,0.6s,baz=56,slow=3.1,SNR=2.5						
FINES	FINESS Array B	126.70	338	PKP	PKPdf	07 28 52.8	-0.8
	comp=Z,1.4nm,0.7s,baz=230,slow=1.1,SNR=1.7						
AKASG	Malin Array Be	131.60	325	PKP	PKiKP	07 29 04.5	+0.2
	comp=Z,1.0nm,0.6s,baz=63,slow=1.7,SNR=3.1						
NOA	NORSAR Array B	131.65	345	PKP	PKPdf	07 29 02.2	-0.9
	comp=Z,1.1nm,0.7s,baz=36,slow=1.9,SNR=3.3						
BRTR	Keskin Array B	133.17	310	PKP	PKPdf	07 29 07.0	+0.1
	comp=Z,0.8nm,0.8s,baz=67,slow=4.1,SNR=1.8						
GERES	GERESS Array B	140.58	332	PKP	PKiKP	07 29 22.1	-0.7
	comp=Z,0.8nm,0.8s,baz=143,slow=0.7,SNR=4.1						
KEST	Kesra	152.00	319	PKPbc	PKiKP	07 29 46.7	0.0
	comp=Z,5.1nm,0.7s,baz=146,slow=2.1,SNR=3.4						
ESDC	Sonseca Array	155.01	344	PKPab	PKPab	07 30 09.3	+1.2
	comp=Z,0.1nm,0.5s,baz=57,slow=23,SNR=2.6						
TORD	Torodi Ar. Bea	165.74	261	PKPab	PKPab	07 30 55.5	-0.2
	comp=Z,1.0nm,0.7s,baz=97,slow=4.2,SNR=4.8						

IDC 08 07:10:21.7±1.9**, 0°.77N**×**125°.62E, h0**km**, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/40**, mbtmp3.6**/3**, 1C, Error ellipse: s-maj=189.9km s-min=25.1km az=64.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	6.23	355	⇑P	Pb	07 12 13.9	+2.8
KCP				S	Sb	07 13 25.0	-1.2
WRA	Warramunga Arr	22.28	158	P	P	07 15 19.7	-1.0
	1.2nm,0.3s,baz=336,slow=11,SNR=31						
ASAR	Alice Springs	25.58	162	P	P	07 15 53.5	+0.8
	0.4nm,0.5s,baz=344,slow=9.8,SNR=8.0						
MKAR	Makanchi Array	59.38	327	P	P	07 20 25.8	-0.1
	0.3nm,0.4s,baz=123,slow=7.5,SNR=6.6						

*BJI **08** 07:10:36.6±0.0, 1°.82N×129°.22E, h47km, mb4.8/22, mB5.0/14, Ms4.9/2, Ms7 4.7/3*
*ISCJB **08** 07:10:37.6±0.2, 2°.09N±0°.03×128°.82E±0°.03, h40km, mb4.5/31, MS3.2/6, Error ellipse: s-maj=4.1km s-min=3.6km az=172.5*
*IDC **08** 07:10:39.9±2.2, 2°.05N×128°.73E, h41km±22km, mb4.1/21, mb1 4.2/23, mb1mx4.0/42, mbtmp4.3/23, ML4.3/2, MS3.3/11, Ms1 3.3/11, ms1mx3.1/35, Error ellipse: s-maj=14.5km s-min=11.6km az=73.0*
*DJA **08** 07:10:40.7±0.5, 2°N±3°×12°9E±°, h36km±6km, M4.6/14, mB5.3/10, mb4.7/14, MLv4.5/10, Mw(mB)4.7/10*
*NEIC **08** 07:10:41.7±2.2, 1°.99N±0°.07×128°.76E±0°.04, h72km±8km, mb4.5/49*
ISC 08 07:10:39.1±0.3**, 2°.06N**±0°.04×**128°.86E**±0°.05**, h40**km**, n145,** σ1s.85/142**, mb4.6**/50**, MS3.2**/6**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.96	229	P	Pn	07 11 11.2	+1.3
TNTI				S	Sn	07 11 35.1	+1.8
TNTI	Ternate	1.96	229		Pn	07 11 11.4	+1.5
TNTI				Sn	Sn	07 11 36.2	+3.0
LBMI	Labuha	3.00	207	P	Pn	07 11 26.0	+1.8
SWI	Sorong	3.77	140	P	Pn	07 11 36.6	+1.9
SIJI	Sorong	3.77	140	P	Pn	07 11 36.6	+1.9
	9.3nm,0.3s,baz=130,slow=20,SNR=30						
SIJI				S	Sn	07 12 19.4	+1.4
	8.1nm,0.3s,baz=180,slow=20,SNR=5.6						
SIJI				LR	LR	07 13 17.5	
	comp=Z,460nm,19.1s,baz=274,slow=41						
SANI	Sanana	4.99	215	P	Pn	07 11 53.3	+1.8
KMSI	Cibinong	5.09	253	P	Pn	07 11 54.3	+1.4
	487nm,0.6s						
NLAI	Namlea	5.54	198	P	Pn	07 12 00.9	+1.8
	34nm,0.5s,0.2nm						
FAKI	Fak Fak	5.99	146	P	Pn	07 12 05.5	+0.2
	22nm,0.7s,0.1nm						
FAKI	Fak Fak	5.99	146		Pn	07 12 07.6	+2.3
FAKI				Sn	Sn	07 13 17.7	+5.0
LUWI	Luwuk	6.82	243	P	Pn	07 12 16.6	0.0
	130nm,0.5s,5μm0.7nm						
LUWI	Luwuk	6.82	243	Pn	Pn	07 12 16.8	+0.2
LUWI				Sn	Sn	07 13 34.6	+1.6
MRSI	Marisa	7.09	257	P	Pn	07 12 21.8	+1.4
	118nm,0.5s,2μm0.7nm						
APSI	Ampana	7.79	248	P	Pn	07 12 31.4	+1.5
BAKI	Biak	7.93	114	P	Pn	07 12 36.4	+4.5
KDI	Kendari	8.63	226	P	Pn	07 12 43.3	+1.7
	37nm,0.8s						
MPSI	Mapaga	9.12	259	P	Pn	07 12 49.6	+1.4
TTSI	Tana Toraja	10.36	241	P	Pn	07 13 05.9	+0.7
	115nm,0.7s,1μm						
BNSI	Bone	10.85	234	P	Pn	07 13 13.5	+1.6
	76nm,0.6s,790nm						
SPSI	Sidrap Palu	10.88	237	P	Pn	07 13 13.9	+1.6
	99nm,0.6s,868nm						
BKSI	Bulukumba	11.39	230	P	Pn	07 13 21.1	+1.7
	38nm,0.6s,660nm						
KAPI	Kappang	11.49	232	P	Pn	07 13 20.5	-0.2
	4.1nm,0.3s,baz=90,slow=6.7,SNR=11						
KAPI				S	Sn	07 15 25.5	-2.3
	0.2nm,0.3s,baz=23,slow=15,SNR=3.2						
KAPI				LR	LR	07 18 03.6	
	comp=Z,95nm,19.9s,baz=111,slow=39						
KAPI	Kappang	11.49	232		Pn	07 13 18.9	-1.9
KAPI					Sn	07 15 26.5	-1.4
BKB	Balikpapan	12.40	255	Pn	Pn	07 13 33.9	+0.6
SOEI	Soe	12.59	201	Pn	Pn	07 13 31.0	-4.9
SOEI				Sn	Sn	07 15 48.7	-6.3
JAY	Jayapura	12.68	111	LR	LR	07 17 56.6	
	comp=Z,169nm,19.9s,baz=324,slow=34						
KKM	Kota Kinabalu	13.22	288	Pn	Pn	07 13 42.4	-2.0
BATI	Baumata	13.23	203	LR	LR	07 19 14.1	
	comp=Z,188nm,18.0s,baz=344,slow=39						
MTN	Manton Dam	14.97	171		Pn	07 14 09.3	+1.2
PLAI	Plampang	15.46	225	P	P	07 14 25.8	+7.4
TWSI	Taliwang, Sumb	16.05	228	P	P	07 14 35.8	+11
SBUM	Sibu	16.63	272		Pn	07 14 25.8	-3.6
SBUM				IAmb	IAmb	07 14 34.9	
	comp=Z,21nm,0.7s						
KNRA	Kununurra	17.62	180	P	Pn	07 14 41.1	-0.6
JAGI	Jajag, Banyuwa	18.01	234	P	P	07 14 52.7	+6.0
JAGI	Jajag, Banyuwa	18.01	234	P	Pn	07 14 46.5	0.0
JAGI				IAmb	IAmb	07 14 54.7	
	comp=Z,24nm,0.9s						
GMJI	Gumukmas	18.48	236	P	Pn	07 15 01.6	+9.4
KSM	Kuching	18.55	269	P	P	07 14 52.0	-0.7
GUMO	Guam	19.55	53	LR	LR	07 21 50.5	
	comp=Z,39nm,21.8s,baz=226,slow=34						
NGJI	Ngawi	19.72	241	P	Pn	07 15 11.8	+4.6
PWJI	Pagerwojo	19.74	239	P	Pn	07 15 07.1	-0.2
	comp=Z,70nm,1.2s						
FITZ	Fitzroy Crossi	20.28	189	P	P	07 15 12.4	+1.0
	comp=Z,1.1nm,0.6s,baz=26,slow=13,SNR=5.1						
FITZ	Fitzroy Crossi	20.28	189	P	P	07 15 08.6	-2.8
WOJI	Wonogiri, Jawa	20.41	241	P	Pn	07 15 28.5	+13
SMRI	Semarang	20.48	244	P	P	07 15 10.3	-3.5
COEN	Coen	21.32	139	P	P	07 15 22.9	+0.2
KPJI	Karang Pucung	21.96	245	P	P	07 15 30.5	+0.8
	comp=Z,56nm,1.2s						
WRAB	Tennant Creek	22.51	166	P	P	07 15 34.6	-0.9
WRA	Warramunga Arr	22.51	166	P	P	07 15 37.6	+2.1
	comp=Z,2.9nm,0.4s,baz=341,slow=10,SNR=16						
WB2	Warramunga Arr	22.52	166	P	P	07 15 34.2	-1.3
WB2				IAmb	IAmb	07 15 50.8	
	comp=Z,9.5nm,0.9s						
LEM	Lembang	22.96	247	P	P	07 15 41.0	+0.5
	comp=Z,19nm,0.6s,baz=142,slow=19,SNR=2.8						
CISI	Cisompet, Garu	23.06	245	P	P	07 15 41.2	-0.2
TATO	Taipei	23.87	343	P	P	07 15 47.9	-1.1
KLSI		25.02	254	P	P	07 16 00.8	+1.2
	comp=Z,21nm,0.8s						
PSA00	Pilbara Seismi	25.08	200	P	P	07 15 57.3	-2.8
PSA00				IAmb	IAmb	07 16 00.9	
	comp=Z,15nm,1.3s						
PSAD3	Pilbara Seismi	25.17	200	P	P	07 15 59.0	-1.9
MDSI	Maura Dua	25.50	255	P	P	07 16 05.1	+1.1
	comp=Z,26nm,1.1s,comp=Z,391nm						
AS31	Alice Springs	26.03	169	P	P	07 16 08.6	-0.1
ASAR	Alice Springs	26.04	169	P	P	07 16 10.3	+1.6
	comp=Z,1.4nm,0.5s,baz=347,slow=7.7,SNR=17						
XMIS	Christmas Isla	26.24	241	P	P	07 16 08.4	-2.3
CTAO	Charters Tower	27.85	143	P	P	07 16 22.8	-2.3
CTAO				IAmb	IAmb	07 16 33.3	
	comp=Z,20nm,0.9s						
IPM	Ipoh	27.89	276	P	P	07 16 22.6	-3.0
IPM				IAmb	IAmb	07 16 27.6	
	comp=Z,28nm,1.5s						
JCJ	Chichijima	27.98	26	LR	LR	07 25 43.0	
	comp=Z,51nm,21.0s,baz=63,slow=32						
RPSI	Rantau Prapat	29.91	272	P	P	07 16 42.4	-1.1
RPSI	Rantau Prapat	29.91	272	P	P	07 16 41.7	-1.9
RPSI				IAmb	IAmb	07 16 48.0	
	comp=Z,11nm,1.4s						
PSI	Prapat	29.92	272	P	P	07 16 42.4	-1.3
	comp=Z,1.9nm,0.4s,baz=146,slow=15,SNR=2.3						
PSI				LR	LR	07 30 22.8	
	comp=Z,53nm,19.8s,baz=94,slow=40						
JNU	Nakatsue	30.96	3	P	P	07 16 53.0	+0.5
	comp=Z,3.7nm,0.8s,baz=180,slow=7.1,SNR=3.2						
JNU	Nakatsue	30.96	3	P	P	07 16 52.2	-0.4
JNU				IAmb	IAmb	07 16 59.7	
	comp=Z,8.5nm,1.1s						
GSI	Gunungsitoli	31.28	269	P	P	07 16 55.2	-0.4
	comp=Z,44nm,0.9s						
GSI	Gunungsitoli	31.28	269	P	P	07 16 52.3	-3.3
NJ2	Nanjing	31.29	344	*e*P	P	07 16 55.5	+0.1
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
CMAR	Chiang Mai Arr	33.55	301	P	P	07 17 15.6	+0.2
	comp=Z,1.0nm,0.4s,baz=127,slow=7.0,SNR=7.2						
CMAR				LR	LR	07 32 17.6	
	comp=Z,29nm,19.2s,baz=135,slow=39						
EIDS	Eidsvold	34.74	143	P	P	07 17 25.2	-0.4
EIDS				IAmb	IAmb	07 17 38.5	
	comp=Z,11nm,0.9s						
KSRS	Korea Array	35.24	359	P	P	07 17 31.1	+1.4
	comp=Z,3.1nm,0.6s,baz=174,slow=10.0,SNR=12						
KSRS				LR	LR	07 30 42.8	
	comp=Z,48nm,21.4s,baz=183,slow=34						
MJAR	Matsushiro Arr	35.39	13	P	P	07 17 31.4	+0.2
	comp=Z,2.2nm,0.5s,baz=182,slow=8.6,SNR=14						
MJAR				LR	LR	07 30 51.4	
	comp=Z,68nm,20.4s,baz=195,slow=34						
MAT	Matsushiro	35.39	13	P	P	07 17 32.2	+1.1
STKA	Stephens Creek	35.85	161	P	P	07 17 37.4	+2.3
	comp=Z,6.3nm,0.7s,baz=331,slow=7.4,SNR=10						
STKA	Stephens Creek	35.85	161	P	P	07 17 34.6	-0.5
NWAO	Narrogin (SRO)	36.49	197	P	P	07 17 40.5	0.0
NWAO	Narrogin (SRO)	36.49	197	P	P	07 17 40.4	-0.1
NWAO				IAmb	IAmb	07 17 58.3	
	comp=Z,16nm,1.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
XAN	Xi'an	36.87	332	P	P	07 17 54.6	+11
XAN				pP	sP	07 18 06.8	+8.0
XAN				sP	pP	07 18 12.0	+18
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,150nm,4.7s						
ARMA	Armidale	38.92	148	P	P	07 18 00.1	-1.1
ARMA				IAmb	IAmb	07 18 12.3	
	comp=Z,8.4nm,1.1s						
BJT	Baijiatuau	39.51	345	P	P	07 18 05.8	-0.1
BJT				IAmb	IAmb	07 18 07.7	
	comp=Z,6.6nm,0.6s						
BJI	Beijing	39.53	345	eP	P	07 18 06.6	+0.6
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
H11S3	WAKE ISLAND Hy	40.51	64	T	T	08 01 35.1	
	baz=251,slow=74,SNR=54						
H11S2	WAKE ISLAND Hy	40.52	64	T	T	08 01 35.8	
	baz=251,slow=74,SNR=38						
H11S1	WAKE ISLAND Hy	40.52	64	T	T	08 01 36.4	
	baz=251,slow=74,SNR=38						
LZH	Lanzhou	41.02	329	eP	P	07 18 20.5	+1.8
LZH				pP	sP	07 18 33.4	-0.3
LZH				sP	pP	07 18 38.2	+9.0
LZH				PP	PnPn	07 19 58.1	-0.4
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
LZH				pmax	pmax		
	comp=Z,59nm,4.9s						
H11N1	WAKE ISLAND Hy	41.10	62	T	T	08 02 22.1	
	baz=250,slow=75,SNR=22						
H11N2	WAKE ISLAND Hy	41.11	62	T	T	08 02 21.4	
	baz=250,slow=75,SNR=14						
H11N3	WAKE ISLAND Hy	41.12	62	T	T	08 02 19.2	
	baz=250,slow=75,SNR=17						
HHC	Hu-ho-hao-te	41.66	340	eP	P	07 18 25.2	+1.3
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CN2	Changchun	41.68	356	eP	P	07 18 25.2	+1.4
USRK	Ussuriysk Ar.	42.06	3	P	P	07 18 28.8	+1.9
	comp=Z,3.1nm,0.6s,baz=146,slow=6.0,SNR=6.9						
SHL	Shillong	42.57	307	eP	P	07 18 32.0	+0.4
SHL	Shillong	42.57	307	P	P	07 18 31.4	-0.2
SHL				IAmb	IAmb	07 18 33.5	
	comp=Z,11nm,0.8s						
ASAJ	Asahikawa	43.62	14	P	P	07 18 41.8	+2.3
	comp=Z,10nm,1.0s,baz=246,slow=20,SNR=5.2						
JKA	Kamikawa-asahi	43.62	14	P	P	07 18 41.8	+2.3
GTA	Gaotai	45.62	328	eP	P	07 19 00.9	+5.1
GTA				pP	sP	07 19 12.7	+1.9
GTA				sP	pP	07 19 18.2	+12
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TAPN	Taplejung	46.71	306	eP	P	07 19 05.0	+0.2
	comp=Z,7.7nm,0.4s						
ODAN	Odare	46.77	306	eP	P	07 19 06.2	+1.1
RAMN	Ramite	47.45	305	eP	P	07 19 11.1	+0.7
JIRN	Jiri	48.07	306	eP	P	07 19 15.9	+0.5
GUN	Gumba	48.42	306	eP	P	07 19 18.6	+0.5
	comp=Z,39nm,0.8s						
PKI	Pulchoki	48.66	306	eP	P	07 19 20.2	+0.2
PKIN	Phulchoki	48.68	306	eP	P	07 19 20.6	+0.6
	comp=Z,6.7nm,0.5s						
DMN	Daman	48.93	306	eP	P	07 19 22.5	+0.6
SONM	Songino Array	49.57	340	P	P	07 19 27.2	+1.0
	comp=Z,1.7nm,0.7s,baz=150,slow=7.3,SNR=8.7						
KOLN	Koldanda	50.22	305	eP	P	07 19 31.7	0.0
DANN	Dangsing	50.31	306	eP	P	07 19 32.8	+0.3
	comp=Z,37nm,0.8s						
WMQ	Urumqi	55.31	325	eP	P	07 20 10.5	+1.7
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,130nm,5.7s						
PETK	Petropavlovsk-	56.21	20	P	P	07 20 16.8	+1.8
	comp=Z,1.8nm,0.5s,baz=186,slow=3.0,SNR=9.6						
YAK	Yakutsk	59.83	0	P	P	07 20 39.8	-0.3
MK31	Makanchi Array	60.14	325	P	P	07 20 42.6	-0.1
MK31				IAmb	IAmb	07 20 43.8	
	comp=Z,2.9nm,0.6s						
MKAR	Makanchi Array	60.14	325	P	P	07 20 42.9	+0.3
	comp=Z,3.4nm,0.5s,baz=117,slow=8.4,SNR=39						
MKAR				PcP	PcP	07 21 28.6	+0.6
	comp=Z,1.4nm,0.6s,baz=123,slow=5.8,SNR=4.9						
KSH	Kashi	60.72	315	P	P	07 20 50.4	+3.5
KSH				PcP	PcP	07 21 33.1	+2.4
KSH				PP	PP	07 23 06.7	+5.6
KSH				ScP	ScP	07 25 29.2	+0.1
KSH				PcS	PcS	07 25 34.2	+0.8
KSH				S	S	07 29 02.6	+1.3
KSH				ScS	SKKSac	07 30 33.7	-1.2
KSH				pmax	pmax		
	comp=Z,290nm,9.3s						
KSH				LR	LR		
	comp=Z,310nm,6.3s						
KSH				LR	LR		
	comp=Z,390nm,4.8s						
KSH				LR	LR		
	comp=Z,400nm,4.8s						
JOHN	Johnston Islan	62.26	72	P	P	07 20 54.4	-3.1
AAK	Ala-Archa	63.02	318	LR	LR	07 50 28.2	
	comp=Z,26nm,19.5s,baz=80,slow=38						
ZAA0	Zalesovo Array	63.04	333	P	P	07 20 58.6	-3.4
ZAA0				IAmb	IAmb	07 21 02.7	
	comp=Z,4.4nm,1.2s						
ZALV	Zalesovo Beam	63.04	333	P	P	07 21 01.6	-0.4
	comp=Z,0.6nm,0.3s,baz=104,slow=6.3,SNR=6.0						
ZALV				PcP	PcP	07 21 38.9	-0.7
	comp=Z,0.9nm,0.6s,baz=139,slow=4.5,SNR=3.7						
KURK	Kurchatov	64.29	327	P	P	07 21 09.6	-0.7
KURK				IAmb	IAmb	07 21 11.3	
	comp=Z,5.0nm,0.7s						
GAR	Garm	64.61	313	P	P	07 21 11.7	-1.2
GAR				IAmb	IAmb	07 21 13.9	
	comp=Z,7.3nm,0.7s						
KK31	Karatay Array	65.90	317	P	P	07 21 19.9	-1.1
KK31				IAmb	IAmb	07 21 22.4	
	comp=Z,2.5nm,0.8s						
KKAR	Karatay Array	65.90	317	P	P	07 21 20.0	-1.0
ATKA	Atka Island	68.68	34	P	P	07 21 35.7	-2.6
TIXI	Tiksi	69.49	0	P	P	07 21 42.3	-0.7
TIXI				IAmb	IAmb	07 21 44.4	
	comp=Z,4.8nm,0.6s						
BRVK	Borovoye	69.95	327	P	P	07 21 46.3	+0.1
BRVK				IAmb	IAmb	07 21 47.0	
	comp=Z,6.1nm,0.6s						
NIKH	Nikolski High	71.97	34	P	P	07 21 57.5	-1.0
GEYT	Alibeck	73.59	309	P	P	07 22 07.2	-1.3
	comp=Z,2.7nm,0.7s,baz=153,slow=1.7,SNR=7.4						
MSEY	Mahe Island	73.62	265	P	P	07 22 07.5	-1.7
ABKAR	Akbulak array	74.78	321	P	P	07 22 15.0	-0.1
ARU	Arti	77.48	328	P	P	07 22 28.6	-1.7
ARU				IAmb	IAmb	07 22 30.4	
	comp=Z,4.5nm,0.8s						
VNDA	Vanda	81.52	173	P	P	07 22 52.0	+0.1
SKT	Skwentna	83.31	28	P	P	07 23 02.6	+1.0
SKT				IAmb	IAmb	07 23 04.4	
	comp=Z,9.9nm,1.1s						
PMR	Palmer	84.39	28	P	P	07 23 06.8	-0.2
PMR				IAmb	IAmb	07 23 09.8	
	comp=Z,6.2nm,0.8s						
GHO	Glory Hole Cre	84.51	28	P	P	07 23 07.7	-0.1
ILAR	Eielson Array	85.69	25	P	P	07 23 13.4	-0.2
	comp=Z,0.6nm,0.7s,baz=246,slow=5.8,SNR=5.7						
BCPM	Bancas Point	88.99	30	P	P	07 23 26.1	-3.4
QSPA	South Pole Qui	91.97	180	P	P	07 23 44.2	+0.8
	comp=Z,0.6nm,0.6s,baz=306,slow=8.7,SNR=4.6						
QSPA	South Pole Qui	91.97	180	P	P	07 23 39.3	-4.2
QSPA				IAmb	IAmb	07 23 57.4	
	comp=Z,1.6nm,1.0s						
ARCES	ARCESS Array B	92.74	340	P	P	07 23 46.0	-0.9
	comp=Z,2.6nm,0.7s,baz=83,slow=5.3,SNR=17						
WRAK	Wrangell Islan	93.17	33	P	P	07 23 46.9	-2.0
FINES	FINESS Array B	94.30	332	P	P	07 23 53.4	-0.7
	comp=Z,2.2nm,0.8s,baz=74,slow=6.9,SNR=9.9						
YKA	Yellowknife Ar	100.12	25	P	Pdif	07 24 21.6	+1.3
	comp=Z,0.3nm,0.6s,baz=293,slow=4.1,SNR=3.7						
TXAR	Lajitas Array	120.90	54	PKP	PKPdf	07 29 27.6	-0.4
	comp=Z,0.2nm,0.7s,baz=287,slow=3.4,SNR=3.1						
TORD	Torodi Ar. Bea	125.45	288	PKP	PKPdf	07 29 36.8	-0.1
	comp=Z,0.9nm,0.6s,baz=51,slow=2.0,SNR=7.0						

SNET ***08*** *07:11:57.9±1.5, 14°.17N×91°.10W, h84^{km}±14^{km}, ML2.7*
ISCJB ***08*** *07:11:59.8±1.1, 14°.3N±0°.1×91°.12W±0°.07, h73^{km}, Error ellipse: s-maj=20.6km s-min=9.9km az=7.4*
GCG ***08*** *07:12:00.2±0.3, 14°.03N×91°.08W, h49^{km}±11^{km}, MD3.6*
ISC 08 07:11:59.9±1.8**, 14°.2N**±0°.1×**91°.10W**±0°.07**, h73**^{km}**, n9, σ1ˢ18**/10**, 1C-2D, Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	0.35	45	eP	Pn	07 12 11.7	-0.2
PCG	Pacaya	0.51	68	eP	Pn	07 12 13.2	-0.1
ERG	Entre ros, C	0.52	297	eP	Pn	07 12 13.0	-0.1
IXG	Ixpaco	0.64	93⇓	eP	Pn	07 12 13.7	-0.8
IXG	Ixpaco	0.64	93⇓	iP	Pn	07 12 12.8	-1.7
STG3	Santiaguito 3,	0.68	318	eP	Pn	07 12 14.5	-0.5
NBG	Las Nubes	0.82	62	eP	Pn	07 12 17.5	+0.9
CEVE	Cerro Verde	1.48	104	eS	Sn	07 12 45.5	+1.8
MRL	Marmol	1.62	57⇑	iP	Pn	07 12 25.4	-1.3
MRL				eS	Sn	07 12 47.2	+0.1

ISCJB ***08*** *07:17:23.6±0.5, 54°.1S±0°.1×133°.7W±0°.1, h10^{km}, mb4.0/6, MS3.7/10, Error ellipse: s-maj=20.5km s-min=10.6km az=171.8*
IDC ***08*** *07:17:24.5±0.9, 54°.10S×133°.71W, h0^{km}, mb3.9/6, mb1 4.2/6, mb1mx4.0/23, mbtmp3.9/6, MS3.6/6, Ms1 3.6/6, ms1mx3.4/15, Error ellipse: s-maj=36.9km s-min=24.9km az=157.0*
NEIC ***08*** *07:17:25.2±0.9, 54°.06S±0°.09×133°.7W±0°.2, h10^{km}±1^{km}, mb4.6/16*
GCMT ***08*** *07:17:33.2±0.3, 54°.16S±0°.02×133°.32W±0°.03, h22^{km}±2^{km}, MW4.8/68, Moment Tensor Solution. s21,c23; s68,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.48±.14; $M_{\theta\theta}$1.90±.14; $M_{\phi\phi}$-1.42±.10; $M_{r\theta}$0.30±.19; $M_{\theta\phi}$1.37±.08; $M_{\phi r}$0.24±.16; Best double couple: $M_0$2.18100×10^{16} NP1:ϕ_s25.00000°,δ88.00000°,λ171.00000°. NP2: ϕ_s115.00000°,δ81.00000°,λ2.00000°. Principal axes: T 2.4390, Plg7.0000°, Azm340.0000°; N -0.5150, Plg81.0000°, Azm195.0000°; P -1.9230, Plg5.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 07:17:25.6±0.6**, 54°.1S**±0°.2×**133°.74W**±0°.09**, h10**^{km}**, n38, σ0ˢ89**/23**, mb4.4**/9**, MS3.8**/10**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TBI	Tubuai	32.92	333	eLR	LR	07 32 29.5	
	comp=Z,357nm,28.8s,baz=168						
TBI	Tubuai	32.92	333	eT	T	07 58 32.7	
	48nm,0.3s						
QSPA	South Pole Qui	36.06	180	P	P	07 24 28.8	+1.9
	1.3nm,0.9s,baz=67,slow=7.9,SNR=2.5						
QSPA	South Pole Qui	36.06	180	P	P	07 24 27.2	+0.3
QSPA				IAmb	IAmb	07 24 42.2	
	comp=Z,8.4nm,1.3s						
SNZO	South Karori	36.16	269	P	P	07 24 27.0	-0.8
MCQ	Macquarie Isla	37.90	241	P	P	07 24 42.2	-0.2
PPT2	Papeete2	38.46	335	eLR	LR	07 35 03.6	
	comp=Z,338nm,25.8s,baz=170						
PPT	Papeete	38.48	335	LR	LR	07 37 19.7	
	comp=Z,135nm,18.5s,baz=176,slow=31						
VAH	Vaihoa	40.29	339	eT	T	08 07 43.7	
	comp=Z,13nm,0.3s						
PLCA	Paso Flores	43.34	99	LR	LR	07 38 34.5	
	comp=Z,41nm,21.5s,baz=241,slow=29						
TAOE	Nuku Hiva Isla	45.43	351	eLR	LR	07 38 20.8	
	comp=Z,201nm,26.2s						
PEL	Peldehue	48.42	91	P	P	07 26 07.2	-0.5
SNAA	Sanae	49.85	162	P	P	07 26 19.0	+0.8
MSVF	Nonsavu	51.78	295	P	P	07 26 33.5	+0.1
HOPE	Hope Point	52.32	133	P	P	07 26 36.2	-0.8
DZM	Mont Dzumac	54.79	281	eLR	LR	07 42 37.0	
	comp=Z,81nm,24.6s						
TOO	Toolangi	55.54	252	P	P	07 27 00.4	-0.4
TOO				IAmb	IAmb	07 27 08.3	
	comp=Z,12nm,1.3s						
MNMC	Minye Minye	59.60	81	P	P	07 27 30.2	+0.4
NNA	Nana	61.22	69	P	P	07 27 41.2	+0.5
CPUP	Villa Florida	61.27	96	P	P	07 27 39.5	-1.3
	comp=Z,1.8nm,1.0s,baz=286,slow=15,SNR=3.6						
CPUP				LR	LR	07 49 38.3	
	comp=Z,58nm,18.4s,baz=226,slow=32						
CPUP	Villa Florida	61.27	96	P	P	07 27 40.3	-0.6
CPUP				IAmb	IAmb	07 27 44.6	
	comp=Z,7.0nm,1.4s						
LPAZ	La Paz	62.69	80	P	P	07 27 51.3	+0.1
	comp=Z,6.8nm,1.2s,baz=322,slow=2.0,SNR=7.0						
LPAZ				LR	LR	07 49 19.7	
	comp=Z,20nm,20.6s,baz=235,slow=31						
LPAZ	La Paz	62.69	80	P	P	07 27 51.5	+0.3
LPAZ				IAmb	IAmb	07 28 01.8	
	comp=Z,7.7nm,1.2s						
SAML	Samuel	71.42	79	P	P	07 28 45.5	-0.5
ASAR	Alice Springs	72.52	254	P	P	07 28 52.8	+0.2
	comp=Z,1.3nm,0.9s,baz=135,slow=6.7,SNR=5.6						
BDFB	Brasilia	75.00	96	P	P	07 29 07.0	-0.2
BDFB				IAmb	IAmb	07 29 21.2	
	comp=Z,5.4nm,1.2s						
WRA	Warramunga Arr	75.20	257	P	P	07 29 08.2	0.0
	comp=Z,1.1nm,0.9s,baz=142,slow=5.1,SNR=5.0						
WRA				LR	LR	07 58 15.4	
	comp=Z,29nm,21.7s,baz=40,slow=33						
ROSC	El Rosal	76.66	62	P	P	07 29 16.0	-1.0
ROSC				IAmb	IAmb	07 29 23.6	
	comp=Z,6.1nm,1.2s						
MORW	Morawa	77.73	237	P	P	07 29 22.2	-0.3
TXAR	Lajitas Array	87.08	26	P	P	07 30 13.4	+2.3
	comp=Z,0.3nm,0.9s,baz=199,slow=8.2,SNR=3.0						
H11S2	WAKE ISLAND Hy	88.38	305	T	T	09 08 24.5	
	baz=147,slow=75,SNR=13						
H11S3	WAKE ISLAND Hy	88.39	305	T	T	09 08 24.5	
	baz=147,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy	88.40	305	T	T	09 08 22.8	
	baz=147,slow=75,SNR=13						
H11N3	WAKE ISLAND Hy	89.33	306	T	T	09 09 33.2	
	baz=153						
H11N1	WAKE ISLAND Hy	89.34	306	T	T	09 09 40.1	
	baz=153						
H11N2	WAKE ISLAND Hy	89.35	306	T	T	09 09 40.3	
	baz=153						
BOSA	Boshof	95.63	162	LR	LR	08 07 26.4	
	comp=Z,46nm,20.8s,baz=209,slow=31						
ILAR	Eielson Array	118.99	354	PKP	PKiKP	07 36 13.4	+0.5
	comp=Z,0.2nm,0.7s,baz=165,slow=3.7,SNR=2.7						

ISCJB ***08*** *07:21:56.8±0.4, 24°.80N±0°.03×122°.34E±0°.02, h30^{km}±3^{km}, Error ellipse: s-maj=5.2km s-min=3.4km az=17.5*
JMA ***08*** *07:21:56.1±0.2, 24°.85N×122°.37E, h4^{km}, M2.8*
TAP ***08*** *07:21:57.2, 24°.80N×122°.27E, h26^{km}±1^{km}, ML2.8, B*
ISC 08 07:21:56.0±1.1**, 24°.81N**±0°.03×**122°.34E**±0°.02**, h10**^{km}±13^{km}**, n30, σ0ˢ58**/46**, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EOS1	EOS1	0.32	218	P	Pb	07 22 04.7	+0.9
	baz=207						
EOS1				eS	Sb	07 22 11.1	+2.1
	baz=207						
TWC	Suao	0.49	247	P	Pb	07 22 06.8	+0.1
	baz=242						
TWC				S	Sb	07 22 13.6	-0.3
	baz=242						
TIPB	Shuangxi	0.50	290	P	Pb	07 22 06.7	-0.2
	baz=292						
TIPB				S	Sb	07 22 14.2	0.0
	baz=292						
NWF	Wu-fen Shan	0.57	298	eP	Pb	07 22 08.4	+0.2
	baz=300						
NWF				eS	Sb	07 22 16.4	-0.1
	baz=300						
WFSB	Wu-fen Shan	0.57	298	eP	Pb	07 22 08.2	0.0
	baz=300						
WFSB				S	Sb	07 22 16.8	+0.5
	baz=300						
TWE	Neicheng	0.62	262	eP	Pb	07 22 09.4	+0.5
	baz=260						
TWE				eS	Sb	07 22 17.2	-0.5
	baz=260						
JYNG	Yonagunijimaku	0.65	123	P	Pg	07 22 09.1	+0.5
JYNG				S	Sb	07 22 18.1	-0.5
NANB	Nanao	0.66	235	P	Pb	07 22 09.9	+0.4
	baz=231						
NANB				eS	Sb	07 22 18.6	-0.1
	baz=231						
ENA	Nanau	0.66	236	eP	Pb	07 22 09.2	-0.5
	baz=231						
ENA				eS	Sb	07 22 19.3	+0.4
	baz=231						
YOJ	Yonaguni jima	0.70	119	P	Pg	07 22 09.5	0.0
YOJ				eS	Sg	07 22 18.7	+0.1
YOJ	Yonaguni jima	0.70	119	eP	Pb	07 22 10.0	-0.2
	baz=116						
ENTT	Nioudou	0.72	257	eP	Pb	07 22 10.6	-0.1
	baz=255						
ENTT				eS	Sb	07 22 20.7	0.0
	baz=255						
NWLT	Wulai	0.76	268	eP	Pb	07 22 11.3	-0.1
	baz=267						
NWLT				eS	Sb	07 22 21.4	-0.5
	baz=267						
YM01	YM01	0.78	296	eS	Sb	07 22 22.1	-0.2
	baz=298						
NDT	Datong Townshi	0.78	255	eS	Sb	07 22 22.2	-0.2
	baz=253						
YM08	YM08	0.78	299	eP	Pb	07 22 11.8	+0.1
	baz=301						
YM05	YM05	0.79	297	eP	Pg	07 22 11.5	+0.2
	baz=299						
YM10	YM10	0.79	296	eS	Sb	07 22 22.4	-0.2
	baz=298						
TATO	Taipei	0.80	283	P	Pb	07 22 12.2	+0.3
	baz=283						
TATO				S	Sb	07 22 23.0	+0.3
	baz=283						
YM04	YM04	0.81	296	eP	Pg	07 22 11.9	+0.3
	baz=297						
TWY	Chenhua	0.82	305	P	Pb	07 22 12.4	+0.1
	baz=307						
TWY				S	Sg	07 22 23.0	+0.5
	baz=307						
PCYT	Pengchaiyu	0.86	343	eP	Pg	07 22 12.7	+0.2
	baz=348						
YHNB	Yeheng	0.89	262	eP	Pg	07 22 13.3	+0.2
	baz=260						
NSK	Sanguang	0.90	262	eS	Sg	07 22 25.3	0.0
	baz=261						
NACB	Ninganchiao	0.93	227	eS	Sg	07 22 26.0	+0.1
	baz=224						
NNSB	Datong	0.95	247	eP	Pg	07 22 13.7	-0.6
	baz=245						
NNSB				eS	Sg	07 22 26.5	-0.2
	baz=245						
NNSH	Datong	0.95	247	eS	Sg	07 22 26.5	-0.2
	baz=245						
ETLH	Xiulin Townshi	0.98	233	eS	Sg	07 22 27.5	-0.3
	baz=230						
WHF	Hehuan Shan	1.18	236	eS	Sg	07 22 31.9	-2.2
	baz=234						
IRIF	Iriomote-Funau	1.35	110	P	Pg	07 22 21.8	-0.1
IRIF				S	Sb	07 22 38.3	-0.3

DRS ***08*** *07:39:32.6±0.0, 42°.87N×45°.72E, h12^{km}*
IDC ***08*** *07:39:33.9±0.5, 42°.98N×45°.71E, h0^{km}, mb3.9/14, mb1 4.0/22, mb1mx3.9/38, mbtmp3.9/22, ML3.5/7, MS2.4/2, Ms1 2.4/2, ms1mx2.0/49, Error ellipse: s-maj=9.1km s-min=7.8km az=4.0*
TIF ***08*** *07:39:33.6, 42°.91N×45°.92E, h8^{km}±2^{km}*
NORS ***08*** *07:39:33.5±0.0, 42°.79N×45°.93E, h17^{km}, MPVA4.8, FELT I=II MSK at Shatoy*
MOS ***08*** *07:39:34.0±0.0, 42°.87N×45°.88E, h14^{km}, MPVA4.7*
AZER ***08*** *07:39:35.3±0.4, 42°.72N×45°.72E, h2^{km}, ml3.8/25, Error ellipse: s-maj=6.1km s-min=5.1km az=329.0*
ISK ***08*** *07:39:36.3, 42°.83N×45°.74E, h4^{km}, ML3.8/6*
ISCJB ***08*** *07:39:37.2±0.3, 43°.01N±0°.01×45°.92E±0°.02, h24^{km}±3^{km}, mb3.9/19, Error ellipse: s-maj=2.7km s-min=1.9km az=35.5*
DDA ***08*** *07:39:37.1, 42°.84N×45°.42E, h1^{km}±10^{km}, MW3.7*
NNC ***08*** *07:39:47.1±6.8, 43°.32N×46°.90E, h35^{km}±132^{km}, mb4.1, Error ellipse: s-maj=70.4km s-min=26.6km az=83.0*
ISC 08 07:39:36.3±0.8**, 42°.92N**±0°.02×**45°.92E**±0°.01**, h18**^{km}±3^{km}**, n193, σ1ˢ96**/299**, mb4.0**/21**, 21C-14D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GROC	Groznyy	0.30	342	ePG	Pb	07 39 42.4	-0.7
GROC				e		07 39 48.2	
GROC				pmax	pmax		
	comp=Z,3μm,0.5s						
GROC				smax	smax		
	comp=E,6μm,0.6s						
GROC				smax	smax		
	comp=N,20μm,0.6s						
GROC				smax	smax		
	comp=N,21μm,0.5s						
GROC	Groznyy	0.30	342	i Pg	Pb	07 39 42.7	-0.4
GROC				eSg	Sb	07 39 48.5	+0.9
BTLR	Botlikh	0.34	139⇑	iPG	Pg	07 39 41.5	-2.0
BTLR				pmax	pmax		
	comp=Z,2μm,0.4s						
DLMR	Dylym	0.54	73⇓	iPG	Pb	07 39 47.0	-0.2
DLMR				eS	Sb	07 39 56.5	+1.9
DLMR				pmax	pmax		
	comp=Z,749nm,0.2s						
UNCR	Uncukul	0.67	107	ePG	Pg	07 39 48.5	-1.1
UNCR				eS	Sn	07 40 01.0	0.0
UNCR				pmax	pmax		
	comp=Z,1μm,0.2s						
DBC	Dubki	0.67	81	ePG	Pg	07 39 48.9	-0.7
DBC				eS	Sn	07 40 00.7	-0.4
DBC	Dubki	0.67	81	ePg	Pg	07 39 48.9	-0.7
DBC				eSg	Sn	07 40 00.7	-0.4
XNZR	Khunzakh	0.69	123⇑	iPG	Pg	07 39 48.9	-1.0
XNZR				eS	Sb	07 39 59.7	+0.7
KRNR	Karanay	0.73	97	ePG	Pg	07 39 49.5	-1.1
KRNR				eS	Sn	07 40 02.0	-0.5
KRNR				pmax	pmax		
	comp=Z,259nm,0.2s						
ARKR	Arakani	0.85	111	ePG	Pg	07 39 52.0	-0.9
ARKR				eS	Sn	07 40 06.5	+1.1
BUJR	Buynaksk	0.88	96	ePG	Pn	07 39 53.7	0.0
BUJR				eS	Sn	07 40 08.2	+2.2
VLKR	Vladikavkaz	0.92	278⇓	iPG	Pg	07 39 53.9	-0.4
VLKR				eS	Sn	07 40 08.5	+1.3
VLKR	Vladikavkaz	0.92	278	i Pg	Pg	07 39 53.9	-0.4
VLKR				eSg	Sb	07 40 07.5	+1.8
BTKR	Batakoyurt	1.11	295⇓	iPG	Pn	07 39 57.7	+0.8
BTKR				eS	Sn	07 40 14.7	+2.9
BTKR	Batakoyurt	1.11	295	i Pg	Pn	07 39 57.6	+0.7
BTKR				eSg	Sn	07 40 13.8	+2.1
LGD	Lagodekhi	1.11	168	P	Pb	07 39 55.4	-1.5
LGD				S	Sg	07 40 10.1	-2.2
LGD	Lagodekhi	1.11	168	PG	Pb	07 39 55.4	-1.5
LGD				S	Sg	07 40 10.1	-2.2
GUDG	Gudauri	1.16	247	P	Pb	07 39 55.7	-2.2
GUDG	Gudauri	1.16	247	PG	Pb	07 39 55.7	-2.2
GUDG	Gudauri	1.16	247	ePg	Pb	07 39 55.7	-2.2
GUDG				eSg	Sg	07 40 10.7	-3.3
MAK	Makhachkala	1.16	87	ePG	Pn	07 39 59.1	+1.5
MAK				e		07 40 17.8	
MAK				pmax	pmax		
	comp=Z,727nm,0.4s						
MAK				smax	smax		
	comp=N,4μm,0.6s						
MAK				smax	smax		
	comp=N,3μm,0.7s						
MAK	Makhachkala	1.16	87	ePg	Pg	07 39 57.9	-0.9
MAK				eSg	Sn	07 40 16.1	+3.1
KMKR	Kumukh	1.17	132	PG	Pb	07 39 58.0	-0.1
KMKR				eS	Sn	07 40 16.5	+2.9
KMKR				pmax	pmax		
	comp=Z,352nm,0.2s						
TRKR	Terskaya	1.19	313	ePG	Pg	07 39 59.3	+0.1
TRKR				eS	Sn	07 40 17.5	+3.9
TRKR	Terskaya	1.19	313	ePg	Pg	07 39 58.7	-0.5
TRKR				eSg	Sn	07 40 15.8	+2.2
LACR	Lac	1.20	266	ePG	Pb	07 39 56.8	-1.8
LACR				eS	Sb	07 40 13.7	0.0
LACR	Lac	1.20	266	ePg	Pb	07 39 56.7	-1.8
LACR				eSg	Sb	07 40 13.6	-0.2
SGKR	Sergokala	1.36	109	i PG	Pg	07 40 02.0	-0.5
SGKR				eS	Sg	07 40 24.0	+3.8
KORR	Kora	1.37	278⇑	iPG	Pn	07 40 01.3	+0.7
KORR				eS	Sg	07 40 20.6	-0.1

KORR	Kora	1.37	278	ePg	Pn	07 40 01.2	+0.7
KORR				eSg	Sg	07 40 20.6	-0.1
ZKTA	Zakatala	1.38	158	P	Pn	07 40 01.0	+0.3
	SNR=66						
ZKTA				S	Sg	07 40 20.6	-0.3
SEAG	Tbilisi Sea	1.42	216	P	Pn	07 40 01.3	+0.1
SEAG	Tbilisi Sea	1.42	216	PG	Pn	07 40 01.3	+0.1
STDR	Stavd-Durt	1.43	289	ePG	Pb	07 40 02.8	+0.3
STDR				eS	Sg	07 40 24.2	+1.5
STDR	Stavd-Durt	1.43	289	ePg	Pb	07 40 02.8	+0.3
STDR				eSg	Sg	07 40 24.2	+1.5
PRTR	Priterechnaya	1.46	305	⇓iPG	Pb	07 40 02.9	0.0
PRTR				eS	Sg	07 40 25.1	+1.7
PRTR	Priterechnaya	1.46	305	ePg	Pb	07 40 02.9	0.0
PRTR				eSg	Sg	07 40 23.5	0.0
URKR	Urkarakh	1.47	120	⇑iPG	Pb	07 40 03.4	+0.2
URKR				eS	Sg	07 40 24.3	+0.5
URKR	Urkarakh	1.47	120	ePg	Pg	07 40 03.6	-1.0
URKR				eSg	Sg	07 40 25.1	+1.3
TBLG	Delisi	1.48	217	P	Pn	07 40 01.9	0.0
TBLG				S	Sn	07 40 21.9	+1.1
TBLG	Delisi	1.48	217	iPA	Pn	07 40 02.0	0.0
TBLG				iS	Sn	07 40 21.0	+0.2
TBLG				IAML		07 40 28.0	
	comp=N,228nm,0.8s						
TBLG				IAML		07 40 31.0	
	comp=E,205nm,0.7s						
TBLG	Delisi	1.48	217	PG	Pn	07 40 01.9	0.0
TBLG	Delisi	1.48	217	PN	Pn	07 40 02.1	+0.1
TBLG				SN	Sn	07 40 21.0	+0.2
DDFL	Dedoflistskaro	1.48	174	P	Pg	07 40 05.3	+0.5
DDFL	Dedoflistskaro	1.48	174	iP	Pg	07 40 05.4	+0.6
DDFL				iS	Sg	07 40 29.4	+5.4
DDFL	Dedoflistskaro	1.48	174	PG	Pg	07 40 05.3	+0.5
BTNK	Botanikuri	1.49	214	P	Pn	07 40 02.0	-0.1
BTNK				S	Sn	07 40 22.9	+1.7
BTNK	Botanikuri	1.49	214	iP	Pn	07 40 01.8	-0.4
BTNK				iS	Sn	07 40 20.9	-0.3
BTNK				IAML		07 40 25.0	
	comp=E,225nm,0.3s						
BTNK				IAML		07 40 27.0	
	comp=N,279nm,0.4s						
BTNK	Botanikuri	1.49	214	PG	Pn	07 40 02.0	-0.1
BTNK				S	Sn	07 40 22.9	+1.7
ZEI	Tsey	1.49	266	ePG	Pn	07 40 02.0	-0.4
ZEI				eS	Sn	07 40 22.0	+0.5
ZEI	Tsey	1.49	266	ePg	Pn	07 40 01.8	-0.6
ZEI				eSg	Sn	07 40 21.8	+0.3
LSNR	Lesken	1.58	284	ePG	Pb	07 40 04.9	0.0
LSNR				eS	Sg	07 40 26.9	-0.3
LSNR	Lesken	1.58	284	ePg	Pn	07 40 04.6	+1.2
LSNR				eSg	Sg	07 40 26.9	-0.3
DIGR	Digorskoe uzhe	1.72	270	ePN	Pn	07 40 06.3	+0.8
DIGR				eS	Sn	07 40 28.9	+1.8
DIGR	Digorskoe uzhe	1.72	270	ePg	Pn	07 40 06.3	+0.8
DIGR				eSg	Sn	07 40 28.5	+1.4
NCK	Nalchik	1.80	290	⇑iPN	Pb	07 40 08.4	-0.3
NCK				eS	Sg	07 40 33.3	-0.9
NCK	Nalchik	1.80	290	iPg	Pb	07 40 08.4	-0.3
NCK				eSg	Sg	07 40 33.3	-0.9
ONI	Oni	1.85	261	P	Pn	07 40 07.7	+0.6
ONI				S	Sb	07 40 33.0	+0.6
ONI	Oni	1.85	261	PN	Pn	07 40 07.7	+0.6
ONI	Oni	1.85	261	PN	Pn	07 40 07.5	+0.4
ONI				SN	Sn	07 40 30.4	+0.3
ONI	Oni	1.85	261	ePg	Pn	07 40 07.8	+0.7
ONI				eSg	Sb	07 40 33.0	+0.6
QZX	Qazax, Azerbai	1.90	193	P	Pn	07 40 09.1	+1.3
	SNR=109						
QZX				S	Sb	07 40 34.9	+0.9
KZRT	Kazreti	1.91	217	P	Pn	07 40 08.6	+0.7
KZRT				S	Sn	07 40 33.8	+2.4
KZRT	Kazreti	1.91	217	iP	Pn	07 40 08.6	+0.7
KZRT				iS	Sn	07 40 32.7	+1.3
KZRT	Kazreti	1.91	217	PN	Pn	07 40 08.6	+0.7
SEKA	Sheki	1.95	151	PN	Pb	07 40 11.1	-0.3
SEKA	Sheki	1.95	151	P	Pb	07 40 11.3	-0.1
	SNR=123						
SEKA				S	Sg	07 40 38.8	-0.4
AKT	Akhty	1.97	136	⇓iPN	Pb	07 40 10.8	-0.8
AKT				eS	Sg	07 40 38.8	-0.8
AKT				pmax	pmax		
	comp=Z,286nm,0.5s						
AKT	Akhty	1.97	136	ePg	Pb	07 40 10.9	-0.8
AKT				eSg	Sb	07 40 37.6	+1.8
DRN	Derbent	1.99	116	ePN	Pg	07 40 13.9	-0.6
DRN				eS	Sg	07 40 42.7	+2.4
DRN				pmax	pmax		
	comp=Z,354nm,0.5s						
KBTC	Kuba-Taba	2.04	297	ePN	Pn	07 40 10.8	+1.0
KBTC	Kuba-Taba	2.04	297	ePg	Pn	07 40 11.0	+1.2
KBTC				eSg	Sn	07 40 36.9	+2.1
GDB	GEDABAY	2.20	183	P	Pn	07 40 13.7	+1.6
	SNR=67						
GDB				S	Sb	07 40 42.3	-0.2
QSAR	Qusar	2.23	128	P	Pb	07 40 17.0	+0.9
	SNR=26						
QSAR				S	Sg	07 40 50.2	+2.1
TKB	Tkibuli	2.23	256	P	Pn	07 40 13.7	+1.3
TKB				S	Sb	07 40 45.1	+1.6
TKB	Tkibuli	2.23	256	PN	Pn	07 40 13.7	+1.3
TKB				S	Sb	07 40 45.1	+1.6
GANJ	Ganja	2.29	172	P	Pn	07 40 15.3	+2.1
	SNR=23						
GANJ				S	Sb	07 40 44.9	-0.1
MNGR	Mingechevir, A	2.31	158	P	Pb	07 40 16.2	-1.2
	SNR=6.1						
MNGR				S	Sb	07 40 46.2	+0.6
KBZ	Khabaz	2.35	291	Pn	Pn	07 40 14.2	+0.2
	comp=Z,10nm,0.3s,baz=84,slow=4.4,SNR=94						
KBZ				Sn	Sn	07 40 41.8	-0.5
	comp=Z,20nm,0.3s,baz=108,slow=23,SNR=7.5						
AKH	Akhalkalaki	2.35	231	P	Pn	07 40 16.4	+2.2
AKH				S	Sb	07 40 46.9	-0.1
AKH	Akhalkalaki	2.35	231	PN	Pn	07 40 16.4	+2.2
AKH				S	Sb	07 40 46.9	-0.1
AKH	Akhalkalaki	2.35	231	ePn	Pn	07 40 15.5	+1.3
AKH				eSn	Sn	07 40 45.5	+2.9
PYA1	Pyatigorsk	2.35	300	iPN	Pn	07 40 13.8	-0.3
PYA1	Pyatigorsk	2.35	300	ePn	Pn	07 40 13.7	-0.3
PYA1				eSn	Sn	07 40 43.6	+1.1
NEY	Neytrino	2.37	279	ePN	Pn	07 40 15.5	+1.1
NEY				eS	Sb	07 40 47.4	0.0
NEY	Neytrino	2.37	279	ePn	Pn	07 40 14.6	+0.2
NEY				eSn	Sb	07 40 46.6	-0.8
XNQ	Khinaliq	2.40	136	P	Pb	07 40 19.0	-0.1
	SNR=50						
XNQ				S	Sg	07 40 51.6	-2.0
QBL	Gabala	2.43	143	P	Pb	07 40 19.0	-0.6
	SNR=15						
QBL				S	Sg	07 40 52.1	-2.4
QUBA	Quba, Azerbaij	2.47	128	P	Pb	07 40 20.1	0.0
	SNR=11						
QUBA				S	Sg	07 40 54.2	-1.5
SHA1	Shidzhatmaz	2.52	290	cePN	Pn	07 40 16.1	-0.4
SHA1	Shidzhatmaz	2.52	290	ePn	Pn	07 40 16.7	+0.2
SHA1				eSn	Sn	07 40 49.9	+3.0
KIV0	Kislovodsk Arr	2.57	295	ePn	Pn	07 40 16.6	-0.5
KIV0				eSn	Sn	07 40 48.4	+0.5
KVAR	Kislovodsk Arr	2.57	295	Pn	Pn	07 40 16.9	-0.2
	baz=142,slow=18,SNR=50						
KVAR				Sn	Sn	07 40 47.5	-0.4
	baz=198,slow=20,SNR=11						
IML	Ismayilli	2.71	141	P	Pb	07 40 22.7	-1.6
	SNR=10						
IML				S	Sb	07 40 58.2	+1.0
EPOS	Posof	2.76	240	iP	Pn	07 40 21.4	+1.6
EPOS				iS	Sb	07 40 57.7	-1.0
BRDA	Brd	2.81	160	P	Pb	07 40 23.7	-2.3
	SNR=6.0						
BRDA				S	Sb	07 40 58.6	-1.5
EAK	Akyaka	2.82	219	iP	Pn	07 40 22.5	+1.8
EAK				iS	Sb	07 40 58.9	-1.6
EAK				IAML		07 41 07.0	
	comp=E,360nm,0.6s						
EAK				IAML		07 41 07.0	
	comp=N,419nm,0.7s						
ALER	Alexandrovskoy	2.85	311	ePn	Pn	07 40 21.4	+0.5
ALER				eSn	Sn	07 40 56.4	+1.6
SIZA	Siyzn	2.88	129	P	Pb	07 40 25.3	-1.9
	SNR=5.3						
SIZA				S	Sb	07 41 05.4	+3.2
GNI	Garni	2.91	198	cePN	Pn	07 40 24.4	+2.7
GNI				pmax	pmax		
	comp=Z,869nm,0.8s						
GNI	Garni	2.91	198	Pn	Pn	07 40 24.4	+2.7
	comp=Z,22nm,0.3s,baz=0.2,slow=4.9,SNR=26						
GNI				Sn	Sb	07 41 03.2	+0.4
	comp=Z,38nm,0.3s,baz=270,slow=21,SNR=7.2						
GNI				LR	LR	07 41 51.3	
	comp=Z,49nm,19.7s,baz=252,slow=47						
GNI	Garni	2.91	198	PN	Pn	07 40 22.9	+1.1
PQL	Pirkuli	2.92	136	P	Pb	07 40 26.0	-1.8
	SNR=12						
PQL				S	Sb	07 41 05.5	+2.3
AGDM	Agdam	2.94	162	P	Pn	07 40 25.0	+2.8
	SNR=20						
AGDM				S	Sb	07 41 02.1	-1.8
GOF	Gofitskoye	2.98	317	cePN	Pn	07 40 24.0	+1.3
GOF	Gofitskoye	2.98	317	ePn	Pn	07 40 23.8	+1.1
GOF				eSn	Sn	07 41 01.7	+3.8
ATGJ	Altiaghaj	3.05	131	P	Pb	07 40 27.9	-2.1
	SNR=8.5						
ATGJ				S	Sb	07 41 09.1	+2.1
KARS	Kars	3.12	224	PN	Pn	07 40 25.6	+0.8
DIGO	Kars	3.15	218	iP	Pn	07 40 28.9	+3.7
TASB	TASBURUN-IGDIR	3.19	204	PN	Pn	07 40 26.9	+1.3
GBS	Qobustan	3.28	135	P	Pb	07 40 31.0	-3.0
	SNR=6.6						
GBS				S	Sb	07 41 12.8	-0.8
NVNR	Nevinnomyssk	3.33	302	ePn	Pn	07 40 28.7	+1.3
NVNR				eSn	Sn	07 41 08.8	+2.2
IGDI	IGDIR	3.35	205	iP	Pn	07 40 27.9	+0.1
BATM	Batumi	3.40	249	PN	Pn	07 40 29.4	+1.0
BLQ	Beylaqan	3.42	158	P	Pn	07 40 30.8	+2.0
	SNR=4.0						
BLQ				S	Sn	07 41 14.2	+5.4
ARTV	Artvin	3.44	241	iP	Pn	07 40 31.9	+2.7
ARTV				iS	Sb	07 41 20.1	+1.7
DAGI	Agillar	3.51	240	iP	Pn	07 40 32.0	+2.0
DAGI				iS	Sb	07 41 22.2	+2.1
SBZ	Shahbuz	3.53	185	P	Pn	07 40 32.5	+2.2
	SNR=20						
SBZ				S	Sn	07 41 15.6	+4.0
SENK	Senkaya-Erzuru	3.56	230	PN	Pn	07 40 31.7	+0.9
DBAD	Bademkaya	3.68	240	iPA	Pn	07 40 34.2	+1.9
DBAD				iS	Sb	07 41 26.9	+1.7
DDEM	Demirkent	3.71	238	iP	Pn	07 40 35.0	+2.1
DDEM				iS	Sb	07 41 28.7	+2.6
NAX	Nakhchivan	3.75	185	PN	Pn	07 40 35.1	+1.8
NAX	Nakhchivan	3.75	185	P	Pn	07 40 35.1	+1.8
	SNR=8.4						
NAX				S	Sn	07 41 20.9	+3.8
ORD	Ordubad	3.99	179	P	Pn	07 40 38.1	+1.5
	SNR=12						
ORD				S	Sn	07 41 26.5	+3.7
GLBA	Clilabad	4.12	152	P	Pn	07 40 41.0	+2.7
	SNR=16						
GLBA				S	Sn	07 41 32.5	+6.5
KOPR	Koprukoy-ERZUR	4.23	228	PN	Pn	07 40 41.4	+1.4
YRD	Yardimli	4.37	156	P	Pn	07 40 44.1	+2.2
	SNR=35						
YRD				S	Sn	07 41 37.5	+5.1
KRIK	Erzurum-spir	4.55	237	iP	Pb	07 40 53.4	-2.3
LRK	Lerik	4.65	156	P	Pn	07 40 47.9	+2.2
	SNR=21						
LRK				S	Sn	07 41 43.7	+4.5
ASTR	Astara	4.87	152	P	Pn	07 40 51.0	+2.4
	SNR=7.9						
BAYB	BAYBURT	5.01	240	iP	Pb	07 41 01.6	-2.0
BAYT	Aydıntepe-Bayb	5.01	242	PN	Pn	07 40 52.4	+1.7
VRH	Novokhopyorsk	8.77	342	eP	Pn	07 41 45.7	+3.7
VRH				pmax	pmax		
	comp=Z,20nm,0.4s						
VSR	Storozhevoye	9.49	333	eP	Pn	07 41 52.5	+0.6
VSR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
GEYT	Alibeck	10.54	114	Pn	Pn	07 42 06.7	+0.2
	comp=Z,1.4nm,0.3s,baz=299,slow=15,SNR=10						
GEYT				Sn	Sn	07 44 03.8	-0.3
	comp=Z,0.3nm,0.3s,baz=273,slow=30,SNR=3.1						
GYA0B	ALIBECK ARRAY	10.54	114	⇓P	Pn	07 42 06.0	-0.4
GYA0B				⇓S	Sn	07 44 04.0	-0.1
LPSR	Galich'ya Gora	10.77	337	eP	Pn	07 42 06.8	-2.6
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
AKTO	Aktyubinsk	11.19	44	P	Pn	07 42 15.4	+0.2
AKTO				S	Sn	07 44 15.8	-4.0
AKTO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AKTO				smax	smax		
	comp=N,8.0nm,0.7s						
AKTO	Aktyubinsk	11.19	44	Pn	Pn	07 42 15.5	+0.2
	comp=N,1.0nm,0.3s,baz=238,slow=7.5,SNR=12						
AKTO				Sn	Sn	07 44 13.9	-5.9
	comp=N,0.3nm,0.3s,baz=45,slow=19,SNR=2.8						
AKTO				LR	LR	07 47 36.3	
	comp=N,22nm,21.7s,baz=157,slow=43						
AKTO	Aktyubinsk	11.19	44	⇑P	Pn	07 42 15.5	+0.2
	comp=N,9.0nm,0.8s						
AKTO				⇓S	Sn	07 44 10.3	-10
	comp=N,7.5nm,0.7s						
AB31	Akbulak array	11.61	52	P	Pn	07 42 20.4	-0.5
AB31				eS	Sn	07 44 27.3	-2.6
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AB31				smax	smax		
	comp=N,19nm,1.1s						
AB31	Akbulak array	11.61	52	⇑P	Pn	07 42 20.5	-0.5
	comp=N,1.7nm,0.4s,baz=238,slow=12,SNR=59						
AB31				⇓S	Sn	07 44 22.6	-7.4
	comp=N,10nm,1.0s,baz=243,slow=21,SNR=6.7						
OBN	Obninsk	13.64	337	⇑eP	Pn	07 42 50.6	+1.9
OBN				eS	Sn	07 45 18.8	-0.8
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PETR	Petresti	13.67	288	⇑P	P	07 43 13.8	+16
AKASG	Malin Array Be	13.81	310	Pn	Pn	07 42 44.0	-7.0
	comp=Z,0.3nm,0.3s,baz=107,slow=14,SNR=2.9						
VRI	Vrincioaia	14.04	289	⇑P	P	07 43 12.8	+11
PLOR	Plostina	14.09	289	⇓P	P	07 43 12.5	+10
MLR	Muntele Rosu	14.56	287	⇑P	P	07 43 12.7	+4.9
DOPR	Dopca	14.98	289	⇑P	P	07 43 15.5	+3.2
VOIR		15.19	287	⇓P	P	07 43 18.8	+4.1
VOIR		15.19	287	⇓P	P	07 43 18.8	+4.1
BURAR	Bucovina Array	15.30	295	⇑P	P	07 43 18.1	+2.0
BURAR	Bucovina Array	15.30	295	⇑P	P	07 43 18.1	+2.0
ARU	Arti	15.77	27c	iP	Pn	07 43 18.7	+1.5
ARU				S	Sn	07 46 13.1	+1.8
ARU				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ARU	Arti	15.77	27	Pn	Pn	07 43 12.2	-5.0
	comp=Z,0.0nm,0.3s,baz=211,slow=5.4,SNR=12						
SVE	Sverdlovsk	16.79	29	eP	Pn	07 43 27.2	-3.0
SVE				eS	Sn	07 46 30.8	-5.3
SVE				pmax	pmax		
	comp=Z,25nm,0.9s						
DRGR		16.89	291	⇓P	P	07 43 36.2	+2.6
DRGR		16.89	291	⇓P	P	07 43 36.2	+2.6
KK31	Karatay Array	17.97	81	iP	Pn	07 43 44.2	-0.8
KK31				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KK31	Karatay Array	17.97	81	P	Pn	07 43 44.3	-0.8
	comp=Z,3.4nm,0.8s,baz=296,slow=10,SNR=24						
KK31				⇑S	Sn	07 46 57.8	-7.2
	comp=Z,1.5nm,0.6s,baz=274,slow=25,SNR=5.1						
BRVK	Borovoye	19.11	50	iP	Pn	07 43 59.8	+1.0
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BRVK	Borovoye	19.11	50	⇑P	P	07 43 58.6	+0.6
	comp=Z,8.3nm,1.1s						
BRVK				⇑S	Sn	07 47 20.5	-12
	comp=Z,3.4nm,0.9s						
BVAR	Borovoye Array	19.16	50	P	P	07 43 58.2	-0.3
	comp=Z,0.4nm,0.3s,baz=240,slow=12,SNR=13						
BVAR				S	Sn	07 47 24.2	-9.3
	comp=Z,0.3nm,0.3s,baz=235,slow=26,SNR=4.4						
VYHS	Vyhne	19.67	296	eP	P	07 44 03.2	-0.9
VYHS	Vyhne	19.67	296	eP	P	07 44 03.2	-0.9
AAK	Ala-Archa	20.94	81	iP	Pn	07 44 19.9	-0.8
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AAK	Ala-Archa	20.94	81	P	P	07 44 19.0	+0.9
	comp=Z,3.8nm,0.7s,baz=249,slow=10,SNR=13						
TMCR	Tamitsa	21.76	351	eP	P	07 44 26.2	-0.3
TMCR				pmax	pmax		
	comp=Z,23nm,0.8s						
FINES	FINESS Array B	22.02	334	P	P	07 44 28.5	-0.9
	comp=Z,1.9nm,0.4s,baz=146,slow=10,SNR=19						
GERES	GERESS Array B	23.09	296	P	P	07 44 40.0	-0.9
GERES	GERESS Array B	23.09	296	P	P	07 44 40.0	-0.9
	comp=Z,0.9nm,0.7s,baz=102,slow=8.3,SNR=5.5						
KHC	Kasperske Hory	23.18	297	iP	P	07 44 43.3	+1.5
KHC				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KURBB	Kurchatov Arra	23.48	59	P	P	07 44 45.3	+0.6
	comp=Z,2.2nm,0.8s,baz=269,slow=9.6,SNR=7.8						
KURK	Kurchatov	23.55	59	P	P	07 44 45.3	0.0
CLL	Collm	23.76	302	eP	P	07 44 49.0	+1.6
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CLL	Collm	23.76	302	eP	P	07 44 49.0	+1.6
	comp=Z,5.0nm,0.9s						
WTTA	Wattenberg	24.47	292	P	P	07 44 54.7	+0.5
	comp=Z,7.7nm,0.7s						
WATA	Walderalm	24.51	292	pP	P	07 44 54.8	+0.3
	comp=Z,11nm,1.2s						
SQTA	Sankt Quirin	24.76	292	eP	P	07 44 57.9	+1.0
	comp=Z,4.5nm,0.9s						
MOTA	Moosalm	24.83	292	eP	P	07 44 58.4	+0.9
	comp=Z,2.5nm,0.7s						
FETA	Feichten	25.10	292	epP	P	07 45 02.0	+2.1
	comp=Z,5.8nm,0.9s						
DAVOX	Davos/Dischmat	25.70	291	P	P	07 45 05.1	-0.3
	comp=Z,1.6nm,0.7s,baz=141,slow=11,SNR=5.2						
MKAR	Makanchi Array	25.92	69	P	P	07 45 08.3	+1.1
	comp=Z,0.9nm,0.5s,baz=269,slow=6.7,SNR=7.3						
HFS	Hagfors	26.05	323	P	P	07 45 07.5	-0.7
	comp=Z,2.8nm,0.5s,baz=126,slow=9.2,SNR=22						
NB2	NORSAR Subarra	27.55	323	P	P	07 45 19.9	-1.9
	comp=Z,2.0nm,1.1s,baz=116,slow=9.3						
NOA	NORSAR Array B	27.55	323	P	P	07 45 20.4	-1.4
	comp=Z,0.5nm,0.6s,baz=116,slow=8.3,SNR=3.7						
ARCES	ARCESS Array B	28.68	345	P	P	07 45 31.6	-0.2
	comp=Z,2.0nm,0.8s,baz=155,slow=8.8,SNR=6.2						
SONM	Songino Array	41.81	62	P	P	07 47 25.9	+1.1
	comp=Z,0.3nm,0.4s,baz=300,slow=2.8,SNR=3.8						
TORD	Torodi Ar. Bea	48.23	246	P	P	07 48 15.8	-0.3
	comp=Z,1.6nm,0.7s,baz=42,slow=7.3,SNR=12						
CMAR	Chiang Mai Arr	50.73	102	iP	P	07 48 37.7	+2.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	Chiang Mai Arr	50.73	102	P	P	07 48 36.5	+1.4
	comp=Z,1.4nm,0.6s,baz=296,slow=7.8,SNR=6.8						
DBIC	Dimbokro	57.34	246	P	P	07 49 22.1	-1.3
	comp=Z,5.2nm,1.0s,baz=28,slow=7.4,SNR=3.3						
YKA	Yellowknife Ar	73.78	351	P	P	07 51 09.1	+0.2
	comp=Z,0.6nm,0.6s,baz=11,slow=5.9,SNR=8.1						

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*KRNET **08** 07:50:47.8±0.1, 40.°95N×73.°69E, h17km, mb3.0*
*SOME **08** 07:50:47.9, 41.°05N×73.°67E, h0km*
*NNC **08** 07:50:48.5±1.5, 40.°92N×73.°65E, h0km, mb3.9, mpv3.5,*
Error ellipse: s-maj=12.0km s-min=6.4km az=171.0
ISC 08 07:50:45.4±1.4, **40.°87N**±0.°05×**73.°73E**±0.°02, **h1**km±12km,
n53, σ**1.s38**/79, **9C-17D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	Arslanbob	0.72	309	⇓iP	Pg	07 51 00.0	+0.7
	baz=5.0						
ARSB				⇓iS	Sb	07 51 09.6	-1.8
	baz=5.0						
ARLS	Aral	1.09	24	⇓iP	Pb	07 51 07.1	0.0
	baz=27						
ARLS				⇓iS	Sn	07 51 21.9	-1.9
	baz=27						
AML	Almayashu	1.26	359	P	Pb	07 51 10.2	-0.1
	SNR=84						
UCH	Uchtor	1.48	23	P	Pb	07 51 14.2	+0.2
	SNR=28						
ARK	Arkit	1.62	306	⇓iP	Pb	07 51 15.8	-0.4
	baz=3.0						
ARK				⇓iS	Sg	07 51 36.7	-0.8
	baz=3.0						
KZA	Kyzart	1.67	43	P	Pb	07 51 18.0	+0.9
	SNR=23						
EKS2	Erkin-Say	1.79	1	P	Pb	07 51 19.7	+0.6
	SNR=22						
NRN	Naryn	1.81	71	⇓eP	Pb	07 51 20.7	+1.2
	baz=74						
NRN				⇓iS	Sg	07 51 44.6	+1.1
	baz=74						
AAK	Ala-Archa	1.86	18	P	Pg	07 51 21.2	+0.1
	SNR=32						
AAK	Ala-Archa	1.86	18	⇓P	Pg	07 51 21.2	+0.1
	14nm,0.6s						
AAK				S	Sg	07 51 48.0	+2.8
	15nm,0.5s						
MRKS	Merke	1.92	349	eP	Pb	07 51 21.6	+0.5
	40nm,0.2s						
MRKS				eS	Sg	07 51 45.6	-1.2
	98nm,0.3s						
MRKS	Merke	1.92	349	P	Pb	07 51 21.6	+0.5
	82nm,0.3s						
MRKS				S	Sg	07 51 46.4	-0.5
	98nm,0.3s						
KBK	Karagaybulak	2.01	27	P	Pg	07 51 24.4	+0.5
	SNR=12						
FRU1	Bishkek	2.06	19	⇑iP	Pb	07 51 23.5	0.0
	baz=20						
FRU1				⇑iS	Sg	07 51 49.8	-1.7
	baz=20						
CHMS	Chumysh	2.26	19	P	Pg	07 51 28.4	-0.3
	SNR=14						
BOOM	Boomskoye usch	2.32	45	⇓eP	Pb	07 51 27.6	-0.5
	baz=47						
BOOM				⇓iS	Sb	07 51 57.6	+0.3
	baz=47						
ULHL	Ulahol	2.34	53	P	Pg	07 51 30.7	+0.5
	SNR=8.5						
BTK	Batken	2.36	251	⇓iP	Pb	07 51 28.0	-0.7
	baz=49						
BTK				⇓iS	Sb	07 51 57.8	-0.6
	baz=49						
USP	Ospenovka	2.47	13	P	Pb	07 51 31.6	+1.0
	SNR=15						
TKM2	Tokmak 2	2.48	34	P	Pb	07 51 31.9	+1.0
	SNR=18						
TKM2	Tokmak 2	2.48	34	⇑Pn	Pb	07 51 32.2	+1.3
	5.9nm,0.3s						
TKM2				⇑Sn	Sg	07 52 05.7	+0.6
	22nm,0.6s						
SGDS	Sogindy	2.67	14	Pg	Pb	07 51 34.8	+0.8
	16nm,0.4s						
SGDS				Lg	Lg	07 52 08.6	
	23nm,0.4s						
KST	Kastek	2.74	37	eP	Pg	07 51 37.6	-0.3
	20nm,0.4s						
KST				eS	Sg	07 52 13.6	+0.1
	28nm,0.4s						
KST	Kastek	2.74	37	Pg	Pg	07 51 37.6	-0.3
	20nm,0.4s						
KST				Lg	Lg	07 52 13.6	
	28nm,0.4s						
DGS	Degeres	2.82	32	eP	Pg	07 51 39.2	-0.2
	33nm,0.4s						
DGS				eS	Sg	07 52 16.4	+0.3
	43nm,0.6s						
DGS	Degeres	2.82	32	Pg	Pg	07 51 39.2	-0.2
	33nm,0.4s						
DGS				Lg	Lg	07 52 16.4	
	43nm,0.6s						
KDJ	Kajisay	2.88	63	⇓eP	Pb	07 51 36.3	-1.4
	baz=65						
KDJ				⇓iS	Sb	07 52 11.9	-1.7
	baz=65						
MTBS	Maitube	3.03	41	eP	Pg	07 51 43.9	+0.4
	11nm,0.3s						
MTBS				eS	Sg	07 52 24.0	+1.4
	27nm,0.3s						
MTBS	Maitube	3.03	41	Pg	Pg	07 51 43.9	+0.4
	11nm,0.3s						
MTBS				Lg	Lg	07 52 24.0	
	27nm,0.3s						
IUG	Iuzhnay	3.06	296	eP	Pb	07 51 42.8	+2.2
	2.2nm,0.4s						
IUG				eS	Sg	07 52 21.9	-1.6
	376nm,0.4s						
IUG	Iuzhnay	3.06	296	Pg	Pb	07 51 42.9	+2.3
	2.2nm,0.4s						
IUG				Lg	Lg	07 52 21.8	
	376nm,0.4s						
IZV	Izvestkoviy	3.06	44	eP	Pg	07 51 43.8	-0.1

IZV	18nm,0.5s				*e*S		**Sg**	**07 52 24.3 +0.8**
IZV	28nm,0.6s **Izvestkoviy**	**3.06**	**44**	Pg		**Pg**	**07 51 43.8**	**-0.1**
IZV	18nm,0.5s				Lg		Lg	07 52 24.3
KK31	28nm,0.6s **Karatay Array**	**3.28**	**314**	⇑Pn		**Pn**	**07 51 39.8**	**+2.0**
KK31	1.0nm,0.3s,baz=124,slow=13,SNR=82			⇑Pg		**Pg**	**07 51 47.0**	**-1.2**
KK31	1.9nm,0.3s,baz=131,slow=14,SNR=19			⇓Lg		Lg	07 52 27.7	
MDOK	26nm,0.5s,baz=135,slow=28,SNR=17 **Medeo**	**3.38**	**46**	*e*P		**Pg**	**07 51 49.7**	**-0.4**
MDOK	14nm,0.5s				*e*S		**Sg**	**07 52 34.1**	**+0.3**
MDOK	17nm,0.6s **Medeo**	**3.38**	**46**	Pg		**Pg**	**07 51 49.7**	**-0.4**
MDOK	14nm,0.5s				Lg		Lg	07 52 34.1	
KOTS	17nm,0.6s **Kotyrbulak**	**3.46**	**46**	*e*P		**Pg**	**07 51 51.0**	**-0.7**
KOTS	37nm,0.5s				*e*S		**Sg**	**07 52 36.3**	**-0.2**
KOTS	57nm,0.5s **Kotyrbulak**	**3.46**	**46**	Pg		**Pg**	**07 51 51.0**	**-0.7**
KOTS	37nm,0.5s				Lg		Lg	07 52 36.3	
ANVS	57nm,0.5s **Anan'yevo**	**3.51**	**56**	⇑*i*P		**Pn**	**07 51 44.6**	**+3.3**
ANVS	baz=57			⇑*e*S		**Sb**	**07 52 26.9**	**-4.8**
KTBS	baz=57 **Karatobe**	**3.59**	**37**	*e*P		**Pg**	**07 51 52.9**	**-1.3**
KTBS	4.2nm,0.3s				*e*S		**Sg**	**07 52 39.5**	**-1.2**
KTBS	26nm,0.4s **Karatobe**	**3.59**	**37**	Pg		**Pg**	**07 51 52.9**	**-1.3**
KTBS	4.2nm,0.3s				Lg		Lg	07 52 39.5	
KUU	26nm,0.4s **Kurty**	**3.59**	**32**	*e*P		**Pb**	**07 51 52.6**	**+2.9**
KUU	5.9nm,0.2s				*e*S		**Sg**	**07 52 39.5**	**-1.2**
KUU	16nm,0.4s **Kurty**	**3.59**	**32**	Pg		**Pb**	**07 51 52.6**	**+2.9**
KUU	5.9nm,0.2s				Lg		Lg	07 52 39.5	
CHKK	16nm,0.4s **Chushkaly**	**3.84**	**38**	*e*P		**Pg**	**07 51 58.0**	**-1.0**
CHKK	4.7nm,0.5s				*e*S		**Sg**	**07 52 48.1**	**-0.6**
CHKK	11nm,0.2s **Chushkaly**	**3.84**	**38**	Pg		**Pg**	**07 51 58.0**	**-1.0**
CHKK	4.7nm,0.5s				Lg		Lg	07 52 48.1	
SATY	11nm,0.2s **Saty**	**4.12**	**56**	*e*P		**Pg**	**07 52 03.9**	**-0.4**
SATY	7.6nm,0.3s				*e*S		**Sg**	**07 52 58.2**	**+0.5**
SATY	14nm,0.4s **Saty**	**4.12**	**56**	Pg		**Pg**	**07 52 03.9**	**-0.4**
SATY	7.6nm,0.3s				Lg		Lg	07 52 58.2	
KPKS	14nm,0.4s **Kokpek**	**4.51**	**53**	*e*P		**Pg**	**07 52 10.6**	**-1.1**
KPKS	1.4nm,0.1s				*e*S		**Sg**	**07 53 09.6**	**-0.6**
ARXS	13nm,0.3s **Arharly**	**4.51**	**41**	*e*P		**Pg**	**07 52 10.0**	**-1.9**
ARXS	3.3nm,0.6s				*e*S		**Sg**	**07 53 08.3**	**-2.0**
ARXS	9.3nm,0.5s **Arharly**	**4.51**	**41**	Pg		**Pg**	**07 52 10.0**	**-1.9**
ARXS	3.3nm,0.6s				Lg		Lg	07 53 08.3	
PDGK	9.3nm,0.5s **Podgornoye**	**4.94**	**58**	⇑Pg		**Pg**	**07 52 17.9**	**-2.2**
PDGK	2.1nm,0.6s			⇓Lg		Lg	07 53 30.5	
DJR	4.0nm,0.6s **Jarkent**	**5.66**	**50**	Pg		**Pg**	**07 52 31.2**	**-2.6**
DJR	1.2nm,0.5s				Lg		Lg	07 53 44.8	
KAPS	3.3nm,0.6s **Kapalarasan**	**6.04**	**41**	Pg		Pg	07 52 37.5	-3.6
KAPS	1.5nm,0.4s				Lg		Lg	07 53 55.8	
	3.0nm,0.5s							

NIED ***08*** *07:58:00,44˚.50N×149˚.30E,h41km,Mw5.1 Best double couple: M₀4.78000×10¹⁶ NP1:φs153.00000°,δ46.00000°, λ-8.00000°. NP2:φs248.00000°,δ84.00000°, λ-136.00000°.*

ISCJB ***08*** *07:58:34.0±0.4,44˚.35N±0˚.03×149˚.25E±0˚.03,h37km±3km, mb4.6/96,MS4.6/52,Error ellipse: s-maj=4.6km s-min=2.7km az=153.4*

MOS ***08*** *07:58:33.8±1.1,44˚.38N×149˚.25E,h36km,mb5.0/53, MS4.6/13,Error ellipse: s-maj=5.6km s-min=4.6km az=90.8*

JMA ***08*** *07:58:34.0±0.9,44˚.54N×149˚.30E,h30km,M4.8*

NEIC ***08*** *07:58:35.7±1.5,44˚.45N±0˚.07×149˚.2E±0˚.1,h35km±1km, mb4.9/185*

IDC ***08*** *07:58:35.7±2.1,44˚.46N×149˚.20E,h41km±19km,mb4.1/26, mb1 4.3/34,mb1mx4.2/46,mbtmp4.3/34,ML3.5/8,MS4.5/28, Ms1 4.5/28,ms1mx4.3/36,Error ellipse: s-maj=14.3km s-min=10.9km az=140.0*

SKHL ***08*** *07:58:35.2±0.8,44˚.30N×149˚.29E,h51km±4km,mb5.6/3, Ms4.5/12,msh5.3/2*

SKHL Felt (II-III) at Reidovo, Goryachie Kluchi, Kuril'sk, Gornyi, Kitovyi.

GCMT ***08*** *07:58:36.7±0.2,44˚.47N±0˚.01×149˚.25E±0˚.02,h32km±1km, MW5.0/114,Moment Tensor Solution. s41,c47; s114,c172; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.59±.15; Mθθ2.31±.12; Mφφ-1.73±.10; Mrθ2.33±.19; Mθφ-1.93±.08; Mφr1.49±.15; Best double couple: M₀3.95500×10¹⁶ NP1:φs249.00000°,δ83.00000°, λ-136.00000°. NP2:φs152.00000°,δ46.00000°, λ-10.00000°. Principal axes: T 3.8040, Plg24.0000°, Azm13.0000°; N 0.2940, Plg45.0000°, Azm256.0000°; P -4.1070, Plg35.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 07:58:36.1±0.3,44˚.42N±0˚.04×149˚.28E±0˚.04,h39km±2km, h39km:pP-P,n531,σ1s50/557,mb4.8/171,MS4.6/52, 51C-10D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.29**	**310**	*d*	*i*	P	**Pn**	**07 58 55.9**	**-1.6**
KUR					*i*	S	**Sn**	**07 59 11.9**	**-1.7**
KUR	comp=N,1092μm,0.5s			pmax		pmax			
KUR	comp=Z,2561μm,0.5s			pmax		pmax			
KUR	comp=E,1716μm,0.3s			pmax		pmax			
KUR	comp=E,7μm,0.3s			smax		smax			
KUR	comp=N,3μm,0.2s			smax		smax			
KUR	comp=N,8μm,1.2s			smax		smax			
KUR	comp=E,19μm,1.8s								
KUR	**Kuril'sk**	**1.29**	**310**	⇓	*i*	P	**Pn**	**07 58 56.0**	**-1.6**
KUR	comp=E,1μm,0.5s			AMB		AMB	AMB	07 58 59.0	
KUR	comp=E,1μm,0.5s			AMB		AMB	AMB	07 58 59.0	
KUR	comp=E,3μm,0.5s			AMB		AMB	AMB	07 59 01.9	
KUR	comp=E,6μm,2.0s				*i*	S	**Sn**	**07 59 12.3**	**-1.3**
KUR	comp=E,10μm,0.5s			A		A	A	07 59 15.7	
KUR	comp=E,5μm,0.5s			A		A	A	07 59 15.7	
KUR	comp=E,17μm,2.0s			A		A	A	07 59 18.0	
KUR	comp=E,32μm,2.0s			A		A	A	07 59 18.0	
KUR	comp=E,30μm,13.0s			AMS		AMS	AMS	07 59 37.0	
KUR	comp=E,31μm,13.0s			AMS		AMS	AMS	07 59 37.0	
YUK	**Yuzh-Kuril'sk**	**2.48**	**262**	*d*	*i*	PN	**Pn**	**07 59 14.2**	**+0.3**
YUK					*e*	S	**Sn**	**07 59 42.8**	**-0.2**
YUK	comp=E,104μm,0.2s			pmax		pmax			
YUK	comp=Z,855μm,0.2s			pmax		pmax			
YUK	comp=N,155μm,0.1s			pmax		pmax			
YUK	comp=E,1μm,0.4s			smax		smax			
YUK	comp=N,2μm,0.5s			smax		smax			
YUK	**Yuzh-Kuril'sk**	**2.48**	**262**	⇓	*i*	P	**Pn**	**07 59 14.1**	**+0.2**
YUK	comp=N,100nm,0.4s			AMB		AMB	AMB	07 59 17.0	
YUK	comp=N,160nm,0.4s			AMB		AMB	AMB	07 59 17.0	
YUK	comp=N,860nm,0.4s			AMB		AMB	AMB	07 59 17.0	
YUK					*e*	S	**Sn**	**07 59 42.6**	**-0.4**
YUK	comp=N,2μm,0.5s			A		A	A	07 59 51.8	
YUK	comp=N,1μm,0.5s			A		A	A	07 59 51.8	
YUK	comp=N,4μm,12.0s			AMS		AMS	AMS	08 00 24.5	
GRPR	**Tuman**	**2.56**	**262**	*e*		PN	**Pn**	**07 59 14.2**	**-0.7**
GRPR					*i*	S	**Sn**	**07 59 45.5**	**+0.8**
GRPR	comp=Z,506nm,0.3s			pmax		pmax			
GRPR	comp=N,159nm,0.1s			pmax		pmax			
GRPR	comp=E,311nm,0.2s			pmax		pmax			
GRPR	comp=N,2μm,0.3s			smax		smax			
GRPR	comp=E,2μm,0.4s			smax		smax			
GRPR	**Tuman**	**2.56**	**262**	*e*		P	**Pn**	**07 59 14.2**	**-0.7**
GRPR	comp=E,510nm,0.3s			AMB		AMB	AMB	07 59 19.0	
GRPR					*i*	S	**Sn**	**07 59 44.0**	**-0.7**
GRPR	comp=E,2μm,0.4s			A		A	A	07 59 50.0	
GRPR	comp=E,2μm,0.4s			A		A	A	07 59 50.0	
NEM2	**Nemuro 2**	**2.76**	**249**		P		**Pn**	**07 59 16.0**	**-1.7**
NEM2					*e*	S	**Sn**	**07 59 47.9**	**-1.9**
NMR	**Nemuro--Hokkai**	**2.77**	**249**	*e*		PN	**Pn**	**07 59 15.9**	**-2.0**
NMR					*e*	S	**Sn**	**07 59 49.2**	**-0.8**
NMR	**Nemuro--Hokkai**	**2.77**	**249**	*e*		P	**Pn**	**07 59 15.9**	**-2.0**
GLVR	**Golovnino**	**2.79**	**257**	*e*		PN	**Pn**	**07 59 16.9**	**-1.2**
GLVR					*i*	S	**Sn**	**07 59 49.6**	**-0.9**
GLVR	comp=Z,477nm,0.3s			pmax		pmax			
GLVR	comp=N,241nm,0.4s			pmax		pmax			
GLVR	comp=E,277nm,0.2s			pmax		pmax			
GLVR	comp=N,1μm,0.4s			smax		smax			
GLVR	comp=E,2μm,0.4s			smax		smax			
GLVR	**Golovnino**	**2.79**	**257**	*e*		P	**Pn**	**07 59 17.7**	**-0.4**
GLVR	comp=E,480nm,0.3s			AMB		AMB	AMB	07 59 21.0	
GLVR					*i*	S	**Sn**	**07 59 49.6**	**-0.9**
GLVR	comp=E,1μm,0.4s			A		A	A	07 59 56.0	
GLVR	comp=E,2μm,0.4s			A		A	A	07 59 56.0	
JRA	**Rausu**	**3.03**	**262**		P		**Pn**	**07 59 21.5**	**+0.1**
JNK	**Nakash**	**3.39**	**257**		P		**Pn**	**07 59 25.7**	**-0.7**
JAK	**Akkeshi**	**3.61**	**248**		P		**Pn**	**07 59 28.0**	**-1.4**
JTKR	**Abashiri--Toko**	**3.89**	**265**		P		**Pn**	**07 59 33.1**	**-0.1**
JAR	**Ashorobuto**	**4.14**	**256**		P		**Pn**	**07 59 36.8**	**+0.1**
JAR					*e*	S	**Sn**	**08 00 24.4**	**+0.7**
JOB	**Onbets**	**4.23**	**251**		P		**Pn**	**07 59 37.7**	**-0.2**
JOB					*e*	S	**Sn**	**08 00 25.8**	**-0.2**
JMP	**Maruseppu**	**4.27**	**267**		P		**Pn**	**07 59 39.6**	**+1.0**
JCH	**Churui**	**4.66**	**249**		P		**Pn**	**07 59 43.6**	**-0.3**
JKK2	**Kamakawa 2**	**4.73**	**266**		P		**Pn**	**07 59 48.1**	**+3.3**
JKA	**Kamikawa-asahi**	**4.80**	**269**	*e*		P	**Pn**	**07 59 46.6**	**+0.8**
JKA	**Kamikawa-asahi**	**4.80**	**269**				**Pn**	**07 59 46.6**	**+0.8**
ASAJ	**Asahikawa**	**4.81**	**269**		P		**Pn**	**07 59 47.9**	**+2.0**
ASAJ	**Asahikawa**	**4.81**	**269**		P		**Pn**	**07 59 46.6**	**+0.7**
ASAJ	comp=E,2.7nm,0.3s,baz=61,slow=19,SNR=22				LR		LR	08 01 54.0	
JFR	comp=E,6μm,18.2s,baz=108,slow=42 **Furan**	**5.00**	**258**		P		**Pn**	**07 59 49.8**	**+1.3**
JEM	**Erimo**	**5.07**	**244**		P		**Pn**	**07 59 50.4**	**+0.9**
ERM	**Erimo**	**5.08**	**244**		PN		**Pn**	**07 59 49.8**	**+0.3**
ERM								08 00 46.8	
ERM	**Erimo**	**5.08**	**244**				**Pn**	**07 59 49.9**	**+0.3**
ERM					Sn		**Sn**	**08 00 46.8**	**-0.1**
JNBK	**Urakawa-nobuka**	**5.21**	**248**		P		**Pn**	**07 59 50.3**	**-1.1**
JNBK					*e*	S	**Sn**	**08 00 47.1**	**-3.2**
YSS	**Yuzh-Sakhalins**	**5.23**	**301**	*e*		PN	**Pn**	**07 59 53.4**	**+1.8**
YSS					*e*	S	**Sn**	**08 00 53.7**	**+3.2**
YSS	comp=Z,20nm,0.4s			pmax		pmax			
YSS	comp=N,80nm,0.7s			smax		smax			
YSS	comp=E,90nm,1.1s			smax		smax			
YSS	comp=Z,6μm,14.0s			MLR		MLR			
YSS	comp=N,1μm,11.0s			MLR		MLR			
YSS	comp=E,3μm,13.0s			MLR		MLR			
YSS	**Yuzh-Sakhalins**	**5.23**	**301**	⇑	*i*	P	**Pn**	**07 59 53.6**	**+2.0**
YSS						AMB	AMB	07 59 54.6	
YSS	comp=E,20nm,0.4s				*e*	S	**Sn**	**08 00 52.1**	**+1.6**
YSS						A	A	08 00 54.7	
YSS	comp=E,80nm,0.7s					A	A	08 00 54.7	
YSS	comp=E,90nm,0.7s					AMS	AMS	08 01 45.0	
YSS	comp=E,1μm,13.0s					AMS	AMS	08 01 45.0	
YSS	comp=E,3μm,13.0s					AMS	AMS	08 01 45.0	
YSS	comp=E,6μm,13.0s								
YSS	**Yuzh-Sakhalins**	**5.23**	**301**				**Pn**	**07 59 50.1**	**-1.4**
JBT2	**Biratori 2**	**5.28**	**254**		P		**Pn**	**07 59 52.0**	**-0.4**
JWK2	**Keihoku**	**5.32**	**282**		P		**Pn**	**07 59 56.6**	**+3.7**
JEW	**Eniwo**	**5.89**	**257**		P		**Pn**	**08 00 02.1**	**+1.3**
JNB	**Noboribetsu**	**6.30**	**255**		P		**Pn**	**08 00 06.0**	**-0.4**
JNB					*e*	S	**Sn**	**08 01 15.9**	**-1.2**
JKB	**Kayabe**	**6.54**	**250**		P		**Pn**	**08 00 08.4**	**-1.2**
JKB					*e*	S	**Sn**	**08 01 17.4**	**-5.4**
UGL	**Uglegorsk**	**6.80**	**316**	*e*		PN	Pn	08 00 24.1	+11
UGL	comp=Z,118nm,1.0s			pmax		pmax			
UGL	comp=Z,6μm,18.0s			MLR		MLR			
UGL	comp=N,4μm,13.0s			MLR		MLR			
UGL	comp=E,4μm,15.0s			MLR		MLR			
UGL	**Uglegorsk**	**6.80**	**316**	⇑	*e*	P	**Pn**	**08 00 15.5**	**+2.3**
UGL						AMB	AMB	08 00 18.2	
UGL	comp=E,90nm,0.9s					AMB	AMB	08 00 18.3	
UGL	comp=E,400nm,2.0s				*e*	S	**Sn**	**08 01 29.4**	**+0.1**
UGL						A	A	08 01 59.7	
UGL	comp=E,200nm,0.9s					AMS	AMS	08 02 52.7	
UGL	comp=E,4μm,15.0s					AMS	AMS	08 02 52.7	
UGL	comp=E,4μm,15.0s					AMS	AMS	08 02 52.7	
UGL	comp=E,6μm,15.0s								
JYM2	**Yakumo 2**	**6.89**	**254**		P		**Pn**	**08 00 13.9**	**-0.6**
JANG	**Nango**	**7.02**	**238**		P		**Pn**	**08 00 13.3**	**-3.0**
JANG					*e*	S	Sn	08 01 25.2	-10
JTM	**Tenmabayashi**	**7.06**	**242**		P		**Pn**	**08 00 15.0**	**-1.8**
JTH	**Tanohata**	**7.09**	**233**		P		**Pn**	**08 00 14.0**	**-3.2**
JSR	**Shiriuchi**	**7.11**	**249**		P		**Pn**	**08 00 16.7**	**-0.7**
SKR	**Severo-Kuril's**	**7.79**	**34**	*e*		PN	**Pn**	**08 00 26.3**	**-0.4**
SKR	comp=Z,274nm,0.8s					pmax	pmax		
SKR	comp=Z,1μm,3.8s					pmax	pmax		
SKR	comp=Z,200nm,4.1s					pmax	pmax		
SKR	comp=Z,2μm,13.0s					MLR	MLR		
SKR	comp=Z,2μm,15.0s					MLR	MLR		
SKR	comp=E,2μm,13.0s					MLR	MLR		
SKR	comp=N,1μm,14.0s					MLR	MLR		
SKR	**Severo-Kuril's**	**7.79**	**34**	*e*		P	**Pn**	**08 00 27.9**	**+1.2**
SKR						AMB	AMB	08 00 37.6	
SKR	comp=N,270nm,0.8s					AMB	AMB	08 00 39.0	
SKR	comp=N,800nm,4.0s				*e*	S	**Sn**	**08 01 53.0**	**-0.5**
SKR						A	A	08 01 57.0	
SKR	comp=N,500nm,3.0s					A	A	08 01 57.0	
SKR	comp=N,1μm,3.0s					A	A	08 02 20.6	
SKR	comp=N,140nm,0.9s					AMS	AMS	08 03 46.0	
SKR	comp=N,1μm,13.0s					AMS	AMS	08 03 46.0	
SKR	comp=N,2μm,13.0s					AMS	AMS	08 03 46.0	
SKR	comp=N,2μm,13.0s								
TYV	**Tymovskoe**	**7.84**	**328**	*e*		P	**Pn**	**08 00 31.1**	**+3.6**
TYV	comp=N,30nm,1.0s					AMB	AMB	08 00 35.0	
TYV					*e*	S	**Sn**	**08 01 57.1**	**+2.2**
TYV	comp=N,20nm,1.0s					A	A	08 02 08.5	
TYV	comp=N,40nm,1.0s					A	A	08 02 08.5	
TYV	comp=N,4μm,18.0s					AMS	AMS	08 03 45.0	
TYV	comp=N,8μm,18.0s					AMS	AMS	08 03 45.0	
PAU	**Pauzhetka**	**8.68**	**33**	*e*		P	**Pn**	**08 00 41.1**	**+2.2**
TEY	**Ternei**	**9.05**	**278**	*e*		P	**Pn**	**08 00 45.5**	**+1.5**
TEY	comp=N,30nm,1.0s					AMB	AMB	08 00 46.5	
TEY	comp=N,1μm,20.0s					AMS	AMS	08 03 53.8	
TEY	comp=N,3μm,20.0s					AMS	AMS	08 03 53.8	
TEY	comp=N,2μm,20.0s					AMS	AMS	08 03 53.8	
OKH	**Okha**	**10.04**	**338**	*c*	*i*	PN	**Pn**	**08 00 59.6**	**+2.0**
OKH					*i*	S	Sn	08 03 06.8	+18
OKH	comp=Z,100nm,7.9s					pmax	pmax		
OKH	**Okha**	**10.04**	**338**	⇓	*i*	P	**Pn**	**08 01 02.0**	**+4.4**
OKH						AMB	AMB	08 01 03.8	
OKH	comp=Z,220nm,1.1s					AMB	AMB	08 01 04.0	
OKH	comp=Z,1μm,8.0s				*e*	S	**Sn**	**08 02 51.7**	**+2.9**
OKH						A	A	08 03 16.4	
OKH	comp=Z,1μm,7.0s					AMS	AMS	08 04 26.5	
OKH	comp=Z,2μm,20.0s					AMS	AMS	08 04 26.5	
OKH	comp=Z,2μm,20.0s					AMS	AMS	08 04 26.5	
PEA0B	comp=Z,2μm,20.0s **Petropavlovsk-**	**10.32**	**30**	*i*		PN	**Pn**	**08 01 02.2**	**+0.9**
PEA0B	**Petropavlovsk-**	**10.32**	**30**				**Pn**	**08 01 02.3**	**+0.9**
PETK	**Petropavlovsk-**	**10.32**	**30**			P	**Pn**	**08 01 01.4**	**0.0**
PETK	comp=Z,2.0nm,0.3s,baz=212,slow=13,SNR=28					LR	LR	08 05 02.2	
NKL	comp=Z,2μm,18.8s,baz=212,slow=38 **Nikolayevsk**	**10.41**	**330**			PN	**Pn**	**08 01 01.6**	**-1.0**
NKL	comp=Z,69nm,1.4s					pmax	pmax		
NKL	comp=E,52nm,1.6s					pmax	pmax		
NKL	comp=N,2.0nm,1.0s					pmax	pmax		
NKL	**Nikolayevsk**	**10.41**	**330**	⇓	*e*	P	**Pn**	**08 01 04.0**	**+1.4**
NKL						AMB	AMB	08 01 06.6	
NKL	comp=N,20nm,1.4s					AMB	AMB	08 01 06.6	
NKL	comp=N,40nm,1.4s					AMB	AMB	08 01 06.6	
NKL	comp=N,70nm,1.4s					AMS	AMS	08 04 43.8	
NKL	comp=N,2μm,19.0s					AMS	AMS	08 04 43.8	
NKL	comp=N,800nm,19.0s					AMS	AMS	08 04 43.8	
PET	comp=N,1μm,19.0s **Petropavlovsk**	**10.60**	**32**	*e*		PN	Pn	08 01 11.7	+6.5
PET					*e*	S	**Sn**	**08 03 09.0**	**+6.5**
PET	comp=Z,3μm,17.0s					MLR	MLR		
PET	comp=Z,4μm,15.0s					MLR	MLR		
PET	**Petropavlovsk**	**10.60**	**32**	*e*		P	**Pn**	**08 01 06.1**	**+0.9**
PET						AMS	AMS	08 05 27.0	
GRNR	comp=Z,4μm,15.0s **Gornyy**	**10.75**	**311**	⇑	*i*	PN	Pn	08 00 58.2	-9.1
GRNR						pmax	pmax		
GRNR	comp=Z,10.0nm,0.9s					MLR	MLR		
GRNR	comp=Z,2μm,18.0s **Gornyy**	**10.75**	**311**	⇑	*i*	P	**Pn**	**08 01 10.2**	**+2.9**
GRNR						AMB	AMB	08 01 12.2	
GRNR	comp=Z,20nm,0.8s					AMS	AMS	08 05 19.0	
GRNR	comp=Z,600nm,18.0s					AMS	AMS	08 05 19.0	
GRNR	comp=Z,1μm,18.0s					AMS	AMS	08 05 19.0	
MAJO	comp=Z,2μm,18.0s **Matsushiro**	**11.52**	**231**			PN	**Pn**	**08 01 17.1**	**-0.8**
MAJO	**Matsushiro**	**11.52**	**231**				**Pn**	**08 01 17.1**	**-0.8**
MAT	**Matsushiro**	**11.52**	**231**			P	**Pn**	**08 01 16.1**	**-1.8**
MAT					*e*	S	**Sn**	**08 03 28.0**	**+2.8**
MJAR	**Matsushiro Arr**	**11.52**	**231**			P	**Pn**	**08 01 16.4**	**-1.5**
MJAR	comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=9.9					S	**Sn**	**08 03 19.9**	**-5.2**
MJB9	comp=Z,0.1nm,0.3s,baz=31,slow=13,SNR=2.8 **Matsu-Tunnel**	**11.52**	**231**				**Pn**	**08 01 16.5**	**-1.4**
USA0B	**Ussuriysk Arra**	**12.39**	**275**			PN	**Pn**	**08 01 29.9**	**+0.2**
USA0B	**Ussuriysk Arra**	**12.39**	**275**			Pn	**Pn**	**08 01 29.9**	**+0.2**
USRK	**Ussuriysk Ar.**	**12.39**	**275**			P	**Pn**	**08 01 28.1**	**-1.6**
USRK	baz=86,slow=13,SNR=12					LR	LR	08 06 27.6	
KLR	comp=Z,2μm,18.8s,baz=76,slow=38 **Kul'dur**	**12.93**	**298**			P	**Pn**	**08 01 36.0**	**-1.0**
KLR	comp=Z,0.1nm,0.3s,baz=86,slow=15,SNR=2.1					LR	LR	08 06 59.1	
INU	comp=Z,2μm,18.2s,baz=119,slow=39 **Inuyama**	**13.05**	**230**				**Pn**	**08 01 38.4**	**-0.4**
EKMR	**Ekimchan**	**13.79**	**315**	*e*		P	**Pn**	**08 01 48.9**	**0.0**
EKMR						AMB	AMB	08 01 57.2	
MDJ	comp=Z,20nm,1.0s **Mudanjiang**	**14.05**	**278**			P	P	08 02 11.4	+12
MDJ	comp=Z,22nm,1.0s					pmax	pmax		
MDJ	comp=Z,390nm,3.9s					pmax	pmax		
MA2	**Magadan**	**15.21**	**3**	*i*		P	**Pn**	**08 02 07.7**	**-0.1**
MA2	comp=Z,13nm,1.1s					pmax	pmax		
MA2	**Magadan**	**15.21**	**3**			P	**Pn**	**08 02 06.8**	**-1.0**
MA2	comp=Z,0.8nm,0.3s,baz=177,slow=18,SNR=3.0					LR	LR	08 07 36.3	
MA2	comp=Z,1μm,21.3s,baz=190,slow=36 **Magadan**	**15.21**	**3**	*i*		P	**Pn**	**08 02 07.7**	**-0.1**
MA2	**Magadan**	**15.21**	**3**				**Pn**	**08 02 06.3**	**-1.5**
MA2	comp=Z,84nm,1.4s					IAmb	IAmb	08 02 22.4	
BMKR	**Bomnak**	**16.72**	**315**	*e*		P	**Pn**	**08 02 26.3**	**-0.9**
CN2	**Changchun**	**17.11**	**276**	*e*		P	**P**	**08 02 36.1**	**+2.6**

CN2 epP pP 08 02 43.5 +0.6
CN2 eS **Sn** **08 05 42.7 +1.4**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,1µm,17.0s
CN2 LR LR
comp=Z,1µm,17.0s
CN2 LR LR
comp=Z,1µm,16.0s
ZEA Zeya 17.12 311 eP **P** **08 02 34.0 +0.6**
ZEA eS **Sn** **08 05 43.0 +1.8**
ZEA pmax pmax
comp=N,25nm,0.7s
ZEA pmax pmax
comp=E,20nm,0.7s
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA pmax pmax
comp=Z,500nm,7.0s
ZEA pmax pmax
comp=E,500nm,9.0s
ZEA smax smax
comp=N,300nm,8.0s
ZEA MLR MLR
comp=E,2µm,17.0s
ZEA MLR MLR
comp=Z,2µm,17.0s
ZEA MLR MLR
comp=N,1µm,16.0s
ZEA Zeya 17.12 311 eP **Pn** **08 02 31.1 -1.0**
ZEA AMB AMB 08 02 35.9
comp=N,20nm,0.8s
ZEA AMB AMB 08 02 35.9
comp=N,30nm,0.8s
ZEA AMS AMS 08 09 34.0
comp=N,1µm,17.0s
ZEA AMS AMS 08 09 34.0
comp=N,2µm,17.0s
ZEA AMS AMS 08 09 34.0
comp=N,2µm,17.0s
KSRS Korea Array 17.54 254 P **Pn** **08 02 36.1 -1.3**
comp=N,0.2nm,0.3s,baz=62,slow=12,SNR=4.3
KSRS LR LR 08 09 01.1
comp=N,684nm,18.8s,baz=63,slow=36
KROS Kirovskiy 17.56 313 eP **Pn** **08 02 37.2 -0.4**
KROS AMB AMB 08 02 46.2
comp=N,10.0nm,0.8s
JNU Nakatsue 18.20 238 P **P** **08 02 45.2 -0.4**
comp=N,0.2nm,0.3s,baz=27,slow=5.1,SNR=1.8
JNU Nakatsue 18.20 238 P **P** **08 02 45.0 -0.5**
SEY Seymchan 18.64 4 *i* P **P** **08 02 50.3 +0.2**
SEY Seymchan 18.64 4 P **P** **08 02 49.5 -0.6**
comp=N,0.6nm,0.3s,baz=182,slow=9.2,SNR=22
HIA Hailar 20.70 294 P **P** **08 03 11.8 -0.9**
HIA pmax pmax
comp=Z,7.0nm,0.4s
HIA Hailar 20.70 294 P **P** **08 03 11.8 -0.9**
YAK Yakutsk 21.03 334 eP **P** **08 03 20.7 +4.6**
YAK e*PP **sP** **08 03 30.5 -0.5**
YAK e 08 03 40.1
YAK eS **S** **08 07 07.5 -0.4**
YAK e*SS Sn 08 07 17.3 +1.9
YAK eSS **SnSn** **08 07 20.7 -10**
YAK pmax pmax
comp=Z,139nm,1.1s
YAK pmax pmax
comp=N,93nm,1.1s
YAK pmax pmax
comp=E,70nm,1.1s
YAK pmax pmax
comp=Z,36nm,1.0s
YAK smax smax
comp=N,204nm,2.2s
YAK smax smax
comp=E,263nm,2.5s
YAK MLR MLR
comp=Z,2µm,19.0s
YAK MLR MLR
comp=E,823nm,17.0s
YAK MLR MLR
comp=N,1µm,19.0s
YAK Yakutsk 21.03 334 LR LR 08 11 55.4
comp=N,2µm,18.4s,baz=142,slow=38
YAK Yakutsk 21.03 334 P **P** **08 03 14.2 -1.9**
DL2 Dalian 21.32 265 eP **P** **08 03 22.7 +3.3**
DL2 S Sn 08 07 21.3 -1.5
DL2 pmax pmax
comp=N,39nm,0.9s
DL2 pmax pmax
comp=N,190nm,6.4s
DL2 LR LR
comp=N,320nm,17.3s
DL2 LR LR
comp=N,320nm,18.0s
DL2 LR LR
comp=N,470nm,15.2s
BJI Beijing 24.80 271 eP **P** **08 03 54.1 -0.1**
BJI S **S** **08 08 16.4 +2.5**
BJI pmax pmax
comp=N,7.0nm,0.9s
BJI pmax pmax
comp=N,120nm,4.2s
BJI LR LR
comp=N,560nm,16.7s
BJI LR LR
comp=N,540nm,18.0s
BJI LR LR
comp=N,640nm,22.6s
BJT Baijiatuau 24.81 271 P **P** **08 03 54.2 -0.1**
BJT pmax pmax
comp=Z,11nm,0.9s
BJT Baijiatuau 24.81 271 P **P** **08 03 54.1 -0.1**
BILL Bilibino 25.31 15 *i* eP **P** **08 03 57.6 -1.0**
BILL e 08 04 34.5
BILL pmax pmax
comp=Z,10.0nm,1.3s
BILL MLR MLR
comp=Z,2µm,21.0s
BILL Bilibino 25.31 15 P **P** **08 03 56.4 -2.2**
TIA Tai'an 25.72 263 P **P** **08 04 05.1 +2.5**
TIA pmax pmax
comp=Z,6.0nm,0.6s
TIA pmax pmax
comp=Z,66nm,2.6s
TIA LR LR
comp=Z,260nm,17.1s
TIA LR LR
comp=Z,420nm,17.8s
TIA LR LR
comp=Z,520nm,15.7s
NJ2 Nanjing 26.73 253 eP **P** **08 04 12.1 +0.3**
NJ2 pP **pP** **08 04 20.0 -1.7**
NJ2 S **S** **08 08 46.1 +1.3**
NJ2 sS **sS** **08 09 04.1 +4.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,270nm,5.2s
NJ2 LR LR
comp=Z,2µm,20.8s
NJ2 LR LR
comp=Z,630nm,21.3s
NJ2 LR LR
comp=Z,820nm,12.8s
HHC Hu-ho-hao-te 27.81 276 eP **P** **08 04 22.3 +0.8**
HHC pmax pmax
comp=Z,6.0nm,1.2s
H11N2 WAKE ISLAND Hy 28.66 144 T T 08 35 21.1
baz=334,slow=76,SNR=1660
H11N1 WAKE ISLAND Hy 28.68 144 T T 08 35 22.2
baz=334,slow=76,SNR=1725
H11N3 WAKE ISLAND Hy 28.68 144 T T 08 35 22.8
baz=334,slow=76,SNR=1604
TIXI Tiksi 29.04 347 *ce*P **P** **08 04 29.0 -3.0**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI MLR MLR
comp=Z,632nm,18.0s
TIXI Tiksi 29.04 347 P **P** **08 04 28.8 -3.1**
comp=Z,1.8nm,0.5s,baz=155,slow=9.9,SNR=8.3
TIXI Tiksi 29.04 347 P **P** **08 04 27.9 -4.1**
ULN Ulaanbaatar 29.19 292 *ce*P **P** **08 04 33.3 -0.5**
ULN pmax pmax
comp=Z,8.0nm,2.3s
ULN Ulaanbaatar 29.19 292 *i* eP **P** **08 04 33.3 -0.5**
ULN Ulaanbaatar 29.19 292 P **P** **08 04 33.2 -0.6**
SONM Songino Array 29.64 292 P **P** **08 04 36.8 -0.9**
comp=Z,0.9nm,0.5s,baz=98,slow=8.9,SNR=6.6
SONM LR LR 08 17 40.9
comp=Z,1µm,18.4s,baz=96,slow=39
H11S1 WAKE ISLAND Hy 29.67 145 T T 08 36 37.9
baz=334,slow=76,SNR=1670
H11S3 WAKE ISLAND Hy 29.68 145 T T 08 36 39.6
baz=334,slow=76,SNR=1506
H11S2 WAKE ISLAND Hy 29.69 145 T T 08 36 39.0
baz=334,slow=76,SNR=952
ANM Nome 32.16 35 P **P** **08 04 58.2 -1.4**
ANM pmax pmax
comp=Z,18nm,1.1s
ANM Nome 32.16 35 P **P** **08 04 58.2 -1.4**
ANM IAmb IAmb 08 05 02.9
comp=Z,18nm,1.1s
XAN Xi'an 32.64 266 P **P** **08 05 02.7 -1.5**
XAN pmax pmax
comp=Z,6.0nm,0.8s
XAN Xi'an 32.64 266 P **P** **08 05 02.7 -1.5**
SDPT Sand Point 33.46 53 P **P** **08 05 11.4 +0.3**
RDOG Red Dog Mine 34.19 30 P **P** **08 05 17.4 +0.2**
RDOG IAmb IAmb 08 05 27.5
comp=Z,18nm,1.3s
LZH Lanzhou 35.28 272 eP **P** **08 05 31.0 +3.8**
LZH pP pP 08 05 37.8 +0.2
LZH sP sP 08 05 41.4 -1.2
LZH PP **PP** **08 06 48.3 +0.7**
LZH pmax pmax
comp=Z,21nm,1.4s
LZH pmax pmax
comp=Z,80nm,4.9s
LZH LR LR
comp=Z,440nm,13.6s
LZH LR LR
comp=Z,550nm,15.2s
LZH LR LR
comp=Z,520nm,14.6s
TTA Tatalina 35.95 40 P **P** **08 05 33.9 +1.4**
TTA Tatalina 35.95 40 P **P** **08 05 33.9 +1.4**
SVW2 Sparrevohn 36.04 43 P **P** **08 05 35.4 +2.1**
GTA Gaotai 36.69 280 P **P** **08 05 39.7 +0.5**
GTA S **S** **08 11 24.4 +4.4**
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,75nm,4.9s
GTA LR LR
comp=Z,360nm,15.8s
GTA LR LR
comp=Z,450nm,15.1s
GTA LR LR
comp=Z,760nm,16.1s
RSO Redoubt South 37.42 44 P **P** **08 05 46.8 +1.5**
KDAK Kodiak Island 37.67 48 *ce*P **P** **08 05 47.1 0.0**
KDAK Kodiak Island 37.67 48 P **P** **08 05 46.4 -0.7**
comp=Z,8.8nm,0.7s,baz=270,slow=6.6,SNR=8.5
KDAK Kodiak Island 37.67 48 P **P** **08 05 47.3 +0.2**
KDAK IAmb IAmb 08 06 00.5
comp=Z,20nm,0.9s
PPLA Purkeypile 37.69 40 P **P** **08 05 48.9 +1.5**
SKT Skwentna 37.99 41 P **P** **08 05 50.3 +0.5**
SKT IAmb IAmb 08 06 08.1
comp=Z,24nm,1.2s
CD2 Chengdu 37.99 265 eP **P** **08 05 49.0 -1.2**
CD2 S **S** **08 11 38.1 -1.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,480nm,12.3s
CD2 LR LR
comp=Z,360nm,15.2s
CD2 LR LR
comp=Z,480nm,14.2s
CNPM China Poot 38.23 45 P **P** **08 05 53.0 +1.1**
CNPM IAmb IAmb 08 06 10.7
comp=Z,11nm,0.7s
BPAW Bear Paw Mtn. 38.26 38 P **P** **08 05 53.2 +1.1**
BPAW IAmb IAmb 08 05 55.3
comp=Z,17nm,1.1s
KTH Kantishna Hill 38.28 39 P **P** **08 05 53.1 +0.8**
SUA Susitna One 38.38 42 P **P** **08 05 53.4 +0.2**
SUA IAmb IAmb 08 05 57.8
comp=Z,22nm,1.2s
BRLK Bradley Lake 38.39 45 P **P** **08 05 54.0 +0.8**
BRLK IAmb IAmb 08 06 08.4
comp=Z,19nm,1.1s
MLY Manley 38.40 36 P **P** **08 05 54.8 +1.5**
MLY IAmb IAmb 08 05 56.6
comp=Z,17nm,0.9s
TRF Thorofare Moun 38.56 39 P **P** **08 05 55.5 +0.7**
COLD Coldfoot 38.77 33 P **P** **08 05 57.3 +1.1**
RC01 Rabbit Creek A 38.88 43 P **P** **08 05 57.8 +0.5**
RC01 IAmb IAmb 08 06 11.4
comp=Z,25nm,1.1s
BWN Browne 38.93 38 P **P** **08 05 59.7 +2.1**
SEW Seward 39.09 44 P **P** **08 06 00.3 +1.3**
SEW IAmb IAmb 08 06 11.9
comp=Z,42nm,1.5s
NEA Nenana 39.10 37 P **P** **08 05 59.5 +0.4**
NEA IAmb IAmb 08 06 18.1
comp=Z,15nm,0.7s
PMR Palmer 39.14 42 P **P** **08 05 59.5 +0.1**
PMR pmax pmax
comp=Z,15nm,1.0s
PMR Palmer 39.14 42 P **P** **08 05 59.5 +0.1**
MCK McKinley 39.16 38 P **P** **08 06 00.9 +1.2**
MCK pmax pmax
comp=Z,20nm,1.0s
MCK McKinley 39.16 38 P **P** **08 06 00.9 +1.2**
MCK IAmb IAmb 08 06 08.0
comp=Z,20nm,1.0s
RND Reindeer 39.20 39 P **P** **08 05 59.6 -0.4**
RND pmax pmax
comp=Z,26nm,1.2s
RND Reindeer 39.20 39 P **P** **08 05 59.6 -0.4**
RND IAmb IAmb 08 06 02.4
comp=Z,26nm,1.2s
GHO Glory Hole Cre 39.23 41 P **P** **08 06 01.3 +1.0**
GHO IAmb IAmb 08 06 03.0
comp=Z,24nm,1.2s
MDM Murphy Dome 39.47 36 P **P** **08 06 02.6 +0.5**
MDM IAmb IAmb 08 06 05.3
comp=Z,20nm,0.9s
KNK Knik Glacier 39.48 42 P **P** **08 06 03.1 +0.8**
SML Sawmill 39.51 41 P **P** **08 06 03.4 +0.8**
WRH Wood River Hil 39.53 37 P **P** **08 06 03.5 +0.9**
WRH IAmb IAmb 08 06 18.3
comp=Z,22nm,1.2s
COLA College 39.63 37 *i* P **P** **08 06 05.2 +1.8**
COLA pmax pmax
comp=Z,35nm,1.0s
COLA College 39.63 37 P **P** **08 06 03.7 +0.2**
CCB Clear Creek Bu 39.65 37 P **P** **08 06 04.6 +1.0**
CCB IAmb IAmb 08 06 08.0
comp=Z,33nm,1.4s
DHY Denali Highway 39.88 39 P **P** **08 06 06.1 +0.3**
DHY IAmb IAmb 08 06 08.3
comp=Z,24nm,1.2s
SCM Sheep Creek Mo 39.98 41 P **P** **08 06 07.6 +1.1**
SCM pmax pmax
comp=Z,46nm,1.3s
SCM Sheep Creek Mo 39.98 41 P **P** **08 06 07.6 +1.1**
HDA Harding Lake 40.02 37 P **P** **08 06 07.3 +0.6**
HDA IAmb IAmb 08 06 08.9
comp=Z,28nm,1.3s
IL31 40.04 37 P **P** **08 06 06.2 -0.7**
IL31 IAmb IAmb 08 06 11.1
comp=Z,21nm,1.0s
ILAR Eielson Array 40.04 37 P **P** **08 06 06.2 -0.7**
comp=Z,17nm,1.0s,baz=257,slow=6.7,SNR=50
ILAR LR LR 08 24 00.2
comp=Z,165nm,19.7s,baz=295,slow=38
GLI Glacier Island 40.18 43 P **P** **08 06 08.4 +0.3**
GLI IAmb IAmb 08 06 24.4
comp=Z,19nm,1.0s
HIN Hinchinbrook I 40.52 43 P **P** **08 06 10.8 -0.1**
HIN IAmb IAmb 08 06 13.1
comp=Z,34nm,1.3s
PRP Porcupine Dome 40.60 36 P **P** **08 06 11.6 -0.1**
PRP IAmb IAmb 08 06 14.8
comp=Z,26nm,1.1s
FYU Fort Yukon 40.70 34 P **P** **08 06 13.6 +1.3**
PAX Paxson 40.76 39 P **P** **08 06 14.5 +1.5**
PAX pmax pmax
comp=Z,10.0nm,1.0s
PAX Paxson 40.76 39 P **P** **08 06 14.5 +1.5**
RIDG Independent Ri 40.98 38 P **P** **08 06 15.4 +0.7**
RIDG IAmb IAmb 08 06 32.6
comp=Z,40nm,1.4s
DOT Dot Lake 41.34 38 P **P** **08 06 18.7 +1.1**
SCRK Sand Creek 41.34 38 P **P** **08 06 17.7 0.0**
QIZ Qiongzhong 41.44 245 P **P** 08 06 13.1 -5.8
QIZ S **S** **08 12 34.6 +3.2**
QIZ LR LR
comp=N,500nm,18.9s
QIZ LR LR
comp=E,480nm,20.2s
QIZ LR LR
comp=Z,310nm,19.4s
MENT Mentasta 41.56 39 P **P** **08 06 21.5 +2.0**
GLB Gilahina Butte 41.70 42 P **P** **08 06 21.4 +0.8**
ZALV Zalesovo Beam 41.82 307 P **P** **08 06 19.5 -2.2**
comp=Z,0.3nm,0.3s,baz=82,slow=11,SNR=2.3
ZALV LR LR 08 24 48.9
comp=Z,685nm,18.9s,baz=75,slow=38
VRDI Verde Repeater 41.90 42 P **P** **08 06 23.2 +0.7**
MCARA McCarthy VSAT 42.08 42 P **P** **08 06 25.2 +1.5**
MCARA IAmb IAmb 08 06 41.0
comp=Z,19nm,1.0s
CRQM Cirque 42.12 43 P **P** **08 06 25.5 +1.2**
KMI Kunming 42.15 259 P **P** **08 06 25.7 +0.7**
KMI pP pP 08 06 36.9 +1.7
KMI sP sP 08 06 40.1 +0.6
KMI PP **PP** **08 08 10.1 +7.2**
KMI S **S** **08 12 41.2 -1.2**
KMI sS sS 08 12 59.8 +1.3
KMI pmax pmax
comp=Z,10.0nm,0.7s
KMI pmax pmax
comp=Z,110nm,4.1s
KMI LR LR
comp=Z,410nm,17.0s
KMI LR LR
comp=Z,320nm,18.7s
KMI LR LR
comp=Z,280nm,17.9s
TGL Tana Glacier 42.27 43 P **P** **08 06 25.4 0.0**
TGL IAmb IAmb 08 06 40.7
comp=Z,29nm,1.2s
WAX Waxell Ridge 42.31 43 P **P** **08 06 25.3 -0.3**
BALM Baldy 42.46 42 P **P** **08 06 27.7 +0.8**
BALM IAmb IAmb 08 06 41.5
comp=Z,20nm,1.0s
EGAK Eagle 42.49 36 P **P** **08 06 27.8 +0.8**
EGAK IAmb IAmb 08 06 29.4
comp=Z,25nm,1.0s
BARN Barnard Glacie 42.78 42 P **P** **08 06 30.2 +0.6**
BARN IAmb IAmb 08 06 44.5
comp=Z,32nm,1.1s
MESA MESA 42.80 43 P **P** **08 06 33.0 +3.2**
MESA IAmb IAmb 08 06 49.9
comp=Z,24nm,0.9s
YAH Yahtse 42.86 43 P **P** **08 06 31.3 +1.0**
YAH IAmb IAmb 08 06 45.8
comp=Z,30nm,0.9s
CTGM Chitina Glacie 42.95 42 P **P** **08 06 32.2 +1.2**
WMQ Urumqi 43.27 292 eP **P** **08 06 35.4 +1.7**
WMQ pP pP 08 06 44.4 +0.6
WMQ sP sP 08 06 52.3 +3.0
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,130nm,4.7s
WMQ LR LR
comp=Z,610nm,15.9s
WMQ LR LR
comp=Z,590nm,16.7s
WMQ LR LR
comp=Z,870nm,19.1s
EPYK Eagle Plains 44.12 34 P **P** **08 06 41.4 +1.2**
INK Inuvik 45.05 31 P **P** **08 06 47.3 -0.2**
comp=Z,28nm,1.1s,baz=274,slow=7.6,SNR=34
INK Inuvik 45.05 31 P **P** **08 06 48.1 +0.7**
MK31 Makanchi Array 45.63 298 P **P** **08 06 52.1 -0.4**
MK31 pmax pmax
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 45.63 298 P **P** **08 06 52.1 -0.4**
MKAR Makanchi Array 45.63 298 *ce*P **P** **08 06 56.5 +4.1**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 45.63 298 P **P** **08 06 51.6 -0.8**
comp=Z,1.6nm,0.5s,baz=79,slow=9.2,SNR=19
MKAR LR LR 08 27 17.3
comp=Z,2µm,18.4s,baz=68,slow=38
MAKZ Makanchi 45.83 298 P **P** **08 06 53.7 -0.2**
MAKZ pmax pmax
comp=Z,10.0nm,1.4s
MAKZ Makanchi 45.83 298 P **P** **08 06 53.7 -0.2**
SKAG Skagway 46.22 43 P **P** **08 06 56.3 -0.5**
KURK Kurchatov 46.43 304 P **P** **08 06 58.4 -0.2**
KURK pmax pmax
comp=Z,5.0nm,1.1s
KURK Kurchatov 46.43 304 eP **P** **08 06 58.4 -0.2**
KURK Kurchatov 46.43 304 P **P** **08 06 58.4 -0.2**
JIS Juneau Island 47.03 45 P **P** **08 07 03.7 +0.5**
JIS IAmb IAmb 08 07 06.8
comp=Z,21nm,1.3s
CMAR Chiang Mai Arr 49.18 255 LR LR 08 29 44.8
comp=Z,243nm,18.5s,baz=50,slow=38
FAKI Fak Fak 49.53 203 P **P** **08 07 23.1 +0.2**
FAKI IAmb IAmb 08 07 40.6
comp=Z,14nm,1.0s
BRVK Borovoye 50.31 310 *ce*P **P** **08 07 29.2 +0.8**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
BRVK Borovoye 50.31 310 *i* eP **P** **08 07 29.2 +0.8**
BRVK Borovoye 50.31 310 P **P** **08 07 28.0 -0.4**
TAPN Taplejung 51.52 272 eP **P** **08 07 39.2 +0.9**
BOOM Boomskoye usch 51.58 295 P **P** **08 07 37.6 -0.8**
BOOM pmax pmax
comp=Z,10.0nm,0.8s
BOOM Boomskoye usch 51.58 295 P **P** **08 07 37.6 -0.8**
BOOM IAmb IAmb 08 07 51.1
comp=Z,9.7nm,0.8s
ODAN Odare 52.04 272 eP **P** **08 07 41.3 -0.8**
JIRN Jiri 52.42 274 eP **P** **08 07 44.9 -0.2**
comp=Z,14nm,0.3s
AAK Ala-Archa 52.45 296 *i* P **P** **08 07 45.3 +0.5**
AAK pmax pmax
comp=Z,10.0nm,1.2s
AAK Ala-Archa 52.45 296 *i* P **P** **08 07 45.3 +0.5**
AAK Ala-Archa 52.45 296 P **P** **08 07 44.4 -0.4**
GUN Gumba 52.50 274 eP **P** **08 07 45.5 -0.1**
comp=Z,21nm,0.4s
RAMN Ramite 52.55 273 eP **P** **08 07 44.9 -1.0**
comp=Z,23nm,0.4s
KKN Kakani 53.00 274 eP **P** **08 07 49.0 -0.2**
PKI Pulchoki 53.04 274 eP **P** **08 07 48.6 -1.0**
KSH Kashi 53.04 292 P **P** **08 07 53.3 +4.1**
KSH ScP **ScP** **08 12 54.5 +2.9**
KSH PcS **PcS** **08 12 58.1 +1.9**
KSH S **S** **08 15 20.5 +4.1**
KSH sS sS 08 15 37.7 +2.5
KSH pmax pmax
comp=Z,310nm,5.2s
KSH LR LR
comp=Z,3µm,22.1s
KSH LR LR
comp=Z,2µm,16.5s
KSH LR LR
comp=Z,1µm,21.4s
PKIN Phulchoki 53.04 274 eP **P** **08 07 48.7 -0.8**
comp=Z,4.9nm,0.3s
DMN Daman 53.23 274 eP **P** **08 07 50.2 -0.7**
GKN Gorkha 53.33 275 eP **P** **08 07 51.3 -0.2**
SVE Sverdlovsk 53.70 317 eP **P** **08 07 53.9 +0.3**
SVE Sverdlovsk 53.70 317 eP **P** **08 07 53.9 +0.3**
DANN Dangsing 53.76 276 eP **P** **08 07 54.5 -0.3**
RES Resolute Bay 53.88 17 P **P** **08 07 54.0 -0.7**
comp=Z,16nm,1.0s,baz=320,slow=8.2,SNR=24
ARSB Arslanbob 54.08 295 P **P** **08 07 56.2 -0.6**
KOLN Koldanda 54.21 275 eP **P** **08 07 56.5 -1.5**
YKW3 Yellowknife Ar 54.35 35 P **P** **08 07 59.0 +0.8**
YKW3 IAmb IAmb 08 08 12.8
comp=Z,19nm,1.2s
YKA Yellowknife Ar 54.39 35 P **P** **08 07 58.4 -0.1**
comp=Z,11nm,1.0s,baz=301,slow=7.3,SNR=39
KK31 Karatay Array 54.75 298 P **P** **08 08 01.0 -0.5**

KK31 pmax pmax
comp=Z,13nm,1.5s
KK31 Karatay Array 54.75 298 P **P** **08 08 01.1 -0.5**
KKAR Karatay Array 54.75 298 P **P** **08 08 01.0 -0.5**
KKAR pmax pmax
comp=Z,13nm,1.5s
KKAR Karatay Array 54.75 298 P **P** **08 08 01.1 -0.5**
ARU Arti 54.90 317 *c i*P **P** **08 08 02.1 -0.3**
ARU 08 09 03.1
ARU 08 10 01.2
ARU S **S** **08 15 39.5 -1.3**
ARU pmax pmax
comp=Z,11nm,1.6s
ARU MLR MLR
comp=Z,1µm,17.0s
ARU Arti 54.90 317⇑ *i*P **P** **08 08 02.1 -0.3**
BTK Batken 56.14 295 P **P** **08 08 10.9 -0.7**
BTK pmax pmax
comp=Z,22nm,1.3s
BTK Batken 56.14 295 P **P** **08 08 10.9 -0.7**
BTK IAmb IAmb 08 08 16.2
comp=Z,22nm,1.3s
TULEG Thule 56.91 10 P **P** **08 08 15.8 -0.6**
TULEG IAmb IAmb 08 08 33.7
comp=Z,11nm,0.8s
GAR Garm 57.04 294 P **P** **08 08 17.5 -0.6**
ABKAR Akbulak array 57.83 309 P **P** **08 08 22.8 -0.5**
ABKAR IAmb IAmb 08 08 24.6
comp=Z,14nm,1.4s
CHGR Chuyangaron 57.98 295 P **P** **08 08 23.9 -0.8**
NIL Nilore 58.06 287 P **P** **08 08 23.9 -1.3**
NIL pmax pmax
comp=Z,21nm,1.2s
NIL Nilore 58.06 287 P **P** **08 08 23.9 -1.3**
B06A Marblemount 58.18 51 P **P** **08 08 26.9 +1.2**
B06A IAmb IAmb 08 08 35.3
comp=Z,12nm,1.2s
DAG Danmarks Havn 58.85 357 *e*P **P** **08 08 25.5 -4.5**
DAG Danmarks Havn 58.85 357 *i* P **P** **08 08 25.5 -4.5**
F04A Amboy 59.05 54 P **P** **08 08 32.6 +0.7**
F04A IAmb IAmb 08 08 43.5
comp=Z,13nm,1.0s
ARCES ARCESS Array B 59.15 340 P **P** **08 08 30.3 -1.9**
comp=Z,3.3nm,0.9s,baz=34,slow=12,SNR=2.9
ARCES LR LR 08 37 36.6
comp=Z,305nm,20.7s,baz=26,slow=40
LTY Liberty 59.32 52 P **P** **08 08 33.8 -0.1**
LTY IAmb IAmb 08 08 51.4
comp=Z,12nm,1.4s
B08A Colville Reser 59.46 51 P **P** **08 08 35.1 +0.4**
B08A IAmb IAmb 08 08 44.7
comp=Z,10nm,1.3s
E07A Sunnyside 60.18 53 P **P** **08 08 40.2 +0.5**
C09A Chrisman Ranch 60.37 51 P **P** **08 08 41.0 +0.1**
C09A IAmb IAmb 08 08 50.9
comp=Z,11nm,1.3s
KBL Kabul 60.40 291 P **P** **08 08 40.6 -1.0**
KBL pmax pmax
comp=Z,16nm,1.2s
KBL Kabul 60.40 291 P **P** **08 08 40.6 -1.0**
HAWA Hanford 60.46 53 P **P** **08 08 42.8 +1.2**
HAWA IAmb IAmb 08 08 51.9
comp=Z,9.0nm,1.2s
G06A Carlson Farm, 60.48 54 P **P** **08 08 42.4 +0.6**
G06A IAmb IAmb 08 08 44.4
comp=Z,12nm,1.4s
F07A Phinny Hill Vi 60.51 53 P **P** **08 08 43.2 +1.3**
NEW Newport 60.74 50 P **P** **08 08 43.9 +0.4**
NEW pmax pmax
comp=Z,10.0nm,1.2s
NEW Newport 60.74 50 P **P** **08 08 43.9 +0.4**
NEW IAmb IAmb 08 08 53.1
comp=Z,9.7nm,1.2s
PINE Pine Mountain 61.12 56 P **P** **08 08 47.8 +1.4**
E09A Wood Farm, Sta 61.17 52 P **P** **08 08 47.4 +1.0**
E09A IAmb IAmb 08 09 04.9
comp=Z,11nm,1.1s
G08A Pilot Rock 61.42 53 P **P** **08 08 48.7 +0.4**
MOD Modoc Plateau 62.60 57 P **P** **08 08 57.1 +0.8**
SUMG Summit 63.18 3 *e*P **P** **08 08 57.5 -2.5**
SUMG Summit 63.18 3 *i* P **P** **08 08 57.5 -2.5**
PLID Pearl Lake 63.23 52 P **P** **08 09 00.6 +0.1**
PLID IAmb IAmb 08 09 11.6
comp=Z,15nm,1.3s
ORV Oroville 63.26 60 P **P** **08 09 01.2 +0.7**
ORV pmax pmax
comp=Z,10.0nm,1.2s
ORV Oroville 63.26 60 P **P** **08 09 01.2 +0.7**
ORV IAmb IAmb 08 09 20.5
comp=Z,9.8nm,1.2s
WVOR Wild Horse Val 63.28 56 P **P** **08 09 01.2 +0.4**
WVOR pmax pmax
comp=Z,12nm,1.4s
WVOR Wild Horse Val 63.28 56 P **P** **08 09 01.2 +0.4**
WVOR IAmb IAmb 08 09 04.7
comp=Z,12nm,1.4s
MSO Missoula 63.32 50 P **P** **08 09 01.9 +1.0**
MSO IAmb IAmb 08 09 11.4
comp=Z,12nm,1.1s
BEKR Beckworth 63.78 59 P **P** **08 09 04.2 0.0**
BEKR IAmb IAmb 08 09 21.9
comp=Z,9.5nm,1.0s
AFDM Forest Hills D 63.95 60 P **P** **08 09 05.5 +0.4**
FFC Flin Flon 64.25 38 *ce*P **P** **08 09 08.5 +1.8**
FFC Flin Flon 64.25 38 P **P** **08 09 07.2 +0.4**
PAHR Pah Rah Range 64.48 59 P **P** **08 09 09.0 +0.3**
PAHR IAmb IAmb 08 09 26.6
comp=Z,14nm,1.3s
VCNR Virginia City 64.56 59 P **P** **08 09 09.5 +0.1**
CMB Columbia Colle 64.87 61 P **P** **08 09 11.8 +0.6**
CMB pmax pmax
comp=Z,12nm,1.3s
CMB Columbia Colle 64.87 61 P **P** **08 09 11.8 +0.6**
CMB IAmb IAmb 08 09 28.6
comp=Z,12nm,1.2s
DLMT Dillon 64.96 50 P **P** **08 09 11.0 -0.7**
DLMT IAmb IAmb 08 09 28.7
comp=Z,22nm,1.4s
FINES FINESS Array B 64.97 334 P **P** **08 09 09.1 -2.2**
comp=Z,6.8nm,0.9s,baz=35,slow=7.0,SNR=12
FINES LR LR 08 41 41.1
comp=Z,709nm,18.2s,baz=36,slow=40
HRA Herat 64.99 294 P **P** **08 09 12.1 -0.1**
HRA IAmb IAmb 08 09 15.1
comp=Z,9.1nm,1.1s
YERR Yerington 65.00 59 P **P** **08 09 12.8 +0.5**
YERR IAmb IAmb 08 09 30.3
comp=Z,16nm,1.1s
MCMT McKenzie Canyo 65.16 51 P **P** **08 09 12.0 -1.1**
BMN Battle Mountai 65.34 57 P **P** **08 09 14.8 +0.5**
BMN pmax pmax
comp=Z,11nm,1.2s
BMN Battle Mountai 65.34 57 P **P** **08 09 14.8 +0.5**
BMN IAmb IAmb 08 09 31.0
comp=Z,11nm,1.2s
BOZ Bozeman (W) 65.35 50 P **P** **08 09 14.8 +0.5**
BOZ pmax pmax
comp=Z,6.0nm,0.9s
BOZ Bozeman (W) 65.35 50 P **P** **08 09 14.8 +0.5**
GEYT Alibeck 65.45 300 P **P** **08 09 14.0 -0.9**
comp=Z,3.8nm,0.8s,baz=46,slow=8.3,SNR=8.2
GEYT LR LR 08 40 08.1
comp=Z,396nm,19.0s,baz=45,slow=38
WRA Warramunga Arr 65.49 195 P **P** **08 09 13.8 -1.3**
comp=Z,1.3nm,0.5s,baz=15,slow=6.6,SNR=6.7
WRA LR LR 08 38 31.2
comp=Z,60nm,18.9s,baz=80,slow=37
KVN Kaiserville 65.66 59 P **P** **08 09 16.8 +0.3**
KVN pmax pmax
comp=Z,13nm,1.1s
KVN Kaiserville 65.66 59 P **P** **08 09 16.8 +0.3**
KVN IAmb IAmb 08 09 34.5
comp=Z,13nm,1.1s
OBN Obninsk 65.67 324⇑ *e*P **P** **08 09 15.7 -0.3**
OBN pmax pmax
comp=Z,35nm,1.4s
OBN MLR MLR
comp=Z,561nm,17.0s
OBN Obninsk 65.67 324⇑ *e*P **P** **08 09 15.7 -0.3**
FITZ Fitzroy Crossi 65.85 205 P **P** **08 09 18.1 +0.6**
FITZ IAmb IAmb 08 09 33.8
comp=Z,10nm,1.3s
NVAR Mina Array Bea 65.92 59 P **P** **08 09 17.2 -1.0**
comp=Z,1.9nm,0.8s,baz=302,slow=6.6,SNR=10
NVAR LR LR 08 35 16.4
comp=Z,48nm,19.6s,baz=297,slow=33
QLMT Earthquake Lak 65.94 50 P **P** **08 09 18.7 +0.5**
NV11 Mina Array Sit 66.01 59 P **P** **08 09 19.4 +0.7**
NV11 IAmb IAmb 08 09 36.0
comp=Z,12nm,1.4s
VRH Novokhopyorsk 66.04 319 *e*P **P** **08 09 17.6 -0.8**
VRH pmax pmax
comp=Z,7.0nm,0.5s
YHB Horse Butte 66.12 50 P **P** **08 09 18.6 -0.7**
YHH Holmes Hill 66.28 50 P **P** **08 09 21.1 +0.6**
LPSR Galich'ya Gora 66.38 321 *e*P **P** **08 09 21.1 +0.6**
LPSR pmax pmax
comp=Z,6.0nm,0.7s
YNE Yellowstone No 66.61 49 P **P** **08 09 21.9 -0.6**
H17A Grant Village 66.69 50 P **P** **08 09 23.6 +0.6**
H17A IAmb IAmb 08 09 42.3
comp=Z,13nm,1.1s
RLMT Red Lodge 66.93 49 P **P** **08 09 23.1 -1.5**
RLMT IAmb IAmb 08 09 27.3
comp=Z,14nm,1.4s
MOOW Moose Ponds 67.01 51 P **P** **08 09 25.8 +0.7**
MOOW IAmb IAmb 08 09 42.5
comp=Z,18nm,1.5s
TPAW Teton Pass 67.06 51 P **P** **08 09 26.8 +1.3**
SNOW Snow King Moun 67.19 51 P **P** **08 09 26.5 +0.2**
SNOW IAmb IAmb 08 09 44.0
comp=Z,18nm,1.4s
REDW Red Top Meadow 67.20 51 P **P** **08 09 26.4 +0.1**
REDW IAmb IAmb 08 09 44.5
comp=Z,19nm,1.4s
VSR Storozhevoye 67.21 320 *e*P **P** **08 09 25.2 -0.7**
VSR pmax pmax
comp=Z,20nm,1.4s
LAO LASA Array 67.52 46 P **P** **08 09 27.7 -0.3**
R11A Troy Canyon, C 67.64 58 P **P** **08 09 29.3 +0.2**
DZM Mont Dzumac 68.00 163 *e*LR LR 08 30 05.7
comp=Z,358nm,23.2s
DUG Dugway, Tooele 68.11 55 P **P** **08 09 32.6 +0.6**
DUG pmax pmax
comp=Z,10.0nm,1.2s
DUG Dugway, Tooele 68.11 55 P **P** **08 09 32.6 +0.6**
DUG IAmb IAmb 08 09 50.0
comp=Z,10nm,1.2s
TPNV Topopah Spring 68.12 59 P **P** **08 09 32.0 -0.1**
TPNV pmax pmax
comp=Z,13nm,1.1s
TPNV Topopah Spring 68.12 59 P **P** **08 09 32.0 -0.1**
TPNV IAmb IAmb 08 09 50.1
comp=Z,13nm,1.1s
BW06 Boulder Array 68.30 51 P **P** **08 09 33.1 -0.2**
BW06 IAmb IAmb 08 09 36.5
comp=Z,12nm,1.3s
PD31 Pinedale Array 68.30 51 P **P** **08 09 32.7 -0.6**
PD31 IAmb IAmb 08 09 36.5
comp=Z,11nm,1.3s
PDAR Pinedale Array 68.30 51 P **P** **08 09 33.2 0.0**
comp=Z,2.7nm,0.9s,baz=269,slow=2.5,SNR=16
TCUT Toone Canyon 68.33 53 P **P** **08 09 34.0 +0.5**
NLU North Lily Min 68.70 55 P **P** **08 09 36.0 +0.3**
SHPR Sheep Range 69.08 59 P **P** **08 09 38.4 +0.3**
AS31 Alice Springs 69.19 195 P **P** **08 09 36.7 -1.9**
ASAR Alice Springs 69.20 195 P **P** **08 09 37.5 -1.1**
comp=Z,1.8nm,0.8s,baz=11,slow=5.5,SNR=20
ASAR LR LR 08 36 58.3
comp=Z,60nm,21.9s,baz=30,slow=33
NC405 NORSAR Array S 69.33 340 P **P** **08 09 38.1 -1.0**
CCUT Cedar City 69.49 57 P **P** **08 09 41.1 +0.4**
NB201 NORSAR Array S 69.49 340 P **P** **08 09 39.9 -0.2**
GOF Gofitskoye 69.51 313⇑ *e*P **P** **08 09 41.5 +1.1**
GOF pmax pmax
comp=Z,41nm,0.9s
NB2 NORSAR Subarra 69.52 340 P **P** **08 09 39.2 -1.0**
comp=Z,1.7nm,0.5s,baz=28,slow=6.5
NOA NORSAR Array B 69.52 340 P **P** **08 09 38.1 -2.1**
comp=Z,3.8nm,0.8s,baz=33,slow=6.7,SNR=23
NOA LR LR 08 43 36.2
comp=Z,217nm,19.8s,baz=25,slow=39
MSU Marysvale 69.58 56 P **P** **08 09 41.0 -0.2**
MSU Marysvale 69.58 56 P **P** **08 09 41.0 -0.2**
RDMU Red Mountain 69.74 53 P **P** **08 09 42.3 +0.1**
P17A Butcher Ranch, 69.79 54 P **P** **08 09 42.5 0.0**
LCMT Little Creek M 69.92 58 P **P** **08 09 44.1 +0.9**
ULM Lac du Bonnet 70.04 38 P **P** **08 09 41.1 -2.4**
comp=Z,2.0nm,0.6s,baz=339,slow=8.9,SNR=2.4
K22A Casper 70.05 50 P **P** **08 09 43.2 -0.8**
K22A IAmb IAmb 08 09 45.9
comp=Z,20nm,1.4s
SRU San Rafael Swe 70.16 54 P **P** **08 09 44.2 -0.5**
SRU pmax pmax
comp=Z,6.0nm,0.8s
SRU San Rafael Swe 70.16 54 P **P** **08 09 44.2 -0.5**
KNB Kanab 70.17 57 P **P** **08 09 44.8 0.0**
KNB pmax pmax
comp=Z,9.0nm,1.0s
KNB Kanab 70.17 57 P **P** **08 09 44.8 0.0**
RSSD Black Hills 70.39 47 P **P** **08 09 45.4 -0.7**
RSSD pmax pmax
comp=Z,14nm,1.4s
RSSD Black Hills 70.39 47 P **P** **08 09 45.4 -0.7**
RSSD IAmb IAmb 08 09 47.0
comp=Z,14nm,1.4s
KIV Kislovodsk 70.45 313 *e*P **P** **08 09 46.3 0.0**
KIV pmax pmax
comp=Z,67nm,1.1s
KIV MLR MLR
comp=Z,2µm,17.0s
KIV Kislovodsk 70.45 313 *e*P **P** **08 09 46.3 0.0**
KIV Kislovodsk 70.45 313 P **P** **08 09 46.7 +0.4**
KBZ Khabaz 70.49 312 *i* P **P** **08 09 47.0 +0.6**
KBZ Khabaz 70.49 312 P **P** **08 09 47.2 +0.8**
comp=Z,14nm,1.0s,baz=105,slow=0.8,SNR=8.7
KBZ LR LR 08 45 10.7
comp=Z,1µm,19.4s,baz=44,slow=40
KBZ Khabaz 70.49 312 *i* P **P** **08 09 47.0 +0.6**
W13A Hualapai Mount 70.78 60 P **P** **08 09 49.4 +0.8**
W13A IAmb IAmb 08 10 05.7
comp=Z,12nm,1.4s
O20A White River Ci 70.79 52 P **P** **08 09 48.7 +0.1**
U15A North Rim 70.88 58 P **P** **08 09 49.5 +0.3**
PV09 Paradox Valley 71.37 54 P **P** **08 09 50.8 -1.5**
AKASG Malin Array Be 71.94 325 P **P** **08 09 54.6 -0.4**
comp=Z,8.8nm,0.9s,baz=37,slow=6.1,SNR=17
AKASG LR LR 08 44 36.1
comp=Z,578nm,18.5s,baz=45,slow=38
AKBB Malin Array Si 71.94 325 P **P** **08 09 53.9 -1.1**
AKBB pmax pmax
comp=Z,14nm,1.1s
AKBB Malin Array Si 71.94 325 P **P** **08 09 53.9 -1.1**
AKBB IAmb IAmb 08 09 56.7
comp=Z,14nm,1.1s
SMCO Snowmass 72.16 52 P **P** **08 09 57.1 0.0**
ISCO Idaho Springs 72.50 51 P **P** **08 09 59.9 +0.9**
ISCO pmax pmax
comp=Z,6.0nm,1.1s
ISCO Idaho Springs 72.50 51 P **P** **08 09 59.9 +0.9**
X16A Lo Mia Camp, P 72.73 59 P **P** **08 10 01.2 +0.9**
X16A IAmb IAmb 08 10 18.6
comp=Z,9.5nm,0.9s
S22A 4UR Ranch, Cre 73.22 53 P **P** **08 10 04.2 +0.9**
SORM Soroca 74.27 323⇑ P **P** **08 10 08.9 +0.1**
SORM Soroca 74.27 323⇑ P **P** **08 10 08.9 +0.1**
ECSD EROS Data Cent 74.44 43 P **P** **08 10 09.6 -0.3**
ECSD IAmb IAmb 08 10 11.4
comp=Z,19nm,1.4s
TUC Tucson 74.56 60 P **P** **08 10 09.8 -1.2**
TUC pmax pmax
comp=Z,6.0nm,1.0s
TUC Tucson 74.56 60 P **P** **08 10 09.8 -1.2**
LVV L'vov 74.72 327 *e*P **P** **08 10 12.7 +1.2**
LVV MLR MLR
comp=E,700nm,19.0s
LVV MLR MLR
comp=N,400nm,20.0s
LVV MLR MLR
comp=Z,500nm,20.0s
ANMO Albuquerque 75.37 55 *ce*P **P** **08 10 17.0 +1.3**
ANMO pmax pmax
comp=Z,15nm,2.5s
ANMO Albuquerque 75.37 55 P **P** **08 10 16.5 +0.7**
ANMO IAmb IAmb 08 10 33.1
comp=Z,16nm,1.5s
KWP Kalwaria Pacla 75.39 327 P **P** **08 10 14.4 -0.9**
KWP Kalwaria Pacla 75.39 327 P **P** **08 10 14.4 -0.9**
BUR08 Bucovina Ar. S 75.98 325 P **P** **08 10 18.6 -0.3**
BURAR Bucovina Array 75.99 325⇑ P **P** **08 10 19.2 +0.3**
BURAR Bucovina Array 75.99 325⇑ P **P** **08 10 19.2 +0.3**
OJC Ojcow 76.00 329 *e*P **P** **08 10 19.6 +0.8**
OJC Ojcow 76.00 329 *e*P **P** **08 10 19.6 +0.8**
OJC *e*P **P** **08 10 19.6 +0.8**
OJC Ojcow 76.00 329 P **P** **08 10 19.2 +0.4**
KOLS Kolonicke sedl 76.12 327 *e*P **P** **08 10 20.0 +0.5**
KOLS pmax pmax
comp=Z,16nm,1.3s
KOLS Kolonicke sedl 76.12 327 *e*P **P** **08 10 20.0 +0.5**
319A Douglas 76.13 60 P **P** **08 10 20.6 +0.5**
BIZ Bicaz 76.15 324⇑ P **P** **08 10 19.6 -0.2**
121A Cookes Peak, D 76.25 58 P **P** **08 10 20.7 -0.1**
STKA Stephens Creek 76.25 187 P **P** **08 10 20.4 +0.2**
STKA pmax pmax
comp=Z,2.0nm,1.2s
STKA Stephens Creek 76.25 187 P **P** **08 10 21.1 +0.9**
comp=Z,1.3nm,0.7s,baz=29,slow=6.2,SNR=4.6
STKA LR LR 08 40 43.0
comp=Z,146nm,21.8s,baz=21,slow=33
STKA Stephens Creek 76.25 187 P **P** **08 10 20.4 +0.2**
TESR Tescani 76.26 323⇑ P **P** **08 10 20.1 -0.3**
UZH Uzhgorod 76.36 327 *e*P **P** **08 10 21.7 +0.9**
UZH *e* 08 10 38.7
SCHQ Schefferville 76.47 21 P **P** **08 10 22.4 +1.0**
comp=Z,5.1nm,0.9s,baz=17,slow=12,SNR=3.3
SCHQ LR LR 08 48 09.9
comp=Z,295nm,19.1s,baz=330,slow=39
SCHQ Schefferville 76.47 21 P **P** **08 10 21.8 +0.4**
NIE Niedzica 76.48 329 *e*P **P** **08 10 22.3 +0.8**
NIE Niedzica 76.48 329 *e*P **P** **08 10 22.3 +0.8**
NIE *e*P **P** **08 10 22.3 +0.8**
TRPA Tarpa 76.66 327⇑ P **P** **08 10 23.4 +0.9**
TRPA Tarpa 76.66 327 *e*P **P** **08 10 21.1 -1.5**
KSP Ksiaz 76.73 332 *e*P **P** **08 10 23.0 +0.1**
KSP Ksiaz 76.73 332 *e*P **P** **08 10 23.0 +0.1**
KSP *e*P **P** **08 10 23.0 +0.1**
PLOR Plostina 76.78 323⇑ P **P** **08 10 24.8 +1.5**
PLOR Plostina 76.78 323⇑ P **P** **08 10 24.8 +1.5**
LANS Liptovska Anna 77.01 329 *e*P **P** **08 10 25.8 +1.2**
LANS pmax pmax
comp=Z,13nm,1.1s
LANS Liptovska Anna 77.01 329 *e*P **P** **08 10 25.8 +1.2**
CHVC Chvalec 77.02 332 *e*P **P** **08 10 25.2 +0.6**
UPC Upice 77.11 332 *e*P **P** **08 10 25.9 +0.8**
UPC MLR MLR
comp=Z,600nm,18.7s
UPC Upice 77.11 332 *e*P **P** **08 10 25.9 +0.8**
UPC AMS AMS 08 47 30.0
comp=Z,600nm,18.7s
DPC Dobruska-Polom 77.13 331 *e*P **P** **08 10 25.1 -0.2**
DPC *e* 08 10 34.0
DPC MLR MLR
comp=Z,600nm,17.1s
DPC Dobruska-Polom 77.13 331 *e*P **P** **08 10 25.1 -0.2**
DPC *e*pP **PcP** **08 10 34.0 -2.0**
DPC AMS AMS 08 48 30.0
comp=Z,600nm,17.1s
MORC Moravsky Berou 77.19 330⇑ P **P** **08 10 26.3 +0.7**
MORC Moravsky Berou 77.19 330⇑ P **P** **08 10 26.3 +0.7**
MORC Moravsky Berou 77.19 330 *e*P **P** **08 10 25.9 +0.3**
MORC Moravsky Berou 77.19 330 P **P** **08 10 25.0 -0.6**
KRLC Kraliky 77.20 331 *e*P **P** **08 10 25.3 -0.4**
KRLC *e* 08 10 31.6
KRLC MLR MLR
comp=Z,400nm,14.9s
KRLC Kraliky 77.20 331 *e*P **P** **08 10 25.3 -0.4**
KRLC *ex* x 08 10 31.6
KRLC AMS AMS 08 48 30.0
comp=Z,400nm,14.9s
DOPR Dopca 77.22 324⇑ P **P** **08 10 27.3 +1.4**
EFOR EFORIE 77.28 321⇑ P **P** **08 10 31.8 +5.7**
CLL Collm 77.42 334⇓ *i*P **P** **08 10 26.2 -0.5**
CLL *e*S **S** **08 20 12.0 -2.2**
CLL pmax pmax
comp=Z,24nm,1.1s
CLL MLR MLR
comp=Z,300nm,22.0s
CLL Collm 77.42 334⇓ *i*P **P** **08 10 26.2 -0.5**
comp=Z,24nm,1.1s
CLL *i* sP **pwP** **08 10 39.6 -1.7**
CLL *e*S **S** **08 20 12.0 -2.2**
CLL *e*SS SS 08 25 30.0 +18
CLL Lm MLR 08 46 00.0
comp=N,300nm,21.4s
CLL Lm MLR 08 46 00.0
comp=E,200nm,19.0s
CLL Lm MLR 08 46 00.0
comp=Z,300nm,22.0s
CLL Collm 77.42 334 P **P** **08 10 24.9 -1.8**
BRG Berggiesshubel 77.48 333 *i* P **P** **08 10 27.4 +0.2**
comp=Z,11nm,1.1s
BRG *e* 08 10 36.7
comp=Z,8.5nm,1.1s
BRG Berggiesshubel 77.48 333 *i* P **P** **08 10 27.4 +0.2**
BRG *e* 08 10 36.7
BRG pmax pmax
comp=Z,11nm,1.1s
LTVH Ltavrtes, Hu 77.52 326 *e*P P 08 10 37.0 +10
PVCC Panska Ves 77.57 332 *e*P **P** **08 10 28.2 +0.5**
PVCC Panska Ves 77.57 332 *e*P **P** **08 10 28.2 +0.5**
VYHS Vyhne 77.78 329 *e*P **P** **08 10 29.8 +0.9**
VYHS pmax pmax
comp=Z,12nm,1.3s
VYHS Vyhne 77.78 329 *e*P **P** **08 10 29.8 +0.9**
VOIR 77.79 323⇑ P **P** **08 10 29.2 +0.1**
VOIR 77.79 323⇑ P **P** **08 10 29.2 +0.1**
PSZ Piszkesteto 77.86 328⇑ P **P** **08 10 31.3 +1.9**
PSZ Piszkesteto 77.86 328⇑ P **P** **08 10 31.3 +1.9**
PSZ Piszkesteto 77.86 328 *e*P **P** **08 10 30.1 +0.7**
PSZ Piszkesteto 77.86 328 P **P** **08 10 29.2 -0.2**
PSZ IAmb IAmb 08 10 32.4
comp=Z,14nm,1.2s
JAVC Velka Javorina 77.91 330 *e*P **P** **08 10 30.9 +1.3**
VRAC Vranov 77.92 331⇑ P **P** **08 10 30.8 +1.2**
VRAC Vranov 77.92 331⇑ P **P** **08 10 30.8 +1.2**
VRAC Vranov 77.92 331 *e*P **P** **08 10 30.3 +0.7**
PRA Prague 78.01 332 AMS AMS 08 48 30.0
comp=Z,600nm,16.9s
ARR Arges 78.02 324⇑ P **P** **08 10 32.7 +2.4**
GOPC GO Pecny, Ondr 78.03 332 *e*P **P** **08 10 30.1 -0.1**
GOPC MLR MLR
comp=Z,700nm,18.8s
GOPC GO Pecny, Ondr 78.03 332 *e*P **P** **08 10 30.1 -0.1**
GOPC AMS AMS 08 48 20.0
comp=Z,700nm,18.8s
PRU Pruhonice 78.05 332 *e*P **P** **08 10 30.6 +0.3**
PRU *e* 08 10 43.8
PRU MLR MLR
comp=Z,500nm,17.1s
PRU Pruhonice 78.05 332 *e*P **P** **08 10 30.6 +0.3**
PRU *e*pP **pwP** **08 10 43.8 -1.1**
PRU AMS AMS 08 48 30.0
comp=Z,500nm,17.1s
AMTX Amarillo 78.18 53 P **P** **08 10 31.2 -0.2**
BRTR Keskin Array B 78.18 315 *ce*P **P** **08 10 33.5 +2.1**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 78.18 315 P **P** **08 10 31.3 -0.1**
comp=Z,1.0nm,0.6s,baz=144,slow=1.3,SNR=12
BRTR LR LR 08 51 08.5
comp=Z,233nm,18.1s,baz=44,slow=40
KRUC Moravsky 78.19 331 *e*P **P** **08 10 31.5 +0.4**
MSTX Muleshoe 78.21 54 P **P** **08 10 29.8 -1.9**
MSTX IAmb IAmb 08 10 48.2
comp=Z,14nm,1.4s
MNTX Cornudas Mount 78.28 57 P **P** **08 10 31.8 -0.1**
MNTX IAmb IAmb 08 10 49.1
comp=Z,21nm,1.4s
SMOL Smolenice 78.28 330 *e*P **P** **08 10 32.9 +1.2**
SMOL pmax pmax
comp=Z,12nm,1.3s
SMOL Smolenice 78.28 330 *e*P **P** **08 10 32.9 +1.2**
TREC Trest 78.31 331 AMS AMS 08 49 20.0
comp=Z,500nm,19.1s
MODS Modra-Piesok 78.46 330 *e*P **P** **08 10 33.0 +0.4**
MODS pmax pmax
comp=Z,15nm,1.2s
MODS Modra-Piesok 78.46 330 *e*P **P** **08 10 33.0 +0.4**
ANTO Ankara 78.50 315⇑ P **P** **08 10 34.7 +1.6**
ANTO Ankara 78.50 315⇑ P **P** **08 10 34.7 +1.6**
GZR Gura Zlata 78.78 325⇑ P **P** **08 10 34.5 0.0**
GZR Gura Zlata 78.78 325⇑ P **P** **08 10 34.5 0.0**

CSKK	Cskako	78.94	328	eP	P	08 10 39.1	+3.8
BZS	Buzias	79.08	326	⇑P	P	08 10 35.8	-0.3
BZS	Buzias	79.08	326	⇑P	P	08 10 35.8	-0.3
KHC	Kasperske Hory	79.10	332	eP	P	08 10 36.5	+0.3
KHC				e		08 10 46.2	
KHC				e		08 10 53.1	
KHC				MLR	MLR		
	comp=Z,600nm,16.5s						
KHC	Kasperske Hory	79.10	332	eP	P	08 10 36.5	+0.3
KHC				epP	pP	08 10 46.2	-1.0
KHC				esP	sP	08 10 53.1	+1.4
KHC				AMS	AMS	08 48 50.0	
	comp=Z,600nm,16.5s						
KHC	Kasperske Hory	79.10	332	P	P	08 10 35.8	-0.4
SOP	Sopron	79.30	330	eP	P	08 10 36.1	-1.1
GERES	GERESS Array B	79.31	332	P	P	08 10 36.7	-0.7
	comp=Z,1.0nm,0.4s,baz=40,slow=6.3,SNR=17						
GERES				LR	LR	08 49 42.6	
	comp=Z,575nm,18.1s,baz=40,slow=39						
CONA	Conrad Observa	79.34	330	P	P	08 10 38.8	+1.2
	comp=Z,7.4nm,1.2s						
MPLH	Magyarpolny	79.37	329	eP	P	08 10 39.0	+1.4
GRA1	Grafenberg Arr	79.38	334	P	P	08 10 36.4	-1.3
GRF	Grafenberg Arr	79.38	334	P	P	08 10 36.4	-1.3
GRF				pmax	pmax		
	comp=Z,30nm,1.2s						
MDVR	Moldovita	79.72	325	⇑P	P	08 10 39.8	+0.1
MORH	Mrgy, Hungar	79.75	328	eP	P	08 10 39.0	-0.7
WMOK	Wichita Mounta	79.92	51	P	P	08 10 40.9	0.0
WMOK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
WMOK	Wichita Mounta	79.92	51	P	P	08 10 40.9	0.0
MOA	Molln	79.97	331	ePcP	P	08 10 42.7	+1.8
	comp=Z,5.6nm,1.2s						
ARSA	Arzberg	80.04	330	PcP	P	08 10 43.6	+2.3
	comp=Z,3.4nm,0.9s						
MEM	Membach	80.12	337	P	P	08 10 37.7	-3.9
SOKA	Soboth	80.70	330	eP	P	08 10 45.7	+0.8
	comp=Z,8.5nm,1.0s						
VTS	Vitosha	80.83	323	⇑P	P	08 10 54.8	+9.0
VTS	Vitosha	80.83	323	⇑P	P	08 10 54.8	+9.0
TX31	Lajitas Ar. Si	81.00	58	P	P	08 10 45.9	-1.0
TX32	Lajitas Array	81.00	58	P	P	08 10 46.7	-0.2
TX32				IAmb	IAmb	08 11 03.9	
	comp=Z,25nm,1.4s						
TXAR	Lajitas Array	81.00	58	P	P	08 10 46.6	-0.3
	comp=Z,2.2nm,0.6s,baz=299,slow=4.1,SNR=49						
WATA	Walderalm	81.33	332	P	P	08 10 48.2	-0.1
	comp=Z,8.6nm,1.0s,SNR=4.7						
WTTA	Wattenberg	81.37	332	eP	P	08 10 48.6	-0.1
	comp=Z,10nm,0.8s,SNR=5.6						
CCM	Cathedral Cave	81.39	44	P	P	08 10 48.3	-0.3
CCM				pmax	pmax		
	comp=Z,13nm,1.1s						
CCM	Cathedral Cave	81.39	44	P	P	08 10 48.3	-0.3
CCM				IAmb	IAmb	08 11 07.4	
	comp=Z,12nm,1.1s						
RETA	Reutte	81.46	333	P	P	08 10 49.3	+0.3
	comp=Z,12nm,1.3s,SNR=5.0						
MOTA	Moosalm	81.48	333	ePcP	P	08 10 50.1	+0.9
	comp=Z,17nm,1.1s,SNR=4.4						
BFO	Black Forest	81.48	335	ceP	P	08 10 51.2	+2.2
BFO	Black Forest	81.48	335	P	P	08 10 48.2	-0.8
BFO				IAmb	IAmb	08 10 51.5	
	comp=Z,12nm,1.2s						
HPIG		81.49	61	P	P	08 10 49.4	-0.2
HPIG				IAmb	IAmb	08 11 05.7	
	comp=Z,14nm,1.3s						
SQTA	Sankt Quirin	81.55	333	ePcP	P	08 10 50.9	+1.4
	comp=Z,13nm,1.1s						
U40A	Yellville	81.88	46	P	P	08 10 50.9	-0.4
U40A				IAmb	IAmb	08 11 07.9	
	comp=Z,20nm,1.1s						
FETA	Feichten	81.88	333	PcP	P	08 10 53.5	+2.2
	comp=Z,4.1nm,1.0s						
DAVA	Damuels	81.92	333	PcP	P	08 10 52.3	+0.7
	comp=Z,7.8nm,1.0s						
PMOR	Pomariorio Ree	82.14	120	eT	T	09 41 34.0	
	comp=Z,13nm,0.2s						
JCT	Junction City	82.47	54	P	P	08 10 54.3	-0.2
JCT				pmax	pmax		
	comp=Z,33nm,1.5s						
JCT	Junction City	82.47	54	P	P	08 10 54.3	-0.2
TAOE	Nuku Hiva Isla	82.60	110	eLR	LR	08 36 42.6	
	comp=Z,381nm,25.2s						
PDG	Podgorica	82.67	325	⇓P	P	08 10 55.8	+0.6
PBMO	Poplar Bluff	82.79	44	P	P	08 10 55.4	-0.6
WHAR	Wooly Hollow	82.99	46	P	P	08 10 56.3	-0.8
PPT	Papeete	83.07	123	LR	LR	08 46 17.5	
	comp=Z,272nm,18.1s,baz=324,slow=34						
PPT2	Papeete2	83.09	123	eS	S	08 21 21.0	+6.4
	comp=Z,40nm,24.2s						
PPT2	Papeete2	83.09	123	eLR	LR	08 36 51.5	
	comp=Z,468nm,27.2s,baz=326						
PPT2	Papeete2	83.09	123	eT	T	09 42 45.1	
	comp=Z,3.2nm,0.3s						
NRCA	Norcia	84.71	329	P	P	08 11 05.8	-0.1
OXF	Oxford	85.08	45	P	P	08 11 08.1	+0.4
OXF				pmax	pmax		
	comp=Z,35nm,1.2s						
OXF	Oxford	85.08	45	P	P	08 11 08.1	+0.4
INTR	Introdacqua	85.12	328	P	P	08 11 07.3	-0.6
TBI	Tubuai	87.61	126	eS	S	08 22 05.4	+6.7
	comp=Z,81nm,28.8s						
TBI	Tubuai	87.61	126	eLR	LR	08 38 24.0	
	comp=Z,341nm,26.8s,baz=321						
TBI	Tubuai	87.61	126	eT	T	09 48 23.6	
	comp=Z,3.5nm,0.3s						
KEST	Kesra	92.33	328	LR	LR	08 57 37.8	
	comp=Z,463nm,19.7s,baz=341,slow=38						
ESDC	Sonseca Array	92.89	340	P	P	08 11 44.1	-0.6
	comp=Z,0.1nm,0.4s,baz=50,slow=4.3,SNR=4.7						
ESDC				LR	LR	08 58 10.0	
	comp=Z,231nm,20.7s,baz=40,slow=38						
NNA	Nana	129.05	65	c iPKIKP	PKiKP	08 17 44.1	+3.4
SIV	San Ignacio	141.79	52	PKP	PKPdf	08 18 01.2	-2.5
	comp=Z,0.3nm,0.3s,baz=248,slow=5.6,SNR=3.5						
GO04	Tololo Observa	145.45	79		PKPdf	08 18 10.0	0.0
BDFB	Brasilia	147.79	32	PKP2	PKPbc	08 18 16.3	-0.7
BDFB	Brasilia	147.79	32	PKPbc	PKPbc	08 18 15.7	-1.3
	comp=Z,2.9nm,0.8s,baz=31,slow=5.9,SNR=2.8						
BDFB	Brasilia	147.79	32		PKPbc	08 18 16.3	-0.7
CFA	Coronel Fontan	148.07	79	PKPbc	PKPbc	08 18 16.2	-1.1
	comp=Z,2.4nm,0.4s,baz=297,slow=2.7,SNR=25						
SNAA	Sanae	149.55	197	PKPdf	PKiKP	08 18 20.9	0.0
SNAA	Sanae	149.55	197	PKP2	PKiKP	08 18 20.4	-0.5
SNAA	Sanae	149.55	197		PKiKP	08 18 20.4	-0.5
PLCA	Paso Flores	150.64	97	PKPbc	PKPbc	08 18 23.1	-0.3
	comp=Z,2.5nm,1.0s,baz=330,slow=5.4,SNR=6.9						
VNA2	Neumayer--Watz	151.05	196	PKPdf	PKPbc	08 18 20.7	-2.6
	baz=34,slow=1.2						
VNA3	Neumayer Olymp	151.20	194	PKPdf	PKPbc	08 18 23.6	-0.2
VNA1	Neumayer--Stat	151.44	195	PKPdf	PKPdf	08 18 21.0	+2.9
CPUP	Villa Florida	151.97	59	PKPbc	PKPbc	08 18 26.1	-0.7
	comp=Z,3.4nm,1.1s,baz=284,slow=12,SNR=3.5						
CPUP	Villa Florida	151.97	59		PKiKP	08 18 27.2	0.0

*NIED **08** 08:18:00,44°50N×149°20E,h38km,Mw4.2 Best double couple: $M_0$1.97000×10^{15} NP1:ϕ_s158.00000°,δ44.00000°, λ-7.00000°. NP2:ϕ_s253.00000°,δ85.00000°, λ-134.00000°.*

*ISCJB **08** 08:18:36.3±0.5,44°29N±0°06×149°37E±0°06,h36km, mb3.6/12,MS3.5/1,Error ellipse: s-maj=9.9km s-min=3.8km az=150.4*

*MOS **08** 08:18:36.6±1.2,44°32N×149°42E,h36km,mb4.1/3,Error ellipse: s-maj=10.6km s-min=8.1km az=55.7*

*IDC **08** 08:18:38.1±4.6,44°26N×149°66E,h36km±39km,mb3.3/9, mb1 3.6/12,mb1mx3.4/32,mbtmp3.5/12,ML2.6/3,MS3.2/2, Ms1 3.2/2,ms1mx2.8/27,Error ellipse: s-maj=31.5km s-min=16.2km az=126.0*

*SKHL **08** 08:18:38.1±0.4,44°38N×149°28E,h48km±4km,mb4.4/1*

ISC 08 08:18:38.2±0.7,**44°27N**±0°07×**149°38E**±0°07,**h36**km,**n65, σ2s01**/69,**mb3.5**/12,**2C,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.44	312	ePN	Pn	08 18 58.3	-3.5
KUR				eS	Sn	08 19 14.4	-5.0
KUR				pmax	pmax		
	comp=Z,333nm,0.4s						
KUR				pmax	pmax		
	comp=N,133nm,0.3s						
KUR				pmax	pmax		
	comp=E,210nm,0.3s						
KUR				smax	smax		
	comp=N,1μm,0.6s						
KUR				smax	smax		
	comp=E,536nm,0.5s						
KUR	Kuril'sk	1.44	312	eP	Pn	08 18 58.7	-3.1
KUR				AMB	AMB	08 19 01.2	
	comp=E,150nm,0.4s						
KUR				AMB	AMB	08 19 01.2	
	comp=E,160nm,0.4s						
KUR				AMB	AMB	08 19 01.2	
	comp=E,170nm,0.4s						
KUR				eS	Sn	08 19 14.4	-5.0
KUR				A	A	08 19 17.0	
	comp=E,1μm,0.5s						
KUR				A	A	08 19 17.0	
	comp=E,540nm,0.5s						
YUK	Yuzh-Kuril'sk	2.54	266	ePN	Pn	08 19 17.8	+1.0
YUK				eS	Sn	08 19 47.6	+1.1
YUK				smax	smax		
	comp=N,236nm,0.7s						
YUK				smax	smax		
	comp=E,107nm,0.7s						
YUK	Yuzh-Kuril'sk	2.54	266	eP	Pn	08 19 16.8	0.0
YUK				eS	Sn	08 19 45.5	-1.0
YUK				A	A	08 19 49.0	
	comp=E,240nm,0.5s						
YUK				A	A	08 19 49.0	
	comp=E,410nm,0.5s						
GRPR	Tuman	2.61	265	ePN	Pn	08 19 18.0	+0.2
GRPR				S	Sn	08 19 48.9	+0.7
GRPR	Tuman	2.61	265	eP	Pn	08 19 18.0	+0.2
GRPR				eS	Sn	08 19 48.1	-0.1
NEM2	Nemuro 2	2.78	252	P	Pn	08 19 19.0	-1.1
NEM2				eS	Sn	08 19 50.8	-1.6
NMR	Nemuro--Hokkai	2.79	252	ePN	Pn	08 19 20.1	-0.2
NMR				eS	Sn	08 19 51.5	-1.1
NMR	Nemuro--Hokkai	2.79	252	eP	Pn	08 19 20.1	-0.2
NMR				eS	Sn	08 19 51.5	-1.1
GLVR	Golovnino	2.83	261	ePN	Pn	08 19 20.9	0.0
GLVR				S	Sn	08 19 54.2	+0.5
GLVR	Golovnino	2.83	261	eP	Pn	08 19 20.0	-0.9
GLVR				eS	Sn	08 19 54.0	+0.3
JRA	Rausu	3.08	265	P	Pn	08 19 24.4	+0.1
JNK	Nakash	3.43	260	P	Pn	08 19 29.3	+0.2
JAK	Akkeshi	3.63	251	P	Pn	08 19 30.6	-1.2
JAR	Ashorobuto	4.17	258	P	Pn	08 19 40.1	+0.8
JOB	Onbets	4.25	253	P	Pn	08 19 40.5	+0.1
JCH	Churui	4.68	251	P	Pn	08 19 46.5	+0.2
JCH				eS	Sn	08 20 37.6	-1.7
JKA	Kamikawa-asahi	4.88	271	eP	Pn	08 19 52.0	+3.1
ASAJ	Asahikawa	4.88	271	Pn	Pn	08 19 51.9	+2.9
	comp=E,0.4nm,0.3s,baz=101,slow=16,SNR=4.2						
JEM	Erimo	5.08	246	P	Pn	08 19 52.6	+0.9
ERM	Erimo	5.08	246	i PN	Pn	08 19 53.7	+2.0
JNBK	Urakawa-nobuka	5.23	250	P	Pn	08 19 52.9	-0.9
JNBK				eS	Sn	08 20 50.7	-2.1
JBT2	Biratori 2	5.31	256	P	Pn	08 19 55.0	0.0
YSS	Yuzh-Sakhalins	5.36	302	ePN	Pn	08 19 55.3	-0.3
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
YSS				MLR	MLR		
	comp=Z,300nm,17.0s						
YSS	Yuzh-Sakhalins	5.36	302	eP	Pn	08 19 55.3	-0.3
JKB	Kayabe	6.56	252	P	Pn	08 20 11.8	-0.2
JKB				eS	Sn	08 21 20.5	-5.0
JANG	Nango	7.01	239	P	Pn	08 20 16.8	-1.4
JANG				eS	Sn	08 21 28.9	-7.7
JTH	Tanohata	7.07	235	eS	Sn	08 21 28.4	-10
SKR	Severo-Kuril's	7.87	33	i PN	Pn	08 20 32.4	+2.4
SKR	Severo-Kuril's	7.87	33	eP	Pn	08 20 31.0	+1.0
JIO	Ouri	8.38	229	eS	Sn	08 22 01.6	-8.6
PEA0B	Petropavlovsk-	10.41	29	i PN	Pn	08 21 07.1	+2.3
PETK	Petropavlovsk-	10.41	29	Pn	Pn	08 21 03.8	-1.0
	comp=Z,0.2nm,0.3s,baz=214,slow=13,SNR=3.3						
PET	Petropavlovsk	10.69	32	PN	Pn	08 21 09.6	+1.0
PET	Petropavlovsk	10.69	32	eP	Pn	08 21 09.1	+0.5
MAJO	Matsushiro	11.48	232	i PN	Pn	08 21 27.4	+7.8
MJAR	Matsushiro Arr	11.48	232	Pn	Pn	08 21 21.9	+2.3
	comp=Z,0.0nm,0.3s,baz=24,slow=12,SNR=2.8						
KLR	Kul'dur	13.06	299	i PN	Pn	08 21 40.4	-0.6
KLR	Kul'dur	13.06	299	LR	LR	08 26 51.0	
	comp=Z,93nm,18.6s,baz=86,slow=37						
KLR	Kul'dur	13.06	299	eP	Pn	08 21 40.4	-0.6
EKMR	Ekimchan	13.95	315	eP	Pn	08 21 50.2	-2.9
MA2	Magadan	15.35	3	LR	LR	08 27 00.2	
	comp=Z,118nm,21.1s,baz=222,slow=33						
YAK	Yakutsk	21.20	334	P	P	08 23 21.0	+0.7
YAK	Yakutsk	21.20	334	P	P	08 23 21.0	+0.7
	comp=Z,3.7nm,0.5s,baz=344,slow=4.5,SNR=4.0						
YAK	Yakutsk	21.20	334	eP	P	08 23 21.0	+0.7
BILL	Bilibino	25.43	15	⇑eP	P	08 24 02.6	+0.5
BILL				e		08 24 39.8	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,120nm,18.0s						
BILL	Bilibino	25.43	15	⇑eP	P	08 24 02.6	+0.5
H11N2	WAKE ISLAND Hy	28.50	144	T	T	08 55 21.6	
	baz=334,slow=75,SNR=94						
H11N1	WAKE ISLAND Hy	28.52	144	T	T	08 55 22.6	
	baz=334,slow=75,SNR=56						
H11N3	WAKE ISLAND Hy	28.52	144	T	T	08 55 23.0	
	baz=334,slow=75,SNR=61						
H11S1	WAKE ISLAND Hy	29.51	145	T	T	08 56 40.3	
	baz=335,slow=76,SNR=87						
H11S3	WAKE ISLAND Hy	29.52	145	T	T	08 56 44.9	
	baz=335,slow=76,SNR=59						
H11S2	WAKE ISLAND Hy	29.53	145	T	T	08 56 41.9	
	baz=335,slow=76,SNR=56						
ILAR	Eielson Array	40.12	37	P	P	08 26 08.2	-1.8
	comp=Z,0.5nm,0.9s,baz=268,slow=9.0,SNR=6.0						
INK	Inuvik	45.14	31	P	P	08 26 49.7	-0.9
	comp=Z,1.3nm,1.0s,baz=339,slow=3.4,SNR=6.6						
MKAR	Makanchi Array	45.76	298	P	P	08 26 57.3	+1.4
	comp=Z,0.6nm,0.9s,baz=82,slow=11,SNR=2.4						
AAK	Ala-Archa	52.57	296	i P	P	08 27 50.5	+2.3
AAK				pmax	pmax		
	comp=Z,2.0nm,1.7s						
AAK	Ala-Archa	52.57	296	eP	P	08 27 50.5	+2.3
YKA	Yellowknife Ar	54.47	35	P	P	08 28 00.5	-1.1
	comp=Z,0.4nm,0.7s,baz=296,slow=6.5,SNR=3.7						
ARU	Arti	55.06	317	i P	P	08 28 08.7	+2.7
ARU				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ARU	Arti	55.06	317	i P	P	08 28 08.7	+2.7
WRA	Warramunga Arr	65.37	196	P	P	08 29 16.2	-0.6
	comp=Z,0.3nm,0.6s,baz=15,slow=6.3,SNR=4.2						
PDAR	Pinedale Array	68.34	51	P	P	08 29 35.0	-1.0
	comp=Z,0.1nm,0.4s,baz=282,slow=6.0,SNR=2.8						
ASAR	Alice Springs	69.08	195	P	P	08 29 41.2	+0.9
	comp=Z,0.4nm,0.8s,baz=347,slow=5.1,SNR=5.2						
TXAR	Lajitas Array	81.02	58	P	P	08 30 49.3	-0.2
	comp=Z,0.3nm,0.5s,baz=306,slow=3.6,SNR=6.4						

DJA 08 08:20:46.2±1.4,**0°S**±3°×**9°9E**±°,**h22**km±17km,**M3.6**/15, **mb3.7**/2,**MLv3.6**/15,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	Pulau Batu	0.84	293	P	Pn	08 21 02.8	0.0
PBSI				S	Sn	08 21 14.4	-0.1
SISI	Saibi	0.94	178	P	Pb	08 21 03.4	-0.4
SISI				S	Sn	08 21 17.2	+0.3
PDSI	Padang	1.50	111	P	Pn	08 21 10.2	-1.6
SBSI	Sibolga	1.93	355	P	Pn	08 21 16.3	-1.4
BKNI	Bangkinang	2.10	70	P	Pn	08 21 20.2	+0.1
GSI	Gunungsitoli	2.24	318	P	Pn	08 21 21.5	-0.5
SDSI	Sungai Dareh	2.43	103	P	Pn	08 21 24.8	+0.2
PPSI	Pulau Pagai	2.55	158	P	Pn	08 21 26.7	+0.4
KRJI	Kerinci	2.94	125	P	Pn	08 21 31.9	+0.1
TPTI		4.08	333	P	Pn	08 21 46.0	-1.2
KCSI	Kotacane, Aceh	4.08	342	P	Pn	08 21 47.8	+0.4
KSI	Kapahiang	4.80	133	P	Pn	08 21 57.3	0.0
TNG	Tangerang	9.51	127	P	Pn	08 23 06.1	+4.2

*ISCJB **08** 08:22:44.4±0.9,44°39N±0°05×149°19E±0°08,h51km±9km, mb3.9/11,MS3.7/1,Error ellipse: s-maj=11.1km s-min=6.0km az=40.3*

*SKHL **08** 08:22:45.4±0.5,44°45N×149°26E,h52km±5km,mb4.5/2*

*MOS **08** 08:22:45.3±1.3,44°52N×149°15E,h52km,mb4.3/3,Error ellipse: s-maj=12.3km s-min=8.9km az=52.8*

*IDC **08** 08:22:46.5±3.4,44°47N×149°15E,h52km±30km,mb3.5/9, mb1 3.7/12,mb1mx3.4/32,mbtmp3.7/12,ML2.9/3,Error ellipse: s-maj=29.2km s-min=19.4km az=148.0*

ISC 08 08:22:46.0±1.3,**44°41N**±0°06×**149°21E**±0°08,**h46**km±11km, **n63,σ1s64**/73,**mb3.7**/11,**2C-3D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.26	311	d iPN	Pn	08 23 05.8	-1.3
KUR				iS	Sn	08 23 22.0	-0.8
KUR				pmax	pmax		
	comp=Z,379nm,0.5s						
KUR				pmax	pmax		
	comp=N,141nm,0.3s						
KUR				pmax	pmax		
	comp=E,110nm,0.4s						
KUR				smax	smax		
	comp=N,1μm,0.4s						
KUR				smax	smax		
	comp=E,554nm,0.2s						
KUR	Kuril'sk	1.26	311	⇓iP	Pn	08 23 05.9	-1.2
KUR				AMB	AMB	08 23 08.0	
	comp=E,140nm,0.5s						
KUR				AMB	AMB	08 23 08.0	
	comp=E,110nm,0.5s						
KUR				AMB	AMB	08 23 08.0	
	comp=E,220nm,0.5s						
KUR				iS	Sn	08 23 21.5	-1.3
KUR				A	A	08 23 24.0	
	comp=E,1μm,0.4s						
KUR				A	A	08 23 24.0	
	comp=E,850nm,0.4s						
YUK	Yuzh-Kuril'sk	2.43	262	ePN	Pn	08 23 24.2	+1.0
YUK				eS	Sn	08 23 52.9	+1.2
YUK				smax	smax		
	comp=N,284nm,0.5s						
YUK				smax	smax		
	comp=E,375nm,0.4s						
YUK	Yuzh-Kuril'sk	2.43	262	⇓iP	Pn	08 23 24.0	+0.8
YUK				eS	Sn	08 23 52.4	+0.7
YUK				A	A	08 24 00.0	
	comp=E,280nm,0.4s						
YUK				A	A	08 24 00.0	
	comp=E,380nm,0.4s						
GRPR	Tuman	2.50	262	ePN	Pn	08 23 25.4	+1.2
GRPR				eS	Sn	08 23 55.3	+1.8
GRPR				pmax	pmax		
	comp=Z,142nm,0.3s						
GRPR				smax	smax		
	comp=N,203nm,0.4s						
GRPR				smax	smax		
	comp=E,340nm,0.4s						
GRPR	Tuman	2.50	262	eP	Pn	08 23 24.5	+0.3
GRPR				AMB	AMB	08 23 29.0	
	comp=E,70nm,0.3s						
GRPR				eS	Sn	08 23 54.0	+0.5
GRPR				A	A	08 23 59.0	
	comp=E,200nm,0.4s						
GRPR				A	A	08 23 59.0	
	comp=E,340nm,0.4s						
NEM2	Nemuro 2	2.71	248	P	Pn	08 23 25.9	-1.1
NEM2				eS	Sn	08 23 56.8	-1.8
NMR	Nemuro--Hokkai	2.72	249	ePN	Pn	08 23 28.4	+1.2
NMR				eS	Sn	08 24 01.6	+2.8
NMR	Nemuro--Hokkai	2.72	249	eP	Pn	08 23 28.4	+1.2
GLVR	Golovnino	2.74	257	ePN	Pn	08 23 29.0	+1.6
GLVR				eS	Sn	08 24 03.8	+4.5
GLVR				smax	smax		
	comp=E,247nm,0.5s						
GLVR				smax	smax		
	comp=N,447nm,0.3s						
GLVR	Golovnino	2.74	257	eP	Pn	08 23 28.0	+0.6
GLVR				eS	Sn	08 24 00.1	+0.8
GLVR				A	A	08 24 10.0	
	comp=N,450nm,0.5s						
GLVR				A	A	08 24 10.0	
	comp=N,250nm,0.5s						
JRA	Rausu	2.98	262	P	Pn	08 23 31.5	+0.9
JNK	Nakash	3.34	257	P	Pn	08 23 35.3	-0.4
JAK	Akkeshi	3.56	248	P	Pn	08 23 38.1	-0.6
JAK				eS	Sn	08 24 19.4	-0.1
JAR	Ashorobuto	4.09	256	P	Pn	08 23 46.9	+1.0
JOB	Onbets	4.18	251	P	Pn	08 23 47.2	0.0
JOB				eS	Sn	08 24 32.9	-1.8
JCH	Churui	4.62	249	P	Pn	08 23 53.8	+0.7
JCH				eS	Sn	08 24 45.7	+0.3
JKA	Kamikawa-asahi	4.75	269	eP	Pn	08 23 54.9	-0.2
ASAJ	Asahikawa	4.76	269	P	Pn	08 23 54.9	-0.2
	comp=N,0.3nm,0.3s,baz=65,slow=14,SNR=3.6						
JFR	Furan	4.95	258	P	Pn	08 24 00.2	+2.5
ERM	Erimo	5.03	244	i PN	Pn	08 24 00.2	+1.4
JEM	Erimo	5.03	244	P	Pn	08 24 00.1	+1.3
JNBK	Urakawa-nobuka	5.17	248	P	Pn	08 24 00.2	-0.5
JNBK				eS	Sn	08 24 57.7	-1.3
YSS	Yuzh-Sakhalins	5.18	302	eP	Pn	08 24 02.3	+1.4
JBT2	Biratori 2	5.23	254	P	Pn	08 24 02.3	+0.7
JNB	Noboribetsu	6.25	255	P	Pn	08 24 16.1	+0.4
JNB				eS	Sn	08 25 23.9	-1.9
JKB	Kayabe	6.49	250	P	Pn	08 24 18.3	-0.5
JKB				eS	Sn	08 25 27.3	-4.2
JYM2	Yakumo 2	6.85	253	P	Pn	08 24 24.2	+0.4
JANG	Nango	6.98	237	P	Pn	08 24 23.5	-2.1
JANG				eS	Sn	08 25 35.0	-8.6
JTM	Tenmabayashi	7.01	242	eS	Sn	08 25 37.5	-6.9
JTH	Tanohata	7.05	233	P	Pn	08 24 24.7	-1.9
JTH				eS	Sn	08 25 33.9	-11
OFUJ	Ofunato	7.75	229	P	Pn	08 24 34.6	-1.6
OFUJ				eS	Sn	08 25 52.8	-10
JIO	Ouri	8.38	227	eS	Sn	08 26 04.6	-13
PEA0B	Petropavlovsk-	10.34	30	i PN	Pn	08 25 11.7	+0.1
PETK	Petropavlovsk-	10.34	30	P	Pn	08 25 11.6	0.0
	comp=N,0.4nm,0.3s,baz=206,slow=13,SNR=4.1						
MAJO	Matsushiro	11.48	231	i PN	Pn	08 25 27.8	+0.6
KLR	Kul'dur	12.88	298	i PN	Pn	08 25 46.0	-0.3
KLR	Kul'dur	12.88	298	i P	Pn	08 25 46.0	-0.3
EKMR	Ekimchan	13.76	315	eP	Pn	08 25 57.1	-1.2
SEY	Seymchan	18.65	5	P	P	08 26 59.6	0.0
	comp=N,0.1nm,0.3s,baz=186,slow=19,SNR=3.8						
YAK	Yakutsk	21.01	334	eP	P	08 27 25.6	+0.3
H11N2	WAKE ISLAND Hy	28.69	143	T	T	08 59 28.0	
	baz=334,slow=75,SNR=80						
H11N1	WAKE ISLAND Hy	28.70	143	T	T	08 59 31.4	
	baz=334,slow=75,SNR=54						
H11N3	WAKE ISLAND Hy	28.71	143	T	T	08 59 33.1	
	baz=334,slow=75,SNR=91						
H11S1	WAKE ISLAND Hy	29.70	145	T	T	09 00 49.5	
	baz=335,slow=76,SNR=98						
H11S3	WAKE ISLAND Hy	29.70	145	T	T	09 00 54.2	
	baz=335,slow=76,SNR=63						
H11S2	WAKE ISLAND Hy	29.72	145	T	T	09 00 47.4	
	baz=335,slow=76,SNR=85						
ILAR	Eielson Array	40.07	37	eP	P	08 30 18.8	+2.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	Eielson Array	40.07	37	P	P	08 30 15.3	-1.1
	comp=Z,0.6nm,0.9s,baz=269,slow=5.9,SNR=6.6						
INK	Inuvik	45.08	31	P	P	08 30 57.1	+0.2
	comp=Z,0.7nm,0.4s,baz=274,slow=3.4,SNR=7.3						
MKAR	Makanchi Array	45.59	298	P	P	08 31 01.4	+0.1
	comp=Z,0.5nm,0.6s,baz=80,slow=7.7,SNR=3.2						
YKA	Yellowknife Ar	54.42	35	P	P	08 32 08.0	0.0
	comp=Z,0.5nm,0.8s,baz=300,slow=6.9,SNR=3.8						
FFC	Flin Flon	64.28	38	i P	P	08 33 17.7	+1.5
FINES	FINESS Array B	64.95	334	eP	P	08 33 20.5	+0.1
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	FINESS Array B	64.95	334	P	P	08 33 20.4	0.0
	comp=Z,2.2nm,0.9s,baz=61,slow=6.5,SNR=4.9						
OBN	Obninsk	65.65	324	⇑eP	P	08 33 27.4	+2.4
OBN				e		08 35 57.2	
OBN				eS	S	08 42 04.7	-2.3
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,39nm,15.0s						
OBN	Obninsk	65.65	324	⇑eP	P	08 33 27.4	+2.4
ASAR	Alice Springs	69.18	195	P	P	08 33 47.8	+0.1
	comp=Z,0.5nm,0.6s,baz=12,slow=5.7,SNR=4.3						
NOA	NORSAR Array B	69.51	340	P	P	08 33 48.2	-1.2
	comp=Z,0.5nm,0.6s,baz=29,slow=6.5,SNR=3.6						
KIV	Kislovodsk	70.41	313	eP	P	08 33 56.2	+0.9
KIV				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,19nm,1.0s						
KIV	**Kislovodsk**	**70.41**	**313**	eP	**P**	**08 33 56.2**	**+0.9**
AKASG	**Malin Array Be**	**71.91**	**325**	P	**P**	**08 34 02.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=33,slow=4.7,SNR=3.1						
TXAR	**Lajitas Array**	**81.05**	**58**	P	**P**	**08 34 56.3**	**0.0**
	comp=Z,0.4nm,0.5s,baz=303,slow=4.1,SNR=14						

*ISCJB **08** 08:35:59.8±0.9,43°.39N±0°.05×145°.06E±0°.05,h84km±6km, Error ellipse: s-maj=8.2km s-min=4.8km az=151.7*
*SKHL **08** 08:35:59.7±0.5,43°.33N×144°.95E,h81km,mb4.1/3, msh5.1/4*
*JMA **08** 08:35:59.4±0.1,43°.39N×145°.09E,h88km±1km,M2.8*
ISC 08 08:36:00.8±1.6,**43°.39N**±0°.05×**145°.05E**±0°.04,**h78**km±10km,**n16**,σ**0s.49**/32,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNK	**Nakash**	**0.31**	**309**	P	**Pn**	**08 36 12.5**	**-0.5**
JNK				eS	**Sn**	**08 36 22.4**	**+0.5**
JKHN	**Kushirohamanak**	**0.32**	**165**	P	**Pn**	**08 36 12.9**	**-0.1**
JKHN				eS	**Sn**	**08 36 22.8**	**+0.9**
JNSB	**Nemuroshibetsu**	**0.39**	**355**	P	**Pn**	**08 36 13.3**	**-0.2**
JNSB				eS	**Sn**	**08 36 23.5**	**+0.7**
JAK	**Akkeshi**	**0.47**	**214**	P	**Pn**	**08 36 13.9**	**-0.2**
JAK				eS	**Sn**	**08 36 24.7**	**+0.8**
GLVR	**Golovnino**	**0.49**	**44**	iP	**Pn**	**08 36 13.7**	**-0.5**
GLVR				AMB	AMB	08 36 14.0	
	60nm,0.2s						
GLVR				iS	**Sn**	**08 36 24.4**	**+0.2**
GLVR				A	A	08 36 25.0	
	130nm,0.2s						
GLVR				A	A	08 36 25.0	
	370nm,0.2s						
NMR	**Nemuro--Hokkai**	**0.49**	**92**	iP	**Pn**	**08 36 13.7**	**-0.6**
NMR				eS	**Sn**	**08 36 24.1**	**-0.2**
NEM2	**Nemuro 2**	**0.51**	**93**	P	**Pn**	**08 36 13.7**	**-0.7**
NEM2				eS	**Sn**	**08 36 24.0**	**-0.4**
JRA	**Rausu**	**0.55**	**5**	P	**Pn**	**08 36 14.3**	**-0.5**
JRA				eS	**Sn**	**08 36 25.5**	**+0.3**
GRPR	**Tuman**	**0.80**	**41**	eP	**Pn**	**08 36 17.0**	**-0.4**
GRPR				AMB	AMB	08 36 17.0	
	50nm,0.2s						
GRPR				eS	**Sn**	**08 36 29.8**	**+0.1**
GRPR				A	A	08 36 31.0	
	410nm,0.4s						
GRPR				A	A	08 36 31.0	
	570nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.87**	**42**	iP	**Pn**	**08 36 17.9**	**-0.3**
YUK				AMB	AMB	08 36 19.0	
	70nm,0.3s						
YUK				iS	**Sn**	**08 36 31.7**	**+0.5**
YUK				A	A	08 36 34.0	
	660nm,0.4s						
YUK				A	A	08 36 34.0	
	490nm,0.4s						
JAR	**Ashorobuto**	**0.94**	**265**	P	**Pn**	**08 36 19.0**	**0.0**
JAR				eS	**Sn**	**08 36 33.2**	**+0.6**
JTKR	**Abashiri--Toko**	**1.01**	**305**	P	**Pn**	**08 36 19.5**	**-0.4**
JTKR				eS	**Sn**	**08 36 34.1**	**0.0**
JOB	**Onbets**	**1.01**	**242**	P	**Pn**	**08 36 19.8**	**-0.1**
JOB				eS	**Sn**	**08 36 34.7**	**+0.5**
JMP	**Maruseppu**	**1.37**	**297**	P	**Pn**	**08 36 24.0**	**-0.4**
JMP				eS	**Sn**	**08 36 42.1**	**-0.1**
JCH	**Churui**	**1.46**	**239**	P	**Pn**	**08 36 24.9**	**-0.6**
JCH				eS	**Sn**	**08 36 43.9**	**-0.3**
KUR	**Kuril'sk**	**2.73**	**47**	eP	**Pn**	**08 36 43.0**	**+0.5**
KUR				eS	**Sn**	**08 37 15.0**	**+0.5**
KUR				A	A	08 37 19.0	
	110nm,0.5s						
KUR				A	A	08 37 19.0	
	130nm,0.5s						

*ISCJB **08** 08:44:18.4±0.4,4°.79S±0°.07×152°.79E±0°.09,h43km, mb4.0/14,Error ellipse: s-maj=14.7km s-min=7.0km az=37.3*
*IDC **08** 08:44:22.1±1.7,4°.87S×152°.84E,h66km±12km,mb3.8/14, mb1 3.9/15,mb1mx3.7/51,mbtmp4.1/15,MS2.8/2, Ms1 2.8/2,ms1mx2.4/32,Error ellipse: s-maj=22.2km s-min=13.6km az=90.0*
*NEIC **08** 08:44:23.2±1.1,4°.9S±0°.1×152°.72E±0°.09,h73km±8km, mb4.2/24*
ISC 08 08:44:19.8±0.7,**4°.92S**±0°.07×**152°.90E**±0°.09,**h43**km,**n44**,σ**1s.06**/45,**mb4.2**/24,**New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.06**	**305**	P	**Pn**	**08 44 40.0**	**+1.7**
	683nm,0.3s,baz=164,slow=1.4,SNR=187						
KRVT				S	**Sn**	**08 44 54.2**	**+2.3**
	baz=336,slow=20						
KRVT				LR	LR	08 45 11.3	
	comp=Z,447nm,18.8s,baz=94,slow=50						
PMG	**Port Moresby**	**7.23**	**232**	P	**Pn**	**08 46 05.8**	**+2.8**
	1.2nm,0.3s,baz=54,slow=19,SNR=3.3						
PMG				S	**Sn**	**08 47 22.4**	**-1.5**
	6.0nm,0.3s,baz=130,slow=16,SNR=6.1						
PMG	**Port Moresby**	**7.23**	**232**		**Pn**	**08 46 04.7**	**+1.7**
PMG					**Sn**	**08 47 22.8**	**-1.1**
HNR	**Honiara**	**8.30**	**123**	LR	LR	08 49 56.7	
	comp=Z,87nm,19.0s,baz=290,slow=40						
GUMO	**Guam**	**20.04**	**337**	LR	LR	08 56 52.4	
	comp=Z,18nm,19.0s,baz=124,slow=38						
DZM	**Mont Dzumac**	**21.51**	**144**	P	**P**	**08 49 06.7**	**+1.4**
	12nm,0.5s,baz=300,slow=16,SNR=20						
DZM	**Mont Dzumac**	**21.51**	**144**	P	**P**	**08 49 07.5**	**+2.1**
SIJI	**Sorong**	**21.97**	**280**	P	**P**	**08 49 10.2**	**-0.1**
	7.0nm,0.6s,baz=76,slow=9.8,SNR=4.8						
MTN	**Manton Dam**	**22.89**	**248**	P	**P**	**08 49 17.6**	**-2.3**
MTN				IAmb	IAmb	08 49 24.4	
	comp=Z,9.5nm,0.9s						
WR0	**Warramunga Arr**	**23.30**	**229**	P	**P**	**08 49 24.2**	**+0.1**
WRAB	**Tennant Creek**	**23.43**	**229**	P	**P**	**08 49 25.5**	**+0.2**
WB2	**Warramunga Arr**	**23.43**	**229**	P	**P**	**08 49 25.6**	**+0.3**
WRA	**Warramunga Arr**	**23.44**	**229**	P	**P**	**08 49 25.3**	**-0.2**
	comp=Z,2.0nm,0.4s,baz=52,slow=9.9,SNR=23						
KNRA	**Kununurra**	**26.01**	**244**	P	**P**	**08 49 48.8**	**-0.2**
KNRA				IAmb	IAmb	08 49 53.9	
	comp=Z,13nm,1.0s						
AS31	**Alice Springs**	**26.13**	**223**	P	**P**	**08 49 50.2**	**+0.1**
ASAR	**Alice Springs**	**26.13**	**223**	P	**P**	**08 49 50.5**	**+0.5**
	comp=Z,0.9nm,1.0s,baz=54,slow=8.9,SNR=12						
FITZ	**Fitzroy Crossi**	**29.69**	**242**	P	**P**	**08 50 20.9**	**-0.9**
	comp=Z,1.9nm,0.4s,baz=48,slow=7.8,SNR=14						
FITZ	**Fitzroy Crossi**	**29.69**	**242**	P	**P**	**08 50 21.2**	**-0.7**
FITZ				IAmb	IAmb	08 50 34.6	
	comp=Z,3.9nm,0.9s						
JNU	**Nakatsue**	**43.21**	**333**	P	**P**	**08 52 16.9**	**0.0**
	comp=Z,13nm,0.9s,baz=174,slow=10,SNR=12						
JNU	**Nakatsue**	**43.21**	**333**	P	**P**	**08 52 16.9**	**0.0**
KSRS	**Korea Array**	**48.15**	**333**	P	**P**	**08 52 54.9**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=148,slow=7.9,SNR=5.7						
KLR	**Kul'dur**	**56.99**	**344**	P	**P**	**08 53 59.5**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=143,slow=8.8,SNR=6.2						
PETK	**Petropavlovsk-**	**57.95**	**3**	P	**P**	**08 54 07.5**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=166,slow=6.8,SNR=6.5						
SONM	**Songino Array**	**66.48**	**328**	P	**P**	**08 55 05.7**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=141,slow=7.1,SNR=3.5						
SUA	**Susitna One**	**79.02**	**24**	P	**P**	**08 56 19.0**	**-0.3**
RC01	**Rabbit Creek A**	**79.24**	**25**	P	**P**	**08 56 20.3**	**0.0**
GHO	**Glory Hole Cre**	**79.93**	**24**	P	**P**	**08 56 24.3**	**+0.2**
KTH	**Kantishna Hill**	**80.08**	**22**	P	**P**	**08 56 24.4**	**-0.5**
SML	**Sawmill**	**80.19**	**24**	P	**P**	**08 56 26.0**	**+0.5**
TRF	**Thorofare Moun**	**80.27**	**22**	P	**P**	**08 56 25.8**	**-0.2**
TRF				IAmb	IAmb	08 56 32.5	
	comp=Z,3.5nm,1.2s						
MKAR	**Makanchi Array**	**80.48**	**319**	P	**P**	**08 56 27.1**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=106,slow=7.4,SNR=4.6						
RND	**Reindeer**	**80.80**	**23**	P	**P**	**08 56 28.5**	**-0.2**
RND				IAmb	IAmb	08 56 45.8	
	comp=Z,1.9nm,1.0s						
MCK	**McKinley**	**80.93**	**23**	P	**P**	**08 56 29.1**	**-0.3**
MCK				IAmb	IAmb	08 56 35.8	
	comp=Z,7.1nm,1.3s						
MLY	**Manley**	**80.96**	**21**	P	**P**	**08 56 30.0**	**+0.5**
MLY				IAmb	IAmb	08 56 30.1	
	comp=Z,2.3nm,0.6s						
ZALV	**Zalesovo Beam**	**81.31**	**326**	P	**P**	**08 56 30.2**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=119,slow=6.6,SNR=4.7						
WRH	**Wood River Hil**	**81.63**	**22**	P	**P**	**08 56 32.9**	**-0.1**
WRH				IAmb	IAmb	08 56 46.3	
	comp=Z,3.6nm,1.4s						
CCB	**Clear Creek Bu**	**81.83**	**22**	P	**P**	**08 56 33.7**	**-0.4**
HDA	**Harding Lake**	**82.03**	**22**	P	**P**	**08 56 35.6**	**+0.4**
HDA				IAmb	IAmb	08 56 48.4	
	comp=Z,3.4nm,1.3s						
IL31		**82.23**	**22**	P	**P**	**08 56 35.7**	**-0.5**
IL31				IAmb	IAmb	08 56 37.5	
	comp=Z,5.0nm,1.5s						
ILAR	**Eielson Array**	**82.23**	**22**	P	**P**	**08 56 34.9**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=246,slow=5.3,SNR=10						
KURBB	**Kurchatov Arra**	**83.95**	**322**	P	**P**	**08 56 44.1**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=131,slow=4.2,SNR=4.0						
QSPA	**South Pole Qui**	**85.04**	**180**	P	**P**	**08 56 51.1**	**+0.3**
QSPA				IAmb	IAmb	08 57 06.2	
	comp=Z,3.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**150.44**	**288**	PKPbc	**PKPbc**	**09 04 07.0**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=72,slow=2.2,SNR=8.9						
BDFB	**Brasilia**	**150.91**	**135**	PKPbc	**PKiKP**	**09 04 09.9**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=200,slow=8.4,SNR=3.3						

*ISCJB **08** 08:50:35.4±1.8,29°.82N±0°.06×142°.7E±0°.5,h30km, mb3.4/3,Error ellipse: s-maj=58.7km s-min=6.8km az=174.7*
*IDC **08** 08:50:38.7±2.1,29°.36N×140°.83E,h0km,mb3.4/3, mb1 3.6/5,mb1mx3.3/53,mbtmp3.5/5,ML2.9/2,Error ellipse: s-maj=89.3km s-min=22.3km az=69.0*
*JMA **08** 08:50:43.7±0.3,30°.40N×142°.73E,h82km,M3.5*
ISC 08 08:50:36.1±2.0,**29°.81N**±0°.07×**142°.8E**±0°.4,**h30**km,**n11**,σ**2s.35**/13,**mb3.5**/3,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.75**	**190**	Pn	**Pb**	**08 51 21.7**	**-2.8**
	2.5nm,0.3s,baz=284,slow=19,SNR=2.5						
JCJ				Sn	**Sn**	**08 51 50.4**	**+0.1**
	9.2nm,0.3s,baz=300,slow=20,SNR=4.5						
BSO3	**Boso 3**	**5.33**	**340**	P	**Pn**	**08 51 54.8**	**+1.5**
JOD2	**Odawara 2**	**6.25**	**331**	P	**Pn**	**08 52 08.1**	**+1.8**
JHU	**Hanno**	**6.69**	**335**	P	**Pn**	**08 52 14.0**	**+1.7**
JRY	**Ryogami san**	**6.98**	**333**	P	**Pn**	**08 52 18.3**	**+2.0**
JHO	**Hitachi**	**7.02**	**346**	P	**Pn**	**08 52 17.9**	**+1.0**
JHO				eS	**Sn**	**08 53 30.8**	**-4.9**
JAG	**Ashikaga**	**7.15**	**338**	P	**Pn**	**08 52 19.5**	**+0.9**
MJAR	**Matsushiro Arr**	**7.71**	**332**	Pn	**Pn**	**08 52 28.2**	**+1.8**
	0.2nm,0.3s,baz=181,slow=16,SNR=12						
WRA	**Warramunga Arr**	**50.12**	**190**	P	**P**	**08 59 30.7**	**+2.0**
	0.3nm,0.4s,baz=5.7,slow=7.5,SNR=10.0						
KURBB	**Kurchatov Arra**	**51.53**	**313**	P	**P**	**08 59 39.7**	**+0.7**
	0.2nm,0.4s,baz=90,slow=7.6,SNR=5.3						
ASAR	**Alice Springs**	**53.84**	**190**	P	**P**	**08 59 57.6**	**+1.3**
	0.1nm,0.4s,baz=5.5,slow=5.9,SNR=7.9						

*IDC **08** 09:11:38.5±1.1,2°.21N×128°.73E,h0km,mb3.4/4, mb1 3.7/6,mb1mx3.4/52,mbtmp3.6/6,ML3.7/2,MS3.1/6, Ms1 3.1/6,ms1mx2.7/45,Error ellipse: s-maj=57.9km s-min=19.5km az=63.0*
*ISCJB **08** 09:11:47.1±0.7,2°.2N±0°.1×129°.2E±0°.2,h92km,mb3.6/5, Error ellipse: s-maj=29.9km s-min=6.7km az=142.7*
ISC 08 09:11:48.5±0.8,**2°.2N**±0°.2×**129°.2E**±0°.2,**h92**km,**n13**,σ**1s.63**/10,**mb3.7**/5,**1C**,**Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.65**	**146**	Pn	**Pn**	**09 12 40.8**	**-2.1**
	2.6nm,0.3s,baz=116,slow=23,SNR=8.8						
SIJI				Sn	**Sn**	**09 13 22.9**	**-2.0**
	2.2nm,0.3s,baz=176,slow=22,SNR=6.6						
KCP	**Kidapawan**	**6.33**	**320**	⇑P	**Pn**	**09 13 18.1**	**-1.3**
KCP				S	**Sn**	**09 14 30.0**	**-0.2**
KAPI	**Kappang**	**11.83**	**233**	LR	LR	09 18 56.6	
	comp=Z,39nm,19.1s,baz=96,slow=38						
JAY	**Jayapura**	**12.40**	**112**	Pn	**Pn**	**09 14 42.7**	**+0.8**
	0.9nm,0.3s,baz=114,slow=22,SNR=6.2						
JAY				LR	LR	09 18 39.6	
	comp=Z,54nm,20.3s,baz=18,slow=33						
BATI	**Baumata**	**13.46**	**204**	LR	LR	09 20 11.9	
	comp=Z,63nm,21.0s,baz=88,slow=38						
FITZ	**Fitzroy Crossi**	**20.43**	**190**	LR	LR	09 25 35.5	
	comp=Z,31nm,19.0s,baz=22,slow=41						
WRA	**Warramunga Arr**	**22.54**	**167**	P	**P**	**09 16 41.4**	**+0.3**
	0.8nm,0.8s,baz=346,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**26.07**	**170**	P	**P**	**09 17 14.8**	**+1.2**
	0.2nm,0.6s,baz=353,slow=7.9,SNR=6.0						
STKA	**Stephens Creek**	**35.84**	**162**	P	**P**	**09 18 41.9**	**+2.5**
	0.4nm,0.4s,baz=330,slow=8.1,SNR=1.9						
MKAR	**Makanchi Array**	**60.25**	**325**	P	**P**	**09 21 47.1**	**-0.1**
	0.4nm,0.4s,baz=110,slow=7.7,SNR=7.4						
AAK	**Ala-Archa**	**63.17**	**318**	LR	LR	09 51 58.6	
	comp=Z,44nm,19.3s,baz=60,slow=38						
AKTO	**Aktyubinsk**	**76.42**	**321**	LR	LR	10 00 47.2	
	comp=Z,27nm,18.0s,baz=289,slow=39						
ARCES	**ARCESS Array B**	**92.76**	**340**	P	**P**	**09 24 50.9**	**+0.6**
	3.1nm,0.9s,baz=74,slow=6.7,SNR=3.3						

*ISK **08** 09:21:00.7,35°.92N×31°.00E,h7km,ML3.2/16*
*DDA **08** 09:21:01.2,35°.91N×31°.01E,h46km,ML2.6*
*NIC **08** 09:21:02.8±0.0,35°.84N×30°.89E,h23km±1km,Ml3.5/4*
ISC 08 09:20:59.5±1.3,**35°.91N**±0°.03×**31°.00E**±0°.02,**h5**km±10km,**n50**,σ**1s.35**/75,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.67**	**308**	iP	**Pn**	**09 21 15.3**	**-0.3**
AKUM				iS	**Sn**	**09 21 26.6**	**0.0**
AKUM				IAML		09 21 27.0	
	comp=N,649nm,0.7s						
AKUM				IAML		09 21 30.0	
	comp=E,423nm,0.7s						
ANTB	**Antalya**	**1.03**	**345**	PG	**Pn**	**09 21 20.5**	**-0.1**
ANTB				SG	**Sn**	**09 21 34.9**	**-0.5**
ALAN	**Alanya-ANTALYA**	**1.06**	**52**	PG	**Pn**	**09 21 21.5**	**+0.5**
ALAN				SG	**Sn**	**09 21 36.1**	**-0.1**
KEPZ	**Antalya-Kepez**	**1.11**	**26**	iP	**Pn**	**09 21 21.8**	**+0.1**
KEPZ				iS	**Sg**	**09 21 35.4**	**+0.4**
KEPZ				IAML		09 21 39.0	
	comp=E,89nm,0.9s						
KEPZ				IAML		09 21 39.0	
	comp=N,110nm,0.4s						
GAZI	**Gazipasa**	**1.12**	**73**	iP	**Pn**	**09 21 22.2**	**+0.3**
GAZI				iS	**Sb**	**09 21 36.1**	**-0.1**
GAZI				IAML		09 21 39.0	
	comp=E,329nm,0.2s						
GAZI				IAML		09 21 39.0	
	comp=N,279nm,0.4s						
GAZI	**Gazipasa**	**1.12**	**73**	PN	**Pn**	**09 21 22.1**	**+0.3**
GAZI				SN	**Sn**	**09 21 38.5**	**+0.8**
KSL	**Kastellorizon**	**1.17**	**282**	P	**Pn**	**09 21 22.5**	**-0.1**
KSL				S	**Sb**	**09 21 37.8**	**+0.1**
AKAS	**Kas**	**1.17**	**286**	iP	**Pn**	**09 21 23.2**	**+0.5**
AKAS				iS	**Sn**	**09 21 43.3**	**+4.1**
AKAS				IAML		09 21 46.0	
	comp=E,99nm,0.8s						
AKAS				IAML		09 21 48.0	
	comp=N,166nm,0.7s						
AKAS	**Kas**	**1.17**	**286**	PN	**Pn**	**09 21 24.3**	**+1.6**
KORT	**Korkueli**	**1.21**	**335**	iP	**Pn**	**09 21 23.6**	**+0.3**
KORT				iS	**Sn**	**09 21 44.0**	**+3.9**
KORT				IAML		09 21 49.0	
	comp=N,103nm,0.6s						
KORT				IAML		09 21 52.0	
	comp=E,156nm,0.5s						
KORT	**Korkueli**	**1.21**	**335**	PN	**Pn**	**09 21 23.5**	**+0.3**
ELL	**Elmali**	**1.22**	**314**	PN	**Pn**	**09 21 23.9**	**+0.6**
ELL	**Elmali**	**1.22**	**314**	P	**Pn**	**09 21 24.2**	**+0.9**
ELL				S	**Sn**	**09 21 41.0**	**+0.8**
AKMS	**Akamas**	**1.41**	**129**	P	**Pg**	**09 21 27.4**	**+0.9**
AKMS				S	**Sn**	**09 21 46.6**	**+1.8**
AKMS				AML	AML	09 21 51.5	
	comp=E,1.9nm,0.3s						
AKMS				AML	AML	09 21 51.5	
	comp=E,1.9nm,0.3s						
AKMS				AML	AML	09 21 51.7	
	comp=E,1.7nm,0.4s						
AKMS				AML	AML	09 21 51.7	
	comp=E,1.7nm,0.4s						
ALFC	**Alefka**	**1.51**	**119**	P	**Pg**	**09 21 28.8**	**+0.5**
ALFC				S	**Sg**	**09 21 49.3**	**+1.4**
ALFC				AML	AML	09 21 55.5	
	comp=E,1.6nm,0.3s						
ALFC				AML	AML	09 21 55.5	
	comp=E,1.6nm,0.3s						
ALFC				AML	AML	09 21 56.5	
	comp=E,1.7nm,0.2s						
ALFC				AML	AML	09 21 56.5	
	comp=E,1.7nm,0.2s						
BCK	**Bucak**	**1.58**	**348**	PN	**Pg**	**09 21 29.7**	**-0.2**
FETY	**Fethiye**	**1.71**	**296**	iP	**Pb**	**09 21 30.5**	**-0.9**
NATA	**Nata**	**1.71**	**131**	S	**Sg**	**09 21 53.0**	**-1.4**
ERMK	**Ermenek**	**1.71**	**64**	iP	**Pg**	**09 21 32.0**	**-0.3**
ERMK				iS	**Sg**	**09 21 58.2**	**+3.7**
ERMK				IAML		09 22 03.0	
	comp=N,100nm,0.3s						
ERMK				IAML		09 22 07.0	
	comp=E,100nm,0.4s						
TEKE	**Tekeli-Mersin**	**1.73**	**82**	PN	**Pb**	**09 21 31.2**	**-0.6**
LEF	**Lefka**	**1.73**	**116**	iP	**Pg**	**09 21 32.5**	**-0.2**
LEF	**Lefka**	**1.73**	**116**	PN	**Pb**	**09 21 30.6**	**-1.2**
GOLH	**Golhisar**	**1.76**	**319**	iP	**Pb**	**09 21 31.6**	**-0.7**
BERE	**Bereket-Mersin**	**1.86**	**76**	PN	**Pb**	**09 21 34.1**	**+0.1**
SZAC	**Souni**	**1.92**	**126**	P	**Pg**	**09 21 34.9**	**-1.4**
SZAC				S	**Sb**	**09 21 58.5**	**-0.9**
SZAC				AML	AML	09 22 13.1	
	comp=E,1.0nm,0.8s						
SZAC				AML	AML	09 22 13.1	
	comp=E,1.0nm,0.8s						
SZAC				AML	AML	09 22 14.8	
	comp=E,1.0nm,0.5s						
SZAC				AML	AML	09 22 14.8	
	comp=E,1.0nm,0.5s						
YORU	**Yoruktepe-Mers**	**1.97**	**82**	PN	**Pb**	**09 21 35.4**	**-0.4**
TEVE	**Tevekalti-Mers**	**2.05**	**74**	PN	**Pb**	**09 21 36.9**	**-0.3**
GULN	**MERSIN_Gulnar**	**2.08**	**82**	iP	**Pb**	**09 21 36.7**	**-1.0**
GULN				iS	**Sb**	**09 22 02.6**	**-1.4**
GULN				IAML		09 22 05.0	
	comp=N,50nm,0.5s						
GULN				IAML		09 22 06.0	
	comp=E,69nm,0.9s						
AKKU	**Akkuyu-Mersin**	**2.09**	**82**	PN	**Pb**	**09 21 37.3**	**-0.5**
BAGO	**Egridir - ISPA**	**2.09**	**355**	iP	**Pb**	**09 21 36.6**	**-1.2**
BAGO				iS	**Sn**	**09 22 01.1**	**-0.6**
CSS	**Mathiatis**	**2.13**	**116**	PN	**Pb**	**09 21 37.3**	**-1.2**
ASGA	**Asgata**	**2.15**	**121**	P	**Pb**	**09 21 37.7**	**-1.3**
ASGA				S	**Sb**	**09 22 05.1**	**-0.9**
ASGA				AML	AML	09 22 19.6	
	comp=E,0.9nm,0.7s						
ASGA				AML	AML	09 22 19.6	
	comp=E,0.9nm,0.7s						
ASGA				AML	AML	09 22 23.4	
	comp=E,0.8nm,0.7s						
ASGA				AML	AML	09 22 23.4	
	comp=E,0.8nm,0.7s						
KMER	**Konya-Meram**	**2.16**	**30**	iP	**Pb**	**09 21 37.9**	**-1.3**
KMER				iS	**Sn**	**09 22 03.9**	**+0.4**
KMER				IAML		09 22 07.0	
	comp=E,37nm,0.5s						
KMER				IAML		09 22 16.0	
	comp=N,38nm,0.6s						
IKL	**Isikli**	**2.20**	**81**	PN	**Pb**	**09 21 38.9**	**-0.9**
DOGA	**KONYA_Doganhis**	**2.26**	**14**	iP	**Pb**	**09 21 40.3**	**-0.6**
DOGA				iS	**Sn**	**09 22 06.9**	**+0.9**
DOGA				IAML		09 22 10.0	
	comp=E,108nm,0.7s						
DOGA				IAML		09 22 11.0	
	comp=N,84nm,0.7s						
KEBE	**Keben-Mersin**	**2.26**	**75**	PN	**Pb**	**09 21 40.3**	**-0.6**
TAVA	**DENIZLI_Tavas**	**2.29**	**314**	iP	**Pn**	**09 21 39.4**	**+1.4**
KONT	**Konya--Tatoy**	**2.31**	**28**	PN	**Pb**	**09 21 40.2**	**-1.5**
SILI	**Silifke-Mersin**	**2.41**	**78**	PN	**Pb**	**09 21 42.2**	**-1.2**
KZIL	**AFYON_Kizioren**	**2.44**	**344**	iP	**Pn**	**09 21 41.5**	**+1.3**
LADK	**Ladik-KONYA**	**2.54**	**25**	PN	**Pb**	**09 21 44.0**	**-1.6**
KIZK	**Mersin**	**2.61**	**76**	iP	**Pb**	**09 21 45.3**	**-1.4**
KIZK				iS	**Sn**	**09 22 16.1**	**+1.7**
KIZK				IAML		09 22 19.0	
	comp=N,54nm,1.3s						
KHAL	**Karahalli**	**2.74**	**334**	iP	**Pn**	**09 21 46.0**	**+1.8**
KHAL				iS	**Sn**	**09 22 16.3**	**-1.4**
KDHN	**Kadinhani**	**2.76**	**19**	iP	**Pn**	**09 21 45.8**	**+1.3**
KDHN				iS	**Sn**	**09 22 17.1**	**-1.2**
KDHN				IAML		09 22 18.0	
	comp=N,16nm,0.8s						
KDHN				IAML		09 22 19.0	
	comp=E,32nm,1.1s						
KERG	**Konya-Eregli**	**2.93**	**58**	iP	**Pb**	**09 21 49.6**	**-2.7**
KERG				iS	**Sn**	**09 22 24.2**	**+1.6**
KERG				IAML		09 22 31.0	
	comp=E,21nm,0.3s						
KERG				IAML		09 22 37.0	
	comp=N,28nm,1.0s						
AYDN	**Tasoluk**	**3.05**	**306**	iP	**Pn**	**09 21 49.2**	**+0.7**
KARP	**Karpathos**	**3.14**	**265**	P	**Pn**	**09 21 50.0**	**+0.4**
KARP				S	**Sn**	**09 22 26.8**	**-0.8**
USAK	**Uak-Merkez**	**3.21**	**331**	iP	**Pn**	**09 21 51.5**	**+0.7**
MANT	**Manisa**	**3.23**	**324**	iP	**Pn**	**09 21 51.5**	**+0.4**
MANT				iS	**Sn**	**09 22 26.6**	**-3.5**
MANT				IAML		09 22 36.0	
	comp=E,13nm,1.0s						
MANT				IAML		09 22 36.0	
	comp=N,11nm,1.3s						
GDZ	**Gediz**	**3.40**	**340**	iP	**Pn**	**09 21 54.5**	**+1.2**

*SKHL **08** 09:25:49.7±1.0,44°.37N×149°.17E,h30km±2km,mb4.1/1*
*MOS **08** 09:25:53.2±0.8,44°.45N×148°.77E,h35km,mb3.9/4,Error ellipse: s-maj=18.5km s-min=16.5km az=14.8*
ISC 08 09:25:55.1±1.7,**44°.49N**±0°.08×**148°.9E**±0°.1,**h35**km,**n20**,σ**1s.45**/30,**mb3.7**/4,**2D**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.02**	**317**	d iPN	**Pn**	**09 26 10.8**	**-2.2**
KUR				iS	**Sn**	**09 26 26.9**	**+0.9**
KUR				pmax	pmax		
	comp=Z,132μm,0.3s						
KUR				pmax	pmax		
	comp=E,26μm,0.4s						
KUR				pmax	pmax		
	comp=N,44μm,0.3s						
KUR	**Kuril'sk**	**1.02**	**317**	⇓iP	**Pn**	**09 26 10.7**	**-2.2**
KUR				AMB	AMB	09 26 11.0	
	comp=N,40nm,0.3s						
KUR				AMB	AMB	09 26 11.0	
	comp=N,30nm,0.3s						
KUR				AMB	AMB	09 26 11.0	
	comp=N,60nm,0.3s						
KUR				iS	**Sn**	**09 26 25.5**	**-0.5**
KUR				A	A	09 26 28.9	
	comp=N,650nm,0.3s						
KUR				A	A	09 26 28.9	
	comp=N,390nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.20**	**259**	PN	**Pn**	**09 26 27.1**	**-1.9**
YUK				S	**Sn**	**09 26 55.9**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**2.20**	**259**	eP	**Pn**	**09 26 27.1**	**-1.9**
YUK				eS	**Sn**	**09 26 55.8**	**+0.8**
GRPR	**Tuman**	**2.27**	**258**	ePN	**Pn**	**09 26 27.7**	**-2.3**
GRPR				eS	**Sn**	**09 26 58.4**	**+1.6**
GRPR				smax	smax		
	comp=E,49nm,0.2s						
GRPR				smax	smax		
	comp=N,75nm,0.3s						
GRPR	**Tuman**	**2.27**	**258**	eP	**Pn**	**09 26 28.2**	**-1.8**
GRPR				eS	**Sn**	**09 26 56.4**	**-0.4**
GRPR				A	A	09 27 02.0	
	comp=N,180nm,0.3s						
GRPR				A	A	09 27 02.0	
	comp=N,150nm,0.3s						
GLVR	**Golovnino**	**2.52**	**254**	ePN	**Pn**	**09 26 31.3**	**-2.1**
GLVR				eS	**Sn**	**09 27 03.5**	**+0.7**
GLVR	**Golovnino**	**2.52**	**254**	eP	**Pn**	**09 26 31.5**	**-1.9**
GLVR				eS	**Sn**	**09 27 03.3**	**+0.5**
NMR	**Nemuro--Hokkai**	**2.52**	**245**	ePN	**Pn**	**09 26 31.2**	**-2.3**
NMR				eS	**Sn**	**09 27 03.5**	**+0.6**
NMR	**Nemuro--Hokkai**	**2.52**	**245**	eP	**Pn**	**09 26 31.2**	**-2.3**
NMR				eS	**Sn**	**09 27 03.5**	**+0.6**
YAK	**Yakutsk**	**20.84**	**334**	P	**P**	**09 30 34.0**	**+0.7**
YAK	**Yakutsk**	**20.84**	**334**	eP	**P**	**09 30 34.0**	**+0.7**
ULN	**Ulaanbaatar**	**28.89**	**292**	iP	**P**	**09 31 52.1**	**+1.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ULN	**Ulaanbaatar**	**28.89**	**292**	iP	**P**	**09 31 52.1**	**+1.6**
TIXI	**Tiksi**	**28.90**	**347**	iP	**P**	**09 31 50.0**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.2s						
TIXI	**Tiksi**	**28.90**	**347**	iP	**P**	**09 31 50.0**	**-0.1**
BRVK	**Borovoye**	**50.03**	**309**	iP	**P**	**09 34 45.8**	**0.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						

BRVK	Borovoye	50.03	309	iP	P	09 34 45.8	0.0
ARU	Arti	54.65	317	iP	P	09 35 20.3	+0.4
ARU				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ARU	Arti	54.65	317	eP	P	09 35 20.3	+0.4

ISCJB ***08*** *09:43:48.4±0.4, 47.24N±0.03×153.31E±0.03, h55km±4km, mb4.5/90, MS3.6/20, Error ellipse: s-maj=5.5km s-min=2.8km az=145.2*
BJI ***08*** *09:43:48.0±0.0, 47.30N×153.30E, h60km, mb4.6/31, mB4.9/24, Ms4.2/10, Ms7 4.0/7*
IDC ***08*** *09:43:50.4±0.4, 47.38N×153.16E, h57km±3km, mb4.1/41, mb1 4.2/48, mb1mx4.1/82, mbtmp4.4/48, MS3.5/20, Ms1 3.5/20, ms1mx3.3/44, Error ellipse: s-maj=11.6km s-min=8.0km az=138.0*
SKHL ***08*** *09:43:50.0±0.2, 47.16N×153.55E, h73km±5km, mb4.8/13, Ms4.3/7*
MOS ***08*** *09:43:50.0±1.2, 47.24N×153.36E, h73km, mb4.8/30, Error ellipse: s-maj=6.6km s-min=4.7km az=79.2*
NEIC ***08*** *09:43:52.1±1.7, 47.33N±0.09×153.2E±0.1, h72km±3km, mb4.6/127*
ISC 08 09:43:49.9±0.5**, 47.14N**±0.05×**153.46E**±0.04**, h59**km±4km**, n416, σ1.55**/435**, mb4.6**/133**, MS3.7**/20**, 29C-24D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.96	25	ePN	Pn	09 44 47.3	-0.7
SKR				eS	Sn	09 45 30.4	-2.7
SKR				pmax	pmax		
	comp=Z,226nm,0.5s						
SKR				smax	smax		
	comp=N,503nm,0.4s						
SKR				smax	smax		
	comp=E,472nm,0.5s						
SKR				MLR	MLR		
	comp=Z,300nm,15.0s						
SKR	Severo-Kuril's	3.96	25	eP	Pn	09 44 47.3	-0.7
SKR				AMB	AMB	09 44 51.6	
	comp=Z,230nm,0.6s						
SKR				eS	Sn	09 45 30.4	-2.7
SKR				A	A	09 45 47.0	
	comp=Z,500nm,0.5s						
SKR				A	A	09 45 47.0	
	comp=Z,470nm,0.5s						
SKR				AMS	AMS	09 46 06.9	
	comp=Z,4µm,21.0s						
SKR				AMS	AMS	09 46 06.9	
	comp=Z,3µm,21.0s						
KUR	Kuril'sk	4.33	246c	iPN	Pn	09 44 55.1	+2.0
KUR				eS	Sn	09 45 44.3	+2.1
KUR				pmax	pmax		
	comp=Z,363µm,0.5s						
KUR				pmax	pmax		
	comp=N,61µm,0.3s						
KUR				pmax	pmax		
	comp=E,32µm,0.5s						
KUR				smax	smax		
	comp=E,410nm,0.4s						
KUR				smax	smax		
	comp=N,174nm,0.3s						
KUR				MLR	MLR		
	comp=N,235nm,19.0s						
KUR				MLR	MLR		
	comp=Z,748nm,19.0s						
KUR				MLR	MLR		
	comp=E,424nm,16.0s						
KUR	Kuril'sk	4.33	246⇑	iP	Pn	09 44 54.3	+1.2
KUR				AMB	AMB	09 44 56.3	
	comp=E,210nm,0.7s						
KUR				AMB	AMB	09 44 56.3	
	comp=E,300nm,0.7s						
KUR				AMB	AMB	09 44 56.3	
	comp=E,320nm,0.7s						
KUR				eS	Sn	09 45 42.4	+0.2
KUR				A	A	09 45 48.3	
	comp=E,170nm,0.4s						
KUR				A	A	09 45 48.3	
	comp=E,410nm,0.4s						
KUR				AMS	AMS	09 46 27.8	
	comp=E,2µm,17.0s						
KUR				AMS	AMS	09 46 27.8	
	comp=E,4µm,17.0s						
KUR				AMS	AMS	09 46 27.8	
	comp=E,2µm,17.0s						
PAU	Pauzhetka	4.86	26	eP	Pn	09 44 59.2	-1.1
PAU				eS	Sn	09 45 51.5	-3.7
YUK	Yuzh-Kuril'sk	6.17	243	ePN	Pn	09 45 19.5	+1.2
YUK				pmax	pmax		
	comp=Z,168nm,0.3s						
YUK				MLR	MLR		
	comp=Z,204nm,18.0s						
YUK				MLR	MLR		
	comp=N,305nm,17.0s						
YUK				MLR	MLR		
	comp=E,172nm,12.0s						
YUK	Yuzh-Kuril'sk	6.17	243	eP	Pn	09 45 19.5	+1.2
YUK				AMB	AMB	09 45 31.5	
	comp=E,50nm,0.6s						
YUK				AMB	AMB	09 45 31.5	
	comp=E,80nm,0.6s						
YUK				eS	Sn	09 46 26.7	-0.8
YUK				A	A	09 46 42.0	
	comp=E,170nm,0.5s						
YUK				A	A	09 46 42.0	
	comp=E,300nm,0.5s						
GRPR	Tuman	6.25	243	ePN	Pn	09 45 20.6	+1.2
GRPR				eS	Sn	09 46 32.6	+3.2
GRPR	Tuman	6.25	243	eP	Pn	09 45 20.0	+0.6
GLVR	Golovnino	6.54	242	ePN	Pn	09 45 23.6	+0.2
GLVR	Golovnino	6.54	242	eP	Pn	09 45 23.6	+0.2
GLVR				eS	Sn	09 46 33.5	-3.0
PEA0B	Petropavlovsk-	6.57	23	iPN	Pn	09 45 23.5	-0.3
PEA0B	Petropavlovsk-	6.57	23		Pn	09 45 23.6	-0.1
PETK	Petropavlovsk-	6.57	23	P	Pn	09 45 23.5	-0.3
	comp=E,4.8nm,0.3s,baz=177,slow=12,SNR=37						
PETK				S	Sn	09 46 37.5	+0.3
	baz=158,slow=17,SNR=1.7						
NEM2	Nemuro 2	6.62	238	P	Pn	09 45 23.5	-1.1
NEM2				eS	Sn	09 46 34.3	-4.3
NMR	Nemuro--Hokkai	6.63	238⇓	iPN	Pn	09 45 23.4	-1.3
NMR	Nemuro--Hokkai	6.63	238⇓	iP	Pn	09 45 23.4	-1.3
JRA	Rausu	6.67	244	P	Pn	09 45 26.8	+1.6
PET	Petropavlovsk	6.77	28	ePN	Pn	09 45 32.0	+5.4
PET				pmax	pmax		
	comp=Z,49nm,0.7s						
PET	Petropavlovsk	6.77	28	eP	Pn	09 45 27.8	+1.2
PET				AMB	AMB	09 45 29.1	
	comp=Z,50nm,0.6s						
PET				eS	Sn	09 46 40.5	-1.7
PET				A	A	09 46 59.9	
	comp=Z,180nm,0.7s						
PET				A	A	09 46 59.9	
	comp=Z,240nm,0.7s						
PET	Petropavlovsk	6.77	28		Pn	09 45 26.6	+0.1
JNK	Nakash	7.11	243	P	Pn	09 45 32.0	+0.8
JNK				eS	Sn	09 46 48.9	-1.6
YSS	Yuzh-Sakhalins	7.32	272⇑	ePN	Pn	09 45 36.2	+2.2
YSS				eS	Sn	09 46 57.3	+1.7
YSS				pmax	pmax		
	comp=Z,190nm,0.7s						
YSS				pmax	pmax		
	comp=N,90nm,0.4s						
YSS				pmax	pmax		
	comp=E,130nm,0.7s						
YSS				pmax	pmax		
	comp=Z,300nm,2.7s						
YSS				smax	smax		
	comp=N,50nm,0.6s						
YSS				smax	smax		
	comp=E,50nm,0.6s						
YSS				MLR	MLR		
	comp=Z,400nm,13.0s						
YSS				MLR	MLR		
	comp=N,200nm,11.0s						
YSS				MLR	MLR		
	comp=E,300nm,14.0s						
YSS	Yuzh-Sakhalins	7.32	272⇑	iP	Pn	09 45 36.3	+2.2
YSS				AMB	AMB	09 45 37.4	
	comp=E,70nm,0.9s						
YSS				AMB	AMB	09 45 37.4	
	comp=E,80nm,0.9s						
YSS				AMB	AMB	09 45 38.0	
	comp=E,300nm,2.7s						
YSS				iS	Sn	09 46 55.1	-0.5
YSS				A	A	09 46 58.7	
	comp=E,50nm,0.6s						
YSS	Yuzh-Sakhalins	7.32	272		Pn	09 45 36.1	+2.1
JTKR	Abashiri--Toko	7.41	248	P	Pn	09 45 37.1	+1.7
JAK	Akkeshi	7.46	239	P	Pn	09 45 34.8	-1.2
JAK				eS	Sn	09 46 54.7	-4.4
JMP	Maruseppu	7.75	250	P	Pn	09 45 42.9	+2.9
JAR	Ashorobuto	7.84	244	P	Pn	09 45 42.2	+0.9
JAR				eS	Sn	09 47 09.4	+0.8
UGL	Uglegorsk	7.87	288⇑	iPN	Pn	09 45 43.9	+2.3
UGL				pmax	pmax		
	comp=Z,166nm,1.1s						
UGL	Uglegorsk	7.87	288⇓	iP	Pn	09 45 44.3	+2.7
UGL				AMB	AMB	09 45 45.0	
	comp=Z,60nm,1.1s						
UGL				iS	Sn	09 47 07.9	-1.2
UGL				A	A	09 47 21.7	
	comp=Z,110nm,1.0s						
UGL				AMS	AMS	09 48 46.2	
	comp=Z,1µm,15.0s						
UGL				AMS	AMS	09 48 46.2	
	comp=Z,700nm,15.0s						
UGL				AMS	AMS	09 48 46.2	
	comp=Z,1µm,15.0s						
TYV	Tymovskoe	8.02	302	ePN	Pn	09 45 44.9	+1.2
TYV				eS	Sn	09 47 15.4	+2.6
TYV				pmax	pmax		
	comp=Z,62nm,1.4s						
TYV				smax	smax		
	comp=E,23nm,0.8s						
TYV	Tymovskoe	8.02	302	eP	Pn	09 45 44.9	+1.2
TYV				AMB	AMB	09 45 47.0	
	comp=E,40nm,1.0s						
TYV				eS	Sn	09 47 11.3	-1.5
TYV				A	A	09 47 18.0	
	comp=E,20nm,0.8s						
TYV				AMS	AMS	09 47 57.0	
	comp=E,2µm,17.0s						
TYV				AMS	AMS	09 47 57.0	
	comp=E,3µm,17.0s						
TYV				AMS	AMS	09 47 57.0	
	comp=E,1µm,17.0s						
JOB	Onbets	8.02	242	P	Pn	09 45 43.7	0.0
JOB				eS	Sn	09 47 09.5	-3.5
JKA	Kamikawa-asahi	8.19	252	eP	Pn	09 45 47.0	+1.0
JKA	Kamikawa-asahi	8.19	252		Pn	09 45 47.0	+1.0
ASAJ	Asahikawa	8.19	252	PN	Pn	09 45 47.0	+0.9
ASAJ	Asahikawa	8.19	252	P	Pn	09 45 49.7	+3.7
ASAJ	Asahikawa	8.19	252	P	Pn	09 45 47.0	+0.9
	comp=E,2.8nm,0.3s,baz=97,slow=8.5,SNR=20						
ASAJ				LR	LR	09 48 42.5	
	comp=E,316nm,20.8s,baz=28,slow=36						
JKK2	Kamakawa 2	8.20	250	P	Pn	09 45 48.4	+2.2
JWK2	Keihoku	8.22	261	P	Pn	09 45 50.7	+4.3
JCH	Churui	8.47	241	P	Pn	09 45 49.4	-0.5
JCH				eS	Sn	09 47 19.7	-4.3
JFR	Furan	8.64	247	P	Pn	09 45 53.5	+1.2
JAB	Ashibetsu	8.71	249	P	Pn	09 45 57.4	+4.3
JRBN	Rebuntou	8.75	263	P	Pn	09 45 57.6	+3.9
JEM	Erimo	8.96	239	P	Pn	09 45 56.0	-0.5
JEM				eS	Sn	09 47 34.6	-1.2
ERM	Erimo	8.96	239	iPN	Pn	09 45 57.8	+1.3
ERM	Erimo	8.96	239		Pn	09 45 56.1	-0.4
JBT2	Biratori 2	8.99	245	P	Pn	09 45 56.2	-0.8
JNBK	Urakawa-nobuka	9.04	241	P	Pn	09 45 56.1	-1.5
OKH	Okha	9.29	318d	ePN	Pn	09 46 04.5	+3.5
OKH				eS	Sn	09 47 53.2	+9.3
OKH				smax	smax		
	comp=N,600nm,16.3s						
OKH				MLR	MLR		
	comp=Z,400nm,17.0s						
OKH	Okha	9.29	318⇑	eP	Pn	09 46 03.6	+2.6
OKH				AMB	AMB	09 46 04.0	
	comp=Z,60nm,1.1s						
OKH				eS	Sn	09 47 43.8	-0.1
OKH				A	A	09 48 01.0	
	comp=Z,600nm,8.0s						
OKH				AMS	AMS	09 52 29.3	
	comp=Z,1µm,17.0s						
JNB	Noboribetsu	9.98	247	P	Pn	09 46 11.1	+0.6
NKL	Nikolayevsk	10.16	311⇓	iP	Pn	09 46 13.0	+0.1
NKL				AMB	AMB	09 46 15.8	
	comp=Z,20nm,1.1s						
NKL				AMS	AMS	09 50 35.5	
	comp=Z,900nm,16.0s						
NKL				AMS	AMS	09 50 35.5	
	comp=Z,1µm,16.0s						
JKB	Kayabe	10.31	244	P	Pn	09 46 13.1	-1.8
JYM2	Yakumo 2	10.59	246	P	Pn	09 46 17.6	-1.2
JTM	Tenmabayashi	10.95	239	P	Pn	09 46 21.4	-2.4
JTM				eS	Sn	09 48 16.7	-7.9
JANG	Nango	10.96	236	P	Pn	09 46 20.2	-3.7
JANG				eS	Sn	09 48 14.6	-10
JTH	Tanohata	11.06	234	eS	Sn	09 48 14.9	-13
JRG	Rokugo	12.12	235	P	Pn	09 46 36.8	-3.0
JRG				eS	Sn	09 48 45.2	-8.1
MA2	Magadan	12.56	354	iPN	Pn	09 46 45.2	-0.4
MA2				pmax	pmax		
	comp=Z,90nm,1.5s						
MA2	Magadan	12.56	354	P	Pn	09 46 43.3	-2.3
	comp=Z,3.8nm,0.3s,baz=171,slow=10.0,SNR=18						
MA2				LR	LR	09 51 33.8	
	comp=Z,130nm,19.1s,baz=149,slow=38						
MA2	Magadan	12.56	354	iP	Pn	09 46 45.2	-0.4
MA2	Magadan	12.56	354		Pn	09 46 44.7	-0.9
SMY	Shemya	14.40	60	P	Pn	09 47 08.9	-1.5
SMY	Shemya	14.40	60	Pn	Pn	09 47 08.9	-1.5
EKMR	Ekimchan	14.41	302	eP	Pn	09 47 10.1	-0.5
EKMR				AMB	AMB	09 47 14.5	
	comp=Z,10.0nm,0.8s						
KLR	Kul'dur	14.62	286	iP	Pn	09 47 14.8	+1.4
KLR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KLR	Kul'dur	14.62	286	P	Pn	09 47 11.6	-1.8
	comp=Z,0.0nm,0.3s,baz=40,slow=6.0,SNR=1.9						
KLR				LR	LR	09 52 58.6	
	comp=Z,264nm,18.8s,baz=95,slow=38						
KLR	Kul'dur	14.62	286	iP	Pn	09 47 14.8	+1.4
USA0B	Ussuriysk Arra	15.29	267	P	P	09 47 24.6	-1.0
USA0B				pmax	pmax		
	comp=Z,11nm,0.9s						
USA0B	Ussuriysk Arra	15.29	267	P	P	09 47 24.6	-1.0
USRK	Ussuriysk Ar.	15.29	267	P	Pn	09 47 21.5	-0.4
	baz=76,slow=11,SNR=24						
USRK				LR	LR	09 53 02.1	
	comp=Z,165nm,18.9s,baz=57,slow=36						
MJB9	Matsu-Tunnel	15.50	232		Pn	09 47 23.0	-1.8
MJB9				IAmb	IAmb	09 47 31.0	
	comp=Z,24nm,0.8s						
MAJO	Matsushiro	15.50	232	iP	P	09 47 27.9	-0.2
MAJO	Matsushiro	15.50	232		Pn	09 47 23.1	-1.7
MAT	Matsushiro	15.50	232	P	P	09 47 29.7	+1.6
MJAR	Matsushiro Arr	15.50	232	P	Pn	09 47 22.5	-2.3
	comp=Z,0.0nm,0.3s,baz=28,slow=15,SNR=8.1						
MJAR				S	Sn	09 50 00.6	-15
	comp=Z,0.2nm,0.3s,baz=54,slow=43,SNR=4.6						
MJAR				LR	LR	09 53 28.1	
	comp=Z,66nm,18.9s,baz=65,slow=37						
SEY	Seymchan	15.84	358	iP	P	09 47 30.7	-0.9
SEY	Seymchan	15.84	358	P	Pn	09 47 25.1	-3.8
	comp=Z,0.1nm,0.3s,baz=218,slow=19,SNR=2.3						
MDJ	Mudanjiang	16.80	270	P	P	09 47 43.3	+1.0
MDJ				pmax	pmax		
	comp=Z,33nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,160nm,5.5s						
MDJ	Mudanjiang	16.80	270	P	P	09 47 42.9	+0.6
BMKR	Bomnak	17.20	305	eP	Pn	09 47 45.0	-1.0
BMKR				AMB	AMB	09 47 50.0	
	comp=Z,10.0nm,0.6s						
ZEA	Zeya	17.89	301	eP	P	09 47 54.0	-0.3
ZEA				pmax	pmax		
	comp=Z,18nm,1.2s						
ZEA				MLR	MLR		
	comp=E,200nm,16.0s						
ZEA				MLR	MLR		
	comp=Z,400nm,16.0s						
ZEA	Zeya	17.89	301	eP	P	09 47 53.3	-1.0
ZEA				AMB	AMB	09 47 57.7	
	comp=Z,20nm,1.0s						
ZEA				AMS	AMS	09 55 24.0	
	comp=Z,400nm,16.0s						
ZEA				AMS	AMS	09 55 24.0	
	comp=Z,500nm,16.0s						
KROS	Kirovskiy	18.19	303	eP	Pn	09 47 58.0	0.0
KROS				AMB	AMB	09 47 59.7	
	comp=Z,10.0nm,0.5s						
CN2	Changchun	19.88	271	eP	Pn	09 48 18.8	+0.6
YAK	Yakutsk	20.12	326	eP	P	09 48 18.4	-0.3
YAK				pmax	pmax		
	comp=E,16nm,1.6s						
YAK				pmax	pmax		
	comp=Z,20nm,1.0s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK	Yakutsk	20.12	326	P	P	09 48 15.6	-3.0
	comp=N,0.1nm,0.3s,baz=3.8,slow=1.5,SNR=6.3						
YAK	Yakutsk	20.12	326	P	P	09 48 18.3	-0.3
YAK				IAmb	IAmb	09 48 33.6	
	comp=Z,18nm,0.7s						
KSRS	Korea Array	21.14	252	eP	P	09 48 30.9	+1.1
KSRS				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KSRS	Korea Array	21.14	252	P	P	09 48 30.3	+0.5
	comp=Z,9.1nm,0.9s,baz=56,slow=10,SNR=19						
KSRS				LR	LR	09 55 49.9	
	comp=Z,61nm,19.5s,baz=50,slow=34						
KSRS	Korea Array	21.14	252	eP	P	09 48 30.9	+1.1
KS19	Wonju Array Si	21.15	252	P	P	09 48 30.9	+1.0
BILL	Bilibino	21.96	13⇑	eP	P	09 48 41.2	+2.9
BILL				eS	S	09 52 36.8	-0.3
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,123nm,15.0s						
BILL	Bilibino	21.96	13⇑	eP	P	09 48 41.2	+2.9
INCN	Inchon	21.96	254	P	P	09 48 40.3	+1.6
INCN				pmax	pmax		
	comp=Z,30nm,0.7s						
INCN	Inchon	21.96	254	eP	P	09 48 40.3	+1.6
INCN	Inchon	21.96	254	P	P	09 48 40.3	+1.6
JNU	Nakatsue	22.12	239	P	P	09 48 41.1	+0.7
	comp=Z,10nm,1.0s,baz=55,slow=4.5,SNR=6.1						
JNU				LR	LR	09 57 47.7	
	comp=Z,46nm,19.3s,baz=47,slow=38						
JNU	Nakatsue	22.12	239	P	P	09 48 41.9	+1.5
TIXI	Tiksi	27.16	343	iP	P	09 49 28.8	+1.6
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TIXI	Tiksi	27.16	343	LR	LR	10 00 59.0	
	comp=Z,83nm,18.3s,baz=354,slow=38						
TIXI	Tiksi	27.16	343	iP	P	09 49 28.8	+1.6
H11N2	WAKE ISLAND Hy	29.46	154	T	T	10 21 07.4	
	baz=342,slow=74						
H11N1	WAKE ISLAND Hy	29.48	154	T	T	10 21 11.8	
	baz=342,slow=74						
H11N3	WAKE ISLAND Hy	29.48	154	T	T	10 21 09.1	
	baz=342						
NJ2	Nanjing	30.34	253	eP	P	09 49 55.9	+0.1
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
RDOG	Red Dog Mine	30.36	31	P	P	09 49 56.9	+1.2
HHC	Hu-ho-hao-te	30.50	274	eP	P	09 49 58.3	+1.0
HHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
H11S1	WAKE ISLAND Hy	30.56	155	T	T	10 22 33.9	
	baz=343,slow=76,SNR=4842						
H11S3	WAKE ISLAND Hy	30.57	155	T	T	10 22 33.5	
	baz=343,slow=76,SNR=5172						
H11S2	WAKE ISLAND Hy	30.57	155	T	T	10 22 33.0	
	baz=343,slow=76,SNR=5120						
ULN	Ulaanbaatar	30.99	289	iP	P	09 50 01.1	-0.6
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ULN	Ulaanbaatar	30.99	289	iP	P	09 50 01.1	-0.6
SONM	Songino Array	31.43	289	eP	P	09 50 05.5	+0.1
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	Songino Array	31.43	289	P	P	09 50 04.1	-1.4
	comp=Z,0.6nm,0.6s,baz=70,slow=8.2,SNR=4.9						
SONM				LR	LR	10 03 42.5	
	comp=Z,147nm,18.1s,baz=53,slow=38						
SVW2	Sparrevohn	32.05	45	P	P	09 50 11.9	+1.3
SVW2				IAmb	IAmb	09 50 27.1	
	comp=Z,7.6nm,0.9s						
OHAK	Old Harbor	33.35	52	P	P	09 50 22.1	+0.1
RSO	Redoubt South	33.43	47	P	P	09 50 24.6	+1.6
KDAK	Kodiak Island	33.67	51	P	P	09 50 24.6	-0.2
	comp=Z,16nm,0.7s,baz=274,slow=4.7,SNR=12						
KDAK	Kodiak Island	33.67	51	P	P	09 50 24.8	0.0
PPLA	Purkeypile	33.72	42	P	P	09 50 27.0	+1.7
CNPM	China Poot	34.23	48	P	P	09 50 31.0	+1.3
BPAW	Bear Paw Mtn.	34.30	40	P	P	09 50 31.2	+1.0
KTH	Kantishna Hill	34.31	41	P	P	09 50 31.8	+1.5
KTH				IAmb	IAmb	09 50 32.3	
	comp=Z,7.9nm,0.9s						
SUA	Susitna One	34.39	45	P	P	09 50 31.9	+0.8
BRLK	Bradley Lake	34.40	48	P	P	09 50 30.9	-0.1
MLY	Manley	34.46	38	P	P	09 50 32.5	+0.9
MLY				IAmb	IAmb	09 50 33.1	
	comp=Z,4.2nm,0.8s						
TRF	Thorofare Moun	34.59	41	P	P	09 50 33.9	+1.0
KNK	Knik Glacier	35.49	45		PcP	09 53 06.8	-1.7
MDM	Murphy Dome	35.52	39	P	P	09 50 42.2	+1.5
MDM				IAmb	IAmb	09 50 43.0	
	comp=Z,9.1nm,0.7s						
SML	Sawmill	35.53	44	P	P	09 50 41.1	+0.3
COLA	College	35.69	39	iP	P	09 50 42.7	+0.7
COLA				pmax	pmax		
	comp=Z,12nm,0.6s						
COLA	College	35.69	39	P	P	09 50 43.1	+1.1
CCB	Clear Creek Bu	35.70	39	IAmb	IAmb	09 50 44.8	
	comp=Z,5.1nm,0.7s						
DHY	Denali Highway	35.91	42	P	P	09 50 44.4	+0.2
SCM	Sheep Creek Mo	36.00	44	P	P	09 50 45.8	+0.9
SCM				pmax	pmax		
	comp=Z,9.0nm,1.1s						
SCM	Sheep Creek Mo	36.00	44	P	P	09 50 45.8	+0.9
SCM				IAmb	IAmb	09 50 58.5	
	comp=Z,8.9nm,1.1s						
HDA	Harding Lake	36.07	40	IAmb	IAmb	09 50 46.3	
	comp=Z,6.1nm,0.6s						
ILAR	Eielson Array	36.10	39	eP	P	09 50 45.5	-0.1
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	Eielson Array	36.10	39	P	P	09 50 45.5	-0.1
	comp=Z,1.3nm,0.6s,baz=259,slow=6.8,SNR=46						
ILAR				pP	pP	09 51 00.8	+1.1
	comp=Z,1.0nm,0.5s,baz=259,slow=8.8,SNR=4.9						
ILAR				LR	LR	10 06 03.7	
	comp=Z,41nm,20.8s,baz=332,slow=37						
PRP	Porcupine Dome	36.67	38	IAmb	IAmb	09 50 53.4	
	comp=Z,6.2nm,0.8s						
RIDG	Independent Ri	37.02	41	P	P	09 50 53.3	-0.2
RIDG				IAmb	IAmb	09 50 54.3	
	comp=Z,4.1nm,0.8s						
SCRK	Sand Creek	37.38	40	IAmb	IAmb	09 51 11.4	
	comp=Z,9.7nm,1.4s						
VRDI	Verde Repeater	37.91	45	P	P	09 51 02.1	+0.9
LZH	Lanzhou	38.11	272	eP	P	09 51 02.5	-0.7
LZH				pP	pwP	09 51 21.3	+1.1
LZH				PP	PnPn	09 52 35.3	+2.2
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
LZH				pmax	pmax		
	comp=Z,64nm,4.8s						
LZH				LR	LR		
	comp=Z,250nm,13.3s						
LZH				LR	LR		
	comp=Z,250nm,13.5s						
LZH				LR	LR		
	comp=Z,330nm,16.6s						
CRQM	Cirque	38.13	45	P	P	09 51 04.1	+1.1
EGAK	Eagle	38.55	39	P	P	09 51 06.6	+0.3
EGAK				IAmb	IAmb	09 51 06.9	
	comp=Z,4.0nm,0.7s						
CTGM	Chitina Glacie	38.97	45	P	P	09 51 11.6	+1.6
CTGM				IAmb	IAmb	09 51 27.8	
	comp=Z,6.9nm,0.6s						
GTA	Gaotai	39.14	279	P	P	09 51 13.3	+1.5
GTA				PcP	PcP	09 53 21.0	+0.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
EPYK	Eagle Plains	40.21	36	P	P	09 51 21.6	+1.3
EPYK				IAmb	IAmb	09 51 21.8	
	comp=Z,3.5nm,0.6s						
CD2	Chengdu	41.15	265	eP	P	09 51 27.0	-1.3

INK Inuvik 41.19 33 P **P** 09 51 29.2 +1.0
comp=Z,3.8nm,0.4s,baz=296,slow=6.4,SNR=54
INK Inuvik 41.19 33 P **P** 09 51 29.4 +1.2
INK IAmb IAmb 09 51 29.6
comp=Z,6.2nm,0.7s
ZALV Zalesovo Beam 42.58 306 P **P** 09 51 36.3 -3.3
comp=Z,1.2nm,0.5s,baz=53,slow=7.4,SNR=4.0
ZALV PcP **PcP** 09 53 29.5 -1.4
comp=Z,1.0nm,0.5s,baz=29,slow=3.4,SNR=4.0
ZALV LR LR 10 10 15.7
comp=Z,92nm,20.4s,baz=62,slow=38
JIS Juneau Island 43.04 47 P **P** 09 51 45.8 +2.5
JIS IAmb IAmb 09 51 55.5
comp=Z,9.8nm,1.3s
WMQ Urumqi 45.01 291 *eP* **P** 09 52 00.1 +0.7
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,94nm,4.9s
MKAR Makanchi Array 46.97 297 P **P** 09 52 12.4 -2.3
comp=Z,0.9nm,0.6s,baz=64,slow=8.4,SNR=6.1
MKAR PcP **PcP** 09 53 45.5 -0.8
comp=Z,0.9nm,0.6s,baz=50,slow=3.8,SNR=3.7
MKAR LR LR 10 13 12.2
comp=Z,85nm,18.9s,baz=44,slow=38
KURK Kurchatov 47.34 303 P **P** 09 52 15.7 -1.8
KURK 09 53 47.3
KURK Kurchatov 47.34 303 *eP* **P** 09 52 15.7 -1.8
KURK Kurchatov 47.34 303 P **P** 09 52 15.2 -2.3
KURK IAmb IAmb 09 52 16.1
comp=Z,4.3nm,0.7s
KURBB Kurchatov Arra 47.44 303 P **P** 09 52 15.7 -2.6
comp=Z,3.4nm,0.7s,baz=68,slow=8.2,SNR=13
KURBB PcP **PcP** 09 53 47.3 -0.4
comp=Z,0.9nm,0.8s,baz=75,slow=3.1,SNR=3.0
RES Resolute Bay 50.39 19 P **P** 09 52 40.4 -0.1
comp=Z,1.3nm,0.4s,baz=313,slow=2.7,SNR=9.2
YKW3 Yellowknife Ar 50.43 37 P **P** 09 52 42.1 +1.1
YKW3 IAmb IAmb 09 52 42.8
comp=Z,7.6nm,1.0s
YKA Yellowknife Ar 50.47 37 P **P** 09 52 42.0 +0.7
comp=Z,2.1nm,0.4s,baz=298,slow=7.0,SNR=32
YKA pP **pP** 09 52 56.1 +0.1
comp=Z,2.2nm,0.7s,baz=297,slow=7.1,SNR=7.2
YKA PcP **PcP** 09 53 58.9 +0.3
comp=Z,1.7nm,1.0s,baz=299,slow=3.1,SNR=5.3
BVAR Borovoye Array 50.79 309 P **P** 09 52 41.8 -2.1
comp=Z,1.3nm,0.5s,baz=52,slow=7.7,SNR=8.8
BVAR PcP **PcP** 09 53 59.3 -0.6
comp=Z,1.0nm,0.5s,baz=80,slow=1.7,SNR=4.5
BRVK Borovoye 50.83 309 *i* P **P** 09 52 43.0 -1.1
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 50.83 309 *i* P **P** 09 52 43.0 -1.1
BRVK Borovoye 50.83 309 P **P** 09 52 44.7 +0.6
SIJI Sorong 51.61 209 P **P** 09 52 53.4 +3.1
comp=Z,1.9nm,0.3s,baz=39,slow=9.0,SNR=4.0
SPITS Spitsbergen Ar 52.27 350 P **P** 09 52 53.4 -1.2
comp=Z,15nm,1.0s,baz=81,slow=2.7,SNR=4.3
CHTO Chiang Mai 52.44 257 P **P** 09 52 57.7 +1.2
CHTO pmax pmax
comp=Z,14nm,0.9s
CHTO Chiang Mai 52.44 257 P **P** 09 52 57.7 +1.2
SHL Shillong 52.62 268 P **P** 09 52 57.1 -0.9
SHL pmax pmax
comp=Z,12nm,0.6s
SHL Shillong 52.62 268 P **P** 09 52 57.1 -0.9
CMAR Chiang Mai Arr 52.69 256 *eP* **P** 09 52 59.8 +1.4
CMAR pmax pmax
comp=Z,6.0nm,0.7s
CMAR Chiang Mai Arr 52.69 256 P **P** 09 52 59.6 +1.2
comp=Z,5.8nm,0.7s,baz=34,slow=7.5,SNR=30
CMAR LR LR 10 16 14.0
comp=Z,29nm,19.2s,baz=7.0,slow=37
NLWA Neilton Lookou 53.47 57 P **P** 09 53 05.3 +1.5
NLWA IAmb IAmb 09 53 05.9
comp=Z,5.5nm,0.9s
AAK Ala-Archa 53.87 296 *i* P **P** 09 53 04.4 -2.6
AAK pmax pmax
comp=Z,1.0nm,1.0s
AAK Ala-Archa 53.87 296 P **P** 09 53 05.6 -1.4
comp=Z,0.9nm,0.5s,baz=156,slow=7.2,SNR=4.4
AAK Ala-Archa 53.87 296 P **P** 09 53 04.5 -2.5
TAPN Taplejung 54.31 273 *eP* **P** 09 53 10.4 -0.2
KSH Kashi 54.72 292 P **P** 09 53 16.6 +3.4
KSH PcP **PcP** 09 54 18.4 +3.2
KSH PP **PP** 09 55 22.3 +6.3
KSH PcS **PcS** 09 58 16.5 +1.4
KSH S **S** 10 00 50.9 +1.7
KSH sS sS 10 01 24.0 +10
KSH ScS **ScS** 10 02 55.3 -1.7
KSH pmax pmax
comp=Z,260nm,8.1s
KSH LR LR
comp=Z,290nm,9.1s
KSH LR LR
comp=Z,340nm,5.1s
ARU Arti 54.88 317 *d iP* **P** 09 53 13.4 -0.5
ARU 09 54 14.0
ARU 09 55 13.5
ARU S **S** 10 00 50.5 -0.1
ARU SS **SS** 10 04 29.3 -4.6
ARU pmax pmax
comp=Z,9.0nm,1.4s
ARU Arti 54.88 317 P **P** 09 53 11.2 -2.8
comp=Z,1.5nm,0.5s,baz=91,slow=5.3,SNR=6.3
ARU Arti 54.88 317 *j iP* **P** 09 53 13.4 -0.5
ARU Arti 54.88 317 P **P** 09 53 11.6 -2.3
ARU IAmb IAmb 09 53 14.9
comp=Z,4.4nm,0.6s
JIRN Jiri 55.15 275 *eP* **P** 09 53 16.6 -0.1
GUN Gumba 55.20 275 *eP* **P** 09 53 16.6 -0.5
RAMN Ramite 55.33 274 *eP* **P** 09 53 16.9 -1.0
LTY Liberty 55.36 56 P **P** 09 53 18.4 +0.8
LTY IAmb IAmb 09 53 34.0
comp=Z,4.3nm,0.9s
B08A Colville Reser 55.48 54 P **P** 09 53 19.3 +0.8
KKN Kakani 55.69 275 *eP* **P** 09 53 20.5 +0.1
PKI Pulchoki 55.74 275 *eP* **P** 09 53 20.8 -0.1
PKIN Phulchoki 55.74 275 *eP* **P** 09 53 20.4 -0.5
DMN Daman 55.92 275 *eP* **P** 09 53 22.3 +0.2
DANN Dangsing 56.36 277 *eP* **P** 09 53 25.3 0.0
comp=Z,31nm,0.7s
KOLN Koldanda 56.84 276 *eP* **P** 09 53 28.5 -0.1
comp=Z,17nm,0.8s
PINE Pine Mountain 57.19 59 P **P** 09 53 33.2 +2.4
PINE IAmb IAmb 09 53 49.2
comp=Z,6.8nm,0.9s
YBH Yreka Blue Hor 57.35 62 P **P** 09 53 34.1 +2.2
YBH pmax pmax
comp=Z,6.0nm,1.4s
YBH Yreka Blue Hor 57.35 62 P **P** 09 53 34.1 +2.2
YBH IAmb IAmb 09 53 38.0
comp=Z,6.2nm,1.4s
ARCES ARCESS Array B 57.56 341 P **P** 09 53 30.3 -2.6
comp=Z,6.5nm,1.0s,baz=14,slow=7.6,SNR=12
ABKAR Akbulak array 58.36 310 P **P** 09 53 36.7 -2.0
MOD Modoc Plateau 58.69 61 P **P** 09 53 42.8 +1.4
MOD IAmb IAmb 09 53 43.5
comp=Z,2.4nm,0.7s
MSO Missoula 59.34 53 IAmb IAmb 09 53 48.7
comp=Z,4.3nm,1.0s
WVOR Wild Horse Val 59.35 59 P **P** 09 53 45.9 0.0
WVOR pmax pmax
comp=Z,2.0nm,0.9s
WVOR Wild Horse Val 59.35 59 P **P** 09 53 45.9 0.0
FFC Flin Flon 60.29 40 *ceP* **P** 09 53 53.4 +1.5
FFC pmax pmax
comp=Z,12nm,0.8s
FFC Flin Flon 60.29 40 P **P** 09 53 53.0 +1.1
FFC IAmb IAmb 09 54 08.6
comp=Z,7.1nm,0.8s
SUMG Summit 60.29 4 *i* P **P** 09 53 52.1 -0.1
SUMG pmax pmax
comp=Z,52nm,0.9s
SUMG Summit 60.29 4 *i* P **P** 09 53 52.1 -0.1
comp=Z,52nm,0.9s
SUMG Summit 60.29 4 P **P** 09 53 50.8 -1.4
SUMG IAmb IAmb 09 54 07.6
comp=Z,6.2nm,1.1s
PNTR Pine Nut 60.84 63 P **P** 09 53 58.1 +1.8
BOZ Bozeman (W) 61.36 53 IAmb IAmb 09 54 17.4
comp=Z,6.5nm,0.9s
KVN Kaiserville 61.77 62 P **P** 09 54 04.3 +1.8
KVN pmax pmax
comp=Z,3.0nm,1.0s
KVN Kaiserville 61.77 62 P **P** 09 54 04.3 +1.8
NVAR Mina Array Bea 62.04 63 P **P** 09 54 05.7 +1.3
comp=Z,1.2nm,0.7s,baz=296,slow=6.6,SNR=9.0
NVAR pP **pwP** 09 54 21.5 -1.4
comp=Z,1.3nm,0.5s,baz=301,slow=5.0,SNR=7.9
NV11 Mina Array Sit 62.13 63 P **P** 09 54 06.6 +1.7
SCO Scoresbysund 62.64 358 P **P** 09 54 07.7 +0.2
SCO Scoresbysund 62.64 358 P **P** 09 54 07.7 +0.2
FXWY Fox Creek 62.94 54 P **P** 09 54 12.2 +1.9
TPAW Teton Pass 63.08 54 IAmb IAmb 09 54 29.9
comp=Z,5.7nm,0.7s
REDW Red Top Meadow 63.22 54 P **P** 09 54 13.9 +1.8
REDW IAmb IAmb 09 54 30.5
comp=Z,5.6nm,0.8s
LAO LASA Array 63.52 49 P **P** 09 54 15.2 +1.3
R11A Troy Canyon, C 63.73 61 P **P** 09 54 16.4 +0.9
FIA1 FINESS Array S 63.79 335 P **P** 09 54 13.6 -1.6
FINES FINESS Array B 63.79 335 P **P** 09 54 13.5 -1.7
comp=Z,4.6nm,0.4s,baz=35,slow=7.1,SNR=85
FINES LR LR 10 24 57.8
comp=Z,77nm,18.0s,baz=17,slow=39
DUG Dugway, Tooele 64.17 58 P **P** 09 54 19.2 +0.9
DUG pmax pmax
comp=Z,6.0nm,1.1s
DUG Dugway, Tooele 64.17 58 P **P** 09 54 19.2 +0.9
DUG IAmb IAmb 09 54 36.3
comp=Z,6.4nm,1.1s
BW06 Boulder Array 64.33 54 P **P** 09 54 20.0 +0.6
BW06 IAmb IAmb 09 54 37.0
comp=Z,6.3nm,0.9s
PD31 Pinedale Array 64.33 54 IAmb IAmb 09 54 37.0
comp=Z,5.4nm,0.9s
PDAR Pinedale Array 64.33 54 P **P** 09 54 20.7 +1.3
comp=Z,1.2nm,0.7s,baz=292,slow=1.9,SNR=13
PDAR pP **pP** 09 54 36.0 +1.3
comp=Z,3.7nm,0.8s,baz=311,slow=2.0,SNR=16
PSI Prapat 64.46 244 P **P** 09 54 21.6 +1.1
comp=Z,3.3nm,0.6s,baz=290,slow=3.9,SNR=4.1
RPSI Rantau Prapat 64.55 244 P **P** 09 54 21.6 +0.8
PSUT Pine Spring 64.64 60 P **P** 09 54 23.1 +1.6
OBN Obninsk 65.12 326 *ii eP* **P** 09 54 22.3 -1.7
OBN *e* 09 56 46.6
OBN *eS* **S** **10 03 04.2 +2.4**
OBN pmax pmax
comp=Z,3.0nm,0.9s
OBN MLR MLR
comp=Z,80nm,19.0s
OBN Obninsk 65.12 326 *ii eP* **P** 09 54 22.3 -1.7
MSU Marysvale 65.65 59 P **P** 09 54 29.6 +1.6
MSU Marysvale 65.65 59 P **P** 09 54 29.6 +1.6
LCMT Little Creek M 66.01 61 P **P** 09 54 32.2 +1.9
ULM Lac du Bonnet 66.07 41 *eP* **P** 09 54 28.7 -1.6
ULM pmax pmax
comp=Z,3.0nm,0.8s
ULM Lac du Bonnet 66.07 41 P **P** 09 54 30.3 0.0
comp=Z,2.8nm,0.8s,baz=327,slow=8.7,SNR=4.9
RSSD Black Hills 66.39 50 P **P** 09 54 33.6 +0.9
RSSD pmax pmax
comp=Z,8.0nm,0.7s
RSSD Black Hills 66.39 50 P **P** 09 54 33.6 +0.9
RSSD IAmb IAmb 09 54 49.9
comp=Z,7.7nm,0.7s
GEYT Alibeck 66.61 301 P **P** 09 54 33.0 -0.9
comp=Z,2.1nm,0.7s,baz=204,slow=6.5,SNR=4.4
GEYT LR LR 10 25 10.6
comp=Z,50nm,20.6s,baz=160,slow=37
NC303 NORSAR Array S 67.73 341 P **P** 09 54 40.1 -0.6
D32A Dogwood Acres, 67.78 44 P **P** 09 54 41.2 0.0
NB2 NORSAR Subarra 67.93 341 P **P** 09 54 40.8 -1.2
comp=Z,3.8nm,0.6s,baz=26,slow=6.5
NOA NORSAR Array B 67.93 341 P **P** 09 54 41.0 -0.9
comp=Z,7.7nm,0.8s,baz=26,slow=6.3,SNR=21
NOA LR LR 10 30 10.2
comp=Z,25nm,18.6s,baz=10.0,slow=41
HFS Hagfors 68.17 340 P **P** 09 54 42.3 -1.2
comp=Z,10nm,0.4s,baz=57,slow=5.5,SNR=76
ISCO Idaho Springs 68.52 54 P **P** 09 54 47.8 +1.5
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO Idaho Springs 68.52 54 P **P** 09 54 47.8 +1.5
ISCO IAmb IAmb 09 55 04.3
comp=Z,4.5nm,0.8s
WRAB Tennant Creek 68.95 199 P **P** 09 54 49.7 +1.1
WRAB pmax pmax
comp=Z,4.0nm,1.0s
WRAB Tennant Creek 68.95 199 P **P** 09 54 49.7 +1.1
WB2 Warramunga Arr 68.96 199 P **P** 09 54 49.4 +0.7
WRA Warramunga Arr 68.96 199 P **P** 09 54 49.6 +0.9
comp=Z,1.5nm,0.7s,baz=18,slow=6.6,SNR=22
WRA pP **pP** 09 55 05.3 +1.2
comp=Z,1.9nm,0.8s,baz=14,slow=6.6,SNR=6.2
FITZ Fitzroy Crossi 69.59 208 P **P** 09 54 52.4 -0.2
comp=Z,3.2nm,0.8s,baz=128,slow=4.3,SNR=6.7
FITZ pP **pP** 09 55 09.6 +1.5
comp=Z,3.7nm,0.9s,baz=41,slow=6.3,SNR=4.5
FITZ Fitzroy Crossi 69.59 208 P **P** 09 54 53.7 +1.1
FITZ IAmb IAmb 09 54 55.2
comp=Z,4.7nm,0.9s
EYMN Ely 69.72 40 P **P** 09 54 53.3 0.0
ECSD EROS Data Cent 70.44 46 P **P** 09 54 58.2 +0.4
KIV Kislovodsk 70.69 314 *eP* **P** 09 54 59.2 -0.2
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,121nm,18.0s
KIV Kislovodsk 70.69 314 *eP* **P** 09 54 59.2 -0.2
E38A The Farm, Brul 70.70 41 P **P** 09 54 59.6 +0.4
KBZ Khabaz 70.76 314 P **P** 09 54 58.8 -0.8
comp=Z,5.2nm,1.0s,baz=135,slow=1.2,SNR=4.0
KBZ LR LR 10 29 53.0
comp=Z,45nm,18.4s,baz=8.5,slow=39
AKASG Malin Array Be 71.35 326 P **P** 09 55 01.6 -1.5
comp=Z,4.0nm,0.4s,baz=33,slow=6.0,SNR=20
AKASG LR LR 10 28 09.3
comp=Z,57nm,20.4s,baz=295,slow=37
AKBB Malin Array Si 71.35 326 IAmb IAmb 09 55 04.4
comp=Z,5.4nm,1.0s
AS31 Alice Springs 72.65 199 P **P** 09 55 13.3 +2.2
ASAR Alice Springs 72.65 199 P **P** 09 55 13.2 +2.0
comp=Z,4.7nm,0.7s,baz=11,slow=5.8,SNR=58
ASAR pP **PcP** 09 55 28.9 +0.7
comp=Z,4.1nm,0.8s,baz=12,slow=5.3,SNR=11
SCHQ Schefferville 72.86 23 P **P** 09 55 11.6 -0.4
comp=Z,6.6nm,0.8s,baz=21,slow=5.6,SNR=6.2
SCHQ Schefferville 72.86 23 P **P** 09 55 12.2 +0.1
SCHQ IAmb IAmb 09 55 12.8
comp=Z,13nm,0.9s
I42A Draeger Farm, 73.98 42 P **P** 09 55 19.1 +0.2
I42A IAmb IAmb 09 55 20.3
comp=Z,12nm,1.1s
KOLS Kolonicke sedl 75.35 329 *eP* **P** 09 55 26.3 -0.4
KOLS pmax pmax
comp=Z,5.0nm,1.0s
KOLS Kolonicke sedl 75.35 329 *eP* **P** 09 55 26.3 -0.4
BUR08 Bucovina Ar. S 75.37 327 P **P** 09 55 26.5 -0.5
BUR08 IAmb IAmb 09 55 29.5
comp=Z,4.1nm,0.7s
BURAR Bucovina Array 75.39 327 *jj* P **P** 09 55 26.3 -0.8
BURAR Bucovina Array 75.39 327 *jj* P **P** 09 55 26.3 -0.8
BIZ Bicaz 75.62 326 *ii* P **P** 09 55 28.1 -0.2
TESR Tescani 75.76 325 *jj* P **P** 09 55 28.1 -1.0
EKA Eskdalemuir Ar 76.02 346 P **P** 09 55 29.4 -0.9
comp=Z,2.0nm,0.6s,baz=15,slow=5.2,SNR=7.1
UPC Upice 76.04 334 *eP* **P** 09 55 30.4 -0.2
UPC Upice 76.04 334 *eP* **P** 09 55 30.4 -0.2
DPC Dobruska-Polom 76.08 333 *eP* **P** 09 55 30.8 -0.1
DPC Dobruska-Polom 76.08 333 *eP* **P** 09 55 30.8 -0.1
LANS Liptovska Anna 76.12 331 *eP* **P** 09 55 31.5 +0.4
LANS pmax pmax
comp=Z,6.0nm,1.0s
LANS Liptovska Anna 76.12 331 *eP* **P** 09 55 31.5 +0.4
ARCR ARCALIA 76.16 327 *ii* P **P** 09 55 32.0 +0.7
KRLC Kraliky 76.18 333 *eP* **P** 09 55 30.6 -0.8
KRLC Kraliky 76.18 333 *eP* **P** 09 55 30.6 -0.8
KRLC *ex* x 09 55 35.2
MORC Moravsky Berou 76.20 332 *jj* P **P** 09 55 31.1 -0.5
MORC Moravsky Berou 76.20 332 *jj* P **P** 09 55 31.1 -0.5
MORC Moravsky Berou 76.20 332 *eP* **P** 09 55 30.7 -0.9
MORC Moravsky Berou 76.20 332 IAmb IAmb 09 55 31.8
comp=Z,9.7nm,1.0s
CLL Collm 76.21 336 *ii iP* **P** 09 55 30.1 -1.4
CLL pmax pmax
comp=Z,15nm,0.8s
CLL Collm 76.21 336 *ii iP* **P** 09 55 30.1 -1.4
comp=Z,15nm,0.8s
CLL Collm 76.21 336 P **P** 09 55 30.5 -1.0
VRI Vrincioaia 76.26 325 *jj* P **P** 09 55 34.2 +2.3
VRI Vrincioaia 76.26 325 *jj* P **P** 09 55 34.2 +2.3
J47A Sunmer 76.32 40 P **P** 09 55 33.0 +0.7
BRG Berggiesshubel 76.33 335 *eP* P 09 55 23.5 -8.7
comp=Z,14nm,1.3s
BRG Berggiesshubel 76.33 335 *eP* P 09 55 23.5 -8.7
BRG pmax pmax
comp=Z,14nm,1.3s
CJR Cluj-Napoca 76.75 327 *ii* P **P** 09 55 34.8 +0.1
CJR Cluj-Napoca 76.75 327 *ii* P **P** 09 55 34.8 +0.1
LTVH Ltavrtes, Hu 76.80 329 *eP* P 09 55 50.1 +15
UOSS Minazif 76.81 292 P **P** 09 55 34.7 -0.6
UOSS IAmb IAmb 09 55 35.7
comp=Z,7.0nm,0.8s
MLR Muntele Rosu 76.88 325 *ii* P **P** 09 55 34.0 -1.6
MLR Muntele Rosu 76.88 325 P **P** 09 55 34.4 -1.1
comp=Z,4.5nm,0.7s,baz=326,slow=3.6,SNR=5.6
MLR Muntele Rosu 76.88 325 *ii* P **P** 09 55 34.0 -1.6
MLR Muntele Rosu 76.88 325 P **P** 09 55 35.6 +0.1
MLR IAmb IAmb 09 55 37.0
comp=Z,7.1nm,0.9s
VYHS Vyhne 76.90 331 *eP* **P** 09 55 34.8 -0.7
VYHS pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 76.90 331 *eP* **P** 09 55 34.8 -0.7
VRAC Vranov 76.91 333 *jj* P **P** 09 55 35.4 -0.1
VRAC Vranov 76.91 333 *jj* P **P** 09 55 35.4 -0.1
VRAC Vranov 76.91 333 *eP* **P** 09 55 35.1 -0.4
GOPC GO Pecny, Ondr 76.93 334 *eP* **P** 09 55 34.6 -1.1
GOPC GO Pecny, Ondr 76.93 334 *eP* **P** 09 55 34.6 -1.1
PRU Pruhonice 76.94 334 *eP* **P** 09 55 34.7 -1.0
PRU Pruhonice 76.94 334 *eP* **P** 09 55 34.7 -1.0
ISR Istrita 76.95 324 *ii* P **P** 09 55 35.7 -0.2
ISR Istrita 76.95 324 *ii* P **P** 09 55 35.7 -0.2
JAVC Velka Javorina 76.96 332 *eP* **P** 09 55 36.2 +0.3
DRGR 77.01 328 *jj* P **P** 09 55 35.6 -0.6
DRGR 77.01 328 *jj* P **P** 09 55 35.6 -0.6
PSZ Piszkesteto 77.04 330 *eP* **P** 09 55 35.1 -1.3
TX31 Lajitas Ar. Si 77.09 61 P **P** 09 55 38.3 +1.2
TX32 Lajitas Array 77.09 61 IAmb IAmb 09 55 54.8
comp=Z,6.8nm,0.9s
TXAR Lajitas Array 77.10 61 P **P** 09 55 38.0 +1.0
comp=Z,1.5nm,0.6s,baz=298,slow=5.2,SNR=32
TXAR pP **pP** 09 55 54.1 +1.4
comp=Z,3.9nm,0.5s,baz=304,slow=4.4,SNR=19
KRUC Moravsky 77.19 333 *eP* **P** 09 55 36.5 -0.6
VOIR 77.27 326 *jj* P **P** 09 55 37.6 -0.1
VOIR 77.27 326 *jj* P **P** 09 55 37.5 -0.1
PBCC Pribram 77.37 334 *eP* **P** 09 55 37.0 -1.1
PBCC *ex* x 09 55 42.0
HHAR Hobbs 77.38 50 P **P** 09 55 38.7 +0.3
HHAR IAmb IAmb 09 55 55.2
comp=Z,6.4nm,0.7s
ARR Arges 77.49 326 *ii* P **P** 09 55 39.6 +0.7
MODS Modra-Piesok 77.52 332 *eP* **P** 09 55 38.3 -0.6
MODS pmax pmax
comp=Z,13nm,1.1s
MODS Modra-Piesok 77.52 332 *eP* **P** 09 55 38.3 -0.6
KHC Kasperske Hory 77.99 334 *eP* **P** 09 55 40.9 -0.7
KHC *e* 09 55 44.7
KHC Kasperske Hory 77.99 334 *eP* **P** 09 55 40.9 -0.7
KHC *ex* x 09 55 44.7
CSKK Cskako 78.08 331 *eP* **P** 09 55 40.1 -2.0
GZR Gura Zlata 78.17 327 *jj* P **P** 09 55 41.9 -0.8
GZR Gura Zlata 78.17 327 *jj* P **P** 09 55 41.9 -0.8
GERES GERESS Array B 78.21 334 P **P** 09 55 41.8 -1.1
comp=Z,1.1nm,0.4s,baz=33,slow=5.8,SNR=12
BR131 Keskin Array S 78.27 317 P **P** 09 55 44.0 +0.6
BR131 Keskin Array S 78.27 317 P **P** 09 55 44.0 +0.6
BRTR Keskin Array B 78.27 317 P **P** 09 55 43.4 -0.1
comp=Z,2.1nm,0.8s,baz=32,slow=2.4,SNR=8.0
BRTR LR LR 10 33 48.1
comp=Z,11nm,18.2s,baz=302,slow=38
COPA Copaceanca 78.30 325 *ii* P **P** 09 55 42.4 -0.9
CONA Conrad Observa 78.36 332 *eP* **P** 09 55 43.4 -0.3
comp=Z,3.7nm,0.8s
BZS Buzias 78.41 328 *ii* P **P** 09 55 43.3 -0.6
BZS Buzias 78.41 328 *ii* P **P** 09 55 43.3 -0.6
MPLH Magyarpolny 78.48 331 *eP* **P** 09 55 42.1 -2.2
MEM Membach 78.66 340 P **P** 09 55 44.8 -0.5
comp=Z,16nm,1.0s
MIAR Mount Ida 78.89 51 P **P** 09 55 47.1 +0.3
MIAR pmax pmax
comp=Z,3.0nm,0.7s
MIAR Mount Ida 78.89 51 P **P** 09 55 47.1 +0.3
MOA Molln 78.93 333 *eP* **P** 09 55 46.3 -0.5
comp=Z,3.7nm,0.8s
MORH Mrgy, Hungar 78.94 330 *eP* **P** 09 55 44.0 -2.8
BCLA Clavier 79.01 340 P **P** 09 55 45.4 -1.7
MDVR Moldovita 79.09 327 *ii* P **P** 09 55 46.1 -1.6
PLVB Pleven 79.16 325 *ii* P **P** 09 55 47.0 -1.0
BMRD Maredsous 79.24 340 P **P** 09 55 47.9 -0.5
STKA Stephens Creek 79.38 190 pP pP 09 56 06.7 +1.9
comp=Z,2.4nm,0.9s,baz=0.0,slow=4.0,SNR=3.2
WCI Wyandotte Cave 79.66 44 P **P** 09 55 51.5 +0.6
WCI pmax pmax
comp=Z,8.0nm,0.8s
WCI Wyandotte Cave 79.66 44 P **P** 09 55 51.5 +0.6
WCI IAmb IAmb 09 55 51.6
comp=Z,7.8nm,0.8s
SOKA Soboth 79.73 332 *eP* **P** 09 55 50.3 -0.9
comp=Z,8.8nm,0.9s
BFO Black Forest 80.19 337 *ceP* **P** 09 55 53.4 -0.2
BFO pmax pmax
comp=Z,3.0nm,1.3s
BFO Black Forest 80.19 337 P **P** 09 55 52.3 -1.3
BFO IAmb IAmb 09 55 54.2
comp=Z,10nm,0.9s
WATA Walderalm 80.19 335 *eP* **P** 09 55 53.3 -0.4
comp=Z,14nm,1.0s,SNR=7.7
WTTA Wattenberg 80.24 335 *eP* **P** 09 55 53.9 -0.2
comp=Z,14nm,0.9s,SNR=9.3
L56A Greenwood 80.27 36 P **P** 09 55 54.0 -0.1
L56A IAmb IAmb 09 55 57.7
comp=Z,8.8nm,1.1s
RETA Reutte 80.29 335 *eP* **P** 09 55 53.6 -0.7
comp=Z,3.9nm,0.8s,SNR=4.7
MOTA Moosalm 80.32 335 *eP* **P** 09 55 54.0 -0.5
comp=Z,16nm,1.0s,SNR=8.9
VTS Vitosha 80.35 325 *jj* P **P** 09 55 54.4 -0.3
VTS Vitosha 80.35 325 *jj* P **P** 09 55 54.4 -0.3
SQTA Sankt Quirin 80.40 335 *eP* **P** 09 55 54.7 -0.2
comp=Z,10nm,0.9s,SNR=5.1
WVT Waverly 80.59 46 P **P** 09 55 56.6 +0.7
WVT pmax pmax
comp=Z,6.0nm,1.0s
WVT Waverly 80.59 46 P **P** 09 55 56.6 +0.7
WVT IAmb IAmb 09 55 57.4
comp=Z,6.3nm,0.9s
ECH Echery 80.59 338 IAmb IAmb 09 55 56.3
comp=Z,8.5nm,0.8s
ALN Alexandroupoli 80.67 322 P **P** 09 55 55.2 -1.0
ALN pmax pmax
comp=Z,8.0nm,1.2s
ALN Alexandroupoli 80.67 322 P **P** 09 55 55.2 -1.0
ALN IAmb IAmb 09 55 59.0
comp=Z,8.3nm,1.2s
DAVA Damuels 80.72 336 *eP* **P** 09 55 56.1 -0.5
comp=Z,6.5nm,0.8s
FETA Feichten 80.72 335 *eP* **P** 09 55 56.3 -0.4
comp=Z,6.2nm,1.3s
O54A Avella 80.73 39 P **P** 09 55 57.2 +0.5
O54A IAmb IAmb 09 55 57.7
comp=Z,9.8nm,0.9s
PMOR Pomariorio Ree 81.07 123 *eT* T 11 24 58.0
comp=Z,9.9nm,0.2s
DAVOX Davos/Dischmat 81.18 336 P **P** 09 55 58.7 -0.4
comp=Z,4.6nm,0.9s,baz=357,slow=2.3,SNR=8.3
CLTN Cedars of Leba 81.35 45 P **P** 09 56 00.9 +0.9
CLTN IAmb IAmb 09 56 01.3
comp=Z,4.5nm,0.8s
PLAL Pickwick Lake 81.38 47 P **P** 09 56 00.2 +0.1
PLAL IAmb IAmb 09 56 16.7
comp=Z,4.7nm,0.7s
KSPA Keystone Colle 81.47 35 P **P** 09 56 00.1 -0.4
KSPA IAmb IAmb 09 56 06.8
comp=Z,12nm,1.1s
CLF Chambon-Foret 81.95 341 P **P** 09 56 03.4 +0.5
CLF IAmb IAmb 09 56 06.6
comp=Z,14nm,1.1s
N59A State Game Lan 82.02 35 P **P** 09 56 03.6 +0.2
N59A IAmb IAmb 09 56 08.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,7.4nm,1.1s						
PDG	**Podgorica**	**82.02**	**328**	⇑P	**P**	**09 56 02.0**	**-1.4**
PPT	**Papeete**	**82.20**	**126**	LR	LR	10 27 48.1	
	comp=Z,68nm,21.0s,baz=344,slow=32						
PPT2	**Papeete2**	**82.21**	**126**	*e*LR	LR	10 22 08.8	
	comp=Z,50nm,21.8s						
PPT2	**Papeete2**	**82.21**	**126**	*e*T	T	11 26 25.6	
	comp=Z,2.4nm,0.4s						
SWET	**Sewanee**	**82.25**	**45**	P	**P**	**09 56 04.8**	**0.0**
SWET				IAmb	IAmb	09 56 05.5	
	comp=Z,8.3nm,0.8s						
TZTN	**Tazewell**	**82.31**	**43**	P	**P**	**09 56 05.7**	**+0.6**
MMAI	**Mount Meron Ar**	**82.73**	**312**	P	**P**	**09 56 07.7**	**+0.3**
	comp=Z,8.1nm,0.5s,baz=40,slow=6.6,SNR=9.5						
CPCT	**Cooper Cave**	**82.74**	**44**	P	**P**	**09 56 07.5**	**+0.3**
CPCT				IAmb	IAmb	09 56 24.8	
	comp=Z,6.6nm,0.9s						
LIT	**Litokhoron**	**82.79**	**324**	P	**P**	**09 56 07.8**	**+0.3**
LIT				pmax	pmax		
	comp=Z,21nm,1.4s						
LIT	**Litokhoron**	**82.79**	**324**	P	**P**	**09 56 07.8**	**+0.3**
BNI	**Bardonecchia**	**83.65**	**337**	P	**P**	**09 56 12.7**	**+0.7**
BNI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BNI	**Bardonecchia**	**83.65**	**337**	P	**P**	**09 56 12.7**	**+0.7**
BNI				IAmb	IAmb	09 56 32.5	
	comp=Z,5.5nm,1.1s						
NRCA	**Norcia**	**83.78**	**332**	P	**P**	**09 56 12.5**	**-0.1**
RAYN	**Ar Rayn**	**84.44**	**299**	P	**P**	**09 56 16.2**	**-0.1**
RAYN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
RAYN	**Ar Rayn**	**84.44**	**299**	P	**P**	**09 56 16.2**	**-0.1**
RAYN				IAmb	IAmb	09 56 16.9	
	comp=Z,6.3nm,0.9s						
EIL	**Elat**	**85.62**	**310**	P	**P**	**09 56 21.6**	**-0.4**
	comp=Z,9.1nm,0.6s,baz=354,slow=7.7,SNR=8.6						
TBI	**Tubuai**	**86.96**	**129**	*e*T	T	11 32 22.4	
	comp=Z,11nm,0.3s						
ESDC	**Sonseca Array**	**91.25**	**343**	P	**P**	**09 56 47.1**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=355,slow=3.3,SNR=4.3						
BDFB	**Brasilia**	**143.89**	**37**	PKP	PKPbc	10 03 16.6	0.0
	comp=Z,4.2nm,1.0s,baz=329,slow=3.4,SNR=3.1						
BDFB	**Brasilia**	**143.89**	**37**		PKPbc	10 03 16.2	-0.4
PLCA	**Paso Flores**	**148.01**	**95**	PKPbc	**PKiKP**	**10 03 29.3**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=350,slow=1.5,SNR=5.8						
PLCA				pPKPbc	**pPKPbc**	**10 03 44.9**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=232,slow=1.3,SNR=4.1						
PLCA	**Paso Flores**	**148.01**	**95**	PKPbc	**PKPbc**	**10 03 29.0**	**+0.7**
CPUP	**Villa Florida**	**148.07**	**60**	PKPbc	**PKPbc**	**10 03 28.3**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=275,slow=2.2,SNR=7.9						
CPUP				pPKPbc	**pPKPbc**	**10 03 45.0**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=272,slow=5.1,SNR=3.7						
CPUP	**Villa Florida**	**148.07**	**60**	PKPbc	**PKPbc**	**10 03 29.1**	**+0.5**
SNAA	**Sanae**	**152.99**	**196**	PKPdf	**PKPbc**	**10 03 39.1**	**0.0**
SNAA	**Sanae**	**152.99**	**196**	PKIKP	**PKPbc**	**10 03 38.7**	**-0.4**
SNAA	**Sanae**	**152.99**	**196**	PKPbc	**PKPbc**	**10 03 38.7**	**-0.4**
VNA2	**Neumayer--Watz**	**154.44**	**194**	PKPdf	**PKPbc**	**10 03 40.6**	**-1.6**
	baz=119,slow=2.9						
VNA1	**Neumayer--Stat**	**154.82**	**194**	PKPdf	**PKPbc**	**10 03 42.9**	**0.0**

*IDC **08** 09:48:06.6±1.3, 34°.17N×25°.14E, h0km, mb4.0/5, mb1 4.0/9, mb1mx3.6/55, mbtmp3.9/9, ML3.8/4, Error ellipse: s-maj=32.8km s-min=23.3km az=141.0*
*THE **08** 09:48:08.4, 34°.23N×25°.06E, h0km, ML3.2/6, Error ellipse: s-maj=1.6km s-min=0.5km az=172.0*
*ATH **08** 09:48:09.2, 34°.30N×25°.03E, h23km±2km, ML3.1/6, Error ellipse: s-maj=5.5km s-min=1.6km az=1.0*
*DDA **08** 09:48:13.0, 34°.60N×25°.53E, h7km±4km, ML2.8*
ISC 08 09:48:07.6±1.7**, 34°.19N**±0°.07×**25°.09E**±0°.04**, h9**km±10km**, n46,** σ**1s.62**/62**, mb3.9**/5**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.86**	**345**	P	**Pg**	**09 48 24.0**	**-0.2**
SIVA				S	**Sn**	**09 48 37.0**	**-1.6**
	4µm,0.7s						
SIVA	**Sivas**	**0.86**	**345**	P	**Pg**	**09 48 24.0**	**-0.2**
SIVA				S	**Sg**	**09 48 34.3**	**-1.0**
SIVA				AML	AML	09 48 43.2	
	comp=E,9222µm,0.8s						
SIVA				AML	AML	09 48 45.3	
	comp=N,7008µm,0.5s						
TMBK	**Timbaki Herakl**	**0.92**	**343**	P	**Pg**	**09 48 25.3**	**0.0**
TMBK				S	**Sn**	**09 48 39.0**	**-1.1**
	comp=N,998nm,0.6s						
FRMA	**Ierapetra Chan**	**0.98**	**33**	P	**Pn**	**09 48 27.8**	**+0.3**
FRMA				S	**Sn**	**09 48 43.4**	**+1.9**
GVD	**Gavdhos**	**1.05**	**308**	P	**Pg**	**09 48 27.6**	**-0.3**
GVD				S	**Sb**	**09 48 43.0**	**+1.1**
	comp=N,2µm,0.5s						
GVD	**Gavdhos**	**1.05**	**308**	P	**Pg**	**09 48 27.5**	**-0.3**
GVD				S	**Sg**	**09 48 40.6**	**-0.9**
GVD				AML	AML	09 48 44.1	
	comp=E,3575µm,0.5s						
GVD				AML	AML	09 48 44.3	
	comp=N,2840µm,0.4s						
GVDS	**Gavdos**	**1.05**	**309**	P	**Pg**	**09 48 28.0**	**+0.2**
GVDS				S	**Sb**	**09 48 43.2**	**+1.3**
	comp=N,1µm,0.3s						
NPS	**Neapolis**	**1.16**	**22**	P	**Pb**	**09 48 29.6**	**-0.2**
NPS	**Neapolis**	**1.16**	**22**	P	**Pb**	**09 48 29.6**	**-0.2**
NPS				AML	AML	09 48 55.8	
	comp=N,706µm,0.4s						
NPS				AML	AML	09 48 56.0	
	comp=E,954µm,0.6s						
ZKR	**Zakros**	**1.31**	**45**	P	**Pb**	**09 48 32.4**	**0.0**
ZKR				S	**Sn**	**09 48 51.5**	**+1.8**
	comp=E,320nm,0.9s						
ZKR	**Zakros**	**1.31**	**45**	P	**Pn**	**09 48 32.8**	**+0.7**
ZKR				S	**Sn**	**09 48 50.9**	**+1.2**
ZKR				AML	AML	09 49 04.2	
	comp=N,558µm,0.6s						
ZKR				AML	AML	09 49 05.7	
	comp=E,1022µm,0.6s						
VAM	**Vamos**	**1.42**	**329**	P	**Pn**	**09 48 33.5**	**-0.1**
VAM	**Vamos**	**1.42**	**329**	P	**Pn**	**09 48 33.9**	**+0.3**
VAM				AML	AML	09 49 03.8	
	comp=N,1242µm,0.4s						
VAM				AML	AML	09 49 08.6	
	comp=E,1211µm,0.5s						
IMMV	**Iera Moni Meta**	**1.56**	**325**	P	**Pn**	**09 48 35.7**	**+0.1**
IMMV	**Iera Moni Meta**	**1.56**	**325**	P	**Pn**	**09 48 35.6**	**+0.1**
IMMV				AML	AML	09 49 15.0	
	comp=N,759µm,0.8s						
IMMV				AML	AML	09 49 17.9	
	comp=E,1267µm,0.9s						
RODP	**Rodopos**	**1.75**	**322**	P	**Pn**	**09 48 38.3**	**+0.1**
KARP	**Karpathos**	**2.18**	**51**	P	**Pn**	**09 48 45.0**	**+1.0**
KARP	**Karpathos**	**2.18**	**51**	P	**Pb**	**09 48 47.0**	**-0.2**
ANKY	**Antikythira Is**	**2.23**	**319**	P	**Pn**	**09 48 45.5**	**+0.8**
MHLO	**Agia Marina, M**	**2.56**	**348**	P	**Pn**	**09 48 49.5**	**+0.3**
MHLA	**Plaka, Milos I**	**2.61**	**348**	P	**Pn**	**09 48 51.2**	**+1.3**
KTHA	**Kythira Island**	**2.65**	**322**	P	**Pn**	**09 48 50.4**	**-0.1**
AMGA	**Amorgos Island**	**2.72**	**14**	P	**Pn**	**09 48 52.9**	**+1.4**
APE	**Apeiranthos**	**2.90**	**7**	P	**Pn**	**09 48 54.2**	**+0.3**
DAT	**Datca**	**3.25**	**38**	*i* P	**Pn**	**09 49 00.6**	**+1.7**
DID	**Didima**	**3.64**	**336**	P	**Pn**	**09 49 04.5**	**+0.4**
DID				S	**Sn**	**09 49 45.4**	**-1.8**
	comp=E,58nm,0.4s						
TURN	**Turunc**	**3.92**	**46**	*i* P	**Pn**	**09 49 05.4**	**-2.5**
TURN				*i* S	Sn	09 49 44.3	-10
TURN				IAML		09 50 00.0	
	comp=E,9.7nm,0.3s						
TURN				IAML		09 50 02.0	
	comp=N,9.8nm,0.4s						
FETY	**Fethiye**	**4.08**	**52**	P	**Pn**	**09 49 10.9**	**+0.8**
FETY	**Fethiye**	**4.08**	**52**	*i* P	**Pn**	**09 49 10.5**	**+0.4**
AYDN	**Tasoluk**	**4.14**	**32**	*i* P	**Pn**	**09 49 13.0**	**+2.0**
AKAS	**Kas**	**4.22**	**60**	*i* P	**Pn**	**09 49 13.2**	**+1.0**
AKAS				*i* S	**Sn**	**09 49 55.6**	**-6.1**
AKAS				IAML		09 50 13.0	
	comp=E,38nm,1.2s						
TAVA	**DENIZLI_Tavas**	**4.51**	**42**	*i* P	**Pn**	**09 49 17.6**	**+1.4**
TAVA				*i* S	**Sn**	**09 50 05.3**	**-3.5**
TAVA				IAML		09 50 10.0	
	comp=N,20nm,2.2s						
TAVA				IAML		09 50 15.0	
	comp=E,9.6nm,1.3s						
DRO	**Drossia**	**4.65**	**325**	P	**Pn**	**09 49 19.5**	**+1.5**
GOLH	**Golhisar**	**4.74**	**49**	*i* P	**Pn**	**09 49 20.5**	**+1.2**
AKUM	**Antalya-Kumluc**	**4.80**	**62**	*i* P	**Pn**	**09 49 20.6**	**+0.6**
AKUM				*i* S	**Sn**	**09 50 14.1**	**-1.6**
KORT	**Korkueli**	**5.12**	**55**	*i* P	**Pn**	**09 49 27.4**	**+2.8**
KORT				*i* S	**Sn**	**09 50 23.6**	**-0.3**
KORT				IAML		09 50 31.0	
	comp=N,26nm,1.2s						
KORT				IAML		09 50 36.0	
	comp=E,19nm,0.9s						
KHAL	**Karahalli**	**5.48**	**39**	*i* P	**Pn**	**09 49 29.6**	**+0.1**
KHAL				*i* S	**Sn**	**09 50 28.4**	**-4.4**
KHAL				IAML		09 50 37.0	
	comp=E,10.0nm,1.6s						
KHAL				IAML		09 50 44.0	
	comp=N,17nm,0.7s						
EIL	**Elat**	**9.51**	**116**	Pn	**Pn**	**09 50 24.4**	**-0.3**
	comp=N,0.9nm,0.3s,baz=188,slow=7.0,SNR=6.1						
EIL				Sn	**Sn**	**09 52 07.2**	**-4.5**
	comp=N,0.4nm,0.3s,baz=58,slow=15,SNR=2.9						
AKASG	**Malin Array Be**	**16.78**	**9**	Pn	**Pn**	**09 52 03.0**	**+0.3**
	comp=N,0.5nm,0.3s,baz=199,slow=10,SNR=3.3						
KBZ	**Khabaz**	**16.78**	**50**	Pn	**P**	**09 52 06.5**	**+1.6**
	comp=N,0.1nm,0.3s,baz=235,slow=12,SNR=3.1						
GERES	**GERESS Array B**	**16.92**	**333**	Pn	**P**	**09 52 06.9**	**+0.3**
	comp=N,0.1nm,0.3s,baz=147,slow=11,SNR=15						
TORD	**Torodi Ar. Bea**	**29.83**	**231**	P	**P**	**09 54 15.8**	**+0.6**
	comp=N,0.5nm,0.4s,baz=34,slow=8.3,SNR=6.2						
KURBB	**Kurchatov Arra**	**41.78**	**50**	P	**P**	**09 55 57.5**	**+0.4**
	comp=N,1.0nm,0.6s,baz=279,slow=8.8,SNR=5.2						
MKAR	**Makanchi Array**	**44.36**	**56**	P	**P**	**09 56 18.4**	**+0.2**
	comp=N,1.3nm,0.6s,baz=278,slow=6.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**45.72**	**45**	P	**P**	**09 56 27.9**	**-0.9**
	comp=N,2.1nm,0.4s,baz=277,slow=9.9,SNR=4.4						
SONM	**Songino Array**	**60.15**	**50**	P	**P**	**09 58 16.2**	**+0.6**
	comp=N,0.7nm,0.6s,baz=286,slow=6.7,SNR=7.2						

*ISCJB **08** 09:50:24.4±0.5, 17°.76S±0°.08×174°.07W±0°.06, h100km, mb3.7/4, Error ellipse: s-maj=12.0km s-min=8.2km az=175.5*
*NEIC **08** 09:50:24.9±1.1, 17°.76S±0°.08×174°.2W±0°.1, h84km±5km, mb4.2/7*
*IDC **08** 09:50:26.1±6.4, 17°.56S×174°.44W, h84km±42km, mb3.5/4, mb1 3.8/5, mb1mx3.4/34, mbtmp3.8/5, Error ellipse: s-maj=160.7km s-min=23.6km az=146.0*
ISC 08 09:50:26.4±0.8**, 17°.70S**±0°.07×**174°.03W**±0°.09**, h100**km**, n14,** σ**1s.76**/17**, mb4.1**/9**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.13**	**110**	Pn	**Pn**	**09 51 27.6**	**+0.3**
NIUE				Sn	**Sn**	**09 52 12.8**	**-1.8**
AFI	**Afiamalu**	**4.35**	**30**	P	**Pn**	**09 51 31.2**	**+0.8**
	2.4nm,0.3s,baz=240,slow=20,SNR=6.4						
AFI				S	**Sn**	**09 52 16.4**	**-3.7**
	7.1nm,0.3s,baz=226,slow=23,SNR=8.3						
AFI	**Afiamalu**	**4.35**	**30**		**Pn**	**09 51 31.1**	**+0.8**
AFI					**Sn**	**09 52 18.4**	**-1.6**
BKZ	**Black Stump Fm**	**22.93**	**199**	P	**P**	**09 55 21.6**	**-0.4**
BKZ				IAmb	IAmb	09 55 38.2	
	comp=Z,42nm,1.4s						
WR0	**Warramunga Arr**	**48.58**	**259**	P	**P**	**09 58 59.7**	**-0.4**
WR0				IAmb	IAmb	09 59 13.1	
	comp=Z,5.4nm,1.4s						
WB2	**Warramunga Arr**	**48.76**	**259**	P	**P**	**09 58 59.9**	**-1.6**
WB2				IAmb	IAmb	09 59 09.8	
	comp=Z,3.6nm,1.2s						
WRAB	**Tennant Creek**	**48.76**	**259**	P	**P**	**09 59 00.1**	**-1.4**
WRAB				IAmb	IAmb	09 59 02.2	
	comp=Z,3.3nm,1.1s						
WRA	**Warramunga Arr**	**48.77**	**259**	P	**P**	**09 59 00.3**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=98,slow=6.9,SNR=27						
AS31	**Alice Springs**	**48.86**	**254**	P	**P**	**09 59 00.8**	**-1.5**
ASAR	**Alice Springs**	**48.86**	**254**	P	**P**	**09 59 00.9**	**-1.3**
	comp=Z,1.6nm,0.5s,baz=93,slow=8.0,SNR=55						
JOW	**Kunigami**	**71.36**	**307**	P	**P**	**10 01 35.1**	**-0.7**
PDAR	**Pinedale Array**	**84.37**	**42**	P	**P**	**10 02 50.6**	**+2.8**
	comp=Z,0.4nm,0.7s,baz=197,slow=4.6,SNR=3.5						
CCB	**Clear Creek Bu**	**84.52**	**11**	P	**P**	**10 02 49.6**	**+1.8**
CCB				IAmb	IAmb	10 02 57.6	
	comp=Z,1.4nm,1.1s						
ILAR	**Eielson Array**	**84.81**	**11**	P	**P**	**10 02 50.1**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=228,slow=6.8,SNR=4.8						

*IDC **08** 10:07:47.3±1.8, 6°.64S×155°.39E, h0km, mb3.8/4, mb1 4.1/6, mb1mx3.8/22, mbtmp3.9/6, ML2.6/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/29, Error ellipse: s-maj=39.0km s-min=30.1km az=84.0*
ISC 08 10:07:51.9±1.6**, 6°.7S**±0°.1×**155°.5E**±0°.2**, h35**km**, n6,** σ**1s.05**/9**,** **mb3.6**/4**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.18**	**305**	Pn	**Pn**	**10 08 52.2**	**-1.0**
	1.4nm,0.3s,baz=127,slow=20,SNR=1.6						
KRVT				Sn	**Sn**	**10 09 42.2**	**+1.3**
	11nm,0.3s,baz=180,slow=20,SNR=2.9						
PMG	**Port Moresby**	**8.66**	**251**	Pn	**Pn**	**10 09 54.4**	**-0.4**
	1.8nm,0.3s,baz=80,slow=6.1,SNR=5.5						
WRA	**Warramunga Arr**	**24.38**	**235**	P	**P**	**10 13 07.2**	**+0.1**
	0.9nm,0.4s,baz=58,slow=9.6,SNR=19						
WRA				PcP	**PcP**	**10 16 47.2**	**+1.2**
	1.1nm,1.2s,baz=58,slow=2.4,SNR=4.5						
ASAR	**Alice Springs**	**26.72**	**229**	P	**P**	**10 13 27.6**	**-0.7**
	0.4nm,0.5s,baz=58,slow=8.8,SNR=7.3						
ASAR				PcP	**PcP**	**10 16 52.6**	**+1.2**
	0.4nm,0.7s,baz=58,slow=1.7,SNR=6.1						
ASAR				LR	LR	10 21 49.2	
	comp=Z,40nm,19.3s,baz=70,slow=32						
CMAR	**Chiang Mai Arr**	**61.09**	**295**	P	**P**	**10 18 02.6**	**-0.4**
	1.3nm,0.3s,baz=116,slow=5.7,SNR=7.3						
MKAR	**Makanchi Array**	**83.50**	**319**	P	**P**	**10 20 16.1**	**-0.2**
	0.3nm,0.6s,baz=90,slow=7.2,SNR=3.0						

*IDC **08** 10:25:59.6±1.6, 3°.47S×151°.31E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/24, mbtmp3.4/4, MS4.0/1, Ms1 4.0/1, ms1mx2.5/25, Error ellipse: s-maj=30.4km s-min=21.3km az=27.0*
ISC 08 10:26:01.2±1.6**, 5°.1S**±0°.1×**153°.1E**±0°.1**, h35**km**, n7,** σ**1s.96**/7**,** **mb3.3**/4**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.28**	**305**	Pn	**Pn**	**10 26 23.4**	**+0.8**
	202nm,0.3s,baz=175,slow=2.3,SNR=190						
KRVT				Sn	**Sn**	**10 26 38.1**	**-0.4**
	123nm,0.3s,baz=180,slow=20,SNR=8.8						
PMG	**Port Moresby**	**7.29**	**233**	Sn	**Sn**	**10 29 05.9**	**-0.9**
	1.7nm,0.3s,baz=154,slow=23,SNR=4.8						
WRA	**Warramunga Arr**	**23.48**	**229**	P	**P**	**10 31 08.3**	**+0.4**
	0.8nm,0.8s,baz=52,slow=9.6,SNR=6.9						
ASAR	**Alice Springs**	**26.15**	**223**	P	**P**	**10 31 35.5**	**+3.2**
	0.3nm,0.7s,baz=53,slow=8.6,SNR=4.7						
FITZ	**Fitzroy Crossi**	**29.78**	**242**	P	**P**	**10 32 03.1**	**-1.7**
	0.5nm,0.3s,baz=61,slow=13,SNR=4.9						
RAO	**Raoul Island**	**36.50**	**135**	LR	LR	10 46 11.2	
	comp=Z,196nm,19.5s,baz=66,slow=31						
ILAR	**Eielson Array**	**82.29**	**22**	P	**P**	**10 38 18.1**	**-0.8**
	0.2nm,0.6s,baz=234,slow=7.7,SNR=1.5						

NNC 08 10:35:17.6±4.5**, 37°.81N**×**71°.48E, h0**km**, mb4.2, mpv3.7, 4C-2D, Error ellipse: s-maj=34.6km s-min=29.7km az=176.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.64**	**21**	P	Pn	10 36 29.7	+0.4
	SNR=16						
EKS2	**Erkin-Say**	**5.15**	**19**	P	Pn	10 36 37.0	+0.9
	SNR=5.2						
KK31	**Karatay Array**	**5.34**	**352**	⇑Pn	Pn	10 36 39.6	+1.0
	3.7nm,0.3s,baz=176,slow=12,SNR=60						
KK31				⇑Sn	Sn	10 37 41.7	+0.9
	6.4nm,0.6s,baz=172,slow=22,SNR=12						
AAK	**Ala-Archa**	**5.34**	**25**	P	Pn	10 36 39.1	+0.4
	SNR=12						
AAK	**Ala-Archa**	**5.34**	**25**	⇓Pn	Pn	10 36 38.5	-0.3
	6.0nm,0.5s						
AAK				⇓Sn	Sn	10 37 41.1	-0.1
	2.9nm,0.7s						
CHMS	**Chumysh**	**5.75**	**25**	P	Pn	10 36 44.3	0.0
	SNR=7.9						
TKM2	**Tokmak 2**	**5.99**	**30**	P	Pn	10 36 47.3	-0.5
	SNR=9.9						
TKM2	**Tokmak 2**	**5.99**	**30**	⇑Pn	Pn	10 36 46.7	-1.0
	4.2nm,0.6s						
TKM2				⇑Sn	Sn	10 38 00.2	+3.0
	0.9nm,0.7s						

*IDC **08** 10:47:32.1±1.1, 56°.49N×155°.62W, h0km, mb3.6/7, mb1 3.8/10, mb1mx3.6/44, mbtmp3.6/10, ML3.3/3, Error ellipse: s-maj=24.4km s-min=18.6km az=12.0*
*ISCJB **08** 10:47:38.9±0.5, 56°.82N±0°.04×154°.99W±0°.06, h69km±4km, mb3.6/6, Error ellipse: s-maj=6.3km s-min=5.6km az=11.8*
*NEIC **08** 10:47:39.6±2.0, 56°.76N±0°.03×155°.08W±0°.07, h53km±9km*
*AEIC **08** 10:47:40.2±1.8, 56°.76N±0°.06×155°.03W±0°.09, h61km±6km, ML3.0, mb3.4/2(NEIC)*
ISC 08 10:47:40.5±1.0**, 56°.83N**±0°.05×**155°.01W**±0°.05**, h59**km±9km**, n66,** σ**1s.48**/78**, mb3.6**/6**, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.53**	**120**		**Pn**	**10 47 51.4**	**-1.3**
SII					**Sn**	**10 48 01.1**	**-0.5**
OHAK	**Old Harbor**	**1.02**	**67**		**Pn**	**10 47 58.6**	**0.0**
OHAK					**Sn**	**10 48 12.7**	**+0.5**
CHIR	**Chirikof Islan**	**1.07**	**199**		**Pn**	**10 47 56.9**	**-2.4**
PLK3	**Peulik 3**	**1.10**	**322**		**Pn**	**10 47 59.4**	**-0.4**
PLK3					**Sn**	**10 48 14.6**	**+0.5**
CAHL	**Cahill**	**1.24**	**353**		**Pn**	**10 48 01.6**	**-0.1**
KJL	**Kejulik**	**1.27**	**346**		**Pn**	**10 48 01.9**	**-0.1**
KABR	**Katmai Barrier**	**1.31**	**1**		**Pn**	**10 48 02.7**	**+0.2**
KABR					**Sn**	**10 48 21.1**	**+2.0**
PLBL	**Peulik Blue Cr**	**1.31**	**312**		**Pn**	**10 48 03.0**	**+0.3**
ANCK	**Angle Creek**	**1.40**	**349**		**Pn**	**10 48 03.7**	**-0.1**
KDAK	**Kodiak Island**	**1.63**	**53**	Pn	**Pn**	**10 48 06.9**	**+0.1**
	8.5nm,0.3s,baz=188,slow=6.5,SNR=184						
KDAK				Sn	**Sn**	**10 48 26.0**	**-0.7**
	18nm,0.3s,baz=217,slow=20,SNR=13						
KDAK	**Kodiak Island**	**1.63**	**53**		**Pn**	**10 48 06.8**	**+0.1**
KDAK					**Sn**	**10 48 27.1**	**+0.4**
ANNE	**Aniakchak Nort**	**1.68**	**274**		**Pn**	**10 48 05.8**	**-1.7**
HOM	**Homer**	**3.35**	**31**	Pn	**Pn**	**10 48 31.9**	**+1.6**
CNPM	**China Poot**	**3.36**	**35**		**Pn**	**10 48 31.4**	**+0.9**
CNPM					**Sn**	**10 49 09.6**	**+0.5**
BRLK	**Bradley Lake**	**3.66**	**35**		**Pn**	**10 48 34.3**	**-0.3**
BRLK					**Sn**	**10 49 13.2**	**-3.2**
BRSE	**Bradley Lake S**	**3.69**	**36**		**Pn**	**10 48 35.1**	**+0.1**
RSO	**Redoubt South**	**3.83**	**17**		**Pn**	**10 48 38.0**	**+1.0**
RDWB	**Redoubt West**	**3.84**	**16**		**Pn**	**10 48 38.2**	**+1.1**
NCT	**North Crescent**	**3.90**	**15**		**Pn**	**10 48 38.9**	**+1.0**
DFR	**Drift River**	**3.96**	**17**		**Pn**	**10 48 40.1**	**+1.3**
SVW2	**Sparrevohn**	**4.29**	**356**		**Pn**	**10 48 43.4**	**+0.2**
SEW	**Seward**	**4.39**	**39**		**Pn**	**10 48 43.8**	**-0.7**
SLKM	**Skilak Lake**	**4.46**	**32**		**Pn**	**10 48 45.3**	**-0.1**
SLKM					**Sn**	**10 49 33.5**	**-2.4**
RC01	**Rabbit Creek A**	**5.07**	**30**		**Pn**	**10 48 54.0**	**+0.2**
RC01					**Sn**	**10 49 47.8**	**-3.1**
SUA	**Susitna One**	**5.14**	**23**		**Pn**	**10 48 55.4**	**+0.6**
PWL	**Port Wells**	**5.32**	**38**		**Pn**	**10 48 56.8**	**-0.5**
SKT	**Skwentna**	**5.46**	**18**	Pn	**Pn**	**10 48 59.8**	**+0.6**
PMR	**Palmer**	**5.65**	**30**	Pn	**Pn**	**10 49 01.1**	**-0.6**
KNK	**Knik Glacier**	**5.70**	**34**	Pn	**Pn**	**10 49 02.3**	**-0.2**
HIN	**Hinchinbrook I**	**5.71**	**48**		**Pn**	**10 49 02.1**	**-0.4**
GHO	**Glory Hole Cre**	**5.85**	**30**	Pn	**Pn**	**10 49 06.6**	**+2.0**
FID	**Port Fidalgo**	**5.92**	**45**	Pn	**Pn**	**10 49 06.1**	**+0.6**
EYAK	**Cordova Ski Ar**	**6.10**	**48**	Pn	**Pn**	**10 49 07.7**	**-0.2**
TT01	**Tatalina**	**6.12**	**356**		**Pn**	**10 49 07.9**	**-0.3**
PPLA	**Purkeypile**	**6.25**	**12**	Pn	**Pn**	**10 49 11.7**	**+1.7**
SCM	**Sheep Creek Mo**	**6.37**	**35**	Pn	**Pn**	**10 49 12.6**	**+0.9**
SCM				Sn	**Sn**	**10 50 23.0**	**0.0**
WAT1	**Susitna Watana**	**6.84**	**26**		**Pn**	**10 49 17.7**	**-0.3**
WAT2	**Susitna Watana**	**6.95**	**25**		**Pn**	**10 49 19.2**	**-0.4**
KTH	**Kantishna Hill**	**7.04**	**15**		**Pn**	**10 49 20.9**	**0.0**
TRF	**Thorofare Moun**	**7.05**	**18**	Pn	**Pn**	**10 49 20.8**	**-0.2**
CRQM	**Cirque**	**7.31**	**53**	Pn	**Pn**	**10 49 24.4**	**-0.2**
GLB	**Gilahina Butte**	**7.38**	**47**	Pn	**Pn**	**10 49 24.9**	**-0.6**
TGL	**Tana Glacier**	**7.45**	**53**	Pn	**Pn**	**10 49 26.6**	**+0.1**
BPAW	**Bear Paw Mtn.**	**7.56**	**14**	Pn	**Pn**	**10 49 27.5**	**-0.3**
YAH	**Yahtse**	**7.78**	**57**	Pn	**Pn**	**10 49 31.0**	**-0.1**
BALM	**Baldy**	**7.79**	**52**		**Pn**	**10 49 30.3**	**-0.8**
CTGM	**Chitina Glacie**	**8.20**	**54**	Pn	**Pn**	**10 49 37.1**	**+0.3**
PCA	**Pinnacle**	**8.40**	**61**	Pn	**Pn**	**10 49 40.1**	**+0.8**
RIDG	**Independent Ri**	**8.56**	**32**	Pn	**Pn**	**10 49 42.5**	**+0.8**
HDA	**Harding Lake**	**8.57**	**24**	Pn	**Pn**	**10 49 42.7**	**+1.1**
CCB	**Clear Creek Bu**	**8.59**	**21**	Pn	**Pn**	**10 49 39.5**	**-2.5**
IL31		**8.89**	**23**	Pn	**Pn**	**10 49 44.3**	**-1.8**
ILAR	**Eielson Array**	**8.89**	**23**	Pn	**Pn**	**10 49 43.5**	**-2.5**
	0.2nm,0.3s,baz=214,slow=14,SNR=7.8						
ILAR				Sn	**Sn**	**10 51 17.7**	**-6.9**
	0.1nm,0.3s,baz=218,slow=28,SNR=2.5						
ANM	**Nome**	**9.26**	**331**	Pn	**Pn**	**10 49 50.9**	**-0.2**
SKAG	**Skagway**	**10.72**	**68**	Pn	**Pn**	**10 50 11.9**	**+0.9**
JIS	**Juneau Island**	**11.17**	**74**	Pn	**Pn**	**10 50 20.5**	**+3.4**
INK	**Inuvik**	**15.06**	**32**	Pn	**P**	**10 51 12.4**	**-1.0**
	0.2nm,0.3s,baz=256,slow=9.2,SNR=8.0						
INK	**Inuvik**	**15.06**	**32**	P	**P**	**10 51 16.3**	**+2.9**
INK				IAmb	IAmb	10 51 33.7	
	comp=Z,2.7nm,1.1s						
YKA	**Yellowknife Ar**	**20.90**	**58**	P	**P**	**10 52 18.6**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=273,slow=10,SNR=7.8						
PETK	**Petropavlovsk-**	**26.97**	**282**	P	**P**	**10 53 14.3**	**-1.9**
	comp=Z,1.3nm,0.6s,baz=76,slow=12,SNR=2.9						
YHB	**Horse Butte**	**29.69**	**95**	P	**P**	**10 53 39.8**	**-0.9**
NVAR	**Mina Array Bea**	**30.32**	**112**	P	**P**	**10 53 47.4**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=292,slow=9.6,SNR=3.4						
PDAR	**Pinedale Array**	**31.88**	**96**	P	**P**	**10 54 02.0**	**+1.9**
	comp=Z,0.5nm,0.6s,baz=312,slow=4.7,SNR=6.0						
TXAR	**Lajitas Array**	**45.01**	**105**	P	**P**	**10 55 51.0**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=316,slow=6.3,SNR=5.0						
FINES	**FINESS Array B**	**62.06**	**359**	P	**P**	**10 57 54.8**	**+0.6**
	comp=Z,3.0nm,1.0s,baz=26,slow=9.1,SNR=5.4						
MKAR	**Makanchi Array**	**66.24**	**321**	P	**P**	**10 58 20.7**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=24,slow=5.2,SNR=3.6						

NNC 08 11:02:34.9±12.0**, 36°.52N**×**69°.66E, h0**km**, mb3.6, mpv3.2, 3C-2D, Error ellipse: s-maj=97.0km s-min=84.3km az=166.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.61**	**5**	⇓Pn	Pn	11 04 16.1	+2.8
	0.9nm,0.3s,baz=182,slow=13,SNR=19						
KK31				⇑Sn	Sn	11 05 32.0	+2.7
	1.1nm,0.6s,baz=192,slow=30,SNR=4.0						
AAK	**Ala-Archa**	**7.16**	**30**	⇑Pn	Pn	11 04 19.4	-1.6
	2.3nm,1.1s						
AAK				Sn	Sn	11 05 42.2	-0.9
	2.7nm,0.8s						
TKM2	**Tokmak 2**	**7.86**	**34**	⇓Pn	Pn	11 04 29.9	-0.7
	0.4nm,0.5s						
TKM2				⇑Sn	Sn	11 06 01.0	+0.6
	1.4nm,0.8s						

*TUN **08** 11:15:23.2, 37°.16N×8°.57E, h25km, MD2.5*
*CRAAG **08** 11:15:28.6, 37°.04N×8°.53E, Ml3.3*
*ISCJB **08** 11:15:30.1±1.3, 37°.0N±0°.1×8°.72E±0°.08, h10km, Error ellipse: s-maj=17.8km s-min=9.8km az=179.9*
ISC 08 11:15:29.0±1.5**, 37°.05N**±0°.09×**8°.69E**±0°.05**, h10**km**, n7,** σ**0s.90**/7**, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TAMR	**Tamra**	**0.33**	**90**	*i* P	**Pg**	**11 15 36.1**	**+0.5**
BLIT	**Baltah**	**0.40**	**148**	*i* P	**Pg**	**11 15 37.9**	**+1.1**
GHAT	**Ghardimaou**	**0.63**	**209**	*i* P	**Pb**	**11 15 41.5**	**-0.7**
KRIT	**Krib**	**0.77**	**156**	*i* P	**Pg**	**11 15 44.3**	**+0.3**
CMAH	**Djebel Manchou**	**1.10**	**248**	P	**Pn**	**11 15 50.2**	**-0.4**
CAEH	**'Ain El Ouahch**	**1.50**	**260**	P	**Pg**	**11 15 58.6**	**+0.8**
DFRA	**Djebel Bou Aff**	**2.31**	**258**	P	**Pg**	**11 16 14.0**	**+0.6**

*ISCJB **08** 11:26:06.3±1.2, 18°.76S±0°.04×174°.82W±0°.05, h75km±11km, mb4.8/42, Error ellipse: s-maj=8.4km s-min=5.2km az=28.0*
*BJI **08** 11:26:08.0±0.0, 18°.60S×174°.80W, h90km, mb5.0/24, mB5.3/19, Ms5.0/4, Ms7 4.9/2*
*NEIC **08** 11:26:09.3±1.5, 18°.83S±0°.08×174°.67W±0°.07, h95km±2km, mb4.9/78*
*IDC **08** 11:26:12.6±0.7, 18°.92S×174°.75W, h121km±5km, mb4.5/26, mb1 4.6/27, mb1mx4.3/52, mbtmp4.8/27, MS3.5/11, Ms1 3.5/11, ms1mx3.2/41, Error ellipse: s-maj=14.8km s-min=9.6km az=141.0*

*MOS **08** 11:26:15.5±1.9, 18°.41S×175°.56W, h119km, mb4.9/9,*
Error ellipse: s-maj=12.7km s-min=10.5km az=106.5

ISC 08 11:26:09.9±0.5**, 18°.74S**±0°.05×**174°.60W**±0°.05**,**
h102km±4km**, h103**km**:pP-P, n373,** σ**1.41**/354**, mb5.0**/72**,**
46C-10D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.44**	**95**	P	**Pn**	**11 27 14.7**	**-0.3**
	baz=4.5,SNR=89						
NIUE	**Niue**	**4.44**	**95**		**Pn**	**11 27 14.8**	**-0.3**
NIUE				Sn	**Sn**	**11 28 00.6**	**-5.1**
AFI	**Afiamalu**	**5.51**	**30**	P	**Pn**	**11 27 28.9**	**-0.8**
AFI	**Afiamalu**	**5.51**	**30**	P	**Pn**	**11 27 27.9**	**-1.8**
	40nm,0.3s,baz=158,slow=1.7,SNR=47						
AFI				S	**Sn**	**11 28 25.2**	**-6.7**
	182nm,0.3s,baz=218,slow=24,SNR=18						
AFI	**Afiamalu**	**5.51**	**30**		**Pn**	**11 27 28.9**	**-0.8**
AFI					**Sn**	**11 28 25.4**	**-6.5**
MSVF	**Nonsavu**	**7.05**	**277**		Pn	11 27 59.3	+8.6
RAO	**Raoul Island**	**10.90**	**196**	S	Sn	11 30 33.1	-10
	38nm,0.3s,baz=72,slow=20,SNR=3.7						
RAO				LR	LR	11 31 20.7	
	comp=Z,73nm,19.6s,baz=89,slow=29						
RAR	**Rarotonga**	**14.16**	**102**	P	**Pn**	**11 29 27.2**	**+1.4**
	3.7nm,0.3s,baz=271,slow=7.6,SNR=18						
RAR				S	Sn	11 31 50.8	-11
	1.8nm,0.3s,baz=347,slow=18,SNR=2.9						
RAR				LR	LR	11 33 44.5	
	comp=Z,83nm,20.4s,baz=276,slow=32						
RAR	**Rarotonga**	**14.16**	**102**	Pn	**Pn**	**11 29 26.2**	**+0.4**
DZM	**Mont Dzumac**	**18.07**	**256**	*e*P	**Pn**	**11 30 16.8**	**+2.3**
	120nm,0.8s						
DZM				*e*LR	LR	11 34 50.6	
	comp=Z,204nm,25.9s						
DZM	**Mont Dzumac**	**18.07**	**256**	P	**Pn**	**11 30 16.3**	**+1.8**
	4.9nm,0.3s,baz=80,slow=18,SNR=38						
DZM				LR	LR	11 35 14.0	
	comp=Z,214nm,19.2s,baz=34,slow=30						
DZM	**Mont Dzumac**	**18.07**	**256**	P	**Pn**	**11 30 16.5**	**+2.0**
DZM				IAmb	IAmb	11 30 20.1	
	comp=Z,73nm,0.7s						
OUZ	**Omahuta**	**19.47**	**210**	P	**P**	**11 30 29.2**	**+0.6**
OUZ	**Omahuta**	**19.47**	**210**		**P**	**11 30 29.5**	**+0.9**
OUZ				IAmb	IAmb	11 30 35.8	
	comp=Z,48nm,1.0s						
GRZ	**Great Barrier**	**19.53**	**205**	P	**P**	**11 30 30.2**	**+1.0**
WCZ	**Waipu Caves**	**19.72**	**207**	P	**P**	**11 30 31.7**	**+0.3**
MXZ	**Matakaoa Point**	**19.76**	**197**	P	**P**	**11 30 31.9**	**+0.1**
MXZ	**Matakaoa Point**	**19.76**	**197**	P	**P**	**11 30 33.2**	**+1.5**
KUZ	**Kuaotunu**	**19.86**	**203**	P	**P**	**11 30 34.2**	**+1.4**
WMGZ	**Waiomatatini S**	**19.97**	**196**	P	**P**	**11 30 34.4**	**+0.3**
WMGZ				S	S	11 34 00.4	-13
ABAZ	**Army Bay**	**20.08**	**205**	P	**P**	**11 30 35.5**	**+0.3**
WIAZ	**Waiheke Island**	**20.13**	**205**	P	Pn	11 30 37.5	-1.0
MBAZ	**Motutapu North**	**20.20**	**205**	P	**P**	**11 30 37.9**	**+1.5**
EPAZ	**Eden Park BICE**	**20.35**	**205**	P	**P**	**11 30 39.5**	**+1.4**
WTAZ	**Waiatarua**	**20.47**	**205**	P	**P**	**11 30 40.3**	**+0.8**
AWAZ	**Awhitu Peninsu**	**20.56**	**205**	P	**P**	**11 30 41.1**	**+0.8**
TKGZ	**Te Karaka**	**20.70**	**197**	P	**P**	**11 30 41.1**	**-0.8**
TKGZ				S	S	11 34 15.3	-12
URZ	**Urewera**	**20.75**	**199**	P	**P**	**11 30 40.4**	**-2.0**
	comp=Z,154nm,0.5s,baz=1.6,slow=1.6,SNR=109						
URZ				S	S	11 34 14.7	-14
	comp=Z,3.0nm,0.4s,baz=360,slow=19,SNR=5.3						
URZ	**Urewera**	**20.75**	**199**	P	**P**	**11 30 41.8**	**-0.6**
HIZ	**Hauiti**	**21.74**	**203**	P	**P**	**11 30 54.0**	**+1.1**
BKZ	**Black Stump Fm**	**21.77**	**199**	P	**P**	**11 30 50.7**	**-2.7**
BKZ				IAmb	IAmb	11 30 53.4	
	comp=Z,53nm,0.5s						
BFZ	**Birch Farm**	**23.24**	**198**	P	**P**	**11 31 07.8**	**-0.4**
BFZ				IAmb	IAmb	11 31 09.2	
	comp=Z,68nm,0.6s						
PAE	**Paea**	**23.79**	**91**	*e*T	T	11 55 05.2	
	comp=Z,17nm,0.3s						
PPT2	**Papeete2**	**23.80**	**91**	*e*S	**S**	**11 35 19.3**	**-2.7**
	comp=Z,82nm,25.8s						
PPT2				*e*LQ	LQ	11 36 05.9	
	comp=Z,333nm,25.8s						
PPT2				*e*LR	LR	11 36 53.0	
	comp=Z,305nm,33.2s						
PPT2	**Papeete2**	**23.80**	**91**	*e*T	T	11 55 07.9	
	comp=Z,7.4nm,0.3s						
PPT	**Papeete**	**23.80**	**91**	LR	LR	11 38 58.1	
	comp=Z,60nm,18.1s,baz=287,slow=32						
TBI	**Tubuai**	**23.90**	**105**	*e*S	**S**	**11 35 18.3**	**-5.0**
	comp=Z,79nm,27.8s						
TBI				*e*LQ	LQ	11 36 02.6	
	comp=Z,209nm,28.5s						
TBI				*e*LR	LR	11 37 00.8	
	comp=Z,147nm,36.0s						
TBI	**Tubuai**	**23.90**	**105**	*e*T	T	11 55 29.8	
	comp=Z,20nm,0.3s						
TVO	**Taravao**	**24.09**	**92**	*e*T	T	11 55 27.8	
	comp=Z,2.0nm,0.3s						
MSWZ	**Moikau Station**	**24.21**	**199**	P	**P**	**11 31 15.8**	**-1.2**
SNZO	**South Karori**	**24.29**	**200**	P	**P**	**11 31 16.3**	**-1.3**
SNZO				IAmb	IAmb	11 31 19.6	
	comp=Z,51nm,0.7s						
BHW	**Baring Head**	**24.32**	**199**	P	**P**	**11 31 16.8**	**-1.1**
PLWZ	**Palliser**	**24.35**	**199**	P	**P**	**11 31 17.1**	**-1.2**
QRZ	**Quartz Range**	**24.63**	**204**	P	**P**	**11 31 21.2**	**+0.4**
QRZ	**Quartz Range**	**24.63**	**204**	P	**P**	**11 31 20.9**	**+0.1**
TUWZ	**Tuamarina**	**24.65**	**201**	P	**P**	**11 31 19.5**	**-1.4**
NNZ	**Nelson**	**24.66**	**202**	P	**P**	**11 31 21.1**	**+0.1**
NNZ				IAmb	IAmb	11 31 24.0	
	comp=Z,49nm,0.7s						
BSWZ	**Blackbirch Sta**	**24.93**	**201**	P	**P**	**11 31 24.4**	**+0.9**
BSWZ	**Blackbirch Sta**	**24.93**	**201**	P	**P**	**11 31 23.6**	**+0.2**
THZ	**Tophouse**	**25.30**	**202**	P	**P**	**11 31 26.5**	**-0.5**
THZ	**Tophouse**	**25.30**	**202**	P	**P**	**11 31 26.5**	**-0.4**
THZ				IAmb	IAmb	11 31 32.1	
	comp=Z,57nm,0.6s						
KHZ	**Kahutara**	**25.66**	**201**	P	**P**	**11 31 31.0**	**+0.9**
KHZ	**Kahutara**	**25.66**	**201**	P	**P**	**11 31 29.5**	**-0.6**
KHZ				IAmb	IAmb	11 31 38.3	
	comp=Z,46nm,0.7s						
DSZ	**Denniston Nort**	**25.70**	**204**	P	**P**	**11 31 29.8**	**-0.8**
GVZ	**Greta Valley S**	**26.32**	**201**	P	**P**	**11 31 35.5**	**-0.6**
LTZ	**Lake Taylor**	**26.42**	**202**	P	**P**	**11 31 35.4**	**-1.7**
AMCZ	**Amberley**	**26.64**	**201**	P	**P**	**11 31 38.7**	**-0.2**
OXZ	**Oxford**	**26.98**	**202**	P	**P**	**11 31 42.5**	**+0.5**
OKCZ	**Okains Bay**	**26.99**	**200**	P	**P**	**11 31 42.2**	**+0.1**
CRLZ	**Canterbury Las**	**27.00**	**201**	P	**P**	**11 31 45.0**	**+2.9**
MQZ	**McQueen's Vall**	**27.11**	**201**	P	**P**	**11 31 44.4**	**+1.3**
AKCZ	**Akaroa Harbour**	**27.17**	**200**	P	**P**	**11 31 48.1**	**+4.4**
WVZ	**Waitaha Valley**	**27.25**	**204**	P	**P**	**11 31 43.1**	**-1.3**
RPZ	**Rata Peaks**	**27.68**	**203**	P	**P**	**11 31 47.3**	**-0.9**
	comp=Z,99nm,0.6s,baz=194,slow=0.8,SNR=27						
RPZ	**Rata Peaks**	**27.68**	**203**	P	**P**	**11 31 48.4**	**+0.1**
LBZ	**Lake Benmore**	**28.57**	**203**	IAmb	IAmb	11 32 13.6	
	comp=Z,26nm,0.7s						
WKZ	**Wanaka**	**29.39**	**204**	P	**P**	**11 32 02.2**	**-1.3**
MLZ	**Mavora Lakes**	**30.19**	**205**	IAmb	IAmb	11 32 17.0	
	comp=Z,31nm,0.9s						
EIDS	**Eidsvold**	**32.42**	**252**	P	**P**	**11 32 29.4**	**-1.0**
	baz=32,SNR=8.5						
EIDS	**Eidsvold**	**32.42**	**252**	P	**P**	**11 32 29.5**	**-0.8**
EIDS				IAmb	IAmb	11 32 31.5	
	comp=Z,16nm,0.8s						
ARMA	**Armidale**	**32.72**	**243**	P	**P**	**11 32 32.9**	**-0.1**
	baz=33,SNR=10						
ARMA	**Armidale**	**32.72**	**243**	P	**P**	**11 32 32.8**	**-0.2**
ARMA				IAmb	IAmb	11 32 33.5	
	comp=Z,12nm,0.7s						
MGCD	**Mangrove Creek**	**33.86**	**238**	P	**P**	**11 32 42.3**	**-0.4**
	baz=34,SNR=7.1						
RMQ	**Roma**	**34.60**	**250**	P	**P**	**11 32 49.2**	**-0.1**
	baz=34,SNR=26						
TAOE	**Nuku Hiva Isla**	**34.81**	**78**	*e*T	T	12 08 34.8	
	comp=Z,50nm,0.3s						
CNB	**Canberra Magne**	**35.86**	**235**	P	**P**	**11 32 59.1**	**-1.0**
	baz=36,SNR=12						
MILA	**Mila**	**36.58**	**233**	P	**P**	**11 33 04.9**	**-1.3**
	baz=36,SNR=3.7						
CTA	**Charters Tower**	**36.89**	**261**	P	**P**	**11 33 08.5**	**-0.4**
	comp=Z,38nm,0.5s,baz=88,slow=10,SNR=136						
CMSA	**Cobar Meteorol**	**37.94**	**243**	P	**P**	**11 33 16.5**	**-1.0**
	baz=38,SNR=27						
PMG	**Port Moresby**	**38.16**	**279**	*i* P	**P**	**11 33 18.9**	**-0.7**
PMG	**Port Moresby**	**38.16**	**279**	P	**P**	**11 33 19.9**	**+0.3**
	comp=Z,23nm,0.8s,baz=90,slow=9.0,SNR=6.2						
PMG	**Port Moresby**	**38.16**	**279**	P	**P**	**11 33 21.2**	**+1.6**
PMG				IAmb	IAmb	11 33 21.6	
	comp=Z,24nm,0.8s						
MTSU	**Mount Surprise**	**38.92**	**264**	P	**P**	**11 33 22.8**	**-3.2**
	baz=39,SNR=5.4						
TOO	**Toolangi**	**39.52**	**233**	P	**P**	**11 33 29.4**	**-1.3**
	baz=39,SNR=14						
TOO	**Toolangi**	**39.52**	**233**	IAmb	IAmb	11 33 33.2	
	comp=Z,30nm,1.3s						
COEN	**Coen**	**40.73**	**270**	P	**P**	**11 33 40.6**	**-0.4**
	baz=41,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**41.30**	**333**	T	T	12 17 43.0	
	baz=144,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**41.31**	**333**	T	T	12 17 49.0	
	baz=144,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**41.32**	**333**	T	T	12 17 55.0	
	baz=144,slow=75,SNR=10.0						
STKA	**Stephens Creek**	**41.44**	**243**	P	**P**	**11 33 45.9**	**-0.7**
	baz=41,SNR=29						
STKA	**Stephens Creek**	**41.44**	**243**	P	**P**	**11 33 45.4**	**-1.2**
	comp=Z,20nm,0.8s,baz=90,slow=9.8,SNR=40						
STKA	**Stephens Creek**	**41.44**	**243**	P	**P**	**11 33 46.0**	**-0.7**
QIS	**Mount Isa**	**43.06**	**260**	P	**P**	**11 33 58.6**	**-1.3**
	baz=43,SNR=4.4						
HTT	**Hallett**	**43.88**	**241**	P	**P**	**11 34 04.9**	**-1.5**
	baz=44,SNR=8.7						
BBOO	**Buckleboo**	**46.20**	**242**	P	**P**	**11 34 23.0**	**-1.7**
	baz=46,SNR=23						
BBOO	**Buckleboo**	**46.20**	**242**	P	**P**	**11 34 23.0**	**-1.7**
BBOO				IAmb	IAmb	11 34 24.0	
	comp=Z,39nm,1.1s						
JAY	**Jayapura**	**46.61**	**285**	P	**P**	**11 34 27.1**	**-1.1**
	comp=Z,11nm,0.8s,baz=186,slow=1.5,SNR=6.5						
JAY				LR	LR	11 54 04.8	
	comp=Z,100nm,18.1s,baz=54,slow=36						
JAY	**Jayapura**	**46.61**	**285**	P	**P**	**11 34 28.9**	**+0.7**
	comp=Z,8.4nm,0.8s						
WR0	**Warramunga Arr**	**47.85**	**260**	IAmb	IAmb	11 34 38.0	
	comp=Z,15nm,0.4s						
WRAB	**Tennant Creek**	**48.03**	**260**	*de*P	**P**	**11 34 37.5**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,34nm,1.2s						
WRAB	**Tennant Creek**	**48.03**	**260**	P	**P**	**11 34 37.6**	**-1.6**
WRAB				IAmb	IAmb	11 34 38.1	
	comp=Z,15nm,0.8s						
WRA	**Warramunga Arr**	**48.04**	**260**	P	**P**	**11 34 37.9**	**-1.3**
	comp=Z,15nm,0.4s,baz=96,slow=5.9,SNR=585						
WRA				PcP	**PcP**	**11 36 05.5**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=109,slow=2.8,SNR=3.6						
WRA				S	**S**	**11 41 22.4**	**-7.7**
	comp=Z,0.8nm,0.9s,baz=93,slow=15,SNR=4.5						
WRA				LR	LR	11 53 13.7	
	comp=Z,94nm,20.2s,baz=100,slow=34						
AS31	**Alice Springs**	**48.05**	**255**	IAmb	IAmb	11 34 38.9	
	comp=Z,10.0nm,0.6s						
ASAR	**Alice Springs**	**48.06**	**255**	P	**P**	**11 34 38.4**	**-1.0**
	comp=Z,36nm,0.6s,baz=95,slow=7.9,SNR=740						
ASAR				PcP	**PcP**	**11 36 05.5**	**-0.2**
	comp=Z,3.2nm,0.7s,baz=98,slow=4.6,SNR=4.9						
ASAR				S	**S**	**11 41 23.7**	**-6.6**
	comp=Z,1.3nm,0.8s,baz=95,slow=15,SNR=9.6						
KDU	**Kakadu**	**51.16**	**269**	P	**P**	**11 35 02.0**	**-0.9**
	baz=51,SNR=20						
MTN	**Manton Dam**	**52.39**	**268**	P	**P**	**11 35 10.9**	**-1.2**
	baz=52,SNR=11						
FORT	**Forrest**	**52.94**	**245**	P	**P**	**11 35 14.2**	**-1.7**
	baz=53,SNR=20						
FORT	**Forrest**	**52.94**	**245**	P	**P**	**11 35 14.5**	**-1.4**
WRKA	**Warakurna**	**53.04**	**252**	P	**P**	**11 35 15.0**	**-1.9**
	baz=53,SNR=31						
KNRA	**Kununurra**	**54.00**	**264**	P	**P**	**11 35 22.9**	**-1.0**
	baz=54,SNR=16						
SIJI	**Sorong**	**55.95**	**282**	P	**P**	**11 35 38.0**	**+0.1**
	comp=Z,49nm,0.8s,baz=76,slow=8.3,SNR=9.7						
SWI	**Sorong**	**55.95**	**282**	P	**P**	**11 35 38.2**	**+0.2**
	comp=Z,109nm,0.8s,comp=Z,844nm						
FITZ	**Fitzroy Crossi**	**56.46**	**260**	P	**P**	**11 35 40.7**	**-0.8**
	baz=56,SNR=18						
FITZ	**Fitzroy Crossi**	**56.46**	**260**	P	**P**	**11 35 40.6**	**-0.8**
	comp=Z,5.0nm,0.5s,baz=154,slow=3.6,SNR=33						
FITZ	**Fitzroy Crossi**	**56.46**	**260**	P	**P**	**11 35 40.7**	**-0.8**
FITZ				IAmb	IAmb	11 35 41.2	
	comp=Z,6.3nm,0.6s						
SOEI	**Soe**	**59.69**	**269**	P	**P**	**11 36 03.9**	**-0.4**
	comp=Z,59nm,0.9s						
SOEI	**Soe**	**59.69**	**269**	P	**P**	**11 36 04.8**	**+0.5**
SBA	**Scott Base**	**59.85**	**184**	P	**P**	**11 36 06.3**	**+2.1**
SBA				pmax	pmax		
	comp=Z,12nm,0.8s						
SBA	**Scott Base**	**59.85**	**184**	P	**P**	**11 36 06.3**	**+2.1**
SBA				IAmb	IAmb	11 36 07.6	
	comp=Z,12nm,0.8s						
VNDA	**Vanda**	**59.96**	**186**	P	**P**	**11 36 06.3**	**+1.3**
VNDA	**Vanda**	**59.96**	**186**	P	**P**	**11 36 06.3**	**+1.3**
SANI	**Sanana**	**60.44**	**279**	P	**P**	**11 36 08.6**	**-0.7**
	comp=Z,28nm,0.9s						
PSA00	**Pilbara Seismi**	**61.20**	**255**	P	**P**	**11 36 13.1**	**-1.2**
MEEK	**Meekatharra**	**61.53**	**249**	P	**P**	**11 36 14.7**	**-1.9**
	baz=61,SNR=6.1						
KLBR	**Kellerberrin**	**61.70**	**244**	P	**P**	**11 36 16.2**	**-1.4**
	baz=62,SNR=6.0						
NWAO	**Narrogin (SRO)**	**62.02**	**242**	P	**P**	**11 36 18.9**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,13nm,0.9s						
NWAO	**Narrogin (SRO)**	**62.02**	**242**	P	**P**	**11 36 18.4**	**-1.3**
	comp=Z,11nm,0.7s,baz=113,slow=7.6,SNR=6.0						
NWAO				LR	LR	11 59 21.1	
	comp=Z,37nm,19.8s,baz=225,slow=32						
NWAO	**Narrogin (SRO)**	**62.02**	**242**	P	**P**	**11 36 18.9**	**-0.8**
NWAO				IAmb	IAmb	11 36 21.0	
	comp=Z,13nm,0.8s						
NWAO	**Narrogin (SRO)**	**62.02**	**242**	P	**P**	**11 36 18.3**	**-1.4**
NWAO				IAmb	IAmb	11 36 24.2	
	comp=Z,53nm,1.4s						
BLDU	**Ballidu**	**62.70**	**245**	P	**P**	**11 36 22.8**	**-1.4**
	baz=62,SNR=5.8						
MUN	**Mundaring**	**62.98**	**243**	P	**P**	**11 36 25.4**	**-0.6**
	baz=63,SNR=3.7						
WSI	**Waingapu**	**63.47**	**268**	P	**P**	**11 36 26.5**	**-3.1**
CASY	**Casey**	**66.92**	**205**	P	**P**	**11 36 51.0**	**+0.1**
CASY				IAmb	IAmb	11 36 52.0	
	comp=Z,20nm,0.9s						
MJAR	**Matsushiro Arr**	**70.77**	**321**	P	**P**	**11 37 15.7**	**+0.4**
	comp=Z,5.7nm,0.8s,baz=151,slow=5.9,SNR=15						
MAJO	**Matsushiro**	**70.77**	**321**	*i* P	**P**	**11 37 15.2**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MAJO	**Matsushiro**	**70.77**	**321**	P	**P**	**11 37 16.2**	**+0.9**
MAT	**Matsushiro**	**70.77**	**321**	P	**P**	**11 37 15.4**	**+0.1**
MJB9	**Matsu-Tunnel**	**70.78**	**321**	P	**P**	**11 37 16.2**	**+0.9**
QSPA	**South Pole Qui**	**71.33**	**180**	P	**P**	**11 37 19.3**	**+0.9**
QSPA				IAmb	IAmb	11 37 20.2	
	comp=Z,24nm,0.8s						
KKM	**Kota Kinabalu**	**72.45**	**283**	P	**P**	**11 37 26.1**	**+0.1**
KKM				IAmb	IAmb	11 37 44.8	
	comp=Z,25nm,1.1s						
H06S1	**SOCORRO T**	**72.74**	**63**	T	T	12 56 58.4	
	SNR=29						
JNU	**Nakatsue**	**73.27**	**314**	P	**P**	**11 37 30.7**	**+0.4**
	comp=Z,7.5nm,0.8s,baz=49,slow=2.1,SNR=9.0						
JNU	**Nakatsue**	**73.27**	**314**	P	**P**	**11 37 31.5**	**+1.2**
JKA	**Kamikawa-asahi**	**73.78**	**329**	P	**P**	**11 37 35.0**	**+2.0**
ASAJ	**Asahikawa**	**73.78**	**329**	P	**P**	**11 37 35.0**	**+2.0**
ASAJ	**Asahikawa**	**73.78**	**329**	P	**P**	**11 37 35.0**	**+2.0**
	baz=44,slow=13						
PETK	**Petropavlovsk-**	**75.46**	**343**	P	**P**	**11 37 43.8**	**+1.4**
	comp=Z,5.5nm,0.7s,baz=120,slow=8.6,SNR=11						
SSLB	**Suanglung**	**75.73**	**301**	P	**P**	**11 37 44.8**	**0.0**
SSLB				IAmb	IAmb	11 37 45.6	
	comp=Z,16nm,0.6s						
TPUB	**Ta-pu**	**75.77**	**301**	P	**P**	**11 37 44.9**	**-0.1**
LEM	**Lembang**	**76.30**	**267**	P	**P**	**11 37 48.0**	**-0.3**
	comp=Z,14nm,0.5s,baz=121,slow=20,SNR=5.3						
YBH	**Yreka Blue Hor**	**76.94**	**37**	P	**P**	**11 37 53.3**	**+2.1**
	comp=Z,2.3nm,0.8s,baz=265,slow=1.8,SNR=5.9						
NVAR	**Mina Array Bea**	**77.56**	**42**	P	**P**	**11 37 57.1**	**+2.1**
	comp=Z,1.7nm,0.8s,baz=226,slow=9.6,SNR=16						
NVAR				pP	**pP**	**11 38 26.7**	**+5.7**
	comp=Z,1.9nm,0.9s,baz=223,slow=8.2,SNR=5.0						
KSRS	**Korea Array**	**77.75**	**317**	P	**P**	**11 37 57.9**	**+2.2**
	comp=Z,3.4nm,0.8s,baz=134,slow=6.2,SNR=14						
KDAK	**Kodiak Island**	**78.40**	**12**	*ce*P	**P**	**11 38 00.6**	**+1.7**
KDAK	**Kodiak Island**	**78.40**	**12**	P	**P**	**11 38 00.2**	**+1.3**
	comp=Z,8.2nm,0.9s,baz=250,slow=5.0,SNR=6.1						
KDAK	**Kodiak Island**	**78.40**	**12**	IAmb	IAmb	11 38 05.9	
	comp=Z,9.9nm,0.9s						
USRK	**Ussuriysk Ar.**	**79.37**	**324**	P	**P**	**11 38 05.5**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=88,slow=5.1,SNR=4.8						
NJ2	**Nanjing**	**81.28**	**308**	*e*P	**P**	**11 38 17.4**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
GLI	**Glacier Island**	**82.38**	**13**	P	**P**	**11 38 20.8**	**+0.6**
GLI				IAmb	IAmb	11 38 22.0	
	comp=Z,9.3nm,0.8s						
F10A	**Beach Ranch, E**	**82.67**	**36**	P	**P**	**11 38 23.6**	**+1.4**
KLR	**Kul'dur**	**82.70**	**328**	*i* P	**P**	**11 38 22.0**	**0.0**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GHO	**Glory Hole Cre**	**82.81**	**12**	P	**P**	**11 38 23.1**	**+0.7**
GHO				IAmb	IAmb	11 38 24.5	
	comp=Z,9.2nm,0.8s						
CN2	**Changchun**	**82.91**	**321**	*e*P	**P**	**11 38 25.3**	**+2.0**
MA2	**Magadan**	**82.99**	**343**	LR	LR	12 09 22.4	
	comp=Z,19nm,20.8s,baz=276,slow=31						
MNTX	**Cornudas Mount**	**83.13**	**53**	P	**P**	**11 38 27.2**	**+2.5**
TXAR	**Lajitas Array**	**83.42**	**56**	P	**P**	**11 38 28.5**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=219,slow=6.7,SNR=6.5						
TXAR				pP	**sP**	**11 39 00.3**	**-3.1**
	comp=Z,2.3nm,1.1s,baz=217,slow=6.1,SNR=5.4						
VRDI	**Verde Repeater**	**83.51**	**15**	P	**P**	**11 38 27.4**	**+1.2**
CTGM	**Chitina Glacie**	**83.81**	**16**	P	**P**	**11 38 28.4**	**+0.7**
ANMO	**Albuquerque**	**83.81**	**50**	*ce*P	**P**	**11 38 28.5**	**+0.1**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ANMO	**Albuquerque**	**83.81**	**50**	P	**P**	**11 38 30.0**	**+1.6**
MAW	**Mawson**	**84.28**	**199**	P	**P**	**11 38 30.3**	**+0.3**
	baz=84,SNR=10						
MAW	**Mawson**	**84.28**	**199**	P	**P**	**11 38 30.2**	**+0.3**
MAW				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MAW	**Mawson**	**84.28**	**199**	P	**P**	**11 38 30.2**	**+0.3**
	comp=Z,6.9nm,0.6s,baz=127,slow=6.1,SNR=18						
MAW	**Mawson**	**84.28**	**199**	IAmb	IAmb	11 38 31.1	
	comp=Z,1.8nm,0.7s						
RND	**Reindeer**	**84.32**	**11**	IAmb	IAmb	11 38 32.4	
	comp=Z,8.2nm,0.8s						
BPAW	**Bear Paw Mtn.**	**84.58**	**10**	P	**P**	**11 38 32.0**	**+0.7**
MCK	**McKinley**	**84.60**	**11**	IAmb	IAmb	11 38 33.5	
	comp=Z,14nm,1.1s						
RIDG	**Independent Ri**	**85.41**	**13**	IAmb	IAmb	11 38 37.9	
	comp=Z,14nm,1.2s						
WRH	**Wood River Hil**	**85.43**	**11**	IAmb	IAmb	11 38 37.7	
	comp=Z,16nm,0.9s						
SEY	**Seymchan**	**85.44**	**346**	*i* P	**P**	**11 38 36.2**	**+0.6**
DOT	**Dot Lake**	**85.50**	**13**	IAmb	IAmb	11 38 37.9	
	comp=Z,6.5nm,0.7s						
PDAR	**Pinedale Array**	**85.50**	**42**	P	**P**	**11 38 38.0**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=200,slow=3.0,SNR=10						
PDAR				pP	**sP**	**11 39 10.2**	**-3.9**
	comp=Z,1.8nm,1.0s,baz=208,slow=3.4,SNR=6.5						
HDA	**Harding Lake**	**85.59**	**12**	IAmb	IAmb	11 38 38.3	
	comp=Z,12nm,0.6s						
CCB	**Clear Creek Bu**	**85.64**	**11**	IAmb	IAmb	11 38 38.4	
	comp=Z,14nm,0.6s						
COLA	**College**	**85.84**	**11**	*i* P	**P**	**11 38 37.7**	**+0.2**
COLA				pmax	pmax		
	comp=Z,18nm,0.8s						
COLA	**College**	**85.84**	**11**	P	**P**	**11 38 39.1**	**+1.6**
IL31		**85.92**	**12**	IAmb	IAmb	11 38 40.2	
	comp=Z,13nm,1.4s						
ILAR	**Eielson Array**	**85.92**	**12**	P	**P**	**11 38 38.9**	**+0.9**
	comp=Z,3.2nm,0.6s,baz=227,slow=6.2,SNR=82						
ILAR				pP	**pP**	**11 39 09.5**	**+5.1**
	comp=Z,0.8nm,0.6s,baz=227,slow=5.5,SNR=2.1						
MSTX	**Muleshoe**	**86.10**	**52**	P	**P**	**11 38 42.8**	**+3.0**
DAWY	**Dawson**	**86.92**	**15**	IAmb	IAmb	11 38 45.8	
	comp=Z,5.9nm,0.8s						
BJI	**Beijing**	**86.93**	**314**	*e*P	**P**	**11 38 45.0**	**+1.5**
BILL	**Bilibino**	**87.65**	**353**	*de*P	**P**	**11 38 47.5**	**+1.2**
BILL				*e*		11 42 15.5	
BILL				*e*S	**S**	**11 49 19.7**	**+0.4**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,57nm,15.0s						
ZEA	**Zeya**	**87.69**	**330**	*e*P	**P**	**11 38 48.2**	**+1.4**
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
PLCA	**Paso Flores**	**88.13**	**132**	LR	LR	12 07 34.6	
	comp=Z,21nm,21.1s,baz=305,slow=28						
GYA	**Guiyang**	**88.60**	**298**	⇓*i*P	**P**	**11 38 53.4**	**+1.5**
GYA				pP	pP	11 39 12.7	-5.6
GYA				sP	pwP	11 39 24.3	+3.8
GYA				PP	**PP**	**11 42 25.5**	**+3.5**
GYA				SKS	**SKSac**	**11 49 11.7**	**-0.5**
GYA				S	**S**	**11 49 26.7**	**-3.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA				pmax	pmax		
	comp=Z,70nm,5.5s						
SYO	**Syowa Base**	**89.12**	**192**	⇓*e*P	**P**	**11 38 51.4**	**-2.0**
SYO	**Syowa Base**	**89.12**	**192**	⇑*e*PcP	**PcP**	**11 38 54.4**	**-0.4**
SYO	**Syowa Base**	**89.12**	**192**	⇓*e*pP	pP	11 39 16.0	-4.0
SNAA	**Sanae**	**89.65**	**177**	P	**P**	**11 38 55.8**	**-0.2**
SNAA	**Sanae**	**89.65**	**177**	P	**P**	**11 38 55.5**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SNAA	**Sanae**	**89.65**	**177**	P	**P**	**11 38 55.5**	**-0.5**
SNAA				IAmb	IAmb	11 38 56.7	
	comp=Z,8.9nm,0.9s						
XAN	**Xi'an**	**89.65**	**306**	P	**P**	**11 38 58.2**	**+1.6**
XAN				pmax	pmax		
	comp=Z,5.0nm,1.5s						
VNA3	**Neumayer Olymp**	**89.65**	**175**	P	**P**	**11 38 56.0**	**0.0**
VNA2	**Neumayer--Watz**	**90.13**	**176**	P	**P**	**11 38 58.8**	**+0.6**
	baz=183,slow=3.0						
VNA1	**Neumayer--Stat**	**90.34**	**175**	P	**P**	**11 38 59.8**	**+0.7**
INK	**Inuvik**	**91.77**	**14**	P	**P**	**11 39 06.3**	**+0.9**
	comp=Z,3.0nm,0.8s,baz=231,slow=5.4,SNR=13						
INK	**Inuvik**	**91.77**	**14**	IAmb	IAmb	11 39 10.6	
	comp=Z,4.8nm,1.1s						
CD2	**Chengdu**	**92.57**	**302**	*e*P	**P**	**11 39 11.0**	**+0.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**92.57**	**288**	*i* P	**P**	**11 39 12.5**	**+2.1**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**92.57**	**288**	P	**P**	**11 39 11.8**	**+1.3**
	comp=Z,5.8nm,0.9s,baz=110,slow=3.0,SNR=30						
ATAH	**Atahualpa**	**93.57**	**99**	LR	LR	12 15 31.0	
	comp=Z,43nm,18.1s,baz=183,slow=32						
YKA	**Yellowknife Ar**	**93.60**	**24**	P	**P**	**11 39 15.0**	**+0.9**
YKA	**Yellowknife Ar**	**93.60**	**24**	P	**P**	**11 39 15.0**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=242,slow=4.5,SNR=11						
LZH	**Lanzhou**	**94.27**	**307**	*e*P	**P**	**11 39 18.1**	**0.0**
LZH				pP	pP	11 39 45.8	+1.3
LZH				sP	sP	11 39 54.5	-0.7
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,100nm,5.4s						
LZH				LR	LR		
	comp=Z,160nm,17.5s						
LZH				LR	LR		
	comp=Z,170nm,17.2s						
LZH				LR	LR		
	comp=Z,220nm,19.7s						
TIXI	**Tiksi**	**97.89**	**345**	*ce*P	Pdif	11 39 34.1	+0.6
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.4s						
TIXI	**Tiksi**	**97.89**	**345**	P	**P**	**11 39 33.4**	**0.0**
	comp=Z,1.4nm,0.7s,baz=180,slow=24,SNR=5.0						
TIXI	**Tiksi**	**97.89**	**345**	P	Pdif	11 39 33.6	+0.1
TIXI				IAmb	IAmb	11 39 34.9	
	comp=Z,3.3nm,1.1s						
LPAZ	**La Paz**	**99.73**	**111**	LR	LR	12 18 25.9	
	comp=Z,26nm,18.9s,baz=308,slow=31						
ZALV	**Zalesovo Beam**	**111.12**	**321**	PKiKP	**PKiKP**	**11 44 29.9**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=175,slow=1.2,SNR=7.8						
MKAR	**Makanchi Array**	**112.31**	**314**	PKiKP	**PKiKP**	**11 44 33.1**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=64,slow=1.9,SNR=12						
KURK	**Kurchatov**	**114.86**	**318**	*i* PKIKP	PKPdf	11 44 38.0	-0.4
KURK	**Kurchatov**	**114.86**	**318**		PKPdf	11 44 38.0	-0.5
KURBB	**Kurchatov Arra**	**114.92**	**318**	PKP	**PKiKP**	**11 44 38.0**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=87,slow=1.8,SNR=8.6						
KSH	**Kashi**	**116.50**	**305**	PKP	**PKPdf**	**11 44 41.1**	**-1.1**
AAK	**Ala-Archa**	**117.71**	**309**	*c i*PKIKP	**PKiKP**	**11 44 45.3**	**+0.8**
AAK				pmax	pmax		
	comp=Z,5.0nm,2.5s						
AAK	**Ala-Archa**	**117.71**	**309**	PKP	**PKPdf**	**11 44 44.1**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=206,slow=3.5,SNR=6.7						
AAK	**Ala-Archa**	**117.71**	**309**		**PKPdf**	**11 44 44.2**	**-0.2**
BVAR	**Borovoye Array**	**119.77**	**321**	PKP	**PKPdf**	**11 44 47.8**	**0.0**
	comp=Z,5.6nm,0.5s,baz=109,slow=1.1,SNR=45						
BRVK	**Borovoye**	**119.82**	**321**	*c i*PKIKP	**PKiKP**	**11 44 48.3**	**+0.3**
BRVK				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**119.82**	**321**		**PKPdf**	**11 44 47.7**	**-0.3**
KK31	**Karatay Array**	**120.63**	**309**	PKIKP	**PKPdf**	**11 44 48.6**	**-1.3**
KK31	**Karatay Array**	**120.63**	**309**		**PKPdf**	**11 44 48.6**	**-1.3**
KKAR	**Karatay Array**	**120.63**	**309**	PKIKP	**PKPdf**	**11 44 49.0**	**-0.8**
KKAR	**Karatay Array**	**120.63**	**309**		**PKPdf**	**11 44 49.0**	**-0.8**
OPO	**Ambohidratompo**	**124.69**	**230**	PKP	**PKPdf**	**11 44 58.5**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=170,slow=18,SNR=2.9						
ARU	**Arti**	**125.53**	**327**	*i* PKIKP	**PKiKP**	**11 45 00.2**	**+1.0**
ARU						11 46 50.2	
ARU						11 52 03.1	
ARU				SS	SS	12 03 38.0	-4.1
ARU	**Arti**	**125.53**	**327**	PKP	**PKiKP**	**11 44 59.0**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=65,slow=1.8,SNR=10						
ARU	**Arti**	**125.53**	**327**		**PKiKP**	**11 44 59.0**	**-0.2**
ARCES	**ARCESS Array B**	**127.72**	**351**	PKP	**PKPdf**	**11 45 02.9**	**+0.2**
	comp=Z,4.5nm,0.9s,baz=17,slow=3.1,SNR=9.6						
AKTO	**Aktyubinsk**	**127.84**	**320**	PKIKP	**PKPdf**	**11 45 03.0**	**-0.4**
AKTO	**Aktyubinsk**	**127.84**	**320**	PKP	**PKPdf**	**11 45 03.0**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=65,slow=2.3,SNR=6.8						
BOSA	**Boshof**	**129.16**	**203**	PKIKP	**PKiKP**	**11 45 07.3**	**-0.3**
BOSA	**Boshof**	**129.16**	**203**	PKP	**PKPdf**	**11 45 07.2**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=134,slow=3.7,SNR=5.9						
BOSA	**Boshof**	**129.16**	**203**		**PKiKP**	**11 45 07.3**	**-0.3**
FINES	**FINESS Array B**	**134.91**	**346**	PKhKP	PKPpre	11 45 05.7	
	comp=Z,6.2nm,1.2s,baz=108,slow=3.1,SNR=2.9						
FINES				PKP	**PKPdf**	**11 45 14.4**	**-2.0**
	comp=Z,2.6nm,0.7s,baz=90,slow=3.8,SNR=7.4						
OBN	**Obninsk**	**136.65**	**334**	⇑*e*PKIKP	**PKiKP**	**11 45 21.6**	**0.0**
OBN				*e*PPP	PPP	11 51 08.0	
OBN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
KIV	**Kislovodsk**	**139.94**	**317**	*e*PKIKP	**PKPdf**	**11 45 25.2**	**-1.2**
KIV				pmax	pmax		
	comp=Z,23nm,1.0s						
AKASG	**Malin Array Be**	**142.91**	**335**	*c i*PKIKP	**PKiKP**	**11 45 34.7**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**142.91**	**335**	PKhKP	PKPpre	11 45 26.4	
	comp=Z,1.4nm,0.5s,baz=40,slow=4.3,SNR=13						
KMBO	**Kilima Mbogo**	**142.99**	**241**	*c i*PKIKP	**PKiKP**	**11 45 37.0**	**+0.8**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO	**Kilima Mbogo**	**142.99**	**241**	PKhKP	PKPpre	11 45 28.9	
	comp=Z,0.9nm,0.6s,baz=110,slow=6.9,SNR=5.3						
SORM	**Soroca**	**145.25**	**333**	⇑PKIKP	**PKPab**	**11 45 36.0**	**+0.4**
SORM	**Soroca**	**145.25**	**333**	⇑P	**PKPab**	**11 45 36.0**	**+0.4**
LVV	**L'vov**	**145.58**	**339**	*e*PKIKP	**PKPab**	**11 45 37.3**	**+0.5**
KWP	**Kalwaria Pacla**	**146.19**	**340**	*e*PKIKP	**PKPab**	**11 45 39.5**	**+0.4**
KWP	**Kalwaria Pacla**	**146.19**	**340**	*e*PKP	**PKPab**	**11 45 39.5**	**+0.4**
KWP				*e*PKP	**PKPab**	**11 45 39.5**	**+0.4**
OJC	**Ojcow**	**146.55**	**343**	*e*PKIKP	**PKPab**	**11 45 40.0**	**-0.5**
OJC	**Ojcow**	**146.55**	**343**	*e*PKP	**PKPab**	**11 45 40.0**	**-0.5**
OJC				*e*PKP	**PKPab**	**11 45 40.0**	**-0.5**
GAZ	**Gaziantep**	**146.65**	**310**		**PKPbc**	**11 45 39.9**	**-0.3**
KSP	**Ksiaz**	**146.81**	**347**	*e*PKIKP	**PKPab**	**11 45 41.6**	**+0.1**
KSP	**Ksiaz**	**146.81**	**347**	*e*PKP	**PKPab**	**11 45 41.6**	**+0.1**
KSP				*e*PKP	**PKPab**	**11 45 41.6**	**+0.1**
KOLS	**Kolonicke sedl**	**146.93**	**339**	*e*PKIKP	**PKPbc**	**11 45 40.7**	**+0.2**
KOLS	**Kolonicke sedl**	**146.93**	**339**	*e*PKP	**PKPbc**	**11 45 40.7**	**+0.2**
BUR08	**Bucovina Ar. S**	**146.94**	**335**		**PKPab**	**11 45 42.2**	**0.0**
CLL	**Collm**	**146.95**	**351**	⇓*i*PKIKP	**PKPab**	**11 45 41.5**	**-0.5**
CLL				*e*		11 46 16.0	
CLL				pmax	pmax		
	comp=Z,29nm,1.2s						
CLL	**Collm**	**146.95**	**351**	⇓*i*PKPbc	**PKPab**	**11 45 41.5**	**-0.5**
	comp=Z,29nm,1.2s						
CLL				*e*sPKPbc	**sPKPdf**	**11 46 16.0**	**-0.4**
BURAR	**Bucovina Array**	**146.96**	**335**	⇑PKP2	**PKPab**	**11 45 42.5**	**+0.2**
BURAR	**Bucovina Array**	**146.96**	**335**	⇑P	**PKPab**	**11 45 42.5**	**+0.2**
NIE	**Niedzica**	**147.12**	**342**	*e*PKIKP	**PKPab**	**11 45 42.5**	**-0.3**
NIE	**Niedzica**	**147.12**	**342**	*e*PKP	**PKPab**	**11 45 42.5**	**-0.3**
NIE				*e*PKP	**PKPab**	**11 45 42.5**	**-0.3**
BIZ	**Bicaz**	**147.14**	**333**	⇑P	**PKiKP**	**11 45 43.2**	**-0.2**
UPC	**Upice**	**147.19**	**347**	*e*PKIKP	**PKPab**	**11 45 42.4**	**-0.6**
UPC	**Upice**	**147.19**	**347**	*e*PKP	**PKPab**	**11 45 42.4**	**-0.6**
TLCR		**147.22**	**329**	⇑PKP2	**PKPab**	**11 45 42.5**	**-0.7**
TLCR		**147.22**	**329**	⇑P	**PKPab**	**11 45 42.5**	**-0.7**
BRG	**Berggiesshubel**	**147.22**	**350**	*i* PKP	**PKPab**	**11 45 42.4**	**-0.8**
	comp=Z,30nm,1.6s						
BRG	**Berggiesshubel**	**147.22**	**350**	*i* PKIKP	**PKPab**	**11 45 42.3**	**-0.8**
BRG				pmax	pmax		
	comp=Z,30nm,1.6s						
TESR	**Tescani**	**147.23**	**332**	⇓P	**PKPab**	**11 45 42.4**	**-0.9**
GHRR		**147.24**	**331**	⇑P	**PKPab**	**11 45 42.7**	**-0.6**
DPC	**Dobruska-Polom**	**147.27**	**347**	*e*PKIKP	**PKPab**	**11 45 42.7**	**-0.7**
DPC				*e*		11 45 45.0	
DPC	**Dobruska-Polom**	**147.27**	**347**	*e*PKP	**PKPab**	**11 45 42.7**	**-0.7**
DPC				*e*x	x	11 45 45.0	
KRLC	**Kraliky**	**147.43**	**346**	*e*PKIKP	**PKPbc**	**11 45 42.4**	**+0.5**
KRLC				*e*		11 45 45.3	
KRLC	**Kraliky**	**147.43**	**346**	*e*PKP	**PKPbc**	**11 45 42.4**	**+0.5**
KRLC				*e*x	x	11 45 45.3	
TRPA	**Tarpa**	**147.53**	**338**	⇑P	**PKiKP**	**11 45 43.7**	**-0.5**
TRPA	**Tarpa**	**147.53**	**338**	*e*PKiKP	**PKPbc**	**11 45 42.1**	**0.0**
MORC	**Moravsky Berou**	**147.53**	**345**	⇑PKP2	**PKiKP**	**11 45 44.0**	**-0.2**
MORC	**Moravsky Berou**	**147.53**	**345**	⇑P	**PKiKP**	**11 45 44.0**	**-0.2**
MORC	**Moravsky Berou**	**147.53**	**345**	*e*PKP	**PKiKP**	**11 45 43.4**	**-0.8**
CFR	**Carcaliu**	**147.55**	**329**	⇑PKIKP	**PKPbc**	**11 45 43.0**	**+0.8**
CFR	**Carcaliu**	**147.55**	**329**	⇑P	**PKPbc**	**11 45 43.0**	**+0.8**
BMR	**Baia Mare**	**147.57**	**337**	⇑PKP2	**PKiKP**	**11 45 43.8**	**-0.5**
BMR	**Baia Mare**	**147.57**	**337**	⇑P	**PKiKP**	**11 45 43.8**	**-0.5**
LANS	**Liptovska Anna**	**147.60**	**343**	*e*PKP2	**PKiKP**	**11 45 44.5**	**+0.1**
LANS	**Liptovska Anna**	**147.60**	**343**	*e*PKP	**PKiKP**	**11 45 44.5**	**+0.1**
TOPG	**Topolog**	**147.65**	**329**	⇑P	**PKiKP**	**11 45 44.0**	**-0.5**
VRI	**Vrincioaia**	**147.69**	**332**	⇓PKP2	**PKiKP**	**11 45 44.2**	**-0.4**
VRI	**Vrincioaia**	**147.69**	**332**	⇓P	**PKiKP**	**11 45 44.2**	**-0.4**
ARCR	**ARCALIA**	**147.73**	**335**	⇑P	**PKiKP**	**11 45 44.5**	**-0.1**
BR131	**Keskin Array S**	**147.90**	**317**	PKP2	**PKiKP**	**11 45 44.5**	**-0.9**
BR131	**Keskin Array S**	**147.90**	**317**		**PKiKP**	**11 45 44.5**	**-0.9**
BRTR	**Keskin Array B**	**147.90**	**317**	PKPbc	**PKPbc**	**11 45 44.1**	**+0.6**
	comp=Z,7.1nm,0.7s,baz=132,slow=3.6,SNR=19						
PRU	**Pruhonice**	**147.97**	**349**	*e*PKIKP	**PKiKP**	**11 45 44.4**	**-0.6**
PRU	**Pruhonice**	**147.97**	**349**	*e*PKP	**PKiKP**	**11 45 44.4**	**-0.6**
GOPC	**GO Pecny, Ondr**	**148.00**	**349**	*e*PKIKP	**PKPbc**	**11 45 44.2**	**+0.8**
GOPC	**GO Pecny, Ondr**	**148.00**	**349**	*e*PKP	**PKPbc**	**11 45 44.2**	**+0.8**
HARR	**Harsova**	**148.01**	**329**	⇑PKP2	**PKiKP**	**11 45 44.7**	**-0.6**
HARR	**Harsova**	**148.01**	**329**	⇑P	**PKiKP**	**11 45 44.6**	**-0.6**
VRAC	**Vranov**	**148.19**	**346**	⇑PKP2	**PKiKP**	**11 45 45.6**	**+0.1**
VRAC	**Vranov**	**148.19**	**346**	⇑P	**PKiKP**	**11 45 45.6**	**+0.1**
VRAC	**Vranov**	**148.19**	**346**	*e*PKP	**PKiKP**	**11 45 45.1**	**-0.4**
DOPR	**Dopca**	**148.21**	**333**	⇑P	**PKiKP**	**11 45 46.0**	**+0.3**
MLR	**Muntele Rosu**	**148.34**	**332**	PKPbc	**PKPbc**	**11 45 43.5**	**-1.0**
	comp=Z,2.4nm,0.5s,baz=228,slow=11,SNR=3.2						
JAVC	**Velka Javorina**	**148.35**	**344**	*e*PKP	**PKiKP**	**11 45 46.7**	**+0.8**
PBCC	**Pribram**	**148.36**	**349**	*e*PKP	**PKiKP**	**11 45 45.3**	**-0.6**
ANTO	**Ankara**	**148.37**	**318**	PKIKP	**PKPbc**	**11 45 44.7**	**0.0**
ANTO	**Ankara**	**148.37**	**318**		**PKPbc**	**11 45 44.7**	**0.0**
VYHS	**Vyhne**	**148.38**	**343**	*e*PKIKP	**PKiKP**	**11 45 45.8**	**-0.1**
VYHS	**Vyhne**	**148.38**	**343**	*e*PKP	**PKiKP**	**11 45 45.8**	**-0.1**
TREC	**Trest**	**148.45**	**347**	*e*PKIKP	**PKiKP**	**11 45 45.6**	**-0.5**
TREC	**Trest**	**148.45**	**347**	*e*PKP	**PKiKP**	**11 45 45.6**	**-0.5**
KRUC	**Moravsky**	**148.47**	**346**	*e*PKP	**PKiKP**	**11 45 45.6**	**-0.5**
BMRD	**Maredsous**	**148.50**	**1**	PKiKP	**PKiKP**	**11 45 46.4**	**+0.3**
PSZ	**Piszkesteto**	**148.59**	**341**	⇑PKIKP	**PKPbc**	**11 45 45.4**	**+0.4**
PSZ	**Piszkesteto**	**148.59**	**341**	⇑P	**PKPbc**	**11 45 45.4**	**+0.4**
PSZ	**Piszkesteto**	**148.59**	**341**	*e*PKiKP	**PKiKP**	**11 45 46.0**	**-0.5**
DRGR		**148.61**	**337**	⇑PKP2	**PKiKP**	**11 45 46.5**	**-0.1**
DRGR		**148.61**	**337**	⇑P	**PKiKP**	**11 45 46.5**	**-0.1**
SECR		**148.63**	**331**	⇑P	**PKiKP**	**11 45 46.6**	**0.0**
ASF	**Jabal al Asfar**	**148.70**	**301**	PKPbc	**PKiKP**	**11 45 46.8**	**-0.4**
	comp=Z,6.7nm,0.8s,baz=43,slow=5.4,SNR=6.0						
DOU	**Dourbes**	**148.71**	**1**	PKiKP	**PKiKP**	**11 45 46.4**	**-0.1**
VOIR		**148.77**	**333**	⇑PKP2	**PKiKP**	**11 45 46.9**	**0.0**
VOIR		**148.77**	**333**	⇑P	**PKiKP**	**11 45 46.9**	**0.0**
MODS	**Modra-Piesok**	**148.90**	**345**	*e*PKIKP	**PKiKP**	**11 45 46.6**	**-0.4**
MODS	**Modra-Piesok**	**148.90**	**345**	*e*PKP	**PKiKP**	**11 45 46.6**	**-0.4**
KHC	**Kasperske Hory**	**148.97**	**350**	*e*PKIKP	**PKiKP**	**11 45 46.9**	**-0.3**
KHC				*e*		11 45 51.5	
KHC	**Kasperske Hory**	**148.97**	**350**	*e*PKP	**PKiKP**	**11 45 46.9**	**-0.3**
KHC				*e*x	x	11 45 51.5	
ARR	**Arges**	**149.00**	**333**	⇑P	**PKiKP**	**11 45 48.1**	**+0.7**
WLF	**Walferdange**	**149.14**	**359**	PKiKP	**PKiKP**	**11 45 47.9**	**+0.4**
GERES	**GERESS Array B**	**149.22**	**349**	PKP	**PKPdf**	**11 45 43.3**	**+1.0**
	comp=Z,5.8nm,0.7s,baz=35,slow=4.9,SNR=3.8						
GERES				PKPbc	**PKiKP**	**11 45 47.6**	**-0.2**
	comp=Z,5.8nm,0.7s,baz=20,slow=2.7,SNR=46						
SIRR	**Siria**	**149.44**	**338**	⇑P	**PKiKP**	**11 45 48.5**	**+0.3**
MMAI	**Mount Meron Ar**	**149.62**	**304**	PKPbc	**PKiKP**	**11 45 49.1**	**0.0**
	comp=Z,11nm,0.6s,baz=71,slow=6.3,SNR=12						
CONA	**Conrad Observa**	**149.66**	**346**	*e*PKiKP	**PKiKP**	**11 45 49.1**	**+0.4**
	comp=Z,12nm,0.8s,SNR=6.3						
SOP	**Sopron**	**149.72**	**345**	*e*PKiKP	**PKiKP**	**11 45 49.1**	**+0.4**
GZR	**Gura Zlata**	**149.75**	**335**	⇑P	**PKPbc**	**11 45 48.3**	**+0.3**
MPLH	**Magyarpolny**	**149.94**	**343**	*e*PKiKP	**PKiKP**	**11 45 49.1**	**-0.1**
BZS	**Buzias**	**150.01**	**337**	⇑P	**PKiKP**	**11 45 49.7**	**+0.4**
MOA	**Molln**	**150.07**	**348**	*e*PKiKP	**PKiKP**	**11 45 49.5**	**0.0**
	comp=Z,3.5nm,0.6s						
ARSA	**Arzberg**	**150.37**	**346**	*e*PKiKP	**PKiKP**	**11 45 50.3**	**+0.2**
	comp=Z,7.4nm,1.2s						
BFO	**Black Forest**	**150.38**	**356**		**PKPbc**	**11 45 49.5**	**+0.1**
MORH	**Mrgy, Hungar**	**150.49**	**341**	*e*PKiKP	**PKiKP**	**11 45 50.0**	**-0.3**
PLVB	**Pleven**	**150.56**	**331**	⇑P	**PKPbc**	**11 45 49.2**	**-0.7**
MDVR	**Moldovita**	**150.68**	**336**	⇑P	**PKPbc**	**11 45 49.0**	**-1.2**
KBA	**Koelnbreinsper**	**150.99**	**349**	*e*PKiKP	**PKiKP**	**11 45 51.7**	**+0.1**
	comp=Z,10.0nm,0.7s						
RETA	**Reutte**	**150.99**	**352**	*e*PKiKP	**PKiKP**	**11 45 52.0**	**+0.5**
	comp=Z,8.0nm,0.8s						
EIL	**Elat**	**151.01**	**298**	PKPbc	**PKiKP**	**11 45 51.9**	**-0.1**
	comp=Z,16nm,0.7s,baz=4.9,slow=3.4,SNR=12						
SOKA	**Soboth**	**151.03**	**346**	*e*PKiKP	**PKiKP**	**11 45 51.3**	**-0.3**
	comp=Z,11nm,0.8s,SNR=6.5						
WATA	**Walderalm**	**151.03**	**351**	*e*PKiKP	**PKiKP**	**11 45 51.6**	**0.0**
	comp=Z,5.6nm,0.5s						
PERS	**Pernice**	**151.05**	**346**	*i* PKPbc	**PKiKP**	**11 45 51.4**	**-0.2**
MOTA	**Moosalm**	**151.09**	**352**	*e*PKiKP	**PKiKP**	**11 45 51.6**	**-0.1**
	comp=Z,15nm,1.0s,SNR=7.3						
WTTA	**Wattenberg**	**151.09**	**351**	*e*PKiKP	**PKiKP**	**11 45 52.1**	**+0.3**
	comp=Z,10nm,0.4s,SNR=10						
SQTA	**Sankt Quirin**	**151.19**	**352**	*e*PKiKP	**PKiKP**	**11 45 52.4**	**+0.5**
	comp=Z,13nm,0.8s,SNR=5.9						
DAVA	**Damuels**	**151.29**	**354**	*e*PKiKP	**PKiKP**	**11 45 53.1**	**+0.9**
	comp=Z,9.5nm,0.8s,SNR=6.9						
OBKA	**Obir**	**151.29**	**347**	*e*PKiKP	**PKPbc**	**11 45 51.8**	**+0.2**
	comp=Z,7.5nm,0.8s						
MYKA	**Terra Mystica**	**151.36**	**348**	*e*PKiKP	**PKPbc**	**11 45 51.8**	**0.0**
	comp=Z,13nm,0.8s						
FETA	**Feichten**	**151.45**	**352**	*e*PKiKP	**PKiKP**	**11 45 53.1**	**+0.6**
	comp=Z,11nm,0.8s,SNR=5.3						
ABTA	**Abfaltersbach**	**151.46**	**350**	*e*PKiKP	**PKiKP**	**11 45 52.3**	**-0.2**
	comp=Z,18nm,0.7s,SNR=8.6						
LJU	**Ljubljana**	**151.74**	**347**	*i* PKPbc	**PKiKP**	**11 45 53.3**	**+0.3**
DAVOX	**Davos/Dischmat**	**151.79**	**353**	PKPbc	**PKiKP**	**11 45 54.0**	**+0.7**
	comp=Z,13nm,0.7s,baz=212,slow=0.7,SNR=25						
VTS	**Vitosha**	**151.80**	**331**	⇑PKIKP	**PKPbc**	**11 45 51.8**	**-1.2**
VTS	**Vitosha**	**151.80**	**331**	⇑P	**PKPbc**	**11 45 51.8**	**-1.2**
VTS	**Vitosha**	**151.80**	**331**		**PKiKP**	**11 45 54.1**	**+0.7**
ESDC	**Sonseca Array**	**157.62**	**19**	PKPab	**PKPab**	**11 46 28.2**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=333,slow=4.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**173.40**	**147**	PKP	**PKPdf**	**11 46 06.8**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=16,slow=0.9,SNR=7.4						
TORD				PKPab	**PKPab**	**11 47 37.0**	**+0.1**
	comp=Z,2.2nm,1.0s,baz=218,slow=4.3,SNR=4.7						

IDC ***08*** *11:29:05.6±3.1, 50°.57N×139°.55W, h0km, mb2.6/1, mb1 3.5/6, mb1mx3.3/67, mbtmp3.3/6, ML2.8/5, Error ellipse: s-maj=52.0km s-min=26.5km az=40.0*

ISC 08 11:29:08.2±1.6**, 50°.9N**±0°.2×**139°.28W**±0°.10**, h10km, n10, σ2s16**/9**, West of Vancouver Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**4.81**	**58**	Pn	**Pn**	**11 30 21.2**	**+0.6**
	SNR=704						
H02S1				Sn	**Sn**	**11 31 13.8**	**-2.5**
BBB	**Bella Bella**	**7.09**	**75**	Pn	**Pn**	**11 30 53.5**	**+1.6**
	0.1nm,0.3s,baz=350,slow=19,SNR=2.7						
BBB				Sn	**Sn**	**11 32 11.5**	**-0.9**
	0.2nm,0.3s,baz=343,slow=12,SNR=8.4						
KDAK	**Kodiak Island**	**10.40**	**317**	Pn	**Pn**	**11 31 37.2**	**0.0**
	0.6nm,0.3s,baz=135,slow=19,SNR=11						
ILAR	**Eielson Array**	**14.51**	**347**	Pn	**P**	**11 32 38.7**	**-1.3**
	0.1nm,0.3s,baz=167,slow=13,SNR=13						
YKA	**Yellowknife Ar**	**17.73**	**40**	P	**P**	**11 33 18.9**	**+3.2**
	0.0nm,0.3s,baz=238,slow=11,SNR=2.9						
NVAR	**Mina Array Bea**	**19.34**	**122**	P	**Pn**	**11 33 32.5**	**-2.2**
	0.0nm,0.3s,baz=297,slow=14,SNR=2.7						
PDAR	**Pinedale Array**	**21.77**	**100**	P	**P**	**11 34 01.1**	**+0.9**
	0.1nm,0.4s,baz=303,slow=8.5,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**52.27**	**254**	T	T	12 34 46.1	
	baz=40						
H11N3	**WAKE ISLAND Hy**	**52.27**	**254**	T	T	12 34 43.4	
	baz=40						
H11N1	**WAKE ISLAND Hy**	**52.28**	**254**	T	T	12 34 44.4	
	baz=40						

IDC 08 11:37:35.2±999.0**, 42°.74N**×**57°.14E, h0km, Error ellipse: s-maj=1211.0km s-min=280.9km az=46.0, Northwestern Uzbekistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**21.40**	**49**	*i*		13 46 10.0	
	baz=250,slow=337,SNR=3.1						
I34MN	**SONGINO INFRAS**	**34.56**	**64**	*i*		15 10 30.0	
	baz=281,slow=322,SNR=0.7						
I45RU	**USSURIYSK INFR**	**52.53**	**61**	*i*		16 57 06.7	
	baz=298,slow=324,SNR=5.3						
I53US	**FAIRBANKS INFR**	**70.95**	**11**	*i*		18 57 45.2	
	baz=346,slow=327,SNR=0.8						

BJI ***08*** *11:43:09.9±0.0, 7°.85S×123°.64E, h551km, mb5.2/70, mB4.8/47*

ISCJB ***08*** *11:43:14.2±0.2, 7°.46S±0°.02×123°.19E±0°.02, h554km±2km, mb4.8/92, Error ellipse: s-maj=3.7km s-min=3.0km az=146.1*

DJA ***08*** *11:43:14.8±0.1, 8°S±2°×12°3E±°, h546km±2km, M4.8/68, mb5.1/68, mB5.3/51, MLv5.3/26, Mw(mB)4.7/51, Mwp5.0/3*

MOS ***08*** *11:43:14.8±0.8, 7°.37S×123°.20E, h557km, mb5.1/42, Error ellipse: s-maj=11.4km s-min=5.8km az=108.5*

IDC ***08*** *11:43:15.5±0.5, 7°.42S×123°.26E, h552km±5km, mb4.3/30, mb1 4.3/37, mb1mx4.2/46, mbtmp5.1/37, Error ellipse: s-maj=8.5km s-min=5.3km az=63.0*

KLM ***08*** *11:43:15.0, 7°.52S×123°.18E, h548km, mb4.9*

NEIC ***08*** *11:43:15.0±1.9, 7°.46S±0°.07×123°.20E±0°.08, h550km±5km, mb4.9/99*

GCMT ***08*** *11:43:16.0±0.7, 7°.45S±0°.08×123°.31E±0°.05, h555km±3km, MW5.3/44, Moment Tensor Solution. s44,c53; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr-0.36±.04; Mθθ0.02±.06; Mφφ0.33±.06; Mrθ-0.91±.06; Mθφ-0.20±.05; Mφr0.27±.06; Best double couple: M0 1.01700×10^17 NP1:φs113.00000°, δ81.00000°, λ-105.00000°. NP2: φs354.00000°, δ17.00000°, λ-30.00000°. Principal axes: T 0.9340, Plg35.0000°, Azm216.0000°; N 0.1660, Plg15.0000°, Azm115.0000°; P -1.1000, Plg51.0000°, Azm6.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 08 11:43:14.9±0.4**, 7°.48S**±0°.04×**123°.20E**±0°.04**, h550km**±4km**, n432, σ1s27**/464**, mb5.0**/122**, 23C-23D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.50**	**220**	P	**P**	**11 44 21.8**	**-0.9**
MMRI	**Maumere**	**1.50**	**220**	P	**P**	**11 44 22.1**	**-0.6**
MMRI				S	**S**	**11 45 15.7**	**-2.0**
BBSI	**Bau Bau**	**2.07**	**342**	P	**P**	**11 44 25.0**	**0.0**
SOEI	**Soe**	**2.50**	**155**	P	**P**	**11 44 27.0**	**-0.2**
SOEI	**Soe**	**2.50**	**155**	P	**P**	**11 44 27.5**	**+0.2**
SOEI				S	**S**	**11 45 24.4**	**-1.6**
BATI	**Baumata**	**2.75**	**170**	P	**P**	**11 44 29.4**	**+0.9**
	1µm,0.3s,baz=4.7,slow=1.5,SNR=1186						
BATI				S	**S**	**11 45 23.9**	**-4.6**
	195nm,0.3s,baz=22,slow=3.8,SNR=3.6						
BATI	**Baumata**	**2.75**	**170**	P	**P**	**11 44 28.9**	**+0.4**
BATI				S	**S**	**11 45 27.8**	**-0.6**
KDI	**Kendari**	**3.54**	**351**	P	**P**	**11 44 33.8**	**+0.2**
BKSI	**Bulukumba**	**3.73**	**305**	P	**P**	**11 44 34.8**	**-0.1**
KAPI	**Kappang**	**4.21**	**305**	P	**P**	**11 44 40.6**	**+2.1**
	SNR=12						
KAPI	**Kappang**	**4.21**	**305**	P	**P**	**11 44 40.5**	**+2.1**
KAPI				S	**S**	**11 45 48.8**	**+2.4**
KAPI	**Kappang**	**4.21**	**305**	P	**P**	**11 44 40.5**	**+2.1**
	14nm,0.3s,baz=157,slow=2.6,SNR=21						
KAPI				S	**S**	**11 45 46.9**	**+0.4**
	0.3nm,0.3s,baz=34,slow=22,SNR=12						
KAPI	**Kappang**	**4.21**	**305**	P	**P**	**11 44 40.5**	**+2.1**
KAPI				S	**S**	**11 45 48.8**	**+2.4**
BNSI	**Bone**	**4.34**	**315**	P	**P**	**11 44 41.0**	**+1.6**
SPSI	**Sidrap Palu**	**4.88**	**315**	P	**P**	**11 44 44.3**	**+0.5**
PLAI	**Plampang**	**5.54**	**256**	P	**P**	**11 44 47.8**	**-1.6**
	438nm,0.7s,9µm4.6nm						
TTSI	**Tana Toraja**	**5.54**	**322**	P	**P**	**11 44 49.7**	**+0.2**
	52nm,0.7s,565nm0.2nm						
NLAI	**Namlea**	**5.72**	**43**	P	**P**	**11 44 51.7**	**+0.6**
	1µm,1.0s,27µm7.3nm						
SANI	**Sanana**	**6.06**	**27**	P	**P**	**11 44 54.5**	**+0.3**
	658nm,1.2s,9µm2µm2.3nm						
AAI	**Ambon**	**6.23**	**53**	P	**P**	**11 44 56.1**	**+0.3**
	2µm,1.0s,28µm6.9nm						
TWSI	**Taliwang, Sumb**	**6.38**	**258**	P	**P**	**11 44 55.6**	**-1.5**
	490nm,0.7s,7µm4.1nm						
LUWI	**Luwuk**	**6.41**	**356**	P	**P**	**11 44 58.6**	**+1.2**
	189nm,0.4s,4µm1.0nm						
LUWI	**Luwuk**	**6.41**	**356**	P	**P**	**11 44 58.9**	**+1.6**
LUWI				S	**S**	**11 46 22.3**	**+1.2**
APSI	**Ampana**	**6.70**	**347**	P	**P**	**11 45 01.0**	**+0.9**
	68nm,0.7s,944nm0.4nm						
MSAI	**Masohi**	**7.02**	**55**	P	**P**	**11 45 02.7**	**-0.5**
	82nm,0.4s,1µm0.5nm						
BNDI	**Bandanaira**	**7.28**	**67**	P	**P**	**11 45 05.6**	**-0.1**
	2µm,0.9s,26µm3µm9.4nm						
SRBI	**Singaraja**	**7.94**	**265**	P	**P**	**11 45 11.6**	**-0.5**
	650nm,0.9s,5µm1.9nm						
MRSI	**Marisa**	**8.00**	**351**	P	**P**	**11 45 13.6**	**+0.9**
	513nm,0.8s,4µm1.5nm						
DNP	**Denpasar**	**8.00**	**261**	P	**P**	**11 45 12.0**	**-0.7**
	1µm,0.7s,23µm12nm						
KMSI	**Cibinong**	**8.03**	**6**	P	**P**	**11 45 14.8**	**+1.7**
	1µm,0.5s,18µm6.4nm						
SAUI	**Saumlaki**	**8.04**	**94**	P	**P**	**11 45 12.9**	**-0.2**
	2µm,0.9s,24µm8.6nm						
SAUI	**Saumlaki**	**8.04**	**94**	P	**P**	**11 45 12.7**	**-0.4**
SAUI				S	**S**	**11 46 43.7**	**-6.3**
IGBI	**Denpasar**	**8.09**	**260**	P	**P**	**11 45 12.1**	**-1.5**
	1µm,0.6s,15µm						
MPSI	**Mapaga**	**8.43**	**337**	P	**P**	**11 45 18.4**	**+1.4**
	303nm,0.8s,3µm1.0nm						
BKB	**Balikpapan**	**8.81**	**314**	P	**P**	**11 45 24.3**	**+3.5**
BKB				S	**S**	**11 47 09.7**	**+5.6**
JAGI	**Jajag, Banyuwa**	**9.02**	**263**	P	**P**	**11 45 20.9**	**-2.0**
	770nm,0.6s,8µm2.9nm						
JAGI	**Jajag, Banyuwa**	**9.02**	**263**	P	**P**	**11 45 21.2**	**-1.8**
JAGI				S	**S**	**11 46 59.3**	**-8.7**
KMMI	**Kalianget**	**9.17**	**272**	P	**P**	**11 45 25.4**	**+0.9**
	441nm,1.0s,5µm						
TNTI	**Ternate**	**9.19**	**27**	P	**P**	**11 45 24.2**	**-0.4**
	181nm,1.1s,2µm						
TNTI	**Ternate**	**9.19**	**27**	P	**P**	**11 45 24.3**	**-0.4**
TNTI				S	**S**	**11 47 08.0**	**-3.1**
MTN	**Manton Dam**	**9.45**	**125**	P	**P**	**11 45 27.8**	**+0.5**
	baz=9.6,SNR=50						
MTN	**Manton Dam**	**9.45**	**125**	P	**P**	**11 45 27.8**	**+0.5**
MTN				S	**S**	**11 47 12.8**	**-3.2**
GMJI	**Gumukmas**	**9.70**	**265**	P	**P**	**11 45 28.7**	**-1.1**
	176nm,0.9s,2µm						
KNRA	**Kununurra**	**9.80**	**147**	P	**P**	**11 45 31.3**	**+0.5**
	baz=9.9,SNR=56						
KNRA	**Kununurra**	**9.80**	**147**	P	**P**	**11 45 31.0**	**+0.2**
KNRA				S	**S**	**11 47 20.6**	**-1.9**
FAKI	**Fak Fak**	**10.08**	**64**	P	**P**	**11 45 32.5**	**-1.3**
	962nm,0.9s,8µm2µm						
FAKI	**Fak Fak**	**10.08**	**64**	P	**P**	**11 45 31.6**	**-2.2**
SWI	**Sorong**	**10.38**	**51**	P	**P**	**11 45 36.7**	**-0.1**
	578nm,1.3s,7µm						
SIJI	**Sorong**	**10.38**	**51**	P	**P**	**11 45 36.8**	**0.0**
	30nm,0.3s,baz=243,slow=5.1,SNR=61						
SIJI				S	**S**	**11 47 29.5**	**-4.0**
	2.7nm,0.3s,baz=195,slow=20,SNR=3.5						
KDU	**Kakadu**	**10.49**	**120**	P	**P**	**11 45 37.7**	**-0.3**
	baz=11,SNR=26						
FITZ	**Fitzroy Crossi**	**10.82**	**168**	P	**P**	**11 45 41.5**	**+0.2**
	baz=11,SNR=108						
FITZ	**Fitzroy Crossi**	**10.82**	**168**	P	**P**	**11 45 41.5**	**+0.2**
	baz=9.8,slow=11						
FITZ				S	**S**	**11 47 39.8**	**-1.9**
	1.7nm,0.3s,baz=2.9,slow=22,SNR=24						
FITZ	**Fitzroy Crossi**	**10.82**	**168**	P	**P**	**11 45 41.3**	**0.0**
FITZ				S	**S**	**11 47 39.5**	**-2.1**
PWJI	**Pagerwojo**	**11.31**	**266**	P	**P**	**11 45 44.5**	**-1.9**
	115nm,0.8s,1µm						
NGJI	**Ngawi**	**11.64**	**270**	P	**P**	**11 45 49.6**	**-0.3**
	58nm,0.9s						
WOJI	**Wonogiri, Jawa**	**12.18**	**267**	P	**P**	**11 45 53.9**	**-1.5**
	58nm,1.2s,914nm						
RKPI	**Ransiki, Papua**	**12.44**	**62**	P	**P**	**11 45 58.2**	**+0.1**
	612nm,0.9s,5µm						
SPMM	**Sapulut**	**13.84**	**331**	P	**P**	**11 46 14.0**	**+1.3**
STKI	**Sintang**	**13.88**	**302**	P	P	11 46 19.0	+5.9
MBWA	**Marble Bar**	**14.01**	**193**	P	**P**	**11 46 13.8**	**-0.4**
KPJI	**Karang Pucung**	**14.15**	**270**	P	**P**	**11 46 14.6**	**-1.2**
	436nm,0.6s,5µm						
BAKI	**Biak**	**14.30**	**65**	P	**P**	**11 46 18.3**	**+1.0**
	118nm,1.0s,2µm						
PSAC1	**Pilbara Seismi**	**14.36**	**193**	P	**P**	**11 46 17.2**	**-0.6**
PSA00	**Pilbara Seismi**	**14.39**	**193**	P	**P**	**11 46 17.7**	**-0.4**
KCP	**Kidapawan**	**14.51**	**8**	⇑P	**P**	**11 46 17.6**	**-1.9**
KCP				S	**S**	**11 48 52.1**	**+0.4**
DAV	**Davao City (W)**	**14.64**	**9**	S	**S**	**11 48 52.5**	**-1.5**
	41nm,0.3s,baz=108,slow=3.2,SNR=7.8						
SBUM	**Sibu**	**14.74**	**312**	P	**P**	**11 46 23.0**	**+1.2**
SBUM	**Sibu**	**14.74**	**312**	P	**P**	**11 46 21.9**	**0.0**
KKM	**Kota Kinabalu**	**15.13**	**332**	P	**P**	**11 46 23.4**	**-2.6**
CISI	**Cisompet, Garu**	**15.26**	**269**	P	**P**	**11 46 24.4**	**-2.8**
	969nm,0.7s,15µm						
CISI	**Cisompet, Garu**	**15.26**	**269**	P	**P**	**11 46 24.5**	**-2.8**
LEM	**Lembang**	**15.48**	**271**	P	**P**	**11 46 28.2**	**-1.4**
	16nm,0.3s,baz=53,slow=6.4,SNR=43						
LEM				S	**S**	**11 49 07.4**	**-1.8**
	2.9nm,0.3s,baz=52,slow=9.0,SNR=9.7						
KSM	**Kuching**	**15.63**	**304**	P	**P**	**11 46 30.8**	**-0.2**
TPI	**Tanjungpandan**	**16.18**	**286**	P	**P**	**11 46 35.8**	**-0.5**
	171nm,1.3s,2µm						
DBJI	**Dramaga**	**16.36**	**272**	P	**P**	**11 46 35.9**	**-2.1**
	336nm,0.9s,11µm						
SMPI	**Sarmi**	**16.38**	**71**	P	**P**	**11 46 38.3**	**+0.1**
	293nm,1.4s,3µm						
WRA	**Warramunga Arr**	**16.44**	**140**	*i* P	**P**	**11 46 38.7**	**0.0**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.3s						
WRA	**Warramunga Arr**	**16.44**	**140**	P	**P**	**11 46 38.6**	**-0.1**
	comp=Z,2.7nm,0.3s,baz=314,slow=10,SNR=255						
WRA				S	**S**	**11 49 24.2**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=303,slow=16,SNR=6.9						
WRA				ScP	**ScP**	**11 53 37.2**	**-1.2**
	baz=328,slow=2.4,SNR=4.5						
WRAB	**Tennant Creek**	**16.44**	**140**	*d i*P	**P**	**11 46 38.2**	**-0.4**
WRAB	**Tennant Creek**	**16.44**	**140**	P	**P**	**11 46 38.0**	**-0.6**
WB2	**Warramunga Arr**	**16.45**	**140**	P	**P**	**11 46 38.1**	**-0.6**
SKJI	**Sukabumi**	**16.52**	**271**	P	**P**	**11 46 36.4**	**-3.1**
	comp=Z,574nm,0.6s,comp=Z,6µm						
WR0	**Warramunga Arr**	**16.58**	**140**	P	**P**	**11 46 39.4**	**-0.5**
XMIS	**Christmas Isla**	**17.59**	**259**	P	**P**	**11 46 47.9**	**-1.3**
JAY	**Jayapura**	**18.11**	**75**	P	**P**	**11 46 54.0**	**0.0**
	comp=Z,7.9nm,0.3s,baz=232,slow=5.9,SNR=39						
JAY				S	**S**	**11 49 50.2**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=253,slow=17,SNR=4.3						
JAY	**Jayapura**	**18.11**	**75**	P	**P**	**11 46 54.2**	**+0.1**
	comp=Z,58nm,0.9s,comp=Z,486nm						
WRKA	**Warakurna**	**18.13**	**165**	P	**P**	**11 46 55.2**	**+1.1**
	baz=18,SNR=18						
KLSI		**18.57**	**278**	P	**P**	**11 46 58.4**	**+0.2**
	comp=Z,18nm,1.4s						
KASI	**Kota Agung**	**18.68**	**275**	P	**P**	**11 46 57.2**	**-2.0**
	comp=Z,155nm,1.0s,comp=Z,1µm						
AS31	**Alice Springs**	**19.10**	**149**	P	**P**	**11 47 03.8**	**+0.9**
ASAR	**Alice Springs**	**19.10**	**149**	P	**P**	**11 47 03.8**	**+0.9**
	comp=Z,2.6nm,0.3s,baz=322,slow=8.3,SNR=225						
ASAR				S	**S**	**11 50 05.7**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=318,slow=15,SNR=7.6						
ASAR				PcP	**PcP**	**11 50 59.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=6.5,slow=1.1,SNR=5.4						
ASAR				ScP	**ScP**	**11 53 43.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=350,slow=1.5,SNR=14						
ASAR				P3KPbc		12 21 09.7	
	comp=Z,0.0nm,0.3s,baz=165,slow=5.4,SNR=4.7						
MDSI	**Maura Dua**	**19.15**	**278**	P	**P**	**11 47 02.9**	**-0.6**
	comp=Z,50nm,1.5s,comp=Z,714nm						
LWLI	**Liwa**	**19.18**	**276**	P	**P**	**11 47 03.0**	**-0.9**
	comp=Z,35nm,0.7s,comp=Z,9µm						
MEEK	**Meekatharra**	**19.55**	**192**	P	**P**	**11 47 07.0**	**0.0**
	baz=20,SNR=68						
LHSI	**Lahat**	**19.91**	**279**	P	**P**	**11 47 11.2**	**+0.8**
	comp=Z,140nm,1.1s,comp=Z,2µm						
QIS	**Mount Isa**	**20.52**	**131**	P	**P**	**11 47 16.8**	**+0.9**
	baz=21,SNR=6.6						
COEN	**Coen**	**20.65**	**110**	P	**P**	**11 47 17.1**	**+0.1**
	baz=21,SNR=28						

COEN Coen 20.65 110 P **P** **11 47 16.4 -0.6**
KSI Kapahiang 20.86 279 P **P** **11 47 21.3 +2.3**
TGY Tagaytay City 21.55 354 P **P** **11 47 25.5 +0.3**
comp=Z,167nm,0.5s,baz=303,slow=3.4,SNR=5.0
MORW Morawa 22.52 197 P **P** **11 47 33.8 +0.2**
baz=23,SNR=11
MORW Morawa 22.52 197 P **P** **11 47 33.5 -0.1**
MTSU Mount Surprise 23.13 119 P **P** **11 47 40.4 +1.1**
baz=23,SNR=6.3
FORT Forrest 23.63 170 P **P** **11 47 44.0 +0.5**
baz=24,SNR=12
FORT Forrest 23.63 170 P **P** **11 47 43.4 0.0**
FORT IAmb IAmb 11 47 44.7
comp=Z,32nm,0.8s
PMG Port Moresby 23.77 96 *i* P **P** **11 47 45.7 +0.7**
PMG pmax pmax
comp=Z,38nm,0.9s
PMG Port Moresby 23.77 96 P **P** **11 47 45.0 0.0**
comp=Z,9.1nm,0.7s,baz=304,slow=3.6,SNR=4.6
PMG Port Moresby 23.77 96 P **P** **11 47 44.0 -1.1**
PMG IAmb IAmb 11 47 58.8
comp=Z,27nm,1.2s
KMBL Kambalda 23.80 183 P **P** **11 47 45.2 +0.1**
baz=24,SNR=15
BLDU Ballidu 23.81 194 P **P** **11 47 45.2 +0.1**
baz=24,SNR=75
DLV T Lat 24.21 323 P **P** **11 47 49.9 +0.8**
DLV IAmb IAmb 11 47 52.5
comp=Z,50nm,1.3s
KLBR Kellerberrin 24.53 191 P **P** **11 47 51.8 +0.3**
baz=25,SNR=5.4
IPM Ipoh 25.11 298 P **P** **11 47 57.0 +0.1**
MUN Mundaring 25.24 194 P **P** **11 47 57.8 0.0**
baz=25,SNR=9.9
CTA Charters Tower 25.61 122 PcP **PcP** **11 51 13.5 0.0**
comp=Z,5.9nm,0.8s,baz=323,slow=5.1,SNR=4.6
KULM Kulim 25.83 299 P **P** **11 48 04.0 +0.8**
KULM Kulim 25.83 299 P **P** **11 48 03.4 +0.2**
KULM IAmb IAmb 11 48 04.1
comp=Z,19nm,0.7s
NWAO Narrogin (SRO) 25.93 192 P **P** **11 48 04.1 +0.3**
baz=26,SNR=17
NWAO Narrogin (SRO) 25.93 192 P **P** **11 48 04.1 +0.3**
NWAO Narrogin (SRO) 25.93 192 P **P** **11 48 04.3 +0.5**
NWAO pmax pmax
comp=Z,108nm,1.5s
NWAO Narrogin (SRO) 25.93 192 P **P** **11 48 04.1 +0.3**
comp=Z,20nm,0.5s,baz=19,slow=8.1,SNR=24
NWAO Narrogin (SRO) 25.93 192 P **P** **11 48 04.3 +0.5**
NWAO Narrogin (SRO) 25.93 192 IAmb IAmb 11 48 05.1
comp=Z,86nm,1.4s
RPSI Rantau Prapat 26.25 292 IAmb IAmb 11 48 08.5
comp=Z,35nm,1.0s
PSI Prapat 26.29 292 P **P** **11 48 07.5 +0.1**
comp=Z,24nm,0.9s,baz=131,slow=5.6,SNR=22
PSI ScP **ScP** **11 54 03.7 +0.2**
comp=Z,1.5nm,0.4s,baz=327,slow=22,SNR=6.2
GSI Gunungsitoli 27.01 288 P **P** **11 48 12.8 -0.8**
comp=Z,38nm,1.0s
GSI Gunungsitoli 27.01 288 P **P** **11 48 12.9 -0.7**
GSI IAmb IAmb 11 48 13.6
comp=Z,30nm,0.9s
RKGY Rocky Gully 27.61 191 P **P** **11 48 19.6 +1.1**
baz=28,SNR=15
KCSI Kotacane, Aceh 27.63 292 P **P** **11 48 18.5 -0.5**
comp=Z,18nm,0.7s
BBOO Buckleboo 27.89 156 P **P** **11 48 21.7 +0.6**
baz=28,SNR=54
BBOO Buckleboo 27.89 156 P **P** **11 48 21.9 +0.9**
BBOO IAmb IAmb 11 48 22.4
comp=Z,26nm,0.7s
TPTI 28.07 291 P **P** **11 48 22.5 -0.4**
comp=Z,5.1nm,1.0s
UBPT Khong Chiam 28.63 322 P **P** **11 48 28.1 +0.4**
UBPT IAmb IAmb 11 48 29.4
comp=Z,59nm,1.3s
QIZ Qiongzhong 29.45 334 IAmb IAmb 11 48 35.4
comp=Z,29nm,0.7s
HTT Hallett 29.65 153 P **P** **11 48 37.9 +1.5**
baz=30,SNR=43
STKA Stephens Creek 29.72 147 P **P** **11 48 38.3 +1.3**
baz=30,SNR=35
STKA Stephens Creek 29.72 147 P **P** **11 48 38.3 +1.3**
STKA pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 29.72 147 P **P** **11 48 38.3 +1.3**
comp=Z,10.0nm,0.5s,baz=319,slow=9.1,SNR=38
STKA PcP **PcP** **11 51 22.8 -0.7**
comp=Z,1.3nm,0.3s,baz=265,slow=3.8,SNR=2.9
STKA S **S** **11 52 54.4 -0.3**
comp=Z,7.1nm,0.7s,baz=314,slow=18,SNR=8.0
STKA Stephens Creek 29.72 147 P **P** **11 48 38.3 +1.3**
YULB Yu-li 30.73 357 IAmb IAmb 11 48 47.2
comp=Z,27nm,1.0s
RMQ Roma 30.79 131 P **P** **11 48 48.2 +2.0**
baz=31,SNR=11
SSLB Suanglung 31.15 356 P **P** **11 48 47.2 -2.1**
SSLB IAmb IAmb 11 48 48.7
comp=Z,20nm,0.9s
CMSA Cobar Meteorol 31.84 142 P **P** **11 48 56.9 +1.8**
baz=32,SNR=15
PBKT Sadao Pong 32.47 317 P **P** **11 49 01.2 +0.5**
PBKT IAmb IAmb 11 49 02.1
comp=Z,28nm,0.7s
ARPS Mount Arapiles 33.75 152 P **P** **11 49 12.8 +1.6**
baz=34,SNR=18
SLVN Son La 34.33 327 P **P** **11 49 16.6 +0.3**
SLVN IAmb IAmb 11 49 18.5
comp=Z,43nm,0.9s
CM31 Chiang Mai Arr 35.17 317 P **P** **11 49 24.4 +1.1**
SNR=11
CM31 Chiang Mai Arr 35.17 317 IAmb IAmb 11 49 25.2
comp=Z,31nm,0.8s
CMAR Chiang Mai Arr 35.17 317 P **P** **11 49 24.1 +0.8**
comp=Z,25nm,0.8s,baz=145,slow=6.6,SNR=153
CMAR PcP **PcP** **11 51 39.8 +0.7**
comp=Z,6.1nm,0.7s,baz=172,slow=2.6,SNR=12
CMAR ScP **ScP** **11 54 34.1 +1.2**
comp=Z,5.7nm,0.9s,baz=168,slow=3.2,SNR=18
CHTO Chiang Mai 35.42 318 P **P** **11 49 26.4 +1.0**
SNR=9.8
CHTO Chiang Mai 35.42 318 P **P** **11 49 25.9 +0.5**
CHTO pmax pmax
comp=Z,31nm,0.8s
CHTO Chiang Mai 35.42 318 P **P** **11 49 25.9 +0.5**
CHTO IAmb IAmb 11 49 27.1
comp=Z,32nm,0.8s
HNR Honiara 36.39 96 ScP **ScP** **11 54 38.9 +1.3**
comp=Z,43nm,0.7s,baz=175,slow=4.3,SNR=7.1
GYA Guiyang 37.35 335⇓ *i* P **P** **11 49 41.8 +0.4**
GYA pP pP 11 51 16.7 +0.5
GYA PP **PP** **11 51 25.0 +0.5**
GYA PcP **PcP** **11 51 47.3 +1.5**
GYA S **S** **11 54 48.7 -1.8**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,110nm,5.1s
KMI Kunming 38.04 329 P **P** **11 49 48.8 +1.7**
KMI pP pP 11 51 24.3 +2.0
KMI pmax pmax
comp=Z,38nm,0.8s
KMI pmax pmax
comp=Z,130nm,4.3s
KMI Kunming 38.04 329 IAmb IAmb 11 49 49.2
comp=Z,34nm,1.0s
WHN Wuhan 38.74 348⇓ *i* P **P** **11 49 53.3 +0.9**
WHN pmax pmax
comp=Z,80nm,0.7s
NJ2 Nanjing 39.52 354 ⇓P **P** **11 49 59.4 +0.7**
NJ2 pmax pmax
comp=Z,72nm,0.7s
NJ2 pmax pmax
comp=Z,340nm,8.5s
JNU Nakatsue 41.03 10 P **P** **11 50 09.4 -1.3**
comp=Z,28nm,0.8s,baz=172,slow=1.9,SNR=29
JNU PcP **PcP** **11 51 58.3 +0.9**
comp=Z,3.5nm,0.8s,baz=227,slow=19,SNR=2.9
JNU Nakatsue 41.03 10 P **P** **11 50 09.1 -1.6**
JNU IAmb IAmb 11 50 11.3
comp=Z,37nm,0.9s
CD2 Chengdu 42.47 335 ⇓P **P** **11 50 22.4 +0.2**
CD2 pmax pmax
comp=Z,80nm,0.5s
CD2 pmax pmax
comp=Z,140nm,4.5s

XAN Xi'an 43.45 343 P **P** **11 50 29.3 -0.4**
XAN pP PcP 11 52 05.7 +0.1
XAN pmax pmax
comp=Z,120nm,0.7s
XAN pmax pmax
comp=Z,170nm,3.7s
XAN Xi'an 43.45 343 P **P** **11 50 29.3 -0.4**
XAN pmax pmax
comp=Z,96nm,0.8s
XAN Xi'an 43.45 343 P **P** **11 50 29.3 -0.4**
TJN Taejon 43.79 5 *ce* P **P** **11 50 33.0 +0.7**
TIA Tai'an 43.83 353 P **P** **11 50 31.8 -0.8**
TIA pmax pmax
comp=Z,26nm,0.7s
INU Inuyama 44.54 16 IAmb IAmb 11 50 38.9
comp=Z,20nm,0.7s
SHL Shillong 44.79 318 P **P** **11 50 39.4 -1.0**
SHL pmax pmax
comp=Z,26nm,0.6s
SHL Shillong 44.79 318 P **P** **11 50 39.4 -1.0**
SHL IAmb IAmb 11 50 40.5
comp=Z,26nm,0.6s
KSRS Korea Array 44.91 5 P **P** **11 50 40.6 -0.2**
comp=Z,31nm,0.9s,baz=181,slow=9.0,SNR=113
KSRS PcP **PcP** **11 52 11.4 +0.9**
comp=Z,5.3nm,0.6s,baz=182,slow=2.9,SNR=12
KS19 Wonju Array Si 44.95 5 P **P** **11 50 41.4 +0.2**
KS19 IAmb IAmb 11 50 42.6
comp=Z,47nm,1.1s
MJAR Matsushiro Arr 45.99 17 P **P** **11 50 48.4 -0.8**
comp=Z,45nm,0.8s,baz=193,slow=7.9,SNR=145
MJAR PcP **PcP** **11 52 14.7 +0.2**
comp=Z,3.0nm,0.7s,baz=213,slow=5.4,SNR=4.7
MAJO Matsushiro 45.99 17 P **P** **11 50 48.7 -0.5**
MAJO pmax pmax
comp=Z,56nm,0.8s
MAJO Matsushiro 45.99 17 P **P** **11 50 48.7 -0.5**
MAT Matsushiro 45.99 17 P **P** **11 50 48.8 -0.4**
MJB9 Matsu-Tunnel 46.00 17 P **P** **11 50 48.3 -0.9**
TIY Taiyuan 46.06 348 P **P** **11 50 49.3 -0.5**
DL2 Dalian 46.17 358 P **P** **11 50 50.0 -0.4**
DL2 pmax pmax
comp=Z,56nm,1.0s
LZH Lanzhou 47.00 338 ⇓P **P** **11 50 58.1 +1.1**
LZH pP pP 11 52 39.8 +1.5
LZH sP sP 11 53 35.7 -3.6
LZH pmax pmax
comp=Z,21nm,1.1s
LZH pmax pmax
comp=Z,130nm,5.4s
BJT Baijiatuan 47.70 353 P **P** **11 51 01.6 -0.4**
BJT pmax pmax
comp=Z,56nm,0.7s
BJT Baijiatuan 47.70 353 P **P** **11 51 01.6 -0.4**
BJI Beijing 47.72 353 ⇓ *i* P **P** **11 51 01.8 -0.3**
BJI PcP **PcP** **11 52 21.6 +1.1**
BJI pmax pmax
comp=Z,74nm,0.7s
LSA Lhasa 48.12 322 P **P** **11 51 07.2 +1.3**
LSA Lhasa 48.12 322 P **P** **11 51 07.1 +1.1**
LSA Lhasa 48.12 322 P **P** **11 51 07.0 +1.1**
LSA pmax pmax
comp=Z,60nm,0.5s
LSA Lhasa 48.12 322 P **P** **11 51 07.0 +1.1**
ODAN Odare 48.68 316 *e* P **P** **11 51 10.2 +0.4**
comp=Z,74nm,0.6s
TAPN Taplejung 48.77 317 *e* P **P** **11 51 11.1 +0.5**
comp=Z,86nm,0.5s
HHC Hu-ho-hao-te 49.26 348 P **P** **11 51 14.8 +1.1**
HHC pmax pmax
comp=Z,12nm,0.8s
RAMN Ramite 49.28 315 ⇑ *i* P **P** **11 51 15.0 +0.7**
comp=Z,164nm,0.6s
BTO Baotou 49.36 347 *e* P **P** **11 51 14.5 +0.1**
JIRN Jiri 50.01 316 ⇑ *i* P **P** **11 51 20.3 +0.5**
comp=Z,113nm,0.7s
MSHR Mys Shultsa 50.34 8 *d i* P **P** **11 51 22.0 +0.6**
GUN Gumba 50.38 316 ⇑ *i* P **P** **11 51 23.0 +0.5**
comp=Z,105nm,0.6s
PKI Pulchoki 50.50 315 ⇑ *i* P **P** **11 51 23.4 +0.1**
comp=Z,70nm,0.5s
PKIN Phulchoki 50.51 315 ⇑ *i* P **P** **11 51 23.3 0.0**
comp=Z,56nm,0.5s
KKN Kakani 50.72 315 ⇑ *i* P **P** **11 51 25.1 +0.3**
comp=Z,53nm,0.7s
DMN Daman 50.73 315 ⇑ *i* P **P** **11 51 25.3 +0.4**
comp=Z,54nm,0.7s
VLA Vladivostok 50.97 8 *d i* P **P** **11 51 26.4 +0.4**
VLA pmax pmax
comp=Z,99nm,1.0s
CN2 Changchun 51.08 2 *j i* P **P** **11 51 25.9 -0.9**
CN2 *ep* P pP 11 53 08.2 -1.0
CN2 *e* S **S** **11 58 03.1 -0.4**
CN2 pmax pmax
comp=Z,20nm,0.8s
GKN Gorkha 51.30 315 ⇑ *i* P **P** **11 51 29.3 +0.4**
comp=Z,82nm,0.4s
GTA Gaotai 51.44 337 ⇓P **P** **11 51 30.5 +0.9**
GTA PcP **PcP** **11 52 36.2 +1.6**
GTA pP pP 11 53 16.6 +2.9
GTA sP sP 11 54 17.4 +3.7
GTA ScP **ScP** **11 55 40.6 +1.8**
GTA PcS **PcS** **11 56 32.3 -1.2**
GTA ScS **ScS** **12 00 21.1 -0.7**
GTA pmax pmax
comp=Z,52nm,0.9s
KOLN Koldanda 51.89 314 ⇑ *i* P **P** **11 51 33.7 +0.4**
comp=Z,101nm,0.7s
USRK Ussuriysk Ar. 52.04 8 P **P** **11 51 34.2 +0.5**
comp=Z,61nm,0.6s,baz=187,slow=7.0,SNR=150
USA0B Ussuriysk Arra 52.04 8 *d i* P **P** **11 51 33.8 +0.1**
DANN Dangsing 52.13 315 ⇑ *i* P **P** **11 51 35.4 +0.4**
comp=Z,240nm,0.6s
MDJ Mudanjiang 52.17 6 P **P** **11 51 35.4 +0.8**
MDJ pmax pmax
comp=Z,210nm,0.8s
MDJ pmax pmax
comp=Z,230nm,5.9s
ERM Erimo 52.53 19 *ce* P **P** **11 51 36.2 -1.0**
ERM pmax pmax
comp=Z,46nm,1.0s
TEY Ternei 53.64 12 ⇓ *i* P **P** **11 51 45.7 +0.6**
TEY pmax pmax
comp=E,10.0nm,1.4s
TEY pmax pmax
comp=N,40nm,1.0s
TEY pmax pmax
comp=Z,80nm,1.0s
WHZ Wether Hill Ro 54.24 143 P **P** **11 51 50.3 +0.9**
MSVF Nonsavu 54.32 106 *d i* P **P** **11 51 51.6 +1.1**
MSVF pmax pmax
comp=Z,20nm,0.8s
MSVF Nonsavu 54.32 106 P **P** **11 51 52.4 +1.8**
QRZ Quartz Range 54.93 135 P **P** **11 51 56.3 +1.9**
QRZ IAmb IAmb 11 52 04.4
comp=Z,103nm,1.4s
RPZ Rata Peaks 55.15 139 P **P** **11 51 56.8 +1.0**
comp=Z,31nm,0.7s,baz=274,slow=3.9,SNR=13
RPZ Rata Peaks 55.15 139 P **P** **11 51 56.4 +0.6**
HIA Hailar 56.58 357 *d i* P **P** **11 52 05.9 +0.3**
HIA pmax pmax
comp=Z,349nm,0.9s
HIA Hailar 56.58 357 IAmb IAmb 11 52 07.0
comp=Z,47nm,0.8s
YSS Yuzh-Sakhalins 56.91 16 ⇓ *j i* P **P** **11 52 08.0 +0.2**
YSS pmax pmax
comp=Z,40nm,0.7s
ULN Ulaanbaatar 56.92 347 P **P** **11 52 08.6 +0.6**
SNR=19
ULN Ulaanbaatar 56.92 347 *ce* P **P** **11 52 08.5 +0.4**
ULN pmax pmax
comp=Z,49nm,1.0s
ULN Ulaanbaatar 56.92 347 P **P** **11 52 08.6 +0.6**
ULN IAmb IAmb 11 52 09.7
comp=Z,65nm,1.1s
KLR Kul'dur 56.96 7 *d i* P **P** **11 52 08.3 +0.2**
KLR pmax pmax
comp=Z,24nm,1.0s
SONM Songino Array 57.04 347 P **P** **11 52 09.3 +0.4**
comp=Z,46nm,0.7s,baz=164,slow=8.0,SNR=402
SONM ScP **ScP** **11 56 02.7 -0.5**
comp=Z,2.2nm,1.0s,baz=163,slow=3.6,SNR=4.1
BKZ Black Stump Fm 57.17 132 P **P** **11 52 10.5 +0.6**
GRNR Gornyy 59.13 10 ⇓ *i* P **P** **11 52 23.8 +1.1**
GRNR pmax pmax
comp=Z,30nm,1.4s
CASY Casey 59.36 186 P **P** **11 52 24.7 +0.6**
ZAK Zakamensk 60.16 345 *e* P **P** **11 52 25.6 -4.2**
ZAK pmax pmax
comp=Z,35nm,1.0s
WMQ Urumqi 60.32 331 P **P** **11 52 32.1 +1.2**
WMQ pmax pmax
comp=Z,67nm,0.9s
WMQ pmax pmax
comp=Z,160nm,5.3s
WMQ Urumqi 60.32 331 IAmb IAmb 11 52 32.8
comp=Z,58nm,0.7s
ZEA Zeya 61.08 3 *de* P **P** **11 52 36.2 +0.6**
ZEA pmax pmax
comp=N,71nm,1.0s
ZEA pmax pmax
comp=Z,120nm,1.0s
ZEA pmax pmax
comp=Z,200nm,1.0s
TLY Talaya 61.27 346 P **P** **11 52 37.8 +0.8**
SNR=8.4
TLY Talaya 61.27 346 P **P** **11 52 37.7 +0.7**
TLY pmax pmax
comp=Z,35nm,0.9s
TLY Talaya 61.27 346 P **P** **11 52 37.8 +0.8**
comp=Z,22nm,0.7s,baz=190,slow=5.9,SNR=21
TLY Talaya 61.27 346 P **P** **11 52 37.7 +0.7**
TLY IAmb IAmb 11 52 38.8
comp=Z,35nm,0.9s
IRK Irkutsk 61.65 347 *e* P **P** **11 52 39.0 -0.4**
IRK pmax pmax
comp=Z,51nm,2.0s
MOY Mondy 61.92 345 *e* P **P** **11 52 42.1 +0.8**
MOY pmax pmax
comp=Z,61nm,1.5s
NIL Nilore 62.55 314 P **P** **11 52 45.9 +0.2**
NIL Nilore 62.55 314 P **P** **11 52 45.6 0.0**
NIL pmax pmax
comp=Z,56nm,0.6s
NIL Nilore 62.55 314 P **P** **11 52 45.6 0.0**
KSH Kashi 63.96 321 P **P** **11 52 55.3 +0.6**
KSH pP pwP 11 54 46.2 -0.6
KSH sP sP 11 55 41.2 -1.3
KSH PcS 11 57 26.8
KSH S **S** **12 00 48.3 +0.1**
KSH ScS **SKSac** **12 01 52.4 -2.0**
KSH pmax pmax
comp=Z,130nm,0.8s
KSH pmax pmax
comp=Z,600nm,4.9s
TARG Taragay, Kyrgy 64.18 324 IAmb IAmb 11 52 59.8
comp=Z,34nm,1.0s
PDGK Podgornoye 64.23 326 P **P** **11 52 56.5 +0.1**
PDGK pmax pmax
comp=Z,55nm,0.7s
KDJ Kajisay 64.80 324 IAmb IAmb 11 53 01.9
comp=Z,83nm,1.5s
NRN Naryn 65.08 323 IAmb IAmb 11 53 03.2
comp=Z,28nm,0.9s
MK31 Makanchi Array 65.10 330 P **P** **11 53 02.3 +0.7**
MK31 pmax pmax
comp=Z,74nm,0.8s
MK31 Makanchi Array 65.10 330 P **P** **11 53 02.3 +0.7**
MKAR Makanchi Array 65.10 330 P **P** **11 53 02.2 +0.6**
comp=Z,102nm,0.7s,baz=134,slow=8.0,SNR=711
MKAR S **S** **12 00 58.8 -2.7**
comp=Z,1.3nm,0.9s,baz=131,slow=13,SNR=6.3
MAKZ Makanchi 65.27 330 P **P** **11 53 03.1 +0.4**
MAKZ pmax pmax
comp=Z,46nm,0.8s
MAKZ Makanchi 65.27 330 P **P** **11 53 03.1 +0.4**
MAKZ IAmb IAmb 11 53 04.0
comp=Z,46nm,0.8s
ULHL Ulahol 65.42 323 P **P** **11 53 04.5 +0.5**
SNR=9.1
BOD Bodaibo 65.50 355 ⇑ *i* P **P** **11 53 04.1 +0.3**
BOD pmax pmax
comp=Z,66nm,1.1s
KZA Kyzart 65.91 323 P **P** **11 53 08.4 +1.1**
SNR=18
KBL Kabul 66.02 313 P **P** **11 53 08.1 +0.3**
KBL Kabul 66.02 313 P **P** **11 53 08.5 +0.6**
KBL pmax pmax
comp=Z,55nm,0.8s
KBL Kabul 66.02 313 P **P** **11 53 08.5 +0.6**
KBL IAmb IAmb 11 53 09.0
comp=Z,54nm,0.8s
TKM2 Tokmak 2 66.21 324 *i* P **P** **11 53 08.6 -0.2**
TKM2 pmax pmax
comp=Z,27nm,0.6s
TKM2 Tokmak 2 66.21 324 P **P** **11 53 09.5 +0.6**
SNR=6.7
KBK Karagaybulak 66.43 323 P **P** **11 53 11.0 +0.8**
SNR=16
UCH Uchtor 66.44 323 P **P** **11 53 11.4 +0.7**
SNR=34
AAK Ala-Archa 66.69 323 *i* P **P** **11 53 12.8 +1.0**
SNR=83
AAK Ala-Archa 66.69 323 P **P** **11 53 12.8 +1.0**
SNR=18
AAK Ala-Archa 66.69 323 *ce* P **P** **11 53 12.7 +0.9**
AAK pmax pmax
comp=Z,57nm,0.8s
AAK Ala-Archa 66.69 323 P **P** **11 53 12.8 +1.0**
comp=Z,48nm,0.5s,baz=126,slow=5.4,SNR=157
AAK Ala-Archa 66.69 323 P **P** **11 53 12.8 +1.0**
SNR=14
AAK Ala-Archa 66.69 323 P **P** **11 53 12.8 +1.0**
AAK IAmb IAmb 11 53 13.6
comp=Z,54nm,0.8s
CHMS Chumysh 66.75 323 P **P** **11 53 12.3 +0.3**
SNR=10.0
AML Almayashu 66.88 322 P **P** **11 53 13.8 +0.5**
SNR=68
USP Ospenovka 67.06 323 P **P** **11 53 14.5 +0.6**
SNR=47
PEA0B Petropavlovsk- 67.07 22 P **P** **11 53 14.7 +1.0**
PEA0B pmax pmax
comp=Z,25nm,0.8s
PEA0B Petropavlovsk- 67.07 22 P **P** **11 53 14.7 +1.0**
PEA0B IAmb IAmb 11 53 15.3
comp=Z,25nm,0.8s
PETK Petropavlovsk- 67.07 22 P **P** **11 53 14.6 +0.9**
comp=Z,27nm,0.9s,baz=214,slow=2.6,SNR=24
EKS2 Erkin-Say 67.14 323 P **P** **11 53 15.4 +1.0**
SNR=49
GAR Garm 67.34 318 P **P** **11 53 15.8 0.0**
GAR IAmb IAmb 11 53 16.4
comp=Z,34nm,0.7s
CHGR Chuyangaron 67.95 317 P **P** **11 53 19.3 -0.2**
CHGR IAmb IAmb 11 53 20.4
comp=Z,63nm,0.9s
ZAA0 Zalesovo Array 69.19 337 IAmb IAmb 11 53 27.0
comp=Z,62nm,0.9s
ZALV Zalesovo Beam 69.19 337 P **P** **11 53 26.1 -0.5**
comp=Z,61nm,0.8s,baz=136,slow=4.2,SNR=164
ZALV S **S** **12 01 44.6 -4.2**
comp=Z,1.5nm,0.7s,baz=153,slow=12,SNR=9.6
KK31 Karatay Array 69.38 322 *i* P **P** **11 53 27.6 -0.3**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
YAK Yakutsk 69.48 3 *d i* P **P** **11 53 28.2 +0.2**
YAK pmax pmax
comp=Z,98nm,0.8s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=N,47nm,1.1s
YAK Yakutsk 69.48 3 P **P** **11 53 27.9 -0.1**
KURBB Kurchatov Arra 69.54 331 P **P** **11 53 28.9 +0.3**
comp=N,30nm,0.7s,baz=143,slow=5.2,SNR=156
KURBB PP **PP** **11 56 13.1 +0.7**
comp=N,2.2nm,0.8s,baz=128,slow=10.0,SNR=5.1
KURK Kurchatov 69.56 332 P **P** **11 53 29.2 +0.4**
KURK Kurchatov 69.56 332 P **P** **11 53 28.7 -0.1**
KURK pmax pmax
comp=Z,81nm,1.0s
KURK Kurchatov 69.56 332 P **P** **11 53 28.7 -0.1**
WBK Wadi Bani Khal 69.58 297 P **P** **11 53 30.0 +0.5**
WSAR Wadi Sarin 70.06 298 P **P** **11 53 32.8 +0.4**
WSAR Wadi Sarin 70.06 298 P **P** **11 53 32.9 +0.4**
comp=Z,12nm,0.8s,baz=148,slow=6.9,SNR=5.2
JMDO Jabal Madar 70.27 297 P **P** **11 53 34.0 +0.4**
MA2 Magadan 70.36 14 *ce* P **P** **11 53 34.7 +1.3**
MA2 pmax pmax
comp=Z,65nm,1.1s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SMDO	Samad	70.52	298	P	P	11 53 35.7	+0.4
BIDO	Bidbid	70.59	298	P	P	11 53 36.4	+0.9
HRA	Herat	71.01	310	P	P	11 53 38.3	+0.3
BSY	Bisya	71.18	297	P	P	11 53 39.4	+0.4
HOQ	Hoqain	71.32	298	P	P	11 53 40.3	+0.5
SHAO	Shalim	71.33	292	P	P	11 53 40.7	+0.7
SHAO	Shalim	71.33	292	P	P	11 53 40.7	+0.7
SOCY	Socotra	71.52	285	P	P	11 53 41.5	+0.3
	SNR=18						
SOCY	Socotra	71.52	285	P	P	11 53 41.1	-0.1
SOCY				IAmb	IAmb	11 53 42.1	
	comp=Z,24nm,0.6s						
DMTO	DMTO	71.88	291	P	P	11 53 43.5	+0.4
MAW	Mawson	72.09	200	P	P	11 53 43.4	0.0
MAW				pmax	pmax		
	comp=Z,9.0nm,1.5s						
MAW	Mawson	72.09	200	P	P	11 53 43.4	0.0
	comp=Z,3.3nm,0.6s,baz=64,slow=11,SNR=4.3						
MAW	Mawson	72.09	200	IAmb	IAmb	11 53 47.8	
	comp=Z,8.7nm,1.5s						
UOSS	Minazif	72.69	299	P	P	11 53 48.0	+0.3
HATD	Hatta, Dubai	72.72	299	*i* P	P	11 53 48.7	+0.9
	SNR=5.3						
HATD	Hatta, Dubai	72.72	299	P	P	11 53 48.5	+0.6
	SNR=5.2						
ASHO	Ashiyiah	72.74	299	*i* P	P	11 53 48.6	+0.5
	SNR=6.8						
ASHO	Ashiyiah	72.74	299	P	P	11 53 48.5	+0.5
	SNR=6.8						
ALNE	Al Ain	72.83	298	P	P	11 53 49.6	+1.1
MSFE	Esma-Masafi	72.85	299	P	P	11 53 49.9	+1.2
VNDA	Vanda	72.87	172	P	P	11 53 48.4	+0.7
VNDA	Vanda	72.87	172	P	P	11 53 48.4	+0.7
BANOM	Banah	72.89	300	P	P	11 53 49.7	+0.8
WHFO	Wadi Hawf	73.01	291	P	P	11 53 49.8	+0.1
	SNR=7.8						
SHME	Shamm	73.07	300	P	P	11 53 50.7	+0.8
FAQ	Al Faqa, Dubai	73.16	299	P	P	11 53 51.1	+0.7
NAZ	Nazwa, Dubai	73.17	299	P	P	11 53 50.9	+0.4
ABTO	Aybut	73.32	291	P	P	11 53 51.9	+0.4
ASUD	Al Ashush, Dub	73.36	298	P	P	11 53 52.5	+1.0
SEY	Seymchan	73.67	13	*i* P	P	11 53 53.3	+0.8
OPO	Ambohidratompo	74.44	253	P	P	11 53 58.1	+0.1
	comp=Z,6.5nm,0.7s,baz=71,slow=6.5,SNR=6.7						
MZR	Muzera	74.55	296	P	P	11 53 59.0	+0.7
BRVK	Borovoye	75.06	330	P	P	11 54 00.9	+0.4
	SNR=15						
BRVK	Borovoye	75.06	330	*ce*P	P	11 54 00.7	+0.2
BRVK				pmax	pmax		
	comp=Z,53nm,1.2s						
BRVK	Borovoye	75.06	330	P	P	11 54 00.6	+0.2
BRVK				IAmb	IAmb	11 54 02.0	
	comp=Z,60nm,1.2s						
GEYT	Alibeck	75.45	312	P	P	11 54 04.0	+0.9
	comp=Z,16nm,0.6s,baz=157,slow=4.5,SNR=41						
AB31	Akbulak array	78.77	323	*i* P	P	11 54 20.5	-0.3
AB31				pmax	pmax		
	comp=Z,12nm,0.5s						
ABKAR	Akbulak array	78.77	323	IAmb	IAmb	11 54 21.9	
	comp=Z,46nm,1.1s						
TIXI	Tiksi	79.05	2	*de*P	P	11 54 21.2	-0.6
TIXI				pmax	pmax		
	comp=Z,36nm,1.1s						
TIXI	Tiksi	79.05	2	P	P	11 54 21.3	-0.6
AKTO	Aktyubinsk	80.40	324	P	P	11 54 29.4	0.0
AKTO				pmax	pmax		
	comp=Z,65nm,0.8s						
SYO	Syowa Base	80.78	201⇓	*e*P	P	11 54 30.0	-1.0
SYO	Syowa Base	80.78	201⇑	*e*X	P	11 54 33.0	+2.0
BILL	Bilibino	81.21	15⇑	*e*P	P	11 54 33.2	0.0
BILL				*e**PP	pwP	11 56 33.4	-0.1
BILL				*e*		11 57 48.5	
BILL				*e*PPP	PPP	11 59 49.2	
BILL				pmax	pmax		
	comp=Z,12nm,1.5s						
BILL	Bilibino	81.21	15	P	P	11 54 32.5	-0.7
SVE	Sverdlovsk	81.77	330⇑	*e*P	P	11 54 36.6	+0.3
SVE				pmax	pmax		
	comp=Z,48nm,1.0s						
RAYN	Ar Rayn	81.80	295	*i* P	P	11 54 38.3	+1.1
	SNR=26						
RAYN	Ar Rayn	81.80	295	P	P	11 54 37.8	+0.5
RAYN				pmax	pmax		
	comp=Z,23nm,0.8s						
RAYN	Ar Rayn	81.80	295	P	P	11 54 37.8	+0.5
RAYN				IAmb	IAmb	11 54 39.1	
	comp=Z,23nm,0.8s						
QSPA	South Pole Qui	82.51	180	P	P	11 54 40.5	+0.4
	baz=142,slow=1.7						
QSPA	South Pole Qui	82.51	180	P	P	11 54 39.6	-0.5
ARU	Arti	82.62	330	*d i*P	P	11 54 40.3	-0.3
ARU				S	S	12 04 07.7	-4.7
ARU				pmax	pmax		
	comp=Z,24nm,0.8s						
ARU	Arti	82.62	330	P	P	11 54 40.0	-0.5
ARU				IAmb	IAmb	11 54 41.0	
	comp=Z,20nm,0.7s						
KMBO	Kilima Mbogo	85.84	269	P	P	11 54 59.3	+1.6
KMBO	Kilima Mbogo	85.84	269	P	P	11 54 58.7	+1.0
	comp=Z,1.6nm,0.7s,baz=59,slow=7.2,SNR=4.8						
KMBO	Kilima Mbogo	85.84	269	IAmb	IAmb	11 54 59.7	
	comp=Z,1.8nm,0.7s						
TBLG	Delisi	86.40	313	IAmb	IAmb	11 55 01.8	
	comp=Z,30nm,0.9s						
KBZ	Khabaz	88.16	314	*i* P	P	11 55 07.3	-0.3
KBZ	Khabaz	88.16	314	P	P	11 55 07.8	+0.2
	comp=Z,7.4nm,0.8s,baz=147,slow=1.6,SNR=9.6						
KIV	Kislovodsk	88.36	315	*e*P	P	11 55 08.3	-0.4
KIV				pmax	pmax		
	comp=Z,23nm,1.1s						
VRH	Novokhopyorsk	90.46	322	*e*P	P	11 55 17.0	-1.1
VRH				pmax	pmax		
	comp=Z,20nm,0.7s						
PRGR	Permogore	90.67	332	*e*P	P	11 55 16.8	-2.0
PRGR				pmax	pmax		
	comp=Z,17nm,0.8s						
VORD	Divnogorie	91.92	321	*e*P	P	11 55 23.6	-1.2
VORD				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VSR	Storozhevoye	92.04	321	*e*P	P	11 55 23.6	-1.8
VSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LPSR	Galich'ya Gora	92.41	323	*e*P	P	11 55 26.6	-0.4
LPSR				pmax	pmax		
	comp=Z,20nm,0.8s						
BOSA	Boshof	93.38	241	P	P	11 55 32.1	-0.2
	comp=Z,3.4nm,1.0s,baz=114,slow=7.7,SNR=3.0						
BOSA	Boshof	93.38	241	IAmb	IAmb	11 55 34.7	
	comp=Z,14nm,1.5s						
OBN	Obninsk	94.15	325⇑	*e*P	P	11 55 34.8	-0.1
OBN				*e**PP	pP	11 57 38.1	+2.6
OBN				*e*		11 59 30.5	
OBN				*e*PPP	PPP	12 01 39.0	
OBN				pmax	pmax		
	comp=Z,42nm,1.3s						
SKT	Skwentna	94.32	28	IAmb	IAmb	11 55 35.4	
	comp=Z,14nm,1.3s						
BRTR	Keskin Array B	94.38	309	P	P	11 55 35.6	-1.0
	comp=Z,1.7nm,0.7s,baz=126,slow=5.5,SNR=5.6						
SUA	Susitna One	94.62	29	IAmb	IAmb	11 55 36.7	
	comp=Z,10nm,0.9s						
MLY	Manley	95.05	25	IAmb	IAmb	11 55 39.4	
	comp=Z,13nm,1.1s						
MCK	McKinley	95.70	27	IAmb	IAmb	11 55 41.7	
	comp=Z,14nm,1.1s						
CCB	Clear Creek Bu	96.27	26	P	P	11 55 42.6	-1.6
CCB				IAmb	IAmb	11 55 43.9	
	comp=Z,9.6nm,0.8s						
DHY	Denali Highway	96.34	27	IAmb	IAmb	11 55 45.3	
	comp=Z,7.8nm,1.0s						
HDA	Harding Lake	96.62	26	IAmb	IAmb	11 55 45.7	
	comp=Z,9.2nm,0.9s						
ILAR	Eielson Array	96.67	26	P	P	11 55 44.2	-1.9
	comp=Z,2.4nm,0.9s,baz=272,slow=4.1,SNR=22						
ILAR				PP	PP	11 59 52.5	+2.5
	comp=Z,1.6nm,1.1s,baz=268,slow=7.2,SNR=6.1						
DOT	Dot Lake	97.86	27	IAmb	IAmb	11 55 51.5	
	comp=Z,5.0nm,0.9s						
AKASG	Malin Array Be	98.25	320	*i* P	Pdif	11 55 52.5	-0.9
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKASG	Malin Array Be	98.25	320	P	Pdif	11 55 51.8	-1.6
	comp=Z,2.2nm,0.6s,baz=76,slow=4.7,SNR=8.8						
ARCES	ARCESS Array B	99.65	339	P	Pdif	11 55 58.2	-1.1
	comp=Z,7.7nm,1.0s,baz=83,slow=6.0,SNR=9.9						
FINES	FINESS Array B	99.93	331	P	Pdif	11 55 59.7	-1.0
	comp=Z,2.5nm,0.9s,baz=46,slow=8.2,SNR=6.6						
FINES				PKiKP	PKiKP	12 00 24.4	-0.8
	comp=Z,1.9nm,0.7s,baz=120,slow=2.6,SNR=4.2						
GERES	GERESS Array B	108.40	319	PKiKP	PKiKP	12 00 41.4	+0.1
	comp=Z,0.5nm,0.8s,baz=33,slow=3.2,SNR=4.0						
YKA	Yellowknife Ar	111.08	25	PKiKP	PKiKP	12 00 45.5	-0.3
	comp=Z,2.3nm,0.7s,baz=309,slow=2.0,SNR=25						
MOD	Modoc Plateau	114.60	47		PKiKP	12 00 53.8	+0.4
NEW	Newport	115.10	40	PKIKP	PKiKP	12 00 55.7	+1.7
NEW	Newport	115.10	40		PKiKP	12 00 55.7	+1.7
NVAR	Mina Array Bea	116.84	51	PKP	PKiKP	12 00 58.6	+0.7
	comp=Z,2.1nm,0.8s,baz=266,slow=2.1,SNR=12						
NVAR				PP	PP	12 02 21.6	+5.0
	comp=Z,0.7nm,0.8s,baz=274,slow=11,SNR=4.3						
FFC	Flin Flon	120.71	29	*i* PKIKP	PKiKP	12 01 05.5	+0.8
PDAR	Pinedale Array	121.96	44	PKP	PKiKP	12 01 08.1	+0.2
	comp=Z,1.0nm,0.5s,baz=122,slow=0.9,SNR=17						
PDAR				PKKPbc	PKKPbc	12 11 08.6	0.0
	comp=Z,0.2nm,0.5s,baz=96,slow=8.1,SNR=3.6						
TOA0	Torodi Ar. Sit	122.28	281		PKiKP	12 01 09.0	+0.1
TORD	Torodi Ar. Bea	122.28	281	PKP	PKPdf	12 01 08.7	0.0
	comp=Z,7.6nm,0.7s,baz=78,slow=1.9,SNR=48						
TORD				SKP		12 03 52.2	
	comp=Z,2.4nm,1.0s,baz=40,slow=3.1,SNR=7.5						
ESDC	Sonseca Array	122.99	313	PKP	PKiKP	12 01 09.9	+0.1
	comp=Z,1.3nm,0.6s,baz=22,slow=2.7,SNR=14						
ESDC				PP	PP	12 02 53.2	-4.5
	comp=Z,0.2nm,0.4s,baz=62,slow=6.6,SNR=4.9						
PAB	San Pablo	123.31	313	PKIKP	PKiKP	12 01 10.6	+0.2
PAB	San Pablo	123.31	313		PKiKP	12 01 10.6	+0.2
MVO	Moncorvo	124.63	316	*e*PKPdf	PKiKP	12 01 13.9	+0.9
PVRL	Vila Real	125.06	316	*e*PKPdf	PKiKP	12 01 14.5	+0.7
RSSD	Black Hills	125.07	40	PKIKP	PKPdf	12 01 13.1	-0.4
RSSD	Black Hills	125.07	40		PKPdf	12 01 13.1	-0.4
POLO	Lamas de Olo	125.08	316	*e*PKPdf	PKiKP	12 01 14.8	+0.9
MTE	Manteigas	125.29	315	*e*PKPdf	PKiKP	12 01 14.1	-0.2
PCBR	Castelo Branco	125.46	314	*e*PKPdf	PKiKP	12 01 15.4	+0.9
PMRV	Marv??o	125.56	314	*e*PKPdf	PKiKP	12 01 15.3	+0.5
PCAS	Casmilo, Conde	126.10	315	*e*PKPdf	PKiKP	12 01 16.6	+0.8
PMTG	Montargil	126.29	314	*e*PKPdf	PKPdf	12 01 15.7	0.0
ULM	Lac du Bonnet	126.39	30	PKP	PKPdf	12 01 15.2	-0.3
	comp=Z,5.4nm,0.6s,baz=304,slow=1.3,SNR=11						
PNCL	Nicolau / Gran	126.88	313	*e*PKPdf	PKiKP	12 01 18.3	+0.9
ANMO	Albuquerque	126.94	52	*c i*PKIKP	PKPdf	12 01 16.6	-0.8
ANMO				pmax	pmax		
	comp=Z,17nm,2.5s						
ANMO	Albuquerque	126.94	52		PKiKP	12 01 18.4	+0.4
KIC	Kosan Boka	128.33	272	*e*P	PKPdf	12 01 19.5	-0.8
	comp=Z,9.9nm,0.8s						
DBIC	Dimbokro	128.47	273	PKIKP	PKPdf	12 01 20.7	+0.1
DBIC	Dimbokro	128.47	273	PKP	PKiKP	12 01 21.0	-0.3
	comp=Z,2.0nm,0.5s,baz=34,slow=2.0,SNR=4.7						
DBIC				SKPbc	SKPbc	12 03 50.0	
	comp=Z,4.1nm,0.8s,baz=74,slow=8.2,SNR=3.8						
DBIC	Dimbokro	128.47	273		PKPdf	12 01 20.7	+0.1
LIC	Lamto	128.61	272	*e*P	PKiKP	12 01 21.5	-0.1
	comp=Z,12nm,0.5s						
TIC	Toumodi	128.63	273	*e*P	PKPdf	12 01 20.5	-0.4
ECSD	EROS Data Cent	129.88	37		PKPdf	12 01 22.0	-0.5
PLCA	Paso Flores	130.39	166	PKIKP	PKPdf	12 01 23.7	+0.1
PLCA	Paso Flores	130.39	166	PKP	PKPdf	12 01 24.0	+0.4
	comp=Z,0.8nm,0.7s,baz=76,slow=2.9,SNR=5.3						
PLCA				SKPbc	SKPbc	12 03 56.3	+0.2
	comp=Z,7.0nm,1.3s,baz=159,slow=3.0,SNR=4.5						
PLCA	Paso Flores	130.39	166		PKPdf	12 01 23.7	+0.1
TXAR	Lajitas Array	130.92	57	PKP	PKiKP	12 01 26.3	+0.4
	comp=Z,1.7nm,0.8s,baz=256,slow=2.6,SNR=3.8						
TXAR				SKPbc	SKPbc	12 03 58.0	-0.3
	comp=Z,1.6nm,0.8s,baz=267,slow=3.3,SNR=11						
SCHQ	Schefferville	132.09	8	PKP	PKiKP	12 01 27.6	+0.2
	comp=Z,12nm,0.9s,baz=348,slow=1.5,SNR=8.1						
CCM	Cathedral Cave	136.46	40	PKHKP	PKPpre	12 01 23.4	
CCM						12 01 36.2	
CCM	Cathedral Cave	136.46	40		PKPpre	12 01 23.4	
CCM				PKPdf	PKiKP	12 01 36.2	-0.6
WCI	Wyandotte Cave	139.41	37	PKHKP	PKPpre	12 01 32.2	
WCI	Wyandotte Cave	139.41	37		PKPpre	12 01 32.1	
CFA	Coronel Fontan	139.63	165	PKhKP	PKPpre	12 01 33.5	
	comp=Z,1.3nm,0.3s,baz=218,slow=10,SNR=5.3						
CFA				PKP	PKPdf	12 01 41.1	+0.1
	comp=Z,3.6nm,0.7s,baz=275,slow=3.4,SNR=6.9						
CFA				SKPbc	SKPbc	12 04 24.3	-0.9
	comp=Z,7.5nm,1.0s,baz=244,slow=3.2,SNR=11						
WVT	Waverly	139.80	40	PKHKP	PKPpre	12 01 30.6	
WVT	Waverly	139.80	40		PKPpre	12 01 30.6	
R55A	Marlinton	142.78	31		PKPdf	12 01 43.5	-3.0
GOGA	Godfrey	144.29	40	PKIKP	PKPdf	12 01 49.1	0.0
GOGA	Godfrey	144.29	40		PKPdf	12 01 49.1	0.0
W57A	Gilead	145.18	34		PKPbc	12 01 51.2	-0.3
CPUP	Villa Florida	146.39	179	PKIKP	PKPdf	12 01 53.5	+0.6
CPUP	Villa Florida	146.39	179	PKP	PKPdf	12 01 52.9	-0.1
	comp=Z,9.5nm,0.8s,baz=238,slow=0.1,SNR=17						
CPUP				PKPbc	PKPbc	12 01 56.0	+0.7
	comp=Z,9.5nm,0.8s,baz=178,slow=2.6,SNR=20						
CPUP	Villa Florida	146.39	179		PKPdf	12 01 53.5	+0.6
TEIG	Tepich	146.99	64		PKPbc	12 01 57.3	+0.3
LVC	Limon Verde	147.83	159	PKPbc	PKiKP	12 02 00.6	-0.5
	comp=Z,11nm,0.7s,baz=263,slow=3.7,SNR=7.1						
LVC	Limon Verde	147.83	159		PKiKP	12 02 00.5	-0.6
DWPF	Disney Wildern	148.96	46		PKPbc	12 02 02.1	+0.3
PB11	IPOC Station P	150.12	155		PKiKP	12 02 05.4	-0.2
LPAZ	La Paz	153.86	155	PKIKP	PKPdf	12 02 03.8	-1.7
LPAZ	La Paz	153.86	155	PKP	PKPdf	12 02 04.1	-1.4
	comp=Z,1.3nm,0.9s,baz=172,slow=0.4,SNR=3.7						
LPAZ				PKPbc	PKiKP	12 02 15.2	+1.3
	comp=Z,1.3nm,0.4s,baz=186,slow=6.1,SNR=6.3						
LPAZ				PKPab	PKPab	12 02 30.4	+0.7
	comp=Z,4.8nm,0.8s,baz=140,slow=3.1,SNR=11						
LPAZ	La Paz	153.86	155		PKPdf	12 02 03.8	-1.7
LPAZ					PKiKP	12 02 16.9	+2.9
LPAZ					PKPab	12 02 30.3	+0.6
SIV	San Ignacio	156.30	170	PKP	PKPdf	12 02 07.9	-0.1
	comp=Z,1.1nm,0.8s,baz=160,slow=2.2,SNR=5.7						
SIV				PKPab	PKPab	12 02 40.3	+0.9
	comp=Z,1.4nm,0.5s,baz=200,slow=5.3,SNR=10.0						

ISCJB ***08*** *12:03:24.2±0.5, 24°.91N±0°.03×122°.48E±0°.03, h18km±4km, Error ellipse: s-maj=4.5km s-min=3.9km az=34.4*
JMA ***08*** *12:03:25.0±0.1, 24°.86N×122°.45E, h20km, M2.8*
TAP ***08*** *12:03:25.1, 24°.90N×122°.44E, h17km±1km, ML3.0, C*
ISC 08 12:03:23.3±1.4**, 24°.89N**±0°.03×**122°.45E**±0°.03**, h7**km±10km**, n60, σ0.53**/97**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.43	285	P	Pb	12 03 33.3	+0.1
	baz=284						
TWB1				S	Sb	12 03 39.3	-0.6
	baz=284						
EOS1	EOS1	0.45	220	*e*P	Pb	12 03 34.3	+0.8
	baz=218						
EOS1				*e*S	Sb	12 03 41.2	+0.9
	baz=218						
EGS		0.47	264	*e*P	Pb	12 03 34.5	+0.6
	baz=262						
EGS				*e*S	Sb	12 03 40.8	-0.2
	baz=262						
TIPB	Shuangxi	0.57	278	P	Pb	12 03 35.9	+0.3
	baz=276						
TIPB				*e*S	Sb	12 03 43.8	-0.1
	baz=276						
TWC	Suao	0.61	243	P	Pb	12 03 36.4	+0.1
	baz=240						
TWC				S	Sg	12 03 43.9	+0.8
	baz=240						
JYNG	Yonagunijimaku	0.63	134	P	Pb	12 03 36.8	+0.2
JYNG				S	Sb	12 03 45.3	-0.3
WFSB	Wu-fen Shan	0.63	286	*e*P	Pb	12 03 36.9	+0.3
	baz=285						
WFSB				*e*S	Sb	12 03 45.6	0.0
	baz=285						
YOJ	Yonaguni jima	0.67	130	P	Pb	12 03 37.4	+0.2
YOJ	Yonaguni jima	0.67	130	*e*P	Pb	12 03 37.5	+0.2
	baz=130						
TWE	Neicheng	0.73	257	P	Pb	12 03 38.4	+0.1
	baz=254						
TWE				S	Sb	12 03 48.4	-0.1
	baz=254						
SLBB	Yuanshan	0.75	260	*e*P	Pg	12 03 37.8	+0.1
	baz=258						
NANB	Nanao	0.79	234	P	Pb	12 03 39.3	0.0
	baz=232						
NANB				S	Sb	12 03 50.5	+0.4
	baz=232						
TWA	Mucha	0.79	277	*e*P	Pb	12 03 39.6	+0.3
	baz=275						
TWA				*e*S	Sb	12 03 49.8	-0.5
	baz=275						
ENA	Nanau	0.79	234	*e*P	Pb	12 03 39.3	0.0
	baz=232						
ENA				*e*S	Sb	12 03 50.0	-0.3
	baz=232						
PCYT	Pengchaiyu	0.81	335	*e*P	Pb	12 03 40.2	+0.6
	baz=335						
YM08	YM08	0.83	291	*e*P	Pb	12 03 39.6	-0.4
	baz=290						
YM08				*e*S	Sb	12 03 51.2	-0.3
	baz=290						
YM01	YM01	0.83	288	*e*P	Pb	12 03 40.2	+0.1
	baz=287						
YM11	YM11	0.84	289	*e*P	Pn	12 03 41.3	-0.2
	baz=288						
ENTT	Nioudou	0.84	253	P	Pb	12 03 40.5	+0.3
	baz=251						
ENTT				*e*S	Sn	12 03 53.3	-0.9
	baz=251						
NHDH	Xindian Distri	0.84	275	*e*P	Pb	12 03 40.5	+0.3
	baz=274						
NHDH				*e*S	Sb	12 03 51.0	-0.7
	baz=274						
YM05	YM05	0.84	289	*e*P	Pb	12 03 40.8	+0.5
	baz=288						
YM10	YM10	0.85	288	*e*P	Pb	12 03 40.2	-0.1
	baz=287						
TWY	Chenhua	0.86	297	*e*P	Pb	12 03 40.4	-0.1
	baz=295						
TWY				*e*S	Sb	12 03 52.0	-0.2
	baz=295						
NWLT	Wulai	0.87	263	P	Pb	12 03 41.0	+0.4
	baz=261						
NWLT				*e*S	Sb	12 03 52.2	-0.3
	baz=261						
YM04	YM04	0.87	288	*e*P	Pn	12 03 42.0	0.0
	baz=286						
TATO	Taipei	0.88	276	*e*P	Pb	12 03 41.1	+0.4
	baz=274						
TATO				*e*S	Sb	12 03 52.4	-0.3
	baz=274						
ANP	Anpu	0.89	289	*e*P	Pb	12 03 40.9	-0.2
	baz=288						
ANP				*e*S	Sb	12 03 53.0	-0.3
	baz=288						
NDT	Datong Townshi	0.90	251	P	Pn	12 03 41.7	-0.6
	baz=250						
NDT				*e*S	Sb	12 03 53.7	+0.3
	baz=250						
YHNB	Yeheng	1.00	257	*e*P	Pb	12 03 43.1	+0.2
	baz=256						
YHNB				*e*S	Sb	12 03 56.4	+0.1
	baz=256						
NSK	Sanguang	1.01	258	P	Pn	12 03 43.6	-0.3
	baz=256						
NSK				*e*S	Sb	12 03 57.1	+0.4
	baz=256						
NACB	Ninganchiao	1.06	228	*e*P	Pb	12 03 43.8	0.0
	baz=226						
NACB				*e*S	Sb	12 03 57.7	-0.2
	baz=226						
NNSB	Datong	1.07	245	*e*P	Pb	12 03 44.3	0.0
	baz=243						
NNSB				*e*S	Sb	12 03 58.7	+0.2
	baz=243						
NNSH	Datong	1.07	245	P	Pn	12 03 44.5	-0.3
	baz=243						
NNSH				S	Sg	12 03 57.6	-0.2
	baz=243						
NNS	Nan Shan	1.08	245	P	Pn	12 03 44.7	-0.2
	baz=244						
NNS				S	Sb	12 03 58.5	-0.2
	baz=244						
ETLH	Xiulin Townshi	1.11	232	*e*P	Pb	12 03 44.8	-0.1
	baz=231						
ETLH				*e*S	Sb	12 03 59.9	+0.2
	baz=231						
TWD	Chiawan	1.12	224	*e*P	Pb	12 03 44.9	-0.1
	baz=222						
TWD				*e*S	Sb	12 03 59.5	-0.2
	baz=222						
WHF	Hehuan Shan	1.31	236	*e*P	Pn	12 03 48.2	-0.1
	baz=234						
WHF				*e*S	Sg	12 04 05.2	-0.2
	baz=234						
TWT	Tachien	1.32	241	*e*P	Pb	12 03 48.9	+0.4
	baz=240						
TWT				*e*S	Sn	12 04 06.7	+0.4
	baz=240						
LIOB	Emei	1.32	260	*e*P	Pn	12 03 48.0	-0.2
	baz=258						
LIOB				*e*S	Sn	12 04 08.5	+2.3
	baz=258						
TDCB	Techi	1.34	242	*e*P	Pg	12 03 49.0	+0.1
	baz=240						
TDCB				*e*S	Sg	12 04 04.9	-1.4
	baz=240						
NSTT	Nanjuang	1.34	259	*e*P	Pn	12 03 48.0	-0.4
	baz=258						
ESL	Shilin	1.42	221	*e*P	Pn	12 03 49.5	0.0
	baz=219						
CHGB	Renai	1.43	235	*e*P	Pg	12 03 51.1	+0.4
	baz=233						
CHGB				*e*S	Sn	12 04 09.3	+0.4
	baz=233						
WHP	Taichung City	1.50	246	*e*P	Pb	12 03 51.5	+0.1
	baz=245						
EGFH	Guangfu	1.53	218	*e*P	Pn	12 03 49.7	-1.4
	baz=216						
TWQ1	Liyutan	1.62	251	*e*P	Pb	12 03 52.8	-0.7
	baz=249						
DPDB	Guoxing	1.63	239	*e*P	Pn	12 03 52.4	-0.1
	baz=237						
VWDT	VWDT	1.65	227	*e*P	Pn	12 03 53.1	+0.5
	baz=225						
VWDT				*e*S	Sn	12 04 13.1	-0.9
	baz=225						
HGSD	Ruisui	1.68	214	*e*P	Pn	12 03 53.5	+0.5
	baz=213						
EHY	Hungye	1.72	217	*e*P	Pn	12 03 52.9	-0.8
	baz=216						
SMLT	Sun Moon Lake	1.73	235	*e*P	Pb	12 03 54.6	-0.9
	baz=233						
SMLT				*e*S	Sg	12 04 19.1	+0.1
	baz=233						
SSLB	Suanglung	1.75	231	*e*P	Pn	12 03 54.6	+0.5
	baz=230						
SSLB				*e*S	Sb	12 04 18.4	+0.4
	baz=230						
TYC	Yuchr	1.75	236	*e*P	Pb	12 03 55.3	-0.5
	baz=235						
YULB	Yu-li	1.83	215	*e*P	Pn	12 03 54.7	-0.4
	baz=214						
TWF1	Yuli	1.86	215	*e*P	Pn	12 03 54.1	-1.5
	baz=213						
WHYT	Xinyi Township	1.88	231	*e*P	Pb	12 03 57.9	-0.1
	baz=230						
WHYT				*e*S	Sg	12 04 23.3	-0.5
	baz=230						
CHN5	Tsauling	2.07	232	*e*P	Pn	12 03 59.4	+0.9
	baz=231						
CHN5				*e*S	Sb	12 04 28.0	+0.9
	baz=231						
ELDTW	Lidau	2.14	218	*e*P	Pn	12 03 59.1	-0.4
	baz=217						
CHN4	Tsaushan	2.29	228	*e*P	Pn	12 04 00.8	-0.6
	baz=227						
TPUB	Ta-pu	2.30	227	*e*P	Pn	12 04 01.5	-0.1
	baz=226						

IDC ***08*** *12:32:00.6±3.5, 22°.98N×11°.54W, h0km, mb3.8/2, mb1 3.6/3, mb1mx3.3/45, mbtmp3.7/3, ML3.1/1, Error ellipse: s-maj=121.2km s-min=43.8km az=77.0*
ISC 08 12:32:01.2±1.6**, 22°.99N**±0°.08×**11°.8W**±0°.2**, h10**km**, n14, σ2.55**/15**, Mauritania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TANT	Tantan	5.42	5	P	Pg	12 33 43.1	-1.9
TANT				S	Sg	12 34 54.6	-0.5
TTIG	Tnine Tigouga,	8.09	21	P	Pn	12 34 05.1	+6.2
TTIG				S	Sn	12 35 34.6	+4.1
OUK	Oukaimeden	8.89	22	P	Pn	12 34 12.4	+2.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OUK				S	Sn	12 35 47.6	-2.9
ZGR	Zagora	8.98	36	P	Pn	12 34 16.6	+5.6
ZGR				S	Sn	12 35 55.5	+3.2
OUZM	OUZ	9.06	28	P	Pn	12 34 13.9	+1.8
OUZM				S	Sn	12 35 50.3	-4.1
TZRR	Tazzarine	9.53	34	P	Pn	12 34 20.9	+2.4
TZRR				S	Sn	12 36 03.9	-1.9
MDT	Midelt	11.65	31	Lg	Lg	12 38 03.1	
	0.1nm,0.3s,baz=297,slow=14,SNR=2.6						
MDT	Midelt	11.65	31	P	Pn	12 34 39.8	-7.8
MDT				S	Sn	12 36 38.6	-19
TORD	Torodi Ar. Bea	16.09	125	Pn	Pn	12 35 45.5	-2.1
	0.1nm,0.3s,baz=306,slow=11,SNR=3.7						
I48TN	KESRA INFRASON	22.31	50	*i*		14 54 30.0	
	baz=245,slow=294,SNR=1.7						
HFS	Hagfors	41.18	19	P	P	12 39 45.8	+0.2
	2.6nm,0.9s,baz=232,slow=7.3,SNR=5.1						
MKAR	Makanchi Array	76.26	45	P	P	12 43 50.8	+0.6
	0.3nm,0.5s,baz=299,slow=5.5,SNR=5.6						
WRA	Warramunga Arr	148.34	91	PKPbc	PKPbc	12 51 48.5	0.0
	0.5nm,0.9s,baz=295,slow=2.7,SNR=4.4						
ASAR	Alice Springs	148.50	98	PKPbc	PKPbc	12 51 49.0	0.0
	0.3nm,0.7s,baz=273,slow=1.9,SNR=5.9						

IDC 08 12:54:12.0±14.0, 1°.69S×125°.31E, h333km±165km, mb3.2/4, mb1 3.2/5, mb1mx2.8/41, mbtmp3.8/5, Error ellipse: s-maj=120.4km s-min=32.2km az=55.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	16.31	179	P	P	12 57 40.5	-1.2
	0.1nm,0.3s,baz=356,slow=13,SNR=3.3						
WRA	Warramunga Arr	20.18	155	P	P	12 58 21.7	-1.1
	1.5nm,0.5s,baz=334,slow=10.0,SNR=27						
ASAR	Alice Springs	23.38	160	P	P	12 58 53.0	+0.9
	1.6nm,0.4s,baz=335,slow=8.1,SNR=93						
STKA	Stephens Creek	33.73	155	P	P	13 00 23.6	+0.4
	1.3nm,0.8s,baz=328,slow=15,SNR=2.8						
MKAR	Makanchi Array	61.26	328	P	P	13 03 52.7	-0.1
	0.5nm,0.4s,baz=118,slow=7.6,SNR=12						

WEL 08 12:57:30.7, 38°S±6°×17°9E±°, h32km±8km, ML4.0/19, MLv3.7/27, Error ellipse: s-maj=0.0km s-min=0.0km az=8.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	0.44	262	P	Pb	12 57 40.4	+0.2
WMGZ				S	Sn	12 57 47.8	+0.1
MXZ	Matakaoa Point	0.56	290	P	Pb	12 57 41.5	-0.5
MXZ				S	Sb	12 57 49.9	-0.1
PUZ	Puketiti	0.64	240	P	Pn	12 57 44.0	+0.4
PUZ				S	Sn	12 57 54.1	+1.4
PKGZ	Pakihiroa	0.71	259	P	Pn	12 57 44.5	-0.2
PKGZ				S	Sn	12 57 54.7	+0.2
HAZ	Te Kaha	0.94	270	P	Pn	12 57 47.9	+0.3
HAZ				S	Sb	12 58 00.4	-0.1
CNGZ	Carnagh Statio	0.94	219	P	Pb	12 57 49.1	+0.6
RUGZ	Raukumara Rang	1.04	258	P	Pn	12 57 49.5	+0.3
RUGZ				S	Sb	12 58 03.4	-0.1
TKGZ	Te Karaka	1.11	232	P	Pb	12 57 50.7	-0.6
TKGZ				S	Sb	12 58 06.5	+1.0
MWZ	Matawai	1.27	243	P	Pn	12 57 52.6	+0.3
MWZ				S	Sb	12 58 09.6	-0.5
RIGZ	Rimuhau	1.34	225	P	Pn	12 57 53.9	+0.6
RAGZ	Rawiri	1.43	238	P	Pn	12 57 55.2	+0.8
RAGZ				S	Sb	12 58 13.7	-0.9
WIZ	White Island	1.43	279	P	Pn	12 57 55.2	+0.8
PRGZ	Paritu Road	1.44	216	P	Pn	12 57 55.2	+0.6
URZ	Urewera	1.55	251	P	Pn	12 57 57.2	+1.1
WHRZ	Whale Island	1.58	266	P	Pb	12 57 58.0	-1.2
KNZ	Kokohu	1.62	218	P	Pn	12 57 57.0	0.0
MHGZ	Mahia Peninsul	1.62	210	P	Pn	12 57 57.7	+0.6
SNGZ	Shannon Statio	1.64	231	P	Pn	12 57 57.6	+0.3
RTZ	Ruatahuna	1.78	241	P	Pn	12 58 00.5	+1.1
EDRZ	Edgecumbe	1.79	258	P	Pb	12 58 01.6	-1.3
MARZ	Manawahe	1.83	262	P	Pn	12 58 01.4	+1.5
MUGZ	Murupara	1.87	247	P	Pn	12 58 01.3	+0.8
RAHZ	Arahi	1.88	231	P	Pn	12 58 01.4	+0.8
WHHZ	Waihua	1.89	225	P	Pn	12 58 01.2	+0.4
OPRZ	Ohinepanea	1.91	267	P	Pn	12 58 01.3	+0.3
MTHZ	Maungataniwha	2.00	236	P	Pn	12 58 02.7	+0.5
TARZ	Mount Tarawera	2.00	255	P	Pn	12 58 03.7	+1.4
RRRZ	Republican Roa	2.02	253	P	Pn	12 58 03.4	+0.9
LIRZ	Lichensteins R	2.06	262	P	Pn	12 58 04.8	+1.8
OMRZ	Omania	2.08	260	P	Pn	12 58 05.2	+1.8
TGRZ	Tauranga	2.14	270	P	Pn	12 58 04.5	+0.2
ARHZ	Aropaoanui	2.16	225	P	Pn	12 58 05.0	+0.6
PRRZ	Plateau Road	2.16	249	P	Pn	12 58 05.0	+0.5
NMHZ	Naumai	2.16	231	P	Pn	12 58 05.3	+0.8
KARZ	Kaharoa	2.17	262	P	Pn	12 58 06.1	+1.5
ALRZ	Allen Road	2.22	248	P	Pn	12 58 06.1	+0.8
MRHZ	Matea Rd	2.27	241	P	Pn	12 58 06.8	+0.8
WPRZ	Whakapapatarin	2.34	250	P	Pn	12 58 08.8	+1.9
KMRZ	Kaimai	2.40	267	P	Pn	12 58 08.4	+0.7
BKZ	Black Stump Fm	2.40	233	P	Pn	12 58 08.3	+0.5
CKHZ	Cape Kidnapper	2.41	217	P	Pn	12 58 07.7	-0.1
MCHZ	McNeill Hill	2.45	226	P	Pn	12 58 08.7	+0.3
KUTZ	Kaahu Road	2.58	253	P	Pn	12 58 11.8	+1.5
KWHZ	Kaweka Forest	2.60	229	P	Pn	12 58 10.5	0.0
KAHZ	Kahuranaki	2.61	218	P	Pn	12 58 10.3	-0.3
RITZ	Rihia Road	2.73	243	P	Pn	12 58 13.0	+0.7
RATZ	Rangitukua	2.75	245	P	Pn	12 58 13.6	+1.0
TOZ	Tahuroa Road	2.75	269	P	Pn	12 58 12.5	0.0
KRHZ	Kereru	2.77	226	P	Pn	12 58 12.5	-0.3
PXZ	Pawanui	2.80	215	P	Pn	12 58 12.4	-0.8
BHHZ	Black Hill Sta	2.86	232	P	Pn	12 58 14.1	0.0
KRVZ	Karewarewa	2.93	242	P	Pn	12 58 15.7	+0.5
WTVZ	West Tongariro	2.98	242	P	Pn	12 58 16.7	+0.9
NGZ	Ngauruhoe	3.00	241	P	Pn	12 58 16.5	+0.4
MOVZ	Moawhango	3.01	236	P	Pn	12 58 16.7	+0.5
WPHZ	Waipukurau	3.03	220	P	Pn	12 58 15.9	-0.5
PNHZ	Pukenui	3.05	224	P	Pn	12 58 15.9	-0.9
PRHZ	Porangahau	3.09	215	P	Pn	12 58 15.9	-1.4
MKAZ	Moumakai	3.10	281	P	Pn	12 58 17.6	+0.3
WIAZ	Waiheke Island	3.20	286	P	Pn	12 58 19.3	+0.5
TSZ	Takapari Road	3.28	225	P	Pn	12 58 18.7	-1.2
KBAZ	Karaka Road Bo	3.31	280	P	Pn	12 58 21.5	+1.2
ETAZ	East Tamaki Re	3.31	283	P	Pn	12 58 21.1	+0.7
ANWZ	Angora Road	3.32	215	P	Pn	12 58 19.4	-1.1
HIZ	Hauiti	3.33	256	P	Pn	12 58 21.8	+1.3
DVHZ	Dannevirke	3.35	220	P	Pn	12 58 19.4	-1.4
MBAZ	Motutapu North	3.39	286	P	Pn	12 58 22.2	+0.8
EPAZ	Eden Park BICE	3.48	283	P	Pn	12 58 23.8	+1.3
ABAZ	Army Bay	3.50	288	P	Pn	12 58 23.9	+1.0
AWAZ	Awhitu Peninsu	3.51	280	P	Pn	12 58 24.3	+1.4
VRZ	Vera Road	3.57	246	P	Pn	12 58 24.9	+1.0
WTAZ	Waiatarua	3.59	282	P	Pn	12 58 25.6	+1.4
POWZ	Post Office Ro	3.62	222	P	Pn	12 58 23.9	-0.6
PRWZ	Pori Road	3.64	219	P	Pn	12 58 23.9	-0.9
WAZ	Wanganui	3.69	236	P	Pn	12 58 26.6	+1.1
MRZ	Mangatainoka R	3.92	221	P	Pn	12 58 27.2	-1.4
WCZ	Waipu Caves	4.12	295	P	Pn	12 58 32.3	+0.8
PKE	Pukeiti	4.16	248	P	Pn	12 58 34.5	+2.5
KHEZ	Kahui Hut	4.17	247	P	Pn	12 58 34.4	+2.2
KIW	Kapiti Island	4.42	224	P	Pn	12 58 33.9	-1.6
OUZ	Omahuta	5.01	299	P	Pn	12 58 44.9	+1.2

*ISCJB **08** 13:00:14.3±0.7, 53°.29N±0°.05×163°.45W±0°.06, h29km, mb3.6/6, Error ellipse: s-maj=8.0km s-min=4.8km az=154.5*
*IDC **08** 13:00:14.5±4.0, 53°.92N×163°.59W, h0km, mb3.5/7, mb1 3.6/9, mb1mx3.4/43, mbtmp3.5/9, ML3.1/2, Error ellipse: s-maj=93.5km s-min=18.4km az=161.0*
*AEIC **08** 13:00:15.9±1.8, 53°.39N±0°.07×163°.56W±0°.07, h20km±5km, ML3.1*
*NEIC **08** 13:00:17.2±1.7, 53°.40N±0°.08×163°.53W±0°.09, h39km±11km*
ISC 08 13:00:15.3±1.1, 53°.34N±0°.08×163°.44W±0°.05, h29km, n34, σ1§63/34, mb3.8/6, Unimak Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WESN	West Dahl Nort	1.41	332		Pn	13 00 39.4	+0.4
WESN					Sb	13 00 56.9	-1.6
SSBA	Shishaldin	1.49	345		Pn	13 00 40.4	+0.1
SSBA					Sb	13 00 59.8	-1.2
FALS	False Pass	1.52	1		Pn	13 00 41.0	+0.5
FALS	False Pass	1.52	1		Sn	13 01 00.4	+1.0
AKUT	Akutan	1.60	301		Pn	13 00 41.5	-0.1
AKBBA	Akutan Broad B	1.67	298		Pn	13 00 41.5	-1.0
AKMO	Akutan Morgan	1.70	297		Pn	13 00 43.2	+0.1
AKMO					Sn	13 01 03.2	-0.6
AKGG	Akutan Green G	1.74	301		Pn	13 00 43.8	+0.2
AKGG					Sn	13 01 03.9	-0.9
UNV	Unalaska Valle	1.90	287		Pn	13 00 45.7	0.0
MREP	Makushin Rep't	2.03	285		Pn	13 00 47.9	+0.4
MSW	Makushin Switc	2.07	288		Pn	13 00 48.7	+0.5
MCIR	Makushin Cirqu	2.14	288		Pn	13 00 49.8	+0.6
SDPT	Sand Point	2.66	40		Pn	13 00 58.3	+2.1
SDPT					Sn	13 01 28.5	+1.1
OKTU	Okmok Mt. Tuli	2.76	273		Pn	13 00 58.8	+1.2
OKSP	Okmok Steeple	2.91	270		Pn	13 01 00.6	+0.9
NIKH	Nikolski High	3.28	266		Pn	13 01 05.7	+1.0
NIKH					Sn	13 01 41.7	-1.0
VNHG	Veniaminof 1	3.81	39		Pn	13 01 14.9	+2.9
KDAK	Kodiak Island	7.59	50	Pn	Pn	13 02 04.6	+0.7
	0.8nm,0.3s,baz=153,slow=6.1,SNR=22						
KDAK				Sn	Sn	13 03 22.7	-6.2
	0.4nm,0.3s,baz=336,slow=23,SNR=9.3						
ADK	Adak	8.19	265		Pn	13 02 14.2	+2.1
ILAR	Eielson Array	14.22	30	Pn	Pn	13 03 27.9	-6.5
	0.0nm,0.3s,baz=216,slow=12,SNR=2.8						
DAWY	Dawson	16.36	40	P	P	13 04 07.6	+2.3
INK	Inuvik	20.59	32	P	P	13 04 49.7	-1.8
	0.6nm,0.9s,baz=236,slow=8.4,SNR=4.3						
PETK	Petropavlovsk-	23.08	285	P	P	13 05 19.3	+1.0
	3.9nm,0.9s,baz=83,slow=13,SNR=7.4						
YKA	Yellowknife Ar	26.87	51	P	P	13 05 53.0	-0.1
	0.3nm,0.7s,baz=274,slow=9.4,SNR=3.4						
H11N2	WAKE ISLAND Hy	40.59	226	T	T	13 51 33.3	
	baz=26,slow=76,SNR=18						
H11N3	WAKE ISLAND Hy	40.59	226	T	T	13 51 33.4	
	baz=26,slow=76,SNR=20						
H11N1	WAKE ISLAND Hy	40.60	226	T	T	13 51 34.7	
	baz=26,slow=76,SNR=18						
H11S1	WAKE ISLAND Hy	41.75	225	T	T	13 52 59.7	
	baz=26,slow=76,SNR=27						
H11S2	WAKE ISLAND Hy	41.77	225	T	T	13 53 01.4	
	baz=26,slow=76,SNR=26						
H11S3	WAKE ISLAND Hy	41.77	225	T	T	13 53 02.5	
	baz=26,slow=76,SNR=28						
SONM	Songino Array	53.83	303	P	P	13 09 35.9	+0.6
	0.7nm,0.7s,baz=36,slow=8.1,SNR=5.1						
ZALV	Zalesovo Beam	59.06	320	P	P	13 10 13.3	+1.1
	0.2nm,0.2s,baz=60,slow=8.5,SNR=2.2						
FINES	FINESS Array B	65.32	355	P	P	13 10 54.4	+0.4
	1.3nm,0.9s,baz=17,slow=6.1,SNR=1.3						
MKAR	Makanchi Array	65.66	317	P	P	13 10 55.8	-0.8
	0.2nm,0.6s,baz=35,slow=5.3,SNR=3.5						

RSNC 08 13:02:31.0±0.7, 6°.81N×73°.17W, h148km±3km, ML3.2, Mw3.5, 1C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.22	184	⇓*i*P	Pn	13 02 51.0	-0.5
BARC				*e*S	Sn	13 03 06.3	-0.7
BARC				*i*		13 03 07.7	
	comp=Z,495nm,0.6s						
BRRC	Barranca, Sant	0.61	298	*i* P	Pn	13 02 52.8	0.0
BRRC				*e*S	Sn	13 03 09.4	+0.1
BRRC				*i*		13 03 13.8	
	comp=Z,209nm,0.1s						
PAMC	Pamplona, Colo	0.70	42	⇓*i*P	Pn	13 02 53.8	-0.1
PAMC				*e*S	Sn	13 03 10.9	-0.3
PAMC				*i*		13 03 12.2	
	comp=N,480nm,0.4s						
RUSC	La Rusia	0.92	175	⇑*i*P	Pn	13 02 54.9	-0.6
RUSC				*e*S	Sn	13 03 13.8	-0.4
RUSC				*i*		13 03 14.7	
	comp=Z,230nm,0.3s						
PTBC	PUERTO BERRIO,	1.31	258	*e*P	Pn	13 02 57.5	-1.0
PTBC				*e*S	Sn	13 03 19.2	-0.3
PTBC				*i*		13 03 25.7	
	comp=Z,182nm,0.2s						
TAMC	Tame, Arauca	1.42	105	⇓*i*P	Pn	13 02 59.4	-0.2
TAMC				*i*		13 02 59.5	
	comp=Z,254nm,0.4s						
TAMC				*e*S	Sn	13 03 21.2	-0.2
OCAC	Ocana	1.42	354	*e*P	Pn	13 02 59.2	-0.6
OCAC				*e*S	Sn	13 03 20.9	-1.0
OCAC				*i*		13 03 24.3	
	comp=Z,99nm,0.2s						
SPBC	San Pablo de B	1.46	218	*e*P	Pn	13 02 59.8	-0.4
SPBC				*e*S	Sn	13 03 22.3	-0.1
SPBC				*i*		13 03 29.0	
	comp=Z,256nm,0.3s						
ZARC	Zaragoza, Cauc	1.81	292	*e*P	Pn	13 03 03.5	-0.3
ZARC				*e*S	Sn	13 03 28.7	-0.3
ZARC				*i*		13 03 39.3	
	comp=Z,120nm,0.2s						
NORC	Norcasia	2.10	234	*e*P	Pn	13 03 06.8	-0.5
NORC				*e*S	Sn	13 03 34.4	-0.7
NORC				*i*		13 03 42.8	
	comp=Z,135nm,0.2s						
SMLC	San Martn de	2.17	336	*e*P	Pn	13 03 07.5	-0.5
SMLC				*e*S	Sn	13 03 35.8	-0.8
SMLC				*i*		13 03 39.2	
	comp=Z,178nm,0.1s						
CHIC	Chingaza	2.24	195	*e*P	Pn	13 03 08.9	-0.5
CHIC				*e*S	Sn	13 03 38.4	-0.4
CHIC				*i*		13 03 41.8	
	comp=Z,76nm,0.4s						
ROSC	El Rosal	2.27	210	*e*P	Pn	13 03 10.8	+1.1
HELC	Santa Helena	2.43	255	*e*P	Pn	13 03 11.5	0.0
HELC				*e*S	Sn	13 03 42.2	-0.4
HELC				*i*		13 03 51.0	
	comp=Z,81nm,0.3s						
GUY2C	Guyana, Caldas	2.70	234	*e*P	Pn	13 03 15.3	+0.3
VILC	Villavicencio,	2.73	191	*e*P	Pn	13 03 14.7	-0.4
VILC				*e*S	Sn	13 03 49.1	-0.1
VILC				*i*		13 03 51.7	
	comp=Z,90nm,0.5s						
RREF	El Recreo	2.88	229	*e*P	Pn	13 03 17.7	+0.2
CBOC	Ciudad Bolivar	2.98	252	*e*P	Pn	13 03 19.5	+1.3
DBBC	Dabeiba	3.03	274	*e*P	Pn	13 03 18.5	-0.2
CODC	Agustn Codazz	3.11	355	*e*P	Pn	13 03 18.8	-1.0
CODC				*e*S	Sn	13 03 55.3	-2.2
CODC				*i*		13 04 01.0	
	comp=Z,23nm,0.4s						
ARGC	Ariguani, Magd	3.21	341	*e*P	Pn	13 03 21.2	+0.3
PRAC	Prado	3.52	209	*e*P	Pn	13 03 24.6	-0.5
ORTC	Ortega, Tolima	3.55	216	*e*P	Pn	13 03 25.2	-0.2
SJCC	San Jacinto, C	3.65	327	*e*P	Pn	13 03 25.2	-1.6
SJCC				*e*S	Sn	13 04 06.3	-3.8
SJCC				*i*		13 04 13.7	
	comp=Z,20nm,0.3s						
SMRC	Santa Marta, M	4.45	346	*e*P	Pn	13 03 35.7	-1.4
FLOC	Florencia	5.76	206	*e*P	Pn	13 03 54.0	-0.5

*DDA **08** 13:19:05.7, 37°.03N×28°.45E, h7km±3km, ML2.1*
*ISCJB **08** 13:19:06.5±0.4, 37°.04N±0°.02×28°.44E±0°.03, h8km±4km, Error ellipse: s-maj=3.9km s-min=3.5km az=10.9*
*ISK **08** 13:19:06.0, 37°.03N×28°.45E, h8km, ML2.6/12*
ISC 08 13:19:06.8±0.8, 37°.05N±0°.02×28°.42E±0°.02, h15km±6km, n28, σ1§08/43, 1D, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.14	308	PG	Pg	13 19 09.8	-0.9
YER				SG	Sg	13 19 13.5	+0.2
TURN	Turunc	0.23	140	*i* P	Pg	13 19 12.1	+0.3
TURN				*i* S	Sg	13 19 17.4	+2.1
TURN				IAML		13 19 18.0	
	comp=N,502nm,0.4s						
TURN				IAML		13 19 18.0	
	comp=E,525nm,0.2s						
TURN	Turunc	0.23	140	PG	Pg	13 19 12.1	+0.3
MRSB	Marmaris-Mugla	0.38	209	PG	Pg	13 19 13.1	-1.4
MRSB				SG	Sb	13 19 20.1	-0.7
MLSB	Milas	0.57	296	PG	Pb	13 19 18.3	-0.3
TAVA	DENIZLI_Tavas	0.57	43	*i* P	Pg	13 19 16.7	-1.4
TAVA				*i* S	Sg	13 19 25.5	-0.3
TAVA				IAML		13 19 28.0	
	comp=N,74nm,0.6s						
TAVA				IAML		13 19 30.0	
	comp=E,88nm,0.4s						
FETY	Fethiye	0.67	128	*i* P	Pg	13 19 18.3	-1.6
FETY				*i* S	Sg	13 19 27.3	-1.5
FETY	Fethiye	0.67	128	PG	Pg	13 19 18.4	-1.6
FETY				SG	Sb	13 19 28.7	-0.6
DAT	Datca	0.75	245	*i* P	Pg	13 19 20.1	-1.2
DAT				*i* S	Sb	13 19 32.4	+0.7
DAT				IAML		13 19 36.0	
	comp=E,54nm,0.2s						
DAT				IAML		13 19 37.0	
	comp=N,95nm,0.3s						
DAT	Datca	0.75	245	PG	Pg	13 19 20.5	-0.9
DAT				SG	Sb	13 19 32.3	+0.7
AYDN	Tasoluk	0.75	325	*i* P	Pg	13 19 20.9	-0.6
AYDN				*i* S	Sg	13 19 31.6	+0.2
AYDN				IAML		13 19 34.0	
	comp=E,114nm,0.2s						
AYDN				IAML		13 19 36.0	
	comp=N,125nm,0.4s						
BODT	Bodrum	0.89	271	PG	Pb	13 19 24.1	+0.1
GOLH	Golhisar	0.93	78	*i* P	Pb	13 19 24.1	-0.6
AYDB	Zeytinkoy-Aydi	0.99	335	PG	Pg	13 19 25.6	-0.5
GCAM	G?zelcaml?	1.15	305	*i* P	Pn	13 19 29.4	+1.0
GCAM				*i* S	Sn	13 19 44.8	+1.0
GCAM				IAML		13 19 46.0	
	comp=E,39nm,0.4s						
GCAM				IAML		13 19 49.0	
	comp=N,73nm,0.6s						
GCAM	G?zelcaml?	1.15	305	PN	Pn	13 19 29.0	+0.6
ELL	Elmali	1.23	104	PN	Pn	13 19 29.7	+0.1
AKAS	Kas	1.25	130	*i* P	Pn	13 19 30.5	+0.6
AKAS				*i* S	Sn	13 19 50.5	+4.0
AKAS				IAML		13 19 53.0	
	comp=E,47nm,0.3s						
AKAS				IAML		13 19 53.0	
	comp=N,86nm,0.9s						
AKAS	Kas	1.25	130	PN	Pn	13 19 29.9	0.0
MANT	Manisa	1.45	4	*i* P	Pb	13 19 33.5	0.0
MANT				*i* S	Sb	13 19 52.5	+0.6
MANT				IAML		13 19 54.0	
	comp=N,18nm,0.3s						
MANT				IAML		13 19 59.0	
	comp=E,16nm,0.4s						
KORT	Korkueli	1.54	91	*i* P	Pg	13 19 36.0	-0.5
KORT	Korkueli	1.54	91	PN	Pb	13 19 34.3	-0.9
KHAL	Karahalli	1.57	32	*i* P	Pn	13 19 34.7	+0.5
KHAL				*i* S	Sb	13 19 55.9	+0.6
KHAL				IAML		13 19 56.0	
	comp=E,16nm,0.5s						
KHAL				IAML		13 20 04.0	
	comp=N,8.9nm,0.7s						
DGB	zmir	1.58	310	*i* P	Pn	13 19 35.1	+0.9
DGB				*i* S	Sn	13 19 54.4	-0.1
DGB				IAML		13 20 07.0	
	comp=N,11nm,0.8s						
DGB				IAML		13 20 08.0	
	comp=E,36nm,0.9s						
AKUM	Antalya-Kumluc	1.70	114	*i* P	Pg	13 19 39.8	+0.3
USAK	Uak-Merkez	1.73	16	*i* P	Pn	13 19 36.0	-0.4
USAK				*i* S	Sb	13 19 59.7	-0.2
USAK				IAML		13 20 12.0	
	comp=N,22nm,0.5s						
USAK				IAML		13 20 14.0	
	comp=E,14nm,1.6s						
KARP	Karpathos	1.81	215	PN	Pb	13 19 38.4	-1.3
RCP	Roxas	86.54	78	⇓P	P	13 31 49.0	-0.7

*SOME **08** 13:19:09.9, 39°.83N×76°.87E, h0km*
*NNC **08** 13:19:14.0±1.5, 39°.92N×76°.83E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=10.4km s-min=8.1km az=154.0*
*KRNET **08** 13:19:19.7±0.1, 40°.10N×76°.81E, mb3.4*
ISC 08 13:19:14.1±2.5, 39°.93N±0°.10×76°.77E±0°.03, h7km±16km, n64, σ1§49/96, 34C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.62	339	⇑*i*P	Pg	13 19 47.4	+2.3
	baz=35						
NRN				⇑*i*S	Sg	13 20 07.7	+1.6
	baz=35						
TARG	Taragay, Kyrgy	1.96	23	⇑*i*P	Pg	13 19 53.4	+1.6
	baz=24						
TARG				⇑*i*S	Sg	13 20 18.0	+0.7
	baz=24						
KDJ	Kajisay	2.22	8	⇑*i*P	Pg	13 19 57.8	+1.1
	baz=8.0						
KDJ				⇑*i*S	Sg	13 20 25.3	-0.3
	baz=8.0						
ULHL	Ulahol	2.35	350	⇑*i*P	Pg	13 19 59.6	+0.4
	baz=49						
ULHL				⇑*i*S	Sg	13 20 28.5	-1.2
	baz=49						
ULHL	Ulahol	2.35	350	P	Pg	13 20 00.4	+1.2
	SNR=20						
KZA	Kyzart	2.44	332	⇑*i*P	Pg	13 20 01.5	+0.6
	baz=30						
KZA				⇑*i*S	Sg	13 20 31.4	-1.1
	baz=30						
KZA	Kyzart	2.44	332	P	Pg	13 20 01.7	+0.8
	SNR=62						
BOOM	Boomskoye usch	2.64	346	⇓*e*P	Pg	13 20 03.6	-1.1
	baz=45						
BOOM				⇓*i*S	Sb	13 20 35.7	+1.2
	baz=45						
ARLS	Aral	2.68	317	⇑*i*P	Pb	13 20 04.4	+1.9
	baz=14						
ARLS				⇑*i*S	Sb	13 20 37.9	+2.2
	baz=14						
PRZ	Przheval'sk	2.83	25	⇑*e*P	Pb	13 20 06.2	+1.1
	baz=26						
PRZ				⇑*i*S	Sb	13 20 40.0	-0.1
	baz=26						
UCH	Uchtor	2.87	324	⇑*e*P	Pb	13 20 07.4	+1.6
	baz=22						
UCH				⇑*i*S	Sb	13 20 42.2	+0.9
	baz=22						
UCH	Uchtor	2.87	324	P	Pb	13 20 07.7	+1.8
	SNR=26						
ANVS	Anan'yevo	2.93	13	⇑*i*P	Pb	13 20 07.4	+0.6
	baz=13						
ANVS				⇑*i*S	Sb	13 20 42.2	-0.8
	baz=13						
KBK	Karagaybulak	3.06	334	⇑*i*P	Pb	13 20 09.5	+0.6
	baz=32						
KBK				⇑*i*S	Sb	13 20 46.1	-0.4
	baz=32						
KBK	Karagaybulak	3.06	334	P	Sb	13 20 53.4	+7.0
	SNR=5.5						
IZV	Izvestkoviy	3.11	358	*e*P	Pb	13 20 10.1	+0.3
	9.1nm,0.5s						
IZV				*e*S	Sg	13 20 53.8	-0.2
	43nm,0.7s						
IZV	Izvestkoviy	3.11	358	Pg	Pb	13 20 10.1	+0.3
	9.1nm,0.5s						
IZV				Lg	Lg	13 20 54.6	
	43nm,0.7s						
TNSS	Tian-Shan	3.11	2	*e*P	Pb	13 20 10.6	+0.6
	24nm,0.4s						
TNSS				*e*S	Sg	13 20 54.9	+0.8
	35nm,0.5s						
TNSS	Tian-Shan	3.11	2	Pg	Pb	13 20 10.6	+0.6
	24nm,0.4s						
TNSS				Lg	Lg	13 20 54.9	
	35nm,0.5s						
TKM2	Tokmak 2	3.12	344	⇑*i*P	Pb	13 20 10.5	+0.5
	baz=43						
TKM2				⇑*i*S	Sb	13 20 47.3	-1.1
	baz=43						
TKM2	Tokmak 2	3.12	344	P	Pb	13 20 11.2	+1.2
	SNR=15						
TKM2	Tokmak 2	3.12	344	⇑Pg	Pb	13 20 11.0	+1.0
	3.4nm,0.4s						
TKM2				⇓Lg	Lg	13 20 51.8	
	12nm,0.5s						
KST	Kastek	3.17	349	*e*P	Pb	13 20 11.8	+0.9
	7.4nm,0.5s						
KST				*e*S	Sg	13 20 56.8	+0.7
	31nm,0.7s						
KST	Kastek	3.17	349	Pg	Pb	13 20 11.8	+0.9
	7.4nm,0.5s						
KST				Lg	Lg	13 20 56.8	
	31nm,0.7s						
AML	Almayashu	3.21	314	⇓*i*P	Pb	13 20 12.4	+0.8
	baz=12						
AML				⇓*i*S	Sb	13 20 51.0	0.0
	baz=12						
AML	Almayashu	3.21	314	P	Pb	13 20 12.6	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	SNR=27						
AAK	**Ala-Archa**	**3.21**	**328**	⇑*e*P	**Pb**	**13 20 11.8**	**+0.3**
	baz=26						
AAK				⇑*i*S	**Sb**	**13 20 50.0**	**-0.8**
	baz=26						
AAK	**Ala-Archa**	**3.21**	**328**	P	**Pb**	**13 20 12.4**	**+1.0**
	SNR=12						
AAK	**Ala-Archa**	**3.21**	**328**	Pg	**Pb**	**13 20 12.6**	**+1.1**
	5.5nm,0.5s						
AAK				⇑Lg	Lg	13 20 56.8	
	38nm,0.7s						
MTBS	**Maitube**	**3.21**	**355**	*e*P	**Pb**	**13 20 12.0**	**+0.5**
	10nm,0.3s						
MTBS				*e*S	**Sg**	**13 20 57.1**	**-0.2**
	42nm,0.3s						
MTBS	**Maitube**	**3.21**	**355**	Pg	**Pb**	**13 20 12.0**	**+0.5**
	10nm,0.3s						
MTBS				Lg	Lg	13 20 57.1	
	42nm,0.3s						
MDOK	**Medeo**	**3.24**	**4**	*e*P	**Pb**	**13 20 12.4**	**+0.3**
	12nm,0.4s						
MDOK				*e*S	**Sg**	**13 20 57.9**	**-0.3**
	42nm,0.5s						
MDOK	**Medeo**	**3.24**	**4**	Pg	**Pg**	**13 20 15.1**	**-1.1**
	18nm,1.0s						
MDOK				Lg	Lg	13 20 57.9	
	36nm,0.6s						
MDOK	**Medeo**	**3.24**	**4**	Pg	**Pb**	**13 20 12.4**	**+0.3**
	12nm,0.4s						
MDOK				Lg	Lg	13 20 57.9	
	42nm,0.5s						
KOTS	**Kotyrbulak**	**3.32**	**4**	*e*P	**Pb**	**13 20 13.8**	**+0.4**
	31nm,0.5s						
KOTS				*e*S	**Sg**	**13 21 00.0**	**-0.6**
	186nm,0.5s						
KOTS	**Kotyrbulak**	**3.32**	**4**	Pg	**Pb**	**13 20 13.8**	**+0.4**
	31nm,0.5s						
KOTS				Lg	Lg	13 21 00.7	
	186nm,0.5s						
SATY	**Saty**	**3.36**	**21**	*e*P	**Pb**	**13 20 15.0**	**+0.9**
	19nm,0.7s						
SATY				*e*S	**Sg**	**13 21 02.2**	**+0.1**
	40nm,1.0s						
SATY	**Saty**	**3.36**	**21**	Pg	**Pb**	**13 20 15.0**	**+0.9**
	19nm,0.7s						
SATY				Lg	Lg	13 21 02.2	
	40nm,1.0s						
DGS	**Degeres**	**3.40**	**348**	*e*P	**Pb**	**13 20 14.7**	**0.0**
	5.8nm,0.6s						
DGS				*e*S	**Sg**	**13 21 01.6**	**-1.6**
	22nm,0.6s						
DGS	**Degeres**	**3.40**	**348**	Pg	**Pb**	**13 20 14.7**	**0.0**
	5.8nm,0.6s						
DGS				Lg	Lg	13 21 02.9	
	22nm,0.6s						
CHMS	**Chumysh**	**3.43**	**334**	⇑*i*P	**Pb**	**13 20 14.7**	**-0.4**
	baz=33						
CHMS				⇑*i*S	**Sb**	**13 20 54.5**	**-2.5**
	baz=33						
CHMS	**Chumysh**	**3.43**	**334**	P	**Pb**	**13 20 15.3**	**+0.2**
	SNR=8.5						
EKS2	**Erkin-Say**	**3.54**	**321**	⇓*i*P	**Pb**	**13 20 16.9**	**-0.3**
	baz=19						
EKS2				⇓*i*S	**Sb**	**13 20 58.4**	**-2.1**
	baz=19						
EKS2	**Erkin-Say**	**3.54**	**321**	P	**Pb**	**13 20 17.1**	**-0.1**
	SNR=59						
USP	**Ospenovka**	**3.75**	**334**	⇑*i*P	**Pb**	**13 20 19.0**	**-1.6**
	baz=32						
USP				⇑*i*S	**Sb**	**13 21 02.6**	**-3.7**
	baz=32						
USP	**Ospenovka**	**3.75**	**334**	P	**Pb**	**13 20 19.8**	**-0.8**
	SNR=6.8						
KTBS	**Karatobe**	**3.79**	**359**	*e*P	**Pb**	**13 20 21.7**	**+0.5**
	4.9nm,0.5s						
KTBS				*e*S	**Sg**	**13 21 13.5**	**-2.1**
	30nm,0.3s						
KTBS	**Karatobe**	**3.79**	**359**	Pg	**Pb**	**13 20 21.7**	**+0.5**
	4.9nm,0.5s						
KTBS				Lg	Lg	13 21 14.3	
	30nm,0.3s						
MRKS	**Merke**	**3.88**	**318**	*e*P	**Pb**	**13 20 24.4**	**+1.5**
	7.3nm,0.4s						
MRKS				*e*S	**Sg**	**13 21 18.4**	**-0.4**
	14nm,0.6s						
MRKS	**Merke**	**3.88**	**318**	Pg	**Pb**	**13 20 24.4**	**+1.5**
	7.3nm,0.4s						
MRKS				Lg	Lg	13 21 18.4	
	14nm,0.6s						
CHKK	**Chushkaly**	**3.93**	**2**	*e*P	**Pb**	**13 20 24.8**	**+1.1**
	5.9nm,0.4s						
CHKK				*e*S	**Sg**	**13 21 19.0**	**-1.2**
	22nm,0.4s						
CHKK	**Chushkaly**	**3.93**	**2**	Pg	**Pb**	**13 20 24.8**	**+1.1**
	5.9nm,0.4s						
CHKK				Lg	Lg	13 21 19.0	
	22nm,0.4s						
PDGK	**Podgornoye**	**3.96**	**30**	⇑Pg	**Pg**	**13 20 28.5**	**-1.6**
	11nm,0.8s						
PDGK				⇓Lg	Lg	13 21 20.2	
	29nm,0.7s						
KUU	**Kurty**	**3.98**	**355**	*e*P	**Pb**	**13 20 25.3**	**+0.8**
	3.3nm,0.3s						
KUU				*e*S	**Sg**	**13 21 20.0**	**-1.8**
	9.0nm,0.5s						
KUU	**Kurty**	**3.98**	**355**	Pg	**Pb**	**13 20 25.3**	**+0.8**
	3.3nm,0.3s						
KUU				Lg	Lg	13 21 20.0	
	9.0nm,0.5s						
MNBS	**Baschi**	**4.32**	**16**	*e*P	**Pb**	**13 20 32.0**	**+1.6**
	23nm,0.5s						
MNBS				*e*S	**Sg**	**13 21 31.1**	**-1.9**
	31nm,0.7s						
MNBS	**Baschi**	**4.32**	**16**	Pg	**Pb**	**13 20 32.0**	**+1.6**
	23nm,0.5s						
MNBS				Lg	Lg	13 21 32.1	
	31nm,0.7s						
ARXS	**Arharly**	**4.36**	**10**	*e*P	**Pb**	**13 20 32.1**	**+1.2**
	6.3nm,0.6s						
ARXS				*e*S	**Sg**	**13 21 31.3**	**-2.6**
	20nm,0.5s						
ARXS	**Arharly**	**4.36**	**10**	Pg	**Pb**	**13 20 32.2**	**+1.2**
	6.3nm,0.6s						
ARXS				Lg	Lg	13 21 32.3	
	20nm,0.5s						
KTMS	**Ketmen**	**4.42**	**36**	*e*P	**Pb**	**13 20 32.9**	**+0.7**
	0.5nm,0.2s						
KTMS				*e*S	**Sg**	**13 21 32.6**	**-3.5**
	14nm,0.8s						
KTMS	**Ketmen**	**4.42**	**36**	Pg	**Pb**	**13 20 32.9**	**+0.7**
	0.5nm,0.2s						
KTMS				Lg	Lg	13 21 33.5	
	14nm,0.8s						
DJR	**Jarkent**	**4.94**	**26**	Pg	**Pb**	**13 20 42.9**	**+1.9**
	1.3nm,0.4s						
DJR				Lg	Lg	13 21 50.2	
	4.8nm,0.4s						
KK31	**Karatay Array**	**5.67**	**306**	⇑Pn	Pn	13 20 44.4	+5.6
	0.2nm,0.5s,baz=131,slow=11,SNR=4.2						
KK31				⇑Pg	**Pg**	**13 20 59.9**	**-2.9**
	2.5nm,0.8s,baz=128,slow=17,SNR=14						
KK31				⇑Lg	Lg	13 22 13.6	
	1.2nm,0.5s,baz=127,slow=28,SNR=3.9						
KAPS	**Kapalarasan**	**5.69**	**19**	Pg	**Pb**	**13 20 56.5**	**+2.9**
	3.3nm,0.8s						
KAPS				Lg	Lg	13 22 13.7	
	4.5nm,1.0s						

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*NIED **08** 13:22:00, 44.°50N×149.°30E, h41km, Mw3.7   Best double couple: Mo3.69000×10[14]   NP1:φs168.00000°, δ66.00000°, λ-12.00000°.   NP2:φs263.00000°, δ79.00000°, λ-156.00000°.*
*MOS **08** 13:22:51.3±0.9, 44.°46N×149.°48E, h36km, mb3.8/4, Error ellipse: s-maj=13.1km s-min=11.0km az=162.0*
*ISCJB **08** 13:22:52.4±1.0, 44.°35N±0.°06×149.°31E±0.°08, h47km±9km, mb3.4/10, Error ellipse: s-maj=11.4km s-min=7.3km az=40.8*
*SKHL **08** 13:22:53.4±0.2, 44.°39N×149.°34E, h55km±5km, mb4.5/4*
*JMA **08** 13:22:53.3±0.6, 44.°50N×149.°25E, h30km, M4.0*
*IDC **08** 13:22:54.9±3.5, 44.°54N×149.°25E, h52km±33km, mb3.2/8, mb1 3.5/11, mb1mx3.2/45, mbtmp3.5/11, ML3.0/3, MS2.4/1, Ms1 2.4/1, ms1mx2.0/21, Error ellipse: s-maj=28.3km s-min=18.0km az=127.0*
ISC 08 13:22:52.4±3.8, **44.°37N**±0.°06×**149.°40E**±0.°07, **h32**km±29km, **n63**, σ**1s59**/73, **mb3.5**/10, **1C-3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.39**	**309**	*d i*PN	**Pn**	**13 23 14.6**	**-1.0**
KUR				*i* S	**Sn**	**13 23 30.5**	**-2.3**
KUR				pmax	pmax		
	comp=Z,364nm,0.3s						
KUR				pmax	pmax		
	comp=N,111nm,0.4s						
KUR				pmax	pmax		
	comp=E,211nm,0.3s						
KUR				smax	smax		
	comp=N,2μm,0.4s						
KUR				smax	smax		
	comp=E,585nm,0.4s						
KUR	**Kuril'sk**	**1.39**	**309**	⇑*i*P	**Pn**	**13 23 14.6**	**-1.0**
KUR				AMB	AMB	13 23 16.2	
	comp=E,110nm,0.5s						
KUR				AMB	AMB	13 23 16.2	
	comp=E,210nm,0.5s						
KUR				*i* S	**Sn**	**13 23 30.7**	**-2.1**
KUR				A	A	13 23 33.0	
	comp=E,2μm,0.4s						
KUR				A	A	13 23 33.0	
	comp=E,1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.57**	**264**	*e*PN	**Pn**	**13 23 33.1**	**+1.4**
YUK				*i* S	**Sn**	**13 24 01.2**	**-0.6**
YUK				pmax	pmax		
	comp=Z,147μm,0.2s						
YUK				pmax	pmax		
	comp=N,63μm,0.1s						
YUK				pmax	pmax		
	comp=E,57μm,0.1s						
YUK				smax	smax		
	comp=N,343nm,0.3s						
YUK				smax	smax		
	comp=E,194nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.57**	**264**	*e*P	**Pn**	**13 23 32.1**	**+0.4**
YUK				AMB	AMB	13 23 35.0	
	comp=E,60nm,0.5s						
YUK				AMB	AMB	13 23 35.0	
	comp=E,130nm,0.5s						
YUK				*i* S	**Sn**	**13 24 01.2**	**-0.6**
YUK				A	A	13 24 06.0	
	comp=E,340nm,0.3s						
YUK				A	A	13 24 06.0	
	comp=E,490nm,0.3s						
GRPR	**Tuman**	**2.64**	**263**	*e*PN	**Pn**	**13 23 33.5**	**+0.8**
GRPR				*i* S	**Sn**	**13 24 03.4**	**-0.1**
GRPR				pmax	pmax		
	comp=Z,140nm,0.3s						
GRPR				pmax	pmax		
	comp=N,56nm,0.1s						
GRPR				pmax	pmax		
	comp=E,64nm,0.1s						
GRPR				smax	smax		
	comp=N,268nm,0.2s						
GRPR				smax	smax		
	comp=E,298nm,0.2s						
GRPR	**Tuman**	**2.64**	**263**	*e*P	**Pn**	**13 23 33.5**	**+0.8**
GRPR				AMB	AMB	13 23 38.3	
	comp=E,60nm,0.5s						
GRPR				AMB	AMB	13 23 38.3	
	comp=E,110nm,0.5s						
GRPR				*i* S	**Sn**	**13 24 03.4**	**-0.1**
GRPR				A	A	13 24 08.0	
	comp=E,270nm,0.2s						
GRPR				A	A	13 24 08.0	
	comp=E,300nm,0.2s						
NEM2	**Nemuro 2**	**2.83**	**251**	P	**Pn**	**13 23 34.7**	**-0.6**
NEM2				*e*S	**Sn**	**13 24 05.0**	**-3.2**
NMR	**Nemuro--Hokkai**	**2.84**	**251**	*d i*PN	**Pn**	**13 23 35.5**	**+0.1**
NMR				*i* S	**Sn**	**13 24 08.3**	**-0.1**
NMR	**Nemuro--Hokkai**	**2.84**	**251**	⇓*i*P	**Pn**	**13 23 35.5**	**+0.1**
NMR				*i* S	**Sn**	**13 24 08.3**	**-0.1**
GLVR	**Golovnino**	**2.87**	**259**	*e*PN	**Pn**	**13 23 36.3**	**+0.5**
GLVR				*i* S	**Sn**	**13 24 09.0**	**-0.2**
GLVR				pmax	pmax		
	comp=Z,156nm,0.5s						
GLVR				pmax	pmax		
	comp=N,141nm,0.4s						
GLVR				smax	smax		
	comp=E,335nm,0.4s						
GLVR				smax	smax		
	comp=N,552nm,0.3s						
GLVR	**Golovnino**	**2.87**	**259**	*e*P	**Pn**	**13 23 36.3**	**+0.5**
GLVR				AMB	AMB	13 23 39.0	
	comp=N,120nm,0.5s						
GLVR				AMB	AMB	13 23 39.0	
	comp=N,130nm,0.5s						
GLVR				*i* S	**Sn**	**13 24 09.0**	**-0.2**
GLVR				A	A	13 24 11.0	
	comp=N,550nm,0.4s						
GLVR				A	A	13 24 11.0	
	comp=N,340nm,0.4s						
JRA	**Rausu**	**3.11**	**264**	P	**Pn**	**13 23 40.0**	**+0.9**
JRA				*e*S	**Sn**	**13 24 16.1**	**+1.0**
JNK	**Nakash**	**3.47**	**259**	P	**Pn**	**13 23 44.8**	**+0.7**
JAK	**Akkeshi**	**3.68**	**250**	P	**Pn**	**13 23 46.3**	**-0.6**
JAK				*e*S	**Sn**	**13 24 27.6**	**-1.5**
JTKR	**Abashiri--Toko**	**3.97**	**266**	P	**Pn**	**13 23 52.9**	**+1.9**
JAR	**Ashorobuto**	**4.21**	**257**	P	**Pn**	**13 23 55.6**	**+1.3**
JAR				*e*S	**Sn**	**13 24 42.4**	**0.0**
JOB	**Onbets**	**4.30**	**252**	P	**Pn**	**13 23 56.4**	**+0.9**
JMP	**Maruseppu**	**4.36**	**267**	P	**Pn**	**13 23 58.2**	**+1.8**
JCH	**Churui**	**4.73**	**250**	P	**Pn**	**13 24 01.7**	**+0.3**
JKA	**Kamikawa-asahi**	**4.89**	**269**	*e*P	**Pn**	**13 24 05.9**	**+2.2**
ASAJ	**Asahikawa**	**4.89**	**269**	P	**Pn**	**13 24 05.9**	**+2.2**
	comp=N,0.5nm,0.3s,baz=77,slow=14,SNR=5.1						
JFR	**Furan**	**5.07**	**259**	P	**Pn**	**13 24 09.4**	**+3.2**
ERM	**Erimo**	**5.13**	**245**	*i* PN	**Pn**	**13 24 08.7**	**+1.7**
JEM	**Erimo**	**5.13**	**245**	P	**Pn**	**13 24 08.9**	**+1.9**
JNBK	**Urakawa-nobuka**	**5.28**	**249**	P	**Pn**	**13 24 09.1**	**+0.1**
JNBK				*e*S	**Sn**	**13 25 06.4**	**-2.3**
YSS	**Yuzh-Sakhalins**	**5.33**	**301**	*e*PN	**Pn**	**13 24 11.5**	**+1.9**
YSS				MLR	MLR		
	comp=Z,100nm,12.0s						
YSS	**Yuzh-Sakhalins**	**5.33**	**301**	*e*P	**Pn**	**13 24 11.5**	**+1.9**
JBT2	**Biratori 2**	**5.35**	**255**	P	**Pn**	**13 24 11.6**	**+1.6**
JNB	**Noboribetsu**	**6.38**	**256**	P	**Pn**	**13 24 24.8**	**+0.7**
JNB				*e*S	**Sn**	**13 25 33.2**	**-2.5**
JKB	**Kayabe**	**6.60**	**251**	P	**Pn**	**13 24 26.6**	**-0.6**
JKB				*e*S	**Sn**	**13 25 36.2**	**-5.1**
JYM2	**Yakumo 2**	**6.97**	**254**	P	**Pn**	**13 24 33.0**	**+0.9**
JANG	**Nango**	**7.07**	**238**	P	**Pn**	**13 24 32.3**	**-1.3**
JANG				*e*S	Sn	13 25 44.3	-8.5
JTH	**Tanohata**	**7.13**	**234**	P	**Pn**	**13 24 32.4**	**-2.1**
JTH				*e*S	Sn	13 25 45.5	-8.9
JOSM	**Okushiri--Mats**	**7.60**	**256**	P	**Pn**	**13 24 41.5**	**+0.7**
OFUJ	**Ofunato**	**7.83**	**230**	P	**Pn**	**13 24 42.8**	**-1.2**
OFUJ				*e*S	Sn	13 26 01.9	-10
TYV	**Tymovskoe**	**7.93**	**327**	*e*P	**Pn**	**13 24 47.4**	**+2.0**
PETK	**Petropavlovsk-**	**10.31**	**29**	PN	**Pn**	**13 25 18.0**	**0.0**
PETK	**Petropavlovsk-**	**10.31**	**29**	P	**Pn**	**13 25 17.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=202,slow=11,SNR=9.2						
KLR	**Kul'dur**	**13.03**	**298**	LR	LR	13 31 22.7	
	comp=Z,16nm,19.4s,baz=189,slow=40						
EKMR	**Ekimchan**	**13.89**	**315**	*e*P	**Pn**	**13 26 06.1**	**-0.8**
SEY	**Seymchan**	**18.68**	**4**	P	**P**	**13 27 05.0**	**-2.6**
SEY	**Seymchan**	**18.68**	**4**	P	**P**	**13 27 05.0**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=249,slow=17,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**28.57**	**144**	T	T	13 59 39.7	
	baz=334,slow=76,SNR=93						
H11N1	**WAKE ISLAND Hy**	**28.58**	**144**	T	T	13 59 40.8	
	baz=334,slow=76,SNR=88						
H11N3	**WAKE ISLAND Hy**	**28.59**	**144**	T	T	13 59 41.4	
	baz=334,slow=76,SNR=84						
ULN	**Ulaanbaatar**	**29.29**	**292**	*i* P	**P**	**13 28 52.6**	**+0.8**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ULN	**Ulaanbaatar**	**29.29**	**292**	*i* P	**P**	**13 28 52.6**	**+0.8**
H11S1	**WAKE ISLAND Hy**	**29.58**	**145**	T	T	14 00 57.4	
	baz=334,slow=76,SNR=125						
H11S3	**WAKE ISLAND Hy**	**29.59**	**145**	T	T	14 00 56.3	
	baz=334,slow=76,SNR=72						
H11S2	**WAKE ISLAND Hy**	**29.60**	**145**	T	T	14 00 55.8	
	baz=334,slow=76,SNR=89						
SONM	**Songino Array**	**29.73**	**292**	P	**P**	**13 28 55.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=79,slow=8.7,SNR=2.6						
ILAR	**Eielson Array**	**40.03**	**37**	*e*P	**P**	**13 30 27.8**	**+3.9**
ILAR	**Eielson Array**	**40.03**	**37**	P	**P**	**13 30 23.5**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=269,slow=8.9,SNR=4.1						
MKAR	**Makanchi Array**	**45.73**	**298**	*i* P	**P**	**13 31 11.8**	**+1.4**
MKAR	**Makanchi Array**	**45.73**	**298**	P	**P**	**13 31 09.3**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=79,slow=9.1,SNR=4.2						
MKAR	**Makanchi Array**	**45.73**	**298**	*i* P	**P**	**13 31 11.8**	**+1.4**
BRVK	**Borovoye**	**50.41**	**310**	*i* P	**P**	**13 31 47.4**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BRVK	**Borovoye**	**50.41**	**310**	*i* P	**P**	**13 31 47.4**	**+1.0**
YKA	**Yellowknife Ar**	**54.38**	**35**	P	**P**	**13 32 16.6**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=296,slow=7.4,SNR=2.5						
WRA	**Warramunga Arr**	**65.46**	**196**	P	**P**	**13 33 32.4**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=14,slow=6.7,SNR=8.1						
ASAR	**Alice Springs**	**69.17**	**195**	P	**P**	**13 33 57.0**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=9.1,slow=5.4,SNR=7.8						
NOA	**NORSAR Array B**	**69.60**	**340**	P	**P**	**13 33 56.0**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=32,slow=6.4,SNR=3.3						
TXAR	**Lajitas Array**	**80.95**	**58**	P	**P**	**13 35 04.6**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=309,slow=4.9,SNR=4.2						

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*THR **08** 13:26:30.8, 28.°31N×58.°22E, h18km, ML3.3*
*ISCJB **08** 13:26:33.5±0.9, 28.°31N±0.°08×58.°39E±0.°07, h10km, Error ellipse: s-maj=13.1km s-min=5.7km az=144.4*
*TEH **08** 13:26:33.0, 28.°36N×58.°37E, h10km, ML3.5*
ISC 08 13:26:31.2±1.1, **28.°30N**±0.°06×**58.°32E**±0.°04, **h10**km, **n16**, σ**1s56**/18, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.65**	**237**	*e*Pg	**Pn**	**13 26 47.2**	**+0.7**
KHNJ				*e*Sg	**Sn**	**13 26 57.5**	**+0.7**
CHMN	**Cheshme madani**	**1.69**	**337**	*e*Pn	**Pg**	**13 27 03.2**	**-0.5**
NGRK	**Negar Kerman**	**1.93**	**314**	IAMB	IAmb	13 27 34.2	
	comp=Z,0.0nm,0.3s						
NGRK				*e*Pn	**Pb**	**13 27 06.9**	**+0.2**
BNDS	**Bandar-Abbas**	**2.10**	**245**	*e*Pn	**Pn**	**13 27 06.3**	**-0.3**
BNDS	**Bandar-Abbas**	**2.10**	**245**	*e*Pn	**Pn**	**13 27 06.3**	**-0.3**
BNDS	**Bandar-Abbas**	**2.10**	**245**	*e*Sg	**Sn**	**13 27 34.8**	**+1.9**
KRBR	**Kerman**	**2.16**	**321**	*e*Pn	**Pn**	**13 27 07.2**	**-0.3**
KRBR	**Kerman**	**2.16**	**321**	*e*Pn	**Pn**	**13 27 07.2**	**-0.3**
KRBR				*e*Sg	**Sb**	**13 27 37.2**	**-0.3**
KRBR				*e*AML	AML	13 27 39.6	
	comp=E,200nm,0.2s						
TVBK	**TV Kerman**	**2.16**	**321**	*e*Pn	**Pg**	**13 27 11.6**	**-1.0**
TVBK				IAMB	IAmb	13 27 41.1	
	comp=Z,0.0nm,0.2s						
ZHSF	**Zahedan**	**2.52**	**58**	*e*Pn	**Pn**	**13 27 14.0**	**+1.6**
ZHSF	**Zahedan**	**2.52**	**58**	*e*Pn	**Pn**	**13 27 14.0**	**+1.6**
ZHSF	**Zahedan**	**2.52**	**58**	*e*Sg	**Sg**	**13 27 52.2**	**0.0**
SZD1	**Zahaedan-tmp**	**2.53**	**62**	*e*Pn	**Pb**	**13 27 15.8**	**-1.0**
KHGB	**Koh Gabri**	**2.62**	**323**	*e*Pn	**Pb**	**13 27 18.8**	**+0.5**
KHGB				IAMB	IAmb	13 27 56.7	
	comp=Z,0.0nm,0.4s						
NHDN	**Nehbandan**	**3.43**	**26**	*e*Pn	**Pb**	**13 27 28.6**	**-3.5**
NHDN				IAMB	IAmb	13 28 23.3	
	comp=Z,0.0nm,0.6s						
IKOO	**Kooshah**	**4.15**	**8**	*e*Pn	**Pn**	**13 27 38.2**	**+3.3**

IDC 08 13:34:21.1±2.2, **8.°17S**×**130.°64E**, **h0**km, **mb3.6**/1, **mb1 3.4**/3, **mb1mx3.2**/34, **mbtmp3.3**/3, **ML3.1**/2, **MS2.7**/1, **Ms1 2.7**/1, **ms1mx2.2**/33, **Error ellipse: s-maj=126.8km s-min=32.0km az=69.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.00**	**206**	Sn	Sn	13 38 55.3	-8.3
	baz=104,slow=4.2						
WRA	**Warramunga Arr**	**12.24**	**163**	Pn	Pn	13 37 17.1	+0.3
	0.1nm,0.3s,baz=347,slow=13,SNR=12						
WRA				Sn	Sn	13 39 25.9	-8.2
	0.1nm,0.3s,baz=340,slow=22,SNR=4.3						
ASAR	**Alice Springs**	**15.72**	**169**	Pn	Pn	13 38 03.7	-0.4
	0.1nm,0.3s,baz=345,slow=9.2,SNR=13						
GUMO	**Guam**	**25.83**	**33**	LR	LR	13 49 41.2	
	comp=Z,17nm,20.8s,baz=77,slow=36						
MKAR	**Makanchi Array**	**69.55**	**327**	P	P	13 45 31.9	0.0
	0.3nm,0.5s,baz=116,slow=7.9,SNR=5.9						

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*ISCJB **08** 13:41:55.6±0.9, 6.°06N±0.°09×126.°96E±0.°09, h100km, mb3.5/4, Error ellipse: s-maj=15.8km s-min=7.4km az=135.3*
*IDC **08** 13:41:56.6±3.5, 6.°06N×126.°98E, h92km±26km, mb3.4/4, mb1 3.6/4, mb1mx3.1/42, mbtmp3.7/4, Error ellipse: s-maj=70.5km s-min=15.5km az=62.0*
*MAN **08** 13:42:03.8, 6.°22N×125.°85E, h20km, MS2.9*
ISC 08 13:41:57.3±1.0, **6.°0N**±0.°1×**126.°9E**±0.°1, **h100**km, **n10**, σ**1s03**/15, **mb3.5**/4, **2C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.09**	**326**	P	**Pn**	**13 42 19.1**	**+0.4**
MATI				S	**Sn**	**13 42 32.5**	**-2.4**
DDMP	**Don Marcelino,**	**1.16**	**273**	P	Pn	13 42 10.0	-9.4
DDMP				S	Sn	13 42 20.6	-16
DAV	**Davao City (W)**	**1.64**	**309**	P	**Pn**	**13 42 24.0**	**-1.4**
	36nm,0.3s,baz=81,slow=12,SNR=2.3						
DAV				S	**Sn**	**13 42 47.3**	**+0.6**
	48nm,0.3s,baz=103,slow=17,SNR=12						
GSPH	**General Santos**	**1.91**	**271**	⇑P	**Pn**	**13 42 28.2**	**-0.7**
GSPH				S	**Sn**	**13 42 52.3**	**-0.7**
KCP	**Kidapawan**	**2.02**	**299**	⇑P	**Pn**	**13 42 31.3**	**+1.2**
KCP				S	**Sn**	**13 42 56.4**	**+1.2**
SKMP	**Bagumbayan, Su**	**2.36**	**282**	P	Pn	13 42 26.6	-8.1
SKMP				S	Sn	13 42 35.2	-28
FITZ	**Fitzroy Crossi**	**24.02**	**183**	P	**P**	**13 47 03.1**	**+0.1**
	0.7nm,0.3s,baz=17,slow=11,SNR=8.3						
WRA	**Warramunga Arr**	**26.84**	**164**	P	**P**	**13 47 29.3**	**+0.6**
	0.5nm,0.8s,baz=344,slow=10,SNR=14						
WRA				PcP	**PcP**	**13 50 49.6**	**+0.6**
	0.4nm,1.0s,baz=336,slow=2.0,SNR=3.5						
ASAR	**Alice Springs**	**30.31**	**167**	P	**P**	**13 47 59.1**	**-0.3**
	0.3nm,0.4s,baz=348,slow=7.2,SNR=24						
ASAR				PcP	**PcP**	**13 50 57.5**	**-0.2**
	0.2nm,0.5s,baz=345,slow=2.2,SNR=7.4						
ASAR				ScP	**ScP**	**13 54 31.4**	**+0.4**
	0.4nm,0.9s,baz=344,slow=3.2,SNR=3.5						
MKAR	**Makanchi Array**	**55.76**	**324**	P	**P**	**13 51 24.2**	**+0.3**
	1.9nm,0.5s,baz=119,slow=8.0,SNR=32						

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*IDC **08** 13:44:07.9±2.6, 36.°45N×21.°45E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.4/47, mbtmp3.5/8, ML3.4/2, Error ellipse: s-maj=49.9km s-min=23.9km az=4.0*
*ATH **08** 13:44:09.1, 36.°21N×21.°16E, h21km±2km, ML3.1/2, Error ellipse: s-maj=5.2km s-min=1.7km az=267.0*
*ISCJB **08** 13:44:12.0±0.7, 36.°23N±0.°05×21.°26E±0.°06, h62km±8km, mb3.6/5, Error ellipse: s-maj=10.1km s-min=6.4km az=37.7*
*THE **08** 13:44:12.1, 36.°26N×21.°35E, h9km, ML3.0/5, Error ellipse: s-maj=1.5km s-min=0.7km az=294.0*
ISC 08 13:44:11.7±1.5, **36.°26N**±0.°08×**21.°17E**±0.°06, **h45**km±16km, **n60**, σ**1s86**/71, **mb3.6**/5, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.79**	**36**	P	**Pn**	**13 44 25.0**	**-1.4**
PYL				S	**Sn**	**13 44 36.3**	**-0.8**
PYL	**PYLOS**	**0.79**	**36**	P	**Pn**	**13 44 25.2**	**-1.2**
PYL				S	**Sn**	**13 44 37.5**	**+0.4**
KLMT	**Kalamata**	**1.08**	**41**	P	**Pn**	**13 44 30.3**	**0.0**
KLMT				S	**Sn**	**13 44 44.9**	**+0.8**
	1μm,0.5s						
ITM	**Ithomi**	**1.10**	**33**	P	**Pn**	**13 44 30.9**	**+0.2**
ITM				S	**Sn**	**13 44 46.1**	**+1.2**
	800nm,0.6s						
ITM	**Ithomi**	**1.10**	**33**	P	**Pn**	**13 44 31.0**	**+0.3**
ITM				S	**Sn**	**13 44 46.3**	**+1.4**
ITM				AML	AML	13 44 57.9	
	comp=E,1813μm,0.6s						
ITM				AML	AML	13 44 58.8	
	comp=N,1180μm,0.4s						
AMT	**Artemida-Makis**	**1.35**	**19**	P	**Pn**	**13 44 35.1**	**+1.0**
VLX	**Vlachokerasia**	**1.48**	**41**	P	**Pn**	**13 44 36.7**	**+0.8**
VLX				S	**Sn**	**13 44 55.8**	**+1.7**
	comp=N,648nm,0.6s						
VLX	**Vlachokerasia**	**1.48**	**41**	P	**Pn**	**13 44 37.5**	**+1.6**
VLX				S	**Sn**	**13 44 57.3**	**+3.2**
VLX				AML	AML	13 45 07.4	
	comp=E,968μm,0.6s						
VLX				AML	AML	13 45 13.3	
	comp=N,1177μm,0.6s						
VLI	**Veliai**	**1.50**	**72**	P	**Pn**	**13 44 36.8**	**+0.7**
VLI				S	**Sn**	**13 44 55.4**	**+1.0**
	comp=N,470nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KTHA	**Kythira Island**	**1.53**	**89**	P	**Pn**	**13 44 36.8**	**+0.3**
KTHA	**Kythira Island**	**1.53**	**89**	P	**Pn**	**13 44 37.7**	**+1.2**
MNVA	**Monemvasia**	**1.57**	**74**	P	**Pn**	**13 44 38.4**	**+1.4**
DRO	**Drossia**	**1.75**	**14**	P	**Pn**	**13 44 41.4**	**+1.9**
ANKY	**Antikythira Is**	**1.77**	**102**	P	**Pn**	**13 44 40.3**	**+0.5**
ANKY	**Antikythira Is**	**1.77**	**102**	P	**Pn**	**13 44 40.6**	**+0.8**
KRND	**KRANIDI**	**1.95**	**54**	P	**Pn**	**13 44 42.6**	**+0.4**
KRND				S	**Sn**	**13 45 06.5**	**+1.0**
	comp=N,255nm,0.8s						
KLV	**Kalavryta, Ach**	**1.95**	**23**	P	**Pn**	**13 44 44.1**	**+1.7**
KLV	**Kalavryta, Ach**	**1.95**	**23**	P	**Pn**	**13 44 44.0**	**+1.7**
DID	**Didima**	**2.08**	**52**	P	**Pn**	**13 44 44.1**	**+0.1**
LAKA	**Lakka**	**2.08**	**18**	P	**Pn**	**13 44 46.2**	**+2.0**
THAL	**Thalero**	**2.14**	**33**	P	**Pn**	**13 44 46.1**	**+1.2**
RODP	**Rodopos**	**2.21**	**108**	P	**Pn**	**13 44 46.8**	**+0.9**
TRIZ	**Trizonia**	**2.23**	**19**	P	**Pn**	**13 44 47.9**	**+1.9**
EFP	**Efpalio**	**2.25**	**15**	P	**Pn**	**13 44 48.3**	**+2.0**
SERG	**Sergoula**	**2.27**	**18**	P	**Pn**	**13 44 48.6**	**+1.9**
KALE	**Kalithea**	**2.27**	**20**	P	**Pn**	**13 44 49.0**	**+2.3**
LTK	**Loutraki**	**2.27**	**39**	P	**Pn**	**13 44 47.3**	**+0.5**
PVO	**Paravola**	**2.37**	**7**	P	**Pn**	**13 44 50.7**	**+2.6**
EVGI	**Lefkada island**	**2.40**	**350**	P	**Pn**	**13 44 51.4**	**+3.0**
IMMV	**Iera Moni Meta**	**2.42**	**108**	P	**Pn**	**13 44 49.5**	**+0.8**
IMMV	**Iera Moni Meta**	**2.42**	**108**	P	**Pn**	**13 44 49.3**	**+0.6**
PROD	**Prodromos**	**2.43**	**34**	P	**Pn**	**13 44 50.2**	**+1.3**
LKD2	**Lefkada island**	**2.56**	**351**	P	**Pn**	**13 44 53.9**	**+3.2**
VILL	**Villia**	**2.56**	**41**	P	**Pn**	**13 44 50.4**	**-0.3**
VAM	**Vamos**	**2.60**	**108**	P	**Pn**	**13 44 51.4**	**+0.1**
VLY	**Voula,Athens**	**2.64**	**52**	P	**Pn**	**13 44 51.2**	**-0.5**
EVR	**Evrytania**	**2.71**	**11**	P	**Pn**	**13 44 56.3**	**+3.6**
SERI	**Serifos**	**2.81**	**70**	P	**Pn**	**13 44 53.1**	**-1.1**
AGG	**Agios Georgios**	**2.91**	**18**	P	**Pn**	**13 44 57.6**	**+2.1**
KARY	**Karystos**	**3.16**	**55**	P	**Pn**	**13 44 58.1**	**-0.7**
THL	**Klokotos Trika**	**3.37**	**11**	P	**Pn**	**13 45 03.2**	**+1.4**
KPRO	**Kipourio**	**3.70**	**2**	P	**Pn**	**13 45 09.3**	**+3.0**
PENT	**Pentalofos**	**3.93**	**360**	P	**Pn**	**13 45 12.5**	**+2.9**
PAIG	**Paliouri**	**4.17**	**28**	P	**Pn**	**13 45 13.5**	**+0.8**
CHOS	**Chios island**	**4.44**	**60**	P	**Pn**	**13 45 15.4**	**-1.1**
FNA	**Florina**	**4.52**	**2**	P	**Pn**	**13 45 19.1**	**+1.4**
VAE	**Valguarnera**	**5.55**	**285**	Pn	**Pn**	**13 45 36.0**	**+4.2**
	comp=N,2.0nm,0.3s,baz=176,slow=14,SNR=3.4						
STON	**Ston**	**7.13**	**339**	*e*Pn	**Pn**	**13 45 51.9**	**-1.4**
RICI	**Ricice**	**7.87**	**338**	ePn	**Pn**	**13 46 03.4**	**0.0**
RICI				Sn	**Sn**	**13 47 27.3**	**-3.8**
ZIRJ	**Zirje**	**8.52**	**332**	*e*Pn	**Pn**	**13 46 12.9**	**+0.6**
ZIRJ				Sn	**Sn**	**13 47 41.9**	**-5.2**
KIJV	**Kijevo**	**8.55**	**336**	*e*Pn	**Pn**	**13 46 13.9**	**+1.1**
MORI	**Morici**	**8.68**	**333**	*e*Pn	**Pn**	**13 46 15.3**	**+0.8**
MORI				Sn	**Sn**	**13 47 45.9**	**-5.0**
GERES	**GERESS Array B**	**13.72**	**339**	Pn	**Pn**	**13 47 22.0**	**-1.5**
	comp=N,0.1nm,0.3s,baz=152,slow=13,SNR=2.4						
ESDC	**Sonseca Array**	**20.09**	**287**	P	Pn	13 48 44.1	+0.6
	comp=N,0.3nm,0.6s,baz=84,slow=11,SNR=4.3						
HFS	**Hagfors**	**24.38**	**351**	P	**P**	**13 49 25.9**	**+0.6**
	comp=N,1.7nm,0.8s,baz=155,slow=11,SNR=7.2						
FINES	**FINESS Array B**	**25.40**	**6**	P	**P**	**13 49 35.8**	**+1.3**
	comp=N,2.4nm,1.0s,baz=186,slow=12,SNR=2.7						
NB2	**NORSAR Subarra**	**25.60**	**349**	P	**P**	**13 49 37.5**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=157,slow=9.3						
NOA	**NORSAR Array B**	**25.60**	**349**	P	**P**	**13 49 37.2**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=156,slow=8.8,SNR=3.9						
MKAR	**Makanchi Array**	**45.89**	**57**	P	**P**	**13 52 29.5**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=267,slow=7.9,SNR=8.8						
ZALV	**Zalesovo Beam**	**46.61**	**47**	P	**P**	**13 52 34.7**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=268,slow=8.0,SNR=3.6						

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*ISCJB **08** 13:57:14.8±0.7, 6°.66N±0°.05×126°.84E±0°.08, h114km±6km, mb3.6/5, Error ellipse: s-maj=14.5km s-min=6.7km az=152.1*
*NEIC **08** 13:57:14.6±1.3, 6°.74N±0°.10×127°.1E±0°.1, h100km±5km, mb4.5/24*
*IDC **08** 13:57:17.2±2.4, 6°.59N×126°.84E, h116km±19km, mb3.4/5, mb1 3.6/7, mb1mx3.2/47, mbtmp3.9/7, MS2.7/1, Ms1 2.7/1, ms1mx2.1/30, Error ellipse: s-maj=51.1km s-min=14.6km az=59.0*
*MAN **08** 13:57:19.4, 6°.49N×126°.53E, h73km, MS3.3*
ISC 08 13:57:15.6±0.9**, 6°.56N**±0°.07×**126°.86E**±0°.09**, h102**km±8km**, n40,** σ1s**69**/50**, mb4.3**/14**, 2D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.71**	**302**	P	**Pn**	**13 57 32.4**	**-1.0**
MATI				S	**Sn**	**13 57 46.0**	**-0.7**
DDMP	**Don Marcelino,**	**1.23**	**248**	P	**Pn**	**13 57 37.8**	**-1.0**
DDMP				S	**Sn**	**13 57 57.2**	**+0.8**
DAV	**Davao City (W)**	**1.37**	**292**	P	**Pn**	**13 57 42.3**	**+1.8**
	206nm,0.3s,baz=64,slow=1.8,SNR=24						
DAV				S	**Sn**	**13 58 01.8**	**+2.5**
	122nm,0.3s,baz=92,slow=23,SNR=19						
DAV	**Davao City (W)**	**1.37**	**292**		**Pn**	**13 57 42.1**	**+1.6**
DAV				Sn	**Sn**	**13 58 01.5**	**+2.2**
KCP	**Kidapawan**	**1.82**	**284**	⇓P	**Pn**	**13 57 46.9**	**+0.9**
KCP				S	**Sn**	**13 58 07.8**	**-1.4**
SKMP	**Bagumbayan, Su**	**2.31**	**269**	P	**Pn**	**13 57 51.3**	**-1.0**
SKMP				S	**Sn**	**13 58 15.6**	**-4.8**
CTBH	**Cotabato--PC H**	**2.68**	**284**	P	**Pn**	**13 57 57.4**	**+0.2**
CTBH				S	**Sn**	**13 58 25.4**	**-3.8**
CGP	**Cagayan de Oro**	**2.86**	**311**	⇓P	**Pn**	**13 58 01.2**	**+1.7**
CGP				S	**Sn**	**13 58 33.8**	**+0.5**
PAGZ	**Pagadian**	**3.68**	**290**	P	**Pn**	**13 58 10.5**	**-0.1**
PAGZ				S	**Sn**	**13 58 50.4**	**-2.7**
SIJI	**Sorong**	**8.59**	**149**	P	**Pn**	**13 59 19.6**	**+2.3**
	1.0nm,0.3s,baz=36,slow=4.1,SNR=7.8						
SIJI				S	**Sn**	**14 00 47.6**	**-4.9**
	0.4nm,0.3s,baz=254,slow=8.6,SNR=4.0						
SBUM	**Sibu**	**15.16**	**255**	P	**P**	**14 00 48.9**	**+1.8**
SOEI	**Soe**	**16.42**	**189**		**Pn**	**14 01 01.6**	**+1.5**
SOEI				IAmb	IAmb	14 01 12.7	
	comp=Z,13nm,1.0s						
BATI	**Baumata**	**16.96**	**191**	P	**P**	**14 01 09.1**	**+2.0**
	comp=Z,2.0nm,0.3s,baz=356,slow=19,SNR=3.3						
TWG	**Pinlang**	**17.10**	**342**		**P**	**14 01 05.7**	**-2.9**
KSM	**Kuching**	**17.27**	**254**	P	**P**	**14 01 11.6**	**+1.1**
KSM				IAmb	IAmb	14 01 19.6	
	comp=Z,78nm,1.6s						
GUMO	**Guam**	**19.04**	**67**	LR	LR	14 07 49.2	
	comp=Z,21nm,20.6s,baz=142,slow=33						
MTN	**Manton Dam**	**19.74**	**168**		**Pn**	**14 01 39.1**	**-0.8**
MTN				IAmb	IAmb	14 02 13.3	
	comp=Z,17nm,1.4s						
KNRA	**Kununurra**	**22.18**	**175**	P	**P**	**14 02 04.0**	**+0.5**
KNRA				IAmb	IAmb	14 02 48.4	
	comp=Z,39nm,1.6s						
FITZ	**Fitzroy Crossi**	**24.53**	**183**	P	**P**	**14 02 26.3**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=8.4,slow=11,SNR=7.6						
FITZ	**Fitzroy Crossi**	**24.53**	**183**	P	**P**	**14 02 26.2**	**+0.4**
PBKT	**Sadao Pong**	**27.21**	**294**	P	**P**	**14 02 50.3**	**+0.2**
WRAB	**Tennant Creek**	**27.34**	**165**	P	**P**	**14 02 51.6**	**+0.4**
WRA	**Warramunga Arr**	**27.35**	**165**	P	**P**	**14 02 51.2**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=346,slow=10,SNR=13						
WB2	**Warramunga Arr**	**27.35**	**165**	P	**P**	**14 02 51.9**	**+0.6**
WB2				IAmb	IAmb	14 03 14.5	
	comp=Z,20nm,1.8s						
WR0	**Warramunga Arr**	**27.42**	**164**	P	**P**	**14 02 52.3**	**+0.4**
WR0				IAmb	IAmb	14 03 40.3	
	comp=Z,17nm,1.9s						
PSA00	**Pilbara Seismi**	**28.80**	**194**	P	**P**	**14 03 04.5**	**+0.4**
PSA00				IAmb	IAmb	14 03 12.7	
	comp=Z,48nm,1.9s						
AS31	**Alice Springs**	**30.82**	**167**	P	**P**	**14 03 22.4**	**+0.3**
ASAR	**Alice Springs**	**30.82**	**167**	P	**P**	**14 03 22.3**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=342,slow=7.2,SNR=37						
ASAR				PcP	**PcP**	**14 06 16.9**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=343,slow=2.8,SNR=6.2						
MORW	**Morawa**	**36.93**	**196**	P	**P**	**14 04 15.9**	**+1.1**
FORT	**Forrest**	**37.15**	**178**	P	**P**	**14 04 17.2**	**+0.6**
BBOO	**Buckleboo**	**40.12**	**168**	P	**P**	**14 04 42.4**	**+0.9**
BBOO				IAmb	IAmb	14 05 42.1	
	comp=Z,53nm,1.9s						
NWAO	**Narrogin (SRO)**	**40.33**	**193**	P	**P**	**14 04 44.0**	**+0.9**
NWAO	**Narrogin (SRO)**	**40.33**	**193**	P	**P**	**14 04 44.0**	**+0.9**
NWAO				IAmb	IAmb	14 06 16.8	
	comp=Z,55nm,1.6s						
STKA	**Stephens Creek**	**40.73**	**161**	P	**P**	**14 04 47.2**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=328,slow=10,SNR=4.2						
STKA	**Stephens Creek**	**40.73**	**161**	P	**P**	**14 04 47.0**	**+0.5**
MK31	**Makanchi Array**	**55.34**	**324**	P	**P**	**14 06 38.5**	**-0.4**
MK31				IAmb	IAmb	14 08 25.0	
	comp=Z,3.1nm,1.2s						
MKAR	**Makanchi Array**	**55.34**	**324**	P	**P**	**14 06 38.6**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=119,slow=7.7,SNR=14						
MAKZ	**Makanchi**	**55.53**	**324**	P	**P**	**14 06 39.5**	**-0.8**
MAKZ				IAmb	IAmb	14 08 24.7	
	comp=Z,14nm,1.9s						
KDJ	**Kajisay**	**56.35**	**317**	P	**P**	**14 06 44.4**	**-2.0**
KDJ				IAmb	IAmb	14 08 31.6	
	comp=Z,7.3nm,1.2s						
KURK	**Kurchatov**	**59.45**	**327**	P	**P**	**14 07 07.5**	**-0.2**
KURK				IAmb	IAmb	14 09 08.4	
	comp=Z,13nm,1.9s						

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*ISCJB **08** 14:01:23.7±0.3, 28°.59S±0°.03×67°.09W±0°.04, h153km±4km, mb4.1/11, Error ellipse: s-maj=5.5km s-min=4.4km az=5.7*
*NEIC **08** 14:01:23.7±2.5, 28°.60S±0°.05×66°.96W±0°.09, h128km±6km, mb4.7/12*
*SJA **08** 14:01:23.6±0.4, 28°.61S×67°.00W, h163km±2km, ML4.4, MW4.5*
*IDC **08** 14:01:26.0±0.6, 28°.59S×66°.86W, h142km±4km, mb3.8/9, mb1 3.9/14, mb1mx3.8/28, mbtmp4.2/14, MS3.0/4, Ms1 3.0/4, ms1mx2.8/24, Error ellipse: s-maj=17.5km s-min=14.7km az=104.0*
*VAO **08** 14:01:34.8±0.6, 27°.83S×66°.55W, h177km±7km, mb4.5*
ISC 08 14:01:24.6±0.5**, 28°.60S**±0°.04×**67°.07W**±0°.05**, h140**km±4km**, h139**km**:pP-P, n118,** σ1s**30**/129**, mb4.5**/13**, 4C-3D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACLC	**CERRO LA CRUZ**	**0.83**	**173**	*i* P	**Pn**	**14 01 48.9**	**+1.6**
VCA	**Vinchina**	**1.00**	**262**	*i* P	**Pn**	**14 01 50.7**	**+2.0**
VCA				*i* S	**Sn**	**14 02 11.2**	**+4.2**
VCA				IAML		14 02 13.1	
	comp=Z,5μm,0.4s						
CYA	**Choya**	**1.13**	**82**	*i* P	**Pn**	**14 01 50.7**	**+1.0**
APLL	**PUNTA DE LOS L**	**1.85**	**165**	*i* P	**Pn**	**14 01 58.4**	**+0.8**
APLL				IAML		14 02 23.5	
	comp=Z,2μm,0.5s						
APLL				*i* S	**Sn**	**14 02 23.8**	**+1.1**
AHML	**Horco Molle**	**2.38**	**41**	⇓*i*P	**Pn**	**14 02 04.3**	**+0.5**
AROD	**Rodeo**	**2.61**	**233**	*i* P	**Pn**	**14 02 08.8**	**+1.8**
AMOG	**MOGNA**	**2.64**	**208**	*i* P	**Pn**	**14 02 08.0**	**+0.9**
GO03	**Copiap**	**2.97**	**289**		**Pn**	**14 02 12.1**	**+0.9**
GO03				Sn	**Sn**	**14 02 45.5**	**-1.7**
RTLL	**Cerro Villicun**	**2.98**	**204**	⇓*i*P	**Pn**	**14 02 12.3**	**+0.8**
CFA	**Coronel Fontan**	**3.16**	**198**	P	**Pn**	**14 02 14.5**	**+0.8**
	comp=Z,159nm,0.3s,baz=51,slow=17,SNR=1632						
CFA				S	**Sn**	**14 02 50.9**	**-0.9**
	comp=Z,426nm,0.3s,baz=33,slow=13,SNR=9.8						
CFA	**Coronel Fontan**	**3.16**	**198**	*i* P	**Pn**	**14 02 14.5**	**+0.8**
TCA	**Tanti**	**3.48**	**142**	IAML		14 02 57.9	
	comp=E,801nm,0.7s						
RTCV	**Cerro Valdivia**	**3.49**	**201**	⇑*i*P	**Pn**	**14 02 18.8**	**+0.8**
GO04	**Tololo Observa**	**3.61**	**243**	⇑*i*P	**Pn**	**14 02 20.3**	**+0.5**
GO04	**Tololo Observa**	**3.61**	**243**		**Pn**	**14 02 20.1**	**+0.4**
ACAN	**Cantantal**	**3.67**	**182**	*i* P	**Pn**	**14 02 20.9**	**+0.7**
RTLS	**Leoncito**	**3.73**	**211**	*i* P	**Pn**	**14 02 22.5**	**+1.2**
RTLS				IAML		14 02 25.7	
	comp=Z,341nm,0.2s						
LSCH	**La Serena**	**3.87**	**249**	⇑*i*P	**Pn**	**14 02 22.5**	**-0.4**
LSCH				*e*S	**Sn**	**14 03 05.9**	**-2.2**
LSCH				IAML		14 03 08.2	
	comp=N,451nm,0.4s						
GO02	**Mina Guanaco**	**4.09**	**326**	⇑*i*P	**Pn**	**14 02 27.1**	**+0.9**
GO02				*e*S	**Sn**	**14 03 14.0**	**0.0**
GO02				IAML		14 03 16.0	
	comp=E,223nm,0.5s						
GO02	**Mina Guanaco**	**4.09**	**326**		**Pn**	**14 02 27.0**	**+0.8**
CO02	**Combarbal**	**4.29**	**232**	*e*P	**Pn**	**14 02 28.4**	**0.0**
CO02				*e*S	**Sn**	**14 03 16.6**	**-1.5**
PEL	**Peldehue**	**5.49**	**214**		**Pn**	**14 02 44.0**	**-0.4**
ROC1	**El Roble**	**5.53**	**217**		**Pn**	**14 02 43.7**	**-1.4**
PB10	**IPOC Station P**	**5.95**	**328**	Pn	**Pn**	**14 02 50.3**	**-0.3**
LVC	**Limon Verde**	**6.19**	**344**	P	**Pn**	**14 02 55.5**	**+1.3**
	comp=E,4.0nm,0.3s,baz=200,slow=8.0,SNR=25						
LVC				S	Sn	14 03 55.2	-8.8
	comp=E,12nm,0.3s,baz=43,slow=21,SNR=28						
LVC				LR	LR	14 05 52.6	
	comp=E,77nm,19.9s,baz=198,slow=43						
LVC	**Limon Verde**	**6.19**	**344**	*e*P	**Pn**	**14 02 55.4**	**+1.2**
LVC	**Limon Verde**	**6.19**	**344**	*e*P	**Pn**	**14 02 55.4**	**+1.2**
LVC	**Limon Verde**	**6.19**	**344**		**Pn**	**14 02 55.2**	**+1.0**
LVC					Sn	14 03 54.9	-9.1
PB04	**IPOC Station P**	**6.83**	**335**	Pn	**Pn**	**14 03 00.9**	**-1.7**
GO05	**Huala**	**7.61**	**212**		**Pn**	**14 03 09.2**	**-3.6**
CPUP	**Villa Florida**	**8.95**	**78**	P	**Pn**	**14 03 28.8**	**-2.0**
	comp=E,0.7nm,0.3s,baz=259,slow=11,SNR=23						
CPUP				S	Sn	14 05 20.6	+11
	baz=176,slow=19,SNR=2.1						
CPUP				LR	LR	14 06 50.9	
	comp=E,62nm,19.7s,baz=222,slow=37						
CPUP	**Villa Florida**	**8.95**	**78**		**Pn**	**14 03 28.2**	**-2.5**
GO01	**Chusmiza**	**9.10**	**347**		**Pn**	**14 03 31.8**	**-1.4**
PB11	**IPOC Station P**	**9.11**	**344**	Pn	**Pn**	**14 03 31.4**	**-1.7**
MNMC	**Minye Minye**	**9.70**	**346**		**Pn**	**14 03 39.5**	**-1.7**
TRQA	**Tornquist**	**10.35**	**157**	Pn	**Pn**	**14 03 48.4**	**-1.0**
GO06	**Curarrehue**	**11.55**	**197**	Pn	**Pn**	**14 04 03.5**	**-1.8**
CPSB	**Cacapava Do Su**	**12.01**	**102**	*e*P	**P**	**14 04 18.3**	**0.0**
CPSB	**Cacapava Do Su**	**12.01**	**102**	*e*P	**P**	**14 04 18.3**	**0.0**
LPAZ	**La Paz**	**12.29**	**355**	P	**Pn**	**14 04 14.4**	**-1.2**
	comp=E,0.6nm,0.3s,baz=177,slow=9.2,SNR=16						
LPAZ	**La Paz**	**12.29**	**355**	*e*P	**Pn**	**14 04 15.7**	**+0.1**
LPAZ	**La Paz**	**12.29**	**355**	*e*P	**Pn**	**14 04 15.7**	**+0.1**
LPAZ	**La Paz**	**12.29**	**355**		**Pn**	**14 04 14.2**	**-1.4**
PLCA	**Paso Flores**	**12.44**	**192**	P	**Pn**	**14 04 18.4**	**+1.5**
	comp=E,0.1nm,0.3s,baz=18,slow=13,SNR=4.6						
PLCA	**Paso Flores**	**12.44**	**192**	*e*P	P	14 04 36.8	+14
PLCA	**Paso Flores**	**12.44**	**192**	*e*P	P	14 04 36.8	+14
PLCA	**Paso Flores**	**12.44**	**192**	Pn	**Pn**	**14 04 14.8**	**-2.1**
AQDB	**Aquidauana**	**13.13**	**54**	*e*P	**Pn**	**14 04 25.1**	**-0.7**
AQDB	**Aquidauana**	**13.13**	**54**	*e*P	**Pn**	**14 04 25.1**	**-0.7**
ITAB	**Concordia**	**13.28**	**88**	*e*P	**P**	**14 04 32.0**	**-0.4**
ITAB	**Concordia**	**13.28**	**88**	*e*P	**P**	**14 04 32.0**	**-0.4**
SIV	**San Ignacio**	**13.72**	**25**	P	**Pn**	**14 04 31.9**	**-1.5**
	comp=E,1.4nm,0.3s,baz=217,slow=13,SNR=40						
SIV				LR	LR	14 10 37.6	
	comp=E,87nm,20.2s,baz=102,slow=40						
PTGB	**Pitanga**	**13.97**	**77**	*e*P	**Pn**	**14 04 36.8**	**+0.2**
PTGB	**Pitanga**	**13.97**	**77**	*e*P	**Pn**	**14 04 36.8**	**+0.2**
CNLB	**Canela**	**14.22**	**97**	*e*P	**P**	**14 04 42.6**	**-0.4**
CNLB	**Canela**	**14.22**	**97**	*e*P	**P**	**14 04 42.6**	**-0.4**
PCMB	**Pacaembu**	**15.92**	**68**	*e*P	**P**	**14 05 01.2**	**-0.5**
PCMB	**Pacaembu**	**15.92**	**68**	*e*P	**P**	**14 05 01.2**	**-0.5**
ITRB	**Iturama**	**17.62**	**64**	*e*P	**P**	**14 05 20.4**	**-0.1**
ITRB	**Iturama**	**17.62**	**64**	*e*P	**P**	**14 05 20.4**	**-0.1**
SPB	**Sao Paulo**	**18.33**	**79**	*e*P	**Pn**	**14 05 28.6**	**-1.3**
SPB	**Sao Paulo**	**18.33**	**79**	*e*P	**Pn**	**14 05 28.6**	**-1.3**
BB19B	**Bebedouro**	**18.41**	**70**	*e*P	**P**	**14 05 29.0**	**-0.2**
BB19B	**Bebedouro**	**18.41**	**70**	*e*P	**P**	**14 05 29.0**	**-0.2**
RCLB	**Rio Claro- Sao**	**18.67**	**75**	*e*P	**P**	**14 05 31.4**	**-0.6**
RCLB	**Rio Claro- Sao**	**18.67**	**75**	*e*P	**P**	**14 05 31.4**	**-0.6**
VAO	**Valinhos**	**18.94**	**77**	*e*P	**P**	**14 05 35.0**	**+0.1**
VAO	**Valinhos**	**18.94**	**77**	*e*P	**P**	**14 05 35.0**	**+0.1**
ARAG	**Araguaiana, MT**	**19.06**	**51**	*e*P	**P**	**14 05 35.6**	**-0.7**
ARAG	**Araguaiana, MT**	**19.06**	**51**	*e*P	**P**	**14 05 35.6**	**-0.7**
SAML	**Samuel**	**19.89**	**11**	*e*P	**P**	**14 05 44.6**	**-0.5**
SAML	**Samuel**	**19.89**	**11**	*e*P	**P**	**14 05 44.6**	**-0.5**
SAML	**Samuel**	**19.89**	**11**	P	**P**	**14 05 44.4**	**-0.8**
SAML				IAmb	IAmb	14 05 46.7	
	comp=Z,30nm,0.9s						
IPMB	**Ipameri, GO**	**20.27**	**63**	*e*P	**P**	**14 05 48.8**	**-0.5**
IPMB	**Ipameri, GO**	**20.27**	**63**	*e*P	**P**	**14 05 48.8**	**-0.5**
CLDB	**Colider**	**20.56**	**33**	*e*P	**P**	**14 05 49.2**	**-3.1**
CLDB	**Colider**	**20.56**	**33**	*e*P	**P**	**14 05 49.2**	**-3.1**
BDFB	**Brasilia**	**21.82**	**58**	P	**P**	**14 06 03.6**	**-2.4**
	comp=Z,4.2nm,0.3s,baz=208,slow=9.5,SNR=12						
BDFB	**Brasilia**	**21.82**	**58**	P	**P**	**14 06 03.7**	**-2.3**
GO10	**Punta Arenas**	**24.71**	**186**	P	**P**	**14 06 31.2**	**-1.4**
FDF	**Fort de France**	**43.45**	**8**	P	**P**	**14 09 12.9**	**-1.0**
MLPR	**Magueyes Islan**	**46.29**	**0**	P	**P**	**14 09 36.0**	**-0.2**
OBIP	**Obispado Ponce**	**46.37**	**1**	P	**P**	**14 09 36.1**	**-0.7**
VNA3	**Neumayer Olymp**	**52.86**	**160**	P	**P**	**14 10 26.1**	**+0.7**
VNA2	**Neumayer--Watz**	**53.44**	**159**	P	P	14 10 35.6	+5.9
	baz=293,slow=3.6						
SNAA	**Sanae**	**55.06**	**160**	P	**P**	**14 10 41.9**	**+0.4**
SNAA	**Sanae**	**55.06**	**160**	P	**P**	**14 10 42.4**	**+1.0**
	comp=Z,2.1nm,0.7s,baz=288,slow=9.7,SNR=8.6						
SNAA	**Sanae**	**55.06**	**160**	P	**P**	**14 10 41.9**	**+0.4**
SNAA				IAmb	IAmb	14 10 44.3	
	comp=Z,17nm,1.6s						
QSPA	**South Pole Qui**	**61.62**	**180**	P	**P**	**14 11 28.2**	**+1.0**
QSPA				IAmb	IAmb	14 11 29.5	
	comp=Z,6.1nm,0.8s						
TXAR	**Lajitas Array**	**67.39**	**326**	P	**P**	**14 12 06.6**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=142,slow=7.6,SNR=3.8						
PBMO	**Poplar Bluff**	**68.64**	**340**	P	**P**	**14 12 12.6**	**+0.1**
LIC	**Lamto**	**68.99**	**70**	*e*P	**P**	**14 12 14.6**	**-0.6**
	comp=Z,12nm,0.4s						
TIC	**Toumodi**	**69.23**	**70**	*e*P	**P**	**14 12 16.1**	**-0.6**
KIC	**Kosan Boka**	**69.30**	**70**	*e*P	**P**	**14 12 16.6**	**-0.6**
	comp=Z,13nm,0.4s						
SYO	**Syowa Base**	**69.31**	**158**	⇓*e*P	**P**	**14 12 15.8**	**-0.5**
SYO	**Syowa Base**	**69.31**	**158**	⇑*e*PcP	**PcP**	**14 12 38.0**	**-0.9**
DBIC	**Dimbokro**	**69.38**	**70**	P	**P**	**14 12 17.2**	**-0.3**
	comp=Z,7.6nm,0.4s,baz=213,slow=6.1,SNR=21						
DBIC	**Dimbokro**	**69.38**	**70**	P	**P**	**14 12 16.8**	**-0.8**
DBIC				IAmb	IAmb	14 12 18.0	
	comp=Z,13nm,0.9s						
TOA0	**Torodi Ar. Sit**	**78.31**	**68**	P	**P**	**14 13 09.6**	**0.0**
TOA0				IAmb	IAmb	14 13 10.6	
	comp=Z,14nm,0.6s						
TORD	**Torodi Ar. Bea**	**78.31**	**68**	P	**P**	**14 13 09.7**	**+0.1**
	comp=Z,10nm,0.6s,baz=236,slow=6.0,SNR=64						
TORD				LR	LR	14 45 38.5	
	comp=Z,12nm,20.0s,baz=15,slow=34						
BOSA	**Boshof**	**78.73**	**116**	P	**P**	**14 13 12.6**	**+0.6**
	comp=Z,4.0nm,0.9s,baz=246,slow=5.0,SNR=6.0						
BOSA	**Boshof**	**78.73**	**116**	IAmb	IAmb	14 14 57.0	
	comp=Z,37nm,1.8s						
PDAR	**Pinedale Array**	**81.06**	**330**	P	**P**	**14 13 25.2**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=123,slow=6.7,SNR=5.8						
NVAR	**Mina Array Bea**	**82.08**	**322**	P	**P**	**14 13 31.1**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=159,slow=7.7,SNR=3.3						
ESDC	**Sonseca Array**	**89.76**	**44**	P	**P**	**14 14 08.2**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=220,slow=5.0,SNR=3.7						
ASAR	**Alice Springs**	**124.25**	**203**	PKP	**PKiKP**	**14 20 07.2**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=127,slow=2.0,SNR=5.5						
ASAR				pPKP	**pPKPdf**	**14 20 45.6**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=142,slow=1.8,SNR=2.3						
WRA	**Warramunga Arr**	**127.50**	**206**	PKP	**PKiKP**	**14 20 14.0**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=155,slow=2.0,SNR=17						
WRA				pPKP	**pPKPdf**	**14 20 52.2**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=165,slow=1.6,SNR=4.8						
ARSB	**Arslanbob**	**145.19**	**58**		**PKPab**	**14 20 46.1**	**+0.3**
KURBB	**Kurchatov Arra**	**146.02**	**40**	PKPbc	**PKPab**	**14 20 48.9**	**+0.5**
	comp=Z,2.5nm,0.4s,baz=305,slow=3.6,SNR=8.4						
KURBB				pPKPbc	**pPKPdf**	**14 21 25.0**	**+0.5**
	comp=Z,0.9nm,0.2s,baz=290,slow=3.7,SNR=1.8						
KURK	**Kurchatov**	**146.03**	**40**		**PKPab**	**14 20 48.9**	**+0.5**
KURK					**pPKPdf**	**14 21 25.0**	**+0.5**
AAK	**Ala-Archa**	**146.07**	**55**	PKPbc	**PKPab**	**14 20 49.6**	**+0.5**
	comp=Z,5.0nm,0.6s,baz=227,slow=2.7,SNR=25						
AAK				pPKPbc	**pPKPdf**	**14 21 25.3**	**0.0**
	comp=Z,7.3nm,0.9s,baz=232,slow=4.9,SNR=7.7						
AAK	**Ala-Archa**	**146.07**	**55**		**PKPab**	**14 20 49.3**	**+0.2**
ZAA0	**Zalesovo Array**	**147.41**	**31**		**PKPbc**	**14 20 52.0**	**+0.5**
ZALV	**Zalesovo Beam**	**147.41**	**31**	PKPbc	**PKiKP**	**14 20 52.5**	**-1.1**
	comp=Z,5.9nm,0.4s,baz=302,slow=3.6,SNR=23						
ZALV				pPKPbc	**pPKPab**	**14 21 30.6**	**+0.2**
	comp=Z,4.8nm,0.9s,baz=296,slow=3.7,SNR=4.3						
KSH	**Kashi**	**147.71**	**61**	PKPbc	**PKPbc**	**14 20 52.4**	**-0.6**
KSH				pPKP	pPKPdf	14 21 18.1	-10
KSH				PP	**PP**	**14 24 25.6**	**+4.3**
KSH				SKS	**SKSdf**	**14 27 49.8**	**+4.2**
MK31	**Makanchi Array**	**149.98**	**44**		**PKiKP**	**14 20 58.4**	**-0.8**
MKAR	**Makanchi Array**	**149.98**	**44**	PKPbc	**PKiKP**	**14 20 59.1**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=300,slow=2.5,SNR=18						
MKAR				pPKPbc	**pPKPbc**	**14 21 35.9**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=289,slow=4.4,SNR=2.6						
LZH	**Lanzhou**	**169.29**	**43**	*e*PKP	**PKPdf**	**14 21 17.9**	**+2.4**
LZH				pPKP	pPKPdf	14 21 44.2	-10
LZH				sPKP		14 21 57.3	

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*IDC **08** 14:19:36.6±1.8, 27°.64N×87°.58E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.5/45, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=133.5km s-min=19.7km az=59.0*
*ISCJB **08** 14:19:41.2±0.4, 27°.87N±0°.05×87°.64E±0°.06, h35km, mb3.9/5, Error ellipse: s-maj=7.9km s-min=6.2km az=44.3*
*NEIC **08** 14:19:43.0±1.9, 27°.7N±0°.1×87°.6E±0°.1, h45km±9km, mb4.0/10*
*NDI **08** 14:19:43.7±1.9, 27°.82N×87°.67E, h4km±27km, ML3.7, mb4.0(NEIC)*
ISC 08 14:19:42.6±0.6**, 27°.86N**±0°.06×**87°.68E**±0°.06**, h35**km**, n24,** σ1s**83**/27**, mb4.2**/8**, Nepal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTK	**Tadong**	**0.98**	**123**	*e*P	**Pn**	**14 20 02.9**	**+2.9**
GTK				*e*S	**Sn**	**14 20 15.4**	**+2.6**
GTK				IAML		14 20 17.0	
	comp=E,760nm,0.4s						
GTK				IAML		14 20 20.1	
	comp=N,600nm,0.2s						
LSA	**Lhasa**	**3.56**	**58**		**Pn**	**14 20 36.8**	**+1.0**
BOK	**Bokaro**	**4.36**	**202**	*e*P	Pn	14 20 51.6	+5.2
BOK				*e*S	**Sn**	**14 21 38.3**	**+2.3**
BOK				IAML		14 21 42.2	
	comp=N,4μm,0.0s						
SHL	**Shillong**	**4.40**	**120**	Pn	**Pn**	**14 20 47.6**	**+0.5**
SMLA	**Simla**	**9.72**	**292**	*e*P	**Pn**	**14 22 03.2**	**+3.3**
SMLA				*e*S	**Sn**	**14 23 46.4**	**-1.6**
SMLA				IAML		14 23 49.9	
	comp=E,37nm,0.5s						
SMLA				IAML		14 23 50.6	
	comp=N,16nm,0.2s						
BHPL	**Bhopal**	**10.34**	**246**	*e*P	**Pn**	**14 22 10.5**	**+2.0**
BHPL				*e*S	**Sn**	**14 23 59.9**	**-3.2**
NIL	**Nilore**	**13.68**	**298**	Pn	**Pn**	**14 22 51.9**	**-2.2**
KMI	**Kunming**	**13.76**	**98**	Pn	**Pn**	**14 22 54.2**	**-1.2**
BTK	**Batken**	**18.50**	**315**	P	**P**	**14 23 56.0**	**+0.1**
BTK				IAmb	IAmb	14 23 57.2	
	comp=Z,3.1nm,0.5s						
MK31	**Makanchi Array**	**19.37**	**349**	P	**P**	**14 24 06.2**	**+0.9**
MKAR	**Makanchi Array**	**19.37**	**349**	P	**Pn**	**14 24 07.8**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=169,slow=9.4,SNR=6.2						
KK31	**Karatay Array**	**20.60**	**322**	P	**P**	**14 24 19.9**	**+1.2**
KK31				IAmb	IAmb	14 24 41.1	
	comp=Z,7.5nm,1.9s						
KKAR	**Karatay Array**	**20.60**	**322**	P	**P**	**14 24 19.8**	**+1.1**
KKAR				IAmb	IAmb	14 24 41.0	
	comp=Z,7.5nm,1.9s						
HRA	**Herat**	**22.69**	**293**	P	**P**	**14 24 40.0**	**-1.4**
KURBB	**Kurchatov Arra**	**23.77**	**345**	P	**P**	**14 24 52.0**	**+0.3**
	comp=Z,4.6nm,0.2s,baz=165,slow=9.3,SNR=5.5						
KURK	**Kurchatov**	**23.84**	**346**	P	**P**	**14 24 53.4**	**+1.0**
KURK				IAmb	IAmb	14 24 53.8	
	comp=Z,2.4nm,0.7s						
ABKAR	**Akbulak array**	**30.16**	**323**	P	**P**	**14 25 50.0**	**+0.8**
ABKAR				IAmb	IAmb	14 26 16.4	
	comp=Z,11nm,1.9s						
BKNI	**Bangkinang**	**30.23**	**153**	P	**P**	**14 25 48.4**	**-1.8**
BKB	**Balikpapan**	**40.32**	**131**	P	**P**	**14 27 13.9**	**-3.0**
YAK	**Yakutsk**	**43.94**	**27**	P	**P**	**14 27 46.0**	**+0.2**
YAK				IAmb	IAmb	14 29 08.2	
	comp=Z,28nm,1.9s						
FINES	**FINESS Array B**	**52.41**	**328**	P	**P**	**14 28 51.2**	**0.0**
	comp=Z,1.8nm,0.9s,baz=112,slow=9.5,SNR=4.3						
ARCES	**ARCESS Array B**	**54.51**	**338**	P	**P**	**14 29 06.6**	**0.0**
	comp=Z,3.8nm,0.9s,baz=98,slow=7.6,SNR=4.3						
WRA	**Warramunga Arr**	**65.54**	**131**	P	**P**	**14 30 21.5**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=331,slow=6.3,SNR=3.0						
ASAR	**Alice Springs**	**67.91**	**134**	P	**P**	**14 30 36.9**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=324,slow=6.1,SNR=2.7						

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*NNC **08** 14:25:59.2±1.0, 40°.33N×77°.12E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=6.6km s-min=5.3km az=165.0*
*SOME **08** 14:25:59.0, 40°.35N×77°.12E, h5km*
*KRNET **08** 14:26:00.9±0.1, 40°.46N×77°.11E, h17km, mb3.3*
ISC 08 14:25:59.7±2.0**, 40°.41N**±0°.08×**77°.05E**±0°.03**, h17**km±14km**, n73,** σ1s**71**/113**, 31C-15D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.29**	**323**	⇓*i*P	**Pg**	**14 26 25.3**	**+0.5**
	baz=18						
NRN				⇓*i*S	**Sg**	**14 26 43.4**	**+1.7**
	baz=18						
TARG	**Taragay, Kyrgy**	**1.44**	**23**	⇑*i*P	**Pg**	**14 26 27.1**	**-0.4**
	baz=22						
TARG				⇑*i*S	**Sg**	**14 26 46.4**	**+0.2**
	baz=22						
KDJ	**Kajisay**	**1.72**	**3**	⇑*e*P	**Pg**	**14 26 32.4**	**-0.4**
	baz=2.0						

KDJ				⇑iS	Sg	14 26 55.1	-0.1
	baz=2.0						
ULHL	Ulahol	1.93	342	⇑iP	Pg	14 26 36.3	-0.6
	baz=40						
ULHL				⇑iS	Sg	14 27 02.1	+0.1
	baz=40						
KZA	Kyzart	2.15	321	⇓iP	Pb	14 26 40.4	+2.0
	baz=20						
KZA				⇓iS	Sg	14 27 09.0	+0.1
	baz=20						
KZA	Kyzart	2.15	321	P	Pg	14 26 41.6	+0.6
	SNR=35						
BOOM	Boomskoye usch	2.24	339	⇑eP	Pb	14 26 41.0	+1.2
	baz=37						
BOOM				⇑iS	Sg	14 27 10.4	-1.4
	baz=37						
PRZ	Przheval'sk	2.31	26	⇓iP	Pb	14 26 41.5	+0.5
	baz=26						
PRZ				⇓iS	Sg	14 27 10.9	-3.1
	baz=26						
ANVS	Anan'yevo	2.42	11	⇑iP	Pb	14 26 43.3	+0.4
	baz=10.0						
ANVS				⇑iS	Sb	14 27 13.9	+1.4
	baz=10.0						
ARLS	Aral	2.52	306	⇓eP	Pb	14 26 45.1	+0.5
	baz=5.0						
ARLS				⇓iS	Sb	14 27 17.8	+2.5
	baz=5.0						
TNSS	Tian-Shan	2.63	358	eP	Pg	14 26 50.0	-0.1
	26nm,0.5s						
TNSS				eS	Sg	14 27 26.7	+2.5
	39nm,0.4s						
TNSS	Tian-Shan	2.63	358	Pg	Pg	14 26 50.0	-0.1
	24nm,0.5s						
TNSS				Lg	Lg	14 27 26.7	
	39nm,0.4s						
UCH	Uchtor	2.63	314	⇑iP	Pb	14 26 47.3	+0.6
	baz=13						
UCH				⇑iS	Sb	14 27 20.9	+1.9
	baz=13						
UCH	Uchtor	2.63	314	P	Pb	14 26 48.1	+1.3
	SNR=23						
IZV	Izvestkoviy	2.64	353	eP	Pg	14 26 49.3	-1.2
	26nm,0.5s						
IZV				eS	Sg	14 27 25.2	+0.4
	60nm,0.4s						
IZV	Izvestkoviy	2.64	353	Pg	Pg	14 26 49.3	-1.2
	26nm,0.5s						
IZV				Lg	Lg	14 27 26.5	
	60nm,0.4s						
TKM2	Tokmak 2	2.73	337	⇑iP	Pb	14 26 48.1	-0.2
	baz=36						
TKM2				⇑iS	Sb	14 27 22.3	+0.7
	baz=36						
TKM2	Tokmak 2	2.73	337	P	Pb	14 26 49.3	+1.0
	SNR=13						
TKM2	Tokmak 2	2.73	337	⇓Pg	Pb	14 26 48.7	+0.4
	6.2nm,0.5s						
TKM2				⇓Lg	Lg	14 27 29.6	
	16nm,0.6s						
KBK	Karagaybulak	2.74	326	⇑iP	Pb	14 26 48.2	-0.2
	baz=24						
KBK				⇑iS	Sb	14 27 22.8	+1.0
	baz=24						
KBK	Karagaybulak	2.74	326	P	Pg	14 26 52.5	+0.2
	SNR=8.6						
MDOK	Medeo	2.75	0	eP	Pg	14 26 51.4	-1.1
	22nm,0.8s						
MDOK				eS	Sg	14 27 29.1	+0.9
	53nm,0.6s						
MDOK	Medeo	2.75	0	Pg	Pb	14 26 49.9	+1.3
	29nm,0.9s						
MDOK				Lg	Lg	14 27 29.6	
	42nm,0.6s						
MDOK	Medeo	2.75	0	Pg	Pg	14 26 51.4	-1.1
	22nm,0.8s						
MDOK				Lg	Lg	14 27 29.1	
	53nm,0.6s						
KST	Kastek	2.75	343	eP	Pg	14 26 51.9	-0.6
	11nm,0.4s						
KST				eS	Sg	14 27 29.9	+1.7
	18nm,0.5s						
KST	Kastek	2.75	343	Pg	Pg	14 26 51.9	-0.6
	11nm,0.4s						
KST				Lg	Lg	14 27 30.7	
	16nm,0.8s						
MTBS	Maitube	2.76	351	eP	Pg	14 26 51.3	-1.3
	17nm,0.4s						
MTBS				eS	Sg	14 27 29.1	+0.8
	15nm,0.5s						
MTBS	Maitube	2.76	351	Pg	Pg	14 26 51.3	-1.3
	17nm,0.4s						
MTBS				Lg	Lg	14 27 29.1	
	15nm,0.5s						
AAA	Alma-Ata	2.80	358	eP	Pg	14 26 53.0	-0.4
	15nm,0.1s						
AAA				eS	Sg	14 27 32.0	+2.4
	26nm,0.3s						
AAA	Alma-Ata	2.80	358	Pg	Pg	14 26 53.0	-0.4
	18nm,0.2s						
AAA				Lg	Lg	14 27 32.0	
	26nm,0.3s						
KNDC	Almaty	2.81	359	⇑Pg	Pg	14 26 51.8	-1.7
	16nm,0.6s						
KNDC				⇑Lg	Lg	14 27 31.3	
	67nm,0.4s						
KOTS	Kotyrbulak	2.82	1	eP	Pg	14 26 52.9	-0.9
	28nm,0.4s						
KOTS				eS	Sg	14 27 32.1	+1.7
	187nm,0.5s						
KOTS	Kotyrbulak	2.82	1	Pg	Pg	14 26 52.9	-0.9
	45nm,0.5s						
KOTS				Lg	Lg	14 27 32.1	
	54nm,0.4s						
SATY	Saty	2.83	21	eP	Pg	14 26 52.7	-1.3
	24nm,0.3s						
SATY				eS	Sg	14 27 31.5	+0.7
	89nm,0.5s						
SATY	Saty	2.83	21	Pg	Pg	14 26 52.7	-1.3
	33nm,0.5s						
SATY				Lg	Lg	14 27 31.5	
	88nm,0.5s						
AAK	Ala-Archa	2.94	320	⇑iP	Pb	14 26 51.0	-0.7
	baz=19						
AAK				⇑iS	Sb	14 27 27.8	+0.4
	baz=19						
AAK	Ala-Archa	2.94	320	P	Pg	14 26 55.5	-0.5
	SNR=18						
AAK	Ala-Archa	2.94	320	⇓Pg	Pb	14 26 54.4	+2.7
	8.8nm,0.6s						
AAK				⇑Lg	Lg	14 27 35.2	
	40nm,1.0s						
ZHN	Zhinishke	2.94	20	eP	Pg	14 26 54.8	-1.3
	9.6nm,0.3s						
ZHN				eS	Sg	14 27 34.8	+0.4
	36nm,0.2s						
DGS	Degeres	2.99	342	eP	Pg	14 26 55.5	-1.4
	7.8nm,0.6s						
DGS				eS	Sg	14 27 36.1	+0.4
	27nm,0.4s						
DGS	Degeres	2.99	342	Pg	Pg	14 26 55.5	-1.4
	9.6nm,0.6s						
DGS				Lg	Lg	14 27 36.9	
	17nm,0.7s						
AML	Almayashu	3.06	305	⇑iP	Pb	14 26 53.0	-0.9
	baz=4.0						
AML				⇑iS	Sb	14 27 31.1	0.0
	baz=4.0						
AML	Almayashu	3.06	305	P	Pb	14 26 54.2	+0.3
	SNR=14						
CHMS	Chumysh	3.11	327	⇑iP	Pb	14 26 53.0	-1.5
	baz=26						
CHMS				⇑iS	Sb	14 27 31.1	-1.0
	baz=26						
UZB	Uzynbulak	3.11	28	eP	Pg	14 26 57.3	-1.9
	10nm,0.5s						
UZB				eS	Sg	14 27 39.0	-0.5
	22nm,0.5s						
KURS	Kuram	3.19	15	eP	Pg	14 26 58.4	-2.4
	11nm,0.6s						
KURS				eS	Sg	14 27 41.2	-0.9
	25nm,0.6s						
KURS	Kuram	3.19	15	Pg	Pg	14 26 58.4	-2.4
	27nm,0.6s						
KURS				Lg	Lg	14 27 41.2	
	20nm,0.6s						
ARSB	Arslanbob	3.22	288	⇑iP	Pb	14 26 55.4	-1.1
	baz=87						
ARSB				⇑iS	Sb	14 27 35.5	+0.1
	baz=87						
SHLS	Shalkode	3.29	33	eP	Pg	14 27 03.7	+1.1
	12nm,0.4s						
SHLS				eS	Sg	14 27 50.0	+4.7
	53nm,0.4s						
KPKS	Kokpek	3.29	21	eP	Pg	14 27 00.6	-2.2
	14nm,0.3s						
KPKS				eS	Sg	14 27 44.5	-0.8
	116nm,0.8s						
KTBS	Karatobe	3.31	355	eP	Pg	14 27 01.2	-2.0
	8.2nm,0.5s						
KTBS				eS	Sg	14 27 45.8	-0.3
	29nm,0.4s						
KTBS	Karatobe	3.31	355	Pg	Pg	14 27 01.2	-2.0
	8.2nm,0.5s						
KTBS				Lg	Lg	14 27 46.4	
	14nm,0.6s						
EKS2	Erkin-Say	3.33	314	⇑iP	Pb	14 26 56.4	-2.0
	baz=12						
EKS2				⇑iS	Sb	14 27 37.3	-1.4
	baz=12						
EKS2	Erkin-Say	3.33	314	P	Pb	14 26 58.7	+0.3
	SNR=6.5						
USP	Ospenovka	3.43	327	⇓iP	Pb	14 26 57.7	-2.4
	baz=26						
USP				⇓iS	Sb	14 27 39.3	-2.2
	baz=26						
USP	Ospenovka	3.43	327	P	Pg	14 27 03.6	-1.9
	SNR=11						
PDGK	Podgornoye	3.44	31	⇓Pg	Pb	14 27 01.0	+0.7
	5.3nm,0.5s						
PDGK				⇑Lg	Lg	14 27 48.2	
	40nm,0.6s						
CHKK	Chushkaly	3.44	359	eP	Pg	14 27 03.8	-1.8
	11nm,0.5s						
CHKK				eS	Sg	14 27 50.6	+0.4
	29nm,0.4s						
CHKK	Chushkaly	3.44	359	Pg	Pg	14 27 03.8	-1.8
	11nm,0.5s						
CHKK				Lg	Lg	14 27 50.6	
	28nm,0.5s						
KUU	Kurty	3.52	352	eP	Pg	14 27 04.8	-2.3
	4.6nm,0.4s						
KUU				eS	Sg	14 27 52.3	-0.5
	19nm,0.6s						
KUU	Kurty	3.52	352	Pg	Pg	14 27 04.8	-2.3
	4.6nm,0.4s						
KUU				Lg	Lg	14 27 52.3	
	8.5nm,0.4s						
MRKS	Merke	3.70	310	eP	Pb	14 27 08.6	+4.0
	4.4nm,0.3s						
MRKS				eS	Sg	14 27 58.7	+0.3
	5.1nm,0.6s						
MRKS	Merke	3.70	310	Pg	Pb	14 27 08.6	+4.0
	8.2nm,0.7s						
MRKS				Lg	Lg	14 27 58.7	
	5.1nm,0.6s						
MNBS	Baschi	3.80	15	eP	Pg	14 27 10.0	-2.5
	6.5nm,0.2s						
MNBS				eS	Sg	14 28 01.3	-0.5
	24nm,0.4s						
MNBS	Baschi	3.80	15	Pg	Pg	14 27 10.0	-2.5
	27nm,0.5s						
MNBS				Lg	Lg	14 28 01.3	
	24nm,0.4s						
ARXS	Arharly	3.84	8	eP	Pg	14 27 10.4	-2.9
	6.4nm,0.5s						
ARXS				eS	Sg	14 28 02.2	-1.0
	17nm,0.4s						
ARXS	Arharly	3.84	8	Pg	Pg	14 27 10.4	-2.9
	9.5nm,0.5s						
ARXS				Lg	Lg	14 28 02.2	
	17nm,0.4s						
KTMS	Ketmen	3.91	38	eP	Pb	14 27 11.0	+2.7
	0.3nm,0.1s						
KTMS				eS	Sg	14 28 02.5	-2.7
	20nm,0.4s						
KTMS	Ketmen	3.91	38	Pg	Pb	14 27 11.0	+2.7
	1.6nm,0.2s						
KTMS				Lg	Lg	14 28 03.4	
	18nm,0.4s						
DJR	Jarkent	4.41	26	eP	Pb	14 27 20.2	+3.4
	0.5nm,0.2s						
DJR				eS	Sg	14 28 18.7	-2.7
	11nm,0.4s						
DJR	Jarkent	4.41	26	Pg	Pb	14 27 20.2	+3.4
	1.1nm,0.4s						
DJR				Lg	Lg	14 28 18.7	
	11nm,0.4s						
KAPS	Kapalarasan	5.16	18	Pg	Pg	14 27 35.3	-3.2
	3.6nm,0.6s						
KAPS				Lg	Lg	14 28 44.6	
	7.0nm,0.8s						
KK31	Karatay Array	5.58	301	⇑Pg	Pg	14 27 43.8	-2.7
	0.9nm,0.7s,baz=127,slow=16,SNR=7.7						
KK31				⇓Lg	Lg	14 28 56.0	
	1.6nm,0.6s,baz=126,slow=27,SNR=5.5						

IDC ***08*** *14:31:08.9±0.8, 35°.98N×142°.69E, h0km, mb3.5/8, mb1 3.7/12, mb1mx3.6/56, mbtmp3.5/12, ML3.1/4, MS2.9/6, Ms1 2.9/6, ms1mx2.6/39, Error ellipse: s-maj=19.8km s-min=18.0km az=116.0*

ISCJB ***08*** *14:31:10.0±0.6, 36°.00N±0°.04×142°.56E±0°.05, h18km, mb3.5/9, MS2.8/2, Error ellipse: s-maj=6.3km s-min=5.3km az=42.5*

JMA ***08*** *14:31:12.2±0.2, 35°.97N×142°.48E, h62km, M3.3*

ISC 08 14:31:12.0±0.8**, 35°.97N**±0°.06×**142°.54E**±0°.07**, h18km, n38, σ1s30**/37**, mb3.5**/9**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	1.39	259	P	Pn	14 31 35.4	-1.2
JHYU	Hitachinakayam	1.62	284	P	Pn	14 31 38.6	-1.1
JHYU				eS	Sn	14 31 58.1	-2.1
JIHU	Itakohorinouch	1.64	270	P	Pn	14 31 39.2	-0.7
JHO	Hitachi	1.72	292	P	Pn	14 31 39.3	-1.7
BSO1	Boso 1	1.84	225	P	Pn	14 31 41.4	-0.7
JFK	Kawauchi	1.93	317	P	Pn	14 31 42.8	-1.2
JFK				eS	Sn	14 32 06.1	-1.7
BSO3	Boso 3	2.03	235	P	Pn	14 31 44.3	-0.8
JFT	Otama	2.35	312	P	Pn	14 31 49.7	0.0
JMM	Marumori	2.35	324	P	Pn	14 31 48.8	-0.9
JAG	Ashikaga	2.54	281	P	Pn	14 31 51.0	-1.3
JAG				eS	Sn	14 32 20.2	-2.6
JIO	Ouri	2.65	339	P	Pn	14 31 53.2	-0.7
JFY	Yanaizu	2.69	303	P	Pn	14 31 54.2	-0.2
JOD2	Odawara 2	2.90	257	P	Pn	14 31 56.9	-0.4
JOD2				eS	Sn	14 32 30.8	-1.0
JRY	Ryogami san	2.95	272	P	Pn	14 31 56.9	-1.1
JMK	Ichinoseki	3.15	341	P	Pn	14 32 00.6	-0.1
JMK				eS	Sn	14 32 37.3	-0.6
MJAR	Matsushiro Arr	3.55	280	Pn	Pn	14 32 05.9	-0.3
	0.4nm,0.3s,baz=110,slow=9.5,SNR=31						
MJAR				Sn	Sn	14 32 49.6	+1.9
	0.3nm,0.3s,baz=81,slow=17,SNR=5.5						
MJAR				LR	LR	14 33 01.4	
	comp=Z,61nm,21.9s,baz=120,slow=31						
MAT	Matsushiro	3.55	280	P	Pn	14 32 06.1	-0.1
MAT				eS	Sn	14 32 46.4	-1.3
ASAJ	Asahikawa	8.13	0	Pn	Pn	14 33 08.6	-0.6
	1.1nm,0.3s,baz=213,slow=18,SNR=12						
ASAJ				Sn	Sn	14 34 40.4	-0.2
	0.4nm,0.3s,baz=90,slow=20,SNR=4.0						
JNU	Nakatsue	10.03	257	LR	LR	14 38 07.0	
	comp=Z,157nm,18.3s,baz=121,slow=41						
USRK	Ussuriysk Ar.	11.52	319	Pn	Pn	14 33 55.4	-0.1
	baz=119,slow=12,SNR=2.6						
KSRS	Korea Array	11.83	281	Pn	Pn	14 34 02.5	+2.7
	0.1nm,0.3s,baz=100,slow=14,SNR=4.8						
KSRS				LR	LR	14 37 59.0	
	comp=Z,44nm,21.3s,baz=95,slow=34						
KLR	Kul'dur	15.42	333	LR	LR	14 40 20.0	
	comp=Z,56nm,18.8s,baz=121,slow=36						
GUMO	Guam	22.39	174	LR	LR	14 44 02.4	
	comp=Z,19nm,20.8s,baz=122,slow=35						
H11N2	WAKE ISLAND Hy	26.83	121	T	T	15 04 53.2	
	baz=312,slow=75,SNR=74						
H11N1	WAKE ISLAND Hy	26.83	121	T	T	15 04 54.0	
	baz=312,slow=75,SNR=119						
H11N3	WAKE ISLAND Hy	26.84	121	T	T	15 04 57.4	
	baz=312,slow=75,SNR=95						
H11S1	WAKE ISLAND Hy	27.52	123	T	T	15 05 44.9	
	baz=314,slow=75,SNR=174						
H11S3	WAKE ISLAND Hy	27.52	123	T	T	15 05 45.4	
	baz=314,slow=75,SNR=124						
H11S2	WAKE ISLAND Hy	27.54	123	T	T	15 05 45.4	
	baz=314,slow=75,SNR=93						
SONM	Songino Array	29.13	305	P	P	14 37 12.4	+0.4
	1.7nm,1.0s,baz=102,slow=8.8,SNR=5.7						
SONM				LR	LR	14 49 08.5	
	comp=Z,44nm,18.4s,baz=12,slow=37						
CMAR	Chiang Mai Arr	42.13	257	P	P	14 39 04.2	+0.8
	0.5nm,0.9s,baz=46,slow=8.0,SNR=3.9						
ZALV	Zalesovo Beam	43.30	313	P	P	14 39 12.8	+0.3
	0.6nm,0.6s,baz=102,slow=9.4,SNR=2.9						
MKAR	Makanchi Array	45.45	303	P	P	14 39 33.4	+3.5
	1.3nm,0.6s,baz=86,slow=10,SNR=7.8						
ILAR	Eielson Array	49.91	32	P	P	14 40 03.3	-0.8
	0.3nm,0.9s,baz=262,slow=5.4,SNR=2.7						
WRA	Warramunga Arr	56.15	189	P	P	14 40 49.9	-0.7
	0.8nm,0.9s,baz=8.1,slow=7.4,SNR=8.5						
ASAR	Alice Springs	59.88	189	P	P	14 41 17.1	+0.3
	0.3nm,0.7s,baz=7.4,slow=9.2,SNR=5.9						
YKA	Yellowknife Ar	64.27	30	P	P	14 41 45.5	-0.2
	0.1nm,0.6s,baz=296,slow=6.1,SNR=2.9						
TXAR	Lajitas Array	90.04	53	P	P	14 44 09.9	-1.1
	0.2nm,0.9s,baz=302,slow=5.2,SNR=2.6						

SOME ***08*** *14:34:54.3, 40°.40N×77°.18E, h5km*

KRNET ***08*** *14:34:55.5±0.1, 40°.38N×77°.13E, h20km, mb3.5*

NNC ***08*** *14:34:56.8±2.6, 40°.37N×77°.47E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=17.9km s-min=15.6km az=166.0*

ISC 08 14:34:53.2±1.6**, 40°.20N**±0°.07×**76°.91E**±0°.03**, h10km, n73, σ1s54**/116**, 30C-17D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NRN	Naryn	1.41	331	⇓iP	Pg	14 35 20.8	+0.5
	baz=20						
NRN				⇓iS	Sg	14 35 39.6	+1.0
	baz=20						
TARG	Taragay, Kyrgy	1.67	24	⇓iP	Pn	14 35 22.6	-0.2
	baz=20						
TARG				⇓iS	Sn	14 35 42.4	-2.1
	baz=20						
KDJ	Kajisay	1.94	6	⇑iP	Pb	14 35 28.1	-0.6
	baz=2.0						
KDJ				⇑iS	Sb	14 35 51.5	-1.5
	baz=2.0						
ULHL	Ulahol	2.10	346	⇓iP	Pb	14 35 31.7	+0.2
	baz=40						
ULHL				⇓iS	Sb	14 35 58.5	+0.7
	baz=40						
ULHL	Ulahol	2.10	346	P	Pg	14 35 32.6	-0.9
	SNR=8.7						
KZA	Kyzart	2.25	327	⇑eP	Pg	14 35 35.4	-1.0
	baz=21						
KZA				⇑iS	Sg	14 36 04.5	-1.2
	baz=21						
KZA	Kyzart	2.25	327	P	Pg	14 35 37.0	+0.6
	SNR=79						
BOOM	Boomskoye usch	2.40	343	⇑iP	Pb	14 35 36.2	-0.4
	baz=37						
BOOM				⇑iS	Sb	14 36 06.0	-0.3
	baz=37						
PRZ	Przheval'sk	2.54	26	⇑eP	Pb	14 35 36.3	-2.6
	baz=24						
PRZ				⇑iS	Sn	14 36 06.3	+0.6
	baz=24						
ARLS	Aral	2.56	311	⇓eP	Pb	14 35 40.6	+1.2
	baz=6.0						
ARLS				⇓iS	Sb	14 36 13.0	+2.0
	baz=6.0						
ANVS	Anan'yevo	2.64	12	⇑iP	Pb	14 35 38.5	-2.2
	baz=9.0						
ANVS				⇑iS	Sn	14 36 09.3	+1.1
	baz=9.0						
UCH	Uchtor	2.71	319	⇑eP	Pb	14 35 42.1	0.0
	baz=14						
UCH				⇑iS	Sb	14 36 16.1	+0.5
	baz=14						
UCH	Uchtor	2.71	319	P	Pg	14 35 44.1	-1.1
	SNR=9.6						
IZV	Izvestkoviy	2.84	356	eP	Pb	14 35 44.6	+0.5
	35nm,0.5s						
IZV				eS	Sb	14 36 20.7	+1.8
	64nm,0.5s						
IZV	Izvestkoviy	2.84	356	Pg	Pb	14 35 44.6	+0.5
	35nm,0.5s						
IZV				Lg	Lg	14 36 21.7	
	64nm,0.5s						
KBK	Karagaybulak	2.86	330	⇑iP	Pb	14 35 43.5	-0.9
	baz=25						
KBK				⇑iS	Sb	14 36 18.4	-1.2
	baz=25						
KBK	Karagaybulak	2.86	330	P	Pb	14 35 45.9	+1.4
	SNR=38						
TKM2	Tokmak 2	2.89	340	⇑iP	Pb	14 35 43.2	-1.7
	baz=36						
TKM2				⇑iS	Sb	14 36 17.8	-2.6
	baz=36						
TKM2	Tokmak 2	2.89	340	P	Pb	14 35 44.6	-0.2
	SNR=20						
TKM2	Tokmak 2	2.89	340	⇑Pn	Pb	14 35 44.7	-0.2
	12nm,0.7s						
TKM2				⇑Sn	Sg	14 36 25.2	-0.8
	16nm,0.5s						
KST	Kastek	2.93	346	eP	Pg	14 35 47.0	-2.2
	15nm,0.3s						
KST				eS	Sg	14 36 24.9	-2.2
	28nm,0.3s						
KST	Kastek	2.93	346	Pg	Pb	14 35 46.7	+1.2
	20nm,0.7s						
KST				Lg	Lg	14 36 25.8	
	21nm,0.6s						
MTBS	Maitube	2.95	353	eP	Pb	14 35 46.4	+0.6
	22nm,0.4s						
MTBS				eS	Sb	14 36 23.9	+2.0
	21nm,0.4s						
MTBS	Maitube	2.95	353	Pg	Pb	14 35 46.4	+0.6
	22nm,0.4s						
MTBS				Lg	Lg	14 36 23.9	
	21nm,0.4s						
MDOK	Medeo	2.96	2	eP	Pb	14 35 46.6	+0.5
	32nm,0.8s						
MDOK				eS	Sb	14 36 24.2	+1.9
	48nm,0.7s						
MDOK	Medeo	2.96	2	⇑Pn	Pb	14 35 44.7	-1.4
	38nm,0.8s						
MDOK				⇑Sn	Sb	14 36 24.0	+1.7
	29nm,0.6s						
MDOK	Medeo	2.96	2	Pg	Pb	14 35 46.6	+0.5
	32nm,0.8s						
MDOK				Lg	Lg	14 36 24.3	
	48nm,0.7s						
AAA	Alma-Ata	3.00	0	eP	Pb	14 35 47.4	+0.6
	6.9nm,0.1s						
AAA				eS	Sb	14 36 25.5	+1.9
	33nm,0.1s						
AAA	Alma-Ata	3.00	0	Pg	Pb	14 35 47.4	+0.6
	38nm,0.5s						
AAA				Lg	Lg	14 36 25.8	
	59nm,0.4s						
KNDC	Almaty	3.01	1	⇑Pn	Pb	14 35 46.1	-0.9
	36nm,0.7s						
KNDC				⇓Sn	Sb	14 36 23.8	0.0
	69nm,0.5s						
KOTS	Kotyrbulak	3.03	3	eP	Pb	14 35 48.1	+0.8
	76nm,0.7s						
KOTS				eS	Sb	14 36 26.6	+2.2
	240nm,0.4s						
KOTS	Kotyrbulak	3.03	3	Pg	Pb	14 35 48.1	+0.8
	76nm,0.7s						
KOTS				Lg	Lg	14 36 27.3	
	79nm,0.5s						
AAK	Ala-Archa	3.04	324	⇓iP	Pb	14 35 45.8	-1.6
	baz=20						
AAK				⇓iS	Sb	14 36 23.1	-1.5
	baz=20						
AAK	Ala-Archa	3.04	324	P	Pg	14 35 51.0	-0.4
	SNR=26						
AAK	Ala-Archa	3.04	324	⇓Pn	Pb	14 35 48.3	+0.9
	12nm,0.5s						
AAK				Sn	Sg	14 36 31.0	+0.3
	18nm,0.6s						
SATY	Saty	3.07	21	eP	Pb	14 35 47.3	-0.6
	51nm,0.8s						
SATY				eS	Sb	14 36 25.5	+0.1
	90nm,0.4s						
SATY	Saty	3.07	21	Pg	Pb	14 35 47.3	-0.6
	51nm,0.8s						

SATY				Lg	Lg	14 36 25.5		
	79nm,0.9s							
AML	**Almayashu**	**3.10**	**309**	⇑*iP*	**Pb**	**14 35 47.8**	**-0.8**	
	baz=5.0							
AML				⇑*iS*	**Sb**	**14 36 26.4**	**-0.3**	
	baz=5.0							
AML	**Almayashu**	**3.10**	**309**	P	**Pb**	**14 35 50.0**	**+1.4**	
	SNR=6.5							
DGS	**Degeres**	**3.15**	**345**	*eP*	**Pg**	**14 35 51.1**	**-2.5**	
	13nm,0.5s							
DGS				*eS*	**Sg**	**14 36 31.8**	**-2.7**	
	46nm,0.6s							
DGS	**Degeres**	**3.15**	**345**	Pg	**Pg**	**14 35 51.2**	**-2.5**	
	18nm,0.5s							
DGS				Lg	Lg	14 36 32.7		
	46nm,0.6s							
ZHN	**Zhinishke**	**3.17**	**21**	*eP*	**Pb**	**14 35 50.4**	**+0.6**	
	6.7nm,0.1s							
ZHN				*eS*	**Sb**	**14 36 30.1**	**+1.6**	
	29nm,0.2s							
ARSB	**Arslanbob**	**3.19**	**292**	⇓*iP*	**Pb**	**14 35 50.0**	**0.0**	
	baz=88							
ARSB				⇓*iS*	**Sb**	**14 36 30.1**	**+1.2**	
	baz=88							
CHMS	**Chumysh**	**3.23**	**331**	⇓*iP*	**Pb**	**14 35 48.1**	**-2.5**	
	baz=26							
CHMS				⇓*iS*	**Sb**	**14 36 26.8**	**-3.2**	
	baz=26							
CHMS	**Chumysh**	**3.23**	**331**	P	**Pb**	**14 35 50.4**	**-0.2**	
	SNR=10							
UZB	**Uzynbulak**	**3.34**	**28**	*eP*	**Pb**	**14 35 52.6**	**+0.1**	
	11nm,0.7s							
UZB				*eS*	**Sb**	**14 36 34.1**	**+0.8**	
	25nm,0.6s							
EKS2	**Erkin-Say**	**3.40**	**317**	⇑*iP*	**Pb**	**14 35 51.4**	**-2.2**	
	baz=13							
EKS2				⇑*iS*	**Sb**	**14 36 32.2**	**-2.9**	
	baz=13							
EKS2	**Erkin-Say**	**3.40**	**317**	P	**Pb**	**14 35 53.6**	**-0.1**	
	SNR=11							
KURS	**Kuram**	**3.42**	**16**	*eP*	**Pb**	**14 35 54.1**	**+0.3**	
	14nm,0.6s							
KURS				*eS*	**Sb**	**14 36 37.1**	**+1.7**	
	30nm,0.7s							
KURS	**Kuram**	**3.42**	**16**	Pg	**Pb**	**14 35 54.1**	**+0.3**	
	37nm,0.8s							
KURS				Lg	Lg	14 36 37.1		
	30nm,0.7s							
KTBS	**Karatobe**	**3.51**	**357**	*eP*	**Pb**	**14 35 56.3**	**+0.9**	
	11nm,0.5s							
KTBS				*eS*	**Sb**	**14 36 40.6**	**+2.5**	
	41nm,0.5s							
KTBS	**Karatobe**	**3.51**	**357**	Pg	**Pb**	**14 35 56.3**	**+0.9**	
	11nm,0.5s							
KTBS				Lg	Lg	14 36 41.4		
	20nm,0.6s							
SHLS	**Shalkode**	**3.52**	**32**	*eP*	**Pg**	**14 35 58.5**	**-2.0**	
	11nm,0.2s							
SHLS				*eS*	**Sg**	**14 36 44.1**	**-2.0**	
	53nm,0.6s							
KPKS	**Kokpek**	**3.52**	**22**	*eP*	**Pb**	**14 35 55.9**	**+0.3**	
	9.4nm,0.4s							
KPKS				*eS*	**Sb**	**14 36 39.7**	**+1.3**	
	148nm,0.8s							
USP	**Ospenovka**	**3.55**	**330**	⇑*iP*	**Pb**	**14 35 52.9**	**-3.3**	
	baz=27							
USP				⇑*iS*	**Sn**	**14 36 34.6**	**+4.1**	
	baz=27							
USP	**Ospenovka**	**3.55**	**330**	P	**Pg**	**14 35 59.3**	**-1.9**	
	SNR=16							
CHKK	**Chushkaly**	**3.65**	**1**	*eP*	**Pb**	**14 35 59.1**	**+1.3**	
	14nm,0.5s							
CHKK				*eS*	**Sb**	**14 36 45.0**	**+3.0**	
	32nm,0.4s							
CHKK	**Chushkaly**	**3.65**	**1**	Pg	**Pb**	**14 35 59.1**	**+1.3**	
	14nm,0.5s							
CHKK				Lg	Lg	14 36 45.8		
	32nm,0.4s							
PDGK	**Podgornoye**	**3.67**	**31**	⇑Pn	**Pn**	**14 35 51.1**	**+1.0**	
	11nm,0.7s							
PDGK				⇓Lg	Lg	14 36 42.6		
	61nm,1.1s							
KUU	**Kurty**	**3.71**	**354**	*eP*	**Pb**	**14 36 00.3**	**+1.5**	
	4.1nm,0.2s							
KUU				*eS*	**Sb**	**14 36 47.7**	**+3.8**	
	20nm,0.7s							
KUU	**Kurty**	**3.71**	**354**	Pg	**Pb**	**14 36 00.3**	**+1.5**	
	5.4nm,0.4s							
KUU				Lg	Lg	14 36 47.7		
	20nm,0.7s							
MRKS	**Merke**	**3.76**	**314**	*eP*	**Pg**	**14 36 04.7**	**-0.4**	
	7.0nm,0.4s							
MRKS				*eS*	**Sg**	**14 36 54.9**	**+1.1**	
	11nm,0.4s							
MRKS	**Merke**	**3.76**	**314**	Pg	**Pg**	**14 36 04.1**	**-1.0**	
	12nm,0.5s							
MRKS				Lg	Lg	14 36 54.3		
	11nm,0.4s							
MNBS	**Baschi**	**4.03**	**15**	*eP*	**Pb**	**14 36 05.4**	**+1.1**	
	4.5nm,0.6s							
MNBS				*eS*	**Sb**	**14 36 56.1**	**+3.0**	
	26nm,0.8s							
MNBS	**Baschi**	**4.03**	**15**	Pg	**Pb**	**14 36 05.4**	**+1.1**	
	4.5nm,0.6s							
MNBS				Lg	Lg	14 36 56.7		
	26nm,0.8s							
ARXS	**Arharly**	**4.07**	**9**	*eP*	**Pb**	**14 36 05.5**	**+0.6**	
	11nm,0.7s							
ARXS				*eS*	**Sb**	**14 36 56.2**	**+2.1**	
	19nm,0.7s							
ARXS	**Arharly**	**4.07**	**9**	Pg	**Pb**	**14 36 05.5**	**+0.6**	
	11nm,0.7s							
ARXS				Lg	Lg	14 36 56.9		
	19nm,0.7s							
KTMS	**Ketmen**	**4.14**	**37**	*eP*	**Pb**	**14 36 06.4**	**+0.2**	
	0.3nm,0.1s							
KTMS				*eS*	**Sb**	**14 36 57.7**	**+1.5**	
	22nm,0.7s							
KTMS	**Ketmen**	**4.14**	**37**	Pg	**Pb**	**14 36 06.4**	**+0.2**	
	0.3nm,0.1s							
KTMS				Lg	Lg	14 36 58.4		
	22nm,0.7s							
DJR	**Jarkent**	**4.65**	**26**	*eP*	**Pb**	**14 36 15.2**	**+0.4**	
	1.5nm,0.4s							
DJR				*eS*	**Sb**	**14 37 12.7**	**+1.9**	
	9.1nm,0.5s							
DJR	**Jarkent**	**4.65**	**26**	Pg	**Pb**	**14 36 15.1**	**+0.4**	
	1.5nm,0.4s							
DJR				Lg	Lg	14 37 13.4		
	9.1nm,0.5s							
KAPS	**Kapalarasan**	**5.39**	**19**	Pg	**Pb**	**14 36 29.9**	**+2.5**	
	5.4nm,0.8s							
KAPS				Lg	Lg	14 37 39.0		
	7.6nm,0.9s							
KK31	**Karatay Array**	**5.60**	**303**	⇑Pg	**Pg**	**14 36 39.7**	**-0.8**	
	0.9nm,0.6s,baz=114,slow=9.4,SNR=10							
KK31				⇑Lg	Lg	14 37 59.6		
	2.3nm,0.6s,baz=119,slow=27,SNR=6.1							

BUC 08 14:35:22.2±0.8, 44°.91N×27°.98E, h10km, ml1.0/1, 8C-4D, Error ellipse: s-maj=7.2km s-min=2.7km az=80.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOPG	**Topolog**	**0.28**	**97**	⇓P	Pg	14 35 26.9	-1.1
TOPG				⇓S	Sg	14 35 32.4	+0.6
TOPG	**Topolog**	**0.28**	**97**	⇓P	Pg	14 35 26.9	-1.1
TOPG				⇓S	Sg	14 35 32.4	+0.6
TOPG				AML	AML	14 35 33.9	
CFR	**Carcaliu**	**0.29**	**22**	⇑P	Pg	14 35 27.7	-0.3
CFR				⇑S	Sg	14 35 32.7	+0.7
CFR	**Carcaliu**	**0.29**	**22**	⇑P	Pg	14 35 27.7	-0.3
CFR				⇑S	Sg	14 35 32.7	+0.7
TIRR	**Tirgusor**	**0.55**	**146**	⇑P	Pb	14 35 33.6	-0.3
TIRR				⇑S	Sg	14 35 40.5	+0.5
TIRR	**Tirgusor**	**0.55**	**146**	⇑P	Pb	14 35 33.6	-0.3
TIRR				⇑S	Sg	14 35 40.5	+0.5

*BEO **08** 14:35:33.9±0.9, 42°.52N×13°.47E, h0km, ML3.8/7*
*LDG **08** 14:35:33.3±0.1, 42°.46N×13°.49E, h18km, Md3.2/2, Ml3.2/18, Error ellipse: s-maj=2.4km s-min=1.7km az=71.0*
*ROM **08** 14:35:33.4±0.1, 42°.461N±0°.004×13°.479E±0°.006, h16km, ML3.5/104, Mw3.7, Error ellipse: s-maj=0.5km*

s-min=0.2km az=57.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=1.36; M_{tt}=0.49; M_{pp}=0.87; M_{rt}=1.36; M_{rp}=3.62; M_{tp}=1.09; Fault plane solution: M_o=4.18736×10^{14} NP1:ϕ_s=357.00000°, δ=66.00000°, λ=-23.00000°. NP2:ϕ_s=96.00000°, δ=69.00000°, λ=-154.00000°.
*ISCJB **08** 14:35:33.6±0.2, 42°.48N±0°.01×13°.49E±0°.02, h16km±2km, mb3.4/2 Error ellipse: s-maj=2.5km s-min=1.7km az=139.0*
*IDC **08** 14:35:34.0±1.4, 42°.65N×13°.76E, h0km, mb3.4/3, mb1 3.7/6, mb1mx3.4/47, mbtmp3.6/6, ML3.6/3, MS2.6/1, Ms1 2.6/1, ms1mx2.1/33, Error ellipse: s-maj=35.2km s-min=15.0km az=94.0*
*PRU **08** 14:35:35.6±0.0, 42°.60N×13°.50E, h0km*

ISC 08 14:35:34.2±0.7, 42°.46N±0°.02×13°.44E±0°.02, h16km±4km, n221,$_{\sigma 2}$s19/252, 12C-4D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.08**	**342**	P	**Pg**	**14 35 36.9**	**-0.8**
CAMP				S	**Sg**	**14 35 39.2**	**-0.7**
CAMP				AML	AML		
	comp=E,46250μm,0.3s						
CAMP				AML	AML		
	comp=N,64950μm,0.2s						
CAMP				AML	AML		
	comp=N,64950μm,0.2s						
AQU	**L'Aquila**	**0.11**	**195**	P	**Pg**	**14 35 37.5**	**-0.3**
AQU				S	**Sg**	**14 35 40.4**	**+0.1**
AQU				AML	AML		
AQU				AML	AML		
AQU				AML	AML		
AQU				AML	AML		
AQU				AML	AML		
AQU				AML	AML		
AQU				AML	AML		
AQU				AML	AML		
AQU				AML	AML		
T0104	**Madonna delle**	**0.13**	**217**	P	**Pg**	**14 35 37.8**	**-0.2**
T0104				S	**Sg**	**14 35 41.1**	**+0.6**
T0104				AML	AML		
T0104				AML	AML		
	comp=N,91350μm,0.5s						
T0104				AML	AML		
T0104				AML	AML		
	comp=N,91350μm,0.5s						
T0104				AML	AML		
	comp=N,89750μm,0.5s						
T0104				AML	AML		
T0104				AML	AML		
TERO	**Teramo**	**0.20**	**37**	P	**Pg**	**14 35 37.9**	**-1.1**
TERO				S	**Sg**	**14 35 41.2**	**-1.1**
FAGN	**Fagnano**	**0.22**	**152**	P	**Pg**	**14 35 38.6**	**-0.8**
FAGN				AML	AML		
FAGN				AML	AML		
	comp=N,95200μm,0.6s						
FAGN				AML	AML		
	comp=N,95200μm,0.6s						
FAGN				AML	AML		
LNSS	**Leonessa**	**0.33**	**296**	P	**Pg**	**14 35 40.8**	**-0.4**
LNSS				S	**Sg**	**14 35 46.3**	**+0.3**
LNSS				AML	AML		
	comp=E,22400μm,0.7s						
LNSS				AML	AML		
	comp=N,16650μm,1.4s						
LNSS				AML	AML		
	comp=N,16650μm,1.4s						
LNSS				AML	AML		
	comp=E,22400μm,0.7s						
PTQR	**Pietraquaria**	**0.44**	**184**	P	**Pg**	**14 35 42.4**	**-0.7**
PTQR				S	**Sg**	**14 35 49.2**	**0.0**
PTQR				AML	AML		
	comp=N,5575μm,0.7s						
PTQR				AML	AML		
	comp=E,5515μm,0.9s						
NRCA	**Norcia**	**0.44**	**327**	P	**Pg**	**14 35 42.3**	**-0.8**
NRCA				S	**Sg**	**14 35 49.4**	**+0.1**
NRCA				AML	AML		
	comp=E,16850μm,0.4s						
NRCA				AML	AML		
	comp=N,15450μm,1.1s						
NRCA				AML	AML		
	comp=E,16800μm,0.4s						
NRCA				AML	AML		
	comp=N,15500μm,1.1s						
NRCA				AML	AML		
	comp=N,16800μm,1.1s						
NRCA				AML	AML		
	comp=E,16850μm,0.4s						
NRCA				AML	AML		
	comp=E,17450μm,0.4s						
NRCA				AML	AML		
	comp=E,16850μm,0.4s						
NRCA				AML	AML		
	comp=N,15450μm,1.1s						
TRTR	**Tortoreto Alta**	**0.49**	**45**	P	**Pg**	**14 35 43.6**	**-0.4**
TRTR				AML	AML		
	comp=E,24000μm,0.5s						
TRTR				AML	AML		
	comp=N,36000μm,0.4s						
OFFI	**Offida**	**0.51**	**21**	P	**Pg**	**14 35 43.8**	**-0.5**
OFFI				S	**Sb**	**14 35 52.9**	**+1.1**
OFFI				AML	AML		
	comp=E,34300μm,0.4s						
OFFI				AML	AML		
	comp=N,45950μm,0.5s						
OFFI				AML	AML		
	comp=E,34300μm,0.4s						
OFFI				AML	AML		
	comp=N,45950μm,0.5s						
ARRO	**Arrone**	**0.51**	**283**	P	**Pg**	**14 35 43.8**	**-0.6**
ARRO				S	**Sg**	**14 35 51.7**	**+0.3**
ARRO				AML	AML		
	comp=N,9035μm,0.2s						
ARRO				AML	AML		
	comp=E,9335μm,0.3s						
ARRO				AML	AML		
	comp=N,9030μm,0.2s						
INTR	**Introdacqua**	**0.57**	**142**	P	**Pg**	**14 35 44.0**	**-1.4**
INTR				S	**Sg**	**14 35 52.1**	**-0.9**
INTR				AML	AML		
	comp=E,8215μm,0.6s						
INTR				AML	AML		
	comp=N,10850μm,0.7s						
FEMA	**Monte Fema**	**0.58**	**330**	P	**Pg**	**14 35 44.9**	**-0.8**
FEMA				S	**Sg**	**14 35 53.8**	**+0.4**
FEMA				AML	AML		
	comp=E,6555μm,0.4s						
FEMA				AML	AML		
	comp=N,6560μm,0.8s						
FEMA				AML	AML		
	comp=E,6550μm,0.4s						
FEMA				AML	AML		
	comp=N,6565μm,0.8s						
VVLD	**Villa Vallelon**	**0.60**	**167**	P	**Pg**	**14 35 44.9**	**-1.2**
VVLD				S	**Sg**	**14 35 54.0**	**-0.2**
VVLD				AML	AML		
	comp=N,4600μm,0.5s						
VVLD				AML	AML		
	comp=E,5325μm,1.2s						
CERT	**Cerreto**	**0.62**	**214**	P	**Pg**	**14 35 45.6**	**-0.7**
CERT				AML	AML		
	comp=N,4665μm,0.9s						
CERT				AML	AML		
	comp=E,4390μm,0.6s						
FDMO	**Fiordimonte**	**0.63**	**336**	P	**Pg**	**14 35 45.3**	**-1.3**
FDMO				S	**Sg**	**14 35 55.2**	**+0.1**
FDMO				AML	AML		
	comp=N,6290μm,0.2s						
FDMO				AML	AML		
	comp=E,4845μm,1.1s						
CSP1	**Cessapalombo**	**0.65**	**345**	P	**Pg**	**14 35 45.8**	**-1.3**
CSP1				S	**Sg**	**14 35 55.9**	**+0.1**
CSP1				AML	AML		
	comp=E,5905μm,0.2s						
CSP1				AML	AML		
	comp=N,6995μm,1.4s						
CESX	**Cesi**	**0.65**	**283**	P	**Pg**	**14 35 46.0**	**-1.0**
CESX				AML	AML		
	comp=N,3355μm,1.6s						
CESX				AML	AML		
	comp=E,3190μm,0.5s						
CESI	**CESI - Serrava**	**0.67**	**324**	P	**Pg**	**14 35 46.2**	**-1.1**
CESI				S	**Sb**	**14 35 56.9**	**+0.3**
CESI				AML	AML		
	comp=E,1280μm,0.4s						
CESI				AML	AML		
	comp=N,2115μm,0.5s						
GUAR	**Guarcino**	**0.67**	**188**	P	**Pg**	**14 35 46.5**	**-0.9**
GUAR				AML	AML		
	comp=N,5155μm,0.5s						
GUAR				AML	AML		
	comp=E,4100μm,1.2s						
MTCE	**Montecelio**	**0.68**	**230**	P	**Pg**	**14 35 46.9**	**-0.6**
MTCE				AML	AML		
	comp=E,5350μm,1.1s						
MTCE				AML	AML		
	comp=E,5355μm,1.1s						
MTCE				AML	AML		
	comp=N,5145μm,0.9s						
LPEL	**Lama dei Pelig**	**0.69**	**127**	P	**Pg**	**14 35 45.7**	**-2.0**
LPEL				S	**Sg**	**14 35 56.3**	**-0.5**
LPEL				AML	AML		
	comp=E,8245μm,0.8s						
LPEL				AML	AML		
	comp=N,6420μm,0.8s						
GUMA	**Gualdo di Mace**	**0.70**	**31**	P	**Pg**	**14 35 45.4**	**-2.5**
GUMA				S	**Sg**	**14 35 54.9**	**-2.4**
GUMA				AML	AML		
	comp=E,25750μm,0.5s						
GUMA				AML	AML		
	comp=N,21400μm,0.5s						
GUMA				AML	AML		
	comp=E,31800μm,0.4s						
GUMA				AML	AML		
	comp=N,22100μm,0.9s						
GUMA				AML	AML		
	comp=N,21400μm,0.5s						
GUMA				AML	AML		
	comp=E,31800μm,0.4s						
GUMA				AML	AML		
	comp=E,25750μm,0.5s						
GUMA				AML	AML		
	comp=N,22100μm,0.9s						
CAFR	**Castel Frentan**	**0.71**	**109**	P	**Pg**	**14 35 46.6**	**-1.5**
CAFR				AML	AML		
	comp=E,11600μm,0.4s						
CAFR				AML	AML		
	comp=N,9485μm,1.5s						
MOMA	**Monte Martano**	**0.73**	**298**	P	**Pg**	**14 35 47.7**	**-0.8**
MOMA				S	**Sb**	**14 35 59.2**	**+0.9**
MOMA				AML	AML		
	comp=E,5965μm,0.2s						
MOMA				AML	AML		
	comp=N,8160μm,0.2s						
MOMA				AML	AML		
	comp=N,8740μm,0.2s						
MOMA				AML	AML		
	comp=E,5980μm,0.2s						
MOMA				AML	AML		
	comp=E,5970μm,0.2s						
POFI	**Posta Fibreno**	**0.77**	**165**	P	**Pb**	**14 35 47.5**	**-1.7**
POFI				AML	AML		
	comp=E,2365μm,1.3s						
POFI				AML	AML		
	comp=N,1745μm,0.7s						
POFI				AML	AML		
	comp=N,1760μm,0.7s						
POFI				AML	AML		
	comp=E,2365μm,1.3s						
CRM1	**Catelraimondo**	**0.80**	**339**	P	**Pb**	**14 35 48.6**	**-1.0**
CRM1				AML	AML		
	comp=N,11100μm,1.5s						
CRM1				AML	AML		
	comp=E,12200μm,1.3s						
CRM1				AML	AML		
	comp=N,11150μm,1.5s						
ASSB	**Assisi San Ben**	**0.82**	**315**	P	**Pb**	**14 35 48.9**	**-1.1**
ASSB				AML	AML		
	comp=N,2905μm,0.5s						
ASSB				AML	AML		
	comp=E,3130μm,0.3s						
RMP	**Rome, Mte Porz**	**0.85**	**220**	P	**Pb**	**14 35 50.0**	**-0.5**
RMP				AML	AML		
	comp=N,3705μm,1.0s						
RMP				AML	AML		
	comp=E,4170μm,0.6s						
SNTG	**Esanatoglia**	**0.87**	**335**	P	**Pb**	**14 35 49.5**	**-1.5**
SNTG				AML	AML		
	comp=E,283μm,0.8s						
SNTG				AML	AML		
	comp=N,332μm,1.1s						
SNTG				AML	AML		
	comp=E,1995μm,0.8s						
SNTG				AML	AML		
	comp=N,2275μm,0.7s						
EL6	**Elcito**	**0.90**	**344**	P	**Pb**	**14 35 50.1**	**-1.4**
EL6				AML	AML		
	comp=E,4610μm,0.9s						
EL6				AML	AML		
	comp=N,6050μm,0.9s						
EL6				AML	AML		
	comp=N,6020μm,0.9s						
EL6				AML	AML		
	comp=E,4635μm,0.9s						
RNI2	**Rionero Sannit**	**0.93**	**145**	P	**Pb**	**14 35 50.2**	**-1.6**
RNI2				AML	AML		
	comp=N,4525μm,0.7s						
RNI2				AML	AML		
	comp=E,4725μm,1.1s						
RNI2				AML	AML		
	comp=E,4785μm,1.1s						
RNI2				AML	AML		
	comp=N,4600μm,0.7s						
SAMA	**S.Maria delle**	**0.93**	**223**	AML	AML		
	comp=E,1945μm,0.5s						
SAMA				AML	AML		
	comp=N,1830μm,1.0s						
CING	**Cingoli**	**0.93**	**349**	P	**Pb**	**14 35 50.8**	**-1.1**
CING				AML	AML		
	comp=E,4825μm,0.9s						
CING				AML	AML		
	comp=N,2515μm,0.7s						
ATCC	**AVT- Casa Cast**	**0.93**	**321**	P	**Pb**	**14 35 50.8**	**-1.2**
ATCC				AML	AML		
	comp=E,4370μm,0.6s						
ATCC				AML	AML		
	comp=N,3125μm,0.9s						
ATCC				AML	AML		
	comp=E,4365μm,0.6s						
LAV9	**Lanuvio**	**0.96**	**215**	AML	AML		
	comp=E,5230μm,0.4s						
LAV9				AML	AML		
	comp=E,5000μm,0.4s						
LAV9				AML	AML		
	comp=N,8085μm,0.8s						
LAV9				AML	AML		
	comp=N,8400μm,0.8s						
CERA	**Filignano**	**0.96**	**153**	P	**Pb**	**14 35 50.3**	**-2.2**
CERA				AML	AML		
	comp=N,2810μm,0.8s						
CERA				AML	AML		
	comp=N,2745μm,0.8s						
CERA				AML	AML		
	comp=E,3140μm,0.8s						
CERA				AML	AML		
	comp=E,3200μm,0.8s						
FOSV	**Fossato di Vic**	**0.97**	**329**	P	**Pb**	**14 35 51.3**	**-1.3**
FOSV				AML	AML		
	comp=N,2580μm,0.4s						
FOSV				AML	AML		
	comp=E,1860μm,0.3s						
MIDA	**Miranda**	**1.02**	**143**	P	**Pb**	**14 35 51.3**	**-2.2**
MIDA				AML	AML		
	comp=E,2955μm,0.8s						
MIDA				AML	AML		
	comp=N,2495μm,1.0s						
MIDA				AML	AML		
	comp=E,3035μm,0.9s						
MIDA				AML	AML		
	comp=N,2470μm,1.0s						
MURB	**Monte Urbino**	**1.05**	**320**	P	**Pb**	**14 35 52.8**	**-1.1**
MURB				AML	AML		
	comp=E,4105μm,0.3s						
MURB				AML	AML		
	comp=N,4550μm,0.3s						
MURB				AML	AML		
	comp=E,4375μm,0.3s						
MURB				AML	AML		
	comp=N,4645μm,0.3s						
MGAB	**Montegabbione**	**1.08**	**295**	P	**Pb**	**14 35 54.0**	**-0.5**

MGAB AML AML
comp=E,2170µm,0.9s
MGAB AML AML
comp=N,2395µm,1.0s
MGAB AML AML
comp=N,2325µm,0.4s
MGAB AML AML
comp=E,1840µm,1.6s
ATTE AVT- Monte Tez 1.09 313 P **Pb 14 35 53.9 -0.8**
ATTE AML AML
comp=N,1380µm,1.0s
ATTE AML AML
comp=E,1082µm,0.6s
SSFR Montelago di S 1.09 334 P **Pb 14 35 53.6 -1.0**
SSFR AML AML
comp=E,3750µm,0.2s
SSFR AML AML
comp=E,4300µm,0.2s
SSFR AML AML
comp=N,3615µm,0.2s
SSFR AML AML
comp=N,3655µm,0.2s
AOI Ancona 1.09 6 P **Pb 14 35 54.1 -0.6**
AOI AML AML
comp=N,4475µm,0.7s
AOI AML AML
comp=E,3360µm,0.7s
ARVD Arcevia 1.10 341 P **Pb 14 35 53.8 -1.0**
ARVD AML AML
comp=E,2970µm,1.1s
ARVD AML AML
comp=N,1680µm,0.8s
ATFO Monte Foce - G 1.11 325 P **Pb 14 35 53.8 -1.1**
ATFO AML AML
comp=N,1765µm,0.6s
ATFO AML AML
comp=E,3215µm,0.7s
TOLF Tolfa 1.14 250 P **Pn 14 35 55.1 -0.4**
TOLF AML AML
comp=E,1118µm,1.5s
TOLF AML AML
comp=N,854µm,1.1s
FRON Frontone 1.18 334 P **Pn 14 35 55.1 -0.9**
FRON AML AML
comp=E,1750µm,0.8s
FRON AML AML
comp=N,2120µm,0.6s
ATVO AVT- Monte Val 1.19 321 P **Pn 14 35 55.3 -0.9**
ATVO AML AML
comp=E,1402µm,1.4s
ATVO AML AML
comp=N,1585µm,0.7s
SACS San Casciano d 1.20 289 P **Pn 14 35 56.1 -0.1**
SACS AML AML
comp=E,1108µm,0.8s
SACS AML AML
comp=N,1290µm,1.0s
SACS AML AML
comp=E,1110µm,0.8s
SACS AML AML
comp=N,1275µm,0.9s
VAGA Valle Agricola 1.20 150 P **Pn 14 35 54.8 -1.5**
VAGA AML AML
comp=E,1330µm,1.0s
VAGA AML AML
comp=N,1555µm,1.1s
VAGA AML AML
comp=N,1585µm,1.1s
VAGA AML AML
comp=E,1365µm,1.0s
COR1 Corinaldo 1.21 345 P **Pb 14 35 56.8 0.0**
COR1 AML AML
comp=E,3050µm,1.2s
COR1 AML AML
comp=N,4405µm,1.0s
ATPI Pietralunga - 1.25 323 P **Pn 14 35 56.1 -0.8**
ATPI AML AML
comp=E,1725µm,0.8s
ATPI AML AML
comp=N,1465µm,0.9s
SENI Senigallia 1.25 353 P **Pb 14 35 57.6 +0.2**
SENI AML AML
comp=N,4600µm,0.9s
SENI AML AML
comp=E,3040µm,0.9s
BSSO Busso 1.25 136 P **Pn 14 35 55.9 -1.2**
BSSO AML AML
comp=E,1425µm,1.6s
BSSO AML AML
comp=N,486µm,0.7s
BSSO AML AML
comp=E,580µm,1.6s
BSSO AML AML
comp=N,1194µm,1.1s
MPAG Monte Paganucc 1.27 337 P **Pn 14 35 56.6 -0.7**
MPAG AML AML
comp=N,2285µm,0.6s
MPAG AML AML
comp=E,2120µm,0.8s
NARO Abbazia di Nar 1.31 331 P **Pn 14 35 57.2 -0.6**
NARO AML AML
comp=E,1145µm,0.6s
NARO AML AML
comp=N,974µm,0.7s
FSSB Fossombrone 1.32 339 P **Pn 14 35 57.8 -0.2**
FSSB AML AML
comp=N,3975µm,0.5s
FSSB AML AML
comp=E,3060µm,1.2s
MODR Mondragone 1.35 166 P **Pn 14 35 58.6 +0.3**
MODR AML AML
comp=E,721µm,1.6s
MODR AML AML
comp=N,679µm,0.7s
CIGN Sant'Elia a Pi 1.36 126 P **Pn 14 35 57.1 -1.3**
CIGN AML AML
comp=E,672µm,0.6s
CIGN AML AML
comp=N,680µm,1.1s
PIGN Pignataro Magg 1.38 156 AML AML
comp=E,782µm,0.9s
PIGN AML AML
comp=N,718µm,0.7s
PIGN AML AML
comp=E,778µm,1.0s
PIGN AML AML
comp=N,682µm,0.7s
CAFI Castiglion Fio 1.39 309 P **Pn 14 35 59.1 +0.2**
CAFI AML AML
comp=E,579µm,1.6s
CAFI AML AML
comp=N,824µm,1.1s
PE3 Peglio 1.42 331 P **Pn 14 35 59.7 +0.4**
PE3 AML AML
comp=N,3155µm,0.9s
PE3 AML AML
comp=E,3785µm,0.6s
MELA Melanico ??? S 1.46 120 AML AML
comp=E,1885µm,0.5s
MELA AML AML
comp=E,1775µm,0.5s
MELA AML AML
comp=N,2605µm,0.9s
MELA AML AML
comp=N,2670µm,0.9s
PARC Parchiule 1.48 324 P **Pn 14 36 00.7 +0.6**
PARC AML AML
comp=E,1161µm,0.8s
PARC AML AML
comp=N,972µm,0.8s
PESA Pesaro 1.54 344 AML AML
comp=E,1965µm,0.8s
PESA AML AML
comp=N,1675µm,0.8s
CPGN Carpegna, Ital 1.57 329 P **Pb 14 36 03.0 +0.1**
CPGN AML AML
comp=E,1915µm,0.9s
CPGN AML AML
comp=N,1869µm,1.6s
CRE Caprese Michel 1.59 317 P **Pn 14 36 01.6 -0.2**
CRE AML AML
comp=N,609µm,1.5s
CRE AML AML
comp=E,675µm,1.4s
PAOL Paolisi 1.66 149 AML AML
comp=E,312µm,0.6s
PAOL AML AML
comp=N,388µm,0.8s
MAON Monte Argentar 1.71 270 AML AML
comp=N,212µm,1.6s
MAON AML AML
comp=E,228µm,1.1s
ASQU Asqua 1.80 318 P **Pn 14 36 04.5 -0.1**
ASQU AML AML
comp=N,534µm,0.9s
ASQU AML AML
comp=E,475µm,1.3s
SGRT San Giovanni R 1.85 112 P **Pn 14 36 05.5 +0.2**
SGRT AML AML
comp=N,799µm,0.6s
SGRT AML AML
comp=E,1080µm,1.6s
OSSC Osservatorio P 1.93 304 AML AML
comp=N,254µm,1.0s
OSSC AML AML
comp=E,256µm,0.8s
CASP Castiglione de 1.93 281 AML AML
comp=N,117µm,1.1s
CASP AML AML
comp=E,124µm,0.9s
DUGI Dugi Otok 1.93 37 *e*Pn **Pn 14 36 05.9 -0.4**
DUGI Sn **Sn 14 36 30.1 -0.2**
MSAG Monte S. Angel 1.98 111 AML AML
comp=N,2080µm,1.4s
MSAG AML AML
comp=E,1130µm,1.5s
MSAG AML AML
comp=N,2080µm,1.4s
MSAG AML AML
comp=E,1230µm,1.5s
ZIRJ Zirje 2.01 53 *i* Pn **Pn 14 36 07.5 +0.2**
ZIRJ Sn **Sn 14 36 30.7 -1.3**
MORI Morici 2.17 49 *i* Pn **Pn 14 36 09.6 0.0**
MORI Sn **Sn 14 36 36.4 +0.3**
NVLJ Novalja 2.34 26 *e*Pn **Pn 14 36 11.9 0.0**
NVLJ Sn **Sn 14 36 39.9 -0.5**
ACER Acerenza 2.51 131 AML AML
comp=N,389µm,0.9s
ACER AML AML
comp=E,508µm,0.7s
ACER AML AML
comp=E,502µm,0.7s
ACER AML AML
comp=N,401µm,0.7s
POPM Popiglio 2.52 310 AML AML
comp=E,122µm,1.4s
POPM AML AML
comp=N,146µm,1.1s
MAIM Mastiano 2.60 305 AML AML
comp=E,107µm,1.2s
MAIM AML AML
comp=N,158µm,0.5s
KIJV Kijevo 2.66 54 *i* Pn **Pn 14 36 17.5 +1.2**
KIJV Sn **Sn 14 36 49.8 +1.7**
UDBI Udbina 2.67 39 *i* Pn **Pn 14 36 17.5 +1.0**
UDBI Sn **Sn 14 36 50.5 +2.0**
MAKA Makarska 2.76 71 *e*Pn **Pn 14 36 18.5 +0.9**
MAKA Sn **Sn 14 36 52.7 +2.2**
VLC Villacollemand 2.80 308 AML AML
comp=E,124µm,1.4s
VLC AML AML
comp=E,95µm,1.2s
VLC AML AML
comp=N,109µm,1.6s
VLC AML AML
comp=N,117µm,0.9s
SARO Sassorosso 2.81 309 AML AML
comp=N,66µm,0.7s
SARO AML AML
comp=E,49µm,0.7s
AMUR Altamura 2.83 122 AML AML
comp=N,244µm,0.4s
AMUR AML AML
comp=E,254µm,0.7s
RICI Ricice 2.90 68 ePn 14 36 20.5
BAI Bari 2.91 117 *e*Pn **Pn 14 36 20.4 +0.8**
BAI Sn **Sn 14 36 55.5 +1.3**
MIGL Miglionico 2.92 129 AML AML
comp=N,812µm,1.3s
MIGL AML AML
comp=E,696µm,1.2s
SG1 Sgolgore (BA) 2.92 123 *e*Pn **Pn 14 36 20.9 +1.0**
SG1 Sn **Sn 14 36 57.5 +2.9**
EQUI Equi 2.94 306 AML AML
comp=N,91µm,0.9s
EQUI AML AML
comp=E,82µm,1.1s
RIY Rijeka 2.96 14 ePn 14 36 20.3
MATE Matera 3.04 125 ⇑P **Pn 14 36 23.0 +1.5**
MATE ⇑S **Sn 14 36 58.5 +0.8**
MATE AML AML 14 37 22.9
PLMA Palmaria, Port 3.07 302 AML AML
comp=E,60µm,1.6s
PLMA AML AML
comp=N,77µm,1.1s
SKDS Skadanscina 3.11 7 *i* Pn **Pn 14 36 22.5 -0.1**
SKDS *e*Sn **Sn 14 36 59.6 +0.3**
comp=Z,86nm,0.6s
STON Ston 3.17 81 *i* Pn **Pn 14 36 23.7 +0.4**
TEOL Teolo 3.17 337 AML AML
comp=N,866µm,0.9s
TEOL AML AML
comp=E,758µm,0.8s
NOCI Noci 3.19 120 AML AML
comp=N,210µm,0.9s
NOCI AML AML
comp=E,176µm,0.5s
TRI Trieste 3.25 4 AML AML
comp=N,124µm,0.9s
TRI AML AML
comp=E,172µm,0.9s
PGF Pioggiola 3.29 273 *e*P **Pn 14 36 26.4 +1.4**
PGF *e*Sn **Sn 14 36 59.5 -4.3**
comp=E,9.2nm,0.6s
MGRS Mrkonjic Grad 3.29 52 *e*Pn **Pn 14 36 26.5 +1.4**
BOJS Bojanci 3.31 23 AML AML
comp=N,103µm,1.3s
BOJS AML AML
comp=E,134µm,1.1s
MASS Massafra 3.33 122 *e*Pn **Pn 14 36 26.6 +1.1**
MASS Sn **Sn 14 37 08.2 +3.6**
CEY Cerknica 3.35 12 *e*Pn **Pn 14 36 26.4 +0.5**
CEY *e*Sn **Sn 14 37 06.7 +1.4**
CEY Cerknica 3.35 12 *i* Pn **Pn 14 36 25.8 0.0**
CEY *e*Sn **Sn 14 37 05.7 +0.4**
comp=Z,25nm,0.2s
CEY Cerknica 3.35 12 *e*Pn **Pn 14 36 25.4 -0.5**
OZLJ Ozalj 3.47 24 *e*Pn **Pn 14 36 28.1 +0.6**
TAR1 Taranto 3.47 123 *e*Pn **Pn 14 36 27.7 +0.2**
SABO M.te Sabotino 3.52 2 AML AML
comp=E,318µm,0.7s
SABO AML AML
comp=N,382µm,0.8s
CGL1 Ceglie Messapi 3.52 119 *e*Pn **Pn 14 36 29.0 +0.8**
CGL1 Sn **Sn 14 37 13.3 +3.8**
BLY Banja Luka 3.55 49 *e*Pn **Pn 14 36 29.5 +1.0**
BLY Banja Luka 3.55 49 ⇑P **Pn 14 36 30.0 +1.5**
BLY AML AML 14 37 47.0
ROVR Rover Verones 3.61 333 AML AML
comp=N,93µm,0.9s
ROVR AML AML
comp=E,56µm,0.6s
CGRP Cima Grappa 3.62 341 AML AML
comp=N,268µm,0.5s
CGRP AML AML
comp=E,236µm,1.4s
POLC Polcenigo 3.63 350 AML AML
comp=E,440µm,0.7s
POLC AML AML
comp=N,411µm,0.6s
TREB Trebinje 3.63 84 *e*Pn **Pn 14 36 30.2 +0.6**
TREB *e*Sn **Sn 14 37 13.2 +1.0**
TREB Trebinje 3.63 84 *e*Pn **Pn 14 36 30.3 +0.6**
CRES Cresnjev 3.66 23 *e*Pn **Pn 14 36 30.1 0.0**
LJU Ljubljana 3.67 12 *e*Pn **Pn 14 36 30.9 +0.8**
LJU *e*Sn **Sn 14 37 13.0 0.0**
LJU Ljubljana 3.67 12 *e*Pn **Pn 14 36 30.8 +0.7**
LJU Ljubljana 3.67 12 AML AML
comp=E,394µm,0.6s
LJU AML AML
comp=N,465µm,0.6s
HCY Herceg Novi 3.74 89 *e*Pn **Pn 14 36 31.8 +0.7**
BRY Bratogost 3.78 82 *e*Pn **Pn 14 36 32.4 +0.5**
STAL STALIGIAL 3.83 352 AML AML
comp=N,188µm,0.9s
STAL AML AML
comp=E,232µm,0.7s
CELI Celico 3.84 142 AML AML
comp=N,84µm,0.8s
CELI AML AML
comp=E,84µm,1.2s
GORS Gorjuse 3.88 6 *i* Pn **Pn 14 36 33.5 +0.4**
GORS *e*Sn **Sn 14 37 18.6 +0.3**
comp=Z,119nm,1.3s
MAGA Magasa 3.88 330 AML AML
comp=E,426µm,0.5s
MAGA AML AML
comp=N,228µm,0.4s
PTJ Puntijarka 3.89 27 ePn 14 36 33.3
PTCC Patocco-Chiusa 3.94 359 AML AML
comp=E,115µm,1.2s
PTCC AML AML
comp=N,100µm,1.2s
ACOM Acomizza, Ital 4.09 1 AML AML
comp=E,233µm,0.9s
ACOM AML AML
comp=N,218µm,1.4s
OBKA Obir 4.12 11 *e*Pn **Pn 14 36 36.7 +0.2**
comp=N,1.9nm,0.2s,SNR=7.6
OBKA Pg **Pg 14 36 52.7 -0.5**
comp=N,5.2nm,0.3s
OBKA Sn **Sn 14 37 25.1 +0.7**
comp=N,26nm,0.5s
TIP Timpagrande 4.13 141 ⇑P **Pn 14 36 40.6 +4.0**
TIP AML AML 14 37 06.7
MABI Malga Bissina 4.16 331 AML AML
comp=N,67µm,0.9s
MABI AML AML
comp=E,61µm,0.8s
MYKA Terra Mystica 4.17 2 *e*Pn **Pn 14 36 37.9 +0.8**
comp=E,3.6nm,0.3s,SNR=7.0
MYKA Sn **Sn 14 37 26.7 +1.2**
comp=E,11nm,0.3s
KOSI Kohlern 4.26 340 AML AML
comp=E,217µm,0.9s
KOSI AML AML
comp=N,172µm,0.9s
DRME Dracevica, Mon 4.27 92 *e*Pn **Pn 14 36 39.4 +1.0**
PDG Podgorica 4.30 88 *e*Pn **Pn 14 36 40.0 +1.1**
PDG *e*Sn **Sn 14 37 30.3 +1.7**
PDG Podgorica 4.30 88 *e*Pn **Pn 14 36 39.8 +0.9**
PDG Podgorica 4.30 88 ⇓P **Pn 14 36 40.2 +1.3**
PDG ⇑S **Sn 14 37 31.3 +2.7**
PDG AML AML 14 37 32.5
APPI Appiano 4.32 339 AML AML
comp=N,133µm,0.4s
APPI AML AML
comp=E,109µm,1.6s
ABTA Abfaltersbach 4.34 352 *e*Pn **Pn 14 36 40.1 +0.7**
comp=E,27nm,0.6s,SNR=39
ABTA Sn **Sn 14 37 29.1 -0.5**
comp=E,12nm,0.4s
HAPS Han Pijesak,Bl 4.34 66 *e*Pn **Pn 14 36 39.7 +0.2**
SOKA Soboth 4.37 15 *e*Pn **Pn 14 36 40.0 +0.2**
comp=E,0.9nm,0.2s
SOKA Sn **Sn 14 37 30.4 0.0**
comp=E,11nm,0.7s
RUDO Rudo 4.50 73 *e*Pn **Pn 14 36 42.5 +0.9**
ABSI Aberstueckl 4.53 341 AML AML
comp=N,246µm,0.8s
ABSI AML AML
comp=E,339µm,0.6s
BBLS Lazići 4.58 70 *e*Pn **Pn 14 36 43.9 +1.1**
BBLS Lazići 4.58 70 *e*Pn **Pn 14 36 43.2 +0.4**
RISI Rein 4.59 348 AML AML
comp=E,250µm,0.6s
RISI AML AML
comp=N,280µm,0.5s
SBF Sospel 4.61 290 *e*P **Pn 14 36 44.7 +1.5**
SBF *e*Sn **Sn 14 37 31.1 -5.3**
comp=N,18nm,0.6s
KBA Koelnbreinsper 4.62 359 Pn **Pn 14 36 44.0 +0.6**
comp=N,3.7nm,0.4s
KBA Sn **Sn 14 37 35.8 -0.9**
comp=N,7.1nm,0.3s
MUGIO Muggio 4.69 319 AML AML
comp=E,32µm,1.4s
MUGIO AML AML
comp=N,33µm,1.3s
ROSI Rosskopf 4.69 343 AML AML
comp=E,212µm,1.0s
ROSI AML AML
comp=N,218µm,0.8s
SJES Sjenica 4.87 78 *e*Pn **Pn 14 36 48.4 +1.7**
TIR Tirane 4.92 101 ⇑P **Pn 14 36 48.3 +0.9**
TIR AML AML 14 37 48.4
FETA Feichten 4.95 338 *e*Pn **Pn 14 36 49.7 +1.8**
comp=N,4.3nm,0.3s,SNR=16
FETA Sn **Sn 14 37 50.1 +5.2**
comp=N,15nm,0.8s
WTTA Wattenberg 4.97 346 *e*Pn **Pn 14 36 50.3 +2.1**
comp=N,2.1nm,0.2s
WTTA Sn **Sn 14 37 48.4 +3.0**
comp=N,22nm,0.4s
ARSA Arzberg 5.01 16 *e*Pn **Pn 14 36 48.0 -0.7**
comp=N,1.7nm,0.3s
ARSA Sn **Sn 14 37 45.0 -1.1**
comp=N,7.3nm,0.7s
DAVOX Davos/Dischmat 5.01 331 Pn **Pn 14 36 51.4 +2.6**
comp=N,1.3nm,0.3s,baz=146,slow=15,SNR=20
DAVOX Sn **Sn 14 37 48.7 +2.3**
comp=N,1.2nm,0.3s,baz=124,slow=17,SNR=3.2
SQTA Sankt Quirin 5.02 342 *e*Pn **Pn 14 36 50.5 +1.7**
comp=N,6.9nm,0.2s,SNR=19
SQTA Sn **Sn 14 37 48.6 +2.2**
comp=N,15nm,0.4s
IVAS Ivanjica 5.04 75 *e*Pn **Pn 14 36 49.6 +0.5**
IVAS *e*Sn **Sn 14 37 46.0 -1.1**
WATA Walderalm 5.05 345 *e*Pn **Pn 14 36 52.1 +2.9**
comp=N,2.0nm,0.2s
WATA Sn **Sn 14 37 50.0 +2.7**
comp=N,15nm,0.4s
DIVS Divibare 5.05 69 *e*Pn **Pn 14 36 49.9 +0.6**
DIVS Divibare 5.05 69 *e*Pn **Pn 14 36 49.5 +0.2**
FRF La Foret Royal 5.10 285 *e*P **Pn 14 36 51.6 +1.7**
FRF *e*Sn **Sn 14 37 42.8 -5.6**
comp=N,4.0nm,0.6s
MOTA Moosalm 5.16 342 *e*Pn **Pn 14 36 53.2 +2.4**
comp=N,3.2nm,0.3s
MOTA Sn **Sn 14 37 52.1 +2.1**
comp=N,12nm,0.4s
LMR La Mourre 5.17 282 *e*P **Pn 14 36 52.5 +1.8**
LMR *e*Sn **Sn 14 37 44.1 -5.9**
comp=N,2.6nm,0.4s
MORH Mrgy, Hungar 5.29 43 *e*Pn **Pn 14 36 52.0 -0.4**
MORH Mrgy, Hungar 5.29 43 *e*Pn **Pn 14 36 55.1 +2.7**
FRGS Fruska Gora 5.34 58 *e*Pn **Pn 14 36 53.7 +0.6**
FRGS Fruska Gora 5.34 58 *e*Pn **Pn 14 36 52.5 -0.6**
MBDF Montbardon 5.35 297 *e*P **Pn 14 36 55.3 +1.9**
MBDF *e*Sn **Sn 14 37 48.8 -5.9**
comp=N,11nm,0.8s
RETA Reutte 5.37 340 *e*Pn **Pn 14 36 56.4 +2.8**
comp=N,4.2nm,0.3s
RETA Sn **Sn 14 37 57.4 +2.2**
comp=N,12nm,0.6s
TRUS Trudelj 5.38 69 *e*Pn **Pn 14 36 54.0 +0.4**
MOA Molln 5.42 6 *i* Pn **Pn 14 36 55.4 +1.2**
comp=N,6.1nm,0.4s,SNR=17
MOA *e*Sn **Sn 14 37 56.7 +0.5**
comp=N,13nm,0.5s
DAVA Damuels 5.45 334 *e*Pn **Pn 14 36 56.9 +2.1**
comp=N,5.7nm,0.3s,SNR=5.2
DAVA Sn **Sn 14 38 00.3 +3.2**
comp=N,15nm,0.7s
GRUS Gruza 5.51 73 *e*Pn **Pn 14 36 55.7 +0.3**
SELS Selova 5.70 80 *e*Pn **Pn 14 36 58.7 +0.7**
LPL La Plagne 5.72 305 *e*P **Pn 14 37 00.5 +1.9**
LPL *e*Sn **Sn 14 37 57.9 -6.1**
comp=N,6.4nm,0.6s
CONA Conrad Observa 5.73 17 *e*Pn **Pn 14 36 58.5 0.0**
comp=N,2.9nm,0.3s,SNR=10
CONA Sn **Sn 14 38 01.9 -2.0**
comp=N,2.7nm,0.4s
SMRF Simiane la Rot 5.94 287 *e*P **Pn 14 37 04.2 +2.7**
SMRF *e*Sn **Sn 14 38 03.0 -6.2**
comp=N,7.4nm,0.8s
ORIF Oris-en-Rattie 6.01 297 *e*P **Pn 14 37 04.4 +2.0**
ORIF *e*Sn **Sn 14 38 04.5 -6.3**
comp=N,8.8nm,0.7s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BOVS	**Bovan**	**6.17**	**76**	*e*Pn	**Pn**	**14 37 04.7**	**+0.2**
BARS	**Barje**	**6.19**	**84**	*e*Pn	**Pn**	**14 37 05.4**	**+0.6**
BARS				*e*Sn	**Sn**	**14 38 14.9**	**-0.2**
GERES	**GERESS Array B**	**6.39**	**2**	Pn	**Pn**	**14 37 07.2**	**-0.4**
	comp=N,1.1nm,0.3s,baz=170,slow=12,SNR=30						
GERES				Sn	**Sn**	**14 38 18.1**	**-2.1**
	comp=N,1.4nm,0.3s,baz=176,slow=23,SNR=5.0						
GERES				LR	LR	14 39 19.7	
	comp=N,57nm,19.6s,baz=318,slow=36						
MDVR	**Moldovita**	**6.43**	**66**	⇑P	**Pn**	**14 37 08.6**	**+0.4**
MODS	**Modra-Piesok**	**6.50**	**23**	*e*PN	**Pn**	**14 37 09.8**	**+0.8**
ZAGS	**Zajecar**	**6.57**	**75**	*e*Pn	**Pn**	**14 37 09.8**	**-0.2**
KHC	**Kasperske Hory**	**6.67**	**1**	*e*PN	**Pn**	**14 37 11.2**	**-0.2**
KHC				*e*SN	**Sn**	**14 38 24.3**	**-2.8**
BZS	**Buzias**	**6.68**	**59**	⇑P	**Pn**	**14 37 13.7**	**+2.2**
CABF	**La Chapelle**	**6.69**	**311**	*e*P	**Pn**	**14 37 13.6**	**+1.8**
CABF				*e*Sn	**Sn**	**14 38 21.2**	**-6.5**
	comp=N,16nm,1.0s						
VIVF	**Saint-Julien-l**	**6.79**	**294**	*e*P	**Pn**	**14 37 16.2**	**+3.0**
ZAPS	**Zavoj**	**6.80**	**80**	*e*Pn	**Pn**	**14 37 14.9**	**+1.6**
SIRR	**Siria**	**7.01**	**54**	⇑P	**Pn**	**14 37 17.5**	**+1.4**
HINF	**Hinteralfeld**	**7.10**	**321**	*e*P	**Pn**	**14 37 17.2**	**-0.1**
HINF				*e*Sn	**Sn**	**14 38 30.5**	**-7.0**
	comp=N,12nm,0.5s						
VYHS	**Vyhne**	**7.12**	**30**	*e*PN	**Pn**	**14 37 19.0**	**+1.4**
LASF	**Ste Croix**	**7.18**	**286**	*e*P	**Pn**	**14 37 22.1**	**+3.7**
VTS	**Vitosha**	**7.24**	**85**	⇑P	**Pn**	**14 37 20.5**	**+1.2**
VTS				⇓S	**Sn**	**14 38 36.9**	**-4.2**
GZR	**Gura Zlata**	**7.35**	**63**	*e*Pn	**Pn**	**14 37 19.8**	**-1.0**
GZR	**Gura Zlata**	**7.35**	**63**	⇑P	**Pn**	**14 37 21.2**	**+0.4**
CDF	**Champ du Feu**	**7.36**	**326**	*e*P	**Pn**	**14 37 21.1**	**+0.2**
CDF				*e*Sn	**Sn**	**14 38 37.3**	**-6.8**
	comp=N,12nm,0.7s						
KEST	**Kesra**	**7.44**	**207**	Pn	Pn	14 37 28.3	+6.3
	comp=N,0.8nm,0.3s,baz=352,slow=4.1,SNR=5.7						
HAU	**Haudompre**	**7.47**	**320**	*e*P	**Pn**	**14 37 22.9**	**+0.5**
HAU				*e*Sn	**Sn**	**14 38 39.1**	**-7.6**
	comp=N,19nm,0.5s						
GOPC	**GO Pecny, Ondr**	**7.51**	**7**	*e*PN	**Pn**	**14 37 22.9**	**-0.1**
GOPC				*e*SN	**Sn**	**14 38 44.5**	**-3.2**
PRU	**Pruhonice**	**7.57**	**5**	*e*SN	**Sn**	**14 38 45.7**	**-3.3**
MORC	**Moravsky Berou**	**7.85**	**20**	⇓P	**Pn**	**14 37 31.2**	**+3.6**
DRGR		**7.90**	**54**	⇓P	**Pn**	**14 37 30.6**	**+2.3**
SMF	**Signal de Mont**	**8.03**	**305**	*e*P	**Pn**	**14 37 32.8**	**+2.7**
PAGF	**Fort de Pagny**	**8.15**	**321**	*e*P	**Pn**	**14 37 33.1**	**+1.4**
	baz=141						
PAGF				*e*Sn	**Sn**	**14 38 55.2**	**-8.2**
	comp=N,25nm,0.9s						
SFTF	**Sexfontaines**	**8.24**	**317**	*e*P	**Pn**	**14 37 35.3**	**+2.3**
	baz=137						
MTLF	**Montolieu**	**8.29**	**280**	*e*P	**Pn**	**14 37 35.5**	**+1.9**
LOR	**Lormes**	**8.33**	**308**	*e*P	**Pn**	**14 37 35.6**	**+1.4**
	baz=128						
LOR				*e*Sn	**Sn**	**14 38 59.9**	**-7.9**
	comp=N,2.1nm,0.3s						
MEZF	**Maizieres J'vi**	**8.44**	**319**	*e*P	**Pn**	**14 37 37.4**	**+1.8**
	baz=135						
MEZF				*e*Sn	**Sn**	**14 39 02.2**	**-8.2**
	comp=N,2.8nm,0.4s						
BGF	**Bois d'Agland**	**8.61**	**302**	*e*P	**Pn**	**14 37 40.7**	**+2.7**
CLL	**Collm**	**8.86**	**358**	*e*Pn	Pn	14 37 48.0	+6.7
CLL				*e*		14 39 50.0	
CLL				*e*Sg		14 40 32.0	
	comp=Z,60nm,2.0s						
VOIR		**8.89**	**67**	⇑P	**Pn**	**14 37 43.5**	**+1.6**
GIVF	**Givet**	**9.69**	**325**	*e*P	**Pn**	**14 37 55.1**	**+2.3**
FINES	**FINESS Array B**	**20.47**	**17**	P	**P**	**14 40 09.5**	**-1.3**
	comp=Z,3.3nm,1.1s,baz=193,slow=9.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**30.93**	**203**	P	**P**	**14 41 54.2**	**+4.0**
	comp=Z,0.4nm,0.6s,baz=15,slow=9.8,SNR=2.9						
MKAR	**Makanchi Array**	**47.76**	**60**	P	**P**	**14 44 10.9**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=287,slow=5.9,SNR=3.2						

KRNET 08 14:36:18.3±0.1**, 40°.37N**×**77°.10E, h14**km**, mb2.8, 12C-2D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.35**	**322**	⇑*i*P	Pb	14 36 43.5	-0.1
	baz=21						
NRN				⇑*i*S	Sg	14 37 01.5	-0.5
	baz=21						
TARG	**Taragay, Kyrgy**	**1.46**	**21**	⇑*i*P	Pn	14 36 45.0	+0.4
	baz=21						
TARG				⇑*i*S	Sg	14 37 04.8	-0.6
	baz=21						
KDJ	**Kajisay**	**1.76**	**2**	⇑*i*P	Pb	14 36 50.7	+0.2
	baz=2.0						
KDJ				⇑*i*S	Sg	14 37 14.1	-0.9
	baz=2.0						
ULHL	**Ulahol**	**1.98**	**341**	⇑*i*P	Pb	14 36 53.7	-0.6
	baz=41						
ULHL				⇑*i*S	Sb	14 37 19.6	+0.6
	baz=41						
BOOM	**Boomskoye usch**	**2.29**	**338**	⇑*e*P	Pb	14 36 58.5	-1.1
	baz=38						
BOOM				⇑*i*S	Sb	14 37 27.7	-0.1
	baz=38						
PRZ	**Przheval'sk**	**2.33**	**24**	⇑*e*P	Pb	14 36 58.6	-1.6
	baz=25						
PRZ				⇑*i*S	Sb	14 37 28.2	-0.6
	baz=25						
ANVS	**Anan'yevo**	**2.45**	**10**	⇓*i*P	Pb	14 37 00.6	-1.6
	baz=10.0						
ANVS				⇓*i*S	Sb	14 37 31.3	-1.0
	baz=10.0						

NNC 08 14:36:31.9±2.2**, 39°.11N**×**77°.68E, h0**km**, mb3.9, mpv3.4, 1C-3D, Error ellipse: s-maj=16.6km s-min=14.3km az=78.0, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**3.99**	**8**	Pg	Pb	14 37 43.7	+0.6
	13nm,0.6s						
SATY				Lg	Lg	14 38 38.8	
	11nm,0.7s						
IZV	**Izvestkoviy**	**4.01**	**349**	Pg	Pb	14 37 44.1	+0.6
	11nm,0.4s						
IZV				Lg	Lg	14 38 39.6	
	11nm,0.4s						
MDOK	**Medeo**	**4.08**	**354**	Pg	Pb	14 37 46.6	+1.8
	9.7nm,0.9s						
MDOK				Lg	Lg	14 38 41.3	
	12nm,0.8s						
MDOK	**Medeo**	**4.08**	**354**	Pg	Pb	14 37 46.1	+1.4
	7.7nm,0.7s						
MDOK				Lg	Lg	14 38 42.1	
	11nm,0.7s						
TKM2	**Tokmak 2**	**4.12**	**338**	⇑Pg	Pb	14 37 45.7	+0.2
	4.2nm,0.6s						
TKM2				⇓Lg	Lg	14 38 42.1	
	3.9nm,0.6s						
KST	**Kastek**	**4.14**	**342**	Pg	Pb	14 37 46.5	+0.7
	4.6nm,0.3s						
KST				Lg	Lg	14 38 42.6	
	2.9nm,0.5s						
KNDC	**Almaty**	**4.14**	**353**	⇓Pg	Pg	14 37 48.8	-2.5
	6.9nm,0.3s						
KNDC				⇓Lg	Lg	14 38 44.4	
	15nm,0.3s						
KOTS	**Kotyrbulak**	**4.15**	**354**	Pg	Pb	14 37 47.2	+1.3
	22nm,0.8s						
KOTS				Lg	Lg	14 38 44.4	
	43nm,0.4s						
AAK	**Ala-Archa**	**4.27**	**327**	Pg	Pg	14 37 53.9	+0.1
	3.8nm,0.7s						
AAK				Lg	Lg	14 38 48.1	
	5.9nm,0.8s						
DGS	**Degeres**	**4.38**	**341**	Pg	Pb	14 37 50.2	+0.5
	4.3nm,0.6s						
DGS				Lg	Lg	14 38 50.0	
	4.5nm,0.6s						
KTBS	**Karatobe**	**4.66**	**351**	Pg	Pb	14 37 55.5	+0.9
	1.9nm,0.9s						
KTBS				Lg	Lg	14 38 58.4	
	3.6nm,0.6s						
CHKK	**Chushkaly**	**4.77**	**354**	Pg	Pb	14 37 58.6	+2.1
	1.2nm,0.1s						
CHKK				Lg	Lg	14 39 04.2	
	10nm,0.3s						
KTMS	**Ketmen**	**4.78**	**24**	Pg	Pb	14 37 59.6	+2.8
	0.2nm,0.1s						
KTMS				Lg	Lg	14 39 05.2	
	0.9nm,0.1s						
MNBS	**Baschi**	**5.00**	**6**	Pg	Pb	14 38 03.4	+3.1
	0.7nm,0.4s						
MNBS				Lg	Lg	14 39 12.3	
	5.8nm,0.4s						
ARXS	**Arharly**	**5.11**	**1**	Pg	Pb	14 38 05.4	+3.2
	2.3nm,0.6s						
ARXS				Lg	Lg	14 39 15.2	
	4.1nm,0.4s						

*IDC **08** 15:01:00.8±1.2, 27°.75N×101°.33E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.5/44, mbtmp3.6/9, MS3.0/3, Ms1 3.1/3, ms1mx2.7/30, Error ellipse: s-maj=41.5km s-min=20.2km az=60.0*
*ISCJB **08** 15:01:01.3±0.5, 27°.92N±0°.06×101°.39E±0°.08, h10km, mb3.6/8, MS3.0/2, Error ellipse: s-maj=10.3km s-min=7.9km az=166.3*
*BJI **08** 15:01:02.2±0.0, 27°.92N×101°.41E, h13km, mb3.8/3, ML3.9/17*
*NEIC **08** 15:01:07.0±1.1, 27°.85N±0°.08×101°.6E±0°.2, h42km±5km, mb4.1/5*
ISC 08 15:01:03.2±0.7**, 27°.88N**±0°.05×**101°.35E**±0°.10**, h10**km**, n23,** σ**1s.34**/25**, mb3.7**/10**, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.02**	**155**	Pn	**Pn**	**15 01 52.5**	**+1.2**
KMI				Sn	**Sb**	**15 02 35.5**	**+1.3**
KMI				smax	smax		
	comp=N,450nm,1.0s						
KMI				smax	smax		
	comp=E,550nm,0.9s						
KMI	**Kunming**	**3.02**	**155**	Pn	**Pn**	**15 01 51.1**	**-0.2**
CD2	**Chengdu**	**3.68**	**34**	Pn	**Pn**	**15 02 01.7**	**+1.5**
CD2				Pg	Pb	15 02 05.6	-2.8
CD2				Sn	**Sn**	**15 02 46.8**	**+3.1**
CD2				Sg	**Sb**	**15 02 53.2**	**+0.1**
CD2				smax	smax		
	comp=N,610nm,1.0s						
CD2				smax	smax		
	comp=E,610nm,1.1s						
GYA	**Guiyang**	**4.94**	**105**	Pn	**Pn**	**15 02 18.1**	**+0.4**
GYA				Pg	Pb	15 02 27.6	-2.4
GYA				smax	smax		
	comp=N,120nm,1.0s						
GYA				smax	smax		
	comp=E,80nm,0.9s						
ENH	**Enshi**	**7.51**	**70**		**Pn**	**15 02 51.1**	**-1.7**
XAN	**Xi'an**	**8.94**	**45**	P	**Pn**	**15 03 12.2**	**-0.3**
XAN				smax	smax		
	comp=N,64nm,0.9s						
XAN				smax	smax		
	comp=E,69nm,1.2s						
XAN	**Xi'an**	**8.94**	**45**	Pn	**Pn**	**15 03 12.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**9.64**	**194**	Pn	**Pn**	**15 03 24.1**	**+2.0**
	0.2nm,0.3s,baz=5.5,slow=12,SNR=6.1						
CMAR				Pg		15 04 02.8	
	0.2nm,0.3s,baz=2.1,slow=16,SNR=7.9						
CMAR				Lg	Lg	15 06 08.8	
	0.2nm,0.3s,baz=22,slow=29,SNR=3.1						
CMAR				LR	LR	15 07 33.5	
	comp=Z,50nm,18.5s,baz=320,slow=41						
BJT	**Baijiatuau**	**17.23**	**42**	Pn	**Pn**	**15 05 02.8**	**-1.1**
BJT				IAmb	IAmb	15 05 05.5	
	comp=Z,7.5nm,0.5s						
WMQ	**Urumqi**	**19.34**	**329**	*e*P	**P**	**15 05 27.4**	**-1.4**
SONM	**Songino Array**	**20.31**	**10**	P	**P**	**15 05 39.2**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=207,slow=9.3,SNR=4.8						
SONM				LR	LR	15 14 29.0	
	comp=Z,60nm,18.3s,baz=232,slow=40						
KULM	**Kulim**	**22.48**	**182**	P	**P**	**15 06 02.5**	**-0.3**
KULM				IAmb	IAmb	15 06 21.8	
	comp=Z,16nm,1.3s						
MK31	**Makanchi Array**	**24.10**	**327**	P	**P**	**15 06 18.5**	**-0.5**
MKAR	**Makanchi Array**	**24.10**	**327**	P	**P**	**15 06 18.6**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=133,slow=10,SNR=12						
MKAR				LR	LR	15 17 05.6	
	comp=Z,51nm,19.6s,baz=149,slow=40						
KSRS	**Korea Array**	**24.25**	**60**	P	**P**	**15 06 20.1**	**-0.3**
	comp=Z,2.0nm,0.9s,baz=249,slow=9.7,SNR=6.9						
KURBB	**Kurchatov Arra**	**28.56**	**329**	P	**P**	**15 06 58.3**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=144,slow=8.0,SNR=3.8						
KURK	**Kurchatov**	**28.58**	**329**	P	**P**	**15 06 58.3**	**-1.1**
KURK	**Kurchatov**	**28.58**	**329**	IAmb	IAmb	15 07 05.1	
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**28.74**	**340**	P	**P**	**15 07 02.6**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=163,slow=5.4,SNR=1.8						
WRA	**Warramunga Arr**	**57.26**	**142**	P	**P**	**15 10 49.5**	**-1.7**
	comp=Z,1.4nm,0.5s,baz=330,slow=8.1,SNR=3.5						
ASAR	**Alice Springs**	**60.10**	**145**	P	**P**	**15 11 09.5**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=328,slow=6.9,SNR=5.2						
INK	**Inuvik**	**75.97**	**18**	P	**P**	**15 12 49.0**	**-1.0**
	comp=Z,1.3nm,0.9s,baz=325,slow=5.0,SNR=3.4						
YKA	**Yellowknife Ar**	**85.45**	**16**	P	**P**	**15 13 41.9**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=327,slow=4.4,SNR=2.5						

*KRNET **08** 15:06:33.5±0.1, 40°.39N×77°.13E, h15km, mb2.8*
*SOME **08** 15:06:35.6, 40°.57N×77°.02E, h0km*
*NNC **08** 15:06:38.4±2.9, 40°.63N×77°.03E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=20.1km s-min=13.8km az=167.0*
ISC 08 15:06:40.0±1.3**, 40°.73N**±0°.03×**76°.95E**±0°.03**, h6**km±11km**, n52,** σ**1s.91**/84**, 24C-16D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.01**	**315**	⇓*i*P	**Pg**	**15 06 58.8**	**-0.6**
	baz=20						
NRN				⇓*i*S	**Sn**	**15 07 17.6**	**+2.0**
	baz=20						
TARG	**Taragay, Kyrgy**	**1.19**	**32**	⇓*i*P	**Pb**	**15 07 00.5**	**-2.7**
	baz=20						
TARG				⇓*i*S	**Sn**	**15 07 20.2**	**0.0**
	baz=20						
KDJ	**Kajisay**	**1.41**	**7**	⇑*i*P	**Pb**	**15 07 05.7**	**-1.1**
	baz=1.0						
KDJ				⇑*i*S	**Sg**	**15 07 29.7**	**+4.3**
	baz=1.0						
KSH	**Kashi**	**1.42**	**212**	Pg	**Pg**	**15 07 05.8**	**-1.4**
KSH				Sg	**Sg**	**15 07 28.7**	**+3.0**
KSH				smax	smax		
	comp=N,150nm,0.5s						
KSH				smax	smax		
	comp=E,150nm,0.4s						
ULHL	**Ulahol**	**1.61**	**341**	⇑*i*P	**Pg**	**15 07 10.1**	**-0.7**
	baz=40						
ULHL				⇑*i*S	**Sg**	**15 07 36.9**	**+5.2**
	baz=40						
KZA	**Kyzart**	**1.86**	**317**	⇓*i*P	**Pb**	**15 07 13.8**	**-0.8**
	baz=20						
KZA				⇓*i*S	**Sg**	**15 07 42.7**	**+2.9**
	baz=20						
BOOM	**Boomskoye usch**	**1.92**	**337**	⇑*i*P	**Pb**	**15 07 14.1**	**-1.4**
	baz=37						
BOOM				⇑*i*S	**Sg**	**15 07 44.1**	**+2.4**
	baz=37						
PRZ	**Przheval'sk**	**2.06**	**31**	⇑*i*P	**Pn**	**15 07 14.6**	**-0.7**
	baz=24						
PRZ				⇑*i*S	**Sb**	**15 07 44.5**	**+0.6**
	baz=24						
ANVS	**Anan'yevo**	**2.12**	**14**	⇑*i*P	**Pn**	**15 07 16.4**	**+0.3**
	baz=9.0						
ANVS				⇑*i*S	**Sg**	**15 07 47.7**	**-0.5**
	baz=9.0						
ARLS	**Aral**	**2.28**	**301**	⇓*i*P	**Pn**	**15 07 18.1**	**-0.2**
	baz=6.0						
ARLS				⇓*i*S	**Sb**	**15 07 51.1**	**+0.9**
	baz=6.0						
TNSS	**Tian-Shan**	**2.31**	**360**	*e*P	**Pg**	**15 07 23.3**	**-1.0**
	comp=E,5.6nm,0.3s						
TNSS				*e*S	**Sg**	**15 07 57.6**	**+3.4**
	comp=E,12nm,0.5s						
TNSS	**Tian-Shan**	**2.31**	**360**	Pg	**Pg**	**15 07 23.3**	**-1.0**
	comp=E,5.6nm,0.3s						
TNSS				Lg	Lg	15 07 57.6	
	comp=E,12nm,0.5s						
IZV	**Izvestkoviy**	**2.32**	**354**	*e*P	**Pb**	**15 07 22.3**	**0.0**
	comp=E,3.8nm,0.3s						
IZV				*e*S	**Sg**	**15 07 55.9**	**+1.3**
	comp=E,25nm,0.3s						
IZV	**Izvestkoviy**	**2.32**	**354**	Pg	**Pb**	**15 07 22.3**	**0.0**
	comp=E,3.8nm,0.3s						
IZV				Lg	Lg	15 07 55.9	
	comp=E,25nm,0.3s						
UCH	**Uchtor**	**2.37**	**310**	⇑*i*P	**Pb**	**15 07 20.5**	**-2.8**
	baz=14						
UCH				⇑*i*S	**Sg**	**15 07 54.5**	**-1.6**
	baz=14						
TKM2	**Tokmak 2**	**2.42**	**336**	⇑*i*P	**Pb**	**15 07 21.6**	**-2.3**
	baz=36						
TKM2				⇑*i*S	**Sg**	**15 07 56.3**	**-1.3**
	baz=36						
TKM2	**Tokmak 2**	**2.42**	**336**	⇓Pg	**Pb**	**15 07 22.0**	**-1.9**
	comp=E,4.8nm,1.1s						
TKM2				⇓Lg	Lg	15 07 57.1	
	comp=E,5.3nm,0.6s						
KST	**Kastek**	**2.43**	**343**	*e*P	**Pg**	**15 07 25.2**	**-1.3**
	comp=E,2.4nm,0.1s						
KST				*e*S	**Sg**	**15 08 00.8**	**+2.7**
	comp=E,8.8nm,0.2s						
KST	**Kastek**	**2.43**	**343**	Pg	**Pg**	**15 07 25.2**	**-1.3**
	comp=E,2.4nm,0.1s						
KST				Lg	Lg	15 08 01.5	
	comp=E,8.8nm,0.2s						
MDOK	**Medeo**	**2.44**	**2**	*e*P	**Pg**	**15 07 24.9**	**-1.7**
	comp=E,2.7nm,0.2s						
MDOK				*e*S	**Sg**	**15 08 00.4**	**+2.1**
	comp=E,18nm,0.4s						
MDOK	**Medeo**	**2.44**	**2**	Pg	**Pb**	**15 07 23.8**	**-0.5**
	comp=E,11nm,1.2s						
MDOK				Lg	Lg	15 07 58.8	
	comp=E,11nm,0.5s						
MDOK	**Medeo**	**2.44**	**2**	Pg	**Pg**	**15 07 24.9**	**-1.7**
	comp=E,2.7nm,0.2s						
MDOK				Lg	Lg	15 08 01.0	
	comp=E,18nm,0.4s						
KNDC	**Almaty**	**2.49**	**0**	⇓Pg	**Pg**	**15 07 26.5**	**-1.2**
	comp=E,5.6nm,0.4s						
KNDC				⇓Lg	Lg	15 08 00.5	
	comp=E,31nm,0.6s						
KOTS	**Kotyrbulak**	**2.51**	**3**	*e*P	**Pb**	**15 07 25.7**	**+0.2**
	comp=E,11nm,0.2s						
KOTS				*e*S	**Sg**	**15 08 01.8**	**+1.2**
	comp=E,37nm,0.5s						
KOTS	**Kotyrbulak**	**2.51**	**3**	Pg	**Pb**	**15 07 25.7**	**+0.2**
	comp=E,11nm,0.2s						
KOTS				Lg	Lg	15 08 01.8	
	comp=E,37nm,0.5s						
SATY	**Saty**	**2.57**	**24**	*e*P	**Pb**	**15 07 26.2**	**-0.3**
	comp=E,5.2nm,0.3s						
SATY				*e*S	**Sg**	**15 08 02.5**	**-0.1**
	comp=E,27nm,0.5s						
SATY	**Saty**	**2.57**	**24**	Pg	**Pb**	**15 07 26.2**	**-0.3**
	comp=E,5.2nm,0.3s						
SATY				Lg	Lg	15 08 03.3	
	comp=E,27nm,0.5s						
AAK	**Ala-Archa**	**2.65**	**317**	⇑*i*P	**Pb**	**15 07 24.6**	**-3.4**
	baz=19						
AAK				⇑*i*S	**Sb**	**15 08 01.2**	**+0.4**
	baz=19						
AAK	**Ala-Archa**	**2.65**	**317**	⇓Pg	**Pb**	**15 07 27.8**	**-0.1**
	comp=E,4.5nm,0.6s						
AAK				⇑Lg	Lg	15 08 05.5	
	comp=E,9.0nm,0.7s						
DGS	**Degeres**	**2.66**	**341**	*e*P	**Pg**	**15 07 29.4**	**-1.6**
	comp=E,1.9nm,0.4s						
DGS				*e*S	**Sg**	**15 08 08.1**	**+2.5**
	comp=E,7.1nm,0.4s						
DGS	**Degeres**	**2.66**	**341**	Pg	**Pg**	**15 07 29.4**	**-1.6**
	comp=E,1.9nm,0.4s						
DGS				Lg	Lg	15 08 08.1	
	comp=E,7.1nm,0.4s						
ZHN	**Zhinishke**	**2.68**	**24**	*e*P	**Pb**	**15 07 28.8**	**+0.5**
	comp=E,2.3nm,0.1s						
ZHN				*e*S	**Sg**	**15 08 06.9**	**+0.9**
	comp=E,3.5nm,0.2s						
ZHN	**Zhinishke**	**2.68**	**24**	Pg	**Pb**	**15 07 28.8**	**+0.5**
	comp=E,2.3nm,0.1s						
ZHN				Lg	Lg	15 08 07.5	
	comp=E,3.5nm,0.2s						
AML	**Almayashu**	**2.82**	**301**	⇑*i*P	**Pn**	**15 07 26.2**	**+0.3**
	baz=5.0						
AML				⇑*i*S	**Sb**	**15 08 05.0**	**-1.0**
	baz=5.0						
UZB	**Uzynbulak**	**2.87**	**32**	*e*P	**Pb**	**15 07 31.2**	**-0.5**
	comp=E,1.3nm,0.2s						
UZB				*e*S	**Sg**	**15 08 10.8**	**-1.4**
	comp=E,8.7nm,0.4s						
UZB	**Uzynbulak**	**2.87**	**32**	Pg	**Pb**	**15 07 31.2**	**-0.5**
	comp=E,1.3nm,0.2s						
UZB				Lg	Lg	15 08 11.4	
	comp=E,8.7nm,0.4s						
KURS	**Kuram**	**2.91**	**18**	*e*P	**Pg**	**15 07 33.2**	**-2.5**
	comp=E,1.5nm,0.2s						
KURS				*e*S	**Sg**	**15 08 14.7**	**+1.4**
	comp=E,5.0nm,0.4s						
KURS	**Kuram**	**2.91**	**18**	Pg	**Pg**	**15 07 33.2**	**-2.5**
	comp=E,1.5nm,0.2s						
KURS				Lg	Lg	15 08 14.7	
	comp=E,5.0nm,0.4s						
KTBS	**Karatobe**	**2.99**	**356**	*e*P	**Pg**	**15 07 35.9**	**-1.4**
	comp=E,0.9nm,0.2s						
KTBS				*e*S	**Sg**	**15 08 19.3**	**+3.3**
	comp=E,9.6nm,0.3s						
KTBS	**Karatobe**	**2.99**	**356**	Pg	**Pg**	**15 07 35.9**	**-1.4**
	comp=E,0.9nm,0.2s						
KTBS				Lg	Lg	15 08 19.3	
	comp=E,9.6nm,0.3s						
KPKS	**Kokpek**	**3.03**	**25**	*e*P	**Pb**	**15 07 34.8**	**+0.5**
	comp=E,3.8nm,0.2s						
KPKS				*e*S	**Sg**	**15 08 17.3**	**+0.2**
	comp=E,21nm,0.5s						
EKS2	**Erkin-Say**	**3.06**	**310**	⇑*i*P	**Pn**	**15 07 29.6**	**+0.6**
	baz=13						
EKS2				⇑*i*S	**Sb**	**15 08 10.9**	**-1.7**
	baz=13						
SHLS	**Shalkode**	**3.07**	**37**	*e*P	**Pg**	**15 07 38.6**	**-0.1**
	comp=E,2.4nm,0.1s						
SHLS				*e*S	**Sg**	**15 08 23.6**	**+5.1**
	comp=E,10nm,0.4s						
SHLS	**Shalkode**	**3.07**	**37**	Pg	**Pg**	**15 07 38.6**	**-0.1**
	comp=E,2.4nm,0.1s						
SHLS				Lg	Lg	15 08 24.1	
	comp=E,10nm,0.4s						
CHKK	**Chushkaly**	**3.13**	**0**	Pg	**Pg**	**15 07 38.2**	**-1.6**
	comp=E,1.1nm,0.1s						
CHKK				Lg	Lg	15 08 23.8	
	comp=E,13nm,0.3s						
USP	**Ospenovka**	**3.13**	**325**	⇑*e*P	**Pn**	**15 07 31.2**	**+1.4**
	baz=26						
USP				⇑*i*S	**Sb**	**15 08 12.7**	**-1.7**
	baz=26						
PDGK	**Podgornoye**	**3.21**	**35**	⇓Pg	**Pb**	**15 07 36.6**	**-0.9**
	comp=E,3.7nm,1.2s						
PDGK				⇓Lg	Lg	15 08 21.3	
	comp=E,10.0nm,0.5s						
MRKS	**Merke**	**3.44**	**307**	*e*P	**Pg**	**15 07 43.0**	**-2.9**
	comp=E,1.1nm,0.1s						
MRKS				*e*S	**Sg**	**15 08 31.6**	**+1.1**
	comp=E,1.6nm,0.2s						
MRKS	**Merke**	**3.44**	**307**	Pg	**Pg**	**15 07 43.0**	**-2.9**
	comp=E,1.1nm,0.1s						
MRKS				Lg	Lg	15 08 31.7	
	comp=E,1.6nm,0.2s						
MNBS	**Baschi**	**3.52**	**17**	*e*P	**Pg**	**15 07 44.5**	**-2.9**
	comp=E,0.3nm,0.1s						
MNBS				*e*S	**Sg**	**15 08 34.1**	**+1.2**
	comp=E,10nm,0.3s						
ARXS	**Arharly**	**3.54**	**10**	*e*P	**Pg**	**15 07 45.9**	**-2.0**
	comp=E,2.2nm,0.4s						
ARXS				*e*S	**Sg**	**15 08 36.0**	**+2.2**
	comp=E,6.8nm,0.3s						
KK31	**Karatay Array**	**5.36**	**298**	⇑Pg	**Pb**	**15 08 17.2**	**+3.2**
	comp=E,0.2nm,0.5s,baz=92,slow=15						
KK31				⇓Lg	Lg	15 09 30.4	
	comp=E,1.0nm,0.8s,baz=101,slow=27						

*ISK **08** 15:26:37.9, 39°.06N×25°.96E, h5km, ML2.8/20*
*ISCJB **08** 15:26:38.4±0.5, 39°.05N±0°.02×25°.95E±0°.04, h10km±3km, Error ellipse: s-maj=4.8km s-min=2.4km az=170.0*
*ATH **08** 15:26:38.4, 39°.07N×26°.07E, h29km±1km, ML2.5/4, Error ellipse: s-maj=2.4km s-min=1.0km az=101.0*
*DDA **08** 15:26:38.8, 39°.05N×26°.05E, h8km±3km, ML2.4*
*THE **08** 15:26:39.5, 39°.03N×26°.20E, h26km, ML2.5/4, Error ellipse: s-maj=3.0km s-min=0.4km az=98.0*
ISC 08 15:26:38.0±1.1**, 39°.05N**±0°.02×**25°.91E**±0°.03**, h11**km±9km**, n53,** σ**0s.68**/76**, Aegean Sea**

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

PRK	**Paraskevi**	**0.34**	**55**	P	**Pb**	**15 26 45.5**	**-0.6**
PRK				S	**Sg**	**15 26 50.0**	**+0.6**
	1µm,0.5s						
PRK	**Paraskevi**	**0.34**	**55**	P	**Pg**	**15 26 45.2**	**+0.4**
PRK				S	**Sg**	**15 26 49.7**	**+0.3**
PRK				AML	AML	15 26 49.9	
	comp=E,2951µm,0.5s						
PRK				AML	AML	15 26 50.3	
	comp=N,2830µm,0.3s						
GPNR	**Gulpinar-Canak**	**0.44**	**23**	PG	**Pb**	**15 26 47.1**	**-0.6**
GPNR				SG	**Sb**	**15 26 53.8**	**-0.5**
PSRA	**Psara**	**0.58**	**208**	P	**Pn**	**15 26 51.8**	**-0.3**
PSRA				S	**Sn**	**15 27 01.9**	**+0.3**
CHOS	**Chios island**	**0.68**	**170**	P	**Pb**	**15 26 51.7**	**-0.1**
CHOS				S	**Sb**	**15 27 01.2**	**0.0**
	comp=N,582nm,0.3s						
CHOS	**Chios island**	**0.68**	**170**	P	**Pb**	**15 26 51.8**	**-0.1**
CHOS				S	**Sb**	**15 27 02.3**	**+1.1**
CHOS				AML	AML	15 27 03.6	
	comp=N,892µm,0.2s						
CHOS				AML	AML	15 27 04.6	
	comp=E,1429µm,0.3s						
CHOS	**Chios island**	**0.68**	**170**	PG	**Pb**	**15 26 51.7**	**-0.1**
KRBN	**Karaburun**	**0.68**	**132**	PG	**Pg**	**15 26 51.2**	**0.0**
FOCM	**Foa**	**0.72**	**118**	PG	**Pg**	**15 26 52.0**	**0.0**
FOCM				SG	**Sg**	**15 27 02.7**	**+1.2**
DKL	**Dikili**	**0.77**	**88**	PG	**Pg**	**15 26 52.5**	**-0.4**
CESE	**eme**	**0.78**	**157**	PG	**Pg**	**15 26 52.7**	**-0.4**
BOZC	**Bozcaada**	**0.80**	**8**	*i* P	**Pb**	**15 26 53.6**	**-0.2**
BOZC				*i* S	**Sb**	**15 27 04.8**	**+0.3**
BOZC				IAML		15 27 05.0	
	comp=N,243nm,0.2s						
BOZC				IAML		15 27 07.0	
	comp=E,289nm,0.3s						
BOZC	**Bozcaada**	**0.80**	**8**	PG	**Pb**	**15 26 53.6**	**-0.2**
BOZC				SG	**Sb**	**15 27 04.9**	**+0.3**
EZN	**Ezine**	**0.83**	**22**	P	**Pg**	**15 26 54.0**	**-0.2**
EZN				S	**Sb**	**15 27 05.5**	**-0.3**
	comp=E,362nm,0.5s						
EZN	**Ezine**	**0.83**	**22**	PG	**Pg**	**15 26 53.9**	**-0.2**
EZN				SG	**Sb**	**15 27 05.5**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.84**	**35**	*i* P	**Pg**	**15 26 54.1**	**-0.2**
BAYC				*i* S	**Sg**	**15 27 05.6**	**+0.3**
BAYC				IAML		15 27 08.0	
	comp=E,285nm,0.2s						
BAYC				IAML		15 27 08.0	
	comp=N,155nm,0.3s						
EFSA	**Agios Efstrati**	**0.87**	**304**	P	**Pn**	**15 26 57.4**	**+1.3**
URLA	**Izmir**	**0.88**	**142**	*i* P	**Pb**	**15 26 55.0**	**-0.2**
URLA				*i* S	**Sg**	**15 27 06.3**	**0.0**
URLA				IAML		15 27 08.0	
	comp=E,127nm,0.5s						
URLA				IAML		15 27 08.0	
	comp=N,73nm,0.6s						
URLA	**Izmir**	**0.88**	**142**	PG	**Pg**	**15 26 54.9**	**0.0**
URLA				SG	**Sb**	**15 27 07.4**	**+0.5**
ZEDA	**zmir-Bergama**	**0.91**	**95**	*i* P	**Pg**	**15 26 54.8**	**-0.8**
ZEDA				*i* S	**Sg**	**15 27 05.6**	**-1.8**
ZEDA				IAML		15 27 08.0	
	comp=E,114nm,0.3s						
ZEDA				IAML		15 27 08.0	
	comp=N,140nm,0.5s						
ZEY	**zmir**	**0.94**	**150**	*i* P	**Pg**	**15 26 55.9**	**-0.1**
ZEY				*i* S	**Sg**	**15 27 08.1**	**-0.1**
ZEY				IAML		15 27 11.0	
	comp=E,105nm,0.2s						
ZEY				IAML		15 27 13.0	
	comp=N,144nm,0.2s						
BLCB	**Balcova**	**1.11**	**127**	PN	**Pg**	**15 26 59.3**	**0.0**
GADA	**Gvkgeada**	**1.14**	**359**	P	**Pb**	**15 26 59.7**	**+0.1**
GADA	**Gvkgeada**	**1.14**	**359**	PN	**Pb**	**15 26 59.8**	**+0.1**
DGB	**zmir**	**1.26**	**142**	*i* P	**Pg**	**15 27 00.9**	**-1.2**
DGB				*i* S	**Sg**	**15 27 18.6**	**+0.2**
DGB				IAML		15 27 20.0	
	comp=E,45nm,0.2s						
DGB				IAML		15 27 22.0	
	comp=N,61nm,0.5s						
GELI	**Tayfur-Gelibol**	**1.41**	**18**	PN	**Pb**	**15 27 04.7**	**+0.4**
STEP	**BALIKESIR_Sava**	**1.44**	**76**	*i* P	**Pn**	**15 27 04.7**	**+0.7**
SMTH	**Samothraki Isl**	**1.45**	**348**	P	**Pg**	**15 27 04.6**	**-1.1**
SMTH	**Samothraki Isl**	**1.45**	**348**	P	**Pg**	**15 27 04.6**	**-1.1**
SMTH				S	**Sn**	**15 27 23.8**	**+0.7**
SMTH				AML	AML	15 27 26.7	
	comp=N,254µm,0.5s						
SMTH				AML	AML	15 27 26.8	
	comp=E,278µm,0.5s						
LPK	**Lapseki**	**1.47**	**26**	PN	**Pg**	**15 27 05.6**	**-0.6**
BALY	**Balya**	**1.49**	**62**	*i* P	**Pg**	**15 27 06.4**	**-0.2**
BALY				*i* S	**Sn**	**15 27 24.0**	**-0.2**
BALY				IAML		15 27 30.0	
	comp=E,56nm,0.5s						
BALY				IAML		15 27 30.0	
	comp=N,68nm,0.7s						
AKHS	**Akhisar**	**1.49**	**96**	*i* P	**Pb**	**15 27 06.0**	**+0.2**
AKHS				*i* S	**Sn**	**15 27 24.8**	**+0.5**
SMG	**Samos**	**1.53**	**151**	P	**Pn**	**15 27 05.6**	**+0.3**
SMG				S	**Sn**	**15 27 24.8**	**-0.2**
SMG				AML	AML	15 27 30.2	
	comp=N,231µm,0.3s						
SMG				AML	AML	15 27 30.8	
	comp=E,282µm,0.4s						
BALB	**Balikesir**	**1.64**	**68**	PN	**Pn**	**15 27 07.5**	**+0.8**
ERIK	**Erikli-Kesan**	**1.68**	**16**	PN	**Pb**	**15 27 08.7**	**-0.2**
KRBG	**Karabiga-Canak**	**1.71**	**38**	PN	**Pn**	**15 27 09.0**	**+1.2**
THAS	**Thassos island**	**1.80**	**330**	P	**Pn**	**15 27 09.8**	**+0.8**
THAS	**Thassos island**	**1.80**	**330**	P	**Pn**	**15 27 09.7**	**+0.8**
ALN	**Alexandroupoli**	**1.84**	**3**	P	**Pn**	**15 27 10.2**	**+0.7**
ALN				S	**Sn**	**15 27 32.0**	**-0.9**
	comp=E,48nm,0.5s						
ALN	**Alexandroupoli**	**1.84**	**3**	P	**Pn**	**15 27 10.3**	**+0.7**
ALN	**Alexandroupoli**	**1.84**	**3**	PN	**Pb**	**15 27 10.9**	**-0.8**
KESN	**Edirne-Kesan**	**1.87**	**18**	*i* P	**Pb**	**15 27 11.6**	**-0.7**
KESN				*i* S	**Sn**	**15 27 34.7**	**+0.7**
KESN				IAML		15 27 40.0	
	comp=E,64nm,0.3s						
KESN				IAML		15 27 41.0	
	comp=N,76nm,0.6s						
AYDB	**Zeytinkoy-Aydi**	**1.91**	**125**	PN	**Pn**	**15 27 11.2**	**+0.7**
EDC	**Edincik**	**1.98**	**49**	PN	**Pn**	**15 27 11.7**	**+0.2**
APE	**Apeiranthos**	**2.00**	**189**	P	**Pn**	**15 27 11.4**	**-0.4**
MRMT	**Marmara Adasi**	**2.02**	**39**	PN	**Pn**	**15 27 13.0**	**+0.9**
DURS	**Dursunbey**	**2.06**	**74**	*i* P	**Pn**	**15 27 10.9**	**-1.7**
AYDN	**Tasoluk**	**2.08**	**131**	*i* P	**Pg**	**15 27 18.1**	**+0.2**
UKOP	**Uzunkopru-Edir**	**2.15**	**15**	PN	**Pn**	**15 27 15.3**	**+1.6**
DEMI	**Demirci**	**2.18**	**89**	*i* P	**Pb**	**15 27 17.3**	**-0.2**
AMGA	**Amorgos Island**	**2.22**	**180**	P	**Pn**	**15 27 14.1**	**-0.6**
KCTX	**Karacabey (Bur**	**2.24**	**57**	PN	**Pn**	**15 27 15.1**	**0.0**
ULDT	**Uludag**	**2.72**	**65**	*i* P	**Pg**	**15 27 29.1**	**-1.0**

*ISCJB **08** 15:38:51.4±0.2, 44°.50N±0°.04×137°.96E±0°.04, h300km, mb3.5/14, Error ellipse: s-maj=5.0km s-min=3.5km az=172.5*

*JMA **08** 15:38:51.5±0.4, 44°.50N×137°.87E, h288km, M3.4*

*NEIC **08** 15:38:51.6±1.1, 44°.58N±0°.08×137°.88E±0°.09, h281km±8km, mb4.2/39*

*IDC **08** 15:38:51.9±1.0, 44°.60N×137°.84E, h281km±10km, mb3.3/15, mb1 3.4/22, mb1mx3.3/37, mbtmp3.9/22, Error ellipse: s-maj=12.8km s-min=10.1km az=162.0*

ISC 08 15:38:52.6±0.5**, 44°.52N**±0°.06×**137°.96E**±0°.05**, h300**km**, n96, σ1s.34**/100**, mb4.1**/34**, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JRBN	**Rebuntou**	**2.38**	**67**	P	**Pn**	**15 39 41.1**	**-1.3**
JRBN				*e*S	**S**	**15 40 19.8**	**-2.4**
JRR	**Rishiri**	**2.46**	**74**	P	**Pn**	**15 39 42.5**	**-0.7**
JYG	**Yagishiri**	**2.48**	**91**	P	**Pn**	**15 39 41.8**	**-1.6**
JOSM	**Okushiri--Mats**	**2.67**	**155**	P	**Pn**	**15 39 43.4**	**-1.8**
JHR	**Hokuryu**	**2.82**	**105**	P	**Pn**	**15 39 45.4**	**-1.1**
JWK2	**Keihoku**	**2.91**	**73**	P	**Pn**	**15 39 46.8**	**-0.5**
JEW	**Eniwo**	**3.04**	**122**	P	**Pn**	**15 39 47.7**	**-1.0**
JEW				*e*S	**S**	**15 40 32.5**	**-1.0**
JSE	**Soyaes**	**3.32**	**81**	P	**Pn**	**15 39 51.2**	**-0.3**
ASAJ	**Asahikawa**	**3.35**	**95**	P	**Pn**	**15 39 50.8**	**-1.0**
	8.0nm,0.3s,baz=269,slow=10,SNR=111						
JKA	**Kamikawa-asahi**	**3.35**	**95**		**Pn**	**15 39 50.8**	**-1.0**
JKK2	**Kamakawa 2**	**3.50**	**99**	P	**Pn**	**15 39 52.5**	**-0.9**
JFR	**Furan**	**3.61**	**110**	P	**Pn**	**15 39 53.2**	**-1.4**
YSS	**Yuzh-Sakhalins**	**4.15**	**52**	Pn	**Pn**	**15 39 58.7**	**-1.6**
USRK	**Ussuriysk Ar.**	**4.29**	**268**	P	**Pn**	**15 40 00.5**	**-1.6**
	baz=81,slow=12,SNR=43						
USRK				S	**S**	**15 40 54.6**	**-3.1**
	baz=85,slow=18,SNR=4.3						
USA0B	**Ussuriysk Arra**	**4.30**	**268**		**Pn**	**15 40 00.0**	**-2.0**
JTKR	**Abashiri--Toko**	**4.31**	**95**	P	**Pn**	**15 40 01.1**	**-1.0**
JAR	**Ashorobuto**	**4.37**	**104**	*e*S	**S**	**15 40 57.5**	**-1.7**
ERM	**Erimo**	**4.54**	**122**	Pn	**Pn**	**15 40 03.9**	**-1.0**
NEM2	**Nemuro 2**	**5.74**	**99**	P	**Pn**	**15 40 15.6**	**-3.1**
NEM2				*e*S	**S**	**15 41 21.1**	**-6.9**
MDJ	**Mudanjiang**	**5.98**	**274**		**Pn**	**15 40 19.9**	**-1.7**
KLR	**Kul'dur**	**6.35**	**320**	P	**Pn**	**15 40 24.5**	**-1.4**
	0.2nm,0.3s,baz=139,slow=15,SNR=4.5						
MJB9	**Matsu-Tunnel**	**7.96**	**179**		**Pn**	**15 40 44.2**	**-1.6**
MAJO	**Matsushiro**	**7.97**	**179**		**Pn**	**15 40 44.1**	**-1.7**
MJAR	**Matsushiro Arr**	**7.97**	**179**	P	**Pn**	**15 40 44.5**	**-1.3**
	0.3nm,0.3s,baz=0.0,slow=10,SNR=30						
INU	**Inuyama**	**9.19**	**185**	Pn	**Pn**	**15 40 59.1**	**-1.7**
KSRS	**Korea Array**	**10.36**	**231**	P	**Pn**	**15 41 13.9**	**-1.1**
	0.1nm,0.3s,baz=40,slow=11,SNR=3.3						
JHJ2	**Mitsune**	**11.48**	**172**	P	**P**	**15 41 30.6**	**-0.1**
MA2	**Magadan**	**16.96**	**23**	P	**P**	**15 42 30.7**	**0.0**
	1.0nm,0.3s,baz=130,slow=22,SNR=5.9						
MA2	**Magadan**	**16.96**	**23**	P	**P**	**15 42 30.8**	**0.0**
YAK	**Yakutsk**	**18.20**	**347**	P	**P**	**15 42 42.9**	**-1.1**
	0.1nm,0.3s,baz=9.2,slow=17,SNR=4.9						
YAK	**Yakutsk**	**18.20**	**347**	P	**P**	**15 42 42.5**	**-1.4**
YAK				IAmb	IAmb	15 42 43.2	
	comp=Z,8.8nm,0.9s						
SEY	**Seymchan**	**20.24**	**19**	P	**P**	**15 43 05.5**	**+0.1**
	comp=Z,4.1nm,0.4s,baz=223,slow=12,SNR=18						
ULN	**Ulaanbaatar**	**21.58**	**290**	P	**P**	**15 43 17.6**	**-1.2**
SONM	**Songino Array**	**22.03**	**290**	P	**P**	**15 43 22.3**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=99,slow=9.5,SNR=6.6						
ENH	**Enshi**	**26.56**	**247**	P	**P**	**15 44 03.5**	**-0.1**
ENH				IAmb	IAmb	15 44 11.8	
	comp=Z,15nm,1.4s						
TIXI	**Tiksi**	**27.57**	**354**	P	**P**	**15 44 10.2**	**-1.8**
TIXI				IAmb	IAmb	15 44 11.1	
	comp=Z,18nm,2.0s						
ZALV	**Zalesovo Beam**	**35.19**	**305**	P	**P**	**15 45 18.0**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=80,slow=9.9,SNR=3.2						
MK31	**Makanchi Array**	**38.29**	**294**	P	**P**	**15 45 44.2**	**-0.4**
MKAR	**Makanchi Array**	**38.29**	**294**	P	**P**	**15 45 44.4**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=80,slow=11,SNR=8.7						
MAKZ	**Makanchi**	**38.49**	**294**	P	**P**	**15 45 46.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**41.63**	**244**	P	**P**	**15 46 12.8**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=41,slow=6.5,SNR=4.1						
COLD	**Coldfoot**	**43.08**	**33**	P	**P**	**15 46 23.6**	**+0.5**
SKT	**Skwentna**	**43.23**	**41**	P	**P**	**15 46 25.6**	**+1.2**
SKT				IAmb	IAmb	15 47 54.6	
	comp=Z,24nm,1.9s						
KTH	**Kantishna Hill**	**43.24**	**38**	P	**P**	**15 46 25.1**	**+0.5**
KTH				IAmb	IAmb	15 46 34.3	
	comp=Z,30nm,2.0s						
OHAK	**Old Harbor**	**43.34**	**48**	P	**P**	**15 46 26.1**	**+0.8**
TAPN	**Taplejung**	**43.43**	**264**	*e*P	**P**	**15 46 27.7**	**+0.9**
	comp=Z,7.0nm,0.6s						
KDAK	**Kodiak Island**	**43.57**	**47**	P	**P**	**15 46 27.8**	**+0.6**
CNPM	**China Poot**	**43.86**	**44**	P	**P**	**15 46 29.9**	**+0.5**
ODAN	**Odare**	**43.95**	**264**	*e*P	**P**	**15 46 32.7**	**+1.8**
RND	**Reindeer**	**44.19**	**38**	P	**P**	**15 46 32.3**	**+0.2**
RND				IAmb	IAmb	15 47 32.1	
	comp=Z,23nm,1.8s						
JIRN	**Jiri**	**44.33**	**266**	*e*P	**P**	**15 46 34.7**	**+0.7**
GUN	**Gumba**	**44.41**	**266**	*e*P	**P**	**15 46 34.9**	**+0.3**
	comp=Z,4.9nm,0.3s						
CCB	**Clear Creek Bu**	**44.41**	**36**	P	**P**	**15 46 34.5**	**+0.8**
PMR	**Palmer**	**44.42**	**41**	P	**P**	**15 46 35.2**	**+1.4**
PMR				IAmb	IAmb	15 48 12.2	
	comp=Z,18nm,1.4s						
RAMN	**Ramite**	**44.46**	**265**	*e*P	**P**	**15 46 35.3**	**+0.4**
	comp=Z,4.8nm,0.4s						
GHO	**Glory Hole Cre**	**44.48**	**40**	P	**P**	**15 46 35.0**	**+0.7**
GHO				IAmb	IAmb	15 48 00.0	
	comp=Z,26nm,1.6s						
IL31		**44.78**	**36**	P	**P**	**15 46 36.6**	**+0.1**
IL31				IAmb	IAmb	15 47 34.7	
	comp=Z,17nm,1.9s						
ILAR	**Eielson Array**	**44.78**	**36**	P	**P**	**15 46 36.3**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=288,slow=8.0,SNR=11						
KKN	**Kakani**	**44.90**	**266**	*e*P	**P**	**15 46 38.7**	**+0.4**
	comp=Z,8.8nm,0.7s						
DHY	**Denali Highway**	**44.91**	**38**	P	**P**	**15 46 37.7**	**-0.1**
DHY				IAmb	IAmb	15 48 08.0	
	comp=Z,19nm,1.8s						
PKI	**Pulchoki**	**44.94**	**266**	*e*P	**P**	**15 46 39.3**	**+0.5**
PKIN	**Phulchoki**	**44.95**	**266**	*e*P	**P**	**15 46 39.8**	**+1.1**
AAK	**Ala-Archa**	**44.98**	**291**	P	**P**	**15 46 38.1**	**-0.6**
SCM	**Sheep Creek Mo**	**45.21**	**40**	P	**P**	**15 46 41.2**	**+1.2**
GKN	**Gorkha**	**45.24**	**267**	*e*P	**P**	**15 46 40.9**	**0.0**
DANN	**Dangsing**	**45.66**	**268**	*e*P	**P**	**15 46 45.0**	**+0.7**
	comp=Z,41nm,0.6s						
RIDG	**Independent Ri**	**45.87**	**37**	P	**P**	**15 46 44.8**	**-0.4**
RIDG				IAmb	IAmb	15 48 29.6	
	comp=Z,32nm,2.0s						
KOLN	**Koldanda**	**46.12**	**268**	*e*P	**P**	**15 46 48.5**	**+0.8**
	comp=Z,6.5nm,0.3s						
SCRK	**Sand Creek**	**46.18**	**37**	P	**P**	**15 46 48.2**	**+0.5**
SCRK				IAmb	IAmb	15 47 56.0	
	comp=Z,19nm,2.0s						
DOT	**Dot Lake**	**46.23**	**37**	P	**P**	**15 46 48.1**	**+0.2**
EYAK	**Cordova Ski Ar**	**46.27**	**42**	P	**P**	**15 46 48.6**	**+0.4**
ARSB	**Arslanbob**	**46.57**	**290**	P	**P**	**15 46 52.1**	**+1.1**
VRDI	**Verde Repeater**	**47.16**	**40**	P	**P**	**15 46 55.9**	**+0.6**
VRDI				IAmb	IAmb	15 48 10.7	
	comp=Z,21nm,1.6s						
EGAK	**Eagle**	**47.16**	**35**	P	**P**	**15 46 54.8**	**-0.2**
TGL	**Tana Glacier**	**47.59**	**41**	P	**P**	**15 46 59.4**	**+0.9**
TGL				IAmb	IAmb	15 48 34.0	
	comp=Z,27nm,1.6s						
WAX	**Waxell Ridge**	**47.67**	**41**	P	**P**	**15 46 59.8**	**+0.7**
WAX				IAmb	IAmb	15 47 20.1	
	comp=Z,21nm,1.3s						
BALM	**Baldy**	**47.73**	**40**	P	**P**	**15 47 01.2**	**+1.6**
BALM				IAmb	IAmb	15 47 28.7	
	comp=Z,13nm,1.4s						
BARN	**Barnard Glacie**	**48.04**	**40**	P	**P**	**15 47 03.3**	**+1.3**
BARN				IAmb	IAmb	15 48 06.2	
	comp=Z,14nm,1.5s						
DAWY	**Dawson**	**48.10**	**36**	P	**P**	**15 47 03.0**	**+0.7**
CTGM	**Chitina Glacie**	**48.22**	**40**	P	**P**	**15 47 04.8**	**+1.5**
CTGM				IAmb	IAmb	15 47 58.2	
	comp=Z,14nm,1.4s						
EPYK	**Eagle Plains**	**48.47**	**32**	P	**P**	**15 47 05.8**	**+0.7**
EPYK				IAmb	IAmb	15 47 06.2	
	comp=Z,4.7nm,0.5s						
INK	**Inuvik**	**49.04**	**29**	P	**P**	**15 47 09.5**	**+0.3**
INK				IAmb	IAmb	15 48 54.6	
	comp=Z,16nm,1.9s						
KULM	**Kulim**	**50.91**	**231**	P	**P**	**15 47 24.9**	**+1.1**
JOHN	**Johnston Islan**	**51.89**	**105**	P	**P**	**15 47 32.2**	**+1.1**
JIS	**Juneau Island**	**52.51**	**42**	P	**P**	**15 47 35.4**	**+0.4**
JIS				IAmb	IAmb	15 48 55.9	
	comp=Z,19nm,1.5s						
ARCES	**ARCESS Array B**	**56.09**	**337**	P	**P**	**15 48 00.8**	**+0.3**
	comp=Z,5.2nm,1.0s,baz=45,slow=9.0,SNR=4.5						
YKA	**Yellowknife Ar**	**58.71**	**31**	P	**P**	**15 48 19.5**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=308,slow=6.6,SNR=6.3						
FINES	**FINESS Array B**	**61.01**	**329**	P	**P**	**15 48 34.7**	**+0.4**
	comp=Z,1.8nm,0.4s,baz=67,slow=7.6,SNR=28						
NB2	**NORSAR Subarra**	**66.29**	**335**	P	**P**	**15 49 08.9**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**66.29**	**335**	P	**P**	**15 49 09.1**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=52,slow=7.1,SNR=8.9						
AKASG	**Malin Array Be**	**66.85**	**319**	P	**P**	**15 49 12.7**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=43,slow=7.1,SNR=5.7						
ASAR	**Alice Springs**	**67.95**	**184**	P	**P**	**15 49 21.4**	**+1.9**
	comp=Z,0.4nm,1.0s,baz=358,slow=6.4,SNR=4.1						
NVAR	**Mina Array Bea**	**72.60**	**53**	P	**P**	**15 49 50.4**	**+2.7**
	comp=Z,1.2nm,0.7s,baz=300,slow=5.6,SNR=11						
PDAR	**Pinedale Array**	**74.26**	**45**	P	**P**	**15 49 59.1**	**+1.9**
	comp=Z,1.6nm,0.6s,baz=348,slow=1.3,SNR=18						
ULM	**Lac du Bonnet**	**74.65**	**33**	P	**P**	**15 49 59.9**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=325,slow=7.9,SNR=3.4						
ULM	**Lac du Bonnet**	**74.65**	**33**	P	**P**	**15 49 59.6**	**+0.6**

*NNC **08** 15:41:25.6±2.8, 40°.57N×72°.72E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=21.7km s-min=9.0km az=173.0*

*SOME **08** 15:41:25.5, 40°.63N×72°.72E, h0km*

*KRNET **08** 15:41:27.2±0.1, 40°.59N×72°.67E, h12km, mb2.8*

ISC 08 15:41:25.8±1.4**, 40°.55N**±0°.05×**72°.77E**±0°.03**, h7**km±16km**, n28, σ1s.09**/44**, 20C-10D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.79**	**11**	⇑*i*P	**Pb**	**15 41 42.6**	**+0.6**
	baz=18						
ARSB				⇑*i*S	**Sb**	**15 41 52.5**	**-0.4**
	baz=18						
BTK	**Batken**	**1.57**	**252**	⇓*i*P	**Pg**	**15 41 56.1**	**+0.1**
	baz=50						
BTK				⇓*i*S	**Sg**	**15 42 16.1**	**-0.3**
	baz=50						
AML	**Almayashu**	**1.72**	**23**	⇑*i*P	**Pg**	**15 41 59.8**	**+0.9**
	baz=26						
AML				⇑*i*S	**Sg**	**15 42 23.5**	**+2.2**
	baz=26						
AML	**Almayashu**	**1.72**	**23**	P	**Pg**	**15 42 00.5**	**+1.6**
	SNR=19						
ARLS	**Aral**	**1.75**	**41**	⇓*i*P	**Pg**	**15 42 00.9**	**+1.4**
	baz=44						
ARLS				⇓*e*S	**Sg**	**15 42 24.1**	**+1.9**
	baz=44						
UCH	**Uchtor**	**2.12**	**37**	⇑*i*P	**Pg**	**15 42 06.2**	**-0.4**
	baz=40						
UCH				⇑*i*S	**Sg**	**15 42 35.0**	**+0.9**
	baz=40						
UCH	**Uchtor**	**2.12**	**37**	P	**Pg**	**15 42 06.8**	**+0.3**
	SNR=32						
MRKS	**Merke**	**2.22**	**9**	*e*P	**Pb**	**15 42 06.6**	**+0.3**
	5.1nm,0.2s						
MRKS				*e*S	**Sg**	**15 42 35.9**	**-1.2**
	21nm,0.4s						
MRKS	**Merke**	**2.22**	**9**	Pg	**Pb**	**15 42 06.6**	**+0.3**
	5.1nm,0.2s						
MRKS				Lg	Lg	15 42 35.9	
	21nm,0.4s						
EKS2	**Erkin-Say**	**2.24**	**19**	⇑*i*P	**Pg**	**15 42 07.6**	**-1.1**
	baz=21						
EKS2				⇑*i*S	**Sg**	**15 42 37.5**	**-0.2**
	baz=21						
EKS2	**Erkin-Say**	**2.24**	**19**	P	**Pg**	**15 42 07.6**	**-1.1**
	SNR=6.1						
KZA	**Kyzart**	**2.41**	**50**	⇓*i*P	**Pb**	**15 42 10.6**	**+0.8**
	baz=52						
KZA				⇓*i*S	**Sg**	**15 42 42.3**	**-0.9**
	baz=52						
KZA	**Kyzart**	**2.41**	**50**	P	**Pg**	**15 42 11.4**	**-0.6**
	SNR=10						
AAK	**Ala-Archa**	**2.45**	**31**	⇓*i*P	**Pb**	**15 42 10.7**	**+0.4**
	baz=33						
AAK				⇓*i*S	**Sg**	**15 42 43.1**	**-1.5**
	baz=33						
AAK	**Ala-Archa**	**2.45**	**31**	P	**Pb**	**15 42 11.3**	**+1.0**
	SNR=11						
AAK	**Ala-Archa**	**2.45**	**31**	Pg	**Pb**	**15 42 11.2**	**+0.8**
	3.1nm,0.3s						
AAK				Lg	Lg	15 42 45.5	
	14nm,0.8s						
NRN	**Naryn**	**2.60**	**69**	⇑*i*P	**Pb**	**15 42 13.3**	**+0.4**
	baz=70						
NRN				⇑*i*S	**Sb**	**15 42 46.7**	**+1.6**
	baz=70						
IUG	**Iuzhnay**	**2.61**	**309**	*e*P	**Pb**	**15 42 12.8**	**-0.2**
	0.7nm,0.2s						
IUG				*e*S	**Sb**	**15 42 46.6**	**+1.4**
	15nm,0.3s						
IUG	**Iuzhnay**	**2.61**	**309**	Pg	**Pb**	**15 42 12.8**	**-0.2**
	0.7nm,0.2s						
IUG				Lg	Lg	15 42 46.6	
	15nm,0.3s						
FRU1	**Bishkek**	**2.65**	**31**	⇑*i*P	**Pb**	**15 42 13.0**	**-0.7**
	baz=33						
FRU1				⇑*i*S	**Sb**	**15 42 46.2**	**-0.2**
	baz=33						
KBK	**Karagaybulak**	**2.66**	**37**	⇑*e*P	**Pb**	**15 42 13.6**	**-0.3**
	baz=39						
KBK				⇑*i*S	**Sb**	**15 42 48.1**	**+1.2**
	baz=39						
KK31	**Karatay Array**	**3.06**	**327**	⇓Pg	**Pb**	**15 42 19.9**	**-0.7**
	0.7nm,0.4s,baz=140,slow=17,SNR=5.0						
KK31				⇑Lg	Lg	15 42 58.6	
	4.1nm,0.5s,baz=143,slow=21,SNR=15						
ULHL	**Ulahol**	**3.11**	**56**	⇑*e*P	**Pb**	**15 42 20.0**	**-1.6**
	baz=57						
ULHL				⇑*i*S	**Sb**	**15 42 59.0**	**-0.8**
	baz=57						
TKM2	**Tokmak 2**	**3.17**	**41**	⇑*i*P	**Pb**	**15 42 21.2**	**-1.5**
	baz=42						
TKM2				⇑*i*S	**Sb**	**15 43 00.7**	**-0.9**
	baz=42						
TKM2	**Tokmak 2**	**3.17**	**41**	⇓Pg	**Pb**	**15 42 21.1**	**-1.5**
	1.1nm,0.5s						
TKM2				⇑Lg	Lg	15 43 04.7	
	2.8nm,0.5s						
SGDS	**Sogindy**	**3.21**	**25**	Pg	**Pg**	**15 42 25.4**	**-2.0**
	1.4nm,0.2s						
SGDS				Lg	Lg	15 43 08.4	
	6.5nm,0.3s						
BRLS	**Borolday**	**3.31**	**319**	*e*P	**Pb**	**15 42 24.5**	**-0.4**
	0.3nm,0.1s						
BRLS				*e*S	**Sb**	**15 43 06.5**	**+1.2**
	3.1nm,0.2s						
BRLS	**Borolday**	**3.31**	**319**	Pg	**Pb**	**15 42 24.5**	**-0.4**
	0.3nm,0.1s						
BRLS				Lg	Lg	15 43 06.5	
	3.1nm,0.2s						

*ISCJB **08** 16:53:54.8±0.3, 3°.97S±0°.04×30°.75W±0°.05, h10km, mb4.2/18, MS3.9/7, Error ellipse: s-maj=8.4km s-min=5.1km az=35.9*

*IDC **08** 16:53:54.0±0.5, 4°.04S×30°.56W, h0km, mb4.3/19, mb1 4.4/19, mb1mx4.2/42, mbtmp4.3/19, ML5.2/1, MS4.0/7, Ms1 4.0/7, ms1mx3.6/39, Error ellipse: s-maj=18.2km s-min=12.3km az=153.0*

*NEIC **08** 16:53:56.5±1.6, 4°.1S±0°.1×30°.72W±0°.09, h15km±3km, mb4.8/58*

*VAO **08** 16:54:00.8±0.5, 4°.19S×31°.25W, h0km, mb4.7*

ISC 08 16:53:56.0±0.4**, 4°.04S**±0°.07×**30°.79W**±0°.06**, h10**km**, n149, σ1s.95**/164**, mb4.7**/40**, MS3.9**/7**, South Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**5.39**	**251**	Pn	**Pn**	**16 55 17.1**	**+0.5**
	64nm,0.3s,baz=62,slow=15,SNR=715						
RCBR				Sn	**Sn**	**16 56 15.3**	**-3.5**
	80nm,0.3s,baz=353,slow=22,SNR=27						
RCBR	**Riachuelo**	**5.39**	**251**	*e*P	**Pn**	**16 55 17.1**	**+0.5**
RCBR				*e*S	**Sn**	**16 56 13.7**	**-5.1**
RCBR	**Riachuelo**	**5.39**	**251**	*e*P	**Pn**	**16 55 17.1**	**+0.5**
RCBR				*e*S	**Sn**	**16 56 13.7**	**-5.1**
RCBR	**Riachuelo**	**5.39**	**251**		**Pn**	**16 55 17.0**	**+0.4**
RCBR				Sn	**Sn**	**16 56 15.8**	**-3.0**
NBPA	**Parau_RN**	**6.52**	**255**	*e*P	**Pn**	**16 55 32.5**	**+0.4**
NBPA				*e*S	**Sn**	**16 56 42.4**	**-4.3**
NBPA	**Parau_RN**	**6.52**	**255**	*e*P	**Pn**	**16 55 32.5**	**+0.4**
NBPA				*e*S	**Sn**	**16 56 42.4**	**-4.3**
NBLI	**Livramento-PB**	**6.96**	**241**	*e*P	**Pn**	**16 55 37.5**	**-0.7**
NBLI				*e*S	**Sn**	**16 56 52.5**	**-5.0**
NBLI	**Livramento-PB**	**6.96**	**241**	*e*P	**Pn**	**16 55 37.5**	**-0.7**
NBLI				*e*S	**Sn**	**16 56 52.5**	**-5.0**
NBMO	**Morrinhos-CE**	**9.26**	**274**	*e*P	**Pn**	**16 56 10.3**	**+0.6**
NBMO	**Morrinhos-CE**	**9.26**	**274**	*e*P	**Pn**	**16 56 10.3**	**+0.6**
H10N3	**ASCENSION HYDR**	**16.63**	**104**	T	T	17 14 22.4	
	baz=280,slow=75						
H10N2	**ASCENSION HYDR**	**16.64**	**104**	T	T	17 14 22.4	
	baz=280						
H10N1	**ASCENSION HYDR**	**16.66**	**104**	T	T	17 14 21.3	
	baz=280,slow=75						
BSFB	**Barra de Sao F**	**17.68**	**213**	*e*P	**P**	**16 58 05.4**	**+1.9**
BSFB	**Barra de Sao F**	**17.68**	**213**	*e*P	**P**	**16 58 05.4**	**+1.9**
SJMB	**Sao Joao De Ma**	**17.77**	**214**	*e*P	**P**	**16 58 05.5**	**+1.1**
SJMB	**Sao Joao De Ma**	**17.77**	**214**	*e*P	**P**	**16 58 05.5**	**+1.1**
PEXB	**Peixe**	**19.09**	**244**	*e*P	**P**	**16 58 19.9**	**+0.9**
PEXB	**Peixe**	**19.09**	**244**	*e*P	**P**	**16 58 19.9**	**+0.9**
SACV	**Santiago Islan**	**20.18**	**21**	P	**P**	**16 58 31.7**	**+0.7**
SACV				IAmb	IAmb	16 58 32.8	
	comp=Z,61nm,1.1s						
BDFB	**Brasilia**	**20.49**	**235**	P	Pn	16 58 36.7	+0.1
	comp=Z,30nm,0.8s,baz=52,slow=11,SNR=39						
BDFB				S	**S**	**17 02 15.9**	**-8.1**
	comp=Z,5.8nm,0.7s,baz=336,slow=20,SNR=3.1						
BDFB				LR	LR	17 06 20.0	
	comp=Z,562nm,18.7s,baz=71,slow=36						
BDFB	**Brasilia**	**20.49**	**235**	P	**P**	**16 58 35.6**	**+1.2**
BDFB				IAmb	IAmb	16 58 37.6	
	comp=Z,37nm,0.9s						
PMNB	**Patos De Minas**	**21.02**	**226**	*e*P	**P**	**16 58 42.2**	**+2.1**
PMNB	**Patos De Minas**	**21.02**	**226**	*e*P	**P**	**16 58 42.2**	**+2.1**

BSCB	Bom Sucesso	21.66	218	eP	P	16 58 48.1	+1.2
BSCB	Bom Sucesso	21.66	218	eP	P	16 58 48.1	+1.2
IPMB	Ipameri, GO	21.97	230	eP	P	16 58 51.8	+1.4
IPMB	Ipameri, GO	21.97	230	eP	P	16 58 51.8	+1.4
ARAG	Araguaiana, MT	23.70	239	eP	P	16 59 09.4	+1.2
ARAG				eS	S	17 03 22.5	-1.0
ARAG	Araguaiana, MT	23.70	239	eP	P	16 59 09.4	+1.2
ARAG				eS	S	17 03 22.5	-1.0
BB19B	Bebedouro	24.16	224	eP	P	16 59 14.9	+2.3
BB19B				eS	S	17 03 32.8	+1.9
BB19B	Bebedouro	24.16	224	eP	P	16 59 14.9	+2.3
BB19B				eS	S	17 03 32.8	+1.9
RCLB	Rio Claro- Sao	24.43	220	eP	P	16 59 17.7	+2.6
RCLB				eS	S	17 03 37.5	+2.3
RCLB	Rio Claro- Sao	24.43	220	eP	P	16 59 17.7	+2.6
RCLB				eS	S	17 03 37.5	+2.3
VAO	Valinhos	24.50	218	eP	P	16 59 17.4	+1.7
VAO				eS	S	17 03 38.1	+1.8
VAO	Valinhos	24.50	218	eP	P	16 59 17.4	+1.7
VAO				eS	S	17 03 38.1	+1.8
SPB	Sao Paulo	25.22	218	eP	P	16 59 23.6	+1.4
SPB				eS	S	17 03 51.3	+3.5
SPB	Sao Paulo	25.22	218	eP	P	16 59 23.6	+1.4
SPB				eS	S	17 03 51.3	+3.5
SPB	Sao Paulo	25.22	218	P	P	16 59 23.1	+1.0
SPB				IAmb	IAmb	16 59 26.4	
	comp=Z,43nm,1.3s						
CLDB	Colider	25.69	253	eP	P	16 59 27.1	+0.4
CLDB	Colider	25.69	253	eP	P	16 59 27.1	+0.4
C2SB	Chapadao do Su	26.05	234	eP	P	16 59 31.8	+2.0
C2SB	Chapadao do Su	26.05	234	eP	P	16 59 31.8	+2.0
FRTB	Fartura	26.41	222	eP	P	16 59 35.5	+2.5
FRTB	Fartura	26.41	222	eP	P	16 59 35.5	+2.5
PP1B	Ponte de Pedra	27.18	238	eP	P	16 59 41.8	+1.8
PP1B	Ponte de Pedra	27.18	238	eP	P	16 59 41.8	+1.8
DBIC	Dimbokro	27.99	68	P	P	16 59 46.8	-0.5
	comp=Z,2.2nm,0.7s,baz=242,slow=13,SNR=3.1						
DBIC				LR	LR	17 08 55.8	
	comp=Z,146nm,18.4s,baz=220,slow=32						
DBIC	Dimbokro	27.99	68	P	P	16 59 48.1	+0.8
DBIC				IAmb	IAmb	17 00 43.6	
	comp=Z,46nm,2.0s						
TRCB	Terra Rica	28.18	227	eP	P	16 59 51.1	+2.1
TRCB	Terra Rica	28.18	227	eP	P	16 59 51.1	+2.1
AQDB	Aquidauana	29.23	234	eP	P	16 59 60.0	+1.7
AQDB	Aquidauana	29.23	234	eP	P	16 59 60.0	+1.7
ITAB	Concordia	30.78	219	eP	P	17 00 14.8	+2.9
ITAB	Concordia	30.78	219	eP	P	17 00 14.8	+2.9
CNLB	Canela	31.52	215	eP	P	17 00 21.2	+2.7
CNLB	Canela	31.52	215	eP	P	17 00 21.2	+2.7
SIV	San Ignacio	32.04	246	P	P	17 00 25.6	+2.4
	comp=Z,13nm,0.8s,baz=96,slow=8.9,SNR=18						
SAML	Samuel	32.54	260	eP	P	17 00 29.5	+1.9
SAML	Samuel	32.54	260	eP	P	17 00 29.5	+1.9
SAML	Samuel	32.54	260	P	P	17 00 28.0	+0.4
SAML				IAmb	IAmb	17 00 30.8	
	comp=Z,11nm,1.3s						
CPUP	Villa Florida	33.72	226	P	P	17 00 39.9	+2.2
	comp=Z,5.1nm,0.9s,baz=53,slow=8.9,SNR=11						
CPUP				LR	LR	17 14 39.3	
	comp=Z,221nm,18.1s,baz=44,slow=37						
CPUP	Villa Florida	33.72	226	eP	P	17 00 39.6	+1.8
CPUP	Villa Florida	33.72	226	eP	P	17 00 39.6	+1.8
CPUP	Villa Florida	33.72	226	P	P	17 00 38.6	+0.9
CPUP				IAmb	IAmb	17 00 41.0	
	comp=Z,13nm,1.1s						
PLTB	Pedras Altas	34.92	215	eP	P	17 00 50.9	+2.8
PLTB	Pedras Altas	34.92	215	eP	P	17 00 50.9	+2.8
TOA0	Torodi Ar. Sit	36.50	62	P	P	17 00 58.8	-3.1
TORD	Torodi Ar. Bea	36.50	62	P	P	17 00 57.9	-3.9
	comp=Z,2.1nm,0.5s,baz=254,slow=9.6,SNR=11						
TORD				LR	LR	17 13 32.3	
	comp=Z,176nm,20.2s,baz=285,slow=32						
LPAZ	La Paz	38.63	249	P	P	17 01 23.2	+2.5
	comp=Z,4.4nm,0.6s,baz=106,slow=3.1,SNR=26						
LPAZ				LR	LR	17 17 41.5	
	comp=Z,219nm,18.2s,baz=90,slow=37						
LPAZ	La Paz	38.63	249	eP	P	17 01 21.0	+0.3
LPAZ	La Paz	38.63	249	eP	P	17 01 21.0	+0.3
LPAZ	La Paz	38.63	249	P	P	17 01 19.4	-1.3
LPAZ				IAmb	IAmb	17 01 24.2	
	comp=Z,27nm,1.4s						
ABVI	Anegada Island	40.04	306	P	P	17 01 30.8	-0.8
STVI	Saint Thomas	40.35	305	P	P	17 01 33.2	-1.0
LVC	Limon Verde	41.24	240	eP	P	17 01 42.0	0.0
LVC	Limon Verde	41.24	240	eP	P	17 01 42.0	0.0
LVC	Limon Verde	41.24	240	P	P	17 01 41.7	-0.3
SDV	Santo Domingo	41.74	288	eP	P	17 01 50.7	+4.7
SDV	Santo Domingo	41.74	288	eP	P	17 01 50.7	+4.7
PB04	IPOC Station P	42.22	241	P	P	17 01 49.9	+0.1
GO02	Mina Guanaco	42.77	237	P	P	17 01 55.0	+0.6
TRQA	Tornquist	44.22	216	P	P	17 02 06.2	+0.6
GO03	Copiap	44.28	234	P	P	17 02 05.8	-0.5
ROSC	El Rosal	44.37	281	LR	LR	17 20 55.8	
	comp=Z,225nm,18.3s,baz=134,slow=36						
TAM	Tamanrasset	44.37	51	P	P	17 02 06.8	-0.4
TAM				IAmb	IAmb	17 02 16.2	
	comp=Z,11nm,1.0s						
CFA	Coronel Fontan	44.58	228	P	P	17 02 08.4	-0.2
	comp=Z,6.8nm,1.1s,baz=88,slow=9.4,SNR=6.1						
GO04	Tololo Observa	45.84	231	P	P	17 02 18.2	-0.7
NNA	Nana	46.22	257	P	P	17 02 21.6	-0.3
TSUM	Tsumeb	49.53	112	P	P	17 02 45.5	-2.0
	comp=Z,2.9nm,1.2s,baz=236,slow=7.3,SNR=4.5						
TSUM	Tsumeb	49.53	112	IAmb	IAmb	17 02 49.3	
	comp=Z,9.6nm,1.5s						
ESDC	Sonseca Array	50.02	27	P	P	17 02 50.0	-0.8
	comp=Z,1.0nm,0.8s,baz=220,slow=8.1,SNR=11						
HOPE	Hope Point	50.30	184	P	P	17 02 53.8	+1.1
GO06	Currarrehue	51.02	220	P	P	17 02 59.3	+0.7
GO06				IAmb	IAmb	17 03 00.7	
	comp=Z,9.9nm,0.7s						
PLCA	Paso Flores	51.08	219	P	P	17 02 59.9	+0.9
	comp=Z,1.6nm,0.9s,baz=80,slow=3.6,SNR=3.8						
PLCA				LR	LR	17 24 52.7	
	comp=Z,86nm,18.3s,baz=83,slow=36						
PLCA	Paso Flores	51.08	219	P	P	17 02 59.5	+0.6
PLCA					P	17 03 00.1	+1.2
PLCA				IAmb	IAmb	17 04 29.0	
	comp=Z,31nm,1.9s						
SUR	Sutherland	55.84	127	P	P	17 03 32.6	-1.6
	comp=Z,13nm,1.0s,baz=302,slow=10,SNR=6.3						
SUR	Sutherland	55.84	127	P	P	17 03 33.2	-1.0
LBTB	Lobatse	57.97	117	P	P	17 03 46.9	-2.4
LBTB				IAmb	IAmb	17 04 59.0	
	comp=Z,30nm,1.7s						
BOSA	Boshof	58.45	121	P	P	17 03 50.3	-2.3
	comp=Z,7.0nm,0.8s,baz=296,slow=6.2,SNR=15						
BOSA	Boshof	58.45	121	P	P	17 03 50.2	-2.5
FNA	Florina	65.22	41	P	P	17 04 40.4	+2.5
FNA				IAmb	IAmb	17 04 41.7	
	comp=Z,14nm,1.4s						
I45A	Fountain	68.92	320	P	P	17 05 00.6	-0.7
WLAR	White Oak Lake	69.65	308	P	P	17 05 06.2	+0.2
SNAA	Sanae	69.81	171	P	P	17 05 06.0	-0.4
	comp=Z,1.8nm,0.6s,baz=318,slow=7.9,SNR=14						
SNAA	Sanae	69.81	171	P	P	17 05 06.2	-0.2
BRTR	Keskin Array B	73.29	47	P	P	17 05 27.9	-0.2
	comp=Z,3.1nm,1.1s,baz=238,slow=5.5,SNR=3.8						
JCT	Junction City	74.15	303	P	P	17 05 32.1	-1.1
JCT				IAmb	IAmb	17 05 34.1	
	comp=Z,27nm,2.0s						
AKASG	Malin Array Be	74.75	35	P	P	17 05 37.0	+0.8
	comp=Z,1.8nm,0.7s,baz=244,slow=6.1,SNR=5.9						
ZAIG	Zacatecas	74.87	295	P	P	17 05 39.3	+1.5
TXAR	Lajitas Array	77.15	301	P	P	17 05 50.5	0.0
	comp=Z,1.0nm,0.7s,baz=123,slow=7.2,SNR=13						
TX31	Lajitas Ar. Si	77.15	301	P	P	17 05 51.0	+0.5
TX32	Lajitas Array	77.15	301	P	P	17 05 51.0	+0.4
TX32				IAmb	IAmb	17 08 21.2	
	comp=Z,12nm,1.8s						
CLNB	Carlsbad	77.96	304	P	P	17 05 55.3	+0.3
GDL2	Guadalupe Moun	78.34	304	P	P	17 05 57.5	+0.3
MNTX	Cornudas Mount	79.09	303	P	P	17 06 00.2	-0.9
RAYN	Ar Rayn	79.10	65	P	P	17 06 03.3	+1.9
RAYN				IAmb	IAmb	17 06 07.0	
	comp=Z,8.5nm,1.2s						
Q24A	Divide	80.45	310	P	P	17 06 09.1	+0.3
Q24A				IAmb	IAmb	17 07 45.3	
	comp=Z,5.7nm,0.8s						
SDCO	Great Sand Dun	80.45	309	P	P	17 06 08.8	0.0
ANMO	Albuquerque	80.62	306	P	P	17 06 10.0	+0.4
LENM	Lemitar	80.89	305	P	P	17 06 12.0	+1.0
FFC	Flin Flon	82.55	326	P	P	17 06 18.5	-0.6
FFC				IAmb	IAmb	17 06 35.4	
	comp=Z,32nm,2.0s						
PV13	Radium Mtn., P	83.11	309	P	P	17 06 23.0	+0.3
PV13				IAmb	IAmb	17 07 33.4	
	comp=Z,3.7nm,0.7s						
PV03	Paradox Valley	83.14	309	P	P	17 06 23.0	+0.2
PV22	Blue Mesa, Par	83.15	309	P	P	17 06 22.9	0.0
PV22				IAmb	IAmb	17 07 30.6	
	comp=Z,15nm,1.8s						
PV11	David Mesa, Pa	83.17	309	P	P	17 06 23.0	0.0
PV11				IAmb	IAmb	17 06 58.1	
	comp=Z,8.1nm,1.3s						
PV18	Skein Mesa, Pa	83.19	309	P	P	17 06 22.6	-0.5
PV18				IAmb	IAmb	17 06 26.4	
	comp=Z,7.6nm,1.1s						
PV16	Nyswonger Mesa	83.21	309	P	P	17 06 23.9	+0.7
PV16				IAmb	IAmb	17 06 27.2	
	comp=Z,10nm,1.4s						
PV09	Paradox Valley	83.41	309	P	P	17 06 25.2	+0.9
RDMU	Red Mountain	84.11	311	P	P	17 06 27.8	0.0
PDAR	Pinedale Array	84.51	313	P	P	17 06 30.4	+0.7
	comp=Z,0.7nm,0.8s,baz=103,slow=4.7,SNR=4.1						
SRU	San Rafael Swe	84.59	310	P	P	17 06 30.4	+0.2
WUAZ	Wupatki	84.68	306	P	P	17 06 31.9	+1.2
WUAZ				IAmb	IAmb	17 06 32.4	
	comp=Z,5.5nm,1.1s						
U15A	North Rim	85.55	307	P	P	17 06 35.3	+0.1
U15A				IAmb	IAmb	17 08 20.1	
	comp=Z,7.6nm,1.6s						
MTPU	Mount Pierson	85.70	308	P	P	17 06 36.7	+0.6
QSPA	South Pole Qui	86.06	180	P	P	17 06 36.4	-0.5
QSPA				IAmb	IAmb	17 09 53.3	
	comp=Z,18nm,1.9s						
LRM	Limekiln Ridge	87.07	316	P	P	17 06 42.6	+0.2
R11A	Troy Canyon, C	88.40	308	P	P	17 06 49.3	+0.4
ELK	Elko	88.41	311	P	P	17 06 48.9	-0.1
NV11	Mina Array Sit	90.42	308	P	P	17 06 58.0	-0.3
KVN	Kaiserville	90.43	309	P	P	17 06 58.0	-0.4
ISA	Isabella, Lake	90.45	306	P	P	17 06 58.9	+0.5
ISA				IAmb	IAmb	17 06 59.9	
	comp=Z,4.6nm,1.0s						
NVAR	Mina Array Bea	90.53	308	P	P	17 06 58.8	-0.2
	comp=Z,1.4nm,0.8s,baz=112,slow=5.7,SNR=11						
YKA	Yellowknife Ar	90.69	333	P	P	17 06 57.3	-1.4
	comp=Z,0.3nm,0.5s,baz=96,slow=5.2,SNR=7.4						
PNTR	Pine Nut	91.59	309	P	P	17 07 04.4	+0.6
PNTR				IAmb	IAmb	17 07 05.5	
	comp=Z,5.3nm,1.0s						
VCNR	Virginia City	91.65	309	P	P	17 07 04.1	0.0
VCNR				IAmb	IAmb	17 07 06.2	
	comp=Z,6.2nm,1.1s						
MJAR	Matsushiro Arr	146.11	16	PKPbc	PKPdf	17 13 35.5	-0.6
	comp=Z,1.0nm,0.7s,baz=305,slow=4.3,SNR=6.3						
ASAR	Alice Springs	148.68	152	PKP	PKPdf	17 13 39.1	-1.7
	comp=Z,1.9nm,0.8s,baz=202,slow=1.6,SNR=14						
ASAR				PKPbc	PKPbc	17 13 42.9	-1.6
	comp=Z,1.9nm,0.8s,baz=199,slow=2.0,SNR=26						
WRA	Warramunga Arr	152.04	149	PKPbc	PKPbc	17 13 50.2	-2.4
	comp=Z,0.9nm,0.9s,baz=240,slow=2.3,SNR=5.6						

*NNC **08** 17:00:01.8±2.2, 40.°30N×77.°04E, h0km, mb3.6, mpv3.2,*
Error ellipse: s-maj=15.1km s-min=12.7km az=169.0
*KRNET **08** 17:00:03.0±0.1, 40.°36N×77.°12E, h12km, mb3.1*
*SOME **08** 17:00:03.6, 40.°52N×77.°10E, h0km*
ISC 08 17:00:00.5±2.3, **40.°33N**±0.°09×**77.°10E**±0.°03, **h8km**±12km, **n73**, σ1.s50/118, **29C-15D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.38	323	⇑iP	Pg	17 00 28.4	+1.4
	baz=21						
NRN				⇑iS	Sn	17 00 47.1	+2.1
	baz=21						
TARG	Taragay, Kyrgy	1.49	21	⇓iP	Pg	17 00 30.4	+1.3
	baz=20						
TARG				⇓iS	Sn	17 00 50.0	+2.1
	baz=20						
KDJ	Kajisay	1.80	2	⇑iP	Pg	17 00 35.4	+0.5
	baz=2.0						
KDJ				⇑iS	Sg	17 00 59.6	+1.3
	baz=2.0						
ULHL	Ulahol	2.02	342	⇑iP	Pg	17 00 39.6	+0.4
	baz=41						
ULHL				⇑iS	Sg	17 01 05.7	+0.3
	baz=41						
ULHL	Ulahol	2.02	342	P	Pg	17 00 41.5	+2.3
	SNR=5.9						
KZA	Kyzart	2.24	322	⇑eP	Pb	17 00 42.6	+1.2
	baz=21						
KZA				⇑iS	Sg	17 01 11.5	-0.8
	baz=21						
KZA	Kyzart	2.24	322	P	Pg	17 00 44.8	+1.5
	SNR=24						
BOOM	Boomskoye usch	2.33	338	⇑eP	Pb	17 00 43.7	+0.9
	baz=38						
BOOM				⇑iS	Sg	17 01 13.1	-2.1
	baz=38						
PRZ	Przheval'sk	2.36	24	⇑eP	Pb	17 00 43.7	+0.3
	baz=24						
PRZ				⇑iS	Sg	17 01 13.6	-2.7
	baz=24						
ANVS	Anan'yevo	2.49	10	⇑iP	Pb	17 00 45.8	+0.3
	baz=9.0						
ANVS				⇑iS	Sg	17 01 17.1	-3.2
	baz=9.0						
ARLS	Aral	2.60	307	⇓eP	Pb	17 00 47.1	-0.3
	baz=6.0						
ARLS				⇓iS	Sb	17 01 20.0	+0.5
	baz=6.0						
TNSS	Tian-Shan	2.71	358	eP	Pb	17 00 50.5	+1.2
	15nm,0.5s						
TNSS				eS	Sg	17 01 29.7	+2.3
	25nm,0.3s						
TNSS	Tian-Shan	2.71	358	eP	Pg	17 00 52.4	0.0
	15nm,0.5s						
TNSS				eS	Sg	17 01 27.0	-0.4
	23nm,0.4s						
TNSS	Tian-Shan	2.71	358	Pg	Pg	17 00 52.4	0.0
	15nm,0.5s						
TNSS				Lg	Lg	17 01 27.0	
	23nm,0.4s						
UCH	Uchtor	2.72	315	⇓eP	Pb	17 00 49.5	-0.1
	baz=14						
UCH				⇓iS	Sb	17 01 23.2	-0.1
	baz=14						
UCH	Uchtor	2.72	315	P	Pb	17 00 50.9	+1.2
	SNR=13						
IZV	Izvestkoviy	2.73	352	eP	Pg	17 00 52.4	-0.3
	7.9nm,0.4s						
IZV				eS	Sg	17 01 27.2	-0.9
	35nm,0.3s						
IZV	Izvestkoviy	2.73	352	Pg	Pg	17 00 52.4	-0.3
	7.9nm,0.4s						
IZV				Lg	Lg	17 01 27.2	
	35nm,0.3s						
TKM2	Tokmak 2	2.82	337	⇑eP	Pb	17 00 50.5	-0.7
	baz=36						
TKM2				⇑iS	Sb	17 01 25.0	-1.0
	baz=36						
TKM2	Tokmak 2	2.82	337	P	Sg	17 01 34.1	+2.9
	SNR=5.9						
TKM2	Tokmak 2	2.82	337	⇑Pg	Pb	17 00 52.3	+1.0
	3.9nm,0.5s						
TKM2				⇑Lg	Lg	17 01 32.4	
	8.0nm,0.5s						
MDOK	Medeo	2.83	359	eP	Pb	17 00 52.1	+0.7
	10nm,0.8s						
MDOK				eS	Sg	17 01 32.6	+1.3
	21nm,0.7s						
MDOK	Medeo	2.83	359	eP	Pg	17 00 55.0	+0.3
	5.6nm,0.3s						
MDOK				eS	Sg	17 01 31.4	0.0
	34nm,0.6s						
MDOK	Medeo	2.83	359	Pg	Pg	17 00 53.4	-1.2
	13nm,0.8s						
MDOK				Lg	Lg	17 01 34.1	
	30nm,0.6s						
MDOK	Medeo	2.83	359	Pg	Pb	17 00 52.1	+0.7
	10nm,0.8s						
MDOK				Pg	Pg	17 00 55.0	+0.3
	5.6nm,0.3s						
MDOK				Lg	Lg	17 01 31.9	
	34nm,0.6s						
MDOK				Lg	Lg	17 01 32.6	
	21nm,0.7s						
KBK	Karagaybulak	2.83	326	⇑iP	Pb	17 00 50.6	-0.8
	baz=25						
KBK				⇑iS	Sb	17 01 25.7	-0.6
	baz=25						
KBK	Karagaybulak	2.83	326	P	Pg	17 00 55.7	+1.0
	SNR=6.1						
KST	Kastek	2.84	343	eP	Pg	17 00 53.2	-1.7
	4.6nm,0.3s						
KST				eS	Sg	17 01 34.0	+2.3
	11nm,0.5s						
KST	Kastek	2.84	343	eP	Pg	17 00 55.0	+0.1
	5.6nm,0.3s						
KST				eS	Sg	17 01 31.4	-0.3
	11nm,0.1s						
KST	Kastek	2.84	343	Pg	Pg	17 00 55.0	+0.1
	5.6nm,0.3s						
KST				Lg	Lg	17 01 31.9	
	11nm,0.1s						
MTBS	Maitube	2.84	350	eP	Pg	17 00 55.3	+0.4
	4.3nm,0.2s						
MTBS				eS	Sg	17 01 32.0	+0.3
	8.7nm,0.2s						
KNDC	Almaty	2.88	358	⇑Pg	Pg	17 00 57.5	+1.8
	17nm,0.6s						
KNDC				⇑Lg	Lg	17 01 35.3	
	50nm,0.4s						
SATY	Saty	2.90	19	eP	Pb	17 00 52.9	+0.5
	7.9nm,0.7s						
SATY				eS	Sg	17 01 34.0	+0.6
	49nm,0.5s						
SATY	Saty	2.90	19	Pg	Pb	17 00 52.9	+0.5
	7.9nm,0.7s						
SATY				Lg	Lg	17 01 34.7	
	49nm,0.5s						
KOTS	Kotyrbulak	2.90	0	eP	Pg	17 00 56.4	+0.4
	19nm,0.3s						
KOTS				eS	Sg	17 01 33.6	0.0
	133nm,0.4s						
ZHN	Zhinishke	3.00	19	eP	Pg	17 00 58.1	+0.1
	3.7nm,0.3s						
ZHN				eS	Sg	17 01 36.6	-0.3
	20nm,0.3s						
ZHN	Zhinishke	3.00	19	Pg	Pg	17 00 58.1	+0.1
	3.7nm,0.3s						
ZHN				Lg	Lg	17 01 37.5	
	20nm,0.3s						
AAK	Ala-Archa	3.02	320	⇑iP	Pb	17 00 53.7	-1.0
	baz=20						
AAK				⇑iS	Sb	17 01 30.2	-1.6
	baz=20						
AAK	Ala-Archa	3.02	320	P	Pg	17 00 58.7	+0.3
	SNR=11						
AAK	Ala-Archa	3.02	320	⇓Pg	Pb	17 00 56.3	+1.7
	4.5nm,0.5s						
AAK				Lg	Lg	17 01 39.2	
	36nm,1.1s						
DGS	Degeres	3.07	342	eP	Pg	17 00 59.2	-0.1
	4.5nm,0.3s						
DGS				eS	Sg	17 01 38.8	-0.4
	20nm,0.5s						
DGS	Degeres	3.07	342	Pg	Pg	17 00 59.2	-0.1
	4.5nm,0.3s						
DGS				Lg	Lg	17 01 38.8	
	20nm,0.5s						
AML	Almayashu	3.14	306	⇑iP	Pb	17 00 55.3	-1.4
	baz=5.0						
AML				⇑iS	Sb	17 01 33.2	-2.1
	baz=5.0						
AML	Almayashu	3.14	306	P	Pb	17 00 57.8	+1.1
	SNR=7.6						
UZB	Uzynbulak	3.16	26	eP	Pb	17 00 58.0	+1.1
	4.7nm,0.4s						
UZB				eS	Sg	17 01 42.5	+0.5
	13nm,0.3s						
UZB	Uzynbulak	3.16	26	eP	Pg	17 01 00.2	-0.8
	4.9nm,0.3s						
UZB				eS	Sg	17 01 40.6	-1.3
	13nm,0.3s						
UZB	Uzynbulak	3.16	26	Pg	Pg	17 01 00.2	-0.8
	4.9nm,0.3s						
UZB				Lg	Lg	17 01 40.6	
	13nm,0.3s						
CHMS	Chumysh	3.19	327	⇑iP	Pb	17 00 55.9	-1.6
	baz=27						
CHMS				⇑iS	Sb	17 01 34.1	-2.5
	baz=27						
KURS	Kuram	3.25	14	eP	Pb	17 00 59.5	+1.1
	14nm,0.6s						
KURS				eS	Sg	17 01 44.9	0.0
	14nm,0.5s						
KURS	Kuram	3.25	14	eP	Pg	17 01 02.3	-0.5
	5.4nm,0.5s						
KURS				eS	Sg	17 01 43.8	-1.2
	14nm,0.7s						
KURS	Kuram	3.25	14	Pg	Pg	17 01 02.3	-0.5
	5.4nm,0.5s						
KURS				Lg	Lg	17 01 44.4	
	14nm,0.7s						
SHLS	Shalkode	3.33	31	eP	Pg	17 01 04.6	+0.4
	4.3nm,0.1s						
SHLS				eS	Sg	17 01 53.9	+6.5
	25nm,0.4s						
KPKS	Kokpek	3.35	20	eP	Pb	17 01 00.6	+0.4
	4.9nm,0.9s						
KPKS				eS	Sg	17 01 47.5	-0.4
	42nm,0.8s						
KPKS	Kokpek	3.35	20	eP	Pg	17 01 04.4	-0.2
	4.5nm,0.2s						
KPKS				eS	Sg	17 01 47.7	-0.2
	69nm,0.4s						
KTBS	Karatobe	3.39	355	eP	Pg	17 01 05.1	-0.4
	2.9nm,0.3s						
KTBS				eS	Sg	17 01 49.0	-0.5
	17nm,0.5s						
KTBS	Karatobe	3.39	355	Pg	Pg	17 01 05.1	-0.4
	2.9nm,0.3s						
KTBS				Lg	Lg	17 01 48.9	
	17nm,0.5s						
EKS2	Erkin-Say	3.41	314	⇓iP	Pb	17 00 58.7	-2.6
	baz=14						
EKS2				⇓iS	Sb	17 01 39.7	-3.3
	baz=14						
PDGK	Podgornoye	3.49	30	⇓Pn	Pb	17 00 59.4	-3.1
	0.8nm,0.5s						
PDGK				⇓Pg	Pg	17 01 05.6	-1.7
	2.5nm,0.4s						
PDGK				⇓Lg	Lg	17 01 55.2	
	22nm,0.6s						
USP	Ospenovka	3.52	327	⇓iP	Pb	17 01 00.4	-2.6
	baz=27						
USP				⇓iS	Sb	17 01 42.0	-3.9
	baz=27						
USP	Ospenovka	3.52	327	P	Pg	17 01 07.1	-0.8
	SNR=7.3						
CHKK	Chushkaly	3.52	359	eP	Pg	17 01 05.4	-2.5
	0.3nm,0.1s						
CHKK				eS	Sg	17 01 54.8	+1.3
	20nm,0.3s						
CHKK	Chushkaly	3.52	359	eP	Pg	17 01 08.4	+0.5
	0.6nm,0.0s						
CHKK				eS	Sg	17 01 54.8	+1.3
	21nm,0.3s						
CHKK	Chushkaly	3.52	359	Pg	Pg	17 01 08.4	+0.5
	0.6nm,0.0s						
CHKK				Lg	Lg	17 01 54.8	
	21nm,0.3s						
KUU	Kurty	3.60	351	eP	Pb	17 01 06.1	+1.6
	0.6nm,0.1s						
KUU				eS	Sg	17 01 56.1	-0.1
	9.3nm,0.3s						
KUU	Kurty	3.60	351	eP	Pg	17 01 09.1	-0.4
	0.5nm,0.1s						
KUU				eS	Sg	17 01 55.8	-0.4
	9.4nm,0.4s						
KUU	Kurty	3.60	351	Pg	Pg	17 01 09.1	-0.4
	0.5nm,0.1s						
KUU				Lg	Lg	17 01 55.8	
	9.4nm,0.4s						
SGDS	Sogindy	3.62	330	Pg	Pg	17 01 08.8	-1.1
	3.5nm,0.2s						
SGDS				Lg	Lg	17 01 55.3	
	3.5nm,0.3s						
MRKS	Merke	3.78	311	eP	Pb	17 01 10.8	+3.3
	3.1nm,0.3s						
MRKS				eS	Sg	17 02 04.2	+2.4
	2.5nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MRKS	**Merke**	**3.78**	**311**	eP	**Pg**	**17 01 11.7**	**-1.2**
	2.4nm,0.1s						
MRKS				eS	**Sg**	**17 01 59.9**	**-1.9**
	4.2nm,0.3s						
ARXS	**Arharly**	**3.92**	**8**	eP	**Pg**	**17 01 14.5**	**-1.0**
	3.8nm,0.4s						
ARXS				eS	**Sg**	**17 02 05.0**	**-1.2**
	10nm,0.3s						
ARXS	**Arharly**	**3.92**	**8**	Pg	**Pg**	**17 01 14.5**	**-1.0**
	3.8nm,0.4s						
ARXS				Lg	Lg	17 02 05.0	
	10nm,0.3s						
KAPS	**Kapalarasan**	**5.22**	**18**	Pg	**Pb**	**17 01 33.6**	**+1.6**
	1.0nm,1.0s						
KAPS				Lg	Lg	17 02 44.1	
	1.7nm,1.1s						
KK31	**Karatay Array**	**5.66**	**301**	⇓Pg	Pb	17 01 45.2	+5.8
	0.3nm,0.5s,baz=129,slow=15,SNR=5.3						
KK31				⇑Lg	Lg	17 02 59.6	
	1.0nm,0.6s,baz=128,slow=30,SNR=4.4						

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*ISCJB **08** 17:01:58.5±0.3, 19°.59S±0°.02×70°.08W±0°.04, h92km±2km, mb4.2/11, Error ellipse: s-maj=6.4km s-min=3.8km az=173.5*
*VAO **08** 17:01:58.6±1.0, 19°.53S×70°.15W, h92km, mb4.7*
*NEIC **08** 17:01:59.3±2.9, 19°.61S±0°.04×70°.17W±0°.07, h77km±4km*
*GUC **08** 17:01:59.7±1.1, 19°.60S×70°.09W, h77km±5km, ML4.7*
*IDC **08** 17:02:00.2±0.6, 19°.55S×69°.89W, h79km±5km, mb3.9/9, mb1 4.1/13, mb1mx4.0/28, mbtmp4.3/13, MS3.1/6, Ms1 3.1/6, ms1mx3.1/25, Error ellipse: s-maj=18.2km s-min=9.5km az=70.0*
ISC 08 17:01:59.2±0.5**, 19°.60S**±0°.03×**70°.10W**±0°.05**, h79**km±4km**, n122, σ1s.47**/136**, mb4.6**/24**, 3C-3D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.02**	**263**	⇓eP	**Pn**	**17 02 11.2**	**+0.5**
PSGC				eS	**Sn**	**17 02 19.3**	**+0.2**
PSGC				IAML		17 02 20.0	
	comp=E,39µm,0.5s						
PB11	**IPOC Station P**	**0.45**	**111**	eP	**Pn**	**17 02 13.5**	**+0.7**
PB11				eS	**Sn**	**17 02 23.5**	**+0.7**
PB11				IAML		17 02 24.5	
	comp=E,46µm,0.6s						
PB11	**IPOC Station P**	**0.45**	**111**		**Pn**	**17 02 13.2**	**+0.5**
PB11				Sn	**Sn**	**17 02 23.1**	**+0.3**
MNMC	**Minye Minye**	**0.67**	**46**	eP	**Pn**	**17 02 15.6**	**+0.8**
MNMC				eS	**Sn**	**17 02 27.0**	**+0.7**
MNMC				IAML		17 02 29.4	
	comp=E,63µm,0.2s						
MNMC	**Minye Minye**	**0.67**	**46**		**Pn**	**17 02 15.3**	**+0.4**
MNMC				Sn	**Sn**	**17 02 27.4**	**+1.1**
GO01	**Chusmiza**	**0.86**	**95**	eP	**Pn**	**17 02 18.3**	**+1.2**
GO01				eS	**Sn**	**17 02 31.8**	**+1.4**
GO01				IAML		17 02 32.8	
	comp=N,89µm,0.1s						
GO01	**Chusmiza**	**0.86**	**95**		**Pn**	**17 02 18.4**	**+1.2**
TA01	**Diego Aracena**	**0.97**	**184**	⇑iP	**Pn**	**17 02 18.6**	**+0.6**
TA01				eS	**Sn**	**17 02 32.4**	**+0.6**
TA01				IAML		17 02 32.9	
	comp=N,16µm,0.2s						
PB08	**IPOC Station P**	**1.05**	**121**	⇑iP	**Pn**	**17 02 20.3**	**+1.1**
PB08				eS	**Sn**	**17 02 35.4**	**+1.3**
PB08				IAML		17 02 36.1	
	comp=E,29µm,0.2s						
AP01	**Chacalluta**	**1.24**	**349**	⇑iP	**Pn**	**17 02 22.0**	**+0.8**
AP01				eS	**Sn**	**17 02 38.6**	**+0.9**
AP01				IAML		17 02 40.9	
	comp=N,31µm,0.2s						
PB16	**IPOC Station P**	**1.37**	**24**	⇓eP	**Pn**	**17 02 24.6**	**+1.1**
PB16				eS	**Sn**	**17 02 43.5**	**+1.9**
PB02	**IPOC Station P**	**1.73**	**174**	eP	**Pn**	**17 02 28.5**	**+0.9**
PB02				eS	**Sn**	**17 02 50.5**	**+1.3**
PB03	**IPOC Station P**	**2.46**	**172**	eP	**Pn**	**17 02 38.3**	**+0.8**
PB03				eS	**Sn**	**17 03 06.3**	**-0.5**
PB04	**IPOC Station P**	**2.73**	**181**		**Pn**	**17 02 41.1**	**0.0**
LVC	**Limon Verde**	**3.20**	**160**	P	**Pn**	**17 02 49.1**	**+1.5**
	comp=N,21nm,0.3s,baz=6.1,slow=6.9,SNR=54						
LVC				S	**Sn**	**17 03 25.0**	**+0.1**
	comp=N,60nm,0.3s,baz=304,slow=13,SNR=9.0						
LVC	**Limon Verde**	**3.20**	**160**	eP	**Pn**	**17 02 47.7**	**0.0**
LVC				eS	**Sn**	**17 03 25.8**	**+0.9**
LVC	**Limon Verde**	**3.20**	**160**	eP	**Pn**	**17 02 47.7**	**0.0**
LVC				eS	**Sn**	**17 03 25.8**	**+0.9**
LVC	**Limon Verde**	**3.20**	**160**		**Pn**	**17 02 49.2**	**+1.5**
LVC					**Sn**	**17 03 24.1**	**-0.8**
LPAZ	**La Paz**	**3.79**	**30**	P	**Pn**	**17 02 58.9**	**+3.0**
	comp=N,2.6nm,0.3s,baz=262,slow=2.8,SNR=65						
LPAZ				LR	LR	17 04 02.0	
	comp=N,94nm,20.6s,baz=236,slow=33						
LPAZ	**La Paz**	**3.79**	**30**	eP	**Pn**	**17 02 55.1**	**-0.8**
LPAZ	**La Paz**	**3.79**	**30**	eP	**Pn**	**17 02 55.1**	**-0.8**
LPAZ	**La Paz**	**3.79**	**30**		**Pn**	**17 02 59.0**	**+3.1**
PB10	**IPOC Station P**	**3.92**	**186**		**Pn**	**17 02 56.4**	**-0.8**
GO02	**Mina Guanaco**	**5.56**	**175**		**Pn**	**17 03 18.8**	**-0.9**
GO03	**Copiap**	**7.96**	**181**		**Pn**	**17 03 50.2**	**-2.1**
SIV	**San Ignacio**	**9.32**	**69**	P	**Pn**	**17 04 09.1**	**-1.8**
	baz=257,slow=13						
SIV				LR	LR	17 08 31.1	
	comp=N,307nm,18.8s,baz=282,slow=43						
NNA	**Nana**	**9.96**	**318**	P	**Pn**	**17 04 22.6**	**+2.9**
	comp=N,2.1nm,0.3s,baz=158,slow=11,SNR=3.8						
NNA				S	**Sn**	**17 06 04.4**	**-5.4**
	comp=N,3.5nm,0.3s,baz=229,slow=20,SNR=3.7						
NNA				LR	LR	17 08 14.1	
	comp=N,63nm,18.6s,baz=161,slow=37						
NNA	**Nana**	**9.96**	**318**		**Pn**	**17 04 19.6**	**0.0**
NNA					**Sn**	**17 06 09.3**	**-0.5**
GO04	**Tololo Observa**	**10.55**	**183**		**Pn**	**17 04 23.8**	**-4.0**
CFA	**Coronel Fontan**	**12.08**	**172**	P	**Pn**	**17 04 45.1**	**-3.3**
	comp=N,0.9nm,0.3s,baz=352,slow=11,SNR=10						
CFA				S	Sn	17 06 51.5	-10
	comp=N,0.7nm,0.3s,baz=238,slow=21,SNR=9.2						
CFA				LR	LR	17 10 30.6	
	comp=N,58nm,19.9s,baz=254,slow=42						
SAML	**Samuel**	**12.53**	**33**	eP	**Pn**	**17 04 51.8**	**-2.8**
SAML	**Samuel**	**12.53**	**33**	eP	**Pn**	**17 04 51.8**	**-2.8**
SAML	**Samuel**	**12.53**	**33**		**Pn**	**17 04 54.6**	**+0.1**
ROC1	**El Roble**	**13.35**	**183**		**Pn**	**17 05 05.7**	**0.0**
PEL	**Peldehue**	**13.50**	**182**		**Pn**	**17 05 04.6**	**-2.9**
CPUP	**Villa Florida**	**13.54**	**122**	P	**Pn**	**17 05 06.6**	**-1.3**
	comp=N,0.2nm,0.3s,baz=299,slow=12,SNR=6.3						
CPUP	**Villa Florida**	**13.54**	**122**		**Pn**	**17 05 05.9**	**-2.0**
AQDB	**Aquidauana**	**13.57**	**96**	eP	**Pn**	**17 05 09.3**	**+0.9**
AQDB	**Aquidauana**	**13.57**	**96**	eP	**Pn**	**17 05 09.3**	**+0.9**
GO05	**Huala**	**15.44**	**186**	Pn	**Pn**	**17 05 32.3**	**-0.2**
CLDB	**Colider**	**16.29**	**60**	eP	**Pn**	**17 05 42.0**	**-1.4**
CLDB	**Colider**	**16.29**	**60**	eP	**Pn**	**17 05 42.0**	**-1.4**
TRCB	**Terra Rica**	**16.60**	**104**	eP	**Pn**	**17 05 46.1**	**-1.0**
TRCB	**Terra Rica**	**16.60**	**104**	eP	**Pn**	**17 05 46.1**	**-1.0**
ARAG	**Araguaiana, MT**	**17.85**	**80**	eP	**P**	**17 05 59.9**	**-2.3**
ARAG	**Araguaiana, MT**	**17.85**	**80**	eP	**P**	**17 05 59.9**	**-2.3**
PLTB	**Pedras Altas**	**19.15**	**132**	eP	**P**	**17 06 14.6**	**-1.7**
PLTB	**Pedras Altas**	**19.15**	**132**	eP	**P**	**17 06 14.6**	**-1.7**
FRTB	**Fartura**	**19.47**	**105**	eP	**P**	**17 06 19.6**	**-0.4**
FRTB	**Fartura**	**19.47**	**105**	eP	**P**	**17 06 19.6**	**-0.4**
TRQA	**Tornquist**	**19.71**	**161**	eP	**P**	**17 06 22.9**	**+0.6**
TRQA	**Tornquist**	**19.71**	**161**	eP	**P**	**17 06 22.9**	**+0.6**
TRQA	**Tornquist**	**19.71**	**161**	P	**P**	**17 06 23.2**	**+0.9**
GO06	**Curarrehue**	**19.96**	**183**		**Pn**	**17 06 26.5**	**-0.9**
GO06				IAmb	IAmb	17 06 27.6	
	comp=Z,44nm,0.7s						
BB19B	**Bebedouro**	**20.29**	**98**	eP	**P**	**17 06 27.6**	**-1.1**
BB19B	**Bebedouro**	**20.29**	**98**	eP	**P**	**17 06 27.6**	**-1.1**
IPMB	**Ipameri, GO**	**20.79**	**89**	eP	**P**	**17 06 33.4**	**-0.8**
IPMB	**Ipameri, GO**	**20.79**	**89**	eP	**P**	**17 06 33.4**	**-0.8**
PLCA	**Paso Flores**	**21.07**	**181**	P	**P**	**17 06 38.5**	**+1.4**
	comp=Z,12nm,0.6s,baz=24,slow=10,SNR=30						
PLCA	**Paso Flores**	**21.07**	**181**	P	**P**	**17 06 38.6**	**+1.5**
RCLB	**Rio Claro- Sao**	**21.26**	**102**	eP	**P**	**17 06 38.6**	**-0.6**
RCLB	**Rio Claro- Sao**	**21.26**	**102**	eP	**P**	**17 06 38.6**	**-0.6**
BDFB	**Brasilia**	**21.41**	**83**	P	**P**	**17 06 40.5**	**-0.4**
	comp=Z,16nm,0.7s,baz=258,slow=11,SNR=7.8						
BDFB				LR	LR	17 15 53.6	
	comp=Z,105nm,19.1s,baz=175,slow=39						
BDFB	**Brasilia**	**21.41**	**83**	P	**P**	**17 06 40.0**	**-0.9**
BDFB				IAmb	IAmb	17 06 46.5	
	comp=Z,19nm,0.9s						
MDP	**Montagnes des**	**29.96**	**37**	LR	LR	17 19 24.4	
	comp=Z,75nm,18.3s,baz=166,slow=35						
RCBR	**Riachuelo**	**35.96**	**72**	P	**P**	**17 08 52.5**	**-0.2**
PDPR	**Patillas Dam,**	**37.59**	**6**	P	**P**	**17 09 04.9**	**-1.3**
PDPR				IAmb	IAmb	17 09 05.4	
	comp=Z,18nm,0.9s						
BANI	**BANI**	**37.75**	**360**	P	**P**	**17 09 07.5**	**-0.2**
CBYP	**Canovanas**	**37.86**	**7**	P	**P**	**17 09 07.6**	**-1.0**
GCPR	**Guaynabo City**	**37.87**	**6**	P	**P**	**17 09 07.6**	**-1.1**
CBCY	**The Bluff, Cay**	**40.22**	**346**	P	**P**	**17 09 27.0**	**-1.2**
060A	**Indiantown**	**47.41**	**348**	P	**P**	**17 10 23.9**	**-1.9**
ZAIG	**Zacatecas**	**52.70**	**321**	P	**P**	**17 11 04.2**	**-2.1**
Z50A	**Ashland**	**54.68**	**344**	P	**P**	**17 11 19.1**	**-1.1**
Z50A				IAmb	IAmb	17 11 31.0	
	comp=Z,9.7nm,1.5s						
BIRD	**Birdtown, Kers**	**54.83**	**350**	P	**P**	**17 11 21.9**	**+0.7**
BIRD				IAmb	IAmb	17 11 32.0	
	comp=Z,25nm,1.4s						
V53A	**Saluda**	**56.27**	**348**	P	**P**	**17 11 32.0**	**+0.5**
V53A				IAmb	IAmb	17 11 40.3	
	comp=Z,10nm,1.2s						
SWET	**Sewanee**	**56.54**	**344**	P	**P**	**17 11 33.0**	**-0.5**
SWET				IAmb	IAmb	17 11 35.4	
	comp=Z,8.2nm,1.3s						
T60A	**Surry**	**56.77**	**354**	P	**P**	**17 11 32.8**	**-2.3**
V48A	**Smith Brothers**	**57.27**	**344**	P	**P**	**17 11 38.6**	**0.0**
V48A				IAmb	IAmb	17 11 39.5	
	comp=Z,14nm,1.5s						
WVT	**Waverly**	**57.91**	**343**	P	**P**	**17 11 41.2**	**-1.9**
WVT				IAmb	IAmb	17 11 42.8	
	comp=Z,3.4nm,0.7s						
T49A	**Edmonton**	**58.24**	**346**	P	**P**	**17 11 44.5**	**-0.9**
R55A	**Marlinton**	**58.33**	**351**	P	**P**	**17 11 46.9**	**+0.8**
R55A				IAmb	IAmb	17 11 56.5	
	comp=Z,16nm,1.4s						
TXAR	**Lajitas Array**	**58.43**	**325**	P	**P**	**17 11 47.5**	**+0.5**
	comp=Z,1.2nm,1.0s,baz=146,slow=7.1,SNR=6.0						
TXAR				pP	**pP**	**17 12 09.3**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=148,slow=9.8,SNR=3.6						
SSPA	**Standing Stone**	**60.36**	**353**	P	**P**	**17 12 00.3**	**+0.4**
N58A	**Sunbury**	**60.44**	**354**	P	**P**	**17 11 59.7**	**-0.8**
N58A				IAmb	IAmb	17 12 10.4	
	comp=Z,11nm,1.1s						
M56A	**Emporium**	**61.23**	**353**	P	**P**	**17 12 06.2**	**+0.4**
M56A				IAmb	IAmb	17 12 17.7	
	comp=Z,19nm,1.4s						
M54A	**Oil Creek Stat**	**61.43**	**352**	P	**P**	**17 12 07.8**	**+0.5**
SNAA	**Sanae**	**64.44**	**161**	P	**P**	**17 12 28.3**	**+1.4**
SNAA				IAmb	IAmb	17 12 29.0	
	comp=Z,4.5nm,0.7s						
SDCO	**Great Sand Dun**	**66.05**	**330**	P	**P**	**17 12 35.3**	**-2.7**
LIC	**Lamto**	**68.95**	**75**	eP	**P**	**17 12 59.0**	**+2.5**
	comp=Z,4.5nm,0.5s						
TIC	**Toumodi**	**69.13**	**75**	eP	**P**	**17 12 58.1**	**+0.5**
KIC	**Kosan Boka**	**69.27**	**75**	eP	**P**	**17 12 57.1**	**-1.4**
	comp=Z,14nm,0.9s						
DBIC	**Dimbokro**	**69.29**	**75**	P	**P**	**17 12 58.7**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=244,slow=6.8,SNR=9.3						
DBIC	**Dimbokro**	**69.29**	**75**	P	**P**	**17 12 58.0**	**-0.6**
DBIC				IAmb	IAmb	17 13 05.1	
	comp=Z,6.8nm,0.7s						
CCUT	**Cedar City**	**69.92**	**325**	P	**P**	**17 13 04.5**	**+2.3**
QSPA	**South Pole Qui**	**70.59**	**180**	P	**P**	**17 13 07.5**	**+1.7**
QSPA				IAmb	IAmb	17 13 08.1	
	comp=Z,5.4nm,0.8s						
PSUT	**Pine Spring**	**70.90**	**325**	P	**P**	**17 13 10.2**	**+2.1**
TPNV	**Topopah Spring**	**71.11**	**322**	P	**P**	**17 13 11.5**	**+2.1**
R11A	**Troy Canyon, C**	**71.71**	**324**	P	**P**	**17 13 15.2**	**+2.1**
NVAR	**Mina Array Bea**	**73.31**	**322**	P	**P**	**17 13 24.2**	**+1.7**
	comp=Z,1.7nm,0.8s,baz=155,slow=7.2,SNR=11						
YNE	**Yellowstone No**	**73.85**	**332**	P	**P**	**17 13 27.4**	**+1.7**
BMO	**Blue Mountains**	**77.22**	**328**	P	**P**	**17 13 46.4**	**+1.7**
TOA0	**Torodi Ar. Sit**	**77.79**	**71**	P	**P**	**17 13 47.0**	**-1.4**
TOA0				IAmb	IAmb	17 13 56.6	
	comp=Z,9.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**77.79**	**71**	P	**P**	**17 13 47.4**	**-1.0**
	comp=Z,3.7nm,0.7s,baz=252,slow=5.3,SNR=20						
VNDA	**Vanda**	**78.52**	**190**	P	**P**	**17 13 54.2**	**+2.8**
	comp=Z,1.4nm,0.8s,baz=114,slow=4.9,SNR=8.2						
SYO	**Syowa Base**	**78.67**	**160**	⇓eP	**P**	**17 13 52.4**	**+0.1**
ESDC	**Sonseca Array**	**85.28**	**45**	P	**P**	**17 14 28.7**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=263,slow=3.8,SNR=3.7						
YKA	**Yellowknife Ar**	**89.03**	**341**	P	**P**	**17 14 45.4**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=136,slow=4.8,SNR=52						
YKA				pP	**pP**	**17 15 06.1**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=134,slow=4.7,SNR=14						
RES	**Resolute Bay**	**95.39**	**354**	LR	LR	17 59 49.9	
	comp=Z,355nm,21.6s,baz=322,slow=36						
H11S2	**WAKE ISLAND Hy**	**126.50**	**279**	T	T	19 40 13.0	
	baz=101,slow=75,SNR=194						
H11S1	**WAKE ISLAND Hy**	**126.51**	**279**	T	T	19 40 11.8	
	baz=101,slow=75,SNR=278						
H11S3	**WAKE ISLAND Hy**	**126.52**	**279**	T	T	19 40 14.7	
	baz=101,slow=75,SNR=192						
H11N3	**WAKE ISLAND Hy**	**126.54**	**280**	T	T	19 40 14.6	
	baz=100,slow=74,SNR=135						
H11N2	**WAKE ISLAND Hy**	**126.55**	**280**	T	T	19 40 15.6	
	baz=100,slow=74,SNR=207						
H11N1	**WAKE ISLAND Hy**	**126.56**	**280**	T	T	19 40 15.7	
	baz=100,slow=74,SNR=132						
ASAR	**Alice Springs**	**131.04**	**210**	PKP	**PKPdf**	**17 21 02.5**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=130,slow=1.7,SNR=9.4						
ASAR				pPKP	**pPKPdf**	**17 21 25.6**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=139,slow=2.0,SNR=1.9						
WRA	**Warramunga Arr**	**133.98**	**213**	PKP	**PKPdf**	**17 21 08.6**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=158,slow=1.7,SNR=1.4						
WRA				pPKP	**pPKPdf**	**17 21 32.3**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=152,slow=1.0,SNR=0.8						
ZALV	**Zalesovo Beam**	**140.68**	**23**	PKP	**PKPdf**	**17 21 20.4**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=316,slow=4.0,SNR=5.6						
ZALV				pPKP	**pPKPdf**	**17 21 42.1**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=302,slow=2.2,SNR=3.3						
MKAR	**Makanchi Array**	**144.71**	**33**	PKP	PKPbc	17 21 26.4	+0.5
	comp=Z,0.9nm,0.7s,baz=325,slow=3.3,SNR=7.9						
MKAR				pPKP	pPKPdf	17 21 50.1	+0.4
	comp=Z,1.0nm,0.8s,baz=332,slow=2.1,SNR=3.0						
KLR	**Kul'dur**	**145.63**	**334**	PKPbc	**PKPab**	**17 21 29.5**	**+0.5**
	comp=Z,3.5nm,0.8s,baz=42,slow=4.4,SNR=12						
KLR				pPKPbc	pPKPbc	17 21 51.4	+0.5
	comp=Z,1.0nm,0.5s,baz=45,slow=2.9,SNR=2.2						
USRK	**Ussuriysk Ar.**	**149.31**	**328**	PKPbc	**PKiKP**	**17 21 39.7**	**-0.4**
	comp=Z,5.4nm,0.9s,baz=272,slow=0.8,SNR=7.2						
MJAR	**Matsushiro Arr**	**150.00**	**310**	PKPbc	**PKiKP**	**17 21 41.7**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=90,slow=0.4,SNR=8.0						

KRNET 08 17:03:08.4±0.1**, 42°.28N**×**75°.90E, h1**km**, mb1.5, 8C, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOOM	**Boomskoye usch**	**0.21**	**8**	⇑iP	Pg	17 03 12.4	-0.1
	baz=8.0						
BOOM				⇑iS	Sg	17 03 15.9	+0.5
	baz=8.0						
ULHL	**Ulahol**	**0.26**	**97**	⇑iP	Pg	17 03 13.7	+0.4
	baz=97						
ULHL				⇑iS	Sg	17 03 17.0	+0.4
	baz=97						
KZA	**Kyzart**	**0.52**	**248**	⇑iP	Pg	17 03 18.7	+0.3
	baz=48						
KZA				⇑iS	Sg	17 03 26.4	+1.2
	baz=48						
TKM2	**Tokmak 2**	**0.68**	**341**	⇑iP	Pg	17 03 21.9	+0.5
	baz=41						
TKM2				⇑iS	Sg	17 03 31.4	+1.1
	baz=41						

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*BJI **08** 17:03:47.6±0.0, 40°.38N×77°.18E, h7km, ML3.4/5*
*KRNET **08** 17:03:49.4±0.1, 40°.40N×77°.13E, h16km, mb3.9*
*SOME **08** 17:03:49.3, 40°.55N×77°.07E, h0km*
*NNC **08** 17:03:51.8±2.6, 40°.52N×77°.12E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=21.2km s-min=14.8km az=174.0*
ISC 08 17:03:48.6±1.4**, 40°.43N**±0°.04×**77°.03E**±0°.03**, h1**km±11km**, n54, σ1s.35**/90**, 35C-19D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.22**	**222**	⇓iP	**Pg**	**17 04 13.4**	**+1.3**
	baz=27						
KSH				⇓iS	**Sn**	**17 04 31.1**	**+0.9**
	baz=27						
NRN	**Naryn**	**1.27**	**322**	⇑iP	**Pg**	**17 04 14.3**	**+1.4**
	baz=19						
NRN				⇑iS	**Sn**	**17 04 33.3**	**+1.7**
	baz=19						
TARG	**Taragay, Kyrgy**	**1.42**	**24**	⇑iP	**Pg**	**17 04 16.0**	**+0.1**
	baz=21						
TARG				⇑iS	**Sg**	**17 04 35.9**	**+1.6**
	baz=21						
KDJ	**Kajisay**	**1.70**	**4**	⇑eP	**Pg**	**17 04 21.3**	**+0.1**
	baz=2.0						
KDJ				⇑iS	**Sg**	**17 04 44.7**	**+1.5**
	baz=2.0						
ULHL	**Ulahol**	**1.90**	**342**	⇓iP	**Pg**	**17 04 25.5**	**+0.4**
	baz=40						
ULHL				⇓iS	**Sg**	**17 04 52.4**	**+2.6**
	baz=40						
ULHL	**Ulahol**	**1.90**	**342**	P	**Pg**	**17 04 26.1**	**+0.9**
	SNR=25						
KZA	**Kyzart**	**2.12**	**321**	⇓iP	**Pg**	**17 04 29.2**	**-0.1**
	baz=20						
KZA				⇓iS	**Sg**	**17 04 58.5**	**+1.7**
	baz=20						
KZA	**Kyzart**	**2.12**	**321**	P	**Pg**	**17 04 30.5**	**+1.2**
	SNR=133						
BOOM	**Boomskoye usch**	**2.21**	**339**	⇑iP	**Pb**	**17 04 30.1**	**+0.6**
	baz=37						
BOOM				⇑iS	**Sg**	**17 04 59.5**	**-0.2**
	baz=37						
PRZ	**Przheval'sk**	**2.29**	**26**	⇑eP	**Pb**	**17 04 30.4**	**-0.5**
	baz=24						
PRZ				⇑eS	**Sb**	**17 05 00.4**	**+0.6**
	baz=24						
ANVS	**Anan'yevo**	**2.40**	**11**	⇑eP	**Pb**	**17 04 32.6**	**-0.1**
	baz=9.0						
ANVS				⇑iS	**Sb**	**17 05 02.8**	**0.0**
	baz=9.0						
ARLS	**Aral**	**2.49**	**306**	⇓iP	**Pb**	**17 04 34.6**	**+0.3**
	baz=6.0						
ARLS				⇓iS	**Sb**	**17 05 06.9**	**+1.4**
	baz=6.0						
TNSS	**Tian-Shan**	**2.60**	**359**	eP	**Pg**	**17 04 38.6**	**+0.1**
	58nm,0.5s						
TNSS				eS	**Sg**	**17 05 13.3**	**+1.1**
	97nm,0.4s						
UCH	**Uchtor**	**2.61**	**314**	⇓eP	**Pb**	**17 04 36.5**	**+0.1**
	baz=14						
UCH				⇓iS	**Sb**	**17 05 10.1**	**+1.0**
	baz=14						
UCH	**Uchtor**	**2.61**	**314**	P	**Pg**	**17 04 37.6**	**-1.0**
	SNR=19						
TKM2	**Tokmak 2**	**2.71**	**337**	⇑iP	**Pb**	**17 04 37.3**	**-0.7**
	baz=36						
TKM2				⇑iS	**Sb**	**17 05 11.6**	**-0.1**
	baz=36						
TKM2	**Tokmak 2**	**2.71**	**337**	P	**Pb**	**17 04 37.9**	**0.0**
	SNR=48						
TKM2	**Tokmak 2**	**2.71**	**337**	⇓Pn	**Pb**	**17 04 38.0**	**0.0**
	31nm,0.7s						
TKM2				⇓Lg	Lg	17 05 18.3	
	44nm,0.5s						
KBK	**Karagaybulak**	**2.71**	**326**	⇑iP	**Pb**	**17 04 37.5**	**-0.6**
	baz=25						
KBK				⇑iS	**Sb**	**17 05 11.9**	**0.0**
	baz=25						
KBK	**Karagaybulak**	**2.71**	**326**	P	**Pg**	**17 04 41.1**	**+0.4**
	SNR=86						
KST	**Kastek**	**2.73**	**343**	eP	**Pg**	**17 04 40.6**	**-0.3**
	34nm,0.4s						
KST				eS	**Sg**	**17 05 16.9**	**+0.7**
	46nm,0.5s						
MDOK	**Medeo**	**2.73**	**0**	eP	**Pg**	**17 04 40.3**	**-0.6**
	37nm,0.5s						
MDOK				eS	**Sg**	**17 05 16.2**	**0.0**
	114nm,0.7s						
MDOK	**Medeo**	**2.73**	**0**	Pg	**Pb**	**17 04 37.7**	**-0.6**
	111nm,0.9s						
MDOK				Lg	Lg	17 05 16.0	
	124nm,0.8s						
MTBS	**Maitube**	**2.73**	**351**	eP	**Pg**	**17 04 40.9**	**-0.1**
	14nm,0.3s						
MTBS				eS	**Sg**	**17 05 17.2**	**+0.8**
	35nm,0.2s						
AAA	**Alma-Ata**	**2.77**	**358**	eP	**Pg**	**17 04 42.0**	**+0.2**
	16nm,0.1s						
AAA				eS	**Sg**	**17 05 19.1**	**+1.4**
	108nm,0.4s						
KNDC	**Almaty**	**2.78**	**359**	⇑Pg	**Pg**	**17 04 41.1**	**-0.8**
	132nm,0.9s						
KNDC				⇑Lg	Lg	17 05 20.6	
	370nm,1.0s						
SATY	**Saty**	**2.82**	**21**	eP	**Pg**	**17 04 41.2**	**-1.5**
	49nm,0.3s						
SATY				eS	**Sg**	**17 05 17.9**	**-1.3**
	170nm,0.9s						
AAK	**Ala-Archa**	**2.91**	**320**	⇑eP	**Pb**	**17 04 40.6**	**-0.8**
	baz=19						
AAK				⇑iS	**Sb**	**17 05 17.1**	**-0.4**
	baz=19						
AAK	**Ala-Archa**	**2.91**	**320**	P	**Pb**	**17 04 42.5**	**+1.1**
	SNR=10						
AAK	**Ala-Archa**	**2.91**	**320**	Pg	**Pb**	**17 04 41.1**	**-0.3**
	51nm,0.8s						
AAK				Lg	Lg	17 05 24.9	
	204nm,1.1s						
ZHN	**Zhinishke**	**2.93**	**21**	eP	**Pg**	**17 04 43.7**	**-1.1**
	22nm,0.3s						
ZHN				eS	**Sg**	**17 05 21.9**	**-0.8**
	30nm,0.4s						
FRU1	**Bishkek**	**2.98**	**324**	⇑eP	**Pb**	**17 04 40.9**	**-1.6**
	baz=23						
FRU1				⇑iS	**Sb**	**17 05 18.8**	**-0.6**
	baz=23						
AML	**Almayashu**	**3.03**	**305**	⇓eP	**Pb**	**17 04 42.4**	**-1.2**
	baz=5.0						
AML				⇓iS	**Sb**	**17 05 20.6**	**-0.6**
	baz=5.0						
AML	**Almayashu**	**3.03**	**305**	P	**Pb**	**17 04 43.2**	**-0.4**
	SNR=29						
CHMS	**Chumysh**	**3.08**	**327**	⇓iP	**Pb**	**17 04 42.6**	**-1.6**
	baz=26						
CHMS				⇓iS	**Sb**	**17 05 21.2**	**-1.0**
	baz=26						
CHMS	**Chumysh**	**3.08**	**327**	P	**Pb**	**17 04 43.8**	**-0.4**
	SNR=7.2						
UZB	**Uzynbulak**	**3.09**	**28**	eP	**Pb**	**17 04 45.6**	**+1.1**
	21nm,0.8s						
UZB				eS	**Sg**	**17 05 25.1**	**-2.9**
	41nm,0.5s						
KURS	**Kuram**	**3.17**	**15**	eP	**Pg**	**17 04 48.1**	**-1.3**
	29nm,0.6s						
KURS				eS	**Sg**	**17 05 29.7**	**-0.7**
	55nm,0.6s						
ARSB	**Arslanbob**	**3.19**	**287**	⇑iP	**Pb**	**17 04 44.4**	**-1.8**
	baz=88						
ARSB				⇑iS	**Sb**	**17 05 24.2**	**-1.5**
	baz=88						
KPKS	**Kokpek**	**3.27**	**22**	eP	**Pg**	**17 04 49.3**	**-2.0**
	24nm,0.7s						
KPKS				eS	**Sg**	**17 05 31.9**	**-1.9**
	310nm,0.8s						
SHLS	**Shalkode**	**3.27**	**33**	eP	**Pg**	**17 04 52.5**	**+1.2**
	18nm,0.3s						
SHLS				eS	**Sg**	**17 05 36.9**	**+3.1**
	92nm,0.8s						
EKS2	**Erkin-Say**	**3.30**	**313**	⇑iP	**Pb**	**17 04 45.4**	**-2.7**
	baz=13						
EKS2				⇑eS	**Sb**	**17 05 26.2**	**-2.6**
	baz=13						
EKS2	**Erkin-Say**	**3.30**	**313**	P	**Pb**	**17 04 47.2**	**-0.8**
	SNR=21						
USP	**Ospenovka**	**3.40**	**327**	⇑iP	**Pb**	**17 04 47.1**	**-2.6**
	baz=26						
USP				⇑iS	**Sb**	**17 05 28.6**	**-3.0**
	baz=26						
USP	**Ospenovka**	**3.40**	**327**	P	**Pb**	**17 04 48.0**	**-1.7**
	SNR=8.3						
CHKK	**Chushkaly**	**3.42**	**360**	eP	**Pg**	**17 04 52.2**	**-1.9**
	14nm,0.5s						
CHKK				eS	**Sg**	**17 05 36.5**	**-1.9**
	63nm,0.3s						
PDGK	**Podgornoye**	**3.43**	**32**	⇓Pn	**Pn**	**17 04 45.7**	**+2.5**
	3.1nm,0.7s						
PDGK				⇑Pg	**Pg**	**17 04 52.1**	**-2.2**
	41nm,1.0s						
PDGK				⇑Lg	Lg	17 05 38.2	
	151nm,1.1s						
KUU	**Kurty**	**3.49**	**352**	eP	**Pg**	**17 04 54.4**	**-1.2**
	6.0nm,0.4s						
KUU				eS	**Sg**	**17 05 40.6**	**-0.3**
	57nm,0.6s						
MRKS	**Merke**	**3.67**	**310**	eP	**Pg**	**17 04 57.8**	**-1.1**
	13nm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MRKS				eS	**Sg**	**17 05 46.3**	**-0.2**
	27nm,0.3s						
KK31	**Karatay Array**	**5.55**	**301**	⇑Pn	Pn	17 05 18.5	+6.1
	1.1nm,0.8s,baz=134,slow=12,SNR=5.5						
KK31				⇑Pg	**Pg**	**17 05 33.3**	**-1.8**
	2.1nm,0.5s,baz=119,slow=16,SNR=17						
KK31				⇑Lg	Lg	17 06 45.6	
	11nm,0.7s,baz=116,slow=28,SNR=6.2						
MAKZ	**Makanchi**	**7.31**	**28**	⇓Pn	**Pn**	**17 05 38.2**	**+1.7**
	3.0nm,1.3s						
MAKZ				⇑Lg	Lg	17 07 39.4	
	9.4nm,1.4s						
MK31	**Makanchi Array**	**7.41**	**29**	⇓Pn	**Pn**	**17 05 39.0**	**+1.0**
	0.4nm,0.4s,baz=205,slow=12,SNR=14						
MK31				⇑Lg	Lg	17 07 42.4	
	6.6nm,0.9s						
CEP	**Cherat**	**7.76**	**213**	P	**Pn**	**17 05 43.2**	**+0.4**
CEP				S	**Sn**	**17 07 09.0**	**-2.4**
WMQ	**Urumqi**	**8.62**	**63**	eP	**Pn**	**17 05 54.1**	**-0.4**
WMQ				smax	smax		
	comp=N,16nm,1.3s						
WMQ				smax	smax		
	comp=E,18nm,0.9s						

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*KRNET **08** 17:04:17.1±0.1, 40.43°N×77.13°E, h17km, mb3.7*
*SOME **08** 17:04:27.8, 40.80°N×77.18°E, h5km*
ISC 08 17:04:18.0±1.6**, 40.38°N**±0.05×**77.20°E**±0.04**, h4**km±11km**,**
n37, σ1.63/73**, 30C-2D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.28**	**228**	⇑iP	**Pn**	**17 04 41.9**	**-1.0**
	baz=26						
KSH				⇑iS	**Sb**	**17 04 59.3**	**-0.4**
	baz=26						
NRN	**Naryn**	**1.39**	**319**	⇑iP	**Pn**	**17 04 42.1**	**-2.4**
	baz=19						
NRN				⇑iS	**Sb**	**17 05 00.2**	**-2.8**
	baz=19						
TARG	**Taragay, Kyrgy**	**1.42**	**19**	⇑eP	**Pn**	**17 04 43.6**	**-1.4**
	baz=21						
TARG				⇑iS	**Sb**	**17 05 02.9**	**-1.1**
	baz=21						
KDJ	**Kajisay**	**1.75**	**359**	⇑iP	**Pn**	**17 04 48.6**	**-0.7**
	baz=2.0						
KDJ				⇑iS	**Sn**	**17 05 11.7**	**-0.4**
	baz=2.0						
ULHL	**Ulahol**	**2.00**	**339**	⇑iP	**Pn**	**17 04 53.2**	**+0.4**
	baz=40						
ULHL				⇑iS	**Sb**	**17 05 19.2**	**-1.2**
	baz=40						
KZA	**Kyzart**	**2.24**	**320**	⇑iP	**Pn**	**17 04 56.6**	**+0.2**
	baz=20						
KZA				⇑iS	**Sn**	**17 05 25.7**	**+1.0**
	baz=20						
BOOM	**Boomskoye usch**	**2.31**	**336**	⇑iP	**Pn**	**17 04 57.1**	**+0.1**
	baz=37						
BOOM				⇑iS	**Sn**	**17 05 26.8**	**+0.8**
	baz=37						
ANVS	**Anan'yevo**	**2.42**	**8**	⇑eP	**Pn**	**17 04 59.8**	**+1.2**
	baz=10.0						
ANVS				⇑iS	**Sn**	**17 05 30.0**	**+1.2**
	baz=10.0						
TNSS	**Tian-Shan**	**2.66**	**356**	eP	**Pg**	**17 05 10.9**	**+2.0**
	109nm,0.6s						
TNSS				eS	**Sg**	**17 05 42.0**	**-1.4**
	84nm,0.5s						
IZV	**Izvestkoviy**	**2.69**	**351**	eP	**Pg**	**17 05 11.4**	**+2.0**
	51nm,0.5s						
IZV				eS	**Sg**	**17 05 42.9**	**-1.4**
	136nm,0.5s						
UCH	**Uchtor**	**2.74**	**313**	⇑iP	**Pn**	**17 05 03.4**	**+0.2**
	baz=13						
UCH				⇑iS	**Sn**	**17 05 37.2**	**+0.2**
	baz=13						
MDOK	**Medeo**	**2.78**	**358**	eP	**Pg**	**17 05 12.6**	**+1.3**
	46nm,0.7s						
MDOK				eS	**Sb**	**17 05 44.8**	**+1.9**
	182nm,0.6s						
MTBS	**Maitube**	**2.80**	**348**	eP	**Pg**	**17 05 13.2**	**+1.5**
	26nm,0.4s						
MTBS				eS	**Sg**	**17 05 45.8**	**-2.2**
	35nm,0.4s						
TKM2	**Tokmak 2**	**2.81**	**335**	⇑iP	**Pn**	**17 05 04.4**	**+0.5**
	baz=36						
TKM2				⇑iS	**Sn**	**17 05 38.9**	**+0.6**
	baz=36						
KST	**Kastek**	**2.81**	**341**	eP	**Pg**	**17 05 13.8**	**+1.9**
	69nm,0.6s						
KST				eS	**Sg**	**17 05 46.8**	**-1.6**
	55nm,0.7s						
SATY	**Saty**	**2.82**	**18**	eP	**Pg**	**17 05 13.8**	**+1.8**
	55nm,0.4s						
SATY				eS	**Sg**	**17 05 46.9**	**-1.8**
	205nm,0.5s						
AAA	**Alma-Ata**	**2.83**	**356**	eP	**Pg**	**17 05 14.9**	**+2.6**
	24nm,0.3s						
AAA				eS	**Sg**	**17 05 49.0**	**+0.1**
	96nm,0.3s						
KBK	**Karagaybulak**	**2.83**	**324**	⇑iP	**Pn**	**17 05 04.6**	**+0.4**
	baz=24						
KBK				⇑iS	**Sn**	**17 05 39.2**	**+0.3**
	baz=24						
KOTS	**Kotyrbulak**	**2.85**	**359**	eP	**Pg**	**17 05 14.4**	**+1.8**
	140nm,0.5s						
KOTS				eS	**Sg**	**17 05 48.2**	**-1.3**
	180nm,0.6s						
ZHN	**Zhinishke**	**2.93**	**18**	eP	**Pg**	**17 05 15.8**	**+1.7**
	9.8nm,0.3s						
ZHN				eS	**Sg**	**17 05 50.2**	**-1.9**
	42nm,0.3s						
AAK	**Ala-Archa**	**3.03**	**319**	⇑iP	**Pn**	**17 05 07.4**	**+0.4**
	baz=19						
AAK				⇑iS	**Sn**	**17 05 44.0**	**+0.1**
	baz=19						
DGS	**Degeres**	**3.05**	**340**	eP	**Pg**	**17 05 18.6**	**+2.1**
	23nm,0.4s						
DGS				eS	**Sg**	**17 05 54.9**	**-1.0**
	67nm,0.4s						
UZB	**Uzynbulak**	**3.08**	**26**	eP	**Pg**	**17 05 18.6**	**+1.6**
	17nm,0.4s						
UZB				eS	**Sg**	**17 05 55.5**	**-1.4**
	47nm,0.8s						
AML	**Almayashu**	**3.17**	**305**	⇑iP	**Pn**	**17 05 09.4**	**+0.3**
	baz=4.0						
AML				⇑iS	**Sn**	**17 05 47.6**	**+0.1**
	baz=4.0						
KURS	**Kuram**	**3.19**	**13**	eP	**Pg**	**17 05 19.8**	**+0.8**
	40nm,0.7s						
KURS				eS	**Sg**	**17 05 57.5**	**-2.8**
	36nm,0.7s						
CHMS	**Chumysh**	**3.19**	**326**	⇑iP	**Pn**	**17 05 09.2**	**+0.1**
	baz=26						
CHMS				⇑iS	**Sn**	**17 05 47.8**	**+0.2**
	baz=26						
SHLS	**Shalkode**	**3.25**	**31**	eP	Pg	17 05 25.4	+5.2
	16nm,0.7s						
SHLS				eS	**Sg**	**17 06 07.2**	**+5.0**
	81nm,0.5s						
KPKS	**Kokpek**	**3.27**	**19**	eP	**Pg**	**17 05 22.4**	**+1.6**
	29nm,0.5s						
KPKS				eS	**Sg**	**17 06 01.6**	**-1.5**
	142nm,0.6s						
KTBS	**Karatobe**	**3.35**	**354**	eP	**Pg**	**17 05 23.1**	**+0.9**
	19nm,0.5s						
KTBS				eS	**Sg**	**17 06 03.0**	**-2.6**
	37nm,0.8s						
EKS2	**Erkin-Say**	**3.43**	**313**	⇓iP	**Pn**	**17 05 12.7**	**+0.3**
	baz=13						
EKS2				⇓iS	**Sn**	**17 05 53.7**	**0.0**
	baz=13						
CHKK	**Chushkaly**	**3.47**	**357**	eP	**Pg**	**17 05 26.1**	**+1.6**
	16nm,0.6s						
CHKK				eS	**Sg**	**17 06 08.3**	**-1.2**
	73nm,0.3s						
USP	**Ospenovka**	**3.52**	**326**	⇑iP	**Pn**	**17 05 13.9**	**+0.4**
	baz=26						
USP				⇑iS	**Sn**	**17 05 55.5**	**-0.1**
	baz=26						
KUU	**Kurty**	**3.56**	**350**	eP	**Pg**	**17 05 26.1**	**-0.1**
	5.9nm,0.3s						
KUU				eS	**Sb**	**17 06 07.9**	**+2.6**
	56nm,0.7s						
MRKS	**Merke**	**3.80**	**310**	eP	**Pg**	**17 05 32.8**	**+2.0**
	16nm,0.5s						
MRKS				eS	**Sg**	**17 06 19.3**	**-0.8**
	13nm,0.6s						
ARXS	**Arharly**	**3.85**	**7**	eP	**Pg**	**17 05 32.6**	**+0.8**
	12nm,0.3s						
ARXS				eS	**Sg**	**17 06 19.3**	**-2.5**
	33nm,0.4s						
DJR	**Jarkent**	**4.39**	**25**	eP	**Pg**	**17 05 41.8**	**-0.2**
	2.8nm,0.3s						
DJR				eS	**Sg**	**17 06 35.1**	**-3.8**
	26nm,0.5s						
TDK	**Taldyqorghan**	**4.70**	**10**	eP	**Pg**	**17 05 48.2**	**+0.2**
	63nm,0.4s						
TDK				eS	**Sg**	**17 06 45.7**	**-3.3**
	115nm,0.6s						

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*KRNET **08** 17:05:21.6±0.1, 40.37°N×77.15°E, h17km, mb3.7*
*NNC **08** 17:05:26.3±1.6, 40.52°N×77.16°E, h0km, mb4.3, mpv3.9,*
Error ellipse: s-maj=10.3km s-min=9.1km az=167.0
ISC 08 17:05:21.5±1.4**, 40.38°N**±0.04×**77.16°E**±0.04**, h14**km±15km**,**
n33, σ1.10/46**, 23C-9D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.25**	**227**	⇑iP	**Pg**	**17 05 45.4**	**-0.2**
	baz=28						
KSH				⇑iS	**Sg**	**17 06 03.1**	**+1.2**
	baz=28						
NRN	**Naryn**	**1.37**	**321**	⇑iP	**Pb**	**17 05 47.5**	**+0.4**
	baz=20						
NRN				⇑iS	**Sg**	**17 06 06.2**	**+0.5**
	baz=20						
TARG	**Taragay, Kyrgy**	**1.44**	**20**	⇑iP	**Pg**	**17 05 49.0**	**-0.1**
	baz=20						
TARG				⇑iS	**Sg**	**17 06 08.7**	**+0.9**
	baz=20						
KDJ	**Kajisay**	**1.75**	**1**	⇑iP	**Pb**	**17 05 54.2**	**+0.7**
	baz=1.0						
KDJ				⇑iS	**Sg**	**17 06 17.7**	**-0.1**
	baz=1.0						
ULHL	**Ulahol**	**1.99**	**340**	⇓iP	**Pb**	**17 05 58.5**	**+0.9**
	baz=40						
ULHL				⇓iS	**Sg**	**17 06 25.1**	**-0.3**
	baz=40						
KZA	**Kyzart**	**2.23**	**320**	⇑iP	**Pb**	**17 06 02.1**	**+0.4**
	baz=21						
KZA				⇑iS	**Sg**	**17 06 31.4**	**-1.6**
	baz=21						
BOOM	**Boomskoye usch**	**2.30**	**337**	⇑iP	**Pb**	**17 06 02.5**	**-0.3**
	baz=37						
BOOM				⇑iS	**Sb**	**17 06 33.0**	**+1.8**
	baz=37						
PRZ	**Przheval'sk**	**2.30**	**24**	⇑iP	**Pb**	**17 06 03.0**	**+0.1**
	baz=24						
PRZ				⇑iS	**Sb**	**17 06 32.8**	**+1.5**
	baz=24						
ANVS	**Anan'yevo**	**2.43**	**9**	⇑eP	**Pb**	**17 06 04.8**	**-0.3**
	baz=9.0						
ANVS				⇑iS	**Sb**	**17 06 35.9**	**+0.8**
	baz=9.0						
ARLS	**Aral**	**2.60**	**306**	⇓iP	**Pb**	**17 06 07.2**	**-0.8**
	baz=6.0						
ARLS				⇓iS	**Sb**	**17 06 39.8**	**-0.1**
	baz=6.0						
TNSS	**Tian-Shan**	**2.66**	**357**	Pg	**Pg**	**17 06 13.0**	**+0.5**
	106nm,0.7s						
TNSS				Lg	Lg	17 06 46.1	
	52nm,0.3s						
IZV	**Izvestkoviy**	**2.69**	**351**	Pg	**Pg**	**17 06 14.2**	**+1.2**
	46nm,0.6s						
IZV				Lg	Lg	17 06 48.3	
	126nm,0.5s						
UCH	**Uchtor**	**2.72**	**314**	⇑iP	**Pb**	**17 06 09.0**	**-1.1**
	baz=14						
UCH				⇑iS	**Sb**	**17 06 43.1**	**-0.4**
	baz=14						
MDOK	**Medeo**	**2.78**	**358**	⇑Pg	**Pb**	**17 06 13.0**	**+1.9**
	37nm,0.6s						
MDOK				⇓Lg	Lg	17 06 51.5	
	87nm,0.5s						
MDOK	**Medeo**	**2.78**	**358**	Pg	**Pg**	**17 06 15.7**	**+0.9**
	41nm,0.7s						
MDOK				Lg	Lg	17 06 51.4	
	70nm,0.6s						
TKM2	**Tokmak 2**	**2.80**	**336**	⇓iP	**Pb**	**17 06 09.9**	**-1.4**
	baz=36						
TKM2				⇓iS	**Sb**	**17 06 44.8**	**-0.7**
	baz=36						
TKM2	**Tokmak 2**	**2.80**	**336**	⇓Pg	**Pg**	**17 06 13.8**	**-1.3**
	8.5nm,0.5s						
TKM2				⇑Lg	Lg	17 06 51.0	
	33nm,0.5s						
MTBS	**Maitube**	**2.80**	**349**	Pg	**Pg**	**17 06 15.9**	**+0.7**
	12nm,0.2s						
MTBS				Lg	Lg	17 06 51.7	
	30nm,0.3s						
KST	**Kastek**	**2.81**	**342**	Pg	**Pg**	**17 06 16.2**	**+1.0**
	27nm,0.5s						
KST				Lg	Lg	17 06 51.8	
	37nm,0.7s						
KBK	**Karagaybulak**	**2.82**	**325**	⇑iP	**Pb**	**17 06 10.2**	**-1.4**
	baz=25						
KBK				⇑iS	**Sb**	**17 06 45.2**	**-0.9**
	baz=25						
AAA	**Alma-Ata**	**2.83**	**356**	Pg	**Pg**	**17 06 17.6**	**+1.8**
	23nm,0.2s						
AAA				Lg	Lg	17 06 54.2	
	89nm,0.6s						
SATY	**Saty**	**2.84**	**19**	Pg	**Pg**	**17 06 15.0**	**-0.8**
	34nm,0.3s						
SATY				Lg	Lg	17 06 50.3	
	154nm,0.6s						
KOTS	**Kotyrbulak**	**2.85**	**359**	Pg	**Pg**	**17 06 15.1**	**-1.1**
	70nm,0.4s						
KOTS				Lg	Lg	17 06 49.9	
	87nm,0.3s						
AAK	**Ala-Archa**	**3.02**	**319**	⇓Pg	**Pb**	**17 06 16.9**	**+1.9**
	14nm,0.4s						
AAK				⇑Lg	Lg	17 06 57.4	
	80nm,1.0s						
DGS	**Degeres**	**3.04**	**341**	Pg	**Pg**	**17 06 20.9**	**+1.1**
	16nm,0.6s						
DGS				Lg	Lg	17 06 59.8	
	63nm,0.5s						
UZB	**Uzynbulak**	**3.10**	**26**	Pg	**Pg**	**17 06 19.6**	**-1.2**
	29nm,0.6s						
UZB				Lg	Lg	17 06 58.2	
	30nm,0.9s						
KURS	**Kuram**	**3.20**	**13**	Pg	**Pg**	**17 06 22.7**	**0.0**
	44nm,0.7s						
KURS				Lg	Lg	17 07 03.2	
	37nm,0.6s						
KTBS	**Karatobe**	**3.35**	**354**	Pg	**Pg**	**17 06 26.1**	**+0.5**
	17nm,0.5s						
KTBS				Lg	Lg	17 07 09.0	
	24nm,0.9s						
CHKK	**Chushkaly**	**3.48**	**358**	Pg	**Pg**	**17 06 28.5**	**+0.5**
	22nm,0.4s						
CHKK				Lg	Lg	17 07 12.9	
	61nm,0.3s						
KUU	**Kurty**	**3.56**	**350**	Pg	**Pg**	**17 06 29.1**	**-0.6**
	14nm,0.4s						
KUU				Lg	Lg	17 07 14.2	
	15nm,0.5s						
ARXS	**Arharly**	**3.86**	**7**	Pg	**Pg**	**17 06 34.4**	**-1.1**
	14nm,0.5s						
ARXS				Lg	Lg	17 07 23.0	
	32nm,0.5s						
DJR	**Jarkent**	**4.41**	**25**	Pg	**Pg**	**17 06 44.2**	**-1.7**
	11nm,0.5s						
DJR				Lg	Lg	17 07 39.8	
	17nm,0.6s						
KAPS	**Kapalarasan**	**5.16**	**18**	Pg	**Pg**	**17 06 58.2**	**-2.1**
	7.1nm,0.5s						
KAPS				Lg	Lg	17 08 03.9	
	12nm,0.6s						

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*IDC **08** 17:09:44.1±1.0, 39.91°N×77.48°E, h0km, mb3.6/11, mb1 3.8/16, mb1mx3.6/46, mbtmp3.7/16, ML3.5/5, Error ellipse: s-maj=20.0km s-min=14.9km az=121.0*
*KRNET **08** 17:09:48.6±0.1, 40.39°N×77.19°E, h5km, mb4.1*
*BJI **08** 17:09:48.0±0.0, 40.36°N×77.22°E, h5km, mb3.6/2, ML3.8/9*
*SOME **08** 17:09:50.5, 40.57°N×77.10°E, h0km*
*NNC **08** 17:09:51.7±0.9, 40.48°N×77.09°E, h0km, mb4.7, mpv4.3,*
Error ellipse: s-maj=6.1km s-min=4.9km az=164.0
ISC 08 17:09:46.9±1.2**, 40.37°N**±0.03×**77.19°E**±0.03**, h4**km±8km**,**
n112, σ1.68/147**, mb3.9**/11**, 36C-14D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.26**	**228**	Pg	Pg	17 10 20.6	+9.5
KSH				Sg	Sg	17 10 45.1	+18
KSH				smax	smax		
	comp=N,4μm,0.4s						
KSH				smax	smax		
	comp=E,4μm,0.5s						
KSH	**Kashi**	**1.26**	**228**	⇑iP	**Pg**	**17 10 13.8**	**+2.7**
	baz=29						
KSH				⇑iS	**Sg**	**17 10 30.9**	**+3.4**
	baz=29						
NRN	**Naryn**	**1.39**	**320**	⇓iP	**Pg**	**17 10 14.7**	**+1.1**
	baz=18						
NRN				⇓iS	**Sb**	**17 10 32.5**	**+0.6**
	baz=18						
KDJ	**Kajisay**	**1.76**	**360**	⇑eP	**Pg**	**17 10 21.9**	**+1.3**
	baz=0.0						
KDJ				⇑iS	**Sg**	**17 10 45.1**	**+1.7**
	baz=0.0						
ULHL	**Ulahol**	**2.00**	**339**	⇑iP	**Pg**	**17 10 25.9**	**+0.6**
	baz=39						
ULHL				⇑iS	**Sg**	**17 10 52.0**	**+0.7**
	baz=39						
ULHL	**Ulahol**	**2.00**	**339**	P	**Pg**	**17 10 26.3**	**+1.0**
	SNR=23						
KZA	**Kyzart**	**2.25**	**320**	⇑iP	**Pb**	**17 10 29.4**	**+1.1**
	baz=20						
KZA				⇑iS	**Sb**	**17 10 58.3**	**+1.7**
	baz=20						
KZA	**Kyzart**	**2.25**	**320**	P	**Pg**	**17 10 31.1**	**+1.1**
	SNR=387						
PRZ	**Przheval'sk**	**2.30**	**23**	⇑eP	**Pg**	**17 10 31.0**	**0.0**
	baz=23						
PRZ				⇑iS	**Sg**	**17 11 00.9**	**+0.1**
	baz=23						
BOOM	**Boomskoye usch**	**2.32**	**337**	⇓iP	**Pg**	**17 10 30.8**	**-0.5**
	baz=36						
BOOM				⇓iS	**Sb**	**17 10 59.4**	**+1.0**
	baz=36						
ANVS	**Anan'yevo**	**2.44**	**8**	⇑iP	**Pg**	**17 10 32.6**	**-1.0**
	baz=8.0						
ANVS				⇑iS	**Sb**	**17 11 03.3**	**+1.4**
	baz=8.0						
ARLS	**Aral**	**2.63**	**305**	⇑eP	**Pb**	**17 10 34.4**	**-0.2**
	baz=5.0						
ARLS				⇑iS	**Sb**	**17 11 06.2**	**-1.1**
	baz=5.0						
TNSS	**Tian-Shan**	**2.67**	**356**	eP	**Pg**	**17 10 39.0**	**+0.9**
	524nm,0.5s						
TNSS				eS	**Sg**	**17 11 13.2**	**+0.5**
	365nm,0.5s						
TNSS	**Tian-Shan**	**2.67**	**356**	Pg	**Pg**	**17 10 39.0**	**+0.9**
	524nm,0.5s						
TNSS				Lg	Lg	17 11 14.4	
	365nm,0.5s						
IZV	**Izvestkoviy**	**2.70**	**351**	eP	**Pg**	**17 10 38.8**	**+0.2**
	129nm,0.4s						
IZV				eS	**Sg**	**17 11 13.0**	**-0.6**
	588nm,0.4s						
IZV	**Izvestkoviy**	**2.70**	**351**	Pg	**Pg**	**17 10 38.8**	**+0.2**
	129nm,0.4s						
IZV				Lg	Lg	17 11 13.8	
	588nm,0.4s						
UCH	**Uchtor**	**2.74**	**314**	P	**Pb**	**17 10 37.3**	**+0.6**
	SNR=45						
MDOK	**Medeo**	**2.79**	**358**	eP	**Pg**	**17 10 41.2**	**+0.8**
	95nm,0.6s						
MDOK				eS	**Sg**	**17 11 17.4**	**+0.8**
	614nm,0.6s						
MDOK	**Medeo**	**2.79**	**358**	⇓Pn	**Pb**	**17 10 38.1**	**+0.6**
	222nm,0.8s						
MDOK				⇑Lg	Lg	17 11 17.8	
	269nm,0.6s						
MDOK	**Medeo**	**2.79**	**358**	Pg	**Pg**	**17 10 41.2**	**+0.8**
	95nm,0.6s						
MDOK				Lg	Lg	17 11 17.4	
	614nm,0.6s						
TKM2	**Tokmak 2**	**2.81**	**335**	⇑iP	**Pb**	**17 10 37.3**	**-0.5**
	baz=35						
TKM2				⇑iS	**Sb**	**17 11 11.6**	**-1.1**
	baz=35						
TKM2	**Tokmak 2**	**2.81**	**335**	P	**Pb**	**17 10 38.5**	**+0.7**
	SNR=77						
TKM2	**Tokmak 2**	**2.81**	**335**	⇓Pg	**Pb**	**17 10 38.5**	**+0.7**
	58nm,0.6s						
TKM2				⇓Lg	Lg	17 11 19.3	
	78nm,0.5s						
MTBS	**Maitube**	**2.82**	**349**	eP	**Pg**	**17 10 41.2**	**+0.4**
	59nm,0.3s						
MTBS				eS	**Sg**	**17 11 17.5**	**+0.2**
	140nm,0.3s						
MTBS	**Maitube**	**2.82**	**349**	Pg	**Pg**	**17 10 41.2**	**+0.4**
	59nm,0.3s						
MTBS				Lg	Lg	17 11 17.5	
	140nm,0.3s						
KST	**Kastek**	**2.82**	**341**	eP	**Pg**	**17 10 41.2**	**+0.2**
	68nm,0.4s						
KST				eS	**Sg**	**17 11 17.2**	**-0.4**
	195nm,0.6s						
KST	**Kastek**	**2.82**	**341**	Pg	**Pg**	**17 10 41.2**	**+0.2**
	68nm,0.4s						
KST				Lg	Lg	17 11 17.3	
	195nm,0.6s						
KBK	**Karagaybulak**	**2.84**	**324**	⇑eP	**Pb**	**17 10 37.3**	**-0.9**
	baz=24						
KBK				⇑iS	**Sb**	**17 11 12.0**	**-1.3**
	baz=24						
KBK	**Karagaybulak**	**2.84**	**324**	P	**Pb**	**17 10 39.7**	**+1.5**
	SNR=13						
SATY	**Saty**	**2.84**	**18**	eP	**Pg**	**17 10 42.4**	**+1.2**
	108nm,0.3s						
SATY				eS	**Sg**	**17 11 19.5**	**+1.5**
	732nm,0.4s						
SATY	**Saty**	**2.84**	**18**	Pg	**Pg**	**17 10 42.4**	**+1.2**
	108nm,0.3s						
SATY				Lg	Lg	17 11 19.5	
	732nm,0.4s						
AAA	**Alma-Ata**	**2.84**	**356**	eP	**Pg**	**17 10 42.0**	**+0.6**
	122nm,0.4s						
AAA				eS	**Sg**	**17 11 18.4**	**+0.1**
	416nm,0.3s						
AAA	**Alma-Ata**	**2.84**	**356**	Pg	**Pg**	**17 10 42.0**	**+0.6**
	122nm,0.4s						
AAA				Lg	Lg	17 11 18.4	
	416nm,0.3s						
KNDC	**Almaty**	**2.85**	**357**	⇑Pg	**Pg**	**17 10 41.3**	**-0.2**
	324nm,0.9s						
KNDC				⇓Lg	Lg	17 11 21.1	
	479nm,0.5s						
KOTS	**Kotyrbulak**	**2.86**	**359**	eP	**Pg**	**17 10 42.9**	**+1.2**
	283nm,0.4s						
KOTS				eS	**Sg**	**17 11 20.1**	**+1.3**
	2μm,0.4s						
KOTS	**Kotyrbulak**	**2.86**	**359**	Pg	**Pg**	**17 10 42.9**	**+1.2**
	283nm,0.4s						
KOTS				Lg	Lg	17 11 20.1	
	2μm,0.4s						
ZHN	**Zhinishke**	**2.95**	**18**	eP	**Pg**	**17 10 44.3**	**+0.9**
	74nm,0.3s						
ZHN				eS	**Sg**	**17 11 22.8**	**+1.3**
	143nm,0.3s						
ZHN	**Zhinishke**	**2.95**	**18**	Pg	**Pg**	**17 10 44.3**	**+0.9**
	74nm,0.3s						
ZHN				Lg	Lg	17 11 22.8	
	143nm,0.3s						
AAK	**Ala-Archa**	**3.04**	**319**	Pn	**Pb**	**17 10 42.1**	**+0.5**
	30nm,0.3s,baz=131,slow=7.3,SNR=74						
AAK				Sn	**Sg**	**17 11 25.4**	**+1.0**
	19nm,0.3s,baz=276,slow=19,SNR=14						
AAK	**Ala-Archa**	**3.04**	**319**	⇑eP	**Pb**	**17 10 40.3**	**-1.3**
	baz=19						
AAK				⇑iS	**Sn**	**17 11 15.7**	**+2.9**
	baz=19						
AAK	**Ala-Archa**	**3.04**	**319**	P	**Pb**	**17 10 43.0**	**+1.4**
	SNR=18						
AAK	**Ala-Archa**	**3.04**	**319**	⇑Pg	**Pb**	**17 10 43.0**	**+1.4**
	78nm,0.5s						
AAK				⇑Lg	Lg	17 11 23.7	
	218nm,0.8s						
DGS	**Degeres**	**3.06**	**340**	eP	**Pg**	**17 10 45.6**	**+0.2**
	55nm,0.4s						
DGS				eS	**Sg**	**17 11 24.7**	**-0.4**
	270nm,0.5s						
DGS	**Degeres**	**3.06**	**340**	Pg	**Pg**	**17 10 45.6**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	55nm,0.4s						
DGS				Lg	Lg	17 11 24.7	
	270nm,0.5s						
UZB	Uzynbulak	3.10	26	eP	Pg	17 10 46.4	+0.2
	68nm,0.4s						
UZB				eS	Sg	17 11 26.5	+0.2
	169nm,0.4s						
UZB	Uzynbulak	3.10	26	Pg	Pg	17 10 46.4	+0.2
	68nm,0.4s						
UZB				Lg	Lg	17 11 26.5	
	169nm,0.4s						
FRU1	Bishkek	3.10	323	⇑eP	Pb	17 10 41.1	-1.6
	baz=22						
FRU1				⇑iS	Sb	17 11 17.9	-3.0
	baz=22						
AML	Almayashu	3.17	305	⇓iP	Pb	17 10 42.1	-1.9
	baz=5.0						
AML				⇓iS	Sn	17 11 19.3	+3.0
	baz=5.0						
AML	Almayashu	3.17	305	P	Pb	17 10 43.6	-0.4
	SNR=90						
CHMS	Chumysh	3.20	326	⇑eP	Pb	17 10 42.5	-1.8
	baz=26						
CHMS				⇑iS	Sn	17 11 19.5	+3.0
	baz=26						
CHMS	Chumysh	3.20	326	P	Pb	17 10 43.9	-0.3
	SNR=16						
KURS	Kuram	3.20	13	eP	Pg	17 10 48.5	+0.3
	80nm,0.7s						
KURS				eS	Sg	17 11 30.0	+0.3
	171nm,0.5s						
KURS	Kuram	3.20	13	Pg	Pg	17 10 48.5	+0.3
	80nm,0.7s						
KURS				Lg	Lg	17 11 30.0	
	171nm,0.5s						
SHLS	Shalkode	3.26	31	eP	Pg	17 10 53.0	+3.6
	85nm,0.4s						
SHLS				eS	Sg	17 11 37.6	+6.0
	380nm,0.7s						
SHLS	Shalkode	3.26	31	Pg	Pg	17 10 53.0	+3.6
	85nm,0.4s						
SHLS				Lg	Lg	17 11 37.7	
	380nm,0.7s						
KPKS	Kokpek	3.29	19	eP	Pg	17 10 49.8	-0.1
	84nm,0.4s						
KPKS				eS	Sg	17 11 31.9	-0.6
	949nm,0.8s						
ARSB	Arslanbob	3.33	288	⇑iP	Pb	17 10 44.3	-2.3
	baz=88						
ARSB				⇑iS	Sn	17 11 23.3	+3.4
	baz=88						
KTBS	Karatobe	3.36	354	eP	Pg	17 10 50.4	-0.9
	68nm,0.6s						
KTBS				eS	Sg	17 11 32.9	-1.9
	253nm,0.3s						
KTBS	Karatobe	3.36	354	Pg	Pg	17 10 50.4	-0.9
	68nm,0.6s						
KTBS				Lg	Lg	17 11 32.9	
	253nm,0.3s						
PDGK	Podgornoye	3.42	29	⇓Pn	Pb	17 10 45.9	-2.3
	46nm,0.5s						
PDGK				⇑Lg	Lg	17 11 37.2	
	240nm,0.8s						
EKS2	Erkin-Say	3.44	313	P	Pb	17 10 47.8	-0.6
	SNR=43						
CHKK	Chushkaly	3.48	358	eP	Pg	17 10 52.8	-0.9
	36nm,0.3s						
CHKK				eS	Sg	17 11 36.9	-1.9
	297nm,0.2s						
CHKK	Chushkaly	3.48	358	Pg	Pg	17 10 52.8	-0.9
	36nm,0.3s						
CHKK				Lg	Lg	17 11 36.9	
	297nm,0.2s						
USP	Ospenovka	3.52	326	P	Pb	17 10 48.3	-1.5
	SNR=16						
KUU	Kurty	3.58	350	eP	Pg	17 10 54.9	-0.5
	25nm,0.4s						
KUU				eS	Sg	17 11 41.0	-0.8
	141nm,0.5s						
KUU	Kurty	3.58	350	Pg	Pg	17 10 54.9	-0.5
	25nm,0.4s						
KUU				Lg	Lg	17 11 41.0	
	141nm,0.5s						
SGDS	Sogindy	3.62	329	Pg	Pg	17 10 54.8	-1.5
	118nm,0.5s						
SGDS				Lg	Lg	17 11 40.8	
	55nm,0.5s						
MRKS	Merke	3.80	310	eP	Pg	17 10 58.7	-1.1
	52nm,0.6s						
MRKS				eS	Sg	17 11 47.4	-1.7
	51nm,0.5s						
MRKS	Merke	3.80	310	Pg	Pg	17 10 58.7	-1.1
	52nm,0.6s						
MRKS				Lg	Lg	17 11 47.4	
	51nm,0.5s						
ARXS	Arharly	3.87	7	eP	Pg	17 11 00.7	-0.3
	45nm,0.6s						
ARXS				eS	Sg	17 11 50.6	-0.6
	148nm,0.5s						
ARXS	Arharly	3.87	7	Pg	Pg	17 11 00.7	-0.3
	45nm,0.6s						
ARXS				Lg	Lg	17 11 50.6	
	148nm,0.5s						
KTMS	Ketmen	3.88	36	eP	Pg	17 11 01.2	+0.1
	23nm,0.4s						
KTMS				eS	Sg	17 11 51.4	+0.1
	113nm,0.6s						
DJR	Jarkent	4.40	25	eP	Pg	17 11 09.9	-1.4
	4.1nm,0.4s						
DJR				eS	Sg	17 12 06.4	-1.9
	93nm,0.4s						
DJR	Jarkent	4.40	25	Pg	Pg	17 11 09.9	-1.4
	4.1nm,0.4s						
DJR				Lg	Lg	17 12 06.4	
	93nm,0.4s						
TDK	Taldyqorghan	4.72	11	eP	Pg	17 11 15.8	-1.5
	85nm,0.3s						
TDK				eS	Sg	17 12 16.8	-1.5
	285nm,0.4s						
TDK	Taldyqorghan	4.72	11	Pg	Pg	17 11 15.7	-1.5
	85nm,0.3s						
TDK				Lg	Lg	17 12 16.7	
	285nm,0.4s						
KAPS	Kapalarasan	5.17	17	eP	Pg	17 11 25.7	-0.1
	25nm,0.7s						
KAPS				eS	Sg	17 12 33.5	+0.7
	38nm,0.6s						
KAPS	Kapalarasan	5.17	17	Pg	Pg	17 11 25.7	-0.1
	25nm,0.7s						
KAPS				Lg	Lg	17 12 33.5	
	38nm,0.6s						
KK31	Karatay Array	5.69	301	⇑Pn	Pn	17 11 16.6	+4.3
	1.0nm,0.4s,baz=129,slow=14,SNR=14						
KK31				⇑Pg	Pg	17 11 34.0	-1.9
	10nm,0.7s,baz=132,slow=17,SNR=11						
KK31				⇓Lg	Lg	17 12 47.0	
	22nm,0.7s,baz=119,slow=27,SNR=4.8						
MAKZ	Makanchi	7.31	27	⇓Pg	Pg	17 12 07.9	+1.0
	5.6nm,0.9s						
MAKZ				⇑Lg	Lg	17 13 41.1	
	26nm,1.3s						
MK31	Makanchi Array	7.41	28	⇑Pn	Pn	17 11 39.5	+3.7
	2.0nm,0.4s,baz=206,slow=13,SNR=39						
MK31				⇑Lg	Lg	17 13 43.2	
	5.1nm,0.6s,baz=211,slow=28,SNR=3.8						
MKAR	Makanchi Array	7.41	28	Pn	Pn	17 11 39.6	+3.8
	1.2nm,0.3s,baz=201,slow=16,SNR=33						
MKAR				Sn	Sn	17 13 04.2	+3.9
	0.6nm,0.3s,baz=201,slow=23,SNR=5.2						
MKAR				Lg	Lg	17 13 39.7	
	1.1nm,0.3s,baz=216,slow=32,SNR=5.8						
WMQ	Urumqi	8.54	63	eP	Pn	17 11 55.2	+3.9
WMQ				smax	smax		
	comp=N,15nm,1.3s						
WMQ				smax	smax		
	comp=E,16nm,1.3s						
KURBB	Kurchatov Arra	10.30	5	Pn	Pn	17 12 18.5	+3.2
	0.1nm,0.3s,baz=193,slow=12,SNR=4.0						
KURBB				Lg	Lg	17 15 12.2	
	0.2nm,0.3s,baz=190,slow=31,SNR=6.8						
KURBB	Kurchatov Arra	10.30	5	⇓Lg	Lg	17 15 18.1	
	12nm,0.7s						
DANN	Dangsing	13.15	154	eP	Pn	17 12 51.9	-2.8
BVAR	Borovoye Array	13.48	342	Pn	Pn	17 13 01.7	+2.9
	0.3nm,0.3s,baz=143,slow=14,SNR=5.9						
BVAR				Lg	Lg	17 16 55.5	
	0.2nm,0.3s,baz=158,slow=25,SNR=5.6						
KOLN	Koldanda	13.64	155	eP	Pn	17 12 58.6	-2.7
	5.9nm,0.4s						
GKN	Gorkha	13.78	151	eP	Pn	17 13 00.4	-2.8
	10nm,0.3s						
KKN	Kakani	14.22	149	eP	Pn	17 13 06.2	-3.0
	7.5nm,0.5s						
DMN	Daman	14.31	150	eP	Pn	17 13 08.2	-2.3
GUN	Gumba	14.35	147	eP	Pn	17 13 08.6	-2.5
	7.9nm,0.5s						
PKIN	Phulchoki	14.45	149	eP	Pn	17 13 09.3	-3.2
PKI	Pulchoki	14.46	149	eP	Pn	17 13 09.6	-3.1
ZALV	Zalesovo Beam	14.53	18	Pn	P	17 13 16.5	-3.4
	0.3nm,0.3s,baz=204,slow=14,SNR=7.0						
JIRN	Jiri	14.70	147	eP	Pn	17 13 13.4	-2.5
	14nm,0.4s						
RAMN	Ramite	15.49	147	eP	Pn	17 13 22.9	-3.5
	11nm,0.6s						
ODAN	Odare	15.91	145	eP	Pn	17 13 29.3	-2.6
	7.5nm,0.7s						
GTA	Gaotai	17.39	86	eP	P	17 13 51.1	-0.7
GTA				pP	sP	17 13 55.4	+1.0
GTA				sP	sP	17 13 58.1	+3.7
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
ARU	Arti	20.17	329	P	Pn	17 14 26.7	+2.8
	0.5nm,0.4s,baz=151,slow=13,SNR=4.1						
SONM	Songino Array	22.17	61	P	P	17 14 43.9	0.0
	0.8nm,0.9s,baz=263,slow=11,SNR=2.9						
BRTR	Keskin Array B	33.09	283	P	P	17 16 25.5	+1.6
	0.8nm,0.6s,baz=79,slow=7.8,SNR=3.2						
FINES	FINESS Array B	37.22	322	P	P	17 17 01.1	+2.1
	1.5nm,0.6s,baz=101,slow=9.9,SNR=7.2						
ARCES	ARCESS Array B	39.59	334	P	P	17 17 20.3	+1.4
	2.6nm,0.9s,baz=98,slow=6.2,SNR=7.1						
NB2	NORSAR Subarra	44.35	321	P	P	17 17 59.1	+1.2
	comp=Z,0.4nm,0.5s,baz=87,slow=8.6						
NOA	NORSAR Array B	44.35	321	P	P	17 17 59.7	+1.7
	comp=Z,0.4nm,0.5s,baz=87,slow=8.0,SNR=2.9						
GERES	GERESS Array B	44.79	303	P	P	17 18 03.3	+1.6
	comp=Z,0.8nm,0.5s,baz=72,slow=8.6,SNR=7.4						
ESDC	Sonseca Array	59.94	298	P	P	17 19 54.2	0.0
	comp=Z,0.1nm,0.3s,baz=43,slow=8.2,SNR=4.3						
OPO	Ambohidratompo	64.95	212	P	P	17 20 24.2	-3.7
	comp=Z,2.9nm,0.2s,baz=73,slow=11,SNR=12						
ILAR	Eielson Array	69.65	19	P	P	17 20 56.8	-0.3
	comp=Z,0.5nm,1.0s,baz=318,slow=5.2,SNR=3.0						
TORD	Torodi Ar. Bea	70.59	271	P	P	17 21 03.3	-0.3
	comp=Z,0.5nm,0.4s,baz=45,slow=6.2,SNR=3.6						
YKA	Yellowknife Ar	77.05	6	P	P	17 21 39.4	-1.2
	comp=Z,0.8nm,0.7s,baz=346,slow=5.5,SNR=9.1						

IDC 08 17:15:28.7±1.9, 29°.53N×91°.77E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.4/47, mbtmp3.7/6, ML3.0/1, Error ellipse: s-maj=77.6km s-min=20.9km az=72.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	18.76	339	P	Pn	17 19 51.0	+1.5
	0.1nm,0.3s,baz=144,slow=12,SNR=3.0						
SONM	Songino Array	21.49	28	P	P	17 20 19.9	+0.8
	1.1nm,0.5s,baz=216,slow=12,SNR=5.1						
ZALV	Zalesovo Beam	24.92	350	P	P	17 20 52.4	-0.9
	0.8nm,0.5s,baz=185,slow=7.6,SNR=4.2						
WRA	Warramunga Arr	64.05	135	P	P	17 26 04.8	+0.2
	0.8nm,0.6s,baz=326,slow=6.7,SNR=10						
ASAR	Alice Springs	66.62	138	P	P	17 26 21.2	0.0
	1.4nm,0.4s,baz=319,slow=5.8,SNR=64						
ILAR	Eielson Array	75.60	22	P	P	17 27 14.3	-0.8
	0.4nm,0.9s,baz=312,slow=5.5,SNR=4.4						

*ISCJB **08** 17:15:38.6±0.4, 42°.12N±0°.02×19°.52E±0°.02, h1km±3km, Error ellipse: s-maj=3.0km s-min=2.6km az=2.7*
*RHSSO **08** 17:15:38.9±0.8, 42°.08N×19°.53E, h4km±3km, ML2.3/7*
*TIR **08** 17:15:38.4, 42°.08N×19°.44E, h15km, Md2.7/4*
*PDG **08** 17:15:39.4±0.1, 42°.10N×19°.45E, h12km±1km, MD2.5/1, ML2.4/10, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*BEO **08** 17:15:39.7±0.4, 42°.10N×19°.51E, h0km, ML2.0/8*
ISC 08 17:15:39.0±1.0, 42°.12N±0°.02×19°.50E±0°.02, h6km±8km, n49, σ0s.84/95, 14C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	Ulcinj	0.25	232	⇑iPg	Pg	17 15 43.4	-0.5
ULC				eSg	Sg	17 15 47.5	+0.4
DRME	Dracevica, Mon	0.25	287	⇓iPg	Pg	17 15 43.6	-0.3
DRME				eSg	Sg	17 15 48.1	+0.9
DRME	Dracevica, Mon	0.25	287	⇑iPg	Pg	17 15 43.7	-0.2
DRME				eSg	Sg	17 15 47.6	+0.4
PDG	Podgorica	0.36	330	ePg	Pg	17 15 46.2	+0.1
PDG				eSg	Sg	17 15 49.8	-1.1
PDG	Podgorica	0.36	330	⇑iPg	Pg	17 15 46.1	0.0
PDG				eSg	Sb	17 15 52.6	-1.2
TTG	Podgorica	0.36	330	⇑iPg	Pg	17 15 46.2	+0.1
TTG				eSg	Sg	17 15 52.3	+1.4
BCI	Bajram Curri	0.49	59	i PG	Pb	17 15 49.3	-0.7
BCI				i SG	Sg	17 15 54.2	-0.7
BUM	Brajici-Budva	0.49	292	⇑iPg	Pg	17 15 48.4	-0.1
BUM				eSg	Sg	17 15 55.6	+0.7
PVY	Plav	0.58	35	⇓iPg	Pb	17 15 51.1	-0.6
PVY				eSg	Sb	17 16 00.9	+0.6
CEME	Cevo	0.61	315	⇓iPg	Pg	17 15 50.8	0.0
CEME				eSg	Sb	17 15 59.9	-1.1
KOME	Kolasin	0.73	1	⇓iPg	Pg	17 15 53.5	+0.4
KOME				eSg	Sb	17 16 05.3	+0.7
NKME	Niksic	0.77	328	⇑iPg	Pg	17 15 53.4	-0.4
NKME				eSg	Sb	17 16 05.5	0.0
NKY	Niksic	0.79	332	⇑iPg	Pg	17 15 54.0	-0.3
NKY				eSg	Sb	17 16 06.7	+0.4
IVA	Berane	0.81	21	⇓iPg	Pb	17 15 55.3	-0.2
IVA				eSg	Sn	17 16 08.0	-1.4
TIR	Tirane	0.81	160	eSg	Sb	17 16 05.7	-1.1
TIR	Tirane	0.81	160	i PG	Pg	17 15 54.3	-0.3
TIR				i SG	Sb	17 16 06.6	-0.2
HCY	Herceg Novi	0.82	294	⇑iPg	Pg	17 15 53.8	-1.0
HCY				eSg	Sb	17 16 06.3	-0.6
HCY	Herceg Novi	0.82	294	⇓iPg	Pg	17 15 53.9	-0.9
HCY				eSg	Sb	17 16 06.5	-0.4
PHP	Peshkopia	0.82	121	i PG	Pg	17 15 54.7	-0.1
PHP				i SG	Sb	17 16 07.7	+0.6
TREB	Trebinje	1.04	305	ePg	Pb	17 15 59.3	-0.2
TREB				eSg	Sb	17 16 13.2	-0.2
TREB	Trebinje	1.04	305	ePg	Pg	17 15 58.5	-0.6
TREB				eSg	Sb	17 16 13.7	+0.3
BRY	Bratogost	1.06	318	⇑iPg	Pg	17 15 58.7	-0.7
BRY				eSg	Sb	17 16 14.4	+0.4
BRY	Bratogost	1.06	318	⇑iPg	Pg	17 15 58.7	-0.7
BRY				eSg	Sn	17 16 15.2	-0.5
UPM	Unac-Piva	1.17	338	⇑iPg	Pg	17 16 00.8	-0.7
UPM				eSg	Sn	17 16 17.7	-0.8
UPM	Unac-Piva	1.17	338	⇑iPg	Pg	17 16 00.8	-0.7
UPM				eSg	Sn	17 16 19.8	+1.3
SJES	Sjenica	1.20	17	ePg	Pn	17 16 02.6	+0.2
SJES				eSg	Sn	17 16 19.0	0.0
PLE	Pljevlja	1.22	356	⇑iPg	Pb	17 16 01.8	-0.7
PLE				eSg	Sn	17 16 21.2	+1.7
RUDO	Rudo	1.50	356	ePn	Pg	17 16 07.8	-0.1
RUDO				eSn	Sg	17 16 27.8	+0.4
STON	Ston	1.53	300	ePn	Pb	17 16 07.9	+0.1
STON				Sn	Sg	17 16 29.3	+1.0
IVAS	Ivanjica	1.54	18	ePg	Pg	17 16 08.2	-0.3
IVAS				eSg	Sg	17 16 30.1	+1.7
SELS	Selova	1.62	47	ePg	Pb	17 16 08.8	-0.6
SELS				eSg	Sg	17 16 31.9	+0.7
BBLS	Lazići	1.75	358	ePg	Pb	17 16 11.5	-0.1
BBLS				eSg	Sg	17 16 36.0	+0.7
BBLS	Lazići	1.75	358	ePn	Pn	17 16 10.5	+0.5
BBLS				eSn	Sb	17 16 33.7	-0.1
BARS	Barje	1.85	67	ePn	Pn	17 16 11.8	+0.6
BARS				eSg	Sg	17 16 37.6	-0.8
FNA	Florina	1.94	133	i PN	Pb	17 16 14.7	0.0
FNA				i SN	Sg	17 16 41.6	+0.4
GRUS	Gruza	1.98	26	ePn	Pn	17 16 13.7	+0.6
GRUS				eSg	Sg	17 16 41.9	-0.8
HAPS	Han Pijesak,Bl	2.01	349	ePn	Pn	17 16 14.5	+0.9
HAPS				eSn	Sg	17 16 42.5	-1.1
HAPS	Han Pijesak,Bl	2.01	349	⇑iPn	Pn	17 16 14.5	+0.9
HAPS				eSn	Sb	17 16 40.1	-1.2
DIVS	Divibare	2.01	10	ePg	Pb	17 16 15.5	-0.6
DIVS				eSg	Sg	17 16 43.8	+0.1
DIVS	Divibare	2.01	10	ePn	Pn	17 16 14.2	+0.6
DIVS				eSn	Sn	17 16 39.7	+0.6
MAKA	Makarska	2.17	303	ePn	Pn	17 16 16.4	+0.8
MAKA				Sn	Sb	17 16 44.3	-1.6
BOVS	Bovan	2.22	46	ePn	Pn	17 16 17.4	+1.1
BOVS				eSg	Sg	17 16 49.6	-0.7
RICI	Ricice	2.22	309	ePn	Pn	17 16 17.4	+1.0
RICI				Sn	Sb	17 16 45.7	-1.7
KIJV	Kijevo	2.95	311	i Pn	Pn	17 16 28.1	+1.7
KIJV				Sn	Sb	17 17 05.3	-3.0
FRGS	Fruska Gora	3.05	4	ePn	Pn	17 16 28.9	+1.1
FRGS				eSn	Sn	17 17 05.3	+0.8
ZIRJ	Zirje	3.23	300	ePn	Pn	17 16 30.8	+0.6
ZIRJ				Sn	Sn	17 17 09.2	+0.3
MORI	Morici	3.29	303	ePn	Pn	17 16 32.0	+1.0
DUGI	Dugi Otok	3.76	301	ePn	Pn	17 16 38.7	+1.2
DUGI				Sn	Sn	17 17 22.1	+0.1
NVLJ	Novalja	4.17	307	ePn	Pn	17 16 43.3	+0.2

ATH 08 17:17:11.8, 38°.34N×21°.83E, h9km±3km, ML1.2/1, Error ellipse: s-maj=4.0km s-min=1.3km az=42.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	University Cam	0.07	211	P	Pg	17 17 14.1	+0.2
EFP	Efpalio	0.10	35	P	Pg	17 17 14.0	-0.3
EFP				S	Sg	17 17 16.4	+0.3
EFP				AML	AML	17 17 16.9	
	comp=N,345μm,0.3s						
EFP				AML	AML	17 17 17.1	
	comp=E,407μm,0.2s						
LAKA	Lakka	0.15	132	P	Pg	17 17 15.0	-0.2
LAKA				S	Sg	17 17 17.6	+0.1
SERG	Sergoula	0.19	69	P	Pg	17 17 15.9	+0.2
SERG				S	Sg	17 17 18.6	+0.2
TRIZ	Trizonia	0.19	84	P	Pg	17 17 15.9	+0.2
KALE	Kalithea	0.25	79	P	Pg	17 17 16.9	+0.1
PVO	Paravola	0.36	319	P	Pg	17 17 18.8	-0.1
KLV	Kalavryta, Ach	0.39	140	P	Pg	17 17 19.3	-0.2
DRO	Drossia	0.40	194	P	Pg	17 17 19.8	+0.1

*NIED **08** 17:24:00, 44°.60N×149°.40E, h38km, Mw6.2 Best double couple: $M_0$2.17000×10^{18} NP1:ϕ_s162.00000°, δ30.00000°, λ-10.00000°. NP2:ϕ_s260.00000°, δ85.00000°, λ-120.00000°.*

*IDC **08** 17:24:49.4±0.4, 44°.54N×149°.20E, h0km, mb5.6/43, mb1 5.7/49, mb1mx5.7/51, mbtmp5.6/49, ML5.0/5, MS5.9/41, Ms1 6.0/41, ms1mx5.8/51, Error ellipse: s-maj=10.7km s-min=10.3km az=126.0*

*ISCJB **08** 17:24:50.7±0.5, 44°.41N±0°.02×149°.12E±0°.01, h16km±3km, mb5.7/186, MS6.0/130, Error ellipse: s-maj=2.9km s-min=1.5km az=162.9*

*BJI **08** 17:24:51.6±0.0, 44°.51N×149°.11E, h30km, mb5.8/79, mB5.8/68, Ms6.1/92, Ms7 5.9/85*

*JMA **08** 17:24:51.8±0.5, 44°.56N×149°.38E, h30km, M6.4*

JMA Felt II J1.

*SKHL **08** 17:24:52.8±0.8, 44°.30N×149°.38E, h40km±3km, mb6.4/10, mbh6.2/2, Ms6.2/12, msh6.6/8*

SKHL Felt (II) at Yuzhno-Kuril'sk, Goryachei Plyazh. Felt (V) at Reidovo, Goryachie Kluchi, Kuril'sk, Kitovyi, Gornyi.

*NEIC **08** 17:24:54.2±2.0, 44°.44N±0°.07×149°.17E±0°.03, h28km±1km, mb5.9/444, Ms_20 5.9/786, Mwb5.9, Mww6.0, Mwc6.1(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.09; $M_{\theta\theta}$0.70; $M_{\phi\phi}$-1.79; $M_{r\theta}$8.71; $M_{\theta\phi}$-2.95; $M_{\phi r}$1.78; Fault plane solution: $M_0$9.50000×10^{17} NP1:ϕ_s174.93000°, δ19.97000°, λ9.22000°. NP2:ϕ_s76.26000°, δ86.86000°, λ109.73000°. Principal axes: T 9.6705, Plg45.0000°, Azm6.0000°; N -0.3525, Plg20.0000°, Azm255.0000°; P -9.3180, Plg39.0000°, Azm148.0000°;*

*MOS **08** 17:24:54.4±1.2, 44°.56N×149°.10E, h45km, mb6.1/45, MS5.9/79 Error ellipse: s-maj=4.8km s-min=3.9km az=117.0 Broadband fault plane solution: P waves. $M_0$1.50000×10^{18} NP1:ϕ_s101.00000°, δ84.00000°, λ104.00000°. NP2:ϕ_s214.00000°, δ16.00000°, λ24.00000°. Principal axes: T Plg49.0000°, Azm27.0000°; N Plg14.0000°, Azm279.0000°; P Plg37.0000°, Azm178.0000°;*

MOS Fault plane solution: P-wave C65, D22 . Felt (IV-V) at Kuril'sk; (III) at Reydovo; (II) at Yuzhno-Kuril'sk, Goryachiy Plyazh.

*NEIC **08** 17:24:57, 44°.52N×149°.23E, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.30; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$-0.25; $M_{r\theta}$1.36; $M_{\theta\phi}$-0.80; $M_{\phi r}$0.43; Fault plane solution: $M_0$1.66000×10^{18} NP1:ϕ_s178.00000°, δ27.00000°, λ16.00000°. NP2:ϕ_s75.00000°, δ83.00000°, λ116.00000°. Principal axes: T 1.5248, Plg46.0000°, Azm11.0000°; N 0.2431, Plg26.0000°, Azm251.0000°; P -1.7679, Plg33.0000°, Azm143.0000°;*

*GCMT **08** 17:24:57.2±0.1, 44°.53N×149°.24E, h28km, MW6.1/160, Moment Tensor Solution. s154,c335; s160,c553; Duration: 2s.8 Moment tensor: Scale 10^{18}Nm; M_{rr}0.33±.01; $M_{\theta\theta}$-0.06±.01; $M_{\phi\phi}$-0.27±.01; $M_{r\theta}$1.55±.03; $M_{\theta\phi}$-0.82±.01; $M_{\phi r}$0.45±.01; Best double couple: $M_0$1.82700×10^{18} NP1:ϕ_s75.00000°, δ83.00000°, λ114.00000°. NP2:ϕ_s179.00000°, δ25.00000°, λ16.00000°. Principal axes: T 1.7250, Plg46.0000°, Azm10.0000°; N 0.2040, Plg24.0000°, Azm252.0000°; P -1.9290, Plg34.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **08** 17:24:58, 44°.51N×149°.07E, h40km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-0.08; $M_{\theta\theta}$0.07; $M_{\phi\phi}$0.01; $M_{r\theta}$1.36; $M_{\theta\phi}$-0.39; $M_{\phi r}$0.40; Fault plane solution: $M_0$1.47000×10^{18} NP1:ϕ_s167.00000°, δ14.00000°, λ0.00000°. NP2:ϕ_s76.00000°, δ90.00000°, λ104.00000°. Principal axes: T 1.3553, Plg43.0000°, Azm0.0000°; N 0.2098, Plg14.0000°, Azm256.0000°; P -1.5651, Plg43.0000°, Azm153.0000°;*

ISC 08 17:24:54.6±0.4, 44°.47N±0°.03×149°.13E±0°.03, h34km±1km, h37km:pP-P, n2054, σ1s.57/1927, mb5.9/392, MS6.0/526, 177C-51D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.18	311	d iPN	Pn	17 25 14.8	+0.1
KUR				i S	Sb	17 25 31.4	-0.1
KUR				pmax	pmax		
	comp=Z,128μm,1.0s						
KUR				smax	smax		
	comp=E,247μm,0.4s						
KUR				smax	smax		
	comp=N,350μm,0.5s						
KUR				smax	smax		
	comp=N,405μm,1.8s						
KUR				smax	smax		
	comp=E,535μm,2.1s						
KUR	Kuril'sk	1.18	311	⇓iP	Pn	17 25 14.8	+0.1
KUR				AMB	AMB	17 25 17.0	
	comp=E,28μm,0.5s						
KUR				AMB	AMB	17 25 17.0	
	comp=E,18μm,0.5s						
KUR				AMB	AMB	17 25 17.0	
	comp=E,89μm,0.5s						
KUR				i S	Sb	17 25 31.4	-0.1
KUR				A	A	17 25 35.0	
	comp=E,350μm,0.6s						
KUR				A	A	17 25 35.0	
	comp=E,247μm,0.6s						
KUR				A	A	17 25 37.0	
	comp=E,405μm,2.0s						
KUR				A	A	17 25 37.0	
	comp=E,535μm,2.0s						
KUR				AMS	AMS	17 25 56.0	
	comp=E,619μm,14.0s						
YUK	Yuzh-Kuril'sk	2.39	261	d iPN	Pn	17 25 31.7	+0.4
YUK				i S	Sn	17 26 00.3	+0.9
YUK				pmax	pmax		
	comp=N,6336μm,0.2s						
YUK				pmax	pmax		
	comp=E,7188μm,0.2s						
YUK				pmax	pmax		
	comp=Z,25μm,1.5s						
YUK				smax	smax		
	comp=E,45μm,0.5s						

YUK smax smax
comp=N,141µm,0.7s
YUK Yuzh-Kuril'sk 2.39 261 ⇓ *i* P **Pn 17 25 31.8 +0.4**
YUK AMB AMB 17 25 37.0
comp=N,6µm,0.5s
YUK AMB AMB 17 25 37.0
comp=N,7µm,0.5s
YUK AMB AMB 17 25 37.0
comp=N,20µm,0.5s
YUK AMB AMB 17 25 47.0
comp=N,25µm,1.5s
YUK *i* S **Sn 17 26 00.5 +1.1**
YUK A A 17 26 06.0
comp=N,176µm,2.7s
YUK A A 17 26 06.0
comp=N,181µm,2.7s
YUK A A 17 26 08.1
comp=N,141µm,0.7s
YUK A A 17 26 08.1
comp=N,45µm,0.7s
YUK AMS AMS 17 26 50.0
comp=N,108µm,15.0s
GRPR Tuman 2.46 260 *c i* PN **Pn 17 25 32.5 +0.2**
GRPR *i* S **Sn 17 26 01.9 +0.7**
GRPR pmax pmax
comp=Z,5µm,2.7s
GRPR pmax pmax
comp=E,3µm,0.3s
GRPR pmax pmax
comp=Z,15µm,0.3s
GRPR pmax pmax
comp=N,8µm,0.2s
GRPR smax smax
comp=E,109µm,0.7s
GRPR Tuman 2.46 260 ⇑ *i* P **Pn 17 25 32.8 +0.5**
GRPR AMB AMB 17 25 34.0
comp=E,5µm,2.7s
GRPR AMB AMB 17 25 39.0
comp=E,8µm,0.3s
GRPR AMB AMB 17 25 39.0
comp=E,3µm,0.3s
GRPR AMB AMB 17 25 39.0
comp=E,14µm,0.3s
GRPR *i* S **Sn 17 26 02.5 +1.3**
GRPR A A 17 26 09.0
comp=E,30µm,0.7s
GRPR A A 17 26 09.0
comp=E,109µm,0.7s
GRPR A A 17 26 13.0
comp=E,134µm,1.5s
GRPR A A 17 26 13.0
comp=E,77µm,1.5s
GRPR AMS AMS 17 26 52.0
comp=E,19µm,11.0s
NEM2 Nemuro 2 2.69 247 P **Pn 17 25 34.4 -1.0**
NEM2 *eS* **Sn 17 26 07.3 +0.6**
NMR Nemuro--Hokkai 2.69 247 *d i* PN **Pn 17 25 35.0 -0.5**
NMR *i* S **Sn 17 26 07.7 +0.8**
NMR Nemuro--Hokkai 2.69 247 ⇓ *i* P **Pn 17 25 35.0 -0.5**
NMR *i* S **Sn 17 26 07.7 +0.8**
GLVR Golovnino 2.70 256 ⇓ *i* PN **Pn 17 25 36.4 +0.8**
GLVR *i* S **Sn 17 26 08.1 +1.0**
GLVR pmax pmax
comp=Z,17µm,0.4s
GLVR pmax pmax
comp=E,9µm,0.2s
GLVR pmax pmax
comp=N,3µm,0.3s
GLVR pmax pmax
comp=Z,13µm,1.5s
GLVR smax smax
comp=N,129µm,0.7s
GLVR smax smax
comp=E,45µm,0.8s
GLVR smax smax
comp=N,307µm,1.0s
GLVR smax smax
comp=E,165µm,1.0s
GLVR Golovnino 2.70 256 ⇓ *i* P **Pn 17 25 36.0 +0.4**
GLVR AMB AMB 17 25 44.0
comp=E,3µm,0.4s
GLVR AMB AMB 17 25 44.0
comp=E,9µm,0.4s
GLVR AMB AMB 17 25 44.0
comp=E,17µm,0.4s
GLVR AMB AMB 17 25 47.0
comp=E,13µm,1.5s
GLVR *i* S **Sn 17 26 08.1 +1.0**
GLVR A A 17 26 15.0
comp=E,307µm,2.0s
GLVR A A 17 26 15.0
comp=E,165µm,2.0s
GLVR A A 17 26 15.9
comp=E,129µm,0.7s
GLVR A A 17 26 15.9
comp=E,45µm,0.7s
JRA Rausu 2.93 261 P **Pn 17 25 40.0 +1.2**
JRA *eS* **Sn 17 26 16.0 +3.2**
JNK Nakash 3.30 256 P **Pn 17 25 44.4 +0.5**
JAK Akkeshi 3.54 247 P **Pn 17 25 46.7 -0.4**
JAK *eS* **Sn 17 26 27.2 -0.5**
JTKR Abashiri--Toko 3.79 264 ⇓ P **Pn 17 25 52.0 +1.4**
JTKR *eS* **Sn 17 26 35.0 +1.1**
JAR Ashorobuto 4.05 255 P **Pn 17 25 55.3 +1.1**
JAR *eS* **Sn 17 26 44.4 +4.0**
JOB Onbets 4.15 250 P **Pn 17 25 55.9 +0.4**
JOB *eS* **Sn 17 26 44.1 +1.3**
JMP Maruseppu 4.17 266 P **Pn 17 25 57.8 +1.9**
JCH Churui 4.59 248 P **Pn 17 26 01.9 +0.4**
JCH *eS* **Sn 17 26 55.4 +1.8**
JKK2 Kamakawa 2 4.63 265 P **Pn 17 26 04.7 +2.5**
JSE Soyaes 4.69 278 P **Pn 17 26 05.2 +2.2**
JKA Kamikawa-asahi 4.70 268 *i* P **Pn 17 26 06.0 +2.8**
JKA Kamikawa-asahi 4.70 268 Pn 17 26 06.0 +2.8
ASAJ Asahikawa 4.71 268 PN **Pn 17 26 06.0 +2.8**
ASAJ Asahikawa 4.71 268 P **Pn 17 26 06.4 +3.2**
ASAJ Asahikawa 4.71 268 Pn **Pn 17 26 06.0 +2.8**
comp=E,57nm,0.3s,baz=25,slow=4.2,SNR=346
ASAJ Sn **Sn 17 27 00.7 +4.1**
comp=E,119nm,0.3s,baz=101,slow=18,SNR=5.4
ASAJ LR LR 17 28 11.8
comp=E,199µm,18.5s,baz=104,slow=42
JFR Furan 4.91 257 P **Pn 17 26 08.3 +2.3**
JFR *eS* **Sn 17 27 03.4 +1.8**
JEM Erimo 5.01 243 P **Pn 17 26 08.4 +1.1**
JEM *eS* **Sn 17 27 05.1 +1.2**
ERM Erimo 5.01 243 *c e* PN **Pn 17 26 08.7 +1.4**
ERM pmax pmax
comp=Z,3µm,0.5s
ERM Erimo 5.01 243 Pn 17 26 09.6 +2.3
JAB Ashibetsu 5.08 261 P **Pn 17 26 11.5 +3.2**
YSS Yuzh-Sakhalins 5.11 301 *k i* PN **Pn 17 26 11.0 +2.3**
YSS *eS* **Sn 17 27 10.5 +4.0**
YSS pmax pmax
comp=Z,4µm,3.3s
YSS pmax pmax
comp=N,2µm,4.0s
YSS pmax pmax
comp=E,2µm,4.0s
YSS pmax pmax
comp=Z,1µm,0.4s
YSS smax smax
comp=N,4µm,0.6s
YSS smax smax
comp=E,4µm,0.6s
YSS smax smax
comp=E,16µm,3.5s
YSS MLR MLR
comp=N,45µm,18.0s
YSS MLR MLR
comp=E,121µm,15.0s
YSS Yuzh-Sakhalins 5.11 301 ⇓ *i* P **Pn 17 26 11.0 +2.3**
YSS AMB AMB 17 26 12.8
comp=E,2µm,3.5s
YSS AMB AMB 17 26 12.8
comp=E,2µm,3.5s
YSS AMB AMB 17 26 12.8
comp=E,4µm,3.5s
YSS AMB AMB 17 26 14.6
comp=E,1µm,0.4s
YSS *eS* **Sn 17 27 10.5 +4.0**
YSS A A 17 27 14.8
comp=E,4µm,0.5s
YSS A A 17 27 14.8
comp=E,4µm,0.5s
YSS A A 17 27 14.8
comp=E,16µm,3.5s
YSS AMS AMS 17 28 10.0
comp=E,45µm,19.0s
YSS AMS AMS 17 28 10.0
comp=E,121µm,19.0s
YSS AMS AMS 17 28 10.0
comp=E,194µm,19.0s
YSS Yuzh-Sakhalins 5.11 301 Pn 17 26 10.9 +2.3
JNBK Urakawa-nobuka 5.14 247 P **Pn 17 26 08.8 -0.3**
JNBK *eS* **Sn 17 27 03.6 -3.6**
JBT2 Biratori 2 5.20 253 P **Pn 17 26 10.5 +0.6**
JBT2 *eS* **Sn 17 27 09.3 +0.7**
JWK2 Keihoku 5.21 282 P **Pn 17 26 14.8 +4.7**
JSS Shosan 5.21 272 P **Pn 17 26 13.5 +3.4**
JHR Hokuryu 5.38 265 P **Pn 17 26 16.9 +4.4**
JRBN Rebuntou 5.81 282 P **Pn 17 26 21.5 +3.3**
JEW Eniwo 5.81 256 P **Pn 17 26 20.5 +2.2**
JEW *eS* **Sn 17 27 26.0 +2.3**
JNB Noboribetsu 6.22 254 P **Pn 17 26 24.8 +0.8**
JNB *eS* **Sn 17 27 32.2 -1.6**
JSK Shakotan 6.35 263 P **Pn 17 26 29.6 +3.8**
JKB Kayabe 6.46 249 P **Pn 17 26 27.0 -0.2**
JKB *eS* **Sn 17 27 36.9 -2.8**
UGL Uglegorsk 6.69 316 *e* PN **Pn 17 26 34.5 +4.1**
UGL *eS* **Sn 17 27 50.2 +4.8**
UGL pmax pmax
comp=Z,7µm,5.3s
UGL pmax pmax
comp=Z,1µm,0.6s
UGL smax smax
comp=N,1µm,1.1s
UGL smax smax
comp=E,2µm,0.5s
UGL smax smax
comp=N,22µm,3.9s
UGL MLR MLR
comp=Z,205µm,17.0s
UGL MLR MLR
comp=N,161µm,12.0s
UGL MLR MLR
comp=E,133µm,13.0s
UGL Uglegorsk 6.69 316 *e* P **Pn 17 26 34.5 +4.1**
UGL AMB AMB 17 26 41.0
comp=E,7µm,5.3s
UGL AMB AMB 17 26 46.0
comp=E,1µm,0.6s
UGL *eS* **Sn 17 27 50.2 +4.8**
UGL A A 17 27 53.0
comp=E,1µm,1.1s
UGL A A 17 27 53.0
comp=E,2µm,1.1s
UGL A A 17 27 55.0
comp=E,22µm,4.0s
UGL AMS AMS 17 29 20.5
comp=E,161µm,13.0s
UGL AMS AMS 17 29 20.5
comp=E,133µm,13.0s
UGL AMS AMS 17 29 20.5
comp=E,205µm,13.0s
JYM2 Yakumo 2 6.81 253 P **Pn 17 26 32.7 +0.6**
JYM2 *eS* **Sn 17 27 48.1 -0.3**
JSH Shimam 6.85 258 P **Pn 17 26 34.4 +1.8**
JSH *eS* **Sn 17 27 53.3 +4.0**
JANG Nango 6.96 237 P **Pn 17 26 31.7 -2.5**
JANG *eS* **Sn 17 27 44.5 -7.7**
JTM Tenmabayashi 6.99 241 P **Pn 17 26 33.5 -1.1**
JTM *eS* **Sn 17 27 47.8 -5.1**
JSR Shiriuchi 7.03 248 P **Pn 17 26 35.0 -0.1**
JSR *eS* **Sn 17 27 51.4 -2.4**
JTH Tanohata 7.04 233 P **Pn 17 26 32.3 -3.0**
JTH *eS* Sn 17 27 43.9 -10
JOSM Okushiri--Mats 7.44 255 P **Pn 17 26 41.4 +0.7**
TYV Tymovskoe 7.75 328 *e* PN **Pn 17 26 48.7 +3.8**
TYV *eS* **Sn 17 28 20.0 +8.7**
TYV pmax pmax
comp=Z,218nm,0.8s
TYV pmax pmax
comp=Z,3µm,2.0s
TYV smax smax
comp=E,277nm,0.8s
TYV MLR MLR
comp=N,101µm,17.0s
TYV MLR MLR
comp=Z,185µm,17.0s
TYV Tymovskoe 7.75 328 *e* P **Pn 17 26 48.7 +3.8**
TYV AMB AMB 17 26 50.0
comp=Z,220nm,0.8s
TYV AMB AMB 17 26 51.0
comp=Z,3µm,2.0s
TYV *eS* **Sn 17 28 14.5 +3.2**
TYV A A 17 28 20.0
comp=Z,280nm,0.8s
TYV AMS AMS 17 29 48.0
comp=Z,101µm,17.0s
TYV AMS AMS 17 29 48.0
comp=Z,177µm,17.0s
TYV AMS AMS 17 29 48.0
comp=Z,185µm,17.0s
OFUJ Ofunato 7.75 229 P **Pn 17 26 42.2 -2.8**
SKR Severo-Kuril's 7.80 35 *e* PN **Pn 17 26 46.7 +1.1**
SKR pmax pmax
comp=Z,7µm,4.6s
SKR pmax pmax
comp=Z,3µm,1.2s
SKR MLR MLR
comp=Z,91µm,19.0s
SKR MLR MLR
comp=N,66µm,16.0s
SKR MLR MLR
comp=Z,89µm,16.0s
SKR MLR MLR
comp=E,31µm,13.0s
SKR Severo-Kuril's 7.80 35 *e* P **Pn 17 26 46.0 +0.4**
SKR AMB AMB 17 26 51.9
comp=E,7µm,4.6s
SKR AMB AMB 17 26 55.1
comp=E,3µm,1.2s
SKR *eS* **Sn 17 28 09.4 -3.3**
SKR A A 17 28 36.6
comp=E,1µm,0.8s
SKR A A 17 28 36.6
comp=E,1µm,0.8s
SKR AMS AMS 17 29 42.2
comp=E,66µm,16.0s
SKR AMS AMS 17 29 42.2
comp=E,31µm,16.0s
SKR AMS AMS 17 29 42.2
comp=E,89µm,16.0s
JMK Ichinoseki 8.09 230 P **Pn 17 26 47.3 -2.3**
JRG Rokugo 8.11 234 P **Pn 17 26 48.4 -1.5**
JIO Ouri 8.38 227 P **Pn 17 26 50.6 -3.0**
JIO *eS* Sn 17 28 17.6 -9.4
PAU Pauzhetka 8.69 34 *i* P **Pn 17 26 58.2 +0.4**
TEY Ternei 8.94 278 ⇑ *e* PN **Pn 17 27 05.3 +4.1**
TEY pmax pmax
comp=Z,90nm,2.5s
TEY pmax pmax
comp=E,110nm,2.3s
TEY pmax pmax
comp=N,30nm,1.5s
TEY MLR MLR
comp=E,38µm,16.0s
TEY MLR MLR
comp=N,77µm,14.0s
TEY MLR MLR
comp=Z,49µm,15.0s
TEY Ternei 8.94 278 *e* P **Pn 17 27 04.3 +3.1**
TEY AMB AMB 17 27 06.6
comp=Z,110nm,1.1s
TEY AMB AMB 17 27 06.6
comp=Z,90nm,1.1s
TEY *eS* **Sn 17 28 43.0 +2.4**
TEY A A 17 29 00.5
comp=Z,390nm,1.0s
TEY A A 17 29 00.5
comp=Z,470nm,1.0s
TEY A A 17 29 01.0
comp=Z,400nm,1.5s
TEY A A 17 29 01.0
comp=Z,500nm,1.5s
TEY AMS AMS 17 30 49.0
comp=Z,77µm,15.0s
TEY AMS AMS 17 30 49.0
comp=Z,38µm,15.0s
TEY AMS AMS 17 30 49.0
comp=Z,49µm,15.0s
JYA Atsumi 9.18 233 P **Pn 17 27 02.7 -1.9**
JFK Kawauchi 9.45 224 P **Pn 17 27 06.0 -2.3**
JFK *eS* Sn 17 28 42.0 -11
JAW Awa shima 9.54 234 P **Pn 17 27 08.8 -0.7**
JNS Sasagawa 9.94 231 P **Pn 17 27 14.7 -0.3**
OKH Okha 9.96 338 *c i* PN **Pn 17 27 16.6 +1.5**
OKH *i* S Sn 17 29 20.6 +15
OKH pmax pmax
comp=Z,5µm,6.7s
OKH smax smax
comp=E,8µm,12.1s
OKH smax smax
comp=N,8µm,7.3s
OKH MLR MLR
comp=Z,80µm,17.0s
OKH Okha 9.96 338 ⇑ *i* P **Pn 17 27 19.0 +3.9**
OKH AMB AMB 17 27 19.9
comp=Z,780nm,0.9s
OKH AMB AMB 17 27 22.2
comp=Z,5µm,6.7s
OKH *i* S **Sn 17 29 10.7 +5.2**
OKH A A 17 29 31.5
comp=Z,8µm,7.5s
OKH A A 17 29 31.5
comp=Z,8µm,7.5s
OKH AMS AMS 17 31 23.5
comp=Z,80µm,17.0s
JFY Yanaizu 10.03 229 P **Pn 17 27 14.2 -2.0**
JFY *eS* Sn 17 28 58.0 -9.5
JHO Hitachi 10.20 223 P **Pn 17 27 15.6 -2.9**
NKL Nikolayevsk 10.31 330 *e* PN **Pn 17 27 23.3 +3.3**
NKL pmax pmax
comp=N,10.0nm,1.4s
NKL pmax pmax
comp=Z,626nm,1.3s
NKL pmax pmax
comp=E,392nm,1.5s
NKL MLR MLR
comp=E,26µm,15.0s
NKL MLR MLR
comp=Z,87µm,19.0s
NKL Nikolayevsk 10.31 330 *e* P **Pn 17 27 23.3 +3.3**
NKL AMB AMB 17 27 27.5
comp=Z,300nm,1.5s
NKL AMB AMB 17 27 27.5
comp=Z,400nm,1.5s
NKL AMB AMB 17 27 27.5
comp=Z,600nm,1.5s
NKL AMS AMS 17 31 20.0
comp=Z,87µm,19.0s
NKL AMS AMS 17 31 20.0
comp=Z,26µm,15.0s
PEA0B Petropavlovsk- 10.32 30 *c i* PN **Pn 17 27 20.3 +0.1**
PEA0B Petropavlovsk- 10.32 30 Pn 17 27 21.0 +0.8
PETK Petropavlovsk- 10.32 30 Pn Pn 17 27 20.6 +0.4
comp=Z,19nm,0.3s,baz=204,slow=12,SNR=133
PETK LR LR 17 31 13.5
comp=Z,118µm,21.2s,baz=205,slow=38
JSD Sado 10.40 236 P **Pn 17 27 19.5 -1.8**
JHYU Hitachinakayam 10.40 222 P **Pn 17 27 18.9 -2.5**
JIZZ Izumozaki 10.49 232 P **Pn 17 27 22.6 +0.1**
JHK Hiroka 10.52 230 P **Pn 17 27 21.0 -1.9**
PET Petropavlovsk 10.61 33 *c* PN **Pn 17 27 23.6 -0.5**
PET pmax pmax
comp=Z,5µm,7.1s
PET pmax pmax
comp=Z,7µm,6.0s
PET pmax pmax
comp=Z,435nm,1.0s
PET MLR MLR
comp=Z,147µm,17.0s
PET MLR MLR
comp=Z,147µm,16.0s
PET Petropavlovsk 10.61 33 ⇑ *i* P **Pn 17 27 23.6 -0.5**
PET AMB AMB 17 27 31.7
comp=Z,7µm,6.0s
PET AMB AMB 17 27 32.0
comp=Z,440nm,1.0s
PET *eS* **Sn 17 29 17.5 -4.1**
PET AMS AMS 17 31 38.5
comp=Z,165µm,17.0s
PET AMS AMS 17 31 38.5
comp=Z,147µm,17.0s
PET Petropavlovsk 10.61 33 PN **Pn 17 27 24.6 +0.5**
GRNR Gornyy 10.64 311 ⇑ *i* PN **Pn 17 27 28.2 +3.7**
GRNR *eS* **Sn 17 29 31.0 +8.7**
GRNR pmax pmax
comp=Z,220nm,0.9s
GRNR smax smax
comp=N,40nm,1.1s
GRNR MLR MLR
comp=Z,54µm,18.0s
GRNR Gornyy 10.64 311 ⇑ *i* P **Pn 17 27 28.2 +3.7**
GRNR AMB AMB 17 27 33.8
comp=Z,100nm,0.9s
GRNR AMB AMB 17 27 33.8
comp=Z,190nm,0.9s
GRNR AMB AMB 17 27 33.8
comp=Z,220nm,0.9s
GRNR AMS AMS 17 31 37.0
comp=Z,15µm,18.0s
GRNR AMS AMS 17 31 37.0
comp=Z,44µm,18.0s
GRNR AMS AMS 17 31 37.0
comp=Z,54µm,18.0s
JKT Katashina 10.75 228 P **Pn 17 27 25.3 -0.8**
JAG Ashikaga 10.90 226 P **Pn 17 27 25.3 -2.8**
JJN Nakama 11.10 232 P **Pn 17 27 30.0 -0.8**
JSZ Suzu 11.32 236 P **Pn 17 27 32.6 -1.3**
JHG Hegura jima 11.33 238 P **Pn 17 27 33.3 -0.7**
MAJO Matsushiro 11.47 230 *i* PN **Pn 17 27 35.0 -1.0**
MAJO MLR MLR
comp=Z,36µm,22.0s
MAJO Matsushiro 11.47 230 Pn 17 27 34.3 -1.7
MAT Matsushiro 11.47 230 P **Pn 17 27 34.4 -1.6**
MAT S **Sn 17 29 37.0 -5.9**
MAT Matsushiro 11.47 230 P **Pn 17 27 34.3 -1.7**
MJAR Matsushiro Arr 11.47 230 Pn **Pn 17 27 34.5 -1.5**
comp=Z,3.6nm,0.3s,baz=26,slow=14,SNR=123
MJAR Sn **Sn 17 29 38.3 -4.6**
comp=Z,1.1nm,0.3s,baz=72,slow=22,SNR=5.0
MJB9 Matsu-Tunnel 11.47 230 Pn 17 27 34.5 -1.5
JRY Ryogami san 11.50 226 P **Pn 17 27 34.5 -1.9**
JNG Nsakai 11.63 230 P **Pn 17 27 36.7 -1.6**
JSGW Sagamiharawaka 11.66 224 P **Pn 17 27 35.8 -2.8**
JTT Ttatey 11.92 233 P **Pn 17 27 40.9 -1.2**
JOD2 Odawara 2 11.99 223 P **Pn 17 27 40.7 -2.4**
JJH Hakui 12.02 235 P **Pn 17 27 42.7 -0.7**
JYN Shimob 12.08 226 P **Pn 17 27 42.4 -2.0**
JGN Niukaw 12.20 232 P **Pn 17 27 44.7 -1.3**
USRK Ussuriysk Ar. 12.28 275 Pn **Pn 17 27 48.3 +1.3**
baz=83,slow=13,SNR=140
USRK LR LR 17 32 45.2
comp=Z,61µm,18.9s,baz=76,slow=39
USA0B Ussuriysk Arra 12.28 275 *c i* PN **Pn 17 27 48.3 +1.3**
USA0B Ussuriysk Arra 12.28 275 Pn 17 27 48.5 +1.4
JIZS Izushimoda 12.53 223 P **Pn 17 27 47.1 -3.4**
VLA Vladivostok 12.54 270 *i* PN **Pn 17 27 51.7 +1.2**
VLA MLR MLR
comp=Z,52µm,18.0s
VLA Vladivostok 12.54 270 *i* P **Pn 17 27 51.7 +1.2**
VLA AMS AMS 17 32 44.0
comp=Z,52µm,18.0s
JNY Yasuok 12.54 227 P **Pn 17 27 49.3 -1.4**
JGF Kuroka 12.63 230 P **Pn 17 27 51.2 -0.7**
KLR Kul'dur 12.81 298 *i* PN **Pn 17 27 56.0 +1.8**
KLR pmax pmax
comp=Z,210nm,0.9s
KLR MLR MLR
comp=Z,81µm,18.0s
KLR Kul'dur 12.81 298 Pn **Pn 17 27 57.6 +3.4**
comp=Z,2.9nm,0.3s,baz=102,slow=13,SNR=46
KLR LR LR 17 33 17.3
comp=Z,84µm,18.2s,baz=112,slow=40
KLR Kul'dur 12.81 298 *eP* **Pn 17 27 56.0 +1.8**
KLR AMB AMB 17 28 04.6
comp=Z,210nm,0.9s
JAO Obara 12.94 229 P **Pn 17 27 54.6 -1.4**
JYTA Yamagatataniai 12.98 231 P **Pn 17 27 55.7 -0.9**
INU Inuyama 13.01 230 Pn 17 27 55.9 -1.0
MSHR Mys Shultsa 13.18 268 *i* PN **Pn 17 28 00.7 +1.4**
JFM Mihama 13.45 233 P **Pn 17 28 02.0 -1.0**
JHJ2 Mitsune 13.46 216 Pn 17 28 03.2 +0.1
EKMR Ekimchan 13.68 315 ⇑ *i* P **Pn 17 28 08.0 +1.9**
EKMR AMB AMB 17 28 15.5

comp=Z,370nm,1.0s
EKMR AMB AMB 17 28 15.5
comp=Z,380nm,1.0s
EKMR AMB AMB 17 28 15.5
comp=Z,600nm,1.0s
MDJ Mudanjiang 13.94 277 P **Pn** **17 28 09.8 +0.2**
MDJ pP P 17 28 15.6 -1.7
MDJ PP **PnPn** **17 28 17.7 +0.3**
MDJ sP 17 28 19.7
MDJ S **Sn** **17 30 44.3 +1.2**
MDJ sS S 17 30 52.0 -12
MDJ SS **SnSn** **17 30 58.4 +3.2**
MDJ PcP **PcP** **17 33 31.7 +2.0**
MDJ ScS **ScS** **17 40 40.2 +2.7**
MDJ pmax pmax
comp=Z,77nm,0.7s
MDJ pmax pmax
comp=Z,8µm,8.0s
MDJ LR LR
comp=Z,80µm,15.7s
MDJ LR LR
comp=Z,38µm,21.4s
MDJ LR LR
comp=Z,78µm,22.1s
MDJ Mudanjiang 13.94 277 **Pn** **17 28 10.1 +0.5**
MA2 Magadan 15.16 3 *ce*P **Pn** **17 28 24.9 -1.1**
MA2 pmax pmax
comp=Z,935nm,2.4s
MA2 MLR MLR
comp=Z,52µm,18.0s
MA2 Magadan 15.16 3 Pn **Pn** **17 28 25.8 -0.2**
comp=Z,20nm,0.3s,baz=184,slow=10,SNR=47
MA2 LR LR 17 34 33.8
comp=Z,54µm,18.1s,baz=192,slow=39
MA2 Magadan 15.16 3⇑ *e*P **Pn** **17 28 24.9 -1.1**
MA2 AMB AMB 17 28 29.8
comp=Z,900nm,2.4s
MA2 AMS AMS 17 34 11.5
comp=Z,52µm,18.0s
MA2 Magadan 15.16 3 **Pn** **17 28 25.2 -0.8**
BMKR Bomnak 16.61 315⇓ *i*P **Pn** **17 28 45.3 +0.6**
BMKR AMB AMB 17 29 10.5
comp=Z,120nm,0.8s
ZEA Zeya 17.01 311 *ce*P **Pn** **17 28 49.0 -0.6**
ZEA *e*S **Sn** **17 31 58.0 +0.6**
ZEA pmax pmax
comp=N,210nm,1.0s
ZEA pmax pmax
comp=E,180nm,1.0s
ZEA pmax pmax
comp=Z,320nm,0.8s
ZEA pmax pmax
comp=E,5µm,8.0s
ZEA pmax pmax
comp=Z,7µm,8.0s
ZEA pmax pmax
comp=N,3µm,6.0s
ZEA smax smax
comp=E,5µm,8.0s
ZEA smax smax
comp=N,10µm,9.0s
ZEA MLR MLR
comp=N,34µm,17.0s
ZEA MLR MLR
comp=Z,86µm,17.0s
ZEA MLR MLR
comp=E,57µm,16.0s
ZEA Zeya 17.01 311⇑ *i*P **Pn** **17 28 49.0 -0.6**
ZEA AMB AMB 17 28 55.8
comp=E,210nm,0.9s
ZEA AMB AMB 17 28 55.8
comp=E,180nm,0.9s
ZEA AMB AMB 17 28 55.8
comp=E,320nm,0.9s
ZEA AMB AMB 17 28 57.0
comp=E,3µm,7.0s
ZEA AMB AMB 17 28 57.0
comp=E,5µm,7.0s
ZEA AMB AMB 17 28 57.0
comp=E,7µm,7.0s
ZEA *e*S **Sn** **17 31 51.3 -6.1**
ZEA A A 17 32 06.0
comp=E,10µm,8.5s
ZEA A A 17 32 06.0
comp=E,5µm,8.5s
ZEA AMS AMS 17 35 54.0
comp=E,34µm,17.0s
ZEA AMS AMS 17 35 54.0
comp=E,57µm,17.0s
ZEA AMS AMS 17 35 54.0
comp=E,86µm,17.0s
CN2 Changchun 17.01 276 *e*P **Pn** **17 28 48.1 -1.6**
CN2 *es*P pP 17 28 59.5 -0.1
CN2 *e*S **Sn** **17 31 55.2 -2.4**
CN2 pmax pmax
comp=E,210nm,0.7s
CN2 pmax pmax
comp=E,4µm,11.0s
CN2 LR LR
comp=E,25µm,15.0s
CN2 LR LR
comp=E,41µm,15.0s
CN2 LR LR
comp=E,48µm,16.0s
KROS Kirovskiy 17.45 313⇑ *i*P **Pn** **17 28 55.0 -0.1**
KSRS Korea Array 17.46 254 P **Pn** **17 28 53.6 -1.7**
comp=E,3.6nm,0.3s,baz=60,slow=12,SNR=79
KSRS S **S** **17 32 14.3 -1.6**
comp=E,0.9nm,0.3s,baz=63,slow=23,SNR=3.5
KSRS PcP **PcP** **17 33 36.7 +1.8**
baz=49,slow=0.5,SNR=5.0
KSRS LR LR 17 35 29.1
comp=E,23µm,19.2s,baz=64,slow=36
KSRS ScP **ScP** **17 37 06.7 -0.5**
comp=E,0.1nm,0.3s,baz=60,slow=0.4,SNR=6.1
KS19 Wonju Array Si 17.47 254 P **Pn** **17 28 53.7 -1.8**
JNU Nakatsue 18.14 238 P **Pn** **17 29 02.6 -1.3**
comp=E,3.3nm,0.3s,baz=42,slow=5.2,SNR=29
JNU Nakatsue 18.14 238 P **Pn** **17 29 02.5 -1.3**
JCJ Chichijima 18.22 200 P **P** **17 29 04.1 -0.6**
comp=E,18nm,0.3s,baz=8.9,slow=6.8,SNR=11
JCJ S Sn 17 32 10.8 -16
comp=E,76nm,0.3s,baz=270,slow=20,SNR=8.9
JCJ LR LR 17 35 47.9
comp=E,15µm,19.1s,baz=5.0,slow=36
INCN Inchon 18.34 255 P **Pn** **17 29 06.8 +0.6**
SNR=14
INCN Inchon 18.34 255 P **Pn** **17 29 06.6 +0.4**
INCN pmax pmax
comp=Z,189nm,1.0s
INCN Inchon 18.34 255 *e*P **Pn** **17 29 06.6 +0.4**
INCN Inchon 18.34 255 P **Pn** **17 29 06.6 +0.4**
SMY Shemya 18.39 54 P **P** **17 29 04.7 -1.7**
SMY pmax pmax
comp=Z,2µm,1.9s
SMY Shemya 18.39 54 P **P** **17 29 04.7 -1.7**
SMY IAmb IAmb 17 29 12.7
comp=Z,2µm,1.9s
TJN Taejon 18.40 251 *ce*P **P** **17 29 06.0 -0.7**
SEY Seymchan 18.59 5 *c i*P **P** **17 29 07.5 -1.1**
SEY Seymchan 18.59 5 P **P** **17 29 06.8 -1.8**
comp=Z,9.7nm,0.3s,baz=183,slow=9.0,SNR=94
SEY LR LR 17 36 53.3
comp=Z,73µm,18.4s,baz=181,slow=39
HIA Hailar 20.59 294 *i* P **P** **17 29 28.4 -2.1**
HIA pmax pmax
comp=Z,253nm,1.0s
HIA Hailar 20.59 294 P **P** **17 29 29.6 -0.9**
HIA Hailar 20.59 294 IAMs_20 IAMs_20 17 37 48.8
comp=Z,51µm,19.0s
YAK Yakutsk 20.94 334 *c i*P **P** **17 29 31.1 -3.0**
YAK *e* 17 29 49.6
YAK *e*S **S** **17 33 18.2 -7.2**
YAK *e* 17 33 46.0
YAK *e*SSS SSS 17 33 50.6
YAK *e* 17 40 54.2
YAK pmax pmax
comp=Z,309nm,1.1s
YAK pmax pmax
comp=E,72nm,1.1s
YAK pmax pmax
comp=N,121nm,1.2s
YAK smax smax
comp=N,5µm,2.9s
YAK smax smax
comp=E,4µm,3.2s
YAK MLR MLR
comp=Z,83µm,20.0s
YAK MLR MLR
comp=E,43µm,18.0s
YAK MLR MLR
comp=N,51µm,19.0s
YAK Yakutsk 20.94 334 P **P** **17 29 32.3 -1.8**
comp=N,69nm,0.4s,baz=139,slow=1.2,SNR=120
YAK S **S** **17 33 19.5 -5.9**
comp=N,23nm,0.7s,baz=118,slow=18,SNR=5.4
YAK LR LR 17 38 14.6
comp=N,72µm,18.5s,baz=138,slow=38
YAK Yakutsk 20.94 334 P **P** **17 29 33.4 -0.8**
YAK Yakutsk 20.94 334 IAMs_20 IAMs_20 17 37 43.9
comp=Z,70µm,20.0s
DL2 Dalian 21.23 264⇑ *i*P **P** **17 29 36.7 -0.7**
DL2 S **S** **17 33 33.0 +1.6**
DL2 ScS **ScS** **17 40 58.2 -1.3**
DL2 pmax pmax
comp=Z,350nm,0.6s
DL2 pmax pmax
comp=Z,2µm,6.7s
DL2 LR LR
comp=Z,12µm,16.9s
DL2 LR LR
comp=Z,11µm,19.2s
DL2 LR LR
comp=Z,17µm,18.4s
ADK Adak 23.80 60 P **P** **17 30 02.6 -1.4**
ADK pmax pmax
comp=Z,202nm,1.1s
ADK MLR MLR
comp=Z,18µm,22.0s
ADK Adak 23.80 60 P **P** **17 30 02.6 -1.4**
GSTR Great Sitkin T 24.20 59 P **P** **17 30 08.2 +0.4**
JOW Kunigami 24.32 231 P **P** **17 30 10.1 +1.0**
comp=Z,31nm,0.9s,baz=120,slow=14,SNR=35
JOW Kunigami 24.32 231 P **P** **17 30 09.5 +0.4**
BJI Beijing 24.69 271⇑ *i*P **P** **17 30 12.4 +0.1**
BJI sP **pP** **17 30 20.4 -0.9**
BJI S **S** **17 34 31.2 -0.5**
BJI pmax pmax
comp=Z,150nm,1.9s
BJI pmax pmax
comp=Z,2.0nm,2.6s
BJI LR LR
comp=Z,18µm,15.5s
BJI LR LR
comp=Z,22µm,19.0s
BJI LR LR
comp=Z,22µm,18.6s
BJT Baijiatuao 24.71 271 P **P** **17 30 12.2 -0.2**
BJT pmax pmax
comp=Z,220nm,0.9s
BJT MLR MLR
comp=Z,32µm,19.0s
BJT Baijiatuao 24.71 271 P **P** **17 30 12.2 -0.2**
BJT IAmb IAmb 17 30 20.8
comp=Z,220nm,0.9s
BJT Baijiatuao 24.71 271 IAMs_20 IAMs_20 17 39 59.3
comp=Z,32µm,19.0s
BILL Bilibino 25.28 15 *ce*P **P** **17 30 14.5 -2.9**
BILL *e* 17 30 55.9
BILL *i* S **S** **17 34 32.2 -8.5**
BILL pmax pmax
comp=Z,103nm,1.3s
BILL MLR MLR
comp=Z,72µm,21.0s
BILL Bilibino 25.28 15 P **P** **17 30 15.4 -2.1**
ATKA Atka Island 25.35 59 P **P** **17 30 19.6 +1.4**
ATKA IAmb IAmb 17 30 35.8
comp=Z,322nm,1.0s
ATKA PcP **PcP** **17 33 50.2 +0.2**
BOD Bodaibo 25.43 314 *e*P P 17 30 06.3 -13
TIA Tai'an 25.63 262 P **P** **17 30 20.8 -0.1**
TIA sP **sP** **17 30 34.7 +1.5**
TIA S **S** **17 34 48.1 +1.3**
TIA pmax pmax
comp=Z,980nm,3.9s
TIA LR LR
comp=Z,14µm,16.4s
TIA LR LR
comp=Z,10µm,14.2s
TIA LR LR
comp=Z,20µm,15.7s
SSE Sheshan 25.66 248 P **P** **17 30 23.9 +2.7**
SSE S **S** **17 34 49.9 +2.6**
SSE pmax pmax
comp=Z,49nm,0.8s
SSE pmax pmax
comp=Z,680nm,5.0s
SSE Sheshan 25.66 248 P **P** **17 30 19.6 -1.6**
NJ2 Nanjing 26.65 253 *e*P **P** **17 30 30.5 +0.4**
NJ2 pP **pP** **17 30 35.1 -4.2**
NJ2 S **S** **17 35 03.4 +0.4**
NJ2 sS **sS** **17 35 19.2 +0.2**
NJ2 pmax pmax
comp=Z,200nm,0.9s
NJ2 pmax pmax
comp=Z,3µm,5.2s
NJ2 LR LR
comp=Z,56µm,16.6s
NJ2 LR LR
comp=Z,30µm,19.9s
NJ2 LR LR
comp=Z,32µm,16.7s
HHC Hu-ho-hao-te 27.70 276 P **P** **17 30 40.7 +1.0**
HHC S **S** **17 35 20.2 +0.6**
SARN Sarigan 27.83 187 P **P** **17 30 39.0 -1.8**
SARN IAmb IAmb 17 31 27.3
comp=Z,306nm,1.6s
SARN PcP **PcP** **17 33 57.5 +1.1**
TIY Taiyuan 28.30 269 *e*P **P** **17 30 47.3 +2.4**
TIY S **S** **17 35 25.8 -3.1**
TIY pmax pmax
comp=Z,210nm,1.1s
TIY LR LR
comp=Z,13µm,23.3s
TIY LR LR
comp=Z,7µm,14.1s
TIY LR LR
comp=Z,9µm,14.6s
NIKH Nikolski High 28.63 58 P **P** **17 30 45.5 -2.2**
NIKH PcP **PcP** **17 33 57.9 +0.1**
H11N2 WAKE ISLAND Hy 28.77 143 P **P** **17 30 48.3 -0.6**
baz=267,slow=8.9,SNR=3.0
H11N2 T T 18 01 45.2
baz=334,slow=76,SNR=1974
H11N1 WAKE ISLAND Hy 28.78 143 P **P** **17 30 49.7 +0.8**
baz=267,slow=8.9,SNR=5.6
H11N1 T T 18 01 41.1
baz=334,slow=76,SNR=1364
H11N3 WAKE ISLAND Hy 28.78 143 P **P** **17 30 49.8 +0.8**
baz=267,slow=8.9,SNR=4.9
H11N3 T T 18 01 38.2
baz=334,slow=76,SNR=2682
BTO Baotou 28.89 276 *e*P **P** **17 30 51.0 +0.8**
BTO S **S** **17 35 32.8 -5.5**
TIXI Tiksi 28.96 347 *c i*P **P** **17 30 46.7 -3.7**
TIXI pmax pmax
comp=Z,29nm,0.9s
TIXI MLR MLR
comp=Z,28µm,18.0s
TIXI Tiksi 28.96 347 P **P** **17 30 46.8 -3.6**
comp=Z,15nm,0.4s,baz=180,slow=24,SNR=103
TIXI S **S** **17 35 30.2 -8.5**
comp=Z,2.6nm,0.5s,baz=299,slow=19,SNR=1.5
TIXI LR LR 17 43 24.9
comp=Z,29µm,18.1s,baz=158,slow=39
TIXI Tiksi 28.96 347 P **P** **17 30 47.1 -3.3**
TIXI Tiksi 28.96 347 IAMs_20 IAMs_20 17 43 04.7
comp=Z,30µm,18.0s
WAKE Wake Island 29.06 144 P **P** **17 30 50.6 -1.1**
ULN Ulaanbaatar 29.08 292 P **P** **17 30 53.4 +1.5**
SNR=31
ULN P **P** **17 30 53.4 +1.5**
SNR=31
ULN P **P** **17 30 53.4 +1.5**
SNR=31
ULN Ulaanbaatar 29.08 292 *ce*P **P** **17 30 51.0 -0.9**
ULN pmax pmax
comp=Z,76nm,1.0s
ULN Ulaanbaatar 29.08 292 P **P** **17 30 52.9 +1.0**
ULN Ulaanbaatar 29.08 292 IAMs_20 IAMs_20 17 43 33.3
comp=Z,38µm,18.0s
GAMB Gambell 29.30 35 IAMs_20 IAMs_20 17 44 33.2
comp=Z,18µm,18.0s
SONM Songino Array 29.52 292 P **P** **17 30 55.8 0.0**
comp=Z,40nm,0.7s,baz=78,slow=7.8,SNR=140
SONM ScP **ScP** **17 37 37.9 -1.5**
comp=Z,8.6nm,1.1s,baz=74,slow=2.5,SNR=3.8
SONM LR LR 17 43 59.2
comp=Z,44µm,18.4s,baz=92,slow=39
H11S1 WAKE ISLAND Hy 29.77 145 P **P** **17 30 58.4 +0.6**
baz=325,slow=3.8,SNR=11
H11S1 T T 18 02 30.5
SNR=343
H11S3 WAKE ISLAND Hy 29.78 145 P **P** **17 30 58.3 +0.3**
baz=325,slow=3.8,SNR=7.3
H11S2 WAKE ISLAND Hy 29.79 145 P **P** **17 30 58.4 +0.4**
baz=325,slow=3.8,SNR=7.2
H11S2 T T 18 01 51.4
SNR=7.4
YHNB Yeheng 29.98 238 P **P** **17 31 03.3 +3.3**
YHNB IAMs_20 IAMs_20 17 44 08.4
comp=Z,26µm,19.0s
NACB Ninganchiao 30.22 237 IAMs_20 IAMs_20 17 42 51.7
comp=Z,28µm,22.0s
IRK Irkutsk 30.39 301 *e*P **P** **17 31 02.7 -0.6**
IRK pmax pmax
comp=Z,75nm,2.2s
WHN Wuhan 30.64 255⇑ P **P** **17 31 06.3 +0.6**
WHN S **S** **17 36 05.6 -0.2**
WHN sS **sS** **17 36 23.1 +1.3**
WHN pmax pmax
comp=Z,210nm,0.6s
WHN LR LR
comp=Z,103µm,21.3s
WHN LR LR
comp=Z,94µm,27.9s
WHN LR LR
comp=Z,47µm,18.1s
TLY Talaya 30.82 300 P **P** **17 31 07.9 +0.9**
TLY P **P** **17 31 07.9 +0.9**
TLY P **P** **17 31 07.9 +0.9**
TLY Talaya 30.82 300 *c i*P **P** **17 31 03.9 -3.2**
TLY *e* 17 32 12.4
TLY *e*PPP PPP 17 32 26.3
TLY *e* 17 34 10.4
TLY *e*S **S** **17 36 12.0 +3.8**
TLY *e*SS **SnSn** **17 37 55.9 +7.5**
TLY *e*SSS SSS 17 38 13.8
TLY pmax pmax
comp=Z,35nm,0.6s
TLY MLR MLR
comp=Z,130µm,19.0s
TLY Talaya 30.82 300 LR LR 17 44 32.2
comp=Z,48µm,18.3s,baz=80,slow=38
TLY Talaya 30.82 300 P **P** **17 31 08.2 +1.1**
TLY PcP **PcP** **17 34 06.0 +2.6**
SSLB Suanglung 30.89 237 P **P** **17 31 09.6 +1.7**
SSLB PcP **PcP** **17 34 04.8 +0.7**
SSLB IAMs_20 IAMs_20 17 45 07.6
comp=Z,27µm,19.0s
YULB Yu-li 30.98 236 P **P** **17 31 09.7 +0.9**
GUMO Guam 30.99 188 IAMs_20 IAMs_20 17 40 59.4
comp=Z,21µm,22.0s
ZAK Zakamensk 31.18 297 *e*P **P** **17 31 06.5 -3.9**
ZAK pmax pmax
comp=Z,43nm,1.4s
TPUB Ta-pu 31.45 237 P **P** **17 31 13.6 +0.7**
TPUB IAmb IAmb 17 31 16.3
comp=Z,139nm,0.8s
TPUB IAMs_20 IAMs_20 17 45 26.5
comp=Z,24µm,19.0s
QZH Quanzhou 31.51 242⇓ *i*P **P** **17 31 14.3 +1.0**
QZH S **S** **17 36 22.6 +3.3**
QZH pmax pmax
comp=Z,90nm,1.7s
QZH pmax pmax
comp=Z,1µm,4.3s
QZH LR LR
comp=Z,8µm,19.4s
QZH LR LR
comp=Z,10µm,17.5s
QZH LR LR
comp=Z,15µm,17.5s
TWG Pinlang 31.55 236 P **P** **17 31 14.4 +0.7**
KNMB Chin-men Tao 31.98 242 P **P** **17 31 19.6 +2.2**
KNMB IAmb IAmb 17 31 38.0
comp=Z,219nm,1.1s
ANM Nome 32.18 35 P **P** **17 31 20.8 +2.0**
ANM pmax pmax
comp=Z,525nm,1.6s
ANM MLR MLR
comp=Z,10µm,20.0s
ANM Nome 32.18 35 P **P** **17 31 20.8 +2.0**
MOY Mondy 32.46 300 *e*P **P** **17 31 21.4 -0.2**
MOY pmax pmax
comp=Z,73nm,2.2s
XAN Xi'an 32.54 265 P **P** **17 31 22.0 -0.4**
XAN pP pwP 17 31 36.4 +1.8
XAN S **S** **17 36 30.0 -5.5**
XAN sS sS 17 36 50.6 -1.0
XAN SS **SnSn** **17 38 28.1 -2.6**
XAN pmax pmax
comp=Z,86nm,0.7s
XAN pmax pmax
comp=Z,470nm,3.8s
XAN LR LR
comp=Z,9µm,17.4s
XAN LR LR
comp=Z,16µm,17.2s
XAN LR LR
comp=Z,17µm,16.9s
XAN Xi'an 32.54 265 P **P** **17 31 22.5 +0.1**
XAN pmax pmax
comp=Z,69nm,0.7s
XAN MLR MLR
comp=Z,15µm,18.0s
XAN Xi'an 32.54 265 P **P** **17 31 22.5 +0.1**
XAN Xi'an 32.54 265 IAMs_20 IAMs_20 17 46 11.2
comp=Z,15µm,18.0s
RDOG Red Dog Mine 34.19 30 P **P** **17 31 35.5 -0.9**
RDOG IAMs_20 IAMs_20 17 45 41.7
comp=Z,22µm,20.0s
ENH Enshi 34.20 259 P **P** **17 31 36.8 0.0**
ENH IAmb IAmb 17 31 38.4
comp=Z,113nm,0.7s
ENH PcP **PcP** **17 34 14.5 +1.4**
LZH Lanzhou 35.17 272⇓ *i*P **P** **17 31 46.2 +0.8**
LZH sP sP 17 31 56.5 -1.0
LZH S **S** **17 37 17.8 +1.4**
LZH SS **SnSn** **17 39 32.8 -1.9**
LZH pmax pmax
comp=Z,210nm,1.4s
LZH pmax pmax
comp=Z,1µm,5.4s
LZH LR LR
comp=Z,16µm,14.6s
LZH LR LR
comp=Z,18µm,17.9s
LZH LR LR
comp=Z,22µm,16.3s
TTA Tatalina 35.97 40 P **P** **17 31 52.0 +0.2**
TTA 17 34 19.0
TTA Tatalina 35.97 40 P **P** **17 31 52.0 +0.2**
TTA PcP **PcP** **17 34 19.0 +1.2**
SVW2 Sparrevohn 36.07 43 P **P** **17 31 54.3 +1.7**
SVW2 IAmb IAmb 17 31 56.5
comp=Z,273nm,1.2s
SVW2 IAMs_20 IAMs_20 17 45 58.3
comp=Z,18µm,22.0s
GZH Guangzhou 36.19 246 P **P** **17 31 49.8 -4.2**
GZH S **S** **17 37 24.3 -7.5**
GZH LR LR
comp=Z,23µm,18.8s
GZH LR LR
comp=Z,23µm,19.2s
HKPS Hong Kong Po S 36.25 244 IAMs_20 IAMs_20 17 47 32.4
comp=Z,19µm,19.0s
GTA Gaotai 36.58 280 P **P** **17 31 58.1 +0.7**
GTA pP pP 17 32 07.6 +1.1
GTA sP pwP 17 32 11.7 +1.7
GTA PP **PP** **17 33 24.5 +3.6**
GTA PcP **PcP** **17 34 22.7 +2.6**
GTA S **S** **17 37 38.3 +0.5**
GTA sS sS 17 37 54.1 0.0
GTA ScP **ScP** **17 38 03.6 -0.4**
GTA ScS **ScS** **17 42 09.9 -0.8**
GTA pmax pmax

comp=Z,100nm,1.2s
GTA pmax pmax
comp=Z,1µm,6.3s
GTA LR LR
comp=Z,13µm,14.4s
GTA LR LR
comp=Z,16µm,15.8s
GTA LR LR
comp=Z,26µm,17.2s
SII Sitkinak Islan 36.96 50 IAMs_20 IAMs_20 17 48 22.5
comp=Z,17µm,20.0s
OHAK Old Harbor 37.38 49 P **P** **17 32 02.8 -1.0**
OHAK PcP **PcP** **17 34 23.0 +1.0**
OHAK IAMs_20 IAMs_20 17 46 40.7
comp=Z,17µm,22.0s
RSO Redoubt South 37.46 44 P **P** **17 32 07.0 +2.4**
KDAK Kodiak Island 37.71 48 P **P** **17 32 06.2 -0.3**
KDAK pmax pmax
comp=Z,185nm,0.8s
KDAK MLR MLR
comp=Z,12µm,20.0s
KDAK Kodiak Island 37.71 48 LR LR 17 48 22.5
comp=Z,12µm,20.7s,baz=251,slow=38
KDAK Kodiak Island 37.71 48 P **P** **17 32 06.2 -0.3**
KDAK IAmb IAmb 17 32 09.9
comp=Z,185nm,0.8s
PPLA Purkeypile 37.72 40 P **P** **17 32 07.4 +0.7**
PPLA IAMs_20 IAMs_20 17 48 30.1
comp=Z,15µm,20.0s
CD2 Chengdu 37.90 265 P **P** **17 32 08.0 -0.5**
CD2 pP pP 17 32 15.5 -2.2
CD2 sP pwP 17 32 20.8 0.0
CD2 PP **PnPn** **17 33 36.4 -0.4**
CD2 S **S** **17 37 50.6 -7.2**
CD2 sS ScP 17 38 09.0 0.0
CD2 pmax pmax
comp=Z,1µm,4.3s
CD2 LR LR
comp=Z,22µm,17.7s
CD2 LR LR
comp=Z,19µm,18.6s
CD2 LR LR
comp=Z,19µm,21.1s
SKT Skwentna 38.02 41 P **P** **17 32 10.6 +1.4**
SKT IAmb IAmb 17 32 25.2
comp=Z,177nm,1.2s
SKT IAMs_20 IAMs_20 17 48 03.2
comp=Z,20µm,20.0s
HOM Homer 38.05 45 P **P** **17 32 08.9 -0.5**
CNPM China Poot 38.27 45 P **P** **17 32 11.7 +0.4**
CNPM IAmb IAmb 17 32 26.8
comp=Z,436nm,1.6s
CNPM IAMs_20 IAMs_20 17 49 57.0
comp=Z,12µm,19.0s
BPAW Bear Paw Mtn. 38.28 38 P **P** **17 32 11.6 +0.2**
KTH Kantishna Hill 38.30 39 P **P** **17 32 12.2 +0.6**
KTH IAMs_20 IAMs_20 17 50 28.5
comp=Z,14µm,18.0s
PATS Pohnpei 38.33 165 IAMs_20 IAMs_20 17 44 14.3
comp=Z,17µm,22.0s
SUA Susitna One 38.40 42 P **P** **17 32 11.8 -0.7**
SUA PcP **PcP** **17 34 25.8 +0.5**
MLY Manley 38.42 36 P **P** **17 32 13.0 +0.5**
MLY PcP **PcP** **17 34 26.7 +1.5**
MLY IAMs_20 IAMs_20 17 50 03.6
comp=Z,19µm,18.0s
BRLK Bradley Lake 38.43 45 P **P** **17 32 13.3 +0.6**
BRLK **PcP** **17 34 25.9 +0.6**
BRLK IAMs_20 IAMs_20 17 47 15.0
comp=Z,13µm,21.0s
GYA Guiyang 38.48 257 ⇓*i*P **P** **17 32 12.7 -0.9**
GYA pP pP 17 32 20.0 -2.9
GYA sP pwP 17 32 23.4 -2.3
GYA PP **PP** **17 33 39.2 -2.7**
GYA S S 17 37 57.8 -9.0
GYA ScS **ScS** **17 42 22.6 +0.8**
GYA pmax pmax
comp=Z,50nm,0.8s
GYA pmax pmax
comp=Z,190nm,5.5s
GYA LR LR
comp=Z,21µm,22.7s
GYA LR LR
comp=Z,10µm,18.7s
GYA LR LR
comp=Z,11µm,24.8s
TRF Thorofare Moun 38.58 39 P **P** **17 32 14.2 +0.2**
TRF IAmb IAmb 17 32 32.2
comp=Z,175nm,1.1s
TRF IAMs_20 IAMs_20 17 49 06.0
comp=Z,14µm,19.0s
COLD Coldfoot 38.78 33 P **P** **17 32 15.3 -0.2**
COLD IAmb IAmb 17 32 32.0
comp=Z,209nm,1.3s
COLD **ScP** **17 38 13.2 +1.6**
RC01 Rabbit Creek A 38.91 43 P **P** **17 32 16.6 0.0**
RC01 IAmb IAmb 17 32 31.4
comp=Z,282nm,1.0s
RC01 PcP **PcP** **17 34 27.7 +0.9**
BWN Browne 38.95 38 P **P** **17 32 17.7 +0.8**
BWN IAMs_20 IAMs_20 17 49 20.6
comp=Z,13µm,20.0s
KWAJ Kwajalein Atol 38.99 150 IAMs_20 IAMs_20 17 44 47.5
comp=Z,19µm,22.0s
NEA Nenana 39.12 37 P **P** **17 32 18.9 +0.5**
NEA IAmb IAmb 17 32 21.0
comp=Z,226nm,1.0s
NEA IAMs_20 IAMs_20 17 50 46.3
comp=Z,21µm,18.0s
SEW Seward 39.12 44 P **P** **17 32 18.7 +0.3**
SEW IAmb IAmb 17 32 30.6
comp=Z,268nm,1.2s
SEW IAMs_20 IAMs_20 17 49 17.5
comp=Z,19µm,21.0s
PMR Palmer 39.17 42 P **P** **17 32 19.4 +0.6**
PMR pmax pmax
comp=Z,224nm,1.3s
PMR MLR MLR
comp=Z,14µm,22.0s
PMR Palmer 39.17 42 P **P** **17 32 19.4 +0.6**
PMR IAmb IAmb 17 32 21.3
comp=Z,224nm,1.3s
PMR IAMs_20 IAMs_20 17 48 41.8
comp=Z,14µm,22.0s
MCK McKinley 39.19 38 P **P** **17 32 19.5 +0.6**
MCK pmax pmax
comp=Z,342nm,1.2s
MCK MLR MLR
comp=Z,12µm,20.0s
MCK McKinley 39.19 38 P **P** **17 32 19.5 +0.6**
MCK IAmb IAmb 17 32 21.8
comp=Z,342nm,1.2s
MCK IAMs_20 IAMs_20 17 49 40.0
comp=Z,12µm,20.0s
RND Reindeer 39.23 39 P **P** **17 32 19.0 -0.4**
RND pmax pmax
comp=Z,390nm,1.3s
RND MLR MLR
comp=Z,13µm,19.0s
RND Reindeer 39.23 39 P **P** **17 32 19.0 -0.4**
RND IAmb IAmb 17 32 22.0
comp=Z,390nm,1.3s
RND IAMs_20 IAMs_20 17 49 35.0
comp=Z,13µm,19.0s
MDM Murphy Dome 39.48 36 P **P** **17 32 21.6 +0.2**
KNK Knik Glacier 39.51 42 P **P** **17 32 21.3 -0.4**
KNK IAMs_20 IAMs_20 17 48 52.6
comp=Z,14µm,20.0s
SML Sawmill 39.54 41 P **P** **17 32 23.1 +1.1**
SML IAMs_20 IAMs_20 17 48 52.4
comp=Z,13µm,21.0s
WRH Wood River Hil 39.55 37 P **P** **17 32 22.0 +0.1**
WRH IAmb IAmb 17 32 36.3
comp=Z,196nm,1.0s
TCOL CIGO, UAF Yank 39.64 37 P **P** **17 32 23.1 +0.5**
baz=270,SNR=85
COLA College 39.65 37 P **P** **17 32 24.0 +1.3**
COLA pmax pmax
comp=Z,449nm,1.1s
COLA MLR MLR
comp=Z,12µm,18.0s
COLA College 39.65 37 P **P** **17 32 24.0 +1.3**
COLA College 39.65 37 IAMs_20 IAMs_20 17 50 52.0
comp=Z,12µm,18.0s
CCB Clear Creek Bu 39.67 37 P **P** **17 32 22.9 0.0**
CCB IAmb IAmb 17 32 27.6
comp=Z,245nm,1.3s
CCB IAMs_20 IAMs_20 17 51 11.7
comp=Z,17µm,18.0s
POKR Poker Plat Res 39.82 36 P **P** **17 32 24.5 +0.3**
baz=271,SNR=322
DHY Denali Highway 39.91 39 P **P** **17 32 24.7 -0.4**
DHY IAmb IAmb 17 32 27.8
comp=Z,329nm,1.3s
DHY IAMs_20 IAMs_20 17 49 58.1
comp=Z,16µm,20.0s
SCM Sheep Creek Mo 40.01 41 P **P** **17 32 25.7 -0.2**
SCM pmax pmax
comp=Z,187nm,0.8s
SCM MLR MLR
comp=Z,11µm,22.0s
SCM Sheep Creek Mo 40.01 41 P **P** **17 32 25.7 -0.2**
SCM IAmb IAmb 17 32 44.9
comp=Z,186nm,0.8s
IL31 40.06 37 P **P** **17 32 26.0 -0.1**
IL31 IAmb IAmb 17 32 29.6
comp=Z,337nm,1.2s
ILAR Eielson Array 40.06 37 P **P** **17 32 25.0 -1.2**
comp=Z,226nm,1.1s,baz=258,slow=7.1,SNR=176
ILAR LR LR 17 51 08.0
comp=Z,8µm,18.4s,baz=288,slow=40
GLI Glacier Island 40.21 43 P **P** **17 32 27.4 0.0**
GLI IAmb IAmb 17 32 42.1
comp=Z,347nm,1.3s
GLI IAMs_20 IAMs_20 17 50 45.2
comp=Z,12µm,20.0s
FID Port Fidalgo 40.52 43 P **P** **17 32 30.6 +0.5**
FID IAmb IAmb 17 32 45.5
comp=Z,522nm,1.5s
HIN Hinchinbrook I 40.55 44 P **P** **17 32 31.7 +1.4**
HIN IAMs_20 IAMs_20 17 50 40.4
comp=Z,15µm,20.0s
PRP Porcupine Dome 40.62 36 P **P** **17 32 32.4 +1.5**
PRP IAmb IAmb 17 32 34.2
comp=Z,300nm,1.2s
FYU Fort Yukon 40.71 34 P **P** **17 32 32.1 +0.6**
PAX Paxson 40.78 39 P **P** **17 32 34.1 +1.8**
PAX pmax pmax
comp=Z,180nm,1.3s
PAX Paxson 40.78 39 P **P** **17 32 34.1 +1.8**
EYAK Cordova Ski Ar 40.91 43 P **P** **17 32 34.5 +1.3**
EYAK IAMs_20 IAMs_20 17 50 51.6
comp=Z,16µm,20.0s
RIDG Independent Ri 41.00 38 P **P** **17 32 33.9 -0.2**
RIDG IAmb IAmb 17 32 36.4
comp=Z,243nm,1.0s
RIDG IAMs_20 IAMs_20 17 51 52.0
comp=Z,18µm,19.0s
DOT Dot Lake 41.36 38 P **P** **17 32 36.3 -0.7**
DOT IAMs_20 IAMs_20 17 49 36.9
comp=Z,14µm,22.0s
SCRK Sand Creek 41.36 38 P **P** **17 32 36.3 -0.8**
SCRK IAmb IAmb 17 32 39.4
comp=Z,461nm,1.6s
SCRK IAMs_20 IAMs_20 17 51 59.5
comp=Z,15µm,18.0s
QIZ Qiongzhong 41.37 245 P **P** **17 32 37.0 -0.5**
QIZ PP **PP** **17 34 11.3 -2.0**
QIZ S S 17 38 39.2 -11
QIZ SS **SS** **17 41 54.8 +0.4**
QIZ pmax pmax
comp=Z,630nm,5.0s
QIZ LR LR
comp=Z,13µm,21.5s
QIZ LR LR
comp=Z,15µm,21.3s
QIZ LR LR
comp=Z,14µm,18.0s
QIZ Qiongzhong 41.37 245 P **P** **17 32 38.6 +1.2**
QIZ Qiongzhong 41.37 245 IAMs_20 IAMs_20 17 50 54.9
comp=Z,16µm,18.0s
RAGM Ragged Mountai 41.45 43 P **P** **17 32 38.5 +0.7**
RAGM IAmb IAmb 17 32 53.8
comp=Z,383nm,1.2s
RAGM IAMs_20 IAMs_20 17 51 37.2
comp=Z,21µm,20.0s
MENT Mentasta 41.58 39 P **P** **17 32 40.9 +2.1**
MENT IAMs_20 IAMs_20 17 52 33.4
comp=Z,18µm,18.0s
HMT Hamilton 41.67 43 P **P** **17 32 40.4 +0.9**
HMT IAmb IAmb 17 32 55.3
comp=Z,320nm,1.2s
HMT IAMs_20 IAMs_20 17 51 43.7
comp=Z,19µm,20.0s
CGP Cagayan de Oro 41.69 218 ⇓P **P** **17 32 42.2 +2.2**
ZAA0 Zalesovo Array 41.71 307 P **P** **17 32 39.4 -0.5**
ZALV Zalesovo Beam 41.71 307 P **P** **17 32 38.8 -1.1**
comp=Z,7.6nm,0.4s,baz=69,slow=5.7,SNR=32
ZALV PcP **PcP** **17 34 36.5 +0.6**
comp=Z,85nm,0.8s,baz=74,slow=3.0,SNR=18
ZALV ScP **ScP** **17 38 22.4 -0.9**
comp=Z,29nm,1.0s,baz=72,slow=4.8,SNR=7.3
ZALV LR LR 17 51 07.4
comp=Z,25µm,18.8s,baz=76,slow=38
GLB Gilahina Butte 41.72 42 P **P** **17 32 41.2 +1.2**
GLB IAMs_20 IAMs_20 17 50 22.2
comp=Z,13µm,22.0s
VRDI Verde Repeater 41.92 42 P **P** **17 32 42.4 +0.6**
VRDI IAmb IAmb 17 32 57.4
comp=Z,198nm,1.0s
KMI Kunming 42.06 258 P **P** **17 32 43.7 +0.3**
KMI pP pP 17 32 51.6 -1.1
KMI sP sP 17 32 55.9 +0.1
KMI S **S** **17 39 00.7 +0.1**
KMI sS pS 17 39 14.1 +2.2
KMI pmax pmax
comp=Z,180nm,1.0s
KMI pmax pmax
comp=Z,780nm,4.3s
KMI LR LR
comp=Z,13µm,17.5s
KMI LR LR
comp=Z,11µm,18.1s
KMI LR LR
comp=Z,16µm,18.7s
KMI Kunming 42.06 258 P **P** **17 32 44.3 +0.9**
KMI pmax pmax
comp=Z,243nm,1.1s
KMI MLR MLR
comp=Z,17µm,19.0s
KMI Kunming 42.06 258 P **P** **17 32 44.3 +0.9**
KMI IAmb IAmb 17 33 05.7
comp=Z,243nm,1.1s
KMI Kunming 42.06 258 IAMs_20 IAMs_20 17 52 40.3
comp=Z,17µm,19.0s
MCARA McCarthy VSAT 42.11 42 P **P** **17 32 45.3 +2.2**
MCARA IAmb IAmb 17 32 59.8
comp=Z,356nm,1.1s
MCARA IAMs_20 IAMs_20 17 50 32.3
comp=Z,14µm,22.0s
CRQM Cirque 42.15 43 P **P** **17 32 45.1 +1.5**
CRQM IAMs_20 IAMs_20 17 50 28.1
comp=Z,25µm,21.0s
TGL Tana Glacier 42.30 43 P **P** **17 32 45.2 +0.4**
TGL IAmb IAmb 17 33 01.3
comp=Z,242nm,1.1s
TGL IAMs_20 IAMs_20 17 50 32.5
comp=Z,24µm,22.0s
WAX Waxell Ridge 42.34 43 IAMs_20 IAMs_20 17 52 14.5
comp=Z,15µm,20.0s
BALM Baldy 42.49 42 IAmb IAmb 17 33 02.6
comp=Z,492nm,1.4s
EGAK Eagle 42.51 36 P **P** **17 32 46.0 -0.3**
DAV Davao City (W) 42.54 216 LR LR 17 51 33.9
comp=Z,4µm,18.4s,baz=358,slow=38
DAV Davao City (W) 42.54 216 ⇓*i*P **P** **17 32 46.0 -1.1**
KCP Kidapawan 42.81 217 ⇓P **P** **17 32 48.9 -0.3**
MESA MESA 42.83 43 IAMs_20 IAMs_20 17 51 02.5
comp=Z,14µm,20.0s
YAH Yahtse 42.89 43 IAMs_20 IAMs_20 17 51 24.2
comp=Z,13µm,20.0s
WMQ Urumqi 43.16 292 P **P** **17 32 53.7 +1.8**
WMQ pP pP 17 32 59.8 -1.7
WMQ sP sP 17 33 03.4 -0.8
WMQ S **S** **17 39 17.9 +1.9**
WMQ sS sS 17 39 30.5 -2.0
WMQ ScS **ScS** **17 42 50.1 +0.8**
WMQ pmax pmax
comp=Z,140nm,0.9s
WMQ pmax pmax
comp=Z,1µm,3.9s
WMQ LR LR
comp=Z,24µm,16.7s
WMQ LR LR
comp=Z,19µm,15.7s
WMQ LR LR
comp=Z,30µm,18.7s
DAWY Dawson 43.36 37 P **P** **17 32 53.2 -0.1**
DAWY IAMs_20 IAMs_20 17 53 16.3
comp=Z,17µm,18.0s
ZSN Zaisan 43.64 298 ⇑*i*P **P** **17 32 54.8 -0.8**
comp=Z,192nm,3.2s
ZSN *e*S **S** **17 39 19.7 -3.2**
comp=Z,189nm,5.4s
ZSN *e*LR LR 17 51 39.3
comp=Z,17µm,18.6s
ZSN Zaisan 43.64 298 *c i*P **P** **17 32 54.8 -0.8**
ZSN *e*S **S** **17 39 19.7 -3.2**
ZSN pmax pmax
comp=Z,192nm,3.2s
ZSN smax smax
comp=E,189nm,5.4s
ZSN MLR MLR
comp=Z,17µm,19.0s
PCA Pinnacle 43.67 43 IAMs_20 IAMs_20 17 51 37.7
comp=Z,19µm,20.0s
SLVN Son La 43.73 253 P **P** **17 32 57.8 +1.1**
SLVN IAMs_20 IAMs_20 17 54 15.6
comp=Z,14µm,18.0s
BCPM Bancas Point 44.01 43 IAMs_20 IAMs_20 17 51 36.7
comp=Z,15µm,21.0s
EPYK Eagle Plains 44.13 34 P **P** **17 32 59.7 +0.3**
baz=279,SNR=260
EPYK Eagle Plains 44.13 34 P **P** **17 32 59.9 +0.5**
JOHN Johnston Islan 44.37 115 IAMs_20 IAMs_20 17 50 19.7
comp=Z,11µm,18.0s
DHAK Deception Hill 44.92 44 P **P** **17 33 06.2 +0.4**
DHAK IAmb IAmb 17 33 22.6
comp=Z,114nm,0.9s
DHAK IAMs_20 IAMs_20 17 54 08.8
comp=Z,13µm,20.0s
INK Inuvik 45.06 31 P **P** **17 33 06.8 +0.1**
INK pmax pmax
comp=Z,260nm,1.0s
INK MLR MLR
comp=Z,21µm,18.0s
INK Inuvik 45.06 31 S **S** **17 39 44.2 +1.4**
comp=Z,7.9nm,1.0s,baz=15,slow=20,SNR=8.2
INK LR LR 17 55 07.7
comp=Z,14µm,18.2s,baz=286,slow=40
INK Inuvik 45.06 31 P **P** **17 33 06.8 +0.1**
SEM Semipalatinsk 45.45 303 *e*LR LR 17 52 26.1
comp=Z,4µm,16.2s
MK31 Makanchi Array 45.52 298 *i*P **P** **17 33 10.1 -0.6**
MK31 pmax pmax
comp=Z,40nm,0.6s
MKAR Makanchi Array 45.52 298 *i*P **P** **17 33 09.8 -0.9**
MKAR pmax pmax
comp=Z,76nm,0.9s
MKAR Makanchi Array 45.52 298 P **P** **17 33 09.9 -0.8**
comp=Z,76nm,0.9s,baz=75,slow=6.1,SNR=213
MKAR PcP **PcP** **17 34 50.3 +1.3**
comp=Z,30nm,0.8s,baz=71,slow=4.4,SNR=2.2
MKAR LR LR 17 53 35.5
comp=Z,59nm,18.2s,baz=65,slow=38
MAKZ Makanchi 45.71 298 P **P** **17 33 13.2 +1.0**
MAKZ pmax pmax
comp=Z,63nm,0.7s
MAKZ MLR MLR
comp=Z,65µm,18.0s
MAKZ Makanchi 45.71 298 P **P** **17 33 13.2 +1.0**
SKAG Skagway 46.25 43 P **P** **17 33 17.9 +1.8**
SKAG IAMs_20 IAMs_20 17 55 43.9
comp=Z,13µm,18.0s
KURK Kurchatov 46.31 304 P **P** **17 33 15.5 -1.3**
KURK P **P** **17 33 15.5 -1.3**
KURK P **P** **17 33 15.5 -1.3**
KURK Kurchatov 46.31 304 P **P** **17 33 15.4 -1.3**
KURK pmax pmax
comp=Z,96nm,1.1s
KURK MLR MLR
comp=Z,22µm,18.0s
KURK Kurchatov 46.31 304 P **P** **17 33 15.4 -1.3**
MANU Manus Island 46.33 182 P **P** **17 33 16.8 -0.5**
KURBB Kurchatov Arra 46.40 304 P **P** **17 33 16.8 -0.7**
comp=Z,28nm,0.4s,baz=70,slow=8.8,SNR=58
BESE Bessie Mountai 46.74 44 P **P** **17 33 22.4 +2.2**
UBPT Khong Chiam 46.95 246 P **P** **17 33 24.2 +2.0**
UBPT IAmb IAmb 17 33 36.5
comp=Z,245nm,1.7s
UBPT IAMs_20 IAMs_20 17 53 43.7
comp=Z,9µm,21.0s
JIS Juneau Island 47.07 45 P **P** **17 33 24.6 +2.1**
KEKH Kekaha 47.42 101 IAMs_20 IAMs_20 17 52 30.3
comp=Z,11µm,18.0s
DLV T Lat 47.53 240 P **P** **17 33 29.1 +2.1**
LSA Lhasa 47.59 272 P **P** **17 33 28.9 +1.2**
LSA S **S** **17 40 20.6 -0.5**
LSA comp=Z,30µm,18.2s LR LR
LSA comp=Z,20µm,16.4s LR LR
LSA comp=Z,29µm,20.6s LR LR
LSA Lhasa 47.59 272 P **P** **17 33 28.6 +0.9**
LSA Lhasa 47.59 272 P **P** **17 33 27.6 -0.1**
LSA P **P** **17 33 27.6 -0.1**
LSA Lhasa 47.59 272 P **P** **17 33 29.5 +1.9**
LSA pmax pmax
comp=Z,74nm,0.7s
LSA MLR MLR
comp=Z,7µm,18.0s
LSA Lhasa 47.59 272 P **P** **17 33 29.5 +1.9**
LSA IAmb IAmb 17 33 30.9
comp=Z,74nm,0.7s
TNTI Ternate 47.61 210 P **P** **17 33 28.0 +0.7**
KOHI KOHIMA 47.81 266 IAmb IAmb 17 48 45.2
comp=Z,42nm,0.9s
TARA Tarawa 47.83 147 IAMs_20 IAMs_20 17 48 54.8
comp=Z,13µm,22.0s
SIJI Sorong 47.87 204 LR LR 17 54 44.9
comp=Z,8µm,18.2s,baz=1.5,slow=37
KKM Kota Kinabalu 47.88 227 P **P** **17 33 31.2 +1.7**
KKM IAmb IAmb 17 33 48.7
comp=Z,97nm,1.1s
C36M Paulatuk 48.17 28 P **P** **17 33 30.7 -0.3**
baz=286,SNR=161
CRAG Craig 48.67 48 IAmb IAmb 17 33 39.4
comp=Z,245nm,1.6s
TDK Taldyqorghan 48.73 297 *e*P **P** **17 33 35.2 -0.5**
comp=Z,248nm,1.0s
TDK *e*S **S** **17 40 33.6 -2.3**
TDK *e*LR LR 17 54 13.9
comp=Z,25µm,18.2s
TDK Taldyqorghan 48.73 297 *e*P **P** **17 33 35.2 -0.5**
TDK *e*S **S** **17 40 33.5 -2.3**
TDK pmax pmax
comp=Z,248nm,1.0s
TDK MLR MLR
comp=Z,25µm,18.0s
PDGK Podgornoye 48.77 295 P **P** **17 33 35.6 -0.6**
PDGK pmax pmax
comp=Z,80nm,0.8s
OPA Opana 48.81 100 IAMs_20 IAMs_20 17 51 46.1
comp=Z,15µm,20.0s
CHTO Chiang Mai 48.85 255 P **P** **17 33 37.4 +0.5**
SNR=36
CHTO P **P** **17 33 37.4 +0.5**
SNR=36
CHTO Chiang Mai 48.85 255 P **P** **17 33 38.2 +1.3**
CHTO pmax pmax
comp=Z,92nm,0.7s
CHTO MLR MLR
comp=Z,9µm,20.0s
CHTO Chiang Mai 48.85 255 P **P** **17 33 38.2 +1.3**
CHTO IAmb IAmb 17 33 41.6
comp=Z,92nm,0.7s
CHTO Chiang Mai 48.85 255 IAMs_20 IAMs_20 17 55 37.3
comp=Z,9µm,20.0s
SHLS Shalkode 48.87 294 ⇑*i*P **P** **17 33 34.2 -2.8**
comp=Z,276nm,2.4s
SHLS *e*S **S** **17 40 33.4 -4.8**
SHLS *e*LR LR 17 55 20.1
comp=Z,8µm,18.2s
SHLS Shalkode 48.87 294 *c i*P **P** **17 33 34.1 -2.8**
SHLS *e*S **S** **17 40 33.3 -4.8**
SHLS pmax pmax
comp=Z,276nm,2.4s

SHLS MLR MLR
comp=Z,8μm,18.0s
KIP Kipapa 48.98 100 IAMs_20 IAMs_20 17 51 51.7
comp=Z,13μm,20.0s
PBKT Sadao Pong 49.02 251 P **P** **17 33 39.0 +0.9**
PBKT IAMs_20 IAMs_20 17 57 45.4
comp=Z,10μm,20.0s
HON Honolulu 49.05 100 IAMs_20 IAMs_20 17 52 13.7
comp=Z,13μm,19.0s
CM31 Chiang Mai Arr 49.09 255 P **P** **17 33 40.2 +1.4**
SNR=29
CM31 Chiang Mai Arr 49.09 255 P **P** **17 33 40.0 +1.3**
CM31 IAmb IAmb 17 33 41.7
comp=Z,69nm,0.7s
CMAR Chiang Mai Arr 49.09 255 *ce*P **P** **17 33 39.2 +0.4**
CMAR pmax pmax
comp=Z,43nm,0.6s
CMAR Chiang Mai Arr 49.09 255 P **P** **17 33 39.1 +0.4**
comp=Z,42nm,0.6s,baz=42,slow=7.3,SNR=245
CMAR ScP **ScP** **17 38 55.4 +1.0**
comp=Z,4.7nm,0.8s,baz=27,slow=3.2,SNR=5.6
CMAR LR LR 17 56 59.9
comp=Z,10μm,18.2s,baz=52,slow=39
CMAR PKPPKP P'P'df 18 04 28.7 -10
comp=Z,0.4nm,0.4s,baz=251,slow=2.8,SNR=4.7
UZB Uzynbulak 49.16 295 ⇑ *i*P **P** **17 33 38.7 -0.5**
comp=Z,171nm,2.1s
UZB *e*S **S** **17 40 41.9 -0.4**
UZB *e*LR LR 17 55 59.1
comp=Z,3μm,15.6s
UZB Uzynbulak 49.16 295 *c i*P **P** **17 33 38.6 -0.5**
UZB *e*S **S** **17 40 41.8 -0.4**
UZB pmax pmax
comp=Z,171nm,2.1s
UZB MLR MLR
comp=Z,3μm,16.0s
KPKS Kokpek 49.23 295 ⇑ *i*P **P** **17 33 39.4 -0.4**
comp=Z,503nm,2.4s
KPKS *e*S **S** **17 40 39.8 -3.4**
KPKS *e*LR LR 17 55 43.5
comp=Z,13μm,19.5s
KPKS Kokpek 49.23 295 *c i*P **P** **17 33 39.3 -0.4**
KPKS *e*S **S** **17 40 39.7 -3.4**
KPKS pmax pmax
comp=Z,503nm,2.4s
KPKS MLR MLR
comp=Z,13μm,19.0s
SHL Shillong 49.50 267 P **P** **17 33 42.5 +0.5**
SNR=43
SHL Shillong 49.50 267 P **P** **17 33 42.5 +0.5**
SHL pmax pmax
comp=Z,180nm,0.9s
SHL Shillong 49.50 267 *e*P **P** **17 33 42.0 0.0**
SHL *i* S **S** **17 40 50.0 +2.5**
SHL IAMs_20 IAMs_20 17 57 26.1
comp=Z,6μm,15.6s
SHL Shillong 49.50 267 P **P** **17 33 42.5 +0.5**
ZHN Zhinishke 49.53 295 ⇑ *i*P **P** **17 33 41.8 -0.2**
comp=Z,226nm,2.3s
ZHN *e*LR LR 17 56 07.1
comp=Z,4μm,15.4s
ZHN Zhinishke 49.53 295 *c i*P **P** **17 33 41.8 -0.2**
ZHN pmax pmax
comp=Z,226nm,2.3s
ZHN MLR MLR
comp=Z,4μm,15.0s
SATY Saty 49.60 295 ⇑ *i*P **P** **17 33 42.6 +0.1**
comp=Z,540nm,2.4s
SATY *e*S **S** **17 40 45.5 -2.9**
SATY *e*LR LR 17 55 31.8
comp=Z,4μm,14.6s
SATY Saty 49.60 295 *c i*P **P** **17 33 42.6 +0.1**
SATY *e*S **S** **17 40 45.5 -2.9**
SATY pmax pmax
comp=Z,540nm,2.4s
SATY MLR MLR
comp=Z,4μm,15.0s
PRZ Przheval'sk 49.87 294 P **P** **17 33 46.3 +1.6**
PRZ pmax pmax
comp=Z,125nm,0.8s
PRZ MLR MLR
comp=Z,30μm,19.0s
PRZ Przheval'sk 49.87 294 P **P** **17 33 46.3 +1.6**
PRZ IAmb IAmb 17 33 55.8
comp=Z,125nm,0.8s
BRZS Berezniki 50.10 305 *e*P **P** **17 33 45.0 -1.2**
comp=Z,103nm,1.0s
BRZS *e*S **S** **17 40 55.0 0.0**
BRZS *e*LR LR 17 55 43.5
comp=Z,3μm,14.0s
BRZS Berezniki 50.10 305 *e*P **P** **17 33 44.9 -1.2**
BRZS *e*S **S** **17 40 55.0 0.0**
BRZS pmax pmax
comp=Z,103nm,1.0s
BRZS MLR MLR
comp=Z,3μm,14.0s
CHKK Chushkaly 50.15 296 ⇑ *e*P **P** **17 33 45.8 -0.7**
CHKK Chushkaly 50.15 296 ⇑ *e*P **P** **17 33 45.8 -0.7**
BVAR Borovoye Array 50.15 309 P **P** **17 33 45.9 -0.5**
comp=Z,13nm,0.4s,baz=90,slow=4.4,SNR=81
MOBC Moresby Island 50.19 50 P **P** **17 33 47.9 +1.1**
MOBC IAmb IAmb 17 33 50.3
comp=Z,219nm,1.4s
BRVK Borovoye 50.20 310 P **P** **17 33 47.6 +0.9**
SNR=16
BRVK P **P** **17 33 47.6 +0.9**
SNR=16
BRVK P **P** **17 33 47.6 +0.9**
SNR=16
BRVK Borovoye 50.20 310 *ce*P **P** **17 33 47.4 +0.7**
BRVK pmax pmax
comp=Z,28nm,0.6s
BRVK Borovoye 50.20 310 ⇑ *e*P **P** **17 33 47.4 +0.7**
BRVK Borovoye 50.20 310 P **P** **17 33 48.0 +1.2**
MDOK Medeo 50.43 295 *i* P **P** **17 33 48.6 -0.3**
MDOK *e*S **S** **17 40 59.3 -0.7**
MDOK *e*LR LR 17 55 17.6
comp=Z,7μm,20.8s
MDOK Medeo 50.43 295 *i* P **P** **17 33 48.5 -0.3**
MDOK *e*S **S** **17 40 59.3 -0.7**
MDOK MLR MLR
comp=E,7μm,21.0s
AAA Alma-Ata 50.49 296 *e*P **P** **17 33 48.2 -1.0**
AAA *e*LR LR 17 55 49.7
comp=E,7μm,16.0s
AAA Alma-Ata 50.49 296 *e*P **P** **17 33 49.3 +0.1**
AAA *e*S **S** **17 40 59.5 -1.3**
AAA pmax pmax
comp=Z,1μm,6.1s
AAA smax smax
comp=E,1μm,5.8s
AAA MLR MLR
comp=Z,10μm,16.0s
AAA Alma-Ata 50.49 296 *e*P **P** **17 33 49.3 +0.1**
KUU Kurty 50.55 297 ⇑ *i*P **P** **17 33 48.6 -1.0**
comp=Z,382nm,2.3s
KUU *e*S **S** **17 40 58.7 -2.7**
KUU *e*LR LR 17 55 50.0
comp=Z,13μm,16.9s
KUU Kurty 50.55 297 *c i*P **P** **17 33 48.6 -1.0**
KUU *e*S **S** **17 40 58.6 -2.7**
KUU pmax pmax
comp=Z,382nm,2.3s
KUU MLR MLR
comp=Z,13μm,17.0s
TNSS Tian-Shan 50.55 295 *e*P **P** **17 33 49.6 -0.5**
TNSS Tian-Shan 50.55 295 *e*P **P** **17 33 49.6 -0.5**
TARG Taragay, Kyrgy 50.62 293 P **P** **17 33 51.0 +0.4**
HLK Haleakala 50.66 99 IAMs_20 IAMs_20 17 53 09.1
comp=Z,11μm,19.0s
GTK Tadong 50.80 272 IAMs_20 IAMs_20 17 56 18.0
comp=Z,8μm,19.4s
KDJ Kajisay 50.83 294 P **P** **17 33 52.3 +0.4**
KDJ pmax pmax
comp=Z,113nm,0.8s
KDJ MLR MLR
comp=Z,24μm,19.0s
KDJ Kajisay 50.83 294 P **P** **17 33 52.3 +0.4**
KDJ IAmb IAmb 17 33 56.6
comp=Z,113nm,0.8s
MTBS Maitube 50.85 296 *e*P **P** **17 33 51.8 -0.1**
MTBS Maitube 50.85 296 *e*P **P** **17 33 51.8 -0.1**
LUWI Luwuk 51.04 215 P **P** **17 33 52.8 -0.6**
ULHL Ulahol 51.39 295 P **P** **17 33 57.7 +1.5**
SNR=39
TAPN Taplejung 51.42 272 *e*P **P** **17 33 56.3 -0.3**
comp=Z,347nm,0.7s
BTLS Baital 51.47 299 ⇑ *i*P **P** **17 33 54.6 -1.9**
BTLS *i* S **S** **17 41 11.3 -2.7**
BTLS Baital 51.47 299 *c i*P **P** **17 33 54.5 -1.9**
BTLS *i* S **S** **17 41 11.3 -2.7**
TKM2 Tokmak 2 51.48 296 P **P** **17 33 56.8 0.0**
TKM2 pmax pmax
comp=Z,146nm,0.9s
TKM2 Tokmak 2 51.48 296 P **P** **17 33 58.0 +1.1**
SNR=20
KHLU Kahalu`u 51.67 100 IAMs_20 IAMs_20 17 54 58.0
comp=Z,10μm,19.0s
POHA Pohakuloa 51.82 100 IAMs_20 IAMs_20 17 53 42.9
comp=Z,11μm,19.0s
SGDS Sogindy 51.85 297 ⇑ *i*P **P** **17 33 59.0 -0.4**
comp=Z,348nm,2.3s
SGDS *e*S **S** **17 41 16.9 -2.6**
SGDS *e*LR LR 17 56 30.3
comp=Z,10μm,17.0s
MLOA Mauna Loa Obse 51.93 100 IAMs_20 IAMs_20 17 53 55.4
comp=Z,13μm,19.0s
ODAN Odare 51.94 272 *e*P **P** **17 34 00.6 +0.2**
comp=Z,194nm,0.6s
NRN Naryn 51.94 294 P **P** **17 34 01.5 +1.0**
NRN pmax pmax
comp=Z,78nm,1.2s
NRN MLR MLR
comp=Z,29μm,18.0s
NRN Naryn 51.94 294 P **P** **17 34 01.5 +1.0**
CHMS Chumysh 51.99 296 P **P** **17 34 01.3 +0.9**
SNR=47
USP Ospenovka 52.02 297 P **P** **17 34 01.5 +0.9**
SNR=43
KBK Karagaybulak 52.03 296 P **P** **17 34 01.8 +0.9**
SNR=9.9
KHU Kahuku 52.10 100 P **P** **17 34 03.0 +1.3**
KHU pmax pmax
comp=Z,247nm,1.1s
KHU MLR MLR
comp=Z,12μm,19.0s
KHU Kahuku 52.10 100 P **P** **17 34 03.0 +1.3**
KHU IAmb IAmb 17 34 24.9
comp=Z,247nm,1.1s
KHU IAMs_20 IAMs_20 17 53 21.3
comp=Z,12μm,19.0s
KZA Kyzart 52.12 295 P **P** **17 34 02.4 +0.6**
SNR=289
AIN Ainahou 52.13 100 P **P** **17 34 03.1 +1.3**
FRU1 Bishkek 52.16 296 P **P** **17 34 02.8 +1.1**
FRU1 pmax pmax
comp=Z,525nm,1.7s
FRU1 MLR MLR
comp=Z,15μm,19.0s
FRU1 Bishkek 52.16 296 P **P** **17 34 02.8 +1.1**
FRU1 IAMs_20 IAMs_20 17 57 49.0
comp=Z,15μm,19.0s
SIMRM Sittwe 52.22 261 P **P** **17 34 02.8 +0.5**
JIRN Jiri 52.32 274 *e*P **P** **17 34 03.5 0.0**
comp=Z,788nm,0.7s
AAK Ala-Archa 52.33 296 *i* P **P** **17 34 03.0 0.0**
SNR=144
AAK Ala-Archa 52.33 296 P **P** **17 34 03.6 +0.5**
SNR=67
AAK P **P** **17 34 03.6 +0.5**
SNR=67
AAK Ala-Archa 52.33 296 *ce*P **P** **17 34 03.1 0.0**
AAK pmax pmax
comp=Z,130nm,1.0s
AAK Ala-Archa 52.33 296 P **P** **17 34 03.8 +0.7**
SNR=11
AAK Ala-Archa 52.33 296 ⇑ *e*P **P** **17 34 03.1 0.0**
AAK Ala-Archa 52.33 296 P **P** **17 34 04.1 +1.0**
AAK IAmb IAmb 17 34 06.3
comp=Z,128nm,1.0s
GUN Gumba 52.39 274 *e*P **P** **17 34 03.8 -0.2**
comp=Z,654nm,0.6s
RAMN Ramite 52.45 273 *e*P **P** **17 34 03.8 -0.5**
comp=Z,975nm,0.6s
UCH Uchtor 52.52 296 P **P** **17 34 05.9 +1.1**
SNR=57
EKS2 Erkin-Say 52.78 296 P **P** **17 34 07.2 +0.8**
SNR=14
KKN Kakani 52.89 274 *e*P **P** **17 34 07.7 +0.2**
comp=Z,488nm,0.7s
KSH Kashi 52.92 292 P **P** **17 34 11.7 +4.2**
KSH sP sP 17 34 22.0 +2.1
KSH PP **PP** **17 36 13.1 +6.1**
KSH ScP **ScP** **17 39 14.7 +3.9**
KSH S **S** **17 41 39.1 +4.7**
KSH ScS **ScS** **17 43 56.4 +1.9**
KSH pmax pmax
comp=Z,300nm,1.0s
KSH pmax pmax
comp=Z,3μm,6.1s
KSH LR LR
comp=Z,59μm,17.2s
KSH LR LR
comp=Z,23μm,15.5s
KSH LR LR
comp=Z,51μm,20.0s
PKI Pulchoki 52.93 274 *e*P **P** **17 34 07.4 -0.5**
comp=Z,245nm,0.6s
PKIN Phulchoki 52.94 274 *e*P **P** **17 34 07.4 -0.5**
comp=Z,246nm,0.6s
SBUM Sibu 53.02 229 P **P** **17 34 10.0 +1.8**
SBUM Sibu 53.02 229 P **P** **17 34 09.2 +1.0**
AML Almayashu 53.09 296 P **P** **17 34 09.4 +0.4**
SNR=128
DMN Daman 53.12 274 *e*P **P** **17 34 09.0 -0.3**
comp=Z,608nm,0.7s
GKN Gorkha 53.23 275 *e*P **P** **17 34 09.7 -0.2**
SVE Sverdlovsk 53.59 317 ⇓ *e*P **P** **17 34 11.5 -0.5**
SVE *e* 17 37 25.4
SVE *e*S **S** **17 41 37.4 -5.3**
SVE *e* 17 43 57.3
SVE pmax pmax
comp=Z,95nm,1.1s
SVE MLR MLR
comp=N,14μm,15.0s
SVE MLR MLR
comp=E,34μm,17.0s
SVE MLR MLR
comp=Z,44μm,16.0s
SVE Sverdlovsk 53.59 317 ⇓ *e*P **P** **17 34 11.5 -0.5**
DANN Dangsing 53.65 276 *e*P **P** **17 34 13.2 0.0**
comp=Z,994nm,0.8s
PMG Port Moresby 53.65 182 *ce*P **P** **17 34 15.6 +2.8**
PMG pmax pmax
comp=Z,409nm,2.5s
ARSB Arslanbob 53.96 295 P **P** **17 34 15.6 +0.5**
KOLN Koldanda 54.10 275 *e*P **P** **17 34 16.2 -0.2**
comp=Z,501nm,0.8s
DZA Taraz 54.22 298 *e*P **P** **17 34 15.2 -1.7**
comp=Z,76nm,1.2s
DZA Taraz 54.22 298 *e*P **P** **17 34 15.1 -1.7**
DZA pmax pmax
comp=Z,76nm,1.2s
HOPEN Hopen 54.24 346 *e*P **P** **17 34 14.5 -1.9**
HOPEN *e*S **S** **17 41 51.3 +0.3**
HOPEN *e* 17 44 09.4
HOPEN IVMs_BB IVMs_BB 18 00 41.3
comp=Z,5μm,19.0s
KBS Kingsbay 54.31 351 *ce*P **P** **17 34 16.4 -0.5**
KBS pmax pmax
comp=Z,162nm,1.0s
KBS Kingsbay 54.31 351 *e*P **P** **17 34 14.9 -2.0**
KBS *e*S **S** **17 41 54.5 +2.6**
KBS IVMs_BB IVMs_BB 17 57 43.3
comp=Z,4μm,17.4s
KBS Kingsbay 54.31 351 P **P** **17 34 15.5 -1.4**
KBS Kingsbay 54.31 351 IAMs_20 IAMs_20 17 57 35.1
comp=Z,11μm,19.0s
SPA0 Spitsbergen Ar 54.35 349 *e*P **P** **17 34 15.0 -2.3**
SPA0 IVmBBB 17 34 16.5
comp=Z,2μm,4.1s
SPA0 *e*S **S** **17 41 54.9 +2.5**
SPITS Spitsbergen Ar 54.35 349 P **P** **17 34 15.1 -2.1**
comp=Z,6.2nm,0.5s,baz=46,slow=6.2,SNR=4.7
YKW3 Yellowknife Ar 54.37 35 P **P** **17 34 17.9 +0.4**
YKW3 IAMs_20 IAMs_20 18 01 18.1
comp=Z,7μm,18.0s
YKA Yellowknife Ar 54.41 35 P **P** **17 34 17.4 -0.4**
comp=Z,94nm,0.9s,baz=299,slow=6.8,SNR=266
YKA PKPPKP P'P'df 18 04 28.6 -8.9
comp=Z,0.4nm,0.8s,baz=162,slow=1.9,SNR=4.9
HNR Honiara 54.53 167 P **P** **17 34 20.0 +0.8**
HNR Honiara 54.53 167 IAMs_20 IAMs_20 17 55 27.3
comp=Z,14μm,20.0s
KK31 Karatay Array 54.63 298 *i* P **P** **17 34 19.3 -0.5**
KK31 pmax pmax
comp=Z,74nm,0.8s
KK31 Karatay Array 54.63 298 IAmb IAmb 17 34 22.0
comp=Z,102nm,0.8s
KKAR Karatay Array 54.63 298 IAmb IAmb 17 34 22.0
comp=Z,102nm,0.8s
ARU Arti 54.79 317 *d i*P **P** **17 34 19.7 -1.0**
ARU 17 35 17.7
ARU 17 36 22.8
ARU S **S** **17 41 56.4 -2.5**
ARU 17 44 03.8
ARU SS **SS** **17 45 42.4 +0.7**
ARU pmax pmax
comp=Z,40nm,0.7s
ARU pmax pmax
comp=Z,1μm,15.2s
ARU MLR MLR
comp=Z,44μm,17.0s
ARU Arti 54.79 317 P **P** **17 34 19.3 -1.4**
comp=Z,11nm,0.3s,baz=53,slow=5.1,SNR=58
ARU Arti 54.79 317 P **P** **17 34 20.4 -0.3**
KSM Kuching 54.87 230 P **P** **17 34 24.0 +2.2**
KSM Kuching 54.87 230 P **P** **17 34 23.5 +1.7**
KSM IAmb IAmb 17 34 25.6
comp=Z,194nm,1.2s
BOK Bokaro 54.88 270 IAmb IAmb 17 42 02.6
comp=Z,41nm,1.5s
JBG Jabagly 54.96 298 *c i*P **P** **17 34 22.7 +0.3**
JBG *e*S **S** **17 42 01.2 -0.7**
JBG pmax pmax
comp=Z,324nm,2.2s
JBG MLR MLR
comp=Z,16μm,18.0s
BRLS Borolday 55.10 299 *e*P **P** **17 34 24.1 +0.9**
BRLS *e*S **S** **17 42 07.8 +4.4**
comp=Z,266nm,4.4s
HSPB Hornsund (broa 55.37 349 *e*P **P** **17 34 23.6 -1.0**
HSPB MLR MLR
comp=Z,10μm,22.8s
HSPB Hornsund (broa 55.37 349 *e*P **P** **17 34 23.6 -1.0**
HSPB *e*P **P** **17 34 23.6 -1.0**
HSPB *e*L L 17 57 08.3
comp=Z,10μm,22.8s
HSPB *e*L L 17 57 08.3
comp=Z,10μm,22.8s
HSPB Hornsund (broa 55.37 349 *e*P **P** **17 34 23.1 -1.5**
HSPB IVmB_BB 17 34 32.1
comp=Z,2μm,5.2s
HSPB *e*S **S** **17 42 09.5 +3.4**
HSPB *e*ScS **ScS** **17 44 13.1 +2.7**
HSPB IVMs_BB IVMs_BB 17 58 04.3
comp=Z,4μm,19.0s
STKI Sintang 55.41 228 P **P** **17 34 25.8 +0.1**
IUG luzhnay 55.43 298 ⇑ *i*P **P** **17 34 25.8 0.0**
IUG *e*S **S** **17 42 06.4 -1.7**
IUG *e*LR LR 17 58 25.9
IUG luzhnay 55.43 298 *c i*P **P** **17 34 25.7 0.0**
IUG *e*S **S** **17 42 06.3 -1.8**
LGTI Lohaghat 55.50 279 *e*P **P** **17 34 28.1 +1.9**
KAPI Kappang 55.88 216 P **P** **17 34 29.0 0.0**
SNR=22
KAPI P **P** **17 34 29.0 0.0**
SNR=22
KAPI P **P** **17 34 29.0 0.0**
SNR=22
KAPI Kappang 55.88 216 P **P** **17 34 29.8 +0.8**
KAPI pmax pmax
comp=Z,103nm,1.0s
KAPI MLR MLR
comp=Z,2μm,20.0s
KAPI Kappang 55.88 216 LR LR 17 55 05.1
comp=Z,2μm,21.9s,baz=48,slow=32
KAPI Kappang 55.88 216 P **P** **17 34 29.8 +0.8**
KAPI IAmb IAmb 17 34 31.8
comp=Z,103nm,0.9s
BTK Batken 56.03 295 P **P** **17 34 30.4 +0.4**
BTK pmax pmax
comp=Z,431nm,1.4s
BTK MLR MLR
comp=Z,17μm,21.0s
BTK Batken 56.03 295 P **P** **17 34 30.4 +0.4**
DDI Dehra Dun 56.53 281 IAMs_20 IAMs_20 18 00 44.4
DHRM DHARAMSHALA 56.65 284 IAMs_20 IAMs_20 18 00 19.6
comp=Z,9μm,20.3s
BJO1 Bjornoya 56.75 346 *e*P **P** **17 34 32.7 -1.8**
BJO1 *e*S **S** **17 42 26.6 +2.2**
BJO1 IVMs_BB IVMs_BB 18 09 04.5
comp=Z,5μm,18.0s
TULEG Thule 56.88 10 P **P** **17 34 34.0 -1.3**
TULEG IAmb IAmb 17 34 36.4
comp=Z,128nm,1.0s
DGPR DIGLIPUR 56.90 255 IAMs_20 IAMs_20 17 58 57.8
comp=Z,12μm,18.9s
GAR Garm 56.92 294 P **P** **17 34 36.8 +0.3**
A04D Lummi Island 57.43 52 P **P** **17 34 40.5 +0.8**
baz=302
NLWA Neilton Lookou 57.47 54 P **P** **17 34 40.8 +0.8**
KULM Kulim 57.55 242 P **P** **17 34 42.6 +1.6**
KULM IAmb IAmb 17 34 44.2
comp=Z,85nm,0.9s
KULM IAMs_20 IAMs_20 17 58 10.1
comp=Z,7μm,22.0s
AB31 Akbulak array 57.72 309 *i* P **P** **17 34 40.3 -1.4**
AB31 pmax pmax
comp=Z,130nm,0.9s
ABKAR Akbulak array 57.72 309 P **P** **17 34 41.6 -0.1**
ABKAR IAmb IAmb 17 34 43.7
comp=Z,118nm,0.8s
PRGR Permogore 57.76 327 ⇑ *i*P **P** **17 34 41.0 -0.7**
PRGR *e*S **S** **17 42 34.0 -4.0**
PRGR pmax pmax
comp=Z,68nm,0.8s
D03D Eldon 57.84 53 P **P** **17 34 43.8 +1.2**
baz=302,SNR=24
CHGR Chuyangaron 57.87 294 P **P** **17 34 42.6 -0.4**
IPM Ipoh 57.94 241 P **P** **17 34 45.0 +1.3**
IPM Ipoh 57.94 241 P **P** **17 34 44.6 +0.9**
NIL Nilore 57.95 287 P **P** **17 34 45.2 +1.6**
NIL Nilore 57.95 287 P **P** **17 34 45.4 +1.8**
NIL pmax pmax
comp=Z,283nm,0.9s
NIL MLR MLR
comp=Z,11μm,19.0s
NIL Nilore 57.95 287 P **P** **17 34 45.4 +1.8**
NIL Nilore 57.95 287 IAMs_20 IAMs_20 18 02 21.6
comp=Z,11μm,19.0s
B05A Bryant 58.02 52 P **P** **17 34 44.5 +0.7**
baz=303,SNR=17
NDI New Delhi 58.09 280 *e*P **P** **17 34 45.0 +0.4**
NDI *e*S **S** **17 42 45.0 +1.7**
E03A Lebam 58.10 54 P **P** **17 34 45.9 +1.5**
PBA Port Blair 58.10 254 P P 17 34 45.7 +1.0
PBA Port Blair 58.10 254 AMSG 18 00 30.0
PBA Port Blair 58.10 254 P P 17 34 45.9 +1.1
PBA IAMs_20 IAMs_20 18 03 36.5
comp=Z,8μm,20.0s
AKTO Aktyubinsk 58.14 311 P **P** **17 34 43.9 -0.8**
AKTO pmax pmax
comp=Z,42nm,0.8s
AKTO Aktyubinsk 58.14 311 P **P** **17 34 44.6 -0.1**
comp=Z,31nm,0.6s,baz=66,slow=7.6,SNR=48
MMRI Maumere 58.18 212 P **P** **17 34 46.0 +0.8**
D04E Lakebay 58.22 53 P **P** **17 34 46.9 +1.7**
baz=303
B06A Marblemount 58.22 51 P **P** **17 34 45.7 +0.4**
B06A IAmb IAmb 17 35 03.0
comp=Z,104nm,1.1s
APA Apatity 58.30 336 ⇓ *i*P P 17 34 39.3 -6.2
APA pmax pmax
comp=Z,15nm,1.0s
MYKOM Kota Tinggi 58.32 237 P **P** **17 34 48.0 +1.7**
MYKOM IAmb IAmb 17 34 50.3
comp=Z,100nm,0.7s
COEN Coen 58.40 187 P **P** **17 34 47.7 +1.0**
COEN IAmb IAmb 17 34 50.1
comp=Z,170nm,1.3s
SOEI Soe 58.48 209 P **P** **17 34 46.5 -0.9**
D05A Enumclaw 58.66 53 P **P** **17 34 50.1 +1.8**
D05A IAmb IAmb 17 35 07.2
comp=Z,100nm,1.1s
E04D Cinebar 58.67 54 P **P** **17 34 49.7 +1.3**
baz=303,SNR=33

F04D Rainier, OR 58.67 55 P P 17 34 50.0 +1.6
baz=303
HAMF Hammerfest 58.69 341 eP P 17 34 46.3 -1.9
HAMF eS S 17 42 51.6 +1.7
HAMF eScS ScS 17 44 36.8 +2.1
HAMF IVMs_BB IVMs_BB 18 05 12.2
comp=Z,6µm,19.0s
DAG Danmarks Havn 58.79 357 i P P 17 34 46.0 -2.7
DAG Danmarks Havn 58.79 357 i P P 17 34 46.0 -2.7
C06D Leavenworth 58.88 52 P P 17 34 51.0 +1.1
baz=303
G03D McMinnville, O 59.00 55 P P 17 34 52.4 +1.6
baz=304,SNR=10.0
TMCR Tamitsa 59.03 332 eP P 17 34 49.9 -0.7
TMCR eS S 17 42 59.4 +4.9
TMCR pmax pmax
comp=Z,96nm,0.6s
ARCES ARCESS Array B 59.06 340 P P 17 34 49.1 -1.7
comp=Z,20nm,0.9s,baz=44,slow=8.1,SNR=29
ARCES LR LR 18 03 45.7
comp=Z,13µm,21.0s,baz=42,slow=40
ARE0 ARCESS Array S 59.06 340 eP P 17 34 49.3 -1.5
ARE0 IVmB_BB 17 34 52.4
comp=Z,2µm,4.8s
ARE0 eS S 17 42 57.9 +3.0
ARE0 IVMs_BB IVMs_BB 18 03 21.6
comp=Z,5µm,19.2s
F04A Amboy 59.10 54 P P 17 34 52.6 +1.2
F04A IAmb IAmb 17 34 54.7
comp=Z,90nm,1.0s
I02D Swisshome 59.27 57 P P 17 34 54.6 +2.0
baz=304
COR Corvallis 59.33 56 P P 17 34 55.7 +2.8
COR pmax pmax
comp=Z,140nm,1.1s
COR MLR MLR
comp=Z,3µm,22.0s
COR Corvallis 59.33 56 P P 17 34 55.7 +2.8
COR IAmb IAmb 17 35 13.2
comp=Z,140nm,1.1s
LTY Liberty 59.37 52 IAmb IAmb 17 35 11.5
comp=Z,160nm,1.8s
B08A Colville Reser 59.51 51 IAmb IAmb 17 34 57.1
comp=Z,112nm,1.2s
B08A IAMs_20 IAMs_20 18 02 08.9
comp=Z,7µm,21.0s
F05D White Salmon 59.69 54 P P 17 34 56.8 +1.3
baz=304,SNR=11
H04D Lebanon 59.70 56 P P 17 34 56.7 +1.2
baz=304,SNR=13
J01E Myrtle Point 59.74 58 P P 17 34 57.7 +1.9
baz=304,SNR=5.4
KULLO Kullorsuaq 59.93 8 i P P 17 34 54.8 -1.9
KULLO pmax pmax
comp=Z,130nm,0.9s
KULLO MLR MLR
comp=Z,19µm,20.0s
KULLO Kullorsuaq 59.93 8 i P P 17 34 54.8 -1.9
comp=Z,126nm,0.9s
comp=Z,19µm,20.0s
KTK1 Kautokeino 60.00 340 eP P 17 34 56.1 -1.1
G05D Wamic, OR 60.13 55 P P 17 34 59.5 +0.9
baz=304,SNR=33
K02D Willamette Mer 60.17 58 P P 17 35 00.0 +1.1
baz=305,SNR=12
E07A Sunnyside 60.23 53 P P 17 34 59.8 +0.6
E07A IAmb IAmb 17 35 02.5
comp=Z,163nm,1.3s
KBL Kabul 60.28 291 P P 17 35 00.1 +0.1
KBL P P 17 35 00.1 +0.1
KBL P P 17 35 00.1 +0.1
KBL Kabul 60.28 291 P P 17 34 59.6 -0.4
KBL pmax pmax
comp=Z,150nm,0.8s
KBL MLR MLR
comp=Z,28µm,20.0s
KBL Kabul 60.28 291 P P 17 34 59.6 -0.4
I04A Tendick Farm, 60.30 56 P P 17 35 01.3 +1.6
baz=305,SNR=23
C09A Chrisman Ranch 60.41 51 P P 17 35 00.2 -0.2
C09A IAmb IAmb 17 35 03.2
comp=Z,106nm,1.2s
C09A IAMs_20 IAMs_20 18 05 35.1
comp=Z,5µm,18.0s
HAWA Hanford 60.51 53 P P 17 35 01.4 +0.4
HAWA IAmb IAmb 17 35 04.3
comp=Z,139nm,1.4s
L02E Cave Junction 60.51 59 P P 17 35 02.0 +0.8
baz=305,SNR=8.7
TRO Tromso 60.52 342 eP P 17 34 58.6 -2.1
TRO IVmB_BB 17 35 10.7
comp=Z,2µm,4.7s
TRO eS S 17 43 16.4 +2.9
TRO IVMs_BB IVMs_BB 18 07 26.3
comp=Z,6µm,17.4s
G06A Carlson Farm, 60.53 54 IAmb IAmb 17 35 20.2
comp=Z,182nm,1.5s
PSI Prapat 60.56 242 P P 17 35 02.6 +0.7
PSI pmax pmax
comp=Z,73nm,1.0s
PSI MLR MLR
comp=Z,6µm,21.0s
F07A Phinny Hill Vi 60.56 53 IAmb IAmb 17 35 07.2
comp=Z,105nm,0.9s
I05D Terrebonne, OR 60.63 55 P P 17 35 03.4 +1.4
baz=305,SNR=20
RPSI Rantau Prapat 60.64 242 P P 17 35 02.6 +0.3
RPSI IAmb IAmb 17 35 19.0
comp=Z,73nm,1.0s
KRMB Red Mountain 60.69 59 P P 17 35 03.5 +1.0
E08A Dider Farm, El 60.72 52 P P 17 35 02.6 +0.1
E08A IAmb IAmb 17 35 05.6
comp=Z,107nm,1.4s
NEW Newport 60.78 50 P P 17 35 03.3 +0.4
baz=305,SNR=48
NEW Newport 60.78 50 IAmb IAmb 17 35 05.8
comp=Z,81nm,1.1s
J04D Umpqua Nationa 60.80 57 P P 17 35 04.5 +1.2
baz=305,SNR=24
KHMM Horse Mountain 61.17 60 P P 17 35 07.1 +1.3
KHMM IAmb IAmb 17 35 24.6
comp=Z,117nm,1.2s
PINE Pine Mountain 61.18 56 P P 17 35 07.3 +1.3
PINE IAmb IAmb 17 35 22.5
comp=Z,154nm,1.1s
L04D Klamath Falls 61.27 58 P P 17 35 07.5 +1.1
baz=305,SNR=39
BHPL Bhopal 61.27 275 IAMs_20 IAMs_20 18 03 20.5
comp=Z,9µm,13.8s
J05D Fort Rock, OR 61.30 56 P P 17 35 08.1 +1.5
baz=305,SNR=56
K04D Chiloquin, OR 61.37 57 P P 17 35 08.2 +1.1
baz=306,SNR=7.4
M02C Callahan 61.41 59 P P 17 35 08.7 +1.4
baz=306,SNR=21
NGP Nagpur 61.44 272 eP P 17 35 07.5 -0.2
NGP IAmb IAmb 17 35 14.4
comp=Z,110nm,0.6s
NGP ex x 18 04 17.8
comp=Z,10µm,20.1s
G08A Pilot Rock 61.47 53 P P 17 35 08.2 +0.4
G08A IAmb IAmb 17 35 12.6
comp=Z,147nm,1.8s
KMRM Mail Ridge 61.56 60 P P 17 35 09.6 +1.1
KMRM IAMs_20 IAMs_20 18 03 02.1
comp=Z,5µm,19.0s
N02D Trinity Center 61.74 59 P P 17 35 10.9 +1.2
baz=306,SNR=29
M04C Macdoel 61.80 58 P P 17 35 11.2 +1.2
baz=306,SNR=29
KCPM Cahto Peak 61.95 61 P P 17 35 12.0 +0.9
KCPM IAmb IAmb 17 35 29.4
comp=Z,101nm,1.3s
F10A Beach Ranch, E 62.05 52 P P 17 35 12.4 +0.8
WDC Whiskeytown Da 62.08 60 P P 17 35 12.1 +0.4
WDC pmax pmax
comp=Z,55nm,1.1s
WDC Whiskeytown Da 62.08 60 P P 17 35 12.1 +0.4
O02D Mt. Diablo Mer 62.16 60 P P 17 35 13.6 +1.2
baz=306,SNR=26
GSI Gunungsitoli 62.56 242 P P 17 35 16.2 +0.9
GSI IAmb IAmb 17 35 42.1
comp=Z,119nm,1.0s
GSI IAMs_20 IAMs_20 18 03 00.6
comp=Z,7µm,20.0s
JTMT Jette 62.63 49 IAmb IAmb 17 35 33.2
comp=Z,122nm,1.3s
JTMT IAMs_20 IAMs_20 18 04 16.3
comp=Z,6µm,21.0s
MOD Modoc Plateau 62.66 57 IAmb IAmb 17 35 19.1
comp=Z,86nm,1.2s
STEI Steigen 62.69 342 eP P 17 35 13.8 -1.6
STEI IVmB_BB 17 35 27.2
comp=Z,2µm,4.3s
STEI eS S 17 43 43.8 +2.8
STEI IVMs_BB IVMs_BB 18 00 53.7
comp=Z,5µm,29.2s
O03E Paynes Creek 62.70 59 P P 17 35 16.4 +0.3
baz=306,SNR=44
LOF Lofoten 62.89 343 eP P 17 35 15.6 -1.1
LOF IVmB_BB 17 35 19.2
comp=Z,1µm,2.0s
LOF eS S 17 43 45.2 +1.6
LOF IVMs_BB IVMs_BB 18 07 33.6
comp=Z,4µm,17.8s
SUMG Summit 63.14 3 P P 17 35 18.7 -0.1
SUMG pmax pmax
comp=Z,269nm,1.2s
SUMG MLR MLR
comp=Z,16µm,19.0s
SUMG Summit 63.14 3 i P P 17 35 19.0 +0.2
comp=Z,701nm,1.2s
SUMG Summit 63.14 3 P P 17 35 18.7 -0.1
XMAS Kiritimati 63.18 116 P P 17 35 20.8 +1.4
XMAS IAMs_20 IAMs_20 17 56 55.8
comp=Z,11µm,22.0s
PLID Pearl Lake 63.27 52 IAMs_20 IAMs_20 18 07 41.6
comp=Z,6µm,19.0s
ORV Oroville 63.33 60 P P 17 35 20.6 +0.5
ORV pmax pmax
comp=Z,59nm,1.2s
ORV MLR MLR
comp=Z,3µm,18.0s
ORV Oroville 63.33 60 P P 17 35 20.6 +0.5
WVOR Wild Horse Val 63.34 56 P P 17 35 20.6 +0.3
WVOR pmax pmax
comp=Z,80nm,1.1s
WVOR Wild Horse Val 63.34 56 P P 17 35 20.6 +0.3
WVOR IAmb IAmb 17 35 43.4
comp=Z,80nm,1.1s
MSO Missoula 63.37 50 P P 17 35 21.1 +0.7
baz=308,SNR=68
MSO Missoula 63.37 50 P P 17 35 20.6 +0.2
CISI Cisompet, Garu 63.77 227 P P 17 35 21.9 -1.4
CISI IAmb IAmb 17 35 46.3
comp=Z,104nm,0.9s
BEKR Beckworth 63.84 59 P P 17 35 23.9 +0.2
AFDM Forest Hills D 64.02 60 P P 17 35 24.5 -0.3
HYB Hyderabad 64.22 269 i P P 17 35 27.0 +0.7
HYB ePcP PcP 17 36 09.0 +8.0
HYB ePP PP 17 37 50.0 +2.4
HYB eS S 17 43 56.0 -5.5
HYB e 17 44 12.0
HYB eSKS ScS 17 45 24.0 +6.0
HYB eSS SS 17 48 20.0 +8.9
FFC Flin Flon 64.27 38 P P 17 35 26.6 +0.6
FFC pmax pmax
comp=Z,252nm,1.1s
FFC MLR MLR
comp=Z,6µm,19.0s
FFC Flin Flon 64.27 38 P P 17 35 26.6 +0.6
FFC Flin Flon 64.27 38 IAMs_20 IAMs_20 18 08 05.1
comp=Z,6µm,19.0s
CTAO Charters Tower 64.30 183 IAMs_20 IAMs_20 17 59 04.9
comp=Z,6µm,22.0s
MOR8 Moi Rana 64.32 341 eP P 17 35 23.6 -2.6
MOR8 IVMs_BB IVMs_BB 18 09 43.6
comp=Z,6µm,16.3s
KONS Konsvik 64.34 342 eP P 17 35 26.9 +0.6
MFID Camas Ranch 64.39 54 P P 17 35 27.2 0.0
PAHR Pah Rah Range 64.54 59 P P 17 35 27.9 -0.3
PAHR IAmb IAmb 17 35 31.3
comp=Z,102nm,1.2s
VCNR Virginia City 64.62 59 P P 17 35 29.6 +0.7
PUL Pulkovo 64.69 331 ceP P 17 35 29.6 +1.0
PUL pmax pmax
comp=Z,232nm,1.0s
PUL Pulkovo 64.69 331⇑ eP P 17 35 29.6 +1.0
MOS Moscow 64.70 324 eP P 17 35 26.9 -1.9
MOS eS S 17 44 04.9 -1.5
MOS e 17 45 16.4
MOS pmax pmax
comp=Z,103nm,1.2s
MOS MLR MLR
comp=E,15µm,17.0s
MOS MLR MLR
comp=Z,20µm,17.0s
MOS MLR MLR
comp=N,14µm,16.0s
PNTR Pine Nut 64.78 59 IAmb IAmb 17 35 46.2
comp=Z,69nm,0.8s
EGMT Eagleton 64.86 47 P P 17 35 30.8 +0.6
baz=309,SNR=42
FIA1 FINESS Array S 64.87 334 IAmb IAmb 17 35 32.1
comp=Z,122nm,0.9s
HRA Herat 64.87 294 P P 17 35 31.4 +0.8
HRA IAmb IAmb 17 35 33.4
comp=Z,149nm,1.1s
FINES FINESS Array B 64.88 334 P P 17 35 28.9 -1.0
comp=Z,74nm,0.8s,baz=37,slow=6.3,SNR=70
FINES LR LR 18 08 00.8
comp=Z,24µm,18.0s,baz=44,slow=40
LATR Latur 64.99 272 AMb AMB 17 34 53.6
comp=Z,450nm,1.5s
DLMT Dillon 65.01 50 IAmb IAmb 17 35 52.2
comp=Z,111nm,1.2s
SAO San Andreas Ge 65.05 62 P P 17 35 31.7 +0.3
SAO pmax pmax
comp=Z,43nm,1.3s
SAO MLR MLR
comp=Z,3µm,22.0s
SAO San Andreas Ge 65.05 62 P P 17 35 31.7 +0.3
YERR Yerington 65.06 59 IAmb IAmb 17 35 48.0
comp=Z,128nm,1.1s
SCO Scoresbysund 65.18 357 i P P 17 35 30.2 -1.5
comp=Z,114nm,1.0s
comp=Z,10µm,19.0s
SCO Scoresbysund 65.18 357 IAMs_20 IAMs_20 18 07 36.0
comp=Z,10µm,18.0s
GEYT Alibeck 65.34 300 P P 17 35 33.0 -0.4
comp=Z,121nm,0.8s,baz=29,slow=3.4,SNR=174
GEYT S S 17 44 14.8 -0.1
comp=Z,2.3nm,0.9s,baz=48,slow=22,SNR=3.6
GEYT LR LR 18 06 26.2
comp=Z,15µm,19.6s,baz=60,slow=38
BOZ Bozeman (W) 65.39 50 P P 17 35 33.3 -0.4
baz=309,SNR=152
BOZ Bozeman (W) 65.39 50 IAMs_20 IAMs_20 18 09 14.7
comp=Z,5µm,18.0s
WR0 Warramunga Arr 65.49 195 IAmb IAmb 17 35 35.0
comp=Z,55nm,0.8s
WR8 Warramunga Arr 65.49 195 IAMs_20 IAMs_20 18 00 54.0
comp=Z,6µm,22.0s
WRAB Tennant Creek 65.50 195 ceP P 17 35 33.8 -0.6
WRAB pmax pmax
comp=Z,149nm,1.3s
WRAB Tennant Creek 65.50 195 P P 17 35 33.5 -0.8
WRAB IAmb IAmb 17 35 35.2
comp=Z,79nm,0.8s
WRA Warramunga Arr 65.51 195 P P 17 35 33.4 -1.0
comp=Z,64nm,0.7s,baz=17,slow=7.0,SNR=252
WRA LR LR 18 04 51.6
comp=Z,3µm,18.9s,baz=0.0,slow=37
OBN Obninsk 65.57 324 ceP P 17 35 33.6 -0.9
OBN e 17 36 05.2
OBN e 17 37 54.7
OBN i S S 17 44 11.5 -5.5
OBN pmax pmax
comp=Z,179nm,1.3s
OBN MLR MLR
comp=Z,24µm,17.0s
OBN Obninsk 65.57 324 P P 17 35 33.2 -1.2
comp=Z,30nm,0.8s,baz=50,slow=2.5,SNR=23
OBN Obninsk 65.57 324 ⇑P P 17 35 34.6 +0.1
OBN Obninsk 65.57 324⇑ eP P 17 35 33.6 -0.9
OBN Obninsk 65.57 324 P P 17 35 35.0 +0.5
OBN IAmb IAmb 17 35 35.9
comp=Z,134nm,1.0s
ILULI Ilulissat 65.65 8 i P P 17 35 34.5 -0.3
ILULI pmax pmax
comp=Z,220nm,0.9s
ILULI Ilulissat 65.65 8 i P P 17 35 34.5 -0.3
comp=Z,216nm,0.9s
KVN Kaiserville 65.72 59 IAmb IAmb 17 35 39.1
comp=Z,116nm,1.1s
PMPB Monarch Peak 65.80 62 IAmb IAmb 17 35 54.6
comp=Z,127nm,1.5s
FITZ Fitzroy Crossi 65.86 205 P P 17 35 36.6 -0.1
FITZ IAmb IAmb 17 35 40.3
comp=Z,82nm,0.8s
VRH Novokhopyorsk 65.93 319 eP P 17 35 36.4 -0.5
VRH eS S 17 44 11.0 -11
VRH pmax pmax
comp=Z,230nm,0.9s
VRH pmax pmax
comp=Z,260nm,0.9s
VRH smax smax
comp=E,440nm,2.3s
VRH MLR MLR
comp=Z,30µm,17.0s
NVAR Mina Array Bea 65.98 59 P P 17 35 37.3 -0.4
comp=Z,26nm,0.5s,baz=298,slow=7.0,SNR=221
NVAR LR LR 18 02 45.4
comp=Z,2µm,19.6s,baz=304,slow=34
NVAR PKPPKP P'P'df 18 04 11.6 -6.5
comp=Z,1.2nm,1.0s,baz=146,slow=2.9,SNR=3.5
NV11 Mina Array Sit 66.07 59 IAmb IAmb 17 35 56.4
comp=Z,247nm,1.7s
MLAC Mammoth, Mammo 66.15 60 P P 17 35 40.1 +1.3
baz=309,SNR=8.9
NSS Namsos 66.27 341 eP P 17 35 37.5 -1.3
NSS IVmBBB 17 35 42.0
comp=Z,2µm,3.0s
NSS eS S 17 44 22.2 -3.0
NSS IVMs_BB IVMs_BB 18 08 20.9
comp=Z,7µm,21.1s
LPSR Galich'ya Gora 66.27 321 eP P 17 35 38.9 -0.1
LPSR eS S 17 44 21.0 -4.7
LPSR pmax pmax
comp=Z,230nm,0.9s
LPSR pmax pmax
comp=Z,240nm,0.9s
LPSR smax smax
comp=N,2µm,6.4s
LPSR MLR MLR
comp=Z,19µm,16.0s
PAGB Antelope Grade 66.45 63 IAmb IAmb 17 35 59.7
comp=Z,264nm,1.8s
VOG Valley Oaks Go 66.63 62 P P 17 35 42.2 +0.6
baz=309
LKWY Lake 66.72 50 IAMs_20 IAMs_20 18 07 21.9
comp=Z,9µm,20.0s
H17A Grant Village 66.73 50 P P 17 35 44.2 +1.7
baz=310,SNR=30
H17A Grant Village 66.73 50 IAmb IAmb 17 36 03.2
comp=Z,147nm,1.2s
H17A IAMs_20 IAMs_20 18 05 55.0
comp=Z,9µm,22.0s
BHUJ Bhuj 66.78 280 IAMs_20 IAMs_20 18 06 54.0
comp=Z,10µm,17.5s
VORR Voronezh 66.78 320 eP P 17 35 40.0 -2.3
VORR pmax pmax
comp=Z,300nm,1.2s
POO Poona 66.85 274 eP P 17 35 43.0 -0.3
POO IAMs_20 IAMs_20 18 05 17.1
comp=Z,6µm,18.4s
SMMC Simmler 66.87 63 P P 17 35 45.1 +1.8
baz=309
TIN Tinemaha, Big 66.89 60 P P 17 35 44.6 +1.2
baz=309
VSU Vasula 66.90 331 ceP P 17 35 43.1 +0.1
VSU pmax pmax
comp=Z,408nm,1.0s
VSU Vasula 66.90 331 eP P 17 35 42.2 -0.8
RLMT Red Lodge 66.98 49 P P 17 35 44.1 +0.1
baz=310,SNR=42
RLMT Red Lodge 66.98 49 IAmb IAmb 17 36 03.3
comp=Z,117nm,1.2s
RLMT IAMs_20 IAMs_20 18 08 57.6
comp=Z,6µm,18.0s
MOOW Moose Ponds 67.05 51 IAmb IAmb 17 35 48.2
comp=Z,104nm,1.3s
TPAW Teton Pass 67.11 51 IAmb IAmb 17 36 02.5
comp=Z,149nm,1.1s
VSR Storozhevoye 67.11 320 eP P 17 35 43.7 -0.7
VSR eS S 17 44 29.1 -6.8
VSR pmax pmax
comp=Z,190nm,0.7s
VSR pmax pmax
comp=Z,320nm,1.0s
VSR smax smax
comp=N,670nm,3.9s
VSR MLR MLR
comp=Z,28µm,17.0s
VES Vestal, Richgr 67.11 62 P P 17 35 44.8 +0.1
baz=309,SNR=9.8
VORD Divnogorie 67.22 320 eP P 17 35 45.3 +0.2
VORD pmax pmax
comp=Z,200nm,1.0s
SNOW Snow King Moun 67.23 51 IAmb IAmb 17 35 50.9
comp=Z,223nm,1.6s
REDW Red Top Meadow 67.24 51 IAMs_20 IAMs_20 18 08 20.9
comp=Z,5µm,18.0s
PKM Mcpherson Peak 67.25 63 P P 17 35 46.6 +0.7
baz=309,SNR=5.7
MSVF Nonsavu 67.30 150 P P 17 35 46.2 +0.2
MSVF pmax pmax
comp=Z,178nm,1.7s
MSVF MLR MLR
comp=Z,7µm,18.0s
MSVF Nonsavu 67.30 150 P P 17 35 46.2 +0.2
MSVF IAmb IAmb 17 35 53.0
comp=Z,178nm,1.7s
MSVF Nonsavu 67.30 150 IAMs_20 IAMs_20 18 07 57.1
comp=Z,7µm,18.0s
CWC Cottonwood Cre 67.37 61 P P 17 35 47.1 +0.5
baz=309
KAD Karad 67.42 272 eP P 17 35 46.4 -0.5
GRAC Grapevine Rang 67.46 60 P P 17 35 47.8 +0.8
baz=310,SNR=36
LAO LASA Array 67.56 46 P P 17 35 47.5 0.0
baz=312,SNR=62
LAO LASA Array 67.56 46 IAMs_20 IAMs_20 18 05 55.8
comp=Z,7µm,21.0s
ISA Isabella, Lake 67.61 62 P P 17 35 47.7 -0.2
baz=310,SNR=9.0
R11A Troy Canyon, C 67.69 58 P P 17 35 47.9 -0.7
baz=310,SNR=130
R11A Troy Canyon, C 67.69 58 IAmb IAmb 17 35 51.5
comp=Z,104nm,1.2s
ARVC Arvin 67.73 62 P P 17 35 48.6 0.0
baz=310
TBLU Trondheim 67.76 341 eP P 17 35 46.7 -1.6
TBLU eS S 17 44 43.2 -0.1
TBLU eSS SS 17 49 07.9 +4.1
TBLU IVMs_BB IVMs_BB 18 09 00.3
comp=Z,9µm,18.9s
SFJD Kangerlussuaq 67.84 8 i P P 17 35 48.0 -0.8
SFJD pmax pmax
comp=Z,230nm,1.1s
SFJD Kangerlussuaq 67.84 8 i P P 17 35 48.0 -0.8
comp=Z,227nm,1.1s
SFJD Kangerlussuaq 67.84 8 P P 17 35 48.0 -0.8
MPMC Manual Prospec 67.98 61 P P 17 35 51.0 +0.5
baz=310,SNR=42
DZM Mont Dzumac 68.08 163 eP P 17 35 53.0 +2.1
comp=Z,321nm,1.4s
DZM eS S 17 44 46.8 -1.4
comp=Z,9µm,27.8s
DZM eLQ LQ 17 53 20.8
comp=Z,15µm,30.2s
DZM eLR LR 17 56 29.3
comp=Z,13µm,22.7s
AFI Afiamalu 68.11 139 IAMs_20 IAMs_20 17 59 13.2
comp=Z,7µm,22.0s
FURC Furnace Creek, 68.11 60 P P 17 35 51.9 +0.9
baz=310,SNR=60
OSI Osito Audit: C 68.12 63 P P 17 35 51.8 +0.6
baz=310,SNR=6.0
DUG Dugway, Tooele 68.16 55 P P 17 35 52.4 +0.9
baz=310,SNR=55
DUG Dugway, Tooele 68.16 55 IAmb IAmb 17 35 54.6
comp=Z,100nm,1.1s
TPNV Topopah Spring 68.18 59 P P 17 35 52.3 +0.6
baz=310,SNR=103
BLG Laguna Peak, P 68.22 63 P P 17 35 52.0 +0.2
baz=310
BW06 Boulder Array 68.35 51 P P 17 35 53.1 +0.4
baz=311,SNR=50

BW06 **Boulder Array** 68.35 51 IAMs_20 IAMs_20 18 07 39.2
comp=Z,5µm,20.0s
PDAR **Pinedale Array** 68.35 51 P **P** **17 35 52.0 -0.7**
comp=Z,20nm,0.7s,baz=276,slow=1.6,SNR=129
PDAR PKPPKP P'P'df 18 04 06.2 -8.4
comp=Z,0.3nm,0.4s,baz=86,slow=2.1,SNR=4.9
MAK **Makhachkala** **68.40 309** *e*P **P** **17 35 50.3 -2.4**
MAK *e* 17 38 21.5
MAK *e*S **S** **17 44 48.3 -3.3**
MAK *e*SS **SS** **17 49 12.9 -1.7**
MAK pmax pmax
comp=Z,237nm,1.1s
MAK MLR MLR
comp=Z,10µm,17.0s
EDW2 **Edwards Air Fo** **68.41 62** P **P** **17 35 53.5 +0.5**
baz=310,SNR=19
SNCC **San Nicolas Is** **68.47 64** P **P** **17 35 54.2 +0.9**
baz=310
DECC **Green Verdugo** **68.60 63** P **P** **17 35 54.5 +0.4**
baz=310
PASC **Pasadena Art C** **68.74 63** IAmb IAmb 17 36 12.6
comp=Z,216nm,1.9s
MWC **Mount Wilson** **68.79 63** IAmb IAmb 17 36 13.2
comp=Z,197nm,1.6s
SHOC **Shoshone, Teco** **68.84 60** P **P** **17 35 56.3 +0.7**
baz=310,SNR=8.4
GSC **Goldstone, Bar** **68.89 61** P **P** **17 35 56.5 +0.5**
baz=310,SNR=16
MOL **Molde** **68.96 342** *e*P **P** **17 35 56.1 +0.3**
MOL IVmBBB 17 36 01.5
comp=Z,3µm,3.3s
MOL *e*S **S** **17 45 00.3 +2.6**
MOL IVMs_BB IVMs_BB 18 10 06.7
comp=Z,6µm,20.2s
BFSC **Mount Baldy Ra** **69.03 62** P **P** **17 35 56.9 0.0**
baz=310,SNR=13
RRX **Edison Barstow** **69.04 61** P **P** **17 35 57.6 +0.8**
baz=310
SLIT **Slitere, Latvi** **69.05 333** *e*P **P** **17 35 56.3 -0.2**
SLIT IAmb IAmb 17 35 58.6
comp=Z,2µm,1.1s
DOMB **Dombas** **69.08 341** ⇓ *i*P **P** **17 35 56.9 +0.2**
DOMB IVmBBB 17 36 09.6
comp=Z,3µm,4.1s
DOMB *e*S **S** **17 44 59.1 -0.1**
DOMB *e* 17 49 41.3
DOMB IVMs_BB IVMs_BB 18 09 44.1
comp=Z,12µm,14.4s
CIS **Catalina Islan** **69.09 63** P **P** **17 35 57.8 +0.6**
baz=310
SHPR **Sheep Range** **69.14 59** IAmb IAmb 17 36 00.8
comp=Z,90nm,1.2s
GROC **Groznyy** **69.18 310** *e*P **P** **17 35 56.0 -1.5**
GROC *e**PP **pwP** **17 36 10.1 -0.2**
GROC *e**SP **PcP** **17 36 17.1 -4.1**
GROC *e* 17 36 19.4
GROC *e* 17 38 27.3
GROC *e*S **S** **17 44 57.9 -2.9**
GROC *e**SS sS 17 45 23.6 +8.2
GROC pmax pmax
comp=Z,97nm,1.0s
ASAR **Alice Springs** **69.22 195** P **P** **17 35 57.5 -0.4**
comp=Z,64nm,0.7s,baz=12,slow=5.6,SNR=360
ASAR LR LR 18 03 19.3
comp=Z,3µm,21.9s,baz=21,slow=33
ASAR PKP2bc **P'P'bc** **18 04 04.2 +2.5**
comp=Z,1.9nm,1.0s,baz=187,slow=3.3,SNR=4.9
AKT **Akhty** **69.25 308** *e*P **P** **17 35 59.0 +0.8**
AKT *e* 17 36 21.1
AKT *e* 17 38 31.2
AKT pmax pmax
comp=Z,240nm,0.9s
SCI2 **San Clemente I** **69.28 64** P **P** **17 36 00.1 +1.8**
baz=310
TUQ **Turquoise Moun** **69.36 60** P **P** **17 35 58.7 -0.2**
baz=310,SNR=54
GOF **Gofitskoye** **69.40 313** ⇑ *i*P **P** **17 35 59.2 +0.3**
GOF *e*S **S** **17 45 05.6 +2.2**
GOF pmax pmax
comp=Z,604nm,0.9s
GOF smax smax
comp=E,127nm,1.3s
AKN **Aaknes** **69.43 342** *e*P **P** **17 35 59.4 +0.6**
AKN *e*S **S** **17 45 06.9 +3.6**
AKN IVMs_BB IVMs_BB 18 10 23.3
comp=Z,8µm,17.5s
NB2 **NORSAR Subarra** **69.44 340** P **P** **17 35 58.1 -0.8**
comp=Z,163nm,0.9s,baz=29,slow=6.5
NB2 **NORSAR Subarra** **69.44 340** P **P** **17 35 58.1 -0.8**
baz=29,slow=6.5
NOA **NORSAR Array B** **69.44 340** P **P** **17 35 57.6 -1.3**
comp=Z,87nm,0.8s,baz=33,slow=6.6,SNR=205
NOA PKP2bc 18 04 04.0
comp=Z,2.0nm,0.9s,baz=229,slow=1.3,SNR=3.6
NOA LR LR 18 09 55.1
comp=Z,10µm,20.0s,baz=35,slow=39
MICGM **Minsk** **69.49 328** ⇑ *i*P **P** **17 35 59.0 -0.2**
MICGM PM 17 36 00.0
comp=Z,1.1nm,1.0s
MICGM PM 17 36 02.0
comp=N,0.4nm,1.0s
MICGM PM 17 36 03.0
comp=E,2.6nm,6.0s
MICGM *e*PP **PP** **17 38 32.0 -0.4**
MICGM *e*PPP PPP 17 40 12.0
MICGM *e*PsP 17 42 18.0
MICGM *e*S **S** **17 45 03.0 -1.1**
MICGM *e*ScS **SKiKP** **17 45 50.0 +5.1**
MICGM *e*LQ LQ 17 59 10.0
MICGM *e*LR LR 18 03 20.0
MICGM LRM MLR 18 08 44.0
comp=Z,58nm,20.0s
MICGM LRM MLR 18 08 48.0
comp=N,23nm,20.0s
MICGM LRM MLR 18 08 52.0
comp=E,20nm,20.0s
MNK **Minsk** **69.49 328** ⇑ *i*P **P** **17 35 59.0 -0.2**
MNK *e* 17 36 22.0
MNK *e* 17 38 32.0
MNK *e*PPP PPP 17 40 12.0
MNK *e*S **S** **17 45 03.0 -1.1**
MNK *e* 17 45 50.0
MNK pmax pmax
comp=N,350nm,1.0s
MNK pmax pmax
comp=Z,1µm,1.0s
MNK pmax pmax
comp=Z,3µm,6.0s
BBRC **Big Bear Solar** **69.49 62** P **P** **17 36 00.6 +0.7**
baz=310
HEC **Hector,Ludlow** **69.49 61** P **P** **17 36 00.3 +0.5**
baz=310,SNR=22
EIDS **Eidsvold** **69.52 178** IAmb IAmb 17 36 03.5
comp=Z,224nm,1.6s
EIDS IAMs_20 IAMs_20 18 01 28.8
comp=Z,6µm,22.0s
HFS **Hagfors** **69.57 338** P **P** **17 35 58.2 -1.4**
comp=Z,124nm,0.8s,baz=45,slow=5.0,SNR=186
PALK **Pallekele** **69.58 260** P **P** **17 36 00.4 -0.1**
PALK **Pallekele** **69.58 260** P **P** **17 36 00.6 +0.1**
PALK P **P** **17 36 00.6 +0.1**
PALK **Pallekele** **69.58 260** P **P** **17 35 59.5 -0.9**
PALK pmax pmax
comp=Z,88nm,1.1s
PALK MLR MLR
comp=Z,5µm,21.0s
PALK **Pallekele** **69.58 260** P **P** **17 35 59.5 -0.9**
PALK IAmb IAmb 17 36 22.4
comp=Z,88nm,1.1s
PALK **Pallekele** **69.58 260** IAMs_20 IAMs_20 18 08 07.4
comp=Z,5µm,21.0s
NACGM **Naroch** **69.59 329** *e*P **P** **17 36 00.0 +0.1**
NACGM *e*P **P** **17 36 00.0 +0.1**
NACGM PM 17 36 03.0
comp=Z,1.6nm,1.0s
NACGM *e*PP **PcP** **17 36 22.0 -0.7**
NACGM *e*LQ LQ 17 41 04.0
NC602 **NORSAR Array S** **69.62 339** *e*P **P** **17 35 58.9 -1.0**
NC602 IVmBBB 17 36 06.0
comp=Z,2µm,3.0s
NC602 *e*S **S** **17 45 05.7 +0.2**
NC602 *e* 17 49 53.5
NC602 IVMs_BB IVMs_BB 18 08 06.9
comp=Z,6µm,16.2s
NC602 **NORSAR Array S** **69.62 339** IAmb IAmb 17 36 01.7
comp=Z,162nm,1.1s

SEKA **Sheki** **69.73 308** P **P** **17 36 02.1 +1.0**
MURC **Murrieta** **69.74 63** P **P** **17 36 01.1 -0.1**
baz=311,SNR=19
GMRC **Granite Mounta** **69.94 61** P **P** **17 36 03.2 +0.6**
baz=311,SNR=42
MDND **Maddock** **70.06 42** P **P** **17 36 03.0 +0.1**
baz=315,SNR=47
MDND **Maddock** **70.06 42** IAMs_20 IAMs_20 18 08 52.3
comp=Z,5µm,22.0s
ULM **Lac du Bonnet** **70.06 38** P **P** **17 36 01.6 -1.2**
comp=Z,43nm,0.6s,baz=317,slow=6.8,SNR=60
ULM PKP2bc P'P'bc 18 04 01.9 -8.5
comp=Z,3.8nm,1.0s,baz=210,slow=5.3,SNR=3.5
ULM **Lac du Bonnet** **70.06 38** IAMs_20 IAMs_20 18 10 26.1
comp=Z,5µm,20.0s
MNGR **Mingechevir, A** **70.08 308** P **P** **17 36 04.7 +1.6**
K22A **Casper** **70.10 49** P **P** **17 36 03.4 -0.1**
baz=313,SNR=24
PABE **Paberze** **70.15 330** *e*P **P** **17 36 02.2 -1.1**
PABE IAmb IAmb 17 36 05.7
comp=Z,273nm,0.8s
PFO **Pinyon Flats O** **70.20 62** P **P** **17 36 04.0 -0.2**
baz=311,SNR=7.9
PFO **Pinyon Flats O** **70.20 62** P **P** **17 36 02.9 -1.3**
PFO pmax pmax
comp=Z,83nm,1.3s
PFO MLR MLR
comp=Z,4µm,22.0s
PFO **Pinon Flats O** **70.20 62** P **P** **17 36 02.9 -1.3**
XPFO **Pion Flat** **70.20 62** P **P** **17 36 03.0 -1.2**
TPFO **Pinon Flats** **70.21 62** P **P** **17 36 04.1 -0.1**
baz=311,SNR=12
BELC **Belle Mtn. Jos** **70.24 62** P **P** **17 36 04.4 0.0**
baz=311,SNR=12
109C **Camp Elliot, M** **70.26 63** P **P** **17 36 04.7 +0.3**
baz=311,SNR=6.6
KVAR **Kislovodsk Arr** **70.33 313** P **P** **17 36 05.7 +0.9**
comp=Z,124nm,0.9s,baz=112,slow=17,SNR=13
KIV **Kislovodsk** **70.34 313** *i*P **P** **17 36 05.1 +0.3**
SNR=21
KIV **Kislovodsk** **70.34 313** P **P** **17 36 06.2 +1.4**
KIV SNR=21 P **P** **17 36 06.2 +1.4**
KIV **Kislovodsk** **70.34 313** *e*P **P** **17 36 06.2 +1.4**
KIV *e*S **S** **17 45 16.5 +1.9**
KIV *e*SS **SS** **17 49 47.5 +2.9**
KIV pmax pmax
comp=Z,1µm,1.1s
KIV pmax pmax
comp=Z,1µm,3.9s
KIV **Kislovodsk** **70.34 313** *e*P **P** **17 36 06.2 +1.4**
RWWY **Rawlins** **70.37 51** IAMs_20 IAMs_20 18 09 41.5
comp=Z,6µm,19.0s
FOO **Floro** **70.37 343** *e*P **P** **17 36 03.6 -0.9**
FOO *e*S **S** **17 45 17.8 +3.6**
KBZ **Khabaz** **70.38 312** P **P** **17 36 05.5 +0.7**
comp=Z,248nm,0.9s,baz=49,slow=3.8,SNR=40
KBZ LR LR 18 11 29.5
comp=Z,57µm,19.4s,baz=42,slow=40
RSSD **Black Hills** **70.43 47** P **P** **17 36 05.6 +0.1**
baz=314
RSSD **Black Hills** **70.43 47** P **P** **17 36 05.4 -0.1**
RSSD pmax pmax
comp=Z,164nm,1.3s
RSSD MLR MLR
comp=Z,5µm,18.0s
RSSD **Black Hills** **70.43 47** P **P** **17 36 05.4 -0.1**
RSSD IAmb IAmb 17 36 23.1
comp=Z,164nm,1.2s
RSSD **Black Hills** **70.43 47** IAMs_20 IAMs_20 18 11 25.8
comp=Z,5µm,18.0s
PBUR **Paburg** **70.45 332** *e*P **P** **17 36 04.5 -0.6**
SKAR **Skarslia** **70.46 341** *e*P **P** **17 36 05.5 +0.3**
SKAR *e*S **S** **17 45 17.3 +1.9**
SKAR *e* 17 50 12.4
LKRN **Lenkeran, Azer** **70.48 305** P **P** **17 36 07.3 +1.7**
HYA **Hoyanger** **70.51 342** ⇓ *i*P **P** **17 36 05.9 +0.6**
OSL **Oslo** **70.51 339** *e*P **P** **17 36 06.0 +0.6**
OSL *e*S **S** **17 45 15.7 -0.2**
GANJ **Ganja** **70.60 308** P **P** **17 36 07.7 +1.3**
NEE2 **Needles Airpor** **70.60 60** P **P** **17 36 06.9 +0.5**
baz=311
IRM **Iron Mountain** **70.67 61** P **P** **17 36 07.4 +0.5**
baz=311,SNR=30
MONP2 **Monument Peak** **70.69 63** P **P** **17 36 07.3 +0.1**
baz=311,SNR=7.1
BC3 **Big Chuckawall** **70.81 62** P **P** **17 36 08.2 +0.3**
baz=311,SNR=15
O20A **White River Ci** **70.84 52** P **P** **17 36 08.3 +0.2**
baz=312,SNR=38
O20A **White River Ci** **70.84 52** P **P** **17 36 08.0 -0.1**
O20A IAmb IAmb 17 36 17.9
comp=Z,84nm,1.1s
SUE **Sulen** **70.92 343** *e*P **P** **17 36 08.5 +0.7**
SUE *e*S **S** **17 45 23.6 +3.0**
U15A **North Rim** **70.94 58** IAmb IAmb 17 36 12.2
comp=Z,134nm,1.1s
PSA00 **Pilbara Seismi** **70.97 209** IAmb IAmb 17 36 11.3
comp=Z,122nm,0.9s
KONO **Kongsberg** **71.05 340** *ce*P **P** **17 36 10.1 +1.4**
KONO pmax pmax
comp=Z,192nm,2.5s
KONO **Kongsberg** **71.05 340** *e*P **P** **17 36 08.9 +0.3**
KONO *e*S **S** **17 45 25.2 +3.0**
KONO IVMs_BB IVMs_BB 18 07 57.8
comp=Z,6µm,23.0s
KONO **Kongsberg** **71.05 340** P **P** **17 36 09.4 +0.7**
KONO IAmb IAmb 17 36 10.8
comp=Z,79nm,1.1s
IKP **In-Ko-Pah, Jac** **71.05 63** P **P** **17 36 09.5 +0.2**
baz=311,SNR=8.8
SWSC **Sam W. Stewart** **71.05 62** P **P** **17 36 09.4 +0.2**
baz=311
Y12C **Blythe** **71.33 61** P **P** **17 36 11.5 +0.7**
baz=312,SNR=14
ASK **Askoy** **71.34 342** *e*P **P** **17 36 10.4 0.0**
BER **Bergen** **71.40 342** *e*P **P** **17 36 11.4 +0.6**
BER *e*S **S** **17 45 27.1 +0.9**
BER *e* 17 50 20.5
PV21 **Cone Mtn., Par** **71.47 54** IAMs_20 IAMs_20 18 09 54.1
comp=Z,5µm,22.0s
AGMN **Agassiz Nation** **71.48 40** P **P** **17 36 11.8 +0.3**
baz=317
AGMN **Agassiz Nation** **71.48 40** IAmb IAmb 17 36 13.5
comp=Z,138nm,0.9s
AGMN IAMs_20 IAMs_20 18 11 58.7
comp=Z,7µm,18.0s
ODD1 **Odda** **71.53 341** ⇓ *i*P **P** **17 36 12.4 +0.7**
GLA **Glamis** **71.60 62** P **P** **17 36 13.4 +0.9**
baz=312,SNR=19
GLA **Glamis** **71.60 62** IAmb IAmb 17 36 15.4
comp=Z,83nm,0.9s
N23A **Red Feather La** **71.61 51** P **P** **17 36 13.5 +0.8**
baz=313,SNR=38
N23A **Red Feather La** **71.61 51** IAMs_20 IAMs_20 18 10 11.3
comp=Z,5µm,19.0s
PV20 **West Nyswonger** **71.63 54** IAMs_20 IAMs_20 18 12 43.7
comp=Z,5µm,19.0s
PV04 **Paradox Valley** **71.63 54** IAMs_20 IAMs_20 18 12 52.2
comp=Z,6µm,18.0s
PV19 **Morning Glory** **71.64 54** IAMs_20 IAMs_20 18 12 34.5
comp=Z,5µm,20.0s
AKH **Akhalkalaki** **71.65 310** ⇑ P **P** **17 36 14.3 +1.4**
PV16 **Nyswonger Mesa** **71.68 54** IAMs_20 IAMs_20 18 12 45.1
comp=Z,5µm,19.0s
PV11 **David Mesa, Pa** **71.71 54** IAMs_20 IAMs_20 18 13 20.0
comp=Z,7µm,19.0s
PV18 **Skein Mesa, Pa** **71.72 54** IAMs_20 IAMs_20 18 12 36.4
comp=Z,5µm,19.0s
PV12 **Saucer Basin,** **71.74 54** IAMs_20 IAMs_20 18 11 41.1
comp=Z,6µm,20.0s
PV03 **Paradox Valley** **71.75 54** IAMs_20 IAMs_20 18 13 04.5
comp=Z,5µm,18.0s
D32A **Dogwood Acres,** **71.79 41** IAMs_20 IAMs_20 18 12 21.2
comp=Z,7µm,20.0s
GNI **Garni** **71.82 309** *i*P **P** **17 36 15.1 +1.2**
SNR=13
GNI **Garni** **71.82 309** P **P** **17 36 16.2 +2.2**
SNR=6.5
GNI P **P** **17 36 16.2 +2.2**
SNR=6.5
GNI **Garni** **71.82 309** P **P** **17 36 15.3 +1.3**
GNI S **S** **17 45 34.5 +2.4**
GNI pmax pmax
comp=Z,146nm,0.9s
GNI MLR MLR
comp=Z,9µm,19.0s
GNI **Garni** **71.82 309** P **P** **17 36 14.8 +0.9**
comp=Z,84nm,0.9s,baz=358,slow=2.9,SNR=14
GNI S **S** **17 45 34.5 +2.4**
comp=Z,2.5nm,0.5s,baz=339,slow=18,SNR=2.3
GNI **Garni** **71.82 309** P **P** **17 36 15.2 +1.3**
GNI IAmb IAmb 17 36 45.2
comp=Z,146nm,0.9s
GNI **Garni** **71.82 309** IAMs_20 IAMs_20 18 13 27.4
comp=Z,9µm,19.0s
AKASG **Malin Array Be** **71.83 325** P **P** **17 36 13.0 -0.6**
AKASG **Malin Array Be** **71.83 325** P **P** **17 36 13.0 -0.6**
comp=Z,171nm,0.8s,baz=37,slow=6.1,SNR=61
AKASG S **S** **17 45 29.5 -2.0**
comp=Z,1.7nm,0.9s,baz=40,slow=11,SNR=9.2
AKASG LR LR 18 10 54.9
comp=Z,24µm,18.1s,baz=35,slow=38
PV13 **Radium Mtn., P** **71.84 54** IAMs_20 IAMs_20 18 11 22.7
comp=Z,5µm,20.0s
PV02 **Paradox Valley** **71.85 54** IAMs_20 IAMs_20 18 13 06.8
comp=Z,6µm,19.0s
PV01 **Paradox Valley** **72.00 54** IAMs_20 IAMs_20 18 11 47.6
comp=Z,5µm,20.0s
BLS5 **Blasjo** **72.01 341** *e*P **P** **17 36 15.2 +0.7**
BLS5 *e*S **S** **17 45 31.5 -1.8**
BLS5 *e* 17 50 36.1
BLS5 IVMs_BB IVMs_BB 18 11 20.9
comp=Z,9µm,18.7s
WUAZ **Wupatki** **72.09 58** P **P** **17 36 16.7 +1.1**
baz=312,SNR=39
SOC **Sochi** **72.14 314** *c i*P **P** **17 36 15.7 +0.1**
SOC *e**SP **pwP** **17 36 28.5 +0.2**
SOC *e* 17 38 52.8
SOC *e*PPP PPP 17 40 40.4
SOC *e*S **S** **17 45 33.6 -1.7**
SOC *e**SS sS 17 46 01.1 +11
SOC *e*SS **SS** **17 50 08.2 -3.9**
SOC pmax pmax
comp=Z,197nm,0.8s
SOC **Sochi** **72.14 314** ⇑ *i*P **P** **17 36 15.7 +0.1**
ANN **Anapa** **72.44 316** *e*P **P** **17 36 16.6 -0.7**
ANN *e* 17 36 30.8
ANN *e*PPP PPP 17 40 38.6
ANN *e*S **S** **17 45 38.5 -0.1**
ANN *e* 17 46 18.9
ANN pmax pmax
comp=N,130nm,1.3s
ANN pmax pmax
comp=Z,294nm,1.3s
ANN pmax pmax
comp=E,102nm,1.3s
ANN **Anapa** **72.44 316** *e*P **P** **17 36 16.6 -0.7**
KMY **Karmoy** **72.47 341** *e*P **P** **17 36 17.6 +0.3**
BATM **Batumi** **72.49 311** ⇑ P **P** **17 36 19.1 +1.5**
HOMB **Homborsund** **72.53 339** *e*P **P** **17 36 17.6 0.0**
HOMB *e*S **S** **17 45 40.2 +1.0**
HOMB *i* 17 46 16.3
HOMB IVMs_BB IVMs_BB 18 10 28.8
comp=Z,7µm,24.8s
ISCO **Idaho Springs** **72.54 51** P **P** **17 36 19.5 +1.1**
baz=314,SNR=47
ISCO **Idaho Springs** **72.54 51** IAMs_20 IAMs_20 18 10 47.1
comp=Z,6µm,20.0s
MVCO **Mesa Verde** **72.67 55** P **P** **17 36 19.8 +0.7**
baz=313,SNR=31
SNART **Snartemo** **72.79 340** *e*P **P** **17 36 19.4 +0.2**
SUSD **Miller** **72.80 44** P **P** **17 36 19.6 +0.1**
baz=316
SUSD **Miller** **72.80 44** IAMs_20 IAMs_20 18 11 58.0
comp=Z,7µm,18.0s
S22A **4UR Ranch, Cre** **73.27 53** P **P** **17 36 23.7 +1.0**
baz=314,SNR=60
S22A **4UR Ranch, Cre** **73.27 53** IAmb IAmb 17 36 40.9
comp=Z,102nm,1.1s
W18A **Petrified Fore** **73.35 57** P **P** **17 36 24.1 +0.9**
baz=313,SNR=12
W18A **Petrified Fore** **73.35 57** IAMs_20 IAMs_20 18 14 09.6
comp=Z,4µm,18.0s
Q24A **Divide** **73.38 52** P **P** **17 36 23.8 +0.4**
baz=314,SNR=18
Q24A **Divide** **73.38 52** IAMs_20 IAMs_20 18 11 27.3
comp=Z,6µm,20.0s
NIUE **Niue** **73.46 140** IAMs_20 IAMs_20 18 00 44.0
comp=Z,7µm,22.0s
BSD **Bornholm Skovb** **73.47 335** *i*P **P** **17 36 21.7 -1.5**
BSD pmax pmax
comp=Z,220nm,0.9s
BSD MLR MLR
comp=Z,17µm,17.0s
BSD **Bornholm Skovb** **73.47 335** *i*P **P** **17 36 21.7 -1.5**
comp=Z,222nm,0.9s
comp=Z,17µm,17.0s
214A **Organ Pipe Nat** **73.59 61** P **P** **17 36 25.1 +0.6**
baz=313,SNR=8.7
X18A **Snowflake** **73.62 58** IAmb IAmb 17 36 28.0
comp=Z,125nm,1.4s
EYMN **Ely** **73.70 38** P **P** **17 36 24.7 0.0**
baz=320,SNR=35
EYMN **Ely** **73.70 38** IAmb IAmb 17 36 26.8
comp=Z,145nm,0.9s
EYMN **Ely** **73.70 38** IAMs_20 IAMs_20 18 12 52.4
comp=Z,6µm,18.0s
COP **Copenhagen** **73.72 336** *i*P **P** **17 36 25.0 +0.3**
COP pmax pmax
comp=Z,190nm,0.8s
COP MLR MLR
comp=Z,12µm,18.0s
COP **Copenhagen** **73.72 336** *i*P **P** **17 36 25.0 +0.3**
comp=Z,190nm,0.8s
comp=Z,12µm,18.0s
IVI **Ivigtut** **73.75 9** IAmb IAmb 17 36 27.4
comp=Z,152nm,1.0s
SIM **Simferopol'** **73.95 318** *c i*P **P** **17 36 27.7 +1.5**
SIM *i*S **S** **17 45 54.0 -1.8**
SIM pmax pmax
comp=Z,239nm,0.9s
SIM MLR MLR
comp=Z,12µm,15.0s
MUD **Monsted U'grnd** **73.96 338** *i*P **P** **17 36 26.1 +0.1**
MUD pmax pmax
comp=Z,75nm,1.0s
MUD MLR MLR
comp=Z,20µm,22.0s
MUD **Monsted U'grnd** **73.96 338** *i*P **P** **17 36 26.1 +0.1**
comp=Z,75nm,1.0s
comp=Z,20µm,22.0s
SDCO **Great Sand Dun** **74.03 53** P **P** **17 36 27.8 +0.6**
baz=314,SNR=20
NRS **Narsarsuaq** **74.06 7** *i*P **P** **17 36 26.3 -0.3**
NRS **Narsarsuaq** **74.06 7** *i*P **P** **17 36 26.3 -0.3**
SORM **Soroca** **74.16 323** ⇓ P **P** **17 36 27.8 +0.4**
SORM **Soroca** **74.16 323** ⇓ P **P** **17 36 27.8 +0.4**
BEL **Belsk** **74.22 330** *e*P **P** **17 36 28.0 +0.3**
BEL *e*S **S** **17 46 00.3 +1.7**
BEL MLR MLR
comp=Z,17µm,23.3s
BEL **Belsk** **74.22 330** *e*P **P** **17 36 28.0 +0.3**
BEL *e*P **P** **17 36 28.0 +0.3**
BEL *e*S **S** **17 46 00.3 +1.7**
BEL *e*S **S** **17 46 00.3 +1.7**
BEL *e*L L 18 10 30.7
BEL *e*L L 18 10 30.7
comp=Z,17µm,23.3s
BANOM **Banah** **74.24 291** *i*P **P** **17 36 28.2 -0.1**
SNR=18
BANOM **Banah** **74.24 291** P **P** **17 36 28.5 +0.3**
SNR=13
BANOM P **P** **17 36 28.5 +0.3**
SNR=13
SHME **Shamm** **74.26 291** *i*P **P** **17 36 28.3 -0.1**
SNR=15
RGN **Rugen** **74.44 335** *e*P **P** **17 36 29.1 +0.3**
WSAR **Wadi Sarin** **74.45 287** P **P** **17 36 30.9 +1.4**
SNR=7.2
WSAR **Wadi Sarin** **74.45 287** P **P** **17 36 30.9 +1.4**
comp=Z,16nm,0.6s,baz=104,slow=4.3,SNR=16
SEVA **Sevastopol** **74.47 318** ⇓ P **P** **17 36 30.1 +0.9**
SEVA mb 17 36 32.5
ECSD **EROS Data Cent** **74.47 43** P **P** **17 36 29.2 -0.1**
baz=318,SNR=63
ECSD **EROS Data Cent** **74.47 43** IAmb IAmb 17 36 47.3
comp=Z,186nm,1.1s
ECSD **EROS Data Cent** **74.47 43** IAMs_20 IAMs_20 18 10 48.2
comp=Z,6µm,20.0s

ARMA	Armidale	74.56	178	IAMs_20	IAMs_20	18 03 48.3	
	comp=Z,8µm,22.0s						
BIDO	Bidbid	74.60	288	P	P	17 36 32.3	+2.0
	SNR=14						
BIDO				P	P	17 36 32.3	+2.0
	SNR=14						
TUC	Tucson	74.62	60	P	P	17 36 31.1	+0.6
	baz=313						
TUC	Tucson	74.62	60	P	P	17 36 30.8	+0.3
LVV	L'vov	74.62	327	⇑iP	P	17 36 30.7	+0.6
LVV				e		17 39 14.9	
LVV				e		17 41 02.8	
LVV				eS	S	17 45 58.7	-4.5
LVV				e		17 46 36.6	
LVV				e		17 46 46.7	
LVV				e		17 50 45.9	
LVV				pmax	pmax		
	comp=Z,200nm,1.5s						
LVV				MLR	MLR		
	comp=E,14µm,18.0s						
LVV				MLR	MLR		
	comp=N,15µm,19.0s						
LVV				MLR	MLR		
	comp=Z,20µm,20.0s						
WBK	Wadi Bani Khal	74.63	287	P	P	17 36 32.2	+1.6
	SNR=11						
WBK				P	P	17 36 32.2	+1.6
	SNR=11						
MDH	Madha	74.65	290	P	P	17 36 30.8	+0.2
MDH	Madha	74.65	290	P	P	17 36 30.8	+0.2
MDH				P	P	17 36 30.8	+0.2
E38A	The Farm, Brul	74.69	39	IAMs_20	IAMs_20	18 12 52.8	
	comp=Z,6µm,21.0s						
MSFE	Esma-Masafi	74.71	290	iP	P	17 36 30.9	-0.1
	SNR=15						
KSCO	Kaye Shedlock'	74.75	50	P	P	17 36 31.6	+0.4
	baz=315,SNR=9.0						
KIS	Kishinev	74.83	322	⇑iP	P	17 36 31.0	-0.3
	comp=Z,880nm,2.4s						
KIS	Kishinev	74.83	322	⇑P	P	17 36 32.2	+0.8
MILM	Milestii Mici	74.90	322	⇑P	P	17 36 31.8	+0.1
UMQ	Umm Al-Quwin	74.93	291	P	P	17 36 33.1	+0.9
UOSS	Minazif	74.95	290	P	P	17 36 33.3	+0.9
	SNR=12						
UOSS				P	P	17 36 33.3	+0.9
	SNR=12						
UOSS	Minazif	74.95	290	P	P	17 36 32.3	-0.1
UOSS				IAmb	IAmb	17 36 34.4	
	comp=Z,127nm,0.8s						
UOSS	Minazif	74.95	290	IAMs_20	IAMs_20	18 13 07.3	
	comp=Z,6µm,20.0s						
SMDO	Samad	74.97	288	P	P	17 36 34.1	+1.5
	SNR=15						
SMDO				P	P	17 36 34.1	+1.5
	SNR=15						
BIGH	Upper Bighouse	74.99	346	eP	P	17 36 32.4	+0.3
MLA1	Latheron	75.07	345	eP	P	17 36 32.2	-0.3
T25A	Trinidad	75.07	52	P	P	17 36 33.7	+0.5
	baz=315,SNR=15						
HATD	Hatta, Dubai	75.08	290	iP	P	17 36 33.3	+0.1
	SNR=26						
HATD	Hatta, Dubai	75.08	290	P	P	17 36 34.5	+1.3
	SNR=16						
HATD				P	P	17 36 34.5	+1.3
	SNR=16						
HOQ	Hoqain	75.12	288	P	P	17 36 34.7	+1.3
	SNR=22						
HOQ				P	P	17 36 34.7	+1.3
	SNR=22						
SPMN	Marine on St.	75.17	40	P	P	17 36 33.3	-0.1
	baz=319,SNR=27						
SPMN	Marine on St.	75.17	40	IAmb	IAmb	17 36 35.4	
	comp=Z,115nm,0.9s						
SPMN				IAMs_20	IAMs_20	18 08 55.6	
	comp=Z,7µm,22.0s						
ASHO	Ashiyiah	75.23	290	iP	P	17 36 34.3	+0.3
	SNR=21						
ASHO	Ashiyiah	75.23	290	P	P	17 36 35.2	+1.1
	SNR=18						
ASHO				P	P	17 36 35.2	+1.1
	SNR=18						
IAS	Iasi	75.23	323	⇑P	P	17 36 34.5	+0.9
KWP	Kalwaria Pacla	75.29	327	eP	P	17 36 34.4	+0.4
KWP				eP	P	17 36 34.4	+0.4
KWP				eS	S	17 46 11.0	+0.3
KWP				eS	S	17 46 11.0	+0.3
KWP				eL	L	18 12 13.5	
	comp=Z,39µm,20.2s						
KWP				eL	L	18 12 13.5	
	comp=Z,39µm,20.2s						
NAZ	Nazwa, Dubai	75.29	291	iP	P	17 36 35.2	+0.9
	SNR=8.1						
RSC	Scourie	75.35	346	eP	P	17 36 34.5	+0.4
JMDO	Jabal Madar	75.39	287	P	P	17 36 35.8	+0.8
	SNR=17						
JMDO				P	P	17 36 35.8	+0.8
	SNR=17						
BGNE	Belgrade	75.40	46	P	P	17 36 34.5	-0.3
	baz=317,SNR=17						
BGNE	Belgrade	75.40	46	IAmb	IAmb	17 36 37.9	
	comp=Z,126nm,0.8s						
BGNE				IAMs_20	IAMs_20	18 11 04.1	
	comp=Z,9µm,21.0s						
ANMO	Albuquerque	75.42	55	P	P	17 36 36.0	+0.8
	baz=314						
ANMO	Albuquerque	75.42	55	P	P	17 36 34.8	-0.4
ANMO	Albuquerque	75.42	55	IAMs_20	IAMs_20	18 12 29.7	
	comp=Z,5µm,22.0s						
LEOM	Leova	75.49	322	⇓P	P	17 36 36.0	+0.9
FAQ	Al Faqa, Dubai	75.50	290	P	P	17 36 36.2	+0.7
D41A	Chassel	75.65	37	IAMs_20	IAMs_20	18 15 25.9	
	comp=Z,8µm,20.0s						
PRAR	RASCA	75.67	324	⇓P	P	17 36 36.5	+0.4
PRAR				mb		17 36 44.4	
MCD	Coleburn Disti	75.73	345	eP	P	17 36 36.7	+0.4
Y22D	IRIS PASSCAL I	75.75	56	P	P	17 36 38.2	+1.1
	baz=314						
ASUD	Al Ashush, Dub	75.75	290	iP	P	17 36 38.0	+1.0
	SNR=15						
BSY	Bisya	75.75	288	P	P	17 36 38.4	+1.3
	SNR=24						
BSY				P	P	17 36 38.4	+1.3
	SNR=24						
DIKM	Dikmen	75.82	315	⇑P	P	17 36 38.4	+1.3
DIKM				mb		17 36 47.8	
ARQ	Araqi	75.82	289	P	P	17 36 38.7	+1.3
	SNR=17						
ARQ				P	P	17 36 38.7	+1.3
	SNR=17						
ALNE	Al Ain	75.86	290	iP	P	17 36 37.8	+0.1
	SNR=18						
BURAR	Bucovina Array	75.89	325	⇑P	P	17 36 37.5	0.0
BURAR				mb		17 36 39.7	
OJC	Ojcow	75.91	329	eP	P	17 36 37.6	+0.2
OJC				eP	P	17 36 37.6	+0.2
OJC				ePP	PP	17 39 29.6	+2.3
OJC				ePP	PP	17 39 29.6	+2.3
OJC				eS	S	17 46 12.2	-5.3
OJC				eS	S	17 46 12.2	-5.3
OJC				eL	L	18 11 43.4	
	comp=Z,18µm,22.1s						
OJC				eL	L	18 11 43.4	
	comp=Z,18µm,22.1s						
RRR	Rubha Reidh	75.92	346	eP	P	17 36 37.4	+0.1
BIR	Birlad	75.92	322	⇑P	P	17 36 38.5	+0.9
BIR				mb		17 36 40.5	
KOLS	Kolonicke sedl	76.02	327	eP	P	17 36 38.4	+0.3
KOLS				eS	S	17 46 18.4	-0.3
KOLS				eL	L	18 13 01.1	
BIZ	Bicaz	76.05	324	⇑P	P	17 36 38.6	+0.2
MDO	Dochfour	76.07	346	eP	P	17 36 37.5	-0.8
RUE	Ruedersdorf	76.07	334	eP	P	17 36 36.0	-2.2
VARL	Varlezi	76.11	322	⇓P	P	17 36 39.9	+1.3
VARL				mb		17 36 41.0	
COWI	Conover	76.15	38	IAMs_20	IAMs_20	18 15 39.3	
	comp=Z,6µm,19.0s						
TESR	Tescani	76.15	323	⇓P	P	17 36 39.8	+0.9
KAC	Achnashellach	76.17	346	eP	P	17 36 38.4	-0.4
GHRR		76.18	322	⇑P	P	17 36 39.9	+0.8
319A	Douglas	76.19	60	IAmb	IAmb	17 36 56.8	
	comp=Z,178nm,1.1s						
TLCR		76.23	321	⇓P	P	17 36 40.2	+0.9
TLCR				mb		17 36 41.6	
GIUM	Giurgiulesti	76.27	322	⇑P	P	17 36 41.7	+2.2
GIUM				mb		17 36 58.8	
STKA	Stephens Creek	76.29	187	P	P	17 36 40.2	+0.6
	comp=Z,38nm,0.6s,baz=353,slow=6.6,SNR=118						
STKA				LR	LR	18 07 03.9	
	comp=Z,6µm,21.6s,baz=5.7,slow=33						
121A	Cookes Peak, D	76.31	58	P	P	17 36 41.4	+1.1
	baz=314,SNR=38						
121A	Cookes Peak, D	76.31	58	IAmb	IAmb	17 36 44.3	
	comp=Z,111nm,1.1s						
G40A	Rib Lake	76.32	39	IAmb	IAmb	17 36 41.8	
	comp=Z,99nm,0.9s						
G40A				IAMs_20	IAMs_20	18 14 26.0	
	comp=Z,4µm,19.0s						
NIE	Niedzica	76.38	328	eP	P	17 36 40.7	+0.5
NIE				eP	P	17 36 40.7	+0.5
NIE				eS	S	17 46 20.1	-2.6
NIE				eS	S	17 46 20.1	-2.6
NIE				eL	L	18 11 04.2	
	comp=Z,10µm,24.6s						
NIE				eL	L	18 11 04.2	
	comp=Z,10µm,24.6s						
KPL	Plockton	76.39	346	eP	P	17 36 39.7	-0.3
KPL				IAmb	IAmb	17 36 42.3	
	comp=Z,312nm,0.8s						
TUDR		76.43	322	⇓P	P	17 36 42.3	+1.8
TUDR				mb		17 36 44.3	
CBKS	Cedar Bluff	76.46	49	P	P	17 36 40.5	-0.4
	baz=317,SNR=12						
CBKS	Cedar Bluff	76.46	49	IAMs_20	IAMs_20	18 11 59.2	
	comp=Z,5µm,22.0s						
SCHQ	Schefferville	76.46	20	P	P	17 36 40.8	+0.3
	comp=Z,97nm,1.0s,baz=348,slow=5.9,SNR=27						
SCHQ				LR	LR	18 14 31.5	
	comp=Z,11µm,19.2s,baz=342,slow=39						
SCHQ	Schefferville	76.46	20	IAmb	IAmb	17 36 43.2	
	comp=Z,134nm,1.1s						
PETR	Petresti	76.52	322	⇑P	P	17 36 42.6	+1.6
JURR	Jurilovca	76.53	321	⇑P	P	17 36 42.3	+1.3
JURR				mb		17 36 43.5	
CFR	Carcaliu	76.54	321	⇑P	P	17 36 42.2	+1.1
BMR	Baia Mare	76.55	326	⇑P	P	17 36 42.2	+1.1
ODBI	Odobesti	76.56	322	⇑P	P	17 36 43.2	+1.9
ODBI				mb		17 36 44.7	
TRPA	Tarpa	76.56	326	⇑P	P	17 36 41.5	+0.3
TRPA	Tarpa	76.56	326	eP	P	17 36 41.0	-0.2
VRI	Vrincioaia	76.62	323	⇑P	P	17 36 42.2	+0.5
KSP	Ksiaz	76.63	331	eP	P	17 36 41.5	0.0
KSP				eP	P	17 36 41.5	0.0
KSP				eS	S	17 46 22.6	-2.8
KSP				eS	S	17 46 22.6	-2.8
KSP				eL	L	18 13 40.6	
	comp=Z,17µm,18.9s						
KSP				eL	L	18 13 40.6	
	comp=Z,17µm,18.9s						
ARCR	ARCALIA	76.67	325	⇑P	P	17 36 43.3	+1.4
TOPG	Topolog	76.67	321	⇑P	P	17 36 42.0	+0.2
PLOR	Plostina	76.67	323	⇑P	P	17 36 43.4	+1.5
OKC	Ostrava-Krasne	76.82	330	eP	P	17 36 43.3	+0.7
OKC				eS	S	17 46 21.7	-5.7
OKC				AMS	AMS	18 14 10.0	
	comp=Z,14µm,16.5s						
OZUR		76.85	323	⇑P	P	17 36 44.5	+1.5
E43A	Lone Tree Farm	76.85	36	IAmb	IAmb	17 36 44.9	
	comp=Z,107nm,0.8s						
E43A				IAMs_20	IAMs_20	18 16 18.7	
	comp=Z,4µm,18.0s						
F42A	Maple Grove Fa	76.85	37	IAMs_20	IAMs_20	18 16 24.8	
	comp=Z,6µm,20.0s						
ELO	Logie Almond	76.87	345	eP	P	17 36 43.0	+0.2
GRER		76.90	322	⇓P	P	17 36 44.1	+0.9
GRER				mb		17 36 53.8	
LANS	Liptovska Anna	76.91	329	eP	P	17 36 44.8	+1.6
CHVC	Chvalec	76.93	331	eP	P	17 36 44.1	+0.8
CHVC				eS	S	17 46 26.7	-1.9
CHVC				AMS	AMS	18 13 40.0	
	comp=Z,18µm,18.1s						
TIRR	Tirgusor	76.98	321	⇑P	P	17 36 44.9	+1.4
TIRR	Tirgusor	76.98	321	⇑P	P	17 36 44.9	+1.4
UPC	Upice	77.01	331	eP	P	17 36 44.8	+1.1
UPC				eS	S	17 46 17.6	-12
UPC				AMS	AMS	18 13 50.0	
	comp=Z,20µm,18.5s						
HARR	Harsova	77.01	321	⇑P	P	17 36 45.1	+1.3
HARR				mb		17 36 46.2	
DPC	Dobruska-Polom	77.04	331	eP	P	17 36 43.9	0.0
DPC				epP	pP	17 36 51.8	-2.1
DPC				ex	x	17 46 21.2	
DPC				AMS	AMS	18 14 40.0	
	comp=Z,16µm,17.5s						
TLB	Topalu	77.04	321	⇓P	P	17 36 45.0	+1.0
KECS	Kecovo	77.08	328	eP	P	17 36 45.0	+0.9
MORC	Moravsky Berou	77.09	330	⇑P	P	17 36 44.5	+0.3
MORC				mb		17 36 46.8	
MORC	Moravsky Berou	77.09	330	⇑iP	P	17 36 44.3	+0.1
MORC				eS	S	17 46 29.3	-1.2
TSCT	Constanta Port	77.09	320	⇑P	P	17 36 46.1	+1.9
TSCT				mb		17 36 58.2	
KRLC	Kraliky	77.11	331	eP	P	17 36 45.3	+1.0
KRLC				ex	x	17 36 50.3	
KRLC				eS	S	17 46 24.2	-6.5
KRLC				AMS	AMS	18 14 40.0	
	comp=Z,14µm,17.4s						
E44A	Grand Marais A	77.11	35	P	P	17 36 44.6	+0.3
	baz=323,SNR=8.4						
E44A	Grand Marais A	77.11	35	IAMs_20	IAMs_20	18 15 01.5	
	comp=Z,8µm,19.0s						
DOPR	Dopca	77.12	323	⇑P	P	17 36 46.6	+2.1
EFOR	EFORIE	77.17	320	⇑P	P	17 36 46.3	+1.6
ESY	Stoneypath	77.18	344	eP	P	17 36 44.3	-0.3
MFTR	Murfatlar	77.19	321	⇓P	P	17 36 46.7	+1.9
I40A	Norwalk	77.20	40	IAmb	IAmb	17 36 46.8	
	comp=Z,105nm,1.0s						
I40A				IAMs_20	IAMs_20	18 13 30.2	
	comp=Z,7µm,21.0s						
CVDA	Cernavoda	77.24	321	⇑P	P	17 36 45.9	+0.8
EAB	Aberfoyle	77.25	345	eP	P	17 36 45.2	+0.3
MLR	Muntele Rosu	77.26	323	P	P	17 36 46.3	+1.0
	comp=Z,68nm,0.6s,baz=268,slow=4.2,SNR=11						
MLR	Muntele Rosu	77.26	323	⇓P	P	17 36 47.1	+1.7
MLR	Muntele Rosu	77.26	323	IAmb	IAmb	17 36 48.9	
	comp=Z,165nm,1.2s						
PGOR	Pogoanele	77.26	322	⇑P	P	17 36 47.2	+2.0
PGOR				mb		17 36 48.0	
CJR	Cluj-Napoca	77.28	325	⇑P	P	17 36 47.1	+1.8
EDI	Edinburgh	77.28	344	eP	P	17 36 46.0	+0.9
EDI				IAmb	IAmb	17 36 46.7	
	comp=Z,107nm,1.0s						
EDI				IAMs_20	IAMs_20	18 15 27.3	
	comp=Z,9µm,20.2s						
ISR	Istrita	77.29	322	⇑P	P	17 36 47.2	+1.8
CLL	Collm	77.32	334	iP	P	17 36 45.0	-0.4
	comp=Z,344nm,1.0s						
CLL				ePmax		17 36 47.0	
CLL				ePP	PP	17 39 42.0	+2.9
CLL				ePPP	PPP	17 41 30.0	
CLL				iS	S	17 46 30.9	-1.9
CLL				e		17 47 06.0	
CLL				eSP	SPn	17 47 14.0	+4.0
CLL				e		17 47 24.0	
CLL				eSS	SS	17 51 48.0	+18
CLL				eSSS	SSS	17 55 24.0	
CLL				ePKPPKPdf		18 03 56.0	
CLL				LmH		18 12 00.0	
	comp=N,12µm,21.6s						
CLL				LmH		18 12 00.0	
	comp=E,2µm,22.0s						
CLL				Lmax		18 15 00.0	
LAWE	Loch Awe, Argy	77.37	346	eP	P	17 36 45.5	-0.1
LAWE				IAmb	IAmb	17 36 47.7	
	comp=Z,176nm,0.9s						
BRG	Berggiesshubel	77.39	333	⇓iP	P	17 36 46.4	+0.6
	comp=Z,143nm,1.1s						
BRG				e		17 36 57.1	
	comp=Z,76nm,1.2s						
BRG				PP	PP	17 39 36.0	-3.7
BRG				S	S	17 46 33.0	-0.6
BRG				SP	SPn	17 47 07.0	-3.9
BRG				SS	SS	17 51 48.0	+17
MANR	Mangalia	77.39	320	⇓P	P	17 36 47.0	+1.1
MDB	Medias	77.41	324	⇓P	P	17 36 48.2	+2.2
MDB				mb		17 36 51.0	
LTVH	Ltavrtes, Hu	77.42	326	eP	P	17 36 46.0	0.0
PVCC	Panska Ves	77.48	332	eP	P	17 36 47.0	+0.7
PVCC				AMS	AMS	18 14 30.0	
	comp=Z,17µm,17.2s						
SCIA	State Center	77.50	43	P	P	17 36 47.1	+0.5
	baz=320,SNR=8.9						
SCIA	State Center	77.50	43	IAMs_20	IAMs_20	18 15 18.2	
	comp=Z,6µm,20.0s						
ICOR	Ion Corvin	77.52	321	⇑P	P	17 36 49.0	+2.4
SECR		77.57	323	⇑P	P	17 36 48.0	+1.1
SECR				mb		17 36 49.3	
DRGR		77.58	326	⇑P	P	17 36 47.1	+0.1
PGBU	Glenifferbraes	77.63	345	eP	P	17 36 47.6	+0.6
PGBU				IAmb	IAmb	17 36 49.6	
	comp=Z,431nm,1.0s						
D46A	Sault St. Mari	77.66	34	P	P	17 36 47.2	-0.2
	baz=324						
LEHL	Lehliu	77.68	322	⇑P	P	17 36 49.2	+1.7
PLAR	PLOIESTI	77.68	322	⇓P	P	17 36 48.8	+1.3
PLAR				mb		17 36 50.8	
MATQ	Matagami	77.68	29	P	P	17 36 47.2	-0.3
	baz=328,SNR=25						
VOIR		77.69	323	⇑P	P	17 36 47.9	+0.2
VYHS	Vyhne	77.69	329	eP	P	17 36 48.1	+0.6
VYHS				eS	S	17 46 37.7	+0.8
VYHS				eL	L	18 12 08.1	
RASA	Rasa	77.73	321	⇓P	P	17 36 50.0	+2.1
PSZ	Piszkesteto	77.76	328	⇑P	P	17 36 48.4	+0.4
PSZ				mb		17 36 50.3	
PSZ	Piszkesteto	77.76	328	eP	P	17 36 48.0	0.0
SULR		77.77	322	⇓P	P	17 36 49.0	+1.0
JAVC	Velka Javorina	77.81	330	⇑iP	P	17 36 49.5	+1.2
JAVC				eS	S	17 46 38.5	+0.1
VRAC	Vranov	77.82	330	⇑P	P	17 36 48.8	+0.5
VRAC				mb		17 36 52.1	
VRAC	Vranov	77.82	330	⇑iP	P	17 36 48.6	+0.3
VRAC				eS	S	17 46 38.4	+0.1
BBOO	Buckleboo	77.83	191	IAmb	IAmb	17 36 51.7	
	comp=Z,145nm,1.4s						
BBOO				IAMs_20	IAMs_20	18 15 11.6	
	comp=Z,5µm,18.0s						
EKA	Eskdalemuir Ar	77.83	344	P	P	17 36 47.6	-0.6
	comp=Z,114nm,0.9s,baz=20,slow=5.4,SNR=77						
MTUR	Matau	77.85	323	⇑P	P	17 36 50.9	+2.3
MTUR				mb		17 37 10.3	
ESK	Eskdalemuir	77.86	344	eP	P	17 36 48.7	+0.3
ESK				IAmb	IAmb	17 36 51.0	
	comp=Z,118nm,0.8s						
ESK				IAMs_20	IAMs_20	18 15 53.6	
	comp=Z,13µm,19.3s						
ESK	Eskdalemuir	77.86	344	P	P	17 36 49.3	+0.9
ESK				IAmb	IAmb	17 36 50.8	
	comp=Z,129nm,0.9s						
D47A	Chapleau	77.90	34	P	P	17 36 48.5	-0.3
	baz=325,SNR=14						
KSU1	Kansas State U	77.90	47	P	P	17 36 48.0	-0.9
	baz=318,SNR=16						
KSU1	Kansas State U	77.90	47	IAMs_20	IAMs_20	18 12 21.2	
	comp=Z,8µm,22.0s						
PRA	Prague	77.92	332	eP	P	17 36 50.0	+1.3
PRA				eS	S	17 46 36.4	-2.9
PRA				AMS	AMS	18 14 40.0	
	comp=Z,20µm,17.1s						
ARR	Arges	77.92	324	⇑P	P	17 36 50.3	+1.4
GOPC	GO Pecny, Ondr	77.93	332	eP	P	17 36 48.6	-0.3
GOPC				ex	x	17 36 55.6	
GOPC				ex	x	17 46 31.9	
GOPC				AMS	AMS	18 14 40.0	
	comp=Z,23µm,17.6s						
PRU	Pruhonice	77.95	332	eP	P	17 36 49.9	+0.9
PRU				epP	PcP	17 36 56.0	-2.7
PRU				eS	S	17 46 29.3	-10
PRU				AMS	AMS	18 14 40.0	
	comp=Z,23µm,17.6s						
I42A	Draeger Farm,	77.97	39	IAmb	IAmb	17 36 51.2	
	comp=Z,113nm,0.9s						
I42A				IAMs_20	IAMs_20	18 14 45.6	
	comp=Z,4µm,20.0s						
E46A	Sault Ste Mari	77.97	35	IAmb	IAmb	17 36 52.5	
	comp=Z,104nm,0.9s						
E46A				IAMs_20	IAMs_20	18 12 46.4	
	comp=Z,8µm,21.0s						
F45A	CMU Biological	78.03	36	P	P	17 36 48.7	-0.7
	baz=324,SNR=23						
H43A	Windswept, Lux	78.03	38	IAmb	IAmb	17 36 51.6	
	comp=Z,217nm,1.1s						
H43A				IAMs_20	IAMs_20	18 16 54.9	
	comp=Z,7µm,18.0s						
EDMD	Edmundbyers	78.07	343	eP	P	17 36 49.5	0.0
EDMD				IAmb	IAmb	17 36 52.8	
	comp=Z,124nm,1.0s						
EDMD				IAMs_20	IAMs_20	18 15 45.5	
	comp=Z,16µm,20.4s						
BRTR	Keskin Array B	78.07	315	P	P	17 36 50.7	+0.7
	comp=Z,14nm,0.6s,baz=63,slow=4.6,SNR=14						
BRTR				LR	LR	18 17 18.1	
	comp=Z,8µm,18.5s,baz=42,slow=40						
KRUC	Moravsky	78.10	330	⇑iP	P	17 36 50.0	+0.2
KRUC				eS	S	17 46 42.2	+0.9
JFWS	Jewell Farm	78.13	40	P	P	17 36 49.5	-0.6
	baz=321,SNR=5.9						
JFWS	Jewell Farm	78.13	40	IAMs_20	IAMs_20	18 10 35.8	
	comp=Z,8µm,22.0s						
BSZH	Besenyszg	78.13	327	eP	P	17 36 50.0	+0.1
BSZH				eS	S	17 46 44.0	+2.4
SMOL	Smolenice	78.19	330	eP	P	17 36 52.0	+1.7
GOLR		78.20	323	⇑P	P	17 36 52.2	+1.7
GOLR				mb		17 36 53.6	
TREC	Trest	78.22	331	eP	P	17 36 51.4	+0.9
TREC				epP	PcP	17 36 58.1	-1.8
TREC				eS	S	17 46 35.9	-6.8
TREC				AMS	AMS	18 15 30.0	
	comp=Z,16µm,18.0s						
AMTX	Amarillo	78.23	52	P	P	17 36 51.6	+0.7
	baz=316						
DEV	Deva	78.23	325	⇓P	P	17 36 52.4	+1.8
SGRR	Singureni	78.25	322	⇑P	P	17 36 52.2	+1.5
SGRR				mb		17 37 08.2	
MSTX	Muleshoe	78.26	54	P	P	17 36 52.1	+1.0
	baz=316,SNR=18						
D48A	Paudash Townsh	78.31	33	P	P	17 36 50.8	-0.3
	baz=326,SNR=7.8						
E47A	Iron Bridge	78.32	34	P	P	17 36 50.9	-0.2
	baz=325,SNR=16						
L40A	Anamosa	78.33	41	IAmb	IAmb	17 36 52.9	
	comp=Z,118nm,1.1s						
L40A				IAMs_20	IAMs_20	18 15 28.3	
	comp=Z,5µm,19.0s						
MNTX	Cornudas Mount	78.34	57	P	P	17 36 51.5	0.0
	baz=315,SNR=70						
MODS	Modra-Piesok	78.36	330	eP	P	17 36 51.2	-0.1
MODS				eS	S	17 46 42.9	-1.3
MODS				eL	L	18 08 48.4	
ANTO	Ankara	78.39	315	P	P	17 36 53.0	+1.3
ANTO				P	P	17 36 53.0	+1.3
ANTO	Ankara	78.39	315	⇑P	P	17 36 52.9	+1.3
ANTO				mb		17 37 06.1	
ANTO	Ankara	78.39	315	P	P	17 36 53.2	+1.6
ANTO	Ankara	78.39	315	IAMs_20	IAMs_20	18 16 10.8	
	comp=Z,9µm,22.0s						
PBCC	Pribram	78.39	332	eP	P	17 36 52.2	+0.8
PBCC				ex	x	17 36 57.9	
PBCC				AMS	AMS	18 15 00.0	
	comp=Z,5µm,17.2s						
PRD	Provadia	78.42	321	iP	P	17 36 51.9	+0.3
BR231	Keskin MP Arra	78.42	315	IAmb	IAmb	17 36 55.0	
	comp=Z,128nm,0.8s						
SIRR	Siria	78.42	326	⇑P	P	17 36 52.2	+0.5
SRO	Srobarova	78.45	329	eP	P	17 36 53.2	+1.5
G45A	Suttons Bay	78.48	36	P	P	17 36 51.7	-0.3
	baz=324,SNR=16						
G45A	Suttons Bay	78.48	36	IAMs_20	IAMs_20	18 15 49.9	
	comp=Z,5µm,19.0s						
LSQQ	Lebel-sur-Quev	78.50	29	P	P	17 36 51.2	-0.8
	baz=328						
KESW	Keswick, Cumbr	78.53	344	eP	P	17 36 52.5	+0.5
KESW				IAmb	IAmb	17 36 54.6	
	comp=Z,211nm,1.0s						
RAZG	Razgrad	78.53	321	⇓P	P	17 36 53.8	+1.5
GAL1	Galloway	78.57	345	eP	P	17 36 53.0	+0.8
GAL1				IAmb	IAmb	17 36 54.4	
	comp=Z,232nm,1.0s						
GAL1				IAMs_20	IAMs_20	18 16 37.3	
	comp=Z,10µm,18.5s						
ZST	Bratislava	78.57	330	eP	P	17 36 53.0	+0.6
ZST				eS	S	17 46 44.7	-1.7
G46A	Petoskey	78.59	36	P	P	17 36 51.8	-0.8
	baz=324,SNR=31						

CLGH Cloghs, Cushen 78.62 346 *e*P P 17 36 53.5 +1.0
U32A Winter Ranch, 78.63 50 IAMs_20 IAMs_20 18 17 40.9
comp=Z,4µm,19.0s
CHGQ Chibougamau 78.65 27 P P 17 36 51.7 -1.1
baz=330,SNR=86
COPA Copaceanca 78.65 322 ⇑P P 17 36 52.8 -0.1
H45A Beulah 78.65 37 P P 17 36 53.0 +0.1
baz=323,SNR=16
GZR Gura Zlata 78.68 325 ⇑P P 17 36 53.2 +0.1
E48A Lockeyer 78.74 33 P P 17 36 52.8 -0.5
baz=325,SNR=12
HPK Haverah Park 78.81 343 *e*P P 17 36 54.1 +0.5
HPK IAmb IAmb 17 36 56.1
comp=Z,342nm,0.9s
HPK IAMs_20 IAMs_20 18 16 14.9
comp=Z,13µm,18.8s
CSKK Cskako 78.84 328 *e*P P 17 36 53.0 -0.9
ZIMR 78.97 322 ⇓P P 17 36 55.5 +0.8
ZIMR mb 17 37 12.0
BZS Buzias 78.97 325 ⇑P P 17 36 54.2 -0.4
KHC Kasperske Hory 79.01 332 *e*P P 17 36 55.5 +0.6
KHC *e*x x 17 37 01.7
KHC *e*S S 17 46 46.1 -5.1
KHC AMS AMS 18 15 20.0
comp=Z,26µm,17.4s
SZH Strazhica 79.02 321 *i* P P 17 36 55.0 0.0
D50A G1974 Best Tow 79.06 32 P P 17 36 54.7 -0.5
baz=327,SNR=12
H46A Fife Lake 79.08 36 P P 17 36 55.7 +0.4
baz=324,SNR=46
SRE Strehaia 79.09 324 ⇑P P 17 36 55.8 +0.4
GLMI Grayling 79.09 36 P P 17 36 55.9 +0.6
baz=324,SNR=18
GLMI Grayling 79.09 36 IAMs_20 IAMs_20 18 16 22.0
comp=Z,8µm,19.0s
F48A Evansville 79.10 34 P P 17 36 55.1 -0.2
baz=325,SNR=8.0
L42A Oliver, Polo 79.11 40 IAMs_20 IAMs_20 18 14 41.7
comp=Z,6µm,21.0s
VLAD Vladila 79.11 323 ⇓P P 17 36 56.6 +1.1
IOMK Kirk Michael 79.12 345 *e*P P 17 36 56.0 +0.7
IOMK IAmb IAmb 17 36 57.6
comp=Z,406nm,1.1s
IOMK IAMs_20 IAMs_20 18 16 43.1
comp=Z,28µm,21.7s
G47A Hillman 79.13 35 P P 17 36 55.6 +0.1
baz=325,SNR=9.3
K43A Burlington 79.17 39 IAMs_20 IAMs_20 18 15 32.3
comp=Z,4µm,20.0s
KLYT Kilyos 79.17 318 ⇑P P 17 36 56.8 +1.0
KLYT mb 17 36 57.1
MORW Morawa 79.18 209 IAmb IAmb 17 36 58.0
comp=Z,121nm,1.1s
SOP Sopron 79.20 330 *e*P P 17 36 55.0 -0.9
GERES GERESS Array B 79.21 332 P P 17 36 55.9 -0.2
comp=Z,28nm,0.6s,baz=32,slow=5.7,SNR=41
GERES PKPPKP **P'P'df** 18 03 52.9 -2.9
comp=Z,0.7nm,0.9s,baz=112,slow=3.6,SNR=4.0
GERES LR LR 18 16 01.5
comp=Z,24µm,18.2s,baz=36,slow=39
CONA Conrad Observa 79.25 330 *e*P P 17 36 56.7 +0.5
comp=Z,107nm,1.3s,SNR=29
MPLH Magyarpolny 79.27 329 *e*P P 17 36 56.0 -0.3
RAO Raoul Island 79.30 151 LR LR 18 05 32.0
comp=Z,4µm,21.6s,baz=344,slow=31
RAO Raoul Island 79.30 151 IAMs_20 IAMs_20 18 09 30.0
comp=Z,6µm,21.0s
D51A Lot 18 Range I 79.30 31 P P 17 36 55.9 -0.6
baz=327,SNR=16
E50A Wahnapitae 79.34 33 P P 17 36 56.5 -0.2
baz=326,SNR=9.8
CTYL Yalikoy Yolu 79.35 319 ⇓P P 17 36 59.4 +2.7
CTYL mb 17 37 00.1
LBWR Ladybower, Pea 79.36 343 *e*P P 17 36 56.6 0.0
LBWR IAmb IAmb 17 36 59.2
comp=Z,502nm,0.9s
LBWR IAMs_20 IAMs_20 18 15 48.5
comp=Z,13µm,19.6s
BANR Banloc 79.36 326 ⇑P P 17 36 58.6 +1.8
JMB Yambol 79.36 321 *i* P P 17 36 56.2 -0.7
TIH Tihany 79.37 328 *e*P P 17 36 56.0 -0.8
F49A Sandfield 79.38 34 P P 17 36 56.6 -0.3
baz=326,SNR=9.1
H47A Mio 79.45 36 P P 17 36 57.8 +0.5
baz=324,SNR=20
J45A Montague 79.45 38 P P 17 36 57.3 0.0
baz=323
J45A Montague 79.45 38 IAMs_20 IAMs_20 18 17 54.7
comp=Z,6µm,18.0s
WACR West Acre 79.47 341 *e*P P 17 36 57.6 +0.4
WACR IAmb IAmb 17 37 00.1
comp=Z,529nm,1.0s
PLVB Pleven 79.51 322 ⇑P P 17 36 57.5 -0.1
PUNG Punghina 79.52 324 ⇑P P 17 36 58.8 +1.2
BAIL Bailesti 79.55 323 ⇑P P 17 36 59.6 +1.8
N41A Harden Midland 79.55 42 IAmb IAmb 17 37 00.0
comp=Z,222nm,1.1s
N41A IAMs_20 IAMs_20 18 17 00.7
comp=Z,6µm,18.0s
MDVR Moldovita 79.61 325 ⇓P P 17 36 58.2 -0.1
MORH Mrgy, Hungar 79.66 328 ⇑*i*P P 17 36 57.6 -0.8
MORH Mrgy, Hungar 79.66 328 *e*P P 17 36 56.1 -2.3
E51A G1948 Merrick 79.73 32 P P 17 36 58.6 -0.2
baz=327,SNR=17
H48A Harrisville 79.73 35 P P 17 36 59.2 +0.3
baz=325,SNR=19
H48A Harrisville 79.73 35 IAMs_20 IAMs_20 18 13 50.9
comp=Z,8µm,21.0s
STNC Stoke 79.75 343 *e*P P 17 37 00.2 +1.4
STNC IAmb IAmb 17 37 02.0
comp=Z,139nm,1.0s
STNC IAMs_20 IAMs_20 18 15 50.2
comp=Z,13µm,20.6s
D52A ZEK Kipawa Sen 79.76 31 P P 17 36 58.7 -0.3
baz=328,SNR=14
L44A Lake County Fo 79.78 39 P P 17 36 59.9 +0.8
baz=322
L44A Lake County Fo 79.78 39 IAMs_20 IAMs_20 18 14 03.3
comp=Z,4µm,21.0s
EDRB Edirne 79.78 320 P P 17 36 59.2 +0.1
I47A Gladwin 79.79 36 P P 17 37 00.4 +1.2
baz=324
J46A Howard City 79.85 37 P P 17 37 00.0 +0.5
baz=324,SNR=18
MOA Molln 79.88 331 *e*P P 17 36 59.7 +0.1
comp=Z,41nm,1.3s,SNR=9.3
CWF Charnwood Fore 79.89 342 *e*P P 17 37 00.2 +0.7
CWF IAmb IAmb 17 37 02.7
comp=Z,188nm,1.1s
CWF IVMsBB 18 16 36.8
comp=Z,5µm,20.8s
HGN Heimansgroeve 79.91 337 *e*P P 17 36 59.1 -0.6
comp=Z,502nm,1.6s
HGN Heimansgroeve 79.91 337 *e*S S 17 47 01.8 +1.3
HGN *e*SS SS 17 52 53.3 +44
D53A Lac Vacive, Po 79.93 30 P P 17 36 59.8 0.0
baz=328,SNR=21
D53A Lac Vacive, Po 79.93 30 IAMs_20 IAMs_20 18 17 50.7
comp=Z,7µm,19.0s
ARSA Arzberg 79.94 330 *e*P P 17 37 00.2 +0.2
comp=Z,52nm,1.3s,SNR=9.8
BEBN Eben Emael 79.95 337 P P 17 36 59.6 -0.3
comp=Z,220nm,0.9s
WMOK Wichita Mounta 79.96 51 P P 17 37 00.3 0.0
baz=318,SNR=55
WMOK Wichita Mounta 79.96 51 IAMs_20 IAMs_20 18 14 13.2
comp=Z,4µm,21.0s
I48A Sherman Twp 79.99 36 P P 17 37 01.0 +0.7
baz=325,SNR=17
MEM Membach 80.03 337 P P 17 37 00.0 -0.3
comp=Z,98nm,1.1s
SHAO Shalim 80.04 285 *i* P P 17 37 00.9 0.0
SNR=29
SHAO Shalim 80.04 285 P P 17 37 02.2 +1.3
SHAO P P 17 37 02.2 +1.3
F51A Arnstein 80.07 32 P P 17 37 01.3 +0.6
baz=327,SNR=6.8
FRGS Fruska Gora 80.08 326 ⇑*i*P P 17 36 59.1 -1.6
YLL Llanberis 80.10 344 *e*P P 17 37 01.9 +1.2
FOEL Foel Wylfa 80.15 343 *e*P P 17 37 02.4 +1.4
FOEL IAmb IAmb 17 37 03.6
comp=Z,310nm,1.1s
FOEL IAMs_20 IAMs_20 18 16 57.9
comp=Z,17µm,19.8s
BEHE Becsehely 80.15 329 ⇑*i*P P 17 37 00.9 -0.1
BEHE Becsehely 80.15 329 *e*P P 17 37 01.0 0.0

BSTI Sart Tilman 80.17 337 P P 17 37 00.9 -0.2
D54A Lac Fusel, La 80.24 30 P P 17 37 01.5 0.0
baz=329,SNR=19
E52A Mattawa 80.25 31 P P 17 37 01.1 -0.5
baz=328,SNR=10
BHOU Houvegnez 80.26 337 P P 17 37 01.7 +0.1
LLW Llanuwchllyn 80.28 344 *e*P P 17 37 02.9 +1.3
LLW IAmb IAmb 17 37 04.1
comp=Z,63nm,0.9s
J47A Sunmer 80.29 37 P P 17 37 02.4 +0.5
baz=324,SNR=26
RAR Rarotonga 80.30 133 IAMs_20 IAMs_20 18 15 13.3
comp=Z,4µm,19.0s
UCC Uccle 80.31 338 P P 17 37 01.4 -0.3
K46A Dorr 80.32 38 P P 17 37 02.1 +0.1
baz=324,SNR=9.3
M44A Midewin, Midew 80.34 40 IAMs_20 IAMs_20 18 11 53.3
comp=Z,6µm,21.0s
KOGS Kog 80.36 329 *i* P P 17 37 01.9 -0.2
BCLA Clavier 80.39 337 P P 17 37 02.7 +0.4
F52A Sundridge 80.41 32 P P 17 37 02.5 0.0
baz=327,SNR=21
HDIL Hopedale 80.41 41 P P 17 37 02.7 +0.1
baz=322,SNR=31
HDIL Hopedale 80.41 41 IAMs_20 IAMs_20 18 16 57.5
comp=Z,7µm,20.0s
DSB Dublin 80.42 345 IAmb IAmb 17 37 06.3
comp=Z,126nm,0.9s
DSB IAMs_20 IAMs_20 18 17 21.1
comp=Z,7µm,22.0s
HLM1 Long Mynd 80.43 343 *e*P P 17 37 03.5 +1.0
HLM1 IAmb IAmb 17 37 05.0
comp=Z,141nm,0.9s
HLM1 IAMs_20 IAMs_20 18 16 34.5
comp=Z,13µm,23.3s
E53A Dumoine, Ponti 80.54 31 P P 17 37 02.8 -0.3
baz=328,SNR=12
KDZ Kurdzhali 80.54 321 *i* P P 17 37 03.0 -0.3
KALN Kalnik 80.55 329 Sn P 17 37 03.0 -0.2
I49A Point Hope 80.56 35 P P 17 37 03.7 +0.4
baz=325,SNR=11
I49A Point Hope 80.56 35 IAmb IAmb 17 37 05.6
comp=Z,154nm,0.9s
I49A IAMs_20 IAMs_20 18 14 15.8
comp=Z,7µm,21.0s
X34A Smith Ranch, M 80.59 50 IAMs_20 IAMs_20 18 18 11.7
comp=Z,5µm,18.0s
SNF Seneffe 80.59 338 P P 17 37 03.8 +0.5
comp=Z,94nm,1.1s
SOKA Soboth 80.61 330 *e*P P 17 37 03.8 +0.1
comp=Z,86nm,1.0s,SNR=20
PERS Pernice 80.61 330 *e*P P 17 37 03.4 -0.3
GROS Grobnik 80.62 330 *i* P P 17 37 03.4 -0.3
L46A Eue Claire 80.63 38 P P 17 37 04.1 +0.3
baz=324,SNR=8.2
L46A Eue Claire 80.63 38 IAMs_20 IAMs_20 18 18 44.0
comp=Z,6µm,18.0s
BMRD Maredsous 80.65 338 P P 17 36 57.9 -5.7
BMRD Maredsous 80.65 338 P P 17 37 03.3 -0.4
comp=Z,115nm,1.0s
E54A Lac Daplat, Po 80.66 30 P P 17 37 03.5 -0.3
baz=328,SNR=15
K47A Vermontville 80.67 37 P P 17 37 04.4 +0.5
baz=324,SNR=11
J48A Bridge Port 80.68 36 P P 17 37 04.1 +0.1
baz=325,SNR=13
J48A Bridge Port 80.68 36 IAMs_20 IAMs_20 18 17 32.1
comp=Z,6µm,20.0s
TEKS Tekeris 80.69 326 ⇑*i*P P 17 37 01.9 -2.1
DMTO DMTO 80.72 286 P P 17 37 05.0 +0.5
SNR=7.0
DMTO P P 17 37 05.0 +0.5
SNR=7.0
TUL1 Leonard 80.72 48 P P 17 37 04.3 0.0
baz=319,SNR=26
TUL1 Leonard 80.72 48 IAMs_20 IAMs_20 18 14 19.9
comp=Z,5µm,22.0s
VTS Vitosha 80.73 323 *i* P P 17 37 03.7 -0.7
STU Stuttgart 80.73 334 IAMs_20 IAMs_20 18 17 09.9
comp=Z,7µm,20.0s
ALGO Algonquin Park 80.75 31 P P 17 37 04.6 +0.3
baz=328,SNR=14
D55A Sainte-Anne-du 80.77 29 P P 17 37 04.6 +0.2
baz=330,SNR=18
RZN Rozhen 80.82 321 *i* P P 17 37 05.8 +0.8
WLF Walferdange 80.84 337 P P 17 37 04.8 +0.1
comp=Z,114nm,1.2s
ALN Alexandroupoli 80.85 320 P P 17 37 04.5 -0.4
ALN Alexandroupoli 80.85 320 IAMs_20 IAMs_20 18 15 27.6
comp=Z,6µm,20.0s
KBA Koelnbreinsper 80.86 331 *e*P P 17 37 05.1 +0.1
comp=Z,122nm,1.0s,SNR=23
DIVS Divibare 80.88 326 ⇑*i*P P 17 37 04.2 -0.9
DOU Dourbes 80.88 338 P P 17 37 05.2 +0.3
RDO Rodhopi 80.89 320 P P 17 37 05.6 +0.5
J49A Marlette 80.91 36 P P 17 37 06.4 +1.3
baz=325,SNR=10
PTJ Puntijarka 80.92 329 Sn P 17 37 05.9 +0.5
OBKA Obir 80.92 330 *e*P P 17 37 05.3 0.0
comp=Z,27nm,0.8s,SNR=6.4
OBKA S S 17 47 13.1 +1.6
comp=Z,11nm,1.6s
K48A Perry 80.94 37 P P 17 37 06.2 +0.8
baz=325,SNR=15
MCH1 Michaelchurch 80.94 343 *e*P P 17 37 06.3 +1.1
MCH1 IAmb IAmb 17 37 10.3
comp=Z,144nm,0.8s
MCH1 IAMs_20 IAMs_20 18 17 30.4
comp=Z,12µm,20.9s
STRD Stroud 80.97 342 *e*P P 17 37 06.4 +1.0
STRD IAmb IAmb 17 37 09.1
comp=Z,208nm,0.9s
STRD IAMs_20 IAMs_20 18 17 06.9
comp=Z,13µm,21.5s
D56A ZEC Mazanza, M 80.99 29 P P 17 37 06.0 +0.4
baz=330,SNR=28
P43A Skaggs, Pawnee 81.02 42 IAMs_20 IAMs_20 18 16 36.6
comp=Z,6µm,18.0s
ABTX Abilene, Hawle 81.03 53 P P 17 37 06.7 +0.7
baz=318,SNR=19
ABTX Abilene, Hawle 81.03 53 IAMs_20 IAMs_20 18 12 40.7
comp=Z,4µm,20.0s
E55A Montcerf-Lytto 81.05 30 P P 17 37 05.8 -0.1
baz=329,SNR=15
MONM Monmouth 81.05 343 *e*P P 17 37 05.8 0.0
MONM IAmb IAmb 17 37 08.5
comp=Z,144nm,1.0s
MONM IAMs_20 IAMs_20 18 16 29.8
comp=Z,11µm,17.9s
TX32 Lajitas Array 81.06 58 IAmb IAmb 17 37 08.9
comp=Z,76nm,0.8s
TXAR Lajitas Array 81.06 58 P P 17 37 05.5 -0.9
comp=Z,53nm,0.5s,baz=298,slow=3.1,SNR=441
TXAR PKKPbc **PKKPbc** 17 55 43.2 +2.4
comp=Z,1.6nm,0.8s,baz=121,slow=3.5,SNR=7.6
DOB Doboj 81.10 327 *e*P P 17 37 05.4 -0.8
O44A Mansfield 81.12 41 IAMs_20 IAMs_20 18 15 44.1
comp=Z,7µm,21.0s
MYKA Terra Mystica 81.14 331 *e*P P 17 37 06.0 -0.4
comp=Z,43nm,0.9s
MYKA *e*S S 17 47 14.3 +0.6
comp=Z,4.6nm,1.1s
L47A Sherwood 81.15 38 P P 17 37 06.4 -0.1
baz=324,SNR=18
H52A Wyevale 81.16 33 P P 17 37 06.5 0.0
baz=327,SNR=15
CRES Cresnjev 81.18 329 ⇑*i*P P 17 37 05.8 -0.8
WOL Wolverton 81.20 342 *e*P P 17 37 07.5 +0.9
WOL IAmb IAmb 17 37 09.6
comp=Z,261nm,0.8s
G54A Lake Saint Pet 81.21 32 P P 17 37 06.7 0.0
baz=328,SNR=9.9
WATA Walderalm 81.23 332 *e*P P 17 37 07.0 0.0
comp=Z,67nm,0.6s,SNR=12
WATA S S 17 47 16.4 +1.5
comp=Z,16nm,1.4s
G53A Haliburton 81.24 32 P P 17 37 07.1 +0.2
baz=328,SNR=22
K49A Clarkson 81.24 36 P P 17 37 08.0 +1.0
baz=325,SNR=13
HMNX Herstmonceux 81.26 341 *e*P P 17 37 08.0 +1.2
HMNX IAmb IAmb 17 37 10.0
comp=Z,568nm,1.0s
WTTA Wattenberg 81.28 332 *e*P P 17 37 07.6 +0.3
comp=Z,68nm,0.5s,SNR=9.6
WTTA *e*S S 17 47 16.0 +0.6
comp=Z,11nm,1.7s

HAPS Han Pijesak,Bl 81.31 326 *e*P P 17 37 07.6 +0.2
BBLS Lazići 81.31 326 ⇑*i*P P 17 37 07.3 -0.1
D57A Chemin Vers le 81.32 28 P P 17 37 06.8 -0.5
baz=330,SNR=74
LJU Ljubljana 81.33 330 ⇑*i*P P 17 37 05.8 -1.6
E56A St. Veronique 81.33 29 P P 17 37 06.8 -0.6
baz=330,SNR=20
SADO Sadowa 81.34 33 LR LR 18 15 32.6
comp=Z,6µm,20.4s,baz=359,slow=38
RSBS Rosebush, Pemb 81.34 344 *e*P P 17 37 07.8 +0.5
RSBS IAmb IAmb 17 37 10.1
comp=Z,103nm,1.3s
RSBS IAMs_20 IAMs_20 18 17 45.4
comp=Z,8µm,21.6s
MMB Musomiste 81.34 322 *i* P P 17 37 07.4 -0.2
OZLJ Ozalj 81.36 329 Sn P 17 37 08.1 +0.6
LATQ La Tuque 81.37 27 P P 17 37 07.4 -0.1
baz=331,SNR=9.4
RETA Reutte 81.37 333 *e*P P 17 37 07.6 -0.1
comp=Z,87nm,1.1s,SNR=8.4
RETA *e*SKSac S 17 47 19.4 +3.3
comp=Z,9.5nm,1.2s
RBK Rabkut 81.37 286 P P 17 37 08.9 +0.8
SNR=7.4
RBK P P 17 37 08.9 +0.8
SNR=7.4
MOTA Moosalm 81.38 333 *e*P P 17 37 07.9 0.0
comp=Z,146nm,1.2s,SNR=9.6
WHFO Wadi Hawf 81.39 287 P P 17 37 08.6 +0.4
SNR=12
WHFO P P 17 37 08.6 +0.4
SNR=12
BFO Black Forest 81.39 335 *i* P P 17 37 08.8 +1.1
BFO Black Forest 81.39 335 IAMs_20 IAMs_20 18 17 42.2
comp=Z,7µm,18.0s
KKB Krupnik 81.40 322 *i* P P 17 37 07.4 -0.5
I51A Listowel 81.41 34 P P 17 37 08.3 +0.5
baz=326,SNR=16
HHAR Hobbs 81.41 47 IAMs_20 IAMs_20 18 17 16.2
comp=Z,7µm,19.0s
CCM Cathedral Cave 81.42 44 P P 17 37 07.0 -1.0
baz=321
CCM Cathedral Cave 81.42 44 P P 17 37 07.3 -0.7
CCM pmax pmax
comp=Z,108nm,1.1s
CCM MLR MLR
comp=Z,5µm,20.0s
CCM Cathedral Cave 81.42 44 P P 17 37 07.3 -0.7
CCM IAmb IAmb 17 37 10.0
comp=Z,108nm,1.1s
CCM Cathedral Cave 81.42 44 IAMs_20 IAMs_20 18 15 34.2
comp=Z,5µm,20.0s
ABTA Abfaltersbach 81.43 331 *e*P P 17 37 07.3 -0.7
comp=Z,32nm,1.0s
ABTA *e*S S 17 47 16.3 -0.5
comp=Z,8.7nm,1.4s
BLY Banja Luka 81.44 328 ⇑*i*P P 17 37 07.3 -0.7
BLY Banja Luka 81.44 328 ⇑P P 17 37 07.8 -0.2
BLY mb 17 37 17.1
SQTA Sankt Quirin 81.46 332 *e*P P 17 37 08.6 +0.5
comp=Z,155nm,1.2s,SNR=9.6
SQTA *e*SKSac S 17 47 19.2 +2.1
comp=Z,12nm,1.6s
M47A Cromwell 81.46 38 P P 17 37 08.4 +0.2
baz=324,SNR=10
SLM Saint Louis 81.47 43 IAMs_20 IAMs_20 18 17 33.3
comp=Z,5µm,19.0s
KAVA Kavala 81.47 321 P P 17 37 07.9 -0.3
NVR Nevrokopi 81.48 322 P P 17 37 08.5 +0.2
F55A Otter Lake 81.48 30 P P 17 37 07.8 -0.3
baz=329,SNR=8.1
GADA Gvkgeada 81.48 320 P P 17 37 08.0 -0.3
L48A N Adams 81.51 37 P P 17 37 08.6 +0.2
baz=324,SNR=22
I52A Shelburne 81.53 34 P P 17 37 08.7 +0.2
baz=327
EZN Ezine 81.57 319 P P 17 37 08.1 -0.6
SFIN Lafayette 81.58 40 P P 17 37 09.5 +0.7
baz=323
SFIN Lafayette 81.58 40 IAMs_20 IAMs_20 18 12 43.1
comp=Z,7µm,22.0s
D58A Chemin du LacG 81.59 28 P P 17 37 08.9 +0.1
baz=331,SNR=13
K50A Casco 81.60 36 P P 17 37 10.3 +1.4
baz=326
K50A Casco 81.60 36 IAMs_20 IAMs_20 18 14 49.4
comp=Z,7µm,22.0s
MGMO Mountain Grove 81.60 45 IAMs_20 IAMs_20 18 19 12.2
comp=Z,6µm,19.0s
CEY Cerknica 81.63 330 ⇑*i*P P 17 37 08.2 -0.8
L49A Milan 81.66 37 P P 17 37 10.1 +0.9
baz=325,SNR=13
THAS Thassos island 81.69 321 P P 17 37 08.9 -0.4
H53A Bobcaygeon 81.72 32 P P 17 37 09.4 0.0
baz=326,SNR=14
TOO Toolangi 81.73 183 IAmb IAmb 17 37 27.5
comp=Z,215nm,1.6s
TOO IAMs_20 IAMs_20 18 11 26.7
comp=Z,7µm,22.0s
E57A Chemin Saint G 81.75 29 P P 17 37 10.1 +0.4
baz=330,SNR=34
M48A Edgerton 81.76 38 P P 17 37 10.3 +0.5
baz=324
M48A Edgerton 81.76 38 IAMs_20 IAMs_20 18 18 22.7
comp=Z,4µm,18.0s
PLE Pljevlja 81.76 325 ⇑*i*P P 17 37 09.7 -0.2
MGRS Mrkonjic Grad 81.76 327 ⇑*i*P P 17 37 10.3 +0.6
FETA Feichten 81.79 333 *e*P P 17 37 10.5 +0.5
comp=Z,52nm,0.9s
FETA SKSac S 17 47 23.4 +2.8
comp=Z,15nm,1.7s
N47A Urbana 81.81 39 P P 17 37 10.1 +0.1
baz=324,SNR=18
N47A Urbana 81.81 39 IAmb IAmb 17 37 11.8
comp=Z,168nm,1.1s
N47A IAMs_20 IAMs_20 18 18 52.2
comp=Z,6µm,19.0s
DAVA Damuels 81.83 333 *e*P P 17 37 10.0 -0.2
comp=Z,70nm,0.8s
G55A Calabogie 81.84 31 P P 17 37 09.8 -0.3
baz=329,SNR=21
U40A Yellville 81.92 46 P P 17 37 09.5 -1.2
baz=320,SNR=98
U40A Yellville 81.92 46 IAmb IAmb 17 37 13.0
comp=Z,119nm,0.8s
U40A IAMs_20 IAMs_20 18 14 53.6
comp=Z,7µm,21.0s
IVA Berane 81.93 325 ⇑*i*P P 17 37 10.4 -0.3
STIP Stip 81.93 323 *e*P P 17 37 09.3 -1.3
X37A Clayton 81.94 49 IAMs_20 IAMs_20 18 15 11.3
comp=Z,4µm,22.0s
ASF Jabal al Asfar 81.94 308 P P 17 37 11.8 +0.8
comp=Z,46nm,0.8s,baz=0.0,slow=4.0,SNR=4.4
SKDS Skadanscina 81.94 330 *e*P P 17 37 09.4 -1.2
I53A Kortright Cn E 81.96 33 P P 17 37 11.2 +0.5
baz=327,SNR=14
D59A Saint-Raymond 82.01 27 P P 17 37 11.1 +0.2
baz=332
SKO Skopje 82.03 323 ⇑*i*P P 17 37 11.4 +0.3
PRK Paraskevi 82.06 319 P P 17 37 12.1 +0.8
KNT Kendrikon 82.06 322 P P 17 37 11.2 -0.1
UPM Unac-Piva 82.06 326 ⇑*i*P P 17 37 10.9 -0.6
UPM Unac-Piva 82.06 326 ⇑*i*P P 17 37 10.7 -0.8
VAY Valandovo 82.07 322 ⇑*i*P P 17 37 11.9 +0.5
E58A La Victoria 82.09 28 P P 17 37 11.6 +0.2
baz=331,SNR=31
F57A Harrington 82.09 29 P P 17 37 11.1 -0.3
baz=330
M49A Liberty Center 82.09 37 P P 17 37 11.9 +0.5
baz=325,SNR=11
ABTO Aybut 82.10 286 P P 17 37 12.3 +0.3
SNR=15
ABTO P P 17 37 12.3 +0.3
SNR=15
K51A Iona Station 82.11 35 P P 17 37 13.2 +1.7
baz=326,SNR=5.5
KOME Kolasin 82.11 325 ⇑*i*P P 17 37 11.1 -0.6
L50A Kingsville 82.12 36 P P 17 37 12.9 +1.3
baz=326
N48A Decatur 82.13 38 P P 17 37 11.9 +0.2
baz=324,SNR=19
SOH Sokhos 82.13 322 P P 17 37 10.1 -1.7
P46A Rosedale 82.13 40 P P 17 37 12.2 +0.5
baz=323,SNR=48
DELO Deloro Mine 82.13 32 IAMs_20 IAMs_20 18 20 23.2
comp=Z,7µm,19.0s
PVY Plav 82.14 325 ⇑*i*P P 17 37 11.5 -0.4

MMAI Mount Meron Ar 82.15 309 P P 17 37 13.3 +1.3
comp=Z,96nm,0.8s,baz=40,slow=7.9,SNR=7.8
HTL Hartland 82.20 344 eP P 17 37 13.2 +1.4
HTL IAmb IAmb 17 37 14.5
comp=Z,188nm,1.0s
HTL IAMs_20 IAMs_20 18 17 29.2
comp=Z,15µm,19.8s
OUR Ouranopolis 82.24 321 P P 17 37 12.0 -0.3
E59A St. Maurice 82.25 28 P P 17 37 12.7 +0.5
baz=331
PMOR Pomariorio Ree 82.25 120 eP P 17 37 13.3 +0.8
comp=Z,408nm,1.3s
PMOR Pomariorio Ree 82.25 120 eT T 19 07 52.8
comp=Z,127nm,0.2s
H55A Tweed 82.27 31 P P 17 37 12.4 +0.1
baz=329,SNR=19
DAVOX Davos/Dischmat 82.28 333 P P 17 37 13.4 +0.8
comp=Z,40nm,0.6s,baz=186,slow=3.7,SNR=13
W39A Magazine 82.32 47 P P 17 37 13.1 +0.4
baz=320,SNR=27
W39A Magazine 82.32 47 IAmb IAmb 17 37 29.6
comp=Z,184nm,1.4s
W39A IAMs_20 IAMs_20 18 15 34.4
comp=Z,6µm,22.0s
NWAO Narrogin (SRO) 82.33 207 P P 17 37 13.2 +0.7
SNR=6.6
NWAO P P 17 37 13.2 +0.7
SNR=6.6
NWAO Narrogin (SRO) 82.33 207 P P 17 37 12.3 -0.2
NWAO pmax pmax
comp=Z,171nm,0.9s
NWAO MLR MLR
comp=Z,3µm,22.0s
NWAO Narrogin (SRO) 82.33 207 P P 17 37 12.3 -0.2
NWAO Narrogin (SRO) 82.33 207 IAmb IAmb 17 37 15.4
comp=Z,137nm,0.9s
F58A St-Lin Laurent 82.34 29 P P 17 37 13.8 +1.1
baz=331
NKY Niksic 82.35 325⇑iP P 17 37 12.1 -0.9
D61A St Aubert, Com 82.36 26 P P 17 37 13.3 +0.6
baz=333,SNR=15
I55A Frankford 82.37 32 P P 17 37 13.4 +0.5
baz=328,SNR=11
OUZ Omahuta 82.37 160 IAMs_20 IAMs_20 18 11 01.5
comp=Z,7µm,20.0s
KIJV Kijevo 82.37 328 Sn P 17 37 12.5 -0.4
D60A Saint Jean D'O 82.38 26 P P 17 37 13.3 +0.4
baz=332,SNR=20
K52A Tillsonburg 82.38 35 P P 17 37 13.7 +0.7
baz=327,SNR=10
NKME Niksic 82.41 325⇑iP P 17 37 12.6 -0.6
OLIL Olney 82.42 42 IAMs_20 IAMs_20 18 18 10.4
comp=Z,4µm,20.0s
HORT Hortiatis 82.42 322 P P 17 37 12.2 -1.1
GRG Griva 82.44 322 P P 17 37 12.7 -0.7
N49A Columbus Grove 82.45 38 P P 17 37 13.6 +0.2
baz=325,SNR=21
N49A Columbus Grove 82.45 38 IAmb IAmb 17 37 15.6
comp=Z,144nm,1.1s
N49A IAMs_20 IAMs_20 18 16 51.7
comp=Z,4µm,20.0s
PLG Polygyros 82.45 321 P P 17 37 12.7 -0.7
THE Thessaloniki 82.46 322 P P 17 37 11.9 -1.5
BRY Bratogost 82.46 326⇑iP P 17 37 11.8 -1.8
BRY Bratogost 82.46 326⇑iP P 17 37 12.8 -0.8
NVLJ Novalja 82.47 329 Sn P 17 37 12.7 -0.6
JCT Junction City 82.52 54 P P 17 37 13.8 -0.1
baz=318,SNR=33
JCT Junction City 82.52 54 IAmb IAmb 17 37 16.3
comp=Z,171nm,1.3s
M50A Fremont 82.55 37 P P 17 37 14.3 +0.4
baz=325,SNR=6.7
M50A Fremont 82.55 37 IAMs_20 IAMs_20 18 18 14.6
comp=Z,6µm,19.0s
O48A Farmland 82.56 39 P P 17 37 14.1 +0.1
baz=324,SNR=22
PDG Podgorica 82.56 325⇑iP P 17 37 13.0 -0.9
PDG Podgorica 82.56 325 ⇑P P 17 37 14.0 +0.1
PDG mb 17 37 27.1
TTG Podgorica 82.56 325⇑iP P 17 37 13.4 -0.5
H56A Elgin 82.58 31 P P 17 37 13.8 -0.1
baz=329,SNR=9.9
G57A Newington 82.60 30 P P 17 37 13.7 -0.3
baz=330,SNR=24
VAH Vaihoa 82.60 120 eP P 17 37 14.9 +0.6
comp=Z,177nm,1.3s
CEME Cevo 82.60 325⇑iP P 17 37 13.5 -0.7
S44A Carbondale 82.68 43 P P 17 37 14.3 -0.3
baz=322,SNR=37
SIUC Southern Illin 82.69 43 IAmb IAmb 17 37 16.9
comp=Z,126nm,0.9s
SIUC IAMs_20 IAMs_20 18 18 18.5
comp=Z,6µm,19.0s
PHP Peshkopia 82.69 324 P P 17 37 13.8 -0.9
TREB Trebinje 82.69 326⇑iP P 17 37 14.0 -0.6
E60A Ste Agathe de 82.69 27 P P 17 37 14.8 +0.3
baz=332,SNR=11
PAIG Paliouri 82.71 321 P P 17 37 14.0 -0.7
F59A Saint Guilaume 82.71 28 P P 17 37 14.1 -0.5
baz=331,SNR=18
TAOE Nuku Hiva Isla 82.71 110 eS S 17 47 30.0 -0.7
comp=Z,5µm,32.9s
TAOE Nuku Hiva Isla 82.71 110 eLR LR 18 03 17.8
comp=Z,14µm,26.4s
TAOE Nuku Hiva Isla 82.71 110 IAMs_20 IAMs_20 18 11 12.8
comp=Z,6µm,19.0s
FETY Fethiye 82.74 315 P P 17 37 14.1 -0.9
WHTX Lake Whitney, 82.74 52 P P 17 37 14.8 -0.3
baz=319,SNR=30
WHTX Lake Whitney, 82.74 52 IAmb IAmb 17 37 17.4
comp=Z,92nm,0.9s
WHTX IAMs_20 IAMs_20 18 20 27.9
comp=Z,4µm,18.0s
YER Yerkesik 82.75 316 P P 17 37 16.0 +0.9
MORI Morici 82.75 328 Sn P 17 37 14.1 -0.8
DRME Dracevica, Mon 82.80 325⇑iP P 17 37 14.5 -0.6
DRME Dracevica, Mon 82.80 325⇑iP P 17 37 14.5 -0.6
J54A Appleton 82.80 33 P P 17 37 15.2 +0.1
baz=328,SNR=14
J54A Appleton 82.80 33 IAMs_20 IAMs_20 18 19 37.6
comp=Z,5µm,20.0s
BLO Bloomington 82.81 40 IAMs_20 IAMs_20 18 13 32.7
comp=Z,6µm,22.0s
BUM Brajici-Budva 82.82 325⇑iP P 17 37 14.8 -0.6
PBMO Poplar Bluff 82.82 44 IAMs_20 IAMs_20 18 16 17.3
comp=Z,4µm,20.0s
CHOS Chios island 82.84 318 P P 17 37 15.5 0.0
HCY Herceg Novi 82.86 326⇑iP P 17 37 14.5 -0.9
HCY Herceg Novi 82.86 326⇑iP P 17 37 14.6 -0.9
KSL Kastellorizon 82.86 315 P P 17 37 14.9 -0.7
PECO Prince Edward 82.87 32 IAmb IAmb 17 37 17.1
comp=Z,88nm,0.9s
PECO IAMs_20 IAMs_20 18 20 25.4
comp=Z,7µm,19.0s
F60A Warwick 82.88 28 P P 17 37 15.4 -0.1
baz=332
G58A Ormstown 82.89 29 P P 17 37 15.3 -0.3
baz=331,SNR=30
DUGI Dugi Otok 82.89 328 Sn P 17 37 15.1 -0.6
MIAR Mount Ida 82.93 48 P P 17 37 15.7 -0.3
baz=320,SNR=74
MIAR Mount Ida 82.93 48 IAmb IAmb 17 37 18.8
comp=Z,129nm,0.9s
MIAR IAMs_20 IAMs_20 18 16 06.5
comp=Z,7µm,22.0s
E61A Lac Etchemin 82.95 26 P P 17 37 16.0 +0.1
baz=333
ULC Ulcinj 82.96 325⇑iP P 17 37 15.5 -0.5
ZIRJ Zirje 82.96 328 Sn P 17 37 15.1 -0.9
MEDO Medina 82.96 33 IAMs_20 IAMs_20 18 19 51.2
comp=Z,5µm,20.0s
M51A Elyria 82.97 36 P P 17 37 17.1 +1.1
baz=326
O49A Covington 82.98 38 P P 17 37 16.3 +0.2
baz=325,SNR=12
O49A Covington 82.98 38 IAmb IAmb 17 37 18.3
comp=Z,106nm,1.2s
O49A IAMs_20 IAMs_20 18 19 12.0
comp=Z,4µm,19.0s
RAYN Ar Rayn 82.98 296 i P P 17 37 16.3 -0.1
SNR=15
H57A Richville 83.00 30 P P 17 37 16.0 -0.1
baz=330,SNR=19
LCAR Lake Charles 83.01 45 IAMs_20 IAMs_20 18 20 04.5
comp=Z,5µm,18.0s
N50A Nevada 83.02 37 P P 17 37 17.0 +0.7

baz=325,SNR=17
FNA Florina 83.03 323 P P 17 37 15.3 -1.2
WHAR Wooly Hollow 83.03 46 IAmb IAmb 17 37 19.0
comp=Z,134nm,0.9s
WHAR IAMs_20 IAMs_20 18 18 22.1
comp=Z,6µm,19.0s
P48A Milroy 83.08 39 P P 17 37 16.9 +0.3
baz=324,SNR=15
P48A Milroy 83.08 39 IAmb IAmb 17 37 18.6
comp=Z,172nm,1.4s
P48A IAMs_20 IAMs_20 18 19 24.8
comp=Z,6µm,19.0s
E62A Clayton Lake 83.08 26 P P 17 37 16.8 +0.3
baz=333,SNR=26
E62A Clayton Lake 83.08 26 IAmb IAmb 17 37 18.6
comp=Z,108nm,0.8s
SALO Salr 83.09 332 IAmb IAmb 17 37 31.5
comp=Z,159nm,1.2s
LIT Litokhoron 83.10 322 P P 17 37 15.0 -1.8
J55A Hilton 83.12 33 P P 17 37 17.2 +0.4
baz=328,SNR=8.5
J55A Hilton 83.12 33 IAMs_20 IAMs_20 18 16 14.4
comp=Z,4µm,19.0s
D63A Stockholm 83.14 25 P P 17 37 16.9 0.0
baz=334,SNR=8.2
W41B Gary Mavity, V 83.14 46 P P 17 37 17.2 +0.2
baz=321,SNR=45
W41B Gary Mavity, V 83.14 46 IAMs_20 IAMs_20 18 15 42.0
comp=Z,7µm,21.0s
M52A Chesterland 83.15 36 P P 17 37 17.6 +0.6
baz=326,SNR=9.4
M52A Chesterland 83.15 36 IAMs_20 IAMs_20 18 15 56.4
comp=Z,6µm,20.0s
SKY Skiros Island 83.15 320 P P 17 37 16.7 -0.4
LONY Lake Ozonia 83.16 30 P P 17 37 17.4 +0.4
baz=330,SNR=12
LONY Lake Ozonia 83.16 30 IAMs_20 IAMs_20 18 21 41.2
comp=Z,7µm,18.0s
PPT Papeete 83.19 123 P P 17 37 18.3 +1.0
comp=Z,43nm,1.0s,baz=32,slow=4.8,SNR=4.7
PPT LR LR 18 13 04.8
comp=Z,6µm,18.1s,baz=307,slow=35
F61A St Evariste 83.19 27 P P 17 37 18.1 +0.9
baz=332,SNR=22
PPT2 Papeete2 83.20 123 eP P 17 37 18.4 +0.9
comp=Z,135nm,1.5s
PPT2 Papeete2 83.20 123 eS S 17 47 35.0 -0.4
comp=Z,5µm,28.0s
PPT2 Papeete2 83.20 123 eLQ LQ 17 59 44.9
comp=Z,3µm,26.5s
PPT2 eLR LR 18 03 11.6
comp=Z,17µm,26.5s
PPTF Pamatai, Papee 83.21 123 IAMs_20 IAMs_20 18 12 36.2
comp=Z,8µm,20.0s
TIR Tirane 83.21 324 P P 17 37 16.3 -1.0
TIR Tirane 83.21 324 ⇑P P 17 37 17.8 +0.5
TIR Tirane 83.21 324 ⇑P P 17 37 17.8 +0.5
TIR mb 17 37 22.4
AOS Alonnisos 83.23 320 P P 17 37 17.2 -0.2
ERPA Erie 83.23 35 P P 17 37 18.1 +0.7
baz=327,SNR=9.6
ERPA Erie 83.23 35 IAMs_20 IAMs_20 18 19 28.5
comp=Z,8µm,20.0s
USIN University of 83.23 42 IAMs_20 IAMs_20 18 12 43.1
comp=Z,6µm,22.0s
N51A Ashland 83.23 37 P P 17 37 17.5 +0.1
baz=326,SNR=6.1
N51A Ashland 83.23 37 IAmb IAmb 17 37 19.5
comp=Z,165nm,1.2s
N51A IAMs_20 IAMs_20 18 18 44.7
comp=Z,7µm,19.0s
G59A Clarenceville 83.25 29 P P 17 37 17.5 +0.1
baz=331,SNR=14
KZN Kozani 83.25 322 P P 17 37 17.1 -0.5
PAE Paea 83.26 123 eP P 17 37 18.2 +0.5
comp=Z,16nm,1.3s
L53A Girard 83.26 35 P P 17 37 18.2 +0.7
baz=327,SNR=17
BODT Bodrum 83.28 317 P P 17 37 17.6 -0.2
FRNY Flat Rock 83.32 29 IAMs_20 IAMs_20 18 17 51.4
comp=Z,8µm,20.0s
O50A Cable 83.33 38 P P 17 37 18.0 0.0
baz=325,SNR=18
K54A Basiliko Farm, 83.34 33 P P 17 37 18.3 +0.3
baz=328,SNR=25
P49A Miami Univ. Ec 83.34 39 P P 17 37 18.0 0.0
baz=325,SNR=18
I57A Carthage 83.36 31 P P 17 37 18.6 +0.5
baz=330,SNR=6.7
X40A Basin Creek Fa 83.36 47 P P 17 37 18.4 +0.2
baz=321,SNR=34
X40A Basin Creek Fa 83.36 47 IAmb IAmb 17 37 20.5
comp=Z,179nm,1.6s
X40A IAMs_20 IAMs_20 18 18 39.0
comp=Z,7µm,18.0s
Q48A North Vernon 83.37 40 P P 17 37 18.4 +0.3
baz=324,SNR=16
XOR Xorichti 83.38 321 P P 17 37 17.4 -0.9
L54A Sinclairville 83.41 34 P P 17 37 18.7 +0.4
baz=328,SNR=8.6
JSA Saint Aubin 83.41 342 eP P 17 37 18.4 +0.3
JSA IAMs_20 IAMs_20 18 17 14.3
comp=Z,10µm,19.7s
NEO Neokhori 83.42 321 P P 17 37 17.6 -0.8
SKIA Skiathos 83.42 321 P P 17 37 17.3 -1.1
H59A Cadyville 83.45 29 P P 17 37 18.4 -0.1
baz=331,SNR=17
PVMO Portageville 83.47 44 IAMs_20 IAMs_20 18 16 46.5
comp=Z,5µm,21.0s
NEST Nestorio 83.47 323 P P 17 37 17.8 -1.0
H58A Gabriels 83.48 30 P P 17 37 18.7 0.0
baz=330,SNR=23
J56A Wolcott 83.48 32 P P 17 37 18.8 +0.1
baz=329,SNR=8.4
K55A Perry 83.48 33 P P 17 37 18.9 +0.2
baz=328,SNR=22
PQI Presque Isle 83.50 25 IAmb IAmb 17 37 20.6
comp=Z,105nm,1.1s
PQI IAMs_20 IAMs_20 18 20 06.8
comp=Z,6µm,19.0s
M53A WI Miller and 83.52 35 P P 17 37 19.6 +0.7
baz=327,SNR=12
BATG Bathurst New B 83.52 23 IAmb IAmb 17 37 21.2
comp=Z,88nm,0.8s
G60A Masonville 83.52 28 P P 17 37 19.9 +1.1
baz=332,SNR=8.1
ACSO Alum Creek Sta 83.54 37 P P 17 37 19.3 +0.3
baz=326,SNR=8.3
ACSO Alum Creek Sta 83.54 37 IAMs_20 IAMs_20 18 18 37.8
comp=Z,7µm,19.0s
MMNY Mt. Morris Dam 83.54 33 IAMs_20 IAMs_20 18 19 36.5
comp=Z,4µm,20.0s
WVNY West Valley, N 83.54 33 IAmb IAmb 17 37 21.2
comp=Z,128nm,0.9s
WVNY IAMs_20 IAMs_20 18 20 23.6
comp=Z,6µm,20.0s
TVO Taravao 83.55 122 eP P 17 37 20.3 +1.0
comp=Z,54nm,1.4s
TVO Taravao 83.55 122 eT T 19 09 30.5
comp=Z,3.5nm,0.3s
435B Jarrell 83.57 53 P P 17 37 20.1 +0.7
baz=319
435B Jarrell 83.57 53 IAMs_20 IAMs_20 18 20 28.9
comp=Z,6µm,19.0s
F62A Pittston Farm, 83.59 26 P P 17 37 20.0 +0.9
baz=333,SNR=35
E63A Oxbow 83.60 25 P P 17 37 19.7 +0.5
baz=334,SNR=13
E63A Oxbow 83.60 25 IAmb IAmb 17 37 21.0
comp=Z,92nm,0.9s
N52A McGinn's Farm, 83.61 36 P P 17 37 19.7 +0.3
baz=326,SNR=5.1
PENT Pentalofos 83.61 323 P P 17 37 18.3 -1.2
G61A St-Isidore-de- 83.63 28 P P 17 37 20.2 +0.8
baz=332,SNR=39
WCI Wyandotte Cave 83.67 41 P P 17 37 20.5 +0.7
baz=324
WCI Wyandotte Cave 83.67 41 P P 17 37 20.4 +0.7
WCI pmax pmax
comp=Z,118nm,1.2s
WCI MLR MLR
comp=Z,7µm,21.0s
WCI Wyandotte Cave 83.67 41 P P 17 37 20.4 +0.7
WCI IAmb IAmb 17 37 22.2
comp=Z,118nm,1.1s
WCI Wyandotte Cave 83.67 41 IAMs_20 IAMs_20 18 17 22.2
comp=Z,7µm,21.0s

J57A Williamstown 83.69 31 P P 17 37 20.7 +1.0
baz=329
J57A Williamstown 83.69 31 IAMs_20 IAMs_20 18 21 12.3
comp=Z,6µm,19.0s
Q49A Aurora 83.69 39 P P 17 37 20.2 +0.4
baz=324,SNR=12
P50A Jamestown 83.69 38 P P 17 37 19.9 +0.1
baz=325,SNR=28
KPRO Kipourio 83.72 322 P P 17 37 18.6 -1.4
MRKA Markates 83.74 320 P P 17 37 19.1 -1.0
THL Klokotos Trika 83.75 322 P P 17 37 17.3 -2.8
O51A Pataskala 83.77 37 P P 17 37 20.5 +0.3
baz=326,SNR=10
E64A Bridgewater 83.78 25 P P 17 37 20.4 +0.3
baz=334,SNR=21
K56A Middlesex 83.80 33 P P 17 37 20.5 +0.2
baz=329,SNR=16
L55A Hinsdale 83.80 33 P P 17 37 21.7 +1.3
baz=328,SNR=9.6
EREA Eretria 83.81 320 P P 17 37 19.4 -1.1
I58A Old Forge 83.82 31 P P 17 37 21.3 +0.9
baz=330,SNR=6.0
WLAR White Oak Lake 83.83 48 IAMs_20 IAMs_20 18 16 35.5
comp=Z,6µm,21.0s
NCB Newcomb 83.85 30 IAmb IAmb 17 37 22.5
comp=Z,66nm,1.1s
NCB IAMs_20 IAMs_20 18 19 20.4
comp=Z,5µm,19.0s
H60A Morristown 83.87 29 P P 17 37 21.5 +0.9
baz=331,SNR=9.4
M54A Oil Creek Stat 83.88 35 P P 17 37 21.3 +0.6
baz=327,SNR=11
M54A Oil Creek Stat 83.88 35 IAmb IAmb 17 37 23.1
comp=Z,98nm,0.9s
M54A IAMs_20 IAMs_20 18 20 07.5
comp=Z,7µm,20.0s
KARY Karystos 83.89 319 P P 17 37 20.6 -0.2
MEV Metsovon 83.91 322 P P 17 37 22.4 +1.3
N53A Lisbon 83.98 36 P P 17 37 21.9 +0.6
baz=327,SNR=15
N53A Lisbon 83.98 36 IAMs_20 IAMs_20 18 16 12.3
comp=Z,6µm,21.0s
J58A Remsen 83.99 31 P P 17 37 21.3 0.0
baz=330,SNR=25
J58A Remsen 83.99 31 IAmb IAmb 17 37 23.1
comp=Z,113nm,1.1s
J58A IAMs_20 IAMs_20 18 16 19.3
comp=Z,7µm,22.0s
G62A West of Eustis 84.01 27 P P 17 37 22.3 +0.9
baz=333,SNR=28
F63A Nahmakanta, Br 84.03 26 P P 17 37 23.1 +1.6
baz=334,SNR=9.4
F63A Nahmakanta, Br 84.03 26 IAmb IAmb 17 37 23.8
comp=Z,129nm,1.2s
AGG Agios Georgios 84.05 321 P P 17 37 20.5 -1.2
LKR Lokris 84.05 321 P P 17 37 20.1 -1.5
VT1 Waterbury 84.05 29 IAmb IAmb 17 37 23.9
comp=Z,93nm,0.9s
VT1 IAMs_20 IAMs_20 18 16 17.0
comp=Z,7µm,21.0s
K57A Scipio Center 84.08 32 P P 17 37 22.6 +0.9
baz=329,SNR=7.0
P51A Williamsport 84.12 38 P P 17 37 22.2 +0.2
baz=326,SNR=18
P51A Williamsport 84.12 38 IAmb IAmb 17 37 23.9
comp=Z,96nm,1.0s
P51A IAMs_20 IAMs_20 18 20 38.2
comp=Z,6µm,18.0s
F64A Sherman 84.12 25 P P 17 37 22.4 +0.5
baz=334,SNR=17
F64A Sherman 84.12 25 IAmb IAmb 17 37 24.0
comp=Z,84nm,0.8s
I59A Olmsteadville 84.13 30 P P 17 37 22.0 +0.1
baz=331,SNR=18
O52A Adamsville 84.13 37 P P 17 37 22.5 +0.5
baz=326,SNR=13
O52A Adamsville 84.13 37 IAmb IAmb 17 37 24.2
comp=Z,114nm,1.1s
APE Apeiranthos 84.14 318 ⇑P P 17 37 22.5 +0.3
APE Apeiranthos 84.14 318 ⇑P P 17 37 22.5 +0.3
R49A Shelbyville 84.14 40 P P 17 37 22.8 +0.7
baz=324,SNR=8.3
R49A Shelbyville 84.14 40 IAMs_20 IAMs_20 18 14 34.9
comp=Z,6µm,22.0s
MAKR Makrakomi, Fth 84.15 321 P P 17 37 22.3 +0.1
H61A Lyndonville 84.16 28 P P 17 37 23.1 +1.0
baz=332,SNR=34
AMGA Amorgos Island 84.16 318 P P 17 37 21.0 -1.2
L56A Greenwood 84.18 33 P P 17 37 22.4 +0.1
baz=329,SNR=21
L56A Greenwood 84.18 33 IAmb IAmb 17 37 24.3
comp=Z,130nm,1.1s
L56A IAMs_20 IAMs_20 18 18 05.5
comp=Z,5µm,20.0s
JAN Janina 84.18 322 P P 17 37 22.3 -0.1
J59A Piesco 84.19 30 P P 17 37 22.4 0.0
baz=330,SNR=20
J59A Piesco 84.19 30 IAmb IAmb 17 37 24.1
comp=Z,83nm,0.9s
J59A IAMs_20 IAMs_20 18 16 55.5
comp=Z,5µm,20.0s
N54A Moraine State 84.20 35 P P 17 37 23.8 +1.4
baz=327,SNR=17
N54A Moraine State 84.20 35 IAMs_20 IAMs_20 18 19 52.1
comp=Z,8µm,20.0s
Q50A Georgetown 84.23 39 P P 17 37 23.1 +0.5
baz=325,SNR=12
ATHU Athens Univers 84.24 320 P P 17 37 20.1 -2.6
ATH Athens Observa 84.27 320 P P 17 37 20.8 -2.0
M55A Ridgway 84.27 34 P P 17 37 23.2 +0.5
baz=328,SNR=29
M55A Ridgway 84.27 34 IAMs_20 IAMs_20 18 20 52.9
comp=Z,7µm,18.0s
T47A Sharon Grove 84.28 42 P P 17 37 23.6 +0.7
baz=323,SNR=44
T47A Sharon Grove 84.28 42 IAMs_20 IAMs_20 18 18 35.8
comp=Z,4µm,19.0s
O53A New Philadelph 84.28 36 P P 17 37 23.1 +0.2
baz=326,SNR=15
I60A Shoreham 84.29 29 P P 17 37 22.9 +0.1
baz=331,SNR=10
VILL Villia 84.30 320 P P 17 37 21.1 -1.9
Z41A Richland Creek 84.33 48 P P 17 37 24.5 +1.3
baz=321,SNR=8.2
Z41A Richland Creek 84.33 48 IAMs_20 IAMs_20 18 17 00.6
comp=Z,6µm,21.0s
VLY Voula,Athens 84.33 320 P P 17 37 21.1 -2.0
833A Chaparral WMA, 84.35 56 P P 17 37 24.2 +0.9
baz=318,SNR=8.0
833A Chaparral WMA, 84.35 56 IAMs_20 IAMs_20 18 19 05.5
comp=Z,4µm,19.0s
X43A Marvell 84.36 46 P P 17 37 23.9 +0.6
baz=322,SNR=17
X43A Marvell 84.36 46 IAMs_20 IAMs_20 18 20 50.1
comp=Z,5µm,19.0s
CCAR Cane Creek 84.36 47 IAMs_20 IAMs_20 18 19 15.4
comp=Z,7µm,18.0s
MET Memphis--Engin 84.37 45 IAMs_20 IAMs_20 18 20 15.3
comp=Z,3µm,18.0s
PKME Peaks-Kenny Pk 84.37 26 P P 17 37 24.4 +1.3
baz=334,SNR=12
PKME Peaks-Kenny Pk 84.37 26 IAmb IAmb 17 37 25.7
comp=Z,110nm,1.0s
Q51A Peebles 84.37 38 P P 17 37 23.6 +0.3
baz=325,SNR=26
Q51A Peebles 84.37 38 IAMs_20 IAMs_20 18 20 20.8
comp=Z,6µm,19.0s
EVR Evrytania 84.37 321 P P 17 37 22.6 -0.8
K58A Earlville 84.38 31 P P 17 37 23.6 +0.4
baz=330,SNR=22
K58A Earlville 84.38 31 IAmb IAmb 17 37 25.3
comp=Z,123nm,1.1s
K58A IAMs_20 IAMs_20 18 17 35.5
comp=Z,6µm,20.0s
H62A Milan 84.38 28 P P 17 37 24.1 +0.9
baz=332,SNR=41
G63A Kingsbury 84.40 26 P P 17 37 24.5 +1.2
baz=333,SNR=17
P52A Corning 84.40 37 P P 17 37 24.4 +1.0
baz=326,SNR=8.2
LBNH Lisbon 84.41 28 P P 17 37 24.4 +1.0
baz=332,SNR=12
LBNH Lisbon 84.41 28 IAmb IAmb 17 37 26.0
comp=Z,70nm,0.9s
VLC Villacollemand 84.42 332 IAmb IAmb 17 37 47.6
comp=Z,111nm,1.0s
NATX Nacogdoches 84.47 50 P P 17 37 25.0 +1.1

baz=320,SNR=18
NATX Nacogdoches 84.47 50 IAMs_20 IAMs_20 18 21 14.5
comp=Z,4µm,18.0s
M56A Emporium 84.49 34 P P 17 37 24.9 +1.0
baz=328,SNR=13
M56A Emporium 84.49 34 IAmb IAmb 17 37 26.0
comp=Z,88nm,1.0s
M56A IAMs_20 IAMs_20 18 21 12.7
comp=Z,6µm,18.0s
S49A Springfield 84.50 40 P P 17 37 24.7 +0.7
baz=324,SNR=28
IOSP Ios island 84.53 318 P P 17 37 22.9 -1.2
R50A Paris 84.53 39 P P 17 37 25.1 +1.0
baz=325,SNR=10
R50A Paris 84.53 39 IAMs_20 IAMs_20 18 20 26.3
comp=Z,5µm,19.0s
G64A Maxfield 84.55 26 P P 17 37 24.9 +0.9
baz=334,SNR=20
KARP Karpathos 84.55 316 IAMs_20 IAMs_20 18 22 36.9
comp=Z,7µm,20.0s
L57A Andrews Acres 84.57 33 P P 17 37 24.9 +0.6
baz=329,SNR=10
I61A Oroboro, Fairl 84.59 29 P P 17 37 25.2 +0.9
baz=332,SNR=16
KEK Kerkira 84.59 323 P P 17 37 23.3 -1.1
LOUT Loutraki 84.60 320 P P 17 37 24.2 -0.3
WVT Waverly 84.62 43 P P 17 37 25.1 +0.5
baz=323
WVT Waverly 84.62 43 P P 17 37 24.3 -0.3
WVT pmax pmax
WVT comp=Z,68nm,0.9s MLR MLR
comp=Z,6µm,20.0s
WVT Waverly 84.62 43 P P 17 37 24.3 -0.3
WVT IAmb IAmb 17 37 26.9
comp=Z,68nm,0.9s
WVT Waverly 84.62 43 IAMs_20 IAMs_20 18 19 26.8
comp=Z,6µm,20.0s
KALE Kalithea 84.65 321 P P 17 37 23.1 -1.7
K59A Cooperstown 84.66 31 P P 17 37 24.9 +0.2
baz=330,SNR=48
H63A New Sharon 84.67 27 P P 17 37 25.6 +1.0
baz=333,SNR=23
SERG Sergoula 84.67 321 P P 17 37 23.9 -0.9
CMBO Columbo, Santo 84.68 318 P P 17 37 22.5 -2.4
O54A Avella 84.69 36 P P 17 37 25.4 +0.5
baz=327,SNR=17
O54A Avella 84.69 36 IAMs_20 IAMs_20 18 16 35.2
comp=Z,7µm,21.0s
THAL Thalero 84.70 320 P P 17 37 22.9 -2.1
TRIZ Trizonia 84.70 321 P P 17 37 22.9 -2.0
EFP Efpalio 84.73 321 P P 17 37 23.9 -1.2
BINY Binghamton 84.73 32 P P 17 37 25.1 0.0
baz=330,SNR=11
BINY Binghamton 84.73 32 IAmb IAmb 17 37 27.1
comp=Z,100nm,1.2s
BINY IAMs_20 IAMs_20 18 21 41.0
comp=Z,6µm,19.0s
HNH Hanover 84.76 29 IAMs_20 IAMs_20 18 16 47.5
comp=Z,5µm,21.0s
N55A Marion Center 84.76 35 P P 17 37 26.6 +1.4
baz=328,SNR=25
J60A Lant Hill Farm 84.77 30 P P 17 37 25.7 +0.5
baz=331,SNR=14
ALIK Aliki, Aigiali 84.77 321 P P 17 37 25.9 +0.6
P53A Whipple 84.84 37 P P 17 37 26.2 +0.5
baz=326,SNR=9.3
P53A Whipple 84.84 37 IAmb IAmb 17 37 28.0
comp=Z,128nm,1.4s
LAKA Lakka 84.85 321 P P 17 37 25.1 -0.6
R51A Hillsboro 84.86 39 P P 17 37 27.7 +1.9
baz=325,SNR=15
DID Didima 84.87 320 P P 17 37 23.1 -2.8
Q52A Bidwell 84.90 38 P P 17 37 26.9 +0.9
baz=326,SNR=6.4
L58A Harry Jones Me 84.92 32 P P 17 37 26.2 +0.2
baz=330,SNR=17
AQU L'Aquila 84.92 329⇑ P P 17 37 25.9 -0.2
EIL Elat 84.92 307 P P 17 37 27.6 +1.4
comp=Z,106nm,0.8s,baz=317,slow=3.4,SNR=3.7
N56A West Decatur 84.93 34 P P 17 37 26.9 +0.8
baz=328,SNR=16
KLV Kalavryta, Ach 84.93 321 P P 17 37 24.6 -1.6
T49A Edmonton 84.93 41 P P 17 37 26.9 +0.7
baz=324,SNR=25
T49A Edmonton 84.93 41 IAmb IAmb 17 37 28.6
comp=Z,88nm,1.1s
T49A IAMs_20 IAMs_20 18 18 13.0
comp=Z,6µm,21.0s
I62A Tamworth 84.94 28 P P 17 37 27.4 +1.3
baz=332,SNR=7.3
H64A Troy 84.95 26 P P 17 37 26.9 +0.8
baz=334,SNR=16
G65A Princeton 84.96 25 P P 17 37 26.9 +0.8
baz=335,SNR=13
G65A Princeton 84.96 25 IAMs_20 IAMs_20 18 21 19.6
comp=Z,7µm,19.0s
J61A Chester 84.98 29 P P 17 37 27.1 +0.8
baz=332,SNR=18
S50A Richmond 84.99 40 P P 17 37 27.5 +1.0
baz=325,SNR=14
M57A Sunshine Farm, 85.03 33 P P 17 37 26.8 +0.3
baz=329,SNR=32
M57A Sunshine Farm, 85.03 33 IAMs_20 IAMs_20 18 21 54.0
comp=Z,7µm,20.0s
I63A Otisfield 85.03 28 P P 17 37 27.7 +1.2
baz=333,SNR=19
L59A Walton 85.09 31 P P 17 37 27.3 +0.4
baz=330,SNR=30
L59A Walton 85.09 31 IAMs_20 IAMs_20 18 18 07.5
comp=Z,6µm,21.0s
MATE Matera 85.10 326 ⇑P P 17 37 27.6 +0.7
OXF Oxford 85.11 45 P P 17 37 27.2 +0.1
baz=322,SNR=49
O55A Ligonier 85.12 35 P P 17 37 27.6 +0.6
baz=328,SNR=18
EVGI Lefkada Island 85.12 322 P P 17 37 26.9 -0.2
TRY Troy 85.13 30 IAMs_20 IAMs_20 18 18 41.3
comp=Z,6µm,20.0s
P54A Burton 85.13 36 P P 17 37 28.1 +0.9
baz=327,SNR=18
K60A Five Rivers En 85.15 30 P P 17 37 27.5 +0.4
baz=331,SNR=9.0
FFD Franklin Falls 85.19 29 IAMs_20 IAMs_20 18 21 17.7
comp=Z,6µm,19.0s
HKT Hockley 85.19 52 IAMs_20 IAMs_20 18 21 04.5
comp=Z,5µm,19.0s
SOCY Socotra 85.20 282 P P 17 37 27.4 -0.5
SNR=7.3
DRO Drossia 85.20 321 P P 17 37 26.6 -0.9
H65A Eastbrook 85.20 26 P P 17 37 28.4 +1.0
baz=334,SNR=11
RLS Riolos of Patr 85.23 321 P P 17 37 27.5 -0.1
R52A Catlettsburg 85.25 38 P P 17 37 28.0 +0.3
baz=326,SNR=10
M58A Price's Panora 85.26 33 P P 17 37 27.8 0.0
baz=329,SNR=19
SSB Saint Sauveur 85.27 336 IAMs_20 IAMs_20 18 19 52.9
comp=Z,7µm,19.0s
U49A Red Boiling Sp 85.30 41 P P 17 37 28.6 +0.6
baz=324,SNR=48
FSK Fiskardo 85.30 322 P P 17 37 26.5 -1.4
Q53A Leroy 85.31 37 P P 17 37 28.6 +0.6
baz=326,SNR=20
K61A Williamstown 85.33 30 P P 17 37 28.7 +0.7
baz=331,SNR=16
T50A Nancy 85.33 40 P P 17 37 28.6 +0.4
baz=325,SNR=40
SSPA Standing Stone 85.33 34 P P 17 37 29.9 +1.8
baz=328
SSPA Standing Stone 85.33 34 P P 17 37 28.4 +0.4
SSPA IAmb IAmb 17 37 30.5
comp=Z,130nm,1.1s
SSPA Standing Stone 85.33 34 IAMs_20 IAMs_20 18 21 58.9
comp=Z,5µm,20.0s
J62A Henniker 85.35 29 P P 17 37 29.1 +1.0
baz=332,SNR=14
MCWV Mont Chateau 85.35 36 P P 17 37 29.3 +1.0
baz=327,SNR=13
MCWV Mont Chateau 85.35 36 IAMs_20 IAMs_20 18 17 04.7
comp=Z,4µm,21.0s
N57A Milroy 85.36 34 P P 17 37 28.7 +0.5
baz=329,SNR=30
ZKR Zakros 85.36 316 P P 17 37 27.3 -1.1
O56A Blue Knob Stat 85.37 35 P P 17 37 28.3 0.0
baz=328,SNR=24
KSPA Keystone Colle 85.37 32 IAmb IAmb 17 37 30.3
comp=Z,83nm,1.1s
KSPA IAMs_20 IAMs_20 18 22 10.8
comp=Z,7µm,19.0s
S51A Beattyville 85.39 39 P P 17 37 28.6 +0.2
baz=325,SNR=11
S51A Beattyville 85.39 39 IAMs_20 IAMs_20 18 22 46.0
comp=Z,4µm,19.0s
PLAL Pickwick Lake 85.41 44 IAmb IAmb 17 37 30.4
comp=Z,46nm,0.8s
PLAL IAMs_20 IAMs_20 18 19 12.8
comp=Z,5µm,19.0s
H66A Whiting 85.41 25 P P 17 37 29.3 +0.9
baz=335
V48A Smith Brothers 85.42 43 P P 17 37 28.6 0.0
baz=324,SNR=24
V48A Smith Brothers 85.42 43 IAMs_20 IAMs_20 18 19 60.0
comp=Z,7µm,19.0s
EMMW East Machias 85.44 25 IAMs_20 IAMs_20 18 21 25.2
comp=Z,6µm,19.0s
CASP Castiglione de 85.46 331 IAmb IAmb 17 37 29.9
comp=Z,64nm,0.9s
I64A Boothbay 85.46 27 P P 17 37 29.1 +0.5
baz=333,SNR=6.6
P55A Reedsville 85.49 36 P P 17 37 30.9 +2.0
baz=327,SNR=35
Q54A Coxs Mills 85.50 37 P P 17 37 29.9 +0.9
baz=327,SNR=16
Q54A Coxs Mills 85.50 37 IAMs_20 IAMs_20 18 17 57.6
comp=Z,6µm,22.0s
M59A Waymart 85.51 32 P P 17 37 29.5 +0.5
baz=330,SNR=17
VLS Valsamata 85.52 322 P P 17 37 28.3 -0.8
AMT Artemida-Makis 85.55 321 P P 17 37 28.7 -0.6
J63A Strafford 85.55 28 P P 17 37 30.1 +1.0
baz=332,SNR=9.0
R53A Hurricane 85.56 38 P P 17 37 30.7 +1.4
baz=326,SNR=5.6
R53A Hurricane 85.56 38 IAMs_20 IAMs_20 18 20 01.2
comp=Z,7µm,19.0s
L60A Shokan 85.57 31 P P 17 37 29.8 +0.5
baz=331,SNR=19
S52A Salyersville 85.59 39 P P 17 37 30.0 +0.5
baz=326,SNR=12
N58A Sunbury 85.62 33 P P 17 37 29.9 +0.4
baz=329,SNR=24
N58A Sunbury 85.62 33 IAMs_20 IAMs_20 18 22 09.5
comp=Z,7µm,19.0s
L61A Hillsdale 1, H 85.64 30 P P 17 37 30.8 +1.3
baz=331,SNR=14
FRMA Ierapetra Chan 85.68 317 P P 17 37 29.1 -0.8
K62A Royalston 85.69 29 P P 17 37 31.3 +1.4
baz=332,SNR=9.7
K62A Royalston 85.69 29 IAMs_20 IAMs_20 18 22 14.2
comp=Z,7µm,18.0s
L61B Northampton 85.73 30 P P 17 37 30.2 +0.2
baz=332,SNR=6.2
ITM Ithomi 85.74 320 P P 17 37 29.2 -1.0
ITM Ithomi 85.74 320 IAMs_20 IAMs_20 18 20 43.6
comp=Z,6µm,20.0s
T51A Gray 85.78 40 P P 17 37 31.3 +0.9
baz=325,SNR=7.8
O57A Amberson 85.79 34 P P 17 37 31.3 +0.9
baz=329,SNR=27
HIZ Hauiti 85.81 160 IAMs_20 IAMs_20 18 21 10.0
comp=Z,6µm,19.0s
Q55A Buckhannon 85.81 36 P P 17 37 31.0 +0.5
baz=327,SNR=13
MXZ Matakaoa Point 85.81 157 IAMs_20 IAMs_20 18 10 49.2
comp=Z,7µm,22.0s
U50A Jamestown 85.81 41 P P 17 37 30.6 0.0
baz=325,SNR=21
V49A McMinnville 85.84 42 P P 17 37 30.8 +0.1
baz=324,SNR=15
P56A Dayton Farm, R 85.90 35 P P 17 37 31.5 +0.6
baz=328,SNR=39
K63A Dunstable 85.92 29 P P 17 37 31.9 +0.9
baz=332,SNR=12
N59A State Game Lan 85.92 32 P P 17 37 31.8 +0.7
baz=330,SNR=24
KTHA Kythira Island 85.97 319 P P 17 37 29.0 -2.3
M60A Port Jervis 86.00 31 P P 17 37 32.0 +0.6
baz=330,SNR=10
HRV Adam Dziewonsk 86.07 29 P P 17 37 33.0 +1.3
baz=332
HRV Adam Dziewonsk 86.07 29 P P 17 37 31.9 +0.2
HRV pmax pmax
HRV comp=Z,83nm,1.0s MLR MLR
comp=Z,6µm,20.0s
HRV Adam Dziewonsk 86.07 29 P P 17 37 31.9 +0.2
HRV IAmb IAmb 17 37 34.4
comp=Z,83nm,0.9s
HRV Adam Dziewonsk 86.07 29 IAMs_20 IAMs_20 18 19 43.1
comp=Z,6µm,20.0s
KSCT Kent School, K 86.07 31 IAMs_20 IAMs_20 18 19 02.3
comp=Z,7µm,21.0s
L62A Suffield 86.10 30 P P 17 37 32.8 +1.0
baz=332
R54A Victor 86.10 37 P P 17 37 32.8 +0.8
baz=327
T52A Hallie 86.11 39 P P 17 37 33.4 +1.4
baz=326,SNR=11
T52A Hallie 86.11 39 IAmb IAmb 17 37 50.8
comp=Z,139nm,1.4s
T52A IAMs_20 IAMs_20 18 21 09.9
comp=Z,6µm,18.0s
SIVA Sivas 86.13 317 P P 17 37 31.8 -0.3
PAGS Pennsylvania G 86.14 33 IAmb IAmb 17 37 34.2
comp=Z,103nm,1.0s
PAGS IAMs_20 IAMs_20 18 22 48.3
comp=Z,6µm,20.0s
URZ Urewera 86.14 158 IAMs_20 IAMs_20 18 12 05.4
comp=Z,6µm,20.0s
Q56A Snyder Ridge, 86.15 36 P P 17 37 33.7 +1.5
baz=328
Q56A Snyder Ridge, 86.15 36 IAMs_20 IAMs_20 18 17 39.5
comp=Z,8µm,21.0s
O58A Lewisberry 86.15 34 P P 17 37 32.8 +0.6
baz=329,SNR=17
W49A Belvidere 86.19 43 P P 17 37 32.9 +0.5
baz=324,SNR=21
N60A Cedar Hill Far 86.22 32 P P 17 37 33.1 +0.6
baz=330,SNR=11
ODNJ Ogdensburg 86.22 32 IAmb IAmb 17 37 34.4
comp=Z,58nm,1.1s
ODNJ IAMs_20 IAMs_20 18 18 50.2
comp=Z,5µm,20.0s
U51A La Follette 86.23 40 P P 17 37 33.7 +1.0
baz=325,SNR=7.5
P57A Homestead Farm 86.26 35 P P 17 37 34.0 +1.3
baz=328,SNR=8.4
P57A Homestead Farm 86.26 35 IAmb IAmb 17 37 35.1
comp=Z,72nm,1.1s
WES Weston 86.26 29 IAMs_20 IAMs_20 18 21 16.1
comp=Z,7µm,18.0s
SWET Sewanee 86.27 42 IAMs_20 IAMs_20 18 20 34.5
comp=Z,4µm,20.0s
O59A Robesonia 86.28 33 P P 17 37 34.2 +1.4
baz=330,SNR=12
S54A Dingess, Beckl 86.28 38 P P 17 37 33.6 +0.7
baz=327,SNR=8.5
S54A Dingess, Beckl 86.28 38 IAMs_20 IAMs_20 18 20 22.3
comp=Z,7µm,19.0s
V50A Pikevile 86.30 41 P P 17 37 33.4 +0.5
baz=325,SNR=16
TZTN Tazewell 86.31 40 P P 17 37 34.5 +1.5
baz=325,SNR=8.9
TZTN Tazewell 86.31 40 IAMs_20 IAMs_20 18 15 53.4
comp=Z,5µm,21.0s
TIP Timpagrande 86.32 325 ⇑P P 17 37 32.5 -0.6
M61A Granite Spring 86.33 31 P P 17 37 33.5 +0.5
baz=331,SNR=14
X48A Hartselle 86.34 43 P P 17 37 33.0 -0.2
baz=324,SNR=24
X48A Hartselle 86.34 43 IAMs_20 IAMs_20 18 21 04.5
comp=Z,6µm,19.0s
VBMS Vicksburg 86.34 47 P P 17 37 34.2 +1.0
baz=322,SNR=9.5
VBMS Vicksburg 86.34 47 IAMs_20 IAMs_20 18 20 37.8
comp=Z,6µm,18.0s
R55A Marlinton 86.39 37 P P 17 37 33.7 +0.2
baz=327,SNR=14
R55A Marlinton 86.39 37 IAmb IAmb 17 37 36.0
comp=Z,94nm,0.9s
R55A IAMs_20 IAMs_20 18 21 53.2
comp=Z,5µm,19.0s
T53A Wise 86.41 39 P P 17 37 35.4 +1.8
baz=326,SNR=8.2
Q57A Strasburg 86.47 35 P P 17 37 34.2 +0.4
baz=328,SNR=6.3
MVL Millersville 86.48 33 IAmb IAmb 17 37 36.1
comp=Z,92nm,1.1s
U52A Thorn Hill 86.52 40 P P 17 37 34.5 +0.4
baz=326,SNR=10
M62A Hamden 86.53 30 P P 17 37 35.3 +1.3
baz=331
P58A Pank, Wackersv 86.54 34 P P 17 37 34.0 -0.1
baz=329,SNR=17
PAL Palisades 86.54 31 P P 17 37 34.6 +0.6
baz=331,SNR=11
PAL Palisades 86.54 31 IAmb IAmb 17 37 36.4
comp=Z,105nm,1.1s
PAL IAMs_20 IAMs_20 18 23 52.9
comp=Z,5µm,18.0s
V51A Loudon 86.54 41 P P 17 37 34.8 +0.6
baz=325,SNR=14
V51A Loudon 86.54 41 IAmb IAmb 17 37 36.5
comp=Z,76nm,1.1s
V51A IAMs_20 IAMs_20 18 15 49.6
comp=Z,7µm,22.0s
O60A Telford 86.58 32 P P 17 37 34.5 +0.3
baz=330,SNR=6.8
BRNJ Basking Ridge 86.58 32 IAMs_20 IAMs_20 18 19 02.8
comp=Z,6µm,20.0s
W50A Signal Mountai 86.58 42 P P 17 37 34.6 +0.2
baz=324,SNR=15
W50A Signal Mountai 86.58 42 IAMs_20 IAMs_20 18 20 04.6
comp=Z,5µm,18.0s
R56A Bull Pasture M 86.59 36 P P 17 37 35.9 +1.5
baz=328,SNR=6.5
BRYW Bryant College 86.60 29 IAMs_20 IAMs_20 18 23 37.1
comp=Z,7µm,18.0s
L63A North Scituate 86.62 29 P P 17 37 35.0 +0.6
baz=332,SNR=8.0
N61A South Mountain 86.62 32 P P 17 37 35.7 +1.2
baz=331,SNR=7.4
GVD Gavdhos 86.63 318 P P 17 37 33.5 -1.1
HAL Halifax 86.63 23 IAMs_20 IAMs_20 18 22 54.5
comp=Z,5µm,19.0s
S55A Lewisburg 86.65 37 P P 17 37 35.1 +0.4
baz=327
CPCT Cooper Cave 86.75 41 IAmb IAmb 17 37 37.4
comp=Z,78nm,1.1s
CPCT IAMs_20 IAMs_20 18 14 43.1
comp=Z,7µm,22.0s
T54A Tazewell 86.78 38 P P 17 37 36.7 +1.4
baz=326,SNR=19
P59A Jarrettsville 86.78 34 P P 17 37 35.9 +0.6
baz=329,SNR=14
L64A Middleborough 86.82 29 P P 17 37 36.8 +1.4
baz=333,SNR=10
BKZ Black Stump Fm 86.83 159 IAMs_20 IAMs_20 18 22 14.2
comp=Z,4µm,19.0s
Q58A Fox Den Farm, 86.85 35 P P 17 37 37.1 +1.5
baz=329,SNR=10
V52A Sevierville 86.86 40 P P 17 37 36.6 +0.8
baz=325,SNR=17
V52A Sevierville 86.86 40 IAmb IAmb 17 37 38.2
comp=Z,101nm,1.1s
V52A IAMs_20 IAMs_20 18 15 59.1
comp=Z,7µm,22.0s
M63A Gales Ferry 86.87 30 P P 17 37 35.9 +0.3
baz=332,SNR=9.1
W51A Cleveland 86.88 42 P P 17 37 36.0 +0.2
baz=325,SNR=13
PSUB Penn St. - Bra 86.89 33 IAMs_20 IAMs_20 18 23 26.3
comp=Z,7µm,18.0s
U53A Fall Branch 86.90 39 P P 17 37 36.2 +0.2
baz=326,SNR=14
P60A Greenville 86.92 33 P P 17 37 36.4 +0.5
baz=330,SNR=16
TKL Tuckaleechee C 86.93 41 LR LR 18 19 25.8
comp=Z,4µm,20.1s,baz=342,slow=38
TAU Tasmania Unive 87.01 181 IAMs_20 IAMs_20 18 11 36.5
comp=Z,5µm,22.0s
R57A Stanardsville 87.05 36 P P 17 37 37.7 +1.1
baz=328,SNR=14
T55A Pulaski 87.08 38 P P 17 37 37.5 +0.6
baz=327,SNR=15
O61A Allentown 87.09 32 P P 17 37 37.1 +0.4
baz=330
U54A Nelsons Funny 87.11 39 P P 17 37 37.1 +0.1
baz=326,SNR=11
U54A Nelsons Funny 87.11 39 IAMs_20 IAMs_20 18 22 34.6
comp=Z,6µm,19.0s
Y49A Blount Mountai 87.13 43 P P 17 37 37.1 0.0
baz=324,SNR=16
Y49A Blount Mountai 87.13 43 IAMs_20 IAMs_20 18 21 38.4
comp=Z,7µm,19.0s
S56A Natural Bridge 87.14 37 P P 17 37 38.3 +1.3
baz=328,SNR=7.9
BLA Blacksburg 87.16 37 P P 17 37 38.4 +1.2
baz=327,SNR=12
R58A Rapidan 87.27 35 P P 17 37 38.4 +0.8
baz=328,SNR=11
X51A Calhoun 87.31 42 P P 17 37 38.3 +0.4
baz=325,SNR=6.9
X51A Calhoun 87.31 42 IAMs_20 IAMs_20 18 20 28.0
comp=Z,5µm,19.0s
W52A Murphy 87.32 41 P P 17 37 39.5 +1.5
baz=325
W52A Murphy 87.32 41 IAMs_20 IAMs_20 18 16 13.2
comp=Z,6µm,22.0s
S57A Dark Hollow, R 87.33 36 P P 17 37 39.7 +1.7
baz=328,SNR=9.4
S57A Dark Hollow, R 87.33 36 IAMs_20 IAMs_20 18 18 08.0
comp=Z,6µm,21.0s
Q59A Harwood 87.33 34 P P 17 37 39.9 +2.0
baz=329,SNR=5.2
P61A Hammonton 87.37 32 P P 17 37 39.9 +1.9
baz=330
P61A Hammonton 87.37 32 IAMs_20 IAMs_20 18 19 08.8
comp=Z,6µm,21.0s
V53A Saluda 87.37 40 P P 17 37 39.4 +1.1
baz=326,SNR=7.7
V53A Saluda 87.37 40 IAMs_20 IAMs_20 18 17 55.4
comp=Z,6µm,21.0s
U55A TA2, Sparta 87.47 38 P P 17 37 40.0 +1.2
baz=327,SNR=10.0
QRZ Quartz Range 87.48 162 IAMs_20 IAMs_20 18 20 35.2
comp=Z,6µm,19.0s
T56A Rocky Mt 87.48 37 P P 17 37 39.4 +0.6
baz=327,SNR=6.4
LRAL Lakeview Retre 87.50 44 P P 17 37 38.8 0.0
baz=324,SNR=12
LRAL Lakeview Retre 87.50 44 IAMs_20 IAMs_20 18 20 37.2
comp=Z,5µm,20.0s
R58B Mineral 87.60 35 P P 17 37 40.4 +1.2
baz=329,SNR=8.0
R58B Mineral 87.60 35 IAmb IAmb 17 37 57.8
comp=Z,82nm,1.3s
R58B IAMs_20 IAMs_20 18 18 42.2
comp=Z,7µm,20.0s
CBN Corbin Frederi 87.61 35 P P 17 37 40.2 +0.9
baz=329,SNR=7.2
CBN Corbin Frederi 87.61 35 IAMs_20 IAMs_20 18 22 55.3
comp=Z,6µm,18.0s
W53A Cullowhee 87.62 40 P P 17 37 40.7 +1.1
baz=326,SNR=21
V54A Nebo 87.67 39 P P 17 37 40.3 +0.6
baz=326,SNR=8.3
R59A King George, V 87.72 35 P P 17 37 41.0 +1.3
baz=329
TBI Tubuai 87.72 126 eP P 17 37 40.2 +0.4
comp=Z,169nm,1.0s
TBI Tubuai 87.72 126 eS S 17 48 18.4 -1.1
comp=Z,3µm,26.2s
TBI Tubuai 87.72 126 eLQ LQ 18 01 30.4
comp=Z,2µm,29.0s
TBI eLR LR 18 05 04.2
comp=Z,13µm,26.5s
TBI Tubuai 87.72 126 eT T 19 14 42.3
comp=Z,25nm,0.2s
X52A Dahlonega 87.74 41 P P 17 37 40.7 +0.7
baz=325,SNR=13
Y51A Rockmart 87.75 42 P P 17 37 40.2 +0.1
baz=325,SNR=29
S58A Poland Farm, P 87.83 36 P P 17 37 42.0 +1.6
baz=328,SNR=7.9
S58A Poland Farm, P 87.83 36 IAMs_20 IAMs_20 18 23 10.3
comp=Z,7µm,19.0s
T57A Hurt 87.84 37 P P 17 37 41.1 +0.7
baz=328,SNR=7.1
T57A Hurt 87.84 37 IAmb IAmb 17 37 42.8
comp=Z,90nm,1.2s
T57A IAMs_20 IAMs_20 18 22 47.6

	comp=Z,7µm,20.0s							
Z50A	**Ashland**	**87.86**	**43**	P	**P**	**17 37 40.4**	**-0.2**	
	baz=324,SNR=76							
Z50A	**Ashland**	**87.86**	**43**	IAMs_20	IAMs_20	18 22 09.6		
	comp=Z,6µm,19.0s							
BG3	**Lake Jocassee**	**87.87**	**40**	IAmb	IAmb	17 37 43.3		
BG3	comp=Z,91nm,1.1s			IAMs_20	IAMs_20	18 16 29.8		
	comp=Z,5µm,22.0s							
U56A	**King**	**87.90**	**38**	P	**P**	**17 37 42.4**	**+1.7**	
	baz=327,SNR=6.1							
V55A	**Taylorsville**	**87.94**	**39**	P	**P**	**17 37 42.5**	**+1.6**	
	baz=327							
V55A	**Taylorsville**	**87.94**	**39**	IAMs_20	IAMs_20	18 22 13.5		
	comp=Z,7µm,20.0s							
S59A	**Mechanicsville**	**88.02**	**35**	P	**P**	**17 37 41.9**	**+0.7**	
	baz=329,SNR=5.5							
NNZ	**Nelson**	**88.04**	**162**	IAMs_20	IAMs_20	18 19 45.1		
	comp=Z,6µm,19.0s							
X53A	**Estanollee**	**88.10**	**41**	P	**P**	**17 37 42.9**	**+1.2**	
	baz=326,SNR=40							
W54A	**Cherokee Point**	**88.14**	**40**	P	**P**	**17 37 42.6**	**+0.8**	
	baz=326,SNR=11							
Z51A	**Franklin**	**88.17**	**43**	P	**P**	**17 37 41.9**	**-0.2**	
	baz=325,SNR=14							
T58A	**Grand View Acr**	**88.19**	**36**	P	**P**	**17 37 43.3**	**+1.3**	
	baz=328,SNR=7.5							
BFZ	**Birch Farm**	**88.20**	**160**	IAMs_20	IAMs_20	18 21 36.4		
	comp=Z,5µm,20.0s							
Y52A	**Lilburn**	**88.26**	**42**	P	**P**	**17 37 43.2**	**+0.7**	
	baz=325,SNR=16							
Y52A	**Lilburn**	**88.26**	**42**	IAmb	IAmb	17 37 45.0		
Y52A	comp=Z,65nm,0.9s			IAMs_20	IAMs_20	18 21 06.2		
	comp=Z,6µm,20.0s							
U57A	**Blanch**	**88.28**	**37**	P	**P**	**17 37 43.9**	**+1.3**	
	baz=328,SNR=9.5							
V56A	**Mocksville**	**88.30**	**38**	P	**P**	**17 37 43.3**	**+0.7**	
	baz=327,SNR=9.0							
THZ	**Tophouse**	**88.45**	**162**	IAMs_20	IAMs_20	18 19 10.6		
	comp=Z,4µm,18.0s							
KMSC	**Kings Mountain**	**88.48**	**39**	P	**P**	**17 37 44.1**	**+0.6**	
	baz=327,SNR=16							
X54A	**Belton**	**88.50**	**40**	P	**P**	**17 37 44.5**	**+1.0**	
	baz=326,SNR=12							
Y53A	**Monroe**	**88.50**	**41**	P	**P**	**17 37 44.1**	**+0.5**	
	baz=325,SNR=17							
PAULI	**Pauline**	**88.53**	**40**	IAmb	IAmb	17 37 45.9		
PAULI	comp=Z,66nm,1.0s			IAMs_20	IAMs_20	18 22 19.0		
	comp=Z,6µm,19.0s							
V57A	**Coltrane Farms**	**88.55**	**38**	P	**P**	**17 37 45.0**	**+1.2**	
	baz=328,SNR=7.4							
T59A	**Double "B" Far**	**88.58**	**36**	P	**P**	**17 37 45.8**	**+1.9**	
	baz=329,SNR=7.2							
T59A	**Double "B" Far**	**88.58**	**36**	IAMs_20	IAMs_20	18 19 13.2		
	comp=Z,7µm,20.0s							
Z52A	**Williamson**	**88.64**	**42**	P	**P**	**17 37 44.6**	**+0.3**	
	baz=325,SNR=18							
U58A	**Oxford**	**88.65**	**37**	P	**P**	**17 37 44.6**	**+0.3**	
	baz=328,SNR=10							
250A	**Grady**	**88.72**	**44**	P	**P**	**17 37 45.6**	**+1.0**	
	baz=324,SNR=20							
250A	**Grady**	**88.72**	**44**	IAMs_20	IAMs_20	18 21 24.4		
	comp=Z,5µm,20.0s							
S61A	**Accomac**	**88.75**	**34**	IAMs_20	IAMs_20	18 24 18.3		
	comp=Z,7µm,20.0s							
T60A	**Surry**	**88.78**	**35**	IAMs_20	IAMs_20	18 19 37.3		
	comp=Z,6µm,21.0s							
HODGE	**Hodges**	**88.81**	**40**	IAmb	IAmb	17 38 03.9		
HODGE	comp=Z,108nm,1.3s			IAMs_20	IAMs_20	18 17 09.6		
	comp=Z,6µm,22.0s							
W56A	**Indian Trail**	**88.82**	**39**	P	**P**	**17 37 45.9**	**+0.8**	
	baz=327,SNR=6.5							
X55A	**Gracelyn & Ava**	**88.90**	**40**	P	**P**	**17 37 46.8**	**+1.4**	
	baz=326,SNR=10							
Y54A	**Tignall**	**88.92**	**41**	P	**P**	**17 37 46.6**	**+1.1**	
	baz=326,SNR=49							
V58A	**Windy Hill, Pi**	**88.92**	**37**	P	**P**	**17 37 47.1**	**+1.6**	
	baz=328							
V58A	**Windy Hill, Pi**	**88.92**	**37**	IAMs_20	IAMs_20	18 24 26.2		
	comp=Z,7µm,19.0s							
GOGA	**Godfrey**	**88.92**	**42**	P	**P**	**17 37 46.2**	**+0.6**	
	baz=326,SNR=10							
GOGA	**Godfrey**	**88.92**	**42**	IAmb	IAmb	17 38 05.3		
	comp=Z,146nm,1.6s							
GOGA	**Godfrey**	**88.92**	**42**	IAMs_20	IAMs_20	18 21 33.5		
	comp=Z,6µm,19.0s							
152A	**Waverly Hall**	**88.92**	**43**	P	**P**	**17 37 45.6**	**0.0**	
	baz=325,SNR=15							
152A	**Waverly Hall**	**88.92**	**43**	IAMs_20	IAMs_20	18 21 58.5		
	comp=Z,6µm,18.0s							
BRAL	**Brewton**	**88.97**	**45**	IAMs_20	IAMs_20	18 21 44.2		
	comp=Z,3µm,19.0s							
Z53A	**Monticello**	**88.98**	**42**	P	**P**	**17 37 46.6**	**+0.8**	
	baz=326,SNR=20							
U59A	**Littleton**	**89.01**	**36**	P	**P**	**17 37 48.1**	**+2.2**	
	baz=329							
U59A	**Littleton**	**89.01**	**36**	IAMs_20	IAMs_20	18 23 40.5		
	comp=Z,6µm,19.0s							
W57A	**Gilead**	**89.07**	**38**	P	**P**	**17 37 46.7**	**+0.5**	
	baz=327,SNR=12							
X56A	**White Oak**	**89.16**	**39**	P	**P**	**17 37 47.4**	**+0.7**	
	baz=327,SNR=15							
U60A	**Pendleton**	**89.17**	**36**	P	**P**	**17 37 48.3**	**+1.6**	
	baz=329							
Y55A	**Saluda**	**89.24**	**40**	P	**P**	**17 37 48.1**	**+1.1**	
	baz=326,SNR=13							
BIRD	**Birdtown, Kers**	**89.29**	**39**	IAMs_20	IAMs_20	18 23 14.1		
	comp=Z,6µm,19.0s							
LTZ	**Lake Taylor**	**89.30**	**163**	IAMs_20	IAMs_20	18 15 19.4		
	comp=Z,6µm,21.0s							
V59A	**Middlesex**	**89.32**	**37**	P	**P**	**17 37 48.3**	**+0.9**	
	baz=328,SNR=11							
Z54A	**Sparta**	**89.36**	**41**	P	**P**	**17 37 48.6**	**+1.0**	
	baz=326,SNR=9.9							
153A	**Fort Valley**	**89.37**	**42**	P	**P**	**17 37 48.1**	**+0.5**	
	baz=325							
252A	**Lumpkin**	**89.46**	**43**	P	**P**	**17 37 48.7**	**+0.6**	
	baz=325,SNR=12							
W58A	**Raeford**	**89.52**	**38**	P	**P**	**17 37 48.9**	**+0.6**	
	baz=328,SNR=10.0							
U61A	**Possum Corner**	**89.59**	**35**	IAMs_20	IAMs_20	18 20 01.8		
	comp=Z,6µm,20.0s							
X57A	**Johnson Farm,**	**89.60**	**39**	P	**P**	**17 37 49.5**	**+0.8**	
	baz=327							
Y56A	**Pelion**	**89.61**	**40**	P	**P**	**17 37 50.4**	**+1.6**	
	baz=327							
Z55A	**Blythe**	**89.70**	**41**	P	**P**	**17 37 50.2**	**+0.9**	
	baz=326,SNR=5.1							
253A	**Americus**	**89.70**	**43**	P	**P**	**17 37 50.1**	**+0.8**	
	baz=325,SNR=12							
253A	**Americus**	**89.70**	**43**	IAMs_20	IAMs_20	18 22 23.5		
	comp=Z,5µm,19.0s							
V60A	**Jim Taylor Roa**	**89.73**	**36**	P	**P**	**17 37 50.7**	**+1.4**	
	baz=329							
V60A	**Jim Taylor Roa**	**89.73**	**36**	IAMs_20	IAMs_20	18 24 46.7		
	comp=Z,7µm,20.0s							
W59A	**Clinton**	**89.74**	**37**	P	**P**	**17 37 51.1**	**+1.7**	
	baz=328							
154A	**Montrose**	**89.75**	**42**	P	**P**	**17 37 50.5**	**+1.1**	
	baz=326,SNR=11							
154A	**Montrose**	**89.75**	**42**	IAMs_20	IAMs_20	18 22 09.5		
	comp=Z,6µm,20.0s							
OXZ	**Oxford**	**89.77**	**163**	IAMs_20	IAMs_20	18 21 23.4		
	comp=Z,4µm,19.0s							
352A	**Blakely**	**89.79**	**44**	P	**P**	**17 37 50.5**	**+0.8**	
	baz=325,SNR=9.9							
352A	**Blakely**	**89.79**	**44**	IAMs_20	IAMs_20	18 23 10.7		
	comp=Z,5µm,20.0s							
Y57A	**Sumter**	**89.84**	**39**	P	**P**	**17 37 51.3**	**+1.4**	
	baz=327							
X58A	**Rowland**	**89.86**	**38**	P	**P**	**17 37 50.6**	**+0.6**	
	baz=328,SNR=7.0							
CNNC	**Cliffs of the**	**89.92**	**37**	P	**P**	**17 37 52.0**	**+1.9**	
	baz=329							
CNNC	**Cliffs of the**	**89.92**	**37**	IAMs_20	IAMs_20	18 19 36.5		
	comp=Z,6µm,22.0s							
Z56A	**Williston**	**89.97**	**40**	P	**P**	**17 37 52.3**	**+1.8**	
	baz=327,SNR=5.4							
Z56A	**Williston**	**89.97**	**40**	IAMs_20	IAMs_20	18 17 44.4		
	comp=Z,7µm,22.0s							
V61A	**Roper**	**90.00**	**36**	IAMs_20	IAMs_20	18 20 04.7		
	comp=Z,5µm,20.0s							
155A	**Kite**	**90.04**	**41**	P	**P**	**17 37 52.5**	**+1.6**	
	baz=326,SNR=6.0							
254A	**Abbeville**	**90.20**	**42**	P	**P**	**17 37 54.1**	**+2.5**	
	baz=326,SNR=12							
353A	**Camilla**	**90.24**	**43**	P	**P**	**17 37 54.3**	**+2.5**	
	baz=325,SNR=7.3							
MAHO	**Mahon**	**90.26**	**334**	*e*P	**P**	**17 37 52.3**	**+0.7**	
MAHO				SKS	**SKSac**	**17 48 21.4**	**+1.2**	
Y58A	**Scranton**	**90.26**	**39**	P	**P**	**17 37 53.4**	**+1.6**	
	baz=328							
Z57A	**Bowman**	**90.30**	**40**	P	**P**	**17 37 53.6**	**+1.6**	
	baz=327,SNR=5.2							
V62A	**Hyde County Ai**	**90.45**	**35**	IAMs_20	IAMs_20	18 21 10.7		
	comp=Z,6µm,21.0s							
156A	**Sylvania**	**90.47**	**41**	P	**P**	**17 37 55.2**	**+2.4**	
	baz=327							
TIGA	**Tifton**	**90.48**	**43**	P	**P**	**17 37 55.1**	**+2.2**	
	baz=326,SNR=8.9							
TIGA	**Tifton**	**90.48**	**43**	IAMs_20	IAMs_20	18 22 55.9		
	comp=Z,6µm,20.0s							
Y59A	**Loris**	**90.55**	**38**	P	**P**	**17 37 55.1**	**+1.9**	
	baz=328							
453A	**Whigham**	**90.60**	**44**	IAMs_20	IAMs_20	18 23 56.1		
	comp=Z,6µm,20.0s							
255A	**Hazlehurst**	**90.61**	**42**	P	**P**	**17 37 55.0**	**+1.5**	
	baz=326							
255A	**Hazlehurst**	**90.61**	**42**	IAMs_20	IAMs_20	18 21 20.4		
	comp=Z,5µm,19.0s							
Z58A	**St. Stephen**	**90.68**	**39**	P	**P**	**17 37 55.9**	**+2.2**	
	baz=328							
NHSC	**New Hope**	**90.70**	**40**	P	**P**	**17 37 56.2**	**+2.4**	
	baz=327							
NHSC	**New Hope**	**90.70**	**40**	IAMs_20	IAMs_20	18 24 00.6		
	comp=Z,6µm,19.0s							
Y60A	**Bolivia**	**90.82**	**38**	IAMs_20	IAMs_20	18 20 20.6		
	comp=Z,7µm,22.0s							
355A	**Pearson**	**90.91**	**42**	P	**P**	**17 37 56.4**	**+1.5**	
	baz=326							
MLZ	**Mavora Lakes**	**91.02**	**167**	IAmb	IAmb	17 37 59.2		
	comp=Z,120nm,1.4s							
257A	**Skidaway Islan**	**91.26**	**41**	IAMs_20	IAMs_20	18 17 20.4		
	comp=Z,7µm,22.0s							
455A	**Stateville**	**91.32**	**43**	P	**P**	**17 37 59.1**	**+2.3**	
	baz=326							
456A	**Hilliard**	**91.82**	**42**	IAMs_20	IAMs_20	18 21 58.5		
	comp=Z,5µm,21.0s							
UCM	**Universidad Co**	**92.02**	**339**	*e*P	**P**	**17 37 58.8**	**-1.2**	
UCM				SKS	**SKSac**	**17 48 31.4**	**+0.9**	
MVO	**Moncorvo**	**92.10**	**342**	*e*LR	LR	18 11 54.9		
	comp=Z,10µm,20.0s							
KEST	**Kesra**	**92.23**	**328**	P	**P**	**17 38 01.3**	**+0.2**	
	comp=Z,34nm,0.9s,baz=348,slow=1.2,SNR=5.8							
KEST				LR	LR	18 23 47.3		
	comp=Z,19µm,20.0s,baz=330,slow=38							
KEST	**Kesra**	**92.23**	**328**	IAmb	IAmb	17 38 03.0		
	comp=Z,42nm,0.9s							
656A	**Willston**	**92.69**	**43**	IAMs_20	IAMs_20	18 24 25.6		
	comp=Z,4µm,20.0s							
ESDC	**Sonseca Array**	**92.80**	**340**	P	**P**	**17 38 04.2**	**+0.6**	
	comp=Z,12nm,0.7s,baz=24,slow=3.6,SNR=32							
ESDC				LR	LR	18 24 39.9		
	comp=Z,11µm,20.7s,baz=30,slow=39							
MTE	**Manteigas**	**92.95**	**342**	*e*LR	LR	18 12 16.0		
	comp=Z,12µm,18.0s							
ATD	**Arta Tunnel**	**93.33**	**290**	P	**P**	**17 38 08.9**	**+2.4**	
	SNR=6.2							
ATD	**Arta Tunnel**	**93.33**	**290**	P	**P**	**17 38 08.2**	**+1.8**	
	comp=Z,30nm,0.8s,baz=318,slow=2.9,SNR=16							
PMRV	**Marv??o**	**93.84**	**342**	*e*LR	LR	18 12 19.5		
	comp=Z,14µm,18.0s							
SESP	**Santiago Espad**	**93.90**	**338**	P	**P**	**17 38 09.9**	**+1.1**	
CART	**Cartagena**	**93.97**	**337**	*e*P	**P**	**17 38 09.3**	**+0.4**	
CART				SKS	**SKSac**	**17 48 41.0**	**-0.1**	
CART	**Cartagena**	**93.97**	**337**	IAMs_20	IAMs_20	18 26 35.4		
	comp=Z,6µm,20.0s							
DWPF	**Disney Wildern**	**94.27**	**43**	IAMs_20	IAMs_20	18 28 12.5		
	comp=Z,5µm,19.0s							
EVO	**Evora**	**94.84**	**342**	*e*P	P	17 38 19.4	+6.5	
EVO				SKS	**SKSac**	**17 48 47.5**	**+1.7**	
LIS	**Lisbon**	**94.90**	**343**	*e*SKSac	**SKSac**	**17 48 47.1**	**+1.0**	
LIS				AMS	AMS	18 26 35.5		
	comp=N,11µm,16.8s							
CMIG	**Matias Romero**	**95.51**	**60**	LR	LR	18 15 58.6		
	comp=N,2µm,21.9s,baz=324,slow=32							
MESJ	**Messejana**	**95.55**	**342**	*e*SKSac	**SKSac**	**17 48 50.6**	**+0.9**	
MESJ				AMS	AMS	18 28 34.4		
	comp=Z,12µm,21.6s							
EMAL	**Malaga-Limoner**	**95.67**	**339**	*e*P	**P**	**17 38 15.7**	**-1.0**	
EMAL				SKS	**SKSac**	**17 48 51.8**	**+1.5**	
060A	**Indiantown**	**95.69**	**43**	IAMs_20	IAMs_20	18 24 27.0		
	comp=Z,6µm,21.0s							
MSEY	**Main Island**	**95.85**	**269**	IAMs_20	IAMs_20	18 25 18.2		
	comp=Z,3µm,19.0s							
PVAQ	**Vaqueiros**	**95.85**	**342**	*e*LR	LR	18 14 10.2		
	comp=Z,13µm,18.0s							
MORF	**Marmelete**	**96.15**	**342**	*e*SKSac	**SKSac**	**17 48 53.9**	**+0.9**	
MORF				AMS	AMS	18 28 27.5		
	comp=Z,11µm,20.2s							
061Z	**Ochoppi**	**96.39**	**44**	IAMs_20	IAMs_20	18 26 41.8		
	comp=Z,5µm,20.0s							
MELI	**Melilla**	**96.66**	**337**	*e*P	P	17 38 31.8	+11	
CEU	**Ceuta**	**96.73**	**339**	*e*P	**P**	**17 38 18.2**	**-3.3**	
CEU				SKS	SKSac	17 48 40.8	-15	
TEIG	**Tepich**	**97.02**	**53**	IAMs_20	IAMs_20	18 26 30.2		
	comp=Z,4µm,22.0s							
PVLZ	**Peæn de**	**97.14**	**338**	*e*P	P	17 38 15.2	-8.2	
PVLZ				SKS		17 48 38.4		
BBSR	**BB Station**	**97.55**	**28**	IAMs_20	IAMs_20	18 27 50.9		
	comp=Z,5µm,20.0s							
FURI	**Furi**	**98.05**	**291**	IAMs_20	IAMs_20	18 27 17.1		
	comp=Z,6µm,21.0s							
IFR	**Ifrane**	**98.92**	**338**	*e*P	Pdif	17 38 39.4	+7.7	
IFR				SKS	**SKSac**	**17 49 08.3**	**+0.7**	
MDT	**Midelt**	**99.45**	**338**	P	**Pdif**	**17 38 33.8**	**-0.2**	
	comp=Z,6.4nm,0.9s,baz=48,slow=5.7,SNR=6.8							
PMOZ	**Porto Moniz, M**	**102.07**	**348**	*e*LR	LR	18 14 17.1		
	comp=Z,5µm,20.0s							
TGUH	**Tegucigalpa,Un**	**102.47**	**56**	IAMs_20	IAMs_20	18 31 27.9		
	comp=Z,3µm,21.0s							
GTBY	**Guantanamo Bay**	**104.24**	**43**	IAMs_20	IAMs_20	18 26 36.3		
	comp=Z,5µm,22.0s							
MTDJ	**Mount Denham**	**104.47**	**46**	IAMs_20	IAMs_20	18 34 33.7		
	comp=Z,4µm,19.0s							
SC01	**Santiago de lo**	**106.73**	**39**	IAMs_20	IAMs_20	18 29 58.8		
	comp=Z,4µm,21.0s							
SJG	**San Juan**	**109.89**	**36**	IAMs_20	IAMs_20	18 33 16.2		
	comp=Z,3µm,20.0s							
MBAR	**Mbarara**	**110.35**	**290**	IAMs_20	IAMs_20	18 38 10.2		
	comp=Z,4µm,20.0s							
BCIP	**Isla Barro Col**	**110.71**	**53**	IAMs_20	IAMs_20	18 32 56.6		
	comp=Z,2µm,22.0s							
ABPO	**Ambohimpanom**	**111.46**	**264**	IAMs_20	IAMs_20	18 30 07.2		
	comp=Z,3µm,20.0s							
SABA	**Saba**	**111.51**	**33**	IAMs_20	IAMs_20	18 37 29.9		
	comp=Z,5µm,20.0s							
SEUS	**St. Eustatius**	**111.73**	**33**	IAMs_20	IAMs_20	18 39 32.6		
	comp=Z,3µm,20.0s							
SKI	**Saint Kitts**	**111.97**	**33**	IAMs_20	IAMs_20	18 31 55.0		
	comp=Z,4µm,21.0s							
FDF	**Fort de France**	**114.95**	**33**	IAMs_20	IAMs_20	18 34 07.0		
	comp=Z,5µm,22.0s							
TORD	**Torodi Ar. Bea**	**115.47**	**324**	PKP	**PKiKP**	**17 43 32.2**	**-1.0**	
	comp=Z,5.3nm,0.5s,baz=16,slow=1.6,SNR=37							
TORD				PKKPbc	**PKKPbc**	**17 54 04.5**	**-0.6**	
	comp=Z,4.2nm,1.1s,baz=215,slow=2.0,SNR=8.8							
SDV	**Santo Domingo**	**115.89**	**45**	IAMs_20	IAMs_20	18 37 10.3		
	comp=Z,4µm,21.0s							
GRGR	**Grenville**	**117.11**	**34**	IAMs_20	IAMs_20	18 35 23.5		
	comp=Z,3µm,20.0s							
OTAV	**Otavalo**	**118.69**	**57**	IAMs_20	IAMs_20	18 42 51.6		
	comp=Z,2µm,22.0s							
SACV	**Santiago Islan**	**120.48**	**352**	IAMs_20	IAMs_20	18 39 13.9		
	comp=Z,3µm,20.0s							
SBA	**Scott Base**	**122.53**	**176**	PKiKP	**PKiKP**	**17 43 45.6**	**+0.6**	
SBA				MLR	MLR			
	comp=Z,1µm,21.0s							
SBA	**Scott Base**	**122.53**	**176**		**PKiKP**	**17 43 45.6**	**+0.6**	
LSZ	**Lusaka**	**122.56**	**281**	PKiKP	**PKiKP**	**17 43 47.0**	**-0.1**	
LSZ				MLR	MLR			
	comp=Z,5µm,19.0s							
LSZ	**Lusaka**	**122.56**	**281**		**PKiKP**	**17 43 47.0**	**-0.1**	
DBIC	**Dimbokro**	**123.96**	**328**	PKiKP	**PKPdf**	**17 43 48.9**	**-0.7**	
DBIC	**Dimbokro**	**123.96**	**328**	PKP	**PKPdf**	**17 43 49.4**	**-0.2**	
	comp=Z,37nm,1.0s,baz=22,slow=1.7,SNR=20							
DBIC				PP	**PP**	**17 45 32.4**	**0.0**	
	comp=Z,13nm,0.9s,baz=4.2,slow=6.6,SNR=4.0							
DBIC	**Dimbokro**	**123.96**	**328**		**PKPdf**	**17 43 48.9**	**-0.7**	
TIC	**Toumodi**	**124.04**	**328**	*e*PKiKP	**PKPdf**	**17 43 49.5**	**-0.3**	
	comp=Z,58nm,0.8s							
KIC	**Kosan Boka**	**124.20**	**328**	*e*PKiKP	**PKPdf**	**17 43 49.8**	**-0.3**	
	comp=Z,82nm,1.1s							
LIC	**Lamto**	**124.43**	**328**	*e*PKiKP	**PKPdf**	**17 43 50.1**	**-0.4**	
	comp=Z,105nm,1.1s							
ATAH	**Atahualpa**	**124.47**	**63**	PKP	**PKiKP**	**17 43 51.4**	**+0.1**	
	comp=Z,20nm,0.8s,baz=346,slow=3.5,SNR=6.9							
MDP	**Montagnes des**	**126.92**	**28**	PKP	**PKiKP**	**17 43 56.1**	**+0.4**	
	comp=Z,32nm,0.8s,baz=24,slow=1.5,SNR=21							
MAW	**Mawson**	**128.82**	**209**	PKiKP	**PKPdf**	**17 43 57.4**	**+0.3**	
MAW	**Mawson**	**128.82**	**209**	PKP	**PKPdf**	**17 43 56.9**	**-0.2**	
	comp=Z,10nm,0.8s,baz=135,slow=2.1,SNR=13							
MAW	**Mawson**	**128.82**	**209**		**PKPdf**	**17 43 57.4**	**+0.3**	
NNA	**Nana**	**129.12**	**65**	*i* PKiKP	**PKiKP**	**17 44 00.7**	**+0.6**	
NNA	**Nana**	**129.12**	**65**	PKP	**PKPdf**	**17 43 59.4**	**0.0**	
	comp=Z,44nm,1.0s,baz=306,slow=4.7,SNR=9.5							
NNA	**Nana**	**129.12**	**65**		**PKPdf**	**17 43 58.7**	**-0.7**	
NNA	**Nana**	**129.12**	**65**	IAMs_20	IAMs_20	18 51 47.8		
	comp=Z,3µm,19.0s							
LBTB	**Lobatse**	**130.73**	**274**	PKiKP	**PKiKP**	**17 44 03.9**	**+0.8**	
LBTB	**Lobatse**	**130.73**	**274**		**PKiKP**	**17 44 03.9**	**+0.8**	
BOSA	**Boshof**	**133.12**	**270**	PKP	**PKPdf**	**17 44 06.3**	**-0.4**	
	comp=Z,3.9nm,0.5s,baz=54,slow=1.5,SNR=5.7							
QSPA	**South Pole Qui**	**134.20**	**180**		**PKiKP**	**17 44 09.2**	**+0.3**	
QSPA	**South Pole Qui**	**134.20**	**180**	IAMs_20	IAMs_20	18 39 52.9		
	comp=Z,3µm,22.0s							
SAML	**Samuel**	**134.89**	**48**	PKiKP	**PKPdf**	**17 44 10.6**	**+0.3**	
SAML				MLR	MLR			
	comp=Z,2µm,20.0s							
SAML	**Samuel**	**134.89**	**48**		**PKPdf**	**17 44 10.6**	**+0.3**	
SAML	**Samuel**	**134.89**	**48**	IAMs_20	IAMs_20	18 50 58.0		
	comp=Z,3µm,20.0s							
SYO	**Syowa Base**	**137.52**	**210**	*i* iX	**Pdif**	**17 41 30.0**	**+8.1**	
SYO	**Syowa Base**	**137.52**	**210**	*i* iX	**PKPdf**	**17 44 10.0**	**-3.4**	
LPAZ	**La Paz**	**137.89**	**60**	PKhKP	PKPpre	17 44 05.3		
	comp=Z,2.8nm,0.7s,baz=344,slow=3.9,SNR=14							
LPAZ				PKP	**PKiKP**	**17 44 18.1**	**-0.4**	
	comp=Z,16nm,0.9s,baz=350,slow=4.0,SNR=19							
MNMC	**Minye Minye**	**139.07**	**65**	IAMs_20	IAMs_20	18 55 50.4		
	comp=Z,3µm,21.0s							
PB11	**IPOC Station P**	**139.49**	**65**	IAMs_20	IAMs_20	18 51 26.5		
	comp=Z,2µm,21.0s							
GO01	**Chusmiza**	**139.72**	**65**	IAMs_20	IAMs_20	18 54 10.6		
	comp=Z,3µm,22.0s							
ASCN	**Ascension**	**140.87**	**334**	IAMs_20	IAMs_20	18 47 59.4		
	comp=Z,4µm,22.0s							
SIV	**San Ignacio**	**141.84**	**52**	PKhKP	PKPpre	17 44 16.7		
	comp=Z,8.8nm,0.5s,baz=308,slow=4.2,SNR=28							
LVC	**Limon Verde**	**141.99**	**68**	PKhKP	PKPpre	17 44 20.6		
	comp=Z,9.0nm,0.5s,baz=318,slow=3.1,SNR=12							
GO03	**Copiap**	**144.38**	**75**	IAMs_20	IAMs_20	19 01 57.0		
	comp=Z,3µm,20.0s							
HJA	**Humahuaca**	**144.70**	**65**	*i* P	PKPbc	17 44 27.4	+0.1	
GO04	**Tololo Observa**	**145.54**	**79**		**PKPab**	**17 44 30.3**	**+0.4**	
GO04	**Tololo Observa**	**145.54**	**79**	*i* P	**PKPab**	**17 44 29.8**	**-0.1**	
AZAP	**Zapla**	**145.64**	**65**	*i* P	**PKPdf**	**17 44 29.5**	**-0.2**	
SLA	**San Lorenzo**	**145.70**	**67**	*i* P	**PKPdf**	**17 44 29.1**	**-0.6**	
FSA	**Cafayete**	**146.32**	**69**	*i* P	**PKPdf**	**17 44 31.3**	**+0.5**	
NVL	**N'lazarevskaya**	**146.41**	**204**	*e*PKP2	**PKPbc**	**17 44 30.6**	**0.0**	
NVL				*e*		17 47 57.5		
AROD	**Rodeo**	**146.47**	**78**	*i* P	**PKPbc**	**17 44 32.2**	**-0.3**	
ACDV	**Cuesta del Vie**	**146.72**	**78**	*i* P	**PKPdf**	**17 44 32.0**	**+0.7**	
ROC1	**El Roble**	**146.95**	**84**		**PKPbc**	**17 44 33.1**	**-0.6**	
ROC1	**El Roble**	**146.95**	**84**	*i* P	**PKPdf**	**17 44 31.5**	**-0.2**	
ACCO	**Cerro Coronel**	**147.00**	**78**	*i* P	**PKPdf**	**17 44 32.2**	**+0.3**	
AHML	**Horco Molle**	**147.20**	**69**	*i* P	**PKPdf**	**17 44 32.4**	**+0.4**	

comp=E,140µm,0.6s
KORT Korkueli 0.86 297 *i* PA **Pn 17 32 14.2 -0.6**
KORT S **Sn 17 32 27.4 -1.0**
KORT IAML 17 32 33.0
comp=N,17µm,0.8s
KORT IAML 17 32 38.0
comp=E,28µm,0.7s
KORT Korkueli 0.86 297 PG **Pn 17 32 14.3 -0.6**
GAZI Gazipasa 0.90 115 *i* PA **Pn 17 32 15.4 +0.3**
GAZI *i* S **Sn 17 32 28.1 -0.7**
GAZI IAML 17 32 30.0
comp=N,38µm,0.3s
GAZI IAML 17 32 32.0
comp=E,51µm,0.7s
GAZI Gazipasa 0.90 115 PG **Pn 17 32 16.3 +1.2**
GAZI SG **Sn 17 32 29.8 +0.9**
BCK Bucak 1.02 326 PG **Pn 17 32 16.7 +0.1**
BCK SG **Sn 17 32 31.4 -0.1**
ELL Elmali 1.14 277 P **Pn 17 32 19.0 +1.1**
ELL Elmali 1.14 277 PG **Pn 17 32 19.1 +1.1**
ELL Elmali 1.14 277 Pn 17 32 19.0 +1.1
DEMR Demre-Antalya 1.19 252 PN **Pn 17 32 18.2 -0.3**
DEMR SN **Sn 17 32 24.1 -0.9**
ERMK Ermenek 1.29 88 *i* PA **Pn 17 32 22.0 +2.1**
ERMK *i* S **Sn 17 32 39.2 +1.8**
ERMK IAML 17 32 43.0
comp=E,43µm,0.3s
ERMK IAML 17 32 46.0
comp=N,38µm,0.4s
AKAS Kas 1.43 255 *i* PA **Pn 17 32 21.4 -0.1**
AKAS *i* S **Sn 17 32 38.4 -2.0**
AKAS IAML 17 32 41.0
comp=E,10µm,0.6s
AKAS IAML 17 32 55.0
comp=N,14µm,1.2s
AKAS Kas 1.43 255 PN **Pn 17 32 21.5 -0.1**
KMER Konya-Meram 1.43 36 *i* P **Pn 17 32 22.9 +1.3**
KMER *i* S **Sn 17 32 40.0 -0.4**
KMER IAML 17 32 43.0
comp=N,25µm,0.5s
KMER IAML 17 32 44.0
comp=E,20µm,0.7s
BAGO Egridir - ISPA 1.44 343 *i* PA **Pn 17 32 22.0 +0.4**
BAGO *i* S **Sn 17 32 40.3 -0.1**
BAGO IAML 17 32 45.0
comp=N,4µm,0.7s
BAGO IAML 17 32 46.0
comp=E,3µm,0.6s
DOGA KONYA_Doganhis 1.52 11 *i* PA **Pn 17 32 23.7 +1.0**
DOGA *i* S **Sn 17 32 41.4 -1.0**
DOGA IAML 17 32 44.0
comp=N,10µm,1.4s
DOGA IAML 17 32 46.0
comp=E,7µm,1.1s
TEKE Tekeli-Mersin 1.53 107 PN **Pn 17 32 24.1 +1.4**
GLHS Glhisar (BURDU 1.55 291 PN **Pn 17 32 24.7 +1.6**
BERE Bereket-Mersin 1.56 99 PN **Pn 17 32 25.0 +1.7**
KONT Konya--Tatoy 1.57 32 *i* P **Pn 17 32 24.7 +1.3**
KONT *i* S **Sn 17 32 44.1 +0.7**
KONT IAML 17 32 46.0
comp=N,14µm,0.6s
KONT IAML 17 32 46.0
comp=E,12µm,0.7s
KONT Konya--Tatoy 1.57 32 PN **Pn 17 32 24.6 +1.3**
BASM Basmaki-Afyon 1.65 323 PN **Pn 17 32 25.3 +1.0**
TEVE Tevekalti-Mers 1.73 95 PN **Pn 17 32 27.5 +2.2**
OREN Orenkoy-Mersin 1.78 103 PN **Pn 17 32 27.2 +1.3**
FETY Fethiye 1.79 271 *i* PA **Pn 17 32 26.6 +0.5**
FETY *i* S **Sn 17 32 47.2 -1.3**
FETY IAML 17 32 57.0
comp=N,2µm,0.4s
FETY IAML 17 33 01.0
comp=E,3µm,0.5s
FETY Fethiye 1.79 271 PN **Pn 17 32 26.6 +0.5**
ALFC Alefka 1.79 144 P **Pn 17 32 25.2 -0.9**
ALFC S **Sn 17 32 46.1 -2.4**
ALFC AML AML 17 32 53.9
comp=E,90nm,0.5s
ALFC AML AML 17 32 53.9
comp=E,90nm,0.5s
ALFC AML AML 17 32 58.8
comp=E,110nm,0.4s
ALFC AML AML 17 32 58.8
comp=E,110nm,0.4s
LADK Ladik-KONYA 1.79 28 PN **Pn 17 32 27.0 +0.8**
AKMS Akamas 1.80 152 P **Pn 17 32 25.6 -0.6**
AKMS S **Sn 17 32 46.9 -1.7**
AKMS AML AML 17 32 55.4
comp=E,115nm,0.5s
AKMS AML AML 17 32 55.4
comp=E,115nm,0.5s
AKMS AML AML 17 32 56.8
comp=E,129nm,0.4s
AKMS AML AML 17 32 56.8
comp=E,129nm,0.4s
GULN MERSIN_Gulnar 1.85 103 *i* PA **Pn 17 32 28.4 +1.5**
GULN *i* S **Sn 17 32 50.2 +0.4**
GULN IAML 17 32 57.0
comp=E,8µm,0.5s
GULN IAML 17 32 58.0
comp=N,11µm,0.5s
TEPE Tepekoy-Mersin 1.86 102 PN **Pn 17 32 28.6 +1.6**
AKK1 Akkuyu-Mersin 1.86 104 PN **Pn 17 32 28.6 +1.6**
AKKU Akkuyu-Mersin 1.86 103 PN **Pn 17 32 28.7 +1.7**
AKK2 Akkuyu-Mersin 1.87 104 PN **Pn 17 32 28.5 +1.4**
KZIL AFYON_Kizioren 1.89 331 *i* PA **Pn 17 32 27.9 +0.4**
KZIL *i* S **Sn 17 32 49.6 -1.2**
KZIL IAML 17 32 54.0
comp=E,4µm,0.5s
KZIL IAML 17 32 55.0
comp=N,4µm,0.6s
YESI Yesilovacik-Me 1.93 102 PN **Pn 17 32 29.5 +1.7**
KEBE Keben-Mersin 1.94 94 PN **Pn 17 32 30.7 +2.6**
IKL Isikli 1.95 100 PN **Pn 17 32 30.2 +2.0**
TISA Tisan-Mersin 1.96 103 PN **Pn 17 32 29.8 +1.5**
LEF Lefka 1.97 139 *i* P **Pn 17 32 48.5 -0.9**
LEF *i* S **Sn 17 32 48.5 -4.1**
LEF Lefka 1.97 139 PN **Pn 17 32 28.0 -0.4**
KARG Kargicak-Mersi 1.98 101 PN **Pn 17 32 30.4 +1.9**
KDHN Kadinhani 2.01 18 *i* PA **Pn 17 32 29.6 +0.5**
KDHN *i* S **Sn 17 32 52.6 -1.1**
KDHN IAML 17 32 54.0
comp=N,6µm,0.4s
KDHN IAML 17 32 54.0
comp=E,10µm,0.4s
SHUT Suhut-Afyon 2.03 343 PN **Pn 17 32 29.9 +0.6**
TAVA DENIZLI_Tavas 2.10 295 *i* PA **Pn 17 32 31.0 +0.8**
TAVA *i* S **Sn 17 32 55.8 0.0**
TAVA IAML 17 33 03.0
comp=E,5µm,0.7s
TAVA IAML 17 33 06.0
comp=N,7µm,0.6s
NATA Nata 2.10 150 P **Pn 17 32 30.8 +0.6**
NATA AML AML 17 33 09.1
comp=N,292nm,0.5s
NATA AML AML 17 33 10.1
comp=N,150nm,0.6s
BOLV Bolvadin 2.12 352 *i* PA **Pn 17 32 31.4 +0.9**
BOLV *i* S **Sn 17 32 55.2 -1.1**
BOLV IAML 17 32 59.0
comp=N,6µm,0.6s
BOLV IAML 17 32 59.0
comp=E,5µm,0.5s
SILI Silifke-Mersin 2.12 96 PN **Pn 17 32 32.7 +2.3**
SLFK Silifke-Mersin 2.14 95 PN **Pn 17 32 32.5 +1.9**
DENT Denizli 2.15 303 PN **Pn 17 32 31.5 +0.7**
TURN Turunc 2.19 278 *i* PA **Pn 17 32 35.2 +3.9**
TURN *i* S **Sn 17 33 02.4 +4.6**
TURN IAML 17 33 18.0
comp=N,3µm,0.7s
TURN IAML 17 33 19.0
comp=E,2µm,0.8s
TURN Turunc 2.19 278 PN **Pn 17 32 35.2 +3.9**
KHL Karahalli 2.22 321 PN **Pn 17 32 32.4 +0.6**
ATHAL Athalassa 2.24 130 P **Pn 17 32 32.1 +0.1**
ATHAL S **Sn 17 32 58.4 -0.6**
SZAC Souni 2.25 145 P **Pn 17 32 33.4 +1.1**
SZAC AML AML 17 33 13.1
comp=E,77nm,0.6s
SZAC AML AML 17 33 17.6
comp=E,70nm,0.7s
KHAL Karahalli 2.27 321 *i* PA **Pn 17 32 33.1 +0.5**
KHAL *i* S **Sn 17 32 58.8 -1.2**
KHAL IAML 17 33 01.0
comp=N,3µm,0.7s
KHAL IAML 17 33 01.0
comp=E,3µm,0.9s
KIZK Mersin 2.29 93 *i* PA **Pn 17 32 34.9 +2.3**
KIZK *i* S **Sn 17 32 60.0 -0.1**
KIZK IAML 17 33 12.0
comp=E,5µm,0.4s
KIZK IAML 17 33 15.0
comp=N,7µm,1.0s
KIZK Mersin 2.29 93 PN **Pn 17 32 34.9 +2.3**
KIZT Kizilcal 2.31 11 PN **Pn 17 32 33.5 +0.5**
AFYO Afyonkarahisar 2.31 340 *i* PA **Pn 17 32 33.7 +0.7**
AFYO *i* S **Sn 17 33 00.5 -0.4**
AFYO IAML 17 33 03.0
comp=N,8µm,0.7s
AFYO IAML 17 33 03.0
comp=E,7µm,0.9s
CSS Mathiatis 2.33 135 Pn **Pn 17 32 32.4 -0.8**
CSS Mathiatis 2.33 135 PN **Pn 17 32 33.9 +0.7**
CSS Mathiatis 2.33 135 P **Pn 17 32 33.2 0.0**
CSS Mathiatis 2.33 135 P **Pn 17 32 32.6 -0.6**
CSS S **Sn 17 32 59.3 -1.8**
CSS Mathiatis 2.33 135 Pn 17 32 32.5 -0.6
CHBY Cihanbeyli 2.33 32 PN **Pn 17 32 34.6 +1.3**
SULT Sultanhani-AKS 2.36 47 PN **Pn 17 32 35.4 +1.7**
AKIN Akıncılar- Kıb 2.37 132 PN **Pn 17 32 33.9 +0.2**
KERG Konya-Eregli 2.39 70 *i* PA **Pn 17 32 35.2 +1.1**
KERG *i* S **Sn 17 33 02.3 -0.5**
KERG IAML 17 33 06.0
comp=E,7µm,0.5s
KERG IAML 17 33 20.0
comp=N,5µm,0.4s
ASGA Asgata 2.41 139 P **Pn 17 32 34.6 +0.3**
ASGA S **Sn 17 33 01.4 -1.6**
ASGA AML AML 17 33 12.8
comp=N,37nm,0.5s
ASGA AML AML 17 33 12.8
comp=N,37nm,0.5s
MVOU Mavrovouni 2.47 130 P **Pn 17 32 34.2 -0.9**
MVOU S **Sn 17 33 03.6 -0.9**
MVOU AML AML 17 33 07.9
comp=N,29nm,0.5s
MVOU AML AML 17 33 07.9
comp=N,29nm,0.5s
MVOU AML AML 17 33 09.0
comp=N,60nm,0.4s
MVOU AML AML 17 33 09.0
comp=N,60nm,0.4s
YER Yerkesik 2.48 283 P **Pn 17 32 35.9 +0.6**
YER S **Sn 17 33 04.3 -0.6**
YER Yerkesik 2.48 283 PN **Pn 17 32 35.9 +0.6**
MRSB Marmaris-Mugla 2.50 273 PN **Pn 17 32 36.0 +0.5**
EREN Erenkoy 2.56 114 *i* PA **Pn 17 32 37.0 +0.9**
EREN *i* S **Sn 17 33 02.0 -4.5**
EREN IAML 17 33 12.0
comp=N,6µm,0.8s
EREN IAML 17 33 15.0
comp=E,9µm,0.7s
EREN Erenkoy 2.56 114 PN **Pn 17 32 37.1 +0.9**
AUKIR Kırka- Seyitga 2.73 347 *i* PA **Pn 17 32 39.3 +0.7**
AUKIR *i* S **Sn 17 33 09.6 -1.2**
AUKIR IAML 17 33 12.0
comp=E,3µm,0.7s
AUKIR IAML 17 33 14.0
comp=N,1µm,0.6s
PARAL Paralimni 2.75 125 P **Pn 17 32 40.1 +1.4**
PARAL S **Sn 17 33 13.7 +2.6**
PARAL AML AML 17 33 20.0
comp=N,26nm,1.1s
PARAL AML AML 17 33 20.0
comp=N,26nm,1.1s
PARAL AML AML 17 33 20.6
comp=N,26nm,1.1s
PARAL AML AML 17 33 20.6
comp=N,26nm,1.1s
CIFT Cifteler, Eski 2.75 356 *i* PA **Pn 17 32 39.4 +0.5**
CIFT *i* S **Sn 17 33 08.6 -2.7**
CIFT IAML 17 33 14.0
comp=E,8µm,0.6s
CIFT IAML 17 33 15.0
comp=N,4µm,0.6s
CIFT Cifteler, Eski 2.75 356 PN **Pn 17 32 39.4 +0.5**
KULU Kulu 2.77 28 PN **Pn 17 32 40.3 +1.1**
USAK Uak-Merkez 2.77 320 *i* PA **Pn 17 32 40.0 +0.8**
USAK *i* S **Sn 17 33 09.8 -2.1**
USAK IAML 17 33 12.0
comp=N,2µm,1.0s
USAK IAML 17 33 13.0
comp=E,2µm,0.6s
AKSY AKSARAY - Alti 2.81 43 *i* PA **Pn 17 32 41.0 +1.3**
AKSY *i* S **Sn 17 33 09.4 -3.4**
AKSY IAML 17 33 14.0
comp=E,1µm,0.7s
AKSY IAML 17 33 34.0
comp=N,600nm,0.9s
DED Mersin 2.82 82 *i* PA **Pn 17 32 42.1 +2.3**
DED *i* S **Sn 17 33 13.9 +0.9**
DED IAML 17 33 33.0
comp=N,2µm,0.9s
DED IAML 17 33 48.0
comp=E,2µm,0.9s
AUSIV SIVRIHISAR 2.83 4 *i* PA **Pn 17 32 40.4 +0.4**
AUSIV *i* S **Sn 17 33 10.4 -2.8**
AUSIV IAML 17 33 14.0
comp=E,1µm,0.7s
AUSIV IAML 17 33 23.0
comp=N,596nm,0.6s
AUSIV SIVRIHISAR 2.83 4 PN **Pn 17 32 40.4 +0.4**
KKUL Konya-Kulu 2.85 26 *i* PA **Pn 17 32 41.7 +1.4**
KKUL *i* S **Sn 17 33 11.5 -2.3**
KKUL IAML 17 33 17.0
comp=N,2µm,0.7s
KKUL IAML 17 33 34.0
comp=E,1µm,0.7s
GEDZ Gediz 2.85 329 PN **Pn 17 32 41.2 +0.9**
GULE Gulek 2.86 75 *i* P **Pn 17 32 42.6 +2.3**
GULE *i* S **Sn 17 33 14.5 +0.5**
GULE IAML 17 33 18.0
comp=E,7µm,0.7s
GULE IAML 17 33 23.0
comp=N,6µm,0.4s
GDZ Gediz 2.86 330 *i* PA **Pn 17 32 41.0 +0.6**
GDZ *i* S **Sn 17 33 11.8 -2.3**
GDZ IAML 17 33 15.0
comp=N,1µm,0.7s
GDZ IAML 17 33 15.0
comp=E,2µm,0.7s
MANT Manisa 2.88 311 *i* PA **Pn 17 32 41.1 +0.4**
MANT *i* S **Sn 17 33 11.9 -2.7**
MANT IAML 17 33 15.0
comp=N,3µm,0.8s
MANT IAML 17 33 15.0
comp=E,5µm,0.6s
MANT Manisa 2.88 311 Pn 17 32 41.1 +0.4
MANT Sn **Sn 17 33 13.6 -1.1**
MLSB Milas 2.91 285 PN **Pn 17 32 41.1 +0.1**
SHAP Saphane-Kutahy 2.92 326 PN **Pn 17 32 42.0 +0.8**
ESKT Eskisehir 2.92 353 PN **Pn 17 32 41.4 +0.1**
AYDN Tasoluk 2.93 292 *i* PA **Pn 17 32 41.5 +0.1**
AYDN *i* S **Sn 17 33 11.1 -4.6**
AYDN IAML 17 33 19.0
comp=N,3µm,0.7s
AYDN IAML 17 33 29.0
comp=E,2µm,1.2s
SERE Sereflikochisa 2.93 37 PN **Pn 17 32 42.7 +1.3**
DAT Datca 3.00 273 *i* PA **Pn 17 32 42.4 +0.1**
DAT *i* S **Sn 17 33 14.3 -3.1**
DAT IAML 17 33 25.0
comp=E,1µm,0.7s
DAT IAML 17 33 47.0
comp=N,1µm,1.1s
DAT Datca 3.00 273 PN **Pn 17 32 42.4 +0.1**
NIG Nigde 3.02 59 PN **Pn 17 32 44.7 +2.0**
AYDB Zeytinkoy-Aydi 3.03 297 PN **Pn 17 32 42.4 -0.3**
YAYX Yaylak 3.05 40 PN **Pn 17 32 44.2 +1.2**
KARA Karaisali 3.07 77 PN **Pn 17 32 45.6 +2.5**
CMRD Camardi-Nigde 3.12 69 PN **Pn 17 32 45.7 +1.8**
BDRM Kayabasi 3.13 279 *i* PA **Pn 17 32 44.0 0.0**
BDRM IAML 17 33 34.0
comp=E,2.9nm,0.3s
BDRM IAML 17 33 36.0
comp=N,6.9nm,0.4s
AFSR Afar-Bala (An 3.15 26 PN **Pn 17 32 45.5 +1.2**
DEMI Demirci 3.18 321 *i* PA **Pn 17 32 45.4 +0.8**
DEMI *i* S **Sn 17 33 19.4 -2.2**
DEMI IAML 17 33 22.0
comp=N,885nm,1.2s
DEMI IAML 17 33 23.0
comp=E,1µm,0.8s
TVSB Tavsanli 3.19 333 PN **Pn 17 32 45.4 +0.6**
BODT Bodrum 3.24 279 P **Pn 17 32 45.4 0.0**
BODT S **Sn 17 33 22.0 -1.0**
BODT Bodrum 3.24 279 PN **Pn 17 32 45.5 0.0**
KIRS Kırehir-Merke 3.25 39 *i* PA **Pn 17 32 47.2 +1.5**
KIRS *i* S **Sn 17 33 19.1 -4.3**
KIRS IAML 17 33 25.0
comp=N,346nm,0.6s
KIRS IAML 17 33 25.0
comp=E,457nm,0.6s
BBAL Bala 3.25 26 *i* PA **Pn 17 32 46.6 +0.9**
BBAL *i* S **Sn 17 33 21.8 -1.7**
BBAL IAML 17 33 27.0
comp=N,2µm,0.8s
BBAL IAML 17 33 27.0
comp=E,2µm,0.5s
KRTS Karatas 3.27 90 PN **Pn 17 32 47.7 +1.9**
BORA Eskisehir 3.33 349 *i* PA **Pn 17 32 47.0 +0.3**
BORA *i* S **Sn 17 33 23.1 -2.1**
BORA IAML 17 33 25.0
comp=E,224nm,0.6s
BORA IAML 17 33 39.0
comp=N,0.4nm,0.8s
BORA Eskisehir 3.33 349 PN **Pn 17 32 46.9 +0.3**
AKO Adana 3.42 74 *i* PA **Pn 17 32 50.6 +2.8**
AKO *i* S **Sn 17 33 28.1 +0.9**
AKO IAML 17 33 31.0
comp=E,2µm,0.8s
AKO IAML 17 33 32.0
comp=N,2µm,0.7s
BR231 Keskin MP Arra 3.42 19 **Pn 17 32 48.6 +0.6**
BR231 Sn **Sn 17 33 22.5 -5.0**
GCAM G?zelcaml? 3.43 290 *i* PA **Pn 17 32 47.6 -0.3**
GCAM *i* S **Sn 17 33 20.9 -6.7**
GCAM IAML 17 33 46.0
comp=N,1µm,0.6s
GCAM IAML 17 33 47.0
comp=E,1µm,0.7s
GCAM G?zelcaml? 3.43 290 PN **Pn 17 32 47.5 -0.5**
ANTO Ankara 3.45 19 P **Pn 17 32 49.0 +0.6**
ANTO Ankara 3.45 19 ⇑P **Pn 17 32 48.9 +0.6**
ANTO Ankara 3.45 19 PN **Pn 17 32 48.9 +0.6**
ANTO Ankara 3.45 19 Pn 17 32 49.0 +0.6
LOD Lodumlu 3.46 19 PN **Pn 17 32 49.1 +0.6**
SRCK Saricakaya, Es 3.46 351 *i* PA **Pn 17 32 49.2 +0.8**
SRCK *i* S **Sn 17 33 23.3 -5.2**
SRCK IAML 17 33 30.0
comp=N,0.8nm,0.8s
SRCK IAML 17 33 48.0
comp=E,550nm,0.7s
SRCK Saricakaya, Es 3.46 351 PN **Pn 17 32 49.2 +0.8**
YURE YUREGIR 3.48 85 *i* PA **Pn 17 32 49.8 +1.1**
YURE YUREGIR 3.48 85 PN **Pn 17 32 49.8 +1.1**
KOSK Kos Island 3.48 274 P **Pn 17 32 48.3 -0.4**
KOSK S **Sn 17 33 27.2 -1.7**
comp=E,3µm,0.5s
KARP Karpathos 3.52 254 P **Pn 17 32 48.5 -0.8**
KARP S **Sn 17 33 27.1 -2.9**
comp=E,19µm,0.7s
KARP Karpathos 3.52 254 PN **Pn 17 32 48.9 -0.4**
KARP Karpathos 3.52 254 **Pn 17 32 48.9 -0.4**
KARP Sn **Sn 17 33 26.8 -3.2**
YAHY KAYSERI_Yahyal 3.55 64 *i* PA **Pn 17 32 51.8 +2.1**
YAHY IAML 17 33 53.0
comp=N,463nm,1.0s
YAHY IAML 17 33 53.0
comp=E,538nm,0.9s
AVNS Nevsehir-Avano 3.56 51 *i* PA **Pn 17 32 50.5 +0.7**
AVNS IAML 17 34 03.0
comp=N,736nm,0.9s
AVNS IAML 17 34 17.0
comp=E,1µm,0.7s
AKHS Akhisar 3.58 310 *i* PA **Pn 17 32 50.0 +0.1**
AKHS *i* S **Sn 17 33 28.0 -3.1**
AKHS IAML 17 33 33.0
comp=E,640nm,0.7s
AKHS IAML 17 33 36.0
comp=N,0.5nm,0.6s
AKS Akhisar 3.58 310 PN **Pn 17 32 50.3 +0.3**
BRTR Keskin Array B 3.61 30 P **Pn 17 32 51.1 +0.6**
comp=N,43nm,0.3s,baz=217,slow=31,SNR=1269
BRTR S **Sn 17 33 31.4 -0.6**
comp=N,115nm,0.3s,baz=198,slow=24,SNR=24
BRTR Keskin Array B 3.61 30 PN **Pn 17 32 51.8 +1.3**
BR131 Keskin Array S 3.61 30*c* *i*P **Pn 17 32 51.2 +0.7**
BR131 Keskin Array S 3.61 30 **Pn 17 32 51.3 +0.8**
BR131 Sn **Sn 17 33 32.2 +0.1**
DUR Dursunbey 3.73 324 *i* PA **Pn 17 32 53.3 +1.3**
DURS *i* S **Sn 17 33 32.0 -2.9**
DURS IAML 17 33 37.0
comp=N,1µm,0.9s
DURS IAML 17 33 37.0
comp=E,1µm,0.4s
SMG Samos 3.74 288 P **Pn 17 32 51.5 -0.6**
SMG S **Sn 17 33 33.4 -1.6**
comp=E,2µm,0.5s
CAVI Cavuskoy 3.76 343 PN **Pn 17 32 52.4 -0.1**
YUVA Yuva-Kibriscik 3.78 4 PN **Pn 17 32 53.7 +0.9**
DGB zmir 3.81 293 *i* PA **Pn 17 32 52.7 -0.4**
DGB *i* S **Sn 17 33 29.9 -6.9**
DGB IAML 17 34 20.0
comp=N,438nm,1.9s
DGB IAML 17 34 20.0
comp=E,471nm,0.9s
KIBS BOLU 3.82 6 *i* PA **Pn 17 32 53.7 +0.3**
KIBS *i* S **Sn 17 33 29.7 -7.6**
KIBS IAML 17 33 44.0
comp=N,485nm,0.7s
KIBS IAML 17 33 44.0
comp=E,794nm,0.8s
BLCB Balcova 3.83 299 PN **Pn 17 32 53.2 -0.1**
CDAG Cicekdag 3.85 38 *i* PA **Pn 17 32 55.7 +1.9**
CDAG *i* S **Sn 17 33 35.4 -2.6**
CDAG IAML 17 33 45.0
comp=E,1µm,1.0s
CDAG IAML 17 33 46.0
comp=N,640nm,0.8s
GULT Gulveren 3.86 351 PN **Pn 17 32 54.6 +0.7**
ULDT Uludag 3.92 335 *i* PA **Pn 17 32 55.3 +0.6**
ULDT *i* S **Sn 17 33 36.1 -3.5**
ULDT IAML 17 33 41.0
comp=N,2µm,0.7s
ULDT IAML 17 33 42.0
comp=E,3µm,0.5s
YAYL Yayladag 3.92 97 *i* PA **Pn 17 32 55.6 +1.0**
YAYL *i* S **Sn 17 33 39.2 -0.4**
YAYL IAML 17 33 41.0
comp=N,3.6nm,0.5s
YAYL IAML 17 33 44.0
comp=E,4.0nm,0.4s
GEYV SAKARYA_Geyve 3.94 349 *i* PA **Pn 17 32 54.9 0.0**
GEYV *i* S **Sn 17 33 34.3 -5.8**
GEYV IAML 17 33 42.0
comp=N,406nm,0.5s
GEYV IAML 17 33 42.0
comp=E,486nm,0.7s
DELI KIRIKKALE 3.95 30 *i* PA **Pn 17 32 56.0 +0.8**
DELI *i* S **Sn 17 33 34.1 -6.3**
DELI IAML 17 33 42.0
comp=E,599nm,0.9s
DELI IAML 17 33 43.0
comp=N,711nm,0.5s
STEP BALIKESIR_Sava 3.96 315 *i* PA **Pn 17 32 56.0 +0.9**
STEP *i* S **Sn 17 33 38.6 -1.8**
STEP IAML 17 33 40.0
comp=N,3µm,0.7s
STEP IAML 17 33 46.0
comp=E,2µm,0.7s
BTAS Taskesti 3.96 357 *i* PA **Pn 17 32 56.2 +1.1**
BTAS *i* S **Sn 17 33 38.3 -2.2**
BTAS IAML 17 33 43.0
comp=N,556nm,0.7s
BTAS IAML 17 33 43.0
comp=E,949nm,0.6s
CMDR Camlidere-ANKA 3.98 13 *i* PA **Pn 17 32 56.3 +0.8**
CMDR *i* S **Sn 17 33 34.5 -6.6**
CMDR IAML 17 33 46.0
comp=N,767nm,0.5s
CMDR IAML 17 33 48.0

comp=E,651nm,1.0s
IGD Bursa 4.00 336 *i* PA **Pn** **17 32 56.2 +0.5**
IGD *i* S **Sn** **17 33 35.1 -6.4**
IGD IAML 17 33 44.0
comp=N,832nm,0.6s
IGD IAML 17 33 55.0
comp=E,249nm,0.6s
ADVT Abdulvahap 4.01 343 PN **Pn** **17 32 56.4 +0.6**
SAIM ADANA 4.04 69 *i* PA **Pn** **17 32 59.0 +2.6**
SAIM IAML 17 33 50.0
comp=N,668nm,0.4s
SAIM IAML 17 34 25.0
comp=E,812nm,0.6s
BALB Balikesir 4.05 319 PN **Pn** **17 32 57.5 +1.1**
SIRC Yozgat 4.07 47 *i* PA **Pn** **17 32 59.0 +2.2**
SIRC *i* S **Sn** **17 33 38.8 -4.5**
SIRC IAML 17 34 11.0
comp=N,249nm,1.1s
SIRC IAML 17 34 20.0
comp=E,219nm,1.0s
ZEDA zmir-Bergama 4.09 306 *i* PA **Pn** **17 32 57.2 +0.3**
ZEDA *i* S **Sn** **17 33 40.4 -3.3**
ZEDA IAML 17 33 44.0
comp=N,2µm,0.8s
ZEDA IAML 17 33 49.0
comp=E,800nm,0.6s
URLA Izmir 4.13 296 *i* PA **Pn** **17 32 57.2 -0.3**
URLA *i* S **Sn** **17 33 42.6 -2.2**
URLA IAML 17 34 08.0
comp=E,634nm,1.0s
URLA IAML 17 34 14.0
comp=N,488nm,1.1s
URLA Izmir 4.13 296 PN **Pn** **17 32 57.2 -0.3**
ANDN Andirin 4.14 75 *i* PA **Pn** **17 32 59.3 +1.6**
ANDN *i* S **Sn** **17 33 41.3 -3.7**
ANDN IAML 17 34 06.0
comp=N,953nm,0.8s
ANDN IAML 17 34 24.0
comp=E,930nm,0.9s
SPNC Sapanca-Adapaz 4.14 349 PN **Pn** **17 32 58.5 +0.9**
ZEY zmir 4.16 294 *i* PA **Pn** **17 32 57.3 -0.4**
ZEY *i* S **Sn** **17 33 42.8 -2.4**
ZEY IAML 17 34 14.0
comp=N,673nm,0.9s
ZEY IAML 17 34 39.0
comp=E,430nm,0.9s
GEMT Gemlik 4.16 337 PN **Pn** **17 32 58.5 +0.6**
SAUV Serdivan-Sakar 4.19 350 PN **Pn** **17 32 59.0 +0.7**
FOCM Foa 4.19 301 PN **Pn** **17 32 58.4 +0.1**
MDNY Mudanya-Bursa 4.20 334 PN **Pn** **17 32 59.1 +0.7**
ELDT Eldivan 4.21 23 *i* PA **Pn** **17 32 59.3 +0.6**
ELDT IAML 17 33 48.0
comp=N,737nm,0.8s
ELDT IAML 17 34 21.0
comp=E,0.2nm,0.2s
YLV Yalova 4.23 340 ⇑P **Pn** **17 33 00.4 +1.6**
YLV Yalova 4.23 340 ⇑P **Pn** **17 33 00.4 +1.6**
YLV ⇓S **Sn** **17 33 48.6 +1.5**
YLV AML AML 17 33 50.7
YLV Yalova 4.23 340 PN **Pn** **17 32 59.2 +0.4**
BCAM Yenicaga 4.24 8 *i* PA **Pn** **17 32 59.7 +0.7**
BCAM *i* S **Sn** **17 33 45.2 -2.2**
BCAM IAML 17 33 50.0
comp=N,678nm,0.5s
BCAM IAML 17 33 50.0
comp=E,504nm,0.8s
SAHE Sakarya_HENDEK 4.25 355 *i* PA **Pn** **17 33 00.2 +1.2**
SAHE IAML 17 33 48.0
comp=E,186nm,0.9s
SAHE IAML 17 34 05.0
comp=N,282nm,0.9s
DKL Dikili 4.26 306 PN **Pn** **17 32 59.6 +0.4**
BALY Balya 4.27 318 *i* PA **Pn** **17 33 00.5 +1.2**
BALY *i* S **Sn** **17 33 40.8 -7.2**
BALY IAML 17 33 48.0
comp=N,958nm,0.8s
BALY IAML 17 33 50.0
comp=E,582nm,0.6s
KCTX Karacabey (Bur 4.32 328 PN **Pn** **17 33 00.9 +0.9**
KAMA Osmaniye 4.33 81 *i* PA **Pn** **17 33 01.0 +0.7**
KAMA *i* S **Sn** **17 33 45.3 -4.3**
KAMA IAML 17 33 51.0
comp=N,453nm,0.3s
KAMA IAML 17 33 54.0
comp=E,426nm,0.7s
YIGI Dzce 4.34 1 *i* PA **Pn** **17 32 59.8 -0.5**
YIGI *i* S **Sn** **17 33 47.5 -2.3**
YIGI IAML 17 33 51.0
comp=E,222nm,0.7s
YIGI IAML 17 33 52.0
comp=N,210nm,0.7s
AMGA Amorgos Island 4.36 274 P **Pn** **17 32 59.8 -0.7**
AMGA S **Sn** **17 33 47.6 -2.5**
comp=N,848nm,0.9s
ARMT Armutlu 4.39 335 PN **Pn** **17 33 01.3 +0.4**
HRT Hereke 4.39 344 PN **Pn** **17 33 01.2 +0.1**
ZKR Zakros 4.40 252 P **Pn** **17 32 59.9 -1.2**
ZKR S **Sn** **17 33 47.2 -4.0**
comp=N,4µm,0.5s
HWQ Hawqa 4.45 120 *eP* **Pn** **17 33 01.5 -0.4**
GONE Gonen-Balikesi 4.46 321 PN **Pn** **17 33 03.0 +1.1**
BHL Bhannes 4.47 126 *eP* **Pn** **17 33 00.7 -1.5**
CHOS Chios island 4.54 295 P **Pn** **17 33 02.9 -0.2**
CHOS S **Sn** **17 33 52.7 -1.9**
comp=N,728nm,0.7s
CHOS Chios island 4.54 295 PN **Pn** **17 33 03.2 +0.1**
DQRL Deir Qamar 4.54 129 *eP* **Pn** **17 33 03.0 -0.1**
HCB Kahramanmara 4.54 79 *i* PA **Pn** **17 33 03.8 +0.8**
HCB *i* S **Sn** **17 33 48.6 -6.0**
HCB IAML 17 34 22.0
comp=N,394nm,1.0s
HCB IAML 17 34 34.0
comp=E,386nm,1.1s
KAND Kocaeli-Kandir 4.56 349 *i* PA **Pn** **17 33 02.8 -0.4**
KAND *i* S **Sn** **17 33 48.8 -6.1**
KAND IAML 17 33 57.0
comp=N,385nm,0.7s
KAND IAML 17 33 57.0
comp=E,225nm,0.6s
BUY Buyukada 4.57 339 *i* P **Pn** **17 33 03.6 +0.2**
BUY *i* S **Sn** **17 33 50.6 -4.5**
BUY IAML 17 33 55.0
comp=E,344nm,0.7s
BUY IAML 17 34 11.0
comp=N,319nm,0.6s
KUZU Kuzuini 4.64 86 *i* P **Pn** **17 33 04.9 +0.5**
KUZU *i* S **Sn** **17 33 53.2 -3.7**
KUZU IAML 17 33 58.0
comp=E,2µm,0.3s
KUZU IAML 17 33 59.0
comp=N,2µm,0.7s
COAL Corum-Alaca 4.64 37 *i* PA **Pn** **17 33 06.5 +2.0**
COAL *i* S **Sn** **17 33 51.5 -5.6**
COAL IAML 17 34 12.0
comp=E,239nm,0.7s
COAL IAML 17 34 13.0
comp=N,297nm,0.9s
APE Apeiranthos 4.66 277 P **Pn** **17 33 04.0 -0.7**
APE Apeiranthos 4.66 277 *d* iP **Pn** **17 33 04.3 -0.4**
APE Apeiranthos 4.66 277 ⇑P **Pn** **17 33 04.8 +0.2**
APE AML AML 17 34 03.0
QRWL Qaraoun 4.71 129 *eP* **Pn** **17 33 05.0 -0.5**
SANT Santorini 4.72 269 P **Pn** **17 33 04.4 -1.1**
SANT Santorini 4.72 269 **Pn** **17 33 04.7 -0.9**
SANT Sn **Sn** **17 33 53.2 -5.9**
THR7 Fira-Santorini 4.74 269 P **Pn** **17 33 04.7 -1.1**
HNTI Hanita 4.74 137 Pn **Pn** **17 33 05.1 -0.7**
HNTI Sn **Sn** **17 33 55.4 -4.2**
THT2 Imerovigli 4.75 270 P **Pn** **17 33 05.1 -0.7**
CMBO Columbo, Santo 4.76 270 P **Pn** **17 33 05.2 -0.7**
GAZ Gaziantep 4.76 82 **Pn** **17 33 07.0 +0.9**
PRK Paraskevi 4.77 305 P **Pn** **17 33 06.2 +0.1**
THR6 Thira Island, 4.77 269 P **Pn** **17 33 05.4 -0.8**
SAP1 Santorini-Akro 4.77 269 P **Pn** **17 33 05.4 -0.8**
CUSAR Sarkisla-SIVAS 4.80 53 *i* PA **Pn** **17 33 08.3 +1.6**
CUSAR IAML 17 34 24.0
comp=N,197nm,1.4s
CUSAR IAML 17 34 39.0
comp=E,261nm,1.8s
FRMA Ierapetra Chan 4.80 252 P **Pn** **17 33 04.0 -2.6**
THR5 Thira Island, 4.81 269 P **Pn** **17 33 05.5 -1.1**
ILGA Ilgaz 4.81 22 *i* P **Pn** **17 33 07.5 +0.6**
ILGA IAML 17 34 04.0
comp=E,292nm,0.8s
ILGA IAML 17 34 07.0
comp=N,303nm,1.5s
ILGA Ilgaz 4.81 22 **Pn** **17 33 08.0 +1.0**
NPS Neapolis 4.82 255 P **Pn** **17 33 05.6 -1.2**
IOSP Ios island 4.84 273 P **Pn** **17 33 06.2 -0.9**
RCY Rachaya 4.84 129 *eP* **Pn** **17 33 06.9 -0.4**
BAYC CANAKKALE_Bayr 4.88 311 *i* P **Pn** **17 33 08.3 +0.7**
BAYC *i* S **Sn** **17 34 00.7 -2.2**
BAYC IAML 17 34 02.0
comp=N,726nm,0.7s
BAYC IAML 17 34 07.0
comp=E,438nm,0.6s
MMA0B Mount Meron ar 4.92 136 Pn **Pn** **17 33 08.2 -0.1**
MMA0B Sn **Sn** **17 34 00.2 -3.8**
MMAI Mount Meron Ar 4.92 136 P **Pn** **17 33 08.3 0.0**
comp=E,245nm,0.3s,baz=320,slow=13,SNR=1375
MMAI S **Sn** **17 34 01.0 -3.0**
comp=E,837nm,0.3s,baz=316,slow=26,SNR=20
GEM Giv'at Ha'Em 4.93 132 Pn **Pn** **17 33 07.9 -0.5**
GEM Sn **Sn** **17 33 59.4 -4.7**
ELBS KAHRAMANMARAS 4.94 68 *i* P **Pn** **17 33 09.7 +1.2**
ELBS IAML 17 34 46.0
comp=E,540nm,0.7s
ELBS IAML 17 34 51.0
comp=N,630nm,1.1s
KSDI Kefar Szold 4.94 132 Pn **Pn** **17 33 08.0 -0.5**
KSDI Sn **Sn** **17 34 00.5 -3.9**
KSDI Kefar Szold 4.94 132 P **Pn** **17 33 09.1 +0.6**
KLYT Kilyos 4.96 340 ⇑P **Pn** **17 33 11.7 +3.0**
KLYT AML AML 17 34 27.1
OFRI `Ofer 5.00 142 Pn **Pn** **17 33 08.5 -0.9**
OFRI Sn **Sn** **17 34 00.2 -5.8**
BLGI Bet Lehem HaGe 5.02 139 Pn **Pn** **17 33 09.0 -0.6**
GZT Gaziantep 5.06 80 *i* P **Pn** **17 33 10.8 +0.6**
GZT *i* S **Sn** **17 34 01.6 -5.9**
GZT IAML 17 34 43.0
comp=N,489nm,1.3s
GZT IAML 17 34 56.0
comp=E,395nm,1.3s
EZN Ezine 5.07 311 P **Pn** **17 33 10.1 -0.1**
EZN Ezine 5.07 311 ⇑P **Pn** **17 33 12.5 +2.3**
EZN Ezine 5.07 311 ⇑P **Pn** **17 33 12.5 +2.3**
EZN AML AML 17 34 08.9
KAGI orum-Kargı 5.15 28 *i* P **Pn** **17 33 12.3 +1.0**
KAGI *i* S **Sn** **17 34 07.2 -2.2**
KAGI IAML 17 34 12.0
comp=E,292nm,0.9s
KAGI IAML 17 34 14.0
comp=N,356nm,0.8s
CUGUR Gurin_SVAS 5.18 64 *i* P **Pn** **17 33 14.2 +2.4**
CUGUR IAML 17 35 00.0
comp=E,380nm,0.7s
CUGUR IAML 17 35 19.0
comp=N,310nm,1.4s
KSHT Keshet 5.18 133 Pn **Pn** **17 33 12.0 +0.2**
SART Tekirdag 5.20 323 *i* P **Pn** **17 33 13.1 +1.1**
SART *i* S **Sn** **17 34 09.5 -1.1**
SART IAML 17 34 15.0
comp=N,318nm,0.5s
SART IAML 17 34 15.0
comp=E,141nm,0.7s
SLTI Sal'it 5.34 144 Pn **Pn** **17 33 13.1 -0.9**
SLTI Sn **Sn** **17 34 09.6 -4.6**
MMLI Mount Malkishu 5.37 140 Pn **Pn** **17 33 14.1 -0.3**
MMLI Sn **Sn** **17 34 11.1 -3.9**
MMLI Mount Malkishu 5.37 140 P **Pn** **17 33 14.5 +0.1**
comp=E,264nm,0.7s,comp=E,6.9nm
CTYL Yalikoy Yolu 5.39 335 ⇑P **Pn** **17 33 16.1 +1.5**
TOKA Tokat 5.49 46 *i* P **Pn** **17 33 19.4 +3.4**
TOKA IAML 17 34 38.0
comp=N,214nm,0.8s
TOKA IAML 17 34 54.0
comp=E,0.3nm,0.6s
GADA Gvkgeada 5.55 312 P **Pn** **17 33 17.3 +0.6**
CUKAN kangal_SIVAS 5.56 59 *i* P **Pn** **17 33 20.4 +3.3**
CUKAN IAML 17 35 02.0
comp=N,148nm,1.2s
CUKAN IAML 17 35 36.0
comp=E,201nm,1.8s
HMDT Nahal Hemdat 5.57 140 Pn **Pn** **17 33 17.1 0.0**
HMDT Sn **Sn** **17 34 16.9 -2.9**
PHSR Pinarhisar 5.81 331 ⇑P **Pn** **17 33 23.0 +2.7**
AMAZ Amatzia 5.88 148 Pn **Pn** **17 33 21.0 -0.4**
AMAZ Amatzia 5.88 148 P **Pn** **17 33 21.2 -0.2**
comp=E,518nm,0.4s,comp=E,15nm
DIKM Dikmen 5.89 30 ⇑P **Pn** **17 33 23.9 +2.5**
ALN Alexandroupoli 5.93 318 P **Pn** **17 33 23.6 +1.6**
ALN Alexandroupoli 5.93 318 **Pn** **17 33 23.6 +1.6**
HSUJ Al Zarqa 6.04 137 P **Pn** **17 33 24.2 +0.6**
comp=E,460nm,0.5s,comp=E,4.8nmcomp=E,9.8nm
DSI Dead Sea 6.06 145 Pn **Pn** **17 33 23.7 0.0**
YTIR Yattir 6.12 148 Pn **Pn** **17 33 24.3 -0.3**
YTIR Sn **Sn** **17 34 28.7 -4.5**
KZIT Kziot 6.25 155 Pn **Pn** **17 33 24.9 -1.4**
KZIT Kziot 6.25 155 P **Pn** **17 33 25.6 -0.7**
comp=E,375nm,0.6s,comp=E,7.9nm
MATC Matruh 6.25 214 S Sn 17 34 24.8 -12
baz=216
MZDA Masada 6.27 146 Pn **Pn** **17 33 26.5 -0.1**
WALJ Wala 6.27 142 P **Pn** **17 33 26.9 +0.3**
comp=E,535nm,0.5s,comp=E,7.4nmcomp=E,0.0nm
LISJ El Lisan 6.38 146 P **Pn** **17 33 28.9 +0.8**
comp=E,140nm,0.7s,comp=E,3.9nmcomp=E,8.9nm
ASF Jabal al Asfar 6.40 132 P **Pn** **17 33 29.0 +0.6**
comp=E,7.9nm,0.3s,baz=278,slow=14,SNR=43
ASF S **Sn** **17 34 42.0 +1.9**
comp=E,47nm,0.3s,baz=23,slow=23,SNR=7.1
ASF Jabal al Asfar 6.40 132 P **Pn** **17 33 29.2 +0.8**
comp=E,123nm,0.8s,comp=E,0.9nm
RMNI Mount Ramon 6.66 153 Pn **Pn** **17 33 30.6 -1.4**
HHAG Hagoal 6.68 174 S Sn 17 34 36.3 -11
baz=171
KOT Kottamia 6.68 176 P **Pn** **17 33 31.3 -1.0**
baz=173
KOT AMP 17 34 00.0
baz=173
KOT S Sn 17 34 32.6 -14
baz=173
ZFRI Zfri 6.85 151 Pn **Pn** **17 33 33.2 -1.3**
ZFRI Sn **Sn** **17 34 45.2 -5.8**
PRNI Paran 6.97 153 Pn **Pn** **17 33 34.9 -1.2**
PRNI Sn **Sn** **17 34 49.1 -4.7**
KRMI Paran Flat 7.08 155 Pn **Pn** **17 33 36.3 -1.4**
SLUM Salum 7.19 226 P **Pn** **17 33 37.7 -1.4**
baz=229
SLUM AMP 17 34 00.0
baz=229
SLUM S Sn 17 34 43.8 -15
baz=229
HRFI Mount Harif 7.26 154 Pn **Pn** **17 33 39.1 -1.1**
HRFI Mount Harif 7.26 154 P **Pn** **17 33 39.2 -1.0**
comp=E,209nm,0.8s,comp=E,4.0nm
HSNJ Maan 7.32 149 P **Pn** **17 33 44.3 +3.3**
comp=E,470nm,0.7s,comp=E,8.4nm
ZNM Zenema 7.34 169 P **Pn** **17 33 40.4 -0.7**
baz=166
ZNM S **Sn** **17 34 54.7 -8.1**
baz=166
ZNM AMP 17 35 00.0
baz=166
MBRI Mt Berech 7.44 155 Pn **Pn** **17 33 41.3 -1.4**
MANR Mangalia 7.49 345 ⇓P **Pn** **17 33 44.6 +1.5**
AGG Agios Georgios 7.50 291 P **Pn** **17 33 44.9 +1.5**
AGG Agios Georgios 7.50 291 **Pn** **17 33 44.9 +1.5**
ITM Ithomi 7.54 277 **Pn** **17 33 45.5 +1.6**
AQBJ Aqaba 7.55 154 P **Pn** **17 33 43.7 -0.3**
comp=E,506nm,0.8s,comp=E,7.3nm
EIL Elat 7.57 155 Pn **Pn** **17 33 42.9 -1.4**
EIL Elat 7.57 155 P **Pn** **17 33 43.1 -1.2**
comp=E,19nm,0.3s,baz=317,slow=4.6,SNR=150
EIL S **Sn** **17 35 02.8 -5.8**
comp=E,244nm,0.3s,baz=340,slow=15,SNR=16
EIL LR LR 17 38 06.2
comp=E,908nm,19.7s,baz=311,slow=48
EIL Elat 7.57 155 P **Pn** **17 33 43.6 -0.7**
comp=E,193nm,0.9s,comp=E,3.3nm
ELND Elena 7.57 328 ⇑P **Pn** **17 33 46.4 +2.2**
LIT Litokhoron 7.75 299 P **Pn** **17 33 48.7 +1.9**
LIT Litokhoron 7.75 299 **Pn** **17 33 48.7 +1.9**
RAZG Razgrad 7.86 334 ⇓P **Pn** **17 33 49.9 +1.8**
MFTR Murfatlar 7.87 345 ⇑P **Pn** **17 33 51.0 +2.7**
HBST Basata 7.92 158 P **Pn** **17 33 48.1 -1.0**
baz=154
HBST AMP 17 35 00.0
baz=154
HBST S Sn 17 35 08.0 -9.0
baz=154
SEVA Sevastopol 8.11 12 ⇓P **Pn** **17 33 53.9 +2.3**
SEV Sevastopol' 8.12 12 *eP* **Pn** **17 33 51.4 -0.3**
SEV *eS* **Sn** **17 35 18.6 -3.2**
TIRR Tirgusor 8.14 345 P **Pn** **17 33 52.7 +0.7**
TIRR Tirgusor 8.14 345 ⇓P **Pn** **17 33 53.2 +1.2**
TIRR Tirgusor 8.14 345 ⇓P **Pn** **17 33 53.2 +1.2**
TIRR Tirgusor 8.14 345 **Pn** **17 33 52.7 +0.7**
YAL Yalta 8.16 14 *eP* **Pn** **17 33 52.3 +0.1**
YAL *eS* **Sn** **17 35 20.1 -2.6**
RASA Rasa 8.23 339 ⇓P **Pn** **17 33 54.6 +1.5**
VAY Valandovo 8.27 307 *ePn* **Pn** **17 33 55.8 +2.0**
TLB Topalu 8.34 344 ⇑P **Pn** **17 33 55.9 +1.2**
TLB Topalu 8.34 344 ⇑P **Pn** **17 33 55.9 +1.2**
HDHB Dhahab 8.35 160 P **Pn** **17 33 54.1 -0.8**
baz=156
JURR Jurilovca 8.35 348 ⇑P **Pn** **17 33 56.0 +1.1**
ZIMR 8.38 329 ⇑P **Pn** **17 33 57.7 +2.5**
ZIMR 8.38 329 ⇑P **Pn** **17 33 57.7 +2.5**
ALU Alushta 8.39 15 *eP* **Pn** **17 33 56.1 +0.7**
ALU *eS* **Sn** **17 35 27.6 -0.9**
HARR Harsova 8.46 343 ⇑P **Pn** **17 33 58.4 +2.0**
HARR Harsova 8.46 343 ⇑P **Pn** **17 33 58.4 +2.0**
PLVB Pleven 8.49 325 ⇑P **Pn** **17 33 58.9 +2.1**
TOPG Topolog 8.55 346 ⇑P **Pn** **17 33 58.6 +1.0**
LEHL Lehliu 8.56 338 ⇑P **Pn** **17 34 00.4 +2.7**
SIM Simferopol' 8.59 13 *eP* **Pn** **17 34 00.0 +1.8**
SIM pmax pmax
comp=Z,138nm,1.0s
VTS Vitosha 8.64 316 P **Pn** **17 34 00.8 +1.7**
VTS Vitosha 8.64 316 **Pn** **17 34 00.8 +1.7**
STIP Stip 8.71 308 *i* Pn **Pn** **17 34 00.1 +0.3**
SUDU Sudak 8.73 18 ⇑*eP* **Pn** **17 34 01.6 +1.6**
SUDU *eS* **Sn** **17 35 38.1 +1.5**
TLCR 8.77 348 ⇑P **Pn** **17 34 01.6 +1.1**
TLCR 8.77 348 ⇑P **Pn** **17 34 01.6 +1.1**
FNA Florina 8.81 301 P **Pn** **17 34 03.0 +1.8**
FNA Florina 8.81 301 **Pn** **17 34 03.0 +1.8**
COPA Copaceanca 8.83 330 ⇑P **Pn** **17 34 03.7 +2.3**
SWA2 8.84 215 S Sn 17 35 27.1 -13
baz=217
CFR Carcaliu 8.88 345 ⇑P **Pn** **17 34 03.2 +1.1**
CFR Carcaliu 8.88 345 ⇑P **Pn** **17 34 03.2 +1.1**
PGOR Pogoanele 8.91 340 ⇑P **Pn** **17 34 05.3 +2.8**
SULR 8.92 336 ⇑P **Pn** **17 34 04.4 +1.8**
FEO Feodosiya 8.95 19 ⇑*eP* **Pn** **17 34 04.7 +1.7**
FEO *eS* **Sn** **17 35 43.3 +1.4**
VLAD Vladila 9.06 327 ⇑P **Pn** **17 34 06.5 +1.9**
ISR Istrita 9.23 338 ⇑P **Pn** **17 34 09.3 +2.4**
ISR Istrita 9.23 338 ⇑P **Pn** **17 34 09.3 +2.4**
HUMR Humele 9.25 331 ⇑P **Pn** **17 34 08.9 +1.8**
SECR 9.30 336 ⇑P **Pn** **17 34 09.9 +2.0**
GRER 9.35 341 ⇑P **Pn** **17 34 10.7 +2.2**
TUDR 9.38 344 ⇓P **Pn** **17 34 11.9 +3.0**
ANN Anapa 9.40 28 *eP* **Pn** **17 34 09.8 +0.6**
ANN *eS* **Sn** **17 35 53.5 +0.5**
ANN pmax pmax
comp=Z,158nm,1.4s
PETR Petresti 9.60 343 ⇓P **Pn** **17 34 14.6 +2.6**
ODBI Odobesti 9.69 342 ⇑P **Pn** **17 34 15.5 +2.5**
MLR Muntele Rosu 9.75 337 P **Pn** **17 34 16.5 +2.5**
MLR Muntele Rosu 9.75 337 P **Pn** **17 34 16.1 +2.1**
comp=Z,1.1nm,0.3s,baz=103,slow=5.0,SNR=26
MLR Muntele Rosu 9.75 337 ⇑P **Pn** **17 34 17.0 +3.0**
MLR Muntele Rosu 9.75 337 **Pn** **17 34 16.5 +2.5**
HFRF Wahat Farafira 9.78 196 P **Pn** **17 34 12.3 -2.1**
baz=196
HFRF S Sn 17 35 48.6 -14
baz=196
HFRF AMP 17 36 00.0
baz=196
MTUR Matau 9.81 333 ⇑P **Pn** **17 34 17.2 +2.3**
MTUR Matau 9.81 333 ⇑P **Pn** **17 34 17.2 +2.3**
VRI Vrincioaia 9.86 341 ⇓P **Pn** **17 34 17.5 +2.0**
VRI Vrincioaia 9.86 341 ⇓P **Pn** **17 34 17.5 +2.0**
PLOR Plostina 9.87 341 ⇑P **Pn** **17 34 18.0 +2.4**
PLOR Plostina 9.87 341 ⇑P **Pn** **17 34 18.0 +2.4**
GHRR 9.88 344 ⇑P **Pn** **17 34 18.7 +3.0**
VOIR 10.00 334 ⇑P **Pn** **17 34 18.7 +1.3**
VOIR 10.00 334 ⇑P **Pn** **17 34 18.7 +1.3**
TIR Tirane 10.08 301 ⇓P **Pn** **17 34 19.8 +1.3**
TIR Tirane 10.08 301 ⇓P **Pn** **17 34 19.8 +1.3**
ARR Arges 10.09 332 ⇓P **Pn** **17 34 20.1 +1.4**
LEOM Leova 10.11 348 ⇓P **Pn** **17 34 20.1 +1.2**
LEOM Leova 10.11 348 ⇓P **Pn** **17 34 20.1 +1.2**
OZUR 10.34 338 ⇑P **Pn** **17 34 24.2 +2.2**
DOPR Dopca 10.35 336 ⇑P **Pn** **17 34 24.4 +2.3**
MILM Milestii Mici 10.46 351 ⇑P **Pn** **17 34 23.3 -0.3**
TESR Tescani 10.48 342 ⇓P **Pn** **17 34 25.7 +1.7**
KIS Kishinev 10.54 351 ⇓*i*P **Pn** **17 34 24.5 -0.2**
comp=Z,180nm,1.4s
KIS Kishinev 10.54 351 ⇓*i*P **Pn** **17 34 24.5 -0.2**
KIS pmax pmax
comp=Z,180nm,1.4s
AKH Akhalkalaki 10.62 59 ⇑P **Pn** **17 34 26.7 +0.7**
MDB Medias 10.84 334 ⇓P **Pn** **17 34 31.7 +2.9**
MDB Medias 10.84 334 ⇓P **Pn** **17 34 31.7 +2.9**
GZR Gura Zlata 10.88 326 ⇑P **Pn** **17 34 31.2 +1.8**
MDVR Moldovita 10.93 321 ⇓P **Pn** **17 34 31.9 +1.8**
IAS Iasi 10.93 346 ⇑P **Pn** **17 34 31.2 +1.2**
IAS Iasi 10.93 346 ⇑P **Pn** **17 34 31.2 +1.2**
PDG Podgorica 10.97 306 ⇑P **Pn** **17 34 32.4 +1.8**
NEY Neytrino 10.98 49 *i* P **Pn** **17 34 35.2 +4.3**
BIZ Bicaz 11.02 341 ⇑P **Pn** **17 34 33.3 +2.1**
GNI Garni 11.12 67 *i* P **Pn** **17 34 35.8 +3.1**
GNI Garni 11.12 67 P **Pn** **17 34 36.7 +4.0**
comp=Z,0.4nm,0.3s,baz=31,slow=9.4,SNR=5.4
DEV Deva 11.21 328 ⇑P **Pn** **17 34 36.2 +2.4**
DEV Deva 11.21 328 ⇑P **Pn** **17 34 36.2 +2.4**
KBZ Khabaz 11.35 48 *eP* **Pn** **17 34 37.7 +2.0**
KBZ Khabaz 11.35 48 P **Pn** **17 34 39.4 +3.7**
comp=Z,0.2nm,0.3s,baz=244,slow=12,SNR=13
KIV Kislovodsk 11.36 46 *eP* **Pn** **17 34 38.8 +2.8**
KIV pmax pmax
comp=Z,186nm,1.1s
KIV Kislovodsk 11.36 46 ⇑P **Pn** **17 34 37.9 +2.0**
PRAR RASCA 11.38 342 ⇓P **Pn** **17 34 37.6 +1.4**
ZEI Tsey 11.49 54 *eP* **Pn** **17 34 41.8 +4.0**
ZEI pmax pmax
comp=Z,13nm,0.6s
CGL1 Ceglie Messapi 11.55 295 *eP* **Pn** **17 34 38.2 -0.2**
BZS Buzias 11.58 324 ⇓P **Pn** **17 34 40.0 +1.2**
BZS Buzias 11.58 324 ⇓P **Pn** **17 34 40.0 +1.2**
NCK Nalchik 11.65 50 *i* P **Pn** **17 34 42.6 +2.8**
TAR1 Taranto 11.65 294 *eP* **Pn** **17 34 39.7 -0.1**
ARCR ARCALIA 11.67 336 ⇓P **Pn** **17 34 42.1 +2.0**
SORM Soroca 11.72 350 ⇓P **Pn** **17 34 40.8 +0.2**
SORM Soroca 11.72 350 ⇓P **Pn** **17 34 40.8 +0.2**
TIP Timpagrande 11.78 287 ⇓P **Pn** **17 34 40.2 -1.4**
TIP Timpagrande 11.78 287 **Pn** **17 34 40.2 -1.4**
MASS Massafra 11.78 294 *eP* **Pn** **17 34 41.4 -0.2**
BURAR Bucovina Array 11.88 340 ⇓P **Pn** **17 34 45.8 +2.9**
BURAR Bucovina Array 11.88 340 ⇓P **Pn** **17 34 45.8 +2.9**
BUR08 Bucovina Ar. S 11.91 340 **Pn** **17 34 45.2 +1.8**
DRGR 12.02 330 ⇑P **Pn** **17 34 46.7 +1.9**
DRGR 12.02 330 ⇑P **Pn** **17 34 46.7 +1.9**
SIRR Siria 12.05 326 ⇑P **Pn** **17 34 46.9 +1.8**
BAI Bari 12.11 296 *eP* **Pn** **17 34 46.3 +0.4**
MATE Matera 12.11 294 ⇓P **Pn** **17 34 45.3 -0.7**
SG1 Sgolgore (BA) 12.18 295 *eP* **Pn** **17 34 45.8 -1.1**
STON Ston 12.19 305 *ePn* **P** **17 34 52.2 -3.7**
STON Sn S 17 37 14.0 -10
GOF Gofitskoye 12.24 43 ⇑*eP* **Pn** **17 34 50.2 +2.5**
GOF pmax pmax
comp=Z,49nm,0.9s
ACER Acerenza 12.71 294 **Pn** **17 34 53.5 -0.5**
MAKA Makarska 12.82 306 *ePn* **P** **17 34 59.5 -3.5**
MAKA Sn **Sn** **17 37 13.0 -3.3**
RICI Ricice 12.84 307 *ePn* **P** **17 35 00.3 -2.9**
RICI Sn **Sn** **17 37 12.8 -4.1**
GROC Groznyy 12.91 55 *eP* **Pn** **17 34 56.5 -0.2**
GROC *eS* **Sn** **17 37 19.7 +1.2**
GROC pmax pmax
comp=Z,91nm,1.0s
SGRT San Giovanni R 13.12 298 **Pn** **17 34 59.3 -0.2**
SGRT Sn **Sn** **17 37 23.0 -0.6**
TRPA Tarpa 13.20 333 ⇓P **Pn** **17 35 02.2 +1.8**
BLY Banja Luka 13.44 312 ⇓P **P** **17 35 11.6 +1.8**
VAE Valguarnera 13.53 279 P **Pn** **17 35 04.0 -0.9**

comp=Z,4.8nm,0.3s,baz=306,slow=1.1,SNR=12
KIJV Kijevo 13.55 308 *e*Pn **P** **17 35 11.2 +0.2**
WDD Wied Dalam 13.58 272 **Pn** **17 35 01.0 -4.5**
PAOL Paolisi 13.78 294 P **Pn** **17 35 10.6 +2.5**
ZIRJ Zirje 13.88 305 *e*Pn **P** **17 35 13.7 -1.0**
MORI Morici 13.93 306 *e*Pn **P** **17 35 13.3 -2.0**
KOLS Kolonicke sedl 13.97 335 *e*P **P** **17 35 14.0 -1.7**
KOLS Kolonicke sedl 13.97 335 *e*P **P** **17 35 14.0 -1.7**
PSZ Piszkesteto 14.09 327 P **P** **17 35 18.7 +1.6**
PSZ Piszkesteto 14.09 327 P **P** **17 35 18.6 +1.6**
AKASG Malin Array Be 14.16 355 P **Pn** **17 35 10.7 -2.3**
comp=Z,1.6nm,0.3s,baz=174,slow=12,SNR=20
AKBB Malin Array Si 14.16 355 P **P** **17 35 18.9 +1.1**
AKBB Malin Array Si 14.16 355 P **P** **17 35 18.9 +1.1**
UDBI Udbina 14.20 309 *e*Pn **P** **17 35 18.6 +0.2**
LVV L'vov 14.21 340 *e*P **Pn** **17 35 15.8 +2.1**
LVV *e*S **Sn** **17 37 52.2 +2.2**
LVV pmax pmax
comp=Z,120nm,1.5s
KECS Kecovo 14.28 330 *e*P **P** **17 35 21.2 +2.1**
KECS Kecovo 14.28 330 *e*P **P** **17 35 21.2 +2.1**
CORL Corleone 14.40 280 **Pn** **17 35 14.2 -2.1**
DUGI Dugi Otok 14.41 306 *e*Pn **P** **17 35 22.1 +1.5**
KWP Kalwaria Pacla 14.43 337 P **P** **17 35 20.9 +0.1**
KWP Kalwaria Pacla 14.43 337 P **P** **17 35 20.9 +0.1**
CLTB Caltabellotta 14.48 279 P **P** **17 35 21.4 -0.1**
INTR Introdacqua 14.51 297 P **Pn** **17 35 19.4 +1.9**
KALN Kalnik 14.63 315 *e*Pn **P** **17 35 23.1 -0.1**
SRO Srobarova 14.74 323 *e*P **P** **17 35 25.4 +1.2**
SRO Srobarova 14.74 323 *e*P **P** **17 35 25.4 +1.2**
NVLJ Novalja 14.78 308 *e*Pn **P** **17 35 24.9 +0.2**
PTJ Puntijarka 14.79 314 ePn **P** **17 35 24.9 0.0**
VYHS Vyhne 14.99 326 *e*P **P** **17 35 28.1 +1.1**
VYHS Vyhne 14.99 326 *e*P **P** **17 35 28.1 +1.1**
LANS Ľiptovska Anna 15.22 329 *e*P **P** **17 35 31.9 +2.3**
LANS Ľiptovska Anna 15.22 329 *e*P **P** **17 35 31.9 +2.3**
VORD Divnogorie 15.45 19 *e*P **Pn** **17 35 29.4 0.0**
VORD pmax pmax
comp=Z,80nm,1.0s
ZST Bratislava 15.59 322 *e*P **P** **17 35 34.1 +0.4**
ZST Bratislava 15.59 322 *e*P **P** **17 35 34.1 +0.4**
MODS Modra-Piesok 15.63 323 *e*P **P** **17 35 34.1 0.0**
MODS Modra-Piesok 15.63 323 *e*P **P** **17 35 34.1 0.0**
VSR Storozhevoye 15.64 19 *i* P **Pn** **17 35 31.1 -0.8**
VSR pmax pmax
comp=Z,66nm,1.1s
SMOL Smolenice 15.65 324 *e*P **P** **17 35 35.4 +1.0**
SMOL Smolenice 15.65 324 *e*P **P** **17 35 35.4 +1.0**
PERS Pernice 15.68 315 *i* P **P** **17 35 35.5 +0.7**
SOKA Soboth 15.76 315 *e*P **P** **17 35 36.5 +0.9**
comp=Z,7.6nm,0.7s
SOKA *e*ScP **ScP** **17 43 53.7 -0.4**
comp=Z,2.7nm,0.5s,SNR=4.3
JAVC Velka Javorina 15.79 325 *e*P **P** **17 35 37.3 +1.4**
ARSA Arzberg 15.81 317 P **P** **17 35 37.4 +1.2**
comp=Z,25nm,0.8s,SNR=16
CRNS Crni Vrh 15.89 312 *e*P **P** **17 35 37.4 +0.4**
OJC Ojcow 15.94 332 P **P** **17 35 37.9 +0.4**
OJC pmax pmax
comp=Z,36nm,1.1s
OJC Ojcow 15.94 332 P **P** **17 35 37.9 +0.4**
OBKA Obir 15.94 314 *e*P **P** **17 35 38.7 +1.1**
comp=Z,13nm,0.9s
TRI Trieste 16.01 310 PcP **PcP** **17 40 28.7 +0.7**
CONA Conrad Observa 16.05 320 *e*P **P** **17 35 39.3 +0.4**
comp=Z,8.2nm,1.0s,SNR=5.2
OKC Ostrava-Krasne 16.30 328 *e*P **P** **17 35 42.6 +1.1**
OKC Ostrava-Krasne 16.30 328 *e*P **P** **17 35 42.6 +1.1**
MORC Moravsky Berou 16.51 327 P **P** **17 35 44.8 +0.9**
MORC pmax pmax
comp=Z,9.0nm,0.9s
MORC Moravsky Berou 16.51 327 ⇑P **P** **17 35 45.3 +1.4**
MORC Moravsky Berou 16.51 327 *e*P **P** **17 35 44.6 +0.7**
MORC Moravsky Berou 16.51 327 P **P** **17 35 44.8 +0.9**
MORC PcP **PcP** **17 40 30.4 +1.6**
KRUC Moravsky 16.53 323 *e*P **P** **17 35 44.5 +0.5**
MYKA Terra Mystica 16.54 313 *e*P **P** **17 35 46.5 +2.2**
comp=Z,9.5nm,0.6s
MYKA ScP **ScP** **17 43 55.6 +0.1**
comp=Z,4.6nm,0.6s
VRAC Vranov 16.60 324 ⇓P **P** **17 35 46.3 +1.4**
VRAC Vranov 16.60 324 ⇓P **P** **17 35 46.3 +1.4**
VRAC Vranov 16.60 324 *e*P **P** **17 35 45.9 +1.0**
MOA Molln 16.85 317 *e*P **P** **17 35 49.1 +1.4**
comp=Z,16nm,1.1s
KBA Koelnbreinsper 16.95 314 *e*P **P** **17 35 50.0 +1.2**
comp=Z,10nm,0.6s
KRLC Kraliky 17.07 327 *e*P **P** **17 35 51.1 +1.1**
KRLC Kraliky 17.07 327 *e*P **P** **17 35 51.1 +1.1**
KRLC *ex* x 17 35 52.8
TREC Trest 17.12 323 *e*P **P** **17 35 51.2 +0.6**
TREC Trest 17.12 323 *e*P **P** **17 35 51.2 +0.6**
TEOL Teolo 17.18 307 P **Pn** **17 35 51.0 0.0**
TEOL PcP **PcP** **17 40 31.3 +1.4**
ABTA Abfaltersbach 17.27 312 *e*P **P** **17 35 53.7 +1.4**
comp=Z,3.5nm,0.6s
ABTA *e*ScP **ScP** **17 43 57.1 +0.1**
comp=Z,2.8nm,0.6s
DPC Dobruska-Polom 17.47 326 *e*P **Pn** **17 35 55.3 +0.8**
DPC Dobruska-Polom 17.47 326 *e*P **Pn** **17 35 55.3 +0.8**
DPC *ex* x 17 35 58.9
UPC Upice 17.72 326 *e*P **Pn** **17 35 58.0 +0.5**
UPC Upice 17.72 326 *e*P **Pn** **17 35 58.0 +0.5**
GEC2 GERESS Array S 17.75 319 P **Pn** **17 35 58.4 +0.4**
GEC2 PcP **PcP** **17 40 31.0 +0.2**
GERES GERESS Array B 17.75 319 *e*P **Pn** **17 35 58.4 +0.4**
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES GERESS Array B 17.75 319 P **Pn** **17 35 58.0 +0.1**
comp=Z,1.0nm,0.3s,baz=122,slow=11,SNR=49
GERES ScP **ScP** **17 43 57.3 -0.7**
comp=Z,0.4nm,0.3s,baz=150,slow=2.2,SNR=10.0
KEST Kesra 17.75 274 P **Pn** **17 35 58.4 +0.2**
comp=Z,3.5nm,0.3s,baz=49,slow=4.2,SNR=40
KEST Kesra 17.75 274 P **Pn** **17 35 58.2 +0.1**
KEST IAmb IAmb 17 36 02.9
comp=Z,76nm,0.8s
CHVC Chvalec 17.76 327 *e*P **Pn** **17 35 58.6 +0.6**
CHVC *ex* x 17 36 01.4
GOPC GO Pecny, Ondr 17.88 323 *e*P **Pn** **17 36 00.8 +1.4**
GOPC GO Pecny, Ondr 17.88 323 *e*P **Pn** **17 36 00.8 +1.4**
KHC Kasperske Hory 17.98 320 *i* P **Pn** **17 36 00.7 0.0**
KHC pmax pmax
comp=Z,32nm,0.7s
KHC Kasperske Hory 17.98 320 *e*P **Pn** **17 36 00.5 -0.3**
KHC *ex* x 17 36 23.0
KHC Kasperske Hory 17.98 320 P **Pn** **17 36 00.4 -0.3**
PRU Pruhonice 18.04 323 *e*P **P** **17 36 00.9 +0.2**
PRU Pruhonice 18.04 323 *e*P **P** **17 36 00.9 +0.2**
PRU *ex* x 17 36 04.7
WTTA Wattenberg 18.05 312 *e*Pn **Pn** **17 36 02.8 +1.1**
comp=Z,24nm,0.7s,SNR=19
WTTA *e*ScP **ScP** **17 43 58.6 -0.1**
comp=Z,2.9nm,0.6s
PBCC Pribram 18.12 322 *e*P **P** **17 36 01.9 +0.4**
WATA Walderalm 18.12 312 *e*Pn **Pn** **17 36 03.4 +0.9**
comp=Z,40nm,1.1s,SNR=16
WATA ScP **ScP** **17 43 58.5 -0.3**
comp=Z,2.6nm,0.5s
PRA Prague 18.15 323 *e*P **Pn** **17 36 04.5 +1.8**
PRA Prague 18.15 323 *e*P **Pn** **17 36 04.5 +1.8**
SQTA Sankt Quirin 18.28 312 *e*Pn **Pn** **17 36 04.8 +0.4**
comp=Z,27nm,0.9s,SNR=16
SQTA *e*ScP **ScP** **17 43 59.0 -0.2**
comp=Z,5.7nm,0.5s,SNR=7.6
SUW Suwalki 18.29 345 P **P** **17 36 02.8 -0.6**
SUW pmax pmax
comp=Z,434nm,1.1s
SUW Suwalki 18.29 345 *e*P **P** **17 36 03.2 -0.2**
SUW MLR MLR
comp=Z,17µm,22.9s
SUW Suwalki 18.29 345 *e*P **P** **17 36 03.2 -0.2**
SUW *e*P **P** **17 36 03.2 -0.2**
SUW *e*L L 18 08 48.5
comp=Z,17µm,22.9s
SUW *e*L L 18 08 48.5
comp=Z,17µm,22.9s
SUW Suwalki 18.29 345 P **P** **17 36 02.8 -0.6**
PVCC Panska Ves 18.39 324 *e*P **Pn** **17 36 06.1 +0.5**
PVCC Panska Ves 18.39 324 *e*P **Pn** **17 36 06.1 +0.5**
MOTA Moosalm 18.40 312 *e*Pn **Pn** **17 36 06.0 +0.1**
comp=Z,38nm,1.1s,SNR=13
MOTA *e*ScP **ScP** **17 43 59.1 -0.4**
comp=Z,6.0nm,0.6s,SNR=8.2
FETA Feichten 18.48 311 *e*Pn **Pn** **17 36 07.6 +0.8**
comp=Z,65nm,1.4s,SNR=24
FETA *e*ScP **ScP** **17 44 00.1 +0.4**
comp=Z,6.2nm,1.0s
FUORN Ofenpass-Fuorn 18.59 309 **Pn** **17 36 08.1 -0.2**
RETA Reutte 18.67 312 *e*Pn **Pn** **17 36 08.6 -0.4**
comp=Z,72nm,1.4s,SNR=28
RETA ScP **ScP** **17 43 60.0 0.0**
comp=Z,2.6nm,0.5s,SNR=6.3
OBN Obninsk 18.85 9⇑ *e*P **Pn** **17 36 10.3 -0.7**
OBN pmax pmax
comp=Z,61nm,0.9s
DAVOX Davos/Dischmat 18.90 309 P **Pn** **17 36 11.9 0.0**
comp=Z,2.9nm,0.3s,baz=129,slow=10,SNR=47
DAVOX ScP **ScP** **17 44 01.1 +0.4**
comp=Z,0.3nm,0.3s,baz=176,slow=14,SNR=5.1
BRG Berggiesshubel 18.92 324⇑ *i*P **Pn** **17 36 11.1 -0.8**
comp=Z,78nm,0.8s
BRG *i* 17 36 15.7
comp=Z,32nm,0.9s
BRG Berggiesshubel 18.92 324⇑ *i*P **Pn** **17 36 11.1 -0.8**
BRG pmax pmax
comp=Z,78nm,1.0s
DAVA Damuels 19.12 311 *e*Pn **P** **17 36 13.3 +0.7**
comp=Z,47nm,0.7s,SNR=29
DAVA *e*ScP **ScP** **17 44 00.8 -0.3**
comp=Z,5.7nm,0.7s
ABSA Djebel Ababsia 19.17 276 P **Pn** **17 36 15.8 +0.7**
CMAH Djebel Manchou 19.17 277 P **Pn** **17 36 15.4 +0.3**
GKP Gorka Klasztor 19.34 334 *e*P **P** **17 36 15.2 +0.4**
GKP *e*P **P** **17 36 15.2 +0.4**
GKP *e*L L 18 12 25.4
comp=Z,24µm,19.2s
GKP *e*L L 18 12 25.4
comp=Z,24µm,19.2s
GRA1 Grafenberg Arr 19.56 318 P **P** **17 36 16.8 -0.5**
GRA1 IAmb IAmb 17 36 18.4
comp=Z,48nm,0.8s
GRF Grafenberg Arr 19.56 318 P **P** **17 36 16.8 -0.5**
GRF pmax pmax
comp=Z,48nm,0.8s
CAEH 'Ain El Ouahch 19.61 278 P **Pn** **17 36 20.0 -0.1**
MOS Moscow 19.61 11 *e*P **P** **17 36 18.0 +0.3**
MOS pmax pmax
comp=Z,194nm,0.7s
CLL Collm 19.65 324 *i* P **P** **17 36 18.6 +0.3**
CLL pmax pmax
comp=Z,42nm,0.8s
CLL Collm 19.65 324 *i* P **P** **17 36 18.6 +0.3**
comp=Z,42nm,0.8s
CKFL Kef-Lekhel 19.76 277 P **Pn** **17 36 22.3 +0.3**
CASM Ain Smara 19.96 276 P **Pn** **17 36 24.1 -0.2**
CTEI Djebel Teioual 20.06 276 P Pn 17 36 25.5 0.0
SENIN Lac Senin/Sane 20.39 306 P **P** **17 36 26.6 +0.1**
BNI Bardonecchia 20.40 302 P **P** **17 36 26.9 +0.3**
BNI pmax pmax
comp=Z,25nm,0.6s
BNI Bardonecchia 20.40 302 P **P** **17 36 26.9 +0.3**
BNI IAmb IAmb 17 36 32.4
comp=Z,24nm,0.6s
DFRA Djebel Bou Aff 20.41 277 P Pn 17 36 29.0 -0.6
BFO Black Forest 20.52 312 P **P** **17 36 28.0 +0.3**
BFO pmax pmax
comp=Z,41nm,0.9s
BFO Black Forest 20.52 312 P **P** **17 36 28.0 +0.3**
BFO IAmb IAmb 17 36 29.4
comp=Z,41nm,0.9s
CKHR Kef el Ahmar 20.78 276 P Pn 17 36 36.9 +2.9
SET Setif 20.84 277 P Pn 17 36 35.0 +0.3
ECH Echery 21.17 311 P **P** **17 36 34.8 0.0**
ECH pmax pmax
comp=Z,16nm,0.8s
ECH Echery 21.17 311 P **P** **17 36 34.8 0.0**
GEYT Ailbeck 21.35 78 P **P** **17 36 38.5 +1.7**
comp=Z,12nm,0.5s,baz=294,slow=7.7,SNR=6.1
GEYT PcP **PcP** **17 40 38.1 +0.6**
comp=Z,2.2nm,0.5s,baz=281,slow=4.6,SNR=5.2
SSB Saint Sauveur 21.92 302 P **P** **17 36 41.1 -1.6**
SSB pmax pmax
comp=Z,10.0nm,0.7s
SSB Saint Sauveur 21.92 302 P **P** **17 36 41.1 -1.6**
VSU Vasula 22.07 354 *i* P **P** **17 36 43.4 -0.7**
VSU pmax pmax
comp=Z,110nm,1.0s
WLF Walferdange 22.39 314 P **P** **17 36 46.8 -0.9**
WLF pmax pmax
comp=Z,23nm,0.8s
WLF Walferdange 22.39 314 P **P** **17 36 47.0 -0.7**
comp=Z,22nm,1.0s
WLF Walferdange 22.39 314 P **P** **17 36 46.8 -0.9**
BHOU Houvegnez 22.79 315 P **P** **17 36 51.5 -0.3**
MEM Membach 22.91 316 P **P** **17 36 51.2 -1.7**
BCLA Clavier 23.22 315 P **P** **17 36 55.3 -0.6**
DOU Dourbes 23.49 313 P **P** **17 36 57.7 -0.7**
AKTO Aktyubinsk 23.63 46 P **P** **17 36 59.4 -0.3**
comp=Z,32nm,0.5s,baz=234,slow=7.6,SNR=8.8
EBNR Beni Rached 23.92 278 P **P** **17 37 05.5 +3.0**
ECHA Ech Chlef 24.07 278 P **P** **17 37 06.1 +2.4**
CLF Chambon-Foret 24.17 307 P **P** **17 37 04.5 -0.1**
CLF PcP **PcP** **17 40 44.7 +1.7**
ETRT Tiaret 24.27 276 P **P** **17 37 10.2 +4.5**
EANR 'Ain N'Sour 24.32 278 P **P** **17 37 09.0 +2.9**
FINES FINESS Array B 25.07 354 P **P** **17 37 12.0 -0.5**
comp=Z,42nm,0.6s,baz=154,slow=10,SNR=15
FINES ScP **ScP** **17 44 14.5 -1.2**
comp=Z,4.2nm,0.7s,baz=145,slow=5.1,SNR=4.4
HOMB Homborsund 26.35 333 *e*P **P** **17 37 23.1 -1.0**
PRGR Permogore 26.61 15 *e*P **P** **17 37 23.0 -3.5**
PRGR pmax pmax
comp=Z,80nm,1.1s
ARU Arti 26.98 34*c* *i*P **P** **17 37 29.7 -0.2**
ARU *PP **pP** **17 37 51.6 +1.4**
ARU 17 38 17.5
ARU S **S** **17 42 00.2 -0.4**
ARU pmax pmax
comp=Z,28nm,0.5s
ARU Arti 26.98 34 P **P** **17 37 30.0 +0.1**
comp=Z,14nm,0.4s,baz=228,slow=11,SNR=13
ARU Arti 26.98 34 P **P** **17 37 29.9 0.0**
FIGM Figuig 27.18 270 P **P** **17 37 34.0 +1.9**
NC602 NORSAR Array S 27.22 339 *e*P **P** **17 37 31.3 -0.7**
TDRA Tendrara 27.52 272 P **P** **17 37 38.0 +2.8**
NOA NORSAR Array B 27.56 339 ScP **ScP** **17 44 22.9 -0.3**
comp=Z,0.6nm,0.5s,baz=145,slow=3.1,SNR=3.1
JBK JBK 27.60 275 P **P** **17 37 40.0 +4.0**
ESBB Sonseca Array 27.80 287 P **P** **17 37 38.7 +1.2**
ESDC Sonseca Array 27.80 287 P **P** **17 37 38.3 +0.8**
comp=Z,1.8nm,0.3s,baz=79,slow=9.4,SNR=49
ESDC ScP **ScP** **17 44 24.7 +0.4**
comp=Z,1.3nm,0.8s,baz=43,slow=3.3,SNR=5.0
TMCR Tamitsa 27.88 6 *e*P **P** **17 37 36.6 -1.2**
TMCR pmax pmax
comp=Z,67nm,0.6s
BLS5 Blasjo 27.92 333 *e*P **P** **17 37 37.5 -0.8**
PAB San Pablo 28.11 287 P **P** **17 37 40.7 +0.4**
PAB pmax pmax
comp=Z,5.0nm,0.8s
PAB San Pablo 28.11 287 P **P** **17 37 40.7 +0.4**
DOMB Dombas 28.99 338 *e*P **P** **17 37 47.8 +0.1**
HORN Hornachuelos 29.03 284 P **P** **17 37 48.6 +0.3**
ASK Askoy 29.11 333 *e*P **P** **17 37 49.2 +0.5**
HYA Hoyanger 29.25 335 *e*P **P** **17 37 49.6 -0.3**
TBLU Trondheim 29.62 341 *e*P **P** **17 37 54.8 +1.5**
MDT Midelt 29.66 273 P **P** **17 37 55.8 +1.7**
comp=Z,1.9nm,0.5s,baz=127,slow=8.7,SNR=8.9
AKN Aaknes 29.72 337 *e*P **P** **17 37 54.4 +0.2**
PBRG Braganca 29.77 292 *e*P **P** **17 37 55.0 +0.1**
comp=Z,27nm,1.8s
MOL Molde 29.85 338 *e*P **P** **17 37 55.4 +0.1**
FOO Floro 29.94 335 *e*P **P** **17 37 56.0 0.0**
EKA Eskdalemuir Ar 29.96 320 P **P** **17 37 56.3 -0.1**
comp=Z,5.3nm,0.7s,baz=111,slow=9.7,SNR=2.7
EKA PcP **PcP** **17 40 57.1 +0.5**
comp=Z,2.8nm,0.5s,baz=111,slow=3.1,SNR=9.3
EKA ScP **ScP** **17 44 31.6 +0.8**
comp=Z,3.0nm,0.7s,baz=129,slow=1.9,SNR=4.7
MVO Mocorvo 30.02 291 *e*P **P** **17 37 57.6 +0.4**
comp=Z,41nm,1.2s
NSS Namsos 30.26 343 *e*P **P** **17 37 58.4 -0.5**
PMRV Marv??o 30.46 287 *e*P **P** **17 38 01.6 +0.6**
comp=Z,22nm,1.3s
MTE Manteigas 30.47 289 *e*P **P** **17 38 02.5 +1.3**
comp=Z,51nm,1.2s
MTE Manteigas 30.47 289 P **P** **17 38 01.8 +0.7**
MTE IAmb IAmb 17 38 05.3
comp=Z,26nm,0.8s
PCBR Castelo Branco 30.48 288 *e*P **P** **17 38 02.0 +0.9**
comp=Z,28nm,1.1s
PVRL Vila Real 30.53 291 *e*P **P** **17 38 00.0 -1.6**
comp=Z,58nm,1.1s
POLO Lamas de Olo 30.58 291 *e*P **P** **17 37 59.2 -2.9**
comp=Z,32nm,1.1s
PESTR Estremoz 30.69 286 P **P** **17 38 02.1 -1.0**
PESTR PcP **PcP** **17 40 57.9 -1.1**
PVIS Viseu 30.71 290 *e*P **P** **17 38 02.7 -0.5**
comp=Z,27nm,1.3s
PCAB Cabril 30.73 292 *e*P **P** **17 37 58.6 -4.8**
comp=Z,35nm,1.3s
APA Apatity 31.03 2⇓ *i*P **P** **17 38 03.5 -2.1**
APA pmax pmax
comp=Z,17nm,1.0s
PVAQ Vaqueiros 31.03 283 *e*P **P** **17 38 06.2 +0.2**
comp=Z,20nm,1.3s
PVAQ Vaqueiros 31.03 283 P **P** **17 38 06.2 +0.2**
PVAQ IAmb IAmb 17 38 07.5
comp=Z,9.8nm,0.7s
PVAQ PcP **PcP** **17 41 01.4 +1.6**
PBEJ Beja 31.03 285 *e*P **P** **17 38 06.9 +0.8**
comp=Z,18nm,1.0s
EVO Evora 31.07 286 *e*P **P** **17 38 06.5 +0.2**
comp=Z,7.3nm,1.6s
PMTG Montargil 31.15 287 *e*P **P** **17 38 06.6 -0.5**
comp=Z,18nm,1.0s
COI Coimbra 31.15 289 *e*P **P** **17 38 05.8 -1.2**
comp=Z,64nm,1.0s
MOR8 Moi Rana 31.19 347 *e*P **P** **17 38 08.1 +1.0**
PTOM Tomar 31.22 288 *e*P **P** **17 38 08.3 +0.6**
comp=Z,42nm,1.4s
PBDV Barranco-do-Ve 31.22 283 *e*P **P** **17 38 08.6 +0.8**
comp=Z,23nm,1.9s
PCAS Casmilo, Conde 31.23 289 *e*P **P** **17 38 06.1 -1.7**
comp=Z,45nm,1.1s
PCVE Castro Verde 31.24 284 *e*P **P** **17 38 08.2 +0.4**
comp=Z,21nm,1.5s
PNCL Nicolau / Gran 31.54 285 *e*P **P** **17 38 11.2 +0.8**
comp=Z,25nm,1.8s
KONS Konsvik 31.73 346 *e*P **P** **17 38 11.3 -0.5**
MORF Marmelete 31.78 283 *e*P **P** **17 38 13.9 +1.3**
comp=Z,46nm,1.6s
PFVI Vila Bisbo 31.95 283 *e*P **P** **17 38 16.2 +2.1**
PMAFR Mafra 31.98 287 *e*P **P** **17 38 12.4 -2.0**
comp=Z,39nm,1.5s
STEI Steigen 32.65 349 *e*P **P** **17 38 19.5 -0.3**
KTK1 Kautokeino 32.76 355 *e*P **P** **17 38 20.2 -0.5**
ARCES ARCESS Array B 33.13 356 P **P** **17 38 23.6 -0.4**
comp=Z,20nm,0.5s,baz=164,slow=7.4,SNR=32
ARCES PcP **PcP** **17 41 05.1 +0.1**
comp=Z,1.3nm,0.4s,baz=162,slow=3.7,SNR=5.2
ARE0 ARCESS Array S 33.13 356 *e*P **P** **17 38 23.6 -0.4**
TRO Tromso 33.76 352 *e*P **P** **17 38 29.4 0.0**
HAMF Hammerfest 34.33 356 *e*P **P** **17 38 34.2 -0.2**
KSH Kashi 35.01 71 P **P** **17 38 40.2 -0.7**
TOA0 Torodi Ar. Sit 35.35 236 P **P** **17 38 43.9 +0.1**
TOA0 IAmb IAmb 17 38 45.5
comp=Z,10nm,0.8s
TORD Torodi Ar. Bea 35.35 236 P **P** **17 38 44.5 +0.6**
comp=Z,9.4nm,0.7s,baz=29,slow=9.0,SNR=53
TORD PcP **PcP** **17 41 12.6 +0.3**
comp=Z,2.5nm,0.6s,baz=18,slow=2.6,SNR=4.5
KMBO Kilima Mbogo 37.95 170 P **P** **17 39 07.0 +0.9**
KMBO Kilima Mbogo 37.95 170 P **P** **17 39 07.0 +0.9**
comp=Z,1.5nm,0.7s,baz=44,slow=9.1,SNR=5.9
KMBO Kilima Mbogo 37.95 170 IAmb IAmb 17 39 07.9
comp=Z,2.8nm,0.9s
MKAR Makanchi Array 38.78 58 *e*P **P** **17 39 12.9 +0.3**
MKAR pmax pmax
comp=Z,11nm,0.6s
MKAR Makanchi Array 38.78 58 P **P** **17 39 12.7 +0.1**
comp=Z,11nm,0.6s,baz=273,slow=7.4,SNR=16
MKAR PcP **PcP** **17 41 22.4 +0.1**
comp=Z,4.8nm,0.7s,baz=290,slow=3.1,SNR=6.9
MKAR ScP **ScP** **17 45 01.3 -1.1**
comp=Z,0.7nm,0.5s,baz=264,slow=4.0,SNR=6.3
HOPEN Hopen 40.09 358 *e*P **P** **17 39 22.8 -0.2**
ZALV Zalesovo Beam 40.38 47 *e*P **P** **17 39 25.6 0.0**
ZALV pmax pmax
comp=Z,25nm,0.4s
ZALV Zalesovo Beam 40.38 47 P **P** **17 39 25.6 0.0**
comp=Z,24nm,0.4s,baz=268,slow=9.2,SNR=52
ZALV PcP **PcP** **17 41 26.8 -0.3**
comp=Z,2.2nm,0.4s,baz=255,slow=3.9,SNR=3.5
ZALV ScP **ScP** **17 45 07.0 -1.5**
comp=Z,1.2nm,0.6s,baz=270,slow=2.9,SNR=3.5
HSPB Hornsund (broa 41.09 355 *e*P **P** **17 39 32.4 +1.2**
SPA0 Spitsbergen Ar 42.15 355 *e*P **P** **17 39 40.2 +0.3**
SPITS Spitsbergen Ar 42.15 355 P **P** **17 39 39.8 -0.1**
comp=Z,8.6nm,0.5s,baz=132,slow=10,SNR=20
WMQ Urumqi 42.93 62 *e*P **P** **17 39 48.9 +2.1**
WMQ pmax pmax
comp=Z,20nm,1.3s
WMQ pmax pmax
comp=Z,200nm,7.3s
KBS Kingsbay 43.16 355 *e*P **P** **17 39 48.3 +0.3**
DBIC Dimbokro 44.46 237 P **P** **17 39 59.1 -0.1**
DBIC pmax pmax
comp=Z,8.0nm,0.6s
DBIC Dimbokro 44.46 237 P **P** **17 39 59.5 +0.3**
comp=Z,7.2nm,0.6s,baz=14,slow=8.6,SNR=18
DBIC Dimbokro 44.46 237 P **P** **17 39 59.1 -0.1**
DBIC IAmb IAmb 17 39 59.8
comp=Z,8.2nm,0.6s
DANN Dangsing 44.54 85 *e*P **P** **17 40 01.4 +1.3**
comp=Z,372nm,0.9s
TIC Toumodi 44.59 237 *e*P **P** **17 40 00.4 +0.1**
KIC Kosan Boka 44.61 236 *e*P **P** **17 40 00.7 +0.3**
comp=Z,26nm,0.7s
KOLN Koldanda 44.66 86 *e*P **P** **17 40 01.9 +0.9**
comp=Z,52nm,0.5s
LIC Lamto 44.90 237 *e*P **P** **17 40 02.9 +0.2**
comp=Z,11nm,0.4s
GKN Gorkha 45.39 85 *e*P **P** **17 40 07.8 +1.1**
comp=Z,192nm,1.0s
DMN Daman 45.93 85 *e*P **P** **17 40 12.3 +1.2**
comp=Z,169nm,0.9s
KKN Kakani 46.00 85 *e*P **P** **17 40 12.5 +1.0**
comp=Z,49nm,0.5s
PKIN Phulchoki 46.18 85 *e*P **P** **17 40 13.9 +0.8**
comp=Z,37nm,0.7s
PKI Pulchoki 46.19 85 *e*P **P** **17 40 14.1 +0.9**
comp=Z,78nm,0.9s
GUN Gumba 46.43 84 *e*P **P** **17 40 15.8 +0.7**
comp=Z,58nm,0.7s
JIRN Jiri 46.78 85 *e*P **P** **17 40 18.8 +0.9**
comp=Z,94nm,0.6s
RAMN Ramite 47.42 85 *e*P **P** **17 40 23.0 +0.3**
comp=Z,101nm,0.8s
ODAN Odare 48.09 85 *e*P **P** **17 40 28.4 +0.5**
comp=Z,21nm,0.5s
TAPN Taplejung 48.13 84 *e*P **P** **17 40 28.9 +0.6**
comp=Z,40nm,0.7s
GTA Gaotai 52.85 65 P **P** **17 41 03.7 +0.3**
GTA pP pP 17 41 27.1 +1.9
GTA sP sP 17 41 40.2 +5.0
GTA pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 54.66 53 P **P** **17 41 17.2 +0.6**
comp=Z,6.3nm,0.5s,baz=287,slow=7.8,SNR=50
SONM PcP **PcP** **17 42 19.0 +0.6**
comp=Z,4.0nm,0.8s,baz=269,slow=5.0,SNR=5.0
TSUM Tsumeb 57.01 196 P **P** **17 41 35.4 +2.0**
TULEG Thule 57.03 344 P **P** **17 41 31.4 -1.5**
LZH Lanzhou 57.05 67 *e*P **P** **17 41 35.0 +1.2**
LZH pP pP 17 42 00.7 +4.8
LZH sP sP 17 42 10.8 +5.0
TIXI Tiksi 58.01 22 P **P** **17 41 39.2 -0.6**
comp=Z,12nm,0.8s,baz=6.0,slow=4.3,SNR=17
TIXI Tiksi 58.01 22 P **P** **17 41 39.7 -0.1**
TIXI IAmb IAmb 17 41 40.6
comp=Z,11nm,0.7s
CD2 Chengdu 59.20 73 *e*P **P** **17 41 48.0 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 60.64 59 *e*P **P** **17 41 59.1 +0.6**
KMI Kunming 61.12 79 P **P** **17 42 02.5 +0.4**
KMI pmax pmax
comp=Z,13nm,0.8s
CHTO Chiang Mai 61.29 87 P **P** **17 42 02.0 -1.1**
CM31 Chiang Mai Arr 61.48 87 P **P** **17 42 04.7 +0.3**
CM31 IAmb IAmb 17 42 05.0
comp=Z,7.4nm,0.7s

CMAR	**Chiang Mai Arr**	**61.48**	**87**	P	**P**	**17 42 04.5**	**+0.2**
	comp=Z,6.9nm,0.7s,baz=297,slow=8.2,SNR=30						
XAN	**Xi'an**	**61.69**	**67**	P	**P**	**17 42 05.5**	**-0.1**
XAN				pP	pP	17 42 29.4	+1.4
XAN				pmax	pmax		
	comp=Z,15nm,0.8s						
YAK	**Yakutsk**	**62.06**	**32**	P	**P**	**17 42 06.8**	**-0.7**
	comp=Z,4.3nm,0.6s,baz=214,slow=4.5,SNR=5.4						
GYA	**Guiyang**	**63.54**	**76**	⇓*i*P	**P**	**17 42 17.6**	**-0.6**
GYA				pP	pP	17 42 40.5	-0.1
GYA				sP	PcP	17 42 52.9	-1.1
GYA				PP	**PP**	**17 44 40.2**	**+1.5**
GYA				S	**S**	**17 50 42.9**	**-2.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,5.7s						
GYA				LR	LR		
	comp=Z,490nm,17.7s						
GYA				LR	LR		
	comp=Z,420nm,17.2s						
GYA				LR	LR		
	comp=Z,450nm,17.5s						
ENH	**Enshi**	**63.87**	**71**	P	**P**	**17 42 20.5**	**+0.4**
BOSA	**Boshof**	**65.13**	**186**	*i* P	**P**	**17 42 30.1**	**+1.9**
BOSA				*i* P	**P**	**17 42 32.0**	**+3.7**
BOSA	**Boshof**	**65.13**	**186**	P	**P**	**17 42 30.1**	**+1.9**
	comp=Z,8.4nm,0.8s,baz=357,slow=6.3,SNR=20						
BOSA	**Boshof**	**65.13**	**186**	*i* P	**P**	**17 42 30.1**	**+1.9**
BOSA				*i* P	**P**	**17 42 32.0**	**+3.7**
BOSA	**Boshof**	**65.13**	**186**	P	**P**	**17 42 30.3**	**+2.0**
BOSA				lAmb	lAmb	17 42 30.9	
	comp=Z,6.5nm,0.7s						
SCHQ	**Schefferville**	**65.27**	**321**	P	**P**	**17 42 27.7**	**-1.1**
	comp=Z,37nm,0.7s,baz=54,slow=6.2,SNR=22						
SCHQ	**Schefferville**	**65.27**	**321**	P	**P**	**17 42 28.1**	**-0.8**
CN2	**Changchun**	**68.44**	**51**	*e*P	**P**	**17 42 48.6**	**-0.5**
UBPT	**Khong Chiam**	**68.44**	**87**	P	**P**	**17 42 50.2**	**+0.7**
UBPT				lAmb	lAmb	17 42 50.3	
	comp=Z,14nm,1.1s						
KLR	**Kul'dur**	**69.34**	**44**	P	**P**	**17 42 54.6**	**0.0**
	comp=Z,12nm,0.6s,baz=303,slow=7.1,SNR=27						
NJ2	**Nanjing**	**69.95**	**65**	⇓P	**P**	**17 42 58.5**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,11nm,1.3s						
SEY	**Seymchan**	**70.24**	**25**	P	**P**	**17 43 00.7**	**+0.9**
	comp=Z,12nm,0.5s,baz=312,slow=6.7,SNR=43						
GSI	**Gunungsitoli**	**70.30**	**104**	P	**P**	**17 43 01.8**	**+0.9**
KULM	**Kulim**	**70.30**	**98**	P	**P**	**17 43 01.4**	**+0.4**
BILL	**Bilibino**	**70.34**	**16**	P	**P**	**17 43 00.4**	**0.0**
BILL				lAmb	lAmb	17 43 01.1	
	comp=Z,15nm,0.7s						
RPSI	**Rantau Prapat**	**70.50**	**102**	P	**P**	**17 43 01.5**	**-0.7**
IPM	**Ipoh**	**71.08**	**99**	P	**P**	**17 43 05.0**	**-0.8**
IPM				lAmb	lAmb	17 43 06.5	
	comp=Z,14nm,0.6s						
MA2	**Magadan**	**71.95**	**28**	P	**P**	**17 43 11.0**	**+0.7**
	comp=Z,20nm,0.7s,baz=321,slow=9.9,SNR=10						
MA2	**Magadan**	**71.95**	**28**	P	**P**	**17 43 09.6**	**-0.7**
LATQ	**La Tuque**	**72.39**	**316**	P	**P**	**17 43 13.0**	**-0.1**
KSRS	**Korea Array**	**73.39**	**56**	P	**P**	**17 43 18.9**	**-0.3**
	comp=Z,9.1nm,0.7s,baz=304,slow=4.6,SNR=51						
INK	**Inuvik**	**74.78**	**354**	P	**P**	**17 43 25.6**	**-1.1**
	comp=Z,4.1nm,0.7s,baz=4.9,slow=9.6,SNR=5.8						
D53A	**Lac Vacive, Po**	**75.26**	**318**	P	**P**	**17 43 29.9**	**0.0**
D53A				lAmb	lAmb	17 43 30.6	
	comp=Z,21nm,1.1s						
L59A	**Walton**	**76.76**	**313**	P	**P**	**17 43 39.2**	**+0.7**
EPYK	**Eagle Plains**	**76.93**	**355**	P	**P**	**17 43 38.6**	**-0.4**
EPYK				lAmb	lAmb	17 43 39.2	
	comp=Z,12nm,0.7s						
ODNJ	**Ogdensburg**	**77.18**	**312**	P	**P**	**17 43 41.1**	**+0.3**
ODNJ				lAmb	lAmb	17 43 41.8	
	comp=Z,12nm,0.7s						
YKW3	**Yellowknife Ar**	**77.44**	**345**	P	**P**	**17 43 40.5**	**-1.4**
YKW3				lAmb	lAmb	17 43 42.7	
	comp=Z,11nm,0.9s						
YKA	**Yellowknife Ar**	**77.49**	**345**	P	**P**	**17 43 41.4**	**-0.7**
	comp=Z,3.9nm,0.6s,baz=25,slow=5.5,SNR=23						
JNU	**Nakatsue**	**77.83**	**58**	P	**P**	**17 43 44.3**	**-0.4**
	comp=Z,6.2nm,0.6s,baz=3.3,slow=4.1,SNR=9.4						
JNU	**Nakatsue**	**77.83**	**58**	P	**P**	**17 43 43.9**	**-0.8**
N59A	**State Game Lan**	**77.97**	**312**	P	**P**	**17 43 45.5**	**+0.2**
N59A				lAmb	lAmb	17 43 46.1	
	comp=Z,12nm,0.7s						
MLY	**Manley**	**78.67**	**1**	P	**P**	**17 43 49.2**	**+0.4**
MLY				lAmb	lAmb	17 43 49.9	
	comp=Z,8.6nm,0.8s						
MDM	**Murphy Dome**	**78.76**	**360**	P	**P**	**17 43 49.8**	**+0.6**
MDM				lAmb	lAmb	17 43 49.9	
	comp=Z,10nm,0.7s						
EGAK	**Eagle**	**78.77**	**357**	P	**P**	**17 43 49.4**	**+0.2**
EGAK				lAmb	lAmb	17 43 51.1	
	comp=Z,8.6nm,0.7s						
IL31		**78.94**	**359**	P	**P**	**17 43 49.6**	**-0.5**
ILAR	**Eielson Array**	**78.94**	**359**	P	**P**	**17 43 49.5**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=351,slow=4.2,SNR=18						
ILAR				PP	**PP**	**17 46 52.5**	**+3.3**
	comp=Z,0.7nm,0.9s,baz=7.0,slow=6.7,SNR=4.9						
M56A	**Emporium**	**79.04**	**314**	P	**P**	**17 43 51.4**	**+0.3**
WRH	**Wood River Hil**	**79.25**	**360**	P	**P**	**17 43 51.3**	**-0.5**
WRH				lAmb	lAmb	17 43 53.4	
	comp=Z,10nm,0.7s						
DAWY	**Dawson**	**79.39**	**356**	P	**P**	**17 43 52.8**	**+0.1**
M55A	**Ridgway**	**79.39**	**314**	P	**P**	**17 43 53.0**	**-0.1**
BPAW	**Bear Paw Mtn.**	**79.61**	**1**	P	**P**	**17 43 53.1**	**-0.7**
BPAW				lAmb	lAmb	17 43 54.9	
	comp=Z,8.5nm,0.8s						
SCRK	**Sand Creek**	**79.67**	**358**	P	**P**	**17 43 55.0**	**+0.6**
SCRK				lAmb	lAmb	17 43 58.0	
	comp=Z,8.1nm,0.7s						
RIDG	**Independent Ri**	**79.94**	**358**	P	**P**	**17 43 56.1**	**+0.4**
RIDG				lAmb	lAmb	17 43 57.3	
	comp=Z,11nm,0.7s						
DOT	**Dot Lake**	**80.01**	**358**	P	**P**	**17 43 56.4**	**+0.3**
DOT				lAmb	lAmb	17 43 58.4	
	comp=Z,10nm,1.0s						
O56A	**Blue Knob Stat**	**80.04**	**313**	P	**P**	**17 43 55.8**	**-0.8**
O56A				lAmb	lAmb	17 43 58.6	
	comp=Z,14nm,0.9s						
P57A	**Homestead Farm**	**80.21**	**312**	P	**P**	**17 43 57.0**	**-0.5**
P57A				lAmb	lAmb	17 43 58.2	
	comp=Z,15nm,0.7s						
TRF	**Thorofare Moun**	**80.27**	**1**	P	**P**	**17 43 57.6**	**+0.1**
FFC	**Flin Flon**	**80.58**	**335**	P	**P**	**17 43 58.3**	**-0.9**
FFC				lAmb	lAmb	17 43 59.5	
	comp=Z,20nm,0.9s						
DHY	**Denali Highway**	**80.64**	**359**	P	**P**	**17 43 59.1**	**-0.5**
DHY				lAmb	lAmb	17 44 01.9	
	comp=Z,10nm,0.7s						
MENT	**Mentasta**	**80.71**	**358**	P	**P**	**17 44 00.3**	**+0.5**
MENT				lAmb	lAmb	17 44 02.2	
	comp=Z,13nm,0.8s						
PPLA	**Purkeypile**	**80.79**	**2**	P	**P**	**17 44 00.4**	**0.0**
PPLA				lAmb	lAmb	17 44 02.4	
	comp=Z,16nm,0.7s						
MCWV	**Mont Chateau**	**81.18**	**313**	P	**P**	**17 44 02.9**	**+0.2**
MCWV				lAmb	lAmb	17 44 03.5	
	comp=Z,10.0nm,0.7s						
Q56A	**Snyder Ridge,**	**81.19**	**312**	P	**P**	**17 44 01.8**	**-1.0**
SBUM	**Sibu**	**81.25**	**93**	P	**P**	**17 44 04.2**	**+0.8**
S58A	**Poland Farm, P**	**81.43**	**311**	P	**P**	**17 44 04.0**	**0.0**
SKT	**Skwentna**	**81.72**	**1**	P	**P**	**17 44 04.4**	**-0.8**
SKT				lAmb	lAmb	17 44 07.1	
	comp=Z,11nm,1.1s						
ULM	**Lac du Bonnet**	**81.77**	**329**	P	**P**	**17 44 04.5**	**-1.1**
	comp=Z,15nm,0.7s,baz=48,slow=1.8,SNR=12						
ULM	**Lac du Bonnet**	**81.77**	**329**	P	**P**	**17 44 04.4**	**-1.2**
ULM				lAmb	lAmb	17 44 05.2	
	comp=Z,18nm,0.8s						
SCM	**Sheep Creek Mo**	**81.89**	**359**	P	**P**	**17 44 06.5**	**+0.4**
SCM				pmax	pmax		
	comp=Z,15nm,0.8s						
SCM	**Sheep Creek Mo**	**81.89**	**359**	P	**P**	**17 44 06.5**	**+0.4**
SCM				lAmb	lAmb	17 44 06.9	
	comp=Z,15nm,0.8s						
SML	**Sawmill**	**81.92**	**360**	P	**P**	**17 44 05.9**	**-0.3**
SML				lAmb	lAmb	17 44 06.3	
	comp=Z,12nm,0.8s						
O52A	**Adamsville**	**82.03**	**315**	P	**P**	**17 44 07.0**	**-0.2**
O52A				lAmb	lAmb	17 44 08.3	
	comp=Z,16nm,0.7s						
PMR	**Palmer**	**82.14**	**0**	P	**P**	**17 44 06.8**	**-0.5**
PMR				pmax	pmax		
	comp=Z,13nm,1.0s						
PMR	**Palmer**	**82.14**	**0**	P	**P**	**17 44 06.8**	**-0.5**
PMR				lAmb	lAmb	17 44 08.6	
	comp=Z,13nm,1.0s						
P53A	**Whipple**	**82.19**	**314**	P	**P**	**17 44 08.0**	**0.0**
R55A	**Marlinton**	**82.24**	**312**	P	**P**	**17 44 07.9**	**-0.5**
R55A				lAmb	lAmb	17 44 09.7	
	comp=Z,14nm,0.7s						
SUA	**Susitna One**	**82.25**	**1**	P	**P**	**17 44 07.6**	**-0.4**
SUA				lAmb	lAmb	17 44 09.4	
	comp=Z,12nm,0.7s						
KNK	**Knik Glacier**	**82.32**	**360**	P	**P**	**17 44 08.0**	**-0.3**
KNK				lAmb	lAmb	17 44 10.5	
	comp=Z,19nm,0.9s						
VRDI	**Verde Repeater**	**82.41**	**357**	P	**P**	**17 44 09.2**	**+0.2**
SVW2	**Sparrevohn**	**82.47**	**3**	P	**P**	**17 44 09.1**	**0.0**
SVW2				lAmb	lAmb	17 44 11.4	
	comp=Z,11nm,0.9s						
T57A	**Hurt**	**82.56**	**311**	P	**P**	**17 44 09.6**	**-0.4**
T57A				lAmb	lAmb	17 44 10.7	
	comp=Z,9.8nm,0.7s						
RC01	**Rabbit Creek A**	**82.64**	**1**	P	**P**	**17 44 10.0**	**+0.1**
RC01				lAmb	lAmb	17 44 11.6	
	comp=Z,12nm,0.6s						
N49A	**Columbus Grove**	**82.81**	**316**	P	**P**	**17 44 10.1**	**-1.1**
P51A	**Williamsport**	**83.16**	**315**	P	**P**	**17 44 11.0**	**-2.0**
P51A				lAmb	lAmb	17 44 13.3	
	comp=Z,13nm,0.7s						
CISI	**Cisompet, Garu**	**83.77**	**104**	P	**P**	**17 44 15.2**	**-1.3**
U54A	**Nelsons Funny**	**84.42**	**312**	P	**P**	**17 44 19.1**	**-0.5**
R50A	**Paris**	**84.70**	**315**	P	**P**	**17 44 19.5**	**-1.4**
L42A	**Oliver, Polo**	**84.99**	**320**	P	**P**	**17 44 21.0**	**-1.3**
WCI	**Wyandotte Cave**	**85.85**	**316**	P	**P**	**17 44 24.3**	**-2.3**
WCI				pmax	pmax		
	comp=Z,14nm,1.0s						
WCI	**Wyandotte Cave**	**85.85**	**316**	P	**P**	**17 44 24.3**	**-2.3**
WCI				lAmb	lAmb	17 44 26.3	
	comp=Z,14nm,0.9s						
KDAK	**Kodiak Island**	**85.90**	**2**	*i* P	**P**	**17 44 26.9**	**+0.4**
KDAK	**Kodiak Island**	**85.90**	**2**	P	**P**	**17 44 26.6**	**+0.2**
	comp=Z,10nm,0.8s,baz=358,slow=9.3,SNR=9.2						
V52A	**Sevierville**	**85.94**	**312**	P	**P**	**17 44 27.3**	**+0.2**
V52A				lAmb	lAmb	17 44 27.9	
	comp=Z,12nm,0.8s						
T49A	**Edmonton**	**86.20**	**314**	P	**P**	**17 44 28.0**	**-0.4**
ECSD	**EROS Data Cent**	**87.10**	**325**	P	**P**	**17 44 31.8**	**-0.9**
PDAR	**Pinedale Array**	**93.31**	**332**	P	**P**	**17 45 00.6**	**-1.4**
	comp=Z,2.9nm,0.6s,baz=57,slow=3.3,SNR=4.8						
TXAR	**Lajitas Array**	**101.95**	**321**	P	**Pdif**	**17 45 40.5**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=90,slow=3.6,SNR=5.1						
WRA	**Warramunga Arr**	**111.84**	**99**	PKiKP	**PKiKP**	**17 50 20.8**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=316,slow=1.8,SNR=18						
ASAR	**Alice Springs**	**113.45**	**103**	PKiKP	**PKiKP**	**17 50 24.1**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=312,slow=1.6,SNR=42						
ASAR				PKKPbc	**PKKPbc**	**18 01 09.8**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=114,slow=3.8,SNR=4.5						
PLCA	**Paso Flores**	**120.78**	**240**	PKP	**PKiKP**	**17 50 39.4**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=0.0,slow=3.0,SNR=2.8						
PLCA	**Paso Flores**	**120.78**	**240**	PKPdf	**PKiKP**	**17 50 39.8**	**+1.3**
STKA	**Stephens Creek**	**123.33**	**107**	PKP	**PKPdf**	**17 50 43.3**	**-0.1**
	comp=Z,4.1nm,0.6s,baz=323,slow=2.2,SNR=14						
STKA	**Stephens Creek**	**123.33**	**107**		**PKPdf**	**17 50 43.5**	**+0.1**
QSPA	**South Pole Qui**	**126.46**	**180**	PKPdf	**PKPdf**	**17 50 48.1**	**-0.3**
TOO	**Toolangi**	**128.49**	**112**	PKIKP	**PKiKP**	**17 50 54.3**	**+0.5**
TOO	**Toolangi**	**128.49**	**112**	PKPdf	**PKiKP**	**17 50 54.3**	**+0.5**
CAN	**Canberra**	**130.35**	**108**	PKIKP	**PKiKP**	**17 50 58.2**	**+0.5**
CAN	**Canberra**	**130.35**	**108**	PKPdf	**PKiKP**	**17 50 58.1**	**+0.5**
WHZ	**Wether Hill Ro**	**146.46**	**120**	PKPab	**PKPab**	**17 51 29.2**	**+0.8**
RPZ	**Rata Peaks**	**148.67**	**116**	PKPbc	**PKiKP**	**17 51 34.1**	**-0.7**
URZ	**Urewera**	**152.88**	**104**	PKPbc	**PKPbc**	**17 51 41.4**	**-2.0**
	comp=Z,8.5nm,0.5s,baz=117,slow=2.3,SNR=10						

*NIED **08** 17:40:00,44˚.60N×149˚.30E,h35km,Mw5.3 Best double couple: M₀9.02000×10¹⁶ NP1:ϕ₁207.00000°, δ3.00000°, λ17.00000°. NP2:ϕ₂100.00000°, δ89.00000°, λ93.00000°.*

*BJI **08** 17:40:04.9±0.0,44˚.42N×149˚.49E,h35km,mb5.0/56, mB5.4/11,Ms5.4/11,Ms7 5.2/10*

*JMA **08** 17:40:07.2±0.5,44˚.58N×149˚.26E,h30km,M5.2*

*SKHL **08** 17:40:07.8±0.7,44˚.23N×149˚.31E,h50km±5km,mb5.5/12, Ms5.1/5*

SKHL Felt (III-IV) at Goryachie Kluchi, Reidovo, Kuril'sk, Gornyi, Kitovyi.

*ISCJB **08** 17:40:08.2±0.4,44˚.33N±0˚.02×149˚.11E±0˚.03,h40km±3km, mb4.8/110,MS5.1/2,Error ellipse: s-maj=4.1km s-min=2.6km az=145.1*

*MOS **08** 17:40:08.7±0.9,44˚.43N×149˚.12E,h45km,mb5.1/22, MS4.6/5,Error ellipse: s-maj=5.9km s-min=4.7km az=107.8*

MOS Felt (II) at Kuril'sk.

*IDC **08** 17:40:09.6±2.0,44˚.51N×149˚.00E,h35km±15km,mb4.5/32, mb1 4.7/38,mb1mx4.6/51,mbtmp4.8/38,ML4.0/6,MS4.9/8, Ms1 4.9/8,ms1mx4.5/53,Error ellipse: s-maj=12.5km s-min=8.2km az=123.0*

*GCMT **08** 17:40:10.7±0.3,44˚.25N±0˚.02×149˚.35E±0˚.03,h62km±3km, MW5.1/90,Moment Tensor Solution. s1,c1; s90,c126; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.24±.45; Mθθ=4.66±.34; Mϕϕ4.90±.29; Mrθ3.11±.17; Mrϕ0.11±.20; Mθϕ-1.99±.15; Best double couple: M₀6.01500×10¹⁶ NP1:ϕs223.00000°,δ54.00000°,λ-6.00000°. Principal axes: T 5.6720, Plg21.0000°, Azm84.0000°; N 0.6900, Plg53.0000°, Azm322.0000°; P -6.3580, Plg28.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **08** 17:40:10.7±1.4,44˚.45N±0˚.08×149˚.1E±0˚.1,h45km±5km, mb4.9/181*

ISC 08 17:40:09.3±0.3, 44˚.36N±0˚.04×149˚.14E±0˚.04, h35km±3km, n667,σ1$40/684, mb4.9/182, 74C-24D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.25**	**314**	*d* iPN	**Pn**	**17 40 30.2**	**0.0**
KUR				*i* S	**Sn**	**17 40 46.2**	**+0.3**
KUR				pmax	pmax		
	comp=Z,5μm,0.3s						
KUR				pmax	pmax		
	comp=N,2μm,0.2s						
KUR				pmax	pmax		
	comp=E,1μm,0.2s						
KUR				smax	smax		
	comp=N,15μm,0.4s						
KUR				smax	smax		
	comp=E,4μm,0.5s						
KUR				smax	smax		
	comp=E,41μm,1.8s						
KUR				smax	smax		
	comp=N,35μm,1.9s						
KUR	**Kuril'sk**	**1.25**	**314**	⇓*i* P	**Pn**	**17 40 30.2**	**0.0**
KUR				AMB	AMB	17 40 32.8	
	comp=N,2μm,0.4s						
KUR				AMB	AMB	17 40 32.8	
	comp=N,1μm,0.4s						
KUR				AMB	AMB	17 40 32.8	
	comp=N,5μm,0.4s						
KUR				*i* S	**Sn**	**17 40 46.6**	**+0.7**
KUR				A	A	17 40 47.5	
	comp=N,36μm,2.0s						
KUR				A	A	17 40 47.5	
	comp=N,41μm,2.0s						
KUR				A	A	17 40 49.3	
	comp=N,15μm,0.4s						
KUR				A	A	17 40 49.3	
	comp=N,4μm,0.4s						
KUR				AMS	AMS	17 41 08.0	
	comp=N,52μm,11.0s						
KUR				AMS	AMS	17 41 08.0	
	comp=N,38μm,11.0s						
KUR				AMS	AMS	17 41 08.0	
	comp=N,27μm,11.0s						
YUK	**Yuzh-Kuril'sk**	**2.38**	**263**	*d* iPN	**Pn**	**17 40 45.9**	**+0.2**
YUK				*i* S	**Sn**	**17 41 12.9**	**-0.7**
YUK				pmax	pmax		
	comp=N,413μm,0.2s						
YUK				pmax	pmax		
	comp=Z,2357μm,0.2s						
YUK				pmax	pmax		
	comp=E,554μm,0.1s						
YUK				pmax	pmax		
	comp=Z,4μm,1.1s						
YUK				smax	smax		
	comp=E,8μm,0.6s						
YUK				smax	smax		
	comp=N,3μm,0.3s						
YUK				smax	smax		
	comp=E,17μm,1.1s						
YUK				smax	smax		
	comp=N,8μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**2.38**	**263**	⇓*i* P	**Pn**	**17 40 45.9**	**+0.2**
YUK				AMB	AMB	17 40 50.6	
	comp=N,410nm,0.3s						
YUK				AMB	AMB	17 40 50.6	
	comp=N,550nm,0.3s						
YUK				AMB	AMB	17 40 50.6	
	comp=N,2μm,0.3s						
YUK				AMB	AMB	17 40 52.9	
	comp=N,4μm,1.0s						
YUK				*i* S	**Sn**	**17 41 14.4**	**+0.8**
YUK				A	A	17 41 19.7	
	comp=N,3μm,0.5s						
YUK				A	A	17 41 19.7	
	comp=N,8μm,0.5s						
YUK				AMS	AMS	17 41 41.0	
	comp=N,49μm,8.0s						
YUK				AMS	AMS	17 41 41.0	
	comp=N,36μm,8.0s						
GRPR	**Tuman**	**2.45**	**262**	⇓*i* PN	**Pn**	**17 40 46.7**	**0.0**
GRPR				*i* S	**Sn**	**17 41 16.0**	**+0.6**
GRPR				pmax	pmax		
	comp=E,527nm,0.4s						
GRPR				pmax	pmax		
	comp=Z,2μm,0.4s						
GRPR				pmax	pmax		
	comp=N,632nm,0.5s						
GRPR				smax	smax		
	comp=N,5μm,0.3s						
GRPR				smax	smax		
	comp=E,2μm,0.2s						
GRPR	**Tuman**	**2.45**	**262**	⇓*i* P	**Pn**	**17 40 46.7**	**0.0**
GRPR				AMB	AMB	17 40 51.6	
	comp=E,630nm,0.4s						
GRPR				AMB	AMB	17 40 51.6	
	comp=E,530nm,0.4s						
GRPR				AMB	AMB	17 40 51.6	
	comp=E,2μm,0.4s						
GRPR				*i* S	**Sn**	**17 41 16.0**	**+0.6**
GRPR				A	A	17 41 21.3	
	comp=E,5μm,0.3s						
GRPR				A	A	17 41 21.3	
	comp=E,2μm,0.3s						
NEM2	**Nemuro 2**	**2.65**	**249**	P	**Pn**	**17 40 49.4**	**0.0**
NEM2				*e*S	**Sn**	**17 41 19.9**	**-0.4**
NMR	**Nemuro--Hokkai**	**2.66**	**249**	*d* iPN	**Pn**	**17 40 49.6**	**+0.1**
NMR				*i* S	**Sn**	**17 41 20.7**	**+0.2**
NMR	**Nemuro--Hokkai**	**2.66**	**249**	⇑*i* P	**Pn**	**17 40 49.9**	**+0.4**
NMR				*i* S	**Sn**	**17 41 20.7**	**+0.2**
GLVR	**Golovnino**	**2.68**	**258**	⇑*i* PN	**Pn**	**17 40 51.2**	**+1.3**
GLVR				*i* S	**Sn**	**17 41 21.8**	**+0.7**
GLVR				pmax	pmax		
	comp=Z,2μm,0.4s						
GLVR				pmax	pmax		
	comp=N,1μm,0.2s						
GLVR				pmax	pmax		
	comp=E,828nm,0.2s						
GLVR				smax	smax		
	comp=E,3μm,0.5s						
GLVR				smax	smax		
	comp=N,9μm,0.6s						
GLVR	**Golovnino**	**2.68**	**258**	⇑*i* P	**Pn**	**17 40 51.2**	**+1.3**
GLVR				AMB	AMB	17 40 57.3	
	comp=N,1μm,0.4s						
GLVR				AMB	AMB	17 40 57.3	
	comp=N,830nm,0.4s						
GLVR				AMB	AMB	17 40 57.3	
	comp=N,2μm,0.4s						
GLVR				*i* S	**Sn**	**17 41 21.8**	**+0.7**
GLVR				A	A	17 41 29.7	
	comp=N,9μm,0.5s						
GLVR				A	A	17 41 29.7	
	comp=N,3μm,0.5s						
JRA	**Rausu**	**2.92**	**263**	P	**Pn**	**17 40 54.3**	**+1.1**
JNK	**Nakash**	**3.28**	**258**	P	**Pn**	**17 40 58.9**	**+0.8**
JAK	**Akkeshi**	**3.50**	**249**	P	**Pn**	**17 41 00.9**	**-0.2**
JTKR	**Abashiri--Toko**	**3.78**	**266**	P	**Pn**	**17 41 06.6**	**+1.6**
JAR	**Ashorobuto**	**4.03**	**257**	P	**Pn**	**17 41 10.2**	**+1.8**
JAR				*e*S	**Sn**	**17 41 55.2**	**+0.9**
JOB	**Onbets**	**4.12**	**251**	P	**Pn**	**17 41 10.0**	**+0.4**
JMP	**Maruseppu**	**4.17**	**267**	P	**Pn**	**17 41 12.2**	**+1.8**
JMP				*e*S	**Sn**	**17 42 05.7**	**+7.8**
JCH	**Churui**	**4.55**	**249**	P	**Pn**	**17 41 15.9**	**+0.3**
JCH				*e*S	**Sn**	**17 42 08.3**	**+1.1**
JKK2	**Kamakawa 2**	**4.63**	**266**	P	**Pn**	**17 41 18.9**	**+2.3**
JKA	**Kamikawa-asahi**	**4.71**	**269**	*e*P	**Pn**	**17 41 21.0**	**+3.3**
JKA	**Kamikawa-asahi**	**4.71**	**269**		**Pn**	**17 41 20.9**	**+3.3**
JKA					Sn	17 42 23.6	+13
ASAJ	**Asahikawa**	**4.71**	**269**	PN	**Pn**	**17 41 21.0**	**+3.3**
ASAJ	**Asahikawa**	**4.71**	**269**	P	**Pn**	**17 41 20.6**	**+2.9**
ASAJ	**Asahikawa**	**4.71**	**269**	Pn	**Pn**	**17 41 20.9**	**+3.3**
	comp=N,9.9nm,0.3s,baz=351,slow=4.7,SNR=62						
ASAJ				Sn	Sn	17 42 23.6	+13
	comp=N,7.7nm,0.3s,baz=97,slow=17,SNR=3.8						
JSE	**Soyaes**	**4.71**	**280**	P	**Pn**	**17 41 19.4**	**+1.6**
JFR	**Furan**	**4.89**	**258**	P	**Pn**	**17 41 22.8**	**+2.6**
JEM	**Erimo**	**4.96**	**244**	P	**Pn**	**17 41 23.1**	**+1.9**
JEM				*e*S	**Sn**	**17 42 17.9**	**+0.6**
ERM	**Erimo**	**4.96**	**244**	*i* PN	**Pn**	**17 41 22.9**	**+1.7**
ERM	**Erimo**	**4.96**	**244**		**Pn**	**17 41 23.2**	**+2.0**
JAB	**Ashibetsu**	**5.07**	**263**	P	**Pn**	**17 41 25.6**	**+2.9**
JNBK	**Urakawa-nobuka**	**5.10**	**248**	P	**Pn**	**17 41 24.0**	**+0.9**
JNBK				*e*S	**Sn**	**17 42 20.4**	**-0.4**
YSS	**Yuzh-Sakhalins**	**5.17**	**302**	⇓*i* PN	**Pn**	**17 41 25.6**	**+1.6**
YSS				pmax	pmax		
	comp=Z,70nm,0.6s						
YSS	**Yuzh-Sakhalins**	**5.17**	**302**	⇓*i* P	**Pn**	**17 41 26.3**	**+2.3**
YSS				AMB	AMB	17 41 27.0	
	comp=Z,70nm,0.6s						
YSS				*e*S	**Sn**	**17 42 25.6**	**+3.2**
YSS				A	A	17 42 27.8	
	comp=Z,110nm,0.7s						
YSS	

JSR Shiriuchi 7.00 249 P **Pn** **17 41 49.5 +0.4**
JOSM Okushiri--Mats 7.42 255 P **Pn** **17 41 55.5 +0.6**
OFUJ Ofunato 7.68 229 P **Pn** **17 41 56.4 -2.2**
TYV Tymovskoe 7.84 328 *e*PN **Pn** **17 42 03.6 +3.0**
TYV *e*S **Sn** **17 43 35.2 +7.2**
TYV pmax pmax
comp=Z,24nm,0.7s
TYV smax smax
comp=N,10.0nm,1.0s
TYV Tymovskoe 7.84 328 *e*P **Pn** **17 42 03.0 +2.4**
TYV AMB AMB 17 42 05.0
comp=N,20nm,0.7s
TYV *e*S **Sn** **17 43 30.0 +2.0**
TYV A A 17 43 36.6
comp=N,30nm,0.9s
SKR Severo-Kuril's 7.89 34 *e*PN **Pn** **17 42 01.9 +0.6**
SKR pmax pmax
comp=Z,269nm,0.7s
SKR MLR MLR
comp=Z,7µm,16.0s
SKR MLR MLR
comp=Z,7µm,17.0s
SKR Severo-Kuril's 7.89 34 *e*P **Pn** **17 42 02.0 +0.6**
SKR AMB AMB 17 42 04.0
comp=Z,270nm,0.7s
SKR *e*S **Sn** **17 43 27.4 -1.8**
SKR A A 17 44 00.0
comp=Z,290nm,0.8s
SKR A A 17 44 00.0
comp=Z,230nm,0.8s
SKR AMS AMS 17 44 33.0
comp=Z,6µm,16.0s
SKR AMS AMS 17 44 33.0
comp=Z,6µm,16.0s
SKR AMS AMS 17 44 33.0
comp=Z,7µm,16.0s
JRG Rokugo 8.05 235 P **Pn** **17 42 02.5 -1.2**
JIO Ouri 8.31 227 P **Pn** **17 42 04.4 -2.8**
JIO *e*S **Sn** **17 43 31.5 -8.2**
PAU Pauzhetka 8.77 33 *e*P **Pn** **17 42 14.4 +0.9**
TEY Ternei 8.96 279⇓ *e*PN **Pn** **17 42 19.1 +3.1**
TEY pmax pmax
comp=E,30nm,1.4s
TEY pmax pmax
comp=Z,20nm,1.3s
TEY pmax pmax
comp=N,10.0nm,0.8s
TEY Ternei 8.96 279⇓ *e*P **Pn** **17 42 19.1 +3.1**
TEY AMB AMB 17 42 20.5
comp=N,10.0nm,0.8s
TEY AMB AMB 17 42 20.5
comp=N,30nm,0.8s
JYA Atsumi 9.12 234 P **Pn** **17 42 17.8 -0.5**
JFK Kawauchi 9.38 225 P **Pn** **17 42 20.4 -1.5**
JFY Yanaizu 9.96 229 P **Pn** **17 42 28.5 -1.3**
JFY *e*S **Sn** **17 44 13.7 -6.6**
OKH Okha 10.05 338⇓ *i*P **Pn** **17 42 33.8 +2.8**
OKH AMB AMB 17 42 34.5
comp=N,500nm,1.7s
OKH AMS AMS 17 51 06.3
comp=N,5µm,14.0s
OKH AMS AMS 17 51 06.3
comp=N,4µm,14.0s
JSD Sado 10.35 236 P **Pn** **17 42 33.9 -1.2**
PEA0B Petropavlovsk- 10.41 30 *i* PN **Pn** **17 42 36.7 +0.8**
PEA0B Petropavlovsk- 10.41 30 **Pn** **17 42 36.9 +1.0**
PETK Petropavlovsk- 10.41 30 Pn **Pn** **17 42 35.9 0.0**
comp=N,4.2nm,0.3s,baz=217,slow=14,SNR=60
PETK Sn Sn 17 44 46.8 +16
baz=212,slow=19,SNR=2.7
PETK LR LR 17 46 26.6
comp=N,8µm,19.4s,baz=224,slow=36
JHK Hiroka 10.45 231 P **Pn** **17 42 35.6 -0.9**
PET Petropavlovsk 10.70 33 *e*PN **Pn** **17 42 42.2 +2.4**
PET pmax pmax
comp=Z,69nm,1.1s
PET MLR MLR
comp=Z,12µm,12.0s
PET MLR MLR
comp=Z,14µm,15.0s
PET Petropavlovsk 10.70 33 *e*P **Pn** **17 42 40.1 +0.3**
PET AMB AMB 17 42 42.2
comp=Z,70nm,1.0s
PET AMS AMS 17 46 22.6
comp=Z,14µm,15.0s
PET Petropavlovsk 10.70 33 Pn **Pn** **17 42 39.2 -0.6**
GRNR Gornyy 10.71 311 *e*PN **Pn** **17 42 41.7 +1.7**
GRNR MLR MLR
comp=Z,3µm,13.0s
GRNR Gornyy 10.71 311 *e*P **Pn** **17 42 41.7 +1.7**
GRNR AMS AMS 17 49 07.0
comp=Z,4µm,13.0s
JAG Ashikaga 10.83 226 P **Pn** **17 42 40.0 -1.7**
JSZ Suzu 11.27 236 P **Pn** **17 42 46.1 -1.6**
MJB9 Matsu-Tunnel 11.41 231 **Pn** **17 42 49.0 -0.7**
MAJO Matsushiro 11.41 231 *i* PN **Pn** **17 42 49.1 -0.5**
MAJO Matsushiro 11.41 231 **Pn** **17 42 49.1 -0.5**
MAT Matsushiro 11.41 231 P **Pn** **17 42 48.6 -1.1**
MAT S **Sn** **17 44 58.9 +3.1**
MAT Matsushiro 11.41 231 P **Pn** **17 42 48.6 -1.1**
MJAR Matsushiro Arr 11.41 231 Pn **Pn** **17 42 49.0 -0.6**
comp=Z,0.6nm,0.3s,baz=33,slow=14,SNR=111
MJAR Sn **Sn** **17 44 59.2 +3.4**
comp=Z,0.1nm,0.3s,baz=312,slow=26,SNR=3.9
MJAR LR LR 17 46 41.4
comp=Z,7µm,18.9s,baz=65,slow=34
JRY Ryogami san 11.43 227 P **Pn** **17 42 49.2 -0.7**
JNG Nsakai 11.57 230 P **Pn** **17 42 50.4 -1.5**
JTT Ttatey 11.86 233 P **Pn** **17 42 55.3 -0.5**
JYS Shimob 12.01 226 P **Pn** **17 42 57.2 -0.7**
JGN Niukaw 12.14 232 P **Pn** **17 42 59.4 -0.3**
USA0B Ussuriysk Arra 12.30 275 *i* PN **Pn** **17 43 02.3 +0.6**
USA0B Ussuriysk Arra 12.30 275 **Pn** **17 43 02.4 +0.6**
USRK Ussuriysk Ar. 12.30 275 Pn **Pn** **17 43 02.9 +1.2**
baz=86,slow=13,SNR=44
JNY Yasuok 12.48 228 P **Pn** **17 43 03.5 -0.8**
KLR Kul'dur 12.86 298 *i* PN **Pn** **17 43 12.4 +3.0**
KLR Kul'dur 12.86 298 Pn P 17 43 15.0 -4.7
comp=Z,0.4nm,0.3s,baz=99,slow=13,SNR=7.4
KLR Kul'dur 12.86 298 *i* P **Pn** **17 43 12.4 +3.0**
JYTA Yamagatataniai 12.92 232 P **Pn** **17 43 09.3 -0.9**
INU Inuyama 12.94 230 **Pn** **17 43 09.7 -0.8**
JHJ2 Mitsune 13.37 216 Pn **Pn** **17 43 15.6 -0.9**
EKMR Ekimchan 13.76 315 *e*P **Pn** **17 43 21.5 -0.2**
MDJ Mudanjiang 13.96 278 P **Pn** **17 43 24.6 +0.2**
MDJ pmax pmax
comp=Z,30nm,0.9s
MDJ pmax pmax
comp=Z,6µm,14.0s
MDJ Mudanjiang 13.96 278 **Pn** **17 43 24.8 +0.4**
MA2 Magadan 15.27 3 P **Pn** **17 43 42.3 +0.4**
MA2 pmax pmax
comp=Z,34nm,1.0s
MA2 Magadan 15.27 3 Pn **Pn** **17 43 43.2 +1.3**
comp=Z,2.4nm,0.3s,baz=174,slow=12,SNR=7.0
MA2 LR LR 17 49 09.5
comp=Z,3µm,18.4s,baz=182,slow=36
MA2 Magadan 15.27 3 *e*P **Pn** **17 43 42.3 +0.4**
MA2 Magadan 15.27 3 **Pn** **17 43 42.4 +0.4**
BMKR Bomnak 16.69 316 *e*P **Pn** **17 44 00.5 +0.3**
BMKR AMB AMB 17 44 04.7
comp=Z,20nm,0.5s
CN2 Changchun 17.02 276 *e*P **Pn** **17 44 05.2 +0.8**
CN2 *es*P pwP 17 44 17.5 -0.3
CN2 pmax pmax
comp=Z,30nm,0.8s
ZEA Zeya 17.08 311 *e*P **P** **17 44 07.9 +1.4**
ZEA pmax pmax
comp=Z,46nm,1.4s
ZEA Zeya 17.08 311 *e*P **Pn** **17 44 03.8 -1.2**
ZEA AMB AMB 17 44 09.1
comp=Z,40nm,1.0s
KSRS Korea Array 17.43 254 P **Pn** **17 44 08.1 -1.4**
comp=Z,0.5nm,0.3s,baz=66,slow=11,SNR=20
KSRS LR LR 17 51 03.5
comp=Z,3µm,18.1s,baz=60,slow=38
KSRS ScP **ScP** **17 52 21.2 -0.1**
comp=Z,0.1nm,0.3s,baz=26,slow=3.1,SNR=4.1
KS19 Wonju Array Si 17.45 254 **Pn** **17 44 09.4 -0.4**
KROS Kirovskiy 17.52 313 *e*P **Pn** **17 44 10.0 -0.6**
KROS AMB AMB 17 44 13.2
comp=Z,20nm,0.5s
JNU Nakatsue 18.09 238 P **Pn** **17 44 17.1 -0.7**
comp=Z,0.2nm,0.3s,baz=341,slow=5.9,SNR=6.4
JNU LR LR 17 51 00.3
comp=Z,3µm,18.8s,baz=54,slow=36
JNU Nakatsue 18.09 238 P **Pn** **17 44 17.2 -0.6**
JCJ Chichijima 18.12 200 P **Pn** **17 44 17.8 -0.2**
comp=Z,1.9nm,0.3s,baz=342,slow=9.6,SNR=3.2
JCJ S Sn 17 47 23.0 -16
comp=Z,6.8nm,0.3s,baz=229,slow=20,SNR=3.8
INCN Inchon 18.31 256 P **Pn** **17 44 21.6 +1.2**
INCN pmax pmax
comp=Z,50nm,0.8s
INCN Inchon 18.31 256 *e*P **Pn** **17 44 21.6 +1.2**
INCN Inchon 18.31 256 P **Pn** **17 44 21.6 +1.2**
INCN IAmb IAmb 17 44 22.7
comp=Z,50nm,0.8s
SMY Shemya 18.45 54 P **P** **17 44 21.4 -0.2**
SMY pmax pmax
comp=Z,126nm,1.1s
SMY Shemya 18.45 54 P **P** **17 44 21.4 -0.2**
SMY IAmb IAmb 17 44 30.2
comp=Z,126nm,1.1s
SEY Seymchan 18.70 5 *i* P **P** **17 44 24.2 0.0**
SEY Seymchan 18.70 5 P **P** **17 44 22.5 -1.7**
comp=Z,2.2nm,0.3s,baz=187,slow=9.4,SNR=18
SEY LR LR 17 50 58.7
comp=Z,3µm,21.4s,baz=156,slow=35
SEY Seymchan 18.70 5 *i* P **P** **17 44 24.2 0.0**
YAK Yakutsk 21.04 334 *e*P **P** **17 44 47.4 -2.3**
YAK *e* 17 45 06.8
YAK *e*S **S** **17 48 34.3 -7.4**
YAK *e* 17 48 59.2
YAK *e* 17 56 08.2
YAK pmax pmax
comp=Z,8.0nm,0.8s
YAK pmax pmax
comp=Z,39nm,0.7s
YAK smax smax
comp=N,567nm,2.5s
YAK MLR MLR
comp=Z,2µm,18.0s
YAK MLR MLR
comp=E,1µm,16.0s
YAK MLR MLR
comp=N,3µm,18.0s
YAK Yakutsk 21.04 334 P **P** **17 44 47.7 -2.0**
comp=N,6.5nm,0.3s,baz=121,slow=3.7,SNR=26
YAK S **S** **17 48 34.8 -6.9**
comp=N,1.5nm,0.4s,baz=158,slow=19,SNR=4.2
YAK LR LR 17 53 06.8
comp=N,3µm,18.2s,baz=115,slow=37
YAK Yakutsk 21.04 334 P **P** **17 44 47.9 -1.8**
DL2 Dalian 21.22 265 P **P** **17 44 51.9 +0.1**
DL2 pmax pmax
comp=N,77nm,0.7s
BJI Beijing 24.70 271⇑ *i*P **P** **17 45 25.9 -0.9**
BJI pmax pmax
comp=N,43nm,1.6s
BILL Bilibino 25.38 15⇑ *e*P **P** **17 45 30.7 -2.1**
BILL *e* 17 46 11.6
BILL *e*S **S** **17 49 57.0 +0.3**
BILL pmax pmax
comp=Z,27nm,1.9s
BILL MLR MLR
comp=Z,3µm,17.0s
TIA Tai'an 25.62 263 P **P** **17 45 36.9 +1.7**
TIA pmax pmax
comp=Z,65nm,0.8s
NJ2 Nanjing 26.63 253 *e*P **P** **17 45 45.2 +0.8**
NJ2 pP **pP** **17 45 52.9 -0.4**
NJ2 pmax pmax
comp=Z,52nm,0.8s
HHC Hu-ho-hao-te 27.72 276 *e*P **P** **17 45 56.3 +2.0**
HHC pmax pmax
comp=Z,6.0nm,1.0s
H11N2 WAKE ISLAND Hy 28.68 143 T T 18 16 58.9
baz=334,slow=76,SNR=207
H11N1 WAKE ISLAND Hy 28.69 143 T T 18 16 59.3
baz=334,slow=76,SNR=216
H11N3 WAKE ISLAND Hy 28.70 143 T T 18 17 00.4
baz=334,slow=76,SNR=208
TIXI Tiksi 29.07 347 *i* P **P** **17 46 02.9 -2.9**
TIXI pmax pmax
comp=Z,4.0nm,1.2s
TIXI Tiksi 29.07 347 P **P** **17 46 02.1 -3.7**
comp=Z,2.6nm,0.4s,baz=180,slow=24,SNR=12
TIXI Tiksi 29.07 347 IAmb IAmb 17 46 03.3
comp=Z,2.6nm,0.6s
ULN Ulaanbaatar 29.12 292 P **P** **17 46 06.4 -0.3**
ULN pmax pmax
comp=Z,6.0nm,0.7s
ULN Ulaanbaatar 29.12 292 *e*P **P** **17 46 06.4 -0.3**
ULN Ulaanbaatar 29.12 292 P **P** **17 46 06.4 -0.3**
SONM Songino Array 29.56 292 P **P** **17 46 10.0 -0.6**
comp=Z,3.5nm,0.6s,baz=77,slow=7.9,SNR=18
SONM ScP **ScP** **17 52 52.6 -1.2**
comp=Z,1.4nm,1.1s,baz=124,slow=3.5,SNR=4.3
H11S1 WAKE ISLAND Hy 29.68 145 T T 18 18 15.6
baz=334,slow=76,SNR=310
H11S3 WAKE ISLAND Hy 29.69 145 T T 18 18 13.7
baz=334,slow=76,SNR=196
H11S2 WAKE ISLAND Hy 29.70 145 T T 18 18 22.3
baz=334,slow=76,SNR=185
WHN Wuhan 30.62 255⇑ P **P** **17 46 20.6 +0.7**
TPUB Ta-pu 31.40 237 P **P** **17 46 27.6 +0.7**
ANM Nome 32.26 35 P **P** **17 46 34.0 0.0**
ANM pmax pmax
comp=Z,11nm,1.1s
ANM Nome 32.26 35 P **P** **17 46 34.0 0.0**
XAN Xi'an 32.54 266 P **P** **17 46 37.1 +0.3**
XAN pmax pmax
comp=Z,21nm,1.1s
ENH Enshi 34.18 259 P **P** **17 46 50.2 -1.0**
RDOG Red Dog Mine 34.28 30 P **P** **17 46 50.9 -0.7**
RDOG IAmb IAmb 17 47 03.1
comp=Z,12nm,0.7s
LZH Lanzhou 35.18 272⇑ P **P** **17 47 00.8 +0.9**
LZH pP pP 17 47 11.7 +2.4
LZH sP sP 17 47 16.2 +2.4
LZH pmax pmax
comp=Z,78nm,1.2s
LZH LR LR
comp=Z,4µm,14.1s
LZH LR LR
comp=Z,4µm,15.1s
LZH LR LR
comp=Z,5µm,15.6s
SVW2 Sparrevohn 36.15 43 P **P** **17 47 08.9 +1.2**
SVW2 IAmb IAmb 17 47 09.5
comp=Z,23nm,1.1s
GTA Gaotai 36.60 280 P **P** **17 47 12.0 -0.1**
GTA pP pP 17 47 21.3 -0.1
GTA sP pwP 17 47 25.5 +0.3
GTA PcP **PcP** **17 49 35.3 +0.7**
GTA PcS **PcS** **17 53 22.2 -0.5**
GTA ScS ScS 17 57 24.8 -0.4
GTA pmax pmax
comp=Z,21nm,1.4s
KDAK Kodiak Island 37.77 48 P **P** **17 47 21.3 -0.3**
KDAK pmax pmax
comp=Z,42nm,1.1s
KDAK Kodiak Island 37.77 48 P **P** **17 47 21.0 -0.6**
comp=Z,25nm,0.8s,baz=277,slow=2.7,SNR=34
KDAK Kodiak Island 37.77 48 P **P** **17 47 21.3 -0.3**
PPLA Purkeypile 37.79 40 P **P** **17 47 23.4 +1.5**
CD2 Chengdu 37.89 265 *e*P **P** **17 47 22.0 -0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
SKT Skwentna 38.09 41 P **P** **17 47 24.4 +0.1**
SKT IAmb IAmb 17 47 38.5
comp=Z,17nm,1.1s
BPAW Bear Paw Mtn. 38.36 38 P **P** **17 47 27.1 +0.6**
BPAW IAmb IAmb 17 47 27.8
comp=Z,22nm,1.1s
KTH Kantishna Hill 38.38 39 P **P** **17 47 28.1 +1.4**
GYA Guiyang 38.46 257⇓ *i*P **P** **17 47 27.3 -0.6**
GYA pP pP 17 47 39.8 +2.8
GYA PP **PnPn** **17 48 59.7 +1.5**
GYA PcP **PcP** **17 49 39.6 -0.9**
GYA S **S** **17 53 19.3 -1.6**
GYA SS **SnSn** **17 56 07.4 -1.4**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,480nm,16.9s
GYA LR LR
comp=Z,470nm,16.7s
GYA LR LR
comp=Z,450nm,16.3s
SUA Susitna One 38.48 42 P **P** **17 47 27.5 -0.1**
SUA IAmb IAmb 17 47 28.8
comp=Z,19nm,1.2s
MLY Manley 38.50 36 P **P** **17 47 28.7 +1.0**
MLY IAmb IAmb 17 47 29.2
comp=Z,29nm,1.1s
TGY Tagaytay City 38.55 227 P **P** **17 47 29.9 +1.3**
comp=Z,159nm,0.5s,baz=318,slow=6.0,SNR=6.5
TRF Thorofare Moun 38.66 39 P **P** **17 47 28.4 -0.8**
TRF IAmb IAmb 17 47 44.3
comp=Z,14nm,0.9s
RC01 Rabbit Creek A 38.98 43 P **P** **17 47 31.8 +0.1**
RC01 IAmb IAmb 17 47 32.8
comp=Z,35nm,1.2s
BWN Browne 39.03 38 P **P** **17 47 33.0 +0.9**
SEW Seward 39.19 44 P **P** **17 47 33.1 -0.3**
SEW IAmb IAmb 17 47 47.1
comp=Z,18nm,0.8s
NEA Nenana 39.20 37 P **P** **17 47 33.3 -0.2**
NEA IAmb IAmb 17 47 34.6
comp=Z,23nm,1.0s
PMR Palmer 39.25 42 P **P** **17 47 34.0 +0.1**
PMR pmax pmax
comp=Z,17nm,1.2s
PMR Palmer 39.25 42 P **P** **17 47 34.0 +0.1**
PMR IAmb IAmb 17 47 43.3
comp=Z,17nm,1.2s
RND Reindeer 39.31 39 P **P** **17 47 34.4 -0.1**
RND pmax pmax
comp=Z,44nm,1.2s
RND Reindeer 39.31 39 P **P** **17 47 34.4 -0.1**
MDM Murphy Dome 39.57 36 P **P** **17 47 36.8 +0.2**
MDM IAmb IAmb 17 47 37.8
comp=Z,26nm,1.1s
KNK Knik Glacier 39.58 42 P **P** **17 47 36.9 +0.1**
SML Sawmill 39.62 41 P **P** **17 47 37.5 +0.5**
WRH Wood River Hil 39.63 37 P **P** **17 47 37.6 +0.6**
WRH IAmb IAmb 17 47 42.8
comp=Z,28nm,1.2s
TCOL CIGO, UAF Yank 39.72 37 P **P** **17 47 38.8 +1.0**
baz=270,SNR=7.2
CCB Clear Creek Bu 39.75 37 P **P** **17 47 38.1 +0.1**
CCB IAmb IAmb 17 47 40.3
comp=Z,15nm,1.2s
POKR Poker Plat Res 39.90 36 P **P** **17 47 40.4 +1.0**
baz=270,SNR=37
DHY Denali Highway 39.99 39 P **P** **17 47 39.1 -1.1**
DHY IAmb IAmb 17 47 53.8
comp=Z,30nm,1.2s
SCM Sheep Creek Mo 40.09 41 P **P** **17 47 40.8 -0.2**
SCM pmax pmax
comp=Z,21nm,1.0s
SCM Sheep Creek Mo 40.09 41 P **P** **17 47 40.8 -0.2**
SCM IAmb IAmb 17 47 56.3
comp=Z,21nm,1.0s
IL31 40.14 37 P **P** **17 47 41.5 +0.3**
IL31 IAmb IAmb 17 47 43.8
comp=Z,27nm,1.1s
ILAR Eielson Array 40.14 37 P **P** **17 47 41.0 -0.4**
comp=Z,22nm,1.1s,baz=258,slow=6.2,SNR=55
ILAR S **S** **17 53 45.1 -0.1**
comp=Z,0.2nm,0.5s,baz=251,slow=28,SNR=7.1
GLI Glacier Island 40.28 43 P **P** **17 47 42.1 -0.4**
GLI IAmb IAmb 17 47 55.4
comp=Z,26nm,1.2s
FID Port Fidalgo 40.60 43 P **P** **17 47 44.9 -0.3**
FID IAmb IAmb 17 48 01.4
comp=Z,27nm,1.1s
HIN Hinchinbrook I 40.63 43 P **P** **17 47 46.5 +1.1**
HIN IAmb IAmb 17 47 50.8
comp=Z,25nm,0.9s
FYU Fort Yukon 40.80 34 P **P** **17 47 47.0 +0.4**
EYAK Cordova Ski Ar 40.98 43 P **P** **17 47 49.3 +1.1**
RIDG Independent Ri 41.08 38 IAmb IAmb 17 47 50.0
comp=Z,37nm,1.2s
SCRK Sand Creek 41.44 38 IAmb IAmb 17 47 52.4
comp=Z,23nm,1.2s
RAGM Ragged Mountai 41.53 43 P **P** **17 47 53.7 +0.9**
RAGM IAmb IAmb 17 48 07.1
comp=Z,33nm,1.2s
HMT Hamilton 41.74 43 P **P** **17 47 55.6 +1.1**
HMT IAmb IAmb 17 48 08.6
comp=Z,37nm,1.2s
ZAA0 Zalesovo Array 41.77 307 P **P** **17 47 54.0 -0.8**
ZALV Zalesovo Beam 41.77 307 P **P** **17 47 53.6 -1.3**
comp=Z,1.3nm,0.5s,baz=56,slow=5.3,SNR=6.6
ZALV PcP **PcP** **17 49 50.4 -0.1**
comp=Z,4.7nm,0.5s,baz=84,slow=2.6,SNR=12
ZALV ScP **ScP** **17 53 36.4 -1.5**
comp=Z,3.4nm,1.0s,baz=107,slow=5.0,SNR=7.6
VRDI Verde Repeater 42.00 42 IAmb IAmb 17 47 58.2
comp=Z,24nm,1.2s
KMI Kunming 42.05 259 P **P** **17 47 58.1 +0.4**
KMI pmax pmax
comp=Z,41nm,1.1s
MCARA McCarthy VSAT 42.18 42 P **P** **17 47 59.9 +1.7**
MCARA IAmb IAmb 17 48 12.4
comp=Z,36nm,1.2s
CRQM Cirque 42.22 43 P **P** **17 47 59.8 +1.1**
TGL Tana Glacier 42.37 43 P **P** **17 48 00.8 +0.9**
TGL IAmb IAmb 17 48 12.3
comp=Z,26nm,1.2s
WAX Waxell Ridge 42.41 43 P **P** **17 48 00.3 +0.3**
WAX IAmb IAmb 17 48 05.5
comp=Z,26nm,0.8s
BALM Baldy 42.56 42 P **P** **17 48 01.6 +0.3**
BALM IAmb IAmb 17 48 14.6
comp=Z,22nm,1.1s
EGAK Eagle 42.59 36 P **P** **17 48 01.6 +0.2**
EGAK IAmb IAmb 17 48 13.5
comp=Z,26nm,1.0s
KCP Kidapawan 42.72 217⇑ P **P** **17 48 04.7 +1.7**
BARN Barnard Glacie 42.89 42 P **P** **17 48 04.7 +0.7**
WMQ Urumqi 43.20 292 *e*P **P** **17 48 08.1 +1.4**
WMQ pP pP 17 48 15.6 -1.0
WMQ sP sP 17 48 23.2 +2.5
WMQ pmax pmax
comp=Z,18nm,1.1s
WMQ pmax pmax
comp=Z,110nm,6.7s
DAWY Dawson 43.44 37 P **P** **17 48 08.9 +0.6**
SLVN Son La 43.70 253 P **P** **17 48 11.8 +0.8**
EPYK Eagle Plains 44.22 34 P **P** **17 48 15.4 +0.9**
baz=278,SNR=21
EPYK Eagle Plains 44.22 34 P **P** **17 48 15.7 +1.2**
INK Inuvik 45.15 31 P **P** **17 48 22.5 +0.7**
INK pmax pmax
comp=Z,21nm,1.0s
INK Inuvik 45.15 31 P **P** **17 48 22.3 +0.5**
comp=Z,20nm,1.0s,baz=278,slow=5.6,SNR=22
INK Inuvik 45.15 31 P **P** **17 48 22.5 +0.7**
INK IAmb IAmb 17 48 23.0
comp=Z,21nm,1.0s
MK31 Makanchi Array 45.57 298 *i* P **P** **17 48 24.6 -0.9**
MK31 pmax pmax
comp=Z,11nm,0.8s
MK31 Makanchi Array 45.57 298 P **P** **17 48 25.1 -0.4**
MKAR Makanchi Array 45.57 298 *i* P **P** **17 48 24.7 -0.8**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 45.57 298 P **P** **17 48 24.5 -1.1**
comp=Z,4.1nm,0.5s,baz=83,slow=8.1,SNR=36
MKAR PcP **PcP** **17 50 02.9 -0.7**
comp=Z,2.2nm,0.5s,baz=69,slow=4.4,SNR=4.6
MAKZ Makanchi 45.76 298 P **P** **17 48 26.5 -0.5**
MAKZ pmax pmax
comp=Z,7.0nm,0.7s
MAKZ Makanchi 45.76 298 P **P** **17 48 26.5 -0.5**
KURK Kurchatov 46.37 304 P **P** **17 48 30.0 -1.7**
KURK 17 50 05.9
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 46.37 304 P **P** **17 48 30.0 -1.7**
KURK IAmb IAmb 17 48 44.6
comp=Z,10nm,1.0s
KURBB Kurchatov Arra 46.46 304 P **P** **17 48 31.2 -1.2**
comp=Z,2.5nm,0.4s,baz=73,slow=8.7,SNR=6.6
KURBB PcP **PcP** **17 50 05.9 -0.6**
comp=Z,2.4nm,0.5s,baz=77,slow=3.4,SNR=4.7
JIS Juneau Island 47.14 44 P **P** **17 48 39.3 +1.7**
LSA Lhasa 47.60 272 P **P** **17 48 40.7 -1.5**
LSA pmax pmax

comp=Z,10.0nm,0.7s
LSA Lhasa 47.60 272 *e*P **P 17 48 40.7 -1.5**
LSA Lhasa 47.60 272 P **P 17 48 40.6 -1.5**
LSA IAmb IAmb 17 48 44.4
comp=Z,9.8nm,0.7s
SIJI Sorong 47.77 204 P **P 17 48 43.7 +0.7**
comp=Z,16nm,0.7s,baz=18,slow=9.3,SNR=17
C36M Paulatuk 48.26 28 P **P 17 48 46.6 +0.5**
baz=286,SNR=13
PDGK Podgornoye 48.82 295 P **P 17 48 49.2 -1.8**
PDGK pmax pmax
comp=Z,5.0nm,0.7s
CHTO Chiang Mai 48.83 255 P **P 17 48 50.9 -0.3**
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO Chiang Mai 48.83 255 P **P 17 48 50.9 -0.3**
PBKT Sadao Pong 48.98 251 P **P 17 48 52.7 +0.4**
PBKT IAmb IAmb 17 48 54.3
comp=Z,10nm,0.8s
CMAR Chiang Mai Arr 49.07 255 P **P 17 48 53.8 +0.7**
comp=Z,6.8nm,0.7s,baz=43,slow=7.3,SNR=52
MRSI Marisa 49.93 217 P **P 17 49 00.8 +1.2**
BRVK Borovoye 50.27 310*ce*P **P 17 49 02.4 +0.7**
BRVK pmax pmax
comp=Z,14nm,1.3s
BRVK Borovoye 50.27 310⇑ *e*P **P 17 49 02.4 +0.7**
BRVK Borovoye 50.27 310 P **P 17 49 01.2 -0.6**
TARG Taragay, Kyrgy 50.66 294 P **P 17 49 06.2 +0.8**
TARG IAmb IAmb 17 49 07.7
comp=Z,9.9nm,0.6s
KDJ Kajisay 50.88 294 P **P 17 49 06.9 +0.2**
KDJ pmax pmax
comp=Z,13nm,0.5s
KDJ Kajisay 50.88 294 P **P 17 49 06.9 +0.2**
MPSI Mapaga 50.95 219 P **P 17 49 08.8 +1.5**
TAPN Taplejung 51.42 272 *e*P **P 17 49 11.2 0.0**
comp=Z,47nm,0.6s
BOOM Boomskoye usch 51.52 295 P **P 17 49 12.2 +0.7**
BOOM Boomskoye usch 51.52 295 P **P 17 49 12.2 +0.7**
TKM2 Tokmak 2 51.53 296 *i* P **P 17 49 10.9 -0.8**
TKM2 pmax pmax
comp=Z,10.0nm,0.6s
TKM2 Tokmak 2 51.53 296 P **P 17 49 11.9 +0.2**
SNR=12
ODAN Odare 51.94 272 *e*P **P 17 49 14.7 -0.3**
NRN Naryn 51.99 294 P **P 17 49 15.3 0.0**
NRN pmax pmax
comp=Z,4.0nm,0.6s
NRN Naryn 51.99 294 P **P 17 49 15.3 0.0**
USP Ospenovka 52.07 297 P **P 17 49 15.6 +0.2**
SNR=25
KBK Karagaybulak 52.08 296 P **P 17 49 16.1 +0.4**
SNR=9.7
KZA Kyzart 52.16 295 P **P 17 49 17.4 +0.8**
SNR=13
FRU1 Bishkek 52.21 296 P **P 17 49 16.3 -0.3**
FRU1 pmax pmax
comp=Z,14nm,0.8s
FRU1 Bishkek 52.21 296 P **P 17 49 16.3 -0.3**
FRU1 IAmb IAmb 17 49 17.9
comp=Z,14nm,0.8s
JIRN Jiri 52.33 274 *e*P **P 17 49 18.1 +0.1**
comp=Z,133nm,0.8s
AAK Ala-Archa 52.38 296 *i* P **P 17 49 18.1 +0.2**
AAK pmax pmax
comp=Z,10.0nm,0.8s
AAK Ala-Archa 52.38 296 P **P 17 49 17.2 -0.7**
SNR=10
AAK Ala-Archa 52.38 296 *i* P **P 17 49 18.1 +0.2**
AAK Ala-Archa 52.38 296 P **P 17 49 17.9 0.0**
AAK IAmb IAmb 17 49 19.7
comp=Z,9.6nm,0.8s
GUN Gumba 52.41 274 *e*P **P 17 49 18.4 -0.1**
comp=Z,83nm,0.5s
RAMN Ramite 52.46 273 *e*P **P 17 49 18.6 -0.2**
comp=Z,92nm,0.3s
BBB Bella Bella 52.78 50 LR LR 18 10 34.3
comp=Z,878nm,20.8s,baz=336,slow=35
EKS2 Erkin-Say 52.83 296 P **P 17 49 21.5 +0.3**
SNR=9.8
KKN Kakani 52.91 274 *e*P **P 17 49 22.3 +0.2**
comp=Z,61nm,0.8s
PKI Pulchoki 52.94 274 *e*P **P 17 49 22.1 -0.4**
PKIN Phulchoki 52.95 274 *e*P **P 17 49 22.1 -0.3**
KSH Kashi 52.97 292 P **P 17 49 26.4 +4.1**
KSH PcP **PcP 17 50 33.8 +3.1**
KSH ScP **ScP 17 54 26.1 +0.8**
KSH PcS **PcS 17 54 32.0 +2.4**
KSH S **S 17 56 52.4 +3.1**
DMN Daman 53.14 274 *e*P **P 17 49 23.9 +0.1**
comp=Z,81nm,0.7s
AML Almayashu 53.15 296 P **P 17 49 24.1 +0.3**
SNR=13
GKN Gorkha 53.24 275 *e*P **P 17 49 24.4 0.0**
comp=Z,32nm,0.4s
DANN Dangsing 53.66 276 *e*P **P 17 49 28.0 +0.3**
comp=Z,104nm,0.7s
SVE Sverdlovsk 53.67 317 *e*P **P 17 49 27.2 +0.2**
SVE Sverdlovsk 53.67 317 *e*P **P 17 49 27.2 +0.2**
RES Resolute Bay 53.96 17 P **P 17 49 28.4 -0.5**
comp=Z,19nm,0.9s,baz=320,slow=7.7,SNR=30
KOLN Koldanda 54.12 275 *e*P **P 17 49 31.1 +0.2**
comp=Z,107nm,1.0s
YKW3 Yellowknife Ar 54.45 34 P **P 17 49 33.4 +0.8**
YKW3 IAmb IAmb 17 49 33.4
comp=Z,16nm,1.0s
YKA Yellowknife Ar 54.49 35 P **P 17 49 33.0 +0.1**
YKA Yellowknife Ar 54.49 35 P **P 17 49 33.0 +0.1**
comp=Z,8.2nm,0.8s,baz=299,slow=7.2,SNR=42
KK31 Karatay Array 54.69 298 *e*P **P 17 49 33.7 -1.0**
KK31 pmax pmax
comp=Z,3.0nm,0.4s
KK31 Karatay Array 54.69 298 P **P 17 49 34.4 -0.2**
KKAR Karatay Array 54.69 298 P **P 17 49 34.4 -0.2**
KKAR pmax pmax
comp=Z,11nm,0.6s
KKAR Karatay Array 54.69 298 P **P 17 49 34.4 -0.2**
ARU Arti 54.87 317*c i*P **P 17 49 34.8 -1.0**
ARU S **S 17 57 14.8 +0.5**
ARU SS **SS 18 00 54.2 -3.1**
ARU pmax pmax
comp=Z,11nm,1.3s
ARU Arti 54.87 317⇑ *i*P **P 17 49 34.8 -1.0**
ARU Arti 54.87 317 P **P 17 49 33.4 -2.4**
ARU IAmb IAmb 17 49 35.9
comp=Z,7.1nm,0.8s
KAPI Kappang 55.80 216*ce*P **P 17 49 44.7 +1.9**
KAPI pmax pmax
comp=Z,29nm,1.7s
KAPI Kappang 55.80 216 P **P 17 49 43.3 +0.5**
comp=Z,12nm,0.8s,baz=2.3,slow=1.5,SNR=7.6
BTK Batken 56.07 295 P **P 17 49 44.5 -0.3**
BTK pmax pmax
comp=Z,19nm,1.0s
BTK Batken 56.07 295 P **P 17 49 44.5 -0.3**
GAR Garm 56.97 294 P **P 17 49 50.9 -0.3**
TULEG Thule 56.98 10 P **P 17 49 49.6 -0.9**
TULEG IAmb IAmb 17 50 07.3
comp=Z,6.7nm,0.9s
KULM Kulim 57.51 242 P **P 17 49 56.0 +1.0**
AB31 Akbulak array 57.79 309 *i* P **P 17 49 55.8 -0.8**
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 57.79 309 P **P 17 49 56.4 -0.3**
PRGR Permogore 57.85 327 *e*P **P 17 49 56.3 -0.5**
PRGR pmax pmax
comp=Z,18nm,1.4s
D03D Eldon 57.90 53 P **P 17 49 58.3 +0.8**
baz=302
CHGR Chuyangaron 57.91 294 P **P 17 49 57.5 -0.3**
NIL Nilore 57.98 287 P **P 17 49 59.2 +0.9**
NIL pmax pmax
comp=Z,55nm,1.2s
NIL Nilore 57.98 287 P **P 17 49 59.1 +0.9**
B05A Bryant 58.08 52 P **P 17 49 59.7 +1.0**
baz=302
AKTO Aktyubinsk 58.22 311 P **P 17 49 58.6 -1.0**
AKTO pmax pmax
comp=Z,4.0nm,0.8s
SOEI Soe 58.39 209 P **P 17 50 01.0 -0.3**
E04D Cinebar 58.73 54 P **P 17 50 04.4 +1.1**
baz=303
BATI Baumata 59.02 210 P **P 17 50 07.5 +1.9**
comp=Z,9.8nm,0.6s,baz=299,slow=1.4,SNR=6.6
ARCES ARCESS Array B 59.16 340 P **P 17 50 04.0 -2.0**
ARCES ARCESS Array B 59.16 340 P **P 17 50 04.0 -2.0**
comp=Z,4.1nm,0.9s,baz=39,slow=7.8,SNR=11
G05D Wamic, OR 60.19 55 P **P 17 50 15.0 +1.6**
baz=304
I04A Tendick Farm, 60.36 56 P **P 17 50 15.7 +1.1**
baz=305
PSI Prapat 60.51 242 P **P 17 50 17.1 +1.1**
comp=Z,3.3nm,0.6s,baz=343,slow=1.2,SNR=5.6
SRBI Simcaraja 60.53 219 P **P 17 50 17.7 +1.8**
RPSI Rantau Prapat 60.59 242 P **P 17 50 17.1 +0.7**
I05D Terrebonne, OR 60.69 55 P **P 17 50 18.1 +1.3**
baz=305
HUMO Hull Mountain 60.70 58 pwP 17 50 32.7 +1.3
NEW Newport 60.84 50 P **P 17 50 18.5 +0.7**
baz=305,SNR=6.8
NEW Newport 60.84 50 IAmb IAmb 17 50 19.6
comp=Z,14nm,1.1s
J04D Umpqua Nationa 60.85 57 P **P 17 50 19.8 +1.6**
baz=305
BKNI Bangkinang 61.12 238 P **P 17 50 23.7 +3.7**
PINE Pine Mountain 61.23 56 IAmb IAmb 17 50 37.6
comp=Z,11nm,0.9s
L04D Klamath Falls 61.32 58 P **P 17 50 22.8 +1.6**
baz=305
J05D Fort Rock, OR 61.35 56 P **P 17 50 23.1 +1.6**
baz=305,SNR=6.0
N02D Trinity Center 61.80 59 P **P 17 50 26.3 +1.8**
baz=306
M04C Macdoel 61.85 58 P **P 17 50 26.3 +1.4**
baz=306
PWJI Pagerwojo 62.08 223 P **P 17 50 27.2 +0.8**
F10A Beach Ranch, E 62.12 52 IAmb IAmb 17 50 46.1
comp=Z,8.4nm,1.1s
O02D Mt. Diablo Mer 62.21 60 P **P 17 50 29.0 +1.8**
baz=306
MOD Modoc Plateau 62.72 57 IAmb IAmb 17 50 50.6
comp=Z,7.0nm,0.9s
O03E Paynes Creek 62.75 59 P **P 17 50 31.9 +1.1**
baz=306,SNR=6.5
MDSI Maura Dua 63.14 232 P **P 17 50 35.0 +1.5**
LEM Lembang 63.19 228 P **P 17 50 35.0 +0.9**
LEM Lembang 63.19 228 P **P 17 50 35.0 +0.9**
comp=Z,19nm,0.7s,baz=135,slow=10,SNR=6.8
SUMG Summit 63.24 3 *i* P **P 17 50 33.6 -0.4**
SUMG Summit 63.24 3 *i* P **P 17 50 33.6 -0.4**
ORV Oroville 63.38 60 pwP 17 50 49.7 +0.3
WVOR Wild Horse Val 63.40 56 IAmb IAmb 17 50 36.5
comp=Z,8.6nm,1.1s
MSO Missoula 63.43 50 P **P 17 50 36.0 +0.7**
baz=307,SNR=14
MSO Missoula 63.43 50 IAmb IAmb 17 50 36.4
comp=Z,16nm,1.1s
AFDM Forest Hills D 64.07 60 pwP 17 50 54.9 +0.8
FFC Flin Flon 64.35 38*ce*P **P 17 50 41.7 +0.7**
FFC pmax pmax
comp=Z,116nm,1.7s
FFC Flin Flon 64.35 38 P **P 17 50 41.4 +0.4**
MFID Camas Ranch 64.45 54 pwP 17 50 57.1 +0.4
HRA Herat 64.92 294 IAmb IAmb 17 50 47.6
comp=Z,12nm,0.9s
EGMT Eagleton 64.93 47 P **P 17 50 45.9 +0.9**
baz=309
FINES FINESS Array B 64.97 334 *i* P **P 17 50 43.9 -1.0**
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 64.97 334 P **P 17 50 43.5 -1.4**
comp=Z,4.8nm,0.6s,baz=31,slow=7.1,SNR=20
YERR Yerington 65.12 59 IAmb IAmb 17 50 48.0
comp=Z,8.8nm,0.9s
WAKR Walker 65.29 60 pwP 17 51 02.7 +0.4
WR0 Warramunga Arr 65.39 195 IAmb IAmb 17 50 49.5
comp=Z,12nm,0.8s
GEYT Alibeck 65.39 300 P **P 17 50 47.5 -0.6**
comp=Z,10nm,0.8s,baz=29,slow=3.4,SNR=23
WRAB Tennant Creek 65.40 195*ce*P **P 17 50 49.3 +1.1**
WRAB pmax pmax
comp=Z,17nm,0.8s
WRAB Tennant Creek 65.40 195 P **P 17 50 48.2 0.0**
WRA Warramunga Arr 65.41 195 P **P 17 50 48.2 -0.1**
comp=Z,14nm,0.7s,baz=16,slow=7.0,SNR=67
BOZ Bozeman (W) 65.46 50 P **P 17 50 49.7 +1.1**
baz=309,SNR=13
OBN Obninsk 65.66 324⇑ *e*P **P 17 50 48.6 -0.9**
OBN *e* 17 53 10.9
OBN *e*S **S 17 59 35.1 +2.6**
OBN pmax pmax
comp=Z,42nm,1.6s
OBN MLR MLR
comp=Z,3µm,16.0s
OBN Obninsk 65.66 324⇑ *e*P **P 17 50 48.6 -0.9**
FITZ Fitzroy Crossi 65.77 205 P **P 17 50 51.8 +1.2**
FITZ IAmb IAmb 17 50 52.9
comp=Z,15nm,0.8s
KVN Kaiserville 65.78 59 IAmb IAmb 17 50 52.2
comp=Z,15nm,1.2s
RYN Ryan 65.78 59 IAmb IAmb 17 50 52.1
comp=Z,8.2nm,1.0s
VRH Novokhopyorsk 66.01 319 *e*P **P 17 50 50.4 -1.4**
VRH pmax pmax
comp=Z,10.0nm,0.6s
NVAR Mina Array Bea 66.03 59 P **P 17 50 53.2 +0.7**
comp=Z,6.6nm,0.5s,baz=295,slow=7.3,SNR=34
NV11 Mina Array Sit 66.12 59 IAmb IAmb 17 50 54.4
comp=Z,8.4nm,1.1s
LPSR Galich'ya Gora 66.36 321 *e*P **P 17 50 52.3 -1.7**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
H17A Grant Village 66.80 50 P **P 17 51 00.2 +2.9**
baz=310
RLMT Red Lodge 67.04 49 P **P 17 51 00.8 +1.9**
baz=310
RLMT Red Lodge 67.04 49 IAmb IAmb 17 51 01.1
comp=Z,13nm,0.9s
MOOW Moose Ponds 67.12 51 IAmb IAmb 17 51 01.2
comp=Z,11nm,1.1s
VSR Storozhevoye 67.19 320 *e*P **P 17 50 57.7 -1.7**
VSR pmax pmax
comp=Z,10.0nm,0.5s
SNOW Snow King Moun 67.30 51 IAmb IAmb 17 51 03.2
comp=Z,8.6nm,0.7s
CWC Cottonwood Cre 67.42 61 P **P 17 51 01.9 +0.6**
baz=309
GRAC Grapevine Rang 67.51 60 P **P 17 51 03.1 +1.4**
baz=309,SNR=5.4
LAO LASA Array 67.63 46 P **P 17 51 03.0 +0.7**
baz=312
R11A Troy Canyon, C 67.75 58 P **P 17 51 03.9 +0.5**
baz=310,SNR=15
R11A Troy Canyon, C 67.75 58 IAmb IAmb 17 51 04.6
comp=Z,5.8nm,0.8s
MPMC Maual Prospec 68.03 61 P **P 17 51 05.9 +0.8**
baz=310,SNR=7.1
FURC Furnace Creek, 68.16 60 P **P 17 51 06.8 +1.1**
baz=310
DUG Dugway, Tooele 68.22 55 P **P 17 51 07.4 +1.2**
baz=310,SNR=6.6
TPNV Topopah Spring 68.23 59 P **P 17 51 07.5 +1.1**
baz=310,SNR=10
TPNV Topopah Spring 68.23 59 IAmb IAmb 17 51 26.0
comp=Z,13nm,1.1s
GSC Goldstone, Bar 68.94 61 P **P 17 51 11.5 +0.7**
baz=310
ASAR Alice Springs 69.12 195 P **P 17 51 12.5 +0.8**
comp=Z,13nm,0.7s,baz=10,slow=5.4,SNR=76
SHPR Sheep Range 69.19 59 P **P 17 51 13.6 +1.2**
SHPR IAmb IAmb 17 51 13.9
comp=Z,12nm,1.2s
NC405 NORSAR Array S 69.35 339 IAmb IAmb 17 51 16.1
comp=Z,13nm,0.8s
TUQ Turquoise Moun 69.40 60 P **P 17 51 14.6 +0.9**
baz=310,SNR=5.1
GOF Gofitskoye 69.47 313⇑ *i*P **P 17 51 13.5 -0.3**
GOF pmax pmax
comp=Z,59nm,1.4s
HEC Hector,Ludlow 69.54 61 P **P 17 51 15.4 +1.0**
baz=310
NB2 NORSAR Subarra 69.54 340 P **P 17 51 12.8 -1.2**
comp=Z,2.4nm,0.5s,baz=28,slow=6.5
NOA NORSAR Array B 69.54 340 P **P 17 51 12.7 -1.3**
comp=Z,3.4nm,0.6s,baz=30,slow=6.5,SNR=26
GMRC Granite Mounta 69.99 61 P **P 17 51 18.3 +1.0**
baz=311
MDND Maddock 70.13 42 P **P 17 51 18.9 +1.1**
baz=315
ULM Lac du Bonnet 70.14 38 P **P 17 51 17.4 -0.3**
comp=Z,4.3nm,0.4s,baz=317,slow=7.3,SNR=11
KIV Kislovodsk 70.41 313 P **P 17 51 20.9 +1.2**
KIV pmax pmax
comp=Z,22nm,0.8s
KIV Kislovodsk 70.41 313⇑ *e*P **P 17 51 20.1 +0.4**
KIV Kislovodsk 70.41 313 *e*P **P 17 51 20.9 +1.2**
KIV Kislovodsk 70.41 313 P **P 17 51 20.9 +1.2**
KBZ Khabaz 70.45 312 *i* P **P 17 51 20.3 +0.5**
KBZ Khabaz 70.45 312 P **P 17 51 20.1 +0.4**
comp=Z,11nm,0.7s,baz=92,slow=5.4,SNR=20
KBZ Khabaz 70.45 312 *e*P **P 17 51 20.3 +0.5**
ZEI Tsey 70.56 311 *e*P **P 17 51 20.2 -0.5**
ZEI pmax pmax
comp=Z,10.0nm,0.9s
ZEI Tsey 70.56 311 *e*P **P 17 51 20.2 -0.5**
IRM Iron Mountain 70.72 61 P **P 17 51 22.5 +0.8**
baz=311
TBLG Delisi 70.82 310 P **P 17 51 23.3 +1.2**
TBLG pmax pmax
comp=Z,18nm,0.7s
TBLG Delisi 70.82 310 P **P 17 51 23.3 +1.2**
BC3 Big Chuckawall 70.85 62 P **P 17 51 23.1 +0.5**
baz=311
O20A White River Ci 70.90 52 P **P 17 51 23.7 +0.8**
baz=312
U15A North Rim 70.99 58 IAmb IAmb 17 51 25.9
comp=Z,16nm,1.1s
Y12C Blythe 71.38 61 P **P 17 51 26.8 +1.3**
baz=311
AGMN Agassiz Nation 71.56 40 P **P 17 51 26.4 -0.1**
baz=317
AGMN Agassiz Nation 71.56 40 IAmb IAmb 17 51 26.6
comp=Z,19nm,1.1s
AKASG Malin Array Be 71.92 325 P **P 17 51 27.6 -1.0**
comp=Z,6.6nm,0.5s,baz=37,slow=6.0,SNR=41
AKBB Malin Array Si 71.92 325 P **P 17 51 27.8 -0.7**
AKBB pmax pmax
comp=Z,10.0nm,0.7s
AKBB Malin Array Si 71.92 325 P **P 17 51 27.9 -0.7**
AKBB IAmb IAmb 17 51 28.3
comp=Z,10nm,0.7s
WUAZ Wupatki 72.15 58 P **P 17 51 32.1 +1.7**
baz=312
WUAZ Wupatki 72.15 58 IAmb IAmb 17 51 32.6
comp=Z,12nm,1.1s
MVCO Mesa Verde 72.72 55 P **P 17 51 34.6 +0.7**
baz=313
S22A 4UR Ranch, Cre 73.33 53 P **P 17 51 38.8 +1.2**
baz=314,SNR=5.5
EYMN Ely 73.78 38 P **P 17 51 39.5 -0.2**
baz=320
EYMN Ely 73.78 38 P **P 17 51 39.7 0.0**
EYMN IAmb IAmb 17 51 40.0
comp=Z,14nm,0.9s
SDCO Great Sand Dun 74.09 53 P **P 17 51 42.7 +0.7**
baz=314
SORM Soroca 74.25 323⇓ *e*P **P 17 51 41.9 -0.4**
SORM Soroca 74.25 323⇓ P **P 17 51 41.9 -0.4**
ECSD EROS Data Cent 74.54 43 P **P 17 51 44.2 0.0**
baz=318,SNR=9.7
ECSD EROS Data Cent 74.54 43 P **P 17 51 44.3 +0.1**
TUC Tucson 74.67 60 P **P 17 51 46.1 +0.9**
baz=313
E38A The Farm, Brul 74.77 39 IAmb IAmb 17 51 45.4
comp=Z,16nm,0.8s
E38A P **P 17 51 45.6 +0.1**
MILM Milestii Mici 74.98 322⇑ *e*P **P 17 51 46.5 -0.1**
UOSS Minazif 74.99 290 P **P 17 51 46.8 -0.3**
UOSS IAmb IAmb 17 51 57.1
comp=Z,16nm,1.0s
SPMN Marine on St. 75.25 40 P **P 17 51 48.3 0.0**
baz=319
ANMO Albuquerque 75.48 55 P **P 17 51 51.1 +1.1**
baz=314
PRAR RASCA 75.75 324⇑ *e*P **P 17 51 50.8 -0.3**
PRAR mb 17 52 05.3
BUR08 Bucovina Ar. S 75.96 325 P **P 17 51 52.5 0.0**
BUR08 IAmb IAmb 17 51 57.3
comp=Z,9.3nm,0.9s
BURAR Bucovina Array 75.98 325⇑ *e*P **P 17 51 52.4 -0.1**
BURAR Bucovina Array 75.98 325⇑ P **P 17 51 52.4 -0.1**
BURAR mb 17 51 54.5
OJC Ojcow 76.00 329 P **P 17 51 52.6 +0.2**
OJC pmax pmax
comp=Z,12nm,0.6s
OJC Ojcow 76.00 329 P **P 17 51 52.6 +0.2**
OJC IAmb IAmb 17 51 53.0
comp=Z,12nm,0.6s
BIR Birlad 76.01 322 P **P 17 51 56.0 +3.5**
BIR Birlad 76.01 322⇓ P **P 17 51 52.1 -0.4**
BIR mb 17 51 56.0
KOLS Kolonicke sedl 76.11 327 *e*P **P 17 51 53.1 0.0**
KOLS pmax pmax
comp=Z,8.0nm,1.0s
KOLS Kolonicke sedl 76.11 327 *e*P **P 17 51 53.1 0.0**
BIZ Bicaz 76.14 324⇑ P **P 17 51 53.4 +0.1**
STKA Stephens Creek 76.19 187 P **P 17 51 54.6 +1.1**
STKA pmax pmax
comp=Z,3.0nm,1.0s
STKA Stephens Creek 76.19 187 P **P 17 51 55.1 +1.6**
comp=Z,6.9nm,0.8s,baz=355,slow=9.9,SNR=11
STKA Stephens Creek 76.19 187 P **P 17 51 54.6 +1.1**
TESR Tescani 76.24 323⇑ P **P 17 51 53.7 -0.2**
TLCR 76.32 321⇑ P **P 17 51 54.1 -0.2**
TLCR 76.32 321⇑ P **P 17 51 54.1 -0.2**
TLCR mb 17 51 54.9
121A Cookes Peak, D 76.36 58 P **P 17 51 56.3 +1.3**
baz=314
SCHQ Schefferville 76.56 20 P **P 17 51 55.5 0.0**
comp=Z,2.6nm,0.5s,baz=323,slow=6.1,SNR=6.1
CFR Carcaliu 76.63 321⇑ P **P 17 51 55.9 -0.1**
CFR Carcaliu 76.63 321⇑ P **P 17 51 55.9 -0.1**
ODBI Odobesti 76.65 322⇓ P **P 17 51 57.0 +0.8**
ODBI mb 17 51 59.4
TRPA Tarpa 76.65 326⇑ P **P 17 51 56.5 +0.4**
TRPA mb 17 52 00.1
TRPA Tarpa 76.65 326 *e*P **P 17 51 56.0 -0.1**
VRI Vrincioaia 76.71 323⇑ P **P 17 51 57.3 +0.7**
VRI Vrincioaia 76.71 323⇑ P **P 17 51 57.3 +0.7**
TOPG Topolog 76.75 321⇑ P **P 17 51 57.2 +0.4**
PLOR Plostina 76.76 323⇑ P **P 17 51 57.1 +0.2**
PLOR Plostina 76.76 323⇑ P **P 17 51 57.1 +0.2**
OZUR 76.94 323⇑ P **P 17 51 58.5 +0.6**
LANS Liptovska Anna 77.00 329 *e*P **P 17 51 59.0 +0.8**
LANS pmax pmax
comp=Z,10.0nm,1.1s
LANS Liptovska Anna 77.00 329 *e*P **P 17 51 59.0 +0.8**
CHVC Chvalec 77.02 331 *e*P **P 17 51 58.1 -0.1**
CHVC *ex* x 17 52 02.2
TIRR Tirgusor 77.06 321⇑ P **P 17 51 59.0 +0.5**
TIRR Tirgusor 77.06 321⇑ P **P 17 51 59.0 +0.5**
TIRR Tirgusor 77.06 321⇑ P **P 17 51 59.0 +0.5**
HARR Harsova 77.10 321⇑ P **P 17 51 59.4 +0.7**
HARR Harsova 77.10 321⇑ P **P 17 51 59.4 +0.7**
HARR mb 17 52 10.9
UPC Upice 77.10 331 *e*P **P 17 51 58.8 +0.1**
UPC Upice 77.10 331 *e*P **P 17 51 58.8 +0.1**
TLB Topalu 77.13 321⇑ P **P 17 51 59.5 +0.6**
TLB Topalu 77.13 321⇑ P **P 17 51 59.5 +0.6**
DPC Dobruska-Polom 77.13 331 *e*P **P 17 51 59.2 +0.3**
DPC *e* 17 52 03.0
DPC Dobruska-Polom 77.13 331 *e*P **P 17 51 59.2 +0.3**
DPC *ex* x 17 52 03.0
MORC Moravsky Berou 77.18 330⇑ P **P 17 51 59.5 +0.3**
MORC Moravsky Berou 77.18 330⇑ P **P 17 51 59.5 +0.3**
MORC mb 17 52 02.9
MORC Moravsky Berou 77.18 330 *e*P **P 17 51 59.3 +0.1**
MORC Moravsky Berou 77.18 330 IAmb IAmb 17 51 60.0
comp=Z,10nm,0.9s
KRLC Kraliky 77.20 331 *e*P **P 17 51 59.2 -0.1**
KRLC Kraliky 77.20 331 *e*P **P 17 51 59.2 -0.1**
DOPR Dopca 77.21 324⇑ P **P 17 52 00.0 +0.7**
FORT Forrest 77.22 199 P **P 17 52 00.8 +1.5**
MLR Muntele Rosu 77.35 323⇓ P **P 17 52 00.8 +0.5**
MLR Muntele Rosu 77.35 323⇓ P **P 17 52 00.8 +0.5**
CLL Collm 77.42 334 *e*P **P 17 51 59.0 -1.4**
CLL *i* 17 52 11.3
CLL pmax pmax
comp=Z,12nm,0.6s
CLL Collm 77.42 334 *e*P **P 17 51 59.0 -1.4**
comp=Z,12nm,0.6s
CLL *i* PcP **pP 17 52 11.3 +0.7**
CLL *e*PP **PP 17 54 51.0 -3.3**
BRG Berggiesshubel 77.49 333 *e*P **P 17 52 00.4 -0.4**
comp=Z,6.2nm,1.1s
comp=Z,22µm,16.9s

comp=N,16µm,17.4s
comp=E,6µm,17.4s

BRG	**Berggiesshubel**	77.49	333	*e*P		**P**	17 52	00.4	**-0.4**
BRG				pmax		pmax			
	comp=Z,76nm,1.1s								
LTVH	**Ltavrtes, Hu**	77.51	326	*e*P		**P**	17 52	04.1	**+3.1**
ICOR	**Ion Corvin**	77.60	321	⇓P		**P**	17 52	01.8	**+0.3**
DRGR		77.66	326	⇑P		**P**	17 52	01.9	**-0.1**
DRGR		77.66	326	⇑P		**P**	17 52	01.9	**-0.1**
VOIR		77.77	323	⇑P		**P**	17 52	02.9	**+0.3**
VOIR		77.77	323	⇑P		**P**	17 52	02.9	**+0.3**
VYHS	**Vyhne**	77.78	329	*e*P		**P**	17 52	02.6	**+0.1**
VYHS				pmax		pmax			
	comp=Z,31nm,1.7s								
VYHS	**Vyhne**	77.78	329	*e*P		**P**	17 52	02.6	**+0.1**
PSZ	**Piszkesteto**	77.86	328	⇑P		**P**	17 52	03.2	**+0.2**
PSZ	**Piszkesteto**	77.86	328	⇑P		**P**	17 52	03.2	**+0.2**
PSZ				mb			17 52	06.9	
PSZ	**Piszkesteto**	77.86	328	*e*P		**P**	17 52	03.0	**0.0**
JAVC	**Velka Javorina**	77.90	330	*e*P		**P**	17 52	04.3	**+1.1**
VRAC	**Vranov**	77.91	330	⇑P		**P**	17 52	03.7	**+0.5**
VRAC	**Vranov**	77.91	330	⇑P		**P**	17 52	03.7	**+0.5**
VRAC				mb			17 52	07.1	
VRAC	**Vranov**	77.91	330	*e*P		**P**	17 52	03.6	**+0.4**
KSU1	**Kansas State U**	77.97	46	P		**P**	17 52	03.1	**-0.6**
	baz=318								
ARR	**Arges**	78.01	324	⇓P		**P**	17 52	03.9	**0.0**
GOPC	**GO Pecny, Ondr**	78.03	332	*e*P		**P**	17 52	03.1	**-0.8**
GOPC	**GO Pecny, Ondr**	78.03	332	*e*P		**P**	17 52	03.1	**-0.8**
PRU	**Pruhonice**	78.05	332	*e*P		**P**	17 52	03.9	**0.0**
PRU				*e*			17 52	15.1	
PRU	**Pruhonice**	78.05	332	*e*P		**P**	17 52	03.9	**0.0**
PRU				*ep*P		**pP**	17 52	15.1	**+1.0**
F45A	**CMU Biological**	78.11	36	P		**P**	17 52	04.3	**-0.1**
	baz=324								
BRTR	**Keskin Array B**	78.15	315	P		**P**	17 52	04.9	**0.0**
	comp=Z,1.5nm,0.5s,baz=90,slow=2.5,SNR=16								
KRUC	**Moravsky**	78.17	330	*e*P		**P**	17 52	04.9	**+0.1**
SMOL	**Smolenice**	78.28	330	*e*P		**P**	17 52	05.9	**+0.6**
SMOL				pmax		pmax			
	comp=Z,8.0nm,0.8s								
SMOL	**Smolenice**	78.28	330	*e*P		**P**	17 52	05.9	**+0.6**
MNTX	**Cornudas Mount**	78.39	57	P		**P**	17 52	07.1	**+0.9**
	baz=315,SNR=5.7								
MNTX	**Cornudas Mount**	78.39	57	P		**P**	17 52	06.6	**+0.3**
MODS	**Modra-Piesok**	78.45	330	*e*P		**P**	17 52	05.9	**-0.3**
MODS				pmax		pmax			
	comp=Z,89nm,2.3s								
MODS	**Modra-Piesok**	78.45	330	*e*P		**P**	17 52	05.9	**-0.3**
PBCC	**Pribram**	78.49	332	*e*P		**P**	17 52	05.9	**-0.5**
SIRR	**Siria**	78.51	326	⇑P		**P**	17 52	06.6	**0.0**
SRO	**Srobarova**	78.54	329	*e*P		**P**	17 52	06.9	**+0.2**
SRO	**Srobarova**	78.54	329	*e*P		**P**	17 52	06.9	**+0.2**
LSQQ	**Lebel-sur-Quev**	78.59	29	P		**P**	17 52	06.8	**-0.2**
	baz=328								
G46A	**Petoskey**	78.68	36	P		**P**	17 52	07.6	**+0.1**
	baz=324								
COPA	**Copaceanca**	78.74	322	⇑P		**P**	17 52	07.1	**-0.7**
CHGQ	**Chibougamau**	78.74	27	P		**P**	17 52	07.5	**-0.2**
	baz=330,SNR=5.7								
GZR	**Gura Zlata**	78.77	325	⇑P		**P**	17 52	07.7	**-0.4**
GZR	**Gura Zlata**	78.77	325	⇑P		**P**	17 52	07.7	**-0.4**
CSKK	**Cskako**	78.94	328	*e*P		**P**	17 52	13.0	**+4.2**
BZS	**Buzias**	79.06	325	⇓P		**P**	17 52	09.8	**+0.2**
BZS	**Buzias**	79.06	325	⇓P		**P**	17 52	09.8	**+0.2**
KHC	**Kasperske Hory**	79.10	332	*e*P		**P**	17 52	09.8	**0.0**
KHC				*e*			17 52	21.1	
KHC	**Kasperske Hory**	79.10	332	*e*P		**P**	17 52	09.8	**0.0**
KHC				*ep*P		**pP**	17 52	21.1	**+1.0**
KHC	**Kasperske Hory**	79.10	332	P		**P**	17 52	09.6	**-0.3**
H46A	**Fife Lake**	79.16	36	P		**P**	17 52	10.7	**+0.5**
	baz=324								
SOP	**Sopron**	79.30	330	*e*P		**P**	17 52	12.0	**+1.2**
GEC2	**GERESS Array S**	79.31	332	P		**P**	17 52	10.9	**-0.2**
GERES	**GERESS Array B**	79.31	332	P		**P**	17 52	10.6	**-0.4**
	comp=Z,2.8nm,0.5s,baz=39,slow=5.9,SNR=32								
CONA	**Conrad Observa**	79.34	330	*e*P		**P**	17 52	11.7	**+0.5**
	comp=Z,4.0nm,0.6s,SNR=6.8								
MPLH	**Magyarpolny**	79.37	329	*e*P		**P**	17 52	11.0	**-0.2**
MDVR	**Moldovita**	79.70	325	⇑P		**P**	17 52	12.7	**-0.5**
MORH	**Mrgy, Hungar**	79.75	328	⇑*i*P		**P**	17 52	12.5	**-0.8**
MORH	**Mrgy, Hungar**	79.75	328	*e*P		**P**	17 52	12.0	**-1.2**
MOA	**Molln**	79.97	331	*e*P		**P**	17 52	15.6	**+1.0**
	comp=Z,2.3nm,0.7s								
WMOK	**Wichita Mounta**	80.03	51	P		**P**	17 52	15.5	**+0.4**
	baz=318								
WMOK	**Wichita Mounta**	80.03	51	P		**P**	17 52	14.3	**-0.8**
WMOK				pmax		pmax			
	comp=Z,7.0nm,1.1s								
WMOK	**Wichita Mounta**	80.03	51	P		**P**	17 52	14.3	**-0.8**
ARSA	**Arzberg**	80.04	330	*e*P		**P**	17 52	15.0	**+0.1**
	comp=Z,1.8nm,0.5s								
FRGS	**Fruska Gora**	80.17	326	*e*P		**P**	17 52	15.0	**-0.7**
HDIL	**Hopedale**	80.49	41	P		**P**	17 52	17.6	**+0.1**
	baz=322								
SOKA	**Soboth**	80.70	330	P		**P**	17 52	18.4	**-0.2**
	comp=Z,16nm,1.1s,SNR=7.5								
VTS	**Vitosha**	80.81	323	P		**P**	17 52	19.7	**+0.3**
VTS				pmax		pmax			
	comp=Z,11nm,1.0s								
VTS	**Vitosha**	80.81	323	⇑P		**P**	17 52	19.6	**+0.3**
VTS				mb			17 52	23.2	
VTS	**Vitosha**	80.81	323	P		**P**	17 52	19.7	**+0.3**
VTS				IAmb		IAmb	17 52	23.7	
	comp=Z,11nm,1.0s								
KBA	**Koelnbreinsper**	80.95	331	*e*P		**P**	17 52	20.4	**+0.3**
	comp=Z,20nm,1.2s								
DIVS	**Divibare**	80.97	326	⇑*i*P		**P**	17 52	19.2	**-0.9**
OBKA	**Obir**	81.02	330	P		**P**	17 52	20.7	**+0.5**
	comp=Z,6.3nm,1.0s								
D56A	**ZEC Mazanza, M**	81.08	29	P		**P**	17 52	20.5	**-0.1**
	baz=330								
TXAR	**Lajitas Array**	81.11	58	P		**P**	17 52	21.9	**+0.8**
	comp=Z,4.7nm,0.5s,baz=301,slow=4.1,SNR=36								
MYKA	**Terra Mystica**	81.23	331	*e*PcP		**P**	17 52	22.3	**+0.9**
	comp=Z,6.7nm,1.0s								
CRES	**Cresnjev**	81.27	329	⇑*i*P		**P**	17 52	20.9	**-0.6**
WATA	**Walderalm**	81.33	332	*e*P		**P**	17 52	22.0	**0.0**
	comp=Z,4.3nm,0.4s,SNR=9.9								
WTTA	**Wattenberg**	81.37	332	*e*P		**P**	17 52	22.4	**+0.1**
	comp=Z,5.4nm,0.3s,SNR=16								
HAPS	**Han Pijesak,Bl**	81.40	326	⇑*i*P		**P**	17 52	21.4	**-1.0**
BBLS	**Lazići**	81.40	326	⇑*i*P		**P**	17 52	22.2	**-0.1**
D57A	**Chemin Vers le**	81.41	28	P		**P**	17 52	22.4	**+0.1**
	baz=330								
E56A	**St. Veronique**	81.42	29	P		**P**	17 52	22.3	**0.0**
	baz=330								
RETA	**Reutte**	81.47	333	*e*P		**P**	17 52	22.7	**+0.1**
	comp=Z,13nm,1.5s								
MOTA	**Moosalm**	81.48	333	P		**P**	17 52	22.8	**0.0**
	comp=Z,19nm,1.0s								
BFO	**Black Forest**	81.49	335	*ce*P		**P**	17 52	26.7	**+4.0**
BFO				pmax		pmax			
	comp=Z,1.0nm,1.3s								
CCM	**Cathedral Cave**	81.49	44	P		**P**	17 52	22.7	**-0.1**
	baz=321								
ABTA	**Abfaltersbach**	81.52	331	PcP		**P**	17 52	23.4	**+0.5**
	comp=Z,5.3nm,1.3s								
SQTA	**Sankt Quirin**	81.55	333	*e*P		**P**	17 52	23.3	**+0.1**
	comp=Z,12nm,0.9s								
CEY	**Cerknica**	81.72	330	*e*P		**P**	17 52	22.9	**-1.0**
E57A	**Chemin Saint G**	81.85	29	P		**P**	17 52	24.3	**-0.3**
	baz=330								
MGRS	**Mrkonjic Grad**	81.85	327	⇑*i*P		**P**	17 52	24.8	**+0.1**
STAL	**STALIGIAL**	81.88	331	P		**P**	17 52	23.4	**-1.4**
STAL				IAmb		IAmb	17 52	38.1	
	comp=Z,4.8nm,0.6s								
FETA	**Feichten**	81.88	333	*e*PcP		**P**	17 52	26.0	**+1.0**
	comp=Z,6.5nm,0.9s								
DAVA	**Damuels**	81.93	333	*e*P		**P**	17 52	24.4	**-0.8**
	comp=Z,5.6nm,0.7s								
G55A	**Calabogie**	81.93	31	P		**P**	17 52	24.5	**-0.5**
	baz=329								
ECH	**Echery**	81.95	335	P		**P**	17 52	24.6	**-0.5**
ECH				pmax		pmax			
	comp=Z,8.0nm,1.0s								
ECH	**Echery**	81.95	335	P		**P**	17 52	24.6	**-0.5**
ECH				IAmb		IAmb	17 52	26.9	
	comp=Z,8.2nm,1.0s								
U40A	**Yellville**	81.99	46	P		**P**	17 52	25.4	**-0.1**
	baz=320,SNR=6.8								
U40A	**Yellville**	81.99	46	P		**P**	17 52	24.9	**-0.6**
U40A				IAmb		IAmb	17 52	25.6	
	comp=Z,10nm,0.7s								
UPM	**Unac-Piva**	82.15	326	*e*P		**P**	17 52	24.8	**-1.6**
E58A	**La Victoria**	82.18	28	P		**P**	17 52	26.2	**0.0**
	baz=331								
N48A	**Decatur**	82.21	38	P		**P**	17 52	26.5	**0.0**
	baz=324								
P46A	**Rosedale**	82.21	40	P		**P**	17 52	26.7	**+0.2**
	baz=323								
FUORN	**Ofenpass-Fuorn**	82.39	333	P		**P**	17 52	28.0	**+0.3**
FUORN				IAmb		IAmb	17 52	33.7	
	comp=Z,16nm,1.1s								
W39A	**Magazine**	82.39	47	P		**P**	17 52	27.7	**+0.1**
	baz=320								
KIJV	**Kijevo**	82.46	328	P		**P**	17 52	27.3	**-0.5**
BRY	**Bratogost**	82.55	326	⇑*i*P		**P**	17 52	27.1	**-1.4**
RICI	**Ricice**	82.61	327	P		**P**	17 52	27.4	**-1.2**
PDG	**Podgorica**	82.65	325	⇑*i*P		**P**	17 52	28.1	**-0.7**
PDG	**Podgorica**	82.65	325	⇑P		**P**	17 52	28.1	**-0.7**
PDG				mb			17 52	40.9	
PDG	**Podgorica**	82.65	325	P		**P**	17 52	28.2	**-0.7**
PDG				IAmb		IAmb	17 52	40.9	
	comp=Z,12nm,0.8s								
S44A	**Carbondale**	82.76	43	P		**P**	17 52	29.8	**+0.4**
	baz=322								
TREB	**Trebinje**	82.78	326	*e*P		**P**	17 52	27.1	**-2.4**
WHTX	**Lake Whitney,**	82.80	52	P		**P**	17 52	30.4	**+0.6**
	baz=319								
WHTX	**Lake Whitney,**	82.80	52	P		**P**	17 52	29.4	**-0.4**
WHTX				IAmb		IAmb	17 52	30.5	
	comp=Z,7.4nm,0.7s								
MAKA	**Makarska**	82.83	327	P		**P**	17 52	28.6	**-1.1**
MORI	**Morici**	82.85	328	P		**P**	17 52	27.9	**-1.9**
DRME	**Dracevica, Mon**	82.88	325	⇑*i*P		**P**	17 52	29.3	**-0.7**
STON	**Ston**	82.91	326	P		**P**	17 52	28.6	**-1.5**
HCY	**Herceg Novi**	82.95	326	*e*P		**P**	17 52	28.2	**-2.2**
MIAR	**Mount Ida**	83.00	48	P		**P**	17 52	31.1	**+0.3**
	baz=320,SNR=6.1								
MIAR	**Mount Ida**	83.00	48	P		**P**	17 52	30.9	**+0.1**
MIAR				pmax		pmax			
	comp=Z,12nm,0.9s								
MIAR	**Mount Ida**	83.00	48	P		**P**	17 52	30.9	**+0.1**
MIAR				IAmb		IAmb	17 52	31.4	
	comp=Z,12nm,0.9s								
RAYN	**Ar Rayn**	83.03	296	P		**P**	17 52	30.8	**-0.4**
RAYN				pmax		pmax			
	comp=Z,4.0nm,1.1s								
RAYN	**Ar Rayn**	83.03	296	P		**P**	17 52	30.8	**-0.4**
H57A	**Richville**	83.09	30	P		**P**	17 52	29.8	**-1.3**
	baz=330								
WHAR	**Wooly Hollow**	83.10	46	IAmb		IAmb	17 52	31.6	
	comp=Z,13nm,1.1s								
FNA	**Florina**	83.11	323	IAmb		IAmb	17 52	43.4	
	comp=Z,5.8nm,0.8s								
W41B	**Gary Mavity, V**	83.21	46	P		**P**	17 52	31.8	**0.0**
	baz=321								
W41B	**Gary Mavity, V**	83.21	46	P		**P**	17 52	32.1	**+0.2**
W41B				IAmb		IAmb	17 52	32.8	
	comp=Z,11nm,1.1s								
TIR	**Tirane**	83.30	324	⇑P		**P**	17 52	31.9	**-0.3**
TIR	**Tirane**	83.30	324	⇑P		**P**	17 52	31.9	**-0.3**
X40A	**Basin Creek Fa**	83.43	47	P		**P**	17 52	33.4	**+0.4**
	baz=321								
H59A	**Cadyville**	83.54	29	P		**P**	17 52	32.7	**-0.7**
	baz=331								
G61A	**St-Isidore-de-**	83.72	28	P		**P**	17 52	34.6	**+0.3**
	baz=332								
P50A	**Jamestown**	83.77	38	P		**P**	17 52	34.7	**+0.1**
	baz=325								
E64A	**Bridgewater**	83.88	25	P		**P**	17 52	34.9	**-0.2**
	baz=334								
H61A	**Lyndonville**	84.25	28	P		**P**	17 52	37.6	**+0.5**
	baz=332								
T47A	**Sharon Grove**	84.36	42	P		**P**	17 52	38.3	**+0.6**
	baz=323								
H62A	**Milan**	84.47	28	P		**P**	17 52	38.2	**0.0**
	baz=332								
H62A	**Milan**	84.47	28	P		**P**	17 52	38.6	**+0.5**
MURB	**Monte Urbino**	84.55	330	P		**P**	17 52	38.6	**0.0**
WVT	**Waverly**	84.69	43	P		**P**	17 52	39.8	**+0.4**
	baz=323								
NRCA	**Norcia**	84.70	329	P		**P**	17 52	39.9	**+0.4**
N55A	**Marion Center**	84.85	35	P		**P**	17 52	40.1	**-0.1**
	baz=328								
BNI	**Bardonecchia**	84.93	334	P		**P**	17 52	41.1	**+0.5**
BNI				pmax		pmax			
	comp=Z,8.0nm,1.1s								
BNI	**Bardonecchia**	84.93	334	P		**P**	17 52	41.1	**+0.5**
BNI				IAmb		IAmb	17 52	57.9	
	comp=Z,7.8nm,1.1s								
T49A	**Edmonton**	85.01	41	P		**P**	17 52	40.7	**-0.3**
	baz=324								
T49A	**Edmonton**	85.01	41	IAmb		IAmb	17 52	47.5	
	comp=Z,6.5nm,0.9s								
M57A	**Sunshine Farm,**	85.12	33	P		**P**	17 52	41.8	**+0.3**
	baz=329								
L59A	**Walton**	85.18	31	P		**P**	17 52	41.8	**0.0**
	baz=330								
MATE	**Matera**	85.19	326	⇓P		**P**	17 52	41.4	**-0.3**
MATE				mb			17 53	00.1	
OXF	**Oxford**	85.19	45	P		**P**	17 52	42.1	**+0.2**
	baz=322								
U49A	**Red Boiling Sp**	85.37	41	P		**P**	17 52	43.0	**+0.2**
	baz=324								
T50A	**Nancy**	85.40	40	P		**P**	17 52	43.1	**+0.1**
	baz=325								
N57A	**Milroy**	85.45	34	P		**P**	17 52	43.2	**+0.1**
	baz=329								
P55A	**Reedsville**	85.57	36	P		**P**	17 52	44.4	**+0.6**
	baz=327								
O57A	**Amberson**	85.88	34	P		**P**	17 52	46.3	**+1.0**
	baz=329								
P56A	**Dayton Farm, R**	85.98	35	P		**P**	17 52	46.5	**+0.7**
	baz=328								
TIP	**Timpagrande**	86.41	325	⇑P		**P**	17 52	46.6	**-1.4**
TIP				mb			17 53	00.7	
Y51A	**Rockmart**	87.83	42	P		**P**	17 52	54.9	**0.0**
	baz=325								
Z50A	**Ashland**	87.93	43	P		**P**	17 52	55.5	**+0.1**
	baz=324								
Z50A	**Ashland**	87.93	43	P		**P**	17 52	55.4	**+0.1**
Y54A	**Tignall**	88.99	41	P		**P**	17 53	01.2	**+0.9**
	baz=326								
ESDC	**Sonseca Array**	92.90	340	P		**P**	17 53	17.8	**-0.7**
	comp=Z,0.4nm,0.5s,baz=17,slow=4.8,SNR=6.7								
TORD	**Torodi Ar. Bea**	115.56	324	PKP		**PKiKP**	17 58	46.8	**-1.1**
	comp=Z,1.0nm,0.5s,baz=16,slow=1.5,SNR=12								
DBIC	**Dimonkro**	124.05	328	PKP		**PKPdf**	17 59	03.2	**-1.0**
	comp=Z,2.3nm,0.6s,baz=3.8,slow=2.9,SNR=5.9								
LPAZ	**La Paz**	137.94	60	PKP		**PKiKP**	17 59	32.5	**-0.6**
	comp=Z,0.9nm,0.6s,baz=289,slow=3.7,SNR=5.1								
GO04	**Tololo Observa**	145.56	79			**PKPab**	17 59	44.8	**+0.4**
BDFB	**Brasilia**	147.89	32	PKPbc		**PKPbc**	17 59	50.7	**-0.2**
	comp=Z,4.0nm,0.6s,baz=332,slow=9.4,SNR=6.7								
BDFB	**Brasilia**	147.89	32			**PKPbc**	17 59	51.6	**+0.6**
CFA	**Coronel Fontan**	148.18	79	PKPbc		**PKPbc**	17 59	51.0	**-0.3**
	comp=Z,10nm,0.6s,baz=292,slow=2.6,SNR=26								
SNAA	**Sanae**	149.47	197	PKPdf		**PKPbc**	17 59	53.4	**+0.1**
SNAA	**Sanae**	149.47	197	PKP2		**PKiKP**	17 59	54.0	**-0.4**
SNAA	**Sanae**	149.47	197			**PKiKP**	17 59	54.0	**-0.4**
PLCA	**Paso Flores**	150.74	97	PKPbc		**PKPbc**	17 59	57.5	**+0.2**
	comp=Z,2.8nm,0.6s,baz=217,slow=1.9,SNR=7.0								
PLCA	**Paso Flores**	150.74	97			**PKiKP**	17 59	58.0	**+0.1**
VNA2	**Neumayer--Watz**	150.97	196	PKPdf		**PKiKP**	17 59	57.2	**-0.3**
	baz=41,slow=0.8								
VNA3	**Neumayer Olymp**	151.13	194	PKPdf		**PKPbc**	17 59	57.3	**+0.1**
CPUP	**Villa Florida**	152.08	59	PKPbc		**PKPbc**	18 00	00.4	**-0.3**
	comp=Z,1.9nm,0.8s,baz=293,slow=3.6,SNR=3.5								
CPUP	**Villa Florida**	152.08	59			**PKPbc**	18 00	00.8	**0.0**

*ISCJB **08** 17:40:54.3±0.2, 43°.21N±0°.01×110°.65W±0°.03, h10km, Error ellipse: s-maj=3.6km s-min=2.1km az=169.3*
*NEIC **08** 17:40:54.5±1.6, 43°.24N±0°.01×110°.60W±0°.03, h5km±2km, ML3.6/90*
*ANF **08** 17:40:54.0±0.8, 43°.25N×110°.60W, h5km, ML3.2/9, Error ellipse: s-maj=8.9km s-min=2.8km az=63.0*

ISC 08 17:40:54.9±0.8, 43°.24N±0°.02×110°.64W±0°.03, h10km, n61, σ1.932/76, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
REDW	**Red Top Meadow**	0.20	309			**Pg**	17 40 58.7	**-0.5**
REDW					IAML		17 41 02.6	
	24µm,0.5s							
REDW					IAML		17 41 02.8	
	21µm,0.6s							
SNOW	**Snow King Moun**	0.24	340			**Pg**	17 40 59.5	**-0.5**
SNOW					Sg	**Sg**	17 41 03.2	**-0.1**
SNOW					IAML		17 41 04.6	
	4µm,0.3s							
SNOW					IAML		17 41 05.6	
	9µm,0.4s							
TPAW	**Teton Pass**	0.34	318			**Pg**	17 41 01.4	**-0.4**
TPAW					Sg	**Sg**	17 41 07.1	**+0.8**
TPAW					IAML		17 41 07.2	
	8µm,0.3s							
TPAW					IAML		17 41 08.3	
	14µm,0.3s							
MOOW	**Moose Ponds**	0.52	352		Pg	**Pg**	17 41 04.2	**-0.8**
MOOW					Sg	**Sg**	17 41 11.2	**-0.7**
AHID	**Auburn Hatcher**	0.58	216			**Pg**	17 41 04.8	**-1.3**
AHID					Sg	**Sg**	17 41 12.9	**-0.9**
AHID					IAML		17 41 15.1	
	comp=E,2µm,0.4s							
AHID					IAML		17 41 17.3	
	comp=N,3µm,0.5s							
FLWY	**Flagg Ranch**	0.85	357			**Pg**	17 41 10.1	**-1.1**
FLWY					Sg	**Sg**	17 41 21.5	**-0.8**
BW06	**Boulder Array**	0.92	120	P		**Pg**	17 41 11.5	**-1.1**
	baz=302							
BW06				S		**Sb**	17 41 24.2	**-1.3**
	baz=302							
BW06	**Boulder Array**	0.92	120			**Pg**	17 41 11.5	**-1.1**
PD31	**Pinedale Array**	0.92	120			**Pg**	17 41 11.5	**-1.1**
H17A	**Grant Village**	1.16	2	P		**Pb**	17 41 16.2	**-1.0**
	baz=181							
H17A				S		**Sb**	17 41 32.0	**-0.4**
	baz=181							
H17A	**Grant Village**	1.16	2			**Pb**	17 41 16.0	**-1.1**
H17A					Sg	**Sg**	17 41 31.3	**-0.9**
H17A					IAML		17 41 32.3	
	comp=N,512nm,0.3s							
LKWY	**Lake**	1.34	7			**Pb**	17 41 19.7	**-0.5**
YMR	**Madison River**	1.45	351			**Pn**	17 41 21.1	**-0.3**
YNR	**Norris Junctio**	1.48	359			**Pb**	17 41 22.0	**-0.6**
YUF	**Upper Falls**	1.48	4			**Pb**	17 41 22.1	**-0.5**
YHH	**Holmes Hill**	1.56	354			**Pn**	17 41 22.8	**-0.1**
YHB	**Horse Butte**	1.57	345			**Pn**	17 41 22.6	**-0.4**
QLMT	**Earthquake Lak**	1.69	341			**Pn**	17 41 24.6	**0.0**
QLMT					Sn	**Sb**	17 41 47.1	**-0.6**
YNE	**Yellowstone No**	1.83	14			**Pb**	17 41 27.3	**-1.2**
RLMT	**Red Lodge**	2.13	27	Pb		**Pb**	17 41 32.9	**-0.8**
	baz=208							
RLMT					Sb	**Sb**	17 42 00.6	**+0.4**
	baz=208							
RLMT	**Red Lodge**	2.13	27			**Pb**	17 41 31.8	**-1.9**
HVU	**Hansel Valley**	2.15	228			**Pb**	17 41 32.2	**-1.7**
TCUT	**Toone Canyon**	2.19	195			**Pn**	17 41 31.4	**-0.2**
MCMT	**McKenzie Canyo**	2.25	316			**Pb**	17 41 34.0	**-1.7**
SPUT	**South Promonto**	2.35	215			**Pn**	17 41 33.4	**-0.3**
BOZ	**Bozeman (W)**	2.46	344	Pb		**Pb**	17 41 38.4	**-0.9**
	baz=162							
BOZ					Sb	**Sb**	17 42 10.8	**+1.0**
	baz=162							
BOZ	**Bozeman (W)**	2.46	344			**Pb**	17 41 38.1	**-1.2**
DLMT	**Dillon**	2.55	327			**Pb**	17 41 39.1	**-1.6**
DLMT					IAML		17 42 14.9	
	comp=N,88nm,1.2s							
CTU	**Camp Tracy**	2.67	198	Pn		**Pn**	17 41 38.4	**+0.2**
BGU	**Big Grassy Mou**	2.92	218			**Pn**	17 41 41.3	**-0.1**
RWWY	**Rawlins**	2.97	120			**Pn**	17 41 42.8	**+0.5**
RWWY					I

JMA 08 17:47:30.8±0.1, 36°22N×141°15E, h35km±2km, M2.2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.47	285	P	Pn	17 47 40.8	-0.2
JHYU				S	Sn	17 47 47.6	-0.5
JIHU	Itakohorinouch	0.57	244	P	Pn	17 47 42.8	+0.4
JIHU				S	Sn	17 47 51.5	+1.0
CHOJ	Chosi	0.57	205	P	Pn	17 47 42.0	-0.4
CHOJ				S	Sn	17 47 50.4	-0.1
JHO	Hitachi	0.61	310	P	Pn	17 47 43.0	0.0
JHO				S	Sn	17 47 51.3	-0.3
JYT	Yasato	0.77	271	P	Pn	17 47 45.2	0.0
ONAJ	Iwakimizuishiy	0.92	342	P	Pn	17 47 47.2	-0.2
JAG	Ashikaga	1.39	279	P	Pn	17 47 54.3	+0.7

*JMA **08** 17:47:51.9±0.1, 37°62N×141°80E, h33km±2km, M4.2*
JMA Felt II J1.
*NEIC **08** 17:47:53.9±2.8, 37°61N±0°07×141°9E±0°1, h48km±8km, mb4.4/14*
*IDC **08** 17:47:55.1±2.4, 37°64N×141°83E, h53km±21km, mb3.5/14, mb1 3.8/18, mb1mx3.6/49, mbtmp3.8/18, ML3.2/4, Error ellipse: s-maj=20.7km s-min=11.7km az=125.0*

ISC 08 17:47:49.9±1.5, 37°61N±0°04×141°87E±0°05, h14km±8km, n60, σ1°36/66, mb3.8/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.77	336	P	Pg	17 48 05.8	+1.0
JIKH				S	Sg	17 48 15.3	+0.4
JMST	Minamisoumatoc	0.78	279	P	Pg	17 48 05.7	+0.5
JMST				S	Sg	17 48 15.0	-0.5
JFK	Kawauchi	0.82	253	P	Pg	17 48 06.3	+0.4
JFK				S	Sg	17 48 16.1	-0.7
JMM	Marumori	0.89	287	P	Pg	17 48 07.3	+0.2
JMM				S	Sg	17 48 17.9	-0.8
JIO	Ouri	0.94	334	P	Pg	17 48 08.4	+0.4
JIO				S	Sg	17 48 19.3	-1.0
ONAJ	Iwakimizuishiy	0.99	239	P	Pg	17 48 08.7	-0.4
ONAJ				S	Sg	17 48 20.1	-1.9
JOU	Okura	1.21	309	P	Pb	17 48 12.7	0.0
JOU				S	Sb	17 48 27.7	-0.5
JFT	Otama	1.22	266	P	Pb	17 48 12.9	+0.1
JFT				S	Sb	17 48 27.4	-1.0
JKMT	Kesennumamotoy	1.24	346	P	Pn	17 48 12.8	0.0
JKMT				eS	Sb	17 48 28.0	-0.9
JMK	Ichinoseki	1.43	339	P	Pn	17 48 16.0	+0.5
JMK				eS	Sn	17 48 33.2	-0.9
JYS	Shirataka	1.55	294	P	Pn	17 48 18.3	+1.2
JYS				S	Sn	17 48 37.1	+0.1
JFY	Yanaizu	1.73	264	P	Pn	17 48 20.3	+0.7
JFY				S	Sn	17 48 40.7	-0.8
JYK	Kaneyama	1.76	318	P	Pn	17 48 20.4	+0.3
MJAR	Matsushiro Arr	3.11	251	P	Pn	17 48 40.1	+1.5
	1.2nm,0.3s,baz=211,slow=2.8,SNR=44						
MJAR				S	Sn	17 49 18.0	+2.3
	2.1nm,0.3s,baz=90,slow=27,SNR=6.6						
MAJO	Matsushiro	3.11	251		Pn	17 48 40.0	+1.3
MAT	Matsushiro	3.11	251	P	Pn	17 48 39.9	+1.2
MAT				S	Sn	17 49 18.4	+2.7
MJB9	Matsu-Tunnel	3.12	251		Pn	17 48 40.0	+1.3
INU	Inuyama	4.51	241		Pn	17 48 59.4	+1.5
JHJ2	Mitsune	4.79	201	Pn	Pn	17 49 03.4	+1.7
ASAJ	Asahikawa	6.52	5	P	Pn	17 49 27.7	+2.2
	0.7nm,0.3s,baz=196,slow=13,SNR=5.6						
ASAJ				S	Sn	17 50 39.8	+0.2
	0.2nm,0.3s,baz=29,slow=19,SNR=2.4						
JKA	Kamikawa-asahi	6.52	5		Pn	17 49 27.7	+2.2
JKA					Sn	17 50 39.8	+0.2
USRK	Ussuriysk Ar.	9.96	314	P	Pn	17 50 18.0	+5.5
	baz=118,slow=14,SNR=3.7						
JNU	Nakatsue	10.03	247	P	Pn	17 50 16.9	+3.3
	0.2nm,0.3s,baz=207,slow=9.1,SNR=4.3						
KSRS	Korea Array	11.07	273	P	Pn	17 50 32.3	+4.4
	0.1nm,0.3s,baz=82,slow=15,SNR=3.2						
JOW	Kunigami	15.72	231	Pn	Pn	17 51 31.4	+0.4
JOW				IAmb	IAmb	17 51 36.6	
	comp=Z,40nm,1.4s						
PEA0B	Petropavlovsk-	19.01	30	Pn	P	17 52 13.8	+2.7
PEA0B				IAmb	IAmb	17 52 30.9	
	comp=Z,36nm,1.1s						
MA2	Magadan	22.71	12	P	P	17 52 49.7	-1.4
TPUB	Ta-pu	23.13	238	P	P	17 52 52.9	-2.9
TPUB				IAmb	IAmb	17 53 05.3	
	comp=Z,50nm,1.5s						
ENH	Enshi	27.74	264	P	P	17 53 36.0	-2.2
ENH				IAmb	IAmb	17 53 37.8	
	comp=Z,8.4nm,0.6s						
SONM	Songino Array	27.77	303	P	P	17 53 38.8	+0.5
	comp=Z,0.6nm,0.5s,baz=103,slow=9.3,SNR=4.4						
H11N2	WAKE ISLAND Hy	28.14	122	T	T	18 23 12.1	
	baz=315,slow=75,SNR=18						
H11N1	WAKE ISLAND Hy	28.15	122	T	T	18 23 12.4	
	baz=315,slow=75,SNR=18						
H11N3	WAKE ISLAND Hy	28.16	122	T	T	18 23 10.9	
	baz=315,slow=75,SNR=20						
WAKE	Wake Island	28.30	123	P	P	17 53 41.2	-1.8
H11S1	WAKE ISLAND Hy	28.88	124	T	T	18 24 06.1	
	baz=316,slow=76,SNR=22						
H11S3	WAKE ISLAND Hy	28.88	124	T	T	18 24 06.5	
	baz=316,slow=76,SNR=39						
H11S2	WAKE ISLAND Hy	28.89	124	T	T	18 24 12.7	
	baz=316,slow=76,SNR=53						
CHTO	Chiang Mai	41.78	255	P	P	17 55 39.8	+0.6
CHTO				IAmb	IAmb	17 55 40.3	
	comp=Z,2.6nm,1.1s						
ZAA0	Zalesovo Array	41.80	312	P	P	17 55 39.0	+0.2
ZALV	Zalesovo Beam	41.80	312	P	P	17 55 38.7	-0.1
	comp=Z,0.7nm,0.6s,baz=94,slow=5.5,SNR=3.3						
CMAR	Chiang Mai Arr	41.99	255	P	P	17 55 42.0	+1.1
	comp=Z,0.5nm,0.3s,baz=50,slow=8.4,SNR=3.0						
MK31	Makanchi Array	44.12	302	P	P	17 55 58.0	+0.1
MKAR	Makanchi Array	44.12	302	P	P	17 55 57.5	-0.4
	comp=Z,0.7nm,0.6s,baz=81,slow=10,SNR=7.8						
MAKZ	Makanchi	44.33	302	P	P	17 55 59.4	-0.1
MAKZ				IAmb	IAmb	17 56 18.6	
	comp=Z,2.5nm,0.9s						
KURK	Kurchatov	45.86	308	P	P	17 56 09.9	-1.7
KURK				IAmb	IAmb	17 56 22.2	
	comp=Z,4.2nm,1.1s						
OHAK	Old Harbor	46.09	43	P	P	17 56 11.4	-1.8
SPU	Mount Spurr	46.56	38	P	P	17 56 16.4	-0.5
ILAR	Eielson Array	48.81	33	P	P	17 56 34.9	+0.5
	comp=Z,0.7nm,0.9s,baz=266,slow=5.8,SNR=6.0						
CHGR	Chuyangaron	55.74	295	IAmb	IAmb	17 57 27.2	
	comp=Z,11nm,1.1s						
WRA	Warramunga Arr	57.68	188	P	P	17 57 39.0	-1.0
	comp=Z,1.3nm,0.6s,baz=4.4,slow=7.4,SNR=4.5						
ABKAR	Akbulak array	57.84	310	IAmb	IAmb	17 57 48.3	
	comp=Z,3.8nm,1.4s						
ASAR	Alice Springs	61.41	188	P	P	17 58 05.1	-0.6
	comp=Z,1.7nm,0.8s,baz=15,slow=6.9,SNR=6.6						
YKA	Yellowknife Ar	63.13	30	P	P	17 58 17.1	+0.3
	comp=Z,0.4nm,0.7s,baz=298,slow=6.4,SNR=4.9						
FINES	FINESS Array B	68.47	332	P	P	17 58 50.2	-1.0
	comp=Z,1.7nm,0.9s,baz=17,slow=10,SNR=2.9						
NOA	NORSAR Array B	73.79	337	P	P	17 59 23.6	+0.1
	comp=Z,0.8nm,0.9s,baz=38,slow=6.1,SNR=1.3						
AKASG	Malin Array Be	74.06	322	P	P	17 59 24.3	-0.9
	comp=Z,0.6nm,0.5s,baz=48,slow=5.8,SNR=5.5						
NVAR	Mina Array Bea	74.36	53	P	P	17 59 28.2	+0.7
	comp=Z,0.7nm,0.7s,baz=299,slow=6.3,SNR=5.0						
PDAR	Pinedale Array	77.00	46	P	P	17 59 43.3	+0.6
	comp=Z,0.4nm,0.6s,baz=347,slow=2.8,SNR=3.5						
TXAR	Lajitas Array	89.48	53	P	P	18 00 47.5	+0.5
	comp=Z,0.3nm,0.6s,baz=310,slow=5.2,SNR=4.3						
LPAZ	La Paz	146.09	59	PKPbc	PKPdf	18 07 30.6	+0.8
	comp=Z,1.2nm,0.8s,baz=358,slow=6.0,SNR=5.7						

*MAN **08** 17:48:55.0, 13°47N×120°19E, h1km, MS3.4*
*ISCJB **08** 17:48:56.9±0.8, 13°52N±0°03×120°32E±0°04, h21km±5km, mb4.2/20, Error ellipse: s-maj=6.3km s-min=5.3km az=1.8*
*NEIC **08** 17:49:00.7±1.3, 13°53N±0°07×120°5E±0°1, h42km±8km, mb4.5/32*
*IDC **08** 17:49:00.7±1.5, 13°52N×120°44E, h42km±15km, mb4.1/19, mb1 4.2/19, mb1mx4.0/44, mbtmp4.3/19, Error ellipse: s-maj=19.4km s-min=11.6km az=82.0*

ISC 08 17:48:55.7±1.3, 13°51N±0°04×120°37E±0°04, h4km±8km, n82, σ1°09/87, mb4.5/34, 2C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.26	331	P	Pg	17 49 00.5	-0.2
LUBP				S	Sg	17 49 03.6	-0.6
TGY	Tagaytay City	0.81	43	P	Pn	17 49 13.5	-0.4
	561nm,0.3s,baz=132,slow=2.6,SNR=18						
TGY				S	Sn	17 49 26.7	+0.3
	2µm,0.3s,baz=204,slow=20,SNR=28						
TGY	Tagaytay City	0.81	43	⇓P	Pn	17 49 13.5	-0.4
TGY				S	Sg	17 49 20.1	-1.6
LQP	Lukban	1.28	62	P	Pn	17 49 21.2	+0.6
LQP	Lukban	1.28	62	P	Pn	17 49 21.2	+0.6
LQP				S	Sn	17 49 40.5	+2.2
GQP	Guinayangan	2.05	79	⇑P	Pb	17 49 33.6	+0.1
GQP				S	Sg	17 50 02.5	+0.8
AUQP	San Andres	2.25	94	P	Pg	17 49 37.8	-1.0
ENPP	El Nido	2.47	202	P	Pn	17 49 35.4	-1.2
ENPP				S	Sn	17 50 05.7	-1.5
SMPP	San Manuel, Pa	2.65	6	P	Pn	17 49 39.2	0.0
RCP	Roxas	3.02	130	⇓P	Pb	17 49 49.6	-0.4
GUIM	Jordan	3.59	143	P	Pn	17 49 54.6	+2.5
APYP	Conner	4.41	11	P	Pn	17 50 05.5	+2.1
KCP	Kidapawan	7.95	144	⇑P	Pb	17 51 19.1	+5.0
GSPH	General Santos	8.64	148	P	Pg	17 51 28.4	-13
SBUM	Sibu	13.63	217	Pn	Pn	17 52 12.0	+2.2
KSM	Kuching	15.56	221	Pn	P	17 52 38.8	-1.7
KSM				IAmb	IAmb	17 52 56.8	
	comp=Z,29nm,1.3s						
PBKT	Sadao Pong	18.98	282		Pn	17 53 21.1	+2.1
KULM	Kulim	21.09	249	P	P	17 53 42.7	+1.5
KULM				IAmb	IAmb	17 53 48.3	
	comp=Z,15nm,1.0s						
CM31	Chiang Mai Arr	21.18	286	P	P	17 53 44.6	+2.3
CM31				IAmb	IAmb	17 53 45.5	
	comp=Z,15nm,0.9s						
CMAR	Chiang Mai Arr	21.18	286	P	P	17 53 44.2	+2.0
	comp=Z,7.7nm,0.8s,baz=95,slow=9.2,SNR=58						
CHTO	Chiang Mai	21.24	287	P	P	17 53 44.5	+1.5
JNU	Nakatsue	21.75	24	P	P	17 53 46.3	-2.0
PSI	Prapat	23.72	245	P	P	17 54 10.1	+0.9
	comp=Z,4.5nm,0.8s,baz=21,slow=4.3,SNR=4.8						
RPSI	Rantau Prapat	23.77	245	P	P	17 54 10.1	+0.6
BATI	Baumata	23.78	172	P	P	17 54 10.5	+0.9
	comp=Z,47nm,0.8s,baz=307,slow=1.7,SNR=12						
KSRS	Korea Array	24.78	14	P	P	17 54 19.0	+0.4
	comp=Z,0.5nm,0.7s,baz=195,slow=8.8,SNR=3.4						
KS19	Wonju Array Si	24.82	14	P	P	17 54 18.5	-0.5
LSA	Lhasa	31.46	306	P	P	17 55 20.2	+1.1
FITZ	Fitzroy Crossi	31.83	170	P	P	17 55 19.4	-2.3
FITZ				IAmb	IAmb	17 55 26.4	
	comp=Z,8.0nm,1.1s						
TAPN	Taplejung	33.45	299	eP	P	17 55 36.9	+0.6
	comp=Z,6.3nm,0.7s						
ODAN	Odare	33.57	298	eP	P	17 55 38.0	+0.7
RAMN	Ramite	34.28	298	eP	P	17 55 44.4	+0.9
JIRN	Jiri	34.83	299	eP	P	17 55 48.6	+0.2
	comp=Z,14nm,0.5s						
PSA00	Pilbara Seismi	34.86	181	P	P	17 55 47.9	-0.3
GUN	Gumba	35.16	300	eP	P	17 55 51.8	+0.6
PKI	Pulchoki	35.47	299	eP	P	17 55 53.8	0.0
PKIN	Phulchoki	35.48	299	eP	P	17 55 53.8	-0.1
KKN	Kakani	35.64	299	eP	P	17 55 55.0	-0.2
WRAB	Tennant Creek	35.96	157	P	P	17 55 57.5	-0.2
WRA	Warramunga Arr	35.97	157	P	P	17 55 57.4	-0.3
	comp=Z,4.9nm,0.6s,baz=336,slow=9.7,SNR=25						
WB2	Warramunga Arr	35.97	157	P	P	17 55 57.6	-0.2
ULN	Ulaanbaatar	36.01	345	P	P	17 55 57.8	-0.2
ULN					P	17 55 58.3	+0.3
WR0	Warramunga Arr	36.06	157	P	P	17 55 58.4	-0.1
WR0				IAmb	IAmb	17 55 59.1	
	comp=Z,7.4nm,0.9s						
SONM	Songino Array	36.16	344	P	P	17 55 59.2	0.0
	comp=Z,6.1nm,0.7s,baz=162,slow=9.8,SNR=34						
GKN	Gorkha	36.24	299	eP	P	17 56 00.1	-0.2
KLR	Kul'dur	36.84	12	P	P	17 56 05.9	+1.1
	comp=Z,1.2nm,0.6s,baz=238,slow=8.8,SNR=4.4						
KOLN	Koldanda	37.06	298	eP	P	17 56 07.4	0.0
DANN	Dangsing	37.08	299	eP	P	17 56 07.5	-0.1
	comp=Z,14nm,0.7s						
AS31	Alice Springs	39.24	160	P	P	17 56 25.6	+0.2
ASAR	Alice Springs	39.24	160	P	P	17 56 25.3	-0.2
	comp=Z,5.6nm,0.7s,baz=337,slow=6.6,SNR=48						
TLY	Talaya	40.40	344	P	P	17 56 35.9	+1.2
	comp=Z,5.4nm,0.5s,baz=159,slow=8.6,SNR=3.4						
TLY	Talaya	40.40	344	P	P	17 56 36.0	+1.2
TLY				IAmb	IAmb	17 56 43.7	
	comp=Z,7.9nm,0.8s						
MK31	Makanchi Array	46.00	324	P	P	17 57 20.8	+0.6
MKAR	Makanchi Array	46.00	324	P	P	17 57 20.6	+0.4
	comp=Z,2.2nm,0.8s,baz=129,slow=8.8,SNR=11						
MAKZ	Makanchi	46.19	324	P	P	17 57 21.0	-0.7
MAKZ				IAmb	IAmb	17 57 28.8	
	comp=Z,3.1nm,0.8s						
NIL	Nilore	47.15	304	P	P	17 57 29.4	-0.1
NIL				IAmb	IAmb	17 57 30.0	
	comp=Z,6.1nm,0.8s						
BBOO	Buckleboo	48.43	162	P	P	17 57 39.8	+0.6
ZAA0	Zalesovo Array	49.09	333	P	P	17 57 43.6	-0.4
ZAA0				IAmb	IAmb	17 57 47.1	
	comp=Z,2.7nm,0.6s						
ZALV	Zalesovo Beam	49.09	333	P	P	17 57 43.5	-0.5
	comp=Z,3.4nm,0.8s,baz=124,slow=7.5,SNR=11						
STKA	Stephens Creek	49.50	156	P	P	17 57 47.7	+0.3
	comp=Z,1.2nm,0.5s,baz=336,slow=10,SNR=2.3						
STKA	Stephens Creek	49.50	156	P	P	17 57 48.9	+1.5
ARSB	Arslanbob	49.56	313	P	P	17 57 49.0	+0.9
ARSB				IAmb	IAmb	17 57 49.5	
	comp=Z,4.5nm,0.7s						
KURK	Kurchatov	50.18	327	P	P	17 57 52.6	+0.2
KK31	Karatay Array	51.89	315	P	P	17 58 05.4	-0.1
KK31				IAmb	IAmb	17 58 06.5	
	comp=Z,6.0nm,0.9s						
KKAR	Karatay Array	51.89	315	P	P	17 58 05.4	0.0
KKAR				IAmb	IAmb	17 58 06.5	
	comp=Z,6.0nm,0.9s						
BRVK	Borovoye	55.83	326	P	P	17 58 34.0	-0.1
BRVK	Borovoye	55.83	326		P	17 58 34.2	+0.2
TIXI	Tiksi	58.34	3	P	P	17 58 50.8	-0.7
	comp=Z,1.5nm,0.3s,baz=86,slow=1.2,SNR=5.1						
GEYT	Ailbeck	59.99	306	P	P	17 59 04.5	+0.8
	comp=Z,5.4nm,0.9s,baz=140,slow=5.8,SNR=9.5						
ABKAR	Akbulak array	60.67	319	P	P	17 59 07.8	-0.2
ABKAR				IAmb	IAmb	17 59 08.9	
	comp=Z,4.0nm,1.0s						
ARU	Arti	63.37	327	P	P	17 59 25.8	-0.3
RAYN	Ar Rayn	71.03	290	P	P	18 00 15.4	0.0
RAYN				IAmb	IAmb	18 00 16.3	
	comp=Z,6.1nm,0.8s						
BPAW	Bear Paw Mtn.	77.37	27	P	P	18 00 51.1	-0.5
BPAW				IAmb	IAmb	18 00 58.5	
	comp=Z,4.0nm,0.8s						
ILAR	Eielson Array	79.06	26	P	P	18 00 59.4	-1.5
	comp=Z,0.4nm,0.7s,baz=298,slow=5.0,SNR=5.2						
ARCES	ARCESS Array B	79.15	339	P	P	18 00 59.6	-1.7
	comp=Z,3.7nm,0.9s,baz=48,slow=3.8,SNR=6.1						
FINES	FINESS Array B	80.30	331	P	P	18 01 06.5	-1.2
	comp=Z,1.5nm,0.6s,baz=49,slow=5.8,SNR=8.3						
BUR08	Bucovina Ar. S	83.59	317	P	P	18 01 25.3	-0.2
BUR08				IAmb	IAmb	18 01 30.2	
	comp=Z,3.3nm,1.1s						
NB2	NORSAR Subarra	87.29	333	P	P	18 01 41.3	-2.2
	comp=Z,9.1nm,1.0s,baz=69,slow=4.4						
NB2	NORSAR Subarra	87.29	333	P	P	18 01 41.3	-2.2
	baz=69,slow=4.4						
NOA	NORSAR Array B	87.29	333	P	P	18 01 41.6	-1.9
	comp=Z,2.3nm,0.8s,baz=69,slow=4.5,SNR=7.0						
GERES	GERESS Array B	90.58	321	P	P	18 01 58.4	-1.0
	comp=Z,0.9nm,0.8s,baz=64,slow=6.1,SNR=5.6						
YKA	Yellowknife Ar	93.08	22	P	P	18 02 09.6	-0.9
	comp=Z,0.1nm,0.5s,baz=309,slow=4.5,SNR=3.2						

KRSC 08 17:53:54.5±1.9, 49°61N×157°14E, h16km±40km, ML4.2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.26	329	eP	Pn	17 54 16.6	-0.7
SKR				eS	Sb	17 54 32.1	-1.6
PAU	Pauzhetka	1.87	354	eP	Pb	17 54 27.7	-0.5
PAU				eS	Sb	17 54 51.1	-0.1
KDTR	Khodutka, Kamc	2.28	15	eP	Pb	17 54 33.8	-1.3
KDTR				eS	Sb	17 55 02.2	-0.8
ASAK	Asacha	2.81	10	eP	Pb	17 54 41.8	-2.5
ASAK				eS	Sb	17 55 16.8	-1.7
MTVR	Mutnovka	2.95	12	eP	Pn	17 54 43.6	+2.9
MTVR				eS	Sn	17 55 19.0	+3.3
RUS	Russkaya	2.95	17	eP	Pn	17 54 42.6	+2.0
RUS				eS	Sn	17 55 18.4	+2.8
GRL	Gorelyy	3.00	11	eP	Pn	17 54 44.4	+3.0
GRL				eS	Sb	17 55 21.0	-2.9
KRMR	Karymshinskiy	3.28	11	eP	Pn	17 54 48.6	+3.5
KRMR				eS	Sb	17 55 28.4	-3.4
APC	Apacha	3.32	0	eP	Pn	17 54 48.3	+2.7
PET	Petropavlovsk	3.54	15	eS	Sn	17 55 33.1	+2.9
DALK	Dalny	3.57	16	eP	Pn	17 54 51.8	+2.8
DALK				eS	Sn	17 55 34.7	+3.9
AVH	Avacha	3.79	15	eP	Pn	17 54 56.1	+3.9
AVH				eS	Sb	17 55 42.2	-4.4
KOK	Koryaka	3.80	14	eP	Pn	17 54 56.4	+4.1
KOK				S	Sn	17 55 41.3	+4.6
NLC	Nalytchevo	3.82	20	eS	Sn	17 55 38.7	+1.7
SDLR	Sedlovina	3.83	16	P	Pn	17 54 55.5	+2.8
KRER	Koryakskii	3.83	15	eS	Sn	17 55 42.7	+5.1
KRX	Arik	3.87	14	P	Pb	17 54 58.3	-4.0
SPN	Mys Shipunski	3.93	26	eS	Sn	17 55 43.1	+3.4
KZV	Kizimen	5.84	18	eP	Pn	17 55 23.4	+3.1

*ISCJB **08** 18:08:07.5±0.4, 43°18N±0°01×110°56W±0°03, h1km±3km, Error ellipse: s-maj=3.5km s-min=2.0km az=169.4*
*NEIC **08** 18:08:08.6±2.2, 43°22N±0°03×110°54W±0°05, h5km±1km, mb4.0/11, Mwr3.6(SLM), Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.09; $M_{\theta\theta}$-2.02; $M_{\phi\phi}$3.11; $M_{r\theta}$1.73; $M_{r\phi}$0.10; $M_{\theta\phi}$1.01; Fault plane solution: M_o3.39000×10^{14} NP1:ϕ_s322.00000°, δ52.00000°, λ-161.00000°. NP2:ϕ_s220.00000°, δ75.00000°, λ-40.00000°. Principal axes: T 3.3887, Plg15.0000°, Azm276.0000°; N 0.0031, Plg48.0000°, Azm23.0000°; P -3.3918, Plg38.0000°, Azm174.0000°;*
*ANF **08** 18:08:09.3±0.4, 43°25N×110°56W, h0km, mb3.2/1, mb1 3.7/8, mb1mx3.5/43, mbtmp3.4/8, ML3.1/6, Error ellipse: s-maj=10.7km s-min=5.4km az=5.0*
*IDC **08** 18:08:09.2±0.7, 43°05N×110°75W, h0km, mb3.2/1, mb1 3.7/8, mb1mx3.5/43, mbtmp3.4/8, ML3.1/6, Error ellipse: s-maj=10.7km s-min=5.4km az=61.0*

ISC 08 18:08:07.7±1.1, 43°19N±0°02×110°51W±0°03, h1km±8km, n133, σ2°03/160, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REDW	Red Top Meadow	0.30	304		Pg	18 08 12.9	-0.6
REDW				Sg	Sg	18 08 16.1	-1.3
SNOW	Snow King Moun	0.32	326		Pg	18 08 13.9	-0.1
SNOW				Sg	Sg	18 08 18.0	-0.2
TPAW	Teton Pass	0.44	313		Pg	18 08 16.3	-0.2
TPAW				Sg	Sg	18 08 21.4	-0.4
MOOW	Moose Ponds	0.58	343	Pg	Pg	18 08 18.5	-0.4
MOOW				Sg	Sg	18 08 26.2	-0.2
AHID	Auburn Hatcher	0.61	226		Pg	18 08 19.0	-0.4
AHID				Sg	Sg	18 08 27.6	+0.3
BW06	Boulder Array	0.82	121	P	Pb	18 08 25.8	+0.9
	baz=300						
BW06				S	Sb	18 08 38.7	+2.2
	baz=300						
BW06	Boulder Array	0.82	121		Pb	18 08 25.8	+0.9
PD31	Pinedale Array	0.82	121		Pb	18 08 25.7	+0.9
PDAR	Pinedale Array	0.82	121	Pg	Pb	18 08 25.9	+1.0
	80nm,0.3s,baz=313,slow=14,SNR=182						
PDAR				Lg	Lg	18 08 39.2	
	154nm,0.3s,baz=294,slow=28,SNR=24						
FLWY	Flagg Ranch	0.90	351		Pg	18 08 24.5	-0.4
FLWY				Sg	Sg	18 08 35.9	-0.8
H17A	Grant Village	1.20	358	P	Pg	18 08 30.3	-0.4
	baz=182						
H17A				S	Sg	18 08 45.4	-1.0
	baz=182						
H17A	Grant Village	1.20	358		Pg	18 08 30.4	-0.4
H17A				Sg	Sg	18 08 45.5	-0.8
LKWY	Lake	1.37	3		Pn	18 08 33.8	-0.5
YMR	Madison River	1.51	348		Pn	18 08 35.4	-0.8
YMR					Sg	18 08 56.6	+0.3
YUF	Upper Falls	1.52	360		Pn	18 08 36.5	+0.2
YNR	Norris Junctio	1.53	355		Pn	18 08 36.1	-0.2
YNM	Yellowstone No	1.54	355		Pn	18 08 36.5	0.0
YMP	Mirror Lake Pl	1.57	9		Pb	18 08 37.8	+0.1
YHH	Holmes Hill	1.61	351		Pn	18 08 36.7	-0.9
YHH				Sn	Sn	18 08 58.4	-0.8
YHB	Horse Butte	1.63	343		Pn	18 08 37.2	-0.7
YHB				Sn	Sn	18 08 58.3	-1.4
QLMT	Earthquake Lak	1.77	338		Pn	18 08 39.1	-0.6
YNE	Yellowstone No	1.85	11		Pn	18 08 41.0	+0.1
RLMT	Red Lodge	2.12	24	Pn	Pn	18 08 45.3	+0.7
	baz=208						
RLMT				Pb	Pb	18 08 47.3	+0.1
	baz=208						
RLMT				S	Sb	18 09 14.1	-0.1
	baz=

PV23	**Carpenter Ridg**	**4.87**	**166**		**Pn**	**18 09 23.3**	**+0.9**
PV14	**Lion Creek, Pa**	**4.95**	**166**		**Pn**	**18 09 24.3**	**+0.9**
PV04	**Paradox Valley**	**4.95**	**165**		**Pn**	**18 09 24.0**	**+0.6**
PV07	**Paradox Valley**	**4.96**	**163**		**Pn**	**18 09 24.1**	**+0.7**
PV20	**West Nyswonger**	**4.99**	**166**		**Pn**	**18 09 25.2**	**+1.3**
ISCO	**Idaho Springs**	**5.00**	**131**	P	**Pn**	**18 09 26.9**	**+2.7**
	baz=314						
ISCO				Sb	**Sg**	**18 10 45.0**	**-3.4**
	baz=314						
ISCO	**Idaho Springs**	**5.00**	**131**		**Pn**	**18 09 25.4**	**+1.2**
PV19	**Morning Glory**	**5.01**	**166**		**Pn**	**18 09 25.9**	**+1.5**
PV16	**Nyswonger Mesa**	**5.03**	**166**		**Pn**	**18 09 25.6**	**+1.1**
PV12	**Saucer Basin,**	**5.04**	**165**		**Pn**	**18 09 25.8**	**+1.1**
PV11	**David Mesa, Pa**	**5.04**	**165**		**Pn**	**18 09 25.7**	**+1.0**
PV17	**East Wray Mesa**	**5.05**	**166**		**Pn**	**18 09 25.8**	**+1.1**
PV18	**Skein Mesa, Pa**	**5.09**	**166**		**Pn**	**18 09 26.1**	**+0.8**
PV03	**Paradox Valley**	**5.09**	**165**		**Pn**	**18 09 26.2**	**+0.8**
PV02	**Paradox Valley**	**5.16**	**164**		**Pn**	**18 09 27.4**	**+1.1**
BMO	**Blue Mountains**	**5.17**	**291**		**Pn**	**18 09 26.9**	**+0.5**
PV13	**Radium Mtn., P**	**5.19**	**165**		**Pn**	**18 09 27.7**	**+0.9**
PV05	**Paradox Valley**	**5.22**	**168**		**Pn**	**18 09 27.9**	**+0.7**
PV01	**Paradox Valley**	**5.26**	**163**		**Pn**	**18 09 28.6**	**+0.8**
PSUT	**Pine Spring**	**5.30**	**210**		**Pn**	**18 09 30.0**	**+1.7**
MTPU	**Mount Pierson**	**5.30**	**194**		**Pn**	**18 09 29.8**	**+1.4**
Q24A	**Divide**	**5.85**	**134**	Sb	**Sg**	**18 11 11.3**	**-4.4**
	baz=318						
PKCU	**Pink Cliffs**	**5.91**	**194**		**Pn**	**18 09 38.0**	**+1.4**
S22A	**4UR Ranch, Cre**	**6.12**	**152**		**Pn**	**18 09 41.6**	**+2.0**
MVCO	**Mesa Verde**	**6.17**	**165**	P	**Pn**	**18 09 41.5**	**+1.3**
	baz=346						
MVCO				Sb	**Sb**	**18 11 18.1**	**+7.5**
	baz=346						
MVCO	**Mesa Verde**	**6.17**	**165**		**Pn**	**18 09 39.4**	**-0.9**
R11A	**Troy Canyon, C**	**6.18**	**220**	P	**Pn**	**18 09 43.3**	**+3.0**
	baz=36						
R11A				Sb	**Sg**	**18 11 19.4**	**-6.9**
	baz=36						
E09A	**Wood Farm, Sta**	**6.36**	**304**	Pn	**Pn**	**18 09 42.7**	**+0.1**
KNB	**Kanab**	**6.42**	**197**	Pn	**Pn**	**18 09 45.1**	**+1.6**
NEW	**Newport**	**6.86**	**320**	P	**Pn**	**18 09 51.8**	**+2.3**
	baz=136						
NEW				Sb	**Sb**	**18 11 36.4**	**+6.2**
	baz=136						
NEW	**Newport**	**6.86**	**320**	Pn	**Pn**	**18 09 51.5**	**+2.0**
	0.7nm,0.3s,baz=92,slow=6.1,SNR=9.0						
NEW				Lg	Lg	18 11 36.7	
	2.0nm,0.3s,baz=49,slow=23,SNR=15						
NEW	**Newport**	**6.86**	**320**	Pn	**Pn**	**18 09 52.0**	**+2.5**
U15A	**North Rim**	**6.89**	**192**		**Pn**	**18 09 53.3**	**+3.1**
KVN	**Kaiserville**	**7.07**	**237**	Pn	**Pn**	**18 09 55.3**	**+2.8**
KSCO	**Kaye Shedlock'**	**7.27**	**122**	Sb	Sg	18 11 53.8	-7.3
	baz=308						
NV11	**Mina Array Sit**	**7.50**	**233**	Pn	**Pn**	**18 09 59.8**	**+1.4**
SHPR	**Sheep Range**	**7.58**	**210**	Pn	**Pn**	**18 10 02.4**	**+2.9**
NVAR	**Mina Array Bea**	**7.59**	**234**	Pn	**Pn**	**18 10 00.5**	**+0.9**
	0.3nm,0.3s,baz=50,slow=12,SNR=15						
NVAR				Pg	**Pb**	**18 10 24.4**	**+4.2**
	0.8nm,0.3s,baz=47,slow=17,SNR=10						
NVAR				Lg	Lg	18 12 04.0	
	0.4nm,0.3s,baz=50,slow=38,SNR=2.8						
TPNV	**Topopah Spring**	**7.63**	**217**	P	**Pn**	**18 10 03.1**	**+2.9**
	baz=33						
TPNV	**Topopah Spring**	**7.63**	**217**	Pn	**Pn**	**18 10 02.6**	**+2.4**
WUAZ	**Wupatki**	**7.70**	**185**	P	**Pn**	**18 10 01.6**	**+0.5**
	baz=4.0						
WUAZ	**Wupatki**	**7.70**	**185**		**Pn**	**18 10 01.2**	**+0.1**
W18A	**Petrified Fore**	**8.09**	**175**	Pn	**Pn**	**18 10 07.6**	**+1.2**
W13A	**Hualapai Mount**	**8.50**	**199**	Pn	**Pn**	**18 10 10.4**	**-1.7**
ANMO	**Albuquerque**	**8.82**	**158**	Pn	**Pn**	**18 10 17.0**	**+0.5**
	0.2nm,0.3s,baz=334,slow=13,SNR=4.5						
ANMO				Pg	Pg	18 10 52.8	-3.8
	0.2nm,0.3s,baz=346,slow=16,SNR=3.1						
ANMO				Lg	Lg	18 12 40.0	
	0.1nm,0.3s,baz=270,slow=8.1,SNR=2.8						
ANMO	**Albuquerque**	**8.82**	**158**	Pn	**Pn**	**18 10 17.2**	**+0.8**
GSC	**Goldstone, Bar**	**9.27**	**214**	Pn	**Pn**	**18 10 21.4**	**-1.2**
WDC	**Whiskeytown Da**	**9.35**	**258**	Pn	**Pn**	**18 10 20.8**	**-2.8**
ECSD	**EROS Data Cent**	**10.12**	**82**	Pn	**Pn**	**18 10 36.4**	**+2.2**
ULM	**Lac du Bonnet**	**12.26**	**50**	Pn	**Pn**	**18 11 06.2**	**+2.9**
	0.6nm,0.3s,baz=241,slow=11,SNR=5.7						
ULM				Lg	Lg	18 14 26.9	
	0.3nm,0.3s,baz=150,slow=20,SNR=1.9						
ULM	**Lac du Bonnet**	**12.26**	**50**	Pn	**Pn**	**18 11 03.9**	**+0.5**
G40A	**Rib Lake**	**14.71**	**75**	Pn	**Pn**	**18 11 36.7**	**-0.1**
TX31	**Lajitas Ar. Si**	**14.88**	**156**	Pn	**Pn**	**18 11 37.9**	**-1.5**
TXAR	**Lajitas Array**	**14.88**	**156**	Pn	**Pn**	**18 11 40.7**	**+1.3**
	baz=29,slow=46,SNR=3.6						
TXAR				Lg	Lg	18 16 06.0	
	0.1nm,0.3s,baz=347,slow=24,SNR=2.0						
JCT	**Junction City**	**15.29**	**143**	Pn	**Pn**	**18 11 42.8**	**-2.0**
JCT				IAmb	IAmb	18 11 57.0	
	comp=Z,5.6nm,1.1s						
W41B	**Gary Mavity, V**	**16.25**	**113**		**P**	**18 11 59.7**	**-0.6**
UALR	**University of**	**16.41**	**115**	Pn	**Pn**	**18 12 00.2**	**+0.9**
UALR				IAmb	IAmb	18 12 06.3	
	comp=Z,9.8nm,1.4s						
NATX	**Nacogdoches**	**16.95**	**127**	Pn	**Pn**	**18 12 04.9**	**-1.3**
NATX				IAmb	IAmb	18 12 05.1	
	comp=Z,9.6nm,0.6s						
CCAR	**Cane Creek**	**17.31**	**116**	Pn	**Pn**	**18 12 09.3**	**-1.2**
CCAR				IAmb	IAmb	18 12 16.3	
	comp=Z,8.9nm,0.8s						
MOBC	**Moresby Island**	**17.37**	**312**	Pn	**Pn**	**18 12 07.4**	**-3.9**
MOBC				IAmb	IAmb	18 12 07.7	
	comp=Z,22nm,1.4s						
MET	**Memphis--Engin**	**17.85**	**110**	Pn	**Pn**	**18 12 15.1**	**-2.1**
YKA	**Yellowknife Ar**	**19.48**	**354**	P	**Pn**	**18 12 38.2**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=170,slow=10,SNR=8.8						
H48A	**Harrisville**	**19.60**	**76**	P	**P**	**18 12 36.8**	**-0.5**
H48A				IAmb	IAmb	18 12 43.5	
	comp=Z,16nm,1.1s						
T49A	**Edmonton**	**20.00**	**99**	P	**P**	**18 12 42.0**	**+0.3**
T49A				IAmb	IAmb	18 12 57.6	
	comp=Z,11nm,1.4s						
ZAIG	**Zacatecas**	**21.41**	**160**	P	**P**	**18 12 56.1**	**-1.2**
V52A	**Sevierville**	**21.96**	**100**	P	**P**	**18 13 03.3**	**+0.4**
ILAR	**Eielson Array**	**29.71**	**329**	P	**P**	**18 14 17.5**	**+2.5**
	comp=Z,0.2nm,0.6s,baz=115,slow=8.1,SNR=2.2						
HHC	**Hu-ho-hao-te**	**88.13**	**329**	P	**P**	**18 21 00.8**	**+0.5**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HHC				AMB	AMB		
	comp=Z,8.0nm,5.0s						
WMQ	**Urumqi**	**91.85**	**347**	*eP*	**P**	**18 21 19.2**	**+1.7**
LZH	**Lanzhou**	**95.11**	**333**	*eP*	**P**	**18 21 28.6**	**-4.2**
LZH				pP	PcP	18 21 33.8	+0.7
LZH				sP		18 21 37.2	
LZH				PP	**PP**	**18 25 13.6**	**-7.7**
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				pmax	pmax		
	comp=Z,62nm,4.3s						

KRNET 08 18:16:04.6±0.1, 40°58N×77°21E, mb2.8, 10C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.25**	**314**	⇓*i*P	Pg	18 16 28.4	-0.2
	baz=12						
NRN				⇓*i*S	Sb	18 16 46.5	+0.3
	baz=12						
KDJ	**Kajisay**	**1.55**	**359**	⇑*i*P	Pn	18 16 34.0	+0.3
	baz=60						
KDJ				⇑*i*S	Sn	18 16 55.3	+0.6
	baz=60						
KZA	**Kyzart**	**2.10**	**316**	⇑*i*P	Pb	18 16 43.7	-0.2
	baz=16						
KZA				⇑*i*S	Sg	18 17 12.2	0.0
	baz=16						
BOOM	**Boomskoye usch**	**2.14**	**334**	⇓*i*S	Sb	18 17 12.3	+0.9
	baz=34						
UCH	**Uchtor**	**2.61**	**310**	⇑*i*P	Pb	18 16 50.9	-1.7
	baz=10.0						
UCH				⇑*i*S	Sb	18 17 24.7	-0.7
	baz=10.0						
AAK	**Ala-Archa**	**2.90**	**316**	⇑*i*P	Pn	18 16 54.3	+2.2
	baz=16						
AAK				⇑*i*S	Sb	18 17 30.7	-2.6
	baz=16						
AML	**Almayashu**	**3.07**	**302**	⇑*e*P	Pn	18 16 57.1	+2.4
	baz=2.0						
AML				⇑*i*S	Sb	18 17 35.7	-2.7
	baz=2.0						

*NNC **08** 18:16:26.0±0.5, 43°.00N×76°.95E, h4km±3km, mb2.9, mpv3.1, Error ellipse: s-maj=6.0km s-min=2.2km az=161.0*
*SOME **08** 18:16:25.8, 43°.02N×76°.95E, h10km*
*ISCJB **08** 18:16:26.8±0.3, 43°.03N±0°.02×76°.94E±0°.02, h10km±2km, Error ellipse: s-maj=3.1km s-min=2.3km az=171.7*
*KRNET **08** 18:16:26.4±0.1, 43°.03N×76°.94E, h21km, mb3.2*
*KNET **08** 18:16:28.0±1.1, 42°.96N×76°.82E, h7km±6km, ml1.9, Error ellipse: s-maj=6.3km s-min=2.2km az=56.0*

ISC 08 18:16:26.1±0.8, 43°.01N±0°.02×76°.95E±0°.01, h14km±4km, n67, σ0°.47/125, 22C-16D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**0.02**	**4**	*e*P	**Pg**	**18 16 29.0**	**-0.2**
	631nm,0.1s						
TNSS				*e*S	**Sg**	**18 16 30.8**	**-0.6**
	3μm,0.1s						
TNSS	**Tian-Shan**	**0.02**	**4**	*e*P	**Pg**	**18 16 29.0**	**-0.2**
	baz=17						
TNSS				*e*S	**Sg**	**18 16 30.7**	**-0.6**
	baz=17						
TNSS	**Tian-Shan**	**0.02**	**4**	P	**Pg**	**18 16 29.1**	**-0.2**
	631nm,0.1s						
TNSS				S	**Sg**	**18 16 30.7**	**-0.6**
	3μm,0.3s						
MDOK	**Medeo**	**0.17**	**27**	*e*P	**Pg**	**18 16 30.3**	**-0.1**
	23nm,0.1s						
MDOK				*e*S	**Sg**	**18 16 32.9**	**-0.3**
	689nm,0.1s						
MDOK	**Medeo**	**0.17**	**27**	*e*P	**Pg**	**18 16 30.3**	**-0.1**
	baz=29						
MDOK				*e*S	**Sg**	**18 16 32.9**	**-0.3**
	baz=29						
MDOK	**Medeo**	**0.17**	**27**	P	**Pg**	**18 16 29.9**	**-0.4**
	20nm,0.6s						
MDOK				S	**Sg**	**18 16 32.5**	**-0.7**
	309nm,0.6s						
MDOK	**Medeo**	**0.17**	**27**	Pg	**Pg**	**18 16 30.3**	**-0.1**
	28nm,0.2s						
MDOK				Lg	Lg	18 16 32.8	
	376nm,0.3s						
AAA	**Alma-Ata**	**0.20**	**354**	*e*P	**Pg**	**18 16 31.2**	**+0.5**
	355nm,0.0s						
AAA				*e*S	**Sg**	**18 16 34.4**	**+0.6**
	145nm,0.1s						
AAA	**Alma-Ata**	**0.20**	**354**	*e*P	**Pg**	**18 16 31.2**	**+0.5**
	baz=54						
AAA				*e*S	**Sg**	**18 16 34.4**	**+0.6**
	baz=54						
AAA	**Alma-Ata**	**0.20**	**354**	P	**Pg**	**18 16 31.2**	**+0.5**
	571nm,0.1s						
AAA				S	**Sg**	**18 16 34.3**	**+0.6**
	190nm,0.1s						
KNDC	**Almaty**	**0.20**	**4**	⇑P	**Pg**	**18 16 30.7**	**-0.1**
	31nm,0.3s						
KNDC				⇑S	**Sg**	**18 16 34.4**	**+0.4**
	401nm,0.8s						
IZV	**Izvestkoviy**	**0.24**	**276**	*e*P	**Pg**	**18 16 31.9**	**+0.4**
	134nm,0.1s						
IZV				*e*S	**Sg**	**18 16 35.9**	**+0.7**
	225nm,0.1s						
IZV	**Izvestkoviy**	**0.24**	**276**	*e*P	**Pg**	**18 16 31.9**	**+0.4**
	baz=73						
IZV				*e*S	**Sg**	**18 16 35.9**	**+0.7**
	baz=73						
IZV	**Izvestkoviy**	**0.24**	**276**	P	**Pb**	**18 16 32.1**	**-0.3**
	134nm,0.1s						
IZV				S	**Sg**	**18 16 36.0**	**+0.7**
	225nm,0.1s						
KOTS	**Kotyrbulak**	**0.25**	**29**	*e*P	**Pg**	**18 16 31.9**	**+0.3**
	70nm,0.1s						
KOTS				*e*S	**Sg**	**18 16 35.7**	**+0.3**
	2μm,0.4s						
KOTS	**Kotyrbulak**	**0.25**	**29**	*e*P	**Pg**	**18 16 31.9**	**+0.3**
	baz=31						
KOTS				*e*S	**Sg**	**18 16 35.7**	**+0.3**
	baz=31						
KOTS	**Kotyrbulak**	**0.25**	**29**	P	**Pg**	**18 16 32.1**	**+0.5**
	46nm,0.1s						
KOTS				S	**Sg**	**18 16 35.8**	**+0.3**
	2μm,0.4s						
MTBS	**Maitube**	**0.40**	**287**	*e*P	**Pg**	**18 16 34.4**	**+0.3**
	57nm,0.2s						
MTBS				*e*S	**Sg**	**18 16 39.8**	**+0.3**
	163nm,0.2s						
MTBS	**Maitube**	**0.40**	**287**	*e*P	**Pg**	**18 16 34.4**	**+0.3**
	baz=86						
MTBS				*e*S	**Sg**	**18 16 39.8**	**+0.3**
	baz=86						
MTBS	**Maitube**	**0.40**	**287**	P	**Pg**	**18 16 34.4**	**+0.3**
	57nm,0.2s						
MTBS				S	**Sg**	**18 16 39.7**	**+0.2**
	97nm,0.2s						
ANVS	**Anan'yevo**	**0.58**	**113**	⇓*i*P	**Pb**	**18 16 37.8**	**-0.3**
	baz=14						
ANVS				⇓*i*S	**Sb**	**18 16 45.7**	**-0.5**
	baz=14						
KST	**Kastek**	**0.72**	**273**	*e*P	**Pg**	**18 16 40.2**	**+0.1**
	36nm,0.1s						
KST				*e*S	**Sg**	**18 16 49.7**	**+0.1**
	26nm,0.1s						
KST	**Kastek**	**0.72**	**273**	*e*P	**Pg**	**18 16 40.2**	**+0.1**
	baz=72						
KST				*e*S	**Sg**	**18 16 49.7**	**+0.1**
	baz=72						
KST	**Kastek**	**0.72**	**273**	P	**Pg**	**18 16 40.3**	**+0.1**
	50nm,0.2s						
KST				S	**Sg**	**18 16 49.8**	**+0.1**
	54nm,0.6s						
KTBS	**Karatobe**	**0.72**	**345**	*e*P	**Pg**	**18 16 40.1**	**-0.1**
	8.0nm,0.1s						
KTBS				*e*S	**Sg**	**18 16 49.5**	**-0.3**
	106nm,0.2s						
KTBS	**Karatobe**	**0.72**	**345**	P	**Pg**	**18 16 40.1**	**-0.1**
	7.7nm,0.2s						
KTBS				S	**Sg**	**18 16 49.4**	**-0.4**
	43nm,0.1s						
CHKK	**Chushkaly**	**0.84**	**2**	*e*P	**Pg**	**18 16 42.1**	**-0.3**
	10.0nm,0.1s						
CHKK				*e*S	**Sg**	**18 16 53.1**	**-0.4**
	62nm,0.1s						
CHKK	**Chushkaly**	**0.84**	**2**	*e*P	**Pg**	**18 16 42.2**	**-0.3**
	baz=3.0						
CHKK				*e*S	**Sg**	**18 16 53.2**	**-0.3**
	baz=3.0						
CHKK	**Chushkaly**	**0.84**	**2**	P	**Pg**	**18 16 42.1**	**-0.3**
	9.1nm,0.1s						
CHKK				S	**Sg**	**18 16 53.1**	**-0.4**
	56nm,0.2s						
DGS	**Degeres**	**0.89**	**285**	*e*P	**Pg**	**18 16 43.2**	**-0.1**
	19nm,0.1s						
DGS				*e*S	**Sg**	**18 16 55.0**	**+0.1**
	56nm,0.2s						
DGS	**Degeres**	**0.89**	**285**	*e*P	**Pg**	**18 16 43.2**	**-0.1**
	baz=85						
DGS				*e*S	**Sg**	**18 16 55.1**	**+0.1**
	baz=85						
KDJ	**Kajisay**	**0.90**	**169**	⇓*i*P	**Pg**	**18 16 43.0**	**-0.5**
	baz=68						
KDJ				⇓*i*S	**Sb**	**18 16 56.1**	**+0.7**
	baz=68						
BOOM	**Boomskoye usch**	**0.91**	**235**	⇓*i*P	**Pb**	**18 16 43.8**	**+0.1**
	baz=34						
BOOM				⇓*i*S	**Sb**	**18 16 55.8**	**+0.2**
	baz=34						
ULHL	**Ulahol**	**0.93**	**214**	⇓*i*P	**Pb**	**18 16 44.1**	**+0.1**
	baz=14						
ULHL				⇓*i*S	**Sb**	**18 16 56.7**	**+0.5**
	baz=14						
ULHL	**Ulahol**	**0.93**	**214**	⇓P	**Pb**	**18 16 44.3**	**+0.3**
	4.1nm,0.2s,SNR=10.0						
ULHL				⇑S	**Sb**	**18 16 56.8**	**+0.5**
	20nm,0.2s						
KUU	**Kurty**	**0.98**	**334**	*e*P	**Pb**	**18 16 44.4**	**-0.5**
	1.8nm,0.1s						
KUU				*e*S	**Sb**	**18 16 57.1**	**-0.6**
	24nm,0.1s						
KUU	**Kurty**	**0.98**	**334**	*e*P	**Pb**	**18 16 44.4**	**-0.5**
	baz=33						
KUU				*e*S	**Sb**	**18 16 57.2**	**-0.6**
	baz=33						
TKM2	**Tokmak 2**	**0.99**	**265**	⇑*i*P	**Pb**	**18 16 45.0**	**-0.2**
	baz=64						
TKM2				⇑*i*S	**Sg**	**18 16 58.7**	**+0.4**
	baz=64						
TKM2	**Tokmak 2**	**0.99**	**265**	⇑P	**Pb**	**18 16 45.2**	**0.0**
	9.4nm,0.1s,SNR=11						
TKM2				⇓S	**Sg**	**18 16 59.0**	**+0.6**
	42nm,0.1s						
TKM2	**Tokmak 2**	**0.99**	**265**	⇑P	**Pb**	**18 16 45.0**	**-0.2**
	4.1nm,0.6s						
TKM2				⇓S	**Sg**	**18 16 58.9**	**+0.6**
	4.3nm,0.3s						
KURS	**Kuram**	**1.01**	**62**	*e*P	**Pg**	**18 16 45.7**	**0.0**
	1.5nm,0.1s						
KURS				*e*S	**Sg**	**18 16 59.1**	**+0.2**
	5.7nm,0.1s						
KURS	**Kuram**	**1.01**	**62**	*e*P	**Pg**	**18 16 45.7**	**0.0**
	baz=62						
KURS				*e*S	**Sg**	**18 16 59.1**	**+0.2**
	baz=62						
KURS	**Kuram**	**1.01**	**62**	P	**Pb**	**18 16 45.5**	**0.0**
	0.8nm,0.2s						
KURS				S	**Sb**	**18 16 58.7**	**+0.1**
	9.4nm,0.3s						
SATY	**Saty**	**1.07**	**87**	*e*P	**Pb**	**18 16 46.6**	**+0.1**
	5.3nm,0.1s						
SATY				*e*S	**Sg**	**18 17 00.7**	**-0.1**
	70nm,0.1s						
SATY	**Saty**	**1.07**	**87**	P	**Pn**	**18 16 46.9**	**+0.1**
	5.3nm,0.3s						
SATY				S	**Sn**	**18 17 01.3**	**-0.2**
	28nm,0.2s						
ZHN	**Zhinishke**	**1.10**	**81**	*e*P	**Pb**	**18 16 47.0**	**0.0**
	6.8nm,0.1s						
ZHN				*e*S	**Sb**	**18 17 01.2**	**0.0**
	40nm,0.1s						
ZHN	**Zhinishke**	**1.10**	**81**	*e*P	**Pb**	**18 16 47.0**	**0.0**
	baz=82						
ZHN				*e*S	**Sb**	**18 17 01.3**	**0.0**
	baz=82						
PRZ	**Przheval'sk**	**1.20**	**116**	⇓*i*P	**Pg**	**18 16 49.2**	**+0.1**
	baz=16						
PRZ				⇓*i*S	**Sg**	**18 17 04.7**	**0.0**
	baz=16						
KPKS	**Kokpek**	**1.35**	**70**	*e*P	**Pb**	**18 16 51.4**	**+0.2**
	8.3nm,0.1s						
KPKS				*e*S	**Sb**	**18 17 08.9**	**+0.6**
	31nm,0.1s						
KPKS	**Kokpek**	**1.35**	**70**	*e*P	**Pb**	**18 16 51.4**	**+0.2**
	baz=71						
KPKS				*e*S	**Sb**	**18 17 08.9**	**+0.6**
	baz=71						
ARXS	**Arharly**	**1.36**	**28**	*e*P	**Pb**	**18 16 51.3**	**-0.1**
	2.1nm,0.1s						
ARXS				*e*S	**Sb**	**18 17 09.0**	**+0.4**
	26nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.43**	**153**	⇑*i*P	**Pg**	**18 16 53.3**	**-0.4**
	baz=54						
TARG				⇑*i*S	**Sg**	**18 17 12.4**	**+0.1**
	baz=54						
KBK	**Karagaybulak**	**1.51**	**257**	⇑P	**Pg**	**18 16 55.0**	**-0.2**
	14nm,0.2s,SNR=24						
UZB	**Uzynbulak**	**1.53**	**84**	*e*P	**Pb**	**18 16 54.7**	**+0.5**
	2.0nm,0.1s						
UZB				*e*S	**Sg**	**18 17 14.9**	**-0.4**
	13nm,0.1s						
UZB	**Uzynbulak**	**1.53**	**84**	*e*P	**Pb**	**18 16 54.7**	**+0.5**
	baz=85						
UZB				*e*S	**Sg**	**18 17 14.9**	**-0.4**
	baz=85						
UZB	**Uzynbulak**	**1.53**	**84**	P	**Pb**	**18 16 54.6**	**+0.4**
	2.6nm,0.4s						
UZB				S	**Sb**	**18 17 14.4**	**+0.8**
	8.5nm,0.3s						
CHMS	**Chumysh**	**1.61**	**270**	⇑*i*P	**Pb**	**18 16 55.8**	**+0.2**
	baz=70						
CHMS				⇑*i*S	**Sb**	**18 17 16.9**	**+1.2**
	baz=70						
CHMS	**Chumysh**	**1.61**	**270**	⇓P	**Pb**	**18 16 55.7**	**+0.2**
	7.6nm,0.1s,SNR=18						
CHMS				⇓del		18 17 16.8	
	22nm,0.2s						
NRN	**Naryn**	**1.73**	**204**	⇑*i*P	**Pb**	**18 16 58.2**	**+0.4**
	baz=5.0						
NRN				⇑*i*S	**Sg**	**18 17 21.4**	**-0.3**
	baz=5.0						
USP	**Ospenovka**	**1.81**	**279**	⇑*i*P	**Pb**	**18 16 58.8**	**-0.2**
	baz=79						
USP				⇑*i*S	**Sb**	**18 17 22.2**	**+0.7**
	baz=79						
USP	**Ospenovka**	**1.81**	**279**	⇑del		18 16 59.0	
	6.2nm,0.2s,SNR=12						
AAK	**Ala-Archa**	**1.84**	**259**	⇑Pn	**Pn**	**18 16 57.5**	**+0.1**
	3.9nm,0.5s						
AAK				⇑Sn	**Sg**	**18 17 24.7**	**-0.6**
	4.8nm,0.5s						
PDGK	**Podgornoye**	**1.89**	**79**	⇓Pn	**Pb**	**18 16 59.5**	**-0.9**
	1.4nm,0.4s						
PDGK				⇑Sn	**Sb**	**18 17 25.0**	**+1.1**
	4.3nm,0.5s						
TDK	**Taldyqorghan**	**2.25**	**27**	Pg	**Pb**	**18 17 07.2**	**+0.7**
	7.0nm,0.3s						
TDK				Lg	Lg	18 17 35.8	
	27nm,0.4s						
DJR	**Jarkent**	**2.45**	**56**	Pg	**Pb**	**18 17 11.0**	**+1.1**
	0.4nm,0.2s						
DJR				Lg	Lg	18 17 42.6	
	3.1nm,0.4s						
MRKS	**Merke**	**2.75**	**266**	Pg	**Pg**	**18 17 16.9**	**-1.8**
	3.8nm,0.4s						
MRKS				Lg	Lg	18 17 52.6	
	5.3nm,0.5s						
KK31	**Karatay Array**	**4.71**	**273**	⇑Pg	**Pb**	**18 17 46.8**	**-1.7**
	0.3nm,0.5s,baz=93,slow=16,SNR=6.2						
KK31				⇑Lg	Lg	18 18 47.7	
	0.6nm,0.3s,baz=82,slow=31,SNR=4.1						

*ISK **08** 18:17:05.2, 36°.05N×29°.09E, h15km, ML3.0/14*
*DDA **08** 18:17:05.9, 36°.12N×29°.17E, h30km±2km, ML2.5*
*ISCJB **08** 18:17:06.2±0.4, 35°.98N±0°.03×29°.21E±0°.03, h36km±13km, Error ellipse: s-maj=5.5km s-min=3.2km az=19.4*
*NIC **08** 18:17:07.0±0.0, 35°.95N×29°.24E, h31km±26km, Ml3.3/3*

ISC 08 18:17:06.2±1.1, 36°.03N±0°.04×29°.19E±0°.02, h27km±9km, n37, σ0°.88/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.34**	**69**	P	**Pb**	**18 17 14.6**	**+0.6**
KSL				S	**Sn**	**18 17 21.8**	**+0.3**
**

	comp=E,80nm,1.3s							
YER	**Yerkesik**	**1.33**	**327**	PN	**Pn**	**18 17 28.9**	**-0.1**	
KORT	**Korkueli**	**1.35**	**44**	*i* P	**Pb**	**18 17 30.6**	**-0.3**	
KORT				*i* S	**Sb**	**18 17 48.5**	**+0.6**	
KORT				IAML		18 17 52.0		
	comp=E,164nm,0.5s							
KORT				IAML		18 17 55.0		
	comp=N,142nm,0.5s							
KORT	**Korkueli**	**1.35**	**44**	PN	**Pb**	**18 17 30.5**	**-0.5**	
TAVA	**DENIZLI_Tavas**	**1.46**	**351**	*i* P	**Pn**	**18 17 30.2**	**-0.7**	
TAVA				*i* S	**Sn**	**18 17 48.1**	**-1.0**	
TAVA				IAML		18 17 49.0		
	comp=E,80nm,0.5s							
TAVA				IAML		18 17 50.0		
	comp=N,132nm,0.6s							
ANTB	**Antalya**	**1.47**	**53**	PN	**Pb**	**18 17 32.8**	**-0.1**	
DAT	**Datca**	**1.48**	**299**	*i* P	**Pn**	**18 17 31.2**	**+0.1**	
DAT				*i* S	**Sn**	**18 17 49.8**	**+0.1**	
DAT				IAML		18 17 53.0		
	comp=N,63nm,0.4s							
DAT				IAML		18 17 56.0		
	comp=E,60nm,0.2s							
DAT	**Datca**	**1.48**	**299**	PN	**Pn**	**18 17 31.1**	**-0.1**	
MLSB	**Milas**	**1.70**	**319**	PN	**Pn**	**18 17 34.3**	**+0.1**	
KARP	**Karpathos**	**1.71**	**254**	PN	**Pn**	**18 17 34.6**	**+0.2**	
KARP	**Karpathos**	**1.71**	**254**	P	**Pn**	**18 17 35.0**	**+0.6**	
KARP				S	**Sn**	**18 17 56.5**	**+1.1**	
BODT	**Bodrum**	**1.83**	**305**	PN	**Pn**	**18 17 35.1**	**-0.9**	
AYDN	**Tasoluk**	**1.94**	**328**	*i* P	**Pn**	**18 17 38.8**	**+1.3**	
AYDN				*i* S	**Sn**	**18 18 01.9**	**+0.8**	
AYDN				IAML		18 18 05.0		
	comp=N,147nm,0.3s							
AYDN				IAML		18 18 06.0		
	comp=E,173nm,0.4s							
BASM	**Basmaki-Afyon**	**2.01**	**20**	PN	**Pn**	**18 17 39.4**	**+0.9**	
KEPZ	**Antalya-Kepez**	**2.14**	**65**	*i* P	**Pn**	**18 17 41.1**	**+1.0**	
KEPZ				*i* S	**Sn**	**18 18 05.0**	**-0.8**	
KEPZ				IAML		18 18 07.0		
	comp=N,19nm,1.4s							
KEPZ				IAML		18 18 42.0		
	comp=E,33nm,2.1s							
GCAM	**G?zelcaml?**	**2.29**	**317**	PN	**Pn**	**18 17 41.9**	**-0.3**	
KHAL	**Karahalli**	**2.35**	**6**	*i* P	**Pn**	**18 17 45.1**	**+1.8**	
KHAL				IAML		18 18 26.0		
	comp=E,11nm,0.5s							
KHAL				IAML		18 19 13.0		
	comp=N,13nm,2.2s							
KZIL	**AFYON_Kizioren**	**2.36**	**19**	*i* P	**Pn**	**18 17 44.8**	**+1.5**	
KZIL				IAML		18 18 13.0		
	comp=E,19nm,0.9s							
KZIL				IAML		18 18 14.0		
	comp=N,11nm,1.3s							
ZKR	**Zakros**	**2.59**	**250**	P	**Pn**	**18 17 47.4**	**+1.1**	
ZKR				S	**Sn**	**18 18 18.0**	**+1.1**	
ZKR				AML	AML	18 18 18.6		
	comp=N,0.3nm,0.6s							
ZKR				AML	AML	18 18 18.6		
	comp=N,0.3nm,0.6s							
ZKR				AML	AML	18 18 20.1		
	comp=N,0.1nm,0.5s							
ZKR				AML	AML	18 18 20.1		
	comp=N,0.1nm,0.5s							
SHUT	**Suhut-Afyon**	**2.75**	**23**	PN	**Pn**	**18 17 50.5**	**+1.8**	
AKMS	**Akamas**	**2.76**	**110**	P	**Pn**	**18 17 48.3**	**-0.4**	
AKMS				S	**Sn**	**18 18 20.5**	**-0.6**	
AKMS				AML	AML	18 18 20.7		
	comp=N,0.4nm,0.4s							
AKMS				AML	AML	18 18 20.7		
	comp=N,0.4nm,0.4s							
ALFC	**Alefka**	**2.91**	**106**	P	**Pn**	**18 17 50.7**	**-0.2**	
ALFC				S	**Sn**	**18 18 24.1**	**-0.9**	
ALFC				AML	AML	18 18 27.0		
	comp=N,0.3nm,0.7s							
ALFC				AML	AML	18 18 27.0		
	comp=N,0.3nm,0.7s							
NATA	**Nata**	**3.03**	**113**	P	**Pn**	**18 17 52.3**	**-0.1**	
NATA				S	**Sn**	**18 18 26.7**	**-1.1**	
SZAC	**Souni**	**3.27**	**112**	P	**Pn**	**18 17 55.8**	**0.0**	
SZAC				S	**Sn**	**18 18 33.1**	**-0.8**	
ASGA	**Asgata**	**3.54**	**109**	P	**Pn**	**18 17 59.6**	**+0.2**	
ASGA				S	**Sn**	**18 18 40.2**	**-0.2**	

*JMA **08** 18:25:29.0±0.6,44°.70N×149°.29E,h30km,M3.8*
*SKHL **08** 18:25:30.9±0.6,44°.48N×149°.23E,h48km±5km,mb4.3/5*
ISC 08 18:25:26.4±3.7,44°.36N±0°.07×149°.6E±0°.2,h36km,n21,
σ2s53/35,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.50**	**306**	*e*P	**Pn**	**18 25 51.0**	**+0.3**
KUR				AMB	AMB	18 25 52.0	
	100nm,0.3s						
KUR				*i* S	**Sn**	**18 26 06.0**	**-3.0**
KUR				A	A	18 26 09.0	
	990nm,0.4s						
KUR				A	A	18 26 09.0	
	950nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.69**	**264**	*e*P	**Pn**	**18 26 09.3**	**+2.1**
YUK				AMB	AMB	18 26 12.0	
	40nm,0.3s						
YUK				*i* S	**Sn**	**18 26 37.9**	**-0.6**
YUK				A	A	18 26 41.0	
	230nm,0.3s						
YUK				A	A	18 26 41.0	
	140nm,0.3s						
GRPR	**Tuman**	**2.77**	**264**	*e*P	**Pn**	**18 26 10.3**	**+2.2**
GRPR				AMB	AMB	18 26 13.0	
	30nm,0.3s						
GRPR				*i* S	**Sn**	**18 26 39.0**	**-1.3**
GRPR				A	A	18 26 49.0	
	140nm,0.4s						
GRPR				A	A	18 26 49.0	
	210nm,0.4s						
NEM2	**Nemuro 2**	**2.95**	**252**	P	**Pn**	**18 26 12.1**	**+1.4**
NEM2				*e*S	**Sn**	**18 26 44.2**	**-0.6**
NMR	**Nemuro--Hokkai**	**2.96**	**252**	*e*P	**Pn**	**18 26 13.5**	**+2.7**
NMR				*i* S	**Sn**	**18 26 45.3**	**+0.3**
GLVR	**Golovnino**	**2.99**	**259**	*e*P	**Pn**	**18 26 13.7**	**+2.4**
GLVR				AMB	AMB	18 26 19.0	
	70nm,0.5s						
GLVR				*i* S	**Sn**	**18 26 45.7**	**-0.2**
GLVR				A	A	18 26 51.0	
	310nm,0.5s						
GLVR				A	A	18 26 51.0	
	250nm,0.5s						
JRA	**Rausu**	**3.24**	**264**	P	**Pn**	**18 26 16.7**	**+2.1**
JRA				*e*S	**Sn**	**18 26 52.6**	**+0.7**
JNK	**Nakash**	**3.59**	**259**	P	**Pn**	**18 26 21.4**	**+1.8**
JNK				*e*S	**Sn**	**18 27 00.1**	**-0.6**
JAK	**Akkeshi**	**3.80**	**251**	P	**Pn**	**18 26 23.6**	**+1.3**
JAR	**Ashorobuto**	**4.34**	**258**	P	**Pn**	**18 26 32.1**	**+2.3**
JAR				*e*S	**Sn**	**18 27 19.3**	**+0.3**
JMP	**Maruseppu**	**4.49**	**268**	P	**Pn**	**18 26 35.1**	**+3.2**
JCH	**Churui**	**4.85**	**251**	P	**Pn**	**18 26 39.2**	**+2.4**
JCH				*e*S	**Sn**	**18 27 30.8**	**-0.9**
JEM	**Erimo**	**5.25**	**246**	P	**Pn**	**18 26 45.3**	**+3.0**
JNBK	**Urakawa-nobuka**	**5.40**	**250**	P	**Pn**	**18 26 46.1**	**+1.8**
JNBK				*e*S	**Sn**	**18 27 42.8**	**-2.4**
YSS	**Yuzh-Sakhalins**	**5.44**	**301**	*e*P	**Pn**	**18 26 46.5**	**+1.6**
YSS				AMB	AMB	18 26 47.7	
	20nm,0.3s						
YSS				*e*S	**Sn**	**18 27 43.8**	**-2.4**
YSS				A	A	18 27 46.9	
	60nm,0.3s						
JBT2	**Biratori 2**	**5.48**	**256**	P	**Pn**	**18 26 48.2**	**+2.8**
JNB	**Noboribetsu**	**6.50**	**256**	P	**Pn**	**18 27 01.7**	**+2.2**
JNB				*e*S	**Sn**	**18 28 11.7**	**-0.7**
JKB	**Kayabe**	**6.73**	**251**	P	**Pn**	**18 27 03.8**	**+1.3**
JKB				*e*S	**Sn**	**18 28 13.7**	**-4.1**
JANG	**Nango**	**7.18**	**239**	P	**Pn**	**18 27 09.3**	**+0.5**
JANG				*e*S	**Sn**	**18 28 22.2**	**-6.9**
JTM	**Tenmabayashi**	**7.23**	**243**	*e*S	**Sn**	**18 28 24.7**	**-5.5**
JTH	**Tanohata**	**7.24**	**235**	*e*S	Sn	18 28 21.4	-9.1

*ISCJB **08** 18:38:38.9±0.7,36°.73N±0°.06×138°.56E±0°.09,*
h171km±5km,mb3.2/2,Error ellipse: s-maj=12.6km
s-min=9.2km az=164.6
*IDC **08** 18:38:39.6±1.2,36°.76N×138°.56E,h161km±6km,mb2.8/2,*
mb1 3.1/3,mb1mx2.7/43,mbtmp3.4/3,Error ellipse:
s-maj=36.3km s-min=21.9km az=76.0
*JMA **08** 18:38:40.1±0.1,36°.70N×138°.55E,h168km±1km,M2.6*

ISC 08 18:38:40.1±1.2,36°.73N±0°.07×138°.56E±0°.07,h165km±8km,
n16,σ0s49/24,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**0.34**	**236**	P	**Pn**	**18 39 02.6**	**+0.1**
	1.2nm,0.3s,baz=48,slow=7.8,SNR=134						
MJAR				S	**Sn**	**18 39 19.4**	**-0.3**
	0.6nm,0.3s,baz=60,slow=2.4,SNR=6.9						
MAT	**Matsushiro**	**0.34**	**236**	P	**Pn**	**18 39 02.7**	**+0.1**
MAT				S	**Sn**	**18 39 19.7**	**0.0**
MAT	**Matsushiro**	**0.34**	**236**	P	**Pn**	**18 39 02.7**	**+0.1**
MAT				*e*S	**Sn**	**18 39 19.8**	**0.0**
JKT	**Katashina**	**0.56**	**86**	P	**Pn**	**18 39 03.8**	**+0.3**
JKT				*e*S	**Sn**	**18 39 21.7**	**+0.3**
JRY	**Ryogami san**	**0.77**	**159**	P	**Pn**	**18 39 04.7**	**0.0**
JRY				S	**Sn**	**18 39 23.5**	**0.0**
JAG	**Ashikaga**	**0.78**	**113**	P	**Pn**	**18 39 04.9**	**+0.2**
JSZ	**Suzu**	**1.19**	**307**	P	**Pn**	**18 39 07.9**	**+0.1**
JSZ				S	**Sn**	**18 39 29.3**	**0.0**
JYN	**Shimob**	**1.23**	**181**	P	**Pn**	**18 39 08.2**	**-0.2**
JYN				S	**Sn**	**18 39 29.8**	**-0.3**
JSD	**Sado**	**1.32**	**350**	P	**Pn**	**18 39 09.1**	**+0.1**
JOD2	**Odawara 2**	**1.53**	**164**	P	**Pn**	**18 39 11.1**	**0.0**
JOD2				S	**Sn**	**18 39 34.8**	**-0.2**
JFT	**Otama**	**1.62**	**61**	P	**Pn**	**18 39 13.1**	**+1.1**
JKG	**Kaga**	**1.85**	**256**	P	**Pn**	**18 39 15.0**	**+0.6**
JYTA	**Yamagatataniai**	**1.86**	**233**	P	**Pn**	**18 39 15.0**	**+0.4**
ASAJ	**Asahikawa**	**7.99**	**21**	P	**Pn**	**18 40 31.6**	**-1.6**
	0.8nm,0.3s,baz=229,slow=13,SNR=1.6						
WRA	**Warramunga Arr**	**56.51**	**185**	P	**P**	**18 48 05.0**	**0.0**
	0.2nm,0.3s,baz=0.1,slow=7.6,SNR=5.7						
ASAR	**Alice Springs**	**60.23**	**185**	P	**P**	**18 48 30.8**	**-0.1**
	0.1nm,0.5s,baz=0.9,slow=4.3,SNR=5.7						

*IDC **08** 18:44:08.2±2.0,7°.62S×160°.63E,h0km,mb3.8/4,*
mb1 4.0/5,mb1mx3.7/26,mbtmp3.8/5,ML3.7/1,MS4.2/1,
Ms1 4.2/1,ms1mx3.2/41,Error ellipse: s-maj=63.2km
s-min=22.5km az=113.0
*ISCJB **08** 18:44:11.4±1.2,7°.76S±0°.10×160°.7E±0°.2,h33km,mb3.7/4,*
MS4.1/1,Error ellipse: s-maj=30.0km s-min=12.1km
az=15.8
*NEIC **08** 18:44:13.1±1.2,7°.9S±0°.2×160°.8E±0°.3,h35km±7km,*
mb4.2/7
ISC 08 18:44:12.7±1.5,7°.8S±0°.2×160°.9E±0°.3,h35km,n16,
σ1s59/17,mb4.0/9,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.88**	**209**	Pn	**Pn**	**18 44 41.8**	**-0.5**
	57nm,0.3s,baz=1.6,slow=3.0,SNR=21						
HNR				Sn	**Sn**	**18 45 09.5**	**+4.7**
	94nm,0.3s,baz=103,slow=21,SNR=7.7						
HNR	**Honiara**	**1.88**	**209**	*e*P	**Pn**	**18 44 42.0**	**-0.3**
HNR	**Honiara**	**1.88**	**209**		**Pn**	**18 44 41.5**	**-0.8**
HNR					**Sn**	**18 45 02.5**	**-2.3**
CTA	**Charters Tower**	**18.71**	**228**	P	**Pn**	**18 48 28.9**	**0.0**
	0.2nm,0.3s,baz=82,slow=16,SNR=1.7						
WR0	**Warramunga Arr**	**28.23**	**242**	P	**P**	**18 50 02.5**	**-0.1**
WR0				IAmb	IAmb	18 50 02.8	
	comp=Z,3.3nm,1.0s						
WRAB	**Tennant Creek**	**28.39**	**242**	P	**P**	**18 50 04.0**	**0.0**
WRAB				IAmb	IAmb	18 50 05.5	
	comp=Z,3.7nm,0.7s						
WB2	**Warramunga Arr**	**28.39**	**242**	P	**P**	**18 50 04.0**	**0.0**
WB2				IAmb	IAmb	18 50 08.4	
	comp=Z,10nm,1.5s						
WRA	**Warramunga Arr**	**28.41**	**242**	P	**P**	**18 50 03.9**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=70,slow=9.0,SNR=21						
CAN	**Canberra**	**29.49**	**200**	P	**P**	**18 50 13.5**	**-0.2**
CAN				IAmb	IAmb	18 50 22.9	
	comp=Z,13nm,1.5s						
AS31	**Alice Springs**	**30.30**	**236**	P	**P**	**18 50 19.2**	**-1.7**
ASAR	**Alice Springs**	**30.30**	**236**	P	**P**	**18 50 19.5**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=64,slow=9.9,SNR=34						
KNRA	**Kununurra**	**32.37**	**253**	P	**P**	**18 50 39.8**	**+0.5**
URZ	**Urewera**	**33.70**	**157**	LR	LR	19 04 29.2	
	comp=Z,333nm,18.9s,baz=338,slow=36						
FITZ	**Fitzroy Crossi**	**35.77**	**250**	P	**P**	**18 51 07.9**	**-0.9**
FITZ				IAmb	IAmb	18 51 21.8	
	comp=Z,5.0nm,1.4s						
ILAR	**Eielson Array**	**82.04**	**20**	P	**P**	**18 56 29.6**	**+0.6**
	comp=Z,0.3nm,0.9s,baz=242,slow=5.5,SNR=2.1						
MKAR	**Makanchi Array**	**87.88**	**318**	P	**P**	**18 56 59.0**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=92,slow=6.4,SNR=3.6						

*ANF **08** 18:45:57.5±0.3,32°.69N×115°.47W,h18km±2km,ML2.7/15,*
Error ellipse: s-maj=3.2km s-min=1.8km az=2.0
*PAS **08** 18:45:58±2.3,32°.73N±0°.03×115°.49W±0°.02,h11km±3km,*
ML2.8
*NEIC **08** 18:45:58.4±1.2,32°.72N±0°.02×115°.50W±0°.02,h17km±3km*
*SCEDC **08** 18:45:59.0,32°.73N×115°.49W,h1km,ML2.8,ML2.8*
ISC 08 18:45:57.8±0.8,32.72N±0°.02×115°.50W±0°.02,h14km,n64,
σ0s94/89,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DREC	**Desert Rsrch C**	**0.10**	**27**		**Pg**	**18 46 01.8**	**+1.0**
UABX	**UABC Campus M**	**0.10**	**151**		**Pb**	**18 46 01.8**	**+1.0**
ERPC	**Ernies Place**	**0.14**	**280**		**Pb**	**18 46 03.0**	**+0.8**
SNR	**Schaffner Ranc**	**0.15**	**20**		**Pb**	**18 46 02.6**	**+0.3**
WESC	**Westside Schoo**	**0.20**	**281**		**Pb**	**18 46 03.7**	**+0.5**
WESC					**Sb**	**18 46 07.8**	**+1.0**
SGL	**Mount Signal**	**0.20**	**250**		**Pb**	**18 46 03.7**	**+0.4**
COK2	**Cook Ranch 2**	**0.23**	**304**		**Pb**	**18 46 04.0**	**+0.2**
COK2					**Sb**	**18 46 08.3**	**+0.5**
SWSC	**Sam W. Stewart**	**0.34**	**312**	P	**Pg**	**18 46 05.2**	**+0.5**
	baz=129,SNR=69						
SWSC				S	**Sg**	**18 46 10.3**	**+0.9**
	baz=129						
SWSC	**Sam W. Stewart**	**0.34**	**312**		**Pg**	**18 46 05.3**	**+0.5**
SWSC					**Sg**	**18 46 10.3**	**+0.9**
CPBX	**Cerro Prieto**	**0.34**	**151**		**Pb**	**18 46 05.5**	**-0.1**
COA	**Coachella**	**0.35**	**65**		**Pb**	**18 46 06.4**	**+0.7**
SUP	**Superstition M**	**0.36**	**311**		**Pg**	**18 46 05.7**	**+0.5**
YUH	**Yuha Desert**	**0.37**	**259**		**Pb**	**18 46 06.2**	**+0.1**
CLIC	**Calipatria**	**0.42**	**357**		**Pb**	**18 46 07.2**	**+0.2**
RMX	**La Rumorosa**	**0.50**	**257**		**Pg**	**18 46 08.4**	**+0.6**
RMX					**Sg**	**18 46 14.6**	**+0.1**
RUN	**Ruthven**	**0.51**	**60**		**Pb**	**18 46 08.5**	**+0.1**
IKP	**In-Ko-Pah, Jac**	**0.52**	**263**	P	**Pb**	**18 46 09.0**	**+0.3**
	baz=81,SNR=24						
IKP				S	**Sb**	**18 46 16.1**	**-0.1**
	baz=81						
IKP	**In-Ko-Pah, Jac**	**0.52**	**263**		**Pb**	**18 46 09.0**	**+0.3**
IKP					**Sg**	**18 46 15.9**	**+0.9**
GLA	**Glamis**	**0.65**	**59**	P	**Pg**	**18 46 10.9**	**+0.3**
	baz=241,SNR=25						
GLA				S	**Sg**	**18 46 19.4**	**+0.2**
	baz=241						
GLA	**Glamis**	**0.65**	**59**		**Pg**	**18 46 10.9**	**+0.3**
GLA				Sg	**Sg**	**18 46 19.4**	**+0.2**
FRK	**Frink**	**0.69**	**350**		**Pg**	**18 46 10.8**	**-0.4**
MONP2	**Monument Peak**	**0.80**	**283**	P	**Pg**	**18 46 13.4**	**+0.2**
	baz=101,SNR=50						
MONP2				S	**Sb**	**18 46 24.5**	**+0.2**
	baz=101						
MONP2	**Monument Peak**	**0.80**	**283**		**Pg**	**18 46 13.5**	**+0.2**
MONP2					**Sg**	**18 46 24.3**	**+0.5**
BC3	**Big Chuckawall**	**0.93**	**2**	P	**Pb**	**18 46 15.5**	**-0.3**
	baz=182,SNR=52						
BC3				S	**Sg**	**18 46 27.7**	**-0.3**
	baz=182						
BC3	**Big Chuckawall**	**0.93**	**2**		**Pb**	**18 46 15.5**	**-0.3**
BC3					**Sg**	**18 46 27.8**	**-0.3**
TKX	**Tecate**	**0.95**	**261**		**Pg**	**18 46 16.4**	**+0.4**
BAR	**Barrett**	**0.99**	**268**	Pg	**Pb**	**18 46 16.6**	**-0.2**
BAR				Sg	**Sb**	**18 46 29.9**	**+0.3**
HAY	**Hayfield**	**1.00**	**351**		**Pb**	**18 46 16.2**	**-0.6**
CTCC	**Cactus City**	**1.02**	**336**		**Pb**	**18 46 16.9**	**-0.4**
CBX	**Cerro Bola**	**1.06**	**248**		**Pb**	**18 46 18.4**	**+0.3**
EML	**El Monte Cty P**	**1.15**	**279**		**Pb**	**18 46 18.5**	**-0.9**
XPFO	**Pion Flat**	**1.20**	**318**		**Pn**	**18 46 18.6**	**-1.6**
XPFO				Sn	**Sb**	**18 46 36.2**	**+0.5**
XPFO	**Pion Flat**	**1.20**	**318**		**Pn**	**18 46 18.6**	**-1.6**
PFO	**Pinyon Flats O**	**1.20**	**318**	Pg	**Pg**	**18 46 21.2**	**+0.3**
	baz=137,SNR=15						
PFO				S	**Sb**	**18 46 36.2**	**+0.4**
	baz=137						
PFO	**Pinyon Flats O**	**1.20**	**318**		**Pn**	**18 46 18.6**	**-1.7**
PFO				Sn	**Sb**	**18 46 36.2**	**+0.4**
PFO	**Pinyon Flats O**	**1.20**	**318**		**Pn**	**18 46 18.6**	**-1.7**
FRD	**Ford Ranch, An**	**1.21**	**310**		**Pn**	**18 46 18.9**	**-1.4**
FRD	**Ford Ranch, An**	**1.21**	**310**		**Pn**	**18 46 18.9**	**-1.4**
BZNA	**Buzz No.'s Pla**	**1.25**	**308**		**Pn**	**18 46 19.6**	**-1.3**
SNDA	**J Saunders Pla**	**1.25**	**312**		**Pn**	**18 46 19.7**	**-1.3**
HWB	**Hans Werner Br**	**1.27**	**284**		**Pn**	**18 46 20.1**	**-1.0**
DNR	**Dunn Ranch,Anz**	**1.27**	**312**		**Pn**	**18 46 19.9**	**-1.3**
PLM	**Palomar**	**1.31**	**299**		**Pn**	**18 46 20.8**	**-1.0**
Y12C	**Blythe**	**1.31**	**38**	Pb	**Pb**	**18 46 22.5**	**+0.3**
	baz=219,SNR=12						
Y12C				S	**Sn**	**18 46 39.4**	**+0.4**
	baz=219						
Y12C	**Blythe**	**1.31**	**38**		**Pg**	**18 46 23.3**	**+0.3**
Y12C				Sn	**Sg**	**18 46 40.0**	**-0.1**
BELC	**Belle Mtn. Jos**	**1.34**	**342**	Pb	**Pb**	**18 46 23.6**	**+0.7**
	baz=162,SNR=6.8						
BELC				S	**Sg**	**18 46 42.0**	**+0.8**
	baz=162						
109C	**Camp Elliot, M**	**1.36**	**278**	Pb	**Pn**	**18 46 23.0**	**+0.6**
	baz=96,SNR=9.7						
109C				S	**Sn**	**18 46 40.3**	**+0.1**
	baz=96						
109C	**Camp Elliot, M**	**1.36**	**278**		**Pb**	**18 46 23.5**	**+0.4**
109C				Sn	**Sn**	**18 46 40.3**	**+0.1**
113A	**Mohawk Valley,**	**1.46**	**88**		**Pb**	**18 46 23.0**	**-0.7**
IRM	**Iron Mountain**	**1.46**	**12**	Pb	**Pb**	**18 46 24.8**	**0.0**
	baz=192,SNR=35						
MURC	**Murrieta**	**1.67**	**302**	Sb	**Sg**	**18 46 51.0**	**-0.6**
	baz=121						
BBRC	**Big Bear Solar**	**1.94**	**323**	Sb	**Sg**	**18 46 59.7**	**-0.6**
	baz=142						
GMRC	**Granite Mounta**	**2.06**	**356**		**Pb**	**18 46 35.4**	**+0.3**
214A	**Organ Pipe Nat**	**2.40**	**108**	P	**Pn**	**18 46 35.8**	**-0.9**
	baz=290						
214A				S	**Sn**	**18 47 03.6**	**-2.2**
	baz=290						
214A	**Organ Pipe Nat**	**2.40**	**108**		**Pn**	**18 46 35.7**	**-0.9**
214A				Sn	**Sn**	**18 47 04.1**	**-1.7**
Y14A	**Wickenburg**	**2.42**	**59**		**Pb**	**18 46 42.5**	**+1.5**
MWC	**Mount Wilson**	**2.61**	**306**	Pg	**Pg**	**18 46 48.8**	**+0.9**
W13A	**Hualapai Mount**	**2.73**	**29**	Pg	**Pg**	**18 46 49.0**	**-1.0**
TUQ	**Turquoise Moun**	**2.73**	**353**	Pg	**Pg**	**18 46 52.4**	**+2.2**
	baz=172						
GSC	**Goldstone, Bar**	**2.79**	**337**	Pg	**Pg**	**18 46 52.9**	**+1.5**
EDW2	**Edwards Air Fo**	**3.00**	**317**	Pg	**Pg**	**18 46 53.7**	**-1.5**
	baz=135						
EDW2				Sb	**Sg**	**18 47 31.1**	**-2.9**
	baz=135						
MPMC	**Manual Prospec**	**3.71**	**334**	Pg	**Pg**	**18 47 10.9**	**+1.9**
	baz=153						
U15A	**North Rim**	**4.55**	**35**	Pn	**Pn**	**18 47 06.4**	**0.0**
LCMT	**Little Creek M**	**4.67**	**23**	Pn	**Pn**	**18 47 09.8**	**+1.9**

*SJA **08** 18:56:42.3±0.8,33°.47S×73°.33W,h7km±11km,ML3.9,*
MW4.2
*IDC **08** 18:56:50.1±0.8,33°.86S×72°.67W,h0km,mb4.2/9,*
mb1 4.2/14,mb1mx4.0/39,mbtmp4.1/14,ML3.7/5,MS4.5/1,
Ms1 4.5/1,ms1mx3.7/22,Error ellipse: s-maj=29.2km
s-min=16.2km az=93.0
*GUC **08** 18:56:50.9±0.8,33°.88S×72°.60W,h35km±27km,ML4.0*
*NEIC **08** 18:56:51.1±2.8,33°.90S±0°.03×72°.66W±0°.06,h9km±1km,*
mb4.3/10
ISC 08 18:56:50.7±2.0,33°.87S±0°.03×72°.60W±0°.06,h4km±12km,
n51,σ1s28/61,mb4.3/10,3C-1D,Off coast of central
Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**1.16**	**43**	*i* P	**Pb**	**18 57 12.5**	**-0.8**
VA01				*i* S	**Sb**	**18 57 28.1**	**-0.6**
VA01				IAML		18 57 29.6	
	comp=N,5μm,0.6s						
GO05	**Huala**	**1.26**	**154**	⇑*e*P	**Pn**	**18 57 13.8**	**-1.3**
GO05				*i* S	**Sb**	**18 57 30.7**	**-0.9**
GO05				IAML		18 57 36.5	
	comp=E,3μm,0.6s						
GO05	**Huala**	**1.26**	**154**		**Pn**	**18 57 13.9**	**-1.3**
GO05					**Sb**	**18 57 30.7**	**-0.9**
ROC1	**El Roble**	**1.59**	**56**		**Pn**	**18 57 19.6**	**-0.3**
ROC1	**El Roble**	**1.59**	**56**	*i* P	**Pn**	**18 57 19.6**	**-0.3**
ROC1				*e*S	**Sb**	**18 57 42.6**	**+1.2**
ROCH	**El Roble**	**1.60**	**56**	*e*P	**Pn**	**18 57 19.3**	**-0.6**
ROCH				*i* S	**Sb**	**18 57 42.0**	**+0.4**
ROCH				IAML		18 57 50.2	
	comp=N,4μm,0.6s						
PEL	**Peldehue**	**1.75**	**66**	⇑*i* P	**Pn**	**18 57 21.8**	**-0.1**
PEL				*i* S	**Sn**	**18 57 44.4**	**-0.4**
PEL				IAML		18 57 51.8	
	comp=N,2μm,0.4s						
PEL	**Peldehue**	**1.75**	**66**		**Pn**	**18 57 21.4**	**-0.5**
PEL				Sg	**Sb**	**18 57 47.6**	**+1.8**
PEL	**Peldehue**	**1.75**	**66**	*i* P	**Pn**	**18 57 21.9**	**-0.1**
PEL				*e*S	**Sb**	**18 57 47.6**	**+1.8**
LMEL	**Las Melosas**	**1.99**	**90**	*i* P	**Pn**	**18 57 25.1**	**-0.2**
LMEL				*i* S	**Sn**	**18 57 51.5**	**+0.8**
LMEL				IAML		18 57 57.0	
	comp=N,4μm,0.3s						
FCH	**Farellones**	**2.00**	**75**	⇑*i* P	**Pn**	**18 57 24.9

QSPA	**South Pole Qui**	**56.36**	**180**		IAmb	IAmb	19 06 34.2		
	comp=E,2.2nm,0.5s								
TXAR	**Lajitas Array**	**69.40**	**331**	P		**P**	**19 07 58.2**	**-1.7**	
	comp=E,0.4nm,0.5s,baz=156,slow=9.8,SNR=3.8								
WVT	**Waverly**	**71.08**	**347**	P		**P**	**19 08 11.5**	**+1.6**	
MAW	**Mawson**	**73.43**	**164**	P		**P**	**19 08 24.5**	**+0.9**	
	comp=E,3.6nm,0.8s,baz=190,slow=11,SNR=3.0								
DBIC	**Dimbokro**	**75.58**	**72**	P		**P**	**19 08 37.0**	**+0.1**	
	comp=E,3.3nm,0.8s,baz=185,slow=6.8,SNR=5.5								
DBIC	**Dimbokro**	**75.58**	**72**	IAmb		IAmb	19 08 37.7		
	comp=E,4.7nm,0.8s								
NVAR	**Mina Array Bea**	**83.52**	**326**	P		**P**	**19 09 21.0**	**+1.1**	
	comp=E,0.1nm,0.5s,baz=140,slow=4.7,SNR=2.3								
TORD	**Torodi Ar. Bea**	**84.60**	**70**	P		**P**	**19 09 25.5**	**-0.1**	
	comp=E,1.3nm,0.6s,baz=290,slow=4.8,SNR=7.4								
ZALV	**Zalesovo Beam**	**154.36**	**32**	PKPbc		**PKiKP**	**19 16 52.6**	**+0.8**	
	comp=E,1.1nm,0.6s,baz=314,slow=3.7,SNR=6.5								
MKAR	**Makanchi Array**	**157.03**	**48**	PKPab		**PKPab**	**19 17 17.3**	**-0.3**	
	comp=E,0.5nm,0.6s,baz=279,slow=4.7,SNR=3.8								

*IDC **08** 19:09:16.3±1.6, 43.45N×105.29W, h0km, mb3.7/2, mb1 3.7/7, mb1mx3.4/60, mbtmp3.4/7, ML3.3/5, Error ellipse: s-maj=34.4km s-min=7.8km az=152.0*
*ISCJB **08** 19:09:17.5±0.5, 43.68N±0.03×105.32W±0.06, h0km, mb3.9/2, Error ellipse: s-maj=6.2km s-min=4.5km az=167.3*
*NEIC **08** 19:09:18.8±1.3, 43.70N±0.02×105.25W±0.06, h0km±2km, ML3.2/50*

ISC 08 19:09:18.0±0.9, **43.69N**±0.06×**105.30W**±0.06, **h0**km, **n56,** σ1§**25**/56, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.01**	**64**		**Pg**	**19 09 37.6**	**+0.3**
K22A	**Casper**	**1.37**	**221**		**Pg**	**19 09 43.2**	**-1.1**
K22A				IAML		19 10 06.6	
	comp=E,514nm,0.3s						
K22A				IAML		19 10 07.9	
	comp=N,532nm,0.6s						
PHWY	**Pilot Hill**	**2.39**	**183**		**Pn**	**19 09 59.7**	**+1.1**
PHWY				IAML		19 10 37.3	
	comp=N,103nm,0.7s						
RWWY	**Rawlins**	**2.44**	**216**		**Pn**	**19 10 00.2**	**+0.9**
N23A	**Red Feather La**	**2.83**	**190**		**Pn**	**19 10 06.0**	**+1.3**
N23A				IAML		19 10 50.9	
	comp=E,97nm,0.9s						
LAO	**LASA Array**	**3.07**	**348**		**Pn**	**19 10 08.7**	**+0.8**
LAO				IAML		19 10 54.5	
	comp=E,112nm,0.8s						
RLMT	**Red Lodge**	**3.19**	**298**		**Pn**	**19 10 10.6**	**+1.0**
RLMT				IAML		19 11 09.9	
	comp=E,45nm,0.7s						
BW06	**Boulder Array**	**3.25**	**255**		**Pn**	**19 10 11.6**	**+1.2**
BW06				IAML		19 11 01.2	
	comp=N,63nm,0.8s						
PD31	**Pinedale Array**	**3.25**	**255**		**Pn**	**19 10 11.0**	**+0.6**
PDAR	**Pinedale Array**	**3.25**	**255**	Pn	**Pn**	**19 10 11.2**	**+0.7**
	comp=N,4.1nm,0.3s,baz=73,slow=14,SNR=28						
PDAR				Pg	**Pb**	**19 10 16.8**	**+0.1**
	comp=N,9.8nm,0.3s,baz=71,slow=18,SNR=23						
PDAR				Lg	Lg	19 10 55.7	
	comp=N,18nm,0.3s,baz=64,slow=33,SNR=14						
YNE	**Yellowstone No**	**3.63**	**293**		**Pn**	**19 10 16.3**	**+0.6**
YMP	**Mirror Lake Pl**	**3.65**	**288**		**Pn**	**19 10 16.0**	**0.0**
OGNE	**Ogallala**	**3.66**	**137**		**Pn**	**19 10 17.5**	**+1.6**
H17A	**Grant Village**	**3.87**	**282**		**Pn**	**19 10 20.7**	**+1.7**
H17A				IAML		19 11 22.4	
	comp=E,24nm,0.7s						
H17A				IAML		19 11 24.5	
	comp=N,26nm,1.0s						
ISCO	**Idaho Springs**	**3.89**	**184**		**Pn**	**19 10 20.2**	**+0.9**
FLWY	**Flagg Ranch**	**3.93**	**278**		**Pn**	**19 10 21.0**	**+1.2**
FLWY				IAML		19 11 29.7	
	comp=N,42nm,1.1s						
FLWY				IAML		19 11 35.3	
	comp=N,32nm,1.1s						
MOOW	**Moose Ponds**	**3.95**	**273**		**Pn**	**19 10 21.8**	**+1.7**
REDW	**Red Top Meadow**	**4.05**	**267**		**Pn**	**19 10 23.1**	**+1.6**
REDW				IAML		19 11 41.0	
	comp=N,42nm,0.8s						
YHH	**Holmes Hill**	**4.14**	**287**	Pn	**Pn**	**19 10 23.9**	**+1.1**
O20A	**White River Ci**	**4.17**	**213**		**Pn**	**19 10 24.4**	**+1.3**
O20A				IAML		19 11 39.6	
	comp=N,38nm,1.0s						
O20A				IAML		19 11 57.2	
	comp=E,46nm,2.1s						
YMR	**Madison River**	**4.19**	**286**		**Pn**	**19 10 26.3**	**+2.9**
YHB	**Horse Butte**	**4.37**	**286**		**Pn**	**19 10 25.9**	**+0.1**
RDMU	**Red Mountain**	**4.45**	**227**		**Pn**	**19 10 27.8**	**+0.9**
QLMT	**Earthquake Lak**	**4.55**	**287**		**Pn**	**19 10 28.5**	**+0.2**
SMCO	**Snowmass**	**4.68**	**196**		**Pn**	**19 10 30.9**	**+0.7**
SMCO				IAML		19 11 50.2	
	comp=E,22nm,0.8s						
SMCO				IAML		19 11 53.1	
	comp=E,26nm,0.8s						
DGMT	**Dagmar**	**4.85**	**9**	Pn	**Pn**	**19 10 33.9**	**+1.7**
BOZ	**Bozeman (W)**	**4.91**	**295**	Pn	**Pn**	**19 10 33.4**	**+0.2**
BOZ				IAML		19 11 54.7	
	comp=E,14nm,1.1s						
BOZ				IAML		19 12 06.3	
	comp=E,13nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.08**	**156**	Pn	**Pn**	**19 10 34.4**	**-1.1**
TCUT	**Toone Canyon**	**5.20**	**243**		**Pn**	**19 10 38.1**	**+0.8**
HRY	**Holter Researc**	**5.52**	**306**		**Pn**	**19 10 42.5**	**+1.0**
PV22	**Blue Mesa, Par**	**5.78**	**206**		**Pn**	**19 10 47.0**	**+1.8**
PV21	**Cone Mtn., Par**	**5.82**	**210**		**Pn**	**19 10 47.0**	**+1.2**
P17A	**Butcher Ranch,**	**5.86**	**226**		**Pn**	**19 10 48.0**	**+1.7**
PV23	**Carpenter Ridg**	**5.93**	**209**		**Pn**	**19 10 49.0**	**+1.6**
PV04	**Paradox Valley**	**5.95**	**208**		**Pn**	**19 10 48.9**	**+1.4**
PV20	**West Nyswonger**	**6.02**	**209**		**Pn**	**19 10 50.0**	**+1.5**
SRU	**San Rafael Swe**	**6.03**	**222**		**Pn**	**19 10 48.9**	**+0.3**
S22A	**4UR Ranch, Cre**	**6.05**	**192**	Pn	**Pn**	**19 10 51.2**	**+2.3**
PV19	**Morning Glory**	**6.05**	**209**	Pn	**Pn**	**19 10 50.1**	**+1.2**
PV03	**Paradox Valley**	**6.05**	**208**	Pn	**Pn**	**19 10 49.7**	**+0.7**
TMUT	**Trail Mountain**	**6.24**	**227**		**Pn**	**19 10 52.6**	**+1.0**
Q16A	**Castle Valley**	**6.50**	**225**		**Pn**	**19 10 56.2**	**+1.1**
DUG	**Dugway, Tooele**	**6.60**	**241**	Pn	**Pn**	**19 10 56.8**	**+0.5**
MSU	**Marysvale**	**7.33**	**227**	Pn	**Pn**	**19 11 07.4**	**+1.0**
JTMT	**Jette**	**7.48**	**306**	Pn	**Pn**	**19 11 09.4**	**+0.9**
MTPU	**Mount Pierson**	**7.68**	**225**	Pn	**Pn**	**19 11 11.8**	**+0.3**
ELK	**Elko**	**7.94**	**252**	Pn	**Pn**	**19 11 15.9**	**+1.0**
	comp=E,0.1nm,0.3s,baz=342,slow=8.4,SNR=2.4						
PSUT	**Pine Spring**	**8.26**	**234**	Pn	**Pn**	**19 11 20.7**	**+1.5**
CCUT	**Cedar City**	**8.67**	**228**	Pn	**Pn**	**19 11 26.5**	**+1.7**
LCMT	**Little Creek M**	**9.01**	**225**	Pn	**Pn**	**19 11 30.1**	**+0.6**
I10CA	**LAC DU BONNET**	**9.09**	**41**	*i*		20 01 10.0	
	baz=223,slow=331,SNR=4.0						
ULM	**Lac du Bonnet**	**9.19**	**41**	Pn	**Pn**	**19 11 30.3**	**-1.5**
	comp=E,1.4nm,0.3s,baz=226,slow=12,SNR=13						
ULM				Lg	Lg	19 14 03.6	
	comp=E,0.3nm,0.3s,baz=146,slow=8.3,SNR=1.9						
NEW	**Newport**	**9.42**	**303**	Pn	**Pn**	**19 11 34.6**	**-0.4**
	comp=E,0.2nm,0.3s,baz=118,slow=15,SNR=2.2						
NVAR	**Mina Array Bea**	**11.13**	**246**	Pn	**Pn**	**19 11 59.2**	**+0.6**
	comp=E,0.1nm,0.3s,baz=69,slow=13,SNR=2.4						
ILAR	**Eielson Array**	**31.31**	**327**	P	**P**	**19 15 41.2**	**+1.7**
	comp=E,0.3nm,0.8s,baz=112,slow=6.9,SNR=2.9						
ARCES	**ARCESS Array B**	**61.47**	**18**	P	**P**	**19 19 34.0**	**-1.9**
	comp=E,3.1nm,0.8s,baz=325,slow=5.8,SNR=3.7						

*IDC **08** 19:11:50.1±0.8, 27.23N×141.67E, h0km, mb4.0/11, mb1 4.2/12, mb1mx3.7/57, mbtmp3.9/12, ML2.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/41, Error ellipse: s-maj=20.6km s-min=14.4km az=54.0*
*ISCJB **08** 19:11:53.1±0.4, 27.28N±0.03×141.62E±0.05, h35km, mb4.0/11, MS3.3/1, Error ellipse: s-maj=7.5km s-min=3.9km az=151.8*
*NEIC **08** 19:11:53.6±3.0, 27.21N±0.10×141.63E±0.08, h26km±6km, mb4.3/10*
*JMA **08** 19:11:56.3, 27.28N×142.46E, h40km±2km, M4.3*
JMA Felt II J1.

ISC 08 19:11:54.6±0.6, **27.18N**±0.06×**141.66E**±0.07, **h35**km, **n42,** σ1§**86**/40, **mb4.2**/14, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.48**	**100**	P	**Pn**	**19 12 04.5**	**-0.4**
CBIJ				S	**Sn**	**19 12 10.3**	**-1.8**
JCJ	**Chichijima**	**0.48**	**100**	Pn	**Pn**	**19 12 04.2**	**-0.7**
	2μm,0.3s,baz=358,slow=20,SNR=2414						
JCJ				Sn	**Sn**	**19 12 10.4**	**-1.7**
	12μm,0.3s,baz=158,slow=23,SNR=57						
JHH2	**Haha-jima-NKT2**	**0.72**	**140**	P	**Pn**	**19 12 09.5**	**+1.3**
JHH2				S	**Sn**	**19 12 19.7**	**+1.7**
BSO1	**Boso 1**	**7.47**	**356**	P	**Pn**	**19 13 40.9**	**+0.4**
BSO1				*e*S	**Sn**	**19 15 04.1**	**+0.4**
BSO4	**Boso 4**	**7.87**	**352**	*e*S	**Sn**	**19 15 16.9**	**+2.8**
JOD2	**Odawara 2**	**8.35**	**345**	P	**Pn**	**19 13 54.8**	**+1.7**
JOD2				*e*S	Sn	19 15 33.6	+7.4
JHU	**Hanno**	**8.88**	**347**	P	**Pn**	**19 13 59.9**	**-0.4**
JHU				*e*S	**Sn**	**19 15 40.9**	**+1.8**
JRY	**Ryogami san**	**9.12**	**346**	P	**Pn**	**19 14 04.8**	**+1.2**
JHO	**Hitachi**	**9.45**	**355**	P	**Pn**	**19 14 07.4**	**-0.7**
MJAR	**Matsushiro Arr**	**9.78**	**343**	Pn	**Pn**	**19 14 11.5**	**-1.2**
	0.1nm,0.3s,baz=153,slow=11,SNR=5.1						
MAJO	**Matsushiro**	**9.78**	**343**	Pn	**Pn**	**19 14 11.2**	**-1.6**
MJB9	**Matsu-Tunnel**	**9.79**	**343**	Pn	**Pn**	**19 14 11.2**	**-1.6**
JMM	**Marumori**	**10.68**	**356**	P	**Pn**	**19 14 23.7**	**-1.3**
JMM				*e*S	**Sn**	**19 16 18.1**	**-5.2**
ERM	**Erimo**	**14.85**	**4**	Pn	**Pn**	**19 15 19.5**	**-2.4**
YOJ	**Yonaguni jima**	**17.00**	**265**	Pn	**Pn**	**19 15 45.5**	**-4.2**
NACB	**Ninganchiao**	**18.33**	**265**	P	**P**	**19 16 02.2**	**-3.7**
NACB				IAmb	IAmb	19 16 09.2	
	comp=E,21nm,1.0s						
TWG	**Pinlang**	**19.15**	**261**	P	**P**	**19 16 13.8**	**-1.1**
TPUB	**Ta-pu**	**19.40**	**263**	P	**P**	**19 16 16.5**	**-1.2**
TPUB				IAmb	IAmb	19 16 33.2	
	comp=E,30nm,1.3s						
KLR	**Kul'dur**	**23.31**	**343**	P	**P**	**19 17 00.2**	**+0.9**
	comp=E,2.2nm,0.6s,baz=153,slow=6.9,SNR=9.0						
H11N2	**WAKE ISLAND Hy**	**24.29**	**102**	T	T	19 41 51.6	
	baz=293,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**24.29**	**102**	T	T	19 41 53.1	
	baz=293,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**24.30**	**102**	T	T	19 41 52.3	
	baz=293,slow=75,SNR=35						
H11S3	**WAKE ISLAND Hy**	**24.60**	**105**	T	T	19 42 21.9	
H11S1	**WAKE ISLAND Hy**	**24.61**	**105**	T	T	19 42 21.9	
H11S2	**WAKE ISLAND Hy**	**24.62**	**105**	T	T	19 42 21.9	
DAV	**Davao City (W)**	**25.16**	**220**	LR	LR	19 25 22.5	
	comp=Z,95nm,20.4s,baz=10,slow=32						
SEY	**Seymchan**	**36.44**	**8**	P	**P**	**19 18 56.7**	**+1.0**
	comp=E,2.5nm,0.9s,baz=185,slow=8.5,SNR=5.3						
TIXI	**Tiksi**	**45.08**	**354**	P	**P**	**19 20 07.2**	**+0.5**
WR0	**Warramunga Arr**	**47.37**	**189**	P	**P**	**19 20 27.1**	**+1.8**
WR0				IAmb	IAmb	19 20 39.4	
	comp=Z,3.9nm,1.1s						
WRAB	**Tennant Creek**	**47.37**	**189**	P	**P**	**19 20 27.2**	**+1.9**
WRAB				IAmb	IAmb	19 20 27.5	
	comp=E,2.5nm,0.7s						
WB2	**Warramunga Arr**	**47.38**	**189**	P	**P**	**19 20 27.2**	**+1.8**
WB2				IAmb	IAmb	19 20 28.3	
	comp=E,2.4nm,0.8s						
WRA	**Warramunga Arr**	**47.38**	**189**	P	**P**	**19 20 27.1**	**+1.6**
	comp=E,2.0nm,0.6s,baz=12,slow=8.5,SNR=16						
AS31	**Alice Springs**	**51.10**	**189**	P	**P**	**19 20 55.7**	**+1.8**
ASAR	**Alice Springs**	**51.10**	**189**	P	**P**	**19 20 54.3**	**+0.4**
	comp=E,0.2nm,0.5s,baz=52,slow=5.6,SNR=6.5						
ILAR	**Eielson Array**	**57.86**	**29**	P	**P**	**19 21 42.8**	**+0.3**
	comp=E,1.3nm,0.8s,baz=253,slow=6.3,SNR=14						
INK	**Inuvik**	**63.15**	**25**	P	**P**	**19 22 19.0**	**+0.6**
	comp=E,1.5nm,0.5s,baz=278,slow=2.5,SNR=4.4						
INK	**Inuvik**	**63.15**	**25**	IAmb	IAmb	19 22 19.9	
	comp=Z,1.7nm,0.7s						
YKA	**Yellowknife Ar**	**72.29**	**28**	P	**P**	**19 23 16.2**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=293,slow=6.0,SNR=10						
ARCES	**ARCESS Array B**	**73.30**	**341**	P	**P**	**19 23 22.6**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=40,slow=7.1,SNR=1.8						
FINES	**FINESS Array B**	**77.66**	**334**	P	**P**	**19 23 47.5**	**+0.3**
	comp=Z,2.3nm,0.9s,baz=68,slow=5.1,SNR=7.4						
NVAR	**Mina Array Bea**	**80.83**	**52**	P	**P**	**19 24 05.2**	**-0.1**
	comp=E,0.6nm,0.7s,baz=291,slow=5.9,SNR=5.5						
TXAR	**Lajitas Array**	**95.93**	**53**	P	**P**	**19 25 20.6**	**+2.3**
	comp=E,0.2nm,0.5s,baz=284,slow=3.6,SNR=3.0						

*JMA **08** 19:20:25.4±0.9, 44.72N×149.34E, h30km, M3.9*
*ISCJB **08** 19:20:26.5±1.0, 44.45N±0.06×149.28E±0.09, h56km±9km, mb3.6/8, MS3.8/1, Error ellipse: s-maj=13.0km s-min=7.5km az=40.2*
*SKHL **08** 19:20:26.6±0.5, 44.40N×149.38E, h59km±5km, mb4.5/4*
*MOS **08** 19:20:28.0±1.2, 44.53N×149.08E, h62km, mb3.9/4, Error ellipse: s-maj=13.6km s-min=10.5km az=51.6*
*IDC **08** 19:20:35.3±2.8, 45.11N×148.94E, h79km±29km, mb3.4/7, mb1 3.6/10, mb1mx3.2/54, mbtmp3.7/10, Error ellipse: s-maj=62.4km s-min=21.3km az=153.0*

ISC 08 19:20:27.8±1.6, **44.43N**±0.07×**149.24E**±0.09, **h44**km±13km, **n53,** σ1§**79**/58, **mb3.6**/8, **2C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.26**	**310**	*d*	PN	**Pn**	**19 20 48.4**	**-0.5**
KUR				*i*	S	**Sn**	**19 21 04.6**	**-0.1**
KUR					pmax	pmax		
	comp=Z,492nm,0.5s							
KUR					pmax	pmax		
	comp=N,177nm,0.4s							
KUR					pmax	pmax		
	comp=E,87nm,0.5s							
KUR					smax	smax		
	comp=N,2μm,0.4s							
KUR					smax	smax		
	comp=E,1μm,0.3s							
KUR	**Kuril'sk**	**1.26**	**310**	⇓	*i*P	**Pn**	**19 20 48.5**	**-0.5**
KUR					AMB	AMB	19 20 50.0	
	comp=E,240nm,0.5s							
KUR				*i*	S	**Sn**	**19 21 04.9**	**+0.2**
KUR					A	A	19 21 07.0	
	comp=E,2μm,0.5s							
KUR					A	A	19 21 07.0	
	comp=E,1μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.46**	**262**		PN	**Pn**	**19 21 05.9**	**+0.6**
YUK				*i*	S	**Sn**	**19 21 38.1**	**+4.0**
YUK					pmax	pmax		
	comp=Z,133nm,0.2s							
YUK					pmax	pmax		
	comp=N,39nm,0.1s							
YUK					pmax	pmax		
	comp=E,32nm,0.1s							
YUK					smax	smax		
	comp=N,255nm,0.4s							
YUK					smax	smax		
	comp=E,401nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.46**	**262**	*e*	P	**Pn**	**19 21 06.0**	**+0.6**
YUK					AMB	AMB	19 21 09.0	
	comp=E,130nm,0.5s							
YUK				*i*	S	**Sn**	**19 21 35.7**	**+1.6**
YUK					A	A	19 21 40.0	
	comp=E,260nm,0.4s							
YUK					A	A	19 21 40.0	
	comp=E,500nm,0.4s							
GRPR	**Tuman**	**2.53**	**261**	*e*	PN	**Pn**	**19 21 07.4**	**+1.1**
GRPR				*i*	S	**Sn**	**19 21 38.6**	**+2.7**
GRPR					pmax	pmax		
	comp=Z,88nm,0.3s							
GRPR					pmax	pmax		
	comp=E,53nm,0.2s							
GRPR					smax	smax		
	comp=N,224nm,0.3s							
GRPR					smax	smax		
	comp=E,261nm,0.3s							
GRPR	**Tuman**	**2.53**	**261**	*e*	P	**Pn**	**19 21 07.4**	**+1.1**
GRPR					AMB	AMB	19 21 12.0	
	comp=E,50nm,0.3s							
GRPR				*i*	S	**Sn**	**19 21 38.0**	**+2.1**
GRPR					A	A	19 21 41.0	
	comp=E,220nm,0.3s							
GRPR					A	A	19 21 41.0	
	comp=E,260nm,0.3s							
NEM2	**Nemuro 2**	**2.74**	**248**	P		**Pn**	**19 21 08.6**	**-0.6**
NEM2				*e*	S	**Sn**	**19 21 41.7**	**+0.6**
NMR	**Nemuro--Hokkai**	**2.75**	**249**	PN		**Pn**	**19 21 09.2**	**-0.1**
NMR				*e*	S	**Sn**	**19 21 43.1**	**+1.8**
NMR	**Nemuro--Hokkai**	**2.75**	**249**	*e*	P	**Pn**	**19 21 09.2**	**-0.1**
GLVR	**Golovnino**	**2.77**	**257**	*e*	PN	**Pn**	**19 21 11.1**	**+1.5**
GLVR				*i*	S	**Sn**	**19 21 44.9**	**+3.2**
GLVR					pmax	pmax		
	comp=Z,167nm,0.5s							
GLVR					pmax	pmax		
	comp=N,120nm,0.4s							
GLVR					pmax	pmax		
	comp=E,68nm,0.1s							
GLVR					smax	smax		
	comp=N,311nm,0.4s							
GLVR					smax	smax		
	comp=E,341nm,0.3s							
GLVR	**Golovnino**	**2.77**	**257**	*e*	P	**Pn**	**19 21 10.6**	**+1.0**
GLVR					AMB	AMB	19 21 17.0	
	comp=E,80nm,0.5s							
GLVR				*i*	S	**Sn**	**19 21 44.0**	**+2.3**
GLVR					A	A	19 21 49.0	
	comp=E,310nm,0.4s							
GLVR					A	A	19 21 49.0	
	comp=E,340nm,0.4s							
JRA	**Rausu**	**3.00**	**262**	P		**Pn**	**19 21 13.8**	**+1.0**
JNK	**Nakash**	**3.37**	**257**	P		**Pn**	**19 21 18.9**	**+1.1**
JNK				*e*S		**Sn**	**19 21 57.5**	**+0.9**
JAK	**Akkeshi**	**3.59**	**248**	P		**Pn**	**19 21 20.6**	**-0.3**
JAR	**Ashorobuto**	**4.11**	**256**	P		**Pn**	**19 21 29.4**	**+1.3**
JOB	**Onbets**	**4.21**	**251**	P		**Pn**	**19 21 30.3**	**+1.0**
JMP	**Maruseppu**	**4.25**	**266**	P		**Pn**	**19 21 31.7**	**+1.8**
JCH	**Churui**	**4.64**	**249**	P		**Pn**	**19 21 36.0**	**+0.7**
JCH				*e*S		**Sn**	**19 22 28.7**	**+0.8**
ASAJ	**Asahikawa**	**4.78**	**269**	P		Pn	19 21 43.5	+6.3
	comp=E,1.2nm,0.3s,baz=109,slow=18,SNR=1.4							
ERM	**Erimo**	**5.06**	**244**	*i*	PN	**Pn**	**19 21 43.2**	**+2.2**
JNBK	**Urakawa-nobuka**	**5.19**	**248**	P		**Pn**	**19 21 43.0**	**+0.1**
JBT2	**Biratori 2**	**5.26**	**254**	P		**Pn**	**19 21 44.4**	**+0.6**
JNB	**Noboribetsu**	**6.28**	**255**	P		**Pn**	**19 21 58.6**	**+0.8**
JKB	**Kayabe**	**6.52**	**250**	P		**Pn**	**19 22 00.9**	**-0.1**
JANG	**Nango**	**7.01**	**237**	*e*S		**Sn**	**19 23 19.7**	**-6.4**
PETK	**Petropavlovsk-**	**10.32**	**30**	P		**Pn**	**19 22 53.5**	**+0.5**
	comp=E,0.1nm,0.3s,baz=237,slow=9.8,SNR=1.7							
MJAR	**Matsushiro Arr**	**11.51**	**231**	P		Pn	19 23 20.1	+11
	comp=E,0.0nm,0.3s,baz=34,slow=15,SNR=5.3							
MAJO	**Matsushiro**	**11.51**	**231**	*i*	PN	**Pn**	**19 23 09.3**	**-0.1**
EKMR	**Ekimchan**	**13.76**	**315**	*e*	P	**Pn**	**19 23 39.1**	**-1.0**
BMKR	**Bomnak**	**16.70**	**315**	*e*	P	**Pn**	**19 24 15.3**	**-3.0**
KROS	**Kirovskiy**	**17.53**	**313**	*e*	P	**Pn**	**19 24 25.8**	**-2.9**
HIA	**Hailar**	**20.67**	**294**	*i*	P	**P**	**19 25 03.3**	**-0.5**
HIA					pmax	pmax		
	comp=Z,13nm,0.9s							
YAK	**Yakutsk**	**21.01**	**334**	P		**P**	**19 25 06.2**	**-1.0**
YAK	**Yakutsk**	**21.01**	**334**	*e*	P	**P**	**19 25 06.2**	**-1.0**
BILL	**Bilibino**	**25.30**	**15**	*ce*	P	**P**	**19 25 50.4**	**+0.6**
BILL				*e*			19 26 26.5	
BILL				*e*S		**S**	**19 30 17.5**	**+5.1**
BILL					pmax	pmax		
	comp=Z,1.0nm,1.0s							
BILL					MLR	MLR		
	comp=Z,254nm,19.0s							
BILL	**Bilibino**	**25.30**	**15**	⇑	*e*P	**P**	**19 25 50.4**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**28.69**	**143**		T	T	19 57 15.8	
	baz=334,slow=76,SNR=65							
H11N1	**WAKE ISLAND Hy**	**28.70**	**143**		T	T	19 57 10.0	
	baz=334,slow=76,SNR=44							
H11N3	**WAKE ISLAND Hy**	**28.71**	**143**		T	T	19 57 15.8	
	baz=334,slow=76,SNR=70							
H11S1	**WAKE ISLAND Hy**	**29.70**	**145**		T	T	19 58 31.9	
	baz=334,slow=76,SNR=52							
H11S3	**WAKE ISLAND Hy**	**29.70**	**145**		T	T	19 58 25.0	
	baz=334,slow=76,SNR=66							
H11S2	**WAKE ISLAND Hy**	**29.72**	**145**		T	T	19 58 27.2	
	baz=334,slow=76,SNR=50							
ILAR	**Eielson Array**	**40.05**	**37**	*e*	P	**P**	**19 28 00.7**	**+2.5**
ILAR					pmax	pmax		
	comp=Z,1.0nm,0.9s							
ILAR	**Eielson Array**	**40.05**	**37**	P		**P**	**19 27 58.7**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=276,slow=7.9,SNR=8.2							
MKAR	**Makanchi Array**	**45.60**	**298**	*e*	P	**P**	**19 28 43.9**	**+0.5**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**45.60**	**298**	P		**P**	**19 28 42.7**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=74,slow=8.9,SNR=3.6							
MKAR	**Makanchi Array**	**45.60**	**298**	*e*	P	**P**	**19 28 43.9**	**+0.5**
YKA	**Yellowknife Ar**	**54.39**	**35**	P		**P**	**19 29 50.2**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=299,slow=7.0,SNR=6.6							
FINES	**FINESS Array B**	**64.94**	**334**	P		**P**	**19 31 01.4**	**-0.9**
	comp=Z,2.8nm,0.9s,baz=72,slow=10,SNR=2.0							
NOA	**NORSAR Array B**	**69.50**	**340**	P		**P**	**19 31 30.6**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=29,slow=6.6,SNR=2.0							
KIV	**Kislovodsk**	**70.42**	**313**	*e*P		**P**	**19 31 35.4**	**-1.9**
AKASG	**Malin Array Be**	**71.91**	**325**	P		**P**	**19 31 45.4**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=34,slow=5.9,SNR=3.0							
GERES	**GERESS Array B**	**79.28**	**332**	P		**P**	**19 32 28.7**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=43,slow=4.4,SN

	22nm,0.5s								
KST	**Kastek**	**2.73**	**344**	*eP*		**Pg**	**19 30 59.5**	**-0.6**
	7.7nm,0.3s								
KST				*eS*		**Sg**	**19 31 36.3**	**+0.9**
	19nm,0.4s								
KST	**Kastek**	**2.73**	**344**	Pg		**Pb**	**19 30 58.1**	**+1.3**
	6.8nm,0.8s								
KST				Lg	Lg		19 31 33.5		
	19nm,1.0s								
MTBS	**Maitube**	**2.74**	**352**	*eP*		**Pg**	**19 30 59.7**	**-0.6**
	13nm,0.2s								
MTBS				*eS*		**Sg**	**19 31 36.9**	**+1.2**
	16nm,0.2s								
MTBS	**Maitube**	**2.74**	**352**	Pg		**Pg**	**19 30 59.6**	**-0.7**
	7.6nm,0.3s								
MTBS				Lg	Lg		19 31 36.0		
	10nm,0.5s								
MDOK	**Medeo**	**2.74**	**1**	*eP*		**Pg**	**19 30 59.2**	**-1.1**
	8.4nm,0.5s								
MDOK				*eS*		**Sg**	**19 31 36.4**	**+0.5**
	62nm,0.5s								
MDOK	**Medeo**	**2.74**	**1**	Pg		**Pb**	**19 30 55.8**	**-1.2**
	21nm,0.8s								
MDOK				Lg	Lg		19 31 36.0		
	41nm,0.5s								
MDOK	**Medeo**	**2.74**	**1**	Pg		**Pg**	**19 31 00.2**	**-0.1**
	10nm,0.7s								
MDOK				Lg	Lg		19 31 36.8		
	34nm,0.6s								
AAA	**Alma-Ata**	**2.79**	**359**	*eP*		**Pg**	**19 31 01.4**	**+0.1**
	5.1nm,0.1s								
AAA				*eS*		**Sg**	**19 31 39.8**	**+2.4**
	12nm,0.0s								
AAA	**Alma-Ata**	**2.79**	**359**	Pg		**Pg**	**19 31 01.5**	**+0.3**
	8.9nm,0.3s								
AAA				Lg	Lg		19 31 39.6		
	30nm,0.2s								
KNDC	**Almaty**	**2.79**	**360**	⇑Pg		**Pb**	**19 30 59.2**	**+1.4**
	21nm,0.8s								
KNDC				⇑Lg	Lg		19 31 39.5		
	86nm,0.3s								
KOTS	**Kotyrbulak**	**2.81**	**2**	*eP*		**Pg**	**19 31 00.8**	**-1.0**
	28nm,0.2s								
KOTS				*eS*		**Sg**	**19 31 38.8**	**+0.6**
	144nm,0.4s								
KOTS	**Kotyrbulak**	**2.81**	**2**	Pg		**Pg**	**19 31 01.8**	**+0.1**
	24nm,0.4s								
KOTS				Lg	Lg		19 31 39.7		
	100nm,0.6s								
SATY	**Saty**	**2.85**	**22**	Pg		**Pb**	**19 30 58.7**	**0.0**
	16nm,0.6s								
SATY				Lg	Lg		19 31 34.9		
	35nm,0.8s								
AAK	**Ala-Archa**	**2.90**	**321**	⇓*iP*		**Pb**	**19 30 58.3**	**-1.3**
	baz=19								
AAK				⇓*iS*		**Sb**	**19 31 35.3**	**+0.2**
	baz=19								
AAK	**Ala-Archa**	**2.90**	**321**	P		**Pb**	**19 31 01.1**	**+1.5**
	SNR=7.4								
AAK	**Ala-Archa**	**2.90**	**321**	Pg		**Pg**	**19 31 02.2**	**-1.1**
	8.3nm,0.4s								
AAK				Lg	Lg		19 31 43.4		
	45nm,1.0s								
DGS	**Degeres**	**2.96**	**343**	*eP*		**Pg**	**19 31 03.3**	**-1.2**
	3.5nm,0.4s								
DGS				*eS*		**Sg**	**19 31 43.2**	**+0.3**
	34nm,0.3s								
DGS	**Degeres**	**2.96**	**343**	Pg		**Pg**	**19 31 02.6**	**-1.9**
	5.8nm,0.9s								
DGS				Lg	Lg		19 31 41.0		
	18nm,1.1s								
AML	**Almayashu**	**3.01**	**306**	⇑*iP*		**Pb**	**19 31 00.5**	**-1.2**
	baz=5.0								
AML				⇑*iS*		**Sb**	**19 31 38.5**	**-0.1**
	baz=5.0								
AML	**Almayashu**	**3.01**	**306**	P		**Pb**	**19 31 01.9**	**+0.3**
	SNR=16								
CHMS	**Chumysh**	**3.07**	**328**	⇑*iP*		**Pb**	**19 31 00.6**	**-1.9**
	baz=26								
CHMS				⇑*iS*		**Sb**	**19 31 39.0**	**-1.0**
	baz=26								
CHMS	**Chumysh**	**3.07**	**328**	P		**Pb**	**19 31 02.5**	**+0.1**
	SNR=8.1								
UZB	**Uzynbulak**	**3.12**	**29**	*eP*		**Pb**	**19 31 04.7**	**+1.2**
	6.7nm,0.3s								
UZB				*eS*		**Sg**	**19 31 45.2**	**-3.0**
	15nm,0.4s								
UZB	**Uzynbulak**	**3.12**	**29**	Pg		**Pg**	**19 31 05.8**	**-1.9**
	3.8nm,0.4s								
UZB				Lg	Lg		19 31 46.3		
	15nm,1.0s								
ARSB	**Arslanbob**	**3.16**	**288**	⇓*iP*		**Pb**	**19 31 02.8**	**-1.3**
	baz=88								
ARSB				⇓*iS*		**Sb**	**19 31 42.5**	**-0.3**
	baz=88								
KURS	**Kuram**	**3.19**	**16**	*eP*		**Pg**	**19 31 06.9**	**-2.1**
	12nm,0.7s								
KURS				*eS*		**Sg**	**19 31 49.0**	**-1.3**
	18nm,0.5s								
EKS2	**Erkin-Say**	**3.28**	**314**	⇑*iP*		**Pb**	**19 31 04.0**	**-2.2**
	baz=13								
EKS2				⇑*iS*		**Sb**	**19 31 44.8**	**-1.5**
	baz=13								
EKS2	**Erkin-Say**	**3.28**	**314**	P		**Pb**	**19 31 06.3**	**+0.1**
	SNR=6.8								
KTBS	**Karatobe**	**3.30**	**356**	*eP*		**Pg**	**19 31 09.0**	**-2.0**
	6.8nm,0.3s								
KTBS				*eS*		**Sg**	**19 31 53.1**	**-0.6**
	23nm,0.4s								
KTBS	**Karatobe**	**3.30**	**356**	Pg		**Pb**	**19 31 04.7**	**-1.7**
	4.2nm,0.7s								
KTBS				Lg	Lg		19 31 44.5		
	6.0nm,1.3s								
KPKS	**Kokpek**	**3.30**	**22**	*eP*		**Pb**	**19 31 08.0**	**+1.5**
	9.8nm,0.2s								
KPKS				*eS*		**Sg**	**19 31 51.4**	**-2.4**
	90nm,0.6s								
SHLS	**Shalkode**	**3.31**	**33**	*eP*		**Pg**	**19 31 10.5**	**-0.7**
	8.5nm,0.4s								
SHLS				*eS*		**Sg**	**19 31 55.7**	**+1.7**
	35nm,0.6s								
SHLS	**Shalkode**	**3.31**	**33**	Pg		**Pg**	**19 31 11.7**	**+0.6**
	9.0nm,0.6s								
SHLS				Lg	Lg		19 31 56.5		
	15nm,0.9s								
USP	**Ospenovka**	**3.39**	**328**	⇓*iP*		**Pb**	**19 31 04.8**	**-3.2**
	baz=27								
USP				⇓*iS*		**Sb**	**19 31 46.9**	**-2.5**
	baz=27								
USP	**Ospenovka**	**3.39**	**328**	P		**Pg**	**19 31 11.4**	**-1.4**
	SNR=12								
CHKK	**Chushkaly**	**3.43**	**0**	*eP*		**Pg**	**19 31 11.3**	**-2.2**
	0.9nm,0.0s								
CHKK				*eS*		**Sg**	**19 31 56.8**	**-1.2**
	28nm,0.2s								
CHKK	**Chushkaly**	**3.43**	**0**	Pg		**Pg**	**19 31 12.4**	**-1.2**
	5.4nm,0.7s								
CHKK				Lg	Lg		19 31 58.1		
	16nm,0.6s								
PDGK	**Podgornoye**	**3.46**	**32**	⇑Pn		**Pn**	**19 31 03.4**	**+1.5**
	1.9nm,0.8s								
PDGK				⇓Pg		**Pb**	**19 31 10.6**	**+1.3**
	4.5nm,0.5s								
PDGK				⇓Lg	Lg		19 31 54.4		
	24nm,0.6s								
KUU	**Kurty**	**3.50**	**352**	*eP*		**Pg**	**19 31 13.2**	**-1.7**
	0.9nm,0.1s								
KUU				*eS*		**Sg**	**19 31 59.8**	**-0.5**
	20nm,0.6s								
MRKS	**Merke**	**3.65**	**311**	*eP*		**Pg**	**19 31 16.7**	**-1.0**
	4.1nm,0.2s								
MRKS				*eS*		**Sg**	**19 32 06.0**	**+1.1**
	4.7nm,0.4s								
MRKS	**Merke**	**3.65**	**311**	Pg		**Pb**	**19 31 14.5**	**+2.1**
	3.3nm,0.5s								
MRKS				Lg	Lg		19 32 01.6		
	5.6nm,1.6s								
ARXS	**Arharly**	**3.84**	**9**	*eP*		**Pg**	**19 31 18.6**	**-2.9**
	4.2nm,0.2s								
ARXS				*eS*		**Sg**	**19 32 09.3**	**-1.9**
	15nm,0.4s								
ARXS	**Arharly**	**3.84**	**9**	Pg		**Pg**	**19 31 18.8**	**-2.6**
	2.2nm,0.8s								
ARXS				Lg	Lg		19 32 08.8		
	11nm,0.7s								
DJR	**Jarkent**	**4.43**	**27**	Pg		**Pb**	**19 31 28.1**	**+2.4**
	0.8nm,0.6s								
DJR				Lg	Lg		19 32 25.5		
	5.6nm,0.7s								
BTLS	**Baital**	**5.10**	**336**	Pg		**Pg**	**19 31 41.2**	**-4.2**
	0.9nm,0.6s								
BTLS				Lg	Lg		19 32 47.3		
	1.5nm,1.1s								
KAPS	**Kapalarasan**	**5.17**	**19**	Pg		**Pg**	**19 31 42.5**	**-4.2**
	2.1nm,0.8s								
KAPS				Lg	Lg		19 32 49.4		
	2.7nm,0.7s								
KK31	**Karatay Array**	**5.53**	**301**	⇑Pg		**Pg**	**19 31 51.2**	**-2.4**
	0.4nm,0.4s,baz=123,slow=15,SNR=6.0								
KK31				⇓Lg	Lg		19 33 05.4		
	4.2nm,0.9s,baz=115,slow=28,SNR=5.9								

*ISCJB **08** 19:32:33.9±0.9, 6.61°S±0.05°×130.65°E±0.09, h35km, mb3.2/1, Error ellipse: s-maj=12.4km s-min=7.6km az=8.2*
*IDC **08** 19:32:39.4±2.5, 6.69°S×130.56°E, h67km≤32km, mb3.0/1, mb1 3.5/6, mb1mx3.2/30, mbtmp3.6/6, ML3.5/5, Error ellipse: s-maj=31.5km s-min=21.8km az=112.0*

ISC 08 19:32:36.9±0.9, 6.73°S±0.06×130.7°E±0.1, h35km, n6, σ2§64/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**5.84**	**5**	P		**Pn**	**19 34 03.5**	**+2.4**
	1.6nm,0.3s,baz=200,slow=12,SNR=25							
SIJI				S		**Sn**	**19 35 03.9**	**-3.1**
	1.8nm,0.3s,baz=283,slow=23,SNR=12							
BATI	**Baumata**	**7.80**	**243**	P		**Pn**	**19 34 28.7**	**+0.7**
	0.6nm,0.3s,baz=110,slow=19,SNR=1.5							
BATI				S		**Sn**	**19 35 54.7**	**-0.4**
	2.1nm,0.3s,baz=328,slow=16,SNR=4.7							
FITZ	**Fitzroy Crossi**	**12.34**	**203**	P		**Pn**	**19 35 30.8**	**+0.6**
	0.4nm,0.3s,baz=29,slow=10,SNR=24							
FITZ				S		Sn	19 37 36.8	-10
	0.3nm,0.3s,baz=197,slow=6.2,SNR=2.1							
WRA	**Warramunga Arr**	**13.59**	**165**	P		**Pn**	**19 35 49.6**	**+2.3**
	0.2nm,0.3s,baz=349,slow=13,SNR=3.8							
WRA				S		**Sn**	**19 38 13.1**	**-4.1**
	0.4nm,0.3s,baz=325,slow=23,SNR=6.4							
ASAR	**Alice Springs**	**17.11**	**170**	P		**P**	**19 36 36.5**	**+1.5**
	0.1nm,0.3s,baz=359,slow=13,SNR=9.8							
ASAR				S		**Sn**	**19 39 41.0**	**-1.9**
	0.1nm,0.3s,baz=356,slow=24,SNR=5.5							
MKAR	**Makanchi Array**	**68.40**	**326**	P		**P**	**19 43 33.1**	**-2.0**
	0.1nm,0.4s,baz=113,slow=7.9,SNR=1.8							

ASRS 08 19:34:14.3±1.1, 51.7°N±5°×97.8°E±, h23km±9km, MLv3.7/12, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TDJR	**Todzha**	**1.85**	**320**	P		Pb	19 34 46.9	-0.6
TDJR				S		Sb	19 35 09.9	-0.4
MOY	**Mondy**	**1.96**	**69**	P		Pn	19 34 47.2	+1.0
MOY				S		Sn	19 35 10.0	-0.1
ZAK	**Zakamensk**	**3.38**	**99**	P		Pn	19 35 05.5	-0.2
ZAK				S		Sn	19 35 45.6	+0.5
TLY	**Talaya**	**3.57**	**77**	S		Sn	19 35 46.2	-3.4
ORY	**Orie**	**4.38**	**337**	P		Pn	19 35 16.4	-3.0
MINR	**Mina**	**4.55**	**331**	S		Sn	19 36 11.7	-2.1
ABNR	**Abakan**	**4.89**	**306**	P		Pn	19 35 24.5	-1.8
TEL	**Teeli**	**4.96**	**273**	P		Pn	19 35 26.0	-1.5
TEL				S		Sn	19 36 24.0	-0.2
VEH	**Verkhnyaya Baz**	**5.27**	**298**	P		Pn	19 35 31.0	-0.7
SHTK	**Zheleznogorsk-**	**5.96**	**335**	P		Pn	19 35 36.6	-4.4
SHTK				S		Sn	19 36 42.3	-6.1
LUZB	**Luzhba, Kemero**	**6.21**	**299**	P		Pn	19 35 42.2	-2.4
ULGR	**Ulagan, Altay**	**6.41**	**271**	P		Pn	19 35 47.7	+0.3
ULGR				S		Sn	19 37 01.6	+1.7
AKAR	**Aktash**	**6.67**	**268**	P		Pn	19 35 54.9	+3.9
CHBI	**Chibit, Altay**	**6.75**	**268**	P		Pn	19 35 53.5	+1.5
ARTR	**Artybash**	**6.79**	**281**	P		Pn	19 35 54.0	+1.5
DGZ	**Jazzator, Alta**	**6.93**	**263**	P		Pn	19 35 57.6	+3.1

IDC 08 19:41:53.2±64.0, 15.39°S×174.64°W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/20, mbtmp3.8/3, Error ellipse: s-maj=1222.0km s-min=189.6km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**43.01**	**240**	P		P	19 49 54.6	-0.1
	0.6nm,0.5s,baz=95,slow=12,SNR=4.5							
WRA	**Warramunga Arr**	**48.68**	**257**	P		P	19 50 39.8	+0.1
	0.3nm,0.3s,baz=89,slow=7.6,SNR=14							
ASAR	**Alice Springs**	**48.98**	**252**	P		P	19 50 41.6	-0.3
	1.2nm,0.4s,baz=85,slow=8.3,SNR=25							

*ISCJB **08** 19:55:53.7±0.3, 10.19°S±0.04°×109.45°E±0.03, h10km, mb4.9/52, Error ellipse: s-maj=6.4km s-min=3.6km az=26.7*
*BJI **08** 19:55:54.0±0.0, 10.10°S×109.40E, h10km, mb4.7/47, mB5.1/35, Ms4.6/18, Ms7 4.3/17*
*NEIC **08** 19:55:55.6±2.6, 10.18°S±0.05°×109.41°E±0.07, h10km±2km, mb4.8/26*
*IDC **08** 19:55:55.2±0.9, 9.89°S×109.64E, h0km, mb4.4/14, mb1 4.5/18, mb1mx4.4/31, mbtmp4.4/18, ML4.4/4, MS3.7/1, Ms1 3.9/1, ms1mx3.2/27, Error ellipse: s-maj=28.3km s-min=13.0km az=44.0*
*DJA **08** 19:55:55.5±0.3, 10°S±4°×10°9E±°, h10km, M4.8/21, mB5.3/12, mb5.1/21, MLv4.9/19, Mw(mB)4.7/12*
*MOS **08** 19:55:56.6±1.1, 9.96°S×109.55E, h24km, mb4.9/17, Error ellipse: s-maj=13.7km s-min=7.4km az=113.2*

ISC 08 19:55:55.4±0.5, 10.18°S±0.06×109.42E±0.05, h10km, n164, σ1§47/169, mb4.7/58, 7C-4D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YOGI	**Yogyakarta**	**2.50**	**20**	P		**Pn**	**19 56 35.9**	**-0.2**
WOJI	**Wonogiri, Jawa**	**2.76**	**33**	P		**Pn**	**19 56 39.1**	**-0.6**
WOJI				S		**Sn**	**19 57 09.7**	**-3.4**
KPJI	**Karang Pucung**	**2.87**	**350**	P		**Pn**	**19 56 41.4**	**+0.2**
CISI	**Cisompet, Garu**	**3.05**	**329**	P		**Pn**	**19 56 42.6**	**-1.2**
CISI				S		**Sn**	**19 57 16.6**	**-3.8**
CISI	**Cisompet, Garu**	**3.05**	**329**			**Pn**	**19 56 43.0**	**-0.8**
PWJI	**Pagerwojo**	**3.18**	**48**	P		**Pn**	**19 56 45.4**	**-0.1**
SMRI	**Semarang**	**3.27**	**18**	P		**Pn**	**19 56 47.6**	**+0.9**
SMRI	**Semarang**	**3.27**	**18**			**Pn**	**19 56 48.4**	**+1.6**
NGJI	**Ngawi**	**3.44**	**36**	P		**Pn**	**19 56 51.9**	**+2.8**
XMIS	**Christmas Isla**	**3.72**	**265**			**Pn**	**19 56 52.9**	**-0.1**
LEM	**Lembang**	**3.78**	**332**	Pn		**Pn**	**19 56 54.6**	**+0.7**
	22nm,0.3s,baz=326,slow=23,SNR=42							
LEM				Sn		**Sn**	**19 57 39.5**	**+1.1**
	32nm,0.3s,baz=9.9,slow=22,SNR=6.1							
LEM	**Lembang**	**3.78**	**332**	P		**Pn**	**19 56 54.4**	**+0.5**
TBJI	**Tambak Boyo**	**4.11**	**36**	P		**Pn**	**19 56 58.6**	**+0.3**
SKJI	**Sukabumi**	**4.24**	**318**	P		**Pn**	**19 56 59.7**	**-0.3**
GRJI	**Gresik**	**4.43**	**43**	P		**Pb**	**19 57 13.6**	**+0.2**
DBJI	**Dramaga**	**4.46**	**324**	P		**Pn**	**19 57 04.3**	**+1.1**
JAGI	**Jajag, Banyuwa**	**4.97**	**70**	P		**Pn**	**19 57 10.0**	**-0.1**
	400nm,0.7s,5μm1.7nm							
JAGI	**Jajag, Banyuwa**	**4.97**	**70**			**Pn**	**19 57 10.3**	**+0.2**
DNP	**Denpasar**	**5.90**	**76**	P		Pb	19 57 34.0	-4.5
SRBI	**Singaraja**	**6.09**	**71**	P		**Pn**	**19 57 26.1**	**+0.6**
	224nm,0.7s,2μm0.8nm							
BLSI	**Bandar Lampung**	**6.32**	**319**	P		**Pn**	**19 57 31.5**	**+2.8**
	61nm,0.4s,0.4nm							
KASI	**Kota Agung**	**6.72**	**313**	P		**Pn**	**19 57 34.3**	**+0.1**
	56nm,0.9s,0.3nm							
KLSI		**7.16**	**319**	P		**Pn**	**19 57 43.0**	**+2.7**
	14nm,0.7s,626nm0.1nm							
LWLI	**Liwa**	**7.38**	**314**	P		**Pn**	**19 57 43.4**	**0.0**
	41nm,0.5s,3μm0.4nm							
TWSI	**Taliwang, Sumb**	**7.50**	**80**	P		**Pn**	**19 57 44.9**	**0.0**
	253nm,0.6s,3μm1.0nm							
TPI	**Tanjungpandan**	**7.58**	**346**	P		**Pn**	**19 57 46.3**	**+0.3**
	20nm,1.2s,0.1nm							
MDSI	**Maura Dua**	**7.68**	**317**	P		**Pn**	**19 57 47.1**	**-0.3**
	23nm,1.2s,453nm0.1nm							
PLAI	**Plampang**	**8.35**	**81**	P		**Pn**	**19 57 57.2**	**+0.6**
	214nm,0.9s,2μm							
LHSI	**Lahat**	**8.60**	**317**	P		**Pn**	**19 58 01.9**	**+1.8**
	48nm,1.2s,1μm							
MNAI	**Manna**	**8.63**	**312**	P		**Pn**	**19 57 59.5**	**-1.0**
	117nm,0.7s							
MNAI	**Manna**	**8.63**	**312**			**Pn**	**19 58 00.5**	**0.0**

KSI	**Kapahiang**	**9.38**	**313**	P		**Pn**	**19 58 10.4**	**-0.3**
	255nm,0.7s,2μm							
WSI	**Waingapu**	**10.73**	**88**	P		**Pn**	**19 58 28.9**	**-0.3**
	259nm,0.8s,5μm							
KRJI	**Kerinci**	**11.27**	**315**	P		**Pn**	**19 58 34.9**	**-1.8**
	115nm,0.8s							
KAPI	**Kappang**	**11.45**	**64**	P		**Pn**	**19 58 39.7**	**+0.6**
KAPI	**Kappang**	**11.45**	**64**	Pn		**Pn**	**19 58 37.7**	**-1.4**
	0.8nm,0.3s,baz=237,slow=5.4,SNR=6.8							
KAPI	**Kappang**	**11.45**	**64**			**Pn**	**19 58 39.7**	**+0.6**
BKSI	**Bulukumba**	**11.65**	**66**	P		**Pn**	**19 58 45.8**	**+4.0**
	38nm,0.6s							
SPSI	**Sidrap Palu**	**11.98**	**60**	P		Pn	19 58 57.2	+11
BNSI	**Bone**	**12.05**	**62**	P		**Pn**	**19 58 49.0**	**+1.7**
	33nm,1.3s							
PDSI	**Padang**	**12.81**	**315**	P		Pn	19 59 06.9	+9.2
SBUM	**Sibu**	**12.85**	**13**	P		**Pn**	**19 59 00.0**	**+1.7**
SISI	**Saibi**	**13.52**	**310**	P		**Pn**	**19 59 02.8**	**-4.6**
BATI	**Baumata**	**14.02**	**91**	Pn		**Pn**	**19 59 13.1**	**-1.2**
	6.6nm,0.3s,baz=263,slow=3.5,SNR=17							
BATI				Sn		Sn	20 01 38.0	-12
	0.9nm,0.3s,baz=86,slow=21,SNR=2.3							
SOEI	**Soe**	**14.63**	**90**			**Pn**	**19 59 21.1**	**-1.6**
PSA00	**Pilbara Seismi**	**15.12**	**140**			**Pn**	**19 59 26.7**	**-2.6**
PSA00				IAmb		IAmb	19 59 38.4	
	comp=Z,21nm,0.8s							
JRMM	**Jerantut**	**15.59**	**333**	P		**Pn**	**19 59 35.0**	**-0.4**
GSI	**Gunungsitoli**	**16.40**	**313**			**Pn**	**19 59 39.8**	**-6.1**
GSI				IAmb		IAmb	19 59 52.4	
	comp=Z,44nm,0.7s							
IPM	**Ipoh**	**16.79**	**330**	P		**P**	**19 59 54.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**17.58**	**118**	P		**Pn**	**20 00 00.5**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=310,slow=9.6,SNR=28							
FITZ				S		Sn	20 02 58.6	-18
	comp=Z,0.1nm,0.3s,baz=79,slow=20,SNR=1.8							
FITZ	**Fitzroy Crossi**	**17.58**	**118**			**Pn**	**20 00 00.1**	**-0.6**
KULM	**Kulim**	**17.67**	**330**	P		**P**	**20 00 03.0**	**+0.2**
MTN	**Manton Dam**	**21.44**	**99**	P		**P**	**20 00 44.6**	**+0.6**
MTN				IAmb		IAmb	20 01 02.4	
	comp=Z,14nm,0.7s							
SIJI	**Sorong**	**23.61**	**68**	P		**P**	**20 01 03.5**	**-3.3**
	comp=Z,4.8nm,0.8s,baz=114,slow=4.7,SNR=3.7							
WRA	**Warramunga Arr**	**25.91**	**115**	P		**P**	**20 01 28.8**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=286,slow=11,SNR=21							
WRAB	**Tennant Creek**	**25.92**	**115**	*ceP*		**P**	**20 01 29.7**	**+1.7**
WRAB				pmax		pmax		
	comp=Z,6.0nm,0.7s							
WRAB	**Tennant Creek**	**25.92**	**115**	P		**P**	**20 01 29.2**	**+1.2**
WR0	**Warramunga Arr**	**26.10**	**115**	P		**P**	**20 01 31.1**	**+1.5**
ASAR	**Alice Springs**	**26.93**	**123**	P		**P**	**20 01 38.3**	**+1.1**
	comp=Z,3.9nm,0.7s,baz=298,slow=9.3,SNR=50							
CHAI	**Chaiyaphum**	**26.94**	**344**	P		**P**	**20 01 38.1**	**+1.0**
	comp=Z,74μm,0.7s,comp=Z,697μm							
UTHA	**Uthaitani**	**27.41**	**339**	P		**P**	**20 01 43.3**	**+1.9**
	comp=Z,11μm,1.2s							
SKNT	**Sakolnakorn**	**27.51**	**349**	P		**P**	**20 01 44.3**	**+2.0**
	comp=Z,15nm,0.9s							
PBKT	**Sadao Pong**	**27.86**	**342**	P		**P**	**20 01 46.0**	**+0.6**
	comp=Z,10nm,0.8s							
PBKT	**Sadao Pong**	**27.86**	**342**	P		**P**	**20 01 46.0**	**+0.6**
PBKT				IAmb		IAmb	20 01 46.9	
	comp=Z,16nm,0.9s							
NONG	**Nongkai**	**28.74**	**348**	P		**P**	**20 01 53.7**	**+0.5**
	comp=Z,0.3nm,0.7s,comp=Z,227nm							
LAMP	**Lampang**	**30.11**	**341**	P		**P**	**20 02 06.9**	**+1.5**
	comp=Z,54μm,0.8s,comp=Z,405μm							
CMAR	**Chiang Mai Arr**	**30.27**	**340**	P		**P**	**20 02 07.2**	**+0.4**
	comp=Z,7.7nm,0.8s,baz=175,slow=8.2,SNR=63							
CMAR				PcP		**PcP**	**20 05 08.6**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=196,slow=3.8,SNR=4.2							
CMAR				LR		LR	20 14 35.1	
	comp=Z,168nm,21.8s,baz=200,slow=37							
CHTO	**Chiang Mai**	**30.60**	**340**	P		**P**	**20 02 10.2**	**+0.4**
CHTO				pmax		pmax		
	comp=Z,12nm,0.8s							
CHTO	**Chiang Mai**	**30.60**	**340**	P		**P**	**20 02 10.2**	**+0.4**
CHTO				IAmb		IAmb	20 02 11.2	
	comp=Z,12nm,0.8s							
PAYA	**Payao**	**30.82**	**342**	P		**P**	**20 02 12.7**	**+1.0**
	comp=Z,66μm,0.8s,comp=Z,540μm							
SLVN	**Son La**	**31.78**	**350**	P		**P**	**20 02 20.6**	**+0.5**
SLVN				IAmb		IAmb	20 02 22.4	
	comp=Z,9.3nm,0.9s							
SSLB	**Suanglung**	**35.59**	**18**	P		**P**	**20 02 52.7**	**-0.6**
H08S2	**Diego Garcia H**	**36.55**	**271**	T		T	20 41 52.4	
	baz=96,slow=75,SNR=12							
H08S3	**Diego Garcia H**	**36.57**	**271**	T		T	20 41 49.2	
	baz=96,slow=75,SNR=6.9							
H08S1	**Diego Carcia H**	**36.57**	**271**	T		T	20 41 44.8	
	baz=96,slow=75,SNR=7.2							
STKA	**Stephens Creek**	**36.76**	**131**	P		**P**	**20 03 04.1**	**+0.8**
STKA				pmax		pmax		
	comp=Z,1.0nm,1.0s							
STKA	**Stephens Creek**	**36.76**	**131**	P		**P**	**20 03 05.3**	**+2.0**
	comp=Z,3.9nm,0.8s,baz=305,slow=9.9,SNR=8.8							
STKA	**Stephens Creek

KSRS	**Korea Array**	**50.46**	**19**	P		**P**		**20 04 52.2**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=198,slow=7.9,SNR=8.4								
HHC	**Hu-ho-hao-te**	**50.81**	**2**	*eP*		**P**		**20 05 00.7**	**+4.5**
HHC				pmax		pmax			
	comp=Z,8.0nm,0.9s								
MJAR	**Matsushiro Arr**	**53.79**	**29**	P		**P**		**20 05 15.9**	**-2.4**
	comp=Z,2.0nm,0.8s,baz=190,slow=6.4,SNR=7.0								
NIL	**Nilore**	**55.52**	**323**	P		**P**		**20 05 29.8**	**-1.2**
NIL				pmax		pmax			
	comp=Z,18nm,0.8s								
NIL	**Nilore**	**55.52**	**323**	P		**P**		**20 05 29.8**	**-1.2**
CN2	**Changchun**	**55.66**	**14**	*eP*		**P**		**20 05 33.0**	**+1.3**
WMQ	**Urumqi**	**57.26**	**341**	*eP*		**P**		**20 05 44.4**	**+1.2**
WMQ				sP		pwP		20 05 53.7	+1.7
WMQ				pmax		pmax			
	comp=Z,14nm,1.1s								
WMQ				pmax		pmax			
	comp=Z,160nm,5.9s								
WMQ				LR		LR			
	comp=Z,140nm,16.5s								
WMQ				LR		LR			
	comp=Z,150nm,23.7s								
SONM	**Songino Array**	**57.82**	**358**	P		**P**		**20 05 46.9**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=175,slow=7.0,SNR=22								
ULN	**Ulaanbaatar**	**57.82**	**358**	*ceP*		**P**		**20 05 47.3**	**+0.1**
ULN				pmax		pmax			
	comp=Z,11nm,1.6s								
ULN	**Ulaanbaatar**	**57.82**	**358**	P		**P**		**20 05 46.7**	**-0.5**
ULN				IAmb		IAmb		20 05 58.7	
	comp=Z,7.0nm,0.8s								
USA0B	**Ussuriysk Arra**	**57.87**	**19**	*i* P		**P**		**20 05 48.4**	**+1.1**
USRK	**Ussuriysk Ar.**	**57.87**	**19**	P		**P**		**20 05 46.4**	**-0.9**
	comp=Z,3.7nm,0.8s,baz=198,slow=4.1,SNR=8.3								
KSH	**Kashi**	**58.39**	**330**	P		**P**		**20 05 52.0**	**+0.7**
KSH				PcP		**PcP**		**20 06 43.4**	**+1.3**
KSH				PcS		**PcS**		**20 10 43.7**	**0.0**
KSH				S		**S**		**20 13 53.8**	**-0.5**
KSH				ScS		**ScS**		**20 15 39.0**	**-2.5**
KSH				pmax		pmax			
	comp=Z,380nm,5.6s								
KSH				LR		LR			
	comp=Z,260nm,5.8s								
KSH				LR		LR			
	comp=Z,350nm,5.0s								
KSH				LR		LR			
	comp=Z,650nm,7.8s								
HIA	**Hailar**	**59.88**	**8**	*i* P		**P**		**20 05 59.9**	**-1.4**
HIA				pmax		pmax			
	comp=Z,17nm,1.0s								
BOOM	**Boomskoye usch**	**60.71**	**332**	P		**P**		**20 06 05.9**	**-1.4**
BOOM	**Boomskoye usch**	**60.71**	**332**	P		**P**		**20 06 05.9**	**-1.4**
GAR	**Garm**	**60.97**	**326**	P		**P**		**20 06 09.5**	**+0.4**
CHGR	**Chuyangaron**	**61.38**	**325**	P		**P**		**20 06 12.2**	**+0.4**
BTK	**Batken**	**61.45**	**327**	P		**P**		**20 06 11.4**	**-0.9**
BTK				pmax		pmax			
	comp=Z,10.0nm,1.1s								
BTK	**Batken**	**61.45**	**327**	P		**P**		**20 06 11.4**	**-0.9**
BTK				IAmb		IAmb		20 06 15.8	
	comp=Z,9.8nm,1.1s								
AAK	**Ala-Archa**	**61.50**	**331**	*ceP*		**P**		**20 06 14.0**	**+1.3**
AAK				pmax		pmax			
	comp=Z,7.0nm,1.3s								
MK31	**Makanchi Array**	**61.68**	**339**	P		**P**		**20 06 13.8**	**+0.2**
MK31				pmax		pmax			
	comp=Z,5.0nm,0.8s								
MK31	**Makanchi Array**	**61.68**	**339**	P		**P**		**20 06 13.8**	**+0.2**
MK31				IAmb		IAmb		20 06 25.9	
	comp=Z,5.3nm,0.8s								
MKAR	**Makanchi Array**	**61.68**	**339**	P		**P**		**20 06 13.7**	**0.0**
	comp=Z,4.3nm,0.5s,baz=143,slow=7.5,SNR=32								
TLY	**Talaya**	**61.81**	**356**	*i* P		**P**		**20 06 14.4**	**0.0**
TLY				pmax		pmax			
	comp=Z,4.0nm,1.0s								
KK31	**Karatay Array**	**63.80**	**329**	P		**P**		**20 06 27.4**	**-0.4**
KK31				pmax		pmax			
	comp=Z,2.0nm,0.9s								
KK31	**Karatay Array**	**63.80**	**329**	P		**P**		**20 06 27.4**	**-0.4**
KKAR	**Karatay Array**	**63.80**	**329**	P		**P**		**20 06 27.6**	**-0.2**
KKAR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
KKAR	**Karatay Array**	**63.80**	**329**	P		**P**		**20 06 27.6**	**-0.2**
ZEA	**Zeya**	**65.45**	**12**	*eP*		**P**		**20 06 38.2**	**-0.1**
KURK	**Kurchatov**	**66.29**	**339**	P		**P**		**20 06 45.3**	**+1.5**
KURK				pmax		pmax			
	comp=Z,9.0nm,0.7s								
KURK	**Kurchatov**	**66.29**	**339**	P		**P**		**20 06 45.3**	**+1.5**
ZAA0	**Zalesovo Array**	**67.20**	**345**	P		**P**		**20 06 47.3**	**-2.2**
ZAA0				IAmb		IAmb		20 07 01.6	
	comp=Z,5.4nm,0.7s								
ZALV	**Zalesovo Beam**	**67.20**	**345**	P		**P**		**20 06 49.1**	**-0.4**
	comp=Z,2.1nm,0.4s,baz=163,slow=4.6,SNR=14								
GEYT	**Alibeck**	**67.71**	**318**	P		**P**		**20 06 53.6**	**+0.4**
	comp=Z,3.8nm,0.7s,baz=138,slow=6.9,SNR=12								
GYA0B	**ALIBECK ARRAY**	**67.71**	**318**	P		**P**		**20 06 52.2**	**-1.0**
GYA0B				IAmb		IAmb		20 06 56.3	
	comp=Z,11nm,1.2s								
BRVK	**Borovoye**	**71.28**	**336**	*ceP*		**P**		**20 07 14.2**	**-0.7**
BRVK				pmax		pmax			
	comp=Z,5.0nm,1.3s								
VNDA	**Vanda**	**72.43**	**170**	P		**P**		**20 07 22.3**	**+0.8**
VNDA	**Vanda**	**72.43**	**170**	P		**P**		**20 07 22.3**	**+0.8**
ABKAR	**Akbulak array**	**73.35**	**329**	P		**P**		**20 07 28.1**	**+0.7**
ABKAR				IAmb		IAmb		20 07 28.9	
	comp=Z,11nm,0.8s								
YAK	**Yakutsk**	**73.70**	**10**	*eP*		**P**		**20 07 28.7**	**-0.4**
YAK				pmax		pmax			
	comp=Z,22nm,1.2s								
YAK				pmax		pmax			
	comp=N,15nm,1.5s								
YAK				pmax		pmax			
	comp=E,7.0nm,1.5s								
PETK	**Petropavlovsk-**	**75.23**	**28**	P		**P**		**20 07 37.7**	**-0.6**
	comp=E,5.8nm,0.7s,baz=208,slow=2.0,SNR=6.5								
SVE	**Sverdlovsk**	**77.88**	**335**	*eP*		**P**		**20 07 54.4**	**+1.3**
SVE				pmax		pmax			
	comp=Z,15nm,1.4s								
ARU	**Arti**	**78.50**	**334**	*c iP*		**P**		**20 07 56.9**	**+0.3**
ARU								20 10 48.8	
ARU				S		**S**		**20 17 55.6**	**+2.8**
ARU				SS		**SS**		**20 22 54.7**	**-1.8**
ARU				pmax		pmax			
	comp=Z,12nm,1.4s								
KIV	**Kislovodsk**	**80.83**	**318**	*eP*		**P**		**20 08 10.9**	**+1.2**
KIV				pmax		pmax			
	comp=Z,22nm,1.1s								
TIXI	**Tiksi**	**82.67**	**6**	*ceP*		**P**		**20 08 18.3**	**-0.3**
TIXI				pmax		pmax			
	comp=Z,8.0nm,0.6s								
TIXI	**Tiksi**	**82.67**	**6**	P		**P**		**20 08 18.4**	**-0.2**
VRH	**Novokhopyorsk**	**84.34**	**324**	*eP*		**P**		**20 08 27.8**	**+0.1**
VRH				*e*				20 08 37.8	
VRH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
BRTR	**Keskin Array B**	**85.71**	**311**	*ceP*		**P**		**20 08 36.5**	**+1.4**
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
BRTR	**Keskin Array B**	**85.71**	**311**	P		**P**		**20 08 35.8**	**+0.7**
	comp=Z,3.0nm,0.9s,baz=142,slow=7.6,SNR=9.0								
VSR	**Storozhevoye**	**85.83**	**324**	*eP*		**P**		**20 08 34.6**	**-0.5**
VSR				*e*				20 08 44.5	
VSR				pmax		pmax			
	comp=Z,10.0nm,1.3s								
LPSR	**Galich'ya Gora**	**86.48**	**325**	*eP*		**P**		**20 08 38.9**	**+0.6**
LPSR				*e*				20 08 48.8	
LPSR				pmax		pmax			
	comp=Z,20nm,1.2s								
PRGR	**Permogore**	**86.94**	**335**	*eP*		**P**		**20 08 36.6**	**-3.7**
PRGR				pmax		pmax			
	comp=Z,8.0nm,0.8s								
BILL	**Bilibino**	**87.72**	**18**	*eP*		**P**		**20 08 44.6**	**+0.6**
BILL				*eS*		**SKSac**		**20 19 06.5**	**-5.3**
BILL				pmax		pmax			
	comp=Z,2.0nm,0.9s								
BILL				MLR		MLR			
	comp=Z,234nm,19.0s								
OBN	**Obninsk**	**88.68**	**327**	*eP*		**P**		**20 08 50.6**	**+1.8**
OBN				*e*				20 12 21.9	
OBN				pmax		pmax			
	comp=Z,29nm,1.7s								
OBN				MLR		MLR			
	comp=Z,36nm,11.0s								
YKA	**Yellowknife Ar**	**118.96**	**22**	PKP		**PKiKP**		**20 14 44.5**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=332,slow=2.2,SNR=5.3								
NVAR	**Mina Array Bea**	**128.96**	**48**	PKP		**PKiKP**		**20 15 05.9**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=228,slow=3.5,SNR=3.3								
TXAR	**Lajitas Array**	**143.69**	**54**	PKP		**PKPdf**		**20 15 30.7**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=245,slow=2.4,SNR=6.8								
J48A	**Bridge Port**	**145.06**	**17**			**PKPdf**		**20 15 34.5**	**+1.2**
FRNY	**Flat Rock**	**145.37**	**4**			**PKPdf**		**20 15 34.7**	**+0.9**
LONY	**Lake Ozonia**	**145.51**	**5**			**PKPab**		**20 15 35.5**	**+1.1**
NCB	**Newcomb**	**146.18**	**5**			**PKPab**		**20 15 38.0**	**+1.1**
KVTX	**Kingsville**	**149.03**	**52**	PKPdf		**PKPdf**		**20 15 38.8**	**-1.7**
WVT	**Waverly**	**149.79**	**28**	PKP2		**PKiKP**		**20 15 47.7**	**+0.5**
WVT	**Waverly**	**149.79**	**28**			**PKiKP**		**20 15 47.7**	**+0.5**

JMA ***08*** *20:39:28.7±0.9, 44.48N×149.35E, h30km, M4.0*
ISCJB ***08*** *20:39:42.5±0.8, 43.7N±0.1×148.1E±0.1, h34km, mb3.6/6, Error ellipse: s-maj=22.6km s-min=7.0km az=152.2*
IDC ***08*** *20:39:50.7±4.8, 43.82N×149.17E, h46km±34km, mb3.3/6, mb1 3.7/8, mb1mx3.3/51, mbtmp3.6/8, ML3.2/2, Error ellipse: s-maj=73.1km s-min=24.8km az=168.0*
ISC 08 20:39:44.7±1.0, **43.7N**±0.1×**148.18E**±0.09, **h34**km**, n29,** σ1§**81**/21**, mb3.6/6, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.80**	**261**	P		P	**Pn**	**20 40 10.7**	**-2.6**
NEM2				*eS*			**Sb**	**20 40 42.2**	**+3.1**
JNK	**Nakash**	**2.51**	**269**	P		P	**Pn**	**20 40 20.6**	**-2.5**
JAK	**Akkeshi**	**2.63**	**256**	P		P	**Pn**	**20 40 22.1**	**-2.6**
JTKR	**Abashiri--Toko**	**3.10**	**277**	P		P	**Pn**	**20 40 28.8**	**-2.4**
JAR	**Ashorobuto**	**3.23**	**265**	P		P	**Pn**	**20 40 31.7**	**-1.3**
JOB	**Onbets**	**3.26**	**258**	P		P	**Pn**	**20 40 32.5**	**-0.9**
JMP	**Maruseppu**	**3.50**	**277**	P		P	**Pn**	**20 40 36.2**	**-0.5**
JCH	**Churui**	**3.68**	**255**	P		P	**Pn**	**20 40 38.1**	**-1.0**
ASAJ	**Asahikawa**	**4.00**	**278**	P		Pb		20 40 59.9	+4.5
	1.0nm,0.3s,baz=214,slow=18,SNR=1.8								
JNBK	**Urakawa-nobuka**	**4.22**	**253**	P		P	**Pn**	**20 40 45.0**	**-1.5**
JBT2	**Biratori 2**	**4.34**	**260**	P		P	**Pn**	**20 40 47.0**	**-1.3**
JNB	**Noboribetsu**	**5.37**	**259**	P		P	**Pn**	**20 41 00.9**	**-1.4**
JKB	**Kayabe**	**5.55**	**254**	P		P	**Pn**	**20 41 03.1**	**-1.8**
JYM2	**Yakumo 2**	**5.94**	**257**	P		P	**Pn**	**20 41 08.8**	**-1.4**
JANG	**Nango**	**5.96**	**239**	P		P	**Pn**	**20 41 08.2**	**-2.3**
OFUJ	**Ofunato**	**6.71**	**229**	P		P	**Pn**	**20 41 19.9**	**-0.9**
PETK	**Petropavlovsk-**	**11.35**	**30**	P		P	**Pn**	**20 42 24.1**	**-0.3**
	0.7nm,0.3s,baz=207,slow=12,SNR=9.2								
H11N2	**WAKE ISLAND Hy**	**28.57**	**141**	T		T		21 16 33.9	
	baz=334,slow=76,SNR=155								
H11N1	**WAKE ISLAND Hy**	**28.58**	**141**	T		T		21 16 41.4	
	baz=334,slow=76,SNR=201								
H11N3	**WAKE ISLAND Hy**	**28.58**	**141**	T		T		21 16 39.2	
	baz=334,slow=76,SNR=258								
H11S1	**WAKE ISLAND Hy**	**29.55**	**142**	T		T		21 17 53.9	
	baz=335,slow=76,SNR=274								
H11S3	**WAKE ISLAND Hy**	**29.55**	**142**	T		T		21 17 52.4	
	baz=335,slow=76,SNR=178								
H11S2	**WAKE ISLAND Hy**	**29.56**	**142**	T		T		21 17 53.8	
	baz=335,slow=76,SNR=234								
ILAR	**Eielson Array**	**41.11**	**36**	P		**P**		**20 47 23.9**	**-1.0**
	0.4nm,0.5s,baz=261,slow=8.4,SNR=7.4								
MKAR	**Makanchi Array**	**45.28**	**298**	P		P		20 48 06.9	+8.0
	0.4nm,0.8s,baz=59,slow=8.2,SNR=2.7								
YKA	**Yellowknife Ar**	**55.45**	**34**	P		**P**		**20 49 16.0**	**+0.6**
	0.3nm,0.6s,baz=299,slow=6.8,SNR=4.1								
FINES	**FINESS Array B**	**65.28**	**333**	P		P		20 50 29.1	+6.6
	1.6nm,0.9s,baz=25,slow=6.3,SNR=7.9								
PDAR	**Pinedale Array**	**69.39**	**50**	P		**P**		**20 50 50.0**	**+0.8**
	0.2nm,0.3s,baz=292,slow=4.8,SNR=5.9								
TXAR	**Lajitas Array**	**82.07**	**57**	P		**P**		**20 52 03.0**	**+1.2**
	0.4nm,0.5s,baz=307,slow=2.9,SNR=4.4								

IDC ***08*** *20:43:14.4±1.0, 13.53N×120.42E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.5/42, mbtmp3.7/6, MS3.0/1, Ms1 3.0/1, ms1mx2.6/43, Error ellipse: s-maj=21.1km s-min=15.9km az=109.0*
ISCJB ***08*** *20:43:17.8±0.8, 13.46N±0.09×120.24E±0.06, h35km, mb3.7/6, Error ellipse: s-maj=14.1km s-min=7.7km az=162.5*
ISC 08 20:43:19.9±1.0, **13.7N**±0.1×**120.33E**±0.08, **h35**km**, n11,** σ2§**71**/14**, mb3.7**/6**, 1C-1D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.73**	**53**	Pn		P	**Pn**	**20 43 32.7**	**-1.2**
	239nm,0.3s,baz=202,slow=9.1,SNR=20								
TGY				Sn			**Sn**	**20 43 46.2**	**+2.3**
	424nm,0.3s,baz=53,slow=22,SNR=7.9								
TGY	**Tagaytay City**	**0.73**	**53**	⇑P		P	**Pn**	**20 43 33.8**	**-0.1**
TGY				S			**Sn**	**20 43 37.6**	**-6.2**
LQP	**Lukban**	**1.25**	**69**	P		P	**Pn**	**20 43 40.3**	**-0.9**
LQP				S			**Sn**	**20 44 01.0**	**+4.0**
GQP	**Guinayangan**	**2.07**	**83**	⇓P		P	**Pn**	**20 43 52.1**	**0.0**
GQP				S			**Sn**	**20 44 19.3**	**+2.6**
KAPI	**Kappang**	**18.56**	**182**	LR		LR		20 55 41.4	
	comp=Z,42nm,19.6s,baz=302,slow=40								
CMAR	**Chiang Mai Arr**	**21.10**	**286**	P		**P**		**20 48 03.3**	**+1.8**
	0.7nm,0.7s,baz=90,slow=9.5,SNR=8.6								
SONM	**Songino Array**	**36.00**	**344**	P		**P**		**20 50 17.9**	**+0.2**
	0.7nm,0.7s,baz=160,slow=8.3,SNR=6.7								
WRA	**Warramunga Arr**	**36.12**	**157**	P		**P**		**20 50 16.7**	**-2.2**
	1.8nm,0.6s,baz=329,slow=11,SNR=10								
ASAR	**Alice Springs**	**39.40**	**160**	P		**P**		**20 50 45.1**	**-1.4**
	0.6nm,0.5s,baz=334,slow=6.5,SNR=11								
MKAR	**Makanchi Array**	**45.85**	**324**	P		**P**		**20 51 40.0**	**+1.3**
	0.5nm,0.8s,baz=111,slow=7.9,SNR=3.8								
FINES	**FINESS Array B**	**80.15**	**331**	P		**P**		**20 55 25.8**	**-0.4**
	2.5nm,1.0s,baz=26,slow=9.1,SNR=3.7								

ISCJB ***08*** *20:48:07.6±0.4, 7.64S±0.04×128.54E±0.05, h150km, mb3.5/5, Error ellipse: s-maj=7.3km s-min=5.9km az=13.2*
NEIC ***08*** *20:48:08.5±3.0, 7.57S±0.08×128.48E±0.07, h140km±7km, mb4.4/13*
IDC ***08*** *20:48:09.7±2.1, 7.54S×128.36E, h142km±22km, mb3.3/5, mb1 3.4/8, mb1mx3.3/37, mbtmp3.8/8, Error ellipse: s-maj=22.4km s-min=17.4km az=101.0*
ISC 08 20:48:08.5±0.6, **7.71S**±0.05×**128.60E**±0.07, **h150**km**, n32,** σ3§**19**/37**, mb4.1**/10**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.69**	**96**	Pn		P	**Pn**	**20 48 53.5**	**+1.6**
SOEI	**Soe**	**4.74**	**244**				**Pn**	**20 49 19.0**	**+0.4**
BATI	**Baumata**	**5.47**	**243**	P		P	**Pn**	**20 49 28.6**	**+0.4**
	7.3nm,0.3s,baz=282,slow=3.7,SNR=10.0								
BATI				S			**Sn**	**20 50 28.6**	**-1.9**
	13nm,0.3s,baz=106,slow=24,SNR=28								
MTN	**Manton Dam**	**5.67**	**154**				**Pn**	**20 49 32.8**	**+1.9**
FAKI	**Fak Fak**	**5.99**	**38**	Pn			**Pn**	**20 49 34.7**	**-0.4**
SIJI	**Sorong**	**7.30**	**21**	P		P	**Pn**	**20 49 52.5**	**-0.1**
	1.3nm,0.3s,baz=80,slow=24,SNR=13								
SIJI				S			**Sn**	**20 51 07.5**	**-6.7**
	0.3nm,0.3s,baz=241,slow=22,SNR=1.4								
KNRA	**Kununurra**	**7.92**	**179**				**Pn**	**20 50 01.6**	**+0.8**
FITZ	**Fitzroy Crossi**	**10.72**	**195**	P			**Pn**	**20 50 37.7**	**-0.3**
	1.6nm,0.3s,baz=26,slow=11,SNR=61								
FITZ				S			**Sn**	**20 52 29.5**	**-7.1**
	2.6nm,0.3s,baz=125,slow=12,SNR=8.4								
FITZ	**Fitzroy Crossi**	**10.72**	**195**				**Pn**	**20 50 36.9**	**-1.1**
WRAB	**Tennant Creek**	**13.37**	**156**				**Pn**	**20 51 13.6**	**+1.2**
WRA	**Warramunga Arr**	**13.37**	**156**	P			**Pn**	**20 51 12.0**	**-0.4**
	4.7nm,0.3s,baz=342,slow=13,SNR=72								
WRA				S			**Sn**	**20 53 33.6**	**-6.9**
	2.3nm,0.3s,baz=330,slow=23,SNR=11								
WB2	**Warramunga Arr**	**13.38**	**156**	Pn			**Pn**	**20 51 13.7**	**+1.2**
WR0	**Warramunga Arr**	**13.47**	**155**				**Pn**	**20 51 13.7**	**0.0**
COEN	**Coen**	**15.60**	**115**	P		P	**P**	**20 51 45.0**	**+3.6**
PSAC2	**Pilbara Seismi**	**16.13**	**210**	P		P	**P**	**20 51 48.2**	**+0.9**
PSAC2						IAmb	IAmb	20 51 58.6	
	comp=Z,14nm,1.3s								
AS31	**Alice Springs**	**16.66**	**163**	P		P	**Pn**	**20 51 57.3**	**+4.0**
ASAR	**Alice Springs**	**16.66**	**163**	P		P	**Pn**	**20 51 56.5**	**+3.2**
	comp=Z,0.6nm,0.3s,baz=336,slow=9.8,SNR=30								
ASAR				S			**S**	**20 54 53.5**	**-5.1**
	comp=Z,0.5nm,0.3s,baz=321,slow=18,SNR=7.9								
KKM	**Kota Kinabalu**	**18.42**	**318**	P		P	**P**	**20 52 08.5**	**-4.1**
KKM						IAmb	IAmb	20 52 19.0	
	comp=Z,26nm,1.3s								
CTAO	**Charters Tower**	**21.07**	**128**	P		P	**P**	**20 52 39.1**	**-1.8**
CTAO						IAmb	IAmb	20 52 52.4	
	comp=Z,18nm,0.8s								
FORT	**Forrest**	**22.95**	**181**	P		P	**P**	**20 53 04.5**	**+4.6**
FORT						IAmb	IAmb	20 53 07.9	
	comp=Z,18nm,1.0s								
MORW	**Morawa**	**24.32**	**208**	P		P	**P**	**20 53 16.5**	**+4.2**
MORW						IAmb	IAmb	20 53 21.0	
	comp=Z,20nm,1.1s								
BBOO	**Buckleboo**	**25.91**	**166**	P		P	**P**	**20 53 30.1**	**+3.4**
BBOO						IAmb	IAmb	20 53 31.1	
	comp=Z,13nm,1.3s								
STKA	**Stephens Creek**	**26.92**	**155**	P		P	**P**	**20 53 40.1**	**+4.4**
	comp=Z,1.2nm,0.4s,baz=339,slow=9.0,SNR=6.5								
STKA	**Stephens Creek**	**26.92**	**155**	P		P	**P**	**20 53 40.3**	**+4.5**
NWAO	**Narrogin (SRO)**	**27.22**	**201**	P		P	**P**	**20 53 40.0**	**+1.7**
NWAO	**Narrogin (SRO)**	**27.22**	**201**	P		P	**P**	**20 53 40.1**	**+1.7**
NWAO						IAmb	IAmb	20 53 52.3	
	comp=Z,23nm,1.2s								
SARN	**Sarigan**	**29.62**	**35**	P		P	**P**	**20 53 59.1**	**-0.7**
HNR	**Honiara**	**31.04**	**95**	P		P	**P**	**20 54 12.5**	**+0.1**
USRK	**Ussuriysk Ar.**	**51.76**	**3**	P		P	**P**	**20 57 02.1**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=176,slow=8.3,SNR=1.6								
SONM	**Songino Array**	**58.69**	**343**	P		P	**P**	**20 57 50.7**	**+0.4**
	comp=Z,0.5nm,1.0s,baz=145,slow=5.3,SNR=2.6								
MKAR	**Makanchi Array**	**68.07**	**328**	P		P	**P**	**20 58 52.2**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=120,slow=7.9,SNR=8.5								
ZALV	**Zalesovo Beam**	**71.61**	**334**	P		P	**P**	**20 59 13.7**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=163,slow=7.3,SNR=4.1								

IDC ***08*** *20:56:20.8±0.7, 22.29S×170.64E, h0km, mb4.3/13, mb1 4.5/16, mb1mx4.3/32, mbtmp4.4/16, ML4.5/3, MS4.2/21, Ms1 4.2/21, ms1mx4.0/36, Error ellipse: s-maj=22.0km s-min=17.1km az=165.0*
ISCJB ***08*** *20:56:24.1±0.4, 22.39S±0.07×170.59E±0.06, h33km, mb4.5/28, MS4.2/18, Error ellipse: s-maj=9.9km s-min=7.6km az=175.3*
NEIC ***08*** *20:56:27.9±1.6, 22.4S±0.1×170.49E±0.04, h54km±5km, mb4.6/18*
GCMT ***08*** *20:56:27.9±0.2, 22.51S±0.02×170.56E±0.02, h29km, MW5.1/87, Moment Tensor Solution. s59,c72; s87,c114; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.94±.16; Mθθ-3.55±.12; Mφφ-0.38±.11; Mrθ2.73±.16; Mrφ1.39±.07; Mθφ-0.29±.15; Best double couple: M=4.85900×10^16 NP1:φs102.00000°, δ62.00000°, λ82.00000°. NP2: φs299.00000°, δ29.00000°, λ105.00000°. Principal axes: T 4.8340, Plg72.0000°, Azm355.0000°; N 0.0530, Plg7.0000°, Azm106.0000°; P -4.8830, Plg17.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MOS ***08*** *20:56:28.9±1.8, 22.27S×170.57E, h62km, mb4.6/6 Error ellipse: s-maj=13.3km s-min=10.3km az=4.5*
BJI ***08*** *20:56:28.0±0.0, 22.30S×170.40E, h60km, mb4.6/24, mB5.1/16, Ms5.1/1, Ms7 4.9/1*
ISC 08 20:56:25.0±0.4, **22.54S**±0.09×**170.65E**±0.06, **h33**km**, n181,** σ1§**07**/164**, mb4.6**/35**, MS4.2**/18**, 18C-16D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.92**	**276**	*e*Pn			**Pn**	**20 57 22.7**	**-0.3**
	191nm,0.2s								
DZM				*e*Sn			Sn	20 57 57.9	-10
	283nm,0.3s								
DZM				*e*LR		LR	LR	20 58 03.2	
	comp=Z,3μm,23.4s								
DZM	**Mont Dzumac**	**3.92**	**276**	Pn		Pn	**Pn**	**20 57 22.8**	**-0.2**
	55nm,0.3s,baz=112,slow=12,SNR=763								
DZM				Sn			**Sn**	**20 58 06.5**	**-1.5**
	63nm,0.3s,baz=129,slow=12,SNR=16								
DZM				LR		LR	LR	20 58 47.7	
	comp=Z,2μm,21.2s,baz=56,slow=38								
MSVF	**Nonsavu**	**8.44**	**57**	*i* P			**Pn**	**20 58 27.9**	**+2.8**
MSVF	**Nonsavu**	**8.44**	**57**				Pn	20 58 30.7	+5.6
RAO	**Raoul Island**	**12.27**	**125**	LR		LR	LR	21 03 10.3	
	comp=Z,1μm,19.6s,baz=308,slow=33								
HNR	**Honiara**	**16.59**	**320**	P		P	**P**	**21 00 17.7**	**+0.2**
HNR				pmax		pmax			
	comp=Z,290nm,1.5s								
HNR	**Honiara**	**16.59**	**320**	LR		LR		21 05 30.8	
	comp=Z,364nm,22.0s,baz=136,slow=34								
HNR	**Honi

TPUB	**Ta-pu**	**66.66**	**310**	P	**P**	**21 07 11.5**	**-1.3**
TPUB				IAmb	IAmb	21 07 16.7	
	comp=Z,8.7nm,0.8s						
SSLB	**Suanglung**	**66.74**	**311**	P	**P**	**21 07 12.0**	**-1.3**
SSLB				IAmb	IAmb	21 07 15.8	
	comp=Z,7.5nm,1.0s						
JNU	**Nakatsue**	**67.11**	**324**	P	**P**	**21 07 14.1**	**-1.3**
JNU				IAmb	IAmb	21 07 30.7	
	comp=Z,12nm,1.1s						
KSRS	**Korea Array**	**71.96**	**325**	P	**P**	**21 07 45.2**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=152,slow=5.5,SNR=3.5						
NJ2	**Nanjing**	**73.49**	**316**	*e*P	**P**	**21 07 52.7**	**-1.7**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
MAW	**Mawson**	**75.88**	**202**	LR	LR	21 39 05.3	
	comp=Z,99nm,18.7s,baz=78,slow=34						
PETK	**Petropavlovsk-**	**76.17**	**352**	LR	LR	21 37 40.7	
	comp=Z,188nm,19.7s,baz=184,slow=33						
CN2	**Changchun**	**77.95**	**328**	*e*P	**P**	**21 08 21.0**	**+1.3**
ENH	**Enshi**	**78.78**	**309**	P	**P**	**21 08 24.5**	**-0.2**
ENH				IAmb	IAmb	21 08 36.5	
	comp=Z,6.0nm,0.9s						
KLR	**Kul'dur**	**79.41**	**335**	*i* P	**P**	**21 08 28.5**	**+0.9**
KLR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**81.05**	**294**	P	**P**	**21 08 39.2**	**+2.0**
	comp=Z,4.6nm,1.0s,baz=135,slow=4.2,SNR=25						
CMAR				LR	LR	21 48 34.2	
	comp=Z,22nm,18.2s,baz=160,slow=39						
XAN	**Xi'an**	**81.30**	**312**	P	**P**	**21 08 38.0**	**-0.2**
XAN				pP	sP	21 08 50.7	+0.1
XAN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SYO	**Syowa Base**	**82.14**	**196**⇓	*e*P	**P**	**21 08 41.6**	**-0.5**
SYO	**Syowa Base**	**82.14**	**196**⇓	*es*P	sP	21 09 02.0	+7.6
HHC	**Hu-ho-hao-te**	**83.57**	**319**	P	**P**	**21 08 51.4**	**+1.4**
HHC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LZH	**Lanzhou**	**85.90**	**312**	*e*P	**P**	**21 09 01.0**	**-1.0**
LZH				pP	pwP	21 09 19.0	+2.8
LZH				sP	sP	21 09 25.0	+11
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
LZH				pmax	pmax		
	comp=Z,59nm,4.9s						
SNAA	**Sanae**	**85.93**	**182**	P	**P**	**21 09 01.8**	**+0.4**
SNAA	**Sanae**	**85.93**	**182**	P	**P**	**21 09 01.5**	**0.0**
SNAA				pmax	pmax		
	comp=Z,17nm,1.3s						
SNAA	**Sanae**	**85.93**	**182**	P	**P**	**21 09 01.5**	**0.0**
VNA3	**Neumayer Olymp**	**86.47**	**180**	P	**P**	**21 09 04.1**	**+0.1**
VNA2	**Neumayer--Watz**	**86.78**	**181**	P	P	21 09 00.4	-5.1
	baz=166,slow=5.3						
VNA1	**Neumayer--Stat**	**87.06**	**180**	P	**P**	**21 09 02.1**	**-4.7**
YBH	**Yreka Blue Hor**	**88.77**	**43**	P	**P**	**21 09 16.6**	**+1.0**
YBH				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YBH	**Yreka Blue Hor**	**88.77**	**43**	P	**P**	**21 09 16.6**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=169,slow=6.5,SNR=4.4						
NVAR	**Mina Array Bea**	**90.01**	**48**	P	**P**	**21 09 22.0**	**+0.3**
	comp=Z,3.5nm,1.0s,baz=228,slow=7.8,SNR=14						
NVAR				LR	LR	21 43 30.8	
	comp=Z,274nm,18.7s,baz=265,slow=32						
ULN	**Ulaanbaatar**	**90.28**	**323**	*i* P	**P**	**21 09 21.9**	**-0.7**
ULN				pmax	pmax		
	comp=Z,12nm,1.2s						
GTA	**Gaotai**	**90.34**	**313**	*e*P	**P**	**21 09 23.9**	**+0.9**
GTA				pP	pwP	21 09 38.3	+1.0
GTA				sP	sP	21 09 43.9	+8.4
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BILL	**Bilibino**	**90.37**	**358**⇑	*e*P	**P**	**21 09 22.0**	**-0.3**
BILL				*e**PP	pwP	21 09 49.8	+13
BILL				*e*		21 12 58.2	
BILL				*e*PPP	PPP	21 14 54.4	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.4s						
SONM	**Songino Array**	**90.64**	**323**	P	**P**	**21 09 23.4**	**-0.8**
	comp=Z,5.0nm,1.0s,baz=133,slow=4.2,SNR=24						
ILAR	**Eielson Array**	**92.99**	**17**	P	**P**	**21 09 33.7**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=228,slow=5.3,SNR=7.3						
ILAR				LR	LR	21 46 51.5	
	comp=Z,101nm,18.8s,baz=244,slow=33						
PLCA	**Paso Flores**	**95.20**	**138**	LR	LR	21 42 48.4	
	comp=Z,58nm,20.5s,baz=275,slow=29						
TXAR	**Lajitas Array**	**97.18**	**61**	LR	LR	21 45 01.4	
	comp=Z,92nm,20.9s,baz=0,slow=30						
PDAR	**Pinedale Array**	**97.89**	**47**	LR	LR	21 46 23.5	
	comp=Z,138nm,20.8s,baz=256,slow=31						
TIXI	**Tiksi**	**98.23**	**348**	*e*P	**P**	**21 09 57.6**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
WMQ	**Urumqi**	**100.42**	**313**	*e*P	**Pdif**	**21 10 08.7**	**-0.1**
ARCES	**ARCESS Array B**	**128.58**	**345**	PKP	**PKPdf**	**21 15 27.4**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=70,slow=2.4,SNR=24						
KIV	**Kislovodsk**	**132.41**	**310**	*e*PKIKP	**PKPdf**	**21 15 34.6**	**-1.5**
KIV				pmax	pmax		
	comp=Z,24nm,1.1s						
FINES	**FINESS Array B**	**134.13**	**337**	PKhKP	PKPpre	21 15 32.6	
	comp=Z,1.9nm,0.9s,baz=198,slow=3.8,SNR=4.3						
DIKM	**Dikmen**	**138.21**	**308**	⇓P	PKiKP	21 16 03.3	+14
DOPR	**Dopca**	**143.42**	**318**	⇓P	**PKiKP**	**21 15 59.3**	**-0.2**
KOLS	**Kolonicke sedl**	**143.68**	**324**	*e*PKIKP	**PKPdf**	**21 15 55.0**	**-1.5**
KOLS	**Kolonicke sedl**	**143.68**	**324**	*e*PKP	**PKPdf**	**21 15 55.0**	**-1.5**
TRPA	**Tarpa**	**143.98**	**323**	⇑P	**PKPdf**	**21 15 55.6**	**-1.4**
CJR	**Cluj-Napoca**	**144.14**	**320**	⇑PKIKP	**PKPdf**	**21 15 56.7**	**-0.7**
CJR	**Cluj-Napoca**	**144.14**	**320**	⇑P	**PKPdf**	**21 15 56.7**	**-0.7**
ARR	**Arges**	**144.17**	**318**	⇑P	**PKPdf**	**21 15 56.4**	**-1.1**
HUMR	**Humele**	**144.34**	**316**	⇓P	PKPbc	21 15 56.1	-0.1
ELND	**Elena**	**144.43**	**313**	⇑P	PKPbc	21 15 56.1	-0.4
DRGR		**144.62**	**321**	⇑PKIKP	**PKPdf**	**21 15 57.3**	**-1.0**
DRGR		**144.62**	**321**	⇑P	**PKPdf**	**21 15 57.3**	**-1.0**
LTVH	**Ltavrtes, Hu**	**144.76**	**322**	*e*PKiKP	**PKPdf**	**21 15 58.0**	**-0.3**
VLAD	**Vladila**	**144.94**	**316**	⇑P	**PKPdf**	**21 15 59.5**	**+0.7**
PLVB	**Pleven**	**145.07**	**315**	⇑P	**PKPdf**	**21 15 59.9**	**+0.8**
OKC	**Ostrava-Krasne**	**145.23**	**328**	*e*PKIKP	**PKPdf**	**21 15 58.7**	**-0.4**
OKC	**Ostrava-Krasne**	**145.23**	**328**	*e*PKP	**PKPdf**	**21 15 58.7**	**-0.4**
GZR	**Gura Zlata**	**145.30**	**319**	⇑PKIKP	**PKPab**	**21 15 59.9**	**+0.5**
GZR	**Gura Zlata**	**145.30**	**319**	⇑P	**PKPab**	**21 15 59.9**	**+0.5**
SRE	**Strehaia**	**145.40**	**317**	⇓PKIKP	**PKiKP**	**21 16 01.2**	**-2.3**
SRE	**Strehaia**	**145.40**	**317**	⇓P	**PKiKP**	**21 16 01.2**	**-2.3**
KSP	**Ksiaz**	**145.40**	**331**	*e*PKIKP	**PKPab**	**21 15 59.4**	**-0.1**
KSP	**Ksiaz**	**145.40**	**331**	*e*PKP	**PKPab**	**21 15 59.4**	**-0.1**
KSP				*e*PKP	**PKPab**	**21 15 59.4**	**-0.1**
SIRR	**Siria**	**145.51**	**321**	⇑P	**PKPab**	**21 16 01.2**	**+1.1**
PSZ	**Piszkesteto**	**145.55**	**324**	⇓PKIKP	**PKPab**	**21 16 00.6**	**+0.3**
PSZ	**Piszkesteto**	**145.55**	**324**	⇓P	**PKPab**	**21 16 00.6**	**+0.3**
PSZ	**Piszkesteto**	**145.55**	**324**	*e*PKiKP	**PKPdf**	**21 15 59.1**	**-0.8**
MORC	**Moravsky Berou**	**145.56**	**329**	⇓PKIKP	**PKPab**	**21 16 00.3**	**0.0**
MORC	**Moravsky Berou**	**145.56**	**329**	⇓P	**PKPab**	**21 16 00.3**	**0.0**
MORC	**Moravsky Berou**	**145.56**	**329**	*e*PKP	**PKPab**	**21 15 59.9**	**-0.3**
CHVC	**Chvalec**	**145.69**	**331**	*e*PKP	**PKPab**	**21 16 00.4**	**-0.3**
CHVC				*ex*	x	21 16 04.0	
DPC	**Dobruska-Polom**	**145.74**	**330**	*e*PKIKP	**PKPab**	**21 16 00.7**	**-0.2**
DPC				*e*		21 16 14.4	
DPC	**Dobruska-Polom**	**145.74**	**330**	*e*PKP	**PKPab**	**21 16 00.7**	**-0.2**
DPC				*ep*PKP	sPKPab	21 16 14.4	+1.0
VYHS	**Vyhne**	**145.76**	**326**	*e*PKIKP	**PKPab**	**21 16 01.0**	**0.0**
VYHS	**Vyhne**	**145.76**	**326**	*e*PKP	**PKPab**	**21 16 01.0**	**0.0**
UPC	**Upice**	**145.77**	**331**	*e*PKIKP	**PKPab**	**21 16 00.7**	**-0.2**
UPC	**Upice**	**145.77**	**331**	*e*PKP	**PKPab**	**21 16 00.7**	**-0.2**
BZS	**Buzias**	**145.88**	**320**	⇑PKIKP	**PKPbc**	**21 16 00.4**	**-0.6**
BZS	**Buzias**	**145.88**	**320**	⇑P	**PKPbc**	**21 16 00.4**	**-0.6**
KOLL	**Kolacno**	**145.93**	**326**	*e*PKP	**PKPab**	**21 16 01.8**	**+0.2**
JAVC	**Velka Javorina**	**146.11**	**327**	*e*PKP	**PKPab**	**21 16 03.1**	**+0.7**
MDVR	**Moldovita**	**146.26**	**319**	⇑P	**PKPab**	**21 16 03.1**	**+0.1**
VTS	**Vitosha**	**146.32**	**314**	⇓PKP2	**PKiKP**	**21 16 04.3**	**-1.4**
VTS	**Vitosha**	**146.32**	**314**	⇓P	**PKiKP**	**21 16 04.3**	**-1.4**
VRAC	**Vranov**	**146.34**	**329**	⇓PKP2	**PKPab**	**21 16 03.4**	**+0.3**
VRAC	**Vranov**	**146.34**	**329**	⇓P	**PKPab**	**21 16 03.4**	**+0.3**
VRAC	**Vranov**	**146.34**	**329**	*e*PKP	**PKPab**	**21 16 02.4**	**-0.7**
PVCC	**Panska Ves**	**146.39**	**332**	*e*PKP2	**PKPab**	**21 16 03.1**	**-0.2**
PVCC	**Panska Ves**	**146.39**	**332**	*e*PKP	**PKPab**	**21 16 03.1**	**-0.2**
BRG	**Berggiesshubel**	**146.40**	**333**	*i* PKP	**PKPbc**	**21 16 02.3**	**-0.1**
	comp=Z,22nm,1.2s						
BRG	**Berggiesshubel**	**146.40**	**333**	*i* PKP2	**PKPbc**	**21 16 02.3**	**-0.1**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CLL	**Collm**	**146.45**	**334**	*i* PKP2	**PKPbc**	**21 16 02.0**	**-0.5**
CLL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CLL	**Collm**	**146.45**	**334**	*i* PKPbc	**PKPbc**	**21 16 02.0**	**-0.5**
	comp=Z,10.0nm,0.9s						
CLL				*i* PKiKP	**PKiKP**	**21 16 06.3**	**+0.8**
CLL				*ep*PKPdf	sPKPab	21 16 19.0	+3.0
KRUC	**Moravsky**	**146.60**	**329**	*e*PKP	**PKPab**	**21 16 03.1**	**-1.0**
MODS	**Modra-Piesok**	**146.63**	**327**	*e*PKP2	**PKPab**	**21 16 03.5**	**-0.8**
MODS	**Modra-Piesok**	**146.63**	**327**	*e*PKP	**PKPab**	**21 16 03.5**	**-0.8**
GOPC	**GO Pecny, Ondr**	**146.74**	**331**	*e*PKP2	**PKPbc**	**21 16 03.0**	**-0.5**
GOPC	**GO Pecny, Ondr**	**146.74**	**331**	*e*PKP	**PKPbc**	**21 16 03.0**	**-0.5**
PRU	**Pruhonice**	**146.80**	**331**	*e*PKP2	**PKPbc**	**21 16 03.3**	**-0.3**
PRU	**Pruhonice**	**146.80**	**331**	*e*PKP	**PKPbc**	**21 16 03.3**	**-0.3**
TREC	**Trest**	**146.87**	**330**	*e*PKP2	**PKPbc**	**21 16 03.7**	**-0.2**
TREC	**Trest**	**146.87**	**330**	*e*PKP	**PKPbc**	**21 16 03.7**	**-0.2**
FRGS	**Fruska Gora**	**147.20**	**320**	*e*P	**PKPbc**	**21 16 03.6**	**-1.3**
MORH	**Mrgy, Hungar**	**147.26**	**323**	*e*P	**PKPbc**	**21 16 04.6**	**-0.4**
MORH	**Mrgy, Hungar**	**147.26**	**323**	*e*PKiKP	**PKPbc**	**21 16 04.0**	**-1.0**
MPLH	**Magyarpolny**	**147.27**	**325**	*e*PKiKP	**PKPbc**	**21 16 04.1**	**-1.0**
CONA	**Conrad Observa**	**147.63**	**328**	*e*PKPab	**PKPbc**	**21 16 06.3**	**+0.2**
	comp=Z,7.8nm,1.3s						
DIVS	**Divibare**	**147.67**	**319**	*e*P	**PKPbc**	**21 16 06.1**	**-0.2**
KHC	**Kasperske Hory**	**147.85**	**331**	*e*PKP2	**PKPbc**	**21 16 06.5**	**-0.1**
KHC	**Kasperske Hory**	**147.85**	**331**	*e*PKP	**PKPbc**	**21 16 06.5**	**-0.1**
GERES	**GERESS Array B**	**148.01**	**331**	PKPbc	**PKPbc**	**21 16 07.1**	**0.0**
	comp=Z,1.8nm,0.5s,baz=38,slow=5.4,SNR=9.8						
BBLS	**Lazići**	**148.15**	**319**	*e*P	**PKPbc**	**21 16 06.8**	**-0.8**
RUDO	**Rudo**	**148.30**	**318**	*e*P	**PKPbc**	**21 16 07.1**	**-0.8**
HAPS	**Han Pijesak,BI**	**148.31**	**319**	*e*P	**PKPab**	**21 16 11.1**	**-0.1**
FNA	**Florina**	**148.37**	**312**	PKP2	**PKPbc**	**21 16 07.7**	**-0.6**
FNA	**Florina**	**148.37**	**312**		**PKPbc**	**21 16 07.7**	**-0.6**
MOA	**Molln**	**148.46**	**329**	*e*PKiKP	**PKiKP**	**21 16 09.0**	**-0.8**
	comp=Z,2.8nm,0.9s						
SOKA	**Soboth**	**148.89**	**327**	*e*PKiKP	**PKPbc**	**21 16 08.9**	**-0.6**
	comp=Z,7.7nm,1.3s						
BLY	**Banja Luka**	**148.96**	**322**	*e*P	**PKPbc**	**21 16 09.0**	**-0.6**
BLY	**Banja Luka**	**148.96**	**322**	⇑P	**PKiKP**	**21 16 09.7**	**-1.2**
PDG	**Podgorica**	**149.00**	**317**	⇓P	**PKiKP**	**21 16 10.1**	**-0.9**
DRME	**Dracevica, Mon**	**149.17**	**316**	*e*P	**PKPbc**	**21 16 09.4**	**-0.8**
BRY	**Bratogost**	**149.20**	**318**	*e*P	**PKPbc**	**21 16 10.2**	**-0.2**
CRES	**Cresnjev**	**149.24**	**325**	*e*P	**PKPab**	**21 16 13.8**	**-1.0**
OBKA	**Obir**	**149.25**	**327**	PKPab	**PKPab**	**21 16 14.0**	**-0.9**
	comp=Z,3.2nm,0.9s						
MEM	**Membach**	**149.52**	**341**	PKiKP	**PKPbc**	**21 16 10.3**	**-0.4**
LJU	**Ljubljana**	**149.58**	**326**	*e*P	**PKPbc**	**21 16 10.7**	**-0.4**
MYKA	**Terra Mystica**	**149.62**	**328**	*e*PKiKP	**PKPbc**	**21 16 10.3**	**-1.0**
	comp=Z,2.9nm,0.6s						
BSTI	**Sart Tilman**	**149.68**	**341**	PKiKP	**PKiKP**	**21 16 11.3**	**-0.9**
CEY	**Cerknica**	**149.84**	**326**	*e*P	**PKPbc**	**21 16 11.1**	**-0.7**
ABTA	**Abfaltersbach**	**150.08**	**329**	*e*PKiKP	**PKPbc**	**21 16 11.4**	**-1.1**
	comp=Z,4.2nm,0.7s						
WATA	**Walderalm**	**150.08**	**331**	*e*PKiKP	**PKPbc**	**21 16 11.9**	**-0.6**
	comp=Z,3.8nm,0.7s						
WTTA	**Wattenberg**	**150.11**	**331**	*e*PKiKP	**PKPbc**	**21 16 12.1**	**-0.4**
	comp=Z,4.9nm,0.7s,SNR=5.7						
BMRD	**Maredsous**	**150.16**	**342**	PKiKP	**PKPbc**	**21 16 12.1**	**-0.2**
MOTA	**Moosalm**	**150.29**	**331**	*e*PKiKP	**PKPbc**	**21 16 12.5**	**-0.4**
	comp=Z,12nm,1.0s						
WLF	**Walferdange**	**150.30**	**339**	PKiKP	**PKiKP**	**21 16 13.0**	**-0.4**
RETA	**Reutte**	**150.33**	**332**	*e*PKiKP	**PKPbc**	**21 16 12.4**	**-0.5**
	comp=Z,3.2nm,0.8s						
SQTA	**Sankt Quirin**	**150.34**	**331**	*e*PKiKP	**PKPbc**	**21 16 12.7**	**-0.3**
	comp=Z,5.3nm,0.7s,SNR=5.4						
DOU	**Dourbes**	**150.40**	**342**	PKiKP	**PKPbc**	**21 16 12.7**	**-0.2**
FETA	**Feichten**	**150.70**	**331**	*e*PKiKP	**PKiKP**	**21 16 13.8**	**-0.8**
	comp=Z,11nm,1.0s,SNR=6.4						
DAVA	**Dammels**	**150.87**	**333**	*e*PKiKP	**PKPbc**	**21 16 14.0**	**-0.3**
	comp=Z,3.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**165.94**	**230**	PKP	**PKPdf**	**21 16 27.2**	**-0.2**
	comp=Z,2.2nm,1.1s,baz=16,slow=2.0,SNR=8.0						
TORD				PKPab	**PKPab**	**21 17 28.1**	**+0.7**
	comp=Z,1.7nm,1.2s,baz=160,slow=4.7,SNR=3.5						

*IDC **08** 21:00:02.2±1.5, 37.78N×21.20E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/45, mbtmp3.4/4, Error ellipse: s-maj=47.0km s-min=25.4km az=118.0*
*ATH **08** 21:00:03.7, 37.75N×21.14E, h25km±2km, ML2.9/12, Error ellipse: s-maj=2.5km s-min=0.9km az=220.0*
*ISCJB **08** 21:00:04.4±0.5, 37.75N±0.04×21.14E±0.04, h23km±5km, mb3.3/4, Error ellipse: s-maj=6.3km s-min=4.1km az=27.8*
ISC 08 21:00:03.6±1.4, **37.76N**±0.03×**21.16E**±0.03, **h12**km±11km, **n26**, σ**0**°**50**/33, **mb3.3**/4, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.39**	**39**	P	**Pb**	**21 00 12.1**	**-0.3**
RLS				S	**Sb**	**21 00 18.1**	**-0.2**
RLS				AML	AML	21 00 20.6	
	comp=E,7523μm,0.4s						
RLS				AML	AML	21 00 21.7	
	comp=N,3559μm,0.2s						
VLMS	**Volimes, Zakyn**	**0.41**	**287**	P	**Pb**	**21 00 12.4**	**-0.4**
VLMS				S	**Sb**	**21 00 19.3**	**+0.3**
VLMS				AML	AML	21 00 22.0	
	comp=N,5549μm,0.3s						
VLMS				AML	AML	21 00 22.6	
	comp=E,12470μm,0.3s						
DRO	**Drossia**	**0.48**	**66**	P	**Pb**	**21 00 13.6**	**-0.4**
DRO				S	**Sb**	**21 00 22.3**	**+1.2**
DRO				AML	AML	21 00 24.6	
	comp=E,10340μm,0.7s						
DRO				AML	AML	21 00 28.3	
	comp=N,8745μm,0.4s						
AMT	**Artemida-Makis**	**0.49**	**117**	P	**Pb**	**21 00 14.3**	**0.0**
AMT				S	**Sb**	**21 00 21.3**	**-0.2**
AMT				AML	AML	21 00 24.7	
	comp=E,4773μm,0.4s						
AMT				AML	AML	21 00 27.2	
	comp=N,4944μm,0.4s						
VLS	**Valsamata**	**0.61**	**313**	P	**Pg**	**21 00 15.7**	**+0.1**
VLS				S	**Sb**	**21 00 25.5**	**+0.6**
VLS				AML	AML	21 00 26.7	
	comp=E,1530μm,0.1s						
VLS				AML	AML	21 00 29.2	
	comp=N,1593μm,0.3s						
LAKA	**Lakka**	**0.81**	**53**	P	**Pb**	**21 00 19.4**	**-0.2**
LAKA				S	**Sn**	**21 00 31.6**	**-1.2**
LAKA				AML	AML	21 00 38.2	
	comp=N,1507μm,0.9s						
LAKA				AML	AML	21 00 39.6	
	comp=E,1286μm,0.9s						
KLV	**Kalavryta, Ach**	**0.83**	**70**	P	**Pg**	**21 00 19.8**	**0.0**
KLV				AML	AML	21 00 38.2	
	comp=N,1145μm,0.7s						
KLV				AML	AML	21 00 40.0	
	comp=E,1126μm,0.8s						
FSK	**Fiskardo**	**0.84**	**326**	P	**Pb**	**21 00 20.1**	**-0.1**
ITM	**Ithomi**	**0.84**	**133**	P	**Pb**	**21 00 20.5**	**+0.3**
ITM				S	**Sn**	**21 00 32.6**	**-1.1**
ITM				AML	AML	21 00 35.1	
	comp=N,920μm,0.3s						
ITM				AML	AML	21 00 36.9	
	comp=E,1045μm,0.4s						
EFP	**Efpalio**	**0.89**	**41**	P	**Pb**	**21 00 21.4**	**+0.4**
EFP				AML	AML	21 00 41.1	
	comp=N,996μm,0.4s						
EFP				AML	AML	21 00 42.1	
	comp=E,1362μm,0.4s						
PVO	**Paravola**	**0.90**	**19**	P	**Pn**	**21 00 21.7**	**-0.5**
MGNA	**Meganis**	**0.94**	**342**	P	**Pb**	**21 00 21.9**	**+0.1**
TRIZ	**Trizonia**	**0.94**	**50**	P	**Pb**	**21 00 22.0**	**+0.1**
EVGI	**Lefkada island**	**0.94**	**335**	P	**Pg**	**21 00 21.6**	**-0.2**
SERG	**Sergoula**	**0.96**	**47**	P	**Pn**	**21 00 22.5**	**-0.5**
SERG				AML	AML	21 00 40.9	
	comp=E,1200μm,0.4s						
SERG				AML	AML	21 00 41.5	
	comp=N,1669μm,0.6s						
PYL	**PYLOS**	**0.98**	**151**	P	**Pg**	**21 00 22.0**	**-0.5**
KALE	**Kalithea**	**1.00**	**51**	P	**Pb**	**21 00 22.9**	**0.0**
KALE				AML	AML	21 00 42.9	
	comp=N,2482μm,0.6s						
KALE				AML	AML	21 00 45.5	
	comp=E,1129μm,0.5s						
VLX	**Vlachokerasia**	**1.05**	**111**	P	**Pn**	**21 00 24.7**	**+0.5**
LKD2	**Lefkada island**	**1.10**	**339**	P	**Pb**	**21 00 24.3**	**-0.3**
TSLK	**Tsoukalades, L**	**1.13**	**340**	P	**Pg**	**21 00 25.2**	**-0.2**
THAL	**Thalero**	**1.22**	**76**	P	**Pg**	**21 00 27.1**	**0.0**
EVR	**Evrytania**	**1.26**	**24**	P	**Pg**	**21 00 28.2**	**+0.3**
EVR				AML	AML	21 00 55.0	
	comp=N,464μm,0.7s						
EVR				AML	AML	21 00 56.9	
	comp=E,358μm,0.4s						
FINES	**FINESS Array B**	**23.91**	**6**	P	**P**	**21 05 17.2**	**+0.2**
	comp=E,4.0nm,1.1s,baz=183,slow=9.2,SNR=8.2						
NOA	**NORSAR Array B**	**24.13**	**348**	P	**P**	**21 05 19.7**	**+0.6**
	comp=E,0.5nm,0.7s,baz=157,slow=9.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**30.03**	**220**	P	**P**	**21 06 13.1**	**+0.6**
	comp=E,0.2nm,0.6s,baz=33,slow=9.1,SNR=3.2						
MKAR	**Makanchi Array**	**45.09**	**58**	P	**P**	**21 08 19.5**	**0.0**
	comp=E,0.2nm,0.4s,baz=275,slow=7.4,SNR=7.9						

*SFS **08** 21:04:48.0, 37.00N×4.20W, ML1.6, ZAFARRAYA (GRANADA)*
MDD 08 21:04:49.0±0.5, **37.03N**×**4.26W, h0**km, **mbLg1.6**/10, **Error ellipse: s-maj=4.5km s-min=3.2km az=166.0, PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGOR	**Sierra Gorda,**	**0.14**	**57**	Pg	Pg	21 04 50.7	-0.9
	4.6nm,0.1s,SNR=7.9						
EGOR				Lg	Lg	21 04 53.1	
	80nm,0.1s,SNR=7.9						
EMAL	**Malaga-Limoner**	**0.30**	**207**	*i* P	Pb	21 04 56.0	-1.2
EMAL				*eS*	Sg	21 05 00.4	+1.6
ELGU	**Los Guajares,**	**0.53**	**108**	Pg	Pg	21 04 58.4	-0.7
	1.1nm,0.1s,SNR=7.9						
ELGU				Lg	Lg	21 05 06.0	
	18nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**0.62**	**222**	Pg	Pg	21 05 00.1	-0.8
	0.2nm,0.1s,SNR=6.6						
EMIJ				Lg	Lg	21 05 09.3	
	7.3nm,0.3s,SNR=11						
EQUE	**Quentar**	**0.68**	**75**	Pg	Pg	21 05 01.1	-0.8
	0.7nm,0.3s,SNR=8.1						
EQUE				Lg	Lg	21 05 11.2	
	1.2nm,0.1s,SNR=6.9						
EADA	**Adamuz**	**1.16**	**347**	Pg	Pg	21 05 09.1	-2.1
	0.2nm,0.1s,SNR=23						
EADA				Lg	Lg	21 05 25.5	
	5.8nm,0.2s						
EQES	**Quesada**	**1.22**	**51**	Pg	Pg	21 05 10.6	-1.7
	0.2nm,0.2s,SNR=11						
EQES				Lg	Lg	21 05 28.7	
	4.3nm,0.2s						
ESPR	**Espera**	**1.29**	**263**	Pg	Pn	21 05 17.5	+3.2
	0.6nm,0.2s,SNR=7.9						
ESPR				Lg	Lg	21 05 34.7	
	4.1nm,0.3s,SNR=6.2						
ECAB	**El Cabril**	**1.39**	**319**	Pg	Pg	21 05 15.2	-0.4
	0.8nm,0.3s,SNR=9.2						
ECAB				Lg	Lg	21 05 32.7	
	3.8nm,0.3s						
SESP	**Santiago Espad**	**1.74**	**51**	Pn	Pn	21 05 19.5	-1.1
	0.2nm,0.1s,SNR=7.9						
SESP				Lg	Lg	21 05 42.9	
	6.9nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.06**	**292**	Sn	Sn	21 05 48.8	-2.3
	0.2nm,0.2s,SNR=7.9						
EMIN				Lg	Lg	21 05 55.1	
	0.8nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**2.51**	**358**	Pg	Pb	21 05 35.3	+0.4
	0.1nm,0.1s,SNR=7.9						
PAB				Lg	Lg	21 06 06.1	
	1.0nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**2.65**	**5**	Pg	Pg	21

PBDV	**Barranco-do-Ve**	**2.93**	**275**	Pn		Pn	21 06 22.2	-0.1
PBDV				Sn		Sn	21 06 55.9	-2.0
PBDV				Lg		Lg	21 07 09.1	
	2.1nm,0.3s							
PCVE	**Castro Verde**	**3.06**	**282**	*e*Sg		Sg	21 07 12.0	-1.3
PCVE				A		A	21 07 18.0	
	2.6nm,0.4s							
PCVE	**Castro Verde**	**3.06**	**282**	Lg		Lg	21 07 12.0	
	2.6nm,0.4s							
PESTR	**Estremoz**	**3.20**	**306**	*e*Pg		Pb	21 06 33.2	+0.9
PESTR				*e*Sn		Sn	21 07 02.6	-1.9
PESTR				*e*Sg		Sg	21 07 17.5	-0.2
PESTR				A		A	21 07 18.8	
	4.2nm,0.5s							
EVO	**Evora**	**3.32**	**298**	*e*Pg		Pb	21 06 35.7	+1.4
EVO				*e*Sg		Sg	21 07 20.8	-0.8
EVO				A		A	21 07 26.5	
	4.1nm,0.4s							
EVO	**Evora**	**3.32**	**298**	Pg		Pb	21 06 35.7	+1.4
EVO				Lg		Lg	21 07 20.8	
	4.1nm,0.4s							
EPLA	**Plasencia**	**3.34**	**335**	Pn		Pn	21 06 27.5	-0.4
	0.8nm,0.2s,SNR=7.9							
EPLA				Lg		Lg	21 07 18.7	
	3.9nm,0.5s,SNR=7.9							
PMRV	**Marv??o**	**3.43**	**315**	*e*Pg		Pb	21 06 37.4	+1.2
PMRV				*e*Sg		Sg	21 07 23.0	-2.1
PMRV				A		A	21 07 33.6	
	3.8nm,0.5s							
PMRV	**Marv??o**	**3.43**	**315**	Pg		Pb	21 06 37.4	+1.2
PMRV				Lg		Lg	21 07 23.0	
	3.8nm,0.5s							
PNCL	**Nicolau / Gran**	**3.55**	**289**	*e*Pn		Pn	21 06 29.2	-1.5
PNCL				*e*Sn		Sn	21 07 11.2	-1.9
PNCL	**Nicolau / Gran**	**3.55**	**289**	Pn		Pn	21 06 29.2	-1.5
PNCL				Sn		Sn	21 07 11.2	-1.9
GUD	**Guadarrama**	**3.61**	**1**	Pg		Pb	21 06 40.4	+1.1
	0.3nm,0.2s,SNR=7.9							
GUD				Lg		Lg	21 07 25.3	
	2.5nm,0.3s,SNR=7.9							
PFVI	**Vila Bisbo**	**3.65**	**273**	*e*Sn		Sn	21 07 13.3	-2.1
PMTG	**Montargil**	**3.73**	**304**	*e*Sn		Sn	21 07 12.8	-4.6
PMTG				*e*Sg		Sg	21 07 31.0	-3.6
PMTG				A		A	21 07 35.4	
	2.8nm,1.2s							
PMTG	**Montargil**	**3.73**	**304**	Sn		Sn	21 07 12.8	-4.6
PMTG				Lg		Lg	21 07 31.0	
	2.8nm,1.2s							
ETOR	**Torete**	**4.16**	**24**	Pn		Pn	21 06 37.9	-1.2
	1.1nm,0.1s,SNR=7.9							
ETOR				Sn		Sn	21 07 24.6	-3.5
	2.8nm,0.2s,SNR=7.9							
ETOR				Lg		Lg	21 07 44.6	
	5.6nm,0.4s,SNR=6.4							
ECAL	**Calabor**	**5.26**	**339**	Lg		Lg	21 08 22.1	
	1.7nm,0.4s,SNR=7.9							
ELOB	**Lobios**	**5.65**	**330**	Lg		Lg	21 08 32.0	
	0.7nm,0.3s,SNR=7.1							

*ISCJB **08** 21:11:12.0±0.9, 6°72S±0°09×155°22E±0°08, h56km, mb3.7/7, MS3.8/1, Error ellipse: s-maj=13.1km s-min=10.6km az=158.9*

*IDC **08** 21:11:15.7±4.8, 6°67S×155°20E, h75km±36km, mb3.5/7, mb1 3.8/9, mb1mx3.6/33, mbtmp3.9/9, ML2.9/2, MS3.4/3, Ms1 3.4/3, ms1mx3.1/26, Error ellipse: s-maj=45.6km s-min=22.8km az=113.0*

ISC 08 21:11:13.3±1.0, 6°7S±0°1×155°3E±0°1, h56km, n16, σ1§00/15, mb3.7/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**4.05**	**306**	P	**Pn**	**21 12 14.8**	**+2.0**
	7.8nm,0.3s,baz=90,slow=20,SNR=2.2						
KRVT				S	**Sn**	**21 12 57.5**	**-1.5**
	18nm,0.3s,baz=127,slow=19,SNR=4.2						
KRVT				LR	LR	21 14 06.8	
	comp=Z,487nm,18.9s,baz=123,slow=44						
HNR	**Honiara**	**5.33**	**121**	LR	LR	21 14 35.0	
	comp=Z,230nm,20.4s,baz=296,slow=37						
PMG	**Port Moresby**	**8.49**	**251**	P	**Pn**	**21 13 14.6**	**+1.0**
	1.9nm,0.3s,baz=61,slow=10,SNR=4.4						
PMG				S	**Sn**	**21 14 47.5**	**-0.6**
	1.7nm,0.3s,baz=61,slow=21,SNR=4.2						
WRA	**Warramunga Arr**	**24.22**	**235**	P	**P**	**21 16 24.7**	**-0.3**
	0.6nm,0.4s,baz=58,slow=9.7,SNR=3.9						
WRA				PcP	**PcP**	**21 20 05.1**	**+0.6**
	0.6nm,0.4s,baz=62,slow=2.5,SNR=5.9						
ASAR	**Alice Springs**	**26.58**	**228**	P	**P**	**21 16 46.2**	**-0.2**
	0.2nm,0.3s,baz=59,slow=8.1,SNR=5.1						
ASAR				PcP	**PcP**	**21 20 10.6**	**+0.8**
	0.1nm,0.4s,baz=46,slow=2.7,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**27.46**	**24**	T	T	21 45 12.2	
	baz=204,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**27.47**	**24**	T	T	21 45 18.0	
	baz=204,slow=76,SNR=38						
H11S1	**WAKE ISLAND Hy**	**27.48**	**24**	T	T	21 45 13.5	
	baz=204,slow=76,SNR=21						
PAYA	**Payao**	**60.41**	**297**	P	**P**	**21 21 18.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**60.94**	**295**	P	**P**	**21 21 20.8**	**-0.4**
	3.5nm,0.8s,baz=122,slow=5.2,SNR=27						
SONM	**Songino Array**	**69.28**	**327**	P	**P**	**21 22 14.3**	**-0.4**
	0.5nm,0.4s,baz=116,slow=6.6,SNR=3.7						
ILAR	**Eielson Array**	**83.02**	**21**	P	**P**	**21 23 31.3**	**-1.0**
	0.2nm,0.4s,baz=242,slow=5.7,SNR=7.4						
MKAR	**Makanchi Array**	**83.41**	**319**	P	**P**	**21 23 34.0**	**-0.7**
	0.8nm,0.9s,baz=99,slow=3.9,SNR=4.7						
YKA	**Yellowknife Ar**	**95.96**	**28**	P	**P**	**21 24 34.8**	**+0.8**
	0.6nm,0.7s,baz=269,slow=4.4,SNR=9.7						
GEYT	**Alibeck**	**99.75**	**307**	LR	LR	22 13 13.5	
	comp=Z,30nm,19.4s,baz=140,slow=37						
TORD	**Torodi Ar. Bea**	**153.25**	**286**	PKPbc	**PKPbc**	**21 31 05.5**	**-0.6**
	1.3nm,0.8s,baz=114,slow=3.1,SNR=9.9						

*IDC **08** 21:28:58.5±1.2, 8°18S×130°69E, h0km, mb3.9/5, mb1 4.1/10, mb1mx4.0/30, mbtmp4.0/10, ML4.1/5, MS3.2/2, Ms1 3.2/2, ms1mx2.6/43, Error ellipse: s-maj=39.3km s-min=21.2km az=97.0*

*ISCJB **08** 21:29:00.5±0.6, 8°35S±0°05×130°56E±0°08, h33km, mb3.9/5, Error ellipse: s-maj=10.9km s-min=7.2km az=168.5*

ISC 08 21:29:02.3±0.8, 8°26S±0°06×130°61E±0°10, h35km, n10, σ2§70/15, mb3.9/5, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**7.12**	**254**	Pn	**Pn**	**21 30 45.5**	**+1.4**
	2.6nm,0.3s,baz=105,slow=12,SNR=3.2						
BATI				Sn	**Sn**	**21 32 02.1**	**-1.8**
	6.3nm,0.3s,baz=127,slow=20,SNR=7.3						
SIJI	**Sorong**	**7.37**	**5**	Pn	**Pn**	**21 30 46.8**	**-0.7**
	2.5nm,0.3s,baz=199,slow=13,SNR=6.7						
SIJI				Sn	**Sn**	**21 32 03.8**	**-6.1**
	0.6nm,0.3s,baz=197,slow=19,SNR=2.1						
FITZ	**Fitzroy Crossi**	**10.91**	**206**	Pn	**Pn**	**21 31 37.0**	**+1.0**
	1.0nm,0.3s,baz=33,slow=10,SNR=40						
FITZ				Sn	**Sn**	**21 33 33.0**	**-3.8**
	1.0nm,0.3s,baz=18,slow=20,SNR=4.2						
FITZ				LR	LR	21 36 44.8	
	comp=Z,116nm,20.0s,baz=95,slow=42						
WRA	**Warramunga Arr**	**12.17**	**163**	Pn	**Pn**	**21 31 54.8**	**+1.6**
	1.4nm,0.3s,baz=338,slow=13,SNR=28						
WRA				Sn	**Sn**	**21 34 06.3**	**-1.4**
	1.8nm,0.3s,baz=339,slow=22,SNR=5.3						
ASAR	**Alice Springs**	**15.64**	**169**	Pn	**Pn**	**21 32 40.5**	**+0.3**
	0.7nm,0.3s,baz=338,slow=9.0,SNR=38						
ASAR				Sn	**Sn**	**21 35 28.8**	**-3.7**
	0.2nm,0.3s,baz=348,slow=26,SNR=4.1						
ASAR				Lg	Lg	21 37 20.3	
	baz=353,slow=29,SNR=3.1						
ASAR				LR	LR	21 39 36.9	
	comp=Z,89nm,18.1s,baz=178,slow=41						
MJAR	**Matsushiro Arr**	**45.13**	**9**	P	**P**	**21 37 15.5**	**+0.1**
	1.2nm,0.7s,baz=189,slow=7.0,SNR=2.4						
SONM	**Songino Array**	**59.82**	**341**	P	**P**	**21 39 05.6**	**+1.4**
	0.3nm,0.6s,baz=162,slow=6.4,SNR=3.1						
MKAR	**Makanchi Array**	**69.60**	**327**	P	**P**	**21 40 09.9**	**+2.0**
	2.4nm,0.4s,baz=121,slow=7.5,SNR=54						
ZALV	**Zalesovo Beam**	**72.97**	**334**	P	**P**	**21 40 29.1**	**+1.0**
	0.8nm,0.7s,baz=150,slow=5.5,SNR=4.7						
ILAR	**Eielson Array**	**94.22**	**25**	P	**P**	**21 42 19.1**	**+1.7**
	0.2nm,0.6s,baz=258,slow=4.0,SNR=4.5						

*ISCJB **08** 21:35:38.7±0.6, 24°89N±0°03×122°45E±0°02, h5km±3km, Error ellipse: s-maj=5.6km s-min=3.1km az=13.4*

*TAP **08** 21:35:38.9, 24°90N×122°42E, h12km, ML2.9, C*

*JMA **08** 21:35:38.4±0.1, 24°84N×122°42E, h0km, M2.9*

ISC 08 21:35:38.6±1.2, 24°88N±0°04×122°42E±0°03, h4km±11km, n25, σ0§48/48, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.41**	**288**	*i* P	**Pb**	**21 35 47.7**	**-0.7**
	baz=286						
TWB1				*i* S	**Sb**	**21 35 54.1**	**-0.9**
	baz=286						
EOS1	**EOS1**	**0.42**	**219**	P	**Pb**	**21 35 48.5**	**-0.1**
	baz=204						
EOS1				*e*S	**Sb**	**21 35 55.8**	**+0.6**
	baz=204						
TIPB	**Shuangxi**	**0.55**	**280**	*e*P	**Pb**	**21 35 50.0**	**-0.7**
	baz=277						
TIPB				*e*S	**Sb**	**21 35 58.0**	**-0.9**
	baz=277						
TWC	**Suao**	**0.58**	**243**	P	**Pg**	**21 35 50.2**	**+0.5**
	baz=240						
TWC				S	**Sb**	**21 35 59.0**	**-0.9**
	baz=240						
JYNG	**Yonagunijimaku**	**0.64**	**131**	P	**Pg**	**21 35 50.9**	**0.0**
JYNG				S	**Sg**	**21 35 59.7**	**+0.4**
YOJ	**Yonaguni jima**	**0.68**	**127**	P	**Pg**	**21 35 51.4**	**-0.3**
YOJ				*e*S	**Sg**	**21 36 00.6**	**+0.1**
TWE	**Neicheng**	**0.70**	**257**	*i* P	**Pb**	**21 35 53.0**	**-0.3**
	baz=255						
TWE				S	**Sb**	**21 36 03.1**	**-0.2**
	baz=255						
SLBB	**Yuanshan**	**0.72**	**260**	*e*P	**Pb**	**21 35 53.7**	**0.0**
	baz=248						
SLBB				*e*S	**Sb**	**21 36 04.1**	**+0.2**
	baz=248						
NANB	**Nanao**	**0.76**	**234**	*e*P	**Pb**	**21 35 53.7**	**-0.6**
	baz=232						
NANB				S	**Sb**	**21 36 04.6**	**-0.3**
	baz=232						
ENA	**Nanau**	**0.76**	**234**	*e*P	**Pb**	**21 35 53.9**	**-0.5**
	baz=232						
ENA				S	**Sb**	**21 36 04.3**	**-0.7**
	baz=232						
ENTT	**Nioudou**	**0.81**	**253**	P	**Pb**	**21 35 55.4**	**+0.1**
	baz=251						
ENTT				*e*S	**Sb**	**21 36 07.2**	**+0.7**
	baz=251						
YM05	**YM05**	**0.82**	**290**	*e*P	**Pb**	**21 35 55.2**	**-0.3**
	baz=289						
YM05				*e*S	**Sb**	**21 36 07.2**	**+0.3**
	baz=289						
NWLT	**Wulai**	**0.84**	**263**	*e*P	**Pg**	**21 35 54.5**	**-0.1**
	baz=262						
TWY	**Chenhua**	**0.84**	**298**	P	**Pb**	**21 35 56.0**	**+0.2**
	baz=282						
TWY				S	**Sb**	**21 36 08.0**	**+0.7**
	baz=282						
YM04	**YM04**	**0.84**	**289**	*e*P	**Pg**	**21 35 55.0**	**+0.1**
	baz=288						
NDT	**Datong Townshi**	**0.87**	**252**	*e*P	**Pb**	**21 35 56.0**	**-0.2**
	baz=250						
NDT				*e*S	**Sb**	**21 36 08.8**	**+0.7**
	baz=250						
NACB	**Ninganchiao**	**1.03**	**227**	P	**Pg**	**21 35 57.8**	**-0.5**
	baz=236						
NACB				*e*S	**Sb**	**21 36 12.5**	**-0.2**
	baz=236						
NNSB	**Datong**	**1.04**	**245**	*e*P	**Pg**	**21 35 58.6**	**0.0**
	baz=230						
NNSB				*e*S	**Sb**	**21 36 13.8**	**+0.4**
	baz=230						
ETLH	**Xiulin Townshi**	**1.08**	**232**	P	**Pg**	**21 35 59.2**	**-0.2**
	baz=230						
ETLH				S	**Sb**	**21 36 14.2**	**-0.3**
	baz=230						
WHF	**Hehuan Shan**	**1.28**	**235**	P	**Pn**	**21 36 03.9**	**+0.3**
	baz=234						
WHF				S	**Sg**	**21 36 19.9**	**+0.1**
	baz=234						
TWT	**Tachien**	**1.29**	**241**	*e*P	**Pb**	**21 36 04.1**	**+0.6**
	baz=229						
TWT				*e*S	**Sn**	**21 36 21.3**	**0.0**
	baz=229						
IRIF	**Iriomote-Funau**	**1.31**	**114**	P	**Pg**	**21 36 03.8**	**0.0**
IRIF				*e*S	**Sg**	**21 36 20.9**	**+0.1**
CHGB	**Renai**	**1.40**	**235**	*e*P	**Pg**	**21 36 05.4**	**0.0**
	baz=233						
CHGB				*e*S	**Sn**	**21 36 25.0**	**+1.0**
	baz=233						
VWDT	**VWDT**	**1.62**	**226**	*e*P	**Pn**	**21 36 07.8**	**0.0**
	baz=206						
VWDT				*e*S	**Sn**	**21 36 28.5**	**-0.6**
	baz=206						
SMLT	**Sun Moon Lake**	**1.70**	**235**	*e*P	**Pb**	**21 36 09.9**	**-0.6**
	baz=233						
SMLT				*e*S	**Sg**	**21 36 33.4**	**0.0**
	baz=233						

*ISCJB **08** 21:47:38.0±0.5, 43°59N±0°03×105°20W±0°05, h0km, Error ellipse: s-maj=4.8km s-min=3.8km az=172.9*

*IDC **08** 21:47:37.9±2.2, 43°48N×105°33W, h0km, mb1 3.4/3, mb1mx3.2/45, mbtmp3.2/3, ML2.4/2, Error ellipse: s-maj=45.6km s-min=9.2km az=152.0*

*NEIC **08** 21:47:39.1±1.5, 43°59N±0°03×105°2W±0°1, h0km±2km, ML3.1/44*

ISC 08 21:47:39.8±0.8, 43°57N±0°04×105°25W±0°04, h0km, n30, σ1§08/41, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.03**	**58**	Pg	**Pg**	**21 47 58.9**	**-0.7**
K22A	**Casper**	**1.31**	**226**		**Pg**	**21 48 04.2**	**-0.8**
K22A					**Sn**	**21 48 25.0**	**+1.1**
K22A				IAML		21 48 26.2	
	comp=E,218nm,0.7s						
K22A				IAML		21 48 27.6	
	comp=N,226nm,0.3s						
PHWY	**Pilot Hill**	**2.28**	**184**	Pn	**Pn**	**21 48 18.0**	**-1.0**
PHWY				Sn	**Sn**	**21 48 47.1**	**-0.7**
PHWY				IAML		21 48 55.7	
	comp=N,69nm,0.8s						
RWWY	**Rawlins**	**2.38**	**218**		**Pn**	**21 48 19.6**	**-0.7**
RWWY				Sn	**Sn**	**21 48 51.1**	**+0.8**
RWWY				IAML		21 48 59.3	
	comp=N,134nm,0.8s						
N23A	**Red Feather La**	**2.73**	**191**		**Pn**	**21 48 25.4**	**+0.3**
N23A				Sn	**Sn**	**21 48 59.0**	**0.0**
N23A				IAML		21 49 11.1	
	comp=E,68nm,0.7s						
N23A				IAML		21 49 11.5	
	comp=N,57nm,0.7s						
LAO	**LASA Array**	**3.19**	**348**	Pn	**Pn**	**21 48 31.2**	**-0.1**
LAO				Sn	**Sn**	**21 49 10.1**	**0.0**
BW06	**Boulder Array**	**3.25**	**257**		**Pn**	**21 48 32.3**	**-0.1**
BW06				Sn	**Sn**	**21 49 11.0**	**-1.0**
BW06				IAML		21 49 19.9	
	comp=N,37nm,0.8s						
PD31	**Pinedale Array**	**3.25**	**257**		**Pn**	**21 48 32.8**	**+0.4**
PD31				Sn	**Sn**	**21 49 12.0**	**0.0**
PDAR	**Pinedale Array**	**3.25**	**257**	Pn	**Pn**	**21 48 32.5**	**+0.2**
	comp=N,2.6nm,0.3s,baz=79,slow=17,SNR=29						
PDAR				Lg	Lg	21 49 16.7	
	comp=N,6.9nm,0.3s,baz=79,slow=29,SNR=24						
RLMT	**Red Lodge**	**3.27**	**300**		**Pn**	**21 48 31.7**	**-0.9**
RLMT				Sn	**Sn**	**21 49 11.6**	**-0.8**
RLMT				IAML		21 49 37.5	
	comp=N,28nm,1.0s						
RLMT				IAML		21 50 09.3	
	comp=N,30nm,1.4s						
YNE	**Yellowstone No**	**3.71**	**294**		**Pn**	**21 48 37.6**	**-1.0**
YMP	**Mirror Lake PI**	**3.72**	**290**		**Pn**	**21 48 38.7**	**-0.1**
ISCO	**Idaho Springs**	**3.78**	**184**	Pn	**Pn**	**21 48 38.6**	**-1.1**
ISCO				Sn	**Sn**	**21 49 24.0**	**-1.0**
H17A	**Grant Village**	**3.93**	**284**		**Pn**	**21 48 41.5**	**-0.2**
H17A				IAML		21 49 45.6	
	comp=E,24nm,2.5s						
H17A				IAML		21 49 46.0	
	comp=N,26nm,0.8s						
FLWY	**Flagg Ranch**	**3.98**	**279**	Pn	**Pn**	**21 48 41.4**	**-0.8**
FLWY				IAML		21 49 57.6	
	comp=N,34nm,2.7s						
FLWY				IAML		21 49 57.9	
	comp=N,26nm,1.1s						

MOOW	**Moose Ponds**	**3.99**	**274**			**Pn**	**21 48 41.9**	**-0.6**
SNOW	**Snow King Moun**	**4.01**	**270**			**Pn**	**21 48 44.5**	**+1.8**
SNOW				IAML			21 50 00.6	
	comp=N,37nm,1.9s							
REDW	**Red Top Meadow**	**4.09**	**269**			**Pn**	**21 48 44.1**	**+0.3**
REDW				Sn		**Sn**	**21 49 34.2**	**+1.8**
REDW				IAML			21 50 04.2	
	comp=N,35nm,1.1s							
O20A	**White River Ci**	**4.10**	**214**			**Pn**	**21 48 43.9**	**0.0**
O20A				IAML			21 50 00.4	
	comp=N,27nm,1.2s							
YHH	**Holmes Hill**	**4.21**	**289**			**Pn**	**21 48 45.0**	**-0.6**
YMR	**Madison River**	**4.26**	**287**			**Pn**	**21 48 46.0**	**-0.1**
RDMU	**Red Mountain**	**4.40**	**228**	Pn		**Pn**	**21 48 48.0**	**0.0**
SMCO	**Snowmass**	**4.58**	**197**	Pn		**Pn**	**21 48 50.4**	**-0.4**
SMCO				IAML			21 50 17.8	
	comp=N,15nm,1.1s							
SMCO				IAML			21 50 21.0	
	comp=N,21nm,1.0s							
KSCO	**Kaye Shedlock'**	**4.97**	**156**	Pn		**Pn**	**21 48 56.1**	**+0.3**
MDND	**Maddock**	**5.82**	**41**	Pg		**Pb**	**21 49 25.7**	**+3.6**
SRU	**San Rafael Swe**	**5.97**	**223**	Pn		**Pn**	**21 49 09.9**	**+0.3**
SRU				Sn		**Sn**	**21 50 19.4**	**+0.7**
ECSD	**EROS Data Cent**	**6.26**	**86**	Pn		**Pn**	**21 49 13.0**	**-0.5**
T25A	**Trinidad**	**6.46**	**174**	Pn		**Pn**	**21 49 14.5**	**-1.9**
ULM	**Lac du Bonnet**	**9.25**	**41**	Pn		**Pn**	**21 49 51.6**	**-2.8**
	comp=N,0.5nm,0.3s,baz=233,slow=13,SNR=6.9							
ULM				Lg		Lg	21 52 27.0	
	comp=N,0.1nm,0.3s,baz=139,slow=20,SNR=2.7							
YKA	**Yellowknife Ar**	**19.73**	**347**	P		**P**	**21 52 10.2**	**-0.5**
	comp=N,0.0nm,0.3s,baz=162,slow=12,SNR=3.7							

*IDC **08** 21:49:04.8±1.0, 3°89N×127°06E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/42, mbtmp3.8/9, ML3.9/1, MS3.4/2, Ms1 3.4/2, ms1mx2.6/40, Error ellipse: s-maj=57.6km s-min=14.8km az=65.0*

*ISCJB **08** 21:49:07.4±0.4, 3°92N±0°04×127°17E±0°06, h36km, mb3.8/8, MS3.3/2, Error ellipse: s-maj=9.2km s-min=5.1km az=159.1*

*NEIC **08** 21:49:09.2±1.1, 3°90N±0°07×127°17E±0°08, h35km±1km, mb4.4/13*

*DJA **08** 21:49:18.1±2.4, 3°N±25°×12°7E±1°6, h11km±39km, M4.1/4, mb4.4/2, mB5.0/2, MLv3.9/4, Mw(mB)4.3/2*

ISC 08 21:49:10.0±0.7, 3°83N±0°06×127°09E±0°08, h36km, n31, σ1§76/33, mb4.1/12, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**3.05**	**175**	P	**Pn**	**21 49 59.2**	**+3.5**
TNTI	**Ternate**	**3.05**	**175**	Pn	**Pn**	**21 49 55.7**	**0.0**
TNTI				Sn	**Sn**	**21 50 31.7**	**+0.7**
KCP	**Kidapawan**	**3.73**	**328**	⇑P	**Pn**	**21 50 06.9**	**+1.7**
KCP				S	Sn	21 50 58.9	+11
SANI	**Sanana**	**5.94**	**191**	P	**Pn**	**21 50 33.5**	**-2.0**
SANI				S	**Sn**	**21 51 37.9**	**-4.4**
SIJI	**Sorong**	**6.26**	**138**	Pn	**Pn**	**21 50 41.5**	**+1.7**
	2.9nm,0.3s,baz=315,slow=16,SNR=8.5						
SIJI				Sn	**Sn**	**21 51 51.5**	**+1.3**
	0.8nm,0.3s,baz=221,slow=19,SNR=4.2						
LUWI	**Luwuk**	**6.49**	**222**	P	**Pn**	**21 50 46.9**	**+4.0**
LUWI	**Luwuk**	**6.49**	**222**		**Pn**	**21 50 43.2**	**+0.3**
LUWI				Sn	**Sn**	**21 52 00.3**	**+4.6**
FAKI	**Fak Fak**	**8.46**	**142**	Pn	**Pn**	**21 51 10.0**	**0.0**
MTN	**Manton Dam**	**17.04**	**166**	Pn	**Pn**	**21 53 05.0**	**-0.6**
JAGI	**Jajag, Banyuwa**	**17.77**	**227**		**P**	**21 53 15.7**	**+0.5**
KNRA	**Kununurra**	**19.45**	**175**	P	**P**	**21 53 33.7**	**+0.1**
KNRA				IAmb	IAmb	21 53 36.5	
	comp=Z,17nm,1.0s						
DLV	**T Lat**	**20.10**	**295**	P	**P**	**21 53 40.9**	**0.0**
TPUB	**Ta-pu**	**20.34**	**343**	P	**P**	**21 53 41.5**	**-1.8**
SSLB	**Suanglung**	**20.71**	**344**	P	**P**	**21 53 46.6**	**-0.7**
SSLB				IAmb	IAmb	21 53 54.4	
	comp=Z,50nm,1.7s						
FITZ	**Fitzroy Crossi**	**21.84**	**184**	P	**P**	**21 53 59.6**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=15,slow=6.2,SNR=6.4						
FITZ	**Fitzroy Crossi**	**21.84**	**184**	P	**P**	**21 54 00.2**	**+0.8**
FITZ				IAmb	IAmb	21 54 25.2	
	comp=Z,9.9nm,1.4s						
WRA	**Warramunga Arr**	**24.67**	**163**	P	**P**	**21 54 26.7**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=337,slow=11,SNR=6.1						
WB2	**Warramunga Ar**	**24.68**	**163**	P	**P**	**21 54 27.3**	**-0.4**
WB2				IAmb	IAmb	21 54 38.1	
	comp=Z,15nm,1.6s						
KRVT	**Keravat (AS076**	**26.19**	**108**	LR	LR	22 02 42.5	
	comp=Z,26nm,18.6s,baz=59,slow=31						
PSA00	**Pilbara Seismi**	**26.22**	**195**	P	**P**	**21 54 41.1**	**-0.6**
PSA00				IAmb	IAmb	21 54 43.6	
	comp=Z,7.8nm,0.8s						
ASAR	**Alice Springs**	**28.12**	**167**	P	**P**	**21 55 00.3**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=346,slow=13,SNR=8.6						
CMAR	**Chiang Mai Arr**	**31.13**	**300**	P	**P**	**21 55 25.6**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=122,slow=7.9,SNR=3.4						
STKA	**Stephens Creek**	**38.10**	**160**	P	**P**	**21 56 25.5**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=329,slow=12,SNR=5.9						
STKA	**Stephens Creek**	**38.10**	**160**	P	**P**	**21 56 25.4**	**-0.1**
SHL	**Shillong**	**40.11**	**306**	P	**P**	**21 56 41.8**	**-0.8**
SHL				IAmb	IAmb	21 56 42.5	
	comp=Z,4.6nm,0.6s						
SONM	**Songino Array**	**47.32**	**341**	P	**P**	**21 57 39.8**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=163,slow=8.2,SNR=5.6						
MK31	**Makanchi Array**	**57.68**	**325**	P	**P**	**21 58 55.9**	**-1.0**
MKAR	**Makanchi Array**	**57.68**	**325**	P	**P**	**21 58 56.6**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=116,slow=8.0,SNR=20						
ZALV	**Zalesovo Beam**	**60.66**	**333**	P	**P**	**21 59 16.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=121,slow=8.3,SNR=3.2						
KURK	**Kurchatov**	**61.85**	**327**	P	**P**	**21 59 24.7**	**-0.7**
KURK				IAmb	IAmb	21 59 26.1	
	comp=Z,2.9

comp=N,11µm,1.0s
KUR A A 21 56 52.0
comp=N,6µm,0.6s
KUR A A 21 56 52.0
comp=N,7µm,0.6s
YUK Yuzh-Kuril'sk 2.50 265 *d i* PN **Pn 21 56 51.7 +1.9**
YUK *i* S **Sn 21 57 20.8 +1.7**
YUK pmax pmax
comp=N,209nm,0.2s
YUK pmax pmax
comp=E,200nm,0.2s
YUK pmax pmax
comp=Z,798nm,0.2s
YUK smax smax
comp=N,1µm,0.3s
YUK smax smax
comp=E,954nm,0.3s
YUK Yuzh-Kuril'sk 2.50 265 ⇓ *i* P **Pn 21 56 51.7 +1.9**
YUK AMB AMB 21 56 54.3
comp=E,210nm,0.4s
YUK AMB AMB 21 56 54.3
comp=E,200nm,0.4s
YUK AMB AMB 21 56 54.3
comp=E,780nm,0.4s
YUK *i* S **Sn 21 57 20.8 +1.7**
YUK A A 21 57 28.0
comp=E,1µm,0.3s
YUK A A 21 57 28.0
comp=E,950nm,0.3s
GRPR Tuman 2.56 264 ⇑ *i* PN **Pn 21 56 51.8 +1.0**
GRPR *i* S **Sn 21 57 22.8 +2.0**
GRPR pmax pmax
comp=Z,402nm,0.4s
GRPR pmax pmax
comp=N,336nm,0.1s
GRPR pmax pmax
comp=E,262nm,0.3s
GRPR smax smax
comp=N,1µm,0.4s
GRPR smax smax
comp=E,1µm,0.4s
GRPR Tuman 2.56 264 ⇑ *i* P **Pn 21 56 51.8 +1.0**
GRPR AMB AMB 21 57 01.0
comp=E,340nm,0.4s
GRPR AMB AMB 21 57 01.0
comp=E,260nm,0.4s
GRPR AMB AMB 21 57 01.0
comp=E,400nm,0.4s
GRPR *i* S **Sn 21 57 22.8 +2.0**
GRPR A A 21 57 33.0
comp=E,1µm,0.4s
GRPR A A 21 57 33.0
comp=E,1µm,0.4s
NEM2 Nemuro 2 2.75 251 P **Pn 21 56 54.5 +1.3**
NEM2 *e* S **Sn 21 57 25.9 +0.7**
NMR Nemuro--Hokkai 2.75 252 ⇓ *i* PN **Pn 21 56 54.5 +1.2**
NMR *i* S **Sn 21 57 27.3 +1.9**
NMR Nemuro--Hokkai 2.75 252 ⇓ *i* P **Pn 21 56 54.0 +0.7**
NMR *i* S **Sn 21 57 27.0 +1.6**
GLVR Golovnino 2.79 260 ⇑ *i* PN **Pn 21 56 55.4 +1.5**
GLVR *i* S **Sn 21 57 28.2 +1.8**
GLVR pmax pmax
comp=Z,416nm,0.5s
GLVR pmax pmax
comp=N,176nm,0.2s
GLVR pmax pmax
comp=E,255nm,0.2s
GLVR smax smax
comp=N,2µm,0.3s
GLVR smax smax
comp=E,607nm,0.2s
GLVR Golovnino 2.79 260 *i* P **Pn 21 56 55.4 +1.5**
GLVR AMB AMB 21 57 02.0
comp=E,420nm,0.5s
GLVR *i* S **Sn 21 57 28.2 +1.8**
GLVR A A 21 57 33.0
comp=E,2µm,0.4s
GLVR A A 21 57 33.0
comp=E,610nm,0.4s
JRA Rausu 3.04 265 P **Pn 21 56 58.8 +1.6**
JRA *e* S **Sn 21 57 34.2 +1.8**
JNK Nakash 3.39 259 P **Pn 21 57 03.2 +1.1**
JNK *e* S **Sn 21 57 42.6 +1.4**
JAK Akkeshi 3.59 250 P **Pn 21 57 05.8 +0.9**
JAR Ashorobuto 4.13 258 P **Pn 21 57 14.9 +2.6**
JAR *e* S **Sn 21 58 01.7 +2.2**
JOB Onbets 4.21 253 P **Pn 21 57 15.5 +2.1**
JMP Maruseppu 4.29 268 P **Pn 21 57 17.3 +2.8**
JCH Churui 4.64 251 P **Pn 21 57 20.9 +1.5**
JKK2 Kamakawa 2 4.75 267 P **Pn 21 57 24.1 +3.3**
JKA Kamikawa-asahi 4.83 270 *i* P **Pn 21 57 25.7 +3.8**
JKA Kamikawa-asahi 4.83 270 **Pn 21 57 25.6 +3.8**
ASAJ Asahikawa 4.83 270 P Pn 21 57 27.0 +5.1
ASAJ Asahikawa 4.83 270 P **Pn 21 57 25.6 +3.8**
comp=E,3.7nm,0.3s,baz=86,slow=12,SNR=11
ASAJ LR LR 21 59 29.8
comp=E,483nm,18.4s,baz=156,slow=42
JFR Furan 5.00 259 P **Pn 21 57 27.3 +3.1**
ERM Erimo 5.05 245 *d i* PN **Pn 21 57 27.1 +2.2**
ERM Erimo 5.05 245 **Pn 21 57 25.7 +0.9**
ERM Sn **Sn 21 58 22.4 +0.4**
JEM Erimo 5.05 245 P **Pn 21 57 27.3 +2.5**
JEM *e* S **Sn 21 58 23.1 +1.1**
JNBK Urakawa-nobuka 5.19 249 P **Pn 21 57 27.9 +1.0**
JNBK *e* S **Sn 21 58 24.3 -1.3**
JBT2 Biratori 2 5.27 256 P **Pn 21 57 29.8 +1.8**
YSS Yuzh-Sakhalins 5.31 302 *e* PN **Pn 21 57 30.1 +1.7**
YSS *e* S **Sn 21 58 28.8 +0.4**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS smax smax
comp=N,70nm,0.7s
YSS smax smax
comp=E,40nm,0.7s
YSS MLR MLR
comp=Z,500nm,20.0s
YSS Yuzh-Sakhalins 5.31 302 *e* P **Pn 21 57 29.9 +1.5**
YSS AMB AMB 21 57 31.3
comp=Z,20nm,0.6s
YSS *e* S **Sn 21 58 28.8 +0.4**
YSS A A 21 58 30.8
comp=Z,70nm,0.7s
YSS A A 21 58 30.8
comp=Z,40nm,0.7s
YSS Yuzh-Sakhalins 5.31 302 Pn **Pn 21 57 27.1 -1.3**
JWK2 Keihoku 5.37 283 P Pn 21 57 34.1 +4.8
JEW Eniwo 5.89 258 P **Pn 21 57 39.5 +3.0**
JRBN Rebuntou 5.97 284 P **Pn 21 57 40.7 +3.2**
JNB Noboribetsu 6.30 256 P **Pn 21 57 43.6 +1.5**
JNB *e* S **Sn 21 58 52.7 -0.1**
JKB Kayabe 6.52 251 P **Pn 21 57 45.9 +0.8**
JKB *e* S **Sn 21 58 54.4 -3.9**
JYM2 Yakumo 2 6.89 255 P **Pn 21 57 51.7 +1.6**
JSH Shimam 6.94 259 P **Pn 21 57 55.1 +4.2**
JANG Nango 6.98 238 P **Pn 21 57 50.7 -0.7**
JANG *e* S **Sn 21 59 04.2 -5.5**
JTM Tenmabayashi 7.03 243 P **Pn 21 57 53.1 +1.1**
JTM *e* S **Sn 21 59 06.4 -4.3**
JTH Tanohata 7.04 234 P **Pn 21 57 51.9 -0.4**
JTH *e* S **Sn 21 59 04.7 -6.5**
JSR Shiriuchi 7.09 250 P **Pn 21 57 54.1 +1.2**
JOSM Okushiri--Mats 7.52 256 P **Pn 21 58 00.1 +1.3**
OFUJ Ofunato 7.74 230 P **Pn 21 58 01.6 -0.2**
SKR Severo-Kuril's 7.87 33 *e* PN **Pn 21 58 05.7 +2.1**
SKR MLR MLR
comp=Z,900nm,17.0s
SKR MLR MLR
comp=Z,300nm,18.0s
SKR Severo-Kuril's 7.87 33 *e* P **Pn 21 58 05.7 +2.1**
JRG Rokugo 8.12 236 P **Pn 21 58 07.9 +0.9**
PEA0B Petropavlovsk- 10.41 29 PN **Pn 21 58 38.1 -0.2**
PEA0B Petropavlovsk- 10.41 29 Pn **Pn 21 58 38.1 -0.2**
PETK Petropavlovsk- 10.41 29 P **Pn 21 58 38.7 +0.4**
comp=Z,0.7nm,0.3s,baz=199,slow=12,SNR=5.9
GRNR Gornyy 10.85 311 *e* P **Pn 21 58 44.8 +0.4**
MJAR Matsushiro Arr 11.46 231 P **Pn 21 58 53.4 +0.5**
comp=Z,0.1nm,0.3s,baz=37,slow=17,SNR=7.0
MJB9 Matsu-Tunnel 11.46 231 Pn **Pn 21 58 53.7 +0.8**
USA0B Ussuriysk Arra 12.43 276 PN **Pn 21 59 05.1 -0.9**
USA0B Ussuriysk Arra 12.43 276 **Pn 21 59 05.1 -0.9**
USRK Ussuriysk Ar. 12.43 276 P **Pn 21 59 06.5 +0.6**
baz=88,slow=14,SNR=17
USRK LR LR 22 03 32.6
comp=Z,145nm,21.6s,baz=100,slow=36

KLR Kul'dur 13.00 298 *i* PN **Pn 21 59 13.7 -0.1**
KLR Kul'dur 13.00 298 LR LR 22 04 05.1
comp=Z,143nm,21.4s,baz=108,slow=37
KLR Kul'dur 13.00 298 *i* P **Pn 21 59 13.7 -0.1**
EKMR Ekimchan 13.89 315 *e* P **Pn 21 59 24.2 -1.8**
EKMR AMB AMB 21 59 31.2
comp=Z,10.0nm,1.0s
MA2 Magadan 15.32 3 P **Pn 21 59 44.8 -0.4**
comp=Z,1.8nm,0.3s,baz=171,slow=10,SNR=4.2
MA2 LR LR 22 05 50.3
comp=Z,77nm,19.7s,baz=204,slow=38
MA2 Magadan 15.32 3 **Pn 21 59 44.1 -1.1**
MA2 IAmb IAmb 21 59 57.3
comp=Z,43nm,1.1s
BMKR Bomnak 16.82 315 *e* P **Pn 22 00 03.0 -1.4**
KSRS Korea Array 17.53 254 P **Pn 22 00 12.8 -0.5**
comp=Z,0.2nm,0.3s,baz=60,slow=11,SNR=5.8
KROS Kirovskiy 17.66 313 *e* P **Pn 22 00 14.4 -0.4**
KROS AMB AMB 22 00 18.9
comp=Z,10.0nm,0.5s
SEY Seymchan 18.75 4 *i* P **P 22 00 25.6 -1.8**
SEY Seymchan 18.75 4 P **P 22 00 25.1 -2.3**
comp=Z,0.6nm,0.3s,baz=202,slow=8.9,SNR=8.1
YAK Yakutsk 21.15 334 *e* P **P 22 00 58.4 +5.0**
YAK pmax pmax
comp=Z,62nm,0.9s
YAK pmax pmax
comp=E,24nm,1.1s
YAK pmax pmax
comp=N,29nm,1.1s
YAK Yakutsk 21.15 334 P **P 22 00 52.4 -1.0**
BILL Bilibino 25.41 15 ⇓ *i* P **P 22 01 34.9 -0.8**
BILL *e* 22 02 13.7
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,107nm,17.0s
BILL Bilibino 25.41 15 ⇓ *i* P **P 22 01 34.9 -0.8**
H11N2 WAKE ISLAND Hy 28.55 143 T T 22 33 06.9
baz=334,slow=75,SNR=236
H11N1 WAKE ISLAND Hy 28.57 143 T T 22 33 07.5
baz=334,slow=75,SNR=151
H11N3 WAKE ISLAND Hy 28.57 143 T T 22 33 02.6
baz=334,slow=75,SNR=156
TIXI Tiksi 29.16 347 *i* P **P 22 02 09.1 -0.1**
TIXI pmax pmax
comp=Z,4.0nm,1.8s
TIXI Tiksi 29.16 347 P **P 22 02 05.1 -4.1**
comp=Z,1.1nm,0.4s,baz=144,slow=4.3,SNR=3.6
TIXI LR LR 22 14 30.0
comp=Z,43nm,18.3s,baz=173,slow=38
TIXI Tiksi 29.16 347 *i* P **P 22 02 09.1 -0.1**
TIXI Tiksi 29.16 347 IAmb IAmb 22 02 06.0
comp=Z,2.4nm,0.8s
YOJ Yonaguni jima 29.17 236 P **P 22 02 07.5 -2.2**
YOJ pmax pmax
comp=Z,129nm,1.1s
YOJ Yonaguni jima 29.17 236 P **P 22 02 07.5 -2.2**
ULN Ulaanbaatar 29.26 292 P **P 22 02 09.7 -0.9**
ULN pmax pmax
comp=Z,2.0nm,0.9s
ULN Ulaanbaatar 29.26 292 *e* P **P 22 02 09.7 -0.9**
ULN Ulaanbaatar 29.26 292 P **P 22 02 09.7 -0.9**
H11S1 WAKE ISLAND Hy 29.56 145 T T 22 34 11.9
baz=334,slow=76,SNR=520
H11S3 WAKE ISLAND Hy 29.57 145 T T 22 34 19.7
baz=334,slow=76,SNR=430
H11S2 WAKE ISLAND Hy 29.58 145 T T 22 34 10.6
baz=334,slow=76,SNR=177
SONM Songino Array 29.70 292 P **P 22 02 12.1 -2.3**
comp=Z,0.8nm,0.8s,baz=91,slow=8.6,SNR=4.7
SONM LR LR 22 14 47.0
comp=Z,93nm,19.9s,baz=128,slow=38
TLY Talaya 31.01 300 *i* P **P 22 02 26.8 +0.9**
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 31.01 300 *i* P **P 22 02 26.8 +0.9**
SVW2 Sparrevohn 36.11 43 P **P 22 03 11.6 +1.6**
SVW2 IAmb IAmb 22 03 27.0
comp=Z,7.9nm,1.1s
GTA Gaotai 36.74 280 *e* P **P 22 03 16.5 +0.7**
GTA pP pP 22 03 21.1 -2.9
GTA sP sP 22 03 23.5 -3.9
GTA pmax pmax
comp=Z,4.0nm,1.2s
OHAK Old Harbor 37.40 49 P **P 22 03 20.9 0.0**
RSO Redoubt South 37.49 44 P **P 22 03 21.4 -0.7**
KDAK Kodiak Island 37.73 48 *i* P **P 22 03 24.2 +0.4**
KDAK Kodiak Island 37.73 48 P **P 22 03 23.8 0.0**
PPLA Purkeypile 37.76 40 P **P 22 03 24.8 +0.6**
PPLA IAmb IAmb 22 03 39.3
comp=Z,12nm,1.2s
CNPM China Poot 38.30 45 P **P 22 03 28.9 +0.2**
CNPM IAmb IAmb 22 03 40.7
comp=Z,11nm,1.0s
BPAW Bear Paw Mtn. 38.34 38 P **P 22 03 28.9 0.0**
KTH Kantishna Hill 38.35 39 P **P 22 03 30.6 +1.4**
KTH IAmb IAmb 22 03 31.8
comp=Z,10nm,1.0s
SUA Susitna One 38.45 42 P **P 22 03 30.2 +0.3**
SUA IAmb IAmb 22 03 33.5
comp=Z,5.4nm,0.9s
MLY Manley 38.48 36 P **P 22 03 30.5 +0.3**
MLY IAmb IAmb 22 03 32.7
comp=Z,5.6nm,1.0s
TRF Thorofare Moun 38.63 39 P **P 22 03 32.6 +1.0**
TRF IAmb IAmb 22 03 40.7
comp=Z,3.5nm,0.8s
RC01 Rabbit Creek A 38.95 43 P **P 22 03 31.5 -2.5**
RC01 IAmb IAmb 22 03 41.9
comp=Z,8.2nm,1.0s
SML Sawmill 39.58 41 P **P 22 03 40.6 +1.2**
WRH Wood River Hil 39.60 37 P **P 22 03 40.3 +0.8**
WRH IAmb IAmb 22 03 52.5
comp=Z,5.3nm,0.9s
COLA College 39.71 36 *i* P **P 22 03 41.2 +0.9**
COLA pmax pmax
comp=Z,9.0nm,1.0s
CCB Clear Creek Bu 39.73 37 P **P 22 03 41.2 +0.8**
HDA Harding Lake 40.10 37 P **P 22 03 43.8 +0.2**
HDA IAmb IAmb 22 03 50.6
comp=Z,4.3nm,0.8s
IL31 40.12 37 P **P 22 03 44.3 +0.6**
IL31 IAmb IAmb 22 03 46.7
comp=Z,4.1nm,0.9s
ILAR Eielson Array 40.12 37 P **P 22 03 43.7 -0.1**
comp=Z,3.2nm,0.9s,baz=272,slow=8.0,SNR=21
PRP Porcupine Dome 40.68 35 P **P 22 03 48.3 -0.2**
PRP IAmb IAmb 22 03 54.0
comp=Z,5.2nm,0.8s
FYU Fort Yukon 40.78 34 P **P 22 03 50.9 +1.7**
FYU IAmb IAmb 22 03 57.3
comp=Z,13nm,1.0s
DOT Dot Lake 41.41 38 P **P 22 03 54.7 +0.2**
SCRK Sand Creek 41.42 38 P **P 22 03 54.3 -0.4**
ZALV Zalesovo Beam 41.91 307 P **P 22 03 58.9 +0.3**
comp=Z,0.3nm,0.3s,baz=87,slow=7.9,SNR=2.5
ZALV PcP **PcP 22 05 53.9 +0.2**
comp=Z,0.6nm,0.4s,baz=72,slow=1.8,SNR=4.1
ZALV LR LR 22 21 29.3
comp=Z,61nm,19.2s,baz=76,slow=36
EGAK Eagle 42.57 36 P **P 22 04 04.7 +0.9**
EGAK IAmb IAmb 22 04 05.4
comp=Z,6.3nm,1.1s
EPYK Eagle Plains 44.20 34 P **P 22 04 16.8 -0.2**
EPYK IAmb IAmb 22 04 20.8
comp=Z,8.0nm,0.9s
INK Inuvik 45.14 31 P **P 22 04 24.8 +0.4**
comp=Z,2.8nm,0.4s,baz=278,slow=4.4,SNR=9.2
INK Inuvik 45.14 31 P **P 22 04 25.2 +0.8**
INK IAmb IAmb 22 04 27.3
comp=Z,5.1nm,1.0s
MK31 Makanchi Array 45.71 298 P **P 22 04 28.9 -0.3**
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MK31 Makanchi Array 45.71 298 P **P 22 04 28.9 -0.3**
MKAR Makanchi Array 45.71 298 *ce* P **P 22 04 28.6 -0.7**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 45.71 298 P **P 22 04 28.3 -0.9**
comp=Z,1.5nm,0.7s,baz=78,slow=8.3,SNR=18
MKAR PcP **PcP 22 06 07.0 +0.3**
comp=Z,0.5nm,0.6s,baz=71,slow=4.8,SNR=3.9
MKAR Makanchi Array 45.71 298 ⇑ *e* P **P 22 04 28.6 -0.7**
CMAR Chiang Mai Arr 49.17 255 *i* P **P 22 04 57.2 +0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 49.17 255 P **P 22 04 56.6 +0.2**
comp=Z,0.8nm,0.7s,baz=42,slow=7.0,SNR=9.0
TAPN Taplejung 51.55 272 *e* P **P 22 05 14.9 +0.2**
comp=Z,5.2nm,0.4s
ODAN Odare 52.07 272 *e* P **P 22 05 18.0 -0.5**
JIRN Jiri 52.46 274 *e* P **P 22 05 22.0 +0.4**
comp=Z,7.3nm,0.3s
AAK Ala-Archa 52.52 296 *ce* P **P 22 05 22.3 +0.7**
AAK pmax pmax
comp=Z,4.0nm,1.3s
AAK Ala-Archa 52.52 296 ⇑ *e* P **P 22 05 22.3 +0.7**
AAK Ala-Archa 52.52 296 P **P 22 05 21.6 +0.1**
AAK IAmb IAmb 22 05 23.1
comp=Z,2.1nm,0.7s
GUN Gumba 52.53 274 *e* P **P 22 05 22.7 +0.6**
comp=Z,12nm,0.5s
RAMN Ramite 52.58 273 *e* P **P 22 05 22.5 +0.2**
comp=Z,18nm,0.4s
KKN Kakani 53.03 275 *e* P **P 22 05 25.9 +0.3**
PKI Pulchoki 53.07 274 *e* P **P 22 05 26.2 +0.2**
PKIN Phulchoki 53.07 274 *e* P **P 22 05 26.3 +0.3**
DMN Daman 53.26 274 *e* P **P 22 05 28.0 +0.6**
comp=Z,11nm,0.7s
GKN Gorkha 53.37 275 *e* P **P 22 05 28.3 +0.3**
comp=Z,8.1nm,0.5s
DANN Dangsing 53.79 276 *e* P **P 22 05 32.2 +0.9**
comp=Z,6.3nm,0.3s
ARSB Arslanbob 54.15 295 P **P 22 05 33.6 0.0**
KOLN Koldanda 54.24 276 *e* P **P 22 05 35.2 +0.7**
YKA Yellowknife Ar 54.47 35 P **P 22 05 36.0 +0.6**
YKA Yellowknife Ar 54.47 35 P **P 22 05 36.0 +0.6**
comp=Z,2.2nm,0.8s,baz=299,slow=7.0,SNR=25
KK31 Karatay Array 54.83 298 P **P 22 05 37.5 -0.8**
KK31 pmax pmax
comp=Z,2.0nm,0.8s
KK31 Karatay Array 54.83 298 P **P 22 05 37.5 -0.8**
ARU Arti 55.00 317 LR LR 22 31 20.1
comp=Z,99nm,18.6s,baz=44,slow=38
BTK Batken 56.21 295 IAmb IAmb 22 05 49.3
comp=Z,4.4nm,0.9s
ABKAR Akbulak array 57.93 309 P **P 22 05 59.5 -0.8**
ABKAR IAmb IAmb 22 06 00.2
comp=Z,2.7nm,0.7s
CHGR Chuyangaron 58.05 295 P **P 22 05 57.4 -4.0**
ARCES ARCESS Array B 59.27 340 P **P 22 06 07.8 -1.5**
comp=Z,4.5nm,0.9s,baz=39,slow=10,SNR=3.8
FFC Flin Flon 64.32 38 *i* P **P 22 06 45.5 +2.0**
FINES FINESS Array B 65.08 334 *ce* P **P 22 06 46.9 -1.4**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 65.08 334 P **P 22 06 46.1 -2.2**
comp=Z,1.4nm,0.6s,baz=32,slow=7.7,SNR=12
WRA Warramunga Arr 65.38 196 *i* P **P 22 06 51.9 +1.2**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 65.38 196 P **P 22 06 51.6 +1.0**
comp=Z,2.0nm,0.6s,baz=16,slow=6.8,SNR=18
GEYT Alibeck 65.53 300 P **P 22 06 51.0 -0.7**
comp=Z,1.7nm,0.6s,baz=342,slow=3.3,SNR=7.3
NVAR Mina Array Bea 65.96 59 P **P 22 06 55.8 +1.1**
comp=Z,0.5nm,0.5s,baz=288,slow=7.8,SNR=6.2
TPAW Teton Pass 67.11 51 P **P 22 07 04.3 +2.3**
TPAW IAmb IAmb 22 07 05.5
comp=Z,3.3nm,1.0s
VSR Storozhevoye 67.32 320 *e* P **P 22 07 00.8 -2.0**
VSR pmax pmax
comp=Z,7.0nm,0.8s
VORD Divnogorie 67.43 320 *e* P **P 22 07 02.6 -0.9**
VORD pmax pmax
comp=Z,4.0nm,0.6s
FRB Frobisher Bay 68.21 17 P **P 22 07 08.2 0.0**
comp=Z,4.9nm,0.6s,baz=328,slow=6.1,SNR=7.6
PDAR Pinedale Array 68.36 51 P **P 22 07 09.8 -0.1**
comp=Z,0.7nm,0.7s,baz=260,slow=0.9,SNR=5.5
ASAR Alice Springs 69.09 195 P **P 22 07 16.1 +2.0**
comp=Z,2.0nm,0.7s,baz=13,slow=5.2,SNR=23
NB2 NORSAR Subarra 69.64 340 P **P 22 07 15.3 -1.9**
comp=Z,0.9nm,0.4s,baz=28,slow=6.5
NOA NORSAR Array B 69.64 340 P **P 22 07 15.5 -1.8**
comp=Z,1.5nm,0.5s,baz=31,slow=6.6,SNR=20
ULM Lac du Bonnet 70.11 38 P **P 22 07 19.9 -0.4**
comp=Z,1.1nm,0.4s,baz=337,slow=7.7,SNR=4.3
ULM Lac du Bonnet 70.11 38 IAmb IAmb 22 07 29.7
comp=Z,2.6nm,0.9s
KIV Kislovodsk 70.55 313 *e* P **P 22 07 23.4 +0.2**
KIV pmax pmax
comp=Z,41nm,1.0s
KIV MLR MLR
comp=Z,142nm,18.0s
KIV Kislovodsk 70.55 313 *e* P **P 22 07 23.4 +0.2**
KBZ Khabaz 70.59 312 P **P 22 07 23.1 -0.2**
comp=Z,3.1nm,0.8s,baz=53,slow=6.3,SNR=4.4
AKASG Malin Array Be 72.05 325 *i* P **P 22 07 31.1 -0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 72.05 325 P **P 22 07 30.8 -1.1**
comp=Z,1.2nm,0.4s,baz=37,slow=6.1,SNR=13
SORM Soroca 74.37 323 ⇓ P **P 22 07 45.4 -0.3**
SORM Soroca 74.37 323 ⇓ P **P 22 07 45.4 -0.3**
BUR08 Bucovina Ar. S 76.08 325 P **P 22 07 55.4 -0.4**
BURAR Bucovina Array 76.10 325 ⇑ P **P 22 07 56.2 +0.4**
BURAR Bucovina Array 76.10 325 ⇑ P **P 22 07 56.2 +0.4**
STKA Stephens Creek 76.14 187 P **P 22 07 58.3 +2.5**
STKA pmax pmax
comp=Z,1.0nm,1.2s
STKA Stephens Creek 76.14 187 P **P 22 07 58.4 +2.5**
comp=Z,1.6nm,0.6s,baz=355,slow=12,SNR=4.3
STKA Stephens Creek 76.14 187 IAmb IAmb 22 08 01.5
comp=Z,0.9nm,1.1s
KOLS Kolonicke sedl 76.23 327 *e* P **P 22 07 56.7 +0.3**
KOLS Kolonicke sedl 76.23 327 *e* P **P 22 07 56.7 +0.3**
TESR Tescani 76.36 323 ⇑ P **P 22 07 57.4 +0.2**
SCHQ Schefferville 76.57 21 P **P 22 07 58.7 +0.4**
comp=Z,7.2nm,1.0s,baz=326,slow=7.3,SNR=2.9
SCHQ Schefferville 76.57 21 IAmb IAmb 22 07 59.6
comp=Z,9.7nm,1.1s
TRPA Tarpa 76.77 327 ⇑ P **P 22 08 00.2 +0.8**
VRI Vrincioaia 76.84 323 ⇑ P **P 22 08 01.2 +1.3**
VRI Vrincioaia 76.84 323 ⇑ P **P 22 08 01.2 +1.3**
OZUR 77.06 323 ⇑ P **P 22 08 02.4 +1.2**
HARR Harsova 77.22 321 ⇑ P **P 22 08 03.2 +1.1**
HARR Harsova 77.22 321 ⇑ P **P 22 08 03.2 +1.1**
DPC Dobruska-Polom 77.25 331 *e* P **P 22 08 03.1 +0.9**
DPC Dobruska-Polom 77.25 331 *e* P **P 22 08 03.1 +0.9**
MORC Moravsky Berou 77.30 330 P **P 22 08 01.9 -0.6**
MORC pmax pmax
comp=Z,7.0nm,1.0s
MORC Moravsky Berou 77.30 330 ⇓ P **P 22 08 02.9 +0.4**
MORC Moravsky Berou 77.30 330 P **P 22 08 01.9 -0.6**
MLR Muntele Rosu 77.47 323 ⇑ P **P 22 08 05.3 +1.6**
MLR Muntele Rosu 77.47 323 ⇑ P **P 22 08 05.3 +1.6**
CLL Collm 77.53 334 *i* P **P 22 08 03.1 -0.6**
CLL *i* 22 08 09.0
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 77.53 334 *i* P **P 22 08 03.1 -0.6**
comp=Z,7.0nm,1.1s
CLL *i* 22 08 09.0
comp=Z,7.0nm,0.6s
DRGR 77.79 326 ⇑ P **P 22 08 06.5 +1.2**
DRGR 77.79 326 ⇑ P **P 22 08 06.5 +1.2**
VOIR 77.90 323 ⇓ P **P 22 08 07.3 +1.3**
VOIR 77.90 323 ⇓ P **P 22 08 07.3 +1.3**
VYHS Vyhne 77.90 329 *e* P **P 22 08 06.1 +0.3**
VYHS Vyhne 77.90 329 *e* P **P 22 08 06.1 +0.3**
VRAC Vranov 78.03 331 ⇑ P **P 22 08 07.6 +1.0**
VRAC Vranov 78.03 331 ⇑ P **P 22 08 07.6 +1.0**
ARR Arges 78.13 324 ⇑ P **P 22 08 08.0 +0.7**
PRU Pruhonice 78.16 332 *e* P **P 22 08 07.8 +0.6**
PRU Pruhonice 78.16 332 *e* P **P 22 08 07.8 +0.6**
BRTR Keskin Array B 78.28 315 *i* P **P 22 08 08.8 +0.5**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 78.28 315 P **P 22 08 08.5 +0.2**
comp=Z,0.8nm,0.6s,baz=116,slow=2.7,SNR=9.3
GZR Gura Zlata 78.89 325 ⇓ P **P 22 08 11.1 -0.3**
GZR Gura Zlata 78.89 325 ⇓ P **P 22 08 11.1 -0.3**
BZS Buzias 79.18 326 ⇑ P **P 22 08 12.8 -0.1**
BZS Buzias 79.18 326 ⇑ P **P 22 08 12.8 -0.1**
KHC Kasperske Hory 79.22 332 *e* P **P 22 08 13.3 +0.2**
KHC *e* 22 08 18.7
KHC *e* 22 08 30.6
KHC Kasperske Hory 79.22 332 *e* P **P 22 08 13.3 +0.2**

KHC				*ex*	x	22 08 18.7		
KHC				*ex*	x	22 08 30.6		
GERES	**GERESS Array B**	**79.42**	**332**	P	**P**	**22 08 14.0**	**-0.3**	
GERES	**GERESS Array B**	**79.42**	**332**	P	**P**	**22 08 13.9**	**-0.3**	
	comp=Z,1.1nm,0.4s,baz=38,slow=5.9,SNR=15							
CONA	**Conrad Observa**	**79.46**	**330**	*eP*	**P**	**22 08 14.7**	**+0.2**	
	comp=Z,1.2nm,0.5s							
MDVR	**Moldovita**	**79.83**	**325**	⇑P	**P**	**22 08 16.7**	**+0.2**	
SOKA	**Soboth**	**80.82**	**330**	*eP*	**P**	**22 08 22.1**	**+0.3**	
	comp=Z,1.5nm,0.6s							
VTS	**Vitosha**	**80.94**	**323**	⇓P	**P**	**22 08 22.5**	**-0.2**	
VTS	**Vitosha**	**80.94**	**323**	⇓P	**P**	**22 08 22.5**	**-0.2**	
TX31	**Lajitas Ar. Si**	**81.04**	**58**	P	**P**	**22 08 23.9**	**+0.5**	
TX31				IAmb	IAmb	22 08 38.9		
	comp=Z,3.9nm,1.1s							
TX32	**Lajitas Array**	**81.04**	**58**	P	**P**	**22 08 23.9**	**+0.5**	
TX32				IAmb	IAmb	22 08 38.9		
	comp=Z,4.0nm,1.1s							
TXAR	**Lajitas Array**	**81.04**	**58**	P	**P**	**22 08 24.2**	**+0.8**	
	comp=Z,1.6nm,0.4s,baz=301,slow=4.1,SNR=45							
WATA	**Walderalm**	**81.44**	**332**	*eP*	**P**	**22 08 25.1**	**-0.2**	
	comp=Z,2.9nm,0.5s							
WTTA	**Wattenberg**	**81.48**	**332**	*eP*	**P**	**22 08 25.6**	**+0.1**	
	comp=Z,2.2nm,0.4s							
MOTA	**Moosalm**	**81.59**	**333**	P	**P**	**22 08 26.4**	**+0.3**	
	comp=Z,2.9nm,0.7s							
ABTA	**Abfaltersbach**	**81.64**	**332**	*e*PcP	**P**	**22 08 27.3**	**+1.1**	
	comp=Z,0.7nm,0.6s							
SQTA	**Sankt Quirin**	**81.67**	**333**	*eP*	**P**	**22 08 26.9**	**+0.5**	
	comp=Z,5.3nm,1.2s							
PDG	**Podgorica**	**82.77**	**325**	⇓P	**P**	**22 08 31.5**	**-0.6**	
NRCA	**Norcia**	**84.82**	**329**	P	**P**	**22 08 39.9**	**-2.8**	
ESDC	**Sonseca Array**	**93.00**	**340**	P	**P**	**22 09 21.2**	**-0.4**	
	comp=Z,0.2nm,0.6s,baz=3.5,slow=4.3,SNR=3.3							
TORD	**Torodi Ar. Bea**	**115.68**	**325**	PKP	**PKiKP**	**22 14 50.0**	**-0.8**	
	comp=Z,0.4nm,0.6s,baz=6.1,slow=1.6,SNR=8.1							
PLCA	**Paso Flores**	**150.60**	**97**	PKPbc	**PKiKP**	**22 16 00.5**	**+0.1**	
	comp=Z,2.5nm,0.9s,baz=288,slow=6.4,SNR=3.2							

NNC ***08*** *22:18:34.0±2.3, 42°.25N×84°.12E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=20.5km s-min=12.1km az=121.0*

SOME ***08*** *22:18:40.9, 42°.85N×84°.22E, h0km*

ISC 08 22:18:36.7±3.3, 42°.2N±0°.2×83°.9E±0°.2, h10km, n5, σ2s75/7, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**3.44**	**291**	⇑Pn	**Pn**	**22 19 31.0**	**+0.5**
	1.4nm,0.9s						
PDGK				⇓Lg	Lg	22 20 28.2	
	3.6nm,0.6s						
DJR	**Jarkent**	**3.69**	**307**	*eP*	**Pg**	**22 19 47.5**	**+0.1**
	0.2nm,0.1s						
DJR				*eS*	**Sg**	**22 20 32.9**	**-2.4**
	1.4nm,0.2s						
KAPS	**Kapalarasan**	**4.52**	**315**	*eP*	**Pg**	**22 20 00.5**	**-2.8**
	0.9nm,0.6s						
KAPS				*eS*	**Sb**	**22 20 54.8**	**+4.1**
	0.4nm,0.1s						
MK31	**Makanchi Array**	**4.75**	**346**	⇑Pg	**Pb**	**22 20 00.2**	**+0.1**
	0.4nm,0.3s,baz=161,slow=16,SNR=14						
MK31				⇑Lg	Lg	22 21 04.5	
	2.0nm,0.6s,baz=169,slow=26,SNR=7.0						
MAKZ	**Makanchi**	**4.82**	**344**	⇓Pg	**Pb**	**22 20 01.7**	**+0.5**
	1.9nm,0.9s						
MAKZ				⇑Lg	Lg	22 21 07.4	
	5.5nm,1.4s						

IDC 08 22:19:35.3±38.0, 19°.94S×178°.01W, h550km±393km, mb3.0/4, mb1 3.3/4, mb1mx2.9/27, mbtmp4.0/4, Error ellipse: s-maj=319.2km s-min=82.2km az=128.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.54**	**263**	P	P	22 25 30.6	+0.5
	2.1nm,0.4s,baz=90,slow=13,SNR=3.4						
ASAR	**Alice Springs**	**44.64**	**256**	P	P	22 26 59.2	-0.3
	1.6nm,0.5s,baz=93,slow=7.7,SNR=19						
WRA	**Warramunga Arr**	**44.67**	**261**	P	P	22 26 59.2	-0.5
	0.8nm,0.5s,baz=97,slow=7.8,SNR=14						
ILAR	**Eielson Array**	**87.78**	**13**	P	P	22 31 25.4	-0.1
	0.3nm,0.6s,baz=221,slow=6.7,SNR=3.3						

NIED ***08*** *22:40:00, 44°.50N×149°.20E, h35km, Mw4.1 Best double couple: M0 1.68000×10^15 NP1:φs119.00000°, δ55.00000°, λ-22.00000°. NP2:φs222.00000°, δ72.00000°, λ-143.00000°.*

ISCJB ***08*** *22:40:16.1±0.9, 44°.40N±0°.05×149°.26E±0°.07, h45km±8km, mb3.7/16, MS3.3/6, Error ellipse: s-maj=11.0km s-min=5.8km az=139.3*

NEIC ***08*** *22:40:17.5±1.4, 44°.6N±0°.1×149°.2E±0°.1, h35km±2km, mb4.1/6*

SKHL ***08*** *22:40:17.4±0.4, 44°.30N×149°.31E, h57km±5km, mb4.8/4*

JMA ***08*** *22:40:17.8±0.5, 44°.47N×149°.19E, h30km, M4.2*

MOS ***08*** *22:40:17.0±1.9, 44°.46N×149°.31E, h47km, mb3.9/5, Error ellipse: s-maj=10.1km s-min=8.4km az=59.9*

IDC ***08*** *22:40:21.5±2.5, 44°.64N×149°.23E, h73km±23km, mb3.4/12, mb1 3.7/17, mb1mx3.5/36, mbtmp3.8/17, MS3.1/12, Ms1 3.2/12, ms1mx3.0/30, Error ellipse: s-maj=23.2km s-min=15.4km az=149.0*

ISC 08 22:40:17.8±1.5, 44°.40N±0°.07×149°.27E±0°.08, h41km±14km, n85, σ1s41/75, mb3.8/19, MS3.2/6, 3C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.30**	**310**	*c iP*N	**Pn**	**22 40 38.4**	**-1.0**
KUR				*i* S	**Sn**	**22 40 54.4**	**-1.2**
KUR				pmax	pmax		
	comp=Z,897nm,0.6s						
KUR				pmax	pmax		
	comp=N,246nm,0.2s						
KUR				pmax	pmax		
	comp=E,281nm,0.2s						
KUR				smax	smax		
	comp=N,8μm,1.1s						
KUR				smax	smax		
	comp=N,4μm,0.7s						
KUR	**Kuril'sk**	**1.30**	**310**	⇓*i*P	**Pn**	**22 40 38.5**	**-1.0**
KUR				AMB	AMB	22 40 39.0	
	comp=N,250nm,0.6s						
KUR				AMB	AMB	22 40 39.0	
	comp=N,280nm,0.6s						
KUR				AMB	AMB	22 40 39.0	
	comp=N,510nm,0.6s						
KUR				*i* S	**Sn**	**22 40 54.6**	**-1.0**
KUR				A	A	22 40 56.5	
	comp=N,8μm,1.1s						
KUR				A	A	22 40 57.4	
	comp=N,4μm,0.7s						
KUR				A	A	22 40 57.4	
	comp=N,3μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**2.48**	**263**	*e*PN	Pn	22 40 54.9	-0.8
YUK				*e*S	**Sn**	**22 41 22.7**	**-2.0**
YUK				pmax	pmax		
	comp=Z,282nm,0.2s						
YUK				pmax	pmax		
	comp=N,87nm,0.3s						
YUK				pmax	pmax		
	comp=E,62nm,0.3s						
YUK				smax	smax		
	comp=N,546nm,0.3s						
YUK				smax	smax		
	comp=E,388nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.48**	**263**	⇓*i*P	**Pn**	**22 40 55.7**	**0.0**
YUK				AMB	AMB	22 40 57.0	
	comp=E,90nm,0.4s						
YUK				AMB	AMB	22 40 57.0	
	comp=E,60nm,0.4s						
YUK				AMB	AMB	22 40 57.0	
	comp=E,180nm,0.4s						
YUK				*e*S	**Sn**	**22 41 24.1**	**-0.6**
YUK				A	A	22 41 29.0	
	comp=E,550nm,0.5s						
YUK				A	A	22 41 29.0	
	comp=E,390nm,0.5s						
GRPR	**Tuman**	**2.55**	**262**	*e*PN	**Pn**	**22 40 57.4**	**+0.8**
GRPR				*e*S	**Sn**	**22 41 25.3**	**-1.1**
GRPR				pmax	pmax		
	comp=Z,166nm,0.2s						
GRPR				pmax	pmax		
	comp=N,70nm,0.1s						
GRPR				pmax	pmax		
	comp=E,53nm,0.2s						
GRPR				smax	smax		
	comp=N,444nm,0.7s						
GRPR				smax	smax		
	comp=E,249nm,0.7s						
GRPR	**Tuman**	**2.55**	**262**	*e*P	**Pn**	**22 40 57.4**	**+0.8**
GRPR				AMB	AMB	22 41 01.0	
	comp=E,170nm,0.3s						
GRPR				*e*S	**Sn**	**22 41 25.3**	**-1.1**
GRPR				A	A	22 41 30.0	
	comp=E,440nm,0.5s						
GRPR				A	A	22 41 30.0	
	comp=E,250nm,0.5s						
NEM2	**Nemuro 2**	**2.75**	**249**	P	Pn	22 40 58.2	-1.2
NEM2				*e*S	**Sn**	**22 41 29.1**	**-2.3**
NMR	**Nemuro--Hokkai**	**2.76**	**249**	*e*PN	Pn	22 40 58.4	-1.1
NMR				*e*S	**Sn**	**22 41 29.8**	**-1.8**
NMR	**Nemuro--Hokkai**	**2.76**	**249**	*e*P	Pn	22 40 58.0	-1.5
NMR				*e*S	**Sn**	**22 41 29.0**	**-2.6**
GLVR	**Golovnino**	**2.79**	**258**	*e*PN	**Pn**	**22 40 59.9**	**+0.1**
GLVR				*e*S	**Sn**	**22 41 31.3**	**-0.9**
GLVR				pmax	pmax		
	comp=Z,108nm,0.1s						
GLVR				smax	smax		
	comp=N,593nm,0.6s						
GLVR				smax	smax		
	comp=E,390nm,0.5s						
GLVR	**Golovnino**	**2.79**	**258**	*e*P	**Pn**	**22 40 59.9**	**+0.1**
GLVR				AMB	AMB	22 41 02.0	
	comp=E,110nm,0.3s						
GLVR				*e*S	**Sn**	**22 41 31.3**	**-0.9**
GLVR				A	A	22 41 38.0	
	comp=E,590nm,0.6s						
GLVR				A	A	22 41 38.0	
	comp=E,390nm,0.6s						
JRA	**Rausu**	**3.02**	**263**	*e*S	**Sn**	**22 41 38.0**	**0.0**
JNK	**Nakash**	**3.39**	**258**	P	**Pn**	**22 41 08.0**	**-0.1**
JNK				*e*S	**Sn**	**22 41 47.4**	**+0.4**
JAK	**Akkeshi**	**3.60**	**249**	P	Pn	22 41 10.3	-0.8
JAR	**Ashorobuto**	**4.13**	**256**	P	**Pn**	**22 41 18.9**	**+0.5**
JMP	**Maruseppu**	**4.27**	**267**	P	**Pn**	**22 41 21.6**	**+1.3**
JCH	**Churui**	**4.66**	**249**	P	**Pn**	**22 41 25.6**	**+0.1**
JCH				*e*S	**Sn**	**22 42 18.4**	**+0.1**
JKK2	**Kamakawa 2**	**4.73**	**266**	P	**Pn**	**22 41 29.5**	**+3.0**
JKA	**Kamikawa-asahi**	**4.80**	**269**	*e*P	**Pn**	**22 41 31.4**	**+3.8**
ASAJ	**Asahikawa**	**4.80**	**269**	P	**Pn**	**22 41 31.4**	**+3.8**
	comp=E,1.3nm,0.3s,baz=133,slow=3.3,SNR=4.2						
ASAJ				LR	LR	22 43 36.0	
	comp=E,221nm,18.8s,baz=112,slow=41						
ERM	**Erimo**	**5.07**	**244**	PN	**Pn**	**22 41 32.0**	**+0.8**
ERM						22 42 30.1	
ERM	**Erimo**	**5.07**	**244**		**Pn**	**22 41 32.0**	**+0.8**
ERM				Sn	**Sn**	**22 42 30.1**	**+1.7**
YSS	**Yuzh-Sakhalins**	**5.23**	**301**	*e*PN	Pn	22 41 40.0	+6.6
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
YSS	**Yuzh-Sakhalins**	**5.23**	**301**	*e*P	**Pn**	**22 41 36.1**	**+2.7**
JNB	**Noboribetsu**	**6.30**	**255**	P	**Pn**	**22 41 48.3**	**+0.2**
JKB	**Kayabe**	**6.53**	**250**	P	**Pn**	**22 41 50.8**	**-0.5**
JANG	**Nango**	**7.01**	**238**	*e*S	Sn	22 43 08.6	-7.7
JTM	**Tenmabayashi**	**7.05**	**242**	*e*S	Sn	22 43 11.4	-5.8
JTH	**Tanohata**	**7.08**	**234**	*e*S	Sn	22 43 09.5	-8.6
PEA0B	**Petropavlovsk-**	**10.33**	**30**	PN	**Pn**	**22 42 43.8**	**+0.5**
PEA0B	**Petropavlovsk-**	**10.33**	**30**	Pn	**Pn**	**22 42 43.8**	**+0.5**
PETK	**Petropavlovsk-**	**10.33**	**30**	P	**Pn**	**22 42 43.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=199,slow=13,SNR=4.5						
PETK				LR	LR	22 47 11.6	
	comp=Z,88nm,19.2s,baz=168,slow=40						
MJAR	**Matsushiro Arr**	**11.51**	**231**	P	Pn	22 43 04.9	+5.4
	baz=24,slow=12,SNR=3.8						
USRK	**Ussuriysk Ar.**	**12.39**	**275**	P	**Pn**	**22 43 12.7**	**+1.2**
	baz=82,slow=13,SNR=4.6						
USRK				LR	LR	22 47 39.3	
	comp=Z,72nm,21.2s,baz=309,slow=36						
KLR	**Kul'dur**	**12.93**	**298**	LR	LR	22 48 40.7	
	comp=Z,73nm,18.2s,baz=109,slow=39						
EKMR	**Ekimchan**	**13.80**	**315**	*e*P	**Pn**	**22 43 31.4**	**+0.7**
BMKR	**Bomnak**	**16.73**	**315**	*e*P	**Pn**	**22 44 08.8**	**-0.1**
KSRS	**Korea Array**	**17.54**	**254**	LR	LR	22 51 33.3	
	comp=Z,50nm,18.4s,baz=40,slow=38						
KS19	**Wonju Array Si**	**17.55**	**254**	Pn	**Pn**	**22 44 18.6**	**-0.6**
KROS	**Kirovskiy**	**17.57**	**313**	*e*P	**Pn**	**22 44 18.8**	**-0.5**
JCJ	**Chichijima**	**18.19**	**201**	LR	LR	22 49 54.3	
	comp=Z,41nm,19.4s,baz=344,slow=31						
JNU	**Nakatsue**	**18.20**	**238**	LR	LR	22 52 17.5	
	comp=Z,45nm,19.0s,baz=3.5,slow=39						
SEY	**Seymchan**	**18.65**	**4**	P	**Pn**	**22 44 31.4**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=164,slow=15,SNR=3.5						
YAK	**Yakutsk**	**21.04**	**334**	P	**P**	**22 44 55.9**	**-1.9**
YAK				pmax	pmax		
	comp=Z,20nm,1.0s						
YAK	**Yakutsk**	**21.04**	**334**	LR	LR	22 53 30.3	
	comp=Z,59nm,18.9s,baz=119,slow=38						
YAK	**Yakutsk**	**21.04**	**334**	*e*P	**P**	**22 44 59.8**	**+2.0**
YAK	**Yakutsk**	**21.04**	**334**	P	**P**	**22 44 55.9**	**-1.9**
BILL	**Bilibino**	**25.32**	**15**	*i e*P	**P**	**22 45 43.0**	**+2.8**
BILL				*e*		22 46 15.2	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,56nm,14.0s						
BILL	**Bilibino**	**25.32**	**15**	⇑*e*P	**P**	**22 45 43.0**	**+2.8**
H11N2	**WAKE ISLAND Hy**	**28.65**	**144**	T	T	23 17 06.6	
	baz=334,slow=76,SNR=196						
H11N1	**WAKE ISLAND Hy**	**28.67**	**144**	T	T	23 17 07.9	
	baz=334,slow=76,SNR=148						
H11N3	**WAKE ISLAND Hy**	**28.67**	**143**	T	T	23 17 05.3	
	baz=334,slow=76,SNR=212						
TIXI	**Tiksi**	**29.05**	**347**	*i* P	**P**	**22 46 14.5**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	**Songino Array**	**29.64**	**292**	P	**P**	**22 46 20.0**	**+0.7**
SONM	**Songino Array**	**29.64**	**292**	P	**P**	**22 46 20.0**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=82,slow=9.1,SNR=2.6						
H11S1	**WAKE ISLAND Hy**	**29.66**	**145**	T	T	23 18 24.0	
	baz=334,slow=76,SNR=277						
H11S3	**WAKE ISLAND Hy**	**29.67**	**145**	T	T	23 18 13.5	
	baz=334,slow=76,SNR=218						
H11S2	**WAKE ISLAND Hy**	**29.68**	**145**	T	T	23 18 25.0	
	baz=334,slow=76,SNR=132						
MLY	**Manley**	**38.41**	**36**	P	**P**	**22 47 34.4**	**-0.5**
MLY				lAmb	lAmb	22 47 36.0	
	comp=Z,2.4nm,0.9s						
ILAR	**Eielson Array**	**40.05**	**37**	*e*P	**P**	**22 47 50.5**	**+1.9**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**40.05**	**37**	P	**P**	**22 47 46.9**	**-1.7**
	comp=Z,1.5nm,0.9s,baz=281,slow=9.0,SNR=12						
DOT	**Dot Lake**	**41.35**	**38**	P	**P**	**22 47 58.8**	**-0.5**
DOT				lAmb	lAmb	22 48 07.5	
	comp=Z,3.2nm,1.0s						
ZALV	**Zalesovo Beam**	**41.83**	**307**	LR	LR	23 05 34.1	
	comp=Z,36nm,19.1s,baz=28,slow=36						
EPYK	**Eagle Plains**	**44.13**	**34**	P	**P**	**22 48 20.8**	**-1.1**
EPYK				lAmb	lAmb	22 48 24.9	
	comp=Z,7.5nm,1.0s						
INK	**Inuvik**	**45.06**	**31**	P	**P**	**22 48 28.6**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=278,slow=5.2,SNR=4.0						
MKAR	**Makanchi Array**	**45.64**	**298**	*i* P	**P**	**22 48 34.0**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**45.64**	**298**	P	**P**	**22 48 32.8**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=69,slow=6.9,SNR=5.1						
MKAR				LR	LR	23 08 40.4	
	comp=Z,45nm,18.3s,baz=50,slow=37						
MKAR	**Makanchi Array**	**45.64**	**298**	*i* P	**P**	**22 48 34.0**	**0.0**
MAKZ	**Makanchi**	**45.83**	**298**	P	**P**	**22 48 35.1**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MAKZ	**Makanchi**	**45.83**	**298**	P	**P**	**22 48 35.1**	**-0.4**
MAKZ				lAmb	lAmb	22 48 51.3	
	comp=Z,2.3nm,1.1s						
CMAR	**Chiang Mai Arr**	**49.17**	**255**	LR	LR	23 10 09.6	
	comp=Z,17nm,19.1s,baz=305,slow=36						
YKA	**Yellowknife Ar**	**54.40**	**35**	P	**P**	**22 49 39.5**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=298,slow=7.1,SNR=11						
FINES	**FINESS Array B**	**64.98**	**334**	*e*P	**P**	**22 50 54.7**	**+1.8**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**64.98**	**334**	P	**P**	**22 50 51.1**	**-1.8**
	comp=Z,1.6nm,0.8s,baz=54,slow=9.7,SNR=4.8						
NVAR	**Mina Array Bea**	**65.93**	**59**	P	**P**	**22 50 59.6**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=298,slow=7.1,SNR=4.8						
PDAR	**Pinedale Array**	**68.31**	**51**	P	**P**	**22 51 14.1**	**-0.8**
	comp=Z,1.1nm,1.0s,baz=323,slow=2.2,SNR=4.8						
ASAR	**Alice Springs**	**69.18**	**195**	P	**P**	**22 51 21.4**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=8.9,slow=6.6,SNR=4.2						
NOA	**NORSAR Array B**	**69.53**	**340**	*eP*	**P**	**22 51 20.8**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**69.53**	**340**	P	**P**	**22 51 19.9**	**-2.0**
	comp=Z,0.7nm,0.7s,baz=28,slow=6.6,SNR=4.8						
KBZ	**Khabaz**	**70.50**	**312**	LR	LR	23 26 53.8	
	comp=Z,36nm,20.8s,baz=110,slow=40						
CLL	**Collm**	**77.43**	**334**	*eP*	**P**	**22 52 09.0**	**+0.7**
CLL	**Collm**	**77.43**	**334**	*eP*	**P**	**22 52 09.0**	**+0.7**
GERES	**GERESS Array B**	**79.32**	**332**	P	**P**	**22 52 18.1**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=44,slow=5.8,SNR=3.1						
TXAR	**Lajitas Array**	**81.01**	**58**	P	**P**	**22 52 28.2**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=303,slow=3.9,SNR=14						
PMSA	**Palmer Station**	**152.46**	**149**	PKPbc	**PKPbc**	**23 00 07.9**	**-0.3**
	comp=Z,7.6nm,1.0s,baz=291,slow=1.9,SNR=4.8						

ISCJB ***08*** *22:52:05.2±0.3, 60°.67S±0°.05×42°.6W±0°.1, h10km, mb4.4/12, MS3.8/12, Error ellipse: s-maj=8.4km s-min=5.8km az=139.5*

IDC ***08*** *22:52:05.8±0.6, 60°.69S×42°.63W, h0km, mb4.5/12, mb1 4.5/14, mb1mx4.4/19, mbtmp4.5/14, ML4.2/2, MS3.7/12, Ms1 3.7/12, ms1mx3.6/21, Error ellipse: s-maj=21.4km s-min=14.2km az=53.0*

NEIC ***08*** *22:52:07.5±1.1, 60°.61S±0°.08×42°.6W±0°.2, h13km±1km, mb4.7/27*

BJI ***08*** *22:52:08.0±0.0, 60°.60S×42°.50W, h10km, Ms7 4.8/1*

ISC 08 22:52:07.0±0.4, 60°.69S±0°.06×42°.66W±0°.06, h10km, n107, σ1s32/105, mb4.6/18, MS3.7/12, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.23**	**30**		**Pn**	**22 53 51.0**	**-1.6**
HOPE				Sn	**Sn**	**22 55 12.1**	**-2.6**
PMSA	**Palmer Station**	**10.60**	**238**	Pn	**Pn**	**22 54 39.3**	**+0.6**
	1.3nm,0.3s,baz=61,slow=9.9,SNR=14						
PMSA				Sn	**Sn**	**22 56 31.2**	**-6.1**
	0.4nm,0.3s,baz=150,slow=20,SNR=3.3						
PMSA				LR	LR	22 59 08.0	
	comp=Z,587nm,19.8s,baz=74,slow=40						
PMSA	**Palmer Station**	**10.60**	**238**		**Pn**	**22 54 39.8**	**+1.0**
PMSA				Sn	**Sn**	**22 56 38.8**	**+1.4**
EFI	**East Falkland**	**12.42**	**310**	Pn	**Pn**	**22 55 06.5**	**+2.8**
VNA3	**Neumayer Olymp**	**16.81**	**142**	P	**Pn**	**22 56 00.2**	**-1.9**
VNA1	**Neumayer--Stat**	**17.04**	**140**	P	**Pn**	**22 56 05.2**	**+0.2**
GO10	**Punta Arenas**	**17.12**	**283**		**Pn**	**22 56 06.7**	**+0.5**
VNA2	**Neumayer--Watz**	**17.40**	**141**	P	**Pn**	**22 56 07.1**	**-2.3**
	baz=293,slow=16						
GO09	**Cerro Castillo**	**18.93**	**287**	P	**P**	**22 56 27.6**	**-0.1**
GO09				lAmb	lAmb	22 56 34.9	
	comp=Z,52nm,1.0s						
SNAA	**Sanae**	**19.02**	**142**	P	**Pn**	**22 56 29.8**	**+0.5**
SNAA	**Sanae**	**19.02**	**142**	P	**Pn**	**22 56 29.2**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=291,slow=9.4,SNR=43						
SNAA				S	Sn	22 59 50.0	-12
	comp=Z,0.1nm,0.3s,baz=282,slow=20,SNR=2.9						
SNAA				LR	LR	23 02 37.6	
	comp=Z,342nm,19.9s,baz=0.0,slow=33						
SNAA	**Sanae**	**19.02**	**142**	P	**P**	**22 56 28.9**	**+0.2**
SNAA				lAmb	lAmb	22 56 32.9	
	comp=Z,76nm,1.0s						
TRQA	**Tornquist**	**25.71**	**323**	P	**P**	**22 57 37.6**	**+0.4**
TRQA				lAmb	lAmb	22 57 47.5	
	comp=Z,11nm,1.1s						
PLCA	**Paso Flores**	**26.32**	**307**	P	**P**	**22 57 42.4**	**-0.3**
	comp=Z,7.1nm,0.8s,baz=174,slow=8.5,SNR=12						
PLCA				LR	LR	23 07 34.8	
	comp=Z,143nm,18.9s,baz=172,slow=35						
PLCA	**Paso Flores**	**26.32**	**307**	P	**P**	**22 57 42.6**	**-0.1**
PLCA				lAmb	lAmb	22 57 51.0	
	comp=Z,13nm,0.9s						
GO06	**Curarrehue**	**27.66**	**307**	P	**P**	**22 57 54.6**	**-0.3**
QSPA	**South Pole Qui**	**29.55**	**180**	P	**P**	**22 58 12.5**	**+1.0**
	comp=Z,8.7nm,0.7s,baz=183,slow=4.0,SNR=24						
QSPA				LR	LR	23 10 10.6	
	comp=Z,142nm,19.0s,baz=162,slow=37						
QSPA	**South Pole Qui**	**29.55**	**180**	P	**P**	**22 58 11.5**	**0.0**
QSPA				lAmb	lAmb	22 58 28.8	
	comp=Z,7.2nm,0.9s						
H09W1	**TRISTAN DA CUN**	**30.41**	**53**	T	T	23 30 59.1	
	SNR=15						
GO05	**Huala**	**31.84**	**310**	P	**P**	**22 58 31.1**	**-0.7**
GO05				lAmb	lAmb	22 58 40.6	
	comp=Z,14nm,1.1s						
PEL	**Peldehue**	**33.05**	**314**	P	**P**	**22 58 42.5**	**0.0**
ROC1	**El Roble**	**33.33**	**313**	P	**P**	**22 58 44.6**	**-0.5**
CPUP	**Villa Florida**	**35.78**	**337**	P	**P**	**22 59 06.3**	**+0.3**
	comp=Z,8.0nm,0.8s,baz=168,slow=8.2,SNR=16						
CPUP				LR	LR	23 13 59.4	
	comp=Z,95nm,19.4s,baz=165,slow=37						
CPUP	**Villa Florida**	**35.78**	**337**	P	**P**	**22 59 05.6**	**-0.5**
CPUP				lAmb	lAmb	22 59 07.6	
	comp=Z,10nm,0.9s						
GO04	**Tololo Observa**	**35.80**	**316**	P	**P**	**22 59 05.6**	**-0.8**
GO03	**Copiap**	**37.98**	**318**	P	**P**	**22 59 24.6**	**-0.3**
GO02	**Mina Guanaco**	**40.03**	**320**	P	**P**	**22 59 42.0**	**-0.3**
SBA	**Scott Base**	**40.53**	**189**	P	**P**	**22 59 47.2**	**+1.7**
MAW	**Mawson**	**41.09**	**146**	P	**P**	**22 59

TBI	**Tubuai**	**77.74**	**244**	*e*LR	LR	23 28 07.3		
	comp=Z,95nm,25.2s							
TOA0	**Torodi Ar. Sit**	**81.61**	**44**	P	**P**	**23 04 25.3**	**+0.5**	
TOA0				IAmb	IAmb	23 04 27.1		
	comp=Z,8.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**81.61**	**44**	P	**P**	**23 04 25.9**	**+1.0**	
	comp=Z,5.9nm,0.8s,baz=204,slow=6.4,SNR=32							
TORD				LR	LR	23 33 27.1		
	comp=Z,45nm,21.3s,baz=310,slow=30							
PPT2	**Papeete2**	**82.82**	**247**	*e*S	**S**	**23 14 45.4**	**-4.3**	
	comp=Z,85nm,24.2s							
PPT2	**Papeete2**	**82.82**	**247**	*e*LR	LR	23 30 33.9		
	comp=Z,77nm,22.8s							
STKA	**Stephens Creek**	**87.70**	**184**	LR	LR	23 42 43.6		
	comp=Z,90nm,20.1s,baz=206,slow=35							
H08S1	**Diego Garcia H**	**95.29**	**116**	T	T	00 52 16.6		
	baz=205,slow=76,SNR=21							
H08S2	**Diego Garcia H**	**95.29**	**116**	T	T	00 52 20.3		
	baz=205,slow=76,SNR=5.0							
H08S3	**Diego Garcia H**	**95.31**	**116**	T	T	00 52 18.2		
	baz=205,slow=76,SNR=17							
ASAR	**Alice Springs**	**95.90**	**177**	P	**P**	**23 05 32.6**	**-1.2**	
	comp=Z,0.5nm,0.7s,baz=194,slow=3.4,SNR=5.0							
ASAR				PP	**PP**	**23 09 22.9**	**-2.1**	
	comp=Z,1.4nm,0.9s,baz=178,slow=8.5,SNR=7.1							
VYHS	**Vyhne**	**119.60**	**42**	*e*PKP	**PKiKP**	**23 10 59.5**	**+3.7**	
CMAR	**Chiang Mai Arr**	**129.79**	**130**	PKP	**PKiKP**	**23 11 16.9**	**-0.1**	
	comp=Z,0.4nm,0.3s,baz=201,slow=1.5,SNR=2.9							
FINES	**FINESS Array B**	**132.67**	**38**	PKP	**PKPdf**	**23 11 19.2**	**-1.0**	
	comp=Z,2.1nm,0.9s,baz=184,slow=4.2,SNR=3.7							
YKA	**Yellowknife Ar**	**134.45**	**322**	PKP	**PKPdf**	**23 11 23.2**	**-0.4**	
	comp=Z,0.6nm,0.7s,baz=140,slow=1.8,SNR=8.5							
KSH	**Kashi**	**137.24**	**91**	PKP	**PKiKP**	**23 11 32.8**	**+1.2**	
KSH				PKS	**PKSdf**	**23 15 06.6**	**+0.6**	
KSH				SS	SS	23 32 21.2	-0.4	
INK	**Inuvik**	**144.19**	**321**	PKP	**PKPab**	**23 11 39.1**	**+0.1**	
	comp=Z,4.2nm,0.7s,baz=63,slow=4.4,SNR=15							
INK	**Inuvik**	**144.19**	**321**		PKPbc	23 11 39.2	-0.1	
MENT	**Mentasta**	**144.82**	**309**		**PKPdf**	**23 11 42.3**	**-0.2**	
DOT	**Dot Lake**	**145.33**	**310**		**PKPab**	**23 11 43.9**	**+0.4**	
SCRK	**Sand Creek**	**145.48**	**310**		**PKPab**	**23 11 44.1**	**0.0**	
PAX	**Paxson**	**145.51**	**308**		**PKPab**	**23 11 44.4**	**+0.2**	
MAKZ	**Makanchi**	**145.57**	**88**		**PKPbc**	**23 11 44.6**	**+0.1**	
KDAK	**Kodiak Island**	**145.58**	**297**	PKPbc	**PKPdf**	**23 11 43.7**	**-0.2**	
	comp=Z,15nm,1.2s,baz=81,slow=2.8,SNR=4.8							
KDAK	**Kodiak Island**	**145.58**	**297**		**PKPdf**	**23 11 43.9**	**0.0**	
SCM	**Sheep Creek Mo**	**145.63**	**306**		**PKPab**	**23 11 45.0**	**+0.3**	
MK31	**Makanchi Array**	**145.71**	**88**		**PKPbc**	**23 11 45.1**	**+0.1**	
MKAR	**Makanchi Array**	**145.71**	**88**	PKPbc	**PKPbc**	**23 11 44.9**	**-0.1**	
	comp=Z,3.7nm,0.6s,baz=236,slow=2.2,SNR=32							
WMQ	**Urumqi**	**146.23**	**97**	*e*PKPbc	**PKPbc**	**23 11 46.7**	**0.0**	
DHY	**Denali Highway**	**146.31**	**307**		**PKPbc**	**23 11 46.5**	**0.0**	
KURK	**Kurchatov**	**146.56**	**80**		**PKPbc**	**23 11 46.9**	**-0.5**	
PRP	**Porcupine Dome**	**146.83**	**312**		**PKPbc**	**23 11 47.7**	**-0.2**	
IL31		**146.97**	**310**		**PKPbc**	**23 11 48.1**	**+0.1**	
ILAR	**Eielson Array**	**146.97**	**310**	PKPbc	**PKPbc**	**23 11 48.2**	**+0.1**	
	comp=Z,3.8nm,0.6s,baz=140,slow=2.3,SNR=59							
RND	**Reindeer**	**147.05**	**307**		**PKPbc**	**23 11 47.9**	**-0.5**	
MCK	**McKinley**	**147.25**	**308**		**PKPbc**	**23 11 48.7**	**-0.3**	
CCB	**Clear Creek Bu**	**147.26**	**310**		**PKPbc**	**23 11 48.6**	**-0.3**	
SKT	**Skwentna**	**147.41**	**304**	PKPdf	**PKPbc**	**23 11 48.9**	**-0.6**	
LZH	**Lanzhou**	**147.45**	**124**	*e*PKPbc	**PKPdf**	**23 11 45.8**	**-2.2**	
LZH				pPKP	pPKPbc	23 11 53.6	0.0	
XAN	**Xi'an**	**147.61**	**132**	PKPbc	**PKPbc**	**23 11 51.2**	**+0.3**	
KTH	**Kantishna Hill**	**147.94**	**307**		**PKPbc**	**23 11 51.4**	**+0.5**	
BPAW	**Bear Paw Mtn.**	**148.22**	**308**	PKPdf	**PKPdf**	**23 11 49.5**	**+1.4**	
GTA	**Gaotai**	**148.52**	**115**	PKPbc	**PKiKP**	**23 11 54.1**	**-0.7**	
MLY	**Manley**	**148.55**	**309**	PKPdf	**PKPbc**	**23 11 50.9**	**-1.5**	
MLY					**PKPdf**	**23 11 53.0**	**+0.6**	
NJ2	**Nanjing**	**148.87**	**149**	*e*PKPbc	**PKPbc**	**23 11 52.4**	**-1.8**	
ZALV	**Zalesovo Beam**	**151.54**	**80**	PKPbc	**PKPbc**	**23 11 58.9**	**-1.0**	
	comp=Z,1.2nm,0.6s,baz=235,slow=4.7,SNR=7.1							
HHC	**Hu-ho-hao-te**	**154.60**	**130**	*e*PKPbc	**PKPdf**	**23 12 01.0**	**+2.2**	
SONM	**Songino Array**	**158.07**	**112**	PKPab	**PKPab**	**23 12 36.8**	**0.0**	
	comp=Z,0.9nm,0.8s,baz=222,slow=3.9,SNR=6.8							

NNC ***08*** *22:55:16.7±0.5, 43.28N×78.85E, h4km±2km, mb2.0, mpv2.7, Error ellipse: s-maj=4.3km s-min=2.6km az=124.0*
ISCJB ***08*** *22:55:17.1±1.2, 43.29N±0.05×78.84E±0.08, h6km±8km, Error ellipse: s-maj=11.9km s-min=6.8km az=38.4*
SOME ***08*** *22:55:17.5, 43.47N×78.40E, h5km*

ISC 08 22:55:16.1±1.6, **43.26N**±0.07×**78.88E**±0.07, **h11**km±10km, **n6**, **σ0s51**/12, **Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPKS	**Kokpek**	**0.25**	**325**	*e*P	**Pg**	**22 55 21.6**	**+0.2**
	11nm,0.0s						
KPKS				*e*S	**Sg**	**22 55 24.4**	**-0.6**
	46nm,0.1s						
ZHN	**Zhinishke**	**0.34**	**255**	*e*P	**Pg**	**22 55 23.5**	**+0.5**
	2.2nm,0.0s						
ZHN				*e*S	**Sg**	**22 55 27.8**	**+0.2**
	5.1nm,0.1s						
SATY	**Saty**	**0.40**	**240**	*e*P	**Pb**	**22 55 25.2**	**-0.1**
	3.8nm,0.1s						
SATY				*e*S	**Sb**	**22 55 30.8**	**-0.6**
	39nm,0.1s						
SATY	**Saty**	**0.40**	**240**	P	**Pb**	**22 55 25.0**	**-0.3**
	3.8nm,0.1s						
SATY				S	**Sb**	**22 55 30.9**	**-0.6**
	16nm,0.1s						
DJR	**Jarkent**	**1.26**	**31**	P	**Pg**	**22 55 40.4**	**0.0**
	0.6nm,0.5s						
DJR				S	**Sg**	**22 55 57.1**	**+0.4**
	1.1nm,0.3s						
CHKK	**Chushkaly**	**1.50**	**294**	P	**Pb**	**22 55 43.9**	**-0.1**
	0.9nm,0.1s						
CHKK				S	**Sn**	**22 56 03.1**	**+0.7**
	1.2nm,0.3s						

IDC ***08*** *23:02:48.2±4.6, 30.42S×178.84W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/25, mbtmp3.9/2, Error ellipse: s-maj=249.3km s-min=69.8km az=167.0*
WEL ***08*** *23:03:41.1±0.9, 32.5S±12.2×177.9W±3.1, h309km±14km, mB4.8/12, MLv4.8/26, Mw(mB)4.1/12, Error ellipse: s-maj=0.0km s-min=0.0km az=109.9*

ISC 08 23:03:33.3±0.9, **31.40S**±0.09×**179.5W**±0.2, **h400**km, **n64**, **σ2s27**/71, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.55**	**34**	P	**Pn**	**23 04 34.6**	**+1.5**
GLKZ	**Green Lake**	**2.55**	**34**	S	**S**	**23 05 19.4**	**-1.9**
MXZ	**Matakaoa Point**	**6.40**	**196**	P	**P**	**23 05 12.7**	**+2.6**
MXZ				S	**S**	**23 06 26.6**	**-2.6**
WMGZ	**Waiomatatini S**	**6.62**	**194**	P	**P**	**23 05 14.7**	**+1.5**
WMGZ				S	**S**	**23 06 33.1**	**-0.6**
KUZ	**Kuaotunu**	**6.62**	**215**	P	**P**	**23 05 15.5**	**+2.3**
HAZ	**Te Kaha**	**6.71**	**198**	P	**P**	**23 05 16.9**	**+2.7**
HAZ				S	**S**	**23 06 33.5**	**-2.0**
PKGZ	**Pakihiroa**	**6.76**	**196**	P	**P**	**23 05 15.6**	**+0.8**
PKGZ				S	**S**	**23 06 31.8**	**-4.9**
PUZ	**Puketiti**	**6.90**	**195**	P	**P**	**23 05 18.0**	**+1.7**
RUGZ	**Raukumara Rang**	**6.94**	**199**	P	**P**	**23 05 19.2**	**+2.3**
RUGZ				S	**S**	**23 06 38.1**	**-2.3**
OPRZ	**Ohinepanea**	**7.19**	**206**	P	**P**	**23 05 22.4**	**+3.0**
MARZ	**Manawahe**	**7.27**	**204**	P	**P**	**23 05 23.8**	**+3.4**
MWZ	**Matawai**	**7.32**	**198**	P	**P**	**23 05 22.3**	**+1.3**
MWZ				S	**S**	**23 06 46.5**	**-1.7**
TKGZ	**Te Karaka**	**7.34**	**196**	P	**P**	**23 05 23.2**	**+2.1**
URZ	**Urewera**	**7.38**	**201**	P	**P**	**23 05 22.5**	**+0.9**
URZ				S	**S**	**23 06 47.1**	**-2.0**
KARZ	**Kaharoa**	**7.46**	**207**	P	**P**	**23 05 25.2**	**+2.6**
RAGZ	**Rawiri**	**7.51**	**199**	P	**P**	**23 05 26.2**	**+3.1**
TARZ	**Mount Tarawera**	**7.55**	**204**	P	**P**	**23 05 27.4**	**+3.7**
RIGZ	**Rimuhau**	**7.62**	**196**	P	**P**	**23 05 25.5**	**+1.2**
RIGZ				S	**S**	**23 06 52.4**	**-1.8**
MUGZ	**Murupara**	**7.68**	**202**	P	**P**	**23 05 27.2**	**+2.2**
HRRZ	**Handcock Road**	**7.77**	**205**	P	**P**	**23 05 30.2**	**+4.2**
SNGZ	**Shannon Statio**	**7.79**	**198**	P	**P**	**23 05 29.1**	**+2.8**
PRGZ	**Paritu Road**	**7.79**	**195**	P	**P**	**23 05 30.1**	**+3.9**
GRRZ	**Galatos Road**	**7.80**	**206**	P	P	23 05 30.8	+4.5
PRRZ	**Plateau Road**	**7.83**	**204**	P	**P**	**23 05 29.1**	**+2.5**
WPRZ	**Whakapapatarin**	**7.93**	**205**	P	**P**	**23 05 31.8**	**+4.0**
KNZ	**Kokohu**	**7.94**	**196**	P	**P**	**23 05 30.2**	**+2.4**
RAHZ	**Arahi**	**7.99**	**199**	P	**P**	**23 05 30.7**	**+2.2**
RAHZ				S	**S**	**23 07 02.7**	**+0.6**
MTHZ	**Maungataniwha**	**8.00**	**201**	P	**P**	**23 05 29.6**	**+1.0**
MHGZ	**Mahia Peninsul**	**8.01**	**194**	P	**P**	**23 05 31.7**	**+3.1**
WHHZ	**Waihua**	**8.10**	**198**	P	**P**	**23 05 31.9**	**+2.3**
NMHZ	**Naumai**	**8.24**	**200**	P	**P**	**23 05 33.2**	**+1.9**
ARHZ	**Aropaoanui**	**8.34**	**199**	P	**P**	**23 05 35.0**	**+2.7**
BKZ	**Black Stump Fm**	**8.40**	**202**	P	**P**	**23 05 33.5**	**+0.5**
HIZ	**Hauiti**	**8.46**	**211**	P	P	23 05 37.8	+4.2
MCHZ	**McNeill Hill**	**8.59**	**200**	P	**P**	**23 05 36.8**	**+1.7**
KRVZ	**Karewarewa**	**8.63**	**206**	P	**P**	**23 05 38.4**	**+2.8**
WTVZ	**West Tongariro**	**8.66**	**206**	P	**P**	**23 05 38.4**	**+2.4**
TWVZ	**Taurewa**	**8.68**	**207**	P	**P**	**23 05 38.7**	**+2.4**
CKHZ	**Cape Kidnapper**	**8.69**	**198**	P	**P**	**23 05 36.9**	**+0.8**
NGZ	**Ngauruhoe**	**8.71**	**206**	P	**P**	**23 05 39.6**	**+3.0**
FWVZ	**Far West T-bar**	**8.80**	**206**	P	**P**	**23 05 39.6**	**+1.9**
BHHZ	**Black Hill Sta**	**8.83**	**203**	P	**Pn**	**23 05 37.2**	**-0.5**
TRVZ	**Turoa**	**8.84**	**206**	P	**P**	**23 05 39.8**	**+1.6**
MOVZ	**Moawhango**	**8.86**	**204**	P	**P**	**23 05 39.9**	**+1.7**
KAHZ	**Kahuranaki**	**8.87**	**198**	P	**Pn**	**23 05 39.3**	**+1.2**
KRHZ	**Kereru**	**8.87**	**201**	P	**P**	**23 05 38.9**	**+0.6**
VRZ	**Vera Road**	**9.00**	**210**	P	**Pn**	**23 05 43.0**	**+3.4**
PXZ	**Pawanui**	**9.09**	**198**	P	**Pn**	**23 05 41.4**	**+0.8**
PNHZ	**Pukenui**	**9.17**	**201**	P	**P**	**23 05 40.7**	**-0.8**
WPHZ	**Waipukurau**	**9.24**	**200**	P	**Pn**	**23 05 44.6**	**+2.2**
PRHZ	**Porangahau**	**9.37**	**198**	P	**Pn**	**23 05 46.0**	**+2.1**
TSZ	**Takapari Road**	**9.38**	**202**	P	**Pn**	**23 05 44.1**	**0.0**
TSZ				S	**S**	**23 07 28.2**	**-3.2**
KHEZ	**Kahui Hut**	**9.47**	**212**	P	Pn	23 05 49.5	+4.4
ANWZ	**Angora Road**	**9.60**	**199**	P	**Pn**	**23 05 48.0**	**+1.5**
POWZ	**Post Office Ro**	**9.74**	**202**	P	**Pn**	**23 05 49.5**	**+1.3**
PRWZ	**Pori Road**	**9.83**	**200**	P	**Pn**	**23 05 51.1**	**+2.0**
BFZ	**Birch Farm**	**9.87**	**199**	P	**Pn**	**23 05 51.0**	**+1.4**
MRZ	**Mangatainoka R**	**10.05**	**202**	P	**P**	**23 05 51.2**	**-0.1**
CPWZ	**Castlepoint**	**10.09**	**199**	P	**Pn**	**23 05 54.0**	**+1.8**
HOWZ	**Holdsworth Sta**	**10.28**	**201**	P	**Pn**	**23 05 54.0**	**-0.4**
OGWZ	**Otaki Gorge**	**10.32**	**203**	P	**Pn**	**23 05 54.5**	**-0.3**
ASAR	**Alice Springs**	**41.75**	**269**	P	**P**	**23 10 44.3**	**-1.2**
	0.2nm,0.4s,baz=108,slow=8.7,SNR=3.3						
WRA	**Warramunga Arr**	**42.83**	**274**	P	**P**	**23 10 52.7**	**-1.5**
	2.1nm,0.3s,baz=113,slow=7.8,SNR=5.0						
FINES	**FINESS Array B**	**145.61**	**338**	PKP	**PKiKP**	**23 22 25.9**	**-2.2**
	2.7nm,0.9s,baz=36,slow=2.6,SNR=5.3						

ISCJB ***08*** *23:04:37.7±1.1, 44.40N±0.07×149.22E±0.09, h51km±13km, mb3.4/3, Error ellipse: s-maj=14.5km s-min=7.1km az=139.7*
MOS ***08*** *23:04:37.6±1.6, 44.52N×149.25E, h42km, mb4.1/5, Error ellipse: s-maj=21.7km s-min=13.4km az=155.8*
SKHL ***08*** *23:04:38.7±0.2, 44.41N×149.23E, h57km±4km, mb4.2/3*
JMA ***08*** *23:04:38.0±0.6, 44.53N×149.27E, h30km, M3.9*
IDC ***08*** *23:04:43.3±4.9, 44.77N×149.06E, h70km±38km, mb3.1/3, mb1 3.4/6, mb1mx3.1/30, mbtmp3.5/6, ML2.7/3, Error ellipse: s-maj=74.8km s-min=26.6km az=154.0*

ISC 08 23:04:39.3±1.8, **44.43N**±0.09×**149.2E**±0.1, **h46**km±20km, **n37**, **σ1s25**/47, **mb3.4**/3, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.26**	**310**	*e*PN	**Pn**	**23 04 59.5**	**-0.9**
KUR				*i* S	**Sn**	**23 05 15.1**	**-1.1**
KUR				pmax	pmax		
	comp=Z,290nm,0.4s						
KUR				pmax	pmax		
	comp=N,43nm,0.2s						
KUR				pmax	pmax		
	comp=E,87nm,0.2s						
KUR				smax	smax		
	comp=N,2μm,0.5s						
KUR				smax	smax		
	comp=E,819nm,0.5s						
KUR	**Kuril'sk**	**1.26**	**310**	*e*P	**Pn**	**23 04 59.5**	**-0.9**
KUR				AMB	AMB	23 05 01.0	
	comp=E,80nm,0.4s						
KUR				*i* S	**Sn**	**23 05 15.1**	**-1.1**
KUR				A	A	23 05 17.0	
	comp=E,2μm,0.6s						
KUR				A	A	23 05 17.0	
	comp=E,1μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.45**	**262**	PN	**Pn**	**23 05 16.0**	**-0.7**
YUK				S	**Sn**	**23 05 45.3**	**0.0**
YUK				pmax	pmax		
	comp=Z,76nm,0.2s						
YUK				smax	smax		
	comp=N,65nm,0.2s						
YUK				smax	smax		
	comp=E,262nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.45**	**262**	*e*P	**Pn**	**23 05 16.0**	**-0.7**
YUK				AMB	AMB	23 05 18.0	
	comp=E,40nm,0.4s						
YUK				*e*S	**Sn**	**23 05 44.0**	**-1.3**
YUK				A	A	23 05 49.0	
	comp=E,650nm,0.5s						
YUK				A	A	23 05 49.0	
	comp=E,260nm,0.5s						
GRPR	**Tuman**	**2.52**	**261**	*e*PN	**Pn**	**23 05 17.1**	**-0.6**
GRPR				*e*S	**Sn**	**23 05 46.7**	**-0.4**
GRPR				pmax	pmax		
	comp=Z,88nm,0.3s						
GRPR				smax	smax		
	comp=N,270nm,0.4s						
GRPR				smax	smax		
	comp=E,154nm,0.4s						
GRPR	**Tuman**	**2.52**	**261**	*e*P	**Pn**	**23 05 17.1**	**-0.6**
GRPR				AMB	AMB	23 05 20.0	
	comp=E,40nm,0.4s						
GRPR				*e*S	**Sn**	**23 05 46.0**	**-1.1**
GRPR				A	A	23 05 51.0	
	comp=E,270nm,0.4s						
GRPR				A	A	23 05 51.0	
	comp=E,150nm,0.4s						
NEM2	**Nemuro 2**	**2.73**	**248**	P	**Pn**	**23 05 19.6**	**-1.0**
NEM2				*e*S	**Sn**	**23 05 50.6**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.74**	**249**	*e*PN	**Pn**	**23 05 19.9**	**-0.8**
NMR				*e*S	**Sn**	**23 05 52.3**	**-0.2**
NMR	**Nemuro--Hokkai**	**2.74**	**249**	*e*P	**Pn**	**23 05 19.9**	**-0.8**
NMR				*e*S	**Sn**	**23 05 52.3**	**-0.2**
GLVR	**Golovnino**	**2.75**	**257**	*e*PN	**Pn**	**23 05 20.3**	**-0.6**
GLVR				*e*S	**Sn**	**23 05 53.0**	**+0.1**
GLVR				smax	smax		
	comp=N,276nm,0.3s						
GLVR				smax	smax		
	comp=E,176nm,0.3s						
GLVR	**Golovnino**	**2.75**	**257**	*e*P	**Pn**	**23 05 20.3**	**-0.6**
GLVR				*e*S	**Sn**	**23 05 53.0**	**+0.1**
GLVR				A	A	23 05 55.0	
	comp=E,280nm,0.3s						
GLVR				A	A	23 05 55.0	
	comp=E,180nm,0.3s						
JRA	**Rausu**	**2.99**	**262**	P	**Pn**	**23 05 25.1**	**+1.0**
JRA				*e*S	**Sn**	**23 05 59.4**	**+0.7**
JNK	**Nakash**	**3.35**	**257**	P	**Pn**	**23 05 29.1**	**-0.1**
JNK				*e*S	**Sn**	**23 06 08.5**	**+0.8**
JAK	**Akkeshi**	**3.58**	**248**	P	**Pn**	**23 05 32.2**	**0.0**
JAK				*e*S	**Sn**	**23 06 12.9**	**-0.3**
JTKR	**Abashiri--Toko**	**3.85**	**265**	P	**Pn**	**23 05 38.6**	**+2.7**
JAR	**Ashorobuto**	**4.10**	**256**	P	**Pn**	**23 05 40.2**	**+0.8**
JAR				*e*S	**Sn**	**23 06 27.0**	**+0.9**
JCH	**Churui**	**4.63**	**249**	P	**Pn**	**23 05 46.8**	**+0.2**
JCH				*e*S	**Sn**	**23 06 39.0**	**-0.1**
JNBK	**Urakawa-nobuka**	**5.18**	**248**	P	**Pn**	**23 05 54.5**	**+0.3**
JNBK				*e*S	**Sn**	**23 06 50.9**	**-1.8**
JBT2	**Biratori 2**	**5.25**	**254**	P	**Pn**	**23 05 55.3**	**+0.2**
JNB	**Noboribetsu**	**6.27**	**255**	P	**Pn**	**23 06 09.6**	**+0.5**
JKB	**Kayabe**	**6.50**	**250**	P	**Pn**	**23 06 11.7**	**-0.6**
JKB				*e*S	**Sn**	**23 07 20.2**	**-5.0**
JYM2	**Yakumo 2**	**6.86**	**253**	P	**Pn**	**23 06 17.3**	**+0.1**
JANG	**Nango**	**6.99**	**237**	*e*S	Sn	23 07 30.2	-7.1
JTM	**Tenmabayashi**	**7.03**	**242**	*e*S	Sn	23 07 32.2	-5.9
PETK	**Petropavlovsk-**	**10.33**	**30**	PN	**Pn**	**23 07 05.0**	**+0.3**
PETK	**Petropavlovsk-**	**10.33**	**30**	P	**Pn**	**23 07 05.0**	**+0.3**
	comp=E,0.3nm,0.3s,baz=200,slow=12,SNR=4.1						
USRK	**Ussuriysk Ar.**	**12.35**	**275**	P	**Pn**	**23 07 33.8**	**+1.4**
	baz=85,slow=13,SNR=3.5						
KSRS	**Korea Array**	**17.51**	**254**	P	**P**	**23 08 43.6**	**+3.1**
	comp=E,0.1nm,0.3s,baz=57,slow=12,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**28.69**	**143**	T	T	23 41 29.7	
	baz=334,slow=76,SNR=67						
H11N1	**WAKE ISLAND Hy**	**28.71**	**143**	T	T	23 41 28.8	
	baz=334,slow=76,SNR=54						
H11N3	**WAKE ISLAND Hy**	**28.71**	**143**	T	T	23 41 26.4	
	baz=334,slow=76,SNR=49						
H11S1	**WAKE ISLAND Hy**	**29.70**	**145**	T	T	23 42 39.3	
	baz=334,slow=76,SNR=81						
H11S3	**WAKE ISLAND Hy**	**29.71**	**145**	T	T	23 42 39.2	
	baz=334,slow=76,SNR=82						
H11S2	**WAKE ISLAND Hy**	**29.72**	**145**	T	T	23 42 37.9	
	baz=334,slow=76,SNR=53						
YKA	**Yellowknife Ar**	**54.41**	**35**	P	**P**	**23 14 01.8**	**+0.7**
	comp=E,0.3nm,0.8s,baz=295,slow=6.9,SNR=3.9						
NOA	**NORSAR Array B**	**69.50**	**340**	P	**P**	**23 15 41.4**	**-1.1**
	comp=E,0.4nm,0.7s,baz=28,slow=6.5,SNR=4.8						
TXAR	**Lajitas Array**	**81.03**	**58**	P	**P**	**23 16 49.7**	**+0.2**
	comp=E,0.2nm,0.5s,baz=291,slow=3.5,SNR=4.3						

IDC ***08*** *23:12:48.9±5.0, 25.16N×67.42E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.3/33, mbtmp3.7/3, Error ellipse: s-maj=130.7km s-min=39.6km az=142.0*

ISC 08 23:13:04.2±3.4, **26.1N**±0.4×**66.1E**±0.3, **h35**km, **n8**, **σ1s40**/11, **mb3.8**/3, **Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**7.32**	**249**	P	**Pn**	**23 14 48.0**	**-0.6**
WSAR				S	**Sn**	**23 16 08.0**	**-2.5**
WBK	**Wadi Bani Khal**	**7.32**	**243**	P	**Pn**	**23 14 48.5**	**-0.1**
	SNR=29						
WBK				S	**Sn**	**23 16 11.3**	**+0.8**
SMDO	**Samad**	**7.88**	**249**	P	**Pn**	**23 14 57.6**	**+1.2**
JMDO	**Jabal Madar**	**8.14**	**245**	P	**Pn**	**23 15 01.3**	**+1.4**
	SNR=21						
JMDO				S	**Sn**	**23 16 30.8**	**+0.1**
BSY	**Bisya**	**8.72**	**250**	P	**Pn**	**23 15 09.3**	**+1.4**
	SNR=6.9						
BSY				S	**Sn**	**23 16 45.9**	**+0.8**
MKAR	**Makanchi Array**	**24.37**	**28**	P	P	23 18 11.2	-7.8
	0.9nm,0.9s,baz=206,slow=11,SNR=5.1						
FINES	**FINESS Array B**	**44.40**	**334**	P	**P**	**23 21 11.7**	**+0.6**
	1.7nm,0.9s,baz=134,slow=9.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**61.45**	**271**	P	**P**	**23 23 16.1**	**-1.4**
	0.6nm,0.7s,baz=61,slow=6.8,SNR=4.0						

NIED ***08*** *23:13:00, 44.60N×149.20E, h44km, Mw3.9 Best double couple: M0 8.57000×10^14 NP1:φs216.00000°, δ28.00000°, λ-137.00000° NP2:φs87.00000°, δ71.00000°, λ-68.00000°.*
MOS ***08*** *23:13:28.9±1.0, 44.47N×149.21E, h48km, mb4.1/5, Error ellipse: s-maj=13.4km s-min=10.5km az=66.8*
ISCJB ***08*** *23:13:29.3±0.9, 44.42N±0.05×149.17E±0.07, h53km±9km, mb3.7/16, MS3.3/3, Error ellipse: s-maj=11.1km s-min=6.3km az=135.9*
SKHL ***08*** *23:13:29.5±0.1, 44.40N×149.33E, h56km±3km, mb4.5/4*
IDC ***08*** *23:13:30.4±4.6, 44.45N×149.17E, h44km±41km, mb3.5/14, mb1 3.7/15, mb1mx3.6/33, mbtmp3.7/15, ML2.8/1, MS2.9/4, Ms1 3.0/4, ms1mx2.7/21, Error ellipse: s-maj=25.7km s-min=17.0km az=165.0*

ISC 08 23:13:29.0±0.6, **44.36N**±0.06×**149.28E**±0.09, **h35**km±5km, **n61**, **σ1s66**/75, **mb3.7**/16, **MS3.2**/3, **3C-2D**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.33**	**311**	*d i*PN	**Pn**	**23 13 50.8**	**-0.3**
KUR				*i* S	**Sn**	**23 14 06.3**	**-1.3**
KUR				pmax	pmax		
	comp=Z,257nm,0.5s						
KUR				pmax	pmax		
	comp=E,197nm,0.3s						
KUR				pmax	pmax		
	comp=N,73nm,0.2s						
KUR				smax	smax		
	comp=N,953nm,0.3s						
KUR				smax	smax		
	comp=E,482nm,0.5s						
KUR	**Kuril'sk**	**1.33**	**311**	⇓ *i*P	**Pn**	**23 13 50.6**	**-0.5**
KUR				AMB	AMB	23 13 53.0	
	comp=E,70nm,0.5s						
KUR				AMB	AMB	23 13 53.0	
	comp=E,200nm,0.5s						
KUR				AMB	AMB	23 13 53.0	
	comp=E,250nm,0.5s						
KUR				*i* S	**Sn**	**23 14 06.4**	**-1.2**
KUR				A	A	23 14 09.6	
	comp=E,950nm,0.5s						
KUR				A	A	23 14 09.6	
	comp=E,480nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.

	comp=E,0.4nm,0.3s,baz=210,slow=13,SNR=7.7						
MJAR	**Matsushiro Arr**	**11.48**	**231**	LR	LR	23 20 59.9	
	comp=E,26nm,18.9s,baz=110,slow=39						
EKMR	**Ekimchan**	**13.84**	**315**	*eP*	**Pn**	**23 16 41.2**	**-1.3**
BMKR	**Bomnak**	**16.77**	**315**	*eP*	**Pn**	**23 17 18.0**	**-2.9**
YAK	**Yakutsk**	**21.09**	**334**	P	**P**	**23 18 09.4**	**-0.6**
YAK	**Yakutsk**	**21.09**	**334**	*eP*	**P**	**23 18 09.4**	**-0.6**
BILL	**Bilibino**	**25.36**	**15**⇑	*eP*	**P**	**23 18 50.9**	**-1.5**
BILL				*e*		23 19 34.0	
BILL				*eS*	**S**	**23 23 15.3**	**-0.8**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,59nm,15.0s						
H11N2	**WAKE ISLAND Hy**	**28.61**	**143**	T	T	23 50 11.8	
	baz=334,slow=75,SNR=112						
H11N1	**WAKE ISLAND Hy**	**28.63**	**143**	T	T	23 50 13.9	
	baz=334,slow=75,SNR=102						
H11N3	**WAKE ISLAND Hy**	**28.63**	**143**	T	T	23 50 14.1	
	baz=334,slow=75,SNR=129						
TIXI	**Tiksi**	**29.10**	**347**	*i* P	**P**	**23 19 26.8**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.2s						
TIXI	**Tiksi**	**29.10**	**347**	*i* P	**P**	**23 19 26.8**	**+1.0**
H11S1	**WAKE ISLAND Hy**	**29.62**	**145**	T	T	23 51 32.2	
	baz=335,slow=76,SNR=157						
H11S3	**WAKE ISLAND Hy**	**29.63**	**145**	T	T	23 51 31.7	
	baz=335,slow=76,SNR=110						
H11S2	**WAKE ISLAND Hy**	**29.64**	**145**	T	T	23 51 33.5	
	baz=335,slow=76,SNR=126						
SONM	**Songino Array**	**29.66**	**292**	P	**P**	**23 19 30.8**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=95,slow=11,SNR=2.5						
KDAK	**Kodiak Island**	**37.70**	**48**	*i* P	**P**	**23 20 41.7**	**+1.0**
ILAR	**Eielson Array**	**40.09**	**37**	P	**P**	**23 21 00.8**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=270,slow=7.9,SNR=13						
INK	**Inuvik**	**45.10**	**31**	P	**P**	**23 21 41.8**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=279,slow=8.7,SNR=4.3						
MKAR	**Makanchi Array**	**45.66**	**298**	P	**P**	**23 21 46.3**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=80,slow=7.8,SNR=5.6						
MKAR				PcP	**PcP**	**23 23 23.5**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=75,slow=4.6,SNR=2.6						
YKA	**Yellowknife Ar**	**54.44**	**35**	P	**P**	**23 22 52.9**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=297,slow=6.9,SNR=11						
FINES	**FINESS Array B**	**65.02**	**334**	*eP*	**P**	**23 24 06.2**	**+1.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**65.02**	**334**	P	**P**	**23 24 04.9**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=51,slow=6.1,SNR=5.1						
WRA	**Warramunga Arr**	**65.43**	**195**	P	**P**	**23 24 08.9**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=7.6,slow=6.8,SNR=3.1						
NVAR	**Mina Array Bea**	**65.95**	**59**	P	**P**	**23 24 12.5**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=308,slow=7.9,SNR=3.6						
PDAR	**Pinedale Array**	**68.34**	**51**	P	**P**	**23 24 26.9**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=306,slow=3.0,SNR=3.0						
NB2	**NORSAR Subarra**	**69.58**	**340**	P	**P**	**23 24 32.9**	**-1.1**
	comp=Z,3.6nm,0.9s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.58**	**340**	*eP*	**P**	**23 24 33.2**	**-0.8**
NOA	**NORSAR Array B**	**69.58**	**340**	P	**P**	**23 24 32.9**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=32,slow=6.6,SNR=6.7						
NOA				LR	LR	23 58 35.8	
	comp=Z,9.7nm,18.6s,baz=315,slow=39						
ULM	**Lac du Bonnet**	**70.08**	**38**	P	**P**	**23 24 36.9**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=338,slow=5.4,SNR=3.9						
AKASG	**Malin Array Be**	**71.99**	**325**	P	**P**	**23 24 47.9**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=37,slow=5.5,SNR=3.4						
AKASG				LR	LR	00 00 37.6	
	comp=Z,26nm,20.0s,baz=320,slow=39						
GERES	**GERESS Array B**	**79.36**	**332**	P	**P**	**23 25 31.2**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=39,slow=6.3,SNR=3.3						
TXAR	**Lajitas Array**	**81.03**	**58**	P	**P**	**23 25 41.1**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=300,slow=3.8,SNR=8.4						

IDC 08 23:27:38.1±2.4, 15°.93S×178°.57W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.7/23, mbtmp3.6/5, Error ellipse: s-maj=149.9km s-min=23.6km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.87**	**258**	P	P	23 35 54.6	-0.1
	0.4nm,0.6s,baz=95,slow=8.0,SNR=4.6						
ASAR	**Alice Springs**	**45.21**	**252**	P	P	23 35 57.4	0.0
	1.5nm,0.5s,baz=87,slow=8.1,SNR=27						
NVAR	**Mina Array Bea**	**78.11**	**44**	P	P	23 39 40.5	+1.1
	0.2nm,0.5s,baz=218,slow=5.7,SNR=3.5						
ILAR	**Eielson Array**	**84.00**	**13**	P	P	23 40 09.0	-0.9
	0.2nm,0.4s,baz=224,slow=6.0,SNR=3.5						
PDAR	**Pinedale Array**	**86.03**	**44**	P	P	23 40 20.5	-0.4
	0.3nm,0.5s,baz=213,slow=4.3,SNR=2.9						

SKHL 08 23:40:52.6±0.5, 44°.45N×149°.22E, h59km±1km, mb4.0/2, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.24**	**310**⇑	*iP*	Pn	23 41 13.0	-0.7
KUR				AMB	AMB	23 41 14.0	
	60nm,0.4s						
KUR				*i* S	Sn	23 41 28.6	-0.9
KUR				A	A	23 41 31.0	
	670nm,0.4s						
KUR				A	A	23 41 31.0	
	570nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.45**	**261**	*eP*	Pn	23 41 29.9	-0.2
YUK				*eS*	Sn	23 41 57.5	-1.4
YUK				A	A	23 42 01.0	
	180nm,0.3s						
YUK				A	A	23 42 01.0	
	300nm,0.3s						
GRPR	**Tuman**	**2.52**	**261**	*eP*	Pn	23 41 30.5	-0.6
GRPR				AMB	AMB	23 41 36.0	
	20nm,0.3s						
GRPR				*eS*	Sn	23 41 59.0	-1.6
GRPR				A	A	23 42 04.0	
	120nm,0.3s						
GRPR				A	A	23 42 04.0	
	150nm,0.3s						
NMR	**Nemuro--Hokkai**	**2.75**	**248**	*eP*	Pn	23 41 34.0	-0.2
NMR				*eS*	Sn	23 42 05.2	-0.9
GLVR	**Golovnino**	**2.76**	**256**	*eP*	Pn	23 41 34.0	-0.3
GLVR				*eS*	Sn	23 42 05.2	-1.3
GLVR				A	A	23 42 09.0	
	140nm,0.4s						
GLVR				A	A	23 42 09.0	
	130nm,0.4s						
YSS	**Yuzh-Sakhalins**	**5.17**	**301**	*eP*	Pn	23 42 07.9	+0.5
BILL	**Bilibino**	**25.29**	**15**	*eP*	P	23 46 15.8	+2.8
TIXI	**Tiksi**	**29.00**	**347**	*eP*	P	23 46 47.6	+1.4

*ISCJB **08** 23:42:10.4±0.5, 36°.21N±0°.02×96°.99W±0°.02, h5km±4km, Error ellipse: s-maj=3.9km s-min=2.8km az=0.1*
*TUL **08** 23:42:12.7, 36°.17N×96°.96W, h4km, ML2.9*
*NEIC **08** 23:42:12.5±2.2, 36°.09N±0°.04×97°.01W±0°.05, h3km±6km*
*ANF **08** 23:42:14.7±0.7, 35°.97N×96°.87W, h5km, ML3.5/9, Error ellipse: s-maj=10.0km s-min=4.6km az=165.0*

ISC 08 23:42:12.5±1.4, 36°.15N±0°.03×96°.99W±0°.02, h8km±11km, n69, σ1°.04/94, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK005	**Luther M Schoo**	**0.52**	**198**	Pg	**Pg**	**23 42 23.0**	**+0.5**
ADOK	**Arcadia Dam**	**0.59**	**212**	Pg	**Pg**	**23 42 24.5**	**+0.7**
OKCSW	**OKLAHOMA CITY**	**0.83**	**206**		**Pb**	**23 42 28.5**	**-0.6**
OKCSW				Sg	**Sb**	**23 42 40.3**	**-0.1**
FNO	**Franklin**	**0.95**	**201**	Pb	**Pb**	**23 42 30.2**	**-1.0**
TUL1	**Leonard**	**1.00**	**104**	P	**Pb**	**23 42 31.0**	**-1.1**
	baz=286						
TUL1				S	**Sb**	**23 42 44.1**	**-1.3**
	baz=286						
TUL1	**Leonard**	**1.00**	**104**	Pg	**Pb**	**23 42 31.1**	**-1.0**
TUL1				Sg	**Sb**	**23 42 44.5**	**-0.9**
W35A	**Tecumseh**	**1.00**	**175**	Pg	**Pb**	**23 42 31.4**	**-0.6**
W35A				Sg	**Sb**	**23 42 43.1**	**-2.3**
U32A	**Winter Ranch,**	**1.64**	**279**	Pn	**Pb**	**23 42 43.4**	**+0.4**
U32A					**Sb**	**23 43 05.0**	**+1.1**
X34A	**Smith Ranch, M**	**1.69**	**204**		**Pn**	**23 42 43.5**	**+1.1**
WMOK	**Wichita Mounta**	**2.03**	**227**	P	**Pn**	**23 42 48.4**	**+1.3**
	baz=45						
WMOK				S	**Sb**	**23 43 15.6**	**+0.4**
	baz=45						
WMOK	**Wichita Mounta**	**2.03**	**227**		**Pn**	**23 42 48.2**	**+1.2**
WMOK				Sn	**Sn**	**23 43 11.6**	**-1.1**
HHAR	**Hobbs**	**2.47**	**86**	Pn	**Pn**	**23 42 53.3**	**+0.2**
W39A	**Magazine**	**2.78**	**109**	P	**Pn**	**23 42 58.5**	**+1.2**
W39A					Sb	**Sb**	**23 43 37.2**	**+0.6**
	baz=292						
W39A	**Magazine**	**2.78**	**109**			**Pn**	**23 42 59.2**	**+1.9**
W39A				Pg		**Pg**	**23 43 05.7**	**0.0**
KSU1	**Kansas State U**	**2.96**	**6**	P		**Pb**	**23 43 06.0**	**+0.5**
	baz=186						
KSU1				S		**Sb**	**23 43 43.4**	**+1.6**
	baz=186						
MIAR	**Mount Ida**	**3.22**	**119**	P		**Pn**	**23 43 04.2**	**+0.9**
	baz=301						
MIAR	**Mount Ida**	**3.22**	**119**			**Pn**	**23 43 04.7**	**+1.4**
MIAR				Pg		**Pg**	**23 43 14.0**	**-0.1**
U40A	**Yellville**	**3.35**	**85**	P		**Pn**	**23 43 05.8**	**+0.6**
	baz=268						
U40A				S		**Sn**	**23 43 45.8**	**+0.6**
	baz=268						
U40A	**Yellville**	**3.35**	**85**	Pn		**Pn**	**23 43 05.9**	**+0.8**
U40A				Pg		**Pb**	**23 43 14.7**	**+2.5**
CBKS	**Cedar Bluff**	**3.44**	**321**			**Pn**	**23 43 07.3**	**+0.9**
X40A	**Basin Creek Fa**	**3.78**	**115**	P		**Pn**	**23 43 12.3**	**+1.2**
	baz=298						
X40A	**Basin Creek Fa**	**3.78**	**115**			**Pn**	**23 43 12.4**	**+1.3**
X40A				Sn		**Sn**	**23 43 55.6**	**-0.2**
WHAR	**Wooly Hollow**	**3.92**	**101**			**Pn**	**23 43 12.9**	**-0.1**
WHAR				Sn		**Sn**	**23 44 00.1**	**+0.9**
MGMO	**Mountain Grove**	**3.93**	**74**			**Pn**	**23 43 13.7**	**+0.6**
W41B	**Gary Mavity, V**	**3.98**	**103**	P		**Pn**	**23 43 14.6**	**+0.8**
	baz=286						
W41B				S		**Sn**	**23 44 00.3**	**-0.4**
	baz=286						
W41B	**Gary Mavity, V**	**3.98**	**103**			**Pn**	**23 43 14.4**	**+0.6**
W41B				Sn		**Sn**	**23 44 01.6**	**+0.9**
AMTX	**Amarillo**	**4.03**	**253**			**Pn**	**23 43 14.8**	**+0.2**
UALR	**University of**	**4.03**	**109**	Pn		**Pn**	**23 43 15.2**	**+0.6**
UALR				Sn		**Sn**	**23 44 02.5**	**+0.5**
ABTX	**Abilene, Hawle**	**4.15**	**213**			**Pn**	**23 43 17.5**	**+1.4**
WHTX	**Lake Whitney,**	**4.17**	**185**	P		**Pn**	**23 43 17.2**	**+0.8**
	baz=5.4						
WHTX				S		**Sn**	**23 44 04.5**	**-0.8**
	baz=5.4						
WHTX	**Lake Whitney,**	**4.17**	**185**	Pn		**Pn**	**23 43 17.2**	**+0.8**
Z41A	**Richland Creek**	**4.50**	**129**	Pn		**Pn**	**23 43 20.9**	**0.0**
CCAR	**Cane Creek**	**4.83**	**116**	Pn		**Pn**	**23 43 26.6**	**+1.2**
CCM	**Cathedral Cave**	**4.97**	**66**	Pn		**Pn**	**23 43 27.6**	**+0.2**
CCM				Pg		**Pg**	**23 43 46.0**	**-1.6**
MSTX	**Muleshoe**	**5.22**	**247**	Pn		**Pn**	**23 43 31.1**	**+0.2**
MSTX						**Pb**	**23 43 47.3**	**+3.2**
KSCO	**Kaye Shedlock'**	**5.31**	**304**			**Pg**	**23 43 51.6**	**-2.6**
PBMO	**Poplar Bluff**	**5.32**	**81**	Pn		**Pn**	**23 43 31.6**	**-0.6**
PBMO				Sn		**Sn**	**23 44 34.1**	**+0.4**
BGNE	**Belgrade**	**5.33**	**351**	Pn		**Pn**	**23 43 33.2**	**+0.9**
BGNE				Pg		**Pg**	**23 43 52.8**	**-1.7**
BGNE						**Sn**	**23 44 31.4**	**-2.5**
MET	**Memphis--Engin**	**5.84**	**98**	Pn		**Pn**	**23 43 39.0**	**-0.3**
PVMO	**Portageville**	**5.89**	**85**	Pn		**Pn**	**23 43 39.6**	**-0.5**
JCT	**Junction City**	**6.13**	**203**	Pn		**Pn**	**23 43 43.4**	**0.0**
JCT				Pg		**Pg**	**23 44 08.9**	**-0.9**
HKT	**Hockley**	**6.26**	**171**	Pn		**Pn**	**23 43 45.8**	**+0.7**
OXF	**Oxford**	**6.41**	**103**	Pn		**Pn**	**23 43 48.1**	**+1.0**
SIUC	**Southern Illin**	**6.42**	**74**	Pn		**Pn**	**23 43 47.9**	**+0.6**
SCIA	**State Center**	**6.45**	**26**	Pn		**Pn**	**23 43 48.8**	**+1.0**
SCIA				Pg			23 44 12.8	-3.3
N41A	**Harden Midland**	**6.62**	**45**	Pn		**Pn**	**23 43 50.5**	**+0.4**
P43A	**Skaggs, Pawnee**	**6.86**	**57**	Pn		**Pn**	**23 43 53.9**	**+0.6**
PLAL	**Pickwick Lake**	**7.36**	**97**	Pn		**Pn**	**23 44 00.9**	**+0.7**
L40A	**Anamosa**	**7.41**	**35**	Pn		**Pn**	**23 44 01.9**	**+1.0**
WVT	**Waverly**	**7.41**	**87**	Pn		**Pn**	**23 44 02.0**	**+1.0**
ECSD	**EROS Data Cent**	**7.58**	**2**	Pn		**Pn**	**23 44 04.5**	**+1.3**
USIN	**University of**	**7.67**	**74**	Pn		**Pn**	**23 44 04.8**	**+0.3**
ISCO	**Idaho Springs**	**7.72**	**301**	Pn		**Pn**	**23 44 05.6**	**+0.1**
ISCO						Pb	23 44 35.2	+8.4
ANMO	**Albuquerque**	**7.81**	**264**	Pn		**Pn**	**23 44 07.7**	**+1.0**
O44A	**Mansfield**	**7.81**	**57**	Pn		**Pn**	**23 44 05.4**	**-1.0**
T47A	**Sharon Grove**	**8.00**	**81**	Pn		**Pn**	**23 44 09.5**	**+0.5**
S22A	**4UR Ranch, Cre**	**8.04**	**284**	Pn		**Pn**	**23 44 10.5**	**+0.6**
833A	**Chaparral WMA,**	**8.06**	**195**	Pn		**Pn**	**23 44 09.8**	**-0.1**
833A						Pb	23 44 49.4	+17
LPM	**Los Pinos Moun**	**8.10**	**260**	Pn		**Pn**	**23 44 10.5**	**-0.1**
MNTX	**Cornudas Mount**	**8.27**	**240**	Pn		**Pn**	**23 44 13.6**	**+0.9**
X48A	**Hartselle**	**8.30**	**99**	Pn		**Pn**	**23 44 13.0**	**-0.2**
PHWY	**Pilot Hill**	**8.38**	**310**	Pn		**Pn**	**23 44 15.1**	**+0.6**
PHWY				Pg		Pb	23 44 50.4	+12
Y22D	**IRIS PASSCAL I**	**8.40**	**259**	Pn		**Pn**	**23 44 14.7**	**0.0**
LENM	**Lemitar**	**8.41**	**259**	Pn		**Pn**	**23 44 15.0**	**+0.1**
N23A	**Red Feather La**	**8.46**	**307**	Pn		**Pn**	**23 44 16.1**	**+0.4**
SMCO	**Snowmass**	**8.47**	**294**	Pn		**Pn**	**23 44 15.6**	**-0.3**
JFWS	**Jewell Farm**	**8.53**	**36**	Pn		**Pn**	**23 44 14.5**	**-1.7**
KVTX	**Kingsville**	**8.61**	**185**	Pn		**Pn**	**23 44 17.6**	**+0.1**
WCI	**Wyandotte Cave**	**8.78**	**73**	Pn		**Pn**	**23 44 19.8**	**0.0**

*ISCJB **08** 23:49:55.8±0.7, 18°.18S±0°.05×69°.38W±0°.10, h138km±6km, mb3.5/2, Error ellipse: s-maj=15.5km s-min=7.5km az=12.4*
*GUC **08** 23:49:56.4±0.4, 18°.29S×69°.43W, h139km±4km, ML3.6*
*IDC **08** 23:49:57.8±1.8, 18°.18S×68°.98W, h138km±13km, mb3.5/2, mb1 3.6/5, mb1mx3.2/30, mbtmp3.9/5, Error ellipse: s-maj=37.2km s-min=17.6km az=98.0*

ISC 08 23:49:56.4±0.9, 18°.19S±0°.05×69°.28W±0°.09, h131km±9km, n13, σ1°.21/21, 5C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minye Minye**	**0.98**	**198**⇑	*iP*	**Pn**	**23 50 19.9**	**+0.3**
MNMC				*i* S	**Sn**	**23 50 37.7**	**+0.5**
MNMC				IAML		23 50 38.4	
	comp=E,3μm,0.4s						
AP01	**Chacalluta**	**1.03**	**260**	*i* P	**Pn**	**23 50 19.5**	**-0.1**
AP01				*i* S	**Sn**	**23 50 36.6**	**-0.6**
AP01				IAML		23 50 39.4	
	comp=E,3μm,0.4s						
GO01	**Chusmiza**	**1.47**	**177**⇑	*iP*	**Pn**	**23 50 25.6**	**+0.8**
GO01				*i* S	**Sn**	**23 50 47.7**	**+1.3**
GO01				IAML		23 50 53.0	
	comp=E,816nm,0.1s						
PB11	**IPOC Station P**	**1.60**	**193**⇑	*iP*	**Pn**	**23 50 25.9**	**0.0**
PB11				*i* S	**Sn**	**23 50 48.4**	**-0.1**
PB11				IAML		23 50 50.9	
	comp=E,746nm,0.1s						
PSGC	**Pisagua**	**1.61**	**210**⇑	*iP*	**Pn**	**23 50 25.3**	**-0.7**
PSGC				*i* S	**Sn**	**23 50 47.5**	**-1.0**
PSGC				IAML		23 50 53.7	
	comp=E,439nm,0.4s						
PB08	**IPOC Station P**	**1.95**	**177**⇑	*iP*	**Pn**	**23 50 30.9**	**+0.8**
PB08				*i* S	**Sn**	**23 50 57.1**	**+1.1**
PB08				IAML		23 50 58.8	
	comp=E,335nm,0.2s						
LPAZ	**La Paz**	**2.19**	**30**	P	**Pn**	**23 50 34.5**	**+1.1**
	comp=E,11nm,0.3s,baz=206,slow=6.6,SNR=469						
LPAZ				S	**Sn**	**23 51 01.0**	**-0.6**
	comp=E,3.3nm,0.3s,baz=308,slow=21,SNR=12						
PB03	**IPOC Station P**	**3.87**	**187**	*i* P	**Pn**	**23 50 54.5**	**-0.1**
LVC	**Limon Verde**	**4.41**	**176**	P	**Pn**	**23 51 03.0**	**+1.1**
	comp=E,3.3nm,0.3s,baz=342,slow=12,SNR=44						
LVC				S	**Sn**	**23 51 50.4**	**-2.5**
	comp=E,8.3nm,0.3s,baz=230,slow=18,SNR=14						
SIV	**San Ignacio**	**8.15**	**76**	P	**Pn**	**23 51 49.1**	**-2.7**
	comp=E,1.9nm,0.3s,baz=275,slow=10.0,SNR=26						
SIV				S	Sn	23 53 11.6	-11
	comp=E,0.2nm,0.3s,baz=336,slow=20,SNR=1.8						
TORD	**Torodi Ar. Bea**	**76.60**	**71**	P	**P**	**00 01 32.2**	**-0.8**
	comp=E,1.0nm,0.6s,baz=249,slow=5.4,SNR=6.8						
YKA	**Yellowknife Ar**	**87.96**	**341**	P	**P**	**00 02 31.6**	**+0.6**
	comp=E,0.5nm,0.6s,baz=134,slow=4.8,SNR=11						
SONM	**Songino Array**	**150.22**	**6**	PKPbc	**PKPbc**	**00 09 32.8**	**+0.7**
	comp=E,0.2nm,0.5s,baz=336,slow=3.2,SNR=3.5						

*IDC **08** 23:52:33.7±2.3, 49°.45N×156°.91E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/39, mbtmp3.3/4, ML2.2/1, Error ellipse: s-maj=59.7km s-min=34.2km az=175.0*
*KRSC **08** 23:52:42.0±1.5, 50°.03N×157°.40E, h24km±34km, ML3.8*
*ISCJB **08** 23:52:44.0±1.4, 50°.0N±0°.1×157°.1E±0°.2, h75km±13km, mb3.1/3, Error ellipse: s-maj=23.0km s-min=9.9km az=43.0*

ISC 08 23:52:42.0±3.9, 49°.8N±0°.2×157°.2E±0°.1, h47km±31km, n23, σ1°.58/29, mb3.3/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.09**	**323**	*eP*	**Pn**	**23 53 00.8**	**0.0**
SKR				*eS*	**Sn**	**23 53 15.0**	**+0.3**
PAU	**Pauzhetka**	**1.66**	**353**	*eP*	**Pn**	**23 53 09.0**	**+0.4**
PAU				*eS*	**Sn**	**23 53 29.0**	**+0.2**
KDTR	**Khodutka, Kamc**	**2.08**	**16**	*eP*	**Pn**	**23 53 14.0**	**-0.3**
KDTR				*eS*	**Sn**	**23 53 36.9**	**-2.0**
ASAK	**Asacha**	**2.61**	**10**	*eP*	**Pn**	**23 53 21.8**	**+0.1**
ASAK				*eS*	**Sn**	**23 53 50.6**	**-1.6**
MTVR	**Mutnovka**	**2.75**	**13**	*eP*	**Pn**	**23 53 23.9**	**+0.3**
MTVR				*eS*	**Sn**	**23 53 53.7**	**-1.9**
RUS	**Russkaya**	**2.75**	**18**	*eP*	**Pn**	**23 53 23.0**	**-0.6**
RUS				*eS*	**Sn**	**23 53 52.5**	**-3.1**
GRL	**Gorelyy**	**2.80**	**12**	*eP*	**Pn**	**23 53 25.0**	**+0.7**
GRL				*eS*	**Sn**	**23 53 55.6**	**-1.3**
KRMR	**Karymshinskiy**	**3.08**	**11**	*eP*	**Pn**	**23 53 29.7**	**+1.7**
KRMR				*eS*	**Sn**	**23 54 04.2**	**+0.7**
PETK	**Petropavlovsk-**	**3.31**	**6**	Pn	**Pn**	**23 53 32.2**	**+0.9**
	1.0nm,0.3s,baz=184,slow=15,SNR=13						
PETK				Sn	**Sn**	**23 54 12.7**	**+3.4**
	0.6nm,0.3s,baz=166,slow=19,SNR=2.7						
DALK	**Dalny**	**3.37**	**17**	*eS*	**Sn**	**23 54 09.1**	**-1.6**
UGLR	**Uglovaya**	**3.55**	**17**	*eP*	**Pn**	**23 53 36.2**	**+1.6**
AVH	**Avacha**	**3.59**	**15**	*eP*	**Pn**	**23 53 37.0**	**+1.9**
KOK	**Koryaka**	**3.60**	**14**	*eP*	**Pn**	**23 53 37.0**	**+1.7**
SMAR	**Somma**	**3.60**	**16**	*eP*	**Pn**	**23 53 36.6**	**+1.2**
KRX	**Arik**	**3.67**	**14**	*eP*	**Pn**	**23 53 38.1**	**+1.9**
KZV	**Kizimen**	**5.64**	**19**	*eP*	**Pn**	**23 54 04.8**	**+1.5**
TUMR	**Tumrok**	**5.77**	**17**	*eP*	**Pn**	**23 54 06.1**	**+1.1**
H11S1	**WAKE ISLAND Hy**	**32.17**	**163**	T	T	00 33 30.6	
	baz=347,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**32.18**	**163**	T	T	00 33 28.5	
	baz=347,slow=76,SNR=37						
H11S2	**WAKE ISLAND Hy**	**32.19**	**163**	T	T	00 33 25.9	
	baz=347,slow=76,SNR=8.5						
YKA	**Yellowknife Ar**	**46.84**	**40**	P	**P**	**00 01 07.5**	**+0.8**
	0.2nm,0.5s,baz=295,slow=7.4,SNR=3.8						
MKAR	**Makanchi Array**	**47.95**	**297**	P	**P**	**00 01 13.8**	**-1.8**
	0.1nm,0.4s,baz=50,slow=8.5,SNR=4.0						
TXAR	**Lajitas Array**	**73.68**	**64**	P	**P**	**00 04 11.3**	**+0.5**
	0.4nm,0.6s,baz=311,slow=4.7,SNR=5.4						

*IDC **09** 00:03:17.3±2.3, 15°.50S×173°.68W, h68km±21km, mb4.6/19, mb1 4.8/22, mb1mx4.7/29, mbtmp4.9/22, MS4.1/27, Ms1 4.1/27, ms1mx4.0/37, Error ellipse: s-maj=17.7km s-min=11.3km az=140.0*
*ISCJB **09** 00:03:18.4±0.7, 15°.57S±0°.03×173°.36W±0°.03, h87km±6km, mb4.8/53, Error ellipse: s-maj=6.1km s-min=2.9km az=35.3*
*MOS **09** 00:03:19.0±1.2, 15°.45S×173°.29W, h86km, mb5.2/28, Error ellipse: s-maj=10.0km s-min=7.2km az=58.2*
*NEIC **09** 00:03:20.3±1.9, 15°.58S±0°.07×173°.27W±0°.08, h92km±4km, mb5.1/237*
*GCMT **09** 00:03:24.4±0.2, 15°.70S±0°.01×172°.78W±0°.01, h18km, MW5.6/148, Moment Tensor Solution. s43,c49; s148,c247; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr0.50±.03; Mθθ-0.65±.02; Mφφ0.15±.02; Mrθ-0.54±.06; Mrφ0.02±.02; Mθφ3.24±.18; Best double couple: M03.29400×10^17 NP1:φs350.00000°, δ88.00000°, λ93.00000°. NP2:φs111.00000°, δ3.00000°, λ31.00000°. Principal axes: T 3.6020, Plg47.0000°, Azm263.0000°; N -0.6180, Plg3.0000°, Azm170.0000°; P -2.9850, Plg43.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 00:03:18.9±0.4, 15°.59S±0°.05×173°.32W±0°.05, h83km±3km, h82km:pP-P, n929, σ1s15/828, mb5.1/155, 69C-20D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.24**	**42**	P	**Pn**	**00 03 55.3**	**+1.1**
AFI	**Afiamalu**	**2.24**	**42**	P	**Pn**	**00 03 54.9**	**+0.6**
	1μm,0.3s,baz=212,slow=1.7,SNR=585						
AFI				LR	LR	00 04 19.8	
	comp=Z,3μm,20.2s,baz=257,slow=26						
AFI				S	**Sn**	**00 04 20.8**	**-0.4**
	3μm,0.3s,baz=102,slow=19,SNR=16						
AFI	**Afiamalu**

comp=Z,13nm,0.4s
MTHZ Maungataniwha 24.73 199 P P 00 08 31.8 -0.9
VAH Vaihoa 24.77 93 *eP* P 00 08 45.4 +12
VAH Vaihoa 24.77 93 *eT* T 00 34 23.2
comp=Z,20nm,0.3s
NMHZ Naumai 24.97 198 P P 00 08 37.4 +2.5
HIZ Hauiti 25.09 202 P P 00 08 38.2 +2.2
HIZ Hauiti 25.09 202 P P 00 08 37.3 +1.3
HIZ IAmb IAmb 00 08 49.6
comp=Z,99nm,1.1s
BKZ Black Stump Fm 25.13 199 P P 00 08 34.1 -2.2
BKZ Black Stump Fm 25.13 199 P P 00 08 34.8 -1.5
KWHZ Kaweka Forest 25.39 199 P P 00 08 39.3 +0.7
NGZ Ngauruhoe 25.43 200 P P 00 08 39.4 +0.3
BHHZ Black Hill Sta 25.56 199 P P 00 08 39.3 -0.9
KAHZ Kahuranaki 25.59 198 P P 00 08 41.2 +0.7
PNHZ Pukenui 25.90 199 P P 00 08 44.4 +1.1
ANWZ Angora Road 26.32 198 P P 00 08 48.5 +1.5
BFZ Birch Farm 26.59 198 P P 00 08 50.1 +0.7
BFZ Birch Farm 26.59 198 P P 00 08 49.8 +0.3
BFZ IAmb IAmb 00 08 57.0
comp=Z,25nm,0.7s
HNR Honiara 26.79 280 LR LR 00 18 24.2
comp=Z,214nm,19.8s,baz=116,slow=34
MSWZ Moikau Station 27.57 199 P P 00 08 59.2 +1.1
SNZO South Karori 27.64 200 P P 00 08 58.9 +0.1
SNZO IAmb IAmb 00 09 09.8
comp=Z,49nm,1.1s
BHW Baring Head 27.68 199 P P 00 08 58.7 -0.4
PLWZ Palliser 27.71 199 P P 00 08 59.1 -0.4
QRZ Quartz Range 27.98 203 P P 00 09 01.5 -0.4
QRZ IAmb IAmb 00 09 03.8
comp=Z,28nm,0.9s
TUWZ Tuamarina 28.00 201 P P 00 09 02.4 +0.4
NNZ Nelson 28.01 202 P P 00 09 01.3 -0.8
CMWZ Cape Campbell 28.20 200 P P 00 09 05.6 +1.8
BSWZ Blackbirch Sta 28.28 200 P P 00 09 06.3 +1.8
THZ Tophouse 28.66 202 P P 00 09 08.2 +0.2
KHZ Kahutara 29.02 200 P P 00 09 13.1 +2.1
OXZ Oxford 30.34 201 P P 00 09 22.3 -0.5
OXZ IAmb IAmb 00 09 26.0
comp=Z,36nm,1.2s
CRLZ Canterbury Las 30.36 200 P P 00 09 24.6 +1.7
MQZ McQueen's Vall 30.46 200 P P 00 09 24.9 +1.1
KWAJ Kwajalein Atol 30.73 321 P P 00 09 26.2 -0.2
KWAJ pmax pmax
comp=Z,144nm,0.9s
KWAJ Kwajalein Atol 30.73 321 P P 00 09 26.2 -0.2
RPZ Rata Peaks 31.03 202 P P 00 09 29.9 +1.1
comp=Z,8.3nm,0.6s,baz=205,slow=0.8,SNR=5.9
RPZ Rata Peaks 31.03 202 P P 00 09 29.6 +0.7
FOZ Fox Glacier 31.34 204 P P 00 09 30.7 -0.8
FOZ IAmb IAmb 00 09 37.1
comp=Z,70nm,1.2s
LBZ Lake Benmore 31.93 203 P P 00 09 37.7 +1.0
ODZ Otahua Downs 32.33 201 P P 00 09 40.0 -0.2
JOHN Johnston Islan 32.34 7 P P 00 09 40.4 -0.1
WKZ Wanaka 32.74 204 P P 00 09 44.7 +0.8
TAOE Nuku Hiva Isla 33.07 82 *e*LR LR 00 18 08.7
comp=Z,2µm,33.7s
TAOE Nuku Hiva Isla 33.07 82 *eT* T 00 44 26.3
comp=Z,114nm,0.3s
MLZ Mavora Lakes 33.54 204 P P 00 09 52.0 +1.1
MLZ IAmb IAmb 00 10 10.8
comp=Z,21nm,0.9s
DCZ Deep Cove 34.01 205 P P 00 09 53.4 -1.4
WHZ Wether Hill Ro 34.05 204 P P 00 09 55.9 +0.7
WHZ IAmb IAmb 00 09 58.4
comp=Z,44nm,1.2s
EIDS Eidsvold 34.64 248 P P 00 10 01.2 +0.6
ARMA Armidale 35.31 239 P pP 00 10 25.5 -0.2
baz=38,SNR=4.1
ARMA Armidale 35.31 239 P P 00 10 05.4 -1.0
RMQ Roma 36.89 247 P pP 00 10 39.4 +0.2
baz=40,SNR=6.0
CNB Canberra Magne 38.69 232 P pP 00 10 53.3 -1.1
baz=41,SNR=5.7
KHU Kahuku 38.76 27 P P 00 10 33.7 -2.1
KHU pmax pmax
comp=Z,63nm,1.1s
KHU Kahuku 38.76 27 P P 00 10 33.7 -2.1
CAN Canberra 38.97 233 pP 00 10 55.3 -1.4
PMG Port Moresby 39.02 274 *i* P P **00 10 39.1 +1.2**
PMG pmax pmax
comp=Z,56nm,1.1s
HMH Humu'ula Sheep 39.13 27 P P 00 10 38.6 -0.4
HMH IAmb IAmb 00 10 43.3
comp=Z,33nm,0.8s
H11S2 WAKE ISLAND Hy 39.17 329 T T 00 51 34.9
baz=147,slow=76
H11S3 WAKE ISLAND Hy 39.18 329 T T 00 51 39.8
baz=147,slow=76
H11S1 WAKE ISLAND Hy 39.19 329 T T 00 51 37.6
baz=147,slow=76
POHA Pohakuloa 39.24 27 P P 00 10 39.0 -0.8
MILA Mila 39.49 230 P pP 00 11 00.2 -0.9
baz=42,SNR=5.3
HON Honolulu 39.65 23 P P 00 10 42.3 -0.6
HON pmax pmax
comp=Z,167nm,1.1s
HON Honolulu 39.65 23 P P 00 10 42.3 -0.6
WAKE Wake Island 39.87 330 P P 00 10 44.8 0.0
KHLH Kahului Airpor 39.88 25 P P 00 10 42.5 -2.3
H11N3 WAKE ISLAND Hy 40.12 330 T T 00 52 46.1
baz=147,slow=74
H11N1 WAKE ISLAND Hy 40.12 330 T T 00 52 47.3
baz=147,slow=75
H11N2 WAKE ISLAND Hy 40.13 330 T T 00 52 37.0
baz=147,slow=74
CMSA Cobar Meteorol 40.52 240 P pP 00 11 11.1 +1.3
baz=43,SNR=7.3
COEN Coen 42.05 266 P P 00 11 02.3 -0.5
TOO Toolangi 42.40 231 P pP 00 11 25.4 +0.2
baz=45,SNR=8.6
TOO Toolangi 42.40 231 P P 00 11 03.5 -2.0
TOO *PP **pP** **00 11 25.9 +0.7**
TOO pmax pmax
comp=Z,7.0nm,0.9s
TOO Toolangi 42.40 231 P P 00 11 03.5 -2.0
TOO pP **pP** **00 11 25.9 +0.7**
TAU Tasmania Unive 43.23 223 P P 00 11 13.7 +1.7
TAU pmax pmax
comp=Z,17nm,1.2s
TAU Tasmania Unive 43.23 223 P P 00 11 13.7 +1.7
STKA Stephens Creek 44.01 240 P P 00 11 15.6 -2.9
STKA *PP **pP** **00 11 39.9 +1.8**
STKA pmax pmax
comp=Z,4.0nm,1.1s
STKA Stephens Creek 44.01 240 P P 00 11 15.2 -3.3
comp=Z,7.5nm,0.6s,baz=101,slow=12,SNR=18
STKA LR LR 00 27 23.1
comp=Z,488nm,21.8s,baz=68,slow=33
STKA Stephens Creek 44.01 240 P P 00 11 15.6 -2.9
STKA pP **pP** **00 11 39.9 +1.8**
ARPS Mount Arapiles 44.94 233 P pP 00 11 45.6 -0.1
baz=47,SNR=7.7
HTT Hallett 46.51 239 P pP 00 12 00.4 +2.2
baz=49,SNR=3.4
JAY Jayapura 47.10 281 P pP 00 12 08.4 +5.4
comp=Z,343nmcomp=Z,17nm,1.6s
BBOO Buckleboo 48.78 240 P P 00 11 53.1 -2.8
BBOO IAmb IAmb 00 11 54.1
comp=Z,16nm,1.1s
SMPI Sarmi 49.15 281 P P 00 12 27.9 +29
WR0 Warramunga Arr 49.69 257 P P 00 12 02.2 -0.8
WB2 Warramunga Arr 49.86 257 P P 00 12 01.5 -2.8
WRAB Tennant Creek 49.87 257 *i* P **P** **00 12 01.1 -3.2**
WRAB pmax pmax
comp=Z,66nm,1.5s
WRAB Tennant Creek 49.87 257 P P 00 12 03.2 -1.1
WRA Warramunga Arr 49.88 257 P P 00 12 01.0 -3.4
comp=Z,3.8nm,0.5s,baz=91,slow=6.8,SNR=20
WRA LR LR 00 33 41.3
comp=Z,355nm,18.1s,baz=100,slow=37
AS31 Alice Springs 50.12 252 P P 00 12 03.0 -3.3
ASAR Alice Springs 50.12 252 P P 00 12 02.7 -3.6
comp=Z,28nm,0.6s,baz=87,slow=8.0,SNR=188
ASAR S **S** **00 19 06.0 -6.0**
comp=Z,1.1nm,0.8s,baz=93,slow=14,SNR=4.8
ASAR LR LR 00 31 15.2
comp=Z,394nm,20.6s,baz=92,slow=34
SARN Sarigan 51.56 307 P P 00 12 18.1 +1.1
SARN IAmb IAmb 00 12 27.7
comp=Z,28nm,1.2s
MTN Manton Dam 53.79 265 P P 00 12 36.1 +2.5
MTN IAmb IAmb 00 12 47.7
comp=Z,8.1nm,0.7s
SAUI Saumlaki 54.61 271 P P 00 12 39.7 +0.2
FAKI Fak Fak 55.02 277 P P 00 12 44.8 +2.3
FORT Forrest 55.40 243 P P 00 12 41.9 -3.0
FORT IAmb IAmb 00 12 48.9
comp=Z,22nm,0.7s
KNRA Kununurra 55.61 261 P P 00 12 48.6 +2.0
SWI Sorong 56.57 279 P pP 00 13 17.9 +3.7
FITZ Fitzroy Crossi 58.24 258 P pP 00 13 29.1 +3.3
baz=61,SNR=4.8
FITZ Fitzroy Crossi 58.24 258 P P 00 13 05.4 +0.1
JCJ Chichijima 60.54 314 LR LR 00 33 34.0
comp=Z,115nm,20.3s,baz=31,slow=30
SOEI Soe 61.00 267 P P 00 13 24.9 +0.5
SBA Scott Base 63.06 185 P P 00 13 38.5 +1.4
SBA pmax pmax
comp=Z,15nm,1.2s
SBA Scott Base 63.06 185 P P 00 13 38.5 +1.4
PSAD2 Pilbara Seismi 63.11 253 P P 00 13 40.5 +2.1
PSAD2 IAmb IAmb 00 13 46.0
comp=Z,11nm,0.8s
PSAC2 Pilbara Seismi 63.17 253 P P 00 13 42.0 +3.2
PSAB2 Pilbara Seismi 63.21 253 P P 00 13 41.6 +2.5
PSAB2 IAmb IAmb 00 13 46.3
comp=Z,12nm,0.8s
PSAB3 Pilbara Seismi 63.21 253 P P 00 13 41.2 +2.1
PSAB3 IAmb IAmb 00 13 43.4
comp=Z,15nm,0.8s
PSAA3 Pilbara Seismi 63.21 253 P P 00 13 41.2 +2.1
PSA00 Pilbara Seismi 63.22 253 P P 00 13 40.5 +1.4
PSAA2 Pilbara Seismi 63.22 253 P P 00 13 40.6 +1.5
PSAA1 Pilbara Seismi 63.23 253 P P 00 13 40.5 +1.4
PSAA1 IAmb IAmb 00 13 44.9
comp=Z,14nm,0.8s
PSAC3 Pilbara Seismi 63.23 253 P P 00 13 41.1 +1.9
PSAC3 IAmb IAmb 00 13 44.5
comp=Z,13nm,0.8s
PSAB1 Pilbara Seismi 63.25 253 P P 00 13 40.8 +1.5
PSAD1 Pilbara Seismi 63.25 254 P P 00 13 41.4 +2.1
PSAC1 Pilbara Seismi 63.26 253 P P 00 13 41.2 +1.8
PSAD3 Pilbara Seismi 63.28 253 P P 00 13 41.1 +1.7
PSAD3 IAmb IAmb 00 13 43.8
comp=Z,11nm,0.7s
MEEK Meekatharra 63.81 248 P pP 00 14 04.2 +0.5
baz=67,SNR=3.1
KLBR Kellerberrin 64.22 242 P pP 00 14 06.0 -0.2
baz=67
NWAO Narrogin (SRO) 64.59 241 P P 00 13 49.4 +1.5
NWAO Narrogin (SRO) 64.59 241 P P 00 13 49.4 +1.5
LUWI Luwuk 64.62 276 P P 00 13 50.2 +1.9
LUWI IAmb IAmb 00 13 55.3
comp=Z,37nm,1.0s
BLDU Ballidu 65.17 243 P pP 00 14 11.1 -1.4
baz=68,SNR=5.1
MUN Mundaring 65.51 242 P pP 00 14 13.7 -1.0
baz=68,SNR=3.6
MORW Morawa 65.87 245 P P 00 13 59.2 +3.0
ATKA Atka Island 67.51 359 P P 00 14 06.0 0.0
MJAR Matsushiro Arr 69.14 320 LR LR 00 40 05.4
comp=Z,36nm,21.7s,baz=155,slow=32
UNV Unalaska Valle 69.40 4 P P 00 14 18.1 +0.4
AKUT Akutan 69.75 5 P P 00 14 20.2 +0.4
CASY Casey 70.27 205 P P 00 14 24.3 +1.3
CASY IAmb IAmb 00 14 31.3
comp=Z,20nm,1.1s
SNCC San Nicolas Is 70.66 46 P P 00 14 27.3 +1.3
baz=234
SNCC San Nicolas Is 70.66 46 P P 00 14 25.1 -0.9
SCZ2 Santa Cruz Isl 71.00 45 P P 00 14 30.0 +1.9
baz=234
JAGI Jajag, Banyuwa 71.02 266 P P 00 14 30.5 +1.9
JAGI IAmb IAmb 00 14 32.9
comp=Z,21nm,1.0s
CNBA Chernabura Isl 71.10 8 P P 00 14 26.8 -1.3
SCI2 San Clemente I 71.19 46 P P 00 14 31.1 +1.9
baz=235
SBC Santa Barbara 71.21 45 P P 00 14 30.8 +1.6
baz=234
SKR Severo-Kuril's 71.23 340 *e*P P 00 14 34.2 +5.2
SKR *e*PP sP 00 14 57.4 -1.2
SKR *e* 00 17 08.2
SKR *e*SSS SSS 00 31 16.4
SKR pmax pmax
comp=Z,137nm,1.4s
SKR pmax pmax
comp=Z,300nm,4.2s
SKR pmax pmax
comp=Z,600nm,4.2s
MCCM Marconi Confer 71.36 40 P P 00 14 28.9 -1.1
PKM Mcpherson Peak 71.39 44 P P 00 14 32.4 +1.7
baz=234,SNR=5.9
SAO San Andreas Ge 71.42 42 P P 00 14 31.2 +0.7
SAO pmax pmax
comp=Z,51nm,1.1s
SAO San Andreas Ge 71.42 42 P P 00 14 31.2 +0.7
SAO IAmb IAmb 00 14 33.7
comp=Z,51nm,1.1s
BLG Laguna Peak, P 71.46 45 P P 00 14 32.1 +1.3
baz=235
PMPB Monarch Peak 71.52 43 P P 00 14 30.8 -0.3
SMMC Simmler 71.52 44 P P 00 14 32.7 +1.5
baz=234,SNR=6.3
PAGB Antelope Grade 71.59 43 P P 00 14 31.8 +0.2
FMP Fort Macarthur 71.77 46 P P 00 14 33.2 +0.6
baz=235
HOPS Hopland Field 71.77 39 P P 00 14 33.1 +0.6
GDXM Geysers 71.83 39 P P 00 14 33.7 +0.7
GDXM IAmb IAmb 00 14 37.1
comp=Z,20nm,1.2s
KCPM Cahto Peak 71.90 38 P P 00 14 33.0 -0.4
OSI Osito Audit: C 71.98 45 P P 00 14 35.5 +1.6
baz=235
OSI Osito Audit: C 71.98 45 P P 00 14 33.1 -0.8
DECC Green Verdugo 72.04 45 P P 00 14 35.4 +1.0
baz=235
PASC Pasadena Art C 72.10 46 P P 00 14 33.5 -1.1
109C Camp Elliot, M 72.15 47 P P 00 14 35.7 +0.8
baz=236
109C Camp Elliot, M 72.15 47 P P 00 14 33.3 -1.6
KMRM Mail Ridge 72.17 38 P P 00 14 36.4 +1.4
ARVC Arvin 72.19 44 P P 00 14 36.3 +1.1
baz=234
MWC Mount Wilson 72.22 46 P P 00 14 35.0 -0.5
MWC Mount Wilson 72.22 46 P P 00 14 35.0 -0.5
JCC Jacoby Creek, 72.36 37 P P 00 14 36.5 +0.6
JCC IAmb IAmb 00 14 39.3
comp=Z,37nm,1.0s
VES Vestal, Richgr 72.43 44 P P 00 14 38.2 +1.7
baz=234,SNR=8.6
MURC Murrieta 72.47 47 P P 00 14 37.9 +1.0
baz=236,SNR=9.1
BFSC Mount Baldy, Ra 72.50 46 P P 00 14 37.9 +0.7
baz=236,SNR=5.8
VOG Valley Oaks Go 72.51 43 P P 00 14 37.9 +0.9
baz=234
KHMM Horse Mountain 72.57 37 P P 00 14 38.0 +0.6
EDW2 Edwards Air Fo 72.62 45 P P 00 14 39.1 +1.3
baz=235,SNR=26
MONP2 Monument Peak 72.64 48 P P 00 14 39.3 +1.2
baz=237,SNR=13
O02D Mt. Diablo Mer 72.68 38 P P 00 14 39.9 +1.8
baz=230,SNR=29
CHIR Chirikof Islan 72.69 10 P P 00 14 37.7 +0.1
IKP In-Ko-Pah, Jac 72.73 48 P P 00 14 39.6 +1.1
baz=237,SNR=5.6
ISA Isabella, Lake 72.74 44 P P 00 14 39.9 +1.4
baz=235,SNR=13
ISA Isabella, Lake 72.74 44 P P 00 14 38.4 -0.1
ISA Isabella, Lake 72.74 44 P P 00 14 38.4 -0.1
PETK Petropavlovsk- 72.84 342 P P **00 14 37.2 -1.4**
comp=Z,14nm,0.8s,baz=135,slow=11,SNR=8.8
CMB Columbia Colle 72.86 41 IAmb IAmb 00 14 41.9
comp=Z,41nm,1.1s
KRMB Red Mountain 72.88 37 P P 00 14 39.7 +0.5
SRIG Santa Rosalia 72.98 55 P P 00 14 38.0 -2.0
SRIG IAmb IAmb 00 14 42.7
comp=Z,30nm,0.9s
PFO Pinyon Flats O 73.00 47 P P 00 14 41.1 +1.0
baz=237,SNR=6.4
PFO Pinyon Flats O 73.00 47 *ce*P P **00 14 42.5 +2.4**
PFO pmax pmax
comp=Z,34nm,2.5s
PFO Pinyon Flats O 73.00 47 P P 00 14 39.2 -0.9
PFO IAmb IAmb 00 14 43.0
comp=Z,31nm,1.1s
XPFO Pion Flat 73.00 47 P P 00 14 39.5 -0.7
XPFO IAmb IAmb 00 14 43.0
comp=Z,28nm,1.1s
BBRC Big Bear Solar 73.02 46 P P 00 14 41.6 +1.2
baz=236
AFDM Forest Hills D 73.03 40 IAmb IAmb 00 14 42.8
comp=Z,39nm,1.0s
ORV Oroville 73.08 39 IAmb IAmb 00 14 43.0
comp=Z,34nm,1.1s
SWSC Sam W. Stewart 73.11 48 P P 00 14 41.7 +1.0
baz=237,SNR=7.1
N02D Trinity Center 73.23 38 P P 00 14 42.9 +1.6
baz=230,SNR=22
RRX Edison Barstow 73.30 46 P P 00 14 42.7 +0.9
baz=236
O03E Paynes Creek 73.35 39 P P 00 14 42.9 +0.9
baz=231,SNR=27
M02C Callahan 73.41 37 P P 00 14 44.0 +1.7
baz=230,SNR=21
CWC Cottonwood Cre 73.44 44 P P 00 14 43.6 +0.8
baz=235
L02E Cave Junction 73.46 36 P P 00 14 44.3 +1.7
baz=229,SNR=9.0
OMMB Old Mammoth Mi 73.50 42 P P 00 14 43.9 +0.7
KEBM Edson Butte 73.51 35 P P 00 14 43.7 +0.8
BELC Belle Mtn. Jos 73.53 47 P P 00 14 44.2 +1.0
baz=237,SNR=16
MLAC Mammoth, Mammo 73.62 42 P P 00 14 44.9 +1.1
baz=234
MPMC Manual Prospec 73.62 44 P P 00 14 45.1 +1.2
baz=235,SNR=43
GSC Goldstone, Bar 73.67 45 P P 00 14 44.9 +0.9
baz=236,SNR=15
GSC Goldstone, Bar 73.67 45 IAmb IAmb 00 14 46.7
comp=Z,34nm,1.1s
DAC Darwin (Calif) 73.67 44 P P 00 14 46.2 +2.1
DAC pmax pmax
comp=Z,9.0nm,1.2s
DAC Darwin (Calif) 73.67 44 P P 00 14 46.2 +2.1
TIN Tinemaha, Big 73.69 43 P P 00 14 45.4 +1.3
baz=234,SNR=10
YSS Yuzh-Sakhalins 73.69 330 *eP* P **00 14 43.5 -0.2**
YSS pmax pmax
comp=Z,30nm,1.2s
YSS MLR MLR
comp=Z,300nm,13.0s
YBH Yreka Blue Hor 73.70 37 P P 00 14 44.8 +0.7
YBH pmax pmax
comp=Z,59nm,0.9s
YBH Yreka Blue Hor 73.70 37 P P 00 14 44.8 +0.7
BC3 Big Chuckawall 73.73 47 P P 00 14 45.6 +1.2
baz=237,SNR=14
HEC Hector,Ludlow 73.74 46 P P 00 14 44.9 +0.5
baz=236,SNR=8.5
WAKR Walker 73.74 41 IAmb IAmb 00 14 47.6
comp=Z,41nm,1.0s
K02D Willamette Mer 73.77 36 P P 00 14 46.2 +1.8
baz=229,SNR=13
GLA Glamis 73.86 48 P P 00 14 46.1 +0.9
baz=238
GLA Glamis 73.86 48 P P 00 14 44.2 -0.9
GLA Glamis 73.86 48 P P 00 14 44.2 -0.9
J01E Myrtle Point 73.92 35 P P 00 14 46.8 +1.6
baz=228,SNR=9.0
PNTR Pine Nut 73.98 41 P P 00 14 46.9 +1.0
VCNR Virginia City 74.07 41 P P 00 14 46.8 +0.5
VCNR IAmb IAmb 00 14 49.3
comp=Z,40nm,1.0s
HUMO Hull Mountain 74.12 36 IAmb IAmb 00 14 49.7
comp=Z,49nm,1.1s
YERR Yerington 74.14 41 P P 00 14 47.4 +0.6
GMRC Granite Mounta 74.18 46 P P 00 14 47.9 +0.9
baz=237,SNR=23
IRM Iron Mountain 74.21 47 P P 00 14 48.2 +1.1
baz=237,SNR=25
GRAC Grapevine Rang 74.22 44 P P 00 14 48.3 +1.2
baz=235,SNR=15
M04C Macdoel 74.25 37 P P 00 14 48.9 +1.6
baz=230,SNR=27
L04D Klamath Falls 74.25 37 P P 00 14 48.3 +1.0
baz=230,SNR=24
FURC Furnace Creek, 74.27 44 P P 00 14 48.4 +1.1
baz=236,SNR=10
TUQ Turquoise Moun 74.35 46 P P 00 14 48.8 +0.8
baz=236,SNR=11
SHOC Shoshone, Teco 74.36 45 P P 00 14 48.7 +0.8
baz=236,SNR=11
RYN Ryan 74.39 42 P P 00 14 48.5 +0.3
RYN IAmb IAmb 00 14 51.1
comp=Z,44nm,1.1s
NVAR Mina Array Bea 74.42 42 P P 00 14 49.3 +0.8
comp=Z,30nm,0.9s,baz=228,slow=8.4,SNR=124
NVAR LR LR 00 40 17.6
comp=Z,224nm,21.1s,baz=239,slow=30
Y12C Blythe 74.44 48 P P 00 14 49.0 +0.6
baz=238,SNR=6.7
Y12C Blythe 74.44 48 P P 00 14 49.5 +1.1
Y12C IAmb IAmb 00 14 51.4
comp=Z,39nm,1.1s
QSPA South Pole Qui 74.45 180 P P 00 14 48.8 +0.6
QSPA IAmb IAmb 00 14 50.4
comp=Z,27nm,1.1s
PAHR Pah Rah Range 74.48 40 IAmb IAmb 00 14 51.6
comp=Z,49nm,1.1s
113A Mohawk Valley, 74.48 49 P P 00 14 50.0 +1.3
113A IAmb IAmb 00 14 51.6
comp=Z,38nm,1.1s
NV11 Mina Array Sit 74.52 42 P P 00 14 49.9 +1.0
I02D Swisshome 74.58 35 P P 00 14 50.8 +1.8
baz=228
I03D Drain, OR 74.59 35 P P 00 14 50.3 +1.3
baz=229,SNR=9.9
214A Organ Pipe Nat 74.78 50 P P 00 14 51.7 +1.2
baz=240,SNR=11
214A Organ Pipe Nat 74.78 50 P P 00 14 50.2 -0.2
214A IAmb IAmb 00 14 53.5
comp=Z,47nm,1.1s
HSIG 74.78 54 P P 00 14 49.6 -0.9
HSIG IAmb IAmb 00 14 52.8
comp=Z,21nm,1.0s
NACB Ninganchiao 74.81 301 P P 00 15 01.6 +11
NACB IAmb IAmb 00 15 02.7
comp=Z,42nm,1.0s
K04D Chiloquin, OR 74.82 37 P P 00 14 51.9 +1.3
baz=230
NEE2 Needles Airpor 74.90 47 P P 00 14 52.1 +1.1
baz=238
KVN Kaiserville 74.91 41 IAmb IAmb 00 14 54.0
comp=Z,42nm,1.1s
SMRI Semarang 74.92 267 P P 00 14 50.7 -1.0
TPNV Topopah Spring 74.94 44 P P 00 14 52.3 +0.8
baz=236,SNR=20
J04D Umpqua Nationa 75.00 36 P P 00 14 52.7 +1.0
baz=230,SNR=24
KDAK Kodiak Island 75.09 11 P P 00 14 52.6 +1.0
KDAK pmax pmax
comp=Z,50nm,1.0s
KDAK Kodiak Island 75.09 11 P P 00 14 52.0 +0.4
comp=Z,24nm,0.8s,baz=203,slow=3.5,SNR=12
KDAK LR LR 00 39 14.3
comp=Z,258nm,20.8s,baz=196,slow=29
KDAK Kodiak Island 75.09 11 P P 00 14 52.6 +1.0
I04A Tendick Farm, 75.18 36 P P 00 14 53.0 +0.5
baz=230,SNR=13
COR Corvallis 75.19 34 P P 00 14 54.4 +1.9
COR pmax pmax
comp=Z,22nm,1.0s
COR Corvallis 75.19 34 P P 00 14 54.4 +1.9
COR IAmb IAmb 00 14 55.5
comp=Z,22nm,0.9s
SHPR Sheep Range 75.44 45 P P 00 14 55.0 +0.6
H04D Lebanon 75.46 35 P P 00 14 55.0 +0.9
baz=229,SNR=13
J05D Fort Rock, OR 75.53 37 P P 00 14 55.6 +1.0
baz=231,SNR=43
W13A Hualapai Mount 75.59 47 P P 00 14 56.2 +0.9
W13A IAmb IAmb 00 14 58.3
comp=Z,26nm,1.1s
G03D McMinnville, O 75.62 34 P P 00 14 55.8 +0.9
baz=228,SNR=9.2
Y14A Wickenburg 75.62 48 IAmb IAmb 00 14 58.3
comp=Z,38nm,1.1s
H04A Detroit Lake 75.87 35 IAmb IAmb 00 14 58.6
comp=Z,34nm,1.0s
I05D Terrebonne, OR 76.12 36 P P 00 14 59.1 +1.2

baz=230,SNR=12
R11A Troy Canyon, C 76.15 43 P P 00 14 58.8 +0.4
baz=236,SNR=26
R11A Troy Canyon, C 76.15 43 P P 00 14 59.2 +0.9
F04D Rainier, OR 76.32 33 P P 00 14 59.4 +0.6
baz=229
E03A Lebam 76.33 33 IAmb IAmb 00 15 02.0
comp=Z,45nm,1.0s
KSRS Korea Array 76.35 316 *e*P P **00 15 00.0 +0.8**
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS Korea Array 76.35 316 P P **00 14 59.2 0.0**
comp=Z,2.5nm,0.9s,baz=120,slow=7.4,SNR=4.6
KSRS LR LR 00 43 13.0
comp=Z,42nm,21.3s,baz=124,slow=32
KS19 Wonju Array Si 76.41 316 P P 00 15 11.5 +12
TUC Tucson 76.45 51 P P **00 15 01.2 +1.1**
baz=241
TUC Tucson 76.45 51 P P **00 15 01.7 +1.6**
TUC pmax pmax
comp=Z,40nm,1.1s
TUC Tucson 76.45 51 P P **00 15 01.7 +1.6**
TUC IAmb IAmb 00 15 03.4
comp=Z,40nm,1.1s
F04A Amboy 76.54 34 P P **00 15 00.2 +0.1**
F04A IAmb IAmb 00 15 02.3
comp=Z,35nm,1.2s
WVOR Wild Horse Val 76.54 38 IAmb IAmb 00 15 03.1
comp=Z,43nm,1.0s
G05D Wamic, OR 76.70 35 P P **00 15 02.0 +0.9**
baz=230,SNR=5.7
NLWA Neilton Lookou 76.72 32 P P **00 15 02.7 +1.5**
NLWA IAmb IAmb 00 15 03.9
comp=Z,19nm,1.1s
E04D Cinebar 76.86 33 P P **00 15 03.4 +1.5**
baz=229,SNR=7.2
X16A Lo Mia Camp, P 76.99 48 IAmb IAmb 00 15 06.6
comp=Z,37nm,1.1s
F05D White Salmon 77.02 34 P P **00 15 03.7 +0.8**
baz=230
G06A Carlson Farm, 77.07 35 P P **00 15 03.9 +0.7**
MOBC Moresby Island 77.14 24 P P **00 15 04.7 +1.2**
319A Douglas 77.15 52 P P **00 15 04.4 +0.4**
D04E Lakebay 77.15 33 P P **00 15 05.8 +2.3**
baz=229
CCUT Cedar City 77.21 45 P P **00 15 05.3 +0.9**
D03D Eldon 77.22 32 P P **00 15 04.9 +1.0**
baz=228,SNR=5.1
KNB Kanab 77.31 46 P P **00 15 03.3 -1.6**
KNB Kanab 77.31 46 P P **00 15 03.3 -1.6**
SZCU Shurtz Canyon 77.42 45 P P **00 15 05.8 +0.2**
D05A Enumclaw 77.57 33 IAmb IAmb 00 15 10.2
comp=Z,33nm,1.2s
WUAZ Wupatki 77.57 47 P P **00 15 07.2 +0.8**
baz=240
WUAZ Wupatki 77.57 47 P P **00 15 07.0 +0.6**
USRK Ussuriysk Ar. 77.58 323 P P **00 15 05.5 -0.5**
comp=Z,4.4nm,0.9s,baz=130,slow=4.5,SNR=6.6
USA0B Ussuriysk Arra 77.58 323 P P **00 15 08.5 +2.5**
USA0B pmax pmax
comp=Z,2.0nm,1.0s
USA0B Ussuriysk Arra 77.58 323 P P **00 15 08.5 +2.5**
ELK Elko 77.68 41 IAmb IAmb 00 15 09.5
comp=Z,30nm,1.1s
LEM Lembang 77.69 266 P P 00 15 22.0 +14
SVW2 Sparrevohn 77.74 9 IAmb IAmb 00 15 07.6
comp=Z,24nm,0.9s
SEW Seward 77.86 12 IAmb IAmb 00 15 08.4
comp=Z,35nm,1.0s
F07A Phinny Hill Vi 77.87 35 P P **00 15 08.7 +1.2**
F07A IAmb IAmb 00 15 09.9
comp=Z,20nm,1.1s
G08A Pilot Rock 78.04 36 IAmb IAmb 00 15 11.2
comp=Z,36nm,1.1s
X18A Snowflake 78.12 49 P P **00 15 10.0 +0.5**
X18A IAmb IAmb 00 15 12.7
comp=Z,28nm,1.1s
A04D Lummi Island 78.18 32 P P **00 15 10.1 +0.9**
baz=228,SNR=9.2
B05A Bryant 78.20 32 P P **00 15 10.1 +0.8**
baz=229,SNR=12
E07A Sunnyside 78.32 34 IAmb IAmb 00 15 12.5
comp=Z,32nm,1.0s
TCRU Three Creeks R 78.38 44 P P **00 15 12.1 +1.2**
HAWA Hanford 78.39 35 IAmb IAmb 00 15 12.8
comp=Z,29nm,1.1s
CRAG Craig 78.49 22 P P **00 15 12.6 +1.9**
CRAG IAmb IAmb 00 15 13.2
comp=Z,39nm,1.1s
MSU Marysvale 78.51 45 P P **00 15 13.3 +1.7**
MSU Marysvale 78.51 45 P P **00 15 13.2 +1.7**
W18A Petrified Fore 78.55 49 P P **00 15 13.2 +1.3**
baz=241
W18A Petrified Fore 78.55 49 P P **00 15 13.2 +1.3**
B06A Marblemount 78.67 32 P P **00 15 11.4 -0.6**
E08A Dider Farm, El 78.71 35 P P **00 15 12.2 +0.1**
RC01 Rabbit Creek A 78.72 11 P P **00 15 11.8 0.0**
RC01 IAmb IAmb 00 15 13.2
comp=Z,42nm,1.0s
BMO Blue Mountains 78.73 37 IAmb IAmb 00 15 14.6
comp=Z,23nm,1.0s
HIN Hinchinbrook I 78.75 13 P P **00 15 12.6 +0.4**
MFID Camas Ranch 78.79 39 IAmb IAmb 00 15 15.2
comp=Z,30nm,1.0s
121A Cookes Peak, D 78.81 52 P P **00 15 12.1 -1.2**
baz=243,SNR=11
121A Cookes Peak, D 78.81 52 P P **00 15 12.7 -0.6**
SUA Susitna One 78.87 11 P P **00 15 12.5 -0.4**
DUG Dugway, Tooele 78.95 43 P P **00 15 14.4 +0.6**
baz=238
ZAIG Zacatecas 79.02 63 P P **00 15 14.9 +0.1**
FID Port Fidalgo 79.07 13 IAmb IAmb 00 15 14.8
comp=Z,34nm,1.1s
BGU Big Grassy Mou 79.19 42 P P **00 15 15.0 -0.1**
SKT Skwentna 79.22 10 IAmb IAmb 00 15 15.0
comp=Z,28nm,1.0s
KNK Knik Glacier 79.26 12 IAmb IAmb 00 15 16.2
comp=Z,33nm,0.8s
PMR Palmer 79.29 12 IAmb IAmb 00 15 16.9
comp=Z,38nm,1.0s
NLU North Lily Min 79.31 43 P P **00 15 15.3 -0.7**
Q16A Castle Valley 79.39 45 P P **00 15 15.9 -0.5**
F10A Beach Ranch, E 79.43 36 P P **00 15 16.8 +0.5**
F10A IAmb IAmb 00 15 18.1
comp=Z,30nm,0.8s
GHO Glory Hole Cre 79.50 12 P P **00 15 16.4 +0.1**
TMUT Trail Mountain 79.56 44 P P **00 15 17.2 -0.2**
PLID Pearl Lake 79.63 37 P P **00 15 17.5 0.0**
MESA MESA 79.64 15 P P **00 15 18.4 +1.2**
SML Sawmill 79.65 12 P P **00 15 17.3 +0.3**
SML IAmb IAmb 00 15 19.1
comp=Z,21nm,1.1s
WAX Waxell Ridge 79.65 15 P P **00 15 17.3 +0.2**
B08A Colville Reser 79.70 33 P P **00 15 17.7 +0.1**
B08A IAmb IAmb 00 15 19.0
comp=Z,17nm,0.9s
CRQM Cirque 79.84 15 P P **00 15 18.5 +0.2**
YAH Yahtse 79.85 15 P P **00 15 19.0 +0.6**
YAH IAmb IAmb 00 15 20.3
comp=Z,39nm,0.9s
SCM Sheep Creek Mo 79.87 12 P P **00 15 18.3 0.0**
SCM Sheep Creek Mo 79.87 12 P P **00 15 18.3 0.0**
TGL Tana Glacier 79.92 15 P P **00 15 18.8 +0.2**
C09A Chrisman Ranch 79.93 34 IAmb IAmb 00 15 20.8
comp=Z,18nm,0.8s
P17A Butcher Ranch, 79.96 44 P P **00 15 21.4 +2.0**
PPLA Purkeypile 79.97 10 P P **00 15 17.8 -1.0**
PCA Pinnacle 80.01 16 P P **00 15 18.7 -0.4**
PCA IAmb IAmb 00 15 30.2
comp=Z,17nm,1.0s
BCPM Bancas Point 80.06 16 P P **00 15 20.9 +1.6**
BCPM IAmb IAmb 00 15 21.0
comp=Z,29nm,0.9s
Y22D IRIS PASSCAL I 80.14 51 P P **00 15 22.0 +1.6**
baz=243
LENM Lemitar 80.14 50 P P **00 15 22.1 +1.5**
ANM Nome 80.14 3 P P **00 15 21.4 +1.8**
ANM pmax pmax
comp=Z,19nm,1.0s
ANM Nome 80.14 3 P P **00 15 21.4 +1.8**
ANM IAmb IAmb 00 15 21.9
comp=Z,19nm,1.0s
VRDI Verde Repeater 80.18 14 P P **00 15 20.1 0.0**
JIS Juneau Island 80.25 20 P P **00 15 20.8 +0.6**
JIS IAmb IAmb 00 15 22.2
comp=Z,18nm,1.1s
MNTX Cornudas Mount 80.28 53 P P **00 15 21.9 +0.8**
baz=244,SNR=33
BALM Baldy 80.28 15 P P **00 15 20.3 -0.3**
GLB Gilahina Butte 80.29 14 P P **00 15 20.5 0.0**
BESE Bessie Mountai 80.34 19 P P **00 15 21.8 +0.9**
MVCO Mesa Verde 80.42 47 P P **00 15 23.2 +1.1**
baz=241
MCARA McCarthy VSAT 80.42 14 P P **00 15 22.4 +1.3**
MCARA IAmb IAmb 00 15 22.8
comp=Z,43nm,1.2s
BARN Barnard Glacie 80.47 15 P P **00 15 21.3 -0.4**
CTGM Chitina Glacie 80.47 15 P P **00 15 22.2 +0.6**
CTGM IAmb IAmb 00 15 23.3
comp=Z,35nm,1.0s
PV09 Paradox Valley 80.58 46 P P **00 15 25.4 +2.5**
PV19 Morning Glory 80.60 46 P P **00 15 24.3 +1.4**
PV19 IAmb IAmb 00 15 25.6
comp=Z,28nm,1.1s
PV14 Lion Creek, Pa 80.60 46 P P **00 15 23.8 +0.8**
PV14 IAmb IAmb 00 15 25.6
comp=Z,29nm,0.9s
PV17 East Wray Mesa 80.60 46 P P **00 15 22.8 -0.1**
PV18 Skein Mesa, Pa 80.62 46 P P **00 15 23.2 +0.1**
PV20 West Nyswonger 80.62 46 P P **00 15 23.7 +0.7**
PV13 Radium Mtn., P 80.64 46 P P **00 15 23.0 -0.2**
PV16 Nyswonger Mesa 80.64 46 P P **00 15 23.8 +0.7**
PV23 Carpenter Ridg 80.64 46 P P **00 15 23.8 +0.5**
TX32 Lajitas Array 80.66 56 IAmb IAmb 00 15 27.2
comp=Z,38nm,1.1s
TXAR Lajitas Array 80.66 56 P P **00 15 24.3 +1.0**
comp=Z,18nm,1.0s,baz=219,slow=7.2,SNR=84
TXAR LR LR 00 46 31.5
comp=Z,117nm,18.1s,baz=0.0,slow=32
PV11 David Mesa, Pa 80.67 46 P P **00 15 23.2 -0.1**
PV04 Paradox Valley 80.69 46 P P **00 15 24.6 +1.3**
TLIG Tlapa 80.70 69 P P **00 15 20.6 -3.1**
PV02 Paradox Valley 80.72 46 P P **00 15 23.3 -0.3**
PV21 Cone Mtn., Par 80.72 46 P P **00 15 24.9 +1.2**
KLR Kul'dur 80.72 327 *e*P P **00 15 22.0 -1.0**
KLR pmax pmax
comp=Z,10.0nm,1.5s
PV12 Saucer Basin, 80.72 46 P P **00 15 23.9 +0.3**
KTH Kantishna Hill 80.79 10 P P **00 15 22.2 -1.0**
TRF Thorofare Moun 80.80 10 P P **00 15 22.3 -1.0**
NEW Newport 80.82 34 P P **00 15 24.0 +0.4**
baz=233,SNR=9.0
NEW Newport 80.82 34 LR LR 00 43 16.7
comp=Z,186nm,19.9s,baz=224,slow=30
PV22 Blue Mesa, Par 80.84 46 P P **00 15 24.9 +0.7**
ANMO Albuquerque 80.87 50 P P **00 15 25.3 +0.9**
baz=243
ANMO Albuquerque 80.87 50 *e*P P **00 15 24.9 +0.5**
ANMO pmax pmax
comp=Z,56nm,1.9s
ANMO Albuquerque 80.87 50 P P **00 15 24.9 +0.5**
PV07 Paradox Valley 80.89 46 P P **00 15 25.3 +0.9**
SKAG Skagway 80.90 19 P P **00 15 25.2 +1.5**
DHY Denali Highway 80.99 12 P P **00 15 24.4 +0.1**
RND Reindeer 81.01 11 P P **00 15 25.0 +0.6**
RND pmax pmax
comp=Z,40nm,1.1s
RND Reindeer 81.01 11 P **00 15 25.0 +0.6**
RND IAmb IAmb 00 15 27.1
comp=Z,40nm,1.1s
GDL2 Guadalupe Moun 81.27 53 P P **00 15 26.6 0.0**
PAX Paxson 81.28 12 P P **00 15 25.5 -0.3**
PAX Paxson 81.28 12 P P **00 15 25.5 -0.3**
RDMU Red Mountain 81.28 44 P P **00 15 26.4 -0.1**
BPAW Bear Paw Mtn. 81.29 10 P P **00 15 24.5 -1.3**
MCK McKinley 81.30 11 P P **00 15 25.7 -0.1**
MCK McKinley 81.30 11 P P **00 15 25.7 -0.1**
AHID Auburn Hatcher 81.37 41 P P **00 15 27.7 +0.8**
AHID IAmb IAmb 00 15 29.3
comp=Z,25nm,1.1s
BWN Browne 81.61 10 P P **00 15 27.1 -0.3**
MENT Mentasta 81.62 13 IAmb IAmb 00 15 29.4
comp=Z,31nm,1.0s
CLNB Carlsbad 81.67 53 P P **00 15 28.3 -0.3**
MSO Missoula 81.79 37 P P **00 15 28.5 -0.4**
baz=236,SNR=9.6
DLMT Dillon 81.79 38 IAmb IAmb 00 15 31.5
comp=Z,31nm,1.1s
S22A 4UR Ranch, Cre 81.84 47 P P **00 15 30.6 +1.0**
baz=242,SNR=35
S22A 4UR Ranch, Cre 81.84 47 IAmb IAmb 00 15 32.8
comp=Z,43nm,1.0s
SNOW Snow King Moun 81.94 41 P P **00 15 30.5 +0.5**
O20A White River Ci 81.96 45 P P **00 15 31.1 +1.0**
baz=241,SNR=5.4
O20A White River Ci 81.96 45 P P **00 15 30.8 +0.7**
NEA Nenana 82.05 10 P P **00 15 29.0 -0.7**
MOOW Moose Ponds 82.09 40 P P **00 15 30.6 -0.1**
RIDG Independent Ri 82.09 12 P P **00 15 30.1 +0.1**
JTMT Jette 82.10 36 P P **00 15 30.2 -0.3**
LRM Limekiln Ridge 82.12 38 P P **00 15 31.6 +0.7**
WRH Wood River Hil 82.13 11 P P **00 15 29.4 -0.7**
DOT Dot Lake 82.18 13 P P **00 15 29.5 -0.9**
MLY Manley 82.19 9 P P **00 15 30.2 -0.4**
QLMT Earthquake Lak 82.22 39 P P **00 15 33.2 +1.9**
HDA Harding Lake 82.28 11 P P **00 15 31.0 0.0**
baz=204,SNR=39
HDA Harding Lake 82.28 11 P P **00 15 30.9 0.0**
FLWY Flagg Ranch 82.29 40 IAmb IAmb 00 15 34.6
comp=Z,42nm,1.0s
BW06 Boulder Array 82.36 42 P P **00 15 32.7 +0.6**
baz=240,SNR=28
BW06 Boulder Array 82.36 42 IAmb IAmb 00 15 34.0
comp=Z,28nm,1.0s
PD31 Pinedale Array 82.36 42 IAmb IAmb 00 15 34.0
comp=Z,27nm,1.1s
PDAR Pinedale Array 82.36 42 P P **00 15 32.5 +0.3**
comp=Z,14nm,0.8s,baz=215,slow=3.0,SNR=82
PDAR LR LR 00 49 33.5
comp=Z,146nm,18.2s,baz=246,slow=34
SMCO Snowmass 82.39 46 IAmb IAmb 00 15 35.2
comp=Z,25nm,0.8s
SCRK Sand Creek 82.48 13 P P **00 15 32.1 -0.1**
BOZ Bozeman (W) 82.49 39 P P **00 15 33.1 +0.4**
baz=238,SNR=25
H17A Grant Village 82.52 40 P P **00 15 34.5 +1.5**
baz=239,SNR=8.8
H17A Grant Village 82.52 40 P P **00 15 34.6 +1.5**
TCOL CIGO, UAF Yank 82.53 11 P P **00 15 31.6 -0.6**
baz=203,SNR=22
COLA College 82.54 11 P P **00 15 32.1 -0.1**
COLA College 82.54 11 P P **00 15 32.1 -0.1**
MDM Murphy Dome 82.55 10 P P **00 15 32.5 +0.1**
YNM Yellowstone No 82.61 40 P P **00 15 33.3 -0.1**
ILAR Eielson Array 82.62 11 P P **00 15 32.3 -0.4**
comp=Z,12nm,0.8s,baz=218,slow=4.7,SNR=107
ILAR LR LR 00 45 05.2
comp=Z,90nm,19.6s,baz=216,slow=30
YNR Norris Junctio 82.62 40 P P **00 15 34.0 +0.5**
LKWY Lake 82.72 40 P P **00 15 35.5 +1.5**
LKWY Lake 82.72 40 P P **00 15 35.5 +1.5**
YUF Upper Falls 82.72 40 P P **00 15 35.2 +1.2**
SEY Seymchan 82.72 345 *e*P P **00 15 28.6 -4.6**
SDCO Great Sand Dun 82.79 48 P P **00 15 35.0 +0.5**
baz=243,SNR=21
POKR Poker Flat Res 82.83 11 P P **00 15 32.9 -0.9**
baz=204,SNR=62
HRY Holter Researc 82.95 38 P P **00 15 35.5 +0.5**
YMP Mirror Lake Pl 82.96 40 P P **00 15 35.6 +0.3**
MSTX Muleshoe 83.22 52 P P **00 15 37.1 +0.4**
baz=245
MSTX Muleshoe 83.22 52 P P **00 15 37.0 +0.4**
T25A Trinidad 83.31 49 P P **00 15 37.7 +0.6**
baz=244,SNR=6.2
T25A Trinidad 83.31 49 P P **00 15 37.2 +0.1**
RWWY Rawlins 83.38 44 P P **00 15 37.8 +0.3**
Q24A Divide 83.57 47 P P **00 15 39.0 +0.4**
baz=243,SNR=11
ISCO Idaho Springs 83.61 46 P P **00 15 39.4 +0.7**
baz=243,SNR=6.5
RLMT Red Lodge 83.69 40 P P **00 15 39.6 +0.7**
baz=240
RLMT Red Lodge 83.69 40 IAmb IAmb 00 15 41.5
comp=Z,31nm,1.1s
833A Chaparral WMA, 83.73 58 P P **00 15 39.6 +0.3**
baz=248,SNR=6.2
833A Chaparral WMA, 83.73 58 P P **00 15 36.3 -3.0**
833A IAmb IAmb 00 15 41.6
comp=Z,26nm,0.9s
EGAK Eagle 83.79 13 IAmb IAmb 00 15 40.4
comp=Z,32nm,1.0s
N23A Red Feather La 83.87 45 P P **00 15 40.9 +0.9**
baz=242,SNR=13
N23A Red Feather La 83.87 45 P P **00 15 40.6 +0.6**
JCT Junction City 84.19 56 P P **00 15 41.4 -0.2**
baz=248
JCT Junction City 84.19 56 P P **00 15 40.0 -1.6**
JCT pmax pmax
comp=Z,16nm,0.9s
JCT Junction City 84.19 56 P P **00 15 40.0 -1.6**
JCT IAmb IAmb 00 15 47.9
comp=Z,16nm,0.8s
K22A Casper 84.27 43 P P **00 15 42.1 +0.2**
baz=242,SNR=6.6
K22A Casper 84.27 43 P P **00 15 42.2 +0.3**
AMTX Amarillo 84.41 52 P P **00 15 42.7 +0.1**
baz=246
AMTX Amarillo 84.41 52 P P **00 15 42.7 +0.1**
BILL Bilibino 84.71 352 *d*P P **00 15 41.8 -1.5**
BILL *i* 00 16 10.8
BILL pmax pmax
comp=Z,34nm,1.6s
EGMT Eagleton 84.84 37 P P **00 15 45.0 +0.5**
baz=239
ABTX Abilene, Hawle 85.11 54 P P **00 15 46.3 +0.1**
baz=247,SNR=61
ABTX Abilene, Hawle 85.11 54 P P **00 15 45.8 -0.3**
KSCO Kaye Shedlock' 85.37 48 P P **00 15 47.9 +0.4**
baz=245
ZEA Zeya 85.63 329 *e*P P **00 15 47.8 -0.4**
ZEA pmax pmax
comp=Z,14nm,1.2s
435B Jarrell 86.08 57 P P **00 15 50.6 -0.4**
baz=249,SNR=9.0
435B Jarrell 86.08 57 P P **00 15 51.6 +0.6**
EPYK Eagle Plains 86.14 14 P P **00 15 50.1 -0.4**
baz=214,SNR=16
EPYK Eagle Plains 86.14 14 P P **00 15 50.4 -0.1**
LAO LASA Array 86.31 39 P P **00 15 52.2 +0.4**
baz=242
LAO LASA Array 86.31 39 IAmb IAmb 00 15 54.4
comp=Z,32nm,1.1s
RSSD Black Hills 86.55 42 P P **00 15 52.8 -0.4**
baz=244
RSSD Black Hills 86.55 42 P P **00 15 52.6 -0.7**
RSSD pmax pmax
comp=Z,9.0nm,0.9s
RSSD Black Hills 86.55 42 P P **00 15 52.6 -0.7**
WMOK Wichita Mounta 86.56 53 P P **00 15 54.1 +0.9**
baz=248
WMOK Wichita Mounta 86.56 53 P P **00 15 52.8 -0.5**
WMOK pmax pmax
comp=Z,4.0nm,1.1s
WMOK Wichita Mounta 86.56 53 P P **00 15 52.8 -0.5**
WHTX Lake Whitney, 86.61 56 P P **00 15 54.0 +0.4**
baz=249,SNR=11
WHTX Lake Whitney, 86.61 56 P P **00 15 52.9 -0.7**
U32A Winter Ranch, 86.99 51 P P **00 15 54.9 -0.5**
U32A IAmb IAmb 00 15 59.9
comp=Z,21nm,0.9s
HKT Hockley 87.22 58 P P **00 15 56.3 -0.2**
HKT Hockley 87.22 58 P P **00 15 56.3 -0.2**
CBKS Cedar Bluff 87.36 49 P P **00 15 56.7 -0.4**
baz=247
CBKS Cedar Bluff 87.36 49 P P **00 15 57.1 0.0**
CBKS Cedar Bluff 87.36 49 P P **00 15 57.1 0.0**
HIA Hailar 87.40 323 *e*P P **00 15 54.1 -2.9**
HIA pmax pmax
comp=Z,69nm,1.4s
MAW Mawson 87.64 199 P P **00 15 57.1 -0.7**
comp=Z,9.6nm,0.8s,baz=144,slow=10,SNR=8.9
MAW LR LR 00 52 56.7
comp=Z,120nm,19.5s,baz=62,slow=34
FNO Franklin 87.80 53 P P **00 15 58.9 -0.4**
W35A Tecumseh 88.17 53 P P **00 16 01.1 +0.2**
DGMT Dagmar 88.33 38 P P **00 16 02.5 +1.1**
INK Inuvik 88.44 14 P P **00 16 02.1 +0.7**
INK pmax pmax
comp=Z,28nm,1.2s
INK Inuvik 88.44 14 LR LR 00 55 10.9
comp=Z,115nm,18.7s,baz=304,slow=35
INK Inuvik 88.44 14 P P **00 16 02.1 +0.7**
INK IAmb IAmb 00 16 02.7
comp=Z,28nm,1.1s
NATX Nacogdoches 88.77 57 P P **00 16 04.7 +0.9**
baz=250
XAN Xi'an 88.81 306 P P **00 16 04.3 +0.2**
XAN pmax pmax
comp=Z,6.0nm,1.2s
GO06 Curarrehue 89.05 131 P P **00 16 06.8 +1.5**
TUL1 Leonard 89.26 52 P P **00 16 06.0 -0.1**
baz=250
TUL1 Leonard 89.26 52 P P **00 16 05.1 -1.0**
PLCA Paso Flores 89.33 132 P P **00 16 08.8 +2.3**
comp=Z,3.0nm,0.8s,baz=114,slow=1.7,SNR=4.5
PLCA LR LR 00 48 56.2
comp=Z,140nm,18.5s,baz=290,slow=31
PLCA Paso Flores 89.33 132 P P **00 16 06.3 -0.2**
BGNE Belgrade 89.45 47 P P **00 16 07.2 +0.3**
KSU1 Kansas State U 89.74 49 P P **00 16 09.5 +1.3**
baz=249
TGUH Tegucigalpa,Un 90.00 75 P P **00 16 08.4 -1.7**
TGUH IAmb IAmb 00 16 17.8
comp=Z,8.7nm,0.8s
SUSD Miller 90.02 44 P P **00 16 11.5 +2.0**
baz=247
GO05 Huala 90.21 126 P P **00 16 11.3 +0.6**
YKA Yellowknife Ar 90.24 23 P P **00 16 09.7 -0.3**
comp=Z,11nm,0.9s,baz=236,slow=4.3,SNR=88
YKA LR LR 00 49 39.4
comp=Z,15nm,19.4s,baz=232,slow=31
YKW3 Yellowknife Ar 90.28 23 P P **00 16 10.7 +0.5**
MIAR Mount Ida 90.53 54 P P **00 16 12.9 +0.9**
baz=251
MIAR Mount Ida 90.53 54 P P **00 16 11.8 -0.2**
MIAR Mount Ida 90.53 54 P P **00 16 11.8 -0.2**
W39A Magazine 90.57 54 P P **00 16 12.9 +0.7**
baz=251
ESTN Estel 90.59 77 P P **00 16 11.3 -1.5**
Z41A Richland Creek 90.73 56 P P **00 16 13.9 +0.9**
baz=251
Z41A Richland Creek 90.73 56 P P **00 16 13.9 +0.9**
HHAR Hobbs 90.80 53 P P **00 16 13.0 -0.3**
MDND Maddock 90.89 40 P P **00 16 14.5 +1.1**
baz=247
X40A Basin Creek Fa 91.09 55 P P **00 16 14.8 +0.2**
baz=251
JTS Las Juntas de 91.17 80 P P **00 16 14.6 -0.9**
JTS Las Juntas de 91.17 80 P P **00 16 14.6 -0.9**
ECSD EROS Data Cent 91.34 45 P P **00 16 16.1 +0.5**
baz=249
ECSD EROS Data Cent 91.34 45 P P **00 16 15.8 +0.2**
C36M Paulatuk 91.52 16 P P **00 16 15.6 -0.2**
baz=226,SNR=6.7
UALR University of 91.56 54 P P **00 16 17.1 +0.3**
PHRA Phrae 91.58 289 P P **00 16 19.1 +1.8**
U40A Yellville 91.65 53 P P **00 16 17.3 +0.1**
baz=251
U40A Yellville 91.65 53 P P **00 16 17.2 0.0**
CCAR Cane Creek 91.75 55 P P **00 16 18.3 +0.6**
W41B Gary Mavity, V 91.76 54 P P **00 16 18.0 +0.3**
baz=252
W41B Gary Mavity, V 91.76 54 P P **00 16 18.3 +0.6**
WHAR Wooly Hollow 91.76 54 P P **00 16 18.4 +0.6**
PEL Peldehue 91.80 125 P P **00 16 17.0 -1.2**
PEL pmax pmax
comp=Z,21nm,1.0s
PEL Peldehue 91.80 125 P P **00 16 17.1 -1.2**
FFC Flin Flon 92.22 33 *e*P P **00 16 20.6 +1.2**
FFC pmax pmax
comp=Z,28nm,1.7s
FFC Flin Flon 92.22 33 P P **00 16 20.1 +0.8**
VBMS Vicksburg 92.26 57 P P **00 16 18.1 -2.0**
D32A Dogwood Acres, 92.26 42 P P **00 16 19.5 -0.2**
MGMO Mountain Grove 92.34 52 P P **00 16 20.6 +0.2**
SYO Syowa Base 92.42 191⇑ *e*P P **00 16 18.8 -1.4**
SYO Syowa Base 92.42 191⇑ *e*PcP P **00 16 19.8 -0.4**
X43A Marvell 92.64 55 P P **00 16 21.4 -0.4**
VNA3 Neumayer Olymp 92.66 175 P P **00 16 21.9 +0.6**
SNAA Sanae 92.71 177 P P **00 16 22.1 +0.5**
SNAA Sanae 92.71 177 P P **00 16 21.6 0.0**
SNAA pmax pmax
comp=Z,9.0nm,1.0s
SNAA Sanae 92.71 177 P P **00 16 21.6 0.0**

SNAA IAmb IAmb 00 16 23.8
comp=Z,9.3nm,1.0s
GO04 Tololo Observa 92.71 122 P P 00 16 23.3 +0.6
GO04 IAmb IAmb 00 16 25.5
comp=Z,13nm,0.9s
CMAR Chiang Mai Arr 92.75 288 *eP* **P 00 16 23.3 +0.6**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 92.75 288 P **P 00 16 22.6 0.0**
comp=Z,1.0nm,0.3s,baz=101,slow=2.9,SNR=11
CMAR LR LR 00 53 36.2
comp=Z,47nm,21.2s,baz=138,slow=33
SCIA State Center 93.10 47 P **P 00 16 23.6 -0.2**
baz=251
SCIA State Center 93.10 47 P **P 00 16 24.3 +0.5**
VNA2 Neumayer--Watz 93.16 175 P **P 00 16 25.6 +2.0**
baz=175,slow=1.8
VNA1 Neumayer--Stat 93.35 175 P **P 00 16 25.5 +1.1**
CCM Cathedral Cave 93.39 52 P **P 00 16 24.0 -1.2**
baz=252
CCM Cathedral Cave 93.39 52 P **P 00 16 24.8 -0.4**
CCM pmax pmax
comp=Z,12nm,1.1s
CCM Cathedral Cave 93.39 52 P **P 00 16 24.8 -0.4**
CCM IAmb IAmb 00 16 26.5
comp=Z,12nm,1.1s
AGMN Agassiz Nation 93.39 41 P **P 00 16 23.9 -1.0**
baz=250
OXF Oxford 93.80 55 P **P 00 16 26.9 -0.2**
baz=253
OXF Oxford 93.80 55 P **P 00 16 26.5 -0.6**
OXF pmax pmax
comp=Z,14nm,1.0s
OXF Oxford 93.80 55 P **P 00 16 26.5 -0.6**
ULM Lac du Bonnet 94.03 39 *eP* **P 00 16 27.6 -0.2**
ULM pmax pmax
comp=Z,6.0nm,0.8s
ULM Lac du Bonnet 94.03 39 P **P 00 16 27.2 -0.6**
comp=Z,5.7nm,0.8s,baz=230,slow=5.5,SNR=10
ULM LR LR 00 51 09.7
comp=Z,288nm,19.9s,baz=256,slow=30
ULM Lac du Bonnet 94.03 39 P **P 00 16 27.6 -0.2**
CFA Coronel Fontan 94.28 124 LR LR 00 50 53.0
comp=Z,177nm,18.6s,baz=257,slow=30
SPMN Marine on St. 94.40 44 P **P 00 16 30.4 +0.7**
baz=252
S44A Carbondale 94.80 52 P **P 00 16 31.7 0.0**
baz=253
SIUC Southern Illin 94.83 52 P **P 00 16 31.5 -0.3**
PLAL Pickwick Lake 94.98 55 P **P 00 16 32.2 -0.3**
SONM Songino Array 95.04 318 P **P 00 16 31.0 -1.7**
comp=Z,0.4nm,0.7s,baz=116,slow=5.0,SNR=3.1
SONM LR LR 00 54 16.9
comp=Z,45nm,21.3s,baz=114,slow=32
P43A Skaggs, Pawnee 95.13 50 P **P 00 16 33.3 +0.2**
TIXI Tiksi 95.21 344 *eP* **P 00 16 33.2 +0.5**
TIXI pmax pmax
comp=Z,6.0nm,1.1s
TIXI Tiksi 95.21 344 P **P 00 16 32.2 -0.6**
LRAL Lakeview Retre 95.34 57 P **P 00 16 33.9 -0.3**
baz=254
LRAL Lakeview Retre 95.34 57 P **P 00 16 33.5 -0.7**
WVT Waverly 95.48 54 P **P 00 16 34.1 -0.7**
baz=254
JFWS Jewell Farm 95.50 47 P **P 00 16 34.4 -0.4**
baz=253
JFWS Jewell Farm 95.50 47 P **P 00 16 34.2 -0.6**
JFWS Jewell Farm 95.50 47 P **P 00 16 34.1 -0.6**
I40A Norwalk 95.51 46 P **P 00 16 34.6 -0.2**
HDIL Hopedale 95.54 50 P **P 00 16 34.0 -1.0**
baz=254
HDIL Hopedale 95.54 50 P **P 00 16 34.6 -0.4**
E38A The Farm, Brul 95.64 43 P **P 00 16 35.0 -0.3**
E38A IAmb IAmb 00 16 35.5
comp=Z,8.9nm,1.1s
L42A Oliver, Polo 95.66 48 P **P 00 16 34.9 -0.6**
X48A Hartselle 95.66 56 P **P 00 16 35.7 0.0**
baz=254
PB04 IPOC Station P 95.88 115 P **P 00 16 37.7 +0.4**
Y49A Blount Mountai 96.02 57 P **P 00 16 37.9 +0.5**
baz=255
O44A Mansfield 96.05 50 P **P 00 16 36.3 -1.0**
O44A IAmb IAmb 00 16 40.0
comp=Z,9.6nm,1.1s
EYMN Ely 96.06 42 P **P 00 16 36.4 -0.8**
EYMN IAmb IAmb 00 16 45.1
comp=Z,6.2nm,0.9s
USIN University of 96.08 52 P **P 00 16 36.5 -1.0**
T47A Sharon Grove 96.26 53 P **P 00 16 38.6 +0.3**
baz=255
T47A Sharon Grove 96.26 53 P **P 00 16 37.1 -1.3**
T47A IAmb IAmb 00 16 40.8
comp=Z,6.0nm,0.7s
W49A Belvidere 96.45 55 P **P 00 16 39.7 +0.4**
baz=255
352A Blakely 96.64 59 P **P 00 16 43.7 +3.5**
baz=255
LVC Limon Verde 96.86 116 LR LR 00 51 32.1
comp=Z,74nm,21.0s,baz=256,slow=30
V49A McMinnville 96.90 55 P **P 00 16 41.3 0.0**
baz=255
SFIN Lafayette 97.12 50 P Pdif 00 16 42.9 +0.6
baz=255
U49A Red Boiling Sp 97.18 54 P Pdif 00 16 42.9 +0.3
baz=255
353A Camilla 97.20 60 P **P 00 16 42.8 +0.1**
baz=256
W50A Signal Mountai 97.23 56 P **P 00 16 42.6 -0.2**
baz=256
253A Americus 97.44 59 P Pdif 00 16 44.9 +1.0
baz=256
T49A Edmonton 97.51 54 P Pdif 00 16 44.6 +0.5
baz=256
V50A Pikeville 97.51 55 P Pdif 00 16 44.3 +0.2
baz=256
S49A Springfield 97.86 53 P **P 00 16 45.6 +0.1**
baz=256
P48A Milroy 98.14 51 P Pdif 00 16 48.1 +1.3
baz=256
S50A Richmond 98.52 53 P Pdif 00 16 49.2 +0.6
baz=256
P49A Miami Univ. Ec 98.70 51 P Pdif 00 16 49.6 +0.3
baz=256
TZTN Tazewell 98.93 55 P **P 00 16 50.3 -0.1**
baz=257
J47A Sunmer 99.43 48 P **Pdif 00 16 53.1 +0.6**
baz=257
Q52A Bidwell 100.43 52 P **Pdif 00 16 58.3 +1.2**
baz=258
P53A Whipple 101.20 52 P **Pdif 00 17 00.6 +0.2**
baz=258
R58B Mineral 103.64 54 P **Pdif 00 17 12.0 +0.7**
baz=260
ZALV Zalesovo Beam 109.42 322 PKiKP **PKiKP 00 21 38.1 -1.4**
comp=Z,0.9nm,0.6s,baz=143,slow=1.0,SNR=5.4
MKAR Makanchi Array 111.02 315 PKiKP **PKiKP 00 21 40.9 -1.9**
comp=Z,0.8nm,0.7s,baz=305,slow=0.5,SNR=6.1
KURK Kurchatov 113.34 319 *i* PKiKP **PKiKP 00 21 44.8 -2.3**
BRVK Borovoye 118.14 322 *i* PKiKP **PKPdf 00 21 55.5 -0.8**
KBL Kabul 121.32 301 PKiKP **PKiKP 00 22 03.6 +0.2**
KBL Kabul 121.32 301 **PKiKP 00 22 03.6 +0.2**
ARU Arti 123.55 328 *i* PKiKP **PKPdf 00 22 06.3 -0.3**
ARU 00 23 50.0
ARU 00 29 05.5
ARU SS SS 00 40 27.2 -2.6
ARCES ARCESS Array B 124.81 352 PKP **PKPdf 00 22 08.4 -0.3**
comp=Z,6.5nm,0.7s,baz=24,slow=1.6,SNR=27
PRGR Permogore 126.34 338 *e*PKiKP **PKPdf 00 22 10.3 -1.4**
PRGR pmax pmax
comp=Z,12nm,0.9s
FINES FINESS Array B 132.15 348 PKP **PKPdf 00 22 21.2 -1.6**
comp=Z,3.4nm,0.7s,baz=30,slow=2.6,SNR=10
OBN Obninsk 134.32 336 *e*PKiKP **PKPdf 00 22 26.6 -0.4**
OBN pmax pmax
comp=Z,9.0nm,1.0s
NB2 NORSAR Subarra 134.50 357 PKPdf **PKiKP 00 22 28.8 +0.1**
comp=Z,0.2nm,0.6s,baz=14,slow=1.8
NOA NORSAR Array B 134.50 357 *e*PKiKP **PKPdf 00 22 27.6 +0.3**
NOA pmax pmax
comp=Z,3.0nm,1.1s
NOA NORSAR Array B 134.50 357 PKP **PKPdf 00 22 26.7 -0.6**
comp=Z,3.1nm,1.1s,baz=14,slow=1.7,SNR=3.4
AKASG Malin Array Be 140.55 337 PKP **PKPdf 00 22 38.4 -0.3**
comp=Z,4.1nm,0.9s,baz=37,slow=2.9,SNR=7.4
TSUM Tsumeb 143.80 198 PKPbc 00 22 43.5 +0.1
OJC Ojcow 143.86 346 *e*PKiKP PKPbc 00 22 42.3 -0.2
OJC Ojcow 143.86 346 *e*PKP PKPab 00 22 42.3 +0.4
OJC *e*PKP PKPab 00 22 42.3 +0.4
KSP Ksiaz 144.00 350 *e*PKiKP PKPbc 00 22 43.3 +0.4
KSP Ksiaz 144.00 350 *e*PKP PKPbc 00 22 43.3 +0.4
KSP *e*PKP PKPbc 00 22 43.3 +0.4
CLL Collm 144.01 353 ⇑ *i*PKiKP **PKPab 00 22 42.4 0.0**
CLL *e* 00 23 14.0
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 144.01 353 ⇑ *i*PKPdf **PKPab 00 22 42.4 0.0**
comp=Z,10.0nm,0.8s
CLL *ep*PKiKP **sPKPdf 00 23 14.0 -2.0**
STHS Stebnicka Huta 144.23 344 *e*PKiKP PKPbc 00 22 43.9 +0.2
STHS Stebnicka Huta 144.23 344 *e*PKP PKPbc 00 22 43.9 +0.2
CHVC Chvalec 144.28 350 *e*PKP PKPbc 00 22 43.9 +0.1
BRG Berggiesshubel 144.32 352 *e*PKP PKPbc 00 22 44.2 +0.3
comp=Z,10nm,0.5s
BRG pPKP sPKPdf 00 23 16.0 -0.6
comp=Z,33nm,1.8s
BRG Berggiesshubel 144.32 352 *e*PKiKP PKPbc 00 22 44.2 +0.3
BRG 00 23 16.0
BRG pmax pmax
comp=Z,10.0nm,0.5s
BRG pmax pmax
comp=Z,11nm,1.8s
UPC Upice 144.37 350 *e*PKiKP PKPbc 00 22 44.2 +0.1
UPC Upice 144.37 350 *e*PKP PKPbc 00 22 44.2 +0.1
KOLS Kolonicke sedl 144.38 342 *e*PKiKP PKPbc 00 22 44.7 +0.5
KOLS Kolonicke sedl 144.38 342 *e*PKP PKPbc 00 22 44.6 +0.4
DPC Dobruska-Polom 144.46 349 *e*PKiKP PKPbc 00 22 44.8 +0.4
DPC Dobruska-Polom 144.46 349 *e*PKP PKPbc 00 22 44.8 +0.4
NIE Niedzica 144.48 345 *e*PKiKP PKPbc 00 22 45.1 +0.6
NIE Niedzica 144.48 345 *e*PKP PKPbc 00 22 45.1 +0.6
NIE *e*PKP PKPbc 00 22 45.1 +0.6
BURAR Bucovina Array 144.57 338 ⇑ PKiKP PKPbc 00 22 45.0 0.0
BURAR Bucovina Array 144.57 338 ⇑ P PKPbc 00 22 45.0 +0.1
PVCC Panska Ves 144.57 351 *e*PKiKP **PKPdf 00 22 45.6 -0.3**
PVCC Panska Ves 144.57 351 *e*PKP **PKPdf 00 22 45.6 -0.3**
OKC Ostrava-Krasne 144.59 347 *e*PKiKP PKPbc 00 22 45.1 +0.3
OKC Ostrava-Krasne 144.59 347 *e*PKP PKPbc 00 22 45.1 +0.3
KRLC Kraliky 144.64 349 *e*PKiKP **PKPdf 00 22 45.7 -0.4**
KRLC Kraliky 144.64 349 *e*PKP **PKPdf 00 22 45.7 -0.4**
UZH Uzhgorod 144.65 342 *e*PKiKP **PKPab 00 22 43.3 -1.5**
UZH *e* 00 23 09.7
MORC Moravsky Berou 144.78 348 ⇑ PKiKP **PKPdf 00 22 46.0 -0.3**
MORC Moravsky Berou 144.78 348 ⇑ P **PKPdf 00 22 46.0 -0.3**
MORC Moravsky Berou 144.78 348 *e*PKP PKPbc 00 22 45.7 +0.2
MORC *e* 00 23 13.9
BIZ Bicaz 144.81 337 ⇓ P PKPbc 00 22 46.0 +0.4
UCC Uccle 144.83 3 PKPdf PKPbc 00 22 45.6 +0.1
BEBN Eben Emael 144.88 1 PKPdf **PKPab 00 22 45.0 -0.6**
HGN Heimansgroeve 144.91 1 *e*PKP PKPbc 00 22 46.0 +0.3
comp=Z,264nm,1.9s
TESR Tescani 144.96 336 ⇑ P PKPbc 00 22 45.4 -0.7
GHRR 145.01 335 ⇑ P **PKPdf 00 22 47.1 +0.3**
TRPA Tarpa 145.02 341 ⇑ P **PKPbc 00 22 46.2 0.0**
TRPA Tarpa 145.02 341 *e*PKiKP **PKPbc 00 22 45.1 -1.1**
MEM Membach 145.07 1 PKPdf **PKPdf 00 22 46.6 -0.1**
MEM pPKP sPKPab 00 23 15.4 -1.3
BSTI Sart Tilman 145.09 1 PKPdf **PKPdf 00 22 46.9 +0.2**
BSTI pPKP sPKPab 00 23 14.0 -2.8
TLCR 145.10 332 ⇑ PKiKP **PKPdf 00 22 47.1 +0.2**
TLCR 145.10 332 ⇑ P **PKPdf 00 22 47.1 +0.2**
PRU Pruhonice 145.10 351 *e*PKiKP **PKPbc 00 22 46.5 +0.1**
PRU Pruhonice 145.10 351 *e*PKP **PKPbc 00 22 46.5 +0.1**
BMR Baia Mare 145.12 340 ⇓ PKiKP **PKPbc 00 22 46.6 +0.1**
BMR Baia Mare 145.12 340 ⇓ P **PKPbc 00 22 46.6 +0.1**
SNF Seneffe 145.12 3 PKPdf **PKPdf 00 22 46.8 0.0**
GOPC GO Pecny, Ondr 145.14 351 *e*PKiKP **PKPab 00 22 46.7 0.0**
GOPC GO Pecny, Ondr 145.14 351 *e*PKP **PKPab 00 22 46.7 0.0**
BCLA Clavier 145.25 2 PKPdf **PKPdf 00 22 47.2 +0.1**
BHOU Houvegnez 145.32 1 PKPdf **PKPab 00 22 47.8 +0.5**
ARCR ARCALIA 145.33 339 ⇓ P **PKPab 00 22 47.8 +0.4**
BMRD Maredsous 145.35 2 PKPdf **PKPab 00 22 47.6 +0.2**
BMRD pPKP sPKPab 00 23 16.4 -1.5
PETR Petresti 145.36 334 ⇑ P **PKPab 00 22 47.7 +0.2**
JURR Jurilovca 145.39 332 ⇓ P **PKPab 00 22 47.8 +0.1**
ODBI Odobesti 145.40 335 ⇑ P **PKPab 00 22 48.6 +0.9**
CFR Carcaliu 145.41 333 ⇑ PKiKP **PKPdf 00 22 47.2 -0.2**
CFR Carcaliu 145.41 333 ⇑ P **PKPdf 00 22 47.2 -0.2**
VRAC Vranov 145.41 349 ⇑ PKiKP **PKPab 00 22 48.1 +0.4**
VRAC Vranov 145.41 349 ⇑ P **PKPab 00 22 48.1 +0.4**
VRAC Vranov 145.41 349 *e*PKP **PKPab 00 22 47.9 +0.2**
VRAC *e* 00 23 15.3
VRI Vrincioaia 145.45 335 ⇑ PKiKP **PKPab 00 22 47.9 -0.1**
VRI Vrincioaia 145.45 335 ⇑ P **PKPab 00 22 47.9 -0.1**
GAZ Gaziantep 145.46 314 **PKPab 00 22 48.6 +0.2**
PBCC Pribram 145.48 352 *e*PKP **PKPab 00 22 48.0 +0.1**
PLOR Plostina 145.50 335 ⇑ PKiKP **PKPab 00 22 48.0 +0.1**
PLOR Plostina 145.50 335 ⇑ P **PKPbc 00 22 48.0 +0.1**
KMBO Kilima Mbogo 145.52 244 PKP2 **PKPab 00 22 49.9 +0.5**
KMBO Kilima Mbogo 145.52 244 PKPbc **PKPbc 00 22 49.2 +0.1**
comp=Z,4.6nm,0.9s,baz=102,slow=3.0,SNR=14
KMBO Kilima Mbogo 145.52 244 **PKPab 00 22 49.9 +0.5**
TOPG Topolog 145.53 332 ⇓ P **PKPab 00 22 48.7 +0.4**
DOU Dourbes 145.55 2 PKPdf **PKPab 00 22 48.3 +0.2**
JAVC Velka Javorina 145.62 347 *e*PKP **PKPab 00 22 49.7 +1.2**
JAVC *e* 00 23 17.4
OZUR 145.64 336 ⇑ P **PKPab 00 22 48.9 +0.3**
KRUC Moravsky 145.69 349 *e*PKP **PKPab 00 22 48.6 -0.1**
VYHS Vyhne 145.70 346 *e*PKP2 **PKPbc 00 22 48.6 +0.2**
VYHS Vyhne 145.70 346 *e*PKP **PKPbc 00 22 48.6 +0.2**
TIRR Tirgusor 145.84 332 ⇑ PKP2 **PKPbc 00 22 49.2 +0.3**
TIRR Tirgusor 145.84 332 ⇑ P **PKPbc 00 22 49.2 +0.3**
TIRR Tirgusor 145.84 332 ⇑ P **PKPbc 00 22 49.2 +0.3**
HARR Harsova 145.88 333 ⇑ PKP2 **PKPbc 00 22 48.9 -0.1**
HARR Harsova 145.88 333 ⇑ P **PKPbc 00 22 48.9 -0.1**
LTVH Ltavrtes, Hu 145.88 341 *e*PKiKP **PKPdf 00 22 48.0 -0.2**
DOPR Dopca 145.90 336 ⇓ P **PKPab 00 22 50.0 +0.3**
TLB Topalu 145.91 332 ⇑ PKP2 **PKPab 00 22 49.5 -0.2**
TLB Topalu 145.91 332 ⇑ P **PKPab 00 22 49.5 -0.2**
CJR Cluj-Napoca 145.92 339 ⇑ PKP2 **PKPbc 00 22 49.3 +0.1**
CJR Cluj-Napoca 145.92 339 ⇑ P **PKPbc 00 22 49.3 +0.1**
PSZ Piszkesteto 145.97 344 ⇑ PKP2 **PKPab 00 22 49.7 -0.2**
PSZ Piszkesteto 145.97 344 ⇑ P **PKPab 00 22 49.7 -0.2**
PSZ Piszkesteto 145.97 344 *e*PKiKP **PKPdf 00 22 48.1 -0.4**
WLF Walferdange 146.02 1 PKPdf **PKPdf 00 22 47.8 -0.6**
WLF pPKP **sPKPdf 00 23 15.8 -3.8**
MLR Muntele Rosu 146.07 335 ⇑ P **PKPab 00 22 50.7 +0.3**
KHC Kasperske Hory 146.08 352 *e*PKP2 **PKPab 00 22 50.0 -0.2**
KHC Kasperske Hory 146.08 352 *e*PKP **PKPab 00 22 50.0 -0.2**
KHC *ep*PKP **sPKPdf 00 23 18.0 -1.7**
PGOR Pogoanele 146.12 334 ⇓ P **PKPab 00 22 50.6 +0.2**
ISR Istrita 146.13 334 ⇑ PKP2 **PKPab 00 22 50.3 -0.3**
ISR Istrita 146.13 334 ⇑ P **PKPab 00 22 50.3 -0.3**
DRGR 146.15 340 ⇑ PKP2 **PKPbc 00 22 49.9 0.0**
DRGR 146.15 340 ⇑ P **PKPbc 00 22 49.9 0.0**
MODS Modra-Piesok 146.17 347 *e*PKP2 **PKPbc 00 22 49.8 0.0**
MODS Modra-Piesok 146.17 347 *e*PKP **PKPbc 00 22 49.8 0.0**
GERES GERESS Array B 146.34 352 *ce*PKP2 **PKPbc 00 22 50.6 +0.2**
GERES pmax pmax
comp=Z,8.0nm,0.9s
GERES GERESS Array B 146.34 352 PKPbc **PKPbc 00 22 49.9 -0.6**
comp=Z,7.8nm,0.9s,baz=35,slow=3.3,SNR=22
BRTR Keskin Array B 146.35 321 PKPbc **PKPdf 00 22 49.6 +0.1**
comp=Z,18nm,0.8s,baz=137,slow=1.9,SNR=50
SECR 146.40 335 ⇑ P **PKPbc 00 22 50.8 +0.2**
BSZH Besenyszg 146.43 343 *e*PKiKP **PKPdf 00 22 49.1 0.0**
VOIR 146.47 336 ⇓ PKP2 **PKPab 00 22 51.9 0.0**
VOIR 146.47 336 ⇓ P **PKPab 00 22 51.9 0.0**
SULR 146.61 334 ⇑ P **PKPab 00 22 52.1 -0.2**
MTUR Matau 146.64 336 ⇑ PKP2 **PKPbc 00 22 51.7 +0.3**
MTUR Matau 146.64 336 ⇑ P **PKPbc 00 22 51.7 +0.3**
ARR Arges 146.69 337 ⇓ P **PKPbc 00 22 51.4 -0.1**
ANTO Ankara 146.77 322 ⇑ PKP2 **PKPbc 00 22 52.0 +0.1**
ANTO Ankara 146.77 322 ⇑ P **PKPbc 00 22 52.0 +0.1**
ANTO Ankara 146.77 322 **PKPbc 00 22 52.3 +0.4**
STU Stuttgart 146.85 357 PKP2 **PKPbc 00 22 52.5 +0.7**
STU Stuttgart 146.85 357 **PKPbc 00 22 52.5 +0.7**
CONA Conrad Observa 146.88 349 *i* PKPbc **PKPdf 00 22 50.4 +0.4**
comp=Z,35nm,1.2s,SNR=15
DEV Deva 146.88 339 ⇑ PKP2 **PKPbc 00 22 52.0 +0.1**
DEV Deva 146.88 339 ⇑ P **PKPbc 00 22 52.0 +0.1**
CSKK Cskako 146.90 346 *e*PKiKP **PKPab 00 22 53.0 -0.4**
LOT Lotru 146.94 338 ⇑ P **PKPbc 00 22 51.7 -0.6**
SIRR Siria 146.95 341 ⇑ P **PKPbc 00 22 52.3 +0.1**
SOP Sopron 146.97 348 *e*PKiKP **PKPdf 00 22 50.1 0.0**
MOA Molln 147.23 351 *i* PKPab **PKPbc 00 22 53.0 +0.1**
comp=Z,23nm,1.1s,SNR=9.5
MPLH Magyarpolny 147.25 346 *e*PKiKP **PKPdf 00 22 50.1 -0.5**
MPLH *e*PKiKPd **PKPbc 00 22 51.1 -1.8**
BFO Black Forest 147.33 358 PKP2 **PKPbc 00 22 52.2 -0.9**
BFO Black Forest 147.33 358 **PKPbc 00 22 52.2 -0.9**
GZR Gura Zlata 147.35 339 ⇓ PKiKP **PKPbc 00 22 53.2 -0.1**
GZR Gura Zlata 147.35 339 ⇓ P **PKPbc 00 22 53.2 -0.1**
RAZG Razgrad 147.39 333 ⇑ P **PKPbc 00 22 53.7 +0.2**
TIH Tihany 147.42 346 *e*PKiKP **PKPdf 00 22 52.0 +1.2**
CLF Chambon-Foret 147.45 6 **PKPbc 00 22 54.3 +0.9**
ECH Echery 147.47 359 PKP2 **PKPbc 00 22 53.9 +0.4**
ECH Echery 147.47 359 **PKPbc 00 22 53.9 +0.4**
BZS Buzias 147.54 340 ⇓ PKiKP **PKPdf 00 22 51.6 +0.5**
BZS Buzias 147.54 340 ⇓ P **PKPdf 00 22 51.6 +0.5**
ARSA Arzberg 147.59 349 *i* PKPbc **PKPbc 00 22 52.7 -1.1**
comp=Z,15nm,1.0s,SNR=5.4
ZIMR 147.81 334 ⇑ PKP2 **PKPbc 00 22 55.3 +0.8**
ZIMR 147.81 334 ⇑ P **PKPbc 00 22 55.3 +0.8**
SRE Strehaia 147.82 338 ⇑ PKP2 **PKiKP 00 22 55.8 -0.7**
SRE Strehaia 147.82 338 ⇑ P **PKiKP 00 22 55.8 -0.7**
MORH Mrgy, Hungar 147.87 344 *e*P **PKPdf 00 22 53.1 +1.5**
MORH Mrgy, Hungar 147.87 344 *e*PKiKP **PKPdf 00 22 50.0 -1.5**
MORH *i* PKiKPd **PKPdf 00 22 53.1 +1.5**
BANR Banloc 147.90 341 ⇑ P **PKPbc 00 22 55.6 +0.9**
VLAD Vladila 147.93 336 ⇓ P **PKPbc 00 22 54.6 -0.2**
RETA Reutte 148.02 355 *i* PKPbc **PKPbc 00 22 54.4 -0.7**
comp=Z,34nm,1.3s,SNR=11
BEHE Becsehely 148.08 347 *eP* **PKPbc 00 22 55.5 +0.3**
BEHE Becsehely 148.08 347 *e*PKiKP **PKPdf 00 22 52.1 +0.2**
WATA Walderalm 148.09 354 *i* PKPdf **PKPdf 00 22 52.1 0.0**
comp=Z,25nm,1.2s,SNR=10
MOTA Moosalm 148.13 354 *i* PKPbc **PKPdf 00 22 52.6 +0.4**
comp=Z,38nm,1.1s,SNR=8.6
WTTA Wattenberg 148.15 354 *i* PKPdf **PKPdf 00 22 52.3 0.0**
comp=Z,25nm,0.8s,SNR=12
ELND Elena 148.18 333 ⇑ P **PKPbc 00 22 55.7 +0.2**
SOKA Soboth 148.23 349 *i* PKPbc **PKPbc 00 22 55.3 -0.4**
comp=Z,24nm,1.3s,SNR=7.1
SQTA Sankt Quirin 148.24 354 *i* PKPbc **PKPdf 00 22 53.4 +1.0**
comp=Z,26nm,1.1s,SNR=9.5
MDVR Moldovita 148.25 339 ⇑ P **PKPdf 00 22 53.8 +1.4**
PERS Pernice 148.26 349 *i* PKPbc **PKPbc 00 22 55.5 -0.2**
DAVA Damuels 148.29 356 *i* PKPbc **PKPbc 00 22 55.1 -0.8**
comp=Z,44nm,1.0s,SNR=16
PLVB Pleven 148.34 335 ⇑ P **PKPbc 00 22 56.4 +0.4**
OBKA Obir 148.48 350 *i* PKPbc **PKPbc 00 22 54.8 -1.6**
comp=Z,19nm,1.6s
FETA Feichten 148.48 355 *i* PKPdf **PKPdf 00 22 51.6 -1.2**
comp=Z,28nm,1.1s,SNR=8.4
FRGS Fruska Gora 148.51 342 *eP* **PKPbc 00 22 56.4 0.0**
MYKA Terra Mystica 148.51 351 *i* PKPdf **PKPdf 00 22 53.3 +0.6**
comp=Z,19nm,1.0s,SNR=5.9
ABTA Abfaltersbach 148.56 352 *i* PKPdf **PKPdf 00 22 51.9 -0.9**
comp=Z,36nm,0.9s,SNR=10
LJU Ljubljana 148.94 349 *e*PKPdf **PKPdf 00 22 53.6 +0.2**
LJU *i* PKPbc **PKPbc 00 22 57.4 0.0**
LJU Ljubljana 148.94 349 *eP* **PKPbc 00 22 56.5 -0.9**
CRES Cresnjev 148.97 348 *eP* **PKPbc 00 22 56.1 -1.4**
TUE Stuetta 149.13 356 **PKiKP 00 22 59.0 -0.4**
JAVS Javornik 149.16 350 *e*PKPdf **PKPdf 00 22 53.2 -0.7**
JAVS *e*PKPbc **PKPbc 00 22 57.8 -0.3**
JAVS *i* pPKPbc **pPKPbc 00 23 21.5 +0.9**
CEY Cerknica 149.25 349 *eP* **PKPbc 00 22 57.3 -0.9**
CTI Castel Tesino 149.35 353 PKP2 **PKPbc 00 22 58.6 0.0**
CTI Castel Tesino 149.35 353 **PKPbc 00 22 58.6 0.0**
TRI Trieste 149.39 350 PKP2 **PKPbc 00 22 58.6 +0.1**
TRI Trieste 149.39 350 **PKPbc 00 22 58.6 +0.1**
DIVS Divibare 149.42 341 *eP* **PKPbc 00 22 57.5 -1.3**
VTS Vitosha 149.55 335 ⇑ PKP2 **PKPbc 00 22 59.7 +0.4**
VTS Vitosha 149.55 335 ⇑ P **PKPbc 00 22 59.7 +0.4**
BLY Banja Luka 149.61 345 ⇓ *i*P **PKPbc 00 22 58.1 -1.0**
BLY Banja Luka 149.61 345 ⇓ P **PKPbc 00 22 58.2 -0.9**
BLY Banja Luka 149.61 345 **PKPbc 00 22 58.2 -0.9**
HAPS Han Pijesak,Bl 149.74 342 ⇓ *i*P **PKPbc 00 22 59.0 -0.6**
BBLS Lazići 149.81 342 *eP* **PKPbc 00 22 58.6 -1.1**
SALO Salr 149.89 355 **PKPbc 00 22 59.8 0.0**
MGRS Mrkonjic Grad 149.94 345 *eP* **PKPbc 00 23 00.1 +0.1**
RUDO Rudo 150.04 341 *eP* **PKPdf 00 22 57.5 +2.3**
RUDO Rudo 150.04 341 *eP* **PKPbc 00 22 59.7 -0.5**
BNI Bardonecchia 150.63 0 PKIKP **PKPbc 00 23 02.1 +0.3**
BNI Bardonecchia 150.63 0 **PKPbc 00 23 02.1 +0.3**
STIP Stip 150.75 336 *i* P **PKPbc 00 23 01.3 -0.7**
SKOP Skopje 150.79 337 *i* P **PKPbc 00 23 02.3 +0.2**
VAY Valtalolovo 150.91 335 *i* P **PKPbc 00 23 01.9 -0.5**
BRY Bratogost 150.95 342 *eP* **PKPbc 00 23 02.0 -0.6**
ZCCA Zocca 151.10 354 **PKiKP 00 23 03.4 +0.1**
PDG Podgorica 151.15 340 *eP* **PKPbc 00 23 02.6 -0.2**
PDG Podgorica 151.15 340 ⇑ P **PKPbc 00 23 02.6 -0.2**
PDG Podgorica 151.15 340 **PKPbc 00 23 01.7 -1.1**
DRME Dracevica, Mon 151.39 340 *eP* **PKPbc 00 23 02.7 -0.7**
PBRG Braganca 151.43 21 *e*PKPbc **PKiKP 00 23 04.1 0.0**
PVRL Vila Real 151.53 23 *e*PKPbc **PKiKP 00 23 04.6 +0.3**
PVRL Vila Real 151.53 23 *e*PKPab **PKPab 00 23 13.2 +0.7**
MVO Moncorvo 151.89 22 *e*PKPdf **PKPdf 00 22 59.3 +1.1**
MVO Moncorvo 151.89 22 *e*PKPbc **PKiKP 00 23 05.6 +0.6**
TIR Tirane 151.91 339 ⇑ PKiKP **PKPbc 00 23 04.6 0.0**
TIR Tirane 151.91 339 ⇑ P **PKPbc 00 23 04.6 0.0**
PVIS Viseu 151.95 24 *e*PKPdf **PKPdf 00 22 59.2 +0.9**
PVIS Viseu 151.95 24 *e*PKPbc **PKiKP 00 23 05.3 +0.1**
PVIS Viseu 151.95 24 *e*PKPab **PKPab 00 23 14.8 +0.6**
PCAS Casmiilo, Conde 152.26 26 *e*PKPbc **PKiKP 00 23 05.8 +0.1**
PCAS Casmiilo, Conde 152.26 26 *e*PKPab **PKPab 00 23 16.3 +0.8**
NRCA Norcia 152.30 350 **PKPbc 00 23 05.2 -0.4**
MTE Manteigas 152.35 24 *e*PKPdf **PKPdf 00 23 00.1 +1.2**
MTE Manteigas 152.35 24 *e*PKPbc **PKiKP 00 23 06.3 +0.3**
MTE Manteigas 152.35 24 *e*PKPab **PKPab 00 23 17.0 +1.0**
PTOM Tomar 152.66 26 *e*PKPdf **PKPdf 00 23 01.0 +1.7**
PTOM Tomar 152.66 26 *e*PKPbc **PKiKP 00 23 07.1 +0.5**
PTOM Tomar 152.66 26 *e*PKPab **PKPab 00 23 18.1 +0.9**
PMAFR Mafra 152.83 28 *e*PKPbc **PKiKP 00 23 07.6 +0.6**
PMAFR Mafra 152.83 28 *e*PKPab **PKPab 00 23 18.9 +1.0**
PCBR Castelo Branco 152.86 24 *e*PKPdf **PKPdf 00 23 00.7 +1.1**
PCBR Castelo Branco 152.86 24 *e*PKPbc **PKiKP 00 23 07.3 +0.3**
PCBR Castelo Branco 152.86 24 *e*PKPab **PKPab 00 23 18.9 +0.9**
INTR Introdacqua 152.95 348 **PKPbc 00 23 07.0 -0.1**
PMTG Montargil 153.20 26 *e*PKPdf **PKPdf 00 22 59.9 -0.2**
PMTG Montargil 153.20 26 *e*PKPbc **PKPbc 00 23 06.9 -0.7**
PMTG Montargil 153.20 26 *e*PKPab **PKPab 00 23 19.1 -0.4**
PMRV Marv??o 153.25 25 *e*PKPdf **PKPdf 00 23 01.3 +1.1**
PMRV Marv??o 153.25 25 *e*PKPbc **PKiKP 00 23 08.2 +0.4**
PMRV Marv??o 153.25 25 *e*PKPab **PKPab 00 23 20.6 +0.9**
PESTR Estremoz 153.64 26 *e*PKPab **PKPab 00 23 22.0 +0.6**
PESTR Estremoz 153.64 26 **PKPab 00 23 21.4 0.0**
EVO Evora 153.74 27 *e*PKPdf **PKPdf 00 22 59.4 -1.5**
EVO Evora 153.74 27 *e*PKPab **PKPab 00 23 22.4 +0.6**
PNCL Nicolau / Gran 153.86 28 *e*PKPbc **PKiKP 00 23 09.8 +0.7**
PNCL Nicolau / Gran 153.86 28 *e*PKPab **PKPab 00 23 22.7 +0.4**
MESJ Messejana 154.22 28 *e*PKPdf **PKPdf 00 23 00.8 -0.7**
PBEJ Beja 154.22 27 *e*PKPdf **PKPdf 00 23 01.3 -0.3**
ESBB Sonseca Array 154.26 19 **PKPbc 00 23 09.0 -0.9**
ESDC Sonseca Array 154.26 19 PKP **PKPdf 00 23 02.4 +0.7**
comp=Z,0.9nm,0.7s,baz=338,slow=2.6,SNR=13
ESDC PKPbc **PKiKP 00 23 10.3 +0.3**
comp=Z,1.6nm,0.7s,baz=332,slow=2.4,SNR=16
ES

mb3.4/9, Error ellipse: s-maj=11.3km s-min=7.1km az=41.5

*SKHL **09** 00:05:30.7±0.8, 44°.40N×149°.30E, h59km±4km, mb4.8/3*

*JMA **09** 00:05:30.2±0.7, 44°.60N×149°.24E, h30km, M4.1*

*IDC **09** 00:05:35.3±3.6, 44°.90N×149°.14E, h70km±26km, mb3.1/7, mb1 3.5/10, mb1mx3.3/36, mbtmp3.6/10, MS3.3/3, Ms1 3.3/3, ms1mx2.8/9, Error ellipse: s-maj=65.8km s-min=18.8km az=164.0*

ISC 09 00:05:29.5±0.9, 44°.33N±0°.06×149°.39E±0°.10, h38km±3km, n55, σ1§64/65, mb3.6/9, 5C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.41**	**310**	*c i*	PN	**Pn**	**00 05 52.2**	**-0.4**
KUR				*i*	S	**Sn**	**00 06 07.5**	**-2.5**
KUR	comp=Z,433nm,0.3s				pmax	pmax		
KUR	comp=N,98nm,0.2s				pmax	pmax		
KUR	comp=E,157nm,0.2s				pmax	pmax		
KUR	comp=E,3μm,0.3s				smax	smax		
KUR	comp=N,3μm,0.4s				smax	smax		
KUR	**Kuril'sk**	**1.41**	**310**	⇑*i*	P	**Pn**	**00 05 52.2**	**-0.4**
KUR	comp=N,100nm,0.4s				AMB	AMB	00 05 56.0	
KUR	comp=N,160nm,0.4s				AMB	AMB	00 05 56.0	
KUR	comp=N,430nm,0.4s				AMB	AMB	00 05 56.0	
KUR				*i*	S	**Sn**	**00 06 08.0**	**-2.0**
KUR	comp=N,3μm,0.4s				A	A	00 06 10.0	
KUR	comp=N,3μm,0.4s				A	A	00 06 10.0	
YUK	**Yuzh-Kuril'sk**	**2.56**	**265**	*c i*	PN	**Pn**	**00 06 09.6**	**+1.2**
YUK	comp=N,31nm,0.3s			*i*	S	**Sn**	**00 06 37.1**	**-1.1**
YUK	comp=Z,198nm,0.3s				pmax	pmax		
YUK	comp=E,66nm,0.2s				pmax	pmax		
YUK	comp=N,649nm,0.4s				smax	smax		
YUK	comp=E,420nm,0.4s				smax	smax		
YUK	**Yuzh-Kuril'sk**	**2.56**	**265**	*i*	P	**Pn**	**00 06 09.0**	**+0.6**
YUK	comp=E,30nm,0.4s				AMB	AMB	00 06 11.0	
YUK	comp=E,70nm,0.4s				AMB	AMB	00 06 11.0	
YUK	comp=E,200nm,0.4s				AMB	AMB	00 06 11.0	
YUK				*i*	S	**Sn**	**00 06 37.1**	**-1.1**
YUK	comp=E,650nm,0.4s				A	A	00 06 46.0	
YUK	comp=E,420nm,0.4s				A	A	00 06 46.0	
GRPR	**Tuman**	**2.63**	**264**	⇑*i*	PN	**Pn**	**00 06 10.4**	**+1.0**
GRPR				*i*	S	**Sn**	**00 06 40.1**	**+0.1**
GRPR	comp=Z,152nm,0.3s				pmax	pmax		
GRPR	comp=N,44nm,0.2s				pmax	pmax		
GRPR	comp=E,53nm,0.2s				pmax	pmax		
GRPR	comp=N,397nm,0.4s				smax	smax		
GRPR	comp=E,505nm,0.4s				smax	smax		
GRPR	**Tuman**	**2.63**	**264**	*i*	P	**Pn**	**00 06 10.1**	**+0.7**
GRPR	comp=E,40nm,0.4s				AMB	AMB	00 06 13.0	
GRPR	comp=E,50nm,0.4s				AMB	AMB	00 06 13.0	
GRPR	comp=E,150nm,0.4s				AMB	AMB	00 06 13.0	
GRPR				*i*	S	**Sn**	**00 06 40.1**	**+0.1**
GRPR	comp=E,400nm,0.4s				A	A	00 06 46.0	
GRPR	comp=E,510nm,0.4s				A	A	00 06 46.0	
NEM2	**Nemuro 2**	**2.81**	**251**		P	**Pn**	**00 06 12.3**	**+0.4**
NEM2					eS	**Sn**	**00 06 43.4**	**-1.1**
NMR	**Nemuro--Hokkai**	**2.82**	**251**	⇓*i*	PN	**Pn**	**00 06 12.2**	**+0.2**
NMR				*i*	S	**Sn**	**00 06 44.8**	**+0.1**
NMR	**Nemuro--Hokkai**	**2.82**	**251**	⇓*i*	P	**Pn**	**00 06 12.7**	**+0.7**
NMR				*i*	S	**Sn**	**00 06 44.8**	**+0.1**
GLVR	**Golovnino**	**2.86**	**259**	*e*	PN	**Pn**	**00 06 14.8**	**+2.3**
GLVR				*i*	S	**Sn**	**00 06 46.2**	**+0.6**
GLVR	comp=E,543nm,0.4s				smax	smax		
GLVR	comp=N,206nm,0.5s				smax	smax		
GLVR	**Golovnino**	**2.86**	**259**	*e*	P	**Pn**	**00 06 14.0**	**+1.5**
GLVR				*i*	S	**Sn**	**00 06 45.5**	**-0.1**
GLVR	comp=N,210nm,0.5s				A	A	00 06 54.0	
GLVR	comp=N,540nm,0.5s				A	A	00 06 54.0	
JRA	**Rausu**	**3.10**	**264**		P	**Pn**	**00 06 17.1**	**+1.3**
JRA					eS	**Sn**	**00 06 52.6**	**+1.0**
JNK	**Nakash**	**3.46**	**259**		P	**Pn**	**00 06 21.6**	**+0.8**
JNK					eS	**Sn**	**00 07 00.7**	**+0.3**
JAK	**Akkeshi**	**3.66**	**250**		P	**Pn**	**00 06 24.0**	**+0.5**
JAK					eS	**Sn**	**00 07 03.5**	**-1.9**
JAR	**Ashorobuto**	**4.20**	**258**		P	**Pn**	**00 06 32.9**	**+1.9**
JAR					eS	**Sn**	**00 07 19.8**	**+1.1**
JOB	**Onbets**	**4.28**	**252**		P	**Pn**	**00 06 34.0**	**+1.9**
JOB					eS	**Sn**	**00 07 19.9**	**-0.8**
JMP	**Maruseppu**	**4.35**	**268**		P	**Pn**	**00 06 35.5**	**+2.4**
JCH	**Churui**	**4.71**	**251**		P	**Pn**	**00 06 39.2**	**+1.2**
JCH					eS	**Sn**	**00 07 30.5**	**-0.9**
JKA	**Kamikawa-asahi**	**4.89**	**270**	*e*	P	**Pn**	**00 06 44.5**	**+4.1**
ASAJ	**Asahikawa**	**4.89**	**270**		P	**Pn**	**00 06 44.5**	**+4.0**
	comp=N,1.8nm,0.3s,baz=99,slow=17,SNR=3.7							
ERM	**Erimo**	**5.11**	**245**	*c i*	PN	**Pn**	**00 06 46.0**	**+2.5**
JNBK	**Urakawa-nobuka**	**5.26**	**249**		P	**Pn**	**00 06 46.7**	**+1.2**
JNBK					eS	**Sn**	**00 07 43.8**	**-1.1**
JBT2	**Biratori 2**	**5.34**	**256**		P	**Pn**	**00 06 48.1**	**+1.5**
YSS	**Yuzh-Sakhalins**	**5.34**	**302**	*e*	PN	**Pn**	**00 06 48.1**	**+1.4**
YSS					eS	**Sn**	**00 07 47.4**	**+0.6**
YSS	comp=Z,20nm,0.4s				pmax	pmax		
YSS	**Yuzh-Sakhalins**	**5.34**	**302**	*e*	P	**Pn**	**00 06 48.0**	**+1.4**
YSS	comp=Z,20nm,0.4s				AMB	AMB	00 06 49.0	
YSS					eS	**Sn**	**00 07 46.1**	**-0.7**
JNB	**Noboribetsu**	**6.37**	**256**		P	**Pn**	**00 07 02.0**	**+1.3**
JANG	**Nango**	**7.05**	**239**		P	**Pn**	**00 07 09.0**	**-1.1**
JTM	**Tenmabayashi**	**7.09**	**243**		eS	**Sn**	**00 08 25.0**	**-5.0**
JOSM	**Okushiri--Mats**	**7.59**	**256**		P	**Pn**	**00 07 18.9**	**+1.5**
PETK	**Petropavlovsk-**	**10.35**	**29**		P	**Pn**	**00 07 55.5**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=204,slow=14,SNR=4.7							
USRK	**Ussuriysk Ar.**	**12.48**	**275**		P	**Pn**	**00 08 26.6**	**+2.2**
	baz=78,slow=13,SNR=4.2							
BMKR	**Bomnak**	**16.84**	**315**	*e*	P	**Pn**	**00 09 18.6**	**-3.6**
KSRS	**Korea Array**	**17.60**	**254**		LR	LR	00 15 23.5	
	comp=Z,57nm,19.1s,baz=207,slow=33							
JCJ	**Chichijima**	**18.15**	**201**		LR	LR	00 15 42.0	
	comp=Z,60nm,20.6s,baz=20,slow=33							
YAK	**Yakutsk**	**21.15**	**334**	*i*	P	**P**	**00 10 11.9**	**+1.0**
YAK	**Yakutsk**	**21.15**	**334**	*i*	P	**P**	**00 10 11.9**	**+1.0**
BILL	**Bilibino**	**25.37**	**15**	*i*	P	**P**	**00 10 54.5**	**+1.8**
BILL				*i*			00 11 30.7	
BILL	comp=Z,3.0nm,1.4s				pmax	pmax		
BILL	**Bilibino**	**25.37**	**15**	*i*	P	**P**	**00 10 54.5**	**+1.8**
H11N2	**WAKE ISLAND Hy**	**28.55**	**144**		T	T	00 42 19.9	
	baz=335,slow=75							
H11N1	**WAKE ISLAND Hy**	**28.56**	**144**		T	T	00 42 17.6	
	baz=335,slow=75							
H11N3	**WAKE ISLAND Hy**	**28.56**	**144**		T	T	00 42 18.8	
	baz=335,slow=75							
TIXI	**Tiksi**	**29.14**	**347**	*i*	P	**P**	**00 11 27.3**	**+0.9**
TIXI	comp=Z,1.0nm,1.1s				pmax	pmax		
TIXI	**Tiksi**	**29.14**	**347**	*i*	P	**P**	**00 11 27.3**	**+0.9**
H11S1	**WAKE ISLAND Hy**	**29.55**	**145**		T	T	00 43 31.3	
	baz=337,slow=76							
H11S3	**WAKE ISLAND Hy**	**29.56**	**145**		T	T	00 43 38.6	
	baz=337,slow=76							
H11S2	**WAKE ISLAND Hy**	**29.57**	**145**		T	T	00 43 35.0	
	baz=337,slow=76							
SONM	**Songino Array**	**29.75**	**292**		P	**P**	**00 11 31.3**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=80,slow=10,SNR=2.5							
ILAR	**Eielson Array**	**40.06**	**37**		P	**P**	**00 12 59.9**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=266,slow=8.7,SNR=6.5							
MKAR	**Makanchi Array**	**45.75**	**298**		P	**P**	**00 13 46.4**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=76,slow=9.3,SNR=5.9							
MKAR					LR	LR	00 32 26.0	
	comp=Z,80nm,18.2s,baz=32,slow=36							
YKA	**Yellowknife Ar**	**54.41**	**35**		P	**P**	**00 14 52.5**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=298,slow=6.6,SNR=3.7							
FINES	**FINESS Array B**	**65.08**	**334**	*i*	P	P	00 16 08.5	+2.9
FINES					pmax	pmax		
	comp=Z,2.0nm,0.9s							
NOA	**NORSAR Array B**	**69.63**	**340**		P	**P**	**00 16 32.9**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=31,slow=6.6,SNR=7.3							
CLL	**Collm**	**77.53**	**334**	*e*	sP	sP	00 17 41.0	+4.5
GERES	**GERESS Array B**	**79.42**	**332**		P	**P**	**00 17 30.8**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=40,slow=7.7,SNR=2.5							
TXAR	**Lajitas Array**	**80.98**	**58**		P	**P**	**00 17 41.6**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=309,slow=4.1,SNR=5.7							

*SOF **09** 00:18:02.7, 41°.90N×21°.85E, h7km*

*SKO **09** 00:18:02.9, 41°.88N×21°.86E, h10km, M1.9, ML2.4*

*BEO **09** 00:18:03.0±0.3, 41°.89N×21°.85E, h0km, ML2.3/14*

*ATH **09** 00:18:03.2, 41°.91N×21°.92E, h16km±1km, ML2.4/8, Error ellipse: s-maj=3.0km s-min=1.2km az=156.0*

*THE **09** 00:18:03.0, 41°.93N×21°.78E, h0km±4km, ML2.4/2, Error ellipse: s-maj=4.3km s-min=0.9km az=22.0*

*TIR **09** 00:18:04.3, 41°.86N×21°.69E, h21km, Md2.8/4*

ISC 09 00:18:02.8±1.0, 41°.92N±0°.01×21°.84E±0°.01, h5km±9km, n90, σ1§09/136, 23C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.31**	**280**	⇑*i*	Pg	**Pg**	**00 18 09.4**	**+0.6**
SKO				*i*	Sg	**Sg**	**00 18 13.7**	**+0.8**
SKO	**Skopje**	**0.31**	**280**	*e*	Pg	**Pg**	**00 18 09.2**	**+0.4**
SKO				*e*	Sg	**Sg**	**00 18 12.7**	**-0.1**
STIP	**Stip**	**0.34**	**131**	⇑*i*	Pg	**Pn**	**00 18 12.3**	**-2.1**
STIP				*i*	Sg	**Sb**	**00 18 19.0**	**+2.0**
BOSS	**Bosilegrad**	**0.75**	**39**	*e*	Pg	**Pg**	**00 18 17.5**	**+0.3**
BOSS				*e*	Sg	**Sg**	**00 18 26.3**	**-0.6**
VAY	**Valandovo**	**0.81**	**137**	*i*	Pg	**Pg**	**00 18 18.0**	**-0.3**
VAY				*i*	Sg	**Sb**	**00 18 29.9**	**-0.6**
VAY	comp=N,80nm,0.5s			*e*	Lg	Lg	00 18 37.0	
VAY	comp=E,74nm,0.4s			*e*	Lg	Lg	00 18 38.9	
VAY	**Valandovo**	**0.81**	**137**	*e*	Pg	**Pg**	**00 18 18.2**	**-0.1**
VAY				*e*	Sg	**Sg**	**00 18 26.9**	**-1.9**
BARS	**Barje**	**0.90**	**359**	*e*	Pg	**Pg**	**00 18 20.2**	**+0.1**
BARS				*e*	Sg	**Sg**	**00 18 32.4**	**+0.7**
BARS				*e*	Sn	Sn	00 19 08.0	+33
KKB	**Krupnik**	**0.93**	**93**	*i*	Pg	**Pb**	**00 18 21.5**	**+0.1**
KKB				*i*	Sg	**Sb**	**00 18 34.0**	**0.0**
KKB	**Krupnik**	**0.93**	**93**		P	**Pn**	**00 18 21.9**	**-0.6**
KKB	**Krupnik**	**0.93**	**93**		P	**Pn**	**00 18 21.9**	**-0.6**
GRG	**Griva**	**1.05**	**156**		P	**Pb**	**00 18 23.0**	**-0.4**
GRG					S	**Sn**	**00 18 39.6**	**+0.4**
GRG	**Griva**	**1.05**	**156**	*i*	Pg	**Pg**	**00 18 22.8**	**-0.1**
GRG	**Griva**	**1.05**	**156**		P	**Pg**	**00 18 22.8**	**-0.1**
GRG	comp=E,388μm,0.6s				AML	AML	00 18 42.0	
GRG	comp=N,667μm,0.7s				AML	AML	00 18 42.6	
PHP	**Peshkopia**	**1.07**	**258**		P	**Pg**	**00 18 22.7**	**-0.8**
PHP					S	**Sg**	**00 18 37.1**	**-0.3**
PHP	**Peshkopia**	**1.07**	**258**	*i*	PG	**Pg**	**00 18 22.6**	**-0.8**
PHP				*i*	SG	**Sg**	**00 18 37.5**	**+0.1**
KNT	**Kendrikon**	**1.09**	**133**		P	**Pb**	**00 18 23.6**	**-0.7**
KNT	comp=N,128nm,0.5s				S	**Sn**	**00 18 39.6**	**-0.7**
KNT	**Kendrikon**	**1.09**	**133**	*i*	Pg	**Pb**	**00 18 23.5**	**-0.7**
KNT				*i*	Sg	**Sn**	**00 18 38.7**	**-1.6**
KNT	**Kendrikon**	**1.09**	**133**		P	**Pb**	**00 18 23.3**	**-0.9**
KNT					S	**Sg**	**00 18 37.4**	**-0.6**
KNT	comp=N,330μm,0.4s				AML	AML	00 18 41.9	
KNT	comp=E,144μm,0.4s				AML	AML	00 18 44.9	
FNA	**Florina**	**1.19**	**197**		P	**Pg**	**00 18 25.6**	**0.0**
FNA					S	**Sn**	**00 18 42.5**	**-0.1**
FNA	comp=E,272nm,0.3s							
FNA	**Florina**	**1.19**	**197**	⇑*i*	Pg	**Pg**	**00 18 25.6**	**0.0**
FNA				*i*	Sg	**Sn**	**00 18 42.1**	**-0.5**
FNA	**Florina**	**1.19**	**197**	*i*	PG	**Pg**	**00 18 25.9**	**+0.4**
FNA				*i*	SG	**Sg**	**00 18 41.0**	**+0.1**
FNA	**Florina**	**1.19**	**197**		P	**Pg**	**00 18 25.7**	**+0.2**
FNA					S	**Sn**	**00 18 42.1**	**-0.5**
FNA	comp=N,677μm,0.4s				AML	AML	00 18 43.6	
FNA	comp=E,486μm,0.5s				AML	AML	00 18 47.2	
VTS	**Vitosha**	**1.25**	**55**		P	**Pn**	**00 18 26.6**	**-0.4**
VTS	**Vitosha**	**1.25**	**55**	*i*	Pg	**Pn**	**00 18 26.6**	**-0.4**
VTS				*i*	Sg	**Sg**	**00 18 43.4**	**+0.4**
VTS	**Vitosha**	**1.25**	**55**	*e*	Pg	**Pn**	**00 18 25.7**	**-1.3**
VTS				*e*	Sg	**Sb**	**00 18 42.3**	**-1.0**
VTS	**Vitosha**	**1.25**	**55**		P	**Pg**	**00 18 27.2**	**+0.4**
VTS	**Vitosha**	**1.25**	**55**		P	**Pg**	**00 18 27.2**	**+0.4**
VTS	**Vitosha**	**1.25**	**55**	⇑	P	**Pg**	**00 18 27.8**	**+1.1**
VTS				⇑	S	**Sn**	**00 18 45.4**	**+1.2**
BCI	**Bajram Curri**	**1.40**	**289**	*i*	PN	**Pb**	**00 18 29.1**	**-0.3**
BCI				*i*	SN	**Sn**	**00 18 47.1**	**-0.7**
SELS	**Selova**	**1.41**	**338**	*e*	Pg	**Pn**	**00 18 28.6**	**-0.5**
SELS				*e*	Sg	**Sg**	**00 18 49.2**	**+1.2**
MMB	**Musomiste**	**1.45**	**103**	⇑*i*	Pg	**Pg**	**00 18 31.1**	**+0.5**
MMB				*i*	Sg	**Sg**	**00 18 50.0**	**+0.7**
MMB	**Musomiste**	**1.45**	**103**		P	**Pg**	**00 18 31.1**	**+0.5**
MMB	**Musomiste**	**1.45**	**103**		P	**Pg**	**00 18 31.1**	**+0.5**
ZAPS	**Zavoj**	**1.48**	**23**	*e*	Pg	**Pb**	**00 18 31.0**	**+0.3**
ZAPS				*e*	Sg	**Sb**	**00 18 50.0**	**+0.2**
SOH	**Sokhos**	**1.58**	**133**		P	**Pb**	**00 18 32.2**	**-0.3**
SOH	**Sokhos**	**1.58**	**133**	*i*	Pg	**Pb**	**00 18 32.1**	**-0.4**
SOH				*i*	Sg	**Sg**	**00 18 54.6**	**+1.1**
SOH	**Sokhos**	**1.58**	**133**		P	**Pb**	**00 18 32.3**	**-0.3**
SOH	comp=E,123μm,0.7s				AML	AML	00 19 02.7	
SOH	comp=N,117μm,0.5s				AML	AML	00 19 06.6	
TIR	**Tirane**	**1.59**	**250**	*i*	Pn	**Pg**	**00 18 33.6**	**+0.3**
TIR	**Tirane**	**1.59**	**250**	*i*	PN	**Pg**	**00 18 33.2**	**0.0**
TIR				*i*	SN	**Sn**	**00 18 51.4**	**-1.1**
TIR	**Tirane**	**1.59**	**250**	⇑	P	**Pg**	**00 18 34.8**	**+1.6**
TIR				⇓	S	**Sg**	**00 18 55.8**	**+1.9**
TIR					AML	AML	00 18 59.2	
KZN	**Kozani**	**1.61**	**182**		P	**Pb**	**00 18 32.9**	**-0.2**
KZN					S	**Sg**	**00 18 55.6**	**+1.0**
KZN	comp=E,145μm,0.4s				AML	AML	00 18 60.0	
KZN	comp=N,141μm,0.5s				AML	AML	00 19 04.8	
NVR	**Nevrokopi**	**1.62**	**110**		P	**Pb**	**00 18 32.8**	**-0.3**
NVR	**Nevrokopi**	**1.62**	**110**		P	**Pb**	**00 18 33.0**	**-0.2**
NVR					S	**Sb**	**00 18 53.3**	**-0.6**
NVR	comp=N,265μm,0.6s				AML	AML	00 19 00.4	
NVR	comp=E,236μm,0.7s				AML	AML	00 19 01.0	
NEST	**Nestorio**	**1.62**	**202**		P	**Pb**	**00 18 33.2**	**0.0**
NEST					S	**Sg**	**00 18 55.5**	**+0.7**
NEST	comp=E,212μm,0.5s				AML	AML	00 18 57.5	
NEST	comp=N,238μm,0.5s				AML	AML	00 18 59.8	
HORT	**Hortiatis**	**1.62**	**144**		P	**Pb**	**00 18 32.6**	**-0.7**
BOVS	**Bovan**	**1.72**	**357**	*e*	Pg	**Pn**	**00 18 33.7**	**+0.3**
BOVS				*e*	Sg	**Sb**	**00 18 57.4**	**+0.6**
PENT	**Pentalofos**	**1.80**	**197**		P	**Pb**	**00 18 36.4**	**+0.1**
BLKB	**Belogradchik**	**1.81**	**19**	⇓	S	**Sg**	**00 19 02.0**	**+1.0**
LIT	**Litokhoron**	**1.88**	**165**		P	**Pb**	**00 18 36.5**	**-1.1**
ZAGS	**Zajecar**	**1.92**	**8**	*e*	Pn	**Pb**	**00 18 37.4**	**-0.8**
ZAGS				*e*	Sn	**Sb**	**00 19 02.6**	**+0.2**
SJES	**Sjenica**	**1.93**	**315**	*e*	Pn	**Pn**	**00 18 36.0**	**-0.3**
SJES				*e*	Sn	**Sb**	**00 19 02.6**	**-0.2**
PLG	**Polygyros**	**1.96**	**141**		P	**Pb**	**00 18 37.6**	**-1.4**
PDG	**Podgorica**	**1.99**	**286**	*e*	Pn	**Pb**	**00 18 39.4**	**-0.1**
PDG	**Podgorica**	**1.99**	**286**	⇑	P	**Pb**	**00 18 39.7**	**+0.2**
PDG				⇑	S	**Sb**	**00 19 04.2**	**-0.4**
PDG					AML	AML	00 19 09.9	
DRME	**Dracevica, Mon**	**2.00**	**279**	*e*	Pn	**Pb**	**00 18 39.8**	**+0.2**
IVAS	**Ivanjica**	**2.07**	**324**	*e*	Pn	**Pn**	**00 18 39.5**	**+1.2**
IVAS				*e*	Sn	**Sb**	**00 19 06.1**	**-0.9**
GRUS	**Gruza**	**2.14**	**338**	*e*	Pn	**Pn**	**00 18 39.7**	**+0.6**
GRUS				*e*	Sn	**Sb**	**00 19 08.3**	**-0.5**
MEV	**Metsovon**	**2.18**	**193**		P	**Pb**	**00 18 41.3**	**-1.5**
KAVA	**Kavala**	**2.21**	**114**		P	**Pn**	**00 18 40.9**	**+0.9**
KAVA	comp=E,122μm,0.6s				AML	AML	00 19 19.7	
KAVA	comp=N,149μm,0.6s				AML	AML	00 19 21.9	
OUR	**Ouranopolis**	**2.26**	**134**		P	**Pn**	**00 18 41.8**	**+1.0**
BAIL	**Bailesti**	**2.37**	**27**	⇓	S	**Sg**	**00 19 18.0**	**-1.0**
BAIL					AML	AML	00 19 42.3	
PUNG	**Punghina**	**2.49**	**18**	⇓	P	**Pg**	**00 18 49.9**	**-0.7**
PUNG				⇑	S	**Sb**	**00 19 20.3**	**+1.4**
PUNG					AML	AML	00 19 25.2	
RUDO	**Rudo**	**2.49**	**314**	*e*	Pn	**Pn**	**00 18 44.2**	**+0.2**
PLVB	**Pleven**	**2.52**	**53**	⇑	P	**Pg**	**00 18 51.5**	**+0.4**
PLVB				⇑	S	**Sg**	**00 19 23.9**	**+0.1**
THAS	**Thassos island**	**2.53**	**120**		P	**Pn**	**00 18 44.8**	**+0.3**
TRUS	**Trudelj**	**2.53**	**336**	*e*	Pn	**Pn**	**00 18 45.2**	**+0.6**
DIVS	**Divibare**	**2.57**	**329**	*e*	Pn	**Pn**	**00 18 45.8**	**+0.7**
DIVS	**Divibare**	**2.57**	**329**	*e*	Pn	**Pn**	**00 18 45.2**	**+0.1**
BRY	**Bratogost**	**2.64**	**293**	*e*	Pn	**Pb**	**00 18 48.6**	**-2.0**
BBLS	**Lazići**	**2.65**	**318**	*e*	Pn	**Pb**	**00 18 46.9**	**+0.7**
BBLS	**Lazići**	**2.65**	**318**	*e*	Pn	**Pb**	**00 18 50.5**	**-0.2**
KEK	**Kerkira**	**2.69**	**216**		P	**Pn**	**00 18 48.5**	**+1.7**
TREB	**Trebinje**	**2.71**	**288**	*e*	Pn	**Pb**	**00 18 49.5**	**-2.3**
VLAD	**Vladila**	**2.80**	**41**	⇑	P	**Pb**	**00 18 54.4**	**+1.0**
VLAD				⇑	S	**Sb**	**00 19 29.9**	**+1.9**
VLAD					AML	AML	00 19 55.8	
NEO	**Neokhori**	**2.81**	**158**		P	**Pn**	**00 18 49.0**	**+0.6**
MDVR	**Moldovita**	**2.86**	**358**	⇑	P	**Pb**	**00 18 54.1**	**-0.3**
MDVR				⇓	S	**Sb**	**00 19 28.3**	**-1.5**
MDVR					AML	AML	00 19 46.3	
RDO	**Rodhopi**	**2.88**	**104**		P	**Pn**	**00 18 50.2**	**+0.9**
MAKR	**Makrakomi, Fth**	**2.91**	**176**		P	**Pn**	**00 18 51.2**	**+1.4**
AGG	**Agios Georgios**	**2.92**	**173**		P	**Pn**	**00 18 50.9**	**+1.1**
EVR	**Evrytania**	**3.00**	**181**		P	**Pn**	**00 18 51.8**	**+0.8**
HAPS	**Han Pijesak,BI**	**3.03**	**317**	*e*	Pn	**Pn**	**00 18 51.3**	**-0.2**
ELND	**Elena**	**3.15**	**70**	⇓	P	**Pg**	**00 19 01.2**	**-1.9**
ELND				⇑	S	**Sb**	**00 19 40.5**	**+2.5**
COPA	**Copaceanca**	**3.32**	**47**	⇑	P	**Pb**	**00 19 02.1**	**0.0**
COPA					AML	AML	00 19 24.9	
COPA				⇓	S	**Sb**	**00 19 43.1**	**+0.3**
ALN	**Alexandroupoli**	**3.32**	**106**		P	**Pn**	**00 18 56.4**	**+1.0**
GZR	**Gura Zlata**	**3.54**	**11**	⇓	P	**Pb**	**00 19 03.6**	**-2.4**
GZR					AML	AML	00 19 47.1	
GZR				⇓	S	**Sb**	**00 19 47.1**	**-2.1**
FRGS	**Fruska Gora**	**3.56**	**336**	*e*	Pn	**Pn**	**00 18 58.7**	**0.0**
BZS	**Buzias**	**3.70**	**358**	⇑	P	**Pb**	**00 19 05.6**	**-3.0**
BZS				⇑	S	**Sb**	**00 19 50.0**	**-3.8**
RAZG	**Razgrad**	**3.81**	**63**	⇑	P	**Pb**	**00 19 09.7**	**-0.8**
RAZG				⇑	S	**Sb**	**00 19 55.9**	**-1.1**
RAZG					AML	AML	00 20 19.6	
MORH	**Mrgy, Hungar**	**4.88**	**333**	*e*	Pn	**Pn**	**00 19 17.0**	**+0.3**
DRGR		**4.91**	**7**	⇑	P	Pn	00 19 22.1	+4.8
DRGR				⇑	S	**Sn**	**00 20 19.6**	**+5.1**

*IDC **09** 00:32:08.9±0.9, 46°.87N×153°.60E, h0km, mb3.9/17, mb1 4.0/21, mb1mx3.9/49, mbtmp3.9/21, ML3.3/3, MS3.7/6, Ms1 3.7/6, ms1mx3.1/37, Error ellipse: s-maj=24.9km s-min=14.7km az=153.0*

*ISCJB **09** 00:32:12.2±0.5, 46°.88N±0°.06×153°.65E±0°.09, h31km, mb4.0/25, MS3.7/6, Error ellipse: s-maj=11.4km s-min=4.6km az=137.9*

*SKHL **09** 00:32:12.3±0.2, 46°.80N×153°.90E, h42km±5km, mb4.5/5*

*MOS **09** 00:32:12.8±1.3, 46°.84N×153°.60E, h42km, mb4.4/7, Error ellipse: s-maj=12.1km s-min=8.2km az=64.4*

*NEIC **09** 00:32:14.2±1.0, 46°.9N±0°.1×153°.6E±0°.2, h36km±8km, mb4.2/12*

ISC 09 00:32:14.0±0.7, 46°.94N±0°.08×153°.66E±0°.08, h31km, n103, σ1§31/99, mb4.1/26, MS3.7/6, 17C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.09**	**23**	*e*	PN	**Pn**	**00 33 12.9**	**-1.3**
SKR	comp=Z,47nm,1.3s				pmax	pmax		
SKR	**Severo-Kuril's**	**4.09**	**23**	⇑*i*	P	**Pn**	**00 33 13.8**	**-0.4**
SKR	comp=Z,50nm,0.5s				AMB	AMB	00 33 15.3	
SKR				*e*	S	**Sn**	**00 34 00.1**	**-0.8**
SKR	comp=Z,100nm,0.5s				A	A	00 34 06.0	
SKR	comp=Z,120nm,0.5s				A	A	00 34 06.0	
KUR	**Kuril'sk**	**4.37**	**249**	*e*	PN	**Pn**	**00 33 19.2**	**+1.0**
KUR				*e*	S	**Sn**	**00 34 09.7**	**+1.7**
KUR	comp=N,32nm,0.4s				pmax	pmax		
KUR	comp=Z,127nm,0.4s				pmax	pmax		
KUR	comp=E,46nm,0.3s				smax	smax		
KUR	comp=E,126nm,0.5s				smax	smax		
KUR	comp=N,157nm,0.6s				smax	smax		
KUR	**Kuril'sk**	**4.37**	**249**	⇓*i*	P	**Pn**	**00 33 19.5**	**+1.3**
KUR	comp=N,40nm,0.5s				AMB	AMB	00 33 25.0	
KUR

comp=Z,13nm,0.8s
KSRS Korea Array 21.21 253 *e*P **P 00 36 59.9 +3.0**
KSRS pmax pmax
comp=Z,4.0nm,0.9s
KSRS Korea Array 21.21 253 P **P 00 36 57.0 +0.2**
comp=Z,3.6nm,0.9s,baz=55,slow=10,SNR=8.3
KSRS Korea Array 21.21 253 *e*P **P 00 36 59.9 +3.0**
BILL Bilibino 22.13 13 *i*P **P 00 37 09.2 +2.7**
BILL *i* 00 37 34.0
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 22.13 13 *i*P **P 00 37 09.2 +2.7**
BILL Bilibino 22.13 13 P **P 00 37 07.8 +1.3**
H11N2 WAKE ISLAND Hy 29.22 154 T T 01 09 55.9
baz=340,slow=75,SNR=8.3
H11N1 WAKE ISLAND Hy 29.23 154 T T 01 10 00.0
baz=340,slow=75,SNR=6.9
H11N3 WAKE ISLAND Hy 29.23 154 T T 01 09 59.2
baz=340,slow=75,SNR=6.8
H11S1 WAKE ISLAND Hy 30.31 155 T T 01 11 25.7
baz=341,slow=76,SNR=27
H11S3 WAKE ISLAND Hy 30.32 155 T T 01 11 15.0
baz=341,slow=76,SNR=25
H11S2 WAKE ISLAND Hy 30.33 155 T T 01 11 01.3
baz=341,slow=76,SNR=25
ILAR Eielson Array 36.17 39 P **P 00 39 12.8 -0.4**
comp=Z,0.2nm,0.5s,baz=255,slow=8.8,SNR=3.2
INK Inuvik 41.29 33 P **P 00 39 55.6 -0.3**
comp=Z,0.6nm,0.7s,baz=255,slow=4.0,SNR=2.2
ZALV Zalesovo Beam 42.80 306 *e*P **P 00 40 07.2 -1.3**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 42.80 306 P **P 00 40 06.4 -2.1**
comp=Z,0.6nm,0.4s,baz=72,slow=6.8,SNR=4.1
ZALV LR LR 00 59 08.1
comp=Z,94nm,20.6s,baz=88,slow=38
MKAR Makanchi Array 47.19 297 *e*P **P 00 40 42.8 -0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 47.19 297 P **P 00 40 42.2 -1.3**
comp=Z,1.0nm,0.4s,baz=69,slow=8.8,SNR=22
MKAR LR LR 01 02 10.6
comp=Z,83nm,19.7s,baz=88,slow=38
MKAR Makanchi Array 47.19 297 *e*P **P 00 40 42.8 -0.7**
RES Resolute Bay 50.54 19 P **P 00 41 09.9 +1.2**
comp=Z,0.7nm,0.5s,baz=337,slow=7.7,SNR=3.5
YKA Yellowknife Ar 50.55 37 P **P 00 41 09.6 +0.6**
comp=Z,0.3nm,0.7s,baz=295,slow=7.1,SNR=4.2
AAK Ala-Archa 54.08 297 P **P 00 41 35.8 +0.1**
AAK pmax pmax
comp=Z,2.0nm,0.9s
AAK Ala-Archa 54.08 297 *e*P **P 00 41 35.8 +0.1**
AAK Ala-Archa 54.08 297 P **P 00 41 35.8 +0.1**
AAK IAmb IAmb 00 41 37.4
comp=Z,1.9nm,0.9s
ARU Arti 55.13 318*c* *i*P **P 00 41 41.9 -0.9**
ARU 00 43 43.2
ARU S **S 00 49 21.6 -1.7**
ARU SS **SS 00 53 01.8 -5.0**
ARU pmax pmax
comp=Z,5.0nm,0.9s
ARU Arti 55.13 318⇑ *i*P **P 00 41 41.9 -0.9**
ARCES ARCESS Array B 57.80 341 *e*P **P 00 42 02.1 +0.4**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 57.80 341 P **P 00 42 01.9 +0.2**
comp=Z,4.0nm,0.9s,baz=21,slow=7.8,SNR=6.5
ARCES LR LR 01 10 25.8
comp=Z,44nm,18.7s,baz=333,slow=40
CHGR Chuyangaron 59.70 295 P **P 00 42 15.2 -0.2**
FINES FINESS Array B 64.03 335 *e*P **P 00 42 44.2 +0.1**
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 64.03 335 P **P 00 42 43.8 -0.3**
comp=Z,4.1nm,0.7s,baz=35,slow=7.6,SNR=20
PDAR Pinedale Array 64.33 54 P **P 00 42 47.0 +0.2**
comp=Z,0.4nm,0.7s,baz=272,slow=3.2,SNR=3.4
GEYT Alibeck 66.83 301 P **P 00 43 03.1 +0.5**
comp=Z,0.9nm,0.5s,baz=48,slow=2.2,SNR=3.8
GEYT LR LR 01 14 26.3
comp=Z,52nm,18.8s,baz=20,slow=38
NB2 NORSAR Subarra 68.17 341 P **P 00 43 10.7 0.0**
comp=Z,1.3nm,0.6s,baz=26,slow=6.5
NOA NORSAR Array B 68.17 341 *e*P **P 00 43 10.6 -0.1**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 68.17 341 P **P 00 43 11.0 +0.3**
comp=Z,2.1nm,0.6s,baz=27,slow=6.4,SNR=9.9
HFS Hagfors 68.41 340 LR LR 01 16 32.0
comp=Z,56nm,18.1s,baz=42,slow=39
AKASG Malin Array Be 71.60 326 *e*P **P 00 43 31.6 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 71.60 326 P **P 00 43 31.2 -0.7**
comp=Z,1.2nm,0.5s,baz=34,slow=6.1,SNR=9.9
ASAR Alice Springs 72.50 199 P **P 00 43 36.6 -0.9**
comp=Z,0.6nm,0.6s,baz=13,slow=5.5,SNR=6.2
GNI Garni 72.69 311 LR LR 01 18 32.0
comp=Z,40nm,19.7s,baz=71,slow=38
SORM Soroca 74.01 325 ⇓P **P 00 43 46.4 +0.2**
MILM Milestii Mici 74.82 324 ⇑P **P 00 43 51.4 +0.4**
KOLS Kolonicke sedl 75.60 329 *e*P **P 00 43 56.8 +1.4**
KOLS Kolonicke sedl 75.60 329 *e*P **P 00 43 56.8 +1.4**
BURAR Bucovina Array 75.64 327 ⇑P **P 00 43 56.3 +0.5**
BURAR mb 00 44 06.4
BIZ Bicaz 75.86 326 ⇑P **P 00 43 58.5 +1.5**
TESR Tescani 76.00 325 ⇑P **P 00 43 58.9 +1.1**
TRPA Tarpa 76.18 329 ⇓P **P 00 44 00.0 +1.3**
TRPA ⇓mb 00 44 02.4
CLL Collm 76.45 336 *i*P **P 00 44 01.2 +1.0**
CLL Collm 76.45 336 *i*P **P 00 44 01.2 +1.0**
CFR Carcaliu 76.51 324 ⇑P **P 00 44 01.7 +1.0**
OZUR 76.69 326 ⇓P **P 00 44 03.4 +1.7**
TIRR Tirgusor 76.99 323 ⇑P **P 00 44 04.7 +1.4**
TLB Topalu 77.03 323 ⇑P **P 00 44 05.0 +1.4**
TXAR Lajitas Array 77.08 61 P **P 00 44 04.2 0.0**
comp=Z,0.6nm,0.6s,baz=309,slow=4.9,SNR=8.8
MLR Muntele Rosu 77.13 325 ⇑P **P 00 44 06.0 +1.6**
VYHS Vyhne 77.14 331 *e*P **P 00 44 04.4 +0.2**
VYHS Vyhne 77.14 331 *e*P **P 00 44 04.4 +0.2**
DRGR 77.26 328 ⇑P **P 00 44 05.8 +0.9**
VOIR 77.52 326 ⇓P **P 00 44 07.4 +1.0**
ARR Arges 77.74 326 ⇓P **P 00 44 08.8 +1.1**
GZR Gura Zlata 78.42 327 ⇑P **P 00 44 12.2 +0.8**
GERES GERESS Array B 78.45 334 P **P 00 44 12.1 +0.5**
comp=Z,0.5nm,0.6s,baz=357,slow=3.9,SNR=3.2
BRTR Keskin Array B 78.51 317 *e*P **P 00 44 13.7 +1.6**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 78.51 317 P **P 00 44 12.3 +0.2**
comp=Z,2.5nm,0.9s,baz=55,slow=6.5,SNR=6.1
COPA Copaceanca 78.54 325 ⇑P **P 00 44 12.4 +0.3**
WATA Walderalm 80.43 335 *i*P **P 00 44 22.6 +0.1**
comp=Z,1.6nm,0.6s
WTTA Wattenberg 80.48 335 *i*P **P 00 44 22.5 -0.3**
comp=Z,3.0nm,0.5s
RETA Reutte 80.53 335 *i*P **P 00 44 22.3 -0.6**
comp=Z,2.9nm,1.1s
MOTA Moosalm 80.56 335 *i*P **P 00 44 22.3 -0.9**
comp=Z,5.2nm,1.1s
VTS Vitosha 80.60 325 ⇓P **P 00 44 24.1 +0.6**
VTS Vitosha 80.60 325 IAmb IAmb 00 44 25.9
comp=Z,3.3nm,0.8s
SQTA Sankt Quirin 80.64 335 *i*P **P 00 44 22.8 -0.8**
comp=Z,5.8nm,1.6s
PDG Podgorica 82.26 328 ⇑P **P 00 44 33.2 +1.2**

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*ISCJB **09** 00:36:42.0±1.3, 35°.22N±0°.08×141°.5E±0°.1, h35km, mb3.6/3, Error ellipse: s-maj=18.6km s-min=8.3km az=152.5*
*JMA **09** 00:36:42.7±0.2, 35°.22N×141°.36E, h28km±2km, M2.7*
*IDC **09** 00:36:48.5±2.1, 34°.18N×138°.67E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/39, mbtmp3.6/3, ML2.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/40, Error ellipse: s-maj=89.0km s-min=23.3km az=76.0*
ISC 09 00:36:43.7±1.6, 35°.21N±0°.07×141°.4E±0°.1, h35km, n12, σ1§32/13, mb3.8/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.65**	**211**	P	**Pn**	**00 36 55.1**	**-0.9**
CHOJ	**Chosi**	**0.66**	**319**	P	**Pn**	**00 36 54.7**	**-1.8**
CHOJ				S	**Sn**	**00 37 03.3**	**-2.3**
BSO3	**Boso 3**	**0.83**	**241**	P	**Pn**	**00 36 57.9**	**-0.7**
BSO4	**Boso 4**	**0.89**	**256**	P	**Pn**	**00 36 59.0**	**-0.6**
JKUC	**kamogawauchiur**	**0.97**	**267**	P	**Pn**	**00 36 59.9**	**-1.0**
JYT	**Yasato**	**1.41**	**317**	P	**Pn**	**00 37 07.3**	**+0.5**
MJAR	**Matsushiro Arr**	**2.90**	**298**	Pn	**Pn**	**00 37 28.0**	**+0.6**
	0.4nm,0.3s,baz=98,slow=12,SNR=6.4						
MAT	**Matsushiro**	**2.91**	**298**	P	**Pn**	**00 37 28.9**	**+1.4**
MAT				*e*S	**Sn**	**00 38 02.5**	**+1.3**
KLR	**Kul'dur**	**15.70**	**336**	LR	LR	00 46 04.3	
	comp=Z,68nm,18.5s,baz=172,slow=35						
MKAR	**Makanchi Array**	**45.09**	**304**	P	**P**	**00 44 56.2**	**-0.1**
	0.3nm,0.6s,baz=87,slow=8.9,SNR=2.9						
WRA	**Warramunga Arr**	**55.26**	**188**	P	**P**	**00 46 13.8**	**+0.3**
	0.5nm,0.5s,baz=0.8,slow=7.6,SNR=4.8						
ASAR	**Alice Springs**	**58.98**	**188**	P	**P**	**00 46 41.1**	**+1.2**
	0.5nm,0.6s,baz=14,slow=14,SNR=11						

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*NIED **09** 00:47:00, 44°.50N×149°.40E, h41km, Mw4.3 Best double couple: M○3.07000×10^15 NP1:φ8=176.00000°, δ34.00000°, λ18.00000°. NP2:φ8=71.00000°, δ80.00000°, λ123.00000°.*
*JMA **09** 00:47:20.9±1.2, 44°.53N×149°.43E, h30km, M4.4*
*ISCJB **09** 00:47:22.9±0.6, 44°.43N±0°.04×149°.20E±0°.05, h50km±5km, mb4.2/39, MS3.2/3, Error ellipse: s-maj=8.1km s-min=4.2km az=147.1*
*SKHL **09** 00:47:22.9±0.3, 44°.42N×149°.36E, h50km±5km, mb4.9/6*
*MOS **09** 00:47:22.3±1.2, 44°.49N×149°.27E, h45km, mb4.5/18, Error ellipse: s-maj=8.6km s-min=6.7km az=71.8*
*NEIC **09** 00:47:23.1±1.8, 44°.45N±0°.09×149°.3E±0°.1, h35km±1km, mb4.4/80*
*IDC **09** 00:47:26.0±2.6, 44°.50N×149°.18E, h62km±22km, mb3.8/21, mb1 4.0/25, mb1mx3.9/36, mbtmp4.1/25, ML3.5/3, MS3.2/8, Ms1 3.2/8, ms1mx3.0/37, Error ellipse: s-maj=18.0km s-min=12.4km az=155.0*
ISC 09 00:47:22.2±0.5, 44°.29N±0°.05×149°.36E±0°.07, h36km±2km, n200, σ1§65/201, mb4.3/74, MS3.2/3, 2C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.42**	**312**	*d* *i*P	N	**00 47 44.2**	**-1.3**
KUR				*i* S	**Sn**	**00 48 00.7**	**-2.2**
KUR				pmax	pmax		
	comp=N,552nm,0.3s						
KUR				pmax	pmax		
	comp=E,545nm,0.3s						
KUR				pmax	pmax		
	comp=Z,1μm,0.3s						
KUR				smax	smax		
	comp=N,4μm,0.4s						
KUR				smax	smax		
	comp=E,4μm,0.4s						
KUR	**Kuril'sk**	**1.42**	**312**	*i*P	**Pn**	**00 47 44.0**	**-1.5**
KUR				AMB	AMB	00 47 45.0	
	comp=E,600nm,0.3s						
KUR				*i* S	**Sn**	**00 48 00.1**	**-2.8**
KUR				A	A	00 48 03.0	
	comp=E,4μm,0.4s						
KUR				A	A	00 48 03.0	
	comp=E,4μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.53**	**265**	*c* *i*PN	**Pn**	**00 48 02.8**	**+2.1**
YUK				*i* S	**Sn**	**00 48 32.1**	**+1.9**
YUK				pmax	pmax		
	comp=N,139nm,0.2s						
YUK				pmax	pmax		
	comp=E,188nm,0.2s						
YUK				pmax	pmax		
	comp=Z,435nm,0.2s						
YUK				smax	smax		
	comp=N,918nm,0.3s						
YUK				smax	smax		
	comp=E,590nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.53**	**265**⇑	*i*P	**Pn**	**00 48 02.4**	**+1.7**
YUK				AMB	AMB	00 48 09.0	
	comp=E,220nm,0.3s						
YUK				*i* S	**Sn**	**00 48 31.8**	**+1.6**
YUK				A	A	00 48 36.0	
	comp=E,920nm,0.4s						
YUK				A	A	00 48 36.0	
	comp=E,590nm,0.4s						
GRPR	**Tuman**	**2.60**	**265**⇓	*i*PN	**Pn**	**00 48 03.6**	**+1.9**
GRPR				*i* S	**Sn**	**00 48 33.2**	**+1.2**
GRPR				pmax	pmax		
	comp=N,179nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,262nm,0.3s						
GRPR				pmax	pmax		
	comp=E,114nm,0.2s						
GRPR				smax	smax		
	comp=N,862nm,0.4s						
GRPR				smax	smax		
	comp=E,299nm,0.5s						
GRPR	**Tuman**	**2.60**	**265**	*i*P	**Pn**	**00 48 03.0**	**+1.3**
GRPR				AMB	AMB	00 48 13.0	
	comp=E,260nm,0.4s						
GRPR				*i* S	**Sn**	**00 48 33.0**	**+1.0**
GRPR				A	A	00 48 41.0	
	comp=E,860nm,0.5s						
GRPR				A	A	00 48 41.0	
	comp=E,300nm,0.5s						
NEM2	**Nemuro 2**	**2.77**	**252**	P	**Pn**	**00 48 03.9**	**-0.2**
NEM2				*e*S	**Sn**	**00 48 36.4**	**+0.1**
NMR	**Nemuro--Hokkai**	**2.78**	**252**⇓	*i*PN	**Pn**	**00 48 04.4**	**+0.2**
NMR				*i* S	**Sn**	**00 48 37.5**	**+1.0**
NMR	**Nemuro--Hokkai**	**2.78**	**252**⇓	*i*P	**Pn**	**00 48 04.4**	**+0.2**
NMR				*i* S	**Sn**	**00 48 37.5**	**+1.0**
GLVR	**Golovnino**	**2.82**	**260**	*i* S	**Sn**	**00 48 38.0**	**+0.5**
JRA	**Rausu**	**3.07**	**265**	P	**Pn**	**00 48 08.5**	**+0.3**
JRA				*e*S	**Sn**	**00 48 47.0**	**+3.4**
JNK	**Nakash**	**3.42**	**260**	P	**Pn**	**00 48 13.8**	**+0.8**
JAK	**Akkeshi**	**3.62**	**251**	P	**Pn**	**00 48 15.9**	**+0.2**
JAK				*e*S	**Sn**	**00 48 58.8**	**+1.6**
JTKR	**Abashiri--Toko**	**3.94**	**267**	P	**Pn**	**00 48 21.4**	**+1.3**
JAR	**Ashorobuto**	**4.17**	**258**	P	**Pn**	**00 48 25.0**	**+1.8**
JAR				*e*S	**Sn**	**00 49 13.6**	**+2.9**
JOB	**Onbets**	**4.25**	**253**	P	**Pn**	**00 48 25.5**	**+1.2**
JMP	**Maruseppu**	**4.33**	**268**	P	**Pn**	**00 48 28.2**	**+2.7**
JCH	**Churui**	**4.67**	**251**	P	**Pn**	**00 48 31.8**	**+1.6**
JCH				*e*S	**Sn**	**00 49 22.4**	**-0.8**
JKK2	**Kamakawa 2**	**4.78**	**267**	P	**Pn**	**00 48 35.2**	**+3.5**
JKA	**Kamikawa-asahi**	**4.86**	**270**	*e*P	**Pn**	**00 48 36.5**	**+3.7**
JKA	**Kamikawa-asahi**	**4.86**	**270**		**Pn**	**00 48 36.5**	**+3.7**
ASAJ	**Asahikawa**	**4.86**	**270**	P	**Pn**	**00 48 36.5**	**+3.7**
	comp=E,1.3nm,0.3s,baz=114,slow=12,SNR=3.0						
ASAJ				LR	LR	00 50 29.8	
	comp=E,200nm,21.2s,baz=95,slow=39						
ERM	**Erimo**	**5.07**	**245**	PN	**Pn**	**00 48 38.3**	**+2.6**
ERM	**Erimo**	**5.07**	**245**		**Pn**	**00 48 38.3**	**+2.6**
JNBK	**Urakawa-nobuka**	**5.22**	**250**	P	**Pn**	**00 48 38.1**	**+0.3**
JBT2	**Biratori 2**	**5.30**	**256**	P	**Pn**	**00 48 40.8**	**+1.9**
YSS	**Yuzh-Sakhalins**	**5.34**	**302**	PN	**Pn**	**00 48 39.3**	**0.0**
YSS	**Yuzh-Sakhalins**	**5.34**	**302**	*e*P	**Pn**	**00 48 40.0**	**+0.7**
YSS				AMB	AMB	00 48 41.2	
	comp=E,20nm,0.7s						
YSS	**Yuzh-Sakhalins**	**5.34**	**302**	Pn	**Pn**	**00 48 39.4**	**0.0**
JNB	**Noboribetsu**	**6.33**	**256**	P	**Pn**	**00 48 54.2**	**+1.3**
JNB				*e*S	**Sn**	**00 50 03.5**	**-0.5**
JANG	**Nango**	**7.01**	**239**	P	**Pn**	**00 49 01.0**	**-1.2**
JANG				*e*S	**Sn**	**00 50 12.8**	**-7.8**
JTM	**Tenmabayashi**	**7.05**	**243**	*e*S	**Sn**	**00 50 15.8**	**-5.9**
OFUJ	**Ofunato**	**7.76**	**230**	*e*S	Sn	00 50 30.6	-8.5
JRG	**Rokugo**	**8.14**	**236**	*e*S	**Sn**	**00 50 43.5**	**-5.1**
JIO	**Ouri**	**8.38**	**229**	*e*S	**Sn**	**00 50 46.6**	**-7.8**
PEA0B	**Petropavlovsk-**	**10.40**	**29**	PN	**Pn**	**00 49 49.7**	**+1.0**
PEA0B	**Petropavlovsk-**	**10.40**	**29**	Pn	**Pn**	**00 49 49.7**	**+1.0**
PETK	**Petropavlovsk-**	**10.40**	**29**	P	**Pn**	**00 49 49.7**	**+1.0**
	comp=E,1.0nm,0.3s,baz=211,slow=11,SNR=12						
PETK				LR	LR	00 53 39.4	
	comp=E,176nm,19.1s,baz=238,slow=36						
PET	**Petropavlovsk**	**10.68**	**32**	*e*PN	**Pn**	**00 49 51.0**	**-1.4**
PET	**Petropavlovsk**	**10.68**	**32**	*e*P	**Pn**	**00 49 53.1**	**+0.7**
MJAR	**Matsushiro Arr**	**11.49**	**231**	P	Pn	00 50 12.9	+9.2
	comp=E,0.1nm,0.3s,baz=33,slow=16,SNR=9.1						
MJB9	**Matsu-Tunnel**	**11.49**	**231**		**Pn**	**00 50 05.2**	**+1.5**
MAJO	**Matsushiro**	**11.49**	**231**	PN	**Pn**	**00 50 05.0**	**+1.4**
MAJO	**Matsushiro**	**11.49**	**231**	Pn	**Pn**	**00 50 05.0**	**+1.4**
USRK	**Ussuriysk Ar.**	**12.46**	**276**	P	**Pn**	**00 50 18.7**	**+1.8**
	baz=83,slow=14,SNR=3.0						
USRK				LR	LR	00 55 13.1	
	comp=E,97nm,19.2s,baz=92,slow=38						
KLR	**Kul'dur**	**13.04**	**298**	LR	LR	00 55 36.2	
	comp=E,93nm,18.4s,baz=150,slow=38						
EKMR	**Ekimchan**	**13.92**	**315**	*e*P	**Pn**	**00 50 35.0**	**-1.8**
MA2	**Magadan**	**15.33**	**3**	P	**Pn**	**00 50 54.3**	**-1.4**
MA2				pmax	pmax		
	comp=Z,51nm,1.2s						
MA2	**Magadan**	**15.33**	**3**	LR	LR	00 55 58.9	
	comp=Z,103nm,21.4s,baz=198,slow=34						
MA2	**Magadan**	**15.33**	**3**	*e*P	**Pn**	**00 50 54.3**	**-1.4**
MA2				AMB	AMB	00 51 09.4	
	comp=Z,50nm,1.2s						
MA2	**Magadan**	**15.33**	**3**	Pn	**Pn**	**00 50 54.3**	**-1.4**
BMKR	**Bomnak**	**16.85**	**315**	*e*P	**Pn**	**00 51 12.0**	**-3.2**
BMKR				AMB	AMB	00 51 19.2	
	comp=Z,10.0nm,0.6s						
KROS	**Kirovskiy**	**17.69**	**313**	*e*P	**Pn**	**00 51 22.0**	**-3.5**
SEY	**Seymchan**	**18.76**	**4**	*e*P	**P**	**00 51 36.0**	**-1.8**
SEY	**Seymchan**	**18.76**	**4**	P	**P**	**00 51 35.9**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=179,slow=7.8,SNR=9.5						
BJT	**Baijiatuan**	**24.87**	**272**	P	**P**	**00 52 41.6**	**+0.2**
BJT				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BJT	**Baijiatuan**	**24.87**	**272**	P	**P**	**00 52 41.6**	**+0.2**
BJT				IAmb	IAmb	00 52 57.9	
	comp=Z,7.7nm,1.1s						
ATKA	**Atka Island**	**25.31**	**59**	P	**P**	**00 52 45.5**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**28.53**	**144**	T	T	01 24 12.0	
	baz=334,slow=75,SNR=648						
H11N1	**WAKE ISLAND Hy**	**28.54**	**144**	T	T	01 24 12.0	
	baz=334,slow=75,SNR=655						
H11N3	**WAKE ISLAND Hy**	**28.55**	**144**	T	T	01 24 09.3	
	baz=334,slow=75,SNR=675						
H11S1	**WAKE ISLAND Hy**	**29.54**	**145**	T	T	01 25 29.0	
	baz=335,slow=76,SNR=654						
H11S3	**WAKE ISLAND Hy**	**29.54**	**145**	T	T	01 25 24.1	
	baz=335,slow=76,SNR=340						
H11S2	**WAKE ISLAND Hy**	**29.55**	**145**	T	T	01 25 29.6	
	baz=335,slow=76,SNR=253						
SONM	**Songino Array**	**29.74**	**292**	*e*P	**P**	**00 53 25.1**	**0.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**29.74**	**292**	P	**P**	**00 53 24.5**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=80,slow=7.8,SNR=5.3						
SONM				LR	LR	01 06 16.3	
	comp=Z,69nm,18.4s,baz=152,slow=38						
NACB	**Ninganchiao**	**30.26**	**238**	P	**P**	**00 53 30.3**	**+0.5**
ANM	**Nome**	**32.23**	**35**	P	**P**	**00 53 47.0**	**+0.3**
ANM				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ANM	**Nome**	**32.23**	**35**	P	**P**	**00 53 47.0**	**+0.3**
ANM				IAmb	IAmb	00 53 49.1	
	comp=Z,6.3nm,0.8s						
TTA	**Tatalina**	**36.00**	**39**	P	**P**	**00 54 21.0**	**+1.5**
TTA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TTA	**Tatalina**	**36.00**	**39**	P	**P**	**00 54 21.0**	**+1.5**
SVW2	**Sparrevohn**	**36.09**	**43**	P	**P**	**00 54 22.0**	**+1.8**
SVW2				IAmb	IAmb	00 54 22.5	
	comp=Z,3.9nm,1.0s						
HKPS	**Hong Kong Po S**	**36.32**	**244**		**PcP**	**00 56 46.3**	**-0.5**
OHAK	**Old Harbor**	**37.38**	**49**	P	**P**	**00 54 31.2**	**0.0**
KDAK	**Kodiak Island**	**37.71**	**48**	P	**P**	**00 54 34.5**	**+0.5**
	comp=Z,7.2nm,0.7s,baz=292,slow=4.9,SNR=6.1						
KDAK	**Kodiak Island**	**37.71**	**48**	IAmb	IAmb	00 54 36.5	
	comp=Z,15nm,1.1s						
PPLA	**Purkeypile**	**37.75**	**40**	P	**P**	**00 54 36.2**	**+1.8**
PPLA				IAmb	IAmb	00 54 39.6	
	comp=Z,8.3nm,1.1s						
SKT	**Skwentna**	**38.05**	**41**	P	**P**	**00 54 38.2**	**+1.4**
CNPM	**China Poot**	**38.28**	**45**	P	**P**	**00 54 38.8**	**0.0**
BPAW	**Bear Paw Mtn.**	**38.32**	**38**	P	**P**	**00 54 40.0**	**+0.9**
KTH	**Kantishna Hill**	**38.34**	**39**	P	**P**	**00 54 41.1**	**+1.8**
KTH				IAmb	IAmb	00 54 44.8	
	comp=Z,7.4nm,1.0s						
SUA	**Susitna One**	**38.43**	**42**	P	**P**	**00 54 40.3**	**+0.2**
SUA				IAmb	IAmb	00 54 48.4	
	comp=Z,4.6nm,1.1s						
MLY	**Manley**	**38.47**	**36**	P	**P**	**00 54 42.1**	**+1.7**
MLY				IAmb	IAmb	00 54 42.5	
	comp=Z,4.2nm,0.7s						
TRF	**Thorofare Moun**	**38.62**	**39**	P	**P**	**00 54 43.2**	**+1.5**
TRF				IAmb	IAmb	00 54 47.7	
	comp=Z,4.4nm,1.1s						
RC01	**Rabbit Creek A**	**38.93**	**43**	P	**P**	**00 54 45.1**	**+0.9**
BWN	**Browne**	**38.99**	**38**	P	**P**	**00 54 45.1**	**+0.5**
NEA	**Nenana**	**39.16**	**37**	P	**P**	**00 54 47.5**	**+1.4**
NEA				IAmb	IAmb	00 54 51.6	
	comp=Z,5.9nm,0.7s						
RND	**Reindeer**	**39.27**	**39**	P	**P**	**00 54 47.4**	**+0.3**
RND				pmax	pmax		
	comp=Z,2.0nm,0.7s						
RND	**Reindeer**	**39.27**	**39**	P	**P**	**00 54 47.4**	**+0.3**
GHO	**Glory Hole Cre**	**39.29**	**41**	P	**P**	**00 54 47.6**	**+0.4**
GHO				IAmb	IAmb	00 54 59.6	
	comp=Z,9.6nm,1.0s						
KNK	**Knik Glacier**	**39.53**	**42**	P	**P**	**00 54 49.9**	**+0.7**
KNK				IAmb	IAmb	00 54 59.7	
	comp=Z,6.8nm,1.0s						
MDM	**Murphy Dome**	**39.53**	**36**	P	**P**	**00 54 48.9**	**-0.3**
MDM				IAmb	IAmb	00 55 03.2	
	comp=Z,4.5nm,0.8s						
SML	**Sawmill**	**39.56**	**41**	P	**P**	**00 54 50.8**	**+1.2**
SML				IAmb	IAmb	00 55 00.7	
	comp=Z,7.5nm,0.8s						
WRH	**Wood River Hil**	**39.59**	**37**	P	**P**	**00 54 51.4**	**+1.8**
WRH				IAmb	IAmb	00 54 58.2	
	comp=Z,7.6nm,1.2s						
CCB	**Clear Creek Bu**	**39.71**	**37**	P	**P**	**00 54 52.0**	**+1.4**
DHY	**Denali Highway**	**39.94**	**39**	P	**P**	**00 54 53.8**	**+0.9**
SCM	**Sheep Creek Mo**	**40.04**	**41**	P	**P**	**00 54 54.2**	**+0.7**
SCM				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SCM	**Sheep Creek Mo**	**40.04**	**41**	P	**P**	**00 54 54.2**	**+0.7**
SCM				IAmb	IAmb	00 55 00.1	
	comp=Z,8.6nm,1.0s						
HDA	**Harding Lake**	**40.09**	**37**	P	**P**	**00 54 54.4**	**+0.5**
HDA				IAmb	IAmb	00 54 58.5	
	comp=Z,4.5nm,0.7s						
IL31		**40.11**	**37**	P	**P**	**00 54 54.5**	**+0.6**
IL31				IAmb	IAmb	00 54 56.7	
	comp=Z,3.5nm,0.7s						
ILAR	**Eielson Array**	**40.11**	**37**	P	**P**	**00 54 54.5**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=269,slow=7.7,SNR=25						
FID	**Port Fidalgo**	**40.54**	**43**	P	**P**	**00 54 57.6**	**-0.1**
FID				IAmb	IAmb	00 55 13.8	
	comp=Z,11nm,1.2s						
HIN	**Hinchinbrook I**	**40.57**	**43**	P	**P**	**00 54 58.8**	**+0.9**
PRP	**Porcupine Dome**	**40.67**	**35**	P	**P**	**00 55 00.3**	**+1.6**
PRP				IAmb	IAmb	00 55 03.2	
	comp=Z,4.5nm,0.7s						
FYU	**Fort Yukon**	**40.77**	**34**	IAmb	IAmb	00 55 03.4	
	comp=Z,11nm,1.1s						

comp=Z,6.3nm,0.8s
INK Inuvik 45.13 31 P **P** **00 55 35.4 +0.8**
INK pmax pmax
comp=Z,6.0nm,1.0s
INK Inuvik 45.13 31 P **P** **00 55 34.4 -0.2**
comp=Z,3.1nm,0.5s,baz=295,slow=7.0,SNR=24
INK Inuvik 45.13 31 P **P** **00 55 35.4 +0.8**
INK IAmb IAmb 00 55 38.3
comp=Z,5.8nm,1.0s
MKAR Makanchi Array 45.74 298 P **P** **00 55 39.0 -0.8**
comp=Z,1.0nm,0.7s,baz=82,slow=6.5,SNR=7.7
MKAR PcP **PcP** **00 57 17.3 +0.2**
comp=Z,0.4nm,0.7s,baz=89,slow=2.7,SNR=2.5
MAKZ Makanchi 45.93 298 P **P** **00 55 41.5 +0.2**
MAKZ pmax pmax
comp=Z,2.0nm,0.9s
MAKZ Makanchi 45.93 298 P **P** **00 55 41.5 +0.2**
KURK Kurchatov 46.54 304 P **P** **00 55 44.5 -1.5**
KURK pmax pmax
comp=Z,2.0nm,1.0s
KURK Kurchatov 46.54 304 *e*P **P** **00 55 44.5 -1.5**
KURK Kurchatov 46.54 304 P **P** **00 55 44.5 -1.5**
BRVK Borovoye 50.43 310 *e*P **P** **00 56 18.1 +2.2**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 50.43 310 *e*P **P** **00 56 18.1 +2.2**
ARSB Arslanbob 54.18 295 P **P** **00 56 44.0 -0.1**
ARSB IAmb IAmb 00 56 46.6
comp=Z,3.5nm,0.7s
YKA Yellowknife Ar 54.46 35 P **P** **00 56 46.5 +1.0**
comp=Z,1.5nm,0.7s,baz=297,slow=6.8,SNR=22
KKAR Karatay Array 54.86 299 P **P** **00 56 48.4 -0.5**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 54.86 299 P **P** **00 56 48.4 -0.5**
BTK Batken 56.25 295 P **P** **00 56 59.1 +0.2**
BTK pmax pmax
comp=Z,2.0nm,0.6s
BTK Batken 56.25 295 P **P** **00 56 59.1 +0.2**
BTK IAmb IAmb 00 57 08.5
comp=Z,1.9nm,0.6s
TULEG Thule 57.02 10 P **P** **00 57 04.0 +0.2**
GAR Garm 57.14 294 P **P** **00 57 04.3 -1.1**
LVZ Lovozero 57.96 336 P **P** **00 57 07.7 -2.8**
LVZ pmax pmax
comp=Z,19nm,1.1s
LVZ Lovozero 57.96 336 P **P** **00 57 07.7 -2.8**
ABKAR Akbulak array 57.96 309 IAmb IAmb 00 57 11.1
comp=Z,2.2nm,0.7s
CHGR Chuyangaron 58.09 295 P **P** **00 57 11.1 -0.9**
ARE0 ARCESS Array S 59.29 340 P **P** **00 57 19.0 -0.7**
F07A Phinny Hill Vi 60.54 53 P **P** **00 57 31.0 +2.3**
PLID Pearl Lake 63.26 52 P **P** **00 57 46.6 -0.6**
PLID IAmb IAmb 00 57 52.2
comp=Z,2.6nm,0.9s
LEM Lembang 63.26 228 LR LR 01 23 04.9
comp=Z,19nm,20.8s,baz=102,slow=34
SUMG Summit 63.31 3 P **P** **00 57 46.2 -1.1**
SUMG Summit 63.31 3 P **P** **00 57 46.2 -1.1**
FIA1 FINESS Array S 65.10 334 P **P** **00 57 58.2 -0.6**
FINES FINESS Array B 65.11 334 *e*P **P** **00 57 58.0 -0.8**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 65.11 334 P **P** **00 57 56.4 -2.3**
comp=Z,1.5nm,0.6s,baz=34,slow=7.6,SNR=8.1
WB2 Warramunga Arr 65.38 196 P **P** **00 58 01.7 +0.7**
WB2 IAmb IAmb 00 58 13.9
comp=Z,3.7nm,1.1s
WRA Warramunga Arr 65.38 196 P **P** **00 58 01.9 +0.9**
comp=Z,0.6nm,0.3s,baz=15,slow=6.8,SNR=1.9
BOZ Bozeman (W) 65.38 50 P **P** **00 58 02.6 +1.5**
BOZ pmax pmax
comp=Z,2.0nm,0.7s
BOZ Bozeman (W) 65.38 50 P **P** **00 58 02.6 +1.5**
BOZ IAmb IAmb 00 58 04.2
comp=Z,2.1nm,0.7s
GEYT Alibeck 65.56 300 P **P** **00 58 01.7 -0.5**
comp=Z,1.8nm,0.6s,baz=64,slow=3.4,SNR=4.5
FITZ Fitzroy Crossi 65.77 205 P **P** **00 58 05.1 +1.6**
FITZ IAmb IAmb 00 58 07.5
comp=Z,1.9nm,0.9s
NVAR Mina Array Bea 65.94 59 P **P** **00 58 05.6 +0.7**
comp=Z,0.5nm,0.6s,baz=285,slow=7.5,SNR=4.5
PDAR Pinedale Array 68.34 51 P **P** **00 58 20.8 +0.8**
comp=Z,0.5nm,0.8s,baz=253,slow=1.0,SNR=5.0
PDAR LR LR 01 28 08.4
comp=Z,12nm,20.6s,baz=15,slow=36
ASAR Alice Springs 69.09 195 P **P** **00 58 26.6 +2.1**
comp=Z,5.3nm,0.3s,baz=8.5,slow=6.2,SNR=8.6
NC303 NORSAR Array S 69.46 340 P **P** **00 58 25.3 -1.1**
NC405 NORSAR Array S 69.47 340 P **P** **00 58 25.9 -0.6**
NC204 NORSAR Array S 69.57 340 P **P** **00 58 26.3 -0.8**
NB201 NORSAR Array S 69.63 340 P **P** **00 58 26.7 -0.7**
NB2 NORSAR Subarra 69.66 340 P **P** **00 58 26.3 -1.3**
comp=Z,1.2nm,0.5s,baz=30,slow=6.5
NOA NORSAR Array B 69.66 340 *e*P **P** **00 58 26.9 -0.7**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 69.66 340 P **P** **00 58 26.9 -0.7**
comp=Z,1.6nm,0.6s,baz=33,slow=6.6,SNR=16
NBO00 NORSAR Array S 69.78 340 P **P** **00 58 26.9 -1.4**
ULM Lac du Bonnet 70.10 38 *e*P **P** **00 58 30.8 +0.3**
ULM pmax pmax
comp=Z,2.0nm,0.7s
ULM Lac du Bonnet 70.10 38 P **P** **00 58 30.4 0.0**
comp=Z,1.9nm,0.7s,baz=322,slow=8.8,SNR=3.7
KBZ Khabaz 70.62 313 *e*P **P** **00 58 35.6 +1.9**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 70.62 313 P **P** **00 58 33.9 +0.1**
comp=Z,3.4nm,0.8s,baz=51,slow=7.9,SNR=4.6
KBZ Khabaz 70.62 313 *e*P **P** **00 58 35.6 +1.9**
PV05 Paradox Valley 71.70 55 P **P** **00 58 42.9 +2.2**
PV13 Radium Mtn., P 71.81 54 P **P** **00 58 42.0 +0.6**
PV02 Paradox Valley 71.83 54 P **P** **00 58 41.7 +0.2**
PV02 IAmb IAmb 00 58 57.3
comp=Z,2.5nm,0.9s
AKASG Malin Array Be 72.07 325 P **P** **00 58 41.8 -0.6**
comp=Z,1.9nm,0.6s,baz=38,slow=6.1,SNR=16
AKBB Malin Array Si 72.07 325 P **P** **00 58 41.6 -0.8**
AKBB pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 72.07 325 P **P** **00 58 41.6 -0.8**
AKBB IAmb IAmb 00 58 42.8
comp=Z,4.1nm,0.8s
X16A Lo Mia Camp, P 72.75 59 P **P** **00 58 48.5 +1.5**
CLL Collm 77.55 334 *i* P **P** **00 59 13.9 -0.2**
CLL Collm 77.55 334 *i* P **P** **00 59 13.9 -0.2**
BRTR Keskin Array B 78.31 315 P **P** **00 59 18.7 0.0**
comp=Z,1.3nm,0.7s,baz=73,slow=3.9,SNR=5.8
KHC Kasperske Hory 79.24 332 *e*P **P** **00 59 23.5 0.0**
KHC Kasperske Hory 79.24 332 *e*P **P** **00 59 23.5 0.0**
GERES GERESS Array B 79.44 332 P **P** **00 59 24.3 -0.4**
comp=Z,0.4nm,0.4s,baz=31,slow=4.6,SNR=2.7
CONA Conrad Observa 79.48 330 *i* P **P** **00 59 25.2 +0.3**
comp=Z,4.4nm,1.3s
TXAR Lajitas Array 81.02 58 P **P** **00 59 34.8 +1.3**
comp=Z,1.1nm,0.6s,baz=301,slow=4.4,SNR=16
WATA Walderalm 81.47 332 *i* P **P** **00 59 35.9 +0.2**
comp=Z,1.0nm,0.5s
WTTA Wattenberg 81.51 332 *i* P **P** **00 59 36.1 +0.2**
comp=Z,3.7nm,0.6s
MOTA Moosalm 81.61 333 *i* P **P** **00 59 36.3 -0.2**
comp=Z,2.1nm,0.6s
SQTA Sankt Quirin 81.69 333 *i* P **P** **00 59 37.1 +0.3**
comp=Z,3.0nm,0.7s
F64A Sherman 84.22 25 P **P** **00 59 49.1 -0.6**
AGG Agios Georgios 84.29 321 P **P** **00 59 50.2 -0.1**
AGG pmax pmax
comp=Z,5.0nm,1.0s
AGG Agios Georgios 84.29 321 P **P** **00 59 50.1 -0.1**
H62A Milan 84.46 28 P **P** **00 59 51.1 +0.1**
H62A IAmb IAmb 00 59 52.8
comp=Z,3.2nm,0.8s
ESDC Sonseca Array 93.02 340 P **P** **01 00 31.1 -0.9**
comp=Z,0.1nm,0.5s,baz=351,slow=6.9,SNR=3.4
TORD Torodi Ar. Bea 115.71 325 PKP **PKiKP** **01 06 00.1 -1.0**
comp=Z,0.2nm,0.5s,baz=355,slow=1.4,SNR=4.2

*IDC **09** 00:55:29.1±1.1, 44.°18N×149.°82E, h0km, mb3.9/7, mb1 4.2/9, mb1mx3.7/43, mbtmp3.9/9, ML3.2/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/41, Error ellipse: s-maj=47.9km s-min=23.5km az=130.0*

*SKHL **09** 00:55:31.4±0.6, 44.°51N×149.°39E, h30km±3km, mb4.7/4*
*ISCJB **09** 00:55:32.8±1.3, 44.°55N±0.°07×149.°24E±0.°10, h39km±13km, mb3.9/9, Error ellipse: s-maj=13.9km s-min=8.1km az=40.8*
*MOS **09** 00:55:32.5±0.8, 44.°48N×149.°27E, h37km, mb4.0/2, Error ellipse: s-maj=14.8km s-min=9.9km az=58.3*
ISC 09 00:55:35.6±1.8, **44.°60N**±0.°08×**149.°1E**±0.°1, **h48**km±17km, **n40**, σ**0.98**/**41**, **mb3.9**/**9**, **3D**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.09**	**306**	*d*	*i*	P	**Pn**	**00 55 53.2**	**-1.3**
KUR					*i*	S	**Sn**	**00 56 08.7**	**+0.3**
KUR						pmax	pmax		
	comp=E,784nm,0.3s								
KUR						pmax	pmax		
	comp=Z,922nm,0.3s								
KUR						pmax	pmax		
	comp=N,333nm,0.2s								
KUR						smax	smax		
	comp=N,1μm,0.3s								
KUR						smax	smax		
	comp=E,1μm,0.3s								
KUR	**Kuril'sk**	**1.09**	**306**	⇓	*i*	P	**Pn**	**00 55 53.2**	**-1.3**
KUR						AMB	AMB	00 55 54.8	
	comp=E,330nm,0.5s								
KUR						AMB	AMB	00 55 54.8	
	comp=E,680nm,0.5s								
KUR						AMB	AMB	00 55 54.8	
	comp=E,720nm,0.5s								
KUR					*i*	S	**Sn**	**00 56 08.9**	**+0.5**
KUR						A	A	00 56 11.0	
	comp=E,1μm,0.3s								
KUR						A	A	00 56 11.0	
	comp=E,1μm,0.3s								
YUK	**Yuzh-Kuril'sk**	**2.40**	**258**			PN	**Pn**	**00 56 11.8**	**-0.5**
YUK					*e*	S	**Sn**	**00 56 41.8**	**+1.3**
YUK						pmax	pmax		
	comp=Z,111nm,0.2s								
YUK						smax	smax		
	comp=N,297nm,0.4s								
YUK						smax	smax		
	comp=E,300nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**2.40**	**258**	⇓	*e*	P	**Pn**	**00 56 11.4**	**-0.9**
YUK						AMB	AMB	00 56 14.0	
	comp=E,110nm,0.4s								
YUK					*i*	S	**Sn**	**00 56 41.9**	**+1.4**
YUK						A	A	00 56 45.0	
	comp=E,500nm,0.4s								
YUK						A	A	00 56 45.0	
	comp=E,350nm,0.4s								
GRPR	**Tuman**	**2.47**	**257**		*e*	PN	**Pn**	**00 56 13.0**	**-0.4**
GRPR					*e*	S	**Sn**	**00 56 43.8**	**+1.5**
GRPR						pmax	pmax		
	comp=Z,124nm,0.3s								
GRPR						smax	smax		
	comp=N,409nm,0.4s								
GRPR						smax	smax		
	comp=E,351nm,0.2s								
GRPR	**Tuman**	**2.47**	**257**		*e*	P	**Pn**	**00 56 12.2**	**-1.2**
GRPR						AMB	AMB	00 56 14.0	
	comp=E,120nm,0.4s								
GRPR					*e*	S	**Sn**	**00 56 42.8**	**+0.5**
GRPR						A	A	00 56 48.0	
	comp=E,410nm,0.4s								
GRPR						A	A	00 56 48.0	
	comp=E,350nm,0.4s								
GLVR	**Golovnino**	**2.72**	**253**			PN	**Pn**	**00 56 16.4**	**-0.4**
GLVR					*e*	S	**Sn**	**00 56 49.9**	**+1.4**
GLVR						pmax	pmax		
	comp=Z,117nm,0.3s								
GLVR						smax	smax		
	comp=N,368nm,0.4s								
GLVR						smax	smax		
	comp=E,485nm,0.3s								
GLVR	**Golovnino**	**2.72**	**253**	*e*		P	**Pn**	**00 56 16.0**	**-0.8**
GLVR						AMB	AMB	00 56 19.0	
	comp=E,120nm,0.4s								
GLVR					*e*	S	**Sn**	**00 56 49.6**	**+1.1**
GLVR						A	A	00 56 56.0	
	comp=E,370nm,0.4s								
GLVR						A	A	00 56 56.0	
	comp=E,490nm,0.4s								
NMR	**Nemuro--Hokkai**	**2.73**	**245**	*e*		PN	**Pn**	**00 56 15.9**	**-1.0**
NMR					*e*	S	**Sn**	**00 56 49.6**	**+0.9**
NMR	**Nemuro--Hokkai**	**2.73**	**245**	*e*		P	**Pn**	**00 56 15.9**	**-1.0**
NMR					*e*	S	**Sn**	**00 56 49.6**	**+0.9**
ASAJ	**Asahikawa**	**4.70**	**266**			PN	Pn	00 56 49.0	+5.1
ASAJ	**Asahikawa**	**4.70**	**266**			Pn	Pn	00 56 49.0	+5.1
	comp=E,1.3nm,0.3s,baz=86,slow=20,SNR=4.4								
ASAJ						LR	LR	00 59 06.9	
	comp=E,62nm,20.3s,baz=356,slow=42								
YSS	**Yuzh-Sakhalins**	**5.03**	**300**	*e*		P	**Pn**	**00 56 48.8**	**+0.3**
YSS						AMB	AMB	00 56 52.2	
	comp=E,20nm,0.7s								
ERM	**Erimo**	**5.05**	**241**	*i*		PN	**Pn**	**00 56 48.0**	**-0.7**
PETK	**Petropavlovsk-**	**10.22**	**30**			Pn	**Pn**	**00 58 00.3**	**+0.8**
	comp=E,0.4nm,0.3s,baz=215,slow=14,SNR=4.4								
JHJ	**Hachijo jima 2**	**13.56**	**215**			LR	LR	01 03 19.9	
	comp=E,4μm,20.9s,baz=296,slow=35								
EKMR	**Ekimchan**	**13.59**	**314**	*e*		P	**Pn**	**00 58 44.8**	**-0.7**
BMKR	**Bomnak**	**16.52**	**315**	*e*		P	**Pn**	**00 59 21.6**	**-2.1**
SEY	**Seymchan**	**18.47**	**5**	*i*		P	**Pn**	**00 59 47.6**	**-0.1**
SEY	**Seymchan**	**18.47**	**5**	*i*		P	**Pn**	**00 59 47.6**	**-0.1**
YAK	**Yakutsk**	**20.82**	**334**	*i*		P	**P**	**01 00 13.0**	**+0.3**
BILL	**Bilibino**	**25.17**	**15**	*i*		P	**P**	**01 00 57.0**	**+1.0**
BILL						pmax	pmax		
	comp=Z,3.0nm,1.6s								
BILL	**Bilibino**	**25.17**	**15**	*e*		P	**P**	**01 00 57.0**	**+1.0**
H11N2	**WAKE ISLAND Hy**	**28.88**	**143**			T	T	01 32 11.3	
	baz=334,slow=75,SNR=184								
H11N1	**WAKE ISLAND Hy**	**28.89**	**143**			T	T	01 32 25.3	
	baz=334,slow=75,SNR=132								
H11N3	**WAKE ISLAND Hy**	**28.89**	**143**			T	T	01 32 14.8	
	baz=334,slow=75,SNR=134								
H11S1	**WAKE ISLAND Hy**	**29.88**	**145**			T	T	01 33 37.8	
	baz=335,slow=76,SNR=153								
H11S3	**WAKE ISLAND Hy**	**29.89**	**145**			T	T	01 33 34.5	
	baz=335,slow=76,SNR=105								
H11S2	**WAKE ISLAND Hy**	**29.90**	**145**			T	T	01 33 41.2	
	baz=335,slow=76,SNR=148								
ILAR	**Eielson Array**	**39.97**	**37**			P	**P**	**01 03 04.8**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=270,slow=8.1,SNR=13								
INK	**Inuvik**	**44.96**	**31**			P	**P**	**01 03 45.8**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=288,slow=7.5,SNR=9.9								
YKA	**Yellowknife Ar**	**54.31**	**35**			P	**P**	**01 04 56.7**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=299,slow=7.0,SNR=12								
FFC	**Flin Flon**	**64.17**	**38**	*i*		P	**P**	**01 06 06.2**	**+1.3**
WRA	**Warramunga Arr**	**65.63**	**195**			P	**P**	**01 06 13.1**	**-1.6**
	comp=Z,2.0nm,0.5s,baz=14,slow=6.8,SNR=3.7								
NVAR	**Mina Array Bea**	**65.93**	**59**			P	**P**	**01 06 17.0**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=308,slow=7.4,SNR=3.3								
HFS	**Hagfors**	**69.45**	**338**			P	**P**	**01 06 38.5**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=53,slow=5.6,SNR=4.1								
ULM	**Lac du Bonnet**	**69.97**	**38**			P	**P**	**01 06 40.5**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=334,slow=5.3,SNR=3.4								
CLL	**Collm**	**77.20**	**333**	*e*		P	**P**	**01 07 25.0**	**+0.9**
CLL	**Collm**	**77.20**	**333**	*e*		P	**P**	**01 07 25.0**	**+0.9**
TXAR	**Lajitas Array**	**81.00**	**58**			P	**P**	**01 07 45.0**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=302,slow=3.8,SNR=12								

*IDC **09** 01:04:59.0±1.6, 44.°46N×34.°46E, h0km, mb1 3.5/4, mb1mx3.1/44, mbtmp3.3/4, ML3.2/4, Error ellipse: s-maj=23.9km s-min=9.6km az=76.0*
*ISCJB **09** 01:05:00.9±0.4, 44.°45N±0.°03×34.°30E±0.°03, h24km±3km, Error ellipse: s-maj=4.7km s-min=3.4km az=6.7*
*SIGU **09** 01:05:00.2±0.3, 44.°49N×34.°34E, h17km±3km*
ISC 09 01:05:00.6±1.1, **44.°44N**±0.°05×**34.°39E**±0.°03, **h13**km±6km, **n47**, σ**1.10**/**80**, **39C-20D**, **Crimea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YAL	**Yalta**	**0.18**	**285**	⇓	*e*	Pg	**Pg**	**01 05 04.4**	**-0.2**
	baz=267								
YAL					*e*	Sg	**Sg**	**01 05 07.5**	**+0.1**
	baz=267								
ALU	**Alushta**	**0.24**	**2**	⇑	*i*	Pg	**Pg**	**01 05 05.4**	**-0.3**
	baz=12								
ALU						Pgm		01 05 05.7	
	baz=12								
ALU					*e*	Sg	**Sg**	**01 05 09.1**	**-0.1**
	baz=12								
SEVA	**Sevastopol**	**0.52**	**280**	⇓		P	**Pb**	**01 05 11.6**	**0.0**
SEVA				⇓		S	**Sb**	**01 05 19.2**	**+0.1**
SEVA						AML	AML	01 05 21.0	
SEV	**Sevastopol'**	**0.53**	**282**	⇓	*e*	Pg	**Pg**	**01 05 10.8**	**-0.2**
	baz=275								
SEV						Pgm		01 05 11.7	
	baz=275								
SEV					*e*	Sg	**Sg**	**01 05 18.5**	**+0.5**
	baz=275								
SEV						Sgm		01 05 19.4	
	baz=275								
SEV						Sgm		01 05 19.9	
	baz=275								
SIM	**Simferopol'**	**0.55**	**339**	⇓	*i*	Pg	**Pg**	**01 05 10.8**	**-0.5**
	baz=339								
SIM						Pgm		01 05 11.2	
	baz=339								
SIM					*e*	Sg	**Sg**	**01 05 18.5**	**-0.1**
	baz=339								
SIM						Sgm		01 05 18.8	
	baz=339								
SIM						Sgm		01 05 19.0	
	baz=339								
SUDU	**Sudak**	**0.62**	**44**	⇑	*i*	Pg	**Pb**	**01 05 13.3**	**-0.1**
	baz=48								
SUDU						Pgm		01 05 15.2	
	baz=48								
SUDU					*e*	Sg	**Sb**	**01 05 22.8**	**+0.7**
	baz=48								
SUDU						Sgm		01 05 23.8	
	baz=48								
SUDU						Sgm		01 05 24.2	
	baz=48								
FEO	**Feodosiya**	**0.92**	**51**	*e*		Pg	**Pn**	**01 05 19.4**	**+0.2**
	baz=53								
FEO						Pgm		01 05 22.7	
	baz=53								
FEO					*e*	Sg	**Sn**	**01 05 32.7**	**+0.4**
	baz=53								
FEO						Sgm		01 05 33.5	
	baz=53								
FEO						Sgm		01 05 34.3	
	baz=53								
ANN	**Anapa**	**2.20**	**80**	*e*		Pg	**Pn**	**01 05 37.5**	**+0.6**
	baz=77								
ANN						Pgm		01 05 39.2	
	baz=77								
ANN					*e*	Sg	**Sn**	**01 06 04.6**	**+0.7**
	baz=77								
ANN						Sgm		01 06 05.7	
	baz=77								
DIKM	**Dikmen**	**2.86**	**167**	*e*		Pn	**Pn**	**01 05 47.7**	**+1.7**
	baz=165								
DIKM	**Dikmen**	**2.86**	**167**	⇑		P	**Pn**	**01 05 47.7**	**+1.7**
DIKM				⇑		S	**Sn**	**01 06 21.5**	**+1.2**
JURR	**Jurilovca**	**3.95**	**277**	⇓		P	**Pn**	**01 06 01.8**	**+0.8**
TLCR		**4.04**	**283**	*e*		Pn	**Pn**	**01 06 03.0**	**+0.9**
	baz=280								
TLCR		**4.04**	**283**	⇑		P	**Pn**	**01 06 03.0**	**+0.9**
TLCR				⇑		S	**Sn**	**01 06 48.5**	**-0.8**
TLCR						AML	AML	01 07 10.6	
TIRR	**Tirgusor**	**4.28**	**272**	⇑		P	**Pn**	**01 06 06.0**	**+0.5**
TIRR				⇑		S	**Sn**	**01 06 53.4**	**-1.9**
MFTR	**Murfatlar**	**4.29**	**269**	⇓		P	**Pn**	**01 06 05.3**	**-0.3**
MFTR				⇑		S	**Sn**	**01 06 54.0**	**-1.6**
MFTR						AML	AML	01 07 02.3	
TOPG	**Topolog**	**4.31**	**278**	⇓		P	**Pn**	**01 06 05.7**	**-0.2**
CFR	**Carcaliu**	**4.51**	**282**	⇑		P	**Pn**	**01 06 09.6**	**+0.9**
CFR				⇓		S	**Sn**	**01 06 59.3**	**-1.6**
CFR						AML	AML	01 07 25.7	
TLB	**Topalu**	**4.54**	**274**	⇑		P	**Pn**	**01 06 09.8**	**+0.7**
TLB				⇓		S	**Sn**	**01 07 01.2**	**-0.5**
CVDA	**Cernavoda**	**4.56**	**271**	⇓		S	**Sn**	**01 07 01.0**	**-1.1**
HARR	**Harsova**	**4.62**	**275**	⇓		P	**Pn**	**01 06 11.1**	**+0.9**
MILM	**Milestii Mici**	**4.63**	**304**	⇑		P	**Pn**	**01 06 11.7**	**+1.4**
MILM				⇓		S	**Sn**	**01 07 04.7**	**+0.8**
MILM						AML	AML	01 07 30.8	
BRTR	**Keskin Array B**	**4.75**	**187**			Pn	**Pn**	**01 06 14.0**	**+2.0**
	0.1nm,0.3s,baz=11,slow=12,SNR=5.2								
BRTR						Sn	**Sn**	**01 07 05.8**	**-1.2**
	0.1nm,0.3s,baz=14,slow=18,SNR=2.8								
LEOM	**Leova**	**4.78**	**297**	⇓		P	**Pn**	**01 06 13.7**	**+1.5**
LEOM				⇓		S	**Sn**	**01 07 08.2**	**+0.7**
TUDR		**4.91**	**286**	⇑		P	**Pn**	**01 06 14.2**	**+0.1**
TUDR				⇑		S	**Sn**	**01 07 10.2**	**-0.5**
TUDR						AML	AML	01 07 15.7	
YLV	**Yalova**	**5.36**	**226**	⇑		P	**Pn**	**01 06 21.2**	**+0.8**
YLV				⇑		S	**Sn**	**01 07 21.0**	**-1.1**
YLV						AML	AML	01 08 16.1	
SORM	**Soroca**	**5.58**	**314**	⇑		P	**Pn**	**01 06 24.9**	**+1.5**
SORM				⇑		S	**Sn**	**01 07 26.0**	**-1.4**
VRI	**Vrincioaia**	**5.61**	**287**	⇑		P	**Pn**	**01 06 24.9**	**+1.2**
VRI				⇓		S	**Sn**	**01 07 27.6**	**-0.3**
PLOR	**Plostina**	**5.66**	**287**	⇑		P	**Pn**	**01 06 25.6**	**+1.2**
PLOR				⇓		S	**Sn**	**01 07 29.3**	**0.0**
TESR	**Tescani**	**5.83**	**294**	⇑		P	**Pn**	**01 06 28.2**	**+1.5**
TESR				⇓		S	**Sn**	**01 07 33.8**	**+0.4**
SGRR	**Singureni**	**6.04**	**271**	⇑		P	**Pn**	**01 06 28.8**	**-0.9**
MLR	**Muntele Rosu**	**6.08**	**283**			Pn	**Pn**	**01 06 32.5**	**+2.1**
	1.1nm,0.3s,baz=13,slow=10.0,SNR=4.6								
MLR						Sn	**Sn**	**01 07 41.2**	**+1.3**
	0.6nm,0.3s,baz=152,slow=5.3,SNR=4.9								
MLR	**Muntele Rosu**	**6.08**	**283**	⇑		P	**Pn**	**01 06 30.7**	**+0.3**
MLR				⇑		S	**Sn**	**01 07 39.6**	**-0.4**
BIZ	**Bicaz**	**6.32**	**296**	⇑		P	**Pn**	**01 06 34.9**	**+1.4**
BIZ				⇑		S	**Sn**	**01 07 45.2**	**-0.4**
ELND	**Elena**	**6.36**	**259**	⇑		P	**Pn**	**01 06 33.5**	**-0.6**
ELND				⇑		S	**Sn**	**01 07 45.0**	**-1.5**
DOPR	**Dopca**	**6.54**	**287**	⇑		P	**Pn**	**01 06 37.7**	**+1.1**
MTUR	**Matau**	**6.68**	**280**	⇑		P	**Pn**	**01 06 38.8**	**+0.2**
VOIR		**6.71**	**282**	⇑		P	**Pn**	**01 06 39.7**	**+0.8**
VOIR				⇑		S	**Sn**	**01 07 55.3**	**+0.1**
ARR	**Arges**	**6.99**	**281**	⇓		P	**Pn**	**01 06 43.6**	**+0.8**
ARR				⇑		S	**Sn**	**01 08 02.4**	**+0.2**
BURAR	**Bucovina Array**	**7.13**	**300**	⇑		P	**Pn**	**01 06 45.3**	**+0.6**
BURAR				⇑		S	**Sn**	**01 08 06.4**	**+0.7**
AKASG	**Malin Array Be**	**7.17**	**333**			P	**Pn**	**01 06 45.1**	**-0.1**
AKASG	**Malin Array Be**	**7.17**	**333**			Pn	**Pn**	**01 06 45.0**	**-0.1**
	1.4nm,0.3s,baz=141,slow=13,SNR=8.1								
AKASG						Sn	**Sn**	**01 08 02.0**	**-4.4**
	2.1nm,0.3s,baz=146,slow=24,SNR=10								
ARCR	**ARCALIA**	**7.50**	**294**	⇑		S	**Sn**	**01 08 13.9**	**-0.7**
GZR	**Gura Zlata**	**8.30**	**281**	⇑		P	**Pn**	**01 07 01.1**	**+0.4**
GZR				⇑		S	**Sn**	**01 08 34.3**	**-0.1**
DRGR		**8.52**	**290**	⇓		P	**Pn**	**01 07 04.5**	**+0.7**
DRGR				⇑		S	**Sn**	**01 08 40.4**	**+0.7**
KOLS	**Kolonicke sedl**	**9.46**	**303**	*e*		P	**Pn**	**01 07 18.6**	**+2.0**
KOLS	**Kolonicke sedl**	**9.46**	**303**	*e*		P	**Pn**	**01 07 18.6**	**+2.0**
FINES	**FINESS Array B**	**17.73**	**347**			P	**Pn**	**01 09 06.3**	**-0.6**
	0.1nm

SEV				Sgm		01 07 02.9	
	baz=282						
SEV				Sgm		01 07 02.9	
	baz=282						
SEV	**Sevastopol'**	**0.55**	**281**	*e*Sg	Sb	01 07 03.8	+0.3
	baz=281						
SEV				Sgm		01 07 04.0	
	baz=281						
SEV				Sgm		01 07 04.0	
	baz=281						

*ISCJB **09** 01:28:59.5±0.3,3.˚13N±0.˚03×128.˚74E±0.˚05, h200km, mb4.0/13, Error ellipse: s-maj=6.8km s-min=4.4km az=165.8*
*NEIC **09** 01:29:01.4±2.0,3.˚05N±0.˚07×128.˚51E±0.˚09, h207km±6km, mb4.5/17*
*IDC **09** 01:29:01.5±1.4,3.˚05N×128.˚63E, h205km±13km, mb3.8/11, mb1 3.9/14, mb1mx3.6/35, mbtmp4.4/14, Error ellipse: s-maj=22.0km s-min=8.2km az=77.0*
*DJA **09** 01:29:03.4±0.4, 3.˚N±3.˚×12.˚9E±.˚, h190km±3km, M4.5/24, mb4.6/24, mB5.0/12, MLv4.7/13, Mw(mB)4.3/12*
ISC 09 01:29:01.2±0.5,**3.˚06N**±0.˚05×**128.˚52E**±0.˚06,**h200**km,**n74,** σ**1°83/76, mb4.3**/19,**1C, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.55**	**207**	P		**Pn**		**01 29 47.6**	**+1.9**
TNTI	**Ternate**	**2.55**	**207**			**Pn**		**01 29 47.7**	**+2.0**
TNTI					Sn	**Sn**		**01 30 18.8**	**-1.7**
LBMI	**Labuha**	**3.82**	**196**	P		**Pn**		**01 30 03.5**	**+2.7**
LBMI					S	**Sn**		**01 30 48.6**	**+1.0**
SWI	**Sorong**	**4.77**	**145**	P		**Pn**		**01 30 12.5**	**-0.1**
SIJI	**Sorong**	**4.77**	**145**	P		**Pn**		**01 30 11.5**	**-1.3**
	9.5nm,0.3s,baz=319,slow=21,SNR=11								
SIJI					S	**Sn**		**01 31 14.9**	**+5.7**
	baz=163,slow=18,SNR=3.6								
DAV	**Davao City (W)**	**4.94**	**324**	P		**Pn**		**01 30 15.3**	**+0.4**
	47nm,0.3s,baz=36,slow=19,SNR=3.6								
KMSI	**Cibinong**	**5.17**	**241**	P		**Pn**		**01 30 18.8**	**+1.0**
	230nm,0.9s,2.8nm								
KCP	**Kidapawan**	**5.20**	**319**	⇑P		**Pn**		**01 30 19.1**	**+0.9**
SANI	**Sanana**	**5.68**	**207**	P		**Pn**		**01 30 24.1**	**-0.2**
	383nm,0.7s,7μm1.9nm								
NLAI	**Namlea**	**6.42**	**193**	P		**Pn**		**01 30 35.4**	**+1.5**
	102nm,0.5s,0.4nm								
FAKI	**Fak Fak**	**7.01**	**148**			**Pn**		**01 30 44.0**	**+2.3**
FAKI						**Sn**		**01 31 56.3**	**-5.2**
LUWI	**Luwuk**	**7.05**	**235**	P		**Pn**		**01 30 44.9**	**+2.8**
	182nm,0.6s,5μm0.8nm								
LUWI	**Luwuk**	**7.05**	**235**			**Pn**		**01 30 41.9**	**-0.2**
MRSI	**Marisa**	**7.06**	**249**	P		**Pn**		**01 30 44.5**	**+2.2**
	98nm,1.1s,1μm0.5nm								
RKPI	**Ransiki, Papua**	**7.25**	**129**	P		Pn		01 30 50.7	+5.9
	73nm,1.6s,4μm0.3nm								
APSI	**Ampana**	**7.92**	**240**	P		Pn		01 30 58.5	+5.0
	89nm,0.6s,869nm0.3nm								
MPSI	**Mapaga**	**9.04**	**253**	P		**Pn**		**01 31 10.3**	**+2.3**
	20nm,0.9s,2μm								
TTSI	**Tana Toraja**	**10.61**	**235**	P		**Pn**		**01 31 29.4**	**+1.1**
	81nm,0.8s,763nm								
SPSI	**Sidrap Palu**	**11.19**	**231**	P		**Pn**		**01 31 37.8**	**+1.9**
	53nm,0.5s								
BNSI	**Bone**	**11.21**	**229**	P		**P**		**01 31 39.8**	**-2.3**
	42nm,0.6s,1μm								
BKSI	**Bulukumba**	**11.82**	**225**	P		**P**		**01 31 48.9**	**0.0**
	37nm,0.7s								
KAPI	**Kappang**	**11.88**	**228**	P		**Pn**		**01 31 45.3**	**+0.7**
	1.0nm,0.3s,baz=22,slow=16,SNR=3.4								
JAY	**Jayapura**	**13.38**	**114**	P		**P**		**01 32 05.6**	**-0.7**
	2.4nm,0.3s,baz=268,slow=0.7,SNR=11								
JAY	**Jayapura**	**13.38**	**114**	P		**P**		**01 32 09.3**	**+3.0**
	17nm,1.0s								
SOEI	**Soe**	**13.42**	**198**	P		**P**		**01 32 06.1**	**-0.7**
	26nm,0.5s								
PLAI	**Plampang**	**15.95**	**222**	P		**Pn**		**01 32 38.2**	**+3.2**
	28nm,0.8s								
MTN	**Manton Dam**	**16.02**	**171**	P		**P**		**01 32 34.7**	**-0.7**
MTN				IAmb		IAmb		01 32 45.0	
	comp=Z,15nm,0.5s								
KSM	**Kuching**	**18.27**	**265**	P		**P**		**01 32 59.1**	**-1.0**
JAGI	**Jajag, Banyuwa**	**18.35**	**231**	P		**P**		**01 33 00.2**	**-0.8**
JAGI				IAmb		IAmb		01 33 19.6	
	comp=Z,16nm,0.9s								
KNRA	**Kununurra**	**18.62**	**179**	P		**P**		**01 33 04.1**	**+0.2**
GMJI	**Gumukmas**	**18.79**	**233**	P		**Pn**		**01 33 08.4**	**-0.2**
	comp=Z,33nm,1.0s								
GRJI	**Gresik**	**18.83**	**238**	P		**Pn**		**01 33 13.9**	**+4.8**
PWJI	**Pagerwojo**	**19.98**	**236**	P		**Pn**		**01 33 22.2**	**-0.8**
	comp=Z,21nm,1.0s								
FITZ	**Fitzroy Crossi**	**21.22**	**188**	P		**P**		**01 33 31.0**	**-0.6**
	comp=Z,3.0nm,0.6s,baz=19,slow=9.4,SNR=16								
FITZ	**Fitzroy Crossi**	**21.22**	**188**	P		**P**		**01 33 31.0**	**-0.6**
KPJI	**Karang Pucung**	**22.11**	**242**	P		**P**		**01 33 44.2**	**+3.6**
	comp=Z,32nm,0.7s								
COEN	**Coen**	**22.30**	**140**	P		**P**		**01 33 41.8**	**-0.6**
COEN				IAmb		IAmb		01 33 44.8	
	comp=Z,7.1nm,0.9s								
CISI	**Cisompet, Garu**	**23.20**	**243**	P		**P**		**01 33 50.7**	**+0.1**
WRAB	**Tennant Creek**	**23.56**	**166**	P		**P**		**01 33 54.2**	**+0.4**
WRAB				IAmb		IAmb		01 33 57.2	
	comp=Z,11nm,0.9s								
WRA	**Warramunga Arr**	**23.57**	**166**	P		**P**		**01 33 53.5**	**-0.4**
	comp=Z,4.3nm,0.5s,baz=344,slow=10.0,SNR=12								
WB2	**Warramunga Arr**	**23.57**	**166**	P		**P**		**01 33 51.2**	**-2.6**
WB2				IAmb		IAmb		01 33 57.2	
	comp=Z,9.0nm,0.8s								
WR0	**Warramunga Arr**	**23.63**	**166**	P		**P**		**01 33 53.2**	**-1.2**
WR0				IAmb		IAmb		01 33 57.9	
	comp=Z,10nm,0.8s								
UBPT	**Khong Chiam**	**25.75**	**300**	P		**P**		**01 34 14.1**	**+0.5**
PSA00	**Pilbara Seismi**	**25.92**	**199**	P		**P**		**01 34 15.7**	**+0.7**
PSA00				IAmb		IAmb		01 34 18.1	
	comp=Z,6.2nm,0.9s								
AS31	**Alice Springs**	**27.08**	**169**	P		**P**		**01 34 26.4**	**+0.9**
AS31				PcP		**PcP**		**01 37 36.1**	**-5.3**
ASAR	**Alice Springs**	**27.08**	**169**	P		**P**		**01 34 25.6**	**0.0**
	comp=Z,6.4nm,0.6s,baz=354,slow=7.7,SNR=89								
ASAR				PcP		**PcP**		**01 37 41.6**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=351,slow=2.3,SNR=7.1								
ASAR				S		**S**		**01 38 46.4**	**-2.3**
	comp=Z,1.2nm,0.8s,baz=350,slow=18,SNR=6.5								
ASAR				ScP		**ScP**		**01 41 01.3**	**-1.5**
	comp=Z,0.5nm,0.8s,baz=353,slow=2.9,SNR=5.2								
BKNI	**Bangkinang**	**27.60**	**265**	P		**P**		**01 34 29.2**	**-1.0**
RPSI	**Rantau Prapat**	**29.56**	**270**	P		**P**		**01 34 46.3**	**-1.3**
RPSI				IAmb		IAmb		01 34 49.2	
	comp=Z,11nm,1.0s								
JNU	**Nakatsue**	**29.98**	**4**	P		**P**		**01 34 51.1**	**+0.1**
	comp=Z,4.5nm,0.8s,baz=207,slow=9.0,SNR=2.1								
JNU	**Nakatsue**	**29.98**	**4**	IAmb		IAmb		01 34 58.9	
	comp=Z,9.9nm,1.0s								
PHRA	**Phrae**	**31.66**	**301**	P		**P**		**01 35 08.4**	**+2.4**
	comp=Z,0.9nm,0.9s,comp=Z,1μm								
CMAR	**Chiang Mai Arr**	**32.75**	**300**	P		**P**		**01 35 16.9**	**+1.4**
	comp=Z,1.9nm,0.8s,baz=108,slow=6.7,SNR=8.8								
MAT	**Matsushiro**	**34.49**	**14**	P		**P**		**01 35 29.5**	**-0.8**
MJAR	**Matsushiro Arr**	**34.49**	**14**	P		**P**		**01 35 29.3**	**-0.9**
	comp=Z,4.0nm,0.7s,baz=185,slow=9.6,SNR=12								
STKA	**Stephens Creek**	**36.90**	**161**	P		**P**		**01 35 51.1**	**+0.3**
	comp=Z,6.4nm,0.5s,baz=337,slow=8.5,SNR=28								
STKA	**Stephens Creek**	**36.90**	**161**	P		**P**		**01 35 50.2**	**-0.6**
H11S3	**WAKE ISLAND Hy**	**40.38**	**65**	T		T		02 20 30.4	
	baz=253,slow=75,SNR=13								
H11S2	**WAKE ISLAND Hy**	**40.39**	**65**	T		T		02 20 21.5	
	baz=253,slow=75,SNR=10								
H11S1	**WAKE ISLAND Hy**	**40.39**	**65**	T		T		02 20 02.5	
	baz=253,slow=75,SNR=4.0								
USRK	**Ussuriysk Ar.**	**41.08**	**4**	P		**P**		**01 36 25.1**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=227,slow=14,SNR=4.1								
TAPN	**Taplejung**	**45.85**	**306**	*e*P		**P**		**01 37 04.9**	**+0.9**
ODAN	**Odare**	**45.91**	**305**	*e*P		**P**		**01 37 05.4**	**+1.0**
RAMN	**Ramite**	**46.59**	**305**	*e*P		**P**		**01 37 11.1**	**+1.3**
	comp=Z,15nm,0.6s								
GUN	**Gumba**	**47.56**	**306**	*e*P		**P**		**01 37 18.1**	**+0.7**
	comp=Z,20nm,0.7s								
PKI	**Pulchoki**	**47.81**	**305**	*e*P		**P**		**01 37 19.5**	**+0.2**
PKIN	**Phulchoki**	**47.82**	**305**	*e*P		**P**		**01 37 19.5**	**+0.2**
SONM	**Songino Array**	**48.51**	**340**	P		**P**		**01 37 24.1**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=156,slow=8.6,SNR=7.1								
KOLN	**Koldanda**	**49.37**	**304**	*e*P		**P**		**01 37 31.9**	**+0.9**
	comp=Z,22nm,0.7s								
DANN	**Dangsing**	**49.46**	**305**	*e*P		**P**		**01 37 32.4**	**+0.7**
	comp=Z,26nm,0.6s								
MKAR	**Makanchi Array**	**59.12**	**325**	P		**P**		**01 38 40.8**	**0.0**
	comp=Z,1.7nm,0.5s,baz=116,slow=8.5,SNR=23								
ARCES	**ARCESS Array B**	**91.68**	**340**	P		**P**		**01 41 43.9**	**-1.6**
	comp=Z,4.1nm,1.1s,baz=84,slow=4.6,SNR=3.3								
TORD	**Torodi Ar. Bea**	**124.82**	**288**	PKP		**PKPdf**		**01 47 37.8**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=85,slow=1.6,SNR=4.9								
DBIC	**Dimbokro**	**132.46**	**282**	PKP		**PKPdf**		**01 47 52.9**	**0.0**
	comp=Z,2.1nm,1.0s,baz=56,slow=3.6,SNR=3.2								
CPUP	**Villa Florida**	**156.19**	**167**	PKP		**PKPdf**		**01 48 32.6**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=162,slow=3.2,SNR=3.3								

*IDC **09** 01:43:47.2±3.3,39.˚88N×77.˚43E, h0km, mb3.3/1, mb1 3.4/5, mb1mx3.1/38, mbtmp3.3/5, ML3.0/4, MS3.1/3, Ms1 3.1/3, ms1mx2.5/34, Error ellipse: s-maj=39.8km s-min=29.6km az=173.0*
*BJI **09** 01:43:51.6±0.0, 40.˚33N×77.˚22E, h9km, ML3.5/8*
*KRNET **09** 01:43:52.1±0.1, 40.˚40N×77.˚17E, h10km, mb3.9*
*SOME **09** 01:43:53.0, 40.˚38N×77.˚10E, h15km*
*NNC **09** 01:43:55.9±1.1, 40.˚48N×77.˚18E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=8.3km s-min=6.8km az=157.0*
ISC 09 01:43:58.0±1.3,**40.˚60N**±0.˚04×**77.˚17E**±0.˚03,**h4**km±10km, **n83,** σ**1°93/120, MS3.0/3, 33C-26D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.22**	**313**	⇓*i*P		**Pn**		**01 44 18.3**	**-3.8**
	baz=19								
NRN				⇓*i*S		**Sb**		**01 44 35.2**	**-2.7**
	baz=19								
TARG	**Taragay, Kyrgy**	**1.22**	**23**	⇓*i*P		**Pn**		**01 44 19.9**	**-2.4**
	baz=19								
TARG				⇓*i*S		**Sb**		**01 44 38.1**	**-0.1**
	baz=19								
KSH	**Kashi**	**1.42**	**221**	Pg		**Pg**		**01 44 23.9**	**-1.4**
KSH				Sg		**Sg**		**01 44 48.5**	**+4.8**
KSH				smax		smax			
	comp=N,4μm,0.4s								
KSH				smax		smax			
	comp=E,4μm,0.4s								
KDJ	**Kajisay**	**1.53**	**0**	⇓*i*P		**Pn**		**01 44 24.9**	**-1.3**
	baz=1.0								
KDJ				⇓*i*S		**Sn**		**01 44 46.5**	**-0.1**
	baz=1.0								
ULHL	**Ulahol**	**1.79**	**337**	⇑*e*P		**Pn**		**01 44 29.0**	**-0.8**
	baz=40								
ULHL				⇑*e*S		**Sn**		**01 44 53.7**	**+0.6**
	baz=40								
ULHL	**Ulahol**	**1.79**	**337**	P		**Pn**		**01 44 29.7**	**-0.1**
	SNR=59								
KZA	**Kyzart**	**2.07**	**316**	⇑*i*P		**Pn**		**01 44 33.1**	**-0.8**
	baz=20								
KZA				⇑*i*S		**Sn**		**01 45 01.1**	**+0.8**
	baz=20								
KZA	**Kyzart**	**2.07**	**316**	P		**Pb**		**01 44 34.8**	**-1.6**
	SNR=107								
PRZ	**Przheval'sk**	**2.09**	**26**	⇓*i*P		**Pn**		**01 44 34.5**	**+0.5**
	baz=24								
PRZ				⇓*e*S		**Sb**		**01 45 03.1**	**+0.1**
	baz=24								
BOOM	**Boomskoye usch**	**2.10**	**334**	⇓*e*P		**Pn**		**01 44 33.9**	**-0.2**
	baz=37								
BOOM				⇑*i*S		**Sn**		**01 45 02.1**	**+1.3**
	baz=37								
ANVS	**Anan'yevo**	**2.21**	**9**	⇓*i*P		**Pn**		**01 44 36.0**	**+0.4**
	baz=9.0								
ANVS				⇓*i*S		**Sb**		**01 45 06.0**	**-0.4**
	baz=9.0								
TNSS	**Tian-Shan**	**2.44**	**356**	*e*P		**Pb**		**01 44 42.8**	**+0.1**
	181nm,0.5s								
TNSS				*e*S		**Sg**		**01 45 18.0**	**+1.6**
	99nm,0.6s								
TNSS	**Tian-Shan**	**2.44**	**356**	Pg		**Pb**		**01 44 42.8**	**+0.1**
	181nm,0.5s								
TNSS				Lg		Lg		01 45 18.0	
	99nm,0.6s								
IZV	**Izvestkoviy**	**2.47**	**350**	*e*P		**Pb**		**01 44 42.8**	**-0.2**
	101nm,0.5s								
IZV				*e*S		**Sg**		**01 45 17.8**	**+0.5**
	127nm,0.5s								
IZV	**Izvestkoviy**	**2.47**	**350**	Pg		**Pb**		**01 44 42.8**	**-0.2**
	101nm,0.5s								
IZV				Lg		Lg		01 45 17.8	
	127nm,0.5s								
ARLS	**Aral**	**2.49**	**301**	⇑*i*P		**Pn**		**01 44 38.5**	**-1.0**
	baz=5.0								
ARLS				⇑*i*S		**Sn**		**01 45 10.1**	**-0.3**
	baz=5.0								
MDOK	**Medeo**	**2.56**	**358**	*e*P		**Pb**		**01 44 44.5**	**-0.1**
	88nm,0.6s								
MDOK				*e*S		**Sg**		**01 45 20.7**	**+0.4**
	122nm,0.8s								
MDOK	**Medeo**	**2.56**	**358**	⇑Pn		**Pn**		**01 44 41.4**	**+1.0**
	135nm,1.0s								
MDOK				Lg		Lg		01 45 21.3	
	144nm,0.8s								
MDOK	**Medeo**	**2.56**	**358**	Pg		**Pb**		**01 44 44.5**	**-0.1**
	88nm,0.6s								
MDOK				Lg		Lg		01 45 20.7	
	122nm,0.8s								
UCH	**Uchtor**	**2.58**	**310**	⇑*e*P		**Pn**		**01 44 40.2**	**-0.7**
	baz=13								
UCH				⇑*i*S		**Sn**		**01 45 12.9**	**0.0**
	baz=13								
UCH	**Uchtor**	**2.58**	**310**	P		**Pn**		**01 44 41.5**	**+0.6**
	SNR=16								
MTBS	**Maitube**	**2.59**	**348**	*e*P		**Pb**		**01 44 45.2**	**+0.2**
	52nm,0.6s								
MTBS				⇓*i*S		**Sg**		**01 45 21.7**	**+0.6**
	53nm,0.5s								
MTBS	**Maitube**	**2.59**	**348**	Pg		**Pb**		**01 44 45.2**	**+0.2**
	52nm,0.6s								
MTBS				Lg		Lg		01 45 21.7	
	53nm,0.5s								
TKM2	**Tokmak 2**	**2.60**	**334**	⇓*i*P		**Pn**		**01 44 40.9**	**-0.1**
	baz=35								
TKM2				⇓*i*S		**Sn**		**01 45 14.2**	**+1.1**
	baz=35								
TKM2	**Tokmak 2**	**2.60**	**334**	P		**Pn**		**01 44 41.8**	**+0.8**
	SNR=39								
TKM2	**Tokmak 2**	**2.60**	**334**	⇑Pn		**Pn**		**01 44 41.4**	**+0.4**
	48nm,0.9s								
TKM2				⇑Lg		Lg		01 45 22.7	
	91nm,0.6s								
KST	**Kastek**	**2.60**	**340**	*e*P		**Pb**		**01 44 44.7**	**-0.6**
	53nm,0.7s								
KST				⇓*i*S		**Sg**		**01 45 21.9**	**+0.3**
	63nm,0.7s								
KST	**Kastek**	**2.60**	**340**	Pg		**Pb**		**01 44 44.7**	**-0.6**
	53nm,0.7s								
KST				Lg		Lg		01 45 21.9	
	63nm,0.7s								
KNDC	**Almaty**	**2.62**	**357**	⇑Pg		**Pb**		**01 44 45.7**	**+0.2**
	215nm,1.1s								
KNDC				⇓Lg		Lg		01 45 24.2	
	416nm,1.0s								
SATY	**Saty**	**2.62**	**20**	*e*P		**Pb**		**01 44 45.5**	**-0.1**
	126nm,0.8s								
SATY				⇓*i*S		**Sg**		**01 45 22.8**	**+0.6**
	197nm,1.0s								
SATY	**Saty**	**2.62**	**20**	Pg		**Pb**		**01 44 45.5**	**-0.1**
	126nm,0.8s								
SATY				Lg		Lg		01 45 22.8	
	197nm,1.0s								
KOTS	**Kotyrbulak**	**2.63**	**359**	*e*P		**Pb**		**01 44 46.3**	**+0.6**
	183nm,0.6s								
KOTS				*e*S		**Sg**		**01 45 24.4**	**+1.9**
	203nm,0.6s								
KOTS	**Kotyrbulak**	**2.63**	**359**	Pg		**Pb**		**01 44 46.3**	**+0.6**
	183nm,0.6s								
KOTS				Lg		Lg		01 45 24.4	
	203nm,0.6s								
KBK	**Karagaybulak**	**2.65**	**322**	⇑*i*P		**Pn**		**01 44 41.4**	**-0.2**
	baz=24								
KBK				⇑*i*S		**Sn**		**01 45 14.9**	**+0.7**
	baz=24								
KBK	**Karagaybulak**	**2.65**	**322**	P		**Pb**		**01 44 45.0**	**-1.0**
	SNR=12								
ZHN	**Zhinishke**	**2.73**	**20**	*e*P		**Pb**		**01 44 47.5**	**0.0**
	19nm,0.4s								
ZHN				*e*S		**Sg**		**01 45 26.1**	**+0.3**
	30nm,0.2s								
ZHN	**Zhinishke**	**2.73**	**20**	Pg		**Pb**		**01 44 47.5**	**0.0**
	19nm,0.4s								
ZHN				Lg		Lg		01 45 26.1	
	30nm,0.2s								
DGS	**Degeres**	**2.84**	**339**	*e*P		**Pb**		**01 44 48.7**	**-0.5**
	56nm,0.6s								
DGS				*e*S		**Sb**		**01 45 28.3**	**+3.9**
	100nm,0.6s								
DGS	**Degeres**	**2.84**	**339**	Pg		**Pb**		**01 44 48.7**	**-0.5**
	56nm,0.6s								
DGS				Lg		Lg		01 45 28.3	
	100nm,0.6s								
AAK	**Ala-Archa**	**2.86**	**316**	Pn		**Pn**		**01 44 45.8**	**+1.3**
	9.5nm,0.3s,baz=137,slow=14,SNR=105								
AAK				Sn		**Sb**		**01 45 28.0**	**+2.9**
	8.9nm,0.3s,baz=45,slow=23,SNR=4.7								
AAK	**Ala-Archa**	**2.86**	**316**	⇑*e*P		**Pn**		**01 44 44.2**	**-0.3**
	baz=19								
AAK				⇑*e*S		**Sn**		**01 45 19.9**	**+0.5**
	baz=19								
AAK	**Ala-Archa**	**2.86**	**316**	P		**Pb**		**01 44 47.9**	**-1.8**
	SNR=76								
AAK	**Ala-Archa**	**2.86**	**316**	⇓Pn		**Pn**		**01 44 45.4**	**+0.9**
	60nm,0.8s								
AAK				⇑Lg		Lg		01 45 28.1	
	233nm,1.0s								
UZB	**Uzynbulak**	**2.89**	**28**	*e*P		**Pb**		**01 44 50.1**	**-0.1**
	19nm,0.8s								
UZB				*e*S		**Sg**		**01 45 31.0**	**+0.1**
	50nm,0.8s								
UZB	**Uzynbulak**	**2.89**	**28**	Pg		**Pb**		**01 44 50.1**	**-0.1**
	19nm,0.8s								
UZB				Lg		Lg		01 45 31.0	
	50nm,0.8s								
FRU1	**Bishkek**	**2.92**	**320**	⇓*e*P		**Pn**		**01 44 44.7**	**-0.5**
	baz=23								
FRU1				⇓*e*S		**Sn**		**01 45 21.1**	**+0.4**
	baz=23								
KURS	**Kuram**	**2.98**	**14**	⇑*i*P		**Pb**		**01 44 52.0**	**+0.4**
	92nm,0.9s								
KURS				*e*S		**Sg**		**01 45 34.0**	**+0.4**
	50nm,1.4s								
KURS	**Kuram**	**2.98**	**14**	Pg		**Pb**		**01 44 52.0**	**+0.4**
	92nm,0.9s								
KURS				Lg		Lg		01 45 34.0	
	50nm,1.4s								
CHMS	**Chumysh**	**3.00**	**324**	⇑*e*P		**Pn**		**01 44 46.0**	**-0.4**
	baz=26								
CHMS				⇑*i*S		**Sn**		**01 45 23.5**	**+0.7**
	baz=26								
CHMS	**Chumysh**	**3.00**	**324**	P		**Pn**		**01 44 47.9**	**+1.6**
	SNR=5.1								
AML	**Almayashu**	**3.03**	**301**	⇑*e*P		**Pn**		**01 44 45.9**	**-1.2**
	baz=5.0								
AML				⇑*e*S		**Sn**		**01 45 23.1**	**-0.9**
	baz=5.0								
AML	**Almayashu**	**3.03**	**301**	P		**Pn**		**01 44 47.2**	**+0.1**
	SNR=38								
SHLS	**Shalkode**	**3.07**	**33**	*e*P		**Pg**		**01 44 56.3**	**-0.6**
	29nm,0.5s								
SHLS				*e*S		**Sg**		**01 45 41.1**	**+4.4**
	93nm,0.8s								
SHLS	**Shalkode**	**3.07**	**33**	Pg		**Pg**		**01 44 56.3**	**-0.6**
	29nm,0.5s								
SHLS				Lg		Lg		01 45 41.1	
	93nm,0.8s								
KPKS	**Kokpek**	**3.08**	**21**	*e*P		**Pb**		**01 44 53.5**	**+0.2**
	52nm,0.5s								
KPKS				*e*S		**Sg**		**01 45 36.9**	**+0.1**
	370nm,0.9s								
KTBS	**Karatobe**	**3.13**	**353**	*e*P		**Pb**		**01 44 54.1**	**-0.1**
	27nm,0.5s								
KTBS				*e*S		**Sg**		**01 45 38.1**	**-0.4**
	61nm,1.0s								
KTBS	**Karatobe**	**3.13**	**353**	Pg		**Pb**		**01 44 54.1**	**-0.1**
	27nm,0.5s								
KTBS				Lg		Lg		01 45 38.1	
	61nm,1.0s								
PDGK	**Podgornoye**	**3.23**	**32**	⇓Pn		**Pn**		**01 44 49.3**	**-0.3**
	36nm,0.8s								
PDGK				⇓Lg		Lg		01 45 41.0	
	118nm,1.0s								
CHKK	**Chushkaly**	**3.25**	**358**	*e*P		**Pb**		**01 44 57.9**	**+1.6**
	35nm,0.6s								
CHKK				⇑*i*S		**Sg**		**01 45 43.9**	**+1.4**
	60nm,0.4s								
CHKK	**Chushkaly**	**3.25**	**358**	Pg		**Pb**		**01 44 57.9**	**+1.6**
	35nm,0.6s								
CHKK				Lg		Lg		01 45 43.9	
	67nm,0.4s								
ARSB	**Arslanbob**	**3.25**	**284**	⇓*i*P		**Pn**		**01 44 48.4**	**-1.5**
	baz=88								
ARSB				⇓*i*S		**Sn**		**01 45 27.7**	**-1.5**
	baz=88								
EKS2	**Erkin-Say**	**3.27**	**310**	⇓*e*P		**Pn**		**01 44 49.7**	**-0.5**
	baz=13								
EKS2				⇓*e*S		**Sn**		**01 45 29.1**	**-0.5**
	baz=13								
EKS2	**Erkin-Say**	**3.27**	**310**	P		**Pn**		**01 44 51.6**	**+1.4**
	SNR=10.0								
USP	**Ospenovka**	**3.33**	**324**	⇑*i*P		**Pn**

*ISCJB **09** 02:37:55.3±0.8, 7°.7N±0°.1×123°.8W±0°.1, h10km, mb3.9/8, MS3.4/11, Error ellipse: s-maj=22.0km s-min=13.9km az=28.3*
*NEIC **09** 02:37:56.4±0.9, 7°.56N±0°.10×123°.6W±0°.3, h10km±2km, mb4.3/19*
*IDC **09** 02:37:56.9±1.5, 7°.83N×123°.74W, h0km, mb3.9/8, mb1 4.2/8, mb1mx3.9/38, mbtmp3.9/8, MS3.4/11, Ms1 3.4/11, ms1mx3.2/24, Error ellipse: s-maj=47.0km s-min=27.6km az=71.0*

ISC 09 02:37:57.4±0.9, 7°.7N±0°.1×123°.8W±0°.2, h10km, n37, σ0s83/30, mb4.2/17, MS3.5/11, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**20.81**	**37**	LR	LR	02 48 11.0	
	comp=Z,112nm,20.8s,baz=190,slow=30						
ZAIG	**Zacatecas**	**25.33**	**51**	P	**P**	**02 43 23.5**	**-1.5**
ZAIG				IAmb	IAmb	02 43 26.9	
	comp=Z,13nm,1.4s						
PFO	**Pinyon Flats O**	**26.65**	**14**	LR	LR	02 51 12.0	
	comp=Z,110nm,18.4s,baz=200,slow=30						
TXAR	**Lajitas Array**	**28.67**	**39**	P	**P**	**02 43 53.8**	**-1.0**
	comp=Z,1.0nm,1.1s,baz=208,slow=11,SNR=4.9						
TXAR				LR	LR	02 52 26.7	
	comp=Z,36nm,20.1s,baz=0.0,slow=30						
NVAR	**Mina Array Bea**	**30.97**	**8**	P	**P**	**02 44 15.1**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=185,slow=10.0,SNR=3.3						
NVAR				LR	LR	02 54 01.1	
	comp=Z,102nm,18.8s,baz=188,slow=31						
YERR	**Yerington**	**31.40**	**7**	P	**P**	**02 44 18.7**	**-0.2**
YERR				IAmb	IAmb	02 44 20.7	
	comp=Z,3.2nm,1.1s						
ANMO	**Albuquerque**	**31.45**	**28**	P	**P**	**02 44 18.9**	**-0.5**
	comp=Z,1.4nm,1.0s,baz=211,slow=5.9,SNR=3.9						
PSUT	**Pine Spring**	**31.97**	**15**	P	**P**	**02 44 24.3**	**+0.4**
BEKR	**Beckworth**	**32.15**	**5**	P	**P**	**02 44 25.8**	**+0.3**
BEKR				IAmb	IAmb	02 44 27.8	
	comp=Z,3.5nm,1.2s						
MSU	**Marysvale**	**32.41**	**17**	P	**P**	**02 44 27.4**	**-0.4**
MSTX	**Muleshoe**	**32.55**	**34**	P	**P**	**02 44 27.7**	**-1.4**
MSTX				IAmb	IAmb	02 44 29.5	
	comp=Z,4.3nm,1.0s						
PV12	**Saucer Basin,**	**33.35**	**22**	P	**P**	**02 44 36.2**	**+0.1**
PV12				IAmb	IAmb	02 44 38.9	
	comp=Z,5.8nm,1.1s						
PV22	**Blue Mesa, Par**	**33.55**	**22**	P	**P**	**02 44 37.7**	**0.0**
DUG	**Dugway, Tooele**	**33.80**	**15**	P	**P**	**02 44 40.7**	**+0.8**
DUG				IAmb	IAmb	02 44 42.0	
	comp=Z,4.8nm,1.4s						
YBH	**Yreka Blue Hor**	**33.88**	**2**	LR	LR	02 54 56.4	
	comp=Z,99nm,20.5s,baz=170,slow=30						
SMCO	**Snowmass**	**34.79**	**23**	P	**P**	**02 44 47.9**	**-0.9**
SMCO				IAmb	IAmb	02 44 50.9	
	comp=Z,4.3nm,0.9s						
WVOR	**Wild Horse Val**	**34.87**	**7**	P	**P**	**02 44 48.6**	**-0.5**
PDAR	**Pinedale Array**	**37.10**	**18**	P	**P**	**02 45 08.8**	**+0.5**
	comp=Z,1.8nm,1.0s,baz=199,slow=7.4,SNR=9.0						
PDAR				LR	LR	02 57 33.3	
	comp=Z,55nm,21.5s,baz=196,slow=32						
G08A	**Pilot Rock**	**37.66**	**6**	P	**P**	**02 45 12.5**	**-0.4**
KDAK	**Kodiak Island**	**54.67**	**342**	LR	LR	03 04 36.0	
	comp=Z,38nm,19.4s,baz=130,slow=29						
YKA	**Yellowknife Ar**	**55.08**	**5**	P	**P**	**02 47 29.6**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=190,slow=7.3,SNR=12						
EGAK	**Eagle**	**58.26**	**351**	P	**P**	**02 47 52.3**	**+0.3**
EGAK				IAmb	IAmb	02 47 54.6	
	comp=Z,4.5nm,1.1s						
WRH	**Wood River Hil**	**59.21**	**348**	P	**P**	**02 48 00.4**	**+1.8**
IL31		**59.24**	**349**	P	**P**	**02 47 58.7**	**+0.1**
IL31				IAmb	IAmb	02 48 00.8	
	comp=Z,6.9nm,1.3s						
ILAR	**Eielson Array**	**59.24**	**349**	P	**P**	**02 47 59.2**	**+0.5**
	comp=Z,2.4nm,1.1s,baz=173,slow=5.7,SNR=12						
ILAR				LR	LR	03 08 03.2	
	comp=Z,32nm,19.3s,baz=161,slow=30						
CCB	**Clear Creek Bu**	**59.31**	**348**	P	**P**	**02 48 00.2**	**+1.0**
LPAZ	**La Paz**	**60.06**	**114**	P	**P**	**02 48 07.3**	**+1.4**
	comp=Z,3.7nm,1.3s,baz=299,slow=4.4,SNR=4.2						
INK	**Inuvik**	**60.84**	**356**	P	**P**	**02 48 10.3**	**+0.7**
	comp=Z,4.7nm,1.1s,baz=166,slow=7.5,SNR=10						
INK	**Inuvik**	**60.84**	**356**	P	**P**	**02 48 11.1**	**+1.4**
PLCA	**Paso Flores**	**68.69**	**139**	LR	LR	03 12 50.7	
	comp=Z,35nm,18.3s,baz=314,slow=30						
BKZ	**Black Stump Fm**	**72.24**	**225**	P	**P**	**02 49 22.3**	**-0.9**
NNZ	**Nelson**	**75.27**	**224**	P	**P**	**02 49 39.9**	**-0.9**
PETK	**Petropavlovsk-**	**76.94**	**323**	LR	LR	03 17 13.4	
	comp=Z,32nm,19.6s,baz=61,slow=31						
KSRS	**Korea Array**	**99.56**	**310**	LR	LR	03 29 40.4	
	comp=Z,8.8nm,20.7s,baz=80,slow=31						
MKAR	**Makanchi Array**	**120.95**	**339**	PKP	**PKiKP**	**02 56 51.0**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=26,slow=1.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**122.06**	**69**	PKP	**PKiKP**	**02 56 53.8**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=302,slow=1.7,SNR=4.9						
BOSA	**Boshof**	**144.21**	**129**	PKP	**PKPdf**	**02 57 34.2**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=258,slow=6.6,SNR=4.6						

*ISCJB **09** 02:57:37.8±0.8, 44°.45N±0°.07×149°.29E±0°.07, h36km, mb3.5/7, Error ellipse: s-maj=11.6km s-min=5.4km az=152.7*
*SKHL **09** 02:57:37.5±0.6, 44°.40N×149°.40E, h37km±2km, mb4.4/1*
*MOS **09** 02:57:38.2±2.2, 44°.43N×149°.29E, h37km, mb3.9/4, Error ellipse: s-maj=13.9km s-min=12.1km az=47.8*
*IDC **09** 02:57:45.9±4.3, 44°.85N×149°.07E, h82km±34km, mb3.2/4, mb1 3.5/6, mb1mx3.1/55, mbtmp3.5/6, MS2.6/1, Ms1 2.6/1, ms1mx2.2/14, Error ellipse: s-maj=74.5km s-min=31.0km az=155.0*

ISC 09 02:57:40.2±0.9, 44°46N±0°.07×149°22E±0°.07, h36km, n32, σ1s20/32, mb3.4/6, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.23**	**309**	*d* PN	**Pn**	**02 58 00.1**	**-0.8**
KUR				*i* S	**Sn**	**02 58 15.8**	**-0.4**
KUR				pmax	pmax		
	comp=Z,198nm,0.5s						
KUR				pmax	pmax		
	comp=N,66nm,0.3s						
KUR				pmax	pmax		
	comp=E,42nm,0.3s						
KUR				smax	smax		
	comp=N,768nm,0.5s						
KUR				smax	smax		
	comp=E,1μm,0.5s						
KUR	**Kuril'sk**	**1.23**	**309**	⇓ *i* P	**Pn**	**02 57 59.9**	**-1.0**
KUR				AMB	AMB	02 58 01.0	
	comp=E,70nm,0.5s						
KUR				AMB	AMB	02 58 01.0	
	comp=E,40nm,0.5s						
KUR				AMB	AMB	02 58 01.0	
	comp=E,200nm,0.5s						
KUR				*i* S	**Sn**	**02 58 15.9**	**-0.3**
KUR				A	A	02 58 18.0	
	comp=E,770nm,0.5s						
KUR				A	A	02 58 18.0	
	comp=E,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.45**	**261**	*e* PN	**Pn**	**02 58 17.0**	**-0.6**
YUK				*i* S	**Sn**	**02 58 47.9**	**+1.6**
YUK				smax	smax		
	comp=N,255nm,0.6s						
YUK				smax	smax		
	comp=E,328nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**2.45**	**261**	*e* P	**Pn**	**02 58 17.0**	**-0.6**
YUK				*i* S	**Sn**	**02 58 47.0**	**+0.7**
YUK				A	A	02 58 53.0	
	comp=E,260nm,0.4s						
YUK				A	A	02 58 53.0	
	comp=E,330nm,0.4s						
GRPR	**Tuman**	**2.52**	**260**	*e* PN	**Pn**	**02 58 17.2**	**-1.4**
GRPR				*i* S	**Sn**	**02 58 49.2**	**+1.1**
GRPR				smax	smax		
	comp=E,166nm,0.4s						
GRPR				smax	smax		
	comp=N,276nm,0.3s						
GRPR	**Tuman**	**2.52**	**260**	*e* P	**Pn**	**02 58 17.9**	**-0.7**
GRPR				*i* S	**Sn**	**02 58 48.2**	**+0.1**
GRPR				A	A	02 58 55.0	
	comp=N,280nm,0.4s						
GRPR				A	A	02 58 55.0	
	comp=N,170nm,0.4s						
NMR	**Nemuro--Hokkai**	**2.75**	**248**	⇑ *i* PN	**Pn**	**02 58 20.2**	**-1.5**
NMR				*i* S	**Sn**	**02 58 53.0**	**-0.7**
NMR	**Nemuro--Hokkai**	**2.75**	**248**	*i* P	**Pn**	**02 58 20.6**	**-1.1**
NMR				*i* S	**Sn**	**02 58 53.0**	**-0.7**
GLVR	**Golovnino**	**2.76**	**256**	*e* S	**Sn**	**02 58 55.0**	**+1.0**
ASAJ	**Asahikawa**	**4.77**	**268**	P	Pn	02 58 54.7	+5.2
	comp=N,0.6nm,0.3s,baz=86,slow=19,SNR=3.0						
ASAJ				S	Sn	02 59 59.4	+16
	comp=N,0.8nm,0.3s,baz=11,slow=15,SNR=2.8						
ERM	**Erimo**	**5.06**	**243**	*i* PN	**Pn**	**02 58 54.2**	**+0.7**
YSS	**Yuzh-Sakhalins**	**5.17**	**301**	*e* PN	**Pn**	**02 58 54.0**	**-0.9**
YSS	**Yuzh-Sakhalins**	**5.17**	**301**	*e* P	**Pn**	**02 58 55.1**	**+0.2**
PETK	**Petropavlovsk-**	**10.29**	**30**	P	**Pn**	**03 00 05.4**	**+0.2**
	comp=N,0.2nm,0.3s,baz=220,slow=13,SNR=2.7						
EKMR	**Ekimchan**	**13.73**	**315**	*e* P	**Pn**	**03 00 51.0**	**-1.2**
KSRS	**Korea Array**	**17.52**	**254**	LR	LR	03 07 27.8	
	comp=N,20nm,18.3s,baz=50,slow=33						
YAK	**Yakutsk**	**20.97**	**334**	*i* P	**P**	**03 02 21.9**	**+2.0**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
YAK	**Yakutsk**	**20.97**	**334**	*i* P	**P**	**03 02 21.9**	**+2.0**
BILL	**Bilibino**	**25.27**	**15**	*i* P	**P**	**03 03 05.4**	**+2.7**
BILL				pmax	pmax		
	comp=Z,20nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**28.73**	**143**	T	T	03 34 28.5	
	baz=334,slow=76,SNR=77						
H11N1	**WAKE ISLAND Hy**	**28.74**	**144**	T	T	03 34 28.9	
	baz=334,slow=76,SNR=54						
H11N3	**WAKE ISLAND Hy**	**28.74**	**143**	T	T	03 34 29.3	
	baz=334,slow=76,SNR=47						
TIXI	**Tiksi**	**28.98**	**347**	*i* P	**P**	**03 03 36.5**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TIXI	**Tiksi**	**28.98**	**347**	*i* P	**P**	**03 03 36.5**	**+0.6**
H11S1	**WAKE ISLAND Hy**	**29.73**	**145**	T	T	03 35 44.2	
	baz=335,slow=76,SNR=79						
H11S3	**WAKE ISLAND Hy**	**29.74**	**145**	T	T	03 35 46.0	
	baz=335,slow=76,SNR=49						
H11S2	**WAKE ISLAND Hy**	**29.75**	**145**	T	T	03 35 43.2	
	baz=335,slow=76,SNR=66						
ILAR	**Eielson Array**	**40.03**	**37**	*e* P	**P**	**03 05 11.5**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**40.03**	**37**	P	**P**	**03 05 11.1**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=275,slow=7.6,SNR=5.5						
YKA	**Yellowknife Ar**	**54.37**	**35**	P	**P**	**03 07 02.6**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=296,slow=6.6,SNR=3.6						
NOA	**NORSAR Array B**	**69.46**	**340**	P	**P**	**03 08 41.8**	**-2.5**
	comp=Z,1.1nm,1.0s,baz=29,slow=6.6,SNR=3.2						
TXAR	**Lajitas Array**	**81.01**	**58**	P	**P**	**03 09 50.6**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=302,slow=4.2,SNR=7.8						

*ISCJB **09** 03:01:50.7±0.3, 5°.69N±0°.03×125°.40E±0°.05, h223km±2km, mb4.2/29, Error ellipse: s-maj=9.3km s-min=4.1km az=156.8*
*NEIC **09** 03:01:51.5±2.1, 5°.72N±0°.04×125°.4E±0°.1, h216km±6km, mb4.4/26*
*DJA **09** 03:01:52.4±0.4, 6°N±4°×12°5E±°, h211km±5km, M4.8/13, mB5.5/7, mb4.5/13, MLv4.7/6, Mw(mB)4.9/7*
*MAN **09** 03:01:53.3, 5°.55N×125°.58E, h181km, mb4.8, ML3.7, MS3.6*
*IDC **09** 03:01:53.5±1.4, 5°.67N×125°.28E, h236km±13km, mb3.7/24, mb1 3.8/26, mb1mx3.7/43, mbtmp4.3/26, Error ellipse: s-maj=16.9km s-min=6.8km az=74.0*

ISC 09 03:01:51.9±0.5, 5°68N±0°.04×125°48E±0°.06, h220km±4km, n87, σ1s66/109, mb4.3/37, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.48**	**29**	P	**Pn**	**03 02 21.3**	**-0.1**
DDMP				S	**S**	**03 02 43.4**	**-1.0**
SKMP	**Bagumbayan, Su**	**1.25**	**312**	P	**Pn**	**03 02 24.9**	**-0.6**
SKMP				S	**S**	**03 02 49.6**	**-2.0**
KCP	**Kidapawan**	**1.38**	**344**	⇓ P	**Pn**	**03 02 28.0**	**+1.5**
KCP				S	**S**	**03 02 52.6**	**-0.9**
DAV	**Davao City (W)**	**1.39**	**4**	Pn	**Pn**	**03 02 24.8**	**-1.7**
DAV					**S**	**03 02 50.7**	**-2.9**
DMPH	**Davao City--Mi**	**1.40**	**1**	⇑ P	**Pn**	**03 02 29.7**	**+3.0**
DMPH				S	**S**	**03 02 54.0**	**+0.2**
MATI	**Mati**	**1.48**	**32**	P	**Pn**	**03 02 26.0**	**-1.3**
MATI				S	**S**	**03 02 51.9**	**-3.0**
CTBH	**Cotabato--PC H**	**1.96**	**322**	⇓ P	**Pn**	**03 02 32.4**	**+0.8**
BUKP	**Musuan**	**2.23**	**349**	P	**Pn**	**03 02 35.0**	**+0.7**
BUKP				S	**S**	**03 03 08.0**	**+0.7**
PAGZ	**Pagadian**	**3.00**	**316**	P	**Pn**	**03 02 42.1**	**-0.5**
TNTI	**Ternate**	**5.23**	**159**	P	**Pn**	**03 03 09.7**	**0.0**
	168nm,0.7s,4μm1.2nm						
TNTI				S	**S**	**03 04 07.7**	**-3.6**
	168nm,0.7s,4μm1.2nm						
TNTI	**Ternate**	**5.23**	**159**		**Pn**	**03 03 09.7**	**0.0**
TNTI					**S**	**03 04 08.9**	**-2.3**
LUWI	**Luwuk**	**7.20**	**202**	Pn	**Pn**	**03 03 32.7**	**-2.3**
SANI	**Sanana**	**7.69**	**176**	P	**Pn**	**03 03 38.1**	**-3.2**
	234nm,0.5s,4μm1.3nm						
SIJI	**Sorong**	**8.70**	**138**	P	**Pn**	**03 03 56.8**	**+2.5**
	2.2nm,0.3s,baz=343,slow=19,SNR=3.4						
SIJI				S	**S**	**03 05 30.5**	**-2.0**
	0.7nm,0.3s,baz=150,slow=20,SNR=4.1						
NLAI	**Namlea**	**9.01**	**170**	P	**Pn**	**03 03 57.7**	**-0.5**
MSAI	**Masohi**	**9.60**	**159**	P	**Pn**	**03 04 07.2**	**+1.3**
	5.8nm,0.4s						
RKPI	**Ransiki, Papua**	**11.25**	**129**	P	**Pn**	**03 04 26.9**	**0.0**
	99nm,1.1s,7μm						
SBUM	**Sibu**	**13.60**	**257**	P	**P**	**03 05 01.5**	**+3.4**
SMPI	**Sarmi**	**15.26**	**120**	P	**Pn**	**03 05 19.9**	**+3.4**
	46nm,0.9s						
SOEI	**Soe**	**15.38**	**184**	P	**P**	**03 05 15.8**	**-2.2**
SOEI				IAmb	IAmb	03 05 16.5	
	comp=Z,9.3nm,0.6s						
GENI	**Genyem**	**16.82**	**119**	P	**Pn**	**03 05 35.1**	**-0.1**
	comp=Z,435nm,0.8s,comp=Z,5μm						
JAY	**Jayapura**	**17.25**	**118**	P	**Pn**	**03 05 40.9**	**+0.6**
	comp=Z,4.8nm,0.3s,baz=288,slow=4.3,SNR=24						
JAY	**Jayapura**	**17.25**	**118**	P	**Pn**	**03 05 41.3**	**+1.0**
	comp=Z,38nm,0.8s,comp=Z,316nm						
TWG	**Pinlang**	**17.57**	**346**	P	**P**	**03 05 40.5**	**-1.3**
YULB	**Yu-li**	**18.07**	**348**	P	**P**	**03 05 45.4**	**-1.8**
YULB				IAmb	IAmb	03 05 55.0	
	comp=Z,19nm,1.1s						
TPUB	**Ta-pu**	**18.13**	**346**	P	**P**	**03 05 47.5**	**-0.4**
MTN	**Manton Dam**	**19.24**	**163**	P	**P**	**03 06 01.5**	**+1.6**
MTN				IAmb	IAmb	03 06 06.7	
	comp=Z,20nm,1.4s						
YHNB	**Yeheng**	**19.29**	**349**	P	**P**	**03 06 00.3**	**-0.2**
YHNB				IAmb	IAmb	03 06 00.6	
	comp=Z,36nm,1.3s						
TPI	**Tanjungpandan**	**19.67**	**245**	P	**P**	**03 05 58.6**	**-6.0**
JOW	**Kunigami**	**21.21**	**7**	P	**P**	**03 06 21.4**	**+0.7**
	comp=Z,8.0nm,0.9s,baz=172,slow=13,SNR=7.9						
JOW	**Kunigami**	**21.21**	**7**	P	**P**	**03 06 22.3**	**+1.6**
KNRA	**Kununurra**	**21.46**	**171**	P	**P**	**03 06 24.7**	**+1.3**
KNRA				IAmb	IAmb	03 06 30.4	
	comp=Z,16nm,1.1s						
MDSI	**Maura Dua**	**23.54**	**245**	P	**P**	**03 06 47.3**	**+4.6**
FITZ	**Fitzroy Crossi**	**23.62**	**180**	P	**P**	**03 06 44.2**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=355,slow=7.5,SNR=9.0						
FITZ				pP	**pP**	**03 07 25.0**	**+1.6**
	comp=Z,3.1nm,0.9s,baz=5.1,slow=1.7,SNR=3.0						
FITZ				PcP	**PcP**	**03 10 22.5**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=270,slow=1.0,SNR=3.6						
FITZ	**Fitzroy Crossi**	**23.62**	**180**	P	**P**	**03 06 44.8**	**+1.5**
COEN	**Coen**	**26.25**	**138**	P	**P**	**03 07 07.9**	**+0.8**
COEN				IAmb	IAmb	03 07 14.8	
	comp=Z,4.9nm,0.7s						
PHET	**Kaeng Krachan**	**26.48**	**288**	P	**P**	**03 07 13.8**	**+4.6**
	comp=Z,47μm,0.7s						
WRA	**Warramunga Arr**	**26.91**	**161**	P	**P**	**03 07 13.2**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=329,slow=11,SNR=13						
WRA				pP	**pP**	**03 07 56.0**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=339,slow=10,SNR=5.7						
WRA				S	**S**	**03 11 31.0**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=342,slow=15,SNR=4.5						
WRA				ScP	**ScP**	**03 13 48.0**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=346,slow=2.8,SNR=3.7						
WB2	**Warramunga Arr**	**26.91**	**161**	P	**P**	**03 07 13.6**	**+0.6**
WB2				IAmb	IAmb	03 07 14.3	
	comp=Z,6.0nm,1.1s						
GSI	**Gununggsitoli**	**28.18**	**262**	P	**P**	**03 07 24.9**	**+0.6**
GSI	**Gununggsitoli**	**28.18**	**262**	P	**P**	**03 07 24.3**	**0.0**
CMAR	**Chiang Mai Arr**	**28.83**	**298**	P	**P**	**03 07 29.3**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=110,slow=7.0,SNR=3.6						
AS31	**Alice Springs**	**30.30**	**165**	P	**P**	**03 07 43.6**	**+0.6**
ASAR	**Alice Springs**	**30.30**	**165**	P	**P**	**03 07 44.0**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=343,slow=7.2,SNR=30						
ASAR				PcP	**PcP**	**03 10 37.5**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=346,slow=2.6,SNR=7.6						
ASAR				S	**S**	**03 12 27.3**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=358,slow=21,SNR=4.3						
ASAR				ScP	**ScP**	**03 13 58.5**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=340,slow=3.2,SNR=9.2						
KSRS	**Korea Array**	**31.71**	**4**	P	**P**	**03 07 56.0**	**+0.9**
	comp=Z,6.2nm,0.7s,baz=182,slow=10,SNR=16						
XAN	**Xi'an**	**32.13**	**334**	P	**P**	**03 07 58.3**	**-0.5**
XAN				pmax	pmax		
	comp=Z,20nm,0.8s						
XAN				pmax	pmax		
	comp=Z,150nm,5.9s						
XAN	**Xi'an**	**32.13**	**334**	P	**P**	**03 07 58.4**	**-0.5**
XAN				IAmb	IAmb	03 07 59.1	
	comp=Z,16nm,0.8s						
MJAR	**Matsushiro Arr**	**32.86**	**19**	P	**P**	**03 08 04.3**	**-0.8**
	comp=Z,3.7nm,0.7s,baz=197,slow=9.8,SNR=11						
BJT	**Baijiatuau**	**35.20**	**348**	P	**P**	**03 08 23.7**	**-1.5**
BJT				IAmb	IAmb	03 08 25.8	
	comp=Z,17nm,1.3s						
LZH	**Lanzhou**	**36.20**	**330**	*e* P	**P**	**03 08 34.9**	**+1.0**
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
SHL	**Shillong**	**37.73**	**305**	P	**P**	**03 08 46.7**	**-0.3**
SHL				IAmb	IAmb	03 08 55.9	
	comp=Z,9.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**38.79**	**7**	P	**P**	**03 08 56.5**	**+1.2**
	comp=Z,7.3nm,0.7s,baz=182,slow=6.9,SNR=13						
BBOO	**Buckleboo**	**39.58**	**166**	P	**P**	**03 09 03.6**	**+1.7**
BBOO				IAmb	IAmb	03 09 04.2	
	comp=Z,8.8nm,0.7s						
STKA	**Stephens Creek**	**40.38**	**159**	P	**P**	**03 09 09.8**	**+1.2**
	comp=Z,1.5nm,0.4s,baz=340,slow=7.6,SNR=8.8						
STKA				ScP	**ScP**	**03 14 36.0**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=333,slow=5.3,SNR=3.7						
STKA	**Stephens Creek**	**40.38**	**159**	P	**P**	**03 09 10.4**	**+1.9**
ASAJ	**Asahikawa**	**41.13**	**19**	P	**P**	**03 09 16.2**	**+1.7**
	comp=Z,9.3nm,0.8s,baz=216,slow=11,SNR=4.9						
JKA	**Kamikawa-asahi**	**41.13**	**19**	P	**P**	**03 09 16.2**	**+1.7**
TAPN	**Taplejung**	**41.87**	**305**	*e* P	**P**	**03 09 21.9**	**+0.7**
	comp=Z,7.8nm,0.5s						
RAMN	**Ramite**	**42.62**	**304**	*e* P	**P**	**03 09 26.6**	**-0.6**
	comp=Z,8.3nm,0.5s						
JIRN	**Jiri**	**43.23**	**305**	*e* P	**P**	**03 09 32.1**	**-0.1**
	comp=Z,24nm,0.6s						
GUN	**Gumba**	**43.58**	**305**	*e* P	**P**	**03 09 34.8**	**-0.2**
	comp=Z,14nm,0.5s						
KLR	**Kul'dur**	**43.73**	**6**	P	**P**	**03 09 35.5**	**+0.2**
	comp=Z,2.1nm,0.4s,baz=199,slow=6.8,SNR=10						
SONM	**Songino Array**	**45.07**	**342**	P	**P**	**03 09 45.7**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=148,slow=8.7,SNR=6.3						
SONM				PcP	**PcP**	**03 11 22.9**	**0.0**
	comp=Z,0.8nm,0.9s,baz=169,slow=2.3,SNR=3.6						
KOLN	**Koldanda**	**45.40**	**304**	*e* P	**P**	**03 09 49.0**	**-0.2**
	comp=Z,9.7nm,0.3s						
DANN	**Dangsing**	**45.48**	**305**	*e* P	**P**	**03 09 49.3**	**-0.6**
	comp=Z,15nm,0.5s						
MKAR	**Makanchi Array**	**55.25**	**325**	P	**P**	**03 11 02.1**	**-0.2**
	comp=Z,3.0nm,0.5s,baz=123,slow=7.6,SNR=51						
MKAR				PcP	**PcP**	**03 11 59.3**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=155,slow=3.0,SNR=7.0						
KSH	**Kashi**	**55.79**	**315**	P	**P**	**03 11 09.4**	**+2.9**
KSH				sP	sP	03 12 24.3	+4.3
KSH				ScP	**ScP**	**03 15 41.1**	**+0.4**
KSH				S	**S**	**03 18 38.1**	**+1.9**
KSH				sS	sS	03 20 06.3	+3.8
KSH				ScS	**ScS**	**03 20 32.1**	**-1.3**
KSH				pmax	pmax		
	comp=Z,150nm,6.7s						
KSH				LR	LR		
	comp=N,210nm,6.7s						
KSH				LR	LR		
	comp=E,230nm,5.4s						
KSH				LR	LR		
	comp=Z,250nm,5.4s						
YAK	**Yakutsk**	**56.32**	**2**	P	**P**	**03 11 10.1**	**+0.6**
	comp=Z,23nm,0.4s,baz=223,slow=0.5,SNR=8.6						
YAK	**Yakutsk**	**56.32**	**2**	IAmb	IAmb	03 11 11.3	
	comp=Z,54nm,0.6s						
ZALV	**Zalesovo Beam**	**58.30**	**333**	P	**P**	**03 11 22.2**	**-1.4**
	comp=Z,1.9nm,0.3s,baz=134,slow=6.2,SNR=8.1						
KURK	**Kurchatov**	**59.44**	**327**	P	**P**	**03 11 31.0**	**-0.5**
KURK				IAmb	IAmb	03 11 32.0	
	comp=Z,4.8nm,0.7s						
GAR	**Garm**	**59.70**	**312**	P	**P**	**03 11 33.6**	**0.0**
GAR				IAmb	IAmb	03 11 34.1	
	comp=Z,8.7nm,0.8s						
BVAR	**Borovoye Array**	**65.02**	**327**	P	**P**	**03 12 07.6**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=132,slow=8.6,SNR=12						
BRVK	**Borovoye**	**65.09**	**327**	P	**P**	**03 12 08.3**	**-0.6**
BRVK				IAmb	IAmb	03 12 09.5	
	comp=Z,3.2nm,0.

NANB			*eS*	**Sb**	**03 28 04.6**	**+0.4**
	baz=233					
ENA	**Nanau**	**0.79 235**	P	**Pn**	**03 27 54.1**	**-0.5**
	baz=233					
ENA			S	**Sn**	**03 28 05.0**	**-0.6**
	baz=233					
PCYT	**Pengchaiyu**	**0.82 335**	P	**Pn**	**03 27 55.3**	**+0.4**
	baz=335					
YM08	**YM08**	**0.84 291**	*eP*	**Pn**	**03 27 55.5**	**+0.2**
	baz=290					
ENTT	**Nioudou**	**0.84 254**	*eP*	**Pn**	**03 27 55.7**	**+0.4**
	baz=251					
ENTT			*eS*	**Sn**	**03 28 06.2**	**-0.8**
	baz=251					
YM01	**YM01**	**0.85 288**	*eP*	**Pn**	**03 27 55.2**	**-0.2**
	baz=287					
YM05	**YM05**	**0.85 289**	*eP*	**Pn**	**03 27 54.7**	**-0.8**
	baz=288					
TWY	**Chenhua**	**0.87 297**	*eP*	**Pn**	**03 27 55.5**	**-0.1**
	baz=295					
TWY			*eS*	**Sn**	**03 28 07.6**	**0.0**
	baz=295					
NWLT	**Wulai**	**0.87 263**	P	**Pn**	**03 27 55.6**	**-0.1**
	baz=261					
NWLT			*eS*	**Sn**	**03 28 07.6**	**-0.1**
	baz=261					
ANP	**Anpu**	**0.90 290**	*eP*	**Pn**	**03 27 56.1**	**0.0**
	baz=288					
NDT	**Datong Townshi**	**0.90 252**	*eS*	**Sn**	**03 28 07.9**	**-0.5**
	baz=250					
YHNB	**Yeheng**	**1.00 258**	P	**Pb**	**03 27 57.9**	**+0.2**
	baz=256					
YHNB			S	**Sn**	**03 28 11.4**	**+0.4**
	baz=256					
NSK	**Sanguang**	**1.02 259**	P	**Pb**	**03 27 57.9**	**0.0**
	baz=256					
NSK			*eS*	**Sn**	**03 28 11.3**	**-0.1**
	baz=256					
NACB	**Ninganchiao**	**1.06 228**	P	**Pb**	**03 27 58.7**	**+0.3**
	baz=226					
NACB			*eS*	**Sn**	**03 28 12.9**	**+0.8**
	baz=226					
NNSH	**Datong**	**1.08 245**	P	**Pb**	**03 27 59.4**	**+0.4**
	baz=243					
NNSH			S	**Sn**	**03 28 13.7**	**+0.9**
	baz=243					
NNSB	**Datong**	**1.08 245**	P	**Pb**	**03 27 58.9**	**0.0**
	baz=243					
NNSB			S	**Sn**	**03 28 13.2**	**+0.4**
	baz=243					
NNS	**Nan Shan**	**1.08 246**	*eP*	**Pb**	**03 27 59.0**	**+0.1**
	baz=244					
NNS			S	**Sn**	**03 28 13.4**	**+0.5**
	baz=244					
ETLH	**Xiulin Townshi**	**1.11 233**	P	**Pb**	**03 27 59.2**	**-0.3**
	baz=231					
ETLH			S	**Sb**	**03 28 15.0**	**+1.3**
	baz=231					
IRIF	**Iriomote-Funau**	**1.28 115**	P	**Pb**	**03 28 03.9**	**+1.6**
WHF	**Hehuan Shan**	**1.31 236**	P	**Pb**	**03 28 03.7**	**+0.6**
	baz=234					
WHF			*eS*	**Sb**	**03 28 20.2**	**+0.6**
	baz=234					
TWT	**Tachien**	**1.32 242**	P	**Pb**	**03 28 02.9**	**-0.3**
	baz=240					
LIOB	**Emei**	**1.33 260**	*eS*	**Sb**	**03 28 20.8**	**+1.0**
	baz=258					
TDCB	**Techi**	**1.34 242**	P	**Pb**	**03 28 03.4**	**0.0**
	baz=241					
TDCB			S	**Sb**	**03 28 20.8**	**+0.7**
	baz=241					
NSTT	**Nanjuang**	**1.35 260**	*eP*	**Pb**	**03 28 03.4**	**-0.1**
	baz=258					
CHGB	**Renai**	**1.43 235**	P	**Pb**	**03 28 05.0**	**+0.1**
	baz=234					
CHGB			*eS*	**Sb**	**03 28 23.4**	**+0.6**
	baz=234					
WHP	**Taichung City**	**1.50 247**	P	**Pb**	**03 28 05.8**	**-0.3**
	baz=245					
WHP			S	**Sb**	**03 28 25.0**	**+0.2**
	baz=245					
DPDB	**Guoxing**	**1.63 239**	*eP*	**Pb**	**03 28 07.6**	**-0.7**
	baz=237					
VWDT	**VWDT**	**1.64 227**	P	**Pb**	**03 28 07.9**	**-0.6**
	baz=226					
HGSD	**Ruisui**	**1.68 214**	*eP*	**Pb**	**03 28 08.5**	**-0.5**
	baz=213					
HGSD			*eS*	**Sb**	**03 28 30.3**	**+0.6**
	baz=213					
SSLB	**Suanglung**	**1.75 232**	*eP*	**Pb**	**03 28 09.3**	**-1.0**
	baz=230					
SSLB			*eS*	**Sb**	**03 28 31.3**	**-0.6**
	baz=230					
YULB	**Yu-li**	**1.82 216**	*eP*	**Pb**	**03 28 10.5**	**-1.1**
	baz=214					
YULB			*eS*	**Sb**	**03 28 33.7**	**-0.3**
	baz=214					
ELDTW	**Lidau**	**2.14 218**	*eS*	**Sn**	**03 28 41.1**	**+2.1**
	baz=217					
CHN4	**Tsaushan**	**2.29 229**	*eS*	**Sn**	**03 28 44.7**	**+2.1**
	baz=227					

IDC 09 03:29:31.2±463.0, **37.87N**×**112.41E, h0**km, **Error ellipse: s-maj=209.8km s-min=185.9km az=33.0, Northeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**10.85**	**338**	*i*		04 35 10.0	
	baz=152,slow=335,SNR=0.5						
I30JP	**ISUMI INFRASON**	**22.52**	**88**	*i*		05 48 55.8	
	baz=282,slow=298,SNR=3.3						
I39PW	**PALAU INFRASON**	**36.25**	**141**	*i*		07 10 00.0	
	baz=329,slow=317,SNR=1.2						

*JMA **09** 03:45:17.0±0.7, 44.61N×149.17E, h30km, M3.6*
*SKHL **09** 03:45:18.5±0.4, 44.42N×149.10E, h49km±4km, mb4.2/4*
ISC 09 03:45:16.7±4.1, **44.40N**±0.09×**149.2E**±0.2, **h42**km, **n15,** σ1§**67**/24, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.29**	**311**	*eP*	**Pn**	**03 45 38.0**	**-0.2**
KUR				AMB	AMB	03 45 39.0	
	50nm,0.3s						
KUR				*i* S	**Sn**	**03 45 52.9**	**-1.3**
KUR				A	A	03 45 56.0	
	390nm,0.3s						
KUR				A	A	03 45 56.0	
	420nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.46**	**263**	*eP*	**Pn**	**03 45 55.0**	**+0.8**
YUK				AMB	AMB	03 45 59.0	
	40nm,0.4s						
YUK				*eS*	**Sn**	**03 46 22.7**	**-0.3**
YUK				A	A	03 46 29.0	
	340nm,0.5s						
YUK				A	A	03 46 29.0	
	310nm,0.5s						
GRPR	**Tuman**	**2.53**	**262**	*i* P	**Pn**	**03 45 56.0**	**+0.8**
GRPR				AMB	AMB	03 45 59.0	
	50nm,0.4s						
GRPR				*eS*	**Sn**	**03 46 23.9**	**-0.9**
GRPR				A	A	03 46 32.0	
	160nm,0.3s						
GRPR				A	A	03 46 32.0	
	90nm,0.3s						
NEM2	**Nemuro 2**	**2.73**	**249**	P	**Pn**	**03 45 58.3**	**+0.3**
NEM2				*eS*	**Sn**	**03 46 28.7**	**-1.1**
NMR	**Nemuro--Hokkai**	**2.74**	**249**	*eP*	**Pn**	**03 45 59.2**	**+1.1**
GLVR	**Golovnino**	**2.76**	**258**	*eP*	**Pn**	**03 45 59.3**	**+0.9**
GLVR				AMB	AMB	03 46 00.0	
	60nm,0.5s						
GLVR				*eS*	**Sn**	**03 46 30.0**	**-0.5**
GLVR				A	A	03 46 39.0	
	180nm,0.3s						
GLVR				A	A	03 46 39.0	
	70nm,0.3s						
JRA	**Rausu**	**3.00**	**263**	P	**Pn**	**03 46 03.5**	**+1.8**
JNK	**Nakash**	**3.36**	**258**	P	**Pn**	**03 46 07.8**	**+1.1**
JAK	**Akkeshi**	**3.58**	**249**	P	**Pn**	**03 46 10.7**	**+1.0**
JAK				*eS*	**Sn**	**03 46 49.7**	**-1.0**
JTKR	**Abashiri--Toko**	**3.86**	**266**	P	**Pn**	**03 46 15.6**	**+2.1**
JAR	**Ashorobuto**	**4.11**	**256**	P	**Pn**	**03 46 18.7**	**+1.8**
JAR				*eS*	**Sn**	**03 47 06.0**	**+2.3**
JCH	**Churui**	**4.63**	**249**	P	**Pn**	**03 46 25.6**	**+1.5**
JCH				*eS*	**Sn**	**03 47 16.0**	**-0.6**
JNBK	**Urakawa-nobuka**	**5.18**	**248**	P	**Pn**	**03 46 32.3**	**+0.6**
JNBK				*eS*	**Sn**	**03 47 28.6**	**-1.6**
JNB	**Noboribetsu**	**6.28**	**255**	P	**Pn**	**03 46 47.7**	**+1.0**
JTM	**Tenmabayashi**	**7.03**	**242**	*eS*	**Sn**	**03 48 10.5**	**-5.0**

*ISCJB **09** 04:14:00.1±0.8, 18.65S±0.2×178.1W±0.1, h600km, mb4.1/5, Error ellipse: s-maj=25.2km s-min=12.5km az=179.1*
*NEIC **09** 04:14:02.6±1.1, 18.5S±0.2×178.0W±0.1, h635km±12km, mb4.1/10*
*IDC **09** 04:14:03.8±2.3, 18.73S×177.92W, h655km±34km, mb3.3/5, mb1 3.5/7, mb1mx3.1/41, mbtmp4.4/7, Error ellipse: s-maj=34.5km s-min=18.6km az=167.0*
ISC 09 04:14:01.7±0.9, **18.6S**±0.2×**178.01W**±0.10, **h600**km, **n20,** σ1§**96**/19, **mb4.2/7, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.85**	**283**	P	**P**	**04 15 30.3**	**+4.0**
NIUE	**Niue**	**7.67**	**95**	P	**P**	**04 15 58.9**	**+1.1**
DZM	**Mont Dzumac**	**14.98**	**254**	P	**P**	**04 17 11.4**	**+1.6**
	0.8nm,0.3s,baz=74,slow=20,SNR=4.0						
DZM	**Mont Dzumac**	**14.98**	**254**	IAmb	IAmb	04 17 13.8	
	comp=Z,14nm,1.0s						
OUZ	**Omahuta**	**18.14**	**203**	P	**P**	**04 17 41.2**	**+2.9**
OUZ				IAmb	IAmb	04 17 42.1	
	comp=Z,8.2nm,0.7s						
URZ	**Urewera**	**20.03**	**191**	P	**P**	**04 17 54.3**	**-1.2**
	comp=Z,1.5nm,0.3s,baz=14,slow=18,SNR=7.6						
URZ	**Urewera**	**20.03**	**191**	IAmb	IAmb	04 18 01.2	
	comp=Z,8.5nm,0.9s						
EIDS	**Eidsvold**	**29.39**	**251**	P	**P**	**04 19 19.3**	**+1.0**
EIDS				IAmb	IAmb	04 19 23.6	
	comp=Z,1.5nm,0.9s						
CTA	**Charters Tower**	**33.71**	**262**	P	**P**	**04 19 54.6**	**-0.5**
	comp=Z,6.9nm,0.6s,baz=94,slow=14,SNR=11						
COEN	**Coen**	**37.50**	**271**	P	**P**	**04 20 26.3**	**0.0**
STKA	**Stephens Creek**	**38.63**	**242**	P	**P**	**04 20 35.6**	**+0.4**
	comp=Z,8.8nm,0.8s,baz=96,slow=9.2,SNR=5.2						
STKA	**Stephens Creek**	**38.63**	**242**	IAmb	IAmb	04 20 36.7	
	comp=Z,1.0nm,1.0s						
BBOO	**Buckleboo**	**43.40**	**242**	P	**P**	**04 21 12.5**	**-0.4**
WB2	**Warramunga Arr**	**44.87**	**260**	P	**P**	**04 21 23.2**	**-1.2**
WRAB	**Tennant Creek**	**44.87**	**260**	P	**P**	**04 21 23.4**	**-1.0**
WRA	**Warramunga Arr**	**44.88**	**260**	P	**P**	**04 21 23.2**	**-1.2**
	comp=Z,5.3nm,0.4s,baz=96,slow=7.7,SNR=73						
WRA				S	**S**	**04 27 16.1**	**-3.8**
	comp=Z,0.7nm,0.8s,baz=94,slow=14,SNR=3.6						
AS31	**Alice Springs**	**44.97**	**255**	P	**P**	**04 21 24.5**	**-0.6**
ASAR	**Alice Springs**	**44.97**	**255**	P	**P**	**04 21 24.3**	**-0.8**
	comp=Z,7.1nm,0.6s,baz=90,slow=7.8,SNR=85						
ASAR				S	**S**	**04 27 19.2**	**-1.9**
	comp=Z,1.4nm,0.7s,baz=91,slow=16,SNR=11						
QSPA	**South Pole Qui**	**71.44**	**180**	P	**P**	**04 24 21.7**	**-0.8**
QSPA				IAmb	IAmb	04 24 21.8	
	comp=Z,4.4nm,0.6s						
TXAR	**Lajitas Array**	**86.05**	**57**	P	**P**	**04 25 37.7**	**-2.6**
	comp=Z,0.5nm,0.7s,baz=223,slow=5.9,SNR=6.6						

*NEIC **09** 04:19:14.8±1.3, 56.34N±0.08×144.5W±0.1, h15km±7km*
*ISCJB **09** 04:19:17.0±0.5, 56.57N±0.04×144.74W±0.05, h33km, Error ellipse: s-maj=5.1km s-min=3.6km az=168.5*
*AEIC **09** 04:19:18.7±1.4, 56.36N±0.08×144.6W±0.1, h12km±7km, ML3.6*
ISC 09 04:19:16.4±1.4, **56.41N**±0.08×**144.59W**±0.06, **h35**km, **n101,** σ1§**43**/117, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MID	**Middleton Isla**	**3.17**	**344**	Pn	**Pn**	**04 20 05.8**	**+2.2**
MID					**Sn**	**04 20 39.5**	**-0.7**
SUCK	**Suckling Hills**	**3.70**	**6**	Pn	**Pn**	**04 20 12.8**	**+1.8**
SUCK				Sn	**Sn**	**04 20 50.5**	**-2.9**
BGLC	**Bering Glacier**	**3.79**	**10**		**Pn**	**04 20 13.7**	**+1.6**
NICHA	**Nichawak Mount**	**3.86**	**5**		**Pn**	**04 20 14.0**	**+0.9**
NICHA					**Sn**	**04 20 55.7**	**-1.4**
GRIN	**Grindle Hills**	**3.94**	**9**		**Pn**	**04 20 15.8**	**+1.4**
HMT	**Hamilton**	**3.95**	**2**		**Pn**	**04 20 15.4**	**+1.0**
HMT				Sn	**Sn**	**04 20 56.1**	**-3.3**
KULT	**Kultieth River**	**3.98**	**14**		**Pn**	**04 20 16.1**	**+1.3**
KULT					**Sn**	**04 20 58.7**	**-1.6**
RAGM	**Ragged Mountai**	**3.99**	**359**		**Pn**	**04 20 16.2**	**+1.1**
MESA	**MESA**	**4.03**	**19**	Pn	**Pn**	**04 20 16.9**	**+1.2**
MESA				Sn	**Sn**	**04 21 00.1**	**-1.7**
YKU2	**Yakutat**	**4.07**	**38**	Pn	**Pn**	**04 20 17.3**	**+1.3**
CHX	**Chaix Hills**	**4.10**	**25**		**Pn**	**04 20 17.7**	**+1.1**
KHIT	**Khitrov Hills**	**4.11**	**9**		**Pn**	**04 20 17.6**	**+1.0**
HIN	**Hinchinbrook I**	**4.13**	**347**		**Pn**	**04 20 17.4**	**+0.6**
WAX	**Waxell Ridge**	**4.16**	**12**		**Pn**	**04 20 18.1**	**+0.8**
WAX	**Waxell Ridge**	**4.16**	**12**		**Sn**	**04 21 03.1**	**-1.6**
GOAT	**Goat Mountain**	**4.19**	**359**		**Pn**	**04 20 18.5**	**+0.8**
EYAK	**Cordova Ski Ar**	**4.20**	**352**	Pn	**Pn**	**04 20 19.1**	**+1.3**
EYAK					**Sn**	**04 21 04.2**	**-1.3**
SAMH	**Samovar Hills**	**4.24**	**27**		**Pn**	**04 20 19.5**	**+1.0**
YAH	**Yahtse**	**4.24**	**19**	Pn	**Pn**	**04 20 20.0**	**+1.4**
RKAV	**Rock Avalanche**	**4.26**	**22**		**Pn**	**04 20 20.1**	**+1.3**
PNL	**Peninsula**	**4.28**	**38**		**Pn**	**04 20 19.8**	**+0.8**
DHAK	**Deception Hill**	**4.35**	**49**	Pn	**Pn**	**04 20 20.7**	**+0.8**
PCA	**Pinnacle**	**4.35**	**30**		**Pn**	**04 20 21.3**	**+1.3**
BCPM	**Bancas Point**	**4.42**	**34**	Pn	**Pn**	**04 20 21.8**	**+0.9**
CRQM	**Cirque**	**4.43**	**9**		**Pn**	**04 20 22.4**	**+1.3**
CRQM	**Cirque**	**4.43**	**9**		**Sn**	**04 21 09.0**	**-2.5**
TGL	**Tana Glacier**	**4.46**	**11**		**Pn**	**04 20 22.9**	**+1.4**
FID	**Port Fidalgo**	**4.47**	**348**		**Pn**	**04 20 22.9**	**+1.4**
SEW	**Seward**	**4.51**	**327**	Pn	**Pn**	**04 20 22.4**	**+0.4**
KDAK	**Kodiak Island**	**4.57**	**291**	Pn	**Pn**	**04 20 23.7**	**+0.8**
GRNC	**Granite Creek**	**4.59**	**18**		**Pn**	**04 20 24.5**	**+1.2**
BRSE	**Bradley Lake S**	**4.67**	**318**		**Pn**	**04 20 23.8**	**-0.5**
GLI	**Glacier Island**	**4.67**	**345**		**Pn**	**04 20 24.1**	**-0.2**
KIAG	**Kiagna River**	**4.68**	**13**		**Pn**	**04 20 25.5**	**+0.9**
CNPM	**China Poot**	**4.72**	**314**		**Pn**	**04 20 24.5**	**-0.5**
BRLK	**Bradley Lake**	**4.74**	**318**	Pn	**Pn**	**04 20 25.0**	**-0.3**
BRLK					**Sn**	**04 21 17.7**	**-1.3**
BALM	**Baldy**	**4.79**	**13**		**Pn**	**04 20 27.4**	**+1.4**
OHAK	**Old Harbor**	**4.85**	**283**	Pn	**Pn**	**04 20 27.5**	**+0.8**
VRDI	**Verde Repeater**	**4.87**	**7**		**Pn**	**04 20 28.0**	**+0.8**
CTGM	**Chitina Glacie**	**4.88**	**19**	Pn	**Pn**	**04 20 28.8**	**+1.5**
BARN	**Barnard Glacie**	**4.91**	**17**	Pn	**Pn**	**04 20 29.0**	**+1.3**
PTPK	**Patty Peak**	**4.92**	**12**		**Pn**	**04 20 29.0**	**+1.1**
HOM	**Homer**	**4.97**	**314**	Pn	**Pn**	**04 20 29.5**	**+1.2**
HOM					**Sn**	**04 21 24.4**	**0.0**
MCARA	**McCarthy VSAT**	**5.06**	**9**		**Pn**	**04 20 30.9**	**+1.3**
SLKM	**Skilak Lake**	**5.06**	**327**		**Pn**	**04 20 29.5**	**-0.2**
GLB	**Gilahina Butte**	**5.07**	**4**		**Pn**	**04 20 30.8**	**+1.0**
SII	**Sitkinak Islan**	**5.32**	**276**	Pn	**Pn**	**04 20 34.5**	**+1.3**
YUK7	**Dusty Glacier**	**5.34**	**37**		**Pn**	**04 20 35.3**	**+1.6**
RC01	**Rabbit Creek A**	**5.41**	**332**	Pn	**Pn**	**04 20 35.3**	**+0.9**
RC01					**Sn**	**04 21 33.2**	**-2.1**
KNK	**Knik Glacier**	**5.41**	**340**	Pn	**Pn**	**04 20 36.1**	**+1.8**
YUK6	**Outpost Mounta**	**5.59**	**33**		**Pn**	**04 20 39.0**	**+1.9**
SCM	**Sheep Creek Mo**	**5.62**	**347**		**Pn**	**04 20 39.2**	**+1.8**
SCM					**Sn**	**04 21 38.9**	**-1.8**
BESE	**Bessie Mountai**	**5.69**	**63**		**Pn**	**04 20 38.3**	**0.0**
SML	**Sawmill**	**5.75**	**342**		**Pn**	**04 20 41.2**	**+2.0**
HYT	**Haines Junctio**	**5.77**	**37**		**Pn**	**04 20 40.8**	**+1.3**
SKAG	**Skagway**	**5.81**	**54**	Pn	**Pn**	**04 20 43.2**	**+3.3**
GHO	**Glory Hole Cre**	**5.83**	**339**	Pn	**Pn**	**04 20 41.6**	**+1.4**
GHO				Sn	**Sn**	**04 21 45.5**	**-0.3**
JIS	**Juneau Island**	**5.84**	**67**	Pn	**Pn**	**04 20 40.8**	**+0.5**
RED	**Redoubt Volcan**	**5.89**	**316**		**Pn**	**04 20 41.5**	**+0.4**
RSO	**Redoubt South**	**5.91**	**317**		**Pn**	**04 20 42.6**	**+1.1**
RSO					**Sn**	**04 21 46.3**	**-1.6**
RDWB	**Redoubt West**	**5.96**	**317**		**Pn**	**04 20 42.0**	**0.0**
DFR	**Drift River**	**5.97**	**318**		**Pn**	**04 20 43.2**	**+1.0**
SUA	**Susitna One**	**5.99**	**330**	Pn	**Pn**	**04 20 44.4**	**+1.9**
NCT	**North Crescent**	**6.04**	**317**		**Pn**	**04 20 42.8**	**-0.3**
CHIR	**Chirikof Islan**	**6.20**	**269**	Pn	**Pn**	**04 20 46.7**	**+1.4**
CKL	**Chakachamna La**	**6.26**	**323**		**Pn**	**04 20 46.0**	**-0.2**
BVCY	**Beaver Creek**	**6.32**	**16**		**Pn**	**04 20 49.1**	**+2.2**
WAT6	**Susitna Watana**	**6.40**	**347**		**Pn**	**04 20 49.1**	**+1.0**
CRAG	**Craig**	**6.51**	**94**		**Pn**	**04 20 47.7**	**-1.9**
SKT	**Skwentna**	**6.63**	**330**		**Pn**	**04 20 52.0**	**+0.9**
SKT					**Sn**	**04 22 03.6**	**-1.7**
WHY	**Whitehorse**	**6.63**	**46**		**Pn**	**04 20 52.8**	**+1.5**
WAT1	**Susitna Watana**	**6.75**	**344**		**Pn**	**04 20 54.0**	**+1.2**
WRAK	**Wrangell Islan**	**6.80**	**85**	Pn	**Pn**	**04 20 53.1**	**-0.3**
BC03		**6.83**	**11**		**Pn**	**04 20 55.5**	**+1.6**
DHY	**Denali Highway**	**6.84**	**349**	Pn	**Pn**	**04 20 55.7**	**+1.6**
WAT2	**Susitna Watana**	**6.88**	**345**		**Pn**	**04 20 55.6**	**+0.9**
DOT	**Dot Lake**	**7.27**	**2**		**Pn**	**04 21 01.3**	**+1.3**
DOT				Sn	**Sn**	**04 22 22.3**	**+1.1**
RND	**Reindeer**	**7.34**	**345**	Pn	**Pn**	**04 21 02.8**	**+1.9**
RND					**Sn**	**04 22 24.0**	**+1.1**
RIDG	**Independent Ri**	**7.36**	**359**		**Pn**	**04 21 03.0**	**+1.8**
SVW2	**Sparrevohn**	**7.40**	**314**	Pn	**Pn**	**04 21 01.9**	**+0.2**
ANNE	**Aniakchak Nort**	**7.44**	**280**		**Pn**	**04 21 02.7**	**+0.3**
PPLA	**Purkeypile**	**7.56**	**333**	Pn	**Pn**	**04 21 05.8**	**+1.8**
SCRK	**Sand Creek**	**7.60**	**2**		**Pn**	**04 21 06.2**	**+1.6**
TRF	**Thorofare Moun**	**7.62**	**340**		**Pn**	**04 21 06.3**	**+1.4**
MCK	**McKinley**	**7.66**	**345**		**Pn**	**04 21 07.5**	**+2.2**
KTH	**Kantishna Hill**	**7.84**	**339**	Pn	**Pn**	**04 21 09.7**	**+1.9**
MOBC	**Moresby Island**	**8.00**	**109**	Pn	**Pn**	**04 21 09.4**	**-0.6**
DAWY	**Dawson**	**8.11**	**16**		**Pn**	**04 21 13.3**	**+1.9**
HDA	**Harding Lake**	**8.11**	**353**	Pn	**Pn**	**04 21 13.9**	**+2.5**
DLBC	**Dease Lake**	**8.12**	**69**		**Pn**	**04 21 12.0**	**+0.3**
BWN	**Browne**	**8.16**	**345**	Pn	**Pn**	**04 21 12.8**	**+0.8**
WRH	**Wood River Hil**	**8.27**	**349**	Pn	**Pn**	**04 21 14.5**	**+0.8**
BPAW	**Bear Paw Mtn.**	**8.34**	**340**	Pn	**Pn**	**04 21 15.8**	**+1.2**
CCB	**Clear Creek Bu**	**8.42**	**351**	Pn	**Pn**	**04 21 17.0**	**+1.4**
IL31		**8.47**	**353**	Pn	**Pn**	**04 21 17.8**	**+1.5**
NEA	**Nenana**	**8.49**	**347**	Pn	**Pn**	**04 21 18.2**	**+1.6**
EGAK	**Eagle**	**8.57**	**10**	Pn	**Pn**	**04 21 19.8**	**+2.1**
SDPT	**Sand Point**	**8.99**	**270**	Pn	**Pn**	**04 21 25.7**	**+2.2**
PRP	**Porcupine Dome**	**9.15**	**358**	Pn	**Pn**	**04 21 27.7**	**+1.8**
MLY	**Manley**	**9.16**	**343**	Pn	**Pn**	**04 21 27.4**	**+1.6**
BBB	**Bella Bella**	**10.51**	**107**		**Pn**	**04 21 43.6**	**-0.7**

*NIED **09** 04:20:00, 35.90N×140.10E, h65km, Mw4.0 Best double couple: M0 9.81000×10^14 NP1:φ=205.00000°, δ=31.00000°, λ=115.00000°. NP2:φ=357.00000°, δ=62.00000°, λ=76.00000°.*
*ISCJB **09** 04:20:20.2±0.5, 35.89N±0.04×140.21E±0.05, h80km±3km, mb3.8/13, Error ellipse: s-maj=7.1km s-min=6.4km az=20.5*
*IDC **09** 04:20:21.1±2.8, 35.89N×140.30E, h72km±22km, mb3.6/13, mb1 3.7/16, mb1mx3.5/51, mbtmp3.9/16, MS2.7/5, Ms1 2.7/5, ms1mx2.5/38, Error ellipse: s-maj=24.5km s-min=17.5km az=81.0*
*NEIC **09** 04:20:21.6±2.1, 35.91N±0.05×140.18E±0.07, h74km±7km, mb4.3/5*
*JMA **09** 04:20:22.5±0.1, 35.93N×140.11E, h62km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φ=6.00000°, δ74.00000°, λ75.00000°. NP2:φ=231.00000°, δ22.00000°, λ134.00000°. Principal axes: T Plg58.0000°, Azm255.0000°; N Plg15.0000°, Azm10.0000°; P Plg28.0000°, Azm108.0000°;*
JMA Felt II J1.
ISC 09 04:20:21.3±0.8, **35.91N**±0.05×**140.17E**±0.05, **h72**km±6km, **n44,** σ1§**28**/48, **mb3.9**/16, **3C-4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.30**	**79**	↑P	**Pn**	**04 20 33.5**	**+0.9**
JYT	**Yasato**	**0.32**	**4**	↑P	**Pn**	**04 20 33.0**	**+0.2**
JYT				S	**Sn**	**04 20 40.8**	**-0.4**
JSMT	**Sammumatsuo**	**0.35**	**139**	↑P	**Pn**	**04 20 34.2**	**+1.2**
JAG	**Ashikaga**	**0.77**	**312**	↓P	**Pn**	**04 20 37.6**	**+0.4**
JAG				S	**Sn**	**04 20 48.6**	**-0.3**
JRY	**Ryogami san**	**1.03**	**276**	↓P	**Pn**	**04 20 40.9**	**+0.6**
JRY				S	**Sn**	**04 20 54.7**	**+0.2**
JKT	**Katashina**	**1.13**	**319**	P	**Pn**	**04 20 42.2**	**+0.6**
JYN	**Shimob**	**1.38**	**253**	↓P	**Pn**	**04 20 45.4**	**+0.6**
JYN				S	**Sn**	**04 21 02.0**	**-0.5**
JFNN	**Fujinakano**	**1.40**	**240**	↓P	**Pn**	**04 20 45.3**	**+0.3**
MJAR	**Matsushiro Arr**	**1.70**	**292**	P	**Pn**	**04 20 49.3**	**+0.3**
	12nm,0.3s,baz=96,slow=12,SNR=376						
MJAR				S	**Sn**	**04 21 12.0**	**+1.9**
	5.4nm,0.3s,baz=354,slow=29,SNR=7.1						
MJAR				LR	LR	04 21 30.2	
	comp=Z,102nm,21.1s,baz=95,slow=39						
MAJO	**Matsushiro**	**1.71**	**292**		**Pn**	**04 20 50.3**	**+1.3**
MAJO				Sn	**Sn**	**04 21 05.9**	**-4.2**
MAT	**Matsushiro**	**1.71**	**292**	P	**Pn**	**04 20 50.4**	**+1.3**
MAT				S	**Sn**	**04 21 09.9**	**-0.2**
MJB9	**Matsu-Tunnel**	**1.71**	**292**		**Pn**	**04 20 50.5**	**+1.4**
MJB9				Sn	**Sn**	**04 21 06.2**	**-3.9**
INU	**Inuyama**	**2.62**	**259**		**Pn**	**04 21 02.5**	**+1.0**
JHJ2	**Mitsune**	**2.81**	**186**	Pn	**Pn**	**04 21 04.9**	**+1.0**
JHJ2				Sn	**Sn**	**04 21 34.6**	**-2.1**
ERM	**Erimo**	**6.53**	**20**	Pn	**Pn**	**04 21 55.5**	**+0.9**
ERM				Sn	**Sn**	**04 23 06.4**	**-1.1**
JNU	**Nakatsue**	**8.15**	**253**	LR	LR	04 25 47.8	
	comp=Z,68nm,18.3s,baz=2.5,slow=40						
JNU	**Nakatsue**	**8.15**	**253**	Pn	**Pn**	**04 22 16.9**	**-0.1**
KSRS	**Korea Array**	**9.95**	**283**	P	**Pn**	**04 22 43.6**	**+2.2**
	0.5nm,0.3s,baz=94,slow=13,SNR=6.1						
KSRS				LR	LR	04 25 48.2	
	comp=Z,30nm,18.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**0.53**	**128**		**Pn**	**04 29 30.7**	**-0.7**
SII	**Sitkinak Islan**	**0.53**	**128**		**Sn**	**04 29 41.0**	**+0.8**
OHAK	**Old Harbor**	**0.96**	**69**		**Pn**	**04 29 37.4**	**+0.6**
OHAK					**Sn**	**04 29 51.0**	**+1.4**
PLK4	**Peulik 4**	**1.07**	**315**		**Pn**	**04 29 38.4**	**+0.1**
PLK3	**Peulik 3**	**1.08**	**319**		**Pn**	**04 29 38.5**	**+0.1**
PLK3					**Sn**	**04 29 53.6**	**+1.1**
CHIR	**Chirikof Islan**	**1.13**	**200**		**Pn**	**04 29 36.2**	**-2.9**
CHIR					**Sn**	**04 29 50.9**	**-2.7**
CAHL	**Cahill**	**1.19**	**351**		**Pn**	**04 29 40.3**	**+0.5**
KJL	**Kejulik**	**1.22**	**344**		**Pn**	**04 29 40.6**	**+0.4**
PLBL	**Peulik Blue Cr**	**1.31**	**309**		**Pn**	**04 29 41.6**	**+0.2**
ANCK	**Angle Creek**	**1.35**	**347**		**Pn**	**04 29 42.5**	**+0.5**
ANCK					**Sn**	**04 30 01.8**	**+2.8**
KDAK	**Kodiak Island**	**1.56**	**54**	P	**Pn**	**04 29 45.6**	**+0.8**
	26nm,0.3s,baz=203,slow=7.0,SNR=643						
KDAK				S	**Sn**	**04 30 00.7**	**-3.2**
	53nm,0.3s,baz=232,slow=7.5,SNR=16						
ANNE	**Aniakchak Nort**	**1.71**	**272**		**Pn**	**04 29 44.8**	**-2.1**
KAHC	**Katmai Hardscr**	**1.77**	**359**		**Pn**	**04 29 48.6**	**+0.9**
VNSG	**Veniaminof 6**	**2.42**	**253**		**Pn**	**04 29 54.5**	**-2.2**
AUH	**Augustine H**	**2.61**	**17**		**Pn**	**04 29 59.5**	**+0.4**
CNPM	**China Poot**	**3.29**	**35**		**Sn**	**04 30 47.1**	**+0.8**
CNBA	**Chernabura Isl**	**3.34**	**234**		**Pn**	**04 30 05.5**	**-3.6**
SDPT	**Sand Point**	**3.46**	**246**		**Pn**	**04 30 08.2**	**-2.6**
BRLK	**Bradley Lake**	**3.59**	**35**		**Pn**	**04 30 13.2**	**+0.7**
BRLK					**Sn**	**04 30 52.2**	**-1.4**
BRSE	**Bradley Lake S**	**3.62**	**36**		**Pn**	**04 30 13.7**	**+0.8**
BRSE					**Sn**	**04 30 53.5**	**-0.8**
RED	**Redoubt Volcan**	**3.72**	**17**		**Pn**	**04 30 15.6**	**+1.2**
RSO	**Redoubt South**	**3.76**	**17**		**Pn**	**04 30 16.8**	**+1.7**
RDWB	**Redoubt West**	**3.77**	**16**		**Pn**	**04 30 16.6**	**+1.4**
NCT	**North Crescent**	**3.83**	**15**		**Pn**	**04 30 17.1**	**+1.3**
DFR	**Drift River**	**3.90**	**17**		**Pn**	**04 30 17.7**	**+0.9**
SVW2	**Sparrevohn**	**4.24**	**356**		**Pn**	**04 30 21.9**	**+0.5**
SVW2	**Sparrevohn**	**4.24**	**356**		**Sn**	**04 31 07.5**	**-2.0**
SEW	**Seward**	**4.32**	**39**		**Pn**	**04 30 22.4**	**-0.1**
CAPN	**Captain Cook N**	**4.36**	**25**		**Pn**	**04 30 24.4**	**+1.4**
SLKM	**Skilak Lake**	**4.38**	**32**		**Pn**	**04 30 24.4**	**+1.0**
SPWE	**Spurr West**	**4.57**	**15**		**Pn**	**04 30 27.3**	**+1.3**
SPBG	**Spurr Blockage**	**4.58**	**16**		**Pn**	**04 30 27.5**	**+1.3**
SPCP	**Crater Peak Br**	**4.62**	**17**		**Pn**	**04 30 27.9**	**+1.1**
SPNN	**North Nagishla**	**4.64**	**13**		**Pn**	**04 30 27.6**	**+0.7**
CGLM	**Capps Glacier**	**4.68**	**18**		**Pn**	**04 30 28.7**	**+1.1**
RC01	**Rabbit Creek A**	**5.00**	**30**		**Pn**	**04 30 32.8**	**+1.0**
RC01					**Sn**	**04 31 25.6**	**-2.5**
SUA	**Susitna One**	**5.07**	**23**		**Pn**	**04 30 34.6**	**+1.7**
PWL	**Port Wells**	**5.25**	**38**		**Pn**	**04 30 35.5**	**+0.3**
SKT	**Skwentna**	**5.40**	**17**		**Pn**	**04 30 38.1**	**+0.8**
KNK	**Knik Glacier**	**5.63**	**34**		**Pn**	**04 30 40.1**	**-0.3**
KNK	**Knik Glacier**	**5.63**	**34**		**Sn**	**04 31 41.9**	**-1.8**
HIN	**Hinchinbrook I**	**5.64**	**48**		**Pn**	**04 30 40.6**	**+0.1**
HIN	**Hinchinbrook I**	**5.64**	**48**	Sn	**Sn**	**04 31 42.8**	**-1.1**
GLI	**Glacier Island**	**5.70**	**42**		**Pn**	**04 30 41.1**	**-0.3**
GLI	**Glacier Island**	**5.70**	**42**		**Sn**	**04 31 42.6**	**-2.9**
GHO	**Glory Hole Cre**	**5.78**	**30**		**Pn**	**04 30 43.0**	**+0.4**
FID	**Port Fidalgo**	**5.86**	**45**		**Pn**	**04 30 42.7**	**-0.8**
JPK	**Jack Peak**	**6.00**	**42**		**Pn**	**04 30 45.5**	**-0.1**
EYAK	**Cordova Ski Ar**	**6.03**	**49**		**Pn**	**04 30 45.7**	**-0.1**
TT01	**Tatalina**	**6.06**	**355**		**Pn**	**04 30 46.2**	**-0.2**
TTA	**Tatalina**	**6.09**	**355**		**Pn**	**04 30 47.9**	**+1.1**
PPLA	**Purkeypile**	**6.18**	**12**		**Pn**	**04 30 48.0**	**-0.1**
SCM	**Sheep Creek Mo**	**6.30**	**35**		**Pn**	**04 30 50.1**	**+0.4**
SCM					**Sn**	**04 31 57.5**	**-2.7**
RAGM	**Ragged Mountai**	**6.40**	**52**		**Pn**	**04 30 50.7**	**-0.3**
GOAT	**Goat Mountain**	**6.48**	**51**		**Pn**	**04 30 51.4**	**-0.6**
HMT	**Hamilton**	**6.56**	**54**		**Pn**	**04 30 53.0**	**-0.2**
WAT6	**Susitna Watana**	**6.77**	**29**		**Pn**	**04 30 55.5**	**-0.6**
WAT1	**Susitna Watana**	**6.77**	**26**		**Pn**	**04 30 55.5**	**-0.6**
BERG	**Berg Lake**	**6.83**	**54**		**Pn**	**04 30 55.9**	**-1.0**
WAT2	**Susitna Watana**	**6.88**	**25**		**Pn**	**04 30 57.1**	**-0.4**
GRIN	**Grindle Hills**	**6.96**	**56**		**Pn**	**04 30 57.7**	**-0.9**
TRF	**Thorofare Moun**	**6.98**	**17**		**Pn**	**04 30 58.9**	**-0.1**
RND	**Reindeer**	**7.21**	**22**		**Pn**	**04 31 02.2**	**+0.1**
KULT	**Kultieth River**	**7.22**	**57**		**Pn**	**04 31 00.8**	**-1.4**
WAX	**Waxell Ridge**	**7.24**	**55**		**Pn**	**04 31 02.7**	**+0.2**
WAX				Sn	**Sn**	**04 32 21.7**	**-1.6**
CRQM	**Cirque**	**7.25**	**53**		**Pn**	**04 31 03.2**	**+0.5**
UNV	**Unalaska Valle**	**7.26**	**250**		**Pn**	**04 30 59.1**	**-3.7**
MSW	**Makushin Switc**	**7.37**	**251**		**Pn**	**04 31 00.7**	**-3.6**
TGL	**Tana Glacier**	**7.38**	**53**		**Pn**	**04 31 05.2**	**+0.7**
BPAW	**Bear Paw Mtn.**	**7.49**	**13**		**Pn**	**04 31 06.0**	**+0.1**
KIAG	**Kiagna River**	**7.66**	**53**		**Pn**	**04 31 07.4**	**-1.0**
YAH	**Yahtse**	**7.71**	**58**		**Pn**	**04 31 08.9**	**-0.2**
YAH					**Sn**	**04 32 31.8**	**-3.3**
BALM	**Baldy**	**7.72**	**52**		**Pn**	**04 31 09.2**	**+0.1**
BALM					**Sn**	**04 32 32.4**	**-2.6**
PTPK	**Patty Peak**	**7.74**	**51**		**Pn**	**04 31 07.7**	**-1.7**
GRNC	**Granite Creek**	**7.85**	**55**		**Pn**	**04 31 09.8**	**-1.2**
WRH	**Wood River Hil**	**8.31**	**21**		**Pn**	**04 31 16.5**	**-0.6**
HDA	**Harding Lake**	**8.50**	**24**		**Pn**	**04 31 19.6**	**0.0**
HDA					**Sn**	**04 32 51.3**	**-2.6**
CCB	**Clear Creek Bu**	**8.53**	**21**		**Pn**	**04 31 18.8**	**-1.2**
IL31		**8.82**	**23**		**Pn**	**04 31 23.4**	**-0.6**
IL31		**8.82**	**23**	Sn	**Sn**	**04 32 59.9**	**-2.0**
ILAR	**Eielson Array**	**8.82**	**23**	P	**Pn**	**04 31 23.5**	**-0.6**
	0.3nm,0.3s,baz=215,slow=14,SNR=12						
ILAR				S	**Sn**	**04 32 57.0**	**-5.0**
	0.2nm,0.3s,baz=214,slow=9.5,SNR=3.5						
H02S1	**DAWSON INLET T**	**13.37**	**97**	P	**Pn**	**04 32 28.2**	**+2.0**
	SNR=114						
INK	**Inuvik**	**14.99**	**32**	P	**Pn**	**04 32 47.7**	**+0.2**
	0.1nm,0.3s,baz=233,slow=11,SNR=2.7						
INK	**Inuvik**	**14.99**	**32**	IAmb	IAmb	04 32 55.6	
	comp=Z,0.7nm,0.3s						
BBB	**Bella Bella**	**16.21**	**96**	LR	LR	04 37 48.6	
	comp=Z,36nm,21.0s,baz=120,slow=31						
YKA	**Yellowknife Ar**	**20.83**	**58**	P	**P**	**04 33 57.1**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=273,slow=10.0,SNR=24						
NEW	**Newport**	**24.27**	**95**	LR	LR	04 42 15.2	
	comp=Z,35nm,18.1s,baz=284,slow=32						
PETK	**Petropavlovsk-**	**27.00**	**282**	P	**P**	**04 34 56.6**	**+1.0**
	comp=Z,3.8nm,0.6s,baz=77,slow=12,SNR=4.5						
NVAR	**Mina Array Bea**	**30.30**	**112**	P	**P**	**04 35 28.4**	**+3.1**
	comp=Z,0.4nm,0.5s,baz=304,slow=8.4,SNR=4.5						
PDAR	**Pinedale Array**	**31.85**	**97**	P	**P**	**04 35 41.5**	**+2.5**
	comp=Z,0.9nm,0.6s,baz=307,slow=6.1,SNR=9.2						
TIXI	**Tiksi**	**33.45**	**326**	P	**P**	**04 35 51.7**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=82,slow=6.8,SNR=2.4						
KLR	**Kul'dur**	**42.73**	**292**	P	**P**	**04 37 08.9**	**-1.6**
	comp=Z,2.8nm,0.8s,baz=47,slow=9.1,SNR=8.5						
TXAR	**Lajitas Array**	**44.99**	**106**	P	**P**	**04 37 31.1**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=310,slow=5.8,SNR=8.8						
ARCES	**ARCESS Array B**	**53.88**	**360**	P	**P**	**04 38 35.9**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=12,slow=6.3,SNR=9.0						
SONM	**Songino Array**	**55.81**	**306**	P	**P**	**04 38 50.1**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=47,slow=6.7,SNR=7.0						
SONM				PcP	**PcP**	**04 39 48.8**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=42,slow=4.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**59.28**	**324**	P	**P**	**04 39 13.9**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=43,slow=6.5,SNR=4.6						
NB2	**NORSAR Subarra**	**61.91**	**8**	P	**P**	**04 39 32.7**	**+0.2**
	comp=Z,2.5nm,1.0s,baz=353,slow=6.9						
NOA	**NORSAR Array B**	**61.91**	**8**	P	**P**	**04 39 31.9**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=352,slow=6.8,SNR=4.4						
FINES	**FINESS Array B**	**62.01**	**359**	P	**P**	**04 39 33.1**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=22,slow=7.8,SNR=10						
MKAR	**Makanchi Array**	**66.22**	**321**	P	**P**	**04 39 59.4**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=22,slow=6.8,SNR=3.1						
AKASG	**Malin Array Be**	**72.72**	**357**	P	**P**	**04 40 40.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=0.9,slow=5.9,SNR=4.8						
QSPA	**South Pole Qui**	**146.67**	**180**	PKPbc	**PKPab**	**04 48 53.7**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=17,slow=1.2,SNR=3.9						

*IDC **09** 04:35:47.9±1.9,28°.57S×177°.53W,h0km,mb4.1/3, mb1 4.2/3,mb1mx3.8/22,mbtmp4.1/3,MS3.4/3,Ms1 3.3/3, ms1mx2.8/25,Error ellipse: s-maj=48.5km s-min=19.1km az=106.0*

*NEIC **09** 04:35:49.6±1.8,29°.70S±0°.08×177°.0W±0°.1,h35km±2km, mb4.2/6*

*ISCJB **09** 04:35:52.8±1.9,29°.86S±0°.07×177°.4W±0°.3,h57km, mb4.0/3,MS3.1/4,Error ellipse: s-maj=32.7km s-min=7.9km az=168.6*

ISC 09 04:35:53.0±1.2,29.7S±0.1×177.3W±0.2,h57km,n27, σ1s79/22,mb4.2/5,MS3.1/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.73**	**307**	Pn	**Pn**	**04 36 05.9**	**-1.6**
	605nm,0.3s,baz=33,slow=22,SNR=18						
RAO				Sn	**Sn**	**04 36 18.8**	**+0.8**
	1µm,0.3s,baz=16,slow=23,SNR=14						
RAO				LR	LR	04 36 21.5	
	comp=Z,253nm,19.7s,baz=132,slow=44						
RAO	**Raoul Island**	**0.73**	**307**		**Pn**	**04 36 06.0**	**-1.5**
OUZ	**Omahuta**	**9.49**	**232**	Pn	**Pn**	**04 38 07.9**	**+0.9**
URZ	**Urewera**	**9.73**	**207**	Pn	**Pn**	**04 38 06.9**	**-3.4**
BKZ	**Black Stump Fm**	**10.76**	**207**	Pn	**Pn**	**04 38 24.6**	**+0.2**
TUWZ	**Tuamna**	**13.71**	**209**	Pn	**Pn**	**04 39 03.3**	**-1.3**
THZ	**Tophouse**	**14.44**	**211**	Pn	**Pn**	**04 39 12.2**	**-2.1**
KHZ	**Kahutara**	**14.70**	**208**	Pn	**Pn**	**04 39 14.1**	**-3.6**
OXZ	**Oxford**	**16.08**	**209**	Pn	**Pn**	**04 39 34.6**	**-0.7**
OXZ				IAmb	IAmb	04 39 47.2	
	comp=Z,31nm,1.4s						
DZM	**Mont Dzumac**	**16.51**	**294**	*e*LR	LR	04 43 20.0	
	comp=Z,149nm,24.7s						
DZM	**Mont Dzumac**	**16.51**	**294**	LR	LR	04 43 46.0	
	comp=Z,158nm,18.1s,baz=58,slow=30						
RPZ	**Rata Peaks**	**16.82**	**211**	Pn	**Pn**	**04 39 41.7**	**-2.8**
ODZ	**Otahua Downs**	**18.06**	**209**		**Pn**	**04 39 59.0**	**-0.8**
TBI	**Tubuai**	**25.62**	**82**	*e*LR	LR	04 47 36.1	
	comp=Z,58nm,26.5s						
PPT2	**Papeete2**	**27.99**	**71**	*e*LR	LR	04 48 37.6	
	comp=Z,54nm,24.8s,baz=241						
STKA	**Stephens Creek**	**35.27**	**256**	P	**P**	**04 42 45.1**	**+2.7**
	comp=Z,3.7nm,0.9s,baz=117,slow=9.6,SNR=4.1						
STKA				LR	LR	04 55 08.4	
	comp=Z,46nm,18.4s,baz=24,slow=33						
STKA	**Stephens Creek**	**35.27**	**256**	IAmb	IAmb	04 42 50.2	
	comp=Z,3.1nm,1.4s						
ASAR	**Alice Springs**	**43.80**	**266**	P	**P**	**04 43 54.0**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=102,slow=6.6,SNR=8.9						
WR0	**Warramunga Arr**	**44.54**	**271**	P	**P**	**04 44 00.3**	**+0.8**
WR0				IAmb	IAmb	04 44 00.7	
	comp=Z,2.5nm,0.7s						
WB2	**Warramunga Arr**	**44.72**	**271**	P	**P**	**04 44 01.8**	**+0.9**
WB2				IAmb	IAmb	04 44 04.3	
	comp=Z,3.1nm,0.8s						
WRA	**Warramunga Arr**	**44.73**	**271**	P	**P**	**04 44 01.1**	**+0.2**
	comp=Z,2.4nm,0.5s,baz=110,slow=7.4,SNR=22						
JAY	**Jayapura**	**48.16**	**296**	LR	LR	05 01 43.6	
	comp=Z,27nm,18.0s,baz=206,slow=33						
QSPA	**South Pole Qui**	**60.41**	**180**	P	**P**	**04 45 58.3**	**+2.0**
FINES	**FINESS Array B**	**144.70**	**341**	PKP	**PKPdf**	**04 55 22.1**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=28,slow=3.3,SNR=9.0						
NB2	**NORSAR Subarra**	**148.15**	**352**	PKP	**PKiKP**	**04 55 32.5**	**-1.1**
	comp=Z,5.6nm,1.4s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.15**	**352**	PKPbc	**PKPbc**	**04 55 31.1**	**-0.7**
	comp=Z,1.2nm,0.9s,baz=13,slow=4.4,SNR=3.1						
AKASG	**Malin Array Be**	**151.12**	**324**	PKPbc	**PKiKP**	**04 55 40.1**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=45,slow=2.7,SNR=4.8						

*NEIC **09** 04:47:23.9±0.9,57°.9S±0°.1×26°.3W±0°.2,h115km±6km, mb4.2/10*

*IDC **09** 04:47:24.9±4.5,57°.86S×26°.30W,h120km±41km,mb3.8/10, mb1 3.9/12,mb1mx3.7/32,mbtmp4.2/12,MS3.2/1, Ms1 3.2/1,ms1mx2.5/22,Error ellipse: s-maj=20.4km s-min=15.0km az=158.0*

*ISCJB **09** 04:47:25.6±0.5,57°.89S±0°.08×26°.3W±0°.1,h145km, mb4.0/10,Error ellipse: s-maj=11.5km s-min=10.0km az=135.1*

ISC 09 04:47:27.0±0.5,57°.96S±0°.10×26°.4W±0°.1,h145km,n34, σ0s80/28,mb4.0/11,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.86**	**156**	P	**Pn**	**04 50 48.9**	**-0.6**
VNA3	**Neumayer Olymp**	**15.04**	**159**	P	Pn	04 50 46.4	-5.4
VNA2	**Neumayer--Watz**	**15.26**	**156**	P	**P**	**04 50 55.7**	**-0.3**
	baz=320,slow=14						
SNAA	**Sanae**	**16.82**	**154**	P	**P**	**04 51 12.9**	**-0.4**
SNAA	**Sanae**	**16.82**	**154**	P	**P**	**04 51 12.3**	**-1.1**
	0.4nm,0.3s,baz=311,slow=14,SNR=9.5						
SNAA				S	S	04 54 08.0	-13
	0.1nm,0.3s,baz=342,slow=20,SNR=3.2						
SNAA	**Sanae**	**16.82**	**154**	P	**P**	**04 51 12.6**	**-0.7**
PMSA	**Palmer Station**	**19.05**	**233**	P	**Pn**	**04 51 39.7**	**-0.2**
	0.8nm,0.3s,baz=82,slow=6.9,SNR=12						
PMSA				LR	LR	04 57 38.3	
	comp=Z,63nm,18.8s,baz=57,slow=32						
PMSA	**Palmer Station**	**19.05**	**233**	IAmb	IAmb	04 51 40.8	
	comp=Z,13nm,0.8s						
GO09	**Cerro Castillo**	**26.99**	**264**	P	**P**	**04 52 55.5**	**+0.5**
QSPA	**South Pole Qui**	**32.29**	**180**	P	**P**	**04 53 43.2**	**+1.4**
	comp=Z,5.9nm,0.5s,baz=218,slow=1.3,SNR=80						
QSPA	**South Pole Qui**	**32.29**	**180**	P	**P**	**04 53 43.1**	**+1.4**
PLCA	**Paso Flores**	**32.80**	**282**	P	**P**	**04 53 45.0**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=152,slow=6.3,SNR=3.5						
PLCA	**Paso Flores**	**32.80**	**282**	P	**P**	**04 53 44.8**	**-1.6**
PLCA				IAmb	IAmb	04 53 47.8	
	comp=Z,4.5nm,1.1s						
SUR	**Sutherland**	**40.76**	**72**	P	**P**	**04 54 53.9**	**+0.1**
	comp=Z,6.0nm,0.9s,baz=191,slow=16,SNR=3.3						
BOSA	**Boshof**	**46.05**	**73**	P	**P**	**04 55 35.2**	**-1.0**
	comp=Z,3.3nm,1.0s,baz=221,slow=9.3,SNR=4.1						
BOSA	**Boshof**	**46.05**	**73**	IAmb	IAmb	04 55 36.1	
	comp=Z,2.2nm,0.9s						
LBTB	**Lobatse**	**49.18**	**71**	P	**P**	**04 55 59.6**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=207,slow=8.6,SNR=7.8						
LBTB	**Lobatse**	**49.18**	**71**	IAmb	IAmb	04 56 00.3	
	comp=Z,4.1nm,0.8s						
GO01	**Chusmiza**	**49.34**	**302**	P	**P**	**04 56 01.8**	**-0.1**
MNMC	**Minye Minye**	**49.99**	**302**	P	**P**	**04 56 06.4**	**-0.3**
MNMC				IAmb	IAmb	04 56 07.9	
	comp=Z,3.2nm,0.9s						
TSUM	**Tsumeb**	**50.27**	**59**	P	**P**	**04 56 07.8**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=203,slow=6.8,SNR=4.6						
TSUM	**Tsumeb**	**50.27**	**59**	IAmb	IAmb	04 56 08.8	
	comp=Z,1.7nm,0.8s						
LPAZ	**La Paz**	**51.84**	**306**	P	**P**	**04 56 21.0**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=176,slow=6.7,SNR=7.3						
LPAZ	**La Paz**	**51.84**	**306**	IAmb	IAmb	04 56 23.3	
	comp=Z,2.0nm,0.8s						
DBIC	**Dimbokro**	**66.73**	**23**	P	**P**	**04 58 03.0**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=183,slow=5.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**74.51**	**28**	P	**P**	**04 58 50.3**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=198,slow=6.1,SNR=15						
ASAR	**Alice Springs**	**97.03**	**162**	P	**P**	**05 00 42.6**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=163,slow=3.5,SNR=4.2						
PDAR	**Pinedale Array**	**121.72**	**301**	PKP	**PKPdf**	**05 06 03.0**	**0.0**
	comp=Z,0.2nm,0.4s,baz=90,slow=4.5,SNR=2.8						
FINES	**FINESS Array B**	**125.86**	**28**	PKP	**PKPdf**	**05 06 09.7**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=155,slow=10,SNR=3.7						
ARCES	**ARCESS Array B**	**132.55**	**22**	PKP	**PKPdf**	**05 06 22.8**	**+0.3**
	comp=Z,4.4nm,1.1s,baz=207,slow=1.8,SNR=3.7						
YKA	**Yellowknife Ar**	**137.87**	**316**	PKP	**PKPdf**	**05 06 33.6**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=128,slow=2.3,SNR=37						
SONM	**Songino Array**	**150.36**	**89**	PKPbc	**PKiKP**	**05 07 00.8**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=212,slow=4.5,SNR=6.9						
ILAR	**Eielson Array**	**151.69**	**309**	PKPbc	**PKiKP**	**05 07 03.7**	**+0.7**
	comp=Z,3.5nm,1.0s,baz=151,slow=1.4,SNR=22						
PETK	**Petropavlovsk-**	**174.62**	**207**	PKP	**PKPdf**	**05 07 18.2**	**+0.1**
	comp=Z,4.3nm,1.0s,baz=96,slow=20,SNR=2.8						

*ISCJB **09** 04:50:45.9±0.6,37°.27S±0°.09×52°.3E±0°.1,h10km, mb4.1/10,MS3.5/10,Error ellipse: s-maj=16.7km s-min=12.2km az=154.5*

*IDC **09** 04:50:46.2±0.6,37°.21S×52°.26E,h0km,mb4.2/10, mb1 4.3/11,mb1mx3.9/46,mbtmp4.1/11,ML2.9/1,MS3.4/10, Ms1 3.3/10,ms1mx3.1/29,Error ellipse: s-maj=24.5km s-min=18.3km az=16.0*

*NEIC **09** 04:50:47.3±1.6,37°.2S±0°.1×52°.2E±0°.2,h10km±1km, mb4.1/7*

ISC 09 04:50:47.4±0.6,37°.2S±0°.1×52°.3E±0°.1,h10km,n29, σ1s02/21,mb4.3/11,MS3.5/10,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**18.66**	**345**	P	**Pn**	**04 55 08.5**	**+2.6**
OPO	**Ambohidratompo**	**19.10**	**345**	P	**Pn**	**04 55 12.2**	**+0.9**
	0.0nm,0.3s,baz=156,slow=11,SNR=2.4						
OPO				LR	LR	05 01 12.4	
	comp=Z,125nm,19.6s,baz=359,slow=33						
BOSA	**Boshof**	**24.18**	**283**	P	**P**	**04 56 03.5**	**-0.6**
	3.5nm,0.9s,baz=117,slow=8.9,SNR=4.7						
BOSA				LR	LR	05 03 52.7	
	comp=Z,35nm,18.2s,baz=156,slow=32						
BOSA	**Boshof**	**24.18**	**283**	IAmb	IAmb	04 56 06.3	
	comp=Z,7.3nm,1.1s						
LBTB	**Lobatse**	**25.78**	**291**	LR	LR	05 04 45.7	
	comp=Z,66nm,18.5s,baz=122,slow=33						
SUR	**Sutherland**	**26.21**	**271**	LR	LR	05 04 00.1	
	comp=Z,50nm,20.2s,baz=117,slow=30						
LSZ	**Lusaka**	**30.55**	**309**	P	**P**	**04 57 02.0**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=141,slow=8.1,SNR=3.8						
LSZ	**Lusaka**	**30.55**	**309**	P	**P**	**04 57 00.6**	**-0.8**
LSZ				IAmb	IAmb	04 57 04.3	
	comp=Z,2.5nm,0.9s						
MAW	**Mawson**	**31.03**	**172**	LR	LR	05 06 44.0	
	comp=Z,141nm,21.7s,baz=301,slow=31						
MAW	**Mawson**	**31.03**	**172**	P	**P**	**04 57 04.4**	**-0.4**
MAW				IAmb	IAmb	04 57 04.9	
	comp=Z,2.1nm,0.5s						
MSEY	**Mahe Island**	**32.52**	**6**	P	**P**	**04 57 16.1**	**-2.4**
TSUM	**Tsumeb**	**35.19**	**291**	P	**P**	**04 57 41.4**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=112,slow=11,SNR=3.2						
TSUM	**Tsumeb**	**35.19**	**291**	IAmb	IAmb	04 57 48.7	
	comp=Z,1.1nm,0.8s						
KMBO	**Kilima Mbogo**	**38.49**	**335**	LR	LR	05 12 04.6	
	comp=Z,98nm,20.6s,baz=100,slow=33						
SNAA	**Sanae**	**44.30**	**202**	P	**P**	**04 58 57.5**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=94,slow=5.8,SNR=9.8						
SNAA	**Sanae**	**44.30**	**202**	IAmb	IAmb	04 58 59.2	
	comp=Z,2.6nm,0.8s						
DBIC	**Dimbokro**	**68.84**	**297**	LR	LR	05 28 50.5	
	comp=Z,25nm,20.3s,baz=100,slow=33						
TORD	**Torodi Ar. Bea**	**69.03**	**306**	P	**P**	**05 01 54.4**	**+1.0**
	comp=Z,1.3nm,1.0s,baz=120,slow=4.9,SNR=5.5						
TORD				LR	LR	05 31 37.1	
	comp=Z,36nm,19.1s,baz=330,slow=36						
ASAR	**Alice Springs**	**69.71**	**105**	P	**P**	**05 01 58.2**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=233,slow=5.9,SNR=31						
CMAR	**Chiang Mai Arr**	**70.70**	**47**	P	**P**	**05 02 04.2**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=237,slow=7.4,SNR=9.3						
STKA	**Stephens Creek**	**71.07**	**116**	LR	LR	05 26 05.2	
	comp=Z,32nm,19.3s,baz=206,slow=30						
WRA	**Warramunga Arr**	**72.08**	**102**	P	**P**	**05 02 12.7**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=232,slow=5.4,SNR=9.1						
BRTR	**Keskin Array B**	**78.45**	**345**	LR	LR	05 35 48.4	
	comp=Z,7.7nm,19.2s,baz=99,slow=34						
PLCA	**Paso Flores**	**86.41**	**220**	P	**P**	**05 03 30.2**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=224,slow=8.8,SNR=3.3						
ZALV	**Zalesovo Beam**	**95.05**	**19**	P	**P**	**05 04 09.3**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=226,slow=9.8,SNR=3.0	

mb4.0/14, Error ellipse: s-maj=5.6km s-min=2.8km az=19.8
*NEIC **09** 05:31:40.5±1.4, 22°41S±0°09×179°4W±0°1, h568km±5km, mb4.4/102*

ISC 09 05:31:41.0±0.3, 22°55S±0°05×179°34W±0°06, h579km, n252, σ1s47/286, mb4.4/56, 34C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.38**	**332**	P	**P**	**05 33 12.8**	**-3.1**
RIZ	**Raoul Island**	**6.79**	**169**	P	**P**	**05 33 25.8**	**-2.2**
RIZ				S	**S**	05 34 49.4	-6.3
RAO	**Raoul Island**	**6.80**	**169**	P	**P**	**05 33 24.2**	**-3.8**
	116nm,0.3s,baz=59,slow=18,SNR=2.8						
RAO				S	**S**	**05 34 47.4**	**-8.5**
	baz=294,slow=20,SNR=1.7						
RAO	**Raoul Island**	**6.80**	**169**	P	**P**	**05 33 27.3**	**-0.8**
RAO				S	**S**	**05 34 55.7**	**-0.2**
GLKZ	**Green Lake**	**6.81**	**169**	P	**P**	**05 33 25.9**	**-2.2**
GLKZ				S	**S**	**05 34 54.2**	**-1.8**
NIUE	**Niue**	**9.46**	**70**	P	**P**	**05 33 52.7**	**-1.3**
NIUE				S	**S**	**05 35 46.1**	**+2.9**
AFI	**Afiamalu**	**11.20**	**41**	P	P	05 34 06.0	-5.6
	9.0nm,0.3s,baz=211,slow=19,SNR=11						
AFI				S	S	05 36 04.2	-11
	1.8nm,0.3s,baz=221,slow=19,SNR=5.6						
AFI	**Afiamalu**	**11.20**	**41**	P	P	05 34 06.5	-5.2
AFI				S	**S**	**05 36 09.8**	**-5.6**
DZM	**Mont Dzumac**	**13.17**	**269**	P	**P**	**05 34 30.0**	**-1.7**
	0.5nm,0.3s,baz=115,slow=15,SNR=3.2						
DZM	**Mont Dzumac**	**13.17**	**269**	P	**P**	**05 34 30.1**	**-1.6**
OUZ	**Omahuta**	**14.05**	**204**	P	**P**	**05 34 41.6**	**+1.2**
OUZ	**Omahuta**	**14.05**	**204**	P	**P**	**05 34 39.9**	**-0.5**
GRZ	**Great Barrier**	**14.38**	**197**	P	**P**	**05 34 44.5**	**+0.8**
KUZ	**Kuaotunu**	**14.78**	**196**	P	**P**	**05 34 47.7**	**+0.2**
WIAZ	**Waiheke Island**	**14.98**	**197**	P	**P**	**05 34 50.7**	**+1.3**
MBAZ	**Motutapu North**	**15.03**	**198**	P	**P**	**05 34 51.7**	**+1.9**
MXZ	**Matakaoa Point**	**15.10**	**187**	P	**P**	**05 34 49.5**	**-1.0**
MXZ	**Matakaoa Point**	**15.10**	**187**	P	**P**	**05 34 50.6**	**+0.1**
MXZ				IAmb	IAmb	05 34 56.3	
	comp=Z,31nm,1.1s						
MYRZ	**Mayor Island**	**15.17**	**194**	P	**P**	**05 34 52.8**	**+1.6**
MKAZ	**Moumakai**	**15.27**	**197**	P	**P**	**05 34 53.3**	**+1.2**
RUGZ	**Raukumara Rang**	**15.58**	**189**	P	**P**	**05 34 54.3**	**-0.9**
RUGZ				S	**S**	**05 37 29.8**	**-4.1**
URZ	**Urewera**	**15.95**	**190**	P	**P**	**05 34 56.7**	**-1.9**
	comp=Z,5.6nm,0.3s,baz=63,slow=2.3,SNR=20						
URZ				S	**S**	**05 37 36.0**	**-3.9**
	comp=Z,0.6nm,0.3s,baz=37,slow=20,SNR=5.9						
URZ	**Urewera**	**15.95**	**190**	P	**P**	**05 34 56.6**	**-2.0**
URZ				S	**S**	**05 37 37.0**	**-2.8**
URZ	**Urewera**	**15.95**	**190**	P	**P**	**05 34 56.9**	**-1.8**
URZ				IAmb	IAmb	05 34 59.5	
	comp=Z,35nm,1.4s						
URZ				S	**S**	**05 37 37.5**	**-2.3**
MWZ	**Matawai**	**15.96**	**189**	P	**P**	**05 34 57.6**	**-1.2**
MWZ				S	**S**	**05 37 39.6**	**-0.5**
RAGZ	**Rawiri**	**16.14**	**189**	P	**P**	**05 34 57.4**	**-3.0**
RIGZ	**Rimuhau**	**16.30**	**188**	P	**P**	**05 35 02.0**	**+0.2**
RIGZ				S	**S**	**05 37 43.7**	**-1.8**
SNGZ	**Shannon Statio**	**16.43**	**189**	P	**P**	**05 35 03.0**	**-0.1**
SNGZ				S	**S**	**05 37 48.5**	**+0.8**
MTHZ	**Maungataniwha**	**16.58**	**190**	P	**P**	**05 35 03.9**	**-0.5**
MTHZ				S	**S**	**05 37 48.3**	**-1.8**
RAHZ	**Arahi**	**16.60**	**190**	P	**P**	**05 35 04.0**	**-0.5**
MRHZ	**Matea Rd**	**16.64**	**192**	P	**P**	**05 35 05.7**	**+0.8**
WHHZ	**Waihua**	**16.73**	**189**	P	**P**	**05 35 06.8**	**+1.0**
BKZ	**Black Stump Fm**	**16.94**	**191**	P	**P**	**05 35 06.5**	**-1.2**
BKZ				IAmb	IAmb	05 35 18.1	
	comp=Z,11nm,1.0s						
BKZ				S	**S**	**05 38 00.4**	**+4.3**
NGZ	**Ngauruhoe**	**17.13**	**193**	P	**P**	**05 35 10.1**	**+0.6**
MCHZ	**McNeill Hill**	**17.18**	**190**	P	**P**	**05 35 09.2**	**-0.6**
KWHZ	**Kaweka Forest**	**17.21**	**191**	P	**P**	**05 35 08.8**	**-1.3**
FWVZ	**Far West T-bar**	**17.21**	**193**	P	**P**	**05 35 10.6**	**+0.2**
TRVZ	**Turoa**	**17.26**	**193**	P	**P**	**05 35 10.4**	**-0.4**
PKVZ	**Pokaka**	**17.29**	**194**	P	**P**	**05 35 11.5**	**+0.6**
MOVZ	**Moawhango**	**17.32**	**193**	P	**P**	**05 35 11.1**	**-0.1**
BHHZ	**Black Hill Sta**	**17.34**	**192**	P	**P**	**05 35 10.8**	**-1.5**
KRHZ	**Kereru**	**17.43**	**191**	P	**P**	**05 35 10.9**	**-1.2**
KAHZ	**Kahuranaki**	**17.49**	**190**	P	**P**	**05 35 12.8**	**+0.1**
PNHZ	**Pukenui**	**17.72**	**191**	P	**P**	**05 35 14.2**	**-0.6**
PXZ	**Pawanui**	**17.73**	**190**	P	**P**	**05 35 14.6**	**-0.2**
TSZ	**Takapari Road**	**17.91**	**192**	P	**P**	**05 35 16.7**	**+0.2**
DVHZ	**Dannevirke**	**18.10**	**191**	P	**P**	**05 35 17.6**	**-0.6**
ANWZ	**Angora Road**	**18.21**	**190**	P	**P**	**05 35 19.8**	**+0.7**
BFZ	**Birch Farm**	**18.46**	**191**	P	**P**	**05 35 21.5**	**0.0**
BFZ	**Birch Farm**	**18.46**	**191**	P	**P**	**05 35 21.6**	**+0.1**
BFZ				IAmb	IAmb	05 35 23.6	
	comp=Z,14nm,0.7s						
MRZ	**Mangatainoka R**	**18.56**	**192**	P	**P**	**05 35 21.5**	**-0.9**
MLZ	**Mavora Lakes**	**24.96**	**201**	P	**P**	**05 36 21.4**	**+1.7**
MLZ				IAmb	IAmb	05 36 27.5	
	comp=Z,11nm,1.2s						
WHZ	**Wether Hill Ro**	**25.48**	**201**	P	**P**	**05 36 26.9**	**+2.6**
WHZ				IAmb	IAmb	05 36 32.7	
	comp=Z,20nm,1.4s						
ARMA	**Armidale**	**27.08**	**247**	P	**P**	**05 36 39.0**	**+0.3**
ARMA				IAmb	IAmb	05 36 43.6	
	comp=Z,21nm,1.5s						
EIDS	**Eidsvold**	**27.15**	**258**	P	**P**	**05 36 39.6**	**+0.4**
CAN	**Canberra**	**30.35**	**238**	P	**P**	**05 37 07.1**	**+0.2**
TOO	**Toolangi**	**33.70**	**236**	P	**P**	**05 37 36.6**	**+1.4**
TOO				IAmb	IAmb	05 37 37.3	
	comp=Z,10nm,0.7s						
STKA	**Stephens Creek**	**35.80**	**246**	P	**P**	**05 37 53.3**	**+0.6**
	comp=Z,4.8nm,0.5s,baz=89,slow=10.0,SNR=19						
STKA				PcP	**PcP**	**05 40 05.2**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=106,slow=6.8,SNR=2.9						
STKA	**Stephens Creek**	**35.80**	**246**	P	**P**	**05 37 52.5**	**-0.1**
STKA					**PcP**	**05 40 05.1**	**+1.1**
COEN	**Coen**	**36.52**	**277**	P	**P**	**05 37 59.2**	**+0.3**
COEN				IAmb	IAmb	05 38 06.6	
	comp=Z,9.1nm,1.1s						
BBOO	**Buckleboo**	**40.54**	**245**	P	**P**	**05 38 31.6**	**+0.6**
AS31	**Alice Springs**	**42.87**	**259**	P	**P**	**05 38 49.8**	**+0.3**
ASAR	**Alice Springs**	**42.87**	**259**	P	**P**	**05 38 49.8**	**+0.3**
	comp=Z,2.6nm,0.3s,baz=94,slow=7.8,SNR=49						
ASAR				PcP	**PcP**	**05 40 28.4**	**+1.2**
	comp=Z,2.1nm,0.6s,baz=108,slow=3.4,SNR=8.7						
ASAR				ScP	**ScP**	**05 43 29.5**	**+6.0**
	comp=Z,0.5nm,0.8s,baz=111,slow=4.1,SNR=3.1						
ASAR				S	**S**	**05 44 31.6**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=98,slow=16,SNR=5.3						
WR0	**Warramunga Arr**	**42.93**	**265**	P	**P**	**05 38 47.4**	**-2.6**
WR0				IAmb	IAmb	05 38 51.0	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**43.11**	**264**	P	**P**	**05 38 51.0**	**-0.4**
WRAB	**Tennant Creek**	**43.11**	**264**	P	**P**	**05 38 51.2**	**-0.2**
WRAB				IAmb	IAmb	05 38 51.9	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**43.12**	**264**	P	**P**	**05 38 51.1**	**-0.4**
	comp=Z,3.3nm,0.2s,baz=90,slow=5.9,SNR=66						
WRA				PcP	**pP**	**05 40 30.5**	**-1.8**
	comp=Z,1.1nm,0.7s,baz=103,slow=3.4,SNR=5.1						
WRA				ScP	**ScP**	**05 43 30.9**	**+6.4**
	comp=Z,1.1nm,0.9s,baz=98,slow=3.8,SNR=4.6						
WRA				S	**S**	**05 44 34.3**	**-2.4**
	comp=Z,0.9nm,0.7s,baz=118,slow=14,SNR=5.3						
JAY	**Jayapura**	**43.56**	**291**	P	**P**	**05 38 54.1**	**-0.9**
	comp=Z,13nm,0.8s,baz=156,slow=20,SNR=2.8						
FORT	**Forrest**	**47.36**	**248**	P	**P**	**05 39 24.0**	**+0.4**
HMH	**Humu'ula Sheep**	**47.94**	**31**	P	**P**	**05 39 28.1**	**-0.3**
MTN	**Manton Dam**	**47.97**	**273**	P	**P**	**05 39 28.0**	**-0.4**
MTN				IAmb	IAmb	05 39 31.7	
	comp=Z,13nm,1.4s						
KNRA	**Kununurra**	**49.31**	**268**	P	**P**	**05 39 38.7**	**+0.4**
KNRA				IAmb	IAmb	05 39 41.8	
	comp=Z,18nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.55**	**264**	P	**P**	**05 39 54.8**	**+0.2**
VNDA	**Vanda**	**55.77**	**185**	P	**P**	**05 40 24.6**	**+1.2**
PSA00	**Pilbara Seismi**	**56.01**	**259**	P	**P**	**05 40 26.2**	**+0.2**
MORW	**Morawa**	**57.91**	**249**	P	**P**	**05 40 39.3**	**+0.5**
MORW				IAmb	IAmb	05 40 48.3	
	comp=Z,26nm,1.5s						
QSPA	**South Pole Qui**	**67.53**	**180**	P	**P**	**05 41 43.0**	**+2.8**
UGM	**Wanagama**	**68.69**	**270**	P	**P**	**05 41 48.8**	**+0.8**
KKM	**Kota Kinabalu**	**69.10**	**286**	P	**P**	**05 41 50.9**	**+0.4**
MJAR	**Matsushiro Arr**	**71.14**	**325**	P	**P**	**05 42 00.8**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=148,slow=5.6,SNR=3.3						
ADK	**Adak**	**74.14**	**2**	P	**P**	**05 42 18.9**	**+0.1**
ATKA	**Atka Island**	**74.56**	**3**	P	**P**	**05 42 20.5**	**-0.6**
UNV	**Unalaska Valle**	**76.88**	**8**	P	**P**	**05 42 33.7**	**-0.1**
AKUT	**Akutan**	**77.26**	**8**	P	**P**	**05 42 35.3**	**-0.6**
PEA0B	**Petropavlovsk-**	**77.94**	**346**	P	**P**	**05 42 40.0**	**+0.4**
PETK	**Petropavlovsk-**	**77.94**	**346**	P	**P**	**05 42 39.8**	**+0.2**
	comp=Z,6.9nm,0.7s,baz=129,slow=6.2,SNR=14						
CNBA	**Chernabura Isl**	**78.89**	**11**	P	**P**	**05 42 44.9**	**+0.3**
SDPT	**Sand Point**	**79.24**	**11**	P	**P**	**05 42 46.2**	**-0.2**
USRK	**Ussuriysk Ar.**	**79.97**	**327**	P	**P**	**05 42 51.4**	**+0.9**
	comp=Z,2.1nm,0.8s,baz=126,slow=3.9,SNR=3.7						
GDXM	**Geysers**	**80.78**	**41**	P	**P**	**05 42 55.5**	**+0.5**
GDXM				IAmb	IAmb	05 42 55.6	
	comp=Z,9.6nm,0.8s						
KMRM	**Mail Ridge**	**81.12**	**40**	P	**P**	**05 42 57.5**	**+0.7**
KMRM				IAmb	IAmb	05 43 00.0	
	comp=Z,19nm,0.9s						
ISA	**Isabella, Lake**	**81.65**	**46**	P	**P**	**05 43 01.4**	**+1.8**
CMB	**Columbia Colle**	**81.81**	**43**	P	**P**	**05 43 01.3**	**+1.0**
CMB				IAmb	IAmb	05 43 02.5	
	comp=Z,7.8nm,0.9s						
KRMB	**Red Mountain**	**81.83**	**39**	P	**P**	**05 43 01.0**	**+0.6**
KRMB				IAmb	IAmb	05 43 08.6	
	comp=Z,19nm,1.2s						
AFDM	**Forest Hills D**	**81.99**	**42**	P	**P**	**05 43 01.3**	**+0.1**
OHAK	**Old Harbor**	**82.42**	**14**	P	**P**	**05 43 03.3**	**+0.5**
OHAK				IAmb	IAmb	05 43 14.8	
	comp=Z,30nm,1.2s						
YBH	**Yreka Blue Hor**	**82.66**	**39**	P	**P**	**05 43 05.4**	**+0.8**
WAKR	**Walker**	**82.69**	**43**	P	**P**	**05 43 06.3**	**+1.5**
WAKR				IAmb	IAmb	05 43 07.5	
	comp=Z,8.0nm,0.8s						
BEKR	**Beckworth**	**82.92**	**42**	P	**P**	**05 43 07.0**	**+1.0**
PNTR	**Pine Nut**	**82.93**	**43**	P	**P**	**05 43 06.7**	**+0.6**
PNTR				IAmb	IAmb	05 43 09.0	
	comp=Z,15nm,0.7s						
VCNR	**Virginia City**	**83.02**	**42**	P	**P**	**05 43 08.1**	**+1.6**
HUMO	**Hull Mountain**	**83.07**	**38**	P	**P**	**05 43 06.6**	**+0.1**
YERR	**Yerington**	**83.09**	**43**	P	**P**	**05 43 07.4**	**+0.5**
YERR				IAmb	IAmb	05 43 09.1	
	comp=Z,8.2nm,0.6s						
NVAR	**Mina Array Bea**	**83.36**	**44**	P	**P**	**05 43 09.7**	**+1.4**
	comp=Z,3.7nm,0.9s,baz=224,slow=8.8,SNR=21						
PAHR	**Pah Rah Range**	**83.43**	**42**	P	**P**	**05 43 08.5**	**0.0**
HSIG		**83.45**	**55**	P	**P**	**05 43 09.3**	**+0.7**
HSIG				IAmb	IAmb	05 43 11.2	
	comp=Z,6.3nm,0.8s						
NV11	**Mina Array Sit**	**83.46**	**44**	P	**P**	**05 43 09.3**	**+0.7**
KVN	**Kaiserville**	**83.85**	**43**	P	**P**	**05 43 10.9**	**+0.2**
MOD	**Modoc Plateau**	**84.18**	**40**	P	**P**	**05 43 12.8**	**+0.6**
W13A	**Hualapai Mount**	**84.45**	**49**	P	**P**	**05 43 13.2**	**-0.6**
Y14A	**Wickenburg**	**84.46**	**50**	P	**P**	**05 43 14.0**	**+0.4**
PINE	**Pine Mountain**	**84.96**	**38**	P	**P**	**05 43 16.2**	**+0.2**
PINE				IAmb	IAmb	05 43 18.3	
	comp=Z,6.3nm,0.7s						
CNPM	**China Poot**	**84.97**	**14**	P	**P**	**05 43 15.3**	**-0.1**
HOM	**Homer**	**85.00**	**14**	P	**P**	**05 43 16.4**	**+0.9**
TUC	**Tucson**	**85.22**	**52**	P	**P**	**05 43 17.3**	**-0.1**
TUC				IAmb	IAmb	05 43 20.7	
	comp=Z,6.0nm,0.8s						
WVOR	**Wild Horse Val**	**85.49**	**40**	P	**P**	**05 43 19.2**	**+0.7**
X16A	**Lo Mia Camp, P**	**85.81**	**50**	P	**P**	**05 43 20.4**	**+0.1**
319A	**Douglas**	**85.86**	**54**	P	**P**	**05 43 20.1**	**-0.4**
319A				IAmb	IAmb	05 43 24.0	
	comp=Z,16nm,1.1s						
LCMT	**Little Creek M**	**85.91**	**47**	P	**P**	**05 43 20.3**	**-0.3**
SNAA	**Sanae**	**86.00**	**179**	P	**P**	**05 43 21.5**	**+1.1**
CCUT	**Cedar City**	**86.12**	**47**	P	**P**	**05 43 21.8**	**+0.1**
VNA3	**Neumayer Olymp**	**86.19**	**177**	P	**P**	**05 43 22.4**	**+1.2**
KNB	**Kanab**	**86.20**	**47**	P	**P**	**05 43 22.2**	**+0.2**
U15A	**North Rim**	**86.26**	**48**	P	**P**	**05 43 23.5**	**+1.1**
U15A				IAmb	IAmb	05 43 25.3	
	comp=Z,6.8nm,0.8s						
PSUT	**Pine Spring**	**86.31**	**46**	P	**P**	**05 43 23.4**	**+0.8**
VNA2	**Neumayer--Watz**	**86.61**	**177**	P	**P**	**05 43 24.7**	**+1.5**
	baz=180,slow=3.5						
ELK	**Elko**	**86.62**	**43**	P	**P**	**05 43 25.0**	**+1.0**
PKCU	**Pink Cliffs**	**86.77**	**47**	P	**P**	**05 43 23.8**	**-1.1**
SUA	**Susitna One**	**86.83**	**13**	P	**P**	**05 43 24.3**	**0.0**
G08A	**Pilot Rock**	**86.99**	**38**	P	**P**	**05 43 26.1**	**+0.7**
G08A				IAmb	IAmb	05 43 27.9	
	comp=Z,12nm,1.2s						
GLI	**Glacier Island**	**87.14**	**15**	P	**P**	**05 43 25.9**	**+0.3**
LTY	**Liberty**	**87.23**	**36**	P	**P**	**05 43 27.8**	**+1.3**
LTY				IAmb	IAmb	05 43 28.1	
	comp=Z,4.9nm,0.7s						
E07A	**Sunnyside**	**87.25**	**37**	P	**P**	**05 43 27.5**	**+0.9**
E07A				IAmb	IAmb	05 43 29.1	
	comp=Z,11nm,0.9s						
KNK	**Knik Glacier**	**87.29**	**14**	P	**P**	**05 43 26.7**	**+0.4**
PMR	**Palmer**	**87.29**	**14**	P	**P**	**05 43 26.4**	**+0.1**
HAWA	**Hanford**	**87.33**	**37**	P	**P**	**05 43 27.5**	**+0.6**
HAWA				IAmb	IAmb	05 43 29.5	
	comp=Z,8.1nm,0.9s						
E08A	**Dider Farm, El**	**87.65**	**37**	P	**P**	**05 43 28.8**	**+0.5**
E08A				IAmb	IAmb	05 43 30.9	
	comp=Z,7.8nm,1.0s						
BMO	**Blue Mountains**	**87.69**	**39**	P	**P**	**05 43 29.1**	**+0.4**
Q16A	**Castle Valley**	**88.30**	**46**	P	**P**	**05 43 31.3**	**-0.6**
F10A	**Beach Ranch, E**	**88.38**	**38**	P	**P**	**05 43 32.0**	**+0.1**
TMUT	**Trail Mountain**	**88.47**	**46**	P	**P**	**05 43 32.6**	**-0.2**
B08A	**Colville Reser**	**88.62**	**35**	P	**P**	**05 43 33.5**	**+0.6**
KTH	**Kantishna Hill**	**88.67**	**12**	P	**P**	**05 43 31.7**	**-1.1**
KTH				IAmb	IAmb	05 43 34.0	
	comp=Z,6.2nm,0.7s						
TRF	**Thorofare Moun**	**88.71**	**13**	P	**P**	**05 43 32.0**	**-1.1**
PLCA	**Paso Flores**	**88.77**	**134**	P	**P**	**05 43 36.6**	**+2.6**
	comp=Z,1.6nm,0.8s,baz=223,slow=6.4,SNR=3.0						
PLCA	**Paso Flores**	**88.77**	**134**	P	**P**	**05 43 36.0**	**+2.0**
LENM	**Lemitar**	**88.91**	**52**	P	**P**	**05 43 34.9**	**+0.1**
MNTX	**Cornudas Mount**	**88.95**	**55**	P	**P**	**05 43 36.6**	**+1.8**
MNTX				IAmb	IAmb	05 43 37.6	
	comp=Z,4.4nm,0.8s						
RND	**Reindeer**	**88.96**	**13**	P	**P**	**05 43 34.2**	**0.0**
TX31	**Lajitas Ar. Si**	**89.20**	**58**	P	**P**	**05 43 37.5**	**+1.4**
TX31				IAmb	IAmb	05 43 39.4	
	comp=Z,6.8nm,1.1s						
TX32	**Lajitas Array**	**89.20**	**58**	P	**P**	**05 43 37.5**	**+1.4**
TX32				IAmb	IAmb	05 43 39.4	
	comp=Z,7.1nm,1.1s						
TXAR	**Lajitas Array**	**89.20**	**58**	P	**P**	**05 43 38.5**	**+2.3**
	comp=Z,3.1nm,0.8s,baz=212,slow=6.3,SNR=32						
MCK	**McKinley**	**89.24**	**13**	P	**P**	**05 43 35.5**	**+0.1**
MCK				IAmb	IAmb	05 43 37.4	
	comp=Z,7.6nm,1.0s						
TCUT	**Toone Canyon**	**89.28**	**44**	P	**P**	**05 43 37.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**89.63**	**290**	P	**P**	**05 43 40.9**	**+2.7**
	comp=Z,2.4nm,0.7s,baz=129,slow=2.8,SNR=16						
ANMO	**Albuquerque**	**89.65**	**52**	P	**P**	**05 43 38.4**	**+0.2**
ANMO				IAmb	IAmb	05 43 41.0	
	comp=Z,4.3nm,1.1s						
MLY	**Manley**	**90.04**	**12**	P	**P**	**05 43 38.6**	**-0.5**
MLY				IAmb	IAmb	05 43 38.9	
	comp=Z,2.8nm,0.8s						
WRH	**Wood River Hil**	**90.06**	**13**	P	**P**	**05 43 39.1**	**0.0**
WRH				IAmb	IAmb	05 43 39.6	
	comp=Z,7.7nm,1.0s						
DOT	**Dot Lake**	**90.25**	**15**	P	**P**	**05 43 40.5**	**+0.4**
DOT				IAmb	IAmb	05 43 41.2	
	comp=Z,3.8nm,1.0s						
HDA	**Harding Lake**	**90.25**	**13**	P	**P**	**05 43 40.0**	**0.0**
HDA				IAmb	IAmb	05 43 40.5	
	comp=Z,3.5nm,0.7s						
CCB	**Clear Creek Bu**	**90.28**	**13**	P	**P**	**05 43 39.8**	**-0.4**
CCB				IAmb	IAmb	05 43 40.4	
	comp=Z,4.5nm,0.6s						
MCMT	**McKenzie Canyo**	**90.31**	**41**	P	**P**	**05 43 40.9**	**-0.3**
IL31		**90.58**	**13**	P	**P**	**05 43 40.6**	**-0.9**
ILAR	**Eielson Array**	**90.58**	**13**	P	**P**	**05 43 41.1**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=242,slow=3.6,SNR=26						
S22A	**4UR Ranch, Cre**	**90.70**	**49**	P	**P**	**05 43 43.9**	**+0.8**
S22A				IAmb	IAmb	05 43 45.4	
	comp=Z,3.4nm,1.0s						
REDW	**Red Top Meadow**	**90.78**	**43**	P	**P**	**05 43 44.5**	**+1.2**
REDW				IAmb	IAmb	05 43 45.6	
	comp=Z,4.6nm,0.9s						
FLWY	**Flagg Ranch**	**91.24**	**42**	P	**P**	**05 43 45.2**	**-0.1**
SMCO	**Snowmass**	**91.27**	**48**	P	**P**	**05 43 47.0**	**+1.1**
SMCO				IAmb	IAmb	05 43 49.8	
	comp=Z,3.6nm,0.8s						
PD31	**Pinedale Array**	**91.30**	**44**	P	**P**	**05 43 46.4**	**+0.7**
PD31				IAmb	IAmb	05 43 47.7	
	comp=Z,5.0nm,1.2s						
PDAR	**Pinedale Array**	**91.30**	**44**	P	**P**	**05 43 46.4**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=205,slow=3.1,SNR=12						
EGAK	**Eagle**	**91.90**	**15**	P	**P**	**05 43 48.1**	**+0.5**
EGAK				IAmb	IAmb	05 43 48.7	
	comp=Z,3.8nm,0.7s						
YKA	**Yellowknife Ar**	**98.89**	**25**	P	Pdif	05 44 19.3	+0.1
	comp=Z,0.2nm,0.8s,baz=236,slow=4.7,SNR=5.0						
KK31	**Karatay Array**	**119.52**	**308**		**PKPdf**	**05 49 25.2**	**-0.3**
KKAR	**Karatay Array**	**119.52**	**308**		**PKPdf**	**05 49 25.8**	**+0.2**
ARCES	**ARCESS Array B**	**130.69**	**349**	PKP	**PKPdf**	**05 49 45.9**	**-0.2**
	comp=Z,4.6nm,0.7s,baz=58,slow=2.4,SNR=18						
FINES	**FINESS Array B**	**137.35**	**342**	PKhKP	PKPpre	05 49 49.7	
	comp=Z,1.2nm,0.7s,baz=3.8,slow=2.1,SNR=5.2						
FINES				PKP	**PKPdf**	**05 49 59.2**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=2.8,slow=1.4,SNR=7.0						
NB2	**NORSAR Subarra**	**140.84**	**352**	PKP	**PKPdf**	**05 49 59.1**	**-6.0**
	comp=Z,0.4nm,0.4s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**140.84**	**352**	PKhKP	PKPpre	05 49 59.4	
	comp=Z,0.5nm,0.5s,baz=358,slow=2.2,SNR=6.6						
MBAR	**Mbarara**	**142.74**	**236**		**PKPdf**	**05 50 09.9**	**-0.3**
AKASG	**Malin Array Be**	**144.15**	**329**	PKP	PKPbc	05 50 10.7	-0.2
	comp=Z,4.8nm,0.4s,baz=44,slow=4.1,SNR=47						
AKBB	**Malin Array Si**	**144.15**	**329**		PKPbc	05 50 10.9	0.0
SUW	**Suwalki**	**144.27**	**337**		PKPbc	05 50 10.6	-0.6
SORM	**Soroca**	**146.24**	**326**	⇑P	**PKPbc**	**05 50 17.1**	**0.0**
BR131	**Keskin Array S**	**147.22**	**309**		**PKPbc**	**05 50 19.4**	**-0.9**
BRTR	**Keskin Array B**	**147.22**	**309**	PKPbc	**PKPbc**	**05 50 20.6**	**+0.4**
	comp=Z,3.3nm,0.6s,baz=133,slow=3.8,SNR=18						
ANTO	**Ankara**	**147.77**	**310**	⇑P	**PKPbc**	**05 50 22.6**	**+1.0**
TLCR		**147.77**	**321**	⇑P	**PKPbc**	**05 50 22.1**	**+0.8**
BUR08	**Bucovina Ar. S**	**148.16**	**328**		**PKiKP**	**05 50 23.5**	**-0.1**
BUR08				PKPab	**PKPab**	**05 50 26.9**	**-0.6**
CFR	**Carcaliu**	**148.17**	**322**	⇑P	**PKPbc**	**05 50 22.7**	**+0.5**
TESR	**Tescani**	**148.17**	**325**	⇑P	**PKPbc**	**05 50 22.6**	**+0.4**
BURAR	**Bucovina Array**	**148.17**	**328**	⇑P	**PKiKP**	**05 50 24.0**	**+0.4**
BIZ	**Bicaz**	**148.18**	**326**	⇓P	**PKiKP**	**05 50 23.7**	**+0.2**
TOPG	**Topolog**	**148.21**	**321**	⇑P	**PKPbc**	**05 50 23.3**	**+0.8**
TIRR	**Tirgusor**	**148.43**	**320**	⇑P	**PKPbc**	**05 50 22.8**	**-0.1**
VRI	**Vrincioaia**	**148.54**	**324**	⇑P	**PKPbc**	**05 50 23.9**	**+0.7**
OJC	**Ojcow**	**148.56**	**336**	PKPdf	**PKPdf**	**05 50 16.7**	**-2.0**
OJC					**PKPbc**	**05 50 23.4**	**+0.3**
OJC				PKPab	**PKPab**	**05 50 28.3**	**-0.7**
TLB	**Topalu**	**148.57**	**321**	⇑P	**PKPbc**	**05 50 23.6**	**+0.4**
HARR	**Harsova**	**148.57**	**321**	⇑P	**PKiKP**	**05 50 24.6**	**+0.2**
KOLS	**Kolonicke sedl**	**148.58**	**332**	*e*PKP	**PKiKP**	**05 50 24.8**	**+0.5**
PLOR	**Plostina**	**148.59**	**324**	⇑P	**PKPbc**	**05 50 23.8**	**+0.4**
MANR	**Mangalia**	**148.68**	**319**	⇑P	**PKiKP**	**05 50 24.5**	**0.0**
OZUR		**148.90**	**325**	⇑P	**PKPbc**	**05 50 24.8**	**+0.7**
TRPA	**Tarpa**	**149.07**	**331**	⇑P	**PKPbc**	**05 50 25.0**	**+0.7**
DOPR	**Dopca**	**149

0.9nm,0.3s,baz=330,slow=20,SNR=2.5

CMAR	**Chiang Mai Arr**	**16.14**	**21**	Pn	**Pn**	**06 06 22.9**	**-1.1**
	baz=218,slow=15,SNR=5.0						
CMAR				LR	LR	06 11 30.4	
	comp=Z,25nm,21.2s,baz=160,slow=33						
MKAR	**Makanchi Array**	**44.21**	**350**	P	**P**	**06 10 44.8**	**-0.6**
	0.8nm,0.7s,baz=174,slow=8.5,SNR=4.2						
SONM	**Songino Array**	**45.81**	**13**	P	**P**	**06 10 59.9**	**+1.7**
	0.9nm,0.6s,baz=198,slow=8.4,SNR=7.4						
KURBB	**Kurchatov Arra**	**48.60**	**348**	P	**P**	**06 11 19.6**	**-0.2**
	0.5nm,0.7s,baz=171,slow=7.1,SNR=4.9						
ZALV	**Zalesovo Beam**	**50.84**	**354**	P	**P**	**06 11 36.6**	**-0.1**
	0.8nm,0.4s,baz=169,slow=8.6,SNR=3.7						

IDC 09 06:25:23.4±518.0, 35°87'N×131°45'E, h0km, Error ellipse: s-maj=174.5km s-min=140.8km az=55.0, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I30JP	**ISUMI INFRASON**	**7.25**	**92**	*i*		07 12 50.0	
	baz=276,slow=307,SNR=1.2						
I45RU	**USSURIYSK INFR**	**8.33**	**3**	*i*		07 17 50.0	
	baz=183,slow=333,SNR=1.5						
I44RU	**PETROPAVLOVSK**	**25.24**	**39**	*i*		08 58 36.6	
	baz=238,slow=324						

ANF 09 06:54:26.1±3.8, 39°.50N×123°.47W, h9km±11km, ML2.3/4, Error ellipse: s-maj=29.9km s-min=8.3km az=28.0
NEIC 09 06:54:27.5±1.4, 39°.61N±0°.01×123°.53W±0°.02, h13km±3km
NCEDC 09 06:54:27.5, 39°.62N×123°.48W, h5km
ISC 09 06:54:27.1±0.9, 39°.62N±0°.02×123°.48W±0°.03, h7km±7km, n73, σ0:69/87, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFPM	**Farley Peak**	**0.05**	**64**		**Pg**	**06 54 28.6**	**-0.2**
KCPM	**Cahto Peak**	**0.10**	**312**		**Pg**	**06 54 29.8**	**+0.3**
KCPM					**Sg**	**06 54 31.3**	**+0.1**
KIPM	**Iron Peak**	**0.19**	**1**		**Pg**	**06 54 31.4**	**+0.4**
GTC	**Three Chop Rid**	**0.22**	**194**		**Pg**	**06 54 32.3**	**+0.7**
KRKM	**Rackout Spring**	**0.24**	**103**		**Pg**	**06 54 32.6**	**+0.7**
KBSM	**Bell Springs**	**0.31**	**344**		**Pg**	**06 54 34.0**	**+0.7**
KBNM	**Bluenose Ridge**	**0.35**	**39**		**Pg**	**06 54 35.0**	**+0.9**
GNAM	**Navarro Ridge**	**0.43**	**195**		**Pb**	**06 54 36.7**	**-0.4**
GHMM	**Hull Mountain**	**0.44**	**106**		**Pg**	**06 54 36.6**	**+0.8**
GHOM	**Hamilton Openi**	**0.57**	**184**		**Pb**	**06 54 39.4**	**-0.1**
GASB	**Alder Springs**	**0.59**	**86**		**Pb**	**06 54 39.7**	**-0.2**
KMRM	**Mail Ridge**	**0.63**	**344**		**Pg**	**06 54 39.3**	**+0.1**
KMRM				Sg	**Sg**	**06 54 46.8**	**-0.6**
GVV	**Valley View**	**0.64**	**75**		**Pb**	**06 54 40.6**	**-0.2**
GHLM	**Highland Sprin**	**0.68**	**148**		**Pg**	**06 54 40.6**	**+0.4**
GROM	**Round Mountain**	**0.69**	**64**		**Pb**	**06 54 41.6**	**0.0**
HOPS	**Hopland Field**	**0.70**	**153**		**Pb**	**06 54 41.4**	**-0.2**
HOPS	**Hopland Field**	**0.70**	**153**	Pg	**Pg**	**06 54 40.9**	**+0.3**
HOPS	**Hopland Field**	**0.70**	**153**	Sg	**Sg**	**06 54 50.1**	**+0.5**
GSNM	**Snow Mountain**	**0.71**	**161**		**Pb**	**06 54 41.9**	**0.0**
KPPM	**Pickett Peak**	**0.73**	**7**		**Pb**	**06 54 42.8**	**+0.4**
GTSM	**Trough Springs**	**0.75**	**114**		**Pb**	**06 54 42.4**	**-0.1**
GGUM	**Gualala**	**0.76**	**181**		**Pg**	**06 54 42.1**	**+0.5**
O02D	**Mt. Diablo Mer**	**0.77**	**43**	P	**Pg**	**06 54 42.5**	**+0.5**
	baz=224,SNR=58						
O02D				S	**Sn**	**06 54 56.0**	**-0.5**
	baz=224						
O02D	**Mt. Diablo Mer**	**0.77**	**43**		**Pb**	**06 54 43.2**	**+0.2**
KSMM	**Slide Mountain**	**0.78**	**317**		**Pg**	**06 54 42.7**	**+0.6**
GCK	**Clark Valley**	**0.81**	**95**		**Pn**	**06 54 44.6**	**-0.4**
LBPM	**Beegum Peak**	**0.84**	**133**		**Pb**	**06 54 44.1**	**0.0**
KCRM	**Chalk Rock**	**0.85**	**342**		**Pb**	**06 54 44.7**	**+0.5**
GDCM	**Dry Creek**	**0.87**	**167**		**Pb**	**06 54 45.2**	**+0.7**
GPMM	**Pine Mountain**	**0.87**	**151**		**Pb**	**06 54 45.3**	**+0.6**
GACM	**Adobe Creek**	**0.89**	**147**		**Pb**	**06 54 45.0**	**+0.2**
KCSM	**Cold Springs**	**0.92**	**359**		**Pn**	**06 54 46.5**	**-0.2**
GCVM	**Cloverdale**	**0.92**	**157**		**Pn**	**06 54 46.2**	**-0.3**
GFC	**Funks Creek**	**0.97**	**107**		**Pn**	**06 54 48.3**	**+1.2**
GSSM	**Skaggs Springs**	**0.98**	**158**		**Pn**	**06 54 48.3**	**+0.9**
GHCM	**House Creek**	**1.03**	**167**		**Pn**	**06 54 48.4**	**+0.3**
KHBM	**Hayfork Bally**	**1.06**	**11**		**Pg**	**06 54 48.0**	**+0.5**
KCTM	**Capetown**	**1.08**	**323**		**Pg**	**06 54 48.4**	**+0.5**
MNRC	**McLaughlin Min**	**1.09**	**132**		**Pg**	**06 54 47.9**	**-0.2**
NMCNC	**Mill Creek, So**	**1.12**	**156**		**Pg**	**06 54 48.3**	**-0.2**
FTR	**Fort Ross**	**1.12**	**167**		**Pn**	**06 54 50.2**	**+1.0**
LTCM	**Tuscan Springs**	**1.20**	**60**		**Pg**	**06 54 50.5**	**+0.4**
WDC	**Whiskeytown Da**	**1.20**	**37**	Pg	**Pb**	**06 54 50.0**	**-0.2**
WDC				Sg	**Sb**	**06 55 06.0**	**0.0**
JCC	**Jacoby Creek,**	**1.27**	**341**	Pg	**Sb**	**06 54 50.3**	**-1.0**
JCC				Sg	**Sb**	**06 55 06.1**	**-1.8**
KHMM	**Horse Mountain**	**1.27**	**352**		**Pb**	**06 54 51.8**	**+0.3**
KHMM				Sg	**Sb**	**06 55 07.9**	**-0.2**
NSHM	**Saint Helena R**	**1.29**	**148**		**Pg**	**06 54 53.7**	**+1.9**
SUTB	**Sutter Butte**	**1.37**	**106**		**Pn**	**06 54 52.6**	**0.0**
LGPM	**Granite Peak**	**1.39**	**21**		**Pn**	**06 54 52.6**	**-0.4**
O03E	**Paynes Creek**	**1.46**	**62**	P	**Pn**	**06 54 53.3**	**-0.6**
	baz=243,SNR=34						
O03E	**Paynes Creek**	**1.46**	**62**		**Pn**	**06 54 53.8**	**-0.2**
N02D	**Trinity Center**	**1.48**	**23**	P	**Pn**	**06 54 54.0**	**-0.3**
	baz=204,SNR=100						
N02D	**Trinity Center**	**1.48**	**23**		**Pn**	**06 54 53.9**	**-0.4**
ORV	**Oroville**	**1.53**	**92**		**Pb**	**06 54 55.8**	**-0.1**
ORV				Sn	**Sn**	**06 55 15.3**	**+0.1**
MCCM	**Marconi Confer**	**1.54**	**162**	Pn	**Pn**	**06 54 55.4**	**+0.4**
MCCM				Sn	**Sn**	**06 55 14.6**	**-0.7**
LBKM	**Bonanza King**	**1.59**	**23**		**Pn**	**06 54 55.7**	**-0.2**
M02C	**Callahan**	**1.84**	**15**	P	**Pn**	**06 54 59.1**	**-0.1**
	baz=195,SNR=34						
M02C				S	**Sb**	**06 55 24.7**	**+0.3**
	baz=195						
KRMB	**Red Mountain**	**1.93**	**351**	Pn	**Pn**	**06 55 00.0**	**-0.5**
KRMB				Sn	**Sn**	**06 55 24.7**	**-0.5**
AFDM	**Forest Hills D**	**2.06**	**108**	Pn	**Pn**	**06 55 01.2**	**-1.0**
AFDM				Sn	**Sn**	**06 55 27.9**	**-0.3**
YBH	**Yreka Blue Hor**	**2.19**	**15**	Pn	**Pn**	**06 55 05.2**	**+1.1**
YBH				Sn	**Sn**	**06 55 32.9**	**+1.3**
BEKR	**Beckworth**	**2.42**	**83**		**Pb**	**06 55 10.4**	**-0.7**
L02E	**Cave Junction**	**2.54**	**358**	P	**Pn**	**06 55 09.2**	**+0.4**
	baz=178,SNR=9.5						
CMB	**Columbia Colle**	**2.89**	**122**	Pn	**Pn**	**06 55 15.1**	**+1.5**
VCNR	**Virginia City**	**2.98**	**95**	Pn	**Pn**	**06 55 15.2**	**+0.1**
HUMO	**Hull Mountain**	**3.01**	**7**	Pn	**Pn**	**06 55 16.8**	**+1.5**
PNTR	**Pine Nut**	**3.06**	**99**	Pn	**Pn**	**06 55 16.3**	**+0.2**
K02D	**Willamette Mer**	**3.08**	**358**	P	**Pn**	**06 55 16.6**	**+0.3**
	baz=177,SNR=28						
PAHR	**Pah Rah Range**	**3.17**	**87**	Pn	**Pn**	**06 55 17.9**	**+0.4**
MOD	**Modoc Plateau**	**3.32**	**46**	Pn	**Pn**	**06 55 20.4**	**+0.7**
MOD				Sn	**Sn**	**06 55 60.0**	**+0.4**
WAKR	**Walker**	**3.34**	**108**	Pn	**Pn**	**06 55 19.4**	**-0.5**
RYN	**Ryan**	**3.98**	**103**	Pn	**Pn**	**06 55 27.6**	**-1.1**
PMPB	**Monarch Peak**	**4.00**	**147**	Pn	**Pn**	**06 55 28.5**	**0.4**
PMPB				Sn	**Sn**	**06 56 15.3**	**-0.8**
OMMB	**Old Mammoth Mi**	**4.04**	**118**	Pn	**Pn**	**06 55 29.7**	**0.0**
OSI	**Osito Audit: C**	**6.28**	**141**	Pn	**Pn**	**06 55 57.8**	**-2.3**

ISCJB 09 07:12:14.5±2.0, 14°.49N±0°.09×92°.69W±0°.07, h22km±11km, Error ellipse: s-maj=17.3km s-min=7.5km az=35.8
MEX 09 07:12:15.6±1.1, 14°.57N×92°.70W, h57km±27km, MD3.6
GCG 09 07:12:18.9±0.3, 15°.34N×92°.14W, h23km, MD3.9
ISC 09 07:12:15.4±2.2, 14°.6N±0°.1×92°.70W±0°.08, h28km±15km, n7, σ2:00/14, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.53**	**54**	*eP*	**Pb**	**07 12 26.7**	**+0.5**
THIG				*eS*	**Sb**	**07 12 34.9**	**+1.4**
STG3	**Santiaguito 3,**	**1.10**	**84**	*eP*	**Pn**	**07 12 34.8**	**-0.4**
STG3				*eS*	**Sb**	**07 12 47.1**	**-3.0**
PCIG		**1.21**	**336**	*i P*	**Pn**	**07 12 35.2**	**-1.3**
PCIG				*i S*	**Sn**	**07 12 50.0**	**-1.9**
CCIG	**Comitan**	**1.76**	**18**	*eP*	**Pn**	**07 12 44.4**	**+0.1**
CCIG				*i S*	**Sb**	**07 13 09.1**	**+0.1**
FUG	**Fuego 3**	**1.81**	**94**	*eP*	**Pn**	**07 12 45.1**	**+0.2**
FUG				*eS*	**Sn**	**07 13 06.0**	**-1.0**
IXG	**Ixpaco**	**2.23**	**101**	*eP*	**Pn**	**07 12 52.2**	**+1.5**
IXG				*eS*	**Sn**	**07 13 17.9**	**+0.5**
CMIG	**Matias Romero**	**3.25**	**320**	*eP*	**Pb**	**07 13 11.7**	**-0.7**
CMIG				*i S*	**Sn**	**07 13 46.8**	**+4.4**

ISCJB 09 07:13:59.2±0.2, 27°.85N±0°.02×139°.64E±0°.05, h507km, mb3.8/18, Error ellipse: s-maj=5.7km s-min=3.2km az=1.3

NEIC 09 07:13:59.8±1.3, 27°.83N±0°.08×139°.5E±0°.1, h495km±8km, mb4.0/51
IDC 09 07:13:59.6±0.5, 27°.84N×139°.71E, h496km±6km, mb3.4/18, mb1 3.5/22, mb1mx3.3/63, mbtmp4.3/22, Error ellipse: s-maj=15.0km s-min=8.5km az=82.0
JMA 09 07:13:59.5±0.3, 27°.94N×140°.01E, h519km±4km, M4.1
ISC 09 07:14:00.3±0.5, 27°.86N±0°.05×139°.65E±0°.08, h507km, n102, σ1:70/120/128, mb4.0/44, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.38**	**108**	P	**P**	**07 15 07.2**	**-0.8**
CBIJ				S	**S**	**07 16 01.3**	**-1.7**
JCJ	**Chichijima**	**2.38**	**108**	P	**P**	**07 15 07.3**	**-0.7**
	57nm,0.3s,baz=280,slow=22,SNR=58						
JCJ				S	**S**	**07 15 59.6**	**-3.4**
	90nm,0.3s,baz=273,slow=22,SNR=15						
JHH2	**Haha-jima-NKT2**	**2.56**	**118**	P	**P**	**07 15 09.1**	**0.0**
JHH2				S	**S**	**07 16 03.7**	**-1.2**
JHCJ	**Hachijojimakas**	**5.20**	**1**	P	**P**	**07 15 29.6**	**+0.3**
JHCJ				*eS*	**S**	**07 16 40.3**	**-1.8**
JHJ2	**Mitsune**	**5.24**	**2**	P	**P**	**07 15 30.0**	**+0.4**
JHJ2				*eS*	**S**	**07 16 41.2**	**-1.5**
JHJ2	**Mitsune**	**5.24**	**2**	P	**P**	**07 15 27.1**	**-2.5**
JHJ2				S	**S**	**07 16 41.7**	**-1.0**
BSO1	**Boso 1**	**6.87**	**9**	P	**P**	**07 15 45.6**	**+1.0**
BSO1				*eS*	**S**	**07 17 09.1**	**-1.2**
JTNC	**Tanabenakahech**	**6.88**	**331**	P	**P**	**07 15 46.9**	**+1.5**
BSO2	**Boso 2**	**6.94**	**8**	S	**S**	**07 17 11.3**	**-0.6**
BSO3	**Boso 3**	**6.96**	**6**	*eS*	**S**	**07 17 08.0**	**-4.4**
JIE	**Ise**	**6.98**	**340**	P	**P**	**07 15 48.3**	**+1.9**
JIE				*eS*	**S**	**07 17 14.2**	**+0.8**
JKN2	**Miekihoku**	**6.99**	**336**	P	**P**	**07 15 47.8**	**+1.4**
BSO4	**Boso 4**	**7.13**	**5**	P	**P**	**07 15 48.7**	**+1.0**
BSO4				*eS*	**S**	**07 17 13.4**	**-2.5**
HMMJ	**Hamamatsu 2**	**7.17**	**347**	P	**P**	**07 15 47.7**	**-0.5**
JOD2	**Odawara 2**	**7.40**	**356**	P	**P**	**07 15 50.9**	**+0.4**
JOD2				*eS*	**S**	**07 17 18.6**	**-2.4**
JNY	**Yasuok**	**7.63**	**349**	P	**P**	**07 15 53.6**	**+0.6**
JAO	**Obara**	**7.66**	**345**	P	**P**	**07 15 55.5**	**+2.2**
JTO	**Tosashimizu**	**7.74**	**312**	P	**P**	**07 15 55.7**	**+1.7**
INU	**Inuyama**	**7.80**	**344**	P	**P**	**07 15 55.2**	**+0.6**
INU				S	**S**	**07 17 25.8**	**-2.7**
JHU	**Hanno**	**7.97**	**358**	P	**P**	**07 15 54.6**	**-1.8**
JHU				S	**S**	**07 17 28.2**	**-3.6**
JRY	**Ryogami san**	**8.16**	**356**	P	**P**	**07 15 58.1**	**-0.2**
JRY				*eS*	**S**	**07 17 30.7**	**-4.6**
JYT	**Yasato**	**8.36**	**3**	P	**P**	**07 16 00.2**	**-0.1**
JYT				*eS*	**S**	**07 17 35.0**	**-3.9**
JAG	**Ashikaga**	**8.54**	**359**	P	**P**	**07 16 01.4**	**-0.9**
JAG				S	**S**	**07 17 37.6**	**-4.9**
MJAR	**Matsushiro Arr**	**8.74**	**352**	P	**P**	**07 16 04.2**	**-0.2**
	0.5nm,0.3s,baz=196,slow=7.4,SNR=11						
MJAR				S	**S**	**07 17 40.0**	**-6.4**
	0.1nm,0.3s,baz=123,slow=12,SNR=3.6						
MAJO	**Matsushiro**	**8.74**	**352**	P	**P**	**07 16 04.4**	**0.0**
MAJO				S	**S**	**07 17 45.2**	**-1.2**
MAT	**Matsushiro**	**8.74**	**352**	P	**P**	**07 16 03.9**	**-0.5**
MAT				*eS*	**S**	**07 17 45.0**	**-1.4**
MJB9	**Matsu-Tunnel**	**8.75**	**352**	P	**P**	**07 16 04.5**	**+0.1**
JHO	**Hitachi**	**8.76**	**5**	P	**P**	**07 16 04.8**	**+0.3**
JHO				S	**S**	**07 17 43.6**	**-3.1**
JHS	**Saijyo**	**9.04**	**324**	P	**P**	**07 16 09.2**	**+1.7**
JNU	**Nakatsue**	**9.21**	**307**	P	**P**	**07 16 11.1**	**+1.8**
	1.9nm,0.3s,baz=95,slow=3.5,SNR=11						
JNU	**Nakatsue**	**9.21**	**307**	P	**P**	**07 16 10.1**	**+0.8**
KSRS	**Korea Array**	**13.74**	**317**	P	**P**	**07 16 54.9**	**-2.1**
	0.4nm,0.3s,baz=130,slow=11,SNR=5.7						
NACB	**Ninganchiao**	**16.64**	**261**	P	**P**	**07 17 24.6**	**-2.9**
YHNB	**Yeheng**	**16.70**	**263**	P	**P**	**07 17 26.0**	**-2.1**
YULB	**Yu-li**	**17.14**	**259**	P	**P**	**07 17 28.4**	**-4.0**
SSLB	**Suanglung**	**17.31**	**261**	P	**P**	**07 17 32.3**	**-1.8**
USRK	**Ussuriysk Ar.**	**17.43**	**341**	P	**P**	**07 17 35.5**	**+0.6**
	baz=169,slow=10,SNR=26						
KLR	**Kul'dur**	**22.19**	**346**	P	**P**	**07 18 19.0**	**+1.0**
	1.6nm,0.4s,baz=168,slow=10,SNR=8.9						
SONM	**Songino Array**	**32.61**	**317**	P	**P**	**07 19 49.9**	**+0.4**
	0.5nm,0.5s,baz=110,slow=7.8,SNR=3.4						
MTN	**Manton Dam**	**41.30**	**193**	P	**P**	**07 21 00.8**	**-0.3**
MTN				IAmb	IAmb	07 21 01.7	
	comp=Z,5.2nm,0.5s						
COEN	**Coen**	**41.71**	**175**	P	**P**	**07 21 05.9**	**+1.5**
KNRA	**Kununurra**	**44.55**	**195**	P	**P**	**07 21 26.4**	**-0.2**
KNRA				IAmb	IAmb	07 21 33.7	
	comp=Z,18nm,1.5s						
RPSI	**Rantau Prapat**	**46.22**	**245**	P	**P**	**07 21 39.3**	**-0.2**
RPSI				IAmb	IAmb	07 21 40.2	
	comp=Z,6.5nm,0.8s						
ZALV	**Zalesovo Beam**	**47.44**	**319**	P	**P**	**07 21 48.0**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=86,slow=6.4,SNR=3.6						
ZALV				PcP	**PcP**	**07 23 07.5**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=81,slow=2.8,SNR=2.7						
ZALV				ScP	**ScP**	**07 26 13.3**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=70,slow=5.5,SNR=5.6						
FITZ	**Fitzroy Crossi**	**47.66**	**198**	P	**P**	**07 21 50.6**	**+0.4**
	comp=Z,3.2nm,0.5s,baz=9.1,slow=8.1,SNR=20						
FITZ	**Fitzroy Crossi**	**47.66**	**198**	P	**P**	**07 21 50.9**	**+0.6**
FITZ				IAmb	IAmb	07 21 51.4	
	comp=Z,3.3nm,0.6s						
WRAB	**Tennant Creek**	**47.79**	**187**	P	**P**	**07 21 51.2**	**0.0**
WRAB				IAmb	IAmb	07 21 51.9	
	comp=Z,22nm,1.4s						
WR0	**Warramunga Arr**	**47.79**	**186**	P	**P**	**07 21 50.9**	**-0.4**
WR0				IAmb	IAmb	07 21 51.9	
	comp=Z,8.3nm,0.8s						
WB2	**Warramunga Arr**	**47.80**	**187**	P	**P**	**07 21 51.0**	**-0.3**
WB2				IAmb	IAmb	07 21 51.9	
	comp=Z,15nm,1.3s						
WRA	**Warramunga Arr**	**47.80**	**187**	P	**P**	**07 21 51.2**	**-0.2**
	comp=Z,4.4nm,0.4s,baz=1.8,slow=7.8,SNR=71						
WRA				PcP	**PcP**	**07 23 11.8**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=0.8,slow=3.6,SNR=5.3						
WRA				S	**S**	**07 28 04.7**	**-5.7**
	comp=Z,0.3nm,0.6s,baz=7.6,slow=13,SNR=2.8						
GSI	**Gunungsitoli**	**48.12**	**244**	P	**P**	**07 21 54.5**	**+0.6**
MK31	**Makanchi Array**	**48.25**	**309**	P	**P**	**07 21 54.9**	**+0.4**
MK31				IAmb	IAmb	07 21 57.6	
	comp=Z,7.6nm,1.6s						
MKAR	**Makanchi Array**	**48.25**	**309**	P	**P**	**07 21 54.8**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=87,slow=9.7,SNR=6.0						
MKAR				ScP	**ScP**	**07 26 17.6**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=104,slow=2.1,SNR=4.4						
KURK	**Kurchatov**	**50.84**	**314**	P	**P**	**07 22 13.6**	**+0.1**
KURK				IAmb	IAmb	07 22 14.3	
	comp=Z,11nm,1.4s						
KURBB	**Kurchatov Arra**	**50.90**	**314**	P	**P**	**07 22 14.0**	**+0.1**
	comp=Z,3.5nm,0.6s,baz=91,slow=8.1,SNR=28						
AS31	**Alice Springs**	**51.52**	**187**	P	**P**	**07 22 18.8**	**0.0**
ASAR	**Alice Springs**	**51.52**	**187**	P	**P**	**07 22 18.8**	**0.0**
	comp=Z,2.2nm,0.5s,baz=15,slow=14,SNR=46						
ASAR				PcP	**PcP**	**07 23 25.4**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=4.2,slow=3.8,SNR=4.8						
TARG	**Taragay, Kyrgy**	**51.61**	**303**	P	**P**	**07 22 17.7**	**-2.1**
PSA00	**Pilbara Seismi**	**52.74**	**203**	P	**P**	**07 22 27.4**	**-0.1**
PSA00				IAmb	IAmb	07 22 30.9	
	comp=Z,22nm,1.6s						
KDAK	**Kodiak Island**	**55.11**	**37**	P	**P**	**07 22 43.5**	**-0.3**
	comp=Z,11nm,1.1s,baz=304,slow=3.6,SNR=5.8						
SKT	**Skwentna**	**55.89**	**32**	P	**P**	**07 22 50.6**	**+1.4**
BVAR	**Borovoye Array**	**55.96**	**317**	P	**P**	**07 22 50.5**	**+0.7**
	comp=Z,3.3nm,0.4s,baz=86,slow=6.8,SNR=20						
BVAR				ScP	**ScP**	**07 26 50.7**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=72,slow=4.8,SNR=4.6						
BRVK	**Borovoye**	**56.02**	**317**	P	**P**	**07 22 50.9**	**+0.7**
BRVK				IAmb	IAmb	07 22 51.9	
	comp=Z,7.6nm,1.4s						
SUA	**Susitna One**	**56.23**	**33**	P	**P**	**07 22 52.8**	**+1.1**
SUA				IAmb	IAmb	07 23 23.3	
	comp=Z,8.0nm,1.3s						
BPAW	**Bear Paw Mtn.**	**56.31**	**30**	P	**P**	**07 22 50.6**	**-1.5**
MLY	**Manley**	**56.51**	**28**	P	**P**	**07 22 55.0**	**+1.5**
MLY				IAmb	IAmb	07 23 13.6	
	comp=Z,6.9nm,1.4s						
TRF	**Thorofare Moun**	**56.57**	**30**	P	**P**	**07 22 56.1**	**+2.1**
TRF				IAmb	IAmb	07 23 25.8	
	comp=Z,6.5nm,1.3s						
RC01	**Rabbit Creek A**	**56.70**	**33**	P	**P**	**07 22 56.2**	**+1.5**
RC01				IAmb	IAmb	07 23 27.1	
	comp=Z,14nm,1.5s						
KK31	**Karatay Array**	**56.81**	**305**	P	**P**	**07 22 56.2**	**+0.3**
KKAR	**Karatay Array**	**56.81**	**305**	P	**P**	**07 22 56.2**	**+0.3**
GHO	**Glory Hole Cre**	**57.11**	**32**	P	**P**	**07 22 59.0**	**+1.3**
GHO				IAmb	IAmb	07 23 27.0	
	comp=Z,29nm,1.7s						
MCK	**McKinley**	**57.19**	**30**	P	**P**	**07 22 59.7**	**+1.6**
MCK				IAmb	IAmb	07 23 32.6	
	comp=Z,15nm,1.6s						
RND	**Reindeer**	**57.21**	**31**	P	**P**	**07 22 59.2**	**+0.8**
WRH	**Wood River Hil**	**57.60**	**29**	P	**P**	**07 23 02.2**	**+1.3**
GAR	**Garm**	**57.67**	**300**	P	**P**	**07 23 03.2**	**+1.2**
GAR				IAmb	IAmb	07 23 34.2	
	comp=Z,13nm,1.6s						
CCB	**Clear Creek Bu**	**57.73**	**29**	P	**P**	**07 23 02.9**	**+1.1**
CCB				IAmb	IAmb	07 23 25.4	
	comp=Z,6.8nm,1.4s						
SCM	**Sheep Creek Mo**	**57.87**	**32**	P	**P**	**07 23 04.6**	**+1.7**
SCM				IAmb	IAmb	07 23 37.9	
	comp=Z,9.5nm,1.2s						
HDA	**Harding Lake**	**58.09**	**29**	P	**P**	**07 23 04.9**	**+0.6**
IL31		**58.13**	**29**	P	**P**	**07 23 05.2**	**+0.7**
ILAR	**Eielson Array**	**58.13**	**29**	P	**P**	**07 23 04.8**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=250,slow=5.6,SNR=20						
CHGR	**Chuyangaron**	**58.62**	**300**	P	**P**	**07 23 08.9**	**+0.5**
CHGR				IAmb	IAmb	07 23 26.3	
	comp=Z,13nm,1.3s						
PRP	**Porcupine Dome**	**58.73**	**28**	P	**P**	**07 23 10.8**	**+2.1**
PRP				IAmb	IAmb	07 23 29.2	
	comp=Z,6.3nm,1.5s						
RIDG	**Independent Ri**	**59.01**	**30**	P	**P**	**07 23 10.6**	**0.0**
RIDG				IAmb	IAmb	07 23 18.2	
	comp=Z,13nm,1.6s						
FORT	**Forrest**	**59.35**	**192**	P	**P**	**07 23 13.3**	**+0.1**
DOT	**Dot Lake**	**59.36**	**30**	P	**P**	**07 23 14.0**	**+1.2**
SCRK	**Sand Creek**	**59.38**	**30**	P	**P**	**07 23 14.3**	**+1.2**
SCRK				IAmb	IAmb	07 23 18.6	
	comp=Z,5.5nm,1.4s						
STKA	**Stephens Creek**	**59.43**	**178**	P	**P**	**07 23 13.8**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=250,slow=20,SNR=3.2						
BBOO	**Buckleboo**	**60.43**	**183**	P	**P**	**07 23 20.9**	**+0.6**
MORW	**Morawa**	**60.95**	**204**	P	**P**	**07 23 22.1**	**-1.7**
EPYK	**Eagle Plains**	**62.29**	**27**	P	**P**	**07 23 34.5**	**+2.4**
EPYK				IAmb	IAmb	07 23 36.1	
	comp=Z,5.6nm,1.2s						
ABKAR	**Akbulak array**	**62.95**	**314**	P	**P**	**07 23 36.9**	**+0.3**
INK	**Inuvik**	**63.27**	**25**	P	**P**	**07 23 38.9**	**+0.6**
INK				IAmb	IAmb	07 24 08.4	
	comp=Z,5.3nm,1.5s						
NWAO	**Narrogin (SRO)**	**64.09**	**201**	P	**P**	**07 23 44.0**	**-0.1**
NWAO	**Narrogin (SRO)**	**64.09**	**201**	P	**P**	**07 23 44.0**	**-0.1**
NWAO				IAmb	IAmb	07 24 06.2	
	comp=Z,36nm,1.4s						
SPITS	**Spitsbergen Ar**	**69.23**	**349**	P	**P**	**07 24 16.3**	**+1.0**
	comp=Z,7.7nm,0.9s,baz=72,slow=9.4,SNR=5.0						
RES	**Resolute Bay**	**71.84**	**13**	P	**P**	**07 24 32.1**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=143,slow=2.6,SNR=4.9						
ARCES	**ARCESS Array B**	**72.08**	**340**	P	**P**	**07 24 33.2**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=65,slow=8.0,SNR=9.9						
YKA	**Yellowknife Ar**	**72.53**	**28**	P	**P**	**07 24 35.7**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=296,slow=6.0,SNR=8.5						
KVAR	**Kislovodsk Arr**	**75.87**	**312**	P	**P**	**07 24 54.7**	**+0.3**
	com

comp=E,92nm,0.1s
BWNR IAML 07 44 51.2
comp=N,59nm,0.2s
MDRS Chennai 12.92 287 *e*P **Pn 07 42 40.8 +0.5**
NONG Nongkai 13.02 48 P P 07 42 59.3 +8.3
SLVN Son La 15.76 41 P **P 07 43 23.2 +1.6**
SHL Shillong 15.95 357 P **P 07 43 22.4 -1.3**
SHL pmax pmax
comp=Z,36nm,0.8s
SHL Shillong 15.95 357 IAML 07 44 13.8
comp=E,45nm,0.2s
SHL IAML 07 44 15.1
comp=N,39nm,0.3s
SHL Shillong 15.95 357 P **P 07 43 22.4 -1.3**
HYB Hyderabad 16.01 301 *i*P **P 07 43 25.0 +0.7**
HYB *e*S **Sn 07 46 18.0 -0.1**
HYB Hyderabad 16.01 301 *e*P **P 07 43 26.6 +2.3**
HYB IAmb IAmb 07 43 27.2
comp=Z,68nm,1.5s
HYB *e*S **Sn 07 46 07.7 -10**
MDSI Maura Dua 17.89 141 P **P 07 43 50.3 +5.2**
comp=Z,11nm,1.1s
ODAN Odare 17.99 344 *e*P **P 07 43 47.8 +1.4**
KMI Kunming 18.07 30 P **P 07 43 48.5 +1.3**
KMI pP pP 07 43 54.6 -2.9
KMI sP sP 07 44 00.8 -2.2
KMI pmax pmax
comp=Z,54nm,5.6s
KMI LR LR
comp=Z,240nm,18.8s
KMI LR LR
comp=Z,220nm,18.8s
RAMN Ramite 18.31 342 *e*P **Pn 07 43 52.1 +2.0**
comp=Z,33nm,0.6s
TAPN Taplejung 18.37 345 *e*P **Pn 07 43 52.2 +1.2**
KLSI 18.40 140 P **Pn 07 43 54.6 +3.5**
comp=Z,4.6nm,1.1s
JIRN Jiri 19.10 341 *e*P **Pn 07 43 59.9 +0.1**
comp=Z,56nm,0.7s
PKI Pulchoki 19.27 339 *e*P **Pn 07 44 02.9 +1.1**
comp=Z,146nm,1.3s
PKIN Phulchoki 19.28 339 *e*P **Pn 07 44 02.7 +0.8**
DMN Daman 19.41 339 *e*P **Pn 07 44 04.1 +0.6**
comp=Z,51nm,0.9s
GUN Gumba 19.43 341 *e*P **Pn 07 44 03.4 -0.3**
comp=Z,34nm,0.6s
GKN Gorkha 19.94 338 *e*P **Pn 07 44 08.9 -0.7**
comp=Z,28nm,0.3s
LSA Lhasa 20.11 355 P **P 07 44 08.6 -1.2**
LSA pmax pmax
comp=Z,17nm,1.1s
LSA Lhasa 20.11 355 P **P 07 44 08.6 -1.2**
KOLN Koldanda 20.14 335 *e*P Pn 07 44 11.4 -0.6
DANN Dangsing 20.59 336 *e*P **P 07 44 15.9 +1.1**
comp=Z,131nm,0.7s
GYA Guiyang 21.25 36⇓ *i*P **P 07 44 19.9 -1.9**
GYA pP pP 07 44 29.1 -3.1
GYA sP sP 07 44 33.1 -4.6
GYA PP **PnPn 07 44 44.0 +1.3**
GYA S **S 07 48 13.2 -2.5**
GYA pmax pmax
comp=Z,10.0nm,0.7s
GYA pmax pmax
comp=Z,90nm,4.0s
GYA LR LR
comp=Z,190nm,11.3s
GYA LR LR
comp=Z,150nm,13.6s
LEM Lembang 21.88 138 LR LR 07 55 25.9
comp=Z,402nm,18.1s,baz=272,slow=44
CD2 Chengdu 23.51 24 P **P 07 44 45.2 -0.1**
CD2 pmax pmax
comp=Z,30nm,0.5s
NGJI Ngawi 24.97 132 P P 07 45 09.0 +10
H08S3 Diego Garcia H 26.58 231 T T 08 12 42.9
baz=49,slow=76,SNR=194
H08S2 Diego Garcia H 26.59 231 T T 08 12 45.9
baz=49,slow=76,SNR=291
H08S1 Diego Carcia H 26.60 231 T T 08 12 41.2
baz=49,slow=76,SNR=171
LZH Lanzhou 28.21 19 *e*P **P 07 45 29.6 +1.6**
LZH pP pP 07 45 39.9 +0.5
LZH sP sP 07 45 43.9 -0.7
LZH pmax pmax
comp=Z,20nm,1.0s
LZH LR LR
comp=Z,250nm,13.0s
LZH LR LR
comp=Z,150nm,13.2s
LZH LR LR
comp=Z,260nm,13.6s
XAN Xi'an 28.45 29 P P 07 45 43.8 +14
XAN pP sP 07 45 54.5 +8.0
XAN pmax pmax
comp=Z,7.0nm,1.3s
NIL Nilore 30.05 326 P **P 07 45 44.4 +0.3**
NIL pmax pmax
comp=Z,16nm,0.8s
NIL Nilore 30.05 326 P **P 07 45 44.4 +0.3**
NIL IAmb IAmb 07 45 45.5
comp=Z,16nm,0.8s
GTA Gaotai 30.36 11 P **P 07 45 47.3 +0.4**
GTA pP pP 07 45 55.7 -2.8
GTA sP sP 07 45 59.6 -4.2
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,53nm,4.3s
GTA LR LR
comp=Z,210nm,16.4s
GTA LR LR
comp=Z,240nm,15.7s
GTA LR LR
comp=Z,110nm,14.7s
KAPI Kappang 30.39 117 LR LR 07 58 55.5
comp=Z,110nm,18.5s,baz=310,slow=38
NJ2 Nanjing 32.82 43 *e*P **P 07 46 08.2 -0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
KBL Kabul 33.12 322 P **P 07 46 10.6 -0.8**
KBL pmax pmax
comp=Z,6.0nm,1.1s
KBL Kabul 33.12 322 P **P 07 46 10.6 -0.8**
KSH Kashi 33.46 336 P **P 07 46 13.2 -0.9**
KSH pP pP 07 46 22.3 -3.6
KSH PcP **PcP 07 48 54.8 +0.2**
KSH S **S 07 51 28.7 -4.1**
KSH SS **SnSn 07 53 32.4 -5.4**
KSH pmax pmax
comp=Z,22nm,0.7s
KSH pmax pmax
comp=Z,170nm,4.7s
KSH LR LR
comp=Z,210nm,4.9s
KSH LR LR
comp=Z,320nm,4.9s
KSH LR LR
comp=Z,260nm,4.2s
WMQ Urumqi 34.44 353 *e*P **P 07 46 23.9 +1.4**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,92nm,4.1s
WMQ LR LR
comp=Z,140nm,21.5s
WMQ LR LR
comp=Z,110nm,22.7s
TARG Taragay, Kyrgy 34.71 340 P **P 07 46 25.4 +0.1**
TARG IAmb IAmb 07 46 27.5
comp=Z,9.9nm,0.9s
NRN Naryn 35.09 338 P **P 07 46 27.8 -0.7**
NRN pmax pmax
comp=Z,7.0nm,0.9s
NRN Naryn 35.09 338 P **P 07 46 27.8 -0.7**
PRZ Przheval'sk 35.19 341 P **P 07 46 29.5 +0.3**
PRZ pmax pmax
comp=Z,35nm,1.1s
PRZ Przheval'sk 35.19 341 P **P 07 46 29.6 +0.3**
HHC Hu-ho-hao-te 35.26 25 P **P 07 46 30.4 +0.7**
HHC pmax pmax
comp=Z,4.0nm,0.9s
KDJ Kajisay 35.28 340 P **P 07 46 30.1 +0.2**
KDJ pmax pmax
comp=Z,14nm,1.0s
KDJ Kajisay 35.28 340 P **P 07 46 30.1 +0.2**
KDJ IAmb IAmb 07 46 32.0
comp=Z,14nm,0.9s
WSAR Wadi Sarin 35.50 297 LR LR 08 00 13.3
comp=Z,123nm,20.0s,baz=115,slow=35
GAR Garm 35.63 329 P **P 07 46 33.2 +0.2**
CHGR Chuyangaron 35.97 327 P **P 07 46 35.3 -0.5**
CHGR IAmb IAmb 07 46 36.7
comp=Z,22nm,0.8s
BOOM Boomskoye usch 36.03 338 P **P 07 46 36.0 -0.4**
BOOM pmax pmax
comp=Z,6.0nm,0.8s
BOOM Boomskoye usch 36.03 338 P **P 07 46 36.0 -0.4**
BTK Batken 36.19 331 P **P 07 46 38.6 +0.9**
BTK pmax pmax
comp=Z,40nm,1.5s
BTK Batken 36.19 331 P **P 07 46 38.6 +0.9**
ARSB Arslanbob 36.22 334 P **P 07 46 38.6 +0.7**
TKM2 Tokmak 2 36.53 338 P **P 07 46 41.4 +0.7**
SNR=5.1
KBK Karagaybulak 36.54 338 P **P 07 46 42.4 +1.6**
SNR=8.2
AML Almayashu 36.59 336 P **P 07 46 42.8 +1.4**
SNR=8.9
SOEI Soe 36.61 121 P **P 07 46 39.2 -2.4**
SOEI IAmb IAmb 07 46 49.5
comp=Z,20nm,0.9s
AAK Ala-Archa 36.70 337*d i*P **P 07 46 43.1 +1.0**
AAK pmax pmax
comp=Z,13nm,1.0s
AAK Ala-Archa 36.70 337 P **P 07 46 43.4 +1.3**
comp=Z,10nm,0.9s,baz=176,slow=6.4,SNR=11
AAK Ala-Archa 36.70 337 P **P 07 46 43.8 +1.7**
SNR=7.2
AAK Ala-Archa 36.70 337 P **P 07 46 41.8 -0.3**
AAK IAmb IAmb 07 46 44.5
comp=Z,16nm,1.0s
BJT Baijiatuau 36.71 30 P **P 07 46 41.2 -0.8**
BJT pmax pmax
comp=Z,5.0nm,0.7s
BJT Baijiatuau 36.71 30 P **P 07 46 41.2 -0.8**
CHMS Chumysh 36.91 338 P **P 07 46 44.8 +1.1**
SNR=6.0
EKS2 Erkin-Say 37.00 336 P **P 07 46 45.5 +2.0**
SNR=5.4
USP Ospenovka 37.24 338 P **P 07 46 47.5 +1.1**
SNR=11
MK31 Makanchi Array 38.20 348 P **P 07 46 54.4 -0.1**
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MK31 Makanchi Array 38.20 348 P **P 07 46 54.4 -0.1**
MKAR Makanchi Array 38.20 348*ce*P **P 07 46 54.5 0.0**
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MKAR Makanchi Array 38.20 348 P **P 07 46 54.1 -0.5**
comp=Z,7.7nm,0.7s,baz=164,slow=8.2,SNR=15
MKAR LR LR 08 04 46.7
comp=Z,125nm,20.5s,baz=169,slow=40
MAKZ Makanchi 38.28 348 P **P 07 46 55.1 -0.1**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
MAKZ Makanchi 38.28 348 P **P 07 46 55.1 -0.1**
KK31 Karatay Array 38.73 333 P **P 07 46 59.0 -0.1**
KK31 pmax pmax
comp=Z,12nm,0.9s
KK31 Karatay Array 38.73 333 P **P 07 46 59.0 -0.1**
KK31 IAmb IAmb 07 47 00.8
comp=Z,12nm,0.8s
KKAR Karatay Array 38.73 333 P **P 07 46 59.0 -0.1**
KKAR pmax pmax
comp=Z,12nm,0.9s
KKAR Karatay Array 38.73 333 P **P 07 46 59.0 -0.1**
KKAR IAmb IAmb 07 47 00.8
comp=Z,12nm,0.8s
SONM Songino Array 39.81 14 P **P 07 47 07.9 -0.2**
comp=Z,2.3nm,0.7s,baz=204,slow=8.6,SNR=8.4
SONM PcP **PcP 07 49 13.1 -0.5**
comp=Z,1.2nm,0.7s,baz=197,slow=4.4,SNR=3.2
ULN Ulaanbaatar 40.00 15⇓ *e*P **P 07 47 08.8 -0.9**
ULN pmax pmax
comp=Z,9.0nm,2.5s
PSAD1 Pilbara Seismi 40.59 140 P **P 07 47 12.6 -2.1**
PSAD1 IAmb IAmb 07 47 21.1
comp=Z,24nm,1.6s
PSAC1 Pilbara Seismi 40.63 140 P **P 07 47 12.9 -2.2**
PSAC1 IAmb IAmb 07 47 59.5
comp=Z,57nm,2.0s
PSAB1 Pilbara Seismi 40.66 140 P **P 07 47 13.2 -2.1**
PSAB1 IAmb IAmb 07 48 19.7
comp=Z,46nm,2.0s
PSAA2 Pilbara Seismi 40.68 140 P **P 07 47 13.1 -2.3**
PSAA2 IAmb IAmb 07 48 13.0
comp=Z,38nm,1.8s
PSAB3 Pilbara Seismi 40.70 140 P **P 07 47 13.5 -2.2**
PSAC2 Pilbara Seismi 40.71 140 P **P 07 47 13.5 -2.2**
PSAC2 IAmb IAmb 07 48 20.2
comp=Z,46nm,1.9s
PSAD2 Pilbara Seismi 40.79 140 P **P 07 47 15.2 -1.2**
PSAD2 IAmb IAmb 07 47 52.7
comp=Z,30nm,1.6s
KSRS Korea Array 42.02 43 LR LR 08 05 39.7
comp=Z,47nm,20.3s,baz=262,slow=37
GEYT Alibeck 42.16 318 P **P 07 47 29.3 +1.8**
comp=Z,20nm,0.8s,baz=144,slow=8.8,SNR=30
GEYT LR LR 08 07 02.6
comp=Z,92nm,18.7s,baz=15,slow=39
GYA0B ALIBECK ARRAY 42.16 318 P **P 07 47 29.1 +1.5**
GYA0B IAmb IAmb 07 47 30.2
comp=Z,19nm,0.8s
FITZ Fitzroy Crossi 42.40 130 P **P 07 47 27.7 -1.9**
comp=Z,2.3nm,0.9s,baz=278,slow=7.1,SNR=4.1
FITZ PcP **PcP 07 49 22.6 +0.3**
comp=Z,1.7nm,0.6s,baz=164,slow=4.2,SNR=3.9
FITZ ScP **ScP 07 53 07.7 -1.9**
comp=Z,1.8nm,0.9s,baz=270,slow=6.0,SNR=3.8
FITZ Fitzroy Crossi 42.40 130 P **P 07 47 27.7 -1.9**
KURBB Kurchatov Arra 42.64 346 P **P 07 47 31.3 +0.2**
comp=Z,9.3nm,0.8s,baz=165,slow=7.5,SNR=52
KURBB PcP **PcP 07 49 22.6 +0.1**
comp=Z,1.6nm,0.6s,baz=166,slow=2.9,SNR=5.3
KURK Kurchatov 42.70 347*d i*P **P 07 47 31.2 -0.4**
KURK pmax pmax
comp=Z,12nm,1.0s
KURK Kurchatov 42.70 347 P **P 07 47 31.0 -0.6**
CN2 Changchun 44.27 34 *e*P **P 07 47 44.3 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
ZAA0 Zalesovo Array 44.75 353 P **P 07 47 47.6 -0.4**
ZALV Zalesovo Beam 44.75 353 P **P 07 47 47.9 -0.1**
comp=Z,3.4nm,0.6s,baz=178,slow=8.9,SNR=14
ZALV LR LR 08 10 45.3
comp=Z,78nm,18.3s,baz=158,slow=42
BVAR Borovoye Array 47.02 342 P **P 07 48 05.8 -0.2**
comp=Z,3.2nm,0.4s,baz=146,slow=9.1,SNR=32
BVAR PcP **PcP 07 49 37.9 +0.3**
comp=Z,1.5nm,0.6s,baz=151,slow=6.4,SNR=4.5
BRVK Borovoye 47.09 341 P **P 07 48 05.8 -0.7**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 47.09 341 P **P 07 48 05.8 -0.7**
BRVK IAmb IAmb 07 48 07.0
comp=Z,6.9nm,0.6s
RAYN Ar Rayn 47.32 293 P **P 07 48 10.6 +1.7**
RAYN pmax pmax
comp=Z,13nm,0.8s
RAYN Ar Rayn 47.32 293 P **P 07 48 10.6 +1.7**
RAYN IAmb IAmb 07 48 11.7
comp=Z,13nm,0.8s
NWAO Narrogin (SRO) 48.18 152 P **P 07 48 14.7 -0.5**
NWAO pmax pmax
comp=Z,32nm,1.4s
NWAO Narrogin (SRO) 48.18 152 P **P 07 48 14.4 -0.8**
comp=Z,4.0nm,0.4s,baz=314,slow=1.6,SNR=5.6
NWAO Narrogin (SRO) 48.18 152 P **P 07 48 14.7 -0.5**
NWAO Narrogin (SRO) 48.18 152 P **P 07 48 14.7 -0.5**
NWAO IAmb IAmb 07 49 18.2
comp=Z,42nm,1.4s
ABKAR Akbulak array 48.19 331 P **P 07 48 15.6 +0.5**
ABKAR IAmb IAmb 07 48 16.7
comp=Z,9.6nm,0.9s
USRK Ussuriysk Ar. 48.28 37 LR LR 08 09 23.1
comp=Z,54nm,20.3s,baz=64,slow=37
MJAR Matsushiro Arr 48.95 49 PcP **PcP 07 49 45.0 +0.1**
comp=Z,2.0nm,0.7s,baz=242,slow=4.5,SNR=5.0
MJAR LR LR 08 09 22.5
comp=Z,60nm,20.9s,baz=235,slow=36
ATD Arta Tunnel 49.23 277 P **P 07 48 25.0 +1.2**
comp=Z,5.9nm,0.6s,baz=100,slow=7.4,SNR=4.4
AKTO Aktyubinsk 49.91 331 P **P 07 48 28.7 +0.4**
comp=Z,3.1nm,0.7s,baz=126,slow=8.1,SNR=11
WRA Warramunga Arr 50.20 126 P **P 07 48 29.2 -1.7**
comp=Z,6.7nm,0.9s,baz=300,slow=10,SNR=33
WRA ScP **ScP 07 53 40.6 -1.6**
comp=Z,0.9nm,0.8s,baz=328,slow=3.2,SNR=4.6
WRA LR LR 08 11 48.8
comp=Z,72nm,21.6s,baz=290,slow=38
WRAB Tennant Creek 50.21 126*ce*P **P 07 48 30.0 -1.0**
WRAB pmax pmax
comp=Z,8.0nm,0.8s
WRAB Tennant Creek 50.21 126 P **P 07 48 29.6 -1.4**
WRAB IAmb IAmb 07 48 30.7
comp=Z,8.1nm,0.8s
WB2 Warramunga Arr 50.22 126 P **P 07 48 29.8 -1.3**
WB2 IAmb IAmb 07 48 30.6
comp=Z,8.0nm,0.8s
WR0 Warramunga Arr 50.38 126 P **P 07 48 30.4 -1.8**
WR0 IAmb IAmb 07 48 32.0
comp=Z,12nm,0.9s
AKT Akhty 50.88 317*ce*P **P 07 48 36.6 +0.7**
AKT pmax pmax
comp=Z,21nm,1.0s
KLR Kul'dur 51.07 32 LR LR 08 12 36.6
comp=Z,45nm,20.0s,baz=241,slow=39
AS31 Alice Springs 51.90 130 P **P 07 48 41.8 -2.0**
ASAR Alice Springs 51.90 130 P **P 07 48 41.5 -2.2**
comp=Z,3.2nm,0.7s,baz=303,slow=7.9,SNR=18
ASAR PcP **PcP 07 49 57.1 +1.1**
comp=Z,1.1nm,0.6s,baz=312,slow=3.7,SNR=4.8
ASAR ScP **ScP 07 53 47.8 -1.6**
comp=Z,0.4nm,0.7s,baz=309,slow=4.7,SNR=4.6
ASAR LR LR 08 13 37.0
comp=Z,42nm,19.3s,baz=292,slow=39
GNI Garni 52.42 314*de*P **P 07 48 49.4 +1.9**
GNI pmax pmax
comp=Z,69nm,1.3s
GNI Garni 52.42 314 P **P 07 48 47.3 -0.2**
GNI IAmb IAmb 07 48 50.1
comp=Z,19nm,1.0s
TBLG Delisi 53.02 316 P **P 07 48 52.8 +1.0**
TBLG Delisi 53.02 316 P **P 07 48 52.8 +1.0**
ARU Arti 53.88 337*d i*P **P 07 48 57.7 -0.1**
ARU S **S 07 56 33.1 +3.5**
ARU SS **SS 08 00 13.9 +2.7**
ARU pmax pmax
comp=Z,13nm,0.9s
ARU Arti 53.88 337 P **P 07 48 57.7 -0.1**
comp=Z,2.1nm,0.2s,baz=153,slow=4.5,SNR=8.6
ARU Arti 53.88 337 P **P 07 48 56.4 -1.4**
ARU IAmb IAmb 07 48 58.5
comp=Z,10nm,0.6s
GRNR Gornyy 54.42 32 *e*P **P 07 49 04.6 +2.8**
NEY Neytrino 54.98 317⇑ *e*P **P 07 49 07.7 +1.5**
NEY pmax pmax
comp=Z,3.0nm,0.8s
PYA1 Pyatigorsk 55.05 318 *e*P **P 07 49 06.4 -0.1**
KBZ Khabaz 55.05 317*ce*P **P 07 49 07.2 +0.8**
KBZ Khabaz 55.05 317 P **P 07 49 06.0 -0.4**
comp=Z,8.3nm,1.0s,baz=164,slow=5.3,SNR=6.9
KBZ LR LR 08 15 09.9
comp=Z,51nm,22.0s,baz=121,slow=39
KIV Kislovodsk 55.28 318 *e*P **P 07 49 08.7 +0.5**
KIV pmax pmax
comp=Z,71nm,1.0s
KIV MLR MLR
comp=Z,85nm,17.0s
KIV Kislovodsk 55.28 318 P **P 07 49 08.2 0.0**
YSS Yuzh-Sakhalins 56.21 39 *e*P **P 07 49 14.1 -0.6**
YSS *e* 07 49 29.0
KMBO Kilima Mbogo 56.45 262 *i*P **P 07 49 20.2 +2.9**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 56.45 262 P **P 07 49 18.9 +1.6**
comp=Z,1.7nm,0.8s,baz=186,slow=13,SNR=3.4
KMBO LR LR 08 10 11.3
comp=Z,90nm,21.7s,baz=91,slow=32
KMBO Kilima Mbogo 56.45 262 P **P 07 49 16.9 -0.4**
YAK Yakutsk 58.80 19 *e*P **P 07 49 32.0 -0.6**
YAK pmax pmax
comp=Z,7.0nm,0.8s
VRH Novokhopyorsk 58.87 325 *e*P **P 07 49 32.2 -1.2**
VRH pmax pmax
comp=Z,40nm,0.6s
VORD Divnogorie 60.16 324 *e*P **P 07 49 41.0 -1.3**
VORD pmax pmax
comp=Z,10.0nm,0.7s
CTA Charters Tower 60.17 120 P **P 07 49 42.5 -0.3**
comp=Z,10.0nm,1.0s,baz=283,slow=14,SNR=4.6
VSR Storozhevoye 60.34 324 *e*P **P 07 49 41.8 -1.7**
VSR pmax pmax
comp=Z,10.0nm,0.9s
BR131 Keskin Array S 60.44 310 P **P 07 49 43.6 -1.0**
BR131 pmax pmax
comp=Z,7.0nm,0.8s
BR131 Keskin Array S 60.44 310 P **P 07 49 43.6 -1.0**
BR131 IAmb IAmb 07 49 44.5
comp=Z,6.7nm,0.8s
BRTR Keskin Array B 60.44 310 P **P 07 49 43.7 -0.9**
comp=Z,6.6nm,0.8s,baz=124,slow=6.8,SNR=22
BRTR LR LR 08 18 43.1
comp=Z,13nm,19.9s,baz=93,slow=39
LPSR Galich'ya Gora 61.04 326 *e*P **P 07 49 47.1 -1.1**
LPSR pmax pmax
comp=Z,30nm,1.2s
BR231 Keskin MP Arra 61.11 310 P **P 07 49 47.6 -1.5**
STKA Stephens Creek 62.12 134 P **P 07 49 55.5 -0.3**
STKA pmax pmax
comp=Z,3.0nm,1.5s
STKA Stephens Creek 62.12 134 P **P 07 49 54.5 -1.3**
comp=Z,2.4nm,0.7s,baz=304,slow=4.3,SNR=6.0
STKA LR LR 08 19 46.3
comp=Z,48nm,18.8s,baz=11,slow=39
STKA Stephens Creek 62.12 134 P **P 07 49 55.5 -0.3**
PRGR Permogore 62.34 337 *e*P **P 07 49 55.5 -1.2**
PRGR pmax pmax
comp=Z,14nm,0.6s
ELL Elmali 62.77 306 P **P 07 49 59.3 -1.0**
ELL pmax pmax
comp=Z,82nm,0.9s
ELL Elmali 62.77 306 P **P 07 49 59.3 -1.0**
OBN Obninsk 63.33 328⇑ *e*P **P 07 50 03.3 -0.2**
OBN *e* 07 50 40.7
OBN *e* 07 52 24.2
OBN pmax pmax
comp=Z,18nm,1.0s
OBN MLR MLR
comp=Z,71nm,16.0s
OBN Obninsk 63.33 328 P **P 07 50 03.5 0.0**
MANT Manisa 64.09 308 P **P 07 50 07.8 -1.4**
TIXI Tiksi 65.83 12*de*P **P 07 50 18.3 -1.2**
TIXI pmax pmax
comp=Z,18nm,0.8s
TIXI Tiksi 65.83 12 P **P 07 50 18.5 -1.0**
comp=Z,14nm,0.7s,baz=360,slow=24,SNR=37
TIXI Tiksi 65.83 12 P **P 07 50 18.5 -1.0**
MA2 Magadan 65.84 28 P **P 07 50 17.0 -2.8**
MA2 Magadan 65.84 28 P **P 07 50 17.0 -2.8**
SORM Soroca 66.04 319⇑ P **P 07 50 19.8 -1.6**
AKASG Malin Array Be 66.10 321 P **P 07 50 20.6 -1.0**
comp=Z,7.4nm,0.8s,baz=90,slow=4.8,SNR=21
AKASG LR LR 08 23 32.8
comp=Z,37nm,19.5s,baz=305,slow=40
AKBB Malin Array Si 66.10 321 P **P 07 50 20.7 -1.0**
AKBB pmax pmax
comp=Z,8.0nm,0.9s
AKBB Malin Array Si 66.10 321 P **P 07 50 20.7 -1.0**
AKBB IAmb IAmb 07 50 21.3
comp=Z,7.9nm,0.9s
ALN Alexandroupoli 66.36 310 P **P 07 50 23.5 0.0**
ALN pmax pmax
comp=Z,10.0nm,1.1s
ALN Alexandroupoli 66.36 310 P **P 07 50 23.5 0.0**
ALN IAmb IAmb 07 50 23.9
comp=Z,10.0nm,1.1s
VRI Vrincioaia 66.67 316⇑ P **P 07 50 25.5 0.0**
ELND Elena 66.78 313⇑ P **P 07 50 25.1 -1.1**
TESR Tescani 66.84 317⇑ P **P 07 50 25.5 -1.0**
MLR Muntele Rosu 67.14 315 P **P 07 50 28.6 0.0**
MLR pmax pmax
comp=Z,18nm,0.9s
MLR Muntele Rosu 67.14 315⇑ P **P 07 50 29.3 +0.7**
MLR Muntele Rosu 67.14 315 P **P 07 50 28.6 0.0**
BIZ Bicaz 67.29 317⇑ P **P 07 50 28.8 -0.6**

PETK	**Petropavlovsk-**	**67.35**	**36**	LR	LR	08 22 35.5		
	comp=Z,38nm,19.0s,baz=244,slow=38							
DOPR	**Dopca**	**67.61**	**316**	⇑P	**P**	**07 50 30.6**	**-0.8**	
PLVB	**Pleven**	**67.75**	**313**	⇑P	**P**	**07 50 32.1**	**-0.3**	
VOIR		**67.75**	**315**	⇓P	**P**	**07 50 31.5**	**-0.9**	
SEY	**Seymchan**	**67.91**	**25**	⇓*e*P	**P**	**07 50 36.8**	**+3.9**	
BURAR	**Bucovina Array**	**68.01**	**318**	⇑P	**P**	**07 50 33.7**	**-0.2**	
BURAR				mb		07 50 34.8		
BUR08	**Bucovina Ar. S**	**68.02**	**318**	P	**P**	**07 50 34.3**	**+0.2**	
ARR	**Arges**	**68.03**	**315**	⇑P	**P**	**07 50 32.9**	**-1.3**	
ARCR	**ARCALIA**	**68.50**	**317**	⇑P	**P**	**07 50 36.4**	**-0.6**	
NACGM	**Naroch**	**68.59**	**325**	*e*	**P**	**07 50 36.0**	**-1.3**	
VTS	**Vitosha**	**68.66**	**312**	P	**P**	**07 50 37.7**	**-0.6**	
VTS	**Vitosha**	**68.66**	**312**	P	**P**	**07 50 37.7**	**-0.6**	
LSZ	**Lusaka**	**68.72**	**250**	P	**P**	**07 50 40.7**	**+1.7**	
LSZ				pmax	pmax			
	comp=Z,5.0nm,0.9s							
LSZ	**Lusaka**	**68.72**	**250**	P	**P**	**07 50 40.7**	**+1.7**	
GZR	**Gura Zlata**	**69.33**	**315**	⇑P	**P**	**07 50 42.0**	**-0.3**	
TRPA	**Tarpa**	**69.87**	**318**	⇑P	**P**	**07 50 45.6**	**+0.2**	
TRPA				mb		07 50 46.3		
TRPA	**Tarpa**	**69.87**	**318**	*e*P	**P**	**07 50 44.0**	**-1.4**	
MDVR	**Moldovita**	**70.01**	**314**	⇑P	**P**	**07 50 46.1**	**-0.3**	
KOLS	**Kolonicke sedl**	**70.16**	**319**	*e*P	**P**	**07 50 47.6**	**+0.4**	
KOLS				pmax	pmax			
	comp=Z,10.0nm,1.5s							
KOLS	**Kolonicke sedl**	**70.16**	**319**	*e*P	**P**	**07 50 47.6**	**+0.4**	
BZS	**Buzias**	**70.17**	**315**	⇓P	**P**	**07 50 46.7**	**-0.6**	
SUW	**Suwalki**	**70.45**	**324**	*e*P	**P**	**07 50 48.2**	**-0.6**	
SUW	**Suwalki**	**70.45**	**324**	*e*P	**P**	**07 50 48.2**	**-0.6**	
SUW				*e*P	**P**	**07 50 48.2**	**-0.6**	
SUW	**Suwalki**	**70.45**	**324**	P	**P**	**07 50 47.7**	**-1.1**	
FINES	**FINESS Array B**	**70.67**	**332**	*i* P	**P**	**07 50 49.5**	**-0.5**	
FINES				pmax	pmax			
	comp=Z,5.0nm,0.8s							
FINES	**FINESS Array B**	**70.67**	**332**	P	**P**	**07 50 49.6**	**-0.4**	
	comp=Z,4.8nm,0.8s,baz=92,slow=5.4,SNR=9.6							
FINES				LR	LR	08 23 44.8		
	comp=Z,60nm,19.3s,baz=138,slow=37							
PDG	**Podgorica**	**71.57**	**312**	⇑P	**P**	**07 50 55.1**	**-0.8**	
PDG				mb		07 50 55.6		
PDG	**Podgorica**	**71.57**	**312**	P	**P**	**07 50 55.0**	**-0.8**	
PDG				IAmb	IAmb	07 50 55.6		
	comp=Z,9.2nm,0.9s							
OJC	**Ojcow**	**71.93**	**320**	*e*P	**P**	**07 50 57.7**	**-0.2**	
OJC	**Ojcow**	**71.93**	**320**	*e*P	**P**	**07 50 57.6**	**-0.2**	
OJC				*e*P	**P**	**07 50 57.6**	**-0.2**	
OJC	**Ojcow**	**71.93**	**320**	P	**P**	**07 50 56.6**	**-1.2**	
MORH	**Mrgy, Hungar**	**72.30**	**315**	*e*P	**P**	**07 50 59.1**	**-1.0**	
VYHS	**Vyhne**	**72.37**	**318**	*e*P	**P**	**07 51 00.1**	**-0.5**	
VYHS				pmax	pmax			
	comp=Z,6.0nm,0.8s							
VYHS	**Vyhne**	**72.37**	**318**	*e*P	**P**	**07 51 00.1**	**-0.5**	
OKC	**Ostrava-Krasne**	**72.95**	**319**	*e*P	**P**	**07 51 04.1**	**+0.2**	
OKC	**Ostrava-Krasne**	**72.95**	**319**	*e*P	**P**	**07 51 04.1**	**+0.2**	
MPLH	**Magyarpolny**	**73.13**	**316**	*e*P	**P**	**07 51 04.1**	**-1.0**	
JAVC	**Velka Javorina**	**73.17**	**318**	*e*P	**P**	**07 51 06.2**	**+0.8**	
BLY	**Banja Luka**	**73.22**	**314**	P	**P**	**07 51 05.2**	**-0.4**	
BLY				IAmb	IAmb	07 51 06.2		
	comp=Z,11nm,1.0s							
ARCES	**ARCESS Array B**	**73.29**	**340**	P	**P**	**07 51 05.3**	**-0.3**	
	comp=Z,3.1nm,0.9s,baz=77,slow=6.9,SNR=6.4							
ARCES				LR	LR	08 25 58.3		
	comp=Z,132nm,19.6s,baz=156,slow=38							
TIP	**Timpagrande**	**73.33**	**308**	⇑P	**P**	**07 51 05.6**	**-0.8**	
TIP				mb		07 51 07.4		
TIP	**Timpagrande**	**73.33**	**308**	P	**P**	**07 51 06.0**	**-0.4**	
TIP				IAmb	IAmb	07 51 07.3		
	comp=Z,11nm,1.1s							
MORC	**Moravsky Berou**	**73.33**	**319**	P	**P**	**07 51 06.1**	**-0.2**	
MORC				pmax	pmax			
	comp=Z,14nm,1.0s							
MORC	**Moravsky Berou**	**73.33**	**319**	⇑P	**P**	**07 51 06.5**	**+0.2**	
MORC				mb		07 51 07.5		
MORC	**Moravsky Berou**	**73.33**	**319**	*e*P	**P**	**07 51 06.5**	**+0.2**	
MORC	**Moravsky Berou**	**73.33**	**319**	P	**P**	**07 51 06.1**	**-0.2**	
MORC				IAmb	IAmb	07 51 07.5		
	comp=Z,14nm,1.0s							
MODS	**Modra-Piesok**	**73.39**	**318**	*e*P	**P**	**07 51 06.1**	**-0.5**	
MODS				pmax	pmax			
	comp=Z,10.0nm,1.1s							
MODS	**Modra-Piesok**	**73.39**	**318**	*e*P	**P**	**07 51 06.1**	**-0.5**	
VRAC	**Vranov**	**73.91**	**319**	*e*P	**P**	**07 51 09.5**	**-0.1**	
KOGS	**Kog**	**73.97**	**316**	*i* P	**P**	**07 51 10.1**	**+0.1**	
LBTB	**Lobatse**	**74.02**	**241**	P	**P**	**07 51 12.7**	**+1.9**	
LBTB				pmax	pmax			
	comp=Z,6.0nm,0.7s							
LBTB	**Lobatse**	**74.02**	**241**	P	**P**	**07 51 12.7**	**+1.9**	
LBTB				IAmb	IAmb	07 51 12.9		
	comp=Z,6.1nm,0.7s							
KRUC	**Moravsky**	**74.02**	**318**	*e*P	**P**	**07 51 10.2**	**-0.1**	
DPC	**Dobruska-Polom**	**74.16**	**320**	*e*P	**P**	**07 51 11.5**	**+0.4**	
DPC	**Dobruska-Polom**	**74.16**	**320**	*e*P	**P**	**07 51 11.5**	**+0.4**	
KSP	**Ksiaz**	**74.22**	**320**	*e*P	**P**	**07 51 12.0**	**+0.6**	
KSP	**Ksiaz**	**74.22**	**320**	*e*P	**P**	**07 51 12.0**	**+0.6**	
KSP				*e*P	**P**	**07 51 12.0**	**+0.6**	
CONA	**Conrad Observa**	**74.31**	**317**	*i* P	**P**	**07 51 11.4**	**-0.7**	
	comp=Z,4.5nm,0.9s							
CHVC	**Chvalec**	**74.35**	**320**	*e*P	**P**	**07 51 12.8**	**+0.6**	
UPC	**Upice**	**74.37**	**320**	*e*P	**P**	**07 51 13.0**	**+0.7**	
UPC	**Upice**	**74.37**	**320**	*e*P	**P**	**07 51 13.0**	**+0.7**	
ARSA	**Arzberg**	**74.50**	**316**	*i* P	**P**	**07 51 13.3**	**+0.2**	
	comp=Z,11nm,1.1s							
PERS	**Pernice**	**74.75**	**316**	*i* P	**P**	**07 51 14.8**	**+0.2**	
SOKA	**Soboth**	**74.81**	**316**	*i* P	**P**	**07 51 15.1**	**+0.1**	
	comp=Z,14nm,1.0s,SNR=8.7							
BILL	**Bilibino**	**74.97**	**22**	*i* P	**P**	**07 51 14.3**	**-1.1**	
BILL				*i*		07 51 24.4		
BILL				pmax	pmax			
	comp=Z,3.0nm,1.0s							
GOPC	**GO Pecny, Ondr**	**75.12**	**319**	*e*P	**P**	**07 51 16.8**	**+0.1**	
GOPC	**GO Pecny, Ondr**	**75.12**	**319**	*e*P	**P**	**07 51 16.8**	**+0.1**	
OBKA	**Obir**	**75.14**	**316**	*i* P	**P**	**07 51 16.5**	**-0.5**	
	comp=Z,7.2nm,0.9s							
PRU	**Pruhonice**	**75.28**	**319**	*e*P	**P**	**07 51 17.9**	**+0.3**	
PRU	**Pruhonice**	**75.28**	**319**	*e*P	**P**	**07 51 17.9**	**+0.3**	
MOA	**Molln**	**75.38**	**317**	*i* P	**P**	**07 51 17.2**	**-1.0**	
	comp=Z,4.3nm,0.8s							
BOSA	**Boshof**	**75.48**	**237**	P	**P**	**07 51 20.2**	**+0.9**	
BOSA				pmax	pmax			
	comp=Z,16nm,1.2s							
BOSA	**Boshof**	**75.48**	**237**	P	**P**	**07 51 20.1**	**+0.9**	
	comp=Z,6.4nm,0.9s,baz=69,slow=3.5,SNR=7.5							
BOSA				LR	LR	08 19 26.1		
	comp=Z,64nm,20.5s,baz=34,slow=32							
BOSA	**Boshof**	**75.48**	**237**	P	**P**	**07 51 20.2**	**+0.9**	
BOSA				IAmb	IAmb	07 51 21.4		
	comp=Z,16nm,1.2s							
PBCC	**Pribram**	**75.62**	**319**	*e*P	**P**	**07 51 19.7**	**+0.2**	
BRG	**Berggiesshubel**	**75.70**	**320**	*i* P	**P**	**07 51 20.2**	**+0.2**	
	comp=Z,11nm,0.9s							
BRG				*e*		07 51 31.0		
	comp=Z,2.5nm,0.6s							
BRG	**Berggiesshubel**	**75.70**	**320**	*i* P	**P**	**07 51 20.2**	**+0.2**	
BRG				*e*		07 51 31.0		
BRG				pmax	pmax			
	comp=Z,5.0nm,0.9s							
BRG				pmax	pmax			
	comp=Z,11nm,0.6s							
MYKA	**Terra Mystica**	**75.77**	**316**	*i* P	**P**	**07 51 20.0**	**-0.5**	
	comp=Z,4.2nm,0.8s							
GEC2	**GERESS Array S**	**75.79**	**318**	P	**P**	**07 51 20.4**	**-0.2**	
GEC2				IAmb	IAmb	07 51 21.5		
	comp=Z,13nm,0.8s							
GERES	**GERESS Array B**	**75.79**	**318**	P	**P**	**07 51 20.6**	**-0.1**	
	comp=Z,8.4nm,0.7s,baz=84,slow=5.5,SNR=23							
KHC	**Kasperske Hory**	**75.88**	**318**	*e*P	**P**	**07 51 21.0**	**0.0**	
KHC	**Kasperske Hory**	**75.88**	**318**	*e*P	**P**	**07 51 21.0**	**0.0**	
KHC	**Kasperske Hory**	**75.88**	**318**	P	**P**	**07 51 20.9**	**-0.2**	
CLL	**Collm**	**76.31**	**320**	⇓*i*P	**P**	**07 51 23.0**	**-0.4**	
CLL				pmax	pmax			
	comp=Z,9.0nm,0.8s							
CLL	**Collm**	**76.31**	**320**	⇓*i*P	**P**	**07 51 23.0**	**-0.4**	
	comp=Z,9.0nm,0.8s							
CLL	**Collm**	**76.31**	**320**	P	**P**	**07 51 23.6**	**+0.2**	
CLL				IAmb	IAmb	07 51 24.2		
	comp=Z,12nm,1.2s							
STAL	**STALIGIAL**	**76.41**	**315**	P	**P**	**07 51 23.6**	**-0.5**	
STAL				IAmb	IAmb	07 51 24.5		
	comp=Z,23nm,1.1s							
ABTA	**Abfaltersbach**	**76.55**	**316**	*i* P	**P**	**07 51 24.2**	**-0.8**	
	comp=Z,4.6nm,0.7s							
CTI	**Castel Tesino**	**77.15**	**315**	P	**P**	**07 51 28.5**	**+0.1**	
CTI				pmax	pmax			
	comp=Z,17nm,0.9s							
CTI	**Castel Tesino**	**77.15**	**315**	P	**P**	**07 51 28.4**	**+0.1**	
CTI				IAmb	IAmb	07 51 29.2		
	comp=Z,17nm,0.9s							
WTTA	**Wattenberg**	**77.15**	**316**	*i* P	**P**	**07 51 26.4**	**-2.0**	
	comp=Z,11nm,0.7s,SNR=5.3							
WATA	**Walderalm**	**77.19**	**316**	*i* P	**P**	**07 51 27.6**	**-1.1**	
	comp=Z,6.0nm,0.6s							
SQTA	**Sankt Quirin**	**77.44**	**316**	*i* P	**P**	**07 51 28.9**	**-1.1**	
	comp=Z,10nm,0.7s							
NC405	**NORSAR Array S**	**77.45**	**331**	P	**P**	**07 51 29.4**	**-0.2**	
MOTA	**Moosalm**	**77.51**	**316**	*i* P	**P**	**07 51 29.6**	**-0.8**	
	comp=Z,18nm,0.9s,SNR=6.6							
NC602	**NORSAR Array S**	**77.51**	**330**	P	**P**	**07 51 29.6**	**-0.4**	
ZCCA	**Zocca**	**77.65**	**313**	P	**P**	**07 51 32.6**	**+1.5**	
NB2	**NORSAR Subarra**	**77.69**	**330**	P	**P**	**07 51 29.9**	**-1.1**	
	comp=Z,1.6nm,0.7s,baz=96,slow=5.1							
NOA	**NORSAR Array B**	**77.69**	**330**	P	**P**	**07 51 29.9**	**-1.1**	
	comp=Z,2.6nm,0.8s,baz=93,slow=5.7,SNR=8.8							
NOA				LR	LR	08 30 21.2		
	comp=Z,30nm,18.3s,baz=130,slow=39							
RETA	**Reutte**	**77.74**	**317**	*i* P	**P**	**07 51 31.2**	**-0.4**	
	comp=Z,14nm,0.8s,SNR=7.0							
FETA	**Feichten**	**77.77**	**316**	*i* P	**P**	**07 51 30.8**	**-1.2**	
	comp=Z,13nm,0.9s,SNR=5.4							
SALO	**Salr**	**77.94**	**315**	P	**P**	**07 51 31.5**	**-1.2**	
SPA0	**Spitsbergen Ar**	**77.95**	**348**	P	**P**	**07 51 32.6**	**+0.5**	
DAVA	**Damuels**	**78.34**	**316**	*i* P	**P**	**07 51 34.8**	**-0.3**	
	comp=Z,24nm,1.0s,SNR=6.2							
KEST	**Kesra**	**79.31**	**305**	P	**P**	**07 51 40.9**	**+0.4**	
	comp=Z,9.9nm,0.8s,baz=164,slow=1.7,SNR=9.6							
KEST				LR	LR	08 31 39.7		
	comp=Z,16nm,19.0s,baz=250,slow=39							
KEST	**Kesra**	**79.31**	**305**	P	**P**	**07 51 40.6**	**+0.1**	
KEST				IAmb	IAmb	07 51 41.9		
	comp=Z,14nm,0.9s							
BFO	**Black Forest**	**79.36**	**317**	*i* P	**P**	**07 51 40.7**	**+0.2**	
BFO	**Black Forest**	**79.36**	**317**	P	**P**	**07 51 38.6**	**-1.9**	
BFO				IAmb	IAmb	07 52 49.8		
	comp=Z,7.6nm,0.6s							
SENIN	**Lac Senin/Sane**	**80.16**	**316**	P	**P**	**07 51 44.7**	**-0.3**	
SENIN				IAmb	IAmb	07 51 46.4		
	comp=Z,24nm,1.4s							
SUR	**Sutherland**	**80.31**	**235**	P	**P**	**07 51 46.9**	**+0.8**	
BNI	**Bardonecchia**	**80.68**	**314**	P	**P**	**07 51 47.5**	**-0.3**	
BNI				pmax	pmax			
	comp=Z,14nm,0.9s							
BNI	**Bardonecchia**	**80.68**	**314**	P	**P**	**07 51 47.5**	**-0.3**	
BNI				IAmb	IAmb	07 51 52.2		
	comp=Z,14nm,0.9s							
SSB	**Saint Sauveur**	**82.16**	**315**	P	**P**	**07 51 55.7**	**+0.2**	
SSB				pmax	pmax			
	comp=Z,9.0nm,0.9s							
SSB	**Saint Sauveur**	**82.16**	**315**	P	**P**	**07 51 55.7**	**+0.2**	
SSB				IAmb	IAmb	07 51 56.4		
	comp=Z,9.3nm,0.9s							
SYO	**Syowa Base**	**86.66**	**197**	⇑*e*P	**P**	**07 52 18.0**	**+0.4**	
SYO	**Syowa Base**	**86.66**	**197**	⇑*e*PcP	**PcP**	**07 52 20.8**	**+0.9**	
TOA0	**Torodi Ar. Sit**	**89.06**	**283**	P	**P**	**07 52 28.7**	**-1.6**	
TORD	**Torodi Ar. Bea**	**89.06**	**283**	P	**P**	**07 52 30.9**	**+0.7**	
	comp=Z,3.3nm,0.8s,baz=84,slow=4.5,SNR=19							
TORD				LR	LR	08 33 42.6		
	comp=Z,37nm,18.1s,baz=65,slow=36							
ESDC	**Sonseca Array**	**89.23**	**310**	P	**P**	**07 52 31.0**	**+0.3**	
	comp=Z,2.6nm,0.8s,baz=59,slow=4.4,SNR=8.4							
COLA	**College**	**93.23**	**22**	⇑*e*P	**P**	**07 52 49.6**	**+1.0**	
COLA				pmax	pmax			
	comp=Z,3.0nm,1.3s							
ILAR	**Eielson Array**	**93.64**	**22**	P	**P**	**07 52 49.0**	**-1.6**	
	comp=Z,0.8nm,0.7s,baz=303,slow=4.4,SNR=13							
INK	**Inuvik**	**95.71**	**16**	P	**P**	**07 52 59.9**	**0.0**	
INK				pmax	pmax			
	comp=Z,6.0nm,1.4s							
INK	**Inuvik**	**95.71**	**16**	P	**P**	**07 52 58.0**	**-1.9**	
	comp=Z,2.2nm,1.0s,baz=301,slow=5.9,SNR=6.1							
INK	**Inuvik**	**95.71**	**16**	P	**P**	**07 52 59.9**	**0.0**	
INK				IAmb	IAmb	07 53 16.8		
	comp=Z,6.2nm,1.4s							
DBIC	**Dimbokro**	**96.53**	**278**	LR	LR	08 36 19.5		
	comp=Z,30nm,18.3s,baz=58,slow=35							
YKA	**Yellowknife Ar**	**105.07**	**13**	PKiKP	**PKiKP**	**07 57 56.9**	**+0.6**	
	comp=Z,6.6nm,0.8s,baz=334,slow=7.8,SNR=5.8							
PDAR	**Pinedale Array**	**124.02**	**20**	PKP	**PKPdf**	**07 58 32.9**	**-0.4**	
	comp=Z,0.5nm,0.7s,baz=27,slow=1.7,SNR=5.3							
NVAR	**Mina Array Bea**	**124.07**	**29**	PKP	**PKiKP**	**07 58 34.1**	**+0.3**	
	comp=Z,0.5nm,0.8s,baz=284,slow=3.6,SNR=2.9							
ANMO	**Albuquerque**	**132.08**	**22**	⇑*i*PKiKP	**PKiKP**	**07 58 50.9**	**+1.0**	
TXAR	**Lajitas Array**	**138.15**	**22**	PKP	**PKPdf**	**07 59 00.5**	**+0.3**	
	comp=Z,0.4nm,0.7s,baz=222,slow=1.2,SNR=4.9							
TXAR				SKPbc	**SKPbc**	**08 02 30.9**	**0.0**	
	comp=Z,0.7nm,0.8s,baz=268,slow=2.4,SNR=8.6							
PLCA	**Paso Flores**	**145.67**	**203**	PKP2	**PKPab**	**07 59 14.6**	**+0.8**	
PLCA	**Paso Flores**	**145.67**	**203**	PKPbc	**PKPab**	**07 59 14.3**	**+0.5**	
	comp=Z,8.1nm,1.0s,baz=172,slow=2.8,SNR=14							
PLCA	**Paso Flores**	**145.67**	**203**	PKPbc	**PKPab**	**07 59 14.6**	**+0.8**	
CPUP	**Villa Florida**	**147.28**	**235**	PKP2	**PKPbc**	**07 59 18.2**	**-0.3**	
CPUP	**Villa Florida**	**147.28**	**235**	PKPbc	**PKPbc**	**07 59 17.8**	**-0.7**	
	comp=Z,3.5nm,0.8s,baz=162,slow=7.1,SNR=7.2							
CPUP	**Villa Florida**	**147.28**	**235**		**PKPbc**	**07 59 18.2**	**-0.3**	
CFA	**Coronel Fontan**	**151.95**	**216**	PKPbc	**PKiKP**	**07 59 30.6**	**+0.2**	
	comp=Z,2.5nm,0.7s,baz=193,slow=1.5,SNR=6.8							
CFA				PKPab	**PKPab**	**07 59 38.5**	**-0.8**	
	comp=Z,3.7nm,0.7s,baz=280,slow=1.9,SNR=9.4							
SIV	**San Ignacio**	**153.88**	**253**	PKPab	**PKPab**	**07 59 48.4**	**+0.5**	
	comp=Z,1.8nm,0.8s,baz=139,slow=3.6,SNR=5.1							
LVC	**Limon Verde**	**158.29**	**231**	PKPab	**PKPab**	**08 00 08.5**	**+1.5**	
	comp=Z,3.5nm,0.7s,baz=247,slow=7.1,SNR=3.7							
LPAZ	**La Paz**	**160.38**	**248**	PKP2	**PKPab**	**08 00 16.6**	**0.0**	
LPAZ	**La Paz**	**160.38**	**248**	PKPab	**PKPab**	**08 00 16.3**	**-0.3**	
	comp=Z,2.1nm,0.9s,baz=121,slow=4.8,SNR=8.4							
LPAZ	**La Paz**	**160.38**	**248**		**PKPab**	**08 00 16.6**	**0.0**	

DJA ***09*** *07:40:13.6±0.3, 3°S±2°×12°9E±°,* **h10**km*, M4.2/9,* **mb4.7**/2*,* **mB4.7/2, MLv3.9**/9*,* **Mw(mB)4.0**/2*, Ceram Sea*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.71**	**143**	P	Pg	07 40 27.6	+0.3
MSAI				S	Sb	07 40 37.9	+0.1
AAI	**Ambon**	**0.95**	**199**	P	Pb	07 40 32.1	-0.1
AAI				S	Sb	07 40 45.5	+0.6
NLAI	**Namlea**	**1.47**	**252**	P	Pn	07 40 40.4	+0.2
BNDI	**Bandanaira**	**2.23**	**141**	P	Pn	07 40 50.7	+0.1
SANI	**Sanana**	**2.61**	**286**	P	Pn	07 40 54.9	-1.0
SWI	**Sorong**	**3.35**	**55**	P	Pn	07 41 06.1	0.0
SWI				S	Sn	07 41 45.1	-0.9
APSI	**Ampana**	**7.09**	**285**	P	Pn	07 41 57.7	+0.1
	110nm,0.7s,907nm0.4nm						

IDC ***09*** *07:42:20.8±7.2, 2°07N×96°23E, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.5/59, mbtmp3.9/4, ML4.7/1, Error ellipse: s-maj=140.9km s-min=40.8km az=17.0*

ISCJB ***09*** *07:42:21.2±1.0, 1°87N±0°06×96°67E±0°09, h28km, mb4.0/2, Error ellipse: s-maj=13.5km s-min=8.5km az=172.6*

DJA ***09*** *07:42:21.3±0.6, 2°N±3°×9°7E±°, h10km, M3.4/5, MLv3.4/5*

ISC 09 07:42:22.6±1.4,**1°89N**±0°07×**96°65E**±0°08,**h28**km,**n12**, σ1**§03/12, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.61**	**328**	P	**Pn**	**07 42 35.0**	**-0.5**
GSI	**Gunungsitoli**	**1.09**	**122**	P	**Pn**	**07 42 40.2**	**-1.8**
TPTI		**1.47**	**21**	P	**Pn**	**07 42 45.5**	**-1.7**
TPTI				S	**Sn**	**07 43 05.1**	**-0.4**
KCSI	**Kotacane, Aceh**	**1.97**	**35**	P	**Pn**	**07 42 53.5**	**-0.7**
KCSI				S	**Sn**	**07 43 18.1**	**0.0**
PSI	**Prapat**	**2.45**	**68**	Pn	**Pb**	**07 43 06.5**	**+0.5**
	2.6nm,0.3s,baz=267,slow=12,SNR=5.6						
PSI				Sn	**Sb**	**07 43 37.2**	**+1.4**
	2.9nm,0.3s,baz=5.8,slow=19,SNR=5.0						
PBSI	**Pulau Batu**	**2.52**	**140**	P	**Pn**	**07 43 01.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**16.62**	**8**	Pn	**Pn**	**07 46 13.8**	**0.0**
	1.1nm,0.3s,baz=199,slow=11,SNR=1.7						
H08S2	**Diego Garcia H**	**25.89**	**248**	T	T	08 14 36.4	
	baz=69,slow=76,SNR=33						
H08S3	**Diego Garcia H**	**25.89**	**248**	T	T	08 14 36.7	
	baz=69,slow=76,SNR=36						
H08S1	**Diego Garcia H**	**25.91**	**248**	T	T	08 14 37.8	
	baz=69,slow=76,SNR=35						
MKAR	**Makanchi Array**	**46.45**	**346**	P	**P**	**07 50 47.5**	**+0.4**
	0.8nm,0.6s,baz=157,slow=8.8,SNR=5.2						
ZALV	**Zalesovo Beam**	**52.80**	**351**	P	**P**	**07 51 35.5**	**+0.3**
	1.4nm,0.5s,baz=180,slow=7.3,SNR=4.7						

ISCJB ***09*** *07:48:58.2±0.5, 19°06N±0°04×146°4E±0°1, h83km, mb3.5/11, Error ellipse: s-maj=15.8km s-min=5.1km az=2.2*

NEIC ***09*** *07:49:00.4±1.6, 19°00N±0°03×146°4E±0°2, h90km±9km, mb4.1/5*

IDC ***09*** *07:49:01.9±2.9, 19°02N×146°35E, h103km±27km, mb3.3/11, mb1 3.6/14, mb1mx3.5/45, mbtmp3.8/14, Error ellipse: s-maj=29.8km s-min=14.3km az=86.0*

ISC 09 07:48:59.7±0.7,**19°06N**±0°05×**146°3E**±0°1,**h83**km,**n26**, σ1**§25/27, mb3.8/14, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**2.40**	**192**	Pn	**Pn**	**07 49 37.3**	**+0.2**
SARN					**Sn**	**07 50 06.5**	**+0.8**
ANA2	**Anatahan**	**2.76**	**192**		**Pn**	**07 49 41.9**	**-0.1**
ANA2				Sn	**Sn**	**07 50 13.1**	**-1.4**
GUMO	**Guam**	**5.61**	**195**	P	**Pn**	**07 50 23.1**	**+2.4**
	16nm,0.3s,baz=89,slow=3.0,SNR=9.9						
GUMO				S	**Sn**	**07 51 23.2**	**-0.7**
	12nm,0.3s,baz=198,slow=20,SNR=4.1						
GUMO	**Guam**	**5.61**	**195**		**Pn**	**07 50 20.7**	**0.0**
GUMO					**Sn**	**07 51 23.7**	**-0.2**
JCJ	**Chichijima**	**8.86**	**335**	P	**Pn**	**07 51 06.4**	**+1.5**
	12nm,0.3s,baz=300,slow=22,SNR=6.8						
JCJ				S	**Sn**	**07 52 40.3**	**-2.7**
	1.7nm,0.3s,baz=288,slow=19,SNR=2.2						
PATS	**Pohnpei**	**16.84**	**135**		**Pn**	**07 52 50.1**	**-0.3**
MJAR	**Matsushiro Ar**	**18.82**	**339**	P	**P**	**07 53 13.6**	**+0.8**
	0.1nm,0.3s,baz=144,slow=10,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**19.30**	**88**	T	T	08 14 12.5	
	baz=274,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**19.31**	**88**	T	T	08 14 12.5	
	baz=274,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**19.32**	**88**	T	T	08 14 13.1	
	baz=274,slow=75,SNR=5.0						
KSRS	**Korea Array**	**24.38**	**323**	P	**P**	**07 54 11.0**	**+0.9**
	0.7nm,0.4s,baz=147,slow=8.9,SNR=4.1						
USRK	**Ussuriysk Ar.**	**27.79**	**338**	P	**P**	**07 54 42.4**	**+1.6**
	1.7nm,0.6s,baz=134,slow=8.7,SNR=6.1						
WR0	**Warramunga Arr**	**40.46**	**197**	P	**P**	**07 56 31.4**	**+1.0**
WB2	**Warramunga Arr**	**40.50**	**197**	P	**P**	**07 56 28.9**	**-1.8**
WB2				IAmb	IAmb	07 56 29.9	
	comp=Z,4.7nm,1.2s						
WRA	**Warramunga Arr**	**40.50**	**197**	P	**P**	**07 56 29.7**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=13,slow=8.3,SNR=12						
FITZ	**Fitzroy Crossi**	**42.14**	**210**	P	**P**	**07 56 43.5**	**-0.6**
FITZ				IAmb	IAmb	07 56 57.4	
	comp=Z,3.4nm,1.1s						
SONM	**Songino Array**	**43.23**	**321**	P	**P**	**07 56 54.2**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=141,slow=7.5,SNR=3.5						
ASAR	**Alice Springs**	**44.16**	**196**	P	**P**

GO03	Copiap	5.56	204	*i* P	Pn	08 12 18.5	-0.8
CYA	Choya	6.17	164	*i* P	Pn	08 12 27.9	+0.7
LPAZ	La Paz	6.18	356	*i* P	Pn	08 12 30.3	+2.3
ACLC	CERRO LA CRUZ	6.94	174	*i* P	Pn	08 12 38.7	+1.4
APLL	PUNTA DE LOS L	7.94	172	*i* P	Pn	08 12 50.9	+0.5
ACCO	Cerro Coronel	8.15	188	*i* P	Pn	08 12 54.0	+0.7
AMOG	MOGNA	8.44	185	*i* P	Pn	08 12 56.0	-0.9
RTLL	Cerro Villicun	8.83	184	*i* P	Pn	08 13 02.4	+0.4
CFA	Coronel Fontan	9.09	183	*i* P	Pn	08 13 05.9	+0.5

*ISCJB **09** 08:32:38.0±0.7, 48°19'N±0.08″×154°7'E±0.2, h33km, mb3.7/9, MS3.7/1, Error ellipse: s-maj=18.7km s-min=5.4km az=35.2*

*KRSC **09** 08:32:39.9±1.1, 48°17'N×156°32'E, h17km±22km, ML4.1*

*IDC **09** 08:32:42.6±3.2, 48°14'N×154°56'E, h65km±29km, mb3.4/9, mb1 3.5/11, mb1mx3.3/57, mbtmp3.7/11, ML3.0/2, MS3.7/1, Ms1 3.7/1, ms1mx2.5/35, Error ellipse: s-maj=24.3km s-min=17.3km az=136.0*

ISC 09 08:32:39.6±0.9, 48°2'N±0°1×154°9'E±0°1, h33km, n33, σ2s14/34, mb3.6/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.61**	**18**	*e*P	**Pn**	**08 33 21.3**	**+1.9**
SKR				*e*S	**Sn**	**08 33 52.5**	**+2.6**
PAU	**Pauzhetka**	**3.50**	**20**	P	**Pn**	**08 33 33.4**	**+1.8**
PAU				*e*S	**Sn**	**08 34 13.1**	**+1.3**
KDTR	**Khodutka, Kamc**	**4.16**	**29**	*e*P	**Pn**	**08 33 41.3**	**+0.6**
KDTR				*e*S	**Sn**	**08 34 27.5**	**-0.6**
ASAK	**Asacha**	**4.61**	**24**	*e*P	**Pn**	**08 33 49.4**	**+2.4**
MTVR	**Mutnovka**	**4.78**	**25**	*e*P	**Pn**	**08 33 51.0**	**+1.6**
MTVR				*e*S	**Sn**	**08 34 44.6**	**+1.0**
GRL	**Gorelyy**	**4.81**	**24**	*e*P	**Pn**	**08 33 51.9**	**+2.1**
GRL				*e*S	**Sn**	**08 34 46.0**	**+1.7**
RUS	**Russkaya**	**4.83**	**28**	*e*P	**Pn**	**08 33 50.3**	**+0.4**
RUS				*e*S	**Sn**	**08 34 44.0**	**-0.7**
KRMR	**Karymshinskiy**	**5.07**	**23**	*e*P	**Pn**	**08 33 56.4**	**+3.1**
PETK	**Petropavlovsk-** 0.6nm,0.3s,baz=164,slow=12,SNR=29	**5.23**	**19**	P	**Pn**	**08 33 58.5**	**+3.1**
PETK				S	**Sb**	**08 35 07.0**	**-5.4**
	baz=236,slow=20,SNR=2.4						
DALK	**Dalny**	**5.43**	**26**	*e*P	**Pn**	**08 33 59.8**	**+1.7**
DALK				*e*S	**Sn**	**08 35 00.3**	**+1.0**
UGLR	**Uglovaya**	**5.60**	**25**	*e*P	**Pn**	**08 34 03.2**	**+2.6**
KOK	**Koryaka**	**5.62**	**24**	*e*P	**Pn**	**08 34 03.9**	**+3.0**
AVH	**Avacha**	**5.63**	**25**	*e*P	**Pn**	**08 34 03.7**	**+2.7**
SDLR	**Sedlovina**	**5.68**	**25**	*e*P	**Pn**	**08 34 03.2**	**+1.5**
SPN	**Mys Shipunskii**	**5.89**	**32**	*e*S	**Sn**	**08 35 07.9**	**-2.9**
KZV	**Kizimen**	**7.69**	**24**	*e*P	**Pn**	**08 34 31.3**	**+2.0**
ASAJ	**Asahikawa** 0.3nm,0.3s,baz=97,slow=19,SNR=5.4	**9.44**	**249**	P	**Pn**	**08 34 54.2**	**+1.1**
H11N2	**WAKE ISLAND Hy** baz=344,slow=76,SNR=19	**30.04**	**157**	T	T	09 10 25.3	
H11N1	**WAKE ISLAND Hy** baz=344,slow=76,SNR=46	**30.05**	**157**	T	T	09 10 23.4	
H11N3	**WAKE ISLAND Hy** baz=344,slow=76,SNR=12	**30.05**	**157**	T	T	09 10 26.5	
H11S1	**WAKE ISLAND Hy** baz=344,slow=76,SNR=639	**31.16**	**158**	T	T	09 11 50.4	
H11S3	**WAKE ISLAND Hy** baz=344,slow=76,SNR=632	**31.17**	**158**	T	T	09 11 44.9	
H11S2	**WAKE ISLAND Hy** baz=344,slow=76,SNR=410	**31.18**	**158**	T	T	09 11 48.0	
INK	**Inuvik** 0.3nm,0.4s,baz=277,slow=4.5,SNR=3.5	**39.78**	**33**	P	**P**	**08 40 10.7**	**+1.8**
ZALV	**Zalesovo Beam** comp=Z,90nm,18.5s,baz=16,slow=36	**42.73**	**305**	LR	LR	08 58 24.1	
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=78,slow=5.9,SNR=2.9	**47.33**	**297**	P	**P**	**08 41 08.1**	**-1.8**
KURBB	**Kurchatov Arra** 1.2nm,0.3s,baz=54,slow=9.3,SNR=2.9	**47.64**	**303**	P	**P**	**08 41 11.0**	**-1.3**
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=295,slow=7.2,SNR=3.6	**49.05**	**38**	P	**P**	**08 41 24.0**	**+1.1**
BVAR	**Borovoye Array** 1.3nm,0.4s,baz=57,slow=8.2,SNR=8.3	**50.85**	**309**	P	**P**	**08 41 35.5**	**-1.2**
FINES	**FINESS Array B** 0.7nm,0.5s,baz=46,slow=9.9,SNR=5.3	**63.22**	**335**	P	**P**	**08 43 02.9**	**-1.1**
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=13,slow=6.5,SNR=4.3	**70.29**	**201**	P	**P**	**08 43 47.6**	**-1.9**
ASAR	**Alice Springs** 0.4nm,0.6s,baz=13,slow=5.6,SNR=4.3	**73.98**	**200**	P	**P**	**08 44 10.6**	**-1.0**
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=292,slow=5.4,SNR=5.1	**75.75**	**62**	P	**P**	**08 44 22.5**	**+0.4**

*IDC **09** 08:38:16.2±0.9, 44°25N×149°52'E, h0km, mb3.5/7, mb1 3.8/10, mb1mx3.6/60, mbtmp3.6/10, ML2.8/3, MS3.5/1, Ms1 3.5/1, ms1mx2.4/39, Error ellipse: s-maj=32.5km s-min=20.1km az=132.0*

*SKHL **09** 08:38:20.8±0.4, 44°38N×149°16'E, h33km±5km, mb4.4/4*

*JMA **09** 08:38:20.0±0.6, 44°54N×149°19'E, h30km, M4.0*

ISC 09 08:38:19.2±3.2, 44°18N±0°07×149°32E±0°07, h28km±23km, n42, σ2s54/51, mb3.6/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.48**	**316**	*i* P	**Pn**	**08 38 41.4**	**-2.5**
KUR				AMB	AMB	08 38 43.7	
	110nm,0.3s						
KUR				*i* S	**Sn**	**08 38 57.2**	**-5.1**
KUR				A	A	08 38 59.0	
	1μm,0.4s						
KUR				A	A	08 38 59.0	
	1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.50**	**268**	*e*P	**Pn**	**08 38 57.9**	**0.0**
YUK				AMB	AMB	08 39 00.0	
	60nm,0.4s						
YUK				*e*S	**Sn**	**08 39 25.5**	**-1.9**
YUK				A	A	08 39 28.0	
	240nm,0.4s						
YUK				A	A	08 39 28.0	
	250nm,0.4s						
GRPR	**Tuman**	**2.56**	**267**	*e*P	**Pn**	**08 38 58.8**	**-0.1**
GRPR				AMB	AMB	08 39 02.0	
	50nm,0.3s						
GRPR				*e*S	**Sn**	**08 39 27.9**	**-1.2**
GRPR				A	A	08 39 32.0	
	230nm,0.4s						
GRPR				A	A	08 39 32.0	
	160nm,0.4s						
NEM2	**Nemuro 2**	**2.72**	**254**	P	**Pn**	**08 39 01.0**	**0.0**
NEM2				*e*S	**Sn**	**08 39 31.2**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.73**	**254**	*i* P	**Pn**	**08 39 00.8**	**-0.3**
NMR				*i* S	**Sn**	**08 39 31.4**	**-1.7**
GLVR	**Golovnino**	**2.78**	**262**	*e*P	**Pn**	**08 39 02.5**	**+0.7**
GLVR				AMB	AMB	08 39 05.0	
	40nm,0.3s						
GLVR				*e*S	**Sn**	**08 39 33.6**	**-0.8**
GLVR				A	A	08 39 39.0	
	390nm,0.5s						
GLVR				A	A	08 39 39.0	
	310nm,0.5s						
JRA	**Rausu**	**3.04**	**267**	P	**Pn**	**08 39 06.2**	**+0.8**
JNK	**Nakash**	**3.38**	**261**	P	**Pn**	**08 39 11.2**	**+1.1**
JNK				*e*S	**Sn**	**08 39 46.3**	**-3.0**
JAK	**Akkeshi**	**3.56**	**252**	*e*S	**Sn**	**08 39 51.9**	**-1.8**
JTKR	**Abashiri--Toko**	**3.91**	**269**	P	**Pn**	**08 39 18.8**	**+1.5**
JAR	**Ashorobuto**	**4.12**	**260**	P	**Pn**	**08 39 22.2**	**+2.0**
JAR				*e*S	**Sn**	**08 40 07.7**	**+0.2**
JOB	**Onbets**	**4.19**	**254**	P	**Pn**	**08 39 22.8**	**+1.6**
JMP	**Maruseppu**	**4.30**	**270**	P	**Pn**	**08 39 24.3**	**+1.6**
JCH	**Churui**	**4.62**	**252**	P	**Pn**	**08 39 28.5**	**+1.4**
JCH				*e*S	**Sn**	**08 40 19.0**	**-0.7**
ASAJ	**Asahikawa** 0.7nm,0.3s,baz=36,slow=16,SNR=4.5	**4.84**	**272**	Pn	**Pn**	**08 39 32.6**	**+2.5**
ASAJ				Sn	**Sb**	**08 40 41.7**	**+0.7**
	baz=314,slow=22,SNR=2.1						
JFR	**Furan**	**4.98**	**261**	P	**Pn**	**08 39 35.1**	**+2.9**
JEM	**Erimo**	**5.00**	**247**	P	**Pn**	**08 39 34.7**	**+2.3**
JEM				*e*S	**Sn**	**08 40 30.7**	**+1.4**
JNBK	**Urakawa-nobuka**	**5.16**	**251**	P	**Pn**	**08 39 35.0**	**+0.4**
JNBK				*e*S	**Sn**	**08 40 30.5**	**-2.7**
JNB	**Noboribetsu**	**6.28**	**257**	P	**Pn**	**08 39 51.1**	**+1.2**
JNB				*e*S	**Sn**	**08 40 59.6**	**-1.1**
JKB	**Kayabe**	**6.49**	**252**	P	**Pn**	**08 39 53.0**	**+0.2**
JKB				*e*S	**Sn**	**08 41 01.4**	**-4.5**
JYM2	**Yakumo 2**	**6.86**	**256**	P	**Pn**	**08 39 59.6**	**+1.7**
JANG	**Nango**	**6.93**	**239**	P	**Pn**	**08 39 58.2**	**-0.6**
JANG				*e*S	**Sn**	**08 41 10.7**	**-6.0**
JTM	**Tenmabayashi**	**6.98**	**244**	*e*S	**Sn**	**08 41 12.9**	**-5.0**
JTH	**Tanohata**	**6.98**	**235**	P	**Pn**	**08 39 59.2**	**-0.4**
JTH				*e*S	**Sn**	**08 41 11.7**	**-6.3**
JRG	**Rokugo**	**8.06**	**237**	*e*S	**Sn**	**08 41 41.3**	**-3.2**
JIO	**Ouri**	**8.29**	**229**	*e*S	**Sn**	**08 41 43.2**	**-6.9**
PETK	**Petropavlovsk-** 0.2nm,0.3s,baz=212,slow=15,SNR=2.7	**10.51**	**29**	Pn	**Pn**	**08 40 45.9**	**-1.9**
USRK	**Ussuriysk Ar.** baz=80,slow=13,SNR=3.8	**12.45**	**276**	Pn	**Pn**	**08 41 16.5**	**+2.1**
H11N2	**WAKE ISLAND Hy** baz=334,slow=76,SNR=100	**28.45**	**143**	T	T	09 15 09.8	
H11N1	**WAKE ISLAND Hy** baz=334,slow=76,SNR=58	**28.47**	**143**	T	T	09 15 09.2	
H11N3	**WAKE ISLAND Hy** baz=334,slow=76,SNR=83	**28.47**	**143**	T	T	09 15 15.6	
H11S1	**WAKE ISLAND Hy** baz=334,slow=76,SNR=55	**29.46**	**145**	T	T	09 16 29.5	
H11S3	**WAKE ISLAND Hy** baz=334,slow=76,SNR=35	**29.47**	**145**	T	T	09 16 29.7	
H11S2	**WAKE ISLAND Hy** baz=334,slow=76,SNR=47	**29.48**	**145**	T	T	09 16 24.5	
ILAR	**Eielson Array** 0.4nm,0.9s,baz=272,slow=9.2,SNR=6.0	**40.21**	**37**	P	**P**	**08 45 53.2**	**+0.4**
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=293,slow=6.6,SNR=3.8	**54.56**	**35**	P	**P**	**08 47 44.6**	**+0.2**
SPITS	**Spitsbergen Ar** comp=Z,45nm,19.4s,baz=270,slow=36	**54.65**	**349**	LR	LR	09 11 28.5	
ARCES	**ARCESS Array B** 5.8nm,1.0s,baz=40,slow=16,SNR=3.5	**59.38**	**340**	P	**P**	**08 48 19.3**	**+0.9**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=15,slow=6.5,SNR=3.5	**65.27**	**196**	P	**P**	**08 49 00.1**	**+1.8**
NVAR	**Mina Array Bea** 0.3nm,0.6s,baz=282,slow=4.5,SNR=2.8	**66.02**	**59**	P	**P**	**08 49 04.1**	**+0.7**
ASAR	**Alice Springs** 0.4nm,0.7s,baz=24,slow=5.7,SNR=4.1	**68.98**	**195**	P	**P**	**08 49 24.1**	**+2.2**
TXAR	**Lajitas Array** 0.2nm,0.4s,baz=301,slow=4.0,SNR=11	**81.10**	**58**	P	**P**	**08 50 32.2**	**+0.2**

*NNC **09** 08:38:30.0±2.9, 33°45N×78°00E, h0km, mb4.6, Error ellipse: s-maj=37.5km s-min=20.8km az=108.0*

*IDC **09** 08:38:50.6±0.7, 35°10N×76°82E, h0km, mb4.0/18, mb1 4.1/23, mb1mx4.0/57, mbtmp4.0/23, ML3.7/4, MS3.5/9, Ms1 3.6/9, ms1mx3.1/67, Error ellipse: s-maj=18.5km s-min=11.4km az=55.0*

*ISCJB **09** 08:38:52.0±0.3, 35°43N±0°03×77°03E±0°04, h10km, mb3.9/17, MS3.6/7, Error ellipse: s-maj=4.8km s-min=3.8km az=14.6*

*BJI **09** 08:38:53.5±0.0, 35°47N×77°21E, h10km, mb4.3/14, mB4.5/10, ML4.5/5*

*NEIC **09** 08:38:59.8±2.6, 35°49N±0°06×76°92E±0°08, h69km±6km, mb4.0/11*

ISC 09 08:38:53.7±0.4, 35°45N±0°03×77°05E±0°05, h10km, n87, σ2s70/100, mb4.1/22, MS3.5/7, 6C-8D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.20**	**201**	*e*P	**Pb**	**08 39 52.0**	**+1.3**
THN				*e*S	**Sg**	**08 40 35.5**	**-1.1**
DHRM	**DHARAMSHALA**	**3.25**	**191**	*e*PN	**Pn**	**08 39 48.1**	**+3.2**
DHRM				*i* PG	**Pb**	**08 39 53.3**	**+1.7**
DHRM				*e*S	**Sn**	**08 40 27.9**	**+4.1**
DHRM				IAML		08 40 48.9	
	comp=N,1μm,1.0s						
JMU	**Jammu**	**3.25**	**214**	*e*P	**Pn**	**08 39 48.0**	**+3.2**
JMU				*e*S	**Sb**	**08 40 32.5**	**+1.3**
NIL	**Nilore**	**3.61**	**241**		**Pn**	**08 39 51.8**	**+2.0**
NIL				Sn	**Sn**	**08 40 33.8**	**+1.4**
BHK	**Bhakra**	**4.05**	**188**	*e*P	**Pb**	**08 40 02.4**	**-2.8**
BHK				*e*S	**Sb**	**08 41 00.0**	**+5.8**
KSH	**Kashi**	**4.15**	**348**	Pg	**Pn**	**08 40 01.8**	**+4.5**
KSH				Sg	**Sb**	**08 40 52.8**	**-4.5**
KSH				smax	smax		
	comp=N,1μm,0.8s						
SMLA	**Simla**	**4.31**	**179**	*e*PN	**Pn**	**08 39 59.9**	**+0.6**
SMLA				*i* PG	**Pb**	**08 40 09.3**	**-0.2**
SMLA				*e*S	**Sn**	**08 40 51.6**	**+2.1**
SMLA				*i* x	x	08 41 02.6	
SMLA				IAML		08 41 05.1	
	comp=N,120nm,0.8s						
SMLA				IAML		08 41 08.1	
	comp=E,177nm,0.2s						
NRN	**Naryn**	**6.04**	**352**		**Pn**	**08 40 26.9**	**+3.6**
NRN				Sn	**Sn**	**08 41 32.0**	**-0.7**
TARG	**Taragay, Kyrgy**	**6.30**	**5**		**Pn**	**08 40 30.6**	**+3.5**
TARG				Sn	**Sn**	**08 41 39.5**	**+0.1**
GAR	**Garm**	**6.44**	**305**		**Pn**	**08 40 29.3**	**+0.6**
KBL	**Kabul**	**6.63**	**264**	Pn	**Pn**	**08 40 32.1**	**+0.7**
KBL				Sn	**Sn**	**08 41 43.8**	**-3.5**
KDJ	**Kajisay**	**6.68**	**1**		**Pn**	**08 40 35.6**	**+3.6**
ARSB	**Arslanbob**	**6.68**	**333**		**Pn**	**08 40 34.4**	**+2.3**
ARSB				Sn	**Sn**	**08 41 51.6**	**+3.3**
ULHL	**Ulahol** SNR=10.0	**6.82**	**355**	P	Pn	08 40 40.9	+6.9
UCH	**Uchtor** SNR=21	**7.06**	**344**	P	Pn	08 40 42.5	+5.0
CHGR	**Chuyangaron**	**7.08**	**299**		**Pn**	**08 40 38.0**	**+0.6**
CHGR				Sn	**Sn**	**08 41 58.2**	**+0.2**
BOOM	**Boomskoye usch**	**7.09**	**353**		**Pn**	**08 40 40.9**	**+3.3**
BOOM				Sn	**Sn**	**08 41 57.0**	**-1.4**
AML	**Almayashu** SNR=19	**7.17**	**340**	P	Pn	08 40 46.6	+7.6
AAK	**Ala-Archa** comp=E,1.2nm,0.3s,baz=71,slow=12,SNR=14	**7.45**	**345**	Pn	Pn	08 40 48.8	+6.1
AAK				Sn	**Sn**	**08 42 11.3**	**+4.0**
	baz=204,slow=20,SNR=1.9						
AAK				Lg	Lg	08 42 44.0	
	comp=E,0.8nm,0.3s,baz=269,slow=14,SNR=5.1						
AAK				LR	LR	08 43 49.3	
	comp=E,154nm,20.3s,baz=147,slow=39						
AAK	**Ala-Archa**	**7.45**	**345**		**Pn**	**08 40 45.9**	**+3.2**
AAK					**Sn**	**08 42 06.4**	**-0.9**
AAK	**Ala-Archa** comp=E,23nm,0.8s	**7.45**	**345**	⇓P	Pn	08 40 48.6	+6.0
AAK				⇑S	**Sb**	**08 42 39.4**	**+7.3**
	comp=E,89nm,1.1s						
TKM2	**Tokmak 2** SNR=14	**7.55**	**352**	P	Pn	08 40 49.5	+5.5
TKM2	**Tokmak 2** comp=E,25nm,1.1s	**7.55**	**352**	⇓P	**Pn**	**08 40 47.9**	**+3.9**
TKM2				⇑S	**Sb**	**08 42 42.1**	**+7.1**
	comp=E,70nm,1.1s						
EKS2	**Erkin-Say** SNR=6.0	**7.64**	**342**	P	Pn	08 40 54.4	+9.1
MDOK	**Medeo** comp=E,36nm,0.8s	**7.71**	**360**	⇑P	**Pn**	**08 40 50.2**	**+4.0**
MDOK				⇓S	**Sb**	**08 42 42.8**	**+3.4**
	comp=E,538nm,1.5s						
PDGK	**Podgornoye** comp=E,17nm,1.0s	**8.10**	**13**	⇑P	Pn	08 40 55.4	+4.0
PDGK				⇑S	Sb	08 42 48.2	-2.4
	comp=E,154nm,1.0s						
DANN	**Dangsing** comp=E,45nm,0.4s	**9.08**	**139**	*e*P	**Pn**	**08 41 01.9**	**-3.3**
KK31	**Karatay Array**	**9.17**	**328**		**Pn**	**08 41 07.6**	**+1.5**
KK31				Sn	**Sn**	**08 42 48.2**	**-1.2**
KK31	**Karatay Array** comp=E,9.1nm,0.9s,baz=136,slow=12,SNR=29	**9.17**	**328**	⇓P	Pn	08 41 11.6	+5.6
KK31				⇓S	Sn	08 43 18.2	+29
	comp=E,7.0nm,0.7s,baz=141,slow=23,SNR=3.8						
KKAR	**Karatay Array**	**9.17**	**328**		**Pn**	**08 41 07.3**	**+1.2**
KKAR				Sn	**Sn**	**08 42 48.4**	**-1.0**
KOLN	**Koldanda** comp=E,31nm,0.5s	**9.47**	**142**	*e*P	**Pn**	**08 41 07.7**	**-2.7**
GKN	**Gorkha**	**9.83**	**137**	*e*P	**Pn**	**08 41 11.6**	**-3.7**
KKN	**Kakani**	**10.36**	**135**	*e*P	**Pn**	**08 41 18.6**	**-4.0**
DMN	**Daman** comp=E,29nm,0.5s	**10.40**	**136**	*e*P	**Pn**	**08 41 20.2**	**-3.0**
PKIN	**Phulchoki** comp=E,22nm,0.5s	**10.59**	**135**	*e*P	**Pn**	**08 41 21.6**	**-4.2**
PKI	**Pulchoki** comp=E,24nm,0.6s	**10.60**	**135**	*e*P	**Pn**	**08 41 22.0**	**-4.0**
GUN	**Gumba**	**10.62**	**133**	*e*P	**Pn**	**08 41 21.9**	**-4.4**
JIRN	**Jiri** comp=E,67nm,0.5s	**10.99**	**132**	*e*P	**Pn**	**08 41 27.7**	**-3.7**
WMQ	**Urumqi**	**11.71**	**41**	*e*P	**Pn**	**08 41 44.0**	**+3.1**
WMQ	**Urumqi**	**11.71**	**41**	Pn	Pn	08 41 44.7	+3.9
WMQ				Sn	**Sn**	**08 43 53.5**	**+1.9**
RAMN	**Ramite** comp=E,20nm,0.5s	**11.76**	**133**	*e*P	**Pn**	**08 41 37.1**	**-4.7**
MAKZ	**Makanchi**	**11.94**	**17**	Pn	**Pn**	**08 41 46.6**	**+2.6**
MAKZ				Sn	**Sn**	**08 43 58.9**	**+1.7**
MK31	**Makanchi Array**	**12.00**	**18**		**Pn**	**08 41 47.0**	**+2.2**
MK31				Sn	**Sn**	**08 43 59.8**	**+1.1**
MK31	**Makanchi Array**	**12.00**	**18**	⇓P	**Pn**	**08 41 45.7**	**+0.9**
MK31				⇑S	Sn	08 44 21.6	+23
	comp=E,3.4nm,0.6s,baz=197,slow=13,SNR=43						
	comp=E,16nm,0.8s,baz=211,slow=22,SNR=16						
MKAR	**Makanchi Array** comp=E,0.6nm,0.3s,baz=201,slow=12,SNR=21	**12.00**	**18**	Pn	**Pn**	**08 41 45.9**	**+1.1**
MKAR				Sn	**Sn**	**08 43 54.0**	**-4.7**
	comp=E,0.2nm,0.3s,baz=194,slow=17,SNR=4.4						
TAPN	**Taplejung**	**12.16**	**129**	*e*P	Pn	08 41 42.1	-5.2
KURBB	**Kurchatov Arra** baz=190,slow=10,SNR=3.6	**15.21**	**4**	Pn	**P**	**08 42 31.9**	**-1.6**
KURBB				Lg	Lg	08 46 56.6	
	baz=189,slow=31,SNR=6.9						
KURK	**Kurchatov**	**15.31**	**4**		**Pn**	**08 42 30.9**	**+1.2**
KURK				IAmb	IAmb	08 42 38.8	
	comp=E,6.2nm,0.8s						
GEYT	**Alibeck** comp=E,0.2nm,0.3s,baz=128,slow=9.3,SNR=2.7	**15.39**	**285**	Pn	**Pn**	**08 42 28.8**	**-2.2**
GEYT				Sn	**Sn**	**08 45 19.7**	**-1.9**
	comp=E,0.2nm,0.3s,baz=97,slow=25,SNR=3.3						
GEYT				LR	LR	08 49 15.6	
	comp=E,102nm,19.3s,baz=50,slow=41						
BVAR	**Borovoye Array** comp=Z,0.5nm,0.3s,baz=154,slow=11,SNR=16	**18.20**	**347**	P	**P**	**08 43 06.5**	**-0.1**
BVAR				S	**S**	**08 46 37.5**	**+2.8**
	baz=167,slow=19,SNR=2.9						
BVAR				Lg	Lg	08 48 33.3	
	comp=Z,0.1nm,0.3s,baz=137,slow=24,SNR=3.1						
GTA	**Gaotai**	**18.50**	**71**	P	**P**	**08 43 12.6**	**+2.5**
GTA				pP	sP	08 43 17.7	+1.3
GTA				sP	pP	08 43 20.9	+6.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,49nm,4.2s						
AB31	**Akbulak array** comp=Z,1.6nm,0.6s,baz=134,slow=13,SNR=31	**18.66**	**323**	⇓P	**P**	**08 43 11.6**	**0.0**
ABKAR	**Akbulak array**	**18.66**	**323**	P	**P**	**08 43 10.2**	**-1.4**
ZAA0	**Zalesovo Array**	**19.29**	**14**	P	**P**	**08 43 18.0**	**-0.5**
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.3s,baz=212,slow=10,SNR=3.7	**19.29**	**14**	P	**Pn**	**08 43 21.3**	**+1.9**
ZALV				S	S	08 47 11.3	+15
	baz=192,slow=13,SNR=2.3						
AKTO	**Aktyubinsk** comp=Z,4.3nm,0.6s,baz=117,slow=10,SNR=15	**20.37**	**323**	P	**P**	**08 43 30.1**	**-0.3**
AKTO				LR	LR	08 52 06.6	
	comp=Z,148nm,18.1s,baz=134,slow=39						
AKTO	**Aktyubinsk** comp=Z,13nm,1.0s	**20.37**	**323**	⇓P	**P**	**08 43 31.2**	**+0.8**
ARU	**Arti** comp=Z,3.6nm,0.2s,baz=165,slow=8.1,SNR=5.5	**24.46**	**335**	P	**P**	**08 44 12.0**	**-0.6**
ARU				LR	LR	08 54 08.9	
	comp=Z,45nm,19.2s,baz=187,slow=37						
SONM	**Songino Array** comp=Z,6.3nm,0.8s,baz=256,slow=9.7,SNR=10	**25.02**	**51**	P	**P**	**08 44 20.0**	**+2.1**
CMAR	**Chiang Mai Arr** comp=Z,1.6nm,0.4s,baz=308,slow=12,SNR=10	**25.73**	**125**	P	**P**	**08 44 23.4**	**-1.1**
BRTR	**Keskin Array B** comp=Z,0.9nm,0.7s,baz=105,slow=9.4,SNR=3.8	**34.42**	**290**	P	**P**	**08 45 41.1**	**-0.3**
AKASG	**Malin Array Be** comp=Z,0.4nm,0.4s,baz=80,slow=6.7,SNR=3.2	**37.42**	**309**	P	**P**	**08 46 06.3**	**-0.5**
MLR	**Muntele Rosu** comp=Z,77nm,19.0s,baz=299,slow=40	**39.56**	**301**	LR	LR	09 05 11.0	
FIA1	**FINESS Array S**	**41.12**	**325**	P	**P**	**08 46 33.7**	**-3.8**
FINES	**FINESS Array B** comp=Z,3.3nm,0.5s,baz=108,slow=8.8,SNR=21	**41.12**	**325**	P	**P**	**08 46 37.0**	**-0.6**
KLR	**Kul'dur** comp=Z,1.3nm,0.8s,baz=261,slow=5.8,SNR=3.7	**41.82**	**53**	P	**P**	**08 46 44.5**	**+1.0**
ARCES	**ARCESS Array B** comp=Z,1.8nm,0.6s,baz=106,slow=9.5,SNR=10	**44.02**	**337**	P	**P**	**08 47 00.4**	**-0.7**
HFS	**Hagfors** comp=Z,85nm,19.5s,baz=84,slow=37	**46.92**	**322**	LR	LR	09 07 47.2	
NB2	**NORSAR Subarra** comp=Z,1.1nm,0.5s,baz=90,slow=7.9	**48.16**	**323**	P	**P**	**08 47 34.0**	**+0.2**
NOA	**NORSAR Array B** comp=Z,1.5nm,0.5s,baz=97,slow=7.2,SNR=9.6	**48.16**	**323**	P	**P**	**08 47 32.5**	**-1.3**
NOA				LR	LR	09 08 56.7	
	comp=Z,49nm,19.4s,baz=80,slow=37						
BORG	**Borgarnes** comp=Z,33nm,18.0s,baz=36,slow=37	**61.93**	**331**	LR	LR	09 17 00.8	
ESDC	**Sonseca Array** comp=Z,0.3nm,0.4s,baz=56,slow=6.9,SNR=2.8	**62.26**	**301**	P	**P**	**08 49 14.8**	**-1.0**
TORD	**Torodi Ar. Bea** comp=Z,1.4nm,0.6s,baz=38,slow=6.0,SNR=7.7	**70.64**	**273**	P	**P**	**08 50 07.3**	**-2.5**
INK	**Inuvik** comp=Z,0.6nm,0.5s,baz=346,slow=2.2,SNR=5.7	**74.06**	**11**	P	**P**	**08 50 30.3**	**+0.9**
INK	**Inuvik**	**74.06**	**11**	P	**P**	**08 50 26.1**	**-3.2**
INK				IAmb	IAmb	08 50 45.2	
	comp=Z,3.9nm,1.5s						
PRP	**Porcupine Dome**	**74.08**	**17**	P	**P**	**08 50 28.6**	**-1.1**
PRP				IAmb	IAmb	08 50 41.8	
	comp=Z,4.5nm,1.3s						
IL31		**74.36**	**18**	P	**P**	**08 50 28.8**	**-2.3**
IL31				IAmb	IAmb	08 50 41.9	
	comp=Z,2.2nm,1.2s						
ILAR	**Eielson Array** comp=Z,0.5nm,0.9s,baz=313,slow=4.4,SNR=8.2	**74.36**	**18**	P	**P**	**08 50 31.8**	**+0.6**
**PP

SUUS Pmax 08 41 06.1
10.0nm,0.4s
SUUS e 08 41 53.2
SUUS eSg **Sg** **08 42 07.8 -2.7**
SUUS Sgmax 08 42 17.6
60nm,0.6s
SEY Seymchan 6.13 135 eP Pb 08 41 00.5 -6.8
SEY e 08 41 13.3
SEY eSg **Sg** **08 42 34.0 -3.1**
SEY Sgmax 08 42 46.2
20nm,0.6s
SEY Seymchan 6.13 135 Pg Pb 08 41 00.5 -6.8
0.8nm,0.3s,baz=317,slow=4.3,SNR=9.9
SEY Sn **Sb** **08 42 14.4 -6.2**
0.4nm,0.3s,baz=356,slow=11,SNR=2.6
SEY Lg Lg 08 42 33.2
0.6nm,0.3s,baz=7.6,slow=19,SNR=2.7
TIXI Tiksi 6.37 316 ePn **Pn** **08 40 54.6 +0.4**
TIXI ePg **Pb** **08 41 14.9 +3.7**
0.0nm,0.2s
TIXI eSn **Sn** **08 42 05.2 -1.6**
TIXI eSg **Sg** **08 42 38.9 -5.6**
0.1nm,0.9s
TIXI Tiksi 6.37 316 Pn **Pn** **08 40 56.1 +1.9**
2.6nm,0.3s,baz=180,slow=24,SNR=27
TIXI Sn **Sn** **08 42 01.9 -4.9**
3.4nm,0.3s,baz=180,slow=24,SNR=3.7
TIXI Lg Lg 08 42 34.4
4.9nm,0.3s,baz=5.2,slow=23,SNR=7.6
TIXI Tiksi 6.37 316 **Pn** **08 40 51.9 -2.2**
TIXI **Sn** **08 42 01.0 -5.8**
TLAR Talaya 7.67 143 eSg Sg 08 43 17.7 -8.5
TLAR Sgmax 08 43 46.6
10.0nm,0.7s
YAK Yakutsk 7.88 231 Sn **Sn** **08 42 41.5 -2.5**
0.2nm,0.3s,baz=114,slow=20,SNR=7.7
YAK Lg Lg 08 43 27.7
0.1nm,0.3s,baz=356,slow=19,SNR=1.8
COLD Coldfoot 24.63 59 P **P** **08 44 44.2 +3.6**
COLD IAmb IAmb 08 44 46.2
comp=Z,3.9nm,1.2s
TRF Thorofare Moun 26.79 66 P **P** **08 45 02.7 +2.3**
TRF IAmb IAmb 08 45 12.8
comp=Z,8.0nm,1.4s
IL31 27.15 62 P **P** **08 45 04.6 +1.2**
IL31 IAmb IAmb 08 45 07.5
comp=Z,3.2nm,1.2s
ILAR Eielson Array 27.15 62 P **P** **08 45 05.0 +1.5**
comp=Z,1.0nm,0.8s,baz=301,slow=9.2,SNR=16
GHO Glory Hole Cre 28.36 68 P **P** **08 45 17.5 +3.2**
GHO IAmb IAmb 08 45 20.3
comp=Z,7.6nm,1.3s
ZALV Zalesovo Beam 30.12 272 P **P** **08 45 30.1 +0.3**
comp=Z,0.4nm,0.3s,baz=38,slow=7.3,SNR=1.7
KURBB Kurchatov Arra 35.13 274 P **P** **08 46 15.1 +1.4**
comp=Z,0.5nm,0.2s,baz=34,slow=8.8,SNR=2.7
BVAR Borovoye Array 36.31 283 P **P** **08 46 25.5 +1.7**
comp=Z,0.6nm,0.5s,baz=31,slow=14,SNR=3.3
MKAR Makanchi Array 36.81 267 P **P** **08 46 28.8 +0.7**
comp=Z,0.9nm,0.8s,baz=24,slow=3.8,SNR=2.1
YKA Yellowknife Ar 38.83 46 P **P** **08 46 46.9 +1.9**
comp=Z,0.3nm,0.7s,baz=322,slow=8.4,SNR=5.5
AKTO Aktyubinsk 42.94 291 P **P** **08 47 20.5 +1.5**
comp=Z,1.1nm,0.6s,baz=32,slow=19,SNR=3.4
ABKAR Akbulak array 43.22 288 P **P** **08 47 21.9 +0.6**
FINES FINESS Array B 43.38 321 P **P** **08 47 23.3 +0.8**
comp=Z,2.5nm,1.0s,baz=54,slow=9.5,SNR=2.6
AKASG Malin Array Be 52.06 312 P **P** **08 48 30.5 +0.7**
comp=Z,0.9nm,0.6s,baz=25,slow=7.7,SNR=2.6
BUR08 Bucovina Ar. S 55.95 314 P **P** **08 48 58.4 -0.1**
PDAR Pinedale Array 57.37 56 P **P** **08 49 09.6 +0.8**
comp=Z,0.4nm,0.6s,baz=338,slow=12,SNR=4.6

MOS ***09*** *08:47:22.3±1.0,2.7′78N±128.3′35E,h33km,mb5.6/70, MS4.5/22,Error ellipse: s-maj=7.0km s-min=4.4km az=112.3*

NEIC ***09*** *08:47:24.0±2.2,2.7′74N±0.′05×128.′40E±0.′06,h35km±1km, mb5.4/197,Ms_20 4.8/132,Mwb5.2,Mwc5.4(GCMT), Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr4.11; Mθθ-4.33; Mθφ0.21; Mrθ0.97; Mθφ-3.24; Mφφ6.16; Fault plane solution: Mo8.20000×10¹⁶ NP1: φs270.85000°,δ34.66000°,λ148.80000°. NP2: φs27.33000°,δ72.87000°,λ59.40000°. Principal axes: T 8.7250, Plg52.0000°, Azm261.0000°; N -1.1893, Plg29.0000°, Azm37.0000°; P -7.5357, Plg22.0000°, Azm140.0000°;*

ISCJB ***09*** *08:47:26.1±0.3,2.6′9N±0.′01×128.′40E±0.′02,h68km±3km, mb5.3/167 Error ellipse: s-maj=3.1km s-min=2.3km az=157.0*

BJI ***09*** *08:47:26.0±0.0,2.8′0N×128.′40E,h60km,mb5.4/70, mB5.4/52,Ms4.8/61,Ms7 4.6/57*

KLM ***09*** *08:47:26.0,2.8′8N×128.′59E,h55km, mb5.5*

IDC ***09*** *08:47:27.1±1.0,2.7′3N×128.′39E,h61km±8km,mb4.8/44, mb1 4.9/47,mb1mx4.8/50,mbtmp5.1/47,MS4.4/25, Ms1 4.4/25,ms1mx4.2/44,Error ellipse: s-maj=11.1km s-min=7.7km az=70.0*

GCMT ***09*** *08:47:27.0±0.1,2.8′0N±0.′01×128.′38E±0.′01,h37km±1km, MW5.4/143,Moment Tensor Solution. s111,c178; s143,c247; Duration: 1ś2 Moment tensor: Scale 10¹⁷ Nm; Mrr0.08±.02; Mθθ-0.18±.01; Mφφ0.09±.02; Mrθ0.05±.02; Mθφ-0.52±.01; Mφr1.36±.05; Best double couple: Mo1.46300×10¹⁷ NP1:φs5.00000°,δ89.00000°, λ68.00000°. NP2:φs272.00000°,δ22.00000°,λ177.00000°. Principal axes: T 1.5180, Plg42.0000°, Azm255.0000°; N -0.1100, Plg22.0000°, Azm6.0000°; P -1.4080, Plg40.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MAN ***09*** *08:47:27.5,2.8′1N×128.′36E,h27km, mb5.0, ML3.9, MS4.0*

NEIC ***09*** *08:47:28,2.8′2N×128.′39E,h34km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.04; Mθθ-0.13; Mφφ0.17; Mrθ0.08; Mθφ-0.55; Mφr1.53; Fault plane solution: Mo1.63000×10¹⁷ NP1:φs277.00000°, δ20.00000°,λ-177.00000°. NP2:φs184.00000°, δ89.00000°,λ-70.00000°. Principal axes: T 1.6682, Plg41.0000°, Azm255.0000°; N -0.0698, Plg20.0000°, Azm3.0000°; P -1.5985, Plg43.0000°, Azm113.0000°;*

DJA ***09*** *08:47:28.1±0.2,3′N±2.′×12.′8E±.′,h62km±2km,M5.5/110, mb5.6/110,mB5.9/86,MLV5.8/18,Mw(mB)5.5/86, Mwp5.4/28*

ISC 09 08:47:27.1±0.4,2.′66N±0.′03×128.′39E±0.′03,h63km±3km, h64km:pP-P,n948,σ1ś44/969,mb5.4/230,44C-14D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.13**	**209**	P		**Pn**	**08 48 01.8**	**+1.4**
TNTI				S		**Sn**	**08 48 29.5**	**+3.7**
TNTI	**Ternate**	**2.13**	**209**			**Pn**	**08 48 01.9**	**+1.5**
TNTI				Sn		**Sn**	**08 48 24.3**	**-1.5**
LBMI	**Labuha**	**3.39**	**195**	P		Pn	08 48 22.3	+4.7
DDMP	**Don Marcelino,**	**4.34**	**322**	P		**Pn**	**08 48 29.6**	**-1.0**
DDMP				S		**Sn**	**08 49 22.2**	**+2.2**
SWI	**Sorong**	**4.52**	**141**	P		**Pn**	**08 48 32.9**	**-0.2**
SWI				S		**Sn**	**08 49 20.6**	**-3.8**
SIJI	**Sorong**	**4.53**	**141**	P		**Pn**	**08 48 33.5**	**+0.2**
SIJI	456nm,0.3s,baz=50,slow=9.3,SNR=614			S		**Sn**	**08 49 21.9**	**-2.8**
MATI	395nm,0.3s,baz=171,slow=21,SNR=16 **Mati**	**4.76**	**334**	P		**Pn**	**08 48 40.3**	**+4.0**
MATI				S		**Sn**	**08 49 33.3**	**+3.0**
GSPH	**General Santos**	**4.83**	**315**	⇑P		**Pn**	**08 48 37.5**	**+0.1**
KMSI	**Cibinong**	**4.87**	**245**	P		**Pn**	**08 48 40.4**	**+2.6**
DAV	**Davao City (W)**	**5.20**	**328**	P		Pn	08 48 50.3	+7.9
	SNR=16							
DAV	**Davao City (W)**	**5.20**	**328**	P		**Pn**	**08 48 44.5**	**+2.2**
DAV	44nm,0.3s,baz=56,slow=3.6,SNR=2.7			S		**Sn**	**08 49 47.0**	**+5.9**
DAV	146nm,0.3s,baz=263,slow=19,SNR=3.3 **Davao City (W)**	**5.20**	**328**	⇑*e*P		**Pn**	**08 48 43.0**	**+0.7**
DAV	**Davao City (W)**	**5.20**	**328**	Pn		Pn	08 48 37.3	-5.0
DAV				Sn		**Sn**	**08 49 37.2**	**-3.8**
DMPH	**Davao City--Mi**	**5.25**	**327**	⇓P		Pn	08 48 50.0	+7.0
DMPH				S		**Sn**	**08 49 42.7**	**+0.4**
SANI	**Sanana**	**5.25**	**207**	P		**Pn**	**08 48 44.5**	**+1.4**
	817nm,1.0s,7µm5µm2.5nm							
SKMP	**Bagumbayan, Su**	**5.42**	**315**	P		**Pn**	**08 48 46.9**	**+1.5**
SKMP				S		**Sn**	**08 49 47.5**	**+0.9**
KCP	**Kidapawan**	**5.43**	**323**	⇑P		**Pn**	**08 48 46.3**	**+0.8**
KCP				S		**Sn**	**08 49 55.2**	**+8.4**
MSAI	**Masohi**	**5.99**	**175**	P		**Pn**	**08 48 56.6**	**+3.5**
	155nm,0.7s,0.6nm							
NLAI	**Namlea**	**6.00**	**192**	P		**Pn**	**08 48 55.9**	**+2.7**
	264nm,0.8s,1.0nm							
CTBH	**Cotabato--PC H**	**6.13**	**318**	⇓P		**Pn**	**08 48 56.1**	**+1.0**
BUKP	**Musuan**	**6.15**	**328**	P		**Pn**	**08 48 56.2**	**+0.7**
BUKP				S		**Sn**	**08 50 06.4**	**+1.8**
AAI	**Ambon**	**6.30**	**182**	P		**Pn**	**08 48 58.8**	**+1.3**
	371nm,0.8s,4µm1.2nm							
LUWI	**Luwuk**	**6.71**	**237**	P		**Pn**	**08 49 04.3**	**+1.3**
	838nm,0.6s,13µm7µm5.7nm							
LUWI	**Luwuk**	**6.71**	**237**			**Pn**	**08 49 04.0**	**+0.9**
LUWI				Sn		**Sn**	**08 50 16.9**	**-1.2**
MRSI	**Marisa**	**6.80**	**252**	P		**Pn**	**08 49 06.9**	**+2.7**
	6µm,0.8s,75µm10µm21nm							
CGP	**Cagayan de Oro**	**6.83**	**328**	⇓P		**Pn**	**08 49 08.9**	**+4.1**
CGP				S		**Sn**	**08 50 25.8**	**+4.6**
BUTP	**Butuan**	**6.85**	**336**	P		**Pn**	**08 49 06.2**	**+1.3**
RKPI	**Ransiki, Papua**	**7.12**	**125**	P		**Pn**	**08 49 09.9**	**+1.3**
	2µm,0.8s,14µm11nm							
PAGZ	**Pagadian**	**7.17**	**316**	P		**Pn**	**08 49 08.8**	**-0.5**
BNDI	**Bandanaira**	**7.29**	**168**	P		**Pn**	**08 49 13.1**	**+2.1**
	3µm,1.1s,25µm8.9nm							
APSI	**Ampana**	**7.61**	**242**	P		**Pn**	**08 49 17.9**	**+2.5**
	1µm,1.3s,14µm4µm4.6nm							
SCPH	**Surigao**	**7.64**	**338**	⇓P		**Pn**	**08 49 16.8**	**+1.0**
PALU	**Palau**	**7.64**	**52**	P		**Pn**	**08 49 14.1**	**-1.7**
	baz=7.6,SNR=12							
I39PW	**PALAU INFRASON**	**7.82**	**51**	*i*			09 38 20.0	
	baz=230,slow=314,SNR=2.0							
KMPI	**Kaimana, Papua**	**8.22**	**140**	P		**Pn**	**08 49 25.0**	**+1.2**
	835nm,0.8s,8µm							
BAKI	**Biak**	**8.61**	**116**	P		**Pn**	**08 49 29.7**	**+0.6**
	1µm,1.1s							
KDI	**Kendari**	**8.74**	**221**	P		**Pn**	**08 49 31.2**	**+0.4**
	776nm,1.6s,13µm							
MPSI	**Mapaga**	**8.79**	**255**	P		**Pn**	**08 49 33.8**	**+2.3**
	897nm,1.2s,12µm5µm							
SRPI	**Serui, Papua**	**9.05**	**120**	P		**Pn**	**08 49 38.4**	**+3.4**
	2µm,1.1s,18µm4µm							
BBSI	**Bau Bau**	**9.96**	**216**	P		**Pn**	**08 49 51.1**	**+3.6**
	164nm,1.1s,2µm							
TTSI	**Tana Toraja**	**10.27**	**237**	P		**Pn**	**08 49 51.9**	**+0.2**
	370nm,1.8s,6µm							
SPSI	**Sidrap Palu**	**10.84**	**233**	P		**Pn**	**08 50 00.2**	**+0.7**
	426nm,1.3s,5µm							
BNSI	**Bone**	**10.84**	**230**	P		**Pn**	**08 50 00.4**	**+0.8**
	408nm,1.9s,5µm							
SAUI	**Saumlaki**	**10.96**	**165**	P		**Pn**	**08 50 02.3**	**+1.1**
	990nm,0.7s,11µm							
SAUI	**Saumlaki**	**10.96**	**165**			**Pn**	**08 49 59.5**	**-1.7**
SAUI				Sn		**Sn**	**08 52 00.5**	**-1.8**
SMPI	**Sarmi**	**11.30**	**114**	P		**Pn**	**08 50 08.2**	**+2.3**
	397nm,0.8s,5µm							
BKSI	**Bulukumba**	**11.44**	**226**	P		**Pn**	**08 50 09.0**	**+1.2**
	188nm,0.5s,7µm							
KAPI	**Kappang**	**11.51**	**229**	P		**Pn**	**08 50 10.2**	**+1.5**
	15nm,0.3s,baz=38,slow=12,SNR=38							
KAPI				S		**Sn**	**08 52 14.2**	**-1.5**
	2.1nm,0.3s,baz=301,slow=18,SNR=1.8							
KAPI	**Kappang**	**11.51**	**229**	Pn		**Pn**	**08 50 06.4**	**-2.3**
SMKI	**Samarinda**	**11.59**	**255**	P		**Pn**	**08 50 12.1**	**+2.3**
	2µm,1.3s,25µm4µm							
BKB	**Balikpapan**	**12.13**	**251**	P		**Pn**	**08 50 17.9**	**+0.7**
	956nm,1.1s,11µm3µm							
BKB	**Balikpapan**	**12.13**	**251**			Pn	08 50 13.3	-3.9
BATP	**Bataraza**	**12.17**	**301**	P		**Pn**	**08 50 15.5**	**-2.2**
ENPP	**El Nido**	**12.29**	**314**	P		**Pn**	**08 50 17.7**	**-1.8**
KKM	**Kota Kinabalu**	**12.59**	**286**	Pn		**Pn**	**08 50 20.6**	**-3.0**
MMRI	**Maumere**	**12.78**	**209**	P		**Pn**	**08 50 27.3**	**+1.2**
	165nm,1.5s,3µm							
MMRI	**Maumere**	**12.78**	**209**	Pn		**Pn**	**08 50 24.0**	**-2.1**
GENI	**Genyem**	**12.88**	**114**	P		**Pn**	**08 50 29.9**	**+2.5**
	2µm,1.3s,19µm6µm							
SOEI	**Soe**	**12.99**	**198**	P		**Pn**	**08 50 33.3**	**+4.2**
	252nm,1.3s,5µm3µm							
SOEI	**Soe**	**12.99**	**198**	Pn		**Pn**	**08 50 27.2**	**-1.9**
JAY	**Jayapura**	**13.34**	**113**	P		**Pn**	**08 50 34.0**	**+0.3**
	0.7nm,0.3s,baz=234,slow=4.7,SNR=25							
JAY				LR		LR	08 54 58.2	
	comp=Z,4µm,20.6s,baz=294,slow=34							
JAY	**Jayapura**	**13.34**	**113**	P		**Pn**	**08 50 35.3**	**+1.6**
	135nm,1.0s,2µm							
TGY	**Tagaytay City**	**13.55**	**328**	P		**Pn**	**08 50 39.8**	**+3.3**
	40nm,0.3s,baz=37,slow=5.2,SNR=3.6							
BATI	**Baumata**	**13.62**	**200**	P		**Pn**	**08 50 41.0**	**+3.7**
	5.0nm,0.3s,baz=90,slow=6.1,SNR=2.0							
BATI	**Baumata**	**13.62**	**200**	P		**Pn**	**08 50 40.8**	**+3.4**
	113nm,1.1s,2µm2µm							
LUBP	**Lubang**	**13.63**	**324**	P		**Pn**	**08 50 37.3**	**-0.3**
BALP	**Baler**	**14.63**	**333**	P		**Pn**	**08 50 48.3**	**-2.4**
SMPP	**San Manuel, Pa**	**15.41**	**331**	P		**Pn**	**08 51 02.6**	**+1.8**
PLAI	**Plampang**	**15.56**	**223**	P		**Pn**	**08 51 04.4**	**+1.7**
	521nm,1.4s,6µm4µm							
MTN	**Manton Dam**	**15.64**	**170**	P		**Pn**	**08 51 04.0**	**+0.3**
	baz=16,SNR=4.5							
MTN	**Manton Dam**	**15.64**	**170**			**Pn**	**08 51 02.4**	**-1.3**
MTN				Sn		**Sn**	**08 53 50.9**	**-5.3**
KDU	**Kakadu**	**15.77**	**165**	P		**Pn**	**08 51 03.3**	**-2.1**
	baz=16,SNR=52							
TWSI	**Taliwang, Sumb**	**16.11**	**225**	P		**Pn**	**08 51 11.1**	**+1.4**
	314nm,1.3s,3µm							
SBUM	**Sibu**	**16.15**	**270**	P		**Pn**	**08 51 12.0**	**+1.8**
SBUM	**Sibu**	**16.15**	**270**	Pn		**Pn**	**08 51 09.3**	**-0.9**
MMPI	**Merauke**	**16.28**	**133**	P		**Pn**	**08 51 13.1**	**+1.2**
SRBI	**Singaraja**	**16.93**	**231**	P		**P**	**08 51 22.3**	**+1.3**
	467nm,1.3s,6µm5µm							
STKI	**Sintang**	**17.10**	**262**	P		**Pn**	**08 51 23.3**	**+1.3**
	262nm,2.2s,6µm							
DNP	**Denpasar**	**17.30**	**229**	P		**P**	**08 51 27.8**	**+2.7**
	1µm,1.5s,3µm							
KMMI	**Kalianget**	**17.32**	**236**	P		**P**	**08 51 29.0**	**+3.6**
	651nm,1.6s,11µm							
IGBI	**Denpasar**	**17.44**	**229**	P		**P**	**08 51 28.8**	**+2.2**
	481nm,2.4s,12µm							
PBKI	**Pangkalan Bun**	**17.54**	**252**	P		**Pn**	**08 51 24.0**	**-3.5**
	320nm,1.1s							
PBKI				S		**Pn**	**08 51 26.0**	**-1.5**
	320nm,1.1s							
JAGI	**Jajag, Banyuwa**	**17.99**	**232**	P		**Pn**	**08 51 35.1**	**+2.2**
	461nm,1.3s,10µm9µm							
JAGI	**Jajag, Banyuwa**	**17.99**	**232**	P		**Pn**	**08 51 35.2**	**+2.2**
JAGI				IAmb	IAmb		08 51 41.5	
	comp=Z,457nm,1.2s							
KSM	**Kuching**	**18.11**	**267**	P		**Pn**	**08 51 36.0**	**+1.6**
KSM	**Kuching**	**18.11**	**267**	P		**P**	**08 51 34.2**	**+0.2**
KSM				IAmb	IAmb		08 51 40.7	
	comp=Z,224nm,1.2s							
KNRA	**Kununurra**	**18.22**	**179**	P		**P**	**08 51 36.4**	**+1.2**
	baz=18,SNR=86							
KNRA	**Kununurra**	**18.22**	**179**	P		**P**	**08 51 36.0**	**+0.8**
GMJI	**Gumumas**	**18.44**	**234**	P		**Pn**	**08 51 40.3**	**+1.9**
	comp=Z,9µmcomp=Z,14µmcomp=Z,394nm,1.3s							
GMJI				S		**Pn**	**08 51 41.0**	**+2.6**
	comp=Z,9µmcomp=Z,394nm,1.3s,comp=Z,14µm							
TBJI	**Tambak Boyo**	**19.00**	**240**	P		**P**	**08 51 44.1**	**+0.3**
	comp=Z,284nm,1.2s,comp=Z,4µm							
MANU	**Manus Island**	**19.54**	**104**	P		**Pn**	**08 51 52.6**	**+1.1**
GUMO	**Guam**	**19.58**	**55**	P		**P**	**08 51 50.0**	**-0.1**
	comp=Z,10.0nm,0.3s,baz=194,slow=12,SNR=9.9							
GUMO	**Guam**	**19.58**	**55**	P		**P**	**08 51 47.1**	**-3.0**
GUMO				IAmb	IAmb		08 51 53.9	
	comp=Z,447nm,1.2s							
NGJI	**Ngawi**	**19.61**	**239**	P		**Pn**	**08 51 53.6**	**+1.3**
	comp=Z,288nm,1.1s,comp=Z,5µmcomp=Z,5µm							
PWJI	**Pagerwojo**	**19.65**	**237**	P		**P**	**08 51 52.9**	**+2.0**
	comp=Z,307nm,1.0s,comp=Z,5µm							
WOJI	**Wonogiri, Jawa**	**20.30**	**239**	P		**P**	**08 52 00.2**	**+2.2**
	comp=Z,275nm,1.4s,comp=Z,3µm							
SMRI	**Semarang**	**20.34**	**242**	P		Pn	08 52 03.1	+2.1
	comp=Z,381nm,1.4s,comp=Z,5µm							
SMRI	**Semarang**	**20.34**	**242**	P		**P**	**08 51 56.0**	**-2.5**
SMRI				IAmb	IAmb		08 52 03.8	
	comp=Z,270nm,1.0s							
UGM	**Wanagama**	**20.68**	**239**	P		**P**	**08 52 05.0**	**+2.8**
	comp=Z,369nm,1.4s,comp=Z,7µmcomp=Z,4µm							
UGM	**Wanagama**	**20.68**	**239**	P		**P**	**08 52 03.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**20.80**	**187**	P		**P**	**08 52 03.3**	**0.0**
	baz=21,SNR=22							
FITZ	**Fitzroy Crossi**	**20.80**	**187**	P		**P**	**08 52 03.3**	**0.0**
	comp=Z,20nm,0.8s,baz=16,slow=8.3,SNR=32							
FITZ	**Fitzroy Crossi**	**20.80**	**187**	P		**P**	**08 52 03.6**	**+0.3**
YOGI	**Yogyakarta**	**20.83**	**240**	P		**P**	**08 52 06.5**	**+2.8**
	comp=Z,471nm,1.5s,comp=Z,8µm							
TWG	**Pinlang**	**21.26**	**341**	P		**P**	**08 52 05.7**	**-2.6**
TWG				IAMs_20	IAMs_20		09 01 32.5	
	comp=Z,5µm,22.0s							
TPI	**Tanjungpandan**	**21.41**	**256**	P		**P**	**08 52 10.7**	**+0.7**
	comp=Z,152nm,1.6s,comp=Z,2µm							
YULB	**Yu-li**	**21.73**	**342**	P		**P**	**08 52 11.2**	**-2.0**
DLV	**T Lat**	**21.77**	**296**	P		**P**	**08 52 12.8**	**-1.2**
KPJI	**Karang Pucung**	**21.80**	**243**	P		**P**	**08 52 15.5**	**+1.4**
	comp=Z,222nm,1.2s,comp=Z,4µmcomp=Z,5µm							
ANA2	**Anatahan**	**21.80**	**50**	P		**P**	**08 52 12.8**	**-1.4**
TPUB	**Ta-pu**	**21.86**	**341**	P		**P**	**08 52 12.5**	**-2.1**
SARN	**Sarigan**	**22.07**	**50**	P		**P**	**08 52 14.6**	**-2.5**
SARN				IAmb	IAmb		08 52 22.4	
	comp=Z,355nm,1.4s							
COEN	**Coen**	**22.08**	**139**	P		**P**	**08 52 16.0**	**-1.1**
	baz=22,SNR=51							
COEN	**Coen**	**22.08**	**139**	P		**P**	**08 52 16.5**	**-0.6**
COEN				IAmb	IAmb		08 52 20.4	
	comp=Z,123nm,0.9s							
COEN				IAMs_20	IAMs_20		09 01 39.7	
	comp=Z,3µm,19.0s							
SSLB	**Suanglung**	**22.20**	**342**	P		**P**	**08 52 16.4**	**-2.0**
PMG	**Port Moresby**	**22.21**	**123**	*d* ⇓P		**P**	**08 52 18.4**	**-0.2**
PMG				pmax	pmax			
	comp=Z,582nm,0.7s							
PMG	**Port Moresby**	**22.21**	**123**	P		**P**	**08 52 18.2**	**-0.3**
	comp=Z,130nm,0.8s,baz=315,slow=4.7,SNR=33							
PMG	**Port Moresby**	**22.21**	**123**	P		**P**	**08 52 16.9**	**-1.7**
PMG	**Port Moresby**	**22.21**	**123**	IAMs_20	IAMs_20		09 01 38.0	
	comp=Z,3µm,20.0s							
NACB	**Ninganchiao**	**22.38**	**344**	P		**P**	**08 52 18.9**	**-1.3**
LEM	**Lembang**	**22.77**	**245**	P		**P**	**08 52 25.9**	**+1.2**
	comp=Z,156nm,0.8s,baz=57,slow=8.2,SNR=28							
LEM				LR	LR		09 02 39.7	
	comp=Z,867nm,20.9s,baz=29,slow=40							
CISI	**Cisompet, Garu**	**22.89**	**244**	P		**P**	**08 52 26.6**	**+0.7**
	comp=Z,230nm,1.0s,comp=Z,7µmcomp=Z,3µm							
CISI	**Cisompet, Garu**	**22.89**	**244**	P		**P**	**08 52 25.3**	**-0.5**
CISI				IAmb	IAmb		08 52 34.0	
	comp=Z,156nm,0.7s							
YHNB	**Yeheng**	**22.91**	**343**	P		**P**	**08 52 25.1**	**-0.8**
YHNB				IAmb	IAmb		08 52 34.6	
	comp=Z,71nm,0.6s							
TATO	**Taipei**	**23.17**	**344**	P		**P**	**08 52 24.8**	**-3.6**
TATO				IAmb	IAmb		08 52 34.7	
	comp=Z,124nm,1.3s							
WRAB	**Tennant Creek**	**23.20**	**166**	*d* ⇓P		**P**	**08 52 29.2**	**+0.5**
WRAB				pmax	pmax			
	comp=Z,297nm,1.3s							
WRAB	**Tennant Creek**	**23.20**	**166**	P		**P**	**08 52 29.2**	**+0.5**
WRA	**Warramunga Arr**	**23.21**	**166**	P		**P**	**08 52 29.5**	**+0.7**
	comp=Z,110nm,0.8s,baz=343,slow=10,SNR=231							
WRA				S		**S**	**08 56 33.9**	**-2.1**
	comp=Z,15nm,1.1s,baz=344,slow=18,SNR=5.2							
WRA				ScP		**ScP**	**08 59 47.2**	**-0.7**
	comp=Z,14nm,0.8s,baz=343,slow=3.2,SNR=11							
WRA				LR	LR		09 04 01.1	
	comp=Z,924nm,19.7s,baz=325,slow=43							
WB2	**Warramunga Arr**	**23.21**	**166**	P		**P**	**08 52 29.1**	**+0.3**
WR0	**Warramunga Arr**	**23.27**	**165**	P		**P**	**08 52 29.8**	**+0.4**
WR0				IAmb	IAmb		08 52 31.2	
	comp=Z,140nm,0.9s							
DBJI	**Dramaga**	**23.46**	**247**	P		**P**	**08 52 33.1**	**+1.8**
	comp=Z,365nm,0.7s,comp=Z,11µm							
KNMB	**Chin-men Tao**	**23.73**	**337**	P		**P**	**08 52 33.8**	**+0.2**
KNMB				IAmb	IAmb		08 52 36.3	
	comp=Z,92nm,0.6s							
KNMB				IAMs_20	IAMs_20		09 01 51.1	
	comp=Z,2µm,22.0s							
JOW	**Kunigami**	**24.04**	**360**	P		**P**	**08 52 36.7**	**+0.4**
	comp=Z,3.7nm,0.5s,baz=195,slow=16,SNR=6.7							
JOW	**Kunigami**	**24.04**	**360**	P		**P**	**08 52 33.0**	**-3.3**
JOW				IAmb	IAmb		08 52 37.8	
	comp=Z,199nm,1.4s							
QZH	**Quanzhou**	**24.09**	**338**	P		**P**	**08 52 38.7**	**+1.9**
QZH				S		**S**	**08 56 50.9**	**+0.8**
QZH				pmax	pmax			
	comp=Z,85nm,0.5s							
QZH				pmax	pmax			
	comp=Z,1µm,3.4s							
QZH				LR	LR			
	comp=Z,1µm,22.7s							
PMBI	**Palembang**	**24.25**	**257**	P		**P**	**08 52 37.1**	**-1.3**
QIZ	**Qiongzhong**	**24.37**	**313**	P		**P**	**08 52 39.7**	**+0.2**
QIZ				pP		**pwP**	**08 52 58.0**	**-0.5**
QIZ				S		**S**	**08 56 56.4**	**+1.5**
QIZ				pmax	pmax			
	comp=Z,110nm,1.4s							
QIZ				pmax	pmax			
	comp=Z,690nm,2.8s							
QIZ				LR	LR			
	comp=Z,1µm,29.9s							
QIZ				LR	LR			
	comp=Z,840nm,30.4s							
QIZ				LR	LR			
	comp=Z,2µm,24.0s							
QIZ	**Qiongzhong**	**24.37**	**313**	P		**P**	**08 52 38.0**	**-1.6**
QIZ				IAmb	IAmb		08 52 40.5	
	comp=Z,123nm,1.4s							
BLSI	**Bandar Lampung**	**24.45**	**251**	P		**P**	**08 52 42.6**	**+2.3**

ASAR ScP **ScP** **08 59 57.2 -0.6**
comp=Z,33nm,0.9s,baz=352,slow=2.6,SNR=30
ASAR LR LR 09 05 35.0
comp=Z,1μm,21.4s,baz=344,slow=41
MASI Maura Aman, Be 26.76 258 P **P** **08 53 04.0 +2.7**
comp=Z,314nm,0.9s,comp=Z,4μm
IPM Ipoh 27.37 275 P **P** **08 53 08.0 +1.3**
IPM Ipoh 27.37 275 P **P** **08 53 05.8 -0.9**
BKNI Bangkinang 27.43 266 P **P** **08 53 10.3 +3.0**
comp=Z,124nm,1.4s,comp=Z,2μmcomp=Z,2μm
BKNI Bangkinang 27.43 266 P **P** **08 53 06.8 -0.5**
WRKA Warakurna 27.53 180 P **P** **08 53 08.1 +0.1**
baz=28,SNR=66
JCJ Chichijima 27.66 27 P **P** **08 53 08.2 -0.9**
comp=Z,89nm,0.6s,baz=229,slow=11,SNR=5.3
KULM Kulim 27.79 276 P **P** **08 53 10.0 -0.5**
KULM Kulim 27.79 276 P **P** **08 53 08.7 -1.8**
KULM IAmb IAmb 08 53 11.8
comp=Z,40nm,0.7s
SKLT Songkhla 28.02 280 P **P** **08 53 14.0 +1.5**
comp=Z,57nm,1.3s,comp=Z,765nm
PDSI Padang 28.14 263 P **P** **08 53 16.1 +2.5**
comp=Z,19nm,0.7s,comp=Z,1μm
CTA Charters Tower 28.61 143 P **P** **08 53 19.2 +1.6**
comp=Z,64nm,1.1s,baz=328,slow=10,SNR=9.5
PPSI Pulau Pagai 28.87 259 P **P** **08 53 21.4 +1.3**
comp=Z,157nm,1.1s,comp=Z,2μm
TRTT Trang 29.02 281 P **P** **08 53 22.7 +1.3**
comp=Z,72nm,1.4s,comp=Z,1μm
NONG Nongkai 29.10 303 P **P** **08 53 22.3 +0.3**
comp=Z,1.8nm,1.1s
CHAI Chaiyaphum 29.13 299 P **P** **08 53 22.9 +0.5**
comp=Z,119μm,0.9s
PSI Prapat 29.43 271 P **P** **08 53 25.2 0.0**
comp=Z,36nm,1.1s,baz=76,slow=5.3,SNR=22
PSI ScP **ScP** **09 00 05.8 -0.7**
comp=Z,2.8nm,0.3s,baz=198,slow=4.5,SNR=5.2
PSI LR LR 09 07 32.7
comp=Z,259nm,19.1s,baz=125,slow=41
RPSI Rantau Prapat 29.43 271 P **P** **08 53 23.3 -1.7**
RPSI IAmb IAmb 08 53 27.1
comp=Z,151nm,1.5s
RPSI Rantau Prapat 29.43 271 P **P** **08 53 25.2 +0.1**
RPSI **ScP** **09 00 05.8 -0.5**
SISI Saibi 29.55 263 P **P** **08 53 28.5 +2.4**
comp=Z,30nm,1.0s
SURT Suratani 30.08 283 P **P** **08 53 32.0 +1.2**
comp=Z,107nm,0.8s,comp=Z,1μm
PATS Pohnpei 30.10 81 IAMs_20 IAMs_20 09 02 29.1
comp=Z,3μm,22.0s
SLVN Son La 30.20 310 P **P** **08 53 30.7 -1.2**
PHET Kaeng Krachan 30.22 291 P **P** **08 53 33.3 +1.3**
comp=Z,65μm,0.8s
PBKT Sadao Pong 30.30 299 P **P** **08 53 33.5 +0.9**
comp=Z,33nm,1.4s,comp=Z,489nm
PBKT Sadao Pong 30.30 299 P **P** **08 53 32.0 -0.6**
PBKT IAmb IAmb 08 53 34.9
comp=Z,119nm,1.4s
JNU Nakatsue 30.40 4 P **P** **08 53 32.5 -0.8**
comp=Z,23nm,0.6s,baz=225,slow=2.4,SNR=19
JNU Nakatsue 30.40 4 P **P** **08 53 31.4 -2.0**
JNU IAmb IAmb 08 53 33.8
comp=Z,55nm,1.1s
KCSI Kotacane, Aceh 30.58 272 P **P** **08 53 35.0 -0.3**
comp=Z,55nm,1.2s,comp=Z,922nm
NJ2 Nanjing 30.59 344 *eP* **P** **08 53 36.4 +1.4**
NJ2 pmax pmax
comp=Z,22nm,0.5s
NJ2 LR LR
comp=Z,1μm,20.8s
NJ2 LR LR
comp=Z,1μm,21.3s
NJ2 LR LR
comp=Z,1μm,19.9s
MEEK Meekatharra 30.61 197 P **P** **08 53 34.7 -0.7**
baz=31,SNR=16
WHN Wuhan 30.76 336 P **P** **08 53 37.1 +0.6**
WHN LR LR
comp=Z,7μm,22.6s
GSI Gunungsitoli 30.82 268 P **P** **08 53 37.2 -0.2**
comp=Z,114nm,0.8s
GSI Gunungsitoli 30.82 268 P **P** **08 53 36.5 -0.9**
GSI IAmb IAmb 08 53 38.8
comp=Z,68nm,0.6s
SRDT SRDT 31.14 294 P **P** **08 53 42.0 +1.9**
comp=Z,43nm,0.9s,comp=Z,2μm
UTTA Uttaradit 31.15 301 P **P** **08 53 41.3 +1.1**
comp=Z,79μm,1.0s,comp=Z,787μm
UTHA Uthaitani 31.26 296 P **P** **08 53 42.0 +0.8**
comp=Z,110μm,0.7s,comp=Z,989μm
LHMI Lhok Sumawe 31.47 276 P **P** **08 53 42.3 -0.7**
GYA Guiyang 31.54 321 ⇓*iP* **P** **08 53 45.1 +1.5**
GYA pP pP 08 53 59.8 +1.8
GYA sP sP 08 54 07.2 +2.3
GYA PP **PnPn** **08 54 51.4 +2.3**
GYA S **S** **08 58 49.6 +1.7**
GYA pmax pmax
comp=Z,40nm,0.5s
GYA pmax pmax
comp=Z,180nm,5.8s
GYA LR LR
comp=Z,740nm,16.6s
GYA LR LR
comp=Z,500nm,13.7s
GYA LR LR
comp=Z,900nm,17.8s
MLSI Meulaboh, Aceh 31.96 274 P **P** **08 53 47.8 +0.4**
comp=Z,172nm,0.8s
UMPA Umpang Tak 32.02 297 P **P** **08 53 48.6 +0.7**
comp=Z,36μm,0.8s
LAMP Lampang 32.28 301 P **P** **08 53 51.6 +1.5**
comp=Z,111μm,1.0s
PAYA Payao 32.45 303 P **P** **08 53 52.4 +0.8**
comp=Z,172μm,0.8s
ENH Enshi 32.79 329 P **P** **08 53 53.4 -1.0**
ENH IAmb IAmb 08 54 05.8
comp=Z,78nm,1.0s
ENH IAMs_20 IAMs_20 09 08 21.0
comp=Z,1μm,20.0s
CM31 Chiang Mai Arr 32.84 301 P **P** **08 53 56.8 +1.8**
SNR=15
CM31 Chiang Mai Arr 32.84 301 P **P** **08 53 56.6 +1.6**
CM31 IAmb IAmb 08 53 57.5
comp=Z,62nm,1.1s
CMAR Chiang Mai Arr 32.84 301 P **P** **08 53 56.2 +1.2**
comp=Z,32nm,0.9s,baz=119,slow=7.5,SNR=110
CMAR ScP **ScP** **09 00 18.8 +1.1**
comp=Z,15nm,1.0s,baz=146,slow=2.1,SNR=30
CMAR LR LR 09 07 46.2
comp=Z,410nm,21.3s,baz=127,slow=37
CMMT Chiang Mai 32.98 301 P **P** **08 53 57.2 +0.9**
comp=Z,49nm,1.1s,comp=Z,659nm
CHTO Chiang Mai 32.99 301 P **P** **08 53 57.6 +1.3**
SNR=20
CHTO Chiang Mai 32.99 301 P **P** **08 53 57.4 +1.0**
CHTO pmax pmax
comp=Z,114nm,1.2s
CHTO MLR MLR
comp=Z,600nm,22.0s
CHTO Chiang Mai 32.99 301 P **P** **08 53 57.4 +1.0**
CHTO IAmb IAmb 08 53 58.5
comp=Z,114nm,1.2s
FORT Forrest 33.25 181 P **P** **08 53 58.4 0.0**
baz=33,SNR=20
FORT Forrest 33.25 181 P **P** **08 53 58.5 +0.1**
KMI Kunming 33.31 314 P **P** **08 54 00.5 +1.2**
KMI pP pP 08 54 12.0 -1.7
KMI sP pwP 08 54 17.5 -1.0
KMI S **S** **08 59 16.3 +0.6**
KMI sS sS 08 59 38.4 -3.5
KMI pmax pmax
comp=Z,48nm,1.8s
KMI pmax pmax
comp=Z,400nm,5.2s
KMI LR LR
comp=Z,560nm,26.7s
KMI LR LR
comp=Z,750nm,24.4s
KMI LR LR
comp=Z,1μm,26.3s
KMI Kunming 33.31 314 P **P** **08 53 59.5 +0.2**
KMI pmax pmax
comp=Z,59nm,1.1s
KMI MLR MLR
comp=Z,1μm,20.0s
KMI Kunming 33.31 314 P **P** **08 53 59.5 +0.2**
KMI IAmb IAmb 08 54 02.1
comp=Z,59nm,1.1s
KMI Kunming 33.31 314 IAMs_20 IAMs_20 09 08 18.1
comp=Z,960nm,20.0s
INU Inuyama 33.50 13 P **P** **08 53 59.6 -0.9**
INU IAMs_20 IAMs_20 09 07 20.5
comp=Z,1μm,20.0s
TJN Taejon 33.57 359*ce*P **P** **08 54 01.5 +0.4**
MHMT Maesarieng 33.60 299 P **P** **08 54 02.9 +1.3**
comp=Z,129nm,1.2s,comp=Z,3μm
HNR Honiara 33.66 111 P **P** **08 54 02.6 +0.4**
HNR pmax pmax
comp=Z,370nm,1.0s
HNR MLR MLR
comp=Z,1μm,22.0s
HNR Honiara 33.66 111 P **P** **08 54 02.6 +0.4**
HNR Honiara 33.66 111 IAMs_20 IAMs_20 09 06 23.1
comp=Z,1μm,22.0s
MORW Morawa 33.69 200 P **P** **08 54 01.9 -0.4**
baz=34,SNR=8.2
MORW Morawa 33.69 200 P **P** **08 54 01.7 -0.6**
KMBL Kambalda 34.40 190 P **P** **08 54 08.1 -0.2**
baz=35,SNR=17
KSRS Korea Array 34.63 359 P **P** **08 54 10.0 -0.3**
comp=Z,27nm,0.6s,baz=175,slow=9.5,SNR=79
KSRS PcP **PcP** **08 56 44.5 +1.1**
comp=Z,4.4nm,0.6s,baz=192,slow=2.7,SNR=7.3
KSRS ScP **ScP** **09 00 22.2 -1.3**
comp=Z,1.9nm,0.7s,baz=186,slow=3.5,SNR=4.7
KSRS LR LR 09 09 58.3
comp=Z,157nm,18.9s,baz=170,slow=39
COCO West Island 34.65 244 P **P** **08 54 10.2 -0.5**
COCO West Island 34.65 244 P **P** **08 54 10.2 -0.5**
KS19 Wonju Array Si 34.68 359 P **P** **08 54 08.7 -2.0**
KS19 IAmb IAmb 08 54 11.3
comp=Z,36nm,0.7s
INCN Inchon 34.70 358 P **P** **08 54 09.6 -1.3**
INCN pmax pmax
comp=Z,37nm,1.1s
INCN Inchon 34.70 358 P **P** **08 54 09.6 -1.3**
INCN IAmb IAmb 08 54 22.1
comp=Z,37nm,1.1s
BLDU Ballidu 34.91 198 P **P** **08 54 12.3 -0.5**
baz=35,SNR=23
MJAR Matsushiro Arr 34.92 14 P **P** **08 54 11.0 -1.8**
comp=Z,24nm,0.6s,baz=183,slow=9.3,SNR=62
MJAR LR LR 09 06 24.5
comp=Z,908nm,21.4s,baz=195,slow=33
MAJO Matsushiro 34.92 14*c iP* **P** **08 54 10.9 -1.9**
MAJO pmax pmax
comp=Z,22nm,0.8s
MAJO Matsushiro 34.92 14 P **P** **08 54 11.2 -1.6**
MAJO IAmb IAmb 08 54 12.8
comp=Z,50nm,1.1s
MAJO Matsushiro 34.92 14 IAMs_20 IAMs_20 09 06 02.4
comp=Z,978nm,21.0s
MAT Matsushiro 34.92 14 P **P** **08 54 10.9 -1.9**
MAT S **S** **08 59 44.0 +4.1**
MJB9 Matsu-Tunnel 34.92 14 P **P** **08 54 11.3 -1.5**
MJB9 IAmb IAmb 08 54 12.8
comp=Z,46nm,1.1s
MJB9 IAMs_20 IAMs_20 09 06 02.9
comp=Z,1μm,22.0s
RMQ Roma 35.03 147 P **P** **08 54 15.0 +1.1**
baz=35,SNR=9.2
EIDS Eidsvold 35.50 143 P **P** **08 54 18.1 +0.1**
baz=36,SNR=27
EIDS Eidsvold 35.50 143 P **P** **08 54 16.6 -1.4**
EIDS IAmb IAmb 08 54 20.4
comp=Z,75nm,0.9s
EIDS IAMs_20 IAMs_20 09 09 56.3
comp=Z,2μm,19.0s
KLBR Kellerberrin 35.53 196 P **P** **08 54 17.7 -0.4**
baz=36,SNR=19
BBOO Buckleboo 36.01 169 P **P** **08 54 22.6 +0.3**
baz=36,SNR=61
BBOO Buckleboo 36.01 169 P **P** **08 54 21.7 -0.5**
BBOO IAmb IAmb 08 54 30.8
comp=Z,28nm,0.7s
XAN Xi'an 36.12 332 P **P** **08 54 22.9 -0.4**
XAN pP pP 08 54 36.6 -1.2
XAN S **S** **08 59 53.4 -5.1**
XAN pmax pmax
comp=Z,52nm,1.2s
XAN pmax pmax
comp=Z,280nm,5.9s
XAN LR LR
comp=Z,910nm,26.0s
XAN LR LR
comp=Z,360nm,24.9s
XAN LR LR
comp=Z,1μm,28.2s
XAN Xi'an 36.12 332 P **P** **08 54 22.6 -0.7**
XAN pmax pmax
comp=Z,60nm,1.0s
XAN MLR MLR
comp=Z,800nm,20.0s
XAN Xi'an 36.12 332 P **P** **08 54 22.6 -0.7**
XAN IAmb IAmb 08 54 27.9
comp=Z,60nm,1.0s
MUN Mundaring 36.33 198 P **P** **08 54 24.5 -0.5**
baz=36,SNR=6.9
CD2 Chengdu 36.49 323 P **P** **08 54 26.6 +0.2**
CD2 pP pP 08 54 39.6 -1.3
CD2 sP sP 08 54 48.7 +0.9
CD2 S **S** **09 00 02.9 -1.2**
CD2 sS sS 09 00 28.6 -1.9
CD2 pmax pmax
comp=Z,70nm,0.9s
CD2 pmax pmax
comp=Z,530nm,4.3s
CD2 LR LR
comp=Z,1μm,21.4s
CD2 LR LR
comp=Z,1μm,22.8s
CD2 LR LR
comp=Z,2μm,23.5s
STKA Stephens Creek 36.56 161 P **P** **08 54 27.2 +0.2**
comp=Z,50nm,0.7s,baz=334,slow=9.5,SNR=81
STKA ScP **ScP** **09 00 30.9 +0.1**
comp=Z,16nm,0.9s,baz=34,slow=4.0,SNR=5.9
STKA LR LR 09 11 34.3
comp=Z,860nm,20.4s,baz=331,slow=40
STKA Stephens Creek 36.56 161 P **P** **08 54 27.0 0.0**
DL2 Dalian 36.60 351 P **P** **08 54 27.0 -0.2**
DL2 sP **sP** **08 54 51.8 +3.2**
DL2 S **S** **09 00 04.2 -1.3**
DL2 sS **ScP** **09 00 30.8 +0.1**
DL2 pmax pmax
comp=Z,66nm,1.0s
DL2 pmax pmax
comp=Z,530nm,4.3s
DL2 LR LR
comp=Z,1μm,16.9s
DL2 LR LR
comp=Z,2μm,17.4s
DL2 LR LR
comp=Z,810nm,18.8s
NWAO Narrogin (SRO) 36.93 196 P **P** **08 54 30.0 -0.1**
baz=37,SNR=13
NWAO Narrogin (SRO) 36.93 196 P **P** **08 54 29.8 -0.3**
NWAO pmax pmax
comp=Z,69nm,1.5s
NWAO Narrogin (SRO) 36.93 196 P **P** **08 54 29.8 -0.3**
NWAO IAmb IAmb 08 54 43.6
comp=Z,70nm,1.5s
NWAO Narrogin (SRO) 36.93 196 P **P** **08 54 29.8 -0.3**
NWAO IAmb IAmb 08 54 43.7
comp=Z,66nm,1.4s
HTT Hallett 37.25 165 P **P** **08 54 33.5 +0.7**
baz=37,SNR=5.1
CMSA Cobar Meteorol 37.78 156 P **P** **08 54 37.7 +0.5**
baz=38,SNR=9.0
TIY Taiyuan 37.84 339 *eP* **P** **08 54 38.3 +0.5**
TIY S **S** **09 00 26.5 +2.0**
TIY pmax pmax
comp=Z,36nm,0.4s
TIY pmax pmax
comp=Z,220nm,4.7s
TIY LR LR
comp=Z,220nm,4.8s
TIY LR LR
comp=Z,520nm,8.5s
RKGY Rocky Gully 38.59 195 P **P** **08 54 45.1 +1.1**
baz=39,SNR=22
SIMRM Sittwe 38.75 299 P **P** **08 54 44.2 -1.4**
SIMRM IAmb IAmb 08 54 48.5
comp=Z,66nm,1.2s
BJT Baijiatuau 38.81 345 P **P** **08 54 45.4 -0.4**
BJT pmax pmax
comp=Z,22nm,0.6s
BJT MLR MLR
comp=Z,400nm,20.0s
BJT Baijiatuau 38.81 345 P **P** **08 54 45.4 -0.4**
BJI Beijing 38.83 345⇑*iP* **P** **08 54 45.2 -0.7**
BJI pP **pP** **08 55 01.5 +0.9**
BJI sP **pwP** **08 55 04.8 -0.5**
BJI S **S** **09 00 37.1 -2.1**
BJI sS sS 09 00 58.2 -7.5
BJI ScS **ScS** **09 04 52.5 +2.6**
BJI pmax pmax
comp=Z,31nm,0.7s
BJI pmax pmax
comp=Z,160nm,4.2s
BJI LR LR
comp=Z,270nm,4.3s
BJI LR LR
comp=Z,560nm,5.2s
KWAJ Kwajalein Atol 39.48 79 IAMs_20 IAMs_20 09 08 11.5
comp=Z,2μm,20.0s
SAIH SAIHA 39.59 303 *eP* **P** **08 54 53.0 +0.2**
SAIH IAmb IAmb 08 54 56.4
comp=Z,101nm,0.7s
ARMA Armidale 39.67 148 P **P** **08 54 54.0 +0.7**
baz=40,SNR=30
ARMA Armidale 39.67 148 P **P** **08 54 51.5 -1.8**
ARMA IAmb IAmb 08 54 56.6
comp=Z,76nm,0.9s
IMP Imphal 39.84 307 *eP* **P** **08 54 54.5 -0.3**
KOHI KOHIMA 40.14 308 *ex* **P** **08 54 56.9 -0.4**
KOHI IAmb IAmb 08 54 59.4
comp=Z,149nm,1.2s
LZH Lanzhou 40.27 329 ⇑⇑P **P** **08 54 59.4 +1.2**
LZH pP pP 08 55 14.7 +1.7
LZH S **S** **09 01 02.1 +0.8**
LZH sS sS 09 01 26.5 -1.4
LZH pmax pmax
comp=Z,120nm,1.1s
LZH pmax pmax
comp=Z,350nm,5.4s
LZH LR LR
comp=Z,880nm,14.6s
LZH LR LR
comp=Z,880nm,13.6s
LZH LR LR
comp=Z,960nm,15.3s
AZL Aizawl 40.37 304 *eP* **P** **08 54 60.0 +0.8**
AZL IAmb IAmb 08 55 02.4
comp=Z,281nm,1.7s
VLA Vladivostok 40.41 4⇑⇑*eP* **P** **08 55 01.8 +2.8**
VLA pmax pmax
comp=Z,123nm,1.0s
H11S3 WAKE ISLAND Hy 40.67 64 T T 09 38 22.5
baz=252,slow=75,SNR=48
H11S2 WAKE ISLAND Hy 40.69 65 T T 09 38 18.0
baz=252,slow=75,SNR=62
H11S1 WAKE ISLAND Hy 40.69 64 T T 09 38 18.5
baz=252,slow=75,SNR=77
HHC Hu-ho-hao-te 40.94 340 P **P** **08 55 04.6 +0.9**
CN2 Changchun 41.05 357 *eP* P 08 54 57.1 -7.3
CN2 pmax pmax
comp=Z,10.0nm,1.2s
ARPS Mount Arapiles 41.18 164 P **P** **08 55 06.7 +1.3**
baz=41,SNR=14
H11N1 WAKE ISLAND Hy 41.24 63 T T 09 39 01.0
baz=250,slow=75,SNR=89
H11N2 WAKE ISLAND Hy 41.26 63 T T 09 39 00.6
baz=250,slow=75,SNR=58
H11N3 WAKE ISLAND Hy 41.26 63 T T 09 39 01.2
baz=250,slow=75,SNR=98
BTO Baotou 41.27 339 *eP* **P** **08 55 09.5 +3.2**
BTO S S 09 01 05.6 -10
YNG Young 41.30 155 P **P** **08 55 07.1 +0.5**
baz=41,SNR=13
ERM Erimo 41.37 17⇑⇑*eP* **P** **08 55 07.3 +0.4**
ERM pmax pmax
comp=Z,26nm,1.2s
USA0B Ussuriysk Arra 41.49 4 *iP* **P** **08 55 07.6 -0.3**
USA0B Ussuriysk Arra 41.49 4 P **P** **08 55 07.8 -0.2**
USRK Ussuriysk Ar. 41.49 4 P **P** **08 55 07.8 -0.1**
comp=Z,22nm,0.7s,baz=169,slow=6.4,SNR=54
USRK PcP **PcP** **08 57 04.5 -0.1**
comp=Z,3.0nm,0.5s,baz=163,slow=2.8,SNR=5.1
MDJ Mudanjiang 41.80 1 P **P** **08 55 10.4 -0.1**
MDJ pmax pmax
comp=Z,13nm,0.6s
MDJ pmax pmax
comp=Z,210nm,4.5s
MDJ Mudanjiang 41.80 1 P **P** **08 55 10.3 -0.2**
SHL Shillong 41.84 306 P **P** **08 55 12.1 +0.8**
SNR=31
SHL Shillong 41.84 306 P **P** **08 55 11.9 +0.6**
SHL pmax pmax
comp=Z,187nm,0.6s
SHL Shillong 41.84 306⇑*iP* **P** **08 55 11.0 -0.3**
SHL *eP* **P** **08 55 12.0 +0.8**
SHL IAmb IAmb 08 55 25.6
comp=Z,63nm,0.5s
SHL *i* S **S** **09 01 20.0 -5.0**
SHL Shillong 41.84 306 P **P** **08 55 11.9 +0.6**
GUWA GUWAHATI 42.28 307 *eP* **P** **08 55 14.7 0.0**
GUWA IAmb IAmb 08 55 20.0
comp=Z,76nm,0.3s
CAN Canberra 42.43 155 P **P** **08 55 17.3 +1.5**
CAN pmax pmax
comp=Z,123nm,1.3s
CAN MLR MLR
comp=Z,2μm,21.0s
CAN Canberra 42.43 155 P **P** **08 55 17.3 +1.5**
CAN IAmb IAmb 08 55 30.9
comp=Z,123nm,1.3s
CAN IAMs_20 IAMs_20 09 14 19.0
comp=Z,2μm,21.0s
CNB Canberra Magne 42.58 154 P **P** **08 55 17.3 +0.3**
baz=43,SNR=4.7
TOO Toolangi 43.06 160 P **P** **08 55 22.4 +1.6**
baz=43,SNR=11
TOO Toolangi 43.06 160 P **P** **08 55 20.6 -0.2**
TOO pmax pmax
comp=Z,32nm,1.1s
TOO Toolangi 43.06 160 P **P** **08 55 20.6 -0.2**
ASAJ Asahikawa 43.16 15 P **P** **08 55 22.2 +0.7**
comp=Z,8.9nm,0.4s,baz=237,slow=7.5,SNR=30
JKA Kamikawa-asahi 43.16 15 P **P** **08 55 22.2 +0.7**
DHUB DHUBRI 43.57 306 *eP* **P** **08 55 25.6 +0.6**
LSA Lhasa 44.39 311 *iP* **P** **08 55 34.0 +1.8**
SNR=28
LSA Lhasa 44.39 311 P **P** **08 55 33.8 +1.7**
LSA Lhasa 44.39 311 P **P** **08 55 33.9 +1.7**
LSA pmax pmax
comp=Z,67nm,0.7s
LSA MLR MLR
comp=Z,300nm,20.0s
LSA Lhasa 44.39 311 P **P** **08 55 33.9 +1.7**
LSA IAmb IAmb 08 55 35.9
comp=Z,67nm,0.7s
TARA Tarawa 44.53 91 IAMs_20 IAMs_20 09 09 50.2
comp=Z,1μm,20.0s
DZM Mont Dzumac 44.57 125 *eP* **P** **08 55 34.0 +0.7**
comp=Z,104nm,1.6s
DZM *eS* **S** **09 02 07.2 +2.4**
comp=Z,852nm,26.9s
DZM *eLR* LR 09 08 12.9
comp=Z,1μm,24.1s
GTA Gaotai 44.87 328 ⇑⇑P **P** **08 55 36.0 +0.5**
GTA pP pP 08 55 48.9 -1.5
GTA sP pwP 08 55 53.1 -2.1
GTA PcP **PcP** **08 57 17.4 +1.1**
GTA ScP **ScP** **09 01 03.6 +0.2**
GTA S **S** **09 02 09.0 +0.2**
GTA sS sS 09 02 30.0 -5.8
GTA ScS **ScS** **09 05 27.3 0.0**
GTA pmax pmax
comp=Z,35nm,1.0s
GTA pmax pmax
comp=Z,230nm,6.1s
GTA LR LR
comp=Z,380nm,19.4s
GTA LR LR
comp=Z,460nm,18.4s
GTA LR LR
comp=Z,980nm,20.4s
BWNR Bhubaneshwar 45.06 296 *eP* **P** **08 55 38.5 +1.4**

BWNR IAmb IAmb 08 55 57.3
comp=Z,36nm,0.9s
YSS Yuzh-Sakhalins 45.86 14⇓ *e*P **P** **08 55 42.2 -0.8**
YSS *e* 08 55 51.5
YSS *e* 08 56 00.4
YSS pmax pmax
comp=Z,20nm,0.7s
YSS pmax pmax
comp=Z,200nm,3.3s
YSS MLR MLR
comp=Z,600nm,15.0s
YSS MLR MLR
comp=N,300nm,13.0s
YSS MLR MLR
comp=E,300nm,16.0s
YSS Yuzh-Sakhalins 45.86 14 P **P** **08 55 42.7 -0.2**
YSS IAmb IAmb 08 55 52.2
comp=Z,25nm,0.5s
YSS IAMs_20 IAMs_20 09 12 00.1
comp=Z,925nm,22.0s
TAPN Taplejung 45.98 306⇑ *i*P **P** **08 55 45.8 +1.1**
comp=Z,176nm,0.6s
ODAN Odare 46.04 305⇑ *i*P **P** **08 55 46.1 +1.1**
comp=Z,244nm,0.6s
KLR Kul'dur 46.49 3 *c i*P **P** **08 55 47.1 -0.8**
KLR pmax pmax
comp=Z,9.0nm,1.1s
KLR Kul'dur 46.49 3 P **P** **08 55 47.7 -0.2**
comp=Z,8.7nm,0.5s,baz=209,slow=8.5,SNR=14
KLR ScP **ScP** **09 01 10.0 +0.3**
comp=Z,1.5nm,0.5s,baz=158,slow=4.3,SNR=4.8
RAMN Ramite 46.72 305⇑ *i*P **P** **08 55 51.6 +1.2**
comp=Z,290nm,0.8s
HIA Hailar 47.02 352⇑ *e*P **P** **08 55 52.5 +0.4**
HIA pmax pmax
comp=Z,129nm,1.7s
HIA Hailar 47.02 352 P **P** **08 55 51.0 -1.2**
JIRN Jiri 47.34 306⇑ *i*P **P** **08 55 56.4 +1.0**
comp=Z,396nm,0.7s
GUN Gumba 47.69 306⇑ *i*P **P** **08 55 59.0 +0.9**
comp=Z,336nm,0.6s
PALK Pallekele 47.70 277 P **P** **08 55 59.0 +1.0**
PALK Pallekele 47.70 277 P **P** **08 55 59.1 +1.1**
PALK Pallekele 47.70 277 *i* P **P** **08 55 59.4 +1.4**
PALK Pallekele 47.70 277 P **P** **08 55 58.2 +0.2**
PALK IAmb IAmb 08 56 00.3
comp=Z,46nm,1.0s
PKI Pulchoki 47.94 305⇑ *i*P **P** **08 56 00.4 +0.4**
comp=Z,136nm,0.7s
PKIN Phulchoki 47.95 305⇑ *i*P **P** **08 56 00.4 +0.4**
comp=Z,91nm,0.7s
KKN Kakani 48.13 306⇑ *i*P **P** **08 56 02.0 +0.7**
comp=Z,183nm,0.7s
DMN Daman 48.20 305⇑ *i*P **P** **08 56 02.6 +0.7**
comp=Z,182nm,0.7s
GRNR Gornyy 48.42 7⇑ *i*P **P** **08 56 03.6 +0.7**
GRNR *e*S **S** **09 03 01.3 +2.4**
GRNR pmax pmax
comp=Z,20nm,1.6s
GRNR smax smax
comp=N,5.0nm,0.9s
GRNR MLR MLR
comp=Z,250nm,17.0s
ULN Ulaanbaatar 48.66 341 P **P** **08 56 05.0 0.0**
SNR=10.0
ULN Ulaanbaatar 48.66 341 *c i*P **P** **08 56 04.7 -0.2**
ULN pmax pmax
comp=Z,39nm,1.0s
ULN Ulaanbaatar 48.66 341 P **P** **08 56 04.3 -0.6**
ULN IAmb IAmb 08 56 05.7
comp=Z,27nm,0.7s
ULN Ulaanbaatar 48.66 341 IAMs_20 IAMs_20 09 17 41.8
comp=Z,609nm,21.0s
GKN Gorkha 48.73 306⇑ *i*P **P** **08 56 06.6 +0.7**
comp=Z,152nm,0.6s
SONM Songino Array 48.85 340 P **P** **08 56 06.1 -0.3**
comp=Z,12nm,0.6s,baz=152,slow=8.0,SNR=27
SONM PcP **PcP** **08 57 30.9 +0.7**
comp=Z,11nm,0.6s,baz=164,slow=5.1,SNR=6.5
SONM ScP **ScP** **09 01 19.1 -0.8**
comp=Z,5.5nm,0.9s,baz=150,slow=4.8,SNR=7.7
SONM LR LR 09 18 42.6
comp=Z,377nm,21.7s,baz=153,slow=38
KOLN Koldanda 49.49 305⇑ *i*P **P** **08 56 13.0 +1.3**
comp=Z,512nm,0.6s
TYV Tymovskoe 49.52 12 *e*P P 08 56 16.2 +4.9
TYV *e*S S 09 03 24.4 +10
TYV pmax pmax
comp=Z,21nm,1.2s
TYV pmax pmax
comp=Z,400nm,3.3s
TYV smax smax
comp=N,2μm,8.3s
DANN Dangsing 49.58 306⇑ *i*P **P** **08 56 13.4 +0.9**
comp=N,892nm,0.6s
ZEA Zeya 50.92 359 *e*P **P** **08 56 21.0 -0.8**
ZEA pmax pmax
comp=Z,48nm,1.8s
ZEA MLR MLR
comp=Z,400nm,16.0s
ZEA MLR MLR
comp=N,300nm,18.0s
NGP Nagpur 51.38 295 *e*P **P** **08 56 26.5 +0.6**
FUNA Funafuti 51.86 103 P **P** **08 56 27.3 -2.2**
ZAK Zakamensk 52.09 340 *e*P P 08 56 24.8 -5.9
ZAK pmax pmax
comp=Z,10.0nm,1.3s
MSVF Nonsavu 52.96 114⇑ *e*P **P** **08 56 39.1 +1.4**
MSVF pmax pmax
comp=Z,44nm,0.8s
MSVF Nonsavu 52.96 114 P **P** **08 56 38.4 +0.7**
MSVF IAmb IAmb 08 56 41.7
comp=Z,44nm,0.8s
TLY Talaya 53.07 341 *e*P **P** **08 56 37.8 -0.1**
TLY *e*S **S** **09 04 09.0 +5.7**
TLY *e* 09 06 25.1
TLY *e*SSS SSS 09 09 29.2
TLY pmax pmax
comp=Z,123nm,1.8s
TLY MLR MLR
comp=Z,970nm,19.0s
TLY Talaya 53.07 341 P **P** **08 56 37.9 +0.1**
comp=Z,3.5nm,0.6s,baz=224,slow=4.0,SNR=6.3
TLY PcP **PcP** **08 57 46.8 +1.2**
comp=Z,9.6nm,0.7s,baz=145,slow=2.4,SNR=3.5
TLY LR LR 09 20 58.9
comp=Z,407nm,22.0s,baz=144,slow=38
TLY Talaya 53.07 341 P **P** **08 56 37.2 -0.6**
TLY IAMs_20 IAMs_20 09 20 22.5
comp=Z,486nm,21.0s
BHPL Bhopal 53.36 297 *e*P **P** **08 56 41.0 +0.4**
BHPL IAmb IAmb 08 56 42.0
comp=Z,94nm,0.4s
MOY Mondy 53.96 339 *e*P **P** **08 56 44.4 -0.1**
MOY pmax pmax
comp=Z,57nm,2.1s
WMQ Urumqi 54.55 325 P **P** **08 56 50.2 +1.3**
WMQ pP pP 08 57 01.4 -3.0
WMQ sP pwP 08 57 07.3 -1.3
WMQ S **S** **09 04 24.1 +0.4**
WMQ ScS **ScS** **09 06 31.7 -0.9**
WMQ pmax pmax
comp=Z,85nm,0.7s
WMQ pmax pmax
comp=Z,110nm,4.5s
WMQ LR LR
comp=Z,480nm,19.7s
WMQ LR LR
comp=Z,540nm,22.7s
WMQ LR LR
comp=Z,1μm,28.7s
WMQ Urumqi 54.55 325 P **P** **08 56 48.8 -0.1**
WMQ pmax pmax
comp=Z,146nm,1.2s
WMQ MLR MLR
comp=Z,900nm,21.0s
WMQ Urumqi 54.55 325 P **P** **08 56 48.8 -0.1**
WMQ Urumqi 54.55 325 IAMs_20 IAMs_20 09 20 58.0
comp=Z,870nm,21.0s
NDI New Delhi 55.09 303 *e*P **P** **08 56 50.5 -2.5**
KAD Karad 55.13 289 *e*P **P** **08 56 53.3 -0.2**
MNCI Minicoy 55.32 278 P **P** **08 56 55.7 +0.9**
POO Poona 55.64 291 *e*P **P** **08 56 56.5 -0.6**
PEA0B Petropavlovsk- 55.82 21 P **P** **08 56 58.5 +0.8**
PEA0B pmax pmax
comp=Z,70nm,1.3s
PEA0B Petropavlovsk- 55.82 21 P **P** **08 56 58.5 +0.8**
PEA0B IAmb IAmb 08 57 04.6
comp=Z,70nm,1.3s
PETK Petropavlovsk- 55.82 21 P **P** **08 56 58.2 +0.5**
comp=Z,13nm,0.8s,baz=186,slow=4.9,SNR=23
PETK LR LR 09 20 25.4
comp=Z,178nm,20.0s,baz=230,slow=36
SMLA Simla 55.93 306 *e*P **P** **08 56 59.6 +0.7**
SMLA IAmb IAmb 08 57 02.2
comp=Z,67nm,0.9s
PET Petropavlovsk 56.09 22 *e*P **P** **08 56 59.7 0.0**
PET *e*S **S** **09 04 44.8 +1.0**
BOD Bodaibo 56.17 351 *e*P **P** **08 56 59.2 -1.0**
BOD pmax pmax
comp=Z,24nm,1.8s
DGAR Diego Garcia 56.70 259⇑ *e*P **P** **08 57 02.4 -2.3**
DGAR pmax pmax
comp=Z,132nm,1.2s
DHRM DHARAMSHALA 57.01 307 *e*P **P** **08 57 07.1 +0.2**
YAK Yakutsk 59.24 1 *e*P **P** **08 57 21.0 -0.6**
YAK *e**PP **pP** **08 57 33.2 -4.1**
YAK *e* 08 58 09.1
YAK *e*S **S** **09 05 22.7 -2.0**
YAK *e**SS **pS** **09 05 38.1 -4.9**
YAK *e* 09 07 00.9
YAK *e*SS **SS** **09 09 21.4 +1.3**
YAK pmax pmax
comp=Z,39nm,0.8s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=N,18nm,1.0s
YAK pmax pmax
comp=Z,94nm,2.6s
YAK pmax pmax
comp=N,106nm,2.7s
YAK pmax pmax
comp=E,155nm,2.8s
YAK smax smax
comp=N,113nm,2.2s
YAK smax smax
comp=E,66nm,2.3s
YAK Yakutsk 59.24 1 P **P** **08 57 21.2 -0.4**
PDGK Podgornoye 59.29 320 P **P** **08 57 22.0 -0.5**
PDGK pmax pmax
comp=Z,63nm,0.8s
MA2 Magadan 59.35 13⇓ *e*P **P** **08 57 24.1 +1.6**
MA2 pmax pmax
comp=Z,33nm,1.0s
MK31 Makanchi Array 59.38 325 P **P** **08 57 23.3 +0.3**
MK31 pmax pmax
comp=Z,43nm,0.6s
MK31 Makanchi Array 59.38 325 P **P** **08 57 23.3 +0.3**
MKAR Makanchi Array 59.38 325 P **P** **08 57 23.2 +0.3**
comp=Z,73nm,0.6s,baz=116,slow=8.4,SNR=539
MKAR ScP **ScP** **09 02 05.1 -0.7**
comp=Z,6.0nm,0.8s,baz=131,slow=5.0,SNR=7.0
MKAR LR LR 09 24 33.4
comp=Z,706nm,20.5s,baz=120,slow=38
MAKZ Makanchi 59.56 325 P **P** **08 57 24.1 -0.2**
MAKZ pmax pmax
comp=Z,217nm,1.5s
MAKZ MLR MLR
comp=Z,800nm,21.0s
MAKZ Makanchi 59.56 325 P **P** **08 57 24.1 -0.2**
MAKZ IAMs_20 IAMs_20 09 24 28.0
comp=Z,839nm,21.0s
PRZ Przheval'sk 59.60 319 P **P** **08 57 26.2 +1.4**
PRZ pmax pmax
comp=Z,117nm,0.6s
PRZ MLR MLR
comp=Z,900nm,22.0s
PRZ Przheval'sk 59.60 319 P **P** **08 57 26.2 +1.4**
PRZ IAMs_20 IAMs_20 09 24 23.9
comp=Z,870nm,22.0s
TARG Taragay, Kyrgy 59.65 318 P **P** **08 57 26.3 +0.9**
TARG IAmb IAmb 08 57 29.1
comp=Z,21nm,0.7s
TARG IAMs_20 IAMs_20 09 25 18.5
comp=Z,915nm,22.0s
LBZ Lake Benmore 59.88 146 P **P** **08 57 25.7 -0.7**
LBZ IAmb IAmb 08 57 28.3
comp=Z,53nm,1.4s
NIL Nilore 59.89 308 P **P** **08 57 26.9 +0.2**
NIL pmax pmax
comp=Z,38nm,0.9s
NIL Nilore 59.89 308 P **P** **08 57 26.9 +0.2**
NIL IAmb IAmb 08 57 37.4
comp=Z,38nm,0.8s
KSH Kashi 59.97 315 P **P** **08 57 29.1 +1.8**
KSH pP pP 08 57 45.6 +2.6
KSH sP sP 08 57 52.6 +2.9
KSH ScP **ScP** **09 02 08.2 -0.5**
KSH PcS **PcS** **09 02 13.4 -2.0**
KSH S **S** **09 05 34.7 -0.5**
KSH ScS **ScS** **09 07 08.1 -4.4**
KSH pmax pmax
comp=Z,240nm,1.4s
KSH pmax pmax
comp=Z,330nm,4.1s
KSH LR LR
comp=Z,150nm,9.0s
KSH LR LR
comp=Z,280nm,10.8s
KSH LR LR
comp=Z,880nm,18.0s
KDJ Kajisay 60.24 318 P **P** **08 57 30.0 +0.8**
KDJ pmax pmax
comp=Z,64nm,0.6s
KDJ MLR MLR
comp=Z,800nm,22.0s
KDJ Kajisay 60.24 318 P **P** **08 57 29.9 +0.8**
KDJ IAMs_20 IAMs_20 09 25 50.1
comp=Z,778nm,22.0s
BKZ Black Stump Fm 60.69 138 P **P** **08 57 32.1 +0.1**
BKZ IAMs_20 IAMs_20 09 22 28.2
comp=Z,1μm,22.0s
SNZO South Karori 60.69 141 IAMs_20 IAMs_20 09 24 26.4
comp=Z,953nm,19.0s
NRN Naryn 60.74 317 P **P** **08 57 33.0 +0.3**
NRN pmax pmax
comp=Z,21nm,0.7s
NRN MLR MLR
comp=Z,400nm,20.0s
NRN Naryn 60.74 317 P **P** **08 57 33.0 +0.3**
NRN IAmb IAmb 08 57 33.6
comp=Z,22nm,0.7s
NRN IAMs_20 IAMs_20 09 25 52.6
comp=Z,433nm,20.0s
ULHL Ulahol 60.92 318 P **P** **08 57 34.5 +0.6**
SNR=20
MXZ Matakaoa Point 61.11 136 IAMs_20 IAMs_20 09 22 45.4
comp=Z,916nm,22.0s
BOOM Boomskoye usch 61.23 318 P **P** **08 57 36.3 +0.4**
BOOM pmax pmax
comp=Z,21nm,0.8s
BOOM MLR MLR
comp=Z,800nm,22.0s
BOOM Boomskoye usch 61.23 318 P **P** **08 57 36.3 +0.4**
BOOM IAmb IAmb 08 57 36.9
comp=Z,21nm,0.8s
BOOM IAMs_20 IAMs_20 09 25 55.3
comp=Z,831nm,22.0s
BFZ Birch Farm 61.33 140 IAMs_20 IAMs_20 09 29 21.1
comp=Z,650nm,18.0s
KZA Kyzart 61.52 317 P **P** **08 57 39.1 +0.9**
SNR=46
AFI Afiamalu 61.55 107 LR LR 09 19 26.2
comp=Z,385nm,21.4s,baz=298,slow=31
TKM2 Tokmak 2 61.64 318 *i* P **P** **08 57 38.3 -0.4**
TKM2 pmax pmax
comp=Z,31nm,0.6s
TKM2 Tokmak 2 61.64 318 P **P** **08 57 38.8 +0.1**
SNR=49
UCH Uchtor 62.08 317 P **P** **08 57 43.0 +1.0**
SNR=44
CHMS Chumysh 62.24 318 P **P** **08 57 42.7 +0.2**
SNR=12
FRU1 Bishkek 62.24 318 IAMs_20 IAMs_20 09 26 42.1
comp=Z,690nm,22.0s
AAK Ala-Archa 62.26 318 *i* P **P** **08 57 43.5 +0.7**
SNR=15
AAK Ala-Archa 62.26 318 P **P** **08 57 43.6 +0.7**
SNR=9.4
AAK Ala-Archa 62.26 318 *c i*P **P** **08 57 43.0 +0.2**
AAK pmax pmax
comp=Z,29nm,1.5s
AAK Ala-Archa 62.26 318 P **P** **08 57 42.4 -0.3**
comp=Z,8.0nm,0.5s,baz=115,slow=5.8,SNR=29
AAK LR LR 09 27 16.1
comp=Z,754nm,21.9s,baz=94,slow=38
AAK Ala-Archa 62.26 318 P **P** **08 57 43.5 +0.7**
SNR=14
AAK Ala-Archa 62.26 318 P **P** **08 57 42.6 -0.2**
AAK Ala-Archa 62.26 318 IAMs_20 IAMs_20 09 27 03.6
comp=Z,783nm,22.0s
ZAA0 Zalesovo Array 62.29 333 P **P** **08 57 41.1 -1.4**
ZAA0 IAmb IAmb 08 57 42.5
comp=Z,22nm,1.0s
ZALV Zalesovo Beam 62.29 333 P **P** **08 57 41.4 -1.1**
comp=Z,16nm,0.6s,baz=125,slow=6.9,SNR=12
ZALV LR LR 09 26 49.0
comp=Z,301nm,20.3s,baz=124,slow=38
ZALV PKP2bc 09 26 56.6
comp=Z,1.0nm,0.6s,baz=298,slow=3.1,SNR=4.3
USP Ospenovka 62.52 318 P **P** **08 57 44.7 +0.4**
SNR=28
AML Almayashu 62.60 317 P **P** **08 57 46.2 +0.9**
SNR=43
SEY Seymchan 62.72 12⇑ *e*P **P** **08 57 45.5 +0.3**
EKS2 Erkin-Say 62.75 317 P **P** **08 57 46.8 +0.8**
SNR=33
ARSB Arslanbob 62.78 316 P **P** **08 57 45.7 -0.6**
KBL Kabul 63.48 307 P **P** **08 57 50.1 -1.0**
KBL pmax pmax
comp=Z,23nm,1.0s
KBL MLR MLR
comp=Z,200nm,22.0s
KBL Kabul 63.48 307 P **P** **08 57 50.1 -1.0**
KBL IAmb IAmb 08 57 51.7
comp=Z,23nm,1.0s
KURBB Kurchatov Arra 63.53 327 P **P** **08 57 50.6 -0.3**
comp=Z,73nm,0.6s,baz=128,slow=6.2,SNR=349
KURK Kurchatov 63.53 327 P **P** **08 57 50.8 0.0**
SNR=28
KURK Kurchatov 63.53 327 *c i*P **P** **08 57 50.4 -0.4**
KURK pmax pmax
comp=Z,62nm,0.5s
KURK Kurchatov 63.53 327 P **P** **08 57 50.1 -0.7**
BTK Batken 63.85 314 P **P** **08 57 53.4 +0.1**
BTK pmax pmax
comp=Z,25nm,0.9s
BTK MLR MLR
comp=Z,300nm,21.0s
BTK Batken 63.85 314 P **P** **08 57 53.4 +0.1**
BTK IAmb IAmb 08 57 54.2
comp=Z,25nm,0.8s
BTK IAMs_20 IAMs_20 09 28 26.0
comp=Z,335nm,21.0s
GAR Garm 63.86 313 P **P** **08 57 53.6 +0.1**
GAR IAMs_20 IAMs_20 09 29 16.3
comp=Z,816nm,22.0s
CHGR Chuyangaron 64.61 312 P **P** **08 57 58.2 -0.1**
CHGR IAmb IAmb 08 58 08.0
comp=Z,59nm,1.3s
KK31 Karatay Array 65.14 317 *i* P **P** **08 58 01.4 -0.2**
KK31 pmax pmax
comp=Z,16nm,0.7s
KK31 Karatay Array 65.14 317 P **P** **08 58 01.2 -0.3**
KK31 IAmb IAmb 08 58 02.6
comp=Z,64nm,1.2s
KKAR Karatay Array 65.14 317 P **P** **08 58 01.3 -0.3**
KKAR pmax pmax
comp=Z,64nm,1.3s
KKAR Karatay Array 65.14 317 P **P** **08 58 01.3 -0.3**
KKAR IAmb IAmb 08 58 02.6
comp=Z,64nm,1.2s
TAS Tashkent 65.37 315 P **P** **08 58 03.6 +0.5**
TAS pmax pmax
comp=Z,88nm,1.0s
TAS Tashkent 65.37 315 P **P** **08 58 03.6 +0.5**
ATKA Atka Island 68.45 34 P **P** **08 58 22.0 -0.3**
TIXI Tiksi 68.90 0 *ce*P **P** **08 58 23.5 -1.3**
TIXI pmax pmax
comp=Z,62nm,1.7s
TIXI Tiksi 68.90 0 P **P** **08 58 24.0 -0.8**
comp=Z,22nm,0.5s,baz=180,slow=24,SNR=75
TIXI LR LR 09 29 10.6
comp=Z,240nm,21.3s,baz=32,slow=36
TIXI Tiksi 68.90 0 P **P** **08 58 23.5 -1.3**
TIXI IAmb IAmb 08 58 24.9
comp=Z,58nm,1.3s
TIXI IAMs_20 IAMs_20 09 27 41.2
comp=Z,367nm,22.0s
HRA Herat 68.90 306 P **P** **08 58 25.7 -0.2**
BVAR Borovoye Array 69.12 327 P **P** **08 58 26.1 -0.4**
comp=Z,32nm,0.6s,baz=129,slow=8.0,SNR=151
BRVK Borovoye 69.19 327 P **P** **08 58 26.9 -0.1**
SNR=20
BRVK Borovoye 69.19 327 *c i*P **P** **08 58 26.2 -0.8**
BRVK pmax pmax
comp=Z,45nm,0.6s
BRVK Borovoye 69.19 327 P **P** **08 58 26.6 -0.4**
BRVK Borovoye 69.19 327 IAMs_20 IAMs_20 09 30 46.5
comp=Z,348nm,19.0s
BILL Bilibino 70.17 14 *i* P **P** **08 58 31.2 -1.5**
BILL *i* 08 58 41.6
BILL *i* 08 58 52.5
BILL pmax pmax
comp=Z,8.0nm,1.5s
BILL Bilibino 70.17 14 P **P** **08 58 32.8 +0.1**
WSAR Wadi Sarin 70.37 294 P **P** **08 58 34.7 -0.2**
WSAR Wadi Sarin 70.37 294 P **P** **08 58 34.5 -0.3**
comp=Z,3.1nm,0.5s,baz=148,slow=7.3,SNR=4.5
JMDO Jabal Madar 70.77 293 P **P** **08 58 37.6 +0.3**
SNR=5.5
DQM DQM 71.10 290 P **P** **08 58 39.6 +0.3**
SNR=6.8
BSY Bisya 71.64 293 P **P** **08 58 42.3 -0.3**
UOSS Minazif 72.74 295 P **P** **08 58 48.4 -0.7**
UOSS Minazif 72.74 295 P **P** **08 58 48.9 -0.2**
BANOM Banah 72.74 296 P **P** **08 58 49.5 +0.4**
BANOM Banah 72.74 296 P **P** **08 58 49.3 +0.2**
HATD Hatta, Dubai 72.79 295 P **P** **08 58 49.8 +0.4**
MSFE Esma-Masafi 72.81 296 P **P** **08 58 50.5 +1.0**
ASHO Ashiyiah 72.84 295 P **P** **08 58 49.5 -0.2**
ASHO Ashiyiah 72.84 295 P **P** **08 58 49.6 -0.2**
GEYT Alibeck 72.85 309 P **P** **08 58 50.1 +0.6**
comp=Z,8.8nm,0.8s,baz=149,slow=3.1,SNR=17
GEYT LR LR 09 35 46.7
comp=Z,184nm,19.7s,baz=55,slow=40
GYA0B ALIBECK ARRAY 72.85 309 P **P** **08 58 50.6 +1.0**
SHME Shamm 72.89 296 P **P** **08 58 51.4 +1.3**
ALNE Al Ain 73.07 294 *i* P **P** **08 58 51.4 +0.3**
SNR=6.6
NAZ Nazwa, Dubai 73.23 295 P **P** **08 58 51.7 -0.3**
ASUD Al Ashush, Dub 73.50 295 P **P** **08 58 54.3 +0.8**
KIP Kipapa 73.77 69⇑ *e*P **P** **08 58 56.1 +0.9**
KIP pmax pmax
comp=Z,63nm,1.0s
AB31 Akbulak array 74.02 321 *i* P **P** **08 58 55.3 -0.8**
AB31 pmax pmax
comp=Z,10.0nm,0.6s
ABKAR Akbulak array 74.02 321 P **P** **08 58 54.8 -1.3**
ABKAR IAmb IAmb 08 58 56.7
comp=Z,55nm,1.4s
RAR Rarotonga 74.10 113 LR LR 09 28 36.1
comp=Z,196nm,20.2s,baz=270,slow=33
WHFO Wadi Hawf 74.55 288 P **P** **08 58 58.8 -1.0**
ABTO Aybut 74.98 287 P **P** **08 59 01.9 -0.5**
KHLH Kahului Airpor 75.22 69 P **P** **08 59 04.4 +0.8**
AKTO Aktyubinsk 75.52 322 LR LR 09 35 30.6
comp=Z,394nm,20.1s,baz=106,slow=38
SVE Sverdlovsk 75.74 328 *d i*P **P** **08 59 05.3 -0.5**
SVE pmax pmax
comp=Z,51nm,0.8s
MLOA Mauna Loa Obse 75.96 71 P **P** **08 59 09.6 +1.1**
POHA Pohakuloa 76.01 70 P **P** **08 59 09.1 +0.6**
MLH Mauna Loa 76.14 71 P **P** **08 59 08.2 -1.0**
ARU Arti 76.72 328 *c i*P **P** **08 59 10.2 -1.2**
ARU S **S** **09 08 53.0 -0.4**
ARU pmax pmax
comp=Z,86nm,1.6s
ARU Arti 76.72 328 P **P** **08 59 10.3 -1.2**
ARU IAmb IAmb 08 59 11.2
comp=Z,39nm,0.6s
SDPT Sand Point 77.16 34 P **P** **08 59 13.8 -0.1**
RDOG Red Dog Mine 79.69 21 P **P** **08 59 29.1 +1.4**
RDOG IAmb IAmb 08 59 29.8
comp=Z,26nm,0.6s
CHIR Chirikof Islan 79.95 34 P **P** **08 59 30.9 +1.6**

SII Sitkinak Islan 80.87 33 P **P** **08 59 34.6 +0.4**
SVW2 Sparrevohn 80.95 29 P **P** **08 59 36.1 +1.6**
TTA Tatalina 81.11 27 P **P** **08 59 36.7 +1.2**
TTA Tatalina 81.11 27 P **P** **08 59 36.7 +1.2**
AKT Akhty 81.24 311 *e*P **P** **08 59 36.4 -0.3**
AKT *e* 08 59 43.6
AKT pmax pmax
comp=Z,35nm,1.2s
OHAK Old Harbor 81.46 33 P **P** **08 59 37.9 +0.6**
OHAK IAmb IAmb 08 59 52.2
comp=Z,53nm,1.1s
KDAK Kodiak Island 81.91 32 *i* P **P** **08 59 40.2 +0.5**
KDAK Kodiak Island 81.91 32 LR LR 09 29 36.7
comp=Z,511nm,20.2s,baz=253,slow=31
KDAK Kodiak Island 81.91 32 P **P** **08 59 39.7 +0.1**
KDAK IAmb IAmb 08 59 42.0
comp=Z,54nm,0.9s
VNDA Vanda 82.16 173 P **P** **08 59 40.8 +0.2**
VNDA Vanda 82.16 173 P **P** **08 59 40.8 +0.2**
VNDA Vanda 82.16 173 **P** **08 59 41.0 +0.4**
RSO Redoubt South 82.21 29 P **P** **08 59 41.5 +0.1**
RAYN Ar Rayn 82.42 293 P **P** **08 59 43.4 +0.2**
RAYN Ar Rayn 82.42 293 P **P** **08 59 42.6 -0.6**
RAYN pmax pmax
comp=Z,27nm,0.9s
RAYN MLR MLR
comp=Z,300nm,22.0s
RAYN Ar Rayn 82.42 293 P **P** **08 59 42.6 -0.6**
RAYN IAmb IAmb 08 59 53.8
comp=Z,27nm,0.8s
RAYN IAMs_20 IAMs_20 09 38 06.2
comp=Z,305nm,22.0s
ABPO Ambohimpanom 82.51 251 P **P** **08 59 43.6 -0.2**
ABPO pmax pmax
comp=Z,24nm,1.3s
ABPO Ambohimpanom 82.51 251 P **P** **08 59 43.6 -0.2**
PPLA Purkeypile 82.83 27 P **P** **08 59 44.5 -0.1**
CNPM China Poot 82.84 30 P **P** **08 59 44.4 -0.1**
CNPM IAmb IAmb 08 59 58.7
comp=Z,30nm,0.8s
SKT Skwentna 83.00 28 P **P** **08 59 45.3 -0.1**
SKT IAmb IAmb 08 59 46.8
comp=Z,56nm,1.2s
BRLK Bradley Lake 83.04 30 P **P** **08 59 45.4 -0.2**
BRLK IAmb IAmb 08 59 50.1
comp=Z,30nm,1.0s
SBA Scott Base 83.06 172 P **P** **08 59 43.8 -1.5**
SBA pmax pmax
comp=Z,51nm,1.4s
SBA Scott Base 83.06 172 P **P** **08 59 43.8 -1.5**
SBA IAmb IAmb 08 59 51.4
comp=Z,51nm,1.4s
PPT Papeete 83.21 108 P **P** **08 59 48.3 +1.0**
comp=Z,34nm,1.0s,baz=201,slow=8.6,SNR=3.6
PPT2 Papeete2 83.21 108 *e*P **P** **08 59 48.9 +1.5**
comp=Z,59nm,1.3s
PPT2 Papeete2 83.21 108 *e*S **S** **09 10 03.9 +0.6**
comp=Z,554nm,28.0s
PPT2 Papeete2 83.21 108 *e*LQ LQ 09 22 30.5
comp=Z,496nm,31.2s
PPT2 *e*LR LR 09 25 59.3
comp=Z,1μm,27.5s
PAE Paea 83.22 108 *e*P **P** **08 59 48.4 +1.1**
comp=Z,5.9nm,1.0s
VOI Vohitsoka 83.28 248 P **P** **08 59 47.5 -0.3**
SNR=5.2
SUA Susitna One 83.31 29 P **P** **08 59 46.7 -0.3**
SUA IAmb IAmb 08 59 53.7
comp=Z,27nm,0.9s
MAW Mawson 83.33 201 P **P** **08 59 47.2 +0.4**
comp=Z,8.0nm,0.9s,baz=76,slow=7.7,SNR=5.1
MAW Mawson 83.33 201 P **P** **08 59 46.8 0.0**
GNI Garni 83.44 310⇑ *e*P **P** **08 59 48.9 +0.7**
GNI pmax pmax
comp=Z,45nm,1.3s
GNI Garni 83.44 310 P **P** **08 59 49.1 +0.9**
comp=Z,5.6nm,0.5s,baz=52,slow=18,SNR=3.6
GNI Garni 83.44 310 P **P** **08 59 48.1 -0.1**
GNI IAmb IAmb 08 59 58.1
comp=Z,23nm,1.1s
KTH Kantishna Hill 83.48 26 P **P** **08 59 48.4 +0.6**
KTH IAmb IAmb 08 59 49.9
comp=Z,58nm,1.2s
TBLG Delisi 83.50 312 P **P** **08 59 48.1 -0.2**
TBLG pmax pmax
comp=Z,20nm,0.7s
TBLG Delisi 83.50 312 P **P** **08 59 48.1 -0.2**
TBLG IAmb IAmb 08 59 49.6
comp=Z,20nm,0.7s
BPAW Bear Paw Mtn. 83.52 26 P **P** **08 59 48.4 +0.4**
BPAW IAmb IAmb 08 59 49.7
comp=Z,36nm,1.2s
MLY Manley 83.75 25 P **P** **08 59 50.2 +1.1**
MLY IAmb IAmb 08 59 51.6
comp=Z,42nm,1.2s
TRF Thorofare Moun 83.75 27 P **P** **08 59 49.6 +0.3**
TRF IAmb IAmb 09 00 03.8
comp=Z,61nm,1.2s
RC01 Rabbit Creek A 83.75 29 P **P** **08 59 49.5 +0.3**
RC01 IAmb IAmb 08 59 50.8
comp=Z,45nm,1.0s
SEW Seward 83.80 30 P **P** **08 59 50.0 +0.6**
TBI Tubuai 83.84 114 *e*S **S** **09 10 09.7 +0.4**
comp=Z,370nm,33.5s
TBI Tubuai 83.84 114 *e*LQ LQ 09 22 45.8
comp=Z,510nm,26.0s
TBI *e*LR LR 09 26 22.4
comp=Z,1μm,35.8s,baz=287
PMR Palmer 84.09 28 P **P** **08 59 50.7 -0.1**
PMR pmax pmax
comp=Z,58nm,1.1s
PMR Palmer 84.09 28 P **P** **08 59 50.7 -0.1**
PMR IAmb IAmb 08 59 52.5
comp=Z,58nm,1.1s
ZEI Tsey 84.16 313 *e*P **P** **08 59 50.8 -1.1**
ZEI pmax pmax
comp=Z,12nm,0.8s
BWN Browne 84.19 26 P **P** **08 59 53.1 +1.7**
GHO Glory Hole Cre 84.21 28 P **P** **08 59 52.1 +0.6**
GHO IAmb IAmb 09 00 06.2
comp=Z,59nm,1.2s
PRGR Permogore 84.23 332⇓ *i*P **P** **08 59 51.2 -0.3**
PRGR *e**PP **pP** **09 00 08.4 0.0**
PRGR *e*S **S** **09 10 06.1 -5.6**
PRGR pmax pmax
comp=Z,64nm,0.6s
COLD Coldfoot 84.23 23 P **P** **08 59 53.4 +1.9**
COLD IAmb IAmb 09 00 07.4
comp=Z,37nm,1.2s
MCK McKinley 84.38 26 P **P** **08 59 52.2 -0.2**
MCK pmax pmax
comp=Z,93nm,1.3s
MCK McKinley 84.38 26 P **P** **08 59 52.2 -0.2**
RND Reindeer 84.39 27 P **P** **08 59 52.4 -0.1**
RND pmax pmax
comp=Z,68nm,1.2s
RND Reindeer 84.39 27 P **P** **08 59 52.4 -0.1**
KNK Knik Glacier 84.40 29 P **P** **08 59 53.4 +0.9**
NEA Nenana 84.40 25 P **P** **08 59 53.5 +1.1**
NEA IAmb IAmb 08 59 55.4
comp=Z,21nm,1.0s
SML Sawmill 84.49 28 P **P** **08 59 53.6 +0.6**
PMOR Pomariorio Ree 84.62 105 *e*P **P** **08 59 56.0 +1.5**
comp=Z,141nm,1.1s
WRH Wood River Hil 84.82 26 P **P** **08 59 54.5 0.0**
WRH IAmb IAmb 09 00 08.7
comp=Z,51nm,1.3s
GOF Gofitskoye 84.84 315⇑ *e*P **P** **08 59 55.3 +0.3**
GOF pmax pmax
comp=Z,86nm,1.5s
KBZ Khabaz 84.91 313 P **P** **08 59 55.6 +0.2**
comp=Z,5.8nm,1.0s,baz=54,slow=8.4,SNR=5.2
COLA College 84.95 25⇓ *e*P **P** **08 59 55.5 +0.4**
COLA pmax pmax
comp=Z,3.0nm,1.1s
CCB Clear Creek Bu 84.95 25 P **P** **08 59 55.1 -0.1**
CCB IAmb IAmb 09 00 09.2
comp=Z,31nm,1.1s
SCM Sheep Creek Mo 84.97 28 P **P** **08 59 56.4 +1.0**
SCM pmax pmax
comp=Z,123nm,1.2s
SCM Sheep Creek Mo 84.97 28 P **P** **08 59 56.4 +1.0**
GLI Glacier Island 85.02 29 P **P** **08 59 56.0 +0.4**
DHY Denali Highway 85.03 27 P **P** **08 59 56.5 +0.7**
DHY IAmb IAmb 09 00 10.6
comp=Z,57nm,1.4s
KIV Kislovodsk 85.07 314 *e*P **P** **08 59 54.1 -2.2**
KIV pmax pmax
comp=Z,30nm,1.1s
KIV MLR MLR
comp=Z,345nm,19.0s
ATD Arta Tunnel 85.11 281 P **P** **08 59 58.4 +1.3**
comp=Z,2.6nm,0.4s,baz=270,slow=20,SNR=3.2
ATD Arta Tunnel 85.11 281 P **P** **08 59 56.8 -0.3**
ATD IAmb IAmb 09 00 09.6
comp=Z,22nm,1.1s
ATD IAMs_20 IAMs_20 09 45 31.2
comp=Z,246nm,21.0s
POKR Poker Plat Res 85.15 25 P **P** **08 59 56.7 +0.5**
baz=266
HDA Harding Lake 85.31 26 P **P** **08 59 56.7 -0.2**
baz=266
HDA Harding Lake 85.31 26 P **P** **08 59 56.0 -0.9**
IL31 85.36 25 P **P** **08 59 56.3 -0.8**
ILAR Eielson Array 85.36 25 P **P** **08 59 56.4 -0.8**
comp=Z,2.6nm,0.5s,baz=240,slow=5.0,SNR=57
ILAR PP **PP** **09 03 19.8 +4.0**
comp=Z,2.4nm,1.1s,baz=260,slow=6.4,SNR=5.1
ILAR PKKPbc **PKKPbc** **09 18 04.5 -0.1**
comp=Z,0.5nm,1.0s,baz=36,slow=1.5,SNR=4.9
ILAR LR LR 09 34 13.3
comp=Z,153nm,22.0s,baz=276,slow=33
EYAK Cordova Ski Ar 85.66 30 P **P** **08 59 56.6 -2.1**
EYAK IAmb IAmb 09 00 00.8
comp=Z,28nm,1.0s
VRH Novokhopyorsk 85.85 321 *e*P **P** **08 59 58.6 -1.3**
VRH pmax pmax
comp=Z,50nm,0.6s
PRP Porcupine Dome 85.97 25 P **P** **08 59 59.8 -0.6**
RIDG Independent Ri 86.20 26 P **P** **09 00 01.0 -0.5**
RIDG IAmb IAmb 09 00 14.4
comp=Z,19nm,1.0s
RIDG IAMs_20 IAMs_20 09 31 38.0
comp=Z,539nm,22.0s
HMT Hamilton 86.39 30 P **P** **09 00 02.8 +0.3**
HMT IAmb IAmb 09 00 04.6
comp=Z,34nm,1.0s
DOT Dot Lake 86.55 27 P **P** **09 00 02.9 -0.2**
SCRK Sand Creek 86.59 26 P **P** **09 00 04.5 +1.1**
GLB Gilahina Butte 86.63 29 P **P** **09 00 04.7 +1.1**
MENT Mentasta 86.69 27 P **P** **09 00 05.3 +1.4**
VRDI Verde Repeater 86.80 29 P **P** **09 00 05.3 +0.7**
VRDI IAmb IAmb 09 00 08.3
comp=Z,22nm,1.1s
CRQM Cirque 86.95 29 P **P** **09 00 04.4 -1.0**
CRQM IAmb IAmb 09 00 08.1
comp=Z,52nm,1.2s
MCARA McCarthy VSAT 87.01 29 P **P** **09 00 07.0 +1.6**
MCARA IAmb IAmb 09 00 09.6
comp=Z,18nm,1.0s
WAX Waxell Ridge 87.09 30 P **P** **09 00 05.7 -0.3**
TGL Tana Glacier 87.11 29 P **P** **09 00 06.2 +0.2**
TGL IAmb IAmb 09 00 08.8
comp=Z,35nm,1.1s
SOC Sochi 87.22 313 *e*P **P** **09 00 06.1 -0.7**
SOC *e* 09 03 27.2
SOC *e*PPP PPP 09 05 22.8
SOC *e*S **SKSac** **09 10 27.1 -1.9**
SOC *e*SS **SS** **09 16 20.4 -6.5**
SOC *e*SSS SSS 09 19 56.4
BALM Baldy 87.34 29 P **P** **09 00 08.6 +1.4**
BALM IAmb IAmb 09 00 22.6
comp=Z,16nm,0.9s
VORD Divnogorie 87.38 321 *e*P **P** **09 00 05.9 -1.5**
VORD pmax pmax
comp=Z,30nm,1.4s
VSR Storozhevoye 87.46 321 *c e*P **P** **09 00 05.7 -2.1**
VSR pmax pmax
comp=Z,23nm,0.7s
LPSR Galich'ya Gora 87.58 322 *e*P **P** **09 00 07.2 -1.1**
LPSR pmax pmax
comp=Z,30nm,0.8s
TMCR Tamitsa 87.78 334 *e*P **P** **09 00 06.8 -2.2**
EGAK Eagle 87.81 25 P **P** **09 00 09.7 +0.5**
MOS Moscow 88.25 326 *e*P **P** **09 00 08.6 -2.8**
MOS *e* 09 03 47.1
MOS *e*S **SKSac** **09 10 31.7 -3.0**
DAWY Dawson 88.61 26 P **P** **09 00 13.0 0.0**
OBN Obninsk 88.89 325 *c i*P **P** **09 00 12.9 -1.5**
OBN *e* 09 03 43.4
OBN *e*S S 09 10 48.6 -8.5
OBN *e*PS **PnS** **09 12 06.8 -1.7**
OBN *e*SS **SS** **09 16 49.7 -0.7**
OBN pmax pmax
comp=Z,84nm,1.7s
OBN MLR MLR
comp=Z,376nm,21.0s
OBN Obninsk 88.89 325 P **P** **09 00 13.0 -1.3**
comp=Z,8.7nm,0.4s,baz=12,slow=0.9,SNR=6.9
OBN PKKPbc **PKKPdf** **09 17 53.8 +3.7**
comp=Z,12nm,0.4s,baz=268,slow=17,SNR=4.2
OBN LR LR 09 42 24.6
comp=Z,96nm,21.4s,baz=84,slow=37
OBN Obninsk 88.89 325 P **P** **09 00 13.1 -1.3**
FURI Furi 89.31 279 IAMs_20 IAMs_20 09 46 42.6
comp=Z,657nm,21.0s
APA Apatity 89.47 338⇑ *i*P **P** **09 00 17.0 +0.1**
APA pmax pmax
comp=Z,12nm,1.0s
APA MLR MLR
comp=Z,900nm,22.0s
EPYK Eagle Plains 89.56 24 P **P** **09 00 17.2 -0.2**
baz=276
EPYK Eagle Plains 89.56 24 P **P** **09 00 17.2 -0.2**
ASF Jabal al Asfar 89.86 302 P **P** **09 00 20.3 +0.6**
comp=Z,4.2nm,0.6s,baz=117,slow=3.7,SNR=4.6
HOPEN Hopen 90.55 347 *e*P **P** **09 00 21.3 -0.4**
INK Inuvik 90.55 22 P **P** **09 00 21.5 -0.4**
INK pmax pmax
comp=Z,9.0nm,1.3s
INK Inuvik 90.55 22 PKKPbc PKKPbc 09 17 49.4 -2.5
comp=Z,3.3nm,1.0s,baz=70,slow=4.1,SNR=9.2
INK Inuvik 90.55 22 P **P** **09 00 21.5 -0.4**
SKAG Skagway 90.93 31 **P** **09 00 25.5 +1.6**
SKAG IAmb IAmb 09 00 26.4
comp=Z,12nm,1.0s
SKAG IAMs_20 IAMs_20 09 33 01.4
comp=Z,409nm,19.0s
MMAI Mount Meron Ar 91.07 303 P **P** **09 00 26.2 +1.0**
comp=Z,7.8nm,0.9s,baz=83,slow=4.8,SNR=3.3
KMBO Kilima Mbogo 91.18 269 P **P** **09 00 25.9 -0.4**
KMBO Kilima Mbogo 91.18 269 P **P** **09 00 26.7 +0.3**
comp=Z,2.5nm,1.1s,baz=89,slow=5.3,SNR=6.1
KMBO Kilima Mbogo 91.18 269 P P 09 00 22.1 -4.3
SPA0 Spitsbergen Ar 91.84 349 *e*P **P** **09 00 26.8 -1.0**
TAOE Nuku Hiva Isla 91.85 99 *e*S **S** **09 11 21.2 -5.0**
comp=Z,174nm,27.3s
TAOE Nuku Hiva Isla 91.85 99 *e*LQ LQ 09 26 12.0
comp=Z,2μm,32.1s
TAOE *e*LR LR 09 30 08.3
comp=Z,1μm,24.0s
BRTR Keskin Array B 91.97 310 *i* P **P** **09 00 30.6 +1.2**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 91.97 310 P **P** **09 00 28.3 -1.1**
comp=Z,0.9nm,0.6s,baz=132,slow=3.9,SNR=4.6
ARCES ARCESS Array B 92.02 340 P **P** **09 00 27.6 -1.1**
comp=Z,17nm,0.7s,baz=80,slow=6.8,SNR=66
ARCES PKiKP **PKiKP** **09 05 17.9 -0.8**
comp=Z,2.8nm,0.8s,baz=67,slow=2.2,SNR=6.0
ARCES LR LR 09 45 36.2
comp=Z,114nm,20.6s,baz=106,slow=38
ARE0 ARCESS Array S 92.02 340 *e*P **P** **09 00 27.6 -1.1**
ARE0 ARCESS Array S 92.02 340 P **P** **09 00 27.4 -1.3**
SYO Syowa Base 92.03 201⇓ *e*P **P** **09 00 28.0 -0.7**
SYO Syowa Base 92.03 201 *e*PcP **P** **09 00 30.4 +1.7**
SYO Syowa Base 92.03 201⇑ *i*X P 09 00 36.0 +7.3
KBS Kingsbay 92.34 350 *e*P **P** **09 00 29.5 -0.6**
HAMF Hammerfest 92.36 341 *e*P **P** **09 00 28.9 -1.3**
BJO1 Bjornoya 92.57 345 *e*P **P** **09 00 30.8 -0.3**
QSPA South Pole Qui 92.57 180 P **P** **09 00 31.9 +0.4**
QSPA IAmb IAmb 09 00 33.4
comp=Z,22nm,0.8s
KTK1 Kautokeino 92.93 340 *e*P **P** **09 00 31.6 -1.4**
H02S1 DAWSON INLET T 93.36 37 T T 10 44 36.7
SNR=6.1
FINES FINESS Array B 93.55 332 P **P** **09 00 34.5 -1.5**
comp=Z,3.7nm,0.7s,baz=59,slow=5.4,SNR=18
C36M Paulatuk 93.66 20 P **P** **09 00 36.1 -0.2**
baz=287
AKASG Malin Array Be 93.76 321 P **P** **09 00 35.6 -1.6**
comp=Z,2.4nm,0.6s,baz=72,slow=4.1,SNR=12
AKASG LR LR 09 45 55.2
comp=Z,156nm,21.0s,baz=70,slow=37
AKBB Malin Array Si 93.76 321 P **P** **09 00 35.6 -1.6**
AKBB pmax pmax
comp=Z,17nm,1.4s
AKBB Malin Array Si 93.76 321 P **P** **09 00 35.6 -1.6**
AKBB IAmb IAmb 09 00 36.5
comp=Z,17nm,1.4s
TRO Tromso 94.21 341 *e*P **P** **09 00 37.7 -1.1**
TIRR Tirgusor 95.27 315 IAMs_20 IAMs_20 09 52 03.3
comp=Z,593nm,20.0s
AYDB Zeytinkoy-Aydi 96.64 308 *e*P **P** **09 00 50.3 -0.5**
MLR Muntele Rosu 96.81 316 P **P** **09 00 50.8 -0.6**
comp=Z,5.0nm,0.7s,baz=178,slow=5.7,SNR=4.9
MLR Muntele Rosu 96.81 316 P **P** **09 00 49.8 -1.6**
MLR IAmb IAmb 09 00 53.4
comp=Z,30nm,1.5s
MLR IAMs_20 IAMs_20 09 50 59.0
comp=Z,393nm,19.0s
MOR8 Moi Rana 97.05 338 *e*P **P** **09 00 49.5 -2.4**
DAT Datca 97.07 307 *e*P **P** **09 00 51.3 -1.5**
KARP Karpathos 97.58 306 *e*P **P** **09 00 55.4 +0.4**
DAG Danmarks Havn 98.53 353 *i* P **P** **09 00 56.3 -2.0**
DAG pmax pmax
comp=Z,10.0nm,0.6s
DAG Danmarks Havn 98.53 353 *i* P **P** **09 00 56.3 -2.0**
comp=Z,15nm,0.6s
UZH Uzhgorod 98.58 320 *e*P **P** **09 00 56.2 -2.9**
UZH *i* 09 01 04.3
UZH *e* 09 01 09.5
NSS Namsos 98.67 337 *e*P **P** **09 00 57.1 -2.0**
HFS Hagfors 99.73 333 P **Pdif** **09 01 02.4 -1.6**
comp=Z,4.5nm,0.7s,baz=62,slow=3.5,SNR=15
YKW3 Yellowknife Ar 99.75 25 Pdif **Pdif** **09 01 04.3 +0.3**
YKA Yellowknife Ar 99.78 25 P **Pdif** **09 01 04.2 +0.1**
comp=Z,0.8nm,0.5s,baz=297,slow=4.4,SNR=22
YKA PKiKP **PKiKP** **09 05 32.5 +0.2**
comp=Z,0.4nm,0.5s,baz=309,slow=1.6,SNR=12
YKA PKKPbc **PKKPbc** **09 17 24.1 -3.0**
comp=Z,0.6nm,0.8s,baz=112,slow=2.4,SNR=8.5
D03D Eldon 100.44 41 P **Pdif** **09 01 07.7 +0.2**
baz=286
NB2 NORSAR Subarra 100.47 334 P **Pdif** **09 01 05.1 -2.2**
comp=Z,8.7nm,1.0s,baz=65,slow=4.4
NB2 NORSAR Subarra 100.47 334 P **Pdif** **09 01 05.1 -2.2**
baz=65,slow=4.4
NOA NORSAR Array B 100.47 334 P **Pdif** **09 01 05.4 -1.9**
comp=Z,2.5nm,0.7s,baz=65,slow=4.5,SNR=7.6
AGG Agios Georgios 100.74 310 IAMs_20 IAMs_20 09 38 21.4
comp=Z,141nm,19.0s
B05A Bryant 100.88 40 P **Pdif** **09 01 10.6 +1.2**
baz=287
B06A Marblemount 101.20 40 IAMs_20 IAMs_20 09 42 14.3
comp=Z,328nm,20.0s
AKN Aaknes 101.74 336 *e*P **Pdif** **09 01 11.5 -1.4**
LTY Liberty 102.09 41 IAMs_20 IAMs_20 09 37 44.9
comp=Z,570nm,21.0s
PDG Podgorica 102.21 314 IAMs_20 IAMs_20 09 49 52.8
comp=Z,241nm,22.0s
G06A Carlson Farm, 102.72 43 IAMs_20 IAMs_20 09 40 09.5
comp=Z,385nm,18.0s
PINE Pine Mountain 102.92 44 **Pdif** **09 01 20.0 +1.2**
BLY Banja Luka 103.01 317 IAMs_20 IAMs_20 09 55 35.9
comp=Z,336nm,22.0s
BRG Berggiesshubel 103.08 324 *e*P PKiKP 09 05 49.2 +11
comp=Z,10nm,1.2s
BRG *e* 09 06 00.2
comp=Z,7.6nm,1.2s
CLL Collm 103.47 324 *e*P **Pdif** **09 01 18.0 -2.8**
CLL Collm 103.47 324 *e*Pdif **Pdif** **09 01 20.0 -0.8**
CLL *e*PPS PPS 09 15 42.0
CLL *e*SS SS 09 20 18.0 +1.3
CLL *e*SSS SSS 09 24 12.0
CLL *e* 09 27 30.0
ORV Oroville 103.67 48 IAMs_20 IAMs_20 09 35 18.4
comp=Z,251nm,19.0s
GERES GERESS Array B 103.95 322 Pdiff **Pdif** **09 01 21.4 -1.7**
comp=Z,0.6nm,0.8s,baz=335,slow=4.3,SNR=2.0
GERES PKiKP **PP** **09 05 41.8 +1.1**
comp=Z,0.4nm,0.4s,baz=149,slow=0.6,SNR=3.0
BEKR Beckworth 104.44 48 IAMs_20 IAMs_20 09 39 56.6
comp=Z,271nm,19.0s
DUGI Dugi Otok 104.69 317 *e*Pn **Pdif** **09 01 26.3 -0.1**
F10A Beach Ranch, E 104.75 41 IAMs_20 IAMs_20 09 40 03.2
comp=Z,403nm,22.0s
TIP Timpagrande 104.91 312 IAMs_20 IAMs_20 09 58 51.6
comp=Z,396nm,22.0s
PLID Pearl Lake 105.87 42 IAMs_20 IAMs_20 09 34 55.8
comp=Z,529nm,21.0s
AQU L'Aquila 106.37 316 IAMs_20 IAMs_20 09 57 34.9
comp=Z,368nm,22.0s
NVAR Mina Array Bea 106.38 49 **Pdif** **09 01 35.8 +1.4**
comp=Z,2.0nm,0.5s,baz=245,slow=6.5,SNR=3.6
NVAR PKiKP **PKiKP** **09 05 46.5 +1.0**
comp=Z,0.2nm,0.4s,baz=289,slow=2.8,SNR=2.4
BMN Battle Mountai 106.57 46 IAMs_20 IAMs_20 09 42 10.9
comp=Z,265nm,20.0s
SALO Salr 107.15 320 IAMs_20 IAMs_20 09 55 20.1
comp=Z,483nm,19.0s
VLC Villacollemand 107.79 318 IAMs_20 IAMs_20 09 58 12.3
comp=Z,538nm,21.0s
R11A Troy Canyon, C 108.43 48 IAMs_20 IAMs_20 09 37 58.4
comp=Z,260nm,18.0s
PFO Pinyon Flats O 109.21 53 IAMs_20 IAMs_20 09 47 00.6
comp=Z,411nm,18.0s
XPFO Pion Flat 109.21 53 IAMs_20 IAMs_20 09 47 00.6
comp=Z,412nm,18.0s
DUG Dugway, Tooele 109.82 46 IAMs_20 IAMs_20 09 45 02.8
comp=Z,290nm,21.0s
EKA Eskdalemuir Ar 109.92 333 PKiKP **PKiKP** **09 05 51.8 +0.5**
comp=Z,0.3nm,0.4s,baz=36,slow=4.4,SNR=3.6
PDAR Pinedale Array 111.06 42 Pdiff **Pdif** **09 01 54.0 -1.1**
comp=Z,0.1nm,0.3s,baz=248,slow=2.4,SNR=2.7
PDAR PKiKP **PKiKP** **09 05 54.3 +0.2**
comp=Z,0.3nm,0.6s,baz=132,slow=2.2,SNR=3.9
PDAR PKKPbc **PKKPbc** **09 16 52.1 -0.2**
comp=Z,0.4nm,0.9s,baz=118,slow=8.6,SNR=3.9
PDAR PKKP **PKKPdf** **09 17 12.9 +3.0**
comp=Z,0.7nm,0.8s,baz=121,slow=5.7,SNR=4.2
LAO LASA Array 111.40 37 P **PKiKP** **09 05 56.2 +1.9**
baz=299
WUAZ Wupatki 112.57 50 P **PKiKP** **09 05 59.0 +1.9**
baz=291
O20A White River Ci 113.06 44 P **PKiKP** **09 05 58.8 +0.9**
baz=295
K22A Casper 113.11 41 P **PKiKP** **09 05 58.6 +0.7**
baz=297
PV03 Paradox Valley 113.41 46 IAMs_20 IAMs_20 09 53 26.8
comp=Z,463nm,22.0s
TUC Tucson 114.14 53 P **PKiKP** **09 06 01.3 +1.2**
baz=290
PHWY Pilot Hill 114.44 42 IAMs_20 IAMs_20 10 05 30.7
comp=Z,413nm,20.0s
ISCO Idaho Springs 115.02 43 P **PKiKP** **09 06 02.7 +0.9**
baz=297
ULM Lac du Bonnet 115.09 30 PKP **PKiKP** **09 06 00.8 -0.4**
comp=Z,1.2nm,0.6s,baz=72,slow=2.1,SNR=4.1
SDCO Great Sand Dun 116.02 45 P **PKPdf** **09 06 04.2 +0.4**
baz=296
ANMO Albuquerque 116.50 49 P **PKPdf** **09 06 05.1 +0.5**
baz=294
ANMO Albuquerque 116.50 49 *c i* PKiKP **PKPdf** **09 06 05.5 +0.8**
ANMO Albuquerque 116.50 49 **PKiKP** **09 06 05.8 +1.1**
T25A Trinidad 117.06 46 P **PKPdf** **09 06 06.3 +0.6**
baz=297
MNTX Cornudas Mount 118.63 52 P **PKiKP** **09 06 09.8 +1.2**
baz=294
MNTX Cornudas Mount 118.63 52 **PKPdf** **09 06 09.7 +1.1**
MNTX IAMs_20 IAMs_20 09 56 25.9
comp=Z,352nm,20.0s
ECSD EROS Data Cent 118.70 36 P **PKPdf** **09 06 08.7 +0.2**
baz=306
ECSD EROS Data Cent 118.70 36 **PKPdf** **09 06 08.5 +0.1**
BGNE Belgrade 119.11 39 P **PKPdf** **09 06 09.8 +0.5**
baz=304
ESDC Sonseca Array 119.35 319 PKP **PKPdf** **09 06 10.3 +0.5**
comp=Z,0.5nm,0.5s,baz=40,slow=1.5,SNR=7.8
ESDC PP **PP** **09 07 31.0 -0.1**
comp=Z,0.2nm,0.4s,baz=56,slow=6.2,SNR=4.6
MSTX Muleshoe 119.67 48 P **PKPdf** **09 06 10.8 +0.1**
baz=297
MSTX Muleshoe 119.67 48 **PKPdf** **09 06 10.1 -0.6**
AMTX Amarillo 120.06 47 P **PKPdf** **09 06 12.2 +0.8**
baz=298
HPIG 120.19 57 IAMs_20 IAMs_20 09 46 16.8

comp=Z,453nm,22.0s
MVO Moncorvo 120.46 322 *e*LR LR 09 49 08.7
comp=Z,545nm,20.0s
TX31 Lajitas Ar. Si 120.93 53 PKPdf 09 06 13.8 +0.6
TX32 Lajitas Array 120.93 53 PKPdf 09 06 13.9 +0.7
TXAR Lajitas Array 120.93 53 PKP **PKPdf 09 06 13.7 +0.4**
comp=Z,1.7nm,0.8s,baz=20,slow=1.4,SNR=24
TXAR PP **PP 09 07 45.1 +2.6**
comp=Z,0.9nm,1.0s,baz=335,slow=4.0,SNR=2.6
TXAR PKKPbc **PKKPbc 09 16 18.0 +0.7**
comp=Z,0.6nm,0.8s,baz=110,slow=6.0,SNR=6.6
MTE Manteigas 121.23 322 *e*PKPdf **PKPdf 09 06 14.4 +1.0**
MTE Manteigas 121.23 322 *e*LR LR 09 48 41.0
comp=Z,353nm,18.0s
SCHQ Schefferville 121.34 10 PKP **PKPdf 09 06 13.4 +0.3**
comp=Z,2.8nm,0.4s,baz=298,slow=2.6,SNR=17
KSU1 Kansas State U 121.38 40 P **PKPdf 09 06 14.5 +0.9**
baz=304
PCBR Castelo Branco 121.51 321 *e*PKPdf **PKPdf 09 06 14.7 +0.8**
PMRV Marv??o 121.69 321 *e*LR LR 09 47 54.0
comp=Z,300nm,20.0s
PCAS Casmilo, Conde 122.02 322 *e*PKPdf **PKPdf 09 06 15.4 +0.5**
WMOK Wichita Mounta 122.22 46 P **PKPdf 09 06 15.7 +0.3**
baz=300
ABTX Abilene, Hawle 122.62 48 P **PKPdf 09 06 17.0 +0.7**
baz=298
ABTX Abilene, Hawle 122.62 48 PKPdf 09 06 14.5 -1.8
PBEJ Beja 122.80 319 *e*PKPdf **PKPdf 09 06 17.6 +1.2**
X34A Smith Ranch, M 122.97 45 PKiKP 09 06 18.1 +1.0
D46A Sault St. Mari 123.01 26 P **PKPdf 09 06 16.9 +0.4**
baz=320
PVAQ Vaqueiros 123.05 319 *e*LR LR 09 48 41.4
comp=Z,310nm,20.0s
MESJ Messejana 123.13 319 *e*PKPdf **PKPdf 09 06 17.0 -0.1**
PNCL Nicolau / Gran 123.18 320 *e*PKPdf **PKPdf 09 06 16.2 -0.9**
MDT Midelt 123.28 313 PKP **PKPdf 09 06 18.4 +0.7**
comp=Z,2.2nm,0.7s,baz=70,slow=3.4,SNR=6.1
D47A Chapleau 123.29 25 P **PKPdf 09 06 17.9 +0.8**
baz=322
JCT Junction City 123.48 50 P **PKPdf 09 06 18.8 +0.8**
baz=297
JCT Junction City 123.48 50 PKIKP **PKPdf 09 06 18.1 +0.1**
JCT Junction City 123.48 50 PKPdf 09 06 18.1 +0.1
G45A Suttons Bay 123.67 28 P **PKPdf 09 06 18.7 +0.8**
baz=318
E47A Iron Bridge 123.68 26 P **PKPdf 09 06 18.4 +0.5**
baz=321
MORF Marmelete 123.72 319 *e*PKPdf **PKPdf 09 06 18.1 -0.1**
MORF Marmelete 123.72 319 *e*PKPdf **PKPdf 09 06 18.5 +0.2**
D48A Paudash Townsh 123.74 24 P **PKPdf 09 06 17.9 -0.1**
baz=323
G46A Petoskey 123.84 28 P **PKPdf 09 06 18.2 0.0**
baz=319
PFVI Vila Bisbo 123.93 319 *e*PKPdf **PKPdf 09 06 19.6 +1.0**
LSQQ Lebel-sur-Quev 123.99 20 P **PKPdf 09 06 18.3 0.0**
baz=329
CHGQ Chibougamau 124.08 18 P **PKPdf 09 06 18.3 -0.2**
baz=332
E48A Lockeyer 124.14 25 P **PKPdf 09 06 19.5 +0.8**
baz=322
D50A G1974 Best Tow 124.53 23 P **PKPdf 09 06 19.8 +0.3**
baz=325
H47A Mio 124.68 28 P **PKPdf 09 06 20.5 +0.7**
baz=319
833A Chaparral WMA, 124.75 53 PKPdf 09 06 21.0 +0.5
F49A Sandfield 124.76 26 P **PKPdf 09 06 19.8 -0.1**
baz=322
D51A Lot 18 Range I 124.78 23 P **PKPdf 09 06 19.7 -0.2**
baz=326
E50A Wahnapitae 124.78 24 P **PKPdf 09 06 20.8 +0.8**
baz=324
TORD Torodi Ar. Bea 124.82 288 PKP **PKPdf 09 06 20.9 +0.1**
comp=Z,8.4nm,0.8s,baz=56,slow=2.2,SNR=29
TORD PP **PP 09 08 12.4 +3.0**
comp=Z,1.5nm,0.9s,baz=111,slow=3.0,SNR=3.8
TORD SKP **SKPdf 09 09 50.0 -1.0**
comp=Z,4.4nm,1.2s,baz=52,slow=1.4,SNR=4.3
J46A Howard City 124.92 30 P **PKPdf 09 06 20.2 -0.2**
baz=317
HDIL Hopedale 124.93 35 P **PKPdf 09 06 20.5 +0.1**
baz=312
E51A G1948 Merrick 125.19 23 P **PKPdf 09 06 21.1 +0.4**
baz=325
D52A ZEK Kipawa Sen 125.24 22 P **PKPdf 09 06 21.1 +0.2**
baz=327
CCM Cathedral Cave 125.39 38 P **PKPdf 09 06 21.9 +0.6**
baz=309
CCM Cathedral Cave 125.39 38 PKIKP **PKPdf 09 06 21.5 +0.1**
CCM Cathedral Cave 125.39 38 PKPdf 09 06 21.5 +0.1
U40A Yellville 125.39 41 P **PKPdf 09 06 21.6 +0.2**
baz=306
U40A Yellville 125.39 41 PKPdf 09 06 21.6 +0.2
J47A Sunmer 125.41 29 P **PKPdf 09 06 21.9 +0.7**
baz=318
D53A Lac Vacive, Po 125.42 22 P **PKPdf 09 06 21.2 0.0**
baz=328
W39A Magazine 125.45 42 P **PKPdf 09 06 22.4 +0.9**
baz=305
L46A Eue Claire 125.55 31 P **PKPdf 09 06 21.8 +0.2**
baz=316
E52A Mattawa 125.72 23 P **PKPdf 09 06 22.0 +0.2**
baz=326
D54A Lac Fusel, La 125.74 21 P **PKPdf 09 06 21.7 -0.1**
baz=329
K47A Vermontville 125.74 30 P **PKPdf 09 06 22.3 +0.4**
baz=318
J48A Bridge Port 125.86 29 P **PKPdf 09 06 22.6 +0.5**
baz=319
MIAR Mount Ida 125.95 43 P **PKPdf 09 06 23.7 +1.1**
baz=305
MIAR Mount Ida 125.95 43 PKIKP **PKPdf 09 06 23.5 +0.9**
MIAR Mount Ida 125.95 43 PKPdf 09 06 23.5 +0.9
E53A Dumoine, Ponti 126.02 22 P **PKPdf 09 06 22.8 +0.5**
baz=327
L47A Sherwood 126.14 31 P **PKPdf 09 06 23.3 +0.5**
baz=317
ALGO Algonquin Park 126.23 23 P **PKPdf 09 06 23.2 +0.4**
baz=327
D55A Sainte-Anne-du 126.26 20 P **PKPdf 09 06 22.8 0.0**
baz=330
D56A ZEC Mazanza, M 126.48 20 P **PKPdf 09 06 23.7 +0.5**
baz=331
W41B Gary Mavity, V 126.49 42 P **PKPdf 09 06 24.1 +0.6**
baz=306
E55A Montcerf-Lytto 126.55 21 P **PKPdf 09 06 23.8 +0.4**
baz=329
L48A N Adams 126.56 30 P **PKPdf 09 06 23.9 +0.4**
baz=318
G54A Lake Saint Pet 126.68 23 P **PKPdf 09 06 24.2 +0.5**
baz=326
PBMO Poplar Bluff 126.69 39 PKPdf 09 06 24.0 +0.1
G53A Haliburton 126.70 24 P **PKPdf 09 06 23.9 +0.2**
baz=326
L49A Milan 126.77 30 P **PKPdf 09 06 24.1 +0.2**
baz=319
D57A Chemin Vers le 126.79 19 P **PKPdf 09 06 24.1 +0.3**
baz=332
LATQ La Tuque 126.82 18 P **PKPdf 09 06 24.1 +0.3**
baz=333
E56A St. Veronique 126.83 20 P **PKPdf 09 06 24.5 +0.6**
baz=330
F55A Otter Lake 126.97 21 P **PKPdf 09 06 25.2 +1.0**
baz=329
H53A Bobcaygeon 127.17 24 P **PKPdf 09 06 25.1 +0.5**
baz=326
E57A Chemin Saint G 127.24 19 P **PKPdf 09 06 25.3 +0.5**
baz=331
O48A Farmland 127.41 32 P **PKPdf 09 06 25.4 +0.2**
baz=316
E58A La Victoria 127.56 19 P **PKPdf 09 06 26.1 +0.8**
baz=332
P48A Milroy 127.84 33 P **PKPdf 09 06 26.5 +0.4**
baz=315
O49A Covington 127.90 32 P **PKPdf 09 06 26.4 +0.3**
baz=317
Q48A North Vernon 128.04 34 P **PKPdf 09 06 27.7 +1.3**
baz=315
G57A Newington 128.09 21 P **PKPdf 09 06 26.9 +0.6**
baz=330
P49A Miami Univ. Ec 128.17 32 P **PKPdf 09 06 26.9 +0.3**
baz=316
WCI Wyandotte Cave 128.21 35 P **PKPdf 09 06 27.3 +0.5**
baz=314
O50A Cable 128.30 31 P **PKPdf 09 06 27.5 +0.6**
baz=318
F60A Warwick 128.34 18 P **PKPdf 09 06 27.5 +0.7**
baz=334
ACSO Alum Creek Sta 128.56 31 P **PKPdf 09 06 27.7 +0.3**
baz=318
T47A Sharon Grove 128.58 36 P **PKPdf 09 06 28.4 +0.9**
baz=312
P50A Jamestown 128.60 32 P **PKPdf 09 06 27.7 +0.2**
baz=317
WVT Waverly 128.71 38 P **PKPdf 09 06 28.1 +0.3**
baz=311
K54A Basiliko Farm, 128.72 26 P **PKPdf 09 06 28.2 +0.5**
baz=324
L54A Sinclairville 128.75 26 P **PKPdf 09 06 28.2 +0.4**
baz=324
N52A McGinn's Farm, 128.77 29 P **PKPdf 09 06 28.8 +1.0**
baz=320
O51A Pataskala 128.82 30 P **PKPdf 09 06 28.5 +0.6**
baz=319
S49A Springfield 129.09 34 P **PKPdf 09 06 28.5 +0.1**
baz=315
J57A Williamstown 129.16 23 P **PKPdf 09 06 29.1 +0.6**
baz=328
M54A Oil Creek Stat 129.18 27 P **PKPdf 09 06 29.1 +0.6**
baz=323
L55A Hinsdale 129.18 26 P **PKPdf 09 06 29.0 +0.5**
baz=325
N53A Lisbon 129.18 29 P **PKPdf 09 06 29.3 +0.7**
baz=321
Q51A Peebles 129.27 32 P **PKPdf 09 06 29.0 +0.2**
baz=317
PLAL Pickwick Lake 129.30 39 PKPdf 09 06 29.2 +0.3
VBMS Vicksburg 129.38 44 P **PKPdf 09 06 29.8 +0.6**
baz=306
T49A Edmonton 129.43 35 P **PKPdf 09 06 29.6 +0.5**
baz=314
P52A Corning 129.44 31 P **PKPdf 09 06 29.3 +0.2**
baz=319
N54A Moraine State 129.46 28 P **PKPdf 09 06 29.5 +0.4**
baz=322
J58A Remsen 129.48 22 P **PKPdf 09 06 29.7 +0.7**
baz=329
K57A Scipio Center 129.53 24 P **PKPdf 09 06 29.8 +0.6**
baz=327
V48A Smith Brothers 129.59 37 P **PKPdf 09 06 30.1 +0.6**
baz=312
L56A Greenwood 129.59 25 P **PKPdf 09 06 29.6 +0.2**
baz=326
M55A Ridgway 129.62 26 P **PKPdf 09 06 30.0 +0.6**
baz=324
H61A Lyndonville 129.63 19 P **PKPdf 09 06 29.8 +0.4**
baz=333
S50A Richmond 129.67 34 P **PKPdf 09 06 30.2 +0.6**
baz=316
J59A Piesco 129.68 22 P **PKPdf 09 06 30.2 +0.7**
baz=330
U49A Red Boiling Sp 129.69 36 P **PKPdf 09 06 30.2 +0.6**
baz=313
I60A Shoreham 129.78 20 P **PKPdf 09 06 30.5 +0.9**
baz=331
M56A Emporium 129.86 26 P **PKPdf 09 06 30.0 +0.2**
baz=325
Q52A Bidwell 129.88 31 P **PKPdf 09 06 30.3 +0.4**
baz=319
T50A Nancy 129.88 35 P **PKPdf 09 06 30.6 +0.6**
baz=315
O54A Avila 129.89 29 P **PKPdf 09 06 30.9 +0.9**
baz=321
P53A Whipple 129.93 30 P **PKPdf 09 06 30.8 +0.8**
baz=320
L57A Andrews Acres 130.00 25 P **PKPdf 09 06 31.0 +0.9**
baz=326
I61A Oroboro, Fairl 130.07 19 P **PKPdf 09 06 31.5 +1.3**
baz=333
V49A McMinnville 130.12 37 P **PKPdf 09 06 30.7 +0.2**
baz=313
S51A Beattyville 130.14 33 P **PKPdf 09 06 31.0 +0.5**
baz=316
BINY Binghamton 130.19 24 P **PKPdf 09 06 31.6 +1.1**
baz=328
N56A West Decatur 130.27 26 P **PKPdf 09 06 31.0 +0.4**
baz=324
P54A Burton 130.29 29 P **PKPdf 09 06 31.7 +1.0**
baz=321
X48A Hartselle 130.29 39 P **PKPdf 09 06 31.1 +0.2**
baz=311
U50A Jamestown 130.30 35 P **PKPdf 09 06 31.6 +0.8**
baz=314
W49A Belvidere 130.34 38 P **PKPdf 09 06 31.3 +0.4**
baz=312
M57A Sunshine Farm, 130.44 25 P **PKPdf 09 06 31.6 +0.6**
baz=326
R53A Hurricane 130.51 32 P **PKPdf 09 06 32.1 +1.0**
baz=319
MCWV Mont Chateau 130.55 29 P **PKPdf 09 06 32.1 +0.9**
baz=322
H65A Eastbrook 130.57 16 P **PKPdf 09 06 32.1 +1.0**
baz=324
Q54A Coxs Mills 130.59 30 P **PKPdf 09 06 32.4 +1.1**
baz=320
SSPA Standing Stone 130.68 26 P **PKPdf 09 06 32.6 +1.2**
baz=324
P55A Reedsville 130.68 29 P **PKPdf 09 06 32.3 +0.8**
baz=322
N57A Milroy 130.73 26 P **PKPdf 09 06 32.3 +0.8**
baz=325
W50A Signal Mountai 130.86 37 P **PKPdf 09 06 32.7 +0.7**
baz=313
Q55A Buckhannon 130.96 29 P **PKPdf 09 06 32.5 +0.4**
baz=321
M59A Waymart 130.97 24 P **PKPdf 09 06 32.5 +0.5**
baz=328
N58A Sunbury 131.02 25 P **PKPdf 09 06 32.6 +0.5**
baz=326
J63A Strafford 131.03 19 P **PKPdf 09 06 32.6 +0.7**
baz=334
Y49A Blount Mountai 131.08 39 P **PKPdf 09 06 32.9 +0.6**
baz=311
LRAL Lakeview Retre 131.24 40 P **PKPdf 09 06 33.6 +0.9**
baz=310
LRAL Lakeview Retre 131.24 40 PKPdf 09 06 33.8 +1.2
S54A Dingess, Beckl 131.25 31 P **PKPdf 09 06 33.8 +1.1**
baz=319
V52A Sevierville 131.42 35 P **PKPdf 09 06 34.5 +1.5**
baz=315
O58A Lewisberry 131.52 26 P **PKPdf 09 06 34.2 +1.1**
baz=325
O59A Robesonia 131.68 25 P **PKPdf 09 06 34.6 +1.3**
baz=326
W52A Murphy 131.75 36 P **PKPdf 09 06 34.4 +0.7**
baz=314
Z50A Ashland 131.78 39 P **PKPdf 09 06 34.4 +0.7**
baz=311
M61A Granite Spring 131.81 22 P **PKPdf 09 06 34.1 +0.6**
baz=330
X52A Dahlonega 132.12 36 P **PKPdf 09 06 35.7 +1.4**
baz=314
Q58A Fox Den Farm, 132.14 28 P **PKPdf 09 06 35.3 +1.1**
baz=324
W53A Cullowhee 132.15 35 P **PKPdf 09 06 35.9 +1.4**
baz=315
P59A Jarrettsville 132.16 26 P **PKPdf 09 06 35.6 +1.4**
baz=326
P60A Greenville 132.33 25 P **PKPdf 09 06 35.2 +0.7**
baz=327
KIC Kosan Boka 132.35 281 *e*PKIKP **PKPdf 09 06 36.9 +1.6**
comp=Z,26nm,1.1s
DBIC Dimbokro 132.41 281 PKP **PKPdf 09 06 34.7 -0.7**
comp=Z,6.5nm,0.9s,baz=50,slow=1.6,SNR=6.8
DBIC SKPbc **SKPbc 09 09 57.0 0.0**
comp=Z,11nm,0.8s,baz=61,slow=4.5,SNR=9.7
DBIC Dimbokro 132.41 281 PKPdf 09 06 35.1 -0.3
R58A Rapidan 132.50 28 P **PKiKP 09 06 36.7 +0.7**
baz=323
Y52A Lilburn 132.52 37 P **PKiKP 09 06 37.1 +0.8**
baz=314
X53A Estanollee 132.54 36 P **PKiKP 09 06 36.9 +0.7**
baz=315
TIC Toumodi 132.58 281 *e*PKIKP **PKPdf 09 06 36.3 +0.6**
LIC Lamto 132.66 281 *e*PKIKP **PKPdf 09 06 36.6 +0.7**
comp=Z,46nm,1.1s
V55A Taylorsville 132.75 33 P **PKPdf 09 06 36.7 +1.3**
baz=318
KMSC Kings Mountain 133.21 34 P **PKPdf 09 06 37.6 +1.3**
baz=317
Z53A Monticello 133.22 37 P **PKPdf 09 06 38.0 +1.6**
baz=314
Y54A Tignall 133.35 36 P **PKiKP 09 06 38.5 +0.6**
baz=315
252A Lumpkin 133.36 40 P **PKiKP 09 06 38.4 +0.5**
baz=312
352A Blakely 133.58 40 P **PKiKP 09 06 39.0 +0.7**
baz=311
PLCA Paso Flores 138.41 158 PKIKP **PKPdf 09 06 43.2 -2.8**
PLCA Paso Flores 138.41 158 PKhKP PKPpre 09 06 37.3
comp=Z,1.3nm,0.7s,baz=288,slow=3.3,SNR=7.5
PLCA SKPbc **SKPbc 09 10 15.2 +0.1**
comp=Z,7.1nm,0.9s,baz=232,slow=4.8,SNR=7.1
PLCA Paso Flores 138.41 158 PKPdf 09 06 43.1 -2.8
TRQA Tornquist 143.51 166 PKIKP PKPab 09 06 52.7 +1.2
TRQA Tornquist 143.51 166 PKPab 09 06 52.7 +1.2
ACON Acoyapa 143.62 66 PKPbc 09 06 54.2 +0.8
ESPN Las Esperanzas 144.33 65 PKPbc 09 06 56.5 +1.0
ESPN IAMs_20 IAMs_20 10 01 45.2
comp=Z,199nm,22.0s
JTS Las Juntas de 144.40 68*d* PKIKP **PKPab 09 06 55.9 +0.3**
JTS Las Juntas de 144.40 68 PKPbc 09 06 56.6 +1.0
HDC Heredia 145.28 68 PKPbc 09 06 56.1 -2.7
SACV Santiago Islan 147.20 303 PKPdf 09 07 03.2 +1.2
CFA Coronel Fontan 147.22 153 PKPbc **PKPdf 09 07 03.0 +1.3**
comp=Z,20nm,0.6s,baz=224,slow=1.9,SNR=32
GO03 Copiap 149.47 146 PKPbc 09 07 09.3 -0.8
BCIP Isla Barro Col 149.52 67 *e*P **PKPbc 09 07 09.8 -0.6**
BCIP Isla Barro Col 149.52 67 *e*P **PKPbc 09 07 09.8 -0.6**
GO02 Mina Guanaco 151.70 144 PKPdf 09 07 13.4 +4.0
NNA Nana 153.34 112 PKIKP **PKPbc 09 07 18.4 -0.9**
NNA Nana 153.34 112 PKPbc 09 07 18.4 -0.9
SJCC San Jacinto, C 153.42 62 *e*P **PKPbc 09 07 20.1 +0.6**
SJCC San Jacinto, C 153.42 62 *e*P **PKPbc 09 07 20.1 +0.6**
BBAC Balboa, Cauca 153.96 80 *e*P **PKPbc 09 07 20.9 0.0**
BBAC Balboa, Cauca 153.96 80 *e*P **PKPbc 09 07 20.9 0.0**
LVC Limon Verde 154.02 141 PKPbc **PKPbc 09 07 21.7 +0.7**
comp=Z,6.1nm,0.8s,baz=258,slow=4.1,SNR=6.1
CBOC Ciudad Bolivar 154.21 71 *e*P **PKPbc 09 07 21.6 +0.3**
CBOC Ciudad Bolivar 154.21 71 *e*P **PKPbc 09 07 21.6 +0.3**
PLMC San Jos del P 154.23 73 *e*P **PKPbc 09 07 22.1 +0.8**
PLMC San Jos del P 154.23 73 *e*P **PKPbc 09 07 22.1 +0.8**
YOTC Yotoco, Valle 154.42 75 *e*P **PKPbc 09 07 21.9 +0.1**
YOTC Yotoco, Valle 154.42 75 *e*P **PKPbc 09 07 21.9 +0.1**
HELC Santa Helena 154.55 70 *e*P **PKPbc 09 07 22.6 +0.3**
HELC Santa Helena 154.55 70 *e*P **PKPbc 09 07 22.6 +0.3**
ZARC Zaragoza, Cauc 154.71 66 *e*P **PKPdf 09 07 14.3 +0.7**
ZARC Zaragoza, Cauc 154.71 66 *e*P **PKPdf 09 07 14.3 +0.7**
SMLC San Martn de 154.88 63 *e*P **PKPdf 09 07 17.1 +3.3**
SMLC San Martn de 154.88 63 *e*P **PKPdf 09 07 17.1 +3.3**
GUY2C Guyana, Caldas 155.01 72 *e*P PKPdf 09 07 23.7 +9.0
GUY2C Guyana, Caldas 155.01 72 *e*P PKPdf 09 07 23.7 +9.0
URIC Uribia, Colomb 155.22 54 *e*P PKPdf 09 07 23.2 +8.9
URIC Uribia, Colomb 155.22 54 *e*P PKPdf 09 07 23.2 +8.9
NORC Norcasia 155.38 71 *e*P PKPdf 09 07 23.9 +9.3
NORC Norcasia 155.38 71 *e*P PKPdf 09 07 23.9 +9.3
PTBC PUERTO BERRIO 155.43 68 *e*P **PKPdf 09 07 14.6 0.0**
PTBC PUERTO BERRIO 155.43 68 *e*P **PKPdf 09 07 14.6 0.0**
ORTC Ortega, Tolima 155.50 75 *e*P PKPdf 09 07 23.9 +9.1
ORTC Ortega, Tolima 155.50 75 *e*P PKPdf 09 07 23.9 +9.1
FLOC Florencia 155.60 80 *e*P **PKPab 09 07 40.3 -0.8**
FLOC Florencia 155.60 80 *e*P **PKPab 09 07 40.3 -0.8**
OCAC Ocana 155.80 63 *e*P **PKPdf 09 07 20.5 +5.2**
OCAC Ocana 155.80 63 *e*P **PKPdf 09 07 20.5 +5.2**
CPUP Villa Florida 155.83 167 PKP **PKPdf 09 07 14.8 0.0**
comp=Z,5.7nm,1.1s,baz=30,slow=4.6,SNR=5.1
CPUP PKPbc PKPbc 09 07 25.4
comp=Z,7.9nm,0.9s,baz=174,slow=1.7,SNR=9.2
CPUP PKPab **PKPab 09 07 40.8 -0.7**
comp=Z,11nm,1.0s,baz=218,slow=3.3,SNR=3.1
CPUP Villa Florida 155.83 167 PKPdf 09 07 14.2 -0.6
CPUP **pPKPdf 09 07 24.3 -8.6**
CPUP PKPab **PKPab 09 07 39.5 -1.9**
PRAC Prado 155.90 75 *e*P PKPdf 09 07 25.1 +10
PRAC Prado 155.90 75 *e*P PKPdf 09 07 25.1 +10
MNMC Minye Minye 155.97 134 PKPdf 09 07 13.5 -2.1
ROSC El Rosal 156.12 72 PKPab **PKPab 09 07 46.9 +3.1**
comp=Z,7.5nm,0.4s,baz=76,slow=14,SNR=7.2
ROSC El Rosal 156.12 72 PKPab 09 07 46.3 +2.5
CHIC Chingaza 156.75 72 *e*P **PKPdf 09 07 16.5 -0.4**
CHIC Chingaza 156.75 72 *e*P **PKPdf 09 07 16.5 -0.4**
RUSC La Rusia 156.94 68 *e*P **PKPdf 09 07 21.0 +3.8**
RUSC La Rusia 156.94 68 *e*P **PKPdf 09 07 21.0 +3.8**
MACC Macarena, Meta 157.27 78 *e*P **PKPdf 09 07 16.4 -0.6**
MACC Macarena, Meta 157.27 78 *e*P **PKPdf 09 07 16.4 -0.6**
LPAZ La Paz 158.84 131 PKP **PKPdf 09 07 21.2 +1.6**
comp=Z,3.3nm,0.9s,baz=45,slow=1.5,SNR=9.8
LPAZ PKPab **PKPab 09 07 56.1 +0.5**
comp=Z,4.9nm,0.7s,baz=208,slow=3.1,SNR=9.3
LPAZ La Paz 158.84 131 PKPdf 09 07 20.7 +1.1
LPAZ PKPab **PKPab 09 07 58.5 +2.9**
SIV San Ignacio 163.80 145 PKP **PKPdf 09 07 24.2 +0.1**
comp=Z,2.4nm,0.8s,baz=231,slow=1.6,SNR=7.7
SIV PKPab **PKPab 09 08 16.7 +0.3**
comp=Z,2.3nm,0.8s,baz=256,slow=5.5,SNR=3.3
SAML Samuel 166.91 119 PKIKP **PKPdf 09 07 26.6 -0.1**
SAML 09 08 31.3
SAML Samuel 166.91 119 PKPdf 09 07 26.6 -0.1
SAML PKPab **PKPab 09 08 31.3 +1.0**

IDC ***09*** *08:59:34.8±0.9, 38.˚48N×21.˚71E, h0km, mb4.0/17, mb1 4.0/20, mb1mx3.9/60, mbtmp3.9/20, ML4.2/3, MS3.2/1, Ms1 3.2/1, ms1mx2.4/59, Error ellipse: s-maj=21.2km s-min=15.2km az=179.0*
TIR ***09*** *08:59:35.1, 38.˚39N×21.˚73E, h16km, Md3.9/8*
ATH ***09*** *08:59:35.4, 38.˚40N×21.˚74E, h20km±1km, ML3.7/16, Error ellipse: s-maj=1.5km s-min=0.7km az=356.0*
ISCJB ***09*** *08:59:35.8±0.2, 38.˚38N±0.˚01×21.˚73E±0.˚02, h14km±1km, mb4.0/25, MS3.1/1, Error ellipse: s-maj=2.4km s-min=1.8km az=39.2*
NEIC ***09*** *08:59:35.9±1.9, 38.˚35N±0.˚05×21.˚77E±0.˚06, h10km±1km*
MOS ***09*** *08:59:35.2±1.1, 38.˚35N×21.˚70E, h18km, mb4.3/5, Error ellipse: s-maj=9.2km s-min=6.0km az=76.7*
PDG ***09*** *08:59:36.4±0.6, 38.˚35N×21.˚72E, h7km±1km, ML3.8/9, Error ellipse: s-maj=0.8km s-min=1.0km az=0.0*
THE ***09*** *08:59:36.1, 38.˚38N×21.˚74E, h13km, ML3.7/16, Error ellipse: s-maj=0.7km s-min=0.4km az=92.0*

ISC 09 08:59:36.2±0.7, 38.˚39N±0.˚02×21.˚72E±0.˚02, h12km±4km, n233, σ1s60/311, mb4.2/35, 20C-11D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
UPR	**University Cam**	**0.12**	**153**	P	**Pg**	**08 59 39.0**	**-0.2**
UPR				S	**Sg**	**08 59 41.7**	**+0.3**
EFP	**Efpalio**	**0.15**	**75**	P	**Pg**	**08 59 39.4**	**-0.3**
EFP				S	**Sg**	**08 59 42.7**	**+0.4**
	75µm,0.4s						
EFP	**Efpalio**	**0.15**	**75**	P	**Pg**	**08 59 39.4**	**-0.3**
EFP				AML	AML	08 59 42.5	
EFP				S	**Sg**	**08 59 42.6**	**+0.4**
EFP				AML	AML	08 59 43.6	
LAKA	**Lakka**	**0.25**	**126**	P	**Pg**	**08 59 40.9**	**-0.5**
LAKA				S	**Sg**	**08 59 44.6**	**-0.4**
	16µm,0.3s						
LAKA	**Lakka**	**0.25**	**126**	P	**Pg**	**08 59 40.9**	**-0.5**
LAKA				S	**Sg**	**08 59 44.6**	**-0.4**
LAKA				AML	AML	08 59 45.9	
	comp=E,32201µm,0.2s						
LAKA				AML	AML	08 59 46.3	
	comp=N,33901µm,0.3s						
SERG	**Sergoula**	**0.27**	**84**	P	**Pg**	**08 59 41.3**	**-0.4**
SERG				S	**Sg**	**08 59 45.7**	**+0.3**
	comp=N,45µm,0.3s						
SERG	**Sergoula**	**0.27**	**84**	P	**Pg**	**08 59 41.4**	**-0.3**
SERG				S	**Sg**	**08 59 45.7**	**+0.3**
SERG				AML	AML	08 59 46.1	
SERG				AML	AML	08 59 47.6	
	comp=E,75243µm,0.2s						
PVO	**Paravola**	**0.28**	**326**	P	**Pg**	**08 59 41.9**	**0.0**
PVO				S	**Sg**	**08 59 46.8**	**+1.1**
	comp=E,18µm,0.2s						
PVO	**Paravola**	**0.28**	**326**	P	**Pg**	**08 59 42.0**	**0.0**
PVO				S	**Sg**	**08 59 46.3**	**+0.6**
PVO				AML	AML	08 59 48.4	
	comp=N,33847µm,0.4s						
PVO				AML	AML	08 59 52.0	
	comp=E,42513µm,0.3s						
TRIZ	**Trizonia**	**0.28**	**94**	P	**Pg**	**08 59 41.6**	**-0.3**
TRIZ				S	**Sg**	**08 59 45.9**	**+0.2**
	comp=E,82µm,0.2s						
KALE	**Kalithea**	**0.33**	**89**	P	**Pg**	**08 59 42.4**	**-0.5**
KALE				S	**Sg**	**08 59 47.5**	**+0.1**
	comp=E,18µm,0.2s						
KALE	**Kalithea**	**0.33**	**89**	P	**Pg**	**08 59 42.4**	**-0.5**
KALE				S	**Sg**	**08 59 47.4**	**+0.1**
KALE				AML	AML	08 59 48.9	

comp=N,42706µm,0.2s
KALE AML AML 08 59 49.1

comp=E,29175µm,0.2s
ALIK Aliki, Aigiali 0.33 112 P **Pg** **08 59 42.6 -0.3**
ALIK S **Sg** **08 59 48.1 +0.7**
RLS Riolos of Patr 0.38 211 P **Pg** **08 59 43.7 -0.1**
RLS S **Sb** **08 59 50.2 -0.6**

comp=E,11µm,0.4s
RLS Riolos of Patr 0.38 211 P **Pg** **08 59 43.8 -0.1**
RLS S **Sb** **08 59 50.1 -0.6**
RLS AML AML 08 59 50.9

comp=N,21697µm,0.5s
RLS AML AML 08 59 51.9

comp=E,21052µm,0.3s
DRO Drossia 0.43 181 P **Pg** **08 59 44.3 -0.5**
DRO S **Sg** **08 59 51.4 +0.9**

comp=E,19µm,0.2s
DRO Drossia 0.43 181 P **Pg** **08 59 44.3 -0.5**
DRO S **Sg** **08 59 50.9 +0.4**
DRO AML AML 08 59 51.8

comp=N,34247µm,0.4s
DRO AML AML 08 59 53.3

comp=E,41458µm,0.2s
KLV Kalavryta, Ach 0.48 135 P **Pg** **08 59 44.8 -0.9**
KLV S **Sg** **08 59 51.8 -0.3**

comp=E,6µm,0.3s
KLV Kalavryta, Ach 0.48 135 P **Pg** **08 59 44.9 -0.8**
KLV S **Sg** **08 59 52.1 +0.1**
KLV AML AML 08 59 55.7

comp=N,12238µm,0.3s
KLV AML AML 08 59 55.8

comp=E,10914µm,0.3s
EVR Evrytania 0.53 7 P **Pg** **08 59 46.0 -0.7**
EVR S **Sb** **08 59 54.9 -0.4**

comp=E,6µm,0.5s
EVR Evrytania 0.53 7 P **Pg** **08 59 46.2 -0.5**
EVR S **Sg** **08 59 52.5 -1.2**
EVR AML AML 08 59 59.3

comp=N,10446µm,0.2s
EVR AML AML 08 59 59.8

comp=E,13122µm,0.3s
MAKR Makrakomi, Fth 0.70 27 P **Pg** **08 59 49.4 -0.4**
MAKR S **Sb** **09 00 00.2 +0.1**

comp=E,13µm,0.2s
AGG Agios Georgios 0.79 37 P **Pb** **08 59 50.5 -1.5**
AGG S **Sb** **09 00 02.9 +0.2**

comp=E,3µm,0.3s
AGG Agios Georgios 0.79 37 P **Pb** **08 59 50.8 -1.1**
AGG 09 00 02.0
AGG Agios Georgios 0.79 37 P **Pb** **08 59 51.1 -0.9**
AGG Agios Georgios 0.79 37 **Pb** **08 59 50.9 -1.1**
AGG **Sg** **09 00 02.0 0.0**
THAL Thalero 0.82 115 P **Pb** **08 59 50.8 -1.6**
AMT Artemida-Makis 0.85 181 P **Pb** **08 59 52.5 -0.4**
AMT S **Sn** **09 00 06.2 -0.3**

comp=E,11µm,0.8s
AMT Artemida-Makis 0.85 181 P **Pb** **08 59 52.5 -0.4**
EVGl Lefkada island 0.87 286 P **Pb** **08 59 52.3 -0.9**
FSK Fiskardo 0.91 275 P **Pb** **08 59 52.8 -1.1**
FSK Fiskardo 0.91 275 P **Pb** **08 59 52.9 -1.1**
VLS Valsamata 0.91 257 P **Pb** **08 59 52.8 -1.2**
VLS S **Sn** **09 00 08.0 0.0**

comp=E,4µm,0.3s
VLS Valsamata 0.91 257 P **Pb** **08 59 52.8 -1.2**
VLS S **Sg** **09 00 06.2 +0.5**
VLS AML AML 09 00 09.0

comp=N,10668µm,0.2s
VLS AML AML 09 00 11.1

comp=E,4645µm,0.4s
LKD2 Lefkada island 0.92 296 P **Pb** **08 59 53.5 -0.7**
PROD Prodromos 0.94 97 P **Pb** **08 59 53.3 -1.1**
PROD S **Sb** **09 00 06.7 -0.1**
TSLK Tsoukalades, L 0.94 298 P **Pb** **08 59 53.9 -0.5**
VLMS Volimes, Zakyn 0.98 239 P **Pb** **08 59 54.1 -1.0**
VLMS S **Sn** **09 00 08.8 -0.7**
VLMS AML AML 09 00 11.2

comp=E,18018µm,0.2s
VLMS AML AML 09 00 14.6

comp=N,11790µm,0.3s
LKR Lokris 1.04 75 P **Pb** **08 59 54.6 -1.5**
LKR Lokris 1.04 75 P **Pb** **08 59 54.6 -1.5**
LKR S **Sb** **09 00 09.8 +0.1**
LKR AML AML 09 00 13.6

comp=N,5119µm,0.3s
LKR AML AML 09 00 17.2

comp=E,4470µm,0.2s
LTK Loutraki 1.05 110 P **Pb** **08 59 55.1 -1.2**
LTK S **Sg** **09 00 10.5 +0.5**

comp=E,4µm,0.4s
LTK Loutraki 1.05 110 P **Pb** **08 59 55.3 -0.9**
LTK S **Sg** **09 00 10.4 +0.5**
LTK AML AML 09 00 13.7

comp=E,7001µm,0.5s
LTK AML AML 09 00 15.7

comp=N,8060µm,0.4s
LOUT Loutraki 1.07 112 P **Pb** **08 59 55.8 -0.8**
LOUT S **Sg** **09 00 11.0 +0.4**

comp=N,3µm,0.5s
VLX Vlachokerasia 1.14 153 P **Pb** **08 59 56.9 -1.0**
VLX S **Sn** **09 00 13.3 -0.4**
VLX AML AML 09 00 18.2

comp=E,11095µm,0.5s
VLX AML AML 09 00 20.4

comp=N,10039µm,0.5s
ITM Ithomi 1.22 172 P **Pn** **08 59 58.0 -1.0**
ITM Ithomi 1.22 172 P **Pn** **08 59 58.2 -0.9**
ITM S **Sn** **09 00 15.3 -0.2**
ITM AML AML 09 00 19.5

comp=N,6808µm,0.4s
ITM AML AML 09 00 21.1

comp=E,4444µm,0.3s
ITM Ithomi 1.22 172 **Pn** **08 59 58.1 -1.0**
ITM **Sb** **09 00 13.3 -1.4**
VILL Villia 1.27 100 P **Pn** **08 59 59.2 -0.6**
XOR Xorichti 1.51 49 P **Pn** **09 00 03.2 +0.1**
ATH Athens Observa 1.63 104 P **Pn** **09 00 04.9 +0.2**
ATH S **Sb** **09 00 26.2 -0.4**
ATH AML AML 09 00 27.4

comp=N,2386µm,0.4s
ATH AML AML 09 00 32.0

comp=E,2878µm,0.6s
DION Dionisos Attik 1.77 99 P **Pn** **09 00 07.3 +0.7**
LIT Litokhoron 1.81 19 P **Pn** **09 00 08.0 +0.7**
LIT 09 00 31.3
LIT Litokhoron 1.81 19 **Pn** **09 00 08.0 +0.7**
LIT Sn **Sb** **09 00 31.3 -0.7**
AOS Alonnisos 1.86 64 P **Pn** **09 00 07.4 -0.5**
AOS Alonnisos 1.86 64 P **Pn** **09 00 07.2 -0.7**
SRN Sarande 2.00 319 *i* PN **Pn** **09 00 12.2 -0.3**
SRN *i* SN **Sg** **09 00 39.6 -0.9**
TPE Tepelena 2.32 326 *i* PN **Pb** **09 00 17.0 -0.9**
TPE *i* SN **Sb** **09 00 47.3 +0.7**
KTHA Kythira Island 2.38 153 *eP* **Pn** **09 00 16.7 +1.7**
FNA Florina 2.41 354 P **Pb** **09 00 18.1 -1.4**
FNA 09 00 46.6
FNA Florina 2.41 354 *i* PN **Pb** **09 00 18.3 -1.2**
FNA *i* SN **Sb** **09 00 50.0 +0.9**
FNA Florina 2.41 354 *eP* **Pb** **09 00 18.1 -1.4**
FNA Florina 2.41 354 **Pb** **09 00 18.1 -1.4**
FNA **Sn** **09 00 46.6 +1.7**
HORT Hortiatis 2.45 25 *eP* **Pn** **09 00 16.3 +0.2**
OUR Ouranopolis 2.62 41 *eP* **Pn** **09 00 18.8 +0.5**
GRG Griva 2.62 11 *eP* **Pn** **09 00 20.3 +1.9**
VLO Vlora 2.70 321 *i* PN **Pb** **09 00 21.9 -2.5**
KNT Kendrikon 2.92 18 *eP* **Pn** **09 00 23.9 +1.5**
VAY Valandovo 3.00 12 *i* Pn **Pn** **09 00 25.9 +2.4**
SCTE Santa Cesarea 3.04 305 **Pn** **09 00 25.5 +1.1**
SCTE Sn **Sn** **09 01 01.7 +1.4**
TIR Tirane 3.28 335 P **Pn** **09 00 28.6 +1.1**
TIR 09 01 07.0
TIR Tirane 3.28 335 *i* PN **Pn** **09 00 25.8 -1.6**
TIR Tirane 3.28 335 Pn **Pn** **09 00 28.6 +1.1**
TIR Sn **Sn** **09 01 07.0 +0.5**
APE Apeiranthos 3.29 112 *de*P **Pn** **09 00 27.4 -0.2**
APE Apeiranthos 3.29 112 ⇓P **Pn** **09 00 27.4 -0.2**
APE ⇑S **Sn** **09 01 04.0 -2.8**
APE AML AML 09 01 07.2
APE Apeiranthos 3.29 112 *eP* **Pn** **09 00 28.0 +0.4**
STIP Stip 3.32 6 *i* Pn **Pn** **09 00 31.4 +3.4**
CHOS Chios island 3.41 89 *eP* **Pn** **09 00 29.2 0.0**
IMMV Iera Moni Meta 3.44 148 *eP* **Pn** **09 00 31.4 +1.8**
PHP Peshkopia 3.44 344 *i* PN **Pn** **09 00 32.2 +2.6**
PHP *i* SN **Sb** **09 01 16.3 -2.5**

SKO Skopje 3.59 357 *i* Pn **Pn** **09 00 34.6 +3.0**
SANT Santorini 3.59 123 *eP* **Pn** **09 00 32.6 +0.8**
SANT Santorini 3.59 123 Pn **Pn** **09 00 29.8 -2.0**
SANT Sn **Sn** **09 01 10.2 -4.0**
BOZC Bozcaada 3.67 65 *eP* **Pn** **09 00 33.0 +0.3**
TIP Timpagrande 3.96 283 ⇑P **Pn** **09 00 38.4 +1.6**
TIP AML AML 09 01 27.2
TIP Timpagrande 3.96 283 **Pn** **09 00 37.6 +0.9**
TIP Sn **Sn** **09 01 24.8 +1.7**
GVD Gavdhos 4.02 151 *eP* **Pn** **09 00 39.9 +2.3**
RDO Rodhopi 4.03 46 *eP* **Pn** **09 00 38.6 +0.9**
ULC Ulcinj 4.04 333 ⇓*i* Pn **Pn** **09 00 39.6 +1.7**
ULC *e*Sn **Sn** **09 01 30.2 +5.0**
BCI Bajram Curri 4.17 343 *i* PN **Pn** **09 00 43.1 +3.5**
BCI *i* SN **Sb** **09 01 34.0 -5.8**
ALN Alexandroupoli 4.17 52 P **Pn** **09 00 40.2 +0.5**
ALN 09 01 25.8
ALN Alexandroupoli 4.17 52 *eP* **Pn** **09 00 40.7 +1.0**
ALN Alexandroupoli 4.17 52 Pn **Pn** **09 00 40.2 +0.5**
ALN Sn **Sn** **09 01 25.9 -2.5**
MASS Massafra 4.19 304 *e*Pn **Pn** **09 00 40.9 +1.0**
GELI Tayfur-Gelibol 4.20 60 *eP* **Pn** **09 00 40.5 +0.5**
DRME Dracevica, Mon 4.26 334 *e*Pn **Pn** **09 00 42.2 +1.3**
DRME Dracevica, Mon 4.26 334 ⇑*i* Pn **Pn** **09 00 42.8 +1.9**
DRME *e*Sn **Sn** **09 01 35.1 +4.6**
KDZ Kurdzhali 4.32 40 *eP* **Pn** **09 00 41.8 +0.1**
LPK Lapseki 4.38 62 *eP* **Pn** **09 00 43.2 +0.7**
VTS Vitosha 4.38 15 P **Pn** **09 00 44.1 +1.4**
VTS 09 01 34.4
VTS Vitosha 4.38 15 **Pn** **09 00 44.1 +1.4**
VTS Sn **Sn** **09 01 34.4 +0.7**
PVY Plav 4.41 343 ⇓*i* Pn **Pn** **09 00 45.9 +2.8**
PVY *e*Sn **Sn** **09 01 38.3 +3.9**
PDG Podgorica 4.46 336 *e*Pn **Pn** **09 00 46.3 +2.8**
PDG Podgorica 4.46 336 ⇓P **Pn** **09 00 43.2 -0.3**
PDG AML AML 09 01 42.7
PDG Podgorica 4.46 336 **Pn** **09 00 43.4 -0.1**
PDG Sn **Sn** **09 01 35.4 +0.1**
TTG Podgorica 4.46 336 ⇓*i* Pn **Pn** **09 00 46.5 +3.0**
TTG *e*Sn **Sn** **09 01 39.2 +3.9**
BUM Brajici-Budva 4.47 332 ⇓*i* Pn **Pn** **09 00 45.4 +1.6**
BUM *e*Sn **Sn** **09 01 39.0 +3.3**
SG1 Sgolgore (BA) 4.60 304 *e*Pn **Pn** **09 00 46.6 +1.0**
SG1 Sn **Sn** **09 01 38.3 -0.6**
BODT Bodrum 4.62 105 *eP* **Pn** **09 00 46.7 +0.8**
CEME Cevo 4.67 334 ⇑*i* Pn **Pn** **09 00 48.6 +2.0**
CEME *e*Sn **Sn** **09 01 44.6 +3.8**
UKOP Uzunkopru-Edir 4.67 53 *eP* **Pn** **09 00 47.4 +0.9**
IVA Berane 4.69 345 ⇓*i* Pn **Pn** **09 00 49.7 +2.8**
IVA *e*Sn **Sn** **09 01 45.0 +3.8**
HCY Herceg Novi 4.74 330 *e*Pn **Pn** **09 00 47.0 -0.5**
HCY Herceg Novi 4.74 330 ⇑*i* Pn **Pn** **09 00 49.7 +2.2**
HCY *e*Sn **Sn** **09 01 45.6 +3.2**
KRBG Karabiga-Canak 4.76 63 *eP* **Pn** **09 00 48.5 +0.8**
KOME Kolasin 4.76 340 ⇑*i* Pn **Pn** **09 00 50.6 +2.7**
KOME *e*Sn **Sn** **09 01 47.4 +4.3**
NKME Niksic 4.86 335 ⇑*i* Pn **Pn** **09 00 51.8 +2.7**
NKME *e*Sn **Sn** **09 01 49.7 +4.4**
ZKR Zakros 4.87 131 *eP* **Pn** **09 00 50.9 +1.7**
NKY Niksic 4.88 336 ⇑*i* Pn **Pn** **09 00 51.9 +2.4**
NKY *e*Sn **Sn** **09 01 49.7 +3.7**
TREB Trebinje 5.03 330 *e*Pn **Pn** **09 00 52.4 +1.0**
MRMT Marmara Adasi 5.05 62 *eP* **Pn** **09 00 52.6 +0.8**
ACER Acerenza 5.07 300 **Pn** **09 00 53.4 +1.5**
ACER Sn **Sn** **09 01 50.4 0.0**
BRY Bratogost 5.12 333 *e*Pn **Pn** **09 00 54.2 +1.4**
BRY Bratogost 5.12 333 ⇓*i* Pn **Pn** **09 00 55.5 +2.7**
BRY *e*Sn **Sn** **09 01 54.8 +3.0**
EDRB Edirne 5.17 47 *eP* **Pn** **09 00 54.9 +1.5**
KARP Karpathos 5.20 121 Pn **Pn** **09 00 53.0 -0.8**
PLE Pljevlja 5.25 341 ⇑*i* Pn **Pn** **09 00 57.8 +3.3**
PLE *e*Sn **Sn** **09 01 58.3 +3.4**
STON Ston 5.42 327 *e*Pn **Pn** **09 00 56.7 -0.1**
STON Sn **Sn** **09 01 56.7 -2.4**
ELND Elena 5.53 34 ⇑P **Pn** **09 00 55.0 -3.3**
ELND AML AML 09 02 10.7
SGRT San Giovanni R 5.69 308 **Pn** **09 01 01.4 +0.9**
SGRT Sn **Sn** **09 02 03.4 -2.4**
BBLS Lazići 5.75 343 *e*Pn **Pn** **09 01 01.7 +0.4**
DIVS Divibare 5.85 348 *e*Pn **Pn** **09 01 03.9 +1.1**
MAKA Makarska 6.05 325 *e*Pn **Pn** **09 01 05.5 0.0**
HAPS Han Pijesak,BI 6.06 341 *e*Pn **Pn** **09 01 05.2 -0.5**
PAOL Paolisi 6.11 298 **Pn** **09 01 09.1 +2.7**
RICI Ricice 6.17 327 *e*Pn **Pn** **09 01 07.5**
RICI Sn **Sn** **09 02 14.7 -2.9**
MDVR Moldovita 6.39 360 ⇓P **Pn** **09 01 08.3 -1.8**
CORL Corleone 6.65 268 Pn **Pn** **09 01 12.0 -1.7**
KIJV Kijevo 6.89 326 *e*Pn **Pn** **09 01 17.7 +0.6**
KIJV Sn **Sn** **09 02 34.4 -1.0**
FRGS Fruska Gora 6.91 349 *e*Pn **Pn** **09 01 18.3 +1.0**
MGRS Mrkonjic Grad 6.96 331 *e*Pn **Pn** **09 01 18.0 +0.1**
ZIRJ Zirje 6.98 321 *i* Pn **Pn** **09 01 18.1 -0.1**
INTR Introdacqua 6.99 304 **Pn** **09 01 21.0 +2.5**
INTR Sn **Sn** **09 02 40.4 +2.5**
GZR Gura Zlata 7.04 6 ⇑P **Pn** **09 01 16.9 -2.3**
MORI Morici 7.11 322 *e*Pn **Pn** **09 01 20.6 +0.6**
BLY Banja Luka 7.21 333 *e*Pn **Pn** **09 01 24.8 +3.5**
BZS Buzias 7.22 359 ⇑P **Pn** **09 01 19.8 -1.7**
VOIR 7.47 18 ⇑P **Pn** **09 01 22.9 -2.1**
ISR Istrita 7.63 27 ⇑P **Pn** **09 01 23.1 -4.1**
MLR Muntele Rosu 7.76 23 ⇓P **Pn** **09 01 27.2 -1.9**
TLB Topalu 7.80 35 ⇑P **Pn** **09 01 25.9 -3.5**
NRCA Norcia 7.91 307 **Pn** **09 01 33.0 +2.0**
NRCA Sn **Sn** **09 02 59.3 -1.2**
NVLJ Novalja 8.03 322 *e*Pn **Pn** **09 01 33.0 +0.5**
DOPR Dopca 8.05 19 ⇑P **Pn** **09 01 30.0 -2.9**
MORH Mrgy, Hungar 8.15 345 *e*Pn **Pn** **09 01 34.6 +0.4**
MURB Monte Urbino 8.50 308 Pn **Pn** **09 01 41.5 +2.3**
MURB Sn **Sn** **09 03 19.2 +4.1**
CRES Cresnjev 8.77 330 *e*Pn **Pn** **09 01 42.0 -0.7**
CEY Cerknica 9.13 326 *e*Pn **Pn** **09 01 47.3 -0.4**
CASP Castiglione de 9.35 301 Pn **Pn** **09 01 53.1 +2.3**
CASP Sn **Sn** **09 03 34.6 -1.3**
BR131 Keskin Array S 9.37 78 P **Pn** **09 01 50.4 -0.7**
BR131 Keskin Array S 9.37 78 Pn **Pn** **09 01 50.4 -0.7**
BRTR Keskin Array B 9.37 78 *i* P **Pn** **09 01 53.7 +2.6**
BRTR pmax pmax
comp=Z,2.0nm,0.5s
BRTR Keskin Array B 9.37 78 Pn **Pn** **09 01 53.8 +2.6**
comp=Z,0.6nm,0.3s,baz=259,slow=12,SNR=14
TRI Trieste 9.40 324 P **Pn** **09 01 51.6 +0.2**
TRI 09 03 36.0
TRI Trieste 9.40 324 Pn **Pn** **09 01 51.6 +0.2**
TRI Sn **Sn** **09 03 36.0 -1.0**
BUR08 Bucovina Ar. S 9.60 14 Pn **Pn** **09 01 54.3 +0.1**
BUR08 Sn **Sn** **09 03 44.7 +2.8**
PSZ Piszkesteto 9.62 353 P **Pn** **09 01 55.0 +0.5**
PSZ 09 03 42.0
PSZ Piszkesteto 9.62 353 **Pn** **09 01 55.0 +0.5**
PSZ Sn **Sn** **09 03 42.0 -0.4**
SOKA Soboth 9.64 331 *i* Pn **Pn** **09 01 56.7 +2.0**
comp=Z,1.7nm,0.3s
OBKA Obir 9.69 329 *i* Pn **Pn** **09 01 57.2 +1.7**
comp=Z,0.7nm,0.2s
TEOL Teolo 10.23 316 Pn **Pn** **09 02 03.4 +0.7**
TEOL Sn **Sn** **09 03 54.8 -2.5**
STAL STALIGIAL 10.31 323 Pn **Pn** **09 02 04.4 +0.5**
STAL Sn **Sn** **09 03 55.7 -3.7**
CTI Castel Tesino 10.69 319 P **Pn** **09 02 09.0 -0.1**
CTI 09 04 08.3
CTI Castel Tesino 10.69 319 Pn **Pn** **09 02 09.1 -0.1**
CTI Sn **Sn** **09 04 08.3 -0.4**
MOA Molln 10.91 332 *i* Pn **Pn** **09 02 14.1 +2.0**
comp=Z,0.5nm,0.2s
MMAI Mount Meron Ar 12.34 112 Pn **Pn** **09 02 34.3 +2.6**
comp=Z,1.5nm,0.3s,baz=305,slow=15,SNR=2.7
CLL Collm 14.31 337 *e*pP **Pn** **09 03 01.0 +2.6**
CLL LmV 10 04 00.0
comp=Z,300nm,18.7s
VSR Storozhevoye 17.77 38⇑*eP* **P** **09 03 43.7 -0.3**
OBN Obninsk 19.51 26⇑*eP* **P** **09 04 03.2 +0.1**
OBN pmax pmax
comp=Z,8.0nm,0.9s
ESBB Sonseca Array 19.98 282 P **Pn** **09 04 09.2 -0.9**
ESDC Sonseca Array 19.98 282 P **Pn** **09 04 09.2 -1.0**
comp=Z,0.3nm,0.3s,baz=75,slow=11,SNR=16
PAB San Pablo 20.29 281 P Pn 09 04 12.8 -1.0
PAB pmax pmax
comp=Z,4.0nm,0.9s
PAB San Pablo 20.29 281 P Pn 09 04 12.8 -1.0

HFS Hagfors 22.36 349 P **P** **09 04 34.3 +0.5**
comp=Z,1.1nm,0.4s,baz=168,slow=10,SNR=7.9
FINES FINESS Array B 23.24 5 *i* P **P** **09 04 42.2 -0.8**
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 23.24 5 P **P** **09 04 41.4 -1.6**
comp=Z,2.9nm,0.8s,baz=167,slow=9.0,SNR=3.8
FINES LR LR 09 14 17.2
comp=Z,66nm,21.2s,baz=241,slow=38
FIA1 FINESS Array S 23.24 5 P **P** **09 04 41.5 -1.5**
FIA1 IAmb IAmb 09 04 41.6
comp=Z,15nm,1.1s
NC602 NORSAR Array S 23.27 347 P **P** **09 04 42.9 -0.4**
NC602 IAmb IAmb 09 04 48.9
comp=Z,18nm,1.2s
NAO01 NORSAR Array S 23.49 347 P **P** **09 04 46.0 +0.5**
NAO01 IAmb IAmb 09 04 48.1
comp=Z,22nm,1.0s
NB201 NORSAR Array S 23.61 347 P **P** **09 04 46.5 -0.3**
NB2 NORSAR Subarra 23.61 347 P **P** **09 04 46.0 -0.8**
comp=Z,1.4nm,0.6s,baz=153,slow=10
NOA NORSAR Array B 23.61 347 P **P** **09 04 46.0 -0.8**
comp=Z,1.1nm,0.8s,baz=154,slow=9.4,SNR=5.5
NBO00 NORSAR Array S 23.68 347 P **P** **09 04 47.0 -0.4**
NBO00 IAmb IAmb 09 04 48.2
comp=Z,11nm,0.9s
EKA Eskdalemuir Ar 23.81 323 P **P** **09 04 47.3 -1.4**
comp=Z,4.7nm,0.7s,baz=126,slow=9.4,SNR=8.3
NC204 NORSAR Array S 23.91 347 P **P** **09 04 49.6 -0.1**
AKTO Aktyubinsk 28.30 53 P **P** **09 05 28.9 -0.5**
comp=Z,0.9nm,0.5s,baz=260,slow=8.1,SNR=4.8
ABKAR Akbulak array 29.34 56 P **P** **09 05 37.9 -0.8**
ABKAR IAmb IAmb 09 05 45.0
comp=Z,3.6nm,1.3s
TOA0 Torodi Ar. Sit 30.79 221 P **P** **09 05 52.4 +0.6**
TOA0 IAmb IAmb 09 05 52.9
comp=Z,3.1nm,0.8s
TORD Torodi Ar. Bea 30.79 221 P **P** **09 05 52.4 +0.6**
comp=Z,2.7nm,0.6s,baz=30,slow=9.3,SNR=16
ARCES ARCESS Array B 31.27 3 P **P** **09 05 54.6 -1.0**
comp=Z,2.1nm,0.7s,baz=201,slow=9.0,SNR=6.2
BVAR Borovoye Array 36.26 50 P **P** **09 06 39.7 +0.6**
comp=Z,0.5nm,0.4s,baz=275,slow=6.8,SNR=3.7
CHGR Chuyangaron 36.79 74 P **P** **09 06 44.0 +0.1**
KK31 Karatay Array 36.85 67 P **P** **09 06 44.5 +0.3**
KK31 pmax pmax
comp=Z,10.0nm,0.5s
KK31 Karatay Array 36.85 67 P **P** **09 06 44.5 +0.3**
KKAR Karatay Array 36.85 67 P **P** **09 06 44.4 +0.2**
KKAR pmax pmax
comp=Z,10.0nm,0.5s
KKAR Karatay Array 36.85 67 P **P** **09 06 44.4 +0.2**
AAK Ala-Archa 39.81 67⇑*eP* **P** **09 07 09.8 +0.5**
AAK pmax pmax
comp=Z,2.0nm,0.9s
AAK Ala-Archa 39.81 67 P **P** **09 07 10.2 +0.9**
comp=Z,1.4nm,0.3s,baz=90,slow=1.8,SNR=6.1
AAK Ala-Archa 39.81 67 P **P** **09 07 08.6 -0.7**
SPITS Spitsbergen Ar 39.96 358 P **P** **09 07 10.9 +0.9**
comp=Z,0.8nm,0.4s,baz=170,slow=9.6,SNR=3.7
BOOM Boomskoye usch 40.88 66 P **P** **09 07 19.3 +1.0**
BOOM pmax pmax
comp=Z,4.0nm,0.6s
BOOM Boomskoye usch 40.88 66 P **P** **09 07 19.2 +1.0**
BOOM IAmb IAmb 09 07 20.6
comp=Z,4.1nm,0.6s
NRN Naryn 41.18 68 P **P** **09 07 21.0 +0.2**
NRN pmax pmax
comp=Z,2.0nm,0.9s
NRN Naryn 41.18 68 P **P** **09 07 21.1 +0.2**
KURBB Kurchatov Arra 41.35 54 P **P** **09 07 21.7 0.0**
comp=Z,1.8nm,0.5s,baz=277,slow=8.9,SNR=15
KURK Kurchatov 41.39 54⇑*eP* **P** **09 07 21.8 -0.3**
KURK pmax pmax
comp=Z,4.0nm,1.1s
KURK Kurchatov 41.39 54 P **P** **09 07 20.4 -1.7**
KURK IAmb IAmb 09 07 22.1
comp=Z,5.5nm,1.0s
KDJ Kajisay 41.86 67 P **P** **09 07 26.3 0.0**
KDJ pmax pmax
comp=Z,3.0nm,0.9s
KDJ Kajisay 41.86 67 P **P** **09 07 26.3 0.0**
MK31 Makanchi Array 44.39 59 P **P** **09 07 46.5 0.0**
MK31 pmax pmax
comp=Z,7.0nm,0.6s
MK31 Makanchi Array 44.39 59 P **P** **09 07 46.5 0.0**
MKAR Makanchi Array 44.39 59 P **P** **09 07 46.5 0.0**
comp=Z,11nm,0.4s,baz=277,slow=7.5,SNR=182
ZAA0 Zalesovo Array 44.85 48 P **P** **09 07 49.9 -0.1**
ZAA0 IAmb IAmb 09 07 50.2
comp=Z,4.3nm,0.8s
ZALV Zalesovo Beam 44.85 48 P **P** **09 07 49.7 -0.3**
comp=Z,3.7nm,0.4s,baz=279,slow=8.4,SNR=12
HIA Hailar 66.71 45 *i* P **P** **09 10 26.7 -0.2**
YKA Yellowknife Ar 73.51 340 P **P** **09 11 08.3 0.0**
comp=Z,0.2nm,0.4s,baz=35,slow=5.5,SNR=6.0
ULM Lac du Bonnet 76.09 324 P **P** **09 11 24.8 +1.3**
comp=Z,2.2nm,0.8s,baz=23,slow=12,SNR=3.1
ILAR Eielson Array 76.79 355 P **P** **09 11 27.3 +0.1**
comp=Z,0.3nm,0.8s,baz=344,slow=2.7,SNR=4.6
DAWY Dawson 76.79 352 P **P** **09 11 27.1 -0.2**
DAWY IAmb IAmb 09 11 28.9
comp=Z,1.9nm,0.9s
HDA Harding Lake 77.15 355 P **P** **09 11 29.6 +0.3**
HDA IAmb IAmb 09 11 32.8
comp=Z,2.1nm,1.0s
KSRS Korea Array 78.47 51 P **P** **09 11 36.3 -0.7**
comp=Z,1.4nm,0.6s,baz=314,slow=4.3,SNR=5.7
DHY Denali Highway 78.50 355 P **P** **09 11 37.4 +0.4**
DHY IAmb IAmb 09 11 38.3
comp=Z,3.1nm,0.8s
PPLA Purkeypile 78.94 357 P **P** **09 11 40.0 +0.6**
PDAR Pinedale Array 87.90 326 P **P** **09 12 26.1 +0.1**
comp=Z,0.2nm,0.5s,baz=74,slow=6.7,SNR=4.1

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*ISCJB **09** 09:00:39.3±0.3, 60°.99S±0°.05×23°.0W±0°.1, h10km, mb4.7/29, MS4.8/23, Error ellipse: s-maj=9.0km s-min=5.1km az=43.5*

*IDC **09** 09:00:39.8±0.5, 60°.91S×23°.00W, h0km, mb4.5/21, mb1 4.6/23, mb1mx4.5/37, mbtmp4.6/23, ML5.4/2, MS4.8/19, Ms1 4.8/19, ms1mx4.7/24, Error ellipse: s-maj=19.0km s-min=12.1km az=14.0*

*NEIC **09** 09:00:41.2±1.7, 60°.9S±0°.1×23°.0W±0°.2, h10km±1km, mb5.1/27*

*MOS **09** 09:00:43.4±1.4, 60°.90S×23°.12W, h33km, mb5.2/9, Error ellipse: s-maj=25.5km s-min=12.0km az=112.9*

*BJI **09** 09:00:43.0±0.0, 61°.10S×23°.00W, h20km, mB5.4/3, Ms5.3/5, Ms7 5.0/5*

*GCMT **09** 09:00:45.2±0.1, 61°.12S±0°.01×22°.81W±0°.01, h12km, MW5.4/150, Moment Tensor Solution. s109,c185; s150,c272; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr-0.10±.02; Mθθ-0.30±.02; Mφφ0.39±.02; Mrθ-0.26±.04; Mrφ 1.54±.01; Mθφ0.37±.04; Best double couple: M0 1.64400×10^17 NP1:φs175.00000°, δ82.00000°, λ-166.00000°. NP2:φs83.00000°, δ76.00000°, λ-8.00000°. Principal axes: T 1.6370, Plg4.0000°, Azm308.0000°; N 0.0140, Plg74.0000°, Azm203.0000°; P -1.6510, Plg16.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 09:00:41.5±0.3, 60°.96S±0°.07×23°.03W±0°.07, h10km, n129, σ1§27/115, mb4.9/32, MS4.9/23, 6C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**9.83**	**307**	P	**Pn**	**Pn**	**09 03 02.3**	**-0.4**
HOPE	**Hope Point**	**9.83**	**307**		**Pn**	**Pn**	**09 03 02.3**	**-0.4**
VNA1	**Neumayer--Stat**	**11.41**	**155**	P	**Pn**	**Pn**	**09 03 23.1**	**-1.1**
VNA1	**Neumayer--Stat**	**11.41**	**155**	PcP	**PcP**	**PcP**	**09 03 14.9**	**-1.7**
VNA1				S	Sn	Sn	09 05 21.8	-10
VNA3	**Neumayer Olymp**	**11.62**	**158**	P	**Pn**	**Pn**	**09 03 25.4**	**-1.7**
VNA3	**Neumayer Olymp**	**11.62**	**158**	PcP	**PcP**	**PcP**	**09 03 17.0**	**+0.2**
VNA3				S	Sn	Sn	09 05 23.2	-13
VNA2	**Neumayer--Watz** baz=321,slow=13	**11.81**	**154**	P	**Pn**	**Pn**	**09 03 27.6**	**-2.1**
VNA2	**Neumayer--Watz** baz=321,slow=13	**11.81**	**154**	PcP	**PcP**	**PcP**	**09 09 20.1**	**+3.1**
VNA2	baz=314,slow=16			S	Sn	Sn	09 05 27.9	-13
SNAA	**Sanae**	**13.36**	**152**	P	**Pn**	**Pn**	**09 03 49.0**	**-2.0**

SNAA	**Sanae**	**13.36**	**152**	*c*	*i*P		**Pn**	**09 03 48.9**	**-2.0**
SNAA	**Sanae**	**13.36**	**152**		Pn		**Pn**	**09 03 49.2**	**-1.7**
	19nm,0.3s,baz=310,slow=15,SNR=196								
SNAA					Sn		Sn	09 06 06.9	-12
	2.6nm,0.3s,baz=280,slow=17,SNR=5.0								
SNAA					LR		LR	09 08 00.2	
	comp=Z,4μm,20.9s,baz=342,slow=33								
SNAA	**Sanae**	**13.36**	**152**				**Pn**	**09 03 48.9**	**-2.0**
NVL	**N'lazarevskaya**	**17.01**	**140**	*e*	P		**Pn**	**09 04 38.2**	**-0.9**
NVL				*e*	S		**Sn**	**09 07 47.7**	**-0.2**
NVL					pmax		pmax		
	comp=Z,18nm,0.4s								
PMSA	**Palmer Station**	**18.84**	**241**		P		**Pn**	**09 05 02.6**	**+1.0**
	comp=Z,15nm,0.3s,baz=88,slow=9.1,SNR=137								
PMSA					S		Sn	09 08 16.2	-16
	comp=Z,7.9nm,0.3s,baz=359,slow=19,SNR=20								
PMSA					LR		LR	09 11 21.6	
	comp=Z,2μm,19.7s,baz=96,slow=34								
PMSA	**Palmer Station**	**18.84**	**241**		P		**Pn**	**09 05 01.6**	**0.0**
PMSA					IAmb		IAmb	09 05 09.3	
	comp=Z,168nm,1.4s								
PMSA							Sn	09 08 16.2	-16
EFI	**East Falkland**	**21.29**	**280**⇑	*e*	P		**P**	**09 05 27.0**	**-0.8**
EFI					pmax		pmax		
	comp=Z,79nm,1.1s								
EFI	**East Falkland**	**21.29**	**280**		P		**P**	**09 05 27.3**	**-0.5**
SYO	**Syowa Base**	**26.48**	**134**⇓	*e*	P		**P**	**09 06 16.4**	**-1.8**
SYO	**Syowa Base**	**26.48**	**134**⇓	*es*	P		sP	09 06 19.8	-0.2
SYO	**Syowa Base**	**26.48**	**134**⇑	*e*	pP		pP	09 06 21.6	+2.1
QSPA	**South Pole Qui**	**29.27**	**180**		LR		LR	09 17 26.7	
	comp=Z,1μm,20.6s,baz=192,slow=34								
QSPA	**South Pole Qui**	**29.27**	**180**		P		**P**	**09 06 45.4**	**+1.9**
QSPA					IAmb		IAmb	09 06 47.3	
	comp=Z,40nm,1.4s								
TRQA	**Tornquist**	**33.34**	**295**		P		**P**	**09 07 18.8**	**-0.6**
TRQA					pmax		pmax		
	comp=Z,58nm,1.4s								
TRQA	**Tornquist**	**33.34**	**295**		P		**P**	**09 07 18.8**	**-0.6**
MAW	**Mawson**	**34.95**	**138**		P		**P**	**09 07 33.9**	**+0.9**
	comp=Z,3.0nm,0.7s,baz=237,slow=8.9,SNR=3.5								
MAW					LR		LR	09 20 10.3	
	comp=Z,2μm,20.3s,baz=250,slow=34								
PLCA	**Paso Flores**	**35.14**	**283**		P		**P**	**09 07 33.9**	**-1.1**
	comp=Z,5.2nm,0.9s,baz=164,slow=5.4,SNR=3.7								
PLCA					LR		LR	09 19 57.4	
	comp=Z,1μm,21.8s,baz=161,slow=33								
PLCA	**Paso Flores**	**35.14**	**283**				**P**	**09 07 34.8**	**-0.2**
GO06	**Curarrehue**	**36.48**	**283**		P		**P**	**09 07 45.8**	**-0.8**
SUR	**Sutherland**	**40.27**	**65**		P		**P**	**09 08 17.8**	**-0.8**
	comp=Z,11nm,1.1s,baz=176,slow=7.9,SNR=5.8								
SUR					LR		LR	09 20 59.6	
	comp=Z,1μm,20.9s,baz=204,slow=30								
SUR	**Sutherland**	**40.27**	**65**		IAmb		IAmb	09 08 28.2	
	comp=Z,50nm,1.5s								
GO05	**Huala**	**40.38**	**287**		P		**P**	**09 08 18.6**	**-0.7**
PEL	**Peldehue**	**41.35**	**290**		P		**P**	**09 08 27.5**	**+0.2**
PEL					pmax		pmax		
	comp=Z,44nm,1.1s								
PEL	**Peldehue**	**41.35**	**290**		P		**P**	**09 08 27.5**	**+0.2**
PEL					IAmb		IAmb	09 08 30.3	
	comp=Z,44nm,1.1s								
CFA	**Coronel Fontan**	**41.54**	**294**		P		**P**	**09 08 28.0**	**-0.8**
	comp=Z,9.2nm,0.6s,baz=167,slow=10,SNR=2.7								
CPUP	**Villa Florida**	**41.69**	**310**		P		**P**	**09 08 29.1**	**-0.9**
CPUP					pmax		pmax		
	comp=Z,38nm,1.2s								
CPUP	**Villa Florida**	**41.69**	**310**		P		**P**	**09 08 27.9**	**-2.2**
	comp=Z,11nm,1.0s,baz=151,slow=6.4,SNR=4.1								
CPUP	**Villa Florida**	**41.69**	**310**		P		**P**	**09 08 29.1**	**-0.9**
CPUP					IAmb		IAmb	09 08 41.7	
	comp=Z,38nm,1.2s								
VNDA	**Vanda**	**41.73**	**182**		P		**P**	**09 08 30.7**	**+0.8**
VNDA	**Vanda**	**41.73**	**182**		P		**P**	**09 08 30.7**	**+0.8**
BOSA	**Boshof**	**45.47**	**67**		P		**P**	**09 09 00.4**	**-0.2**
	comp=Z,8.0nm,0.6s,baz=210,slow=7.1,SNR=29								
BOSA					LR		LR	09 23 51.6	
	comp=Z,1μm,19.5s,baz=204,slow=31								
BOSA	**Boshof**	**45.47**	**67**		P		**P**	**09 09 00.3**	**-0.4**
GO02	**Mina Guanaco**	**47.69**	**297**		P		**P**	**09 09 17.5**	**-0.8**
CASY	**Casey**	**48.53**	**157**		P		**P**	**09 09 24.5**	**+0.6**
BDFB	**Brasilia**	**48.70**	**327**		P		**P**	**09 09 26.3**	**+0.3**
	comp=Z,4.1nm,0.5s,baz=122,slow=5.9,SNR=5.2								
BDFB					LR		LR	09 27 59.8	
	comp=Z,1μm,19.8s,baz=150,slow=34								
BDFB	**Brasilia**	**48.70**	**327**		P		**P**	**09 09 26.4**	**+0.3**
LBTB	**Lobatse**	**48.73**	**65**		P		**P**	**09 09 26.1**	**0.0**
	comp=Z,3.9nm,0.5s,baz=200,slow=11,SNR=9.4								
LBTB	**Lobatse**	**48.73**	**65**		P		**P**	**09 09 25.7**	**-0.4**
LBTB					IAmb		IAmb	09 09 36.9	
	comp=Z,22nm,1.2s								
LVC	**Limon Verde**	**49.64**	**299**	*e*	P		**P**	**09 09 33.1**	**-0.4**
LVC	**Limon Verde**	**49.64**	**299**		P		**P**	**09 09 32.6**	**-0.9**
	comp=Z,7.0nm,0.9s,baz=137,slow=4.1,SNR=3.7								
LVC	**Limon Verde**	**49.64**	**299**		P		**P**	**09 09 33.1**	**-0.4**
LVC					IAmb		IAmb	09 09 44.7	
	comp=Z,30nm,1.3s								
PB04	**IPOC Station P**	**50.42**	**298**		P		**P**	**09 09 38.8**	**-0.3**
TSUM	**Tsumeb**	**50.55**	**53**		P		**P**	**09 09 39.6**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=198,slow=5.9,SNR=5.1								
TSUM	**Tsumeb**	**50.55**	**53**		P		**P**	**09 09 39.5**	**-0.5**
GO01	**Chusmiza**	**52.38**	**301**		P		**P**	**09 09 53.6**	**-0.6**
GO01					IAmb		IAmb	09 10 05.6	
	comp=Z,28nm,1.1s								
PB11	**IPOC Station P**	**52.49**	**300**		P		**P**	**09 09 53.8**	**-0.8**
SIV	**San Ignacio**	**52.52**	**312**		P		**P**	**09 09 53.1**	**-1.5**
	comp=Z,4.3nm,0.6s,baz=157,slow=8.7,SNR=17								
MNMC	**Minye Minye**	**53.02**	**301**		P		**P**	**09 09 58.4**	**-0.3**
LPAZ	**La Paz**	**54.97**	**304**	*e*	P		**P**	**09 10 12.2**	**-1.1**
LPAZ	**La Paz**	**54.97**	**304**		P		**P**	**09 10 13.0**	**-0.3**
	comp=Z,3.9nm,0.6s,baz=159,slow=6.2,SNR=14								
LPAZ					LR		LR	09 35 45.0	
	comp=Z,357nm,19.4s,baz=163,slow=38								
LPAZ	**La Paz**	**54.97**	**304**		P		**P**	**09 10 12.2**	**-1.1**
LPAZ					IAmb		IAmb	09 10 26.5	
	comp=Z,20nm,1.1s								
LSZ	**Lusaka**	**58.43**	**62**		P		**P**	**09 10 36.8**	**-0.5**
	comp=Z,3.1nm,0.5s,baz=190,slow=8.0,SNR=6.3								
LSZ	**Lusaka**	**58.43**	**62**		P		**P**	**09 10 36.7**	**-0.7**
LSZ					IAmb		IAmb	09 10 50.0	
	comp=Z,12nm,0.9s								
SAML	**Samuel**	**59.78**	**312**		P		**P**	**09 10 46.2**	**-0.3**
SAML					pmax		pmax		
	comp=Z,17nm,1.1s								
SAML	**Samuel**	**59.78**	**312**		P		**P**	**09 10 46.2**	**-0.3**
SAML					IAmb		IAmb	09 10 58.1	
	comp=Z,17nm,1.1s								
NNA	**Nana**	**62.48**	**297**⇓	*e*	P		**P**	**09 11 05.1**	**+0.1**
NNA					pmax		pmax		
	comp=Z,20nm,1.1s								
NNA	**Nana**	**62.48**	**297**		P		**P**	**09 11 05.5**	**+0.5**
	comp=Z,3.7nm,0.3s,baz=146,slow=17,SNR=3.5								
ATAH	**Atahualpa**	**67.49**	**298**		P		**P**	**09 11 39.2**	**+1.3**
	comp=Z,4.8nm,0.8s,baz=185,slow=4.2,SNR=4.9								
LIC	**Lamto**	**68.45**	**19**	*e*	P		**P**	**09 11 47.8**	**+4.4**
	comp=Z,37nm,1.5s								
KIC	**Kosan Boka**	**68.63**	**20**	*e*	P		**P**	**09 11 44.3**	**-0.2**
	comp=Z,49nm,1.4s								
TIC	**Toumodi**	**68.86**	**19**	*e*	P		**P**	**09 11 44.8**	**-1.2**
DBIC	**Dimbokro**	**68.91**	**19**		P		**P**	**09 11 45.6**	**-0.6**
	comp=Z,3.4nm,0.8s,baz=171,slow=13,SNR=3.3								
DBIC					LR		LR	09 35 11.8	
	comp=Z,806nm,18.7s,baz=165,slow=30								
DBIC	**Dimbokro**	**68.91**	**19**		IAmb		IAmb	09 11 46.3	
	comp=Z,11nm,1.1s								
MBAR	**Mbarara**	**72.69**	**58**⇑	*e*	P		**P**	**09 12 10.5**	**+0.9**
MBAR					pmax		pmax		
	comp=Z,9.0nm,1.1s								
OTAV	**Otavalo**	**74.14**	**301**	*e*	P		**P**	**09 12 18.7**	**+0.3**
OTAV	**Otavalo**	**74.14**	**301**		P		**P**	**09 12 18.7**	**+0.3**
OTAV					IAmb		IAmb	09 12 36.6	
	comp=Z,19nm,1.2s								
KMBO	**Kilima Mbogo**	**75.00**	**64**		LR		LR	09 41 52.5	
	comp=Z,980nm,20.1s,baz=184,slow=33								
TOA0	**Torodi Ar. Sit**	**76.44**	**25**		P		**P**	**09 12 30.6**	**-0.4**
TOA0					IAmb		IAmb	09 12 38.3	
	comp=Z,19nm,1.0s								
TORD	**Torodi Ar. Bea**	**76.44**	**25**		P		**P**	**09 12 30.7**	**-0.3**
	comp=Z,11nm,0.8s,baz=200,slow=6.4,SNR=38								
TORD					LR		LR	09 38 32.7	
	comp=Z,512nm,21.6s,baz=330,slow=30								
ROSC	**El Rosal**	**76.65**	**307**		LR		LR	09 46 05.0	
	comp=Z,799nm,21.7s,baz=182,slow=36								
PLCV	**Puerto La Cruz**	**78.09**	**318**		P		**P**	**09 12 41.3**	**+1.0**
PCRV	**Puerto La Cruz**	**78.12**	**318**		P		**P**	**09 12 41.3**	**+0.8**
	comp=Z,4.8nm,0.7s,baz=90,slow=1.0,SNR=2.1								
SDV	**Santo Domingo**	**78.98**	**312**		P		**P**	**09 12 46.7**	**+1.2**
	comp=Z,3.0nm,0.4s,baz=71,slow=9.3,SNR=2.2								
URZ	**Urewera**	**79.77**	**196**		LR		LR	09 45 59.9	
	comp=Z,283nm,19.1s,baz=181,slow=34								
TBI	**Tubuai**	**85.55**	**228**	*e*	LR		LR	09 40 19.9	
	comp=Z,688nm,32.8s								
JTS	**Las Juntas de**	**85.92**	**299**⇓	*e*	P		**P**	**09 13 23.3**	**+1.8**
JTS					pmax		pmax		
	comp=Z,18nm,1.8s								
STKA	**Stephens Creek**	**86.65**	**167**		LR		LR	09 50 44.8	
	comp=Z,1μm,18.1s,baz=188,slow=35								
PPT2	**Papeete2**	**90.86**	**230**	*e*	LR		LR	09 42 43.9	
	comp=Z,488nm,23.0s								
PPT	**Papeete**	**90.88**	**230**		LR		LR	09 46 10.0	
	comp=Z,231nm,20.9s,baz=180,slow=30								
ASAR	**Alice Springs**	**93.62**	**159**		P		**P**	**09 13 57.8**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=179,slow=4.4,SNR=8.6								
ASAR					LR		LR	09 52 34.0	
	comp=Z,1μm,21.9s,baz=194,slow=33								
TAOE	**Nuku Hiva Isla**	**94.95**	**242**	*e*	LR		LR	09 44 35.8	
	comp=Z,2μm,29.3s								
DZM	**Mont Dzumac**	**96.91**	**189**	*e*	LR		LR	09 45 36.2	
	comp=Z,696nm,24.1s								
FITZ	**Fitzroy Crossi**	**97.29**	**150**		LR		LR	09 54 31.5	
	comp=Z,37nm,21.7s,baz=196,slow=33								
WRA	**Warramunga Arr**	**97.34**	**159**		P		Pdif	09 14 15.2	+0.3
	comp=Z,0.3nm,0.8s,baz=176,slow=18,SNR=3.3								
WRA					LR		LR	09 56 21.0	
	comp=Z,810nm,18.9s,baz=185,slow=34								
MSVF	**Nonsavu**	**99.77**	**200**⇑	*e*	P		**Pdif**	**09 14 25.5**	**-0.3**
MSVF					pmax		pmax		
	comp=Z,17nm,1.1s								
KEST	**Kesra**	**99.92**	**26**		LR		LR	09 56 12.4	
	comp=Z,578nm,18.1s,baz=111,slow=33								
KIV	**Kislovodsk**	**117.31**	**48**	*i*	PKIKP		**PKPdf**	**09 19 24.7**	**-1.4**
KIV					pmax		pmax		
	comp=Z,30nm,1.0s								
CMAR	**Chiang Mai Arr**	**121.33**	**110**	*i*	PKIKP		**PKiKP**	**09 19 36.2**	**+1.6**
CMAR					pmax		pmax		
	comp=Z,1.0nm,0.4s								
PHWY	**Pilot Hill**	**121.70**	**299**				**PKiKP**	**09 19 35.3**	**+0.2**
PD31	**Pinedale Array**	**124.67**	**297**				**PKPdf**	**09 19 40.6**	**+0.2**
NVAR	**Mina Array Bea**	**125.14**	**287**		PKP		**PKPdf**	**09 19 39.7**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=157,slow=2.9,SNR=3.1								
ULM	**Lac du Bonnet**	**125.23**	**311**		PKP		**PKPdf**	**09 19 39.2**	**-1.7**
	comp=Z,1.0nm,0.5s,baz=131,slow=9.3,SNR=2.3								
FINES	**FINESS Array B**	**127.74**	**27**		PKP		**PKPdf**	**09 19 44.5**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=249,slow=7.0,SNR=4.1								
KSH	**Kashi**	**127.75**	**75**	*e*	PKP		**PKiKP**	**09 19 48.1**	**+1.2**
KSH					PP		**PP**	**09 21 52.5**	**+3.7**
KSH					SS		SS	09 39 00.0	-0.8
KSH					LR		LR		
	comp=Z,330nm,5.6s								
KSH					LR		LR		
	comp=Z,480nm,5.4s								
KSH					LR		LR		
	comp=Z,230nm,5.5s								
ABKAR	**Akbulak array**	**128.34**	**56**				**PKiKP**	**09 19 48.3**	**+0.7**
KMI	**Kunming**	**128.84**	**109**		PKIKP		**PKPdf**	**09 19 46.4**	**-2.6**
KMI	**Kunming**	**128.84**	**109**				**PKPdf**	**09 19 46.4**	**-2.6**
GYA	**Guiyang**	**131.77**	**112**		PKP		**PKiKP**	**09 19 57.9**	**+2.5**
GYA					PP		PP	09 22 24.0	+9.2
GYA					AMB		AMB		
	comp=Z,130nm,7.8s								
CD2	**Chengdu**	**134.21**	**106**		PKP		**PKPdf**	**09 19 58.7**	**-0.1**
ARCES	**ARCESS Array B**	**134.71**	**22**		PKP		**PKPdf**	**09 19 58.8**	**+0.4**
	comp=Z,4.4nm,1.1s,baz=205,slow=1.9,SNR=4.3								
WMQ	**Urumqi**	**136.66**	**81**	*e*	PKP		**PKPdf**	**09 20 03.8**	**+0.9**
WMQ					LR		LR		
	comp=Z,190nm,18.7s								
WMQ					LR		LR		
	comp=Z,170nm,20.1s								
LZH	**Lanzhou**	**138.51**	**102**	*e*	PKP		**PKPdf**	**09 20 04.9**	**-1.8**
LZH					sPKP			09 20 21.2	
YKA	**Yellowknife Ar**	**141.20**	**312**		PKP		**PKiKP**	**09 20 12.0**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=129,slow=2.2,SNR=3.0								
NJ2	**Nanjing**	**141.90**	**122**	*e*	PKP		**PKPdf**	**09 20 13.4**	**+0.6**
BTO	**Baotou**	**145.03**	**104**	*e*	PKPbc		**PKPbc**	**09 20 16.9**	**-0.7**
HHC	**Hu-ho-hao-te**	**145.95**	**105**		PKPbc		**PKPdf**	**09 20 16.7**	**-3.0**
SONM	**Songino Array**	**148.63**	**91**		PKPbc		**PKPbc**	**09 20 27.7**	**0.0**
	comp=Z,3.5nm,0.7s,baz=211,slow=3.0,SNR=12								
ZAK	**Zakamensk**	**148.82**	**85**	*e*	PKHKP		PKPpre	09 20 20.3	
ZAK					pmax		pmax		
	comp=Z,7.0nm,1.3s								
TLY	**Talaya**	**149.82**	**83**	*e*	PKP2		**PKPbc**	**09 20 29.7**	**-0.7**
TLY					pmax		pmax		
	comp=Z,29nm,1.6s								
KSRS	**Korea Array**	**150.23**	**129**		PKPbc		**PKPbc**	**09 20 31.4**	**-0.3**
	comp=Z,4.8nm,1.0s,baz=229,slow=2.5,SNR=7.4								
INK	**Inuvik**	**150.91**	**314**		PKPbc		**PKPbc**	**09 20 31.6**	**-0.8**
	comp=Z,7.0nm,0.9s,baz=68,slow=2.8,SNR=19								
EPYK	**Eagle Plains**	**151.38**	**310**				**PKPbc**	**09 20 33.1**	**-0.6**
DAWY	**Dawson**	**151.55**	**304**		PKPbc		**PKPbc**	**09 20 32.6**	**-1.6**
VRDI	**Verde Repeater**	**152.06**	**297**		PKPbc		**PKPdf**	**09 20 31.7**	**+2.7**
MJAR	**Matsushiro Arr**	**152.81**	**145**		PKPbc		**PKPbc**	**09 20 36.3**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=220,slow=7.5,SNR=2.8								
MENT	**Mentasta**	**152.89**	**300**		PKPbc		**PKiKP**	**09 20 39.0**	**+1.6**
DOT	**Dot Lake**	**153.30**	**302**				**PKiKP**	**09 20 38.8**	**+0.6**
SCRK	**Sand Creek**	**153.39**	**302**				**PKiKP**	**09 20 40.1**	**+1.6**
RIDG	**Independent Ri**	**153.66**	**302**				**PKPbc**	**09 20 38.6**	**-0.3**
ILAR	**Eielson Array**	**154.85**	**303**		PKP		**PKPdf**	**09 20 33.0**	**+0.3**
	comp=Z,0.2nm,0.9s,baz=189,slow=2.6,SNR=3.3								
ILAR					PKPbc		**PKiKP**	**09 20 42.0**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=137,slow=2.4,SNR=6.8								
ILAR					PKPab		**PKPab**	**09 20 57.1**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=134,slow=1.6,SNR=10								

***IDC* 09 09:17:25.3±3.5, 18°32S×177°41W, h313km±27km, mb3.1/3, mb1 3.5/4, mb1mx3.1/58, mbtmp3.9/4, Error ellipse: s-maj=176.5km s-min=19.9km az=149.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.97**	**52**	P	P	Pn	09 19 08.5	+1.9
	4.5nm,0.3s,baz=236,slow=7.3,SNR=5.6							
AFI				S		S	09 20 26.8	-1.9
	5.5nm,0.3s,baz=249,slow=23,SNR=4.4							
ASAR	**Alice Springs**	**45.59**	**255**	P	P	P	09 25 15.1	-0.3
	1.0nm,0.5s,baz=92,slow=8.4,SNR=28							
NVAR	**Mina Array Bea**	**79.06**	**43**	P	P	P	09 28 55.8	+0.1
	0.2nm,0.5s,baz=222,slow=9.4,SNR=3.0							
ILAR	**Eielson Array**	**86.07**	**13**	P	P	P	09 29 30.9	+0.1
	0.3nm,0.5s,baz=212,slow=4.9,SNR=4.5							

ISCJB ***09*** *09:19:42.8±1.1, 7°.6S±0°.1×158°.03E±0°.08, h46km, mb4.0/5, MS4.3/2, Error ellipse: s-maj=20.0km s-min=9.0km az=24.0*
NEIC ***09*** *09:19:44.1±1.2, 7°.5S±0°.1×158°.2E±0°.1, h65km±12km, mb4.1/7*
IDC ***09*** *09:19:49.1±2.1, 7°.91S×158°.17E, h89km±25km, mb3.8/5, mb1 4.0/8, mb1mx3.5/54, mbtmp4.2/8, MS4.3/2, Ms1 4.3/2, ms1mx3.0/39, Error ellipse: s-maj=31.1km s-min=19.4km az=36.0*

ISC 09 09:19:45.4±1.5, 7°.8S±0°.2×158°.0E±0°.1, h46km, n20, σ0s40/16, mb3.9/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.56**	**131**	P	P	**Pn**	**09 20 24.5**	**+0.1**
	124nm,0.3s,baz=221,slow=3.3,SNR=32							
HNR				S		**Sn**	**09 20 54.2**	**-0.1**
	76nm,0.3s,baz=72,slow=20,SNR=5.6							
HNR	**Honiara**	**2.56**	**131**	*e*P		**Pn**	**09 20 24.0**	**-0.4**
HNR	**Honiara**	**2.56**	**131**			**Pn**	**09 20 24.9**	**+0.5**
KRVT	**Keravat (AS076**	**6.85**	**300**	P		Pn	09 21 31.2	+7.9
	7.2nm,0.3s,baz=118,slow=2.1,SNR=6.8							
CTA	**Charters Tower**	**16.73**	**222**	P	P	**P**	**09 23 39.1**	**+0.8**
	0.1nm,0.3s,baz=54,slow=8.7,SNR=2.6							
EIDS	**Eidsvold**	**18.72**	**200**	P	P	**Pn**	**09 24 01.1**	**0.0**
WR0	**Warramunga Arr**	**25.76**	**239**	P	P	**P**	**09 25 11.7**	**-0.4**
WRAB	**Tennant Creek**	**25.91**	**240**	P	P	**P**	**09 25 13.8**	**+0.3**
WB2	**Warramunga Arr**	**25.91**	**240**	P	P	**P**	**09 25 13.9**	**+0.5**
WB2					IAmb	IAmb	09 25 21.2	
	comp=Z,5.8nm,1.1s							
WRA	**Warramunga Arr**	**25.92**	**240**	P	P	**P**	**09 25 13.8**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=64,slow=9.2,SNR=19							
ASAR	**Alice Springs**	**28.00**	**233**	P	P	**P**	**09 25 31.7**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=82,slow=8.4,SNR=11							
STKA	**Stephens Creek**	**28.45**	**210**	P	P	**P**	**09 25 36.0**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=23,slow=11,SNR=3.1							
BBOO	**Buckleboo**	**32.18**	**216**	P	P	**P**	**09 26 08.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**33.11**	**249**	P	P	**P**	**09 26 17.1**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=75,slow=6.0,SNR=10							
FITZ	**Fitzroy Crossi**	**33.11**	**249**	P	P	**P**	**09 26 17.0**	**-0.3**
FITZ				IAmb	IAmb		09 26 17.7	
	comp=Z,2.2nm,0.6s							
NWAO	**Narrogin (SRO)**	**45.27**	**231**	LR	LR		09 45 32.8	
	comp=Z,474nm,19.2s,baz=120,slow=34							
LEM	**Lembang**	**49.95**	**268**	LR	LR		09 51 56.9	
	comp=Z,256nm,21.7s,baz=228,slow=38							
MKAR	**Makanchi Array**	**85.94**	**318**	P	P		**09 32 20.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=86,slow=5.9,SNR=3.3							
GDXM	**Geysers**	**86.48**	**50**	P	P		09 32 15.9	-7.8
QLMT	**Earthquake Lak**	**95.81**	**46**	P	P		09 33 02.5	-4.8

ISCJB ***09*** *09:20:17.0±0.8, 44°.16N±0°.06×149°.37E±0°.06, h44km±9km, mb3.8/10, MS4.3/2, Error ellipse: s-maj=11.5km s-min=5.8km az=155.5*
JMA ***09*** *09:20:17.2±0.4, 44°.60N×149°.32E, h30km, M4.5*
SKHL ***09*** *09:20:18.3±0.7, 44°.37N×149°.32E, h54km±5km, mb4.8/3*
MOS ***09*** *09:20:18.4±1.0, 44°.50N×149°.19E, h49km, mb3.9/1, Error ellipse: s-maj=11.4km s-min=8.8km az=145.4*
NEIC ***09*** *09:20:19.9±1.8, 44°.5N±0°.1×149°.3E±0°.1, h36km±5km, mb4.0/10*
IDC ***09*** *09:20:24.0±2.5, 44°.77N×149°.07E, h69km±24km, mb3.5/10, mb1 3.7/14, mb1mx3.4/71, mbtmp3.8/14, MS4.2/2, Ms1 4.2/2, ms1mx3.0/50, Error ellipse: s-maj=41.4km s-min=15.5km az=161.0*

ISC 09 09:20:18.8±1.9, 44°.21N±0°.06×149°.40E±0°.06, h37km±5km, n91, σ1s93/98, mb3.9/14, 3C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.50**	**314**	*c*	*i*PN	Pn	09 20 40.2	-2.8
KUR				*i*	S	**Sn**	**09 20 56.2**	**-5.0**
KUR					pmax	pmax		
	comp=Z,430nm,0.1s							
KUR					pmax	pmax		
	comp=N,108nm,0.3s							
KUR					pmax	pmax		
	comp=E,154nm,0.1s							
KUR					smax	smax		
	comp=N,1μm,0.2s							
KUR					smax	smax		
	comp=E,156nm,0.2s							
KUR	**Kuril'sk**	**1.50**	**314**⇑	*i*	*i*P	Pn	09 20 40.1	-2.9
KUR					AMB	AMB	09 20 42.0	
	comp=E,200nm,0.2s							
KUR				*e*	S	**Sn**	**09 20 56.2**	**-5.0**
KUR					A	A	09 20 58.0	
	comp=E,1μm,0.2s							
KUR					A	A	09 20 58.0	
	comp=E,300nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**2.55**	**267**		PN	**Pn**	**09 20 56.6**	**-0.9**
YUK				*e*	S	**Sn**	**09 21 24.9**	**-2.4**
YUK					smax	smax		
	comp=N,395nm,0.4s							
YUK					smax	smax		
	comp=E,738nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.55**	**267**	*e*	P	**Pn**	**09 20 56.7**	**-0.8**
YUK					S	**Sn**	**09 21 24.9**	**-2.4**
YUK					A	A	09 21 28.0	
	comp=E,400nm,0.4s							
YUK					A	A	09 21 28.0	
	comp=E,740nm,0.4s	

JIO				*e*S		Sn	09 23 42.5	-7.6
PEA0B	**Petropavlovsk-**	**10.45**	**29**	PN		**Pn**	**09 22 46.0**	**+0.1**
PEA0B	**Petropavlovsk-**	**10.45**	**29**	Pn		**Pn**	**09 22 46.0**	**+0.1**
PETK	**Petropavlovsk-**	**10.45**	**29**	P		**Pn**	**09 22 46.0**	**+0.1**
	comp=E,0.6nm,0.3s,baz=209,slow=12,SNR=14							
MJA0	**Matsu Arr-Jizo**	**11.44**	**232**	*e*PN		Pn	09 23 12.4	+13
MJAR	**Matsushiro Art**	**11.46**	**232**	P		Pn	09 23 07.7	+7.9
	comp=E,0.1nm,0.3s,baz=32,slow=14,SNR=4.6							
USRK	**Ussuriysk Ar.**	**12.50**	**276**	P		**Pn**	**09 23 13.5**	**-0.4**
	baz=86,slow=12,SNR=6.5							
VLA	**Vladivostok**	**12.73**	**271**	*i* PN		**Pn**	**09 23 18.7**	**+1.6**
VLA	**Vladivostok**	**12.73**	**271**	*i* P		**Pn**	**09 23 18.7**	**+1.6**
KLR	**Kul'dur**	**13.10**	**299**	⇓*e*PN		Pn	09 23 18.5	-3.6
KLR	**Kul'dur**	**13.10**	**299**	*e*P		Pn	09 23 18.5	-3.6
MA2	**Magadan**	**15.41**	**3**	⇑*e*P		Pn	09 23 43.0	-10
MA2	**Magadan**	**15.41**	**3**			**S**	**09 26 55.0**	**-2.6**
H11N2	**WAKE ISLAND Hy**	**28.45**	**144**	T		T	09 57 10.2	
	baz=333,slow=76							
H11N1	**WAKE ISLAND Hy**	**28.46**	**144**	T		T	09 57 10.8	
	baz=333,slow=76							
H11N3	**WAKE ISLAND Hy**	**28.46**	**144**	T		T	09 57 09.4	
	baz=333,slow=76							
TIXI	**Tiksi**	**29.26**	**347**	*i* P		P	09 26 06.4	-10
H11S1	**WAKE ISLAND Hy**	**29.45**	**145**	T		T	09 58 18.1	
	baz=334,slow=76							
H11S3	**WAKE ISLAND Hy**	**29.46**	**145**	T		T	09 58 24.9	
	baz=334,slow=76							
H11S2	**WAKE ISLAND Hy**	**29.47**	**145**	T		T	09 58 27.7	
	baz=334,slow=76							
KDAK	**Kodiak Island**	**37.74**	**48**	P		**P**	**09 27 30.3**	**-0.3**
	comp=E,2.7nm,0.5s,baz=284,slow=11,SNR=4.8							
KDAK	**Kodiak Island**	**37.74**	**48**	IAmb		IAmb	09 27 36.0	
	comp=Z,31nm,1.5s							
CCB	**Clear Creek Bu**	**39.76**	**37**	P		**P**	**09 27 48.0**	**+0.5**
HDA	**Harding Lake**	**40.13**	**37**	P		**P**	**09 27 50.8**	**+0.2**
ILAR	**Eielson Array**	**40.15**	**37**	*e*P		**P**	**09 27 50.6**	**-0.2**
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
ILAR	**Eielson Array**	**40.15**	**37**	P		**P**	**09 27 49.9**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=271,slow=8.8,SNR=16							
PRP	**Porcupine Dome**	**40.71**	**35**	P		**P**	**09 27 56.5**	**+0.9**
PRP				IAmb		IAmb	09 27 57.2	
	comp=Z,4.4nm,1.2s							
FYU	**Fort Yukon**	**40.82**	**34**	P		**P**	**09 27 57.6**	**+1.4**
RIDG	**Independent Ri**	**41.09**	**38**	P		P	09 27 53.8	-4.7
RIDG				IAmb		IAmb	09 27 57.8	
	comp=Z,4.3nm,1.1s							
DOT	**Dot Lake**	**41.44**	**38**	P		**P**	**09 28 01.2**	**-0.2**
SCRK	**Sand Creek**	**41.45**	**38**	P		**P**	**09 28 01.5**	**-0.1**
SCRK				IAmb		IAmb	09 28 04.3	
	comp=Z,4.2nm,1.3s							
EGAK	**Eagle**	**42.60**	**36**	P		**P**	**09 28 11.3**	**+0.5**
EGAK				IAmb		IAmb	09 28 11.3	
	comp=Z,2.1nm,0.9s							
INK	**Inuvik**	**45.18**	**31**	P		**P**	**09 28 30.8**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=305,slow=7.6,SNR=7.3							
INK	**Inuvik**	**45.18**	**31**	IAmb		IAmb	09 28 32.6	
	comp=Z,5.6nm,1.2s							
MKAR	**Makanchi Array**	**45.81**	**298**	P		**P**	**09 28 34.9**	**-1.9**
	comp=Z,0.5nm,0.5s,baz=67,slow=6.9,SNR=2.9							
KURK	**Kurchatov**	**46.61**	**304**	P		**P**	**09 28 41.0**	**-2.0**
KURK							09 30 15.8	
KURK	**Kurchatov**	**46.61**	**304**	*e*P		**P**	**09 28 41.0**	**-2.0**
KURBB	**Kurchatov Arra**	**46.70**	**304**	P		**P**	**09 28 41.0**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=75,slow=8.7,SNR=3.8							
KURBB				PcP		**PcP**	**09 30 15.8**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=86,slow=2.9,SNR=2.7							
RES	**Resolute Bay**	**54.05**	**17**	P		**P**	**09 29 37.0**	**-1.9**
	comp=Z,1.6nm,0.7s,baz=312,slow=9.3,SNR=5.4							
YKA	**Yellowknife Ar**	**54.51**	**35**	P		**P**	**09 29 42.4**	**0.0**
	comp=Z,1.0nm,0.8s,baz=301,slow=6.7,SNR=9.4							
BATI	**Baumata**	**58.98**	**210**	LR		LR	09 55 56.6	
	comp=Z,148nm,21.1s,baz=208,slow=36							
NVAR	**Mina Array Bea**	**65.95**	**59**	P		**P**	**09 31 02.4**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=294,slow=7.8,SNR=3.0							
DZM	**Mont Dzumac**	**67.78**	**163**	LR		LR	09 55 38.0	
	comp=Z,259nm,20.7s,baz=146,slow=31							
NOA	**NORSAR Array B**	**69.75**	**340**	P		**P**	**09 31 22.6**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=28,slow=6.5,SNR=2.6							
TXAR	**Lajitas Array**	**81.04**	**58**	P		**P**	**09 32 30.9**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=289,slow=5.4,SNR=3.6							

*IDC **09** 09:23:13.6±0.7, 32°.98N×98°.03W, h0km, mb4.0/8, mb1 4.1/16, mb1mx3.9/59, mbtmp3.9/16, ML3.7/8, MS4.0/4, Ms1 4.0/4, ms1mx3.1/53, Error ellipse: s-maj=14.8km s-min=12.6km az=157.0*

*NEIC **09** 09:23:14.3±1.7, 32°.96N±0°.02×98°.06W±0°.04, h5km±2km, mb_Lg3.7/69*

*ANF **09** 09:23:14.5±0.3, 32°.96N×98°.05W, h5km, ML4.6/15, Error ellipse: s-maj=3.7km s-min=3.2km az=45.0*

ISC 09 09:23:13.9±1.6, 32°.97N±0°.03×98°.04W±0°.03, h4km±11km, n121, σ1°11/137, mb3.9/7, MS4.3/3, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTX	**Lake Whitney,**	**1.10**	**153**	P	**Pg**	**09 23 35.2**	**+0.2**
	baz=332						
WHTX				S	**Sb**	**09 23 50.5**	**+0.5**
	baz=332						
WHTX	**Lake Whitney,**	**1.10**	**153**		**Pg**	**09 23 35.1**	**+0.2**
WHTX				Sg	**Sb**	**09 23 50.2**	**+0.2**
ABTX	**Abilene, Hawle**	**1.39**	**256**	P	**Pn**	**09 23 40.3**	**+0.2**
	baz=76						
ABTX				S	**Sb**	**09 23 57.9**	**-0.7**
	baz=76						
ABTX	**Abilene, Hawle**	**1.39**	**256**		**Pn**	**09 23 40.1**	**0.0**
ABTX					**Sb**	**09 23 58.2**	**-0.5**
ABTX				IAmb_Lg		09 24 00.5	
	comp=Z,375nm,0.7s						
X34A	**Smith Ranch, M**	**1.63**	**6**		**Pn**	**09 23 44.0**	**+0.5**
X34A				IAmb_Lg		09 24 06.6	
	comp=Z,290nm,0.8s						
X34A				Sn	**Sb**	**09 24 06.0**	**+0.4**
WMOK	**Wichita Mounta**	**1.87**	**341**	P	**Pn**	**09 23 47.0**	**+0.4**
	baz=161						
WMOK				S	**Sn**	**09 24 11.0**	**+0.4**
	baz=161						
WMOK	**Wichita Mounta**	**1.87**	**341**		**Pn**	**09 23 46.6**	**-0.1**
WMOK				Sn	**Sn**	**09 24 11.1**	**+0.4**
435B	**Jarrell**	**2.22**	**170**	Pb	**Pb**	**09 23 54.6**	**+0.1**
	baz=350						
435B				S	**Sb**	**09 24 21.0**	**-1.3**
	baz=350						
435B	**Jarrell**	**2.22**	**170**		**Pn**	**09 23 52.9**	**+1.4**
435B				Sn	**Sb**	**09 24 21.2**	**-1.1**
FNO	**Franklin**	**2.34**	**13**		**Pn**	**09 23 55.3**	**+2.2**
W35A	**Tecumseh**	**2.38**	**24**		**Pn**	**09 23 55.2**	**+1.5**
W35A				Sn	**Sb**	**09 24 26.1**	**-1.0**
OKCSW	**OKLAHOMA CITY**	**2.48**	**11**		**Pn**	**09 23 56.6**	**+1.5**
OKCSW				Sn	**Sb**	**09 24 29.1**	**-0.8**
ADOK	**Arcadia Dam**	**2.73**	**12**	Pn	**Pn**	**09 24 00.0**	**+1.5**
ADOK					**Sb**	**09 24 37.6**	**+0.4**
JCT	**Junction City**	**2.90**	**212**	P	**Pn**	**09 24 01.3**	**+0.4**
	baz=30						
JCT				S	**Sn**	**09 24 37.5**	**+1.3**
	baz=30						
JCT	**Junction City**	**2.90**	**212**		**Pn**	**09 24 01.3**	**+0.4**
NATX	**Nacogdoches**	**3.11**	**112**	P	**Pn**	**09 24 04.3**	**+0.7**
	baz=294						
NATX				S	**Sn**	**09 24 42.9**	**+1.7**
	baz=294						
NATX	**Nacogdoches**	**3.11**	**112**		**Pn**	**09 24 04.9**	**+1.3**
NATX				IAmb_Lg		09 24 58.7	
	comp=Z,287nm,0.7s						
TUL1	**Leonard**	**3.47**	**32**	P	**Pn**	**09 24 09.2**	**+0.6**
	baz=213						
TUL1				S	**Sn**	**09 24 51.1**	**+0.9**
	baz=213						
TUL1	**Leonard**	**3.47**	**32**		**Pn**	**09 24 09.3**	**+0.6**
TUL1				IAmb_Lg		09 25 06.6	
	comp=Z,316nm,1.2s						
U32A	**Winter Ranch,**	**3.49**	**347**		**Pn**	**09 24 09.4**	**+0.4**
U32A				IAmb_Lg		09 25 11.3	
	comp=Z,352nm,0.9s						
HKT	**Hockley**	**3.56**	**147**		**Pn**	**09 24 11.1**	**+1.3**
AMTX	**Amarillo**	**3.58**	**303**	P	**Pn**	**09 24 11.5**	**+1.2**
	baz=122						
AMTX				S	**Sn**	**09 24 54.1**	**+1.2**
	baz=122						
AMTX	**Amarillo**	**3.58**	**303**		**Pn**	**09 24 11.4**	**+1.2**
MIAR	**Mount Ida**	**4.04**	**66**	P	**Pn**	**09 24 17.2**	**+0.7**
	baz=248						
MIAR				S	**Sn**	**09 25 05.9**	**+1.7**
	baz=248						
MIAR	**Mount Ida**	**4.04**	**66**		**Pn**	**09 24 17.0**	**+0.5**
MIAR				IAmb_Lg		09 25 31.6	
	comp=Z,130nm,0.8s						
MSTX	**Muleshoe**	**4.08**	**285**	P	**Pn**	**09 24 18.0**	**+0.9**
	baz=103						
MSTX				S	**Sn**	**09 25 05.3**	**0.0**
	baz=103						
MSTX	**Muleshoe**	**4.08**	**285**		**Pn**	**09 24 17.9**	**+0.8**
W39A	**Magazine**	**4.17**	**57**	P	**Pn**	**09 24 19.3**	**+1.0**
	baz=239						
W39A	**Magazine**	**4.17**	**57**		**Pn**	**09 24 19.8**	**+1.5**
W39A				IAmb_Lg		09 25 39.7	
	comp=Z,165nm,0.9s						
Z41A	**Richland Creek**	**4.41**	**85**	P	**Pn**	**09 24 22.2**	**+0.6**
	baz=268						
Z41A				S	**Sn**	**09 25 13.0**	**-0.2**
	baz=268						
Z41A	**Richland Creek**	**4.41**	**85**		**Pn**	**09 24 22.1**	**+0.6**
Z41A				IAmb_Lg		09 25 40.7	
	comp=Z,179nm,1.2s						
X40A	**Basin Creek Fa**	**4.59**	**69**	P	**Pn**	**09 24 23.9**	**-0.2**
	baz=252						
X40A	**Basin Creek Fa**	**4.59**	**69**		**Pn**	**09 24 23.8**	**-0.4**
HHAR	**Hobbs**	**4.73**	**45**		**Pn**	**09 24 25.9**	**-0.1**
HHAR				Sn	**Sn**	**09 25 21.0**	**-0.2**
HHAR				IAmb_Lg		09 25 44.4	
	comp=Z,154nm,1.0s						
833A	**Chaparral WMA,**	**4.78**	**194**	P	**Pn**	**09 24 27.7**	**+1.0**
	baz=14						
833A				S	**Sn**	**09 25 22.8**	**+0.3**
	baz=14						
833A	**Chaparral WMA,**	**4.78**	**194**		**Pn**	**09 24 27.6**	**+0.9**
833A				Sn	**Sn**	**09 25 21.1**	**-1.3**
CPRX	**Cap Rock**	**4.89**	**272**		**Pn**	**09 24 28.7**	**+0.3**
CLNB	**Carlsbad**	**4.98**	**263**		**Pn**	**09 24 29.8**	**+0.3**
UALR	**University of**	**5.07**	**68**		**Pn**	**09 24 31.1**	**+0.5**
W41B	**Gary Mavity, V**	**5.29**	**64**	P	**Pn**	**09 24 34.2**	**+0.5**
	baz=247						
W41B				S	**Sn**	**09 25 35.7**	**+0.7**
	baz=247						
W41B	**Gary Mavity, V**	**5.29**	**64**		**Pn**	**09 24 34.0**	**+0.4**
WHAR	**Wooly Hollow**	**5.30**	**63**		**Pn**	**09 24 34.6**	**+0.7**
WHAR				Sn	**Sn**	**09 25 35.9**	**+0.5**
CCAR	**Cane Creek**	**5.33**	**78**		**Pn**	**09 24 35.3**	**+1.1**
CCAR				IAmb_Lg		09 26 09.4	
	comp=Z,110nm,0.9s						
GDL2	**Guadalupe Moun**	**5.39**	**264**	Pn	**Pn**	**09 24 35.1**	**-0.1**
KVTX	**Kingsville**	**5.41**	**179**	IAmb_Lg		09 26 20.1	
	comp=Z,90nm,0.9s						
U40A	**Yellville**	**5.45**	**50**	P	**Pn**	**09 24 36.1**	**+0.2**
	baz=233						
U40A	**Yellville**	**5.45**	**50**		**Pn**	**09 24 36.1**	**+0.2**
U40A				IAmb_Lg		09 26 19.4	
	comp=Z,81nm,0.8s						
CBKS	**Cedar Bluff**	**5.99**	**347**	P	**Pn**	**09 24 43.7**	**+0.4**
	baz=166						
CBKS	**Cedar Bluff**	**5.99**	**347**		**Pn**	**09 24 43.4**	**+0.1**
CBKS				IAmb_Lg		09 26 26.3	
	comp=Z,123nm,0.7s						
TX31	**Lajitas Ar. Si**	**6.03**	**235**		**Pn**	**09 24 43.2**	**-0.8**
TXAR	**Lajitas Array**	**6.03**	**235**	Pn	**Pn**	**09 24 43.6**	**-0.4**
	comp=Z,3.3nm,0.3s,baz=62,slow=12,SNR=205						
TXAR				Lg	Lg	09 26 21.4	
	comp=Z,9.7nm,0.3s,baz=48,slow=19,SNR=5.0						
TX32	**Lajitas Array**	**6.03**	**235**		**Pn**	**09 24 43.5**	**-0.5**
X43A	**Marvell**	**6.16**	**74**	P	**Pn**	**09 24 45.8**	**+0.2**
	baz=257						
X43A				S	**Sn**	**09 25 56.8**	**+0.3**
	baz=257						
X43A	**Marvell**	**6.16**	**74**		**Pn**	**09 24 45.9**	**+0.3**
X43A					**Sn**	**09 25 56.4**	**-0.1**
KSU1	**Kansas State U**	**6.22**	**10**	P	**Pn**	**09 24 46.6**	**0.0**
	baz=191						
MGMO	**Montain Grove**	**6.31**	**47**	IAmb_Lg		09 26 41.5	
	comp=Z,102nm,0.8s						
MNTX	**Cornudas Mount**	**6.34**	**260**	P	**Pn**	**09 24 48.1**	**0.0**
	baz=77						
MNTX				S	**Sn**	**09 25 60.0**	**-1.1**
	baz=77						
MNTX	**Cornudas Mount**	**6.34**	**260**		**Pn**	**09 24 48.3**	**+0.2**
VBMS	**Vicksburg**	**6.39**	**95**	Pn	**Pn**	**09 24 49.9**	**+1.1**
KSCO	**Kaye Shedlock'**	**7.08**	**330**	Pn	**Pn**	**09 24 58.6**	**+0.2**
KSCO				IAmb_Lg		09 27 17.4	
	comp=Z,134nm,0.7s						
BNM	**Barren Site**	**7.26**	**282**		**Pn**	**09 25 01.0**	**0.0**
ANMO	**Albuquerque**	**7.26**	**288**	Pn	**Pn**	**09 25 01.5**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=122,slow=14,SNR=6.8						
ANMO				Lg	Lg	09 26 58.3	
	comp=Z,21nm,0.3s,baz=331,slow=14,SNR=9.3						
ANMO	**Albuquerque**	**7.26**	**288**		**Pn**	**09 25 01.3**	**+0.3**
LPM	**Los Pinos Moun**	**7.29**	**283**		**Pn**	**09 25 02.0**	**+0.7**
PBMO	**Poplar Bluff**	**7.32**	**57**	Sn	**Sn**	**09 26 20.9**	**-4.0**
PBMO				IAmb_Lg		09 27 15.7	
	comp=Z,67nm,0.9s						
OXF	**Oxford**	**7.35**	**76**	Pn	**Pn**	**09 25 02.5**	**+0.5**
OXF				IAmb_Lg		09 27 28.6	
	comp=Z,63nm,1.1s						
CCM	**Cathedral Cave**	**7.51**	**46**		**Pn**	**09 25 04.4**	**+0.2**
CCM				IAmb_Lg		09 27 17.9	
	comp=Z,77nm,0.8s						
PVMO	**Portageville**	**7.68**	**61**	IAmb_Lg		09 27 40.3	
	comp=Z,90nm,0.9s						
SDCO	**Great Sand Dun**	**7.73**	**310**		**Pn**	**09 25 08.4**	**+0.9**
SDCO				IAmb_Lg		09 27 21.2	
	comp=Z,102nm,0.9s						
121A	**Cookes Peak, D**	**8.22**	**270**	Pn	**Pn**	**09 25 13.4**	**-0.6**
121A				IAmb_Lg		09 27 57.5	
	comp=Z,131nm,0.8s						
BGNE	**Belgrade**	**8.42**	**359**		**Pn**	**09 25 15.7**	**-1.0**
SLM	**Saint Louis**	**8.49**	**46**	IAmb_Lg		09 27 48.6	
	comp=Z,60nm,0.8s						
PLAL	**Pickwick Lake**	**8.52**	**74**	Pn	**Pn**	**09 25 17.6**	**-0.4**
S22A	**4UR Ranch, Cre**	**8.61**	**306**		**Pn**	**09 25 20.8**	**+1.2**
S22A				IAmb_Lg		09 28 01.4	
	comp=Z,58nm,1.0s						
SIUC	**Southern Illin**	**8.62**	**54**	Pn	**Pn**	**09 25 19.8**	**+0.4**
SIUC				IAmb_Lg		09 27 54.9	
	comp=Z,64nm,0.8s						
WVT	**Waverly**	**8.99**	**67**		**Pn**	**09 25 23.9**	**-0.6**
ISCO	**Idaho Springs**	**9.14**	**320**		**Pn**	**09 25 27.4**	**+0.5**
ISCO				IAmb_Lg		09 28 14.2	
	comp=Z,83nm,0.8s						
LRAL	**Lakeview Retre**	**9.28**	**87**	Pn	**Pn**	**09 25 30.4**	**+1.9**
SMCO	**Snowmass**	**9.52**	**313**	IAmb_Lg		09 28 30.9	
	comp=Z,41nm,1.2s						
MVCO	**Mesa Verde**	**9.55**	**299**	Pn	**Pn**	**09 25 35.3**	**+2.9**
MVCO				IAmb_Lg		09 28 22.6	
	comp=Z,45nm,0.8s						
P43A	**Skaggs, Pawnee**	**9.56**	**44**	IAmb_Lg		09 28 24.3	
	comp=Z,95nm,1.0s						
N41A	**Harden Midland**	**9.63**	**35**	Pn	**Pn**	**09 25 32.4**	**-0.9**
N41A				IAmb_Lg		09 28 17.7	
	comp=Z,117nm,0.8s						
319A	**Douglas**	**9.66**	**264**	IAmb_Lg		09 28 46.3	
	comp=Z,75nm,0.9s						
SCIA	**State Center**	**9.71**	**22**	IAmb_Lg		09 28 26.0	
	comp=Z,108nm,0.9s						
OLIL	**Olney**	**9.90**	**52**	IAmb_Lg		09 28 55.6	
	comp=Z,57nm,1.0s						
N23A	**Red Feather La**	**10.12**	**324**		**Pn**	**09 25 41.0**	**+0.8**
Z50A	**Ashland**	**10.17**	**85**	Pn	**Pn**	**09 25 41.3**	**+0.6**
PHWY	**Pilot Hill**	**10.20**	**327**	Pn	**Pn**	**09 25 40.9**	**-0.4**
HDIL	**Hopedale**	**10.32**	**40**		**Pn**	**09 25 41.4**	**-1.3**
O44A	**Mansfield**	**10.51**	**44**	Pn	**Pn**	**09 25 44.3**	**-1.1**
L40A	**Anamosa**	**10.56**	**29**	Pn	**Pn**	**09 25 45.1**	**-1.0**
BLO	**Bloomington**	**11.18**	**53**	Pn	**Pn**	**09 25 55.0**	**+0.4**
L42A	**Oliver, Polo**	**11.20**	**34**	Pn	**Pn**	**09 25 52.8**	**-1.9**
CPCT	**Cooper Cave**	**11.46**	**74**	Pn	**Pn**	**09 25 59.6**	**+1.2**
SFIN	**Lafayette**	**11.48**	**47**	Pn	**Pn**	**09 25 57.4**	**-1.1**
JFWS	**Jewell Farm**	**11.67**	**30**	Pn	**Pn**	**09 26 00.0**	**-1.2**
K22A	**Casper**	**11.75**	**328**		**Pn**	**09 26 02.8**	**+0.3**
TKL	**Tuckaleechee C**	**12.10**	**73**	Pn	**Pn**	**09 26 04.3**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=204,slow=18,SNR=2.1						
N47A	**Urbana**	**12.64**	**48**	Pn	**Pn**	**09 26 12.2**	**-2.1**
SPMN	**Marine on St.**	**12.89**	**17**	Pn	**Pn**	**09 26 14.8**	**-3.0**
PDAR	**Pinedale Array**	**13.34**	**320**	Pn	**Pn**	**09 26 25.4**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=113,slow=14,SNR=2.1						
PDAR				Lg	Lg	09 30 10.1	
	comp=Z,0.5nm,0.3s,baz=105,slow=35,SNR=4.1						
PDAR				LR	LR	09 32 07.4	
	comp=Z,113nm,20.4s,baz=190,slow=40						
G40A	**Rib Lake**	**13.70**	**24**	Pn	**Pn**	**09 26 25.3**	**-3.5**
TEIG	**Tepich**	**15.39**	**143**	Pn	**Pn**	**09 26 53.6**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=136,slow=3.5,SNR=8.5						
ELK	**Elko**	**15.78**	**304**	Pn	**Pn**	**09 26 58.6**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=86,slow=13,SNR=1.8						
E43A	**Lone Tree Farm**	**15.84**	**29**	Pn	**Pn**	**09 26 53.7**	**-3.9**
CMIG	**Matias Romero**	**16.07**	**169**	Pn	**Pn**	**09 27 01.4**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=347,slow=13,SNR=9.7						
NVAR	**Mina Array Bea**	**17.32**	**294**	P	**Pn**	**09 27 17.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=108,slow=12,SNR=5.8						
MOD	**Modoc Plateau**	**19.75**	**303**	P	**P**	**09 27 44.3**	**-0.6**
NEW	**Newport**	**20.96**	**322**	P	**P**	**09 27 58.2**	**+0.3**
	comp=Z,6.6nm,0.8s,baz=139,slow=11,SNR=17						
ESPN	**Las Esperanzas**	**24.21**	**146**	P	**P**	**09 28 32.6**	**+0.9**
YKA	**Yellowknife Ar**	**31.37**	**345**	P	**P**	**09 29 35.5**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=148,slow=8.5,SNR=11						
INK	**Inuvik**	**40.77**	**341**	P	**P**	**09 30 56.9**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=129,slow=11,SNR=3.1						
ILAR	**Eielson Array**	**43.41**	**332**	P	**P**	**09 31 17.9**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=122,slow=6.5,SNR=24						
ARCES	**ARCESS Array B**	**69.90**	**18**	P	**P**	**09 34 25.5**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=316,slow=6.3,SNR=6.3						
FINES	**FINESS Array B**	**75.61**	**24**	P	**P**	**09 34 59.8**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=299,slow=3.9,SNR=6.8						
FINES				LR	LR	10 08 50.2	
	comp=Z,128nm,20.2s,baz=208,slow=36						
PLCA	**Paso Flores**	**77.61**	**159**	P	**P**	**09 35 11.7**	**+0.6**
	comp=Z,1.3nm,1.0s,baz=322,slow=7.5,SNR=3.5						
AKASG	**Malin Array Be**	**84.59**	**31**	P	**P**	**09 35 47.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=310,slow=4.2,SNR=5.4						
ARU	**Arti**	**88.75**	**13**	LR	LR	10 18 33.6	
	comp=Z,270nm,21.4s,baz=200,slow=37						
ZALV	**Zalesovo Beam**	**93.40**	**358**	LR	LR	10 21 20.1	
	comp=Z,108nm,18.9s,baz=233,slow=37						
WRA	**Warramunga Arr**	**131.79**	**272**	PKP	**PKPdf**	**09 42 29.4**	**+0.6**
	comp=Z,0.3nm,0.9s,baz=56,slow=1.7,SNR=2.8						
ASAR	**Alice Springs**	**133.73**	**268**	PKP	**PKPdf**	**09 42 33.3**	**+0.9**
	comp=Z,0.5nm,1.0s,baz=66,slow=4.5,SNR=3.5						

*IDC **09** 09:34:14.1±4.9, 54°.07N×165°.38W, h37km±37km, mb3.4/8, mb1 3.6/10, mb1mx3.4/58, mbtmp3.6/10, ML2.9/1, Error ellipse: s-maj=42.9km s-min=21.4km az=179.0*

*ISCJB **09** 09:34:17.3±0.5, 54°.01N±0°.08×165°.37W±0°.08, h85km±3km, mb3.5/7, Error ellipse: s-maj=15.4km s-min=4.2km az=152.5*

*NEIC **09** 09:34:17.1±1.6, 53°.84N±0°.09×165°.28W±0°.10, h77km±9km*

*AEIC **09** 09:34:18.1±2.3, 53°.92N±0°.10×165°.30W±0°.08, h67km±6km, ML3.5*

ISC 09 09:34:17.5±0.9, 53°.9N±0°.1×165°.30W±0°.06, h76km±7km, n63, σ1°39/66, mb3.6/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**0.34**	**306**		**Pn**	**09 34 29.8**	**+0.2**
AKUT					**Sn**	**09 34 39.1**	**+0.7**
AKBBA	**Akutan Broad B**	**0.41**	**294**		**Pn**	**09 34 29.3**	**-0.8**
AKBBA					**Sn**	**09 34 38.7**	**-0.6**
AKMO	**Akutan Morgan**	**0.45**	**291**		**Pn**	**09 34 30.6**	**+0.2**
AKMO					**Sn**	**09 34 40.3**	**+0.5**
AKLV	**Akutan Long Va**	**0.45**	**301**		**Pn**	**09 34 30.7**	**+0.3**
AKLV					**Sn**	**09 34 40.2**	**+0.3**
AKGG	**Akutan Green G**	**0.48**	**303**		**Pn**	**09 34 31.2**	**+0.5**
AKGG					**Sn**	**09 34 41.2**	**+0.8**
AKRB	**Akutan Reef Bi**	**0.49**	**294**		**Pn**	**09 34 31.1**	**+0.3**
AKRB					**Sn**	**09 34 40.8**	**+0.2**
UNV	**Unalaska Valle**	**0.72**	**263**		**Pn**	**09 34 32.0**	**+0.3**
UNV	**Unalaska Valle**	**0.72**	**263**		**Sn**	**09 34 44.3**	**-0.1**
UNV	**Unalaska Valle**	**0.72**	**263**		**Sn**	**09 34 43.3**	**-1.1**
WEBT	**Westdahl Beart**	**0.73**	**26**		**Pn**	**09 34 33.9**	**+0.7**
MTBL	**Makushin Table**	**0.81**	**273**		**Pn**	**09 34 34.7**	**+0.6**
MNAT	**Makushin Natee**	**0.82**	**267**		**Pn**	**09 34 34.6**	**+0.4**
MREP	**Makushin Rep't**	**0.86**	**262**		**Pn**	**09 34 35.4**	**+0.7**
MSW	**Makushin Switc**

IDC 09 09:51:05.6±3.8, 19.47N×145.59E, h149km±39km, mb3.3/5, mb1 3.7/6, mb1mx3.3/43, mbtmp3.8/6, Error ellipse: s-maj=38.7km s-min=23.8km az=94.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.88**	**187**	P	Pn	09 52 31.1	+0.3
	6.4nm,0.3s,baz=14,slow=18,SNR=4.3						
KSRS	**Korea Array**	**23.64**	**323**	P	P	09 56 03.5	+0.2
	1.2nm,0.5s,baz=153,slow=8.6,SNR=6.2						
WRA	**Warramunga Arr**	**40.69**	**196**	P	P	09 58 31.2	-0.4
	0.4nm,0.5s,baz=23,slow=8.7,SNR=7.1						
ILAR	**Eielson Array**	**63.01**	**26**	P	P	10 01 15.1	-1.3
	0.5nm,0.9s,baz=252,slow=5.5,SNR=4.8						
YKA	**Yellowknife Ar**	**77.36**	**28**	P	P	10 02 44.1	+0.4
	0.7nm,0.6s,baz=289,slow=5.5,SNR=13						
NVAR	**Mina Array Bea**	**82.75**	**52**	P	P	10 03 14.2	+0.7
	1.3nm,0.7s,baz=266,slow=5.8,SNR=9.4						

*ISCJB **09** 09:51:10.6±0.6, 36.66N±0.03×26.53E±0.03, h5km±5km, Error ellipse: s-maj=5.1km s-min=3.3km az=168.5*
*ATH **09** 09:51:10.7, 36.67N×26.54E, h16km±2km, ML2.2/5, Error ellipse: s-maj=2.5km s-min=1.0km az=338.0*
*ISK **09** 09:51:10.4, 36.64N×26.52E, h15km, ML2.5/8*
*THE **09** 09:51:11.6, 36.70N×26.49E, h5km±3km, ML2.1/4, Error ellipse: s-maj=3.4km s-min=0.8km az=337.0*

ISC 09 09:51:11.0±1.1, 36.67N±0.03×26.51E±0.02, h18km±5km, n32, σ0.44/49, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	**0.50**	**97**	P	**Pg**	**09 51 20.7**	**-0.4**
AMGA	**Amorgos Island**	**0.52**	**288**	P	**Pg**	**09 51 21.3**	**-0.2**
AMGA				S	**Sb**	**09 51 28.7**	**-0.1**
	245nm,0.3s						
AMGA	**Amorgos Island**	**0.52**	**288**	P	**Pb**	**09 51 21.4**	**-0.2**
AMGA				S	**Sg**	**09 51 28.6**	**+0.1**
AMGA				AML	AML	09 51 31.9	
	comp=E,510μm,0.3s						
AMGA				AML	AML	09 51 32.0	
	comp=N,717μm,0.2s						
BODT	**Bodrum**	**0.75**	**59**	P	**Pb**	**09 51 25.6**	**0.0**
BODT				S	**Sn**	**09 51 37.1**	**-0.6**
BODT	**Bodrum**	**0.75**	**59**	PG	**Pb**	**09 51 25.4**	**-0.2**
BODT				SG	**Sn**	**09 51 36.9**	**-0.8**
DAT	**Datca**	**0.86**	**86**	PG	**Pg**	**09 51 27.4**	**-0.4**
THR8	**Santorini-Mono**	**0.87**	**253**	P	**Pg**	**09 51 27.7**	**-0.3**
APE	**Apeiranthos**	**0.88**	**297**	P	**Pn**	**09 51 28.4**	**-0.1**
APE				S	**Sn**	**09 51 40.7**	**-0.2**
	comp=N,245nm,0.2s						
APE	**Apeiranthos**	**0.88**	**297**	P	**Pg**	**09 51 28.2**	**0.0**
APE				S	**Sn**	**09 51 40.7**	**-0.2**
APE				AML	AML	09 51 42.6	
	comp=N,585μm,0.2s						
APE				AML	AML	09 51 43.4	
	comp=E,382μm,0.2s						
APE	**Apeiranthos**	**0.88**	**297**	PG	**Pn**	**09 51 28.5**	**-0.1**
APE				SG	**Sn**	**09 51 41.1**	**+0.2**
SANT	**Santorini**	**0.90**	**251**	P	**Pg**	**09 51 28.3**	**-0.2**
SANT				S	**Sn**	**09 51 41.6**	**+0.2**
SANT				AML	AML	09 51 42.7	
	comp=N,187μm,0.3s						
SANT				AML	AML	09 51 43.6	
	comp=E,335μm,0.3s						
SANT	**Santorini**	**0.90**	**251**	PG	**Pg**	**09 51 28.3**	**-0.2**
SANT				SG	**Sg**	**09 51 40.9**	**+0.5**
CMBO	**Columbo, Santo**	**0.91**	**257**	P	**Pb**	**09 51 28.1**	**-0.1**
THR3	**Thira Island,**	**0.93**	**254**	P	**Pn**	**09 51 29.1**	**-0.1**
THR3	**Thira Island,**	**0.93**	**254**	P	**Pn**	**09 51 29.2**	**0.0**
THR6	**Thira Island,**	**0.95**	**251**	P	**Pn**	**09 51 29.6**	**+0.1**
THR6	**Thira Island,**	**0.95**	**251**	P	**Pb**	**09 51 29.0**	**+0.1**
SAP1	**Santorini-Akro**	**0.95**	**251**	P	**Pn**	**09 51 29.5**	**+0.1**
THR5	**Thira Island,**	**0.97**	**255**	P	**Pn**	**09 51 30.0**	**+0.3**
THR5	**Thira Island,**	**0.97**	**255**	P	**Pb**	**09 51 29.2**	**-0.1**
IOSP	**Ios island**	**0.98**	**273**	P	**Pg**	**09 51 29.7**	**-0.4**
IOSP				S	**Sg**	**09 51 42.7**	**-0.3**
	comp=E,140nm,0.3s						
IOSP	**Ios island**	**0.98**	**273**	P	**Pg**	**09 51 29.7**	**-0.4**
IOSP				S	**Sn**	**09 51 43.7**	**+0.3**
IOSP				AML	AML	09 51 45.1	
	comp=E,281μm,0.3s						
IOSP				AML	AML	09 51 47.0	
	comp=N,323μm,0.2s						
SMG	**Samos**	**1.07**	**14**	P	**Pn**	**09 51 31.2**	**+0.1**
SMG				S	**Sn**	**09 51 46.1**	**+0.6**
	comp=N,105nm,0.2s						
SMG	**Samos**	**1.07**	**14**	P	**Pb**	**09 51 30.7**	**-0.2**
SMG				S	**Sg**	**09 51 45.3**	**-0.4**
SMG				AML	AML	09 51 49.0	
	comp=E,240μm,0.3s						
SMG				AML	AML	09 51 49.9	
	comp=N,176μm,0.2s						
GCAM	**G?zelcaml?**	**1.18**	**29**	PN	**Pg**	**09 51 33.6**	**-0.2**
GCAM				SN	**Sg**	**09 51 50.2**	**+1.0**
KARP	**Karpathos**	**1.24**	**155**	P	**Pb**	**09 51 33.8**	**-0.2**
KARP				S	**Sg**	**09 51 53.1**	**+1.8**
KARP	**Karpathos**	**1.24**	**155**	P	**Pb**	**09 51 33.8**	**-0.2**
KARP				S	**Sg**	**09 51 51.1**	**-0.2**
KARP	**Karpathos**	**1.24**	**155**	PN	**Pn**	**09 51 33.4**	**-0.1**
YER	**Yerkesik**	**1.49**	**72**	PN	**Pn**	**09 51 37.2**	**+0.2**
ZKR	**Zakros**	**1.57**	**189**	P	**Pb**	**09 51 39.4**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.68**	**41**	PN	**Pn**	**09 51 40.4**	**+0.7**
SERI	**Serifos**	**1.69**	**287**	P	**Pb**	**09 51 42.3**	**+0.6**
SERI				S	**Sg**	**09 52 05.2**	**-0.4**

*IDC **09** 09:58:05.7±4.1, 19.96S×170.09E, h0km, mb4.2/4, mb1 4.4/5, mb1mx3.9/32, mbtmp4.1/5, ML2.8/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/39, Error ellipse: s-maj=144.3km s-min=29.1km az=141.0*
*ISCJB **09** 09:58:08.4±1.0, 20.05S±0.1×170.1E±0.1, h30km, mb4.0/4, MS3.5/3, Error ellipse: s-maj=21.4km s-min=12.5km az=147.2*
*NEIC **09** 09:58:09.8±1.4, 20.05S±0.1×170.0E±0.2, h24km±9km, mb4.3/3*

ISC 09 09:58:10.0±1.3, 20.05S±0.2×170.2E±0.1, h30km, n12, σ0.71/10, mb4.2/6, MS3.6/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.01**	**239**	Pn	**Pn**	**09 59 08.6**	**-0.9**
	0.6nm,0.3s,baz=100,slow=12,SNR=44						
DZM				Sn	**Sn**	**09 59 56.2**	**+0.7**
	2.4nm,0.3s,baz=75,slow=20,SNR=2.7						
DZM	**Mont Dzumac**	**4.01**	**239**		**Sn**	**09 59 56.0**	**+0.4**
AFI	**Afiamalu**	**18.32**	**73**	LR	LR	10 08 02.7	
	comp=Z,99nm,19.7s,baz=326,slow=32						
BKZ	**Black Stump Fm**	**19.84**	**165**	P	**Pn**	**10 02 40.1**	**0.0**
BKZ				IAmb	IAmb	10 02 48.9	
	comp=Z,20nm,1.3s						
STKA	**Stephens Creek**	**28.16**	**239**	LR	LR	10 15 22.9	
	comp=Z,69nm,20.5s,baz=23,slow=37						
WR0	**Warramunga Arr**	**33.42**	**264**	P	**P**	**10 04 46.7**	**+0.3**
WR0				IAmb	IAmb	10 04 49.6	
	comp=Z,4.0nm,1.2s						
WRA	**Warramunga Arr**	**33.61**	**264**	P	**P**	**10 04 47.1**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=99,slow=8.5,SNR=9.8						
AS31	**Alice Springs**	**33.78**	**257**	P	**P**	**10 04 50.4**	**+0.9**
AS31				IAmb	IAmb	10 04 56.3	
	comp=Z,2.3nm,0.6s						
ASAR	**Alice Springs**	**33.78**	**257**	P	**P**	**10 04 49.9**	**+0.4**
	comp=Z,4.6nm,0.6s,baz=86,slow=9.1,SNR=62						
ASAR				LR	LR	10 18 03.5	
	comp=Z,107nm,19.1s,baz=54,slow=36						
NWAO	**Narrogin (SRO)**	**48.62**	**243**	LR	LR	10 27 49.5	
	comp=Z,92nm,18.3s,baz=176,slow=37						
CMAR	**Chiang Mai Arr**	**79.61**	**294**	P	**P**	**10 10 14.8**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=151,slow=5.3,SNR=5.0						
ILAR	**Eielson Array**	**90.74**	**17**	P	**P**	**10 11 09.8**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=230,slow=5.4,SNR=4.3						

*NNC **09** 09:58:18.2±0.3, 43.19N×78.27E, h0km, mb3.5, mpv3.6, Error ellipse: s-maj=3.7km s-min=1.5km az=177.0*
*KRNET **09** 09:58:18.8±0.1, 43.19N×78.27E, h18km, mb3.4*
*ISCJB **09** 09:58:19.5±0.3, 43.20N±0.02×78.31E±0.02, h10km, Error ellipse: s-maj=2.7km s-min=1.9km az=167.3*
*SOME **09** 09:58:19.0, 43.18N×78.28E, h10km*

ISC 09 09:58:19.5±0.7, 43.20N±0.02×78.26E±0.01, h10km, n85, σ1.38/155, 58C-41D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZHN	**Zhinishke**	**0.13**	**102**	⇑*iP*	**Pg**	**09 58 21.6**	**-1.1**
	622nm,0.1s						
ZHN				⇑*iS*	**Sg**	**09 58 23.6**	**-1.3**
	4μm,0.1s						
ZHN	**Zhinishke**	**0.13**	**102**	⇑*iP*	**Pg**	**09 58 21.6**	**-1.1**
	baz=2.0						
ZHN				⇑*iS*	**Sg**	**09 58 23.6**	**-1.3**
	baz=2.0						
ZHN	**Zhinishke**	**0.13**	**102**	P	**Pg**	**09 58 21.6**	**-1.1**
	622nm,0.1s						
ZHN				S	**Sg**	**09 58 23.6**	**-1.3**
	4μm,0.1s						
SATY	**Saty**	**0.17**	**142**	⇓*iP*	**Pg**	**09 58 22.6**	**-0.8**
	967nm,0.1s						
SATY				⇑*iS*	**Sg**	**09 58 25.1**	**-0.9**
	3μm,0.1s						
SATY	**Saty**	**0.17**	**142**	P	**Pg**	**09 58 22.6**	**-0.8**
	967nm,0.1s						
SATY				S	**Sg**	**09 58 25.1**	**-0.9**
	3μm,0.1s						
KURS	**Kuram**	**0.30**	**347**	⇓*iP*	**Pg**	**09 58 25.1**	**-0.5**
	80nm,0.1s						
KURS				⇓*iS*	**Sg**	**09 58 29.4**	**-0.3**
	43nm,0.3s						
KURS	**Kuram**	**0.30**	**347**	⇓*iP*	**Pg**	**09 58 25.1**	**-0.5**
	baz=45						
KURS				⇓*iS*	**Sg**	**09 58 29.4**	**-0.3**
	baz=45						
KURS	**Kuram**	**0.30**	**347**	P	**Pg**	**09 58 25.1**	**-0.5**
	80nm,0.1s						
KURS				S	**Sg**	**09 58 29.4**	**-0.3**
	43nm,0.2s						
KPKS	**Kokpek**	**0.41**	**49**	⇑*iP*	**Pg**	**09 58 26.8**	**-0.9**
	229nm,0.1s						
KPKS				⇓*iS*	**Sg**	**09 58 32.4**	**-0.7**
	318nm,0.1s						
KPKS	**Kokpek**	**0.41**	**49**	⇑*iP*	**Pg**	**09 58 26.8**	**-0.9**
	baz=49						
KPKS				⇓*iS*	**Sg**	**09 58 32.4**	**-0.7**
	baz=49						
UZB	**Uzynbulak**	**0.56**	**95**	⇑*iP*	**Pg**	**09 58 29.3**	**-1.1**
	27nm,0.1s						
UZB				⇓*iS*	**Sg**	**09 58 36.5**	**-1.4**
	260nm,0.1s						
UZB	**Uzynbulak**	**0.56**	**95**	⇑*iP*	**Pg**	**09 58 29.3**	**-1.1**
	baz=95						
UZB				⇓*iS*	**Sg**	**09 58 36.5**	**-1.4**
	baz=95						
UZB	**Uzynbulak**	**0.56**	**95**	P	**Pg**	**09 58 29.3**	**-1.1**
	27nm,0.1s						
UZB				S	**Sg**	**09 58 36.5**	**-1.4**
	260nm,0.2s						
ANVS	**Anan'yevo**	**0.60**	**227**	⇑*iP*	**Pg**	**09 58 30.5**	**-0.7**
	baz=28						
ANVS				⇑*iS*	**Sg**	**09 58 38.8**	**-0.3**
	baz=28						
PRZ	**Przheval'sk**	**0.72**	**172**	⇓*eP*	**Pg**	**09 58 33.2**	**-0.3**
	baz=72						
PRZ				⇓*iS*	**Sg**	**09 58 43.0**	**+0.1**
	baz=72						
KOTS	**Kotyrbulak**	**0.84**	**273**	⇑*iP*	**Pg**	**09 58 35.2**	**-0.6**
	66nm,0.2s						
KOTS				⇓*iS*	**Sg**	**09 58 46.9**	**+0.1**
	100nm,0.3s						
KOTS	**Kotyrbulak**	**0.84**	**273**	⇑*iP*	**Pg**	**09 58 35.2**	**-0.6**
	baz=73						
KOTS				⇓*iS*	**Sg**	**09 58 46.9**	**+0.1**
	baz=73						
KOTS	**Kotyrbulak**	**0.84**	**273**	P	**Pg**	**09 58 35.2**	**-0.6**
	66nm,0.2s						
KOTS				S	**Sg**	**09 58 46.9**	**+0.1**
	100nm,0.3s						
SHLS	**Shalkode**	**0.88**	**92**	⇑*iP*	**Pn**	**09 58 41.0**	**+2.9**
	19nm,0.2s						
SHLS				⇑*iS*	**Sn**	**09 58 56.9**	**+5.9**
	56nm,0.3s						
SHLS	**Shalkode**	**0.88**	**92**	⇑*iP*	**Pn**	**09 58 41.0**	**+2.9**
	baz=91						
SHLS				⇑*iS*	**Sn**	**09 58 56.9**	**+5.9**
	baz=91						
SHLS	**Shalkode**	**0.88**	**92**	P	**Pn**	**09 58 41.0**	**+2.9**
	19nm,0.2s						
SHLS				S	**Sn**	**09 58 56.9**	**+5.9**
	56nm,0.3s						
MDOK	**Medeo**	**0.89**	**268**	⇓*iP*	**Pg**	**09 58 35.7**	**-1.0**
	21nm,0.2s						
MDOK				⇑*iS*	**Sg**	**09 58 47.7**	**-0.5**
	25nm,0.3s						
MDOK	**Medeo**	**0.89**	**268**	⇓*iP*	**Pg**	**09 58 35.7**	**-1.0**
	baz=69						
MDOK				⇑*iS*	**Sg**	**09 58 47.7**	**-0.5**
	baz=69						
MDOK	**Medeo**	**0.89**	**268**	⇑P	**Pg**	**09 58 35.6**	**-1.0**
	4.3nm,0.2s						
MDOK				S	**Sg**	**09 58 47.0**	**-1.3**
	19nm,0.6s						
MDOK	**Medeo**	**0.89**	**268**	Pg	**Pg**	**09 58 35.7**	**-1.0**
	21nm,0.2s						
MDOK				Lg	Lg	09 58 47.7	
	25nm,0.3s						
PDGK	**Podgornoye**	**0.91**	**81**	⇓P	**Pg**	**09 58 35.4**	**-1.6**
	3.4nm,0.2s						
PDGK				⇑S	**Sg**	**09 58 47.2**	**-1.7**
	19nm,0.3s						
TNSS	**Tian-Shan**	**0.97**	**261**	⇑*iP*	**Pg**	**09 58 37.3**	**-1.0**
	32nm,0.3s						
TNSS				⇓*iS*	**Sg**	**09 58 50.5**	**-0.5**
	36nm,0.3s						
TNSS	**Tian-Shan**	**0.97**	**261**	⇑*iP*	**Pg**	**09 58 37.3**	**-1.0**
	baz=61						
TNSS				⇓*iS*	**Sg**	**09 58 50.5**	**-0.5**
	baz=61						
TNSS	**Tian-Shan**	**0.97**	**261**	P	**Pg**	**09 58 37.3**	**-1.0**
	32nm,0.3s						
TNSS				S	**Sg**	**09 58 50.5**	**-0.5**
	36nm,0.3s						
AAA	**Alma-Ata**	**0.98**	**271**	*eP*	**Pg**	**09 58 38.0**	**-0.4**
	47nm,0.1s						
AAA				*eS*	**Sg**	**09 58 51.7**	**+0.4**
	45nm,0.2s						
AAA	**Alma-Ata**	**0.98**	**271**	*eP*	**Pg**	**09 58 38.0**	**-0.4**
	baz=71						
AAA				*eS*	**Sg**	**09 58 51.6**	**+0.4**
	baz=71						
AAA	**Alma-Ata**	**0.98**	**271**	P	**Pg**	**09 58 38.0**	**-0.4**
	47nm,0.2s						
AAA				S	**Sg**	**09 58 51.7**	**+0.4**
	54nm,0.3s						
ARXS	**Arharly**	**1.06**	**343**	⇓*iP*	**Pg**	**09 58 38.9**	**-1.2**
	14nm,0.5s						
ARXS				⇑*iS*	**Sg**	**09 58 53.1**	**-0.8**
	14nm,0.2s						
ARXS	**Arharly**	**1.06**	**343**	P	**Pg**	**09 58 38.8**	**-1.2**
	14nm,0.5s						
ARXS				S	**Sg**	**09 58 53.1**	**-0.8**
	14nm,0.2s						
CHKK	**Chushkaly**	**1.14**	**306**	⇓*iP*	**Pb**	**09 58 40.2**	**-1.1**
	8.0nm,0.3s						
CHKK				⇓*iS*	**Sb**	**09 58 55.3**	**-0.8**
	42nm,0.2s						
CHKK	**Chushkaly**	**1.14**	**306**	⇓*iP*	**Pb**	**09 58 40.2**	**-1.1**
	baz=6.0						
CHKK				⇓*iS*	**Sb**	**09 58 55.3**	**-0.8**
	baz=6.0						
IZV	**Izvestkoviy**	**1.22**	**263**	⇑*iP*	**Pn**	**09 58 41.7**	**-1.1**
	22nm,0.2s						
IZV				⇓*iS*	**Sb**	**09 58 57.9**	**-0.7**
	33nm,0.2s						
IZV	**Izvestkoviy**	**1.22**	**263**	⇑*iP*	**Pn**	**09 58 41.7**	**-1.1**
	baz=63						
IZV				⇓*iS*	**Sb**	**09 58 57.9**	**-0.7**
	baz=63						
KTBS	**Karatobe**	**1.26**	**295**	⇑*iP*	**Pn**	**09 58 42.7**	**-0.6**
	6.3nm,0.2s						
KTBS				*eS*	**Sb**	**09 58 59.6**	**-0.1**
	189nm,0.3s						
KTBS	**Karatobe**	**1.26**	**295**	P	**Pn**	**09 58 42.7**	**-0.6**
	6.3nm,0.2s						
KTBS				S	**Sb**	**09 58 59.6**	**-0.1**
	189nm,0.3s						
KDJ	**Kajisay**	**1.33**	**217**	⇑*iP*	**Pn**	**09 58 43.8**	**-0.5**
	baz=17						
KDJ				⇑*iS*	**Sb**	**09 59 01.3**	**-0.5**
	baz=17						
MTBS	**Maitube**	**1.34**	**268**	⇑*iP*	**Pn**	**09 58 44.4**	**0.0**
	14nm,0.1s						
MTBS				⇓*iS*	**Sn**	**09 59 02.7**	**+0.3**
	69nm,0.3s						
MTBS	**Maitube**	**1.34**	**268**	⇑*iP*	**Pn**	**09 58 44.4**	**0.0**
	baz=68						
MTBS				⇓*iS*	**Sn**	**09 59 02.7**	**+0.3**
	baz=68						
MTBS	**Maitube**	**1.34**	**268**	P	**Pn**	**09 58 44.4**	**0.0**
	14nm,0.1s						
MTBS				S	**Sn**	**09 59 02.7**	**+0.3**
	69nm,0.3s						
TARG	**Taragay, Kyrgy**	**1.50**	**193**	⇑*iP*	**Pn**	**09 58 46.9**	**0.0**
	baz=94						
TARG				⇑*iS*	**Sn**	**09 59 06.3**	**-0.5**
	baz=94						
KTMS	**Ketmen**	**1.55**	**80**	⇑*iP*	**Pn**	**09 58 46.8**	**-0.5**
	34nm,0.1s						
KTMS				⇓*iS*	**Sn**	**09 59 06.8**	**-0.7**
	36nm,0.2s						
KTMS	**Ketmen**	**1.55**	**80**	⇑*iP*	**Pn**	**09 58 46.8**	**-0.5**
	baz=79						
KTMS				⇓*iS*	**Sn**	**09 59 06.8**	**-0.7**
	baz=79						
KUU	**Kurty**	**1.56**	**297**	⇓*iP*	**Pn**	**09 58 47.7**	**+0.3**
	6.4nm,0.2s						
KUU				⇑*iS*	**Sb**	**09 59 08.2**	**-0.2**
	56nm,0.2s						
KUU	**Kurty**	**1.56**	**297**	⇓*iP*	**Pn**	**09 58 47.7**	**+0.3**
	baz=97						
KUU				⇑*iS*	**Sb**	**09 59 08.2**	**-0.2**
	baz=97						
DJR	**Jarkent**	**1.59**	**44**	⇓*iP*	**Pb**	**09 58 48.0**	**-1.1**
	3.4nm,0.1s						
DJR				⇓*iS*	**Sb**	**09 59 08.8**	**-0.4**
	32nm,0.2s						
DJR	**Jarkent**	**1.59**	**44**	P	**Pb**	**09 58 48.0**	**-1.1**
	3.4nm,0.1s						
DJR				S	**Sb**	**09 59 08.8**	**-0.4**
	32nm,0.2s						
KST	**Kastek**	**1.69**	**266**	*eP*	**Pb**	**09 58 50.0**	**-0.8**
	20nm,0.3s						
KST				*eS*	**Sb**	**09 59 12.4**	**+0.2**
	23nm,0.3s						
KST	**Kastek**	**1.69**	**266**	*eP*	**Pb**	**09 58 50.0**	**-0.8**
	baz=66						
KST				*eS*	**Sb**	**09 59 12.4**	**+0.2**
	baz=66						
KST	**Kastek**	**1.69**	**266**	P	**Pb**	**09 58 50.0**	**-0.8**
	20nm,0.3s						
KST				S	**Sb**	**09 59 12.4**	**+0.2**
	23nm,0.3s						
ULHL	**Ulahol**	**1.76**	**238**	⇑*iP*	**Pb**	**09 58 51.5**	**-0.6**
	baz=38						
ULHL				⇑*iS*	**Sb**	**09 59 14.8**	**+0.4**
	baz=38						
ULHL	**Ulahol**	**1.76**	**238**	P	**Pb**	**09 58 51.6**	**-0.6**
	SNR=23						
TDK	**Taldyqorghan**	**1.81**	**3**	*eP*	**Pb**	**09 58 52.6**	**-0.2**
	55nm,0.3s						
TDK				*eS*	**Sg**	**09 59 16.7**	**-1.0**
	84nm,0.8s						
TDK	**Taldyqorghan**	**1.81**	**3**	P	**Pb**	**09 58 52.6**	**-0.2**
	55nm,0.3s						
TDK				S	**Sg**	**09 59 16.7**	**-1.0**
	84nm,0.8s						
DGS	**Degeres**	**1.82**	**272**	*eP*	**Pb**	**09 58 52.7**	**-0.3**
	13nm,0.3s						
DGS				*eS*	**Sb**	**09 59 16.9**	**+1.0**
	43nm,0.3s						
DGS	**Degeres**	**1.82**	**272**	*eP*	**Pb**	**09 58 52.7**	**-0.3**
	baz=72						
DGS				*eS*	**Sb**	**09 59 16.9**	**+1.0**
	baz=72						
DGS	**Degeres**	**1.82**	**272**	P	**Pb**	**09 58 52.7**	**-0.3**
	13nm,0.3s						
DGS				S	**Sb**	**09 59 16.9**	**+1.0**
	43nm,0.3s						
BOOM	**Boomskoye usch**	**1.85**	**248**	⇓*iP*	**Pb**	**09 58 53.0**	**-0.5**
	baz=49						
BOOM				⇓*iS*	**Sb**	**09 59 17.6**	**+0.9**
	baz=49						
TKM2	**Tokmak 2**	**1.97**	**263**	⇑*iP*	**Pb**	**09 58 55.1**	**-0.5**
	baz=63						
TKM2				⇑*iS*	**Sb**	**09 59 21.3**	**+1.0**
	baz=63						
TKM2	**Tokmak 2**	**1.97**	**263**	P	**Pb**	**09 58 55.2**	**-0.4**
	SNR=46						
TKM2	**Tokmak 2**	**1.97**	**263**	⇑Pg	**Pb**	**09 58 54.9**	**-0.7**
	2.8nm,0.3s						
TKM2				⇓Lg	Lg	09 59 21.8	
	8.3nm,0.3s						
KAPS	**Kapalarasan**	**2.23**	**20**	*eP*	**Pb**	**09 58 59.6**	**-0.4**
	3.7nm,0.4s						
KAPS				*eS*	**Sg**	**09 59 29.3**	**-2.0**
	28nm,0.4s						
KAPS	**Kapalarasan**	**2.23**	**20**	Pg	**Pb**	**09 58 59.6**	**-0.4**
	3.7nm,0.4s						
KAPS				Lg	Lg	09 59 29.3	
	28nm,0.4s						
NRN	**Naryn**	**2.43**	**224**	⇑*iP*	**Pb**	**09 59 01.5**	**-2.0**
	baz=25						
NRN				⇑*iS*	**Sb**	**09 59 31.8**	**-1.9**
	baz=25						
KZA	**Kyzart**	**2.49**	**244**	⇑*iP*	**Pn**	**09 59 02.3**	**+1.8**
	baz=44						
KZA				⇑*iS*	**Sb**	**09 59 33.4**	**-2.0**
	baz=44						
KZA	**Kyzart**	**2.49**	**244**	P	**Pb**	**09 59 04.1**	**-0.5**
	SNR=23						
KBK	**Karagaybulak**	**2.49**	**259**	⇓*iP*	**Pn**	**09 59 02.3**	**+2.0**
	baz=59						
KBK				⇓*iS*	**Sb**	**09 59 33.4**	**-1.9**
	baz=59						
KBK	**Karagaybulak**	**2.49**	**259**	P	**Pb**	**09 59 04.5**	**0.0**
	SNR=18						
CHMS	**Chumysh**	**2.58**	**267**	⇑*iP*	**Pn**	**09 59 03.4**	**+2.0**
	baz=67						
CHMS				⇑*iS*	**Sb**	**09 59 35.4**	**-2.2**
	baz=67						
AAK	**Ala-Archa**	**2.82**	**260**	⇑*iP*	**Pn**	**09 59 06.9**	**+2.1**
	baz=60						
AAK				⇑*iS*	**Sn**	**09 59 41.5**	**+2.5**
	baz=60						
AAK	**Ala-Archa**	**2.82**	**260**	P	**Pb**	**09 59 09.9**	**-0.2**
	SNR=11						
AAK	**Ala-Archa**	**2.82**	**260**	⇑Pg	**Pb**	**09 59 09.1**	**-1.0**
	2.2nm,0.3s						
AAK				⇑Lg	Lg	09 59 48.1	
	8.3nm,0.5s						
UCH	**Uchtor**	**2.93**	**252**	⇓*iP*	**Pn**	**09 59 08.5**	**+2.0**
	baz=52						
UCH				⇓*iS*	**Sn**	**09 59 44.2**	**+2.2**
	baz=52						
UCH	**Uchtor**	**2.93**	**252**	P	**Pb**	**09 59 11.4**	**-0.7**
	SNR=11						
ARLS	**Aral**	**3.20**	**247**	⇑*iP*	**Pn**	**09 59 11.9**	**+1.8**
	baz=47						
AR

*JMA **09** 09:59:00.6, 32.62N×132.16E, h33km±1km, M3.8 Broadband fault plane solution: P waves. NP1: ϕs223.00000°, δ74.00000°, λ-108.00000°. NP2: ϕs93.00000°, δ23.00000°, λ-43.00000°. Principal axes: T Plg27.0000°, Azm327.0000°; N Plg17.0000°, Azm228.0000°; P Plg57.0000°, Azm110.0000°;*
*NIED **09** 09:59:00, 32.60N×132.20E, h32km, Mw3.6 Best double couple: M₀3.16000×10¹⁴ NP1:ϕs334.00000°, δ9.00000°, λ-174.00000°. NP2:ϕs238.00000°, δ89.00000°, λ-81.00000°.*

ISC 09 09:59:00.2±1.0, 32°63N±0°05×132°17E±0°03, h33km±6km, n18, σ0s55/28, 3C-6D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JSKE	**Saikikamae**	**0.28**	**306**	⇓P			**Pb**	**09 59 07.9**	**+0.2**
JSKE				eS			**Sn**	**09 59 13.0**	**-0.1**
JHHC	**Hyugahichiya**	**0.49**	**248**	P			**Pb**	**09 59 10.4**	**-0.2**
JHHC				eS			**Sb**	**09 59 17.8**	**0.0**
JUS	**Usuki**	**0.56**	**321**	⇑P			**Pn**	**09 59 12.0**	**+0.1**
JUS				eS			**Sn**	**09 59 20.3**	**+0.2**
JTO	**Tosashimizu**	**0.58**	**67**	⇓P			**Pb**	**09 59 12.3**	**+0.2**
JTO				eS			**Sb**	**09 59 20.6**	**+0.4**
JKIT	**Kitakata**	**0.61**	**270**	⇓P			**Pb**	**09 59 12.3**	**-0.2**
JKIT				eS			**Sb**	**09 59 20.9**	**0.0**
JTSN	**Tsuno**	**0.68**	**236**	⇓P			**Pb**	**09 59 13.4**	**-0.4**
JTSN				eS			**Sb**	**09 59 23.0**	**0.0**
UWA2	**Uwa jima 2**	**0.69**	**33**	⇑P			**Pb**	**09 59 13.9**	**-0.1**
UWA2				S			**Sn**	**09 59 23.8**	**+0.3**
JNA	**Nagahama**	**0.96**	**16**	⇑P			**Pn**	**09 59 17.7**	**+0.2**
JNA				eS			**Sb**	**09 59 29.9**	**-0.9**
JKU	**Kubokawa**	**1.01**	**48**	⇓P			**Pn**	**09 59 18.4**	**+0.2**
JKU				eS			**Sn**	**09 59 31.0**	**-0.3**
JIU3	**Izumi3**	**1.15**	**266**	P			**Pn**	**09 59 21.2**	**+1.1**
JIU3				eS			**Sb**	**09 59 36.2**	**0.0**
JTZ	**Takazaki**	**1.17**	**232**	⇓P			**Pn**	**09 59 20.7**	**+0.3**
JTZ				eS			**Sn**	**09 59 35.6**	**+0.4**
JNU	**Nakatsue**	**1.19**	**295**	Pg			**Pn**	**09 59 21.6**	**+1.0**
	170nm,0.3s,baz=124,slow=7.3,SNR=703								
JNU				Lg			Lg	09 59 38.0	
	184nm,0.3s,baz=228,slow=17,SNR=22								
JNU				LR			LR	10 00 05.5	
	comp=Z,200nm,19.0s,baz=161,slow=53								
KSRS	**Korea Array**	**5.94**	**325**	Pn			**Pn**	**10 00 26.6**	**+0.7**
	0.4nm,0.3s,baz=144,slow=15,SNR=5.2								
KSRS				Pg			Pb	10 00 49.3	+6.3
	0.5nm,0.3s,baz=144,slow=17,SNR=5.3								
MJAR	**Matsushiro Arr**	**6.33**	**50**	Pn			**Pn**	**10 00 32.5**	**+1.2**
	0.1nm,0.3s,baz=248,slow=13,SNR=3.6								
KRVT	**Keravat (AS076**	**41.29**	**149**	LR			LR	10 22 29.9	
	comp=Z,64nm,19.5s,baz=70,slow=34								
WRA	**Warramunga Arr**	**52.32**	**177**	P			**P**	**10 08 08.0**	**-0.9**
	0.3nm,0.5s,baz=354,slow=8.2,SNR=6.4								
ASAR	**Alice Springs**	**56.01**	**178**	P			**P**	**10 08 35.3**	**-0.5**
	0.3nm,0.6s,baz=8.9,slow=13,SNR=4.1								
LPAZ	**La Paz**	**155.45**	**53**	PKPab			**PKPab**	**10 19 17.4**	**+0.1**
	1.1nm,0.7s,baz=320,slow=5.7,SNR=4.8								

*TEH **09** 10:11:58.6, 36.81N×58.51E, h5km, ML3.6*
*ISCJB **09** 10:11:59.9±0.4, 36.83N±0.03×58.54E±0.05, h10km, Error ellipse: s-maj=6.1km s-min=4.5km az=168.0*
*THR **09** 10:12:00.3, 36.81N×58.49E, h14km, ML3.4*

ISC 09 10:11:59.0±0.8, 36°80N±0°03×58°49E±0°04, h10km, n33, σ3s10/33, 3C-1D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IKRD	**Kardeh**	**0.03**	**134**	*e*Pg			Pg	10 12 15.4	+14
IKRD						IAMB	IAmb	10 12 31.2	
	comp=E,36μm,0.2s								
IAKL	**Akhelmad**	**0.29**	**132**	*e*Pg			**Pg**	**10 12 05.1**	**+0.1**
ISFR	**Sfrayin**	**0.47**	**303**			IAMB	IAmb	10 12 17.2	
	comp=E,40μm,0.2s								
ISFR				*e*Pg			**Pg**	**10 12 08.4**	**+0.1**
IPAY	**Payeh**	**0.53**	**130**			IAMB	IAmb	10 12 21.2	
	comp=E,50μm,0.2s								
IPAY				*e*Pg			**Pb**	**10 12 09.7**	**-0.9**
IEMG	**Emamgholi**	**0.63**	**12**	*e*Pg			**Pb**	**10 12 11.6**	**-0.8**
IEMG				*e*Sg			**Sb**	**10 12 21.0**	**-0.4**
IEMG						IAMB	IAmb	10 12 23.4	
	comp=E,45μm,0.2s								
SBZV	**Sabzevar**	**0.81**	**240**	*e*Pg			**Pg**	**10 12 14.3**	**-0.5**
IMOG	**Moghan**	**0.97**	**135**	*e*Pg			**Pb**	**10 12 17.7**	**-0.4**
IMOG						IAMB	IAmb	10 12 35.1	
	comp=E,42μm,0.2s								
BJRD	**Bojnurd**	**1.25**	**317**	*e*Pg			**Pg**	**10 12 23.4**	**+0.3**
IMYA	**Miami**	**1.38**	**109**	*e*Pn			**Pb**	**10 12 24.5**	**-0.4**
IMYA						IAMB	IAmb	10 12 47.6	
	comp=E,19μm,0.2s								
JRKH	**Jarkhoshk**	**1.74**	**120**	*e*Pn			**Pb**	**10 12 30.8**	**-0.4**
SHRO	**Shahrood**	**2.16**	**249**	*e*AML			AML	10 13 17.1	
	comp=E,230nm,0.5s								
SHRO	**Shahrood**	**2.16**	**249**	*e*Sg			**Sg**	**10 13 07.9**	**-0.4**
TNSJ	**Nastanj**	**3.22**	**209**	*e*Pn			**Pb**	**10 12 53.2**	**-3.1**
TABS	**Tabas**	**3.33**	**200**	*e*Pn			**Pn**	**10 12 54.3**	**+3.0**
TABS	**Tabas**	**3.33**	**200**	*e*Pn			**Pn**	**10 12 54.3**	**+3.0**
TKDS	**Koohdasht(Taba**	**3.37**	**200**	*e*Pn			**Pn**	**10 12 55.0**	**+3.2**
AFRZ	**Afriz**	**3.39**	**173**	*e*Pn			**Pn**	**10 12 54.5**	**+2.4**
SHRT	**Shahrakht**	**3.47**	**154**	*e*Pn			**Pn**	**10 12 55.8**	**+2.6**
SHRT	**Shahrakht**	**3.47**	**154**	*e*Pn			**Pn**	**10 12 55.8**	**+2.6**
IGLO	**Ghaloghah**	**3.76**	**267**	*e*Pn			**Pn**	**10 13 00.8**	**+3.6**
ITEG	**Tejag**	**3.90**	**177**	*e*Pn			**Pn**	**10 13 02.2**	**+3.1**
IKIA	**Kiasar**	**3.92**	**263**	*e*Pn			**Pn**	**10 13 03.3**	**+3.9**
TPRV	**Parvadeh(Tabas**	**4.04**	**202**	*e*Pn			**Pn**	**10 13 04.0**	**+3.0**
BSRN	**Basiran**	**4.85**	**174**	*e*Pn			**Pn**	**10 13 15.1**	**+2.9**
BSRN	**Basiran**	**4.85**	**174**	*e*Sg			**Sg**	**10 14 30.9**	**-3.8**
BSRN	**Basiran**	**4.85**	**174**	*e*Pn			**Pn**	**10 13 15.1**	**+2.9**
YZKH	**Yazd**	**5.44**	**217**	*e*Pn			**Pn**	**10 13 23.9**	**+3.6**
YZKH	**Yazd**	**5.44**	**217**	*e*Pn			**Pn**	**10 13 23.9**	**+3.6**
NHDN	**Nehbandan**	**5.54**	**166**	*e*Pn			**Pn**	**10 13 25.8**	**+4.1**
ISFB	**Sefidab**	**5.65**	**246**	*e*Pn			**Pn**	**10 13 26.4**	**+3.3**
KHGB	**Koh Gabri**	**6.62**	**195**	*e*Pn			**Pn**	**10 13 40.3**	**+3.7**
KHGB						IAMB	IAmb	10 13 43.2	
	comp=Z,0.0nm,0.5s								
AB31	**Akbulak array**	**12.50**	**4**	⇑P			**Pn**	**10 15 00.9**	**+4.0**
	comp=Z,0.7nm,0.6s,baz=192,slow=13,SNR=4.2								
AB31				⇓S			**Sn**	**10 17 07.9**	**-8.2**
	comp=Z,1.3nm,0.7s,baz=198,slow=24,SNR=4.5								
AKTO	**Aktyubinsk**	**13.64**	**359**	⇑P			**Pn**	**10 15 11.5**	**-0.9**
	comp=Z,2.1nm,0.7s								
AKTO				⇑S			Sn	10 17 28.8	-15
	comp=Z,4.1nm,0.9s								

*ISCJB **09** 10:15:04.0±0.6, 27.88N±0.05×100.84E±0.08, h10km, mb3.6/5, MS3.1/1, Error ellipse: s-maj=10.0km s-min=6.5km az=5.2*
*IDC **09** 10:15:04.4±1.3, 27.92N×100.82E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/63, mbtmp3.7/7, ML3.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/43, Error ellipse: s-maj=47.2km s-min=21.1km az=93.0*
*BJI **09** 10:15:04.9±0.0, 27.78N×100.67E, h5km, ML3.5/11*

ISC 09 10:15:05.7±0.9, 27°85N±0°07×100°78E±0°10, h10km, n11, σ0s92/12, mb3.6/5, Yunnan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.23**	**147**	Pn			**Pn**	**10 15 57.7**	**+0.9**
KMI				Sn			**Sn**	**10 16 33.8**	**-1.7**
KMI				smax			smax		
	comp=N,100nm,0.9s								
KMI				smax			smax		
	comp=E,100nm,1.0s								
CD2	**Chengdu**	**4.01**	**40**	Pg			**Pg**	**10 16 22.6**	**0.0**
CD2				Sg			**Sg**	**10 17 15.2**	**+0.7**
CD2				smax			smax		
	comp=N,120nm,0.7s								
CD2				smax			smax		
	comp=E,150nm,1.4s								
CMAR	**Chiang Mai Arr**	**9.50**	**191**	Pn			**Pn**	**10 17 23.9**	**+1.3**
	0.3nm,0.3s,baz=0.0,slow=13,SNR=4.8								
CMAR				Pg				10 18 00.7	
	0.8nm,0.3s,baz=4.7,slow=17,SNR=8.2								
CMAR				Lg			Lg	10 20 07.5	
	0.6nm,0.3s,baz=3.5,slow=26,SNR=4.1								
WMQ	**Urumqi**	**19.11**	**330**	*e*P			**Pn**	**10 19 28.6**	**-0.9**
SONM	**Songino Array**	**20.43**	**11**	P			**P**	**10 19 43.8**	**+0.6**
	2.1nm,0.9s,baz=197,slow=11,SNR=6.1								
MKAR	**Makanchi Array**	**23.85**	**327**	P			**P**	**10 20 19.0**	**-0.1**
	1.2nm,0.9s,baz=138,slow=11,SNR=4.5								
KSRS	**Korea Array**	**24.71**	**60**	LR			LR	10 30 46.8	
	comp=Z,67nm,19.4s,baz=130,slow=38								
KURBB	**Kurchatov Arra**	**28.33**	**329**	P			**P**	**10 20 59.7**	**+0.1**
	0.6nm,0.8s,baz=139,slow=8.8,SNR=4.9								
ZALV	**Zalesovo Beam**	**28.59**	**340**	P			**P**	**10 21 01.2**	**-0.6**
	2.3nm,0.9s,baz=147,slow=8.9,SNR=6.9								
ILAR	**Eielson Array**	**74.00**	**24**	P			**P**	**10 26 40.7**	**-0.5**
	1.1nm,1.1s,baz=304,slow=4.8,SNR=7.5								
YKA	**Yellowknife Ar**	**85.62**	**16**	P			**P**	**10 27 44.2**	**+0.1**
	0.4nm,0.9s,baz=326,slow=4.7,SNR=4.0								

*ISCJB **09** 10:19:29.3±0.3, 7.54S±0.03×129.12E±0.04, h131km, mb3.9/10, Error ellipse: s-maj=6.2km s-min=4.9km az=7.8*
*NEIC **09** 10:19:31.0±2.6, 7.54S±0.06×129.09E±0.07, h128km±6km, mb4.1/6*
*IDC **09** 10:19:30.9±2.1, 7.59S×129.10E, h131km±22km, mb3.8/10, mb1 3.9/15, mb1mx3.7/49, mbtmp4.3/15, Error ellipse: s-maj=28.1km s-min=19.4km az=101.0*

ISC 09 10:19:30.4±0.6, 7.66S±0.05×129.13E±0.06, h131km, n29, σ2s41/37, mb4.1/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.17**	**99**	Pn			**Pn**	**10 20 10.6**	**+4.1**
SAUI				Sn			**Sn**	**10 20 32.5**	**-1.7**
SOEI	**Soe**	**5.24**	**246**				**Pn**	**10 20 48.1**	**+1.2**
SOEI					Sn		**Sn**	**10 21 46.0**	**-0.5**
MTN	**Manton Dam**	**5.52**	**159**	Pn			**Pn**	**10 20 53.8**	**+3.3**
FAKI	**Fak Fak**	**5.64**	**34**				**Pn**	**10 20 50.6**	**-1.5**
BATI	**Baumata**	**5.97**	**244**	P			**Pn**	**10 20 58.1**	**+1.5**
	59nm,0.3s,baz=253,slow=2.4,SNR=27								
BATI				S			**Sn**	**10 22 02.1**	**-1.7**
	49nm,0.3s,baz=67,slow=16,SNR=6.0								
SIJI	**Sorong**	**7.07**	**18**	P			**Pn**	**10 21 10.8**	**-0.7**
	baz=188,slow=15								
SIJI				S			**Sn**	**10 22 26.3**	**-4.1**
	3.2nm,0.3s,baz=101,slow=23,SNR=7.5								
KNRA	**Kununurra**	**7.98**	**183**				**Pn**	**10 21 25.7**	**+2.1**
KNRA					Sn		**Sn**	**10 22 50.4**	**-2.0**
FITZ	**Fitzroy Crossi**	**10.92**	**198**	P			**Pn**	**10 22 02.9**	**-0.1**
	2.8nm,0.3s,baz=29,slow=11,SNR=28								
FITZ				S			**Sn**	**10 23 57.9**	**-5.7**
	4.6nm,0.3s,baz=177,slow=14,SNR=14								
WRAB	**Tennant Creek**	**13.21**	**158**				**Pn**	**10 22 34.4**	**+1.4**
WRA	**Warramunga Arr**	**13.21**	**158**	P			**Pn**	**10 22 34.0**	**+0.9**
	2.1nm,0.3s,baz=338,slow=13,SNR=32								
WRA				S			**Sn**	**10 24 53.6**	**-5.4**
	2.3nm,0.3s,baz=336,slow=22,SNR=11								
WB2	**Warramunga Arr**	**13.22**	**158**	Pn			**Pn**	**10 22 34.2**	**+1.0**
WR0	**Warramunga Arr**	**13.30**	**157**				**Pn**	**10 22 35.1**	**+0.9**
PSA00	**Pilbara Seismi**	**16.48**	**212**	P			**P**	**10 23 16.2**	**+1.8**
AS31	**Alice Springs**	**16.56**	**164**	P			**P**	**10 23 18.6**	**+3.2**
AS31						IAmb	IAmb	10 23 33.9	
	comp=Z,3.1nm,0.4s								
ASAR	**Alice Springs**	**16.56**	**164**	P			**P**	**10 23 17.7**	**+2.4**
	comp=Z,0.6nm,0.3s,baz=338,slow=9.9,SNR=16								
ASAR				S			**Sn**	**10 26 13.4**	**-6.2**
	comp=Z,0.7nm,0.3s,baz=323,slow=20,SNR=6.9								
KSM	**Kuching**	**20.85**	**295**	P			**P**	**10 24 02.4**	**+0.3**
KSM						IAmb	IAmb	10 24 06.5	
	comp=Z,11nm,0.9s								
CMAR	**Chiang Mai Arr**	**39.51**	**311**	P			**P**	**10 26 48.8**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=144,slow=6.7,SNR=4.1								
KSRS	**Korea Array**	**44.89**	**359**	P			**P**	**10 27 31.4**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=177,slow=8.8,SNR=4.1								
USRK	**Ussuriysk Ar.**	**51.68**	**3**	P			**P**	**10 28 24.3**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=188,slow=10,SNR=3.4								
SONM	**Songino Array**	**58.80**	**342**	P			**P**	**10 29 14.5**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=153,slow=8.1,SNR=3.1								
MK31	**Makanchi Array**	**68.31**	**327**	P			**P**	**10 30 18.2**	**+0.8**
MK31						IAmb	IAmb	10 30 19.4	
	comp=Z,4.1nm,1.1s								
MKAR	**Makanchi Array**	**68.31**	**327**	P			**P**	**10 30 17.9**	**+0.6**
	comp=Z,3.8nm,0.6s,baz=115,slow=8.5,SNR=45								
ZALV	**Zalesovo Beam**	**71.79**	**334**	P			**P**	**10 30 37.4**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=123,slow=2.5,SNR=3.7								
SEY	**Seymchan**	**72.61**	**11**	P			**P**	**10 30 44.3**	**+1.2**
	comp=Z,3.7nm,0.8s,baz=164,slow=5.5,SNR=5.2								
KURBB	**Kurchatov Arra**	**72.62**	**329**	P			**P**	**10 30 43.6**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=131,slow=5.1,SNR=24								
KURK	**Kurchatov**	**72.63**	**329**	P			**P**	**10 30 44.3**	**+0.8**
KURK						IAmb	IAmb	10 30 45.5	
	comp=Z,2.9nm,0.8s								
BVAR	**Borovoye Array**	**78.16**	**328**	P			**P**	**10 31 14.5**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=134,slow=6.4,SNR=4.1								
TIXI	**Tiksi**	**79.14**	**360**	P			**P**	**10 31 20.0**	**0.0**
	comp=Z,1.9nm,0.5s,baz=360,slow=24,SNR=5.4								
QSPA	**South Pole Qui**	**82.32**	**180**	P			**P**	**10 31 39.2**	**+1.9**

*SJA **09** 10:34:58.6±0.8, 21.75S×68.43W, h159km±5km, ML3.0, MW3.3*
*ISCJB **09** 10:34:59.7±0.4, 21.78S±0.03×68.46W±0.06, h153km±6km, Error ellipse: s-maj=9.7km s-min=4.8km az=177.5*
*IDC **09** 10:35:00.6±0.7, 21.76S×68.00W, h116km±10km, mb3.7/3, mb1 3.6/7, mb1mx3.4/24, mbtmp4.0/7, Error ellipse: s-maj=25.1km s-min=11.4km az=115.0*
*GUC **09** 10:35:00.6±0.8, 21.70S×68.51W, h142km±9km, ML3.7*

ISC 09 10:35:00.6±0.8, 21°71S±0°05×68°33W±0°06, h135km±8km, n34, σ1s68/48, 4C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.85**	**264**	⇑*i*P			**Pn**	**10 35 23.1**	**+0.2**
PB09	**IPOC Station P**	**0.85**	**264**	*i* P			**Pn**	**10 35 22.8**	**-0.2**
PB09				*e*S			**Sn**	**10 35 41.9**	**+2.0**
LVC	**Limon Verde**	**1.05**	**211**	P			**Pn**	**10 35 24.6**	**-0.2**
	282nm,0.3s,baz=348,slow=7.1,SNR=1648								
LVC				S			**Sn**	**10 35 42.9**	**-0.4**
	59nm,0.3s,baz=237,slow=21,SNR=22								
LVC	**Limon Verde**	**1.05**	**211**	*i* P			**Pn**	**10 35 24.9**	**0.0**
LVC						IAML		10 35 25.3	
	comp=Z,465nm,0.2s								
LVC				*e*S			**Sn**	**10 35 44.4**	**+1.1**
PB03	**IPOC Station P**	**1.36**	**255**	⇑*i*P			**Pn**	**10 35 27.6**	**-0.2**
PB03				*i* S			**Sn**	**10 35 47.6**	**-0.9**
PB03						IAML		10 35 48.5	
	comp=N,526nm,0.2s								
PB07	**IPOC Station P**	**1.45**	**269**	⇑*i*P			**Pn**	**10 35 28.4**	**-0.3**
PB07				*i* S			**Sn**	**10 35 49.3**	**-0.8**
PB07						IAML		10 35 50.4	
	comp=N,2μm,0.1s								
PB06	**IPOC Station P**	**1.52**	**229**	⇑*i*P			**Pn**	**10 35 29.4**	**-0.1**
PB06				*i* S			**Sn**	**10 35 51.3**	**-0.2**
PB06						IAML		10 35 53.1	
	comp=N,634nm,0.3s								
PB06	**IPOC Station P**	**1.52**	**229**	*i* P			**Pn**	**10 35 29.1**	**-0.4**
PB06						IAML		10 35 54.8	
	comp=Z,234nm,0.3s								
PB08	**IPOC Station P**	**1.74**	**334**	⇓*i*P			**Pn**	**10 35 33.4**	**+1.1**
PB08				*i* S			**Sn**	**10 35 57.4**	**+1.1**
PB08						IAML		10 36 00.6	
	comp=E,591nm,0.7s								
PB04	**IPOC Station P**	**1.80**	**249**	*i* P			**Pn**	**10 35 31.4**	**-1.3**
PB15	**IPOC Station P**	**1.83**	**215**	*i* P			**Pn**	**10 35 33.1**	**0.0**
PB15				*i* S			**Sn**	**10 35 58.1**	**+0.2**
PB15	**IPOC Station P**	**1.83**	**215**	*i* P			**Pn**	**10 35 33.0**	**-0.1**
PB15				*e*S			**Sn**	**10 35 57.1**	**-0.8**
TA01	**Diego Aracena**	**2.07**	**303**	*i* P			**Pn**	**10 35 35.3**	**-0.4**
TA01				*i* S			**Sn**	**10 36 01.4**	**-1.2**
TA01						IAML		10 36 02.8	
	comp=E,1μm,0.2s								
GO01	**Chusmiza**	**2.19**	**338**	⇓*i*P			**Pn**	**10 35 38.4**	**+0.7**
GO01				*i* S			**Sn**	**10 36 07.4**	**+1.4**
GO01						IAML		10 36 10.0	
	comp=N,820nm,0.1s								
PB11	**IPOC Station P**	**2.30**	**327**	*i* P			**Pn**	**10 35 38.7**	**-0.1**
PB11				*i* S			**Sn**	**10 36 07.5**	**-0.5**
PB11						IAML		10 36 08.9	
	comp=E,894nm,0.2s								
YJA	**Yavi**	**2.66**	**101**	⇑*i*P			**Pn**	**10 35 44.8**	**+1.4**
YJA						IAML		10 35 45.7	
	comp=Z,8.2nm,0.6s								
HJA	**Humahuaca**	**3.09**	**119**	*i* P			**Pn**	**10 35 50.3**	**+1.3**
PB14	**IPOC Station P**	**3.47**	**213**	*i* P			**Pn**	**10 35 52.7**	**-1.2**
ASTB	**Santa Barbara**	**4.21**	**123**	*i* P			**Pn**	**10 36 03.9**	**+0.4**
LPAZ	**La Paz**	**5.40**	**2**	P			**Pn**	**10 36 21.1**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=167,slow=6.2,SNR=27								
LPAZ				S			**Sn**	**10 37 23.0**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=200,slow=9.6,SNR=3.6								
GO03	**Copiap**	**6.11**	**196**	*i* P			**Pn**	**10 36 26.5**	**-2.2**
AGUA	**GUANDACOL**	**7.75**	**181**	*i* P			**Pn**	**10 36 49.2**	**-1.5**
ACLC	**CERRO LA CRUZ**	**7.78**	**171**	*i* P			**Pn**	**10 36 49.9**	**-1.5**
GO04	**Tololo Observa**	**8.72**	**194**	*i* P			**Pn**	**10 36 59.7**	**-4.2**
APLL	**PUNTA DE LOS L**	**8.80**	**170**	*i* P			**Pn**	**10 37 02.9**	**-1.9**
ACCO	**Cerro Coronel**	**8.87**	**184**	*i* P			**Pn**	**10 37 04.3**	**-1.7**
SIV	**San Ignacio**	**8.92**	**52**	P			**Pn**	**10 37 03.2**	**-3.3**
	comp=Z,4.8nm,0.3s,baz=242,slow=11,SNR=74								
SIV				S			**Sn**	**10 38 38.9**	**-6.5**
	comp=Z,0.5nm,0.3s,baz=154,slow=21,SNR=4.4								
TCA	**Tanti**	**10.15**	**162**	*i* P			**Pn**	**10 37 21.3**	**-1.7**
PLCA	**Paso Flores**	**19.06**	**185**	P			**Pn**	**10 39 14.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=29,slow=11,SNR=4.6								
BDFB	**Brasilia**	**20.16**	**76**	P			**P**	**10 39 23.8**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=213,slow=7.9,SNR=3.8								
DBIC	**Dimbokro**	**68.28**	**73**	P			**P**	**10 45 48.0**	**+0.6**
	comp=Z,3.3nm,0.6s,baz=231,slow=4.9,SNR=6.4								
TORD	**Torodi Ar. Bea**	**76.92**	**70**	P			**P**	**10 46 39.3**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=253,slow=5.5,SNR=16								
YKA	**Yellowknife Ar**	**91.56**	**340**	P			**P**	**10 47 53.7**	**+2.2**
	comp=Z,0.1nm,0.6s,baz=134,slow=4.5,SNR=2.9								
WRA	**Warramunga Arr**	**133.04**	**210**	PKP			**PKiKP**	**10 54 02.9**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=153,slow=1.9,SNR=4.0								

MAN 09 10:36:36.5, 19.42N×121.90E, h33km, mb4.6, ML3.5, MS3.3, Philippine Islands region

*NNC **09** 11:17:10.2±2.0, 39.51N×75.54E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=13.8km s-min=12.7km az=161.0*
*KRNET **09** 11:17:19.0±0.1, 39.77N×75.47E, mb2.7*

ISC 09 11:17:12.4±2.1, 39°61N±0°08×75°51E±0°04, h2km±17km, n24, σ1s29/39, 21C-11D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.86**	**11**	⇑*i*P			**Pg**	**11 17 51.3**	**+3.2**
	baz=13								
NRN				⇑*i*S			**Sg**	**11 18 14.0**	**+1.8**
	baz=13								
ARLS	**Aral**	**2.42**	**339**	⇓*e*P			**Pg**	**11 17 59.7**	**+0.8**
	baz=38								
ARLS				⇓*i*S			**Sg**	**11 18 30.2**	**-0.1**
	baz=38								
KZA	**Kyzart**	**2.48**	**356**	⇑*i*P			**Pg**	**11 18 00.7**	**+0.8**
	baz=56								
KZA				⇑*i*S			**Sg**	**11 18 31.2**	**-0.8**
	baz=56								
ARSB	**Arslanbob**	**2.58**	**312**	⇓*i*P			**Pg**	**11 18 02.9**	**+1.0**
	baz=10.0								
ARSB				⇓*i*S			**Sg**	**11 18 34.9**	**-0.4**
	baz=10.0								
ULHL	**Ulahol**	**2.69**	**12**	⇑*i*P			**Pg**	**11 18 03.8**	**-0.2**
	baz=13								
ULHL				⇑*i*S			**Sb**	**11 18 36.3**	**+1.2**
	baz=13								
UCH	**Uchtor**	**2.72**	**344**	⇓*e*P			**Pg**	**11 18 04.3**	**-0.3**
	baz=44								
UCH				⇓*i*S			**Sb**	**11 18 37.1**	**+0.9**
	baz=44								
TARG	**Taragay, Kyrgy**	**2.75**	**39**	⇓*i*P			**Pg**	**11 18 05.6**	**+0.5**
	baz=41								
TARG				⇓*i*S			**Sg**	**11 18 39.1**	**-1.5**
	baz=41								
KDJ	**Kajisay**	**2.82**	**26**	⇑*i*P			**Pg**	**11 18 06.1**	**-0.4**
	baz=28								
KDJ				⇑*i*S			**Sb**	**11 18 40.1**	**+1.4**
	baz=28								
AML	**Almayashu**	**2.87**	**332**	⇑*e*P			**P

Triangular moment-rate function
AZER ***09*** *11:33:56.8±0.7,38°.26N±55°.07E,h10km,ml5.4/11, ms3.7/11 Error ellipse: s-maj=10.3km s-min=6.7km az=20.0*

ISC 09 11:33:52.6±0.2,38°.53N±0°.03×55°.54E±0°.03,h10km,n705, ⌀2°06/758,mb5.1/148,MS4.7/77,62C-28D,
Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMND	**Minoodasht**	**1.27**	**185**	*e*Pg	**Pb**	**11 34 16.8**	**+0.2**
GEYT	**Alibeck**	**2.11**	**106**	Pn	**Pn**	**11 34 26.8**	**-1.3**
	498nm,0.3s,baz=293,slow=18,SNR=306						
GEYT				LR	LR	11 34 53.5	
	comp=Z,2μm,19.6s,baz=290,slow=30						
GEYT				Lg	Lg	11 34 58.4	
	237nm,0.3s,baz=268,slow=17,SNR=5.8						
GYA0	**ALIBECK ARRAY**	**2.11**	**106**	*e*Pn	**Pn**	**11 34 26.8**	**-1.3**
GYA0B	**ALIBECK ARRAY**	**2.11**	**106**		**Pn**	**11 34 26.8**	**-1.3**
GYA0B	**ALIBECK ARRAY**	**2.11**	**106**	⇓Pg	**Pn**	**11 34 28.9**	**+0.8**
GYA0B				⇓Lg	Lg	11 34 59.8	
ASHT	**Ashkhabad**	**2.31**	**104**	P	**Pn**	**11 34 30.2**	**-0.6**
ASHT	**Ashkhabad**	**2.31**	**104**	*e*Pn	**Pn**	**11 34 30.2**	**-0.6**
ASHT	**Ashkhabad**	**2.31**	**104**		**Pn**	**11 34 30.2**	**-0.6**
IGLO	**Ghaloghah**	**2.44**	**214**	*e*Pn	**Pn**	**11 34 32.3**	**-0.3**
ISFR	**Sfrayin**	**2.44**	**126**	*e*Pn	**Pn**	**11 34 33.3**	**+0.5**
SBZV	**Sabzevar**	**2.69**	**142**	*e*Pn	**Pn**	**11 34 36.4**	**+0.2**
IEMG	**Emamgholi**	**2.70**	**113**	*e*Pn	**Pn**	**11 34 35.8**	**-0.5**
IKIA	**Kiasar**	**2.75**	**213**	*e*Pn	**Pn**	**11 34 37.7**	**+0.7**
IKRD	**Kardeh**	**2.94**	**126**	*e*Pn	**Pg**	**11 34 48.8**	**-0.1**
IAKL	**Akhelmad**	**3.20**	**126**	*e*Pn	**Pn**	**11 34 43.8**	**+0.6**
ISHM	**Shahmirzad**	**3.25**	**214**	*e*Pn	**Pn**	**11 34 45.4**	**+1.4**
IALA	**Alasht**	**3.27**	**223**	*e*Pn	**Pn**	**11 34 44.6**	**+0.4**
IANJ	**Anjilo**	**3.32**	**204**	*e*Pn	**Pn**	**11 34 46.9**	**+2.1**
IPRN	**Peran**	**3.42**	**229**	*e*Pn	**Pn**	**11 34 45.6**	**-0.5**
IPAY	**Payeh**	**3.44**	**126**	*e*Pn	**Pn**	**11 34 46.8**	**+0.3**
IFIR	**Firoozkooh**	**3.64**	**219**	*e*Pn	**Pn**	**11 34 51.0**	**+1.7**
ILAS	**Lasjerd**	**3.76**	**214**	*e*Pn	**Pn**	**11 34 53.0**	**+2.1**
IMOG	**Moghan**	**3.87**	**127**	*e*Pn	**Pn**	**11 34 54.0**	**+1.5**
IDMV	**Damavand**	**4.07**	**225**	*e*Pn	**Pn**	**11 34 56.6**	**+1.4**
IMYA	**Miami**	**4.23**	**120**	*e*Pn	**Pn**	**11 34 57.6**	**+0.2**
TEH	**Tehran**	**4.33**	**231**	*e*Pn	**Pn**	**11 34 59.3**	**+0.6**
QALM	**Alamut, Qazvin**	**4.42**	**243**	*e*Pn	**Pn**	**11 34 59.0**	**-1.0**
GALA	**Gala**	**4.57**	**296**	*e*Pn	**Pn**	**11 35 01.9**	**+0.1**
GALA	**Gala**	**4.57**	**296**	P	**Pn**	**11 35 01.9**	**+0.1**
IHSB	**Hasanabad**	**4.60**	**229**	*e*Pn	**Pn**	**11 35 03.7**	**+1.4**
TNSJ	**Nastanj**	**4.63**	**169**	*e*Pn	**Pn**	**11 35 03.8**	**+1.0**
JRKH	**Jarkhoshk**	**4.64**	**123**	*e*Pn	**Pn**	**11 35 02.7**	**-0.2**
IVRN	**Varamin**	**4.67**	**222**	*e*Pn	**Pn**	**11 35 04.1**	**+0.9**
NDR	**Nardaran**	**4.76**	**297**	*e*Pn	**Pn**	**11 35 04.8**	**+0.5**
NDR	**Nardaran**	**4.76**	**297**	P	**Pn**	**11 35 04.8**	**+0.5**
NDR				S	**Sn**	**11 36 01.8**	**+2.2**
GOBA	**Gobu**	**4.87**	**294**	*e*Pn	**Pn**	**11 35 05.3**	**-0.6**
GOBA	**Gobu**	**4.87**	**294**	P	**Pn**	**11 35 05.4**	**-0.6**
	SNR=9.9						
GOBA				S	**Sn**	**11 36 04.2**	**+1.9**
TKDS	**Koohdasht(Taba**	**5.07**	**165**	*e*Pn	**Pn**	**11 35 10.0**	**+1.3**
IQOM	**Qom**	**5.14**	**226**	*e*Pn	**Pn**	**11 35 10.8**	**+0.9**
ALIB	**Äli-Bayra**	**5.27**	**288**	*e*Pn	**Pn**	**11 35 11.8**	**+0.4**
ALIB	**Äli-Bayra**	**5.27**	**288**	P	**Pn**	**11 35 11.8**	**+0.4**
	SNR=14						
ALIB				P	**Pn**	**11 35 11.8**	**+0.4**
	SNR=14						
ALIB				S	**Sn**	**11 36 12.8**	**+0.6**
ALIB				S	**Sn**	**11 36 12.8**	**+0.6**
ASTR	**Astara**	**5.29**	**272**	*e*Pn	**Pn**	**11 35 10.3**	**-1.4**
ASTR	**Astara**	**5.29**	**272**	P	**Pn**	**11 35 10.3**	**-1.4**
	SNR=22						
ASTR				S	**Sn**	**11 36 10.8**	**-1.9**
LKRN	**Lenkeran, Azer**	**5.30**	**274**	*e*Pn	**Pn**	**11 35 10.6**	**-1.2**
LKRN	**Lenkeran, Azer**	**5.30**	**274**	P	**Pn**	**11 35 10.6**	**-1.2**
	SNR=26						
GBS	**Qobustan**	**5.48**	**294**	*e*Pn	**Pn**	**11 35 15.6**	**+1.2**
GBS	**Qobustan**	**5.48**	**294**	P	**Pn**	**11 35 15.6**	**+1.2**
	SNR=15						
GBS				S	**Sn**	**11 36 18.4**	**+0.8**
ANAR	**Anarak**	**5.52**	**196**	*e*Pn	**Pn**	**11 35 15.8**	**+0.8**
QABG	**Abgarm-Qazvin**	**5.53**	**241**	*e*Pn	**Pn**	**11 35 15.7**	**+0.5**
TPRV	**Parvadeh(Tabas**	**5.56**	**170**	*e*Pn	**Pn**	**11 35 16.7**	**+1.1**
ATGJ	**Altiaghaj**	**5.60**	**297**	P	**Pn**	**11 35 17.6**	**+1.5**
	SNR=20						
ATGJ				S	**Sn**	**11 36 22.0**	**+1.5**
GLBA	**Clilabad**	**5.62**	**280**	*e*Pn	**Pn**	**11 35 16.1**	**-0.1**
GLBA	**Clilabad**	**5.62**	**280**	P	**Pn**	**11 35 16.2**	**-0.1**
	SNR=14						
GLBA				S	**Sn**	**11 36 19.0**	**-1.9**
LRK	**Lerik**	**5.64**	**273**	*e*Pn	**Pn**	**11 35 16.1**	**-0.6**
LRK	**Lerik**	**5.64**	**273**	P	**Pn**	**11 35 16.1**	**-0.6**
	SNR=133						
LRK				S	**Sn**	**11 36 18.0**	**-3.7**
SAAT	**Saatly**	**5.69**	**286**	S	**Sn**	**11 36 22.9**	**+0.5**
SIZA	**Siyzn**	**5.71**	**299**	*e*Pn	**Pn**	**11 35 18.8**	**+1.3**
SIZA	**Siyzn**	**5.71**	**299**	P	**Pn**	**11 35 18.9**	**+1.3**
	SNR=17						
SIZA				S	**Sn**	**11 36 25.4**	**+2.1**
YRD	**Yardimli**	**5.72**	**276**	P	**Pn**	**11 35 17.1**	**-0.7**
	SNR=35						
YRD				P	**Pn**	**11 35 17.1**	**-0.7**
	SNR=35						
YRD				S	**Sn**	**11 36 19.9**	**-3.8**
YRD				S	**Sn**	**11 36 19.9**	**-3.8**
PQL	**Pirkuli**	**5.82**	**295**	*e*Pn	**Pn**	**11 35 20.1**	**+1.0**
PQL	**Pirkuli**	**5.82**	**295**	P	**Pn**	**11 35 20.2**	**+1.0**
	SNR=30						
PQL				S	**Sn**	**11 36 26.4**	**+0.5**
KDMR	**Kurdemir**	**5.99**	**290**	S	**Sn**	**11 36 29.0**	**-0.8**
IKLH	**Kolahrood**	**6.11**	**213**	*e*Pn	**Pn**	**11 35 22.9**	**-0.3**
QUBA	**Quba, Azerbaij**	**6.11**	**300**	P	**Pn**	**11 35 25.0**	**+2.0**
	SNR=12						
QUBA				S	**Sn**	**11 36 32.6**	**-0.3**
IML	**Ismayilli**	**6.11**	**294**	*e*Pn	**Pn**	**11 35 24.1**	**+1.1**
IML	**Ismayilli**	**6.11**	**294**	P	**Pn**	**11 35 24.2**	**+1.1**
	SNR=10						
IML				S	**Sn**	**11 36 31.4**	**-1.7**
ITEG	**Tejag**	**6.19**	**154**	*e*Pn	**Pn**	**11 35 25.4**	**+1.1**
IZEF	**Zefreh**	**6.20**	**206**	*e*Pn	**Pn**	**11 35 25.2**	**+0.8**
QUB	**Quba**	**6.21**	**300**	*e*Pn	**Pn**	**11 35 24.9**	**+0.5**
ISRB	**Sarab**	**6.24**	**266**	*e*Pn	**Pn**	**11 35 25.3**	**+0.3**
XNQ	**Khinaliq**	**6.28**	**297**	*e*Pn	**Pn**	**11 35 25.5**	**+0.1**
XNQ	**Khinaliq**	**6.28**	**297**	P	**Pn**	**11 35 25.6**	**+0.1**
	SNR=20						
XNQ				S	**Sn**	**11 36 37.4**	**+0.1**
IMQN	**Monand**	**6.29**	**147**	*e*Pn	**Pn**	**11 35 26.8**	**+1.2**
BLQ	**Beylaqan**	**6.32**	**283**	P	**Pn**	**11 35 26.2**	**+0.3**
	SNR=8.2						
BLQ				S	**Sn**	**11 36 33.7**	**-4.3**
ZRD	**Zardab**	**6.33**	**289**	S	**Sn**	**11 36 36.0**	**-2.3**
HAGD	**Aghdareh**	**6.33**	**236**	*e*Pn	**Pn**	**11 35 27.0**	**+0.7**
QSAR	**Qusar**	**6.33**	**300**	P	**Pn**	**11 35 27.1**	**+1.1**
	SNR=17						
QSAR				S	**Sn**	**11 36 37.9**	**-0.6**
ICHK	**Chekchek**	**6.33**	**189**	*e*Pn	**Pn**	**11 35 27.2**	**+0.9**
QBL	**Gabala**	**6.41**	**295**	P	**Pn**	**11 35 27.6**	**+0.5**
	SNR=8.7						
QBL				S	**Sn**	**11 36 39.1**	**-1.3**
QRD	**Qoradiz**	**6.47**	**281**	P	**Pn**	**11 35 27.1**	**-0.8**
	SNR=54						
QRD				S	**Sn**	**11 36 37.7**	**-4.1**
IHSH	**Hashtrud**	**6.50**	**271**	*e*Pn	**Pn**	**11 35 31.1**	**+2.4**
IHRS	**Heris**	**6.68**	**271**	*e*Pn	**Pn**	**11 35 30.2**	**-0.8**
HSRG	**Sareghieh**	**6.68**	**243**	*e*Pn	**Pn**	**11 35 31.6**	**+0.6**
AKT	**Akhty**	**6.68**	**299**	*e*P	**Pn**	**11 35 30.2**	**-0.7**
AKT				*e*S	**Sn**	**11 36 46.8**	**-0.4**
AKT				pmax	pmax		
	comp=Z,44nm,0.4s						
AKT				smax	smax		
	comp=N,713nm,0.7s						
AKT				smax	smax		
	comp=E,829nm,0.6s						
AKT				smax	smax		
	comp=E,818nm,0.6s						
AKT				MLR	MLR		
	comp=Z,117nm,4.0s						
BRDA	**Brd**	**6.71**	**288**	P	**Pn**	**11 35 31.4**	**+0.3**
	SNR=12						
BRDA				S	**Sn**	**11 36 46.0**	**-1.5**
IKOO	**Kooshah**	**6.71**	**154**	*e*Pn	**Pn**	**11 35 32.2**	**+0.7**
AGDM	**Agdam**	**6.73**	**286**	P	**Pn**	**11 35 31.4**	**0.0**
	SNR=24						
AGDM				S	**Sn**	**11 36 45.2**	**-2.9**
IGAR	**Gharneh**	**6.74**	**206**	*e*Pn	**Pn**	**11 35 34.1**	**+2.2**
IDAH	**Dahanechah**	**6.76**	**147**	*e*Pn	**Pn**	**11 35 33.3**	**+1.1**
ISAD	**Sadrabad**	**6.77**	**194**	*e*Pn	**Pn**	**11 35 33.3**	**+1.0**
HRA	**Herat**	**6.80**	**125**		**Pn**	**11 35 32.2**	**-0.4**
HRA				Sn	**Sn**	**11 36 51.3**	**+1.1**
MNGR	**Mingechevir, A**	**6.90**	**292**	P	**Pn**	**11 35 34.2**	**+0.5**
MNGR	**Mingechevir, A**	**6.90**	**292**	P	**Pn**	**11 35 34.3**	**+0.5**
MNGR				S	**Sn**	**11 36 52.9**	**+0.5**
IBAF	**Bafgh**	**6.92**	**180**	*e*Pn	**Pn**	**11 35 35.7**	**+1.5**
SEKA	**Sheki**	**6.95**	**295**	P	**Pn**	**11 35 35.0**	**+0.4**
SEKA	**Sheki**	**6.95**	**295**	P	**Pn**	**11 35 35.1**	**+0.4**
	SNR=17						
SEKA				S	**Sn**	**11 36 53.5**	**-0.3**
BDRS	**Dareh Seyedi**	**7.05**	**232**	*e*Pn	**Pn**	**11 35 38.9**	**+2.7**
HSAM	**Samen**	**7.06**	**235**	*e*Pn	**Pn**	**11 35 37.2**	**+0.9**
IMEH	**Mehriz**	**7.16**	**186**	*e*Pn	**Pn**	**11 35 38.9**	**+1.3**
ROKH	**ROKH**	**7.18**	**212**	*e*Pn	**Pn**	**11 35 40.3**	**+2.4**
IRAM	**Ramesheh**	**7.18**	**202**	*e*Pn	**Pn**	**11 35 40.0**	**+2.1**
ITBZ	**Tabriz**	**7.39**	**271**	*e*Pn	**Pn**	**11 35 40.9**	**+0.3**
GANJ	**Ganja**	**7.43**	**289**	P	**Pn**	**11 35 40.2**	**-0.9**
GANJ	**Ganja**	**7.43**	**289**	*e*Pn	**Pn**	**11 35 40.2**	**-0.9**
GANJ	**Ganja**	**7.43**	**289**	P	**Pn**	**11 35 40.2**	**-0.9**
	SNR=23						
GANJ				S	**Sn**	**11 37 01.5**	**-3.9**
JHBN	**Jahan bin**	**7.43**	**214**	*e*Pn	**Pn**	**11 35 43.5**	**+2.1**
IBRJ	**Brojen**	**7.47**	**209**	*e*Pn	**Pn**	**11 35 44.7**	**+2.8**
ORD	**Ordubad**	**7.47**	**276**	*e*Pn	**Pn**	**11 35 41.3**	**-0.5**
ORD	**Ordubad**	**7.47**	**276**	P	**Pn**	**11 35 41.3**	**-0.5**
	SNR=50						
ORD				S	**Sn**	**11 37 03.6**	**-3.0**
ZKTA	**Zakatala**	**7.51**	**297**	P	**Pn**	**11 35 44.3**	**+2.1**
	SNR=12						
ZKTA				S	**Sn**	**11 37 08.2**	**+0.7**
MAK	**Makhachkala**	**7.54**	**309**	*e*P	**Pn**	**11 35 41.1**	**-1.4**
MAK				*e*S	**Sn**	**11 37 07.9**	**-0.1**
MAK				pmax	pmax		
	comp=Z,121nm,1.0s						
MAK				MLR	MLR		
	comp=Z,3μm,15.0s						
GNBR	**Gunib**	**7.59**	**303**	⇑*e*P	**Pn**	**11 35 45.3**	**+2.0**
IDOB	**Doab**	**7.60**	**234**	*e*Pn	**Pn**	**11 35 46.0**	**+2.3**
IKMR	**Kamar-syah**	**7.66**	**231**	*e*Pn	**Pn**	**11 35 46.0**	**+1.8**
IMRD	**Marand**	**7.71**	**274**	*e*Pn	**Pn**	**11 35 45.1**	**+0.1**
IKOM	**Komasi**	**7.80**	**239**	*e*Pn	**Pn**	**11 35 47.4**	**+1.1**
SBZ	**Shahbuz**	**7.83**	**279**	*e*Pn	**Pn**	**11 35 47.3**	**+0.6**
SBZ	**Shahbuz**	**7.83**	**279**	P	**Pn**	**11 35 47.3**	**+0.6**
	SNR=106						
SBZ				S	**Sn**	**11 37 13.1**	**-2.4**
NAX	**Nakhchivan**	**7.87**	**278**	P	**Pn**	**11 35 47.8**	**+0.7**
NAX	**Nakhchivan**	**7.87**	**278**	P	**Pn**	**11 35 47.8**	**+0.7**
	SNR=21						
NAX				S	**Sn**	**11 37 16.3**	**0.0**
IKFM	**Kafar-mosalman**	**7.98**	**234**	*e*Pn	**Pn**	**11 35 50.2**	**+1.6**
KHGB	**Koh Gabri**	**8.17**	**174**	*e*Pn	**Pn**	**11 35 52.9**	**+1.5**
KLNJ	**Kolanjah**	**8.17**	**205**	*e*Pn	**Pn**	**11 35 54.5**	**+2.9**
QZX	**Qazax, Azerbai**	**8.23**	**291**	P	**Pn**	**11 35 52.2**	**+0.2**
	SNR=12						
QZX				S	**Sn**	**11 37 21.9**	**-3.2**
HYR	**Heyderabad**	**8.39**	**281**	P	**Pn**	**11 35 55.0**	**+0.6**
	SNR=39						
HYR				S	**Sn**	**11 37 28.5**	**-0.7**
GNI	**Garni**	**8.53**	**284**	*i*P	**Pn**	**11 35 56.2**	**-0.1**
	SNR=16						
GNI	**Garni**	**8.53**	**284**	P	**Pn**	**11 35 58.1**	**+1.8**
	SNR=19						
GNI	**Garni**	**8.53**	**284**	*de*P	**Pn**	**11 35 57.9**	**+1.7**
GNI				pmax	pmax		
	comp=Z,375nm,1.3s						
GNI	**Garni**	**8.53**	**284**	*e*Pn	**Pn**	**11 35 57.3**	**+1.1**
GNI	**Garni**	**8.53**	**284**	Pn	**Pn**	**11 35 57.8**	**+1.5**
	comp=Z,2.3nm,0.3s,baz=98,slow=11,SNR=12						
GNI				Sn	**Sn**	**11 37 34.4**	**+1.8**
	comp=Z,9.8nm,0.3s,baz=174,slow=22,SNR=4.0						
GNI	**Garni**	**8.53**	**284**		**Pn**	**11 35 56.9**	**+0.6**
GNI					**Sn**	**11 37 32.8**	**+0.3**
GROC	**Groznyy**	**8.73**	**305**	*e*P	**Pn**	**11 35 56.6**	**-2.3**
GROC				*e*S	**Sn**	**11 37 34.6**	**-2.8**
GROC				pmax	pmax		
	comp=Z,240nm,1.3s						
TBLG	**Delisi**	**8.87**	**295**		**Sn**	**11 37 39.2**	**-1.7**
ZEI	**Tsey**	**9.81**	**299**	*e*P	**Pn**	**11 36 18.1**	**+4.2**
ZEI				pmax	pmax		
	comp=Z,79nm,1.5s						
NEY	**Neytrino**	**10.79**	**300**	⇑*e*P	**Pn**	**11 36 28.9**	**+1.6**
KBZ	**Khabaz**	**10.86**	**303**	Pn	**Pn**	**11 36 26.1**	**-1.9**
	comp=Z,1.6nm,0.3s,baz=143,slow=4.1,SNR=30						
KBZ				Sn	**Sn**	**11 38 21.8**	**-7.7**
	comp=Z,1.6nm,0.3s,baz=190,slow=8.4,SNR=4.1						
TAS	**Tashkent**	**10.93**	**71**	P	**Pn**	**11 36 25.5**	**-3.5**
TAS	**Tashkent**	**10.93**	**71**		**Pn**	**11 36 25.5**	**-3.5**
KVAR	**Kislovodsk Arr**	**11.09**	**303**	Pn	**Pn**	**11 36 31.6**	**+0.3**
	baz=253,slow=19,SNR=8.5						
KVAR				Sn	**Sn**	**11 38 27.7**	**-7.5**
	baz=202,slow=19,SNR=5.9						
KIV	**Kislovodsk**	**11.09**	**303**	P	**Pn**	**11 36 29.5**	**-1.8**
KIV	**Kislovodsk**	**11.09**	**303**	P	**Pn**	**11 36 29.4**	**-1.8**
	SNR=8.6						
KIV	**Kislovodsk**	**11.09**	**303**	*e*P	**Pn**	**11 36 29.0**	**-2.3**
KIV				*e*S	**Sn**	**11 38 33.2**	**-2.2**
KIV				pmax	pmax		
	comp=Z,196nm,0.9s						
KIV				MLR	MLR		
	comp=Z,2μm,10.0s						
KIV	**Kislovodsk**	**11.09**	**303**	⇑P	**Pn**	**11 36 29.6**	**-1.8**
KIV	**Kislovodsk**	**11.09**	**303**		**Pn**	**11 36 29.1**	**-2.2**
AB31	**Akbulak array**	**11.18**	**15**	⇓P	**Pn**	**11 36 30.1**	**-2.3**
	comp=Z,29nm,0.6s,baz=206,slow=14,SNR=374						
AB31				⇓S	**Sn**	**11 38 37.1**	**-0.4**
	comp=Z,129nm,0.8s,baz=196,slow=23,SNR=7.4						
ABKAR	**Akbulak array**	**11.18**	**15**		**Pn**	**11 36 29.4**	**-3.1**
GOF	**Gofitskoye**	**11.38**	**309**	⇑*e*P	**Pn**	**11 36 33.3**	**-1.9**
GOF				pmax	pmax		
	comp=Z,36nm,0.7s						
KBL	**Kabul**	**11.56**	**106**	P	**Pn**	**11 36 36.8**	**-1.2**
KBL	**Kabul**	**11.56**	**106**	P	**Pn**	**11 36 36.4**	**-1.6**
KBL	**Kabul**	**11.56**	**106**		**Pn**	**11 36 36.4**	**-1.6**
BTK	**Batken**	**11.94**	**78**	P	**Pn**	**11 36 40.4**	**-2.5**
BTK	**Batken**	**11.94**	**78**		**Pn**	**11 36 40.4**	**-2.5**
AKTO	**Aktyubinsk**	**12.04**	**8**	Pn	**Pn**	**11 36 43.1**	**-1.0**
	comp=Z,6.8nm,0.3s,baz=184,slow=14,SNR=54						
AKTO				Sn	**Sn**	**11 38 53.0**	**-5.3**
	comp=Z,3.9nm,0.3s,baz=189,slow=19,SNR=3.6						
AKTO				LR	LR	11 41 57.6	
	comp=Z,3μm,20.1s,baz=176,slow=40						
AKTO	**Aktyubinsk**	**12.04**	**8**	⇑P	**Pn**	**11 36 42.2**	**-2.0**
	comp=Z,163nm,0.9s						
AKTO				⇑S	**Sn**	**11 39 00.1**	**+1.7**
	comp=Z,243nm,1.0s						
KK31	**Karatay Array**	**12.23**	**63**	P	**Pn**	**11 36 42.7**	**-4.1**
KK31	**Karatay Array**	**12.23**	**63**		**Pn**	**11 36 42.7**	**-4.1**
KK31	**Karatay Array**	**12.23**	**63**	⇓P	**Pn**	**11 36 43.4**	**-3.4**
	comp=Z,26nm,0.6s,baz=243,slow=16,SNR=215						
KK31				⇓S	**Sn**	**11 39 09.0**	**+5.9**
	comp=Z,68nm,0.8s,baz=153,slow=63,SNR=6.9						
KKAR	**Karatay Array**	**12.23**	**63**	P	**Pn**	**11 36 42.7**	**-4.1**
KKAR	**Karatay Array**	**12.23**	**63**		**Pn**	**11 36 42.7**	**-4.1**
SHME	**Shamm**	**12.45**	**177**	P	**Pn**	**11 36 50.0**	**+0.1**
BANOM	**Banah**	**12.58**	**177**	*i*P	**Pn**	**11 36 52.1**	**+0.4**
	SNR=6.1						
BANOM	**Banah**	**12.58**	**177**	P	**Pn**	**11 36 54.9**	**+3.2**
	SNR=7.7						
SOC	**Sochi**	**12.96**	**298**	*e*P	Pn	11 36 50.4	-6.4
SOC				MLR	MLR		
	comp=Z,1μm,17.0s						
MSFE	**Esma-Masafi**	**13.14**	**178**	*i*P	**Pn**	**11 36 59.6**	**+0.3**
	SNR=33						
MDH	**Madha**	**13.20**	**177**	P	**Pn**	**11 36 58.1**	**-2.0**
MDH	**Madha**	**13.20**	**177**	P	**Pn**	**11 37 04.0**	**+3.8**
	SNR=7.0						
NAZ	**Nazwa, Dubai**	**13.50**	**180**	P	**Pn**	**11 37 05.1**	**+0.9**
UOSS	**Minazif**	**13.55**	**177**	P	**Pn**	**11 37 04.8**	**-0.2**
	SNR=22						
UOSS	**Minazif**	**13.55**	**177**		**Pn**	**11 37 04.2**	**-0.7**
HATD	**Hatta, Dubai**	**13.67**	**178**	*i*P	**Pn**	**11 37 06.9**	**+0.3**
	SNR=17						
HATD	**Hatta, Dubai**	**13.67**	**178**	P	**Pn**	**11 37 08.0**	**+1.4**
	SNR=24						
ASHO	**Ashiyiah**	**13.81**	**178**	*i*P	**Pn**	**11 37 08.2**	**-0.2**
	SNR=30						
ASHO	**Ashiyiah**	**13.81**	**178**	P	**Pn**	**11 37 09.2**	**+0.7**
	SNR=18						
AML	**Almayashu**	**14.31**	**70**	P	**Pn**	**11 37 11.1**	**-4.4**
	SNR=35						
EKS2	**Erkin-Say**	**14.46**	**68**	P	**Pn**	**11 37 13.6**	**-3.7**
	SNR=27						
GAZ	**Gaziantep**	**14.55**	**270**		**Pn**	**11 37 19.4**	**+0.8**
ANN	**Anapa**	**14.90**	**301**	*e*P	**Pn**	**11 37 25.3**	**+2.0**
ANN				*e*S	**Sn**	**11 40 12.3**	**+4.0**
ANN				pmax	pmax		
	comp=Z,106nm,1.1s						
ANN				MLR	MLR		
	comp=Z,967nm,14.0s						
UCH	**Uchtor**	**14.92**	**70**	P	Pn	11 37 18.5	-5.5
	SNR=36						
AAK	**Ala-Archa**	**14.97**	**68**	*i*P	**Pn**	**11 37 20.6**	**-3.8**
	SNR=78						
AAK	**Ala-Archa**	**14.97**	**68**	P	**Pn**	**11 37 21.3**	**-3.1**
	SNR=34						
AAK	**Ala-Archa**	**14.97**	**68**	Pn	**Pn**	**11 37 20.9**	**-3.5**
	comp=Z,4.7nm,0.3s,baz=219,slow=6.8,SNR=43						
AAK				Sn	**Sn**	**11 40 03.2**	**-7.1**
	comp=Z,1.7nm,0.3s,baz=202,slow=19,SNR=3.2						
AAK				Lg	Lg	11 41 50.7	
	baz=232,slow=18,SNR=2.0						
AAK				LR	LR	11 43 53.3	
	comp=Z,8μm,18.1s,baz=261,slow=40						
AAK	**Ala-Archa**	**14.97**	**68**	P	**Pn**	**11 37 20.3**	**-4.1**
	SNR=40						
AAK	**Ala-Archa**	**14.97**	**68**		**Pn**	**11 37 21.1**	**-3.3**
AAK	**Ala-Archa**	**14.97**	**68**	⇓P	**Pn**	**11 37 22.5**	**-1.9**
	comp=Z,64nm,0.9s						
AAK				⇑S	**Sn**	**11 40 12.8**	**+2.5**
	comp=Z,454nm,1.4s						
HOQ	**Hoqain**	**14.97**	**174**	P	**Pn**	**11 37 26.5**	**+2.2**
USP	**Ospenovka**	**15.09**	**66**	P	**Pn**	**11 37 22.8**	**-3.1**
	SNR=7.9						
FRU1	**Bishkek**	**15.10**	**67**	P	**Pn**	**11 37 22.7**	**-3.3**
FRU1				pmax	pmax		
	comp=Z,102nm,1.0s						
FRU1	**Bishkek**	**15.10**	**67**		**Pn**	**11 37 22.7**	**-3.3**
FRU1				IAmb	IAmb	11 37 39.5	
	comp=Z,102nm,1.0s						
NIL	**Nilore**	**15.12**	**103**	P	**Pn**	**11 37 23.1**	**-3.2**
NIL				pmax	pmax		
	comp=Z,105nm,1.4s						
NIL	**Nilore**	**15.12**	**103**		**Pn**	**11 37 23.1**	**-3.2**
NIL				IAmb	IAmb	11 37 44.2	
	comp=Z,105nm,1.4s						
ARQ	**Araqi**	**15.16**	**177**	P	**P**	**11 37 31.0**	**-1.0**
	SNR=8.9						
CHMS	**Chumysh**	**15.22**	**67**	P	**Pn**	**11 37 25.1**	**-2.5**
	SNR=9.7						
KBK	**Karagaybulak**	**15.30**	**68**	P	**Pn**	**11 37 25.9**	**-2.9**
	SNR=34						
KZA	**Kyzart**	**15.45**	**70**	P	**Pn**	**11 37 26.6**	**-4.3**
	SNR=38						
WSAR	**Wadi Sarin**	**15.46**	**169**	P	**P**	**11 37 34.5**	**-0.9**
WSAR	**Wadi Sarin**	**15.46**	**169**	Pn	**Pn**	**11 37 30.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=22,slow=16,SNR=3.4						
WSAR				Sn	**Sn**	**11 40 24.3**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=139,slow=16,SNR=2.4						
WSAR				LR	LR	11 44 42.8	
	comp=Z,2μm,18.7s,baz=9.5,slow=42						
SMDO	**Samad**	**15.57**	**171**	P	**P**	**11 37 35.8**	**-0.8**
	SNR=8.6						
SMDO				P	**P**	**11 37 35.8**	**-0.8**
	SNR=8.6						
BSY	**Bisya**	**15.79**	**174**	P	**P**	**11 37 39.8**	**+0.7**
	SNR=12						
TKM2	**Tokmak 2**	**15.82**	**68**	P	**Pn**	**11 37 30.8**	**-4.8**
	S

ANTO pmax pmax
comp=Z,150nm,1.4s
ANTO Ankara 17.68 281 P **Pn** **11 37 58.5 -0.5**
BR231 Keskin MP Arra 17.69 281 P **Pn** **11 37 59.4 +0.2**
BRVK Borovoye 17.75 30 P **Pn** **11 37 59.0 -0.7**
SNR=45
BRVK Borovoye 17.75 30⇓*e*P **Pn** **11 37 58.1 -1.5**
BRVK pmax pmax
comp=Z,23nm,0.8s
BRVK Borovoye 17.75 30 **Pn** **11 37 56.1 -3.5**
BRVK Borovoye 17.75 30 ⇓P **Pn** **11 37 56.3 -3.4**
comp=Z,124nm,1.5s
BRVK ⇓S **Sn** **11 41 19.7 +2.4**
comp=Z,91nm,0.9s
BVAR Borovoye Array 17.76 30 P **Pn** **11 37 58.7 -1.1**
comp=Z,3.7nm,0.3s,baz=217,slow=11,SNR=34
PRZ Przheval'sk 17.81 70 P **Pn** **11 37 59.0 -1.7**
PRZ pmax pmax
comp=Z,190nm,1.2s
PRZ Przheval'sk 17.81 70 P **Pn** **11 37 59.0 -1.7**
PRZ IAmb IAmb 11 38 05.0
comp=Z,190nm,1.2s
ARU Arti 18.03 5 P **Pn** **11 38 00.1 -3.0**
ARU S **Sn** **11 41 19.1 -4.9**
ARU MLR MLR
comp=Z,4μm,15.0s
ARU Arti 18.03 5 P **Pn** **11 38 02.5 -0.6**
comp=Z,0.0nm,0.3s,baz=183,slow=11,SNR=11
ARU LR LR 11 46 47.9
comp=Z,2μm,20.2s,baz=181,slow=43
ARU Arti 18.03 5 P **Pn** **11 38 00.1 -3.0**
ARU IAmb IAmb 11 38 11.7
comp=Z,141nm,1.1s
LPSR Galich'ya Gora 18.20 326 *e*P **Pn** **11 38 04.5 -0.6**
LPSR *e*S **Sn** **11 41 22.1 -6.0**
LPSR pmax pmax
comp=Z,500nm,1.2s
LPSR smax smax
comp=N,730nm,2.3s
LPSR MLR MLR
comp=Z,2μm,14.0s
SVE Sverdlovsk 18.62 9 *e*P **P** **11 38 09.4 -0.6**
SVE *e*S **Sn** **11 41 31.8 -6.5**
SVE pmax pmax
comp=Z,66nm,1.1s
SVE MLR MLR
comp=Z,4μm,10.0s
PDGK Podgornoye 18.70 68 ⇓P **P** **11 38 10.8 -0.4**
comp=Z,59nm,1.2s
HRFI Mount Harif 18.91 250 P **Pn** **11 38 15.5 +1.4**
comp=Z,110nm,1.4s
EIL Elat 19.17 249 P **P** **11 38 16.5 +0.2**
comp=Z,0.4nm,0.3s,baz=53,slow=3.4,SNR=6.9
EIL LR LR 11 47 42.4
comp=Z,2μm,18.9s,baz=60,slow=43
EIL Elat 19.17 249 P **P** **11 38 16.1 -0.2**
comp=Z,34nm,1.4s
ISP Isparta 19.67 276 P **P** **11 38 21.2 -0.6**
ISP pmax pmax
comp=Z,46nm,0.9s
ISP Isparta 19.67 276 ⇑P **Pn** **11 38 24.8 +1.6**
ISP Isparta 19.67 276 P **P** **11 38 21.2 -0.6**
KURBB Kurchatov Arra 20.26 46 P **P** **11 38 28.0 0.0**
comp=Z,24nm,1.1s,baz=248,slow=12,SNR=36
KURBB Kurchatov Arra 20.26 46 ⇓P **P** **11 38 27.8 -0.3**
comp=Z,88nm,1.5s
KURK Kurchatov 20.36 46 P **P** **11 38 29.5 +0.4**
SNR=29
KURK Kurchatov 20.36 46*c i*P **P** **11 38 29.1 +0.1**
KURK pmax pmax
comp=Z,104nm,1.7s
KURK Kurchatov 20.36 46 P **P** **11 38 27.7 -1.3**
KURK Kurchatov 20.36 46 ⇓P **P** **11 38 28.5 -0.5**
comp=Z,69nm,1.1s
ELL Elmali 20.36 273 P **P** **11 38 29.8 +0.4**
ELL pmax pmax
comp=Z,462nm,1.0s
ELL Elmali 20.36 273 P **P** **11 38 29.8 +0.4**
SHAO Shalim 20.43 180 *i* P **P** **11 38 28.6 -1.4**
SNR=33
SHAO Shalim 20.43 180 P **P** **11 38 29.7 -0.4**
SNR=5.5
WHFO Wadi Hawf 20.59 185 P **P** **11 38 32.1 +0.2**
SNR=31
DMTO DMTO 20.74 182 P **P** **11 38 33.4 0.0**
SNR=9.8
JURR Jurilovca 20.83 296 ⇑P **P** **11 38 35.1 +1.0**
TLCR 20.93 297 ⇑P Pn 11 38 36.6 -1.2
OBN Obninsk 20.95 329*d i*P **P** **11 38 35.3 -0.2**
OBN *i* 11 38 39.0
OBN *e* 11 38 52.0
OBN *e*S **S** **11 42 29.1 +0.4**
OBN *e*SS Sn 11 42 45.3 +11
OBN pmax pmax
comp=Z,82nm,1.0s
OBN MLR MLR
comp=Z,2μm,16.0s
OBN Obninsk 20.95 329 P **P** **11 38 35.5 0.0**
comp=Z,32nm,0.9s,baz=119,slow=7.9,SNR=18
OBN LR LR 11 47 27.0
comp=Z,283nm,21.9s,baz=138,slow=39
OBN Obninsk 20.95 329 ⇑P Pn 11 38 36.7 -1.3
OBN Obninsk 20.95 329 P **P** **11 38 35.0 -0.5**
RBK Rabkut 20.98 184 P **P** **11 38 36.2 +0.1**
SNR=34
RBK P **P** **11 38 36.2 +0.1**
SNR=34
MOS Moscow 20.99 331 *e*P **P** **11 38 34.9 -0.9**
MOS *e*S **S** **11 42 26.8 -2.6**
MOS *e* 11 42 44.0
MOS pmax pmax
comp=Z,280nm,1.2s
MOS pmax pmax
comp=Z,400nm,1.3s
MOS MLR MLR
comp=Z,2μm,15.0s
FETY Fethiye 21.03 273 P **P** **11 38 36.0 -0.5**
MAKZ Makanchi 21.05 58 P **P** **11 38 36.3 -0.4**
MAKZ pmax pmax
comp=Z,232nm,1.6s
MAKZ Makanchi 21.05 58 P **P** **11 38 36.3 -0.4**
MAKZ IAmb IAmb 11 38 40.4
comp=Z,232nm,1.6s
MAKZ Makanchi 21.05 58 ⇑P **P** **11 38 36.3 -0.4**
comp=Z,122nm,1.2s
MFTR Murfatlar 21.08 294 ⇑P **P** **11 38 38.8 +2.0**
MANT Manisa 21.09 278 P **P** **11 38 36.9 -0.5**
TIRR Tirgusor 21.11 295 P **P** **11 38 35.8 -1.5**
TIRR Tirgusor 21.11 295 ⇑P **P** **11 38 38.1 +0.8**
TIRR Tirgusor 21.11 295 P **P** **11 38 35.8 -1.5**
ABTO Aybut 21.18 186 P **P** **11 38 38.3 0.0**
SNR=26
ABTO P **P** **11 38 38.3 0.0**
SNR=26
TOPG Topolog 21.19 296 ⇑P **P** **11 38 38.7 +0.5**
MK31 Makanchi Array 21.26 59 P **P** **11 38 38.7 -0.2**
MK31 pmax pmax
comp=Z,86nm,1.1s
MK31 Makanchi Array 21.26 59 P **P** **11 38 38.7 -0.2**
MK31 IAmb IAmb 11 38 46.0
comp=Z,86nm,1.1s
MK31 Makanchi Array 21.26 59 ⇑P **P** **11 38 38.8 -0.1**
comp=Z,127nm,1.1s,baz=250,slow=9.7,SNR=199
MKAR Makanchi Array 21.26 59 P **P** **11 38 39.3 +0.4**
comp=Z,48nm,0.9s,baz=251,slow=8.9,SNR=126
MKAR LR LR 11 47 57.1
comp=Z,4μm,21.2s,baz=254,slow=40
MILM Milestii Mici 21.27 302 ⇑P **P** **11 38 39.5 +0.5**
KIS Kishinev 21.29 302 *e*P **P** **11 38 40.0 +0.8**
comp=Z,380nm,1.0s
KIS Kishinev 21.29 302 *e*PP P 11 38 56.0 +17
KIS Kishinev 21.29 302 *e*PcP PcP 11 42 52.0 +8.5
KIS *e*SS Sn 11 43 04.0 +21
KIS *e*Li 11 44 40.0
KIS *e*LQ LQ 11 45 52.0
KIS LRM MLR 11 48 46.0
comp=Z,2μm,15.0s
KIS Kishinev 21.29 302 *e*P **P** **11 38 40.0 +0.8**
KIS *e*PPP PPP 11 39 03.0
KIS *e*S **S** **11 42 30.0 -5.6**
KIS *e*SS **SnSn** **11 43 04.0 +6.3**
KIS pmax pmax
comp=Z,380nm,1.0s
KIS MLR MLR
comp=Z,2μm,15.0s
KIS MLR MLR
comp=N,1μm,17.0s
TLB Topalu 21.39 295 ⇑P **P** **11 38 41.4 +1.1**
CFR Carcaliu 21.41 297 ⇑P **P** **11 38 40.5 +0.1**
HARR Harsova 21.48 296 ⇑P **P** **11 38 42.4 +1.1**
ICOR Ion Corvin 21.52 294 ⇑P **P** **11 38 43.7 +2.0**
LEOM Leova 21.56 300 ⇑P **P** **11 38 43.1 +1.1**
PRD Provadia 21.74 291 P **P** **11 38 44.3 +0.3**
SORM Soroca 21.89 305 ⇑P **P** **11 38 45.6 0.0**
IAS Iasi 22.17 302 ⇑P **P** **11 38 49.8 +1.2**
AKASG Malin Array Be 22.21 312*ce*P **P** **11 38 48.2 -0.8**
AKASG pmax pmax
comp=Z,24nm,0.7s
AKASG Malin Array Be 22.21 312 P **P** **11 38 48.7 -0.3**
comp=Z,83nm,1.0s,baz=112,slow=9.8,SNR=61
AKASG LR LR 11 49 49.6
comp=Z,1μm,19.3s,baz=105,slow=43
AKBB Malin Array Si 22.21 312*c i*P **P** **11 38 48.5 -0.5**
AKBB Malin Array Si 22.21 312 P **P** **11 38 48.1 -0.9**
ODBI Odobesti 22.25 298 ⇑P **P** **11 38 51.8 +2.3**
JMB Yambol 22.32 289 P **P** **11 38 51.2 +0.9**
RAZG Razgrad 22.41 292 ⇑P **P** **11 38 54.0 +2.7**
VRI Vrincioaia 22.49 298 ⇑P **P** **11 38 53.9 +1.8**
ISR Istrita 22.52 296 ⇑P **P** **11 38 55.3 +2.8**
PLOR Plostina 22.54 298 ⇑P **P** **11 38 54.0 +1.4**
TESR Tescani 22.65 300 ⇑P **P** **11 38 54.6 +0.9**
ALN Alexandroupoli 22.77 285 P **P** **11 38 55.9 +0.8**
KARP Karpathos 22.81 271 P **P** **11 38 55.5 -0.1**
SZH Strazhica 22.81 291 P **P** **11 38 56.8 +1.3**
ELND Elena 22.85 291 ⇑P **P** **11 38 57.5 +1.6**
GADA Gvkgeada 22.93 284 P **P** **11 38 58.1 +1.3**
MLR Muntele Rosu 22.98 297 P **P** **11 38 58.2 +0.8**
MLR pmax pmax
comp=Z,353nm,1.3s
MLR Muntele Rosu 22.98 297 P **P** **11 38 58.4 +1.0**
comp=Z,132nm,1.1s,baz=41,slow=3.9,SNR=20
MLR LR LR 11 50 08.3
comp=Z,1μm,19.9s,baz=114,slow=42
MLR Muntele Rosu 22.98 297 ⇓P **P** **11 38 59.4 +2.0**
MLR Muntele Rosu 22.98 297 P **P** **11 38 58.2 +0.8**
BIZ Bicaz 23.09 301 ⇑P **P** **11 38 59.4 +0.9**
RDO Rodhopi 23.14 286 P **P** **11 38 59.4 +0.5**
OZUR 23.17 299 ⇑P **P** **11 39 01.7 +2.4**
SMTH Samothraki Isl 23.19 284 P **P** **11 38 59.8 +0.3**
KDZ Kurdzhali 23.20 287 P **P** **11 38 59.3 -0.3**
COPA Copaceanca 23.37 294 ⇑P **P** **11 39 03.1 +1.9**
DOPR Dopca 23.43 298 ⇑P **P** **11 39 03.2 +1.3**
VOIR 23.60 297 ⇓P **P** **11 39 05.4 +1.8**
ZKR Zakros 23.68 271 P **P** **11 39 05.3 +1.0**
APE Apeiranthos 23.71 276⇓*e*P **P** **11 39 07.7 +3.0**
APE pmax pmax
comp=Z,31nm,0.9s
APE Apeiranthos 23.71 276 ⇑P **P** **11 39 05.0 +0.2**
APE mb 11 39 20.8
RZN Rozhen 23.72 287 P **P** **11 39 06.1 +1.1**
PLVB Pleven 23.77 292 ⇑P **P** **11 39 07.0 +1.8**
THAS Thassos island 23.79 285 P **P** **11 39 05.3 -0.1**
BUR08 Bucovina Ar. S 23.83 302 P **P** **11 39 05.7 -0.1**
BUR08 IAmb IAmb 11 39 16.7
comp=Z,49nm,1.0s
ARR Arges 23.88 297 ⇑P **P** **11 39 08.0 +1.7**
KAVA Kavala 23.92 286 P **P** **11 39 07.5 +0.9**
PRGR Permogore 23.94 348*j i*P **P** **11 39 08.2 +1.6**
PRGR pmax pmax
comp=Z,122nm,1.2s
NPS Neapolis 24.11 272 P **P** **11 39 08.4 -0.1**
ARCR ARCALIA 24.30 301 ⇑P **P** **11 39 12.7 +2.6**
OUR Ouranopolis 24.38 284 P **P** **11 39 11.8 +0.9**
NVR Nevrokopi 24.38 287 P **P** **11 39 12.7 +1.7**
MMB Musomiste 24.47 287 P **P** **11 39 12.3 +0.5**
SERI Serifos 24.51 277 P **P** **11 39 11.7 -0.4**
AOS Alonnisos 24.61 281 P **P** **11 39 13.1 +0.1**
MICGM Minsk 24.62 319 *e*P **P** **11 39 13.0 +0.1**
MICGM *e*P **P** **11 39 13.0 +0.1**
MICGM *e*PPP PPP 11 40 05.0
MICGM *e*S **S** **11 43 32.0 -2.0**
MICGM *e*SS **SnSn** **11 44 14.0 -5.2**
MICGM *e*SSS SSS 11 44 38.0
MICGM *e*LQ LQ 11 47 00.0
MICGM *e*LR LR 11 49 36.0
MICGM LRM MLR 11 51 08.0
comp=Z,3.7nm,16.0s
MNK Minsk 24.62 319 *e*P **P** **11 39 13.0 +0.1**
MNK *e*PPP PPP 11 40 05.0
MNK *e*S **S** **11 43 32.0 -2.0**
MNK *e*SSS SSS 11 44 38.0
MNK MLR MLR
comp=Z,4μm,16.0s
PAIG Paliouri 24.66 283 P **P** **11 39 14.5 +1.1**
WMQ Urumqi 24.68 67 P **P** **11 39 14.6 +0.9**
WMQ sP sP 11 39 20.4 +2.2
WMQ S **S** **11 43 32.8 -2.5**
WMQ PcS **PcS** **11 46 26.8 -3.9**
WMQ pmax pmax
comp=Z,110nm,1.3s
WMQ pmax pmax
comp=Z,710nm,3.7s
WMQ LR LR
comp=Z,2μm,20.7s
WMQ LR LR
comp=Z,2μm,14.5s
WMQ LR LR
comp=Z,5μm,13.1s
WMQ Urumqi 24.68 67 P **P** **11 39 13.2 -0.5**
WMQ pmax pmax
comp=Z,153nm,1.2s
WMQ Urumqi 24.68 67 P **P** **11 39 13.2 -0.5**
EREA Eretria 24.69 280 P **P** **11 39 14.9 +1.1**
CJR Cluj-Napoca 24.76 300 ⇑P **P** **11 39 17.5 +3.2**
VTS Vitosha 24.79 290 P **P** **11 39 17.1 +2.3**
VTS Vitosha 24.79 290 P **P** **11 39 17.6 +2.8**
VTS Vitosha 24.79 290 ⇑P **P** **11 39 17.1 +2.3**
VTS mb 11 39 32.3
VTS Vitosha 24.79 290 IAmb IAmb 11 39 35.7
comp=Z,80nm,1.4s
PTL Penteli 24.81 279 P **P** **11 39 14.9 0.0**
SOH Sokhos 24.81 286 P **P** **11 39 17.2 +2.4**
ATHU Athens Univers 24.89 279 P **P** **11 39 17.4 +1.9**
VLY Voula,Athens 24.90 278 P **P** **11 39 16.5 +0.8**
KKB Krupnik 24.93 288 P **P** **11 39 18.8 +2.9**
ATH Athens Observa 24.94 279 P **P** **11 39 17.0 +1.0**
BMR Baia Mare 24.97 302 ⇑P **P** **11 39 18.5 +2.3**
HORT Hortiatis 25.02 285 P **P** **11 39 19.1 +2.3**
LVV L'vov 25.08 307 *e*P **P** **11 39 19.1 +2.0**
LVV *e* 11 40 00.6
LVV *e*S **S** **11 43 39.9 -1.5**
LVV *e* 11 44 34.3
LVV MLR MLR
comp=E,1μm,15.0s
LVV MLR MLR
comp=N,300nm,14.0s
LVV MLR MLR
comp=Z,1μm,15.0s
THE Thessaloniki 25.12 285 P **P** **11 39 19.3 +1.7**
KNT Kendrikon 25.12 286 P **P** **11 39 20.0 +2.4**
DEV Deva 25.14 298 ⇑P **P** **11 39 20.5 +2.7**
VAM Vamos 25.17 273 P **P** **11 39 20.1 +2.0**
GZR Gura Zlata 25.19 296 ⇑P **P** **11 39 20.7 +2.4**
ZAA0 Zalesovo Array 25.21 43 P **P** **11 39 17.0 -1.3**
ZAA0 IAmb IAmb 11 40 10.0
comp=Z,62nm,1.2s
ZALV Zalesovo Beam 25.21 43 P **P** **11 39 18.2 0.0**
comp=Z,16nm,0.7s,baz=255,slow=10.0,SNR=40
ZALV LR LR 11 49 33.3
comp=Z,2μm,19.2s,baz=234,slow=37
VILL Villia 25.21 279 P **P** **11 39 20.6 +2.1**
IMMV Iera Moni Meta 25.33 273 P **P** **11 39 19.8 +0.3**
VAY Valandovo 25.36 287 *i* P **P** **11 39 22.8 +3.1**
DRGR 25.37 300 ⇑P **P** **11 39 22.1 +2.2**
NACGM Naroch 25.38 320 *e*P **P** **11 39 20.0 +0.3**
NACGM *e*S **S** **11 43 47.0 +1.0**
NACGM *e*SS **SnSn** **11 44 46.0 +8.4**
NACGM *e*SSS SSS 11 45 30.0
NACGM *e*LQ LQ 11 47 42.0
NACGM *e*LR LR 11 49 51.0
NACGM LRM MLR 11 51 40.0
comp=Z,2.8nm,15.0s
DID Didima 25.41 278 P **P** **11 39 20.2 -0.1**
GVDS Gavdos 25.42 271 P **P** **11 39 21.0 +0.6**
GVD Gavdhos 25.43 271 P **P** **11 39 20.9 +0.5**
LTK Loutraki 25.51 279 P **P** **11 39 22.9 +1.7**
LOUT Loutraki 25.51 279 P **P** **11 39 22.8 +1.6**
GRG Griva 25.52 286 P **P** **11 39 23.5 +2.3**
LIT Litokhoron 25.54 284 P **P** **11 39 22.8 +1.3**
LIT Litokhoron 25.54 284 P **P** **11 39 21.6 +0.1**
LIT pmax pmax
comp=Z,45nm,1.3s
LIT Litokhoron 25.54 284 P **P** **11 39 21.6 +0.1**
LIT IAmb IAmb 11 39 34.6
comp=Z,45nm,1.3s
DANN Dangsing 25.55 105 *e*P **P** **11 39 22.9 +0.9**
comp=Z,349nm,1.0s
STIP Stip 25.62 288 *j* P **P** **11 39 21.8 -0.3**
TRPA Tarpa 25.68 303 ⇑P **P** **11 39 25.0 +2.4**
TRPA mb 11 39 33.6
TRPA Tarpa 25.68 303 *e*P **P** **11 39 24.1 +1.5**
KOLN Koldanda 25.73 106 *e*P **P** **11 39 24.1 +0.6**
comp=Z,144nm,1.1s
DAMY Dhamar 25.82 205 P **P** **11 39 25.8 +1.4**
DAMY IAmb IAmb 11 39 31.2
comp=Z,74nm,1.0s
VLI Veliai 25.82 276 P **P** **11 39 23.0 -1.0**
AGG Agios Georgios 25.82 282 P **P** **11 39 24.0 0.0**
AGG Agios Georgios 25.82 282 IAmb IAmb 11 39 37.9
comp=Z,114nm,1.3s
KWP Kalwaria Pacla 25.87 306 *e*P **P** **11 39 27.7 +3.4**
KWP Kalwaria Pacla 25.87 306 *e*P **P** **11 39 27.7 +3.4**
KWP *e*P **P** **11 39 27.7 +3.4**
MDVR Moldovita 25.91 295 ⇑P **P** **11 39 26.7 +1.9**
UZH Uzhgorod 25.93 304 *e*P **P** **11 39 24.2 -0.7**
UZH *i* 11 39 28.0
UZH *e* 11 40 04.0
UZH *e*PPP PPP 11 40 13.7
UZH *e*S **S** **11 43 50.7 -4.2**
UZH *e*SSS SSS 11 45 00.0
UZH MLR MLR
comp=N,250nm,16.0s
UZH MLR MLR
comp=E,250nm,16.0s
UZH MLR MLR
comp=Z,90nm,16.0s
THL Klokotos Trika 25.98 283 P **P** **11 39 27.1 +1.7**
LTVH Ltavrtes, Hu 26.00 301 *e*P **P** **11 39 30.0 +4.5**
KOLS Kolonicke sedl 26.00 304 *e*P **P** **11 39 31.1 +5.6**
KOLS Kolonicke sedl 26.00 304 *e*P **P** **11 39 31.1 +5.6**
BZS Buzias 26.02 297 ⇓P **P** **11 39 28.7 +3.0**
ISAL Salakas 26.02 321 *e*P **P** **11 39 26.4 +0.8**
ISAL IAmb IAmb 11 39 35.3
comp=Z,52nm,1.1s
IZAR Zarasai 26.05 321 *e*P **P** **11 39 26.8 +0.9**
IZAR IAmb IAmb 11 39 35.7
comp=Z,65nm,1.2s
LAKA Lakka 26.23 280 P **P** **11 39 27.5 -0.2**
SOCY Socotra 26.27 183 P **P** **11 39 28.1 -0.1**
SNR=5.2
SOCY Socotra 26.27 183 P **P** **11 39 26.1 -2.1**
FNA Florina 26.31 286 IAmb IAmb 11 39 44.7
comp=Z,78nm,1.4s
GKN Gorkha 26.39 105 *e*P **P** **11 39 29.9 +0.4**
comp=Z,394nm,1.2s
ITM Ithomi 26.50 278 P **P** **11 39 30.2 +0.1**
PUL Pulkovo 26.61 331⇑*e*P **P** **11 39 33.6 +2.7**
PUL pmax pmax
comp=Z,96nm,0.9s
SUW Suwalki 26.90 316 *e*P **P** **11 39 36.7 +3.1**
SUW Suwalki 26.90 316 *e*P **P** **11 39 36.7 +3.1**
SUW *e*P **P** **11 39 36.7 +3.1**
SUW Suwalki 26.90 316 P **P** **11 39 33.3 -0.2**
DMN Daman 26.95 105 *e*P **P** **11 39 35.7 +1.1**
comp=Z,522nm,1.5s
KKN Kakani 26.99 104 *e*P **P** **11 39 36.4 +1.5**
comp=Z,119nm,0.9s
PABE Paberze 27.09 319 *e*P **P** **11 39 36.1 +0.9**
BSZH Besenyszg 27.09 300 *e*P P 11 39 48.0 +13
KECS Kecovo 27.09 303 *e*P **P** **11 39 38.1 +2.7**
KECS Kecovo 27.09 303 *e*P **P** **11 39 38.1 +2.7**
LKD2 Lefkada island 27.15 282 P **P** **11 39 35.5 -0.5**
PKIN Phulchoki 27.19 105 *e*P **P** **11 39 37.8 +1.0**
comp=Z,344nm,1.1s
PKI Pulchoki 27.20 105 *e*P **P** **11 39 37.8 +0.9**
comp=Z,322nm,0.9s
VSU Vasula 27.26 326⇑*e*P **P** **11 39 36.5 -0.2**
VSU pmax pmax
comp=Z,45nm,0.9s
VSU Vasula 27.26 326 *e*P **P** **11 39 36.1 -0.6**
NIE Niedzica 27.36 305 *e*P **P** **11 39 40.0 +2.1**
NIE Niedzica 27.36 305 *e*P **P** **11 39 40.0 +2.1**
NIE *e*P **P** **11 39 40.0 +2.1**
GUN Gumba 27.39 104 *e*P **P** **11 39 39.4 +0.8**
comp=Z,336nm,1.1s
PSZ Piszkesteto 27.41 302 P **P** **11 39 37.7 -0.6**
PSZ pmax pmax
comp=Z,99nm,1.4s
PSZ Piszkesteto 27.41 302 *e*P **P** **11 39 41.0 +2.7**
PSZ Piszkesteto 27.41 302 P **P** **11 39 37.7 -0.6**
PSZ IAmb IAmb 11 39 57.8
comp=Z,99nm,1.4s
TMCR Tamitsa 27.70 344 *e*P **P** **11 39 40.5 -0.1**
TMCR *e*S **S** **11 44 26.7 +4.1**
TMCR pmax pmax
comp=Z,163nm,1.4s
PDG Podgorica 27.74 290 ⇑P **P** **11 39 45.7 +4.5**
PDG mb 11 39 50.5
JIRN Jiri 27.75 104 *e*P **P** **11 39 42.5 +0.6**
comp=Z,559nm,1.6s
OJC Ojcow 27.83 307 *e*P **P** **11 39 43.4 +1.4**
OJC Ojcow 27.83 307 *e*P **P** **11 39 43.4 +1.4**
OJC *e*P **P** **11 39 43.4 +1.4**
OJC Ojcow 27.83 307 IAmb IAmb 11 39 53.4
comp=Z,61nm,1.2s
LANS Liptovska Anna 27.86 304 *e*P **P** **11 39 45.1 +2.8**
LANS Liptovska Anna 27.86 304 *e*P **P** **11 39 45.1 +2.8**
MORH Mrgy, Hungar 28.12 298 *e*P **P** **11 39 47.0 +2.4**
VYHS Vyhne 28.18 303 *e*P **P** **11 39 47.7 +2.6**
VYHS Vyhne 28.18 303 *e*P **P** **11 39 47.6 +2.5**
RAMN Ramite 28.43 105 *e*P **P** **11 39 48.4 +0.6**
CSKK Cskako 28.45 300 *e*P P 11 39 57.1 +10
TIH Tihany 28.68 299 *e*P P 11 39 59.0 +10
OKC Ostrava-Krasne 28.81 305 AMS AMS 11 54 00.0
comp=Z,900nm,16.8s
MPLH Magyarpolny 28.93 300 *e*P **P** **11 39 56.0 +4.2**
JAVC Velka Javorina 28.99 303 *e*P **P** **11 39 55.2 +2.8**
TAPN Taplejung 29.07 103 *e*P **P** **11 39 54.4 +0.8**
comp=Z,26nm,0.9s
ODAN Odare 29.08 104 *e*P **P** **11 39 54.9 +1.3**
comp=Z,126nm,1.2s
BLY Banja Luka 29.13 295 P **P** **11 39 53.7 +0.1**
ATD Arta Tunnel 29.18 206 P **P** **11 39 54.0 -0.3**
comp=Z,3.3nm,0.3s,baz=29,slow=17,SNR=2.2
ATD LR LR 11 51 37.0
comp=Z,1μm,21.3s,baz=24,slow=37
MORC Moravsky Berou 29.19 305 P **P** **11 39 53.4 -0.7**
MORC pmax pmax
comp=Z,27nm,1.2s
MORC Moravsky Berou 29.19 305 ⇑P **P** **11 39 56.6 +2.4**
MORC mb 11 40 12.7
MORC Moravsky Berou 29.19 305 *e*P **P** **11 39 55.8 +1.7**
MORC Moravsky Berou 29.19 305 P **P** **11 39 53.4 -0.7**
MODS Modra-Piesok 29.20 302 *e*P **P** **11 39 55.7 +1.5**
MODS Modra-Piesok 29.20 302 *e*P **P** **11 39 55.7 +1.5**
FIA1 FINESS Array S 29.29 331 P **P** **11 39 54.3 -0.5**
FIA1 IAmb IAmb 11 40 52.1
comp=Z,69nm,1.1s
FINES FINESS Array B 29.29 331 *i* P **P** **11 39 56.0 +1.2**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 29.29 331 P **P** **11 39 54.4 -0.4**
comp=Z,2.7nm,0.5s,baz=132,slow=10,SNR=14
FINES LR LR 11 54 10.3
comp=Z,978nm,20.3s,baz=136,slow=42
SOP Sopron 29.63 301 *e*P **P** **11 39 58.0 0.0**
KRLC Kraliky 29.72 306 AMS AMS 11 54 10.0
comp=Z,1μm,15.8s
VRAC Vranov 29.75 304 *e*P **P** **11 40 02.2 +3.2**
KRUC Moravsky 29.85 303 *e*P **P** **11 40 02.5 +2.6**
DPC Dobruska-Polom 30.05 306 *e*P **P** **11 40 04.2 +2.5**
DPC *e*S **S** **11 45 08.0 +8.1**
DPC MLR MLR
comp=Z,1μm,15.2s
DPC Dobruska-Polom 30.05 306 *e*P **P** **11 40 04.2 +2.5**
DPC *e*S **S** **11 45 08.0 +8.1**
DPC AMS AMS 11 54 30.0
comp=Z,1μm,15.2s
CONA Conrad Observa 30.11 301 *i* pP **P** **11 40 05.3 +2.9**
comp=Z,13nm,1.7s
CHVC Chvalec 30.25 306 *e*P **P** **11 40 05.2 +1.7**

CHVC AMS AMS 11 54 10.0
comp=Z,1μm,16.7s
UPC Upice 30.27 306 AMS AMS 11 54 20.0
comp=Z,1μm,15.0s
ARSA Arzberg 30.31 300 *i* pP **P 11 40 05.7 +1.6**
comp=Z,12nm,1.1s
TREC Trest 30.46 304 AMS AMS 11 55 20.0
comp=Z,900nm,16.6s
SOKA Soboth 30.63 299 *i* pP **P 11 40 09.8 +2.8**
comp=Z,21nm,1.2s,SNR=9.6
OBKA Obir 30.96 298 *i* pP **P 11 40 10.2 +0.3**
comp=Z,11nm,1.5s
GOPC GO Pecny, Ondr 30.98 305 AMS AMS 11 55 00.0
comp=Z,1μm,15.8s
PRU Pruhonice 31.14 305 AMS AMS 11 55 00.0
comp=Z,1μm,14.8s
MOA Molln 31.18 301 *i* pP **P 11 40 13.4 +1.7**
comp=Z,2.4nm,0.7s
PVCC Panska Ves 31.18 306 AMS AMS 11 55 00.0
comp=Z,1μm,15.0s
PRA Prague 31.22 305 AMS AMS 11 55 00.0
comp=Z,1μm,15.0s
MYKA Terra Mystica 31.59 299 *i* pP **P 11 40 18.2 +2.8**
comp=Z,6.3nm,0.8s
GEC2 GERESS Array S 31.60 303 P **P 11 40 14.8 -0.7**
GERES GERESS Array B 31.60 303 P **P 11 40 16.2 +0.7**
comp=Z,0.6nm,0.5s,baz=93,slow=9.9,SNR=3.3
APA Apatity 31.61 344⇑ *i* P P 11 40 22.1 +6.9
APA pmax pmax
comp=Z,24nm,1.1s
APA MLR MLR
comp=Z,5μm,14.0s
BRG Berggiesshubel 31.62 307 *e*P **P 11 40 17.7 +2.2**
comp=Z,37nm,1.8s
BRG *e* 11 41 26.2
comp=Z,43nm,1.6s
BRG S **S 11 45 32.0 +7.7**
comp=Z,1μm,15.6s
comp=N,1μm,13.0s
comp=E,510nm,13.0s
BRG Berggiesshubel 31.62 307 *e*P **P 11 40 17.7 +2.2**
BRG *e* 11 41 26.2
BRG S **S 11 45 32.0 +7.7**
BRG pmax pmax
comp=Z,8.0nm,1.8s
BRG pmax pmax
comp=Z,37nm,1.6s
BRG MLR MLR
comp=Z,43μm,15.6s
BRG MLR MLR
comp=N,1μm,13.0s
BRG MLR MLR
comp=E,1μm,13.0s
LVZ Lovozero 31.63 345 P **P 11 40 14.3 -1.1**
LVZ pmax pmax
comp=Z,130nm,1.4s
LVZ Lovozero 31.63 345 P **P 11 40 14.3 -1.1**
KHC Kasperske Hory 31.70 303 *e*P **P 11 40 17.4 +1.1**
KHC *e* 11 40 24.5
KHC MLR MLR
comp=Z,1μm,16.0s
KHC Kasperske Hory 31.70 303 *e*P **P 11 40 17.4 +1.1**
KHC *ex* x 11 40 24.5
KHC *e*S S 11 45 49.6 +24
KHC AMS AMS 11 54 40.0
comp=Z,1μm,16.0s
KHC Kasperske Hory 31.70 303 P **P 11 40 15.8 -0.6**
KBA Koelnbreinsper 31.79 299 *i* P **P 11 40 17.2 -0.1**
comp=Z,17nm,0.7s
NRCA Norcia 32.21 291 IAmb IAmb 11 40 45.4
comp=Z,22nm,0.9s
STAL STALIGIAL 32.24 298 P **P 11 40 20.6 -0.5**
CLL Collm 32.26 307 *e*P **P 11 40 24.0 +2.9**
CLL *e*S **S 11 45 37.0 +2.7**
CLL pmax pmax
comp=Z,7.0nm,0.7s
CLL Collm 32.26 307 *e*(P) **P 11 40 24.0 +2.9**
comp=Z,7.0nm,0.7s
CLL *e* 11 40 36.0
CLL *e*PPP PPP 11 41 36.0
CLL *e*PPPP 11 41 44.0
CLL *e*S **S 11 45 37.0 +2.7**
CLL *e*SS **SnSn 11 47 30.0 +4.6**
ABTA Abfaltersbach 32.37 299 *i* pP **P 11 40 24.7 +2.4**
comp=Z,15nm,1.3s,SNR=6.4
NKC Novy Kostel 32.51 305 AMS AMS 11 57 20.0
comp=Z,2μm,14.8s
WTTA Wattenberg 32.96 300 *i* pP **P 11 40 28.3 +0.8**
comp=Z,21nm,1.2s,SNR=7.4
CTI Castel Tesino 32.99 298 P **P 11 40 27.8 +0.1**
CTI pmax pmax
comp=Z,19nm,0.9s
CTI Castel Tesino 32.99 298 P **P 11 40 27.8 +0.1**
CTI IAmb IAmb 11 40 43.6
comp=Z,19nm,0.9s
WATA Walderalm 33.00 300 *i* pP **P 11 40 29.6 +1.8**
comp=Z,27nm,1.2s,SNR=5.2
LATE Laterza 33.20 291 P **P 11 40 29.0 -0.5**
LATE IAmb IAmb 11 40 42.1
comp=Z,51nm,1.2s
SQTA Sankt Quirin 33.25 300 *i* pP **P 11 40 31.2 +1.2**
comp=Z,19nm,1.6s,SNR=5.3
MOTA Moosalm 33.32 300 *i* pP **P 11 40 31.1 +0.5**
comp=Z,12nm,1.3s
RETA Reutte 33.55 300 *i* P **P 11 40 30.3 -2.2**
comp=Z,9.0nm,1.3s
FETA Feichten 33.58 299 *i* pP **P 11 40 33.4 +0.4**
comp=Z,16nm,1.4s
FUORN Ofenpass-Fuorn 33.92 299 P **P 11 40 35.7 -0.3**
HFS Hagfors 33.96 323 P **P 11 40 36.6 +0.7**
comp=Z,8.5nm,0.9s,baz=101,slow=7.7,SNR=11
MOY Mondy 34.11 52 *e*P **P 11 40 40.8 +3.4**
MOY pmax pmax
comp=Z,36nm,2.6s
DAVA Damuels 34.15 300 *i* pP **P 11 40 38.3 +0.4**
comp=Z,15nm,1.0s
DAVOX Davos/Dischmat 34.17 299 P **P 11 40 38.1 -0.1**
comp=Z,5.5nm,0.8s,baz=110,slow=4.9,SNR=10
GTA Gaotai 34.18 74⇑ P **P 11 40 39.3 +1.1**
GTA pP sP 11 40 42.6 -0.1
GTA sP pP 11 40 45.4 +4.0
GTA S **S 11 46 07.4 +2.8**
GTA sS sS 11 46 14.5 +4.6
GTA pmax pmax
comp=Z,11nm,1.5s
GTA pmax pmax
comp=Z,230nm,5.2s
GTA LR LR
comp=Z,3μm,15.0s
GTA LR LR
comp=Z,3μm,15.3s
GTA LR LR
comp=Z,4μm,15.3s
TUE Stuetta 34.56 298 P **P 11 40 40.5 -0.9**
TUE IAmb IAmb 11 41 07.4
comp=Z,68nm,1.8s
MSSA Maissana 34.63 295 P **P 11 40 41.1 -0.9**
MSSA IAmb IAmb 11 40 57.5
comp=Z,58nm,1.3s
ARCES ARCESS Array B 34.97 342 P **P 11 40 46.0 +1.5**
ARCES ARCESS Array B 34.97 342 P **P 11 40 46.0 +1.5**
comp=Z,2.3nm,0.7s,baz=134,slow=6.9,SNR=9.3
ARCES LR LR 11 57 00.6
comp=Z,2μm,19.2s,baz=134,slow=40
NC405 NORSAR Array S 35.21 324 P **P 11 40 45.6 -1.1**
NB2 NORSAR Subarra 35.42 324 P **P 11 40 47.8 -0.7**
comp=Z,44nm,1.4s,baz=110,slow=8.6
NB2 NORSAR Subarra 35.42 324 P **P 11 40 47.8 -0.7**
baz=110,slow=8.6
NOA NORSAR Array B 35.42 324 P **P 11 40 48.2 -0.3**
comp=Z,10.0nm,1.1s,baz=111,slow=8.3,SNR=7.1
NOA LR LR 11 56 39.8
comp=Z,1μm,18.8s,baz=110,slow=39
ZAK Zakamensk 35.49 55 *e*P **P 11 40 46.5 -2.9**
ZAK *e* 11 42 04.2
ZAK pmax pmax
comp=Z,8.0nm,1.5s
TLY Talaya 35.76 52 *e*P **P 11 40 49.0 -2.5**
TLY *e* 11 42 13.0
TLY *e*S **S 11 46 31.6 +3.2**
TLY *e*SS **SnSn 11 48 52.7 +2.5**
TLY pmax pmax
comp=Z,25nm,2.0s
TLY MLR MLR
comp=Z,12μm,19.0s
ECH Echery 35.95 302 IAmb IAmb 11 41 06.6
comp=Z,39nm,1.4s
SENIN Lac Senin/Sane 35.98 298 P **P 11 40 53.2 -0.5**
SENIN IAmb IAmb 11 41 16.3
comp=Z,66nm,1.9s
BNI Bardonecchia 36.55 296 P **P 11 40 58.8 +0.2**
BNI pmax pmax
comp=Z,106nm,1.9s
BNI Bardonecchia 36.55 296 P **P 11 40 58.8 +0.2**
BNI IAmb IAmb 11 41 14.4
comp=Z,106nm,1.9s
WLF Walferdange 36.56 304⇓ P **P 11 40 56.2 -2.2**
WLF x x 11 41 09.3
MEM Membach 36.64 306 x P 11 41 10.0 +11
KEST Kesra 36.64 280 LR LR 11 59 15.3
comp=Z,328nm,19.8s,baz=358,slow=42
SONM Songino Array 37.63 59 P **P 11 41 08.0 +0.4**
comp=Z,2.8nm,0.8s,baz=270,slow=8.6,SNR=10
SONM LR LR 11 59 14.1
comp=Z,1μm,18.5s,baz=282,slow=40
ULN Ulaanbaatar 38.07 59 P **P 11 41 12.7 +1.3**
SNR=18
ULN Ulaanbaatar 38.07 59 *e*P **P 11 41 12.2 +0.8**
ULN pmax pmax
comp=Z,48nm,1.7s
ULN Ulaanbaatar 38.07 59 P **P 11 41 11.1 -0.3**
ULN IAmb IAmb 11 41 18.8
comp=Z,36nm,1.1s
LZH Lanzhou 38.15 78 *e*P **P 11 41 13.4 +1.1**
LZH sP sP 11 41 20.4 +3.6
LZH S **S 11 47 09.3 +3.7**
LZH sS ScP 11 47 18.5 +3.8
LZH pmax pmax
comp=Z,24nm,1.1s
LZH pmax pmax
comp=Z,170nm,4.2s
LZH LR LR
comp=Z,2μm,14.6s
LZH LR LR
comp=Z,2μm,11.4s
LZH LR LR
comp=Z,3μm,15.7s
PALK Pallekele 38.53 137 *i* P **P 11 41 15.3 -0.1**
SNR=7.4
PALK Pallekele 38.53 137 P **P 11 41 15.2 -0.2**
PALK pmax pmax
comp=Z,119nm,1.3s
PALK Pallekele 38.53 137 P **P 11 41 15.2 -0.2**
LODK Lodwar 39.49 213 P **P 11 41 25.9 +2.4**
SNR=8.2
CD2 Chengdu 39.98 86 P **P 11 41 28.9 +1.4**
CD2 S **S 11 47 37.1 +4.1**
CD2 pmax pmax
comp=Z,50nm,1.4s
CD2 LR LR
comp=Z,3μm,19.9s
CD2 LR LR
comp=Z,2μm,14.9s
CD2 LR LR
comp=Z,3μm,18.5s
BTO Baotou 41.49 69 *e*P **P 11 41 38.8 -1.1**
BTO S **S 11 47 52.1 -3.2**
KMI Kunming 41.84 94 P **P 11 41 43.5 +0.4**
KMI pP sP 11 41 46.9 -0.7
KMI sP pP 11 41 51.2 +4.9
KMI S **S 11 48 00.8 -0.3**
KMI sS sS 11 48 10.7 +4.3
KMI pmax pmax
comp=Z,21nm,1.4s
KMI pmax pmax
comp=Z,150nm,3.1s
KMI LR LR
comp=Z,1μm,16.3s
KMI LR LR
comp=Z,2μm,18.6s
KMI LR LR
comp=Z,1μm,23.1s
BOD Bodaibo 41.97 43 *e*P **P 11 41 43.3 -0.1**
BOD pmax pmax
comp=Z,24nm,1.8s
MHMT Maesarieng 42.01 107 P **P 11 41 47.6 +3.4**
comp=Z,17nm,0.8s,comp=Z,2μm
EKA Eskdalemuir Ar 42.11 313 P **P 11 41 45.1 +0.5**
comp=Z,2.2nm,0.6s,baz=107,slow=8.3,SNR=7.1
CMMT Chiang Mai 42.39 105 P **P 11 41 50.1 +2.8**
comp=Z,6.0nm,1.9s
HHC Hu-ho-hao-te 42.55 68 P **P 11 41 46.8 -1.8**
HHC pmax pmax
comp=Z,9.0nm,0.9s
CM31 Chiang Mai Arr 42.60 106 P **P 11 41 48.2 -0.8**
CMAR Chiang Mai Arr 42.60 106 P **P 11 41 48.7 -0.3**
comp=Z,5.3nm,0.8s,baz=298,slow=8.4,SNR=19
CMAR LR LR 12 02 34.0
comp=Z,939nm,21.4s,baz=294,slow=40
XAN Xi'an 42.77 79 P **P 11 41 50.8 +0.5**
XAN pmax pmax
comp=Z,23nm,1.3s
XAN pmax pmax
comp=Z,200nm,3.7s
XAN LR LR
comp=Z,2μm,16.3s
XAN LR LR
comp=Z,2μm,13.0s
XAN LR LR
comp=Z,2μm,17.7s
XAN Xi'an 42.77 79 P **P 11 41 49.4 -0.9**
XAN pmax pmax
comp=Z,36nm,1.3s
XAN Xi'an 42.77 79 P **P 11 41 49.4 -0.9**
KMBO Kilima Mbogo 42.91 207 P **P 11 41 52.8 +1.0**
KMBO Kilima Mbogo 42.91 207 P **P 11 41 52.2 +0.4**
comp=Z,0.6nm,0.3s,baz=45,slow=20,SNR=4.7
KMBO LR LR 11 59 32.7
comp=Z,711nm,20.8s,baz=26,slow=36
KMBO Kilima Mbogo 42.91 207 P **P 11 41 51.9 +0.1**
LAMP Lampang 43.08 105 P P 11 41 58.5 +5.6
comp=Z,36μm,1.0s
PHRA Phrae 43.55 104 P **P 11 41 58.4 +1.7**
comp=Z,1.8nm,1.1s,comp=Z,447nm
UMPA Umpang Tak 43.92 108 P P 11 42 06.8 +7.0
comp=Z,14μm,0.8s
KBS Kingsbay 44.08 349⇑ *e*P **P 11 42 02.0 +1.8**
KBS pmax pmax
comp=Z,111nm,1.3s
TIY Taiyuan 44.14 73 *e*P P 11 42 07.4 +6.0
TIY PP **PcP 11 43 50.4 +4.1**
TIY S **S 11 48 36.0 +1.6**
TIY LR LR
comp=N,1μm,14.1s
TIY LR LR
comp=E,1μm,12.6s
TIY LR LR
comp=Z,1μm,12.0s
UTTA Uttaradit 44.25 105 P **P 11 42 04.8 +2.5**
comp=Z,17μm,0.9s
GYA Guiyang 44.26 90 P **P 11 42 02.8 +0.3**
GYA PP **PcP 11 43 46.8 -0.2**
GYA S **S 11 48 35.7 -0.7**
GYA SS **SS 11 51 44.0 -10**
GYA pmax pmax
comp=Z,20nm,0.4s
GYA pmax pmax
comp=Z,120nm,5.6s
GYA LR LR
comp=Z,420nm,17.5s
GYA LR LR
comp=Z,430nm,17.6s
SLVN Son La 44.75 98 P **P 11 42 05.6 -0.8**
UTHA Uthaitani 44.76 108 P P 11 42 13.2 +6.7
comp=Z,11μm,1.1s,comp=Z,427μm
MBAR Mbarara 45.13 216⇑ *e*P **P 11 42 12.4 +2.8**
MBAR pmax pmax
comp=Z,4.0nm,1.1s
MBAR Mbarara 45.13 216 P **P 11 42 09.5 0.0**
TAM Tamanrasset 45.25 265 P **P 11 42 09.9 -0.6**
TAM pmax pmax
comp=Z,20nm,1.6s
TAM Tamanrasset 45.25 265 P **P 11 42 09.9 -0.6**
PBKT Sadao Pong 45.27 106 P **P 11 42 13.6 +3.1**
comp=Z,7.4nm,1.4s,comp=Z,510nm
PBKT Sadao Pong 45.27 106 P **P 11 42 09.5 -1.0**
ESBB Sonseca Array 45.44 291 P **P 11 42 11.1 -0.6**
ESBB IAmb IAmb 11 42 20.8
comp=Z,41nm,1.7s
ESDC Sonseca Array 45.44 291 P **P 11 42 12.1 +0.3**
comp=Z,2.9nm,0.6s,baz=61,slow=8.3,SNR=16
ESDC LR LR 12 05 43.5
comp=Z,267nm,18.9s,baz=45,slow=42
PAB San Pablo 45.76 291 P **P 11 42 13.4 -0.9**
PAB pmax pmax
comp=Z,47nm,1.8s
PAB San Pablo 45.76 291 P **P 11 42 13.4 -0.9**
PAB IAmb IAmb 11 42 26.1
comp=Z,47nm,1.8s
NONG Nongkai 46.03 103 P **P 11 42 20.7 +4.2**
comp=Z,0.3nm,1.6s
BJI Beijing 46.15 68 *e*P **P 11 42 20.1 +2.9**
BJI S **S 11 49 06.5 +3.4**
BJI pmax pmax
comp=Z,11nm,1.1s
BJI LR LR
comp=Z,2μm,13.9s
BJI LR LR
comp=Z,1μm,13.1s
BJI LR LR
comp=Z,680nm,15.7s
HIA Hailar 46.19 55 P **P 11 42 16.0 -1.5**
HIA pmax pmax
comp=Z,15nm,1.3s
HIA Hailar 46.19 55 P **P 11 42 16.0 -1.5**
CHAI Chaiyaphum 46.45 106 P P 11 42 24.8 +4.9
comp=Z,14μm,0.9s
MVO Moncorvo 47.19 294 *e*LR LR 11 56 47.4
comp=Z,338nm,22.0s
SKNT Sakolnakorn 47.32 103 P **P 11 42 27.4 +0.8**
comp=Z,34nm,1.4s
MTE Manteigas 47.81 293 *e*P P 11 42 39.6 +9.3
MTE Manteigas 47.81 293 *e*LR LR 11 56 32.4
comp=Z,398nm,20.0s
PMRV Marv??o 48.02 292 *e*P **P 11 42 33.9 +2.0**
PMRV Marv??o 48.02 292 *e*LR LR 11 55 47.3
comp=Z,301nm,18.0s
PESTR Estremoz 48.36 291 P **P 11 42 34.0 -0.6**
WHN Wuhan 48.38 81 P **P 11 42 35.6 +0.8**
TIXI Tiksi 48.73 24⇓ *e*P **P 11 42 38.0 +1.2**
TIXI pmax pmax
comp=Z,31nm,1.7s
TIXI Tiksi 48.73 24 P **P 11 42 36.2 -0.6**
TIXI IAmb IAmb 11 42 42.3
comp=Z,58nm,1.8s
PMTG Montargil 48.76 292 *e*P P 11 42 46.1 +8.6
PVAQ Vaqueiros 48.99 290 *e*P P 11 42 47.5 +8.2
PVAQ Vaqueiros 48.99 290 *e*LR LR 11 55 51.0
comp=Z,202nm,18.0s
DAG Danmarks Havn 49.24 343 *i* P **P 11 42 41.0 +0.3**
DAG pmax pmax
comp=Z,140nm,1.6s
DAG Danmarks Havn 49.24 343 *i* P **P 11 42 41.0 +0.3**
comp=Z,42nm,1.6s
YAK Yakutsk 49.60 37 *e*P **P 11 42 44.1 +0.5**
YAK *e*S **S 11 49 52.8 +1.3**
YAK *e**SS sS 11 50 09.8 +13
YAK *e*SSS SSS 11 54 41.7
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=Z,150nm,3.2s
YAK pmax pmax
comp=N,147nm,3.5s
YAK smax smax
comp=E,109nm,2.5s
YAK smax smax
comp=N,194nm,2.5s
YAK MLR MLR
comp=Z,993nm,13.0s
YAK MLR MLR
comp=E,854nm,18.0s
YAK Yakutsk 49.60 37 P **P 11 42 43.0 -0.6**
ZEA Zeya 49.82 48 *e*P **P 11 42 46.8 +1.4**
ZEA pmax pmax
comp=Z,61nm,1.6s
ZEA MLR MLR
comp=Z,2μm,12.0s
ZEA MLR MLR
comp=E,2μm,11.0s
NJ2 Nanjing 51.19 77 *e*P **P 11 42 53.7 -2.4**
NJ2 pmax pmax
comp=E,14nm,0.6s
NJ2 LR LR
comp=E,2μm,13.8s
NJ2 LR LR
comp=E,2μm,14.4s
NJ2 LR LR
comp=E,2μm,12.0s
PSI Prapat 53.17 121 P **P 11 43 10.6 -0.5**
PSI pmax pmax
comp=Z,32nm,1.2s
PSI Prapat 53.17 121 P **P 11 43 09.9 -1.2**
comp=Z,12nm,1.0s,baz=283,slow=5.6,SNR=9.8
RPSI Rantau Prapat 53.24 121 P **P 11 43 10.6 -1.0**
RPSI IAmb IAmb 11 43 15.2
comp=Z,32nm,1.2s
GSI Gunungsitoli 53.38 123 P **P 11 43 11.9 -0.6**
GSI IAmb IAmb 11 43 21.4
comp=Z,66nm,1.5s
IPM Ipoh 53.39 118 P **P 11 43 11.5 -1.1**
KLR Kul'dur 53.77 52⇓ *e*P **P 11 43 15.5 +0.5**
KLR pmax pmax
comp=Z,7.0nm,1.0s
KLR Kul'dur 53.77 52 P **P 11 43 14.2 -0.8**
comp=Z,3.9nm,0.8s,baz=290,slow=11,SNR=8.5
TOA0 Torodi Ar. Sit 53.77 257 P **P 11 43 14.7 -0.8**
TORD Torodi Ar. Bea 53.77 257 P **P 11 43 14.8 -0.6**
comp=Z,5.8nm,1.0s,baz=49,slow=7.6,SNR=26
TORD LR LR 12 09 34.4
comp=Z,122nm,20.3s,baz=340,slow=40
SUMG Summit 54.90 338 *e*P **P 11 43 27.0 +3.6**
SUMG pmax pmax
comp=Z,100nm,1.3s
SUMG Summit 54.90 338 *i* P **P 11 43 27.0 +3.6**
comp=Z,102nm,1.3s
SUMG Summit 54.90 338 P **P 11 43 22.5 -0.9**
KS19 Wonju Array Si 55.57 67 P **P 11 43 27.0 -1.2**
KSRS Korea Array 55.63 67 P **P 11 43 28.8 +0.2**
comp=Z,10.0nm,0.9s,baz=283,slow=6.8,SNR=14
KSRS LR LR 12 09 34.2
comp=Z,865nm,18.5s,baz=298,slow=38
TJN Taejon 55.68 68⇓ *e*P **P 11 43 30.9 +1.8**
USA0B Ussuriysk Arra 55.73 58 P **P 11 43 28.5 -0.8**
USA0B pmax pmax
comp=Z,129nm,2.0s
USA0B Ussuriysk Arra 55.73 58 P **P 11 43 28.5 -0.8**
USRK Ussuriysk Ar. 55.73 58 P **P 11 43 29.1 -0.2**
comp=Z,4.8nm,0.8s,baz=270,slow=5.8,SNR=6.7
USRK LR LR 12 09 32.0
comp=Z,2μm,18.4s,baz=291,slow=38
GRNR Gornyy 56.07 49 *e*P **P 11 43 27.3 -4.4**
GRNR pmax pmax
comp=Z,10.0nm,1.4s
GRNR MLR MLR
comp=Z,1μm,11.0s
OPO Ambohidratompo 57.33 189 LR LR 12 06 58.5
comp=Z,476nm,21.7s,baz=182,slow=35
LSZ Lusaka 59.34 211 P **P 11 43 54.4 -0.7**
LSZ pmax pmax
comp=Z,17nm,1.2s
LSZ Lusaka 59.34 211 LR LR 12 09 23.1
comp=Z,1μm,20.9s,baz=31,slow=36
LSZ Lusaka 59.34 211 P **P 11 43 54.4 -0.7**
LSZ IAmb IAmb 11 44 05.3
comp=Z,17nm,1.2s
SEY Seymchan 59.41 32⇓ *e*P **P 11 43 55.5 +0.6**
SEY Seymchan 59.41 32 P **P 11 43 56.3 +1.4**
comp=Z,2.9nm,0.7s,baz=292,slow=11,SNR=4.0
TYV Tymovskoe 59.68 47 *e*P **P 11 44 00.2 +3.3**
TYV pmax pmax
comp=Z,18nm,1.0s
TYV pmax pmax
comp=Z,300nm,4.6s
JNU Nakatsue 59.74 70 LR LR 12 12 17.4
comp=Z,1μm,19.1s,baz=270,slow=39
TULEG Thule 60.05 347 P **P 11 43 58.7 -0.4**
YSS Yuzh-Sakhalins 61.44 51⇓ *e*P **P 11 44 10.1 +1.1**
YSS *e* 11 44 14.7
YSS *e*S **S 11 52 33.2 +3.2**
YSS pmax pmax
comp=Z,30nm,1.3s
YSS MLR MLR
comp=Z,2μm,16.0s

YSS					MLR	MLR			
	comp=N,700nm,15.0s								
YSS					MLR	MLR			
	comp=E,1μm,19.0s								
BILL	**Bilibino**	**61.95**	**23**	*i* P		**P**	**11 44 13.0**	**+0.9**	
BILL				*i*			11 44 56.8		
BILL					pmax	pmax			
	comp=Z,16nm,1.4s								
BILL					MLR	MLR			
	comp=Z,2μm,16.0s								
BILL	**Bilibino**	**61.95**	**23**	P		**P**	**11 44 11.6**	**-0.5**	
BILL					IAmb	IAmb	11 44 15.9		
	comp=Z,22nm,1.2s								
DBIC	**Dimbokro**	**62.84**	**256**	P		**P**	**11 44 18.5**	**-0.4**	
	comp=Z,7.5nm,0.9s,baz=18,slow=7.8,SNR=8.0								
DBIC					LR	LR	12 15 34.8		
	comp=Z,550nm,19.4s,baz=38,slow=40								
DBIC	**Dimbokro**	**62.84**	**256**	P		**P**	**11 44 18.4**	**-0.4**	
KIC	**Kosan Boka**	**62.95**	**256**	*e*P		**P**	**11 44 18.8**	**-0.8**	
	comp=Z,43nm,1.1s								
TIC	**Toumodi**	**62.98**	**256**	*e*P		**P**	**11 44 19.0**	**-0.8**	
LIC	**Lamto**	**63.26**	**256**	*e*P		**P**	**11 44 20.5**	**-1.1**	
	comp=Z,45nm,1.0s								
MJAR	**Matsushiro Arr**	**63.36**	**63**	P		**P**	**11 44 22.0**	**-0.1**	
MJAR	**Matsushiro Arr**	**63.36**	**63**	P		**P**	**11 44 22.0**	**-0.1**	
	comp=Z,2.9nm,0.7s,baz=309,slow=11,SNR=4.4								
MJAR					LR	LR	12 13 54.0		
	comp=Z,479nm,18.9s,baz=50,slow=38								
YUK	**Yuzh-Kuril'sk**	**64.75**	**53**	*e*P		**P**	**11 44 33.0**	**+1.9**	
YUK				*e*			11 46 48.3		
YUK				*e*S		**S**	**11 53 09.2**	**-2.3**	
YUK					SS	**SS**	**11 57 26.4**	**+4.4**	
YUK					MLR	MLR			
	comp=N,671nm,13.0s								
YUK					MLR	MLR			
	comp=Z,912nm,13.0s								
YUK					MLR	MLR			
	comp=E,1μm,12.0s								
PETK	**Petropavlovsk-**	**66.72**	**40**	LR		LR	12 16 06.6		
	comp=E,1μm,18.4s,baz=287,slow=38								
TSUM	**Tsumeb**	**67.56**	**219**	P		**P**	**11 44 49.1**	**-0.4**	
TSUM					IAmb	IAmb	11 44 54.9		
	comp=Z,14nm,0.9s								
LBTB	**Lobatse**	**69.16**	**209**	P		**P**	**11 44 59.5**	**+0.2**	
LBTB					pmax	pmax			
	comp=Z,37nm,1.1s								
LBTB	**Lobatse**	**69.16**	**209**	P		**P**	**11 44 59.5**	**+0.2**	
RDOG	**Red Dog Mine**	**69.89**	**14**	P		**P**	**11 45 02.5**	**-0.8**	
RDOG					IAmb	IAmb	11 45 06.6		
	comp=Z,22nm,1.2s								
DAV	**Davao City (W)**	**70.03**	**97**	LR		LR	12 20 41.3		
	comp=Z,869nm,19.4s,baz=353,slow=40								
C36M	**Paulatuk**	**72.44**	**360**	P		**P**	**11 45 17.2**	**-1.4**	
	baz=0.3								
BOSA	**Boshof**	**72.54**	**208**	P		**P**	**11 45 19.7**	**-0.1**	
BOSA					pmax	pmax			
	comp=Z,23nm,1.1s								
BOSA	**Boshof**	**72.54**	**208**	P		**P**	**11 45 19.6**	**-0.3**	
	comp=Z,13nm,0.8s,baz=13,slow=5.3,SNR=18								
BOSA					LR	LR	12 18 38.3		
	comp=Z,410nm,19.1s,baz=30,slow=37								
BOSA	**Boshof**	**72.54**	**208**	P		**P**	**11 45 19.7**	**-0.1**	
BOSA					IAmb	IAmb	11 45 24.6		
	comp=Z,23nm,1.1s								
COLD	**Coldfoot**	**72.76**	**10**	P		**P**	**11 45 19.6**	**-1.0**	
COLD					IAmb	IAmb	11 45 28.1		
	comp=Z,30nm,1.3s								
INK	**Inuvik**	**73.27**	**4**	P		**P**	**11 45 23.8**	**+0.2**	
	comp=Z,2.8nm,0.8s,baz=341,slow=8.1,SNR=9.4								
INK	**Inuvik**	**73.27**	**4**	P		**P**	**11 45 22.9**	**-0.6**	
INK					IAmb	IAmb	11 45 29.5		
	comp=Z,46nm,1.9s								
KAPI	**Kappang**	**73.38**	**111**	LR		LR	12 23 31.7		
	comp=Z,169nm,18.2s,baz=316,slow=41								
MLY	**Manley**	**74.74**	**11**	P		**P**	**11 45 31.4**	**-0.9**	
MLY					IAmb	IAmb	11 45 37.0		
	comp=Z,65nm,1.7s								
SCHQ	**Schefferville**	**74.75**	**330**	LR		LR	12 19 12.9		
	comp=Z,530nm,19.3s,baz=56,slow=36								
EPYK	**Eagle Plains**	**75.01**	**5**	P		**P**	**11 45 33.1**	**-0.7**	
	baz=350								
EPYK	**Eagle Plains**	**75.01**	**5**	P		**P**	**11 45 33.1**	**-0.7**	
POKR	**Poker Plat Res**	**75.14**	**10**	P		**P**	**11 45 35.0**	**+0.4**	
	baz=342								
TCOL	**CIGO, UAF Yank**	**75.31**	**10**	P		**P**	**11 45 36.0**	**+0.5**	
	baz=341								
COLA	**College**	**75.31**	**10**	*de*P		**P**	**11 45 36.7**	**+1.2**	
COLA					pmax	pmax			
	comp=Z,20nm,1.2s								
COLA	**College**	**75.31**	**10**	P		**P**	**11 45 35.2**	**-0.3**	
COLA					IAmb	IAmb	11 45 42.7		
	comp=Z,37nm,1.2s								
NEA	**Nenana**	**75.42**	**11**	P		**P**	**11 45 35.4**	**-0.7**	
NEA					IAmb	IAmb	11 45 43.0		
	comp=Z,21nm,1.1s								
IL31		**75.54**	**10**	P		**P**	**11 45 36.3**	**-0.5**	
IL31					IAmb	IAmb	11 45 40.9		
	comp=Z,55nm,1.9s								
ILAR	**Eielson Array**	**75.54**	**10**	P		**P**	**11 45 37.5**	**+0.6**	
	comp=Z,4.7nm,1.1s,baz=338,slow=3.6,SNR=23								
ILAR					LR	LR	12 23 38.8		
	comp=Z,471nm,19.0s,baz=334,slow=40								
WRH	**Wood River Hil**	**75.66**	**10**	P		**P**	**11 45 37.5**	**0.0**	
HDA	**Harding Lake**	**75.88**	**10**	P		**P**	**11 45 37.7**	**-1.1**	
	baz=342								
HDA	**Harding Lake**	**75.88**	**10**	P		**P**	**11 45 37.8**	**-1.0**	
HDA					IAmb	IAmb	11 45 43.4		
	comp=Z,49nm,1.9s								
KTH	**Kantishna Hill**	**76.10**	**12**	P		**P**	**11 45 39.6**	**-0.6**	
MCK	**McKinley**	**76.24**	**11**	P		**P**	**11 45 40.3**	**-0.6**	
MCK					pmax	pmax			
	comp=Z,26nm,1.4s								
MCK	**McKinley**	**76.24**	**11**	P		**P**	**11 45 40.3**	**-0.6**	
MCK					IAmb	IAmb	11 46 14.6		
	comp=Z,26nm,1.4s								
PPLA	**Purkeypile**	**76.50**	**13**	P		**P**	**11 45 41.8**	**-0.8**	
PPLA					IAmb	IAmb	11 45 49.0		
	comp=Z,39nm,1.5s								
SCRK	**Sand Creek**	**76.67**	**9**	P		**P**	**11 45 43.4**	**0.0**	
RIDG	**Independent Ri**	**76.79**	**9**	P		**P**	**11 45 43.9**	**-0.2**	
RIDG					IAmb	IAmb	11 45 50.8		
	comp=Z,28nm,1.3s								
DAWY	**Dawson**	**77.06**	**7**	P		**P**	**11 45 45.5**	**-0.1**	
SUR	**Sutherland**	**77.59**	**210**	P		**P**	**11 45 48.0**	**-1.0**	
MMRI	**Maumere**	**77.63**	**112**	P		**P**	**11 45 48.5**	**-0.9**	
MMRI					IAmb	IAmb	11 45 51.7		
	comp=Z,28nm,1.0s								
YKW3	**Yellowknife Ar**	**78.95**	**355**	P		**P**	**11 45 55.3**	**-0.6**	
YKW3					IAmb	IAmb	11 45 59.8		
	comp=Z,48nm,1.9s								
YKA	**Yellowknife Ar**	**79.01**	**355**	P		**P**	**11 45 56.3**	**0.0**	
	comp=Z,1.7nm,0.7s,baz=6.3,slow=6.0,SNR=27								
YKA					LR	LR	12 26 15.2		
	comp=Z,53nm,18.6s,baz=0.0,slow=40								
SIJI	**Sorong**	**79.39**	**100**	P		**P**	**11 45 59.3**	**+0.1**	
	comp=Z,7.1nm,0.9s,baz=332,slow=8.3,SNR=8.7								
SEW	**Seward**	**79.59**	**12**	P		**P**	**11 45 58.6**	**-0.9**	
SEW					IAmb	IAmb	11 46 06.2		
	comp=Z,41nm,1.2s								
BATI	**Baumata**	**79.72**	**112**	LR		LR	12 26 16.6		
	comp=Z,196nm,20.9s,baz=299,slow=40								
SOEI	**Soe**	**79.86**	**111**	P		**P**	**11 46 00.9**	**-0.9**	
SOEI					IAmb	IAmb	11 46 05.5		
	comp=Z,80nm,1.8s								
GUMO	**Guam**	**81.15**	**80**	LR		LR	12 23 20.3		
	comp=Z,149nm,21.1s,baz=303,slow=37								
KDAK	**Kodiak Island**	**81.19**	**15**	P		**P**	**11 46 07.6**	**-0.6**	
KDAK					pmax	pmax			
	comp=Z,72nm,1.4s								
KDAK	**Kodiak Island**	**81.19**	**15**	P		**P**	**11 46 09.9**	**+1.7**	
	comp=Z,29nm,1.2s,baz=198,slow=3.2,SNR=6.9								
KDAK	**Kodiak Island**	**81.19**	**15**	P		**P**	**11 46 07.6**	**-0.6**	
FFC	**Flin Flon**	**85.13**	**347**	*i* P		**P**	**11 46 31.5**	**+2.9**	
FFC	**Flin Flon**	**85.13**	**347**	P		**P**	**11 46 27.7**	**-1.0**	
FFC					IAmb	IAmb	11 46 32.1		
	comp=Z,50nm,2.0s								
FITZ	**Fitzroy Crossi**	**86.42**	**116**	LR		LR	12 25 33.7		
	comp=Z,116nm,22.0s,baz=309,slow=36								
KNRA	**Kununurra**	**87.05**	**113**	P		**P**	**11 46 38.2**	**-0.3**	
KNRA					IAmb	IAmb	11 46 43.4		
	comp=Z,26nm,1.4s								
ULM	**Lac du Bonnet**	**88.08**	**342**	P		**P**	**11 46 43.6**	**+0.5**	
	comp=Z,1.8nm,0.7s,baz=15,slow=7.5,SNR=3.3								
ULM					LR	LR	12 29 02.1		
	comp=Z,315nm,18.2s,baz=11,slow=38								
NEW	**Newport**	**93.34**	**355**	P		**P**	**11 47 06.8**	**-0.9**	
NEW					pmax	pmax			
	comp=Z,20nm,1.8s								
NEW	**Newport**	**93.34**	**355**	P		**P**	**11 47 06.8**	**-0.9**	
NEW					IAmb	IAmb	11 47 12.4		
	comp=Z,20nm,1.8s								
WRA	**Warramunga Arr**	**93.84**	**112**	*i* P		**P**	**11 47 13.1**	**+2.8**	
WRA					pmax	pmax			
	comp=Z,2.0nm,0.9s								
WRA	**Warramunga Arr**	**93.84**	**112**	P		**P**	**11 47 09.6**	**-0.7**	
	comp=Z,2.4nm,1.0s,baz=315,slow=4.2,SNR=10								
WRA					LR	LR	12 36 27.9		
	comp=Z,54nm,18.7s,baz=35,slow=40								
ASAR	**Alice Springs**	**95.89**	**115**	P		**P**	**11 47 18.4**	**-1.3**	
	comp=Z,0.9nm,1.0s,baz=183,slow=22,SNR=4.5								
ASAR					LR	LR	12 37 23.8		
	comp=Z,97nm,18.2s,baz=305,slow=40								
PDAR	**Pinedale Array**	**97.96**	**349**	LR		LR	12 34 18.9		
	comp=Z,358nm,21.9s,baz=359,slow=37								
MFID	**Camas Ranch**	**98.06**	**354**	P		**P**	**11 47 28.5**	**-1.0**	
MFID					IAmb	IAmb	11 51 05.7		
	comp=Z,3.7nm,0.8s								
SNAA	**Sanae**	**117.28**	**198**	PKPdf		**PKPdf**	**11 52 35.4**	**-1.7**	
VNA2	**Neumayer--Watz**	**117.94**	**199**	PKPdf		**PKiKP**	**11 52 40.0**	**+1.7**	
	baz=31,slow=3.8								
VNA3	**Neumayer Olymp**	**118.72**	**200**	PKPdf		**PKPdf**	**11 52 39.4**	**-0.4**	
DZM	**Mont Dzumac**	**119.43**	**96**	*e*LR		LR	12 29 05.9		
	comp=Z,390nm,25.1s								
PPT2	**Papeete2**	**149.74**	**53**	*e*LR		LR	12 43 20.4		
	comp=Z,348nm,23.0s								
TBI	**Tubuai**	**153.87**	**62**	*e*LR		LR	12 45 16.3		
	comp=Z,240nm,24.8s								

ROM 09 11:37:53.9±0.1**, 41°.425N**±0°.004×**13°.783E**±0°.007**, h8km, ML1.6/8, Error ellipse: s-maj=0.5km s-min=0.3km az=251.0, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CERA	**Filignano**	**0.25**	**46**	P		Pg	11 37 59.6	+0.7
CERA				S		Sg	11 38 04.0	+1.7
CERA				AML		AML		
	comp=E,610μm,1.6s							
CERA				AML		AML		
	comp=N,442μm,1.6s							
MODR	**Mondragone**	**0.29**	**166**	P		Pg	11 38 00.5	+0.8
MODR				S		Sb	11 38 05.2	-1.1
MODR				AML		AML		
	comp=E,247μm,0.8s							
MODR				AML		AML		
	comp=N,233μm,1.4s							
POFI	**Posta Fibreno**	**0.30**	**350**	P		Pg	11 38 00.7	+0.8
POFI				S		Sb	11 38 06.0	-0.7
POFI				AML		AML		
	comp=E,130μm,0.9s							
POFI				AML		AML		
	comp=N,122μm,0.8s							
POFI				AML		AML		
	comp=N,122μm,0.8s							
VAGA	**Valle Agricola**	**0.34**	**91**	P		Pb	11 38 01.9	-0.4
VAGA				S		Sb	11 38 06.7	-1.1
VAGA				AML		AML		
	comp=N,292μm,0.3s							
VAGA				AML		AML		
	comp=E,139μm,0.8s							
PIGN	**Pignataro Magg**	**0.37**	**127**	P		Pb	11 38 02.4	-0.4
PIGN				S		Sb	11 38 08.3	-0.5
PIGN				AML		AML		
	comp=N,100μm,0.8s							
PIGN				AML		AML		
	comp=E,121μm,1.4s							
PIGN				AML		AML		
	comp=N,100μm,0.8s							
RNI2	**Rionero Sannit**	**0.39**	**45**	P		Pb	11 38 02.5	-0.7
RNI2				AML		AML		
	comp=N,134μm,0.7s							
RNI2				AML		AML		
	comp=E,180μm,0.5s							
GIUL	**Giuliano Di Ro**	**0.42**	**289**	P		Pg	11 38 02.6	+0.5
GIUL				S		Sb	11 38 09.8	-0.4
GIUL				AML		AML		
	comp=N,78μm,0.4s							
GIUL				AML		AML		
	comp=E,83μm,0.6s							
VVLD	**Villa Vallelon**	**0.46**	**345**	P		Pg	11 38 03.0	+0.1
VVLD				S		Sb	11 38 10.8	-0.7
VVLD				AML		AML		
	comp=N,93μm,0.8s							
VVLD				AML		AML		
	comp=E,75μm,0.6s							
VENT	**Ventotene**	**0.69**	**204**	P		Pb	11 38 07.7	-0.4
MCRV	**Calabrutti - M**	**1.23**	**121**	S		Sg	11 38 33.0	-0.4
ARRO	**Arrone**	**1.38**	**327**	S		Sn	11 38 38.0	0.0
MCEL	**Monticello**	**1.88**	**125**	P		Pg	11 38 33.0	+2.9
MCEL				S		Sn	11 38 50.0	-0.5
LATE	**Laterza**	**1.89**	**310**	P		Pg	11 38 30.0	-0.2
SFI	**Santa Sofia**	**2.86**	**331**	P		Pb	11 38 44.4	-0.9
SFI				AML		AML		
	comp=E,18μm,1.6s							
SFI				AML		AML		
	comp=N,15μm,1.5s							
VPL	**Vulcano Piano**	**3.18**	**163**	S		Sb	11 39 28.0	-1.6
MCPD	**Capo d'Orlando**	**3.38**	**167**	S		Sn	11 39 30.0	+2.7
MFNL	**Monte Finestre**	**3.69**	**191**	P		Pn	11 38 50.2	-1.1
VLO	**Vlora**	**4.43**	**101**	S		Sn	11 39 53.0	-0.2
TAMR	**Tamra**	**5.68**	**221**	P		Pn	11 39 20.1	+1.5

*ISCJB **09** 11:38:27.0±0.4, 13°.47N±0°.06×144°.48E±0°.08, h129km, mb3.6/10, Error ellipse: s-maj=11.4km s-min=7.9km az=1.9*
*IDC **09** 11:38:27.8±0.6, 13°.43N×144°.55E, h116km±5km, mb3.5/9, mb1 3.7/9, mb1mx3.4/51, mbtmp3.8/9, Error ellipse: s-maj=21.0km s-min=16.3km az=105.0*
*NEIC **09** 11:38:27.8±2.9, 13°.55N±0°.08×144°.61E±0°.06, h124km±4km, mb4.3/14*
ISC 09 11:38:28.4±0.6**, 13°.53N**±0°.08×**144°.6E**±0°.1**, h129km, n30,** σ1°**15/33, mb3.9**/16**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.26**	**77**	P		**Pn**	**11 38 45.8**	**-0.4**
	793nm,0.3s,baz=187,slow=1.8,SNR=328							
GUMO				S		**Sn**	**11 38 58.4**	**-1.4**
	1μm,0.3s,baz=323,slow=20,SNR=60							
GUMO	**Guam**	**0.26**	**77**			**Pn**	**11 38 45.9**	**-0.4**
GUMO						**Sn**	**11 38 58.0**	**-1.8**
SARN	**Sarigan**	**3.35**	**20**	Pn		**Pn**	**11 39 17.9**	**-1.8**
PATS	**Pohnpei**	**15.04**	**115**	Pn		**Pn**	**11 41 54.6**	**+0.2**
MANU	**Manus Island**	**15.71**	**170**	Pn		**Pn**	**11 42 02.4**	**-0.4**
MANU					IAmb	IAmb	11 42 05.9	
	comp=Z,12nm,0.8s							
MAJO	**Matsushiro**	**23.62**	**347**	P		**P**	**11 43 26.1**	**-1.7**
MAJO					IAmb	IAmb	11 43 29.7	
	comp=Z,13nm,0.8s							
MJB9	**Matsu-Tunnel**	**23.63**	**347**	P		**P**	**11 43 26.3**	**-1.6**
MJB9					IAmb	IAmb	11 43 29.7	
	comp=Z,13nm,0.8s							
WRAB	**Tennant Creek**	**34.75**	**197**	P		**P**	**11 45 05.5**	**-1.0**
WB2	**Warramunga Arr**	**34.76**	**197**	P		**P**	**11 45 05.3**	**-1.3**
WRA	**Warramunga Arr**	**34.76**	**197**	P		**P**	**11 45 05.6**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=23,slow=9.7,SNR=9.5							
FITZ	**Fitzroy Crossi**	**36.57**	**211**	P		**P**	**11 45 21.1**	**-1.0**
FITZ					IAmb	IAmb	11 45 28.4	
	comp=Z,4.9nm,1.1s							
AS31	**Alice Springs**	**38.42**	**196**	P		**P**	**11 45 36.0**	**-1.6**
ASAR	**Alice Springs**	**38.42**	**196**	P		**P**	**11 45 36.9**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=21,slow=12,SNR=10							
DZM	**Mont Dzumac**	**41.36**	**149**	P		**P**	**11 46 02.9**	**+0.9**
PSA00	**Pilbara Seismi**	**42.51**	**215**	P		**P**	**11 46 10.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**44.08**	**283**	P		**P**	**11 46 24.5**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=79,slow=6.9,SNR=9.8							
SONM	**Songino Array**	**46.63**	**325**	P		**P**	**11 46 45.2**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=138,slow=7.1,SNR=2.4							
MK31	**Makanchi Array**	**61.35**	**316**	P		**P**	**11 48 31.2**	**+0.6**
MKAR	**Makanchi Array**	**61.35**	**316**	P		**P**	**11 48 31.8**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=88,slow=8.9,SNR=4.5							
KURK	**Kurchatov**	**64.46**	**320**	P		**P**	**11 48 50.9**	**-0.2**
KURK					IAmb	IAmb	11 49 09.3	
	comp=Z,3.8nm,0.9s							
KURBB	**Kurchatov Arra**	**64.50**	**320**	P		**P**	**11 48 51.9**	**+0.5**
	comp=Z,3.2nm,0.9s,baz=102,slow=7.0,SNR=6.4							
ILAR	**Eielson Array**	**68.73**	**25**	P		**P**	**11 49 18.4**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=246,slow=6.2,SNR=9.5							
YKA	**Yellowknife Ar**	**83.03**	**27**	P		**P**	**11 50 40.0**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=290,slow=5.5,SNR=9.2							
YBH	**Yreka Blue Hor**	**83.11**	**49**	P		**P**	**11 50 42.0**	**+1.9**
YBH					IAmb	IAmb	11 50 43.7	
	comp=Z,5.6nm,1.1s							
BMO	**Blue Mountains**	**86.21**	**45**	P		**P**	**11 50 56.2**	**+0.5**
BMO					IAmb	IAmb	11 50 59.0	
	comp=Z,3.3nm,0.9s							
NVAR	**Mina Array Bea**	**87.16**	**51**	P		**P**	**11 51 02.6**	**+2.0**
	comp=Z,1.0nm,0.7s,baz=264,slow=6.3,SNR=6.6							
MFID	**Camas Ranch**	**87.63**	**46**	P		**P**	**11 51 03.2**	**+0.6**
PDAR	**Pinedale Array**	**92.19**	**45**	P		**P**	**11 51 25.6**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=274,slow=3.5,SNR=2.6							
LPAZ	**La Paz**	**148.27**	**99**	PKPbc		**PKiKP**	**11 58 02.9**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=249,slow=3.4,SNR=10							
LPAZ	**La Paz**	**148.27**	**99**	PKPdf		**PKPdf**	**11 57 56.7**	**-0.9**
LPAZ						**PKiKP**	**11 58 03.3**	**+0.5**

*NIED **09** 11:42:00, 39°.10N×142°.50E, h44km, Mw3.8 Best double couple: M0≤4.81000×10^14 NP1:φs123.00000°, δ40.00000°, λ-41.00000°. NP2:φs247.00000°, δ65.00000°, λ-122.00000°.*
*ISCJB **09** 11:42:18.1±1.2, 39°.09N±0°.04×142°.52E±0°.07, h25km±6km, mb3.8/5, Error ellipse: s-maj=9.9km s-min=5.7km az=13.4*
*JMA **09** 11:42:19.8±0.1, 39°.13N×142°.43E, h32km±1km, M3.9*
JMA Felt I J1.
*IDC **09** 11:42:24.5±2.5, 39°.08N×142°.38E, h71km±25km, mb3.5/5, mb1 3.5/7, mb1mx3.2/50, mbtmp3.7/7, MS2.6/1, Ms1 2.6/1, ms1mx2.2/43, Error ellipse: s-maj=36.0km s-min=16.2km az=89.0*
ISC 09 11:42:18.2±2.0**, 39°.09N**±0°.04×**142°.43E**±0°.08**, h9km**±11km**, n24,** σ1°**43/30, mb3.8/5, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.59**	**269**	P		**Pb**	**11 42 31.7**	**+1.0**
OFUJ				S		**Sb**	**11 42 39.8**	**+0.6**
MIYJ	**Miyakonagasawa**	**0.68**	**316**	P		**Pb**	**11 42 32.3**	**+0.2**
MIYJ				S		**Sg**	**11 42 40.9**	**+0.8**
JKMT	**Kesennumamotoy**	**0.80**	**250**	P		**Pb**	**11 42 34.6**	**+0.5**
JKMT				S		**Sb**	**11 42 45.1**	**+0.1**
JTH	**Tanohata**	**0.95**	**333**	P		**Pg**	**11 42 36.4**	**-0.1**
JTH				*e*S		**Sg**	**11 42 48.9**	**0.0**
JMK	**Ichinoseki**	**0.95**	**262**	P		**Pb**	**11 42 37.1**	**+0.3**
JMK				S		**Sg**	**11 42 49.6**	**+0.7**
JOM	**Ohasama**	**0.96**	**294**	P		**Pb**	**11 42 37.2**	**+0.2**
JOM				S		**Sg**	**11 42 49.7**	**+0.5**
JIO	**Ouri**	**1.06**	**233**	P		**Pb**	**11 42 38.4**	**-0.2**
JIO				S		**Sg**	**11 42 51.5**	**-0.8**
JKZ	**Kuzumaki**	**1.23**	**317**	P		**Pg**	**11 42 41.2**	**-0.6**
JKZ				S		**Sg**	**11 42 56.7**	**-1.2**
JRG	**Rokugo**	**1.43**	**283**	P		**Pb**	**11 42 45.1**	**+0.2**
JRG				S		**Sg**	**11 43 03.5**	**-0.6**
JANG	**Nango**	**1.46**	**331**	P		**Pn**	**11 42 44.1**	**-0.6**
JANG				*e*S		**Sb**	**11 43 02.1**	**-2.1**
JOU	**Okura**	**1.56**	**243**	P		**Pb**	**11 42 46.9**	**-0.3**
JOU				*e*S		**Sn**	**11 43 06.6**	**+0.2**
MJAR	**Matsushiro Arr**	**4.20**	**234**	P		**Pn**	**11 43 25.7**	**+3.3**
	0.1nm,0.3s,baz=37,slow=13,SNR=11							
ASAJ	**Asahikawa**	**5.02**	**1**	P		**Pn**	**11 43 36.4**	**+2.8**
	1.6nm,0.3s,baz=219,slow=14,SNR=14							
ASAJ				S		**Sn**	**11 44 35.5**	**+3.8**
	0.3nm,0.3s,baz=234,slow=19,SNR=3.6							
ASAJ				LR		LR	11 45 39.7	
	comp=Z,61nm,21.6s,baz=156,slow=39							
H11N2	**WAKE ISLAND Hy 28.60**	**125**		T		T	12 18 44.1	
	baz=318,slow=76,SNR=196							
H11N1	**WAKE ISLAND Hy 28.61**	**125**		T		T	12 18 53.7	
	baz=318,slow=76,SNR=149							
H11N3	**WAKE ISLAND Hy 28.61**	**125**		T		T	12 18 52.1	
	baz=318,slow=76,SNR=142							
H11S1	**WAKE ISLAND Hy 29.38**	**127**		T		T	12 19 43.4	
	baz=319,slow=76,SNR=12							
H11S3	**WAKE ISLAND Hy 29.39**	**127**		T		T	12 19 37.3	
	baz=319,slow=76,SNR=14							
H11S2	**WAKE ISLAND Hy 29.40**	**127**		T		T	12 19 38.7	
	baz=319,slow=76,SNR=11							
ZALV	**Zalesovo Beam**	**41.15**	**311**	P		**P**	**11 50 01.2**	**-1.2**
	0.9nm,0.5s,baz=101,slow=7.5,SNR=2.7							
MKAR	**Makanchi Array**	**43.74**	**300**	P		**P**	**11 50 22.5**	**-1.2**
	0.8nm,0.9s,baz=74,slow=11,SNR=2.6							
KURBB	**Kurchatov Arra**	**45.40**	**307**	P		**P**	**11 50 35.3**	**-1.4**
	0.9nm,0.5s,baz=79,slow=8.4,SNR=4.7							
WRA	**Warramunga Arr**	**59.21**	**189**	P		**P**	**11 52 17.9**	**-1.7**
	0.8nm,0.5s,baz=6.2,slow=7.0,SNR=15							
ASAR	**Alice Springs**	**62.94**	**189**	P		**P**	**11 52 43.6**	**-1.2**
	0.6nm,0.9s,baz=3.9,slow=5.0,SNR=5.2							

IDC 09 12:08:15.8±1.9**, 5°.59S×131°.01E, h0km, mb3.6/1, mb1 3.6/5, mb1mx3.4/44, mbtmp3.4/5, ML3.4/4, Error ellipse: s-maj=87.8km s-min=24.5km az=85.0, Banda Sea**

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

	comp=Z,0.0nm,1.0s							
IEMG	**Emamgholi**	**2.66**	**115**	*e*Pn		**Pn**	**12 39 23.9**	**-1.6**
IEMG				IAMB		IAmb	12 40 14.7	
	comp=Z,1µm,0.5s							
SBZV	**Sabzevar**	**2.69**	**143**	*e*Pn		**Pn**	**12 39 26.4**	**+0.5**
SBZV				IAMB		IAmb	12 40 14.6	
	comp=Z,0.0nm,0.6s							
IKIA	**Kiasar**	**2.82**	**214**	*e*Pn		**Pn**	**12 39 27.4**	**-0.2**
IKRD	**Kardeh**	**2.91**	**127**	*e*Pn		Pn	12 39 37.7	+8.8
IKRD				IAMB		IAmb	12 41 06.5	
	comp=Z,652nm,0.7s							
IAKL	**Akhelmad**	**3.17**	**127**	*e*Pn		**Pn**	**12 39 32.3**	**-0.2**
ISHM	**Shahmirzad**	**3.33**	**215**	*e*Pn		**Pn**	**12 39 35.7**	**+1.0**
ISHM				IAMB		IAmb	12 40 18.5	
	comp=Z,1µm,0.5s							
IANJ	**Anjilo**	**3.39**	**204**	*e*Pn		**Pn**	**12 39 36.4**	**+1.0**
IANJ				IAMB		IAmb	12 40 27.0	
	comp=Z,470nm,0.6s							
IMYA	**Miami**	**4.20**	**121**	*e*Pn		**Pn**	**12 39 45.8**	**-0.8**
IMYA				IAMB		IAmb	12 41 20.9	
	comp=Z,599nm,0.8s							
JRKH	**Jarkhoshk**	**4.62**	**124**	*e*Pn		**Pn**	**12 39 51.3**	**-0.9**
JRKH				IAMB		IAmb	12 41 39.6	
	comp=Z,0.0nm,1.1s							
TNSJ	**Nastanj**	**4.67**	**170**	*e*Pn		**Pn**	**12 39 52.4**	**-0.5**
ISFB	**Sefidab**	**5.01**	**214**	*e*Pn		**Pn**	**12 39 58.3**	**+0.6**
TKDS	**Koohdasht(Taba**	**5.09**	**166**	*e*Pn		**Pn**	**12 39 58.7**	**-0.1**
ANAR	**Anarak**	**5.59**	**197**	*e*Pn		**Pn**	**12 40 05.3**	**-0.3**
ITEG	**Tejag**	**6.21**	**155**	*e*Pn		**Pn**	**12 40 14.8**	**+0.6**
AB31	**Akbulak array**	**11.12**	**15**	⇑P		**Pn**	**12 41 19.7**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=200,slow=14,SNR=9.6							
AB31				⇑S		**Sn**	**12 43 23.5**	**-0.8**
	comp=Z,4.8nm,0.9s,baz=193,slow=24,SNR=4.1							
AKTO	**Aktyubinsk**	**11.98**	**7**	⇓P		**Pn**	**12 41 32.4**	**-0.7**
	comp=Z,2.8nm,0.8s							
AKTO				⇓S		**Sn**	**12 43 46.2**	**+0.9**
	comp=Z,3.9nm,0.9s							
KK31	**Karatay Array**	**12.15**	**63**	⇑P		**Pn**	**12 41 34.6**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=259,slow=15,SNR=6.8							
KK31				⇓S		**Sn**	**12 43 53.6**	**+4.1**
	comp=Z,1.0nm,0.6s,baz=334,slow=39,SNR=5.6							

IDC 09 12:52:45.5±6.4, 18°48S×172°90W, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/46, mbtmp3.8/5, Error ellipse: s-maj=270.4km s-min=35.0km az=143.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.52**	**261**	P	P	13 00 10.2	+0.3
	0.8nm,0.4s,baz=107,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**49.67**	**259**	P	P	13 01 39.0	-0.6
	0.5nm,0.3s,baz=97,slow=7.7,SNR=16						
ASAR	**Alice Springs**	**49.67**	**254**	P	P	13 01 39.0	-0.6
	1.2nm,0.5s,baz=92,slow=7.5,SNR=17						
FITZ	**Fitzroy Crossi**	**58.09**	**260**	P	P	13 02 41.8	+0.7
	0.4nm,0.5s,baz=102,slow=9.3,SNR=3.1						
ILAR	**Eielson Array**	**85.37**	**11**	P	P	13 05 24.1	-0.2
	0.3nm,0.8s,baz=223,slow=4.6,SNR=6.0						

JMA 09 12:55:07.0±0.1, 27°73N×141°42E, h198km, M3.8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.93**	**133**	P	Pn	12 55 36.3	+0.2
CBIJ				S	Sn	12 55 58.7	+0.1
JHH2	**Haha-jima-NKT2**	**1.28**	**148**	P	Pn	12 55 38.7	0.0
JHH2				S	Sn	12 56 03.5	+0.2
JFK	**Kawauchi**	**9.62**	**357**	*e*S	Sn	12 59 03.4	-5.4

*ISCJB **09** 13:12:17.7±0.7, 33°02N±0°06×46°22E±0°03, h10km, Error ellipse: s-maj=9.4km s-min=4.1km az=3.1*
*ISN **09** 13:12:17.2±1.2, 33°01N×46°15E, h3km±4km, ML3.2*
*TEH **09** 13:12:18.1, 33°06N×46°25E, h19km, ML3.4*
ISC 09 13:12:17.8±1.2, 33°07N±0°08×46°20E±0°04, h10km, n19, σ1§52/24, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.23**	**281**	*e*Pg	**Pg**	**13 12 21.0**	**-1.5**
IBDR				*e*Sg	**Sg**	**13 12 25.0**	**-0.7**
IBDR				AML	AML	13 12 26.0	
	comp=Z,1µm,0.7s						
IGHG	**Ghaleghazi**	**1.30**	**14**	*e*Pg	**Pn**	**13 12 42.4**	**+0.1**
IGHG				IAMB	IAmb	13 13 10.3	
	comp=Z,8µm,0.8s						
KCHF	**Cheshme Sefid,**	**1.40**	**30**	*e*Pg	**Pb**	**13 12 44.3**	**+0.2**
KCHF				IAMB	IAmb	13 13 08.3	
	comp=Z,0.0nm,0.4s						
IKFM	**Kafar-mosalman**	**1.46**	**71**	*e*Pg	**Pn**	**13 12 44.8**	**+0.6**
IKFM				IAMB	IAmb	13 13 09.4	
	comp=Z,0.0nm,0.5s						
KER	**Kermanshah**	**1.53**	**30**	*e*Pn	**Pn**	**13 12 46.1**	**+0.8**
BHD	**Baghdad**	**1.54**	**278**	*e*Pn	**Pg**	**13 12 47.0**	**-0.3**
BHD				AML	AML	13 12 47.7	
	comp=Z,3µm,0.4s						
BHD				*e*Sn	**Sg**	**13 13 08.0**	**+0.7**
IKOM	**Komasi**	**1.56**	**44**	*e*Pn	**Pn**	**13 12 46.5**	**+0.8**
IKOM				IAMB	IAmb	13 13 19.1	
	comp=Z,0.0nm,0.7s						
IDHR	**Dehrash**	**1.64**	**6**	*e*Pn	**Pb**	**13 12 48.0**	**-0.2**
IDHR				IAMB	IAmb	13 12 49.8	
	comp=Z,0.0nm,0.2s						
IDOB	**Doab**	**1.81**	**66**	*e*Pn	**Pn**	**13 12 50.3**	**+1.1**
IKMR	**Kamar-syah**	**1.88**	**76**	*e*Pn	**Pn**	**13 12 50.4**	**+0.3**
IBZA	**Bozab**	**1.97**	**44**	*e*Pn	**Pn**	**13 12 52.4**	**+0.9**
HSAM	**Samen**	**2.31**	**60**	*e*Pn	**Pn**	**13 12 56.3**	**+0.1**
HSAM				IAMB	IAmb	13 13 45.6	
	comp=Z,0.0nm,1.0s						
HSRG	**Sareghieh**	**2.77**	**38**	*e*Pn	**Pn**	**13 13 04.4**	**+1.8**
IKRK	**Kirkuk**	**2.79**	**327**	*e*Pn	**Pb**	**13 13 05.0**	**-2.8**
IKRK				AML	AML	13 13 08.2	
	comp=Z,75nm,0.4s						
IKRK				*e*Sn	**Sb**	**13 13 40.0**	**-2.0**
HAGD	**Aghdareh**	**3.01**	**54**	IAMB	IAmb	13 13 16.3	
HAGD	comp=Z,0.0nm,0.3s						
				*e*Pn	**Pn**	**13 13 06.8**	**+1.0**
JHBN	**Jahan bin**	**3.86**	**101**	*e*Pn	**Pn**	**13 13 18.6**	**+1.0**
MSL	**Mosul**	**4.18**	**323**	*e*Pn	**Pn**	**13 13 24.0**	**+2.3**
MSL				AML	AML	13 13 26.7	
	comp=Z,140nm,0.4s						
MSL				*e*Sn	**Sn**	**13 14 14.0**	**+3.3**
IKLH	**Kolahrood**	**4.52**	**85**	*e*Pn	**Pn**	**13 13 26.2**	**-0.4**
RTB	**Rutbah**	**4.95**	**271**	*e*Pn	**Pn**	**13 13 35.0**	**+2.8**
RTB				AML	AML	13 13 39.2	
	comp=Z,55nm,0.4s						
RTB				*e*Sn	**Sn**	**13 14 30.0**	**+0.5**

*SJA **09** 13:20:45.0±0.5, 23°97S×67°18W, h207km±6km, ML2.8, MW3.2*
*ISCJB **09** 13:20:46.1±0.3, 24°01S±0°03×67°21W±0°03, h196km±4km, mb3.2/1, Error ellipse: s-maj=5.3km s-min=4.3km az=25.5*
*NEIC **09** 13:20:46.6±2.3, 24°03S±0°08×67°2W±0°1, h187km±10km, mb4.6/5*
*IDC **09** 13:20:48.7±2.1, 23°81S×67°11W, h185km±30km, mb3.2/1, mb1 3.5/5, mb1mx3.3/26, mbtmp3.9/5, Error ellipse: s-maj=39.8km s-min=29.6km az=125.0*
*GUC **09** 13:20:49.2±0.6, 23°85S×67°63W, h215km±7km, ML3.8*
ISC 09 13:20:46.7±0.8, 24°03S±0°05×67°21W±0°04, h189km±8km, n42, σ1§16/57, 6C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.70**	**114**	*i* P	**Pn**	**13 21 21.9**	**+0.5**
SLA				IAML		13 21 23.3	
	comp=Z,80nm,0.6s						
SLA				*e*S	**Sn**	**13 21 49.4**	**+0.9**
AZAP	**Zapla**	**1.96**	**96**	*i* P	**Pn**	**13 21 24.5**	**+0.2**
AZAP				IAML		13 21 25.0	
	comp=Z,76nm,0.4s						
AZAP				*e*S	**Sn**	**13 21 53.9**	**+0.5**
LVC	**Limon Verde**	**2.11**	**312**	*e*P	**Pn**	**13 21 27.3**	**+1.3**
LVC				*i* S	**Sn**	**13 21 57.1**	**+0.6**
LVC	**Limon Verde**	**2.11**	**312**	P	**Pn**	**13 21 27.2**	**+1.3**
	comp=Z,7.0nm,0.3s,baz=115,slow=7.4,SNR=97						
LVC				S	**Sn**	**13 21 56.7**	**+0.3**
	comp=Z,21nm,0.3s,baz=206,slow=24,SNR=56						
LVC	**Limon Verde**	**2.11**	**312**		**Pn**	**13 21 26.8**	**+0.8**
PB15	**IPOC Station P**	**2.23**	**291**	⇑*i*P	**Pn**	**13 21 28.5**	**+1.4**
PB15				*i* S	**Sn**	**13 21 58.5**	**0.0**
YJA	**Yavi**	**2.41**	**41**	*i* P	**Pn**	**13 21 29.5**	**+0.1**
YJA				*e*S	**Sn**	**13 22 02.2**	**-0.4**
YJA				IAML		13 22 04.5	
	comp=Z,8.8nm,0.7s						
GO02	**Mina Guanaco**	**2.45**	**242**	⇑*i*P	**Pn**	**13 21 31.0**	**+1.4**
GO02				*i* S	**Sn**	**13 22 03.9**	**+0.8**
GO02	**Mina Guanaco**	**2.45**	**242**		**Pn**	**13 21 30.9**	**+1.4**
ASTB	**Santa Barbara**	**2.52**	**89**	*i* P	**Pn**	**13 21 30.3**	**0.0**
ASTB				*e*S	**Sn**	**13 22 03.3**	**-0.9**
PB06	**IPOC Station P**	**2.54**	**301**	⇑*i*P	**Pn**	**13 21 31.8**	**+1.3**
PB06				*i* S	**Sn**	**13 22 04.3**	**-0.4**
PB06				IAML		13 22 05.8	
	comp=E,406nm,0.1s						
PB14	**IPOC Station P**	**2.98**	**258**	⇑*i*P	**Pn**	**13 21 36.7**	**+0.9**
PB05	**IPOC Station P**	**2.99**	**292**	⇑*i*P	**Pn**	**13 21 36.8**	**+1.0**
PB05				*i* S	**Sn**	**13 22 12.3**	**-1.7**
PB05				IAML		13 22 14.9	
	comp=E,94nm,0.4s						
PB03	**IPOC Station P**	**3.06**	**310**	*e*P	**Pn**	**13 21 37.7**	**+1.0**
PB03				*e*S	**Sn**	**13 22 14.6**	**-1.2**
PB03				IAML		13 22 16.4	
	comp=E,242nm,0.4s						
PB10	**IPOC Station P**	**3.11**	**279**	⇑*i*P	**Pn**	**13 21 38.3**	**+1.2**
PB10				*i* S	**Sn**	**13 22 15.0**	**-1.4**
PB10				IAML		13 22 20.3	
	comp=N,76nm,0.6s						
PB10	**IPOC Station P**	**3.11**	**279**		**Pn**	**13 21 38.2**	**+1.1**
PB04	**IPOC Station P**	**3.19**	**301**	*i* P	**Pn**	**13 21 39.1**	**+0.9**
PB04				*i* S	**Sn**	**13 22 16.9**	**-1.6**
PB04				IAML		13 22 21.1	
	comp=N,264nm,0.5s						
PB04	**IPOC Station P**	**3.19**	**301**		**Pn**	**13 21 39.0**	**+0.7**
PB07	**IPOC Station P**	**3.37**	**312**	*e*P	**Pn**	**13 21 41.2**	**+0.7**
PB07				*e*S	**Sn**	**13 22 20.6**	**-1.8**
PB07				IAML		13 22 21.9	
	comp=E,239nm,0.4s						
GO03	**Copiap**	**4.48**	**217**		**Pn**	**13 21 53.8**	**-0.3**
GO03				Sn	**Sn**	**13 22 44.2**	**-3.1**
GO03	**Copiap**	**4.48**	**217**	*i* P	**Pn**	**13 21 54.1**	**-0.1**
GO01	**Chusmiza**	**4.71**	**337**		**Pn**	**13 21 56.9**	**-0.7**
PB11	**IPOC Station P**	**4.82**	**331**	Pn	**Pn**	**13 21 58.1**	**-0.6**
MNMC	**Minye Minye**	**5.36**	**335**		**Pn**	**13 22 05.6**	**-0.1**
APLL	**PUNTA DE LOS L**	**6.37**	**175**	*i* P	**Pn**	**13 22 18.5**	**-0.2**
AROD	**Rodeo**	**6.44**	**198**	*i* P	**Pn**	**13 22 20.5**	**+0.7**
ACCO	**Cerro Coronel**	**6.74**	**194**	*i* P	**Pn**	**13 22 24.4**	**+0.7**
GO04	**Tololo Observa**	**6.91**	**207**	Pn	**Pn**	**13 22 24.5**	**-1.3**
GO04	**Tololo Observa**	**6.91**	**207**	*i* P	**Pn**	**13 22 25.6**	**-0.3**
AMOG	**MOGNA**	**6.98**	**189**	*i* P	**Pn**	**13 22 23.6**	**-3.0**
RTLL	**Cerro Villicun**	**7.36**	**189**	*i* P	**Pn**	**13 22 31.7**	**+0.1**
CFA	**Coronel Fontan**	**7.60**	**187**	*i* P	**Pn**	**13 22 34.7**	**-0.1**
LPAZ	**La Paz**	**7.75**	**353**	P	**Pn**	**13 22 38.2**	**+0.9**
	comp=E,0.9nm,0.3s,baz=152,slow=5.0,SNR=19						
LPAZ				S	**Sn**	**13 24 02.0**	**-3.0**
	comp=E,0.1nm,0.3s,baz=335,slow=19,SNR=3.3						
SIV	**San Ignacio**	**9.86**	**37**	P	**Pn**	**13 23 02.6**	**-1.7**
	comp=E,0.9nm,0.3s,baz=219,slow=13,SNR=17						
SAML	**Samuel**	**15.48**	**15**		**Pn**	**13 24 15.0**	**-0.3**
PLCA	**Paso Flores**	**16.89**	**189**	P	Pn	13 24 40.8	+8.6
	comp=E,0.1nm,0.3s,baz=31,slow=8.4,SNR=4.4						
BDFB	**Brasilia**	**19.87**	**69**	P	**P**	**13 25 04.5**	**+0.8**
	comp=E,1.5nm,0.3s,baz=249,slow=11,SNR=14						
BDFB	**Brasilia**	**19.87**	**69**	P	**P**	**13 25 04.1**	**+0.4**
BDFB				IAmb	IAmb	13 25 05.0	
	comp=Z,11nm,0.6s						
PAYG	**Puerto Ayora**	**32.24**	**313**	P	**P**	**13 26 57.3**	**-0.2**
RCBR	**Riachuelo**	**35.10**	**64**	P	**P**	**13 27 22.3**	**0.0**
RCBR				IAmb	IAmb	13 27 32.7	
	comp=Z,20nm,1.1s						
CBCY	**The Bluff, Cay**	**45.19**	**343**	P	**P**	**13 28 45.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**76.75**	**69**	P	**P**	**13 32 18.9**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=255,slow=5.7,SNR=5.2						

*BJI **09** 13:31:13.1±0.0, 12°76N×124°35E, h109km, mb4.8/56, mB4.9/39*
*MAN **09** 13:31:14.8, 13°01N×124°18E, h114km, mb5.5, ML4.5, MS4.7*
MAN Intensity III - Matnog Sorsogon; Barangay Cabid-an Sorsogon City; Legaspi City.
*ISCJB **09** 13:31:15.4±0.2, 12°94N±0°02×124°19E±0°03, h120km±2km, mb4.6/59, Error ellipse: s-maj=4.5km s-min=2.6km az=157.1*
*KLM **09** 13:31:16.0, 12°93N×124°25E, h103km, mb5.0*
*NEIC **09** 13:31:16.3±1.6, 12°88N±0°06×124°19E±0°05, h116km±6km, mb4.8/61*
*IDC **09** 13:31:16.3±0.4, 12°83N×124°22E, h113km±3km, mb4.0/29, mb1 4.1/30, mb1mx3.9/62, mbtmp4.4/30, MS3.3/9, Ms1 3.4/9, ms1mx3.0/48, Error ellipse: s-maj=10.7km s-min=7.2km az=63.0*
*DJA **09** 13:31:16.9±0.3, 13°N±3°×12°4E±°, h125km±3km, M4.8/41, mB5.2/22, mb4.8/41, MLv5.7/1, Mw(mB)4.6/22, Mwp5.5/2*
*GCMT **09** 13:31:17.3±0.3, 12°99N±0°02×123°94E±0°03, h114km±3km, MW5.0/68, Moment Tensor Solution. s33,c37; s68,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.17±.12; $M_{\theta\theta}$0.98±.13; $M_{\phi\phi}$-1.15±.13; $M_{r\theta}$-0.41±.11; $M_{r\phi}$3.14±.11; $M_{\theta\phi}$-0.55±.10; Best double couple: M○3.38900×10^{16} NP1:○s189.00000°, ◁84.00000°, λ169.00000°. NP2:○s280.00000°, ◁79.00000°, λ6.00000°. Principal axes: T 3.3660, Plg12.0000°, Azm144.0000°; N 0.0470, Plg78.0000°, Azm341.0000°; P -3.4130, Plg3.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 13:31:16.7±0.3, 12°95N±0°03×124°19E±0°04, h115km±3km, h115km:pP-P, n230, σ1§71/257, mb4.7/83, 8C-6D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.64**	**133**	P	**Pn**	**13 31 35.2**	**+0.1**
CNP				S	**Sn**	**13 31 49.7**	**+0.8**
PVCP	**Virac**	**0.64**	**357**	P	**Pn**	**13 31 34.7**	**-0.4**
PVCP				S	**Sn**	**13 31 48.2**	**-0.8**
MMPH	**Masbate**	**0.81**	**223**	⇓P	**Pn**	**13 31 35.5**	**-1.0**
MMPH				S	**Sn**	**13 31 49.9**	**-1.5**
AUQP	**San Andres**	**1.52**	**284**	P	**Pn**	**13 31 44.4**	**+0.3**
BESP	**Borongan**	**1.81**	**138**	P	**Pn**	**13 31 47.6**	**0.0**
BESP				S	**Sn**	**13 32 10.0**	**-1.1**
GQP	**Guinayangan**	**1.94**	**299**	⇑P	**Pn**	**13 31 48.1**	**-1.1**
GQP				S	**Sn**	**13 32 12.8**	**-1.2**
OTRP	**Odiongan**	**2.19**	**255**	P	**Pn**	**13 31 51.4**	**-0.9**
BOAC	**Boac**	**2.34**	**283**	P	**Pn**	**13 31 53.7**	**-0.4**
BOAC				S	**Sn**	**13 32 23.6**	**+0.6**
LLP	**Lapu-Lapu**	**2.63**	**185**	⇓P	**Pn**	**13 31 57.8**	**-0.2**
LLP				S	**Sn**	**13 32 29.7**	**0.0**
GUIM	**Jordan**	**2.79**	**214**	P	**Pn**	**13 31 59.8**	**-0.3**
GUIM				S	**Sn**	**13 32 32.0**	**-1.5**
POLP	**Polilio Island**	**2.81**	**309**	P	**Pn**	**13 31 59.1**	**-1.2**
POLP				S	**Sn**	**13 32 33.2**	**-0.7**
LQP	**Lukban**	**2.82**	**294**	⇑P	**Pn**	**13 31 59.8**	**-0.9**
LQP				S	**Sn**	**13 32 33.7**	**-0.9**
MSLP	**Maasin**	**2.88**	**167**	P	**Pn**	**13 32 01.3**	**+0.1**
SJMP	**San Jose**	**3.03**	**261**	P	**Pn**	**13 32 03.0**	**-0.3**
TGY	**Tagaytay City**	**3.36**	**290**	P	**Pn**	**13 32 07.9**	**+0.2**
	90nm,0.3s,baz=130,slow=7.3,SNR=36						
TGY				S	**Sn**	**13 32 49.0**	**+1.9**
	147nm,0.3s,baz=64,slow=14,SNR=5.6						
TGY				LR	LR	13 33 54.0	
	comp=Z,501nm,18.7s,baz=351,slow=46						
SCPH	**Surigao**	**3.40**	**158**	⇓P	**Pn**	**13 32 08.8**	**+0.7**
SNPH	**Sibulan**	**3.70**	**195**	⇓P	**Pn**	**13 32 14.7**	**+2.4**
CUYO	**Cuyo Island**	**3.74**	**236**	P	**Pn**	**13 32 12.1**	**-0.5**
BALP	**Baler**	**3.75**	**318**	P	**Pn**	**13 32 08.3**	**-4.6**
BALP				S	**Sn**	**13 32 50.9**	**-5.5**
LUBP	**Lubang**	**3.92**	**282**	P	**Pn**	**13 32 13.2**	**-1.8**
LUBP				S	**Sn**	**13 32 57.6**	**-2.6**
PCPH	**Palayan**	**3.97**	**311**	⇓P	**Pn**	**13 32 13.3**	**-2.3**
BUTP	**Butuan**	**4.20**	**160**	P	**Pn**	**13 32 19.4**	**+0.6**
PALP	**Palanan**	**4.43**	**338**	P	**Pn**	**13 32 20.7**	**-1.2**
PALP				S	**Sn**	**13 33 04.7**	**-7.8**
CGP	**Cagayan de Oro**	**4.50**	**174**	P	**Pn**	**13 32 23.7**	**+0.9**
CAUP	**Cauayan**	**4.58**	**330**	P	**Pn**	**13 32 22.3**	**-1.6**
CAUP				S	**Sn**	**13 33 11.9**	**-4.3**
SMPP	**San Manuel, Pa**	**4.65**	**314**	P	**Pn**	**13 32 22.4**	**-2.5**
ENPP	**El Nido**	**4.97**	**250**	P	**Pn**	**13 32 28.5**	**-0.7**
SCZP	**Santa Cruz**	**5.01**	**305**	P	**Pn**	**13 32 27.7**	**-1.9**
BUKP	**Musuan**	**5.11**	**170**	P	**Pn**	**13 32 32.8**	**+1.6**
PAGZ	**Pagadian**	**5.13**	**189**	P	**Pn**	**13 32 32.9**	**+1.5**
PAGZ				S	**Sn**	**13 33 33.6**	**+4.1**
APYP	**Conner**	**5.65**	**330**	P	**Pn**	**13 32 36.8**	**-1.5**
APYP				S	**Sn**	**13 33 40.1**	**-1.8**
CTBH	**Cotabato--PC H**	**5.69**	**179**	⇑P	**Pn**	**13 32 40.1**	**+1.1**
KCP	**Kidapawan**	**5.97**	**171**	⇑P	**Pn**	**13 32 43.8**	**+1.0**
DAV	**Davao City (W)**	**6.00**	**167**	P	**Pn**	**13 32 44.6**	**+1.5**
	78nm,0.3s,baz=10,slow=3.5,SNR=11						
DAV	**Davao City (W)**	**6.00**	**167**	⇑*i*P	**Pn**	**13 32 44.0**	**+0.9**
DAV	**Davao City (W)**	**6.00**	**167**	Pn	**Pn**	**13 32 43.2**	**+0.1**
MATI	**Mati**	**6.30**	**161**	P	**Pn**	**13 32 43.2**	**-4.1**
DDMP	**Don Marcelino,**	**6.97**	**167**	P	**Pn**	**13 32 55.1**	**-1.1**
BATP	**Bataraza**	**7.51**	**237**	P	**Pn**	**13 33 04.9**	**+1.4**
TWG	**Pinlang**	**10.25**	**344**		**Pn**	**13 33 42.3**	**+1.7**
KKM	**Kota Kinabalu**	**10.43**	**230**	Pn	**Pn**	**13 33 42.6**	**-0.7**
YULB	**Yu-li**	**10.74**	**346**		**Pn**	**13 33 47.6**	**+0.4**
TPUB	**Ta-pu**	**10.84**	**342**		**Pn**	**13 33 47.8**	**-0.7**
SSLB	**Suanglung**	**11.21**	**345**		**Pn**	**13 33 53.8**	**+0.3**
NACB	**Ninganchiao**	**11.43**	**348**	Pn	**Pn**	**13 33 56.8**	**+0.3**
YOJ	**Yonaguni jima**	**11.51**	**355**	Pn	**Pn**	**13 33 57.9**	**+0.5**
YHNB	**Yeheng**	**11.96**	**348**		**Pn**	**13 34 04.3**	**+0.8**
TATO	**Taipei**	**12.23**	**348**		**Pn**	**13 34 07.8**	**+0.8**
KMSI	**Cibinong**	**12.30**	**181**	P	**P**	**13 34 16.3**	**+0.9**
TNTI	**Ternate**	**12.50**	**165**	P	**Pn**	**13 34 10.2**	**-0.5**
	122nm,1.2s,1µm						
TNTI	**Ternate**	**12.50**	**165**		**Pn**	**13 34 09.0**	**-1.7**
MRSI	**Marisa**	**12.59**	**190**	P	**Pn**	**13 34 14.5**	**+2.7**
	40nm,1.2s,1µm						
KNMB	**Chin-men Tao**	**12.70**	**335**	Pn	**Pn**	**13 34 12.1**	**-1.1**
LUWI	**Luwuk**	**13.97**	**186**	P	**P**	**13 34 33.6**	**-0.4**
	214nm,1.1s,3µm						
LUWI	**Luwuk**	**13.97**	**186**	P	**P**	**13 34 32.7**	**-1.3**
APSI	**Ampana**	**14.00**	**191**	P	P	13 34 40.8	+6.5
SANI	**Sanana**	**15.01**	**173**	P	**Pn**	**13 34 38.5**	**-4.4**
	152nm,1.1s,2µm						
SWI	**Sorong**	**15.41**	**152**	P	**P**	**13 34 51.2**	**+1.2**
	32nm,1.5s,596nm						
SIJI	**Sorong**	**15.42**	**152**	P	**Pn**	**13 34 46.9**	**-1.2**
	0.5nm,0.3s,baz=344,slow=11,SNR=4.8						
SIJI				LR	LR	13 40 56.5	
	comp=Z,42nm,20.3s,baz=281,slow=38						
SBUM	**Sibu**	**15.78**	**230**	P	**P**	**13 34 54.0**	**-0.1**
SBUM	**Sibu**	**15.78**	**230**	P	**Pn**	**13 34 53.1**	**+0.5**
SBUM				IAmb	IAmb	13 34 57.4	
	comp=Z,74nm,1.1s						
NLAI	**Namlea**	**16.34**	**170**	P	**Pn**	**13 34 57.5**	**-2.0**
	comp=Z,19nm,0.8s						
TTSI	**Tana Toraja**	**16.47**	**196**	P	**P**	**13 35 02.3**	**+0.6**
	comp=Z,56nm,0.9s,comp=Z,1µm						
MSAI	**Masohi**	**16.86**	**163**	P	**P**	**13 35 07.2**	**+1.2**
	comp=Z,29nm,1.0s,comp=Z,315nm						
RKPI	**Ransiki, Papua**	**17.45**	**145**	P	**Pn**	**13 35 17.5**	**+4.4**
KSM	**Kuching**	**17.86**	**231**	Pn	**Pn**	**13 35 17.6**	**-0.4**
STKI	**Sintang**	**17.96**	**226**	P	**Pn**	**13 35 19.9**	**+0.7**
SSE	**Sheshan**	**18.27**	**352**	P	**Pn**	**13 35 22.6**	**-0.1**
SSE				IAmb	IAmb	13 35 24.3	
	comp=Z,49nm,0.7s						
UBPT	**Khong Chiam**	**18.30**	**279**	P	**Pn**	**13 35 24.1**	**+0.9**
	comp=Z,9.9nm,0.9s						
UBPT	**Khong Chiam**	**18.30**	**279**	P	**P**	**13 35 22.1**	**+0.3**
NJ2	**Nanjing**	**19.63**	**346**	*e*P	**Pn**	**13 35 38.0**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,18nm,0.6s						
WHN	**Wuhan**	**19.73**	**334**	⇑P	**Pn**	**13 35 38.7**	**-1.1**
WHN				pP	**pP**	**13 36 01.0**	**+2.5**
WHN				pmax	pmax		
	comp=Z,52nm,0.9s						
SKNT	**Sakolnakorn**	**19.92**	**284**	P	**Pn**	**13 35 45.8**	**+3.5**
	comp=Z,17nm,1.6s						
SMPI	**Sarmi**	**20.69**	**135**	P	**P**	**13 35 47.6**	**-0.2**
	comp=Z,105nm,1.4s,comp=Z,1µm						
SLVN	**Son La**	**21.08**	**296**	P	**P**	**13 35 51.1**	**-0.9**
GYA	**Guiyang**	**21.24**	**312**	⇓*i*P	P	13 36 06.1	+12
GYA				PP	sP	13 36 28.9	-1.0
GYA				S	**S**	**13 39 49.0**	**+5.5**
GYA				SS	**SnSn**	**13 40 27.8**	**+11**
GYA				pmax	pmax		
	comp=Z,20nm,0.7s		

comp=Z,5.3nm,0.8s,baz=98,slow=8.2,SNR=9.1
CMAR LR LR 13 45 06.0
comp=Z,87nm,20.4s,baz=359,slow=33
XAN Xi'an 25.17 329 P **P** **13 36 31.3 -0.1**
XAN pP pP 13 36 55.4 -0.8
XAN sP sP 13 37 07.3 -2.6
XAN pmax pmax
comp=Z,31nm,0.9s
XAN pmax pmax
comp=Z,210nm,4.5s
XAN Xi'an 25.17 329 P **P** **13 36 30.3 -1.1**
XAN IAmb IAmb 13 36 32.2
comp=Z,27nm,0.9s
KPJI Karang Pucung 25.22 218 P **P** **13 36 32.3 +0.4**
comp=Z,43nm,1.1s
LEM Lembang 25.63 221 P **P** **13 36 36.3 +0.4**
comp=Z,31nm,0.8s,baz=74,slow=8.8,SNR=3.8
CD2 Chengdu 25.97 317 P **P** **13 36 42.4 +3.7**
CD2 pmax pmax
comp=Z,60nm,0.9s
CISI Cisompet, Garu 26.07 219 P **P** **13 36 36.8 -2.9**
comp=Z,45nm,1.0s
CISI Cisompet, Garu 26.07 219 P **P** **13 36 37.1 -2.6**
CISI IAmb IAmb 13 36 44.0
comp=Z,37nm,0.9s
MDSI Maura Dua 26.37 230 P **P** **13 36 41.8 -0.5**
comp=Z,14nm,1.0s,comp=Z,956nm
LHSI Lahat 26.44 232 P **P** **13 36 42.5 -0.5**
comp=Z,23nm,0.8s,comp=Z,2nm
MTN Manton Dam 26.54 165 P **P** **13 36 42.0 -1.7**
MJAR Matsushiro Arr 26.66 26 LR LR 13 46 02.4
comp=Z,41nm,21.2s,baz=210,slow=33
PSI Prapat 26.95 250 P **P** **13 36 47.6 -0.1**
comp=Z,8.1nm,0.7s,baz=72,slow=6.4,SNR=8.6
RPSI Rantau Prapat 26.99 250 P **P** **13 36 47.1 -0.9**
RPSI Rantau Prapat 26.99 250 P **P** **13 36 47.6 -0.3**
KSI Kapahiang 27.06 234 P **P** **13 36 48.5 -0.1**
KCSI Kotacane, Aceh 27.74 253 P **P** **13 36 52.7 -2.0**
comp=Z,20nm,0.9s
BJT Baijiatuan 27.87 347 P **P** **13 36 55.4 -0.2**
BJT IAmb IAmb 13 37 24.3
comp=Z,35nm,1.3s
BJI Beijing 27.89 347⇑ *i*P **P** **13 36 56.2 +0.5**
BJI pmax pmax
comp=Z,13nm,1.2s
KNRA Kununurra 28.80 171 P **P** **13 37 02.9 -1.0**
KNRA IAmb IAmb 13 37 43.1
comp=Z,17nm,1.1s
LZH Lanzhou 29.43 325 *e*P **P** **13 37 11.0 +1.4**
LZH pP pP 13 37 35.1 +0.3
LZH sP sP 13 37 47.8 -0.3
LZH PP **PnPn** **13 38 05.8 -3.5**
LZH sS sS 13 42 44.9 +5.5
LZH pmax pmax
comp=Z,33nm,1.1s
LZH pmax pmax
comp=Z,130nm,4.1s
HHC Hu-ho-hao-te 29.91 341 P **P** **13 37 16.2 +2.4**
HHC pmax pmax
comp=Z,5.0nm,1.1s
FITZ Fitzroy Crossi 30.88 177 P **P** **13 37 20.4 -1.9**
comp=Z,1.0nm,0.3s,baz=6.5,slow=9.5,SNR=12
FITZ Fitzroy Crossi 30.88 177 P **P** **13 37 20.2 -2.2**
USRK Ussuriysk Ar. 31.85 11 P **P** **13 37 31.8 +1.2**
comp=Z,2.5nm,0.6s,baz=191,slow=6.9,SNR=6.6
USRK pP **pP** **13 37 56.8 +0.8**
comp=Z,6.0nm,0.7s,baz=193,slow=9.3,SNR=6.1
KRVT Keravat (AS076 32.54 120 P **P** **13 37 35.5 -1.5**
comp=Z,15nm,0.6s,baz=301,slow=12,SNR=2.9
COEN Coen 32.69 144 P **P** **13 37 36.5 -1.7**
COEN IAmb IAmb 13 37 49.4
comp=Z,52nm,2.0s
GTA Gaotai 34.03 325 ⇑P **P** **13 37 50.7 +0.9**
GTA pP pP 13 38 15.9 +0.6
GTA sP sP 13 38 31.5 +2.9
GTA S **S** **13 43 08.1 +1.2**
GTA sS sS 13 43 54.8 +3.5
GTA pmax pmax
comp=Z,15nm,1.1s
GTA pmax pmax
comp=Z,74nm,5.3s
GTA LR LR
comp=Z,68nm,14.6s
GTA LR LR
comp=Z,80nm,16.0s
GTA LR LR
comp=Z,120nm,14.0s
WRAB Tennant Creek 34.17 163 P **P** **13 37 48.8 -2.3**
WRAB IAmb IAmb 13 37 52.0
comp=Z,14nm,1.2s
WRA Warramunga Arr 34.18 163 P **P** **13 37 49.5 -1.6**
comp=Z,2.7nm,0.4s,baz=344,slow=8.9,SNR=51
WB2 Warramunga Arr 34.18 163 P **P** **13 37 49.2 -2.0**
WB2 IAmb IAmb 13 37 54.0
comp=Z,18nm,1.2s
WR0 Warramunga Arr 34.25 163 P **P** **13 37 49.9 -1.9**
WR0 IAmb IAmb 13 37 52.1
comp=Z,17nm,1.4s
PSAB2 Pilbara Seismi 34.55 187 P **P** **13 37 52.5 -1.9**
PSAB2 IAmb IAmb 13 38 55.5
comp=Z,15nm,1.2s
PSAC2 Pilbara Seismi 34.55 187 P **P** **13 37 52.5 -1.9**
PSAA2 Pilbara Seismi 34.56 187 P **P** **13 37 53.0 -1.4**
PSAA2 IAmb IAmb 13 38 28.1
comp=Z,20nm,1.3s
PSA00 Pilbara Seismi 34.57 187 P **P** **13 37 52.8 -1.7**
PSAA1 Pilbara Seismi 34.58 187 P **P** **13 37 52.0 -2.5**
PSAA1 IAmb IAmb 13 38 21.0
comp=Z,40nm,1.6s
PSAB3 Pilbara Seismi 34.59 187 P **P** **13 37 52.5 -2.2**
PSAB3 IAmb IAmb 13 38 58.5
comp=Z,20nm,1.4s
ASAJ Asahikawa 34.84 23 LR LR 13 50 35.9
comp=Z,61nm,20.9s,baz=180,slow=33
KLR Kul'dur 36.71 8 P **P** **13 38 13.5 +1.1**
comp=Z,3.1nm,0.6s,baz=184,slow=6.5,SNR=13
KLR pP **pP** **13 38 37.3 -1.0**
comp=Z,2.8nm,0.7s,baz=173,slow=8.1,SNR=4.1
TAPN Taplejung 36.96 298 *e*P **P** **13 38 14.1 -1.2**
ODAN Odare 37.11 298 *e*P **P** **13 38 16.4 -0.1**
comp=Z,41nm,0.9s
AS31 Alice Springs 37.61 165 P **P** **13 38 19.2 -1.2**
ASAR Alice Springs 37.61 165 P **P** **13 38 19.7 -0.8**
comp=Z,7.1nm,0.7s,baz=341,slow=7.2,SNR=137
ASAR pP **pP** **13 38 45.6 -0.8**
comp=Z,1.9nm,0.6s,baz=341,slow=6.4,SNR=2.1
ULN Ulaanbaatar 37.63 341 P **P** **13 38 21.2 +0.7**
RAMN Ramite 37.82 297 *e*P **P** **13 38 22.5 0.0**
comp=Z,30nm,1.1s
SONM Songino Array 37.82 340 P **P** **13 38 23.1 +1.0**
comp=Z,7.6nm,0.8s,baz=161,slow=9.1,SNR=39
SONM pP **pP** **13 38 48.7 +0.9**
comp=Z,4.3nm,0.8s,baz=159,slow=9.7,SNR=5.0
JIRN Jiri 38.35 298 *e*P **P** **13 38 27.0 -0.1**
GUN Gumba 38.68 299 *e*P **P** **13 38 29.6 -0.2**
PKI Pulchoki 39.00 298 *e*P **P** **13 38 31.7 -0.7**
comp=Z,17nm,0.9s
PKIN Phulchoki 39.01 298 *e*P **P** **13 38 31.7 -0.8**
comp=Z,15nm,0.9s
KKN Kakani 39.16 298 *e*P **P** **13 38 33.2 -0.5**
DMN Daman 39.27 298 *e*P **P** **13 38 34.0 -0.6**
CTA Charters Tower 39.36 146 P **P** **13 38 33.8 -1.3**
comp=Z,6.5nm,0.8s,baz=334,slow=9.4,SNR=4.4
GKN Gorkha 39.77 298 *e*P **P** **13 38 37.6 -1.0**
DANN Dangsing 40.60 299 *e*P **P** **13 38 44.9 -0.8**
comp=Z,32nm,0.9s
KOLN Koldanda 40.60 298 *e*P **P** **13 38 45.1 -0.5**
comp=Z,31nm,1.1s
H11S3 WAKE ISLAND Hy 41.21 77 T T 14 22 51.0
baz=270,slow=75,SNR=607
H11S1 WAKE ISLAND Hy 41.22 77 T T 14 22 56.7
baz=270,slow=75,SNR=113
H11S2 WAKE ISLAND Hy 41.23 77 T T 14 22 52.8
baz=270,slow=75,SNR=174
H11N1 WAKE ISLAND Hy 41.44 75 T T 14 23 07.1
baz=267,slow=74,SNR=820
H11N2 WAKE ISLAND Hy 41.45 75 T T 14 23 08.1
baz=267,slow=74,SNR=500
H11N3 WAKE ISLAND Hy 41.46 75 T T 14 23 05.8
baz=267,slow=74,SNR=741
TLY Talaya 42.05 341 P **P** **13 38 57.9 +1.2**
comp=Z,5.1nm,0.6s,baz=142,slow=7.8,SNR=5.8
TLY Talaya 42.05 341 P **P** **13 38 57.7 +0.9**
TLY IAmb IAmb 13 38 59.0
comp=Z,10nm,0.9s
MORW Morawa 42.51 191 P **P** **13 38 59.6 -1.2**

WMQ Urumqi 43.87 322 *e*P **P** **13 39 12.7 +1.0**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,88nm,4.9s
NWAO Narrogin (SRO) 46.10 188 P **P** **13 39 28.2 -1.0**
comp=Z,6.2nm,0.7s,baz=40,slow=7.9,SNR=4.0
NWAO Narrogin (SRO) 46.10 188 P **P** **13 39 28.3 -1.0**
NWAO IAmb IAmb 13 40 36.1
comp=Z,30nm,1.4s
EIDS Eidsvold 46.24 145 P **P** **13 39 28.5 -2.0**
EIDS IAmb IAmb 13 39 31.2
comp=Z,27nm,0.9s
BBOO Buckleboo 46.90 166 P **P** **13 39 34.9 -0.6**
STKA Stephens Creek 47.59 160 P **P** **13 39 40.0 -0.9**
comp=Z,10nm,1.0s,baz=342,slow=5.7,SNR=7.6
STKA Stephens Creek 47.59 160 P **P** **13 39 40.0 -0.9**
PETK Petropavlovsk- 48.11 27 P **P** **13 39 45.0 +0.3**
comp=Z,5.0nm,0.8s,baz=219,slow=11,SNR=4.8
PETK pP **pP** **13 40 11.5 0.0**
comp=Z,8.4nm,0.9s,baz=220,slow=3.9,SNR=3.9
MK31 Makanchi Array 48.67 322 P **P** **13 39 50.4 +1.2**
MK31 IAmb IAmb 13 39 51.3
comp=Z,9.6nm,1.1s
MKAR Makanchi Array 48.67 322 P **P** **13 39 50.1 +1.0**
comp=Z,4.9nm,0.8s,baz=121,slow=9.1,SNR=19
MKAR pP **pP** **13 40 16.2 +0.1**
comp=Z,4.3nm,0.8s,baz=119,slow=8.9,SNR=6.3
MAKZ Makanchi 48.87 322 P **P** **13 39 51.0 +0.3**
MAKZ IAmb IAmb 13 40 18.3
comp=Z,12nm,1.2s
KSH Kashi 49.94 311 P **P** **13 40 02.0 +3.0**
KSH ScP **ScP** **13 45 04.8 +1.9**
KSH PcS **PcS** **13 45 16.4 +1.6**
KSH S **S** **13 47 05.1 +4.2**
KSH ScS **ScS** **13 49 39.7 +0.5**
KSH SS **SS** **13 50 36.5 +1.4**
KSH pmax pmax
comp=Z,21nm,1.3s
KSH pmax pmax
comp=Z,240nm,5.6s
KSH LR LR
comp=Z,170nm,4.6s
KSH LR LR
comp=Z,260nm,4.7s
KSH LR LR
comp=Z,190nm,4.7s
KDJ Kajisay 49.96 315 P **P** **13 39 59.9 +0.6**
NRN Naryn 50.54 313 P **P** **13 40 03.5 -0.3**
NRN IAmb IAmb 13 40 49.8
comp=Z,13nm,1.1s
NIL Nilore 50.56 303 P **P** **13 40 03.2 -0.5**
NIL IAmb IAmb 13 40 04.8
comp=Z,10nm,0.9s
ARMA Armidale 50.56 149 P **P** **13 40 03.2 -0.6**
ZAA0 Zalesovo Array 51.31 331 P **P** **13 40 08.8 -0.1**
ZAA0 IAmb IAmb 13 40 10.2
comp=Z,29nm,1.9s
ZALV Zalesovo Beam 51.31 331 P **P** **13 40 09.5 +0.6**
comp=Z,3.3nm,0.6s,baz=120,slow=8.4,SNR=15
ZALV pP **pP** **13 40 36.4 +0.6**
comp=Z,2.3nm,0.6s,baz=116,slow=7.3,SNR=3.9
AAK Ala-Archa 52.00 314 P **P** **13 40 15.8 +1.3**
comp=Z,0.6nm,0.5s,baz=153,slow=6.8,SNR=2.9
AAK pP **pP** **13 40 42.9 +1.1**
comp=Z,0.7nm,0.6s,baz=119,slow=10,SNR=2.2
KAAM Kaadhehdhoo 52.20 260 P **P** **13 40 15.3 -0.8**
KURK Kurchatov 52.72 325 P **P** **13 40 19.3 0.0**
GAR Garm 54.02 309 P **P** **13 40 29.3 0.0**
TOO Toolangi 54.09 159 P **P** **13 40 29.8 +0.2**
KBL Kabul 54.15 303 P **P** **13 40 30.1 -0.4**
KBL IAmb IAmb 13 41 15.8
comp=Z,7.2nm,0.9s
CHGR Chuyangaron 54.83 308 P **P** **13 40 35.2 0.0**
KK31 Karatay Array 54.93 314 P **P** **13 40 35.8 +0.1**
KK31 pP **pP** **13 41 02.6 -0.6**
KKAR Karatay Array 54.93 314 P **P** **13 40 35.8 +0.1**
KKAR pP **pP** **13 41 02.7 -0.6**
BVAR Borovoye Array 58.31 325 P **P** **13 40 59.9 +0.4**
comp=Z,2.4nm,0.8s,baz=119,slow=8.6,SNR=15
BVAR pP **pP** **13 41 27.9 +0.9**
comp=Z,2.2nm,0.6s,baz=122,slow=5.7,SNR=5.9
BRVK Borovoye 58.39 325 P **P** **13 40 59.8 -0.2**
BRVK IAmb IAmb 13 41 01.6
comp=Z,7.3nm,0.8s
TIXI Tiksi 58.74 2 LR LR 14 07 09.1
comp=Z,28nm,19.8s,baz=135,slow=37
TIXI Tiksi 58.74 2 P **P** **13 41 02.1 +0.1**
TIXI IAmb IAmb 13 41 30.5
comp=Z,7.0nm,0.8s
GEYT Alibeck 63.32 306 P **P** **13 41 34.4 +0.7**
comp=Z,3.2nm,0.9s,baz=94,slow=6.1,SNR=5.6
GEYT pP **pP** **13 42 02.3 +0.4**
comp=Z,1.6nm,0.8s,baz=157,slow=7.8,SNR=2.3
GEYT LR LR 14 13 39.9
comp=Z,19nm,18.7s,baz=40,slow=40
ABKAR Akbulak array 63.53 319 P **P** **13 41 34.0 -0.8**
ABKAR pP **pP** **13 42 02.3 -0.6**
AKTO Aktyubinsk 64.97 320 P **P** **13 41 44.6 +0.4**
comp=Z,0.7nm,0.6s,baz=88,slow=9.1,SNR=2.9
AKTO pP **pP** **13 42 12.1 -0.4**
comp=Z,1.5nm,0.7s,baz=82,slow=6.8,SNR=3.5
ARU Arti 65.88 326 P **P** **13 41 50.0 +0.1**
comp=Z,1.4nm,0.5s,baz=93,slow=3.5,SNR=6.7
ARU pP **pP** **13 42 17.6 -0.7**
comp=Z,1.6nm,0.5s,baz=103,slow=4.5,SNR=3.3
RAYN Ar Rayn 74.69 291 P **P** **13 42 43.3 -1.0**
BPAW Bear Paw Mtn. 76.19 27 P **P** **13 42 53.1 +1.0**
BPAW pP **pP** **13 43 20.5 -0.3**
BPAW IAmb IAmb 13 43 23.3
comp=Z,24nm,1.2s
MLY Manley 76.28 26 pP pP 13 43 21.3 -0.1
COLD Coldfoot 76.46 24 pP pP 13 43 23.0 +0.7
NEA Nenana 77.01 26 pP pP 13 43 24.8 -0.6
MCK McKinley 77.11 27 pP pP 13 43 25.2 -0.8
RND Reindeer 77.17 27 pP pP 13 43 25.5 -1.0
DHY Denali Highway 77.86 28 pP pP 13 43 29.6 -0.7
ILAR Eielson Array 77.94 26 P **P** **13 43 02.6 +0.8**
comp=Z,0.4nm,0.8s,baz=260,slow=5.1,SNR=3.3
ILAR pP **pP** **13 43 30.4 -0.3**
comp=Z,1.3nm,0.8s,baz=248,slow=6.3,SNR=7.8
RIDG Independent Ri 78.92 27 pP pP 13 43 35.3 -0.9
ARCES ARCESS Array B 80.98 339 P **P** **13 43 18.8 +0.6**
comp=Z,6.5nm,1.1s,baz=47,slow=5.5,SNR=5.0
ARCES pP **pP** **13 43 48.1 +0.6**
comp=Z,2.8nm,0.9s,baz=70,slow=6.3,SNR=1.9
EPYK Eagle Plains 81.86 24 pP pP 13 43 51.5 -0.5
INK Inuvik 82.56 21 pP pP 13 43 55.0 -0.5
FINES FINESS Array B 82.58 331 P **P** **13 43 26.9 +0.3**
comp=Z,2.0nm,0.8s,baz=66,slow=6.5,SNR=4.0
FINES pP **pP** **13 43 56.0 -0.2**
comp=Z,2.3nm,0.8s,baz=64,slow=4.4,SNR=2.8
AKASG Malin Array Be 83.21 320 P **P** **13 43 30.7 +0.5**
comp=Z,0.2nm,0.3s,baz=71,slow=3.7,SNR=2.9
BUR08 Bucovina Ar. S 86.50 318 P **P** **13 43 46.0 -0.9**
NOA NORSAR Array B 89.47 333 LR LR 14 27 43.5
comp=Z,26nm,19.5s,baz=55,slow=38
YKW3 Yellowknife Ar 92.10 23 P **P** **13 44 10.7 -2.0**
GERES GERESS Array B 93.34 322 LR LR 14 30 45.6
comp=Z,27nm,18.2s,baz=268,slow=38
PLCA Paso Flores 149.45 158 PKPbc **PKPbc** **13 50 53.0 +0.2**
comp=Z,1.7nm,0.9s,baz=251,slow=4.0,SNR=3.3

*ISCJB **09** 13:32:58.3±0.4, 11°.72S±0°.05×166°.38E±0°.06, h59km, mb4.2/10, MS3.3/8, Error ellipse: s-maj=9.6km s-min=6.1km az=145.8*
*NEIC **09** 13:33:00.5±1.0, 11°.69S±0°.07×166°.41E±0°.10, h64km±5km, mb4.9/23*
*IDC **09** 13:33:02.1±3.5, 11°.66S×166°.32E, h75km±27km, mb4.0/9, mb1 4.2/11, mb1mx3.8/43, mbtmp4.4/11, MS3.3/9, Ms1 3.3/9, ms1mx3.0/27, Error ellipse: s-maj=26.7km s-min=17.9km az=63.0*
ISC 09 13:33:00.2±0.6, **11°.70S**±0°.06×**166°.43E**±0°.09, **h59**km, **n51**, σ1°**30**/48, **mb4.6**/22, **MS3.4**/8, **Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.76**	**289**	P	**Pn**	**13 34 37.0**	**+0.2**
	26nm,0.3s,baz=151,slow=3.8,SNR=19			S			
HNR					**Sn**	**13 35 52.2**	**-0.3**
	6.5nm,0.3s,baz=238,slow=22,SNR=5.5						
HNR	**Honiara**	**6.76**	**289**	P	**Pn**	**13 34 37.0**	**+0.2**
HNR	**Honiara**	**6.76**	**289**		**Pn**	**13 34 36.8**	**-0.1**

DZM Mont Dzumac 10.32 180 *e*Pn **Pn** **13 35 28.5 +2.9**
3.2nm,0.2s
DZM *e*Sn **Sn** **13 37 14.8 -5.0**
1.9nm,0.3s
DZM *e*LR LR 13 37 48.2
comp=Z,285nm,25.1s
DZM Mont Dzumac 10.32 180 P **Pn** **13 35 28.8 +3.2**
1.2nm,0.3s,baz=353,slow=17,SNR=7.7
DZM S **Sn** **13 37 19.1 -0.7**
0.6nm,0.3s,baz=163,slow=19,SNR=3.3
DZM LR LR 13 39 04.5
comp=Z,204nm,20.2s,baz=352,slow=35
TARA Tarawa 14.48 27 Pn **Pn** **13 36 22.9 +0.8**
KRVT Keravat (AS076 16.03 296 LR LR 13 43 05.6
comp=Z,58nm,21.8s,baz=99,slow=38
PMG Port Moresby 19.08 275 LR LR 13 43 46.2
comp=Z,136nm,21.4s,baz=120,slow=34
EIDS Eidsvold 19.89 225 Pn **Pn** **13 37 29.1 +0.2**
PATS Pohnpei 20.11 336 P **P** **13 37 29.0 -0.3**
CTA Charters Tower 21.10 244 P **P** **13 37 43.6 +3.5**
3.9nm,0.6s,baz=83,slow=12,SNR=8.5
AFI Afiamalu 21.36 98 LR LR 13 44 52.5
comp=Z,20nm,21.3s,baz=23,slow=33
ARMA Armidale 23.14 214 P **P** **13 38 03.2 +1.5**
OUZ Omahuta 24.30 166 P **P** **13 38 12.7 +0.5**
OUZ IAmb IAmb 13 38 45.4
comp=Z,54nm,1.7s
URZ Urewera 28.12 162 LR LR 13 47 45.3
comp=Z,100nm,19.1s,baz=12,slow=31
CAN Canberra 28.34 211 P **P** **13 38 48.1 -0.5**
CAN IAmb IAmb 13 39 46.9
comp=Z,85nm,1.8s
BKZ Black Stump Fm 28.78 164 P **P** **13 38 52.8 +0.2**
BKZ IAmb IAmb 13 39 35.2
comp=Z,45nm,1.7s
BFZ Birch Farm 30.14 165 P **P** **13 39 03.7 -0.8**
TUWZ Tuamarina 30.34 169 P **P** **13 39 05.6 -0.7**
STKA Stephens Creek 30.44 225 P **P** **13 39 07.4 0.0**
comp=Z,6.3nm,0.7s,baz=55,slow=8.6,SNR=12
STKA LR LR 13 50 59.6
comp=Z,83nm,19.8s,baz=16,slow=35
STKA Stephens Creek 30.44 225 P **P** **13 39 07.3 0.0**
THZ Tophouse 30.48 170 P **P** **13 39 08.4 +0.8**
THZ IAmb IAmb 13 39 20.4
comp=Z,69nm,1.6s
MSWZ Moikau Station 30.60 167 P **P** **13 39 08.0 -0.6**
PLWZ Palliser 30.75 167 P **P** **13 39 09.7 -0.2**
KHZ Kahutara 31.23 170 P **P** **13 39 14.1 0.0**
KHZ IAmb IAmb 13 39 18.7
comp=Z,30nm,1.3s
LTZ Lake Taylor 31.38 172 P **P** **13 39 15.0 -0.5**
LTZ IAmb IAmb 13 39 45.9
comp=Z,56nm,1.8s
TOO Toolangi 31.88 213 P **P** **13 39 20.7 +0.8**
TOO IAmb IAmb 13 39 21.7
comp=Z,8.5nm,0.8s
OXZ Oxford 31.89 172 P **P** **13 39 19.9 +0.1**
WB2 Warramunga Arr 31.89 251 P **P** **13 39 19.3 -0.9**
WB2 IAmb IAmb 13 39 20.3
comp=Z,15nm,1.4s
WRAB Tennant Creek 31.89 251 P **P** **13 39 19.1 -1.0**
WRA Warramunga Arr 31.90 251 P **P** **13 39 19.5 -0.8**
comp=Z,2.6nm,0.6s,baz=82,slow=9.0,SNR=8.2
WRA PcP **PcP** **13 42 09.2 -0.6**
comp=Z,0.8nm,0.7s,baz=71,slow=3.5,SNR=3.2
WRA LR LR 13 51 04.6
comp=Z,64nm,18.6s,baz=50,slow=34
RPZ Rata Peaks 32.15 174 P **P** **13 39 23.0 +0.8**
comp=Z,4.3nm,0.8s,baz=326,slow=6.1,SNR=4.8
RPZ Rata Peaks 32.15 174 P **P** **13 39 22.9 +0.7**
RPZ IAmb IAmb 13 39 50.0
comp=Z,52nm,1.6s
MQZ McQueen's Vall 32.34 172 P **P** **13 39 23.5 -0.3**
ASAR Alice Springs 33.11 244 P **P** **13 39 29.9 -0.9**
comp=Z,3.0nm,0.7s,baz=72,slow=9.5,SNR=10
ASAR PcP **PcP** **13 42 12.7 -0.4**
comp=Z,0.7nm,0.5s,baz=81,slow=2.6,SNR=3.6
KNRA Kununurra 36.78 259 P **P** **13 40 01.9 -0.6**
KNRA IAmb IAmb 13 40 57.3
comp=Z,30nm,1.7s
FITZ Fitzroy Crossi 39.86 256 P **P** **13 40 28.0 -0.4**
comp=Z,6.7nm,0.8s,baz=82,slow=6.6,SNR=10.0
FITZ Fitzroy Crossi 39.86 256 P **P** **13 40 28.2 -0.2**
SOEI Soe 41.44 268 P **P** **13 40 41.4 -0.3**
SOEI IAmb IAmb 13 41 48.0
comp=Z,20nm,0.5s
PPT2 Papeete2 42.89 103 *e*LR LR 13 53 11.0
comp=Z,96nm,30.0s
TBI Tubuai 43.47 112 *e*LR LR 13 53 32.3
comp=Z,85nm,30.8s
PSA00 Pilbara Seismi 45.55 251 P **P** **13 41 13.0 -1.6**
PSA00 IAmb IAmb 13 41 47.1
comp=Z,50nm,2.0s
INU Inuyama 54.44 330 P **P** **13 42 21.2 -0.4**
CMAR Chiang Mai Arr 72.98 294 P **P** **13 44 24.6 +0.5**
comp=Z,4.4nm,0.8s,baz=123,slow=4.6,SNR=23
CMMT Chiang Mai 73.09 294 P **P** **13 44 26.3 +1.5**
QSPA South Pole Qui 78.31 180 P **P** **13 44 53.1 -0.8**
QSPA IAmb IAmb 13 44 58.9
comp=Z,10nm,1.2s
SONM Songino Array 79.58 324 P **P** **13 45 00.9 -0.2**
comp=Z,0.6nm,0.5s,baz=150,slow=6.7,SNR=3.7
ILAR Eielson Array 83.92 18 P **P** **13 45 22.8 -0.6**
comp=Z,0.4nm,0.5s,baz=240,slow=4.5,SNR=6.1
NVAR Mina Array Bea 85.93 50 LR LR 14 22 08.4
comp=Z,28nm,18.1s,baz=254,slow=34
MKAR Makanchi Array 94.45 317 P **P** **13 46 13.3 -0.7**
comp=Z,1.1nm,0.6s,baz=87,slow=6.2,SNR=8.7
TXAR Lajitas Array 95.55 61 LR LR 14 21 19.8
comp=Z,14nm,21.0s,baz=0.0,slow=30

*ISCJB **09** 13:37:32.4±0.6, 20°.4S±0°.1×178°.1W±0°.1, h534km, mb3.8/10, Error ellipse: s-maj=16.9km s-min=10.2km az=144.7*
*NEIC **09** 13:37:34.9±0.9, 20°.4S±0°.1×178°.1W±0°.1, h556km±10km, mb4.5/20*
*IDC **09** 13:37:35.3±7.0, 20°.35S×178°.10W, h554km±77km, mb3.3/10, mb1 3.6/10, mb1mx3.3/38, mbtmp4.2/10, Error ellipse: s-maj=62.9km s-min=25.2km az=151.0*
ISC 09 13:37:33.2±0.8, **20°.5S**±0°.1×**178°.0W**±0°.1, **h534**km, **n31**, σ0°**80**/32, **mb4.4**/20, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.64**	**305**	P	**P**	**13 39 01.4**	**+2.2**
URZ	**Urewera**	**18.22**	**192**	P	**P**	**13 41 13.8**	**+0.2**
BKZ	**Black Stump Fm**	**19.22**	**193**	P	**P**	**13 41 23.6**	**+0.7**
EIDS	**Eidsvold**	**28.87**	**254**	P	**P**	**13 42 49.0**	**+0.2**
EIDS					IAmb	13 43 31.1	
	comp=Z,14nm,1.4s						
ARMA	**Armidale**	**29.09**	**244**	P	**P**	**13 42 52.0**	**+1.2**
CTA	**Charters Tower**	**33.51**	**264**	P	**P**	**13 43 28.7**	**0.0**
	comp=Z,6.2nm,0.5s,baz=98,slow=11,SNR=14						
TOO	**Toolangi**	**35.92**	**234**	P	**P**	**13 43 48.7**	**+0.1**
TOO					IAmb	13 45 29.5	
	comp=Z,25nm,1.3s						
COEN	**Coen**	**37.60**	**274**	P	**P**	**13 44 02.4**	**-0.3**
COEN					IAmb	13 44 14.3	
	comp=Z,20nm,1.4s						
STKA	**Stephens Creek**	**37.81**	**244**	P	**P**	**13 44 05.1**	**+0.9**
BBOO	**Buckleboo**	**42.57**	**243**	P	**P**	**13 44 42.0**	**-0.2**
JAY	**Jayapura**	**44.05**	**288**	P	**P**	**13 44 54.0**	**0.0**
	comp=Z,13nm,0.6s,baz=143,slow=5.1,SNR=7.9						
WR0	**Warramunga Arr**	**44.43**	**262**	P	**P**	**13 44 56.1**	**-0.8**
WR0					IAmb	13 45 55.5	
	comp=Z,11nm,1.5s						
AS31	**Alice Springs**	**44.54**	**257**	P	**P**	**13 44 57.5**	**-0.2**
ASAR	**Alice Springs**	**44.54**	**257**	P	**P**	**13 44 57.7**	**0.0**
	comp=Z,5.7nm,0.5s,baz=89,slow=8.2,SNR=89						
ASAR				PcP	**PcP**	**13 46 29.2**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=101,slow=4.1,SNR=3.6						
WB2	**Warramunga Arr**	**44.61**	**262**	P	**P**	**13 44 57.5**	**-0.8**
WRAB	**Tennant Creek**	**44.61**	**262**	P	**P**	**13 44 57.5**	**-0.8**
WRAB					IAmb	13 44 58.0	
	comp=Z,23nm,1.9s						
WRA	**Warramunga Arr**	**44.62**	**262**	P	**P**	**13 44 57.8**	**-0.6**
	comp=Z,3.3nm,0.3s,baz=96,slow=7.6,SNR=131						
KKO	**Keanakako`i**	**45.45**	**31**	P	**P**	**13 45 04.6**	**-0.2**
MTN	**Manton Dam**	**49.18**	**271**	P	**P**	**13 45 31.8**	**-1.0**
MTN					IAmb	13 45 32.9	
	comp=Z,9.1nm,0.8s						
FORT	**Forrest**	**49.32**	**247**	P	**P**	**13 45 33.1**	**-0.4**
FORT					IAmb	13 46 29.5	
	comp=Z,26nm,0.9s						

KNRA	**Kununurra**	**50.68**	**266**	P	**P**	**13 45 43.1**	**-0.6**
KNRA				IAmb	IAmb	13 47 19.9	
	comp=Z,23nm,1.5s						
FITZ	**Fitzroy Crossi**	**53.05**	**262**	P	**P**	**13 46 00.8**	**0.0**
	comp=Z,1.9nm,0.6s,baz=114,slow=4.1,SNR=12						
FITZ	**Fitzroy Crossi**	**53.05**	**262**	P	**P**	**13 46 00.6**	**-0.2**
SOEI	**Soe**	**56.52**	**272**	P	**P**	**13 46 23.6**	**-1.7**
SOEI				IAmb	IAmb	13 46 33.1	
	comp=Z,21nm,0.5s						
PSA00	**Pilbara Seismi**	**57.69**	**257**	P	**P**	**13 46 32.5**	**-0.6**
MORW	**Morawa**	**59.85**	**248**	P	**P**	**13 46 47.3**	**-0.3**
MORW				IAmb	IAmb	13 48 35.4	
	comp=Z,50nm,1.5s						
NVAR	**Mina Array Bea**	**81.00**	**43**	P	**P**	**13 48 53.1**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=224,slow=11,SNR=5.0						
TXAR	**Lajitas Array**	**87.03**	**57**	P	**P**	**13 49 23.3**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=216,slow=6.2,SNR=4.0						
ILAR	**Eielson Array**	**88.30**	**13**	P	**P**	**13 49 25.8**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=214,slow=5.3,SNR=4.1						
PDAR	**Pinedale Array**	**88.94**	**43**	P	**P**	**13 49 31.0**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=192,slow=3.0,SNR=3.9						
CMAR	**Chiang Mai Arr**	**90.12**	**290**	P	**P**	**13 49 36.6**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=133,slow=3.4,SNR=5.7						

*NIED **09** 13:51:00,42.°00N×142.°60E,h59km,Mw3.8 Best double couple: M≈4.81000×10^14 NP1:φ≈202.00000°,δ22.00000°, λ89.00000°. NP2:φ≈24.00000°,δ68.00000°,λ91.00000°.*

*ISCJB **09** 13:51:04.0±0.5,42.°00N±0.°04×142.°59E±0.°04,h70km±3km, mb3.5/10,Error ellipse: s-maj=7.6km s-min=4.9km az=162.6*

*JMA **09** 13:51:05.3±0.1,42.°04N×142.°60E,h61km±2km,M3.7*

JMA Felt I J1.

*IDC **09** 13:51:07.6±2.4,42.°14N×142.°68E,h86km±16km,mb3.4/10, mb1 3.4/11,mb1mx3.3/47,mbtmp3.6/11,Error ellipse: s-maj=27.6km s-min=15.3km az=120.0*

ISC 09 13:51:04.6±0.8,**41.°99N**±0.°05×**142.°58E**±0.°04,**h63**km±6km, **n35**,σ0**82**/**42**,**mb3.7**/10,**6C-7D**,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.31**	**24**	⇑P		**Pn**		**13 51 15.2**	**+0.1**
JNBK				eS		**Sn**		**13 51 22.8**	**0.0**
JSHD	**Hidakashinhida**	**0.42**	**349**	⇑P		**Pn**		**13 51 16.4**	**+0.4**
JEM	**Erimo**	**0.43**	**87**	⇑P		**Pn**		**13 51 16.8**	**+0.7**
JEM				eS		**Sn**		**13 51 24.4**	**-0.1**
JTHR	**Tokachihiroo**	**0.61**	**61**	⇑P		**Pn**		**13 51 18.4**	**+0.4**
JTHR				eS		**Sn**		**13 51 28.2**	**+0.4**
JIAM	**Iburiatsuma**	**0.80**	**322**	⇓P		**Pn**		**13 51 21.1**	**+1.0**
JIAM				eS		**Sn**		**13 51 32.2**	**+0.6**
JBT2	**Biratori 2**	**0.80**	**349**	⇓P		**Pn**		**13 51 20.1**	**-0.1**
JBT2				eS		**Sn**		**13 51 31.6**	**-0.1**
JCH	**Churui**	**0.85**	**43**	⇑P		**Pn**		**13 51 21.0**	**+0.2**
JCH				eS		**Sn**		**13 51 32.5**	**-0.3**
JKB	**Kayabe**	**1.16**	**265**	⇓P		**Pn**		**13 51 25.2**	**+0.4**
JKB				eS		**Sn**		**13 51 40.2**	**+0.4**
JFR	**Furan**	**1.17**	**1**	P		**Pn**		**13 51 24.9**	**-0.1**
JEW	**Eniwo**	**1.19**	**316**	⇓P		**Pn**		**13 51 25.6**	**+0.4**
JEW				eS		**Sn**		**13 51 40.8**	**+0.2**
JNB	**Noboribetsu**	**1.24**	**293**	⇓P		**Pn**		**13 51 25.5**	**-0.3**
JNB				eS		**Sn**		**13 51 41.6**	**-0.1**
JOT	**Ohata**	**1.30**	**242**	⇓P		**Pn**		**13 51 27.4**	**+0.3**
JOT				eS		**Sn**		**13 51 44.4**	**+1.3**
JOB	**Onbets**	**1.30**	**45**	P		**Pn**		**13 51 27.8**	**+1.2**
JOB				eS		**Sn**		**13 51 44.6**	**+1.4**
JAB	**Ashibetsu**	**1.53**	**350**	P		**Pn**		**13 51 30.3**	**+0.6**
JISS	**Ishikarishitsu**	**1.54**	**327**	⇓P		**Pn**		**13 51 30.3**	**+0.5**
JISS				eS		**Sn**		**13 51 49.4**	**+0.5**
JAR	**Ashorobuto**	**1.57**	**34**	⇑P		**Pn**		**13 51 30.5**	**+0.2**
JAR				eS		**Sn**		**13 51 49.1**	**-0.6**
ASAJ	**Asahikawa**	**2.12**	**0**	P		**Pn**		**13 51 38.9**	**+1.2**
	31nm,0.3s,baz=198,slow=15,SNR=321								
ASAJ				S		**Sn**		**13 52 04.2**	**+1.2**
	16nm,0.3s,baz=102,slow=22,SNR=8.4								
MJAR	**Matsushiro Arr**	**6.41**	**213**	P		Pn		13 52 42.4	+6.0
	0.1nm,0.3s,baz=32,slow=14,SNR=3.4								
KSRS	**Korea Array**	**12.16**	**253**	P		**P**		**13 54 02.3**	**-3.0**
	0.2nm,0.3s,baz=65,slow=14,SNR=3.5								
SONM	**Songino Array**	**26.11**	**295**	P		**P**		**13 56 33.5**	**+1.0**
	0.4nm,0.5s,baz=65,slow=8.3,SNR=4.0								
H11N2	**WAKE ISLAND Hy**	**30.28**	**130**	T		T		14 28 48.7	
	baz=324,slow=75,SNR=9.8								
H11N1	**WAKE ISLAND Hy**	**30.29**	**130**	T		T		14 28 47.1	
	baz=324,slow=75,SNR=6.9								
H11N3	**WAKE ISLAND Hy**	**30.29**	**130**	T		T		14 28 50.5	
	baz=324,slow=75,SNR=13								
H11S1	**WAKE ISLAND Hy**	**31.14**	**131**	T		T		14 29 53.1	
	baz=325,slow=76,SNR=30								
H11S3	**WAKE ISLAND Hy**	**31.14**	**131**	T		T		14 29 53.9	
	baz=325,slow=76,SNR=16								
H11S2	**WAKE ISLAND Hy**	**31.16**	**131**	T		T		14 29 53.3	
	baz=325,slow=76,SNR=24								
ZALV	**Zalesovo Beam**	**39.40**	**308**	P		**P**		**13 58 28.5**	**+0.6**
	1.2nm,0.6s,baz=76,slow=6.3,SNR=7.2								
MKAR	**Makanchi Array**	**42.42**	**298**	P		**P**		**13 58 53.4**	**+0.6**
	1.5nm,0.9s,baz=69,slow=8.4,SNR=3.9								
CMAR	**Chiang Mai Arr**	**43.79**	**251**	P		**P**		**13 59 05.3**	**+1.1**
	0.3nm,0.5s,baz=40,slow=8.6,SNR=2.5								
ILAR	**Eielson Array**	**44.87**	**35**	P		**P**		**13 59 11.5**	**-0.7**
	0.2nm,0.5s,baz=268,slow=5.2,SNR=4.7								
YKA	**Yellowknife Ar**	**59.10**	**32**	P		**P**		**14 00 57.3**	**-0.6**
	0.1nm,0.5s,baz=306,slow=7.1,SNR=3.2								
FINES	**FINESS Array B**	**64.86**	**332**	P		**P**		**14 01 36.4**	**-0.2**
	1.1nm,0.6s,baz=57,slow=7.0,SNR=4.5								
HFS	**Hagfors**	**69.95**	**335**	P		**P**		**14 02 08.8**	**+0.1**
	0.7nm,0.4s,baz=32,slow=8.7,SNR=5.3								
NOA	**NORSAR Array B**	**69.97**	**337**	P		**P**		**14 02 09.1**	**+0.2**
	0.6nm,0.7s,baz=33,slow=6.3,SNR=3.3								
AKASG	**Malin Array Be**	**70.94**	**322**	P		**P**		**14 02 15.1**	**+0.2**
	0.5nm,0.4s,baz=46,slow=6.9,SNR=4.1								

*SJA **09** 14:08:36.3±0.7,21.°75S×68.°61W,h141km±5km,ML2.2, MW2.7*

*ISCJB **09** 14:08:37.9±0.8,21.°84S±0.°03×68.°63W±0.°07,h133km±9km, Error ellipse: s-maj=10.7km s-min=5.5km az=173.6*

*GUC **09** 14:08:38.5±0.7,21.°85S×68.°54W,h113km±5km,ML2.7*

ISC 09 14:08:38.8±1.6,**21.°83S**±0.°04×**68.°61W**±0.°06, **h125**km±12km,**n19**,σ0**82**/**33**,**6C-1D**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.59**	**273**	⇑*i*P		**Pn**		**14 08 57.9**	**-0.2**
PB09				*e*S		**Sn**		**14 09 12.0**	**-0.7**
PB09				IAML				14 09 14.6	
	comp=N,139nm,0.2s								
PB09	**IPOC Station P**	**0.59**	**273**	*i* P		**Pn**		**14 08 57.9**	**-0.2**
PB09				*e*S		**Sn**		**14 09 13.6**	**+0.9**
LVC	**Limon Verde**	**0.82**	**200**	⇓*e*P		**Pn**		**14 08 59.1**	**-1.0**
LVC				*e*S		**Sn**		**14 09 14.6**	**-1.7**
PB07	**IPOC Station P**	**1.19**	**275**	⇑*i*P		**Pn**		**14 09 03.9**	**+0.5**
PB07				*e*S		**Sn**		**14 09 22.4**	**+0.4**
PB07				IAML				14 09 24.4	
	comp=E,214nm,0.4s								
PB06	**IPOC Station P**	**1.25**	**225**	⇑*i*P		**Pn**		**14 09 03.6**	**-0.4**
PB06				*i* S		**Sn**		**14 09 23.2**	**+0.1**
PB06				IAML				14 09 24.1	
	comp=N,184nm,0.4s								
PB06	**IPOC Station P**	**1.25**	**225**	*i* P		**Pn**		**14 09 03.6**	**-0.4**
PB06				IAML				14 09 24.0	
	comp=Z,91nm,0.3s								
PB06				*e*S		**Sn**		**14 09 24.3**	**+1.3**
PB04	**IPOC Station P**	**1.51**	**250**	⇑*i*P		**Pn**		**14 09 06.9**	**0.0**
PB04				*e*S		**Sn**		**14 09 29.0**	**+0.8**
PB04				IAML				14 09 31.0	
	comp=N,87nm,0.2s								
PB04	**IPOC Station P**	**1.51**	**250**	*i* P		**Pn**		**14 09 06.8**	**-0.1**
PB15	**IPOC Station P**	**1.58**	**210**	⇑*i*P		**Pn**		**14 09 07.8**	**0.0**
PB15				*e*S		**Sn**		**14 09 30.1**	**+0.2**
PB15	**IPOC Station P**	**1.58**	**210**	*i* P		**Pn**		**14 09 08.1**	**+0.3**
PB15				*e*S		**Sn**		**14 09 31.5**	**+1.6**
PB08	**IPOC Station P**	**1.76**	**343**	⇑*i*P		**Pn**		**14 09 10.5**	**+0.5**
PB08				*e*S		**Sn**		**14 09 34.8**	**+1.1**
PB08				IAML				14 09 36.1	
	comp=E,68nm,0.3s								
TA01	**Diego Aracena**	**1.93**	**310**	*e*P		**Pn**		**14 09 11.3**	**-0.4**
TA01				*i* S		**Sn**		**14 09 36.7**	**-0.1**
TA01				IAML				14 09 38.2	
	comp=E,93nm,0.2s								
GO01	**Chusmiza**	**2.22**	**346**	*e*P		**Pn**		**14 09 16.3**	**+0.5**
GO01				*i* S		**Sn**		**14 09 45.1**	**+1.1**
PB11	**IPOC Station P**	**2.28**	**334**	*e*P		**Pn**		**14 09 15.6**	**-0.6**
PB11				*i* S		**Sn**		**14 09 45.4**	**+0.5**
PB11				IAML				14 09 46.4	
	comp=N,100nm,0.5s								
PB10	**IPOC Station P**	**2.46**	**227**	*i* P		**Pn**		**14 09 18.1**	**-0.1**
PSGC	**Pisagua**	**2.64**	**327**	*e*P		**Pn**		**14 09 19.1**	**-1.6**
PSGC				*i* S		**Sn**		**14 09 51.5**	**-1.4**
YJA	**Yavi**	**2.89**	**97**	*i* P		**Pn**		**14 09 24.2**	**-0.1**
YJA				IAML				14 09 28.1	
	comp=Z,1.8nm,0.4s								
PB14	**IPOC Station P**	**3.23**	**210**	*i* P		**Pn**		**14 09 28.1**	**-0.6**
HJA	**Humahuaca**	**3.26**	**115**	*i* P		**Pn**		**14 09 29.0**	**-0.1**

*ISCJB **09** 14:14:24.1±0.7,19.°26S±0.°09×169.°7E±0.°1,h250km, mb3.7/4,Error ellipse: s-maj=14.8km s-min=12.4km az=163.0*

*NEIC **09** 14:14:25.7±1.8,19.°15S±0.°09×169.°7E±0.°1,h254km±8km, mb4.4/10*

*IDC **09** 14:14:29.1±2.9,19.°27S×169.°62E,h282km±34km,mb3.5/4, mb1 3.6/5,mb1mx3.3/33,mbtmp4.1/5,Error ellipse: s-maj=83.6km s-min=23.7km az=148.0*

ISC 09 14:14:25.5±0.8,**19.°2S**±0.°1×**169.°8E**±0.°1,**h250**km,**n20**, σ1**9**/**44**/**19**,**mb4.2**/**9**,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.25**	**227**	P		**Pn**		**14 15 35.2**	**+2.8**
	1.9nm,0.3s,baz=61,slow=19,SNR=7.7								
HNR	**Honiara**	**13.60**	**314**			**Pn**		**14 17 27.7**	**-1.2**
BKZ	**Black Stump Fm**	**20.73**	**165**	P		Pn		14 18 52.8	-0.4
BKZ				IAmb		IAmb		14 19 11.7	
	comp=Z,28nm,1.5s								
BHW	**Baring Head**	**22.57**	**170**	P		**P**		**14 19 03.1**	**-1.5**
CMWZ	**Cape Campbell**	**22.80**	**171**	P		**P**		**14 19 07.3**	**+0.6**
WR0	**Warramunga Arr**	**33.19**	**263**	P		**P**		**14 20 37.8**	**-1.4**
WR0				IAmb		IAmb		14 21 46.1	
	comp=Z,5.8nm,1.3s								
WB2	**Warramunga Ar**	**33.37**	**263**	P		**P**		**14 20 39.3**	**-1.5**
WB2				IAmb		IAmb		14 21 34.4	
	comp=Z,8.6nm,1.4s								
WRA	**Warramunga Arr**	**33.38**	**263**	P		**P**		**14 20 39.6**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=82,slow=5.9,SNR=13								
AS31	**Alice Springs**	**33.65**	**256**	P		**P**		**14 20 42.7**	**-0.5**
ASAR	**Alice Springs**	**33.65**	**256**	P		**P**		**14 20 42.6**	**-0.5**
	comp=Z,3.6nm,0.5s,baz=82,slow=9.0,SNR=67								
MCQ	**Macquarie Isla**	**36.21**	**191**	P		**P**		**14 21 03.3**	**-1.2**
MTN	**Manton Dam**	**37.64**	**274**	P		**P**		**14 21 16.1**	**-1.0**
MTN				IAmb		IAmb		14 22 02.8	
	comp=Z,7.0nm,0.9s								
WAKE	**Wake Island**	**38.36**	**355**	P		**P**		**14 21 25.0**	**+2.1**
KNRA	**Kununurra**	**39.24**	**269**	P		**P**		**14 21 29.0**	**-1.4**
KNRA				IAmb		IAmb		14 21 35.2	
	comp=Z,16nm,1.4s								
FITZ	**Fitzroy Crossi**	**41.77**	**264**	P		**P**		**14 21 51.3**	**+0.4**
PETK	**Petropavlovsk-**	**72.75**	**352**	P		**P**		**14 25 27.1**	**+0.8**
	comp=Z,2.9nm,0.7s,baz=122,slow=6.6,SNR=7.8								
GDXM	**Geysers**	**85.42**	**46**	P		**P**		**14 26 34.6**	**-0.6**
GDXM				IAmb		IAmb		14 26 35.2	
	comp=Z,47nm,0.9s								
ILAR	**Eielson Array**	**90.03**	**17**	P		**P**		**14 26 55.9**	**-0.5**
	comp=Z,0.5nm,1.0s,baz=236,slow=6.0,SNR=4.1								
YKA	**Yellowknife Ar**	**100.38**	**27**	P		**Pdif**		**14 27 45.6**	**+2.1**
	comp=Z,0.2nm,0.6s,baz=258,slow=4.7,SNR=4.3								
ARCES	**ARCESS Array B**	**125.15**	**345**	PKP		**PKPdf**		**14 32 55.1**	**-0.5**
	comp=Z,2.7nm,1.0s,baz=56,slow=1.6,SNR=5.1								

MDD 09 14:17:11.4±4.9,**41.°82N**×**11.°48W**,**h0**km,**mb3.7**/4,**Error ellipse: s-maj=78.0km s-min=41.9km az=43.0,PRXIMO SIN SOLUCIN,North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**5.27**	**143**	P		Pn		14 18 29.6	-1.8
	0.2nm,0.1s,SNR=7.9								
EGRO				S		Sn		14 19 27.9	-4.9
	1.0nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**5.48**	**136**	P		Pn		14 18 33.3	-1.0
	0.2nm,0.1s,SNR=7.9								
EMIN				S		Sn		14 19 33.6	-4.4
	0.7nm,0.2s,SNR=11								
ECAB	**El Cabril**	**5.97**	**127**	P		Pn		14 18 41.4	+0.4
	0.6nm,0.2s,SNR=7.2								
ECAB				S		Sn		14 19 45.2	-4.9
	0.4nm,0.4s,SNR=6.5								
EADA	**Adamuz**	**6.43**	**122**	P		Pn		14 18 45.0	-2.3
	0.6nm,0.2s,SNR=7.9								
EADA				S		Sn		14 19 54.6	-6.8
	0.3nm,0.2s,SNR=7.9								

*ISCJB **09** 14:21:31.9±0.6,38.°59N±0.°05×55.°37E±0.°05,h10km, Error ellipse: s-maj=8.8km s-min=3.4km az=30.9*

*AZER **09** 14:21:32.9±5.7,38.°24N×55.°39E,h15km,ml3.6/1,Error ellipse: s-maj=62.1km s-min=34.1km az=0.0*

*TEH **09** 14:21:34.4,38.°45N×55.°62E,h10km,ML3.4*

ISC 09 14:21:33.2±1.1,**38.°57N**±0.°07×**55.°49E**±0.°05,**h10**km,**n25**, σ1**9**/**61**/**30**,**Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**1.31**	**183**	*e*Pg		**Pg**		**14 21 57.8**	**-0.5**
IMND				*e*Sg		**Sn**		**14 22 16.1**	**+1.0**
IMND				IAMB		IAmb		14 22 18.3	
	comp=Z,0.0nm,0.5s								
IGLO	**Ghaloghah**	**2.45**	**213**	*e*Pn		**Pb**		**14 22 17.1**	**-0.3**
IGLO				IAMB		IAmb		14 23 05.0	
	comp=Z,0.0nm,0.9s								
ISFR	**Sfrayin**	**2.50**	**126**	*e*Pn		**Pb**		**14 22 15.1**	**-3.2**
SBZV	**Sabzevar**	**2.75**	**142**	*e*Pn		**Pn**		**14 22 18.9**	**+1.3**
SBZV				IAMB		IAmb		14 22 26.4	
	comp=Z,0.0nm,0.7s								
IKRD	**Kardeh**	**2.99**	**126**	*e*Pn		**Pg**		**14 22 32.3**	**+1.7**
IKRD				IAMB		IAmb		14 23 52.1	
	comp=Z,621nm,1.0s								
IAKL	**Akhelmad**	**3.25**	**126**	*e*Pn		**Pn**		**14 22 26.4**	**+1.9**
IAKL				IAMB		IAmb		14 23 29.9	
	comp=Z,466nm,0.5s								
ISHM	**Shahmirzad**	**3.27**	**213**	*e*Pn		**Pn**		**14 22 27.0**	**+2.2**
ISHM				IAMB		IAmb		14 23 10.8	
	comp=Z,1μm,0.5s								
IANJ	**Anjilo**	**3.34**	**203**	*e*Pn		**Pn**		**14 22 28.0**	**+2.3**
IANJ				IAMB		IAmb		14 23 11.8	
	comp=Z,367nm,0.4s								
IPAY	**Payeh**	**3.50**	**126**	*e*Pn		**Pn**		**14 22 28.9**	**+1.0**
IPAY				IAMB		IAmb		14 23 28.2	
	comp=Z,424nm,0.6s								
IFIR	**Firoozkooh**	**3.65**	**218**	*e*Pn		**Pn**		**14 22 32.0**	**+2.0**
IFIR				IAMB		IAmb		14 22 52.6	
	comp=Z,0.0nm,0.3s								
IMYA	**Miami**	**4.29**	**120**	*e*Pn		**Pn**		**14 22 38.9**	**+0.2**
IMYA				IAMB		IAmb		14 24 07.3	
	comp=Z,276nm,0.9s								
TNSJ	**Nastanj**	**4.68**	**169**	*e*Pn		**Pn**		**14 22 45.0**	**+1.0**
JRKH	**Jarkhoshk**	**4.70**	**123**	*e*Pn		**Pn**		**14 22 43.8**	**-0.5**
TKDS	**Koohdasht(Taba**	**5.12**	**165**	*e*Pn		**Pn**		**14 22 51.2**	**+1.2**
ASTR	**Astara**	**5.25**	**272**	P		**Pn**		**14 22 49.7**	**-2.1**
ASTR				S		**Sn**		**14 23 52.2**	**-0.1**
GBS	**Qobustan**	**5.43**	**293**	P		**Pn**		**14 22 54.1**	**-0.1**
ATGJ	**Altiaghaj**	**5.55**	**296**	S		**Sn**		**14 24 01.6**	**+1.8**
GLBA	**Clilabad**	**5.58**	**279**	P		**Pn**		**14 22 55.0**	**-1.2**
GLBA				S		**Sn**		**14 23 58.3**	**-2.0**
LRK	**Lerik**	**5.60**	**273**	P		Pn		14 22 54.6	-2.1
LRK				S		**Sn**		**14 23 59.7**	**-1.5**
TPRV	**Parvadeh(Tabas**	**5.61**	**170**	*e*Pn		**Pn**		**14 22 57.5**	**+0.7**
YRD	**Yardimli**	**5.68**	**276**	P		**Pn**		**14 22 56.2**	**-1.7**
YRD				S		**Sn**		**14 24 01.1**	**-2.1**
XNQ	**Khinaliq**	**6.22**	**297**	P		**Pn**		**14 23 05.8**	**+0.5**
XNQ				S		**Sn**		**14 24 19.2**	**+2.6**
ITEG	**Tejag**	**6.25**	**154**	*e*Pn		**Pn**		**14 23 06.7**	**+1.1**
QRD	**Qoradiz**	**6.43**	**281**	S		**Sn**		**14 24 21.3**	**0.0**
ORD	**Ordubad**	**7.43**	**276**	S		**Sn**		**14 24 45.2**	**-0.9**

*NEIC **09** 14:33:39.9±1.7,24.°75S±0.°3×179.°8W±0.°2,h541km±8km, mb4.5/13*

*IDC **09** 14:33:51.5±22.0,24.°71S×179.°49E,h647km±232km, mb3.2/4,mb1 3.4/4,mb1mx2.9/33,mbtmp4.4/4,Error ellipse: s-maj=173.9km s-min=92.3km az=89.0*

ISC 09 14:33:41.1±1.8,**24.°8S**±0.°2×**179.°9W**±0.°2,**h550**km,**n19**, σ0**67**/18,**mb4.4**/10,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**17.13**	**194**	P		**P**		**14 37 10.9**	**+0.1**
QRZ	**Quartz Range**	**17.25**	**200**	P		**P**		**14 37 11.0**	**-0.9**
OXZ	**Oxford**	**19.69**	**198**	P		**P**		**14 37 35.5**	**+1.3**
OXZ				IAmb		IAmb		14 37 49.8	
	comp=Z,61nm,1.9s								
EIDS	**Eidsvold**	**26.32**	**262**	P		**P**		**14 38 33.7**	**+0.1**
EIDS				IAmb		IAmb		14 39 19.7	
	comp=Z,16nm,1.4s								
CTA	**Charters Tower**	**31.63**	**272**	P		**P**		**14 39 20.1**	**+0.4**
	comp=Z,5.3nm,0.4s,baz=95,slow=11,SNR=12								
STKA	**Stephens Creek**	**34.54**	**249**	P		**P**		**14 39 44.2**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=102,slow=12,SNR=4.8								
STKA	**Stephens Creek**	**34.54**	**249**	IAmb		IAmb		14 39 49.5	
	comp=Z,3.3nm,1.3s								
COEN	**Coen**	**36.40**	**280**	P		**P**		**14 40 00.2**	**+0.5**
COEN				IAmb		IAmb		14 40 26.9	
	comp=Z,38nm,1.8s								
BBOO	**Buckleboo**	**39.25**	**248**	P		**P**		**14 40 21.9**	**-0.8**
AS31	**Alice Springs**	**42.04**	**262**	P		**P**		**14 40 44.9**	**-0.2**
ASAR	**Alice Springs**	**42.04**	**262**	P		**P**		**14 40 45.0**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=97,slow=7.7,SNR=75								
WR0	**Warramunga Arr**	**42.31**	**267**	P		**P**		**14 40 46.4**	**-0.8**
WR0				IAmb		IAmb		14 41 52.1	
	comp=Z,17nm,1.8s								
WB2	**Warramunga Ar**	**42.48**	**267**	P		**P**		**14 40 47.9**	**-0.7**
WB2				IAmb		IAmb		14 41 46.7	
	comp=Z,18nm,1.6s								
WRAB	**Tennant Creek**	**42.49**	**267**	P		**P**		**14 40 47.8**	**-0.9**
WRA	**Warramunga Arr**	**42.49**	**267**	P		**P**		**14 40 48.1**	**-0.5**
	comp=Z,3.5nm,0.4s,baz=103,slow=8.0,SNR=101								
FORT	**Forrest**	**46.15**	**250**	P		**P**		**14 41 16.1**	**-0.6**
FORT				IAmb		IAmb		14 41 20.4	
	comp=Z,18nm,0.8s								
KNRA	**Kununurra**	**48.83**	**270**	P		**P**		**14 41 37.4**	**+0.5**
KNRA				IAmb		IAmb		14 42 23.9	
	comp=Z,16nm,1.2s								
ARCES	**ARCESS Array B**	**132.74**	**348**	PKP		**PKiKP**		**14 51 54.3**	**+0.1**
	comp=Z,4.1nm,1.0s,baz=28,slow=2.1,SNR=5.7								
HFS	**Hagfors**	**143.40**	**349**	PKP		**PKPdf**		**14 52 12.3**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=48,slow=2.1,SNR=15								

*ISCJB **09** 14:35:51.9±0.8,28.°57S±0.°05×178.°2W±0.°2,h250km, mb3.6/7,Error ellipse: s-maj=19.2km s-min=6.9km az=7.7*

*NEIC **09** 14:35:54.2±2.2,28.°54S±0.°07×178.°3W±0.°2,h261km±7km, mb4.8/4*

*IDC **09** 14:35:54.5±0.7,28.°21S×178.°25W,h254km±8km,mb3.4/7, mb1 3.6/7,mb1mx3.4/33,mbtmp4.0/7,Error ellipse: s-maj=26.8km s-min=18.5km az=169.0*

ISC 09 14:35:54.3±0.6,**28.°56S**±0.°07×**178.°4W**±0.°1,**h250**km,**n32**, σ1**9**/**89**/**33**,**mb3.6**/**7**,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.82**	**147**	P		**Pn**		**14 36 30.9**	**+2.6**
	246nm,0.3s,baz=63,slow=14,SNR=7.7								
RAO				S			**Sn**	**14 36 58.8**	**+3.6**
	436nm,0.3s,baz=182,slow=22,SNR=7.1								
RAO	**Raoul Island**	**0.82**	**147**	Pn		**Pn**		**14 36 31.4**	**+3.1**
URZ	**Urewera**	**10.37**	**200**	P		**Pn**		**14 38 15.4**	**-1.9**
	0.9nm,0.3s,baz=95,slow=12,SNR=6.0								
URZ				S			**Sn**	**14 40 09.9**	**-3.8**
	5.1nm,0.3s,baz=217,slow=23,SNR=14								
URZ	**Urewera**	**10.37**	**200**	Pn		**Pn**		**14 38 17.4**	**0.0**
MSVF	**Nonsavu**	**11.25**	**343**	Pn		**Pn**		**14 38 27.3**	**-1.4**
BKZ	**Black Stump Fm**	**11.39**	**200**	Pn		**Pn**		**14 38 31.0**	**+0.8**
BFZ	**Birch Farm**	**12.86**

STKA	**Stephens Creek**	**34.39**	**256**	IAmb	IAmb	14 49 50.2	
	comp=Z,7.5nm,1.8s						
BBOO	**Buckleboo**	**38.91**	**254**	P	**P**	**14 50 26.7**	**+0.2**
COEN	**Coen**	**38.97**	**286**	P	**P**	**14 50 27.5**	**+0.4**
COEN				IAmb	IAmb	14 50 30.2	
	comp=Z,24nm,1.6s						
AS31	**Alice Springs**	**42.94**	**267**	P	**P**	**14 50 59.9**	**0.0**
ASAR	**Alice Springs**	**42.94**	**267**	P	**P**	**14 50 59.6**	**-0.3**
	comp=Z,3.4nm,0.6s,baz=106,slow=7.0,SNR=98						
ASAR				PcP	**PcP**	**14 52 48.5**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=121,slow=4.0,SNR=6.6						
WR0	**Warramunga Arr**	**43.71**	**272**	P	**P**	**14 51 05.7**	**-0.3**
WR0				IAmb	IAmb	14 51 06.9	
	comp=Z,5.3nm,0.5s						
WB2	**Warramunga Arr**	**43.88**	**272**	P	**P**	**14 51 06.9**	**-0.5**
WB2				IAmb	IAmb	14 51 08.0	
	comp=Z,9.3nm,0.6s						
WRAB	**Tennant Creek**	**43.88**	**272**	P	**P**	**14 51 07.0**	**-0.4**
WRAB				IAmb	IAmb	14 51 08.0	
	comp=Z,6.7nm,0.6s						
WRA	**Warramunga Arr**	**43.89**	**272**	P	**P**	**14 51 07.6**	**+0.1**
	comp=Z,7.5nm,0.5s,baz=110,slow=7.9,SNR=132						
WRA				PcP	**PcP**	**14 52 51.8**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=118,slow=3.1,SNR=5.5						
FORT	**Forrest**	**45.98**	**255**	P	**P**	**14 51 24.0**	**0.0**
VNDA	**Vanda**	**48.52**	**186**	P	**P**	**14 51 45.7**	**+2.6**
MTN	**Manton Dam**	**49.72**	**279**	P	**P**	**14 51 52.9**	**-0.2**
MTN				IAmb	IAmb	14 53 12.6	
	comp=Z,12nm,1.2s						
KNRA	**Kununurra**	**50.48**	**274**	P	**P**	**14 51 58.7**	**-0.1**
KNRA				IAmb	IAmb	14 52 55.1	
	comp=Z,12nm,1.2s						
CASY	**Casey**	**55.44**	**208**	P	**P**	**14 52 34.2**	**-0.4**
ANA2	**Anatahan**	**57.68**	**318**	P	**P**	**14 52 52.7**	**+1.5**
QSPA	**South Pole Qui**	**60.16**	**180**	P	**P**	**14 53 09.7**	**+1.8**
QSPA				IAmb	IAmb	14 53 13.1	
	comp=Z,12nm,1.4s						
PETK	**Petropavlovsk-**	**85.33**	**346**	P	**P**	**14 55 36.9**	**+0.1**
	comp=Z,5.1nm,0.6s,baz=112,slow=8.4,SNR=21						
USRK	**Ussuriysk Ar.**	**86.68**	**327**	P	**P**	**14 55 43.8**	**0.0**
	comp=Z,1.8nm,0.7s,baz=130,slow=4.3,SNR=4.0						
NVAR	**Mina Araray Bea**	**88.04**	**43**	P	**P**	**14 55 50.4**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=225,slow=8.6,SNR=5.0						
CMAR	**Chiang Mai Arr**	**93.07**	**289**	P	**P**	**14 56 14.8**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=138,slow=2.8,SNR=12						
MKAR	**Makanchi Array**	**117.34**	**310**	PKP	**PKPdf**	**15 01 42.8**	**-2.5**
	comp=Z,0.6nm,0.5s,baz=205,slow=1.5,SNR=7.3						
KK31	**Karatay Array**	**124.67**	**304**		**PKPdf**	**15 01 57.8**	**-1.7**
KKAR	**Karatay Array**	**124.67**	**304**		**PKPdf**	**15 01 57.8**	**-1.7**
ARCES	**ARCESS Array B**	**138.11**	**348**	PKhKP	PKPpre	15 02 13.8	
	comp=Z,3.0nm,1.0s,baz=45,slow=1.9,SNR=3.6						
ARCES				PKP	**PKPdf**	**15 02 23.6**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=34,slow=1.8,SNR=5.9						
H10N3	**ASCENSION HYDR**	**139.29**	**155**	T	T	17 39 22.6	
	baz=204,slow=74,SNR=6.8						
H10N1	**ASCENSION HYDR**	**139.30**	**155**	T	T	17 39 11.7	
	baz=204,slow=74,SNR=8.7						
H10N2	**ASCENSION HYDR**	**139.31**	**155**	T	T	17 39 24.4	
	baz=204,slow=74,SNR=11						
FINES	**FINESS Array B**	**144.66**	**340**	PKP	**PKPab**	**15 02 33.2**	**-1.6**
	comp=Z,7.1nm,0.5s,baz=54,slow=3.9,SNR=50						
KBZ	**Khabaz**	**144.70**	**304**	PKP	**PKPab**	**15 02 35.2**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=110,slow=3.4,SNR=10.0						
NC303	**NORSAR Array S**	**148.08**	**351**		**PKPbc**	**15 02 43.4**	**-1.6**
NB2	**NORSAR Subarra**	**148.28**	**351**	PKP	**PKPdf**	**15 02 43.4**	**+1.2**
	comp=Z,1.2nm,0.5s,baz=14,slow=2.8						
NOA	**NORSAR Array B**	**148.28**	**351**	PKPbc	**PKPbc**	**15 02 44.1**	**-1.4**
	comp=Z,2.6nm,0.7s,baz=14,slow=4.3,SNR=10						
AKASG	**Malin Array Be**	**150.83**	**323**	PKPbc	**PKPbc**	**15 02 50.5**	**-1.6**
	comp=Z,2.4nm,0.4s,baz=45,slow=3.0,SNR=9.6						
BRTR	**Keskin Array B**	**152.22**	**299**	PKPbc	**PKPbc**	**15 02 54.2**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=29,slow=3.3,SNR=3.7						
CLL	**Collm**	**157.08**	**342**	*e*PKPab	**PKPab**	**15 03 26.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**163.28**	**180**	PKPab	**PKPab**	**15 03 53.7**	**0.0**
	comp=Z,2.3nm,0.7s,baz=166,slow=4.4,SNR=12						

*ISCJB **09** 15:24:18.9±0.4, 8.67N±0.03×82.79W±0.02, h21km±3km, Error ellipse: s-maj=5.9km s-min=3.2km az=30.6*
*UPA **09** 15:24:19.2±1.2, 8.67N×82.76W, h15km±2km, MW4.5*
*UCR **09** 15:24:19.1±2.2, 8.70N×82.78W, h17km±4km, MD4.4*

ISC 09 15:24:19.0±1.0, 8.68N±0.03×82.75W±0.03, h17km±7km, n47, σ1°17/86, 7C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.13**	**28**	⇑*iP*	**Pb**	**15 24 23.8**	**+0.7**
BRU2				*eS*	**Sb**	**15 24 27.1**	**+1.2**
BRU2	**Volcan**	**0.13**	**28**	⇑*iP*	**Pb**	**15 24 23.8**	**+0.7**
BRU2				*eS*	**Sb**	**15 24 27.1**	**+1.2**
BCO2	**Palmira**	**0.22**	**81**	⇓*iP*	**Pb**	**15 24 25.3**	**+0.5**
BCO2				⇓*eS*	**Sb**	**15 24 30.2**	**+1.5**
LESP3	**La Esperanza,**	**0.28**	**188**	*eP*	**Pg**	**15 24 25.2**	**+0.1**
LESP3				*eS*	**Sg**	**15 24 29.5**	**+0.3**
BAGA3	**Bagala, Chiriq**	**0.31**	**134**	⇑*iP*	**Pb**	**15 24 26.4**	**+0.3**
BAGA3				*eS*	**Sb**	**15 24 31.6**	**+0.6**
DVD	**David**	**0.39**	**129**	*iP*	**Pb**	**15 24 27.4**	**-0.1**
DVD				*eS*	**Sb**	**15 24 34.0**	**+0.9**
DVD	**David**	**0.39**	**129**	*iP*	**Pb**	**15 24 27.4**	**-0.1**
DVD				*eS*	**Sb**	**15 24 34.0**	**+0.9**
LOCO3	**Loma Colorada,**	**0.43**	**129**	*eP*	**Pg**	**15 24 28.1**	**+0.4**
LOCO3				*eS*	**Sb**	**15 24 34.5**	**+0.2**
LOMA3	**Las Lomas, Chi**	**0.43**	**125**	*eP*	**Pg**	**15 24 28.1**	**+0.2**
LOMA3				*eS*	**Sb**	**15 24 35.2**	**+0.6**
PEDE3	**Pedregal, Chir**	**0.44**	**132**	*eP*	**Pg**	**15 24 28.3**	**+0.3**
PEDE3				*eS*	**Sg**	**15 24 34.4**	**+0.4**
CHGR2	**Aguacate**	**0.65**	**67**	*eP*	**Pg**	**15 24 30.9**	**-1.0**
CHGR2				*eS*	**Sg**	**15 24 40.6**	**0.0**
REME3	**Remedios, Chir**	**1.02**	**116**	⇑*iP*	**Pb**	**15 24 37.3**	**-0.9**
REME3				*eS*	**Sg**	**15 24 52.0**	**-0.1**
NANC3	**Nancito, Chiri**	**1.10**	**113**	⇑*iP*	**Pb**	**15 24 38.3**	**-1.4**
NANC3				*eS*	**Sb**	**15 24 52.0**	**-1.8**
CNAZ3	**Canazas, Verag**	**1.56**	**102**	*eP*	**Pn**	**15 24 44.0**	**-2.1**
CNAZ3				*eS*	**Sn**	**15 25 05.4**	**-0.6**
MESA3	**La Mesa, Verag**	**1.64**	**109**	*eP*	**Pn**	**15 24 47.0**	**-0.2**
MESA3				*eS*	**Sn**	**15 25 05.2**	**-2.6**
RSUS3	**Rio de Jesus,**	**1.72**	**114**	*eP*	**Pn**	**15 24 47.8**	**-0.5**
RSUS3				*eS*	**Sn**	**15 25 09.3**	**-0.6**
GMAL	**Guarumal, Vera**	**1.76**	**121**	*eP*	**Pn**	**15 24 47.5**	**-1.3**
GMAL				*eS*	**Sn**	**15 25 09.2**	**-1.7**
SFRA3	**San Francisco,**	**1.81**	**104**	*eP*	**Pn**	**15 24 49.8**	**+0.2**
SFRA3				*eS*	**Sb**	**15 25 14.6**	**+0.3**
HDC	**Heredia**	**1.88**	**314**	⇑*iP*	**Pn**	**15 24 49.6**	**-0.9**
HDC				*eS*	**Sn**	**15 25 14.0**	**0.0**
HDC	**Heredia**	**1.88**	**314**	⇑*iP*	**Pn**	**15 24 49.6**	**-0.9**
HDC				*eS*	**Sn**	**15 25 14.0**	**0.0**
CALO3	**Calobre, Verag**	**1.92**	**101**	*eP*	**Pn**	**15 24 51.5**	**+0.5**
CALO3				*eS*	**Sb**	**15 25 16.7**	**-0.8**
OCU3	**Ocu, Herrera**	**2.09**	**110**	*eP*	**Pn**	**15 24 53.5**	**+0.1**
OCU3				*eS*	**Sn**	**15 25 18.7**	**-0.3**
CRIS3	**El Cristo, Coc**	**2.15**	**101**	*eP*	**Pn**	**15 24 55.2**	**+1.0**
CRIS3				*eS*	**Sb**	**15 25 22.7**	**-1.4**
PESE3	**Pese, Herrera**	**2.25**	**110**	*eP*	**Pn**	**15 24 57.0**	**+1.5**
PESE3				*eS*	**Sb**	**15 25 27.8**	**+0.9**
CACAO	**El Cacao, Vera**	**2.30**	**125**	*eP*	**Pn**	**15 24 57.1**	**+0.9**
CACAO				*eS*	**Sn**	**15 25 25.8**	**+1.7**
PNME	**Penonome**	**2.41**	**94**	*eP*	**Pn**	**15 24 58.9**	**+1.2**
PNME				*eS*	**Sb**	**15 25 30.7**	**-0.6**
PNME	**Penonome**	**2.41**	**94**	*eP*	**Pn**	**15 24 58.9**	**+1.2**
PNME				*eS*	**Sb**	**15 25 30.7**	**-0.6**
AZU	**Azuero**	**2.61**	**110**	*eP*	**Pn**	**15 25 01.7**	**+1.2**
AZU				*eS*	**Sn**	**15 25 33.7**	**+1.9**
AZU	**Azuero**	**2.61**	**110**	*eP*	**Pn**	**15 25 01.7**	**+1.2**
AZU				*eS*	**Sn**	**15 25 33.7**	**+1.9**
VTON	**El Valle, Cocl**	**2.61**	**91**	*eP*	**Pn**	**15 25 03.1**	**+2.5**
VTON				*eS*	**Sb**	**15 25 38.1**	**+0.8**
TOSI3	**Tonosi**	**2.62**	**119**	*eP*	**Pn**	**15 25 01.1**	**+0.5**
TOSI3				*eS*	**Sb**	**15 25 36.6**	**-0.8**
CEDE	**Laguna Cedeo**	**2.63**	**313**	*iP*	**Pn**	**15 25 00.1**	**-0.8**
JTS	**Las Juntas de**	**2.70**	**307**	*eP*	**Pn**	**15 25 01.3**	**-0.4**
JTS				*eS*	**Sn**	**15 25 34.9**	**+0.8**
JTS	**Las Juntas de**	**2.70**	**307**	*eP*	**Pn**	**15 25 01.3**	**-0.4**
JTS				*eS*	**Sn**	**15 25 34.9**	**+0.8**
PINA	**Piqa, Costa Ab**	**2.72**	**78**	*eP*	**Pn**	**15 25 02.9**	**+0.9**
PINA	**Piqa, Costa Ab**	**2.72**	**78**	*eP*	**Pn**	**15 25 02.9**	**+0.9**
PINA				*eS*	**Sb**	**15 25 42.2**	**+1.9**
ACHO3	**Achotines, Los**	**2.85**	**116**	*eP*	**Pb**	**15 25 10.5**	**+1.0**
MLIR	**Monte Lirio**	**2.92**	**79**	*eP*	**Pb**	**15 25 08.1**	**-2.6**
MLIR				*eS*	**Sn**	**15 25 40.4**	**+1.0**
BCIP	**Isla Barro Col**	**2.92**	**80**	*eP*	**Pn**	**15 25 05.0**	**+0.3**
BCIP				*eS*	**Sn**	**15 25 38.8**	**-0.7**
BCIP	**Isla Barro Col**	**2.92**	**80**	*eP*	**Pn**	**15 25 05.0**	**+0.3**
BCIP				*eS*	**Sn**	**15 25 38.8**	**-0.7**
FRIJ	**El Hiral**	**3.04**	**80**	*eP*	**Pb**	**15 25 10.8**	**-1.9**
FRIJ				*eS*	**Sn**	**15 25 40.1**	**-2.3**
CUI	**Cuipilapa**	**3.08**	**310**	*i* P	**Pn**	**15 25 07.2**	**+0.1**
COLC	**Colonia**	**3.12**	**309**	*i* P	**Pn**	**15 25 07.8**	**+0.3**
FLAM	**Flamenco Islan**	**3.19**	**86**	*eS*	**Sn**	**15 25 48.6**	**+2.6**
FLAM	**Flamenco Islan**	**3.19**	**86**	*eS*	**Sn**	**15 25 48.6**	**+2.6**
UPA	**Univ. de Panam**	**3.19**	**84**	*eP*	**Pb**	**15 25 13.4**	**-2.0**
UPA				*eS*	**Sb**	**15 25 53.0**	**-1.0**
GPS3	**Bodega del ICE**	**3.30**	**309**	*i* P	**Pn**	**15 25 09.3**	**-0.7**

*IDC **09** 15:26:56.0±0.5, 9.83N×122.50E, h0km, mb3.9/17, mb1 4.1/18, mb1mx4.0/49, mbtmp4.0/18, ML4.6/1, MS3.2/10, Ms1 3.3/10, ms1mx2.9/42, Error ellipse: s-maj=25.2km s-min=12.3km az=71.0*
*MAN **09** 15:26:57.5, 9.80N×122.23E, h1km, mb5.3, ML4.3, MS4.5*
MAN Intensity V - Hinobaan Negros Occidental; Intensity III - Sipalay Negros Occidental.
*NEIC **09** 15:27:05.0±3.1, 9.63N±0.10×122.17E±0.10, h66km±6km, mb4.5/28*

ISC 09 15:26:58.0±1.2, 9.77N±0.03×122.23E±0.03, h10km±7km, n98, σ2s25/103, mb4.3/35, MS3.3/10, 6C-6D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.93**	**22**	P	**Pg**	**15 27 11.4**	**-4.4**
GUIM				S	**Sb**	**15 27 28.2**	**-0.3**
SNPH	**Sibulan**	**1.08**	**113**	⇑P	**Pn**	**15 27 19.8**	**+0.5**
SNPH				S	**Sn**	**15 27 37.0**	**+2.7**
CUYO	**Cuyo Island**	**1.61**	**312**	P	**Pb**	**15 27 27.4**	**-0.5**
CUYO				S	**Sn**	**15 27 47.2**	**-0.2**
DCPH	**Dipolog City**	**1.61**	**137**	⇑P	**Pn**	**15 27 26.8**	**+0.2**
LLP	**Lapu-Lapu**	**1.79**	**72**	⇓P	**Pn**	**15 27 29.6**	**+0.5**
LLP				S	Pn	15 27 35.4	+6.3
RCP	**Roxas**	**1.85**	**16**	⇑P	**Pg**	**15 27 32.8**	**-0.8**
RCP				S	**Sg**	**15 27 56.2**	**-1.4**
RCP	**Roxas**	**1.85**	**16**	⇑P	**Pg**	**15 27 32.8**	**-0.8**
RCP				S	**Sg**	**15 27 56.2**	**-1.4**
PAGZ	**Pagadian**	**2.22**	**149**	P	**Pn**	**15 27 35.7**	**+0.8**
PAGZ				S	**Sb**	**15 28 06.3**	**+0.4**
OTRP	**Odiongan**	**2.59**	**355**	P	**Pn**	**15 27 40.1**	**+0.1**
MSLP	**Maasin**	**2.62**	**82**	P	**Pn**	**15 27 41.4**	**+1.0**
CGP	**Cagayan de Oro**	**2.76**	**118**	⇓P	**Pn**	**15 27 45.1**	**+2.8**
CGP				S	**Sn**	**15 28 18.6**	**+2.8**
ZCP	**Zamboanga City**	**2.82**	**183**	⇓P	**Pn**	**15 27 44.7**	**+1.5**
ZCP				S	**Sn**	**15 28 15.8**	**-1.5**
SJMP	**San Jose**	**2.89**	**338**	P	**Pn**	**15 27 44.6**	**+0.4**
SJMP				S	**Sn**	**15 28 17.3**	**-1.8**
ENPP	**El Nido**	**3.11**	**298**	P	**Pn**	**15 27 48.1**	**+1.0**
SCPH	**Surigao**	**3.21**	**89**	⇓P	**Pn**	**15 27 50.2**	**+1.6**
CTBH	**Cotabato--PC H**	**3.22**	**142**	⇓P	**Pn**	**15 27 51.1**	**+2.4**
BUKP	**Musuan**	**3.37**	**124**	P	**Pn**	**15 27 52.4**	**+1.6**
BUKP				S	**Sb**	**15 28 38.9**	**-0.1**
BUTP	**Butuan**	**3.44**	**103**	P	**Pn**	**15 27 52.6**	**+0.9**
AUQP	**San Andres**	**3.56**	**7**	P	**Pb**	**15 28 00.3**	**-0.9**
AUQP				S	**Sn**	**15 28 37.7**	**+2.1**
CNP	**Catarman**	**3.62**	**41**	P	**Pn**	**15 27 56.1**	**+1.9**
BOAC	**Boac**	**3.69**	**354**	P	**Pn**	**15 27 56.4**	**+1.2**
KCP	**Kidapawan**	**3.94**	**134**	⇑P	**Pn**	**15 28 03.0**	**+4.3**
DAV	**Davao City (W)**	**4.26**	**129**	⇑*eP*	**Pb**	**15 28 09.1**	**-3.9**
LUBP	**Lubang**	**4.40**	**334**	P	**Pn**	**15 28 05.5**	**+0.6**
LUBP				S	**Sn**	**15 28 54.7**	**-1.5**
BATP	**Bataraza**	**4.48**	**258**	P	**Pn**	**15 28 05.1**	**-0.9**
BATP				S	**Sn**	**15 28 54.0**	**-4.3**
TGY	**Tagaytay City**	**4.49**	**344**	LR	LR	15 30 16.7	
	comp=Z,275nm,21.0s,baz=119,slow=44						
KKM	**Kota Kinabalu**	**7.01**	**239**		**Pn**	**15 28 42.9**	**+2.0**
TNTI	**Ternate**	**10.29**	**150**		**Pn**	**15 29 29.5**	**+3.6**
SBUM	**Sibu**	**12.32**	**234**		**Pn**	**15 29 55.7**	**+2.0**
DLV	**T Lat**	**13.67**	**280**	Pn	**Pn**	**15 30 16.1**	**+3.8**
KAPI	**Kappang**	**14.89**	**190**	LR	LR	15 36 09.0	
	comp=Z,53nm,20.3s,baz=316,slow=37						
FAKI	**Fak Fak**	**16.07**	**141**	P	**P**	**15 30 47.4**	**-0.3**
MMRI	**Maumere**	**18.28**	**180**	P	**Pn**	**15 31 11.6**	**-0.4**
MMRI				IAmb	IAmb	15 31 23.5	
	comp=Z,28nm,1.3s						
BATI	**Baumata**	**19.89**	**176**	P	**P**	**15 31 31.4**	**+1.6**
	comp=Z,1.6nm,0.3s,baz=261,slow=4.6,SNR=10.0						
SLVN	**Son La**	**21.04**	**305**	P	**P**	**15 31 45.5**	**+3.0**
PBKT	**Sadao Pong**	**21.77**	**290**	P	**P**	**15 31 52.4**	**+2.3**
LEM	**Lembang**	**21.99**	**222**	LR	LR	15 41 09.8	
	comp=Z,54nm,19.1s,baz=13,slow=38						
JAY	**Jayapura**	**22.08**	**123**	LR	LR	15 39 21.4	
	comp=Z,32nm,21.9s,baz=345,slow=34						
NJ2	**Nanjing**	**22.40**	**352**	*eP*	**P**	**15 32 03.4**	**+6.6**
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
GUMO	**Guam**	**22.49**	**78**	LR	LR	15 39 12.7	
	comp=Z,38nm,21.2s,baz=231,slow=33						
ANA2	**Anatahan**	**23.77**	**72**	P	**P**	**15 32 15.3**	**+4.2**
KMI	**Kunming**	**24.01**	**312**	P	**P**	**15 32 18.5**	**+5.0**
KMI				pP	pwP	15 32 34.7	+17
KMI				sP	pP	15 32 41.6	+26
KMI				S	**S**	**15 36 35.0**	**+4.1**
KMI				sS		15 36 55.3	
KMI				pmax	pmax		
	comp=Z,6.0nm,1.6s						
KMI				pmax	pmax		
	comp=Z,110nm,4.4s						
KMI				LR	LR		
	comp=N,220nm,21.8s						
KMI				LR	LR		
	comp=E,170nm,21.8s						
KMI				LR	LR		
	comp=Z,190nm,20.4s						
MTN	**Manton Dam**	**24.14**	**158**	P	**P**	**15 32 13.3**	**-1.1**
MTN				IAmb	IAmb	15 32 18.7	
	comp=Z,13nm,1.1s						
CM31	**Chiang Mai Arr**	**24.16**	**294**	P	**P**	**15 32 16.5**	**+1.8**
CMAR	**Chiang Mai Arr**	**24.16**	**294**	P	**P**	**15 32 15.9**	**+1.2**
	comp=Z,1.4nm,0.9s,baz=123,slow=8.0,SNR=14						
CMAR				LR	LR	15 40 56.8	
	comp=Z,52nm,20.0s,baz=173,slow=34						
CHTO	**Chiang Mai**	**24.27**	**294**	P	**P**	**15 32 16.8**	**+1.0**
KNRA	**Kununurra**	**26.09**	**166**	P	**P**	**15 32 32.3**	**+0.1**
KNRA				IAmb	IAmb	15 33 03.1	
	comp=Z,19nm,1.4s						
MJAR	**Matsushiro Arr**	**30.34**	**26**	LR	LR	15 46 06.7	
	comp=Z,29nm,18.1s,baz=155,slow=38						
LZH	**Lanzhou**	**31.08**	**330**	*eP*	P	15 33 22.2	+5.5
LZH				pP	pwP	15 33 40.1	+19
LZH				sP	pP	15 33 49.3	+30
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
WRAB	**Tennant Creek**	**31.83**	**158**	P	**P**	**15 33 21.1**	**-2.2**
WRAB				IAmb	IAmb	15 33 22.6	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**31.84**	**158**	P	**P**	**15 33 21.4**	**-1.9**
	comp=Z,2.2nm,0.5s,baz=340,slow=9.3,SNR=30						
WB2	**Warramunga Arr**	**31.84**	**158**	P	**P**	**15 33 21.1**	**-2.3**
WB2				IAmb	IAmb	15 33 40.8	
	comp=Z,13nm,1.6s						
WR0	**Warramunga Arr**	**31.93**	**158**	P	**P**	**15 33 22.3**	**-1.9**
WR0				IAmb	IAmb	15 34 12.1	
	comp=Z,24nm,1.9s						
HHC	**Hu-ho-hao-te**	**32.37**	**345**	P	P	15 33 34.6	+6.7
HHC				pmax	pmax		
	comp=Z,3.0nm,1.1s						
HHC				AMB	AMB		
	comp=Z,9.0nm,6.3s						
AS31	**Alice Springs**	**35.13**	**161**	P	**P**	**15 33 51.1**	**-1.0**
AS31				IAmb	IAmb	15 33 52.2	
	comp=Z,2.7nm,0.6s						
ASAR	**Alice Springs**	**35.13**	**161**	P	**P**	**15 33 51.2**	**-0.9**
	comp=Z,5.1nm,0.6s,baz=344,slow=7.4,SNR=129						
ASAR				PcP	**PcP**	**15 36 22.4**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=333,slow=2.2,SNR=8.2						
USRK	**Ussuriysk Ar.**	**35.34**	**12**	P	**P**	**15 33 50.1**	**-3.5**
	comp=Z,1.8nm,0.8s,baz=167,slow=7.1,SNR=3.2						
GTA	**Gaotai**	**35.66**	**330**	*eP*	P	15 33 50.3	-6.3
GTA				pP	pwP	15 34 08.6	+7.2
GTA				sP	pP	15 34 18.0	+19
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,50nm,4.5s						
GTA				LR	LR		
	comp=N,120nm,14.3s						
GTA				LR	LR		
	comp=E,93nm,12.9s						
GTA				LR	LR		
	comp=Z,130nm,14.3s						
KLR	**Kulʾdur**	**40.14**	**10**	P	**P**	**15 34 33.0**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=58,slow=14,SNR=3.6						
SONM	**Songino Array**	**40.23**	**343**	P	**P**	**15 34 35.7**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=151,slow=9.9,SNR=2.2						
FORT	**Forrest**	**40.70**	**172**	P	**P**	**15 34 38.8**	**-0.1**
BBOO	**Buckleboo**	**44.34**	**163**	P	**P**	**15 35 07.9**	**-0.7**
EIDS	**Eidsvold**	**44.83**	**142**	P	**P**	**15 35 10.5**	**-2.1**
WMQ	**Urumqi**	**45.25**	**325**	*eP*	**P**	**15 35 19.7**	**+3.9**
WMQ				pmax	pmax		
	comp=Z,13nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,87nm,3.9s						
STKA	**Stephens Creek**	**45.36**	**157**	P	**P**	**15 35 15.6**	**-1.2**
	comp=Z,3.4nm,0.7s,baz=344,slow=7.6,SNR=8.6						
STKA	**Stephens Creek**	**45.36**	**157**	P	**P**	**15 35 15.4**	**-1.3**
ARMA	**Armidale**	**48.93**	**146**	P	**P**	**15 35 44.1**	**-0.7**
KAAM	**Kaadhehdhoo**	**49.83**	**262**	P	**P**	**15 35 50.1**	**-1.7**
MKAR	**Makanchi Array**	**50.08**	**325**	P	**P**	**15 35 53.1**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=108,slow=9.4,SNR=5.8						
MKAR				PcP	**PcP**	**15 37 13.1**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=109,slow=3.7,SNR=2.7						
KSH	**Kashi**	**50.66**	**314**	P	**P**	**15 36 02.6**	**+4.7**
KSH				ScP	**ScP**	**15 41 06.3**	**-5.5**
KSH				S	**S**	**15 43 12.6**	**-0.5**
KSH				ScS	**ScS**	**15 45 42.6**	**-6.8**
KSH	**Kashi**	**50.66**	**314**	SS	**SS**	**15 46 46.8**	**-0.7**
KSH				pmax	pmax		
	comp=Z,260nm,6.9s						
KSH				LR	LR		
	comp=N,270nm,5.4s						
KSH				LR	LR		
	comp=E,170nm,6.1s						
KSH				LR	LR		
	comp=Z,330nm,5.1s						
NIL	**Nilore**	**50.76**	**306**	P	**P**	**15 36 00.1**	**+1.4**
KDJ	**Kajisay**	**50.90**	**317**	P	**P**	**15 36 02.3**	**+2.6**
KDJ				IAmb	IAmb	15 36 03.0	
	comp=Z,3.2nm,0.8s						
NRN	**Naryn**	**51.41**	**316**	P	**P**	**15 36 06.2**	**+2.5**
NRN				IAmb	IAmb	15 36 14.0	
	comp=Z,11nm,1.8s						
AAK	**Ala-Archa**	**52.92**	**317**	P	**P**	**15 36 15.9**	**+1.1**
	baz=180,slow=10						
AAK	**Ala-Archa**	**52.92**	**317**	IAmb	IAmb	15 37 24.3	
	comp=Z,4.7nm,1.5s						
ZALV	**Zalesovo Beam**	**53.22**	**333**	P	**P**	**15 36 15.9**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=101,slow=4.6,SNR=3.0						
KURK	**Kurchatov**	**54.28**	**327**	P	**P**	**15 36 26.1**	**+1.7**
KURK				IAmb	IAmb	15 36 52.3	
	comp=Z,5.7nm,1.1s						
GAR	**Garm**	**54.59**	**311**	P	**P**	**15 36 28.8**	**+1.7**
GAR				IAmb	IAmb	15 36 29.6	
	comp=Z,5.6nm,0.8s						
CHGR	**Chuyangaron**	**55.35**	**310**	P	**P**	**15 36 34.0**	**+1.5**
CHGR				IAmb	IAmb	15 36 35.8	
	comp=Z,6.7nm,1.0s						
KK31	**Karatay Array**	**55.81**	**316**	P	**P**	**15 36 37.3**	**+1.6**
KKAR	**Karatay Array**	**55.81**	**316**	P	**P**	**15 36 37.4**	**+1.7**
SEY	**Seymchan**	**57.33**	**16**	P	**P**	**15 36 45.6**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=216,slow=19,SNR=3.3						
BVAR	**Borovoye Array**	**59.86**	**327**	P	**P**	**15 37 04.6**	**+0.7**
	comp=Z,0

TEKS	**Tekeris**	**2.01**	**327**	*e*Pn		**Pn**	**16 02 46.0**	**+1.1**
TEKS				*e*Sn		**Sn**	**16 03 10.6**	**+0.3**
FRGS	**Fruska Gora**	**2.46**	**339**	*e*Pn		**Pb**	**16 02 53.2**	**-1.9**
FRGS	**Fruska Gora**	**2.46**	**339**	*e*Pn		**Pn**	**16 02 52.3**	**+1.2**
BZS	**Buzias**	**2.78**	**8**	⇑P		**Pn**	**16 02 55.4**	**-0.1**
BZS				⇓S		**Sn**	**16 03 29.3**	**0.0**
BZS				AML		AML	16 03 42.0	
GZR	**Gura Zlata**	**2.82**	**26**	⇓P		**Pn**	**16 02 55.8**	**-0.2**
GZR				⇑S		**Sn**	**16 03 30.5**	**+0.2**
GZR				AML		AML	16 03 42.0	
RICI	**Ricice**	**2.93**	**284**	iPn		**Pn**	**16 02 59.7**	**+2.2**
RICI				Sn		**Sb**	**16 03 35.8**	**-3.2**
BLV	**Banja Luka**	**3.37**	**305**	⇑S		**Sn**	**16 03 43.0**	**-0.7**
KIJV	**Kijevo**	**3.56**	**290**	*i* Pn		**Pn**	**16 03 08.8**	**+2.5**
KIJV				Sn		**Sn**	**16 03 51.2**	**+2.6**
MORH	**Mrgy, Hungar**	**3.76**	**334**	*e*Pn		**Pn**	**16 03 10.4**	**+1.5**
MORH				*e*Sn		**Sn**	**16 03 52.9**	**-0.5**
MORI	**Morici**	**4.02**	**286**	*e*Pn		**Pn**	**16 03 15.3**	**+2.9**
MORI				Sn		**Sn**	**16 04 00.7**	**+1.1**
ZIRJ	**Zirje**	**4.02**	**283**	*e*Pn		**Pn**	**16 03 13.3**	**+0.8**
ZIRJ				Sn		**Sn**	**16 03 59.4**	**-0.4**
DUGI	**Dugi Otok**	**4.50**	**287**	*e*Pn		**Pn**	**16 03 20.5**	**+1.4**

IDC 09 16:21:56.9±2.6, 28°36.36S×23°02.02E, h0km, mb1 2.8/2, mb1mx2.8/47, mbtmp2.9/2, ML2.2/2, Error ellipse: s-maj=26.5km s-min=15.6km az=141.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I47ZA	**BOSHOF INFRASO**	**1.97**	**98**	*i*		16 33 08.2	
	baz=275,slow=383,SNR=1.6						
BOSA	**Boshof**	**1.98**	**98**	Pn	Pn	16 22 30.4	-1.5
	0.2nm,0.3s,baz=274,slow=15,SNR=8.4						
BOSA				Lg	Lg	16 23 00.8	
	2.6nm,0.3s,baz=323,slow=13,SNR=6.0						
LBTB	**Lobatse**	**4.05**	**35**	Pn	Pn	16 22 59.9	-0.4
	0.1nm,0.3s,baz=207,slow=9.0,SNR=4.0						
LBTB				Sn	Sn	16 23 51.8	+3.3
	1.8nm,0.3s,baz=245,slow=9.7,SNR=7.2						
LBTB				Lg	Lg	16 24 11.2	
	2.1nm,0.3s,baz=298,slow=22,SNR=22						
SUR	**Sutherland**	**4.44**	**205**	Pn	Pn	16 23 06.2	+0.6
	0.2nm,0.3s,baz=22,slow=13,SNR=5.0						
SUR				Sn	Sn	16 24 00.4	+2.3
	0.6nm,0.3s,baz=143,slow=20,SNR=3.7						
SUR				Lg	Lg	16 24 18.5	
	4.9nm,0.3s,baz=301,slow=21,SNR=11						
I35NA	**TSUMEB INFRASO**	**10.40**	**330**	*i*		17 24 30.0	
	baz=158,slow=324,SNR=0.8						

*ISCJB **09** 16:28:51.7±0.3, 18°27.5S±0°03×69°52.W±0°05, h134km±3km, mb3.9/8, Error ellipse: s-maj=7.6km s-min=5.6km az=0.5*
*NEIC **09** 16:28:52.8±2.9, 18°31.5S±0°06×69°5.W±0°1, h126km±6km, mb4.8/16*
*IDC **09** 16:28:53.5±1.1, 18°31.5S×69°31.W, h128km±10km, mb3.8/9, mb1 3.9/12, mb1mx3.7/35, mbtmp4.2/12, MS2.1/1, Ms1 2.1/1, ms1mx2.0/21, Error ellipse: s-maj=18.4km s-min=9.2km az=96.0*
*GUC **09** 16:28:53.7±0.6, 18°38S×69°65W, h123km±4km, ML3.7*
*VAO **09** 16:28:55.5±0.6, 18°02S×69°34.W, h156km±5km, mb4.3*

ISC 09 16:28:52.8±0.6, 18°27.5S±0°04×69°50.W±0°06, h126km±6km, n74, σ1°50/80, mb4.5/12, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AP01	**Chacalluta**	**0.80**	**263**	⇑*i*P		**Pn**	**16 29 13.3**	**-0.2**
AP01				*e*S		**Sn**	**16 29 28.8**	**-0.4**
MNMC	**Minye Minye**	**0.86**	**186**	⇓*e*P		**Pn**	**16 29 15.1**	**+0.6**
MNMC				*e*S		**Sn**	**16 29 31.0**	**+0.3**
MNMC				IAML			16 29 36.1	
	comp=E,5μm,0.3s							
MNMC	**Minye Minye**	**0.86**	**186**			**Pn**	**16 29 15.0**	**+0.6**
GO01	**Chusmiza**	**1.42**	**168**	⇑*i*P		**Pn**	**16 29 21.5**	**+1.3**
GO01				*e*S		**Sn**	**16 29 42.7**	**+1.7**
GO01				IAML			16 29 48.0	
	comp=E,1μm,0.1s							
GO01	**Chusmiza**	**1.42**	**168**			**Pn**	**16 29 21.4**	**+1.2**
PSGC	**Pisagua**	**1.44**	**204**	⇑*i*P		**Pn**	**16 29 20.1**	**0.0**
PSGC				*e*S		**Sn**	**16 29 40.4**	**-0.4**
PSGC				IAML			16 29 41.5	
	comp=N,2μm,0.5s							
PB11	**IPOC Station P**	**1.49**	**186**	⇑*i*P		**Pn**	**16 29 21.0**	**+0.3**
PB11				*e*S		**Sn**	**16 29 42.0**	**+0.2**
PB11				IAML			16 29 44.0	
	comp=E,1μm,0.6s							
PB11	**IPOC Station P**	**1.49**	**186**			**Pn**	**16 29 21.0**	**+0.3**
PB08	**IPOC Station P**	**1.89**	**170**	⇑*i*P		**Pn**	**16 29 26.9**	**+1.3**
PB08				*e*S		**Sn**	**16 29 51.7**	**+1.1**
PB08				IAML			16 29 53.3	
	comp=E,348nm,0.1s							
TA01	**Diego Aracena**	**2.37**	**196**	*e*P		**Pn**	**16 29 30.8**	**-0.4**
TA01				*e*S		**Sn**	**16 29 59.5**	**-1.1**
LPAZ	**La Paz**	**2.37**	**34**	P		**Pn**	**16 29 33.1**	**+1.2**
	comp=E,21nm,0.3s,baz=233,slow=7.7,SNR=430							
LPAZ				S		**Sn**	**16 30 01.4**	**-0.3**
	comp=E,4.2nm,0.3s,baz=96,slow=22,SNR=3.8							
LPAZ	**La Paz**	**2.37**	**34**	*e*P		**Pn**	**16 29 33.0**	**+1.2**
LPAZ	**La Paz**	**2.37**	**34**	*e*P		**Pn**	**16 29 33.0**	**+1.2**
PB04	**IPOC Station P**	**4.08**	**188**			**Pn**	**16 29 54.0**	**+0.2**
LVC	**Limon Verde**	**4.35**	**173**	P		**Pn**	**16 29 59.0**	**+1.5**
	comp=E,2.0nm,0.3s,baz=28,slow=9.3,SNR=35							
LVC				S		**Sn**	**16 30 46.1**	**-1.6**
	comp=E,6.6nm,0.3s,baz=320,slow=12,SNR=10.0							
LVC				LR		LR	16 32 03.3	
	comp=E,22nm,19.0s,baz=217,slow=44							
LVC	**Limon Verde**	**4.35**	**173**	*e*P		Pn	16 30 02.8	+5.3
LVC	**Limon Verde**	**4.35**	**173**	*e*P		Pn	16 30 02.8	+5.3
LVC	**Limon Verde**	**4.35**	**173**			**Pn**	**16 29 58.6**	**+1.1**
PB10	**IPOC Station P**	**5.30**	**191**	Pn		**Pn**	**16 30 08.8**	**-1.2**
PB10						**Sn**	**16 31 04.5**	**-5.6**
GO02	**Mina Guanaco**	**6.86**	**181**			**Pn**	**16 30 29.9**	**-1.3**
SIV	**San Ignacio**	**8.37**	**76**	P		**Pn**	**16 30 48.7**	**-2.7**
	comp=E,11nm,0.3s,baz=285,slow=8.3,SNR=70							
NNA	**Nana**	**9.45**	**310**	Pn		**Pn**	**16 31 04.3**	**-1.6**
SAML	**Samuel**	**11.12**	**34**	*e*P		**Pn**	**16 31 25.1**	**-3.2**
SAML	**Samuel**	**11.12**	**34**	*e*P		**Pn**	**16 31 25.1**	**-3.2**
SAML	**Samuel**	**11.12**	**34**			**Pn**	**16 31 24.6**	**-3.6**
AQDB	**Aquidauana**	**13.21**	**102**	*e*P		**Pn**	**16 31 57.3**	**+1.6**
AQDB	**Aquidauana**	**13.21**	**102**	*e*P		**Pn**	**16 31 57.3**	**+1.6**
CLDB	**Colider**	**15.16**	**63**	*e*P		**Pn**	**16 32 17.9**	**-2.7**
CLDB	**Colider**	**15.16**	**63**	*e*P		**Pn**	**16 32 17.9**	**-2.7**
TRCB	**Terra Rica**	**16.42**	**109**	*e*P		**Pn**	**16 32 36.7**	**+0.6**
TRCB	**Terra Rica**	**16.42**	**109**	*e*P		**Pn**	**16 32 36.7**	**+0.6**
GO05	**Huala**	**16.81**	**187**			**Pn**	**16 32 39.7**	**-1.0**
FRTB	**Fartura**	**19.30**	**109**	*e*P		**P**	**16 33 07.5**	**-0.7**
FRTB	**Fartura**	**19.30**	**109**	*e*P		**P**	**16 33 07.5**	**-0.7**
BB19B	**Bebedouro**	**19.94**	**101**	*e*P		**P**	**16 33 14.4**	**-0.8**
BB19B	**Bebedouro**	**19.94**	**101**	*e*P		**P**	**16 33 14.4**	**-0.8**
IPMB	**Ipameri, GO**	**20.24**	**93**	*e*P		**P**	**16 33 17.2**	**-1.1**
IPMB	**Ipameri, GO**	**20.24**	**93**	*e*P		**P**	**16 33 17.2**	**-1.1**
CNLB	**Canela**	**20.27**	**126**	*e*P		**P**	**16 33 19.6**	**+1.0**
CNLB	**Canela**	**20.27**	**126**	*e*P		**P**	**16 33 19.6**	**+1.0**
BDFB	**Brasilia**	**20.72**	**86**	P		**P**	**16 33 23.3**	**-0.3**
	comp=E,6.5nm,0.5s,baz=262,slow=7.2,SNR=8.8							
BDFB	**Brasilia**	**20.72**	**86**	P		**P**	**16 33 23.6**	**0.0**
BDFB				IAmb	IAmb		16 33 25.8	
	comp=Z,6.9nm,0.5s							
TRQA	**Tornquist**	**20.78**	**163**	P		**P**	**16 33 24.4**	**+0.5**
RCLB	**Rio Claro- Sao**	**21.00**	**105**	*e*P		**P**	**16 33 25.2**	**-1.3**
RCLB	**Rio Claro- Sao**	**21.00**	**105**	*e*P		**P**	**16 33 25.2**	**-1.3**
GO06	**Curarrehue**	**21.30**	**184**	P		**P**	**16 33 30.7**	**+1.0**
PMNB	**Patos De Minas**	**21.89**	**94**	*e*P		**P**	**16 33 34.8**	**-1.3**
PMNB	**Patos De Minas**	**21.89**	**94**	*e*P		**P**	**16 33 34.8**	**-1.3**
PLCA	**Paso Flores**	**22.40**	**182**	P		**P**	**16 33 42.4**	**+1.3**
	comp=Z,4.4nm,1.0s,baz=47,slow=8.5,SNR=7.6							
PLCA	**Paso Flores**	**22.40**	**182**	*e*P		**P**	**16 33 43.4**	**+2.4**
PLCA	**Paso Flores**	**22.40**	**182**	*e*P		**P**	**16 33 43.4**	**+2.4**
PLCA	**Paso Flores**	**22.40**	**182**	P		**P**	**16 33 42.7**	**+1.7**
SDD	**Santo Domingo**	**36.50**	**359**	P		**P**	**16 35 47.5**	**+1.3**
TEIG	**Tepich**	**42.46**	**333**	P		**P**	**16 36 36.6**	**+1.0**
	comp=Z,3.8nm,0.6s,baz=142,slow=0.7,SNR=2.5							
TEIG	**Tepich**	**42.46**	**333**	IAmb	IAmb		16 36 41.1	
	comp=Z,73nm,1.9s							
KVTX	**Kingsville**	**53.21**	**328**	P		**P**	**16 37 58.9**	**+0.6**
Z50A	**Ashland**	**53.59**	**343**	P		**P**	**16 38 00.7**	**-0.3**
Z50A				IAmb	IAmb		16 38 01.9	
	comp=Z,33nm,1.8s							
SWET	**Sewanee**	**55.44**	**344**	P		**P**	**16 38 13.7**	**-0.6**
SWET				IAmb	IAmb		16 38 22.2	
	comp=Z,44nm,1.9s							

WVT	**Waverly**	**56.82**	**342**	P		**P**	**16 38 23.2**	**-0.9**
WVT				IAmb	IAmb		16 39 11.3	
	comp=Z,32nm,1.9s							
TXAR	**Lajitas Array**	**57.68**	**325**	P		**P**	**16 38 31.4**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=154,slow=11,SNR=3.4							
P53A	**Whipple**	**58.52**	**349**	P		**P**	**16 38 35.9**	**-0.1**
SIUC	**Southern Illin**	**58.70**	**342**	P		**P**	**16 38 37.2**	**0.0**
DBIC	**Dimbokro**	**68.39**	**75**	P		**P**	**16 39 41.6**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=205,slow=8.8,SNR=5.9							
DBIC	**Dimbokro**	**68.39**	**75**	IAmb	IAmb		16 41 44.1	
	comp=Z,17nm,1.6s							
ULM	**Lac du Bonnet**	**72.09**	**343**	P		**P**	**16 40 02.5**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=168,slow=6.6,SNR=5.6							
ULM	**Lac du Bonnet**	**72.09**	**343**	P		**P**	**16 40 03.2**	**0.0**
ULM				IAmb	IAmb		16 42 15.3	
	comp=Z,51nm,2.0s							
NVAR	**Mina Array Bea**	**72.62**	**322**	P		**P**	**16 40 08.6**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=150,slow=7.3,SNR=4.1							
TOA0	**Torodi Ar. Sit**	**76.83**	**71**	P		**P**	**16 40 29.4**	**-2.0**
TOA0				IAmb	IAmb		16 40 33.2	
	comp=Z,7.9nm,1.2s							
TORD	**Torodi Ar. Bea**	**76.83**	**71**	P		**P**	**16 40 29.6**	**-1.8**
	comp=Z,3.1nm,0.5s,baz=253,slow=5.4,SNR=18							
YKA	**Yellowknife Ar**	**87.97**	**341**	P		**P**	**16 41 29.0**	**+0.8**
	comp=Z,1.8nm,0.4s,baz=134,slow=4.8,SNR=40							
ASAR	**Alice Springs**	**132.46**	**210**	PKP		**PKPdf**	**16 47 53.7**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=128,slow=1.7,SNR=9.8							
WRA	**Warramunga Arr**	**135.40**	**213**	PKP		**PKPdf**	**16 47 59.7**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=152,slow=1.8,SNR=9.6							
ZALV	**Zalesovo Beam**	**139.25**	**23**	PKP		**PKPdf**	**16 48 05.8**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=291,slow=2.5,SNR=4.8							
SONM	**Songino Array**	**150.33**	**6**	PKPbc		**PKiKP**	**16 48 30.8**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=343,slow=3.1,SNR=11							

*JMA **09** 16:29:51.5±0.2, 29°.97N×139°.63E, h462km±3km, M3.8*
*ISCJB **09** 16:29:52.3±0.2, 29°.87N±0°.03×139°.08E±0°.05, h421km, mb3.5/21, Error ellipse: s-maj=6.4km s-min=3.8km az=173.1*
*NEIC **09** 16:29:53.2±0.9, 29°.86N±0°.10×138°.9E±0°.2, h411km±8km, mb4.1/24*
*IDC **09** 16:29:53.6±1.2, 29°.89N×139°.03E, h418km±14km, mb3.2/22, mb1 3.3/26, mb1mx3.2/60, mbtmp4.0/26, Error ellipse: s-maj=15.5km s-min=8.8km az=77.0*

ISC 09 16:29:53.5±0.5, 29°.91N±0°.06×139°.20E±0°.09, h421km, n82, σ1°17/83, mb3.8/30, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**3.19**	**9**	P		**P**	**16 31 00.6**	**+0.9**
JHJ2	**Mitsune**	**3.24**	**9**	P		**P**	**16 31 00.9**	**+0.9**
JHJ2	**Mitsune**	**3.24**	**9**			**P**	**16 31 01.8**	**+1.7**
CBIJ	**Chichi jima**	**3.84**	**136**	P		**P**	**16 31 04.9**	**-0.5**
CBIJ				S		**S**	**16 32 02.7**	**-1.2**
JCJ	**Chichijima**	**3.84**	**136**	P		**P**	**16 31 05.2**	**-0.2**
	16nm,0.3s,baz=346,slow=22,SNR=13							
JCJ				S		**S**	**16 32 01.7**	**-2.2**
	14nm,0.3s,baz=302,slow=19,SNR=6.0							
JMKN	**Mikurajimanish**	**3.98**	**5**	P		**P**	**16 31 07.1**	**+0.6**
JHH2	**Haha-jima-NKT2**	**4.19**	**141**	*e*S		**S**	**16 32 08.4**	**-1.3**
JIE	**Ise**	**4.95**	**335**	P		**P**	**16 31 18.2**	**+2.5**
BSO1	**Boso 1**	**4.96**	**17**	*e*S		**S**	**16 32 21.7**	**-0.6**
JKN2	**Mikihoku**	**4.98**	**331**	P		**P**	**16 31 18.1**	**+2.0**
BSO3	**Boso 3**	**5.00**	**12**	P		**P**	**16 31 16.7**	**+0.7**
HMMJ	**Hamamatsu 2**	**5.09**	**346**	P		**P**	**16 31 18.9**	**+1.8**
JOD2	**Odawara 2**	**5.34**	**359**	P		**P**	**16 31 20.0**	**+0.3**
JNY	**Yasuok**	**5.55**	**349**	P		**P**	**16 31 23.6**	**+1.7**
INU	**Inuyama**	**5.73**	**342**	P		**P**	**16 31 25.0**	**+1.3**
JHU	**Hanno**	**5.93**	**1**	P		**P**	**16 31 25.5**	**-0.3**
JRY	**Ryogami san**	**6.10**	**358**	P		**P**	**16 31 27.8**	**+0.2**
JRY				*e*S		**S**	**16 32 43.7**	**-1.1**
JYT	**Yasato**	**6.36**	**7**	*e*S		**S**	**16 32 47.1**	**-2.7**
JAG	**Ashikaga**	**6.50**	**2**	P		**P**	**16 31 31.4**	**-1.0**
MJAR	**Matsushiro Arr**	**6.67**	**353**	P		**P**	**16 31 33.6**	**-0.6**
	0.3nm,0.3s,baz=97,slow=9.9,SNR=12							
MAJO	**Matsushiro**	**6.67**	**353**			**P**	**16 31 33.7**	**-0.5**
MJB9	**Matsu-Tunnel**	**6.67**	**353**			**P**	**16 31 33.6**	**-0.6**
JHO	**Hitachi**	**6.78**	**9**	P		**P**	**16 31 35.0**	**-0.4**
JHO				S		**S**	**16 32 56.5**	**-1.7**
JFK	**Kawauchi**	**7.57**	**10**	S		**S**	**16 33 10.3**	**-3.8**
KSRS	**Korea Array**	**12.03**	**312**	P		**P**	**16 32 33.6**	**+0.7**
	0.4nm,0.3s,baz=126,slow=10,SNR=13							
USRK	**Ussuriysk Ar.**	**15.37**	**340**	P		**P**	**16 33 09.8**	**+0.6**
	baz=132,slow=10,SNR=7.5							
KLR	**Kul'dur**	**20.11**	**346**	P		**P**	**16 33 58.6**	**+1.2**
	1.1nm,0.4s,baz=151,slow=12,SNR=12							
SONM	**Songino Array**	**30.88**	**315**	P		**P**	**16 35 33.0**	**-0.4**
	0.6nm,0.4s,baz=124,slow=8.3,SNR=5.9							
TIXI	**Tiksi**	**42.17**	**355**	P		**P**	**16 37 06.9**	**+0.1**
MTN	**Manton Dam**	**43.21**	**192**	P		**P**	**16 37 15.1**	**-0.6**
MTN				IAmb	IAmb		16 37 16.0	
	comp=Z,6.1nm,0.6s							
COEN	**Coen**	**43.78**	**174**	P		**P**	**16 37 20.8**	**+0.6**
TAPN	**Taplejung**	**44.96**	**280**	*e*P		**P**	**16 37 29.2**	**-0.6**
	comp=Z,3.1nm,0.3s							
ZAA0	**Zalesovo Array**	**45.65**	**318**	P		**P**	**16 37 33.1**	**-1.1**
ZALV	**Zalesovo Beam**	**45.65**	**318**	P		**P**	**16 37 32.6**	**-1.7**
	comp=Z,0.7nm,0.4s,baz=101,slow=7.5,SNR=4.3							
RAMN	**Ramite**	**46.02**	**280**	*e*P		**P**	**16 37 37.1**	**-0.8**
	comp=Z,10nm,0.5s							
JIRN	**Jiri**	**46.18**	**281**	*e*P		**P**	**16 37 39.2**	**0.0**
	comp=Z,16nm,0.3s							
GUN	**Gumba**	**46.37**	**281**	*e*P		**P**	**16 37 40.5**	**-0.2**
KNRA	**Kununurra**	**46.42**	**194**	P		**P**	**16 37 40.6**	**0.0**
UGM	**Wanagama**	**46.63**	**221**	P		**P**	**16 37 41.4**	**-0.9**
MK31	**Makanchi Array**	**46.67**	**308**	P		**P**	**16 37 41.8**	**-0.5**
MK31				IAmb	IAmb		16 38 16.9	
	comp=Z,11nm,1.6s							
MKAR	**Makanchi Array**	**46.67**	**308**	P		**P**	**16 37 41.6**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=84,slow=10,SNR=11							
GKN	**Gorkha**	**47.40**	**282**	*e*P		**P**	**16 37 48.2**	**-0.1**
DANN	**Dangsing**	**48.05**	**283**	*e*P		**P**	**16 37 53.3**	**-0.1**
	comp=Z,12nm,0.6s							
KOLN	**Koldanda**	**48.35**	**282**	*e*P		**P**	**16 37 55.1**	**-0.4**
	comp=Z,14nm,0.9s							
KURK	**Kurchatov**	**49.15**	**313**	P		**P**	**16 38 00.4**	**-0.5**
KURK	**Kurchatov**	**49.15**	**313**	IAmb	IAmb		16 39 27.8	
	comp=Z,13nm,1.8s							
KURBB	**Kurchatov Arra**	**49.21**	**313**	P		**P**	**16 38 00.4**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=91,slow=7.9,SNR=7.4							
FITZ	**Fitzroy Crossi**	**49.49**	**197**	P		**P**	**16 38 03.8**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=13,slow=9.9,SNR=6.0							
FITZ	**Fitzroy Crossi**	**49.49**	**197**	IAmb	IAmb		16 39 28.3	
	comp=Z,26nm,2.0s							
WRAB	**Tennant Creek**	**49.77**	**186**	P		**P**	**16 38 05.5**	**-0.3**
WRAB				IAmb	IAmb		16 38 32.0	
	comp=Z,16nm,1.7s							
WB2	**Warramunga Arr**	**49.78**	**186**	P		**P**	**16 38 05.5**	**-0.4**
WB2				IAmb	IAmb		16 39 35.8	
	comp=Z,12nm,1.5s							
WR0	**Warramunga Arr**	**49.78**	**186**	P		**P**	**16 38 05.5**	**-0.4**
WR0				IAmb	IAmb		16 39 58.4	
	comp=Z,16nm,1.6s							
WRA	**Warramunga Arr**	**49.78**	**186**	P		**P**	**16 38 05.8**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=0.6,slow=7.7,SNR=72							
BOOM	**Boomskoye usch**	**51.48**	**302**	P		**P**	**16 38 17.9**	**-0.5**
AS31	**Alice Springs**	**53.51**	**186**	P		**P**	**16 38 32.9**	**-0.1**
ASAR	**Alice Springs**	**53.51**	**186**	P		**P**	**16 38 33.2**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=23,slow=11,SNR=36							
KDAK	**Kodiak Island**	**53.73**	**38**	P		**P**	**16 38 36.0**	**+1.9**
ARSB	**Arslanbob**	**53.84**	**301**	P		**P**	**16 38 34.1**	**-1.4**
ARSB				IAmb	IAmb		16 39 06.3	
	comp=Z,13nm,0.9s							
BVAR	**Borovoye Array**	**54.20**	**316**	P		**P**	**16 38 37.5**	**-0.2**
	comp=Z,2.8nm,0.5s,baz=95,slow=7.5,SNR=27							
BRVK	**Borovoye**	**54.27**	**316**	P		**P**	**16 38 37.4**	**-0.6**
SML	**Sawmill**	**55.89**	**33**	P		**P**	**16 38 49.6**	**+0.1**
SML				IAmb	IAmb		16 40 01.4	
	comp=Z,18nm,1.5s							
ILAR	**Eielson Array**	**56.54**	**30**	P		**P**	**16 38 54.4**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=280,slow=5.4,SNR=5.5							
WAX	**Waxell Ridge**	**58.62**	**35**	P		**P**	**16 39 10.3**	**+2.1**
YAH	**Yahtse**	**59.17**	**35**	P		**P**	**16 39 14.2**	**+2.0**
DAWY	**Dawson**	**59.83**	**30**	P		**P**	**16 39 18.8**	**+2.4**
DAWY				IAmb	IAmb		16 40 28.5	
	comp=Z,11nm,1.7s							
ARU	**Arti**	**60.60**	**321**	P		**P**	**16 39 20.9**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=316,slow=18,SNR=6.3							
ARU	**Arti**	**60.60**	**321**	IAmb	IAmb		16 39 21.8	
	comp=Z,7.8nm,1.2s							
ABKAR	**Akbulak array**	**61.26**	**313**	P		**P**	**16 39 25.5**	**-0.6**
STKA	**Stephens Creek**	**61.49**	**178**	P		**P**	**16 39 28.3**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=313,slow=6.4,SNR=3.6							
STKA	**Stephens Creek**	**61.49**	**178**	P		**P**	**16 39 28.3**	**+0.6**

INK	**Inuvik**	**61.58**	**25**	P		**P**	**16 39 29.0**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=209,slow=10,SNR=6.6							
INK	**Inuvik**	**61.58**	**25**	P		**P**	**16 39 30.4**	**+2.5**
INK				IAmb	IAmb		16 40 49.9	
	comp=Z,8.1nm,1.6s							
AKTO	**Aktyubinsk**	**62.19**	**314**	P		**P**	**16 39 31.9**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=76,slow=14,SNR=5.7							
ARCES	**ARCESS Array B**	**70.02**	**340**	P		**P**	**16 40 21.3**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=69,slow=9.8,SNR=14							
YKA	**Yellowknife Ar**	**70.91**	**28**	P		**P**	**16 40 27.5**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=297,slow=6.6,SNR=4.1							
KBZ	**Khabaz**	**74.18**	**312**	P		**P**	**16 40 45.9**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=78,slow=9.3,SNR=3.5							
FINES	**FINESS Array B**	**74.26**	**333**	P		**P**	**16 40 45.8**	**0.0**
	comp=Z,1.1nm,0.4s,baz=64,slow=4.0,SNR=12							
NB2	**NORSAR Subarra**	**80.02**	**337**	P		**P**	**16 41 16.7**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=46,slow=4.8							
NOA	**NORSAR Array B**	**80.02**	**337**	P		**P**	**16 41 17.1**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=45,slow=5.2,SNR=4.4							
NVAR	**Mina Array Bea**	**80.82**	**51**	P		**P**	**16 41 24.5**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=283,slow=6.2,SNR=3.0							
BRTR	**Keskin Array B**	**82.18**	**311**	P		**P**	**16 41 29.1**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=64,slow=2.9,SNR=4.5							
TXAR	**Lajitas Array**	**95.97**	**51**	P		**P**	**16 42 33.6**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=240,slow=1.8,SNR=2.7							

*IDC **09** 16:31:45.9±1.6, 7°.12S×101°.83E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.7/62, mbtmp4.1/10, ML4.8/1, MS2.9/3, Ms1 2.9/3, ms1mx2.5/38, Error ellipse: s-maj=53.2km s-min=18.8km az=39.0*
*ISCJB **09** 16:31:48.3±0.6, 7°.09S±0°.05×102°.05E±0°.04, h33km, mb4.0/9, MS2.9/2, Error ellipse: s-maj=7.5km s-min=4.9km az=38.1*
*NEIC **09** 16:31:48.1±2.1, 7°.38S±0°.09×101°.94E±0°.04, h30km±5km, mb4.5/6*
*DJA **09** 16:31:48.2±0.5, 7°S±3°×10°2E±°, h10km, M4.6/14, mb4.7/4, mB5.0/2, MLv4.5/14, Mw(mB)4.4/2*

ISC 09 16:31:51.6±0.8, 7°.04S±0°.08×102°.09E±0°.07, h35km, n45, σ1°79/47, mb4.0/10, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h

	13nm,0.5s							
JIRN	**Jiri**	**49.09**	**309**	*e*P	**P**	**16 45 05.8**	**+1.0**
GUN	**Gumba**	**49.45**	**309**	*e*P	**P**	**16 45 08.5**	**+1.0**
PKI	**Pulchoki**	**49.66**	**308**	*e*P	**P**	**16 45 09.6**	**+0.5**
PKIN	**Phulchoki**	**49.67**	**308**	*e*P	**P**	**16 45 09.6**	**+0.5**
KOLN	**Koldanda**	**51.17**	**308**	*e*P	**P**	**16 45 21.5**	**+1.1**
DANN	**Dangsing**	**51.31**	**308**	*e*P	**P**	**16 45 22.4**	**+0.9**
	8.6nm,0.5s							
ZALV	**Zalesovo Beam**	**65.28**	**334**	P	P	16 47 09.4	+11
	0.8nm,0.5s,baz=125,slow=4.6,SNR=2.3							

*NEIC **09** 16:36:31.0±1.4,20°.74N±0°.08×146°.9E±0°.2, h24km±5km, mb4.5/11*
*ISCJB **09** 16:36:31.6±0.5,20°.70N±0°.05×146°.8E±0°.1, h44km, mb4.0/14, MS2.8/3, Error ellipse: s-maj=15.9km s-min=6.3km az=173.3*
*IDC **09** 16:36:36.5±3.5,20°.75N×146°.77E, h67km±31km, mb3.7/14, mb1 3.8/16, mb1mx3.6/61, mbtmp4.1/16, ML4.0/2, MS2.8/4, Ms1 2.9/4, ms1mx2.5/29, Error ellipse: s-maj=26.0km s-min=12.7km az=81.0*

ISC 09 16:36:33.4±0.6, 20°.78N±0°.06×146°.9E±0°.1, h44km, n42, σ1°32/35, mb4.3/19, MS2.8/3, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**4.20**	**195**	Pn	**Pn**	**16 37 32.9**	**-2.1**
ANA2	**Anatahan**	**4.56**	**194**	Pn	**Pn**	**16 37 38.1**	**-1.9**
GUMO	**Guam**	**7.41**	**195**	P	**Pn**	**16 38 23.2**	**+4.1**
	5.4nm,0.3s,baz=173,slow=8.1,SNR=2.9						
GUMO				S	**Sn**	**16 39 44.1**	**+2.2**
	3.1nm,0.3s,baz=323,slow=20,SNR=2.1						
GUMO				LR	LR	16 40 56.4	
	comp=Z,89nm,20.4s,baz=28,slow=35						
GUMO	**Guam**	**7.41**	**195**	Pn	**Pn**	**16 38 17.7**	**-1.5**
JHJ2	**Mitsune**	**13.80**	**334**	Pn	**Pn**	**16 39 43.7**	**-2.8**
INU	**Inuyama**	**16.91**	**331**		**Pn**	**16 40 27.9**	**+0.9**
PATS	**Pohnpei**	**17.73**	**140**	P	**Pn**	**16 40 36.4**	**-0.8**
H11S3	**WAKE ISLAND Hy**	**18.78**	**94**	T	T	16 59 03.7	
	baz=280,slow=74,SNR=8.9						
H11S1	**WAKE ISLAND Hy**	**18.79**	**94**	T	T	16 59 05.3	
	baz=280,slow=74,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**18.79**	**90**	T	T	16 59 02.9	
	baz=276,slow=74,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**18.79**	**90**	T	T	16 59 05.0	
	baz=276,slow=74,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**18.80**	**94**	T	T	16 59 03.3	
	baz=280,slow=74,SNR=8.2						
H11N3	**WAKE ISLAND Hy**	**18.81**	**90**	T	T	16 59 06.9	
	baz=276,slow=74,SNR=3.5						
JNU	**Nakatsue**	**18.81**	**314**	P	**Pn**	**16 40 49.9**	**-0.3**
	0.3nm,0.3s,baz=339,slow=8.6,SNR=2.1						
MANU	**Manus Island**	**22.69**	**179**	P	**P**	**16 41 29.9**	**-1.5**
MANU				IAmb	IAmb	16 42 02.4	
	comp=Z,14nm,1.1s						
KSRS	**Korea Array**	**23.39**	**319**	P	**P**	**16 41 39.2**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=160,slow=8.7,SNR=4.5						
TGY	**Tagaytay City**	**25.62**	**259**	LR	LR	16 50 47.5	
	comp=Z,30nm,19.4s,baz=232,slow=33						
HNR	**Honiara**	**32.65**	**156**	LR	LR	16 53 10.1	
	comp=Z,23nm,21.4s,baz=74,slow=30						
SONM	**Songino Array**	**42.27**	**319**	P	**P**	**16 44 22.8**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=124,slow=8.5,SNR=4.4						
SONM				PcP	**PcP**	**16 46 16.6**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=134,slow=4.2,SNR=3.0						
SEY	**Seymchan**	**42.29**	**4**	P	**P**	**16 44 23.5**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=143,slow=20,SNR=2.8						
WRAB	**Tennant Creek**	**42.29**	**198**	P	**P**	**16 44 21.8**	**-1.2**
WB2	**Warramunga Arr**	**42.30**	**198**	P	**P**	**16 44 22.1**	**-0.9**
WB2				IAmb	IAmb	16 44 49.0	
	comp=Z,18nm,1.7s						
WRA	**Warramunga Arr**	**42.30**	**198**	P	**P**	**16 44 22.1**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=22,slow=8.7,SNR=8.5						
WRA				PcP	**PcP**	**16 46 17.2**	**+1.0**
	comp=Z,1.6nm,0.9s,baz=11,slow=3.2,SNR=6.3						
FITZ	**Fitzroy Crossi**	**43.90**	**210**	P	**P**	**16 44 35.7**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=352,slow=7.1,SNR=5.2						
FITZ	**Fitzroy Crossi**	**43.90**	**210**	IAmb	IAmb	16 44 39.7	
	comp=Z,9.5nm,1.4s						
CMAR	**Chiang Mai Arr**	**45.10**	**276**	LR	LR	17 01 37.2	
	comp=Z,7.0nm,20.9s,baz=75,slow=33						
ASAR	**Alice Springs**	**45.96**	**197**	P	**P**	**16 44 51.2**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=17,slow=8.9,SNR=6.6						
ASAR				PcP	**PcP**	**16 46 29.7**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=17,slow=3.7,SNR=5.2						
ZALV	**Zalesovo Beam**	**57.08**	**322**	P	**P**	**16 46 15.1**	**0.0**
	comp=Z,4.7nm,0.5s,baz=107,slow=7.9,SNR=24						
MKAR	**Makanchi Array**	**57.86**	**313**	P	**P**	**16 46 21.4**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=87,slow=8.2,SNR=21						
KURK	**Kurchatov**	**60.50**	**317**	P	**P**	**16 46 39.5**	**+0.6**
KURK	**Kurchatov**	**60.50**	**317**	IAmb	IAmb	16 46 40.5	
	comp=Z,5.4nm,0.9s						
KURBB	**Kurchatov Arra**	**60.55**	**317**	P	**P**	**16 46 39.5**	**+0.2**
	comp=Z,4.2nm,0.7s,baz=94,slow=7.7,SNR=33						
BVAR	**Borovoye Array**	**65.61**	**320**	P	**P**	**16 47 13.4**	**+0.6**
	comp=Z,5.2nm,0.6s,baz=89,slow=7.2,SNR=32						
KK31	**Karatay Array**	**66.33**	**309**	P	**P**	**16 47 17.3**	**-0.3**
KK31				IAmb	IAmb	16 47 22.2	
	comp=Z,2.6nm,0.8s						
KKAR	**Karatay Array**	**66.33**	**309**	P	**P**	**16 47 17.2**	**-0.4**
KKAR				IAmb	IAmb	16 47 22.2	
	comp=Z,2.6nm,0.8s						
ARU	**Arti**	**72.04**	**324**	P	**P**	**16 47 53.0**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=127,slow=2.2,SNR=8.7						
ARU	**Arti**	**72.04**	**324**	P	**P**	**16 47 52.5**	**-0.2**
ARU				IAmb	IAmb	16 47 53.8	
	comp=Z,4.7nm,0.7s						
YKA	**Yellowknife Ar**	**75.63**	**28**	P	**P**	**16 48 14.2**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=290,slow=6.2,SNR=4.6						
NVAR	**Mina Array Bea**	**80.97**	**52**	P	**P**	**16 48 44.3**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=282,slow=8.8,SNR=4.3						
FINES	**FINESS Array B**	**85.47**	**336**	P	**P**	**16 49 05.6**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=72,slow=6.2,SNR=8.1						
LPAZ	**La Paz**	**146.53**	**88**	PKPbc	**PKPab**	**16 56 12.8**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=356,slow=5.4,SNR=6.7						
LPAZ	**La Paz**	**146.53**	**88**		**PKPdf**	**16 56 10.9**	**+0.8**

*KRNET **09** 16:37:07.4±0.1, 40°.01N×69°.88E, mb3.0*
*NNC **09** 16:37:09.2±3.3, 40°.26N×70°.05E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=24.5km s-min=11.0km az=16.0*

ISC 09 16:37:06.4±3.2, 39°.9N±0°.2×69°.71E±0°.10, h17km, n12, σ1°91/21, 19C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.87**	**78**	↑*i* P	**Pb**	**16 37 21.4**	**-1.6**
	baz=86						
BTK				↑*i* S	**Sb**	**16 37 31.2**	**-3.2**
	baz=86						
TAS	**Tashkent**	**1.48**	**348**	↑*i* P	**Pn**	**16 37 32.8**	**+0.5**
	baz=42						
TAS				↑*i* S	**Sn**	**16 37 52.5**	**+1.2**
	baz=42						
ARK	**Arkit**	**2.56**	**41**	↑*i* P	**Pn**	**16 37 48.8**	**+1.5**
	baz=41						
ARK				↑*i* S	**Sn**	**16 38 19.5**	**+1.4**
	baz=41						
ARSB	**Arslanbob**	**2.87**	**59**	↑*e* P	**Pn**	**16 37 53.6**	**+2.0**
	baz=60						
ARSB				↑*i* S	**Sn**	**16 38 26.8**	**+1.0**
	baz=60						
KK31	**Karatay Array**	**3.27**	**10**	↑Pg	**Pb**	**16 38 02.0**	**-2.0**
	1.6nm,0.4s,baz=194,slow=17,SNR=26						
KK31				↓↓Lg	Lg	16 38 39.2	
	9.5nm,0.3s,baz=188,slow=32,SNR=18						
AML	**Almayashu**	**3.76**	**52**	↑*e* P	**Pn**	**16 38 06.3**	**+2.4**
	baz=53						
AML				↑*e* S	**Sn**	**16 38 48.8**	**+0.9**
	baz=53						
EKS2	**Erkin-Say**	**4.13**	**46**	↓*e* P	**Pn**	**16 38 11.5**	**+2.7**
	baz=47						
EKS2				↓*i* S	**Sn**	**16 38 58.1**	**+1.3**
	baz=47						
UCH	**Uchtor**	**4.32**	**56**	↓*e* P	**Pn**	**16 38 14.1**	**+2.4**
	baz=56						
UCH				↓*e* S	**Sn**	**16 39 02.2**	**+0.3**
	baz=56						
AAK	**Ala-Archa**	**4.53**	**51**	↑*i* P	**Pn**	**16 38 17.2**	**+2.8**
	baz=51						
AAK				↑*i* S	**Sn**	**16 39 07.4**	**+0.6**
	baz=51						
AAK	**Ala-Archa**	**4.53**	**51**	↑Pg	**Pb**	**16 38 23.3**	**-2.3**
	2.7nm,1.1s						
AAK				↑Lg	Lg	16 39 20.3	
	1.7nm,0.6s						
KZA	**Kyzart**	**4.73**	**61**	↑*e* P	**Pn**	**16 38 19.0**	**+1.7**
	baz=61						
KZA				↑*i* S	**Sn**	**16 39 11.8**	**-0.1**
	baz=61						
TKM2	**Tokmak 2**	**5.36**	**54**	↑Pg	**Pb**	**16 38 39.0**	**-0.8**
	1.6nm,0.7s						
TKM2				↑Lg	Lg	16 39 46.0	
	1.1nm,0.5s						

*ISCJB **09** 16:42:25.3±0.5, 39°.04N±0°.09×94°.2E±0°.1, h33km, Error ellipse: s-maj=15.6km s-min=8.8km az=43.4*
*NEIC **09** 16:42:25.8±2.0, 39°.12N±0°.04×94°.2E±0°.2, h21km±6km, mb4.7/13*

ISC 09 16:42:27.2±0.7, 39°.1N±0°.1×94°.2E±0°.1, h35km, n16, σ1°35/16, Gansu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**6.76**	**316**	Pn	**Pn**	**16 44 04.8**	**+0.8**
LSA	**Lhasa**	**9.71**	**196**		**Pn**	**16 44 45.9**	**+1.1**
KSH	**Kashi**	**14.09**	**277**	*e*P	**P**	**16 45 50.4**	**-1.2**
KSH				S	S	16 48 30.1	-10
KSH				pmax	pmax		
	comp=Z,240nm,6.8s						
KSH				LR	LR		
	comp=N,220nm,4.5s						
KSH				LR	LR		
	comp=E,250nm,5.5s						
KSH				LR	LR		
	comp=Z,290nm,5.0s						
ZAA0	**Zalesovo Array**	**16.15**	**340**	P	**P**	**16 46 14.9**	**+0.7**
SLVN	**Son La**	**19.59**	**152**	P	**P**	**16 46 52.1**	**-0.3**
SLVN				IAmb	IAmb	16 46 58.1	
	comp=Z,12nm,1.6s						
KBL	**Kabul**	**20.59**	**265**	P	**P**	**16 47 03.5**	**+0.1**
BRVK	**Borovoye**	**21.52**	**318**	P	**P**	**16 47 13.7**	**+0.8**
BRVK				IAmb	IAmb	16 47 14.7	
	comp=Z,5.6nm,0.8s						
ABKAR	**Akbulak array**	**26.34**	**304**	P	**P**	**16 47 56.1**	**-3.6**
YULB	**Yu-li**	**27.85**	**116**	P	**P**	**16 48 13.8**	**+0.3**
YULB				IAmb	IAmb	16 49 08.4	
	comp=Z,62nm,1.5s						
TWG	**Pinlang**	**28.07**	**117**	P	**P**	**16 48 16.0**	**+0.5**
GYA0B	**ALIBECK ARRAY**	**28.11**	**279**	P	**P**	**16 48 15.5**	**-0.2**
GYA0B				IAmb	IAmb	16 48 44.3	
	comp=Z,3.3nm,0.7s						
JOW	**Kunigami**	**30.95**	**103**	P	**P**	**16 48 41.5**	**+0.5**
KEV	**Kevo**	**46.04**	**334**	P	**P**	**16 50 48.5**	**+1.6**
KEV				IAmb	IAmb	16 50 49.3	
	comp=Z,104nm,1.5s						
CISI	**Cisompet, Garu**	**48.13**	**162**	P	**P**	**16 51 03.7**	**-0.1**
CISI				IAmb	IAmb	16 52 43.5	
	comp=Z,39nm,1.4s						
TNTI	**Ternate**	**48.75**	**133**	P	**P**	**16 51 09.1**	**+0.5**
TNTI				IAmb	IAmb	16 51 09.7	
	comp=Z,11nm,0.9s						
ANA2	**Anatahan**	**50.20**	**102**	P	**P**	**16 51 17.9**	**-1.8**

*SJA **09** 16:44:14.5±0.6, 22°.43S×67°.32W, h180km±5km, ML2.7, MW3.1*
*ISCJB **09** 16:44:15.5±1.2, 22°.24S±0°.06×67°.44W±0°.05, h177km±12km, Error ellipse: s-maj=10.1km s-min=7.4km az=178.2*
*GUC **09** 16:44:15.9±0.8, 22°.23S×67°.84W, h213km±9km, ML3.1*

ISC 09 16:44:13.5±2.7, 22°.28S±0°.07×67°.39W±0°.06, h195km±22km, n18, σ1°24/32, 4C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.45**	**256**	↑*i* P	**Pn**	**16 44 47.7**	**+1.0**
LVC				*i* Sg	**Sn**	**16 45 11.4**	**-1.1**
YJA	**Yavi**	**1.74**	**87**	*i* P	**Pn**	**16 44 50.2**	**+0.7**
YJA				IAML		16 44 51.1	
	comp=Z,24nm,0.2s						
YJA				*i* Sg	**Sn**	**16 45 16.0**	**-1.5**
PB09	**IPOC Station P**	**1.78**	**285**	↑*i* P	**Pn**	**16 44 51.0**	**+1.3**
PB09				*i* S	**Sn**	**16 45 18.1**	**+0.5**
PB09	**IPOC Station P**	**1.78**	**285**	*i* P	**Pn**	**16 44 51.2**	**+1.5**
PB09				*i* Sg	**Sn**	**16 45 18.2**	**+0.5**
PB09				IAML		16 45 20.9	
	comp=Z,16nm,0.2s						
PB06	**IPOC Station P**	**2.06**	**258**	*e*P	**Pn**	**16 44 53.4**	**+0.9**
PB06				*i* S	**Sn**	**16 45 22.3**	**-0.6**
PB06				IAML		16 45 24.5	
	comp=E,84nm,0.2s						
PB06	**IPOC Station P**	**2.06**	**258**	*i* P	**Pn**	**16 44 53.3**	**+0.8**
PB15	**IPOC Station P**	**2.13**	**244**	*e*P	**Pn**	**16 44 54.7**	**+1.3**
PB15				*i* S	**Sn**	**16 45 24.3**	**0.0**
PB15	**IPOC Station P**	**2.13**	**244**	*i* P	**Pn**	**16 44 53.8**	**+0.5**
PB15				*i* Sg	**Sn**	**16 45 22.9**	**-1.4**
PB03	**IPOC Station P**	**2.20**	**275**	↑*i* P	**Pn**	**16 44 54.7**	**+0.7**
PB03				*i* S	**Sn**	**16 45 24.4**	**-1.1**
PB03				IAML		16 45 25.1	
	comp=N,130nm,0.2s						
PB07	**IPOC Station P**	**2.38**	**283**	*e*P	**Pn**	**16 44 56.9**	**+0.9**
PB07				*i* S	**Sn**	**16 45 27.2**	**-1.7**
PB07				IAML		16 45 28.7	
	comp=N,81nm,0.3s						
PB02	**IPOC Station P**	**2.52**	**292**	↑*i* P	**Pn**	**16 44 58.1**	**+0.7**
PB02				*i* S	**Sn**	**16 45 29.7**	**-1.9**
PB02				IAML		16 45 31.4	
	comp=E,58nm,0.2s						
PB04	**IPOC Station P**	**2.56**	**268**	*e*P	**Pn**	**16 44 58.8**	**+0.8**
PB04				*i* S	**Sn**	**16 45 30.8**	**-1.8**
PB04				IAML		16 45 32.9	
	comp=N,113nm,0.1s						
PB04	**IPOC Station P**	**2.56**	**268**	*i* P	**Pn**	**16 44 59.1**	**+1.2**
PB04				IAML		16 45 33.0	
	comp=Z,85nm,0.2s						
PB05	**IPOC Station P**	**2.66**	**257**	*e*P	**Pn**	**16 45 00.1**	**+1.0**
PB05				*i* S	**Sn**	**16 45 32.8**	**-1.9**
PB05				IAML		16 45 34.1	
	comp=N,40nm,0.3s						
PB05	**IPOC Station P**	**2.66**	**257**	*i* P	**Pn**	**16 45 00.1**	**+1.0**
PB08	**IPOC Station P**	**2.69**	**322**	↑*i* P	**Pn**	**16 45 01.4**	**+1.7**
PB08				*i* S	**Sn**	**16 45 35.7**	**+0.1**
PB08				IAML		16 45 39.5	
	comp=E,16nm,0.3s						
PB10	**IPOC Station P**	**3.17**	**246**	*i* P	**Pn**	**16 45 06.0**	**+1.0**
PB11	**IPOC Station P**	**3.28**	**319**	*e*P	**Pn**	**16 45 06.7**	**+0.2**
PB11				*i* S	**Sn**	**16 45 45.8**	**-2.0**
PB11				IAML		16 45 47.2	
	comp=N,54nm,0.2s						

*NIED **09** 17:07:00, 32°.50N×138°.90E, h260km, Mw4.0 Best double couple: M0 9.88000×10^14 NP1:φs 20.00000°, δ29.00000°, λ39.00000°. NP2:φs 255.00000°, δ72.00000°, λ114.00000°.*
*IDC **09** 17:07:51.0±1.0, 32°.41N×139°.08E, h242km±11km, mb3.4/8, mb1 3.5/14, mb1mx3.2/42, mbtmp4.1/14, Error ellipse: s-maj=32.7km s-min=8.5km az=72.0*
*ISCJB **09** 17:07:51.7±0.3, 32°.50N±0°.04×138°.97E±0°.06, h270km±2km, mb3.6/8, Error ellipse: s-maj=7.6km s-min=5.7km az=171.7*
*NEIC **09** 17:07:52.4±1.3, 32°.44N±0°.08×139°.1E±0°.1, h262km±7km, mb4.3/23*
*JMA **09** 17:07:52.5±0.5, 32°.51N×138°.90E, h269km±5km, M3.7*

ISC 09 17:07:52.2±0.6, 32°.50N±0°.05×139°.01E±0°.06, h262km±6km, n67, σ1°62/80, mb4.0/20, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**0.64**	**93**	P	**Pn**	**17 08 28.5**	**+1.6**
JAOM				S	**S**	**17 08 56.4**	**+2.2**
JHCJ	**Hachijojimakas**	**0.88**	**49**	P	**Pn**	**17 08 29.4**	**+1.6**
JHCJ				*e*S	**S**	**17 08 57.7**	**+1.8**
JHJ2	**Mitsune**	**0.92**	**48**	P	**Pn**	**17 08 29.6**	**+1.6**
JHJ2	**Mitsune**	**0.92**	**48**		**Pn**	**17 08 29.3**	**+1.3**
JMKN	**Mikurajimanish**	**1.48**	**19**	P	**Pn**	**17 08 32.7**	**+1.3**
JKO	**Kozu shima**	**1.69**	**4**	P	**Pn**	**17 08 34.4**	**+1.4**
TK01	**Tokai 1**	**1.74**	**317**	P	**Pn**	**17 08 33.4**	**+0.4**
TK01				S	**S**	**17 09 05.5**	**+0.1**
TK02	**Tokai 2**	**1.79**	**324**	P	**Pn**	**17 08 34.4**	**+0.9**
TTO3	**TONANKAI O.B.S**	**1.92**	**316**	P	**Pn**	**17 08 35.4**	**+0.7**
TTO5	**TONANKAI O.B.S**	**2.06**	**329**	P	**Pn**	**17 08 36.9**	**+1.0**
TTO2	**TONANKAI O.B.S**	**2.07**	**307**	P	**Pn**	**17 08 36.4**	**+0.5**
TTO1	**TONANKAI O.B.S**	**2.18**	**302**	P	**Pn**	**17 08 37.1**	**+0.2**

JIE	**Ise**	**2.70**	**315**	P	**Pn**	**17 08 42.5**	**+0.3**
JIE				*e*S	**S**	**17 09 20.9**	**-1.0**
JFNN	**Fujinakano**	**2.71**	**354**	P	**Pn**	**17 08 43.8**	**+1.5**
BSO1	**Boso 1**	**2.71**	**37**	P	**Pn**	**17 08 42.4**	**+0.7**
BSO1				*e*S	**S**	**17 09 22.9**	**+1.8**
JOD2	**Odawara 2**	**2.76**	**1**	P	**Pn**	**17 08 43.9**	**+1.0**
JYN	**Shimob**	**3.02**	**353**	P	**Pn**	**17 08 47.1**	**+1.5**
JTNC	**Tanabenakahech**	**3.14**	**296**	P	**Pn**	**17 08 46.4**	**-0.5**
INU	**Inuyama**	**3.29**	**330**	Pn	**Pn**	**17 08 49.3**	**+0.9**
JWY	**Kouya**	**3.34**	**302**	P	**Pn**	**17 08 49.3**	**+0.2**
JWY				S	**S**	**17 09 32.6**	**-1.7**
JRY	**Ryogami san**	**3.51**	**359**	P	**Pn**	**17 08 52.5**	**+1.6**
JYTA	**Yamagatataniai**	**3.62**	**329**	*e*S	**S**	**17 09 39.5**	**-0.4**
JAG	**Ashikaga**	**3.94**	**5**	P	**Pn**	**17 08 55.5**	**-0.2**
MJAR	**Matsushiro Arr**	**4.09**	**351**	P	**Pn**	**17 08 58.2**	**+0.6**
	0.4nm,0.3s,baz=171,slow=8.6,SNR=18						
MJAR				S	**S**	**17 09 48.5**	**-1.1**
	0.2nm,0.3s,baz=131,slow=17,SNR=4.6						
JWT	**Wachi**	**4.09**	**314**	P	**Pn**	**17 08 57.9**	**+0.4**
MAJO	**Matsushiro**	**4.09**	**351**	Pn	**Pn**	**17 08 57.4**	**-0.1**
MAT	**Matsushiro**	**4.09**	**351**	P	**Pn**	**17 08 58.7**	**+1.2**
MAT				S	**S**	**17 09 47.8**	**-1.8**
MJB9	**Matsu-Tunnel**	**4.09**	**351**	Pn	**Pn**	**17 08 57.4**	**-0.2**
JCJ	**Chichijima**	**6.05**	**152**	P	**Pn**	**17 09 18.3**	**-2.9**
	16nm,0.3s,baz=14,slow=20,SNR=15						
JCJ				S	**S**	**17 10 25.7**	**-6.9**
	15nm,0.3s,baz=311,slow=19,SNR=4.0						
KSRS	**Korea Array**	**10.35**	**302**	P	**Pn**	**17 10 16.6**	**+1.7**
	0.3nm,0.3s,baz=115,slow=12,SNR=6.6						
ASAJ	**Asahikawa**	**11.94**	**13**	P	**Pn**	**17 10 35.0**	**+0.4**
	0.7nm,0.3s,baz=219,slow=9.9,SNR=9.4						
ASAJ				S	**S**	**17 12 41.9**	**-5.6**
	0.7nm,0.3s,baz=111,slow=29,SNR=5.3						
JKA	**Kamikawa-asahi**	**11.94**	**13**		**Pn**	**17 10 35.0**	**+0.4**
JKA					**S**	**17 12 41.9**	**-5.6**
USRK	**Ussuriysk Ar.**	**12.91**	**337**	P	**Pn**	**17 10 46.6**	**+0.1**
	baz=151,slow=8.3,SNR=10						
YSS	**Yuzh-Sakhalins**	**14.72**	**10**	P	**Pn**	**17 11 08.8**	**+0.3**
KLR	**Kul'dur**	**17.58**	**344**	P	**P**	**17 11 40.0**	**+0.6**
	1.3nm,0.3s,baz=169,slow=9.6,SNR=24						
SSLB	**Suanglung**	**18.12**	**246**	P	**P**	**17 11 44.9**	**-0.5**
SSLB				IAmb	IAmb	17 12 35.4	
	comp=Z,72nm,1.8s						
ULN	**Ulaanbaatar**	**28.59**	**312**	P	**P**	**17 13 25.3**	**+0.8**
ULN				IAmb	IAmb	17 14 00.9	
	comp=Z,12nm,1.9s						
SONM	**Songino Array**	**28.99**	**311**	P	**P**	**17 13 29.0**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=120,slow=10,SNR=6.9						
KSM	**Kuching**	**41.01**	**227**	P	**P**	**17 15 10.5**	**+0.2**
KSM				IAmb	IAmb	17 15 16.0	
	comp=Z,44nm,2.0s						
SOEI	**Soe**	**44.31**	**201**	P	**P**	**17 15 36.2**	**-0.6**
SOEI				IAmb	IAmb	17 16 43.3	
	comp=Z,11nm,1.0s						
MK31	**Makanchi Array**	**45.00**	**306**	P	**P**	**17 15 41.6**	**-0.2**
MKAR	**Makanchi Array**	**45.00**	**306**	P	**P**	**17 15 42.2**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=87,slow=9.8,SNR=15						
MKAR				ScP	**ScP**	**17 20 46.0**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=81,slow=6.6,SNR=2.4						
MAKZ	**Makanchi**	**45.22**	**306**	P	**P**	**17 15 43.8**	**+0.3**
MAKZ				IAmb	IAmb	17 17 02.6	
	comp=Z,11nm,1.2s						
MTN	**Manton Dam**	**45.71**	**191**	P	**P**	**17 15 48.3**	**+0.7**
MTN				IAmb	IAmb	17 17 08.1	
	comp=Z,16nm,1.4s						
KURK	**Kurchatov**	**47.30**	**311**	P	**P**	**17 15 59.4**	**-0.1**
KURK				IAmb	IAmb	17 16 01.1	
	comp=Z,18nm,1.8s						
KNRA	**Kununurra**	**48.89**	**193**	P	**P**	**17 16 11.9**	**-0.1**
KNRA				IAmb	IAmb	17 17 17.0	
	comp=Z,26nm,1.6s						
FITZ	**Fitzroy Crossi**	**51.91**	**196**	P	**P**	**17 16 34.3**	**-0.2**
FITZ				IAmb	IAmb	17 16 37.9	
	comp=Z,18nm,1.9s						
WRAB	**Tennant Creek**	**52.32**	**186**	P	**P**	**17 16 37.1**	**-0.4**
WB2	**Warramunga Arr**	**52.33**	**186**	P	**P**	**17 16 36.9**	**-0.7**
WB2				IAmb	IAmb	17 16 38.6	
	comp=Z,8.3nm,1.2s						
WRA	**Warramunga Arr**	**52.33**	**186**	P	**P**	**17 16 37.4**	**-0.2**
	comp=Z,2.0nm,0.4s,baz=0.3,slow=7.8,SNR=72						
WRA				PcP	**PcP**	**17 17 47.0**	**+2.2**
	comp=Z,0.7nm,0.4s,baz=359,slow=4.4,SNR=6.4						
WR0	**Warramunga Arr**	**52.33**	**185**	P	**P**	**17 16 37.4**	**-0.2**
WR0				IAmb	IAmb	17 16 39.2	
	comp=Z,8.8nm,1.4s						
KK31	**Karatay Array**	**53.78**	**302**	P	**P**	**17 16 48.3**	**+0.3**
KKAR	**Karatay Array**	**53.78**	**302**	P	**P**	**17 16 48.3**	**+0.3**
CHGR	**Chuyangaron**	**55.91**	**297**	P	**P**	**17 17 03.5**	**+0.2**
CHGR				IAmb	IAmb	17 17 04.1	
	comp=Z,8.9nm,0.6s						
ASAR	**Alice Springs**	**56.06**	**186**	P	**P**	**

TWC	**Suao**	**0.52**	**19**	*e*P	Pb	17 10 09.5	-0.1
	baz=20							
TWC				*e*S	Sb	17 10 16.9	-0.1
	baz=20							
ENTT	**Nioudou**	**0.53**	**350**	*e*P	Pb	17 10 10.0	+0.3
	baz=350							
ENTT				*e*S	Sb	17 10 17.2	-0.2
	baz=350							
TWE	**Neicheng**	**0.60**	**0**	*e*P	Pb	17 10 10.9	-0.1
	baz=1.0							
TWE				*e*S	Sb	17 10 20.0	+0.6
	baz=1.0							
VWDT	**VWDT**	**0.60**	**233**	*e*P	Pb	17 10 10.9	-0.1
	baz=232							
VWDT				*e*S	Sb	17 10 19.6	+0.1
	baz=232							
YHNB	**Yeheng**	**0.61**	**334**	*e*P	Pb	17 10 11.1	-0.1
	baz=334							
YHNB				*e*S	Sb	17 10 19.9	+0.1
	baz=334							
NSK	**Sanguang**	**0.62**	**333**	*e*P	Pg	17 10 11.0	+0.3
	baz=333							
NSK				*e*S	Sb	17 10 19.6	-0.5
	baz=333							
SLBB	**Yuanshan**	**0.63**	**358**	*e*P	Pb	17 10 11.5	-0.1
	baz=357							
SLBB				*e*S	Sb	17 10 20.8	+0.4
	baz=357							
HGSD	**Ruisui**	**0.66**	**199**	*e*P	Pb	17 10 11.9	-0.2
	baz=199							
HGSD				*e*S	Sb	17 10 21.7	+0.5
	baz=199							
NWLT	**Wulai**	**0.67**	**347**	*e*P	Pg	17 10 11.7	+0.1
	baz=347							
NWLT				*e*S	Sb	17 10 22.6	+1.0
	baz=347							
WHP	**Taichung City**	**0.67**	**284**	*e*P	Pb	17 10 12.4	+0.1
	baz=283							
WHP				*e*S	Sb	17 10 22.3	+0.6
	baz=283							
DPDB	**Guoxing**	**0.68**	**263**	*e*P	Pb	17 10 12.2	-0.2
	baz=262							
DPDB				*e*S	Sb	17 10 22.0	+0.2
	baz=262							
EHY	**Hungye**	**0.69**	**207**	*e*P	Pb	17 10 12.5	0.0
	baz=206							
EHY				*e*S	Sb	17 10 22.6	+0.6
	baz=206							
SSLB	**Suanglung**	**0.73**	**243**	*e*P	Pb	17 10 13.3	+0.1
	baz=242							
SSLB				*e*S	Sb	17 10 23.6	+0.4
	baz=242							
LIOB	**Emei**	**0.79**	**312**	*e*P	Pb	17 10 14.4	+0.1
	baz=311							
LIOB				*e*S	Sb	17 10 25.8	+0.8
	baz=311							
NSTT	**Nanjuang**	**0.79**	**310**	*e*P	Pb	17 10 14.1	-0.2
	baz=310							
NSTT				*e*S	Sb	17 10 25.6	+0.6
	baz=310							
YULB	**Yu-li**	**0.80**	**205**	*e*P	Pb	17 10 14.6	+0.2
	baz=204							
YULB				*e*S	Sb	17 10 25.8	+0.6
	baz=204							
TWF1	**Yuli**	**0.83**	**204**	*e*P	Pg	17 10 14.9	+0.1
	baz=203							
TWF1				*e*S	Sb	17 10 26.8	+0.5
	baz=203							
TWQ1	**Liyutan**	**0.84**	**286**	*e*P	Pb	17 10 15.4	+0.2
	baz=285							
TWQ1				*e*S	Sb	17 10 27.1	+0.5
	baz=285							
TIPB	**Shuangxi**	**0.86**	**10**	*e*P	Pb	17 10 15.6	+0.1
	baz=9.0							
TIPB				*e*S	Sb	17 10 27.8	+0.8
	baz=9.0							
FULB	**Fuli**	**0.98**	**200**	*e*P	Pg	17 10 17.4	-0.1
	baz=200							
FULB				*e*S	Sn	17 10 31.3	-0.7
	baz=200							
YM01	**YM01**	**1.02**	**355**	*e*P	Pb	17 10 18.2	-0.1
	baz=355							
YM01				*e*S	Sb	17 10 32.2	+0.4
	baz=355							
YM10	**YM10**	**1.03**	**355**	*e*P	Pb	17 10 18.5	0.0
	baz=354							
YM10				*e*S	Sn	17 10 32.9	-0.6
	baz=354							
YM05	**YM05**	**1.04**	**355**	*e*P	Pb	17 10 18.6	0.0
	baz=355							
YM05				*e*S	Sn	17 10 33.4	-0.3
	baz=355							

TAP 09 17:10:05.0,24.15N×121.68E,h11km,ML2.3,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.08**	**286**	P	Pg	17 10 08.2	+0.8
	baz=286						
NACB				S	Sg	17 10 10.1	+0.8
	baz=286						
TWD	**Chiawan**	**0.10**	**228**	P	Pg	17 10 08.1	+0.3
	baz=225						
TWD				*e*S	Sg	17 10 09.8	+0.2
	baz=225						
HWA	**Hwalien**	**0.19**	**202**	*e*P	Pb	17 10 09.8	-0.7
	baz=199						
HWA				*e*S	Sg	17 10 13.3	+1.5
	baz=199						
ETLH	**Xiulin Townshi**	**0.19**	**287**	*e*P	Pb	17 10 10.1	-0.5
	baz=287						
ETLH				*e*S	Sg	17 10 13.6	+1.6
	baz=287						
ENLB	**Shoufeng**	**0.26**	**196**	*e*P	Pb	17 10 11.2	-0.5
	baz=196						
ENLB				*e*S	Sb	17 10 15.5	-0.6
	baz=196						
ENA	**Nanau**	**0.28**	**11**	*e*P	Pb	17 10 11.7	-0.4
	baz=12						
ENA				*e*S	Sb	17 10 16.4	-0.5
	baz=12						
NANB	**Nanao**	**0.28**	**13**	*e*P	Pb	17 10 11.6	-0.5
	baz=12						
NANB				*e*S	Sb	17 10 16.3	-0.6
	baz=12						
WHF	**Hehuan Shan**	**0.38**	**269**	*e*P	Pb	17 10 13.3	-0.7
	baz=268						
WHF				*e*S	Sg	17 10 18.9	+1.1
	baz=268						
NNSH	**Datong**	**0.39**	**315**	*e*P	Pb	17 10 13.5	-0.5
	baz=315						
NNSH				*e*S	Sb	17 10 19.7	-0.3
	baz=315						
NNSH	**Datong**	**0.39**	**315**	*e*S	Pb	17 10 13.5	-0.5
	baz=320						
NNS	**Nan Shan**	**0.40**	**316**	*e*P	Pb	17 10 14.0	-0.2
	baz=316						
NNS				*e*S	Sb	17 10 20.0	-0.5
	baz=316						
NNS	**Nan Shan**	**0.40**	**316**	*e*S	Pb	17 10 13.9	-0.3
	baz=320						
ESL	**Shilin**	**0.41**	**214**	*e*P	Pb	17 10 14.0	-0.2
	baz=212						
ESL				*e*S	Sb	17 10 20.8	+0.5
	baz=212						
CHGB	**Renai**	**0.47**	**259**	*e*P	Pb	17 10 15.3	-0.2
	baz=259						
CHGB				*e*S	Sb	17 10 22.1	-0.4
	baz=259						
CHGB	**Renai**	**0.47**	**259**	*e*S	Pb	17 10 15.3	-0.2
	baz=262						
TWT	**Tachien**	**0.47**	**283**	*e*P	Pb	17 10 15.4	0.0
	baz=281						
TWT				*e*S	Sb	17 10 22.9	+0.4
	baz=281						
NDT	**Datong Townshi**	**0.47**	**341**	P	Pb	17 10 15.0	-0.4
	baz=341						
NDT				S	Sb	17 10 22.9	+0.5
	baz=341						
TWC	**Suao**	**0.48**	**19**	*e*P	Pb	17 10 15.2	-0.3
	baz=19						
TWC				*e*S	Sb	17 10 22.9	+0.3
	baz=19						
TDCB	**Techi**	**0.49**	**282**	*e*P	Pb	17 10 15.4	-0.3
	baz=281						
TDCB				*e*S	Sb	17 10 23.0	+0.1
	baz=281						
ENTT	**Nioudou**	**0.50**	**348**	*e*P	Pb	17 10 15.6	-0.2
	baz=348						
ENTT				*e*S	Sb	17 10 23.3	+0.2
	baz=348						
EGFH	**Guangfu**	**0.53**	**206**	*e*P	Pb	17 10 16.2	-0.2
	baz=205						
EGFH				*e*S	Sb	17 10 24.6	+0.6
	baz=205						
TWE	**Neicheng**	**0.57**	**359**	*e*P	Pb	17 10 16.7	-0.3
TWE				*e*S	Sb	17 10 25.5	+0.4
EOS1	**EOS1**	**0.57**	**46**	*e*P	Pb	17 10 16.6	-0.3
	baz=45						
EOS1				*e*S	Sb	17 10 25.6	+0.5
	baz=45						
YHNB	**Yeheng**	**0.59**	**332**	*e*P	Pb	17 10 18.1	+0.7
	baz=331						
YHNB				*e*S	Sb	17 10 25.4	-0.3
	baz=331						
NSK	**Sanguang**	**0.60**	**331**	*e*P	Pb	17 10 18.5	+0.9
	baz=331						
NSK				*e*S	Sb	17 10 26.4	+0.3
	baz=331						
SLBB	**Yuanshan**	**0.60**	**356**	*e*P	Pb	17 10 17.5	-0.1
	baz=356						
SLBB				*e*S	Sb	17 10 26.4	+0.3
	baz=356						
ILA	**Ilan**	**0.61**	**6**	*e*P	Pb	17 10 17.5	-0.3
	baz=6.0						
ILA				*e*S	Sb	17 10 27.0	+0.6
	baz=6.0						
VWDT	**VWDT**	**0.63**	**231**	*e*P	Pb	17 10 17.7	-0.3
	baz=231						
VWDT				*e*S	Sb	17 10 26.7	-0.2
	baz=231						
NWLT	**Wulai**	**0.64**	**345**	*e*P	Pb	17 10 18.0	-0.3
	baz=345						
NWLT				*e*S	Sb	17 10 27.9	+0.6
	baz=345						
WHP	**Taichung City**	**0.68**	**281**	*e*P	Pb	17 10 18.9	-0.1
	baz=280						
WHP				*e*S	Sb	17 10 29.4	+1.0
	baz=280						
HGSD	**Ruisui**	**0.70**	**200**	*e*P	Pb	17 10 19.3	+0.1
	baz=199						
HGSD				*e*S	Sb	17 10 29.7	+0.9
	baz=199						
DPDB	**Guoxing**	**0.70**	**261**	*e*P	Pb	17 10 19.2	0.0
	baz=260						
DPDB				*e*S	Sb	17 10 29.1	+0.2
	baz=260						
EHY	**Hungye**	**0.72**	**207**	*e*P	Pb	17 10 19.5	-0.1
	baz=206						
EHY				*e*S	Sb	17 10 30.1	+0.7
	baz=206						
SSLB	**Suanglung**	**0.76**	**242**	*e*P	Pb	17 10 20.2	-0.1
	baz=241						
SSLB				*e*S	Sg	17 10 29.5	0.0
	baz=241						
LIOB	**Emei**	**0.78**	**309**	*e*P	Pb	17 10 20.6	0.0
	baz=309						
LIOB				*e*S	Sb	17 10 32.2	+0.9
	baz=309						
NSTT	**Nanjuang**	**0.78**	**308**	*e*P	Pg	17 10 20.2	+0.1
	baz=307						
NSTT				*e*S	Sb	17 10 32.0	+0.8
	baz=307						
TYC	**Yuchr**	**0.79**	**252**	*e*P	Pb	17 10 20.6	-0.2
	baz=251						
TYC				*e*S	Sb	17 10 31.9	+0.4
	baz=251						
WLTB	**Daxi**	**0.80**	**331**	*e*P	Pb	17 10 20.7	-0.2
	baz=330						
WLTB				*e*S	Sb	17 10 32.1	+0.3
	baz=330						
NHDH	**Xindian Distri**	**0.82**	**350**	*e*P	Pb	17 10 21.1	-0.2
	baz=350						
NHDH				*e*S	Sb	17 10 33.4	+1.0
	baz=350						
TIPB	**Shuangxi**	**0.83**	**9**	*e*P	Pb	17 10 21.4	-0.1
	baz=9.0						
TIPB				*e*S	Sb	17 10 33.1	+0.5
	baz=9.0						
TWA	**Mucha**	**0.83**	**354**	*e*P	Pb	17 10 21.3	-0.1
	baz=354						
TWA				*e*S	Sb	17 10 33.4	+0.8
	baz=354						
YULB	**Yu-li**	**0.83**	**205**	*e*P	Pb	17 10 21.8	+0.3
	baz=204						
YULB				*e*S	Sb	17 10 33.8	+1.1
	baz=204						
TATO	**Taipei**	**0.84**	**348**	*e*P	Pb	17 10 21.6	0.0
	baz=348						
TATO				*e*S	Sb	17 10 34.0	+1.0
	baz=348						
WHYT	**Xinyi Township**	**0.88**	**239**	*e*P	Pg	17 10 22.0	0.0
	baz=239						
WHYT				*e*S	Sb	17 10 35.1	+0.9
	baz=239						
WJS	**Zhushan**	**0.93**	**250**	*e*P	Pg	17 10 22.8	-0.1
	baz=249						
WJS				*e*S	Sb	17 10 36.5	+0.9
	baz=249						
FULB	**Fuli**	**1.01**	**201**	*e*P	Pn	17 10 25.0	-0.2
FULB				*e*S	Sn	17 10 39.4	-0.1
	baz=200						
YM05	**YM05**	**1.01**	**354**	*e*P	Pg	17 10 24.4	-0.2
	baz=354						
YM05				*e*S	Sn	17 10 38.9	-0.6
	baz=354						
YM11	**YM11**	**1.01**	**355**	*e*P	Pg	17 10 23.8	-0.7
	baz=354						
YM11				*e*S	Sb	17 10 38.7	+0.7
	baz=354						
CHN5	**Tsauling**	**1.07**	**239**	*e*P	Pg	17 10 25.7	+0.1
	baz=239						
CHN5				*e*S	Sn	17 10 41.0	0.0
	baz=239						
WGK	**Gukeng**	**1.12**	**246**	*e*P	Pg	17 10 26.6	0.0
	baz=245						
WGK				*e*S	Sn	17 10 41.9	-0.2
	baz=245						
ELDTW	**Lidau**	**1.14**	**213**	*e*P	Pn	17 10 26.9	-0.1
	baz=212						
ELDTW				*e*S	Sn	17 10 42.6	+0.1
	baz=212						
RLNB	**Erlin**	**1.24**	**258**	*e*P	Pb	17 10 28.4	0.0
	baz=257						
RLNB				*e*S	Sb	17 10 44.4	+0.1
	baz=257						
CHN4	**Tsaushan**	**1.28**	**232**	*e*P	Pb	17 10 29.1	0.0
	baz=231						
CHN4				*e*S	Sg	17 10 46.6	+0.5
	baz=231						
TPUB	**Ta-pu**	**1.28**	**229**	*e*P	Pb	17 10 29.2	0.0
	baz=228						
TPUB				*e*S	Sg	17 10 46.5	+0.2
	baz=228						
STYT	**Tauyuan**	**1.30**	**221**	*e*P	Pn	17 10 29.1	0.0
	baz=220						
STYT				*e*S	Sg	17 10 47.4	+0.6
	baz=220						

IDC 09 17:16:39.6±3.0,17.93S×69.44W,h80km±25km,mb3.4/2, mb1 3.4/5,mb1mx3.2/30,mbtmp3.5/5,Error ellipse: s-maj=50.3km s-min=27.6km az=106.0,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.06**	**38**	P	Pn	17 17 13.2	+0.3
	0.9nm,0.3s,baz=213,slow=10,SNR=29						
LPAZ				S	Sn	17 17 46.6	+8.4
	0.8nm,0.3s,baz=213,slow=25,SNR=4.2						
LVC	**Limon Verde**	**4.68**	**174**	P	Pn	17 17 48.1	0.0
	0.7nm,0.3s,baz=345,slow=9.7,SNR=9.4						
LVC				S	Sn	17 18 48.1	+6.7
	0.3nm,0.3s,baz=250,slow=15,SNR=2.8						
SIV	**San Ignacio**	**8.24**	**78**	P	Pn	17 18 35.8	-0.7
	0.2nm,0.3s,baz=273,slow=18,SNR=3.2						
TORD	**Torodi Ar. Bea**	**76.66**	**71**	P	P	17 28 22.6	+0.3
	0.8nm,0.9s,baz=250,slow=6.0,SNR=3.7						
YKA	**Yellowknife Ar**	**87.67**	**341**	P	P	17 29 18.5	-0.2
	0.2nm,0.5s,baz=134,slow=4.8,SNR=5.5						

*NNC **09** 17:40:28.2±2.2,36.65N×70.23E,h0km,mb5.3,mpv5.2, Error ellipse: s-maj=22.5km s-min=11.3km az=159.0*

*BJI **09** 17:40:30.1±0.0,36.42N×70.50E,h135km,mb4.9/52, mB4.9/34*

*ISCJB **09** 17:40:30.5±0.3,36.27N±0.02×70.59E±0.02,h142km±2km, mb4.8/98,Error ellipse: s-maj=3.5km s-min=2.5km az=146.6*

*MOS **09** 17:40:31.1±1.0,36.31N×70.62E,h147km,mb4.6/23,Error ellipse: s-maj=5.7km s-min=4.0km az=94.6*

*IDC **09** 17:40:32.2±0.6,36.21N×70.57E,h146km±4km,mb4.2/31, mb1 4.2/36,mb1mx4.0/61,mbtmp4.6/36,MS3.0/3, Ms1 3.0/3,ms1mx2.4/35,Error ellipse: s-maj=10.9km s-min=7.9km az=7.0*

*NEIC **09** 17:40:32.0±1.6,36.29N±0.05×70.52E±0.07,h144km±5km, mb4.8/111*

ISC 09 17:40:31.4±0.4,36.29N±0.03×70.56E±0.03,h138km±3km, h137km:pP-P,n361,σ1962/397,mb4.7/137,21C-27D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.14**	**216**	PN	**Pn**	**17 41 08.8**	**+1.1**
KBL	**Kabul**	**2.14**	**216**		**Pn**	**17 41 08.8**	**+1.1**
CHGR	**Chuyangaron**	**2.62**	**335**		**Pn**	**17 41 13.8**	**+0.3**
CEP	**Cherat**	**2.69**	**155**	P	**Pn**	**17 41 16.2**	**+1.6**
CEP				S	**Sn**	**17 41 49.0**	**+1.2**
GAR	**Garm**	**2.72**	**356**		**Pn**	**17 41 15.7**	**+0.9**
CHCP	**Chirah Chowk**	**3.43**	**139**	P	**Pn**	**17 41 25.7**	**+1.7**
NIL	**Nilore**	**3.43**	**139**	PN	**Pn**	**17 41 25.8**	**+1.8**
NIL	**Nilore**	**3.43**	**139**		**Pn**	**17 41 25.8**	**+1.8**
THW	**Thamme Wali**	**3.62**	**164**	P	**Pn**	**17 41 27.6**	**+1.2**
BTK	**Batken**	**3.77**	**3**	PN	**Pn**	**17 41 29.7**	**+1.3**
BTK	**Batken**	**3.77**	**3**		**Pn**	**17 41 29.7**	**+1.3**
SARP	**Sargodha**	**4.69**	**157**	P	**Pn**	**17 41 40.7**	**+0.2**
JMU	**Jammu**	**5.05**	**134**	*e*P	**Pn**	**17 41 42.0**	**-3.3**
JMU				*e*S	**Sn**	**17 42 36.0**	**-6.8**
TAS	**Tashkent**	**5.13**	**349**	PN	**Pn**	**17 41 46.8**	**+0.5**
TAS	**Tashkent**	**5.13**	**349**		**Pn**	**17 41 46.8**	**+0.5**
ARSB	**Arslanbob**	**5.38**	**20**		**Pn**	**17 41 49.3**	**-0.5**
DHRM	**DHARAMSHALA**	**6.23**	**129**	*e*P	**Pn**	**17 42 00.9**	**-0.3**
DHRM				*e*S	**Sn**	**17 43 09.1**	**-2.3**
AML	**Almayashu**	**6.32**	**22**	P	**Pn**	**17 42 02.8**	**+0.2**
	SNR=368						
NRN	**Naryn**	**6.67**	**38**	PN	**Pn**	**17 42 06.5**	**-0.7**
NRN	**Naryn**	**6.67**	**38**		**Pn**	**17 42 06.5**	**-0.7**
UCH	**Uchtor**	**6.68**	**26**	P	**Pn**	**17 42 07.7**	**+0.2**
	SNR=170						
KK31	**Karatay Array**	**6.81**	**360**	*i* PN	**Pn**	**17 42 08.7**	**-0.1**
KK31				pmax	pmax		
	comp=Z,185nm,0.5s						
KK31	**Karatay Array**	**6.81**	**360**		**Pn**	**17 42 08.8**	**0.0**
KK31	**Karatay Array**	**6.81**	**360**	⇓P	**Pn**	**17 42 05.7**	**-3.1**
	comp=Z,185nm,0.5s,baz=184,slow=13,SNR=2736						
KK31				⇑S	**Sn**	**17 43 21.8**	**-3.2**
	comp=Z,151nm,0.6s,baz=194,slow=23,SNR=4.9						
KKAR	**Karatay Array**	**6.81**	**360**	PN	**Pn**	**17 42 08.8**	**0.0**
KKAR	**Karatay Array**	**6.81**	**360**		**Pn**	**17 42 08.8**	**0.0**
KZA	**Kyzart**	**6.83**	**31**	P	**Pn**	**17 42 09.4**	**-0.2**
	SNR=69						
EKS2	**Erkin-Say**	**6.84**	**20**	P	**Pn**	**17 42 09.7**	**+0.4**
	SNR=150						
AAK	**Ala-Archa**	**7.04**	**24**	*d i* PN	**Pn**	**17 42 12.1**	**+0.1**
AAK				pmax	pmax		
	comp=Z,123nm,0.4s						
AAK	**Ala-Archa**	**7.04**	**24**	P	**Pn**	**17 42 12.4**	**+0.4**
	comp=Z,47nm,0.3s,baz=178,slow=6.1,SNR=1027						
AAK				S	**Sn**	**17 43 29.2**	**-1.4**
	comp=Z,34nm,0.3s,baz=317,slow=23,SNR=26						
AAK	**Ala-Archa**	**7.04**	**24**	P	**Pn**	**17 42 12.4**	**+0.4**
	SNR=289						
AAK	**Ala-Archa**	**7.04**	**24**		**Pn**	**17 42 12.7**	**+0.8**
AAK	**Ala-Archa**	**7.04**	**24**	⇓P	**Pn**	**17 42 12.3**	**+0.3**
	comp=Z,123nm,0.5s						
AAK				⇓S	**Sn**	**17 43 28.6**	**-2.0**
	comp=Z,522nm,0.8s						
HRA	**Herat**	**7.06**	**257**		**Pn**	**17 42 12.8**	**+0.5**
KBK	**Karagaybulak**	**7.21**	**27**	P	**Pn**	**17 42 14.9**	**+0.6**
	SNR=119						
FRU1	**Bishkek**	**7.23**	**24**	PN	**Pn**	**17 42 15.3**	**+0.8**
FRU1	**Bishkek**	**7.23**	**24**		**Pn**	**17 42 15.3**	**+0.8**
ULHL	**Ulahol**	**7.40**	**35**	P	**Pn**	**17 42 17.7**	**+0.7**
	SNR=8.1						
CHMS	**Chumysh**	**7.44**	**24**	P	**Pn**	**17 42 17.6**	**+0.2**
	SNR=52						
SMLA	**Simla**	**7.53**	**131**	*e*P	**Pn**	**17 42 17.4**	**-1.1**
SMLA				*e*S	**Sn**	**17 43 39.6**	**-2.9**
USP	**Ospenovka**	**7.60**	**22**	P	**Pn**	**17 42 20.2**	**+0.7**
	SNR=57						
TKM2	**Tokmak 2**	**7.68**	**29**	*i* PN	**Pn**	**17 42 20.8**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,46nm,0.5s						
TKM2	**Tokmak 2**	**7.68**	**29**	P	**Pn**	**17 42 20.9**	**+0.2**
	SNR=23						
TKM2	**Tokmak 2**	**7.68**	**29**	⇓P	**Pn**	**17 42 20.7**	**+0.1**
	comp=Z,46nm,0.5s						
TKM2				⇑S	**Sn**	**17 43 43.9**	**-2.4**
	comp=Z,214nm,0.9s						
KDJ	**Kajisay**	**7.77**	**39**	PN	**Pn**	**17 42 21.9**	**0.0**
KDJ	**Kajisay**	**7.77**	**39**		**Pn**	**17 42 21.9**	**0.0**
TARG	**Taragay, Kyrgy**	**7.83**	**44**		**Pn**	**17 42 23.0**	**+0.1**
MDOK	**Medeo**	**8.49**	**34**	⇓P	**Pn**	**17 42 31.5**	**0.0**
	comp=Z,59nm,0.6s						
MDOK				S	**Sn**	**17 44 04.2**	**-1.6**
	comp=Z,165nm,1.3s						
KNDC	**Almaty**	**8.50**	**33**	⇓P	**Pn**	**17 42 32.0**	**+0.5**
	comp=Z,78nm,0.7s						
KNDC				⇑S	**Sn**	**17 44 08.1**	**+2.3**
	comp=Z,265nm,1.4s						
DDI	**Dehra Dun**	**8.64**	**131**	*e*P	**Pn**	**17 42 33.3**	**-0.2**
DDI				*e*S	**Sn**	**17 44 03.6**	**-5.8**
PRZ	**Przheval'sk**	**8.67**	**42**	PN	**Pn**	**17 42 34.4**	**+0.5**
PRZ	**Przheval'sk**	**8.67**	**42**		**Pn**	**17 42 34.4**	**+0.5**
NDI	**New Delhi**	**9.43**	**142**	*e*P	**Pn**	**17 42 41.0**	**-3.1**
NDI				*ex*	x	17 44 19.0	
PDGK	**Podgornoye**	**9.83**	**42**	P	**Pn**	**17 42 48.4**	**-0.9**
PDGK				pmax	pmax		
	comp=Z,38nm,0.7s						
PDGK	**Podgornoye**	**9.83**	**42**	⇑P	**Pn**	**17 42 48.4**	**-0.9**
	comp=Z,38nm,0.7s						
PDGK				⇑S	**Sn**	**17 44 40.7**	**+2.6**
	comp=Z,62nm,1.0s						
GEYT	**Alibeck**	**10.07**	**283**	P	**Pn**	**17 42 50.8**	**-1.8**
	comp=Z,4.1nm,0.3s,baz=102,slow=12,SNR=48						
GEYT				S	**Sn**	**17 44 39.6**	**-4.3**
	comp=Z,9.5nm,0.3s,baz=128,slow=16,SNR=10						
GYA0B	**ALIBECK ARRAY**	**10.07**	**283**		**Pn**	**17 42 50.7**	**-1.9**
GYA0B	**ALIBECK ARRAY**	**10.07**	**283**	⇓P	**Pn**	**17 42 50.4**	**-2.2**
GYA0B				⇑S	**Sn**	**17 44 38.1**	**-5.8**
LGTI	**Lohaghat**	**10.62**	**127**	*ex*	**Pn**	**17 42 55.4**	**-4.4**
LGTI				*e*S	Sn	17 44 47.2	-10
BHUJ	**Bhuj**	**13.01**	**184**	*e*P	**Pn**	**17 43 29.6**	**-1.6**
BHUJ				IAmb	IAmb	17 43 30.1	
	comp=Z,100nm,0.6s						
MAKZ	**Makanchi**	**13.53**	**36**	P	**Pn**	**17 43 36.8**	**-1.0**
MAKZ				pmax	pmax		
	comp=Z,52nm,0.6s						
MAKZ	**Makanchi**	**13.53**	**36**		**Pn**	**17 43 37.0**	**-0.8**
MAKZ	**Makanchi**	**13.53**	**36**	⇑P	**Pn**	**17 43 36.7**	**-1.1**
	comp=Z,52nm,0.6s						
DANN	**Dangsing**	**13.67**	**122**	*e*P	**Pn**	**17 43 37.7**	**-2.2**
	comp=Z,202nm,0.4s						
MK31	**Makanchi Array**	**13.67**	**36**	P	**Pn**	**17 43 38.8**	**-0.7**
MK31				pmax	pmax		
	comp=Z,27nm,0.7s						
MK31	**Makanchi Array**	**13.67**	**36**		**Pn**	**17 43 39.0**	**-0.5**
MK31	**Makanchi Array**	**13.67**	**36**	P	**Pn**	**17 43 38.6**	**-0.9**
	comp=Z,13nm,0.5s,baz=223,slow=14,SNR=213						
MKAR	**Makanchi Array**	**13.67**	**36**	*i* P	**Pn**	**17 43 39.0**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**13.67**	**36**	P	**Pn**	**17 43 39.0**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=215,slow=14,SNR=28						
KOLN	**Koldanda**	**13.93**	**124**	*e*P	**Pn**	**17 43 40.4**	**-2.8**
	comp=Z,78nm,0.4s						
BHPL	**Bhopal**	**14.29**

AB31 Akbulak array 15.11 332 ⇓P **Pn 17 43 55.9 -1.6**
comp=Z,31nm,0.3s
AB31 ⇓S **Sn 17 46 38.9 -6.0**
comp=Z,31nm,0.6s,baz=147,slow=24,SNR=7.2
ABKAR Akbulak array 15.11 332 Pn 17 43 56.0 -1.6
WMQ Urumqi 15.11 55 *eP* **Pn 17 43 58.6 +0.9**
WMQ pmax pmax
comp=Z,29nm,0.9s
WMQ pmax pmax
comp=Z,140nm,3.9s
WMQ Urumqi 15.11 55 P **Pn 17 43 57.9 +0.2**
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ Urumqi 15.11 55 Pn 17 43 57.9 +0.2
WMQ IAmb IAmb 17 43 58.9
comp=Z,20nm,0.7s
PKIN Phulchoki 15.28 120 *eP* **Pn 17 43 57.8 -2.4**
PKI Pulchoki 15.30 120 *eP* **Pn 17 43 58.0 -2.4**
JBP Jabalpur 15.41 145⇑*eP* **Pn 17 44 01.0 -0.5**
JBP AMB AMB 17 44 03.4
comp=Z,39nm,3.9s
JBP *ex* x 17 46 38.5
GUN Gumba 15.42 118 *eP* **Pn 17 44 00.5 -1.5**
KURBB Kurchatov Arra 15.44 19 P **Pn 17 43 59.4 -2.2**
comp=Z,0.3nm,0.3s,baz=209,slow=10,SNR=18
KURBB S **S 17 46 57.3 -0.3**
baz=192,slow=21,SNR=4.5
KURBB Kurchatov Arra 15.44 19⇑P **P 17 44 04.0 +0.9**
comp=Z,12nm,0.5s
KURK Kurchatov 15.55 19*c i* P **Pn 17 44 01.0 -2.0**
KURK pmax pmax
comp=Z,8.0nm,0.6s
KURK Kurchatov 15.55 19 P **Pn 17 44 01.0 -2.0**
KURK Kurchatov 15.55 19⇑P **P 17 44 05.8 +1.5**
comp=Z,8.4nm,0.6s
JIRN Jiri 15.79 119 *eP* **Pn 17 44 05.1 -1.5**
RAMN Ramite 16.51 120 *eP* **Pn 17 44 13.5 -1.8**
WSAR Wadi Sarin 16.60 222 P **P 17 44 17.5 +1.2**
comp=Z,0.6nm,0.3s,baz=90,slow=8.8,SNR=9.5
UOSS Minazif 16.73 231 P 17 44 15.8 -1.7
BVAR Borovoye Array 16.74 360 P **P 17 44 16.6 -0.9**
comp=Z,5.6nm,0.3s,baz=172,slow=13,SNR=78
BVAR S **Sn 17 47 18.2 -5.8**
comp=Z,1.5nm,0.3s,baz=170,slow=26,SNR=4.9
BRVK Borovoye 16.77 359 P **P 17 44 16.6 -1.2**
BRVK pmax pmax
comp=Z,45nm,1.0s
BRVK Borovoye 16.77 359 P **P 17 44 17.0 -0.9**
BRVK IAmb IAmb 17 44 19.6
comp=Z,36nm,0.8s
BRVK Borovoye 16.77 359⇑P **Pn 17 44 18.2 +0.2**
comp=Z,45nm,1.0s
AKTO Aktyubinsk 16.79 331 P **Pn 17 44 18.2 -0.1**
comp=Z,9.8nm,0.3s,baz=140,slow=13,SNR=254
AKTO S **Sn 17 47 15.3 -10**
comp=Z,1.7nm,0.3s,baz=212,slow=23,SNR=6.7
AKTO LR LR 17 51 57.7
comp=Z,24nm,19.6s,baz=188,slow=41
AKTO Aktyubinsk 16.79 331⇑P **Pn 17 44 18.2 -0.1**
comp=Z,136nm,0.9s
AKTO ⇓S **Sn 17 47 22.7 -2.8**
comp=Z,82nm,1.0s
NGP Nagpur 16.80 152 *eP* **Pn 17 44 19.6 +1.0**
NGP *ex* x 17 47 14.9
TAPN Taplejung 17.06 117 *eP* **P 17 44 21.5 -0.1**
comp=Z,284nm,0.7s
ODAN Odare 17.12 119 *eP* **P 17 44 21.8 -0.4**
comp=Z,221nm,0.8s
GTK Tadong 17.73 115 *eP* **Pn 17 44 30.5 +0.7**
GTK IAmb IAmb 17 44 34.4
comp=Z,21nm,0.6s
POO Poona 17.92 170 *ex* **Pn 17 44 32.5 +0.4**
BOK Bokaro 18.16 129 *eP* **P 17 44 34.0 +0.6**
BOK IAmb IAmb 17 44 38.9
comp=Z,21nm,0.5s
BOK *ex* x 17 47 37.0
LSA Lhasa 18.46 105 P **Pn 17 44 39.5 +0.7**
LSA pmax pmax
comp=Z,50nm,0.7s
LSA Lhasa 18.46 105 Pn 17 44 39.5 +0.7
LSA IAmb IAmb 17 44 41.6
comp=Z,50nm,0.7s
AKT Akhty 18.50 293 *eP* **P 17 44 37.8 +0.8**
AKT *eS* **S 17 48 00.2 -0.7**
AKT pmax pmax
comp=Z,13nm,0.5s
AKT smax smax
comp=N,21nm,0.6s
AKT smax smax
comp=E,9.0nm,0.4s
AKT MLR MLR
comp=Z,692nm,14.0s
SEKA Sheki 18.86 292 P **Pn 17 44 42.4 -0.6**
KAD Karad 19.17 169 *ex* **Pn 17 44 47.4 +0.6**
GNBR Gunib 19.21 296⇑*eP* **Pn 17 44 46.7 -0.4**
GANJ Ganja 19.45 290 P **P 17 44 47.9 +0.6**
NAX Nakhchivan 20.02 286 P Pn 17 44 55.9 -0.7
HYB Hyderabad 20.08 157 *i* P **P 17 44 55.0 +0.7**
HYB *e* 17 48 30.0
HYB Hyderabad 20.08 157 *eP* **P 17 44 55.2 +1.0**
HYB IAmb IAmb 17 45 02.7
comp=Z,13nm,0.6s
GROC Groznyy 20.21 298 *eP* **P 17 44 55.6 +0.2**
GROC *e**PP **pP 17 45 20.7 +0.5**
GROC *eS* **S 17 48 37.5 +2.9**
GROC pmax pmax
comp=Z,51nm,0.8s
ZAA0 Zalesovo Array 20.26 25 P **P 17 44 55.7 -0.1**
ZALV Zalesovo Beam 20.26 25 P **P 17 44 56.0 +0.3**
comp=Z,95nm,0.5s,baz=224,slow=11,SNR=458
ZALV S **S 17 48 31.1 -4.1**
comp=Z,4.0nm,0.7s,baz=216,slow=20,SNR=5.1
GNI Garni 20.62 289*de*P Pn 17 45 03.0 -0.8
GNI pmax pmax
comp=Z,172nm,0.9s
GNI Garni 20.62 289 P Pn 17 45 02.5 -1.3
comp=Z,39nm,0.8s,baz=326,slow=0.9,SNR=25
GNI Garni 20.62 289 P **P 17 45 00.6 +0.6**
GNI IAmb IAmb 17 45 08.8
comp=Z,58nm,0.9s
TBLG Delisi 20.75 293 P **P 17 45 00.3 -0.9**
TBLG pmax pmax
comp=Z,105nm,1.5s
TBLG Delisi 20.75 293 P **P 17 45 00.3 -0.9**
TBLG IAmb IAmb 17 45 07.7
comp=Z,105nm,1.5s
SHL Shillong 21.14 114 P **P 17 45 05.5 -0.2**
SHL pmax pmax
comp=Z,116nm,0.8s
SHL Shillong 21.14 114 *eP* **P 17 45 07.0 +1.3**
SHL *i* x x 17 48 50.0
SHL Shillong 21.14 114 P **P 17 45 05.5 -0.2**
ZEI Tsey 21.51 296 *eP* **P 17 45 11.7 +2.1**
ZEI pmax pmax
comp=Z,16nm,0.7s
SVE Sverdlovsk 21.61 345⇓*i* P **P 17 45 11.1 +0.9**
SVE *eS* **S 17 49 09.7 +9.0**
SVE pmax pmax
comp=Z,31nm,0.7s
ARU Arti 21.72 342*d i* P **P 17 45 11.6 +0.2**
ARU 17 45 47.1
ARU S **S 17 49 02.9 +0.2**
ARU *SS **sS 17 49 46.6 -1.2**
ARU pmax pmax
comp=Z,28nm,0.9s
ARU Arti 21.72 342 P **P 17 45 12.2 +0.8**
comp=Z,6.6nm,0.6s,baz=145,slow=4.6,SNR=38
ARU S **S 17 49 12.0 +9.3**
comp=Z,2.7nm,0.4s,baz=162,slow=19,SNR=4.5
ARU LR LR 17 54 06.4
comp=Z,84nm,19.9s,baz=110,slow=37
ARU Arti 21.72 342 P **P 17 45 12.3 +0.9**
ARU IAmb IAmb 17 45 30.3
comp=Z,29nm,0.6s
NCK Nalchik 21.85 298⇑*i* P **P 17 45 14.6 +1.7**
NCK pmax pmax
comp=Z,14nm,0.8s
PYA1 Pyatigorsk 22.31 299 P **P 17 45 18.7 +1.2**
KBZ Khabaz 22.39 298*ce*P **P 17 45 19.1 +0.9**
KBZ Khabaz 22.39 298 P **P 17 45 18.0 -0.3**
comp=Z,6.2nm,0.8s,baz=132,slow=2.7,SNR=11
KBZ S Sn 17 49 31.3 -7.6
comp=Z,8.9nm,1.0s,baz=112,slow=10,SNR=3.9
NEY Neytrino 22.43 297*de*P **P 17 45 22.1 +3.1**
NEY pmax pmax
comp=Z,4.0nm,1.0s
KVAR Kislovodsk Arr 22.57 298 P **P 17 45 19.6 -0.6**
comp=Z,2.1nm,0.4s,baz=102,slow=20,SNR=3.3
KVAR S Sn 17 49 31.5 -12
comp=Z,25nm,0.9s,baz=180,slow=19,SNR=8.1
KIV Kislovodsk 22.58 298 *eP* **P 17 45 22.0 +1.8**
KIV *e**PP **pP 17 45 48.9 +2.9**
KIV *eS* **S 17 49 20.5 +3.1**
KIV pmax pmax
comp=Z,35nm,1.1s
KIV MLR MLR
comp=Z,62nm,14.0s
KIV Kislovodsk 22.58 298 P **P 17 45 20.8 +0.5**
KIV IAmb IAmb 17 45 54.5
comp=Z,17nm,0.7s
GTA Gaotai 23.27 73⇑P **P 17 45 28.3 +1.5**
GTA pP pP 17 45 57.6 +2.8
GTA sP sP 17 46 14.0 +1.4
GTA pmax pmax
comp=Z,45nm,0.8s
RAYN Ar Rayn 25.09 246 P **P 17 45 42.8 -0.6**
RAYN pmax pmax
comp=Z,6.0nm,0.9s
RAYN Ar Rayn 25.09 246 P **P 17 45 42.8 -0.6**
VRH Novokhopyorsk 25.41 315 *eP* **P 17 45 45.2 -0.7**
VRH pmax pmax
comp=Z,10.0nm,0.9s
LZH Lanzhou 26.79 80 *eP* **P 17 46 00.6 +1.9**
LZH pP pP 17 46 28.4 -1.0
LZH sP sP 17 46 47.8 +1.8
LZH pmax pmax
comp=Z,15nm,1.1s
VSR Storozhevoye 26.89 314 *eP* **P 17 45 58.8 -0.4**
VSR pmax pmax
comp=Z,10.0nm,0.6s
LPSR Galich'ya Gora 27.56 316 *eP* **P 17 46 05.6 +0.4**
LPSR pmax pmax
comp=Z,20nm,0.7s
TLY Talaya 28.05 46 P **P 17 46 11.3 +1.7**
comp=Z,2.5nm,0.6s,baz=256,slow=8.3,SNR=3.2
SONM Songino Array 28.75 55 P **P 17 46 16.7 +0.7**
comp=Z,2.5nm,0.7s,baz=259,slow=10.0,SNR=24
BR131 Keskin Array S 29.16 288 P **P 17 46 18.7 -1.0**
BR131 pmax pmax
comp=Z,6.0nm,1.0s
BR131 Keskin Array S 29.16 288 P **P 17 46 18.7 -1.0**
BRTR Keskin Array B 29.16 288 P **P 17 46 21.1 +1.3**
comp=Z,3.0nm,0.7s,baz=105,slow=9.1,SNR=16
BRTR pP **pP 17 46 51.9 +2.5**
comp=Z,3.2nm,0.8s,baz=102,slow=8.2,SNR=7.0
ULN Ulaanbaatar 29.19 55⇓*eP* **P 17 46 20.5 +0.6**
ULN pmax pmax
comp=Z,4.0nm,1.0s
KMI Kunming 29.69 103 P **P 17 46 28.2 +3.5**
KMI pmax pmax
comp=Z,16nm,0.6s
PRGR Permogore 29.82 336 *eP* **P 17 46 23.2 -1.9**
PRGR *eS* **S 17 51 09.8 -1.6**
PRGR pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 29.87 320*de*P **P 17 46 26.4 +0.8**
OBN pmax pmax
comp=Z,20nm,0.7s
OBN Obninsk 29.87 320 P **P 17 46 26.3 +0.8**
comp=Z,5.8nm,0.6s,baz=65,slow=20,SNR=5.4
OBN Obninsk 29.87 320 P **P 17 46 26.4 +0.8**
OBN IAmb IAmb 17 46 27.2
comp=Z,21nm,0.7s
MHMT Maesarieng 30.13 119 P **P 17 46 30.4 +2.1**
comp=Z,18nm,0.6s
PALK Pallekele 30.33 160 P **P 17 46 29.2 -0.9**
PALK pmax pmax
comp=Z,62nm,1.7s
PALK Pallekele 30.33 160 P **P 17 46 29.2 -0.9**
CHTO Chiang Mai 30.43 117 P **P 17 46 31.0 0.0**
CHTO pmax pmax
comp=Z,5.0nm,0.6s
CHTO Chiang Mai 30.43 117 P **P 17 46 31.0 0.0**
CMMT Chiang Mai 30.44 117 P **P 17 46 32.1 +1.1**
comp=Z,4.2nm,0.6s
CM31 Chiang Mai Arr 30.66 118 P **P 17 46 33.1 +0.1**
CM31 IAmb IAmb 17 46 35.6
comp=Z,13nm,1.1s
CMAR Chiang Mai Arr 30.66 118 P **P 17 46 33.7 +0.7**
comp=Z,7.7nm,0.9s,baz=295,slow=7.9,SNR=42
PAYA Payao 30.75 115 P **P 17 46 35.0 +1.2**
comp=Z,14µm,0.6s
XAN Xi'an 31.31 83 P **P 17 46 39.1 +0.5**
XAN pmax pmax
comp=Z,29nm,0.9s
XAN pmax pmax
comp=Z,140nm,4.9s
XAN Xi'an 31.31 83 P **P 17 46 39.1 +0.5**
XAN pmax pmax
comp=Z,22nm,0.7s
XAN Xi'an 31.31 83 P **P 17 46 39.1 +0.5**
XAN IAmb IAmb 17 46 40.6
comp=Z,22nm,0.7s
PHRA Phrae 31.57 116 P **P 17 46 41.4 +0.5**
comp=Z,2.1nm,0.8s,comp=Z,1µm
UMPA Umpang Tak 32.12 121 P **P 17 46 48.8 +3.0**
comp=Z,23µm,0.8s
HHC Hu-ho-hao-te 32.17 69 P **P 17 46 48.0 +1.8**
HHC pmax pmax
comp=Z,4.0nm,0.9s
GYA Guiyang 32.19 97⇓*i* P **P 17 46 47.5 +1.0**
GYA pP pP 17 47 20.8 +3.7
GYA PP **PnPn 17 47 59.1 +1.1**
GYA S **S 17 51 47.1 -2.2**
GYA sS sS 17 52 45.8 +2.3
GYA pmax pmax
comp=Z,20nm,0.6s
GYA pmax pmax
comp=Z,110nm,5.8s
UTTA Uttaradit 32.29 117 P **P 17 46 48.2 +1.0**
comp=Z,68µm,0.7s,comp=Z,607µm
ELL Elmali 32.50 283 P **P 17 46 50.3 +1.2**
ELL pmax pmax
comp=Z,77nm,0.5s
ELL Elmali 32.50 283 P **P 17 46 50.3 +1.2**
SLVN Son La 32.61 108 P **P 17 46 51.6 +1.5**
SLVN IAmb IAmb 17 46 52.7
comp=Z,10nm,0.9s
AKASG Malin Array Be 32.80 309*ce*P **P 17 46 51.7 +0.3**
AKASG pmax pmax
comp=Z,11nm,0.6s
AKASG Malin Array Be 32.80 309 P **P 17 46 51.7 +0.3**
comp=Z,6.9nm,0.6s,baz=83,slow=7.0,SNR=52
AKASG pP **pP 17 47 23.3 +1.9**
comp=Z,4.9nm,0.7s,baz=88,slow=7.3,SNR=4.8
AKBB Malin Array Si 32.80 309*d i* P **P 17 46 51.3 -0.1**
AKBB Malin Array Si 32.80 309 P **P 17 46 51.7 +0.3**
AKBB IAmb IAmb 17 46 53.0
comp=Z,8.6nm,0.6s
ENH Enshi 32.93 89 P **P 17 46 53.4 +0.6**
ENH IAmb IAmb 17 46 55.5
comp=Z,17nm,1.0s
UTHA Uthaitani 32.97 121 P **P 17 46 55.1 +1.9**
comp=Z,19µm,0.8s
TIY Taiyuan 33.27 75 P **P 17 46 57.3 +1.5**
PBKT Sadao Pong 33.36 118 P **P 17 46 57.8 +1.3**
comp=Z,18nm,1.1s
PBKT Sadao Pong 33.36 118 P **P 17 46 57.8 +1.3**
PBKT IAmb IAmb 17 47 00.1
comp=Z,19nm,0.7s
SRDT SRDT 33.60 123 P **P 17 47 00.3 +1.6**
comp=Z,8.1nm,1.0s
NONG Nongkai 33.98 114 P **P 17 47 02.3 +0.4**
comp=Z,1.4nm,0.7s
TMCR Tamitsa 34.09 335 *eP* **P 17 47 03.4 +1.1**
TMCR pmax pmax
comp=Z,20nm,1.1s
CHAI Chaiyaphum 34.53 118 P **P 17 47 07.9 +1.2**
comp=Z,68µm,0.8s,comp=Z,517µm
MLR Muntele Rosu 34.58 299 P **P 17 47 08.4 +1.4**
comp=Z,10nm,0.8s,baz=86,slow=16,SNR=6.9
MLR Muntele Rosu 34.58 299 IAmb IAmb 17 47 10.3
comp=Z,11nm,0.8s
KARP Karpathos 34.94 282 P **P 17 47 11.1 +1.0**
PHET Kaeng Krachan 34.98 124 P **P 17 47 12.4 +1.9**
comp=Z,27µm,0.8s,comp=Z,315µm
BUR08 Bucovina Ar. S 35.12 303 P **P 17 47 11.4 -0.2**
BUR08 IAmb IAmb 17 48 08.5
comp=Z,18nm,1.9s
SKNT Sakolnakorn 35.28 114 P **P 17 47 13.6 +0.5**
comp=Z,65nm,1.0s
BJT Baijiatuau 35.76 70 P **P 17 47 17.3 +0.3**
BJT pmax pmax
comp=Z,13nm,0.7s
BJT Baijiatuau 35.76 70 P **P 17 47 17.3 +0.3**
BJT IAmb IAmb 17 47 19.0
comp=Z,13nm,0.7s
BJI Beijing 35.76 70⇑*i* P **P 17 47 18.4 +1.4**
BJI pmax pmax
comp=Z,17nm,0.7s
VSU Vasula 36.13 322*de*P **P 17 47 20.3 +0.4**
VSU pmax pmax
comp=Z,53nm,0.7s
WHN Wuhan 36.76 86⇓P **P 17 47 26.9 +1.3**
WHN pmax pmax
comp=Z,48nm,1.0s
KOLS Kolonicke sedl 37.11 305 *eP* **P 17 47 29.9 +1.5**
KOLS Kolonicke sedl 37.11 305 *eP* **P 17 47 29.9 +1.5**
SURT Suratani 37.40 130 P **P 17 47 32.8 +1.7**
comp=Z,35nm,0.6s
UBPT Khong Chiam 37.46 115 P **P 17 47 31.9 +0.3**
comp=Z,1.1nm,0.8s,comp=Z,µm
UBPT Khong Chiam 37.46 115 P **P 17 47 31.5 -0.1**
UBPT IAmb IAmb 17 47 32.2
comp=Z,14nm,0.7s
FIA1 FINESS Array S 37.46 326 P **P 17 47 31.7 +0.6**
FIA1 IAmb IAmb 17 47 32.7
comp=Z,14nm,0.8s
FINES FINESS Array B 37.47 326 P **P 17 47 32.0 +0.9**
comp=Z,9.5nm,0.6s,baz=114,slow=9.7,SNR=37
VYHS Vyhne 39.39 305 *eP* **P 17 47 49.8 +2.4**
VYHS Vyhne 39.39 305 *eP* **P 17 47 49.8 +2.4**
NJ2 Nanjing 39.86 82 *eP* **P 17 47 50.8 -0.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
KEV Kevo 40.87 338 P **P 17 47 59.6 +0.3**
KEV pmax pmax
comp=Z,103nm,1.7s
KEV Kevo 40.87 338 P **P 17 47 59.6 +0.3**
ARCES ARCESS Array B 41.21 338 P **P 17 48 03.2 +1.1**
comp=Z,5.9nm,0.7s,baz=118,slow=8.0,SNR=38
ARCES pP **pP 17 48 35.1 +1.9**
comp=Z,7.5nm,0.7s,baz=113,slow=9.3,SNR=4.8
ARE0 ARCESS Array S 41.21 338 *eP* **P 17 48 02.5 +0.5**
ARE0 ARCESS Array S 41.21 338 P **P 17 48 02.6 +0.5**
KULM Kulim 41.40 131 P **P 17 48 04.3 0.0**
KULM IAmb IAmb 17 48 56.2
comp=Z,22nm,1.2s
KTK1 Kautokeino 41.67 337 *eP* **P 17 48 06.5 +0.7**
BSD Bornholm Skovb 41.91 315 *i* P **P 17 48 07.8 -0.2**
BSD Bornholm Skovb 41.91 315 *i* P **P 17 48 07.8 -0.2**
IPM Ipoh 42.27 131 P **P 17 48 11.3 -0.1**
IPM IAmb IAmb 17 48 12.4
comp=Z,26nm,0.7s
HAMF Hammerfest 42.30 339 *eP* **P 17 48 10.5 -0.4**
SGRT San Giovanni R 42.33 295 P **P 17 48 12.3 +0.5**
PSI Prapat 42.38 135 P **P 17 48 12.8 +0.4**
PSI pmax pmax
comp=Z,15nm,0.5s
RPSI Rantau Prapat 42.46 135 P **P 17 48 12.8 -0.1**
RPSI IAmb IAmb 17 48 14.3
comp=Z,15nm,0.5s
GERES GERESS Array B 42.77 305 P **P 17 48 15.4 +0.2**
comp=Z,0.3nm,0.4s,baz=75,slow=8.2,SNR=3.7
KHC Kasperske Hory 42.82 306⇑*eP* **P 17 48 17.4 +1.9**
KHC pmax pmax
comp=Z,5.0nm,1.2s
GSI Gunungsitoli 42.87 138 P **P 17 48 17.3 +1.1**
comp=Z,45nm,0.6s
GSI Gunungsitoli 42.87 138 P **P 17 48 17.5 +1.3**
HFS Hagfors 43.02 322 P **P 17 48 17.4 +0.6**
comp=Z,15nm,0.4s,baz=98,slow=11,SNR=96
HFS pP **pP 17 48 50.6 +2.4**
comp=Z,11nm,0.6s,baz=98,slow=11,SNR=6.1
TRO Tromso 43.32 336 *eP* **P 17 48 18.9 -0.2**
MOR8 Moi Rana 43.83 331 *eP* **P 17 48 23.3 -0.1**
STEI Steigen 44.01 333 *eP* **P 17 48 25.4 +0.8**
NC405 NORSAR Array S 44.10 323 P **P 17 48 25.8 +0.2**
NC602 NORSAR Array S 44.15 323 *eP* **P 17 48 25.6 -0.3**
NC602 NORSAR Array S 44.15 323 P **P 17 48 25.9 0.0**
NC303 NORSAR Array S 44.28 323 P **P 17 48 27.0 0.0**
NC303 IAmb IAmb 17 48 28.4
comp=Z,37nm,1.1s
NB201 NORSAR Array S 44.30 323 P **P 17 48 27.2 0.0**
NB2 NORSAR Subarra 44.34 323 P pP 17 48 59.9 +1.0
comp=Z,2.3nm,0.6s,baz=96,slow=8.6
NOA NORSAR Array B 44.34 323 P **P 17 48 27.4 0.0**
comp=Z,4.5nm,0.5s,baz=98,slow=7.7,SNR=37
NOA pP **pP 17 49 00.8 +1.9**
comp=Z,4.1nm,0.7s,baz=97,slow=8.0,SNR=4.3
NOA LR LR 18 08 08.7
comp=Z,16nm,18.9s,baz=290,slow=37
YAK Yakutsk 44.35 35 *eP* **P 17 48 27.1 -0.3**
YAK pmax pmax
comp=Z,9.0nm,0.8s
YAK Yakutsk 44.35 35 P **P 17 48 26.8 -0.6**
YAK IAmb IAmb 17 48 29.7
comp=Z,16nm,0.5s
KONS Konsvik 44.43 331 *eP* **P 17 48 28.1 +0.1**
NAO01 NORSAR Array S 44.48 323 P **P 17 48 28.4 -0.2**
NSS Namsos 44.49 328 *eP* **P 17 48 28.2 -0.4**
NBO00 NORSAR Array S 44.55 323 P **P 17 48 29.0 -0.2**
NC204 NORSAR Array S 44.58 324 P **P 17 48 29.7 +0.2**
SSLB Suanglung 44.91 92 P **P 17 48 34.4 +1.9**
SSLB IAmb IAmb 17 49 09.1
comp=Z,40nm,1.4s
KONO Kongsberg 45.03 321 P **P 17 48 32.8 -0.1**
KONO pmax pmax
comp=Z,125nm,2.0s
KONO Kongsberg 45.03 321 *eP* **P 17 48 33.1 +0.2**
KONO Kongsberg 45.03 321 P **P 17 48 32.8 -0.1**
KS19 Wonju Array Si 45.23 71 P **P 17 48 34.5 -0.4**
KSRS Korea Array 45.28 71 P **P 17 48 35.5 +0.2**
comp=Z,3.7nm,0.6s,baz=273,slow=7.0,SNR=11
KLR Kul'dur 45.56 54*de*P **P 17 48 37.6 +0.3**
KLR pmax pmax
comp=Z,6.0nm,1.0s
KLR Kul'dur 45.56 54 P **P 17 48 37.5 +0.3**
comp=Z,2.8nm,0.5s,baz=272,slow=9.4,SNR=12
BKNI Bangkinang 45.60 135 P **P 17 48 38.3 +0.3**
comp=Z,104nm,0.8s
SKAR Skarslia 45.73 323 *eP* **P 17 48 39.5 +1.0**
MYKOM Kota Tinggi 46.10 130 P **P 17 48 42.5 +0.6**
TIXI Tiksi 46.10 22*c i* P **P 17 48 41.6 +0.4**
TIXI *i* *PP **pP 17 49 12.1 -1.1**
TIXI pmax pmax
comp=Z,21nm,0.9s
TIXI Tiksi 46.10 22 P **P 17 48 41.7 +0.5**
comp=Z,17nm,0.4s,baz=0.0,slow=24,SNR=58
TIXI Tiksi 46.10 22 P **P 17 48 41.6 +0.5**
TIXI IAmb IAmb 17 48 42.5
comp=Z,22nm,0.9s
PDSI Padang 46.29 136 P **P 17 48 42.9 -0.5**
comp=Z,65nm,0.5s,comp=Z,945nm
USRK Ussuriysk Ar. 46.59 60 P **P 17 48 45.5 +0.2**
comp=Z,1.9nm,0.6s,baz=275,slow=7.1,SNR=5.4
VLA Vladivostok 46.75 62⇓*eP* **P 17 48 45.5 -1.1**
VLA pmax pmax
comp=Z,61nm,0.9s
SPA0 Spitsbergen Ar 47.62 347 *eP* **P 17 48 53.0 +0.1**
SPA0 Spitsbergen Ar 47.62 347 P **P 17 48 54.4 +1.4**
SPITS Spitsbergen Ar 47.62 347 P **P 17 48 54.5 +1.5**
comp=Z,4.7nm,0.7s,baz=121,slow=11,SNR=14
KBS Kingsbay 48.74 347 *eP* **P 17 49 01.0 -0.5**
JNU Nakatsue 48.99 75 P **P 17 49 04.7 +0.6**
comp=Z,18nm,1.0s,baz=334,slow=4.8,SNR=5.0
JNU Nakatsue 48.99 75 P **P 17 49 04.9 +0.8**
MASI Maura Aman, Be 49.12 136 P **P 17 49 05.1 -0.1**
comp=Z,252nm,0.7s,comp=Z,2µm
SSB Saint Sauveur 49.52 302 P **P 17 49 08.4 +0.4**
SSB pmax pmax
comp=Z,7.0nm,1.2s
SSB Saint Sauveur 49.52 302 P **P 17 49 08.4 +0.4**
KSI Kapahiang 49.74 136 P **P 17 49 09.4 -0.5**
KSM Kuching 50.50 124 P **P 17 49 15.6 -0.1**
KSM IAmb IAmb 17 49 17.3
comp=Z,17nm,0.9s
MNAI Manna 50.52 136 P **P 17 49 15.1 -0.6**
SBUM Sibu 51.09 121 P **P 17 49 20.4 +0.4**
MDSI Maura Dua 51.32 135 P **P 17 49 18.8 -2.9**
comp=Z,6.3nm,0.8s
LWLI Liwa 51.68 136 P **P 17 49 23.9 -0.6**
comp=Z,27nm,0.6s,comp=Z,4µm
TPI Tanjungpandan 52.00 130 P **P 17 49 27.3 +0.5**
comp=Z,20nm,1.1s
MBAR Mbarara 52.09 234*de*P **P 17 49 28.5 +0.8**

MBAR pmax pmax
comp=Z,5.0nm,0.7s
STKI Sintang 52.32 124 P **P** **17 49 30.5 +1.3**
comp=Z,25nm,0.9s,comp=Z,2µm
KASI Kota Agung 52.34 135 P **P** **17 49 26.1 -3.2**
comp=Z,34nm,0.6s
DAG Danmarks Havn 54.84 344 *i* P **P** **17 49 47.0 +0.3**
DAG *i* 17 50 20.0
DAG pmax pmax
comp=Z,3.0nm,0.7s
DAG Danmarks Havn 54.84 344 *i* P **P** **17 49 47.0 +0.3**
comp=Z,4.4nm,0.7s
DAG *i* 17 50 20.0
CISI Cisompet, Garu 55.90 134 P **P** **17 49 53.0 -2.1**
ESDC Sonseca Array 57.24 298 P **P** **17 50 04.6 +0.1**
comp=Z,0.2nm,0.3s,baz=49,slow=7.4,SNR=5.2
ESDC pP **pP** **17 50 37.7 +0.3**
comp=Z,0.8nm,0.7s,baz=60,slow=6.8,SNR=1.9
MPSI Mapaga 58.00 117 P **P** **17 50 10.5 +0.6**
comp=Z,13nm,1.0s
BILL Bilibino 58.95 26 *i*P **P** **17 50 16.6 +0.8**
BILL *i* 17 51 04.5
BILL pmax pmax
comp=Z,10.0nm,1.3s
MRSI Marisa 59.39 115 P **P** **17 50 19.4 -0.2**
comp=Z,24nm,0.9s
SUMG Summit 61.15 341 *i* P **pP** **17 51 07.0 +2.5**
comp=Z,22nm,0.9s
SUMG *i* 17 51 23.2
TOA0 Torodi Ar. Sit 65.36 268 P **P** **17 50 58.2 -1.1**
TORD Torodi Ar. Bea 65.36 268 P **P** **17 50 58.0 -1.3**
comp=Z,4.3nm,0.7s,baz=43,slow=6.0,SNR=26
TORD pP **pP** **17 51 32.3 -1.3**
comp=Z,1.7nm,0.6s,baz=45,slow=6.1,SNR=2.8
PSA00 Pilbara Seismi 74.03 133 P **P** **17 51 51.9 -0.3**
PSA00 IAmb IAmb 17 52 22.1
comp=Z,56nm,1.9s
INK Inuvik 74.17 9 P **P** **17 51 53.1 +0.8**
comp=Z,4.4nm,0.6s,baz=355,slow=6.9,SNR=13
INK Inuvik 74.17 9 P **P** **17 51 52.2 -0.1**
DBIC Dimbokro 74.33 267 P **P** **17 51 54.0 -0.1**
comp=Z,1.3nm,0.5s,baz=20,slow=5.5,SNR=4.0
DBIC Dimbokro 74.33 267 IAmb IAmb 17 52 51.7
PRP Porcupine Dome 74.72 15 P **P** **17 51 56.3 +0.5**
COLA College 74.78 16µ*e*P **P** **17 51 56.6 +0.7**
COLA pmax pmax
comp=Z,7.0nm,0.8s
CCB Clear Creek Bu 74.99 16 P **P** **17 51 56.6 -0.5**
FITZ Fitzroy Crossi 75.05 126 P **P** **17 51 57.6 -0.4**
IL31 75.08 16 P **P** **17 51 57.3 -0.3**
IL31 IAmb IAmb 17 54 36.4
comp=Z,9.4nm,0.7s
ILAR Eielson Array 75.08 16 P **P** **17 51 57.3 -0.4**
comp=Z,1.7nm,0.8s,baz=319,slow=4.6,SNR=22
KTH Kantishna Hill 75.18 18 P **P** **17 51 58.1 -0.2**
PPLA Purkeypile 75.40 19 P **P** **17 51 59.1 -0.6**
PPLA IAmb IAmb 17 52 07.2
comp=Z,38nm,1.8s
KNRA Kununurra 75.41 122 P **P** **17 51 59.6 -0.6**
KNRA IAmb IAmb 17 52 00.7
comp=Z,14nm,0.8s
TRF Thorofare Moun 75.42 18 P **P** **17 52 00.1 +0.2**
TRF IAmb IAmb 17 54 40.2
comp=Z,33nm,1.9s
MCK McKinley 75.51 17 P **P** **17 52 00.0 -0.2**
MCK pmax pmax
comp=Z,29nm,2.0s
MCK McKinley 75.51 17 P **P** **17 51 60.0 -0.2**
MCK IAmb IAmb 17 52 25.9
comp=Z,29nm,2.0s
RND Reindeer 75.81 17 P **P** **17 52 01.4 -0.5**
RND pmax pmax
comp=Z,32nm,1.9s
RND Reindeer 75.81 17 P **P** **17 52 01.4 -0.5**
RND IAmb IAmb 17 52 36.1
comp=Z,32nm,1.9s
SKT Skwentna 76.33 19 P **P** **17 52 04.5 -0.3**
SKT IAmb IAmb 17 52 59.4
comp=Z,27nm,1.7s
SCRK Sand Creek 76.39 15 P **P** **17 52 04.7 -0.6**
RIDG Independent Ri 76.42 15 P **P** **17 52 04.9 -0.5**
RIDG IAmb IAmb 17 54 03.9
comp=Z,23nm,1.8s
DHY Denali Highway 76.44 17 P **P** **17 52 05.2 -0.4**
DHY IAmb IAmb 17 52 06.9
comp=Z,7.3nm,0.6s
DOT Dot Lake 76.67 15 P **P** **17 52 06.2 -0.5**
SUA Susitna One 76.97 19 P **P** **17 52 08.1 -0.5**
SUA IAmb IAmb 17 54 58.9
comp=Z,36nm,1.9s
GHO Glory Hole Cre 77.18 18 P **P** **17 52 09.9 +0.2**
GHO IAmb IAmb 17 53 03.4
comp=Z,52nm,2.0s
DAWY Dawson 77.21 13 P **P** **17 52 09.5 -0.3**
SML Sawmill 77.30 18 P **P** **17 52 10.1 -0.2**
SML IAmb IAmb 17 52 11.3
comp=Z,9.3nm,0.7s
BOSA Boshof 77.36 220 P **P** **17 52 11.4 +0.3**
comp=Z,5.4nm,0.9s,baz=24,slow=3.6,SNR=12
BOSA Boshof 77.36 220 P **P** **17 52 10.8 -0.2**
BOSA IAmb IAmb 17 52 12.1
comp=Z,22nm,1.4s
SCM Sheep Creek Mo 77.52 17 P **P** **17 52 11.6 0.0**
SCM pmax pmax
comp=Z,46nm,1.9s
SCM Sheep Creek Mo 77.52 17 P **P** **17 52 11.6 0.0**
SCM IAmb IAmb 17 52 50.1
comp=Z,46nm,1.9s
RC01 Rabbit Creek A 77.55 19 P **P** **17 52 11.6 -0.1**
RC01 IAmb IAmb 17 53 23.3
comp=Z,18nm,1.5s
KNK Knik Glacier 77.60 18 P **P** **17 52 11.8 -0.2**
BRLK Bradley Lake 78.36 20 P **P** **17 52 15.5 -0.7**
BRLK IAmb IAmb 17 52 43.9
comp=Z,52nm,1.5s
GLI Glacier Island 78.40 18 P **P** **17 52 16.4 0.0**
GLI IAmb IAmb 17 52 54.1
comp=Z,47nm,1.8s
SEW Seward 78.47 19 P **P** **17 52 16.4 -0.3**
SEW IAmb IAmb 17 52 26.1
comp=Z,37nm,1.4s
CNPM China Poot 78.47 20 P **P** **17 52 16.4 -0.4**
FID Port Fidalgo 78.67 18 P **P** **17 52 18.0 +0.2**
FID IAmb IAmb 17 53 04.6
comp=Z,23nm,1.3s
GLB Gilahina Butte 78.68 16 P **P** **17 52 18.3 +0.3**
GLB IAmb IAmb 17 53 19.4
comp=Z,26nm,1.8s
VRDI Verde Repeater 78.95 16 P **P** **17 52 19.7 +0.1**
HIN Hinchinbrook I 78.97 18 P **P** **17 52 19.7 +0.1**
EYAK Cordova Ski Ar 79.02 17 P **P** **17 52 20.5 +0.8**
EYAK IAmb IAmb 17 52 21.1
comp=Z,8.8nm,0.7s
BALM Baldy 79.37 16 P **P** **17 52 22.2 +0.5**
RAGM Ragged Mountai 79.42 17 P **P** **17 52 22.5 +0.5**
RAGM IAmb IAmb 17 54 04.6
comp=Z,35nm,1.3s
CRQM Cirque 79.44 16 P **P** **17 52 22.9 +0.7**
CRQM IAmb IAmb 17 53 25.1
comp=Z,14nm,1.2s
BARN Barnard Glacie 79.49 15 P **P** **17 52 23.0 +0.4**
KDAK Kodiak Island 79.53 22 *i* P **P** **17 52 22.5 0.0**
KDAK Kodiak Island 79.53 22 P **P** **17 52 22.7 +0.1**
comp=Z,9.0nm,0.7s,baz=0.6,slow=2.8,SNR=13
KDAK Kodiak Island 79.53 22 P **P** **17 52 22.6 +0.1**
HMT Hamilton 79.56 17 P **P** **17 52 22.6 -0.1**
HMT IAmb IAmb 17 53 10.1
comp=Z,55nm,1.6s
CTGM Chitina Glacie 79.65 15 P **P** **17 52 23.9 +0.6**
CTGM IAmb IAmb 17 52 42.1
comp=Z,34nm,1.9s
OHAK Old Harbor 79.78 23 P **P** **17 52 23.9 +0.1**
WAX Waxell Ridge 79.78 16 P **P** **17 52 24.7 +0.8**
WAX IAmb IAmb 17 54 25.1
comp=Z,28nm,1.5s
YKW3 Yellowknife Ar 81.41 2 P **P** **17 52 32.3 -0.2**
YKA Yellowknife Ar 81.47 2 P **P** **17 52 33.0 +0.2**
comp=Z,2.0nm,0.6s,baz=348,slow=5.3,SNR=33
YKA pP **pP** **17 53 08.8 +0.3**
comp=Z,3.3nm,0.8s,baz=349,slow=5.4,SNR=6.0
NWAO Narrogin (SRO) 81.52 142 P **P** **17 52 32.4 -1.0**
NWAO pmax pmax
comp=Z,108nm,1.9s
NWAO Narrogin (SRO) 81.52 142 P **P** **17 52 32.4 -1.0**
NWAO IAmb IAmb 17 54 37.6
comp=Z,108nm,1.9s
WRA Warramunga Arr 82.18 122 P **P** **17 52 35.7 -1.5**
comp=Z,2.3nm,0.4s,baz=324,slow=4.9,SNR=89
WRA pP **pP** **17 53 14.8 +1.6**
comp=Z,1.6nm,0.8s,baz=325,slow=5.0,SNR=3.1
WRAB Tennant Creek 82.18 122µ*e*P **P** **17 52 36.0 -1.1**
WRAB pmax pmax
comp=Z,9.0nm,2.5s
WRAB Tennant Creek 82.18 122 P **P** **17 52 36.0 -1.1**
WB2 Warramunga Arr 82.19 122 P **P** **17 52 35.6 -1.6**
WR0 Warramunga Arr 82.33 121 P **P** **17 52 36.3 -1.6**
WR0 IAmb IAmb 17 52 37.3
comp=Z,25nm,2.0s
AS31 Alice Springs 84.42 125 P **P** **17 52 47.3 -1.3**
ASAR Alice Springs 84.42 125 P **P** **17 52 47.2 -1.4**
comp=Z,2.8nm,0.7s,baz=313,slow=4.7,SNR=73
COEN Coen 84.65 111 P **P** **17 52 48.7 -1.2**
COEN IAmb IAmb 17 54 41.0
comp=Z,39nm,1.6s
QSPA South Pole Qui 126.08 180 **PKPdf** **17 59 15.3 -1.1**

*NIED **09** 17:44:00.44˚60N×149˚30E,h41km,Mw3.9 Best double couple: M₀8.76000×10¹⁴ NP1:φ₀160.00000°,δ16.00000°, λ-17.00000°. NP2:φ₀266.00000°,δ85.00000°, λ-106.00000°.*
*IDC **09** 17:44:51.9±1.2,44˚19N×149˚44E,h0km,mb3.8/3, mb1 3.9/7,mb1mx3.5/48,mbtmp3.7/7,ML2.8/4,MS2.7/4, Ms1 2.7/4,ms1mx2.4/43,Error ellipse: s-maj=37.9km s-min=23.1km az=131.0*
*JMA **09** 17:44:54.2±0.6,44˚61N×149˚28E,h30km,M4.0*
*SKHL **09** 17:44:56.5±1.4,44˚34N×149˚15E,h40km±4km,mb4.7/3*
ISC 09 17:44:51.8±3.2,44˚27N±0˚07×149˚15E±0˚07,h2km±20km, n38,σ2s32/39,mb4.0/3,1C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.33**	**317**	*i*	*i*P	**Pn**		**17 45 17.2**	**-0.1**
KUR						AMB	AMB	17 45 20.3	
	260nm,0.4s								
KUR						AMB	AMB	17 45 20.3	
	230nm,0.4s								
KUR						AMB	AMB	17 45 20.3	
	430nm,0.4s								
KUR				*i*	S	**Sg**		**17 45 32.8**	**-1.8**
KUR					A	A		17 45 34.6	
	2µm,0.4s								
KUR					A	A		17 45 34.6	
	2µm,0.4s								
YUK	**Yuzh-Kuril'sk**	**2.38**	**266**	*e*	P	**Pn**		**17 45 33.3**	**+1.6**
YUK						AMB	AMB	17 45 35.0	
	120nm,0.4s								
YUK					S	**Sn**		**17 46 01.5**	**+0.1**
YUK					A	A		17 46 08.6	
	220nm,0.3s								
YUK					A	A		17 46 08.6	
	480nm,0.3s								
GRPR	**Tuman**	**2.45**	**265**	*e*	P	**Pn**		**17 45 34.0**	**+1.3**
GRPR					S	**Sn**		**17 46 03.4**	**+0.3**
GRPR					A	A		17 46 07.0	
	400nm,0.4s								
GRPR					A	A		17 46 07.0	
	190nm,0.4s								
NEM2	**Nemuro 2**	**2.62**	**251**		P	**Pn**		**17 45 36.4**	**+1.3**
NEM2					S	**Sn**		**17 46 07.9**	**+0.4**
NMR	**Nemuro--Hokkai**	**2.63**	**251**	*i*	P	**Pn**		**17 45 36.2**	**+1.0**
NMR				*i*	S	**Sn**		**17 46 08.7**	**+1.0**
GLVR	**Golovnino**	**2.67**	**260**	*e*	P	**Pn**		**17 45 37.9**	**+2.2**
GLVR						AMB	AMB	17 45 40.0	
	100nm,0.4s								
GLVR					S	**Sn**		**17 46 08.5**	**-0.1**
GLVR					A	A		17 46 17.0	
	860nm,0.4s								
GLVR					A	A		17 46 17.0	
	270nm,0.4s								
JRA	**Rausu**	**2.92**	**265**		P	**Pn**		**17 45 41.8**	**+2.7**
JNK	**Nakash**	**3.27**	**260**		P	**Pn**		**17 45 45.9**	**+1.9**
JAK	**Akkeshi**	**3.47**	**250**		P	**Pn**		**17 45 48.6**	**+1.9**
JAK					S	**Sn**		**17 46 28.8**	**+0.4**
JTKR	**Abashiri--Toko**	**3.79**	**267**		P	**Pn**		**17 45 54.2**	**+3.1**
JAR	**Ashorobuto**	**4.01**	**258**		P	**Pn**		**17 45 57.4**	**+3.2**
JMP	**Maruseppu**	**4.17**	**268**		P	**Pn**		**17 45 59.6**	**+3.1**
JCH	**Churui**	**4.53**	**251**		P	**Pn**		**17 46 03.6**	**+2.4**
JCH					S	**Sn**		**17 46 54.5**	**+0.1**
ASAJ	**Asahikawa**	**4.71**	**270**		Pn	**Pn**		**17 46 08.2**	**+4.4**
	0.7nm,0.3s,baz=347,slow=4.5,SNR=8.3								
ASAJ					Sn	**Sb**		**17 47 10.4**	**-1.8**
	0.5nm,0.3s,baz=54,slow=19,SNR=2.1								
JFR	**Furan**	**4.88**	**259**		P	**Pn**		**17 46 10.6**	**+4.5**
JNBK	**Urakawa-nobuka**	**5.07**	**249**		P	**Pn**		**17 46 10.7**	**+1.9**
JBT2	**Biratori 2**	**5.15**	**256**		P	**Pn**		**17 46 12.3**	**+2.4**
YSS	**Yuzh-Sakhalins**	**5.23**	**303**		P	**Pn**		**17 46 12.7**	**+1.8**
YSS				*e*	S	**Sn**		**17 47 10.0**	**-1.7**
JKB	**Kayabe**	**6.40**	**251**		P	**Pn**		**17 46 28.6**	**+1.6**
JKB					S	**Sn**		**17 47 36.7**	**-3.9**
JANG	**Nango**	**6.86**	**238**		P	**Pn**		**17 46 33.6**	**+0.2**
JANG					S	Sn		17 47 45.7	-6.3
JTH	**Tanohata**	**6.93**	**234**		S	**Sn**		**17 47 47.5**	**-6.1**
JIO	**Ouri**	**8.25**	**228**		S	Sn		17 48 19.1	-7.0
PETK	**Petropavlovsk-**	**10.49**	**29**		Pn	**Pn**		**17 47 23.2**	**+0.1**
	0.5nm,0.3s,baz=221,slow=14,SNR=14								
PETK					LR	LR		17 51 13.3	
	comp=Z,72nm,20.5s,baz=243,slow=36								
MJAR	**Matsushiro Arr**	**11.35**	**231**		Pn	**Pn**		**17 47 34.9**	**0.0**
	0.1nm,0.3s,baz=33,slow=16,SNR=3.9								
USRK	**Ussuriysk Ar.**	**12.31**	**276**		Pn	**Pn**		**17 47 50.9**	**+2.9**
	baz=76,slow=16,SNR=2.6								
KLR	**Kul'dur**	**12.92**	**299**		LR	LR		17 53 06.4	
	comp=Z,29nm,18.3s,baz=112,slow=38								
EKMR	**Ekimchan**	**13.84**	**315**	*e*	P	**Pn**		**17 48 09.1**	**+0.3**
MA2	**Magadan**	**15.37**	**3**		LR	LR		17 54 06.8	
	comp=Z,35nm,19.2s,baz=157,slow=36								
KSRS	**Korea Array**	**17.41**	**254**		LR	LR		17 55 59.7	
	comp=Z,16nm,19.1s,baz=80,slow=38								
H11N2	**WAKE ISLAND Hy**	**28.60**	**143**		T	T		18 21 47.5	
	baz=334,slow=76,SNR=119								
H11N1	**WAKE ISLAND Hy**	**28.61**	**143**		T	T		18 21 47.6	
	baz=334,slow=76,SNR=158								
H11N3	**WAKE ISLAND Hy**	**28.61**	**143**		T	T		18 21 46.3	
	baz=334,slow=76,SNR=123								
H11S1	**WAKE ISLAND Hy**	**29.60**	**145**		T	T		18 22 57.7	
	baz=334,slow=76,SNR=225								
H11S3	**WAKE ISLAND Hy**	**29.61**	**145**		T	T		18 23 02.6	
	baz=334,slow=76,SNR=152								
H11S2	**WAKE ISLAND Hy**	**29.62**	**145**		T	T		18 23 01.1	
	baz=334,slow=76,SNR=194								
YKA	**Yellowknife Ar**	**54.57**	**35**		P	**P**		**17 54 20.5**	**-0.4**
	0.6nm,0.6s,baz=301,slow=7.0,SNR=4.3								
WRA	**Warramunga Arr**	**65.32**	**195**		P	**P**		**17 55 35.4**	**+0.2**
	0.7nm,0.8s,baz=15,slow=6.6,SNR=4.9								
ASAR	**Alice Springs**	**69.03**	**195**		P	**P**		**17 55 59.5**	**+0.8**
	0.8nm,0.7s,baz=14,slow=6.1,SNR=6.0								

*ISCJB **09** 17:55:44.5±0.4,45˚68N±0˚02×26˚49E±0˚03,h98km±3km, Error ellipse: s-maj=3.5km s-min=2.9km az=162.7*
*BUC **09** 17:55:45.6±0.4,45˚67N×26˚52E,h90km±3km,ml3.6/36, Error ellipse: s-maj=2.4km s-min=2.0km az=171.0*
*SOF **09** 17:55:46.5,45˚80N×26˚38E,h77km*
*BEO **09** 17:55:47.8±0.7,45˚49N×25˚86E,h0km,ML3.0/9*
ISC 09 17:55:44.0±1.2,45˚69N±0˚03×26˚47E±0˚02,h106km±5km, n114,σ1s35/184,76C-80D,Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.20**	**39**		⇑P	**Pn**		**17 55 58.7**	**-0.2**
PLOR					⇓S	**Sn**		**17 56 09.1**	**-1.0**
PLOR	**Plostina**	**0.20**	**39**		⇑P	**Pn**		**17 55 58.7**	**-0.2**
PLOR					⇓S	**Sn**		**17 56 09.1**	**-1.0**
PLOR					AML	AML		17 56 14.0	
VRI	**Vrincioaia**	**0.25**	**47**		⇑P	**Pn**		**17 55 59.1**	**+0.1**
VRI					⇑S	**Sn**		**17 56 09.4**	**-0.9**
VRI	**Vrincioaia**	**0.25**	**47**		⇑P	**Pn**		**17 55 59.1**	**+0.1**
VRI					⇑S	**Sn**		**17 56 09.4**	**-0.9**
VRI					AML	AML		17 56 09.8	
MLR	**Muntele Rosu**	**0.42**	**241**		⇑P	**Pn**		**17 56 00.5**	**+0.5**
MLR					⇑S	**Sn**		**17 56 10.7**	**-1.3**
MLR	**Muntele Rosu**	**0.42**	**241**		⇑P	**Pn**		**17 56 00.5**	**+0.5**
MLR					⇑S	**Sn**		**17 56 10.7**	**-1.3**
MLR					AML	AML		17 56 11.4	
ODBI	**Odobesti**	**0.42**	**80**		⇑P	**Pn**		**17 56 01.0**	**+1.2**
ODBI					⇑S	**Sn**		**17 56 11.5**	**-0.2**
ODBI	**Odobesti**	**0.42**	**80**		⇑P	**Pn**		**17 56 01.0**	**+1.2**
ODBI					⇑S	**Sn**		**17 56 11.5**	**-0.2**
ODBI					AML	AML		17 56 13.3	
GRER		**0.48**	**131**		⇑P	**Pn**		**17 56 01.7**	**+1.5**
GRER		**0.48**	**131**		⇑P	**Pn**		**17 56 01.7**	**+1.5**
GRER					AML	AML		17 56 14.8	
PETR	**Petresti**	**0.54**	**87**		⇓P	**Pn**		**17 56 01.3**	**+0.8**
PETR					⇑S	**Sn**		**17 56 13.0**	**-0.1**
PETR	**Petresti**	**0.54**	**87**		⇓P	**Pn**		**17 56 01.3**	**+0.8**
PETR					⇑S	**Sn**		**17 56 13.0**	**-0.1**
PETR					AML	AML		17 56 13.9	
OZUR		**0.62**	**311**		⇑P	**Pn**		**17 56 01.4**	**+0.1**
OZUR					⇑S	**Sn**		**17 56 12.7**	**-1.6**
OZUR		**0.62**	**311**		⇑P	**Pn**		**17 56 01.4**	**+0.1**
OZUR					⇑S	**Sn**		**17 56 12.7**	**-1.6**
OZUR					AML	AML		17 56 13.0	
SECR		**0.72**	**203**		⇓S	**Sn**		**17 56 16.9**	**+1.2**
SECR		**0.72**	**203**		⇓S	**Sn**		**17 56 16.9**	**+1.2**
GHRR		**0.75**	**61**		⇓P	**Pn**		**17 56 03.3**	**+1.0**
GHRR		**0.75**	**61**		⇓P	**Pn**		**17 56 03.3**	**+1.0**
GHRR					AML	AML		17 56 17.8	
DOPR	**Dopca**	**0.80**	**290**		⇓P	**Pn**		**17 56 03.5**	**+0.7**
DOPR					⇓S	**Sn**		**17 56 16.6**	**-0.5**
DOPR	**Dopca**	**0.80**	**290**		⇓P	**Pn**		**17 56 03.5**	**+0.7**
DOPR					⇓S	**Sn**		**17 56 16.6**	**-0.5**
DOPR					AML	AML		17 56 17.1	
TESR	**Tescani**	**0.83**	**9**		⇓P	**Pn**		**17 56 03.6**	**+0.5**
TESR					⇑S	**Sn**		**17 56 16.2**	**-1.3**
TESR	**Tescani**	**0.83**	**9**		⇓P	**Pn**		**17 56 03.6**	**+0.5**
TESR					⇑S	**Sn**		**17 56 16.2**	**-1.3**
TESR					AML	AML		17 56 17.2	
TUDR		**0.85**	**96**		⇑P	**Pn**		**17 56 03.3**	**+0.1**
TUDR					⇑S	**Sn**		**17 56 16.5**	**-1.3**
TUDR		**0.85**	**96**		⇑P	**Pn**		**17 56 03.3**	**+0.1**
TUDR					⇑S	**Sn**		**17 56 16.5**	**-1.3**
TUDR					AML	AML		17 56 17.8	
SLCR	**Slobozia Conac**	**0.92**	**96**		⇓P	**Pn**		**17 56 04.0**	**+0.1**
SLCR					⇑S	**Sn**		**17 56 16.7**	**-2.4**
SLCR	**Slobozia Conac**	**0.92**	**96**		⇓P	**Pn**		**17 56 04.0**	**+0.1**
SLCR					⇑S	**Sn**		**17 56 16.7**	**-2.4**
SLCR					AML	AML		17 56 18.6	
IZVR	**Izvoarele**	**0.93**	**99**		⇓P	**Pn**		**17 56 04.0**	**0.0**
IZVR					⇓S	**Sn**		**17 56 17.3**	**-1.9**
IZVR	**Izvoarele**	**0.93**	**99**		⇓P	**Pn**		**17 56 04.0**	**0.0**
IZVR					⇓S	**Sn**		**17 56 17.3**	**-1.9**
IZVR					AML	AML		17 56 18.4	
BIR	**Birlad**	**0.99**	**54**		⇑P	**Pn**		**17 56 05.6**	**+0.9**
BIR					⇑S	**Sn**		**17 56 19.4**	**-0.9**
BIR	**Birlad**	**0.99**	**54**		⇑P	**Pn**		**17 56 05.6**	**+0.9**
BIR					⇑S	**Sn**		**17 56 19.4**	**-0.9**
BIR					AML	AML		17 56 20.6	
BRAG	**Branistea**	**0.99**	**104**		⇑S	**Sn**		**17 56 18.3**	**-2.1**
BRAG	**Branistea**	**0.99**	**104**		⇑S	**Sn**		**17 56 18.3**	**-2.1**
BRAG					AML	AML		17 56 19.2	
NEGR	**Negresti**	**1.00**	**99**		⇑P	**Pn**		**17 56 05.1**	**+0.3**
NEGR					⇑S	**Sn**		**17 56 18.9**	**-1.5**
NEGR	**Negresti**	**1.00**	**99**		⇑P	**Pn**		**17 56 05.1**	**+0.3**
NEGR					⇑S	**Sn**		**17 56 18.9**	**-1.5**
NEGR					AML	AML		17 56 20.3	
SULR		**1.03**	**188**		⇑P	**Pn**		**17 56 06.4**	**+1.3**
SULR					⇑S	**Sn**		**17 56 21.9**	**+1.0**
SULR		**1.03**	**188**		⇑P	**Pn**		**17 56 06.4**	**+1.3**
SULR					⇑S	**Sn**		**17 56 21.9**	**+1.0**
SULR					AML	AML		17 56 23.3	
VOIR		**1.03**	**256**		⇓P	**Pn**		**17 56 05.9**	**+0.7**
VOIR		**1.03**	**256**		⇓P	**Pn**		**17 56 05.9**	**+0.7**
GIUM	**Giurgiulesti**	**1.24**	**99**		⇓P	**Pn**		**17 56 08.8**	**+1.3**
GIUM					⇓S	**Sn**		**17 56 25.6**	**+0.4**
GIUM	**Giurgiulesti**	**1.24**	**99**		⇓P	**Pn**		**17 56 08.8**	**+1.3**
GIUM					⇓S	**Sn**		**17 56 25.6**	**+0.4**
LEHL	**Lehliu**	**1.25**	**168**		⇓P	**Pn**		**17 56 08.7**	**+1.2**
LEHL					⇓S	**Sn**		**17 56 26.0**	**+0.7**
LEHL	**Lehliu**	**1.25**	**168**		⇓P	**Pn**		**17 56 08.7**	**+1.2**
LEHL					⇓S	**Sn**		**17 56 26.0**	**+0.7**
LEHL					AML	AML		17 56 27.1	
BIZ	**Bicaz**	**1.27**	**349**		⇓P	**Pn**		**17 56 10.0**	**+2.1**
BIZ					⇓S	**Sn**		**17 56 26.2**	**+0.3**
BIZ	**Bicaz**	**1.27**	**349**		⇓P	**Pn**		**17 56 10.0**	**+2.1**
BIZ					⇓S	**Sn**		**17 56 26.2**	**+0.3**
CFR	**Carcaliu**	**1.28**	**113**		⇓P	**Pn**		**17 56 08.3**	**+0.3**
CFR					⇑S	**Sn**		**17 56 24.2**	**-1.9**
CFR	**Carcaliu**	**1.28**	**113**		⇓P	**Pn**		**17 56 08.3**	**+0.3**
CFR					⇑S	**Sn**		**17 56 24.2**	**-1.9**
CFR					AML	AML		17 56 27.1	
ARR	**Arges**	**1.33**	**256**		⇓P	**Pn**		**17 56 10.0**	**+1.4**
ARR					⇓S	**Sn**		**17 56 27.1**	**-0.1**
ARR	**Arges**	**1.33**	**256**		⇓P	**Pn**		**17 56 10.0**	**+1.4**
ARR					⇓S	**Sn**		**17 56 27.1**	**-0.1**
ARR					AML	AML		17 56 27.7	
GOLR		**1.36**	**232**		⇑S	**Sn**		**17 56 29.0**	**+1.3**
GOLR		**1.36**	**232**		⇑S	**Sn**		**17 56 29.0**	**+1.3**
GOLR					AML	AML		17 56 34.5	
BUC1	**Bucharest**	**1.38**	**193**		⇓S	**Sn**		**17 56 28.1**	**0.0**
BUC1	**Bucharest**	**1.38**	**193**		⇓S	**Sn**		**17 56 28.1**	**0.0**
BUC1					AML	AML		17 56 29.7	
HARR	**Harsova**	**1.44**	**134**		⇓P	**Pn**		**17 56 10.6**	**+0.8**
HARR	**Harsova**	**1.44**	**134**		⇓P	**Pn**		**17 56 10.6**	**+0.8**
LEOM	**Leova**	**1.46**	**57**		⇓P	**Pn**		**17 56 11.2**	**+1.2**
LEOM					⇓S	**Sn**		**17 56 29.9**	**0.0**
LEOM	**Leova**	**1.46**	**57**		⇓P	**Pn**		**17 56 11.2**	**+1.2**
LEOM					⇓S	**Sn**		**17 56 29.9**	**0.0**
SGRR	**Singureni**	**1.51**	**194**		⇑S	**Sn**		**17 56 30.8**	**-0.1**
SGRR	**Singureni**	**1.51**	**194**		⇑S	**Sn**		**17 56 30.8**	**-0.1**
SGRR					AML	AML		17 56 32.0	
HUMR	**Humele**	**1.57**	**223**		⇓P	**Pn**		**17 56 12.4**	**+1.0**
HUMR					⇓S	**Sn**		**17 56 32.2**	**0.0**
HUMR	**Humele**	**1.57**	**223**		⇓P	**Pn**		**17 56 12.4**	**+1.0**
HUMR					⇓S	**Sn**		**17 56 32.2**	**0.0**
HUMR					AML	AML		17 56 33.5	
TLB	**Topalu**	**1.57**	**134**		⇓P	**Pn**		**17 56 12.2**	**+0.8**
TLB					⇑S	**Sn**		**17 56 30.7**	**-1.5**
TLB	**Topalu**	**1.57**	**134**		⇓P	**Pn**		**17 56 12.2**	**+0.8**
TLB					⇑S	**Sn**		**17 56 30.7**	**-1.5**
TLB					AML	AML		17 56 31.9	
TOPG	**Topolog**	**1.58**	**121**		⇑P	**Pn**		**17 56 12.1**	**+0.6**
TOPG					⇑S	**Sn**		**17 56 30.8**	**-1.6**
TOPG	**Topolog**	**1.58**	**121**		⇑P	**Pn**		**17 56 12.1**	**+0.6**
TOPG					⇑S	**Sn**		**17 56 30.8**	**-1.6**
TOPG					AML	AML		17 56 33.0	
TLCR		**1.73**	**106**		⇑P	**Pn**		**17 56 14.6**	**+1.3**
TLCR

DEV	**Deva**	**2.50**	**276**	⇓P		**Pn**	**17 56 25.5**	**+2.3**
PRD	**Provadia**	**2.58**	**165**	*i* P		**Pn**	**17 56 26.4**	**+2.1**
GZR	**Gura Zlata**	**2.61**	**265**	⇓P		**Pn**	**17 56 26.2**	**+1.5**
GZR	**Gura Zlata**	**2.61**	**265**	⇓P		**Pn**	**17 56 26.2**	**+1.5**
GZR					AML	AML	17 57 03.0	
PLVB	**Pleven**	**2.66**	**210**	⇑P		**Pn**	**17 56 26.1**	**+0.8**
PLVB	**Pleven**	**2.66**	**210**	⇑P		**Pn**	**17 56 26.1**	**+0.8**
PLVB					AML	AML	17 56 56.6	
SORM	**Soroca**	**2.76**	**27**	⇑P		**Pn**	**17 56 27.5**	**+0.9**
SORM	**Soroca**	**2.76**	**27**	⇑P		**Pn**	**17 56 27.5**	**+0.9**
BAIL	**Bailesti**	**2.78**	**234**	⇓S		**Sn**	**17 57 00.0**	**+0.1**
BAIL	**Bailesti**	**2.78**	**234**	⇓S		**Sn**	**17 57 00.0**	**+0.1**
BAIL					AML	AML	17 57 01.5	
DRGR		**2.83**	**294**	*e*Pn		**Pn**	**17 56 30.6**	**+3.0**
DRGR		**2.83**	**294**	⇓P		**Pn**	**17 56 28.9**	**+1.3**
DRGR		**2.83**	**294**	⇓P		**Pn**	**17 56 28.9**	**+1.3**
DRGR					AML	AML	17 57 08.3	
MPEP	**Malo Peshtene**	**3.04**	**221**	P		**Pn**	**17 56 31.7**	**+1.3**
SIRR	**Siria**	**3.40**	**281**	⇑P		**Pn**	**17 56 37.4**	**+2.3**
SIRR	**Siria**	**3.40**	**281**	⇑P		**Pn**	**17 56 37.4**	**+2.3**
SIRR					AML	AML	17 57 52.9	
BZS	**Buzias**	**3.40**	**270**	*e*Pn		**Pn**	**17 56 36.2**	**+1.0**
BZS	**Buzias**	**3.40**	**270**	⇓P		**Pn**	**17 56 36.5**	**+1.3**
BZS	**Buzias**	**3.40**	**270**	⇓P		**Pn**	**17 56 36.5**	**+1.3**
ZAGS	**Zajecar**	**3.55**	**240**	*e*Pn		**Pn**	**17 56 36.9**	**-0.3**
ZAGS				*e*Sn		**Sn**	**17 57 14.4**	**-4.0**
KUBS	**Kucevo**	**3.63**	**251**	*e*Pn		**Pn**	**17 56 37.9**	**-0.3**
KUBS				*e*Sn		**Sn**	**17 57 16.5**	**-3.7**
ZAPS	**Zavoj**	**3.66**	**230**	*e*Pn		**Pn**	**17 56 39.7**	**+1.1**
ZAPS				*e*Sn		**Sn**	**17 57 17.8**	**-3.1**
VTS	**Vitosha**	**3.85**	**218**	*e*Pn		**Pn**	**17 56 42.7**	**+1.3**
VTS				*e*Sn		**Sn**	**17 57 23.8**	**-2.1**
VTS	**Vitosha**	**3.85**	**218**	P		**Pn**	**17 56 43.3**	**+1.7**
BOVS	**Bovan**	**3.97**	**240**	*e*Pn		**Pn**	**17 56 43.6**	**+0.8**
BOVS				*e*Sn		**Sn**	**17 57 25.6**	**-2.8**
BOSS	**Bosilegrad**	**4.30**	**223**	*e*Pn		**Pn**	**17 56 48.9**	**+1.7**
BOSS				*e*Sn		**Sn**	**17 57 34.0**	**-2.3**
BARS	**Barje**	**4.41**	**231**	*e*Pn		**Pn**	**17 56 49.7**	**+1.0**
BARS				*e*Sn		Sn	17 57 13.4	-26
GRUS	**Gruza**	**4.47**	**248**	*e*Pn		**Pn**	**17 56 50.8**	**+1.2**
GRUS				*e*Sn		**Sn**	**17 57 38.4**	**-2.1**
SELS	**Selova**	**4.56**	**239**	*e*Pn		**Pn**	**17 56 51.4**	**+0.7**
DIVS	**Divibare**	**4.87**	**253**	*e*Pn		**Pn**	**17 56 56.1**	**+1.1**
DIVS				*e*Sn		**Sn**	**17 57 46.7**	**-3.5**
IVAS	**Ivanjica**	**4.98**	**247**	*e*Pn		**Pn**	**17 56 56.4**	**-0.1**
IVAS				*e*Sn		**Sn**	**17 57 48.2**	**-4.7**

*IDC **09** 18:06:01.7±1.1,52°.24N×163°.97W,h0km,mb3.6/8, mb1 3.9/10,mb1mx3.6/41,mbtmp3.6/10,ML2.8/2, Error ellipse: s-maj=32.1km s-min=17.7km az=166.0*
*ISCJB **09** 18:06:05.1±0.7,52°.41N±0°.10×163°.91W±0°.09,h33km, mb3.6/8,Error ellipse: s-maj=14.2km s-min=7.0km az=163.4*
*AEIC **09** 18:06:07.3±1.4,52°.5N±0°.1×164°.1W±0°.1,h25km±2km,ML3.4*
*NEIC **09** 18:06:07.1±0.7,52°.45N±0°.07×163°.9W±0°.1,h36km±26km*
ISC 09 18:06:07.5±0.9,52°.6N±0°.1×163°.88W±0°.08,h35km,n26, σ1§65/21,mb3.7/8,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**1.95**	**325**		**Pn**	**18 06 38.4**	**+0.4**
UNV	**Unalaska Valle**	**2.04**	**310**		**Pn**	**18 06 39.5**	**+0.2**
FALS	**False Pass**	**2.33**	**7**		**Pn**	**18 06 44.1**	**+1.0**
NIKH	**Nikolski High**	**3.05**	**280**	Pn	**Pn**	**18 06 52.5**	**-0.7**
ATKA	**Atka Island**	**6.33**	**271**	Pn	**Pn**	**18 07 38.7**	**+0.5**
GSTR	**Great Sitkin T**	**7.48**	**271**	Pn	**Pn**	**18 07 53.3**	**-0.8**
ADK	**Adak**	**7.90**	**270**		**Pn**	**18 08 00.4**	**+0.8**
KIWB	**Kanaga Island**	**8.19**	**270**	Pn	**Pn**	**18 08 03.0**	**-0.6**
KDAK	**Kodiak Island**	**8.32**	**46**	Pn	**Pn**	**18 08 05.9**	**+0.6**
	0.2nm,0.3s,baz=186,slow=3.1,SNR=16						
KDAK					**Sn**	**18 09 32.8**	**-5.2**
	baz=156,slow=19,SNR=1.9						
KDAK	**Kodiak Island**	**8.32**	**46**	Pn	**Pn**	**18 08 06.7**	**+1.3**
SUA	**Susitna One**	**11.42**	**33**	Pn	**Pn**	**18 08 48.4**	**+0.4**
ILAR	**Eielson Array**	**15.03**	**29**	Pn	**Pn**	**18 09 37.8**	**+0.8**
	0.0nm,0.3s,baz=221,slow=9.5,SNR=3.0						
INK	**Inuvik**	**21.40**	**31**	P	**P**	**18 10 54.0**	**+2.3**
	3.5nm,1.0s,baz=215,slow=10,SNR=7.3						
PETK	**Petropavlovsk-**	**23.04**	**287**	P	**P**	**18 11 09.2**	**-0.1**
	3.0nm,0.6s,baz=83,slow=13,SNR=9.5						
YKA	**Yellowknife Ar**	**27.58**	**49**	P	**P**	**18 11 53.3**	**+2.5**
	0.1nm,0.4s,baz=269,slow=7.6,SNR=3.5						
PDAR	**Pinedale Array**	**37.05**	**83**	P	**P**	**18 13 13.6**	**-0.5**
	0.1nm,0.3s,baz=284,slow=7.3,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**39.85**	**226**	T	T	18 57 31.1	
	baz=25,slow=76,SNR=10						
H11N3	**WAKE ISLAND Hy**	**39.85**	**226**	T	T	18 57 32.8	
	baz=25,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**39.87**	**226**	T	T	18 57 31.1	
	baz=25,slow=76,SNR=6.6						
H11S1	**WAKE ISLAND Hy**	**41.01**	**225**	T	T	18 59 01.1	
	baz=24,slow=75,SNR=9.9						
H11S2	**WAKE ISLAND Hy**	**41.02**	**225**	T	T	18 59 01.1	
	baz=24,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**41.03**	**225**	T	T	18 59 03.4	
	baz=24,slow=75,SNR=7.8						
TXAR	**Lajitas Array**	**49.39**	**93**	P	**P**	**18 14 54.0**	**+0.4**
	0.7nm,0.9s,baz=297,slow=5.5,SNR=3.7						
MKAR	**Makanchi Array**	**66.06**	**317**	P	**P**	**18 16 51.3**	**+0.9**
	0.5nm,0.8s,baz=44,slow=4.8,SNR=3.1						
CMAR	**Chiang Mai Arr**	**79.82**	**287**	P	**P**	**18 18 11.4**	**-0.8**
	0.7nm,0.8s,baz=6.2,slow=4.7,SNR=5.8						
ASAR	**Alice Springs**	**93.16**	**234**	P	**P**	**18 19 16.3**	**-1.4**
	0.5nm,0.9s,baz=41,slow=5.7,SNR=4.1						

*IDC **09** 18:27:21.0±1.5,28°.59N×53°.68E,h0km,mb3.7/4, mb1 3.6/6,mb1mx3.3/39,mbtmp3.6/6,ML3.4/2,Error ellipse: s-maj=32.6km s-min=27.3km az=175.0*
*TEH **09** 18:27:23.1,28°.54N×53°.76E,h11km,ML3.4*
*OMAN **09** 18:27:27.8±3.1,28°.40N×53°.85E,h177km±33km,ml3.4/6, Error ellipse: s-maj=48.2km s-min=34.2km az=47.0*
ISC 09 18:27:23.4±1.2,28°.50N±0°.06×53°.71E±0°.08,h16km±9km, n36,σ1§81/41,mb3.7/4,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**0.12**	**272**	*e*Pg	**Pg**	**18 27 26.9**	**-0.3**
ISRV	**Sarvestan**	**1.02**	**329**	*e*Pg	**Pb**	**18 27 43.2**	**+0.2**
ISRV				IAMB	IAmb	18 28 19.4	
	comp=Z,15μm,1.2s						
SHI	**Shiraz**	**1.55**	**318**	*e*Pn	**Pb**	**18 27 51.7**	**-0.1**
IKAZ	**Kazeroun**	**2.08**	**308**	*e*Pn	**Pb**	**18 28 00.1**	**-0.8**
GENO	**Geno**	**2.44**	**116**	*e*Pn	**Pn**	**18 28 05.2**	**+2.5**
GENO				IAMB	IAmb	18 28 55.7	
	comp=Z,0.0nm,0.8s						
NIAN	**Nian**	**2.91**	**108**	*e*Pn	**Pn**	**18 28 11.0**	**+1.9**
NIAN				IAMB	IAmb	18 29 20.9	
	comp=Z,0.0nm,0.5s						
IMEH	**Mehriz**	**2.98**	**15**	*e*Pn	**Pn**	**18 28 12.5**	**+2.2**
TVBK	**TV Kerman**	**3.05**	**60**	*e*Pn	**Pn**	**18 28 13.3**	**+2.0**
TVBK				IAMB	IAmb	18 29 02.8	
	comp=Z,0.0nm,1.0s						
KHGB	**Koh Gabri**	**3.05**	**52**	*e*Pn	**Pn**	**18 28 11.7**	**+0.5**
KHGB				IAMB	IAmb	18 29 15.2	
	comp=Z,0.0nm,0.8s						
KLNJ	**Kolanjah**	**3.11**	**324**	*e*Pn	**Pn**	**18 28 13.1**	**+1.0**
BANOM	**Banah**	**3.45**	**138**	P	**Pn**	**18 28 20.0**	**+3.5**
BANOM				S	**Sb**	**18 29 03.0**	**-2.8**
IBAF	**Bafgh**	**3.47**	**27**	*e*Pn	**Pn**	**18 28 18.2**	**+1.2**
IRAM	**Rameshed**	**3.49**	**341**	*e*Pn	**Pn**	**18 28 19.2**	**+1.9**
KHNJ	**Kahnooj**	**3.57**	**98**	*e*Pn	**Pn**	**18 28 20.0**	**+1.9**
CHMN	**Cheshme madani**	**3.61**	**67**	IAMB	IAmb	18 29 33.2	
	comp=Z,0.0nm,1.2s						
MDH	**Madha**	**3.94**	**144**	P	**Pn**	**18 28 26.5**	**+3.3**
UOSS	**Minazif**	**4.18**	**147**	P	**Pn**	**18 28 28.5**	**+1.9**
HATD	**Hatta, Dubai**	**4.25**	**149**	P	**Pn**	**18 28 30.8**	**+3.2**
HATD				S	**Sn**	**18 29 18.4**	**+1.5**
ASHO	**Ashiyiah**	**4.34**	**151**	P	**Pn**	**18 28 32.1**	**+3.3**
	SNR=11						
ASHO				S	**Sn**	**18 29 19.5**	**+0.4**
IPIR	**Pirpir**	**4.83**	**330**	*e*Pn	**Pn**	**18 28 37.7**	**+2.0**
TPRV	**Parvadeh(Tabas**	**5.19**	**29**	*e*Pn	**Pn**	**18 28 42.6**	**+2.1**
ARQ	**Araqi**	**5.73**	**153**	P	**Pn**	**18 28 49.9**	**+2.0**
ARQ				S	**Sn**	**18 29 54.3**	**+0.9**
BSY	**Bisya**	**6.54**	**150**	P	**Pn**	**18 29 01.5**	**+2.5**
SMDO	**Samad**	**6.68**	**143**	P	**Pn**	**18 29 02.1**	**+1.1**
SMDO				S	**Sn**	**18 30 17.0**	**+0.1**
WSAR	**Wadi Sarin**	**6.86**	**139**	P	**Pn**	**18 29 03.8**	**+0.4**
	SNR=12						
WSAR	**Wadi Sarin**	**6.86**	**139**	Pn	**Pn**	**18 29 04.4**	**+1.0**
	comp=Z,1.8nm,0.3s,baz=348,slow=12,SNR=17						
WSAR				Sn	**Sn**	**18 30 18.8**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=152,slow=20,SNR=3.4						
JMDO	**Jabal Madar**	**7.28**	**146**	P	**Pn**	**18 29 10.8**	**+1.6**
WBK	**Wadi Bani Khal**	**7.54**	**140**	P	**Pn**	**18 29 13.0**	**+0.1**
	SNR=11						
DQM	**DQM**	**9.22**	**157**	P	**Pn**	**18 29 36.5**	**+0.7**
WHFO	**Wadi Hawf**	**10.53**	**180**	P	**Pn**	**18 29 54.0**	**+0.2**
	SNR=14						
ABTO	**Aybut**	**11.10**	**182**	P	**Pn**	**18 30 01.0**	**-0.7**
	SNR=7.1						
BRTR	**Keskin Array B**	**19.99**	**309**	P	**P**	**18 31 55.0**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=131,slow=13,SNR=2.5						
MKAR	**Makanchi Array**	**28.84**	**43**	P	**P**	**18 33 20.9**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=239,slow=11,SNR=1.8						
ZALV	**Zalesovo Beam**	**34.07**	**33**	P	**P**	**18 34 06.0**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=243,slow=7.1,SNR=2.6						
FINES	**FINESS Array B**	**37.72**	**339**	P	**P**	**18 34 37.1**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=136,slow=8.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**50.59**	**264**	P	**P**	**18 36 21.5**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=64,slow=6.9,SNR=9.7						

MAN 09 18:43:11.8,10°.03N×124°.19E,h17km,mb4.2,ML3.0, MS2.7,1C-1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.36**	**322**	⇓P	Pb	18 43 19.9	+0.2
LLP				S	Sb	18 43 26.6	+1.5
MSLP	**Maasin**	**0.67**	**81**	P	Pb	18 43 25.1	+0.1
MSLP				S	Sn	18 43 37.1	+0.5
SNPH	**Sibulan**	**1.16**	**234**	⇑P	Pn	18 43 32.7	-0.6
SNPH				S	Sn	18 43 48.7	-0.2
GUIM	**Jordan**	**1.68**	**291**	P	Pn	18 43 39.8	-0.7
GUIM				S	Sb	18 44 02.7	-0.5

*CNRM **09** 18:45:43.2,36°.96N×7°.62W,h17km*
*ISCJB **09** 18:45:43.4±0.4,37°.19N±0°.02×7°.49W±0°.03,h30km±4km, Error ellipse: s-maj=4.2km s-min=3.1km az=44.7*
*MDD **09** 18:45:44.9±0.3,37°.21N×7°.55W,h22km,mbLg2.7/30, Error ellipse: s-maj=3.5km s-min=2.3km az=21.0,PRXIMO*
*SFS **09** 18:45:44.0,37°.20N×7°.50W,h22km,ML2.6,CASTRO MARIM (PORTUGAL)*
*IGIL **09** 18:45:44.7,37°.18N×7°.51W,h16km,ML3.0*
*INMG **09** 18:45:44.5±1.4,37°.18N×7°.51W,h15km±2km,MD2.5, ML2.6,Error ellipse: s-maj=2.2km s-min=1.7km az=20.0*
ISC 09 18:45:43.9±0.9,37°.17N±0°.02×7°.55W±0°.02,h25km±7km, n89,σ2§05/166,7C-8D,Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVAQ	**Vaqueiros**	**0.27**	**330**	⇓*i*Pg	**Pb**	**18 45 50.5**	**0.0**
PVAQ				*e*Sg	**Sb**	**18 45 54.5**	**-0.4**
PVAQ				A	A	18 45 55.2	
	532nm,0.2s						
PVAQ	**Vaqueiros**	**0.27**	**330**	P	**Pb**	**18 45 50.9**	**+0.5**
PVAQ				S	**Sb**	**18 45 55.7**	**+0.7**
PVAQ	**Vaqueiros**	**0.27**	**330**	Pg	**Pb**	**18 45 50.5**	**0.0**
PVAQ				Lg	Lg	18 45 54.5	
	532nm,0.2s						
PBDV	**Barranco-do-Ve**	**0.31**	**283**	⇓*i*Pg	**Pb**	**18 45 51.5**	**+0.4**
PBDV				*e*Sg	**Sb**	**18 45 56.3**	**+0.2**
PBDV				A	A	18 45 58.1	
	285nm,0.2s						
PBDV	**Barranco-do-Ve**	**0.31**	**283**	Pg	**Pb**	**18 45 51.5**	**+0.4**
PBDV				Lg	Lg	18 45 56.3	
	285nm,0.2s						
EGRO	**El Granado**	**0.36**	**8**	⇓Pg	**Pb**	**18 45 52.0**	**+0.1**
	20nm,0.1s,SNR=18						
EGRO				Lg	Lg	18 45 56.9	
	406nm,0.1s						
PCVE	**Castro Verde**	**0.60**	**320**	⇓*i*Pg	**Pb**	**18 45 55.9**	**0.0**
PCVE				*e*Sg	**Sb**	**18 46 04.2**	**+0.2**
PCVE				A	A	18 46 05.8	
	206nm,0.2s						
PCVE	**Castro Verde**	**0.60**	**320**	Pg	**Pb**	**18 45 55.9**	**0.0**
PCVE				Lg	Lg	18 46 04.2	
	206nm,0.2s						
MESJ	**Messejana**	**0.85**	**321**	*e*P	**Pb**	**18 46 00.0**	**0.0**
MESJ				*e*S	**Sb**	**18 46 11.1**	**0.0**
MESJ				AML	AML	18 46 13.8	
	comp=N,220nm,0.2s						
MESJ	**Messejana**	**0.85**	**321**	Pg	**Pb**	**18 46 00.0**	**0.0**
MESJ				Lg	Lg	18 46 11.1	
	comp=N,220nm,0.2s						
MORF	**Marmelete**	**0.89**	**279**	*e*P	**Pb**	**18 46 00.8**	**+0.1**
MORF				*e*S	**Sn**	**18 46 12.9**	**-0.1**
MORF				AML	AML	18 46 15.2	
	comp=N,703nm,0.3s						
MORF	**Marmelete**	**0.89**	**279**	*e*P	**Pb**	**18 46 00.8**	**+0.1**
MORF				*e*S	**Sn**	**18 46 13.5**	**+0.5**
MORF				A	A	18 46 15.7	
	comp=N,269nm,0.1s						
MORF	**Marmelete**	**0.89**	**279**	Pg	**Pb**	**18 46 00.8**	**+0.1**
MORF				Lg	Lg	18 46 13.5	
	comp=N,269nm,0.1s						
PBEJ	**Beja**	**0.89**	**344**	*e*P	**Pb**	**18 46 00.6**	**-0.1**
PBEJ				*e*S	**Sb**	**18 46 12.2**	**0.0**
PBEJ				A	A	18 46 13.4	
	comp=N,93nm,0.4s						
PBEJ	**Beja**	**0.89**	**344**	Pg	**Pb**	**18 46 00.6**	**-0.1**
PBEJ				Lg	Lg	18 46 12.2	
	comp=N,47nm,0.4s						
EMIN	**Mina Concepcio**	**0.92**	**49**	Pg	**Pb**	**18 46 00.7**	**-0.4**
	comp=N,1.4nm,0.1s,SNR=172						
EMIN				Lg	Lg	18 46 12.3	
	comp=N,42nm,0.1s,SNR=29						
PFVI	**Vila Bisbo**	**1.02**	**268**	⇑*e*P	**Pn**	**18 46 02.5**	**-0.1**
PFVI				*e*S	**Sn**	**18 46 17.1**	**+0.9**
PFVI				A	A	18 46 21.0	
	comp=N,107nm,0.2s						
PFVI	**Vila Bisbo**	**1.02**	**268**	P	**Pb**	**18 46 04.1**	**+1.1**
PFVI				S	**Sn**	**18 46 17.5**	**+1.4**
PFVI	**Vila Bisbo**	**1.02**	**268**	⇑Pg	**Pn**	**18 46 02.5**	**-0.1**
	comp=N,12nm,0.1s,SNR=18						
PFVI				Lg	Lg	18 46 16.6	
	comp=N,176nm,0.1s,SNR=6.3						
PBAR	**Barrancos**	**1.08**	**22**	⇑*e*P	**Pn**	**18 46 03.2**	**-0.2**
PBAR				*e*S	**Sn**	**18 46 17.7**	**+0.1**
PBAR				A	A	18 46 22.1	
	comp=N,41nm,0.3s						
PBAR	**Barrancos**	**1.08**	**22**	Pg	**Pn**	**18 46 03.2**	**-0.2**
PBAR				Lg	Lg	18 46 17.7	
	comp=N,41nm,0.3s						
PNCL	**Nicolau / Gran**	**1.22**	**321**	*e*P	**Pn**	**18 46 05.2**	**-0.1**
PNCL				*e*S	**Sb**	**18 46 21.7**	**+0.1**
PNCL				A	A	18 46 24.7	
	comp=N,50nm,0.1s						
PNCL	**Nicolau / Gran**	**1.22**	**321**	Pg	**Pn**	**18 46 05.2**	**-0.1**
PNCL				Lg	Lg	18 46 21.7	
	comp=N,50nm,0.1s						
GIBL	**Gibalbin**	**1.31**	**105**	⇑*i*P	**Pb**	**18 46 10.5**	**+2.6**
GIBL				*e*S	**Sb**	**18 46 24.5**	**+0.2**
GIBL	**Gibalbin**	**1.31**	**105**	⇑Pg	**Pb**	**18 46 10.5**	**+2.6**
GIBL				Lg	Lg	18 46 24.5	
ESPR	**Espera**	**1.39**	**102**	⇓Pn	**Pn**	**18 46 07.8**	**+0.2**
	comp=N,4.5nm,0.1s,SNR=18						
ESPR				Pg	**Pb**	**18 46 10.4**	**+1.3**
	comp=N,4.4nm,0.1s,SNR=7.9						
ESPR				Sn	**Sn**	**18 46 25.5**	**+0.3**
	comp=N,31nm,0.2s,SNR=7.9						
ESPR				Lg	Lg	18 46 28.8	
	comp=N,137nm,0.2s,SNR=8.4						
EVO	**Evora**	**1.41**	**345**	*e*Pn	**Pn**	**18 46 08.0**	**+0.1**
EVO	**Evora**	**1.41**	**345**	*e*Pg	**Pb**	**18 46 09.8**	**+0.3**
EVO				*e*Sg	**Sb**	**18 46 27.5**	**+0.5**
EVO				A	A	18 46 30.5	
	comp=N,64nm,0.2s						
EVO	**Evora**	**1.41**	**345**	*e*Pn	**Pb**	**18 46 09.0**	**-0.5**
EVO	**Evora**	**1.41**	**345**	*i* Pg	**Pb**	**18 46 13.0**	**+3.5**
EVO				*e*S	**Sn**	**18 46 26.6**	**+0.9**
EVO	**Evora**	**1.41**	**345**	Pn	**Pn**	**18 46 08.0**	**+0.1**
EVO				Pg	**Pb**	**18 46 09.8**	**+0.3**
EVO				Lg	Lg	18 46 27.5	
	comp=N,64nm,0.2s						
EBAD	**Badajoz**	**1.64**	**15**	Pn	**Pn**	**18 46 10.6**	**-0.5**
	comp=N,0.3nm,0.1s,SNR=7.9						
EBAD				Pg	**Pb**	**18 46 13.6**	**+0.2**
	comp=N,1.4nm,0.1s,SNR=23						
EBAD				Sn	**Sn**	**18 46 29.3**	**-2.1**
	comp=N,2.3nm,0.0s,SNR=7.9						
EBAD				Lg	Lg	18 46 33.0	
	comp=N,60nm,0.2s,SNR=14						
PESTR	**Estremoz**	**1.69**	**359**	*e*Pn	**Pn**	**18 46 11.4**	**-0.5**
PESTR	**Estremoz**	**1.69**	**359**	*e*Pg	**Pb**	**18 46 15.0**	**+0.6**
PESTR				*e*Sg	**Sb**	**18 46 36.7**	**+1.5**
PESTR				A	A	18 46 42.7	
	comp=N,38nm,0.6s						
PESTR	**Estremoz**	**1.69**	**359**	P	**Pb**	**18 46 15.0**	**+0.6**
PESTR				S	**Sb**	**18 46 37.6**	**+2.4**
LIJA	**Lijar**	**1.74**	**98**	⇓*i*P	**Pn**	**18 46 13.4**	**+0.8**
LIJA				*e*S	**Sb**	**18 46 37.2**	**+0.7**
LIJA	**Lijar**	**1.74**	**98**	⇓Pg	**Pn**	**18 46 13.4**	**+0.8**
LIJA				Lg	Lg	18 46 37.2	
ECAB	**El Cabril**	**1.92**	**61**	Pn	**Pn**	**18 46 14.6**	**-0.3**
	comp=N,0.1nm,0.1s,SNR=7.9						
ECAB				Pg	**Pb**	**18 46 18.2**	**0.0**
	comp=N,0.7nm,0.1s,SNR=24						
ECAB				Sn	**Sn**	**18 46 36.7**	**-1.6**
	comp=N,1.0nm,0.1s,SNR=7.5						
ECAB				Lg	Lg	18 46 41.2	
	comp=N,13nm,0.1s,SNR=15						
HORN	**Hornachuelos**	**1.94**	**69**	P	**Pb**	**18 46 19.3**	**+0.8**
HORN				S	**Sb**	**18 46 43.6**	**+1.2**
PMTG	**Montargil**	**1.97**	**344**	*e*Pn	**Pn**	**18 46 15.0**	**-0.7**
PMTG	**Montargil**	**1.97**	**344**	*e*Pg	**Pb**	**18 46 19.3**	**+0.3**
PMTG				*e*Sn	**Sn**	**18 46 39.3**	**-0.2**
PMTG				*e*Sg	**Sb**	**18 46 45.8**	**+2.7**
PMTG				A	A	18 46 46.7	
	comp=N,35nm,0.2s						
PMTG	**Montargil**	**1.97**	**344**	Pn	**Pn**	**18 46 15.0**	**-0.7**
PMTG				Pg	**Pb**	**18 46 19.3**	**+0.3**
PMTG				Sn	**Sn**	**18 46 39.3**	**-0.2**
PMTG				Lg	Lg	18 46 45.8	
	comp=N,35nm,0.2s						
PMAFR	**Mafra**	**2.25**	**323**	*e*Pn	**Pn**	**18 46 19.9**	**+0.4**
PMAFR				*e*Sn	**Sn**	**18 46 45.5**	**-0.9**
PMAFR				*e*Sg	**Sb**	**18 46 53.8**	**+2.7**
PMAFR				A	A	18 47 03.3	
	comp=N,36nm,0.3s						
PMAFR	**Mafra**	**2.25**	**323**	Pn	**Pn**	**18 46 19.7**	**+0.2**
	comp=N,1.1nm,0.1s,SNR=7.9						
PMAFR				Pg	**Pb**	**18 46 22.3**	**-1.5**
	comp=N,1.1nm,0.1s,SNR=7.9						
PMAFR				Sn	**Sn**	**18 46 44.2**	**-2.3**
	comp=N,2.3nm,0.1s,SNR=7.9						
PMAFR				Lg	Lg	18 46 51.6	
	comp=N,28nm,0.2s,SNR=4.0						
PMRV	**Marv??o**	**2.26**	**3**	*e*Pn	**Pn**	**18 46 19.3**	**-0.3**
PMRV				*e*Sg	**Sb**	**18 46 52.7**	**+1.3**
PMRV				A	A	18 46 57.9	
	comp=N,30nm,0.4s						
PMRV	**Marv??o**	**2.26**	**3**	Pn	**Pn**	**18 46 19.3**	**-0.3**
PMRV				Lg	Lg	18 46 52.7	
	comp=N,30nm,0.4s						
EMIJ	**Mijas**	**2.31**	**104**	Pn	**Pn**	**18 46 20.2**	**-0.1**
	comp=N,0.6nm,0.1s,SNR=10						
EMIJ				Pg	**Pb**	**18 46 25.6**	**+0.7**
	comp=N,0.6nm,0.1s,SNR=7.9						
EMIJ				Sn	**Sn**	**18 46 47.5**	**-0.4**
	comp=N,0.9nm,0.1s,SNR=7.9						
EMIJ				Lg	Lg	18 46 54.8	
	comp=N,2.8nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**2.53**	**345**	*e*Pn	**Pn**	**18 46 23.5**	**+0.1**
PTOM				*e*Sg	**Sb**	**18 47 01.9**	**+2.5**
PTOM				A	A	18 47 07.3	
	comp=N,23nm,0.3s						
PTOM	**Tomar**	**2.53**	**345**	Pn	**Pn**	**18 46 23.5**	**+0.1**
PTOM				Lg	Lg	18 47 01.9	
	comp=N,11nm,0.3s						
EADA	**Adamuz**	**2.56**	**66**	Pn	**Pn**	**18 46 23.4**	**-0.4**
	comp=N,0.5nm,0.1s,SNR=7.9						
EADA				Pg	**Pb**	**18 46 29.5**	**+0.4**
	comp=N,0.4nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**18 46 51.4**	**-2.7**
	comp=N,1.0nm,0.1s,SNR=7.9						
EADA				Lg	Lg	18 47 01.8	
	comp=N,12nm,0.2s,SNR=13						
PCBR	**Castelo Branco**	**2.67**

MVO	**Moncorvo**	**4.01**	**6**	Pn		**Pn**	**18 46 43.6**	**-0.1**
	comp=N,0.8nm,0.1s,SNR=7.9							
MVO				Pg		**Pb**	**18 46 53.4**	**-0.5**
	comp=N,0.7nm,0.1s,SNR=7.9							
MVO				Sn		**Sn**	**18 47 26.1**	**-3.8**
	comp=N,0.3nm,0.1s,SNR=7.9							
MVO				Lg		Lg	18 47 44.3	
	comp=N,0.8nm,0.1s,SNR=7.9							
SESP	**Santiago Espad**	**4.08**	**75**	P		**Pn**	**18 46 47.1**	**+2.2**
SESP				S		**Sn**	**18 47 35.6**	**+3.6**
SESP	**Santiago Espad**	**4.08**	**75**	Pn		**Pn**	**18 46 43.9**	**-1.0**
	comp=N,0.2nm,0.1s,SNR=7.9							
SESP				Sn		**Sn**	**18 47 29.7**	**-2.2**
	comp=N,1.7nm,0.1s,SNR=7.9							
SESP				Lg		Lg	18 47 47.9	
	comp=N,7.0nm,0.2s,SNR=7.9							
PVRL	**Vila Real**	**4.10**	**358**	*e*Sn		**Sn**	**18 47 29.8**	**-2.4**
PVRL				*e*Sg		**Sb**	**18 47 50.1**	**+5.6**
PVRL	**Vila Real**	**4.10**	**358**	Sn		**Sn**	**18 47 29.8**	**-2.4**
PVRL				Lg		Lg	18 47 50.1	
GUD	**Guadarrama**	**4.36**	**36**	Lg		Lg	18 47 54.3	
	comp=N,0.9nm,0.3s,SNR=7.9							
PCAB	**Cabril**	**4.55**	**355**	*e*Sn		**Sn**	**18 47 40.3**	**-2.9**
PCAB				A		A	18 48 12.0	
	comp=N,8.4nm,0.7s							
PCAB	**Cabril**	**4.55**	**355**	Sn		**Sn**	**18 47 40.3**	**-2.9**
	comp=N,4.2nm,0.7s							
PBRG	**Braganca**	**4.67**	**7**	*e*Sn		**Sn**	**18 47 43.2**	**-3.0**
PBRG				*e*Sg		**Sb**	**18 48 06.4**	**+5.6**
PBRG				A		A	18 48 18.1	
	comp=N,5.0nm,0.4s							
PBRG	**Braganca**	**4.67**	**7**	Sn		**Sn**	**18 47 43.2**	**-3.0**
PBRG				Lg		Lg	18 48 06.4	
	comp=N,2.5nm,0.4s							
ELOB	**Lobios**	**4.71**	**355**	Pn		**Pn**	**18 46 52.8**	**-0.6**
	comp=N,0.4nm,0.0s,SNR=7.9							
ELOB				Sn		**Sn**	**18 47 43.4**	**-3.8**
	comp=N,0.5nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**4.80**	**7**	Pn		**Pn**	**18 46 54.7**	**0.0**
	comp=N,0.1nm,0.1s,SNR=7.9							
ECAL				Sn		**Sn**	**18 47 44.4**	**-5.2**
	comp=N,0.1nm,0.1s,SNR=7.9							
ECAL				Lg		Lg	18 48 07.4	
	comp=N,1.2nm,0.3s,SNR=7.9							
MD31	**MD31**	**4.87**	**151**	P		**Pn**	**18 46 55.5**	**-0.1**
MD31				S		**Sn**	**18 47 47.1**	**-4.1**
ETOB	**Tobarra**	**4.97**	**71**	Pn		**Pn**	**18 46 56.0**	**-1.0**
	comp=N,0.8nm,0.2s,SNR=7.2							
ETOB				Sn		**Sn**	**18 47 50.2**	**-3.4**
	comp=N,0.4nm,0.1s,SNR=7.9							
ETOB				Lg		Lg	18 48 15.4	
	comp=N,2.5nm,0.3s,SNR=5.0							
MDT	**Midelt**	**4.97**	**150**	P		**Pn**	**18 46 56.7**	**-0.4**
MDT				S		**Sn**	**18 47 49.7**	**-4.1**
ETOR	**Torete**	**5.62**	**48**	Pn		**Pn**	**18 47 08.9**	**+3.0**
	comp=N,0.9nm,0.1s,SNR=5.5							
ETOR				Sn		**Sn**	**18 48 05.6**	**-4.0**
	comp=N,0.7nm,0.1s,SNR=7.9							
ETOR				Lg		Lg	18 48 31.3	
	comp=N,4.3nm,0.5s,SNR=7.9							
EAGO	**Agolada(Pontev**	**5.64**	**356**	Sn		**Sn**	**18 48 04.3**	**-5.8**
	comp=N,0.3nm,0.1s,SNR=7.9							
OUK	**Oukaimeden**	**5.96**	**183**	P		**Pn**	**18 47 06.4**	**-4.4**
OUK				S		**Sn**	**18 48 15.3**	**-3.1**
OUZM	**OUZ**	**6.28**	**174**	P		**Pn**	**18 47 14.4**	**-0.7**
OUZM				S		**Sn**	**18 48 22.6**	**-3.5**
TZRR	**Tazzarine**	**6.58**	**165**	P		**Pn**	**18 47 18.4**	**-0.7**
TZRR				S		**Sn**	**18 48 31.0**	**-2.4**
TTIG	**Tnine Tigouga,**	**6.65**	**187**	P		**Pn**	**18 47 16.2**	**-3.9**
TTIG				S		**Sn**	**18 48 27.3**	**-7.9**

*ISCJB **09** 19:06:21.3±0.3, 41.12S±0.06×44.18E±0.08, h10km, mb4.4/21, MS3.8/22, Error ellipse: s-maj=8.6km s-min=7.9km az=162.1*

*IDC **09** 19:06:21.1±0.5, 41.13S×44.23E, h0km, mb4.4/20, mb1 4.5/21, mb1mx4.3/40, mbtmp4.4/21, ML3.5/1, MS3.8/23, Ms1 3.8/23, ms1mx3.7/34, Error ellipse: s-maj=18.0km s-min=14.1km az=45.0*

*GCMT **09** 19:06:21.8±0.4, 41.05S±0.02×44.12E±0.05, h20km±1km, MW4.9/82, Moment Tensor Solution. s28,c30; s82,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r=2.52±.17; $M_{\theta\theta}$2.09±.10; $M_{\phi\phi}$0.43±.10; $M_{rθ}$-0.70±.16; $M_{rφ}$0.18±.06; $M_{\theta\phi}$0.19±.28; Best double couple: $M_0$2.42400×10^{16} NP1:ϕ_{s1}89.00000°, δ53.00000°, λ-84.00000°. NP2: ϕ_{s2}260.00000°, δ37.00000°, λ-98.00000°. Principal axes: T 2.2080, Plg8.0000°, Azm175.0000°; N 0.4390, Plg5.0000°, Azm266.0000°; P -2.6400, Plg80.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **09** 19:06:21.0±0.0, 41.10S×44.10E, h5km, mb4.7/9, mB5.1/3, Ms5.4/2, Ms7 5.1/2*

*NEIC **09** 19:06:22.8±1.3, 41.10S±0.08×44.2E±0.1, h10km±1km, mb4.7/26*

ISC 09 19:06:23.1±0.4, **41.12S**±0.08×**44.16E**±0.09, **h10**km, **n115, s128**/106, **mb4.5**/27, **MS3.8**/22, **Crozet Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CRZF	**Crozet Islands**	**7.70**	**136**	Pn		**Pn**	**19 08 14.7**	**-0.5**
BOSA	**Boshof**	**19.85**	**303**	P		**P**	**19 10 54.5**	**+0.1**
	0.1nm,0.3s,baz=136,slow=13,SNR=3.3							
BOSA				LR		LR	19 17 09.3	
	comp=Z,251nm,21.4s,baz=136,slow=33							
BOSA	**Boshof**	**19.85**	**303**	P		**P**	**19 10 54.0**	**-0.4**
SUR	**Sutherland**	**20.59**	**288**	P		**P**	**19 11 03.1**	**+0.6**
	22nm,1.1s,baz=111,slow=6.4,SNR=3.7							
SUR				LR		LR	19 17 11.4	
	comp=Z,153nm,21.7s,baz=118,slow=32							
SUR	**Sutherland**	**20.59**	**288**	P		**P**	**19 11 03.3**	**+0.8**
SUR				IAmb		IAmb	19 11 12.4	
	comp=Z,76nm,1.4s							
ABPO	**Ambohimpanom**	**22.19**	**8**	P		**P**	**19 11 20.2**	**+0.6**
ABPO				IAmb		IAmb	19 11 27.2	
	comp=Z,107nm,2.0s							
RER	**Riviere de l'E**	**22.19**	**30**	P		**P**	**19 11 19.4**	**-0.3**
LBTB	**Lobatse**	**22.28**	**310**	P		**P**	**19 11 20.1**	**-0.5**
	comp=Z,18nm,1.1s,baz=150,slow=9.4,SNR=8.9							
LBTB				LR		LR	19 18 35.6	
	comp=Z,274nm,22.0s,baz=130,slow=33							
LBTB	**Lobatse**	**22.28**	**310**	P		**P**	**19 11 20.3**	**-0.3**
LBTB				IAmb		IAmb	19 11 27.1	
	comp=Z,32nm,1.2s							
MAW	**Mawson**	**28.44**	**165**	LR		LR	19 20 44.2	
	comp=Z,233nm,21.5s,baz=14,slow=30							
LSZ	**Lusaka**	**29.24**	**327**	LR		LR	19 23 15.8	
	comp=Z,439nm,18.7s,baz=152,slow=35							
LSZ	**Lusaka**	**29.24**	**327**	P		**P**	**19 12 24.6**	**-0.8**
TSUM	**Tsumeb**	**31.49**	**306**	P		**P**	**19 12 44.5**	**-0.8**
TSUM				IAmb		IAmb	19 12 51.8	
	comp=Z,12nm,1.2s							
SNAA	**Sanae**	**38.32**	**202**	P		**P**	**19 13 44.4**	**+0.7**
SNAA	**Sanae**	**38.32**	**202**	P		**P**	**19 13 43.0**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=87,slow=5.2,SNR=12							
SNAA	**Sanae**	**38.32**	**202**	P		**P**	**19 13 43.9**	**+0.3**
SNAA				IAmb		IAmb	19 13 50.2	
	comp=Z,30nm,1.9s							
VNA2	**Neumayer--Watz**	**39.36**	**204**	P		**P**	**19 13 52.6**	**+0.4**
	baz=61,slow=7.9							
VNA1	**Neumayer--Stat**	**39.53**	**205**	P		**P**	**19 13 55.2**	**+1.6**
VNA3	**Neumayer Olymp**	**40.17**	**204**	P		**P**	**19 13 57.6**	**-1.3**
KMBO	**Kilima Mbogo**	**40.30**	**349**	P		**P**	**19 14 01.6**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=178,slow=6.7,SNR=3.1							
KMBO				LR		LR	19 28 18.2	
	comp=Z,102nm,21.2s,baz=98,slow=33							
QSPA	**South Pole Qui**	**49.08**	**180**	P		**P**	**19 15 09.4**	**-0.9**
	comp=Z,7.9nm,0.9s,baz=254,slow=5.0,SNR=15							
QSPA	**South Pole Qui**	**49.08**	**180**	P		**P**	**19 15 10.1**	**-0.2**
QSPA				IAmb		IAmb	19 15 12.4	
	comp=Z,7.0nm,0.8s							
H01W2	**Cape Leeuwin H**	**54.15**	**108**	T		T	20 14 10.6	
	baz=240							
H01W3	**Cape Leeuwin H**	**54.15**	**108**	T		T	20 14 11.2	
	baz=240							
H01W1	**Cape Leeuwin H**	**54.16**	**108**	T		T	20 14 12.5	
	baz=240							
VNDA	**Vanda**	**55.73**	**167**	LR		LR	19 39 23.5	
	comp=Z,113nm,18.6s,baz=244,slow=36							
DBIC	**Dimbokro**	**65.38**	**304**	P		**P**	**19 17 05.4**	**-0.5**
	comp=Z,4.0nm,0.9s,baz=131,slow=6.6,SNR=5.8							
DBIC				LR		LR	19 42 08.1	
	comp=Z,59nm,21.5s,baz=122,slow=33							
DBIC	**Dimbokro**	**65.38**	**304**	P		**P**	**19 17 05.8**	**-0.1**
FORT	**Forrest**	**66.26**	**111**	P		**P**	**19 17 11.6**	**+0.1**
TOA0	**Torodi Ar. Sit**	**66.74**	**314**	P		**P**	**19 17 14.6**	**0.0**
TOA0				IAmb		IAmb	19 17 21.3	
	comp=Z,5.8nm,1.1s							
TORD	**Torodi Ar. Bea**	**66.74**	**314**	P		**P**	**19 17 14.3**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=143,slow=6.0,SNR=14							
TORD				LR		LR	19 46 30.1	
	comp=Z,97nm,18.6s,baz=355,slow=36							
ASAR	**Alice Springs**	**74.66**	**108**	P		**P**	**19 18 02.5**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=223,slow=5.0,SNR=15							
ASAR				LR		LR	19 46 00.4	
	comp=Z,62nm,20.5s,baz=214,slow=32							
STKA	**Stephens Creek**	**74.87**	**119**	P		**P**	**19 18 03.9**	**-0.2**
	comp=Z,14nm,0.8s,baz=202,slow=4.1,SNR=18							
STKA				LR		LR	19 42 56.1	
	comp=Z,79nm,19.9s,baz=205,slow=29							
STKA	**Stephens Creek**	**74.87**	**119**	P		**P**	**19 18 04.2**	**+0.1**
WRA	**Warramunga Arr**	**77.30**	**105**	P		**P**	**19 18 17.6**	**-0.5**
	comp=Z,4.3nm,1.0s,baz=226,slow=4.9,SNR=20							
WB2	**Warramunga Arr**	**77.31**	**105**	P		**P**	**19 18 17.5**	**-0.6**
WB2				IAmb		IAmb	19 18 19.0	
	comp=Z,6.1nm,1.1s							
KOLN	**Koldanda**	**77.68**	**35**	*e*P		**P**	**19 18 19.2**	**-0.9**
	comp=Z,73nm,1.2s							
CMAR	**Chiang Mai Arr**	**78.03**	**52**	P		**P**	**19 18 21.7**	**-0.3**
	comp=Z,4.0nm,0.9s,baz=228,slow=6.8,SNR=25							
CMAR				LR		LR	19 46 37.1	
	comp=Z,43nm,19.3s,baz=186,slow=31							
DMN	**Daman**	**78.21**	**36**	*e*P		**P**	**19 18 22.6**	**-0.5**
DANN	**Dangsing**	**78.25**	**35**	*e*P		**P**	**19 18 22.5**	**-0.8**
	comp=Z,46nm,1.0s							
CHTO	**Chiang Mai**	**78.31**	**52**	P		**P**	**19 18 22.6**	**-0.9**
PKI	**Pulchoki**	**78.31**	**37**	*e*P		**P**	**19 18 22.6**	**-1.1**
PKIN	**Phulchoki**	**78.31**	**37**	*e*P		**P**	**19 18 22.6**	**-1.0**
	comp=Z,10.0nm,0.9s							
RAMN	**Ramite**	**78.33**	**38**	*e*P		**P**	**19 18 23.3**	**-0.4**
	comp=Z,33nm,1.0s							
GKN	**Gorkha**	**78.34**	**36**	*e*P		**P**	**19 18 22.8**	**-0.8**
	comp=Z,39nm,1.0s							
KKN	**Kakani**	**78.44**	**36**	*e*P		**P**	**19 18 23.5**	**-0.8**
	comp=Z,35nm,1.2s							
ODAN	**Odare**	**78.62**	**39**	*e*P		**P**	**19 18 24.5**	**-0.8**
JIRN	**Jiri**	**78.74**	**37**	*e*P		**P**	**19 18 25.5**	**-0.7**
	comp=Z,28nm,0.8s							
GUN	**Gumba**	**78.81**	**37**	*e*P		**P**	**19 18 26.1**	**-0.4**
	comp=Z,56nm,1.0s							
NIL	**Nilore**	**79.08**	**24**	P		**P**	**19 18 27.6**	**+0.1**
TAPN	**Taplejung**	**79.19**	**39**	*e*P		**P**	**19 18 28.0**	**-0.5**
	comp=Z,32nm,1.0s							
PLCA	**Paso Flores**	**79.29**	**225**	P		**P**	**19 18 28.7**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=153,slow=3.3,SNR=5.6							
PLCA				LR		LR	19 47 33.1	
	comp=Z,51nm,21.2s,baz=158,slow=31							
PLCA	**Paso Flores**	**79.29**	**225**	P		**P**	**19 18 28.7**	**-0.1**
GEYT	**Alibeck**	**79.70**	**11**	LR		LR	19 51 09.0	
	comp=Z,75nm,21.4s,baz=210,slow=34							
GNI	**Garni**	**80.89**	**0**	LR		LR	19 56 03.8	
	comp=Z,31nm,18.3s,baz=159,slow=37							
BRTR	**Keskin Array B**	**81.03**	**352**	P		**P**	**19 18 37.0**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=166,slow=6.4,SNR=9.6							
BRTR				LR		LR	19 55 58.3	
	comp=Z,15nm,18.1s,baz=83,slow=37							
BR131	**Keskin Array S**	**81.03**	**352**	P		**P**	**19 18 37.4**	**-0.6**
BR131				IAmb		IAmb	19 20 35.2	
	comp=Z,7.5nm,1.2s							
CPUP	**Villa Florida**	**81.14**	**243**	P		**P**	**19 18 38.5**	**-0.4**
	comp=Z,4.4nm,1.0s,baz=119,slow=4.8,SNR=6.0							
CPUP				LR		LR	19 46 49.0	
	comp=Z,43nm,20.7s,baz=120,slow=30							
CPUP	**Villa Florida**	**81.14**	**243**	P		**P**	**19 18 39.3**	**+0.3**
CPUP				IAmb		IAmb	19 18 40.1	
	comp=Z,9.1nm,1.2s							
BDFB	**Brasilia**	**81.49**	**257**	P		**P**	**19 18 41.6**	**+0.5**
	comp=Z,1.5nm,0.4s,baz=155,slow=5.7,SNR=4.2							
BDFB				LR		LR	19 47 54.1	
	comp=Z,41nm,20.0s,baz=134,slow=31							
BDFB	**Brasilia**	**81.49**	**257**	IAmb		IAmb	19 18 42.6	
	comp=Z,7.7nm,0.9s							
LSA	**Lhasa**	**82.80**	**40**	P		**P**	**19 18 48.3**	**+0.3**
KEST	**Kesra**	**82.89**	**332**	P		**P**	**19 18 47.8**	**0.0**
	comp=Z,7.4nm,1.0s,baz=73,slow=2.3,SNR=5.8							
KEST				LR		LR	19 55 57.9	
	comp=Z,125nm,21.3s,baz=287,slow=36							
KEST	**Kesra**	**82.89**	**332**	P		**P**	**19 18 49.1**	**+1.3**
KEST				IAmb		IAmb	19 18 55.9	
	comp=Z,9.8nm,1.1s							
KBZ	**Khabaz**	**84.47**	**359**	LR		LR	19 57 58.1	
	comp=Z,59nm,18.6s,baz=164,slow=37							
KSH	**Kashi**	**85.33**	**24**	P		**P**	**19 19 00.5**	**+0.3**
KSH				SKS		S	19 29 21.4	-9.3
KSH				S		**SKSac**	**19 29 28.5**	**+3.5**
KSH				SS		**SS**	**19 35 05.6**	**-0.7**
KSH				LR		LR		
	comp=Z,250nm,4.8s							
KSH				LR		LR		
	comp=Z,240nm,4.7s							
MDT	**Midelt**	**86.21**	**321**	P		**P**	**19 19 06.4**	**+1.7**
	comp=Z,2.3nm,0.9s,baz=235,slow=4.2,SNR=4.5							
KK31	**Karatay Array**	**87.15**	**19**	P		**P**	**19 19 08.6**	**-0.3**
KK31				IAmb		IAmb	19 19 16.9	
	comp=Z,4.1nm,1.1s							
KKAR	**Karatay Array**	**87.15**	**19**	P		**P**	**19 19 08.8**	**-0.2**
KKAR				IAmb		IAmb	19 19 16.9	
	comp=Z,4.1nm,1.1s							
MLR	**Muntele Rosu**	**87.75**	**347**	LR		LR	19 58 52.0	
	comp=Z,50nm,19.3s,baz=302,slow=36							
BUR08	**Bucovina Ar. S**	**89.97**	**347**	P		**P**	**19 19 20.4**	**-1.9**
ESDC	**Sonseca Array**	**91.56**	**325**	P		**P**	**19 19 30.2**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=163,slow=4.8,SNR=8.4							
AKTO	**Aktyubinsk**	**91.98**	**9**	LR		LR	20 02 05.2	
	comp=Z,30nm,18.5s,baz=190,slow=36							
AKASG	**Malin Array Be**	**92.37**	**351**	P		**P**	**19 19 32.7**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=191,slow=4.9,SNR=3.8							
MKAR	**Makanchi Array**	**93.88**	**25**	P		**P**	**19 19 39.5**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=212,slow=5.1,SNR=3.5							
GTA	**Gaotai**	**94.82**	**40**	*e*P		**P**	**19 19 43.8**	**-1.2**
GTA				pP		sP	19 19 48.3	-0.1
GTA				sP		pwP	19 19 50.9	+0.1
GTA				pmax		pmax		
	comp=Z,3.0nm,1.3s							
LPAZ	**La Paz**	**95.31**	**243**	LR		LR	19 57 53.1	
	comp=Z,44nm,19.8s,baz=106,slow=32							
XAN	**Xi'an**	**95.60**	**49**	P		**P**	**19 19 51.6**	**+3.1**
XAN				pmax		pmax		
	comp=Z,5.0nm,0.6s							
ZALV	**Zalesovo Beam**	**100.93**	**23**	P		**Pdif**	**19 20 10.7**	**-1.3**
	comp=Z,2.1nm,1.0s,baz=222,slow=2.0,SNR=5.0							
TIXI	**Tiksi**	**126.82**	**23**	PKP		**PKPdf**	**19 25 23.7**	**-2.0**
	comp=Z,1.6nm,0.3s,baz=340,slow=4.2,SNR=8.4							
PBMO	**Poplar Bluff**	**144.72**	**278**			**PKPab**	**19 25 57.9**	**-0.8**
LCAR	**Lake Charles**	**145.00**	**277**			**PKPbc**	**19 25 58.8**	**-1.0**
UALR	**University of**	**145.40**	**274**			**PKPbc**	**19 25 59.4**	**-1.6**
W41B	**Gary Mavity, V**	**145.48**	**275**			**PKPdf**	**19 26 00.6**	**-0.6**
WHAR	**Wooly Hollow**	**145.56**	**275**			**PKPdf**	**19 26 00.9**	**-0.4**
L42A	**Oliver, Polo**	**145.76**	**287**			**PKPdf**	**19 26 02.1**	**+0.6**
CCM	**Cathedral Cave**	**145.77**	**280**			**PKPdf**	**19 26 01.9**	**+0.3**
MGMO	**Mountain Grove**	**146.23**	**278**			**PKPdf**	**19 26 02.7**	**+0.2**
MIAR	**Mount Ida**	**146.23**	**273**			**PKPdf**	**19 26 03.1**	**+0.6**
U40A	**Yellville**	**146.38**	**276**			**PKPdf**	**19 26 02.9**	**+0.1**
JFWS	**Jewell Farm**	**146.39**	**289**			**PKPdf**	**19 26 03.8**	**+1.3**
W39A	**Magazine**	**146.65**	**274**			**PKPbc**	**19 26 04.8**	**0.0**
HHAR	**Hobbs**	**147.18**	**275**			**PKPdf**	**19 26 05.7**	**+1.5**
435B	**Jarrell**	**147.58**	**264**			**PKPdf**	**19 26 06.9**	**+1.9**
X37A	**Clayton**	**147.60**	**272**			**PKPbc**	**19 26 07.6**	**+0.1**
W35A	**Tecumseh**	**148.96**	**272**			**PKPbc**	**19 26 10.7**	**-0.4**
JCT	**Junction City**	**149.10**	**261**			**PKPbc**	**19 26 10.9**	**-0.8**
FNO	**Franklin**	**149.40**	**272**			**PKPbc**	**19 26 13.0**	**+0.8**
X34A	**Smith Ranch, M**	**149.47**	**270**			**PKPbc**	**19 26 12.1**	**-0.3**
ABTX	**Abilene, Hawle**	**150.00**	**265**			**PKPbc**	**19 26 13.1**	**-0.7**
WMOK	**Wichita Mounta**	**150.24**	**270**			**PKPbc**	**19 26 13.5**	**-0.8**
ULM	**Lac du Bonnet**	**150.93**	**302**	PKPbc		**PKPbc**	**19 26 14.5**	**-0.8**
	comp=Z,10nm,0.8s,baz=81,slow=3.2,SNR=15							
ULM	**Lac du Bonnet**	**150.93**	**302**			**PKPbc**	**19 26 15.0**	**-0.4**
AGMN	**Agassiz Nation**	**150.95**	**298**			**PKPbc**	**19 26 15.4**	**-0.1**
ECSD	**EROS Data Cent**	**151.11**	**288**			**PKPbc**	**19 26 15.9**	**-0.2**
TXAR	**Lajitas Array**	**151.36**	**256**	PKPbc		**PKPbc**	**19 26 17.0**	**-0.2**
	comp=Z,9.7nm,0.9s,baz=151,slow=2.9,SNR=13							
TX31	**Lajitas Ar. Si**	**151.37**	**256**			**PKPbc**	**19 26 17.2**	**0.0**
TX32	**Lajitas Array**	**151.37**	**256**			**PKPbc**	**19 26 17.5**	**+0.3**
INK	**Inuvik**	**152.73**	**358**	PKPbc		**PKPbc**	**19 26 17.9**	**-1.0**
	comp=Z,7.2nm,0.9s,baz=354,slow=5.7,SNR=15							
INK	**Inuvik**	**152.73**	**358**			**PKPbc**	**19 26 18.1**	**-0.7**
MSTX	**Muleshoe**	**152.94**	**265**			**PKPbc**	**19 26 20.6**	**-0.1**
YKA	**Yellowknife Ar**	**155.12**	**336**	PKP		**PKPdf**	**19 26 14.4**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=40,slow=1.9,SNR=3.8							
YKA				PKPbc		**sPKPdf**	**19 26 23.3**	**+4.6**
	comp=Z,1.2nm,0.9s,baz=31,slow=2.0,SNR=8.1							
YKA				PKPab		**PKPab**	**19 26 39.3**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=36,slow=4.9,SNR=9.0							
ILAR	**Eielson Array**	**155.47**	**11**	PKPbc		**PKPdf**	**19 26 23.5**	**+7.7**
	comp=Z,1.0nm,1.1s,baz=283,slow=2.9,SNR=4.9							
PV04	**Paradox Valley**	**159.14**	**271**			**PKPdf**	**19 26 19.1**	**-2.4**
NVAR	**Mina Array Bea**	**166.24**	**264**	PKP		**PKPdf**	**19 26 29.8**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=64,slow=3.4,SNR=4.3							

WEL 09 19:15:02.4±0.9, 37°S±6'×17°E±', h83km±8km, ML3.6/8, MLv3.3/32, Error ellipse: s-maj=0.0km s-min=0.0km az=11.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WIZ	**White Island**	**0.15**	**235**	P		Pn	19 15 16.1	+1.7
HAZ	**Te Kaha**	**0.47**	**133**	P		Pn	19 15 17.3	+1.2
HAZ				S		Sn	19 15 29.5	+3.2
WHRZ	**Whale Island**	**0.51**	**215**	P		Pn	19 15 17.6	+1.1
RUGZ	**Raukumara Rang**	**0.59**	**154**	P		Pn	19 15 17.6	+0.2
RUGZ				S		Sn	19 15 30.1	+1.7
PKGZ	**Pakihiroa**	**0.73**	**128**	P		Pn	19 15 19.7	+1.1
OPRZ	**Ohinepanea**	**0.75**	**237**	P		Pn	19 15 19.3	+0.5
OPRZ				S		Sn	19 15 32.4	+1.5
MARZ	**Manawahe**	**0.76**	**224**	P		Pn	19 15 19.5	+0.5
MXZ	**Matakaoa Point**	**0.77**	**99**	P		Pn	19 15 20.4	+1.4
EDRZ	**Edgecumbe**	**0.82**	**216**	P		Pn	19 15 20.2	+0.6
URZ	**Urewera**	**0.84**	**193**	P		Pn	19 15 20.0	+0.2
URZ				S		Sn	19 15 34.1	+1.4
MWZ	**Matawai**	**0.91**	**171**	P		Pn	19 15 20.7	+0.1
MWZ				S		Sn	19 15 36.0	+1.9
TGRZ	**Tauranga**	**0.91**	**251**	P		Pn	19 15 21.0	+0.4
WMGZ	**Waiomatatini S**	**0.93**	**114**	P		Pn	19 15 21.7	+1.0
PUZ	**Puketiti**	**0.96**	**131**	P		Pn	19 15 21.4	+0.3
OMRZ	**Omania**	**1.02**	**229**	P		Pn	19 15 22.5	+0.6
TARZ	**Mount Tarawera**	**1.04**	**220**	P		Pn	19 15 22.8	+0.7
KARZ	**Kaharoa**	**1.05**	**236**	P		Pn	19 15 22.5	+0.3
RAGZ	**Rawiri**	**1.06**	**177**	P		Pn	19 15 22.4	+0.1
TKGZ	**Te Karaka**	**1.07**	**158**	P		Pn	19 15 22.4	-0.1
TKGZ				S		Sn	19 15 38.7	+1.1
RRRZ	**Republican Roa**	**1.11**	**216**	P		Pn	19 15 23.0	0.0
HLRZ	**Highlands Stat**	**1.13**	**224**	P		Pn	19 15 23.6	+0.3
MUGZ	**Murupara**	**1.13**	**204**	P		Pn	19 15 23.2	0.0
KMRZ	**Kaimai**	**1.19**	**250**	P		Pn	19 15 24.1	+0.2
RTZ	**Ruatahuna**	**1.21**	**194**	P		Pn	19 15 23.6	-0.6
RTZ				S		Sn	19 15 40.9	+0.3
HSRZ	**Hossack Road**	**1.23**	**225**	P		Pn	19 15 25.0	+0.6
CNGZ	**Carnagh Statio**	**1.25**	**147**	P		Pn	19 15 24.6	+0.1
HRRZ	**Handcock Road**	**1.27**	**221**	P		Pn	19 15 24.5	-0.5
PRRZ	**Plateau Road**	**1.30**	**215**	P		Pn	19 15 25.1	-0.1
RIGZ	**Rimuhau**	**1.31**	**166**	P		Pn	19 15 24.7	-0.7
RIGZ				S		Sn	19

Ms1 3.0/3,ms1mx2.5/36,Error ellipse: s-maj=38.6km s-min=14.6km az=68.0
*NEIC **09** 19:20:28.0±0.9, 0°.41N±0°.10×125°.97E±0°.06, h25km±5km, mb4.7/15*
*DJA **09** 19:20:28.8±0.3, 1°N±3°×12°6E±°, h10km, M4.1/13,mb4.4/2, MLv3.9/13*
*ISCJB **09** 19:20:29.0±0.4, 0°.46N±0°.05×126°.09E±0°.05, h44km, mb4.1/10, MS3.8/1, Error ellipse: s-maj=7.6km s-min=6.6km az=39.2*

ISC 09 19:20:31.0±0.5, 0°.46N±0°.07×126°.04E±0°.06, h44km, n42, σ1§52/40, mb4.3/17, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.37**	**77**	P		**Pn**		**19 20 51.6**	**-2.0**
TNTI	**Ternate**	**1.37**	**77**			**Pn**		**19 20 51.1**	**-2.4**
KMSI	**Cibinong**	**2.06**	**273**	P		**Pn**		**19 21 02.9**	**-0.2**
SANI	**Sanana**	**2.49**	**181**	P		**Pn**		**19 21 08.6**	**-0.4**
LUWI	**Luwuk**	**3.59**	**246**	P		**Pn**		**19 21 25.4**	**+1.3**
LUWI	**Luwuk**	**3.59**	**246**			**Pn**		**19 21 21.2**	**-2.9**
MRSI	**Marisa**	**4.09**	**270**	P		**Pn**		**19 21 32.1**	**+1.0**
APSI	**Ampana**	**4.59**	**253**	P		**Pn**		**19 21 39.2**	**+1.3**
AAI	**Ambon**	**4.65**	**152**	P		**Pn**		**19 21 39.7**	**+1.0**
MSAI	**Masohi**	**4.76**	**143**	P		**Pn**		**19 21 43.2**	**+3.0**
SIJI	**Sorong**	**5.39**	**104**	Pn		**Pn**		**19 21 50.4**	**+1.5**
	1.1nm,0.3s,baz=255,slow=22,SNR=6.1								
SPSI	**Sidrap Palu**	**7.65**	**235**	P		**Pn**		**19 22 22.3**	**+2.4**
	16nm,0.4s,0.1nm								
BKSI	**Bulukumba**	**8.23**	**226**	P		**Pn**		**19 22 30.6**	**+2.7**
KAPI	**Kappang**	**8.30**	**229**	LR		LR		19 25 45.0	
	comp=Z,41nm,20.2s,baz=316,slow=40								
JAY	**Jayapura**	**14.96**	**101**	LR		LR		19 30 57.1	
	comp=Z,35nm,19.4s,baz=214,slow=42								
FITZ	**Fitzroy Crossi**	**18.44**	**181**	P		**P**		**19 24 42.5**	**-0.4**
	0.2nm,0.3s,baz=17,slow=7.2,SNR=7.5								
FITZ	**Fitzroy Crossi**	**18.44**	**181**	P		**P**		**19 24 42.4**	**-0.6**
CISI	**Cisompet, Garu**	**19.84**	**246**	P		**P**		**19 24 56.4**	**-2.0**
CISI						IAmb	IAmb	19 25 17.8	
	comp=Z,20nm,1.0s								
WRA	**Warramunga Arr**	**21.84**	**159**	P		**P**		**19 25 18.9**	**-1.0**
	comp=Z,6.4nm,0.6s,baz=337,slow=11,SNR=45								
WB2	**Warramunga Arr**	**21.85**	**159**	P		**P**		**19 25 18.9**	**-1.1**
WB2						IAmb	IAmb	19 25 23.6	
	comp=Z,8.5nm,0.8s								
WR0	**Warramunga Arr**	**21.93**	**158**	P		**P**		**19 25 19.0**	**-1.8**
AS31	**Alice Springs**	**25.17**	**163**	P		**P**		**19 25 52.1**	**-0.3**
ASAR	**Alice Springs**	**25.17**	**163**	P		**P**		**19 25 52.5**	**+0.1**
	comp=Z,2.3nm,0.3s,baz=347,slow=13,SNR=78								
ASAR				PcP		**PcP**		**19 29 25.2**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=352,slow=2.2,SNR=5.4								
FORT	**Forrest**	**31.12**	**177**	P		**P**		**19 26 46.4**	**+0.9**
FORT						IAmb	IAmb	19 27 02.6	
	comp=Z,29nm,1.0s								
NWAO	**Narrogin (SRO)**	**34.23**	**193**	P		**P**		**19 27 11.4**	**-1.2**
NWAO	**Narrogin (SRO)**	**34.23**	**193**	P		**P**		**19 27 11.2**	**-1.4**
NWAO						IAmb	IAmb	19 28 13.6	
	comp=Z,78nm,1.8s								
BBOO	**Buckleboo**	**34.41**	**165**	P		**P**		**19 27 12.7**	**-1.5**
EIDS	**Eidsvold**	**35.29**	**138**	P		**P**		**19 27 22.3**	**+0.4**
EIDS						IAmb	IAmb	19 28 09.8	
	comp=Z,10nm,1.4s								
STKA	**Stephens Creek**	**35.37**	**157**	P		**P**		**19 27 21.6**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=322,slow=10,SNR=10								
STKA	**Stephens Creek**	**35.37**	**157**	P		**P**		**19 27 21.6**	**-0.9**
STKA						IAmb	IAmb	19 27 30.3	
	comp=Z,6.7nm,1.7s								
SONM	**Songino Array**	**50.18**	**343**	P		**P**		**19 29 21.8**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=147,slow=8.1,SNR=2.4								
PETK	**Petropavlovsk-**	**58.71**	**22**	P		**P**		**19 30 25.4**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=206,slow=3.9,SNR=4.2								
MK31	**Makanchi Array**	**59.86**	**327**	P		**P**		**19 30 31.7**	**-0.5**
MK31						IAmb	IAmb	19 32 03.4	
	comp=Z,6.4nm,1.4s								
MKAR	**Makanchi Array**	**59.86**	**327**	P		**P**		**19 30 32.1**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=123,slow=8.5,SNR=12								
URZ	**Urewera**	**60.68**	**135**	P		**P**		**19 30 36.6**	**-1.3**
URZ						IAmb	IAmb	19 31 38.6	
	comp=Z,37nm,1.5s								
ZALV	**Zalesovo Beam**	**63.19**	**334**	P		**P**		**19 30 54.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=102,slow=8.0,SNR=3.1								
KURBB	**Kurchatov Array**	**64.13**	**329**	P		**P**		**19 31 01.6**	**+0.8**
	comp=Z,3.1nm,0.2s,baz=132,slow=6.4,SNR=5.1								
TIXI	**Tiksi**	**71.11**	**1**	P		**P**		**19 31 45.8**	**+1.5**
TIXI						IAmb	IAmb	19 32 25.0	
	comp=Z,18nm,2.0s								
AKTO	**Aktyubinsk**	**75.79**	**322**	P		**P**		**19 32 11.8**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=88,slow=5.3,SNR=4.6								
PPT	**Papeete**	**84.78**	**108**	LR		LR		20 09 13.9	
	comp=Z,45nm,20.9s,baz=186,slow=34								
SKT	**Skwentna**	**86.03**	**28**	P		**P**		**19 33 06.8**	**0.0**
SKT						IAmb	IAmb	19 34 09.3	
	comp=Z,19nm,1.7s								
INK	**Inuvik**	**93.44**	**21**	P		**P**		**19 33 44.6**	**+3.2**
	comp=Z,0.7nm,0.4s,baz=349,slow=7.6,SNR=5.4								

*ISCJB **09** 19:35:49.3±0.5, 24°.91N±0°.02×122°.48E±0°.02, h12km±3km, Error ellipse: s-maj=4.2km s-min=2.7km az=34.4*
*TAP **09** 19:35:49.1, 24°.94N×122°.47E, h23km, ML3.0, C*
*JMA **09** 19:35:49.9±0.1, 24°.89N×122°.45E, h36km, M2.7*

ISC 09 19:35:49.0±1.1, 24°.89N±0°.03×122°.43E±0°.03, h10km±9km, n71, σ0§83/132, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.42**	**287**	*eP*		**Pb**		**19 35 58.5**	**+0.1**
	baz=278								
TWB1				S		**Sb**		**19 36 05.0**	**+0.2**
	baz=278								
EOS1	**EOS1**	**0.43**	**219**	P		**Pb**		**19 35 59.4**	**+0.7**
	baz=218								
EOS1				*eS*		**Sb**		**19 36 06.5**	**+1.2**
	baz=218								
NTC	**Toucheng**	**0.55**	**267**	*eP*		**Pb**		**19 36 01.3**	**+0.7**
	baz=273								
NTC				*eS*		**Sb**		**19 36 09.7**	**+1.2**
	baz=273								
TIPB	**Shuangxi**	**0.55**	**279**	*eP*		**Pb**		**19 36 01.2**	**+0.4**
	baz=273								
TIPB				S		**Sb**		**19 36 09.2**	**+0.4**
	baz=273								
TWC	**Suao**	**0.60**	**242**	P		**Pb**		**19 36 01.5**	**0.0**
	baz=239								
TWC				*eS*		**Sb**		**19 36 09.6**	**-0.4**
	baz=239								
NWF	**Wu-fen Shan**	**0.61**	**287**	P		**Pb**		**19 36 02.4**	**+0.5**
	baz=281								
NWF				*eS*		**Sb**		**19 36 10.7**	**0.0**
	baz=281								
WFSB	**Wu-fen Shan**	**0.61**	**287**	P		**Pb**		**19 36 02.3**	**+0.5**
	baz=281								
WFSB				S		**Sb**		**19 36 10.7**	**+0.2**
	baz=281								
JYNG	**Yonaguni jima**	**0.64**	**133**	P		**Pg**		**19 36 02.3**	**+0.9**
JYNG				*eS*		**Sg**		**19 36 10.7**	**+0.9**
YOJ	**Yonaguni jima**	**0.68**	**129**	P		**Pg**		**19 36 02.8**	**+0.7**
YOJ				*eS*		**Sg**		**19 36 11.6**	**+0.6**
YOJ	**Yonaguni jima**	**0.68**	**129**	*eP*		**Pg**		**19 36 01.3**	**-0.8**
	baz=134								
TWE	**Neicheng**	**0.71**	**257**	P		**Pb**		**19 36 03.7**	**+0.3**
	baz=253								
TWE				*eS*		**Sb**		**19 36 13.6**	**+0.3**
	baz=253								
SLBB	**Yuanshan**	**0.73**	**260**	*eP*		**Pb**		**19 36 03.2**	**-0.7**
	baz=256								
SLBB				*eS*		**Sb**		**19 36 15.2**	**+1.2**
	baz=256								
NANB	**Nanao**	**0.77**	**233**	P		**Pb**		**19 36 04.5**	**+0.1**
	baz=232								
NANB				*eS*		**Sb**		**19 36 14.2**	**-0.8**
	baz=232								
TWA	**Mucha**	**0.77**	**277**	*eP*		**Pb**		**19 36 04.8**	**+0.3**
	baz=272								
TWA				*eS*		**Sb**		**19 36 15.1**	**0.0**
	baz=272								
ENA	**Nanau**	**0.78**	**234**	P		**Pb**		**19 36 04.7**	**+0.2**
	baz=232								
ENA				S		**Sb**		**19 36 15.7**	**+0.5**
	baz=232								
YM08	**YM08**	**0.82**	**292**	*eP*		**Pb**		**19 36 05.0**	**-0.3**
	baz=287								
YM08				*eS*		**Sb**		**19 36 16.6**	**+0.2**
	baz=287								
YM01	**YM01**	**0.82**	**288**	*eP*		**Pb**		**19 36 05.5**	**+0.2**
	baz=284								
YM01				*eS*		**Sb**		**19 36 17.4**	**+0.9**
	baz=284								
ENTT	**Nioudou**	**0.82**	**253**	P		**Pb**		**19 36 05.8**	**+0.4**
	baz=233								
ENTT				S		**Sn**		**19 36 17.7**	**-1.1**
	baz=233								
YM11	**YM11**	**0.82**	**290**	*eP*		**Pb**		**19 36 05.2**	**-0.2**
	baz=285								
YM11				*eS*		**Sb**		**19 36 17.4**	**+0.8**
	baz=285								
NHDH	**Xindian Distri**	**0.82**	**275**	*eP*		**Pb**		**19 36 05.2**	**-0.1**
	baz=271								
NHDH				*eS*		**Sb**		**19 36 16.4**	**-0.1**
	baz=271								
YM05	**YM05**	**0.83**	**289**	*eP*		**Pb**		**19 36 05.7**	**+0.2**
	baz=285								
YM05				*eS*		**Sb**		**19 36 16.3**	**-0.5**
	baz=285								
YM10	**YM10**	**0.83**	**289**	*eP*		**Pb**		**19 36 05.7**	**+0.2**
	baz=273								
YM10				*eS*		**Sn**		**19 36 17.9**	**-1.2**
	baz=273								
TAP1	**Taipei**	**0.83**	**280**	*eP*		**Pn**		**19 36 06.8**	**0.0**
	baz=276								
TAP1				*eS*		**Sn**		**19 36 18.5**	**-0.6**
	baz=276								
NWLT	**Wulai**	**0.85**	**263**	*eP*		**Pb**		**19 36 06.2**	**+0.3**
	baz=259								
NWLT				S		**Sb**		**19 36 17.9**	**+0.6**
	baz=259								
YM04	**YM04**	**0.85**	**288**	*eP*		**Pb**		**19 36 05.4**	**-0.5**
	baz=284								
ANP	**Anpu**	**0.88**	**290**	*eP*		**Pb**		**19 36 06.2**	**-0.1**
	baz=274								
ANP				*eS*		**Sb**		**19 36 18.5**	**+0.3**
	baz=274								
NDT	**Datong Townshi**	**0.88**	**251**	P		**Pb**		**19 36 06.9**	**+0.6**
	baz=235								
NDT				S		**Sn**		**19 36 19.3**	**-1.0**
	baz=235								
TWS1	**Kuangyinshan**	**0.94**	**283**	*eP*		**Pb**		**19 36 07.0**	**-0.4**
	baz=279								
YHNB	**Yeheng**	**0.98**	**257**	*eP*		**Pb**		**19 36 08.3**	**+0.2**
	baz=267								
YHNB				S		**Sb**		**19 36 21.6**	**+0.4**
	baz=267								
NSK	**Sanguang**	**1.00**	**258**	P		**Pb**		**19 36 08.6**	**+0.3**
	baz=267								
NSK				S		**Sb**		**19 36 21.5**	**-0.1**
	baz=267								
NACB	**Ninganchiao**	**1.04**	**227**	*eP*		**Pg**		**19 36 08.7**	**-0.3**
	baz=234								
NACB				S		**Sb**		**19 36 23.1**	**+0.3**
	baz=234								
NNSH	**Datong**	**1.06**	**244**	*eP*		**Pb**		**19 36 09.6**	**+0.2**
	baz=243								
NNSH				*eS*		**Sb**		**19 36 23.4**	**0.0**
	baz=243								
NNS	**Nan Shan**	**1.06**	**245**	*eP*		**Pb**		**19 36 09.7**	**+0.2**
	baz=243								
NNS				S		**Sb**		**19 36 23.6**	**+0.1**
	baz=243								
ETLH	**Xiulin Townshi**	**1.10**	**232**	*eP*		**Pn**		**19 36 10.6**	**+0.1**
	baz=231								
ETLH				*eS*		**Sb**		**19 36 25.1**	**+0.6**
	baz=231								
TWD	**Chiawan**	**1.11**	**223**	*eP*		**Pb**		**19 36 10.5**	**+0.3**
	baz=230								
TWD				*eS*		**Sb**		**19 36 25.2**	**+0.6**
	baz=230								
WHF	**Hehuan Shan**	**1.29**	**235**	*eP*		**Pn**		**19 36 14.0**	**+0.5**
	baz=245								
WHF				*eS*		**Sn**		**19 36 31.2**	**+0.1**
	baz=245								
IRIF	**Iriomote-Funau**	**1.31**	**115**	P		**Pn**		**19 36 11.3**	**-2.0**
LIOB	**Emei**	**1.31**	**260**	*eP*		**Pg**		**19 36 13.2**	**-0.9**
	baz=258								
LIOB				*eS*		**Sn**		**19 36 31.2**	**+0.3**
	baz=258								
TDCB	**Techi**	**1.32**	**242**	*eP*		**Pb**		**19 36 14.3**	**+0.4**
	baz=240								
TDCB				*eS*		**Sg**		**19 36 30.7**	**-0.8**
	baz=240								
NSTT	**Nanjuang**	**1.32**	**259**	*eP*		**Pb**		**19 36 13.9**	**0.0**
	baz=257								
NSTT				*eS*		**Sb**		**19 36 30.7**	**-0.2**
	baz=257								
ESL	**Shilin**	**1.40**	**221**	*eP*		**Pn**		**19 36 14.9**	**+0.2**
	baz=205								
ESL				*eS*		**Sb**		**19 36 33.5**	**+0.3**
	baz=205								
CHGB	**Renai**	**1.41**	**234**	*eP*		**Pg**		**19 36 16.1**	**0.0**
	baz=244								
CHGB				*eS*		**Sn**		**19 36 34.8**	**+1.1**
	baz=244								
WHP	**Taichung City**	**1.48**	**246**	*eP*		**Pg**		**19 36 17.2**	**-0.2**
	baz=245								
WHP				*eS*		**Sg**		**19 36 36.8**	**+0.1**
	baz=245								
EGFH	**Guangfu**	**1.52**	**217**	*eP*		**Pn**		**19 36 16.5**	**+0.3**
	baz=203								
TWQ1	**Liyutan**	**1.60**	**251**	*eP*		**Pg**		**19 36 19.0**	**-0.7**
	baz=250								
DPDB	**Guoxing**	**1.61**	**238**	*eP*		**Pg**		**19 36 19.1**	**-0.8**
	baz=238								
DPDB				*eS*		**Sg**		**19 36 40.2**	**-0.7**
	baz=238								
VWDT	**VWDT**	**1.63**	**226**	*eP*		**Pn**		**19 36 18.4**	**+0.7**
	baz=211								
VWDT				*eS*		**Sn**		**19 36 38.0**	**-0.8**
	baz=211								
JIJ	**Ishigaki jima**	**1.65**	**108**	P		**Pn**		**19 36 18.0**	**+0.1**
HGSD	**Ruisui**	**1.67**	**214**	*eP*		**Pn**		**19 36 18.2**	**-0.1**
	baz=202								
HGSD				*eS*		**Sn**		**19 36 40.5**	**+0.8**
	baz=202								
EHY	**Hungye**	**1.71**	**217**	*eP*		**Pn**		**19 36 18.3**	**-0.5**
	baz=218								
EHY				*eS*		**Sn**		**19 36 40.9**	**+0.2**
	baz=218								
SMLT	**Sun Moon Lake**	**1.72**	**235**	*eP*		**Pb**		**19 36 20.9**	**+0.2**
	baz=243								
SMLT				*eS*		**Sb**		**19 36 42.8**	**+0.5**
	baz=243								
SSLB	**Suanglung**	**1.73**	**231**	*eP*		**Pb**		**19 36 20.5**	**-0.4**
	baz=216								
SSLB				*eS*		**Sb**		**19 36 42.9**	**0.0**
	baz=216								
YULB	**Yu-li**	**1.81**	**215**	*eP*		**Pn**		**19 36 19.0**	**-1.3**
	baz=216								
TWF1	**Yuli**	**1.85**	**214**	*eP*		**Pn**		**19 36 21.5**	**+0.8**
	baz=216								
TWF1				*eS*		**Sn**		**19 36 43.5**	**-0.7**
	baz=216								
WHYT	**Xinyi Township**	**1.86**	**231**	*eP*		**Pb**		**19 36 22.8**	**-0.3**
	baz=216								
WHYT				*eS*		**Sb**		**19 36 46.9**	**+0.3**
	baz=216								
WJS	**Zhushan**	**1.88**	**236**	*eP*		**Pb**		**19 36 23.9**	**+0.5**
	baz=220								
WJS				*eS*		**Sg**		**19 36 49.5**	**+0.1**
	baz=220								
FULB	**Fuli**	**1.98**	**212**	*eP*		**Pn**		**19 36 22.7**	**+0.2**
	baz=199								
FULB				*eS*		**Sn**		**19 36 48.1**	**+0.7**
	baz=199								
ALS	**Alishan**	**2.02**	**228**	*eP*		**Pb**		**19 36 25.5**	**-0.5**
	baz=214								
ALS				*eS*		**Sb**		**19 36 50.6**	**-0.7**
	baz=214								
CHN5	**Tsauling**	**2.05**	**232**	*eP*		**Pb**		**19 36 26.2**	**-0.2**
	baz=217								
CHN5				*eS*		**Sb**		**19 36 52.4**	**+0.4**
	baz=217								
WDLH	**Douliu**	**2.10**	**236**	*eP*		**Pb**		**19 36 26.2**	**-0.9**
	baz=252								
WDLH				*eS*		**Sb**		**19 36 53.9**	**+0.6**
	baz=252								
ELDTW	**Lidau**	**2.13**	**218**	*eP*		**Pn**		**19 36 24.7**	**0.0**
	baz=207								
ELDTW				*eS*		**Sn**		**19 36 50.1**	**-1.1**
	baz=207								
CHN4	**Tsaushan**	**2.27**	**228**	*eP*		**Pb**		**19 36 28.8**	**-1.3**
	baz=215								
CHN4				*eS*		**Sb**		**19 36 58.2**	**-0.1**
	baz=215								
TPUB	**Ta-pu**	**2.28**	**226**	*eP*		**Pn**		**19 36 28.5**	**+1.8**
	baz=214								
TPUB				*eS*		**Sb**		**19 36 57.2**	**-1.3**
	baz=214								
WTP	**Ta-pu**	**2.33**	**226**	*eP*		**Pb**		**19 36 29.8**	**-1.3**
	baz=213								
WTP				*eS*		**Sb**		**19 36 58.9**	**-1.1**
	baz=213								
TWK	**Hsinying**	**2.40**	**228**	*eP*		**Pn**		**19 36 30.1**	**+1.7**
	baz=216								
TWK				*eS*		**Sb**		**19 37 00.7**	**-1.2**
	baz=216								
CHN1	**Nanshi**	**2.43**	**226**	*eP*		**Pb**		**19 36 31.4**	**-1.3**
	baz=215								
CHN1				*eS*		**Sn**		**19 37 00.6**	**+2.1**
	baz=215								
SGST	**Jiashian**	**2.47**	**224**	*eS*		**Sb**		**19 37 02.2**	**-1.7**
	baz=211								
SLGT	**Liugui**	**2.49**	**221**	*eP*		**Pn**		**19 36 31.5**	**+1.8**
	baz=223								
SLGT				*eS*		**Sn**		**19 37 02.3**	**+2.1**
	baz=223								
MASBT	**Mashibuluo**	**2.80**	**216**	*eP*		**Pn**		**19 36 35.5**	**+1.6**
	baz=207								
MASBT				*eS*		**Sn**		**19 37 09.3**	**+1.6**
	baz=207								
EAST	**Anshuo**	**2.88**	**210**	*eP*		**Pn**		**19 36 35.5**	**+0.5**
	baz=212								
EAST				*eS*		**Sn**		**19 37 06.3**	**-3.5**
	baz=212								
MHZQ	**Yeshan**	**3.30**	**292**	*eS*		**Sn**		**19 37 21.0**	**+1.1**
	baz=289								

IDC 09 20:06:24.6±2.2, 2°.58N×127°.50E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/31, mbtmp3.4/3, Error ellipse: s-maj=160.2km s-min=26.6km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.37**	**164**	P		**P**		20 11 35.3	+0.3
	0.2nm,0.3s,baz=343,slow=10,SNR=6.4								
ASAR	**Alice Springs**	**26.83**	**167**	P		P		20 12 06.2	-0.7
	0.2nm,0.5s,baz=352,slow=7.1,SNR=6.3								
MKAR	**Makanchi Array**	**58.93**	**325**	P		P		20 16 26.1	+0.4
	0.4nm,0.6s,baz=107,slow=8.8,SNR=4.8								

*ISCJB **09** 20:07:13.1±0.6, 50°.4N±0°.1×29°.70W±0°.08, h10km, mb3.8/16, MS3.4/17, Error ellipse: s-maj=16.9km s-min=7.4km az=180.0*
*IDC **09** 20:07:13.5±0.9, 50°.47N×29°.68W, h0km, mb3.8/14, mb1 4.0/15, mb1mx3.8/45, mbtmp3.8/15, ML3.6/1, MS3.4/17, Ms1 3.4/17, ms1mx3.2/47, Error ellipse: s-maj=26.3km s-min=15.5km az=6.0*
*NEIC **09** 20:07:14.7±2.2, 50°.4N±0°.1×29°.8W±0°.1, h10km±1km, mb4.5/6*

ISC 09 20:07:14.7±0.7, 50°.4N±0°.2×29°.74W±0°.07, h10km, n41, σ0§90/34, mb3.9/19, MS3.4/17, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.75**	**63**	P		Pn	**Pn**	**20 11 08.0**	**-1.1**
	baz=268,slow=10,SNR=2.9								
ESDC	**Sonseca Array**	**21.02**	**111**	P		**P**		**20 11 58.9**	**+0.5**
	2.9nm,0.9s,baz=308,slow=9.7,SNR=14								
ESDC						LR	LR	20 18 45.7	
	comp=Z,100nm,18.2s,baz=305,slow=33								
SCHQ	**Schefferville**	**22.78**	**296**	LR		LR	LR	20 19 13.9	
	comp=Z,138nm,19.4s,baz=8.0,slow=32								
ECH	**Echery**	**24.00**	**81**	P		**P**		**20 12 29.4**	**+0.1**
NBO00	**NORSAR Array S**	**24.77**	**49**			**P**		**20 12 36.4**	**+0.1**
NB2	**NORSAR Subarra**	**24.99**	**49**	P		**P**		**20 12 37.5**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=262,slow=10								
NOA	**NORSAR Array B**	**24.99**	**49**	P		**P**		**20 12 37.2**	**-1.0**
	comp=Z,2.2nm,0.8s,baz=263,slow=9.3,SNR=5.6								
NOA						LR	LR	20 21 07.2	
	comp=Z,61nm,20.3s,baz=270,slow=34								
NC303	**NORSAR Array S**	**25.08**	**49**			**P**		**20 12 39.5**	**+0.4**
MDT	**Midelt**	**25.52**	**124**	LR		LR		20 20 29.4	
	comp=Z,36nm,18.2s,baz=328,slow=31								
HFS	**Hagfors**	**26.14**	**51**	P		**P**		**20 12 48.0**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=267,slow=5.3,SNR=5.7								
HFS						LR	LR	20 22 12.7	
	comp=Z,139nm,18.0s,baz=247,slow=34								
DAVOX	**Davos/Dischmat**	**26.24**	**82**	LR		LR		20 22 15.3	
	comp=Z,86nm,19.6s,baz=256,slow=34								
GERES	**GERESS Array B**	**27.89**	**76**	LR		LR		20 23 44.8	
	comp=Z,109nm,18.1s,baz=284,slow=36								
OBKA	**Obir**	**29.30**	**80**	*eP*		**P**		**20 13 17.2**	**0.0**
	comp=Z,2.7nm,0.7s								
VRAC	**Vranov**	**29.52**	**74**	LR		LR		20 24 56.5	
	comp=Z,132nm,18.4s,baz=291,slow=36								
SOKA	**Soboth**	**29.54**	**80**	*eP*		**P**		**20 13 18.8**	**-0.4**
	comp=Z,2.2nm,0.9s								
WSPT	**Westport, CT**	**31.37**	**270**			**S**		**20 18 42.9**	**+0.4**
ARCES	**ARCESS Array B**	**32.06**	**33**	P		**P**		**20 13 40.5**	**-0.7**
	comp=Z,3.5nm,0.6s,baz=252,slow=8.9,SNR=24								
FINES	**FINESS Array B**	**32.16**	**48**	P		**P**		**20 13 41.6**	**-0.5**
	comp=Z,3.8nm,0.7s,baz=240,slow=6.4,SNR=11								
FINES						LR	LR	20 24 44.4	
	comp=Z,62nm,20.2s,baz=276,slow=33								
AKASG	**Malin Array Be**	**36.60**	**66**	P		**P**		**20 14 19.5**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=292,slow=8.5,SNR=3.9								
AKASG						LR	LR	20 29 46.8	
	comp=Z,62nm,19.2s,baz=265,slow=37								
ULM	**Lac du Bonnet**	**40.95**	**296**	LR		LR		20 30 13.0	
	comp=Z,44nm,18.9s,baz=132,slow=34								
BRTR	**Keskin Array B**	**44.74**	**78**	P		**P**		**20 15 29.6**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=316,slow=5.2,SNR=4.5								
BRTR						LR	LR	20 35 18.2	
	comp=Z,22nm,18.8s,baz=274,slow=38								
YKA	**

NEM2				eS	Sn	20 28 06.2	-2.0		
JRA	**Rausu**	**3.01**	**258**	P	Pn	20 27 40.2	+1.7		
JRA				eS	Sn	20 28 15.0	+1.5		
JNK	**Nakash**	**3.39**	**254**	P	Pn	20 27 44.1	+0.3		
JNK				eS	Sn	20 28 23.1	+0.1		
JAK	**Akkeshi**	**3.64**	**245**	P	Pn	20 27 46.8	-0.5		
JAK				eS	Sn	20 28 25.8	-3.4		
JTKR	**Abashiri--Toko**	**3.85**	**262**	P	Pn	20 27 52.0	+1.8		
JAR	**Ashorobuto**	**4.14**	**253**	P	Pn	20 27 55.3	+1.2		
JMP	**Maruseppu**	**4.24**	**264**	P	Pn	20 27 57.7	+2.2		
JCH	**Churui**	**4.69**	**247**	P	Pn	20 28 02.1	+0.4		
JFR	**Furan**	**4.99**	**255**	P	Pn	20 28 08.8	+2.9		
JNBK	**Urakawa-nobuka**	**5.24**	**246**	P	Pn	20 28 09.1	-0.2		
JNB	**Noboribetsu**	**6.31**	**253**	P	Pn	20 28 24.5	+0.6		
JKB	**Kayabe**	**6.56**	**248**	P	Pn	20 28 26.6	-0.7		
JKB				eS	Sn	20 29 35.2	-5.9		
JANG	**Nango**	**7.09**	**236**	P	Pn	20 28 31.7	-2.9		
JANG				eS	Sn	20 29 44.9	-9.2		
JTM	**Tenmabayashi**	**7.11**	**240**	eS	Sn	20 29 46.9	-7.7		

SJA ***09*** *20:34:34.6±1.3, 32.°85S×71.°72W, h11km±9km, ML2.8, MW2.9*

ISCJB ***09*** *20:34:37.7±0.9, 32.°85S±0.°04×71.°63W±0.°06, h22km±7km, Error ellipse: s-maj=8.4km s-min=7.3km az=158.5*

GUC ***09*** *20:34:37.2±0.6, 32.°75S×71.°54W, h36km±5km, ML3.0*

ISC 09 20:34:36.9±1.4, 32.°77S±0.°03×71.°54W±0.°04, h7km±11km, n28, σ1§91/42, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.27**	**200**	⇑*i*P	**Pb**	**20 34 44.7**	**+0.7**
VA01				eS	**Sg**	**20 34 49.4**	**+3.7**
ROC1	**El Roble**	**0.48**	**115**	*e*P	**Pb**	**20 34 47.3**	**-0.6**
ROC1	**El Roble**	**0.48**	**115**	*i* P	**Pb**	**20 34 47.8**	**-0.1**
ROC1				eS	**Sb**	**20 34 55.6**	**+0.3**
ROCH	**El Roble**	**0.48**	**114**	⇑*i*P	**Pb**	**20 34 47.8**	**-0.1**
ROCH				eS	**Sb**	**20 34 55.6**	**+0.2**
ROCH				IAML		20 34 55.9	
	comp=E,952nm,0.1s						
PEL	**Peldehue**	**0.81**	**118**	⇑*i*P	**Pg**	**20 34 52.2**	**-0.1**
PEL				eS	**Sg**	**20 35 03.7**	**+0.8**
PEL				IAML		20 35 04.5	
	comp=E,1μm,0.3s						
PEL	**Peldehue**	**0.81**	**118**	*e*P	**Pg**	**20 34 51.0**	**-1.4**
PEL				eS	**Sg**	**20 35 03.2**	**+0.3**
PEL	**Peldehue**	**0.81**	**118**	*i* P	**Pg**	**20 34 52.2**	**-0.1**
PEL				eS	**Sg**	**20 35 03.9**	**+1.0**
FCH	**Farellones**	**1.18**	**118**	⇓*e*P	**Pn**	**20 34 58.2**	**-2.1**
FCH				eS	**Sb**	**20 35 13.8**	**-1.8**
FCH				IAML		20 35 14.3	
	comp=E,257nm,0.2s						
LMEL	**Las Melosas**	**1.55**	**134**	⇑*i*P	**Pb**	**20 35 03.9**	**-2.1**
LMEL				eS	**Sb**	**20 35 24.9**	**-1.0**
LMEL				IAML		20 35 26.8	
	comp=N,569nm,0.2s						
CO02	**Combarbal**	**1.63**	**16**	⇑*i*P	**Pn**	**20 35 05.0**	**-1.1**
CO02				eS	**Sn**	**20 35 25.9**	**-1.6**
CO02				IAML		20 35 31.9	
	comp=E,444nm,0.3s						
RTLS	**Leoncito**	**2.13**	**63**	*e*P	**Pn**	**20 35 14.2**	**+1.0**
RTLS				IAML		20 35 15.6	
	comp=Z,31nm,0.2s						
RTLS	**Leoncito**	**2.13**	**63**	*i* P	**Pb**	**20 35 15.0**	**-1.1**
ARCO	**CERRO ARCO**	**2.19**	**92**	*e*P	**Pn**	**20 35 12.5**	**-1.5**
ARCO				IAML		20 35 29.2	
	comp=Z,33nm,0.3s						
ARCO	**CERRO ARCO**	**2.19**	**92**	*i* P	**Pb**	**20 35 16.3**	**-0.7**
ARCO				IAML		20 35 51.9	
	comp=Z,23nm,0.3s						
GO05	**Hualla**	**2.25**	**188**	*i* P	**Pn**	**20 35 12.2**	**-2.5**
ASAL	**Salagasta**	**2.29**	**86**	*i* P	**Pb**	**20 35 17.8**	**-0.8**
ASAL				*i* S	**Sb**	**20 35 48.5**	**+1.4**
ASAL				IAML		20 35 49.5	
	comp=Z,23nm,0.9s						
AAGR	**Agrelo**	**2.30**	**99**	*e*P	**Pn**	**20 35 12.9**	**-2.4**
AAGR	**Agrelo**	**2.30**	**99**	*i* P	**Pb**	**20 35 17.6**	**-1.2**
GO04	**Tololo Observa**	**2.67**	**14**	*i* P	**Pn**	**20 35 19.7**	**-0.9**
RTCV	**Cerro Valdivia**	**2.69**	**71**	*i* P	**Pb**	**20 35 23.0**	**-2.5**
RTCV				IAML		20 36 39.9	
	comp=Z,76nm,0.0s						
ACCO	**Cerro Coronel**	**3.03**	**45**	*e*P	**Pn**	**20 35 28.1**	**+2.5**
ACCO	**Cerro Coronel**	**3.03**	**45**	*i* P	**Pb**	**20 35 28.4**	**-3.0**
ACCO				*i* S	**Sb**	**20 36 07.5**	**-1.3**
ACCO				IAML		20 36 10.4	
	comp=Z,22nm,1.7s						
AROD	**Rodeo**	**3.14**	**35**	*i* P	**Pb**	**20 35 29.8**	**-3.4**
AROD				eS	**Sb**	**20 36 11.6**	**-0.3**
AMOG	**MOGNA**	**3.17**	**56**	*e*P	**Pn**	**20 35 28.4**	**+1.0**
AMOG	**MOGNA**	**3.17**	**56**	*i* P	**Pn**	**20 35 28.3**	**+1.0**
AMOG				*i* S	**Sn**	**20 36 09.6**	**+4.1**
AMOG				IAML		20 36 21.5	
	comp=Z,25nm,0.3s						
ACAN	**Cantantal**	**3.71**	**83**	*i* P	**Pn**	**20 35 36.2**	**+1.5**
ACAN				IAML		20 37 12.6	
	comp=Z,47nm,2.2s						
VCA	**Vinchina**	**4.94**	**36**	*e*P	**Pn**	**20 35 54.4**	**+2.7**
ACLC	**CERRO LA CRUZ**	**5.16**	**51**	*i* P	**Pn**	**20 35 58.2**	**+3.5**
ACLC				*i* S	**Sn**	**20 36 57.2**	**+2.6**

NIED ***09*** *20:36:00, 36.°40N×141.°90E, h20km, Mw5.0 Best double couple: M0 4.16000×10^16 NP1:φs199.00000°, δ19.00000°, λ87.00000°. NP2:φs22.00000°, δ71.00000°, λ91.00000°.*

BJI ***09*** *20:36:46.7±0.0, 36.°45N×141.°65E, h15km, mb5.1/73, mB5.2/54, Ms5.1/77, Ms7 5.0/70*

ISCJB ***09*** *20:36:47.3±0.1, 36.°36N±0.°02×141.°89E±0.°02, h19km, mb5.2/168, MS4.8/82, Error ellipse: s-maj=3.0km s-min=2.1km az=146.4*

MOS ***09*** *20:36:47.8±1.0, 36.°44N×141.°86E, h22km, mb5.5/31, MS5.2/20, Error ellipse: s-maj=6.7km s-min=4.2km az=112.4*

JMA ***09*** *20:36:48.2±0.2, 36.°41N×141.°89E, h25km, M5.0*

JMA Felt II J1.

NEIC ***09*** *20:36:49.7±1.6, 36.°42N±0.°07×141.°92E±0.°09, h26km±3km, mb5.1/179*

IDC ***09*** *20:36:50.1±2.9, 36.°33N×141.°86E, h27km±19km, mb4.6/34, mb1 4.7/38, mb1mx4.7/50, mbtmp4.8/38, ML4.2/3, MS4.5/42, Ms1 4.5/42, ms1mx4.4/56, Error ellipse: s-maj=13.0km s-min=11.3km az=146.0*

GCMT ***09*** *20:36:52.7±0.2, 36.°38N±0.°02×141.°97E±0.°02, h28km, MW5.1/109, Moment Tensor Solution. s66,c94; s109,c160; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.71±.14; Mθθ-0.32±.09; Mφφ-3.38±.09; Mrθ1.38±.16; Mθφ-1.09±.07; Mrφ3.29±.14; Best double couple: M0 5.15400×10^16 NP1:φs21.00000°, δ67.00000°, λ93.00000°. NP2:φs194.00000°, δ23.00000°, λ84.00000°. Principal axes: T 5.1510, Plg68.0000°, Azm296.0000°; N 0.0110, Plg3.0000°, Azm200.0000°; P -5.1570, Plg22.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 20:36:48.6±0.3, 36.°39N±0.°03×141.°90E±0.°03, h19km, n703, σ1§50/730, mb5.1/232, MS4.9/82, 58C-23D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.06**	**268**	⇓P	**Pb**	**20 37 07.3**	**-1.1**
JHYU				eS	**Sb**	**20 37 21.1**	**-0.8**
CHOJ	**Chosi**	**1.09**	**231**	⇓P	**Pb**	**20 37 08.0**	**-0.8**
CHOJ				S	**Sg**	**20 37 22.8**	**-1.2**
JHO	**Hitachi**	**1.09**	**282**	⇓P	**Pb**	**20 37 07.4**	**-1.5**
ONAJ	**Iwakimizuishiy**	**1.13**	**309**	⇓P	**Pn**	**20 37 08.3**	**-1.2**
JIHU	**Itakohorinouch**	**1.19**	**249**	P	**Pn**	**20 37 09.6**	**-0.6**
JFK	**Kawauchi**	**1.27**	**320**	P	**Pn**	**20 37 10.7**	**-0.7**
JFFD	**Fukushimafurud**	**1.28**	**303**	⇓P	**Pn**	**20 37 10.2**	**-1.3**
JMST	**Minamisoumatoc**	**1.56**	**329**	⇑P	**Pn**	**20 37 14.8**	**-0.5**
JFT	**Otama**	**1.68**	**312**	⇓P	**Pn**	**20 37 17.4**	**+0.4**
JSB	**Shiboa**	**1.69**	**290**	P	**Pn**	**20 37 17.1**	**-0.1**
JMM	**Marumori**	**1.72**	**329**	⇑P	**Pn**	**20 37 17.2**	**-0.3**
JKUC	**kamogawauchiur**	**1.85**	**229**	P	**Pn**	**20 37 18.7**	**-0.6**
BSO1	**Boso 1**	**1.89**	**204**	P	**Pn**	**20 37 18.7**	**-0.7**
JIKH	**Ishinomakikobu**	**1.95**	**350**	⇑P	**Pn**	**20 37 20.1**	**-0.5**
BSO3	**Boso 3**	**1.95**	**216**	P	**Pn**	**20 37 20.0**	**-0.4**
JAG	**Ashikaga**	**1.98**	**272**	⇓P	**Pn**	**20 37 20.0**	**-1.0**
JFY	**Yanaizu**	**2.03**	**301**	P	**Pn**	**20 37 22.2**	**+0.4**
JIO	**Ouri**	**2.10**	**348**	⇑P	**Pn**	**20 37 22.5**	**-0.3**
JKT	**Katashina**	**2.17**	**281**	P	**Pn**	**20 37 23.6**	**-0.2**
JSGW	**Sagamiharawaka**	**2.32**	**251**	P	**Pn**	**20 37 25.8**	**0.0**
JRY	**Ryogami san**	**2.45**	**262**	P	**Pn**	**20 37 26.8**	**-0.9**
JHK	**Hiroka**	**2.47**	**291**	P	**Pn**	**20 37 28.4**	**+0.6**
JOD2	**Odawara 2**	**2.55**	**245**	⇑P	**Pn**	**20 37 28.7**	**-0.2**
JIM2	**Oshima 3**	**2.62**	**231**	P	**Pn**	**20 37 28.8**	**-1.1**
AJI	**Ajiro2**	**2.65**	**240**	P	**Pn**	**20 37 29.8**	**-0.5**
JHTM	**Izuhatsuma**	**2.75**	**240**	P	**Pn**	**20 37 31.5**	**-0.3**
JTHY	**Toshimahigashi**	**2.83**	**230**	P	**Pn**	**20 37 32.7**	**-0.1**
JYN	**Shimob**	**2.87**	**253**	P	**Pn**	**20 37 33.8**	**+0.4**
JIZS	**Izushimoda**	**2.98**	**237**	P	**Pn**	**20 37 33.8**	**-1.0**
MJAR	**Matsushiro Arr**	**2.98**	**274**	Pn	**Pn**	**20 37 34.4**	**-0.4**
MJAR	14nm,0.3s,baz=103,slow=7.9,SNR=366			Sn	**Sn**	**20 38 11.0**	**+0.9**
	7.0nm,0.3s,baz=113,slow=22,SNR=6.6						
MJAR				LR	LR	20 38 50.7	
	comp=Z,8μm,20.8s,baz=120,slow=41						
MAJO	**Matsushiro**	**2.98**	**274**	*c i*P	**Pn**	**20 37 35.5**	**+0.6**
MAJO	**Matsushiro**	**2.98**	**274**		**Pn**	**20 37 35.3**	**+0.4**
MAT	**Matsushiro**	**2.98**	**274**	P	**Pn**	**20 37 35.4**	**+0.5**
MAT				*e*S	**Sn**	**20 38 09.5**	**-0.6**
MAT	**Matsushiro**	**2.98**	**274**	P	**Pn**	**20 37 35.4**	**+0.5**
MJB9	**Matsu-Tunnel**	**2.98**	**274**		**Pn**	**20 37 35.5**	**+0.6**
JNG	**Nsakai**	**3.07**	**271**	P	**Pn**	**20 37 36.6**	**+0.5**
JJN	**Nakama**	**3.08**	**284**	P	**Pn**	**20 37 37.7**	**+1.4**
JNT	**Takato**	**3.09**	**261**	P	**Pn**	**20 37 37.2**	**+0.7**
JSD	**Sado**	**3.34**	**301**	P	**Pn**	**20 37 40.6**	**+0.8**
JHJ2	**Mitsune**	**3.69**	**208**		**Pn**	**20 37 44.5**	**-0.2**
JGN	**Niukaw**	**3.71**	**269**	P	**Pn**	**20 37 46.1**	**+1.2**
INU	**Inuyama**	**4.10**	**257**		**Pn**	**20 37 50.4**	**+0.2**
JHG	**Hegura jima**	**4.24**	**292**	P	**Pn**	**20 37 53.6**	**+1.5**
JYTA	**Yamagatataniai**	**4.26**	**261**	P	**Pn**	**20 37 54.3**	**+1.8**
ERM	**Erimo**	**5.70**	**9**	⇑*e*P	**Pn**	**20 38 10.7**	**-1.5**
ERM	**Erimo**	**5.70**	**9**	Pn	**Pn**	**20 38 11.4**	**-0.8**
NMR	**Nemuro--Hokkai**	**7.56**	**22**	⇑*i*P	**Pn**	**20 38 35.5**	**-2.3**
NMR				*i* S	Sn	20 39 55.1	-7.8
ASAJ	**Asahikawa**	**7.73**	**4**	Pn	**Pn**	**20 38 39.4**	**-0.7**
	9.9nm,0.3s,baz=219,slow=10,SNR=36						
ASAJ				Sn	**Sn**	**20 40 00.2**	**-7.0**
	1.5nm,0.3s,baz=158,slow=19,SNR=1.5						
JKA	**Kamikawa-asahi**	**7.73**	**4**		**Pn**	**20 38 39.4**	**-0.7**
JKA					**Sn**	**20 40 00.2**	**-7.0**
GLVR	**Golovnino**	**7.84**	**20**	*e*P	**Pn**	**20 38 41.4**	**-0.2**
GLVR				eS	**Sn**	**20 40 03.4**	**-6.4**
GRPR	**Tuman**	**8.15**	**20**	⇑*i*P	**Pn**	**20 38 44.5**	**-1.3**
GRPR				*i* S	**Sn**	**20 40 10.8**	**-6.5**
YUK	**Yuzh-Kuril'sk**	**8.21**	**20**	⇓*i*P	**Pn**	**20 38 45.9**	**-0.8**
YUK				*i* S	**Sn**	**20 40 11.5**	**-7.4**
YUK				pmax	pmax		
	comp=Z,146nm,0.5s						
YUK				pmax	pmax		
	comp=E,78nm,0.4s						
YUK				pmax	pmax		
	comp=N,80nm,0.6s						
JCJ	**Chichijima**	**9.27**	**178**	Pn	**Pn**	**20 38 57.4**	**-3.9**
	comp=N,19nm,0.3s,baz=307,slow=23,SNR=9.5						
JCJ				Sn	Sn	20 40 34.2	-11
	comp=N,32nm,0.3s,baz=294,slow=20,SNR=5.1						
TEY	**Ternei**	**9.52**	**337**	⇑*e*P	Pn	20 39 15.2	+11
TEY				pmax	pmax		
	comp=E,30nm,1.8s						
TEY				pmax	pmax		
	comp=Z,30nm,1.8s						
TEY				pmax	pmax		
	comp=N,30nm,1.5s						
TEY				MLR	MLR		
	comp=N,200nm,13.0s						
TEY				MLR	MLR		
	comp=E,200nm,13.0s						
TEY				MLR	MLR		
	comp=Z,300nm,18.0s						
JNU	**Nakatsue**	**9.64**	**253**	Pn	**Pn**	**20 39 07.3**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=76,slow=7.9,SNR=11						
JNU	**Nakatsue**	**9.64**	**253**		**Pn**	**20 39 08.3**	**+2.0**
KUR	**Kuril'sk**	**9.92**	**25**	*e*P	Pn	20 39 03.9	-6.2
KUR				pmax	pmax		
	comp=Z,45nm,0.5s						
KUR				pmax	pmax		
	comp=N,30nm,0.4s						
KUR				pmax	pmax		
	comp=E,33nm,0.4s						
KUR				MLR	MLR		
	comp=Z,1μm,13.0s						
YSS	**Yuzh-Sakhalins**	**10.57**	**3**	⇑*e*P	**Pn**	**20 39 19.9**	**+0.9**
YSS				eS	**Sn**	**20 41 15.8**	**-1.0**
YSS				pmax	pmax		
	comp=Z,60nm,0.9s						
YSS				MLR	MLR		
	comp=N,2μm,15.0s						
YSS				MLR	MLR		
	comp=Z,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**10.57**	**3**	Pn	**Pn**	**20 39 18.2**	**-0.8**
USA0B	**Ussuriysk Arra**	**10.86**	**319**	*e*P	**Pn**	**20 39 24.5**	**+1.5**
USA0B	**Ussuriysk Arra**	**10.86**	**319**	Pn	**Pn**	**20 39 23.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**10.86**	**319**	Pn	**Pn**	**20 39 25.6**	**+2.6**
	baz=115,slow=11,SNR=10						
USRK				LR	LR	20 43 27.5	
	comp=Z,5μm,18.3s,baz=122,slow=36						
KSRS	**Korea Array**	**11.24**	**280**	Pn	**Pn**	**20 39 31.9**	**+3.7**
	comp=Z,1.0nm,0.3s,baz=106,slow=13,SNR=13						
KSRS				LR	LR	20 43 44.2	
	comp=Z,4μm,19.4s,baz=74,slow=37						
KS19	**Wonju Array Si**	**11.29**	**280**		**Pn**	**20 39 28.3**	**-0.6**
MDJ	**Mudanjiang**	**12.45**	**315**	P	**P**	**20 39 53.4**	**-3.1**
MDJ				S	Sn	20 42 27.2	+24
MDJ				pmax	pmax		
	comp=Z,24nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,540nm,9.1s						
MDJ				LR	LR		
	comp=N,4μm,17.8s						
MDJ				LR	LR		
	comp=E,3μm,18.7s						
MDJ				LR	LR		
	comp=Z,6μm,18.6s						
MDJ	**Mudanjiang**	**12.45**	**315**		**Pn**	**20 39 44.9**	**+0.2**
TYV	**Tymovskoe**	**14.48**	**2**	*e*P	**P**	**20 40 21.7**	**+2.8**
TYV				pmax	pmax		
	comp=Z,500nm,5.5s						
TYV				pmax	pmax		
	comp=Z,33nm,0.8s						
TYV				MLR	MLR		
	comp=E,5μm,16.0s						
TYV				MLR	MLR		
	comp=Z,4μm,16.0s						
CN2	**Changchun**	**14.59**	**306**	*e*P	**Pn**	**20 40 13.7**	**-0.3**
CN2				eS	**Sn**	**20 43 01.5**	**+6.4**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				pmax	pmax		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=Z,3μm,17.0s						
CN2				LR	LR		
	comp=Z,4μm,17.0s						
CN2				LR	LR		
	comp=Z,4μm,17.0s						
KLR	**Kul'dur**	**14.82**	**333**	⇑*e*P	**Pn**	**20 40 15.7**	**-1.3**
KLR	**Kul'dur**	**14.82**	**333**	Pn	**Pn**	**20 40 15.1**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=164,slow=13,SNR=7.2						
KLR				LR	LR	20 45 54.9	
	comp=Z,3μm,19.4s,baz=144,slow=37						
GRNR	**Gornyy**	**14.90**	**346**	⇓*i*P	**Pn**	**20 40 17.7**	**-0.5**
GRNR				eS	**Sn**	**20 43 05.5**	**+2.9**
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GRNR				smax	smax		
	comp=N,10.0nm,0.7s						
GRNR				MLR	MLR		
	comp=Z,2μm,16.0s						
DL2	**Dalian**	**16.25**	**285**	P	**Pn**	**20 40 36.8**	**+1.0**
DL2				sP	**pwP**	**20 40 48.1**	**+1.7**
DL2				pmax	pmax		
	comp=Z,57nm,1.1s						
DL2				pmax	pmax		
	comp=Z,660nm,5.0s						
DL2				LR	LR		
	comp=Z,2μm,12.7s						
DL2				LR	LR		
	comp=Z,5μm,15.6s						
DL2				LR	LR		
	comp=Z,6μm,15.8s						
OKH	**Okha**	**17.17**	**2**	*c i*P	**Pn**	**20 40 47.8**	**+0.5**
OKH				*i* S	**Sn**	**20 43 53.3**	**-4.3**
OKH				pmax	pmax		
	comp=Z,200nm,16.7s						
OKH				MLR	MLR		
	comp=Z,3μm,16.0s						
SSE	**Sheshan**	**18.01**	**259**	P	**Pn**	**20 40 56.1**	**-1.7**
SSE				S	**Sn**	**20 44 18.3**	**+0.1**
SSE				pmax	pmax		
	comp=Z,18nm,0.8s						
SSE				pmax	pmax		
	comp=Z,260nm,5.7s						
SSE				LR	LR		
	comp=Z,1μm,14.7s						
SSE				LR	LR		
	comp=Z,1μm,13.7s						
NJ2	**Nanjing**	**19.53**	**264**	*e*P	**P**	**20 41 14.1**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
NJ2				LR	LR		
	comp=Z,2μm,12.8s						
NJ2				LR	LR		
	comp=Z,3μm,13.7s						
NJ2				LR	LR		
	comp=Z,2μm,12.8s						
TIA	**Tai'an**	**19.96**	**277**	P	**P**	**20 41 16.5**	**-3.1**
TIA				S	**Sn**	**20 45 04.7**	**-0.6**
TIA				pmax	pmax		
	comp=Z,34nm,1.5s						
TIA				LR	LR		
	comp=Z,2μm,14.2s						
TIA				LR	LR		
	comp=Z,2μm,14.2s						
TIA				LR	LR		
	comp=Z,2μm,15.9s						
PETK	**Petropavlovsk-**	**20.05**	**29**	P	**P**	**20 41 21.2**	**+0.7**
	comp=Z,3.9nm,0.8s,baz=208,slow=7.7,SNR=3.6						
PETK				LR	LR	20 49 11.9	
	comp=Z,678nm,20.7s,baz=221,slow=37						
ZEA	**Zeya**	**20.13**	**334**	*e*P	**P**	**20 41 17.8**	**-3.5**
ZEA				eS	Sn	20 45 11.0	+2.0
ZEA				pmax	pmax		
	comp=N,71nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,93nm,1.0s						
ZEA				smax	smax		
	comp=E,300nm,12.0s						
ZEA				MLR	MLR		
	comp=Z,4μm,15.0s						
ZEA				MLR	MLR		
	comp=E,2μm,13.0s						
ZEA				MLR	MLR		
	comp=N,3μm,14.0s						
PET	**Petropavlovsk**	**20.37**	**30**	*e*P	Pn	20 41 29.9	+3.9
PET				eS	**S**	**20 45 12.0**	**+0.9**
PET				pmax	pmax		
	comp=Z,200nm,12.6s						
PET				MLR	MLR		
	comp=Z,1μm,16.0s						
PET	**Petropavlovsk**	**20.37**	**30**	P	**P**	**20 41 22.4**	**-1.4**
PET				IAmb	IAmb	20 42 08.0	
	comp=Z,92nm,1.6s						
BJI	**Beijing**	**20.52**	**288**	⇓*i*P	**P**	**20 41 24.8**	**-0.8**
BJI				pmax	pmax		
	comp=Z,17nm,1.0s						
BJI				pmax	pmax		
	comp=Z,170nm,3.7s						
BJI				LR	LR		
	comp=Z,1μm,13.5s						
BJI				LR	LR		
	comp=Z,2μm,14.5s						
BJI				LR	LR		
	comp=Z,950nm,20.1s						
BJT	**Baijiatuau**	**20.52**	**288**	P	**P**	**20 41 23.3**	**-2.3**
BJT				pmax	pmax		
	comp=Z,25nm,1.0s						
BJT	**Baijiatuau**	**20.52**	**288**	P	**P**	**20 41 23.3**	**-2.3**
HIA	**Hailar**	**20.63**	**315**	P	**P**	**20 41 22.1**	**-4.8**
HIA				pmax	pmax		
	comp=Z,14nm,0.9s						
HIA	**Hailar**	**20.63**	**315**	P	**P**	**20 41 22.1**	**-4.8**
NACB	**Ninganchiao**	**21.30**	**241**	P	**P**	**20 41 30.5**	**-3.6**
SSLB	**Suanglung**	**22.00**	**241**	P	**P**	**20 41 38.2**	**-3.5**
YULB	**Yu-li**	**22.01**	**240**	P	**P**	**20 41 38.7**	**-3.1**
TPUB	**Ta-pu**	**22.54**	**240**	P	**P**	**20 41 44.0**	**-3.5**
TPUB				IAmb	IAmb	20 41 46.5	
	comp=Z,66nm,1.1s						
QZH	**Quanzhou**	**23.01**	**247**	⇑*i*P	**P**	**20 41 50.4**	**-2.0**
QZH				eS	**S**	**20 45 55.0**	**-7.1**
QZH				LR	LR		
	comp=Z,770nm,15.6s						
QZH				LR	LR		
	comp=Z,2μm,17.5s						
QZH				LR	LR		
	comp=Z,2μm,18.0s						
TIY	**Taiyuan**	**23.52**	**282**	P	**P**	**20 41 58.0**	**+0.5**
TIY				S	**S**	**20 46 07.8**	**-2.7**
TIY				pmax	pmax		
	comp=Z,310nm,6.0s						
TIY				LR	LR		
	comp=Z,2μm,13.5s						
TIY				LR	LR		
	comp=Z,5μm,14.9s						
TIY				LR	LR		
	comp=Z,5μm,14.5s						
WHN	**Wuhan**	**23.67**	**264**	⇑*i*P	**P**	**20 41 58.2**	**-0.7**
WHN				pmax	pmax		
	comp=Z,61nm,0.9s						
WHN				LR	LR		
	comp=Z,5μm,13.2s						
WHN				LR	LR		
	comp=Z,5μm,12.3s						
WHN				LR	LR		
	comp=Z,8μm,15.5s						
MA2	**Magadan**	**23.90**	**11**	LR	LR	20 52 42.2	
	comp=Z,350nm,18.6s,baz=196,slow=40						
HHC	**Hu-ho-hao-te**	**24.05**	**290**	P	**P**	**20 42 02.4**	**-0.3**
BTO	**Baotou**	**25.23**	**289**	*e*P	**P**	**20 42 07.0**	**-6.3**
BTO				S	S	20 46 52.7	+15
YAK	**Yakutsk**	**26.78**	**347**	*c i*P	**P**	**20 42 27.0**	**0.0**
YAK				*e**PP	**pwP**	**20 42 36.4**	**+1.2**
YAK				*e*		20 43 07.4	
YAK				*e*S	**S**	**20 47 03.6**	**+1.8**
YAK				*e**SS	sS	20 47 19.0	+9.3
YAK				*e*SS		20 48 07.9	
YAK				*e*SSS	SSS	20 48 26.2	
YAK				pmax	pmax		
	comp=Z,160nm,1.0s						
YAK				pmax	pmax		
	comp=N,93nm,1.0s						
YAK				pmax	pmax		
	comp=E,35nm,1.0s						
YAK				pmax	pmax		
	comp=Z,63nm,2.3s						
YAK				pmax	pmax		
	comp=N,59nm,1.7s						
YAK				pmax	pmax		
	comp=E,122nm,2.5s						
YAK				smax	smax		
	comp=N,105nm,2.7s						
YAK				smax	smax		
	comp=E,135nm,2.5s						
YAK				MLR	MLR		
	comp=Z,1μm,14.0s						
YAK				MLR	MLR		
	comp=N,

comp=Z,14nm,1.1s,baz=153,slow=4.5,SNR=6.0
H11N2 WAKE ISLAND Hy 27.48 120 T T 21 11 08.7
baz=313,slow=75,SNR=112
H11N1 WAKE ISLAND Hy 27.49 120 T T 21 11 08.5
baz=313,slow=75,SNR=71
H11N3 WAKE ISLAND Hy 27.50 120 T T 21 11 10.2
baz=313,slow=75,SNR=133
ENH Enshi 27.68 267 P **P** **20 42 34.0 -1.4**
ULN Ulaanbaatar 28.04 305 P **P** **20 42 39.3 +0.6**
SNR=17
ULN Ulaanbaatar 28.04 305*c i*P **P** **20 42 38.9 +0.2**
ULN pmax pmax
comp=Z,72nm,1.3s
ULN Ulaanbaatar 28.04 305 P **P** **20 42 38.8 +0.1**
ULN IAmb IAmb 20 42 41.2
comp=Z,63nm,1.1s
H11S1 WAKE ISLAND Hy 28.18 123 T T 21 12 02.7
baz=314,slow=75,SNR=114
H11S3 WAKE ISLAND Hy 28.18 123 T T 21 12 02.7
baz=314,slow=75,SNR=51
H11S2 WAKE ISLAND Hy 28.20 123 T T 21 12 04.4
baz=314,slow=75,SNR=34
BOD Bodaibo 28.28 328 *e*P **P** **20 42 40.0 -0.5**
BOD pmax pmax
comp=Z,35nm,1.2s
SONM Songino Array 28.47 305 P **P** **20 42 42.8 +0.3**
comp=Z,67nm,1.0s,baz=101,slow=5.6,SNR=134
SONM LR LR 20 54 26.5
comp=Z,1µm,18.6s,baz=88,slow=37
TGY Tagaytay City 29.07 226 LR LR 20 51 43.8
comp=Z,219nm,21.0s,baz=14,slow=31
LZH Lanzhou 30.57 281 *e*P **P** **20 43 01.1 -0.1**
LZH sP pwP 20 43 11.5 +2.4
LZH PP **PnPn** **20 44 04.3 +3.9**
LZH pmax pmax
comp=Z,29nm,1.1s
LZH pmax pmax
comp=Z,320nm,4.9s
LZH LR LR
comp=Z,2µm,11.4s
LZH LR LR
comp=Z,3µm,11.9s
LZH LR LR
comp=Z,4µm,14.6s
ZAK Zakamensk 30.98 309 *e*P **P** **20 43 00.9 -3.7**
ZAK pmax pmax
comp=Z,40nm,1.1s
TLY Talaya 31.05 312 P **P** **20 43 06.4 +1.3**
SNR=9.8
TLY Talaya 31.05 312 *e*P **P** **20 43 05.1 -0.1**
TLY *e* 20 44 19.3
TLY *e*SS SS 20 49 50.3 -32
TLY pmax pmax
comp=Z,122nm,1.1s
TLY MLR MLR
comp=Z,7µm,15.0s
TLY Talaya 31.05 312 P **P** **20 43 06.2 +1.0**
comp=Z,28nm,1.0s,baz=127,slow=4.8,SNR=18
TLY Talaya 31.05 312 P **P** **20 43 05.2 +0.1**
TLY IAmb IAmb 20 43 07.9
comp=Z,40nm,1.0s
GYA Guiyang 31.51 262⇓ *i*P **P** **20 43 08.5 -1.1**
GYA PP **PnPn** **20 44 16.4 +3.6**
GYA S **S** **20 48 20.1 +3.0**
GYA ScP **ScP** **20 49 40.8 -3.6**
GYA pmax pmax
comp=Z,60nm,0.9s
GYA pmax pmax
comp=Z,180nm,5.3s
GYA LR LR
comp=Z,710nm,12.6s
GYA LR LR
comp=Z,1µm,15.6s
GYA LR LR
comp=Z,2µm,16.6s
CD2 Chengdu 32.07 271 P **P** **20 43 13.9 -0.5**
CD2 sP pwP 20 43 22.3 0.0
CD2 S **S** **20 48 21.4 -4.3**
CD2 sS sS 20 48 38.9 +6.3
CD2 pmax pmax
comp=Z,80nm,1.1s
CD2 pmax pmax
comp=Z,3µm,14.2s
CD2 LR LR
comp=Z,2µm,17.1s
CD2 LR LR
comp=Z,2µm,12.1s
CD2 LR LR
comp=Z,3µm,13.5s
MOY Mondy 32.65 311 *e*P **P** **20 43 19.7 +0.3**
MOY pmax pmax
comp=Z,30nm,1.4s
QIZ Qiongzhong 33.03 247 P **P** **20 43 23.2 +0.4**
QIZ pmax pmax
comp=Z,18nm,1.7s
QIZ LR LR
comp=Z,870nm,15.5s
QIZ LR LR
comp=Z,850nm,12.9s
QIZ LR LR
comp=Z,940nm,18.4s
GTA Gaotai 33.13 288⇓ P **P** **20 43 23.4 -0.3**
GTA pP pP 20 43 28.4 -0.5
GTA sP pwP 20 43 32.1 +0.4
GTA PcP **PcP** **20 46 07.7 +1.2**
GTA S **S** **20 48 40.2 -2.0**
GTA SS **SnSn** **20 50 41.8 +0.4**
GTA pmax pmax
comp=Z,40nm,1.2s
GTA pmax pmax
comp=Z,210nm,4.9s
GTA LR LR
comp=Z,770nm,14.1s
GTA LR LR
comp=Z,2µm,17.5s
GTA LR LR
comp=Z,2µm,16.8s
BILL Bilibino 34.53 16⇓ *i*P **P** **20 43 36.2 +0.8**
BILL *i* 20 43 42.1
BILL *i* 20 44 52.4
BILL *i* 20 46 10.3
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL MLR MLR
comp=Z,728nm,15.0s
BILL Bilibino 34.53 16 P **P** **20 43 35.8 +0.4**
KMI Kunming 35.26 263 P **P** **20 43 41.2 -1.2**
KMI pP sP 20 43 48.5 -0.6
KMI sP pwP 20 43 52.9 +2.5
KMI S **S** **20 49 14.0 -1.5**
KMI sS sS 20 49 26.7 +3.4
KMI SS **SnSn** **20 51 28.8 -4.7**
KMI pmax pmax
comp=Z,64nm,1.0s
KMI pmax pmax
comp=Z,130nm,4.0s
KMI LR LR
comp=Z,2µm,19.0s
KMI LR LR
comp=Z,2µm,15.5s
KMI LR LR
comp=Z,2µm,14.7s
KMI Kunming 35.26 263 P **P** **20 43 41.2 -1.2**
KMI pmax pmax
comp=Z,60nm,1.0s
KMI Kunming 35.26 263 P **P** **20 43 41.2 -1.2**
TIXI Tiksi 35.97 353⇑ *e*P **P** **20 43 47.4 -0.3**
TIXI pmax pmax
comp=Z,13nm,1.0s
TIXI Tiksi 35.97 353 P **P** **20 43 47.9 +0.2**
comp=Z,11nm,1.1s,baz=160,slow=8.6,SNR=15
TIXI Tiksi 35.97 353 P **P** **20 43 47.6 -0.1**
SLVN Son La 36.25 256 P **P** **20 43 49.9 -0.9**
SLVN IAmb IAmb 20 43 52.6
comp=Z,29nm,1.1s
TNTI Ternate 37.92 204 P **P** **20 44 05.2 +0.4**
TNTI IAmb IAmb 20 44 07.2
comp=Z,30nm,1.0s
SMPI Sarmi 38.30 185 P P 20 44 20.9 +13
SWI Sorong 38.37 197 P **P** **20 44 09.9 +1.3**
comp=Z,24nm,0.8s
RKPI Ransiki, Papua 38.39 192 P **P** **20 44 12.5 +3.7**
comp=Z,33nm,0.8s,comp=Z,1µm
UBPT Khong Chiam 38.63 247 P **P** **20 44 12.6 +1.8**
comp=Z,27nm,1.0s
UBPT Khong Chiam 38.63 247 P **P** **20 44 11.3 +0.5**
UBPT IAmb IAmb 20 44 13.7
comp=Z,38nm,0.9s
NONG Nongkai 38.68 252 P **P** **20 44 11.6 +0.3**
comp=Z,2.1nm,0.9s
SKNT Sakolnakorn 38.69 250 P **P** **20 44 12.5 +1.1**
comp=Z,37nm,1.1s
JAY Jayapura 38.72 182 LR LR 20 57 47.0
comp=Z,350nm,19.5s,baz=348,slow=32
KMSI Cibinong 39.32 209 P **P** **20 44 17.2 +0.6**
comp=Z,150nm,0.9s
MRSI Marisa 40.25 212 P **P** **20 44 23.7 -0.6**
comp=Z,91nm,1.3s,comp=Z,1µm
PAYA Payao 40.49 257 P **P** **20 44 27.0 +0.6**
comp=Z,31µm,0.9s
PHRA Phrae 40.69 255 P **P** **20 44 27.9 -0.1**
comp=Z,7.4nm,1.0s,comp=Z,665nm
CHAI Chaiyaphum 40.86 251 P **P** **20 44 29.3 -0.1**
comp=Z,144µm,1.0s,comp=Z,989µm
UTTA Uttaradit 40.87 254 P **P** **20 44 29.4 -0.1**
comp=Z,83µm,1.0s,comp=Z,540µm
SANI Sanana 41.02 205 P **P** **20 44 28.9 -1.8**
comp=Z,72nm,0.8s,comp=Z,72nm,0.8s,comp=Z,652nm
comp=Z,652nm
PBKT Sadao Pong 41.23 252 P **P** **20 44 32.3 -0.2**
comp=Z,40nm,1.0s
PBKT Sadao Pong 41.23 252 P **P** **20 44 31.8 -0.7**
MPSI Mapaga 41.27 215 P **P** **20 44 32.5 -0.3**
comp=Z,19nm,1.0s
LUWI Luwuk 41.28 210 P **P** **20 44 35.1 +2.3**
comp=Z,51nm,0.7s,comp=Z,2µm
WMQ Urumqi 41.48 298 P **P** **20 44 35.5 +1.1**
WMQ pP pwP 20 44 43.9 +1.5
WMQ sP sP 20 44 46.8 +5.7
WMQ pmax pmax
comp=Z,45nm,1.1s
WMQ pmax pmax
comp=Z,310nm,4.3s
WMQ LR LR
comp=Z,730nm,17.7s
WMQ LR LR
comp=Z,1µm,15.1s
WMQ LR LR
comp=Z,1µm,16.7s
WMQ Urumqi 41.48 298 P **P** **20 44 34.9 +0.5**
WMQ pmax pmax
comp=Z,88nm,1.2s
WMQ Urumqi 41.48 298 P **P** **20 44 34.9 +0.5**
CMMT Chiang Mai 41.52 257 P **P** **20 44 34.4 -0.5**
comp=Z,19nm,1.0s
CHTO Chiang Mai 41.52 257 P **P** **20 44 35.0 +0.1**
SNR=9.4
CHTO Chiang Mai 41.52 257 P **P** **20 44 34.3 -0.6**
CHTO pmax pmax
comp=Z,27nm,0.9s
CHTO Chiang Mai 41.52 257 P **P** **20 44 34.3 -0.6**
CHTO IAmb IAmb 20 44 36.6
comp=Z,27nm,0.9s
APSI Ampana 41.62 211 P **P** **20 44 35.3 -0.3**
comp=Z,82nm,1.1s,comp=Z,691nm
CM31 Chiang Mai Arr 41.72 256 P **P** **20 44 36.2 -0.3**
CM31 IAmb IAmb 20 44 39.6
comp=Z,22nm,0.9s
CMAR Chiang Mai Arr 41.72 256 P **P** **20 44 36.2 -0.3**
comp=Z,14nm,0.8s,baz=47,slow=6.1,SNR=76
CMAR LR LR 21 04 20.8
comp=Z,323nm,19.9s,baz=48,slow=40
NLAI Namlea 41.78 203 P **P** **20 44 39.9 +3.0**
comp=Z,22nm,0.9s
AAI Ambon 41.88 201 P **P** **20 44 40.6 +2.9**
comp=Z,53nm,0.8s
BNDI Bandanaira 42.22 198 P **P** **20 44 43.9 +3.4**
comp=Z,86nm,1.0s
ZAA0 Zalesovo Array 42.64 313 P **P** **20 44 43.4 -0.1**
ZAA0 IAmb IAmb 20 44 45.6
comp=Z,50nm,1.0s
ZALV Zalesovo Beam 42.64 313 P **P** **20 44 43.8 +0.2**
comp=Z,42nm,0.9s,baz=93,slow=6.4,SNR=101
ZALV PcP **PcP** **20 46 34.9 -0.4**
comp=Z,6.8nm,0.9s,baz=89,slow=2.3,SNR=3.6
ZALV ScP **ScP** **20 50 24.6 -0.6**
comp=Z,0.7nm,0.6s,baz=52,slow=5.7,SNR=3.7
ZALV LR LR 21 03 07.8
comp=Z,1µm,19.9s,baz=85,slow=37
LSA Lhasa 42.66 276 P **P** **20 44 45.5 +0.9**
LSA Lhasa 42.66 276 P **P** **20 44 45.7 +1.0**
LSA Lhasa 42.66 276 P **P** **20 44 45.2 +0.5**
LSA pmax pmax
comp=Z,40nm,1.0s
LSA Lhasa 42.66 276 P **P** **20 44 45.2 +0.5**
LSA IAmb IAmb 20 44 47.6
comp=Z,40nm,1.0s
MHMT Maesarieng 42.67 257 P **P** **20 44 44.8 +0.6**
comp=Z,76nm,1.0s,comp=Z,666nm
UTHA Uthaitani 43.01 253 P **P** **20 44 47.7 +0.7**
comp=Z,44µm,1.0s,comp=Z,382µm
SBUM Sibu 43.49 226 P **P** **20 44 51.0 +0.1**
SBUM Sibu 43.49 226 P **P** **20 44 50.4 -0.5**
PATY Pattaya 43.56 248 P **P** **20 44 52.6 +1.2**
comp=Z,32µm,1.0s
SHL Shillong 43.80 270 P **P** **20 44 53.1 -0.4**
SHL pmax pmax
comp=Z,21nm,1.1s
SHL Shillong 43.80 270 P **P** **20 44 53.1 -0.4**
SRDT SRDT 43.99 251 P **P** **20 44 55.3 +0.4**
comp=Z,24nm,1.1s
KDI Kendari 44.00 208 P **P** **20 44 57.1 +2.2**
comp=Z,25nm,1.1s
PHET Kaeng Krachan 44.49 249 P **P** **20 44 59.9 +0.9**
comp=Z,79µm,1.0s,comp=Z,540µm
MK31 Makanchi Array 44.79 303 P **P** **20 45 01.1 0.0**
MK31 pmax pmax
comp=Z,32nm,1.0s
MK31 Makanchi Array 44.79 303 P **P** **20 45 01.1 0.0**
MK31 IAmb IAmb 20 45 05.3
comp=Z,32nm,1.0s
MKAR Makanchi Array 44.79 303 P **P** **20 45 01.2 +0.1**
comp=Z,39nm,1.1s,baz=86,slow=7.9,SNR=30
MKAR ScP **ScP** **20 50 31.9 -2.3**
comp=Z,1.5nm,1.0s,baz=90,slow=5.8,SNR=3.6
MKAR LR LR 21 04 25.1
comp=Z,889nm,20.1s,baz=81,slow=37
MAKZ Makanchi 45.00 303 P **P** **20 45 02.4 -0.3**
MAKZ pmax pmax
comp=Z,41nm,1.0s
MAKZ Makanchi 45.00 303 P **P** **20 45 02.4 -0.3**
MAKZ IAmb IAmb 20 45 07.1
comp=Z,41nm,1.0s
SPSI Sidrap Palu 45.16 212 P **P** **20 45 04.9 +0.7**
comp=Z,26nm,1.2s
KSM Kuching 45.40 227 P **P** **20 45 06.1 0.0**
KSM IAmb IAmb 20 45 09.7
comp=Z,24nm,1.0s
BNSI Bone 45.41 211 P **P** **20 45 08.0 +1.8**
comp=Z,58nm,1.0s
BBSI Bau Bau 45.43 208 P **P** **20 45 08.0 +1.7**
comp=Z,22nm,0.9s
KAPI Kappang 46.11 211 P **P** **20 45 13.5 +1.8**
KAPI P **P** **20 45 13.5 +1.8**
KAPI Kappang 46.11 211 P **P** **20 45 11.7 0.0**
KAPI pmax pmax
comp=Z,84nm,1.2s
KAPI Kappang 46.11 211 P **P** **20 45 11.7 0.0**
BKSI Bulukumba 46.24 211 P **P** **20 45 13.8 +1.1**
comp=Z,31nm,1.0s
TAPN Taplejung 46.38 275 *e*P **P** **20 45 14.2 0.0**
comp=Z,67nm,0.9s
KURK Kurchatov 46.64 309 P **P** **20 45 15.6 +0.1**
SNR=26
KURK P **P** **20 45 15.6 +0.1**
SNR=26
KURK Kurchatov 46.64 309*c i*P **P** **20 45 15.2 -0.3**
KURK pmax pmax
comp=Z,58nm,0.8s
KURK Kurchatov 46.64 309 P **P** **20 45 15.1 -0.4**
KURBB Kurchatov Arra 46.71 309 P **P** **20 45 16.0 -0.1**
comp=Z,27nm,0.7s,baz=83,slow=8.1,SNR=56
ODAN Odare 46.85 274 *e*P **P** **20 45 17.8 0.0**
comp=Z,155nm,1.1s
KDAK Kodiak Island 47.32 42 P **P** **20 45 21.4 +0.7**
comp=Z,4.8nm,0.6s,baz=232,slow=3.5,SNR=8.2
KDAK Kodiak Island 47.32 42 IAmb IAmb 20 45 37.9
comp=Z,28nm,1.3s
RAMN Ramite 47.44 275 *e*P **P** **20 45 22.5 0.0**
comp=Z,370nm,1.0s
JIRN Jiri 47.47 276 *e*P **P** **20 45 23.0 +0.2**
comp=Z,304nm,1.1s
GUN Gumba 47.61 276 *e*P **P** **20 45 24.0 +0.1**
comp=Z,170nm,0.9s
SURT Suratani 47.67 246 P **P** **20 45 25.7 +1.7**
comp=Z,25nm,1.0s
TRTT Trang 47.77 244 P **P** **20 45 26.3 +1.6**
comp=Z,19nm,1.1s
KTH Kantishna Hill 48.06 34 P **P** **20 45 27.6 +1.1**
KTH IAmb IAmb 20 45 50.2
comp=Z,16nm,1.3s
PKI Pulchoki 48.13 276 *e*P **P** **20 45 27.7 -0.2**
comp=Z,100nm,1.1s
PKIN Phulchoki 48.14 276 *e*P **P** **20 45 27.5 -0.4**
comp=Z,74nm,1.1s
KKN Kakani 48.14 277 *e*P **P** **20 45 27.7 -0.1**
comp=Z,128nm,1.0s
TRF Thorofare Moun 48.34 34 P **P** **20 45 31.0 +2.2**
DMN Daman 48.36 277 *e*P **P** **20 45 29.4 -0.2**
comp=Z,107nm,1.3s
PRZ Przheval'sk 48.41 298 P **P** **20 45 31.0 +1.4**
PRZ pmax pmax
comp=Z,108nm,1.1s
PRZ Przheval'sk 48.41 298 P **P** **20 45 31.1 +1.4**
MMRI Maumere 48.45 206 P **P** **20 45 32.6 +2.6**
comp=Z,53nm,0.9s
MMRI Maumere 48.45 206 P **P** **20 45 29.1 -0.9**
GKN Gorkha 48.57 277 *e*P **P** **20 45 31.0 0.0**
comp=Z,307nm,1.1s
HNR Honiara 48.64 156 LR LR 21 05 00.4
comp=Z,363nm,19.4s,baz=332,slow=35
SOEI Soe 48.81 203 P **P** **20 45 30.3 -2.5**
comp=Z,96nm,1.0s,comp=Z,1µm
PMR Palmer 48.91 36 P **P** **20 45 34.6 +1.6**
PMR pmax pmax
comp=Z,15nm,1.3s
PMR Palmer 48.91 36 P **P** **20 45 34.6 +1.6**
RND Reindeer 48.99 34 P **P** **20 45 36.3 +2.6**
RND pmax pmax
comp=Z,17nm,1.3s
RND Reindeer 48.99 34 P **P** **20 45 36.3 +2.6**
RND IAmb IAmb 20 45 47.4
comp=Z,17nm,1.3s
TARG Taragay, Kyrgy 49.04 297 P **P** **20 45 35.6 +0.8**
DANN Dangsing 49.12 278 *e*P **P** **20 45 35.8 +0.3**
comp=Z,251nm,1.0s
IPM Ipoh 49.15 240 P **P** **20 45 35.0 -0.4**
IPM Ipoh 49.15 240 P **P** **20 45 34.2 -1.2**
MYKOM Kota Tinggi 49.20 234 P **P** **20 45 36.0 +0.2**
MYKOM Kota Tinggi 49.20 234 P **P** **20 45 35.7 0.0**
MYKOM IAmb IAmb 20 45 37.5
comp=Z,20nm,1.1s
KNK Knik Glacier 49.24 37 P **P** **20 45 35.1 -0.4**
KDJ Kajisay 49.38 298 P **P** **20 45 37.9 +0.8**
KDJ pmax pmax
comp=Z,31nm,1.1s
KDJ Kajisay 49.38 298 P **P** **20 45 37.9 +0.8**
KDJ IAmb IAmb 20 45 41.9
comp=Z,31nm,1.1s
BATI Baumata 49.43 204 LR LR 21 06 24.9
comp=Z,174nm,19.2s,baz=14,slow=36
KOLN Koldanda 49.50 277 *e*P **P** **20 45 38.0 -0.2**
comp=Z,131nm,1.2s
POKR Poker Plat Res 49.59 32 P **P** **20 45 39.3 +1.1**
baz=271
HDA Harding Lake 49.81 33 P **P** **20 45 41.7 +1.9**
baz=272
HDA Harding Lake 49.81 33 P **P** **20 45 38.7 -1.2**
IL31 49.83 32 P **P** **20 45 40.9 +1.0**
ILAR Eielson Array 49.83 32 P **P** **20 45 40.8 +0.8**
comp=Z,2.9nm,0.8s,baz=268,slow=6.2,SNR=27
ILAR LR LR 21 08 59.4
comp=Z,203nm,18.9s,baz=283,slow=39
MTN Manton Dam 50.01 194 P **P** **20 45 41.8 -0.1**
MTN IAmb IAmb 20 45 53.7
comp=Z,27nm,0.9s
COEN Coen 50.09 178 P **P** **20 45 42.9 +0.4**
COEN IAmb IAmb 20 45 53.4
comp=Z,13nm,0.9s
WSI Waingapu 50.12 208 P **P** **20 45 45.5 +2.8**
comp=Z,97nm,0.9s
BOOM Boomskoye usch 50.16 298 P **P** **20 45 38.4 -4.6**
BOOM Boomskoye usch 50.16 298 P **P** **20 45 38.4 -4.6**
TKM2 Tokmak 2 50.28 299 *i* P **P** **20 45 44.9 +0.9**
TKM2 pmax pmax
comp=Z,66nm,1.2s
TKM2 Tokmak 2 50.28 299 P **P** **20 45 44.9 +0.9**
SNR=59
TPI Tanjungpandan 50.36 227 P **P** **20 45 44.9 +0.4**
comp=Z,35nm,1.1s,comp=Z,413nm
PLAI Plampang 50.38 212 P **P** **20 45 42.5 -2.1**
comp=Z,60nm,0.9s,comp=Z,558nm
PRP Porcupine Dome 50.38 31 P **P** **20 45 46.2 +1.9**
NRN Naryn 50.42 297 P **P** **20 45 45.6 +0.4**
NRN pmax pmax
comp=Z,16nm,1.1s
NRN Naryn 50.42 297 P **P** **20 45 45.6 +0.4**
NRN IAmb IAmb 20 45 48.0
comp=Z,16nm,1.1s
TWSI Taliwang, Sumb 50.68 213 P **P** **20 45 44.5 -2.4**
comp=Z,40nm,0.9s
KZA Kyzart 50.77 298 P **P** **20 45 49.5 +1.6**
SNR=12
KBK Karagaybulak 50.81 299 P **P** **20 45 48.5 +0.5**
SNR=46
SRBI Singaraja 50.85 215 P **P** **20 45 49.6 +1.4**
comp=Z,50nm,1.0s,comp=Z,686nm
CHMS Chumysh 50.85 299 P **P** **20 45 48.9 +0.8**
SNR=16
USP Ospenovka 50.95 300 P **P** **20 45 49.3 +0.4**
SNR=24
FRU1 Bishkek 50.99 299 P **P** **20 45 49.3 +0.1**
FRU1 pmax pmax
comp=Z,59nm,1.1s
FRU1 Bishkek 50.99 299 P **P** **20 45 49.3 +0.1**
KSH Kashi 51.03 295 P **P** **20 45 53.9 +4.3**
KSH sP pwP 20 46 02.3 +4.6
KSH PP **PP** **20 47 51.1 +5.1**
KSH PcS **PcS** **20 51 05.4 +2.3**
KSH S **S** **20 53 09.2 +3.2**
KSH pmax pmax
comp=Z,38nm,1.1s
KSH pmax pmax
comp=Z,400nm,4.4s
KSH LR LR
comp=Z,4µm,15.5s
KSH LR LR
comp=Z,4µm,19.5s
KSH LR LR
comp=Z,5µm,16.7s
SCRK Sand Creek 51.13 33 P **P** **20 45 50.2 +0.2**
AAK Ala-Archa 51.14 299 *i* P **P** **20 45 50.5 +0.1**
SNR=24
AAK Ala-Archa 51.14 299 P **P** **20 45 51.1 +0.7**
SNR=11
AAK P **P** **20 45 51.1 +0.7**
SNR=11
AAK Ala-Archa 51.14 299*ce*P **P** **20 45 50.6 +0.1**
AAK pmax pmax
comp=Z,18nm,0.9s
AAK Ala-Archa 51.14 299 LR LR 21 08 55.3
comp=Z,3µm,18.7s,baz=66,slow=38
AAK Ala-Archa 51.14 299 P **P** **20 45 50.8 +0.4**
SNR=14
AAK Ala-Archa 51.14 299 P **P** **20 45 50.5 +0.1**
AAK IAmb IAmb 20 46 01.9
comp=Z,19nm,1.0s
GRJI Gresik 51.16 219 P **P** **20 45 52.5 +1.9**
comp=Z,63nm,0.9s,comp=Z,601nm
UCH Uchtor 51.25 298 P **P** **20 45 52.4 +0.8**
SNR=10
MENT Mentasta 51.34 34 P **P** **20 45 52.9 +1.4**
BRVK Borovoye 51.35 313 P **P** **20 45 52.2 +0.6**
SNR=8.4
BRVK P **P** **20 45 52.2 +0.6**
SNR=8.4
BRVK Borovoye 51.35 313*ce*P **P** **20 45 51.4 -0.2**
BRVK pmax pmax
comp=Z,21nm,1.0s
BRVK Borovoye 51.35 313 P **P** **20 45 51.4 -0.2**
BRVK IAmb IAmb 20 45 53.4
comp=Z,18nm,0.9s
EKS2 Erkin-Say 51.64 299 P **P** **20 45 54.9 +0.7**
SNR=16
JAGI Jajag, Banyuwa 51.69 216 P P 20 46 06.1 +12
JAGI Jajag, Banyuwa 51.69 216 P **P** **20 45 54.4 -0.1**
JAGI IAmb IAmb 20 46 09.6
comp=Z,34nm,1.0s
PSI Prapat 51.81 240 P **P** **20 45 55.3 -0.3**

PSI pmax pmax
comp=Z,14nm,0.9s
MCARA **McCarthy VSAT** **51.84 36** P **P** **20 45 57.4 +2.2**
AML **Almayashu** **51.86 299** P **P** **20 45 57.1 +1.1**
SNR=57
CRQM **Cirque** **51.87 37** P **P** **20 45 56.1 +0.5**
CRQM IAmb IAmb 20 46 09.8
comp=Z,24nm,1.1s
RPSI **Rantau Prapat** **51.88 240** P **P** **20 45 55.3 -0.7**
RPSI IAmb IAmb 20 45 57.0
comp=Z,14nm,0.9s
NGJI **Ngawi** **52.07 220** P P 20 46 12.8 +15
BKNI **Bangkinang** **52.15 236** P **P** **20 45 58.2 +0.2**
BALM **Baldy** **52.22 37** P **P** **20 45 58.6 +0.5**
EGAK **Eagle** **52.28 32** P **P** **20 45 59.4 +1.1**
PWJI **Pagerwojo** **52.45 219** P **P** **20 45 56.7 -3.5**
comp=Z,75nm,0.9s
ARSB **Arslanbob** **52.61 298** P **P** **20 46 01.8 +0.4**
SDSI **Sungai Dareh** **52.83 235** P **P** **20 46 03.2 +0.1**
comp=Z,25nm,0.7s
UGM **Wanagama** **53.01 220** P **P** **20 46 03.0 -1.4**
comp=Z,156nm,1.4s
UGM **Wanagama** **53.01 220** P **P** **20 46 03.3 -1.1**
KNRA **Kununurra** **53.25 196** P **P** **20 46 05.5 -0.6**
KNRA IAmb IAmb 20 46 07.6
comp=Z,25nm,0.9s
KPJI **Karang Pucung** **53.38 222** P **P** **20 46 05.6 -1.4**
comp=Z,70nm,0.9s
KLSI **53.64 228** P **P** **20 46 09.1 +0.1**
comp=Z,25nm,0.9s
KRJI **Kerinci** **53.68 234** P P 20 46 14.9 +5.5
LEM **Lembang** **53.68 224** P **P** **20 46 10.0 +0.5**
comp=Z,63nm,0.9s
LHSI **Lahat** **53.70 230** P **P** **20 46 09.4 0.0**
comp=Z,54nm,0.9s
KK31 **Karatay Array** **53.79 301** P **P** **20 46 09.0 -0.8**
KK31 pmax pmax
comp=Z,31nm,1.0s
KK31 **Karatay Array** **53.79 301** P **P** **20 46 09.0 -0.8**
KK31 IAmb IAmb 20 46 16.1
comp=Z,31nm,1.0s
KKAR **Karatay Array** **53.79 301** P **P** **20 46 09.5 -0.3**
KKAR pmax pmax
comp=Z,31nm,1.0s
KKAR **Karatay Array** **53.79 301** P **P** **20 46 09.5 -0.3**
KKAR IAmb IAmb 20 46 16.1
comp=Z,31nm,1.0s
GSI **Gunungsitoli** **53.81 240** P **P** **20 46 11.4 +1.1**
comp=Z,69nm,1.1s
GSI **Gunungsitoli** **53.81 240** P **P** **20 46 08.0 -2.3**
MDSI **Maura Dua** **53.81 229** P **P** **20 46 09.5 -0.8**
comp=Z,46nm,0.9s,comp=Z,485nm
EPYK **Eagle Plains** **53.89 30** P **P** **20 46 11.7 +1.5**
baz=279
EPYK **Eagle Plains** **53.89 30** P **P** **20 46 11.9 +1.6**
EPYK IAmb IAmb 20 46 34.7
comp=Z,30nm,1.2s
KASI **Kota Agung** **54.44 228** P **P** **20 46 13.4 -1.4**
BTK **Batken** **54.59 297** P **P** **20 46 15.5 -0.4**
BTK pmax pmax
comp=Z,29nm,1.2s
BTK **Batken** **54.59 297** P **P** **20 46 15.5 -0.4**
BTK IAmb IAmb 20 46 21.8
comp=Z,29nm,1.1s
INK **Inuvik** **54.78 27** P **P** **20 46 17.8 +1.1**
comp=Z,5.9nm,0.9s,baz=267,slow=7.0,SNR=16
INK **Inuvik** **54.78 27** P **P** **20 46 17.7 +1.1**
NIL **Nilore** **55.19 289** P **P** **20 46 20.9 +0.7**
NIL P **P** **20 46 20.9 +0.7**
NIL **Nilore** **55.19 289** P **P** **20 46 20.3 +0.1**
NIL pmax pmax
comp=Z,34nm,1.1s
NIL **Nilore** **55.19 289** P **P** **20 46 20.3 +0.1**
TAS **Tashkent** **55.24 299** P **P** **20 46 20.9 +0.5**
TAS **Tashkent** **55.24 299** P **P** **20 46 20.9 +0.5**
GAR **Garm** **55.33 296** P **P** **20 46 21.4 +0.2**
SVE **Sverdlovsk** **55.89 319**⇓ *e*P **P** **20 46 25.5 +0.7**
SVE pmax pmax
comp=Z,54nm,1.1s
SVE MLR MLR
comp=Z,2μm,15.0s
CHGR **Chuyangaron** **56.30 296** P **P** **20 46 27.8 -0.3**
FITZ **Fitzroy Crossi** **56.33 199** P **P** **20 46 28.5 +0.2**
FITZ IAmb IAmb 20 47 11.6
comp=Z,17nm,1.3s
WRAB **Tennant Creek** **56.47 189** *de*P **P** **20 46 28.1 -1.2**
WRAB pmax pmax
comp=Z,9.0nm,0.9s
WR0 **Warramunga Arr** **56.48 188** P **P** **20 46 27.7 -1.6**
WR0 IAmb IAmb 20 46 38.5
comp=Z,22nm,0.9s
WB2 **Warramunga Arr** **56.48 189** P **P** **20 46 27.9 -1.5**
WB2 IAmb IAmb 20 46 59.5
comp=Z,17nm,0.8s
WRA **Warramunga Arr** **56.48 189** P **P** **20 46 28.6 -0.8**
comp=Z,8.4nm,0.8s,baz=5.9,slow=7.4,SNR=56
WRA LR LR 21 09 34.0
comp=Z,178nm,21.5s,baz=355,slow=35
ARU **Arti** **57.10 319** *c i*P **P** **20 46 33.4 -0.1**
ARU 20 47 25.0
ARU 20 48 36.8
ARU S **S** **20 54 31.4 +4.1**
ARU SS **SS** **20 58 16.9 +1.3**
ARU pmax pmax
comp=Z,50nm,1.0s
ARU MLR MLR
comp=Z,1μm,16.0s
ARU **Arti** **57.10 319** LR LR 21 13 15.9
comp=Z,1μm,19.3s,baz=70,slow=38
ARU **Arti** **57.10 319** P **P** **20 46 33.4 -0.1**
C36M **Paulatuk** **57.85 25** P **P** **20 46 39.3 +0.8**
baz=288
KBL **Kabul** **58.01 292** P **P** **20 46 40.4 -0.1**
KBL **Kabul** **58.01 292** P **P** **20 46 39.7 -0.8**
KBL pmax pmax
comp=Z,32nm,1.1s
KBL **Kabul** **58.01 292** P **P** **20 46 39.6 -0.8**
KBL IAmb IAmb 20 46 42.2
comp=Z,32nm,1.1s
HYB **Hyderabad** **58.58 269** *i*P **P** **20 46 45.0 +0.6**
ABKAR **Akbulak array** **58.65 311** P **P** **20 46 43.5 -1.0**
ABKAR IAmb IAmb 20 46 45.8
comp=Z,21nm,1.1s
AKTO **Aktyubinsk** **59.40 312** LR LR 21 13 35.0
comp=Z,1μm,19.4s,baz=67,slow=37
AS31 **Alice Springs** **60.21 188** P **P** **20 46 54.6 -0.8**
ASAR **Alice Springs** **60.21 188** P **P** **20 46 54.7 -0.7**
comp=Z,6.5nm,0.7s,baz=9.9,slow=7.2,SNR=58
ASAR LR LR 21 11 49.0
comp=Z,192nm,21.6s,baz=2.0,slow=35
PRGR **Permogore** **61.52 327** *e*P **P** **20 47 03.4 -0.5**
PRGR pmax pmax
comp=Z,32nm,1.1s
DZM **Mont Dzumac** **62.60 154** *e*S **S** **20 55 41.5 +2.6**
comp=Z,185nm,24.2s
DZM **Mont Dzumac** **62.60 154** *e*LR LR 21 06 07.3
comp=Z,857nm,21.2s
DZM **Mont Dzumac** **62.60 154** LR LR 21 12 14.6
comp=Z,655nm,19.8s,baz=10.0,slow=34
PALK **Pallekele** **62.62 258** P **P** **20 47 11.8 -0.2**
PALK **Pallekele** **62.62 258** P **P** **20 47 13.2 +1.2**
PALK **Pallekele** **62.62 258** *i*P **P** **20 47 14.0 +2.0**
HRA **Herat** **63.13 294** P **P** **20 47 14.9 -0.6**
HRA IAmb IAmb 20 47 18.1
comp=Z,16nm,1.0s
APA **Apatity** **63.43 336**⇓ *i*P **P** **20 47 16.2 -0.4**
APA pmax pmax
comp=Z,20nm,1.0s
APA MLR MLR
comp=Z,2μm,17.0s
TMCR **Tamitsa** **63.49 332** *e*P **P** **20 47 17.7 +0.7**
TMCR pmax pmax
comp=Z,40nm,1.1s
YKW3 **Yellowknife Ar** **64.13 30** P **P** **20 47 21.6 +0.4**
YKW3 IAmb IAmb 20 47 23.9
comp=Z,19nm,1.6s
YKA **Yellowknife Ar** **64.17 30** P **P** **20 47 22.0 +0.5**
YKA **Yellowknife Ar** **64.17 30** P **P** **20 47 22.0 +0.5**
comp=Z,4.9nm,0.8s,baz=300,slow=6.7,SNR=36
YKA LR LR 21 15 28.9
comp=Z,10nm,21.6s,baz=300,slow=36
GEYT **Alibeck** **64.49 299** P **P** **20 47 24.4 +0.2**
comp=Z,12nm,1.0s,baz=50,slow=2.3,SNR=24
GEYT LR LR 21 18 28.0
comp=Z,416nm,18.5s,baz=45,slow=39

GYA0B **ALIBECK ARRAY** **64.49 299** P **P** **20 47 23.4 -0.7**
GYA0B IAmb IAmb 20 47 26.4
comp=Z,51nm,1.0s
ARCES **ARCESS Array B** **64.73 340** P **P** **20 47 25.8 +0.7**
comp=Z,12nm,0.9s,baz=55,slow=9.1,SNR=13
ARCES LR LR 21 21 57.1
comp=Z,844nm,18.1s,baz=22,slow=42
TULEG **Thule** **65.68 8** P **P** **20 47 31.1 -0.1**
TULEG IAmb IAmb 20 47 32.9
comp=Z,21nm,1.0s
DAG **Danmarks Havn** **66.45 355** *i* P **P** **20 47 36.0 0.0**
DAG pmax pmax
comp=Z,45nm,1.3s
DAG **Danmarks Havn** **66.45 355** *i* P **P** **20 47 36.0 0.0**
comp=Z,24nm,1.3s
D03D **Eldon** **67.25 47** P **P** **20 47 42.8 +1.2**
baz=300
STKA **Stephens Creek** **67.91 180** P **P** **20 47 45.9 +0.1**
comp=Z,3.8nm,0.7s,baz=340,slow=5.3,SNR=7.0
STKA LR LR 21 16 30.6
comp=Z,156nm,21.8s,baz=14,slow=35
MOS **Moscow** **68.00 324** *e*P **P** **20 47 45.5 -0.7**
MOS *e* 20 48 12.1
MOS *e*SS SS 21 01 07.3 +1.8
MOS pmax pmax
comp=Z,49nm,1.1s
MOS MLR MLR
comp=Z,1μm,16.0s
MOS MLR MLR
comp=E,800nm,15.0s
E04D **Cinebar** **68.05 48** P **P** **20 47 49.0 +2.3**
baz=300
FORT **Forrest** **68.07 193** P **P** **20 47 46.7 -0.1**
VRH **Novokhopyorsk** **68.32 318** *e*P **P** **20 47 48.2 -0.1**
VRH pmax pmax
comp=Z,50nm,1.1s
VRH MLR MLR
comp=Z,2μm,17.0s
KULLO **Kullorsuaq** **68.58 5** *i* P **P** **20 47 49.9 +0.3**
KULLO pmax pmax
comp=Z,21nm,1.0s
KULLO **Kullorsuaq** **68.58 5** *i* P **P** **20 47 49.9 +0.3**
comp=Z,21nm,1.0s
OBN **Obninsk** **68.84 324**⇑ *e*P **P** **20 47 51.4 -0.1**
OBN *e* 20 48 14.9
OBN *e*S S 20 57 13.1 +19
OBN *e*SS **SS** **21 01 19.8 +1.2**
OBN pmax pmax
comp=Z,54nm,1.3s
OBN MLR MLR
comp=Z,1μm,15.0s
LPSR **Galich'ya Gora** **69.05 320** *e*P **P** **20 47 53.1 +0.3**
LPSR pmax pmax
comp=Z,50nm,1.1s
LPSR MLR MLR
comp=Z,2μm,17.0s
K02D **Willamette Mer** **69.32 52** P **P** **20 47 58.6 +3.8**
baz=301
I04A **Tendick Farm,** **69.55 50** P **P** **20 47 58.4 +2.2**
baz=301
FIA1 **FINESS Array S** **69.56 333** P **P** **20 47 55.7 -0.2**
FINES **FINESS Array B** **69.56 333** P **P** **20 47 56.0 +0.2**
comp=Z,28nm,0.9s,baz=50,slow=6.0,SNR=34
FINES LR LR 21 20 40.5
comp=Z,485nm,20.4s,baz=30,slow=38
VSR **Storozhevoye** **69.67 319** *e*P **P** **20 47 56.2 -0.5**
VSR pmax pmax
comp=Z,30nm,1.1s
VSR MLR MLR
comp=Z,2μm,16.0s
AKT **Akhty** **69.78 307** *e*P **P** **20 47 57.4 -0.3**
AKT *e* 20 48 18.6
AKT pmax pmax
comp=Z,18nm,0.8s
HAWA **Hanford** **69.93 47** P **P** **20 47 57.6 -0.8**
F07A **Phinny Hill Vi** **69.96 47** P **P** **20 47 57.9 -0.7**
E08A **Dider Farm, El** **70.16 47** P **P** **20 47 57.2 -2.6**
YBH **Yreka Blue Hor** **70.43 52** LR LR 21 14 08.4
comp=Z,64nm,19.0s,baz=318,slow=32
L04D **Klamath Falls** **70.43 52** P **P** **20 48 04.2 +2.4**
baz=302
PINE **Pine Mountain** **70.45 50** P **P** **20 48 02.5 +0.6**
PINE IAmb IAmb 20 48 16.5
comp=Z,15nm,1.1s
M02C **Callahan** **70.51 53** P **P** **20 48 04.2 +2.0**
baz=302
J05D **Fort Rock, OR** **70.54 50** P **P** **20 48 04.5 +2.0**
baz=302
GOF **Gofitskoye** **70.81 312**⇑ *e*P **P** **20 48 04.7 +0.9**
GOF pmax pmax
comp=Z,68nm,1.4s
N02D **Trinity Center** **70.83 53** P **P** **20 48 06.5 +2.3**
baz=302
M04C **Macdoel** **70.95 52** P **P** **20 48 07.2 +2.3**
baz=302
O02D **Mt. Diablo Mer** **71.19 54** P **P** **20 48 08.5 +2.2**
baz=302
VSU **Vasula** **71.20 330** *c i*P **P** **20 48 06.2 +0.3**
VSU pmax pmax
comp=Z,123nm,1.3s
VSU **Vasula** **71.20 330** *e*P **P** **20 48 05.5 -0.5**
VSU IAmb IAmb 20 48 07.9
comp=Z,94nm,1.0s
SUMG **Summit** **71.33 0** *i* P **P** **20 48 08.3 +1.3**
SUMG pmax pmax
comp=Z,76nm,1.1s
SUMG **Summit** **71.33 0** *i* P **P** **20 48 08.3 +1.3**
comp=Z,76nm,1.1s
SUMG **Summit** **71.33 0** P **P** **20 48 07.6 +0.6**
SUMG IAmb IAmb 20 48 21.6
comp=Z,11nm,0.9s
WSAR **Wadi Sarin** **71.41 285** P **P** **20 48 08.3 +0.4**
WBK **Wadi Bani Khal** **71.48 285** P **P** **20 48 09.0 +0.7**
WBK P **P** **20 48 09.0 +0.7**
KBZ **Khabaz** **71.62 311** *c i*P **P** **20 48 10.1 +1.4**
KBZ **Khabaz** **71.62 311** P **P** **20 48 09.2 +0.5**
comp=Z,19nm,1.0s,baz=50,slow=2.3,SNR=17
KBZ LR LR 21 23 15.9
comp=Z,428nm,18.3s,baz=52,slow=39
KVAR **Kislovodsk Arr** **71.62 311** P **P** **20 48 10.6 +1.8**
comp=Z,14nm,1.0s,baz=331,slow=19,SNR=6.2
KVAR LR LR 21 22 34.3
comp=Z,489nm,19.3s,baz=272,slow=38
KIV **Kislovodsk** **71.62 311** *i* P **P** **20 48 09.5 +0.7**
SNR=10
KIV **Kislovodsk** **71.62 311** P **P** **20 48 09.6 +0.7**
KIV P **P** **20 48 09.6 +0.7**
KIV **Kislovodsk** **71.62 311** *e*P **P** **20 48 09.7 +0.8**
KIV pmax pmax
comp=Z,128nm,1.0s
KIV MLR MLR
comp=Z,1μm,18.0s
KIV **Kislovodsk** **71.62 311**⇑ P **P** **20 48 10.3 +1.4**
KIV mb 20 48 12.3
KIV **Kislovodsk** **71.62 311** P **P** **20 48 09.2 +0.4**
BANOM **Banah** **71.79 289** P **P** **20 48 10.5 +0.4**
BANOM **Banah** **71.79 289** P **P** **20 48 10.6 +0.4**
SHME **Shamm** **71.84 289** P **P** **20 48 11.2 +0.8**
MOD **Modoc Plateau** **71.86 51** P **P** **20 48 11.3 +0.9**
SMDO **Samad** **71.96 286** P **P** **20 48 11.7 +0.4**
SMDO P **P** **20 48 11.7 +0.4**
BMO **Blue Mountains** **72.08 47** P **P** **20 48 10.6 -1.0**
BMO pmax pmax
comp=Z,22nm,1.7s
BMO **Blue Mountains** **72.08 47** P **P** **20 48 10.6 -1.0**
BMO IAmb IAmb 20 48 33.2
comp=Z,22nm,1.6s
MSFE **Esma-Masafi** **72.19 289** P **P** **20 48 12.2 -0.3**
HOQ **Hoqain** **72.25 286** P **P** **20 48 11.1 +0.2**
HOQ P **P** **20 48 13.1 +0.2**
JMDO **Jabal Madar** **72.29 285** P **P** **20 48 13.3 +0.2**
JMDO P **P** **20 48 13.3 +0.2**
GNI **Garni** **72.40 307** P **P** **20 48 14.6 +1.0**
GNI **Garni** **72.40 307**⇓ *e*P **P** **20 48 15.0 +1.3**
GNI pmax pmax
comp=Z,76nm,1.7s
GNI **Garni** **72.40 307** P **P** **20 48 14.7 +1.0**
comp=Z,7.9nm,1.0s,baz=42,slow=18,SNR=2.8
GNI LR LR 21 22 33.3
comp=Z,255nm,19.2s,baz=68,slow=38
GNI **Garni** **72.40 307** P **P** **20 48 13.7 -0.1**
GNI IAmb IAmb 20 48 21.7
comp=Z,30nm,1.2s
HATD **Hatta, Dubai** **72.50 288** P **P** **20 48 15.0 +0.7**
ASHO **Ashiyiah** **72.63 288** P **P** **20 48 15.4 +0.2**

PLID **Pearl Lake** **72.72 47** P **P** **20 48 15.0 -0.6**
PLID IAmb IAmb 20 48 32.5
comp=Z,32nm,1.5s
NAZ **Nazwa, Dubai** **72.77 289** P **P** **20 48 15.7 -0.3**
BSY **Bisya** **72.79 286** P **P** **20 48 16.3 +0.2**
BSY P **P** **20 48 16.3 +0.2**
BEKR **Beckworth** **72.93 53** P **P** **20 48 17.4 +0.5**
IZAR **Zarasai** **73.16 328** *e*P **P** **20 48 18.5 +0.8**
ASUD **Al Ashush, Dub** **73.22 288** P **P** **20 48 17.9 -0.7**
IDID **Didziasalis** **73.23 327** *e*P **P** **20 48 19.1 +1.0**
ISAL **Salakas** **73.33 328** *e*P **P** **20 48 19.3 +0.6**
ISAL IAmb IAmb 20 48 21.8
comp=Z,23nm,0.9s
FFC **Flin Flon** **74.03 33** *i* P **P** **20 48 24.3 +1.4**
FFC **Flin Flon** **74.03 33** P **P** **20 48 23.1 +0.2**
FFC IAmb IAmb 20 50 29.1
comp=Z,18nm,1.4s
DQM **DQM** **74.05 283** P **P** **20 48 23.7 +0.1**
DQM P **P** **20 48 23.7 +0.1**
YERR **Yerington** **74.14 53** P **P** **20 48 24.3 +0.2**
PABE **Paberze** **74.29 329** *e*P **P** **20 48 24.3 0.0**
PABE IAmb IAmb 20 48 26.6
comp=Z,49nm,0.9s
BMN **Battle Mountai** **74.61 51** P **P** **20 48 25.6 -1.1**
BMN pmax pmax
comp=Z,10.0nm,1.3s
BMN **Battle Mountai** **74.61 51** P **P** **20 48 25.6 -1.1**
NC405 **NORSAR Array S** **74.72 337** P **P** **20 48 26.0 -0.7**
NC303 **NORSAR Array S** **74.74 338** P **P** **20 48 26.9 +0.1**
KVN **Kaiserville** **74.84 53** P **P** **20 48 27.5 -0.6**
KVN pmax pmax
comp=Z,6.0nm,1.0s
KVN **Kaiserville** **74.84 53** P **P** **20 48 27.5 -0.6**
NC204 **NORSAR Array S** **74.88 338** P **P** **20 48 27.9 +0.2**
NB201 **NORSAR Array S** **74.90 338** P **P** **20 48 27.5 -0.3**
NB2 **NORSAR Subarra** **74.93 338** P **P** **20 48 28.0 0.0**
comp=Z,39nm,1.1s,baz=39,slow=5.9
NB2 **NORSAR Subarra** **74.93 338** P **P** **20 48 28.0 0.0**
baz=39,slow=5.9
NOA **NORSAR Array B** **74.93 338** P **P** **20 48 28.4 +0.3**
comp=Z,18nm,0.9s,baz=39,slow=5.8,SNR=46
NOA LR LR 21 23 41.4
comp=Z,810nm,21.8s,baz=40,slow=38
AKASG **Malin Array Be** **75.04 323** P **P** **20 48 28.7 -0.1**
comp=Z,18nm,0.8s,baz=46,slow=5.8,SNR=54
AKASG LR LR 21 24 21.1
comp=Z,804nm,19.9s,baz=55,slow=38
AKBB **Malin Array Si** **75.04 323** *de*P **P** **20 48 29.1 +0.3**
AKBB **Malin Array Si** **75.04 323** P **P** **20 48 28.2 -0.6**
AKBB IAmb IAmb 20 48 30.2
comp=Z,28nm,0.9s
NVAR **Mina Array Bea** **75.06 53** P **P** **20 48 31.3 +1.9**
comp=Z,2.6nm,0.8s,baz=289,slow=5.6,SNR=5.9
NVAR LR LR 21 17 38.3
comp=Z,142nm,19.0s,baz=296,slow=32
NBO00 **NORSAR Array S** **75.07 338** P **P** **20 48 29.4 +0.6**
SUW **Suwalki** **75.64 328** *e*P **P** **20 48 32.5 +0.4**
SUW **Suwalki** **75.64 328** *e*P **P** **20 48 32.5 +0.4**
SUW *e*P **P** **20 48 32.5 +0.4**
SUW **Suwalki** **75.64 328** P **P** **20 48 32.1 -0.1**
ELK **Elko** **75.66 50** P **P** **20 48 34.1 +1.2**
ELK pmax pmax
comp=Z,13nm,1.8s
ELK **Elko** **75.66 50** P **P** **20 48 34.1 +1.2**
YHB **Horse Butte** **75.68 45** P **P** **20 48 33.0 +0.1**
H17A **Grant Village** **76.25 45** P **P** **20 48 36.1 0.0**
baz=308
FLWY **Flagg Ranch** **76.37 45** P **P** **20 48 38.6 +1.8**
FLWY IAmb IAmb 20 51 18.2
comp=Z,17nm,0.9s
ISA **Isabella, Lake** **76.53 56** P **P** **20 48 38.9 +1.2**
baz=305
MOOW **Moose Ponds** **76.55 45** P **P** **20 48 37.3 -0.6**
R11A **Troy Canyon, C** **76.85 52** P **P** **20 48 41.4 +1.8**
baz=306
R11A **Troy Canyon, C** **76.85 52** P **P** **20 48 40.9 +1.3**
FURC **Furnace Creek,** **77.12 54** P **P** **20 48 42.1 +1.2**
baz=306
SORM **Soroca** **77.14 321**⇑ P **P** **20 48 41.3 +0.6**
TPNV **Topopah Spring** **77.24 54** P **P** **20 48 42.5 +0.7**
baz=306
TPNV **Topopah Spring** **77.24 54** P **P** **20 48 43.3 +1.5**
TPNV pmax pmax
comp=Z,8.0nm,1.1s
TPNV **Topopah Spring** **77.24 54** P **P** **20 48 43.3 +1.5**
DUG **Dugway, Tooele** **77.48 49** P **P** **20 48 44.6 +1.6**
baz=307
DUG **Dugway, Tooele** **77.48 49** P **P** **20 48 45.0 +2.0**
DUG pmax pmax
comp=Z,7.0nm,0.9s
DUG **Dugway, Tooele** **77.48 49** P **P** **20 48 45.0 +2.0**
PD31 **Pinedale Array** **77.84 46** P **P** **20 48 44.9 -0.2**
PD31 IAmb IAmb 20 50 56.5
comp=Z,17nm,0.7s
PDAR **Pinedale Array** **77.84 46** P **P** **20 48 46.2 +1.1**
comp=Z,1.1nm,0.6s,baz=266,slow=1.7,SNR=9.3
PDAR LR LR 21 18 36.4
comp=Z,48nm,21.7s,baz=337,slow=32
BFSC **Mount Baldy Ra** **77.89 56** P **P** **20 48 47.3 +1.9**
baz=306
NLU **North Lily Min** **78.07 49** P **P** **20 48 48.0 +1.5**
LVV **L'vov** **78.13 324** *e*P **P** **20 48 47.3 +1.0**
LVV *e* 20 48 54.8
LVV *e* 20 53 30.8
LVV *e*S **S** **20 58 39.5 0.0**
LVV *e* 21 03 48.1
LVV MLR MLR
comp=N,400nm,17.0s
LVV MLR MLR
comp=E,1μm,17.0s
LVV MLR MLR
comp=Z,900nm,17.0s
WHFO **Wadi Hawf** **78.13 283** P **P** **20 48 46.1 -0.7**
WHFO P **P** **20 48 46.1 -0.7**
BEL **Belsk** **78.20 327** *e*P **P** **20 48 48.1 +1.5**
BEL **Belsk** **78.20 327** *e*P **P** **20 48 48.1 +1.5**
BEL *e*P **P** **20 48 48.1 +1.5**
ABTO **Aybut** **78.82 283** P **P** **20 48 49.9 -0.8**
ABTO P **P** **20 48 49.9 -0.8**
KWP **Kalwaria Pacla** **78.88 325** *e*P **P** **20 48 51.9 +1.5**
KWP **Kalwaria Pacla** **78.88 325** *e*P **P** **20 48 51.9 +1.5**
KWP *e*P **P** **20 48 51.9 +1.5**
KWP **Kalwaria Pacla** **78.88 325** P **P** **20 48 50.8 +0.3**
MSU **Marysvale** **78.89 50** P **P** **20 48 52.2 +1.2**
MSU **Marysvale** **78.89 50** P **P** **20 48 52.2 +1.2**
GAZ **Gaziantep** **78.93 308** P **P** **20 48 50.7 -0.4**
GAZ IAmb IAmb 20 48 54.1
comp=Z,27nm,1.0s
BUR08 **Bucovina Ar. S** **79.05 322** P **P** **20 48 51.8 +0.3**
BUR08 IAmb IAmb 20 48 54.1
comp=Z,18nm,0.9s
BURAR **Bucovina Array** **79.06 322**⇑ P **P** **20 48 52.4 +0.8**
BURAR mb 20 48 54.3
BIZ **Bicaz** **79.07 321**⇑ P **P** **20 48 52.3 +0.8**
PFO **Pinyon Flats O** **79.07 56** LR LR 21 19 28.7
comp=Z,323nm,19.5s,baz=282,slow=32
MTPU **Mount Pierson** **79.17 51** P **P** **20 48 50.8 -2.0**
P17A **Butcher Ranch,** **79.18 49** P **P** **20 48 52.6 +0.1**
CFR **Carcaliu** **79.19 319**⇑ P **P** **20 48 53.9 +1.7**
RDMU **Red Mountain** **79.20 47** P **P** **20 48 52.2 -0.5**
Q16A **Castle Valley** **79.26 49** P **P** **20 48 52.9 -0.1**
PETR **Petresti** **79.30 320**⇑ P **P** **20 48 53.1 +0.3**
ODBI **Odobesti** **79.37 320**⇑ P **P** **20 48 54.7 +1.5**
ODBI mb 20 48 56.8
VRI **Vrincioaia** **79.47 320**⇑ P **P** **20 48 55.4 +1.6**
SRU **San Rafael Swe** **79.54 49** P **P** **20 48 55.2 +0.7**
SRU pmax pmax
comp=Z,7.0nm,0.9s
SRU **San Rafael Swe** **79.54 49** P **P** **20 48 55.2 +0.7**
BR131 **Keskin Array S** **79.57 312** P **P** **20 48 55.4 +0.8**
BR131 **Keskin Array S** **79.57 312** P **P** **20 48 54.7 +0.1**
BR131 pmax pmax
comp=Z,18nm,1.1s
BR131 **Keskin Array S** **79.57 312** P **P** **20 48 54.7 +0.1**
BR131 IAmb IAmb 20 48 57.5
comp=Z,18nm,1.1s
BRTR **Keskin Array B** **79.57 312** P **P** **20 48 55.1 +0.6**
comp=Z,13nm,1.0s,baz=93,slow=3.4,SNR=27
BRTR LR LR 21 28 46.4
comp=Z,255nm,18.3s,baz=42,slow=39
KOLS **Kolonicke sedl** **79.57 324** *e*P **P** **20 48 55.3 +1.1**
KOLS pmax pmax
comp=Z,11nm,1.2s
KOLS **Kolonicke sedl** **79.57 324** *e*P **P** **20 48 55.3 +1.1**

UZH	**Uzhgorod**	**79.77**	**324**	⇓*i*P	**P**	**20 48 55.2**	**-0.1**
UZH				*i*		20 49 01.5	
UZH				*i*		20 49 07.8	
OJC	**Ojcow**	**79.79**	**326**	*e*P	**P**	**20 48 56.5**	**+1.1**
OJC	**Ojcow**	**79.79**	**326**	*e*P	**P**	**20 48 56.5**	**+1.1**
OJC				*e*P	**P**	**20 48 56.5**	**+1.1**
OJC	**Ojcow**	**79.79**	**326**	P	**P**	**20 48 55.4**	**0.0**
OJC				IAmb	IAmb	20 48 58.2	
	comp=Z,28nm,1.0s						
OZUR		**79.80**	**321**	⇑P	**P**	**20 48 57.0**	**+1.4**
ULM	**Lac du Bonnet**	**79.82**	**33**	P	**P**	**20 48 56.0**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=344,slow=10,SNR=4.1						
ULM				LR	LR	21 24 02.1	
	comp=Z,76nm,22.0s,baz=346,slow=35						
ULM	**Lac du Bonnet**	**79.82**	**33**	IAmb	IAmb	20 50 53.6	
	comp=Z,34nm,1.9s						
ARCR	**ARCALIA**	**79.85**	**322**	⇑P	**P**	**20 48 57.9**	**+2.1**
ANTO	**Ankara**	**79.98**	**312**	P	**P**	**20 48 56.1**	**-0.7**
ANTO				pmax	pmax		
	comp=Z,27nm,1.1s						
ANTO	**Ankara**	**79.98**	**312**	⇓P	**P**	**20 48 57.0**	**+0.3**
ANTO	**Ankara**	**79.98**	**312**	P	**P**	**20 48 56.1**	**-0.7**
ANTO				IAmb	IAmb	20 48 59.4	
	comp=Z,27nm,1.1s						
TRPA	**Tarpa**	**80.01**	**324**	⇑P	**P**	**20 48 58.2**	**+1.7**
TRPA				mb		20 48 59.6	
TRPA	**Tarpa**	**80.01**	**324**	*e*P	**P**	**20 48 58.0**	**+1.5**
DOPR	**Dopca**	**80.09**	**321**	⇑P	**P**	**20 48 59.2**	**+2.1**
NIE	**Niedzica**	**80.14**	**326**	*e*P	**P**	**20 48 58.6**	**+1.2**
NIE	**Niedzica**	**80.14**	**326**	*e*P	**P**	**20 48 58.6**	**+1.2**
NIE				*e*P	**P**	**20 48 58.6**	**+1.2**
VOIR		**80.63**	**320**	⇑P	**P**	**20 49 01.5**	**+1.4**
LANS	**Liptovska Anna**	**80.71**	**326**	*e*P	**P**	**20 49 02.7**	**+2.3**
LANS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LANS	**Liptovska Anna**	**80.71**	**326**	*e*P	**P**	**20 49 02.7**	**+2.3**
OKC	**Ostrava-Krasne**	**80.80**	**327**	*e*P	**P**	**20 49 01.8**	**+1.0**
OKC				MLR	MLR		
	comp=Z,800nm,15.7s						
OKC	**Ostrava-Krasne**	**80.80**	**327**	*e*P	**P**	**20 49 01.8**	**+1.0**
OKC				AMS	AMS	21 28 00.0	
	comp=Z,800nm,15.7s						
PV21	**Cone Mtn., Par**	**80.82**	**49**	P	**P**	**20 49 01.7**	**+0.2**
LTVH	**Ltavrtes, Hu**	**80.84**	**323**	*e*P	P	20 49 16.1	+15
KSP	**Ksiaz**	**80.85**	**329**	*e*P	**P**	**20 49 02.3**	**+1.2**
KSP	**Ksiaz**	**80.85**	**329**	*e*P	**P**	**20 49 02.3**	**+1.2**
KSP				*e*P	**P**	**20 49 02.3**	**+1.2**
DRGR		**80.86**	**323**	⇑P	**P**	**20 49 01.8**	**+0.4**
PV23	**Carpenter Ridg**	**80.87**	**49**	P	**P**	**20 49 02.5**	**+0.7**
ARR	**Arges**	**80.89**	**321**	⇑P	**P**	**20 49 03.2**	**+1.7**
PV14	**Lion Creek, Pa**	**80.91**	**49**	P	**P**	**20 49 03.6**	**+1.7**
PV14				IAmb	IAmb	20 49 20.0	
	comp=Z,18nm,1.0s						
PV20	**West Nyswonger**	**80.97**	**49**	P	**P**	**20 49 01.7**	**-0.5**
PV20				IAmb	IAmb	20 49 12.8	
	comp=Z,20nm,1.2s						
PV04	**Paradox Valley**	**80.97**	**49**	P	**P**	**20 49 01.1**	**-1.1**
PV04				IAmb	IAmb	20 50 22.7	
	comp=Z,10nm,0.8s						
PV19	**Morning Glory**	**80.98**	**49**	P	**P**	**20 49 03.1**	**+0.8**
PV19				IAmb	IAmb	20 49 13.0	
	comp=Z,17nm,1.1s						
PV17	**East Wray Mesa**	**81.01**	**49**	P	**P**	**20 49 01.7**	**-0.8**
PV17				IAmb	IAmb	20 49 13.1	
	comp=Z,19nm,1.0s						
PV16	**Nyswonger Mesa**	**81.02**	**49**	P	**P**	**20 49 02.2**	**-0.3**
PV16				IAmb	IAmb	20 49 20.1	
	comp=Z,13nm,0.9s						
PV11	**David Mesa, Pa**	**81.05**	**49**	P	**P**	**20 49 03.0**	**+0.3**
PV11				IAmb	IAmb	20 50 28.4	
	comp=Z,14nm,0.9s						
PV18	**Skein Mesa, Pa**	**81.06**	**49**	P	**P**	**20 49 03.0**	**+0.3**
PV18				IAmb	IAmb	20 49 13.4	
	comp=Z,16nm,1.1s						
PV03	**Paradox Valley**	**81.10**	**49**	P	**P**	**20 49 01.1**	**-1.8**
MORC	**Moravsky Berou**	**81.11**	**327**	P	**P**	**20 49 02.9**	**+0.3**
MORC				pmax	pmax		
	comp=Z,14nm,1.0s						
MORC	**Moravsky Berou**	**81.11**	**327**	⇑P	**P**	**20 49 03.3**	**+0.8**
MORC				mb		20 49 04.8	
MORC	**Moravsky Berou**	**81.11**	**327**	*e*P	**P**	**20 49 03.1**	**+0.6**
MORC	**Moravsky Berou**	**81.11**	**327**	P	**P**	**20 49 02.9**	**+0.3**
MORC				IAmb	IAmb	20 49 05.3	
	comp=Z,14nm,1.0s						
CHVC	**Chvalec**	**81.14**	**328**	*e*P	**P**	**20 49 03.7**	**+1.0**
CHVC				AMS	AMS	21 30 30.0	
	comp=Z,800nm,14.5s						
PV13	**Radium Mtn., P**	**81.17**	**49**	P	**P**	**20 49 01.6**	**-1.7**
PV13				IAmb	IAmb	20 49 14.0	
	comp=Z,16nm,1.0s						
DPC	**Dobruska-Polom**	**81.21**	**328**	*e*P	**P**	**20 49 03.9**	**+0.8**
DPC				MLR	MLR		
	comp=Z,700nm,16.0s						
DPC	**Dobruska-Polom**	**81.21**	**328**	*e*P	**P**	**20 49 03.9**	**+0.8**
DPC				AMS	AMS	21 33 00.0	
	comp=Z,700nm,16.0s						
KRLC	**Kraliky**	**81.22**	**328**	*e*P	**P**	**20 49 04.0**	**+0.9**
KRLC				MLR	MLR		
	comp=Z,900nm,15.1s						
KRLC	**Kraliky**	**81.22**	**328**	*e*P	**P**	**20 49 04.0**	**+0.9**
KRLC				AMS	AMS	21 29 30.0	
	comp=Z,900nm,15.1s						
SOCY	**Socotra**	**81.22**	**279**	P	**P**	**20 49 02.2**	**-1.6**
UPC	**Upice**	**81.22**	**328**	*e*P	**P**	**20 49 04.1**	**+1.0**
UPC				MLR	MLR		
	comp=Z,900nm,14.5s						
UPC	**Upice**	**81.22**	**328**	*e*P	**P**	**20 49 04.1**	**+1.0**
UPC				AMS	AMS	21 30 40.0	
	comp=Z,900nm,14.5s						
WUAZ	**Wupatki**	**81.25**	**52**	P	**P**	**20 49 04.7**	**+1.0**
	baz=309						
WUAZ	**Wupatki**	**81.25**	**52**	P	**P**	**20 49 02.9**	**-0.8**
RAYN	**Ar Rayn**	**81.26**	**293**	*i* P	**P**	**20 49 03.9**	**+0.1**
	SNR=8.2						
RAYN	**Ar Rayn**	**81.26**	**293**	P	**P**	**20 49 03.4**	**-0.4**
RAYN				pmax	pmax		
	comp=Z,12nm,1.1s						
RAYN	**Ar Rayn**	**81.26**	**293**	P	**P**	**20 49 03.4**	**-0.4**
PSZ	**Piszkesteto**	**81.41**	**325**	P	**P**	**20 49 02.0**	**-2.2**
PSZ				pmax	pmax		
	comp=Z,24nm,1.0s						
PSZ	**Piszkesteto**	**81.41**	**325**	⇑P	**P**	**20 49 05.1**	**+0.9**
PSZ				mb		20 49 07.2	
PSZ	**Piszkesteto**	**81.41**	**325**	*e*P	**P**	**20 49 05.0**	**+0.8**
PSZ	**Piszkesteto**	**81.41**	**325**	P	**P**	**20 49 02.0**	**-2.2**
PSZ				IAmb	IAmb	20 49 07.2	
	comp=Z,24nm,1.0s						
VYHS	**Vyhne**	**81.47**	**326**	*e*P	**P**	**20 49 05.7**	**+1.2**
VYHS				pmax	pmax		
	comp=Z,15nm,1.1s						
VYHS	**Vyhne**	**81.47**	**326**	*e*P	**P**	**20 49 05.7**	**+1.2**
JAVC	**Velka Javorina**	**81.73**	**327**	*e*P	**P**	**20 49 07.4**	**+1.5**
BRG	**Berggiesshubel**	**81.80**	**330**	*i* P	**P**	**20 49 06.5**	**+0.4**
	comp=Z,11nm,1.0s						
	comp=Z,1μm,14.7s						
	comp=N,513nm,17.2s						
	comp=E,716nm,17.2s						
BRG	**Berggiesshubel**	**81.80**	**330**	*i* P	**P**	**20 49 06.6**	**+0.4**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRG				MLR	MLR		
	comp=Z,11μm,14.7s						
BRG				MLR	MLR		
	comp=N,1μm,17.2s						
BRG				MLR	MLR		
	comp=E,513nm,17.2s						
GZR	**Gura Zlata**	**81.81**	**322**	⇑P	**P**	**20 49 06.8**	**+0.4**
PVCC	**Panska Ves**	**81.81**	**329**	*e*P	**P**	**20 49 07.5**	**+1.3**
PVCC				MLR	MLR		
	comp=Z,1μm,16.3s						
PVCC	**Panska Ves**	**81.81**	**329**	*e*P	**P**	**20 49 07.5**	**+1.3**
PVCC				AMS	AMS	21 28 30.0	
	comp=Z,1μm,16.3s						
CLL	**Collm**	**81.85**	**330**	*i* P	**P**	**20 49 06.4**	**+0.1**
CLL				pmax	pmax		
	comp=Z,18nm,0.9s						
CLL	**Collm**	**81.85**	**330**	*i* P	**P**	**20 49 06.4**	**+0.1**
	comp=Z,18nm,0.9s						
CLL				*e*PP	PP	20 52 24.0	+11
CLL				*e*PPP	PPP	20 54 06.0	
CLL				*e*S	**S**	**20 59 18.0**	**-0.6**
CLL				*e*		20 59 52.0	
CLL				*e*SS	SS	21 05 06.0	+30
CLL	**Collm**	**81.85**	**330**	P	**P**	**20 49 05.3**	**-1.1**
CLL				IAmb	IAmb	20 49 08.4	
	comp=Z,16nm,0.9s						
VRAC	**Vranov**	**81.87**	**327**	⇑P	**P**	**20 49 07.7**	**+1.2**
VRAC				mb		20 49 09.5	
VRAC	**Vranov**	**81.87**	**327**	*e*P	**P**	**20 49 07.3**	**+0.8**
X16A	**Lo Mia Camp, P**	**81.89**	**53**	P	**P**	**20 49 07.9**	**+0.8**
KRUC	**Moravsky**	**82.14**	**327**	*e*P	**P**	**20 49 08.4**	**+0.4**
GOPC	**GO Pecny, Ondr**	**82.19**	**329**	*e*P	**P**	**20 49 09.0**	**+0.8**
GOPC				MLR	MLR		
	comp=Z,800nm,15.4s						
GOPC	**GO Pecny, Ondr**	**82.19**	**329**	*e*P	**P**	**20 49 09.0**	**+0.8**
GOPC				AMS	AMS	21 29 50.0	
	comp=Z,800nm,15.4s						
ASF	**Jabal al Asfar**	**82.19**	**304**	P	**P**	**20 49 09.3**	**+0.7**
	comp=Z,4.4nm,0.9s,baz=227,slow=1.5,SNR=5.2						
PRA	**Prague**	**82.22**	**329**	AMS	AMS	21 30 00.0	
	comp=Z,1μm,15.6s						
BZS	**Buzias**	**82.23**	**322**	⇓P	**P**	**20 49 08.7**	**+0.2**
PRU	**Pruhonice**	**82.23**	**329**	*e*P	**P**	**20 49 09.2**	**+0.8**
PRU				MLR	MLR		
	comp=Z,900nm,15.5s						
PRU	**Pruhonice**	**82.23**	**329**	*e*P	**P**	**20 49 09.2**	**+0.8**
PRU				AMS	AMS	21 28 30.0	
	comp=Z,900nm,15.5s						
MODS	**Modra-Piesok**	**82.27**	**326**	*e*P	**P**	**20 49 09.5**	**+0.9**
MODS				pmax	pmax		
	comp=Z,21nm,1.3s						
MODS	**Modra-Piesok**	**82.27**	**326**	*e*P	**P**	**20 49 09.5**	**+0.9**
TREC	**Trest**	**82.36**	**328**	*e*P	**P**	**20 49 09.9**	**+0.8**
TREC				MLR	MLR		
	comp=Z,1μm,13.4s						
TREC	**Trest**	**82.36**	**328**	*e*P	**P**	**20 49 09.9**	**+0.8**
TREC				AMS	AMS	21 30 20.0	
	comp=Z,1μm,13.4s						
S22A	**4UR Ranch, Cre**	**82.64**	**48**	P	**P**	**20 49 12.9**	**+1.7**
	baz=311						
S22A	**4UR Ranch, Cre**	**82.64**	**48**	P	**P**	**20 49 12.3**	**+1.2**
S22A				IAmb	IAmb	20 50 25.5	
	comp=Z,22nm,2.0s						
MMAI	**Mount Meron Ar**	**82.66**	**306**	P	**P**	**20 49 11.9**	**+0.9**
	comp=Z,7.2nm,0.9s,baz=44,slow=4.8,SNR=5.2						
CSS	**Mathiatis**	**82.77**	**308**	P	**P**	**20 49 11.5**	**0.0**
NKC	**Novy Kostel**	**82.90**	**330**	AMS	AMS	21 31 10.0	
	comp=Z,900nm,16.5s						
MPLH	**Magyarpolny**	**83.04**	**325**	*e*P	**P**	**20 49 13.1**	**+0.4**
TIH	**Tihany**	**83.08**	**325**	*e*P	**P**	**20 49 15.0**	**+2.2**
SOP	**Sopron**	**83.10**	**326**	*e*P	**P**	**20 49 14.1**	**+1.1**
CONA	**Conrad Observa**	**83.23**	**327**	*e*PcP	**P**	**20 49 15.0**	**+1.3**
	comp=Z,10nm,1.0s,SNR=6.6						
MORH	**Mrgy, Hungar**	**83.23**	**324**	*e*P	**P**	**20 49 13.5**	**-0.2**
MORH	**Mrgy, Hungar**	**83.23**	**324**	*e*P	**P**	**20 49 13.1**	**-0.6**
KHC	**Kasperske Hory**	**83.29**	**329***c*	*i*P	**P**	**20 49 14.3**	**+0.3**
KHC				pmax	pmax		
	comp=Z,30nm,1.0s						
KHC	**Kasperske Hory**	**83.29**	**329**	*e*P	**P**	**20 49 14.5**	**+0.5**
KHC				*ex*	x	20 49 33.0	
KHC				AMS	AMS	21 30 30.0	
	comp=Z,900nm,16.6s						
KHC	**Kasperske Hory**	**83.29**	**329**	P	**P**	**20 49 13.8**	**-0.2**
MANT	**Manisa**	**83.38**	**314**	P	**P**	**20 49 14.8**	**-0.1**
SDCO	**Great Sand Dun**	**83.44**	**47**	P	**P**	**20 49 16.8**	**+1.5**
	baz=312						
SDCO	**Great Sand Dun**	**83.44**	**47**	P	**P**	**20 49 16.3**	**+1.0**
GEC2	**GERESS Array S**	**83.46**	**328**	P	**P**	**20 49 15.0**	**0.0**
GEC2				IAmb	IAmb	20 49 16.4	
	comp=Z,9.4nm,1.1s						
GERES	**GERESS Array B**	**83.46**	**328**	P	**P**	**20 49 14.8**	**-0.1**
	comp=Z,5.6nm,0.9s,baz=46,slow=5.8,SNR=29						
GERES				LR	LR	21 29 48.9	
	comp=Z,639nm,19.1s,baz=24,slow=38						
VTS	**Vitosha**	**83.52**	**319**	P	**P**	**20 49 16.1**	**+0.6**
VTS				pmax	pmax		
	comp=Z,16nm,1.0s						
VTS	**Vitosha**	**83.52**	**319**	⇓P	**P**	**20 49 16.7**	**+1.3**
VTS				mb		20 49 18.0	
VTS	**Vitosha**	**83.52**	**319**	P	**P**	**20 49 16.1**	**+0.6**
VTS				IAmb	IAmb	20 49 17.9	
	comp=Z,16nm,1.0s						
ELL	**Elmali**	**83.73**	**311**	P	**P**	**20 49 16.7**	**+0.1**
ELL				pmax	pmax		
	comp=Z,97nm,1.0s						
ELL	**Elmali**	**83.73**	**311**	P	**P**	**20 49 16.7**	**+0.1**
GRA1	**Grafenberg Arr**	**83.82**	**330**	P	**P**	**20 49 16.4**	**-0.3**
GRA1				IAmb	IAmb	20 49 19.1	
	comp=Z,18nm,0.9s						
GRF	**Grafenberg Arr**	**83.82**	**330**	P	**P**	**20 49 16.4**	**-0.3**
GRF				pmax	pmax		
	comp=Z,18nm,0.9s						
ARSA	**Arzberg**	**83.89**	**327**	*i* PcP	**P**	**20 49 18.0**	**+0.9**
	comp=Z,5.3nm,0.9s						
MOA	**Molln**	**83.99**	**328**	*i* PcP	**P**	**20 49 19.4**	**+1.9**
	comp=Z,8.0nm,1.1s						
PPT	**Papeete**	**84.00**	**117**	LR	LR	21 20 20.4	
	comp=Z,286nm,19.6s,baz=0.0,slow=31						
PPT2	**Papeete2**	**84.01**	**117**	*e*S	**S**	**20 59 37.9**	**-3.7**
	comp=Z,79nm,24.8s						
PPT2	**Papeete2**	**84.01**	**117**	*e*LR	LR	21 15 53.7	
	comp=Z,496nm,21.8s,baz=301						
DIVS	**Divbare**	**84.12**	**322**	⇑*i*P	**P**	**20 49 18.3**	**-0.1**
ECSD	**EROS Data Cent**	**84.18**	**38**	P	**P**	**20 49 18.9**	**+0.3**
	baz=316						
T25A	**Trinidad**	**84.49**	**47**	P	**P**	**20 49 21.8**	**+1.2**
	baz=312						
T25A	**Trinidad**	**84.49**	**47**	P	**P**	**20 49 21.7**	**+1.2**
T25A				IAmb	IAmb	20 49 23.6	
	comp=Z,8.1nm,0.9s						
GROS	**Grobnik**	**84.50**	**326**	*i* P	**P**	**20 49 20.0**	**-0.2**
SOKA	**Soboth**	**84.55**	**326**	*e*PcP	**P**	**20 49 21.1**	**+0.6**
	comp=Z,16nm,1.1s,SNR=11						
BBLS	**Lazići**	**84.58**	**322**	⇑*i*P	**P**	**20 49 22.2**	**+1.5**
HAPS	**Han Pijesak,BI**	**84.65**	**323**	⇑*i*P	**P**	**20 49 20.8**	**-0.3**
ANMO	**Albuquerque**	**84.70**	**50**	P	**P**	**20 49 23.3**	**+1.6**
	baz=311						
ANMO	**Albuquerque**	**84.70**	**50**	⇑*e*P	**P**	**20 49 17.8**	**-3.8**
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ANMO	**Albuquerque**	**84.70**	**50**	P	**P**	**20 49 21.3**	**-0.3**
STIP	**Stip**	**84.73**	**319**	*i* P	**P**	**20 49 21.1**	**-0.3**
VAY	**Valandovo**	**84.79**	**319**	*i* P	**P**	**20 49 21.6**	**0.0**
OBKA	**Obir**	**84.89**	**327**	*i* PcP	**P**	**20 49 22.4**	**+0.2**
	comp=Z,3.8nm,0.8s						
SKO	**Skopje**	**84.92**	**320**	*i* P	**P**	**20 49 23.5**	**+1.1**
KBA	**Koelnbreinsper**	**84.98**	**328**	*e*PcP	**P**	**20 49 24.5**	**+1.8**
	comp=Z,6.0nm,1.1s						
CRES	**Cresnjev**	**85.00**	**326**	⇑*i*P	**P**	**20 49 22.3**	**-0.4**
BLY	**Banja Luka**	**85.01**	**324**	*e*P	**P**	**20 49 23.7**	**+1.0**
BLY	**Banja Luka**	**85.01**	**324**	⇓P	**P**	**20 49 23.2**	**+0.4**
BLY	**Banja Luka**	**85.01**	**324**	P	**P**	**20 49 21.7**	**-1.0**
BLY				IAmb	IAmb	20 49 25.0	
	comp=Z,9.1nm,1.1s						
MEM	**Membach**	**85.06**	**334**	P	**P**	**20 49 23.2**	**+0.3**
	comp=Z,9.4nm,1.0s						
MYKA	**Terra Mystica**	**85.20**	**327**	*i* PcP	**P**	**20 49 23.5**	**-0.2**
	comp=Z,3.5nm,0.9s						
MGRS	**Mrkonjic Grad**	**85.30**	**324**	*e*P	**P**	**20 49 25.2**	**+0.9**
STU	**Stuttgart**	**85.36**	**331**	P	**P**	**20 49 24.7**	**+0.3**
STU				pmax	pmax		
	comp=Z,25nm,0.7s						
STU	**Stuttgart**	**85.36**	**331**	P	**P**	**20 49 24.7**	**+0.3**
BCLA	**Clavier**	**85.47**	**334**	P	**P**	**20 49 25.7**	**+0.8**
	comp=Z,11nm,1.3s						
BCLA				pP	**sP**	**20 49 32.8**	**+0.7**
CEV	**Cerknica**	**85.53**	**326**	*e*P	**P**	**20 49 25.0**	**-0.4**
JAVS	**Javornik**	**85.58**	**326**	*i* P	**P**	**20 49 24.8**	**-0.9**
ABTA	**Abfaltersbach**	**85.60**	**328**	*i* PcP	**P**	**20 49 25.2**	**-0.6**
	comp=Z,5.1nm,0.8s						
TAOE	**Nuku Hiva Isla**	**85.64**	**104**	*e*LR	LR	21 16 43.2	
	comp=Z,566nm,22.6s						
LIT	**Litokhoron**	**85.69**	**318**	P	**P**	**20 49 26.7**	**+0.4**
LIT				pmax	pmax		
	comp=Z,23nm,1.0s						
LIT	**Litokhoron**	**85.69**	**318**	P	**P**	**20 49 26.6**	**+0.4**
PDG	**Podgorica**	**85.71**	**321**	⇑*i*P	**P**	**20 49 26.3**	**+0.1**
PDG	**Podgorica**	**85.71**	**321**	⇑P	**P**	**20 49 26.3**	**+0.1**
PDG				mb		20 49 28.0	
PDG	**Podgorica**	**85.71**	**321**	P	**P**	**20 49 25.8**	**-0.4**
BRY	**Bratogost**	**85.72**	**322**	*e*P	**P**	**20 49 26.4**	**-0.1**
MOTA	**Moosalm**	**85.72**	**329**	*i* PcP	**P**	**20 49 26.8**	**+0.3**
	comp=Z,6.7nm,1.1s						
RETA	**Reutte**	**85.75**	**329**	*i* PcP	**P**	**20 49 27.0**	**+0.5**
	comp=Z,9.0nm,0.9s						
BMRD	**Maredsous**	**85.75**	**334**	P	**P**	**20 49 26.6**	**+0.3**
	comp=Z,14nm,1.1s						
SQTA	**Sankt Quirin**	**85.78**	**329**	*e*PcP	**P**	**20 49 27.0**	**+0.3**
	comp=Z,1.7nm,0.6s						
WLF	**Walferdange**	**85.79**	**333**	P	**P**	**20 49 26.5**	**0.0**
WLF				pmax	pmax		
	comp=Z,31nm,1.5s						
WLF	**Walferdange**	**85.79**	**333**	P	**P**	**20 49 26.5**	**0.0**
FNA	**Florina**	**85.80**	**319**	P	**P**	**20 49 26.2**	**-0.7**
FNA				pmax	pmax		
	comp=Z,16nm,1.4s						
FNA	**Florina**	**85.80**	**319**	P	**P**	**20 49 26.1**	**-0.7**
FNA				IAmb	IAmb	20 49 28.6	
	comp=Z,16nm,1.4s						
SCHQ	**Schefferville**	**85.84**	**16**	LR	LR	21 28 24.4	
	comp=Z,247nm,21.9s,baz=329,slow=36						
STAL	**STALIGIAL**	**85.89**	**327**	P	**P**	**20 49 25.5**	**-1.7**
STAL				IAmb	IAmb	20 49 27.7	
	comp=Z,7.9nm,0.8s						
DRME	**Dracevica, Mon**	**85.92**	**321**	⇑*i*P	**P**	**20 49 27.4**	**0.0**
BFO	**Black Forest**	**86.05**	**331**	P	**P**	**20 49 27.3**	**-0.7**
BFO				pmax	pmax		
	comp=Z,19nm,1.0s						
BFO	**Black Forest**	**86.05**	**331**	P	**P**	**20 49 27.2**	**-0.7**
BFO				IAmb	IAmb	20 49 30.0	
	comp=Z,19nm,1.0s						
FETA	**Feichten**	**86.14**	**329**	*e*PcP	**P**	**20 49 28.6**	**+0.1**
	comp=Z,5.2nm,1.0s						
STON	**Ston**	**86.16**	**322**	*e*P	**P**	**20 49 28.1**	**-0.4**
DAVA	**Damuels**	**86.27**	**330**	*e*PcP	**P**	**20 49 29.6**	**+0.4**
	comp=Z,13nm,1.0s,SNR=6.0						
CTI	**Castel Tesino**	**86.52**	**328**	P	**P**	**20 49 29.6**	**-0.7**
CTI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CTI	**Castel Tesino**	**86.52**	**328**	P	**P**	**20 49 29.6**	**-0.7**
ECH	**Echery**	**86.60**	**332**	P	**P**	**20 49 30.1**	**-0.5**
ECH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ECH	**Echery**	**86.60**	**332**	P	**P**	**20 49 30.1**	**-0.5**
ECH				IAmb	IAmb	20 49 32.5	
	comp=Z,9.8nm,1.0s						
FUORN	**Ofenpass-Fuorn**	**86.65**	**329**	P	**P**	**20 49 31.3**	**+0.1**
FUORN				IAmb	IAmb	20 49 33.5	
	comp=Z,16nm,1.1s						
TBI	**Tubuai**	**87.86**	**121**	*e*S	**S**	**21 00 15.0**	**-3.9**
	comp=Z,161nm,29.8s						
TBI	**Tubuai**	**87.86**	**121**	*e*LR	LR	21 17 47.3	
	comp=Z,610nm,24.0s,baz=313						
LSQQ	**Lebel-sur-Quev**	**88.18**	**24**	P	**P**	**20 49 38.5**	**+0.3**
	baz=330						
CHGQ	**Chibougamau**	**88.27**	**23**	P	**P**	**20 49 39.1**	**+0.5**
	baz=332						
MATE	**Matera**	**88.31**	**322**	⇑P	**P**	**20 49 38.9**	**0.0**
MATE				mb		20 49 39.6	
MURB	**Monte Urbino**	**88.31**	**326**	P	**P**	**20 49 38.9**	**-0.1**
MURB				IAmb	IAmb	20 50 52.7	
	comp=Z,8.3nm,0.9s						
NRCA	**Norcia**	**88.38**	**325**	P	**P**	**20 49 39.1**	**-0.3**
NRCA				IAmb	IAmb	20 49 40.9	
	comp=Z,12nm,1.0s						
ACER	**Acerenza**	**88.59**	**322**	P	**P**	**20 49 39.8**	**-0.5**
AQU	**L'Aquila**	**88.61**	**325**	P	**P**	**20 49 40.8**	**+0.3**
AQU				pmax	pmax		
	comp=Z,15nm,1.0s						
AQU	**L'Aquila**	**88.61**	**325**	*e*P	**P**	**20 49 40.7**	**+0.3**
AQU	**L'Aquila**	**88.61**	**325**	P	**P**	**20 49 40.8**	**+0.3**
AQU				IAmb	IAmb	20 49 42.6	
	comp=Z,15nm,1.0s						
INTR	**Introdacqua**	**88.64**	**324**	P	**P**	**20 49 39.7**	**-0.9**
INTR				IAmb	IAmb	20 49 54.9	
	comp=Z,13nm,1.0s						
TIP	**Timpagrande**	**89.39**	**321**	P	**P**	**20 49 43.8**	**-0.4**
TXAR	**Lajitas Array**	**90.20**	**53**	P	**P**	**20 49 48.2**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=290,slow=3.6,SNR=11						
TXAR				LR	LR	21 30 50.3	
	comp=Z,111nm,18.1s,baz=0.0,slow=36						
U40A	**Yellville**	**91.56**	**41**	P	**P**	**20 49 54.8**	**+0.6**
	baz=319						
U40A	**Yellville**	**91.56**	**41**	P	**P**	**20 49 54.4**	**+0.1**
U40A				IAmb	IAmb	20 49 56.2	
	comp=Z,10nm,0.8s						
D61A	**St Aubert, Com**	**91.95**	**21**	P	**P**	**20 49 57.1**	**+1.3**
	baz=335						
MIAR	**Mount Ida**	**92.52**	**43**	P	**P**	**20 50 00.2**	**+1.5**
	baz=318						
KEST	**Kesra**	**95.77**	**323**	LR	LR	21 38 42.1	
	comp=Z,429nm,18.4s,baz=336,slow=39						
ESDC	**Sonseca Array**	**98.04**	**334**	P	**P**	**20 50 24.0**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=19,slow=3.7,SNR=4.6						
ESDC				LR	LR	21 39 10.2	
	comp=Z,406nm,20.5s,baz=30,slow=38						
TORD	**Torodi Ar. Bea**	**118.06**	**315**	PP	PP	20 56 39.1	-10
	comp=Z,1.1nm,0.9s,baz=30,slow=7.4,SNR=5.2						
SYO	**Syowa Base**	**127.81**	**206**	⇑*e*X

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	8.4nm,0.8s						
KK31	**Karatay Array**	**4.95**	**320**	⇑Pn	**Pn**	**20 42 09.0**	**+1.3**
	0.2nm,0.3s,baz=133,slow=14,SNR=7.8						
KK31				⇓Sn	**Sn**	**20 43 08.5**	**+3.5**
	0.9nm,0.6s						
KK31				⇑Lg	Lg	20 43 33.1	
	1.0nm,0.5s,baz=135,slow=30						
SHLS	**Shalkode**	**5.09**	**41**	Pg	**Pg**	**20 42 29.9**	**-0.9**
	6.4nm,0.6s						
SHLS				Lg	Lg	20 43 43.8	
	5.8nm,0.7s						
PDGK	**Podgornoye**	**5.23**	**40**	⇑Pg	**Pb**	**20 42 25.6**	**+0.7**
	5.5nm,1.3s						
PDGK				⇓Lg	Lg	20 43 39.3	
	5.2nm,0.7s						
MNBS	**Baschi**	**5.36**	**28**	Pg	**Pb**	**20 42 31.3**	**+4.2**
	1.5nm,0.5s						
MNBS				Lg	Lg	20 43 46.0	
	4.3nm,0.6s						
KTMS	**Ketmen**	**5.76**	**44**	Pg	**Pb**	**20 42 37.4**	**+3.5**
KTMS				Lg	Lg	20 43 57.0	

IDC 09 20:45:27.8±6.3**, 50°.01N×113°.94W, h0km, mb1 3.7**/1**, mb1mx3.1**/50**, mbtmp3.4**/1**, ML3.4**/1**, Error ellipse: s-maj=97.8km s-min=47.9km az=65.0, Alberta**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**2.73**	**231**	*i*		21 04 50.0	
	baz=47,slow=337,SNR=2.2						
I10CA	**LAC DU BONNET**	**11.50**	**82**	*i*		21 55 30.0	
	baz=272,slow=334,SNR=1.1						
YKA	**Yellowknife Ar**	**12.52**	**359**	Pn	Pn	20 48 22.8	-4.1
	0.3nm,0.3s,baz=182,slow=13,SNR=12						
YKA				Sn	Sn	20 50 32.6	-14
	0.1nm,0.3s,baz=174,slow=22,SNR=3.2						
YKA				Lg	Lg	20 51 55.5	
	0.1nm,0.3s,baz=178,slow=30,SNR=3.1						

ROM 09 20:47:14.2±0.2**, 43°.94N**±0°.03×**10°.71E**±0°.02**, h10km**±2km**, ML1.0**/1**, Error ellipse: s-maj=3.1km s-min=0.7km az=340.0, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
POPM	**Popiglio**	**0.11**	**21**	P	Pg	20 47 17.5	+0.6
POPM				S	Sg	20 47 19.2	+0.3
POPM				AML	AML		
	comp=E,131µm,0.2s						
POPM				AML	AML		
	comp=N,115µm,0.3s						
MAIM	**Mastiano**	**0.16**	**259**	P	Pg	20 47 18.4	+0.8
MAIM				S	Sg	20 47 20.9	+0.9
MTCR	**Monte La Croce**	**0.23**	**69**	P	Pg	20 47 19.9	+1.0
MTCR				S	Sg	20 47 23.5	+1.4
PII	**Pisa**	**0.26**	**210**	P	Pb	20 47 20.4	-0.5
PII				S	Sg	20 47 24.2	+1.3

*ISCJB **09** 20:57:51.2±0.6, 36°.69N±0°.05×70°.87E±0°.07, h100km, Error ellipse: s-maj=9.7km s-min=5.3km az=142.4*
*IDC **09** 20:57:51.2±5.5, 36°.63N×70°.87E, h80km±53km, mb1 3.4/7, mb1mx3.0/56, mbtmp3.6/7, ML3.2/7, Error ellipse: s-maj=63.9km s-min=20.3km az=154.0*
*NNC **09** 20:57:55.6±2.0, 37°.27N×70°.89E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=16.1km s-min=14.3km az=11.0*
ISC 09 20:57:51.7±0.8**, 36°.70N**±0°.07×**70°.88E**±0°.07**, h100km, n20, σ1s14**/25**, 3C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**5.17**	**139**	*e*P	Pn	20 59 13.5	+6.8
JMU				*e*S	**Sn**	**21 00 03.0**	**-2.1**
KK31	**Karatay Array**	**6.40**	**358**	P	**Pn**	**20 59 23.2**	**-0.1**
	2.8nm,0.3s,baz=178,slow=12,SNR=126						
KK31				⇓S	**Sn**	**21 00 32.7**	**-2.2**
	5.1nm,0.5s						
AAK	**Ala-Archa**	**6.55**	**24**	P	**Pn**	**20 59 26.8**	**+1.4**
	1.0nm,0.3s,baz=180,slow=20,SNR=17						
AAK				S	**Sn**	**21 00 38.9**	**+0.2**
	0.4nm,0.3s,baz=240,slow=20,SNR=3.5						
AAK	**Ala-Archa**	**6.55**	**24**	⇑P	**Pn**	**20 59 27.1**	**+1.6**
	2.6nm,0.5s						
AAK				⇑S	**Sn**	**21 00 36.9**	**-1.8**
	11nm,0.9s						
TKM2	**Tokmak 2**	**7.19**	**29**	⇓P	**Pn**	**20 59 35.0**	**+0.7**
	3.3nm,0.7s						
GEYT	**Alibeck**	**10.24**	**281**	P	**Pn**	**21 00 16.4**	**+0.8**
	0.5nm,0.3s,baz=102,slow=14,SNR=6.6						
GEYT				S	**Sn**	**21 02 07.2**	**-1.4**
	0.3nm,0.3s,baz=97,slow=12,SNR=2.8						
MKAR	**Makanchi Array**	**13.18**	**37**	P	**Pn**	**21 00 56.4**	**+1.5**
	0.1nm,0.3s,baz=225,slow=14,SNR=5.8						
DANN	**Dangsing**	**13.68**	**124**	*e*P	**Pn**	**21 01 02.3**	**+0.6**
	23nm,0.9s						
KOLN	**Koldanda**	**13.96**	**126**	*e*P	**Pn**	**21 01 05.7**	**+0.4**
GKN	**Gorkha**	**14.49**	**123**	*e*P	**Pn**	**21 01 12.5**	**+0.4**
	6.2nm,0.4s						
AB31	**Akbulak array**	**14.86**	**331**	P	**P**	**21 01 20.3**	**+0.7**
	0.4nm,0.3s,baz=153,slow=13,SNR=25						
AB31				⇑S	**Sn**	**21 04 00.6**	**+0.3**
	2.6nm,0.9s,baz=143,slow=22,SNR=6.3						
KURBB	**Kurchatov Arra**	**14.96**	**19**	P	**P**	**21 01 20.1**	**-0.7**
	0.0nm,0.3s,baz=216,slow=12,SNR=3.6						
KKN	**Kakani**	**15.06**	**122**	*e*P	**Pn**	**21 01 19.1**	**-0.3**
	4.5nm,0.6s						
PKIN	**Phulchoki**	**15.28**	**122**	*e*P	**Pn**	**21 01 22.9**	**+0.7**
PKI	**Pulchoki**	**15.29**	**122**	*e*P	**Pn**	**21 01 23.2**	**+0.8**
JIRN	**Jiri**	**15.77**	**121**	*e*P	**Pn**	**21 01 28.7**	**+0.2**
	17nm,0.6s						
BVAR	**Borovoye Array**	**16.32**	**359**	P	**Pn**	**21 01 34.4**	**-0.4**
	0.1nm,0.3s,baz=176,slow=9.8,SNR=4.2						
AKTO	**Aktyubinsk**	**16.56**	**330**	P	**P**	**21 01 40.0**	**+1.6**
	0.1nm,0.3s,baz=150,slow=11,SNR=2.6						
TAPN	**Taplejung**	**17.03**	**118**	*e*P	**P**	**21 01 44.4**	**+0.3**
ZALV	**Zalesovo Beam**	**19.77**	**25**	P	**Pn**	**21 02 15.4**	**-0.6**
	0.4nm,0.3s,baz=218,slow=12,SNR=8.5						

NNC 09 21:06:21.3±5.1**, 37°.20N×70°.30E, h0km, mb3.9, mpv3.5, 2C-4D, Error ellipse: s-maj=39.3km s-min=36.9km az=156.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.58**	**27**	P	Pn	21 07 46.6	+0.7
	SNR=49						
KK31	**Karatay Array**	**5.90**	**2**	⇓Pn	Pn	21 07 51.3	+1.3
	0.4nm,0.2s,baz=180,slow=13,SNR=17						
KK31				⇓Sn	Sn	21 08 58.8	+0.4
	1.5nm,0.3s,baz=191,slow=26,SNR=8.1						
UCH	**Uchtor**	**5.99**	**32**	P	Pn	21 07 51.8	+0.2
	SNR=16						
EKS2	**Erkin-Say**	**6.08**	**25**	P	Pn	21 07 53.4	+0.8
	SNR=15						
AAK	**Ala-Archa**	**6.32**	**29**	P	Pn	21 07 56.3	+0.4
	SNR=7.3						
AAK	**Ala-Archa**	**6.32**	**29**	⇑Pn	Pn	21 07 55.5	-0.4
	1.3nm,0.3s						
AAK				⇑Sn	Sn	21 09 11.4	+2.6
	12nm,0.8s						
TKM2	**Tokmak 2**	**7.01**	**34**	P	Pn	21 08 05.0	-0.5
	SNR=14						
TKM2	**Tokmak 2**	**7.01**	**34**	⇓Pn	Pn	21 08 04.4	-1.1
	5.0nm,0.5s						
TKM2				⇓Sn	Sn	21 09 26.5	+0.5
	4.1nm,0.8s						

*NNC **09** 21:11:05.3±2.4, 39°.03N×74°.83E, h0km, mb4.0, mpv3.5, Error ellipse: s-maj=18.6km s-min=11.0km az=172.0*
*KRNET **09** 21:11:08.8±0.1, 39°.09N×74°.85E, mb3.2*
ISC 09 21:11:09.1±2.1**, 39°.1N**±0°.1×**74°.81E**±0°.05**, h10km, n28, σ1s34**/40**, 17C-9D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**2.46**	**21**	⇑*i*P	**Pn**	**21 11 50.2**	**+0.6**
	baz=20						
NRN				⇑*i*S	**Sn**	**21 12 20.1**	**+0.1**
	baz=20						
ARSB	**Arslanbob**	**2.59**	**328**	⇑*e*P	**Pn**	**21 11 52.4**	**+1.2**
	baz=28						
ARSB				⇑*i*S	**Sn**	**21 12 23.8**	**+0.9**
	baz=28						
ARLS	**Aral**	**2.74**	**352**	⇑*e*P	**Pn**	**21 11 53.9**	**+0.6**
	baz=52						
ARLS				⇑*i*S	**Sn**	**21 12 28.2**	**+1.6**
	baz=52						
KZA	**Kyzart**	**2.95**	**6**	P	**Pn**	**21 11 56.4**	**0.0**
	SNR=14						
UCH	**Uchtor**	**3.09**	**356**	P	**Pn**	**21 11 58.6**	**+0.2**
	SNR=36						
AML	**Almayashu**	**3.11**	**344**	P	**Pn**	**21 12 01.3**	**+2.8**
	SNR=19						
BTK	**Batken**	**3.22**	**288**	⇓*e*P	**Pn**	**21 12 00.4**	**+0.6**
	baz=89						
BTK				⇓*i*S	**Sn**	**21 12 38.6**	**+0.3**
	baz=89						
ULHL	**Ulahol**	**3.29**	**19**	P	**Pb**	**21 12 05.8**	**-1.9**
	SNR=16						
ARK	**Arkit**	**3.43**	**322**	⇓*i*P	**Pn**	**21 12 03.6**	**+0.9**
	baz=22						
ARK				⇓*i*S	**Sn**	**21 12 43.3**	**-0.2**
	baz=22						
KDJ	**Kajisay**	**3.49**	**30**	⇑*e*P	**Pn**	**21 12 04.3**	**+0.7**
	baz=30						
KDJ				⇑*e*S	**Sn**	**21 12 44.4**	**-0.6**
	baz=30						
AAK	**Ala-Archa**	**3.50**	**356**	P	**Pn**	**21 12 04.7**	**+0.9**
	SNR=8.3						
AAK	**Ala-Archa**	**3.50**	**356**	Pn	**Pn**	**21 12 04.3**	**+0.5**
	16nm,0.7s						
AAK				⇑Lg	Lg	21 12 59.2	
	40nm,1.3s						
KBK	**Karagaybulak**	**3.51**	**2**	P	**Pn**	**21 12 05.6**	**+1.6**
	SNR=7.3						
EKS2	**Erkin-Say**	**3.60**	**348**	P	**Pg**	**21 12 16.4**	**-1.7**
	SNR=6.5						
FRU1	**Bishkek**	**3.67**	**358**	⇑*i*P	**Pn**	**21 12 07.0**	**+1.0**
	baz=57						
FRU1				⇑*e*S	**Sn**	**21 12 48.9**	**-0.4**
	baz=57						
MRKS	**Merke**	**3.80**	**342**	Pg	**Pb**	**21 12 14.5**	**-1.8**
	7.1nm,0.5s						
MRKS				Lg	Lg	21 13 06.9	
	7.4nm,0.5s						
TKM2	**Tokmak 2**	**3.82**	**9**	P	**Pn**	**21 12 08.9**	**+0.7**
	SNR=13						
TKM2	**Tokmak 2**	**3.82**	**9**	⇑Pn	**Pn**	**21 12 08.5**	**+0.3**
	10nm,0.6s						
TKM2				⇑Sn	**Sn**	**21 12 56.7**	**+3.4**
	24nm,0.7s						
USP	**Ospenovka**	**4.13**	**357**	P	**Pb**	**21 12 22.6**	**+0.7**
	SNR=8.4						
MDOK	**Medeo**	**4.36**	**22**	⇑Pg	**Pb**	**21 12 24.8**	**-1.1**
	5.8nm,0.4s						
MDOK				Lg	Lg	21 13 26.2	
	14nm,0.8s						
MDOK	**Medeo**	**4.36**	**22**	Pg	**Pb**	**21 12 25.2**	**-0.7**
	5.2nm,0.5s						
MDOK				Lg	Lg	21 13 25.0	
	17nm,0.8s						
SATY	**Saty**	**4.76**	**34**	Pg	**Pb**	**21 12 31.8**	**-1.0**
	9.9nm,0.5s						
SATY				Lg	Lg	21 13 36.6	
	17nm,1.2s						
KTBS	**Karatobe**	**4.78**	**16**	Pg	**Pb**	**21 12 32.8**	**-0.2**
	7.3nm,0.6s						
KTBS				Lg	Lg	21 13 37.8	
	16nm,0.6s						
KURS	**Kuram**	**5.03**	**29**	Pg	**Pb**	**21 12 36.4**	**-0.7**
	4.4nm,0.6s						
KURS				Lg	Lg	21 13 44.1	
	7.7nm,0.9s						
UZB	**Uzynbulak**	**5.11**	**37**	Pg	**Pb**	**21 12 38.3**	**-0.3**
	3.6nm,0.4s						
UZB				Lg	Lg	21 13 48.0	
	5.2nm,0.9s						
KK31	**Karatay Array**	**5.12**	**322**	⇑Pn	**Pn**	**21 12 25.3**	**-0.6**
	0.5nm,0.3s,baz=125,slow=12,SNR=24						
KK31				⇓Pg	**Pb**	**21 12 39.4**	**+0.6**
	1.0nm,0.3s,baz=137,slow=16,SNR=4.5						
KK31				⇓Sn	**Sn**	**21 13 25.9**	**+0.8**
	1.9nm,0.5s						
KK31				⇑Lg	Lg	21 13 51.6	
	5.9nm,0.7s,baz=143,slow=29						
SHLS	**Shalkode**	**5.33**	**40**	Pg	**Pb**	**21 12 45.0**	**+2.6**
	7.3nm,0.7s						
SHLS				Lg	Lg	21 13 59.5	
	16nm,0.7s						
PDGK	**Podgornoye**	**5.47**	**39**	⇓Pn	**Pn**	**21 12 29.0**	**-1.8**
	5.5nm,1.5s						
PDGK				⇓Pg	**Pb**	**21 12 45.5**	**+0.7**
	5.2nm,0.7s						
PDGK				⇑Sn	**Sn**	**21 13 36.7**	**+2.9**
	9.1nm,0.8s						
PDGK				⇓Lg	Lg	21 14 01.1	
	12nm,0.7s						

*SJA **09** 21:18:06.4±0.5, 21°.13S×68°.78W, h131km±11km, ML2.5, MW2.8*
*ISCJB **09** 21:18:08.7±1.1, 21°.21S±0°.04×68°.94W±0°.10, h129km±9km, Error ellipse: s-maj=15.3km s-min=7.1km az=176.1*
*GUC **09** 21:18:09.0±0.7, 21°.23S×68°.89W, h118km±4km, ML2.8*
ISC 09 21:18:09.0±2.3**, 21°.21S**±0°.05×**68°.89W**±0°.10**, h125km**±16km**, n18, σ0s47**/30**, 3C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.67**	**209**	*i* P	**Pn**	**21 18 28.9**	**0.0**
PB09				*i* S	**Sn**	**21 18 43.5**	**-0.4**
PB02	**IPOC Station P**	**0.94**	**263**	⇑*i*P	**Pn**	**21 18 31.1**	**+0.1**
PB02				*i* S	**Sn**	**21 18 47.6**	**-0.1**
PB02				IAML		21 18 50.0	
	comp=E,483nm,0.1s						
PB07	**IPOC Station P**	**1.06**	**241**	⇑*i*P	**Pn**	**21 18 32.2**	**0.0**
PB07				*i* S	**Sn**	**21 18 49.6**	**-0.2**
PB07				IAML		21 18 50.7	
	comp=N,182nm,0.1s						
PB08	**IPOC Station P**	**1.09**	**347**	*e*P	**Pn**	**21 18 32.9**	**+0.1**
PB08				*i* S	**Sn**	**21 18 50.8**	**0.0**
PB03	**IPOC Station P**	**1.16**	**224**	*e*P	**Pn**	**21 18 33.1**	**-0.1**
PB03				*i* S	**Sn**	**21 18 51.1**	**-0.5**
PB03				IAML		21 18 51.9	
	comp=E,180nm,0.1s						
TA01	**Diego Aracena**	**1.36**	**298**	*e*P	**Pn**	**21 18 35.5**	**+0.3**
TA01				*e*S	**Sn**	**21 18 55.0**	**-0.1**
TA01				IAML		21 18 56.7	
	comp=E,165nm,0.2s						
LVC	**Limon Verde**	**1.40**	**181**	*e*P	**Pn**	**21 18 36.0**	**0.0**
LVC				*e*S	**Sn**	**21 18 56.1**	**-0.4**
LVC	**Limon Verde**	**1.40**	**181**	*i* P	**Pn**	**21 18 35.6**	**-0.4**
LVC				*e*S	**Sn**	**21 18 57.0**	**+0.5**
LVC				IAML		21 18 59.2	
	comp=Z,19nm,0.1s						
PB04	**IPOC Station P**	**1.62**	**226**	*e*P	**Pn**	**21 18 38.4**	**0.0**
PB04				*e*S	**Sn**	**21 19 00.8**	**+0.1**
PB04	**IPOC Station P**	**1.62**	**226**	*i* P	**Pn**	**21 18 38.5**	**+0.2**
PB06	**IPOC Station P**	**1.62**	**203**	⇑*i*P	**Pn**	**21 18 38.3**	**-0.1**
PB06				*i* S	**Sn**	**21 19 00.5**	**-0.1**
PB06				IAML		21 19 02.2	
	comp=E,112nm,0.1s						
PB06	**IPOC Station P**	**1.62**	**203**	*i* P	**Pn**	**21 18 38.4**	**+0.1**
PB06				*e*S	**Sn**	**21 19 01.8**	**+1.1**
PB06				IAML		21 19 03.4	
	comp=Z,62nm,0.3s						
PB05	**IPOC Station P**	**2.04**	**216**	*i* P	**Pn**	**21 18 43.6**	**+0.3**
PB05				IAML		21 19 18.1	
	comp=Z,16nm,0.4s						
PB15	**IPOC Station P**	**2.06**	**195**	*e*P	**Pn**	**21 18 44.1**	**+0.4**
PB15				*e*S	**Sn**	**21 19 10.8**	**+0.6**
PB15	**IPOC Station P**	**2.06**	**195**	*i* P	**Pn**	**21 18 43.8**	**+0.1**
PB15				*e*S	**Sn**	**21 19 11.3**	**+1.1**
PB10	**IPOC Station P**	**2.76**	**214**	*i* P	**Pn**	**21 18 52.2**	**-0.2**
PB10				IAML		21 19 28.3	
	comp=Z,15nm,1.7s						
PB14	**IPOC Station P**	**3.68**	**202**	*i* P	**Pn**	**21 19 03.5**	**-1.2**
PB14				IAML		21 19 52.7	
	comp=Z,7.6nm,1.1s						
SLA	**San Lorenzo**	**4.69**	**139**	*i* P	Pn	21 19 05.5	-12
SLA				IAML		21 20 33.8	
	comp=Z,7.5nm,3.0s						

NNC 09 21:25:40.8±1.4**, 37°.30N×77°.43E, h0km, mb3.8, mpv3.4, 3C-4D, Error ellipse: s-maj=12.0km s-min=9.6km az=87.0, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**5.74**	**356**	Pg	Pb	21 27 25.7	+3.7
	3.4nm,0.4s						
TNSS				Lg	Lg	21 28 43.7	
	4.9nm,0.6s						
TKM2	**Tokmak 2**	**5.79**	**346**	⇑Pg	Pb	21 27 25.4	+2.7
	2.8nm,1.1s						
TKM2				⇓Lg	Lg	21 28 45.1	
	5.2nm,0.8s						
AAK	**Ala-Archa**	**5.79**	**338**	⇓Pg	Pb	21 27 26.5	+3.8
	4.0nm,1.1s						
AAK				⇑Lg	Lg	21 28 45.5	
	5.6nm,0.6s						
SATY	**Saty**	**5.80**	**7**	Pg	Pb	21 27 26.1	+3.2
	3.3nm,0.4s						
SATY				Lg	Lg	21 28 44.2	
	12nm,0.8s						
MDOK	**Medeo**	**5.86**	**357**	⇓Pg	Pg	21 27 28.6	-4.5
	2.3nm,0.6s						
MDOK				Lg	Lg	21 28 45.7	
	12nm,0.6s						
DGS	**Degeres**	**6.07**	**348**	Pg	Pb	21 27 31.8	+4.3
	0.6nm,0.4s						
DGS				Lg	Lg	21 28 53.8	
	5.8nm,0.7s						
PDGK	**Podgornoye**	**6.22**	**14**	⇓Pg	Pb	21 27 34.3	+4.2
	2.6nm,1.0s						
PDGK				⇑Lg	Lg	21 29 00.0	
	11nm,0.7s						

IDC 09 21:27:48.0±1.5**, 3°.51S×137°.40E, h0km, mb3.7**/3**, mb1 4.0**/6**, mb1mx3.8**/23**, mbtmp3.8**/6**, ML3.7**/3**, Error ellipse: s-maj=46.2km s-min=26.2km az=95.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.67**	**293**	Pn	Pn	21 29 27.2	-0.1
	0.6nm,0.3s,baz=93,slow=18,SNR=3.4						
WRA	**Warramunga Arr**	**16.61**	**190**	Pn	Pn	21 31 43.0	+0.6
	0.4nm,0.3s,baz=10,slow=12,SNR=14						
FITZ	**Fitzroy Crossi**	**18.52**	**218**	P	P	21 32 05.0	-1.1
	0.2nm,0.3s,baz=31,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**20.33**	**189**	P	P	21 32 26.1	+0.2
	2.5nm,0.6s,baz=14,slow=12,SNR=42						
MKAR	**Makanchi Array**	**69.63**	**323**	P	P	21 38 59.6	+0.4
	0.2nm,0.5s,baz=110,slow=7.8,SNR=2.7						
ILAR	**Eielson Array**	**87.09**	**25**	P	P	21 40 35.1	-0.3
	0.7nm,0.8s,baz=248,slow=5.3,SNR=6.1						

*SOME **09** 21:41:52.5, 40°.38N×77°.13E, h5km*
*NNC **09** 21:41:53.2±0.7, 40°.39N×77°.15E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=4.7km s-min=3.3km az=169.0*
*KRNET **09** 21:41:54.0±0.1, 40°.50N×77°.13E, h14km, mb3.4*
ISC 09 21:41:54.3±1.5**, 40°.48N**±0°.07×**77°.06E**±0°.03**, h10km, n77, σ1s88**/117**, 27C-20D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.25**	**320**	⇓*i*P	**Pn**	**21 42 18.0**	**-0.1**
	baz=17						
NRN				⇓*i*S	**Sn**	**21 42 35.6**	**+0.5**
	baz=17						
TARG	**Taragay, Kyrgy**	**1.37**	**24**	⇑*i*P	**Pg**	**21 42 19.5**	**-1.1**
	baz=22						
TARG				⇑*i*S	**Sn**	**21 42 37.9**	**-0.3**
	baz=22						
KDJ	**Kajisay**	**1.65**	**3**	⇑*i*P	**Pb**	**21 42 24.8**	**-0.1**
	baz=2.0						
KDJ				⇑*e*S	**Sg**	**21 42 47.0**	**-0.4**
	baz=2.0						
ULHL	**Ulahol**	**1.87**	**341**	⇓*i*P	**Pb**	**21 42 28.7**	**0.0**
	baz=39						
ULHL				⇓*i*S	**Sg**	**21 42 54.5**	**+0.1**
	baz=39						
ULHL	**Ulahol**	**1.87**	**341**	P	**Pg**	**21 42 30.9**	**+0.8**
	SNR=46						
KZA	**Kyzart**	**2.10**	**320**	⇓*i*P	**Pb**	**21 42 33.3**	**+0.6**
	baz=19						
KZA				⇓*i*S	**Sg**	**21 43 01.5**	**-0.3**
	baz=19						
KZA	**Kyzart**	**2.10**	**320**	P	**Pg**	**21 42 34.5**	**-0.1**
	SNR=108						
BOOM	**Boomskoye usch**	**2.18**	**338**	⇑*i*P	**Pb**	**21 42 33.9**	**0.0**
	baz=36						
BOOM				⇑*i*S	**Sg**	**21 43 02.8**	**-1.5**
	baz=36						
PRZ	**Przheval'sk**	**2.24**	**26**	⇑*i*P	**Pb**	**21 42 34.0**	**-1.0**
	baz=26						
PRZ				⇑*i*S	**Sb**	**21 43 02.9**	**+0.1**
	baz=26						
ANVS	**Anan'yevo**	**2.34**	**11**	⇓*i*P	**Pb**	**21 42 35.6**	**-1.2**
	baz=10.0						
ANVS				⇓*i*S	**Sb**	**21 43 05.6**	**-0.2**
	baz=10.0						
ARLS	**Aral**	**2.48**	**305**	⇑*e*P	**Pb**	**21 42 38.2**	**-0.9**
	baz=4.0						
ARLS				⇑*i*S	**Sb**	**21 43 10.5**	**+0.7**
	baz=4.0						
TNSS	**Tian-Shan**	**2.56**	**358**	*e*P	**Pg**	**21 42 42.4**	**-0.9**
	14nm,0.6s						
TNSS				*e*S	**Sg**	**21 43 17.8**	**+1.4**
	35nm,0.5s						
TNSS	**Tian-Shan**	**2.56**	**358**	Pg	**Pg**	**21 42 41.6**	**-1.7**
	14nm,0.6s						
TNSS				Lg	Lg	21 43 17.8	
	35nm,0.7s						
IZV	**Izvestkoviy**	**2.58**	**353**	*e*P	**Pg**	**21 42 42.5**	**-1.1**
	13nm,0.6s						
IZV				*e*S	**Sg**	**21 43 18.7**	**+1.6**
	67nm,0.4s						
IZV	**Izvestkoviy**	**2.58**	**353**	Pg	**Pg**	**21 42 42.5**	**-1.1**
	9.4nm,0.5s						
IZV				Lg	Lg	21 43 18.5	
	67nm,0.4s						
UCH	**Uchtor**	**2.59**	**313**	⇓*e*P	**Pb**	**21 42 40.2**	**-0.9**
	baz=12						
UCH				⇓*i*S	**Sb**	**21 43 13.3**	**+0.1**
	baz=12						
UCH	**Uchtor**	**2.59**	**313**	P	**Pb**	**21 42 41.2**	**0.0**
	SNR=8.4						
TKM2	**Tokmak 2**	**2.67**	**336**	⇑*e*P	**Pb**	**21 42 40.6**	**-1.8**
	baz=35						
TKM2				⇑*i*S	**Sb**	**21 43 14.5**	**-0.8**
	baz=35						
TKM2	**Tokmak 2**	**2.67**	**336**	P	**Pb**	**21 42 41.9**	**-0.5**
	SNR=15						
TKM2	**Tokmak 2**	**2.67**	**336**	⇓Pg	**Pg**	**21 42 44.3**	**-1.3**
	7.5nm,0.5s						
TKM2				⇑Lg	Lg	21 43 21.2	
	13nm,0.4s						
MDOK	**Medeo**	**2.68**	**360**	*e*P	**Pg**	**21 42 44.2**	**-1.5**
	9.3nm,0.5s						
MDOK				*e*S	**Sg**	**21 43 21.6**	**+1.2**
	49nm,0.5s						
MDOK	**Medeo**	**2.68**	**360**	Pg	**Pg**	**21 42 43.6**	**-2.0**
	23nm,0.9s						
MDOK				⇓Lg	Lg	21 43 21.4	
	32nm,0.5s						
MDOK	**Medeo**	**2.68**	**360**	Pg	**Pg**	**21 42 44.2**	**-1.5**
	8.5nm,0.4s						
MDOK				Lg	Lg	21 43 21.6	
	29nm,0.6s						
KST	**Kastek**	**2.69**	**343**	*e*P	**Pg**	**21 42 44.4**	**-1.4**
	9.7nm,0.4s						
KST				*e*S	**Sg**	**21 43 22.4**	**+1.8**
	27nm,0.4s						
KST	**Kastek**	**2.69**	**343**	Pg	**Pg**	**21 42 44.4**	**-1.4**
	9.7nm,0.4s						
KST				Lg	Lg	21 43 22.4	
	27nm,0.4s						
MTBS	**Maitube**	**2.69**	**350**	*e*P	**Pg**	**21 42 44.3**	**-1.5**
	6.9nm,0.3s						
MTBS				*e*S	**Sg**	**21 43 21.9**	**+1.3**
	19nm,0.4s						
MTBS	**Maitube**	**2.69**	**350**	Pg	**Pg**	**21 42 44.3**	**-1.5**
	6.9nm,0.3s						
MTBS				Lg	Lg	21 43 21.9	
	19nm,0.4s						
KBK	**Karagaybulak**	**2.69**	**325**	⇑*e*P	**Pb**	**21 42 40.7**	**-1.9**
	baz=24						
KBK				⇑*i*S	**Sb**	**21 43 15.1**	**-0.7**
	baz=24						

KBK	**Karagaybulak** SNR=20	**2.69**	**325**	P		**Pb**	**21 42 42.8**	**+0.1**
KNDC	**Almaty** 29nm,0.8s	**2.73**	**359**	⇓Pg		**Pb**	**21 42 44.3**	**+0.9**
KNDC	89nm,0.5s			⇓Lg		Lg	21 43 23.8	
KOTS	**Kotyrbulak** 28nm,0.4s	**2.75**	**1**	*eP*		**Pg**	**21 42 45.7**	**-1.3**
KOTS	63nm,0.5s			*eS*		**Sg**	**21 43 24.0**	**+1.4**
KOTS	**Kotyrbulak** 28nm,0.4s	**2.75**	**1**	Pg		**Pg**	**21 42 45.7**	**-1.3**
KOTS	63nm,0.5s			Lg		Lg	21 43 24.0	
SATY	**Saty** 18nm,0.6s	**2.77**	**21**	*eP*		**Pb**	**21 42 44.2**	**+0.4**
SATY	65nm,0.6s			*eS*		**Sg**	**21 43 21.9**	**-1.2**
SATY	**Saty** 18nm,0.6s	**2.77**	**21**	Pg		**Pb**	**21 42 44.2**	**+0.4**
SATY	65nm,0.6s			Lg		Lg	21 43 21.9	
AAK	**Ala-Archa** baz=18	**2.89**	**319**	⇓*eP*		**Pb**	**21 42 43.8**	**-2.2**
AAK	baz=18			⇓*iS*		**Sb**	**21 43 20.3**	**-1.2**
AAK	**Ala-Archa** SNR=18	**2.89**	**319**	P		**Pg**	**21 42 48.2**	**-1.5**
AAK	**Ala-Archa** 8.4nm,0.4s	**2.89**	**319**	Pg		**Pb**	**21 42 47.7**	**+1.7**
AAK	56nm,0.8s			Lg		Lg	21 43 28.6	
DGS	**Degeres** 7.7nm,0.8s	**2.92**	**341**	*eP*		**Pg**	**21 42 48.5**	**-1.8**
DGS	20nm,0.7s			*eS*		**Sg**	**21 43 29.3**	**+1.2**
DGS	**Degeres** 7.7nm,0.8s	**2.92**	**341**	Pg		**Pg**	**21 42 48.5**	**-1.8**
DGS	20nm,0.7s			Lg		Lg	21 43 29.3	
FRU1	**Bishkek** baz=22	**2.96**	**323**	⇑*eP*		**Pb**	**21 42 44.5**	**-2.6**
FRU1	baz=22			⇑*eS*		**Sb**	**21 43 21.6**	**-1.7**
AML	**Almayashu** baz=3.0	**3.02**	**304**	⇑*iP*		**Pb**	**21 42 46.0**	**-2.5**
AML	baz=3.0			⇑*iS*		**Sb**	**21 43 23.9**	**-1.7**
AML	**Almayashu** SNR=7.4	**3.02**	**304**	P		**Pb**	**21 42 47.3**	**-1.2**
UZB	**Uzynbulak** 7.4nm,0.6s	**3.04**	**28**	*eP*		**Pb**	**21 42 49.3**	**+0.7**
UZB	24nm,0.5s			*eS*		**Sg**	**21 43 30.1**	**-1.9**
UZB	**Uzynbulak** 7.4nm,0.6s	**3.04**	**28**	Pg		**Pb**	**21 42 49.3**	**+0.7**
UZB	24nm,0.5s			Lg		Lg	21 43 31.1	
CHMS	**Chumysh** baz=25	**3.05**	**326**	⇓*iP*		**Pb**	**21 42 46.0**	**-2.7**
CHMS	baz=25			⇓*iS*		**Sb**	**21 43 23.9**	**-2.1**
CHMS	**Chumysh** SNR=17	**3.05**	**326**	P		**Pb**	**21 42 47.3**	**-1.4**
KURS	**Kuram** 8.7nm,0.7s	**3.12**	**15**	*eP*		**Pg**	**21 42 51.9**	**-2.1**
KURS	18nm,0.7s			*eS*		**Sg**	**21 43 34.6**	**+0.2**
KURS	**Kuram** 8.7nm,0.7s	**3.12**	**15**	Pg		**Pg**	**21 42 51.9**	**-2.1**
KURS	18nm,0.7s			Lg		Lg	21 43 34.6	
ARSB	**Arslanbob** baz=86	**3.21**	**287**	⇑*eP*		**Pn**	**21 42 48.1**	**+3.2**
ARSB	baz=86			⇑*iS*		**Sb**	**21 43 28.2**	**-2.3**
KPKS	**Kokpek** 9.0nm,0.6s	**3.22**	**22**	*eP*		**Pg**	**21 42 52.9**	**-3.0**
KPKS	60nm,0.7s			*eS*		**Sg**	**21 43 36.5**	**-1.2**
SHLS	**Shalkode** 7.5nm,0.6s	**3.22**	**33**	*eP*		**Pg**	**21 42 56.1**	**+0.1**
SHLS	45nm,0.7s			*eS*		**Sg**	**21 43 42.3**	**+4.6**
SHLS	**Shalkode** 7.5nm,0.6s	**3.22**	**33**	Pg		**Pg**	**21 42 56.1**	**+0.1**
SHLS	45nm,0.7s			Lg		Lg	21 43 42.3	
KTBS	**Karatobe** 4.3nm,0.4s	**3.24**	**355**	*eP*		**Pg**	**21 42 54.4**	**-2.0**
KTBS	19nm,0.6s			*eS*		**Sg**	**21 43 38.9**	**+0.5**
KTBS	**Karatobe** 4.3nm,0.4s	**3.24**	**355**	Pg		**Pg**	**21 42 54.4**	**-2.0**
KTBS	19nm,0.6s			Lg		Lg	21 43 38.9	
EKS2	**Erkin-Say** baz=12	**3.29**	**313**	⇑*eP*		**Pn**	**21 42 49.0**	**+3.0**
EKS2	baz=12			⇑*eS*		**Sb**	**21 43 29.6**	**-3.3**
EKS2	**Erkin-Say** SNR=13	**3.29**	**313**	P		**Pb**	**21 42 51.8**	**-1.1**
CHKK	**Chushkaly** 10.0nm,0.5s	**3.37**	**359**	*eP*		**Pg**	**21 42 56.9**	**-2.0**
CHKK	42nm,0.3s			*eS*		**Sg**	**21 43 43.0**	**+0.5**
CHKK	**Chushkaly**	**3.37**	**359**	Pg		**Pg**	**21 42 56.9**	**-2.0**
CHKK				Lg		Lg	21 43 43.1	
PDGK	**Podgornoye** 5.4nm,0.6s	**3.37**	**32**	⇑Pg		**Pg**	**21 42 55.6**	**-3.3**
PDGK	81nm,0.8s			⇓Lg		Lg	21 43 40.3	
USP	**Ospenovka** baz=26	**3.38**	**326**	⇑*iP*		**Pn**	**21 42 50.1**	**+3.0**
USP	baz=26			⇑*iS*		**Sn**	**21 43 31.2**	**+3.9**
USP	**Ospenovka** SNR=11	**3.38**	**326**	P		**Pb**	**21 42 56.5**	**+2.2**
SGDS	**Sogindy** 9.8nm,0.6s	**3.48**	**329**	Pg		**Pb**	**21 42 58.0**	**+2.0**
SGDS	6.4nm,0.5s			Lg		Lg	21 43 45.7	
MRKS	**Merke** 5.2nm,0.6s	**3.66**	**309**	*eP*		**Pb**	**21 43 01.3**	**+2.2**
MRKS	5.2nm,0.6s			*eS*		**Sg**	**21 43 51.0**	**-0.7**
MRKS	**Merke** 5.2nm,0.6s	**3.66**	**309**	Pg		**Pb**	**21 43 01.3**	**+2.2**
MRKS	5.2nm,0.6s			Lg		Lg	21 43 51.0	
MNBS	**Baschi** 1.9nm,0.4s	**3.73**	**15**	*eP*		**Pb**	**21 43 02.1**	**+1.8**
MNBS	25nm,0.4s			*eS*		**Sg**	**21 43 52.4**	**-1.7**
MNBS	**Baschi** 1.9nm,0.4s	**3.73**	**15**	Pg		**Pb**	**21 43 02.1**	**+1.8**
MNBS	25nm,0.4s			Lg		Lg	21 43 52.4	
ARXS	**Arharly** 4.0nm,0.7s	**3.77**	**8**	*eP*		**Pg**	**21 43 03.5**	**-3.0**
ARXS	20nm,0.5s			*eS*		**Sg**	**21 43 55.2**	**-0.2**
ARXS	**Arharly** 4.0nm,0.7s	**3.77**	**8**	Pg		**Pg**	**21 43 03.5**	**-3.0**
ARXS	20nm,0.5s			Lg		Lg	21 43 55.2	
KTMS	**Ketmen** 0.3nm,0.1s	**3.85**	**39**	*eP*		**Pb**	**21 43 03.8**	**+1.5**
KTMS	13nm,0.7s			*eS*		**Sg**	**21 43 55.2**	**-2.6**
KTMS	**Ketmen**	**3.85**	**39**	Pg		**Pb**	**21 43 03.8**	**+1.5**
KTMS				Lg		Lg	21 43 55.2	
DJR	**Jarkent** 0.4nm,0.1s	**4.35**	**27**	*eP*		**Pb**	**21 43 12.9**	**+2.1**
DJR	6.9nm,0.5s			*eS*		**Sg**	**21 44 10.5**	**-3.3**
DJR	**Jarkent** 0.4nm,0.4s	**4.35**	**27**	Pg		**Pb**	**21 43 12.9**	**+2.1**
DJR	6.9nm,0.5s			Lg		Lg	21 44 10.5	
TDK	**Taldyqorghan** 7.8nm,0.3s	**4.62**	**12**	*eP*		**Pb**	**21 43 18.1**	**+2.6**
TDK	27nm,0.6s			*eS*		**Sg**	**21 44 20.4**	**-2.4**
TDK	**Taldyqorghan**	**4.62**	**12**	Pg		**Pb**	**21 43 18.2**	**+2.6**
TDK				Lg		Lg	21 44 20.3	
KAPS	**Kapalarasan** 1.8nm,0.7s	**5.09**	**19**	*eP*		**Pg**	**21 43 27.3**	**-4.4**
KAPS	6.5nm,0.9s			*eS*		**Sg**	**21 44 34.8**	**-2.8**
KAPS	**Kapalarasan** 1.8nm,0.8s	**5.09**	**19**	Pg		**Pg**	**21 43 27.3**	**-4.4**
KAPS	6.5nm,0.9s			Lg		Lg	21 44 35.4	
KK31	**Karatay Array** 0.8nm,0.5s,baz=117,slow=16,SNR=7.1	**5.55**	**300**	⇓Pg		**Pg**	**21 43 37.6**	**-3.0**
KK31	0.8nm,0.4s,baz=119,slow=30,SNR=5.0			⇑Lg		Lg	21 44 50.7	

MAN ***09*** *22:03:49.7,8.˝16N×126.˝85E,h1km,mb4.3,ML3.2,MS2.9*
NEIC ***09*** *22:03:58.8±1.4,8.˝33N±0.˝09×126.˝6E±0.˝2,h90km±9km, mb4.3/8*
IDC ***09*** *22:03:59.5±2.7,8.˝24N×126.˝54E,h94km±26km,mb3.6/8, mb1 3.7/8,mb1mx3.4/40,mbtmp3.9/8,MS3.4/2,Ms1 3.4/2, ms1mx2.5/41,Error ellipse: s-maj=41.7km s-min=16.4km az=80.0*

ISC 09 22:03:50.2±1.9,8.˝40N±0.˝03×126.˝82E±0.˝08,h15km±11km, n33,σ1°35/38,mb4.0/9,3C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.51**	**245**	⇓P	**Pb**	**22 04 01.5**	**+0.7**
BIPH				S	**Sb**	**22 04 07.6**	**-0.4**
BUTP	**Butuan**	**1.32**	**295**	P	**Pg**	**22 04 16.4**	**+0.8**
BUTP				S	**Sg**	**22 04 32.7**	**-0.1**
MATI	**Mati**	**1.55**	**201**	P	**Pn**	**22 04 14.7**	**-2.6**
MATI				S	**Sn**	**22 04 34.7**	**-2.5**
DAV	**Davao City (W)** 63nm,0.3s,baz=294,slow=11,SNR=5.7	**1.81**	**223**	P	**Pg**	**22 04 25.2**	**+0.2**
DAV	80nm,0.3s,baz=115,slow=4.4,SNR=4.3			S	**Sg**	**22 04 49.2**	**+0.6**
DAV	comp=Z,192nm,18.5s,baz=330,slow=50			LR	LR	22 05 14.4	
BUKP	**Musuan**	**1.82**	**253**	P	**Pg**	**22 04 24.3**	**-0.9**
BUKP				S	**Sg**	**22 04 49.4**	**+0.5**
DMPH	**Davao City--Mi**	**1.85**	**225**	⇑P	**Pg**	**22 04 26.3**	**+0.5**
DMPH				S	**Sg**	**22 04 49.2**	**-0.6**
SCPH	**Surigao**	**1.90**	**316**	⇑P	**Pg**	**22 04 26.7**	**-0.1**
KCP	**Kidapawan**	**2.21**	**231**	⇓P	**Pb**	**22 04 29.9**	**0.0**
KCP				S	**Sb**	**22 04 57.8**	**+0.7**
DDMP	**Don Marcelino,**	**2.54**	**206**	P	**Pn**	**22 04 32.2**	**+1.3**
DDMP				S	**Sn**	**22 05 04.2**	**+2.8**
MSLP	**Maasin**	**2.59**	**312**	P	**Pb**	**22 04 35.8**	**-0.6**
MSLP				S	**Sg**	**22 05 12.8**	**-0.8**
CTBH	**Cotabato--PC H**	**2.81**	**245**	⇑P	**Pb**	**22 04 37.8**	**-2.4**
PAGZ	**Pagadian**	**3.45**	**261**	P	**Pn**	**22 04 45.7**	**+2.3**
BESP	**Borongan**	**3.46**	**337**	P	**Pn**	**22 04 43.5**	**0.0**
YULB	**Yu-li**	**15.82**	**341**	Pn	**P**	**22 07 35.9**	**-0.4**
YULB	comp=Z,36nm,1.3s			IAmb	IAmb	22 07 49.1	
MTN	**Manton Dam**	**21.54**	**168**	P	**P**	**22 08 39.8**	**+0.8**
MTN	comp=Z,16nm,1.4s			IAmb	IAmb	22 08 41.4	
KNRA	**Kununurra**	**24.00**	**175**	P	**P**	**22 09 05.2**	**+0.7**
FITZ	**Fitzroy Crossi** comp=Z,1.8nm,0.5s,baz=354,slow=5.3,SNR=12	**26.36**	**183**	P	**P**	**22 09 25.9**	**+0.1**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.4s,baz=345,slow=8.8,SNR=2.7	**29.12**	**165**	P	**P**	**22 09 49.6**	**-1.0**
PSA00	**Pilbara Seismi**	**30.57**	**193**	P	**P**	**22 10 03.2**	**-0.3**
ASAR	**Alice Springs** comp=Z,0.5nm,0.4s,baz=348,slow=7.6,SNR=8.6	**32.62**	**168**	P	**P**	**22 10 22.0**	**+0.5**
ASAR	comp=Z,39nm,21.1s,baz=183,slow=37			LR	LR	22 23 58.2	
USRK	**Ussuriysk Ar.** comp=Z,2.1nm,0.7s,baz=176,slow=8.7,SNR=4.3	**35.94**	**6**	P	**P**	**22 10 52.1**	**+2.0**
H11N1	**WAKE ISLAND Hy** baz=265,slow=75,SNR=3.1	**40.36**	**69**	T	T	22 55 17.7	
H11N2	**WAKE ISLAND Hy** baz=265,slow=75,SNR=3.9	**40.36**	**69**	T	T	22 55 10.3	
H11N3	**WAKE ISLAND Hy** baz=265,slow=75,SNR=4.8	**40.37**	**69**	T	T	22 55 12.5	
BBOO	**Buckleboo**	**41.92**	**168**	P	**P**	**22 11 41.3**	**+1.0**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.5s,baz=110,slow=7.1,SNR=6.7	**53.84**	**323**	P	**P**	**22 13 12.8**	**+0.2**
CHGR	**Chuyangaron**	**59.69**	**310**	P	**P**	**22 13 51.8**	**-2.5**
AKTO	**Aktyubinsk** comp=Z,38nm,20.1s,baz=286,slow=38	**70.10**	**321**	LR	LR	22 47 51.0	
KDAK	**Kodiak Island** comp=Z,2.6nm,0.6s,baz=268,slow=5.7,SNR=5.4	**77.92**	**33**	P	**P**	**22 15 49.5**	**+2.2**
KDAK	**Kodiak Island**	**77.92**	**33**	P	**P**	**22 15 47.6**	**+0.2**
KDAK	comp=Z,5.3nm,0.9s			IAmb	IAmb	22 16 03.6	
ILAR	**Eielson Array** comp=Z,0.4nm,0.7s,baz=231,slow=7.0,SNR=4.3	**80.87**	**26**	P	**P**	**22 16 04.3**	**+0.9**
FINES	**FINESS Array B** comp=Z,2.5nm,0.9s,baz=81,slow=4.6,SNR=12	**87.78**	**332**	P	**P**	**22 16 37.0**	**-1.4**
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.5s,baz=43,slow=1.4,SNR=3.1	**121.45**	**291**	PKP	**PKPdf**	**22 22 42.8**	**-1.3**

NIED ***09*** *22:26:00,31.˝20N×127.˝20E,h8km,Mw4.4 Best double couple: M0 4.45000×10^15 NP1:φ=244.00000°,δ44.00000°, λ-103.00000°. NP2:φ=81.00000°,δ47.00000°, λ-78.00000°.*
ISCJB ***09*** *22:26:02.8±0.3,31.˝26N±0.˝05×127.˝37E±0.˝04,h10km, mb4.0/19,MS3.6/17,Error ellipse: s-maj=7.7km s-min=3.9km az=162.2*
IDC ***09*** *22:26:03.2±0.6,31.˝31N×127.˝32E,h0km,mb4.0/19, mb1 4.2/22,mb1mx4.1/41,mbtmp4.0/22,ML3.0/3,MS3.4/19, Ms1 3.4/19,ms1mx3.2/53,Error ellipse: s-maj=14.7km s-min=12.5km az=126.0*
JMA ***09*** *22:26:03.9±0.3,31.˝25N×127.˝51E,h3km,M4.4*
JMA Felt I J1.
NEIC ***09*** *22:26:04.6±2.2,31.˝38N±0.˝05×127.˝33E±0.˝07,h10km±1km, mb4.5/24*
BJI ***09*** *22:26:07.0±0.0,31.˝20N×127.˝20E,h10km,mb4.3/19, mB4.5/16,ML4.7/3,Ms4.5/15,Ms7 4.2/15*

ISC 09 22:26:04.8±0.5,31.˝34N±0.˝05×127.˝41E±0.˝04,h10km,n82, σ1°56/75,mb4.3/30,MS3.5/17,Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFU	**Fukue jima 2**	**1.74**	**41**	P	**Pn**	**22 26 35.3**	**+0.2**
JFU				eS	**Sb**	**22 26 59.6**	**+0.8**
JSJ	**Shimokoshiki**	**2.00**	**80**	P	**Pn**	**22 26 38.0**	**-0.7**
JSJ				eS	**Sn**	**22 27 02.7**	**-1.1**
NGSJ	**Nagasakinomoza**	**2.41**	**57**	P	**Pn**	**22 26 44.3**	**0.0**
NGSJ				eS	**Sn**	**22 27 14.1**	**+0.3**
JTZ	**Takazaki**	**3.19**	**79**	P	**Pn**	**22 26 55.7**	**+0.7**
JNU	**Nakatsue** 0.7nm,0.3s,baz=258,slow=9.3,SNR=5.3	**3.44**	**58**	Pn	**Pn**	**22 26 59.6**	**+1.1**
JNU	6.8nm,0.3s,baz=281,slow=5.3,SNR=14			Pg	**Pb**	**22 27 07.9**	**+2.0**
JNU	26nm,0.3s,baz=162,slow=5.9,SNR=12			Lg	Lg	22 27 54.5	
JNU	**Nakatsue**	**3.44**	**58**		**Pn**	**22 27 00.3**	**+1.8**
SSE	**Sheshan**	**5.33**	**269**	Pn	**Pn**	**22 27 24.1**	**-0.4**
KSRS	**Korea Array** 2.0nm,0.3s,baz=185,slow=14,SNR=10	**6.12**	**4**	Pn	**Pn**	**22 27 36.7**	**+1.5**
KSRS	2.4nm,0.3s,baz=182,slow=17,SNR=6.4			Pg	Pb	22 27 55.5	+4.1
KSRS	2.3nm,0.3s,baz=180,slow=5.0,SNR=4.6			Sn	**Sn**	**22 28 43.3**	**-2.0**
KSRS	8.7nm,0.3s,baz=184,slow=31,SNR=6.6			Lg	Lg	22 29 17.2	
KSRS	comp=Z,344nm,21.4s,baz=198,slow=36			LR	LR	22 29 47.5	
KS19	**Wonju Array Si**	**6.16**	**3**		**Pn**	**22 27 37.0**	**+1.1**
KS19				Sn	**Sn**	**22 28 44.1**	**-2.3**
INCN	**Inchon**	**6.16**	**354**		**Pn**	**22 27 37.8**	**+1.9**
INCN					**Sn**	**22 28 44.5**	**-2.0**
INCN					LR	22 29 17.8	
NJ2	**Nanjing**	**7.32**	**278**	*eP*	Pb	22 28 01.5	-11
NJ2	comp=Z,10.0nm,0.7s			pmax	pmax		
NJ2	comp=N,250nm,1.0s			smax	smax		
NJ2	comp=E,190nm,0.8s			smax	smax		
NJ2	comp=N,1μm,9.2s			LR	LR		
NJ2	comp=E,820nm,6.6s			LR	LR		
NJ2	comp=Z,1μm,9.5s			LR	LR		
YHNB	**Yeheng**	**8.52**	**220**	Pn	**Pn**	**22 28 12.1**	**+3.8**
DL2	**Dalian**	**8.91**	**330**	P	Pn	22 28 21.3	+7.7
DL2	comp=Z,37nm,0.9s			pmax	pmax		
DL2	comp=Z,180nm,0.8s			smax	smax		
DL2	comp=Z,180nm,0.9s			smax	smax		
DL2	comp=Z,1μm,10.5s			LR	LR		
DL2	comp=Z,1μm,10.4s			LR	LR		
DL2	comp=Z,1μm,10.7s			LR	LR		
INU	**Inuyama**	**8.98**	**61**	Pn	**Pn**	**22 28 18.2**	**+3.7**
TIA	**Tai'an**	**9.84**	**302**	P	Pn	22 28 30.0	+3.6
TIA	comp=Z,1μm,13.7s			LR	LR		
TIA	comp=Z,720nm,17.7s			LR	LR		
TIA	comp=Z,590nm,11.4s			LR	LR		
MJAR	**Matsushiro Arr** comp=Z,97nm,20.4s,baz=255,slow=36	**10.36**	**57**	LR	LR	22 32 17.7	
USRK	**Ussuriysk Ar.** comp=Z,90nm,22.0s,baz=181,slow=35	**13.34**	**14**	LR	LR	22 33 54.1	
ENH	**Enshi**	**15.44**	**271**	Pn	**Pn**	**22 29 43.3**	**+0.5**
XAN	**Xi'an**	**15.80**	**285**	P	**P**	**22 29 57.0**	**+5.7**
XAN				pP	sP	22 30 05.3	+10
XAN				sP	pP	22 30 09.8	+16
XAN	comp=Z,9.0nm,1.5s			pmax	pmax		
XAN	comp=Z,110nm,5.9s			pmax	pmax		
XAN	comp=N,840nm,12.0s			LR	LR		
XAN	comp=E,410nm,15.2s			LR	LR		
XAN	comp=Z,450nm,14.7s			LR	LR		
XAN	**Xi'an**	**15.80**	**285**	Pn	**Pn**	**22 29 48.0**	**+0.6**
ASAJ	**Asahikawa** comp=Z,67nm,18.2s,baz=188,slow=34	**17.49**	**39**	LR	LR	22 36 03.1	
KLR	**Kul'dur** comp=Z,0.1nm,0.3s,baz=195,slow=9.7,SNR=2.3	**18.17**	**9**	P	**P**	**22 30 18.4**	**+1.0**
GYA	**Guiyang**	**18.80**	**260**	P	**Pn**	**22 30 26.3**	**+1.3**
GYA	comp=Z,10.0nm,1.0s			pmax	pmax		
HIA	**Hailar**	**18.82**	**344**		**Pn**	**22 30 26.3**	**+1.3**
LZH	**Lanzhou**	**20.15**	**290**	*eP*	Pn	22 30 41.4	+0.1
LZH				pP	sP	22 30 45.7	+2.2
LZH				sP	pP	22 30 49.8	+7.6
LZH	comp=Z,18nm,1.0s			pmax	pmax		
LZH	comp=Z,62nm,4.2s			pmax	pmax		
LZH	comp=Z,530nm,8.7s			LR	LR		
LZH	comp=Z,490nm,13.6s			LR	LR		
LZH	comp=Z,580nm,14.1s			LR	LR		
ULN	**Ulaanbaatar**	**22.66**	**323**	P	**P**	**22 31 05.6**	**-0.7**
SONM	**Songino Array** comp=Z,2.2nm,1.1s,baz=131,slow=11,SNR=7.8	**22.99**	**322**	P	**P**	**22 31 10.2**	**+0.5**
SONM	comp=Z,63nm,21.2s,baz=128,slow=36			LR	LR	22 39 39.0	
GTA	**Gaotai**	**23.83**	**297**	*eP*	**P**	**22 31 18.2**	**0.0**
GTA				pP	sP	22 31 23.1	+0.6
GTA				S	**S**	**22 35 39.0**	**+4.8**
GTA	comp=Z,62nm,4.4s			pmax	pmax		
GTA	comp=Z,380nm,17.2s			LR	LR		
GTA	comp=Z,230nm,13.1s			LR	LR		
GTA	comp=Z,370nm,12.4s			LR	LR		
TLY	**Talaya** comp=Z,88nm,19.2s,baz=138,slow=38	**26.80**	**326**	LR	LR	22 42 57.2	
PBKT	**Sadao Pong**	**28.18**	**245**	P	**P**	**22 31 55.4**	**-2.2**
PBKT	comp=Z,5.4nm,0.9s			IAmb	IAmb	22 32 02.9	
CMAR	**Chiang Mai Arr** comp=Z,0.6nm,0.5s,baz=64,slow=6.3,SNR=3.7	**28.73**	**250**	P	**P**	**22 32 01.7**	**-0.9**
CMAR	comp=Z,1.3nm,0.8s,baz=46,slow=1.5,SNR=6.7			PcP	**PcP**	**22 35 13.3**	**+0.4**
CMAR	comp=Z,113nm,18.5s,baz=75,slow=40			LR	LR	22 45 02.9	
PETK	**Petropavlovsk-** comp=Z,38nm,21.8s,baz=241,slow=34	**30.87**	**36**	LR	LR	22 43 32.0	
GUN	**Gumba** comp=Z,36nm,0.9s	**36.11**	**275**	*eP*	**P**	**22 33 07.3**	**-0.2**
PKI	**Pulchoki** comp=Z,18nm,0.9s	**36.60**	**275**	*eP*	**P**	**22 33 11.2**	**-0.5**
PKIN	**Phulchoki** comp=Z,9.3nm,0.8s	**36.61**	**275**	*eP*	**P**	**22 33 10.9**	**-0.8**
KKN	**Kakani** comp=Z,31nm,0.8s	**36.66**	**275**	*eP*	**P**	**22 33 11.5**	**-0.5**
DMN	**Daman**	**36.85**	**275**	*eP*	**P**	**22 33 13.7**	**0.0**
GKN	**Gorkha**	**37.14**	**276**	*eP*	**P**	**22 33 15.5**	**-0.6**
MKAR	**Makanchi Array** comp=Z,0.9nm,0.7s,baz=96,slow=11,SNR=5.9	**37.73**	**307**	P	**P**	**22 33 20.4**	**-0.4**
MKAR	comp=Z,0.8nm,0.8s,baz=146,slow=1.7,SNR=3.0			PcP	**PcP**	**22 35 36.8**	**-0.8**
MKAR	comp=Z,36nm,19.8s,baz=82,slow=35			LR	LR	22 48 12.9	
DANN	**Dangsing** comp=Z,34nm,1.3s	**37.80**	**277**	*eP*	**P**	**22 33 21.2**	**-0.6**
ZALV	**Zalesovo Beam** comp=Z,0.9nm,0.7s,baz=121,slow=5.6,SNR=4.0	**37.83**	**319**	P	**P**	**22 33 20.6**	**-0.8**
KOLN	**Koldanda**	**38.09**	**276**	*eP*	**P**	**22 33 23.9**	**-0.3**
KURK	**Kurchatov**	**40.72**	**313**	P	**P**	**22 33 43.9**	**-1.7**
KURBB	**Kurchatov Arra** comp=Z,2.7nm,0.8s,baz=104,slow=9.1,SNR=4.4	**40.76**	**313**	P	**P**	**22 33 45.1**	**-0.8**
KK31	**Karatay Array**	**46.00**	**301**	P	**P**	**22 34 27.6**	**-0.8**
KK31	comp=Z,6.9nm,1.2s			IAmb	IAmb	22 34 34.0	
KKAR	**Karatay Array**	**46.00**	**301**	P	**P**	**22 34 27.8**	**-0.5**
KKAR	comp=Z,6.9nm,1.2s			IAmb	IAmb	22 34 34.0	
BRVK	**Borovoye** comp=Z,4.5nm,0.9s	**46.13**	**315**	P	**P**	**22 34 27.7**	**-1.5**
BRVK				IAmb	IAmb	22 34 34.0	
GAR	**Garm**	**46.64**	**296**	P	**P**	**22 34 31.6**	**-2.0**
CHGR	**Chuyangaron**	**47.59**	**296**	P	**P**	**22 34 39.8**	**-1.2**
KBL	**Kabul** comp=Z,4.9nm,1.1s	**48.50**	**290**	P	**P**	**22 34 47.4**	**-0.8**
KBL				IAmb	IAmb	22 34 54.6	
WRA	**Warramunga Arr** comp=Z,0.7nm,0.7s,baz=353,slow=7.8,SNR=4.5	**51.42**	**172**	P	**P**	**22 35 10.7**	**+0.6**
ABKAR	**Akbulak array**	**52.71**	**310**	P	**P**	**22 35 18.3**	**-1.2**
ASAR	**Alice Springs** comp=Z,2.0nm,0.9s,baz=2.8,slow=7.4,SNR=12	**55.04**	**173**	P	**P**	**22 35 37.0**	**+0.2**
GEYT	**Alibeck** comp=Z,41nm,18.6s,baz=65,slow=39	**56.22**	**297**	LR	LR	23 02 14.4	
KDAK	**Kodiak Island** comp=Z,6.3nm,0.9s,baz=289,slow=7.8,SNR=3.4	**58.90**	**38**	P	**P**	**22 36 03.5**	**-0.2**
KDAK	**Kodiak Island** comp=Z,38nm,1.5s	**58.90**	**38**	IAmb	IAmb	22 36 04.8	
RND	**Reindeer** comp=Z,5.1nm,1.0s	**59.73**	**31**	P	**P**	**22 36 08.6**	**-0.9**
RND				IAmb	IAmb	22 36 10.2	
RND				PP	PP	22 38 11.3	-10
ILAR	**Eielson Array** comp=Z,0.6nm,0.6s,baz=286,slow=7.6,SNR=11	**60.33**	**29**	P	**P**	**22 36 13.5**	**0.0**
HDA	**Harding Lake**	**60.37**	**30**	P	**P**	**22 36 13.1**	**-0.7**
HDA				IAmb	IAmb	22 36 14.5	

comp=Z,4.1nm,1.0s
SCRK Sand Creek 61.73 30 P P 22 36 21.8 -1.4
SCRK IAmb IAmb 22 36 24.4
comp=Z,6.5nm,1.2s
MCARA McCarthy VSAT 62.83 33 P P 22 36 28.5 -1.9
STKA Stephens Creek 64.29 167 P P 22 36 38.9 -1.5
comp=Z,2.2nm,0.5s,baz=315,slow=8.6,SNR=3.3
STKA LR LR 23 08 48.6
comp=Z,20nm,18.0s,baz=32,slow=40
STKA Stephens Creek 64.29 167 IAmb IAmb 22 36 55.3
comp=Z,4.4nm,1.5s
ARCES ARCESS Array B 65.01 338 LR LR 23 11 44.9
comp=Z,32nm,18.1s,baz=294,slow=42
KBZ Khabaz 65.43 307 P P 22 36 48.4 +0.6
comp=Z,4.8nm,1.0s,baz=340,slow=2.7,SNR=4.4
FINES FINESS Array B 68.09 329 P P 22 37 03.9 -0.6
comp=Z,1.8nm,0.9s,baz=64,slow=9.4,SNR=3.2
FINES LR LR 23 09 35.1
comp=Z,60nm,18.4s,baz=61,slow=38
SDHHI Sand Hill 69.61 79 P P 22 37 11.7 -3.1
RES Resolute Bay 70.69 11 LR LR 23 11 02.9
comp=Z,24nm,19.4s,baz=328,slow=38
AKASG Malin Array Be 71.22 318 P P 22 37 23.3 -0.7
comp=Z,1.5nm,0.6s,baz=56,slow=6.3,SNR=6.7
AKASG LR LR 23 09 01.3
comp=Z,39nm,18.1s,baz=35,slow=36
RAYN Ar Rayn 71.58 287 P P 22 37 24.9 -1.7
RAYN IAmb IAmb 22 37 27.7
comp=Z,5.9nm,1.2s
BRTR Keskin Array B 73.38 307 P P 22 37 37.2 -0.1
comp=Z,2.1nm,0.8s,baz=60,slow=4.9,SNR=6.6
HFS Hagfors 73.99 332 LR LR 23 12 59.7
comp=Z,102nm,18.3s,baz=104,slow=38
YKA Yellowknife Ar 74.22 25 P P 22 37 42.9 +1.3
comp=Z,1.3nm,0.9s,baz=313,slow=5.2,SNR=13
NOA NORSAR Array B 74.44 333 P P 22 37 42.3 -0.6
comp=Z,1.2nm,0.9s,baz=51,slow=5.7,SNR=2.9
NOA LR LR 23 11 21.8
comp=Z,14nm,18.8s,baz=60,slow=36
BUR08 Bucovina Ar. S 74.99 317 P P 22 37 44.5 -2.0
BUR08 IAmb IAmb 22 37 48.1
comp=Z,7.6nm,1.1s
OJC Ojcow 76.68 321 P P 22 37 55.2 -0.7
VRAC Vranov 78.91 321 LR LR 23 17 39.4
comp=Z,72nm,18.2s,baz=68,slow=39
GERES GERESS Array B 80.72 322 P P 22 38 18.3 0.0
comp=Z,6.6nm,0.8s,baz=46,slow=5.6,SNR=3.9
SFJD Kangerlussuaq 81.97 359 LR LR 23 15 56.4
comp=Z,25nm,18.2s,baz=30,slow=36
BEKR Beckworth 85.34 46 P P 22 38 42.4 -0.2
BEKR IAmb IAmb 22 38 44.0
comp=Z,3.8nm,0.9s
NVAR Mina Array Bea 87.48 46 P P 22 38 53.1 -0.1
comp=Z,1.1nm,0.8s,baz=300,slow=4.6,SNR=6.7
PDAR Pinedale Array 89.62 38 P P 22 39 03.3 +0.1
comp=Z,1.4nm,0.7s,baz=1.0,slow=0.9,SNR=10

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*IDC **09** 22:32:40.5±0.9, 20°.73N×147°.08E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/43, mbtmp3.9/8, Error ellipse: s-maj=31.9km s-min=24.9km az=79.0*
*ISCJB **09** 22:32:44.8±1.0, 20°.7N±0°.2×146°.9E±0°.2, h44km, mb3.9/8, Error ellipse: s-maj=32.1km s-min=24.8km az=175.4*
ISC 09 22:32:46.7±1.0, 20°.7N±0°.2×147°.0E±0°.3, h44km, n8, σ1§17/9, mb4.1/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.25 198**		P	**P**	**22 40 35.0**	**-0.9**
	0.5nm,0.7s,baz=16,slow=8.4,SNR=3.8						
WRA				PcP	**PcP**	**22 42 31.2**	**+1.9**
	0.9nm,0.9s,baz=17,slow=3.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**57.22 322**		P	**P**	**22 42 29.1**	**-0.3**
	2.0nm,0.5s,baz=106,slow=7.4,SNR=11						
MKAR	**Makanchi Array**	**58.01 313**		P	**P**	**22 42 35.5**	**+0.4**
	0.8nm,0.7s,baz=87,slow=8.2,SNR=6.5						
KURBB	**Kurchatov Arra**	**60.70 317**		P	**P**	**22 42 53.8**	**+0.3**
	1.9nm,0.7s,baz=94,slow=7.5,SNR=13						
BVAR	**Borovoye Array**	**65.75 320**		P	**P**	**22 43 27.7**	**+0.6**
	2.1nm,0.6s,baz=79,slow=7.7,SNR=16						
YKA	**Yellowknife Ar**	**75.65 28**		P	**P**	**22 44 25.9**	**-1.1**
	0.2nm,0.6s,baz=292,slow=5.8,SNR=3.2						
NVAR	**Mina Array Bea**	**80.94 52**		P	**P**	**22 44 58.0**	**+1.0**
	0.2nm,0.5s,baz=263,slow=7.2,SNR=2.9						
FINES	**FINESS Array B**	**85.60 336**		P	**P**	**22 45 19.3**	**-1.0**
	2.0nm,0.9s,baz=58,slow=3.4,SNR=4.8						

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*IDC **09** 22:42:31.3±0.7, 55°.69S×26°.67W, h0km, mb4.3/6, mb1 4.3/7, mb1mx4.0/21, mbtmp4.2/7, ML3.8/1, MS3.6/11, Ms1 3.6/11, ms1mx3.4/24, Error ellipse: s-maj=28.6km s-min=20.4km az=50.0*
*ISCJB **09** 22:42:33.6±0.6, 55°.50S±0°.09×26°.9W±0°.2, h25km, mb4.2/6, MS3.6/10, Error ellipse: s-maj=17.7km s-min=8.3km az=143.3*
*NEIC **09** 22:42:36.4±1.6, 55°.6S±0°.1×27°.0W±0°.2, h32km±4km, mb4.7/12*
ISC 09 22:42:35.1±0.6, 55°.7S±0°.1×27°.02W±0°.09, h25km, n44, σ1§21/38, mb4.5/8, MS3.6/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.62 280**			**Pn**	**22 43 57.5**	**+0.5**
HOPE					**Sn**	**22 44 57.4**	**-3.3**
VNA1	**Neumayer--Stat**	**17.13 159**		P	**P**	**22 46 35.1**	**+1.2**
VNA3	**Neumayer Olymp**	**17.34 161**		P	**P**	**22 46 37.2**	**+0.9**
VNA2	**Neumayer--Watz**	**17.53 158**		P	**P**	**22 46 40.1**	**+1.7**
	baz=325,slow=13						
SNAA	**Sanae**	**19.07 157**		P	**P**	**22 46 55.5**	**+0.1**
SNAA	**Sanae**	**19.07 157**		P	**P**	**22 46 53.8**	**-1.6**
	0.3nm,0.3s,baz=334,slow=11,SNR=9.9						
SNAA				LR	LR	22 52 29.7	
	comp=Z,164nm,21.0s,baz=357,slow=32						
SNAA	**Sanae**	**19.07 157**		P	**P**	**22 46 53.9**	**-1.6**
PMSA	**Palmer Station**	**20.24 228**		P	Pn	22 47 12.6	+2.6
	7.2nm,0.8s,baz=36,slow=5.4,SNR=8.7						
PMSA				LR	LR	22 53 57.5	
	comp=Z,191nm,18.1s,baz=92,slow=34						
PMSA	**Palmer Station**	**20.24 228**		P	Pn	22 47 11.4	+1.4
TRQA	**Tornquist**	**29.25 292**		P	**P**	**22 48 35.7**	**+0.8**
TRQA					IAmb	IAmb	22 48 37.0
	comp=Z,14nm,1.4s						
PLCA	**Paso Flores**	**32.03 279**		LR	LR	23 02 29.7	
	comp=Z,53nm,18.2s,baz=156,slow=37						
QSPA	**South Pole Qui**	**34.60 180**		P	**P**	**22 49 21.0**	**-0.7**
	comp=Z,3.7nm,0.7s,baz=234,slow=5.2,SNR=8.6						
QSPA	**South Pole Qui**	**34.60 180**		P	**P**	**22 49 21.7**	**0.0**
CPUP	**Villa Florida**	**36.62 311**		P	**P**	**22 49 40.0**	**+0.8**
	comp=Z,7.8nm,0.9s,baz=135,slow=6.6,SNR=12						
CPUP				LR	LR	23 03 28.9	
	comp=Z,61nm,20.0s,baz=174,slow=34						
CPUP	**Villa Florida**	**36.62 311**		P	**P**	**22 49 39.8**	**+0.6**
BDFB	**Brasilia**	**43.06 330**		LR	LR	23 06 20.7	
	comp=Z,99nm,19.8s,baz=198,slow=33						
GO02	**Mina Guanaco**	**43.39 297**		P	**P**	**22 50 35.8**	**0.0**
LVC	**Limon Verde**	**45.18 300**		P	**P**	**22 50 51.8**	**+1.6**
BOSA	**Boshof**	**45.78 76**		P	**P**	**22 50 51.6**	**-3.0**
	comp=Z,1.6nm,0.9s,baz=236,slow=11,SNR=3.5						
BOSA				LR	LR	23 06 37.7	
	comp=Z,136nm,19.6s,baz=209,slow=32						
BOSA	**Boshof**	**45.78 76**		IAmb	IAmb	22 51 06.2	
	comp=Z,9.1nm,1.2s						
VNDA	**Vanda**	**46.98 183**		P	**P**	**22 51 03.3**	**0.0**
MNMC	**Minye Minye**	**48.47 301**		P	**P**	**22 51 15.5**	**-0.3**
LPAZ	**La Paz**	**50.22 305**		P	**P**	**22 51 31.1**	**+1.5**
	comp=Z,5.4nm,0.8s,baz=165,slow=5.8,SNR=20						
LPAZ				LR	LR	23 12 09.2	
	comp=Z,38nm,21.9s,baz=184,slow=35						
LPAZ	**La Paz**	**50.22 305**		P	**P**	**22 51 27.9**	**-1.7**
LPAZ				IAmb	IAmb	22 51 32.2	
	comp=Z,10nm,1.1s						
LPAZ				PcP	**PcP**	**22 52 50.9**	**+2.4**
SAML	**Samuel**	**54.59 314**		P	**P**	**22 52 00.5**	**-0.8**
SAML				IAmb	IAmb	22 52 03.0	
	comp=Z,11nm,1.2s						
DBIC	**Dimbokro**	**64.76 24**		LR	LR	23 14 40.6	
	comp=Z,54nm,20.2s,baz=154,slow=30						
ROSC	**El Rosal**	**71.70 310**		LR	LR	23 26 37.4	
	comp=Z,39nm,20.1s,baz=246,slow=37						
TORD	**Torodi Ar. Bea**	**72.66 29**		P	**P**	**22 54 01.3**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=200,slow=6.2,SNR=6.6						
SDV	**Santo Domingo**	**73.79 315**		P	**P**	**22 54 06.8**	**-0.7**
SDV				IAmb	IAmb	22 54 09.2	
	comp=Z,8.7nm,1.1s						

ATD	**Arta Tunnel**	**88.42 67**		LR	LR	23 31 27.9	
	comp=Z,28nm,21.8s,baz=227,slow=33						
ASAR	**Alice Springs**	**99.34 162**		P	**Pdif**	**22 56 15.6**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=185,slow=4.5,SNR=4.3						
ASAR				LR	LR	23 40 11.2	
	comp=Z,81nm,19.6s,baz=14,slow=35						
FINES	**FINESS Array B**	**123.98 28**		PKP	**PKPdf**	**23 01 29.5**	**0.0**
	comp=Z,2.1nm,1.0s,baz=197,slow=4.4,SNR=2.8						
YKA	**Yellowknife Ar**	**135.94 318**		PKP	**PKPdf**	**23 01 52.0**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=127,slow=2.4,SNR=7.3						
DLBC	**Dease Lake**	**140.15 307**		PKP	**PKiKP**	**23 02 02.2**	**-0.5**
	comp=Z,19nm,0.9s,baz=177,slow=0.2,SNR=3.7						
INK	**Inuvik**	**145.55 321**		PKPbc	**PKPdf**	**23 02 10.0**	**+0.7**
	comp=Z,4.3nm,0.8s,baz=88,slow=5.9,SNR=11						
INK	**Inuvik**	**145.55 321**			**PKPdf**	**23 02 09.5**	**+0.2**
DOT	**Dot Lake**	**148.46 311**			**PKPbc**	**23 02 18.0**	**0.0**
SCRK	**Sand Creek**	**148.51 311**			**PKPbc**	**23 02 19.0**	**+0.8**
RIDG	**Independent Ri**	**148.82 311**			**PKPbc**	**23 02 20.0**	**+1.1**
ILAR	**Eielson Array**	**149.92 312**		PKPbc	**PKPbc**	**23 02 21.8**	**+0.2**
	comp=Z,3.9nm,0.9s,baz=117,slow=1.5,SNR=27						
RND	**Reindeer**	**150.49 309**			**PKPbc**	**23 02 23.8**	**+0.7**
SONM	**Songino Array**	**150.60 86**		PKPbc	**PKPbc**	**23 02 24.1**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=223,slow=2.9,SNR=13						
KDAK	**Kodiak Island**	**150.72 297**		PKPbc	**PKPbc**	**23 02 23.6**	**0.0**
	comp=Z,3.4nm,0.7s,baz=49,slow=2.7,SNR=8.6						
KDAK	**Kodiak Island**	**150.72 297**		PKPbc	**PKPbc**	**23 02 24.1**	**+0.4**

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*AZER **09** 22:55:30.9±2.3, 38°.84N×55°.52E, h10km, ml3.6/1, Error ellipse: s-maj=27.1km s-min=15.3km az=28.0*
*NNC **09** 22:55:31.2±5.4, 38°.71N×55°.56E, h0km, mb3.8, Error ellipse: s-maj=55.2km s-min=16.7km az=54.0*
*TEH **09** 22:55:31.7, 38°.62N×55°.59E, h10km, ML3.3*
*ISCJB **09** 22:55:32.6±0.4, 38°.78N±0°.03×55°.47E±0°.03, h33km, Error ellipse: s-maj=4.9km s-min=3.0km az=15.9*
ISC 09 22:55:35.5±0.9, 38°.71N±0°.06×55°.48E±0°.05, h35km, n33, σ1§50/45, 2C-3D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMND	**Minoodasht**	**1.45 182**		*e*Pg	**Pn**	**22 55 57.3**	**-1.9**
IMND					IAmb	IAmb	22 56 18.5
	comp=Z,0.0nm,0.6s						
GYA0	**ALIBECK ARRAY**	**2.22 110**		Pg	**Pn**	**22 56 09.0**	**-0.7**
GYA0B	**ALIBECK ARRAY**	**2.22 110**		Lg	Lg	22 56 42.1	
SBZV	**Sabzevar**	**2.87 143**		*e*Pn	**Pn**	**22 56 18.3**	**-0.7**
SBZV					IAmb	IAmb	22 57 02.0
	comp=Z,0.0nm,0.6s						
IALA	**Alasht**	**3.38 220**		*e*Pn	**Pn**	**22 56 27.1**	**+1.2**
IANJ	**Anjilo**	**3.47 202**		*e*Pn	**Pn**	**22 56 27.8**	**+0.6**
IANJ					IAmb	IAmb	22 57 37.2
	comp=Z,892nm,1.3s						
IPAY	**Payeh**	**3.59 128**		*e*Pn	**Pn**	**22 56 29.8**	**+0.9**
IMYA	**Miami**	**4.37 121**		*e*Pn	**Pn**	**22 56 38.6**	**-0.9**
IMYA					IAmb	IAmb	22 58 12.3
	comp=Z,431nm,0.8s						
TNSJ	**Nastanj**	**4.83 169**		*e*Pn	**Pn**	**22 56 44.9**	**-0.8**
ASTR	**Astara**	**5.24 270**		P	**Pn**	**22 56 48.9**	**-2.3**
ASTR				S	**Sn**	**22 57 52.9**	**+2.5**
TKDS	**Koohdasht(Taba**	**5.26 165**		*e*Pn	**Pn**	**22 56 50.9**	**-0.8**
GBS	**Qobustan**	**5.36 292**		S	**Sn**	**22 57 54.2**	**+0.6**
ATGJ	**Altiaghaj**	**5.47 295**		P	**Pn**	**22 56 52.2**	**-2.5**
ATGJ				S	**Sn**	**22 57 56.0**	**-0.4**
GLBA	**Clilabad**	**5.55 278**		P	**Pn**	**22 56 54.6**	**-0.9**
GLBA				S	**Sn**	**22 57 59.9**	**+1.9**
SIZA	**Siyzn**	**5.58 297**		P	**Pn**	**22 56 53.8**	**-2.3**
SIZA				S	**Sn**	**22 57 58.6**	**-0.4**
LRK	**Lerik**	**5.58 272**		P	**Pn**	**22 56 55.5**	**-0.7**
LRK				S	**Sn**	**22 58 01.0**	**+1.8**
YRD	**Yardimli**	**5.66 274**		P	**Pn**	**22 56 56.0**	**-1.1**
YRD				S	**Sn**	**22 58 01.9**	**+0.9**
PQL	**Pirkuli**	**5.70 294**		P	**Pn**	**22 56 56.0**	**-1.7**
PQL				S	**Sn**	**22 58 01.9**	**-0.1**
QUBA	**Quba, Azerbaij**	**5.97 298**		S	**Sn**	**22 58 06.7**	**-1.9**
IML	**Ismayilli**	**5.99 293**		S	**Sn**	**22 58 09.1**	**0.0**
XNQ	**Khinaliq**	**6.15 296**		P	**Pn**	**22 57 01.3**	**-2.7**
XNQ				S	**Sn**	**22 58 13.2**	**0.0**
QSAR	**Qusar**	**6.20 299**		S	**Sn**	**22 58 13.7**	**-0.4**
QRD	**Qoradiz**	**6.39 279**		S	**Sn**	**22 58 17.5**	**-1.2**
BRDA	**Brd**	**6.60 286**		S	**Sn**	**22 58 21.9**	**-2.1**
AGDM	**Agdam**	**6.63 285**		S	**Sn**	**22 58 23.9**	**-0.8**
SEKA	**Sheki**	**6.83 294**		S	**Sn**	**22 58 27.7**	**-2.0**
GANJ	**Ganja**	**7.32 288**		S	**Sn**	**22 58 40.3**	**-1.5**
ORD	**Ordubad**	**7.41 275**		P	**Pn**	**22 57 19.1**	**-2.0**
ORD				S	**Sn**	**22 58 45.8**	**+1.8**
SBZ	**Shahbuz**	**7.75 278**		P	**Pn**	**22 57 24.1**	**-1.8**
SBZ				S	**Sn**	**22 58 54.8**	**+2.3**
QZX	**Qazax, Azerbai**	**8.12 290**		S	**Sn**	**22 59 02.8**	**+1.5**
AB31	**Akbulak array**	**11.02 15**		P	**Pn**	**22 58 11.7**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=202,slow=14,SNR=9.1						
AB31				⇑S	**Sn**	**23 00 13.7**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=198,slow=24,SNR=5.1						
AKTO	**Aktyubinsk**	**11.86 8**		⇓P	**Pn**	**22 58 23.6**	**+1.6**
	comp=Z,2.9nm,1.0s						
AKTO				⇓S	**Sn**	**23 00 33.5**	**+0.5**
	comp=Z,3.0nm,0.8s						
KK31	**Karatay Array**	**12.19 64**		⇓P	**Pn**	**22 58 25.9**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=121,slow=17,SNR=7.4						
KK31				⇑S	**Sn**	**23 00 40.6**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=230,slow=24,SNR=4.1						

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*BJI **09** 23:12:18.3±0.0, 20°.79N×146°.93E, h11km, mb4.7/45, mB5.0/31, Ms4.6/12, Ms7 4.3/11*
*IDC **09** 23:12:18.7±0.4, 20°.72N×146°.82E, h0km, mb4.5/30, mb1 4.5/33, mb1mx4.4/67, mbtmp4.5/33, ML4.1/3, MS3.5/17, Ms1 3.5/17, ms1mx3.3/52, Error ellipse: s-maj=15.1km s-min=10.5km az=69.0*
*ISCJB **09** 23:12:19.5±1.9, 20°.67N±0°.03×146°.80E±0°.05, h16km±13km, mb4.7/61, MS3.7/21, Error ellipse: s-maj=7.9km s-min=5.4km az=166.1*
*NEIC **09** 23:12:21.2±1.6, 20°.70N±0°.06×146°.8E±0°.1, h18km±3km, mb4.9/82*
*MOS **09** 23:12:21.6±0.9, 20°.69N×146°.72E, h30km, mb5.2/19, Error ellipse: s-maj=12.7km s-min=6.5km az=116.5*
*GCMT **09** 23:12:23.2±0.3, 20°.88N±0°.04×147°.02E±0°.03, h18km±1km, MW4.8/85, Moment Tensor Solution. s11,c11; s85,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.78±.15; $M_{\theta\theta}$0.73±.09; $M_{\phi\phi}$1.06±.09; $M_{r\theta}$0.18±.24; $M_{\theta\phi}$-0.77±.06; $M_{\phi r}$0.15±.21; Best double couple: $M_0$1.74400×10^{16} NP1:ϕ_s148.00000°, δ45.00000°, λ-80.00000°. NP2: ϕ_s314.00000°, δ45.00000°, λ-100.00000°. Principal axes: T 1.6790, Plg0.0000°, Azm231.0000°; N 0.1360, Plg7.0000°, Azm321.0000°; P -1.8090, Plg83.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 23:12:20.1±1.9, 20°.74N±0°.05×146°.81E±0°.07, h10km±11km, n184, σ1§51/175, mb4.8/90, MS3.7/21, 12C-2D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**4.14 194**		Pn	**Pn**	**23 13 22.7**	**-0.7**
SARN					**Sn**	**23 14 08.3**	**-3.7**
ANA2	**Anatahan**	**4.50 194**		Pn	**Pn**	**23 13 27.7**	**-0.7**
JCJ	**Chichijima**	**7.61 327**		Pn	**Pn**	**23 14 11.7**	**+0.6**
	7.1nm,0.3s,baz=90,slow=20,SNR=2.3						
JCJ				Sn	**Sn**	**23 15 29.2**	**-8.2**
	43nm,0.3s,baz=290,slow=23,SNR=6.7						
INU	**Inuyama**	**16.91 331**		P	**P**	**23 16 21.1**	**+2.2**
INU				IAmb	IAmb	23 16 22.8	
	comp=Z,72nm,0.9s						
MJAR	**Matsushiro Arr**	**17.44 336**		P	**Pn**	**23 16 24.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=153,slow=10,SNR=4.6						
MAJO	**Matsushiro**	**17.45 336**		*i* P	**P**	**23 16 24.6**	**-0.2**
PATS	**Pohnpei**	**17.75 140**			**Pn**	**23 16 27.9**	**+0.4**
PATS				IAmb	IAmb	23 16 32.0	
	comp=Z,89nm,1.0s						
PATS				S	Sn	23 19 33.8	-12
JNU	**Nakatsue**	**18.78 314**		P	**Pn**	**23 16 39.9**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=87,slow=4.3,SNR=3.8						
JNU	**Nakatsue**	**18.78 314**		P	**P**	**23 16 39.6**	**0.0**
JNU				IAmb	IAmb	23 16 41.6	
	comp=Z,90nm,1.5s						
JNU				S	**Sn**	**23 20 07.1**	**-3.2**
H11S3	**WAKE ISLAND Hy**	**18.86 93**		T	T	23 35 01.4	
	baz=280,slow=74,SNR=7.7						
H11S1	**WAKE ISLAND Hy**	**18.87 93**		T	T	23 34 56.2	
	baz=280,slow=74,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**18.87 90**		T	T	23 34 56.9	
	baz=276,slow=74,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**18.87 93**		T	T	23 34 56.8	
	baz=280,slow=74,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**18.87 90**		T	T	23 34 57.9	
	baz=276,slow=74,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**18.89 90**		T	T	23 34 59.5	
	baz=276,slow=74,SNR=4.9						
MANU	**Manus Island**	**22.65 179**		P	**P**	**23 17 22.1**	**+0.5**
KSRS	**Korea Array**	**23.37 320**		P	**P**	**23 17 29.1**	**+0.2**
	comp=Z,7.7nm,0.9s,baz=151,slow=8.9,SNR=10						
KSRS				LR	LR	23 27 08.4	
	comp=Z,140nm,18.5s,baz=126,slow=38						
JKA	**Kamikawa-asahi**	**23.57 352**		P	**P**	**23 17 32.7**	**+1.9**
ASAJ	**Asahikawa**	**23.57 352**		P	**P**	**23 17 32.7**	**+1.9**
	comp=Z,21nm,1.0s,baz=128,slow=30,SNR=3.8						
TATO	**Taipei**	**23.70 285**		P	**P**	**23 17 31.7**	**-0.6**
SSLB	**Suanglung**	**24.11 282**		P	**P**	**23 17 38.5**	**+2.3**
SSLB				IAmb	IAmb	23 17 40.6	
	comp=Z,46nm,1.4s						
DAV	**Davao City (W)**	**24.64 240**		LR	LR	23 26 07.5	
	comp=Z,244nm,20.4s,baz=84,slow=34						
TGY	**Tagaytay City**	**25.54 259**		P	**P**	**23 17 48.7**	**-0.5**
	comp=Z,100nm,0.3s,baz=128,slow=12,SNR=2.9						
USRK	**Ussuriysk Ar.**	**26.44 336**		P	**P**	**23 17 57.7**	**+0.6**
	comp=Z,12nm,1.0s,baz=157,slow=8.5,SNR=7.1						
USRK				LR	LR	23 28 28.7	
	comp=Z,75nm,20.6s,baz=166,slow=37						
NJ2	**Nanjing**	**27.38 300**		*e*P	**P**	**23 18 05.5**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KLR	**Kul'dur**	**30.87 341**	*c*	*i* P	**P**	**23 18 37.9**	**+1.4**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KLR	**Kul'dur**	**30.87 341**		P	**P**	**23 18 37.4**	**+0.9**
	comp=Z,3.9nm,0.9s,baz=138,slow=8.3,SNR=8.7						
KLR				PcP	**PcP**	**23 21 34.0**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=120,slow=2.7,SNR=4.0						
PETK	**Petropavlovsk-**	**33.38 12**		LR	LR	23 30 11.1	
	comp=Z,116nm,21.2s,baz=235,slow=32						
HIA	**Hailar**	**35.71 329**		*i* P	**P**	**23 19 18.8**	**0.0**
HIA				pmax	pmax		
	comp=Z,59nm,1.0s						
XAN	**Xi'an**	**35.95 300**		P	**P**	**23 19 20.4**	**-0.7**
XAN				pP	pwP	23 19 30.7	+1.3
XAN				pmax	pmax		
	comp=Z,7.0nm,1.8s						
HHC	**Hu-ho-hao-te**	**35.98 312**		P	**P**	**23 19 23.0**	**+1.7**
HHC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZEA	**Zeya**	**36.18 340**		*e*P	**P**	**23 19 23.4**	**+0.7**
ZEA				pmax	pmax		
	comp=Z,12nm,1.0s						
MTN	**Manton Dam**	**36.76 206**		P	**P**	**23 19 27.1**	**-0.9**
MTN				IAmb	IAmb	23 19 42.7	
	comp=Z,18nm,1.4s						
SBUM	**Sibu**	**38.30 246**		P	**P**	**23 19 39.1**	**-2.1**
LZH	**Lanzhou**	**40.43 302**		⇑P	**P**	**23 20 00.3**	**+1.4**
LZH				pP	sP	23 20 03.7	+2.8
LZH				sP	pwP	23 20 06.6	-0.7
LZH				pmax	pmax		
	comp=Z,27nm,1.0s						
LZH				pmax	pmax		
	comp=Z,89nm,4.0s						
LZH				LR	LR		
	comp=Z,160nm,13.6s						
LZH				LR	LR		
	comp=Z,190nm,12.5s						
LZH				LR	LR		
	comp=Z,220nm,15.2s						
KMI	**Kunming**	**40.69 285**		P	**P**	**23 20 03.0**	**+1.7**
KMI				pP	pwP	23 20 07.3	-2.5
KMI				sP	sP	23 20 09.3	+6.1
KMI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ULN	**Ulaanbaatar**	**41.86 320**	*ce*	P	**P**	**23 20 11.7**	**+1.2**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.7s						
ULN	**Ulaanbaatar**	**41.86 320**		P	**P**	**23 20 10.1**	**-0.5**
WRAB	**Tennant Creek**	**42.23 198**	*ce*	P	**P**	**23 20 12.9**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,18nm,1.7s						
WB2	**Warramunga Arr**	**42.24 198**		P	**P**	**23 20 13.7**	**0.0**
WRA	**Warramunga Arr**	**42.24 198**		P	**P**	**23 20 13.8**	**+0.1**
	comp=Z,3.4nm,0.7s,baz=19,slow=8.5,SNR=18						
WRA				PcP	**PcP**	**23 22 09.0**	**+1.3**
	comp=Z,5.1nm,0.8s,baz=4.3,slow=3.3,SNR=12						
WRA				LR	LR	23 37 57.1	
	comp=Z,158nm,21.1s,baz=0.0,slow=36						
SONM	**Songino Array**	**42.24 319**		P	**P**	**23 20 14.5**	**+0.8**
	comp=Z,3.1nm,0.8s,baz=113,slow=7.0,SNR=16						
SONM				PcP	**PcP**	**23 22 08.6**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=140,slow=4.0,SNR=5.2						
SEY	**Seymchan**	**42.33 4**	*i*	P	**P**	**23 20 14.0**	**0.0**
SEY	**Seymchan**	**42.33 4**		P	**P**	**23 20 15.3**	**+1.3**
	comp=Z,4.0nm,0.7s,baz=125,slow=23,SNR=5.2						
YAK	**Yakutsk**	**42.93 348**		*e*P	**P**	**23 20 18.9**	**+0.1**
YAK				*e*		23 21 57.7	
YAK				*e*S	**S**	**23 26 43.1**	**-0.5**
YAK				*e**SS

BILL	**Bilibino**	**48.84**	**10**	P	**P**	**23 21 05.7**	**+0.3**
BILL				IAmb	IAmb	23 21 19.9	
	comp=Z,17nm,1.4s						
SHL	**Shillong**	**50.44**	**287**	P	**P**	**23 21 17.4**	**-1.1**
SHL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SHL	**Shillong**	**50.44**	**287**	P	**P**	**23 21 17.4**	**-1.1**
SHL				IAmb	IAmb	23 21 19.9	
	comp=Z,7.5nm,0.7s						
LSA	**Lhasa**	**50.73**	**292**	P	**P**	**23 21 19.4**	**-1.6**
LSA				pmax	pmax		
	comp=Z,19nm,0.9s						
LSA	**Lhasa**	**50.73**	**292**	P	**P**	**23 21 19.4**	**-1.6**
LSA				IAmb	IAmb	23 21 24.2	
	comp=Z,19nm,0.9s						
TIXI	**Tiksi**	**51.98**	**353**	*i* P	**P**	**23 21 28.8**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.2s						
STKA	**Stephens Creek**	**52.56**	**186**	P	**P**	**23 21 33.7**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=344,slow=8.4,SNR=5.3						
STKA				LR	LR	23 45 20.7	
	comp=Z,74nm,20.0s,baz=21,slow=38						
WMQ	**Urumqi**	**53.80**	**310**	*e*P	**P**	**23 21 43.4**	**+0.3**
WMQ				sP	pwP	23 21 52.9	+1.6
WMQ				pmax	pmax		
	comp=Z,22nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,130nm,4.7s						
WMQ				LR	LR		
	comp=Z,190nm,16.3s						
WMQ				LR	LR		
	comp=Z,290nm,17.5s						
WMQ				LR	LR		
	comp=Z,170nm,17.1s						
WMQ	**Urumqi**	**53.80**	**310**	P	**P**	**23 21 42.6**	**-0.5**
WMQ						23 22 47.8	
WMQ				pmax	pmax		
	comp=Z,30nm,1.1s						
WMQ	**Urumqi**	**53.80**	**310**	P	**P**	**23 21 42.6**	**-0.5**
WMQ				PcP	**PcP**	**23 22 47.8**	**-1.1**
TAPN	**Taplejung**	**53.96**	**289**	*e*P	**P**	**23 21 45.8**	**+1.0**
	comp=Z,88nm,1.2s						
ODAN	**Odare**	**54.30**	**289**	*e*P	**P**	**23 21 48.3**	**+1.1**
	comp=Z,63nm,1.0s						
RAMN	**Ramite**	**54.99**	**289**	*e*P	**P**	**23 21 52.8**	**+0.6**
	comp=Z,38nm,0.9s						
JIRN	**Jiri**	**55.26**	**290**	*e*P	**P**	**23 21 55.8**	**+1.5**
	comp=Z,107nm,0.9s						
GUN	**Gumba**	**55.50**	**290**	*e*P	**P**	**23 21 57.3**	**+1.3**
	comp=Z,105nm,1.2s						
PKI	**Pulchoki**	**55.96**	**290**	*e*P	**P**	**23 21 59.9**	**+0.6**
	comp=Z,64nm,1.2s						
PKIN	**Phulchoki**	**55.97**	**290**	*e*P	**P**	**23 22 00.1**	**+0.8**
	comp=Z,55nm,1.3s						
KKN	**Kakani**	**56.05**	**290**	*e*P	**P**	**23 22 00.9**	**+1.1**
	comp=Z,58nm,1.0s						
DMN	**Daman**	**56.22**	**290**	*e*P	**P**	**23 22 02.1**	**+1.0**
	comp=Z,62nm,1.1s						
GKN	**Gorkha**	**56.58**	**290**	*e*P	**P**	**23 22 04.4**	**+0.9**
	comp=Z,135nm,1.1s						
ZAA0	**Zalesovo Array**	**57.06**	**322**	P	**P**	**23 22 06.5**	**+0.2**
ZAA0				PcP	**PcP**	**23 23 00.8**	**-0.4**
ZALV	**Zalesovo Beam**	**57.06**	**322**	P	**P**	**23 22 06.5**	**+0.2**
	comp=Z,22nm,0.7s,baz=106,slow=7.4,SNR=91						
ZALV				PcP	**PcP**	**23 23 01.3**	**+0.2**
	comp=Z,5.2nm,0.7s,baz=121,slow=4.3,SNR=5.4						
KDAK	**Kodiak Island**	**57.08**	**34**	LR	LR	23 43 06.0	
	comp=Z,68nm,20.4s,baz=251,slow=32						
DANN	**Dangsing**	**57.30**	**291**	*e*P	**P**	**23 22 10.1**	**+1.3**
	comp=Z,146nm,0.9s						
KOLN	**Koldanda**	**57.52**	**290**	*e*P	**P**	**23 22 11.1**	**+0.8**
	comp=Z,62nm,1.1s						
MK31	**Makanchi Array**	**57.83**	**313**	IAmb	IAmb	23 22 13.6	
	comp=Z,8.3nm,0.8s						
MKAR	**Makanchi Array**	**57.83**	**313**	P	**P**	**23 22 12.6**	**+0.7**
	comp=Z,11nm,0.8s,baz=93,slow=8.7,SNR=55						
MAKZ	**Makanchi**	**58.05**	**313**	P	**P**	**23 22 14.0**	**+0.6**
MAKZ				pmax	pmax		
	comp=Z,18nm,0.9s						
MAKZ	**Makanchi**	**58.05**	**313**	P	**P**	**23 22 14.0**	**+0.6**
MAKZ				IAmb	IAmb	23 22 15.2	
	comp=Z,18nm,0.9s						
KTH	**Kantishna Hill**	**59.34**	**27**	P	**P**	**23 22 23.1**	**+0.9**
KTH				IAmb	IAmb	23 22 42.2	
	comp=Z,8.1nm,1.1s						
TRF	**Thorofare Moun**	**59.59**	**28**	P	**P**	**23 22 25.1**	**+1.0**
TRF				IAmb	IAmb	23 22 30.1	
	comp=Z,8.5nm,1.2s						
KURK	**Kurchatov**	**60.47**	**317**	*ce*P	**P**	**23 22 30.2**	**+0.1**
KURK				pmax	pmax		
	comp=Z,25nm,0.8s						
KURK	**Kurchatov**	**60.47**	**317**	P	**P**	**23 22 29.7**	**-0.4**
KURBB	**Kurchatov Arra**	**60.53**	**317**	P	**P**	**23 22 30.9**	**+0.5**
	comp=Z,22nm,0.8s,baz=94,slow=7.8,SNR=130						
TARG	**Taragay, Kyrgy**	**61.02**	**307**	P	**P**	**23 22 33.9**	**-0.6**
TARG				IAmb	IAmb	23 22 37.2	
	comp=Z,12nm,1.0s						
ILAR	**Eielson Array**	**61.36**	**27**	P	**P**	**23 22 35.4**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=254,slow=4.1,SNR=11						
RIDG	**Independent Ri**	**62.03**	**28**	P	**P**	**23 22 40.7**	**+0.2**
RIDG				IAmb	IAmb	23 22 47.4	
	comp=Z,15nm,1.4s						
GLB	**Gilahina Butte**	**62.15**	**31**	P	**P**	**23 22 42.8**	**+1.4**
GLB				IAmb	IAmb	23 22 49.0	
	comp=Z,15nm,1.4s						
VRDI	**Verde Repeater**	**62.29**	**31**	IAmb	IAmb	23 22 44.5	
	comp=Z,9.5nm,1.4s						
NRN	**Naryn**	**62.39**	**307**	IAmb	IAmb	23 22 48.2	
	comp=Z,12nm,1.4s						
SCRK	**Sand Creek**	**62.45**	**28**	P	**P**	**23 22 44.0**	**+0.6**
SCRK				IAmb	IAmb	23 22 50.1	
	comp=Z,10nm,1.3s						
KSH	**Kashi**	**62.56**	**305**	P	**P**	**23 22 48.5**	**+3.9**
KSH				pP	pwP	23 22 53.6	+0.7
KSH				PcP	**PcP**	**23 23 27.1**	**+3.4**
KSH				PcS	**PcS**	**23 27 28.4**	**+1.3**
KSH				S	**S**	**23 31 16.1**	**+3.4**
KSH				ScS	**ScS**	**23 32 37.6**	**+0.1**
KSH				SS	**SS**	**23 35 22.4**	**+5.8**
KSH				pmax	pmax		
	comp=Z,43nm,1.1s						
KSH				pmax	pmax		
	comp=Z,290nm,4.4s						
KSH				LR	LR		
	comp=Z,170nm,9.1s						
KSH				LR	LR		
	comp=Z,350nm,5.7s						
KSH				LR	LR		
	comp=Z,160nm,5.8s						
TKM2	**Tokmak 2**	**62.59**	**308**	P	**P**	**23 22 46.1**	**+1.3**
	SNR=14						
KZA	**Kyzart**	**62.91**	**308**	P	**P**	**23 22 49.2**	**+2.0**
	SNR=7.8						
KBK	**Karagaybulak**	**63.09**	**308**	P	**P**	**23 22 49.5**	**+1.4**
	SNR=8.0						
USP	**Ospenovka**	**63.37**	**309**	P	**P**	**23 22 50.7**	**+0.9**
	SNR=5.2						
AAK	**Ala-Archa**	**63.42**	**308**	*ce*P	**P**	**23 22 49.6**	**-0.7**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
AAK	**Ala-Archa**	**63.42**	**308**	P	**P**	**23 22 50.6**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=109,slow=6.8,SNR=8.0						
AAK	**Ala-Archa**	**63.42**	**308**	P	**P**	**23 22 50.0**	**-0.3**
UCH	**Uchtor**	**63.44**	**308**	P	**P**	**23 22 52.5**	**+1.7**
	SNR=12						
EKS2	**Erkin-Say**	**63.95**	**308**	P	**P**	**23 22 55.2**	**+1.4**
	SNR=5.4						
AML	**Almayashu**	**64.06**	**308**	P	**P**	**23 22 56.8**	**+2.0**
	SNR=8.6						
DAWY	**Dawson**	**64.46**	**28**	IAmb	IAmb	23 23 16.4	
	comp=Z,8.3nm,1.5s						
NIL	**Nilore**	**65.47**	**298**	P	**P**	**23 23 03.7**	**0.0**
NIL				pmax	pmax		
	comp=Z,26nm,1.0s						
NIL	**Nilore**	**65.47**	**298**	P	**P**	**23 23 03.7**	**0.0**
BVAR	**Borovoye Array**	**65.59**	**320**	P	**P**	**23 23 04.7**	**+0.7**
	comp=Z,26nm,0.6s,baz=89,slow=7.3,SNR=184						
BRVK	**Borovoye**	**65.65**	**320**	*ce*P	**P**	**23 23 04.9**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,47nm,1.3s						
BRVK	**Borovoye**	**65.65**	**320**	P	**P**	**23 23 05.2**	**+0.7**
BKZ	**Black Stump Fm**	**65.75**	**155**	P	**P**	**23 23 06.3**	**+1.0**
BKZ				IAmb	IAmb	23 23 06.5	
	comp=Z,12nm,0.9s						
INK	**Inuvik**	**67.09**	**23**	P	**P**	**23 23 13.2**	**-0.2**
	comp=Z,3.7nm,1.0s,baz=242,slow=9.5,SNR=5.7						
RPZ	**Rata Peaks**	**67.89**	**161**	P	**P**	**23 23 17.6**	**-1.1**
	comp=Z,12nm,1.0s,baz=42,slow=23,SNR=4.7						
RPZ	**Rata Peaks**	**67.89**	**161**	P	**P**	**23 23 18.3**	**-0.5**
KBL	**Kabul**	**68.75**	**300**	P	**P**	**23 23 25.1**	**+0.3**
KBL				pmax	pmax		
	comp=Z,13nm,0.8s						
KBL	**Kabul**	**68.75**	**300**	P	**P**	**23 23 25.1**	**+0.3**
SVE	**Sverdlovsk**	**70.83**	**324**	∥*e*P	**P**	**23 23 38.0**	**+1.2**
SVE				pmax	pmax		
	comp=Z,33nm,1.1s						
ARU	**Arti**	**72.02**	**324**	*d* iP	**P**	**23 23 44.3**	**+0.2**
ARU						23 26 20.8	
ARU				S	**S**	**23 33 05.8**	**+0.1**
ARU				SS	**SS**	**23 37 36.3**	**-5.7**
ARU				pmax	pmax		
	comp=Z,25nm,0.7s						
ARU	**Arti**	**72.02**	**324**	P	**P**	**23 23 44.3**	**+0.2**
	comp=Z,7.1nm,0.6s,baz=76,slow=3.0,SNR=45						
ARU	**Arti**	**72.02**	**324**	P	**P**	**23 23 44.4**	**+0.3**
AKTO	**Aktyubinsk**	**73.55**	**318**	LR	LR	23 58 27.3	
	comp=Z,36nm,19.3s,baz=164,slow=38						
YKA	**Yellowknife Ar**	**75.70**	**28**	P	**P**	**23 24 05.6**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=291,slow=5.6,SNR=18						
YKA				LR	LR	23 55 22.3	
	comp=Z,7.4nm,21.6s,baz=299,slow=34						
PRGR	**Permogore**	**77.14**	**331**	∥ *i*P	**P**	**23 24 14.6**	**+1.0**
PRGR				pmax	pmax		
	comp=Z,28nm,0.7s						
TMCR	**Tamitsa**	**79.37**	**335**	*e*P	**P**	**23 24 26.2**	**+0.2**
TMCR				pmax	pmax		
	comp=Z,14nm,0.6s						
CMB	**Columbia Colle**	**79.64**	**53**	P	**P**	**23 24 28.5**	**+0.4**
CMB				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CMB	**Columbia Colle**	**79.64**	**53**	P	**P**	**23 24 28.5**	**+0.4**
TULEG	**Thule**	**80.56**	**8**	IAmb	IAmb	23 24 34.1	
	comp=Z,16nm,1.1s						
RYN	**Ryan**	**80.83**	**52**	IAmb	IAmb	23 24 37.4	
	comp=Z,12nm,1.4s						
ARCES	**ARCESS Array B**	**80.88**	**342**	P	**P**	**23 24 34.4**	**+0.3**
	comp=Z,4.3nm,0.9s,baz=68,slow=9.6,SNR=8.2						
ARCES				LR	LR	00 04 07.3	
	comp=Z,30nm,21.9s,baz=166,slow=38						
NVAR	**Mina Array Bea**	**81.06**	**52**	P	**P**	**23 24 37.1**	**+1.1**
	comp=Z,3.4nm,0.9s,baz=270,slow=5.8,SNR=17						
NVAR				LR	LR	23 52 37.9	
	comp=Z,50nm,20.6s,baz=288,slow=30						
NV11	**Mina Array Sit**	**81.17**	**52**	P	**P**	**23 24 37.1**	**+0.7**
ELK	**Elko**	**82.50**	**49**	IAmb	IAmb	23 24 45.5	
	comp=Z,8.3nm,1.2s						
VRH	**Novokhopyorsk**	**83.09**	**322**	*e*P	**P**	**23 24 44.7**	**-1.3**
VRH				pmax	pmax		
	comp=Z,20nm,1.0s						
R11A	**Troy Canyon, C**	**83.10**	**52**	IAmb	IAmb	23 24 48.7	
	comp=Z,7.7nm,1.4s						
LPSR	**Galich'ya Gora**	**84.05**	**324**	*e*P	**P**	**23 24 50.6**	**-0.3**
LPSR				pmax	pmax		
	comp=Z,50nm,0.9s						
YNR	**Norris Junctio**	**84.12**	**44**	P	**P**	**23 24 51.2**	**-0.6**
YNR				PP	**PP**	**23 27 59.9**	**-5.7**
OBN	**Obninsk**	**84.14**	**327**	LR	LR	00 06 15.0	
	comp=Z,10nm,18.5s,baz=6.5,slow=38						
DUG	**Duwayl, Tcele**	**84.42**	**49**	IAmb	IAmb	23 24 55.2	
	comp=Z,13nm,1.5s						
VSR	**Storozhevoye**	**84.53**	**323**	*e*P	**P**	**23 24 53.2**	**-0.2**
VSR				pmax	pmax		
	comp=Z,20nm,1.0s						
FFC	**Flin Flon**	**84.81**	**33**	*ce*P	**P**	**23 24 56.2**	**+1.4**
FFC	**Flin Flon**	**84.81**	**33**	P	**P**	**23 24 55.1**	**+0.3**
FFC				IAmb	IAmb	23 24 56.4	
	comp=Z,13nm,1.2s						
FFC				PP	**PP**	**23 28 05.2**	**-5.3**
KBZ	**Khabaz**	**85.45**	**315**	*i* P	**P**	**23 24 58.3**	**+0.2**
FINES	**FINESS Array B**	**85.47**	**336**	P	**P**	**23 24 57.5**	**-0.4**
	comp=Z,7.5nm,0.6s,baz=64,slow=4.9,SNR=32						
FINES				LR	LR	00 05 51.3	
	comp=Z,21nm,20.2s,baz=12,slow=38						
PDAR	**Pinedale Array**	**85.65**	**46**	P	**P**	**23 24 59.5**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=251,slow=2.8,SNR=3.5						
PDAR				LR	LR	23 55 49.2	
	comp=Z,43nm,20.2s,baz=348,slow=30						
NEY	**Neytrino**	**85.76**	**315**	*i* P	**P**	**23 24 59.7**	**-0.3**
NEY				pmax	pmax		
	comp=Z,5.0nm,1.2s						
U15A	**North Rim**	**86.25**	**53**	IAmb	IAmb	23 25 04.9	
	comp=Z,9.5nm,1.2s						
Y14A	**Wickenburg**	**86.67**	**55**	IAmb	IAmb	23 25 06.4	
	comp=Z,7.4nm,1.1s						
WUAZ	**Wupatki**	**87.29**	**53**	IAmb	IAmb	23 25 10.5	
	comp=Z,13nm,1.2s						
PV21	**Cone Mtn., Par**	**87.80**	**50**	IAmb	IAmb	23 25 11.9	
	comp=Z,7.4nm,1.0s						
PV22	**Blue Mesa, Par**	**87.94**	**49**	IAmb	IAmb	23 25 12.4	
	comp=Z,10nm,1.3s						
PV16	**Nyswonger Mesa**	**87.94**	**50**	IAmb	IAmb	23 25 12.5	
	comp=Z,9.6nm,1.1s						
PV18	**Skein Mesa, Pa**	**87.98**	**50**	IAmb	IAmb	23 25 12.5	
	comp=Z,8.7nm,1.0s						
PV03	**Paradox Valley**	**88.02**	**50**	IAmb	IAmb	23 25 12.7	
	comp=Z,12nm,1.2s						
PV13	**Radium Mtn., P**	**88.08**	**50**	IAmb	IAmb	23 25 12.9	
	comp=Z,10.0nm,1.2s						
SMCO	**Snowmass**	**88.95**	**48**	IAmb	IAmb	23 25 17.8	
	comp=Z,4.5nm,0.9s						
AKASG	**Malin Array Be**	**90.22**	**326**	*ce*P	**P**	**23 25 21.1**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HFS	**Hagfors**	**90.88**	**339**	P	**P**	**23 25 22.9**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=134,slow=4.3,SNR=8.3						
NOA	**NORSAR Array B**	**91.02**	**340**	P	**P**	**23 25 23.6**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=39,slow=4.5,SNR=3.1						
ANMO	**Albuquerque**	**91.18**	**52**	*ce*P	**P**	**23 25 27.1**	**+1.1**
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ANMO	**Albuquerque**	**91.18**	**52**	P	**P**	**23 25 26.2**	**+0.2**
BRTR	**Keskin Array B**	**93.44**	**315**	P	**P**	**23 25 35.5**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=69,slow=4.1,SNR=3.1						
BRTR				LR	LR	00 12 01.1	
	comp=Z,21nm,18.5s,baz=76,slow=38						
TXAR	**Lajitas Array**	**95.82**	**56**	P	**P**	**23 25 46.4**	**-0.9**
	comp=Z,0.9nm,1.1s,baz=302,slow=5.2,SNR=4.2						
SCHQ	**Schefferville**	**99.42**	**19**	LR	LR	00 09 48.8	
	comp=Z,29nm,21.9s,baz=342,slow=35						
QSPA	**South Pole Qui**	**110.54**	**180**	PKiKP	**PKiKP**	**23 30 52.2**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=302,slow=2.1,SNR=6.8						
TORD	**Torodi Ar. Bea**	**131.94**	**312**	PKP	**PKPdf**	**23 31 35.1**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=76,slow=1.0,SNR=4.8						
PLCA	**Paso Flores**	**142.58**	**131**	PKP	**PKPdf**	**23 31 52.8**	**-0.9**
	comp=Z,4.9nm,1.0s,baz=164,slow=1.7,SNR=5.6						
PB11	**IPOC Station P**	**145.82**	**95**		**PKPdf**	**23 31 58.9**	**-1.1**
LPAZ	**La Paz**	**146.61**	**85**	PKP2	**PKPdf**	**23 32 01.5**	**-0.5**
LPAZ	**La Paz**	**146.61**	**88**	PKPbc	**PKPbc**	**23 32 03.4**	**-0.2**
	comp=Z,9.8nm,0.9s,baz=292,slow=2.4,SNR=18						
LPAZ	**La Paz**	**146.61**	**88**		**PKPdf**	**23 32 01.6**	**-0.5**
LPAZ					**PKPab**	**23 32 04.9**	**+0.2**
LVC	**Limon Verde**	**146.80**	**100**	PKiKP	**PKPdf**	**23 32 00.2**	**-1.7**
LVC	**Limon Verde**	**146.80**	**100**	PKPbc	**PKPab**	**23 32 04.6**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=103,slow=4.1,SNR=4.0						
LVC	**Limon Verde**	**146.80**	**100**		**PKPdf**	**23 32 00.2**	**-1.7**
CFA	**Coronel Fontan**	**146.87**	**116**	PKPbc	**PKPbc**	**23 32 03.0**	**-0.3**
	comp=Z,4.4nm,1.0s,baz=232,slow=12,SNR=4.2						
SAML	**Samuel**	**148.79**	**72**	PKP2	**PKPbc**	**23 32 08.8**	**0.0**
SAML	**Samuel**	**148.79**	**72**		**PKPbc**	**23 32 08.8**	**0.0**
SIV	**San Ignacio**	**153.13**	**85**	PKP	**PKPdf**	**23 32 12.0**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=15,slow=7.1,SNR=3.8						
SIV				PKPbc	**PKiKP**	**23 32 19.4**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=122,slow=2.2,SNR=8.9						
SIV				PKPab	**PKPab**	**23 32 30.3**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=328,slow=6.7,SNR=5.2						
BDFB	**Brasilia**	**165.03**	**73**	PKP	**PKPdf**	**23 32 27.0**	**+1.4**
	comp=Z,1.1nm,0.5s,baz=290,slow=6.8,SNR=3.6						

*ISCJB **09** 23:12:30.0±0.6, 24.°92N±0.°02×122.°51E±0.°02, h10km±4km, Error ellipse: s-maj=4.5km s-min=3.0km az=34.9*
*JMA **09** 23:12:31.8±0.2, 24.°79N×122.°46E, h27km, M2.8*
*TAP **09** 23:12:31.1, 24.°92N×122.°47E, h11km, ML3.1, C*
ISC 09 23:12:30.3±1.1, 24°89N±0.°03×122°49E±0.°02, h12km±9km, n59, σ0°51/103, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.47**	**224**	P	**Pb**	**23 12 40.7**	**+0.3**
	baz=220						
EOS1				S	**Sb**	**23 12 47.7**	**+0.5**
	baz=220						

TWB1	**Santiao Chiao**	**0.47**	**285**	*i* P	**Pg**	**23 12 39.9**	**+0.4**
	baz=281						
TWB1				*i* S	**Sg**	**23 12 45.9**	**+0.2**
	baz=281						
NTC	**Toucheng**	**0.60**	**267**	P	**Pg**	**23 12 41.7**	**-0.2**
	baz=263						
JYNG	**Yonagunijimaku**	**0.60**	**136**	P	**Pb**	**23 12 42.8**	**+0.1**
JYNG				*e*S	**Sb**	**23 12 50.8**	**-0.4**
TIPB	**Shuangxi**	**0.60**	**278**	P	**Pg**	**23 12 42.6**	**+0.5**
	baz=275						
TIPB				S	**Sg**	**23 12 50.8**	**+0.7**
	baz=275						
YOJ	**Yonaguni jima**	**0.64**	**131**	P	**Pb**	**23 12 43.6**	**+0.3**
YOJ				*e*S	**Sg**	**23 12 51.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.64**	**131**	⇑P	**Pb**	**23 12 43.8**	**+0.4**
	baz=132						
YOJ				S	**Sn**	**23 12 54.0**	**-1.1**
	baz=132						
TWC	**Suao**	**0.64**	**245**	⇑ *i*P	**Pg**	**23 12 42.9**	**+0.1**
	baz=240						
TWC				*i* S	**Sg**	**23 12 51.1**	**-0.2**
	baz=240						
NWF	**Wu-fen Shan**	**0.67**	**286**	*i* P	**Pg**	**23 12 43.5**	**+0.2**
	baz=283						
NWF				*i* S	**Sg**	**23 12 52.2**	**+0.1**
	baz=283						
WFSB	**Wu-fen Shan**	**0.67**	**286**	P	**Pg**	**23 12 42.2**	**-1.1**
	baz=283						
WFSB				S	**Sg**	**23 12 52.6**	**+0.6**
	baz=283						
TWE	**Neicheng**	**0.76**	**258**	*i* P	**Pg**	**23 12 44.8**	**-0.3**
	baz=254						
TWE				S	**Sb**	**23 12 55.9**	**+0.1**
	baz=254						
SLBB	**Yuanshan**	**0.78**	**261**	P	**Pg**	**23 12 45.3**	**-0.1**
	baz=257						
SLBB				S	**Sb**	**23 12 57.4**	**+1.0**
	baz=257						
NANB	**Nanao**	**0.81**	**236**	*i* P	**Pg**	**23 12 45.8**	**-0.2**
	baz=233						
NANB				S	**Sb**	**23 12 57.4**	**+0.3**
	baz=233						
ENA	**Nanau**	**0.81**	**236**	*i* P	**Pg**	**23 12 46.0**	**-0.1**
	baz=233						
ENA				*i* S	**Sb**	**23 12 57.4**	**+0.1**
	baz=233						
TWA	**Mucha**	**0.82**	**277**	*e*P	**Pg**	**23 12 45.9**	**-0.4**
	baz=274						
TWA				S	**Sg**	**23 12 57.1**	**+0.1**
	baz=274						
PCYT	**Pengchaiyu**	**0.83**	**333**	P	**Pg**	**23 12 46.1**	**-0.3**
	baz=333						
YM08	**YM08**	**0.87**	**291**	P	**Pg**	**23 12 46.6**	**-0.5**
	baz=288						
YM08				*e*S	**Sb**	**23 12 59.4**	**+0.6**
	baz=288						
ENTT	**Nioudou**	**0.87**	**254**	P	**Pg**	**23 12 47.2**	**+0.1**
	baz=251						
ENTT				S	**Sb**	**23 12 58.6**	**-0.3**
	baz=251						
YM01	**YM01**	**0.87**	**288**	P	**Pg**	**23 12 46.3**	**-0.8**
	baz=285						
YM11	**YM11**	**0.87**	**289**	P	**Pg**	**23 12 46.6**	**-0.6**
	baz=286						
NHDH	**Xindian Distri**	**0.88**	**275**	*e*P	**Pg**	**23 12 47.1**	**-0.1**
	baz=272						
NHDH				*e*S	**Sb**	**23 12 59.0**	**-0.1**
	baz=272						
YM05	**YM05**	**0.88**	**289**	*e*P	**Pg**	**23 12 46.9**	**-0.5**
	baz=286						
YM05				*e*S	**Sb**	**23 12 60.0**	**+0.7**
	baz=286						
YM10	**YM10**	**0.88**	**288**	P	**Pg**	**23 12 46.3**	**-1.0**
	baz=285						
YM10				*e*S	**Sg**	**23 12 59.2**	**+0.3**
	baz=285						
NWLT	**Wulai**	**0.90**	**263**	*e*P	**Pg**	**23 12 47.1**	**-0.6**
	baz=260						
NWLT				*e*S	**Sn**	**23 13 01.5**	**-0.1**
	baz=260						
YM04	**YM04**	**0.90**	**287**	*e*P	**Pg**	**23 12 47.9**	**+0.2**
	baz=285						
YM04				*e*S	**Sg**	**23 12 59.5**	**-0.1**
	baz=285						
TAP	**Taipei**	**0.90**	**280**	*e*P	**Pg**	**23 12 47.1**	**-0.6**
	baz=277						
TAP				S	**Sg**	**23 12 59.0**	**-0.6**
	baz=277						
TATO	**Taipei**	**0.91**	**276**	*e*P	**Pg**	**23 12 47.6**	**-0.2**
	baz=273						
TATO				*e*S	**Sg**	**23 12 59.5**	**-0.3**
	baz=273						
NDT	**Datong Townshi**	**0.93**	**253**	P	**Pb**	**23 12 48.4**	**+0.1**
	baz=250						
NDT				*e*S	**Sn**	**23 13 02.0**	**-0.3**
	baz=250						
NTST	**Danshui**	**0.98**	**287**	*e*S	**Sg**	**23 13 02.3**	**+0.3**
	baz=284						
YHNB	**Yeheng**	**1.03**	**258**	*e*P	**Pb**	**23 12 49.7**	**-0.4**
	baz=256						
YHNB				*e*S	**Sn**	**23 13 05.4**	**+0.4**
	baz=256						
NACB	**Ninganchiao**	**1.08**	**229**	*e*P	**Pb**	**23 12 49.7**	**-1.2**
	baz=227						
NACB				*e*S	**Sn**	**23 13 05.1**	**-0.9**
	baz=227						
NNSH	**Datong**	**1.10**	**246**	*e*P	**Pb**	**23 12 51.0**	**-0.4**
	baz=243						
NNSH				*e*S	**Sn**	**23 13 07.2**	**+0.4**
	baz=243						
NNS	**Nan Shan**	**1.10**	**247**	P	**Pb**	**23 12 51.0**	**-0.4**
	baz=244		

WDJ	**Dajia District** baz=251	**1.76 253**	*e*P	**Pn**	**23 13 01.0 +0.4**
SSLB	**Suanglung** baz=230	**1.77 232**	*e*P	**Pb**	**23 13 02.3 -0.4**
SSLB	baz=230		*e*S	**Sb**	**23 13 25.5 +0.5**
TYC	**Yuchr** baz=235	**1.78 237**	*e*P	**Pn**	**23 13 01.1 +0.3**
TYC	baz=235		*e*S	**Sn**	**23 13 23.5 +0.2**
YULB	**Yu-li** baz=215	**1.84 216**	*e*P	**Pn**	**23 13 02.3 +0.6**
YULB	baz=215		*e*S	**Sn**	**23 13 24.9 +0.1**
TWF1	**Yuli** baz=214	**1.87 216**	*e*P	**Pn**	**23 13 03.1 +0.9**
TWF1	baz=214		*e*S	**Sb**	**23 13 26.8 -1.0**
WHYT	**Xinyi Township** baz=230	**1.90 232**	*e*P	**Pb**	**23 13 03.9 -1.1**
YUS	**Yu-Shan** baz=224	**1.97 226**	*e*P	**Pn**	**23 13 03.6 -0.4**
FULB	**Fuli** baz=212	**2.00 213**	*e*P	**Pn**	**23 13 04.4 +0.4**
FULB	baz=212		*e*S	**Sn**	**23 13 29.1 +0.2**
CHN5	**Tsauling** baz=231	**2.09 233**	*e*P	**Pn**	**23 13 06.4 +1.2**

*THR **09** 23:19:42.6,38˚.75N×55˚.58E,h15km,ML4.3*
*ISCJB **09** 23:19:43.7±0.2,38˚.64N±0˚.02×55˚.60E±0˚.02,h10km, mb3.8/16,MS3.5/14,Error ellipse: s-maj=3.3km s-min=2.0km az=29.4*
*IDC **09** 23:19:44.0±0.7,38˚.47N×55˚.52E,h0km,mb3.8/17, mb1 4.1/24,mb1mx4.0/49,mbtmp4.0/24,ML4.0/6,MS3.5/21, Ms1 3.5/21,ms1mx3.3/58,Error ellipse: s-maj=15.8km s-min=7.8km az=7.0*
*TEH **09** 23:19:44.2,38˚.53N×55˚.56E,h8km,ML4.5*
*NEIC **09** 23:19:44.5±3.0,38˚.62N±0˚.05×55˚.63E±0˚.08,h10km±1km, mb4.2/13*
*NNC **09** 23:19:44.3±5.2,38˚.79N×55˚.74E,h0km,mb4.7,Error ellipse: s-maj=54.0km s-min=16.0km az=56.0*
*AZER **09** 23:19:51.3±1.1,38˚.16N×54˚.94E,h10km,ml4.6/10,Error ellipse: s-maj=11.6km s-min=9.5km az=114.0*

ISC 09 23:19:44.7±0.4,38˚59N±0˚.04×55˚57E±0˚.03,h10km,n202, σ2s49/220,mb4.0/20,MS3.5/14,12C-3D,
Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht** comp=Z,0.0nm,0.4s	**1.33**	**186**		IAMB	IAmb	23 20 13.4	
IMND				*e*Pg		**Pg**	**23 20 09.2**	**-1.2**
BJRD	**Bojnurd**	**1.70**	**121**	*e*Pn		**Pb**	**23 20 15.1**	**-1.0**
BJRD	**Bojnurd**	**1.70**	**121**	*e*Pn		**Pb**	**23 20 15.1**	**-1.0**
GEYT	**Alibeck** comp=Z,36nm,0.3s,baz=292,slow=19,SNR=188	**2.11**	**107**	Pn		**Pn**	**23 20 19.4**	**-0.8**
GEYT				Pg		**Pb**	**23 20 22.6**	**-0.5**
	comp=Z,60nm,0.3s,baz=292,slow=17,SNR=292							
GEYT				Lg	Lg		23 20 52.5	
	comp=Z,79nm,0.3s,baz=289,slow=27,SNR=6.6							
GEYT				LR	LR		23 21 33.4	
	comp=Z,652nm,20.2s,baz=310,slow=52							
GYA0	**ALIBECK ARRAY**	**2.11**	**107**	Pg		**Pn**	**23 20 20.6**	**+0.5**
GYA0B	**ALIBECK ARRAY**	**2.11**	**107**			**Pn**	**23 20 19.4**	**-0.7**
GYA0B	**ALIBECK ARRAY**	**2.11**	**107**	Lg	Lg		23 20 52.2	
ASHT	**Ashkhabad**	**2.31**	**105**			**Pn**	**23 20 23.8**	**+1.0**
IGLO	**Ghaloghah**	**2.50**	**214**	*e*Pn		**Pb**	**23 20 27.6**	**-2.3**
IEMG	**Emamgholi**	**2.70**	**115**	*e*Pn		**Pn**	**23 20 29.8**	**+1.3**
IEMG	comp=Z,22μm,0.7s				IAMB	IAmb	23 21 18.5	
SBZV	**Sabzevar**	**2.73**	**143**	*e*Pn		**Pn**	**23 20 30.1**	**+1.3**
IKIA	**Kiasar**	**2.81**	**213**	*e*Pn		**Pn**	**23 20 30.8**	**+0.8**
IKRD	**Kardeh**	**2.95**	**127**	*e*Pn		**Pg**	**23 20 42.1**	**+0.8**
IKRD	comp=Z,11μm,0.8s				IAMB	IAmb	23 22 04.3	
IAKL	**Akhelmad**	**3.21**	**127**	*e*Pn		**Pn**	**23 20 36.8**	**+1.3**
IAKL	comp=Z,11μm,1.2s				IAMB	IAmb	23 21 44.9	
ISHM	**Shahmirzad**	**3.32**	**214**	*e*Pn		**Pn**	**23 20 38.6**	**+1.6**
ISHM	comp=Z,13μm,0.4s				IAMB	IAmb	23 21 22.1	
IALA	**Alasht**	**3.33**	**222**	*e*Pn		**Pn**	**23 20 38.7**	**+1.5**
IANJ	**Anjilo**	**3.38**	**204**	*e*Pn		**Pn**	**23 20 39.6**	**+1.7**
IANJ	comp=Z,8μm,1.2s				IAMB	IAmb	23 21 48.2	
IPAY	**Payeh**	**3.46**	**127**	*e*Pn		**Pn**	**23 20 39.9**	**+1.0**
IPAY	comp=Z,8μm,0.9s				IAMB	IAmb	23 21 48.0	
IPRN	**Peran**	**3.48**	**229**	*e*Pn		**Pn**	**23 20 40.2**	**+1.1**
IFIR	**Firoozkooh**	**3.71**	**218**	*e*Pn		**Pn**	**23 20 43.5**	**+1.2**
IFIR	comp=Z,0.0nm,0.3s				IAMB	IAmb	23 20 59.5	
ILAS	**Lasjerd**	**3.82**	**214**	*e*Pn		**Pn**	**23 20 45.5**	**+1.6**
ILAS	comp=Z,5μm,0.8s				IAMB	IAmb	23 22 06.8	
DAMV	**Damavand**	**4.12**	**225**	*e*Pn		**Pn**	**23 20 49.6**	**+1.6**
DAMV	**Damavand**	**4.12**	**225**	*e*Pn		**Pn**	**23 20 49.6**	**+1.6**
IDMV	**Damavand**	**4.13**	**224**	*e*Pn		**Pn**	**23 20 49.9**	**+1.8**
IMYA	**Miami**	**4.24**	**121**	*e*Pn		**Pn**	**23 20 50.5**	**+0.9**
IMYA	comp=Z,7μm,0.9s				IAMB	IAmb	23 22 21.3	
QALM	**Alamut, Qazvin**	**4.47**	**243**	*e*Pn		**Pn**	**23 20 51.7**	**-1.1**
GALA	**Gala**	**4.57**	**295**	*e*Pn		**Pn**	**23 20 57.4**	**+3.5**
GALA	**Gala**	**4.57**	**295**	P		**Pn**	**23 20 57.4**	**+3.5**
THKV	**Tehran--Karaj** comp=E,249nm,0.6s	**4.60**	**236**	*e*AML		AML	23 21 42.6	
JRKH	**Jarkhoshk**	**4.66**	**124**	*e*Pn		**Pn**	**23 20 55.5**	**+0.3**
TNSJ	**Nastanj**	**4.69**	**169**	*e*Pn		**Pn**	**23 20 56.5**	**+0.8**
IVRN	**Varamin**	**4.73**	**222**	*e*Pn		**Pn**	**23 20 57.0**	**+0.8**
NDR	**Nardaran**	**4.75**	**297**	*e*Pn		**Pn**	**23 20 59.9**	**+3.5**
NDR	**Nardaran**	**4.75**	**297**	P		**Pn**	**23 20 59.9**	**+3.5**
NDR				S		**Sn**	**23 21 54.3**	**+2.7**
GOBA	**Gobu**	**4.87**	**294**	*e*Pn		**Pn**	**23 21 00.2**	**+2.2**
GOBA				*e*Pn		**Pn**	**23 21 00.2**	**+2.2**
GOBA	**Gobu**	**4.87**	**294**	P		**Pn**	**23 21 00.3**	**+2.2**
GOBA				S		**Sn**	**23 21 56.9**	**+2.5**
TABS	**Tabas**	**5.08**	**165**	*e*Pn		**Pn**	**23 21 02.7**	**+1.6**
TABS	**Tabas**	**5.08**	**165**	*e*Pn		**Pn**	**23 21 02.6**	**+1.6**
TKDS	**Koohdasht(Taba**	**5.12**	**165**	*e*Pn		**Pn**	**23 21 03.0**	**+1.4**
IQOM	**Qom**	**5.20**	**225**	*e*Pn		**Pn**	**23 21 04.0**	**+1.2**
ASTR	**Astara**	**5.32**	**272**	*e*Pn		**Pn**	**23 21 04.1**	**0.0**
ASTR	**Astara** SNR=17	**5.32**	**272**	P		**Pn**	**23 21 04.1**	**0.0**
ASTR				S		**Sn**	**23 22 02.1**	**-3.4**
LKRN	**Lenkeran, Azer**	**5.32**	**273**	*e*Pn		**Pn**	**23 21 05.0**	**+0.8**
LKRN	**Lenkeran, Azer** SNR=7.6	**5.32**	**273**	P		**Pn**	**23 21 05.1**	**+0.8**
LKRN				S		**Sn**	**23 22 03.1**	**-2.5**
GBS	**Qobustan**	**5.48**	**293**	*e*Pn		**Pn**	**23 21 09.7**	**+3.2**
GBS	**Qobustan** SNR=5.7	**5.48**	**293**	P		**Pn**	**23 21 09.8**	**+3.2**
GBS				S		**Sn**	**23 22 12.1**	**+2.5**
QABG	**Abgarm-Qazvin**	**5.58**	**241**	*e*Pn		**Pn**	**23 21 08.8**	**+0.7**
ANAR	**Anarak**	**5.59**	**196**	*e*Pn		**Pn**	**23 21 08.7**	**+0.6**
ATGJ	**Altiaghaj**	**5.60**	**296**	S		**Sn**	**23 22 14.8**	**+2.2**
TPRV	**Parvadeh(Tabas**	**5.62**	**170**	*e*Pn		**Pn**	**23 21 09.3**	**+0.8**
GLBA	**Clilabad**	**5.64**	**279**	*e*Pn		**Pn**	**23 21 09.2**	**+0.6**
GLBA	**Clilabad** SNR=13	**5.64**	**279**	P		**Pn**	**23 21 09.3**	**+0.6**
GLBA				S		**Sn**	**23 22 11.4**	**-2.0**
LRK	**Lerik**	**5.67**	**273**	*e*Pn		**Pn**	**23 21 08.6**	**-0.5**
LRK	**Lerik** SNR=14	**5.67**	**273**	P		**Pn**	**23 21 08.7**	**-0.5**
LRK				S		**Sn**	**23 22 10.5**	**-3.8**
SAAT	**Saatly**	**5.70**	**285**	S		**Sn**	**23 22 16.5**	**+1.7**
SIZA	**Siyzn**	**5.71**	**298**	*e*Pn		**Pn**	**23 21 12.8**	**+3.2**
SIZA	**Siyzn** SNR=3.0	**5.71**	**298**	P		**Pn**	**23 21 12.9**	**+3.2**
SIZA				S		**Sn**	**23 22 17.9**	**+2.7**
YRD	**Yardimli** SNR=38	**5.74**	**276**	P		**Pn**	**23 21 09.9**	**-0.3**
YRD				S		**Sn**	**23 22 13.3**	**-2.9**
ZNJK	**Zanjan**	**5.79**	**253**	*e*Pn		**Pn**	**23 21 11.2**	**+0.3**
ZNJK	**Zanjan**	**5.79**	**253**	*e*Pn		**Pn**	**23 21 11.2**	**+0.3**
PQL	**Pirkuli**	**5.81**	**294**	*e*Pn		**Pn**	**23 21 14.3**	**+3.1**
PQL	**Pirkuli** SNR=8.7	**5.81**	**294**	P		**Pn**	**23 21 14.3**	**+3.1**
PQL				S		**Sn**	**23 22 18.9**	**+0.9**
KDMR	**Kurdemir**	**5.99**	**290**	S		**Sn**	**23 22 21.9**	**-0.1**
GRMI	**Germi**	**6.01**	**274**	*e*Pn		**Pn**	**23 21 12.9**	**-1.0**
GRMI	**Germi** comp=E,115nm,0.5s	**6.01**	**274**	*e*AML		AML	23 22 25.9	
QUBA	**Quba, Azerbaij**	**6.10**	**299**	S		**Sn**	**23 22 25.9**	**+1.0**
IML	**Ismayilli**	**6.11**	**293**	*e*Pn		**Pn**	**23 21 18.2**	**+3.1**
IML	**Ismayilli** SNR=4.7	**6.11**	**293**	P		**Pn**	**23 21 18.2**	**+3.1**
IML				S		**Sn**	**23 22 24.2**	**-1.0**
YZKH	**Yazd**	**6.24**	**188**	*e*Pn		**Pn**	**23 21 18.1**	**+1.2**
YZKH	**Yazd**	**6.24**	**188**	*e*Pn		**Pn**	**23 21 18.1**	**+1.2**
ITEG	**Tejag**	**6.24**	**155**	*e*Pn		**Pn**	**23 21 18.4**	**+1.4**
IZEF	**Zefreh**	**6.26**	**206**	*e*Pn		**Pn**	**23 21 19.6**	**+2.2**
XNQ	**Khinaliq**	**6.27**	**297**	*e*Pn		**Pn**	**23 21 19.7**	**+2.2**
XNQ	**Khinaliq** SNR=8.0	**6.27**	**297**	P		**Pn**	**23 21 19.8**	**+2.2**
XNQ				S		**Sn**	**23 22 30.7**	**+1.3**
QSAR	**Qusar**	**6.32**	**300**	*e*Pn		**Pn**	**23 21 20.9**	**+2.9**
QSAR	**Qusar** SNR=4.1	**6.32**	**300**	P		**Pn**	**23 21 21.0**	**+2.9**
QSAR				S		**Sn**	**23 22 32.9**	**+2.6**
IMON	**Monand**	**6.33**	**147**	*e*Pn		**Pn**	**23 21 19.7**	**+1.4**
BLQ	**Beylaqan** SNR=12	**6.33**	**283**	P		**Pn**	**23 21 19.0**	**+0.9**
BLQ				S		**Sn**	**23 22 28.1**	**-2.4**
ZRD	**Zardab**	**6.34**	**288**	*e*Pn		**Pn**	**23 21 21.7**	**+3.5**
ZRD	**Zardab** SNR=4.7	**6.34**	**288**	P		**Pn**	**23 21 21.7**	**+3.5**
ZRD				S		**Sn**	**23 22 29.7**	**-0.9**
ICHK	**Chekchek**	**6.40**	**189**	*e*Pn		**Pn**	**23 21 20.7**	**+1.4**
QBL	**Gabala**	**6.41**	**294**	*e*Pn		**Pn**	**23 21 22.0**	**+2.8**
QBL	**Gabala** SNR=7.0	**6.41**	**294**	P		**Pn**	**23 21 22.0**	**+2.8**
QBL				S		**Sn**	**23 22 30.9**	**-1.5**
QRD	**Qoradiz** SNR=13	**6.49**	**280**	P		**Pn**	**23 21 20.9**	**+0.6**
QRD				S		**Sn**	**23 22 31.5**	**-2.8**
IHSH	**Hashtrud**	**6.53**	**270**	*e*Pn		**Pn**	**23 21 24.3**	**+3.2**
IHRS	**Heris**	**6.70**	**270**	*e*Pn		**Pn**	**23 21 24.0**	**+0.6**
IHRS	comp=Z,2μm,0.5s				IAMB	IAmb	23 22 43.4	
BRDA	**Brd**	**6.71**	**287**	*e*Pn		**Pn**	**23 21 25.8**	**+2.5**
BRDA	**Brd** SNR=4.0	**6.71**	**287**	P		**Pn**	**23 21 25.9**	**+2.5**
BRDA				S		**Sn**	**23 22 38.5**	**-1.3**
HSRG	**Sareghieh**	**6.73**	**242**	*e*Pn		**Pn**	**23 21 25.6**	**+1.7**
AGDM	**Agdam** SNR=15	**6.73**	**286**	P		**Pn**	**23 21 25.1**	**+1.4**
AGDM				S		**Sn**	**23 22 37.1**	**-3.4**
IDAH	**Dahanechah**	**6.80**	**148**	*e*Pn		**Pn**	**23 21 26.4**	**+1.6**
IGAR	**Gharneh**	**6.81**	**206**	*e*Pn		**Pn**	**23 21 26.4**	**+1.5**
HRA	**Herat**	**6.81**	**126**			**Pn**	**23 21 24.9**	**-0.1**
MNGR	**Mingechevir, A**	**6.90**	**291**	S		**Sn**	**23 22 42.3**	**-2.2**
SEKA	**Sheki**	**6.95**	**295**	*e*Pn		**Pn**	**23 21 29.2**	**+2.5**
SEKA	**Sheki** SNR=11	**6.95**	**295**	P		**Pn**	**23 21 29.3**	**+2.5**
SEKA				S		**Sn**	**23 22 45.4**	**-0.4**
IPIR	**Pirpir**	**7.01**	**214**	*e*Pn		**Pn**	**23 21 29.6**	**+1.8**
IRAM	**Ramesheh**	**7.25**	**202**	*e*Pn		**Pn**	**23 21 32.7**	**+1.7**
ITBZ	**Tabriz**	**7.41**	**270**	*e*Pn		**Pn**	**23 21 34.9**	**+1.8**
GANJ	**Ganja**	**7.43**	**289**	*e*Pn		**Pn**	**23 21 34.9**	**+1.7**
GANJ	**Ganja** SNR=13	**7.43**	**289**	P		**Pn**	**23 21 35.0**	**+1.7**
GANJ				S		**Sn**	**23 22 53.0**	**-4.6**
ZKT	**Zaqatala**	**7.48**	**297**	*e*Pn		**Pn**	**23 21 36.5**	**+2.6**
ORD	**Ordubad**	**7.49**	**276**	*e*Pn		**Pn**	**23 21 35.2**	**+1.1**
ORD	**Ordubad** SNR=9.9	**7.49**	**276**	P		**Pn**	**23 21 35.2**	**+1.1**
ORD				S		**Sn**	**23 22 55.0**	**-4.2**
ZKTA	**Zakatala** SNR=3.3	**7.51**	**297**	P		**Pn**	**23 21 36.5**	**+2.3**
ZKTA				S		**Sn**	**23 22 59.2**	**-0.2**
DDFL	**Dedoflistskaro**	**7.80**	**294**	P		**Pn**	**23 21 41.2**	**+2.9**
DDFL				S		**Sn**	**23 23 09.4**	**+2.7**
LGD	**Lagodekhi**	**7.84**	**297**	P		**Pn**	**23 21 41.6**	**+2.7**
LGD				S		**Sn**	**23 23 06.8**	**-0.9**
SBZ	**Shahbuz**	**7.85**	**279**	*e*Pn		**Pn**	**23 21 40.1**	**+1.1**
SBZ	**Shahbuz** SNR=23	**7.85**	**279**	P		**Pn**	**23 21 40.1**	**+1.1**
SBZ				S		**Sn**	**23 23 03.6**	**-4.3**
NAX	**Nakhchivan**	**7.88**	**277**	*e*Pn		**Pn**	**23 21 41.1**	**+1.6**
NAX	**Nakhchivan** SNR=9.4	**7.88**	**277**	P		**Pn**	**23 21 41.1**	**+1.6**
NAX				S		**Sn**	**23 23 06.5**	**-2.3**
KHGB	**Koh Gabri**	**8.23**	**175**	*e*Pn		**Pn**	**23 21 45.7**	**+1.3**
QZX	**Qazax, Azerbai**	**8.23**	**291**	*e*Pn		**Pn**	**23 21 45.9**	**+1.7**
QZX	**Qazax, Azerbai** SNR=4.5	**8.23**	**291**	P		**Pn**	**23 21 46.0**	**+1.7**
QZX				S		**Sn**	**23 23 14.7**	**-2.5**
DGRG	**David-gareji**	**8.33**	**293**	P		**Pn**	**23 21 46.8**	**+1.2**
DGRG				S		**Sn**	**23 23 18.0**	**-1.8**
HYR	**Heyderabad**	**8.41**	**281**	*e*Pn		**Pn**	**23 21 48.4**	**+1.7**
HYR	**Heyderabad** SNR=14	**8.41**	**281**	P		**Pn**	**23 21 48.5**	**+1.7**
HYR				S		**Sn**	**23 23 18.5**	**-3.2**
GNI	**Garni** comp=Z,1.9nm,0.3s,baz=37,slow=2.3,SNR=18	**8.53**	**284**	Pn		**Pn**	**23 21 51.9**	**+3.4**
GNI	comp=Z,4.0nm,0.3s,baz=163,slow=23,SNR=6.0				Sn	**Sn**	**23 23 26.4**	**+1.5**
GNI	**Garni**	**8.53**	**284**			**Pn**	**23 21 52.3**	**+3.8**
GNI						**Sn**	**23 23 16.6**	**-8.4**
TBLG	**Delisi**	**8.87**	**294**	P		**Pn**	**23 21 54.6**	**+1.6**
TBLG				S		**Sn**	**23 23 28.1**	**-4.8**
ONI	**Oni**	**10.05**	**297**	P		Pn	23 22 14.7	+5.6
CHGR	**Chuyangaron**	**10.63**	**85**			**Pn**	**23 22 13.6**	**-3.6**
KBZ	**Khabaz** comp=Z,0.4nm,0.3s,baz=120,slow=11,SNR=14	**10.85**	**302**	Pn		**Pn**	**23 22 18.4**	**-1.6**
KBZ				Sn		**Sn**	**23 24 14.5**	**-6.9**
	comp=Z,0.5nm,0.3s,baz=255,slow=3.5,SNR=2.6							
TAS	**Tashkent**	**10.88**	**71**	Pn		**Pn**	**23 22 19.7**	**-0.8**
KVAR	**Kislovodsk Arr** baz=225,slow=14,SNR=2.8	**11.07**	**303**	Sn		**Sn**	**23 24 18.2**	**-8.9**
KIV	**Kislovodsk**	**11.08**	**303**			**Pn**	**23 22 22.0**	**-1.3**
KIV						**Sn**	**23 24 19.7**	**-7.6**
AB31	**Akbulak array** comp=Z,6.1nm,0.6s,baz=200,slow=14,SNR=87	**11.12**	**15**	P		**Pn**	**23 22 23.6**	**-0.1**
AB31	comp=Z,20nm,0.8s,baz=194,slow=25,SNR=16			S		**Sn**	**23 24 22.8**	**-5.2**
ABKAR	**Akbulak array**	**11.12**	**15**			**Pn**	**23 22 23.0**	**-0.6**
ABKAR						**Sn**	**23 24 23.5**	**-4.5**
GAR	**Garm**	**11.52**	**83**			**Pn**	**23 22 27.3**	**-2.0**
KBL	**Kabul**	**11.56**	**106**			**Pn**	**23 22 29.0**	**-1.0**
BTK	**Batken**	**11.90**	**78**			**Pn**	**23 22 33.3**	**-1.2**
AKTO	**Aktyubinsk** comp=Z,1.6nm,0.3s,baz=186,slow=14,SNR=25	**11.97**	**8**	Pn		**Pn**	**23 22 36.1**	**+0.7**
AKTO	comp=Z,0.5nm,0.3s,baz=264,slow=18,SNR=1.9			Sn		**Sn**	**23 24 41.2**	**-7.7**
AKTO				LR		LR	23 28 44.9	
	comp=Z,111nm,19.1s,baz=178,slow=45							
AKTO	**Aktyubinsk** comp=Z,19nm,0.7s	**11.97**	**8**	⇓P		**Pn**	**23 22 35.4**	**0.0**
AKTO				⇑S		**Sn**	**23 24 46.7**	**-2.3**
	comp=Z,35nm,1.0s							
KK31	**Karatay Array**	**12.18**	**64**			**Pn**	**23 22 35.3**	**-3.0**
KK31	**Karatay Array** comp=Z,7.6nm,0.7s,baz=243,slow=14,SNR=75	**12.18**	**64**	⇑P		**Pn**	**23 22 35.0**	**-3.2**
KK31				⇓S		**Sn**	**23 24 50.6**	**-3.4**
	comp=Z,7.8nm,0.7s,baz=256,slow=26,SNR=4.9							
KKAR	**Karatay Array**	**12.18**	**64**			**Pn**	**23 22 35.3**	**-3.0**
AAK	**Ala-Archa** comp=Z,1.2nm,0.3s,baz=203,slow=5.5,SNR=18	**14.93**	**68**	Pn		**Pn**	**23 23 12.8**	**-3.1**
AAK	comp=Z,265nm,21.7s,baz=258,slow=41			LR		LR	23 30 03.9	
AAK	**Ala-Archa**	**14.93**	**68**	Pn		**Pn**	**23 23 14.0**	**-1.9**
WSAR	**Wadi Sarin** comp=Z,99nm,19.0s,baz=354,slow=42	**15.52**	**169**	LR		LR	23 30 36.1	
BRTR	**Keskin Array B** comp=Z,0.1nm,0.3s,baz=97,slow=13,SNR=10	**17.05**	**281**	P		**Pn**	**23 23 43.4**	**+0.1**
BRTR	comp=Z,109nm,19.8s,baz=74,slow=45			LR		LR	23 32 29.0	
MMAI	**Mount Meron Ar** comp=Z,0.2nm,0.3s,baz=94,slow=13,SNR=3.1	**17.27**	**257**	P		**P**	**23 23 46.6**	**-0.9**
MMAI	comp=Z,54nm,21.6s,baz=25,slow=43			LR		LR	23 32 04.3	
TARG	**Taragay, Kyrgy**	**17.27**	**72**	P		**Pn**	**23 23 46.2**	**-0.2**
RAYN	**Ar Rayn**	**17.30**	**213**			**Pn**	**23 23 45.0**	**-1.5**
BVAR	**Borovoye Array** comp=Z,1.0nm,0.3s,baz=210,slow=11,SNR=12	**17.70**	**31**	P		**P**	**23 23 53.9**	**+1.8**
ARU	**Arti** comp=Z,114nm,19.6s,baz=182,slow=43	**17.96**	**5**	LR		LR	23 32 39.6	
KURBB	**Kurchatov Arra** comp=Z,2.1nm,0.7s,baz=249,slow=13,SNR=5.4	**20.20**	**46**	P		Pn	23 24 20.9	-0.5
KURK	**Kurchatov** comp=Z,5.3nm,0.7s	**20.30**	**46**	P		**P**	**23 24 20.8**	**+0.3**
KURK					IAmb	IAmb	23 24 29.3	

ELL	**Elmali**	**20.38**	**273**	P	Pn	23 24 24.7	+0.9
OBN	**Obninsk** comp=Z,2.7nm,0.4s,baz=64,slow=5.9,SNR=7.6	**20.91**	**328**	P	Pn	23 24 28.5	-1.2
OBN	comp=Z,23nm,19.0s,baz=294,slow=41			LR	LR	23 34 03.8	
OBN	**Obninsk**	**20.91**	**328**	P	**P**	**23 24 27.5**	**+0.4**
MAKZ	**Makanchi**	**21.00**	**58**	P	**P**	**23 24 27.6**	**-0.6**
MAKZ	comp=Z,5.4nm,0.8s			IAmb	IAmb	23 24 31.3	
MK31	**Makanchi Array**	**21.21**	**59**	P	**P**	**23 24 30.1**	**-0.4**
MK31	comp=Z,7.0nm,0.9s			IAmb	IAmb	23 24 36.2	
MKAR	**Makanchi Array** comp=Z,8.8nm,0.9s,baz=256,slow=10,SNR=22	**21.21**	**59**	P	**P**	**23 24 31.8**	**+1.3**
MKAR	comp=Z,220nm,20.9s,baz=256,slow=40			LR	LR	23 33 48.8	
TLB	**Topalu**	**21.39**	**295**	⇑P	**P**	**23 24 34.7**	**+2.4**
SORM	**Soroca**	**21.87**	**305**	⇓P	**P**	**23 24 39.6**	**+2.0**
AKASG	**Malin Array Be** comp=Z,6.4nm,0.8s,baz=112,slow=9.4,SNR=13	**22.19**	**312**	P	**P**	**23 24 40.9**	**0.0**
AKBB	**Malin Array Si**	**22.19**	**312**	P	**P**	**23 24 40.7**	**-0.2**
AKBB	comp=Z,22nm,0.9s			IAmb	IAmb	23 24 48.2	
VRI	**Vrincioaia**	**22.48**	**298**	⇑P	P	23 24 51.0	+6.9
PLOR	**Plostina**	**22.53**	**298**	⇑P	**P**	**23 24 50.3**	**+5.6**
MLR	**Muntele Rosu** comp=Z,3.0nm,0.4s,baz=156,slow=20,SNR=2.0	**22.97**	**297**	P	**P**	**23 24 49.7**	**+0.3**
MLR	**Muntele Rosu** comp=Z,9.1nm,0.8s	**22.97**	**297**	IAmb	IAmb	23 24 56.0	
DOPR	**Dopca**	**23.42**	**298**	⇑P	**P**	**23 24 58.5**	**+4.6**
BURAR	**Bucovina Array**	**23.80**	**302**	⇑P	**P**	**23 25 00.7**	**+3.0**
BUR08	**Bucovina Ar. S**	**23.82**	**302**	P	**P**	**23 24 59.9**	**+2.0**
BUR08	comp=Z,4.9nm,0.9s			IAmb	IAmb	23 25 08.1	
LOT	**Lotru**	**24.49**	**297**	⇑P	**P**	**23 25 07.8**	**+3.6**
VTS	**Vitosha**	**24.80**	**290**	⇑P	**P**	**23 25 12.2**	**+5.2**
VTS	**Vitosha**	**24.80**	**290**	P	**P**	**23 25 07.6**	**+0.7**
ZAA0	**Zalesovo Array**	**25.15**	**43**	P	**P**	**23 25 06.7**	**-3.2**
ZAA0	comp=Z,5.1nm,0.9s			IAmb	IAmb	23 25 14.4	
ZALV	**Zalesovo Beam** comp=Z,3.3nm,0.7s,baz=255,slow=10,SNR=12	**25.15**	**43**	P	**P**	**23 25 10.8**	**+1.0**
ZALV	comp=Z,115nm,18.6s,baz=240,slow=39			LR	LR	23 36 13.3	
GZR	**Gura Zlata**	**25.18**	**296**	⇑P	**P**	**23 25 14.4**	**+4.1**
DRGR		**25.36**	**299**	⇑P	**P**	**23 25 16.4**	**+4.5**
KOLS	**Kolonicke sedl**	**25.99**	**304**	*e*P	P	23 25 26.4	+8.9
BZS	**Buzias**	**26.01**	**297**	⇑P	**P**	**23 25 21.7**	**+3.9**
SUW	**Suwalki**	**26.88**	**316**	P	**P**	**23 25 23.5**	**-2.0**
SUW	comp=Z,18nm,0.9s			pmax	pmax			
SUW	**Suwalki**	**26.88**	**316**	P	**P**	**23 25 23.4**	**-2.0**
VYHS	**Vyhne**	**28.17**	**303**	*e*P	P	23 25 44.1	+6.9
FINES	**FINESS Array B** comp=Z,49nm,19.5s,baz=130,slow=40	**29.25**	**331**	LR	LR	23 39 08.7	
GERES	**GERESS Array B**	**31.59**	**303**	P	**P**	**23 26 09.2**	**+1.7**
GERES	**GERESS Array B** comp=Z,0.2nm,0.5s,baz=97,slow=8.4,SNR=2.2	**31.59**	**303**	P	**P**	**23 26 09.2**	**+1.6**
CLL	**Collm**	**32.24**	**307**	*e*P	P	23 26 20.0	+6.9
HFS	**Hagfors** comp=Z,2.5nm,0.7s,baz=102,slow=12,SNR=2.6	**33.92**	**323**	P	**P**	**23 26 27.7**	**0.0**
ARCES	**ARCESS Array B** comp=Z,92nm,19.2s,baz=120,slow=39	**34.91**	**342**	LR	LR	23 42 42.8	
NB2	**NORSAR Subarra** comp=Z,11nm,1.7s,baz=114,slow=8.6	**35.38**	**324**	P	**P**	**23 26 43.0**	**+2.7**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.6s,baz=108,slow=8.2,SNR=3.5	**35.38**	**324**	P	**P**	**23 26 40.7**	**+0.4**
NOA	comp=Z,64nm,18.9s,baz=115,slow=39			LR	LR	23 42 31.9	
SONM	**Songino Array** comp=Z,0.4nm,0.5s,baz=273,slow=9.7,SNR=4.4	**37.57**	**59**	P	**P**	**23 27 02.3**	**+3.0**
EKA	**Eskdalemuir Ar** comp=Z,0.9nm,0.5s,baz=102,slow=8.0,SNR=3.9	**42.08**	**313**	P	**P**	**23 27 39.0**	**+2.4**
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.7s,baz=300,slow=8.2,SNR=3.4

comp=Z,1.1nm,0.7s,baz=149,slow=8.1,SNR=3.6
LPAZ LR LR 23 55 05.4
comp=Z,51nm,20.7s,baz=180,slow=37
BOSA Boshof 57.83 92 P **P 23 36 17.8 -1.7**
comp=Z,0.9nm,0.7s,baz=232,slow=12,SNR=2.6
BOSA LR LR 23 56 45.5
comp=Z,60nm,20.3s,baz=204,slow=32
H10N3 ASCENSION HYDR 58.34 41 T T 00 39 57.6
baz=199,slow=75,SNR=19
H10N1 ASCENSION HYDR 58.34 41 T T 00 39 58.8
baz=199,slow=75,SNR=18
H10N2 ASCENSION HYDR 58.36 41 T T 00 39 59.4
baz=199,slow=75,SNR=26
TOA0 Torodi Ar. Sit 83.56 49 P **P 23 38 54.1 -1.8**
TOA0 IAmb IAmb 23 39 01.9
comp=Z,2.2nm,1.1s
TORD Torodi Ar. Bea 83.56 49 P **P 23 38 57.0 +1.1**
comp=Z,3.2nm,1.0s,baz=211,slow=5.2,SNR=12
STKA Stephens Creek 87.79 189 LR LR 00 16 09.0
comp=Z,35nm,21.5s,baz=203,slow=34
ASAR Alice Springs 96.35 183 P **P 23 39 55.4 -1.2**
comp=Z,0.2nm,0.3s,baz=165,slow=4.8,SNR=3.5
WRA Warramunga Arr 100.04 183 LR LR 00 24 20.3
comp=Z,32nm,21.3s,baz=165,slow=35
YKA Yellowknife Ar 132.25 325 PKP **PKPdf 23 45 40.0 -0.3**
comp=Z,0.2nm,0.6s,baz=138,slow=2.1,SNR=3.0
ILAR Eielson Array 144.37 313 PKP PKPbc 23 46 01.1 +0.2
comp=Z,1.2nm,0.8s,baz=163,slow=1.9,SNR=12
BVAR Borovoye Array 146.97 75 PKPbc **PKPbc 23 46 09.2 -0.1**
comp=Z,1.8nm,0.7s,baz=243,slow=3.5,SNR=15
MKAR Makanchi Array 148.83 93 PKPbc **PKPbc 23 46 13.7 -0.8**
comp=Z,1.1nm,0.6s,baz=235,slow=4.0,SNR=11
KURBB Kurchatov Arra 149.48 85 PKPbc **PKPbc 23 46 15.2 -0.7**
comp=Z,0.4nm,0.3s,baz=228,slow=3.2,SNR=5.0

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*GII **09** 23:48:09.9±0.0, 35.81N×26.71E, h30km, MD3.3/1*
*ISCJB **09** 23:48:10.9±0.4, 35.98N±0.03×26.85E±0.03, h127km±5km, Error ellipse: s-maj=5.3km s-min=3.6km az=9.9*
*ISK **09** 23:48:14.0, 36.01N×26.67E, h18km, ML2.5/9*
*ATH **09** 23:48:14.9, 36.14N×26.59E, h89km±5km, ML2.9/5, Error ellipse: s-maj=5.3km s-min=1.6km az=68.0*
*THE **09** 23:48:16.8, 36.14N×26.63E, h88km±3km, ML2.8/11, Error ellipse: s-maj=3.9km s-min=0.8km az=153.0*
*HLW **09** 23:48:24.1, 35.32N×26.82E, h33km±47km, Md3.8, Ml3.8*
*DDA **09** 23:48:33.6, 37.03N×27.93E, h7km±3km, ML0.0*

ISC 09 23:48:12.9±1.3, 36.11N±0.04×26.73E±0.03, h106km±9km, n74, σ2s03/91, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.59**	**32**	P		**Pn**	**23 48 30.6**	**+0.6**
KARP	**Karpathos**	**0.66**	**148**	P		**Pn**	**23 48 32.2**	**+1.6**
KARP				S		**Sn**	**23 48 44.3**	**+0.4**
	705nm,0.3s							
KARP	**Karpathos**	**0.66**	**148**	P		**Pn**	**23 48 32.3**	**+1.6**
KARP				S		**Sn**	**23 48 44.4**	**+0.5**
KARP				AML		AML	23 48 45.3	
	comp=N,1532μm,0.3s							
KARP				AML		AML	23 48 47.6	
	comp=E,1260μm,0.3s							
DAT	**Datca**	**0.92**	**48**	*i* S		**Sn**	**23 48 48.7**	**+0.4**
DAT	**Datca**	**0.92**	**48**	PG		**Pn**	**23 48 34.9**	**+1.8**
DAT				SG		**Sn**	**23 48 48.6**	**+0.3**
AMGA	**Amorgos Island**	**0.99**	**317**	P		**Pn**	**23 48 34.3**	**+0.6**
AMGA				S		**Sn**	**23 48 47.2**	**-2.1**
	comp=E,218nm,0.6s							
AMGA	**Amorgos Island**	**0.99**	**317**	P		**Pn**	**23 48 33.5**	**-0.1**
AMGA				S		**Sn**	**23 48 47.4**	**-1.9**
STIA	**Sitia Lasithi**	**1.04**	**210**	P		**Pn**	**23 48 35.6**	**+1.3**
STIA				S		**Sn**	**23 48 50.5**	**+0.1**
BODT	**Bodrum**	**1.06**	**26**	PN		**Pn**	**23 48 36.0**	**+1.6**
SANT	**Santorini**	**1.06**	**285**	P		**Pn**	**23 48 34.9**	**+0.5**
SANT				S		**Sn**	**23 48 49.0**	**-1.8**
SANT	**Santorini**	**1.06**	**285**	PG		**Pn**	**23 48 34.4**	**-0.1**
SANT				SG		**Sn**	**23 48 49.3**	**-1.5**
ZKR	**Zakros**	**1.08**	**203**	P		**Pn**	**23 48 36.5**	**+1.8**
ZKR				S		**Sn**	**23 48 52.2**	**+1.2**
	comp=E,442nm,0.2s							
ZKR	**Zakros**	**1.08**	**203**	P		**Pn**	**23 48 36.4**	**+1.8**
SFIR	**Foira Santorin**	**1.10**	**287**	P		**Pn**	**23 48 35.7**	**+0.9**
THR7	**Fira-Santorini**	**1.10**	**287**	P		**Pn**	**23 48 35.7**	**+0.9**
THR6	**Thira Island,**	**1.11**	**283**	P		**Pn**	**23 48 35.7**	**+0.8**
THT2	**Imerovigli**	**1.11**	**287**	P		**Pn**	**23 48 35.8**	**+0.9**
THT2				S		**Sn**	**23 48 50.7**	**-0.9**
	comp=E,125nm,0.5s							
SAP1	**Santorini-Akro**	**1.11**	**283**	P		**Pn**	**23 48 35.7**	**+0.8**
SAP1				S		**Sn**	**23 48 50.5**	**-1.1**
	comp=E,458nm,0.5s							
THR3	**Thira Island,**	**1.12**	**286**	P		**Pn**	**23 48 35.8**	**+0.8**
CMBO	**Columbo, Santo**	**1.13**	**289**	P		**Pn**	**23 48 36.0**	**+0.8**
CMBO				S		**Sn**	**23 48 51.3**	**-0.7**
	comp=E,265nm,0.5s							
CMBO	**Columbo, Santo**	**1.13**	**289**	P		**Pn**	**23 48 35.8**	**+0.7**
CMBO				S		**Sn**	**23 48 50.9**	**-1.1**
CMBO				AML		AML	23 48 51.5	
	comp=N,588μm,0.4s							
CMBO				AML		AML	23 48 52.0	
	comp=E,477μm,0.6s							
THR5	**Thira Island,**	**1.16**	**286**	P		**Pn**	**23 48 36.2**	**+0.7**
NPS	**Neapolis**	**1.24**	**227**	P		**Pn**	**23 48 37.6**	**+1.1**
NPS				S		**Sn**	**23 48 53.5**	**-0.8**
	comp=E,1μm,0.2s							
NPS	**Neapolis**	**1.24**	**227**	P		**Pn**	**23 48 37.7**	**+1.2**
NPS				S		**Sn**	**23 48 53.3**	**-1.0**
NPS				AML		AML	23 48 53.9	
	comp=N,1605μm,0.2s							
NPS				AML		AML	23 48 55.0	
	comp=E,2600μm,0.2s							
IOSP	**Ios Island**	**1.31**	**298**	P		**Pn**	**23 48 38.0**	**+0.7**
IOSP	**Ios Island**	**1.31**	**298**	P		**Pn**	**23 48 37.9**	**+0.6**
IOSP				S		**Sn**	**23 48 54.1**	**-1.7**
IOSP				AML		AML	23 48 54.6	
	comp=N,322μm,0.4s							
IOSP				AML		AML	23 48 55.5	
	comp=E,450μm,0.5s							
APE	**Apeiranthos**	**1.36**	**315**	P		**Pn**	**23 48 38.6**	**+0.8**
APE	**Apeiranthos**	**1.36**	**315**	PN		**Pn**	**23 48 39.2**	**+1.3**
FRMA	**Ierapetra Chan**	**1.36**	**217**	P		**Pn**	**23 48 39.3**	**+1.5**
FRMA				S		**Sn**	**23 48 56.6**	**-0.1**
	comp=E,175nm,0.4s							
LAST	**Lasithi**	**1.39**	**228**	P		**Pn**	**23 48 39.3**	**+1.0**
LAST	**Lasithi**	**1.39**	**228**	P		**Pn**	**23 48 39.2**	**+1.0**
HRKL	**Herakleio**	**1.55**	**240**	P		**Pn**	**23 48 41.5**	**+1.5**
HRKL				S		**Sn**	**23 49 00.3**	**-0.3**
	comp=E,510nm,0.3s							
YER	**Yerkesik**	**1.61**	**50**	P		**Pn**	**23 48 44.2**	**+3.3**
YER				S		**Sn**	**23 49 04.9**	**+2.7**
YER	**Yerkesik**	**1.61**	**50**	PN		**Pn**	**23 48 43.8**	**+2.9**
TURN	**Turunc**	**1.69**	**63**	*i* P		**Pn**	**23 48 40.7**	**-1.1**
TURN				*i* S		**Sn**	**23 48 57.8**	**-6.0**
TURN	**Turunc**	**1.69**	**63**	PN		**Pn**	**23 48 40.5**	**-1.3**
AYDN	**Tasoluk**	**1.80**	**30**	*i* P		**Pn**	**23 48 45.5**	**+2.3**
SIVA	**Sivas**	**1.91**	**236**	P		**Pn**	**23 48 46.8**	**+2.3**
SIVA				S		**Sn**	**23 49 09.3**	**+0.6**
	comp=E,312nm,0.5s							
SIVA	**Sivas**	**1.91**	**236**	P		**Pn**	**23 48 46.6**	**+2.0**
SIVA				S		**Sn**	**23 49 07.8**	**-0.8**
SIVA				AML		AML	23 49 13.2	
	comp=E,586μm,0.3s							
SIVA				AML		AML	23 49 15.5	
	comp=N,582μm,0.5s							
MHLO	**Agia Marina, M**	**1.97**	**288**	P		**Pn**	**23 48 45.6**	**+0.3**
MHLA	**Plaka, Milos I**	**1.97**	**289**	P		**Pn**	**23 48 46.6**	**+1.3**
FETY	**Fethiye**	**1.97**	**74**	*i* P		**Pn**	**23 48 48.3**	**+3.0**
FETY	**Fethiye**	**1.97**	**74**	PN		**Pn**	**23 48 48.5**	**+3.2**
VAM	**Vamos**	**2.18**	**252**	P		**Pn**	**23 48 49.1**	**+1.1**
VAM				S		**Sn**	**23 49 14.2**	**-0.6**
	comp=N,70nm,0.2s							
VAM	**Vamos**	**2.18**	**252**	P		**Pn**	**23 48 49.0**	**+1.1**
VAM				S		**Sn**	**23 49 14.1**	**-0.7**
TAVA	**DENIZLI_Tavas**	**2.21**	**52**	*i* P		**Pn**	**23 48 51.5**	**+3.0**
AKAS	**Kas**	**2.33**	**86**	*i* P		**Pn**	**23 48 52.7**	**+2.7**
AKAS				*i* S		**Sn**	**23 49 15.8**	**-2.7**
AKAS	**Kas**	**2.33**	**86**	PN		**Pn**	**23 48 53.3**	**+3.2**
IMMV	**Iera Moni Meta**	**2.33**	**255**	P		**Pn**	**23 48 50.9**	**+1.0**
GLHS	**Glhisar (BURDU**	**2.46**	**64**	PN		**Pn**	**23 48 55.4**	**+3.7**
GOLH	**Golhisar**	**2.54**	**63**	*i* P		**Pn**	**23 48 56.1**	**+3.4**
KNDR	**Palaiochora Ch**	**2.63**	**251**	P		**Pn**	**23 48 57.2**	**+3.3**
VLI	**Veliai**	**3.12**	**282**	P		**Pn**	**23 49 01.7**	**+1.3**
MATC	**Matruh**	**4.77**	**175**	P		**Pn**	**23 49 23.8**	**+1.2**
	baz=174							
MATC				S		Sn	23 50 05.5	-11
	baz=174							
SLUM	**Salum**	**4.78**	**196**	P		**Pn**	**23 49 23.8**	**+1.2**
	baz=200							
SLUM				AMP			23 50 00.0	
	baz=200							
SLUM				S		Sn	23 50 07.3	-10
	baz=200							
SWA2		**6.93**	**189**	P		**Pn**	**23 49 52.7**	**+0.9**
	baz=192							
SWA2				AMP			23 51 00.0	
	baz=192							
HNTI	**Hanita**	**7.59**	**111**	Sn		**Sn**	**23 51 21.3**	**-3.8**
MMA0B	**Mount Meron ar**	**7.79**	**111**	Pn		Pn	23 50 00.2	-3.4
MMA0B				Sn		**Sn**	**23 51 27.5**	**-2.7**
SLTI	**Sal'it**	**7.89**	**117**	Sn		**Sn**	**23 51 29.3**	**-3.2**
GEM	**Giv'at Ha'Em**	**7.91**	**109**	Sn		**Sn**	**23 51 29.5**	**-3.4**
KSDI	**Kefar Szold**	**7.91**	**109**	Pn		Pn	23 50 01.6	-3.5
KSDI				Sn		**Sn**	**23 51 29.8**	**-3.2**
MMLI	**Mount Malkishu**	**8.07**	**114**	Sn		**Sn**	**23 51 33.0**	**-3.9**
AMAZ	**Amatzia**	**8.20**	**122**	Sn		Sn	23 51 35.7	-4.3
HMDT	**Nahal Hemdat**	**8.24**	**115**	Sn		**Sn**	**23 51 37.3**	**-3.7**
KZIT	**Kziot**	**8.24**	**127**	Pn		Pn	23 50 05.5	-4.1
KZIT				Sn		Sn	23 51 35.6	-5.4
YTIR	**Yattir**	**8.43**	**122**	Sn		**Sn**	**23 51 41.7**	**-4.2**
DSI	**Dead Sea**	**8.50**	**120**	Sn		Sn	23 51 43.0	-4.3
MZDA	**Masada**	**8.64**	**121**	Pn		Pn	23 50 11.9	-3.0
MZDA				Sn		**Sn**	**23 51 46.9**	**-3.7**
KRMI	**Paran Flat**	**8.98**	**129**	Sn		Sn	23 51 53.2	-5.8
PRNI	**Paran**	**9.00**	**127**	Pn		Pn	23 50 16.0	-3.9
PRNI				Sn		Sn	23 51 54.4	-5.1
HFRF	**Wahat Farafira**	**9.03**	**171**	P		**Pn**	**23 50 21.3**	**+0.9**
	baz=170							
HRFI	**Mount Harif**	**9.23**	**129**	Sn		Sn	23 52 00.2	-4.9
MBRI	**Mt Berech**	**9.32**	**130**	Sn		Sn	23 52 02.7	-4.7
EIL	**Elat**	**9.43**	**131**	Sn		Sn	23 52 04.5	-5.5

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*ISCJB **09** 23:56:54.7±0.2, 0.03S±0.03×122.83E±0.04, h236km, mb3.9/20, Error ellipse: s-maj=5.1km s-min=3.8km az=163.7*
*NEIC **09** 23:56:54.9±2.3, 0.04S±0.05×122.80E±0.08, h231km±3km, mb4.5/30*
*DJA **09** 23:56:55.7±0.2, 0°N±3'×12°3'E±', h231km±3km, M4.6/22, mB5.1/12, mb4.5/22, MLv4.7/7, MLv4.8/19, Mw(mB)4.5/12, Mwp7.0/1*
*IDC **09** 23:56:56.3±1.2, 0.03S×122.88E, h236km±11km, mb3.7/18, mb1 3.8/22, mb1mx3.6/48, mbtmp4.3/22, Error ellipse: s-maj=15.2km s-min=7.6km az=77.0*

ISC 09 23:56:55.8±0.4, 0.07S±0.05×122.86E±0.06, h236km, n101, σ1s36/112, mb4.4/34, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.97**	**185**	P		**Pn**	**23 57 28.0**	**-1.2**
LUWI	**Luwuk**	**0.97**	**185**			**Pn**	**23 57 28.3**	**-0.9**
LUWI				S		**S**	**23 57 51.4**	**-4.0**
MRSI	**Marisa**	**1.06**	**301**	P		**Pn**	**23 57 27.6**	**-2.1**
KMSI	**Cibinong**	**1.29**	**61**	P		**Pn**	**23 57 31.7**	**+0.5**
APSI	**Ampana**	**1.47**	**235**	P		**Pn**	**23 57 31.7**	**-0.8**
MPSI	**Mapaga**	**2.98**	**278**	P		**Pn**	**23 57 46.2**	**-1.1**
SANI	**Sanana**	**3.70**	**122**	P		**Pn**	**23 57 54.4**	**-1.1**
TTSI	**Tana Toraja**	**4.24**	**226**	P		**Pn**	**23 58 02.4**	**+0.5**
TNTI	**Ternate**	**4.59**	**80**	P		**Pn**	**23 58 05.7**	**-0.4**
TNTI	**Ternate**	**4.59**	**80**			**Pn**	**23 58 05.9**	**-0.2**
SPSI	**Sidrap Palu**	**4.95**	**218**	P		**Pn**	**23 58 10.5**	**-0.1**
BNSI	**Bone**	**5.11**	**212**	P		**Pn**	**23 58 13.2**	**+0.7**
	670nm,0.7s,7μm2.6nm							
NLAI	**Namlea**	**5.29**	**127**	P		**Pn**	**23 58 17.2**	**+2.5**
SMKI	**Samarinda**	**5.66**	**266**	P		**Pn**	**23 58 18.2**	**-1.2**
	176nm,0.7s,7μm1.4nm							
KAPI	**Kappang**	**5.81**	**212**	P		**Pn**	**23 58 22.0**	**+0.7**
	21nm,0.3s,baz=8.0,slow=6.7,SNR=109							
KAPI	**Kappang**	**5.81**	**212**			**Pn**	**23 58 22.3**	**+1.0**
BKSI	**Bulukumba**	**5.89**	**208**	P		**Pn**	**23 58 22.6**	**+0.3**
	150nm,0.9s,1μm0.6nm							
AAI	**Ambon**	**6.43**	**124**	P		Pn	23 58 39.2	+10
MSAI	**Masohi**	**6.89**	**118**	P		**Pn**	**23 58 36.1**	**+1.1**
	26nm,0.9s,720nm0.1nm							
SIJI	**Sorong**	**8.45**	**95**	P		**Pn**	**23 58 53.8**	**-1.1**
	1.7nm,0.3s,baz=313,slow=7.9,SNR=5.3							
KKM	**Kota Kinabalu**	**8.99**	**313**	Pn		**Pn**	**23 58 59.7**	**-2.2**
SOEI	**Soe**	**9.73**	**172**	Pn		**Pn**	**23 59 09.6**	**-1.7**
PLAI	**Plampang**	**10.07**	**210**	P		**Pn**	**23 59 16.6**	**+1.1**
	41nm,0.8s,769nm							
TWSI	**Taliwang, Sumb**	**10.47**	**214**	P		P	23 59 31.5	+5.2
JAGI	**Jajag, Banyuwa**	**12.04**	**226**	P		**P**	**23 59 47.7**	**+3.9**
JAGI	**Jajag, Banyuwa**	**12.04**	**226**			**Pn**	**23 59 38.1**	**-2.2**
GMJI	**Gumukmas**	**12.43**	**229**	P		P	23 59 53.3	+5.2
KSM	**Kuching**	**12.64**	**277**			**Pn**	**23 59 46.3**	**-1.5**
PWJI	**Pagerwojo**	**13.56**	**234**	P		**Pn**	**23 59 59.3**	**+0.2**
	44nm,0.8s							
SMRI	**Semarang**	**14.19**	**240**	Pn		**Pn**	**00 00 05.0**	**-1.9**
MTN	**Manton Dam**	**15.12**	**147**	P		**Pn**	**00 00 19.4**	**+1.3**
MTN				IAmb		IAmb	00 00 21.6	
	comp=Z,15nm,0.7s							
KPJI	**Karang Pucung**	**15.65**	**242**	P		**P**	**00 00 23.4**	**-0.4**
	comp=Z,48nm,0.8s							
KNRA	**Kununurra**	**16.57**	**160**			**Pn**	**00 00 35.5**	**+0.1**
LEM	**Lembang**	**16.62**	**246**	P		**P**	**00 00 35.0**	**+0.4**
	comp=Z,2.8nm,0.3s,baz=5.0,slow=14,SNR=6.1							
CISI	**Cisompet, Garu**	**16.74**	**243**	P		**P**	**00 00 34.0**	**-1.8**
	comp=Z,3μmcomp=Z,39nm,0.8s							
FITZ	**Fitzroy Crossi**	**18.13**	**171**	P		**P**	**00 00 51.7**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=9.2,slow=8.5,SNR=52							
FITZ				S		**S**	**00 04 04.9**	**-1.2**
	baz=159,slow=14,SNR=4.9							
FITZ	**Fitzroy Crossi**	**18.13**	**171**	P		**P**	**00 00 51.8**	**+1.0**
FITZ				IAmb		IAmb	00 00 53.2	
	comp=Z,12nm,1.1s							
FITZ						**S**	**00 04 05.2**	**-0.9**
KLSI		**18.68**	**256**	P		**P**	**00 00 54.7**	**-2.1**
	comp=Z,11nm,0.8s							
MDSI	**Maura Dua**	**19.17**	**257**	P		**P**	**00 01 00.2**	**-1.9**
	comp=Z,822nmcomp=Z,9.6nm,0.7s							
PSAD1	**Pilbara Seismi**	**21.46**	**188**	P		**P**	**00 01 25.7**	**-0.4**
PSAD1				IAmb		IAmb	00 01 43.4	
	comp=Z,22nm,1.4s							
PSAB2	**Pilbara Seismi**	**21.56**	**188**	P		**P**	**00 01 26.7**	**-0.3**
PSAB2				IAmb		IAmb	00 01 45.3	
	comp=Z,16nm,1.4s							
PSAC2	**Pilbara Seismi**	**21.56**	**188**	P		**P**	**00 01 26.3**	**-0.7**
PSAC2				IAmb		IAmb	00 01 27.7	
	comp=Z,8.2nm,0.6s							
PSAA2	**Pilbara Seismi**	**21.57**	**188**	P		**P**	**00 01 26.4**	**-0.7**
PSAA2				IAmb		IAmb	00 01 27.7	
	comp=Z,9.5nm,0.7s							
PSAB1	**Pilbara Seismi**	**21.58**	**188**	P		**P**	**00 01 26.2**	**-0.9**
PSAB1				IAmb		IAmb	00 01 27.9	
	comp=Z,15nm,1.1s							
PSA00	**Pilbara Seismi**	**21.58**	**188**	P		**P**	**00 01 26.3**	**-0.9**
PSA00				IAmb		IAmb	00 01 27.8	
	comp=Z,9.4nm,0.6s							
PSAA3	**Pilbara Seismi**	**21.58**	**188**	P		**P**	**00 01 26.4**	**-0.8**
PSAA3				IAmb		IAmb	00 01 27.9	
	comp=Z,9.3nm,0.6s							
PSAA1	**Pilbara Seismi**	**21.58**	**188**	P		**P**	**00 01 26.0**	**-1.2**
PSAB3	**Pilbara Seismi**	**21.60**	**188**	P		**P**	**00 01 26.6**	**-0.8**
PSAB3				IAmb		IAmb	00 01 28.8	
	comp=Z,11nm,0.9s							
PSAD2	**Pilbara Seismi**	**21.61**	**187**	P		**P**	**00 01 26.9**	**-0.5**
PSAD2				IAmb		IAmb	00 01 27.3	
	comp=Z,10.0nm,1.0s							
PSAC3	**Pilbara Seismi**	**21.63**	**188**	P		**P**	**00 01 26.9**	**-0.7**
PSAC3				IAmb		IAmb	00 01 28.9	
	comp=Z,14nm,1.1s							
PSAD3	**Pilbara Seismi**	**21.66**	**188**	P		**P**	**00 01 27.1**	**-0.8**
PSAD3				IAmb		IAmb	00 01 28.9	
	comp=Z,17nm,1.1s							
IPM	**Ipoh**	**22.27**	**282**	P		**P**	**00 01 34.5**	**+0.8**
WRA	**Warramunga Arr**	**22.73**	**151**	P		**P**	**00 01 38.6**	**+0.8**
	comp=Z,3.1nm,0.5s,baz=338,slow=9.4,SNR=42							
WRA				ScP		**ScP**	**00 08 38.0**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=336,slow=2.4,SNR=12							
WB2	**Warramunga Arr**	**22.74**	**151**	P		**P**	**00 01 38.9**	**+1.0**
WB2				PcP		**PcP**	**00 05 18.0**	**-4.0**
WB2				ScP		**ScP**	**00 08 36.8**	**-0.6**
KULM	**Kulim**	**22.80**	**284**	P		**P**	**00 01 38.7**	**+0.1**
KULM				IAmb		IAmb	00 01 40.3	
	comp=Z,19nm,0.9s							
TPUB	**Ta-pu**	**23.33**	**355**	P		**P**	**00 01 40.3**	**-2.9**
YHNB	**Yeheng**	**24.63**	**357**	P		**P**	**00 01 52.3**	**-2.8**
AS31	**Alice Springs**	**25.80**	**156**	P		**P**	**00 02 06.2**	**+0.7**
ASAR	**Alice Springs**	**25.80**	**156**	P		**P**	**00 02 07.2**	**+1.7**
	comp=Z,1.9nm,0.5s,baz=346,slow=15,SNR=36							
ASAR				PcP		**PcP**	**00 05 29.8**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=340,slow=1.8,SNR=4.3							
ASAR				ScP		**ScP**	**00 08 46.7**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=342,slow=2.7,SNR=9.4							
JOW	**Kunigami**	**27.25**	**11**	P		**P**	**00 02 19.3**	**+0.9**
MORW	**Morawa**	**29.57**	**192**	P		**P**	**00 02 36.6**	**-2.3**
CMAR	**Chiang Mai Arr**	**29.85**	**309**	P		**P**	**00 02 43.2**	**+1.6**
	comp=Z,5.0nm,0.6s,baz=135,slow=7.1,SNR=28							
CMAR				ScP		**ScP**	**00 08 59.2**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=163,slow=3.2,SNR=6.0							
CHTO	**Chiang Mai**	**30.05**	**310**	P		**P**	**00 02 44.6**	**+1.2**
CHTO				IAmb		IAmb	00 02 46.4	
	comp=Z,9.8nm,0.7s							
FORT	**Forrest**	**30.94**	**171**	P		**P**	**00 02 49.5**	**-1.5**
BBOO	**Buckleboo**	**34.87**	**160**	P		**P**	**00 03 25.4**	**+0.5**
BBOO				IAmb		IAmb	00 03 31.5	
	comp=Z,30nm,1.3s							
STKA	**Stephens Creek**	**36.27**	**152**	P		**P**	**00 03 38.4**	**+1.5**
	comp=Z,8.5nm,0.7s,baz=327,slow=8.5,SNR=16							
STKA	**Stephens Creek**	**36.27**	**152**	P		**P**	**00 03 38.4**	**+1.5**
MJAR	**Matsushiro Arr**	**39.11**	**20**	P		**P**	**00 03 59.3**	**-1.3**
	comp=Z,11nm,0.9s,baz=196,slow=9.4,SNR=9.5							
HHC	**Hu-ho-hao-te**	**42.00**	**347**	P		**P**	**00 04 26.5**	**+2.3**
HHC				pmax		pmax		
	comp=Z,4.0nm,0.8s							
HHC				AMB		AMB		
	comp=Z,6.0nm,5.9s							
ODAN	**Odare**	**43.36**	**311**	*eP*		**P**	**00 04 36.3**	**+0.8**
	comp=Z,25nm,0.8s							
TAPN	**Taplejung**	**43.38**	**312**	*eP*		**P**	**00 04 36.5**	**+0.7**
RAMN	**Ramite**	**44.00**	**311**	*eP*		**P**	**00 04 41.7**	**+1.0**
	comp=Z,38nm,0.6s							
JIRN	**Jiri**	**44.69**	**311**	*eP*		**P**	**00 04 47.3**	**+1.1**
	comp=Z,41nm,0.5s							
USA0B	**Ussuriysk Arra**	**44.82**	**9**	P		**P**	**00 04 45.2**	**-1.2**
USRK	**Ussuriysk Ar.**	**44.82**	**9**	P		**P**	**00 04 46.5**	**0.0**
	comp=Z,4.2nm,0.5s,baz=196,slow=4.9,SNR=11							
GUN	**Gumba**	**45.05**	**311**	*eP*		**P**	**00 04 49.8**	**+0.8**
	comp=Z,45nm,0.6s							
PKI	**Pulchoki**	**45.23**	**311**	*eP*		**P**	**00 04 50.6**	**+0.2**
	comp=Z,20nm,0.7s							
PKIN	**Phulchoki**	**45.24**	**311**	*eP*		**P**	**00 04 50.9**	**+0.5**
	comp=Z,11nm,0.6s							
KKN	**Kakani**	**45.44**	**311**	*eP*		**P**	**00 04 52.4**	**+0.5**
	comp=Z,14nm,0.7s							
DMN	**Daman**	**45.48**	**310**	*eP*		**P**	**00 04 53.0**	**+0.7**
	comp=Z,27nm,0.7s							
GKN	**Gorkha**	**46.04**	**311**	*eP*		**P**	**00 04 56.8**	**+0.3**
KOLN	**Koldanda**	**46.72**	**310**	*eP*		**P**	**00 05 02.8**	**+1.0**
	comp=Z,40nm,0.5s							
DANN	**Dangsing**	**46.88**	**310**	*eP*		**P**	**00 05 04.1**	**+0.9**
	comp=Z,80nm,0.6s							
ASAJ	**Asahikawa**	**47.38**	**19**	P		**P**	**00 05 07.0**	**+0.6**
	comp=Z,14nm,0.4s,baz=227,slow=10,SNR=8.9							
KLR	**Kul'dur**	**49.70**	**8**	P		**P**	**00 05 23.1**	**-0.9**
	comp=Z,1.0nm,0.4s,baz=216,slow=7.7,SNR=5.8							
SONM	**Songino Array**	**49.81**	**346**	P		**P**	**00 05 25.0**	**0.0**
	comp=Z,2.3nm,0.8s,baz=160,slow=8.2,SNR=16							
SONM				ScP		**ScP**	**00 10 14.4**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=166,slow=5.4,SNR=8.0							
WMQ	**Urumqi**	**53.77**	**329**	*eP*		**P**	**00 05 55.4**	**+1.2**
WMQ				pmax		pmax		
	comp=Z,8.0nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,59nm,3.9s							
KSH	**Kashi**	**58.13**	**318**	P		**P**	**00 06 28.9**	**+3.7**
KSH				pP		pP	00 07 18.7	+0.6
KSH				sP		sP	00 07 43.5	-0.5
KSH				PcS		**PcS**	**00 11 17.2**	**+1.3**
KSH				S		**S**	**00 14 10.4**	**+2.6**
KSH				ScS		**ScS**	**00 15 51.7**	**+0.6**
KSH				pmax		pmax		
	comp=Z,210nm,5.5s							

AB31			⇑S		Sn	00 09 02.2	+0.1
	0.7nm,0.6s,baz=98,slow=6.1,SNR=3.5						
BVAR	**Borovoye Array**	**16.46 358**	P		**Pn**	**00 06 32.6**	**-0.4**
	0.2nm,0.3s,baz=161,slow=13,SNR=4.5						
AKTO	**Aktyubinsk**	**16.78 330**	P		**P**	**00 06 37.5**	**0.0**
	0.3nm,0.3s,baz=132,slow=9.6,SNR=5.3						
AKTO	**Aktyubinsk**	**16.78 330**	⇓P		**Pn**	**00 06 37.0**	**+0.1**
	3.2nm,0.8s						
ZALV	**Zalesovo Beam**	**19.80 24**	P		**P**	**00 07 09.9**	**-0.6**
	2.9nm,0.3s,baz=202,slow=10,SNR=15						
ARU	**Arti**	**21.61 341**	P		**P**	**00 07 33.2**	**+3.4**
	0.6nm,0.4s,baz=331,slow=5.8,SNR=4.3						
FINES	**FINESS Array B**	**37.49 326**	P		**P**	**00 09 53.8**	**+1.9**
	2.2nm,0.9s,baz=120,slow=10,SNR=4.2						
ARCES	**ARCESS Array B**	**41.13 338**	P		**P**	**00 10 24.4**	**+2.4**
	1.0nm,0.6s,baz=115,slow=9.1,SNR=7.7						
NB2	**NORSAR Subarra**	**44.40 323**	P		**P**	**00 10 50.8**	**+2.3**
	comp=Z,0.4nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.40 323**	P		**P**	**00 10 50.9**	**+2.4**
	comp=Z,0.9nm,0.9s,baz=104,slow=7.3,SNR=4.2						
VAE	**Valguarnera**	**44.71 289**	LR		LR	00 34 08.6	
	comp=Z,18nm,20.7s,baz=102,slow=42						
TORD	**Torodi Ar. Bea**	**65.84 269**	P		**P**	**00 13 22.4**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=44,slow=6.5,SNR=4.7						
YKA	**Yellowknife Ar**	**81.17 3**	P		**P**	**00 14 53.3**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=350,slow=5.0,SNR=4.3						

*KRNET **10** 00:12:37.8±0.1, 41°.44N×79°.00E, h8km, mb2.0*
*NNC **10** 00:12:38.3±1.7, 41°.39N×78°.90E, h1km±7km, mb2.9, mpv2.7, Error ellipse: s-maj=12.0km s-min=8.8km az=172.0*
*SOME **10** 00:12:38.6, 41°.50N×78°.95E, h5km*

ISC 10 00:12:38.1±2.4, 41°.41N±0°.09×78°.92E±0°.05, h2km±18km, n27, σ1=12/46, 16C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.89**	**291**	⇑*eP*			**Pg**	**00 12 56.1**	**+0.9**
	baz=88								
TARG				⇑*iS*			**Sb**	**00 13 09.0**	**-0.1**
	baz=88								
PRZ	**Przheval'sk**	**1.14**	**340**	⇓*iP*			**Pg**	**00 12 59.4**	**-0.5**
	baz=38								
PRZ				⇓*iS*			**Sg**	**00 13 14.4**	**-0.2**
	baz=38								
KDJ	**Kajisay**	**1.48**	**299**	⇑*iP*			**Pb**	**00 13 06.8**	**+0.3**
	baz=98								
KDJ				⇑*iS*			**Sg**	**00 13 27.5**	**+1.7**
	baz=98								
ANVS	**Anan'yevo**	**1.66**	**326**	⇓*eP*			**Pb**	**00 13 09.3**	**-0.1**
	baz=24								
ANVS				⇓*iS*			**Sg**	**00 13 32.3**	**+1.0**
	baz=24								
SATY	**Saty**	**1.69**	**347**	⇑*iP*			**Pb**	**00 13 09.9**	**0.0**
	1.2nm,0.2s								
SATY				*eS*			**Sg**	**00 13 32.6**	**+0.3**
	2.3nm,0.1s								
SATY	**Saty**	**1.69**	**347**	P			**Pb**	**00 13 09.9**	**0.0**
	1.2nm,0.2s								
SATY				S			**Sg**	**00 13 32.6**	**+0.3**
	2.3nm,0.1s								
SHLS	**Shalkode**	**1.79**	**13**	*eP*			**Pg**	**00 13 12.5**	**+0.1**
	3.1nm,0.5s								
SHLS				*eS*			**Sg**	**00 13 36.9**	**+1.4**
	8.1nm,0.4s								
SHLS	**Shalkode**	**1.79**	**13**	P			**Pg**	**00 13 12.5**	**+0.1**
	3.1nm,0.5s								
SHLS				S			**Sg**	**00 13 36.9**	**+1.4**
	8.1nm,0.4s								
PDGK	**Podgornoye**	**1.96**	**12**	⇑Pg			**Pb**	**00 13 14.7**	**+0.1**
	1.2nm,0.6s								
PDGK				⇓Lg			Lg	00 13 43.1	
	3.8nm,0.8s								
KPKS	**Kokpek**	**2.06**	**355**	*eP*			**Pb**	**00 13 16.2**	**0.0**
	1.3nm,0.4s								
KPKS				*eS*			**Sg**	**00 13 43.0**	**-1.2**
	5.0nm,0.3s								
ULHL	**Ulahol**	**2.17**	**293**	⇑*iP*			**Pb**	**00 13 18.1**	**0.0**
	baz=92								
ULHL				⇑*iS*			**Sg**	**00 13 47.2**	**-0.5**
	baz=92								
TNSS	**Tian-Shan**	**2.19**	**319**	*eP*			**Pg**	**00 13 19.4**	**-0.6**
	2.3nm,0.5s								
TNSS				*eS*			**Sg**	**00 13 49.0**	**+0.8**
	3.6nm,0.5s								
TNSS	**Tian-Shan**	**2.19**	**319**	Pg			**Pg**	**00 13 19.4**	**-0.6**
	2.3nm,0.5s								
TNSS				Lg			Lg	00 13 49.1	
	3.6nm,0.5s								
NRN	**Naryn**	**2.19**	**271**	⇑*eP*			**Pb**	**00 13 18.3**	**-0.4**
	baz=71								
NRN				⇑*eS*			**Sb**	**00 13 48.0**	**+1.6**
	baz=71								
KOTS	**Kotyrbulak**	**2.26**	**324**	*eP*			**Pb**	**00 13 20.5**	**+0.9**
	2.0nm,0.2s								
KOTS				*eS*			**Sg**	**00 13 51.0**	**+0.4**
	4.6nm,0.4s								
KOTS	**Kotyrbulak**	**2.26**	**324**	Pg			**Pb**	**00 13 20.5**	**+0.9**
	2.0nm,0.2s								
KOTS				Lg			Lg	00 13 51.0	
	4.6nm,0.4s								
BOOM	**Boomskoye usch**	**2.47**	**297**	⇑*iP*			**Pb**	**00 13 21.9**	**-1.4**
	baz=96								
BOOM				⇑*iS*			**Sb**	**00 13 54.6**	**+0.4**
	baz=96								
CHKK	**Chushkaly**	**2.82**	**330**	*eP*			**Pb**	**00 13 30.6**	**+1.4**
	1.3nm,0.0s								
CHKK				*eS*			**Sg**	**00 14 08.0**	**-0.7**
	8.9nm,0.4s								
CHKK	**Chushkaly**	**2.82**	**330**	Pg			**Pb**	**00 13 30.6**	**+1.4**
	1.3nm,0.0s								
CHKK				Lg			Lg	00 14 08.0	
	8.9nm,0.4s								
KTBS	**Karatobe**	**2.83**	**325**	*eP*			**Pb**	**00 13 30.6**	**+1.3**
	0.6nm,0.2s								
KTBS				*eS*			**Sg**	**00 14 08.1**	**-0.9**
	4.8nm,0.3s								
KTBS	**Karatobe**	**2.83**	**325**	Pg			**Pb**	**00 13 30.6**	**+1.3**
	0.6nm,0.2s								
KTBS				Lg			Lg	00 14 08.1	
	4.8nm,0.3s								
TKM2	**Tokmak 2**	**2.89**	**302**	⇑*iP*			**Pb**	**00 13 28.1**	**-2.4**
	baz=1.0								
TKM2				⇑*iS*			**Sb**	**00 14 04.9**	**-1.5**
	baz=1.0								
TKM2	**Tokmak 2**	**2.89**	**302**	⇑Pg			**Pb**	**00 13 28.8**	**-1.7**
	1.1nm,1.0s								
TKM2				⇑Lg			Lg	00 14 09.4	
	2.2nm,0.5s								
ARXS	**Arharly**	**2.91**	**344**	*eP*			**Pb**	**00 13 31.9**	**+1.1**
	1.2nm,0.3s								
ARXS				*eS*			**Sg**	**00 14 10.1**	**-1.5**
	5.7nm,0.5s								
ARXS	**Arharly**	**2.91**	**344**	Pg			**Pb**	**00 13 31.9**	**+1.1**
	1.2nm,0.3s								
ARXS				Lg			Lg	00 14 10.1	
	5.7nm,0.5s								
DJR	**Jarkent**	**2.99**	**12**	*eP*			**Pb**	**00 13 32.3**	**+0.2**
	0.2nm,0.3s								
DJR				*eS*			**Sg**	**00 14 10.7**	**-3.2**
	1.7nm,0.3s								
DJR	**Jarkent**	**2.99**	**12**	Pg			**Pb**	**00 13 32.2**	**+0.2**
	0.5nm,0.1s								
DJR				Lg			Lg	00 14 10.7	
	1.4nm,0.3s								

*IDC **10** 00:15:56.7±1.4, 50°.97N×144°.07E, h0km, mb3.9/4, mb1 3.9/6, mb1mx3.5/57, mbtmp3.8/6, ML3.0/2, Error ellipse: s-maj=37.7km s-min=28.2km az=5.0*
*ISCJB **10** 00:15:57.3±1.1, 50°.87N±0°.05×143°.8E±0°.1, h10km, mb3.7/4, Error ellipse: s-maj=10.2km s-min=6.9km az=5.0*
*SKHL **10** 00:15:58.2±0.6, 50°.86N×143°.62E, h10km, mb4.4/5*

ISC 10 00:15:57.7±0.9, 50°.89N±0°.06×143°.89E±0°.07, h10km, n11, σ1=71/13, mb3.6/4, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**0.78**	**269**	*ePg*			**Pb**	**00 16 11.9**	**-1.5**
TYV					AMB		AMB	00 16 12.4	
	308nm,0.4s								
TYV				*eSg*			**Sb**	**00 16 20.7**	**-3.3**
TYV					A		A	00 16 22.3	
	3μm,0.5s								
UGL	**Uglegorsk**	**2.16**	**214**	*ePg*			**Pg**	**00 16 38.7**	**-0.4**
UGL					AMB		AMB	00 16 40.5	
	300nm,0.8s								
UGL				*eSg*			**Sg**	**00 17 06.9**	**-0.2**
UGL					A		A	00 17 11.2	
	2μm,0.7s								
UGL					A		A	00 17 11.2	
	5μm,0.7s								
NKL	**Nikolayevsk**	**3.01**	**320**	*eP*			**Pn**	**00 16 45.8**	**+0.4**
NKL					AMB		AMB	00 16 47.1	
	200nm,1.0s								
NKL				*eS*			**Sn**	**00 17 20.3**	**-1.1**
NKL					A		A	00 17 21.7	
	160nm,0.5s								
EKMR	**Ekimchan**	**7.10**	**292**	*eSg*			**Sg**	**00 19 47.0**	**+1.6**
EKMR					A		A	00 19 48.0	
	16nm,1.0s								
KLR	**Kul'dur**	**7.99**	**263**	Pn			**Pn**	**00 17 55.4**	**+1.6**
	0.5nm,0.3s,baz=71,slow=13,SNR=8.8								
KLR				Lg			Lg	00 20 07.7	
	0.3nm,0.3s,baz=334,slow=13,SNR=5.8								
PETK	**Petropavlovsk-**	**8.81**	**70**	Pn			**Pn**	**00 18 03.1**	**-1.9**
	0.4nm,0.3s,baz=275,slow=16,SNR=4.3								
BMKR	**Bomnak**	**9.88**	**299**	*eSg*			Sn	00 20 42.5	+32
BMKR					A		A	00 20 43.2	
	7.0nm,0.6s								
SONM	**Songino Array**	**24.44**	**278**	P			**P**	**00 21 17.9**	**+1.4**
	0.9nm,0.7s,baz=81,slow=6.9,SNR=7.2								
MKAR	**Makanchi Array**	**39.71**	**289**	P			**P**	**00 23 31.2**	**+1.2**
	1.1nm,0.6s,baz=53,slow=6.8,SNR=11								
FINES	**FINESS Array B**	**57.54**	**330**	P			**P**	**00 25 47.4**	**+0.6**
	6.5nm,1.2s,baz=16,slow=7.2,SNR=4.0								
ASAR	**Alice Springs**	**74.75**	**189**	P			**P**	**00 27 39.0**	**+1.3**
	0.2nm,0.5s,baz=1.5,slow=5.2,SNR=4.9								

*IDC **10** 00:23:17.9±1.5, 17°.96S×172°.45W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/36, mbtmp3.8/6, ML4.4/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/30, Error ellipse: s-maj=55.3km s-min=23.9km az=126.0*
*ISCJB **10** 00:23:20.0±1.1, 17°.85S±0°.1×172°.6W±0°.3, h21km, mb3.8/5, MS3.6/2, Error ellipse: s-maj=38.3km s-min=9.9km az=21.7*

ISC 10 00:23:21.5±1.3, 17°.9S±0°.1×172°.5W±0°.3, h21km, n10, σ1=9/9/7, mb3.6/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.00**	**11**	Pn			**Pn**	**00 24 22.8**	**+1.3**
	22nm,0.3s,baz=102,slow=8.6,SNR=14								
AFI				Sn			**Sn**	**00 25 06.2**	**-1.6**
	55nm,0.3s,baz=343,slow=24,SNR=14								
AFI				LR			LR	00 25 54.5	
	comp=Z,125nm,20.3s,baz=143,slow=38								
RAR	**Rarotonga**	**12.48**	**108**	Pn			Pn	00 26 09.7	-8.3
	2.9nm,0.3s,baz=256,slow=8.3,SNR=6.3								
PPT	**Papeete**	**21.87**	**93**	LR			LR	00 35 30.8	
	comp=Z,320nm,18.8s,baz=350,slow=34								
URZ	**Urewera**	**22.25**	**202**	P			**P**	**00 28 16.4**	**-0.5**
	9.6nm,0.6s,baz=285,slow=7.3,SNR=4.4								
WRA	**Warramunga Arr**	**50.13**	**259**	P			**P**	**00 32 15.7**	**0.0**
	0.3nm,0.5s,baz=97,slow=6.8,SNR=7.6								
ASAR	**Alice Springs**	**50.18**	**254**	P			**P**	**00 32 16.1**	**0.0**
	1.3nm,0.8s,baz=89,slow=8.3,SNR=13								
H06S1	**SOCORRO T**	**70.59**	**62**	T			T	01 51 51.2	
	SNR=7.6								
PDAR	**Pinedale Array**	**83.55**	**41**	P			**P**	**00 35 47.9**	**-0.3**
	0.3nm,0.7s,baz=193,slow=3.7,SNR=2.9								
ILAR	**Eielson Array**	**84.69**	**11**	P			**P**	**00 35 53.6**	**+0.3**
	0.2nm,0.7s,baz=224,slow=3.8,SNR=2.6								
INK	**Inuvik**	**90.45**	**14**	LR			LR	01 13 14.0	
	comp=Z,126nm,18.4s,baz=350,slow=33								

*VAO **10** 00:51:19.4±0.4, 31°.27S×69°.25W, h10km, mb5.0*
*MOS **10** 00:51:26.2±1.2, 31°.32S×69°.23W, h100km, mb5.2/16, Error ellipse: s-maj=14.4km s-min=7.2km az=94.9*
*ISCJB **10** 00:51:27.3±0.2, 31°.32S±0°.02×69°.31W±0°.02, h116km±1km, mb5.1/43, Error ellipse: s-maj=3.6km s-min=3.0km az=19.1*
*NEIC **10** 00:51:27.9±2.8, 31°.39S±0°.05×69°.30W±0°.06, h113km±3km, mb5.3/312, Md5.3(SJA), ML5.0(GUC)*
*SJA **10** 00:51:27±2.7, 31°.40S±0°.05×69°.28W±0°.06, h114km±3km*
*GUC **10** 00:51:27.3±0.8, 31°.40S×69°.58W, h135km±17km, ML5.0*
*IDC **10** 00:51:28.9±0.3, 31°.37S×69°.19W, h116km±2km, mb4.7/26, mb1 4.8/28, mb1mx4.8/34, mbtmp5.1/28, MS3.6/9, Ms1 3.6/9, ms1mx3.4/24, Error ellipse: s-maj=9.3km s-min=6.8km az=44.0*
*BJI **10** 00:51:28.0±0.0, 31°.40S×69°.30W, h100km, mB5.4/9*
*GCMT **10** 00:51:30.9±0.2, 31°.39S±0°.01×69°.29W±0°.02, h117km±1km, MW5.1/118, Moment Tensor Solution. s85,c102; s118,c172; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.87±.10; Mθθ 1.88±.13; Mϕϕ 2.99±.15; Mrθ -1.55±.08; Mθϕ 3.04±.10; Mϕr 0.64±.12; Best double couple: M=5.49000×10^16 NP1:ϕs 57.00000°, δ51.00000°, λ -66.00000°. NP2:ϕs 202.00000°, δ45.00000°, λ -117.00000°. Principal axes: T 5.5510, Plg3.0000°, Azm131.0000°; N -0.1220, Plg18.0000°, Azm222.0000°; P -5.4290, Plg71.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 00:51:27.8±0.3, 31°.36S±0°.03×69°.33W±0°.03, h110km±2km, h110km:pP-P, n993, σ1=26/970, mb5.3/174, 14C-18D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.44**	**177**	*i*P			**Pn**	**00 51 45.0**	**+0.3**
RTLS				*eS*			**Sn**	**00 51 58.1**	**+0.8**
RTLS						IAML		00 52 00.2	
	comp=Z,36μm,0.5s								
SJA	**San Juan**	**0.68**	**105**	*eP*			**Pn**	**00 51 46.9**	**+0.9**
SJA				*iS*			**Sn**	**00 52 00.5**	**+0.8**
SJA						IAML		00 52 16.3	
	comp=Z,53μm,1.4s								
RTLL	**Cerro Villicun**	**0.73**	**88**	*i*P			**Pn**	**00 51 47.0**	**+0.5**
RTLL				*i*S			**Sn**	**00 52 01.6**	**+1.1**
RTLL						IAML		00 52 06.3	
	comp=Z,40μm,0.6s								
ACCO	**Cerro Coronel**	**0.80**	**16**	*i*P			**Pn**	**00 51 48.8**	**+1.3**
AMOG	**MOGNA**	**0.83**	**60**	*i*P			**Pn**	**00 51 48.4**	**+1.0**
RTCV	**Cerro Valdivia**	**0.84**	**127**	*i*P			**Pn**	**00 51 48.2**	**+0.7**
CFA	**Coronel Fontan**	**0.96**	**105**	P			**Pn**	**00 51 49.1**	**+0.5**
	comp=Z,3μm,0.3s,baz=286,slow=5.9								
CFA				S			**Sn**	**00 52 05.2**	**+0.8**
	comp=Z,6μm,0.3s,baz=336,slow=20,SNR=298								
CFA	**Coronel Fontan**	**0.96**	**105**	*i*P			**Pn**	**00 51 49.4**	**+0.7**
CFA				*eS*			**Sn**	**00 52 05.3**	**+1.0**
AROD	**Rodeo**	**1.19**	**354**	*i*P			**Pn**	**00 51 53.2**	**+1.8**
AROD				*i*S			**Sn**	**00 52 12.1**	**+2.9**
ACDV	**Cuesta del Vie**	**1.20**	**9**	*i*P			**Pn**	**00 51 52.9**	**+1.6**
ACDV				*eS*			**Sn**	**00 52 11.3**	**+2.3**
ACDV						IAML		00 52 12.3	
	comp=Z,16μm,0.8s								
ASAL	**Salagasta**	**1.30**	**161**	*i*P			**Pn**	**00 51 52.9**	**+0.5**
CO02	**Combarbal**	**1.44**	**276**	⇑*i*P			**Pn**	**00 51 54.2**	**+0.1**
CO02				*i*S			**Sn**	**00 52 14.2**	**+0.2**
ARCO	**CERRO ARCO**	**1.52**	**167**	*i*P			**Pn**	**00 51 55.6**	**+0.6**
ARCO				*eS*			**Sn**	**00 52 16.1**	**+0.5**
ARCO						IAML		00 52 21.4	
	comp=Z,43μm,0.6s								
GO04	**Tololo Observa**	**1.73**	**313**	⇑*i*P			**Pn**	**00 51 58.0**	**+0.4**
GO04				*i*S			**Sn**	**00 52 21.6**	**+1.2**
GO04	**Tololo Observa**	**1.73**	**313**				**Pn**	**00 51 58.1**	**+0.4**
AAGR	**Agrelo**	**1.77**	**166**	*i*P			**Pn**	**00 51 58.3**	**+0.2**
AGUA	**GUANDACOL**	**2.00**	**21**	*i*P			**Pn**	**00 52 03.0**	**+2.1**
AGUA				*i*S			**Sn**	**00 52 28.8**	**+2.6**
ACAN	**Cantantal**	**2.04**	**117**	*i*P			**Pn**	**00 52 02.0**	**+0.7**
PEL	**Peldehue**	**2.12**	**213**	P			**Pn**	**00 52 01.8**	**-0.6**
PEL	**Peldehue**	**2.12**	**213**	*i*P			**Pn**	**00 52 01.8**	**-0.6**
PEL				*i*S			**Sn**	**00 52 27.9**	**-0.9**
PEL						IAML		00 52 30.1	
	comp=N,7μm,0.5s								
PEL	**Peldehue**	**2.12**	**213**				**Pn**	**00 52 01.8**	**-0.6**
PEL							Sn	00 52 18.5	-10
PEL	**Peldehue**	**2.12**	**213**	*eP*			**Pn**	**00 52 01.8**	**-0.6**
FCH	**Farellones**	**2.13**	**202**	⇑*i*P			**Pn**	**00 52 02.9**	**+0.2**
FCH				*i*S			**Sn**	**00 52 31.4**	**+2.0**
FCH						IAML		00 52 35.3	
	comp=N,6μm,0.3s								
ROCH	**El Roble**	**2.15**	**221**	⇓*i*P			**Pn**	**00 52 01.9**	**-1.1**
ROCH				*i*S			**Sn**	**00 52 28.9**	**-1.0**
ROCH						IAML		00 52 33.5	
	comp=E,18μm,0.8s								
ROC1	**El Roble**	**2.16**	**221**				**Pn**	**00 52 02.0**	**-1.1**
LSCH	**La Serena**	**2.20**	**311**	⇑*i*P			**Pn**	**00 52 03.1**	**-0.2**
LSCH				*i*S			**Sn**	**00 52 29.7**	**-0.8**
LSCH						IAML		00 52 30.3	
	comp=N,10μm,0.3s								
CLCH	**Cerro Calan**	**2.28**	**206**			IAML		00 52 36.8	
	comp=E,19μm,0.7s								
FSR	**Penalolen**	**2.35**	**205**	⇑*i*P			**Pn**	**00 52 06.7**	**+1.3**
FSR				*i*S			**Sn**	**00 52 35.5**	**+1.4**
ANTU	**Antumapu**	**2.47**	**206**	*i*P			**Pn**	**00 52 07.6**	**+0.8**
ANTU				*i*S			**Sn**	**00 52 37.8**	**+1.0**
VA01	**Torpederas**	**2.58**	**229**	*i*P			**Pn**	**00 52 06.7**	**-1.5**
VA01				*i*S			**Sn**	**00 52 33.4**	**-5.8**
VA01						IAML		00 52 44.1	
	comp=N,6μm,0.1s								
APLL	**PUNTA DE LOS L**	**2.59**	**69**	*i*P			**Pn**	**00 52 09.2**	**+0.8**
APLL				*i*S			**Sn**	**00 52 40.7**	**+1.0**
LMEL	**Las Melosas**	**2.59**	**196**	⇑*i*P			**Pn**	**00 52 08.5**	**-0.1**
LMEL						IAML		00 52 46.8	
	comp=N,4μm,0.3s								
VCA	**Vinchina**	**2.79**	**21**	*i*P			**Pn**	**00 52 12.9**	**+1.8**
VCA				*i*S			**Sn**	**00 52 45.7**	**+1.2**
VCA						IAML		00 52 53.0	
	comp=Z,10μm,0.4s								
ACLC	**CERRO LA CRUZ**	**2.81**	**47**	*i*P			**Pn**	**00 52 12.5**	**+1.0**
GO03	**Copiap**	**3.83**	**348**				**Pn**	**00 52 25.2**	**+0.1**
GO03							**Sn**	**00 53 00.7**	**-8.6**
TCA	**Tanti**	**4.05**	**91**	*i*P			**Pn**	**00 52 27.7**	**-0.2**
TCA						IAML		00 53 30.4	
	comp=Z,4μm,0.9s								
CYA	**Choya**	**4.22**	**47**	*i*P			**Pn**	**00 52 30.0**	**-0.2**
CYA				*i*S			**Sn**	**00 53 16.3**	**-2.2**
CYA						IAML		00 54 05.7	
	comp=Z,1μm,0.8s								
GO05	**Huala**	**4.25**	**210**				**Pn**	**00 52 26.9**	**-3.6**
AHML	**Horco Molle**	**5.74**	**38**	*e*P			**Pn**	**00 52 49.7**	**-1.1**
AHML						IAML		00 54 32.6	
	comp=Z,696nm,0.9s								
GO02	**Mina Guanaco**	**6.18**	**358**				**Pn**	**00 52 55.8**	**-1.1**
PB10	**IPOC Station P**	**7.89**	**352**				**Pn**	**00 53 16.7**	**-3.2**
PB10							**Sn**	**00 54 42.0**	**-5.5**
GO06	**Curarrehue**	**8.39**	**191**				**Pn**	**00 53 23.3**	**-3.4**
LVC	**Limon Verde**	**8.72**	**3**	P			**Pn**	**00 53 28.7**	**-2.7**
	comp=Z,18nm,0.3s,baz=184,slow=9.2,SNR=87								
LVC				S			**Sn**	**00 55 02.1**	**-6.1**
	comp=Z,6.1nm,0.3s,baz=110,slow=22,SNR=3.5								
LVC				LR			LR	00 57 50.3	
	comp=Z,228nm,20.1s,baz=199,slow=44								
LVC	**Limon Verde**	**8.72**	**3**				**Pn**	**00 53 28.6**	**-2.8**
TRQA	**Tornquist**	**9.01**	**140**	P			**Pn**	**00 53 33.1**	**-1.9**
TRQA								00 55 08.9	
TRQA	**Tornquist**	**9.01**	**140**				**Pn**	**00 53 33.1**	**-1.9**
TRQA							**Sn**	**00 55 08.9**	**-5.7**
PB04	**IPOC Station P**	**9.02**	**355**				Pn	00 53 30.6	-4.7
PB04							**Sn**	**00 55 11.7**	**-3.5**
PLCA	**Paso Flores**	**9.41**	**186**	P			**Pn**	**00 53 37.2**	**-3.2**
PLCA	**Paso Flores**	**9.41**	**186**	P			**Pn**	**00 53 37.0**	**-3.4**
	comp=Z,1.5nm,0.3s,baz=28,slow=11,SNR=47								
PLCA	**Paso Flores**	**9.41**	**186**	*e*P			**Pn**	**00 53 36.1**	**-4.3**
PLCA	**Paso Flores**	**9.41**	**186**	*e*P			**Pn**	**00 53 36.1**	**-4.3**
PLCA	**Paso Flores**	**9.41**	**186**				**Pn**	**00 53 37.1**	**-3.2**
PB11	**IPOC Station P**	**11.55**	**358**				Pn	00 54 04.4	-5.1
GO01	**Chusmiza**	**11.64**	**1**				**Pn**	**00 54 06.4**	**-4.6**
CPUP	**Villa Florida**	**11.65**	**68**	P			**Pn**	**00 54 06.3**	**-4.3**
CPUP								00 56 12.0	
CPUP	**Villa Florida**	**11.65**	**68**	P			**Pn**	**00 54 06.6**	**-4.0**
	comp=Z,3.8nm,0.3s,baz=244,slow=12,SNR=122								
CPUP				S			**Sn**	**00 56 12.0**	**-6.7**
	comp=Z,3.5nm,0.3s,baz=267,slow=19,SNR=1.7								
CPUP				LR			LR	00 59 00.5	
	comp=Z,381nm,18.5s,baz=251,slow=39								
CPUP	**Villa Florida**	**11.65**	**68**				**Pn**	**00 54 06.3**	**-4.3**
MNMC	**Minye Minye**	**12.18**	**359**				**Pn**	**00 54 14.4**	**-3.5**
PLTB	**Pedras Altas**	**13.41**	**96**	*e*P			**Pn**	**00 54 30.1**	**-3.7**
PLTB	**Pedras Altas**	**13.41**	**96**	*e*P			**Pn**	**00 54 30.1**	**-3.7**
LPAZ	**La Paz**	**15.04**	**4**	P			**Pn**	**00 54 54.3**	**-1.0**
LPAZ						pmax	pmax		
	comp=Z,135nm,1.1s								
LPAZ	**La Paz**	**15.04**	**4**	P			**Pn**	**00 54 56.5**	**+1.3**
	comp=Z,2.1nm,0.3s,baz=177,slow=8.3,SNR=221								
LPAZ				S			**S**	**00 57 50.7**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=276,slow=19,SNR=1.8								
LPAZ	**La Paz**	**15.04**	**4**	*e*P			**Pn**	**00 54 51.6**	**-3.6**
LPAZ	**La Paz**	**15.04**	**4**	*e*P			**Pn**	**00 54 51.6**	**-3.6**
LPAZ	**La Paz**	**15.04**	**4**	P			**

SJMB eS S 01 02 00.2 +10
BSFB Barra de Sao F 28.56 71 eP **P** **00 57 13.4 0.0**
BSFB Barra de Sao F 28.56 71 eP **P** **00 57 13.4 0.0**
OTAV Otavalo 32.59 343 P **P** **00 57 51.0 +1.5**
OTAV 01 00 35.2
OTAV pmax pmax
comp=Z,29nm,1.3s
OTAV Otavalo 32.59 343 eP **P** **00 57 51.6 +2.1**
OTAV Otavalo 32.59 343 eP **P** **00 57 51.6 +2.1**
OTAV Otavalo 32.59 343 P **P** **00 57 51.0 +1.5**
OTAV **PcP** **01 00 35.2 +1.7**
PMSA Palmer Station 33.60 176 P **P** **00 57 57.9 +0.7**
comp=Z,15nm,0.8s,baz=355,slow=8.7,SNR=8.4
PMSA Palmer Station 33.60 176 P **P** **00 57 56.6 -0.6**
ROSC El Rosal 36.31 352 P **P** **00 58 23.8 +2.4**
comp=Z,21nm,0.6s,baz=184,slow=15,SNR=9.9
ROSC El Rosal 36.31 352 P **P** **00 58 21.2 -0.2**
MDP Montagnes des 39.60 27 P **P** **00 58 48.4 -0.2**
comp=Z,34nm,0.8s,baz=200,slow=9.6,SNR=15
SDV Santo Domingo 40.03 358 P **P** **00 58 51.9 -0.6**
comp=Z,17nm,0.7s,baz=180,slow=4.3,SNR=23
SDV pP **pP** **00 59 18.6 +0.4**
comp=Z,25nm,0.9s,baz=192,slow=5.6,SNR=6.2
SDV Santo Domingo 40.03 358 P **P** **00 58 51.5 -1.0**
RCBR Riachuelo 40.31 58 P **P** **00 58 55.6 +0.9**
RCBR pmax pmax
comp=Z,75nm,1.3s
RCBR Riachuelo 40.31 58 eP **P** **00 58 55.5 +0.9**
RCBR Riachuelo 40.31 58 eP **P** **00 58 55.5 +0.9**
RCBR Riachuelo 40.31 58 P **P** **00 58 55.6 +0.9**
RCBR IAmb IAmb 00 58 56.4
comp=Z,75nm,1.2s
PLCV Puerto La Cruz 41.53 7 P **P** **00 59 04.5 0.0**
BCIP Isla Barro Col 41.53 344 P **P** **00 59 06.1 +1.6**
BCIP pmax pmax
comp=Z,267nm,2.0s
BCIP Isla Barro Col 41.53 344 P **P** **00 59 06.1 +1.6**
PCRV Puerto La Cruz 41.54 7 P **P** **00 59 04.5 -0.1**
comp=Z,26nm,0.9s,baz=185,slow=8.1,SNR=5.1
TOSP Speyside 43.24 13 P **P** **00 59 18.4 0.0**
GRGR Grenville 43.86 11 P **P** **00 59 22.7 -0.6**
JTS Las Juntas de 44.04 338 *de*P **P** **00 59 25.6 +0.8**
JTS pmax pmax
comp=Z,18nm,1.0s
JTS Las Juntas de 44.04 338 P **P** **00 59 26.9 +2.1**
comp=Z,14nm,0.5s,baz=243,slow=7.2,SNR=13
JTS Las Juntas de 44.04 338 P **P** **00 59 26.8 +2.0**
SVB Belmont 45.05 11 P **P** **00 59 31.8 -1.0**
MLPR Magueyes Islan 49.09 3 P **P** **01 00 02.0 -2.1**
MLPR PcP **PcP** **01 01 25.8 -0.3**
CRPR Cabo Rojo, PR 49.13 3 P **P** **01 00 03.5 -0.9**
OBIP Obispado Ponce 49.19 3 P **P** **01 00 03.1 -1.7**
PDPR Patillas Dam, 49.19 4 P **P** **01 00 03.0 -1.9**
PDPR pP **pP** **01 00 28.9 -2.6**
SJG San Juan 49.28 4 P **P** **01 00 04.6 -0.9**
SJG *PP **pP** **01 00 30.9 -1.3**
SJG pmax pmax
comp=Z,80nm,1.2s
SJG San Juan 49.28 4 P **P** **01 00 04.6 -0.9**
SJG pP **pP** **01 00 30.9 -1.3**
SJG sP **sP** **01 00 44.8 +0.2**
MTP Monte Pirata 49.30 5 P **P** **01 00 03.5 -2.2**
MTP IAmb IAmb 01 00 39.8
comp=Z,58nm,1.3s
CBYP Canovanas 49.46 4 P **P** **01 00 06.4 -0.5**
CBYP pP **pP** **01 00 30.3 -3.3**
SDDR Presa de Saban 50.09 358 P **P** **01 00 12.6 +0.8**
SDDR IAmb IAmb 01 00 14.3
comp=Z,42nm,1.2s
APG El Apazote 50.37 333 LR LR 01 18 09.9
comp=Z,47nm,21.9s,baz=154,slow=32
VNA3 Neumayer Olymp 50.97 159 P **P** **01 00 18.4 +0.6**
VNA1 Neumayer--Stat 51.23 158 P **P** **01 00 20.6 +1.0**
VNA2 Neumayer--Watz 51.58 158 P **P** **01 00 23.0 +0.7**
baz=289,slow=8.7
SNAA Sanae 53.19 159 P **P** **01 00 34.5 +0.2**
SNAA Sanae 53.19 159 *de*P **P** **01 00 33.3 -0.9**
SNAA Sanae 53.19 159 P **P** **01 00 34.4 +0.2**
comp=Z,35nm,0.9s,baz=284,slow=6.1,SNR=90
SNAA pP **pP** **01 01 02.0 +0.6**
comp=Z,19nm,0.8s,baz=304,slow=5.7,SNR=4.4
SNAA Sanae 53.19 159 P **P** **01 00 34.0 -0.2**
TEIG Tepich 54.42 338 P **P** **01 00 44.1 +0.5**
NVL N'lazarevskaya 57.85 157 eP P 01 01 16.5 +9.0
NVL eS **S** **01 09 02.9 +4.7**
NVL pmax pmax
comp=Z,6.0nm,0.5s
061Z Ochoppi 57.97 348 P **P** **01 01 09.5 +0.7**
baz=168
QSPA South Pole Qui 58.87 180 P **P** **01 01 15.1 +0.2**
060A Indiantown 59.02 349 P **P** **01 01 16.7 +0.7**
baz=169
DWPF Disney Wildern 60.25 348 P **P** **01 01 24.7 +0.2**
baz=168
656A Williston 61.69 347 P **P** **01 01 34.3 +0.1**
baz=167
457A Yulee 62.72 348 P **P** **01 01 41.3 +0.2**
baz=168
553A Crawfordville 62.87 345 P **P** **01 01 42.3 +0.3**
baz=166
456A Hilliard 62.91 348 P **P** **01 01 42.2 -0.1**
baz=168
454A Quitman 63.21 346 P **P** **01 01 44.3 0.0**
baz=166
453A Whigham 63.49 346 P **P** **01 01 46.3 +0.2**
baz=166
357A Townsend 63.49 348 P **P** **01 01 45.6 -0.6**
baz=168
356A Blackshear 63.51 348 P **P** **01 01 45.5 -0.8**
baz=168
BBSR BB Station 63.53 4 P **P** **01 01 46.9 +0.5**
BBSR IAmb IAmb 01 01 47.8
comp=Z,37nm,0.9s
TIGA Tifton 63.90 346 P **P** **01 01 48.5 -0.4**
baz=166,SNR=5.4
353A Camilla 63.94 346 P **P** **01 01 49.4 +0.3**
baz=166,SNR=8.2
257A Skidaway Islan 63.96 349 P **P** **01 01 49.0 -0.2**
baz=169
256A Glennville 64.11 348 P **P** **01 01 50.3 +0.1**
baz=168
255A Hazlehurst 64.16 348 P **P** **01 01 50.3 -0.3**
baz=168
352A Blakely 64.22 345 P **P** **01 01 50.8 -0.1**
baz=165,SNR=12
254A Abbeville 64.33 347 P **P** **01 01 51.5 -0.1**
baz=167,SNR=9.5
BRAL Brewton 64.42 343 P **P** **01 01 51.9 -0.3**
baz=163
158A Hollywood 64.57 350 P **P** **01 01 53.6 +0.4**
baz=170
253A Americus 64.61 346 P **P** **01 01 53.1 -0.4**
baz=166,SNR=6.9
157A Early Branch 64.64 349 P **P** **01 01 54.1 +0.5**
baz=169
252A Lumpkin 64.68 346 P **P** **01 01 53.5 -0.5**
baz=166,SNR=9.9
156A Sylvania 64.70 349 P **P** **01 01 53.7 -0.3**
baz=168
155A Kite 64.84 348 P **P** **01 01 55.1 +0.1**
baz=168
NHSC New Hope 64.93 350 P **P** **01 01 56.2 +0.7**
baz=170,SNR=5.5
154A Montrose 64.95 347 P **P** **01 01 55.5 -0.1**
baz=167,SNR=6.4
250A Grady 65.00 344 P **P** **01 01 56.0 0.0**
baz=164
Z58A St. Stephen 65.10 350 P **P** **01 01 56.9 +0.3**
baz=170,SNR=9.2
153A Fort Valley 65.12 347 P **P** **01 01 56.5 -0.3**
baz=166
Z57A Bowman 65.20 350 P **P** **01 01 57.3 0.0**
baz=169,SNR=8.2
152A Waverly Hall 65.32 346 P **P** **01 01 57.8 -0.3**
baz=166,SNR=10
152A Waverly Hall 65.32 346 IAmb IAmb 01 01 58.9
comp=Z,26nm,0.8s
Z56A Williston 65.33 349 P **P** **01 01 58.4 +0.2**
baz=169,SNR=6.2
Z55A Blythe 65.36 348 P **P** **01 01 58.0 -0.3**
baz=168
Z54A Sparta 65.50 348 P **P** **01 01 58.7 -0.5**
baz=167,SNR=7.1
Y60A Bolivia 65.55 352 P **P** **01 01 59.9 +0.4**
baz=172
Y59A Loris 65.62 351 P **P** **01 02 00.0 +0.1**
baz=171
Y58A Scranton 65.64 351 P **P** **01 02 00.3 +0.2**
baz=170
Z53A Monticello 65.68 347 P **P** **01 01 59.9 -0.5**
baz=167,SNR=7.4
Z52A Williamson 65.76 346 P **P** **01 02 00.5 -0.4**
baz=166,SNR=15
Y56A Pelion 65.78 349 P **P** **01 02 00.5 -0.5**
baz=169
GOGA Godfrey 65.79 347 P **P** **01 02 00.7 -0.4**
baz=167,SNR=6.9
Y57A Sumter 65.86 350 P **P** **01 02 01.4 -0.1**
baz=170
Y57A Sumter 65.86 350 IAmb IAmb 01 02 02.8
comp=Z,45nm,0.8s
833A Chaparral WMA, 65.90 331 P **P** **01 02 03.2 +1.3**
baz=152,SNR=16
HKT Hockley 65.97 335 P **P** **01 02 01.6 -0.6**
HKT pmax pmax
comp=Z,46nm,1.5s
HKT Hockley 65.97 335 P **P** **01 02 01.6 -0.6**
HKT IAmb IAmb 01 02 04.7
comp=Z,46nm,1.4s
Y55A Saluda 66.01 349 P **P** **01 02 02.3 -0.2**
baz=168,SNR=8.2
Z51A Franklin 66.05 346 P **P** **01 02 02.6 -0.2**
baz=165,SNR=6.2
Y54A Tignall 66.08 348 P **P** **01 02 02.7 -0.3**
baz=168,SNR=7.6
X60A Albert Glenn T 66.09 352 P **P** **01 02 03.3 +0.4**
baz=172,SNR=6.4
Z50A Ashland 66.15 345 P **P** **01 02 03.1 -0.3**
baz=164,SNR=30
LRAL Lakeview Retre 66.19 344 P **P** **01 02 03.3 -0.3**
baz=164,SNR=10.0
LRAL Lakeview Retre 66.19 344 IAmb IAmb 01 02 04.7
comp=Z,35nm,1.2s
X58A Rowland 66.24 351 P **P** **01 02 04.1 +0.3**
baz=171,SNR=7.7
Y53A Monroe 66.24 347 P **P** **01 02 03.7 -0.3**
baz=167,SNR=15
X57A Johnson Farm, 66.25 350 P **P** **01 02 03.9 -0.1**
baz=170
VBMS Vicksburg 66.34 340 P **P** **01 02 05.5 +0.9**
baz=160,SNR=10
Y52A Lilburn 66.35 347 P **P** **01 02 04.3 -0.3**
baz=166,SNR=15
X56A White Oak 66.42 349 P **P** **01 02 05.0 -0.1**
baz=169,SNR=6.3
X55A Gracelyn & Ava 66.50 349 P **P** **01 02 05.6 0.0**
baz=169,SNR=7.5
W60A Pink Hill 66.53 353 P **P** **01 02 06.0 +0.3**
baz=172
W61A Ground Anchor 66.57 353 P **P** **01 02 06.6 +0.6**
baz=173
Y51A Rockmart 66.58 346 P **P** **01 02 05.9 -0.3**
baz=165,SNR=19
W58A Raeford 66.68 351 P **P** **01 02 07.1 +0.4**
baz=171,SNR=10
X54A Belton 66.70 348 P **P** **01 02 07.0 +0.1**
baz=168,SNR=7.7
W59A Clinton 66.73 352 P **P** **01 02 07.2 +0.2**
baz=172
CNNC Cliffs of the 66.73 352 P **P** **01 02 07.3 +0.2**
baz=172
X53A Estanollee 66.82 347 P **P** **01 02 07.6 0.0**
baz=167,SNR=9.3
Y49A Blount Mountai 66.84 345 P **P** **01 02 07.7 -0.1**
baz=164,SNR=9.1
V62A Hyde County Ai 66.86 354 P **P** **01 02 08.4 +0.6**
baz=174
PAULI Pauline 66.87 349 IAmb IAmb 01 02 09.3
comp=Z,31nm,1.1s
W57A Gilead 66.92 351 P **P** **01 02 08.2 0.0**
baz=170,SNR=8.0
W57A Gilead 66.92 351 IAmb IAmb 01 02 09.5
comp=Z,32nm,0.8s
W56A Indian Trail 66.98 350 P **P** **01 02 08.5 -0.1**
baz=170,SNR=6.1
X52A Dahlonega 67.03 347 P **P** **01 02 08.8 -0.2**
baz=166,SNR=17
KMSC Kings Mountain 67.11 349 P **P** **01 02 09.6 +0.1**
baz=169,SNR=7.1
VNDA Vanda 67.12 191 P **P** **01 02 10.3 +1.2**
VNDA Vanda 67.12 191 P **P** **01 02 10.1 +1.0**
comp=Z,9.4nm,0.7s,baz=122,slow=5.9,SNR=35
VNDA Vanda 67.12 191 P **P** **01 02 10.3 +1.2**
V61A Roper 67.14 354 P **P** **01 02 09.8 +0.2**
baz=173
V60A Jim Taylor Roa 67.18 353 P **P** **01 02 10.4 +0.5**
baz=173
V60A Jim Taylor Roa 67.18 353 IAmb IAmb 01 02 11.8
comp=Z,69nm,1.4s
X51A Calhoun 67.19 346 P **P** **01 02 10.0 +0.1**
baz=166,SNR=26
W54A Cherokee Point 67.19 349 P **P** **01 02 10.4 +0.4**
baz=168,SNR=9.3
NATX Nacogdoches 67.21 337 P **P** **01 02 11.3 +1.2**
baz=157,SNR=10.0
NATX Nacogdoches 67.21 337 P **P** **01 02 12.0 +1.9**
V59A Middlesex 67.29 352 P **P** **01 02 11.2 +0.6**
baz=172,SNR=9.6
435B Jarrell 67.37 334 P **P** **01 02 12.0 +0.8**
baz=154
435B Jarrell 67.37 334 IAmb IAmb 01 02 13.3
comp=Z,51nm,1.1s
V58A Windy Hill, Pi 67.43 351 P **P** **01 02 11.5 0.0**
baz=171,SNR=8.9
W53A Cullowhee 67.44 348 P **P** **01 02 11.7 0.0**
baz=167,SNR=12
SYO Syowa Base 67.47 158 ‖ *e*P **P** **01 02 09.4 -2.0**
SYO Syowa Base 67.47 158 ‖ *i*PcP **PcP** **01 02 34.0 -4.0**
SYO Syowa Base 67.47 158 ‖ *i*pP pP 01 02 38.8 -1.0
W52A Murphy 67.51 347 P **P** **01 02 12.1 +0.1**
baz=166,SNR=9.3
W52A Murphy 67.51 347 IAmb IAmb 01 02 13.4
comp=Z,40nm,1.0s
X48A Hartselle 67.55 344 P **P** **01 02 12.4 +0.1**
baz=164,SNR=29
V57A Coltrane Farms 67.61 351 P **P** **01 02 12.8 +0.2**
baz=170
V56A Monksville 67.63 350 P **P** **01 02 13.1 +0.3**
baz=170,SNR=10
U61A Possum Corner 67.67 354 P **P** **01 02 13.7 +0.8**
baz=173,SNR=6.0
W51A Cleveland 67.74 346 P **P** **01 02 13.4 0.0**
baz=166,SNR=15
V55A Taylorsville 67.78 350 P **P** **01 02 13.9 +0.2**
baz=169,SNR=12
V55A Taylorsville 67.78 350 IAmb IAmb 01 02 15.1
comp=Z,32nm,0.8s
U59A Littleton 67.82 353 P **P** **01 02 14.3 +0.4**
baz=172,SNR=10
U59A Littleton 67.82 353 IAmb IAmb 01 02 15.9
comp=Z,72nm,1.2s
V54A Nebo 67.83 349 P **P** **01 02 14.1 +0.1**
baz=168,SNR=12
V53A Saluda 67.87 348 P **P** **01 02 14.2 0.0**
baz=168,SNR=12
V53A Saluda 67.87 348 IAmb IAmb 01 02 15.3
comp=Z,44nm,1.1s
U60A Pendleton 67.87 353 P **P** **01 02 14.7 +0.5**
baz=173,SNR=6.6
W50A Signal Mountai 67.89 346 P **P** **01 02 14.5 +0.1**
baz=165,SNR=14
U58A Oxford 67.95 352 P **P** **01 02 15.3 +0.6**
baz=172,SNR=8.3
JCT Junction City 67.97 332 P **P** **01 02 15.8 +0.8**
baz=152,SNR=29
CPCT Cooper Cave 67.97 347 IAmb IAmb 01 02 16.0
comp=Z,37nm,0.8s
Z41A Richland Creek 67.99 339 P **P** **01 02 15.9 +0.9**
baz=158,SNR=5.6
W49A Belvidere 68.02 345 P **P** **01 02 15.1 0.0**
baz=164,SNR=11
U57A Blanch 68.08 351 P **P** **01 02 15.9 +0.4**
baz=171,SNR=8.6
U56A King 68.14 350 P **P** **01 02 16.2 +0.3**
baz=170,SNR=7.9
U56A King 68.14 350 IAmb IAmb 01 02 17.6
comp=Z,54nm,1.1s
V52A Sevierville 68.18 348 P **P** **01 02 15.7 -0.4**
baz=167,SNR=13
V52A Sevierville 68.18 348 IAmb IAmb 01 02 17.0
comp=Z,62nm,1.2s
OXF Oxford 68.20 342 P **P** **01 02 15.8 -0.5**
baz=162
V51A Loudon 68.28 347 P **P** **01 02 16.6 -0.2**
baz=166,SNR=8.0
V51A Loudon 68.28 347 IAmb IAmb 01 02 17.7
comp=Z,28nm,0.8s
V50A Pikevile 68.30 346 P **P** **01 02 17.0 +0.1**
baz=166,SNR=31
PLAL Pickwick Lake 68.31 343 IAmb IAmb 01 02 17.9
comp=Z,37nm,1.0s
U55A TA2, Sparta 68.39 350 P **P** **01 02 17.7 +0.1**
baz=169,SNR=5.5
WHTX Lake Whitney, 68.41 334 P **P** **01 02 18.2 +0.5**
baz=154,SNR=9.3
WHTX Lake Whitney, 68.41 334 IAmb IAmb 01 02 19.4
comp=Z,66nm,1.1s
T59A Double "B" Far 68.41 353 P **P** **01 02 18.2 +0.7**
baz=172,SNR=9.1
T59A Double "B" Far 68.41 353 IAmb IAmb 01 02 19.5
comp=Z,65nm,1.2s
T58A Grand View Acr 68.49 352 P **P** **01 02 18.7 +0.6**
baz=172,SNR=13
T60A Surry 68.49 354 P **P** **01 02 18.7 +0.7**
baz=173
T60A Surry 68.49 354 IAmb IAmb 01 02 20.1
comp=Z,64nm,0.9s
U53A Fall Branch 68.50 349 P **P** **01 02 17.6 -0.7**
baz=168,SNR=6.0
U54A Nelsons Funny 68.53 349 P **P** **01 02 18.4 -0.1**
baz=168,SNR=13
U54A Nelsons Funny 68.53 349 IAmb IAmb 01 02 19.5
comp=Z,61nm,1.1s
V49A McMinnville 68.56 346 P **P** **01 02 18.1 -0.4**
baz=165,SNR=31
X43A Marvell 68.60 341 P **P** **01 02 19.7 +0.9**
baz=160,SNR=7.0
TXAR Lajitas Array 68.63 328 P **P** **01 02 20.0 +0.7**
TXAR Lajitas Array 68.63 328 P **P** **01 02 19.9 +0.7**
comp=Z,10nm,0.6s,baz=154,slow=8.7,SNR=144
TXAR pP **pP** **01 02 49.0 +1.6**
comp=Z,2.4nm,0.6s,baz=154,slow=7.4,SNR=3.0
T57A Hurt 68.63 351 P **P** **01 02 19.5 +0.6**
baz=171
T57A Hurt 68.63 351 IAmb IAmb 01 02 20.5
comp=Z,56nm,1.6s
U52A Thorn Hill 68.67 348 P **P** **01 02 18.6 -0.6**
baz=167
V48A Smith Brothers 68.74 345 P **P** **01 02 19.6 0.0**
baz=164,SNR=41
T56A Rocky Mt 68.77 351 P **P** **01 02 20.3 +0.5**
baz=170,SNR=8.1
U51A La Follette 68.78 347 P **P** **01 02 19.6 -0.3**
baz=167,SNR=9.1
TZTN Tazewell 68.85 348 P **P** **01 02 19.8 -0.5**
baz=167
TZTN Tazewell 68.85 348 IAmb IAmb 01 02 21.3
comp=Z,128nm,1.9s
S61A Accomac 68.94 355 P **P** **01 02 21.8 +1.0**
baz=174
T55A Pulaski 68.96 350 P **P** **01 02 21.4 +0.4**
baz=170,SNR=6.8
U50A Jamestown 68.97 347 P **P** **01 02 20.8 -0.3**
baz=166,SNR=9.9
BLA Blacksburg 69.00 351 P **P** **01 02 21.5 +0.2**
baz=170
T54A Tazewell 69.02 350 P **P** **01 02 21.3 -0.2**
baz=169,SNR=7.6
S60A Water View 69.05 354 P **P** **01 02 22.0 +0.6**
baz=173
S58A Poland Farm, P 69.10 353 P **P** **01 02 22.5 +0.7**
baz=172,SNR=12
S58A Poland Farm, P 69.10 353 IAmb IAmb 01 02 23.8
comp=Z,60nm,1.0s
T53A Wise 69.10 349 P **P** **01 02 21.5 -0.4**
baz=168,SNR=6.6
X40A Basin Creek Fa 69.14 339 P **P** **01 02 21.5 -0.6**
baz=159
S59A Mechanicsville 69.16 353 P **P** **01 02 22.9 +0.7**
baz=173,SNR=9.6
U49A Red Boiling Sp 69.25 346 P **P** **01 02 22.4 -0.4**
baz=165,SNR=9.3
T52A Hallie 69.30 348 P **P** **01 02 22.9 -0.2**
baz=168
T51A Gray 69.33 348 P **P** **01 02 23.0 -0.3**
baz=167,SNR=12
S56A Natural Bridge 69.34 351 P **P** **01 02 23.7 +0.4**
baz=171,SNR=6.5
WVT Waverly 69.34 344 P **P** **01 02 23.3 -0.1**
baz=163
WVT Waverly 69.34 344 P **P** **01 02 23.3 -0.1**
WVT *PP **pP** **01 02 51.5 0.0**
WVT *SP **sP** **01 03 03.8 +0.1**
WVT pmax pmax
comp=Z,136nm,0.7s
WVT Waverly 69.34 344 P **P** **01 02 23.3 -0.1**
WVT pP **pP** **01 02 51.5 0.0**
WVT sP **sP** **01 03 03.8 +0.1**
S57A Dark Hollow, R 69.35 352 P **P** **01 02 24.0 +0.6**
baz=171,SNR=11
S57A Dark Hollow, R 69.35 352 IAmb IAmb 01 02 25.2
comp=Z,65nm,1.2s
MIAR Mount Ida 69.42 339 P **P** **01 02 24.1 +0.2**
baz=158,SNR=16
MIAR Mount Ida 69.42 339 IAmb IAmb 01 02 25.6
comp=Z,59nm,1.4s
R58B Mineral 69.42 353 P **P** **01 02 24.6 +0.8**
baz=172,SNR=11
R58B Mineral 69.42 353 IAmb IAmb 01 02 26.1
comp=Z,93nm,1.2s
T50A Nancy 69.56 347 P **P** **01 02 24.4 -0.3**
baz=166,SNR=5.2
R61A Willards 69.56 355 P **P** **01 02 25.6 +1.0**
baz=174
S55A Lewisburg 69.56 351 P **P** **01 02 25.1 +0.4**
baz=170,SNR=8.1
R59A King George, V 69.58 353 P **P** **01 02 25.7 +1.0**
baz=173,SNR=7.5
R60A Leonardtown, M 69.60 354 P **P** **01 02 26.0 +1.2**
baz=173,SNR=5.2
W41B Gary Mavity, V 69.60 340 P **P** **01 02 25.3 +0.3**
baz=159,SNR=12
CBN Corbin Frederi 69.61 353 P **P** **01 02 25.4 +0.4**
baz=173
S54A Dingess, Beckl 69.70 350 P **P** **01 02 25.5 -0.1**
baz=169,SNR=6.4
S54A Dingess, Beckl 69.70 350 IAmb IAmb 01 02 26.6
comp=Z,62nm,1.2s
WHAR Wooly Hollow 69.72 340 IAmb IAmb 01 02 27.3
comp=Z,38nm,1.1s
R58A Rapidan 69.77 353 P **P** **01 02 26.6 +0.7**
baz=172,SNR=11
T49A Edmonton 69.78 346 P **P** **01 02 25.7 -0.4**
baz=165,SNR=13
T49A Edmonton 69.78 346 IAmb IAmb 01 02 26.9
comp=Z,99nm,1.5s
ABTX Abilene, Hawle 69.80 333 P **P** **01 02 26.8 +0.5**
baz=153,SNR=29
R57A Stanardsville 69.83 352 P **P** **01 02 27.1 +0.9**
baz=172,SNR=15
S52A Salyersville 69.87 348 P **P** **01 02 26.5 -0.1**
baz=168
S51A Beattyville 69.92 348 P **P** **01 02 26.6 -0.3**
baz=167,SNR=7.2
S51A Beattyville 69.92 348 IAmb IAmb 01 02 27.9
comp=Z,31nm,0.9s
T47A Sharon Grove 70.00 345 P **P** **01 02 27.0 -0.3**
baz=164,SNR=13
R55A Marlinton 70.01 351 P **P** **01 02 28.4 +0.8**
baz=170,SNR=12
R55A Marlinton 70.01 351 IAmb IAmb 01 02 29.6
comp=Z,51nm,0.8s
R54A Victor 70.03 350 P **P** **01 02 27.4 -0.2**
baz=169
R56A Bull Pasture M 70.04 352 P **P** **01 02 28.7 +1.0**
baz=171,SNR=6.5
W39A Magazine 70.08 339 P **P** **01 02 28.9 +0.9**
baz=158,SNR=27
Q61A Milford 70.10 355 P **P** **01 02 29.4 +1.4**
baz=174
S50A Richmond 70.11 347 P **P** **01 02 27.8 -0.3**
baz=166,SNR=9.5
Q59A Harwood 70.20 354 P **P** **01 02 29.6 +1.1**
baz=173
Q60A Greensboro 70.26 355 P **P** **01 02 30.2 +1.3**
baz=174
R53A Hurricane 70.32 349 P **P** **01 02 29.3 0.0**
baz=169
Q58A Fox Den Farm, 70.37 353 P **P** **01 02 30.6 +1.0**
baz=172
S49A Springfield 70.38 347 P **P** **01 02 29.0 -0.7**
baz=166,SNR=6.0

R52A **Catlettsburg** 70.44 349 P P 01 02 29.8 -0.3
baz=168,SNR=5.2
Q57A **Strasburg** 70.54 353 P P 01 02 31.8 +1.1
baz=172,SNR=14
R51A **Hillsboro** 70.56 348 P P 01 02 30.5 -0.3
baz=167,SNR=10.0
Q56A **Snyder Ridge,** 70.64 352 P P 01 02 32.1 +0.8
baz=171,SNR=5.7
Q56A **Snyder Ridge,** 70.64 352 IAmb IAmb 01 02 33.5
comp=Z,70nm,1.2s
R50A **Paris** 70.68 348 P P 01 02 31.1 -0.4
baz=166,SNR=5.8
Q55A **Buckhannon** 70.71 351 P P 01 02 32.4 +0.7
baz=170,SNR=7.0
Q53A **Leroy** 70.78 350 P P 01 02 32.0 -0.1
baz=169,SNR=5.2
Q54A **Coxs Mills** 70.80 351 P P 01 02 32.2 0.0
baz=170,SNR=6.5
Q54A **Coxs Mills** 70.80 351 IAmb IAmb 01 02 33.1
comp=Z,26nm,0.7s
R49A **Shelbyville** 70.85 347 P P 01 02 32.2 -0.4
baz=166,SNR=7.1
R49A **Shelbyville** 70.85 347 IAmb IAmb 01 02 33.2
comp=Z,122nm,1.8s
P61A **Hammonton** 70.85 356 P P 01 02 33.0 +0.6
baz=175
P58A **Pank, Wackersv** 70.88 353 P P 01 02 33.6 +0.9
baz=173,SNR=10.0
U40A **Yellville** 70.88 340 P P 01 02 32.9 +0.1
baz=159,SNR=30
U40A **Yellville** 70.88 340 IAmb IAmb 01 02 34.1
comp=Z,47nm,0.8s
P59A **Jarrettsville** 70.92 354 P P 01 02 33.9 +1.1
baz=174,SNR=21
P57A **Homestead Farm** 70.94 353 P P 01 02 34.0 +1.0
baz=172,SNR=14
P57A **Homestead Farm** 70.94 353 IAmb IAmb 01 02 35.5
comp=Z,63nm,0.8s
Q52A **Bidwell** 70.99 349 P P 01 02 33.5 +0.1
baz=168,SNR=6.3
WCI **Wyandotte Cave** 71.02 346 P P 01 02 32.8 -0.7
baz=165
WCI **Wyandotte Cave** 71.02 346 P P 01 02 33.1 -0.4
WCI *PP pP 01 03 01.5 -0.2
WCI *SP sP 01 03 12.2 -1.6
WCI pmax pmax
comp=Z,41nm,0.9s
WCI **Wyandotte Cave** 71.02 346 P P 01 02 33.1 -0.4
WCI IAmb IAmb 01 02 34.0
comp=Z,41nm,0.9s
WCI pP pP 01 03 01.4 -0.2
WCI sP sP 01 03 12.2 -1.6
P60A **Greenville** 71.05 355 P P 01 02 34.4 +0.7
baz=174,SNR=5.9
P60A **Greenville** 71.05 355 IAmb IAmb 01 02 35.7
comp=Z,42nm,1.1s
P56A **Dayton Farm, R** 71.05 352 P P 01 02 34.7 +0.9
baz=171,SNR=9.7
HHAR **Hobbs** 71.14 339 IAmb IAmb 01 02 35.7
comp=Z,50nm,0.9s
Q50A **Georgetown** 71.16 348 P P 01 02 33.8 -0.6
baz=167,SNR=6.3
S44A **Carbondale** 71.17 343 P P 01 02 34.2 -0.3
baz=162,SNR=20
P55A **Reedsville** 71.18 351 P P 01 02 34.8 +0.3
baz=170,SNR=6.5
SIUC **Southern Illin** 71.18 343 IAmb IAmb 01 02 35.5
comp=Z,52nm,0.8s
Q51A **Peebles** 71.23 349 P P 01 02 34.5 -0.4
baz=167,SNR=8.0
Q51A **Peebles** 71.23 349 IAmb IAmb 01 02 35.9
comp=Z,55nm,1.1s
O61A **Allentown** 71.26 356 P P 01 02 35.9 +1.0
baz=175
MVL **Millersville** 71.30 354 IAmb IAmb 01 02 37.4
comp=Z,49nm,1.1s
MCWV **Mont Chateau** 71.33 351 P P 01 02 35.7 +0.3
baz=170,SNR=5.0
WMOK **Wichita Mounta** 71.35 335 P P 01 02 35.6 -0.1
baz=154,SNR=17
P54A **Burton** 71.36 351 P P 01 02 35.9 +0.3
baz=170,SNR=14
P53A **Whipple** 71.37 350 P P 01 02 35.7 0.0
baz=169,SNR=9.5
P53A **Whipple** 71.37 350 IAmb IAmb 01 02 37.0
comp=Z,88nm,1.3s
TUL1 **Leonard** 71.38 338 P P 01 02 35.7 -0.1
baz=156,SNR=18
TUL1 **Leonard** 71.38 338 IAmb IAmb 01 02 37.6
comp=Z,53nm,0.8s
MNTX **Cornudas Mount** 71.41 328 P P 01 02 35.8 -0.3
baz=148,SNR=44
MGMO **Mountain Grove** 71.46 341 IAmb IAmb 01 02 37.8
comp=Z,49nm,0.9s
O58A **Lewisberry** 71.47 354 P P 01 02 37.0 +0.7
baz=173,SNR=7.0
Q49A **Aurora** 71.49 347 P P 01 02 36.0 -0.3
baz=166,SNR=14
O60A **Telford** 71.54 355 P P 01 02 37.6 +1.0
baz=174,SNR=5.7
PAGS **Pennsylvania G** 71.55 354 IAmb IAmb 01 02 38.6
comp=Z,43nm,1.0s
Q48A **North Vernon** 71.58 347 P P 01 02 36.4 -0.5
baz=165,SNR=14
O59A **Robesonia** 71.59 354 P P 01 02 37.9 +1.0
baz=174,SNR=7.9
O57A **Amberson** 71.62 353 P P 01 02 37.8 +0.6
baz=172,SNR=8.0
P51A **Williamsport** 71.63 349 P P 01 02 36.8 -0.4
baz=168,SNR=6.9
P51A **Williamsport** 71.63 349 IAmb IAmb 01 02 38.0
comp=Z,83nm,1.2s
P52A **Corning** 71.63 350 P P 01 02 36.8 -0.4
baz=168,SNR=7.7
LIC **Lamto** 71.75 71 eP P 01 02 38.2 -0.4
comp=Z,116nm,1.2s
O56A **Blue Knob Stat** 71.78 353 P P 01 02 38.9 +0.7
baz=172,SNR=5.9
O56A **Blue Knob Stat** 71.78 353 IAmb IAmb 01 02 40.1
comp=Z,123nm,1.6s
O55A **Ligonier** 71.80 352 P P 01 02 38.5 +0.3
baz=171,SNR=5.7
P50A **Jamestown** 71.88 348 P P 01 02 38.3 -0.3
baz=167,SNR=8.8
OLIL **Olney** 71.89 345 IAmb IAmb 01 02 39.4
comp=Z,91nm,1.4s
O54A **Avella** 71.91 351 P P 01 02 38.7 -0.2
baz=170
HSIG 71.93 322 IAmb IAmb 01 02 41.7
comp=Z,94nm,1.6s
P49A **Miami Univ. Ec** 71.97 348 P P 01 02 38.6 -0.6
baz=166,SNR=8.6
BLO **Bloomington** 71.97 346 IAmb IAmb 01 02 39.8
comp=Z,35nm,0.8s
TIC **Toumodi** 72.00 70 eP P 01 02 39.7 -0.4
CCM **Cathedral Cave** 72.02 342 P P 01 02 39.7 +0.1
baz=160
CCM **Cathedral Cave** 72.02 342 P P 01 02 39.8 +0.2
CCM *PP pP 01 03 09.0 +1.2
CCM pmax pmax
comp=Z,78nm,0.9s
CCM **Cathedral Cave** 72.02 342 P P 01 02 39.8 +0.2
CCM pP pP 01 03 09.0 +1.2
P48A **Milroy** 72.03 347 P P 01 02 38.9 -0.7
baz=166,SNR=11
P48A **Milroy** 72.03 347 IAmb IAmb 01 02 40.1
comp=Z,92nm,1.2s
O52A **Adamsville** 72.05 350 P P 01 02 39.4 -0.3
baz=169
O52A **Adamsville** 72.05 350 IAmb IAmb 01 02 40.7
comp=Z,30nm,0.7s
KIC **Kosan Boka** 72.06 71 eP P 01 02 40.2 -0.2
comp=Z,173nm,1.2s
N60A **Cedar Hill Far** 72.06 355 P P 01 02 40.6 +0.9
baz=175,SNR=6.4
SSPA **Standing Stone** 72.07 353 P P 01 02 40.5 +0.7
baz=172
SSPA **Standing Stone** 72.07 353 P P 01 02 40.2 +0.4
SSPA IAmb IAmb 01 02 41.6
comp=Z,61nm,1.4s
O53A **New Philadelph** 72.09 350 P P 01 02 40.0 0.0
baz=169
PAL **Palisades** 72.13 356 P P 01 02 40.1 0.0
baz=176
DBIC **Dimbokro** 72.15 70 P P 01 02 40.8 -0.1
comp=Z,30nm,0.8s,baz=200,slow=6.7,SNR=31
DBIC pP pP 01 03 09.7 +0.4
comp=Z,14nm,0.7s,baz=204,slow=7.5,SNR=5.2
DBIC LR LR 01 30 59.1
comp=Z,79nm,21.7s,baz=217,slow=33
DBIC **Dimbokro** 72.15 70 IAmb IAmb 01 02 42.1
comp=Z,44nm,0.9s
N57A **Milroy** 72.16 353 P P 01 02 41.0 +0.6
baz=173,SNR=6.3
N59A **State Game Lan** 72.16 355 P P 01 02 41.3 +0.9
baz=174,SNR=7.6
N59A **State Game Lan** 72.16 355 IAmb IAmb 01 02 42.7
comp=Z,39nm,0.8s
N58A **Sunbury** 72.16 354 P P 01 02 41.1 +0.8
baz=173,SNR=5.7
O51A **Pataskala** 72.20 349 P P 01 02 40.5 -0.2
baz=168,SNR=8.0
MSTX **Muleshoe** 72.23 331 P P 01 02 41.2 +0.2
baz=150,SNR=45
WSPT **Westport, CT** 72.26 357 PcP 01 03 03.9 +5.5
SLM **Saint Louis** 72.31 343 IAmb IAmb 01 02 42.4
comp=Z,62nm,1.1s
N55A **Marion Center** 72.33 352 P P 01 02 42.0 +0.6
baz=171,SNR=10
ACSO **Alum Creek Sta** 72.35 349 P P 01 02 41.3 -0.2
baz=168,SNR=9.8
O50A **Cable** 72.37 349 P P 01 02 41.3 -0.3
baz=167,SNR=6.2
N56A **West Decatur** 72.39 353 P P 01 02 41.7 0.0
baz=172
M61A **Granite Spring** 72.42 356 P P 01 02 42.8 +0.9
baz=176
M63A **Gales Ferry** 72.44 358 P P 01 02 42.6 +0.6
baz=178
M60A **Port Jervis** 72.49 356 P P 01 02 43.1 +0.9
baz=175,SNR=5.1
M62A **Hamden** 72.51 357 P P 01 02 43.0 +0.6
baz=177
O49A **Covington** 72.53 348 P P 01 02 42.4 -0.2
baz=167,SNR=12
P46A **Rosedale** 72.54 346 P P 01 02 41.9 -0.7
baz=164,SNR=8.1
M65A **Busby, Falmout** 72.57 359 P P 01 02 41.6 -1.1
baz=179
AMTX **Amarillo** 72.58 333 P P 01 02 43.2 +0.1
baz=151
AMTX **Amarillo** 72.58 333 IAmb IAmb 01 02 44.9
comp=Z,57nm,0.9s
N53A **Lisbon** 72.59 351 P P 01 02 43.3 +0.4
baz=170
N53A **Lisbon** 72.59 351 IAmb IAmb 01 02 44.4
comp=Z,53nm,1.2s
N54A **Moraine State** 72.63 352 P P 01 02 43.4 +0.3
baz=170,SNR=6.1
N54A **Moraine State** 72.63 352 IAmb IAmb 01 02 44.8
comp=Z,41nm,0.8s
M58A **Price's Panora** 72.67 354 P P 01 02 44.0 +0.7
baz=174,SNR=5.7
M57A **Sunshine Farm,** 72.69 354 P P 01 02 44.3 +0.9
baz=173
N52A **McGinn's Farm,** 72.71 350 P P 01 02 43.6 0.0
baz=169
O48A **Farmland** 72.75 347 P P 01 02 43.3 -0.6
baz=166,SNR=9.6
M59A **Waymart** 72.76 355 P P 01 02 44.7 +0.8
baz=174,SNR=7.9
L63A **North Scituate** 72.89 358 P P 01 02 45.7 +1.1
baz=178
N50A **Nevada** 72.90 349 P P 01 02 44.5 -0.2
baz=168,SNR=8.5
N51A **Ashland** 72.92 350 P P 01 02 44.6 -0.2
baz=168
PPT **Papeete** 72.93 260 P P 01 02 47.3 +1.8
comp=Z,43nm,0.7s,baz=234,slow=3.7,SNR=5.9
PPT pP pP 01 03 16.4 +2.3
comp=Z,44nm,0.8s,baz=267,slow=12,SNR=3.1
M56A **Emporium** 72.94 353 P P 01 02 45.4 +0.4
baz=172,SNR=8.7
M56A **Emporium** 72.94 353 IAmb IAmb 01 02 46.6
comp=Z,73nm,1.1s
L64A **Middleborough** 72.94 359 P P 01 02 45.5 +0.6
baz=179
319A **Douglas** 72.99 325 IAmb IAmb 01 02 48.4
comp=Z,51nm,0.8s
M55A **Ridgway** 72.99 353 P P 01 02 45.6 +0.3
baz=172,SNR=8.6
M55A **Ridgway** 72.99 353 IAmb IAmb 01 02 46.9
comp=Z,63nm,0.9s
L62A **Suffield** 73.09 357 P P 01 02 46.3 +0.5
baz=177
L60A **Shokan** 73.12 356 P P 01 02 46.9 +0.8
baz=176
M54A **Oil Creek Stat** 73.13 352 P P 01 02 46.1 0.0
baz=171
M54A **Oil Creek Stat** 73.13 352 IAmb IAmb 01 02 47.3
comp=Z,50nm,1.0s
M53A **WI Miller and** 73.19 351 P P 01 02 46.3 -0.1
baz=170
121A **Cookes Peak, D** 73.22 327 P P 01 02 48.6 +1.5
baz=146,SNR=23
121A **Cookes Peak, D** 73.22 327 IAmb IAmb 01 02 49.9
comp=Z,47nm,0.9s
N49A **Columbus Grove** 73.22 348 P P 01 02 46.3 -0.3
baz=167,SNR=12
SFIN **Lafayette** 73.25 346 P P 01 02 45.8 -1.0
baz=164
SFIN **Lafayette** 73.25 346 IAmb IAmb 01 02 47.0
comp=Z,101nm,1.6s
L58A **Harry Jones Me** 73.29 355 P P 01 02 47.5 +0.5
baz=174,SNR=6.6
L61A **Hillsdale 1, H** 73.29 357 P P 01 02 47.9 +0.9
baz=176
M51A **Elyria** 73.30 350 P P 01 02 47.1 +0.1
baz=168
N48A **Decatur** 73.31 348 P P 01 02 46.7 -0.4
baz=166,SNR=7.5
L57A **Andrews Acres** 73.32 354 P P 01 02 47.7 +0.5
baz=173
O44A **Mansfield** 73.33 345 IAmb IAmb 01 02 47.7
comp=Z,52nm,0.7s
L59A **Walton** 73.37 356 P P 01 02 48.6 +1.1
baz=175,SNR=6.1
L59A **Walton** 73.37 356 IAmb IAmb 01 02 49.7
comp=Z,64nm,0.9s
M52A **Chesterland** 73.38 351 P P 01 02 47.9 +0.3
baz=169
BINY **Binghamton** 73.45 355 P P 01 02 48.6 +0.6
baz=174
N47A **Urbana** 73.45 347 P P 01 02 47.3 -0.7
baz=166,SNR=8.8
M50A **Fremont** 73.50 349 P P 01 02 48.6 +0.3
baz=168
M50A **Fremont** 73.50 349 IAmb IAmb 01 03 17.7
comp=Z,50nm,0.9s
L61B **Northampton** 73.51 357 P P 01 02 49.1 +0.8
baz=177
L56A **Greenwood** 73.52 354 P P 01 02 48.8 +0.4
baz=173,SNR=7.1
HRV **Adam Dziewonsk** 73.53 358 P P 01 02 49.5 +1.1
baz=178
L53A **Girard** 73.64 352 P P 01 02 49.4 +0.3
baz=170
L55A **Hinsdale** 73.66 353 P P 01 02 50.0 +0.8
baz=172
K62A **Royalston** 73.71 358 P P 01 02 50.6 +1.1
baz=177
M49A **Liberty Center** 73.72 349 P P 01 02 49.4 -0.1
baz=167,SNR=6.2
K61A **Williamstown** 73.75 357 P P 01 02 51.3 +1.6
baz=176
ERPA **Erie** 73.77 352 P P 01 02 49.9 +0.1
baz=170
L54A **Sinclairville** 73.81 352 P P 01 02 50.5 +0.5
baz=171,SNR=5.1
TRY **Troy** 73.83 357 IAmb IAmb 01 02 52.5
comp=Z,58nm,1.0s
WVNY **West Valley, N** 73.90 353 IAmb IAmb 01 02 52.5
comp=Z,79nm,1.0s
HDIL **Hopedale** 73.90 344 P P 01 02 50.4 -0.2
baz=162,SNR=12
M47A **Cromwell** 73.90 347 P P 01 02 50.4 -0.2
baz=166
K56A **Middlesex** 74.06 354 P P 01 02 51.9 +0.4
baz=173
SUR **Sutherland** 74.08 118 P P 01 02 53.2 +0.8
SUR IAmb IAmb 01 03 23.8
comp=Z,33nm,0.7s
L50A **Kingsville** 74.09 350 P P 01 02 51.4 -0.2
baz=168
K54A **Basiliko Farm,** 74.11 353 P P 01 02 52.2 +0.4
baz=172,SNR=5.1
MMNY **Mt. Morris Dam** 74.15 353 IAmb IAmb 01 02 53.5
comp=Z,49nm,0.8s
K55A **Perry** 74.16 353 P P 01 02 52.5 +0.4
baz=172
J62A **Henniker** 74.26 358 P P 01 02 53.3 +0.7
baz=178
L48A **N Adams** 74.26 348 P P 01 02 52.1 -0.6
baz=167
L49A **Milan** 74.31 349 P P 01 02 53.0 +0.1
baz=167
J61A **Chester** 74.40 358 P P 01 02 55.2 +1.8
baz=177
L47A **Sherwood** 74.42 348 P P 01 02 53.0 -0.6
baz=166,SNR=7.9
TUC **Tucson** 74.49 324 P P 01 02 55.6 +1.2
baz=144
TUC **Tucson** 74.49 324 P P 01 02 55.7 +1.4
TUC pmax pmax
comp=Z,31nm,1.6s
TUC **Tucson** 74.49 324 P P 01 02 55.7 +1.4
KSU1 **Kansas State U** 74.55 338 P P 01 02 54.5 +0.1
baz=156,SNR=6.1
J58A **Remsen** 74.56 355 P P 01 02 54.8 +0.4
baz=175
J56A **Wolcott** 74.59 354 P P 01 02 52.9 -1.6
baz=173
J59A **Piesco** 74.61 356 P P 01 02 55.4 +0.7
baz=175,SNR=5.4
ANMO **Albuquerque** 74.63 329 P P 01 02 56.9 +1.7
baz=148
ANMO **Albuquerque** 74.63 329 *d iP P 01 02 56.4 +1.2
ANMO pmax pmax
comp=Z,53nm,1.4s
ANMO **Albuquerque** 74.63 329 P P 01 02 56.5 +1.3
ANMO IAmb IAmb 01 02 57.8
comp=Z,71nm,1.4s
J57A **Williamstown** 74.66 355 P P 01 02 55.3 +0.4
baz=174
L46A **Eue Claire** 74.66 347 P P 01 02 54.8 -0.2
baz=165
K50A **Casco** 74.78 350 P P 01 02 55.2 -0.4
baz=168,SNR=6.6
I58A **Old Forge** 74.86 356 P P 01 02 56.4 +0.2
baz=175
I62A **Tamworth** 74.89 358 P P 01 02 57.8 +1.5
baz=178
K49A **Clarkson** 74.91 349 P P 01 02 56.3 -0.2
baz=168
I64A **Boothbay** 74.92 360 P P 01 02 57.5 +1.2
baz=180
I60A **Shoreham** 74.93 357 P P 01 02 57.2 +0.8
baz=176
I61A **Oroboro, Fairl** 74.97 358 P P 01 02 58.1 +1.4
baz=177
K48A **Perry** 75.04 349 P P 01 02 56.8 -0.3
baz=167
MAW **Mawson** 75.04 163 P P 01 02 57.4 +0.4
comp=Z,19nm,0.9s,baz=223,slow=6.3,SNR=10
MAW pP pP 01 03 25.8 +0.1
comp=Z,16nm,0.8s,baz=218,slow=7.3,SNR=5.4
MAW sP sP 01 03 38.3 +0.4
comp=Z,17nm,0.9s,baz=273,slow=8.5,SNR=3.8
I63A **Otisfield** 75.05 359 P P 01 02 59.0 +1.9
baz=179
K47A **Vermontville** 75.06 348 P P 01 02 56.8 -0.5
baz=166
L44A **Lake County Fo** 75.15 346 P P 01 02 57.6 -0.2
baz=164
I57A **Carthage** 75.16 355 P P 01 02 58.3 +0.5
baz=174
214A **Organ Pipe Nat** 75.23 323 P P 01 03 00.1 +1.5
baz=143,SNR=8.8
214A **Organ Pipe Nat** 75.23 323 IAmb IAmb 01 03 01.4
comp=Z,48nm,1.1s
LBNH **Lisbon** 75.27 358 P P 01 02 59.7 +1.3
baz=178
CBKS **Cedar Bluff** 75.34 336 P P 01 02 59.7 +0.6
baz=154,SNR=9.4
L42A **Oliver, Polo** 75.37 344 IAmb IAmb 01 02 60.0
comp=Z,48nm,1.1s
J49A **Marlette** 75.42 350 P P 01 02 58.8 -0.5
baz=168
J48A **Bridge Port** 75.47 349 P P 01 02 59.5 -0.1
baz=167,SNR=5.1
H58A **Gabriels** 75.54 356 P P 01 03 00.7 +0.7
baz=176
I51A **Listowel** 75.56 351 P P 01 03 01.2 +1.1
baz=170
H61A **Lyndonville** 75.56 358 P P 01 03 01.4 +1.3
baz=178,SNR=8.2
J47A **Sunmer** 75.58 348 P P 01 02 59.9 -0.3
baz=166
H62A **Milan** 75.59 359 P P 01 03 01.3 +1.0
baz=178
I55A **Frankford** 75.60 354 P P 01 03 00.5 +0.3
baz=173
H60A **Morristown** 75.62 358 P P 01 03 01.4 +1.0
baz=177
T25A **Trinidad** 75.63 332 P P 01 03 02.4 +1.4
baz=150,SNR=34
T25A **Trinidad** 75.63 332 IAmb IAmb 01 03 03.7
comp=Z,64nm,0.8s
H64A **Troy** 75.64 0 P P 01 03 02.1 +1.6
baz=180
H63A **New Sharon** 75.66 359 P P 01 03 02.5 +1.9
baz=179
H57A **Richville** 75.66 356 P P 01 03 01.4 +0.8
baz=175
H65A **Eastbrook** 75.70 1 P P 01 03 02.2 +1.4
baz=181
I52A **Shelburne** 75.72 352 P P 01 03 01.5 +0.5
baz=170
H59A **Cadyville** 75.74 357 P P 01 03 02.0 +0.9
baz=176,SNR=6.2
LONY **Lake Ozonia** 75.77 356 P P 01 03 02.1 +0.8
baz=175
H66A **Whiting** 75.80 1 P P 01 03 02.5 +1.1
baz=182,SNR=5.3
J46A **Howard City** 75.83 348 P P 01 03 02.1 +0.4
baz=166
H56A **Elgin** 75.85 355 P P 01 03 02.3 +0.6
baz=174,SNR=5.9
H55A **Tweed** 75.88 354 P P 01 03 02.3 +0.4
baz=173,SNR=5.1
X18A **Snowflake** 75.88 326 IAmb IAmb 01 03 05.2
comp=Z,84nm,1.8s
DELO **Deloro Mine** 75.89 354 IAmb IAmb 01 03 03.3
comp=Z,49nm,1.1s
I49A **Point Hope** 75.94 350 P P 01 03 01.8 -0.5
baz=168
H53A **Bobcaygeon** 76.04 353 P P 01 03 02.7 -0.1
baz=172
G63A **Kingsbury** 76.11 360 P P 01 03 04.5 +1.3
baz=180,SNR=6.2
G60A **Masonville** 76.14 358 P P 01 03 04.8 +1.4
baz=177
SCIA **State Center** 76.16 342 P P 01 03 03.8 +0.3
baz=159
G62A **West of Eustis** 76.22 359 P P 01 03 05.2 +1.4
baz=179,SNR=8.7
G62A **West of Eustis** 76.22 359 IAmb IAmb 01 03 06.3
comp=Z,63nm,0.8s
H52A **Wyevale** 76.25 352 P P 01 03 04.3 +0.3
baz=171
G64A **Maxfield** 76.25 0 P P 01 03 05.0 +1.0
baz=180
PKME **Peaks-Kenny Pk** 76.26 0 P P 01 03 05.4 +1.4
baz=180
W18A **Petrified Fore** 76.26 327 P P 01 03 05.8 +1.2
baz=145,SNR=15
W18A **Petrified Fore** 76.26 327 IAmb IAmb 01 03 07.2
comp=Z,69nm,1.2s
G57A **Newington** 76.27 356 P P 01 03 05.0 +1.0
baz=175
I47A **Gladwin** 76.29 349 P P 01 03 03.9 -0.3
baz=167
G61A **St-Isidore-de-** 76.30 358 P P 01 03 06.0 +1.7
baz=178
I48A **Sherman Twp** 76.32 349 P P 01 03 04.8 +0.4
baz=167
JFWS **Jewell Farm** 76.37 344 P P 01 03 04.7 0.0
baz=162,SNR=6.3
I46A **Reed City** 76.37 348 P P 01 03 04.3 -0.4
baz=166
G55A **Calabogie** 76.54 355 P P 01 03 06.0 +0.4
baz=174
KSCO **Kaye Shedlock'** 76.56 334 P P 01 03 06.9 +0.8
baz=151,SNR=5.6

KSCO	Kaye Shedlock'	76.56	334	IAmb	IAmb	01 03 08.6
	comp=Z,60nm,0.9s					
G53A	Haliburton	76.59	353	P	P	01 03 06.4 +0.5
	baz=172,SNR=6.0					
SDCO	Great Sand Dun	76.60	331	P	P	01 03 07.6 +1.1
	baz=149,SNR=33					
F63A	Nahmakanta, Br	76.70	0	P	P	01 03 07.7 +1.2
	baz=180,SNR=6.5					
H48A	Harrisville	76.76	350	P	P	01 03 07.3 +0.4
	baz=168					
G54A	Lake Saint Pet	76.81	354	P	P	01 03 07.7 +0.6
	baz=172					
F64A	Sherman	76.86	1	P	P	01 03 08.6 +1.2
	baz=181,SNR=11					
F62A	Pittston Farm,	76.89	360	P	P	01 03 08.8 +1.2
	baz=179,SNR=7.1					
H46A	Fife Lake	76.91	348	P	P	01 03 07.9 +0.2
	baz=166					
F57A	Harrington	76.96	356	P	P	01 03 08.3 +0.4
	baz=175					
F58A	St-Lin Laurent	76.97	357	P	P	01 03 08.2 +0.2
	baz=176					
F61A	St Evariste	76.98	359	P	P	01 03 08.8 +0.7
	baz=178					
F60A	Warwick	77.00	358	P	P	01 03 08.9 +0.7
	baz=178,SNR=5.6					
GLMI	Grayling	77.09	349	P	P	01 03 08.8 +0.1
	baz=167					
F55A	Otter Lake	77.09	355	P	P	01 03 09.5 +0.8
	baz=174					
BGNE	Belgrade	77.14	338	P	P	01 03 09.5 +0.3
	baz=155,SNR=5.4					
GLA	Glamis	77.14	322	P	P	01 03 10.8 +1.4
	baz=141,SNR=8.4					
S22A	4UR Ranch, Cre	77.15	330	P	P	01 03 10.8 +1.2
	baz=148,SNR=12					
F52A	Sundridge	77.32	353	P	P	01 03 09.9 -0.1
	baz=171					
ALGO	Algonquin Park	77.36	354	P	P	01 03 10.2 0.0
	baz=172,SNR=7.4					
WUAZ	Wupatki	77.36	326	P	P	01 03 12.2 +1.5
	baz=144,SNR=25					
WUAZ	Wupatki	77.36	326	IAmb	IAmb	01 03 13.6
	comp=Z,52nm,1.1s					
I40A	Norwalk	77.38	344	IAmb	IAmb	01 03 11.4
	comp=Z,33nm,0.8s					
E60A	Ste Agathe de	77.39	358	P	P	01 03 11.1 +0.8
	baz=178,SNR=7.7					
E63A	Oxbow	77.42	1	P	P	01 03 11.6 +1.0
	baz=181,SNR=9.1					
E63A	Oxbow	77.42	1	IAmb	IAmb	01 03 12.8
	comp=Z,58nm,0.8s					
E64A	Bridgewater	77.42	1	P	P	01 03 11.7 +1.2
	baz=181,SNR=6.0					
MVCO	Mesa Verde	77.43	329	P	P	01 03 12.2 +1.1
	baz=146,SNR=24					
MVCO	Mesa Verde	77.43	329	IAmb	IAmb	01 03 13.6
	comp=Z,44nm,0.9s					
E61A	Lac Etchemin	77.43	359	P	P	01 03 12.1 +1.5
	baz=179					
E58A	La Victoria	77.45	357	P	P	01 03 11.4 +0.7
	baz=176,SNR=10					
Q24A	Divide	77.50	332	P	P	01 03 12.6 +1.0
	baz=149,SNR=15					
Q24A	Divide	77.50	332	IAmb	IAmb	01 03 14.0
	comp=Z,54nm,0.8s					
IKP	In-Ko-Pah, Jac	77.52	321	P	P	01 03 12.7 +1.2
	baz=140,SNR=6.6					
F51A	Arnstein	77.52	352	P	P	01 03 10.8 -0.2
	baz=171					
E59A	St. Maurice	77.53	358	P	P	01 03 12.2 +1.2
	baz=177					
E57A	Chemin Saint G	77.53	357	P	P	01 03 11.6 +0.4
	baz=176,SNR=5.6					
Y12C	Blythe	77.53	323	P	P	01 03 12.8 +1.3
	baz=142,SNR=8.2					
SWSC	Sam W. Stewart	77.58	321	P	P	01 03 13.0 +1.3
	baz=141					
F49A	Sandfield	77.62	351	P	P	01 03 11.4 -0.2
	baz=169					
PQI	Presque Isle	77.67	1	IAmb	IAmb	01 03 14.1
	comp=Z,56nm,0.8s					
TSUM	Tsumeb	77.71	105	P	P	01 03 12.7 -0.4
E56A	St. Veronique	77.71	356	P	P	01 03 12.7 +0.5
	baz=175,SNR=7.9					
E52A	Mattawa	77.74	353	P	P	01 03 12.8 +0.5
	baz=172					
E53A	Dumoine, Ponti	77.74	354	P	P	01 03 12.7 +0.4
	baz=173					
E54A	Lac Daplat, Po	77.75	354	P	P	01 03 12.7 +0.4
	baz=170					
F48A	Evansville	77.76	351	P	P	01 03 13.7 +1.3
	baz=168					
MONP2	Monument Peak	77.87	321	P	P	01 03 15.0 +1.3
	baz=140,SNR=5.2					
D60A	Saint Jean D'O	77.92	359	P	P	01 03 14.1 +0.8
	baz=179,SNR=6.9					
BC3	Big Chuckawall	77.94	322	P	P	01 03 14.9 +1.0
	baz=141,SNR=11					
D59A	Saint-Raymond	78.03	358	P	P	01 03 14.7 +0.8
	baz=178					
D63A	Stockholm	78.04	1	P	P	01 03 14.7 +0.8
	baz=181,SNR=6.6					
OGNE	Ogallala	78.04	335	P	P	01 03 15.4 +1.2
	baz=152					
E51A	G1948 Merrick	78.07	353	P	P	01 03 14.3 +0.1
	baz=171					
F45A	CMU Biological	78.07	348	P	P	01 03 14.3 +0.2
	baz=166					
E50A	Wahnapitae	78.10	352	P	P	01 03 14.2 -0.1
	baz=170					
D57A	Chemin Vers le	78.12	357	P	P	01 03 15.0 +0.6
	baz=176,SNR=11					
D58A	Chemin du LacG	78.16	358	P	P	01 03 15.3 +0.8
	baz=177,SNR=21					
IRM	Iron Mountain	78.17	323	P	P	01 03 16.3 +1.2
	baz=141,SNR=5.1					
D56A	ZEC Mazanza, M	78.20	356	P	P	01 03 15.5 +0.6
	baz=175,SNR=5.0					
D61A	St Aubert, Com	78.20	359	P	P	01 03 15.7 +0.9
	baz=179,SNR=6.8					
D55A	Sainte-Anne-du	78.21	356	P	P	01 03 15.0 +0.1
	baz=175,SNR=9.5					
BATG	Bathurst New B	78.33	2	IAmb	IAmb	01 03 17.1
	comp=Z,96nm,1.6s					
E48A	Lockeyer	78.34	351	P	P	01 03 15.8 +0.1
	baz=169					
ISCO	Idaho Springs	78.40	332	P	P	01 03 17.7 +1.2
	baz=149					
D52A	ZEK Kipawa Sen	78.40	354	P	P	01 03 16.3 +0.4
	baz=172					
SMCO	Snowmass	78.42	331	IAmb	IAmb	01 03 19.7
	comp=Z,53nm,0.9s					
D54A	Lac Fusel, La	78.43	355	P	P	01 03 15.6 -0.5
	baz=174,SNR=5.9					
D53A	Lac Vacive, Po	78.44	354	P	P	01 03 16.4 +0.3
	baz=173					
D53A	Lac Vacive, Po	78.44	354	IAmb	IAmb	01 03 17.5
	comp=Z,45nm,1.0s					
XPFO	Pion Flat	78.44	321	P	P	01 03 18.1 +1.4
LATQ	La Tuque	78.44	358	P	P	01 03 16.7 +0.5
	baz=177,SNR=8.3					
PFO	Pinyon Flats O	78.44	321	P	P	01 03 18.2 +1.6
	baz=140,SNR=12					
PFO	Pinyon Flats O	78.44	321	*d i* P	P	01 03 17.9 +1.2
PFO				pmax	pmax	
	comp=Z,55nm,1.1s					
PFO	Pinyon Flats O	78.44	321	P	P	01 03 18.3 +1.6
	comp=Z,17nm,0.9s,baz=129,slow=5.0,SNR=18					
PFO				pP	pP	01 03 47.7 +2.3
	comp=Z,9.2nm,0.9s,baz=168,slow=4.9,SNR=3.9					
PFO	Pinyon Flats O	78.44	321	P	P	01 03 18.1 +1.4
D51A	Lot 18 Range I	78.61	353	P	P	01 03 17.4 +0.4
	baz=171					
D50A	G1974 Best Tow	78.73	353	P	P	01 03 17.9 +0.2
	baz=171,SNR=6.0					
ECSD	EROS Data Cent	78.79	340	P	P	01 03 18.2 0.0
	baz=156,SNR=37					
MURC	Murrieta	78.83	321	P	P	01 03 20.0 +1.3
	baz=140,SNR=6.9					
GMRC	Granite Mounta	78.92	323	P	P	01 03 20.7 +1.4
	baz=141,SNR=8.9					
D48A	Paudash Townsh	78.97	351	P	P	01 03 18.8 -0.3
	baz=169					
D46A	Sault St. Mari	79.01	350	P	P	01 03 18.6 -0.7
	baz=167					
D49A	Beulah Townshi	79.02	352	P	P	01 03 19.0 -0.3
	baz=170					
SCI2	San Clemente I	79.10	320	P	P	01 03 21.4 +1.2
	baz=139					
SPMN	Marine on St.	79.15	343	P	P	01 03 19.5 -0.6
	baz=160,SNR=5.8					
SPMN	Marine on St.	79.15	343	IAmb	IAmb	01 03 49.7
	comp=Z,24nm,0.6s					
BOSA	Boshof	79.24	117	P	P	01 03 21.4 0.0
	comp=Z,18nm,1.0s,baz=235,slow=4.1,SNR=16					
BOSA				pP	pP	01 03 50.4 +0.6
	comp=Z,29nm,0.8s,baz=240,slow=5.3,SNR=14					
BOSA				LR	LR	01 32 44.9
	comp=Z,40nm,21.1s,baz=210,slow=31					
BOSA	Boshof	79.24	117	IAmb	IAmb	01 03 52.4
	comp=Z,32nm,0.8s					
HEC	Hector,Ludlow	79.31	322	P	P	01 03 22.9 +1.5
	baz=141,SNR=20					
CIS	Catalina Islan	79.34	320	P	P	01 03 22.7 +1.2
	baz=139,SNR=5.3					
N23A	Red Feather La	79.47	333	P	P	01 03 23.3 +1.1
	baz=149,SNR=13					
N23A	Red Feather La	79.47	333	IAmb	IAmb	01 03 24.8
	comp=Z,38nm,1.1s					
FMP	Fort Macarthur	79.51	320	P	P	01 03 23.6 +1.3
	baz=139					
BFSC	Mount Baldy Ra	79.56	321	P	P	01 03 23.8 +1.0
	baz=140,SNR=7.8					
TUQ	Turquoise Moun	79.56	323	P	P	01 03 24.0 +1.2
	baz=141,SNR=8.8					
RRX	Edison Barstow	79.69	322	P	P	01 03 24.9 +1.6
	baz=140					
O20A	White River Ci	79.76	331	P	P	01 03 24.8 +1.0
	baz=147,SNR=13					
MWC	Mount Wilson	79.77	321	IAmb	IAmb	01 03 26.5
	comp=Z,44nm,1.1s					
SNCC	San Nicolas Is	79.84	319	P	P	01 03 24.9 +0.7
	baz=138					
GSC	Goldstone, Bar	79.92	322	P	P	01 03 25.8 +1.1
	baz=140,SNR=8.4					
DECC	Green Verdugo	79.94	321	P	P	01 03 25.9 +1.2
	baz=139					
SUSD	Miller	80.14	339	P	P	01 03 25.4 -0.1
	baz=155					
EDW2	Edwards Air Fo	80.23	321	P	P	01 03 27.3 +1.0
	baz=139,SNR=11					
LSQQ	Lebel-sur-Quev	80.34	355	P	P	01 03 26.7 +0.2
	baz=173					
SCZ2	Santa Cruz Isl	80.46	320	P	P	01 03 28.7 +1.3
	baz=138					
FURC	Furnace Creek,	80.84	323	P	P	01 03 30.8 +1.5
	baz=140,SNR=9.6					
MPMC	Manual Prospec	80.86	322	P	P	01 03 30.9 +1.1
	baz=140					
ARVC	Arvin	80.86	321	P	P	01 03 31.0 +1.4
	baz=139					
TPNV	Topopah Spring	80.90	324	P	P	01 03 31.4 +1.4
	baz=141,SNR=22					
DRLN	Deer Lake	80.94	8	P	P	01 03 30.8 +1.2
CHGQ	Chibougamau	81.03	357	P	P	01 03 30.0 -0.1
	baz=176,SNR=8.1					
ISA	Isabella, Lake	81.08	321	P	P	01 03 32.2 +1.4
	baz=139,SNR=14					
MATQ	Matagami	81.09	355	P	P	01 03 30.3 -0.1
	baz=173					
TOA0	Torodi Ar. Sit	81.14	69	P	P	01 03 31.3 -0.2
TOA0				IAmb	IAmb	01 03 32.6
	comp=Z,51nm,0.8s					
TORD	Torodi Ar. Bea	81.14	69	P	P	01 03 31.1 -0.3
	comp=Z,46nm,0.9s,baz=261,slow=4.7,SNR=176					
TORD				pP	pP	01 04 00.6 +0.3
	comp=Z,18nm,0.8s,baz=257,slow=4.7,SNR=5.1					
TORD				LR	LR	01 36 24.6
	comp=Z,44nm,21.8s,baz=310,slow=33					
K22A	Casper	81.19	333	P	P	01 03 32.2 +0.9
	baz=148,SNR=8.9					
K22A	Casper	81.19	333	IAmb	IAmb	01 03 33.7
	comp=Z,74nm,1.1s					
PKM	Mcpherson Peak	81.22	320	P	P	01 03 33.2 +1.4
	baz=138,SNR=17					
LBTB	Lobatse	81.31	114	P	P	01 03 32.5 0.0
LBTB				pmax	pmax	
	comp=Z,20nm,0.8s					
LBTB	Lobatse	81.31	114	P	P	01 03 32.5 0.0
EYMN	Ely	81.41	345	P	P	01 03 32.8 +0.6
	baz=161					
CWC	Cottonwood Cre	81.46	322	P	P	01 03 34.0 +1.1
	baz=140					
GRAC	Grapevine Rang	81.51	323	P	P	01 03 34.4 +1.4
	baz=140,SNR=14					
RSSD	Black Hills	81.53	336	P	P	01 03 33.9 +0.7
	baz=151					
RSSD	Black Hills	81.53	336	P	P	01 03 33.7 +0.5
RSSD				*PP	pP	01 04 03.1 +1.1
RSSD				pmax	pmax	
	comp=Z,37nm,1.0s					
RSSD	Black Hills	81.53	336	P	P	01 03 33.7 +0.5
RSSD				IAmb	IAmb	01 03 35.0
	comp=Z,37nm,0.9s					
RSSD				pP	pP	01 04 03.1 +1.1
VES	Vestal, Richgr	81.54	321	P	P	01 03 34.1 +1.0
	baz=139,SNR=14					
SMMC	Simmler	81.64	320	P	P	01 03 35.3 +1.6
	baz=138					
R11A	Troy Canyon, C	81.66	325	P	P	01 03 35.2 +1.3
	baz=141,SNR=46					
DUG	Dugway, Tooele	81.81	328	P	P	01 03 35.6 +0.9
	baz=144,SNR=21					
DUG	Dugway, Tooele	81.81	328	IAmb	IAmb	01 03 36.8
	comp=Z,95nm,1.8s					
TIN	Tinemaha, Big	82.00	322	P	P	01 03 36.8 +1.2
	baz=140,SNR=8.6					
PAGB	Antelope Grade	82.09	320	IAmb	IAmb	01 03 38.8
	comp=Z,34nm,0.8s					
PDAR	Pinedale Array	82.50	331	P	P	01 03 38.3 0.0
	comp=Z,13nm,0.8s,baz=139,slow=7.0,SNR=54					
PDAR				pP	pP	01 04 08.0 +0.8
	comp=Z,5.1nm,0.7s,baz=132,slow=4.4,SNR=5.9					
BW06	Boulder Array	82.50	331	P	P	01 03 38.2 -0.1
	baz=146,SNR=22					
CASY	Casey	82.68	180	P	P	01 03 39.2 +0.5
CASY				IAmb	IAmb	01 03 40.1
	comp=Z,50nm,0.8s					
CASY					pP	01 04 09.2 +1.4
MLAC	Mammoth, Mammo	82.75	323	P	P	01 03 40.7 +1.0
	baz=139,SNR=7.6					
OMMB	Old Mammoth Mi	82.82	322	IAmb	IAmb	01 03 42.5
	comp=Z,40nm,1.1s					
NVAR	Mina Array Bea	83.08	323	P	P	01 03 42.1 +0.8
	comp=Z,14nm,0.8s,baz=152,slow=5.7,SNR=82					
NVAR				pP	pP	01 04 11.9 +1.3
	comp=Z,4.2nm,0.8s,baz=149,slow=5.8,SNR=4.2					
AHID	Auburn Hatcher	83.14	330	IAmb	IAmb	01 03 43.1
	comp=Z,79nm,1.6s					
RYN	Ryn	83.34	323	IAmb	IAmb	01 03 44.9
	comp=Z,31nm,1.1s					
MDND	Maddock	83.40	340	P	P	01 03 42.8 +0.3
	baz=154,SNR=9.6					
REDW	Red Top Meadow	83.52	331	IAmb	IAmb	01 03 45.2
	comp=Z,61nm,1.8s					
WAKR	Walker	83.72	323	IAmb	IAmb	01 03 47.5
	comp=Z,46nm,1.2s					
YERR	Yerington	83.98	323	IAmb	IAmb	01 03 48.5
	comp=Z,46nm,1.1s					
FLWY	Flagg Ranch	84.05	331	IAmb	IAmb	01 03 48.3
	comp=Z,24nm,0.7s					
H17A	Grant Village	84.26	332	P	P	01 03 48.4 +1.1
	baz=146					
RLMT	Red Lodge	84.34	333	P	P	01 03 48.4 +0.8
	baz=147					
TTIG	Tnine Tigouga,	84.42	49	P	P	01 03 50.0 +1.7
TTIG	Tnine Tigouga,	84.42	49	P	P	01 03 50.0 +1.7
TTIG	Tnine Tigouga,	84.42	49	P	P	01 03 50.0 +1.7
TTIG	Tnine Tigouga,	84.42	49	P	P	01 03 50.0 +1.7
LAO	LASA Array	84.53	335	P	P	01 03 48.7 +0.4
	baz=149					
ULM	Lac du Bonnet	84.59	343	*de* P	P	01 03 47.8 -0.7
ULM				*i* *PP	pP	01 04 17.5 +0.1
ULM	Lac du Bonnet	84.59	343	P	P	01 03 48.6 +0.1
	comp=Z,21nm,0.8s,baz=167,slow=4.7,SNR=22					
ULM				pP	pP	01 04 17.8 +0.3
	comp=Z,15nm,0.7s,baz=146,slow=5.0,SNR=7.2					
ULM				LR	LR	01 41 50.5
	comp=Z,22nm,21.6s,baz=106,slow=36					
ULM	Lac du Bonnet	84.59	343	IAmb	IAmb	01 03 49.4
	comp=Z,35nm,1.1s					
PAHR	Pah Rah Range	84.59	324	IAmb	IAmb	01 03 51.5
	comp=Z,45nm,1.0s					
BEKR	Beckworth	85.21	323	IAmb	IAmb	01 03 54.3
	comp=Z,39nm,1.2s					
OUK	Oukaimeden	85.23	49	P	P	01 03 54.2 +1.6
OUK	Oukaimeden	85.23	49	P	P	01 03 54.2 +1.6
OUK	Oukaimeden	85.23	49	P	P	01 03 54.2 +1.6
OUK	Oukaimeden	85.23	49	P	P	01 03 54.2 +1.6
ORV	Oroville	85.58	322	IAmb	IAmb	01 03 56.1
	comp=Z,51nm,1.2s					
BOZ	Bozeman (W)	85.67	332	P	P	01 03 54.5 +0.3
	baz=145					
MFID	Camas Ranch	85.73	328	IAmb	IAmb	01 03 56.4
	comp=Z,106nm,2.0s					
OUZM	OUZ	85.75	50	P	P	01 03 56.1 +1.2
OUZM	OUZ	85.75	50	P	P	01 03 56.1 +1.2
OUZM	OUZ	85.75	50	P	P	01 03 56.1 +1.2
OUZM	OUZ	85.75	50	P	P	01 03 56.1 +1.2
SCHQ	Schefferville	85.86	1	P	P	01 03 54.2 -0.5
	comp=Z,32nm,0.9s,baz=190,slow=5.2,SNR=21					
SCHQ				pP	pP	01 04 24.7 +0.7
	comp=Z,7.6nm,0.8s,baz=230,slow=1.1,SNR=2.2					
DLMT	Dillon	85.88	331	IAmb	IAmb	01 03 57.4
	comp=Z,47nm,1.2s					
ZGR	Zagora	86.00	51	P	P	01 03 57.5 +1.4
ZGR	Zagora	86.00	51	P	P	01 03 57.5 +1.4
ZGR	Zagora	86.00	51	P	P	01 03 57.5 +1.4
ZGR	Zagora	86.00	51	P	P	01 03 57.5 +1.4
O03E	Paynes Creek	86.28	323	P	P	01 03 56.9 -0.3
	baz=137,SNR=9.8					
WVOR	Wild Horse Val	86.29	326	IAmb	IAmb	01 03 59.3
	comp=Z,32nm,1.2s					
TZRR	Tazzarine	86.45	51	P	P	01 03 60.0 +1.6
TZRR	Tazzarine	86.45	51	P	P	01 03 60.0 +1.6
TZRR	Tazzarine	86.45	51	P	P	01 03 60.0 +1.6
TZRR	Tazzarine	86.45	51	P	P	01 03 60.0 +1.6
MOD	Modoc Plateau	86.70	324	IAmb	IAmb	01 04 01.4
	comp=Z,36nm,0.8s					
O02D	Mt. Diablo Mer	86.71	322	P	P	01 03 59.5 +0.1
	baz=137					
WDC	Whiskeytown Da	86.87	322	IAmb	IAmb	01 04 00.8
	comp=Z,20nm,0.8s					
EGMT	Eagleton	86.94	334	P	P	01 04 00.1 -0.2
	baz=146,SNR=10					
EGMT	Eagleton	86.94	334	IAmb	IAmb	01 04 01.5
	comp=Z,38nm,0.9s					
LTZ	Lake Taylor	87.09	220	P	P	01 04 02.7 +1.4
LTZ				IAmb	IAmb	01 04 34.0
	comp=Z,41nm,0.9s					
URZ	Urewera	87.13	226	P	P	01 04 02.3 +0.8
	comp=Z,3.7nm,0.5s,baz=80,slow=6.1,SNR=4.0					
URZ	Urewera	87.13	226	IAmb	IAmb	01 04 04.0
	comp=Z,60nm,1.8s					
RPZ	Rata Peaks	87.13	219	P	P	01 04 02.6 +1.1
	comp=Z,16nm,0.9s,baz=264,slow=2.2,SNR=8.2					
RPZ				pP	pP	01 04 32.8 +2.0
	comp=Z,34nm,1.0s,baz=167,slow=4.1,SNR=6.8					
RPZ	Rata Peaks	87.13	219	IAmb	IAmb	01 04 34.1
	comp=Z,49nm,1.1s					
N02D	Trinity Center	87.24	323	P	P	01 04 02.2 +0.3
	baz=137,SNR=7.4					
M04C	Macdoel	87.39	324	P	P	01 04 03.1 +0.5
	baz=137,SNR=24					
THZ	Tophouse	87.40	222	P	P	01 04 04.3 +1.4
GOLM	Goulmima	87.45	50	P	P	01 04 05.0 +1.8
GOLM	Goulmima	87.45	50	P	P	01 04 05.0 +1.8
NNZ	Nelson	87.48	222	P	P	01 04 04.0 +0.9
MSO	Missoula	87.61	331	P	P	01 04 04.2 +0.6
	baz=143,SNR=9.8					
MSO	Missoula	87.61	331	IAmb	IAmb	01 04 05.8
	comp=Z,41nm,1.7s					
M02C	Callahan	87.62	323	P	P	01 04 04.1 +0.4
	baz=137,SNR=10					
ARF	Arif	87.76	51	P	P	01 04 06.1 +1.5
ARF	Arif	87.76	51	P	P	01 04 06.1 +1.5
L04D	Klamath Falls	87.94	324	P	P	01 04 05.4 +0.2
	baz=137,SNR=12					
K04D	Chiloquin, OR	87.96	324	P	P	01 04 06.0 +0.7
	baz=137,SNR=6.5					
J05D	Fort Rock, OR	88.19	325	P	P	01 04 07.3 +0.9
	baz=138,SNR=27					
KRMB	Red Mountain	88.26	322	IAmb	IAmb	01 04 09.2
	comp=Z,44nm,1.4s					
F10A	Beach Ranch, E	88.35	329	IAmb	IAmb	01 04 08.7
	comp=Z,36nm,1.6s					
MDT	Midelt	88.37	50	P	P	01 04 08.5 +1.0
	comp=Z,12nm,1.1s,baz=272,slow=5.3,SNR=9.7					
MDT	Midelt	88.37	50	P	P	01 04 09.1 +1.6
MDT	Midelt	88.37	50	P	P	01 04 09.1 +1.6
LSZ	Lusaka	88.42	107	P	P	01 04 09.2 +1.0
LSZ				pmax	pmax	
	comp=Z,16nm,1.0s					
LSZ	Lusaka	88.42	107	P	P	01 04 09.2 +1.0
JTMT	Jette	88.48	332	IAmb	IAmb	01 04 09.4
	comp=Z,23nm,0.7s					
L02E	Cave Junction	88.56	323	P	P	01 04 09.3 +1.2
	baz=136					
J04D	Umpqua Nationa	88.59	324	P	P	01 04 08.9 +0.6
	baz=137,SNR=18					
K02D	Willamette Mer	88.98	323	P	P	01 04 11.1 +1.0
	baz=136,SNR=7.8					
I05D	Terrebonne, OR	89.02	326	P	P	01 04 11.2 +1.0
	baz=138,SNR=14					
I04A	Tendick Farm,	89.14	325	P	P	01 04 10.9 +0.2
	baz=137,SNR=13					
G06A	Carlson Farm,	89.35	327	IAmb	IAmb	01 04 14.2
	comp=Z,39nm,1.2s					
J01E	Myrtle Point	89.45	323	P	P	01 04 12.5 +0.3
	baz=136					
I03D	Drain, OR	89.54	324	P	P	01 04 12.6 +0.1
	baz=136					
TAM	Tamanrasset	89.61	63	P	P	01 04 12.4 -1.2
TAM				pmax	pmax	
	comp=Z,8.0nm,1.0s					
TAM	Tamanrasset	89.61	63	P	P	01 04 12.4 -1.2
G05D	Wamic, OR	89.67	326	P	P	01 04 14.5 +1.3
	baz=138,SNR=7.5					
H04A	Detroit Lake	89.68	325	IAmb	IAmb	01 04 14.7
	comp=Z,32nm,0.8s					
HAWA	Hanford	89.70	328	IAmb	IAmb	01 04 15.2
	comp=Z,35nm,1.1s					
H04D	Lebanon	89.83	325	P	P	01 04 14.1 +0.2
	baz=137,SNR=5.4					
NEW	Newport	90.07	330	P	P	01 04 14.8 -0.2
	baz=141					
I02D	Swisshome	90.08	324	P	P	01 04 15.8 +0.8
	baz=136					
C09A	Chrisman Ranch	90.21	329	IAmb	IAmb	01 04 17.1
	comp=Z,35nm,1.1s					
TDRA	Tendrara	90.21	51	P	P	01 04 18.0 +1.8
TDRA	Tendrara	90.21	51	P	P	01 04 18.0 +1.8
F05D	White Salmon	90.22	327	P	P	01 04 16.4 +0.8
	baz=138					
FFC	Flin Flon	90.23	342	*i* P	P	01 04 15.7 +0.2
FFC	Flin Flon	90.23	342	P	P	01 04 14.8 -0.6
FFC				IAmb	IAmb	01 04 16.6
	comp=Z,18nm,1.1s					
F04A	Amboy	90.71	326	IAmb	IAmb	01 04 19.5
	comp=Z,32nm,1.0s					
LTY	Liberty	90.87	328	IAmb	IAmb	01 04 20.0
	comp=Z,16nm,0.9s					
B08A	Colville Reser	91.10	329	IAmb	IAmb	01 04 20.7
	comp=Z,24nm,1.6s					
E04D	Cinebar	91.23	326	P	P	01 04 20.7 +0.4
	baz=137					
D04E	Lakebay	91.78	327	P	P	01 04 23.3 +0.5
	baz=137					
B06A	Marblemount	92.17	328	IAmb	IAmb	01 04 25.3
	comp=Z,19nm,0.8s					
D03D	Eldon	92.19	327	P	P	01 04 25.1 +0.4
	baz=136					
B05A	Bryant	92.26	328	P	P	01 04 25.0 -0.1
	baz=137					
ESDC	Sonseca

MODS	**Modra-Piesok**	**110.62**	**45**	*e*P	**Pdif**	**01 05 46.9**	**-0.5**
MODS	**Modra-Piesok**	**110.62**	**45**	*e*PDIFF	**Pdif**	**01 05 46.9**	**-0.5**
VYHS	**Vyhne**	**111.62**	**46**	*e*P	**Pdif**	**01 05 51.1**	**-0.8**
VYHS	**Vyhne**	**111.62**	**46**	*e*PDIFF	**Pdif**	**01 05 51.1**	**-0.8**
VYHS				*e*PDIFF		01 22 08.7	
NOA	**NORSAR Array B**	**112.58**	**31**	PKiKP	**PKiKP**	**01 09 50.6**	**+0.1**
	comp=Z,1.2nm,1.0s,baz=214,slow=8.0,SNR=3.0						
ILAR	**Eielson Array**	**112.89**	**333**	Pdiff	**Pdif**	**01 05 58.2**	**+1.1**
	comp=Z,0.5nm,1.1s,baz=145,slow=2.2,SNR=3.8						
ILAR				PKiKP	**PKiKP**	**01 09 51.2**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=192,slow=0.9,SNR=12						
MMAI	**Mount Meron Ar**	**117.62**	**67**	PKP	**PKPdf**	**01 10 01.0**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=66,slow=1.0,SNR=4.4						
BRTR	**Keskin Array B**	**118.53**	**59**	PKP	**PKPdf**	**01 10 02.8**	**0.0**
	comp=Z,3.3nm,0.8s,baz=179,slow=4.4,SNR=12						
AKASG	**Malin Array Be**	**118.72**	**46**	*c i*PKiKP	**PKPdf**	**01 10 01.5**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKASG	**Malin Array Be**	**118.72**	**46**	PKP	**PKPdf**	**01 10 01.0**	**-1.5**
	comp=Z,4.0nm,0.8s,baz=259,slow=2.3,SNR=13						
AKASG				PKKPbc	**PKKPab**	**01 20 18.4**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=60,slow=2.9,SNR=4.4						
VSU	**Vasula**	**119.21**	**37**	*i*PKiKP	**PKPdf**	**01 10 03.1**	**-0.1**
VSU				pmax	pmax		
	comp=Z,30nm,1.0s						
FINES	**FINESS Array B**	**119.53**	**33**	*c i*PKiKP	**PKiKP**	**01 10 03.9**	**+0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**119.53**	**33**	PKP	**PKPdf**	**01 10 03.4**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=98,slow=2.9,SNR=6.5						
FINES				PKKP	**PKKPdf**	**01 20 49.4**	**+1.2**
	comp=Z,2.0nm,1.0s,baz=82,slow=3.1,SNR=3.9						
SPITS	**Spitsbergen Ar**	**119.57**	**14**	PKP	**PKiKP**	**01 10 03.7**	**+0.1**
	comp=Z,11nm,0.8s,baz=103,slow=3.8,SNR=8.6						
ARCES	**ARCESS Array B**	**120.67**	**24**	PKP	**PKPdf**	**01 10 05.9**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=224,slow=7.5,SNR=4.4						
ARCES				PKKPbc	**PKKPbc**	**01 20 12.7**	**-0.1**
	comp=Z,5.2nm,1.1s,baz=45,slow=1.7,SNR=3.4						
ASAR	**Alice Springs**	**120.94**	**205**	PKP	**PKPdf**	**01 10 06.6**	**-1.3**
	comp=Z,5.0nm,0.7s,baz=145,slow=2.1,SNR=41						
ASAR				pPKP	**pPKPdf**	**01 10 37.5**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=136,slow=2.0,SNR=2.6						
ASAR				PKKPbc	**PKKPbc**	**01 20 11.0**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=342,slow=3.3,SNR=11						
ASAR				PKKP	**PKKPdf**	**01 20 41.8**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=340,slow=2.6,SNR=4.7						
RAYN	**Ar Rayn**	**122.36**	**80**	PKiKP	**PKPdf**	**01 10 08.9**	**-1.6**
RAYN	**Ar Rayn**	**122.36**	**80**		**PKPdf**	**01 10 08.9**	**-1.6**
OBN	**Obninsk**	**123.95**	**42**	*i*PKiKP	**PKPdf**	**01 10 12.3**	**-0.1**
OBN				*e*		01 10 43.7	
OBN						01 17 12.0	
OBN				SS	SS	01 28 45.0	+5.9
OBN				pmax	pmax		
	comp=Z,22nm,0.8s						
OBN	**Obninsk**	**123.95**	**42**	PKP	**PKiKP**	**01 10 12.7**	**-0.1**
	comp=Z,2.8nm,0.4s,baz=204,slow=8.6,SNR=5.9						
OBN	**Obninsk**	**123.95**	**42**		**PKPdf**	**01 10 12.3**	**-0.1**
WB2	**Warramunga Arr**	**124.16**	**207**		**PKPdf**	**01 10 11.3**	**-2.8**
WRA	**Warramunga Arr**	**124.16**	**207**	PKP	**PKPdf**	**01 10 13.0**	**-1.1**
	comp=Z,14nm,0.5s,baz=167,slow=1.6,SNR=152						
WRA				pPKP	**pPKPdf**	**01 10 43.5**	**-1.2**
	comp=Z,3.2nm,0.5s,baz=166,slow=1.7,SNR=4.3						
WRA				PKKPbc	**PKKPbc**	**01 19 58.8**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=346,slow=4.0,SNR=5.5						
WRAB	**Tennant Creek**	**124.17**	**207**	*d i*PKiKP	**PKPdf**	**01 10 13.2**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,41nm,2.5s						
WRAB	**Tennant Creek**	**124.17**	**207**		**PKPdf**	**01 10 13.4**	**-0.7**
VSR	**Storozhevoye**	**124.98**	**47**	*d i*PKiKP	**PKPdf**	**01 10 14.1**	**-0.5**
LPSR	**Galich'ya Gora**	**125.02**	**45**	*e*PKiKP	**PKPdf**	**01 10 13.2**	**-1.4**
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
VORD	**Divnogorie**	**125.02**	**47**	*e*PKiKP	**PKPdf**	**01 10 12.9**	**-1.7**
VORD				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KIV	**Kislovodsk**	**126.14**	**56**	*i*PKiKP	**PKiKP**	**01 10 17.7**	**+0.1**
KIV				pmax	pmax		
	comp=Z,45nm,1.0s						
KBZ	**Khabaz**	**126.25**	**56**	*i*PKiKP	**PKiKP**	**01 10 18.2**	**+0.5**
KBZ	**Khabaz**	**126.25**	**56**	PKP	**PKiKP**	**01 10 18.4**	**+0.7**
	comp=Z,6.9nm,1.0s,baz=330,slow=2.3,SNR=5.4						
PMG	**Port Moresby**	**126.49**	**227**	*i*PKiKP	**PKPdf**	**01 10 18.8**	**+0.2**
PMG				pmax	pmax		
	comp=Z,72nm,1.0s						
VRH	**Novokhopyorsk**	**126.57**	**47**	*e*PKiKP	**PKPdf**	**01 10 17.0**	**-0.6**
VRH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PSA00	**Pilbara Seismi**	**126.64**	**191**		**PKPdf**	**01 10 17.7**	**-1.1**
FITZ	**Fitzroy Crossi**	**128.77**	**198**	PKP	**PKPdf**	**01 10 22.9**	**0.0**
	comp=Z,10.0nm,0.8s,baz=189,slow=5.5,SNR=18						
FITZ				pPKP	**pPKPdf**	**01 10 54.1**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=247,slow=2.0,SNR=2.2						
PRGR	**Permogore**	**128.85**	**34**	*e*PKiKP	**PKPdf**	**01 10 20.4**	**-1.2**
PRGR				pmax	pmax		
	comp=Z,25nm,1.0s						
AKT	**Akhty**	**129.35**	**60**	*e*PKiKP	**PKiKP**	**01 10 23.8**	**-0.4**
AKT				*e*		01 10 56.0	
AKT				*e*		01 12 39.5	
AKT				pmax	pmax		
	comp=Z,20nm,1.1s						
BILL	**Bilibino**	**131.42**	**336**	*e*PKiKP	**PKPdf**	**01 10 26.1**	**-0.3**
BILL				*e*		01 10 51.6	
BILL				*e*		01 11 07.0	
BILL						01 12 47.0	
BILL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BILL				pmax	pmax		
	comp=Z,16nm,1.1s						
BILL	**Bilibino**	**131.42**	**336**		**PKPdf**	**01 10 25.9**	**-0.4**
JAY	**Jayapura**	**135.84**	**226**	PKP	**PKiKP**	**01 10 38.3**	**+0.2**
	comp=Z,10nm,0.9s,baz=320,slow=12,SNR=3.8						
ARU	**Arti**	**136.25**	**39**	PKP	**PKPdf**	**01 10 36.6**	**+0.9**
	comp=Z,3.0nm,0.6s,baz=301,slow=1.4,SNR=17						
GEYT	**Alibeck**	**136.74**	**66**	PKP	**PKPdf**	**01 10 34.6**	**-2.7**
	comp=Z,5.0nm,0.7s,baz=273,slow=5.8,SNR=11						
GYA0B	**ALIBECK ARRAY**	**136.74**	**66**		**PKPdf**	**01 10 34.3**	**-3.0**
BATI	**Baumata**	**136.84**	**199**	PKP	**PKPdf**	**01 10 39.0**	**+0.7**
	comp=Z,12nm,0.4s,baz=27,slow=2.3,SNR=3.2						
AKTO	**Aktyubinsk**	**136.88**	**48**	PKP	**PKPdf**	**01 10 37.8**	**+0.7**
	comp=Z,4.8nm,0.9s,baz=307,slow=2.0,SNR=11						
SVE	**Sverdlovsk**	**137.28**	**38**	*e*PKiKP	**PKPdf**	**01 10 38.4**	**+0.8**
SVE				pmax	pmax		
	comp=Z,14nm,1.3s						
AB31	**Akbulak array**	**138.24**	**50**	*i*PKHKP	PKPpre	01 10 29.5	
AB31				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TIXI	**Tiksi**	**138.47**	**351**	*e*PKiKP	**PKPdf**	**01 10 39.7**	**+0.3**
SEY	**Seymchan**	**138.82**	**332**	*e*PKiKP	**PKiKP**	**01 10 42.1**	**-0.4**
SEY	**Seymchan**	**138.82**	**332**	PKhKP	PKPpre	01 10 32.0	
	comp=Z,3.0nm,0.6s,baz=68,slow=16,SNR=4.6						
SEY				PKP	**PKiKP**	**01 10 41.5**	**-0.9**
	comp=Z,15nm,0.7s,baz=116,slow=2.3,SNR=20						
SEY				pPKP	pPKPdf	01 11 11.6	+0.7
	comp=Z,5.6nm,0.7s,baz=146,slow=3.5,SNR=2.7						
PETK	**Petropavlovsk-**	**139.88**	**317**	PKhKP	PKPpre	01 10 34.9	
	comp=Z,2.1nm,0.6s,baz=93,slow=5.2,SNR=5.1						
PETK				PKP	**PKPdf**	**01 10 43.8**	**+1.2**
	comp=Z,8.2nm,0.8s,baz=108,slow=4.8,SNR=9.4						
JAGI	**Jajag, Banyuwa**	**140.26**	**185**		**PKPdf**	**01 10 41.0**	**-3.5**
SKR	**Severo-Kuril's**	**141.39**	**313**	*e*PKiKP	**PKiKP**	**01 10 47.6**	**-0.5**
SKR				MLR	MLR		
	comp=Z,700nm,18.0s						
SIJI	**Sorong**	**142.46**	**215**	PKP	**PKPdf**	**01 10 48.0**	**-0.5**
	comp=Z,8.5nm,0.4s,baz=221,slow=19,SNR=2.7						
KAPI	**Kappang**	**142.81**	**195**	PKhKP	PKPpre	01 10 45.8	
	comp=Z,24nm,0.9s,baz=267,slow=6.8,SNR=5.0						
BRVK	**Borovoye**	**143.72**	**41**	PKiKP	PKPab	01 10 46.2	-0.3
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BRVK	**Borovoye**	**143.72**	**41**		PKPbc	01 10 47.9	+0.6
GUMO	**Guam**	**143.99**	**248**	PKP	PKPbc	01 10 49.1	0.0
	comp=Z,278nm,0.8s,baz=171,slow=7.1,SNR=11						
KBL	**Kabul**	**145.09**	**73**	PKP2	**PKPbc**	**01 10 51.5**	**-0.9**
KBL	**Kabul**	**145.09**	**73**		**PKPbc**	**01 10 51.5**	**-0.9**
KK31	**Karatay Array**	**146.24**	**58**	*i*PKP2	**PKPdf**	**01 10 54.7**	**+0.6**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YAK	**Yakutsk**	**146.93**	**344**	*e*PKiKP	**PKPdf**	**01 10 55.6**	**+1.0**
YAK				*e*		01 14 22.5	
YAK				*e*		01 26 57.1	
YAK				pmax	pmax		
	comp=Z,241nm,0.8s						
YAK				pmax	pmax		
	comp=N,49nm,1.4s						
YAK				pmax	pmax		
	comp=E,23nm,1.4s						
YAK				pmax	pmax		
	comp=Z,185nm,4.1s						
YAK				pmax	pmax		
	comp=N,91nm,4.1s						
YAK				pmax	pmax		
	comp=E,207nm,3.7s						
YAK	**Yakutsk**	**146.93**	**344**	PKPbc	**PKPbc**	**01 10 56.4**	**-0.2**
	comp=E,90nm,0.6s,baz=221,slow=0.7,SNR=15						
YAK				pPKPbc	pPKPab	01 11 28.3	+0.2
	comp=E,44nm,0.7s,baz=122,slow=1.1,SNR=3.0						
YAK	**Yakutsk**	**146.93**	**344**		**PKPbc**	**01 10 57.4**	**+0.7**
NIL	**Nilore**	**148.47**	**76**	PKiKP	**PKPdf**	**01 10 58.5**	**+0.4**
NIL						01 11 02.0	
NIL	**Nilore**	**148.47**	**76**	PKPdf	**PKPdf**	**01 10 58.5**	**+0.4**
NIL					**PKPbc**	**01 11 02.0**	**+0.2**
EKS2	**Erkin-Say**	**148.68**	**58**	P	**PKPdf**	**01 10 59.9**	**+1.5**
	SNR=54						
AML	**Almayashu**	**148.70**	**59**	P	**PKPdf**	**01 10 60.0**	**+1.3**
	SNR=32						
USP	**Ospenovka**	**149.10**	**57**	P	**PKPbc**	**01 11 03.6**	**+0.4**
	SNR=36						
AAK	**Ala-Archa**	**149.21**	**58**	*de*PKiKP	**PKPdf**	**01 11 00.0**	**+0.8**
AAK	**Ala-Archa**	**149.21**	**58**	P	**PKiKP**	**01 11 04.2**	**-0.5**
	SNR=59						
AAK	**Ala-Archa**	**149.21**	**58**		**PKPdf**	**01 11 00.5**	**+1.3**
AAK				PKPbc	**PKiKP**	**01 11 04.8**	**+0.1**
FRU1	**Bishkek**	**149.28**	**58**	PKPdf	**PKPdf**	**01 11 00.6**	**+1.4**
FRU1					**PKiKP**	**01 11 04.9**	**+0.2**
UCH	**Uchtor**	**149.29**	**59**	P	**PKPdf**	**01 11 01.2**	**+1.4**
	SNR=25						
CHMS	**Chumysh**	**149.33**	**58**	P	**PKiKP**	**01 11 05.0**	**+0.1**
	SNR=24						
KURK	**Kurchatov**	**149.39**	**41**	*de*PKiKP	**PKPdf**	**01 10 58.1**	**-0.9**
KURK	**Kurchatov**	**149.39**	**41**		**PKPdf**	**01 10 59.7**	**+0.7**
KURK				PKPbc	**PKPbc**	**01 11 03.9**	**+0.3**
KURK				PKPab	**PKPab**	**01 11 09.2**	**+0.6**
RPSI	**Rantau Prapat**	**149.41**	**156**		**PKPbc**	**01 11 04.1**	**-0.6**
PSI	**Prapat**	**149.51**	**156**	PKHKP	**PKPbc**	**01 11 04.1**	**-1.0**
KBK	**Karagaybulak**	**149.53**	**58**	P	**PKiKP**	**01 11 05.8**	**+0.3**
	SNR=27						
KZA	**Kyzart**	**149.85**	**59**	P	**PKiKP**	**01 11 07.1**	**+0.7**
	SNR=19						
TKM2	**Tokmak 2**	**149.96**	**57**	PKiKP	**PKPdf**	**01 11 00.0**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,30nm,0.8s						
TKM2	**Tokmak 2**	**149.96**	**57**	P	**PKPdf**	**01 11 00.7**	**+0.2**
	SNR=8.7						
BOOM	**Boomskoye usch**	**150.28**	**58**	PKiKP	**PKiKP**	**01 11 07.2**	**+0.2**
BOOM	**Boomskoye usch**	**150.28**	**58**	PKPbc	**PKiKP**	**01 11 07.2**	**+0.2**
NRN	**Naryn**	**150.50**	**60**	PKiKP	**PKPdf**	**01 11 01.8**	**+0.3**
NRN						01 11 14.2	
NRN	**Naryn**	**150.50**	**60**		**PKPdf**	**01 11 01.8**	**+0.3**
NRN				PKPbc	**PKiKP**	**01 11 07.8**	**+0.1**
NRN				PKPab	**PKPab**	**01 11 14.2**	**+0.2**
ULHL	**Ulahol**	**150.55**	**59**	P	**PKiKP**	**01 11 08.5**	**+0.9**
	SNR=18						
KSH	**Kashi**	**150.72**	**64**	PKPbc	**PKPdf**	**01 11 02.2**	**+0.5**
KSH				sPKP		01 11 39.1	
KSH				PKS	**PKSdf**	**01 14 35.1**	**-1.4**
KSH				PP	**PP**	**01 14 46.0**	**+0.6**
KSH				SKS	**SKSdf**	**01 17 58.6**	**-0.8**
KSH				AMB	AMB		
	comp=Z,180nm,4.4s						
KSH				LR	LR		
	comp=Z,310nm,6.6s						
KSH				LR	LR		
	comp=Z,210nm,6.9s						
KSH				LR	LR		
	comp=Z,200nm,6.5s						
ZALV	**Zalesovo Beam**	**150.78**	**32**	PKP	**PKPdf**	**01 11 01.2**	**+0.1**
	comp=Z,4.6nm,0.8s,baz=273,slow=3.0,SNR=18						
ZALV				PKPbc	**PKPbc**	**01 11 06.5**	**-0.2**
	comp=Z,76nm,0.7s,baz=297,slow=3.2,SNR=187						
ZALV				pPKPbc	**pPKPbc**	**01 11 38.2**	**+1.0**
	comp=Z,23nm,0.6s,baz=316,slow=3.3,SNR=4.8						
YSS	**Yuzh-Sakhalins**	**150.90**	**312**	*i*PKiKP	**PKiKP**	**01 11 07.7**	**-0.1**
YSS				pmax	pmax		
	comp=Z,70nm,0.8s						
SBUM	**Sibu**	**151.21**	**183**		**PKPdf**	**01 11 02.8**	**-0.3**
SBUM				PKPbc	**PKPbc**	**01 11 07.9**	**-1.1**
IPM	**Ipoh**	**151.76**	**159**		**PKPbc**	**01 11 09.8**	**-0.6**
ASAJ	**Asahikawa**	**151.91**	**306**	PKPbc	**PKPbc**	**01 11 09.5**	**-0.2**
	comp=Z,30nm,0.9s,baz=334,slow=3.1,SNR=8.9						
PDGK	**Podgornoye**	**152.64**	**55**	PKiKP	**PKPdf**	**01 11 05.1**	**+0.7**
PDGK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MAKZ	**Makanchi**	**153.10**	**47**	PKiKP	**PKPdf**	**01 11 04.1**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,14nm,0.8s						
MAKZ	**Makanchi**	**153.10**	**47**		**PKPbc**	**01 11 12.3**	**0.0**
MK31	**Makanchi Array**	**153.30**	**47**	*i*PKiKP	**PKPbc**	**01 11 12.4**	**-0.3**
MK31				pmax	pmax		
	comp=Z,14nm,0.7s						
MKAR	**Makanchi Array**	**153.30**	**47**	PKP	**PKPdf**	**01 11 05.2**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=285,slow=1.9,SNR=7.9						
MKAR				PKPbc	**PKPbc**	**01 11 12.8**	**0.0**
	comp=Z,18nm,0.8s,baz=302,slow=2.3,SNR=51						
MKAR				PKPab	**PKPab**	**01 11 25.5**	**+0.4**
	comp=Z,12nm,0.6s,baz=291,slow=4.6,SNR=20						
MKAR				pPKPbc	**pPKPbc**	**01 11 43.3**	**-0.2**
	comp=Z,6.1nm,0.8s,baz=278,slow=2.1,SNR=3.3						
MKAR				pPKPab	**pPKPab**	**01 11 53.8**	**-1.0**
	comp=Z,4.7nm,0.7s,baz=327,slow=1.5,SNR=2.6						
BOD	**Bodaibo**	**153.44**	**356**	*e*PKiKP	**PKPdf**	**01 11 02.1**	**-2.8**
BOD				pmax	pmax		
	comp=Z,35nm,1.1s						
KLR	**Kul'dur**	**156.11**	**324**	PKP	**PKPdf**	**01 11 07.4**	**-1.5**
	comp=Z,2.0nm,0.7s,baz=25,slow=4.0,SNR=5.0						
KLR				PKPbc	PKPbc	01 11 18.7	
	comp=Z,2.0nm,0.5s,baz=69,slow=4.1,SNR=8.4						
KLR				PKPab	**PKPab**	**01 11 37.6**	**+0.6**
	comp=Z,2.8nm,0.6s,baz=91,slow=4.6,SNR=7.3						
KOLN	**Koldanda**	**156.20**	**92**	*e*P	**PKPdf**	**01 11 10.1**	**+0.1**
DANN	**Dangsing**	**156.49**	**90**	*e*P	**PKPdf**	**01 11 11.0**	**+0.6**
	comp=Z,86nm,0.9s						
MJAR	**Matsushiro Arr**	**156.62**	**290**	PKPab	**PKPab**	**01 11 40.1**	**+0.4**
	comp=Z,13nm,0.7s,baz=81,slow=4.3,SNR=19						
MJAR				pPKPab	**pPKPab**	**01 12 09.8**	**+0.6**
	comp=Z,4.6nm,0.7s,baz=81,slow=4.2,SNR=3.2						
MAJO	**Matsushiro**	**156.62**	**290**	PKP2	**PKPab**	**01 11 39.4**	**-0.3**
MAJO	**Matsushiro**	**156.62**	**290**		**PKPab**	**01 11 39.4**	**-0.3**
MAT	**Matsushiro**	**156.62**	**290**	PKP	**PKPab**	**01 11 40.4**	**+0.7**
MJB9	**Matsu-Tunnel**	**156.62**	**290**		**PKPab**	**01 11 39.3**	**-0.4**
GKN	**Gorkha**	**157.15**	**92**	*e*P	**PKPdf**	**01 11 11.2**	**+0.1**
DMN	**Daman**	**157.45**	**93**	*e*P	**PKPdf**	**01 11 12.0**	**+0.4**
	comp=Z,74nm,1.5s						
KKN	**Kakani**	**157.65**	**93**	*e*P	**PKPdf**	**01 11 11.3**	**-0.5**
PKIN	**Phulchoki**	**157.69**	**93**	*e*P	**PKPdf**	**01 11 11.7**	**-0.2**
PKI	**Pulchoki**	**157.70**	**93**	*e*P	**PKPdf**	**01 11 12.0**	**0.0**
WMQ	**Urumqi**	**158.03**	**49**	*e*PKiKP	**PKPdf**	**01 11 11.7**	**+0.1**
WMQ				LR	LR		
	comp=Z,210nm,17.7s						
WMQ				LR	LR		
	comp=Z,200nm,18.7s						
WMQ				LR	LR		
	comp=Z,200nm,24.1s						
GUN	**Gumba**	**158.19**	**93**	*e*P	**PKPdf**	**01 11 12.8**	**+0.1**
JIRN	**Jiri**	**158.39**	**94**	*e*P	**PKPdf**	**01 11 13.1**	**+0.2**
	comp=Z,29nm,0.9s						
RAMN	**Ramite**	**158.53**	**96**	*e*P	**PKPdf**	**01 11 13.7**	**+0.7**
	comp=Z,36nm,0.7s						
USRK	**Ussuriysk Ar.**	**158.90**	**313**	PKPab	**PKPab**	**01 11 49.6**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=349,slow=1.9,SNR=6.4						
TLY	**Talaya**	**159.04**	**12**	PKiKP	**PKPdf**	**01 11 13.6**	**+1.1**
TLY						01 11 50.7	
TLY	**Talaya**	**159.04**	**12**	PKPdf	**PKPdf**	**01 11 13.6**	**+1.1**
TLY					**PKPab**	**01 11 50.7**	**+1.2**
ODAN	**Odare**	**159.18**	**97**	*e*P	**PKPdf**	**01 11 14.0**	**+0.3**
	comp=Z,45nm,0.9s						
TAPN	**Taplejung**	**159.60**	**95**	*e*P	**PKPdf**	**01 11 14.8**	**+0.5**
SHL	**Shillong**	**162.51**	**105**	PKiKP	**PKPdf**	**01 11 16.8**	**-0.4**
SHL	**Shillong**	**162.51**	**105**	PKPdf	**PKPdf**	**01 11 16.8**	**-0.4**
SONM	**Songino Array**	**163.22**	**10**	PKP	**PKPdf**	**01 11 17.2**	**0.0**
	comp=Z,3.6nm,0.9s,baz=267,slow=1.8,SNR=13						
SONM				PKPab	**PKPab**	**01 12 08.8**	**+0.8**
	comp=Z,7.5nm,0.7s,baz=326,slow=4.4,SNR=21						
SONM				pPKPab	**pPKPab**	**01 12 37.9**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=311,slow=3.2,SNR=2.7						
ULN	**Ulaanbaatar**	**163.28**	**9**	PKiKP	**PKPdf**	**01 11 17.6**	**+0.3**
ULN						01 12 09.7	
ULN	**Ulaanbaatar**	**163.28**	**9**		**PKPdf**	**01 11 17.6**	**+0.3**
ULN					**PKPab**	**01 12 09.7**	**+1.4**
CMAR	**Chiang Mai Arr**	**163.34**	**138**	PKP	**PKPdf**	**01 11 18.2**	**+0.2**
	comp=Z,4.7nm,0.9s,baz=257,slow=2.2,SNR=29						
CMAR				pPKP	**pPKPdf**	**01 11 48.8**	**0.0**
	comp=Z,0.8nm,0.3s,baz=261,slow=3.6,SNR=1.5						
CMAR				PKPab	**PKPab**	**01 12 08.6**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=243,slow=4.2,SNR=6.9						
CMAR				pPKPab	**pPKPab**	**01 12 37.4**	**-1.5**
	comp=Z,1.7nm,0.3s,baz=232,slow=3.9,SNR=3.6						
CHTO	**Chiang Mai**	**163.62**	**137**	PKiKP	**PKPdf**	**01 11 18.6**	**+0.3**
CHTO	**Chiang Mai**	**163.62**	**137**		**PKPdf**	**01 11 18.6**	**+0.3**
SKNT	**Sakolnakorn**	**164.44**	**155**	P	**PKPdf**	**01 11 20.0**	**+0.9**
	comp=Z,26nm,1.3s						
KSRS	**Korea Array**	**164.53**	**298**	PKP	**PKPdf**	**01 11 18.3**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=229,slow=1.1,SNR=4.7						
KSRS				PKPab	**PKPab**	**01 12 14.8**	**+0.8**
	comp=Z,3.6nm,0.9s,baz=68,slow=4.3,SNR=3.2						
GTA	**Gaotai**	**168.04**	**45**	*e*P	**PP**	**01 16 19.6**	**+1.0**
GTA				pP		01 16 27.8	
GTA				sP		01 16 32.2	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
GTA	**Gaotai**	**168.04**	**45**	PKP	**PKPdf**	**01 11 22.2**	**+0.8**
GTA				pPKP	pPKPdf	01 11 51.6	-0.5
GTA				sPKP		01 12 03.2	
GTA				PKPab	**PKPab**	**01 12 30.3**	**+0.6**
GTA				PP	**PP**	**01 16 19.5**	**+0.9**
HHC	**Hu-ho-hao-te**	**170.50**	**356**	PKP	**PKPdf**	**01 11 23.4**	**+0.6**
KMI	**Kunming**	**170.65**	**130**	PKP	**PKPdf**	**01 11 24.1**	**+0.5**
KMI				LR	LR		
	comp=Z,90nm,35.2s						
LZH	**Lanzhou**	**172.61**	**49**	*e*PKP	**PKPdf**	**01 11 25.3**	**+1.2**
LZH				pPKP	pPKPdf	01 11 55.1	-0.1
LZH				sPKP		01 12 04.6	
LZH				LR	LR		
	comp=Z,180nm,14.6s						
LZH				LR	LR		
	comp=Z,170nm,13.6s						
LZH				LR	LR		
	comp=Z,170nm,14.8s						
TIA	**Tai'an**	**172.77**	**314**	PKP	**PKPdf**	**01 11 24.5**	**+0.6**
J2	**Nanjing**	**173.00**	**278**	*e*PKP	**PKPdf**	**01 11 24.5**	**+0.4**
CD2	**Chengdu**	**174.05**	**93**	PKP	**PKPdf**	**01 11 23.6**	**-1.1**
WHN	**Wuhan**	**176.74**	**257**	PKP	**PKPdf**	**01 11 24.3**	**-1.0**
XAN	**Xi'an**	**176.94**	**28**	PKP	**PKPdf**	**01 11 25.5**	**+0.2**

IDC ***10*** *01:01:29.3±8.9, 19.°72S×177.°62W, h359km±87km, mb3.2/6, mb1 3.4/7, mb1mx3.2/52, mbtmp4.0/7, Error ellipse: s-maj=47.8km s-min=22.8km az=20.0*

ISCJB ***10*** *01:01:40.1±0.6, 20.°17S±0.°10×177.°71W±0.°10, h500km, mb3.4/6, Error ellipse: s-maj=13.1km s-min=11.9km az=145.5*

NEIC ***10*** *01:01:40.5±1.3, 20.°2S±0.°1×177.°7W±0.°1, h484km±7km, mb4.3/15*

ISC 10 01:01:41.3±0.7, 20.°1S±0.°1×177.°7W±0.°1, h500km, n26, σ1s17/26, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.67**	**300**	P	**P**	**01 03 04.7**	**-0.8**
NIUE	**Niue**	**7.40**	**83**	P	**P**	**01 03 30.2**	**-1.4**

MPSI	**Mapaga**	**7.73**	**243**	P	**Pn**	**01 10 21.0**	**+1.5**
	23nm,0.9s,608nm0.2nm						
RKPI	**Ransiki, Papua**	**9.16**	**126**	P	**Pn**	**01 10 39.4**	**+0.3**
	71nm,0.8s						
TTSI	**Tana Toraja**	**9.80**	**225**	P	Pn	01 10 59.3	+11
KAPI	**Kappang**	**11.31**	**218**	LR	LR	01 16 00.7	
	comp=Z,161nm,21.0s,baz=312,slow=41						
TGY	**Tagaytay City**	**11.64**	**331**	LR	LR	01 16 07.6	
	comp=Z,258nm,21.4s,baz=256,slow=40						
JAY	**Jayapura**	**15.33**	**114**	Pn	**P**	**01 12 07.5**	**-0.1**
	0.7nm,0.3s,baz=288,slow=16,SNR=3.4						
PLAI	**Plampang**	**15.51**	**215**	P	**P**	**01 12 13.2**	**+3.6**
TWSI	**Taliwang, Sumb**	**15.97**	**218**	P	**P**	**01 12 13.9**	**-0.9**
	32nm,0.8s,504nm						
MTN	**Manton Dam**	**17.21**	**165**	P	**Pn**	**01 12 27.1**	**-0.1**
KNRA	**Kununurra**	**19.57**	**174**	P	**P**	**01 12 54.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**21.91**	**183**	P	**P**	**01 13 20.1**	**+0.5**
	4.5nm,0.5s,baz=7.7,slow=9.5,SNR=22						
FITZ	**Fitzroy Crossi**	**21.91**	**183**	P	**P**	**01 13 19.3**	**-0.3**
WRA	**Warramunga Arr**	**24.85**	**163**	P	**P**	**01 13 48.9**	**+0.1**
	8.8nm,0.7s,baz=343,slow=11,SNR=34						
PSA00	**Pilbara Seismi**	**26.23**	**195**	P	**P**	**01 14 00.4**	**-0.8**
ASAR	**Alice Springs**	**28.29**	**166**	P	**P**	**01 14 20.2**	**+0.5**
	1.2nm,0.5s,baz=350,slow=7.3,SNR=15						
WHN	**Wuhan**	**28.96**	**337**	*eP*	**P**	**01 14 22.9**	**-2.7**
CMAR	**Chiang Mai Arr**	**30.81**	**300**	P	**P**	**01 14 42.0**	**-0.1**
	1.0nm,0.6s,baz=90,slow=6.2,SNR=5.0						
XAN	**Xi'an**	**34.27**	**333**	P	**P**	**01 15 11.0**	**-1.3**
XAN				pP	pP	01 15 22.4	0.0
XAN				sP	sP	01 15 28.1	+1.5
XAN				pmax	pmax		
	comp=Z,15nm,0.8s						
XAN	**Xi'an**	**34.27**	**333**	P	**P**	**01 15 10.9**	**-1.3**
EIDS	**Eidsvold**	**37.48**	**142**	P	**P**	**01 15 40.4**	**+0.5**
EIDS				IAmb	IAmb	01 15 41.7	
	comp=Z,6.6nm,0.8s						
STKA	**Stephens Creek**	**38.29**	**159**	P	**P**	**01 15 47.9**	**+1.3**
	comp=Z,11nm,0.8s,baz=331,slow=9.4,SNR=14						
STKA	**Stephens Creek**	**38.29**	**159**	P	**P**	**01 15 46.4**	**-0.3**
SHL	**Shillong**	**39.79**	**306**	P	**P**	**01 15 57.9**	**-1.6**
LSA	**Lhasa**	**42.34**	**311**	P	**P**	**01 16 19.1**	**-1.7**
LSA				IAmb	IAmb	01 16 23.1	
	comp=Z,9.0nm,0.6s						
TAPN	**Taplejung**	**43.94**	**306**	*eP*	**P**	**01 16 32.8**	**-0.7**
RAMN	**Ramite**	**44.67**	**305**	*eP*	**P**	**01 16 39.7**	**+0.3**
	comp=Z,8.8nm,0.5s						
JIRN	**Jiri**	**45.29**	**306**	*eP*	**P**	**01 16 44.3**	**-0.1**
	comp=Z,21nm,0.7s						
KLR	**Kul'dur**	**45.35**	**5**	P	**P**	**01 16 44.1**	**0.0**
	comp=Z,2.6nm,0.8s,baz=211,slow=3.1,SNR=5.3						
GUN	**Gumba**	**45.64**	**306**	*eP*	**P**	**01 16 45.9**	**-1.3**
	comp=Z,14nm,0.7s						
SONM	**Songino Array**	**47.13**	**341**	P	**P**	**01 16 58.0**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=152,slow=8.1,SNR=4.9						
SONM				PcP	**PcP**	**01 18 30.5**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=160,slow=4.6,SNR=3.6						
KOLN	**Koldanda**	**47.45**	**305**	*eP*	**P**	**01 17 00.1**	**-1.1**
	comp=Z,22nm,0.7s						
DANN	**Dangsing**	**47.54**	**305**	*eP*	**P**	**01 17 00.8**	**-1.2**
	comp=Z,20nm,0.6s						
TLY	**Talaya**	**51.36**	**342**	LR	LR	01 40 29.8	
	comp=Z,38nm,18.4s,baz=128,slow=38						
WMQ	**Urumqi**	**52.59**	**325**	P	**P**	**01 17 37.3**	**-2.5**
PEA0B	**Petropavlovsk-**	**55.24**	**22**	P	**P**	**01 17 59.1**	**+0.2**
PEA0B				IAmb	IAmb	01 18 08.0	
	comp=Z,8.3nm,1.0s						
PETK	**Petropavlovsk-**	**55.24**	**22**	P	**P**	**01 17 59.8**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=195,slow=3.3,SNR=9.7						
MK31	**Makanchi Array**	**57.42**	**325**	P	**P**	**01 18 13.8**	**-0.8**
MKAR	**Makanchi Array**	**57.42**	**325**	P	**P**	**01 18 14.0**	**-0.6**
	comp=Z,2.9nm,0.5s,baz=117,slow=7.7,SNR=36						
MKAR				PcP	**PcP**	**01 19 08.6**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=134,slow=3.5,SNR=4.2						
MAKZ	**Makanchi**	**57.61**	**325**	P	**P**	**01 18 13.0**	**-2.9**
MAKZ				IAmb	IAmb	01 18 16.5	
	comp=Z,5.0nm,0.8s						
YAK	**Yakutsk**	**58.02**	**2**	P	**P**	**01 18 19.1**	**+0.7**
	comp=Z,8.5nm,0.4s,baz=191,slow=4.1,SNR=3.8						
YAK	**Yakutsk**	**58.02**	**2**	P	**P**	**01 18 17.7**	**-0.8**
ZAA0	**Zalesovo Array**	**60.44**	**333**	P	**P**	**01 18 34.2**	**-1.1**
ZAA0				IAmb	IAmb	01 18 35.4	
	comp=Z,2.3nm,0.6s						
ZALV	**Zalesovo Beam**	**60.44**	**333**	P	**P**	**01 18 34.0**	**-1.3**
	comp=Z,2.6nm,0.5s,baz=135,slow=6.4,SNR=13						
BTK	**Batken**	**61.82**	**314**	P	**P**	**01 18 44.4**	**-0.7**
BTK				IAmb	IAmb	01 18 55.4	
	comp=Z,4.5nm,1.1s						
GAR	**Garm**	**61.82**	**313**	P	**P**	**01 18 42.9**	**-2.4**
SEY	**Seymchan**	**61.84**	**13**	P	**P**	**01 18 46.2**	**+1.5**
	comp=Z,1.8nm,0.2s,baz=143,slow=20,SNR=3.1						
RPZ	**Rata Peaks**	**61.89**	**145**	P	**P**	**01 18 45.7**	**+0.3**
	comp=Z,3.9nm,0.5s,baz=315,slow=6.5,SNR=3.3						
RPZ	**Rata Peaks**	**61.89**	**145**	P	**P**	**01 18 44.8**	**-0.6**
KK31	**Karatay Array**	**63.12**	**317**	P	**P**	**01 18 52.7**	**-1.0**
KK31				IAmb	IAmb	01 18 54.9	
	comp=Z,2.7nm,0.8s						
KKAR	**Karatay Array**	**63.12**	**317**	P	**P**	**01 18 52.8**	**-0.9**
KKAR				IAmb	IAmb	01 18 54.9	
	comp=Z,2.7nm,0.8s						
BRVK	**Borovoye**	**67.25**	**327**	P	**P**	**01 19 19.7**	**-0.6**
BRVK				IAmb	IAmb	01 19 21.4	
	comp=Z,3.7nm,0.8s						
TIXI	**Tiksi**	**67.66**	**1**	P	**P**	**01 19 22.3**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=180,slow=24,SNR=6.3						
TIXI	**Tiksi**	**67.66**	**1**	P	**P**	**01 19 20.0**	**-2.4**
ABKAR	**Akbulak array**	**72.03**	**321**	P	**P**	**01 19 48.3**	**-1.4**
AKTO	**Aktyubinsk**	**73.53**	**322**	P	**P**	**01 19 59.0**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=112,slow=5.0,SNR=10						
ARU	**Arti**	**74.80**	**328**	P	**P**	**01 20 05.6**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=121,slow=2.4,SNR=9.3						
ARU	**Arti**	**74.80**	**328**	P	**P**	**01 20 04.8**	**-1.1**
ARU				IAmb	IAmb	01 20 06.1	
	comp=Z,3.9nm,0.7s						
KDAK	**Kodiak Island**	**81.71**	**32**	P	**P**	**01 20 45.2**	**+1.1**
	comp=Z,3.8nm,0.7s,baz=258,slow=9.3,SNR=3.4						
KDAK	**Kodiak Island**	**81.71**	**32**	P	**P**	**01 20 43.2**	**-0.9**
KDAK				IAmb	IAmb	01 20 50.4	
	comp=Z,12nm,1.1s						
SUA	**Susitna One**	**82.98**	**29**	P	**P**	**01 20 50.4**	**-0.5**
SUA				IAmb	IAmb	01 20 59.5	
	comp=Z,5.7nm,0.9s						
VNDA	**Vanda**	**83.61**	**173**	P	**P**	**01 20 54.8**	**+1.2**
	comp=Z,2.9nm,0.9s,baz=303,slow=5.4,SNR=7.6						
MCK	**McKinley**	**83.98**	**26**	P	**P**	**01 20 54.2**	**-1.6**
MCK				IAmb	IAmb	01 20 57.2	
	comp=Z,5.0nm,0.9s						
KNK	**Knik Glacier**	**84.08**	**29**	P	**P**	**01 20 55.0**	**-1.4**
KNK				IAmb	IAmb	01 20 58.3	
	comp=Z,10nm,1.0s						
ILAR	**Eielson Array**	**84.92**	**25**	P	**P**	**01 21 01.8**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=262,slow=4.9,SNR=4.7						
KMBO	**Kilima Mbogo**	**89.59**	**269**	P	**P**	**01 21 24.3**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=76,slow=2.9,SNR=4.1						
BRTR	**Keskin Array B**	**89.93**	**310**	P	**P**	**01 21 24.2**	**-1.3**
	comp=Z,1.7nm,0.9s,baz=25,slow=4.1,SNR=4.6						
ARCES	**ARCESS Array B**	**90.28**	**340**	P	**P**	**01 21 25.1**	**-1.2**
	comp=Z,2.8nm,0.8s,baz=59,slow=5.8,SNR=5.5						
FINES	**FINESS Array B**	**91.68**	**332**	P	**P**	**01 21 32.1**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=64,slow=4.4,SNR=5.6						
AKASG	**Malin Array Be**	**91.77**	**321**	P	**P**	**01 21 32.1**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=65,slow=4.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**122.89**	**288**	PKP	**PKPdf**	**01 27 23.0**	**0.0**
	comp=Z,0.4nm,0.6s,baz=85,slow=2.1,SNR=4.9						

*BJI **10** 01:27:26.7±0.0,22.˚83N×143.˚19E,h56km,mb5.2/62, mB5.1/46,Ms4.5/32,Ms7 4.4/23*
*ISCJB **10** 01:27:29.7±0.6,23.˚03N±0.˚02×143.˚03E±0.˚03,h69km±4km, mb5.2/153,Error ellipse: s-maj=4.0km s-min=3.0km az=18.8*
*MOS **10** 01:27:30.5±1.0,23.˚03N×142.˚92E,h76km,mb5.5/44,Error ellipse: s-maj=8.5km s-min=4.8km az=110.1*
*NEIC **10** 01:27:32.6±1.5,23.˚07N±0.˚06×143.˚07E±0.˚09,h89km±3km, mb5.1/189*
*JMA **10** 01:27:34.7±0.2,23.˚27N×143.˚05E,h138km±3km,M5.6*
JMA Felt I J1.
*IDC **10** 01:27:34.8±1.1,23.˚03N×143.˚02E,h100km±9km,mb4.5/28, mb1 4.6/31,mb1mx4.6/40,mbtmp4.8/31,MS3.7/24, Ms1 3.7/24,ms1mx3.6/31,Error ellipse: s-maj=12.3km s-min=8.2km az=89.0*
*GCMT **10** 01:27:34.6±0.2,23.˚09N±0.˚01×143.˚06E±0.˚02,h94km±2km, MW5.1/131,Moment Tensor Solution. s75,c94; s131,c197; Duration: 0 Moment tensor: Scale 10^16^Nm;*

M_{rr}1.39±.11; $M_{\theta\theta}$2.60±.12; $M_{\phi\phi}$-3.98±.12; $M_{r\theta}$-2.38±.07; $M_{r\phi}$-2.78±.12; $M_{\theta\phi}$1.85±.09; Best double couple: M_o5.37800×10^16^ NP1:ϕ_s340.00000°,δ73.00000°, λ33.00000°. NP2:ϕ_s239.00000°,δ59.00000°,λ160.00000°. Principal axes: T 5.6090, Plg35.0000°, Azm204.0000°; N -0.4500, Plg54.0000°, Azm4.0000°; P -5.1480, Plg9.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 10 01:27:32.4±0.5,23.˚03N±0.˚03×143.˚11E±0.˚04,h82km±3km, h82km:pP-P,n604,σ1§62/610,mb5.2/228,21C-20D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JHH2	**Haha-jima-NKT2**	**3.68**	**347**	P	**Pn**	**01 28 28.1**	**+1.1**
JHH2				S	**Sn**	**01 29 09.2**	**-0.1**
CBIJ	**Chichi jima**	**4.13**	**349**	P	**Pn**	**01 28 33.9**	**+0.8**
CBIJ				S	**Sn**	**01 29 19.1**	**-1.1**
JCJ	**Chichijima**	**4.13**	**349**	P	**Pn**	**01 28 33.9**	**+0.8**
	680nm,0.3s,baz=233,slow=5.5,SNR=184						
JCJ				S	**Sn**	**01 29 19.2**	**-1.0**
	2μm,0.3s,baz=269,slow=23,SNR=12						
SARN	**Sarigan**	**6.78**	**158**		**Pn**	**01 29 10.2**	**+0.8**
GUMO	**Guam**	**9.54**	**170**	P	**Pn**	**01 29 48.7**	**+1.7**
GUMO	**Guam**	**9.54**	**170**	P	**Pn**	**01 29 50.0**	**+3.0**
	6.4nm,0.3s,baz=274,slow=1.8,SNR=4.4						
GUMO				LR	LR	01 32 46.6	
	comp=Z,866nm,21.6s,baz=358,slow=33						
GUMO	**Guam**	**9.54**	**170**		**Pn**	**01 29 48.7**	**+1.7**
JHJ2	**Mitsune**	**10.45**	**345**	*eS*	Sn	01 31 44.0	-11
JHJ2	**Mitsune**	**10.45**	**345**	Pn	**Pn**	**01 29 57.6**	**-1.7**
BSO1	**Boso 1**	**11.73**	**351**	P	**Pn**	**01 30 14.7**	**-1.5**
BSO1				S	**Sn**	**01 32 16.8**	**-8.1**
BSO3	**Boso 3**	**11.95**	**350**	P	**Pn**	**01 30 17.1**	**-2.2**
BSO3				*eS*	**Sn**	**01 32 22.5**	**-8.1**
BSO4	**Boso 4**	**12.16**	**349**	P	**Pn**	**01 30 20.6**	**-1.8**
BSO4				*eS*	**Sn**	**01 32 29.3**	**-6.7**
JTNC	**Tanabenakahech**	**12.60**	**330**	P	**Pn**	**01 30 29.2**	**+0.7**
JOD2	**Odawara 2**	**12.68**	**345**	P	**Pn**	**01 30 26.7**	**-2.9**
HMMJ	**Hamamatsu 2**	**12.69**	**339**	P	**Pn**	**01 30 29.3**	**-0.3**
JNY	**Yasuok**	**13.10**	**341**	P	**Pn**	**01 30 33.5**	**-1.8**
JHU	**Hanno**	**13.20**	**346**	P	**Pn**	**01 30 32.9**	**-3.6**
JHU				*eS*	Sn	01 32 49.2	-12
JAO	**Obara**	**13.21**	**339**	P	**Pn**	**01 30 35.8**	**-0.9**
INU	**Inuyama**	**13.37**	**338**		**Pn**	**01 30 37.1**	**-1.6**
JYT	**Yasato**	**13.39**	**350**	P	**Pn**	**01 30 36.9**	**-2.1**
JRY	**Ryogami san**	**13.44**	**345**	P	**Pn**	**01 30 37.0**	**-2.7**
JHO	**Hitachi**	**13.71**	**351**	P	**Pn**	**01 30 40.5**	**-2.7**
JAG	**Ashikaga**	**13.72**	**347**	P	**Pn**	**01 30 39.4**	**-3.9**
MJAR	**Matsushiro Arr**	**14.11**	**344**	P	**Pn**	**01 30 45.0**	**-3.5**
	1.3nm,0.3s,baz=160,slow=9.4,SNR=32						
MJAR				S	Sn	01 33 09.9	-14
	0.2nm,0.3s,baz=106,slow=13,SNR=4.2						
MJAR				LR	LR	01 36 12.6	
	comp=Z,425nm,20.9s,baz=165,slow=37						
MAJO	**Matsushiro**	**14.12**	**344**	*ceP*	**Pn**	**01 30 45.6**	**-2.9**
MAJO	**Matsushiro**	**14.12**	**344**		**Pn**	**01 30 46.0**	**-2.5**
MAT	**Matsushiro**	**14.12**	**344**	P	**Pn**	**01 30 45.7**	**-2.8**
MAT				*eS*	Sn	01 33 12.7	-11
MJB9	**Matsu-Tunnel**	**14.12**	**344**		**Pn**	**01 30 45.9**	**-2.7**
JNU	**Nakatsue**	**14.73**	**316**	P	**Pn**	**01 30 57.2**	**+0.6**
	0.6nm,0.3s,baz=142,slow=5.2,SNR=5.2						
JNU	**Nakatsue**	**14.73**	**316**		**Pn**	**01 30 54.1**	**-2.5**
JHS	**Saijyo**	**14.77**	**326**	P	**P**	**01 31 02.4**	**+1.5**
JMK	**Ichinoseki**	**15.95**	**355**	*eS*	Sn	01 33 54.3	-14
ERM	**Erimo**	**18.93**	**0**	*eP*	**P**	**01 31 44.5**	**-2.2**
ERM	**Erimo**	**18.93**	**0**		**P**	**01 31 47.0**	**+0.3**
ERM				IAmb	IAmb	01 32 04.0	
	comp=Z,67nm,0.8s						
TJN	**Taejon**	**19.04**	**318**	*eP*	**P**	**01 31 48.9**	**+1.0**
KSRS	**Korea Array**	**19.42**	**321**	P	**P**	**01 31 50.4**	**-1.7**
	comp=Z,2.7nm,0.3s,baz=132,slow=10,SNR=45						
KSRS				LR	LR	01 38 29.5	
	comp=Z,179nm,19.0s,baz=132,slow=34						
KSRS				ScP	**ScP**	**01 39 35.1**	**-4.1**
	comp=Z,0.3nm,0.3s,baz=197,slow=3.9,SNR=4.8						
KS19	**Wonju Array Si**	**19.48**	**321**	P	**P**	**01 31 52.8**	**-0.1**
KS19				IAmb	IAmb	01 31 56.5	
	comp=Z,67nm,0.9s						
NACB	**Ninganchiao**	**19.75**	**278**	P	**P**	**01 31 52.7**	**-3.1**
YHNB	**Yeheng**	**19.94**	**279**	P	**Pn**	**01 32 00.1**	**-0.3**
YHNB				IAmb	IAmb	01 32 16.3	
	comp=Z,82nm,1.1s						
YULB	**Yu-li**	**20.05**	**275**		Pn	01 32 01.3	-0.2
YULB				IAmb	IAmb	01 32 20.4	
	comp=Z,68nm,1.1s						
TWG	**Pinlang**	**20.30**	**274**	P	**P**	**01 31 57.5**	**-4.2**
TWG				IAmb	IAmb	01 32 09.1	
	comp=Z,123nm,0.9s						
SSLB	**Suanglung**	**20.34**	**277**	P	**P**	**01 32 00.1**	**-2.1**
SSLB				IAmb	IAmb	01 32 09.9	
	comp=Z,103nm,0.6s						
TPUB	**Ta-pu**	**20.67**	**275**	P	**P**	**01 32 06.6**	**+0.8**
TPUB				IAmb	IAmb	01 32 23.9	
	comp=Z,60nm,0.9s						
ASAJ	**Asahikawa**	**21.03**	**359**	P	**P**	**01 32 15.3**	**+5.8**
	comp=Z,17nm,0.7s,baz=243,slow=9.7,SNR=12						
ASAJ				S	**S**	**01 35 58.5**	**-0.6**
	comp=Z,7.6nm,0.8s,baz=165,slow=20,SNR=2.6						
ASAJ				LR	LR	01 40 33.5	
	comp=Z,145nm,20.9s,baz=190,slow=37						
JKA	**Kamikawa-asahi**	**21.03**	**359**		**S**	**01 35 58.5**	**-0.6**
PATS	**Pohnpei**	**21.76**	**135**	P	**P**	**01 32 16.9**	**-0.6**
H11N1	**WAKE ISLAND Hy**	**22.39**	**94**	T	T	01 56 40.4	
	baz=283,slow=75,SNR=43						
H11N2	**WAKE ISLAND Hy**	**22.39**	**94**	T	T	01 56 33.4	
	baz=283,slow=75,SNR=81						
H11N3	**WAKE ISLAND Hy**	**22.41**	**94**	T	T	01 56 45.6	
	baz=283,slow=75,SNR=56						
H11S3	**WAKE ISLAND Hy**	**22.50**	**97**	T	T	01 55 35.8	
	baz=284,slow=74,SNR=56						
H11S1	**WAKE ISLAND Hy**	**22.51**	**97**	T	T	01 55 36.5	
	baz=284,slow=74,SNR=17						
H11S2	**WAKE ISLAND Hy**	**22.52**	**97**	T	T	01 55 37.2	
	baz=284,slow=74,SNR=64						
TEY	**Ternei**	**22.59**	**348**	*eP*	**P**	**01 32 32.6**	**+6.6**
TEY				pmax	pmax		
	comp=E,40nm,0.9s						
TEY				pmax	pmax		
	comp=N,80nm,0.8s						
TEY				pmax	pmax		
	comp=Z,110nm,0.8s						
TGY	**Tagaytay City**	**22.79**	**251**	P	**P**	**01 32 29.1**	**+0.6**
	comp=Z,129nm,0.3s,baz=325,slow=6.2,SNR=5.7						
TGY				LR	LR	01 39 57.0	
	comp=Z,215nm,20.9s,baz=30,slow=33						
USA0B	**Ussuriysk Arra**	**23.01**	**339**	*eP*	**P**	**01 32 30.1**	**-0.2**
USA0B	**Ussuriysk Arra**	**23.01**	**339**	P	**P**	**01 32 28.7**	**-1.6**
USRK	**Ussuriysk Ar.**	**23.01**	**339**	P	**P**	**01 32 29.9**	**-0.5**
	comp=Z,20nm,0.7s,baz=160,slow=12,SNR=26						
USRK				LR	LR	01 42 15.7	
	comp=Z,150nm,18.1s,baz=146,slow=38						
DAV	**Davao City (W)**	**23.16**	**229**	LR	LR	01 40 19.0	
	comp=Z,322nm,20.6s,baz=46,slow=33						
NJ2	**Nanjing**	**23.26**	**298**	*eP*	**P**	**01 32 32.7**	**-0.2**
NJ2				pP	**pP**	**01 32 44.4**	**-4.9**
NJ2				sP	**pwP**	**01 32 56.2**	**+3.4**
NJ2				S	**S**	**01 36 41.1**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,28nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,280nm,5.1s						
NJ2				LR	LR		
	comp=Z,650nm,4.7s						
NJ2				LR	LR		
	comp=Z,540nm,4.7s						
NJ2				LR	LR		
	comp=Z,610nm,4.3s						
YSS	**Yuzh-Sakhalins**	**23.87**	**359**	*eP*	**P**	**01 32 41.5**	**+3.3**
YSS				*e*		01 32 55.5	
CTBH	**Cotabato--PC H**	**24.00**	**232**	↓P	**P**	**01 32 41.1**	**+1.4**
DL2	**Dalian**	**24.19**	**316**	*eP*	**P**	**01 32 35.4**	**-5.7**
DL2				sP	**pP**	**01 32 54.7**	**-4.0**
DL2				S	**S**	**01 36 48.0**	**-5.6**
DL2				pmax	pmax		
	comp=Z,26nm,0.7s						
DL2				pmax	pmax		
	comp=Z,380nm,5.1s						
DL2				LR	LR		
	comp=N,470nm,15.1s						
DL2				LR	LR		
	comp=E,390nm,10.8s						
DL2				LR	LR		
	comp=Z,340nm,10.4s						
MANU	**Manus Island**	**25.27**	**170**	P	**P**	**01 32 51.5**	**+0.4**
MANU				IAmb	IAmb	01 32 52.6	
	comp=Z,42nm,0.7s						
CN2	**Changchun**	**25.32**	**329**	*eP*	**P**	**01 32 52.7**	**+1.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
JAY	**Jayapura**	**25.50**	**186**	P	**P**	**01 32 55.4**	**+2.1**
	comp=Z,8.7nm,0.7s,baz=22,slow=8.0,SNR=5.1						
TIA	**Tai'an**	**26.03**	**306**	P	**P**	**01 32 57.9**	**-0.1**
TIA				pmax	pmax		
	comp=Z,18nm,0.9s						
SWI	**Sorong**	**26.40**	**207**	P	**P**	**01 33 02.1**	**+0.7**
	comp=Z,40nm,0.8s						
SIJI	**Sorong**	**26.41**	**207**	P	**P**	**01 33 01.7**	**+0.2**
	comp=Z,15nm,0.6s,baz=6.7,slow=11,SNR=13						
WHN	**Wuhan**	**26.69**	**292**	*iP*	**P**	**01 33 01.9**	**-2.0**
WHN				S	**S**	**01 37 33.8**	**+0.4**
WHN				pmax	pmax		
	comp=Z,28nm,0.5s						
WHN				LR	LR		
	comp=Z,770nm,20.9s						
KLR	**Kul'dur**	**27.64**	**344**	*deP*	**P**	**01 33 13.1**	**+0.9**
KLR				pmax	pmax		
	comp=Z,13nm,0.8s						
KLR	**Kul'dur**	**27.64**	**344**	P	**P**	**01 33 13.7**	**+1.5**
	comp=Z,11nm,0.7s,baz=143,slow=8.2,SNR=13						
KLR				ScP	**ScP**	**01 39 57.5**	**-3.6**
	comp=Z,6.6nm,0.9s,baz=287,slow=2.1,SNR=11						
KLR				LR	LR	01 44 08.5	
	comp=Z,203nm,20.0s,baz=153,slow=36						
MSAI	**Masohi**	**29.64**	**210**	P	**P**	**01 33 32.0**	**+1.7**
	comp=Z,18nm,0.6s,comp=Z,879nm						
SANI	**Sanana**	**30.00**	**216**	P	**P**	**01 33 32.1**	**-1.4**
	comp=Z,50nm,0.7s						
NLAI	**Namlea**	**30.43**	**213**	P	**P**	**01 33 38.5**	**+1.3**
	comp=Z,25nm,0.6s,comp=Z,4μm						
MRSI	**Marisa**	**30.43**	**225**	P	**P**	**01 33 38.3**	**+1.0**
	comp=Z,190nm,0.9s,comp=Z,2μm						
KKM	**Kota Kinabalu**	**30.93**	**241**	P	**P**	**01 33 41.1**	**-0.7**
KKM				IAmb	IAmb	01 33 44.0	
	comp=Z,76nm,1.0s						
APSI	**Ampana**	**31.66**	**224**	P	**P**	**01 33 48.0**	**-0.2**
	comp=Z,58nm,0.8s						
XAN	**Xi'an**	**31.83**	**298**	P	**P**	**01 33 49.4**	**-0.2**
XAN				pmax	pmax		
	comp=Z,17nm,0.6s						
XAN	**Xi'an**	**31.83**	**298**	P	**P**	**01 33 48.4**	**-1.2**
XAN				pmax	pmax		
	comp=Z,13nm,0.7s						
XAN	**Xi'an**	**31.83**	**298**	P	**P**	**01 33 48.4**	**-1.2**
XAN				IAmb	IAmb	01 33 50.2	
	comp=Z,12nm,0.7s						
HHC	**Hu-ho-hao-te**	**31.89**	**311**	P	**P**	**01 33 52.2**	**+2.1**
MPSI	**Mapaga**	**31.90**	**228**	P	**P**	**01 33 48.3**	**-2.0**
	comp=Z,27nm,0.9s,comp=Z,1μm						
HIA	**Hailar**	**32.01**	**331**	*eP*	**P**	**01 33 51.8**	**+0.9**
HIA				pmax	pmax		
	comp=Z,19nm,0.8s						
PETK	**Petropavlovsk-**	**32.02**	**17**	ScP	**ScP**	**01 40 11.8**	**-3.4**
	comp=Z,7.8nm,1.1s,baz=212,slow=5.3,SNR=3.6						
PETK				LR	LR	01 45 12.3	
	comp=Z,88nm,20.2s,baz=236,slow=33						
PMG	**Port Moresby**	**32.48**	**173**	*deP*	**P**	**01 33 55.7**	**+0.4**
PMG				pmax	pmax		
	comp=Z,169nm,1.0s						
PMG	**Port Moresby**	**32.48**	**173**	P	**P**	**01 33 55.9**	**+0.6**
	comp=Z,31nm,0.5s,baz=10,slow=7.5,SNR=13						
PMG	**Port Moresby**	**32.48**	**173**	P	**P**	**01 33 55.3**	**+0.1**
PMG				IAmb	IAmb	01 33 56.6	
	comp=Z,34nm,0.7s						
ZEA	**Zeya**	**32.92**	**343**	*eP*	**P**	**01 34 00.5**	**+1.7**
ZEA				pmax	pmax		
	comp=N,42nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,51nm,0.8s						
GYA	**Guiyang**	**33.20**	**283**	*iP*	**P**	**01 34 02.0**	**+0.3**
GYA				pP	pP	01 34 18.2	-2.0
GYA				sP	pwP	01 34 24.3	+1.4
GYA				PP	**PnPn**	**01 35 17.0**	**+2.5**
GYA				S	**S**	**01 39 17.3**	**+1.5**
GYA				SS	**SnSn**	**01 41 26.3**	**+2.8**
GYA				pmax	p

ULN pmax pmax
comp=Z,10.0nm,1.3s
ULN Ulaanbaatar 37.90 320 P **P** **01 34 41.2 -0.5**
BATI Baumata 38.13 212 P **P** **01 34 42.9 -0.9**
comp=Z,66nm,0.5s,baz=320,slow=0.3,SNR=6.9
SONM Songino Array 38.27 319 P **P** **01 34 45.5 +0.6**
comp=Z,4.8nm,0.5s,baz=132,slow=7.7,SNR=26
SONM PcP **PcP** **01 36 57.9 +0.5**
comp=Z,3.4nm,0.8s,baz=113,slow=3.7,SNR=3.9
SONM ScP **ScP** **01 40 35.9 -2.1**
comp=Z,2.5nm,0.9s,baz=138,slow=1.9,SNR=6.8
SONM LR LR 01 52 29.4
comp=Z,111nm,18.8s,baz=127,slow=39
KSM Kuching 38.37 241 P **P** **01 34 46.0 +0.2**
KSM Kuching 38.37 241 P **P** **01 34 45.3 -0.6**
KSM IAmb IAmb 01 34 46.5
comp=Z,23nm,0.8s
CHAI Chaiyaphum 39.31 267 P **P** **01 34 54.0 +0.3**
comp=Z,73µm,0.8s,comp=Z,562µm
YAK Yakutsk 40.05 350 *e*P **P** **01 35 01.6 +2.4**
YAK *e**PP **pP** **01 35 21.2 +3.6**
YAK *e*PPP PPP 01 36 42.3
YAK *e*S **S** **01 41 03.1 +4.2**
YAK *e* 01 44 59.8
YAK pmax pmax
comp=Z,14nm,1.1s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=Z,115nm,3.7s
YAK pmax pmax
comp=N,109nm,3.7s
YAK pmax pmax
comp=E,302nm,3.9s
YAK smax smax
comp=N,163nm,3.6s
YAK smax smax
comp=E,116nm,4.2s
YAK MLR MLR
comp=Z,96nm,20.0s
YAK MLR MLR
comp=N,45nm,23.0s
YAK MLR MLR
comp=E,49nm,25.0s
YAK Yakutsk 40.05 350 P **P** **01 34 59.4 +0.2**
YAK IAmb IAmb 01 35 09.2
comp=Z,24nm,0.7s
GTA Gaotai 40.05 304 P **P** **01 35 01.2 +1.4**
GTA ScP **ScP** **01 40 43.7 -1.4**
GTA S **S** **01 41 03.3 +3.4**
GTA pmax pmax
comp=Z,62nm,4.7s
GTA LR LR
comp=Z,200nm,14.4s
GTA LR LR
comp=Z,130nm,15.1s
GTA LR LR
comp=Z,180nm,15.5s
PBKT Sadao Pong 40.06 269 P **P** **01 35 00.6 +0.7**
comp=Z,23nm,0.9s,comp=Z,997nm
PBKT Sadao Pong 40.06 269 P **P** **01 34 59.7 -0.2**
PBKT IAmb IAmb 01 35 01.7
comp=Z,32nm,0.8s
PLAI Plampang 40.22 221 P **P** **01 35 00.5 -0.7**
comp=Z,265nm,1.2s,comp=Z,2µm
PHRA Phrae 40.24 272 P **P** **01 35 02.1 +0.7**
comp=Z,5.6nm,1.0s
PAYA Payao 40.37 273 P **P** **01 35 03.6 +1.1**
comp=Z,51µm,0.8s
SEY Seymchan 40.37 7 P **P** **01 35 03.6 +1.7**
comp=Z,4.6nm,0.8s,baz=197,slow=8.7,SNR=6.7
BOD Bodaibo 40.59 336 *e*P **P** **01 35 03.7 -0.1**
BOD pmax pmax
comp=Z,12nm,1.3s
TWSI Taliwang, Sumb 40.69 222 P **P** **01 35 04.7 -0.4**
comp=Z,106nm,0.8s,comp=Z,1µm
KNRA Kununurra 40.95 201 P **P** **01 35 06.5 -0.7**
SRBI Singaraja 41.25 225 P **P** **01 35 10.8 +1.1**
comp=Z,134nm,1.1s,comp=Z,1µm
ZAK Zakamensk 41.25 322 *e*P P 01 35 05.0 -4.5
ZAK pmax pmax
comp=Z,9.0nm,1.1s
PATY Pattaya 41.29 263 P **P** **01 35 11.5 +1.4**
comp=Z,112µm,0.9s
KMMI Kalianget 41.30 227 P **P** **01 35 09.8 -0.3**
comp=Z,260nm,0.6s,comp=Z,2µm
CMMT Chiang Mai 41.34 273 P **P** **01 35 10.6 0.0**
comp=Z,20nm,0.8s,comp=Z,288nm
CHTO Chiang Mai 41.35 273 P **P** **01 35 10.9 +0.4**
SNR=11
CHTO P **P** **01 35 10.9 +0.4**
SNR=11
CHTO Chiang Mai 41.35 273 P **P** **01 35 10.1 -0.5**
CHTO pmax pmax
comp=Z,32nm,0.9s
CHTO Chiang Mai 41.35 273 P **P** **01 35 10.1 -0.5**
CHTO IAmb IAmb 01 35 11.7
comp=Z,32nm,0.9s
CM31 Chiang Mai Arr 41.44 272 P **P** **01 35 12.3 +1.1**
SNR=5.9
CMAR Chiang Mai Arr 41.44 272*ce*P **P** **01 35 11.8 +0.5**
CMAR pmax pmax
comp=Z,18nm,0.6s
CMAR Chiang Mai Arr 41.44 272 P **P** **01 35 11.9 +0.6**
comp=Z,17nm,0.6s,baz=61,slow=7.8,SNR=64
CMAR PcP **PcP** **01 37 08.8 +1.0**
comp=Z,1.5nm,0.3s,baz=105,slow=1.5,SNR=4.1
CMAR ScP **ScP** **01 40 48.9 -1.8**
comp=Z,0.7nm,0.3s,baz=101,slow=2.6,SNR=6.9
CMAR LR LR 01 50 51.8
comp=Z,106nm,21.7s,baz=86,slow=34
TLY Talaya 41.65 323 *e*P **P** **01 35 16.7 +4.1**
TLY *e*S **S** **01 41 26.1 +3.1**
TLY pmax pmax
comp=Z,16nm,0.9s
TLY MLR MLR
comp=Z,230nm,13.0s
UTHA Uthaitani 41.75 268 P **P** **01 35 14.8 +0.9**
comp=Z,81µm,0.8s,comp=Z,674µm
IGBI Denpasar 41.84 224 P P 01 35 19.4 +4.9
UMPA Umpang Tak 42.10 269 P **P** **01 35 18.3 +1.5**
comp=Z,73µm,0.9s
JAGI Jajag, Banyuwa 42.23 225 P **P** **01 35 17.1 -0.6**
comp=Z,303nm,0.9s,comp=Z,2µm
JAGI Jajag, Banyuwa 42.23 225 P **P** **01 35 17.1 -0.6**
SRDT SRDT 42.42 266 P **P** **01 35 20.1 +0.8**
comp=Z,36nm,0.8s,comp=Z,1µm
PHET Kaeng Krachan 42.42 264 P **P** **01 35 20.4 +1.1**
comp=Z,165µm,0.7s
MHMT Maesarieng 42.44 272 P **P** **01 35 20.4 +1.0**
comp=Z,76nm,0.6s,comp=Z,2µm
GMJI Gumukmas 42.55 226 P **P** **01 35 20.5 +0.2**
comp=Z,156nm,0.9s,comp=Z,1µm
TPI Tanjungpandan 43.03 238 P **P** **01 35 23.9 -0.3**
comp=Z,60nm,0.8s,comp=Z,517nm
NGJI Ngawi 43.26 229 P **P** **01 35 27.2 +1.2**
comp=Z,88nm,0.8s
PWJI Pagerwojo 43.48 228 P **P** **01 35 27.7 -0.1**
comp=Z,157nm,0.7s,comp=Z,2µm
WR0 Warramunga Arr 43.54 192 P **P** **01 35 28.1 -0.1**
WR0 IAmb IAmb 01 35 32.9
comp=Z,18nm,0.7s
WRAB Tennant Creek 43.55 192*ce*P **P** **01 35 27.4 -0.9**
WRAB pmax pmax
comp=Z,38nm,0.6s
WRAB Tennant Creek 43.55 192 P **P** **01 35 27.9 -0.3**
WRA Warramunga Arr 43.56 192 P **P** **01 35 27.6 -0.8**
comp=Z,31nm,0.5s,baz=12,slow=8.7,SNR=366
WRA PcP **PcP** **01 37 14.9 +0.1**
comp=Z,6.3nm,0.5s,baz=5.5,slow=3.3,SNR=4.6
WRA ScP **ScP** **01 40 57.5 -1.5**
comp=Z,7.2nm,0.9s,baz=5.6,slow=4.2,SNR=12
WRA S **S** **01 41 47.8 -3.9**
comp=Z,4.5nm,1.1s,baz=6.4,slow=13,SNR=3.4
JRMM Jerantut 43.63 250 P **P** **01 35 31.0 +1.9**
WOJI Wonogiri, Jawa 43.96 229 P **P** **01 35 31.1 -0.6**
comp=Z,40nm,0.9s
UGM Wanagama 44.30 230 P **P** **01 35 34.4 0.0**
comp=Z,132nm,1.2s
TRTT Trang 44.30 257 P **P** **01 35 35.7 +1.3**
comp=Z,41nm,0.9s
FITZ Fitzroy Crossi 44.30 204 P **P** **01 35 34.5 +0.2**
FITZ IAmb IAmb 01 35 35.3
comp=Z,59nm,1.0s
YOGI Yogyakarta 44.39 230 P **P** **01 35 35.2 +0.1**
comp=Z,176nm,0.8s
KULM Kulim 44.56 253 P **P** **01 35 36.1 -0.5**
IPM Ipoh 44.61 252 P **P** **01 35 38.0 +1.0**
IPM Ipoh 44.61 252 P **P** **01 35 35.4 -1.6**
IPM IAmb IAmb 01 35 38.5
comp=Z,29nm,0.9s
SURT Suratani 44.65 259 P **P** **01 35 38.4 +1.2**
comp=Z,63nm,0.9s
KPJI Karang Pucung 45.03 232 P **P** **01 35 39.8 -0.4**
comp=Z,125nm,0.9s,comp=Z,1µm
CISI Cisompet, Garu 46.00 233 P **P** **01 35 46.1 -1.8**
comp=Z,80nm,0.8s,comp=Z,3µm
CISI Cisompet, Garu 46.00 233 P **P** **01 35 46.1 -1.8**
SAIH SAIHA 46.03 280 *eP* **P** **01 35 46.8 -1.5**
AZL Aizawl 46.08 281 *eP* **P** **01 35 48.3 -0.3**
AZL Aizawl 46.08 281 *eP* **P** **01 35 48.2 -0.3**
AZL IAmb IAmb 01 35 53.5
comp=Z,40nm,0.9s
DBJI Dramaga 46.13 235 P **P** **01 35 49.1 +0.2**
comp=Z,204nm,1.2s
KLSI 46.51 239 P **P** **01 35 51.4 -0.5**
comp=Z,27nm,1.1s
SHL Shillong 46.52 284 P **P** **01 35 52.0 -0.1**
SNR=6.2
SHL Shillong 46.52 284 P **P** **01 35 51.6 -0.5**
SHL pmax pmax
comp=Z,33nm,0.8s
SHL Shillong 46.52 284 *eP* **P** **01 35 51.4 -0.7**
SHL Shillong 46.52 284 *eP* **P** **01 35 51.8 -0.3**
SHL IAmb IAmb 01 35 53.5
comp=Z,32nm,0.4s
SHL Shillong 46.52 284 P **P** **01 35 51.6 -0.5**
SHL IAmb IAmb 01 35 53.3
comp=Z,33nm,0.8s
SKJI Sukabumi 46.57 234 P **P** **01 35 51.6 -0.7**
comp=Z,171nm,0.8s
BKNI Bangkinang 46.68 247 P **P** **01 35 56.2 +3.0**
comp=Z,92nm,0.7s,comp=Z,11µm
LSA Lhasa 46.71 290 *i* P **P** **01 35 55.3 +1.4**
SNR=11
LSA Lhasa 46.71 290 P **P** **01 35 53.4 -0.5**
LSA pmax pmax
comp=Z,29nm,0.6s
LSA Lhasa 46.71 290 P **P** **01 35 53.4 -0.5**
LSA IAmb IAmb 01 35 56.3
comp=Z,29nm,0.6s
MDSI Maura Dua 46.82 239 P **P** **01 35 53.3 -1.0**
comp=Z,35nm,1.1s
LHSI Lahat 46.95 240 P **P** **01 35 55.8 +0.5**
comp=Z,129nm,0.9s
SDSI Sungai Dareh 47.02 245 P **P** **01 35 57.3 +1.4**
comp=Z,37nm,0.7s
KASI Kota Agung 47.20 238 P **P** **01 35 55.2 -2.1**
comp=Z,49nm,0.7s
BILL Bilibino 47.23 12⇑ *eP* **P** **01 35 58.3 +1.5**
BILL *SP **pP** **01 36 17.0 +1.4**
BILL *i* 01 36 25.6
BILL pmax pmax
comp=Z,12nm,1.7s
BILL MLR MLR
comp=Z,74nm,18.0s
BILL Bilibino 47.23 12 P **P** **01 35 57.8 +1.0**
PSI Prapat 47.25 251 P **P** **01 35 58.1 +0.2**
PSI pmax pmax
comp=Z,40nm,0.8s
AS31 Alice Springs 47.27 192 P **P** **01 35 57.3 -0.3**
ASAR Alice Springs 47.27 192 P **P** **01 35 56.8 -0.9**
comp=Z,12nm,0.5s,baz=13,slow=8.9,SNR=96
ASAR ScP **ScP** **01 41 12.9 -1.5**
comp=Z,4.4nm,0.8s,baz=14,slow=3.8,SNR=13
ASAR S **S** **01 42 41.0 -4.1**
comp=Z,1.2nm,0.8s,baz=16,slow=12,SNR=4.8
RPSI Rantau Prapat 47.30 251 P **P** **01 35 58.1 0.0**
RPSI IAmb IAmb 01 35 59.4
comp=Z,40nm,0.8s
KSI Kapahiang 47.59 241 P **P** **01 36 00.1 -0.3**
comp=Z,144nm,0.7s
MNAI Manna 47.72 240 P **P** **01 36 00.8 -0.5**
comp=Z,180nm,0.8s
MNAI Manna 47.72 240 P **P** **01 35 59.9 -1.5**
PDSI Padang 47.82 246 P **P** **01 36 03.9 +1.7**
comp=Z,18nm,0.8s
KCSI Kotacane, Aceh 47.92 253 P **P** **01 36 02.3 -0.6**
comp=Z,43nm,1.0s
EIDS Eidsvold 48.73 170 P **P** **01 36 09.1 +0.3**
EIDS IAmb IAmb 01 36 09.9
comp=Z,13nm,0.6s
MLSI Meulaboh, Aceh 48.79 255 P **P** **01 36 09.7 +0.1**
comp=Z,63nm,1.3s
GSI Gunungsitoli 49.16 251 P **P** **01 36 13.2 +0.8**
comp=Z,67nm,0.7s
GSI Gunungsitoli 49.16 251 P **P** **01 36 12.0 -0.4**
TIXI Tiksi 49.32 354⇑ *eP* **P** **01 36 13.3 +0.5**
TIXI pmax pmax
comp=Z,7.0nm,1.3s
TIXI Tiksi 49.32 354 P **P** **01 36 13.1 +0.3**
MBWA Marble Bar 49.48 209 P **P** **01 36 14.9 +0.3**
XMIS Christmas Isla 49.54 232 P **P** **01 36 14.3 -0.9**
WMQ Urumqi 49.69 309 P **P** **01 36 17.9 +1.8**
WMQ pP pP 01 36 32.1 -3.3
WMQ sP pwP 01 36 35.6 -3.6
WMQ pmax pmax
comp=Z,48nm,0.9s
WMQ pmax pmax
comp=Z,100nm,3.9s
WMQ LR LR
comp=Z,220nm,21.1s
WMQ LR LR
comp=Z,200nm,23.3s
WMQ Urumqi 49.69 309 P **P** **01 36 15.8 -0.3**
WMQ pmax pmax
comp=Z,49nm,0.8s
WMQ Urumqi 49.69 309 P **P** **01 36 15.8 -0.3**
PSA00 Pilbara Seismi 49.79 209 P **P** **01 36 15.8 -1.2**
TAPN Taplejung 49.97 287 *eP* **P** **01 36 19.3 +0.5**
comp=Z,52nm,0.6s
DZM Mont Dzumac 50.26 151 *e*LR LR 01 50 50.5
comp=Z,511nm,26.7s
DZM Mont Dzumac 50.26 151 P **P** **01 36 20.0 -0.7**
DZM IAmb IAmb 01 36 23.3
comp=Z,27nm,0.9s
ODAN Odare 50.33 286 *eP* **P** **01 36 21.8 +0.4**
RAMN Ramite 51.01 287 *eP* **P** **01 36 26.7 +0.1**
comp=Z,34nm,0.5s
JIRN Jiri 51.27 288 *eP* **P** **01 36 29.3 +0.7**
comp=Z,124nm,0.6s
GUN Gumba 51.50 288 *eP* **P** **01 36 30.9 +0.5**
comp=Z,47nm,0.4s
PKI Pulchoki 51.97 288 *eP* **P** **01 36 33.7 -0.1**
comp=Z,53nm,0.8s
PKIN Phulchoki 51.98 288 *eP* **P** **01 36 33.6 -0.2**
comp=Z,22nm,0.4s
KKN Kakani 52.05 288 *eP* **P** **01 36 34.5 +0.2**
comp=Z,21nm,0.3s
BOK Bokaro 52.20 283 *eP* **P** **01 36 34.1 -1.0**
BOK IAmb IAmb 01 36 37.7
comp=Z,32nm,0.5s
DMN Daman 52.23 288 *eP* **P** **01 36 35.9 +0.2**
comp=Z,52nm,0.7s
GKN Gorkha 52.58 288 *eP* **P** **01 36 38.4 +0.3**
comp=Z,45nm,0.4s
MSVF Nonsavu 52.99 137*c i*P **P** **01 36 43.4 +2.3**
MSVF pmax pmax
comp=Z,63nm,0.9s
MSVF Nonsavu 52.99 137 P **P** **01 36 40.8 -0.2**
BWNR Bhubaneshwar 53.04 279 *eP* **P** **01 36 40.9 -0.5**
BWNR IAmb IAmb 01 36 42.4
comp=Z,23nm,1.0s
ZAA0 Zalesovo Array 53.13 321 P **P** **01 36 39.9 -1.7**
ZAA0 IAmb IAmb 01 36 45.0
comp=Z,8.7nm,0.8s
ZALV Zalesovo Beam 53.13 321 P **P** **01 36 41.4 -0.1**
comp=Z,9.7nm,0.6s,baz=112,slow=7.8,SNR=28
ZALV PcP **PcP** **01 37 48.2 -0.6**
comp=Z,10nm,0.6s,baz=116,slow=3.7,SNR=8.0
ZALV ScP **ScP** **01 41 36.3 -2.8**
comp=Z,4.7nm,0.9s,baz=112,slow=3.5,SNR=6.7
ZALV LR LR 02 00 41.0
comp=Z,64nm,18.1s,baz=79,slow=37
DANN Dangsing 53.29 289 *eP* **P** **01 36 44.2 +0.7**
comp=Z,419nm,0.6s
KOLN Koldanda 53.52 288 *eP* **P** **01 36 45.4 +0.3**
comp=Z,108nm,0.8s
MK31 Makanchi Array 53.75 312 *i* P **P** **01 36 46.9 +0.6**
MK31 pmax pmax
comp=Z,23nm,0.6s
MK31 Makanchi Array 53.75 312 P **P** **01 36 45.2 -1.1**
MKAR Makanchi Array 53.75 312 P **P** **01 36 46.9 +0.6**
comp=Z,35nm,0.6s,baz=87,slow=9.1,SNR=239
MKAR PcP **PcP** **01 37 51.4 +0.1**
comp=Z,6.9nm,0.9s,baz=90,slow=5.2,SNR=3.6
MKAR ScP **ScP** **01 41 39.6 -2.4**
comp=Z,5.6nm,1.0s,baz=87,slow=6.2,SNR=8.6
MKAR LR LR 02 01 13.8
comp=Z,64nm,19.4s,baz=88,slow=38
ARMA Armidale 53.77 171 P **P** **01 36 46.4 -0.2**
ARMA IAmb IAmb 01 36 54.3
comp=Z,7.1nm,0.7s
MAKZ Makanchi 53.97 312 P **P** **01 36 48.1 +0.2**
MAKZ pmax pmax
comp=Z,58nm,1.0s
MAKZ Makanchi 53.97 312 P **P** **01 36 46.6 -1.3**
STKA Stephens Creek 54.62 182 P **P** **01 36 53.0 +0.4**
comp=Z,115nm,0.7s,baz=357,slow=7.5,SNR=230
STKA LR LR 02 00 18.6
comp=Z,78nm,21.3s,baz=16,slow=36
STKA Stephens Creek 54.62 182 P **P** **01 36 52.0 -0.6**
STKA IAmb IAmb 01 36 54.0
comp=Z,20nm,0.8s
FORT Forrest 55.42 196 P **P** **01 36 58.2 -0.1**
PDGK Podgornoye 55.62 308 P **P** **01 36 59.3 -0.7**
PDGK pmax pmax
comp=Z,52nm,0.9s
BBOO Buckleboo 55.94 187 P **P** **01 37 01.4 -0.7**
SVW2 Sparrevohn 56.30 31 P **P** **01 37 04.8 +0.4**
PRZ Przheval'sk 56.43 307 P **P** **01 37 04.1 -1.8**
PRZ pmax pmax
comp=Z,90nm,1.0s
PRZ Przheval'sk 56.43 307 P **P** **01 37 04.1 -1.8**
KURK Kurchatov 56.46 316 P **P** **01 37 06.0 +0.4**
SNR=13
KURK P **P** **01 37 06.0 +0.4**
SNR=13
KURK Kurchatov 56.46 316*c i*P **P** **01 37 05.5 -0.1**
KURK pmax pmax
comp=Z,49nm,1.3s
KURK Kurchatov 56.46 316 P **P** **01 37 04.7 -0.9**
TTA Tatalina 56.56 29 P **P** **01 37 07.0 +0.7**
TTA pmax pmax
comp=Z,4.0nm,1.0s
TTA Tatalina 56.56 29 P **P** **01 37 07.0 +0.7**
KDAK Kodiak Island 57.15 35 P **P** **01 37 11.1 +0.7**
comp=Z,6.7nm,0.8s,baz=220,slow=8.1,SNR=8.1
KDAK Kodiak Island 57.15 35 P **P** **01 37 10.6 +0.1**
KDAK IAmb IAmb 01 37 13.2
comp=Z,13nm,0.9s
KDJ Kajisay 57.35 306 IAmb IAmb 01 37 15.1
comp=Z,20nm,1.1s
MORW Morawa 57.99 208 P **P** **01 37 16.1 -0.5**
ULHL Ulahol 58.04 306 P **P** **01 37 18.7 +1.5**
SNR=5.2
PPLA Purkeypile 58.26 29 IAmb IAmb 01 37 21.3
comp=Z,14nm,1.2s
NRN Naryn 58.27 305 IAmb IAmb 01 37 25.1
comp=Z,9.7nm,1.0s
SKT Skwentna 58.38 30 IAmb IAmb 01 37 29.2
comp=Z,8.8nm,1.0s
KSH Kashi 58.44 303 P **P** **01 37 23.9 +4.0**
KSH PcP **PcP** **01 38 12.1 +2.2**
KSH S **S** **01 45 21.4 +4.4**
KSH SS **SS** **01 49 16.3 +6.0**
KSH pmax pmax
comp=Z,53nm,0.4s
KSH pmax pmax
comp=Z,260nm,6.1s
KSH LR LR
comp=Z,160nm,5.4s
KSH LR LR
comp=Z,260nm,8.5s
KSH LR LR
comp=Z,440nm,5.6s
TKM2 Tokmak 2 58.48 307 *i* P **P** **01 37 21.0 +0.8**
TKM2 pmax pmax
comp=Z,17nm,0.6s
TKM2 Tokmak 2 58.48 307 P **P** **01 37 21.1 +0.8**
SNR=30
SMLA Simla 58.52 293 *eP* **P** **01 37 19.6 -0.8**
KZA Kyzart 58.78 306 P **P** **01 37 24.3 +1.7**
SNR=11
KTH Kantishna Hill 58.95 29 IAmb IAmb 01 37 33.2
comp=Z,8.8nm,1.1s
NGP Nagpur 58.95 282 *eP* **P** **01 37 23.5 -0.1**
NGP IAmb IAmb 01 37 25.4
comp=Z,17nm,0.6s
KBK Karagaybulak 58.97 307 P **P** **01 37 24.7 +1.0**
SNR=21
DHRM DHARAMSHALA 59.07 295 *eP* **P** **01 37 24.5 -0.1**
RC01 Rabbit Creek A 59.08 31 IAmb IAmb 01 37 25.4
comp=Z,8.2nm,0.9s
CHMS Chumysh 59.09 307 P **P** **01 37 25.1 +0.8**
SNR=11
TRF Thorofare Moun 59.21 29 IAmb IAmb 01 37 26.7
comp=Z,13nm,0.8s
USP Ospenovka 59.26 308 P **P** **01 37 26.3 +0.8**
SNR=12
AAK Ala-Archa 59.30 307 *i* P **P** **01 37 26.4 +0.4**
SNR=15
AAK Ala-Archa 59.30 307 P **P** **01 37 27.0 +1.0**
SNR=5.7
AAK Ala-Archa 59.30 307*c i*P **P** **01 37 26.5 +0.5**
AAK pmax pmax
comp=Z,12nm,0.9s
AAK Ala-Archa 59.30 307 P **P** **01 37 26.7 +0.8**
SNR=12
AAK Ala-Archa 59.30 307 P **P** **01 37 24.7 -1.3**
AAK IAmb IAmb 01 37 27.6
comp=Z,12nm,0.9s
UCH Uchtor 59.32 306 P **P** **01 37 28.0 +1.6**
SNR=29
PMR Palmer 59.45 31 IAmb IAmb 01 37 36.2
comp=Z,11nm,0.9s
KNK Knik Glacier 59.74 31 IAmb IAmb 01 37 30.2
comp=Z,12nm,0.7s
EKS2 Erkin-Say 59.83 307 P **P** **01 37 30.3 +0.8**
SNR=12
RND Reindeer 59.84 29 P **P** **01 37 29.0 -0.1**
RND pmax pmax
comp=Z,6.0nm,0.7s
RND Reindeer 59.84 29 P **P** **01 37 29.0 -0.1**
RND IAmb IAmb 01 37 38.9
comp=Z,5.9nm,0.7s
SML Sawmill 59.85 31 IAmb IAmb 01 37 39.1
comp=Z,17nm,0.9s
MCK McKinley 59.85 28 IAmb IAmb 01 37 39.3
comp=Z,9.4nm,0.8s
AML Almayashu 59.94 306 P **P** **01 37 32.0 +1.4**
SNR=18
SCM Sheep Creek Mo 60.33 31 IAmb IAmb 01 37 43.2
comp=Z,20nm,0.9s
WRH Wood River Hil 60.34 28 P **P** **01 37 33.1 +0.7**
GLI Glacier Island 60.34 32 IAmb IAmb 01 37 44.1
comp=Z,18nm,1.2s
HYB Hyderabad 60.42 278 *i* P **P** **01 37 32.0 -1.8**
HYB Hyderabad 60.42 278 *eP* **P** **01 37 33.7 -0.1**
HYB IAmb IAmb 01 37 35.0
comp=Z,21nm,0.8s
COLA College 60.50 27⇓ *eP* **P** **01 37 34.6 +1.1**
COLA pmax pmax
comp=Z,2.0nm,0.8s
ARSB Arslanbob 60.54 306 P **P** **01 37 33.7 -0.8**
ARSB IAmb IAmb 01 37 35.9
comp=Z,21nm,0.7s
FID Port Fidalgo 60.62 32 IAmb IAmb 01 37 36.3
comp=Z,7.1nm,0.6s
POKR Poker Plat Res 60.71 27 P **P** **01 37 36.1 +1.1**
baz=262
HDA Harding Lake 60.82 28 P **P** **01 37 36.1 +0.4**
baz=262
NWAO Narrogin (SRO) 60.88 205 P **P** **01 37 36.7 +0.2**
NWAO Narrogin (SRO) 60.88 205 P **P** **01 37 36.0 -0.5**
NWAO pmax pmax
comp=Z,69nm,0.9s
NWAO Narrogin (SRO) 60.88 205 P **P** **01 37 36.0 -0.5**
NWAO Narrogin (SRO) 60.88 205 P **P** **01 37 36.0 -0.5**
IL31 60.89 27 IAmb IAmb 01 37 45.1
comp=Z,9.6nm,1.0s
ILAR Eielson Array 60.89 27 P **P** **01 37 36.2 0.0**
comp=Z,4.5nm,0.7s,baz=256,slow=5.5,SNR=46
ILAR LR LR 02 02 21.1
comp=Z,58nm,20.9s,baz=260,slow=34
NIL Nilore 61.37 297 P **P** **01 37 41.0 +1.0**
NIL Nilore 61.37 297 P **P** **01 37 39.3 -0.7**

NIL pmax pmax
comp=Z,47nm,0.8s
NIL Nilore 61.37 297 P P 01 37 39.3 -0.7
RIDG Independent Ri 61.66 29 IAmb IAmb 01 37 51.2
comp=Z,11nm,0.9s
BRVK Borovoye 61.68 319 P P 01 37 42.3 +0.6
BRVK SNR=11
BRVK P P
SNR=11
BRVK Borovoye 61.68 319*c i* P P **01 37 41.9 +0.2**
BRVK pmax pmax
comp=Z,25nm,0.7s
BRVK Borovoye 61.68 319 P P 01 37 40.3 -1.4
FYU Fort Yukon 61.80 26 IAmb IAmb 01 37 53.3
comp=Z,13nm,1.1s
PALK Pallekele 61.82 266 P P 01 37 43.2 -0.1
PALK Pallekele 61.82 266 P P 01 37 43.4 +0.1
PALK Pallekele 61.82 266 *i* P P **01 37 43.9 +0.6**
PALK Pallekele 61.82 266 P P 01 37 41.5 -1.8
GLB Gilahina Butte 61.97 31 IAmb IAmb 01 37 55.8
comp=Z,9.6nm,0.9s
DOT Dot Lake 62.00 29 IAmb IAmb 01 37 53.9
comp=Z,9.4nm,1.0s
SCRK Sand Creek 62.06 29 IAmb IAmb 01 37 54.4
comp=Z,16nm,1.0s
KK31 Karatay Array 62.18 308 P P 01 37 45.4 +0.1
KK31 pmax pmax
comp=Z,32nm,0.8s
CRQM Cirque 62.26 32 IAmb IAmb 01 37 55.9
comp=Z,14nm,0.8s
BTK Batken 62.32 304 IAmb IAmb 01 37 47.1
comp=Z,6.5nm,0.6s
MCARA McCarthy VSAT 62.34 31 IAmb IAmb 01 37 57.4
comp=Z,16nm,0.9s
TGL Tana Glacier 62.41 32 IAmb IAmb 01 38 06.7
comp=Z,16nm,1.1s
GAR Garm 62.86 303 P P 01 37 49.2 -0.8
EGAK Eagle 63.34 28 P P 01 37 52.3 -0.3
KBL Kabul 64.63 299 P P 01 38 02.2 +0.4
KBL P P **01 38 02.2 +0.4**
KBL Kabul 64.63 299 P P 01 38 01.0 -0.9
KBL pmax pmax
comp=Z,42nm,0.8s
KBL Kabul 64.63 299 P P 01 38 01.0 -0.9
EPYK Eagle Plains 65.20 26 P P 01 38 06.0 +1.2
baz=271
EPYK Eagle Plains 65.20 26 IAmb IAmb 01 38 15.2
comp=Z,16nm,0.9s
TAU Tasmania Unive 65.73 177 P P 01 38 07.9 -0.3
TAU pmax pmax
comp=Z,72nm,1.0s
TAU Tasmania Unive 65.73 177 P P 01 38 07.9 -0.3
INK Inuvik 66.38 24 P P 01 38 13.2 +1.0
comp=Z,2.1nm,0.6s,baz=294,slow=3.8,SNR=6.7
BESE Bessie Mountai 66.53 34 IAmb IAmb 01 38 24.2
comp=Z,16nm,1.0s
SVE Sverdlovsk 66.96 324 *e*P P **01 38 16.2 +0.1**
SVE pmax pmax
comp=Z,24nm,0.8s
ARU Arti 68.15 323*c i* P P **01 38 23.3 -0.3**
ARU *PP pP 01 38 38.3 -5.4
ARU 01 38 47.8
ARU 01 40 52.4
ARU S S **01 47 20.8 +3.6**
ARU SS SS **01 51 45.6 +4.9**
ARU pmax pmax
comp=Z,20nm,0.7s
ARU Arti 68.15 323 P P 01 38 22.4 -1.3
ARU IAmb IAmb 01 38 30.8
comp=Z,26nm,0.6s
AB31 Akbulak array 68.55 316 P P 01 38 25.0 -1.2
AB31 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 68.55 316 IAmb IAmb 01 38 26.9
comp=Z,32nm,1.1s
H02S1 DAWSON INLET T 68.61 40 T T 02 54 30.5
SNR=6.5
C36M Paulatuk 69.66 22 P P 01 38 34.0 +1.2
baz=281
NNZ Nelson 69.83 156 IAmb IAmb 01 38 36.1
comp=Z,32nm,0.7s
THZ Tophouse 70.13 157 IAmb IAmb 01 38 45.2
comp=Z,22nm,0.9s
HRA Herat 70.14 300 IAmb IAmb 01 38 38.0
comp=Z,16nm,0.8s
SNZO South Karori 70.41 155 P P 01 38 37.5 -0.2
BFZ Birch Farm 70.49 154 P P 01 38 38.1 0.0
MSWZ Moikau Station 70.71 155 P P 01 38 39.3 -0.2
LTZ Lake Taylor 70.79 158 IAmb IAmb 01 38 41.2
comp=Z,36nm,0.8s
KHZ Kahutara 70.93 157 P P 01 38 40.0 -0.8
OXZ Oxford 71.19 158 IAmb IAmb 01 38 42.3
comp=Z,38nm,0.8s
LBZ Lake Benmore 71.52 160 P P 01 38 44.5 +0.2
LBZ IAmb IAmb 01 38 45.0
comp=Z,51nm,1.0s
DCZ Deep Cove 71.60 162 P P 01 38 44.9 +0.2
DCZ IAmb IAmb 01 38 46.4
comp=Z,38nm,0.9s
MQZ McQueen's Vall 71.74 158 IAmb IAmb 01 38 48.2
comp=Z,45nm,1.1s
MLZ Mavora Lakes 71.78 162 P P 01 38 45.9 0.0
MLZ IAmb IAmb 01 38 47.2
comp=Z,53nm,1.0s
WHZ Wether Hill Ro 72.22 162 IAmb IAmb 01 38 49.3
comp=Z,38nm,1.1s
GEYT Alibeck 72.44 304 P P 01 38 50.8 +0.5
comp=Z,10.0nm,0.8s,baz=88,slow=3.7,SNR=20
GEYT LR LR 02 15 04.9
comp=Z,27nm,18.1s,baz=5.0,slow=39
GYA0B ALIBECK ARRAY 72.44 304 P P 01 38 49.2 -1.0
GYA0B IAmb IAmb 01 38 57.2
comp=Z,18nm,0.9s
PRGR Permogore 73.47 330 *e*P P **01 38 54.7 -1.0**
PRGR *e* 01 39 15.5
PRGR pmax pmax
comp=Z,8.0nm,0.5s
KBS Kingsbay 74.67 351 *e*P P **01 39 02.0 -0.5**
YKW3 Yellowknife Ar 75.28 28 P P 01 39 06.8 +0.6
YKA Yellowknife Ar 75.31 28 P P 01 39 07.2 +0.7
comp=Z,2.5nm,0.5s,baz=292,slow=5.8,SNR=37
YKA LR LR 02 12 10.5
comp=Z,7.2nm,20.8s,baz=294,slow=36
HSPB Hornsund (broa 75.42 349 *e*P P **01 39 06.0 -0.8**
TMCR Tamitsa 75.83 334 *e*P P **01 39 08.7 -0.7**
TMCR pmax pmax
comp=Z,23nm,1.1s
D03D Eldon 75.84 44 P P 01 39 10.7 +1.0
baz=289
B05A Bryant 76.23 43 P P 01 39 13.8 +1.8
baz=289
WBK Wadi Bani Khal 76.37 289 P P 01 39 13.6 +0.3
SNR=5.7
WBK P P **01 39 13.6 +0.3**
SNR=5.7
I02D Swisshome 76.44 48 P P 01 39 15.2 +2.0
baz=289
WSAR Wadi Sarin 76.45 290 P P 01 39 13.9 +0.1
G03D McMinnville, O 76.47 47 P P 01 39 14.6 +1.2
baz=289
E04D Cinebar 76.49 45 P P 01 39 15.7 +2.2
baz=289
J01E Myrtle Point 76.68 49 P P 01 39 16.4 +1.8
baz=289
BIDO Bidbid 76.80 290 P P 01 39 16.4 +0.8
SNR=9.4
I03D Drain, OR 76.91 48 P P 01 39 17.8 +1.9
baz=289
SMDO Samad 77.02 290 P P 01 39 17.0 0.0
SMDO P P **01 39 17.0 0.0**
K02D Willamette Mer 77.02 49 P P 01 39 18.5 +1.8
baz=289
H04D Lebanon 77.05 47 P P 01 39 18.5 +1.9
baz=290
PPT2 Papeete2 77.17 116 *e*S S **01 49 06.8 +5.7**
comp=Z,70nm,24.2s
PPT2 Papeete2 77.17 116 *e*LR LR 02 03 17.4
comp=Z,383nm,33.5s
JMDO Jabal Madar 77.20 289 P P 01 39 17.8 -0.1
HOQ Hoqain 77.48 290 P P 01 39 19.7 +0.2
SNR=12
I04A Tendick Farm, 77.52 48 P P 01 39 20.5 +1.1
baz=290
BANOM Banah 77.56 293 P P 01 39 20.2 +0.3
BANOM Banah 77.56 293 P P 01 39 20.7 +0.7
ARCES ARCESS Array B 77.64 341 P P 01 39 20.0 +0.5
comp=Z,5.7nm,0.7s,baz=76,slow=7.0,SNR=19
ARCES LR LR 02 19 27.7
comp=Z,45nm,18.1s,baz=16,slow=40
ARE0 ARCESS Array S 77.64 341 *e*P P **01 39 20.1 +0.5**
SHME Shamm 77.65 293 *i* P P **01 39 21.3 +0.8**
SNR=6.8
G05D Wamic, OR 77.76 46 P P 01 39 23.1 +2.5
baz=290
BSY Bisya 77.86 290 P P 01 39 21.7 +0.1
SNR=6.6
J04D Umpqua Nationa 77.91 48 P P 01 39 23.6 +1.8
baz=290
UOSS Minazif 77.97 292 P P 01 39 22.1 -0.1
UOSS P P **01 39 22.1 -0.1**
UOSS Minazif 77.97 292 P P 01 39 21.2 -1.0
UOSS IAmb IAmb 01 39 22.9
comp=Z,35nm,1.1s
YBH Yreka Blue Hor 78.01 50 P P 01 39 22.0 -0.2
YBH pmax pmax
comp=Z,4.0nm,0.9s
YBH Yreka Blue Hor 78.01 50 P P 01 39 22.0 -0.2
M02C Callahan 78.03 50 P P 01 39 24.1 +1.8
baz=290
I05D Terrebonne, OR 78.06 47 P P 01 39 24.1 +1.8
baz=290
HATD Hatta, Dubai 78.08 292 *i* P **P 01 39 23.1 +0.3**
SNR=7.7
HATD Hatta, Dubai 78.08 292 P P 01 39 22.9 +0.1
HATD P P **01 39 22.9 +0.1**
L04D Klamath Falls 78.13 49 P P 01 39 24.6 +1.6
baz=290
ASHO Ashiyiah 78.19 292 *i* P **P 01 39 22.1 -1.4**
SNR=6.6
ASHO Ashiyiah 78.19 292 P P 01 39 23.5 0.0
ARQ Araqi 78.25 290 P P 01 39 23.7 0.0
N02D Trinity Center 78.28 50 P P 01 39 25.3 +1.6
baz=290
K04D Chiloquin, OR 78.37 49 P P 01 39 25.9 +1.7
baz=291
NAZ Nazwa, Dubai 78.42 292 P P 01 39 24.4 -0.3
O02D Mt. Diablo Mer 78.50 51 P P 01 39 26.8 +1.9
baz=290
J05D Fort Rock, OR 78.50 48 P P 01 39 27.0 +2.1
baz=291
PINE Pine Mountain 78.52 47 P P 01 39 25.0 -0.1
PINE IAmb IAmb 01 39 35.8
comp=Z,15nm,1.0s
DQM DQM 78.53 287 P P 01 39 25.2 -0.1
KTK1 Kautokeino 78.60 341 *e*P P **01 39 24.3 -0.5**
M04C Macdoel 78.61 49 P P 01 39 27.3 +1.8
baz=291
TULEG Thule 78.75 7 IAmb IAmb 01 39 34.3
comp=Z,15nm,0.8s
AKT Akhty 78.94 310 *e*P P **01 39 24.2 -3.2**
AKT *e* 01 39 33.7
AKT pmax pmax
comp=Z,27nm,0.8s
O03E Paynes Creek 79.16 51 P P 01 39 30.0 +1.5
baz=291
VRH Novokhopyorsk 79.16 321 *e*P P **01 39 26.9 -1.3**
VRH pmax pmax
comp=Z,30nm,0.7s
NEW Newport 79.34 42 P P 01 39 30.7 +1.4
baz=293
TRO Tromso 79.44 343 *e*P P **01 39 29.4 +0.1**
DAG Danmarks Havn 79.80 356 *i* P P **01 39 30.0 -1.2**
DAG *i* 01 39 51.9
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 79.80 356 *i* P P **01 39 30.0 -1.2**
comp=Z,5.0nm,0.9s
DAG 01 39 51.9
TBI Tubuai 80.12 121 *e*S S **01 49 37.1 +5.0**
comp=Z,80nm,27.2s
TBI Tubuai 80.12 121 *e*LR LR 02 04 28.5
comp=Z,193nm,34.2s,baz=301
LPSR Galich'ya Gora 80.17 323 *e*P P **01 39 33.1 -0.5**
LPSR pmax pmax
comp=Z,20nm,0.8s
AFDM Forest Hills D 80.25 52 P P 01 39 33.1 -1.3
OBN Obninsk 80.34 326 *de*P P **01 39 34.3 -0.2**
OBN *i* *SP pP **01 39 55.6 +0.5**
OBN S S **01 49 36.0 +2.5**
OBN *e* 01 50 34.4
OBN pmax pmax
comp=Z,47nm,2.5s
OBN MLR MLR
comp=Z,76nm,19.0s
VSR Storozhevoye 80.63 322*c i* P P **01 39 35.1 -1.0**
VSR pmax pmax
comp=Z,27nm,0.9s
VORD Divnogorie 80.66 322 *e*P P **01 39 34.7 -1.6**
VORD pmax pmax
comp=Z,10.0nm,0.6s
NCK Nalchik 81.02 313 ⇓ *i* P P **01 39 38.8 +0.4**
NCK pmax pmax
comp=Z,20nm,0.9s
ZEI Tsey 81.09 313 *e*P P **01 39 38.2 -0.9**
ZEI pmax pmax
comp=Z,19nm,0.7s
JTMT Jette 81.30 42 P P 01 39 39.7 -0.3
KBZ Khabaz 81.39 314*c i* P P **01 39 40.8 +0.5**
KBZ Khabaz 81.39 314 P P 01 39 41.0 +0.6
comp=Z,42nm,0.8s,baz=106,slow=3.4,SNR=51
KBZ LR LR 02 19 51.6
comp=Z,64nm,18.9s,baz=54,slow=39
KIV Kislovodsk 81.44 314 *i* P P **01 39 40.5 -0.3**
SNR=6.4
KIV Kislovodsk 81.44 314 P P 01 39 41.0 +0.3
KIV Kislovodsk 81.44 314 P P 01 39 39.3 -1.5
KIV pmax pmax
comp=Z,24nm,0.9s
KIV Kislovodsk 81.44 314 ⇑ P P **01 39 41.7 +0.9**
KIV Kislovodsk 81.44 314 P P 01 39 39.3 -1.5
KIV IAmb IAmb 01 39 43.5
comp=Z,24nm,0.9s
YERR Yerington 81.48 51 P P 01 39 39.6 -1.5
GNI Garni 81.54 310 P P 01 39 39.6 -1.8
GNI Garni 81.54 310 *ce*P P **01 39 39.8 -1.6**
GNI pmax pmax
comp=Z,87nm,1.3s
STEI Steigen 81.58 342 *e*P P **01 39 40.1 -0.7**
DMTO DMTO 81.61 286 P P 01 39 41.6 -0.4
DMTO P P **01 39 41.6 -0.4**
NEY Neytrino 81.70 313 ⇓ *e*P P **01 39 42.9 +0.7**
NEY pmax pmax
comp=Z,5.0nm,1.1s
MSO Missoula 81.89 43 P P 01 39 44.3 +1.2
baz=295
LOF Lofoten 81.90 343 *e*P P **01 39 41.6 -0.9**
FIA1 FINESS Array S 81.95 334 IAmb IAmb 01 39 49.2
comp=Z,12nm,0.6s
FINES FINESS Array B 81.95 334 P P 01 39 42.0 -0.9
comp=Z,10nm,0.4s,baz=70,slow=4.8,SNR=97
RBK Rabkut 82.35 286 P P 01 39 45.6 -0.3
RBK P P **01 39 45.6 -0.3**
NVAR Mina Array Bea 82.37 52 P P 01 39 46.6 +0.7
comp=Z,1.9nm,0.8s,baz=271,slow=5.9,SNR=14
NV11 Mina Array Sit 82.48 52 P P 01 39 44.7 -1.6
WHFO Wadi Hawf 82.58 286 P P 01 39 46.3 -0.8
PKM Mcpherson Peak 82.64 55 P P 01 39 48.6 +1.3
baz=293
VES Vestal, Richgr 82.81 54 P P 01 39 49.2 +1.2
baz=293
MOR8 Moi Rana 83.01 341 *e*P P **01 39 46.4 -2.0**
KONS Konsvik 83.17 342 *e*P P **01 39 48.3 -0.8**
ABTO Aybut 83.21 286 P P 01 39 50.1 -0.3
SNR=5.9
CWC Cottonwood Cre 83.33 53 P P 01 39 51.4 +0.6
baz=294
ISA Isabella, Lake 83.34 54 P P 01 39 51.8 +1.0
baz=294
VSU Vasula 83.35 332 *de*P P **01 39 49.5 -0.7**
VSU pmax pmax
comp=Z,26nm,0.6s
VSU Vasula 83.35 332 *e*P P **01 39 49.4 -0.8**
MPMC Manual Prospec 83.92 54 P P 01 39 54.7 +0.8
baz=294
EDW2 Edwards Air Fo 84.01 55 P P 01 39 55.7 +1.5
baz=294
FURC Furnace Creek, 84.21 53 P P 01 39 57.5 +2.5
baz=294
CIS Catalina Islan 84.29 56 P P 01 39 57.3 +1.7
baz=294
R11A Troy Canyon, C 84.36 51 P P 01 39 57.8 +1.8
baz=295
TPNV Topopah Spring 84.46 52 P P 01 39 57.5 +0.9
baz=295
SOCY Socotra 84.52 281 P P 01 39 55.7 -1.4
SOCY Socotra 84.52 281 IAmb IAmb 01 39 59.0
comp=Z,21nm,0.7s
SUMG Summit 84.63 0 *i* P P 01 40 02.0 +5.0
SUMG *i* 01 40 25.2
SUMG pmax pmax
comp=Z,22nm,0.8s
SUMG Summit 84.63 0 *i* P P 01 40 02.0 +5.0
comp=Z,22nm,0.8s
SUMG *i* 01 40 25.2
GSC Goldstone, Bar 84.73 54 P P 01 39 56.9 -1.0
baz=294
FFC Flin Flon 84.74 32 *i* P **P 01 39 59.2 +1.8**
FFC Flin Flon 84.74 32 P P 01 39 56.5 -0.9
FFC IAmb IAmb 01 40 06.9
comp=Z,18nm,0.9s
NSS Namsos 84.91 341 *e*P P **01 39 57.5 -0.5**
H17A Grant Village 85.09 44 P P 01 39 59.0 -0.7
IZAR Zarasai 85.09 330 *e*P P **01 39 58.9 -0.2**
IZAR IAmb IAmb 01 39 59.6
comp=Z,10.0nm,0.7s
FLWY Flagg Ranch 85.15 44 IAmb IAmb 01 40 09.6
comp=Z,10nm,0.9s
HEC Hector,Ludlow 85.28 54 P P 01 40 03.8 +3.2
baz=295
TUQ Turquoise Moun 85.33 54 P P 01 40 03.4 +2.5
baz=295
SHPR Sheep Range 85.44 52 P P 01 40 00.2 -1.3
DUG Dugway, Tooele 85.50 48 P P 01 40 02.6 +0.9
baz=296
RLMT Red Lodge 85.57 43 P P 01 40 02.6 +0.6
baz=298
PFO Pinyon Flats O 85.69 55 P P 01 40 03.0 +0.3
baz=295
PFO Pinyon Flats O 85.69 55 ⇓ *eP* P **01 40 05.6 +2.9**
PFO pmax pmax
comp=Z,17nm,1.0s
SLIT Slitere, Latvi 85.75 332 *eP* P 01 39 48.0 -14
GMRC Granite Mounta 85.80 54 P P 01 40 04.4 +1.1
baz=295
MONP2 Monument Peak 86.02 56 P P 01 40 05.3 +0.8
baz=295
PABE Paberze 86.29 330 *eP* P **01 40 03.9 -1.1**
PABE IAmb IAmb 01 40 05.0
comp=Z,33nm,0.7s
IKP In-Ko-Pah, Jac 86.36 56 P P 01 40 07.0 +1.0
baz=295
AKASG Malin Array Be 86.38 324 P P 01 40 04.3 -1.3
comp=Z,3.3nm,0.5s,baz=52,slow=5.0,SNR=20
AKBB Malin Array Si 86.38 324 ⇓ *eP* P **01 40 04.4 -1.2**
AKBB Malin Array Si 86.38 324 P P 01 40 04.3 -1.3
AKBB IAmb IAmb 01 40 11.4
comp=Z,8.5nm,0.7s
PDAR Pinedale Array 86.50 45 P P 01 40 07.1 +0.4
comp=Z,0.8nm,0.8s,baz=273,slow=2.8,SNR=7.9
PDAR LR LR 02 13 27.6
comp=Z,80nm,19.3s,baz=312,slow=32
MSU Marysvale 86.70 49 P P 01 40 07.1 -0.6
MSU Marysvale 86.70 49 P P 01 40 07.1 -0.6
GLA Glamis 87.17 55 P P 01 40 11.6 +1.7
baz=296
NC405 NORSAR Array S 87.46 339 P P 01 40 09.3 -1.3
NC405 IAmb IAmb 01 40 20.4
comp=Z,19nm,0.8s
SUW Suwalki 87.55 329 *eP* P **01 40 09.6 -1.6**
SUW Suwalki 87.55 329 *eP* P **01 40 09.6 -1.6**
SUW *eP* P **01 40 09.6 -1.6**
RAYN Ar Rayn 87.56 294 *i* P P **01 40 11.7 -0.3**
SNR=29
RAYN Ar Rayn 87.56 294 P P 01 40 10.8 -1.1
RAYN pmax pmax
comp=Z,25nm,0.9s
RAYN Ar Rayn 87.56 294 P P 01 40 10.8 -1.1
RAYN IAmb IAmb 01 40 13.1
comp=Z,25nm,0.8s
DOMB Dombas 87.63 340 *eP* P **01 40 10.4 -1.1**
NC204 NORSAR Array S 87.66 339 P P 01 40 10.1 -1.6
NC204 IAmb IAmb 01 40 16.4
comp=Z,19nm,0.9s
NB2 NORSAR Subarra 87.68 339 P P 01 40 10.0 -1.7
comp=Z,21nm,0.7s,baz=44,slow=4.8
NB2 NORSAR Subarra 87.68 339 P P 01 40 10.0 -1.7
baz=44,slow=4.8
NOA NORSAR Array B 87.68 339 P P 01 40 10.0 -1.7
comp=Z,5.0nm,0.9s,baz=52,slow=4.3,SNR=14
NOA LR LR 02 24 06.9
comp=Z,36nm,18.4s,baz=40,slow=39
NC602 NORSAR Array S 87.79 338 *eP* P **01 40 10.2 -2.0**
GAZ Gaziantep 88.14 310 IAmb IAmb 01 40 15.0
comp=Z,14nm,0.9s
Y14A Wickenburg 88.15 54 IAmb IAmb 01 40 23.9
comp=Z,8.0nm,0.8s
O20A White River Ci 88.63 47 P P 01 40 18.1 +1.2
baz=299
WUAZ Wupatki 88.63 52 P P 01 40 18.4 +1.5
baz=298
OSL Oslo 88.65 338 *eP* P **01 40 15.5 -0.7**
SKAR Skarslia 88.90 340 *eP* P **01 40 17.4 -0.2**
KONO Kongsberg 89.25 338 *eP* P **01 40 18.1 -1.0**
BR131 Keskin Array S 89.38 313 IAmb IAmb 01 40 22.8
comp=Z,13nm,0.9s
BRTR Keskin Array B 89.38 313 P P 01 40 19.2 -1.1
comp=Z,9.0nm,0.9s,baz=97,slow=3.4,SNR=20
MVCO Mesa Verde 89.88 49 P P 01 40 23.1 +0.3
baz=299
ODD1 Odda 90.03 340 *eP* P **01 40 21.6 -1.2**
ASK Askoy 90.03 341 *eP* P **01 40 20.8 -1.9**
BER Bergen 90.07 340 *eP* P **01 40 21.6 -1.3**
BUR08 Bucovina Ar. S 90.28 323 P P 01 40 23.6 -0.7
BUR08 IAmb IAmb 01 40 31.4
comp=Z,10nm,1.1s
BURAR Bucovina Array 90.29 323 ⇓ P P **01 40 23.7 -0.7**
BURAR Bucovina Array 90.29 323 ⇓ P P **01 40 23.7 -0.7**
KWP Kalwaria Pacla 90.43 326 *eP* P **01 40 24.5 -0.4**
KWP Kalwaria Pacla 90.43 326 *eP* P **01 40 24.5 -0.4**
KWP *eP* P **01 40 24.5 -0.4**
BLS5 Blasjo 90.47 339 *eP* P **01 40 23.7 -1.1**
S22A 4UR Ranch, Cre 90.77 48 P P 01 40 27.0 -0.1
baz=300
KMY Karmoy 91.02 340 *eP* P **01 40 26.2 -1.1**
KOLS Kolonicke sedl 91.08 326 *eP* P **01 40 27.8 -0.1**
KOLS Kolonicke sedl 91.08 326 *eP* P **01 40 27.8 -0.1**
DOPR Dopca 91.15 322 ⇓ P P **01 40 27.7 -0.6**
UZH Uzhgorod 91.26 325 *eP* P **01 40 30.1 +1.4**
UZH *i* 01 40 52.0
UZH *i* 01 40 58.8
SDCO Great Sand Dun 91.68 48 P P 01 40 31.6 +0.4
baz=301
SDCO Great Sand Dun 91.68 48 P P 01 40 28.1 -3.1
ARR Arges 91.93 322 ⇑ P P **01 40 30.2 -1.8**
DRGR 92.15 324 ⇓ P P **01 40 31.7 -1.3**
DRGR 92.15 324 ⇓ P P **01 40 31.7 -1.3**
ANMO Albuquerque 92.43 50 P P 01 40 35.6 +0.9
baz=300
ANMO Albuquerque 92.43 50 *de*P P **01 40 35.9 +1.2**
ANMO pmax pmax
comp=Z,3.0nm,1.7s
ANMO Albuquerque 92.43 50 P P 01 40 31.1 -3.6
121A Cookes Peak, D 92.67 53 P P 01 40 37.9 +2.1
baz=300
T25A Trinidad 92.73 48 P P 01 40 37.6 +1.5
baz=302
T25A Trinidad 92.73 48 IAmb IAmb 01 40 40.0
comp=Z,6.4nm,1.1s
KSP Ksiaz 92.81 329 *eP* P **01 40 35.3 -0.6**
KSP Ksiaz 92.81 329 *eP* P **01 40 35.3 -0.6**
KSP *eP* P **01 40 35.3 -0.6**
OSTC Ostas 93.05 329 *eP* P **01 40 37.8 +0.8**
OSTC *ex* x 01 40 40.6
CHVC Chvalec 93.10 329 *eP* P **01 40 36.5 -0.7**
KRLC Kraliky 93.10 329 *eP* P **01 40 35.8 -1.5**
KRLC *e* 01 41 03.1
KRLC Kraliky 93.10 329 *eP* P **01 40 35.8 -1.5**
KRLC *ex* x 01 40 43.2
KRLC *ex* x 01 41 03.1
VYHS Vyhne 93.13 327 *eP* P **01 40 36.9 -0.5**
VYHS pmax pmax
comp=Z,6.0nm,1.0s
VYHS Vyhne 93.13 327 *eP* P **01 40 36.9 -0.5**
DPC Dobruska-Polom 93.13 329 *eP* P **01 40 36.5 -0.9**
DPC *e* 01 41 03.7
DPC Dobruska-Polom 93.13 329 *eP* P **01 40 36.5 -0.9**

DPC				*ex*	x	01 40 40.6		
DPC				*ex*	x	01 41 03.7		
UPC	**Upice**	**93.17**	**329**	*eP*	**P**	**01 40 36.9**	**-0.6**	
UPC	**Upice**	**93.17**	**329**	*eP*	**P**	**01 40 36.9**	**-0.6**	
VRAC	**Vranov**	**93.70**	**328**	*eP*	**P**	**01 40 39.1**	**-0.9**	
ECSD	**EROS Data Cent**	**93.94**	**39**	P	**P**	**01 40 41.4**	**+0.2**	
	baz=307							
KRUC	**Moravsky**	**93.97**	**328**	*eP*	**P**	**01 40 39.9**	**-1.3**	
CLL	**Collm**	**93.99**	**331**	*i* P	**P**	**01 40 39.0**	**-2.2**	
CLL				*e*		01 41 07.0		
CLL				pmax	pmax			
	comp=Z,7.0nm,1.1s							
CLL	**Collm**	**93.99**	**331**	*i* P	**P**	**01 40 39.0**	**-2.2**	
	comp=Z,7.0nm,1.1s							
CLL				*e*		01 41 07.0		
CLL				*e*SS	SS	01 58 06.0	+1.2	
CLL				*e*(SSSS)		02 04 24.0		
MNTX	**Cornudas Mount**	**94.85**	**53**	P	**P**	**01 40 46.5**	**+0.9**	
	baz=301							
KHC	**Kasperske Hory**	**95.27**	**329**	*eP*	**P**	**01 40 46.1**	**-1.1**	
KHC				*e*		01 41 13.4		
KHC	**Kasperske Hory**	**95.27**	**329**	*eP*	**P**	**01 40 46.1**	**-1.1**	
KHC				*ex*	x	01 40 52.8		
KHC				*ex*	x	01 41 13.4		
GERES	**GERESS Array B**	**95.41**	**329**	P	**P**	**01 40 46.5**	**-1.4**	
	comp=Z,1.3nm,0.7s,baz=45,slow=5.7,SNR=11							
GERES				PKKPbc	**PKKPdf**	**01 57 40.1**	**+0.4**	
	comp=Z,0.5nm,0.6s,baz=214,slow=1.0,SNR=4.6							
GERES				LR	LR	02 26 16.9		
	comp=Z,49nm,20.0s,baz=48,slow=37							
H06N1	**SOCORRO T-PHAS**	**96.55**	**66**	T	T	03 29 18.4		
TXAR	**Lajitas Array**	**97.33**	**54**	P	**P**	**01 40 56.3**	**-0.7**	
	comp=Z,0.3nm,0.8s,baz=247,slow=3.6,SNR=2.3							
TXAR				PKiKP	**PKiKP**	**01 45 32.2**	**+0.3**	
	comp=Z,0.4nm,0.8s,baz=352,slow=2.7,SNR=2.9							
TXAR				PKKPbc	**PKKPbc**	**01 57 35.1**	**+0.3**	
	comp=Z,0.5nm,0.6s,baz=131,slow=3.8,SNR=6.3							
TXAR				LR	LR	02 19 21.8		
	comp=Z,22nm,21.1s,baz=0.0,slow=32							
SCHQ	**Schefferville**	**98.31**	**17**	LR	LR	02 25 09.3		
	comp=Z,26nm,21.9s,baz=45,slow=35							
ESDC	**Sonseca Array**	**110.45**	**333**	PKKPab	PKKPab	01 57 07.5	-1.8	
	comp=Z,1.9nm,0.8s,baz=217,slow=5.2,SNR=14							
SYO	**Syowa Base**	**116.13**	**203**⇓	*ep*P,diff	pPdif	01 42 45.0	+4.4	
LSZ	**Lusaka**	**118.45**	**265**	PKIKP	**PKPdf**	**01 46 09.9**	**-1.6**	
LSZ	**Lusaka**	**118.45**	**265**		**PKPdf**	**01 46 09.9**	**-1.6**	
TAM	**Tamanrasset**	**118.54**	**315**	PKIKP	**PKPdf**	**01 46 10.0**	**-1.6**	
TAM	**Tamanrasset**	**118.54**	**315**		**PKPdf**	**01 46 10.0**	**-1.6**	
LBTB	**Lobatse**	**123.34**	**254**	PKIKP	**PKPdf**	**01 46 19.5**	**-1.1**	
LBTB	**Lobatse**	**123.34**	**254**		**PKPdf**	**01 46 19.5**	**-1.1**	
BOSA	**Boshof**	**124.31**	**250**	PKP	**PKPdf**	**01 46 21.9**	**-0.5**	
	comp=Z,7.3nm,0.8s,baz=92,slow=0.2,SNR=3.8							
SNAA	**Sanae**	**127.63**	**193**	PKPdf	**PKPdf**	**01 46 27.1**	**-0.4**	
SNAA	**Sanae**	**127.63**	**193**	PKIKP	**PKPdf**	**01 46 27.2**	**-0.2**	
SNAA	**Sanae**	**127.63**	**193**		**PKPdf**	**01 46 27.2**	**-0.2**	
TOA0	**Torodi Ar. Sit**	**127.84**	**310**		**PKPdf**	**01 46 29.7**	**+0.3**	
TORD	**Torodi Ar. Bea**	**127.84**	**310**	PKP	**PKPdf**	**01 46 28.9**	**-0.6**	
	comp=Z,3.9nm,0.9s,baz=12,slow=2.6,SNR=19							
VNA2	**Neumayer--Watz**	**129.12**	**192**	PKPdf	**PKPdf**	**01 46 30.2**	**-0.1**	
	baz=72,slow=0.6							
TSUM	**Tsumeb**	**129.27**	**264**		**PKPdf**	**01 46 30.1**	**-2.0**	
VNA3	**Neumayer Olymp**	**129.28**	**191**	PKPdf	**PKPdf**	**01 46 30.4**	**-0.2**	
VNA1	**Neumayer--Stat**	**129.52**	**192**	PKPdf	**PKPdf**	**01 46 32.0**	**+1.1**	
SDV	**Santo Domingo**	**134.21**	**50**	PKP	**PKPdf**	**01 46 41.9**	**+0.1**	
	comp=Z,9.9nm,0.7s,baz=284,slow=2.9,SNR=17							
SDV				SKPbc	**SKPbc**	**01 50 01.3**	**-2.9**	
	comp=Z,14nm,1.0s,baz=330,slow=3.3,SNR=8.6							
DBIC	**Dimbokro**	**136.95**	**309**	PKP	**PKPdf**	**01 46 46.5**	**-0.1**	
	comp=Z,5.4nm,0.8s,baz=69,slow=3.1,SNR=6.2							
DBIC				SKPbc	**SKPbc**	**01 50 08.6**	**-3.9**	
	comp=Z,2.8nm,0.7s,baz=37,slow=3.5,SNR=3.2							
KIC	**Kosan Boka**	**137.09**	**309**	*e*PKP2	**PKPdf**	**01 46 45.9**	**-1.0**	
	comp=Z,25nm,1.1s							
TIC	**Toumodi**	**137.09**	**310**	*e*PKP2	**PKPdf**	**01 46 47.5**	**+0.6**	
LIC	**Lamto**	**137.38**	**309**	*e*PKP2	**PKPdf**	**01 46 46.4**	**-1.0**	
	comp=Z,19nm,0.8s							
GO06	**Curarrehue**	**146.41**	**128**		**PKPdf**	**01 47 03.6**	**+0.7**	
PLCA	**Paso Flores**	**146.68**	**130**	PKPbc	**PKPbc**	**01 47 06.1**	**+1.1**	
	comp=Z,8nm,0.6s,baz=262,slow=3.7,SNR=58							
MDP	**Montagnes des**	**148.08**	**31**	PKPbc	**PKPbc**	**01 47 08.6**	**-0.9**	
	comp=Z,13nm,0.8s,baz=223,slow=3.7,SNR=5.2							
HOPE	**Hope Point**	**148.79**	**180**	PKP2	**PKPbc**	**01 47 10.1**	**0.0**	
HOPE	**Hope Point**	**148.79**	**180**		**PKPbc**	**01 47 10.1**	**0.0**	
LPAZ	**La Paz**	**149.87**	**83**	PKP	**PKPdf**	**01 47 10.5**	**+0.6**	
	comp=Z,15nm,0.7s,baz=297,slow=1.7,SNR=18							
LPAZ				PKPbc	**PKPbc**	**01 47 14.9**	**+0.2**	
	comp=Z,15nm,0.7s,baz=313,slow=4.1,SNR=46							
LPAZ	**La Paz**	**149.87**	**83**		**PKPdf**	**01 47 12.5**	**+2.7**	
LVC	**Limon Verde**	**150.52**	**96**	PKIKP	**PKPdf**	**01 47 13.9**	**+3.5**	
LVC						01 47 21.8		
LVC	**Limon Verde**	**150.52**	**96**	PKPbc	**PKPbc**	**01 47 16.8**	**+1.0**	
	comp=Z,10nm,0.7s,baz=216,slow=4.3,SNR=6.7							
LVC	**Limon Verde**	**150.52**	**96**		**PKPdf**	**01 47 13.9**	**+3.5**	
LVC					**PKPab**	**01 47 21.8**	**-0.9**	
CFA	**Coronel Fontan**	**150.95**	**114**	PKPbc	**PKPbc**	**01 47 15.4**	**-0.8**	
	comp=Z,18nm,0.8s,baz=275,slow=3.8,SNR=23							
SAML	**Samuel**	**151.18**	**65**	PKIKP	**PKPdf**	**01 47 10.3**	**-0.9**	
SAML	**Samuel**	**151.18**	**65**		**PKPdf**	**01 47 10.3**	**-0.9**	
SIV	**San Ignacio**	**156.18**	**77**	PKP	**PKPdf**	**01 47 18.1**	**-0.2**	
	comp=Z,0.9nm,0.7s,baz=231,slow=5.9,SNR=6.0							
SIV				PKPab	**PKPab**	**01 47 45.4**	**-0.9**	
	comp=Z,1.4nm,0.8s,baz=297,slow=7.3,SNR=3.6							
CPUP	**Villa Florida**	**161.14**	**104**	PKPab	**PKPab**	**01 48 08.8**	**+1.2**	
	comp=Z,1.8nm,0.8s,baz=239,slow=2.8,SNR=3.4							

*ISCJB **10** 02:05:14.6±1.1,7.°92N±0.°05×83.°17W±0.°04,h21km±7km, Error ellipse: s-maj=9.1km s-min=4.8km az=28.9*
*UPA **10** 02:05:14.6±1.0,8.°00N×83.°11W,h4km±2km,MW4.2*
*UCR **10** 02:05:15.3±1.6,7.°98N×83.°14W,h14km±7km*

ISC 10 02:05:14.6±2.0,7.°99N±0.°07×83.°14W±0.°05,h10km±11km, n22,σ0°67/35,1C,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.82**	**57**	*eP*	**Pg**	**02 05 30.0**	**-0.4**
DVD				*eS*	**Sb**	**02 05 42.7**	**+0.7**
DVD	**David**	**0.82**	**57**	*eP*	**Pg**	**02 05 30.0**	**-0.4**
DVD				*eS*	**Sb**	**02 05 42.7**	**+0.7**
EDSV	**San Vito**	**0.85**	**11**	*eS*	**Sb**	**02 05 44.1**	**+1.1**
BRU2	**Volcan**	**0.92**	**29**	*eP*	**Pg**	**02 05 32.3**	**0.0**
BRU2				*eS*	**Sb**	**02 05 45.7**	**+0.6**
BRU2	**Volcan**	**0.92**	**29**	*eP*	**Pg**	**02 05 32.4**	**0.0**
BRU2				*eS*	**Sb**	**02 05 45.8**	**+0.7**
BCO2	**Palmira**	**0.95**	**40**⇑	*i*P	**Pg**	**02 05 32.9**	**0.0**
BCO2				*i* S	**Sb**	**02 05 46.5**	**+0.6**
EDPN	**Palmar Norte**	**1.02**	**342**	*eP*	**Pg**	**02 05 33.6**	**-0.6**
EDPN				*eS*	**Sg**	**02 05 47.9**	**+0.4**
EDLM	**Las Mercedes**	**1.36**	**341**	*eP*	**Pn**	**02 05 39.2**	**-0.6**
EDLM				*eS*	**Sb**	**02 05 57.9**	**+0.1**
CHGR2	**Aguacate**	**1.37**	**46**	*eP*	**Pn**	**02 05 38.6**	**-1.1**
CHGR2				*eS*	**Sb**	**02 05 57.7**	**-0.1**
EDDO	**Dominical**	**1.45**	**330**	*eP*	**Pn**	**02 05 41.0**	**0.0**
EDDO				*eS*	**Sn**	**02 05 59.5**	**-0.5**
CNI2	**El Empalme, Bo**	**1.57**	**25**	*eS*	**Sn**	**02 06 02.4**	**-0.7**
GMAL	**Guarumal, Vera**	**1.90**	**97**	*eP*	**Pn**	**02 05 46.6**	**-0.5**
LCR2	**La Lucha 2**	**1.94**	**334**	*eP*	**Pn**	**02 05 47.0**	**-0.9**
LCR2				*eS*	**Sn**	**02 06 11.5**	**-1.0**
CVTR	**Volcan Turrial**	**2.11**	**343**	*eP*	**Pn**	**02 05 51.4**	**+1.0**
CACAO	**El Cacao, Vera**	**2.35**	**106**	*eP*	**Pn**	**02 05 52.7**	**-0.5**
CACAO				*eS*	**Sn**	**02 06 22.3**	**+0.1**
AZU	**Azuero**	**2.84**	**94**	*eP*	**Pn**	**02 06 00.4**	**+0.3**
AZU				*eS*	**Sn**	**02 06 34.5**	**+0.1**
AZU	**Azuero**	**2.84**	**94**	*eP*	**Pn**	**02 06 00.4**	**+0.3**
AZU				*eS*	**Sn**	**02 06 34.5**	**+0.1**
JTS	**Las Juntas de**	**2.91**	**322**	*eP*	**Pn**	**02 05 60.0**	**-1.0**
JTS				*eP*	Pb	02 06 01.7	-4.9
JTS	**Las Juntas de**	**2.91**	**322**	*eP*	**Pn**	**02 06 01.7**	**+0.7**
PLVR	**Palo Verde**	**3.21**	**317**	*eP*	**Pn**	**02 06 05.2**	**0.0**
CUI	**Cuipilapa**	**3.32**	**323**	*eP*	**Pn**	**02 06 07.6**	**+0.8**
BUEV	**Buena Vista**	**3.58**	**322**	*eP*	**Pn**	**02 06 11.5**	**+1.1**

*SOME **10** 02:05:29.1,44.°12N×83.°07E,h10km*
*NNC **10** 02:05:30.6±1.1,44.°16N×82.°99E,h18km±11km,mb3.8, mpv3.5,Error ellipse: s-maj=9.4km s-min=4.0km az=131.0*

ISC 10 02:05:29.8±1.4,44.°11N±0.°06×83.°04E±0.°06,h10km,n45, σ2°11/63,10C-5D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.06**	**252**	*eP*	**Pb**	**02 06 07.8**	**+0.5**
	14nm,0.1s						
KTMS				*eS*	**Sg**	**02 06 36.0**	**+0.1**
	105nm,0.2s						
KTMS	**Ketmen**	**2.06**	**252**	Pg	**Pb**	**02 06 07.8**	**+0.5**
	14nm,0.1s						
KTMS				Lg	Lg	02 06 36.0	
	105nm,0.2s						
DJR	**Jarkent**	**2.35**	**277**⇓	*i*P	**Pg**	**02 06 13.8**	**-1.0**
	5.6nm,0.6s						
DJR			⇓	*i*S	**Sg**	**02 06 46.2**	**+1.0**
	116nm,1.0s						
DJR	**Jarkent**	**2.35**	**277**	Pg	**Pg**	**02 06 13.8**	**-1.0**
	5.6nm,0.6s						
DJR				Lg	Lg	02 06 46.2	
	116nm,1.0s						
PDGK	**Podgornoye**	**2.69**	**254**	⇑Lg	Lg	02 06 53.8	
	17nm,0.5s						
MK31	**Makanchi Array**	**2.73**	**349**	⇓Pg	**Pb**	**02 06 19.2**	**+0.4**
	1.2nm,0.3s,baz=156,slow=16,SNR=33						
SHLS	**Shalkode**	**2.77**	**251**	*eP*	**Pn**	**02 06 15.5**	**+1.2**
	20nm,0.3s						
SHLS			⇑	*i*S	**Sn**	**02 06 48.8**	**+0.9**
	108nm,0.4s						
SHLS	**Shalkode**	**2.77**	**251**	Pg	**Pn**	**02 06 15.5**	**+1.2**
	20nm,0.3s						
SHLS				Lg	Lg	02 06 48.8	
	108nm,0.4s						
MAKZ	**Makanchi**	**2.80**	**345**	⇓Pg	**Pb**	**02 06 21.0**	**+1.1**
	5.9nm,0.8s						
MAKZ			⇑	Lg	Lg	02 06 55.7	
	5.7nm,0.4s						
KAPS	**Kapalarasan**	**2.88**	**295**⇑	*eP*	**Pb**	**02 06 22.2**	**+0.9**
	4.6nm,0.3s						
KAPS			⇑	*e*S	**Sg**	**02 07 01.1**	**-1.1**
	24nm,0.5s						
KAPS	**Kapalarasan**	**2.88**	**295**	Pg	**Pb**	**02 06 22.2**	**+0.9**
	4.6nm,0.3s						
KAPS				Lg	Lg	02 07 01.1	
	24nm,0.5s						
UZB	**Uzynbulak**	**3.08**	**253**	*eP*	**Pb**	**02 06 25.2**	**+0.5**
	3.0nm,0.2s						
UZB				*e*S	**Sg**	**02 07 05.7**	**-2.8**
	14nm,0.1s						
UZB	**Uzynbulak**	**3.08**	**253**	Pg	**Pb**	**02 06 25.2**	**+0.5**
	3.0nm,0.2s						
UZB				Lg	Lg	02 07 05.7	
	14nm,0.1s						
KPKS	**Kokpek**	**3.22**	**260**	*eP*	**Pb**	**02 06 27.4**	**+0.3**
	6.7nm,0.2s						
KPKS				*e*S	**Sb**	**02 07 09.6**	**+3.1**
	50nm,0.4s						
MNBS	**Baschi**	**3.34**	**271**	*eP*	**Pb**	**02 06 30.4**	**+1.2**
	18nm,0.4s						
MNBS				*e*S	**Sg**	**02 07 14.4**	**-2.7**
	45nm,0.3s						
MNBS	**Baschi**	**3.34**	**271**	Pg	**Pb**	**02 06 30.4**	**+1.2**
	18nm,0.4s						
MNBS				Lg	Lg	02 07 14.4	
	45nm,0.3s						
TDK	**Taldyqorghan**	**3.43**	**287**	*eP*	**Pb**	**02 06 32.7**	**+2.1**
	42nm,0.3s						
TDK				*e*S	**Sg**	**02 07 18.6**	**-1.4**
	59nm,0.3s						
TDK	**Taldyqorghan**	**3.43**	**287**	Pg	**Pb**	**02 06 32.7**	**+2.1**
	42nm,0.3s						
TDK				Lg	Lg	02 07 18.6	
	59nm,0.3s						
SATY	**Saty**	**3.53**	**254**	*eP*	**Pb**	**02 06 34.1**	**+1.7**
	3.9nm,0.3s						
SATY				*e*S	**Sg**	**02 07 20.7**	**-2.4**
	36nm,0.3s						
SATY	**Saty**	**3.53**	**254**	Pg	**Pb**	**02 06 34.1**	**+1.7**
	3.9nm,0.3s						
SATY				Lg	Lg	02 07 20.7	
	36nm,0.3s						
ZSN	**Zaisan**	**3.58**	**20**	*eP*	**Pb**	**02 06 33.4**	**+0.3**
	8.5nm,0.3s						
ZSN				*e*S	**Sb**	**02 07 19.7**	**+3.2**
	26nm,0.6s						
ZSN	**Zaisan**	**3.58**	**20**	Pg	**Pb**	**02 06 33.4**	**+0.3**
	8.5nm,0.3s						
ZSN				Lg	Lg	02 07 19.7	
	26nm,0.6s						
KURS	**Kuram**	**3.58**	**262**	*eP*	**Pb**	**02 06 34.4**	**+1.2**
	5.1nm,0.8s						
KURS				*e*S	**Sg**	**02 07 21.7**	**-3.1**
	10nm,0.6s						
KURS	**Kuram**	**3.58**	**262**	Pg	**Pb**	**02 06 35.1**	**+1.8**
	4.1nm,0.7s						
KURS				Lg	Lg	02 07 22.5	
	10nm,0.5s						
ARXS	**Arharly**	**3.75**	**273**	*eP*	**Pb**	**02 06 37.8**	**+1.6**
	4.9nm,0.4s						
ARXS				*e*S	**Sg**	**02 07 27.1**	**-3.2**
	25nm,0.4s						
ARXS	**Arharly**	**3.75**	**273**	Pg	**Pb**	**02 06 37.8**	**+1.6**
	4.9nm,0.4s						
ARXS				Lg	Lg	02 07 27.1	
	25nm,0.4s						
CHKK	**Chushkaly**	**4.38**	**269**	*eP*	**Pg**	**02 06 50.8**	**-2.8**
	2.0nm,0.1s						
CHKK				*e*S	**Sg**	**02 07 50.0**	**-0.3**
	26nm,0.2s						
CHKK	**Chushkaly**	**4.38**	**269**	Pg	**Pg**	**02 06 50.8**	**-2.8**
	2.0nm,0.1s						
CHKK				Lg	Lg	02 07 50.0	
	26nm,0.2s						
KOTS	**Kotyrbulak**	**4.39**	**261**	*eP*	**Pg**	**02 06 51.8**	**-2.1**
	3.5nm,0.3s						
KOTS				*e*S	**Sg**	**02 07 51.4**	**+0.7**
	17nm,0.4s						
KOTS	**Kotyrbulak**	**4.39**	**261**	Pg	**Pg**	**02 06 51.8**	**-2.1**
	3.5nm,0.3s						
KOTS				Lg	Lg	02 07 51.4	
	17nm,0.4s						
MDOK	**Medeo**	**4.45**	**260**	*eP*	**Pg**	**02 06 52.8**	**-2.2**
	2.1nm,0.3s						
MDOK				*e*S	**Sg**	**02 07 53.2**	**+0.5**
	6.0nm,0.3s						
MDOK	**Medeo**	**4.45**	**260**	Pg	**Pg**	**02 06 52.8**	**-2.2**
	2.1nm,0.3s						
MDOK				Lg	Lg	02 07 53.2	
	6.0nm,0.3s						
TNSS	**Tian-Shan**	**4.56**	**258**	*eP*	**Pg**	**02 06 54.6**	**-2.4**
	1.8nm,0.3s						
TNSS				*e*S	**Sg**	**02 07 56.4**	**+0.3**
	6.1nm,0.5s						
TNSS	**Tian-Shan**	**4.56**	**258**	Pg	**Pg**	**02 06 54.6**	**-2.4**
	1.8nm,0.3s						
TNSS				Lg	Lg	02 07 56.4	
	6.1nm,0.5s						
KTBS	**Karatobe**	**4.61**	**267**	*eP*	**Pg**	**02 06 55.6**	**-2.5**
	1.3nm,0.3s						
KTBS				*e*S	**Sg**	**02 07 57.7**	**-0.2**
	20nm,0.6s						
KTBS	**Karatobe**	**4.61**	**267**	Pg	**Pg**	**02 06 55.6**	**-2.5**
	1.3nm,0.3s						
KTBS				Lg	Lg	02 07 57.7	
	20nm,0.6s						
IZV	**Izvestkoviy**	**4.79**	**259**	*eP*	**Pg**	**02 06 58.5**	**-3.1**
	1.4nm,0.2s						
IZV				*e*S	**Sg**	**02 08 02.8**	**-0.8**
	11nm,0.5s						
IZV	**Izvestkoviy**	**4.79**	**259**	Pg	**Pg**	**02 06 58.5**	**-3.1**
	1.4nm,0.2s						
IZV				Lg	Lg	02 08 02.8	
	11nm,0.5s						
MTBS	**Maitube**	**4.90**	**261**	*eP*	**Pg**	**02 06 59.9**	**-3.7**
	3.9nm,0.5s						
MTBS			⇑	*i*S	**Sg**	**02 08 05.7**	**-1.4**
	9.1nm,0.2s						
MTBS	**Maitube**	**4.90**	**261**	Pg	**Pg**	**02 06 59.9**	**-3.7**
	3.9nm,0.5s						
MTBS				Lg	Lg	02 08 05.7	
	9.1nm,0.2s						
KST	**Kastek**	**5.25**	**261**	*eP*	**Pb**	**02 07 05.3**	**+3.6**
	9.7nm,1.3s						
KST				*e*S	**Sg**	**02 08 14.9**	**-3.5**
	7.2nm,0.7s						
KST	**Kastek**	**5.25**	**261**	Pg	**Pb**	**02 07 05.3**	**+3.6**
	9.7nm,1.3s						
KST				Lg	Lg	02 08 14.9	
	7.2nm,0.7s						
TKM2	**Tokmak 2**	**5.54**	**260**	⇑Pg	**Pg**	**02 07 12.0**	**-3.9**
	1.7nm,0.7s						
TKM2				⇑Lg	Lg	02 08 25.3	
	5.1nm,0.7s						
AAK	**Ala-Archa**	**6.40**	**260**	⇓Lg	Lg	02 08 52.2	
	2.9nm,0.7s						
KURBB	**Kurchatov Arra**	**7.20**	**336**	⇑Sn	**Sn**	**02 08 35.2**	**-1.5**
	2.3nm,0.7s						
KURBB				⇑Lg	Lg	02 09 14.2	
	10nm,0.7s						

*NEIC **10** 02:06:11.0±1.3,48.°91N±0.°05×143.°9E±0.°2,h16km±4km, mb4.4/43*
*BJI **10** 02:06:18.9±0.0,51.°01N×143.°68E,h10km,mb4.5/23, mB4.9/13,Ms4.5/8,Ms7 4.5/8*
*IDC **10** 02:06:19.6±0.6,50.°91N×143.°62E,h0km,mb4.2/23, mb1 4.3/28,mb1mx4.2/49,mbtmp4.1/28,ML3.7/4,MS3.5/13, Ms1 3.5/13,ms1mx3.2/32,Error ellipse: s-maj=16.6km s-min=11.0km az=156.0*
*MOS **10** 02:06:19.1±1.0,50.°90N×143.°76E,h10km,mb4.7/23,Error ellipse: s-maj=9.1km s-min=5.8km az=89.6*
MOS Felt (II-III) at Tymovskoye;(II) at Voskresenovka, Krasnaya Tym'.
*SKHL **10** 02:06:20.0±0.6,50.°84N×143.°70E,h10km,mb5.1/10, Ms4.1/3,msh5.6/1*
SKHL Felt (III) at Tymovskoye , Voskresenovka; (II) at Krasnaya Tym'.
*ISCJB **10** 02:06:20.5±0.6,50.°80N±0.°02×143.°73E±0.°04,h22km±4km, mb4.4/46,MS3.8/9,Error ellipse: s-maj=4.7km s-min=3.9km az=24.0*

ISC 10 02:06:21.2±0.7,50.°81N±0.°02×143.°66E±0.°04,h14km±4km, n168,σ1°73/187,mb4.4/73,MS3.7/10,10C-7D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**0.64**	**275**	*e*PN	**Pb**	**02 06 33.4**	**-0.6**
TYV				*e*S	**Sb**	**02 06 43.3**	**+0.5**
TYV				pmax	pmax		
	comp=Z,3μm,0.4s						
TYV				pmax	pmax		
	comp=Z,3μm,0.2s						
TYV				smax	smax		
	comp=N,33μm,0.4s						
TYV				smax	smax		
	comp=N,48μm,0.4s						
TYV	**Tymovskoe**	**0.64**	**275**	*e*Pg	**Pg**	**02 06 33.2**	**-0.4**
TYV				AMB	AMB	02 06 33.9	
	comp=N,6μm,0.3s						
TYV				*e*Sg	**Sb**	**02 06 42.2**	**-0.6**
TYV				A	A	02 06 43.7	
	comp=N,39μm,0.4s						
TYV				A	A	02 06 43.7	
	comp=N,15μm,0.4s						
TYV				AMS	AMS	02 06 52.0	
	comp=N,10μm,9.0s						
TYV				AMS	AMS	02 06 52.0	
	comp=N,29μm,9.0s						
TYV				AMS	AMS	02 06 52.0	
	comp=N,22μm,9.0s						
UGL	**Uglegorsk**	**2.02**	**211**⇑	*i*PN	**Pb**	**02 06 56.2**	**-1.2**
UGL				*e*S	**Sb**	**02 07 23.1**	**+0.7**
UGL				pmax	pmax		
	comp=Z,3μm,2.0s						
UGL				pmax	pmax		
	comp=Z,2μm,0.6s						
UGL				smax	smax		
	comp=N,3μm,0.9s						
UGL				smax	smax		
	comp=N,10μm,2.2s						
UGL				smax	smax		
	comp=E,8μm,2.2s						
UGL	**Uglegorsk**	**2.02**	**211**	*e*Pb	**Pb**	**02 06 56.3**	**-1.2**
UGL				*e*Pg	**Pg**	**02 07 00.4**	**+0.6**
UGL				AMB	AMB	02 07 02.1	
	comp=E,2μm,0.6s						
UGL				*e*Sb	**Sb**	**02 07 22.1**	**-0.3**
UGL				A	A	02 07 26.1	
	comp=E,2μm,0.9s						
UGL				A	A	02 07 26.1	
	comp=E,1μm,0.9s						
UGL				*e*Sg	**Sg**	**02 07 29.0**	**+3.1**
UGL				A	A	02 07 30.0	
	comp=E,10μm,2.0s						
UGL				A	A	02 07 30.0	
	comp=E,18μm,2.0s						
UGL				A	A	02 07 32.7	
	comp=E,5μm,0.7s						
UGL				A	A	02 07 32.7	
	comp=E,6μm,0.7s						
UGL				AMS	AMS	02 07 50.0	
	comp=E,10μm,9.0s						
UGL				AMS	AMS	02 07 50.0	
	comp=E,17μm,9.0s						
UGL				AMS	AMS	02 07 50.0	
	comp=E,12μm,9.0s						
OKH	**Okha**	**2.78**	**351**⇓	*e*PN	**Pn**	**02 07 05.5**	**+0.4**
OKH				*e*S	**Sn**	**02 07 38.0**	**-0.4**
OKH				pmax	pmax		
	comp=Z,5.0nm,1.6s						
OKH				smax	smax		
	comp=N,10.0nm,0.9s						
OKH	**Okha**	**2.78**	**351**	*e*P	**Pn**	**02 07 05.5**	**+0.4**
OKH				*e*Pb	**Pb**	**02 07 10.2**	**-0.3**
OKH				AMB	AMB	02 07 10.4	
	comp=N,200nm,0.2s						
OKH				*e*Pg	**Pg**	**02 07 17.3**	**+2.9**
OKH				AMB	AMB	02 07 19.4	
	comp=N,480nm,0.7s						
OKH				*e*S	**Sn**	**02 07 40.2**	**+1.8**
OKH				A	A	02 07 40.7	
	comp=N,760nm,0.5s						
OKH				A	A	02 07 40.7	
	comp=N,850nm,0.5s						
OKH				*e*Sb	**Sb**	**02 07 44.7**	**+0.3**
OKH				A	A	02 07 45.7	
	comp=N,750nm,0.6s						
OKH				A	A	02 07 45.7	
	comp=N,650nm,0.6s						
OKH				*e*Sg	**Sg**	**02 07 55.9**	**+5.4**

YSS A A 02 08 08.4
comp=E,111nm,0.7s
YSS A A 02 08 08.4
comp=E,70nm,0.7s
YSS *e*Sb **Sb** **02 08 14.6 -2.1**
YSS A A 02 08 15.0
comp=E,90nm,1.0s
YSS A A 02 08 15.0
comp=E,135nm,1.0s
YSS *e*Sg **Sg** **02 08 32.0 +5.5**
YSS A A 02 08 36.0
comp=E,390nm,0.9s
YSS A A 02 08 36.0
comp=E,185nm,0.9s
YSS AMS AMS 02 09 21.0
comp=E,1μm,9.0s
YSS AMS AMS 02 09 21.0
comp=E,1μm,9.0s
YSS AMS AMS 02 09 21.0
comp=E,2μm,9.0s
YSS Yuzh-Sakhalins 3.91 189 Pn Pn 02 06 45.5 -35
YSS Sn Sn 02 07 10.8 -55
GRNR Gornyy 4.59 272 *e*PN **Pn** **02 07 26.0 -4.1**
GRNR *e* 02 08 35.4
GRNR pmax pmax
comp=Z,40nm,0.5s
GRNR smax smax
comp=E,80nm,0.5s
GRNR MLR MLR
comp=E,1μm,12.0s
GRNR MLR MLR
comp=Z,2μm,11.0s
KUR Kuril'sk 6.25 152 PN **Pn** **02 07 57.1 +4.3**
KUR MLR MLR
comp=Z,356nm,10.0s
ASAJ Asahikawa 6.74 187 Pn **Pn** **02 08 01.2 +1.8**
comp=Z,2.1nm,0.3s,baz=25,slow=32,SNR=6.4
ASAJ Sn **Sn** **02 09 15.8 -0.1**
comp=Z,2.2nm,0.3s,baz=260,slow=19,SNR=2.6
EKMR Ekimchan 7.00 293 *e*P **Pn** **02 08 03.3 +0.2**
EKMR AMB AMB 02 08 04.0
comp=Z,3.0nm,0.5s
EKMR *e*Pg **Pg** **02 08 33.0 -2.0**
EKMR AMB AMB 02 08 34.0
comp=Z,9.0nm,0.7s
EKMR *e*Sg **Sg** **02 10 11.5 +6.0**
EKMR A A 02 10 16.5
comp=Z,260nm,1.0s
EKMR A A 02 10 16.5
comp=Z,91nm,1.0s
EKMR A A 02 10 16.5
comp=Z,20nm,1.0s
KLR Kul'dur 7.83 263*d i*PN **Pn** **02 08 16.3 +1.7**
KLR Kul'dur 7.83 263 Pn **Pn** **02 08 16.5 +1.9**
comp=Z,3.7nm,0.3s,baz=73,slow=13,SNR=59
KLR Lg Lg 02 10 26.9
comp=Z,2.0nm,0.3s,baz=339,slow=18,SNR=5.2
KLR LR LR 02 11 52.2
comp=Z,393nm,18.3s,baz=98,slow=42
ERM Erimo 8.80 182⇓*e*PN **Pn** **02 08 28.3 +0.5**
PEA0B Petropavlovsk- 8.97 70 PN **Pn** **02 08 30.2 +0.1**
PEA0B Petropavlovsk- 8.97 70 Pn **Pn** **02 08 30.2 +0.1**
PETK Petropavlovsk- 8.97 70 Pn **Pn** **02 08 29.5 -0.6**
comp=Z,0.5nm,0.3s,baz=313,slow=6.8,SNR=9.0
PETK Sn **Sn** **02 10 11.5 +0.7**
comp=Z,0.1nm,0.3s,baz=233,slow=11,SNR=3.3
PETK LR LR 02 12 22.5
comp=Z,202nm,19.1s,baz=239,slow=40
MA2 Magadan 9.67 22 LR LR 02 12 57.7
comp=Z,239nm,18.3s,baz=194,slow=42
BMKR Bomnak 9.79 299 *e*P **Pn** **02 08 44.3 +2.9**
BMKR *e*Sg 02 11 35.5
BMKR A A 02 11 45.0
comp=Z,18nm,0.4s
USRK Ussuriysk Ar. 10.29 235 Pn **Pn** **02 08 50.6 +2.4**
baz=34,slow=14,SNR=3.2
USRK Lg Lg 02 11 43.2
baz=47,slow=29,SNR=4.5
USRK LR LR 02 12 53.0
comp=Z,146nm,21.9s,baz=47,slow=38
ZEA Zeya 10.47 293 *e*Sg 02 11 57.2
ZEA A A 02 12 04.4
comp=Z,118nm,1.0s
KROS Kirovskiy 10.77 296 *e*P **Pn** **02 08 57.4 +2.6**
KROS AMB AMB 02 08 59.1
comp=Z,12nm,0.5s
KROS *e*Sg 02 12 07.1
KROS A A 02 12 18.0
comp=Z,10.0nm,0.5s
VLA Vladivostok 11.12 231⇑*e*PN **Pn** **02 08 59.4 -0.2**
SEY Seymchan 13.04 18⇑PN **Pn** **02 09 23.9 -1.8**
CN2 Changchun 14.19 247 *e*P **P** **02 09 52.8 +3.9**
MJAR Matsushiro Arr 14.79 197 Pn **P** **02 09 56.0 +0.3**
comp=Z,0.1nm,0.3s,baz=328,slow=9.3,SNR=4.3
MJAR LR LR 02 15 44.8
comp=Z,74nm,19.8s,baz=35,slow=38
HIA Hailar 15.43 274⇓*i*P **Pn** **02 10 00.1 +1.9**
HIA pmax pmax
comp=Z,61nm,1.1s
HIA Hailar 15.43 274 Pn **Pn** **02 09 51.1 -7.2**
HIA IAmb IAmb 02 10 01.9
comp=Z,18nm,1.2s
KSRS Korea Array 17.44 226 P **P** **02 10 27.0 +2.0**
KSRS Korea Array 17.44 226 P **P** **02 10 26.9 +2.0**
comp=Z,0.4nm,0.3s,baz=50,slow=8.3,SNR=4.6
KSRS LR LR 02 16 57.7
comp=Z,121nm,18.4s,baz=40,slow=36
BOD Bodaibo 18.55 304 *e*P **Pn** **02 10 38.6 +1.2**
BOD pmax pmax
comp=Z,15nm,2.0s
JNU Nakatsue 20.02 213 LR LR 02 18 40.3
comp=Z,144nm,20.3s,baz=14,slow=37
BILL Bilibino 20.53 24⇑*e*P Pn 02 10 58.9 -1.9
BILL pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 21.96 348⇓*i*P **P** **02 11 13.5 -0.4**
TIXI pmax pmax
comp=Z,8.0nm,1.3s
TIXI Tiksi 21.96 348 P **P** **02 11 13.3 -0.6**
comp=Z,1.0nm,0.3s,baz=360,slow=24,SNR=3.9
ULN Ulaanbaatar 23.88 277*c i*P **P** **02 11 35.1 +1.0**
ULN pmax pmax
comp=Z,27nm,1.0s
ULN Ulaanbaatar 23.88 277 P P 02 11 26.8 -7.4
SONM Songino Array 24.30 278 P **P** **02 11 39.4 +1.4**
comp=Z,12nm,1.0s,baz=72,slow=7.9,SNR=47
SONM LR LR 02 21 04.3
comp=Z,91nm,18.9s,baz=10.0,slow=36
TLY Talaya 24.85 288 *e*P **P** **02 11 44.6 +1.7**
TLY pmax pmax
comp=Z,21nm,0.8s
TLY MLR MLR
comp=Z,842nm,11.0s
ZAK Zakamensk 25.42 285 *e*P **P** **02 11 44.5 -3.6**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
WHN Wuhan 29.76 238 P P 02 12 32.2 +5.2
GTA Gaotai 32.52 267 *e*P **P** **02 12 53.1 +1.7**
GTA pP sP 02 12 57.1 -0.7
GTA sP pP 02 13 00.2 +4.3
GTA pmax pmax
comp=Z,3.0nm,0.7s
ANA2 Anatahan 34.42 177 P P 02 12 41.1 -27
ZALV Zalesovo Beam 35.16 299 P **P** **02 13 13.5 -0.5**
comp=Z,0.4nm,0.4s,baz=30,slow=8.9,SNR=2.9
ZALV PcP **PcP** **02 15 45.0 +0.1**
comp=Z,0.5nm,0.4s,baz=148,slow=1.5,SNR=4.5
PPLA Purkeypile 35.53 45 P **P** **02 13 18.1 +0.8**
PPLA IAmb IAmb 02 13 29.7
comp=Z,6.4nm,1.2s
TRF Thorofare Moun 36.27 44 P **P** **02 13 24.1 +0.5**
TRF IAmb IAmb 02 13 30.9
comp=Z,8.2nm,0.9s
OHAK Old Harbor 36.39 55 P **P** **02 13 23.2 -1.3**
SUA Susitna One 36.50 47 P **P** **02 13 25.6 0.0**
KDAK Kodiak Island 36.58 54 P **P** **02 13 25.9 -0.3**
KDAK pmax pmax
comp=Z,7.0nm,1.1s
KDAK Kodiak Island 36.58 54 P **P** **02 13 26.1 0.0**
comp=Z,6.9nm,1.1s,baz=331,slow=10,SNR=2.9
KDAK Kodiak Island 36.58 54 P **P** **02 13 25.9 -0.3**
KDAK IAmb IAmb 02 13 31.2
comp=Z,6.7nm,1.1s
CNPM China Poot 36.76 51 P **P** **02 13 26.7 -1.0**
MCK McKinley 36.80 43 P **P** **02 13 29.0 +0.9**
MCK pmax pmax
comp=Z,7.0nm,0.9s
MCK McKinley 36.80 43 P **P** **02 13 28.9 +0.9**
MCK IAmb IAmb 02 13 31.9
comp=Z,7.0nm,0.9s
WRH Wood River Hil 37.01 42 P **P** **02 13 29.9 +0.1**
WRH IAmb IAmb 02 13 33.2
comp=Z,8.4nm,0.9s
COLA College 37.03 41⇓*e*P **P** **02 13 30.3 +0.4**
COLA pmax pmax
comp=Z,3.0nm,0.9s
CCB Clear Creek Bu 37.10 42 P **P** **02 13 30.9 +0.4**
GHO Glory Hole Cre 37.26 46 P **P** **02 13 31.0 -1.0**
GHO IAmb IAmb 02 13 36.1
comp=Z,8.8nm,1.0s
IL31 37.46 41 P **P** **02 13 33.9 +0.4**
IL31 IAmb IAmb 02 13 41.1
comp=Z,4.4nm,0.9s
ILAR Eielson Array 37.46 41 P **P** **02 13 33.5 0.0**
comp=Z,1.8nm,0.8s,baz=278,slow=8.2,SNR=18
SML Sawmill 37.53 46 P **P** **02 13 34.1 -0.1**
SML IAmb IAmb 02 13 38.0
comp=Z,11nm,1.0s
KNK Knik Glacier 37.57 47 P **P** **02 13 34.3 -0.3**
KNK IAmb IAmb 02 13 38.3
comp=Z,9.2nm,0.8s
DHY Denali Highway 37.64 44 P **P** **02 13 35.3 0.0**
FYU Fort Yukon 37.76 38 P **P** **02 13 37.1 +1.1**
FYU IAmb IAmb 02 13 43.5
comp=Z,11nm,1.1s
PRP Porcupine Dome 37.86 40 P **P** **02 13 38.5 +1.4**
PRP IAmb IAmb 02 13 41.8
comp=Z,7.5nm,1.0s
SCM Sheep Creek Mo 37.98 46 P **P** **02 13 37.8 -0.3**
SCM pmax pmax
comp=Z,13nm,1.2s
SCM Sheep Creek Mo 37.98 46 P **P** **02 13 37.8 -0.3**
SCM IAmb IAmb 02 13 42.7
comp=Z,12nm,1.2s
RIDG Independent Ri 38.57 43 P **P** **02 13 43.2 +0.2**
RIDG IAmb IAmb 02 13 49.0
comp=Z,7.2nm,1.0s
SCRK Sand Creek 38.87 42 P **P** **02 13 44.5 -1.2**
DOT Dot Lake 38.93 43 P **P** **02 13 45.7 -0.3**
MK31 Makanchi Array 39.60 289 P **P** **02 13 47.6 -4.2**
MK31 pmax pmax
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 39.60 289 P **P** **02 13 47.6 -4.2**
MK31 IAmb IAmb 02 13 53.4
comp=Z,10.0nm,0.8s
MKAR Makanchi Array 39.60 289 P **P** **02 13 52.5 +0.7**
comp=Z,14nm,0.9s,baz=65,slow=8.3,SNR=52
GLB Gilahina Butte 39.70 46 P **P** **02 13 52.2 -0.3**
EGAK Eagle 39.83 40 P **P** **02 13 53.8 +0.3**
EGAK IAmb IAmb 02 13 56.6
comp=Z,6.2nm,0.8s
KURK Kurchatov 39.93 296⇑*e*P **P** **02 13 54.1 -0.3**
KURK pmax pmax
comp=Z,11nm,1.3s
KURK Kurchatov 39.93 296 P **P** **02 13 52.5 -1.9**
KURK IAmb IAmb 02 13 55.4
comp=Z,5.6nm,1.1s
VRDI Verde Repeater 39.93 46 P **P** **02 13 55.0 +0.4**
MCARA McCarthy VSAT 40.08 46 P **P** **02 13 56.0 +0.5**
MCARA IAmb IAmb 02 14 06.1
comp=Z,9.5nm,1.0s
KMI Kunming 40.45 246 P **P** **02 14 00.1 +0.8**
KMI pmax pmax
comp=Z,24nm,1.0s
BALM Baldy 40.50 46 P **P** **02 13 59.4 +0.2**
BALM IAmb IAmb 02 14 03.4
comp=Z,4.6nm,0.9s
BARN Barnard Glacie 40.81 46 P **P** **02 14 01.8 -0.1**
CTGM Chitina Glacie 40.99 46 P **P** **02 14 02.8 -0.5**
CTGM IAmb IAmb 02 14 07.5
comp=Z,5.3nm,0.9s
INK Inuvik 41.66 34 P **P** **02 14 08.7 +0.2**
comp=Z,0.8nm,0.5s,baz=238,slow=9.6,SNR=4.7
INK Inuvik 41.66 34 P **P** **02 14 11.7 +3.2**
BRVK Borovoye 43.46 303 P **P** **02 14 23.5 +0.2**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 43.46 303 P **P** **02 14 23.5 +0.2**
BRVK IAmb IAmb 02 14 30.5
comp=Z,3.2nm,1.0s
AAK Ala-Archa 46.51 288*c e*P **P** **02 14 48.8 +0.9**
AAK pmax pmax
comp=Z,7.0nm,1.3s
AAK Ala-Archa 46.51 288 P **P** **02 14 43.5 -4.5**
AAK IAmb IAmb 02 14 49.5
comp=Z,2.2nm,0.8s
KSH Kashi 47.45 284 P P 02 15 00.4 +5.1
KSH sP sP 02 15 08.9 +7.2
KSH S **S** **02 21 55.6 +6.4**
KSH sS sS 02 22 06.6 +10
KSH pmax pmax
comp=Z,99nm,2.0s
KSH pmax pmax
comp=Z,270nm,5.2s
KSH LR LR
comp=Z,280nm,5.3s
KSH LR LR
comp=Z,260nm,10.2s
KSH LR LR
comp=Z,430nm,5.3s
ARU Arti 47.72 312 P **P** **02 14 56.2 -0.7**
ARU 02 16 44.8
ARU S **S** **02 21 52.4 +0.2**
ARU SS **SS** **02 25 15.4 -4.5**
CMAR Chiang Mai Arr 47.84 244 P **P** **02 14 59.9 +1.5**
comp=Z,2.4nm,0.4s,baz=28,slow=8.0,SNR=12
CMAR LR LR 02 37 06.9
comp=Z,36nm,20.1s,baz=9.5,slow=39
KK31 Karatay Array 48.62 291 P **P** **02 15 00.7 -3.5**
KK31 pmax pmax
comp=Z,7.0nm,1.0s
KK31 Karatay Array 48.62 291 P **P** **02 15 00.7 -3.5**
PRGR Permogore 50.45 322 *e*P **P** **02 15 13.5 -4.2**
PRGR pmax pmax
comp=Z,11nm,0.9s
ABKAR Akbulak array 50.99 303 P **P** **02 15 21.4 -0.7**
ABKAR IAmb IAmb 02 15 22.6
comp=Z,2.9nm,0.8s
YKA Yellowknife Ar 51.34 36 P **P** **02 15 24.3 -0.2**
comp=Z,1.1nm,0.7s,baz=305,slow=7.6,SNR=7.4
FINES FINESS Array B 57.54 330 *i* P **P** **02 16 09.1 -0.4**
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 57.54 330 P **P** **02 16 09.2 -0.3**
comp=Z,5.5nm,0.7s,baz=52,slow=7.5,SNR=15
GEYT Allbeck 59.19 293 P **P** **02 16 21.6 +0.1**
comp=Z,4.4nm,0.7s,baz=8.4,slow=5.1,SNR=11
DSRI Dabo 60.92 226 P **P** **02 16 31.4 -2.0**
HNR Honiara 61.64 162 LR LR 02 39 21.5
comp=Z,46nm,19.9s,baz=344,slow=32
NOA NORSAR Array B 62.17 336 P **P** **02 16 41.4 0.0**
comp=Z,0.7nm,0.8s,baz=32,slow=6.9,SNR=3.2
NOA LR LR 02 46 10.6
comp=Z,41nm,20.8s,baz=270,slow=38
KIV Kislovodsk 63.42 308 *e*P **P** **02 16 50.5 +0.4**
KIV pmax pmax
comp=Z,39nm,1.1s
KIV MLR MLR
comp=Z,232nm,17.0s
KBZ Khabaz 63.48 307 P **P** **02 16 50.6 +0.3**
comp=Z,2.0nm,0.8s,baz=45,slow=8.5,SNR=4.1
KBZ LR LR 02 47 55.2
comp=Z,66nm,18.1s,baz=92,slow=39
AKASG Malin Array Be 64.56 320*c e*P **P** **02 16 57.5 +0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 64.56 320 P **P** **02 16 56.1 -1.1**
comp=Z,1.4nm,0.7s,baz=38,slow=6.7,SNR=6.4
NVAR Mina Array Bea 65.87 58 P **P** **02 17 07.8 +1.5**
comp=Z,1.5nm,0.7s,baz=305,slow=6.8,SNR=9.9
PDAR Pinedale Array 67.17 50 P **P** **02 17 16.6 +2.0**
comp=Z,1.8nm,0.9s,baz=48,slow=2.2,SNR=6.5
PALK Pallekele 67.46 253 *i* P **P** **02 17 14.6 -1.9**
KOLS Kolonicke sedl 68.70 323 *e*P **P** **02 17 25.3 +1.5**
KOLS Kolonicke sedl 68.70 323 *e*P **P** **02 17 25.3 +1.5**
LANS Liptovska Anna 69.58 325 *e*P **P** **02 17 30.4 +1.1**
LANS pmax pmax
comp=Z,3.0nm,0.8s
LANS Liptovska Anna 69.58 325 *e*P **P** **02 17 30.4 +1.1**
CHVC Chvalec 69.59 327 *e*P **P** **02 17 29.4 +0.1**
DPC Dobruska-Polom 69.70 327 *e*P **P** **02 17 30.0 0.0**
DPC Dobruska-Polom 69.70 327 *e*P **P** **02 17 30.0 0.0**
MORC Moravsky Berou 69.75 326 P **P** **02 17 30.4 +0.1**
MORC pmax pmax
comp=Z,6.0nm,0.9s
MORC Moravsky Berou 69.75 326 *e*P **P** **02 17 30.1 -0.3**
MORC Moravsky Berou 69.75 326 P **P** **02 17 30.4 +0.1**
KRLC Kraliky 69.77 327 *e*P **P** **02 17 30.7 +0.2**
KRLC Kraliky 69.77 327 *e*P **P** **02 17 30.7 +0.2**
CLL Collm 69.99 330 P **P** **02 17 31.1 -0.6**
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 69.99 330 *i* P **P** **02 17 31.1 -0.6**
comp=Z,8.0nm,0.9s
CLL *e*pP **sP** **02 17 36.0 -2.2**
CLL LmV 02 51 00.0
comp=Z,100nm,21.3s
CLL Collm 69.99 330 P **P** **02 17 31.1 -0.6**
PHWY Pilot Hill 70.25 48 P **P** **02 17 32.5 -1.4**
VYHS Vyhne 70.36 325 *e*P **P** **02 17 34.1 0.0**
VYHS pmax pmax
comp=Z,30nm,2.3s
VYHS Vyhne 70.36 325 *e*P **P** **02 17 34.1 0.0**
FITZ Fitzroy Crossi 70.42 198 P **P** **02 17 34.6 0.0**
comp=Z,2.4nm,0.8s,baz=72,slow=6.4,SNR=3.8
PFO Pinyon Flats O 70.42 61⇑*e*P **P** **02 17 33.0 -1.9**
PFO pmax pmax
comp=Z,10.0nm,1.5s
JAVC Velka Javorina 70.48 325 *e*P **P** **02 17 35.3 +0.5**
VRAC Vranov 70.48 326 *e*P **P** **02 17 35.4 +0.6**
PRU Pruhonice 70.61 328 *e*P **P** **02 17 35.7 +0.2**
PRU Pruhonice 70.61 328 *e*P **P** **02 17 35.7 +0.2**
KRUC Moravsky 70.76 326 *e*P **P** **02 17 36.3 -0.2**
SMOL Smolenice 70.85 325 *e*P **P** **02 17 37.9 +0.8**
SMOL Smolenice 70.85 325 *e*P **P** **02 17 37.9 +0.8**
BRTR Keskin Array B 71.06 310*c e*P **P** **02 17 39.5 +0.8**
BRTR pmax pmax
comp=Z,1.0nm,1.0s
BRTR Keskin Array B 71.06 310 P **P** **02 17 39.1 +0.5**
comp=Z,0.9nm,0.7s,baz=54,slow=7.4,SNR=3.8
KHC Kasperske Hory 71.67 328⇓*i*P **P** **02 17 42.3 +0.3**
KHC pmax pmax
comp=Z,21nm,1.3s
KHC Kasperske Hory 71.67 328 *e*P **P** **02 17 41.5 -0.5**
KHC *e*pP **sP** **02 17 46.6 -1.9**
KHC Kasperske Hory 71.67 328 P **P** **02 17 41.6 -0.4**
GERES GERESS Array B 71.87 328 P **P** **02 17 43.0 -0.3**
comp=Z,1.1nm,0.8s,baz=45,slow=5.8,SNR=8.8
CONA Conrad Observa 71.91 326 *e*pP **P** **02 17 44.0 +0.5**
comp=Z,8.6nm,1.8s
GRA1 Grafenberg Arr 71.96 330 P **P** **02 17 43.3 -0.4**
GRF Grafenberg Arr 71.96 330 P **P** **02 17 43.3 -0.4**
GRF pmax pmax
comp=Z,7.0nm,0.8s
SOKA Soboth 73.27 326 *e*pP **P** **02 17 51.4 -0.3**
comp=Z,4.4nm,1.6s
KBA Koelnbreinsper 73.52 327 *e*pP **P** **02 17 53.7 +0.5**
comp=Z,8.2nm,0.7s
MYKA Terra Mystica 73.80 327 *e*pP **P** **02 17 54.4 -0.4**
comp=Z,2.9nm,0.8s
WATA Walderalm 73.89 328 *e*pP **P** **02 17 55.5 +0.1**
comp=Z,3.6nm,0.7s
WTTA Wattenberg 73.94 328 *i* pP **P** **02 17 56.2 +0.5**
comp=Z,6.8nm,0.8s
RETA Reutte 74.03 329 *e*pP **P** **02 17 56.8 +0.7**
comp=Z,4.6nm,1.7s
MOTA Moosalm 74.04 329 *e*pP **P** **02 17 56.9 +0.6**
comp=Z,7.4nm,1.0s,SNR=4.8
ABTA Abfaltersbach 74.09 327 *e*pP **P** **02 17 56.7 +0.2**
comp=Z,2.6nm,0.8s
SQTA Sankt Quirin 74.12 328 *e*pP **P** **02 17 56.8 +0.1**
comp=Z,5.0nm,0.8s
FETA Feichten 74.45 329 *e*pP **P** **02 17 58.8 +0.1**
comp=Z,5.4nm,1.2s,SNR=4.6
DAVA Damuels 74.49 329 *i* pP **P** **02 17 59.5 +0.6**
comp=Z,3.3nm,0.8s
ASAR Alice Springs 74.65 189 P **P** **02 18 00.2 +0.5**
comp=Z,2.4nm,0.7s,baz=7.0,slow=5.6,SNR=20
NRCA Norcia 77.28 325 P **P** **02 18 14.6 -0.2**
TXAR Lajitas Array 80.61 55 P **P** **02 18 34.8 +1.5**
comp=Z,0.7nm,0.7s,baz=325,slow=9.3,SNR=3.0
KEST Kesra 84.91 324 P **P** **02 18 55.4 -0.1**
comp=Z,3.4nm,0.9s,baz=114,slow=0.5,SNR=5.0
KEST LR LR 03 00 54.6
comp=Z,47nm,20.2s,baz=266,slow=39
KEST Kesra 84.91 324 P **P** **02 18 54.6 -0.9**
ESDC Sonseca Array 85.53 336 P **P** **02 18 58.5 0.0**
comp=Z,2.3nm,0.8s,baz=26,slow=4.2,SNR=11
CPUP Villa Florida 150.76 41 PKPbc **PKPbc** **02 26 11.9 -0.8**
comp=Z,1.1nm,0.6s,baz=16,slow=7.4,SNR=3.9

IDC ***10*** *02:09:19.5±0.7,3.92N×96.00E,h0km,mb4.2/16, mb1 4.3/16,mb1mx4.1/40,mbtmp4.2/16,MS3.2/4, Ms1 3.2/4,ms1mx2.8/29,Error ellipse: s-maj=26.5km s-min=15.3km az=48.0*
NEIC ***10*** *02:09:25.8±1.3,3.76N±0.06×95.94E±0.09,h58km±4km, mb4.5/25*
DJA ***10*** *02:09:25.4±0.9,4.°N±3°,9°6E±°,h17km±6km,M4.5/7, mb4.7/1,mB4.7/1,MLv4.4/7,Mw(mB)4.0/1*
ISCJB ***10*** *02:09:26.1±0.6,3.81N±0.03×96.05E±0.05,h74km±5km, mb4.1/16,Error ellipse: s-maj=8.5km s-min=5.2km az=158.5*

ISC 10 02:09:26.2±1.0,3.78N±0.04×95.98E±0.06,h59km±9km, n79,σ1°41/81,mb4.3/27,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.64**	**41**	P	**Pn**	**02 09 39.4**	**-0.3**
MLSI				S	**Sn**	**02 09 48.9**	**-0.6**
SNSI	**Sinabang, Aceh**	**1.41**	**166**	P	**Pn**	**02 09 50.5**	**+0.8**
SNSI				S	**Sn**	**02 10 10.1**	**+2.9**
LHMI	**Lhok Sumawe**	**1.73**	**34**	P	**Pn**	**02 09 55.4**	**+1.4**
LHMI				S	**Sn**	**02 10 17.5**	**+2.5**
LHMI	**Lhok Sumawe**	**1.73**	**34**		**Pn**	**02 09 54.3**	**+0.3**
LHMI				Sn	**Sn**	**02 10 15.7**	**+0.7**
KCSI	**Kotacane, Aceh**	**1.80**	**98**	P	**Pn**	**02 09 57.7**	**+2.7**
KCSI				S	**Sn**	**02 10 21.2**	**+4.3**
GSI	**Gunungsitoli**	**2.93**	**147**	P	**Pn**	**02 10 06.0**	**-4.4**
GSI	**Gunungsitoli**	**2.93**	**147**		**Pn**	**02 10 09.5**	**-0.9**
GSI				Sn	**Sn**	**02 10 44.8**	**+0.4**
RPSI	**Rantau Prapat**	**3.13**	**110**		**Pn**	**02 10 14.1**	**+0.9**
RPSI				Sn	**Sn**	**02 10 47.6**	**-1.7**
KULM	**Kulim**	**4.89**	**72**		**Pn**	**02 10 37.8**	**+0.6**
KULM				Sn	**Sn**	**02 11 29.1**	**-3.4**
IPM	**Ipoh**	**5.08**	**82**		**Pn**	**02 10 40.4**	**+0.5**
IPM				Sn	**Sn**	**02 11 37.1**	**-0.1**
TRTT	**Trang** 36nm,0.6s,842nm0.2nm	**5.46**	**42**	P	**Pn**	**02 10 47.1**	**+2.0**
SURT	**Suratani** 69nm,0.9s,955nm0.3nm	**5.85**	**28**	P	**Pn**	**02 10 52.5**	**+2.1**
RGRI	**Rengat**	**7.56**	**123**	P	Pn	02 11 32.0	+18
MNAI	**Manna**	**10.67**	**139**	Pn	**Pn**	**02 11 56.4**	**-0.1**
MDSI	**Maura Dua**	**11.60**	**135**	P	Pn	02 12 16.0	+6.9
PBKT	**Sadao Pong** 5.1nm,0.8s	**13.62**	**21**	P	**P**	**02 12 43.1**	**-0.6**
PBKT	**Sadao Pong**	**13.62**	**21**		**Pn**	**02 12 36.2**	**-0.5**
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=189,slow=5.4,SNR=5.4	**14.87**	**11**	Pn	**Pn**	**02 12 53.1**	**0.0**
CMAR				LR	LR	02 19 12.3	
	comp=Z,88nm,18.5s,baz=187,slow=40						
PHRA	**Phrae**	**15.20**	**16**	P	P	02 13 16.7	+15
CMMT	**Chiang Mai** 3.3nm,0.9s	**15.22**	**11**	P	**P**	**02 13 02.4**	**+0.9**
LEM	**Lembang** comp=Z,63nm,18.9s,baz=212,slow=40	**15.68**	**132**	LR	LR	02 19 58.3	
KKM	**Kota Kinabalu**	**20.28**	**83**	P	**P**	**02 13 57.6**	**+0.2**
KKM				IAmb	IAmb	02 14 01.4	
	comp=Z,22nm,0.7s						
SHL	**Shillong**	**22.02**	**350**	P	**P**	**02 14 13.5**	**-2.5**
SHL				IAmb	IAmb	02 14 19.0	
	comp=Z,6.0nm,0.4s						
ODAN	**Odare**	**24.38**	**341**	*e*P	**P**	**02 14 40.7**	**+1.4**
RAMN	**Ramite**	**24.73**	**340**	*e*P	**P**	**02 14 43.3**	**+0.8**
KAPI	**Kappang** comp=Z,30nm,20.6s,baz=120,slow=35	**25.30**	**110**	LR	LR	02 23 55.9	
JIRN	**Jiri**	**25.52**	**339**	*e*P	**P**	**02 14 50.1**	**+0.2**
PKIN	**Phulchoki** comp=Z,7.1nm,0.4s	**25.73**	**338**	*e*P	**P**	**02 14 52.7**	**+1.0**
GUN	**Gumba** comp=Z,24nm,0.7s	**25.86**	**339**	*e*P	**P**	**02 14 52.6**	**-0.3**
H08S2	**Diego Garcia H** baz=64,slow=76,SNR=278	**26.04**	**244**	T	T	02 41 38.3	

H08S3	**Diego Garcia H**	**26.04 244**	T	T	02 42 02.4		
	baz=64,slow=76,SNR=350						
H08S1	**Diego Carcia H**	**26.06 244**	T	T	02 42 01.9		
	baz=64,slow=76,SNR=260						
GKN	**Gorkha**	**26.40 337**	*eP*	**P**	**02 14 57.7**	**+0.1**	
KOLN	**Koldanda**	**26.62 335**	*eP*	**P**	**02 14 59.8**	**+0.2**	
	comp=Z,35nm,0.9s						
DANN	**Dangsing**	**27.06 336**	*eP*	**P**	**02 15 03.3**	**-0.4**	
	comp=Z,29nm,0.7s						
FITZ	**Fitzroy Crossi**	**36.43 128**	P	**P**	**02 16 25.2**	**-0.5**	
	comp=Z,2.6nm,0.7s,baz=332,slow=2.6,SNR=5.2						
FITZ	**Fitzroy Crossi**	**36.43 128**	P	**P**	**02 16 24.8**	**-0.9**	
NIL	**Nilore**	**36.50 327**	P	**P**	**02 16 25.0**	**-1.1**	
NIL			IAmb	IAmb	02 16 39.6		
	comp=Z,10nm,0.8s						
WMQ	**Urumqi**	**40.54 351**	P	**P**	**02 16 59.5**	**-0.4**	
TARG	**Taragay, Kyrgy**	**41.14 339**	P	**P**	**02 17 04.5**	**-0.8**	
KDJ	**Kajisay**	**41.72 339**	P	**P**	**02 17 09.3**	**-0.4**	
KDJ			IAmb	IAmb	02 17 13.0		
	comp=Z,7.8nm,1.1s						
GAR	**Garm**	**42.11 330**	P	**P**	**02 17 12.9**	**0.0**	
GAR			IAmb	IAmb	02 17 26.9		
	comp=Z,18nm,1.2s						
CHGR	**Chuyangaron**	**42.44 328**	P	**P**	**02 17 15.2**	**-0.3**	
ARSB	**Arslanbob**	**42.70 334**	P	**P**	**02 17 17.3**	**-0.4**	
ARSB			IAmb	IAmb	02 17 33.1		
	comp=Z,8.1nm,1.1s						
WRA	**Warramunga Arr**	**44.44 124**	P	**P**	**02 17 33.4**	**+1.5**	
	comp=Z,1.8nm,0.5s,baz=302,slow=9.3,SNR=15						
WB2	**Warramunga Arr**	**44.45 124**	P	**P**	**02 17 32.4**	**+0.4**	
WB2			IAmb	IAmb	02 17 45.9		
	comp=Z,3.0nm,0.6s						
MK31	**Makanchi Array**	**44.46 347**	P	**P**	**02 17 31.1**	**-0.5**	
MKAR	**Makanchi Array**	**44.46 347**	P	**P**	**02 17 30.9**	**-0.7**	
	comp=Z,2.7nm,0.5s,baz=159,slow=8.6,SNR=41						
KSRS	**Korea Array**	**44.47 37**	P	**P**	**02 17 30.5**	**-1.3**	
	comp=Z,1.0nm,0.4s,baz=230,slow=9.5,SNR=3.2						
KSRS			LR	LR	02 38 58.2		
	comp=Z,40nm,18.2s,baz=256,slow=40						
MAKZ	**Makanchi**	**44.55 346**	P	**P**	**02 17 31.5**	**-0.8**	
MAKZ			IAmb	IAmb	02 17 35.9		
	comp=Z,6.3nm,1.1s						
SONM	**Songino Array**	**44.79 10**	P	**P**	**02 17 34.2**	**-0.1**	
	comp=Z,6.0nm,0.6s,baz=190,slow=9.3,SNR=45						
SONM			PcP	**PcP**	**02 19 16.9**	**+1.4**	
	comp=Z,1.4nm,0.6s,baz=193,slow=3.9,SNR=7.0						
ULN	**Ulaanbaatar**	**44.94 11**	P	**P**	**02 17 34.5**	**-1.0**	
ULN			IAmb	IAmb	02 17 35.9		
	comp=Z,4.5nm,0.6s						
KK31	**Karatay Array**	**45.22 334**	P	**P**	**02 17 36.4**	**-1.3**	
KKAR	**Karatay Array**	**45.22 334**	P	**P**	**02 17 36.5**	**-1.1**	
ASAR	**Alice Springs**	**45.92 128**	P	**P**	**02 17 45.3**	**+1.7**	
	comp=Z,1.0nm,0.4s,baz=300,slow=7.7,SNR=18						
FORT	**Forrest**	**46.02 141**	P	**P**	**02 17 43.2**	**-1.0**	
GEYT	**Alibeck**	**48.47 320**	P	**P**	**02 18 04.5**	**+1.4**	
	comp=Z,1.2nm,0.4s,baz=152,slow=9.7,SNR=4.8						
KURK	**Kurchatov**	**49.00 345**	P	**P**	**02 18 06.5**	**-0.4**	
KURK			IAmb	IAmb	02 18 07.4		
	comp=Z,1.8nm,0.6s						
GUMO	**Guam**	**49.21 75**	P	**P**	**02 18 08.9**	**-0.2**	
ZAA0	**Zalesovo Array**	**50.84 352**	P	**P**	**02 18 20.5**	**-0.3**	
ZALV	**Zalesovo Beam**	**50.84 352**	P	**P**	**02 18 20.4**	**-0.4**	
	comp=Z,7.6nm,0.5s,baz=181,slow=7.3,SNR=33						
USRK	**Ussuriysk Ar.**	**51.23 33**	P	**P**	**02 18 25.8**	**+1.8**	
	comp=Z,0.5nm,0.3s,baz=217,slow=8.0,SNR=5.5						
RAYN	**Ar Rayn**	**52.49 297**	P	**P**	**02 18 33.4**	**-0.5**	
ABKAR	**Akbulak array**	**54.68 332**	P	**P**	**02 18 49.2**	**-0.1**	
ABKAR			IAmb	IAmb	02 18 50.5		
	comp=Z,4.1nm,0.9s						
BRTR	**Keskin Array B**	**66.49 312**	P	**P**	**02 20 09.2**	**-1.0**	
	comp=Z,1.6nm,0.8s,baz=135,slow=6.8,SNR=6.6						
TIXI	**Tiksi**	**70.88 10**	P	**P**	**02 20 34.7**	**-1.9**	
TIXI			IAmb	IAmb	02 20 36.9		
	comp=Z,6.4nm,0.8s						
FINES	**FINESS Array B**	**77.16 332**	P	**P**	**02 21 13.2**	**-0.3**	
	comp=Z,1.9nm,0.8s,baz=106,slow=6.8,SNR=6.3						
ARCES	**ARCESS Array B**	**79.71 340**	P	**P**	**02 21 28.0**	**+0.6**	
	comp=Z,1.2nm,0.4s,baz=99,slow=6.8,SNR=17						
GERES	**GERESS Array B**	**82.08 319**	P	**P**	**02 21 41.2**	**+0.5**	
	comp=Z,0.5nm,0.6s,baz=116,slow=6.7,SNR=7.3						
KEST	**Kesra**	**85.08 305**	P	**P**	**02 21 58.9**	**+2.6**	
	comp=Z,3.6nm,0.7s,baz=107,slow=3.9,SNR=7.8						
KEST	**Kesra**	**85.08 305**	P	**P**	**02 21 55.6**	**-0.7**	
KEST			IAmb	IAmb	02 21 59.5		
	comp=Z,4.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**93.32 283**	P	**P**	**02 22 37.6**	**+2.0**	
	comp=Z,0.2nm,0.5s,baz=93,slow=6.8,SNR=3.7						
NIUE	**Niue**	**95.08 109**	P	**P**	**02 22 41.5**	**-2.0**	
ESDC	**Sonseca Array**	**95.24 310**	P	**P**	**02 22 45.8**	**+1.8**	
	comp=Z,0.3nm,0.7s,baz=65,slow=4.8,SNR=4.1						
ULM	**Lac du Bonnet**	**125.22 9**	PKP	**PKiKP**	**02 28 21.4**	**+0.6**	
	comp=Z,1.8nm,0.5s,baz=63,slow=6.8,SNR=3.7						
ULM	**Lac du Bonnet**	**125.22 9**		**PKPdf**	**02 28 20.1**	**-0.3**	
NVAR	**Mina Array Bea**	**127.37 34**	PKP	**PKiKP**	**02 28 26.5**	**+0.8**	
	comp=Z,0.5nm,0.6s,baz=298,slow=3.2,SNR=4.2						
TXAR	**Lajitas Array**	**142.06 29**	PKhKP	**PKPdf**	**02 28 51.1**	**-1.5**	
	comp=Z,0.4nm,0.7s,baz=118,slow=0.8,SNR=3.8						
CPUP	**Villa Florida**	**146.00 226**	PKPbc	**PKPab**	**02 29 02.0**	**+1.2**	
	comp=Z,1.7nm,0.8s,baz=351,slow=15,SNR=3.8						

*ISCJB **10** 02:22:24.5±0.9, 19.°9S±0.°2×177.°0W±0.°1, h500km, mb4.1/3, Error ellipse: s-maj=20.8km s-min=14.0km az=5.0*
*NEIC **10** 02:22:25.3±0.9, 19.°9S±0.°2×177.°0W±0.°2, h492km±16km, mb4.0/15*
*IDC **10** 02:22:34.9±3.6, 20.°12S×177.°26W, h588km±74km, mb3.5/3, mb1 3.6/4, mb1mx3.1/25, mbtmp4.5/4, Error ellipse: s-maj=109.0km s-min=93.9km az=152.0*

ISC 10 02:22:25.8±1.2, 19.°9S±0.°2×177.°0W±0.°1, h500km, n20, σ1ᵗ79/21, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
NIUE	**Niue**	**6.73**	**84**	P		**P**	**02 24 08.7**			**-0.7**
DZM	**Mont Dzumac**	**15.61**	**259**	P		**P**	**02 25 47.1**			**+4.6**
	0.4nm,0.3s,baz=64,slow=19,SNR=1.8									
DZM	**Mont Dzumac**	**15.61**	**259**	P		**P**	**02 25 42.4**			**-0.2**
OUZ	**Omahuta**	**17.34**	**207**	P		**P**	**02 26 00.2**			**+0.3**
OUZ				IAmb		IAmb	02 26 00.2			
	comp=Z,3.6nm,0.9s									
BKZ	**Black Stump Fm**	**19.96**	**195**	P		**P**	**02 26 23.3**			**-0.8**
BKZ				IAmb		IAmb	02 26 35.3			
	comp=Z,5.3nm,0.9s									
THZ	**Tophouse**	**23.38**	**199**	P		**P**	**02 26 55.2**			**+0.4**
THZ				IAmb		IAmb	02 27 02.5			
	comp=Z,6.5nm,1.1s									
EIDS	**Eidsvold**	**29.90**	**254**	P		**P**	**02 27 53.2**			**+0.8**
ARMA	**Armidale**	**30.16**	**244**	P		**P**	**02 27 55.2**			**+0.5**
ARMA				IAmb		IAmb	02 27 55.7			
	comp=Z,5.3nm,1.0s									
STKA	**Stephens Creek**	**38.88**	**244**	P		**P**	**02 29 08.4**			**+0.7**
	comp=Z,2.6nm,0.5s,baz=84,slow=9.9,SNR=10									
STKA	**Stephens Creek**	**38.88**	**244**	P		**P**	**02 29 07.9**			**+0.1**
BBOO	**Buckleboo**	**43.64**	**243**	P		**P**	**02 29 45.9**			**+0.3**
BBOO				IAmb		IAmb	02 30 00.9			
	comp=Z,2.3nm,0.7s									
AS31	**Alice Springs**	**45.56**	**256**	P		**P**	**02 30 00.8**			**+0.2**
AS31				IAmb		IAmb	02 30 02.1			
	comp=Z,3.1nm,0.6s									
ASAR	**Alice Springs**	**45.56**	**256**	P		**P**	**02 30 01.5**			**+0.8**
	comp=Z,9.9nm,0.5s,baz=97,slow=7.5,SNR=68									
ASAR				S		**S**	**02 36 00.6**			**-5.5**
	comp=Z,0.7nm,0.9s,baz=96,slow=13,SNR=5.1									
WB2	**Warramunga Arr**	**45.60**	**261**	P		**P**	**02 30 01.3**			**+0.3**
WB2				IAmb		IAmb	02 30 02.2			
	comp=Z,5.8nm,0.9s									
WRA	**Warramunga Arr**	**45.61**	**261**	P		**P**	**02 30 01.7**			**+0.7**
	comp=Z,3.4nm,0.6s,baz=97,slow=7.6,SNR=60									
MTN	**Manton Dam**	**50.10**	**270**	P		**P**	**02 30 34.4**			**-0.4**
MTN				IAmb		IAmb	02 30 53.0			
	comp=Z,6.7nm,1.0s									
FORT	**Forrest**	**50.38**	**246**	P		**P**	**02 30 36.0**			**-0.5**
FITZ	**Fitzroy Crossi**	**54.03**	**262**	P		**P**	**02 31 04.4**			**+1.3**
SBA	**Scott Base**	**58.49**	**184**	P		**P**	**02 31 33.0**			**+0.1**
PSA00	**Pilbara Seismi**	**58.71**	**256**	P		**P**	**02 31 35.6**			**+0.3**
PSA00				IAmb		IAmb	02 31 37.1			
	comp=Z,5.2nm,0.8s									

IDC 10 03:12:01.7±2.3, 20.°54S×175.°53W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/29, mbtmp4.1/4, Error ellipse: s-maj=59.8km s-min=45.2km az=25.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
CTA	**Charters Tower**	**35.79**	**264**	P		P	03 19 04.1			+1.1
	1.1nm,0.3s,baz=98,slow=14,SNR=2.0									
ASAR	**Alice Springs**	**46.76**	**256**	P		P	03 20 33.2			0.0
	2.0nm,0.5s,baz=96,slow=7.6,SNR=26									
WRA	**Warramunga Arr**	**46.88**	**262**	P		P	03 20 33.1			-1.0
	0.8nm,0.3s,baz=97,slow=7.7,SNR=26									
VNDA	**Vanda**	**58.09**	**186**	P		P	03 21 56.2			-0.2
	0.6nm,0.7s,baz=45,slow=11,SNR=1.5									
AKASG	**Malin Array Be**	**144.13**	**333**	PKP		PKPbc	03 31 37.7			+0.3
	0.2nm,0.4s,baz=36,slow=3.2,SNR=4.0									
BRTR	**Keskin Array B**	**148.55**	**314**	PKPbc		PKPbc	03 31 51.1			+0.1
	0.7nm,0.8s,baz=123,slow=2.0,SNR=1.8									

IDC 10 03:12:38.9±3.2, 13.°73S×167.°55E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/30, mbtmp4.0/4, Error ellipse: s-maj=91.1km s-min=34.9km az=121.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
STKA	**Stephens Creek**	**29.85**	**228**	P		P	03 18 48.9			+0.8
	1.4nm,0.4s,baz=62,slow=7.7,SNR=4.5									
WRA	**Warramunga Arr**	**32.34**	**254**	P		P	03 19 10.1			-0.1
	0.4nm,0.4s,baz=86,slow=10,SNR=9.0									
ASAR	**Alice Springs**	**33.29**	**248**	P		P	03 19 17.8			-0.7
	0.7nm,0.5s,baz=77,slow=9.6,SNR=10									
MJAR	**Matsushiro Arr**	**57.15**	**332**	P		P	03 22 27.7			+0.1
	3.4nm,0.9s,baz=125,slow=11,SNR=3.2									
ARCES	**ARCESS Array B**	**119.36**	**346**	PKP		PKPdf	03 31 29.0			-0.7
	5.3nm,1.1s,baz=90,slow=1.8,SNR=1.7									

*IDC **10** 03:42:29.5±1.0, 38.°49N×55.°44E, h0km, mb3.4/7, mb1 3.7/13, mb1mx3.6/40, mbtmp3.6/13, ML3.5/5, MS3.4/1, Ms1 3.4/1, ms1mx2.2/39, Error ellipse: s-maj=17.5km s-min=8.6km az=5.0*
*ISCJB **10** 03:42:30.5±0.3, 38.°64N±0.°03×55.°48E±0.°03, h10km, mb3.5/7, Error ellipse: s-maj=4.6km s-min=2.4km az=27.0*
*TEH **10** 03:42:31.3, 38.°56N×55.°53E, h10km, ML3.6*
*AZER **10** 03:42:37.0±0.6, 38.°41N×55.°10E, h10km, ml3.8/8, Error ellipse: s-maj=9.7km s-min=3.8km az=27.0*
*NNC **10** 03:42:39.2±7.1, 38.°88N×56.°04E, h31km±58km, mb4.0, Error ellipse: s-maj=53.6km s-min=28.8km az=67.0*

ISC 10 03:42:31.1±0.5, 38.°65N±0.°04×55.°59E±0.°04, h10km, n67, σ1ᵗ78/92, mb3.6/7, 5C-3D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
IMND	**Minoodasht**	**1.39**	**186**	*eP*g		**Pg**	**03 42 57.0**			**-0.8**
IMND				*eS*g		**Sg**	**03 43 15.8**			**-0.1**
IMND				IAMB		IAmb	03 43 17.6			
	comp=Z,0.0nm,0.6s									
GYB5	**ALIBECK ARRAY**	**2.11**	**109**	Pn		**Pb**	**03 43 08.6**			**-0.8**
GEYT	**Alibeck**	**2.11**	**109**	Pg		**Pn**	**03 43 08.2**			**+1.7**
	comp=Z,12nm,0.3s,baz=287,slow=15,SNR=24									
GEYT				Lg		Lg	03 43 39.8			
	comp=Z,8.3nm,0.3s,baz=275,slow=16,SNR=2.8									
GYA0B	**ALIBECK ARRAY**	**2.11**	**109**	⇓Lg		Lg	03 43 40.0			
IEMG	**Emamgholi**	**2.71**	**116**	*eP*n		**Pn**	**03 43 17.6**			**+2.6**
IEMG				IAMB		IAmb	03 43 27.3			
	comp=Z,4μm,0.6s									
SBZV	**Sabzevar**	**2.77**	**144**	*eP*n		**Pn**	**03 43 17.3**			**+1.6**
IKRD	**Kardeh**	**2.98**	**128**	*eP*n		**Pg**	**03 43 29.9**			**+1.8**
IKRD				IAMB		IAmb	03 43 43.2			
	comp=Z,659nm,0.3s									
ISHM	**Shahmirzad**	**3.38**	**214**	*eP*n		**Pn**	**03 43 25.2**			**+1.1**
ISHM				IAMB		IAmb	03 44 10.4			
	comp=Z,2μm,0.4s									
IANJ	**Anjilo**	**3.44**	**203**	*eP*n		**Pn**	**03 43 26.5**			**+1.5**
IPAY	**Payeh**	**3.48**	**128**	*eP*n		**Pn**	**03 43 27.0**			**+1.5**
IPAY				IAMB		IAmb	03 43 44.4			
	comp=Z,833nm,0.3s									
IPRN	**Peran**	**3.53**	**228**	*eP*n		**Pn**	**03 43 27.8**			**+1.7**
IMYA	**Miami**	**4.26**	**121**	*eP*n		**Pn**	**03 43 37.8**			**+1.6**
IMYA				IAMB		IAmb	03 43 38.5			
	comp=Z,792nm,0.3s									
JRKH	**Jarkhoshk**	**4.67**	**124**	*eP*n		**Pn**	**03 43 42.5**			**+0.7**
TNSJ	**Nastanj**	**4.74**	**170**	*eP*n		**Pn**	**03 43 44.9**			**+2.1**
GOBA	**Gobu**	**4.86**	**293**	P		**Pn**	**03 43 46.8**			**+2.6**
GOBA				S		**Sn**	**03 44 41.5**			**+1.0**
TKDS	**Koohdasht(Taba**	**5.17**	**166**	*eP*n		**Pn**	**03 43 50.3**			**+1.6**
ALIB	**Äli-Bayra**	**5.28**	**286**	P		**Pn**	**03 43 51.8**			**+1.9**
ALIB				S		**Sn**	**03 44 50.5**			**-0.2**
ASTR	**Astara**	**5.33**	**271**	P		**Pn**	**03 43 50.8**			**+0.1**
	SNR=6.0									
ASTR				S		**Sn**	**03 44 50.3**			**-1.8**
GBS	**Qobustan**	**5.47**	**292**	P		**Pn**	**03 43 54.9**			**+2.2**
GBS				S		**Sn**	**03 44 56.3**			**+0.5**
ATGJ	**Altiaghaj**	**5.58**	**295**	P		**Pn**	**03 43 56.1**			**+1.8**
ATGJ				S		**Sn**	**03 44 59.5**			**+1.0**
GLBA	**Clilabad**	**5.64**	**278**	P		**Pn**	**03 43 56.0**			**+1.0**
	SNR=3.3									
GLBA				S		**Sn**	**03 44 58.1**			**-1.7**
ANAR	**Anarak**	**5.65**	**196**	*eP*n		**Pn**	**03 43 55.5**			**+0.3**
LRK	**Lerik**	**5.68**	**272**	P		**Pn**	**03 43 55.7**			**0.0**
	SNR=11									
LRK				S		**Sn**	**03 44 58.6**			**-2.4**
SIZA	**Siyzn**	**5.69**	**297**	P		**Pn**	**03 43 58.1**			**+2.3**
SIZA				S		**Sn**	**03 45 02.8**			**+1.6**
SAAT	**Saatly**	**5.70**	**285**	S		**Sn**	**03 45 02.0**			**+0.9**
YRD	**Yardimli**	**5.75**	**275**	P		**Pn**	**03 43 56.7**			**0.0**
	SNR=6.7									
YRD				S		**Sn**	**03 45 00.5**			**-2.4**
PQL	**Pirkuli**	**5.81**	**294**	P		**Pn**	**03 43 59.7**			**+2.3**
PQL				S		**Sn**	**03 45 05.1**			**+1.0**
AFRZ	**Afriz**	**5.90**	**151**	*eP*n		**Pn**	**03 44 00.0**			**+1.3**
QUBA	**Quba, Azerbaij**	**6.09**	**299**	S		**Sn**	**03 45 13.0**			**+2.2**
IML	**Ismayilli**	**6.10**	**293**	P		**Pn**	**03 44 03.6**			**+2.2**
IML				S		**Sn**	**03 45 12.4**			**+1.1**
XNQ	**Khinaliq**	**6.26**	**296**	S		**Sn**	**03 45 16.6**			**+1.2**
QSAR	**Qusar**	**6.31**	**299**	S		**Sn**	**03 45 17.7**			**+1.4**
IZEF	**Zefreh**	**6.32**	**206**	IAMB		IAmb	03 45 39.4			
	comp=Z,52nm,0.5s									
BLQ	**Beylaqan**	**6.33**	**282**	P		**Pn**	**03 44 05.7**			**+1.2**
ZRD	**Zardab**	**6.33**	**287**	P		**Pn**	**03 44 06.2**			**+1.8**
ZRD				S		**Sn**	**03 45 16.8**			**0.0**
QBL	**Gabala**	**6.40**	**293**	P		**Pn**	**03 44 07.9**			**+2.5**
QBL				S		**Sn**	**03 45 19.2**			**+0.6**
QRD	**Qoradiz**	**6.49**	**280**	P		**Pn**	**03 44 08.2**			**+1.5**
QRD				S		**Sn**	**03 45 18.9**			**-1.8**
IHSH	**Hashtrud**	**6.54**	**270**	*eP*n		**Pn**	**03 44 11.8**			**+4.1**
IHSH				IAMB		IAmb	03 44 14.0			
	comp=Z,224nm,0.3s									
BRDA	**Brd**	**6.71**	**287**	P		**Pn**	**03 44 10.7**			**+1.1**
BRDA				S		**Sn**	**03 45 25.8**			**-0.3**
IHRS	**Heris**	**6.72**	**270**	*eP*n		**Pn**	**03 44 11.2**			**+1.2**
AGDM	**Agdam**	**6.73**	**285**	S		**Sn**	**03 45 26.3**			**-0.4**
MNGR	**Mingechevir, A**	**6.89**	**291**	S		**Sn**	**03 45 31.7**			**+1.0**
SEKA	**Sheki**	**6.94**	**294**	S		**Sn**	**03 45 32.2**			**+0.3**
GANJ	**Ganja**	**7.43**	**289**	P		**Pn**	**03 44 20.5**			**+1.0**
GANJ				S		**Sn**	**03 45 43.1**			**-0.7**
ZKTA	**Zakatala**	**7.49**	**296**	P		**Pn**	**03 44 23.1**			**+2.7**
ZKTA				S		**Sn**	**03 45 47.3**			**+1.8**
ORD	**Ordubad**	**7.50**	**275**	P		**Pn**	**03 44 21.5**			**+0.9**
	SNR=3.4									
ORD				S		**Sn**	**03 45 44.7**			**-1.1**
SBZ	**Shahbuz**	**7.85**	**279**	P		**Pn**	**03 44 27.4**			**+2.0**
	SNR=4.5									
SBZ				S		**Sn**	**03 45 53.6**			**-0.9**
NAX	**Nakhchivan**	**7.89**	**277**	P		**Pn**	**03 44 27.6**			**+1.6**
NAX				S		**Sn**	**03 45 55.4**			**+0.1**
QZX	**Qazax, Azerbai**	**8.22**	**290**	P		**Pn**	**03 44 31.1**			**+0.7**
QZX				S		**Sn**	**03 46 04.5**			**+1.0**
GNI	**Garni**	**8.54**	**284**	Pn		**Pn**	**03 44 36.4**			**+1.5**
	comp=Z,0.5nm,0.3s,baz=182,slow=22,SNR=3.6									
GNI				Sn		**Sn**	**03 46 11.3**			**0.0**
	comp=Z,0.3nm,0.3s,baz=207,slow=18,SNR=2.0									
KBZ	**Khabaz**	**10.83**	**302**	Pn		**Pn**	**03 45 05.3**			**-0.7**
	comp=Z,0.3nm,0.3s,baz=192,slow=14,SNR=5.0									
KBZ				Sn		**Sn**	**03 47 04.5**			**-2.7**
	comp=Z,0.2nm,0.3s,baz=26,slow=18,SNR=3.4									
AB31	**Akbulak array**	**11.06**	**15**	⇑Pn		**Pn**	**03 45 11.1**			**+1.9**
	comp=Z,1.5nm,0.5s,baz=199,slow=14,SNR=12									
AB31				⇑Sn		**Sn**	**03 47 08.8**			**-4.1**
	comp=Z,2.8nm,0.7s,baz=340,slow=34,SNR=7.2									
AKTO	**Aktyubinsk**	**11.91**	**8**	Pn		**Pn**	**03 45 21.9**			**+1.0**
	comp=Z,0.4nm,0.3s,baz=177,slow=17,SNR=5.1									
AKTO				Sn		**Sn**	**03 47 29.8**			**-4.0**
	comp=Z,0.2nm,0.3s,baz=36,slow=19,SNR=3.6									
AKTO	**Aktyubinsk**	**11.91**	**8**	⇑Pn		**Pn**	**03 45 23.5**			**+2.5**
	comp=Z,2.5nm,0.6s									
AKTO				⇑Sn		**Sn**	**03 47 31.2**			**-2.6**
	comp=Z,4.1nm,0.8s									
KK31	**Karatay Array**	**12.14**	**64**	⇑Pn		**Pn**	**03 45 23.9**			**-0.2**
	comp=Z,2.4nm,0.8s,baz=263,slow=10,SNR=5.8									
KK31				⇓Sn		**Sn**	**03 47 34.5**			**-4.9**
	comp=Z,1.2nm,0.6s,baz=287,slow=19,SNR=9.2									
AAK	**Ala-Archa**	**14.89**	**68**	Pn		**Pn**	**03 46 01.0**			**-0.8**
	comp=Z,0.4nm,0.3s,baz=195,slow=13,SNR=6.6									
ASF	**Jabal al Asfar**	**16.54**	**253**	LR		LR	03 54 59.8			
	comp=Z,133nm,20.3s,baz=255,slow=46									
BRTR	**Keskin Array B**	**17.05**	**281**	Pn		**Pn**	**03 46 28.9**			**-0.8**
	comp=Z,0.0nm,0.3s,baz=83,slow=14,SNR=3.2									
BVAR	**Borovoye Array**	**17.64**	**31**	P		**Pn**	**03 46 37.9**			**+1.1**
	comp=Z,0.3nm,0.3s,baz=211,slow=11,SNR=7.9									
KURBB	**Kurchatov Arra**	**20.15**	**46**	P		**P**	**03 47 06.1**			**+0.8**
	comp=Z,0.3nm,0.4s,baz=241,slow=10,SNR=2.9									
MK31	**Makanchi Array**	**21.16**	**59**	⇓Pn		**P**	**03 47 21.1**			**+4.7**
	comp=Z,6.5nm,1.1s,baz=255,slow=9.9,SNR=11									
MKAR	**Makanchi Array**	**21.16**	**59**	P		**P**	**03 47 17.7**			**+1.4**
	comp=Z,2.2nm,0.8s,baz=249,slow=11,SNR=11									
AKASG	**Malin Array Be**	**22.16**	**312**	P		**P**	**03 47 27.0**			**+0.1**
	comp=Z,0.5nm,0.4s,baz=112,slow=9.0,SNR=4.4									
ZALV	**Zalesovo Beam**	**25.10**	**43**	P		**P**	**03 47 56.6**			**+0.9**
	comp=Z,0.9nm,0.4s,baz=263,slow=7.1,SNR=5.5									
GERES	**GERESS Array B**	**31.57**	**303**	P		**P**	**03 48 53.0**			**-0.8**
	comp=Z,0.2nm,0.4s,baz=97,slow=8.1,SNR=1.9									
ESDC	**Sonseca Array**	**45.44**	**291**	P		**P**	**03 50 50.2**			**0.0**
	comp=Z,0.2nm,0.4s,baz=64,slow=7.7,SNR=5.2									
TORD	**Torodi Ar. Bea**	**53.84**	**257**	P		**P**	**03 51 54.2**			**-0.2**
	comp=Z,0.8nm,1.1s,baz=44,slow=7.4,SNR=2.3									

*IDC **10** 03:58:54.8±1.3, 34.°43N×26.°59E, h0km, mb3.7/4, mb1 3.7/8, mb1mx3.4/54, mbtmp3.6/8, ML3.6/4, MS3.7/1, Ms1 3.7/1, ms1mx2.2/48, Error ellipse: s-maj=25.9km s-min=24.1km az=84.0*
*ISCJB **10** 03:58:55.5±1.1, 34.°21N±0.°05×26.°65E±0.°05, h15km±9km, mb3.6/4, MS3.5/1, Error ellipse: s-maj=8.6km s-min=6.4km az=24.8*
*THE **10** 03:58:59.1, 34.°41N×26.°51E, h0km±1km, ML2.6/4, Error ellipse: s-maj=3.4km s-min=0.8km az=133.0*
*ATH **10** 03:59:00.4, 34.°55N×26.°41E, h26km±2km, ML2.6/2, Error ellipse: s-maj=5.7km s-min=1.7km az=337.0*

ISC 10 03:58:55.9±1.7, 34.°31N±0.°06×26.°57E±0.°04, h8km±10km, n47, σ1ᵗ57/57, mb3.6/4, Crete

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

0.1nm,0.3s,baz=177,slow=11,SNR=8.7
ZALV LR LR 04 11 41.6
comp=Z,241nm,18.9s,baz=195,slow=41
CMAR Chiang Mai Arr 19.70 148 P **P 04 03 50.8 0.0**
0.2nm,0.3s,baz=328,slow=12,SNR=6.9
CMAR LR LR 04 11 28.1
comp=Z,65nm,18.4s,baz=340,slow=37
BVAR Borovoye Array 21.33 330 P **P 04 04 09.8 +1.6**
1.2nm,0.6s,baz=134,slow=12,SNR=6.0
AKTO Aktyubinsk 26.23 313 P **P 04 04 59.3 +3.1**
1.6nm,0.6s,baz=97,slow=12,SNR=8.1
AKTO LR LR 04 16 35.2
comp=Z,188nm,18.5s,baz=118,slow=39
KSRS Korea Array 31.79 75 LR LR 04 21 06.9
comp=Z,31nm,18.5s,baz=280,slow=42
MJAR Matsushiro Arr 40.03 74 LR LR 04 24 01.9
comp=Z,54nm,19.1s,baz=55,slow=37
BRTR Keskin Array B 42.75 292 LR LR 04 28 04.8
comp=Z,22nm,18.2s,baz=93,slow=40
AKASG Malin Array Be 44.29 309 LR LR 04 29 46.5
comp=Z,93nm,18.1s,baz=80,slow=41
FINES FINESS Array B 46.12 324 P **P 04 07 45.6 +0.3**
1.4nm,0.8s,baz=134,slow=6.0,SNR=3.7
FINES LR LR 04 30 02.5
comp=Z,70nm,19.2s,baz=40,slow=40
ARCES ARCESS Array B 47.46 335 P **P 04 07 56.1 +0.3**
4.9nm,1.2s,baz=58,slow=3.0,SNR=4.0
PETK Petropavlovsk- 50.52 47 LR LR 04 31 08.9
comp=Z,90nm,18.1s,baz=246,slow=38
NOA NORSAR Array B 53.30 324 P **P 04 08 39.4 -0.7**
0.6nm,0.8s,baz=96,slow=7.6,SNR=2.7
NOA LR LR 04 32 33.9
comp=Z,42nm,20.1s,baz=85,slow=37
GERES GERESS Array B 54.50 309 LR LR 04 34 58.8
comp=Z,57nm,20.4s,baz=84,slow=39
WRA Warramunga Arr 70.57 134 P **P 04 10 35.8 -0.9**
0.5nm,0.6s,baz=328,slow=6.4,SNR=8.8
ILAR Eielson Array 70.96 22 P **P 04 10 38.0 -0.5**
0.2nm,0.8s,baz=318,slow=4.9,SNR=2.3
ASAR Alice Springs 73.25 137 P **P 04 10 51.7 -1.1**
0.3nm,0.5s,baz=319,slow=6.3,SNR=5.0
TORD Torodi Ar. Bea 79.62 279 P **P 04 11 29.7 +0.5**
0.3nm,0.6s,baz=38,slow=5.4,SNR=2.7
TORD LR LR 04 52 24.8
comp=Z,21nm,18.0s,baz=325,slow=40
YKA Yellowknife Ar 80.37 11 P P 04 11 30.7 -1.7
0.2nm,0.7s,baz=348,slow=5.7,SNR=3.5

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*NEIC **10** 04:27:13.3±1.6,5.°73S±0.°06×102.°00E±0.°06,h12^{km}±3^{km}, mb5.3/99*
*BJI **10** 04:27:16.0±0.0,5.°70S×102.°10E,h30^{km},mb5.1/62, mB5.1/48,Ms4.1/7/46,Ms7 4.4/36*
*MOS **10** 04:27:17.1±1.1,5.°45S×102.°28E,h33^{km},mb5.5/58, MS4.3/4, Error ellipse: s-maj=8.4km s-min=4.6km az=116.6*
*ISCJB **10** 04:27:17.4±0.5,5.°62S±0.°02×102.°22E±0.°02,h40^{km}±3^{km}, mb5.3/123,MS4.3/35, Error ellipse: s-maj=4.7km s-min=2.6km az=41.9*
*IDC **10** 04:27:19.0±1.6,5.°45S×102.°22E,h35^{km}±12^{km},mb4.8/28, mb1 4.9/31,mb1mx4.8/32,mbtmp5.0/31,ML4.9/3,MS4.1/23, Ms1 4.1/23,ms1mx4.0/32, Error ellipse: s-maj=10.9km s-min=7.6km az=53.0*
*DJA **10** 04:27:19.0±0.3,6.°S±2.°×10.°2E±.°, h40^{km}±3^{km}, M5.1/55, mb5.3/55, mB5.5/40, MLv5.7/19, Mw(mB)5.0/40, Mwp5.1/2*
*KLM **10** 04:27:19.0, 5.°64S×101.°94E,h47^{km}, mb5.5*
*GCMT **10** 04:27:21.3±0.2, 5.°62S±0.°01×102.°14E±0.°01, h46^{km}±1^{km}, MW5.1/117, Moment Tensor Solution. s75,c100; s117,c167; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.68±.16; $M_{\theta\theta}$-2.17±.15; $M_{\phi\phi}$ 1.48±.14; $M_{r\theta}$-0.70±.14; $M_{\theta\phi}$-5.05±.11; $M_{\phi r}$-3.42±.14; Best double couple: M_o6.41900×10^{16} NP1:ϕ_s192.00000°, δ86.00000°, λ34.00000°. NP2:ϕ_s99.00000°, δ57.00000°, λ176.00000°. Principal axes: T 6.1840, Plg26.0000°, Azm61.0000°; N 0.4620, Plg56.0000°, Azm197.0000°; P -6.6540, Plg20.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 04:27:18.0±0.2,**5.64S**±0.°04×**102.17E**±0.°04,**h35**km±2km, **h37**km:**pP-P,n810,**σ1**$46/845,mb5.2**/153,**MS4.3**/36, **33C-44D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.49**	**32**	P	**Pn**	**04 27 43.2**	**+0.9**
MNAI				S	**Sn**	**04 28 02.2**	**+1.6**
MNAI	**Manna**	**1.49**	**32**		**Pn**	**04 27 42.6**	**+0.2**
LWLI	**Liwa**	**1.98**	**72**	P	**Pn**	**04 27 50.9**	**+1.8**
KSI	**Kapahiang**	**2.02**	**12**	P	**Pn**	**04 27 50.2**	**+0.6**
KSI				S	**Sn**	**04 28 14.0**	**+0.3**
LHSI	**Lahat**	**2.25**	**37**	P	**Pn**	**04 27 53.9**	**+1.2**
LHSI				S	**Sn**	**04 28 20.4**	**+1.1**
MDSI	**Maura Dua**	**2.31**	**60**	P	**Pn**	**04 27 54.9**	**+1.4**
MDSI				S	**Sn**	**04 28 22.4**	**+1.7**
KASI	**Kota Agung**	**2.32**	**87**	P	**Pn**	**04 27 54.9**	**+1.2**
KASI				S	**Sn**	**04 28 20.9**	**-0.1**
KLSI		**2.72**	**70**	P	**Pn**	**04 28 00.9**	**+1.7**
KLSI				S	**Sn**	**04 28 32.1**	**+1.2**
BLSI	**Bandar Lampung**	**3.08**	**85**	P	**Pn**	**04 28 05.7**	**+1.6**
BLSI				S	**Sn**	**04 28 39.9**	**+0.2**
PPSI	**Pulau Pagai**	**3.58**	**323**	P	**Pn**	**04 28 11.9**	**+0.9**
PPSI				S	**Sn**	**04 28 52.4**	**+0.4**
KRJI	**Kerinci**	**3.59**	**349**	P	**Pn**	**04 28 12.9**	**+1.6**
KRJI				S	**Sn**	**04 28 53.4**	**+0.8**
PMBI	**Palembang**	**3.74**	**44**	P	**Pn**	**04 28 14.9**	**+1.6**
PMBI	**Palembang**	**3.74**	**44**		**Pn**	**04 28 13.2**	**-0.1**
SBJI	**Serang**	**3.97**	**97**	P	**Pn**	**04 28 18.4**	**+2.0**
TNG	**Tangerang**	**4.49**	**97**	P	**Pn**	**04 28 25.6**	**+2.1**
SKJI	**Sukabumi**	**4.57**	**108**	P	**Pn**	**04 28 28.4**	**+3.8**
SKJI				S	**Sn**	**04 29 14.1**	**-2.5**
DBJI	**Dramaga**	**4.65**	**102**	P	**Pn**	**04 28 28.4**	**+2.7**
DBJI				S	**Sn**	**04 29 16.8**	**-1.7**
SDSI	**Sungai Dareh**	**4.73**	**351**	P	**Pn**	**04 28 27.4**	**+0.5**
SDSI				S	**Sn**	**04 29 22.3**	**+1.7**
RGRI	**Rengat**	**5.26**	**2**	P	**Pn**	**04 28 36.1**	**+2.0**
RGRI	845nm,0.8s,100µm7.7nm			S	**Sn**	**04 29 34.3**	**+0.8**
SISI	**Saibi**	**5.27**	**324**	P	**Pn**	**04 28 34.6**	**+0.3**
SISI	890nm,0.8s,12µm4.9nm			S	**Sn**	**04 29 32.8**	**-1.0**
LEM	**Lembang**	**5.55**	**103**	Pn	**Pn**	**04 28 40.7**	**+2.5**
LEM	92nm,0.3s,baz=216,slow=5.4,SNR=32			Sn	**Sn**	**04 29 39.5**	**-1.3**
LEM	86nm,0.3s,baz=284,slow=11,SNR=5.9			LR	LR	04 31 07.9	
XMIS	comp=Z,5µm,21.3s,baz=312,slow=41 **Christmas Isla**	**5.92**	**145**		**Pn**	**04 28 39.6**	**-3.6**
CISI	**Cisompet, Garu**	**5.93**	**109**	P	**Pn**	**04 28 43.4**	**0.0**
CISI	758nm,0.5s,22µm13nm			S	**Sn**	**04 29 42.8**	**-7.3**
CISI	**Cisompet, Garu**	**5.93**	**109**		**Pn**	**04 28 42.5**	**-0.8**
BKNI	**Bangkinang**	**6.03**	**349**	P	**Pn**	**04 28 45.1**	**+0.4**
BKNI	700nm,0.9s,4µm5.7nm			S	**Sn**	**04 29 53.3**	**+0.7**
BKNI	700nm,0.9s,4µm5.7nm **Bangkinang**	**6.03**	**349**		**Pn**	**04 28 43.8**	**-0.9**
TPI	**Tanjungpandan**	**6.18**	**63**	P	**Pn**	**04 28 47.9**	**+1.2**
KPJI	78nm,0.9s,1µm0.8nm **Karang Pucung**	**6.93**	**104**	P	**Pn**	**04 28 59.1**	**+2.0**
MYKOM	300nm,0.9s,4µm2.0nm **Kota Tinggi**	**7.57**	**13**		**Pn**	**04 29 05.3**	**-0.5**
GSI	**Gunungsitoli**	**8.28**	**326**	P	**Pn**	**04 29 15.3**	**-0.4**
GSI	440nm,0.6s			S	Sn	04 30 39.0	-9.0
GSI	440nm,0.6s **Gunungsitoli**	**8.28**	**326**	Pn	**Pn**	**04 29 13.8**	**-1.9**
SMRI	**Semarang**	**8.34**	**100**	P	**Pn**	**04 29 19.6**	**+3.1**
SMRI	272nm,0.9s,4µm **Semarang**	**8.34**	**100**		**Pn**	**04 29 17.2**	**+0.7**
YOGI	**Yogyakarta**	**8.36**	**105**	P	**Pn**	**04 29 18.8**	**+2.1**
YOGI	221nm,1.1s,3µm			S	**Sn**	**04 30 47.0**	**-2.9**
UGM	221nm,1.1s,3µm **Wanagama**	**8.60**	**106**	P	**Pn**	**04 29 21.1**	**+1.0**
UGM	514nm,1.1s,7µm			S	**Sn**	**04 30 51.5**	**-4.4**
UGM	514nm,1.1s,7µm **Wanagama**	**8.60**	**106**		**Pn**	**04 29 19.2**	**-0.9**

RPSI	**Rantau Prapat**	**8.89**	**339**		**Pn**	**04 29 21.8**	**-2.2**
RPSI	**Rantau Prapat**	**8.89**	**339**		**Pn**	**04 29 23.1**	**-0.8**
RPSI					**Sn**	**04 30 59.1**	**-3.8**
WOJI	**Wonogiri, Jawa**	**8.97**	**105**	P	**Pn**	**04 29 26.3**	**+1.2**
WOJI	104nm,1.1s,2µm			S	**Sn**	**04 31 01.5**	**-3.4**
PSI	104nm,1.1s,2µm **Prapat**	**8.99**	**339**	P	**Pn**	**04 29 21.8**	**-3.7**
PSI						04 30 59.2	
PSI	**Prapat**	**8.99**	**339**	Pn	**Pn**	**04 29 23.1**	**-2.3**
PSI	13nm,0.3s,baz=154,slow=11,SNR=38			Sn	**Sn**	**04 30 59.1**	**-6.4**
NGJI	2.6nm,0.3s,baz=144,slow=19,SNR=2.0 **Ngawi**	**9.39**	**101**	P	**Pn**	**04 29 32.9**	**+2.0**
JRMM	257nm,1.0s,2µm **Jerantut**	**9.47**	**2**	P	**Pn**	**04 29 34.0**	**+2.1**
TBJI	**Tambak Boyo**	**9.70**	**97**	P	**Pn**	**04 29 38.1**	**+3.0**
PWJI	172nm,0.9s,2µm **Pagerwojo**	**9.86**	**104**	P	**Pn**	**04 29 37.6**	**+0.3**
SNSI	276nm,0.8s,3µm **Sinabang, Aceh**	**9.90**	**324**	P	**Pn**	**04 29 38.1**	**+0.3**
KCSI	1µm,1.3s,14µm **Kotacane, Aceh**	**10.10**	**334**	P	**Pn**	**04 29 39.7**	**-1.0**
IPM	81nm,0.9s,1µm **Ipoh**	**10.12**	**354**		**Pn**	**04 29 39.6**	**-1.3**
GRJI	**Gresik**	**10.33**	**98**	P	**Pn**	**04 29 46.1**	**+2.4**
KSM	226nm,0.9s,2µm **Kuching**	**10.77**	**49**	P	**Pn**	**04 29 53.0**	**+3.2**
KSM	**Kuching**	**10.77**	**49**		**Pn**	**04 29 49.8**	**-0.1**
KULM	**Kulim**	**10.96**	**352**	P	**Pn**	**04 29 52.0**	**-0.4**
KULM	**Kulim**	**10.96**	**352**		**Pn**	**04 29 51.5**	**-0.9**
MLSI	**Meulaboh, Aceh**	**11.40**	**330**	P	**Pn**	**04 29 57.8**	**-0.6**
GMJI	1µm,0.8s,11µm **Gumukmas**	**11.50**	**104**	P	**Pn**	**04 30 01.5**	**+1.8**
KMMI	109nm,1.2s,2µm **Kalianget**	**11.81**	**97**	P	**Pn**	**04 30 04.0**	**-0.1**
LHMI	207nm,1.1s,4µm **Lhok Sumawe**	**11.99**	**334**	Pn	**Pn**	**04 30 04.9**	**-1.5**
JAGI	**Jajag, Banyuwa**	**12.22**	**104**	P	**Pn**	**04 30 10.0**	**+0.3**
JAGI	227nm,1.0s,3µm **Jajag, Banyuwa**	**12.22**	**104**		**Pn**	**04 30 09.0**	**-0.7**
SKLT	**Songkhla**	**12.82**	**353**	P	**Pn**	**04 30 22.4**	**+4.6**
SBUM	33nm,1.0s **Sibu**	**12.86**	**52**	P	**Pn**	**04 30 22.0**	**+3.6**
SBUM	**Sibu**	**12.86**	**52**	Pn	**Pn**	**04 30 18.1**	**-0.3**
SRBI	**Singaraja**	**13.18**	**101**	P	**Pn**	**04 30 23.3**	**+0.6**
IGBI	111nm,0.6s,2µm **Denpasar**	**13.26**	**105**	P	**Pn**	**04 30 23.8**	**0.0**
TRTT	138nm,1.2s,2µm **Trang**	**13.61**	**350**	P	**Pn**	**04 30 28.2**	**-0.5**
SURT	46nm,1.6s **Suratani**	**14.88**	**347**	P	**P**	**04 30 54.5**	**+3.3**
TWSI	**Taiwang, Sumb**	**14.92**	**103**	P	**Pn**	**04 30 44.7**	**-1.7**
BKB	**Balikpapan**	**15.33**	**74**		**P**	**04 30 56.4**	**+0.2**
PLAI	**Plampang**	**15.81**	**102**	P	**Pn**	**04 30 55.7**	**-2.3**
SMKI	**Samarinda**	**15.88**	**72**	P	**Pn**	**04 30 57.0**	**-2.0**
KAPI	**Kappang**	**17.52**	**89**	P	**Pn**	**04 31 18.8**	**-0.9**
KAPI	comp=Z,33nm,1.1s			pmax	pmax		
KAPI	**Kappang**	**17.52**	**89**	P	**Pn**	**04 31 18.5**	**-1.1**
KAPI	comp=Z,2.3nm,0.3s,baz=308,slow=7.6,SNR=9.1			LR	LR	04 39 02.1	
KAPI	comp=Z,1µm,18.1s,baz=118,slow=40 **Kappang**	**17.52**	**89**		**Pn**	**04 31 18.8**	**-0.9**
SPMM	**Sapulut**	**17.59**	**55**	P	**P**	**04 31 24.0**	**+2.6**
SPSI	**Sidrap Palu**	**17.62**	**85**	P	**Pn**	**04 31 20.5**	**-0.4**
TTSI	comp=Z,75nm,1.1s,comp=Z,1µm **Tana Toraja**	**17.79**	**82**	P	**P**	**04 31 23.7**	**+0.2**
BKSI	comp=Z,198nm,1.2s,comp=Z,3µm **Bulukumba**	**17.88**	**90**	P	**Pn**	**04 31 23.2**	**-0.9**
BNSI	comp=Z,170nm,1.2s,comp=Z,1µm **Bone**	**17.91**	**87**	P	**P**	**04 31 25.6**	**+0.7**
KKM	comp=Z,157nm,1.1s,comp=Z,3µm **Kota Kinabalu**	**18.20**	**51**	P	**P**	**04 31 27.5**	**-0.6**
PATY	**Pattaya**	**18.49**	**356**	P	**Pn**	**04 31 32.9**	**+1.5**
DLV	comp=Z,139µm,0.5s **T Lat**	**18.56**	**20**		**P**	**04 31 32.3**	**+0.1**
PHET	**Kaeng Krachan**	**18.60**	**352**	P	**Pn**	**04 31 33.2**	**+0.4**
MPSI	comp=Z,64µm,0.8s **Mapaga**	**18.67**	**72**	P	**Pn**	**04 31 34.7**	**+0.9**
SRAK	comp=Z,345nm,1.2s,comp=Z,4µm **Srakaew**	**19.52**	**360**	P	**Pn**	**04 31 44.3**	**+0.4**
APSI	**Ampana**	**20.00**	**77**	P	Pn	04 31 49.2	-0.5
MMRI	comp=Z,221nm,1.1s,comp=Z,2µm **Maumere**	**20.14**	**100**	P	**P**	**04 31 48.2**	**-1.0**
MMRI	comp=Z,125nm,0.7s			IAmb	IAmb	04 31 51.4	
MMRI	**Maumere**	**20.14**	**100**	P	**P**	**04 31 48.2**	**-1.0**
MMRI	comp=Z,98nm,0.9s			IAmb	IAmb	04 31 51.4	
KDI	**Kendari**	**20.45**	**86**	P	**P**	**04 31 52.5**	**-0.1**
MRSI	comp=Z,35nm,0.6s,comp=Z,6µm **Marisa**	**20.66**	**74**	P	**P**	**04 31 54.6**	**-0.3**
UBPT	comp=Z,396nm,0.9s,comp=Z,4µm **Khong Chiam**	**21.04**	**9**	P	**P**	**04 31 59.0**	**+0.1**
UBPT	comp=Z,55nm,0.8s **Khong Chiam**	**21.04**	**9**	P	**P**	**04 31 57.7**	**-1.2**
UBPT	comp=Z,70nm,0.7s			IAmb	IAmb	04 32 00.3	
LUWI	**Luwuk**	**21.07**	**78**	P	**P**	**04 31 59.1**	**-0.2**
UTHA	**Uthaitani**	**21.23**	**353**	P	**P**	**04 32 01.9**	**+0.9**
BATI	comp=Z,115µm,1.0s,comp=Z,877µm **Baumata**	**21.77**	**103**	P	**P**	**04 32 06.2**	**-0.7**
BATI	comp=Z,440nm,0.9s,baz=242,slow=0.9,SNR=51			S	**S**	**04 35 59.1**	**-6.8**
UMPA	comp=Z,68nm,0.6s,baz=53,slow=21,SNR=4.4 **Umpang Tak**	**21.95**	**351**	P	**P**	**04 32 08.8**	**+0.1**
PBKT	comp=Z,80µm,0.8s **Sadao Pong**	**22.10**	**357**	IAmb	IAmb	04 32 14.3	
SOEI	comp=Z,61nm,0.8s **Soe**	**22.28**	**102**	P	**P**	**04 32 13.1**	**+0.7**
SOEI	comp=Z,190nm,0.8s,comp=Z,3µm			IAmb	IAmb	04 32 14.3	
SOEI	**Soe**	**22.28**	**102**	P	**P**	**04 32 11.7**	**-0.7**
SKNT	comp=Z,127nm,0.9s **Sakolnakorn**	**22.54**	**5**	P	**P**	**04 32 17.0**	**+1.9**
MBWA	comp=Z,51nm,0.9s **Marble Bar**	**22.98**	**134**	P	P	04 32 31.4	+12
PSA00	**Pilbara Seismi**	**23.32**	**134**	P	**P**	**04 32 22.5**	**-0.6**
PSA00	comp=Z,71nm,1.0s			IAmb	IAmb	04 32 38.3	
NONG	**Nongkai**	**23.57**	**2**	P	**P**	**04 32 25.6**	**+0.1**
MHMT	comp=Z,1.7nm,1.1s **Maesarieng**	**24.03**	**350**	P	**P**	**04 32 31.2**	**+1.4**
SANI	comp=Z,82nm,0.8s,comp=Z,1µm **Sanna**	**24.03**	**82**	P	**P**	**04 32 29.5**	**-0.4**
SANI	comp=Z,97nm,1.2s,comp=Z,1µm			pP	**pP**	**04 32 40.1**	**+0.2**
LAMP	comp=Z,97nm,1.2s,comp=Z,1µm **Lampang**	**24.14**	**354**	P	**P**	**04 32 35.0**	**+4.2**
CM31	comp=Z,172µm,0.9s **Chiang Mai Arr**	**24.15**	**353**	P	**P**	**04 32 31.1**	**+0.2**
CM31	comp=Z,110nm,1.1s			IAmb	IAmb	04 32 35.8	
CMAR	**Chiang Mai Arr**	**24.15**	**353**	P	**P**	**04 32 31.6**	**+0.6**
CMAR	comp=Z,46nm,0.9s,baz=184,slow=8.3,SNR=60			PcP	**PcP**	**04 36 12.9**	**+1.4**
CMAR	comp=Z,3.7nm,0.7s,baz=204,slow=3.9,SNR=4.1			S	**S**	**04 36 46.1**	**-0.7**
CMAR	comp=Z,1.0nm,0.3s,baz=324,slow=41,SNR=3.5			LR	LR	04 43 33.7	
CMMT	comp=Z,289nm,19.3s,baz=184,slow=41 **Chiang Mai**	**24.50**	**353**	P	**P**	**04 32 34.6**	**+0.4**
CHTO	comp=Z,49nm,0.9s,comp=Z,430nm **Chiang Mai**	**24.50**	**353**	P	**P**	**04 32 34.9**	**+0.7**
CHTO	SNR=25 **Chiang Mai**	**24.50**	**353**	P	**P**	**04 32 34.2**	**0.0**
CHTO	comp=Z,69nm,0.9s **Chiang Mai**	**24.50**	**353**	P	**P**	**04 32 34.2**	**0.0**
CHTO	comp=Z,69nm,0.9s			IAmb	IAmb	04 32 38.9	
PAYA	**Payao**	**24.94**	**355**	P	**P**	**04 32 39.9**	**+1.7**
PALK	comp=Z,123µm,0.8s **Pallekele**	**24.96**	**301**	P	**P**	**04 32 42.7**	**+4.2**
PALK	**Pallekele**	**24.96**	**301**	P	**P**	**04 32 35.1**	**-3.4**
PALK	comp=Z,48nm,1.1s			pmax	pmax		
PALK	**Pallekele**	**24.96**	**301**	P	**P**	**04 32 35.1**	**-3.4**
PALK	comp=Z,48nm,1.1s			IAmb	IAmb	04 32 43.6	
NLAI	**Namlea**	**24.97**	**86**	P	**P**	**04 32 39.4**	**+0.9**
CTBH	comp=Z,41nm,0.8s **Cotabato--PC H**	**25.47**	**60**	⇓P	**P**	**04 32 44.0**	**+1.0**
QIZ	**Qiongzhong**	**25.65**	**17**	P	**P**	**04 32 45.6**	**+1.0**
QIZ				S	**S**	**04 37 08.8**	**-2.0**
QIZ				pmax	pmax		

	comp=Z,16nm,1.9s						
QIZ				LR	LR		
	comp=Z,550nm,14.2s						
QIZ				LR	LR		
	comp=Z,790nm,26.0s						
QIZ	**Qiongzhong**	**25.65**	**17**	IAmb	IAmb	04 32 48.9	
	comp=Z,73nm,1.0s						
TNTI	**Ternate**	**25.96**	**77**	P	**P**	**04 32 47.9**	**+0.4**
	comp=Z,54nm,1.0s						
TNTI	**Ternate**	**25.96**	**77**	P	**P**	**04 32 46.0**	**-1.5**
TNTI				IAmb	IAmb	04 32 48.0	
	comp=Z,87nm,1.1s						
FITZ	**Fitzroy Crossi**	**26.05**	**120**	P	**P**	**04 32 49.4**	**+1.2**
	baz=26,SNR=15						
FITZ	**Fitzroy Crossi**	**26.05**	**120**	P	**P**	**04 32 49.3**	**+1.1**
	comp=Z,10nm,0.8s,baz=332,slow=6.3,SNR=26						
FITZ				LR	LR	04 43 58.4	
	comp=Z,611nm,21.5s,baz=295,slow=38						
FITZ	**Fitzroy Crossi**	**26.05**	**120**	P	**P**	**04 32 47.7**	**-0.6**
FITZ				IAmb	IAmb	04 33 02.6	
	comp=Z,42nm,0.9s						
KCP	**Kidapawan**	**26.10**	**62**	⇑P	**P**	**04 32 49.2**	**+0.4**
DAV	**Davao City (W)**	**26.56**	**62**	P	**P**	**04 32 54.7**	**+1.9**
	SNR=6.5						
DAV	**Davao City (W)**	**26.56**	**62**	P	**P**	**04 32 53.1**	**+0.2**
	comp=Z,215nm,0.4s,baz=270,slow=6.1,SNR=5.8						
DAV				LR	LR	04 44 30.2	
	comp=Z,675nm,20.6s,baz=222,slow=39						
DAV	**Davao City (W)**	**26.56**	**62**	P	**P**	**04 32 53.5**	**+0.6**
SLVN	**Son La**	**26.86**	**4**	P	**P**	**04 32 55.9**	**+0.4**
TGY	**Tagaytay City**	**27.05**	**43**	P	**P**	**04 32 56.5**	**-0.8**
	comp=Z,102nm,0.3s,baz=200,slow=1.9,SNR=6.4						
TGY				LR	LR	04 44 07.8	
	comp=Z,441nm,19.4s,baz=177,slow=38						
SIMRM	**Sittwe**	**27.19**	**341**	P	**P**	**04 32 57.0**	**-1.4**
KNRA	**Kununurra**	**27.94**	**113**	P	**P**	**04 33 06.2**	**+0.9**
	baz=28,SNR=6.8						
KNRA	**Kununurra**	**27.94**	**113**	P	**P**	**04 33 03.6**	**-1.7**
KNRA				IAmb	IAmb	04 33 19.6	
	comp=Z,38nm,0.7s						
SIJI	**Sorong**	**29.43**	**82**	P	**P**	**04 33 17.5**	**-1.1**
	comp=Z,44nm,1.1s,baz=236,slow=11,SNR=5.6						
SIJI				LR	LR	04 45 48.5	
	comp=Z,172nm,21.9s,baz=273,slow=38						
MTN	**Manton Dam**	**29.45**	**106**	P	**P**	**04 33 18.5**	**-0.2**
	baz=30,SNR=39						
MTN	**Manton Dam**	**29.45**	**106**	P	**P**	**04 33 17.4**	**-1.3**
H08S2	**Diego Garcia H**	**29.54**	**264**	T	T	05 04 18.9	
	baz=90						
H08S3	**Diego Garcia H**	**29.55**	**265**	T	T	05 04 15.1	
	baz=90						
H08S1	**Diego Garcia H**	**29.56**	**264**	T	T	05 04 15.7	
	baz=90						
FAKI	**Fak Fak**	**30.12**	**86**	P	**P**	**04 33 23.6**	**-1.1**
FAKI				IAmb	IAmb	04 33 24.5	
	comp=Z,60nm,1.0s						
NWAO	**Narrogin (SRO)**	**30.57**	**155**	P	**P**	**04 33 29.3**	**+0.9**
	comp=Z,9.6nm,0.8s,baz=308,slow=12,SNR=3.9						
KMI	**Kunming**	**30.58**	**1**	P	**P**	**04 33 31.2**	**+2.4**
KMI				pP	pP	04 33 40.6	+1.6
KMI				sP	sP	04 33 45.8	+2.9
KMI				S	**S**	**04 38 31.3**	**+2.6**
KMI				sS	sS	04 38 47.7	+4.5
KMI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMI				pmax	pmax		
	comp=Z,73nm,7.0s						
KMI				LR	LR		
	comp=Z,290nm,15.7s						
KMI				LR	LR		
	comp=Z,910nm,19.0s						
KMI				LR	LR		
	comp=Z,580nm,15.3s						
KDU	**Kakadu**	**30.70**	**105**	P	**P**	**04 33 29.2**	**-0.6**
	baz=31,SNR=12						
H01W3	**Cape Leeuwin H**	**31.13**	**161**	T	T	05 06 16.1	
	baz=337,slow=76,SNR=93						
H01W2	**Cape Leeuwin H**	**31.15**	**161**	T	T	05 06 21.5	
	baz=337,slow=76,SNR=199						
H01W1	**Cape Leeuwin H**	**31.15**	**161**	T	T	05 06 17.2	
	baz=337,slow=76,SNR=157						
WRKA	**Warakurna**	**31.61**	**130**	P	**P**	**04 33 39.4**	**+1.6**
	baz=32,SNR=4.7						
GYA	**Guiyang**	**32.20**	**8**	⇓*i*P	**P**	**04 33 44.5**	**+1.5**
GYA				pP	pP	04 33 53.9	+0.7
GYA				sP	sP	04 33 58.6	+1.6
GYA				PP	**PnPn**	**04 34 52.9**	**+3.1**
GYA				S	**S**	**04 38 54.8**	**+0.9**
GYA				SS	**SnSn**	**04 40 50.9**	**+4.1**
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,140nm,5.0s						
GYA				LR	LR		
	comp=Z,410nm,12.4s						
GYA				LR	LR		
	comp=Z,340nm,10.6s						
GYA				LR	LR		
	comp=Z,370nm,11.3s						
SHL	**Shillong**	**32.59**	**343**	P	**P**	**04 33 47.0**	**+0.6**
SHL	**Shillong**	**32.59**	**343**	P	**P**	**04 33 45.7**	**-0.8**
SHL				pmax	pmax		
	comp=Z,59nm,0.7s						
SHL	**Shillong**	**32.59**	**343**	⇓*i*P	**P**	**04 33 46.0**	**-0.4**
SHL				*ex*	x	04 38 57.0	
SHL	**Shillong**	**32.59**	**343**	P	**P**	**04 33 45.6**	**-0.8**
HYB	**Hyderabad**	**32.69**	**315**	*i* P	**P**	**04 33 47.0**	**-0.3**
WRA	**Warramunga Arr**	**34.35**	**117**	P	**P**	**04 34 02.5**	**+0.7**
	comp=Z,5.5nm,0.4s,baz=290,slow=8.5,SNR=99						
WRA				S	**S**	**04 39 30.9**	**+3.6**
	comp=Z,3.4nm,1.1s,baz=292,slow=16,SNR=4.5						
WRA				LR	LR	04 47 50.0	
	comp=Z,320nm,21.7s,baz=315,slow=36						
WRAB	**Tennant Creek**	**34.36**	**117**	*ce*P	**P**	**04 34 02.8**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,39nm,1.7s						
WRAB	**Tennant Creek**	**34.36**	**117**	P	**P**	**04 34 00.7**	**-1.2**
WB2	**Warramunga Arr**	**34.36**	**117**	P	**P**	**04 34 01.6**	**-0.3**
WB2				IAmb	IAmb	04 34 17.1	
	comp=Z,47nm,0.9s						
ODAN	**Odare**	**35.33**	**337**	⇓*i*P	**P**	**04 34 12.0**	**+1.6**
	comp=Z,106nm,0.6s						
ASAR	**Alice Springs**	**35.41**	**124**	P	**P**	**04 34 11.7**	**+0.8**
	comp=Z,5.3nm,0.7s,baz=298,slow=7.8,SNR=37						
ASAR

DMN	**Daman**	**36.94**	**334**	⇓*i*P		**P**		**04 34 25.6**	**+1.5**
KKN	**Kakani**	**37.02**	**335**	⇓*i*P		**P**		**04 34 26.3**	**+1.6**
GKN	**Gorkha**	**37.48**	**334**	⇓*i*P		**P**		**04 34 30.3**	**+1.7**
WHN	**Wuhan**	**37.82**	**17**	P		**P**		**04 34 32.1**	**+0.9**
WHN				S		**S**		**04 40 21.0**	**+1.0**
WHN				pmax	pmax				
	comp=Z,80nm,1.2s								
WHN				LR	LR				
	comp=Z,1μm,15.3s								
WHN				LR	LR				
	comp=Z,2μm,17.0s								
WHN				LR	LR				
	comp=Z,1μm,23.7s								
DANN	**Dangsing**	**38.17**	**333**	⇓*i*P		**P**		**04 34 36.2**	**+1.7**
	comp=Z,98nm,0.5s								
JAY	**Jayapura**	**38.56**	**87**	P		**P**		**04 34 37.2**	**-0.6**
	comp=Z,14nm,1.5s								
QIS	**Mount Isa**	**39.23**	**116**	P		**P**		**04 34 45.0**	**+1.7**
	baz=39,SNR=9.3								
XAN	**Xi'an**	**39.98**	**9**	P		**P**		**04 34 49.4**	**+0.1**
XAN				pP	sP			04 35 04.9	+1.1
XAN				S		**S**		**04 40 47.7**	**-4.8**
XAN				pmax	pmax				
	comp=Z,47nm,1.0s								
XAN				pmax	pmax				
	comp=Z,210nm,3.9s								
XAN				LR	LR				
	comp=Z,600nm,19.5s								
XAN				LR	LR				
	comp=Z,720nm,18.4s								
XAN	**Xi'an**	**39.98**	**9**	P		**P**		**04 34 48.1**	**-1.2**
XAN				pmax	pmax				
	comp=Z,49nm,1.0s								
XAN	**Xi'an**	**39.98**	**9**	P		**P**		**04 34 48.1**	**-1.2**
XAN				IAmb	IAmb			04 34 50.6	
	comp=Z,49nm,1.0s								
NJ2	**Nanjing**	**40.72**	**22**	*e*P		**P**		**04 34 56.6**	**+1.2**
NJ2				pmax	pmax				
	comp=Z,25nm,0.5s								
COEN	**Coen**	**41.19**	**105**	P		**P**		**04 34 59.9**	**+0.3**
	baz=41,SNR=9.3								
COEN	**Coen**	**41.19**	**105**	P		**P**		**04 34 58.9**	**-0.8**
LZH	**Lanzhou**	**41.53**	**2**	*e*P		**P**		**04 35 03.6**	**+1.3**
LZH				pP	sP			04 35 14.9	-1.9
LZH				sP	pP			04 35 20.9	+8.2
LZH				S		**S**		**04 41 11.7**	**-4.2**
LZH				pmax	pmax				
	comp=Z,48nm,1.3s								
LZH				pmax	pmax				
	comp=Z,150nm,4.8s								
LZH				LR	LR				
	comp=Z,550nm,14.1s								
LZH				LR	LR				
	comp=Z,560nm,13.0s								
LZH				LR	LR				
	comp=Z,820nm,15.3s								
NDI	**New Delhi**	**41.73**	**326**	*e*P		**P**		**04 35 01.5**	**-2.3**
MTSU	**Mount Surprise**	**42.96**	**111**	P		**P**		**04 35 15.6**	**+1.6**
	baz=43,SNR=65								
PMG	**Port Moresby**	**44.74**	**98**	*c i*P		**P**		**04 35 28.7**	**+0.3**
PMG				pmax	pmax				
	comp=Z,395nm,1.0s								
PMG	**Port Moresby**	**44.74**	**98**	P		**P**		**04 35 27.5**	**-0.8**
GTA	**Gaotai**	**44.88**	**357**	⇓P		**P**		**04 35 30.2**	**+1.0**
GTA				pP	sP			04 35 41.9	-1.8
GTA				sP	pP			04 35 47.0	+7.4
GTA				PcP	**PcP**			**04 37 12.1**	**+1.6**
GTA				S		**S**		**04 42 02.8**	**-1.9**
GTA				sS	sS			04 42 19.6	-0.7
GTA				SS		**ScS**		**04 45 20.2**	**-3.9**
GTA				pmax	pmax				
	comp=Z,8.0nm,1.0s								
GTA				pmax	pmax				
	comp=Z,120nm,5.0s								
GTA				LR	LR				
	comp=Z,320nm,16.1s								
GTA				LR	LR				
	comp=Z,540nm,17.9s								
GTA				LR	LR				
	comp=Z,550nm,15.8s								
STKA	**Stephens Creek**	**45.15**	**130**	P		**P**		**04 35 33.2**	**+1.8**
	baz=45,SNR=12								
STKA	**Stephens Creek**	**45.15**	**130**	P		**P**		**04 35 32.6**	**+1.3**
	comp=Z,12nm,0.7s,baz=308,slow=6.7,SNR=22								
STKA				LR	LR			04 54 29.2	
	comp=Z,453nm,21.8s,baz=308,slow=36								
STKA	**Stephens Creek**	**45.15**	**130**	P		**P**		**04 35 30.7**	**-0.7**
MANU	**Manus Island**	**45.23**	**87**	P		**P**		**04 35 31.1**	**-1.2**
MANU				IAmb	IAmb			04 35 32.5	
	comp=Z,23nm,0.7s								
BTO	**Baotou**	**46.58**	**8**	*e*P		**P**		**04 35 44.0**	**+1.4**
HHC	**Hu-ho-hao-te**	**47.06**	**10**	P		**P**		**04 35 49.0**	**+2.7**
HHC				pmax	pmax				
	comp=Z,14nm,0.9s								
HHC				pmax	pmax				
	comp=Z,32nm,5.2s								
BJT	**Baijiatuau**	**47.23**	**15**	IAmb	IAmb			04 35 49.6	
	comp=Z,26nm,0.9s								
NIL	**Nilore**	**47.71**	**327**	P		**P**		**04 35 52.0**	**+0.5**
NIL	**Nilore**	**47.71**	**327**	P		**P**		**04 35 50.4**	**-1.1**
NIL				pmax	pmax				
	comp=Z,61nm,0.8s								
NIL	**Nilore**	**47.71**	**327**	P		**P**		**04 35 50.4**	**-1.1**
TJN	**Taejon**	**48.00**	**28**	⇑*e*P		**P**		**04 35 55.1**	**+1.5**
CMSA	**Cobar Meteorol**	**48.17**	**128**	P		**P**		**04 35 57.6**	**+2.6**
	baz=48,SNR=16								
RMQ	**Roma**	**48.99**	**120**	P		**P**		**04 36 03.2**	**+1.7**
	baz=49,SNR=5.9								
KSRS	**Korea Array**	**49.14**	**27**	P		**P**		**04 36 02.3**	**0.0**
	comp=Z,7.6nm,0.5s,baz=243,slow=7.4,SNR=21								
KS19	**Wonju Array Si**	**49.15**	**27**	P		**P**		**04 36 03.3**	**+0.8**
KS19				IAmb	IAmb			04 36 09.4	
	comp=Z,27nm,1.1s								
DQM	**DQM**	**50.70**	**301**	P		**P**		**04 36 17.4**	**+2.9**
	SNR=5.2								
EIDS	**Eidsvold**	**50.71**	**118**	P		**P**		**04 36 17.5**	**+2.9**
	baz=51,SNR=4.7								
EIDS	**Eidsvold**	**50.71**	**118**	P		**P**		**04 36 12.7**	**-1.8**
WBK	**Wadi Bani Khal**	**50.72**	**305**	P		**P**		**04 36 17.0**	**+2.4**
	SNR=5.6								
KBL	**Kabul**	**50.73**	**324**	P		**P**		**04 36 13.3**	**-1.5**
KBL				pmax	pmax				
	comp=Z,24nm,1.2s								
KBL	**Kabul**	**50.73**	**324**	P		**P**		**04 36 13.2**	**-1.5**
KBL				IAmb	IAmb			04 36 16.5	
	comp=Z,24nm,1.1s								
WMQ	**Urumqi**	**50.94**	**347**	P		**P**		**04 36 17.6**	**+1.6**
WMQ				pP	pP			04 36 24.4	-2.1
WMQ				sP	sP			04 36 30.2	-0.4
WMQ				S		**S**		**04 43 30.4**	**0.0**
WMQ				pmax	pmax				
	comp=Z,71nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,74nm,3.7s								
WMQ				LR	LR				
	comp=Z,180nm,20.1s								
WMQ				LR	LR				
	comp=Z,240nm,22.9s								
WMQ				LR	LR				
	comp=Z,290nm,22.1s								
KSH	**Kashi**	**51.03**	**334**	P		**P**		**04 36 16.3**	**-0.5**
KSH				pP	pP			04 36 26.1	-1.3
KSH				PP	**PP**			**04 38 14.5**	**+0.8**
KSH				PcS	**PcS**			**04 41 26.5**	**-3.7**
KSH				S		**S**		**04 43 29.5**	**-2.4**
KSH				SS		**SS**		**04 47 02.8**	**-4.7**
KSH				pmax	pmax				
	comp=Z,69nm,0.7s								
KSH				pmax	pmax				
	comp=Z,330nm,5.0s								
KSH				LR	LR				
	comp=Z,260nm,6.7s								
KSH				LR	LR				
	comp=Z,230nm,8.6s								
KSH				LR	LR				
	comp=Z,340nm,5.4s								
SOCY	**Socotra**	**51.07**	**290**	P		**P**		**04 36 16.6**	**-0.9**
SOCY				IAmb	IAmb			04 36 21.7	
	comp=Z,34nm,1.1s								
WSAR	**Wadi Sarin**	**51.29**	**306**	P		**P**		**04 36 21.7**	**+2.8**
	SNR=6.6								
JMDO	**Jabal Madar**	**51.31**	**304**	P		**P**		**04 36 21.2**	**+2.1**
SHAO	**Shalim**	**51.58**	**298**	P		**P**		**04 36 23.0**	**+1.8**
SMDO	**Samad**	**51.68**	**305**	P		**P**		**04 36 24.3**	**+2.3**
	SNR=9.7								

DMTO	**DMTO**	**52.06**	**298**	P		**P**		**04 36 26.8**	**+2.1**
BSY	**Bisya**	**52.23**	**304**	P		**P**		**04 36 28.4**	**+2.5**
	SNR=8.6								
HOQ	**Hoqain**	**52.52**	**305**	P		**P**		**04 36 30.8**	**+2.7**
	SNR=7.8								
RBK	**Rabkut**	**52.64**	**297**	P		**P**		**04 36 32.0**	**+2.9**
	SNR=6.9								
KDJ	**Kajisay**	**52.71**	**337**	P		**P**		**04 36 28.4**	**-1.0**
KDJ				pmax	pmax				
	comp=Z,60nm,1.0s								
KDJ	**Kajisay**	**52.71**	**337**	P		**P**		**04 36 28.4**	**-1.0**
KDJ				IAmb	IAmb			04 36 31.9	
	comp=Z,60nm,1.0s								
PDGK	**Podgornoye**	**52.89**	**339**	P		**P**		**04 36 31.5**	**+0.9**
PDGK				pmax	pmax				
	comp=Z,60nm,1.5s								
WHFO	**Wadi Hawf**	**53.18**	**297**	P		**P**		**04 36 35.2**	**+2.1**
	SNR=6.2								
GAR	**Garm**	**53.30**	**329**	IAmb	IAmb			04 36 34.5	
	comp=Z,48nm,1.1s								
SONM	**Songino Array**	**53.38**	**4**	P		**P**		**04 36 35.0**	**+0.9**
	comp=Z,24nm,0.8s,baz=183,slow=9.1,SNR=151								
SONM				S		**S**		**04 44 02.8**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=189,slow=14,SNR=2.9								
SONM				LR	LR			05 03 46.6	
	comp=Z,268nm,18.1s,baz=179,slow=41								
ABTO	**Aybut**	**53.40**	**296**	P		**P**		**04 36 36.9**	**+2.2**
	SNR=7.0								
ULN	**Ulaanbaatar**	**53.45**	**4**	P		**P**		**04 36 36.4**	**+1.7**
	SNR=6.0								
ULN	**Ulaanbaatar**	**53.45**	**4**	*de*P		**P**		**04 36 35.6**	**+0.9**
ULN				pmax	pmax				
	comp=Z,30nm,1.7s								
ULN	**Ulaanbaatar**	**53.45**	**4**	P		**P**		**04 36 34.0**	**-0.7**
KZA	**Kyzart**	**53.45**	**335**	P		**P**		**04 36 36.3**	**+1.2**
	SNR=14								
BOOM	**Boomskoye usch**	**53.51**	**336**	P		**P**		**04 36 33.8**	**-1.5**
BOOM				pmax	pmax				
	comp=Z,18nm,0.9s								
BOOM	**Boomskoye usch**	**53.51**	**336**	P		**P**		**04 36 33.8**	**-1.5**
BOOM				IAmb	IAmb			04 36 36.8	
	comp=Z,18nm,0.8s								
CN2	**Changchun**	**53.52**	**21**	*e*P		**P**		**04 36 34.6**	**-0.4**
CN2				pmax	pmax				
	comp=Z,60nm,1.2s								
CHGR	**Chuyangaron**	**53.65**	**328**	P		**P**		**04 36 32.8**	**-3.5**
CHGR						**P**		**04 36 35.9**	**-0.3**
MAJO	**Matsushiro**	**53.83**	**36**	⇑*e*P		**P**		**04 36 36.6**	**-0.9**
MAJO				pmax	pmax				
	comp=Z,18nm,1.1s								
MJAR	**Matsushiro Arr**	**53.83**	**36**	P		**P**		**04 36 36.2**	**-1.3**
	comp=Z,13nm,0.9s,baz=226,slow=8.5,SNR=15								
MJAR				LR	LR			05 01 58.5	
	comp=Z,66nm,18.4s,baz=285,slow=39								
BTK	**Batken**	**53.86**	**330**	IAmb	IAmb			04 36 39.5	
	comp=Z,20nm,0.8s								
UCH	**Uchtor**	**53.89**	**335**	P		**P**		**04 36 39.5**	**+1.2**
	SNR=16								
TKM2	**Tokmak 2**	**54.01**	**336**	*i* P		**P**		**04 36 39.6**	**+0.7**
TKM2				pmax	pmax				
	comp=Z,24nm,0.7s								
TKM2	**Tokmak 2**	**54.01**	**336**	P		**P**		**04 36 39.7**	**+0.8**
	SNR=31								
ASHO	**Ashiyiah**	**54.05**	**306**	P		**P**		**04 36 41.4**	**+2.1**
UOSS	**Minazif**	**54.05**	**306**	P		**P**		**04 36 36.6**	**-2.7**
UOSS				IAmb	IAmb			04 36 42.0	
	comp=Z,20nm,1.1s								
KBK	**Karagaybulak**	**54.06**	**335**	P		**P**		**04 36 40.8**	**+1.5**
	SNR=11								
AML	**Almayashu**	**54.16**	**334**	P		**P**		**04 36 41.4**	**+1.2**
	SNR=19								
AAK	**Ala-Archa**	**54.23**	**335**	P		**P**		**04 36 42.1**	**+1.6**
	SNR=7.6								
AAK	**Ala-Archa**	**54.23**	**335**	*de*P		**P**		**04 36 41.7**	**+1.2**
AAK				pmax	pmax				
	comp=Z,30nm,2.5s								
AAK	**Ala-Archa**	**54.23**	**335**	P		**P**		**04 36 39.3**	**-1.2**
CHMS	**Chumysh**	**54.42**	**335**	P		**P**		**04 36 42.8**	**+1.1**
	SNR=7.3								
EKS2	**Erkin-Say**	**54.55**	**335**	P		**P**		**04 36 44.3**	**+1.5**
	SNR=34								
HRA	**Herat**	**54.81**	**320**	P		**P**		**04 36 43.3**	**-1.6**
MK31	**Makanchi Array**	**55.10**	**343**	*i* P		**P**		**04 36 46.9**	**+0.3**
MK31				pmax	pmax				
	comp=Z,14nm,0.6s								
MK31	**Makanchi Array**	**55.10**	**343**	P		**P**		**04 36 46.2**	**-0.3**
MK31				IAmb	IAmb			04 36 48.2	
	comp=Z,23nm,1.0s								
MKAR	**Makanchi Array**	**55.10**	**343**	*i* P		**P**		**04 36 47.2**	**+0.6**
MKAR				pmax	pmax				
	comp=Z,20nm,0.7s								
MKAR	**Makanchi Array**	**55.10**	**343**	P		**P**		**04 36 46.5**	**0.0**
	comp=Z,20nm,0.7s,baz=150,slow=8.1,SNR=107								
MKAR				S		**S**		**04 44 24.3**	**-2.6**
	comp=Z,1.9nm,1.2s,baz=164,slow=16,SNR=3.1								
MKAR				LR	LR			05 03 25.6	
	comp=Z,119nm,20.0s,baz=150,slow=39								
MAKZ	**Makanchi**	**55.20**	**343**	P		**P**		**04 36 46.3**	**-1.0**
MAKZ				pmax	pmax				
	comp=Z,12nm,0.9s								
MAKZ	**Makanchi**	**55.20**	**343**	P		**P**		**04 36 46.3**	**-1.0**
TAS	**Tashkent**	**55.58**	**330**	P		**P**		**04 36 49.5**	**-0.6**
TAS	**Tashkent**	**55.58**	**330**	P		**P**		**04 36 49.5**	**-0.6**
ZAK	**Zakamensk**	**55.80**	**1**	*e*P		**P**		**04 36 48.6**	**-3.0**
ZAK				pmax	pmax				
	comp=Z,6.0nm,0.9s								
KK31	**Karatay Array**	**56.36**	**333**	*i* P		**P**		**04 36 55.1**	**-0.5**
KK31				pmax	pmax				
	comp=Z,8.0nm,0.9s								
KK31	**Karatay Array**	**56.36**	**333**	P		**P**		**04 36 54.9**	**-0.8**
KKAR	**Karatay Array**	**56.36**	**333**	P		**P**		**04 36 54.6**	**-1.0**
KKAR				pmax	pmax				
	comp=Z,12nm,1.2s								
KKAR	**Karatay Array**	**56.36**	**333**	P		**P**		**04 36 54.6**	**-1.0**
USA0B	**Ussuriysk Arra**	**56.41**	**25**	⇓*i*P		**P**		**04 36 56.4**	**+0.4**
USA0B	**Ussuriysk Arra**	**56.41**	**25**	P		**P**		**04 36 54.9**	**-1.0**
USA0B						**P**		**04 36 56.4**	**+0.4**
USA0B				IAmb	IAmb			04 37 14.1	
	comp=Z,39nm,1.1s								
USRK	**Ussuriysk Ar.**	**56.41**	**25**	P		**P**		**04 36 56.0**	**0.0**
	comp=Z,21nm,0.6s,baz=207,slow=5.7,SNR=31								
TLY	**Talaya**	**57.11**	**1**	*e*P		**P**		**04 37 02.8**	**+2.0**
TLY				*e*S		**S**		**04 45 00.3**	**+6.9**
TLY				pmax	pmax				
	comp=Z,31nm,0.9s								
TLY				MLR	MLR				
	comp=Z,463nm,14.0s								
HNR	**Honiara**	**57.36**	**98**	P		**P**		**04 37 02.2**	**-1.0**
HNR				pmax	pmax				
	comp=Z,142nm,0.9s								
HNR	**Honiara**	**57.36**	**98**	P		**P**		**04 37 02.2**	**-1.0**
PATS	**Pohnpei**	**57.39**	**78**	P		**P**		**04 37 03.4**	**0.0**
	baz=57,SNR=3.1								
GEYT	**Alibeck**	**59.61**	**320**	P		**P**		**04 37 19.3**	**+0.8**
	comp=Z,30nm,0.9s,baz=150,slow=6.8,SNR=39								
GEYT				LR	LR			05 05 55.3	
	comp=Z,172nm,19.9s,baz=80,slow=39								
GYA0B	**ALIBECK ARRAY**	**59.61**	**320**	P		**P**		**04 37 17.2**	**-1.4**
KURK	**Kurchatov**	**59.69**	**343**	P		**P**		**04 37 19.6**	**+0.8**
	SNR=9.4								
KURK	**Kurchatov**	**59.69**	**343**	*de*P		**P**		**04 37 19.1**	**+0.3**
KURK				pmax	pmax				
	comp=Z,39nm,1.1s								
KURK	**Kurchatov**	**59.69**	**343**	P		**P**		**04 37 18.1**	**-0.7**
KURK				IAmb	IAmb			04 37 20.4	
	comp=Z,30nm,0.9s								
KLR	**Kul'dur**	**60.42**	**22**	⇓*e*P		**P**		**04 37 24.1**	**+0.3**
KLR				pmax	pmax				
	comp=Z,19nm,0.9s								
DAMY	**Dhamar**	**60.70**	**290**	P		**P**		**04 37 30.2**	**+3.4**
	SNR=9.9								
ZALV	**Zalesovo Beam**	**61.13**	**348**	*i* P		**P**		**04 37 29.0**	**+0.4**
ZALV				pmax	pmax				
	comp=Z,28nm,0.5s								
ZALV	**Zalesovo Beam**	**61.13**	**348**	P		**P**		**04 37 28.7**	**+0.2**
	comp=Z,27nm,0.5s,baz=160,slow=4.7,SNR=118								
ZALV				S		**S**		**04 45 42.9**	**-2.4**
	comp=Z,2.3nm,0.9s,baz=158,slow=12,SNR=7.3								
ZALV				LR	LR			05 08 22.7	
	comp=Z,107nm,19.1s,baz=150,slow=40								
RAYN	**Ar Rayn**	**62.40**	**300**	P		**P**		**04 37 35.5**	**-2.3**
RAYN				pmax	pmax				
	comp=Z,17nm,0.8s								
RAYN	**Ar Rayn**	**62.40**	**300**	P		**P**		**04 37 35.5**	**-2.3**
RAYN				IAmb	IAmb			04 37 39.9	
	comp=Z,17nm,0.8s								

ZEA	**Zeya**	**62.81**	**16**	*e*P		**P**		**04 37 40.4**	**+0.6**
ZEA				pmax	pmax				
	comp=Z,58nm,1.0s								
GRNR	**Gornyy**	**63.45**	**24**	*e*P		**P**		**04 37 44.4**	**+0.2**
YSS	**Yuzh-Sakhalins**	**63.47**	**30**	*e*P		**P**		**04 37 45.1**	**+0.7**
YSS				*e*				04 38 03.6	
YSS				pmax	pmax				
	comp=Z,30nm,0.9s								
YSS				MLR	MLR				
	comp=Z,100nm,12.0s								
BOD	**Bodaibo**	**63.97**	**7**	*e*P		**P**		**04 37 47.7**	**+0.3**
BOD				pmax	pmax				
	comp=Z,15nm,1.1s								
DZM	**Mont Dzumac**	**64.08**	**112**	*e*LR		LR		04 57 06.4	
	comp=Z,479nm,25.3s								
BRVK	**Borovoye**	**64.39**	**339**	P		**P**		**04 37 50.6**	**+0.3**
	SNR=6.1								
BRVK	**Borovoye**	**64.39**	**339**	*d i*P		**P**		**04 37 50.0**	**-0.3**
BRVK				pmax	pmax				
	comp=Z,28nm,1.3s								
BRVK	**Borovoye**	**64.39**	**339**	P		**P**		**04 37 49.3**	**-1.0**
BRVK				IAmb	IAmb			04 37 51.0	
	comp=Z,13nm,0.6s								
KMBO	**Kilima Mbogo**	**64.93**	**271**	P		**P**		**04 37 57.4**	**+2.5**
	SNR=5.4								
KMBO	**Kilima Mbogo**	**64.93**	**271**	P		**P**		**04 37 51.0**	**-3.9**
KMBO				pmax	pmax				
	comp=Z,9.0nm,0.8s								
KMBO	**Kilima Mbogo**	**64.93**	**271**	P		**P**		**04 37 56.8**	**+1.9**
	comp=Z,6.3nm,0.6s,baz=70,slow=9.2,SNR=21								
KMBO				LR	LR			05 01 09.2	
	comp=Z,214nm,21.1s,baz=94,slow=31								
KMBO	**Kilima Mbogo**	**64.93**	**271**	P		**P**		**04 37 51.0**	**-3.9**
AB31	**Akbulak array**	**65.85**	**331**	*i* P		**P**		**04 38 00.1**	**+0.2**
AB31				pmax	pmax				
	comp=Z,41nm,0.6s								
ABKAR	**Akbulak array**	**65.85**	**331**	P		**P**		**04 37 58.2**	**-1.6**
LODK	**Lodwar**	**67.32**	**276**	P		**P**		**04 38 13.3**	**+3.2**
	SNR=5.0								
MAW	**Mawson**	**67.34**	**195**	P		**P**		**04 38 10.8**	**+1.8**
	baz=68,SNR=9.6								
MAW	**Mawson**	**67.34**	**195**	P		**P**		**04 38 07.1**	**-2.0**
MAW				pmax	pmax				
	comp=Z,5.0nm,0.9s								
MAW	**Mawson**	**67.34**	**195**	P		**P**		**04 38 11.2**	**+2.1**
	comp=Z,21nm,0.8s,baz=40,slow=5.6,SNR=15								
MAW				LR	LR			05 01 29.8	
	comp=Z,268nm,21.0s,baz=47,slow=30								
MAW	**Mawson**	**67.34**	**195**	P		**P**		**04 38 07.1**	**-2.0**
AKT	**Akhty**	**68.25**	**319**	*e*P		**P**		**04 38 16.7**	**+1.2**
AKT				*e*				04 38 41.3	
AKT				pmax	pmax				
	comp=Z,47nm,0.9s								
GNI	**Garni**	**69.63**	**316**	*de*P		**P**		**04 38 25.0**	**+0.9**
GNI				pmax	pmax				
	comp=Z,73nm,1.1s								
GROC	**Groznyy**	**70.34**	**320**	*e*P		**P**		**04 38 25.8**	**-2.4**
GROC				*e*				04 38 46.9	
GROC				*e*S		**S**		**04 47 35.9**	**-2.2**
GROC				pmax	pmax				
	comp=Z,74nm,0.8s								
YAK	**Yakutsk**	**70.73**	**13**	*e*P		**P**		**04 38 28.6**	**-1.5**
YAK				*e**PP		**pP**		**04 38 40.0**	**-1.0**
YAK				*e*				04 38 56.2	
YAK				*e*S		**S**		**04 47 38.8**	**-3.1**
YAK				pmax	pmax				
	comp=Z,34nm,1.0s								
YAK				pmax	pmax				
	comp=N,15nm,1.1s								
YAK				pmax	pmax				
	comp=E,8.0nm,1.3s								
YAK				smax	smax				
	comp=N,143nm,3.3s								
YAK				smax	smax				
	comp=E,205nm,4.9s								
YAK	**Yakutsk**	**70.73**	**13**	P		**P**		**04 38 29.4**	**-0.7**
SVE	**Sverdlovsk**	**70.85**	**337**	*c i*P		**P**		**04 38 32.2**	**+1.2**
SVE				pmax	pmax				
	comp=Z,70nm,1.1s								
ZEI	**Tsey**	**71.38**	**319**	*e*P		**P**		**04 38 35.5**	**+0.7**
ZEI				pmax	pmax				
	comp=Z,21nm,0.6s								
ARU	**Arti**	**71.39**	**336**	*d i*P		**P**		**04 38 34.8**	**+0.6**
ARU								04 41 14.8	
ARU				S		**S**		**04 47 53.4**	**+3.6**
ARU				SS		**SS**		**04 52 23.5**	**-1.5**
ARU				pmax	pmax				
	comp=Z,77nm,1.4s								
ARU	**Arti**	**71.39**	**336**	LR	LR			05 12 40.0	
	comp=Z,116nm,20.9s,baz=138,slow=38								
ARU	**Arti**	**71.39**	**336**	P		**P**		**04 38 33.9**	**-0.4**
MBAR	**Mbarara**	**71.46**	**271**	*d i*P		**P**		**04 38 37.9**	**+2.1**
MBAR				pmax	pmax				
	comp=Z,16nm,1.1s								
KBZ	**Khabaz**	**72.45**	**319**	*de*P		**P**		**04 38 42.2**	**+1.3**
KBZ	**Khabaz**	**72.45**	**319**	P		**P**		**04 38 41.9**	**+1.0**
	comp=Z,29nm,0.8s,baz=123,slow=4.8,SNR=34								
KBZ				LR	LR			05 14 51.8	
	comp=Z,43nm,18.9s,baz=120,slow=39								
KIV	**Kislovodsk**	**72.69**	**319**	*e*P		**P**		**04 38 43.7**	**+1.2**
KIV				pmax	pmax				
	comp=Z,109nm,1.0s								
KIV				MLR	MLR				
	comp=Z,141nm,18.0s								
KIV	**Kislovodsk**	**72.69**	**319**	P		**P**		**04 38 41.1**	**-1.4**
KIV				IAmb	IAmb			04 38 45.2	
	comp=Z,33nm,0.9s								
LSZ	**Lusaka**	**73.10**	**256**	P		**P**		**04 38 43.5**	**-2.0**
LSZ				pmax	pmax				
	comp=Z,8.0nm,0.9s								
LSZ	**Lusaka**	**73.10**	**256**	P		**P**		**04 38 43.5**	**-2.0**
GAZ	**Gaziantep**	**73.87**	**311**	P		**P**		**04 38 49.2**	**-0.3**
GAZ				IAmb	IA

BR231 IAmb IAmb 04 39 15.0
comp=Z,26nm,0.8s
VNDA Vanda 78.20 169 P **P** **04 39 12.8 -0.6**
VNDA Vanda 78.20 169 P **P** **04 39 14.5 +1.1**
comp=Z,5.0nm,0.8s,baz=335,slow=6.1,SNR=11
VNDA Vanda 78.20 169 P **P** **04 39 12.8 -0.6**
SEY Seymchan 78.20 21⇑ *eP* **P** **04 39 13.8 +0.3**
LPSR Galich'ya Gora 78.70 326 *eP* **P** **04 39 17.0 +0.5**
LPSR pmax pmax
comp=Z,60nm,0.8s
SIM Simferopol' 78.73 318 *eP* **P** **04 39 19.6 +2.7**
SIM pmax pmax
comp=Z,43nm,0.9s
TIXI Tiksi 79.10 8 *ceP* **P** **04 39 17.9 -0.4**
TIXI pmax pmax
comp=Z,15nm,1.3s
TIXI Tiksi 79.10 8 P **P** **04 39 18.0 -0.4**
ELL Elmali 79.31 309 P **P** **04 39 19.4 -1.0**
ELL pmax pmax
comp=Z,68nm,0.7s
ELL Elmali 79.31 309 P **P** **04 39 19.4 -1.0**
PRGR Permogore 79.85 336⇓ *iP* **P** **04 39 23.5 +0.9**
PRGR pmax pmax
comp=Z,73nm,0.7s
MOS Moscow 80.71 329 *eP* **P** **04 39 27.2 -0.1**
MOS *e* 04 39 33.4
MOS *e* 04 42 28.5
MOS pmax pmax
comp=Z,44nm,0.6s
MANT Manisa 80.80 310 P **P** **04 39 28.6 +0.1**
MANT IAmb IAmb 04 39 30.0
comp=Z,35nm,0.8s
OBN Obninsk 81.00 328 *diP* **P** **04 39 30.1 +1.2**
OBN *PP **pP** **04 39 40.0 +0.1**
OBN *e*SP **sP** **04 39 44.1 +0.2**
OBN 04 42 32.0
OBN S S 04 49 45.0 +10
OBN SS **SS** **04 54 54.0 +3.5**
OBN pmax pmax
comp=Z,149nm,1.7s
OBN MLR MLR
comp=Z,128nm,25.0s
OBN Obninsk 81.00 328 P **P** **04 39 29.8 +0.8**
KARP Karpathos 81.17 307 P **P** **04 39 28.7 -1.7**
TLCR 82.38 317 ⇑P **P** **04 39 37.7 +1.3**
TLCR 82.38 317 ⇑P **P** **04 39 37.7 +1.3**
TIRR Tirgusor 82.46 316 ⇑P **P** **04 39 38.1 +1.2**
TIRR Tirgusor 82.46 316 ⇑P **P** **04 39 38.1 +1.2**
TOPG Topolog 82.59 316 ⇓P P 04 39 45.5 +8.0
TLB Topalu 82.75 316 ⇑P **P** **04 39 39.5 +1.2**
TLB Topalu 82.75 316 ⇑P **P** **04 39 39.5 +1.2**
MILM Milestii Mici 82.86 319 ⇓P **P** **04 39 39.7 +0.8**
TSUM Tsumeb 83.07 251 P **P** **04 39 38.4 -2.4**
TSUM IAmb IAmb 04 39 43.6
comp=Z,17nm,0.8s
SORM Soroca 83.49 320 ⇑P **P** **04 39 42.8 +0.7**
SORM Soroca 83.49 320 ⇑P **P** **04 39 42.8 +0.7**
AKASG Malin Array Be 83.67 322 *iP* **P** **04 39 43.2 +0.2**
AKASG pmax pmax
comp=Z,16nm,0.8s
AKASG Malin Array Be 83.67 322 P **P** **04 39 43.0 0.0**
comp=Z,10.0nm,0.8s,baz=90,slow=4.5,SNR=40
AKASG LR LR 05 20 56.7
comp=Z,51nm,21.3s,baz=180,slow=38
AKBB Malin Array Si 83.67 322 P **P** **04 39 41.6 -1.4**
AKBB pmax pmax
comp=Z,16nm,0.8s
AKBB Malin Array Si 83.67 322 P **P** **04 39 41.6 -1.4**
AKBB IAmb IAmb 04 39 44.3
comp=Z,16nm,0.8s
VRI Vrincioaia 83.97 317 ⇑P **P** **04 39 46.2 +1.5**
VRI Vrincioaia 83.97 317 ⇑P **P** **04 39 46.2 +1.5**
TMCR Tamitsa 84.11 337 *eP* **P** **04 39 44.9 0.0**
TMCR pmax pmax
comp=Z,43nm,0.8s
TESR Tescani 84.19 318 ⇑P **P** **04 39 47.5 +1.7**
QSPA South Pole Qui 84.34 180 P **P** **04 39 45.7 -0.7**
QSPA IAmb IAmb 04 39 48.5
comp=Z,12nm,1.0s
MLR Muntele Rosu 84.41 317 ⇓P **P** **04 39 48.4 +1.3**
MLR Muntele Rosu 84.41 317 ⇓P **P** **04 39 48.4 +1.3**
MLR Muntele Rosu 84.41 317 P **P** **04 39 46.6 -0.4**
PLVB Pleven 84.86 314 ⇓P **P** **04 39 50.2 +1.0**
DOPR Dopca 84.90 317 ⇑P **P** **04 39 51.1 +1.7**
VOIR 85.01 316 ⇑P **P** **04 39 54.8 +4.7**
VOIR 85.01 316 ⇑P **P** **04 39 54.8 +4.7**
BURAR Bucovina Array 85.40 319 ⇑P **P** **04 39 54.5 +2.5**
BUR08 Bucovina Ar. S 85.42 319 P **P** **04 39 51.9 -0.2**
BUR08 IAmb IAmb 04 39 55.3
comp=Z,18nm,0.9s
VTS Vitosha 85.69 313 ⇑P **P** **04 39 54.8 +1.2**
VTS Vitosha 85.69 313 ⇑P **P** **04 39 54.8 +1.2**
VTS Vitosha 85.69 313 P **P** **04 39 53.0 -0.6**
VTS IAmb IAmb 04 39 55.5
comp=Z,12nm,0.8s
LIT Litokhoron 85.75 311 P **P** **04 39 53.0 -0.8**
LIT pmax pmax
comp=Z,22nm,0.8s
LIT Litokhoron 85.75 311 P **P** **04 39 53.0 -0.8**
LIT IAmb IAmb 04 39 54.9
comp=Z,22nm,0.8s
BILL Bilibino 85.81 20⇓ *eP* **P** **04 39 54.0 +0.6**
BILL pmax pmax
comp=Z,5.0nm,1.3s
IDID Didziasalis 86.38 326 *eP* **P** **04 39 59.0 +2.5**
LVV L'vov 86.67 321 *eP* **P** **04 39 58.7 +0.7**
IZAR Zarasai 86.77 327 *eP* **P** **04 39 59.9 +1.5**
ISAL Salakas 86.79 326 *eP* **P** **04 40 00.1 +1.6**
ISAL IAmb IAmb 04 40 01.4
comp=Z,16nm,0.8s
DRGR 86.89 317 ⇑P **P** **04 40 00.3 +1.0**
DRGR 86.89 317 ⇑P **P** **04 40 00.3 +1.0**
VSU Vasula 87.22 329 *diP* **P** **04 40 01.3 +0.8**
VSU pmax pmax
comp=Z,167nm,1.3s
VSU Vasula 87.22 329 *eP* **P** **04 40 01.5 +1.1**
VSU IAmb IAmb 04 40 02.7
comp=Z,108nm,0.7s
APA Apatity 87.24 339⇓ *iP* **P** **04 40 00.1 -0.3**
APA pmax pmax
comp=Z,7.0nm,1.2s
TRPA Tarpa 87.27 319 ⇓P **P** **04 40 02.5 +1.5**
TRPA Tarpa 87.27 319 *eP* **P** **04 40 01.0 0.0**
BZS Buzias 87.41 316 ⇓P **P** **04 40 02.4 +0.7**
BZS Buzias 87.41 316 ⇓P **P** **04 40 02.4 +0.7**
KWP Kalwaria Pacla 87.47 320 *eP* **P** **04 40 03.5 +1.5**
KWP Kalwaria Pacla 87.47 320 *eP* **P** **04 40 03.5 +1.5**
KWP *eP* **P** **04 40 03.5 +1.5**
UZH Uzhgorod 87.53 319 *eP* **P** **04 40 03.5 +1.3**
UZH *e* 04 40 18.6
UZH *i* 04 43 29.2
KOLS Kolonicke sedl 87.61 319 *eP* **P** **04 40 04.8 +2.2**
KOLS pmax pmax
comp=Z,42nm,1.1s
KOLS Kolonicke sedl 87.61 319 *eP* **P** **04 40 04.8 +2.2**
TIR Tirane 87.93 312 P **P** **04 40 02.9 -1.4**
TIR pmax pmax
comp=Z,15nm,0.8s
TIR Tirane 87.93 312 P **P** **04 40 02.9 -1.4**
TIR IAmb IAmb 04 40 18.7
comp=Z,15nm,0.8s
PABE Paberze 87.96 326 *eP* **P** **04 40 04.8 +0.7**
PABE IAmb IAmb 04 40 06.7
comp=Z,76nm,0.9s
SUW Suwalki 88.08 325 *eP* **P** **04 40 05.8 +1.0**
SUW Suwalki 88.08 325 *eP* **P** **04 40 05.8 +1.0**
SUW *eP* **P** **04 40 05.8 +1.0**
SUW Suwalki 88.08 325 P **P** **04 40 03.8 -1.0**
FIA FINESS Array S 88.32 332 P **P** **04 40 04.7 -1.0**
FINES FINESS Array B 88.32 332 *iP* **P** **04 40 06.9 +1.2**
FINES pmax pmax
comp=Z,16nm,0.8s
FINES FINESS Array B 88.32 332 P **P** **04 40 06.7 +1.0**
comp=Z,16nm,0.8s,baz=110,slow=6.2,SNR=38
STHS Stebnicka Huta 88.36 320 *eP* **P** **04 40 07.1 +0.9**
STHS pmax pmax
comp=Z,19nm,0.9s
STHS Stebnicka Huta 88.36 320 *eP* **P** **04 40 07.1 +0.9**
PDG Podgorica 88.55 313 ⇓P **P** **04 40 08.1 +0.9**
KECS Kecovo 88.69 319 *eP* **P** **04 40 09.1 +1.3**
KECS pmax pmax
comp=Z,6.0nm,1.0s
KECS Kecovo 88.69 319 *eP* **P** **04 40 09.1 +1.3**

NIE Niedzica 88.97 320 *eP* **P** **04 40 11.2 +2.1**
NIE Niedzica 88.97 320 *eP* **P** **04 40 11.2 +2.1**
NIE *eP* **P** **04 40 11.2 +2.1**
PSZ Piszkesteto 88.98 318 ⇑P **P** **04 40 10.5 +1.3**
PSZ Piszkesteto 88.98 318 ⇑P **P** **04 40 10.5 +1.3**
PSZ Piszkesteto 88.98 318 *eP* **P** **04 40 10.0 +0.8**
PSZ Piszkesteto 88.98 318 P **P** **04 40 08.7 -0.6**
PSZ IAmb IAmb 04 40 11.8
comp=Z,17nm,1.1s
BEL Belsk 89.08 322 *eP* **P** **04 40 11.6 +2.1**
BEL Belsk 89.08 322 *eP* **P** **04 40 11.6 +2.1**
BEL *eP* **P** **04 40 11.6 +2.1**
SNAA Sanae 89.36 198 P **P** **04 40 13.1 +2.5**
SNAA Sanae 89.36 198 *diP* **P** **04 40 12.8 +2.2**
SNAA Sanae 89.36 198 P **P** **04 40 09.8 -0.8**
SNAA IAmb IAmb 04 40 14.2
comp=Z,12nm,0.9s
OJC Ojcow 89.42 320 P **P** **04 40 11.3 +0.2**
OJC pmax pmax
comp=Z,4.0nm,0.8s
OJC Ojcow 89.42 320 P **P** **04 40 11.3 +0.2**
MORH Mrgy, Hungar 89.56 316 *eP* **P** **04 40 13.0 +1.1**
VYHS Vyhne 89.77 319 *eP* **P** **04 40 14.2 +1.3**
VYHS pmax pmax
comp=Z,18nm,1.3s
VYHS Vyhne 89.77 319 *eP* **P** **04 40 14.2 +1.3**
SRO Srobarova 90.02 318 *eP* **P** **04 40 15.9 +1.9**
SRO pmax pmax
comp=Z,23nm,1.0s
SRO Srobarova 90.02 318 *eP* **P** **04 40 15.9 +1.9**
TIH Tihany 90.17 317 *eP* P 04 40 28.0 +13
BLY Banja Luka 90.37 315 P **P** **04 40 14.6 -1.1**
BLY IAmb IAmb 04 40 18.4
comp=Z,26nm,1.1s
OKC Ostrava-Krasne 90.42 320 *eP* **P** **04 40 17.0 +1.2**
OKC Ostrava-Krasne 90.42 320 *eP* **P** **04 40 17.0 +1.2**
MPLH Magyarpolny 90.44 317 *eP* **P** **04 40 17.1 +1.1**
JAVC Velka Javorina 90.59 319 *eP* **P** **04 40 18.8 +2.1**
ARCES ARCESS Array B 90.61 340 P **P** **04 40 17.1 +0.8**
comp=Z,9.4nm,0.9s,baz=111,slow=3.0,SNR=12
MODS Modra-Piesok 90.78 318 *eP* **P** **04 40 18.5 +0.9**
MODS pmax pmax
comp=Z,28nm,1.4s
MODS Modra-Piesok 90.78 318 *eP* **P** **04 40 18.5 +0.9**
MORC Moravsky Berou 90.79 320 ⇑P **P** **04 40 19.4 +1.7**
MORC Moravsky Berou 90.79 320 ⇑P **P** **04 40 19.4 +1.7**
MORC Moravsky Berou 90.79 320 *eP* **P** **04 40 19.4 +1.7**
MORC Moravsky Berou 90.79 320 P **P** **04 40 16.7 -1.0**
MORC IAmb IAmb 04 40 19.9
comp=Z,10.0nm,1.0s
VNA2 Neumayer--Watz 90.99 198 P **P** **04 40 20.8 +2.6**
baz=33,slow=4.3
KRLC Kraliky 91.32 320 *eP* **P** **04 40 21.6 +1.5**
KRLC *e* 04 40 34.6
KRLC Kraliky 91.32 320 *eP* **P** **04 40 21.6 +1.5**
KRLC *es*P **sP** **04 40 34.6 -0.7**
VNA1 Neumayer--Stat 91.36 198 P **P** **04 40 22.5 +2.7**
GKP Gorka Klasztor 91.44 323 *eP* **P** **04 40 21.7 +1.2**
GKP Gorka Klasztor 91.44 323 *eP* **P** **04 40 21.7 +1.2**
GKP *eP* **P** **04 40 21.7 +1.2**
DPC Dobruska-Polom 91.65 320 *eP* **P** **04 40 23.6 +2.0**
DPC Dobruska-Polom 91.65 320 *eP* **P** **04 40 23.6 +2.0**
KSP Ksiaz 91.72 321 *eP* **P** **04 40 21.9 0.0**
KSP Ksiaz 91.72 321 *eP* **P** **04 40 21.9 0.0**
KSP *eP* **P** **04 40 21.9 0.0**
CHVC Chvalec 91.84 320 *eP* **P** **04 40 24.1 +1.6**
CHVC *ex* x 04 40 38.0
GEC2 GERESS Array S 93.19 319 P **P** **04 40 27.1 -1.7**
GERES GERESS Array B 93.19 319 P **P** **04 40 30.0 +1.1**
GERES GERESS Array B 93.19 319 P **P** **04 40 29.9 +1.1**
comp=Z,2.1nm,0.8s,baz=90,slow=5.3,SNR=14
BRG Berggiesshubel 93.21 321 *iP* **P** **04 40 30.1 +1.4**
comp=Z,6.9nm,1.1s
BRG Berggiesshubel 93.21 321 *iP* **P** **04 40 30.1 +1.4**
BRG pmax pmax
comp=Z,7.0nm,1.2s
CLL Collm 93.83 321 *iP* **P** **04 40 32.8 +1.2**
CLL *eS* **S** **04 51 40.0 +1.3**
CLL Collm 93.83 321 *iP* **P** **04 40 32.8 +1.2**
CLL *eS* **S** **04 51 40.0 +1.3**
CLL *ePS* **PS** **04 53 00.0 +2.7**
CLL *eSSSS* 05 04 48.0
CLL LmV 05 27 00.0
comp=Z,100nm,18.9s
CLL Collm 93.83 321 P **P** **04 40 31.3 -0.3**
SPA0 Spitsbergen Ar 94.61 348 P **P** **04 40 31.7 -3.0**
SPITS Spitsbergen Ar 94.61 348 LR LR 05 31 05.1
comp=Z,105nm,18.1s,baz=110,slow=40
NB2 NORSAR Subarra 95.35 331 P **P** **04 40 38.7 +0.3**
comp=Z,0.8nm,0.7s,baz=96,slow=4.6
NOA NORSAR Array B 95.35 331 P **P** **04 40 38.4 0.0**
comp=Z,1.9nm,0.9s,baz=91,slow=4.9,SNR=4.3
KEST Kesra 95.54 305 P **P** **04 40 40.8 +0.9**
comp=Z,2.2nm,0.8s,baz=48,slow=13,SNR=3.6
POKR Poker Plat Res 103.61 24 P **Pdif** **04 41 15.8 +0.5**
baz=286
ILAR Eielson Array 103.93 24 PKKPbc PKKPbc 04 57 08.1 -1.2
comp=Z,0.3nm,0.5s,baz=143,slow=2.3,SNR=4.5
HDA Harding Lake 104.01 25 P **Pdif** **04 41 18.6 +1.5**
baz=287
TBI Tubuai 104.47 116 *ePP* **PKiKP** **04 45 38.1 +1.8**
comp=Z,76nm,27.0s
TBI Tubuai 104.47 116 *eLQ* LQ 05 11 07.4
comp=Z,582nm,39.0s
PPT2 Papeete2 105.55 110 *ePP* **PKiKP** **04 45 37.6 -0.9**
comp=Z,98nm,26.2s
PPT2 Papeete2 105.55 110 *ePS* PS 04 55 05.2 +0.8
comp=Z,37nm,25.2s
PPT2 Papeete2 105.55 110 *eLQ* LQ 05 11 41.2
comp=Z,337nm,39.5s
PPT2 *eLR* LR 05 16 19.8
comp=Z,133nm,23.2s
EPYK Eagle Plains 107.25 21 P **PKiKP** **04 45 41.5 +1.2**
baz=297
C36M Paulatuk 109.60 16 P **PKiKP** **04 45 45.8 +1.4**
baz=310
YKA Yellowknife Ar 117.17 18 PKP **PKPdf** **04 45 58.4 -0.7**
comp=Z,1.4nm,0.8s,baz=324,slow=2.2,SNR=16
YKA PKKPab **PKKPab** **04 56 28.1 +0.5**
comp=Z,0.7nm,0.8s,baz=129,slow=4.5,SNR=12
D03D Eldon 123.13 35 P **PKiKP** **04 46 11.9 +0.6**
baz=303
B05A Bryant 123.29 34 P **PKiKP** **04 46 12.2 +0.6**
baz=304
E04D Cinebar 123.95 36 P **PKiKP** **04 46 14.6 +1.7**
baz=302
G03D McMinnville, O 124.25 38 P **PKiKP** **04 46 14.5 +0.9**
baz=301
F04A Amboy 124.37 36 **PKPdf** **04 46 13.1 -0.4**
I02D Swisshome 124.44 39 P **PKiKP** **04 46 14.6 +0.7**
baz=300
B08A Colville Reser 124.74 33 **PKPdf** **04 46 13.8 -0.3**
J01E Myrtle Point 124.86 40 P **PKiKP** **04 46 15.3 +0.5**
baz=299
H04D Lebanon 124.92 38 P **PKiKP** **04 46 15.6 +0.7**
baz=301,SNR=5.2
I03D Drain, OR 124.96 39 P **PKiKP** **04 46 15.9 +1.0**
baz=300,SNR=5.6
K02D Willamette Mer 125.25 40 P **PKiKP** **04 46 17.1 +1.3**
baz=299
I04A Tendick Farm, 125.50 39 P **PKiKP** **04 46 17.1 +0.9**
baz=301,SNR=6.1
I05D Terrebonne, OR 125.87 38 P **PKiKP** **04 46 18.1 +1.2**
baz=302
NEW Newport 125.97 32 P **PKiKP** **04 46 18.4 +1.4**
baz=309
J04D Umpqua Nationa 125.97 39 P **PKiKP** **04 46 18.1 +0.8**
baz=301,SNR=8.4
L04D Klamath Falls 126.36 40 P **PKiKP** **04 46 19.4 +1.4**
baz=300
PINE Pine Mountain 126.41 38 **PKPdf** **04 46 16.7 -1.0**
M02C Callahan 126.41 41 P **PKiKP** **04 46 20.0 +1.9**
baz=299
J05D Fort Rock, OR 126.49 39 P **PKiKP** **04 46 19.2 +0.9**
baz=302,SNR=5.5
K04D Chiloquin, OR 126.51 40 P **PKiKP** **04 46 19.8 +1.5**
baz=301
N02D Trinity Center 126.71 42 P **PKiKP** **04 46 20.3 +1.6**
baz=299
M04C Macdoel 126.88 41 P **PKiKP** **04 46 20.4 +1.3**
baz=300
O02D Mt. Diablo Mer 127.04 43 P **PKiKP** **04 46 21.2 +1.8**
baz=298
FFC Flin Flon 127.32 17 *i* PKIKP **PKiKP** **04 46 20.2 +0.8**
FFC Flin Flon 127.32 17 **PKPdf** **04 46 18.5 -0.4**

O03E Paynes Creek 127.64 42 P **PKiKP** **04 46 21.6 +1.0**
baz=299
ORV Oroville 128.21 43 PKIKP **PKPdf** **04 46 20.5 -0.5**
ORV Oroville 128.21 43 **PKPdf** **04 46 20.4 -0.5**
MSO Missoula 128.54 31 P **PKiKP** **04 46 22.9 +0.7**
baz=312,SNR=7.6
AFDM Forest Hills D 128.86 43 **PKPdf** **04 46 21.7 -0.6**
EGMT Eagleton 129.75 27 P **PKiKP** **04 46 25.5 +0.9**
baz=317
SCHQ Schefferville 130.15 352 PKP **PKPdf** **04 46 24.6 +0.3**
comp=Z,3.7nm,0.7s,baz=248,slow=1.6,SNR=5.5
BOZ Bozeman (W) 130.56 31 P **PKiKP** **04 46 27.5 +1.2**
baz=313
KVN Kaiserville 130.74 42 PKIKP **PKPdf** **04 46 24.8 -1.3**
KVN Kaiserville 130.74 42 **PKPdf** **04 46 24.8 -1.3**
NVAR Mina Array Bea 130.92 42 PKP **PKiKP** **04 46 27.9 +0.5**
comp=Z,2.8nm,0.9s,baz=299,slow=1.9,SNR=15
MLAC Mammoth, Mammo 130.97 44 P **PKiKP** **04 46 28.5 +0.9**
baz=300
RLMT Red Lodge 132.08 30 P **PKiKP** **04 46 30.4 +0.9**
baz=316
CWC Cottonwood Cre 132.09 45 P **PKiKP** **04 46 30.4 +0.7**
baz=300
LAO LASA Array 132.34 26 P **PKiKP** **04 46 30.9 +1.1**
baz=320
SNCC San Nicolas Is 132.53 49 P **PKiKP** **04 46 31.4 +0.9**
baz=296
MPMC Manual Prospec 132.69 45 P **PKiKP** **04 46 31.6 +0.5**
baz=300
R11A Troy Canyon, C 132.77 41 P **PKiKP** **04 46 31.0 -0.1**
baz=304,SNR=11
BGU Big Grassy Mou 132.84 37 **PKPdf** **04 46 28.9 -1.0**
EDW2 Edwards Air Fo 132.91 46 P **PKiKP** **04 46 32.4 +1.1**
baz=299
FURC Furnace Creek, 132.92 44 P **PKiKP** **04 46 31.8 +0.6**
baz=301
ULM Lac du Bonnet 133.03 16 PKP **PKPdf** **04 46 30.1 +0.3**
comp=Z,8.2nm,0.8s,baz=288,slow=2.6,SNR=12
TPNV Topopah Spring 133.09 43 P **PKiKP** **04 46 31.9 +0.2**
baz=302
PLCA Paso Flores 133.37 188 PKIKP **PKPdf** **04 46 29.5 -1.4**
PLCA Paso Flores 133.37 188 PKP **PKiKP** **04 46 32.5 +0.4**
comp=Z,0.7nm,0.7s,baz=260,slow=6.1,SNR=3.3
PLCA Paso Flores 133.37 188 **PKPdf** **04 46 29.5 -1.4**
DUG Dugway, Tooele 133.42 37 P **PKiKP** **04 46 33.2 +0.9**
baz=308
GSC Goldstone, Bar 133.55 45 P **PKiKP** **04 46 33.9 +1.2**
baz=300
PD31 Pinedale Array 133.58 32 **PKPdf** **04 46 29.6 -1.9**
PDAR Pinedale Array 133.58 32 PKP **PKPdf** **04 46 32.0 +0.6**
comp=Z,0.8nm,0.6s,baz=197,slow=2.1,SNR=9.4
SHPR Sheep Range 134.06 43 **PKPdf** **04 46 31.3 -1.2**
GMRC Granite Mounta 134.63 45 P **PKiKP** **04 46 36.1 +1.2**
baz=301
PFO Pinyon Flats O 134.64 47 P **PKiKP** **04 46 36.0 +1.0**
baz=299
MONP2 Monument Peak 135.01 48 P **PKiKP** **04 46 36.2 +0.4**
baz=299
K22A Casper 135.23 30 P **PKiKP** **04 46 35.9 -0.1**
baz=318
RSSD Black Hills 135.30 27 P **PKiKP** **04 46 36.3 +0.2**
baz=322
RSSD Black Hills 135.30 27 PKIKP **PKPdf** **04 46 33.7 -0.9**
RSSD Black Hills 135.30 27 **PKPdf** **04 46 33.7 -0.9**
SWSC Sam W. Stewart 135.44 48 P **PKiKP** **04 46 38.2 +1.8**
baz=299
O20A White River Ci 136.11 34 P **PKiKP** **04 46 38.6 +0.8**
baz=314
WUAZ Wupatki 137.15 42 P **PKiKP** **04 46 40.8 +0.8**
baz=306
MVCO Mesa Verde 137.92 37 P **PKiKP** **04 46 42.6 +1.0**
baz=311
W18A Petrified Fore 138.46 41 P **PKiKP** **04 46 42.9 +0.1**
baz=308
S22A 4UR Ranch, Cre 138.55 35 P **PKPdf** **04 46 40.6 -0.3**
baz=313
ANMO Albuquerque 140.65 38 *c iPKIKP **PKiKP** **04 46 46.2 -1.1**
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO Albuquerque 140.65 38 **PKPdf** **04 46 43.4 -1.3**
CFA Coronel Fontan 141.85 193 PKhKP PKPpre 04 46 42.5
comp=Z,1.2nm,0.4s,baz=230,slow=2.1,SNR=8.2
CFA PKP **PKPdf** **04 46 47.9 +1.1**
comp=Z,2.4nm,0.6s,baz=348,slow=1.9,SNR=5.0
CPUP Villa Florida 142.51 211 PKIKP **PKPdf** **04 46 46.5 -1.5**
CPUP Villa Florida 142.51 211 PKP **PKPdf** **04 46 48.5 +0.6**
comp=Z,1.3nm,0.8s,baz=137,slow=2.8,SNR=4.5
CPUP Villa Florida 142.51 211 **PKPdf** **04 46 46.5 -1.5**
MNTX Cornudas Mount 143.44 41 **PKPdf** **04 46 48.3 -1.2**
BDFB Brasilia 143.68 234 PKP **PKPdf** **04 46 49.6 -0.9**
comp=Z,3.6nm,0.7s,baz=128,slow=3.9,SNR=6.7
M48A Edgerton 143.78 9 P PKPbc 04 46 47.7 +0.3
baz=349
M50A Fremont 144.09 7 P PKPbc 04 46 48.5 +0.3
baz=351
N47A Urbana 144.21 10 P PKPbc 04 46 48.6 0.0
baz=347
M56A Emporium 144.31 0 P PKPbc 04 46 49.4 +0.4
baz=360
M55A Ridgway 144.31 1 P PKPbc 04 46 49.6 +0.5
baz=359
N48A Decatur 144.34 9 P PKPbc 04 46 49.3 +0.2
baz=348
M60A Port Jervis 144.35 356 P PKPbc 04 46 49.4 +0.3
baz=5.7
M58A Price's Panora 144.40 358 P PKPbc 04 46 49.5 +0.2
baz=2.6
N49A Columbus Grove 144.41 8 P PKPbc 04 46 49.8 +0.5
baz=349
SFIN Lafayette 144.42 12 P **PKPdf** **04 46 50.2 -0.8**
baz=344
M57A Sunshine Farm, 144.45 359 P PKPbc 04 46 50.0 +0.6
baz=1.5
PAL Palisades 144.61 355 P PKPbc 04 46 50.2 +0.3
baz=7.0
N51A Ashland 144.64 6 P PKPbc 04 46 50.0 0.0
baz=352
N50A Nevada 144.70 7 P **PKPab** **04 46 50.0 -0.1**
baz=351,SNR=5.8
N54A Moraine State 144.78 3 P PKPbc 04 46 50.6 +0.1
baz=356
N52A McGinn's Farm, 144.81 5 P PKPbc 04 46 50.8 +0.2
baz=354
N59A State Game Lan 144.83 357 P PKPbc 04 46 50.9 +0.3
baz=3.8
N60A Cedar Hill Far 144.84 356 P PKPbc 04 46 51.0 +0.3
baz=5.0
N56A West Decatur 144.87 1 P PKPbc 04 46 50.9 +0.1
baz=359
N53A Lisbon 144.88 4 P PKPbc 04 46 50.8 0.0
baz=355,SNR=5.3
N61A South Mountain 144.90 355 P PKPbc 04 46 51.2 +0.3
baz=6.4
O48A Farmland 144.91 10 P **PKPab** **04 46 50.4 -0.5**
baz=348,SNR=6.7
N58A Sunbury 144.94 359 P **PKPab** **04 46 50.5 -0.4**
baz=2.2,SNR=8.5
N55A Marion Center 145.00 2 P **PKPab** **04 46 51.1 -0.1**
baz=358,SNR=6.6
N57A Milroy 145.03 360 P **PKPbc** **04 46 51.2 -0.1**
baz=0.7,SNR=9.8
O49A Covington 145.11 9 P **PKPbc** **04 46 51.4 -0.2**
baz=349,SNR=5.2
P46A Rosedale 145.13 13 P **PKPab** **04 46 51.7 0.0**
baz=344,SNR=8.1
SSPA Standing Stone 145.16 0 P **PKPab** **04 46 51.8 +0.1**
baz=0.2
SSPA Standing Stone 145.16 0 **PKPbc** **04 46 51.1 -0.6**
WMOK Wichita Mounta 145.17 31 P **PKPbc** **04 46 51.9 0.0**
baz=322,SNR=15
ACSO Alum Creek Sta 145.25 7 P **PKPbc** **04 46 51.4 -0.6**
baz=351,SNR=12
O50A Cable 145.25 8 P **PKPbc** **04 46 52.0 -0.1**
baz=350,SNR=9.7
O51A Pataskala 145.38 6 P **PKPbc** **04 46 52.5 0.0**
baz=352,SNR=16
O60A Telford 145.40 357 P **PKPab** **04 46 52.7 +0.1**
baz=4.5
O53A New Philadelph 145.41 5 P **PKPab** **04 46 52.9 +0.2**
baz=354,SNR=8.8
O59A Robesonia 145.45 358 P **PKPab** **04 46 53.0 +0.1**
baz=3.1,SNR=9.8
O52A Adamsville 145.49 5 P **PKPbc** **04 46 52.8 0.0**
baz=353,SNR=7.2
CCM Cathedral Cave 145.50 19 P **PKPab** **04 46 53.1 0.0**
baz=336
CCM Cathedral Cave 145.50 19 PKIKP **PKPdf** **04 46 52.4 -0.4**

CCM	Cathedral Cave	145.50	19		PKPdf	04 46 52.4	-0.4
O56A	Blue Knob Stat	145.52	1	P	PKPab	04 46 53.3	+0.1
	baz=359						
O54A	Avella	145.53	3	P	PKPbc	04 46 53.1	+0.1
	baz=356,SNR=6.2						
O55A	Ligonier	145.56	2	P	PKPbc	04 46 53.1	+0.1
	baz=358						
O61A	Allentown	145.57	356	P	PKPbc	04 46 53.0	0.0
	baz=6.0						
O57A	Amberson	145.58	360	P	PKPbc	04 46 53.2	+0.1
	baz=0.6,SNR=9.9						
P48A	Milroy	145.64	10	P	PKPbc	04 46 53.2	-0.1
	baz=347,SNR=9.3						
TUL1	Leonard	145.65	26	P	PKPab	04 46 53.7	-0.1
	baz=327,SNR=6.7						
O58A	Lewisberry	145.66	359	P	PKPbc	04 46 53.4	+0.1
	baz=1.9,SNR=13						
P49A	Miami Univ. Ec	145.69	9	P	PKPbc	04 46 53.5	+0.1
	baz=348,SNR=8.5						
P50A	Jamestown	145.76	8	P	PKPbc	04 46 53.7	0.0
	baz=350,SNR=14						
W35A	Tecumseh	145.78	28		PKPdf	04 46 52.4	-1.0
P60A	Greenville	145.92	357	P	PKPbc	04 46 54.3	+0.2
	baz=4.2,SNR=9.5						
P60A	Greenville	145.92	357		PKPdf	04 46 53.0	-0.5
P52A	Corning	145.94	6	P	PKPdf	04 46 53.7	+0.2
	baz=353,SNR=5.7						
P51A	Williamsport	145.98	7	P	PKPbc	04 46 54.0	-0.3
	baz=351,SNR=6.6						
P61A	Hammonton	146.01	356	P	PKPdf	04 46 53.6	-0.1
	baz=5.7						
TX31	Lajitas Ar. Si	146.07	43		PKPdf	04 46 53.1	-1.1
TXAR	Lajitas Array	146.07	43	PKPbc	PKPab	04 46 55.6	-0.1
	comp=Z,25nm,0.8s,baz=260,slow=1.4,SNR=116						
MCWV	Mont Chateau	146.08	3	P	PKPbc	04 46 54.9	+0.2
	baz=357,SNR=6.8						
Q48A	North Vernon	146.10	11	P	PKPbc	04 46 54.9	+0.2
	baz=346,SNR=9.5						
P54A	Burton	146.10	4	P	PKPab	04 46 55.2	-0.1
	baz=356,SNR=5.9						
P53A	Whipple	146.15	5	P	PKPbc	04 46 55.0	+0.1
	baz=354,SNR=5.7						
P59A	Jarrettsville	146.16	358	P	PKPbc	04 46 54.6	-0.2
	baz=2.8,SNR=6.0						
Q49A	Aurora	146.17	10	P	PKPbc	04 46 54.6	-0.4
	baz=348,SNR=6.5						
P55A	Reedsville	146.23	3	P	PKPbc	04 46 55.1	-0.1
	baz=357,SNR=5.8						
P56A	Dayton Farm, R	146.27	1	P	PKPbc	04 46 55.4	+0.2
	baz=358,SNR=14						
P58A	Pank, Wackersv	146.30	359	P	PKPbc	04 46 55.7	+0.4
	baz=1.2,SNR=11						
P57A	Homestead Farm	146.31	0	P	PKPbc	04 46 55.6	+0.2
	baz=360,SNR=14						
ABTX	Abilene, Hawle	146.31	34	P	PKPab	04 46 56.3	-0.1
	baz=318,SNR=14						
Q51A	Peebles	146.39	8	P	PKPbc	04 46 55.6	0.0
	baz=350,SNR=13						
S44A	Carbondale	146.44	17	P	PKPbc	04 46 55.5	-0.2
	baz=339						
U40A	Yellville	146.47	22	P	PKPbc	04 46 55.7	-0.2
	baz=332						
Q50A	Georgetown	146.48	9	P	PKPbc	04 46 55.7	-0.2
	baz=349,SNR=5.3						
Q52A	Bidwell	146.59	6	P	PKPbc	04 46 55.9	-0.2
	baz=352,SNR=7.9						
USIN	University of	146.60	14	PKPdf	PKPdf	04 46 53.6	-1.1
WCI	Wyandotte Cave	146.66	12	P	PKPbc	04 46 56.1	-0.3
	baz=345						
WCI	Wyandotte Cave	146.66	12	PKIKP	PKPdf	04 46 54.0	-0.8
WCI	Wyandotte Cave	146.66	12	PKPdf	PKPdf	04 46 54.0	-0.8
Q54A	Coxs Mills	146.69	4	P	PKPbc	04 46 56.5	0.0
	baz=355,SNR=7.9						
Q56A	Snyder Ridge,	146.73	2	P	PKPbc	04 46 56.6	0.0
	baz=358,SNR=8.2						
Q55A	Buckhannon	146.73	3	P	PKPbc	04 46 56.9	+0.2
	baz=356,SNR=13						
Q60A	Greensboro	146.74	357	P	PKPbc	04 46 56.6	0.0
	baz=3.9						
Q57A	Strasburg	146.75	1	P	PKPbc	04 46 56.9	+0.2
	baz=359						
Q53A	Leroy	146.76	5	P	PKPbc	04 46 56.8	+0.1
	baz=354,SNR=6.6						
R49A	Shelbyville	146.82	11	P	PKPbc	04 46 56.6	-0.3
	baz=347,SNR=12						
Q61A	Milford	146.83	356	P	PKPbc	04 46 57.2	+0.4
	baz=4.8						
Q58A	Fox Den Farm,	146.85	360	P	PKPbc	04 46 57.4	+0.5
	baz=0.5,SNR=6.1						
Q59A	Harwood	146.91	358	P	PKPbc	04 46 57.6	+0.5
	baz=2.4,SNR=5.9						
R50A	Paris	146.97	9	P	PKPbc	04 46 56.8	-0.5
	baz=348,SNR=8.2						
R51A	Hillsboro	147.07	8	P	PKPbc	04 46 57.1	-0.5
	baz=350						
W39A	Magazine	147.11	24	P	PKPbc	04 46 58.1	+0.3
	baz=330						
R52A	Catlettsburg	147.16	7	P	PKPbc	04 46 57.6	-0.3
	baz=351,SNR=8.4						
R53A	Hurricane	147.24	6	P	PKPbc	04 46 58.4	+0.3
	baz=353,SNR=13						
S49A	Springfield	147.29	11	P	PKPbc	04 46 58.6	+0.4
	baz=346,SNR=5.1						
R56A	Bull Pasture M	147.35	2	P	PKPbc	04 46 58.1	-0.4
	baz=357						
R55A	Marlinton	147.44	3	P	PKPbc	04 46 58.6	-0.1
	baz=356,SNR=5.2						
R54A	Victor	147.48	5	P	PKPbc	04 46 58.4	-0.3
	baz=354						
R57A	Stanardsville	147.49	1	P	PKPbc	04 46 59.0	+0.3
	baz=359,SNR=10						
R58A	Rapidan	147.49	0	P	PKPbc	04 46 58.8	0.0
	baz=360,SNR=9.2						
R60A	Leonardtown, M	147.50	358	P	PKPbc	04 46 58.8	+0.1
	baz=2.6						
S50A	Richmond	147.55	10	P	PKPbc	04 46 58.2	-0.7
	baz=348						
R59A	King George, V	147.58	359	P	PKPbc	04 46 59.3	+0.3
	baz=1.6						
T47A	Sharon Grove	147.66	14	P	PKPbc	04 46 59.1	-0.1
	baz=343						
S51A	Beattyville	147.72	9	P	PKPbc	04 46 59.4	0.0
	baz=350						
W41B	Gary Mavity, V	147.74	22	P	PKPbc	04 46 59.3	-0.2
	baz=333,SNR=6.2						
S52A	Salyersville	147.75	8	P	PKPbc	04 46 59.5	0.0
	baz=350						
MIAR	Mount Ida	147.76	25	P	PKPbc	04 47 00.1	+0.5
	baz=330,SNR=23						
JCT	Junction City	147.78	37	P	PKPbc	04 47 00.6	+0.7
	baz=316						
R58B	Mineral	147.82	0	P	PKPbc	04 47 00.0	+0.4
	baz=0.2,SNR=5.8						
S54A	Dingess, Beckl	147.83	5	P	PKPbc	04 46 59.7	-0.1
	baz=354						
T49A	Edmonton	147.90	12	P	PKPbc	04 46 59.6	-0.3
	baz=346						
S55A	Lewisburg	147.92	4	P	PKPbc	04 46 59.8	-0.2
	baz=355						
WHTX	Lake Whitney,	148.00	33	P	PKPbc	04 47 00.7	+0.4
	baz=321						
S57A	Dark Hollow, R	148.01	2	P	PKPbc	04 47 00.9	+0.7
	baz=358,SNR=6.3						
S59A	Mechanicsville	148.02	359	P	PKPbc	04 47 00.7	+0.5
	baz=1.3,SNR=7.0						
S60A	Water View	148.06	358	P	PKPbc	04 46 59.9	-0.3
	baz=2.5						
S56A	Natural Bridge	148.07	3	P	PKPbc	04 47 00.5	+0.2
	baz=357						
X40A	Basin Creek Fa	148.11	24	P	PKPbc	04 47 00.7	+0.2
	baz=331,SNR=8.5						
T50A	Nancy	148.12	11	P	PKPbc	04 47 00.4	-0.1
	baz=347,SNR=9.2						
S58A	Poland Farm, P	148.17	0	P	PKPbc	04 47 00.6	0.0
	baz=360,SNR=7.5						
WVT	Waverly	148.29	16	P	PKPbc	04 47 01.3	+0.3
	baz=341						
WVT	Waverly	148.29	16	PKIKP	PKPdf	04 46 56.6	-1.0
WVT	Waverly	148.29	16		PKPdf	04 46 56.6	-1.0
T51A	Gray	148.32	9	P	PKPbc	04 47 01.1	+0.1
	baz=349,SNR=14						
T52A	Hallie	148.33	8	P	PKPbc	04 47 01.1	0.0
	baz=350,SNR=5.6						
U49A	Red Boiling Sp	148.42	12	P	PKPbc	04 47 01.1	-0.1
	baz=345,SNR=12						
BLA	Blacksburg	148.49	4	P	PKPbc	04 47 01.6	0.0
	baz=355						
T53A	Wise	148.51	7	P	PKPbc	04 47 01.8	+0.2
	baz=351,SNR=5.1						
T54A	Tazewell	148.54	6	P	PKPbc	04 47 01.7	0.0
	baz=353,SNR=9.7						
T55A	Pulaski	148.55	5	P	PKPbc	04 47 02.1	+0.4
	baz=355,SNR=6.8						
T60A	Surry	148.63	358	P	PKPbc	04 47 01.8	0.0
	baz=2.4						
T56A	Rocky Mt	148.69	3	P	PKPbc	04 47 01.9	-0.1
	baz=356,SNR=8.6						
U50A	Jamestown	148.70	11	P	PKPbc	04 47 02.2	+0.1
	baz=347,SNR=38						
T57A	Hurt	148.76	2	P	PKPbc	04 47 02.3	+0.2
	baz=358						
TZTN	Tazewell	148.80	9	P	PKPbc	04 47 02.5	+0.2
	baz=349,SNR=12						
T59A	Double "B" Far	148.81	360	P	PKPbc	04 47 02.9	+0.6
	baz=0.8,SNR=9.1						
X43A	Marvell	148.83	21	P	PKPbc	04 47 03.0	+0.6
	baz=334,SNR=5.4						
T58A	Grand View Acr	148.83	1	P	PKPbc	04 47 02.9	+0.6
	baz=359,SNR=5.5						
435B	Jarrell	148.85	34	P	PKiKP	04 47 03.6	-0.4
	baz=320						
U51A	La Follette	148.88	10	P	PKiKP	04 47 03.4	-0.6
	baz=348						
V48A	Smith Brothers	148.92	14	P	PKPbc	04 47 02.6	0.0
	baz=343,SNR=16						
U52A	Thorn Hill	148.97	9	P	PKPbc	04 47 02.8	+0.1
	baz=350,SNR=6.6						
U54A	Nelsons Funny	149.05	6	P	PKPbc	04 47 02.6	-0.4
	baz=353						
V49A	McMinnville	149.11	13	P	PKPbc	04 47 02.9	-0.2
	baz=344,SNR=14						
U53A	Fall Branch	149.11	7	P	PKPbc	04 47 03.1	0.0
	baz=351						
U55A	TA2, Sparta	149.14	5	P	PKPbc	04 47 03.3	+0.1
	baz=354,SNR=11						
Z41A	Richland Creek	149.19	25	P	PKiKP	04 47 04.3	-0.3
	baz=330,SNR=7.3						
U60A	Pendleton	149.31	359	P	PKiKP	04 47 04.2	-0.5
	baz=1.6,SNR=5.9						
U57A	Blanch	149.32	2	P	PKPbc	04 47 04.0	+0.4
	baz=357,SNR=8.7						
OXF	Oxford	149.34	19	P	PKPbc	04 47 03.7	0.0
	baz=337,SNR=9.3						
U56A	King	149.35	4	P	PKPbc	04 47 03.9	+0.2
	baz=355						
V50A	Pikevile	149.37	12	P	PKPbc	04 47 03.8	+0.1
	baz=346,SNR=13						
U58A	Oxford	149.38	1	P	PKPbc	04 47 03.9	+0.2
	baz=359,SNR=9.5						
V51A	Loudon	149.39	10	P	PKPbc	04 47 03.8	0.0
	baz=348,SNR=8.7						
U61A	Possum Corner	149.43	358	P	PKPbc	04 47 03.7	-0.1
	baz=3.0						
U59A	Littleton	149.43	360	P	PKPbc	04 47 04.3	+0.5
	baz=0.4						
V52A	Sevierville	149.48	9	P	PKPbc	04 47 04.4	+0.4
	baz=349,SNR=23						
833A	Chaparral WMA,	149.55	40	P	PKiKP	04 47 05.0	-0.4
	baz=314						
NATX	Nacogdoches	149.61	29	P	PKPbc	04 47 05.0	+0.5
	baz=326,SNR=7.3						
TKL	Tuckaleechee C	149.63	10	PKPbc	PKPbc	04 47 04.9	+0.5
	comp=Z,39nm,0.7s,baz=138,slow=4.7,SNR=63						
W49A	Belvidere	149.65	14	P	PKPbc	04 47 04.3	-0.2
	baz=344,SNR=25						
V53A	Saluda	149.76	8	P	PKPbc	04 47 05.1	+0.3
	baz=350,SNR=19						
V54A	Nebo	149.77	7	P	PKPbc	04 47 04.9	+0.1
	baz=352,SNR=9.3						
V55A	Taylorsville	149.77	5	P	PKPbc	04 47 04.9	+0.1
	baz=354,SNR=8.6						
V55A	Taylorsville	149.77	5		PKPbc	04 47 03.6	-1.1
V55A					PKPab	04 47 09.5	-0.5
W50A	Signal Mountai	149.78	12	P	PKPbc	04 47 05.1	+0.3
	baz=345,SNR=7.4						
V57A	Coltrane Farms	149.84	3	P	PKPbc	04 47 05.2	+0.3
	baz=356,SNR=9.0						
V56A	Mocksville	149.87	4	P	PKPbc	04 47 05.3	+0.3
	baz=355,SNR=6.1						
W51A	Cleveland	149.93	11	P	PKPbc	04 47 05.5	+0.3
	baz=346,SNR=11						
V58A	Windy Hill, Pi	149.97	2	P	PKiKP	04 47 06.0	-0.1
	baz=358						
V61A	Roper	149.97	358	P	PKPbc	04 47 05.6	+0.4
	baz=2.8						
V59A	Middlesex	150.02	1	P	PKiKP	04 47 05.8	-0.4
	baz=360,SNR=6.4						
X48A	Hartselle	150.09	15	P	PKPbc	04 47 05.2	-0.3
	baz=342,SNR=13						
W52A	Murphy	150.15	10	P	PKiKP	04 47 06.3	-0.3
	baz=348,SNR=12						
W53A	Cullowhee	150.20	9	P	PKPbc	04 47 06.2	+0.3
	baz=350,SNR=19						
W54A	Cherokee Point	150.42	7	P	PKPbc	04 47 06.5	+0.1
	baz=352,SNR=7.0						
HKT	Hockley	150.46	33	PKIKP	PKPbc	04 47 05.0	-1.4
HKT	Hockley	150.46	33		PKPbc	04 47 05.0	-1.4
KMSC	Kings Mountain	150.46	6	P	PKPbc	04 47 06.4	0.0
	baz=353,SNR=10.0						
X51A	Calhoun	150.49	12	P	PKiKP	04 47 06.9	-0.3
	baz=346,SNR=6.4						
W56A	Indian Trail	150.54	5	P	PKPbc	04 47 06.4	-0.2
	baz=355						
CNNC	Cliffs of the	150.54	0	P	PKiKP	04 47 07.2	-0.1
	baz=0.2						
W57A	Gilead	150.56	4	P	PKiKP	04 47 07.0	-0.3
	baz=356,SNR=5.4						
LVC	Limon Verde	150.60	197	PKIKP	PKPdf	04 47 04.8	+2.6
LVC	Limon Verde	150.60	197	PKPbc	PKiKP	04 47 09.1	+0.8
	comp=Z,7.9nm,0.8s,baz=252,slow=3.2,SNR=7.4						
LVC				PKPab	PKPab	04 47 15.8	+1.7
	comp=Z,11nm,0.9s,baz=224,slow=4.1,SNR=7.3						
LVC	Limon Verde	150.60	197		PKPdf	04 47 04.8	+2.6
W59A	Clinton	150.61	1	P	PKPbc	04 47 07.0	+0.2
	baz=359						
X52A	Dahlonega	150.64	10	P	PKiKP	04 47 07.5	-0.1
	baz=348,SNR=6.5						
BBSR	BB Station	150.71	337		PKPbc	04 47 05.8	-1.3
W60A	Pink Hill	150.73	360	P	PKiKP	04 47 07.4	-0.3
	baz=0.5						
W58A	Raeford	150.73	2	P	PKiKP	04 47 07.5	-0.2
	baz=357						
Y49A	Blount Mountai	150.81	15	P	PKPbc	04 47 07.2	-0.1
	baz=343,SNR=21						
X53A	Estanollee	150.84	9	P	PKiKP	04 47 07.9	-0.1
	baz=349,SNR=8.9						
X54A	Belton	150.93	8	P	PKPbc	04 47 07.8	+0.3
	baz=351,SNR=13						
VBMS	Vicksburg	151.02	23	P	PKiKP	04 47 08.4	0.0
	baz=334,SNR=5.7						
Y51A	Rockmart	151.09	13	P	PKiKP	04 47 08.3	-0.2
	baz=345,SNR=6.1						
X55A	Gracelyn & Ava	151.10	7	P	PKPbc	04 47 08.1	+0.1
	baz=352,SNR=6.9						
X56A	White Oak	151.14	5	P	PKiKP	04 47 08.5	-0.1
	baz=354,SNR=5.5						
X58A	Rowland	151.19	3	P	PKPbc	04 47 08.3	+0.2
	baz=357						
X60A	Albert Glenn T	151.20	0	P	PKiKP	04 47 08.4	-0.2
	SNR=5.0						
X57A	Johnson Farm,	151.24	4	P	PKiKP	04 47 08.6	-0.2
	baz=356						
Y52A	Lilburn	151.33	11	P	PKiKP	04 47 09.2	+0.2
	baz=347,SNR=11						
Y53A	Monroe	151.42	10	P	PKiKP	04 47 09.4	+0.2
	baz=348,SNR=9.5						
LRAL	Lakeview Retre	151.44	16	P	PKiKP	04 47 09.1	-0.1
	baz=341,SNR=6.6						
Z50A	Ashland	151.51	14	P	PKiKP	04 47 09.2	-0.2
	baz=343,SNR=6.1						
Y54A	Tignall	151.56	9	P	PKPbc	04 47 09.2	+0.2
	baz=350,SNR=7.7						
Y55A	Saluda	151.59	7	P	PKPbc	04 47 08.9	-0.1
	baz=352						
Z51A	Franklin	151.63	13	P	PKiKP	04 47 09.6	0.0
	baz=345,SNR=8.0						
Y57A	Sumter	151.66	4	P	PKiKP	04 47 09.5	-0.2
	baz=355,SNR=6.1						
Y59A	Loris	151.77	2	P	PKiKP	04 47 09.8	-0.1
	baz=358						
Y60A	Bolivia	151.77	1	P	PKPbc	04 47 09.6	+0.2
	baz=360						
Y56A	Pelion	151.80	6	P	PKiKP	04 47 10.0	+0.1
	baz=353						
Y58A	Scranton	151.82	3	P	PKiKP	04 47 09.8	-0.1
	baz=356						
GOGA	Godfrey	151.87	10	P	PKiKP	04 47 10.3	+0.2
	baz=348,SNR=6.0						
Z52A	Williamson	151.91	12	P	PKiKP	04 47 10.3	+0.1
	baz=346,SNR=10						
Z53A	Monticello	151.98	10	P	PKiKP	04 47 10.4	+0.1
	baz=348,SNR=8.2						
Z54A	Sparta	152.15	9	P	PKiKP	04 47 10.7	0.0
	baz=350,SNR=7.8						
Z56A	Williston	152.26	6	P	PKiKP	04 47 10.8	-0.1
	baz=353						
Z55A	Blythe	152.27	8	P	PKiKP	04 47 11.4	+0.5
	baz=351						
152A	Waverly Hall	152.35	13	P	PKPbc	04 47 10.8	-0.1
	baz=345,SNR=9.9						
Z57A	Bowman	152.35	5	P	PKiKP	04 47 11.3	+0.2
	baz=354,SNR=6.9						
Z58A	St. Stephen	152.38	4	P	PKiKP	04 47 11.4	+0.2
	baz=356						
153A	Fort Valley	152.55	11	P	PKiKP	04 47 11.7	+0.2
	baz=347						
NHSC	New Hope	152.58	4	P	PKiKP	04 47 12.3	+0.8
	baz=355						
250A	Grady	152.63	16	P	PKiKP	04 47 12.5	+0.7
	baz=342						
155A	Kite	152.81	9	P	PKiKP	04 47 13.3	+1.2
	baz=350						
SIV	San Ignacio	152.85	217	PKPbc	PKiKP	04 47 12.8	+0.2
	comp=Z,3.0nm,0.9s,baz=130,slow=2.7,SNR=10						
SIV				PKPab	PKPab	04 47 25.1	+1.7
	comp=Z,1.7nm,0.8s,baz=184,slow=5.4,SNR=4.5						
156A	Sylvania	152.91	7	P	PKiKP	04 47 13.6	+1.4
	baz=352						
252A	Lumpkin	152.99	13	P	PKiKP	04 47 12.5	+0.1
	baz=345,SNR=7.0						
253A	Americus	153.06	12	P	PKiKP	04 47 13.2	+0.6
	baz=346						
BRAL	Brewton	153.17	18	P	PKiKP	04 47 13.8	+1.0
	baz=340						
254A	Abbeville	153.34	10	P	PKiKP	04 47 13.8	+0.6
	baz=348						
352A	Blakely	153.45	14	P	PKiKP	04 47 14.2	+0.8
	baz=344						
255A	Hazlehurst	153.49	9	P	PKiKP	04 47 14.2	+0.8
	baz=350						
257A	Skidaway Islan	153.63	6	P	PKiKP	04 47 13.9	+0.1
	baz=353						
353A	Camilla	153.73	12	P	PKiKP	04 47 15.0	+1.0
	baz=346						
TIGA	Tifton	153.77	11	P	PKiKP	04 47 15.0	+0.9
	baz=347						
MDP	Montagnes des	154.91	270	PKPab	PKPab	04 47 33.5	+1.2
	comp=Z,4.4nm,0.5s,baz=105,slow=5.5,SNR=7.3						
LPAZ	La Paz	156.19	204	PKIKP	PKPdf	04 47 08.5	-2.2
LPAZ	La Paz	156.19	204	PKP	PKPdf	04 47 11.5	+0.8
	comp=Z,2.9nm,1.2s,baz=210,slow=2.8,SNR=3.5						
LPAZ				PKPab	PKPab	04 47 40.0	+1.8
	comp=Z,2.3nm,0.8s,baz=140,slow=3.3,SNR=5.4						
LPAZ	La Paz	156.19	204		PKPdf	04 47 08.5	-2.2

IDC 10 04:28:20.3±11.0**, 12.17S×110.41W, h0km, mb3.6**/4**, mb1 4.0**/4**, mb1mx3.7**/20**, mbtmp3.6**/4**, MS3.4**/5**, Ms1 3.4**/5**, ms1mx3.1**/19**, Error ellipse: s-maj=365.3km s-min=34.6km az=45.0, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	Nana	32.81	93	LR	LR	04 44 28.7	
	comp=Z,74nm,21.8s,baz=288,slow=30						
PPT	Papeete	38.18	257	LR	LR	04 46 53.4	
	comp=Z,44nm,21.5s,baz=103,slow=29						
LPAZ	La Paz	41.13	101	P	P	04 36 07.3	0.0
	0.8nm,0.7s,baz=272,slow=7.2,SNR=4.9						
CFA	Coronel Fontan	43.32	123	LR	LR	04 49 14.3	
	comp=Z,57nm,21.5s,baz=269,slow=29						
PLCA	Paso Flores	45.05	137	LR	LR	04 50 14.6	
	comp=Z,71nm,21.9s,baz=340,slow=29						
PFO	Pinyon Flats O	45.89	353	LR	LR	04 50 48.8	
	comp=Z,44nm,18.7s,baz=218,slow=29						
NVAR	Mina Array Bea	50.87	352	P	P	04 37 24.1	+0.8
	0.9nm,0.9s,baz=173,slow=9.1,SNR=5.0						
PDAR	Pinedale Array	54.67	1	P	P	04 37 51.2	-0.2
	0.4nm,0.8s,baz=170,slow=7.9,SNR=4.2						
YKA	Yellowknife Ar	74.50	358	P	P	04 39 59.7	-0.6
	0.5nm,0.9s,baz=174,slow=6.5,SNR=6.7						

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*ISCJB **10** 04:33:04.8±0.3, 24.60N±0.01×121.66E±0.02, h50km±2km, Error ellipse: s-maj=3.3km s-min=2.0km az=13.1*

*TAP **10** 04:33:04.8, 24.60N×121.63E, h45km, ML3.8, A*

ISC 10 04:33:05.1±1.2**, 24.61N**±0.02×**121.62E**±0.03**, h47**km±5km**, n100, σ1.25**/183**, 1C-1D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ENTT	Nioudou	0.06	304	*i* P	Pn	04 33 12.6	+0.1
	baz=305						
ENTT				S	Sn	04 33 18.1	+0.5
	baz=305						
NDT	Datong Townshi	0.10	267	*i* P	Pn	04 33 12.6	0.0
	baz=270						
NDT				*i* S	Sn	04 33 18.0	+0.2
	baz=270						
TWE	Neicheng	0.12	21	⇓*i*P	Pn	04 33 13.1	+0.4
	baz=23						
TWE				*i* S	Sn	04 33 18.9	+0.9
	baz=23						
SLBB	Yuanshan	0.15	6	P	Pn	04 33 12.1	-0.8
	baz=2.0						
SLBB				*i* S	Sn	04 33 18.3	0.0
	baz=2.0						
ILA	Ilan	0.20	36	*i* P	Pn	04 33 13.8	+0.7
	baz=35						
ILA				S	Sn	04 33 20.2	+1.5
	baz=35						
NWLT	Wulai	0.20	328	*i* P	Pn	04 33 13.4	+0.2
	baz=326						
NWLT				*i* S	Sn	04 33 19.1	+0.2
	baz=326						
TWC	Suao	0.21	89	P	Pn	04 33 13.2	0.0
	baz=88						
TWC				S	Sn	04 33 19.0	+0.1
	baz=88						
ENA	Nanau	0.21	148	P	Pn	04 33 12.3	-0.8
	baz=147						
ENA				*i* S	Sn	04 33 19.0	+0.1
	baz=147						
NANB	Nanao	0.21	146	⇑*i*P	Pn	04 33 12.2	-1.0
	baz=147						
NANB				S	Sn	04 33 18.8	-0.1
	baz=147						
YHNB	Yeheng	0.23	286	P	Pn	04 33 13.4	-0.1
	baz=286						
YHNB				S	Sn	04 33 19.2	-0.1
	baz=286						
NSK	Sanguang	0.25	286	P	Pn	04 33 13.4	-0.2
	baz=286						
NSK				*i* S	Sn	04 33 19.5	-0.1
	baz=286						
NNS	Nan Shan	0.28	234	P	Pn	04 33 13.8	-0.1
	baz=233						
NNS				S	Sn	04 33 19.8	-0.3
	baz=233						
NNSH	Datong	0.28	231	P	Pn	04 33 13.7	-0.2
	baz=232						
NNSH				*i* S	Sn	04 33 19.9	-0.2
	baz=232						
NTC	Toucheng	0.31	38	P	Pn	04 33 14.5	+0.4
	baz=36						
NTC				S	Sn	04 33 20.7	+0.3
	baz=36						
NHDH	Xindian Distri	0.36	346	P	Pn	04 33 14.6	0.0
	baz=345						
NHDH				*i* S	Sn	04 33 21.9	+0.5
	baz=345						
EGS		0.37	50	P	Pn	04 33 15.5	+0.8
	baz=50						
EGS				*e*S	Sn	04 33 23.3	+1.9
	baz=50						
TWA	Mucha	0.37	355	P	Pn	04 33 15.0	+0.2
	baz=355						
TWA				*e*S	Sn	04 33 22.1	+0.5
	baz=355						
TATO	Taipei	0.39	342	P	Pn	04 33 14.9	0.0
	baz=342						
TATO				S	Sn	04 33 22.1	+0.3
	baz=342						
TIPB	Shuangxi	0.41	27	P	Pn	04 33 15.5	+0.4

	baz=25								
TIPB					S		Sn	04 33 22.9	+0.6
	baz=25								
WLTB	**Daxi**	**0.41**	**306**	*e*P			Pn	04 33 15.8	+0.6
	baz=306								
WLTB					S		Sn	04 33 23.6	+1.3
	baz=306								
ETLH	**Xiulin Townshi**	**0.42**	**198**		P		Pn	04 33 14.6	-0.7
	baz=198								
ETLH					*e*S		Sn	04 33 21.4	-1.1
	baz=198								
NACB	**Ninganchiao**	**0.43**	**183**	*e*P			Pn	04 33 14.0	-1.4
	baz=184								
NACB					*e*S		Sn	04 33 21.8	-0.9
	baz=184								
TAP1	**Taipei**	**0.44**	**348**	*e*P			Pn	04 33 15.8	+0.4
	baz=346								
TAP1				*i*	S		Sn	04 33 23.2	+0.4
	baz=346								
EOS1	**EOS1**	**0.47**	**97**	*i*	P		Pn	04 33 16.6	+0.9
	baz=96								
EOS1					*e*S		Sn	04 33 25.4	+2.2
	baz=96								
NWF	**Wu-fen Shan**	**0.48**	**18**		P		Pn	04 33 16.2	+0.1
	baz=16								
NWF					S		Sn	04 33 24.3	+0.4
	baz=16								
WFSB	**Wu-fen Shan**	**0.48**	**18**	*i*	P		Pn	04 33 16.4	+0.4
	baz=16								
TWB1	**Santiao Chiao**	**0.52**	**40**		P		Pn	04 33 15.9	-0.5
	baz=39								
TWB1				*i*	S		Sn	04 33 25.0	+0.4
	baz=39								
TWD	**Chiawan**	**0.53**	**182**	*e*P			Pn	04 33 14.8	-1.7
	baz=182								
TWD					S		Sn	04 33 23.8	-0.8
	baz=182								
TWS1	**Kuangyinshan**	**0.53**	**340**		P		Pn	04 33 16.7	+0.2
	baz=339								
TWS1					*e*S		Sn	04 33 25.6	+1.0
	baz=339								
NCUH	**Zhongli**	**0.53**	**312**		P		Pn	04 33 17.0	+0.4
	baz=312								
NCUH					*e*S		Sn	04 33 25.5	+0.6
	baz=312								
YM01	**YM01**	**0.54**	**355**		P		Pn	04 33 16.8	+0.1
	baz=354								
YM01					S		Sn	04 33 25.2	+0.2
	baz=354								
TDCB	**Techi**	**0.55**	**230**		P		Pn	04 33 17.2	+0.2
	baz=230								
TDCB					S		Sn	04 33 25.3	-0.1
	baz=230								
YM10	**YM10**	**0.55**	**354**		P		Pn	04 33 16.9	0.0
	baz=353								
YM10					S		Sn	04 33 25.3	0.0
	baz=353								
YM04	**YM04**	**0.55**	**352**		P		Pn	04 33 16.8	-0.1
	baz=351								
YM04					S		Sn	04 33 25.3	+0.1
	baz=351								
LIOB	**Emei**	**0.55**	**274**		P		Pn	04 33 16.5	-0.3
	baz=274								
LIOB				*i*	S		Sn	04 33 26.6	+1.4
	baz=274								
YM05	**YM05**	**0.56**	**355**	*i*	P		Pn	04 33 16.8	-0.2
	baz=354								
YM05				*i*	S		Sn	04 33 25.5	0.0
	baz=354								
YM11	**YM11**	**0.56**	**356**		P		Pn	04 33 16.9	-0.2
	baz=354								
YM11					S		Sn	04 33 25.7	+0.2
	baz=354								
WHF	**Hehuan Shan**	**0.56**	**215**		P		Pn	04 33 17.1	-0.3
	baz=215								
WHF					S		Sn	04 33 25.8	-0.3
	baz=215								
NSTT	**Nanjuang**	**0.56**	**273**		P		Pn	04 33 17.1	+0.1
	baz=272								
NSTT					S		Sn	04 33 26.2	+0.7
	baz=272								
NTST	**Danshui**	**0.58**	**344**		P		Pn	04 33 17.9	+0.7
	baz=343								
NTST					*e*S		Sn	04 33 26.8	+1.1
	baz=343								
YM08	**YM08**	**0.58**	**357**	*i*	P		Pn	04 33 16.9	-0.3
	baz=356								
YM08					*e*S		Sn	04 33 25.5	-0.4
	baz=356								
ANP	**Anpu**	**0.58**	**351**		P		Pn	04 33 16.9	-0.4
	baz=351								
ANP					*e*S		Sn	04 33 25.7	-0.4
	baz=351								
SBCB	**Hsinchu**	**0.61**	**288**	*e*P			Pn	04 33 18.0	+0.4
	baz=287								
SBCB					*e*S		Sn	04 33 27.6	+1.1
	baz=287								
HSN	**Hsinchu**	**0.62**	**288**		S		Sn	04 33 26.9	+0.1
	baz=291								
HWA	**Hwalien**	**0.63**	**181**	*e*P			Pn	04 33 16.6	-1.2
	baz=181								
HWA					S		Sn	04 33 26.9	+0.1
	baz=181								
NHW	**Xinwu Township**	**0.66**	**308**	*e*P			Pn	04 33 18.7	+0.5
	baz=307								
NHW					S		Sn	04 33 28.6	+1.0
	baz=307								
TWY	**Chenhua**	**0.67**	**358**		P		Pn	04 33 18.7	+0.4
	baz=358								
TWY					S		Sn	04 33 28.8	+1.0
	baz=358								
CHGB	**Renai**	**0.68**	**217**		P		Pn	04 33 18.8	+0.1
	baz=217								
CHGB					S		Sn	04 33 29.0	+0.5
	baz=217								
WHP	**Taichung City**	**0.70**	**242**		P		Pn	04 33 19.4	+0.7
	baz=242								
WHP				*i*	S		Sn	04 33 29.8	+1.1
	baz=242								
ENLB	**Shoufeng**	**0.70**	**181**	*e*P			Pn	04 33 16.7	-2.1
	baz=181								
ENLB					S		Sn	04 33 29.1	+0.5
	baz=181								
NMLH	**Miaoli**	**0.76**	**265**		P		Pn	04 33 19.5	0.0
	baz=265								
NMLH					*e*S		Sn	04 33 31.2	+1.3
	baz=265								
OWD	**Renai**	**0.77**	**212**	*e*P			Pn	04 33 19.8	0.0
	baz=212								
OWD					S		Sn	04 33 29.9	-0.4
	baz=212								
NSY	**Sanyi**	**0.81**	**257**	*e*P			Pn	04 33 20.6	+0.4
	baz=256								
NSY					*e*S		Sn	04 33 32.0	+0.9
	baz=256								
ESL	**Shilin**	**0.81**	**192**	*e*P			Pn	04 33 18.0	-2.2
	baz=192								
ESL					*e*S		Sn	04 33 30.0	-1.2
	baz=192								
TWQ1	**Liyutan**	**0.81**	**252**		P		Pn	04 33 20.6	+0.3
	baz=251								
PTSB	**Yuanli**	**0.85**	**259**	*e*P			Pn	04 33 20.9	+0.1
	baz=259								
PTSB					*e*S		Sn	04 33 34.0	+1.8
	baz=259								
DPDB	**Guoxing**	**0.85**	**228**		P		Pn	04 33 21.6	+0.8
	baz=228								
DPDB					S		Sn	04 33 33.6	+1.3
	baz=228								
WDJ	**Dajia District**	**0.93**	**254**	*e*S			Sn	04 33 36.7	+2.6
	baz=254								
EGFH	**Guangfu**	**0.95**	**191**		P		Pn	04 33 21.8	-0.3
	baz=191								
EGFH					*e*S		Sn	04 33 33.9	-0.7
	baz=191								
VWDT	**VWDT**	**0.95**	**207**		P		Pn	04 33 22.2	+0.1
	baz=207								
VWDT					S		Sn	04 33 35.3	+0.6
	baz=207								
TCU	**Taichung**	**0.97**	**242**	*e*P			Pn	04 33 22.8	+0.4
	baz=242								
TCU					*e*S		Sn	04 33 38.8	+3.6
	baz=242								
SMLT	**Sun Moon Lake**	**0.97**	**222**		P		Pn	04 33 23.1	+0.6
	baz=222								
SMLT					*e*S		Sn	04 33 37.1	+1.8
	baz=222								
TYC	**Yuchr**	**0.99**	**225**		P		Pn	04 33 23.1	+0.5
	baz=224								
TYC					S		Sn	04 33 37.0	+1.5
	baz=224								
SSLB	**Suanglung**	**1.02**	**217**		P		Pn	04 33 23.4	+0.4
	baz=217								
SSLB					S		Sn	04 33 38.1	+1.9
	baz=217								
PCYT	**Pengchaiyu**	**1.10**	**22**	*e*S			Sn	04 33 39.2	+1.0
	baz=21								
WNT	**Mingjian**	**1.12**	**230**	*e*P			Pn	04 33 25.1	+0.7
	baz=229								
WNT					S		Sn	04 33 40.4	+1.7
	baz=229								
HGSD	**Ruisui**	**1.12**	**189**	*e*P			Pn	04 33 23.6	-0.9
	baz=189								
HGSD					*e*S		Sn	04 33 39.6	+0.8
	baz=189								
EHY	**Hungye**	**1.13**	**194**	*e*P			Pn	04 33 22.0	-2.6
	baz=194								
WJS	**Zhushan**	**1.13**	**226**	*e*P			Pn	04 33 24.6	+0.1
	baz=226								
WJS					*e*S		Sn	04 33 40.6	+1.7
	baz=226								
WHYT	**Xinyi Township**	**1.15**	**218**		P		Pn	04 33 25.8	+1.0
	baz=218								
WHYT					S		Sn	04 33 41.2	+1.8
	baz=218								
YULB	**Yu-li**	**1.25**	**194**	*e*P			Pn	04 33 24.0	-2.1
	baz=194								
YUS	**Yu-Shan**	**1.27**	**209**		P		Pn	04 33 27.1	+0.2
	baz=209								
TWF1	**Yuli**	**1.28**	**193**	*e*P			Pn	04 33 25.4	-1.3
	baz=193								
TWF1					*e*S		Sn	04 33 41.4	-1.3
	baz=193								
ALS	**Alishan**	**1.32**	**214**		P		Pn	04 33 28.1	+0.7
	baz=214								
ALS					S		Sn	04 33 45.8	+1.8
	baz=214								
CHN5	**Tsauling**	**1.32**	**221**	*e*P			Pn	04 33 28.4	+1.1
	baz=220								
CHN5					*e*S		Sn	04 33 45.7	+1.9
	baz=220								
WGK	**Gukeng**	**1.33**	**227**	*e*S			Sn	04 33 45.2	+1.4
	baz=226								
WDLH	**Douliu**	**1.35**	**227**	*e*S			Sn	04 33 47.0	+2.8
	baz=227								
RLNB	**Erlin**	**1.35**	**238**	*e*S			Sn	04 33 45.7	+1.3
	baz=238								
WTCT	**Ta-ch'eng**	**1.43**	**239**	*e*S			Sn	04 33 46.9	+0.7
	baz=238								
FULB	**Fuli**	**1.43**	**192**		P		Pn	04 33 27.6	-1.1
	baz=192								
FULB					*e*S		Sn	04 33 47.4	+0.9
	baz=192								
ELDTW	**Lidau**	**1.52**	**201**	*e*P			Pn	04 33 28.7	-1.3
	baz=201								
ELDTW					*e*S		Sn	04 33 49.9	+1.4
	baz=201								
CHKT	**Chengkung**	**1.52**	**189**	*e*P			Pn	04 33 30.6	+0.8
	baz=188								
CHKT					*e*S		Sn	04 33 46.9	-1.5
	baz=188								
CHY	**Chiayi**	**1.55**	**225**		P		Pn	04 33 30.5	+0.2
	baz=224								
CHY					S		Sn	04 33 49.9	+0.6
	baz=224								
CHN4	**Tsaushan**	**1.56**	**217**		P		Pn	04 33 31.3	+0.8
	baz=217								
CHN4					*e*S		Sn	04 33 52.0	+2.4
	baz=217								
TPUB	**Ta-pu**	**1.58**	**215**		P		Pn	04 33 30.8	0.0
	baz=215								
TPUB					*e*S		Sn	04 33 53.1	+2.9
	baz=215								
WTP	**Ta-pu**	**1.64**	**214**	*e*P			Pn	04 33 32.8	+1.2
	baz=214								
WTP					*e*S		Sn	04 33 53.4	+1.9
	baz=214								
STYT	**Tauyuan**	**1.64**	**209**		P		Pn	04 33 32.6	+1.0
	baz=208								
STYT					*e*S		Sn	04 33 54.1	+2.6
	baz=208								
SNST	**Tainan City**	**1.72**	**217**	*e*S			Sn	04 33 57.3	+3.9
	baz=216								
CHN1	**Nanshi**	**1.73**	**215**	*e*P			Pn	04 33 33.4	+0.6
	baz=215								
CHN1					*e*S		Sn	04 33 56.7	+2.9
	baz=215								
SGST	**Jiashian**	**1.79**	**212**	*e*S			Sn	04 33 57.6	+2.4
	baz=212								
SLGT	**Liugui**	**1.84**	**209**		P		Pn	04 33 35.3	+1.1
	baz=209								
SLGT					*e*S		Sn	04 33 59.5	+3.2
	baz=209								
TWGBT	**Beinan**	**1.85**	**196**	*e*P			Pn	04 33 34.0	-0.4
	baz=195								
PTTC	**Pingtan**	**1.90**	**298**	*e*P			Pn	04 33 33.8	-1.2
	baz=297								
PTTC					*e*S		Sn	04 33 54.6	-3.2
	baz=297								
VWUC	**VWUC**	**2.01**	**281**	*e*P			Pn	04 33 35.2	-1.4
	baz=281								
VWUC					*e*S		Sn	04 33 57.4	-3.0
	baz=281								
SSD	**Sandimen**	**2.06**	**206**	*e*P			Pn	04 33 37.6	+0.3
	baz=206								
PNG	**Penghu**	**2.15**	**242**	*e*P			Pn	04 33 37.3	-1.3
	baz=241								
PNG					*e*S		Sn	04 34 02.1	-1.9
	baz=241								
MATB	**Ma-tsu**	**2.16**	**316**	*e*P			Pn	04 33 38.9	+0.3
	baz=314								
MATB					*e*S		Sn	04 34 01.9	-2.2
	baz=314								
PHUB	**P'eng-hu**	**2.17**	**240**	*e*P			Pn	04 33 36.4	-2.3
	baz=239								
PHUB					*e*S		Sn	04 34 01.9	-2.4
	baz=239								
WDGT	**Dungji**	**2.24**	**234**	*e*S			Sn	04 34 06.2	0.0
	baz=233								
QZH	**Quanzhou**	**2.77**	**278**		Pn		Pn	04 33 45.8	-1.2
QZH					Sn		Sn	04 34 15.8	-3.5
QZH					smax		smax		
	comp=N,41nm,0.3s								
QZH					smax		smax		
	comp=E,30nm,0.2s								

NEIC ***10*** *04:38:53.5±1.4,2°.2N±0°.1×84°.0W±0°.1,h10km±1km, mb4.1/13*

ISCJB ***10*** *04:38:54.5±0.7,2°.19N±0°.09×83°.97W±0°.05,h33km, mb3.8/8,MS3.3/5,Error ellipse: s-maj=14.0km s-min=4.6km az=23.1*

IDC ***10*** *04:39:00.5±4.3,2°.40N×83°.92W,h56km±34km,mb3.6/8, mb1 3.9/11,mb1mx3.7/35,mbtmp3.9/11,ML2.8/3,MS3.3/9, Ms1 3.3/9,ms1mx3.0/26,Error ellipse: s-maj=44.4km s-min=18.9km az=44.0*

ISC 10 04:38:57.1±0.8,2°.2N±0°.1×83°.96W±0°.10,h35km,n78, σ1s49/73,mb4.0/14,MS3.3/5,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GR1C	**Gorgona, Isla**	**5.84**	**82**	*e*P		Pn	04 40 18.8	-2.5
GR1C	**Gorgona, Isla**	**5.84**	**82**	*e*P		Pn	04 40 18.8	-2.5
OTAV	**Otavalo**	**5.85**	**110**			Pn	04 40 20.9	-0.8
OTAV					Sn	Sn	04 41 27.0	-0.8
BBAC	**Balboa, Cauca**	**6.71**	**91**	*e*P		Pn	04 40 31.5	-1.9
BBAC	**Balboa, Cauca**	**6.71**	**91**	*e*P		Pn	04 40 31.5	-1.9
CRUC	**La Cruz**	**7.03**	**95**	*e*P		Pn	04 40 37.8	-0.1
CRUC	**La Cruz**	**7.03**	**95**	*e*P		Pn	04 40 37.8	-0.1
SOTA	**Rioblanco**	**7.35**	**90**	*e*P		Pn	04 40 42.6	+0.2
SOTA	**Rioblanco**	**7.35**	**90**	*e*P		Pn	04 40 42.6	+0.2
PCON	**Cinco Dias**	**7.56**	**89**	*e*P		Pn	04 40 46.2	+0.9
PCON	**Cinco Dias**	**7.56**	**89**	*e*P		Pn	04 40 46.2	+0.9
YOTC	**Yotoco, Valle**	**7.80**	**77**	*e*P		Pn	04 40 46.9	-1.4
YOTC	**Yotoco, Valle**	**7.80**	**77**	*e*P		Pn	04 40 46.9	-1.4
JTS	**Las Juntas de**	**8.09**	**353**	P		Pn	04 40 53.1	+1.0
	0.5nm,0.3s,baz=172,slow=14,SNR=3.4							
JTS					LR	LR	04 43 22.8	
	comp=Z,288nm,21.3s,baz=220,slow=33							
JTS	**Las Juntas de**	**8.09**	**353**			Pn	04 40 50.9	-1.2
FLOC	**Florencia**	**8.33**	**94**	*e*P		Pn	04 40 56.0	+0.6
FLOC	**Florencia**	**8.33**	**94**	*e*P		Pn	04 40 56.0	+0.6
CBOC	**Ciudad Bolivar**	**8.72**	**65**	*e*P		Pn	04 41 01.4	+0.5
CBOC	**Ciudad Bolivar**	**8.72**	**65**	*e*P		Pn	04 41 01.4	+0.5
ORTC	**Ortega, Tolima**	**8.86**	**79**	*e*P		Pn	04 41 03.2	+0.4
ORTC	**Ortega, Tolima**	**8.86**	**79**	*e*P		Pn	04 41 03.2	+0.4
RREF	**El Recreo**	**9.00**	**72**	*e*P		Pn	04 41 05.5	+0.3
RREF	**El Recreo**	**9.00**	**72**	*e*P		Pn	04 41 05.5	+0.3
GUY2C	**Guyana, Caldas**	**9.08**	**71**	*e*P		Pn	04 41 05.7	-0.5
GUY2C	**Guyana, Caldas**	**9.08**	**71**	*e*P		Pn	04 41 05.7	-0.5
PRAC	**Prado**	**9.18**	**80**	*e*P		Pn	04 41 08.1	+0.9
PRAC	**Prado**	**9.18**	**80**	*e*P		Pn	04 41 08.1	+0.9
PTLC	**Puerto Leguiza**	**9.38**	**102**	*e*P		Pn	04 41 10.3	+0.4
PTLC	**Puerto Leguiza**	**9.38**	**102**	*e*P		Pn	04 41 10.3	+0.4
NORC	**Norcasia**	**9.66**	**70**	*e*P		Pn	04 41 15.2	+1.4
NORC	**Norcasia**	**9.66**	**70**	*e*P		Pn	04 41 15.2	+1.4
ROSC	**El Rosal**	**9.97**	**75**	P		Pn	04 41 20.7	+2.4
	1.6nm,0.3s,baz=202,slow=19,SNR=3.4							
ROSC	**El Rosal**	**9.97**	**75**			Pn	04 41 17.1	-1.2
MACC	**Macarena, Meta**	**10.11**	**90**	*e*P		Pn	04 41 18.2	-1.6
MACC	**Macarena, Meta**	**10.11**	**90**	*e*P		Pn	04 41 18.2	-1.6
PTBC	**PUERTO BERRIO,**	**10.40**	**65**	*e*P		Pn	04 41 25.7	+1.8
PTBC	**PUERTO BERRIO,**	**10.40**	**65**	*e*P		Pn	04 41 25.7	+1.8
VILC	**Villavicencio,**	**10.42**	**79**	*e*P		Pn	04 41 27.3	+3.1
VILC	**Villavicencio,**	**10.42**	**79**	*e*P		Pn	04 41 27.3	+3.1
SPBC	**San Pablo de B**	**10.44**	**71**	*e*P		Pn	04 41 28.1	+3.6
SPBC	**San Pablo de B**	**10.44**	**71**	*e*P		Pn	04 41 28.1	+3.6
CHIC	**Chingaza**	**10.49**	**76**	*e*P		Pn	04 41 26.6	+1.1
CHIC	**Chingaza**	**10.49**	**76**	*e*P		Pn	04 41 26.6	+1.1
RUSC	**La Rusia**	**11.45**	**71**	*e*P		Pn	04 41 42.0	+3.3
RUSC	**La Rusia**	**11.45**	**71**	*e*P		Pn	04 41 42.0	+3.3
APG	**El Apazote**	**14.24**	**334**	LR		LR	04 46 49.7	
	comp=Z,158nm,19.0s,baz=56,slow=33							
SDV	**Santo Domingo**	**14.82**	**63**	P		Pn	04 42 25.7	+1.2
	0.1nm,0.3s,baz=253,slow=13,SNR=3.4							
SDV					LR	LR	04 47 47.7	
	comp=Z,46nm,20.6s,baz=336,slow=36							
SDV	**Santo Domingo**	**14.82**	**63**	Pn		Pn	04 42 23.4	-1.0
CMIG	**Matias Romero**	**18.27**	**325**	LR		LR	04 48 55.6	
	comp=Z,47nm,18.6s,baz=140,slow=33							
TEIG	**Tepich**	**18.39**	**347**	P		P	04 43 07.5	-1.7
SAML	**Samuel**	**23.49**	**118**	P		P	04 44 02.4	-1.5
SAML				IAmb		IAmb	04 44 11.9	
	comp=Z,5.2nm,1.0s							
LPAZ	**La Paz**	**24.13**	**140**	P		P	04 44 12.9	+2.2
	comp=Z,0.6nm,0.6s,baz=326,slow=7.3,SNR=5.4							
LPAZ	**La Paz**	**24.13**	**140**	P		P	04 44 09.7	-0.9
SIV	**San Ignacio**	**28.96**	**129**	LR		LR	04 57 05.9	
	comp=Z,126nm,19.5s,baz=280,slow=37							
MDP	**Montagnes des**	**31.38**	**84**	LR		LR	04 56 56.1	
	comp=Z,25nm,19.7s,baz=200,slow=34							
TXAR	**Lajitas Array**	**32.85**	**327**	P		P	04 45 27.5	-0.2
	comp=Z,0.5nm,0.8s,baz=146,slow=5.5,SNR=3.3							
TX31	**Lajitas Ar. Si**	**32.85**	**327**	P		P	04 45 26.9	-0.8
TX31				IAmb		IAmb	04 45 29.6	
	comp=Z,2.8nm,1.1s							
TX32	**Lajitas Array**	**32.85**	**327**	P		P	04 45 27.8	0.0
TX32				IAmb		IAmb	04 45 29.6	
	comp=Z,2.8nm,1.1s							
TKL	**Tuckaleechee C**	**33.28**	**0**	LR		LR	04 57 51.2	
	comp=Z,54nm,18.5s,baz=152,slow=34							
MNTX	**Cornudas Mount**	**35.61**	**328**	P		P	04 45 51.3	-0.4
MNTX				IAmb		IAmb	04 45 53.7	
	comp=Z,4.1nm,1.1s							
ANMO	**Albuquerque**	**38.72**	**330**	P		P	04 46 17.9	-0.2
ANMO				IAmb		IAmb	04 46 21.0	
	comp=Z,2.9nm,0.8s							
BDFB	**Brasilia**	**39.72**	**118**	LR		LR	05 02 58.7	
	comp=Z,52nm,18.1s,baz=110,slow=36							
MVCO	**Mesa Verde**	**41.51**	**330**	P		P	04 46 41.3	-0.1
WUAZ	**Wupatki**	**41.77**	**326**	P		P	04 46 41.6	-1.8
WUAZ				IAmb		IAmb	04 46 43.5	
	comp=Z,8.3nm,1.1s							
PHWY	**Pilot Hill**	**43.47**	**336**	P		P	04 46 54.6	-2.6
PLCA	**Paso Flores**	**44.46**	**165**	LR		LR	05 00 57.1	
	comp=Z,32nm,21.4s,baz=13,slow=30							
PD31	**Pinedale Array**	**46.41**	**334**	P		P	04 47 19.9	-0.6
PDAR	**Pinedale Array**	**46.41**	**334**	PcP		PcP	04 48 55.5	+0.4
	comp=Z,0.7nm,0.8s,baz=147,slow=5.1,SNR=4.1							
BGU	**Big Grassy Mou**	**46.62**	**330**	P		P	04 47 21.5	-0.6
NVAR	**Mina Array Bea**	**47.80**	**323**	P		P	04 47 32.0	+0.6
	comp=Z,1.0nm,0.8s,baz=131,slow=7.5,SNR=4.4							
NVAR				PcP		PcP	04 49 00.9	+0.8
	comp=Z,0.7nm,0.7s,baz=138,slow=4.6,SNR=4.5							
ULM	**Lac du Bonnet**	**48.92**	**350**	P		P	04 47 39.5	-0.2
	comp=Z,6.1nm,0.8s,baz=159,slow=8.3,SNR=5.2							
ULM	**Lac du Bonnet**	**48.92**	**350**	P		P	04 47 39.4	-0.2
YKA	**Yellowknife Ar**	**64.33**	**345**	P		P	04 49 28.2	-0.7
	comp=Z,0.9nm,0.8s,baz=140,slow=6.3,SNR=18							
ILAR	**Eielson Array**	**76.73**	**337**	P		P	04 50 45.2	+0.7
	comp=Z,1.0nm,0.9s,baz=131,slow=4.2,SNR=9.0							
ESDC	**Sonseca Array**	**80.89**	**50**	P		P	04 51 08.6	+0.6
	comp=Z,0.4nm,0.6s,baz=268,slow=5.7,SNR=3.7							
TORD	**Torodi Ar. Bea**	**85.27**	**77**	P		P	04 51 31.3	+0.3
	comp=Z,0.9nm,0.8s,baz=290,slow=5.6,SNR=5.2							
ASAR	**Alice Springs**	**137.61**	**237**	PKP		PKPdf	04 58 18.8	+0.4
	comp=Z,0.3nm,0.5s,baz=106,slow=3.0,SNR=3.3							
WRA	**Warramunga Arr**	**138.66**	**242**	PKP		PKPdf	04 58 21.6	+1.2
	comp=Z,0.8nm,0.7s,baz=108,slow=1.9,SNR=9.6							

MEX 10 04:55:15.4±0.6,17°.29N×101°.07W,h8km±25km,MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ZIIG	**Zihuatanejo**	**0.49**	**309**	*e*P		Pg	04 55 24.5	-0.4
ZIIG				*i*	S	Sg	04 55 31.8	+0.4
ZIIG	**Zihuatanejo**	**0.49**	**309**	*e*P		Pg	04 55 24.5	-0.5
ZIIG				*i*	S	Sg	04 55 32.2	+0.8
CAIG	**El Cayaco**	**0.80**	**108**	*e*P		Pg	04 55 29.0	-1.9
CAIG				*i*	S	Sg	04 55 40.3	-1.0
CAIG	**El Cayaco**	**0.80**	**108**	*e*P		Pg	04 55 28.9	-1.9
CAIG				*i*	S	Sg	04 55 39.4	-1.9
ARIG	**Puente Sto Nin**	**1.20**	**35**	*i*	P	Pb	04 55 34.6	-3.8
ARIG				*i*	S	Sg	04 55 49.5	-4.5
ARIG	**Puente Sto Nin**	**1.20**	**35**	*e*P		Pb	04 55 34.6	-3.8
ARIG				*i*	S	Sg	04 55 49.8	-4.1
ACP2	**Acapulco**	**1.20**	**110**	*i*	S	Sg	04 55 50.5	-3.6
MEIG	**Mezcala**	**1.52**	**65

*ISCJB **10** 05:21:57.8±0.6,69°.01N±0°.03×16°.1W±0°.2,h10km,mb3.8/4, MS3.3/3,Error ellipse: s-maj=11.2km s-min=4.6km az=0.9*
*REY **10** 05:21:58.9,68°.97N×15°.63W,h10km*
*IDC **10** 05:21:59.8±1.2,69°.12N×16°.35W,h0km,mb3.9/4, mb1 4.1/7,mb1mx3.6/50,mbtmp4.0/7,ML3.5/3,MS3.5/4, Ms1 3.4/4,ms1mx2.9/37,Error ellipse: s-maj=31.7km s-min=20.4km az=24.0*

ISC 10 05:22:00.1±0.8,69°.02N±0°.05×16°.19W±0°.09,h10km,n28, σ1°28/37,mb3.9/4,MS3.4/3,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.49**	**309**	*i* P		**Pn**	**05 22 38.5**	**-2.0**
SCO				*i*			05 22 39.8	
SCO				eS		Sn	05 22 52.8	-18
IGRI	**Grimsey**	**2.58**	**196**	P		**Pn**	**05 22 40.1**	**-1.7**
	baz=202							
IGRI				S		**Sn**	**05 23 11.9**	**-1.3**
	baz=202							
IFLA	**Flatey**	**2.94**	**193**	P		**Pn**	**05 22 45.7**	**-1.1**
	baz=198							
IFLA				S		**Sn**	**05 23 21.6**	**-0.4**
	baz=198							
IGIL	**Gilhagi**	**2.96**	**181**	P		**Pn**	**05 22 44.9**	**-2.0**
	baz=186							
IGIL				S		**Sn**	**05 23 20.6**	**-1.8**
	baz=186							
IHED	**Heoinshofoi**	**2.98**	**189**	P		**Pn**	**05 22 46.0**	**-1.4**
	baz=193							
IHED				S		**Sn**	**05 23 21.9**	**-1.2**
	baz=193							
IBRE	**Brettingsstaoi**	**2.98**	**194**	P		**Pn**	**05 22 46.2**	**-1.2**
	baz=198							
IBRE				S		**Sn**	**05 23 22.6**	**-0.5**
	baz=198							
ISIG	**Siglufjorour**	**3.08**	**201**	P		**Pn**	**05 22 47.5**	**-1.2**
	baz=205							
IDIM	**Dimmadalss**	**3.08**	**186**	P		**Pn**	**05 22 47.4**	**-1.4**
	baz=190							
IDIM				S		**Sn**	**05 23 24.7**	**-0.9**
	baz=190							
IGRA	**Granastaoir**	**3.16**	**190**	P		**Pn**	**05 22 48.8**	**-1.0**
	baz=195							
IGRA				S		**Sn**	**05 23 27.2**	**-0.2**
	baz=195							
ISKI	**Skildingahlsh**	**3.18**	**186**	P		**Pn**	**05 22 48.8**	**-1.3**
	baz=190							
ISKI				S		**Sn**	**05 23 26.7**	**-1.3**
	baz=190							
IHRN	**Hraun**	**3.29**	**209**	P		**Pn**	**05 22 51.3**	**-0.3**
	baz=213							
IGRS	**Grimsstaoir**	**3.40**	**180**	P		**Pn**	**05 22 51.6**	**-1.5**
	baz=184							
IGRS				S		**Sn**	**05 23 32.9**	**-0.4**
	baz=184							
IMEL	**Melhnausar**	**3.47**	**183**	S		**Sn**	**05 23 35.2**	**+0.1**
	baz=187							
IMEL				P		**Pn**	**05 22 52.7**	**-1.4**
	baz=187							
ISVA	**Svartarkot**	**3.72**	**187**	P		**Pn**	**05 22 56.6**	**-0.9**
	baz=191							
ISVA				S		**Sn**	**05 23 42.2**	**+0.8**
	baz=191							
IASK	**Askja**	**3.99**	**183**	P		**Pn**	**05 23 00.2**	**-1.1**
	baz=186							
IADA	**Aoalbol**	**4.02**	**176**	P		**Pn**	**05 23 00.1**	**-1.6**
	baz=180							
IMKO	**Mokollar**	**4.06**	**181**	P		**Pn**	**05 23 00.8**	**-1.4**
	baz=184							
IVSH	**V-Sauoahnukur**	**4.23**	**177**	P		**Pn**	**05 23 03.0**	**-1.6**
	baz=181							
IKRE	**Kreppuhraun**	**4.25**	**181**	P		**Pn**	**05 23 04.2**	**-0.7**
	baz=184							
BORG	**Borgarnes**	**4.74**	**208**	Pn		**Pn**	**05 23 12.5**	**+1.0**
	8.3nm,0.3s,baz=39,slow=7.0,SNR=32							
SPITS	**Spitsbergen Ar**	**12.73**	**30**	Pn		**Pn**	**05 25 00.2**	**-0.6**
	baz=225,slow=14,SNR=7.2							
FINES	**FINESS Array B**	**18.88**	**93**	P		**Pn**	**05 26 21.7**	**+1.0**
	0.1nm,0.3s,baz=306,slow=12,SNR=3.0							
FINES				LR		LR	05 32 36.3	
	comp=Z,159nm,18.6s,baz=12,slow=34							
FRB	**Frobisher Bay**	**21.03**	**281**	P		**P**	**05 26 44.4**	**+0.9**
	5.3nm,1.0s,baz=48,slow=9.3,SNR=3.5							
FRB				LR		LR	05 34 33.9	
	comp=Z,158nm,21.4s,baz=18,slow=36							
GERES	**GERESS Array B**	**24.96**	**129**	P		**P**	**05 27 26.0**	**+2.6**
	2.1nm,1.0s,baz=326,slow=8.6,SNR=7.0							
AKASG	**Malin Array Be**	**28.27**	**107**	LR		LR	05 38 27.9	
	comp=Z,70nm,19.5s,baz=310,slow=35							
YKA	**Yellowknife Ar**	**36.70**	**310**	P		**P**	**05 29 06.9**	**+0.3**
	2.1nm,0.9s,baz=38,slow=8.2,SNR=21							
KBZ	**Khabaz**	**39.04**	**99**	LR		LR	05 45 13.5	
	comp=Z,52nm,18.1s,baz=16,slow=36							
PDAR	**Pinedale Array**	**52.01**	**291**	P		**P**	**05 31 09.7**	**+0.2**
	1.5nm,1.0s,baz=64,slow=6.1,SNR=6.4							

*KRSC **10** 05:23:05.6±1.3,54°.61N×162°.44E,h60km±17km,ML5.1, FELT [IV] at GMS Kronoki.*
*MOS **10** 05:23:08.3±0.9,54°.72N×162°.16E,h65km,mb5.0/43, MS3.4/4,Error ellipse: s-maj=6.0km s-min=3.3km az=86.1*
*BJI **10** 05:23:08.4±0.0,55°.22N×161°.55E,h48km,mb4.6/35, mB5.0/23,Ms4.4/11,Ms7 4.2/11*
*ISCJB **10** 05:23:08.9±0.2,54°.70N±0°.02×162°.18E±0°.03,h69km±2km, mb4.8/114,Error ellipse: s-maj=3.3km s-min=2.2km az=44.2*
*IDC **10** 05:23:09.9±2.1,54°.84N×161°.93E,h60km±18km,mb4.4/35, mb1 4.6/39,mb1mx4.4/50,mbtmp4.7/39,MS3.8/21, Ms1 3.8/21,ms1mx3.6/30,Error ellipse: s-maj=13.0km s-min=8.9km az=157.0*
*NEIC **10** 05:23:09.5±1.4,54°.77N±0°.06×162°.12E±0°.10,h57km±5km, mb4.7/212*

ISC 10 05:23:08.7±0.5,54°.67N±0°.03×162°.28E±0°.03,h56km±4km, n585,σ1°28/638,mb4.8/187,MS3.9/23,49C-24D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.34**	**251**	*i* P		**Pn**	**05 23 16.8**	**-1.8**
MKZ	**Mys Kozlova**	**0.34**	**251**	PN		**Pn**	**05 23 16.8**	**-1.8**
KZV	**Kizimen**	**1.23**	**292**	*i* P		**Pn**	**05 23 29.1**	**-0.7**
KZV	**Kizimen**	**1.23**	**292**	PN		**Pn**	**05 23 29.1**	**-0.7**
TUMR	**Tumrok**	**1.38**	**297**	*i* P		**Pn**	**05 23 31.6**	**-0.1**
TUMR				eS		**Sn**	**05 23 50.2**	**+1.3**
TUMR	**Tumrok**	**1.38**	**297**	PN		**Pn**	**05 23 31.6**	**-0.1**
TUMR				S		**Sn**	**05 23 50.2**	**+1.3**
KBTR	**Krutoberegovo**	**1.57**	**11**	*i* P		**Pn**	**05 23 33.4**	**-0.8**
KBTR				eS		**Sn**	**05 23 53.4**	**-0.1**
KBTR	**Krutoberegovo**	**1.57**	**11**	PN		**Pn**	**05 23 33.4**	**-0.8**
KBTR				S		**Sn**	**05 23 53.4**	**-0.1**
ZLN	**Zelenaya**	**1.59**	**329**	*e*P		**Pn**	**05 23 35.3**	**+0.7**
ZLN	**Zelenaya**	**1.59**	**329**	PN		**Pn**	**05 23 35.3**	**+0.7**
KMNR	**Kamenistaya**	**1.60**	**314**	*i* P		**Pn**	**05 23 34.9**	**+0.2**
KMNR	**Kamenistaya**	**1.60**	**314**	PN		**Pn**	**05 23 34.9**	**+0.2**
KBG	**Krutoberegovo**	**1.61**	**8**	*e*P		**Pn**	**05 23 34.2**	**-0.5**
KBG				eS		**Sn**	**05 23 53.2**	**-1.1**
KBG	**Krutoberegovo**	**1.61**	**8**	PN		**Pn**	**05 23 34.2**	**-0.5**
KBG				S		**Sn**	**05 23 53.2**	**-1.1**
BZWR	**Bezymyannyi-We**	**1.65**	**323**	*e*P		**Pn**	**05 23 35.7**	**+0.3**
BZWR				eS		**Sn**	**05 24 00.1**	**+4.5**
BZWR	**Bezymyannyi-We**	**1.65**	**323**	PN		**Pn**	**05 23 35.7**	**+0.3**
LGNR	**Loginova**	**1.68**	**328**	*i* P		**Pn**	**05 23 37.0**	**+1.0**
LGNR	**Loginova**	**1.68**	**328**	PN		**Pn**	**05 23 37.0**	**+1.0**
CIRR	**Tsirk**	**1.69**	**330**	*e*P		**Pn**	**05 23 36.4**	**+0.4**
CIRR	**Tsirk**	**1.69**	**330**	PN		**Pn**	**05 23 36.4**	**+0.4**
KIRR	**Kirishev**	**1.70**	**320**	*e*P		**Pn**	**05 23 36.3**	**+0.2**
KIRR				eS		**Sn**	**05 23 58.2**	**+1.5**
KIRR	**Kirishev**	**1.70**	**320**	PN		**Pn**	**05 23 36.3**	**+0.2**
KIRR				S		**Sn**	**05 23 58.2**	**+1.5**
KPT	**Kopyto**	**1.75**	**319**	*e*P		**Pn**	**05 23 37.0**	**+0.2**
KPT				eS		**Sn**	**05 24 00.1**	**+2.1**
KPT	**Kopyto**	**1.75**	**319**	PN		**Pn**	**05 23 37.0**	**+0.2**
KPT				S		**Sn**	**05 24 00.1**	**+2.1**
KII	**Karymskiy**	**1.77**	**250**	*e*P		**Pn**	**05 23 35.9**	**-1.1**
KII				eS		**Sn**	**05 23 59.8**	**+1.3**
KII	**Karymskiy**	**1.77**	**250**	PN		**Pn**	**05 23 35.9**	**-1.1**
KII				S		**Sn**	**05 23 59.8**	**+1.3**
KRSR	**Krestovskiy**	**1.83**	**328**	*e*P		**Pn**	**05 23 38.2**	**+0.3**
KRSR				eS		**Sn**	**05 24 00.9**	**+0.9**
KRSR	**Krestovskiy**	**1.83**	**328**	PN		**Pn**	**05 23 38.2**	**+0.3**
KRSR				S		**Sn**	**05 24 00.9**	**+0.9**
KLY	**Klyuchi**	**1.89**	**331**	*e*P		**Pn**	**05 23 38.0**	**-0.5**
KLY				eS		**Sn**	**05 24 01.6**	**+0.4**
KLY	**Klyuchi**	**1.89**	**331**	PN		**Pn**	**05 23 38.0**	**-0.5**
KLY				S		**Sn**	**05 24 01.6**	**+0.4**
KOZ	**Kozyrevsk**	**1.96**	**316**	*e*P		**Pn**	**05 23 40.5**	**+1.1**
KOZ	**Kozyrevsk**	**1.96**	**316**	PN		**Pn**	**05 23 40.5**	**+1.1**
SMKR	**Semkarok**	**1.97**	**347**	*e*P		**Pn**	**05 23 40.2**	**+0.5**
SMKR				eS		**Sn**	**05 24 04.6**	**+1.3**
SMKR	**Semkarok**	**1.97**	**347**	PN		**Pn**	**05 23 40.2**	**+0.5**
SMKR				S		**Sn**	**05 24 04.6**	**+1.3**
BDR	**Baidarnaya**	**2.00**	**343**	*e*P		**Pn**	**05 23 41.2**	**+1.1**
BDR				eS		**Sn**	**05 24 06.6**	**+2.6**
BDR	**Baidarnaya**	**2.00**	**343**	PN		**Pn**	**05 23 41.2**	**+1.1**
BDR				S		**Sn**	**05 24 06.6**	**+2.6**
SPN	**Mys Shipunski**	**2.06**	**221**	*e*P		**Pn**	**05 23 39.9**	**-1.0**
SPN				eS		**Sn**	**05 24 03.3**	**-2.2**
SPN	**Mys Shipunski**	**2.06**	**221**	PN		**Pn**	**05 23 39.9**	**-1.0**
SPN				S		**Sn**	**05 24 03.3**	**-2.2**
SRKR	**Sorokina**	**2.09**	**343**	*e*P		**Pn**	**05 23 42.1**	**+0.8**
SRKR	**Sorokina**	**2.09**	**343**	PN		**Pn**	**05 23 42.1**	**+0.8**
BKI	**Bering**	**2.20**	**74**	*e*P		**Pn**	**05 23 41.6**	**-1.1**
BKI				eS		**Sn**	**05 24 05.2**	**-3.4**
BKI	**Bering**	**2.20**	**74**	PN		**Pn**	**05 23 41.6**	**-1.1**
BKI				S		**Sn**	**05 24 05.2**	**-3.4**
SRDR	**Sredinnyy**	**2.20**	**320**	*e*P		**Pn**	**05 23 43.3**	**+0.4**
SRDR				eS		**Sn**	**05 24 10.4**	**+1.4**
SRDR	**Sredinnyy**	**2.20**	**320**	PN		**Pn**	**05 23 43.3**	**+0.4**
SRDR				S		**Sn**	**05 24 10.4**	**+1.4**
NLC	**Nalytchevo**	**2.29**	**230**	*e*P		**Pn**	**05 23 43.9**	**-0.1**
NLC				eS		**Sn**	**05 24 10.8**	**-0.3**
NLC	**Nalytchevo**	**2.29**	**230**	PN		**Pn**	**05 23 43.9**	**-0.1**
NLC				S		**Sn**	**05 24 10.8**	**-0.3**
ESO	**Esso**	**2.40**	**303**	*e*P		**Pn**	**05 23 45.6**	**+0.1**
ESO				eS		**Sn**	**05 24 14.5**	**+0.7**
ESO	**Esso**	**2.40**	**303**	PN		**Pn**	**05 23 45.6**	**+0.1**
ESO				S		**Sn**	**05 24 14.5**	**+0.7**
SDLR	**Sedlovina**	**2.44**	**237**	*i* P		**Pn**	**05 23 47.1**	**+0.9**
SDLR				eS		**Sn**	**05 24 16.3**	**+1.4**
SDLR	**Sedlovina**	**2.44**	**237**	PN		**Pn**	**05 23 47.1**	**+0.9**
SDLR				S		**Sn**	**05 24 16.3**	**+1.4**
SMAR	**Somma**	**2.49**	**237**	*i* P		**Pn**	**05 23 47.9**	**+1.0**
SMAR				eS		**Sn**	**05 24 16.2**	**0.0**
SMAR	**Somma**	**2.49**	**237**	PN		**Pn**	**05 23 47.9**	**+1.0**
SMAR				S		**Sn**	**05 24 16.2**	**0.0**
KRER	**Koryakskii**	**2.49**	**238**	*i* P		**Pn**	**05 23 48.6**	**+1.6**
KRER				eS		**Sn**	**05 24 18.2**	**+1.9**
KRER	**Koryakskii**	**2.49**	**238**	PN		**Pn**	**05 23 48.6**	**+1.6**
KRER				S		**Sn**	**05 24 18.2**	**+1.9**
KRX	**Arik**	**2.51**	**240**	*i* P		**Pn**	**05 23 48.3**	**+1.1**
KRX				eS		**Sn**	**05 24 18.3**	**+1.6**
KRX	**Arik**	**2.51**	**240**	PN		**Pn**	**05 23 48.3**	**+1.1**
KRX				S		**Sn**	**05 24 18.3**	**+1.6**
UGLR	**Uglovaya**	**2.51**	**236**	*i* P		**Pn**	**05 23 48.2**	**+1.1**
UGLR				eS		**Sn**	**05 24 18.1**	**+1.5**
UGLR	**Uglovaya**	**2.51**	**236**	PN		**Pn**	**05 23 48.2**	**+1.1**
UGLR				S		**Sn**	**05 24 18.1**	**+1.5**
AVH	**Avacha**	**2.52**	**238**	*i* P		**Pn**	**05 23 48.5**	**+1.3**
AVH				eS		**Sn**	**05 24 18.5**	**+1.7**
AVH	**Avacha**	**2.52**	**238**	PN		**Pn**	**05 23 48.5**	**+1.3**
AVH				S		**Sn**	**05 24 18.5**	**+1.7**
KOK	**Koryaka**	**2.56**	**239**	*i* P		**Pn**	**05 23 48.8**	**+1.1**
KOK				eS		**Sn**	**05 24 19.3**	**+1.6**
KOK	**Koryaka**	**2.56**	**239**	PN		**Pn**	**05 23 48.8**	**+1.1**
KOK				S		**Sn**	**05 24 19.3**	**+1.6**
DALK	**Dalny**	**2.66**	**233**	*e*P		**Pn**	**05 23 49.5**	**+0.5**
DALK				eS		**Sn**	**05 24 20.8**	**+0.9**
DALK	**Dalny**	**2.66**	**233**	PN		**Pn**	**05 23 49.5**	**+0.5**
DALK				S		**Sn**	**05 24 20.8**	**+0.9**
PET	**Petropavlovsk**	**2.71**	**234**	*i* P		**Pn**	**05 23 50.7**	**+1.0**
PET				eS		**Sn**	**05 24 22.0**	**+0.9**
PET	**Petropavlovsk**	**2.71**	**234**	*ke*PN		**Pn**	**05 23 50.3**	**+0.6**
PET				eS		**Sn**	**05 24 22.1**	**+0.9**
PET				pmax	pmax			
	comp=Z,300nm,0.4s							
PET				pmax	pmax			
	comp=Z,565nm,0.4s							
PET				smax	smax			
	comp=E,600nm,2.0s							
PET				smax	smax			
	comp=N,1μm,3.7s							
PET				smax	smax			
	comp=E,4μm,2.0s							
PET				smax	smax			
	comp=N,3μm,0.5s							
PET				smax	smax			
	comp=E,3μm,0.6s							
PET				smax	smax			
	comp=N,4μm,0.6s							
PET				MLR	MLR			
	comp=Z,1μm,12.0s							
PET				MLR	MLR			
	comp=Z,2μm,8.0s							
PET	**Petropavlovsk**	**2.71**	**234**			**Pn**	**05 23 50.2**	**+0.6**
PET				Sn		**Sn**	**05 24 20.5**	**-0.7**
KRMR	**Karymshinskiy**	**3.08**	**235**	*e*P		**Pn**	**05 23 56.7**	**+2.0**
KRMR				eS		**Sn**	**05 24 32.1**	**+1.9**
KRMR	**Karymshinskiy**	**3.08**	**235**	PN		**Pn**	**05 23 56.7**	**+2.0**
KRMR				S		**Sn**	**05 24 32.1**	**+1.9**
PEA0B	**Petropavlovsk-**	**3.13**	**242**	PN		**Pn**	**05 23 56.4**	**+0.9**
PEA0B							05 24 31.0	
PEA0B	**Petropavlovsk-**	**3.13**	**242**			**Pn**	**05 23 56.4**	**+0.9**
PEA0B				Sn		**Sn**	**05 24 31.0**	**-0.6**
PETK	**Petropavlovsk-**	**3.13**	**242**	P		**Pn**	**05 23 56.6**	**+1.1**
	comp=Z,45nm,0.3s,baz=70,slow=19,SNR=341							
PETK				S		**Sn**	**05 24 35.0**	**+3.4**
	comp=Z,38nm,0.3s,baz=91,slow=20,SNR=5.9							
PETK				LR		LR	05 25 21.7	
	comp=Z,1μm,20.1s,baz=59,slow=43							
RUS	**Russkaya**	**3.17**	**227**	*i* P		**Pn**	**05 23 56.1**	**+0.1**
RUS				eS		**Sn**	**05 24 32.3**	**-0.3**
RUS	**Russkaya**	**3.17**	**227**	PN		**Pn**	**05 23 56.1**	**+0.1**
RUS				S		**Sn**	**05 24 32.3**	**-0.3**
MTVR	**Mutnovka**	**3.28**	**230**	*e*P		**Pn**	**05 23 58.6**	**+0.9**
MTVR				eS		**Sn**	**05 24 36.2**	**+0.7**
MTVR	**Mutnovka**	**3.28**	**230**	PN		**Pn**	**05 23 58.6**	**+0.9**
MTVR				S		**Sn**	**05 24 36.2**	**+0.7**
GRL	**Gorelyy**	**3.28**	**231**	*i* P		**Pn**	**05 23 59.2**	**+1.5**
GRL				eS		**Sn**	**05 24 36.9**	**+1.4**
GRL	**Gorelyy**	**3.28**	**231**	PN		**Pn**	**05 23 59.2**	**+1.5**
GRL				S		**Sn**	**05 24 36.9**	**+1.4**
ASAK	**Asacha**	**3.48**	**231**	*i* P		**Pn**	**05 24 01.6**	**+1.3**
ASAK				eS		**Sn**	**05 24 42.3**	**+2.1**
ASAK	**Asacha**	**3.48**	**231**	PN		**Pn**	**05 24 01.6**	**+1.3**
ASAK				S		**Sn**	**05 24 42.3**	**+2.1**
APC	**Apacha**	**3.50**	**242**	*e*P		**Pn**	**05 24 02.6**	**+2.0**
APC				eS		**Sn**	**05 24 43.5**	**+2.8**
APC	**Apacha**	**3.50**	**242**	PN		**Pn**	**05 24 02.6**	**+2.0**
APC				S		**Sn**	**05 24 43.5**	**+2.8**
KDTR	**Khodutka, Kamc**	**3.82**	**223**	*e*P		**Pn**	**05 24 05.1**	**+0.2**
KDTR				eS		**Sn**	**05 24 47.1**	**-1.4**
KDTR	**Khodutka, Kamc**	**3.82**	**223**	PN		**Pn**	**05 24 05.1**	**+0.2**
KDTR				S		**Sn**	**05 24 47.1**	**-1.4**
PAU	**Pauzhetka**	**4.60**	**228**	*e*P		**Pn**	**05 24 17.4**	**+1.8**
PAU	**Pauzhetka**	**4.60**	**228**	PN		**Pn**	**05 24 17.4**	**+1.8**
PALN	**Palana**	**4.61**	**345**	P		Pn	05 24 22.1	+6.4
PALN	**Palana**	**4.61**	**345**	PN		Pn	05 24 22.1	+6.4
OSSR	**Ossora**	**4.61**	**5**	*e*P		**Pn**	**05 24 15.1**	**-0.6**
OSSR	**Ossora**	**4.61**	**5**	PN		**Pn**	**05 24 15.1**	**-0.6**
SKR	**Severo-Kuril's**	**5.48**	**226**	*e*P		**Pn**	**05 24 28.9**	**+1.3**
SKR				eS		**Sn**	**05 25 27.9**	**-1.3**
SKR	**Severo-Kuril's**	**5.48**	**226**	*e*PN		**Pn**	**05 24 29.5**	**+1.9**
SKR				eS		**Sn**	**05 25 28.5**	**-0.7**
SKR				pmax	pmax			
	comp=Z,30nm,0.6s							
SKR				smax	smax			
	comp=N,232nm,0.8s							
SKR				smax	smax			
	comp=E,264nm,0.7s							
SKR				MLR	MLR			
	comp=Z,300nm,23.0s							
SMY	**Shemya**	**7.28**	**101**	PN		**Pn**	**05 24 52.5**	**+0.2**
SMY	**Shemya**	**7.28**	**101**			**Pn**	**05 24 52.5**	**+0.2**
SMY				Sn		**Sn**	**05 26 14.4**	**+0.9**
MA2	**Magadan**	**7.96**	**313**	P		**Pn**	**05 24 58.9**	**-2.7**
	comp=Z,1.0nm,0.3s,baz=140,slow=16,SNR=2.1							
MA2				LR		LR	05 28 28.7	
	comp=Z,857nm,20.3s,baz=138,slow=42							
SEY	**Seymchan**	**9.73**	**332**	P		**Pn**	**05 25 24.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=0.0,slow=20,SNR=2.0							
SEY				LR		LR	05 29 24.6	
	comp=Z,651nm,18.6s,baz=146,slow=40							
ADK	**Adak**	**12.88**	**94**	PN		**Pn**	**05 26 08.0**	**-0.8**
ADK	**Adak**	**12.88**	**94**			**Pn**	**05 26 08.0**	**-0.8**
GSTR	**Great Sitkin T**	**13.17**	**92**	Pn		**Pn**	**05 26 12.1**	**-0.7**
BILL	**Bilibino**	**13.55**	**6**	*e*P		**Pn**	**05 26 19.8**	**+2.1**
BILL				pmax	pmax			
	comp=Z,17nm,1.0s							
BILL				MLR	MLR			
	comp=Z,397nm,16.0s							
BILL	**Bilibino**	**13.55**	**6**			**Pn**	**05 26 18.6**	**+0.9**
GRNR	**Gornyy**	**16.11**	**267**	*e*P		Pn	05 26 40.6	-11
GRNR				pmax	pmax			
	comp=Z,20nm,1.0s							
GRNR				MLR	MLR			
	comp=Z,210nm,17.0s							
JKA	**Kamikawa-asahi**	**16.54**	**238**	P		**Pn**	**05 26 56.4**	**-0.3**
ASAJ	**Asahikawa**	**16.54**	**238**	P		**Pn**	**05 26 56.4**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=69,slow=5.0,SNR=5.8							
ASAJ				LR		LR	05 32 49.8	
	comp=Z,309nm,21.9s,baz=40,slow=35							
NIKH	**Nikolski High**	**17.08**	**84**			**Pn**	**05 27 05.2**	**+1.9**
NIKH				IAmb		IAmb	05 27 08.9	
	comp=Z,109nm,1.1s							
ERM	**Erimo**	**17.86**	**233**	P		**Pn**	**05 27 13.5**	**+0.5**
ERM	**Erimo**	**17.86**	**233**			**Pn**	**05 27 13.5**	**+0.5**
UNV	**Unalaska Valle**	**18.18**	**80**			**P**	**05 27 18.1**	**+1.7**
UNV				IAmb		IAmb	05 27 25.6	
	comp=Z,139nm,1.3s							
YAK	**Yakutsk**	**18.46**	**307**	*e*P		**P**	**05 27 14.2**	**-5.2**
YAK				*e*S		**Sn**	**05 30 35.4**	**-10**
YAK				pmax	pmax			
	comp=Z,22nm,0.7s							
YAK				pmax	pmax			
	comp=N,7.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,8.0nm,1.3s							
YAK				pmax	pmax			
	comp=Z,63nm,2.6s							
YAK				pmax	pmax			
	comp=N,68nm,1.8s							
YAK				pmax	pmax			
	comp=E,37nm,1.8s							
YAK				smax	smax			
	comp=N,259nm,3.7s							
YAK				smax	smax			
	comp=E,95nm,3.5s							
YAK				MLR	MLR			
	comp=Z,283nm,20.0s							
YAK				MLR	MLR			
	comp=N,152nm,17.0s							
YAK				MLR	MLR			
	comp=E,137nm,18.0s							
ANM	**Nome**	**18.90**	**46**	P		**Pn**	**05 27 26.0**	**+0.6**
ANM				pmax	pmax			
	comp=Z,11nm,1.0s							
ANM	**Nome**	**18.90**	**46**			**Pn**	**05 27 26.0**	**+0.6**
KLR	**Kul'dur**	**19.49**	**266**	*e*P		**P**	**05 27 30.9**	**0.0**
KLR	**Kul'dur**	**19.49**	**266**	P		**P**	**05 27 30.2**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=57,slow=11,SNR=8.7							
USRK	**Ussuriysk Ar.**	**22.14**	**254**	LR		LR	05 36 23.9	
	comp=Z,235nm,21.6s,baz=41,slow=36							
TIXI	**Tiksi**	**22.23**	**333**	*d* P		**P**	**05 27 59.0**	**-1.2**
TIXI				pmax	pmax			
	comp=Z,12nm,0.8s							
TIXI	**Tiksi**	**22.23**	**333**	P		**P**	**05 27 58.8**	**-1.4**
	comp=Z,16nm,0.6s,baz=0.0,slow=24,SNR=19							
TIXI				LR		LR	05 37 22.9	
	comp=Z,289nm,19.3s,baz=102,slow=39							
TIXI	**Tiksi**	**22.23**	**333**	P		**P**	**05 27 59.2**	**-0.9**
TIXI				IAmb		IAmb	05 28 01.7	
	comp=Z,15nm,0.7s							
SVW2	**Sparrevohn**	**22.97**	**57**	P		**P**	**05 28 09.4**	**+1.3**
RSO	**Redoubt South**	**24.40**	**58**	P		**P**	**05 28 21.4**	**-0.3**
PPLA	**Purkeypile**	**24.50**	**52**	P		**P**	**05 28 23.8**	**+1.4**
MJB9	**Matsu-Tunnel**	**24.54**	**232**	P		**P**	**05 28 24.4**	**+1.5**
MJB9				IAmb		IAmb	05 28 42.8	
	comp=Z,27nm,0.7s							
MAJO	**Matsushiro**	**24.54**	**232**	P		**P**	**05 28 23.8**	**+0.9**
MAJO				pmax	pmax			
	comp=Z,58nm,1.4s							
MAJO	**Matsushiro**	**24.54**	**232**	P		**P**	**05 28 23.8**	**+0.9**
MAJO				IAmb		IAmb	05 28 26.6	
	comp=Z,58nm,1.4s							
MJAR	**Matsushiro Arr**	**24.54**	**232**	P		**P**	**05 28 23.5**	**+0.6**
	comp=Z,8.2nm,0.6s,baz=31,slow=9.4,SNR=16							
OHAK	**Old Harbor**	**24.68**	**66**	P		**P**	**05 28 24.4**	**+0.5**
OHAK				IAmb		IAmb	05 28 41.5	
	comp=Z,29nm,1.0s							
SKT	**Skwentna**	**24.85**	**54**	P		**P**	**05 28 26.3**	**+0.8**
KDAK	**Kodiak Island**	**24.93**	**64**	*i* P		**P**	**05 28 27.0**	**+0.8**
KDAK	**Kodiak Island**	**24.93**	**64**	P		**P**

DAWY Dawson 30.10 48 P **P** **05 29 13.7 +1.2**
INK Inuvik 31.83 39 P **P** **05 29 28.1 +0.6**
comp=Z,6.5nm,0.7s,baz=292,slow=7.7,SNR=18
INK Inuvik 31.83 39 P **P** **05 29 28.7 +1.1**
ULN Ulaanbaatar 34.42 282‖ *e*P **P** **05 29 48.9 -1.7**
ULN pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 34.81 282 P **P** **05 29 52.5 -1.5**
comp=Z,0.8nm,0.6s,baz=58,slow=7.8,SNR=5.3
SONM PcP **PcP** **05 32 24.8 -1.2**
comp=Z,5.7nm,0.7s,baz=64,slow=1.7,SNR=24
SONM LR LR 05 45 37.9
comp=Z,142nm,18.5s,baz=50,slow=39
H11N2 WAKE ISLAND Hy 35.06 172 T T 06 07 15.2
baz=355,slow=76,SNR=3941
H11N3 WAKE ISLAND Hy 35.07 172 T T 06 07 15.4
baz=355,slow=76,SNR=2013
H11N1 WAKE ISLAND Hy 35.07 172 T T 06 07 15.7
baz=355,slow=76,SNR=4612
HHC Hu-ho-hao-te 35.97 269 P **P** **05 30 05.1 +1.2**
HHC pmax pmax
comp=Z,5.0nm,0.7s
NJ2 Nanjing 37.99 252 *e*P **P** **05 30 22.3 +1.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
YKW3 Yellowknife Ar 41.09 44 P **P** **05 30 47.5 +1.1**
YKW3 IAmb IAmb 05 30 48.6
comp=Z,8.3nm,0.6s
YKA Yellowknife Ar 41.13 44 P **P** **05 30 47.9 +1.2**
comp=Z,7.2nm,0.6s,baz=300,slow=8.0,SNR=75
YKA PcP **PcP** **05 32 46.0 +1.0**
comp=Z,1.4nm,0.7s,baz=304,slow=3.6,SNR=8.7
RES Resolute Bay 41.37 23 P **P** **05 30 48.8 +0.3**
comp=Z,2.2nm,0.6s,baz=348,slow=9.4,SNR=9.1
WHN Wuhan 41.63 255 P **P** **05 30 54.0 +2.8**
ZALV Zalesovo Beam 43.02 302 *i* P **P** **05 30 59.7 -2.5**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 43.02 302 P **P** **05 30 60.0 -2.3**
comp=Z,0.8nm,0.3s,baz=70,slow=6.4,SNR=4.7
ZALV PcP **PcP** **05 32 51.1 -0.3**
comp=Z,2.9nm,0.7s,baz=33,slow=4.3,SNR=7.2
LZH Lanzhou 43.65 270 *e*P **P** **05 31 07.9 +0.2**
LZH pP pP 05 31 19.1 -3.1
LZH sP sP 05 31 24.4 -4.2
LZH pmax pmax
comp=Z,18nm,1.2s
GTA Gaotai 43.72 276 P **P** **05 31 06.1 -2.1**
GTA pP pP 05 31 18.7 -4.2
GTA sP sP 05 31 23.6 -5.8
GTA S **S** **05 37 29.3 -5.0**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,120nm,4.7s
GTA LR LR
comp=Z,190nm,16.8s
GTA LR LR
comp=Z,230nm,15.8s
GTA LR LR
comp=Z,340nm,15.1s
KBS Kingsbay 45.49 352 P **P** **05 31 22.2 +0.5**
KBS pmax pmax
comp=Z,40nm,1.3s
KBS Kingsbay 45.49 352 P **P** **05 31 22.1 +0.5**
SPA0 Spitsbergen Ar 45.79 351 *e*P **P** **05 31 23.7 -0.4**
SPITS Spitsbergen Ar 45.79 351 P **P** **05 31 23.6 -0.4**
comp=Z,32nm,0.7s,baz=56,slow=9.3,SNR=39
B08A Colville Reser 46.80 64 P **P** **05 31 33.7 +1.2**
CD2 Chengdu 47.41 265 P **P** **05 31 35.8 -1.6**
WMQ Urumqi 47.67 289 *e*P **P** **05 31 41.8 +2.5**
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ pmax pmax
comp=Z,76nm,4.5s
WMQ LR LR
comp=Z,240nm,25.9s
WMQ LR LR
comp=Z,110nm,22.7s
WMQ LR LR
comp=Z,170nm,20.9s
KURK Kurchatov 48.00 302 *de*P **P** **05 31 39.2 -2.4**
KURK pmax pmax
comp=Z,16nm,0.7s
KURK Kurchatov 48.00 302 P **P** **05 31 39.6 -2.0**
KURBB Kurchatov Arra 48.10 302 P **P** **05 31 40.3 -2.1**
comp=Z,13nm,0.7s,baz=57,slow=8.2,SNR=81
KURBB PcP **PcP** **05 33 09.1 -0.1**
comp=Z,2.7nm,0.6s,baz=46,slow=3.0,SNR=6.6
KULLO Kullorsuaq 48.36 13⇑ *i*P **P** **05 31 44.5 +0.4**
KULLO pmax pmax
comp=Z,31nm,0.8s
KULLO Kullorsuaq 48.36 13⇑ *i*P **P** **05 31 44.5 +0.4**
comp=Z,31nm,0.8s
MK31 Makanchi Array 48.64 296 *i* P **P** **05 31 43.5 -3.1**
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MK31 Makanchi Array 48.64 296 P **P** **05 31 45.0 -1.6**
MK31 IAmb IAmb 05 31 46.2
comp=Z,4.9nm,0.8s
MKAR Makanchi Array 48.64 296 P **P** **05 31 43.8 -2.9**
comp=Z,5.1nm,0.6s,baz=57,slow=7.3,SNR=31
MAKZ Makanchi 48.79 296 P **P** **05 31 45.3 -2.5**
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
MAKZ Makanchi 48.79 296 P **P** **05 31 45.4 -2.5**
MAKZ IAmb IAmb 05 31 47.9
comp=Z,9.3nm,1.1s
DAG Danmarks Havn 48.83 0⇑ *i*P **P** **05 31 47.4 -0.2**
DAG pmax pmax
comp=Z,12nm,0.7s
DAG Danmarks Havn 48.83 0⇑ *i*P **P** **05 31 47.4 -0.2**
comp=Z,12nm,0.7s
YBH Yreka Blue Hor 49.29 73 P **P** **05 31 52.4 +0.7**
YBH pmax pmax
comp=Z,4.0nm,1.2s
YBH Yreka Blue Hor 49.29 73 P **P** **05 31 52.4 +0.7**
JTMT Jette 49.80 61 P **P** **05 31 57.0 +1.4**
JTMT IAmb IAmb 05 31 58.7
comp=Z,9.4nm,0.7s
BVAR Borovoye Array 50.42 308 P **P** **05 31 58.0 -2.1**
BVAR 05 33 16.0
BVAR Borovoye Array 50.42 308 P **P** **05 31 58.0 -2.1**
comp=Z,7.2nm,0.5s,baz=62,slow=7.4,SNR=43
BVAR PcP **PcP** **05 33 16.0 -1.7**
comp=Z,3.0nm,0.8s,baz=90,slow=3.1,SNR=4.3
BRVK Borovoye 50.45 309 *d i*P **P** **05 31 58.4 -1.9**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 50.45 309 P **P** **05 31 59.0 -1.3**
BRVK IAmb IAmb 05 32 00.5
comp=Z,9.1nm,0.7s
MOD Modoc Plateau 50.50 71 P **P** **05 32 02.2 +1.2**
PLID Pearl Lake 50.67 65 P **P** **05 32 04.3 +1.9**
FFC Flin Flon 51.00 48 *i* P **P** **05 32 06.2 +1.8**
FFC Flin Flon 51.00 48 P **P** **05 32 05.7 +1.3**
HRY Holter Researc 51.74 61 P **P** **05 32 12.1 +1.9**
LVZ Lovozero 51.74 338 P **P** **05 32 09.1 -0.7**
LVZ pmax pmax
comp=Z,15nm,0.9s
LVZ Lovozero 51.74 338 P **P** **05 32 09.1 -0.7**
LVZ IAmb IAmb 05 32 09.6
comp=Z,15nm,0.9s
ARCES ARCESS Array B 52.18 342 P **P** **05 32 10.4 -2.6**
comp=Z,6.0nm,0.7s,baz=35,slow=9.4,SNR=20
ARCES PcP **PcP** **05 33 22.9 -1.1**
comp=Z,2.5nm,0.5s,baz=37,slow=3.6,SNR=8.4
ARCES LR LR 05 57 10.9
comp=Z,66nm,21.2s,baz=199,slow=39
ARE0 ARCESS Array S 52.18 342 *e*P **P** **05 32 12.2 -0.9**
ARE0 ARCESS Array S 52.18 342 P **P** **05 32 11.2 -1.9**
SUMG Summit 52.23 8 *i* P **P** **05 32 14.4 +0.6**
SUMG pmax pmax
comp=Z,77nm,1.1s
SUMG Summit 52.23 8 *i* P **P** **05 32 14.4 +0.6**
comp=Z,77nm,1.1s
SUMG Summit 52.23 8 P **P** **05 32 14.1 +0.3**
KMI Kunming 52.37 261 P **P** **05 32 16.1 +0.9**
KMI sP sP 05 32 37.0 +0.6
KMI pmax pmax
comp=Z,11nm,1.0s
KMI LR LR
comp=Z,250nm,17.5s
KMI LR LR
comp=Z,160nm,19.1s
KMI LR LR
comp=Z,260nm,23.4s
MCMT McKenzie Canyo 52.49 63 P **P** **05 32 16.8 +0.8**
PNTR Pine Nut 52.83 73 P **P** **05 32 20.1 +1.6**
PNTR IAmb IAmb 05 32 28.1
comp=Z,3.6nm,0.7s
KTK1 Kautokeino 53.04 343 *e*P **P** **05 32 18.6 -0.7**
YERR Yerington 53.10 73 P **P** **05 32 22.0 +1.6**
YERR IAmb IAmb 05 32 33.5
comp=Z,6.8nm,1.3s
ARU Arti 53.11 318 *d i*P **P** **05 32 18.5 -1.5**
ARU 05 34 16.6
ARU S **S** **05 39 45.4 -0.5**
ARU SS **SS** **05 43 21.9 -3.1**
ARU pmax pmax
comp=Z,20nm,0.5s
ARU MLR MLR
comp=Z,275nm,18.0s
ARU Arti 53.11 318 P **P** **05 32 18.3 -1.8**
TRO Tromso 53.18 345 *e*P **P** **05 32 19.7 -0.6**
WAKR Walker 53.33 73 P **P** **05 32 22.9 +0.7**
WAKR IAmb IAmb 05 32 26.3
comp=Z,13nm,1.5s
YHB Horse Butte 53.40 62 P **P** **05 32 23.6 +0.9**
KVN Kaiserville 53.68 72 P **P** **05 32 26.2 +1.4**
KVN pmax pmax
comp=Z,3.0nm,0.7s
KVN Kaiserville 53.68 72 P **P** **05 32 26.2 +1.4**
RYN Ryan 53.75 73 P **P** **05 32 26.9 +1.7**
RYN IAmb IAmb 05 32 31.1
comp=Z,5.3nm,1.0s
PRGR Permogore 53.79 328 *e*P **P** **05 32 23.5 -1.4**
PRGR pmax pmax
comp=Z,26nm,0.6s
H17A Grant Village 53.97 62 P **P** **05 32 28.1 +1.3**
H17A IAmb IAmb 05 32 31.4
comp=Z,14nm,1.4s
NVAR Mina Array Bea 54.01 73 P **P** **05 32 29.2 +2.0**
comp=Z,1.0nm,0.5s,baz=298,slow=7.5,SNR=13
NVAR LR LR 05 53 17.8
comp=Z,62nm,21.9s,baz=324,slow=33
FLWY Flagg Ranch 54.12 63 P **P** **05 32 29.1 +1.2**
FLWY IAmb IAmb 05 32 31.4
comp=Z,6.5nm,0.8s
RLMT Red Lodge 54.13 61 IAmb IAmb 05 32 31.4
comp=Z,11nm,0.8s
FXWY Fox Creek 54.26 63 P **P** **05 32 30.2 +1.2**
MOOW Moose Ponds 54.33 63 P **P** **05 32 30.9 +1.5**
TARG Taragay, Kyrgy 54.44 294 P **P** **05 32 29.2 -1.2**
KDJ Kajisay 54.48 294 P **P** **05 32 28.5 -2.0**
KDJ pmax pmax
comp=Z,21nm,1.1s
KDJ Kajisay 54.48 294 P **P** **05 32 28.5 -2.0**
SLVN Son La 54.66 257 P **P** **05 32 32.4 +0.5**
SLVN IAmb IAmb 05 32 34.4
comp=Z,5.7nm,0.7s
STEI Steigen 55.29 346 *e*P **P** **05 32 35.1 -0.6**
LOF Lofoten 55.34 346 *e*P **P** **05 32 34.7 -1.3**
AAK Ala-Archa 55.53 297 *ce*P **P** **05 32 37.0 -1.1**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 55.53 297 P **P** **05 32 37.2 -0.8**
comp=Z,7.4nm,0.7s,baz=75,slow=5.3,SNR=22
AAK Ala-Archa 55.53 297 P **P** **05 32 37.3 -0.8**
AAK IAmb IAmb 05 32 38.4
comp=Z,6.9nm,0.7s
FRB Frobisher Bay 55.54 25 P **P** **05 32 36.8 -0.8**
comp=Z,8.1nm,0.7s,baz=332,slow=7.9,SNR=19
BW06 Boulder Array 55.64 63 P **P** **05 32 40.1 +1.2**
PD31 Pinedale Array 55.64 63 P **P** **05 32 40.1 +1.2**
PDAR Pinedale Array 55.64 63 P **P** **05 32 40.8 +1.9**
comp=Z,2.1nm,0.6s,baz=326,slow=2.5,SNR=26
DUG Dugway, Tooele 55.75 67 P **P** **05 32 41.3 +1.7**
DUG pmax pmax
comp=Z,5.0nm,0.9s
DUG Dugway, Tooele 55.75 67 P **P** **05 32 41.3 +1.7**
DUG IAmb IAmb 05 32 48.5
comp=Z,5.0nm,0.8s
CTU Camp Tracy 55.96 66 P **P** **05 32 42.9 +1.7**
TPNV Topopah Spring 56.21 72 P **P** **05 32 45.0 +2.1**
TPNV pmax pmax
comp=Z,4.0nm,1.0s
TPNV Topopah Spring 56.21 72 P **P** **05 32 45.0 +2.1**
NLU North Lily Min 56.32 67 P **P** **05 32 45.2 +1.5**
PSUT Pine Spring 56.38 69 P **P** **05 32 45.8 +1.6**
ULM Lac du Bonnet 56.80 49 P **P** **05 32 47.9 +1.1**
comp=Z,7.5nm,0.9s,baz=296,slow=5.3,SNR=7.5
ULM Lac du Bonnet 56.80 49 IAmb IAmb 05 32 49.2
comp=Z,16nm,1.2s
KSH Kashi 56.99 293 P P 05 32 53.4 +5.0
KSH sP sP 05 33 11.2 +1.2
KSH ScP **ScP** **05 37 41.6 +4.0**
KSH S **S** **05 40 43.5 +5.0**
KSH sS sS 05 41 05.6 +1.4
KSH ScS **ScS** **05 42 35.2 +2.6**
KSH pmax pmax
comp=Z,240nm,4.8s
KSH LR LR
comp=Z,270nm,9.6s
KSH LR LR
comp=Z,280nm,5.7s
KSH LR LR
comp=Z,360nm,6.2s
MOR8 Moi Rana 57.04 345 *e*P **P** **05 32 46.5 -1.8**
RDMU Red Mountain 57.20 65 P **P** **05 32 51.4 +1.3**
KK31 Karatay Array 57.24 299 *i* P **P** **05 32 48.3 -1.7**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KK31 Karatay Array 57.24 299 IAmb IAmb 05 32 49.2
comp=Z,5.0nm,0.7s
KKAR Karatay Array 57.24 299 IAmb IAmb 05 32 49.2
comp=Z,5.0nm,0.7s
TMUT Trail Mountain 57.26 67 P **P** **05 32 50.5 0.0**
ARSB Arslanbob 57.26 296 IAmb IAmb 05 32 51.2
comp=Z,6.7nm,0.6s
MSU Marysvale 57.30 68 P **P** **05 32 51.7 +0.9**
MSU Marysvale 57.30 68 P **P** **05 32 51.7 +0.9**
RSSD Black Hills 57.46 58 P **P** **05 32 52.9 +1.1**
RSSD pmax pmax
comp=Z,13nm,0.8s
RSSD Black Hills 57.46 58 P **P** **05 32 52.9 +1.1**
Q16A Castle Valley 57.55 67 P **P** **05 32 53.5 +1.1**
MTPU Mount Pierson 57.64 69 P **P** **05 32 54.5 +1.1**
AKTO Aktyubinsk 57.71 313 P **P** **05 32 51.9 -1.2**
AKTO pmax pmax
comp=Z,5.0nm,0.6s
AB31 Akbulak array 57.75 311 *e*P **P** **05 32 52.0 -1.5**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
SRU San Rafael Swe 57.76 67 P **P** **05 32 55.1 +1.2**
SRU pmax pmax
comp=Z,8.0nm,0.7s
SRU San Rafael Swe 57.76 67 P **P** **05 32 55.1 +1.2**
LCMT Little Creek M 57.81 70 P **P** **05 32 54.9 +0.6**
O20A White River Ci 58.22 64 P **P** **05 32 58.0 +0.8**
O20A IAmb IAmb 05 32 59.9
comp=Z,6.2nm,0.8s
PAYA Payao 58.52 259 P P 05 33 05.0 +5.8
PFO Pinyon Flats O 58.52 75 P **P** **05 33 01.4 +2.2**
PFO pmax pmax
comp=Z,8.0nm,1.4s
PFO Pinyon Flats O 58.52 75 P **P** **05 33 01.4 +2.2**
PFO IAmb IAmb 05 33 15.9
comp=Z,7.9nm,1.4s
XPFO Pion Flat 58.53 75 P **P** **05 33 01.8 +2.5**
XPFO IAmb IAmb 05 33 15.9
comp=Z,7.9nm,1.4s
PV09 Paradox Valley 58.95 66 P **P** **05 33 02.7 +0.4**
NSS Namsos 58.95 346 *e*P **P** **05 33 01.2 -0.3**
PV21 Cone Mtn., Par 58.98 66 P **P** **05 33 02.7 +0.2**
PHRA Phrae 59.00 258 P **P** **05 33 04.3 +1.8**
comp=Z,1.6nm,0.9s,comp=Z,374nm
PV23 Carpenter Ridg 59.04 66 P **P** **05 33 03.8 +0.8**
PV23 IAmb IAmb 05 33 16.5
comp=Z,8.0nm,1.0s
PV14 Lion Creek, Pa 59.10 66 P **P** **05 33 04.6 +1.3**
PV14 IAmb IAmb 05 33 13.5
comp=Z,4.0nm,0.7s
PV22 Blue Mesa, Par 59.10 66 P **P** **05 33 04.5 +1.1**
PV22 IAmb IAmb 05 33 07.2
comp=Z,4.0nm,0.6s
PV04 Paradox Valley 59.14 66 P **P** **05 33 05.0 +1.5**
PV04 IAmb IAmb 05 33 06.9
comp=Z,7.1nm,0.8s
PV20 West Nyswonger 59.15 66 P **P** **05 33 04.0 +0.3**
PV20 IAmb IAmb 05 33 12.0
comp=Z,5.3nm,0.8s
FIA1 FINESS Array S 59.17 337 P **P** **05 33 03.0 -0.2**
FINES FINESS Array B 59.18 337 P **P** **05 33 02.5 -0.7**
comp=Z,37nm,0.6s,baz=33,slow=8.6,SNR=170
FINES LR LR 06 01 03.3
comp=Z,56nm,21.7s,baz=26,slow=39
PV16 Nyswonger Mesa 59.20 66 P **P** **05 33 05.1 +1.1**
PV16 IAmb IAmb 05 33 07.2
comp=Z,5.7nm,0.9s
PV17 East Wray Mesa 59.20 66 P **P** **05 33 05.5 +1.5**
PV17 IAmb IAmb 05 33 07.2
comp=Z,8.6nm,0.7s
PV11 David Mesa, Pa 59.23 66 P **P** **05 33 06.1 +1.9**
PV11 IAmb IAmb 05 33 08.5
comp=Z,7.3nm,0.7s
PV07 Paradox Valley 59.25 66 P **P** **05 33 05.7 +1.3**
PV07 IAmb IAmb 05 33 07.0
comp=Z,3.5nm,0.8s
PV18 Skein Mesa, Pa 59.25 66 P **P** **05 33 05.4 +1.1**
PV18 IAmb IAmb 05 33 07.2
comp=Z,5.9nm,0.8s
PV12 Saucer Basin, 59.25 66 P **P** **05 33 05.9 +1.5**
PV12 IAmb IAmb 05 33 15.2
comp=Z,6.2nm,1.0s
PV05 Paradox Valley 59.27 67 P **P** **05 33 05.0 +0.5**
PV03 Paradox Valley 59.28 66 P **P** **05 33 06.7 +2.2**
PV03 IAmb IAmb 05 33 07.8
comp=Z,4.6nm,0.9s
PV13 Radium Mtn., P 59.36 66 P **P** **05 33 06.6 +1.5**
PV13 IAmb IAmb 05 33 08.4
comp=Z,6.7nm,0.7s
TAPN Taplejung 59.37 275 *e*P **P** **05 33 04.8 -0.6**
comp=Z,25nm,0.8s
CMMT Chiang Mai 59.48 259 P **P** **05 33 07.0 +1.1**
comp=Z,5.7nm,0.8s
CHTO Chiang Mai 59.48 259 P **P** **05 33 06.0 +0.1**
CHTO pmax pmax
comp=Z,7.0nm,0.5s
CHTO Chiang Mai 59.48 259 P **P** **05 33 06.0 +0.1**
SMCO Snowmass 59.59 64 P **P** **05 33 08.2 +1.3**
SMCO IAmb IAmb 05 33 10.1
comp=Z,4.1nm,0.9s
CMAR Chiang Mai Arr 59.76 259 *i* P **P** **05 33 09.5 +1.7**
CMAR pmax pmax
comp=Z,4.0nm,0.6s
CMAR Chiang Mai Arr 59.76 259 P **P** **05 33 07.8 0.0**
comp=Z,4.0nm,0.6s,baz=22,slow=6.6,SNR=18
CMAR LR LR 06 00 43.4
comp=Z,91nm,19.8s,baz=12,slow=38
ODAN Odare 59.93 275 *e*P **P** **05 33 08.6 -0.6**
comp=Z,12nm,0.5s
GUN Gumba 60.01 277 *e*P **P** **05 33 08.5 -1.3**
comp=Z,15nm,0.6s
JIRN Jiri 60.02 276 *e*P **P** **05 33 09.7 -0.2**
comp=Z,10nm,0.4s
CHAI Chaiyaphum 60.09 255 P **P** **05 33 10.9 +0.8**
MVCO Mesa Verde 60.23 67 P **P** **05 33 13.7 +2.6**
RAMN Ramite 60.32 275 *e*P **P** **05 33 11.2 -0.7**
comp=Z,40nm,0.5s
PKI Pulchoki 60.53 277 *e*P **P** **05 33 12.9 -0.5**
comp=Z,22nm,0.7s
PKIN Phulchoki 60.54 277 *e*P **P** **05 33 12.8 -0.6**
comp=Z,12nm,0.5s
GKN Gorkha 60.65 278 *e*P **P** **05 33 12.6 -1.4**
DMN Daman 60.68 277 *e*P **P** **05 33 13.7 -0.6**
S22A 4UR Ranch, Cre 60.72 65 P **P** **05 33 15.7 +1.1**
S22A IAmb IAmb 05 33 17.9
comp=Z,3.5nm,0.8s
DANN Dangsing 60.90 279 *e*P **P** **05 33 14.5 -1.3**
comp=Z,41nm,0.8s
ECSD EROS Data Cent 61.34 54 P **P** **05 33 19.2 +0.9**
ECSD IAmb IAmb 05 33 19.7
comp=Z,6.6nm,1.2s
KOLN Koldanda 61.43 278 *e*P **P** **05 33 17.7 -1.6**
comp=Z,17nm,0.7s
MOL Molde 61.43 347 *e*P **P** **05 33 18.6 +0.1**
X18A Snowflake 61.45 70 P **P** **05 33 21.0 +1.6**
X18A IAmb IAmb 05 33 23.2
comp=Z,5.4nm,0.8s
UMPA Umpang Tak 61.61 258 P **P** **05 33 23.0 +2.6**
comp=Z,37µm,0.8s
VSU Vasula 61.67 335 *de*P **P** **05 33 20.3 +0.1**
VSU pmax pmax
comp=Z,136nm,2.5s
VSU Vasula 61.67 335 *e*P **P** **05 33 20.1 -0.1**
VSU IAmb IAmb 05 33 21.3
comp=Z,122nm,0.6s
DOMB Dombas 61.73 346 *e*P **P** **05 33 20.4 -0.3**
UTHA Uthaitani 61.80 257 P **P** **05 33 23.2 +1.6**
comp=Z,31µm,0.9s,comp=Z,450µm
OBN Obninsk 61.87 328‖ *e*P **P** **05 33 21.3 -0.3**
OBN 05 33 58.0
OBN pmax pmax
comp=Z,35nm,1.3s
OBN MLR MLR
comp=Z,154nm,19.0s
NB2 NORSAR Subarra 62.38 345 P **P** **05 33 24.2 -0.8**
comp=Z,18nm,0.7s,baz=19,slow=6.9
NB2 NORSAR Subarra 62.38 345 P **P** **05 33 24.2 -0.8**
baz=19,slow=6.9
NOA NORSAR Array B 62.38 345 P **P** **05 33 24.5 -0.5**
comp=Z,13nm,0.7s,baz=19,slow=6.1,SNR=57
NOA LR LR 06 03 57.1
comp=Z,35nm,18.1s,baz=0.0,slow=39
NBO00 NORSAR Array S 62.45 345 P **P** **05 33 25.2 -0.2**
NAO01 NORSAR Array S 62.61 345 *e*P **P** **05 33 25.9 -0.5**
NAO01 NORSAR Array S 62.61 345 P **P** **05 33 26.0 -0.5**
NC602 NORSAR Array S 62.62 344 P **P** **05 33 26.1 -0.5**
HFS Hagfors 62.83 343 P **P** **05 33 27.3 -0.7**
comp=Z,16nm,0.4s,baz=45,slow=4.6,SNR=148
ANMO Albuquerque 63.02 67‖ *e*P **P** **05 33 32.4 +2.5**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
ANMO Albuquerque 63.02 67 P **P** **05 33 31.8 +1.9**
SKAR Skarslia 63.15 346 *e*P **P** **05 33 30.0 -0.1**
LPSR Galich'ya Gora 63.24 325 *e*P **P** **05 33 29.8 -1.0**
LPSR pmax pmax
comp=Z,30nm,0.7s
VRH Novokhopyorsk 63.45 323 *e*P **P** **05 33 30.5 -1.7**
VRH pmax pmax
comp=Z,30nm,0.5s
SLIT Slitere, Latvi 63.46 337 *e*P **P** **05 33 31.8 -0.3**
SLIT IAmb IAmb 05 33 37.4
comp=Z,287nm,1.2s
SCHQ Schefferville 63.64 29 P **P** **05 33 33.4 -0.1**
comp=Z,5.0nm,0.6s,baz=343,slow=6.9,SNR=12
SCHQ Schefferville 63.64 29 IAmb IAmb 05 33 34.4
comp=Z,8.7nm,0.8s
PHET Kaeng Krachan 63.84 255 P **P** **05 33 36.9 +1.7**
KONO Kongsberg 63.95 345 P **P** **05 33 34.6 -0.8**
KONO pmax pmax
comp=Z,14nm,0.9s
KONO Kongsberg 63.95 345 *e*P **P** **05 33 34.8 -0.6**
KONO Kongsberg 63.95 345 P **P** **05 33 34.6 -0.8**
KONO IAmb IAmb 05 33 36.1
comp=Z,14nm,0.8s
VSR Storozhevoye 64.33 324 *e*P **P** **05 33 36.9 -1.0**
VSR pmax pmax
comp=Z,30nm,1.2s
VORD Divnogorie 64.49 324 *e*P **P** **05 33 38.2 -0.8**
VORD pmax pmax
comp=Z,9.0nm,0.5s
PABE Paberze 65.00 335 *e*P **P** **05 33 42.3 +0.1**
PABE IAmb IAmb 05 33 43.4
comp=Z,64nm,0.7s
HOMB Homborsund 65.44 345 *e*P **P** **05 33 44.3 -0.7**
SNART Snartemo 65.56 346 *e*P **P** **05 33 46.1 +0.3**
MNTX Cornudas Mount 66.08 69 P **P** **05 33 51.1 +1.5**
MNTX IAmb IAmb 05 33 53.0
comp=Z,5.4nm,0.9s
WMOK Wichita Mounta 67.21 62 IAmb IAmb 05 33 59.1
comp=Z,7.4nm,0.8s
HDIL Hopedale 67.21 52 P **P** **05 33 57.5 +0.7**
GEYT Alibeck 67.30 304 P **P** **05 33 56.3 -1.1**
comp=Z,5.4nm,0.6s,baz=357,slow=3.0,SNR=11
GEYT LR LR 06 06 14.2
comp=Z,180nm,18.8s,baz=30,slow=39
AKASG Malin Array Be 67.91 330 P **P** **05 34 00.2 -0.7**
comp=Z,24nm,0.6s,baz=28,slow=6.3,SNR=63
AKASG LR LR 06 07 02.3
comp=Z,62nm,19.0s,baz=25,slow=39
AKBB Malin Array Si 67.91 330 *c i*P **P** **05 34 00.0 -0.9**
HHAR Hobbs 68.42 58 IAmb IAmb 05 34 05.5
comp=Z,7.9nm,0.8s
TX31 Lajitas Ar. Si 68.84 69 P **P** **05 34 08.4 +1.2**

TX31					IAmb	IAmb	05 34 10.2	
	comp=Z,5.7nm,0.7s							
TX32	**Lajitas Array**	**68.84**	**69**	P	**P**		**05 34 08.2**	**+0.9**
TX32					IAmb	IAmb	05 34 10.2	
	comp=Z,6.0nm,0.7s							
TXAR	**Lajitas Array**	**68.84**	**69**	P	**P**		**05 34 09.3**	**+2.1**
	comp=Z,4.3nm,0.5s,baz=299,slow=4.5,SNR=34							
KIV	**Kislovodsk**	**69.16**	**318**	*e*P	**P**		**05 34 09.2**	**+0.3**
KIV					pmax	pmax		
	comp=Z,44nm,1.1s							
KIV					MLR	MLR		
	comp=Z,307nm,17.0s							
AKT	**Akhty**	**69.16**	**313**	*e*P	**P**		**05 34 09.0**	**0.0**
AKT				*e*			05 34 32.9	
AKT					pmax	pmax		
	comp=Z,15nm,0.5s							
KBZ	**Khabaz**	**69.26**	**318**	⇓*e*P	**P**		**05 34 09.5**	**+0.1**
KBZ	**Khabaz**	**69.26**	**318**	P	**P**		**05 34 09.3**	**-0.1**
	comp=Z,14nm,0.8s,baz=94,slow=6.2,SNR=20							
KBZ					LR	LR	06 08 01.9	
	comp=Z,192nm,21.7s,baz=18,slow=39							
SIUC	**Southern Illin**	**69.53**	**53**	P	**P**		**05 34 11.8**	**+0.5**
SIUC					IAmb	IAmb	05 34 12.4	
	comp=Z,7.7nm,0.7s							
KULM	**Kulim**	**69.55**	**249**	P	**P**		**05 34 12.6**	**+1.0**
KULM					IAmb	IAmb	05 34 13.6	
	comp=Z,8.6nm,0.7s							
ZEI	**Tsey**	**69.65**	**316**	*e*P	**P**		**05 34 11.5**	**-0.7**
ZEI					pmax	pmax		
	comp=Z,9.0nm,0.9s							
MEDO	**Medina**	**69.69**	**43**	P	**P**		**05 34 13.0**	**+0.9**
EKA	**Eskdalemuir Ar**	**69.71**	**351**	P	**P**		**05 34 12.2**	**+0.1**
	comp=Z,8.8nm,0.5s,baz=17,slow=5.6,SNR=49							
ESK	**Eskdalemuir**	**69.73**	**351**	P	**P**		**05 34 11.2**	**-0.9**
ESK					pmax	pmax		
	comp=Z,19nm,1.2s							
ESK	**Eskdalemuir**	**69.73**	**351**	P	**P**		**05 34 11.2**	**-0.9**
ESK					IAmb	IAmb	05 34 14.8	
	comp=Z,19nm,1.1s							
MIAR	**Mount Ida**	**69.98**	**58**	P	**P**		**05 34 14.7**	**+0.6**
MIAR					pmax	pmax		
	comp=Z,7.0nm,1.0s							
MIAR	**Mount Ida**	**69.98**	**58**	P	**P**		**05 34 14.7**	**+0.6**
MIAR					IAmb	IAmb	05 34 16.1	
	comp=Z,6.6nm,1.0s							
JCT	**Junction City**	**70.02**	**65**	IAmb	IAmb		05 34 16.6	
	comp=Z,6.9nm,0.8s							
WHAR	**Wooly Hollow**	**70.02**	**57**	P	**P**		**05 34 15.0**	**+0.7**
WHAR					IAmb	IAmb	05 34 20.3	
	comp=Z,8.9nm,1.3s							
LVV	**L'vov**	**70.16**	**333**	*e*P	**P**		**05 34 11.9**	**-3.0**
SORM	**Soroca**	**70.46**	**329**	⇑P	**P**		**05 34 16.1**	**-0.6**
SORM	**Soroca**	**70.46**	**329**	⇑P	**P**		**05 34 16.1**	**-0.6**
M54A	**Oil Creek Stat**	**70.60**	**45**	P	**P**		**05 34 18.1**	**+0.3**
KWP	**Kalwaria Pacla**	**70.68**	**333**	*e*P	**P**		**05 34 18.5**	**+0.4**
KWP	**Kalwaria Pacla**	**70.68**	**333**	*e*P	**P**		**05 34 18.5**	**+0.4**
KWP				*e*P	**P**		**05 34 18.5**	**+0.4**
N53A	**Lisbon**	**70.70**	**46**	P	**P**		**05 34 18.7**	**+0.4**
OJC	**Ojcow**	**70.86**	**336**	*e*P	**P**		**05 34 19.6**	**+0.4**
OJC	**Ojcow**	**70.86**	**336**	*e*P	**P**		**05 34 19.6**	**+0.4**
OJC				*e*P	**P**		**05 34 19.6**	**+0.4**
F64A	**Sherman**	**71.05**	**35**	P	**P**		**05 34 20.9**	**+0.6**
KSP	**Ksiaz**	**71.08**	**338**	*e*P	**P**		**05 34 20.6**	**+0.1**
KSP	**Ksiaz**	**71.08**	**338**	*e*P	**P**		**05 34 20.6**	**+0.1**
KSP				*e*P	**P**		**05 34 20.6**	**+0.1**
H62A	**Milan**	**71.22**	**37**	P	**P**		**05 34 22.1**	**+0.7**
CLL	**Collm**	**71.32**	**340**	⇑*i*P	**P**		**05 34 21.8**	**-0.1**
CLL				*e**PP	**pP**		**05 34 38.0**	**+0.6**
CLL					pmax	pmax		
	comp=Z,33nm,1.2s							
CLL	**Collm**	**71.32**	**340**	⇑*i*P	**P**		**05 34 21.8**	**-0.1**
	comp=Z,33nm,1.2s							
CLL				*e*pP	**pP**		**05 34 38.0**	**+0.6**
CLL				*e*sP	**sP**		**05 34 46.0**	**+2.4**
CHVC	**Chvalec**	**71.37**	**338**	*e*P	**P**		**05 34 22.3**	**0.0**
MILM	**Milestii Mici**	**71.41**	**328**	⇑P	**P**		**05 34 21.6**	**-1.0**
KOLS	**Kolonicke sedl**	**71.43**	**333**	*e*P	**P**		**05 34 23.1**	**+0.4**
KOLS					pmax	pmax		
	comp=Z,11nm,0.8s							
KOLS	**Kolonicke sedl**	**71.43**	**333**	*e*P	**P**		**05 34 23.1**	**+0.4**
UPC	**Upice**	**71.46**	**338**	*e*P	**P**		**05 34 23.2**	**+0.4**
UPC	**Upice**	**71.46**	**338**	*e*P	**P**		**05 34 23.2**	**+0.4**
WVT	**Waverly**	**71.47**	**53**	P	**P**		**05 34 24.5**	**+1.5**
WVT					pmax	pmax		
	comp=Z,9.0nm,1.4s							
WVT	**Waverly**	**71.47**	**53**	P	**P**		**05 34 24.6**	**+1.5**
WVT					IAmb	IAmb	05 34 37.5	
	comp=Z,9.2nm,1.4s							
NIE	**Niedzica**	**71.48**	**335**	*e*P	**P**		**05 34 24.1**	**+1.1**
NIE	**Niedzica**	**71.48**	**335**	*e*P	**P**		**05 34 24.1**	**+1.1**
NIE				*e*P	**P**		**05 34 24.1**	**+1.1**
DPC	**Dobruska-Polom**	**71.54**	**338**	*e*P	**P**		**05 34 23.6**	**+0.3**
DPC	**Dobruska-Polom**	**71.54**	**338**	*e*P	**P**		**05 34 23.6**	**+0.3**
BRG	**Berggiesshubel**	**71.55**	**339**	⇑*i*P	**P**		**05 34 23.2**	**-0.1**
	comp=Z,15nm,1.0s							
BRG				*e*			05 34 39.9	
	comp=Z,10nm,1.1s							
BRG	**Berggiesshubel**	**71.55**	**339**	⇑*i*P	**P**		**05 34 23.2**	**-0.1**
BRG				*e*			05 34 39.9	
BRG					pmax	pmax		
	comp=Z,15nm,1.0s							
BRG					pmax	pmax		
	comp=Z,10.0nm,1.1s							
OKC	**Ostrava-Krasne**	**71.61**	**336**	*e*P	**P**		**05 34 24.0**	**+0.3**
OKC	**Ostrava-Krasne**	**71.61**	**336**	*e*P	**P**		**05 34 24.0**	**+0.3**
KRLC	**Kraliky**	**71.69**	**337**	*e*P	**P**		**05 34 24.6**	**+0.3**
KRLC	**Kraliky**	**71.69**	**337**	*e*P	**P**		**05 34 24.6**	**+0.3**
KRLC				*ex*	x		05 34 28.1	
UZH	**Uzhgorod**	**71.70**	**333**	*e*P	**P**		**05 34 24.2**	**-0.1**
UZH				*i* *PP	**pP**		**05 34 38.2**	**-1.5**
UZH				*i*			05 34 41.6	
UZH				*i* S	**S**		**05 43 36.0**	**-3.5**
PVCC	**Panska Ves**	**71.75**	**339**	*e*P	**P**		**05 34 24.5**	**0.0**
PVCC				*e*			05 34 37.2	
PVCC	**Panska Ves**	**71.75**	**339**	*e*P	**P**		**05 34 24.5**	**0.0**
PVCC				*ex*	x		05 34 37.2	
M57A	**Sunshine Farm,**	**71.76**	**43**	P	**P**		**05 34 24.7**	**0.0**
M57A					IAmb	IAmb	05 34 28.7	
	comp=Z,21nm,1.2s							
MORC	**Moravsky Berou**	**71.80**	**337**	⇑P	**P**		**05 34 25.5**	**+0.6**
MORC	**Moravsky Berou**	**71.80**	**337**	⇑P	**P**		**05 34 25.5**	**+0.6**
MORC	**Moravsky Berou**	**71.80**	**337**	*e*P	**P**		**05 34 25.4**	**+0.6**
MORC	**Moravsky Berou**	**71.80**	**337**	IAmb	IAmb		05 34 26.5	
	comp=Z,19nm,0.9s							
BURAR	**Bucovina Array**	**71.84**	**331**	⇓P	**P**		**05 34 25.6**	**+0.3**
LANS	**Liptovska Anna**	**71.93**	**335**	*e*P	**P**		**05 34 27.2**	**+1.5**
LANS					pmax	pmax		
	comp=Z,21nm,0.8s							
LANS	**Liptovska Anna**	**71.93**	**335**	*e*P	**P**		**05 34 27.2**	**+1.5**
DSB	**Dublin**	**72.04**	**353**	P	**P**		**05 34 25.9**	**-0.4**
TRPA	**Tarpa**	**72.10**	**333**	⇑P	**P**		**05 34 27.3**	**+0.7**
TRPA	**Tarpa**	**72.10**	**333**	*e*P	**P**		**05 34 27.0**	**+0.4**
BIZ	**Bicaz**	**72.20**	**330**	⇓P	**P**		**05 34 27.6**	**+0.3**
PRU	**Pruhonice**	**72.26**	**339**	*e*P	**P**		**05 34 27.7**	**+0.1**
PRU	**Pruhonice**	**72.26**	**339**	*e*P	**P**		**05 34 27.7**	**+0.1**
GOPC	**GO Pecny, Ondr**	**72.28**	**339**	*e*P	**P**		**05 34 27.9**	**+0.1**
GOPC	**GO Pecny, Ondr**	**72.28**	**339**	*e*P	**P**		**05 34 27.9**	**+0.1**
TESR	**Tescani**	**72.43**	**330**	⇑P	**P**		**05 34 28.0**	**-0.7**
VRAC	**Vranov**	**72.46**	**337**	⇑P	**P**		**05 34 29.6**	**+0.8**
VRAC	**Vranov**	**72.46**	**337**	P	**P**		**05 34 28.9**	**+0.1**
	comp=Z,11nm,0.7s,baz=14,slow=6.7,SNR=12							
VRAC	**Vranov**	**72.46**	**337**	⇑P	**P**		**05 34 29.6**	**+0.8**
VRAC	**Vranov**	**72.46**	**337**	*e*P	**P**		**05 34 29.2**	**+0.4**
JAVC	**Velka Javorina**	**72.63**	**336**	*e*P	**P**		**05 34 31.4**	**+1.5**
PBCC	**Pribram**	**72.66**	**339**	*e*P	**P**		**05 34 29.9**	**-0.1**
VYHS	**Vyhne**	**72.70**	**335**	*e*P	**P**		**05 34 31.1**	**+0.9**
VYHS					pmax	pmax		
	comp=Z,10.0nm,0.8s							
VYHS	**Vyhne**	**72.70**	**335**	*e*P	**P**		**05 34 31.1**	**+0.9**
TREC	**Trest**	**72.72**	**338**	*e*P	**P**		**05 34 30.6**	**+0.3**
TREC	**Trest**	**72.72**	**338**	*e*P	**P**		**05 34 30.6**	**+0.3**
KRUC	**Moravsky**	**72.73**	**337**	*e*P	**P**		**05 34 30.8**	**+0.4**
TLCR		**72.97**	**328**	⇑P	**P**		**05 34 31.9**	**+0.1**
TLCR		**72.97**	**328**	⇑P	**P**		**05 34 31.9**	**+0.1**
PSZ	**Piszkesteto**	**72.97**	**335**	*e*P	**P**		**05 34 32.0**	**+0.1**
PSZ	**Piszkesteto**	**72.97**	**335**	IAmb	IAmb		05 34 33.8	
	comp=Z,13nm,0.9s							
SMOL	**Smolenice**	**73.01**	**336**	*e*P	**P**		**05 34 33.4**	**+1.3**
SMOL					pmax	pmax		
	comp=Z,14nm,1.0s							
SMOL	**Smolenice**	**73.01**	**336**	*e*P	**P**		**05 34 33.4**	**+1.3**
CJR	**Cluj-Napoca**	**73.11**	**332**	⇓P	**P**		**05 34 33.5**	**+0.7**
CJR	**Cluj-Napoca**	**73.11**	**332**	⇓P	**P**		**05 34 33.5**	**+0.7**
MODS	**Modra-Piesok**	**73.18**	**336**	*e*P	**P**		**05 34 33.3**	**+0.2**
MODS					pmax	pmax		
	comp=Z,18nm,1.0s							
MODS	**Modra-Piesok**	**73.18**	**336**	*e*P	**P**		**05 34 33.3**	**+0.2**
CFR	**Carcaliu**	**73.18**	**328**	⇑P	**P**		**05 34 32.8**	**-0.3**
CFR	**Carcaliu**	**73.18**	**328**	⇑P	**P**		**05 34 32.8**	**-0.3**
MEM	**Membach**	**73.23**	**344**	⇑P	**P**		**05 34 33.4**	**+0.1**
	comp=Z,27nm,0.9s							
KHC	**Kasperske Hory**	**73.28**	**339**	*e*P	**P**		**05 34 33.7**	**0.0**
KHC				*e*			05 34 48.6	
KHC	**Kasperske Hory**	**73.28**	**339**	*e*P	**P**		**05 34 33.7**	**0.0**
KHC				*ex*	x		05 34 43.4	
KHC				*e*pP	**pP**		**05 34 48.6**	**-0.6**
KHC	**Kasperske Hory**	**73.28**	**339**	IAmb	IAmb		05 34 35.5	
	comp=Z,9.5nm,1.1s							
DRGR		**73.28**	**332**	⇓P	**P**		**05 34 33.7**	**-0.1**
DRGR		**73.28**	**332**	⇓P	**P**		**05 34 33.7**	**-0.1**
DOPR	**Dopca**	**73.29**	**330**	⇑P	**P**		**05 34 34.1**	**+0.3**
BSTI	**Sart Tilman**	**73.32**	**345**	P	**P**		**05 34 33.6**	**-0.2**
BSZH	**Besenyszg**	**73.46**	**334**	*e*P	P		05 34 47.1	+12
GEC2	**GERESS Array S**	**73.52**	**339**	IAmb	IAmb		05 34 36.5	
	comp=Z,11nm,0.8s							
GERES	**GERESS Array B**	**73.52**	**339**	P	**P**		**05 34 35.4**	**+0.2**
	comp=Z,6.5nm,0.7s,baz=35,slow=5.0,SNR=44							
GERES					LR	LR	06 11 35.6	
	comp=Z,62nm,18.2s,baz=22,slow=40							
MLR	**Muntele Rosu**	**73.56**	**330**	⇑P	**P**		**05 34 36.2**	**+0.6**
MLR	**Muntele Rosu**	**73.56**	**330**	⇑P	**P**		**05 34 36.2**	**+0.6**
BMRD	**Maredsous**	**73.72**	**345**	P	**P**		**05 34 36.4**	**+0.2**
ISR	**Istrita**	**73.72**	**329**	⇑P	**P**		**05 34 36.7**	**+0.3**
ISR	**Istrita**	**73.72**	**329**	⇑P	**P**		**05 34 36.7**	**+0.3**
TLB	**Topalu**	**73.75**	**328**	⇑P	**P**		**05 34 36.2**	**-0.2**
TLB	**Topalu**	**73.75**	**328**	⇑P	**P**		**05 34 36.2**	**-0.2**
CSKK	**Cskako**	**73.89**	**335**	*e*P	**P**		**05 34 38.0**	**+0.7**
CONA	**Conrad Observa**	**73.92**	**337**	*e*P	**P**		**05 34 38.1**	**+0.5**
	comp=Z,12nm,0.9s,SNR=9.8							
DOU	**Dourbes**	**73.94**	**345**	P	**P**		**05 34 37.5**	**0.0**
SOP	**Sopron**	**73.99**	**337**	*e*P	P		05 34 32.1	-5.8
ARR	**Arges**	**74.05**	**330**	⇓P	**P**		**05 34 39.4**	**+1.0**
MPLH	**Magyarpolny**	**74.25**	**336**	*e*P	**P**		**05 34 40.1**	**+0.7**
MOA	**Molln**	**74.35**	**338**	*e*P	**P**		**05 34 40.3**	**+0.4**
	comp=Z,6.0nm,0.7s							
TIH	**Tihany**	**74.42**	**336**	*e*P	**P**		**05 34 41.0**	**+0.7**
GZR	**Gura Zlata**	**74.55**	**332**	⇓P	**P**		**05 34 41.4**	**+0.2**
GZR	**Gura Zlata**	**74.55**	**332**	⇓P	**P**		**05 34 41.4**	**+0.2**
ARSA	**Arzberg**	**74.64**	**337**	*i* P	**P**		**05 34 42.4**	**+0.7**
	comp=Z,7.7nm,0.8s							
BZS	**Buzias**	**74.66**	**333**	⇓P	**P**		**05 34 41.9**	**+0.1**
BZS	**Buzias**	**74.66**	**333**	⇓P	**P**		**05 34 41.9**	**+0.1**
MORH	**Mrgy, Hungar**	**74.87**	**335**	⇑*i*P	**P**		**05 34 42.6**	**-0.4**
MORH	**Mrgy, Hungar**	**74.87**	**335**	*e*P	**P**		**05 34 42.6**	**-0.9**
BFO	**Black Forest**	**75.05**	**342**	*i* P	**P**		**05 34 44.4**	**+0.4**
BFO	**Black Forest**	**75.05**	**342**	P	**P**		**05 34 44.1**	**+0.1**
BFO					IAmb	IAmb	05 34 45.1	
	comp=Z,17nm,1.2s							
KBA	**Koelnbreinsper**	**75.28**	**339**	*e*P	**P**		**05 34 46.6**	**+1.1**
	comp=Z,23nm,0.6s,SNR=12							
SOKA	**Soboth**	**75.29**	**337**	*e*P	**P**		**05 34 46.0**	**+0.6**
	comp=Z,8.6nm,0.7s,SNR=7.0							
ECH	**Echery**	**75.36**	**343**	IAmb	IAmb		05 34 46.9	
	comp=Z,11nm,0.9s							
WATA	**Waldalm**	**75.39**	**340**	*e*P	**P**		**05 34 46.8**	**+0.7**
	comp=Z,12nm,0.7s,SNR=6.2							
ZIMR		**75.40**	**329**	⇑P	P		05 34 51.6	+5.6
ZIMR		**75.40**	**329**	⇑P	P		05 34 51.6	+5.6
RETA	**Reutte**	**75.41**	**340**	*e*P	**P**		**05 34 46.7**	**+0.6**
	comp=Z,9.1nm,0.7s,SNR=5.3							
WTTA	**Wattenberg**	**75.45**	**340**	*e*P	**P**		**05 34 47.0**	**+0.5**
	comp=Z,13nm,0.7s,SNR=7.1							
MOTA	**Moosalm**	**75.48**	**340**	*e*P	**P**		**05 34 47.3**	**+0.6**
	comp=Z,15nm,0.8s,SNR=10.0							
OBKA	**Obir**	**75.56**	**338**	*e*P	**P**		**05 34 47.9**	**+0.8**
	comp=Z,33nm,1.1s,SNR=13							
FRGS	**Fruska Gora**	**75.56**	**334**	⇑*i*P	**P**		**05 34 46.4**	**-0.6**
SQTA	**Sankt Quirin**	**75.58**	**340**	*e*P	**P**		**05 34 47.8**	**+0.7**
	comp=Z,23nm,0.8s,SNR=11							
MYKA	**Terra Mystica**	**75.64**	**338**	*e*P	**P**		**05 34 48.7**	**+1.2**
	comp=Z,10nm,0.8s							
ABTA	**Abfaltersbach**	**75.77**	**339**	*e*P	**P**		**05 34 48.6**	**+0.3**
	comp=Z,24nm,1.0s,SNR=11							
FETA	**Feichten**	**75.86**	**340**	*e*P	**P**		**05 34 49.8**	**+0.9**
	comp=Z,23nm,0.9s,SNR=13							
PLVB	**Pleven**	**75.87**	**330**	⇑P	**P**		**05 34 48.0**	**-0.7**
CRES	**Cresnjev**	**76.00**	**337**	⇑*i*P	**P**		**05 34 49.3**	**-0.2**
BR131	**Keskin Array S**	**76.21**	**322**	*c* *i*P	**P**		**05 34 50.5**	**-0.4**
BR131	**Keskin Array S**	**76.21**	**322**	IAmb	IAmb		05 34 51.4	
	comp=Z,11nm,0.8s							
BRTR	**Keskin Array B**	**76.21**	**322**	P	**P**		**05 34 50.9**	**-0.1**
	comp=Z,11nm,0.8s,baz=40,slow=2.9,SNR=35							
BRTR					LR	LR	06 12 08.0	
	comp=Z,31nm,18.1s,baz=15,slow=39							
CEY	**Cerknica**	**76.31**	**337**	*e*P	**P**		**05 34 50.8**	**-0.5**
FUORN	**Ofenpass-Fuorn**	**76.34**	**341**	P	**P**		**05 34 52.2**	**+0.6**
FUORN					IAmb	IAmb	05 34 53.6	
	comp=Z,13nm,0.7s							
DIVS	**Divibare**	**76.50**	**333**	⇑*i*P	**P**		**05 34 52.1**	**-0.3**
CTI	**Castel Tesino**	**76.61**	**339**	P	**P**		**05 34 52.8**	**-0.2**
CTI					pmax	pmax		
	comp=Z,14nm,0.6s							
CTI	**Castel Tesino**	**76.61**	**339**	P	**P**		**05 34 52.8**	**-0.2**
HAPS	**Han Pijesak,BI**	**76.78**	**334**	⇑*i*P	**P**		**05 34 53.5**	**-0.6**
BBLS	**Lazići**	**76.87**	**333**	⇑*i*P	**P**		**05 34 54.9**	**+0.4**
MGRS	**Mrkonjic Grad**	**76.94**	**335**	*e*P	**P**		**05 34 56.1**	**+1.3**
VTS	**Vitosha**	**76.98**	**330**	⇑P	**P**		**05 34 55.2**	**0.0**
VTS	**Vitosha**	**76.98**	**330**	⇑P	**P**		**05 34 55.2**	**0.0**
VTS	**Vitosha**	**76.98**	**330**	P	**P**		**05 34 54.6**	**-0.6**
VTS					IAmb	IAmb	05 34 56.0	
	comp=Z,10.0nm,0.7s							
GAZ	**Gaziantep**	**77.11**	**318**	P	**P**		**05 34 56.4**	**+0.5**
SENIN	**Lac Senin/Sane**	**77.13**	**343**	IAmb	IAmb		05 34 57.9	
	comp=Z,14nm,1.5s							
UDBI	**Udbina**	**77.15**	**336**	P	**P**		**05 34 56.4**	**+0.3**
SALO	**Salr**	**77.25**	**340**	P	**P**		**05 34 56.5**	**0.0**
TEOL	**Teolo**	**77.27**	**339**	P	**P**		**05 34 56.8**	**+0.2**
NVLJ	**Novalja**	**77.33**	**337**	P	**P**		**05 34 56.7**	**-0.2**
KIJV	**Kijevo**	**77.49**	**336**	P	**P**		**05 34 58.1**	**+0.2**
ALN	**Alexandroupoli**	**77.71**	**328**	P	**P**		**05 34 59.0**	**-0.1**
ALN					pmax	pmax		
	comp=Z,12nm,1.0s							
ALN	**Alexandroupoli**	**77.71**	**328**	P	**P**		**05 34 59.0**	**-0.1**
ALN					IAmb	IAmb	05 35 00.1	
	comp=Z,12nm,1.0s							
MORI	**Morici**	**77.79**	**336**	P	**P**		**05 34 59.1**	**-0.4**
RICI	**Ricice**	**77.80**	**335**	P	**P**		**05 34 59.2**	**-0.4**
BRY	**Bratogost**	**78.00**	**334**	*e*P	**P**		**05 35 00.5**	**-0.4**
ZIRJ	**Zirje**	**78.01**	**336**	P	**P**		**05 35 00.5**	**-0.2**
WRAB	**Tennant Creek**	**78.06**	**207**	*de*P	**P**		**05 35 02.2**	**+1.1**
WRAB					pmax	pmax		
	comp=Z,12nm,1.7s							
WRAB	**Tennant Creek**	**78.06**	**207**	P	**P**		**05 35 00.4**	**-0.7**
WRAB					IAmb	IAmb	05 35 02.2	
	comp=Z,9.5nm,0.7s							
WRA	**Warramunga Arr**	**78.07**	**207**	*i* P	**P**		**05 35 02.2**	**+1.0**
WRA					pmax	pmax		
	comp=Z,2.0nm,0.6s							
WRA	**Warramunga Arr**	**78.07**	**207**	P	**P**		**05 35 02.0**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=18,slow=5.9,SNR=32							
SKO	**Skopje**	**78.08**	**331**	*i* P	**P**		**05 35 01.6**	**+0.4**
STIP	**Stip**	**78.13**	**331**	*i* P	**P**		**05 35 00.8**	**-0.7**
PDG	**Podgorica**	**78.25**	**333**	⇑*i*P	**P**		**05 35 01.5**	**-0.6**
PDG	**Podgorica**	**78.25**	**333**	⇑P	**P**		**05 35 01.8**	**-0.3**
VAY	**Valandovo**	**78.36**	**330**	*i* P	**P**		**05 35 03.5**	**+0.8**
HCY	**Herceg Novi**	**78.44**	**336**	*e*P	**P**		**05 35 02.5**	**-0.6**
DRME	**Dracevica, Mon**	**78.50**	**333**	⇑*i*P	**P**		**05 35 02.7**	**-0.8**
BNI	**Bardonecchia**	**78.51**	**343**	IAmb	IAmb		05 35 06.1	
	comp=Z,14nm,1.3s							
SSB	**Saint Sauveur**	**78.64**	**344**	IAmb	IAmb		05 35 05.9	
	comp=Z,7.9nm,0.6s							
MSSA	**Maissana**	**78.70**	**340**	IAmb	IAmb		05 35 05.7	
	comp=Z,16nm,0.8s							
UOSS	**Minazif**	**78.73**	**297**	P	**P**		**05 35 04.5**	**-0.5**
UOSS					IAmb	IAmb	05 35 05.3	
	comp=Z,7.9nm,0.6s							
FNA	**Florina**	**79.20**	**331**	IAmb	IAmb		05 35 08.1	
	comp=Z,16nm,1.0s							
AGG	**Agios Georgios**	**80.56**	**329**	P	**P**		**05 35 14.7**	**-0.1**
AGG					pmax	pmax		
	comp=Z,11nm,1.2s							
AGG	**Agios Georgios**	**80.56**	**329**	P	**P**		**05 35 14.7**	**-0.1**
AGG					IAmb	IAmb	05 35 30.9	
	comp=Z,11nm,1.2s							
SCTE	**Santa Cesarea**	**80.67**	**333**	P	**P**		**05 35 15.1**	**-0.2**
ASAR	**Alice Springs**	**81.74**	**206**	P	**P**		**05 35 22.6**	**+1.6**
	comp=Z,4.2nm,0.7s,baz=17,slow=5.4,SNR=48							
TIP	**Timpagrande**	**81.95**	**334**	⇑P	**P**		**05 35 22.7**	**+0.5**
ITM	**Ithomi**	**82.38**	**329**	P	**P**		**05 35 24.0**	**-0.4**
PPT	**Papeete**	**82.79**	**134**	LR	LR		06 05 50.1	
	comp=Z,63nm,18.8s,baz=353,slow=31							
PBRG	**Braganca**	**83.44**	**352**	*e*P	**P**		**05 35 30.8**	**+0.9**
POLO	**Lamas de Olo**	**83.95**	**353**	*e*P	**P**		**05 35 33.4**	**+0.8**
PVRL	**Vila Real**	**84.04**	**352**	*e*P	**P**		**05 35 34.1**	**+1.1**
PSAD1	**Pilbara Seismi**	**84.07**	**219**	P	**P**		**05 35 32.6**	**-0.4**
PSAD1					IAmb	IAmb	05 35 44.1	
	comp=Z,10nm,1.2s							
MVO	**Moncorvo**	**84.10**	**352**	*e*P	**P**		**05 35 34.3**	**+1.0**
PSAC2	**Pilbara Seismi**	**84.15**	**219**	P	**P**		**05 35 33.3**	**-0.2**
PSAC2					IAmb	IAmb	05 35 38.0	
	comp=Z,6.2nm,1.0s							
PSAD2	**Pilbara Seismi**	**84.17**	**219**	P	**P**		**05 35 33.8**	**+0.2**
PSAD2					IAmb	IAmb	05 35 34.5	
	comp=Z,9.4nm,0.9s							
PVIS	**Viseu**	**84.61**	**353**	*e*P	**P**		**05 35 36.5**	**+0.6**
MTE	**Manteigas**	**84.90**	**352**	*e*P	**P**		**05 35 38.4**	**+1.1**
MTE	**Manteigas**	**84.90**	**352**	P	**P**		**05 35 37.7**	**+0.3**
MTE					IAmb	IAmb	05 35 39.1	
	comp=Z,9.9nm,0.7s							
RAYN	**Ar Rayn**	**85.25**	**305**	P	**P**		**05 35 38.7**	**-0.6**
RAYN					pmax	pmax		
	comp=Z,24nm,0.7s							
RAYN	**Ar Rayn**	**85.25**	**305**	P	**P**		**05 35 38.7**	**-0.6**
ESBB	**Sonseca Array**	**85.29**	**349**	IAmb	IAmb		05 35 41.1	
	comp=Z,9.6nm,0.8s							
ESDC	**Sonseca Array**	**85.29**	**349**	P	**P**		**05 35 40.0**	**+0.8**
	comp=Z,7.0nm,0.6s,baz=1.0,slow=4.6,SNR=58							
PCAS	**Casmilo, Conde**	**85.32**	**353**	*e*P	**P**		**05 35 40.4**	**+1.1**
PCBR	**Castelo Branco**	**85.45**	**352**	*e*P	**P**		**05 35 41.0**	**+1.0**
KEST	**Kesra**	**87.00**	**338**	P	**P**		**05 35 48.0**	**+0.3**
	comp=Z,3.2nm,0.7s,baz=8.8,slow=0.9,SNR=7.1							
KEST	**Kesra**	**87.00**	**338**	IAmb	IAmb		05 35 50.0	
	comp=Z,5.5nm,0.9s							
STKA	**Stephens Creek**	**88.02**	**197**	LR	LR		06 16 37.0	
	comp=Z,21nm,18.0s,baz=25,slow=36							

VIE 10 05:32:07.6±0.6, 47°.35N×10°.99E, h7$^{km}_{\pm 9}$km, ml0.3/2, Error ellipse: s-maj=16.2km s-min=1.3km az=41.0 7 km NW of Telfs, Austria

| Code | Station Name | Δ° | AZ° |

PB07				IAML		06 23 00.1	
	comp=E,220nm,0.2s						
PB08	**IPOC Station P**	**0.97**	**359**⇑	*i*P	**Pn**	**06 22 44.2**	**-0.3**
PB08				*i* S	**Sn**	**06 23 00.7**	**+0.6**
PB08				IAML		06 23 02.6	
	comp=N,286nm,0.2s						
PB03	**IPOC Station P**	**1.09**	**212**	*e*P	**Pn**	**06 22 45.0**	**-0.6**
PB03				*i* S	**Sn**	**06 23 01.9**	**-0.1**
PB03				IAML		06 23 04.1	
	comp=E,215nm,0.1s						
TA01	**Diego Aracena**	**1.13**	**299**⇑	*i*P	**Pn**	**06 22 45.8**	**0.0**
TA01				*i* S	**Sn**	**06 23 03.4**	**+1.1**
TA01				IAML		06 23 04.7	
	comp=E,429nm,0.2s						
PB11	**IPOC Station P**	**1.44**	**340**⇑	*i*P	**Pn**	**06 22 49.1**	**-0.5**
PB11				*i* S	**Sn**	**06 23 09.5**	**+0.4**
PB11				IAML		06 23 11.3	
	comp=E,323nm,0.2s						
GO01	**Chusmiza**	**1.44**	**358**⇑	*i*P	**Pn**	**06 22 49.9**	**-0.1**
GO01				*i* S	**Sn**	**06 23 10.6**	**+0.8**
GO01				IAML		06 23 11.6	
	comp=N,486nm,0.1s						
LVC	**Limon Verde**	**1.50**	**172**⇑	*i*P	**Pn**	**06 22 50.2**	**-0.4**
LVC				*e*S	**Sn**	**06 23 11.2**	**+0.4**
LVC				IAML		06 23 14.1	
	comp=Z,46nm,0.9s						
PB04	**IPOC Station P**	**1.54**	**218**	*e*P	**Pn**	**06 22 50.2**	**-0.6**
PB04				*i* S	**Sn**	**06 23 10.9**	**-0.3**
PB04				IAML		06 23 20.0	
	comp=N,96nm,0.1s						
PB04	**IPOC Station P**	**1.54**	**218**	*i* P	**Pn**	**06 22 50.5**	**-0.4**
PB04				*e*S	**Sn**	**06 23 12.0**	**+0.7**
PB06	**IPOC Station P**	**1.63**	**194**⇓	*i*P	**Pn**	**06 22 51.7**	**-0.3**
PB06				*i* S	**Sn**	**06 23 13.2**	**-0.2**
PB06				IAML		06 23 16.4	
	comp=E,77nm,0.3s						
PB06	**IPOC Station P**	**1.63**	**194**	*i* P	**Pn**	**06 22 52.0**	**0.0**
PB06				IAML		06 23 15.7	
	comp=Z,56nm,0.3s						
PSGC	**Pisagua**	**1.78**	**328**⇑	*i*P	**Pn**	**06 22 52.8**	**-1.0**
PSGC				*i* S	**Sn**	**06 23 16.2**	**-0.4**
PSGC				IAML		06 23 18.8	
	comp=N,82nm,0.4s						
PB05	**IPOC Station P**	**1.99**	**210**	*i* P	**Pn**	**06 22 56.4**	**-0.1**
MNMC	**Minye Minye**	**2.02**	**347**⇑	*i*P	**Pn**	**06 22 56.6**	**-0.5**
MNMC				*i* S	**Sn**	**06 23 22.9**	**+0.4**
MNMC				IAML		06 23 25.4	
	comp=N,191nm,0.2s						
PB10	**IPOC Station P**	**2.72**	**209**	*i* P	**Pn**	**06 23 06.5**	**+0.6**
YJA	**Yavi**	**3.52**	**108**	*i* P	**Pn**	**06 23 16.5**	**-0.5**
YJA				IAML		06 23 20.1	
	comp=Z,3.4nm,0.7s						
HJA	**Humahuaca**	**4.03**	**122**	*i* P	**Pn**	**06 23 23.9**	**+0.1**

ISCJB ***10*** *06:23:27.2±0.3,51˚.48N±0˚.02×15˚.97E±0˚.02, h0km, mb3.5/5, MS3.4/2, Error ellipse: s-maj=2.4km s-min=2.1km az=33.7*

LDG ***10*** *06:23:29.6±0.2,51˚.49N×16˚.11E, h1km, Ml3.8/19, Error ellipse: s-maj=6.0km s-min=3.4km az=7.0, Suspected Mining induced.*

PRU ***10*** *06:23:30.3±0.0,51˚.47N×16˚.10E, h0km*

IDC ***10*** *06:23:30.7±0.6,51˚.50N×16˚.04E, h0km, mb3.6/5, mb1 3.7/12, mb1mx3.6/41, mbtmp3.6/12, ML3.2/6, MS3.4/2, Ms1 3.5/2, ms1mx2.3/55, Error ellipse: s-maj=10.9km s-min=6.2km az=118.0*

BGR ***10*** *06:23:31.1±0.6,51˚.43N×16˚.07E, h1km, ML3.5/13, Error ellipse: s-maj=10.0km s-min=4.4km az=19.0*

VIE ***10*** *06:23:33.4±0.8,51˚.25N×15˚.92E, h0km, mb2.9/13, ml3.2/12, ms3.4/1, Error ellipse: s-maj=9.1km s-min=4.8km az=62.0 77 km NE of Liberec Suspected Mining induced.*

ISC 10 06:23:28.2±0.5, 51˚.50N±0˚.02×15˚.93E±0˚.02, h0km, n116, σ2s54/208, mb3.6/5, 5C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.69**	**161**	*e*Pg	**Pg**	**06 23 42.6**	**+1.1**
KSP	**Ksiaz**	**0.69**	**161**	*i* Pg	**Pg**	**06 23 42.5**	**+1.1**
KSP				*i* Pg	**Pg**	**06 23 42.5**	**+1.1**
KSP				*i* Sg	**Sg**	**06 23 51.4**	**+1.0**
KSP				*i* Sg	**Sg**	**06 23 51.4**	**+1.0**
CHVC	**Chvalec**	**0.92**	**175**	*e*PG	**Pg**	**06 23 47.3**	**+1.6**
CHVC				*e*SG	**Sg**	**06 23 58.5**	**+1.0**
	comp=Z,183nm,0.5s						
UPC	**Upice**	**0.99**	**177**	*e*PG	**Pg**	**06 23 48.6**	**+1.4**
UPC				*e*SG	**Sg**	**06 24 01.2**	**+1.2**
	comp=Z,347nm,0.7s						
DPC	**Dobruska-Polom**	**1.18**	**168**	*e*Pg	**Pg**	**06 23 51.3**	**+0.7**
DPC				*e*Sg	**Sg**	**06 24 05.8**	**-0.1**
DPC	**Dobruska-Polom**	**1.18**	**168**	*e*PG	**Pg**	**06 23 51.4**	**+0.7**
DPC				*e*SG	**Sg**	**06 24 06.2**	**+0.3**
	comp=Z,205nm,0.6s						
PVCC	**Panska Ves**	**1.30**	**222**	*e*PG	**Pn**	**06 23 55.9**	**+2.4**
PVCC				*e*SG	**Sn**	**06 24 14.2**	**+2.6**
	comp=Z,489nm,0.2s						
BRG	**Berggiesshubel**	**1.40**	**244**	PN	**Pb**	**06 23 56.8**	**+1.7**
BRG				PG	**Pn**	**06 23 58.3**	**+3.4**
BRG				SG	**Sn**	**06 24 18.8**	**+4.8**
	234nm,0.8s						
BRG	**Berggiesshubel**	**1.40**	**244**	*e*Pn	**Pb**	**06 23 56.7**	**+1.6**
BRG				*e*Sg	**Sn**	**06 24 16.4**	**+2.4**
KRLC	**Kraliky**	**1.52**	**159**	*e*PG	**Pn**	**06 23 56.9**	**+0.2**
KRLC				*e*SG	**Sn**	**06 24 17.1**	**-0.2**
	comp=Z,755nm,1.3s						
PRA	**Prague**	**1.72**	**214**	*e*PN	**Pb**	**06 24 01.2**	**+0.7**
PRA				*e*SG	**Sg**	**06 24 26.7**	**+3.5**
	comp=Z,187nm,0.8s						
FBE	**Freiberg**	**1.72**	**251**	*e*Pn	**Pg**	**06 24 01.7**	**+0.6**
GOPC	**GO Pecny, Ondr**	**1.74**	**205**	*e*PG	**Pb**	**06 24 01.8**	**+0.7**
GOPC				*e*SG	**Sg**	**06 24 26.3**	**+2.1**
	comp=Z,157nm,0.6s						
PRU	**Pruhonice**	**1.75**	**211**	*e*PN	**Pb**	**06 24 01.6**	**+0.5**
PRU				*e*PG	**Pg**	**06 24 02.9**	**+1.2**
PRU				*e*SG	**Sg**	**06 24 26.8**	**+2.5**
	comp=Z,131nm,0.7s						
CLL	**Collm**	**1.84**	**265**	*e*Pn	**Pb**	**06 24 03.0**	**+0.3**
CLL				*e*Pg	**Pg**	**06 24 07.0**	**+3.5**
CLL				*i*		06 24 09.5	
CLL				*e*		06 24 21.0	
CLL				*e*Sg	**Sg**	**06 24 32.0**	**+4.7**
	comp=Z,188nm,1.2s						
CLL	**Collm**	**1.84**	**265**	*e*Pn	**Pb**	**06 24 03.1**	**+0.3**
GKP	**Gorka Klasztor**	**1.95**	**24**	*e*Pn	**Pb**	**06 24 04.4**	**-0.1**
GKP				*e*Pn	**Pb**	**06 24 04.4**	**-0.1**
GKP				*e*Pg	Pg	06 24 11.9	+6.4
GKP				*e*Pg	Pg	06 24 11.9	+6.4
GKP				*e*Sg	**Sg**	**06 24 34.4**	**+3.7**
GKP				*e*Sg	**Sg**	**06 24 34.4**	**+3.7**
MORC	**Moravsky Berou**	**2.01**	**149**	*e*Pn	**Pn**	**06 24 03.3**	**-0.1**
MORC	**Moravsky Berou**	**2.01**	**149**	⇓P	**Pn**	**06 24 03.4**	**+0.1**
MORC				⇓S	**Sn**	**06 24 26.6**	**-2.6**
MORC	**Moravsky Berou**	**2.01**	**149**	*e*PN	**Pn**	**06 24 03.5**	**+0.1**
MORC				*e*SG	**Sn**	**06 24 27.0**	**-2.2**
RAC	**Raciborz**	**2.02**	**134**	*e*Pg	**Pb**	**06 24 06.6**	**+0.9**
RAC				*e*Pg	**Pb**	**06 24 06.6**	**+0.9**
RAC				*e*Sg	**Sb**	**06 24 32.2**	**+0.8**
RAC				*e*Sg	**Sb**	**06 24 32.2**	**+0.8**
OKC	**Ostrava-Krasne**	**2.18**	**139**	*e*Pn	**Pn**	**06 24 05.2**	**-0.5**
OKC	**Ostrava-Krasne**	**2.18**	**139**	*e*PG	**Pb**	**06 24 08.5**	**0.0**
OKC				*e*SG	**Sn**	**06 24 35.7**	**+2.3**
	comp=Z,245nm,0.7s						
PBCC	**Pribram**	**2.19**	**215**	*e*PG	**Pg**	**06 24 11.7**	**+1.5**
PBCC				*e*SG	**Sg**	**06 24 41.0**	**+2.4**
	comp=Z,25nm,0.5s						
TREC	**Trest**	**2.22**	**187**	*e*PN	**Pb**	**06 24 09.0**	**-0.2**
TREC				*e*PG	**Pg**	**06 24 11.3**	**+0.5**
TREC				*e*SG	**Sb**	**06 24 39.8**	**+2.5**
	comp=Z,126nm,0.6s						
VRAC	**Vranov**	**2.23**	**169**	Pn	**Pn**	**06 24 08.4**	**+2.0**
	comp=Z,3.6nm,0.3s,baz=352,slow=16,SNR=16						
VRAC				Lg	Lg	06 24 38.9	
	comp=Z,12nm,0.3s,baz=284,slow=23,SNR=7.3						
VRAC	**Vranov**	**2.23**	**169**	⇑P	**Pn**	**06 24 08.3**	**+1.9**
VRAC				⇑S	**Sn**	**06 24 37.6**	**+2.9**
VRAC	**Vranov**	**2.23**	**169**	*e*PN	**Pn**	**06 24 08.2**	**+1.8**
VRAC				*e*SG	**Sb**	**06 24 38.5**	**+0.9**
TANN	**Tannenbergstha**	**2.45**	**245**	*e*Sg	**Sg**	**06 24 48.9**	**+2.2**
KRUC	**Moravsky**	**2.46**	**173**	*e*PN	**Pn**	**06 24 11.0**	**+1.5**
KRUC				*e*SG	**Sb**	**06 24 46.4**	**+2.4**
OJC	**Ojcow**	**2.77**	**116**	*e*Pn	**Pn**	**06 24 11.6**	**-2.1**
OJC				*e*Pn	**Pn**	**06 24 11.6**	**-2.1**
OJC				*e*Pg	**Pb**	**06 24 20.4**	**+1.9**
OJC				*e*Pg	**Pb**	**06 24 20.4**	**+1.9**
OJC				*e*Sn	**Sn**	**06 24 43.3**	**-4.5**
OJC				*e*Sn	**Sn**	**06 24 43.3**	**-4.5**
OJC				*e*Sg	**Sb**	**06 24 56.0**	**+3.1**
OJC				*e*Sg	**Sb**	**06 24 56.0**	**+3.1**
KHC	**Kasperske Hory**	**2.81**	**213**	*e*PN	**Pn**	**06 24 16.6**	**+2.2**
KHC				*e*PG	**Pg**	**06 24 22.5**	**+0.5**
KHC				*e*SN	**Sn**	**06 24 51.4**	**+2.5**
KHC				*e*SG	**Sg**	**06 25 00.1**	**+1.8**
	comp=Z,94nm,0.6s						
MOX	**Moxa**	**2.85**	**254**	*e*Pn	**Pn**	**06 24 17.2**	**+2.3**
MOX				*e*Sg	**Sg**	**06 25 04.9**	**+5.2**
MANZ	**Manzenberg**	**2.86**	**240**	*e*Pn	**Pn**	**06 24 17.7**	**+2.6**
ROTZ	**Rotzenmuhle**	**2.94**	**235**	*e*Pn	**Pn**	**06 24 18.8**	**+2.8**
GEC2	**GERESS Array S**	**3.02**	**209**	*e*Pn	**Pn**	**06 24 19.4**	**+2.1**
GERES	**GERESS Array B**	**3.02**	**209**	Pn	**Pn**	**06 24 20.0**	**+2.7**
	comp=Z,3.5nm,0.3s,baz=31,slow=12,SNR=62						
GERES				Pg	**Pg**	**06 24 27.1**	**+1.1**
	comp=Z,9.6nm,0.3s,baz=30,slow=16,SNR=52						
GERES				Sn	**Sb**	**06 24 58.9**	**-1.3**
	comp=Z,6.2nm,0.3s,baz=34,slow=24,SNR=8.1						
GERES				Lg	Lg	06 25 09.9	
	comp=Z,14nm,0.3s,baz=35,slow=29,SNR=11						
WET	**Wettzell**	**3.06**	**221**	*e*Pn	**Pn**	**06 24 20.2**	**+2.4**
SMOL	**Smolenice**	**3.14**	**161**	*e*PG	**Pg**	**06 24 28.8**	**+0.5**
SMOL				*e*SG	**Sg**	**06 25 10.1**	**+1.1**
SMOL				*e*LG	Lg	06 25 16.5	
MODS	**Modra-Piesok**	**3.25**	**164**	*e*PN	**Pn**	**06 24 21.8**	**+1.4**
MODS				*e*PG	**Pg**	**06 24 31.5**	**+1.1**
MODS				*e*SG	**Sg**	**06 25 13.6**	**+1.2**
MODS				*e*LG	Lg	06 25 15.9	
LANS	**Liptovska Anna**	**3.27**	**135**	*e*PN	**Pn**	**06 24 20.8**	**+0.2**
LANS				*e*PG	**Pg**	**06 24 33.3**	**+2.6**
LANS				*e*SG	**Sg**	**06 25 14.3**	**+1.3**
LANS				*e*LG	Lg	06 25 24.9	
NIE	**Niedzica**	**3.48**	**125**	*e*P	**Pb**	**06 24 33.9**	**+3.2**
NIE				*e*P	**Pb**	**06 24 33.9**	**+3.2**
NIE				*e*S	**Sg**	**06 25 18.9**	**-1.1**
NIE				*e*S	**Sg**	**06 25 18.9**	**-1.1**
GRF	**Grafenberg Arr**	**3.50**	**241**	*e*Pn	**Pn**	**06 24 27.0**	**+3.2**
VYHS	**Vyhne**	**3.54**	**147**	*e*PN	**Pn**	**06 24 23.6**	**-0.8**
VYHS				*e*PG	**Pg**	**06 24 36.0**	**-0.1**
VYHS				*e*SG	**Sg**	**06 25 24.8**	**+2.8**
CONA	**Conrad Observa**	**3.57**	**181**	*e*Pn	**Pn**	**06 24 26.6**	**+1.7**
	comp=Z,2.5nm,0.3s,SNR=5.5						
CONA				*e*Sg	**Sg**	**06 25 23.8**	**+0.8**
	comp=Z,24nm,0.3s						
BSD	**Bornholm Skovb**	**3.67**	**351**	*i* P	**Pn**	**06 24 26.7**	**+0.5**
BSD				*i* S	**Sn**	**06 25 08.6**	**-1.5**
MOA	**Molln**	**3.81**	**197**	*e*Pn	**Pn**	**06 24 30.1**	**+2.0**
	comp=Z,5.8nm,0.3s,SNR=9.1						
MOA				Sg	**Sg**	**06 25 32.3**	**+1.9**
	comp=Z,64nm,0.7s						
SOP	**Sopron**	**3.84**	**174**	*e*Pn	**Pn**	**06 24 32.0**	**+3.6**
SOP				*e*Sg	**Sg**	**06 25 33.0**	**+1.6**
STHS	**Stebnicka Huta**	**3.98**	**119**	*e*PN	**Pn**	**06 24 30.2**	**-0.3**
STHS				*e*PG	**Pg**	**06 24 45.7**	**+1.2**
STHS				*e*SG	**Sg**	**06 25 38.2**	**+2.1**
STHS				*e*LG	Lg	06 25 43.8	
KECS	**Kecovo**	**4.21**	**134**	*e*PG	**Pg**	**06 24 51.5**	**+2.6**
KECS				*e*SG	**Sg**	**06 25 42.0**	**-1.4**
KECS				*e*LG	Lg	06 25 59.2	
ARSA	**Arzberg**	**4.26**	**184**	Sg	**Sg**	**06 25 44.6**	**-0.4**
	comp=Z,50nm,0.7s						
PSZ	**Piszkesteto**	**4.41**	**143**	⇑P	**Pn**	**06 24 36.8**	**+0.4**
PSZ	**Piszkesteto**	**4.41**	**143**	*e*Pn	**Pn**	**06 24 38.1**	**+1.7**
PSZ				*e*Sg	**Sg**	**06 25 49.1**	**-0.7**
MPLH	**Magyarpolny**	**4.46**	**166**	*e*Pn	**Pn**	**06 24 38.0**	**+1.1**
MPLH				Sn	**Sb**	**06 25 46.1**	**+4.5**
KWP	**Kalwaria Pacla**	**4.71**	**111**	*e*Pn	**Pn**	**06 24 40.9**	**+0.5**
KWP				*e*Pn	**Pn**	**06 24 40.9**	**+0.5**
KWP				*e*Pg	**Pb**	**06 24 54.6**	**+3.1**
KWP				*e*Pg	**Pb**	**06 24 54.6**	**+3.1**
KWP				*e*Sg	**Sg**	**06 25 05.2**	**+5.9**
KWP				*e*Sg	**Sg**	**06 25 05.2**	**+5.9**
KBA	**Koelnbreinsper**	**4.74**	**202**	Pn	**Pn**	**06 24 43.8**	**+2.8**
	comp=Z,4.6nm,0.3s,SNR=4.3						
KBA				Sg	**Sg**	**06 26 00.9**	**+0.7**
	comp=Z,32nm,0.7s						
TIH	**Tihany**	**4.78**	**164**	*e*Pn	**Pb**	**06 24 52.1**	**-0.7**
TIH				Sn	**Sn**	**06 25 39.0**	**+1.6**
WATA	**Walderalm**	**5.04**	**216**	*e*Pn	**Pn**	**06 24 48.3**	**+3.1**
	comp=Z,10nm,0.6s,SNR=4.1						
OBKA	**Obir**	**5.08**	**191**	*e*Pn	**Pn**	**06 24 49.2**	**+3.6**
	comp=Z,1.8nm,0.4s						
OBKA				*e*Pg	**Pg**	**06 25 06.7**	**+1.3**
	comp=Z,9.7nm,0.6s						
WTTA	**Wattenberg**	**5.08**	**215**	*i* Pn	**Pn**	**06 24 49.4**	**+3.7**
	comp=Z,4.1nm,0.4s						
RETA	**Reutte**	**5.24**	**222**	*e*Pn	**Pn**	**06 24 50.1**	**+2.3**
	comp=Z,2.1nm,0.2s						
SQTA	**Sankt Quirin**	**5.28**	**218**	*e*Pn	**Pn**	**06 24 51.8**	**+3.5**
	comp=Z,5.8nm,0.3s,SNR=4.2						
TRPA	**Tarpa**	**5.45**	**126**	⇑P	**Pn**	**06 24 51.2**	**+0.7**
TRPA	**Tarpa**	**5.45**	**126**	*e*Pn	**Pn**	**06 24 54.1**	**+3.5**
TRPA				Sn	**Sn**	**06 25 51.0**	**-2.8**
TRPA				*e*Sg	**Sg**	**06 26 25.0**	**+2.0**
MORH	**Mrgy, Hungar**	**5.58**	**160**	*e*Pn	**Pn**	**06 24 52.0**	**-0.4**
MORH				Sn	**Sn**	**06 26 04.0**	**+6.8**
DAVA	**Damuels**	**5.77**	**225**	*e*Pn	**Pn**	**06 24 57.2**	**+2.0**
	comp=Z,2.0nm,0.3s						
DAVOX	**Davos/Dischmat**	**6.17**	**222**	Pn	**Pn**	**06 25 03.3**	**+2.7**
DAVOX				Lg	Lg	06 26 50.1	
CDF	**Champ du Feu**	**6.38**	**244**	*e*Pn	**Pn**	**06 25 03.8**	**+0.3**
CDF				*e*Sg	**Sg**	**06 26 52.2**	**-0.8**
	comp=Z,118nm,1.2s						
DRGR		**6.48**	**134**	⇓P	**Pn**	**06 25 04.7**	**0.0**
DRGR				⇓S	**Sn**	**06 26 13.4**	**-6.0**
HINF	**Hinteralfeld**	**6.95**	**242**	*e*Pn	**Pn**	**06 25 13.0**	**+1.8**
HINF	**Hinteralfeld**	**6.95**	**242**	*e*Pg	**Pg**	**06 25 42.9**	**+1.7**
HINF				*e*Sg	**Sg**	**06 27 12.3**	**+1.1**
	comp=Z,66nm,1.2s						
HAU	**Haudompre**	**7.12**	**244**	*e*Pn	**Pn**	**06 25 14.2**	**+0.6**
HAU	**Haudompre**	**7.12**	**244**	*e*Pg	**Pg**	**06 25 43.1**	**-1.4**
HAU				*e*Sg	**Sg**	**06 27 15.0**	**-1.8**
GIVF	**Givet**	**7.18**	**263**	*e*Pn	**Pn**	**06 25 14.9**	**+0.6**
GIVF	**Givet**	**7.18**	**263**	*e*Pg	**Pg**	**06 25 45.5**	**-0.1**
GIVF				*e*Sg	**Sg**	**06 27 19.7**	**+1.2**
	comp=Z,2.9nm,0.2s						
BURAR	**Bucovina Array**	**7.18**	**119**	⇓P	**Pn**	**06 25 14.4**	**-0.1**
PAGF	**Fort de Pagny**	**7.20**	**250**	*e*Pn	**Pn**	**06 25 14.8**	**+0.1**
PAGF	**Fort de Pagny**	**7.20**	**250**	*e*Pg	**Pg**	**06 25 43.9**	**-2.2**
PAGF				*e*Sn	**Sn**	**06 26 34.5**	**-2.6**
PAGF				*e*Sg	**Sg**	**06 27 18.4**	**-0.9**
	comp=Z,104nm,1.1s						
BAIF	**Baives**	**7.57**	**264**	*e*Pg	**Pg**	**06 25 51.3**	**-1.8**
BAIF				*e*Sg	**Sg**	**06 27 30.5**	**-0.6**
	comp=Z,1.6nm,0.4s						
GZR	**Gura Zlata**	**7.62**	**141**	⇑P	**Pn**	**06 25 20.5**	**+0.1**
SFTF	**Sexfontaines**	**7.77**	**249**	*e*Pg	**Pg**	**06 25 55.7**	**-1.3**
	baz=159						
SFTF				*e*Sg	**Sg**	**06 27 37.3**	**-0.3**
CABF	**La Chapelle**	**8.10**	**237**	*e*Pn	**Pn**	**06 25 26.9**	**-0.2**
CABF	**La Chapelle**	**8.10**	**237**	*e*Pg	**Pg**	**06 26 01.0**	**-2.3**
CABF				*e*Sn	**Sn**	**06 26 54.4**	**-5.0**
CABF				*e*Sg	**Sg**	**06 27 46.2**	**-2.0**
	comp=Z,156nm,1.5s						
AKASG	**Malin Array Be**	**8.41**	**90**	Pn	**Pn**	**06 25 29.0**	**-2.2**
	comp=Z,1.7nm,0.3s,baz=280,slow=12,SNR=14						
AKASG				Sn	**Sn**	**06 26 59.7**	**-7.0**
	comp=Z,0.9nm,0.3s,baz=272,slow=23,SNR=4.4						
AKASG				Lg	Lg	06 27 57.9	
	comp=Z,0.7nm,0.3s,baz=266,slow=29,SNR=5.1						
LPL	**La Plagne**	**8.54**	**229**	*e*Pn	**Pn**	**06 25 34.0**	**+0.7**
LPL	**La Plagne**	**8.54**	**229**	*e*Pg	**Pg**	**06 26 09.0**	**-2.8**
LPL				*e*Sn	**Sn**	**06 27 05.3**	**-5.2**
LPL				*e*Sg	**Sg**	**06 27 59.6**	**-2.8**
	comp=Z,41nm,1.5s						
LPG	**La Plagne**	**8.55**	**229**	*e*Pn	**Pn**	**06 25 33.7**	**+0.3**
LPG	**La Plagne**	**8.55**	**229**	*e*Pg	**Pg**	**06 26 09.6**	**-2.3**
LPG				*e*Sg	**Sg**	**06 28 03.4**	**+0.8**
	comp=Z,28nm,1.1s						
HFS	**Hagfors**	**8.75**	**353**	Pn	**Pn**	**06 25 35.2**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=173,slow=16,SNR=5.0						
LOR	**Lormes**	**8.94**	**246**	*e*Pn	**Pn**	**06 25 38.3**	**-0.2**
	baz=67						
LOR	**Lormes**	**8.94**	**246**	*e*Pg	**Pg**	**06 26 16.4**	**-2.8**
	baz=67						
LOR				*e*Sn	**Sn**	**06 27 15.8**	**-4.0**
LOR				*e*Sg	Sg	06 28 12.4	-2.5
	comp=Z,26nm,1.1s,baz=68						
MBDF	**Montbardon**	**9.13**	**226**	*e*Pn	**Pn**	**06 25 41.1**	**-0.1**
MBDF				*e*Sn	**Sn**	**06 27 19.3**	**-5.4**
MBDF				*e*Sg		06 28 17.2	
	comp=Z,13nm,1.0s						
SSF	**Saint Saulge**	**9.25**	**246**	*e*Pn	**Pn**	**06 25 43.1**	**+0.4**
SSF	**Saint Saulge**	**9.25**	**246**	*e*Pg	Pn	06 26 22.1	+39
SSF				*e*Sn	**Sn**	**06 27 20.9**	**-6.6**
SSF				*e*Sg		06 28 22.0	
	comp=Z,1.7nm,0.3s						
SMF	**Signal de Mont**	**9.30**	**243**	*e*Pn	**Pn**	**06 25 44.1**	**+0.7**
SMF	**Signal de Mont**	**9.30**	**243**	*e*Pg	Pn	06 26 23.4	+40
SMF				*e*Sn	**Sn**	**06 27 23.6**	**-5.0**
SMF				*e*Sg		06 28 24.6	
	comp=Z,27nm,1.1s						
ORIF	**Oris-en-Rattie**	**9.39**	**229**	*e*Pn	**Pn**	**06 25 44.9**	**+0.1**
ORIF	**Oris-en-Rattie**	**9.39**	**229**	*e*Pg	Pn	06 26 23.9	+39
ORIF				*e*Sg	Sn	06 28 26.5	+55
	comp=Z,4.3nm,0.7s						
AVF	**Avril sur Loir**	**9.49**	**245**	*e*Pn	**Pn**	**06 25 46.1**	**+0.1**
AVF	**Avril sur Loir**	**9.49**	**245**	*e*Pg	Pn	06 26 26.8	+41
AVF				*e*Sn	**Sn**	**06 27 28.4**	**-4.9**
AVF				*e*Sg		06 28 29.1	
	comp=Z,39nm,1.3s						
SBF	**Sospel**	**9.54**	**220**	*e*Pn	**Pn**	**06 25 49.1**	**+2.3**
SBF				*e*Sn	**Sn**	**06 27 28.8**	**-5.9**
	comp=Z,3.8nm,0.4s						
HYF	**Humbligny**	**9.64**	**249**	*e*Sg	Sn	06 28 34.6	+58
BGF	**Bois d'Agland**	**9.91**	**245**	*e*Pn	**Pn**	**06 25 51.4**	**-0.4**
BGF	**Bois d'Agland**	**9.91**	**245**	*e*Pg	Pn	06 26 35.3	+44
BGF				*e*Sn	**Sn**	**06 27 37.7**	**-5.9**
BGF				*e*Sg		06 28 43.6	
	comp=Z,30nm,1.1s						
FRF	**La Foret Royal**	**10.11**	**222**	*e*Pn	**Pn**	**06 25 56.7**	**+2.1**
FRF				*e*Sn	**Sn**	**06 27 42.4**	**-6.3**
	comp=Z,5.1nm,0.6s						
SMRF	**Simiane la Rot**	**10.25**	**227**	*e*Pg	Pn	06 26 40.3	+44
SMRF				*e*Sn	**Sn**	**06 27 46.2**	**-5.9**
	comp=Z,1.2nm,0.4s						
FINES	**FINESS Array B**	**11.42**	**25**	Pn	**Pn**	**06 26 10.8**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=195,slow=14,SNR=6.5						
FINES				Sn	**Sn**	**06 28 14.0**	**-6.5**
	comp=Z,0.4nm,0.3s,baz=212,slow=18,SNR=6.6						
EKA	**Eskdalemuir Ar**	**12.01**	**296**	Pn	**Pn**	**06 26 20.5**	**+0.1**
	baz=94,slow=14,SNR=4.3						
ARCES	**ARCESS Array B**	**18.66**	**11**	Pn	**P**	**06 27 44.8**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=203,slow=9.0,SNR=10						
TORD	**Torodi Ar. Bea**	**39.95**	**202**	P	**P**	**06 31 05.4**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=11,slow=9.3,SNR=4.6						
ZALV	**Zalesovo Beam**	**40.30**	**58**	LR	LR	06 50 15.9	
	comp=Z,43nm,18.7s,baz=184,slow=40						
MKAR	**Makanchi Array**	**42.33**	**69**	P	**P**	**06 31 26.0**	**+2.5**
	comp=Z,0.6nm,0.9s,baz=292,slow=7.6,SNR=2.8						
SONM	**Songino Array**	**55.02**	**55**	P	**P**	**06 33 03.6**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=307,slow=12,SNR=3.5						
YKA	**Yellowknife Ar**	**59.82**	**336**	P	**P**	**06 33 36.9**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=29,slow=6.8,SNR=7.5						
ILAR	**Eielson Array**	**63.30**	**352**	LR	LR	07 01 41.2	
	comp=Z,32nm,20.8s,baz=264,slow=36						
PDAR	**Pinedale Array**	**74.88**	**322**	P	**P**	**06 35 12.5**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=69,slow=3.0,SNR=3.1						

**IDC 10 06:23:50.2±2.6, 29˚.60S×178˚.78W, h0km, mb3.8/3, mb1 4.0/3, mb1m

MSWZ	Moikau Station	7.20	58	Pn		Pn	06 29 54.8 +0.5
CAW	Cannon Point	7.29	56	P		Pn	06 29 55.0 -0.4
PAWZ	Paruwai Farm	7.33	59	P		Pn	06 29 56.8 +0.7
KIW	Kapiti Island	7.36	54	P		Pn	06 29 56.8 +0.5
TRWZ	Traveller	7.48	60	P		Pn	06 29 59.2 +1.2
OGWZ	Otaki Gorge	7.54	54	P		Pn	06 29 58.9 +0.1
TMWZ	Te Maipa	7.78	59	P		Pn	06 30 02.5 +0.5
MRZ	Mangatainoka R	7.87	55	P		Pn	06 30 02.4 -1.0
KHEZ	Kahui Hut	8.04	42	P		Pn	06 30 06.8 +1.1
PKE	Pukeiti	8.11	41	P		Pn	06 30 09.0 +2.4
BFZ	Birch Farm	8.25	58	P		Pn	06 30 08.7 +0.2
BFZ	Birch Farm	8.25	58	Pn		Pn	06 30 08.7 +0.2
MWZ	Matawai	10.56	51	P		Pn	06 30 39.3 -0.4

*ISCJB **10** 06:29:40.5±0.6,5˚.31N±0˚.03×73˚.75W±0˚.04,h157km±5km, mb3.5/1, Error ellipse: s-maj=6.3km s-min=4.6km az=25.3*
*RSNC **10** 06:29:41.9±1.3,5˚.29N×73˚.75W, h148km±5km, ML3.1, Mw3.3*
*IDC **10** 06:29:42.5±2.4,5˚.24N×74˚.43W, h157km±42km, mb3.1/1, mb1 3.5/1, mb1mx2.8/28, mbtmp3.5/1, MS2.5/1, Ms1 2.5/1, ms1mx2.4/5, Error ellipse: s-maj=449.4km s-min=45.9km az=90.0*

ISC 10 06:29:40.4±1.0,5˚.29N±0˚.04×73˚.74W±0˚.04, h161km±7km, n32, σ1§16/49, 2C-4D, Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTAU	Tausa, Cundina	0.32	254	*e*P		Pn	06 30 06.4	+3.4
SPBC	San Pablo de B	0.49	317	↑*i*P		Pn	06 30 03.0	-0.1
SPBC				*e*S		Sn	06 30 19.0	-1.5
SPBC				*i*			06 30 21.1	
	comp=Z,478nm,0.2s							
CHIC	Chingaza	0.66	180	↓*i*P		Pn	06 30 04.1	-0.3
CHIC				*e*S		Sn	06 30 20.8	-2.0
CHIC				*i*			06 30 22.8	
	comp=Z,109nm,0.2s							
ROSC	El Rosal	0.73	232	↓*e*P		Pn	06 30 05.9	+1.1
ROSC				*e*S		Sn	06 30 23.3	-0.1
ROSC				*i*			06 30 26.6	
	comp=Z,283nm,0.6s							
ROSC	El Rosal	0.73	232	P		Pn	06 30 05.9	+1.1
	comp=Z,58nm,0.3s,baz=242,slow=6.7,SNR=106							
ROSC				S		Sn	06 30 22.8	-0.6
	comp=Z,86nm,0.3s,baz=126,slow=19,SNR=64							
CVER	Cruz Verde, Cu	0.84	204	*e*P		Pn	06 30 05.1	-0.5
CVER				*i*			06 31 03.4	
	comp=Z,16μm,2.5s							
RUSC	La Rusia	0.88	47	*e*P		Pn	06 30 06.4	+0.5
RUSC				*e*S		Sn	06 30 24.7	-0.7
RUSC				*i*			06 30 26.0	
	comp=Z,118nm,0.3s							
NORC	Norcasia	1.16	284	*e*P		Pn	06 30 07.5	-0.1
NORC				*e*S		Sn	06 30 26.7	-1.9
NORC				*i*			06 30 29.1	
	comp=Z,212nm,0.2s							
VILC	Villavicencio,	1.17	178	*e*S		Sn	06 30 27.3	-1.7
BARC	Barichara	1.40	23	*e*P		Pn	06 30 10.2	+0.1
BARC				*e*S		Sn	06 30 31.8	-1.3
BARC				*i*			06 30 36.1	
	comp=Z,180nm,0.2s							
BARC				*i*			06 30 36.2	
	comp=Z,176nm,0.2s							
PTBC	PUERTO BERRIO,	1.43	330	*e*P		Pn	06 30 09.6	-0.5
PTBC				*e*S		Sn	06 30 31.9	-1.2
PTBC				*i*			06 30 33.9	
	comp=Z,91nm,0.3s							
GUY2C	Guyana, Caldas	1.62	268	↑*e*P		Pn	06 30 12.8	+0.2
GUY2C				*e*S		Sn	06 30 38.6	+1.4
GUY2C				*i*			06 30 42.0	
	comp=Z,44nm,0.3s							
RREF	El Recreo	1.65	256	*e*P		Pn	06 30 13.4	+0.4
RREF				*e*S		Sn	06 30 37.9	-0.2
RREF				*i*			06 30 43.8	
	comp=Z,83nm,0.5s							
TOLC	Tolima	1.73	246	*e*P		Pn	06 30 14.0	+0.5
TOLC				*i*			06 30 40.2	
	comp=Z,79nm,0.4s							
BRRC	Barranca, Sant	1.80	1	*e*P		Pn	06 30 14.7	+0.6
BRRC				*e*S		Sn	06 30 39.5	-0.5
BRRC				*i*			06 30 47.6	
	comp=Z,100nm,0.4s							
PTGC	Puerto Gaitan,	1.93	124	↓*i*P		Pn	06 30 15.3	-0.2
PTGC				*i*			06 30 44.8	
	comp=Z,173nm,0.2s							
PRAC	Prado	1.94	216	↓*e*P		Pn	06 30 15.8	+0.2
PRAC				*e*S		Sn	06 30 41.5	-1.3
PRAC				*i*			06 30 44.9	
	comp=Z,196nm,0.3s							
HELC	Santa Helena	2.00	297	*e*P		Pn	06 30 16.9	+0.4
HELC				*e*S		Sn	06 30 42.9	-1.5
HELC				*i*			06 30 46.0	
	comp=Z,56nm,0.3s							
ORTC	Ortega, Tolima	2.04	228	*e*P		Pn	06 30 16.7	0.0
ORTC				*e*S		Sn	06 30 43.6	-1.2
ORTC				*i*			06 30 48.1	
	comp=Z,55nm,0.3s							
TAMC	Tame, Arauca	2.24	59	*e*P		Pn	06 30 20.0	+0.9
TAMC				*i*			06 30 50.1	
	comp=Z,41nm,0.4s							
PAMC	Pamplona, Colo	2.28	27	*e*P		Pn	06 30 21.4	+1.5
PAMC				*e*S		Sn	06 30 50.7	+0.2
PAMC				*i*			06 31 00.3	
	comp=Z,24nm,0.2s							
PAMC				*i*			06 31 00.5	
	comp=Z,23nm,0.2s							
CBOC	Ciudad Bolivar	2.33	284	*e*P		Pn	06 30 20.8	+0.6
CBOC				*e*S		Sn	06 30 50.8	-0.3
CBOC				*i*			06 30 57.6	
	comp=Z,20nm,0.6s							
ZARC	Zaragoza, Cauc	2.45	333	*e*P		Pn	06 30 20.5	-1.0
ZARC				*e*S		Sn	06 30 52.0	-1.4
ZARC				*i*			06 30 55.7	
	comp=Z,104nm,0.1s							
PLMC	San Jos del P	2.56	262	*e*P		Pn	06 30 24.0	+1.0
PLMC				*i*			06 31 03.8	
	comp=Z,21nm,0.2s							
OCAC	Ocana	2.96	8	*e*P		Pn	06 30 28.8	+0.9
OCAC				*i*			06 31 15.5	
	comp=Z,74nm,0.3s							
DBBC	Dabeiba	3.00	305	*e*P		Pn	06 30 29.1	+0.8
DBBC				*i*			06 31 07.3	
	comp=Z,92nm,0.5s							
MACC	Macarena, Meta	3.13	182	*e*P		Pn	06 30 28.8	-1.1
MACC				*i*			06 31 24.5	
	comp=Z,20nm,0.6s							
SMLC	San Martn de	3.50	355	*e*P		Pn	06 30 33.8	-0.7
SMLC				*e*S		Sn	06 31 15.1	-1.7
SMLC				*i*			06 31 17.1	
	comp=Z,66nm,0.1s							
SJCC	San Jacinto, C	4.79	343	*e*P		Pn	06 30 49.1	-2.3
SJCC				*i*			06 31 45.3	
	comp=Z,34nm,0.3s							
TXAR	Lajitas Array	37.04	314	LR		LR	06 56 22.4	
	comp=Z,6.8nm,20.3s,baz=0.0,slow=44							
YKA	Yellowknife Ar	64.48	340	P		P	06 40 00.8	+1.3
	comp=Z,0.4nm,0.6s,baz=133,slow=6.5,SNR=8.9							
WRA	Warramunga Arr	149.05	239	PKPbc		PKPbc	06 49 10.9	+0.4
	comp=Z,0.3nm,0.6s,baz=106,slow=3.3,SNR=3.8							

*IDC **10** 06:37:34.8±1.3,34˚.12N×89˚.41E, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.6/51, mbtmp3.7/7, ML4.0/2, MS3.1/8, Ms1 3.1/8, ms1mx2.8/44, Error ellipse: s-maj=43.5km s-min=21.9km az=60.0*
*ISCJB **10** 06:37:38.1±0.8,34˚.1N±0˚.1×89˚.5E±0˚.2, h33km, mb3.5/4, MS3.0/6, Error ellipse: s-maj=22.7km s-min=12.6km az=145.3*

ISC 10 06:37:39.9±1.0,34˚.1N±0˚.1×89˚.6E±0˚.2, h33km, n15, σ1§23/8, mb3.6/4, MS3.1/6, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	13.81	339	LR		LR	06 47 04.3	
	comp=Z,44nm,19.4s,baz=160,slow=41							
AAK	Ala-Archa	14.54	310	Pn		Pn	06 41 04.5	+1.1
	0.1nm,0.3s,baz=108,slow=19,SNR=2.6							
CMAR	Chiang Mai Arr	17.71	149	P		P	06 41 43.5	-0.5
	0.7nm,0.3s,baz=324,slow=10,SNR=6.5							
CMAR				LR		LR	06 49 18.0	
	comp=Z,74nm,18.4s,baz=6.0,slow=40							
SONM	Songino Array	18.64	38	P		Pn	06 41 56.7	+1.3
	0.1nm,0.3s,baz=221,slow=13,SNR=6.9							
ZALV	Zalesovo Beam	20.11	352	P		P	06 42 09.6	-1.1
	3.6nm,0.8s,baz=172,slow=12,SNR=10							
TLY	Talaya	20.30	26	LR		LR	06 50 30.5	
	comp=Z,12nm,19.2s,baz=236,slow=38							
BVAR	Borovoye Array	23.32	330	P		P	06 42 44.5	-0.5
	1.0nm,0.8s,baz=139,slow=12,SNR=4.5							
GEYT	Alibeck	25.64	288	LR		LR	06 55 08.3	
	comp=Z,62nm,19.9s,baz=170,slow=41							
AKTO	Aktyubinsk	28.19	315	LR		LR	06 56 07.9	
	comp=Z,78nm,19.9s,baz=110,slow=40							
KSRS	Korea Array	31.16	73	LR		LR	06 57 55.6	
	comp=Z,36nm,19.7s,baz=346,slow=39							
AKASG	Malin Array Be	46.21	310	LR		LR	07 09 31.8	
	comp=Z,26nm,20.1s,baz=295,slow=42							
MLR	Muntele Rosu	48.99	303	LR		LR	07 10 11.5	
	comp=Z,28nm,19.4s,baz=100,slow=40							
GERES	GERESS Array B	56.42	310	P		P	06 47 17.6	-0.7
	0.4nm,0.7s,baz=96,slow=9.5,SNR=5.2							
WRA	Warramunga Arr	68.61	135	P		P	06 48 40.8	+1.0
	0.5nm,0.8s,baz=323,slow=6.5,SNR=3.9							
ILAR	Eielson Array	72.07	22	P		P	06 48 59.2	-1.1
	0.8nm,1.0s,baz=304,slow=4.2,SNR=4.9							

*ISCJB **10** 06:38:10.5±0.3,61˚.34S±0˚.04×153˚.5E±0˚.2, h10km, mb4.5/12, MS4.0/15, Error ellipse: s-maj=10.7km s-min=6.3km az=178.1*
*IDC **10** 06:38:10.5±0.5,61˚.26S×153˚.76E, h0km, mb4.6/12, mb1 4.7/12, mb1mx4.5/25, mbtmp4.6/12, MS4.0/12, Ms1 3.9/12, ms1mx3.9/18, Error ellipse: s-maj=27.1km s-min=15.1km az=82.0*
*NEIC **10** 06:38:11.6±1.7,61˚.47S±0˚.09×153˚.6E±0˚.3, h10km±1km, mb4.9/22*
*BJI **10** 06:38:11.0±0.0,61˚.50S×153˚.50E, h10km, mB5.1/1, Ms5.1/2, Ms7 4.9/4*
*GCMT **10** 06:38:17.6±0.3,61˚.11S±0˚.03×153˚.24E±0˚.03, h12km±1km, MW5.0/70, Moment Tensor Solution. s35,c41; s70,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.87±.20; $M_{\theta\theta}$-0.07±.12; $M_{\phi\phi}$-2.81±.12; $M_{r\theta}$-1.49±.44; $M_{\theta\phi}$0.89±.09; $M_{\phi r}$-0.25±.26; Best double couple: M○3.31400×10^{16} NP1:ϕ321.00000°,δ52.00000°,λ.59.00000°. NP2: ϕ185.00000°,δ48.00000°,λ123.00000°. Principal axes: T 3.5470, Plg66.0000°, Azm167.0000°; N -0.4730, Plg24.0000°, Azm342.0000°; P -3.0810, Plg2.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 06:38:11.7±0.3,61˚.35S±0˚.06×153˚.97E±0˚.09, h10km, n147, σ1§36/128, mb4.6/17, MS4.1/15, 4C-16D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	7.37	23	P		Pn	06 39 56.9	-2.2
	baz=7.2,SNR=5.0							
VNDA	Vanda	16.45	174	Pn		Pn	06 41 57.0	-5.2
	0.3nm,0.3s,baz=346,slow=12,SNR=16							
VNDA				LR		LR	06 47 40.5	
	comp=Z,553nm,19.3s,baz=354,slow=34							
VNDA	Vanda	16.45	174			Pn	06 42 00.2	-1.9
VNDA	Vanda	16.45	174			Pn	06 41 58.4	-3.7
SBA	Scott Base	17.08	171			Pn	06 42 09.2	-0.9
MLZ	Mavora Lakes	18.03	34	P		P	06 42 25.4	+2.8
MLZ				IAmb		IAmb	06 42 29.2	
	comp=Z,125nm,1.4s							
MOO	Moorlands	19.38	345	P		P	06 42 37.4	+0.1
	baz=19							
CASY	Casey	19.45	237	P		P	06 42 36.2	-1.8
CASY				IAmb		IAmb	06 42 42.6	
	comp=Z,166nm,1.5s							
LBZ	Lake Benmore	19.51	37	P		Pn	06 42 42.3	+2.1
LBZ				IAmb		IAmb	06 42 49.8	
	comp=Z,73nm,1.4s							
RPZ	Rata Peaks	20.38	38	P		Pn	06 42 54.7	+4.3
	comp=Z,15nm,0.9s,baz=159,slow=6.6,SNR=5.5							
RPZ				LR		LR	06 49 18.6	
	comp=Z,896nm,20.1s,baz=195,slow=33							
RPZ	Rata Peaks	20.38	38	P		Pn	06 42 50.2	-0.2
RPZ				IAmb		IAmb	06 42 57.5	
	comp=Z,69nm,1.4s							
TOO	Toolangi	24.39	344	P		P	06 43 30.8	+0.9
	baz=24							
URZ	Urewera	27.23	43	LR		LR	06 53 23.7	
	comp=Z,491nm,20.0s,baz=205,slow=34							
QSPA	South Pole Qui	28.74	180	P		P	06 44 10.6	+1.5
	comp=Z,6.0nm,0.9s,baz=355,slow=3.9,SNR=13							
QSPA				PcP		PcP	06 47 19.0	+0.3
	comp=Z,5.3nm,0.9s,baz=48,slow=2.0,SNR=6.4							
QSPA				LR		LR	06 55 59.3	
	comp=Z,189nm,20.1s,baz=12,slow=37							
QSPA	South Pole Qui	28.74	180	P		P	06 44 10.7	+1.7
QSPA				IAmb		IAmb	06 44 11.4	
	comp=Z,18nm,1.2s							
CMSA	Cobar Meteorol	30.31	346	P		P	06 44 23.9	+0.9
	baz=30							
STKA	Stephens Creek	30.58	339	P		P	06 44 24.6	-0.8
	baz=31,SNR=5.1							
STKA	Stephens Creek	30.58	339	P		P	06 44 23.6	-1.7
	comp=Z,4.3nm,0.8s,baz=145,slow=8.4,SNR=6.1							
STKA				LR		LR	06 54 49.1	
	comp=Z,89nm,18.8s,baz=202,slow=33							
BBOO	Buckleboo	30.83	330	P		P	06 44 28.0	+0.4
	baz=31							
FORT	Forrest	34.99	319	P		P	06 45 02.6	-1.3
	baz=35							
RMQ	Roma	35.04	352	P		P	06 45 02.9	-1.5
	baz=35,SNR=6.0							
EIDS	Eidsvold	36.02	356	P		P	06 45 12.6	-0.2
	baz=36							
EIDS	Eidsvold	36.02	356	P		P	06 45 13.3	+0.5
MAW	Mawson	36.31	220	P		P	06 45 14.1	-0.8
	comp=Z,4.3nm,0.9s,baz=90,slow=9.1,SNR=3.0							
MAW				PcP		PcP	06 47 40.6	+1.4
	comp=Z,6.6nm,0.9s,baz=110,slow=3.6,SNR=4.1							
MAW				LR		LR	07 00 13.7	
	comp=Z,631nm,18.5s,baz=82,slow=36							
H01W1	Cape Leeuwin H	36.56	298	T		T	07 23 53.2	
	baz=148,slow=76,SNR=135							
H01W2	Cape Leeuwin H	36.56	298	T		T	07 23 53.5	
	baz=148,slow=76,SNR=127							
H01W3	Cape Leeuwin H	36.57	298	T		T	07 23 54.4	
	baz=148,slow=76,SNR=123							
KLBR	Kellerberrin	37.95	305	P		P	06 45 30.1	+0.9
	baz=38							
MUN	Mundaring	38.23	303	P		P	06 45 32.8	+1.3
	baz=38							
BLDU	Ballidu	39.22	304	P		P	06 45 39.7	-0.2
	baz=39							
ASAR	Alice Springs	40.11	331	P		P	06 45 47.1	-0.3
	comp=Z,4.9nm,0.9s,baz=167,slow=8.4,SNR=28							
ASAR				PcP		PcP	06 47 51.4	-0.4
	comp=Z,5.3nm,0.9s,baz=155,slow=3.2,SNR=18							
ASAR				ScP		ScP	06 51 40.2	-0.3
	comp=Z,0.6nm,1.0s,baz=134,slow=6.6,SNR=3.6							
DZM	Mont Dzumac	40.20	18	*e*LR		LR	06 56 49.4	
	comp=Z,244nm,24.9s							
DZM	Mont Dzumac	40.20	18	P		P	06 45 48.0	-0.1
	comp=Z,11nm,0.9s,baz=183,slow=10,SNR=4.0							
WRKA	Warakurna	40.29	323	P		P	06 45 48.7	-0.2
	baz=40,SNR=9.3							
SYO	Syowa Base	41.78	210	↑*e*pP		P	06 46 00.0	-0.6
SYO	Syowa Base	41.78	210	*e*sP		sP	06 46 05.4	+1.7
WR0	Warramunga Arr	43.55	333	P		P	06 46 14.5	-1.0
WB2	Warramunga Arr	43.60	333	P		P	06 46 14.6	-1.3
WB2				IAmb		IAmb	06 46 21.1	
	comp=Z,26nm,1.4s							
WRA	Warramunga Arr	43.60	333	P		P	06 46 14.6	-1.3
	comp=Z,3.6nm,0.8s,baz=163,slow=6.8,SNR=22							
WRA				PcP		PcP	06 48 02.8	-0.5
	comp=Z,5.8nm,0.9s,baz=172,slow=3.0,SNR=21							
WRA				LR		LR	07 04 18.7	
	comp=Z,64nm,18.1s,baz=145,slow=36							
MTSU	Mount Surprise	43.71	347	P		P	06 46 15.3	-1.5
	baz=44,SNR=4.2							
PSA00	Pilbara Seismi	46.24	314	P		P	06 46 36.0	-0.9
PSA00				IAmb		IAmb	06 46 38.4	
	comp=Z,23nm,1.1s							
SNAA	Sanae	46.28	190	P		P	06 46 37.8	+1.0
SNAA	Sanae	46.28	190	P		P	06 46 36.6	-0.2
SNAA				IAmb		IAmb	06 46 39.1	
	comp=Z,21nm,1.3s							
VNA3	Neumayer Olymp	47.19	187	P		P	06 46 44.6	+0.8
VNA2	Neumayer--Watz	47.36	188	P		P	06 46 43.6	-1.6
	baz=162,slow=7.0							
FITZ	Fitzroy Crossi	47.62	322	P		P	06 46 47.9	+0.2
	baz=48,SNR=6.4							
FITZ	Fitzroy Crossi	47.62	322	P		P	06 46 47.5	-0.2
VNA1	Neumayer--Stat	47.69	188	P		P	06 46 48.9	+1.3
COEN	Coen	47.96	346	P		P	06 46 49.1	-1.3
	baz=48,SNR=4.6							
COEN	Coen	47.96	346	P		P	06 46 49.7	-0.7
COEN				IAmb		IAmb	06 46 53.2	
	comp=Z,13nm,1.1s							
KNRA	Kununurra	49.06	327	P		P	06 46 58.4	-0.4
NIUE	Niue	49.24	47	P		P	06 46 56.3	-3.9
	baz=49,SNR=3.6							
KDU	Kakadu	51.04	333	P		P	06 47 12.1	-1.7
	baz=51,SNR=4.4							
MTN	Manton Dam	51.19	331	P		P	06 47 14.2	-0.8
	baz=51,SNR=3.1							
MTN	Manton Dam	51.19	331	P		P	06 47 14.2	-0.8
MTN				IAmb		IAmb	06 47 16.7	
	comp=Z,26nm,0.9s							
TBI	Tubuai	53.89	72	*e*LR		LR	07 03 06.8	
	comp=Z,596nm,28.5s							
TBI	Tubuai	53.89	72	*e*T		T	07 45 23.4	
	comp=Z,37nm,0.3s							
PAE	Paea	58.79	68	*e*T		T	07 51 29.0	
	comp=Z,1.2nm,0.3s							
TVO	Taravao	58.83	69	*e*T		T	07 51 32.3	
	comp=Z,1.0nm,0.3s							
PPT2	Papeete2	58.86	68	*e*S		S	06 56 18.5	+2.4
	comp=Z,307nm,27.0s							
PPT2				*e*LR		LR	07 05 37.4	
	comp=Z,433nm,23.5s,baz=202							
PPT2	Papeete2	58.86	68	*e*T		T	07 51 33.2	
	comp=Z,2.4nm,0.3s							
PPT	Papeete	58.88	68	LR		LR	07 07 34.6	
	comp=Z,180nm,19.5s,baz=186,slow=30							
FAKI	Fak Fak	60.56	335	P		P	06 48 22.2	+0.1
KAPI	Kappang	61.77	321	P		P	06 48 31.4	+1.1
	comp=Z,0.8nm,0.8s,baz=133,slow=4.9,SNR=4.6							
KAPI	Kappang	61.77	321	P		P	06 48 30.2	-0.1
CISI	Cisompet, Garu	63.55	307	P		P	06 48 42.3	0.0
KSM	Kuching	70.97	313	P		P	06 49 26.8	-2.4
SBUM	Sibu	71.22	315	P		P	06 49 30.5	-0.2
PLCA	Paso Flores	72.03	146	P		P	06 49 36.5	+1.0
	comp=Z,5.2nm,1.0s,baz=220,slow=6.9,SNR=7.4							
PLCA				LR		LR	07 16 47.0	
	comp=Z,38nm,18.2s,baz=206,slow=32							
PLCA	Paso Flores	72.03	146	P		P	06 49 35.3	-0.2
PLCA				IAmb		IAmb	06 49 38.3	
	comp=Z,9.7nm,1.1s							
H08S2	Diego Garcia H	79.24	274	T		T	08 17 16.5	
	baz=153,slow=76,SNR=12							
H08S1	Diego Garcia H	79.25	274	T		T	08 17 15.4	
H08S3	Diego Garcia H	79.26	274	T		T	08 17 18.1	
	baz=151,slow=76,SNR=13							
H08N1	Diego Garcia H	81.09	273	T		T	08 19 33.4	
	baz=137,slow=75,SNR=5.1							
H08N3	Diego Garcia H	81.09	273	T		T	08 19 35.2	
	baz=137,slow=75,SNR=5.7							
H08N2	Diego Garcia H	81.11	273	T		T	08 19 38.2	
	baz=137,slow=75,SNR=4.9							
BOSA	Boshof	81.23	224	P		P	06 50 28.4	+0.7
	comp=Z,5.4nm,0.9s,baz=159,slow=6.8,SNR=4.3							
BOSA				LR		LR	07 20 55.5	
	comp=Z,167nm,21.7s,baz=174,slow=32							
LBTB	Lobatse	84.43	226	P		P	06 50 45.1	+0.7
	comp=Z,7.3nm,0.9s,baz=166,slow=6.9,SNR=5.5							
CPUP	Villa Florida	89.03	152	LR		LR	07 27 58.8	
	comp=Z,48nm,18.8s,baz=198,slow=34							
CMAR	Chiang Mai Arr	90.78	309	P		P	06 51 15.4	+0.7
	comp=Z,1.2nm,0.4s,baz=176,slow=4.7,SNR=5.9							
KMI	Kunming	95.53	315	P		P	06 51 39.6	+2.8
KMI				pP		pwP	06 51 41.6	-1.3
KMI				sP		sP	06 51 43.0	+3.0
LPAZ	La Paz	95.69	140	P		P	06 51 39.5	+1.1
	comp=Z,1.9nm,1.0s,baz=99,slow=2.7,SNR=5.4							
LPAZ				LR		LR	07 24 43.0	
	comp=Z,36nm,21.6s,baz=162,slow=29							
WHN	Wuhan	97.05	326	P		Pdif	06 51 43.5	+0.2
WHN				pP		pwP	06 51 50.4	+1.1
NJ2	Nanjing	97.35	330	*e*P		Pdif	06 51 46.8	+2.2
CD2	Chengdu	100.53	318	P		Pdif	06 51 59.6	+0.7
H06S1	SOCORRO T	108.67	85	T		T	08 54 23.0	
	SNR=26							
H06E1	SOCORRO T-PHASE	108.73	85	T		T	08 54 17.2	
	SNR=16							
SONM	Songino Array	115.37	327	PKP		PKPdf	06 56 52.2	-0.3
	comp=Z,0.8nm,1.0s,baz=48,slow=2.1,SNR=3.2							
WMQ	Urumqi	117.66	312	*e*PKP		PKiKP	06 56 58.4	+1.4
WMQ				LR		LR		
	comp=Z,300nm,25.7s							
WMQ				LR		LR		
	comp=Z,120nm,24.5s							
KSH	Kashi	118.54	301	PKP		PKiKP	06 57 01.7	+2.8
KSH				PP		PP	06 58 23.3	+6.4
KSH				SKS		SKSdf	07 04 12.7	+2.1
KSH				LR		LR		
	comp=Z,340nm,4.5s							
NVAR	Mina Array Bea	121.83	67	PKP		PKiKP	06 57 07.0	+1.4
	comp=Z,1.6nm,0.9s,baz=197,slow=4.4,SNR=10							
MKAR	Makanchi Array	122.18	310	PKP		PKPdf	06 57 04.7	-0.8
	comp=Z,0.9nm,0.7s,baz=101,slow=5.6,SNR=5.7							
MNTX	Cornudas Mount	122.28	82			PKiKP	06 57 07.0	+0.6
PINE	Pine Mountain	125.06	62			PKiKP	06 57 12.9	+1.2
ELK	Elko	125.08	68	PKP		PKiKP	06 57 11.8	-0.2
	comp=Z,0.4nm,0.3s,baz=242,slow=7.2,SNR=4.7							
G08A	Pilot Rock	127.11	62			PKiKP	06 57 15.8	+0.1
TOA0	Torodi Ar. Sit	127.85	215			PKPdf	06 57 16.9	-0.5
TORD	Torodi Ar. Bea	127.85	215	PKP		PKPdf	06 57 16.6	-0.7
	comp=Z,3.0nm,0.9s,baz=161,slow=0.7,SNR=13							
WMO

comp=Z,3.6nm,0.9s,baz=306,slow=1.7,SNR=9.5

ESDC	**Sonseca Array**	**154.40**	**222**	PKPbc	**PKiKP**	**06 58 12.0**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=147,slow=1.3,SNR=11						
GERES	**GERESS Array B**	**154.50**	**259**	PKPbc	**PKiKP**	**06 58 11.2**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=132,slow=2.0,SNR=8.1						
CLL	**Collm**	**156.50**	**262**	*e*PKPab	**PKPab**	**06 58 35.0**	**+0.6**
	comp=Z,14nm,1.4s						

*ISCJB **10** 06:42:40.6±0.3,36°.49N±0°.02×70°.37E±0°.05,h204km, mb3.6/9, Error ellipse: s-maj=5.8km s-min=2.9km az=163.2*
*NEIC **10** 06:42:41.1±2.9,36°.47N±0°.03×70°.4E±0°.1,h208km±7km, mb4.2/8*
*IDC **10** 06:42:42.0±0.9,36°.32N×70°.39E,h214km±8km,mb3.4/10, mb1 3.5/15,mb1mx3.3/55,mbtmp4.0/15,Error ellipse: s-maj=17.4km s-min=14.8km az=88.0*
*NNC **10** 06:42:46.5±1.6,36°.91N×70°.37E,h227km±15km,mb3.3, mpv4.4,Error ellipse: s-maj=14.3km s-min=9.1km az=32.0*

ISC 10 06:42:41.0±0.5,**36°.48N**±0°.05×**70°.44E**±0°.06,**h204**km,**n74,** σ1ᵍ**66**/91,**mb3.6**/12,**5C-7D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.25**	**211**	Pn	**Pn**	**06 43 23.0**	**+0.3**
KBL				Sn	**S**	**06 43 53.3**	**-1.2**
CHGR	**Chuyangaron**	**2.40**	**335**	Pn	**Pn**	**06 43 24.9**	**+0.7**
CHGR				Sn	**S**	**06 43 56.3**	**-1.0**
GAR	**Garm**	**2.52**	**358**		**Pn**	**06 43 26.7**	**+1.2**
GAR					**S**	**06 43 59.3**	**-0.4**
CEP	**Cherat**	**2.91**	**155**	P	**Pn**	**06 43 31.4**	**+1.3**
CEP				S	**S**	**06 44 08.0**	**+0.3**
BTK	**Batken**	**3.58**	**5**		**Pn**	**06 43 39.6**	**+1.7**
CHCP	**Chirah Chowk**	**3.65**	**140**	P	**Pn**	**06 43 40.4**	**+1.7**
NIL	**Nilore**	**3.65**	**140**	Pn	**Pn**	**06 43 40.5**	**+1.9**
THW	**Thamme Wali**	**3.83**	**163**	P	**Pn**	**06 43 41.9**	**+0.9**
TAS	**Tashkent**	**4.92**	**350**		**Pn**	**06 43 55.3**	**+0.7**
ARSB	**Arslanbob**	**5.23**	**22**		**Pn**	**06 43 58.9**	**+0.4**
ARSB				Sn	**S**	**06 44 54.4**	**-4.9**
THN	**Thein Dam**	**5.94**	**131**	*e*P	Pn	06 44 23.2	+16
THN				*e*S	S	06 45 32.2	+16
AML	**Almayashu**	**6.18**	**23**	P	**Pn**	**06 44 11.4**	**+0.4**
	SNR=127						
DHRM	**DHARAMSHALA**	**6.42**	**129**	*e*P	**Pn**	**06 44 14.4**	**+0.3**
DHRM				*e*S	**S**	**06 45 26.2**	**-1.4**
DHRM				IAML		06 45 26.9	
	comp=E,352nm,0.4s						
DHRM				IAML		06 45 27.1	
	comp=N,240nm,0.3s						
UCH	**Uchtor**	**6.55**	**28**	P	**Pn**	**06 44 16.8**	**+1.0**
	SNR=44						
NRN	**Naryn**	**6.57**	**40**		**Pn**	**06 44 15.7**	**-0.3**
KK31	**Karatay Array**	**6.62**	**0**	Pn	**Pn**	**06 44 16.7**	**+0.5**
KK31				Sn	**S**	**06 45 29.4**	**-2.2**
KK31	**Karatay Array**	**6.62**	**0**	P	**Pn**	**06 44 16.5**	**+0.3**
	comp=N,4.2nm,0.3s,baz=181,slow=11,SNR=76						
KK31				⇓S	**S**	**06 45 28.4**	**-3.2**
	comp=N,7.6nm,0.3s,baz=189,slow=27,SNR=8.4						
KKAR	**Karatay Array**	**6.62**	**0**	Pn	**Pn**	**06 44 16.7**	**+0.5**
KKAR				Sn	**S**	**06 45 29.3**	**-2.4**
EKS2	**Erkin-Sygy**	**6.69**	**22**	P	**Pn**	**06 44 18.6**	**+1.3**
	SNR=17						
KZA	**Kyzart**	**6.72**	**32**	P	**Pn**	**06 44 18.5**	**+0.6**
	SNR=20						
AAK	**Ala-Archa**	**6.90**	**26**	P	**Pn**	**06 44 21.3**	**+1.2**
	comp=N,4.5nm,0.3s,baz=156,slow=5.5,SNR=54						
AAK				S	**S**	**06 45 37.3**	**-1.2**
	comp=N,6.2nm,0.3s,baz=346,slow=20,SNR=19						
AAK	**Ala-Archa**	**6.90**	**26**	P	**Pn**	**06 44 21.1**	**+1.0**
	SNR=22						
AAK	**Ala-Archa**	**6.90**	**26**	⇓P	**Pn**	**06 44 20.8**	**+0.8**
	comp=N,20nm,0.7s						
AAK				⇓S	**S**	**06 45 37.9**	**-0.6**
	comp=N,56nm,0.6s						
KBK	**Karagaybulak**	**7.08**	**28**	P	**Pn**	**06 44 24.0**	**+1.6**
	SNR=13						
ULHL	**Ulahol**	**7.30**	**36**	P	**Pn**	**06 44 26.6**	**+1.2**
	SNR=8.0						
CHMS	**Chumysh**	**7.31**	**26**	P	**Pn**	**06 44 25.9**	**+0.7**
	SNR=11						
BOOM	**Boomskoye usch**	**7.35**	**34**	Pn	**Pn**	**06 44 26.7**	**+0.7**
USP	**Ospenovka**	**7.46**	**23**	P	**Pn**	**06 44 27.9**	**+0.7**
	SNR=7.4						
TKM2	**Tokmak 2**	**7.56**	**30**	P	**Pn**	**06 44 29.6**	**+1.0**
	SNR=41						
TKM2	**Tokmak 2**	**7.56**	**30**	⇑P	**Pn**	**06 44 29.4**	**+0.7**
	comp=N,28nm,0.5s						
TKM2				⇑S	**S**	**06 45 52.3**	**-2.0**
	comp=N,17nm,0.7s						
SMLA	**Simla**	**7.73**	**132**	*e*P	**Pn**	**06 44 30.5**	**-0.3**
SMLA				*e*S	**S**	**06 45 54.3**	**-3.9**
SMLA				IAML		06 45 57.2	
	comp=E,60nm,0.2s						
SMLA				IAML		06 45 57.9	
	comp=N,89nm,0.2s						
TARG	**Taragay, Kyrgy**	**7.76**	**45**	Pn	**Pn**	**06 44 31.4**	**-0.1**
MDOK	**Medeo**	**8.39**	**35**	⇓P	**Pn**	**06 44 40.9**	**+1.5**
	comp=N,14nm,0.8s						
JOSI	**Joshimath**	**9.63**	**125**	*e*P	**Pn**	**06 44 55.2**	**-0.5**
JOSI				*e*S	S	06 46 34.4	-9.4
KUDL	**Kundal**	**9.76**	**147**	*e*P	**Pn**	**06 44 53.0**	**-4.1**
KUDL				*e*S	S	06 46 33.7	-13
MAKZ	**Makanchi**	**13.43**	**36**	P	**Pn**	**06 45 44.7**	**+1.0**
MAKZ	**Makanchi**	**13.43**	**36**	⇑P	**Pn**	**06 45 44.5**	**+0.8**
	comp=N,5.5nm,0.7s						
MK31	**Makanchi Array**	**13.57**	**37**	P	**Pn**	**06 45 46.6**	**+1.2**
MK31	**Makanchi Array**	**13.57**	**37**	P	**Pn**	**06 45 46.1**	**+0.7**
	comp=N,1.6nm,0.5s,baz=228,slow=20,SNR=20						
MKAR	**Makanchi Array**	**13.57**	**37**	P	**Pn**	**06 45 46.7**	**+1.3**
	comp=N,0.4nm,0.3s,baz=248,slow=5.9,SNR=13						
DANN	**Dangsing**	**13.86**	**122**	*e*P	**P**	**06 45 50.9**	**-0.4**
	comp=N,25nm,0.5s						
KOLN	**Koldanda**	**14.12**	**124**	*e*P	**P**	**06 45 55.3**	**+1.1**
	comp=N,7.0nm,0.3s						
AB31	**Akbulak array**	**14.89**	**332**	⇓P	**Pn**	**06 46 00.9**	**-0.6**
	comp=N,4.8nm,0.5s,baz=147,slow=12,SNR=90						
AB31				⇑S	**S**	**06 48 42.0**	**-4.4**
	comp=N,0.7nm,0.4s,baz=155,slow=24,SNR=3.2						
ABKAR	**Akbulak array**	**14.89**	**332**	P	**Pn**	**06 46 01.5**	**0.0**
DMN	**Daman**	**15.25**	**121**	*e*P	**P**	**06 46 08.1**	**+1.4**
	comp=N,13nm,0.4s						
KKN	**Kakani**	**15.25**	**120**	*e*P	**P**	**06 46 08.4**	**+1.7**
	comp=N,16nm,0.3s						
KURBB	**Kurchatov Arra**	**15.29**	**20**	P	**P**	**06 46 06.9**	**+0.3**
	comp=N,0.2nm,0.3s,baz=210,slow=11,SNR=12						
KURBB	**Kurchatov Arra**	**15.29**	**20**	⇓P	**Pn**	**06 46 06.1**	**-0.2**
	comp=N,4.2nm,0.7s						
KURK	**Kurchatov**	**15.40**	**20**	P	**P**	**06 46 08.1**	**+0.2**
PKIN	**Phulchoki**	**15.47**	**121**	*e*P	**P**	**06 46 11.1**	**+2.0**
	comp=N,17nm,0.4s						
PKI	**Pulchoki**	**15.48**	**121**	*e*P	**P**	**06 46 11.2**	**+1.9**
	comp=N,31nm,0.4s						
GUN	**Gumba**	**15.60**	**119**	*e*P	**Pn**	**06 46 12.3**	**+1.5**
	comp=N,32nm,0.6s						
JIRN	**Jiri**	**15.97**	**119**	*e*P	**Pn**	**06 46 16.6**	**+1.4**
BVAR	**Borovoye Array**	**16.54**	**360**	P	**Pn**	**06 46 22.9**	**+1.4**
	comp=N,2.3nm,0.3s,baz=171,slow=14,SNR=22						
AKTO	**Aktyubinsk**	**16.58**	**331**	P	**Pn**	**06 46 23.1**	**+1.2**
	comp=N,1.1nm,0.3s,baz=138,slow=10,SNR=37						
AKTO	**Aktyubinsk**	**16.58**	**331**	⇑P	**Pn**	**06 46 22.4**	**+0.5**
	comp=N,18nm,0.9s						
AKTO				⇓S	**S**	**06 49 18.0**	**-5.6**
	comp=N,2.4nm,0.8s						
BRVK	**Borovoye**	**16.58**	**360**	Pn	**Pn**	**06 46 22.6**	**+0.8**
RAMN	**Ramite**	**16.69**	**120**	*e*P	**Pn**	**06 46 25.2**	**+1.4**
	comp=N,11nm,0.3s						
ZAA0	**Zalesovo Array**	**20.12**	**25**	P	**P**	**06 46 59.5**	**+0.3**
ZALV	**Zalesovo Beam**	**20.12**	**25**	P	**P**	**06 47 00.9**	**+1.7**
	comp=N,3.0nm,0.5s,baz=218,slow=12,SNR=14						
SHL	**Shillong**	**21.31**	**115**	P	**P**	**06 47 12.5**	**+0.3**
SHL				IAmb	IAmb	06 47 15.5	
	comp=Z,6.2nm,0.7s						
ARU	**Arti**	**21.51**	**342**	P	**P**	**06 47 15.9**	**+2.2**
	comp=Z,1.7nm,0.2s,baz=155,slow=7.3,SNR=4.9						
SONM	**Songino Array**	**28.72**	**55**	P	**P**	**06 48 22.0**	**+2.7**
	comp=Z,0.8nm,0.8s,baz=272,slow=7.1,SNR=5.0						
ARCES	**ARCESS Array B**	**40.99**	**338**	P	**P**	**06 50 05.0**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=111,slow=6.6,SNR=5.4						
TORD	**Torodi Ar. Bea**	**65.27**	**268**	P	**P**	**06 53 00.5**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=47,slow=6.5,SNR=6.4						
TORD				pP	**pP**	**06 53 49.5**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=33,slow=8.6,SNR=2.4						
ILAR	**Eielson Array**	**74.92**	**16**	P	**P**	**06 53 60.0**	**+0.9**
	comp=Z,0.6nm,1.0s,baz=302,slow=5.2,SNR=5.4						
YKA	**Yellowknife Ar**	**81.28**	**2**	P	**P**	**06 54 35.2**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=349,slow=5.1,SNR=10						
YKA				pP	**pP**	**06 55 26.4**	**+2.4**
	comp=Z,0.3nm,0.6s,baz=352,slow=5.7,SNR=5.3						
WRA	**Warramunga Arr**	**82.36**	**122**	P	**P**	**06 54 39.3**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=321,slow=4.9,SNR=9.3						
WB2	**Warramunga Arr**	**82.37**	**122**	P	**P**	**06 54 38.2**	**-2.1**
WB2				IAmb	IAmb	06 54 40.7	
	comp=Z,3.9nm,1.1s						
WR0	**Warramunga Arr**	**82.51**	**121**	P	**P**	**06 54 39.8**	**-1.3**
WR0				IAmb	IAmb	06 54 40.3	
	comp=Z,3.1nm,0.5s						
WAKE	**Wake Island**	**83.57**	**71**	P	**P**	**06 54 44.4**	**-2.3**
ASAR	**Alice Springs**	**84.61**	**125**	P	**P**	**06 54 51.3**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=309,slow=4.7,SNR=11						
ASAR				pP	**pP**	**06 55 44.7**	**+1.8**
	comp=Z,0.3nm,0.8s,baz=317,slow=3.8,SNR=1.9						
STKA	**Stephens Creek**	**95.14**	**126**	P	**P**	**06 55 40.0**	**-1.0**
	comp=Z,2.1nm,0.8s,baz=347,slow=7.4,SNR=3.2						
STKA	**Stephens Creek**	**95.14**	**126**	P	**P**	**06 55 40.3**	**-0.7**
STKA				IAmb	IAmb	06 55 57.4	
	comp=Z,1.9nm,1.4s						

*ISCJB **10** 06:42:54.8±0.8,7°.17N±0°.03×82°.37W±0°.03,h16km±6km, Error ellipse: s-maj=6.1km s-min=3.2km az=37.9*
*UPA **10** 06:42:56.0±1.7,7°.20N×82°.36W,h13km±11km,MW4.2*
*UCR **10** 06:42:56.3±2.0,7°.26N×82°.33W,h13km±8km*

ISC 10 06:42:54.7±3.5,**7.19N**±0°.08×**82°.38W**±0°.05,**h10**km±25km, **n57,**σ1ᵍ**35**/82,**South of Panama**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOCO3	**Loma Colorada,**	**1.22**	**358**	*e*P	**Pb**	**06 43 17.3**	**-0.6**
LOCO3				*e*S	**Sb**	**06 43 32.7**	**-1.0**
LOMA3	**Las Lomas, Chi**	**1.24**	**360**	*e*P	**Pn**	**06 43 17.9**	**-0.2**
LOMA3				*e*S	**Sn**	**06 43 34.6**	**-0.3**
DVD	**David**	**1.25**	**357**	*e*P	**Pn**	**06 43 17.7**	**-0.5**
DVD				*e*S	**Sb**	**06 43 33.3**	**-1.2**
DVD	**David**	**1.25**	**357**	*e*P	**Pn**	**06 43 17.7**	**-0.5**
DVD				*e*S	**Sb**	**06 43 33.3**	**-1.2**
GMAL	**Guarumal, Vera**	**1.27**	**63**	*e*P	**Pn**	**06 43 17.3**	**-1.3**
GMAL				*e*S	**Sb**	**06 43 34.3**	**-1.0**
LESP3	**La Esperanza,**	**1.28**	**342**	*e*P	**Pn**	**06 43 17.5**	**-1.1**
LESP3				*e*S	**Sb**	**06 43 33.4**	**-2.0**
CACAO	**El Cacao, Vera**	**1.52**	**84**	*e*P	**Pn**	**06 43 21.0**	**-0.9**
CACAO				*e*S	**Sn**	**06 43 40.4**	**-1.4**
BCO2	**Palmira**	**1.53**	**355**	*e*P	**Pn**	**06 43 21.7**	**-0.6**
BCO2				*e*S	**Sn**	**06 43 41.9**	**-0.5**
BRU2	**Volcan**	**1.63**	**349**	*e*P	**Pn**	**06 43 22.9**	**-0.7**
BRU2				*e*S	**Sb**	**06 43 45.2**	**-0.5**
BRU2	**Volcan**	**1.63**	**349**	*e*P	**Pn**	**06 43 22.9**	**-0.7**
BRU2				*e*S	**Sb**	**06 43 45.5**	**-0.2**
EDBA	**Buenos Aires**	**2.15**	**336**	*e*P	**Pn**	**06 43 31.5**	**+0.7**
EDBA				*e*S	**Sn**	**06 43 57.7**	**0.0**
AZU	**Azuero**	**2.17**	**74**	*e*P	**Pn**	**06 43 30.7**	**-0.3**
AZU				*e*S	**Sn**	**06 43 57.4**	**-0.6**
AZU	**Azuero**	**2.17**	**74**	*e*P	**Pn**	**06 43 30.8**	**-0.2**
AZU				*e*S	**Sn**	**06 43 57.4**	**-0.6**
CNI2	**El Empalme, Bo**	**2.23**	**358**	*e*P	**Pn**	**06 43 33.3**	**+1.6**
CNI2				*e*S	**Sn**	**06 43 60.0**	**+0.6**
PNME	**Penonome**	**2.41**	**57**	*e*P	**Pn**	**06 43 35.0**	**+0.7**
PNME				*e*S	**Sn**	**06 44 04.1**	**+0.3**
PNME	**Penonome**	**2.41**	**57**	*e*P	**Pn**	**06 43 35.0**	**+0.7**
PNME				*e*S	**Sn**	**06 44 04.1**	**+0.3**
EDDO	**Dominical**	**2.52**	**325**	*e*P	**Pn**	**06 43 35.8**	**0.0**
VTON	**El Valle, Cocl**	**2.66**	**58**	*e*P	**Pn**	**06 43 39.0**	**+1.3**
VTON				*e*S	**Sn**	**06 44 09.9**	**-0.2**
LCR2	**La Lucha 2**	**3.00**	**328**	*e*P	**Pn**	**06 43 43.2**	**+0.6**
LCR2				*e*S	**Sn**	**06 44 19.1**	**+0.3**
CVTR	**Volcan Turrial**	**3.13**	**334**	*e*P	**Pn**	**06 43 45.7**	**+1.2**
CVTR				*e*S	**Sn**	**06 44 23.6**	**+1.4**
BCIP	**Isla Barro Col**	**3.20**	**52**	*e*P	**Pn**	**06 43 45.5**	**+0.5**
SJS	**Escuela Geolog**	**3.20**	**329**	*e*P	**Pn**	**06 43 46.2**	**+1.0**
HDC	**Heredia**	**3.28**	**329**	*e*P	**Pn**	**06 43 47.6**	**+1.2**
HDC				*e*S	**Sn**	**06 44 26.1**	**+0.6**
HDC	**Heredia**	**3.28**	**329**	*e*P	**Pn**	**06 43 47.6**	**+1.2**
HDC				*e*S	**Sn**	**06 44 26.1**	**+0.6**
UPA	**Univ. de Panam**	**3.34**	**57**	*e*P	**Pn**	**06 43 47.4**	**+0.5**
UPA				*e*S	**Sn**	**06 44 25.9**	**-0.9**
UPA	**Univ. de Panam**	**3.34**	**57**	*e*P	**Pn**	**06 43 47.4**	**+0.5**
UPA				*e*S	**Sn**	**06 44 25.9**	**-0.9**
SRA1	**San Ramn**	**3.55**	**324**	*e*P	**Pn**	**06 43 50.2**	**+0.1**
ARE1	**Arenal 1**	**3.99**	**325**	*e*P	**Pn**	**06 43 57.9**	**+1.8**
JTS	**Las Juntas de**	**4.00**	**321**	*e*P	**Pn**	**06 43 58.8**	**+0.6**
JTS				*e*S	**Sn**	**06 44 42.8**	**-0.3**
JTS	**Las Juntas de**	**4.00**	**321**	*e*P	**Pn**	**06 43 56.8**	**+0.6**
JTS				*e*S	**Sn**	**06 44 42.8**	**-0.3**
CEDE	**Laguna Cedeo**	**4.00**	**325**	*e*P	**Pn**	**06 43 57.6**	**+1.3**
PLVR	**Palo Verde**	**4.30**	**317**	*e*P	**Pn**	**06 44 01.0**	**+0.5**
CUI	**Cuipilapa**	**4.41**	**322**	*e*P	**Pn**	**06 44 03.4**	**+1.5**
BUEV	**Buena Vista**	**4.67**	**320**	*e*P	**Pn**	**06 44 06.9**	**+1.4**
GB1A	**Borinquen Arri**	**4.68**	**321**	*e*P	**Pn**	**06 44 07.2**	**+1.6**
DBBC	**Dabeiba**	**6.13**	**91**	*e*P	**Pn**	**06 44 29.5**	**+4.0**
DBBC	**Dabeiba**	**6.13**	**91**	*e*P	**Pn**	**06 44 29.5**	**+4.0**
CBOC	**Ciudad Bolivar**	**6.46**	**101**	*e*P	**Pn**	**06 44 29.9**	**-0.2**
CBOC	**Ciudad Bolivar**	**6.46**	**101**	*e*P	**Pn**	**06 44 29.9**	**-0.2**
PLMC	**San Jos del P**	**6.47**	**110**	*e*P	**Pn**	**06 44 32.2**	**+2.0**
PLMC	**San Jos del P**	**6.47**	**110**	*e*P	**Pn**	**06 44 32.2**	**+2.0**
YOTC	**Yotoco, Valle**	**6.80**	**118**	*e*P	**Pn**	**06 44 35.3**	**+0.6**
YOTC	**Yotoco, Valle**	**6.80**	**118**	*e*P	**Pn**	**06 44 35.3**	**+0.6**
GUY2C	**Guyana, Caldas**	**7.24**	**105**	*e*P	**Pn**	**06 44 41.5**	**+0.4**
GUY2C	**Guyana, Caldas**	**7.24**	**105**	*e*P	**Pn**	**06 44 41.9**	**+0.9**
BBAC	**Balboa, Cauca**	**7.25**	**135**	*e*P	**Pn**	**06 44 41.9**	**+0.4**
BBAC	**Balboa, Cauca**	**7.25**	**135**	*e*P	**Pn**	**06 44 41.9**	**+0.9**
SOTA	**Rioblanco**	**7.63**	**131**	*e*P	**Pn**	**06 44 48.0**	**+1.5**
SOTA	**Rioblanco**	**7.63**	**131**	*e*P	**Pn**	**06 44 48.0**	**+1.5**
NORC	**Norcasia**	**7.64**	**102**	*e*P	**Pn**	**06 44 48.8**	**+2.6**
NORC	**Norcasia**	**7.64**	**102**	*e*P	**Pn**	**06 44 48.8**	**+2.6**
CRUC	**La Cruz**	**7.77**	**136**	*e*P	**Pn**	**06 44 50.6**	**+2.3**
CRUC	**La Cruz**	**7.77**	**136**	*e*P	**Pn**	**06 44 50.6**	**+2.3**
ORTC	**Ortega, Tolima**	**7.81**	**114**	*e*P	**Pn**	**06 44 51.0**	**+2.4**
ORTC	**Ortega, Tolima**	**7.81**	**114**	*e*P	**Pn**	**06 44 51.0**	**+2.4**
PRAC	**Prado**	**8.22**	**114**	*e*P	**Pn**	**06 44 56.5**	**+2.4**
PRAC	**Prado**	**8.22**	**114**	*e*P	**Pn**	**06 44 56.5**	**+2.4**

*ISCJB **10** 06:45:05.0±1.1,25°.63S±0°.04×27°.48E±0°.04,h2km±7km, Error ellipse: s-maj=7.1km s-min=5.6km az=138.1*
*EAF **10** 06:45:05.8±0.5,25°.34S×25°.70E,h254km±7km,MD3.4*
*PRE **10** 06:45:05.6±1.8,25°.64S×27°.44E,h2km,ML2.7*

ISC 10 06:45:06.2±1.4,**25°.69S**±0°.03×**27°.43E**±0°.04,**h4**km±11km, **n16,**σ0ᵍ**93**/31,**South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSR	**Koster**	**0.51**	**252**	*e*P	**Pg**	**06 45 14.4**	**-1.5**
KSR				*e*S	**Sg**	**06 45 24.1**	**+1.6**
KSR				AML	AML	06 45 25.0	
	comp=Z,310nm,0.8s						
KLOF	**Kloof**	**0.67**	**166**	*e*P	**Pb**	**06 45 20.4**	**-0.1**
KLOF				*e*S	**Sg**	**06 45 28.5**	**+0.6**
KLOF				AML	AML	06 45 37.2	
	comp=Z,416nm,0.5s						
WDLM	**Western Deep L**	**0.73**	**181**	*e*P	**Pg**	**06 45 21.0**	**+0.9**
WDLM				*e*S	**Sb**	**06 45 32.2**	**+0.2**
WDLM				AML	AML	06 45 38.6	
	comp=Z,173nm,0.1s						
ERPM	**east rand prop**	**0.97**	**132**	*e*P	**Pg**	**06 45 24.5**	**-0.4**
ERPM				*e*S	**Sg**	**06 45 36.6**	**-1.0**
ERPM				AML	AML	06 45 44.7	
	comp=Z,158nm,0.8s						
PRYS	**Parys**	**1.23**	**183**	*e*P	**Pn**	**06 45 30.8**	**+0.5**
PRYS				*e*S	**Sn**	**06 45 47.7**	**+0.3**
PRYS				AML	AML	06 45 50.1	
	comp=Z,502nm,0.2s						
LBTB	**Lobatse**	**1.79**	**292**	*i* P	**Pn**	**06 45 38.1**	**+0.1**
LBTB				*i* S	**Sn**	**06 46 01.4**	**+0.2**
LBTB	**Lobatse**	**1.79**	**292**	*e*P	**Pn**	**06 45 37.8**	**-0.2**
LBTB				*e*S	**Sn**	**06 46 01.7**	**+0.5**
LBTB				AML	AML	06 46 11.9	
	comp=Z,110nm,0.7s						
LBTB	**Lobatse**	**1.79**	**292**	*i* P	**Pn**	**06 45 38.1**	**+0.1**
LBTB				*i* S	**Sn**	**06 46 01.4**	**+0.2**
SWZ	**Schweizer**	**2.40**	**231**	*e*P	**Pn**	**06 45 45.9**	**-0.4**
SWZ				*e*S	**Sn**	**06 46 18.3**	**+2.1**
SWZ				AML	AML	06 46 29.5	
	comp=Z,51nm,0.3s						
BOSA	**Boshof**	**3.50**	**213**	*i* P	**Pn**	**06 46 01.4**	**0.0**
BOSA				*i* S	**Sn**	**06 46 41.8**	**-1.5**
BOSA	**Boshof**	**3.50**	**213**	*i* P	**Pn**	**06 46 01.4**	**0.0**
BOSA				*i* S	**Sn**	**06 46 41.6**	**-1.7**
BOSA	**Boshof**	**3.50**	**213**	*e*P	**Pn**	**06 46 01.9**	**+0.4**
BOSA				*e*S	**Sn**	**06 46 43.5**	**+0.2**
BOSA				AML	AML	06 46 58.5	
	comp=Z,17nm,0.3s						
BOSA	**Boshof**	**3.50**	**213**	*i* P	**Pn**	**06 46 01.4**	**0.0**
BOSA				*i* S	**Sn**	**06 46 41.6**	**-1.7**
MATP	**Matopo**	**5.33**	**11**	*i* P	**Pn**	**06 46 27.4**	**+0.7**
MATP				*i* S	Sn	06 47 16.8	-12
MATP	**Matopo**	**5.33**	**11**	*i* P	**Pn**	**06 46 27.5**	**+0.7**
MATP				*i* S	**Sn**	**06 47 28.1**	**-0.6**
MATP	**Matopo**	**5.33**	**11**	*i* P	**Pn**	**06 46 27.5**	**+0.7**
MATP				*i* S	**Sn**	**06 47 28.1**	**-0.6**

*NIC **10** 06:46:27.8±0.0,35°.05N×29°.12E,h32km±17km,Ml3.1/4*
*GII **10** 06:46:33.8±0.2,35°.11N×30°.75E,h300km*

ISC 10 06:46:26.3±1.3,**34°.81N**±0°.05×**29°.06E**±0°.05,**h35**km,**n17,** σ1ᵍ**77**/26,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**1.40**	**18**	P	**Pn**	**06 46 47.9**	**-1.5**
KSL				S	**Sn**	**06 47 03.1**	**-3.6**
KARP	**Karpathos**	**1.72**	**296**	P	**Pn**	**06 46 54.9**	**+1.1**
KARP				S	**Sn**	**06 47 15.8**	**+1.3**
KARP				AML	AML	06 47 16.3	
	0.1nm,0.1s						
KARP				AML	AML	06 47 16.3	
	0.1nm,0.1s						
KARP				AML	AML	06 47 16.5	
KARP				AML	AML	06 47 16.5	
AKMS	**Akamas**	**2.70**	**85**	P	**Pn**	**06 47 08.3**	**+1.1**
AKMS				S	**Sn**	**06 47 39.7**	**+1.0**
AKMS				AML	AML	06 47 42.8	
	0.1nm,0.3s						
AKMS				AML	AML	06 47 42.8	
	0.1nm,0.3s						
AKMS				AML	AML	06 47 43.3	
	0.2nm,0.2s						
AKMS				AML	AML	06 47 43.3	
	0.2nm,0.2s						
NATA	**Nata**	**2.89**	**90**	P	**Pn**	**06 47 11.5**	**+1.6**
ALFC	**Alefka**	**2.93**	**82**	P	**Pn**	**06 47 11.5**	**+1.1**
ALFC				S	**Sn**	**06 47 45.2**	**+0.8**
ALFC				AML	AML	06 47 45.7	
	0.3nm,0.2s						
ALFC				AML	AML	06 47 45.7	
	0.3nm,0.2s						
ALFC				AML	AML	06 47 47.2	
	0.2nm,0.2s						
ALFC				AML	AML	06 47 47.2	
	0.2nm,0.2s						
SZAC	**Souni**	**3.15**	**90**	P	**Pn**	**06 47 14.7**	**+1.3**
SZAC				S	**Sn**	**06 47 52.0**	**+2.2**
SZAC				AML	AML	06 47 52.4	
	0.2nm,0.4s						
SZAC				AML	AML	06 47 52.4	
	0.2nm,0.4s						
SZAC				AML	AML	06 47 56.0	
	0.2nm,0.3s						
SZAC				AML	AML	06 47 56.0	
	0.2nm,0.3s						
ASGA	**Asgata**	**3.45**	**89**	P	**Pn**	**06 47 18.9**	**+1.4**
CSS	**Mathiatis**	**3.52**	**86**	Sn	**Sn**	**06 48 00.0**	**+1.1**
CSS	**Mathiatis**	**3.52**	**86**	P	**Pn**	**06 47 19.8**	**+1.3**
GEM	**Giv'at Ha'Em**	**5.71**	**104**	Pn	Pn	06 47 44.9	-3.8
KZIT	**Kziot**	**5.95**	**129**	Pn	**Pn**	**06 47 53.1**	**+1.2**
KZI

KNK				Sn		**Sn**	**06 57 18.0**	**-1.6**
PMR	**Palmer**	**5.95**	**19**	Pn		**Pn**	**06 56 14.3**	**+1.5**
EYAK	**Cordova Ski Ar**	**6.00**	**38**			**Pn**	**06 56 14.7**	**+1.3**
SKT	**Skwentna**	**6.01**	**8**	Pn		**Pn**	**06 56 15.2**	**+1.6**
GHO	**Glory Hole Cre**	**6.16**	**20**			**Pn**	**06 56 14.9**	**-0.8**
RAGM	**Ragged Mountai**	**6.28**	**43**	Pn		**Pn**	**06 56 18.9**	**+1.5**
RAGM				Sn		**Sn**	**06 57 26.8**	**-1.5**
SML	**Sawmill**	**6.31**	**22**	Pn		**Pn**	**06 56 19.9**	**+2.2**
SCM	**Sheep Creek Mo**	**6.55**	**25**			**Pn**	**06 56 21.0**	**-0.2**
SCM				Sn		**Sn**	**06 57 34.6**	**-0.6**
PPLA	**Purkeypile**	**6.88**	**4**	Pn		**Pn**	**06 56 29.4**	**+3.6**
WAX	**Waxell Ridge**	**7.04**	**47**	Pn		**Pn**	**06 56 28.7**	**+0.9**
VRDI	**Verde Repeater**	**7.28**	**41**	Pn		**Pn**	**06 56 33.1**	**+1.9**
GLB	**Gilahina Butte**	**7.30**	**38**	Pn		**Pn**	**06 56 31.6**	**+0.2**
GLB				Sn		**Sn**	**06 57 50.1**	**-3.3**
YAH	**Yahtse**	**7.45**	**50**	Pn		**Pn**	**06 56 34.0**	**+0.4**
TRF	**Thorofare Moun**	**7.57**	**10**	Pn		**Pn**	**06 56 36.6**	**+1.4**
BALM	**Baldy**	**7.58**	**44**			**Pn**	**06 56 35.5**	**+0.2**
KTH	**Kantishna Hill**	**7.61**	**8**	Pn		**Pn**	**06 56 37.5**	**+1.8**
RND	**Reindeer**	**7.70**	**15**	Pn		**Pn**	**06 56 37.0**	**+0.2**
BARN	**Barnard Glacie**	**7.87**	**46**	Pn		**Pn**	**06 56 39.9**	**+0.6**
CTGM	**Chitina Glacie**	**7.94**	**47**	Pn		**Pn**	**06 56 40.8**	**+0.5**
PNL	**Peninsula**	**8.23**	**58**			**Pn**	**06 56 41.4**	**-2.6**
WRH	**Wood River Hil**	**8.82**	**15**	Pn		**Pn**	**06 56 53.2**	**+1.1**
HDA	**Harding Lake**	**8.94**	**18**	Pn		**Pn**	**06 56 55.2**	**+1.4**
CCB	**Clear Creek Bu**	**9.03**	**15**	Pn		**Pn**	**06 56 56.2**	**+1.2**
IL31		**9.29**	**17**	Pn		**Pn**	**06 57 00.5**	**+2.0**
ILAR	**Eielson Array**	**9.29**	**17**	Pn		**Pn**	**06 56 58.5**	**0.0**
	0.1nm,0.3s,baz=208,slow=13,SNR=7.2							
ILAR				Sn		**Sn**	**06 58 38.2**	**-4.0**
	0.1nm,0.3s,baz=214,slow=22,SNR=3.3							
YKA	**Yellowknife Ar**	**20.51**	**56**	P		Pn	06 59 28.4	+3.7
	0.5nm,0.7s,baz=270,slow=10,SNR=6.6							
H11N2	**WAKE ISLAND Hy**	**46.88**	**236**	T		T	07 53 31.5	
	baz=28							
H11N3	**WAKE ISLAND Hy**	**46.88**	**236**	T		T	07 53 31.9	
	baz=28							
H11N1	**WAKE ISLAND Hy**	**46.90**	**236**	T		T	07 53 32.7	
	baz=28							
H11S1	**WAKE ISLAND Hy**	**48.03**	**235**	T		T	07 54 57.7	
	baz=29,slow=75,SNR=32							
H11S2	**WAKE ISLAND Hy**	**48.04**	**235**	T		T	07 54 58.9	
	baz=29,slow=75,SNR=18							
H11S3	**WAKE ISLAND Hy**	**48.05**	**235**	T		T	07 54 59.4	
	baz=29,slow=75,SNR=13							
SONM	**Songino Array**	**57.05**	**308**	P		**P**	**07 04 31.7**	**+1.5**
	0.5nm,0.7s,baz=54,slow=7.5,SNR=3.6							

*THR **10** 06:59:27.6,28°.23N×51°.84E,h8km,ML3.9*
*IDC **10** 06:59:28.9±1.5,28°.31N×51°.72E,h0km,mb3.7/9, mb1 3.9/12,mb1mx3.7/41,mbtmp3.8/12,ML3.9/3,MS2.9/4, Ms1 2.9/4,ms1mx2.5/47,Error ellipse: s-maj=29.2km s-min=22.1km az=179.0*
*ISCJB **10** 06:59:29.5±0.3,28°.31N±0°.02×51°.79E±0°.03,h15km, mb3.6/9,MS2.9/2,Error ellipse: s-maj=4.8km s-min=2.6km az=146.3*
*TEH **10** 06:59:29.7,28°.29N×51°.78E,h17km,ML4.0*
*NEIC **10** 06:59:34.4±1.2,28°.33N±0°.06×51°.88E±0°.08,h42km±9km*
*OMAN **10** 06:59:36.0±1.8,28°.60N×52°.30E,h138km±39km,ml3.8/8, Error ellipse: s-maj=50.9km s-min=18.6km az=56.0*

ISC 10 06:59:31.1±0.6,**28°.34N**±0°.05×**51°.81E**±0°.04,**h15km,n76,** σ1**^{2}25**/82,**mb3.7**/11,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**1.44**	**1**	*e*Pg	**Pb**	**06 59 57.8**	**0.0**
IKAZ				IAMB	IAmb	07 00 22.9	
	comp=Z,29μm,0.4s						
SHI	**Shiraz**	**1.44**	**25**	*e*Pg	**Pb**	**06 59 57.9**	**+0.1**
ISRV	**Sarvestan**	**1.55**	**48**	*e*Pg	**Pg**	**07 00 00.3**	**-0.7**
ISRV				*e*Sg	**Sg**	**07 00 21.9**	**+0.8**
ISRV				IAMB	IAmb	07 00 36.7	
	comp=Z,17μm,0.9s						
JHRM	**Jahrom**	**1.57**	**84**	*e*Pn	**Pb**	**07 00 00.4**	**+0.5**
JHRM				IAMB	IAmb	07 00 35.9	
	comp=Z,0.0nm,0.5s						
KLNJ	**Kolanjah**	**2.67**	**356**	*e*Pn	**Pn**	**07 00 14.6**	**+0.7**
IRAM	**Ramesheh**	**3.49**	**8**	*e*Pn	**Pn**	**07 00 25.6**	**+0.4**
IBRJ	**Brojen**	**3.59**	**353**	*e*Pn	**Pn**	**07 00 27.4**	**+0.9**
IMEH	**Mehriz**	**3.90**	**38**	*e*Pn	**Pn**	**07 00 33.5**	**+2.8**
BNDS	**Bandar-Abbas**	**3.98**	**103**	*e*Pn	**Pn**	**07 00 30.4**	**-1.4**
BNDS	**Bandar-Abbas**	**3.98**	**103**	*e*Pn	**Pn**	**07 00 30.4**	**-1.4**
IGAR	**Gharneh**	**4.06**	**3**	*e*Pn	**Pn**	**07 00 33.8**	**+0.9**
NGRK	**Negar Kerman**	**4.51**	**72**	IAMB	IAmb	07 01 16.0	
	comp=Z,0.0nm,0.3s						
KHGB	**Koh Gabri**	**4.55**	**62**	IAMB	IAmb	07 02 06.2	
	comp=Z,0.0nm,0.9s						
IZEF	**Zefreh**	**4.56**	**6**	*e*Pn	**Pn**	**07 00 40.4**	**+0.5**
SHGR	**Shooshtar-Gavs**	**4.57**	**326**	*e*Pn	**Pn**	**07 00 40.4**	**+0.7**
SHGR	**Shooshtar-Gavs**	**4.57**	**326**	*e*Pn	**Pn**	**07 00 40.4**	**+0.7**
SHGR				eAML	AML	07 02 13.9	
	comp=N,94nm,0.4s						
IBAF	**Bafgh**	**4.60**	**44**	*e*Pn	**Pn**	**07 00 41.7**	**+1.4**
KRBR	**Kerman**	**4.63**	**68**	*e*Pn	**Pn**	**07 00 40.2**	**-0.7**
KRBR	**Kerman**	**4.63**	**68**	*e*Pn	**Pn**	**07 00 40.2**	**-0.7**
TVBK	**TV Kerman**	**4.63**	**68**	IAMB	IAmb	07 01 40.3	
	comp=Z,0.0nm,0.8s						
BANOM	**Banah**	**4.67**	**120**	P	**Pn**	**07 00 42.1**	**+0.9**
	SNR=19						
BANOM				S	**Sn**	**07 01 35.7**	**+0.5**
YZKH	**Yazd**	**4.70**	**30**	*e*Pn	**Pn**	**07 00 42.4**	**+0.7**
YZKH	**Yazd**	**4.70**	**30**	*e*Pn	**Pn**	**07 00 42.4**	**+0.7**
NAZ	**Nazwa, Dubai**	**4.80**	**133**	P	**Pn**	**07 00 44.5**	**+1.6**
ASUD	**Al Ashush, Dub**	**4.86**	**139**	P	**Pn**	**07 00 47.0**	**+3.2**
	SNR=7.7						
MDH	**Madha**	**5.03**	**126**	P	**Pn**	**07 00 47.1**	**+1.0**
MDH				S	**Sn**	**07 01 43.0**	**-0.9**
ANAR	**Anarak**	**5.11**	**18**	*e*Pn	**Pn**	**07 00 48.3**	**+1.0**
UOSS	**Minazif**	**5.19**	**130**	P	**Pn**	**07 00 49.1**	**+0.8**
	SNR=13						
UOSS	**Minazif**	**5.19**	**130**		**Pn**	**07 00 49.0**	**+0.7**
HATD	**Hatta, Dubai**	**5.22**	**131**	P	**Pn**	**07 00 51.4**	**+2.7**
HATD				S	**Sn**	**07 01 48.7**	**+0.1**
CHMN	**Cheshme madani**	**5.24**	**72**	*e*Pn	**Pn**	**07 00 50.3**	**+1.0**
CHMN				IAMB	IAmb	07 02 31.4	
	comp=Z,0.0nm,3.0s						
ASHO	**Ashiyiah**	**5.27**	**133**	P	**Pn**	**07 00 51.9**	**+2.4**
	SNR=14						
ASHO				S	**Sn**	**07 01 49.9**	**0.0**
KHMZ	**Khomeyn**	**5.61**	**344**	*e*Pn	**Pn**	**07 00 55.2**	**+0.9**
KHMZ	**Khomeyn**	**5.61**	**344**	*e*Pn	**Pn**	**07 00 55.2**	**+0.9**
ISFB	**Sefidab**	**6.01**	**3**	*e*Pn	**Pn**	**07 00 59.5**	**-0.1**
IKFM	**Kafar-mosalman**	**6.19**	**328**	*e*Pn	**Pn**	**07 01 02.8**	**+0.9**
IDOB	**Doab**	**6.26**	**331**	*e*Pn	**Pn**	**07 01 04.9**	**+1.7**
ASAO	**Ashtian**	**6.37**	**347**	*e*Pn	**Pn**	**07 01 05.5**	**+0.7**
ASAO	**Ashtian**	**6.37**	**347**	*e*Pn	**Pn**	**07 01 05.8**	**+1.1**
HSAM	**Samen**	**6.46**	**336**	*e*Pn	**Pn**	**07 01 07.3**	**+1.3**
ARQ	**Aragi**	**6.55**	**138**	P	**Pn**	**07 01 07.8**	**+0.8**
	SNR=6.8						
ARQ				S	**Sn**	**07 02 22.9**	**+1.5**
HAGD	**Aghdareh**	**6.85**	**341**	*e*Pn	**Pn**	**07 01 12.1**	**+0.8**
HOQ	**Hoqain**	**6.85**	**132**	P	**Pn**	**07 01 12.5**	**+1.3**
HOQ				S	**Sn**	**07 02 28.3**	**-0.7**
IKOM	**Komasi**	**6.88**	**329**	*e*Pn	**Pn**	**07 01 13.1**	**+1.5**
TNSJ	**Nastanj**	**6.96**	**35**	*e*Pn	**Pn**	**07 01 13.7**	**+1.1**
TKDS	**Koohdasht(Taba**	**6.96**	**40**	*e*Pn	**Pn**	**07 01 13.6**	**+0.9**
IANJ	**Anjilo**	**7.33**	**14**	*e*Pn	**Pn**	**07 01 18.2**	**+0.3**
BSY	**Bisya**	**7.40**	**138**	P	**Pn**	**07 01 19.8**	**+1.1**
	SNR=11						
RAYN	**Ar Rayn**	**7.43**	**231**	Pn	**Pn**	**07 01 20.9**	**+1.8**
RAYN					**Sn**	**07 02 41.4**	**-1.7**
IGHG	**Ghaleghazi**	**7.46**	**324**	*e*Pn	**Pn**	**07 01 20.3**	**+0.6**
SMDO	**Samad**	**7.70**	**132**	P	**Pn**	**07 01 24.1**	**+1.1**
	SNR=10						
SMDO				S	**Sn**	**07 02 49.8**	**-0.2**
ILIN	**Lien**	**7.75**	**329**	*e*Pn	**Pn**	**07 01 24.1**	**+0.5**
IDHR	**Dehrash**	**7.85**	**325**	*e*Pn	**Pn**	**07 01 25.0**	**+0.1**
WSAR	**Wadi Sarin**	**7.97**	**128**	P	**Pn**	**07 01 26.6**	**0.0**
	SNR=11						
WSAR	**Wadi Sarin**	**7.97**	**128**	Pn	**Pn**	**07 01 26.6**	**0.0**
	comp=Z,2.9nm,0.3s,baz=313,slow=10.0,SNR=23						
WSAR				Sn	**Sn**	**07 02 51.8**	**-4.8**
	comp=Z,0.3nm,0.3s,baz=68,slow=19,SNR=2.4						
WSAR				LR	LR	07 05 08.6	
	comp=Z,68nm,18.6s,baz=312,slow=42						
JMDO	**Jabal Madar**	**8.23**	**135**	P	**Pn**	**07 01 30.5**	**+0.5**
WBK	**Wadi Bani Khal**	**8.63**	**130**	P	**Pn**	**07 01 35.2**	**-0.3**
GEYT	**Alibeck**	**10.93**	**27**	Pn	**Pn**	**07 02 07.8**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=220,slow=22,SNR=3.0						
BR131	**Keskin Array S**	**18.82**	**312**	P	**Pn**	**07 03 51.4**	**+0.4**
BR131				IAmb	IAmb	07 03 53.0	
	comp=Z,4.4nm,0.8s						
BRTR	**Keskin Array B**	**18.82**	**312**	P	**Pn**	**07 03 51.4**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=135,slow=12,SNR=9.0						
BRTR				LR	LR	07 12 43.1	
	comp=Z,32nm,18.1s,baz=342,slow=42						
ELL	**Elmali**	**20.24**	**300**	P	**P**	**07 04 03.5**	**-2.5**
KK31	**Karatay Array**	**21.09**	**41**	P	**P**	**07 04 15.3**	**+0.3**
KK31				IAmb	IAmb	07 04 18.3	
	comp=Z,3.9nm,1.1s						
KKAR	**Karatay Array**	**21.09**	**41**	P	**P**	**07 04 15.1**	**+0.1**
KKAR				IAmb	IAmb	07 04 18.3	
	comp=Z,3.9nm,1.1s						
ARSB	**Arslanbob**	**21.61**	**48**	P	**P**	**07 04 21.6**	**+0.8**
ABKAR	**Akbulak array**	**21.80**	**14**	P	**P**	**07 04 23.1**	**+0.6**
AKTO	**Aktyubinsk**	**22.57**	**10**	P	**P**	**07 04 31.7**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=201,slow=14,SNR=3.9						
AAK	**Ala-Archa**	**23.25**	**46**	P	**P**	**07 04 40.6**	**+2.6**
	comp=Z,0.9nm,0.4s,baz=240,slow=16,SNR=3.9						
AKASG	**Malin Array Be**	**28.11**	**329**	P	**P**	**07 05 21.2**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=132,slow=7.1,SNR=3.2						
MKAR	**Makanchi Array**	**30.11**	**44**	P	**P**	**07 05 39.3**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=235,slow=4.3,SNR=3.2						
MKAR				LR	LR	07 19 41.9	
	comp=Z,30nm,18.8s,baz=282,slow=40						
ZALV	**Zalesovo Beam**	**35.13**	**34**	LR	LR	07 21 12.1	
	comp=Z,14nm,18.1s,baz=103,slow=37						
FINES	**FINESS Array B**	**37.28**	**340**	P	**P**	**07 06 42.1**	**0.0**
	comp=Z,1.5nm,0.5s,baz=141,slow=9.5,SNR=8.0						
NB2	**NORSAR Subarra**	**42.41**	**332**	P	**P**	**07 07 24.1**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=122,slow=8.6						
NOA	**NORSAR Array B**	**42.41**	**332**	P	**P**	**07 07 24.4**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=122,slow=8.3,SNR=4.9						
ARCES	**ARCESS Array B**	**43.95**	**347**	P	**P**	**07 07 37.5**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=156,slow=4.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**48.90**	**263**	P	**P**	**07 08 16.5**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=51,slow=6.8,SNR=5.5						
YKA	**Yellowknife Ar**	**88.83**	**354**	P	**P**	**07 12 25.0**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=14,slow=5.4,SNR=4.0						

JMA 10 07:11:07.5,35°.36N×136°.87E,h12km,M3.0,1C-1D Broadband fault plane solution: P waves. NP1: ϕ_s41.00000°,δ85.00000°,λ174.00000°. **NP2:** ϕ_s131.00000°,δ84.00000°,λ5.00000°. **Principal axes:** T Plg8.0000°, Azm356.0000°; N Plg82.0000°, Azm183.0000°; P Plg1.0000°, Azm86.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JICN	**Ichinomiyachia**	**0.06**	**201**	P	Pg	07 11 10.0	+0.1
JICN				S	Sg	07 11 11.8	+0.2
JYTA	**Yamagatataniai**	**0.26**	**335**	⇑P	Pg	07 11 13.0	+0.1
JYTA				S	Sg	07 11 16.4	-0.1
JAO	**Obara**	**0.33**	**106**	⇓P	Pg	07 11 14.1	-0.1
JAO				S	Sg	07 11 18.7	0.0
TSUJ	**Tsu 2**	**0.75**	**210**	P	Pg	07 11 21.8	-0.2
TSUJ				S	Sg	07 11 31.6	-0.1
JIE	**Ise**	**0.97**	**188**	P	Pg	07 11 25.4	-0.9
JIE				*e*S	Sg	07 11 38.9	-0.1
MAT	**Matsushiro**	**1.60**	**42**	P	Pb	07 11 36.6	-0.5
MAT				S	Sb	07 11 57.4	+0.1

*IDC **10** 07:37:01.2±1.7,15°.58N×95°.97E,h0km,mb3.7/6,mb1 3.9/8, mb1mx3.6/44,mbtmp3.7/8,ML4.6/1 Error ellipse: s-maj=53.9km s-min=19.5km az=61.0*
*ISCJB **10** 07:37:08.3±0.8,1°.99N±0°.05×96°.68E±0°.07,h47km±7km, mb3.7/6,Error ellipse: s-maj=12.3km s-min=7.8km az=149.1*
*DJA **10** 07:37:08.6±1.5,2°.N±11°.×97°.7E±1°.2,h34km±20km,M3.2/3, MLv3.2/3*

ISC 10 07:37:08.5±1.3,1°.**92N**±0°.08×**96°.53E**±0°.10,**h37**km±2km, **n18,**σ2**^{2}96**/16,**mb3.8**/6,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.52**	**338**	P	**Pn**	**07 37 19.6**	**+0.1**
SNSI				S	**Sn**	**07 37 28.5**	**+1.4**
GSI	**Gunungsitoli**	**1.22**	**120**	P	**Pn**	**07 37 27.8**	**-1.2**
GSI				S	**Sn**	**07 37 43.1**	**-1.1**
TPTI		**1.48**	**26**	P	**Pn**	**07 37 31.0**	**-1.6**
TPTI				S	**Sn**	**07 37 47.9**	**-2.8**
KCSI	**Kotacane, Aceh**	**2.02**	**38**	P	**Pn**	**07 37 38.4**	**-1.6**
KCSI				S	**Sn**	**07 38 01.0**	**-3.0**
PSI	**Prapat**	**2.55**	**70**	Pn	Pn	07 37 54.2	+6.7
	1.0nm,0.3s,baz=219,slow=12,SNR=4.3						
PSI				Sn	**Sn**	**07 38 25.9**	**+8.6**
	2.0nm,0.3s,baz=248,slow=19,SNR=5.7						
CMAR	**Chiang Mai Arr**	**16.60**	**8**	Pn	**Pn**	**07 40 59.8**	**+1.2**
	0.8nm,0.3s,baz=194,slow=11,SNR=6.3						
H08S2	**Diego Garcia H**	**25.79**	**248**	T	T	08 09 24.9	
	baz=69,slow=75,SNR=85						
H08S3	**Diego Garcia H**	**25.79**	**248**	T	T	08 09 28.9	
	baz=69,slow=75,SNR=68						
H08S1	**Diego Garcia H**	**25.81**	**248**	T	T	08 09 28.2	
	baz=69,slow=75,SNR=84						
H01W3	**Cape Leeuwin H**	**40.17**	**157**	T	T	08 27 32.1	
	baz=333,slow=76,SNR=4.7						
H01W2	**Cape Leeuwin H**	**40.18**	**157**	T	T	08 27 31.9	
	baz=333,slow=76,SNR=4.8						
H01W1	**Cape Leeuwin H**	**40.18**	**157**	T	T	08 27 26.4	
	baz=333,slow=76,SNR=5.6						
WRA	**Warramunga Arr**	**42.99**	**122**	P	**P**	**07 45 04.5**	**-0.1**
	0.5nm,0.6s,baz=299,slow=9.3,SNR=6.4						
ASAR	**Alice Springs**	**44.37**	**127**	P	**P**	**07 45 16.2**	**+0.5**
	0.3nm,0.8s,baz=301,slow=7.4,SNR=3.3						
MKAR	**Makanchi Array**	**46.38**	**347**	P	**P**	**07 45 32.1**	**+0.8**
	0.9nm,0.6s,baz=167,slow=6.2,SNR=5.8						
SONM	**Songino Array**	**46.52**	**9**	P	**P**	**07 45 32.0**	**-0.5**
	0.3nm,0.3s,baz=191,slow=10,SNR=3.1						
ZALV	**Zalesovo Beam**	**52.74**	**351**	P	**P**	**07 46 20.2**	**+0.6**
	0.6nm,0.4s,baz=188,slow=9.5,SNR=2.5						
STKA	**Stephens Creek**	**54.34**	**132**	P	**P**	**07 46 30.6**	**-1.1**
	1.8nm,0.7s,baz=324,slow=14,SNR=3.6						

VIE 10 07:47:22.0±0.7,**47°.35N**×**11°.00E,h7**km±8km,**ml0.9**/1, **Error ellipse: s-maj=15.3km s-min=1.3km az=41.0 7 km NW of Telfs,Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOTA	**Moosalm**	**0.07**	**94**	*i* Pg	Pg	07 47 24.2	+0.2
	1.6nm,0.1s						
MOTA				*i* Sg	Sg	07 47 26.0	+0.5
	6.2nm,0.1s						
SQTA	**Sankt Quirin**	**0.19**	**132**	*i* Pg	Pg	07 47 26.1	+0.1
	2.0nm,0.1s						
SQTA				*i* Sg	Sg	07 47 29.0	+0.4
	2.8nm,0.1s						
RETA	**Reutte**	**0.21**	**311**	*e*Pg	Pg	07 47 26.5	+0.2
RETA				*i* Sg	Sg	07 47 29.5	+0.3
	2.3nm,0.2s						

*ISCJB **10** 07:47:53.1±0.3,51°.55N±0°.02×16°.15E±0°.02,h0km,Error ellipse: s-maj=2.3km s-min=2.0km az=32.3*
*IDC **10** 07:47:57.0±0.9,51°.50N×16°.10E,h0km,mb1 3.7/4, mb1mx3.4/34,mbtmp3.5/4,ML3.3/4,Error ellipse: s-maj=14.8km s-min=7.9km az=133.0*
*BGR **10** 07:47:57.3±0.6,51°.45N×16°.12E,h1km,ML3.5/14,Error ellipse: s-maj=10.0km s-min=4.4km az=29.0*
*UPP **10** 07:47:58.1±3.2,51°.69N×15°.48E,h0km,ML2.2,Suspected explosion*
*LDG **10** 07:47:58.1±0.4,51°.28N×16°.12E,h1km,Ml3.7/14,Error ellipse: s-maj=9.1km s-min=4.4km az=12.0,Suspected Mining induced.*
*VIE **10** 07:47:59.4±0.7,51°.25N×16°.05E,h0km,mb2.9/12, ml3.2/12,Error ellipse: s-maj=6.2km s-min=4.6km az=172.0 69 km WNW of Wroclaw Suspected Mining induced.*

ISC 10 07:47:52.9±0.7,**51°.58N**±0°.03×**16°.07E**±0°.02,**h0km,n92,** σ2**^{2}48**/170,**2C-3D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**169**	*e*Pg	**Pb**	**07 48 09.4**	**+0.4**
KSP	**Ksiaz**	**0.75**	**169**	*i* Pg	**Pb**	**07 48 09.3**	**+0.4**
KSP				*i* Pg	**Pb**	**07 48 09.3**	**+0.4**
KSP				*e*Sg	**Sg**	**07 48 18.6**	**+1.5**
KSP				*e*Sg	**Sg**	**07 48 18.6**	**+1.5**
CHVC	**Chvalec**	**0.99**	**181**	*e*PG	**Pb**	**07 48 14.0**	**+1.0**
CHVC				*e*SG	**Sg**	**07 48 26.4**	**+1.6**
	comp=Z,242nm,0.5s						
UPC	**Upice**	**1.08**	**182**	*e*PG	**Pb**	**07 48 15.3**	**+0.9**
UPC				*e*SG	**Sg**	**07 48 28.8**	**+1.4**
	comp=Z,259nm,0.4s						
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*Pg	Pn	**07 48 18.1**	**+0.5**
DPC				*e*Sg	**Sg**	**07 48 33.0**	**+0.2**
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*PG	**Pb**	**07 48 18.0**	**+0.7**
DPC				*e*SG	**Sg**	**07 48 33.6**	**+0.8**
	comp=Z,232nm,0.8s						
PVCC	**Panska Ves**	**1.42**	**223**	*e*PG	**Pb**	**07 48 22.3**	**+2.1**
PVCC				*e*SG	**Sg**	**07 48 41.7**	**+2.4**
	comp=Z,713nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**243**	PN	**Pg**	**07 48 23.4**	**+1.5**
BRG				PG	**Pb**	**07 48 24.9**	**+3.0**
BRG				SG	**Sn**	**07 48 45.5**	**+3.8**
	480nm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**243**	*e*Pn	**Pg**	**07 48 23.3**	**+1.4**
KRLC	**Kraliky**	**1.57**	**163**	*e*PG	**Pb**	**07 48 23.3**	**+0.4**
KRLC				*e*SG	**Sn**	**07 48 43.8**	**+0.6**
	comp=Z,164nm,0.5s						
FBE	**Freiberg**	**1.83**	**250**	*e*Pn	**Pg**	**07 48 30.4**	**+2.4**
FBE				*e*Sg	**Sg**	**07 48 55.2**	**+3.5**
PRA	**Prague**	**1.84**	**215**	*e*PN	**Pb**	**07 48 27.7**	**+0.4**
PRA				*e*PG	**Pg**	**07 48 28.6**	**+0.5**
PRA				*e*SG	**Sg**	**07 48 53.1**	**+1.3**
	comp=Z,145nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.86**	**207**	*e*PN	**Pb**	**07 48 27.9**	**+0.2**
GOPC				*e*PG	**Pg**	**07 48 29.5**	**+1.0**
GOPC				*e*SG	**Sg**	**07 48 53.6**	**+1.0**
	comp=Z,147nm,0.9s						
PRU	**Pruhonice**	**1.87**	**212**	*e*PN	**Pb**	**07 48 28.4**	**+0.5**
PRU				*e*PG	**Pg**	**07 48 29.3**	**+0.6**
PRU				*e*SG	**Sg**	**07 48 53.8**	**+0.9**
	comp=Z,213nm,0.3s						
CLL	**Collm**	**1.94**	**263**	*e*Pn	**Pb**	**07 48 29.0**	**-0.1**
CLL				*e*Pg	**Pg**	**07 48 33.0**	**+2.9**
CLL				*i* Sg	**Sg**	**07 48 58.9**	**+3.7**
	comp=Z,168nm,0.7s						
CLL	**Collm**	**1.94**	**263**	*e*Pn	**Pb**	**07 48 29.4**	**+0.2**
RAC	**Raciborz**	**2.02**	**137**	*e*Pg	**Pg**	**07 48 33.4**	**+1.9**
RAC				*e*Pg	**Pg**	**07 48 33.4**	**+1.9**
RAC				*e*Sg	**Sg**	**07 48 58.9**	**+1.3**
RAC				*e*Sg	**Sg**	**07 48 58.9**	**+1.3**
MORC	**Moravsky Berou**	**2.04**	**152**	*e*Pn	Pn	**07 48 29.5**	**+1.1**
MORC	**Moravsky Berou**	**2.04**	**152**	⇓P	Pn	**07 48 29.5**	**+1.1**
MORC				⇑S	**Sg**	**07 48 60.0**	**+1.7**
MORC	**Moravsky Berou**	**2.04**	**152**	*e*PN	**Pb**	**07 48 29.5**	**+1.1**
MORC				*e*SG	**Sb**	**07 48 57.0**	**+0.4**
OKC	**Ostrava-Krasne**	**2.19**	**142**	*e*Sg	**Sb**	**07 49 01.8**	**+0.8**
OKC	**Ostrava-Krasne**	**2.19**	**142**	*e*PG	**Pg**	**07 48 34.9**	**+0.1**
OKC				*e*SG	**Sg**	**07 49 02.9**	**-0.3**
	comp=Z,108nm,0.8s						
VRAC	**Vranov**	**2.30**	**171**	⇑P	Pn	**07 48 34.0**	**+1.9**
VRAC				⇓S	**Sg**	**07 49 06.6**	**-0.2**
VRAC	**Vranov**	**2.30**	**171**	*e*PN	Pn	**07 48 34.0**	**+1.9**
VRAC				*e*SG	**Sb**	**07 49 06.1**	**+1.9**
PBCC	**Pribram**	**2.31**	**216**	*e*PN	Pn	**07 48 34.4**	**+2.1**
PBCC				*e*PG	**Pg**	**07 48 37.9**	**+0.7**
PBCC				*e*SG	**Sg**	**07 49 08.7**	**+1.5**
	comp=Z,30nm,0.4s						
TREC	**Trest**	**2.32**	**189**	*e*SG	**Sg**	**07 49 08.0**	**+0.6**
	comp=Z,88nm,0.5s						
KRUC	**Moravsky**	**2.53**	**175**	*e*PN	Pn	**07 48 37.7**	**+2.5**
KRUC				*e*SG	**Sb**	**07 49 12.7**	**+1.8**
TANN	**Tannenbergstha**	**2.56**	**244**	*e*PN	**Pb**	**07 48 38.3**	**-1.4**
TANN				*e*

VSTU	**Vaestervik**	**6.10**	**2**	P		**Pn**	**07 49 26.6**	**+2.4**
VSTU				S		**Sn**	**07 50 32.3**	**-2.3**
CDF	**Champ du Feu**	**6.50**	**244**	*e*Pn		**Pn**	**07 49 32.8**	**+3.0**
CDF	**Champ du Feu**	**6.50**	**244**	*e*Pg		**Pg**	**07 49 59.4**	**+2.1**
CDF				*e*Sn		**Sn**	**07 50 42.8**	**-1.8**
CDF				*e*Sg		**Sg**	**07 51 17.7**	**-3.8**
	comp=Z,32nm,0.7s							
VIKU	**Vikbolandet**	**6.95**	**3**	P		**Pn**	**07 49 38.2**	**+2.4**
HINF	**Hinteralfeld**	**7.07**	**241**	*e*Pn		**Pn**	**07 49 40.7**	**+3.1**
HINF				*e*Sn		**Sn**	**07 50 52.3**	**-6.3**
HINF				*e*Sg		**Sg**	**07 51 35.0**	**-4.7**
	comp=Z,30nm,0.8s							
BURAR	**Bucovina Array**	**7.15**	**120**	⇓P		**Pn**	**07 49 40.6**	**+1.9**
HAU	**Haudompre**	**7.24**	**244**	*e*Pn		**Pn**	**07 49 43.3**	**+3.4**
HAU	**Haudompre**	**7.24**	**244**	*e*Pg		**Pg**	**07 50 12.7**	**+1.2**
HAU				*e*Sn		**Sn**	**07 50 59.7**	**-3.1**
HAU				*e*Sg		**Sg**	**07 51 41.3**	**-3.9**
	comp=Z,33nm,0.8s							
GIVF	**Givet**	**7.28**	**263**	*e*Pg		**Pg**	**07 50 12.9**	**+0.7**
GIVF				*e*Sg		**Sg**	**07 51 45.8**	**-0.6**
	comp=Z,28nm,0.9s							
PAGF	**Fort de Pagny**	**7.32**	**250**	*e*Pg		**Pg**	**07 50 12.6**	**-0.4**
PAGF				*e*Sn		**Sn**	**07 51 01.1**	**-3.5**
PAGF				*e*Sg		**Sg**	**07 51 44.6**	**-3.1**
	comp=Z,11nm,0.5s							
BAIF	**Baives**	**7.67**	**263**	*e*Pg		**Pg**	**07 50 21.5**	**+1.8**
BAIF				*e*Sg		**Sg**	**07 51 57.9**	**-1.1**
	comp=Z,1.9nm,0.2s							
SFTF	**Sexfontaines**	**7.88**	**249**	*e*Pg		**Pg**	**07 50 24.9**	**+1.0**
SFTF				*e*Sg		**Sg**	**07 52 01.6**	**-4.4**
	comp=Z,12nm,0.6s,baz=70							
CABF	**La Chapelle**	**8.22**	**237**	*e*Pn		**Pn**	**07 49 57.3**	**+3.8**
CABF	**La Chapelle**	**8.22**	**237**	*e*Pg		**Pg**	**07 50 30.0**	**-0.3**
CABF				*e*Sn		**Sn**	**07 51 21.2**	**-5.9**
CABF				*e*Sg		**Sg**	**07 52 10.2**	**-6.6**
	comp=Z,54nm,1.2s							
AKASG	**Malin Array Be**	**8.32**	**91**	Pn		**Pn**	**07 49 54.9**	**+0.2**
	comp=Z,2.1nm,0.3s,baz=277,slow=12,SNR=10							
AKASG				Sn		**Sn**	**07 51 24.8**	**-4.6**
	comp=Z,1.4nm,0.3s,baz=266,slow=26,SNR=5.6							
AKASG				Lg		Lg	07 52 23.9	
	comp=Z,0.6nm,0.3s,baz=277,slow=25,SNR=4.1							
LPL	**La Plagne**	**8.67**	**229**	*e*Pg		**Pg**	**07 50 35.8**	**-3.1**
LPL				*e*Sg		Sg	07 52 21.9	-9.2
	comp=Z,12nm,1.0s							
LPG	**La Plagne**	**8.67**	**229**	*e*Pn		**Pn**	**07 50 02.1**	**+2.3**
LPG	**La Plagne**	**8.67**	**229**	*e*Pg		**Pg**	**07 50 37.7**	**-1.3**
LPG				*e*Sn		**Sn**	**07 51 31.1**	**-7.3**
LPG				*e*Sg		**Sg**	**07 52 25.0**	**-6.3**
	comp=Z,34nm,1.2s							
LOR	**Lormes**	**9.05**	**246**	*e*Pn		**Pn**	**07 50 08.8**	**+4.0**
	baz=66							
LOR	**Lormes**	**9.05**	**246**	*e*Pg		Pn	07 50 45.0	+40
	baz=68							
LOR				*e*Sn		**Sn**	**07 51 42.0**	**-5.3**
LOR				*e*Sg			07 52 37.7	
	comp=Z,6.7nm,0.7s							
MBDF	**Montbardon**	**9.25**	**226**	*e*Pn		**Pn**	**07 50 10.4**	**+2.8**
MBDF				*e*Sn		Sn	07 51 43.9	-8.5
MBDF				*e*Sg			07 52 40.4	
	comp=Z,12nm,1.0s							
SSF	**Saint Saulge**	**9.37**	**246**	*e*Pg		Pn	07 50 51.8	+43
SSF				*e*Sg		Sn	07 52 48.3	+53
	comp=Z,5.3nm,0.5s							
FINES	**FINESS Array B**	**11.31**	**25**	Pn		**Pn**	**07 50 36.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=198,slow=12,SNR=6.6							
FINES				Sn		**Sn**	**07 52 36.0**	**-6.5**
	comp=Z,0.5nm,0.3s,baz=213,slow=22,SNR=5.3							
ARCES	**ARCESS Array B**	**18.56**	**10**	Pn		**Pn**	**07 52 11.6**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=192,slow=14,SNR=7.2							

*ISCJB **10** 08:13:35.8±0.5, 13°.79N±0°.06×144°.35E±0°.10, h144km, mb3.7/5, Error ellipse: s-maj=13.8km s-min=6.8km az=19.0*
*IDC **10** 08:13:38.0±1.2, 13°.68N×144°.20E, h137km±45km, mb3.5/5, mb1 3.7/5, mb1mx3.3/41, mbtmp4.0/5, Error ellipse: s-maj=146.4km s-min=17.9km az=80.0*
*NEIC **10** 08:13:37.7±0.7, 13°.81N±0°.08×144°.6E±0°.1, h154km±6km, mb4.2/10*

ISC 10 08:13:37.3±0.7, 13°.84N±0°.07×144°.4E±0°.1, h144km, n20, σ1§17/23, mb4.0/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**0.50**	**120**	P		**Pn**	**08 13 59.3**	**+1.4**
	681nm,0.3s,baz=300,slow=1.2,SNR=273							
GUMO				S		**Sn**	**08 14 15.7**	**+2.1**
	409nm,0.3s,baz=18,slow=24,SNR=7.2							
GUMO	**Guam**	**0.50**	**120**			**Pn**	**08 13 59.2**	**+1.3**
GUMO				Sn		**Sn**	**08 14 15.3**	**+1.7**
ANA2	**Anatahan**	**2.78**	**26**	Pn		**Pn**	**08 14 21.0**	**-0.7**
SARN	**Sarigan**	**3.13**	**25**	Pn		**Pn**	**08 14 26.1**	**0.0**
SARN				Sn		**Sn**	**08 15 05.7**	**+1.8**
PATS	**Pohnpei**	**15.33**	**116**			**Pn**	**08 17 06.0**	**-0.2**
FAKI	**Fak Fak**	**20.57**	**217**	P		**P**	**08 18 05.2**	**+0.3**
FAKI				IAmb		IAmb	08 18 09.9	
	comp=Z,21nm,0.7s							
CTAO	**Charters Tower**	**33.76**	**177**	P		**P**	**08 20 04.3**	**-1.1**
WB2	**Warramunga Arr**	**35.00**	**197**	P		**P**	**08 20 15.8**	**-0.3**
WB2				IAmb		IAmb	08 20 16.3	
	comp=Z,5.9nm,0.8s							
WRA	**Warramunga Arr**	**35.01**	**197**	P		**P**	**08 20 16.1**	**0.0**
	comp=Z,2.5nm,0.4s,baz=12,slow=8.6,SNR=13							
FITZ	**Fitzroy Crossi**	**36.75**	**211**	P		**P**	**08 20 31.0**	**0.0**
AS31	**Alice Springs**	**38.67**	**196**	P		**P**	**08 20 46.6**	**-0.5**
ASAR	**Alice Springs**	**38.67**	**196**	P		**P**	**08 20 46.7**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=17,slow=6.6,SNR=13							
STKA	**Stephens Creek**	**45.54**	**183**	P		**P**	**08 21 41.1**	**-1.5**
	comp=Z,1.8nm,0.4s,baz=359,slow=7.5,SNR=4.6							
STKA	**Stephens Creek**	**45.54**	**183**	P		**P**	**08 21 41.5**	**-1.1**
SONM	**Songino Array**	**46.28**	**325**	P		**P**	**08 21 50.4**	**+2.0**
	comp=Z,0.2nm,0.4s,baz=123,slow=5.3,SNR=2.8							
BBOO	**Buckleboo**	**47.07**	**190**	P		**P**	**08 21 53.9**	**-0.7**
BBOO				IAmb		IAmb	08 21 54.8	
	comp=Z,11nm,0.8s							
TOO	**Toolangi**	**51.15**	**179**	P		**P**	**08 22 24.9**	**-0.6**
TOO				IAmb		IAmb	08 22 34.4	
	comp=Z,3.4nm,0.9s							
MK31	**Makanchi Array**	**61.01**	**316**	P		**P**	**08 23 35.6**	**0.0**
MK31				IAmb		IAmb	08 23 39.9	
	comp=Z,1.8nm,1.1s							
MKAR	**Makanchi Array**	**61.01**	**316**	P		**P**	**08 23 36.0**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=96,slow=8.6,SNR=4.3							
RIDG	**Independent Ri**	**69.18**	**27**	P		**P**	**08 24 26.3**	**-1.7**
RIDG				IAmb		IAmb	08 24 33.7	
	comp=Z,2.4nm,1.2s							

*ISCJB **10** 08:14:02.3±0.3, 8°.26S±0°.05×158°.56E±0°.05, h127km, mb4.1/14, Error ellipse: s-maj=7.5km s-min=6.7km az=136.3*
*NEIC **10** 08:14:03.3±1.6, 8°.29S±0°.09×158°.61E±0°.04, h127km±6km, mb4.4/28*
*IDC **10** 08:14:03.9±0.6, 8°.13S×158°.55E, h118km±6km, mb4.0/14, mb1 4.2/17, mb1mx4.0/38, mbtmp4.3/17, MS3.0/1, Ms1 3.0/1, ms1mx2.5/20, Error ellipse: s-maj=13.3km s-min=9.0km az=36.0*

ISC 10 08:14:03.9±0.4, 8°.22S±0°.07×158°.60E±0°.07, h127km, n59, σ1§23/60, mb4.3/27, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.79**	**132**	P		**Pn**	**08 14 35.4**	**+0.3**
	70nm,0.3s,baz=221,slow=5.2,SNR=13							
HNR				S		**Sn**	**08 15 00.8**	**+1.7**
	750nm,0.3s,baz=213,slow=20,SNR=23							
HNR	**Honiara**	**1.79**	**132**	*i* P		**Pn**	**08 14 36.0**	**+0.8**
HNR	**Honiara**	**1.79**	**132**			**Pn**	**08 14 34.4**	**-0.8**
HNR						**Sn**	**08 14 57.3**	**-1.8**
KRVT	**Keravat (AS076**	**7.61**	**300**	S		**Sn**	**08 17 18.2**	**+1.5**
	14nm,0.3s,baz=232,slow=6.9,SNR=6.7							
PMG	**Port Moresby**	**11.37**	**263**	P		**Pn**	**08 16 44.3**	**+1.7**
	1.9nm,0.3s,baz=32,slow=10.0,SNR=3.9							
PMG	**Port Moresby**	**11.37**	**263**			**Pn**	**08 16 42.2**	**-0.5**
COEN	**Coen**	**16.18**	**248**			**P**	**08 17 44.0**	**-0.9**
CTA	**Charters Tower**	**16.80**	**224**	P		**P**	**08 17 53.7**	**+2.0**
	0.3nm,0.3s,baz=45,slow=17,SNR=3.6							
EIDS	**Eidsvold**	**18.50**	**202**	P		**P**	**08 18 09.5**	**-0.9**
EIDS				IAmb		IAmb	08 18 14.5	
	comp=Z,16nm,0.8s							
JAY	**Jayapura**	**18.69**	**287**	P		**P**	**08 18 12.7**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=169,slow=15,SNR=5.3							
ARMA	**Armidale**	**23.03**	**196**	P		**P**	**08 18 55.6**	**-2.6**
ARMA				IAmb		IAmb	08 19 01.6	
	comp=Z,24nm,1.0s							
WR0	**Warramunga Arr**	**26.05**	**241**	P		**P**	**08 19 24.4**	**-1.3**
WR0				IAmb		IAmb	08 19 26.6	
	comp=Z,9.0nm,1.1s							
WRAB	**Tennant Creek**	**26.21**	**241**	P		**P**	**08 19 25.3**	**-1.7**
WB2	**Warramunga Arr**	**26.21**	**241**	P		**P**	**08 19 26.1**	**-1.0**
WRA	**Warramunga Arr**	**26.22**	**241**	P		**P**	**08 19 27.2**	**+0.1**
	comp=Z,5.0nm,0.7s,baz=66,slow=8.8,SNR=33							
WRA				pP		**pP**	**08 19 54.5**	**+0.2**
	comp=Z,3.4nm,0.7s,baz=64,slow=9.3,SNR=5.4							
WRA				LR		LR	08 30 06.6	
	comp=Z,30nm,18.2s,baz=75,slow=37							
H11S3	**WAKE ISLAND Hy 27.71**	**17**		T		T	08 48 05.6	
	baz=198,slow=76,SNR=352							
H11S2	**WAKE ISLAND Hy 27.71**	**17**		T		T	08 48 10.0	
	baz=198,slow=76,SNR=255							
H11S1	**WAKE ISLAND Hy 27.73**	**17**		T		T	08 48 08.5	
	baz=198,slow=76,SNR=282							
AS31	**Alice Springs**	**28.21**	**234**	P		**P**	**08 19 43.8**	**-1.1**
ASAR	**Alice Springs**	**28.21**	**234**	P		**P**	**08 19 44.5**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=64,slow=9.1,SNR=26							
ASAR				pP		**pP**	**08 20 12.5**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=58,slow=10,SNR=3.1							
STKA	**Stephens Creek**	**28.37**	**212**	P		**P**	**08 19 47.9**	**+1.7**
	comp=Z,2.5nm,0.5s,baz=47,slow=16,SNR=7.2							
STKA	**Stephens Creek**	**28.37**	**212**	P		**P**	**08 19 46.0**	**-0.2**
H11N1	**WAKE ISLAND Hy 28.93**	**16**		T		T	08 50 04.3	
	baz=196,slow=76,SNR=112							
H11N3	**WAKE ISLAND Hy 28.94**	**16**		T		T	08 49 50.9	
	baz=196,slow=76,SNR=10							
H11N2	**WAKE ISLAND Hy 28.95**	**16**		T		T	08 50 09.4	
	baz=196,slow=76,SNR=95							
KNRA	**Kununurra**	**30.09**	**253**	P		**P**	**08 20 00.2**	**-1.5**
KNRA				IAmb		IAmb	08 20 02.3	
	comp=Z,10nm,0.9s							
TOO	**Toolangi**	**31.55**	**200**	P		**P**	**08 20 13.8**	**-0.4**
RPZ	**Rata Peaks**	**37.00**	**165**	P		**P**	**08 21 02.4**	**+1.3**
	comp=Z,7.2nm,0.6s,baz=23,slow=2.7,SNR=5.1							
RPZ	**Rata Peaks**	**37.00**	**165**	P		**P**	**08 20 59.4**	**-1.7**
JAGI	**Jajag, Banyuwa**	**43.96**	**266**	P		**P**	**08 21 56.6**	**-2.3**
NWAO	**Narrogin (SRO)**	**45.45**	**231**	P		**P**	**08 22 11.1**	**+0.8**
NWAO				IAmb		IAmb	08 22 12.5	
	comp=Z,12nm,1.1s							
JOW	**Kunigami**	**45.60**	**321**	P		**P**	**08 22 12.2**	**+0.7**
USRK	**Ussuriysk Ar.**	**57.46**	**338**	P		**P**	**08 23 39.0**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=120,slow=8.6,SNR=4.6							
CMAR	**Chiang Mai Arr**	**64.54**	**295**	P		**P**	**08 24 28.6**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=116,slow=6.1,SNR=4.5							
CMAR				pP		**pP**	**08 24 57.0**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=124,slow=5.2,SNR=1.6							
HIA	**Hailar**	**66.57**	**333**	P		**P**	**08 24 40.9**	**+0.6**
HIA				IAmb		IAmb	08 24 47.5	
	comp=Z,3.6nm,0.8s							
VNDA	**Vanda**	**69.29**	**179**	P		**P**	**08 24 58.9**	**+1.9**
	comp=Z,3.1nm,0.9s,baz=333,slow=7.2,SNR=6.5							
VNDA				pP		**pP**	**08 25 28.2**	**+0.5**
	comp=Z,2.9nm,0.9s,baz=322,slow=10,SNR=4.0							
SONM	**Songino Array**	**72.32**	**326**	P		**P**	**08 25 17.4**	**+1.6**
	comp=Z,1.8nm,0.8s,baz=141,slow=5.7,SNR=7.5							
SHL	**Shillong**	**73.00**	**300**	P		**P**	**08 25 19.5**	**-0.9**
LSA	**Lhasa**	**74.92**	**304**	P		**P**	**08 25 32.1**	**+0.3**
LSA				IAmb		IAmb	08 25 33.6	
	comp=Z,5.4nm,1.0s							
SII	**Sitkinak Islan**	**75.28**	**25**	P		**P**	**08 25 31.2**	**-1.6**
BILL	**Bilibino**	**76.26**	**3**	P		**P**	**08 25 37.9**	**-0.2**
QSPA	**South Pole Qui**	**81.77**	**180**	P		**P**	**08 26 08.2**	**-0.2**
QSPA				IAmb		IAmb	08 26 14.7	
	comp=Z,5.2nm,1.1s							
MCK	**McKinley**	**81.88**	**21**	P		**P**	**08 26 08.6**	**-0.3**
MCK				IAmb		IAmb	08 26 11.7	
	comp=Z,7.3nm,1.0s							
WMQ	**Urumqi**	**82.16**	**316**	P		**P**	**08 26 10.6**	**-0.2**
IL31		**83.22**	**21**	P		**P**	**08 26 14.3**	**-1.4**
IL31				IAmb		IAmb	08 26 17.4	
	comp=Z,3.4nm,1.0s							
ILAR	**Eielson Array**	**83.22**	**21**	P		**P**	**08 26 16.1**	**+0.3**
	comp=Z,2.0nm,1.0s,baz=253,slow=5.2,SNR=13							
ILAR				pP		**pP**	**08 26 45.0**	**-3.0**
	comp=Z,1.2nm,0.9s,baz=266,slow=5.1,SNR=4.0							
SCRK	**Sand Creek**	**83.81**	**22**	P		**P**	**08 26 17.9**	**-1.1**
SCRK				IAmb		IAmb	08 26 21.3	
	comp=Z,4.8nm,1.0s							
EGAK	**Eagle**	**85.28**	**22**	P		**P**	**08 26 25.1**	**-1.1**
EGAK				IAmb		IAmb	08 26 29.5	
	comp=Z,4.6nm,1.1s							
MK31	**Makanchi Array**	**86.69**	**318**	P		**P**	**08 26 33.0**	**-0.5**
MK31				IAmb		IAmb	08 26 34.5	
	comp=Z,4.3nm,0.8s							
MKAR	**Makanchi Array**	**86.69**	**318**	P		**P**	**08 26 34.1**	**+0.6**
	comp=Z,3.9nm,0.5s,baz=102,slow=5.6,SNR=23							
MAKZ	**Makanchi**	**86.90**	**318**	P		**P**	**08 26 33.9**	**-0.7**
ZALV	**Zalesovo Beam**	**87.20**	**325**	P		**P**	**08 26 35.5**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=101,slow=4.7,SNR=3.1							
NVAR	**Mina Array Bea**	**89.68**	**51**	P		**P**	**08 26 50.8**	**+2.7**
	comp=Z,1.5nm,0.9s,baz=232,slow=7.3,SNR=6.8							
NRN	**Naryn**	**89.87**	**312**	P		**P**	**08 26 48.7**	**-0.4**
NRN				IAmb		IAmb	08 26 50.2	
	comp=Z,3.2nm,1.1s							
YKA	**Yellowknife Ar**	**95.74**	**28**	P		**P**	**08 27 16.1**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=261,slow=4.8,SNR=9.9							
PDAR	**Pinedale Array**	**96.86**	**48**	P		**P**	**08 27 22.3**	**+1.2**
	comp=Z,0.4nm,0.9s,baz=160,slow=2.9,SNR=2.5							
BDFB	**Brasilia**	**144.54**	**132**	PKP		**PKPdf**	**08 33 25.7**	**-0.8**
	comp=Z,1.5nm,0.3s,baz=193,slow=7.3,SNR=5.0							
BDFB	**Brasilia**	**144.54**	**132**			**PKPdf**	**08 33 25.6**	**-0.9**
ESDC	**Sonseca Array**	**145.00**	**336**	PKP		**PKPdf**	**08 33 26.9**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=28,slow=3.4,SNR=11							

*ECX **10** 08:26:38.7±0.6, 27°.61N×111°.56W, h10km, MD3.2*
*MEX **10** 08:26:39.4±0.7, 27°.62N×111°.55W, h13km±9km, MD3.7*

ISC 10 08:26:37.3±1.1, 27°.69N±0°.07×111°.59W±0°.05, h12km±12km, n9, σ1§51/15, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUYB	**Guaymas**	**0.67**	**71**	*e*P		**Pg**	**08 26 50.3**	**0.0**
GUYB				*i* S		**Sg**	**08 26 59.1**	**+0.1**
GUYB	**Guaymas**	**0.67**	**71**	*e*P		**Pg**	**08 26 50.2**	**0.0**
GUYB				*e*S		**Sb**	**08 26 59.8**	**-0.2**
SRIG	**Santa Rosalia**	**0.69**	**238**	*e*P		**Pb**	**08 26 50.9**	**-0.2**
SRIG				*i* S		**Sg**	**08 26 59.6**	**0.0**
SRIG	**Santa Rosalia**	**0.69**	**238**	*e*P		**Pg**	**08 26 50.8**	**+0.2**
SRIG				*e*S		**Sg**	**08 26 59.6**	**0.0**
HSIG		**1.44**	**23**	*i* P		**Pn**	**08 27 02.2**	**-1.0**
HSIG				*e*S		**Sn**	**08 27 23.0**	**+0.9**
HSIG		**1.44**	**23**	*e*P		**Pb**	**08 27 05.2**	**+1.1**
HSIG				*e*S		**Sg**	**08 27 24.6**	**+0.9**
BAHB	**Baha de los**	**2.84**	**323**	*e*P		Pn	08 27 15.1	-7.3
CGIG		**4.14**	**49**	*e*P		**Pb**	**08 27 51.2**	**+1.1**
CGIG				*e*S		**Sg**	**08 28 45.9**	**-4.2**
HPIG		**5.32**	**97**	*e*P		**Pb**	**08 28 11.7**	**+1.4**

IDC 10 08:41:18.4±4.7, 6°.74S×148°.73E, h104km±37km, mb3.5/3, mb1 3.5/5, mb1mx3.3/36, mbtmp3.7/5, MS1.7/1, Ms1 1.7/1, ms1mx1.6/27, Error ellipse: s-maj=103.2km s-min=31.4km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.08**	**210**	P		Pn	08 42 04.2	-1.1
	6.3nm,0.3s,baz=343,slow=5.3,SNR=9.0							
PMG				S		Sn	08 42 42.8	+1.2
	3.8nm,0.3s,baz=58,slow=18,SNR=3.4							
PMG				LR		LR	08 42 57.9	
	comp=Z,13nm,21.7s,baz=157,slow=32							
WRA	**Warramunga Arr**	**19.17**	**225**	P		P	08 45 33.1	-0.9
	0.2nm,0.3s,baz=52,slow=10,SNR=9.9							
ASAR	**Alice Springs**	**22.06**	**219**	P		P	08 46 05.7	+0.7
	2.0nm,0.4s,baz=51,slow=9.4,SNR=50							
FITZ	**Fitzroy Crossi**	**25.19**	**241**	P		P	08 46 34.0	-0.5
	2.2nm,0.4s,baz=59,slow=8.5,SNR=13							
SONM	**Songino Array**	**65.89**	**330**	P		P	08 51 53.6	+0.3
	0.2nm,0.4s,baz=141,slow=7.4,SNR=2.7							

*ISCJB **10** 08:49:50.4±0.7, 60°.38S±0°.06×47°.6W±0°.2, h10km, mb3.6/3, MS3.1/5, Error ellipse: s-maj=12.3km s-min=9.1km az=4.9*
*NEIC **10** 08:49:52±1.2, 60°.30S±0°.09×47°.4W±0°.2, h10km±2km, mb4.4/10*

*IDC **10** 08:49:55.1±2.4, 61°.16S×49°.27W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.7/24, mbtmp3.7/3, MS3.2/5, Ms1 3.2/5, ms1mx2.9/21, Error ellipse: s-maj=102.2km s-min=38.4km az=37.0*

ISC 10 08:49:52.7±0.8, 60°.31S±0°.09×47°.6W±0°.1, h10km, n27, σ1§42/17, mb4.3/8, MS3.1/5, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**8.50**	**50**			Pn	08 52 06.5	+11
PMSA	**Palmer Station**	**8.82**	**232**	Pn		**Pn**	**08 52 00.3**	**+0.2**
PMSA				Sn		**Sn**	**08 53 40.2**	**+0.9**
EFI	**East Falkland**	**10.45**	**321**	Pn		**Pn**	**08 52 22.8**	**+0.5**
GO09	**Cerro Castillo**	**16.52**	**292**			**P**	**08 53 46.1**	**-0.8**
GO09				IAmb		IAmb	08 53 48.0	
	comp=Z,22nm,0.9s							
SNAA	**Sanae**	**20.83**	**141**	P		**P**	**08 54 33.3**	**-0.8**
TRQA	**Tornquist**	**24.07**	**331**	P		**P**	**08 55 09.5**	**+1.5**
TRQA				IAmb		IAmb	08 55 14.5	
	comp=Z,18nm,1.5s							
PLCA	**Paso Flores**	**24.21**	**314**	P		**P**	**08 55 11.8**	**+2.4**
	comp=Z,1.5nm,0.9s,baz=152,slow=11,SNR=2.9							
PLCA				LR		LR	09 03 56.4	
	comp=Z,29nm,20.1s,baz=196,slow=35							
PLCA	**Paso Flores**	**24.21**	**314**	P		**P**	**08 55 08.2**	**-1.2**
GO05	**Huala**	**29.82**	**317**	P		**P**	**08 55 59.0**	**-0.7**
GO05				IAmb		IAmb	08 56 05.2	
	comp=Z,12nm,1.0s							
QSPA	**South Pole Qui**	**29.93**	**180**	LR		LR	09 07 44.0	
	comp=Z,47nm,18.9s,baz=51,slow=37							
QSPA	**South Pole Qui**	**29.93**	**180**	P		**P**	**08 55 59.7**	**-0.8**
QSPA				IAmb		IAmb	08 56 08.7	
	comp=Z,4.6nm,0.8s							
CPUP	**Villa Florida**	**34.62**	**344**	LR		LR	09 11 08.0	
	comp=Z,22nm,20.1s,baz=174,slow=36							
GO02	**Mina Guanaco**	**38.28**	**327**	P		**P**	**08 57 13.1**	**-0.3**
GO02				IAmb		IAmb	08 57 19.6	
	comp=Z,17nm,1.4s							
MAW	**Mawson**	**42.74**	**148**	LR		LR	09 14 35.7	
	comp=Z,80nm,20.4s,baz=236,slow=35							
PB11	**IPOC Station P**	**43.45**	**329**	P		**P**	**08 57 54.5**	**-1.4**
MNMC	**Minye Minye**	**44.04**	**329**	P		**P**	**08 57 59.7**	**-1.0**
MNMC				IAmb		IAmb	08 58 08.1	
	comp=Z,3.3nm,0.8s							
LPAZ	**La Paz**	**46.42**	**332**	P		P	08 58 28.5	+8.5
LPAZ				LR		LR	09 18 58.7	
	comp=Z,20nm,19.0s,baz=184,slow=37							
LPAZ	**La Paz**	**46.42**	**332**	P		**P**	**08 58 19.1**	**-0.9**
CASY	**Casey**	**52.68**	**169**	P		**P**	**08 59 06.6**	**+0.1**
H10S2	**ASCENSION HYDR**	**56.83**	**40**	T		T	10 02 05.4	
	baz=200,slow=74,SNR=31							
H10S3	**ASCENSION HYDR**	**56.83**	**40**	T		T	10 02 05.4	
	baz=20,slow=74,SNR=41							
H10N3	**ASCENSION HYDR**	**57.93**	**40**	T		T	10 03 30.3	
	baz=199,slow=75,SNR=19							
H10N1	**ASCENSION HYDR**	**57.93**	**40**	T		T	10 03 31.6	
	baz=199,slow=75,SNR=19							
H10N2	**ASCENSION HYDR**	**57.95**	**40**	T		T	10 03 32.7	
	baz=199,slow=75,SNR=24							
TORD	**Torodi Ar. Bea**	**83.08**	**48**	P		P	09 02 27.5	+9.2
	comp=Z,1.0nm,0.8s,baz=204,slow=6.8,SNR=4.6							
ILAR	**Eielson Array**	**144.90**	**313**	PKP		**PKiKP**	**09 09 31.4**	**-0.7**
	comp=Z,6.1nm,0.4s,baz=145,slow=1.7,SNR=8.3							
MKAR	**Makanchi Array**	**148.14**	**92**	PKPbc		**PKPab**	**09 09 43.9**	**+3.3**
	comp=Z,0.7nm,0.5s,baz=234,slow=4.1,SNR=5.0							

**IDC 10 08:51:21.0±1.8, 3°.92S×144°.96E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/31, mbtmp3.5/3, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.2/28, Error ellipse: s-maj=88.0km s-min=27.6km az=122

	1.3nm,0.5s							
AAK				⇑Lg	Lg	09 41 14.4		
	2.5nm,0.4s							
KK31	**Karatay Array**	**3.34**	**338**	⇓Pg	**Pg**	**09 40 35.6**	**-1.7**	
	0.5nm,0.3s,baz=146,slow=13,SNR=4.0							
KK31				⇑Lg	Lg	09 41 12.7		
	1.3nm,0.5s,baz=154,slow=30,SNR=4.7							
BRLS	**Borolday**	**3.50**	**330**	Pg	**Pb**	**09 40 37.1**	**+1.2**	
	0.4nm,0.3s							
BRLS				Lg	Lg	09 41 16.8		
	2.4nm,0.6s							

*IDC **10** 09:42:35.7±1.2,55˚.04N×160˚.50W, h0km, mb4.2/19, mb1 4.3/21,mb1mx4.0/65,mbtmp4.2/21,ML4.0/2, MS3.2/6, Ms1 3.2/6,ms1mx2.7/42,Error ellipse: s-maj=32.1km s-min=16.5km az=177.0*

*ISCJB **10** 09:42:40.8±0.3,54˚.93N±0˚.04×160˚.20W±0˚.04, h53km±3km, mb4.1/19,MS3.1/3,Error ellipse: s-maj=6.4km s-min=2.7km az=153.9*

*NEIC **10** 09:42:41.5±1.9,54˚.87N±0˚.04×160˚.22W±0˚.06, h31km±4km*

*AEIC **10** 09:42:42.4±2.4,54˚.84N±0˚.05×160˚.23W±0˚.06, h20km±5km, ML3.9, mb4.5/15(NEIC)*

ISC 10 09:42:42.0±0.9,**54˚87N**±0˚.06×**160˚22W**±0˚.04,**h47**km±8km, **n146,**σ1§**27**/164,**mb4.3**/25,**MS3.1**/3,**Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.37**	**98**		**Pn**	**09 42 50.0**	**-1.6**
CNBA					**Sn**	**09 42 55.3**	**-3.1**
SDPT	**Sand Point**	**0.50**	**343**		**Pn**	**09 42 51.6**	**-1.5**
SDPT					**Sn**	**09 42 59.3**	**-1.7**
PN6	**Pavlof North-6**	**1.13**	**301**		**Pn**	**09 43 01.7**	**+0.2**
PN6					**Sn**	**09 43 17.1**	**+1.1**
VNKR	**Veniaminof 5**	**1.26**	**22**		**Pn**	**09 43 03.5**	**+0.3**
VNWF	**Veniaminof 8**	**1.33**	**16**		**Pn**	**09 43 04.9**	**+0.6**
VNWF					**Sn**	**09 43 23.0**	**+2.0**
VNSS	**Veniaminof 8**	**1.42**	**18**		**Pn**	**09 43 06.4**	**+0.8**
VNFG	**Fog Glacier, M**	**1.46**	**15**		**Pn**	**09 43 06.9**	**+0.8**
VNNF	**Veniaminof 3**	**1.50**	**20**		**Pn**	**09 43 07.6**	**+1.0**
BALA	**Baldy Mountain**	**1.51**	**283**		**Pn**	**09 43 06.7**	**+0.1**
FALS	**False Pass**	**1.85**	**271**		**Sn**	**09 43 33.7**	**+0.4**
FALS	**False Pass**	**1.85**	**271**	Pn	**Pn**	**09 43 11.4**	**+0.3**
FALS	**False Pass**	**1.85**	**271**		**Sn**	**09 43 34.8**	**+1.5**
SSBA	**Shishaldin**	**2.26**	**269**		**Pn**	**09 43 16.8**	**-0.1**
SSBA					Lg	09 43 44.6		
ANNE	**Aniakchak Nort**	**2.38**	**30**		**Pn**	**09 43 19.6**	**+1.1**
CHIR	**Chirikof Islan**	**2.79**	**68**		**Pn**	**09 43 24.6**	**+0.4**
CHIR				Sn	**Sn**	**09 43 57.7**	**+1.1**
AKUT	**Akutan**	**3.32**	**259**	Pn	**Pn**	**09 43 32.3**	**+1.0**
AKUT				Sn	**Sn**	**09 44 11.7**	**+2.3**
AKMO	**Akutan Morgan**	**3.47**	**259**		**Pn**	**09 43 33.8**	**+0.4**
PLK1	**Peulik 1**	**3.56**	**33**		**Pn**	**09 43 35.6**	**+1.0**
PLK3	**Peulik 3**	**3.58**	**36**		**Pn**	**09 43 36.7**	**+1.7**
PLK2	**Peulik 2**	**3.62**	**35**		**Pn**	**09 43 37.2**	**+1.7**
SII	**Sitkinak Islan**	**3.81**	**61**		**Pn**	**09 43 38.7**	**+0.5**
SII				Sn	**Sn**	**09 44 22.9**	**+1.3**
MTBL	**Makushin Table**	**3.88**	**259**		**Pn**	**09 43 39.3**	**+0.2**
MSW	**Makushin Switc**	**3.95**	**259**		**Pn**	**09 43 39.7**	**-0.4**
MREP	**Makushin Rep't**	**3.96**	**257**		**Pn**	**09 43 39.9**	**-0.4**
MCIR	**Makushin Cirqu**	**4.00**	**259**		**Pn**	**09 43 40.9**	**+0.1**
KJL	**Kejulik**	**4.10**	**37**		**Pn**	**09 43 43.3**	**+1.2**
CAHL	**Cahill**	**4.20**	**39**		**Pn**	**09 43 44.6**	**+1.2**
ANCK	**Angle Creek**	**4.24**	**36**		**Pn**	**09 43 45.1**	**+1.1**
OHAK	**Old Harbor**	**4.54**	**56**		**Pn**	**09 43 47.8**	**-0.3**
OHAK				Sn	**Sn**	**09 44 31.1**	**+1.5**
KAHC	**Katmai Hardscr**	**4.75**	**35**		**Pn**	**09 43 52.3**	**+1.2**
KDAK	**Kodiak Island**	**5.15**	**52**	Pn	**Pn**	**09 43 55.0**	**-1.5**
	3.2nm,0.3s,baz=190,slow=4.8,SNR=90							
KDAK				Sn	**Sn**	**09 44 51.1**	**-3.5**
	1.6nm,0.3s,baz=315,slow=20,SNR=2.6							
KDAK				LR	LR	09 46 06.1		
	comp=Z,202nm,21.1s,baz=228,slow=41							
KDAK	**Kodiak Island**	**5.15**	**52**	Pn	**Pn**	**09 43 56.0**	**-0.5**
KDAK				Sn	**Sn**	**09 44 53.8**	**-0.8**
FOSS	**Fourpeaked Sta**	**5.32**	**40**		**Pn**	**09 43 58.8**	**-0.1**
NIKH	**Nikolski High**	**5.45**	**253**	Pn	**Pn**	**09 44 01.5**	**+1.0**
AUH	**Augustine H**	**5.82**	**37**		**Pn**	**09 44 06.7**	**+1.0**
AUJK	**Augustine Jueg**	**5.82**	**37**		**Pn**	**09 44 05.4**	**-0.3**
AUQ	**Augustine Qik'**	**5.82**	**37**		**Pn**	**09 44 06.3**	**+0.6**
SPIA	**Saint Paul Isl**	**6.08**	**296**	Pn	**Pn**	**09 44 06.3**	**-2.8**
SVW2	**Sparrevohn**	**6.71**	**20**		**Pn**	**09 44 18.6**	**+0.8**
SVW2					**Sn**	**09 45 33.2**	**+0.3**
CNPM	**China Poot**	**6.75**	**43**		**Pn**	**09 44 18.5**	**+0.1**
CNPM					**Sn**	**09 45 33.8**	**-0.1**
RDWB	**Redoubt West**	**6.88**	**32**		**Pn**	**09 44 20.1**	**-0.1**
RSO	**Redoubt South**	**6.88**	**33**		**Pn**	**09 44 22.4**	**+2.0**
DFR	**Drift River**	**7.01**	**32**		**Pn**	**09 44 22.4**	**+0.4**
BRLK	**Bradley Lake**	**7.04**	**42**		**Pn**	**09 44 22.0**	**-0.4**
BRLK				Sn	**Sn**	**09 45 42.6**	**+1.7**
BRSE	**Bradley Lake S**	**7.08**	**43**		**Pn**	**09 44 22.5**	**-0.4**
SPNN	**North Nagishla**	**7.63**	**28**		**Pn**	**09 44 31.7**	**+1.2**
SLKM	**Skilak Lake**	**7.78**	**39**		**Pn**	**09 44 33.3**	**+0.8**
SEW	**Seward**	**7.81**	**44**	Pn	**Pn**	**09 44 33.3**	**+0.4**
SEW				Sn	**Sn**	**09 46 02.6**	**+2.7**
SUA	**Susitna One**	**8.28**	**33**		**Pn**	**09 44 39.4**	**-0.1**
SUA				Sn	**Sn**	**09 46 10.8**	**-0.8**
TT01	**Tatalina**	**8.34**	**13**		**Pn**	**09 44 40.0**	**-0.1**
RC01	**Rabbit Creek A**	**8.35**	**38**	Pn	**Pn**	**09 44 41.3**	**+1.0**
TTA	**Tatalina**	**8.37**	**13**	Pn	**Pn**	**09 44 40.7**	**+0.1**
SKT	**Skwentna**	**8.45**	**29**		**Pn**	**09 44 43.2**	**+1.5**
PWL	**Port Wells**	**8.72**	**42**		**Pn**	**09 44 44.7**	**-0.6**
ATKA	**Atka Island**	**8.74**	**258**	Pn	**Pn**	**09 44 45.2**	**-0.5**
PMR	**Palmer**	**8.91**	**36**	Pn	**Pn**	**09 44 48.2**	**+0.3**
KNK	**Knik Glacier**	**9.03**	**39**		**Pn**	**09 44 49.8**	**+0.2**
KNK				Sn	**Sn**	**09 46 28.6**	**-1.1**
PPLA	**Purkeypile**	**9.05**	**24**		**Pn**	**09 44 52.5**	**+2.5**
PPLA				Sn	**Sn**	**09 46 34.0**	**+3.6**
GHO	**Glory Hole Cre**	**9.11**	**36**	Pn	**Pn**	**09 44 48.9**	**-1.8**
GHO				Sn	**Sn**	**09 46 34.5**	**+2.7**
HIN	**Hinchinbrook I**	**9.20**	**47**	Pn	**Pn**	**09 44 51.9**	**0.0**
GLI	**Glacier Island**	**9.22**	**44**	Pn	**Pn**	**09 44 51.5**	**-0.6**
SML	**Sawmill**	**9.34**	**37**	Pn	**Pn**	**09 44 53.1**	**-0.4**
FID	**Port Fidalgo**	**9.39**	**46**	Pn	**Pn**	**09 44 53.2**	**-1.4**
FID				Sn	**Sn**	**09 46 34.4**	**-4.3**
JPK	**Jack Peak**	**9.52**	**44**		**Pn**	**09 44 55.9**	**-0.4**
EYAK	**Cordova Ski Ar**	**9.60**	**48**	Pn	**Pn**	**09 44 56.4**	**-0.9**
EYAK				Sn	**Sn**	**09 46 41.2**	**-2.4**
SCM	**Sheep Creek Mo**	**9.71**	**39**		**Pn**	**09 44 57.7**	**-1.3**
SCM				Sn	**Sn**	**09 46 47.5**	**+0.9**
KTH	**Kantishna Hill**	**9.91**	**25**		**Pn**	**09 45 02.9**	**+1.2**
TRF	**Thorofare Moun**	**9.98**	**27**		**Pn**	**09 45 03.2**	**+0.4**
TRF				Sn	**Sn**	**09 46 56.1**	**+2.8**
RAGM	**Ragged Mountai**	**9.99**	**50**	Pn	**Pn**	**09 45 02.5**	**-0.3**
RAGM				Sn	**Sn**	**09 46 53.2**	**0.0**
ANM	**Nome**	**10.06**	**347**	Pn	**Pn**	**09 45 04.1**	**+0.4**
ADK	**Adak**	**10.28**	**260**	Pn	**Pn**	**09 45 07.4**	**+0.7**
DHY	**Denali Highway**	**10.54**	**34**		**Pn**	**09 45 08.3**	**-2.1**
DHY				Sn	**Sn**	**09 47 06.7**	**-0.3**
MCK	**McKinley**	**10.57**	**28**	Pn	**Pn**	**09 45 09.5**	**-1.4**
CRQM	**Cirque**	**10.83**	**50**		**Pn**	**09 45 14.2**	**-0.2**
WAX	**Waxell Ridge**	**10.83**	**52**	Pn	**Pn**	**09 45 14.0**	**-0.4**
GLB	**Gilahina Butte**	**10.86**	**46**		**Pn**	**09 45 13.4**	**-1.3**
VRDI	**Verde Repeater**	**10.91**	**48**		**Pn**	**09 45 15.2**	**-0.2**
TGL	**Tana Glacier**	**10.97**	**50**	Pn	**Pn**	**09 45 15.8**	**-0.4**
TGL					**Sn**	**09 47 18.3**	**+0.9**
MESA	**MESA**	**11.15**	**54**	Pn	**Pn**	**09 45 18.8**	**+0.1**
MCARA	**McCarthy VSAT**	**11.16**	**47**		**Pn**	**09 45 19.3**	**+0.5**
BALM	**Baldy**	**11.30**	**50**		**Pn**	**09 45 20.9**	**+0.1**
YAH	**Yahtse**	**11.31**	**53**	Pn	**Pn**	**09 45 20.1**	**-0.8**
WRH	**Wood River Hil**	**11.39**	**27**	Pn	**Pn**	**09 45 19.3**	**-2.4**
CCB	**Clear Creek Bu**	**11.60**	**27**		**Pn**	**09 45 23.5**	**-1.1**
BARN	**Barnard Glacie**	**11.62**	**50**	Pn	**Pn**	**09 45 25.2**	**+0.1**
HDA	**Harding Lake**	**11.65**	**30**		**Pn**	**09 45 23.7**	**-1.7**
MENT	**Mentasta**	**11.72**	**40**	Pn	**Pn**	**09 45 28.2**	**+1.9**
CTGM	**Chitina Glacie**	**11.72**	**51**	Pn	**Pn**	**09 45 26.9**	**+0.3**
RIDG	**Independent Ri**	**11.83**	**35**		**Pn**	**09 45 27.8**	**0.0**
IL31		**11.95**	**29**		**Pn**	**09 45 27.2**	**-2.2**
ILAR	**Eielson Array**	**11.95**	**29**	Pn	**Pn**	**09 45 26.4**	**-3.1**
	0.1nm,0.3s,baz=218,slow=13,SNR=11							
ILAR				LR	LR	09 50 17.0		
	comp=Z,140nm,18.9s,baz=280,slow=39							
DOT	**Dot Lake**	**12.03**	**37**		**Pn**	**09 45 30.1**	**-0.5**
BCPM	**Bancas Point**	**12.18**	**57**	Pn	**Pn**	**09 45 33.9**	**+1.3**
SCRK	**Sand Creek**	**12.27**	**35**		**Pn**	**09 45 32.9**	**-1.1**
EGAK	**Eagle**	**13.73**	**36**	Pn	**Pn**	**09 45 53.3**	**-0.4**
FYU	**Fort Yukon**	**13.77**	**26**	Pn	**Pn**	**09 45 55.2**	**+0.9**
DAWY	**Dawson**	**13.96**	**40**		**Pn**	**09 45 56.3**	**-0.6**
SIT	**Sitka**	**14.09**	**71**	Pn	**Pn**	**09 45 57.0**	**-1.6**
SKAG	**Skagway**	**14.22**	**61**	Pn	**Pn**	**09 46 01.7**	**+1.3**
BESE	**Bessie Mountai**	**14.37**	**65**	Pn	**Pn**	**09 46 03.4**	**+1.0**
JIS	**Juneau Island**	**14.60**	**66**		**Pn**	**09 46 05.8**	**+0.4**
CRAG	**Craig**	**15.46**	**77**	Pn	**Pn**	**09 46 17.1**	**+0.5**
CRAG				IAmb	IAmb	09 46 25.4		
	comp=Z,54nm,1.4s							
EPYK	**Eagle Plains**	**16.16**	**35**		**Pn**	**09 46 27.1**	**+1.5**
EPYK				IAmb	IAmb	09 46 37.8		
	comp=Z,11nm,0.7s							
INK	**Inuvik**	**18.28**	**32**	P	**P**	**09 46 50.4**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=228,slow=13,SNR=13							
INK				LR	LR	09 54 56.9		
	comp=Z,114nm,18.3s,baz=240,slow=41							
INK	**Inuvik**	**18.28**	**32**	P	**P**	**09 46 50.5**	**-0.9**
YKA	**Yellowknife Ar**	**24.43**	**53**	P	**P**	**09 47 56.4**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=267,slow=7.9,SNR=29							
YKA				PcP	**PcP**	**09 51 33.4**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=289,slow=2.2,SNR=4.9							
PEA0B	**Petropavlovsk-**	**24.54**	**283**	P	**P**	**09 47 56.8**	**0.0**
PEA0B				IAmb	IAmb	09 47 56.8		
	comp=Z,14nm,1.4s							
PETK	**Petropavlovsk-**	**24.54**	**283**	P	**P**	**09 47 56.0**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=86,slow=11,SNR=10							
NEW	**Newport**	**27.24**	**86**	LR	LR	09 58 40.1		
	comp=Z,29nm,18.5s,baz=104,slow=35							
PV13	**Radium Mtn., P**	**38.16**	**94**	P	**P**	**09 49 58.6**	**+1.8**
ULM	**Lac du Bonnet**	**38.16**	**70**	P	**P**	**09 49 57.0**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=320,slow=11,SNR=5.0							
ULM	**Lac du Bonnet**	**38.16**	**70**	P	**P**	**09 49 57.9**	**+1.5**
ULM				IAmb	IAmb	09 50 06.1		
	comp=Z,5.4nm,1.1s							
EYMN	**Ely**	**41.83**	**70**	P	**P**	**09 50 28.1**	**+1.2**
EYMN				IAmb	IAmb	09 50 37.3		
	comp=Z,9.8nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**43.02**	**229**	T	T	10 36 39.0		
	baz=28,slow=76,SNR=24							
H11N3	**WAKE ISLAND Hy**	**43.03**	**229**	T	T	10 36 41.7		
	baz=28,slow=76,SNR=30							
H11N1	**WAKE ISLAND Hy**	**43.04**	**229**	T	T	10 36 40.5		
	baz=28,slow=76,SNR=24							
H11S1	**WAKE ISLAND Hy**	**44.19**	**228**	T	T	10 38 15.1		
	baz=27,slow=76,SNR=7.5							
H11S2	**WAKE ISLAND Hy**	**44.20**	**228**	T	T	10 38 18.3		
	baz=27,slow=76,SNR=3.8							
H11S3	**WAKE ISLAND Hy**	**44.21**	**228**	T	T	10 38 05.0		
	baz=27,slow=76,SNR=5.5							
E46A	**Sault Ste Mari**	**46.67**	**67**	P	**P**	**09 51 06.7**	**+1.2**
SPITS	**Spitsbergen Ar**	**47.19**	**1**	P	**P**	**09 51 08.6**	**-0.6**
	comp=Z,31nm,1.3s,baz=6.6,slow=8.8,SNR=4.0							
TX32	**Lajitas Array**	**47.48**	**99**	P	**P**	**09 51 14.3**	**+2.1**
TXAR	**Lajitas Array**	**47.48**	**99**	P	**P**	**09 51 13.5**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=299,slow=6.1,SNR=4.8							
L56A	**Greenwood**	**53.10**	**67**	P	**P**	**09 51 55.2**	**+0.8**
L56A				IAmb	IAmb	09 51 55.5		
	comp=Z,7.3nm,0.8s							
J58A	**Remsen**	**53.45**	**65**	P	**P**	**09 51 57.9**	**+0.9**
SONM	**Songino Array**	**54.54**	**304**	P	**P**	**09 52 04.3**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=47,slow=7.9,SNR=5.6							
SONM				PcP	**PcP**	**09 53 07.4**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=38,slow=3.0,SNR=3.1							
ARCES	**ARCES Array B**	**55.83**	**358**	P	**P**	**09 52 12.1**	**-1.7**
	comp=Z,3.4nm,0.8s,baz=15,slow=6.3,SNR=6.8							
ZALV	**Zalesovo Beam**	**59.06**	**321**	LR	LR	10 21 00.7		
	comp=Z,16nm,20.7s,baz=68,slow=39							
FINES	**FINESS Array B**	**63.92**	**357**	P	**P**	**09 53 08.0**	**-1.3**
	comp=Z,1.9nm,0.5s,baz=24,slow=6.8,SNR=15							
NB2	**NORSAR Subarra**	**64.23**	**5**	P	**P**	**09 53 10.8**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=355,slow=6.5							
NOA	**NORSAR Array B**	**64.23**	**5**	P	**P**	**09 53 10.7**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=356,slow=6.6,SNR=4.8							
BVAR	**Bovoye Array**	**64.61**	**329**	P	**P**	**09 53 13.2**	**-0.8**
	comp=Z,2.7nm,0.7s,baz=40,slow=6.3,SNR=13							
MKAR	**Makanchi Array**	**65.82**	**318**	P	**P**	**09 53 20.5**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=38,slow=7.9,SNR=3.1							
EKA	**Eskdalemuir Ar**	**68.56**	**14**	P	**P**	**09 53 38.9**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=351,slow=4.2,SNR=4.3							
AKTO	**Aktyubinsk**	**70.30**	**335**	P	**P**	**09 53 49.0**	**-1.1**
	comp=Z,3.7nm,0.7s,baz=29,slow=5.2,SNR=9.8							
ABKAR	**Akbulak array**	**70.91**	**333**	P	**P**	**09 53 52.9**	**-0.8**
ABKAR				IAmb	IAmb	09 53 53.9		
	comp=Z,3.1nm,0.7s							
BOOM	**Boomskoye usch**	**71.87**	**320**	P	**P**	**09 54 00.1**	**+0.2**
BOOM				IAmb	IAmb	09 54 00.4		
	comp=Z,2.3nm,0.8s							
PPT	**Papeete**	**72.72**	**169**	LR	LR	10 19 40.0		
	comp=Z,17nm,21.7s,baz=350,slow=30							
HDC	**Heredia**	**73.89**	**96**	P	**P**	**09 54 13.4**	**+1.3**
AKASG	**Malin Array Be**	**74.50**	**354**	P	**P**	**09 54 13.7**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=8.5,slow=6.0,SNR=12							
AKBB	**Malin Array Si**	**74.50**	**354**	P	**P**	**09 54 14.5**	**-0.5**
AKBB				IAmb	IAmb	09 54 15.0		
	comp=Z,4.8nm,0.7s							
GERES	**GERESS Array B**	**76.53**	**4**	P	**P**	**09 54 26.6**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=352,slow=6.0,SNR=3.1							
KBZ	**Khabaz**	**79.82**	**343**	P	**P**	**09 54 44.4**	**-0.5**
	comp=Z,3.6nm,0.8s,baz=332,slow=7.8,SNR=3.5							
CMAR	**Chiang Mai Arr**	**81.16**	**289**	P	**P**	**09 54 51.8**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=17,slow=5.7,SNR=10.0							
GEYT	**Alibeck**	**81.89**	**330**	P	**P**	**09 54 56.4**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=48,slow=5.5,SNR=3.0							
ESDC	**Sonseca Array**	**83.65**	**18**	P	**P**	**09 55 05.8**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=345,slow=4.6,SNR=6.6							

*GCG **10** 09:44:24.4±1.5, 12˚.92N×92˚.45W, h86km±7.67km, MD4.1*

*UCR **10** 09:44:31.0±5.1, 12˚.97N×92˚.10W, h35km±169km, MD3.7, ML3.2, mb4.1(NEIC)*

*SNET **10** 09:44:36.1±1.7, 13˚.67N×91˚.87W, h65km±119km, ML3.3*

*NEIC **10** 09:44:37.0±2.3, 13˚.68N±0˚.06×91˚.86W±0˚.03, h42km±8km, mb4.1/20*

*IDC **10** 09:44:38.1±3.0, 13˚.76N×91˚.89W, h44km±22km, mb3.6/7, mb1 3.8/11,mb1mx3.5/50,mbtmp3.8/11, ML3.5/4, MS3.3/3, Ms1 3.3/3,ms1mx2.6/27, Error ellipse: s-maj=39.3km s-min=23.7km az=25.0*

ISC 10 09:44:32.4±0.9,**13˚1N**±0˚.1×**92˚14W**±0˚.09,**h40**km±7km,**n77,** σ1§**96**/99,**mb4.1**/17,**11C-12D,Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**1.43**	**23**	*eP*	**Pn**	**09 44 53.3**	**-2.7**
ERG				*eS*	**Sn**	**09 45 16.4**	**+2.8**
STG3	**Santiaguito 3,**	**1.69**	**19**	*eP*	**Pn**	**09 44 55.9**	**-3.7**
FUG	**Fuego 3**	**1.83**	**43**	*eP*	**Pn**	**09 44 59.3**	**-2.2**
FUG				*eS*	**Sn**	**09 45 25.4**	**+1.7**
FUG	**Fuego 3**	**1.83**	**43**	*eP*	**Pn**	**09 44 59.3**	**-2.2**
FUG				*eS*	**Sn**	**09 45 25.4**	**+1.7**
IXG	**Ixpaco**	**1.96**	**57**	*eP*	**Pn**	**09 45 01.0**	**-2.3**
IXG				*eS*	**Sn**	**09 45 31.1**	**+4.3**
IXG	**Ixpaco**	**1.96**	**57**	*eP*	**Pn**	**09 45 01.0**	**-2.3**
IXG				*eS*	**Sn**	**09 45 31.1**	**+4.3**
PCG	**Pacaya**	**1.96**	**49**	*eP*	**Pn**	**09 45 02.7**	**-0.7**
PCG				*eS*	**Sn**	**09 45 29.7**	**+2.8**
PCG	**Pacaya**	**1.96**	**49**	*eP*	**Pn**	**09 45 02.7**	**-0.7**
PCG				*eS*	**Sn**	**09 45 29.7**	**+2.8**
NBG	**Las Nubes**	**2.28**	**50**	*eP*	**Pn**	**09 45 08.0**	**+0.2**
NBG				*eS*	**Sn**	**09 45 38.9**	**+4.1**
NBG	**Las Nubes**	**2.28**	**50**	*eP*	**Pn**	**09 45 08.0**	**+0.2**
NBG				*eS*	**Sn**	**09 45 38.9**	**+4.1**
APG	**El Apazote**	**2.49**	**41**	P	**Pn**	**09 45 08.6**	**-2.1**
	34nm,0.3s,baz=266,slow=22,SNR=130						
APG				LR	LR	09 45 29.3	
	comp=Z,62nm,19.2s,baz=271,slow=28						
CEVE	**Cerro Verde**	**2.55**	**73**	⇓*iP*	**Pn**	**09 45 10.5**	**-1.0**
CEVE				⇓*eS*	**Sn**	**09 45 38.9**	**-2.5**
CEVE	**Cerro Verde**	**2.55**	**73**	⇓*iP*	**Pn**	**09 45 10.5**	**-1.0**
CEVE				⇓*eS*	**Sn**	**09 45 38.9**	**-2.5**
RTR	**El Retiro**	**2.55**	**72**	⇑*iP*	**Pn**	**09 45 10.6**	**-0.8**
RTR	**El Retiro**	**2.55**	**72**	⇑*iP*	**Pn**	**09 45 10.6**	**-0.8**
SBLS	**San Blas**	**2.55**	**73**	⇓*iP*	**Pn**	**09 45 10.5**	**-1.0**
SBLS	**San Blas**	**2.55**	**73**	⇓*iP*	**Pn**	**09 45 10.5**	**-1.0**
UNIC	**Universidad Ca**	**2.66**	**71**	*eP*	**Pn**	**09 45 11.8**	**-1.0**
UNIC				*eP*	**Pn**	**09 45 13.0**	**+0.1**
UNIC	**Universidad Ca**	**2.66**	**71**	*eP*	**Pn**	**09 45 11.8**	**-1.0**
UNIC				*eP*	**Pn**	**09 45 13.0**	**+0.1**
UEES	**Universidad Ev**	**2.88**	**78**	⇑*iP*	**Pn**	**09 45 16.2**	**+0.3**
UEES				⇓*eS*	**Sn**	**09 45 47.3**	**-2.1**
UEES	**Universidad Ev**	**2.88**	**78**	⇑*iP*	**Pn**	**09 45 16.2**	**+0.3**
UEES				⇓*eS*	**Sn**	**09 45 47.3**	**-2.1**
SNET	**Serv Nac Est T**	**2.88**	**78**	⇓*iP*	**Pn**	**09 45 16.5**	**+0.6**
SNET				IAML		09 45 17.0	
	comp=Z,232nm,0.2s						
SNET				*eS*	**Sn**	**09 45 47.1**	**-2.4**
SNET	**Serv Nac Est T**	**2.88**	**78**	⇓*iP*	**Pn**	**09 45 16.5**	**+0.6**
SNET				IAML		09 45 17.0	
	comp=Z,232nm,0.2s						
SNET				*eS*	**Sn**	**09 45 47.1**	**-2.4**
SNET	**Serv Nac Est T**	**2.88**	**78**	⇓*iP*	**Pn**	**09 45 16.5**	**+0.6**
SNET				IAML		09 45 17.0	
	comp=Z,232nm,0.2s						
UESS	**Universidad de**	**2.92**	**78**	*eP*	**Pn**	**09 45 17.1**	**+0.6**
UESS	**Universidad de**	**2.92**	**78**	*eP*	**Pn**	**09 45 17.1**	**+0.6**
OPAM	**Oficina de Pla**	**2.92**	**78**	⇑*eP*	**Pn**	**09 45 18.1**	**+1.7**
OPAM	**Oficina de Pla**	**2.92**	**78**	⇑*eP*	**Pn**	**09 45 18.1**	**+1.7**
MTO3	**Montecristo**	**2.99**	**64**	⇑*iP*	**Pn**	**09 45 16.0**	**-1.5**
MTO3	**Montecristo**	**2.99**	**64**	⇑*iP*	**Pn**	**09 45 16.0**	**-1.5**
LFRS	**El Faro**	**3.04**	**80**	*eP*	**Pn**	**09 45 18.6**	**+0.6**
MRL	**Marmol**	**3.08**	**50**	*eP*	**Pn**	**09 45 17.6**	**-1.2**
MRL				*eS*	**Sn**	**09 45 58.2**	**+3.6**
MRL	**Marmol**	**3.08**	**50**	*eP*	**Pn**	**09 45 17.6**	**-1.2**
MRL				*eS*	**Sn**	**09 45 58.2**	**+3.6**
CCIG	**Comitan**	**3.16**	**360**	Pn	**Pn**	**09 45 18.7**	**-1.1**
PAVA	**Las Pavas**	**3.17**	**79**	⇑*iP*	**Pn**	**09 45 20.0**	**+0.1**
PAVA				IAML		09 45 23.0	
	comp=Z,74nm,0.3s						
PAVA	**Las Pavas**	**3.17**	**79**	⇑*iP*	**Pn**	**09 45 20.0**	**+0.1**
PAVA				IAML		09 45 23.0	
	comp=Z,74nm,0.3s						
COEB	**Comit de Eme**	**3.53**	**83**	⇑*iP*	**Pn**	**09 45 25.2**	**+0.4**
LCND	**La Caada**	**4.14**	**87**	⇓*iP*	**Pn**	**09 45 34.0**	**+0.8**
LCND				IAML		09 45 36.3	
	comp=Z,102nm,0.2s						
LCND				*eS*	**Sn**	**09 46 18.0**	**-2.3**
LCND	**La Caada**	**4.14**	**87**	⇓*iP*	**Pn**	**09 45 34.0**	**+0.8**
LCND				IAML		09 45 36.3	
	comp=Z,102nm,0.2s						
LCND				*eS*	**Sn**	**09 46 18.0**	**-2.3**
CMIG	**Matias Romero**	**4.77**	**327**	P	**Pn**	**09 45 40.5**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=142,slow=13,SNR=13						
CMIG				S	**Sn**	**09 46 33.5**	**-2.3**
	comp=Z,4.8nm,0.3s,baz=240,slow

MKAR	**Makanchi Array**	**40.74**	**314**	P	**P**	**09 57 59.8**	**+3.1**
	0.4nm,0.4s,baz=101,slow=9.7,SNR=6.5							
WRA	**Warramunga Arr**	**44.95**	**168**	P	**P**	**09 58 32.6**	**+1.7**
	0.4nm,0.7s,baz=348,slow=8.7,SNR=4.4							
WR0	**Warramunga Arr**	**45.01**	**167**	P	**P**	**09 58 33.3**	**+1.9**
WR0				IAmb	IAmb	09 58 35.4		
	comp=Z,4.5nm,1.2s							
PSAC3	**Pilbara Seismi**	**46.01**	**187**	P	**P**	**09 58 37.7**	**-1.6**
PSAC3				IAmb	IAmb	09 58 45.1		
	comp=Z,19nm,1.5s							
ARSB	**Arslanbob**	**46.25**	**305**	P	**P**	**09 58 39.4**	**-1.9**
ARSB				IAmb	IAmb	09 58 52.1		
	comp=Z,8.0nm,0.7s							
ABKAR	**Akbulak array**	**55.89**	**314**	P	**P**	**09 59 54.3**	**+1.1**
ABKAR				IAmb	IAmb	09 59 57.6		
	comp=Z,1.5nm,0.7s							
AKH	**Akhalkalaki**	**68.27**	**307**	P	**P**	**10 01 16.3**	**-0.3**
YKA	**Yellowknife A**	**81.37**	**24**	P	P	10 02 47.2	+16
	comp=Z,0.3nm,0.7s,baz=305,slow=5.2,SNR=4.1							

IDC 10 10:41:27.1±6.4, **48°69S×121°87E, h0**km, **mb3.9**/2, **mb1 4.2**/2, **mb1mx3.8**/21, **mbtmp3.9**/2, **MS3.3**/7, **Ms1 3.3**/7, **ms1mx3.0**/31, **Error ellipse: s-maj=535.5km s-min=68.4km az=105.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**14.92**	**335**	T	T	11 01 23.1	
	baz=154,slow=74,SNR=48						
H01W2	**Cape Leeuwin H**	**14.92**	**335**	T	T	11 01 21.2	
	baz=154,slow=74,SNR=54						
H01W3	**Cape Leeuwin H**	**14.94**	**335**	T	T	11 01 23.9	
	baz=154,slow=74,SNR=48						
STKA	**Stephens Creek**	**22.44**	**49**	LR	LR	10 55 12.4	
	comp=Z,36nm,18.2s,baz=206,slow=37						
ASAR	**Alice Springs**	**26.72**	**25**	P	P	10 47 08.2	0.0
	2.4nm,0.8s,baz=200,slow=9.0,SNR=24						
WRA	**Warramunga Arr**	**30.39**	**24**	P	P	10 47 40.8	-0.1
	0.9nm,1.1s,baz=194,slow=8.7,SNR=4.0						
WRA				LR	LR	10 59 04.4	
	comp=Z,40nm,19.8s,baz=145,slow=35						
VNDA	**Vanda**	**32.71**	**165**	LR	LR	10 59 52.4	
	comp=Z,97nm,19.8s,baz=326,slow=34						
BATI	**Baumata**	**38.38**	**3**	LR	LR	11 05 28.0	
	comp=Z,80nm,18.0s,baz=209,slow=38						
KAPI	**Kappang**	**43.55**	**357**	LR	LR	11 06 48.1	
	comp=Z,16nm,20.4s,baz=294,slow=35						
H08S2	**Diego Garcia H**	**58.22**	**298**	T	T	11 55 55.5	
	baz=143,slow=76,SNR=7.5						
H08S1	**Diego Carcia H**	**58.23**	**298**	T	T	11 55 56.8	
	baz=143,slow=76,SNR=5.6						
H08S3	**Diego Garcia H**	**58.24**	**298**	T	T	11 55 57.0	
	baz=143,slow=76,SNR=7.7						
AFI	**Afiamalu**	**64.09**	**81**	LR	LR	11 16 23.4	
	comp=Z,52nm,18.9s,baz=86,slow=33						
CMAR	**Chiang Mai Arr**	**69.90**	**337**	LR	LR	11 22 04.1	
	comp=Z,12nm,20.0s,baz=165,slow=35						
YKA	**Yellowknife A**	**146.43**	**44**	PKPbc	PKPdf	11 01 08.0	+0.6
	0.4nm,0.7s,baz=275,slow=2.9,SNR=5.5						

*ASRS **10** 11:02:11.9±1.2, 49°N±5°×9°0E±°, h10km, MLh3.5/5, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
*NNC **10** 11:02:14.6±2.6, 49.01°N×89.49E, h6km±8km, mb3.7, mpv3.3, Error ellipse: s-maj=19.8km s-min=12.5km az=102.0*
*SOME **10** 11:02:14.0, 50°23N×88°10E, h35km*

ISC 10 11:02:11.1±1.6, **48°85N**±0°05×**89°77E**±0°07, **h10**km, **n16, σ2^{s}40/23, 8C-3D, Mongolia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGZ	**Jazzator, Alta**	**1.75**	**300**	Pg	**Pg**	**11 02 44.6**	**-0.1**
DGZ				Sg	**Sg**	**11 03 08.8**	**+1.4**
AKAR	**Aktash**	**2.03**	**317**	Pg	**Pg**	**11 02 49.7**	**-0.3**
AKAR				Sg	**Sg**	**11 03 17.4**	**+1.0**
CHBI	**Chibit, Altay**	**2.08**	**316**	Pg	**Pg**	**11 02 50.7**	**-0.2**
CHBI				Sg	**Sg**	**11 03 18.5**	**+0.7**
ULGR	**Ulagan, Altay**	**2.13**	**327**	Pg	**Pg**	**11 02 51.0**	**-0.9**
ULGR				Sg	**Sg**	**11 03 19.5**	**+0.1**
TEL	**Teeli**	**2.19**	**7**	Pg	**Pg**	**11 02 51.7**	**-1.3**
TEL				Sg	**Sg**	**11 03 20.0**	**-1.3**
ARTR	**Artybash**	**3.35**	**333**	Sg	**Sg**	**11 03 56.1**	**-2.6**
ZSN	**Zaisan**	**3.57**	**249**	*eP*	**Pb**	**11 03 16.4**	**+2.1**
	3.3nm,0.3s						
ZSN				*e*S	**Sg**	**11 04 02.5**	**-3.2**
	28nm,0.5s						
UKR	**Ust'-Kan**	**3.85**	**305**	Sg	**Sg**	**11 04 12.0**	**-2.6**
GALT	**Gorno-Altaysk,**	**3.96**	**323**	Sg	**Sg**	**11 04 13.8**	**-4.3**
TASR	**Tashtagol**	**4.09**	**344**	Sg	**Sg**	**11 04 21.0**	**-1.4**
ELT	**Eltsovka**	**4.95**	**335**	Sg	**Sg**	**11 04 45.5**	**-4.2**
MK31	**Makanchi Array**	**5.44**	**251**	⇑Pn	**Pn**	**11 03 35.0**	**+2.8**
	2.3nm,0.9s,baz=75,slow=14,SNR=4.1						
MK31				⇑Pg	**Pg**	**11 03 52.7**	**-2.6**
	1.1nm,0.4s,baz=79,slow=16,SNR=6.3						
MK31				⇑Sn	**Sn**	**11 04 37.7**	**+2.8**
	2.2nm,0.6s,baz=79,slow=32,SNR=5.6						
MK31				⇑Lg	Lg	11 05 02.5	
	2.8nm,0.4s,baz=71,slow=31,SNR=8.0						
MAKZ	**Makanchi**	**5.63**	**252**	⇑Pg	**Pg**	**11 03 54.5**	**-4.4**
	1.5nm,0.3s						
MAKZ				⇓Lg	Lg	11 05 08.9	
	9.2nm,0.8s						
ZAA0	**Zalesovo Array**	**5.97**	**331**	⇑Lg	Lg	11 05 16.9	
	3.3nm,0.8s						
KURBB	**Kurchatov Arra**	**7.50**	**288**	⇑Pn	**Pn**	**11 04 00.8**	**+0.4**
	1.3nm,0.4s						
KURBB				⇓Sn	**Sn**	**11 05 25.1**	**-0.3**
	3.5nm,0.6s						
KURBB				⇑Lg	Lg	11 06 08.8	
	23nm,0.8s						
PDGK	**Podgornoye**	**9.03**	**236**	⇓Lg	Lg	11 06 58.0	
	11nm,1.1s						

IDC 10 11:27:24.9±5.4, **6°25S×147°87E, h148**km±61km, **mb3.3**/3, **mb1 3.4**/5, **mb1mx3.1**/38, **mbtmp3.6**/5, **Error ellipse: s-maj=101.9km s-min=26.4km az=137.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.22**	**193**	P	Pn	11 28 15.0	0.0
	3.1nm,0.3s,baz=7.5,slow=11,SNR=8.3						
PMG				S	Sn	11 28 54.3	+0.5
	5.9nm,0.3s,baz=28,slow=23,SNR=8.5						
WRA	**Warramunga Arr**	**18.93**	**223**	P	P	11 31 33.8	-0.8
	0.2nm,0.3s,baz=40,slow=12,SNR=12						
ASAR	**Alice Springs**	**21.92**	**216**	P	P	11 32 07.4	+0.7
	0.9nm,0.4s,baz=56,slow=8.8,SNR=14						
FITZ	**Fitzroy Crossi**	**24.68**	**240**	P	P	11 32 32.1	-0.3
	2.3nm,0.5s,baz=56,slow=7.6,SNR=15						
ILAR	**Eielson Array**	**85.37**	**23**	P	P	11 39 45.4	+0.2
	0.4nm,1.0s,baz=229,slow=4.9,SNR=3.0						

*NIED **10** 11:33:00, 44°60N×149°20E, h29km, Mw3.9 Best double couple: M0 7.04000×10^{14} NP1:φs=278.00000°, δ55.00000°, λ176.00000°. NP2:φs=11.00000°, δ87.00000°, λ35.00000°.*
*ISCJB **10** 11:33:33.2±0.5, 44°34N±0°05×149°20E±0°06, h38km, mb3.5/9, Error ellipse: s-maj=8.5km s-min=4.2km az=148.2*
*JMA **10** 11:33:34.0±0.8, 44°56N×149°16E, h30km, M4.4*
*SKHL **10** 11:33:35.2±0.7, 44°41N×149°15E, h39km±5km, mb4.9/6*
*IDC **10** 11:33:35.4±4.3, 44°43N×148°89E, h38km±38km, mb3.4/9, mb1 3.7/11, mb1mx3.5/45, mbtmp3.6/11, ML2.5/2, MS3.0/4, Ms1 3.0/4, ms1mx2.6/30, Error ellipse: s-maj=28.0km s-min=16.9km az=141.0*

ISC 10 11:33:34.5±0.7, **44°26N**±0°07×**149°20E**±0°07, **h38**km, **n54, σ1^{s}83/56, mb3.5**/9, **1C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.36**	**316**	⇓*iP*	**Pn**	**11 33 55.5**	**-1.4**
KUR				AMB	AMB	11 33 56.0	
	330nm,0.4s						
KUR				AMB	AMB	11 33 56.0	
	140nm,0.4s						
KUR				AMB	AMB	11 33 56.0	
	830nm,0.4s						
KUR				*i* S	**Sn**	**11 34 11.3**	**-2.3**
	2μm,0.4s						
KUR				A	A	11 34 15.3	
	1μm,0.4s						
KUR				A	A	11 34 15.3	
YUK	**Yuzh-Kuril'sk**	**2.41**	**266**	⇓*iP*	**Pn**	**11 34 12.7**	**+1.3**
YUK				AMB	AMB	11 34 14.0	
	430nm,0.4s						
YUK				*i* S	**Sn**	**11 34 40.9**	**+1.2**
YUK				A	A	11 34 45.0	
	370nm,0.4s						
YUK				A	A	11 34 45.0	
	800nm,0.4s						
GRPR	**Tuman**	**2.48**	**265**	*eP*	**Pn**	**11 34 13.8**	**+1.4**
GRPR				AMB	AMB	11 34 15.0	
	220nm,0.4s						
GRPR				*e*S	**Sn**	**11 34 42.0**	**+0.6**
GRPR				A	A	11 34 47.0	
	660nm,0.4s						
GRPR				A	A	11 34 47.0	
	400nm,0.4s						
NEM2	**Nemuro 2**	**2.66**	**251**	P	**Pn**	**11 34 14.9**	**+0.1**
NEM2				*e*S	**Sn**	**11 34 45.2**	**-0.5**
NMR	**Nemuro--Hokkai**	**2.67**	**252**	*eP*	**Pn**	**11 34 14.5**	**-0.4**
NMR				*e*S	**Sn**	**11 34 47.1**	**+1.2**
GLVR	**Golovnino**	**2.71**	**260**	*eP*	**Pn**	**11 34 16.5**	**+1.1**
GLVR				*e*S	**Sn**	**11 34 47.6**	**+0.7**
GLVR				A	A	11 34 55.0	
	540nm,0.3s						
GLVR				A	A	11 34 55.0	
	230nm,0.3s						
JRA	**Rausu**	**2.96**	**265**	P	**Pn**	**11 34 20.3**	**+1.5**
JNK	**Nakash**	**3.31**	**260**	P	**Pn**	**11 34 24.4**	**+0.7**
JAK	**Akkeshi**	**3.51**	**250**	P	**Pn**	**11 34 26.7**	**+0.3**
JTKR	**Abashiri--Toko**	**3.82**	**267**	P	**Pn**	**11 34 32.3**	**+1.6**
JAR	**Ashorobuto**	**4.05**	**258**	P	**Pn**	**11 34 35.6**	**+1.7**
JMP	**Maruseppu**	**4.21**	**269**	P	**Pn**	**11 34 38.0**	**+1.8**
JCH	**Churui**	**4.56**	**251**	P	**Pn**	**11 34 41.9**	**+1.0**
JKK2	**Kamakawa 2**	**4.67**	**267**	P	**Pn**	**11 34 46.2**	**+3.8**
ASAJ	**Asahikawa**	**4.75**	**271**	P	**Pn**	**11 34 46.6**	**+3.1**
ASAJ	**Asahikawa**	**4.75**	**271**	Pn	**Pn**	**11 34 45.5**	**+1.9**
	2.0nm,0.3s,baz=94,slow=9.0,SNR=17						
JFR	**Furan**	**4.91**	**259**	P	**Pn**	**11 34 48.8**	**+3.0**
JEM	**Erimo**	**4.96**	**245**	P	**Pn**	**11 34 48.5**	**+2.1**
JEM				*e*S	**Sn**	**11 35 44.3**	**+1.9**
JNBK	**Urakawa-nobuka**	**5.11**	**249**	P	**Pn**	**11 34 48.8**	**+0.4**
JBT2	**Biratori 2**	**5.19**	**256**	P	**Pn**	**11 34 50.8**	**+1.3**
YSS	**Yuzh-Sakhalins**	**5.26**	**305**	*eP*	**Pn**	**11 34 59**	**+0.4**
JEW	**Eniwo**	**5.81**	**259**	P	**Pn**	**11 35 00.6**	**+2.5**
JNB	**Noboribetsu**	**6.21**	**256**	P	**Pn**	**11 35 04.7**	**+1.1**
JNB				*e*S	**Sn**	**11 36 14.1**	**+0.8**
JKB	**Kayabe**	**6.43**	**251**	P	**Pn**	**11 35 07.1**	**+0.5**
JKB				*e*S	**Sn**	**11 36 15.9**	**-2.9**
JYM2	**Yakumo 2**	**6.80**	**255**	P	**Pn**	**11 35 12.5**	**+0.8**
JANG	**Nango**	**6.89**	**238**	P	**Pn**	**11 35 11.7**	**-1.3**
JANG				*e*S	**Sn**	**11 36 25.4**	**-4.7**
JTM	**Tenmabayashi**	**6.94**	**243**	P	**Pn**	**11 35 13.9**	**+0.3**
JTM				*e*S	**Sn**	**11 36 27.5**	**-3.7**
JOSM	**Okushiri--Mats**	**7.44**	**256**	P	**Pn**	**11 35 21.6**	**+1.2**
SKR	**Severo-Kuril's**	**7.95**	**34**	⇓*eP*	**Pn**	**11 35 28.5**	**+1.2**
SKR				AMB	AMB	11 35 29.3	
	90nm,1.0s						
SKR				*e*S	**Sn**	**11 36 51.8**	**-4.0**
JIO	**Ouri**	**8.28**	**228**	*e*S	Sn	11 36 56.1	-8.0
PETK	**Petropavlovsk-**	**10.47**	**29**	Pn	**Pn**	**11 36 01.6**	**-0.3**
	0.2nm,0.3s,baz=210,slow=12,SNR=7.2						
MJAR	**Matsushiro Ar**	**11.38**	**231**	Pn	**Pn**	**11 36 14.1**	**-0.4**
	0.0nm,0.3s,baz=19,slow=7.8,SNR=3.2						
USRK	**Ussuriysk Ar.**	**12.35**	**276**	Pn	**Pn**	**11 36 29.4**	**+1.8**
	baz=84,slow=14,SNR=5.5						
KLR	**Kul'dur**	**12.95**	**299**	LR	LR	11 42 04.2	
	comp=Z,34nm,19.3s,baz=120,slow=40						
EKMR	**Ekimchan**	**13.86**	**315**	*eP*	**Pn**	**11 36 46.0**	**-2.3**
BMNR	**Bomnak**	**16.80**	**316**	*eP*	**Pn**	**11 37 25.6**	**-1.0**
BMKR				AMB	AMB	11 37 29.2	
	10.0nm,0.8s						
KROS	**Kirovskiy**	**17.62**	**313**	*eP*	**Pn**	**11 37 35.0**	**-1.9**
H11N2	**WAKE ISLAND Hy**	**28.57**	**143**	T	T	12 10 20.6	
	baz=333,slow=76,SNR=64						
H11N1	**WAKE ISLAND Hy**	**28.59**	**143**	T	T	12 10 24.6	
	baz=333,slow=76,SNR=47						
H11N3	**WAKE ISLAND Hy**	**28.59**	**143**	T	T	12 10 24.9	
	baz=333,slow=76,SNR=56						
H11S1	**WAKE ISLAND Hy**	**29.58**	**145**	T	T	12 11 39.4	
	baz=334,slow=76,SNR=66						
H11S3	**WAKE ISLAND Hy**	**29.59**	**145**	T	T	12 11 39.9	
	baz=334,slow=76,SNR=56						
H11S2	**WAKE ISLAND Hy**	**29.60**	**145**	T	T	12 11 35.9	
	baz=334,slow=76,SNR=45						
SONM	**Songino Array**	**29.64**	**292**	P	**P**	**11 39 35.9**	**-0.4**
	0.4nm,0.4s,baz=80,slow=8.3,SNR=3.5						
SONM				LR	LR	11 53 56.2	
	comp=Z,15nm,18.1s,baz=204,slow=42						
WHN	**Wuhan**	**30.64**	**255**	P	P	11 39 40.2	-4.9
ILAR	**Eielson Array**	**40.20**	**37**	P	**P**	**11 41 07.8**	**+1.1**
	0.3nm,0.5s,baz=266,slow=9.1,SNR=10						
MKAR	**Makanchi Array**	**45.66**	**298**	LR	LR	12 02 21.1	
	comp=Z,36nm,18.1s,baz=59,slow=38						
CMAR	**Chiang Mai Arr**	**49.09**	**255**	P	**P**	**11 42 18.2**	**+0.1**
	0.5nm,0.3s,baz=34,slow=6.6,SNR=3.2						
CMAR				LR	LR	12 05 24.6	
	comp=Z,15nm,18.4s,baz=55,slow=39						
YKA	**Yellowknife Ar**	**54.55**	**35**	P	**P**	**11 42 58.6**	**+0.4**
	0.3nm,0.8s,baz=301,slow=7.7,SNR=4.7						
WRA	**Warramunga Arr**	**65.33**	**195**	P	**P**	**11 44 13.5**	**+0.9**
	0.2nm,0.5s,baz=13,slow=7.1,SNR=3.3						
NVAR	**Mina Array Bea**	**66.05**	**59**	P	**P**	**11 44 19.7**	**+2.1**
	0.2nm,0.6s,baz=294,slow=6.5,SNR=2.7						
NOA	**NORSAR Array B**	**69.65**	**340**	P	**P**	**11 44 38.4**	**-1.2**
	1.3nm,0.8s,baz=31,slow=5.9,SNR=3.0						
AKASG	**Malin Array Be**	**72.03**	**325**	P	**P**	**11 44 52.6**	**-1.5**
	0.2nm,0.3s,baz=33,slow=6.0,SNR=5.4						
TXAR	**Lajitas Array**	**81.13**	**58**	P	**P**	**11 45 48.0**	**+1.9**
	0.3nm,0.5s,baz=301,slow=4.9,SNR=5.0						

*ISCJB **10** 11:42:51.2±0.5, 6°13N±0°03×95°61E±0°07, h226km, mb3.6/7, Error ellipse: s-maj=9.2km s-min=3.7km az=166.8*
*NEIC **10** 11:42:52.8±2.5, 6°10N±0°09×95°6E±0°1, h225km±7km, mb4.2/12*
*DJA **10** 11:42:52.3±1.0, 6°N±6°×9°5E±°, h227km±5km, M4.2/7, mb4.2/5, mB4.5/1, MLv4.1/7, Mw(mB)3.6/1*
*IDC **10** 11:42:54.2±2.4, 6°23N×95°86E, h226km±19km, mb3.5/7, mb1 3.7/9, mb1mx3.2/44, mbtmp4.1/9, Error ellipse: s-maj=63.4km s-min=11.5km az=63.0*

ISC 10 11:42:52.5±0.7, **6°13N**±0°05×**95°61E**±0°09, **h226**km, **n60, σ1^{s}53/68, mb4.0**/13, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**1.61**	**124**	P	**Pn**	**11 43 29.6**	**+0.2**
LHMI				S	**S**	**11 43 59.4**	**+1.2**
LHMI	**Lhok Sumawe**	**1.61**	**124**	P	**Pn**	**11 43 29.7**	**+0.2**
LHMI				S	**S**	**11 43 56.9**	**-1.3**
CMBY	**CAMPBELL BAY**	**1.89**	**298**	*eP*	Pn	11 43 26.7	-5.2
CMBY				*e*S	S	11 43 51.8	-11
CMBY				IAML		11 43 55.7	
	comp=N,2μm,0.2s						
CMBY				IAML		11 43 55.9	
	comp=E,2μm,0.2s						
MLSI	**Meulaboh, Aceh**	**2.02**	**157**	P	**Pn**	**11 43 32.0**	**-1.2**
MLSI				S	**S**	**11 44 03.4**	**-1.6**
TPTI		**3.25**	**151**	P	**Pn**	**11 43 44.9**	**-1.6**
TPTI				S	**S**	**11 44 27.6**	**-1.3**
KCSI	**Kotacane, Aceh**	**3.37**	**140**	P	**Pn**	**11 43 46.8**	**-1.1**
KCSI				S	**S**	**11 44 30.4**	**-0.9**
SNSI	**Sinabang, Aceh**	**3.77**	**169**	P	**Pn**	**11 43 50.1**	**-2.4**
SNSI				S	**S**	**11 44 36.3**	**-3.5**
SURT	**Suratani**	**4.22**	**48**	P	**Pn**	**11 43 56.4**	**-1.6**
TRTT	**Trang**	**4.39**	**67**	P	**Pn**	**11 43 58.4**	**-1.7**
PSI	**Prapat**	**4.68**	**135**	P	**Pn**	**11 44 04.1**	**+0.3**
	comp=E,4.6nm,0.3s,baz=282,slow=12,SNR=14						
PSI				S	**S**	**11 44 59.9**	**0.0**
	comp=E,2.6nm,0.3s,baz=22,slow=16,SNR=5.5						
RPSI	**Rantau Prapat**	**4.75**	**136**		**Pn**	**11 44 03.6**	**-1.0**
RPSI				S	**S**	**11 44 59.1**	**-2.3**
RPSI	**Rantau Prapat**	**4.75**	**136**		**Pn**	**11 44 04.1**	**-0.5**
RPSI					**S**	**11 44 59.9**	**-1.5**
KULM	**Kulim**	**5.08**	**99**		**Pn**	**11 44 08.6**	**-0.1**
KULM				S	**S**	**11 45 06.6**	**-2.4**
GSI	**Gunungsitoli**	**5.18**	**158**	P	**Pn**	**11 44 09.3**	**-0.6**
	comp=E,26nm,0.7s,comp=E,0.8nm						
GSI	**Gunungsitoli**	**5.18**	**158**	Pn	**Pn**	**11 44 09.3**	**-0.6**
GSI					**S**	**11 45 07.5**	**-3.8**
IPM	**Ipoh**	**5.64**	**107**		**Pn**	**11 44 15.6**	**0.0**
PBA	**Port Blair**	**6.17**	**333**	*eP*	Pn	11 44 14.4	-8.0
PBA				*e*S	S	11 45 19.3	-15
PBA				IAML		11 45 27.4	
	comp=E,127nm,0.5s						
PBA				IAML		11 45 27.7	
	comp=N,140nm,0.5s						
DGPR	**DIGLIPUR**	**7.48**	**340**	*eP*	Pn	11 44 31.8	-7.4
DGPR				*e*S	S	11 45 47.4	-17
DGPR				IAML		11 45 54.6	
	comp=N,74nm,0.1s						
DGPR				IAML		11 45 55.0	
	comp=E,72nm,0.2s						
PHET	**Kaeng Krachan**	**7.81**	**30**	P	**Pn**	**11 44 41.9**	**-1.5**
	comp=E,37μm,0.8s,comp=E,125nm						
PDSI	**Padang**	**8.51**	**145**	P	**Pn**	**11 44 51.9**	**-0.5**
	comp=E,14nm,0.5s						
SDSI	**Sungai Dareh**	**9.11**	**140**	P	**Pn**	**11 44 58.2**	**-1.9**
	comp=E,23nm,0.5s						
CHAI	**Chaiyaphum**	**11.55**	**32**	P	**Pn**	**11 45 30.5**	**-0.6**
	comp=E,28μm,0.9s,comp=E,360μm						
PBKT	**Sadao Pong**	**11.63**	**26**	P	**Pn**	**11 45 30.9**	**-1.2**
	comp=E,7.7nm,0.8s						
PBKT	**Sadao Pong**	**11.63**	**26**		**Pn**	**11 45 31.1**	**-1.0**
UTTA	**Uttaradit**	**12.51**	**22**	P	**P**	**11 45 46.5**	**+0.3**
	comp=E,10μm,0.7s						
CM31	**Chiang Mai Arr**	**12.68**	**15**	Pn	**Pn**	**11 45 43.3**	**-1.9**
CMAR	**Chiang Mai Arr**	**12.68**	**15**	P	**Pn**	**11 45 44.2**	**-1.0**
	comp=E,0.8nm,0.3s,baz=208,slow=11,SNR=17						
MNAI	**Manna**	**12.75**	**145**	Pn	**Pn**	**11 45 45.6**	**-0.5**
CHTO	**Chiang Mai**	**13.02**	**14**	Pn	**Pn**	**11 45 47.9**	**-1.6**
CMMT	**Chiang Mai**	**13.02**	**14**	P	**P**	**11 45 51.1**	**-0.8**
	comp=E,5.3nm,0.7s,comp=E,420nm						
PHRA	**Phrae**	**13.09**	**20**	P	**Pn**	**11 45 50.2**	**-0.2**
	comp=E,1.1nm,1.1s						
SKNT	**Sakolnakorn**	**13.54**	**37**	P	**Pn**	**11 45 55.4**	**-0.5**
	comp=E,24nm,1.7s,comp=E,1μm						
MDSI	**Maura Dua**	**13.58**	**141**	P	**P**	**11 45 59.6**	**+1.4**
NONG	**Nongkai**	**13.96**	**31**	P	**Pn**	**11 46 00.6**	**-0.4**
	comp=E,0.3nm,1.0s						
KLSI		**14.09**	**140**	P	**P**	**11 46 06.4**	**+2.6**
CISI	**Cisompet, Garu**	**18.25**	**138**	P	**P**	**11 46 48.1**	**-1.5**
MPSI	**Mapaga**	**24.91**	**102**	P	**P**	**11 47 58.1**	**+2.8**
H08S3	**Diego Garcia H**	**26.81**	**240**	T	T	12 14 51.4	
	baz=58,slow=75,SNR=53						
H08S2	**Diego Garcia H**	**26.82**	**240**	T	T	12 14 50.3	
	baz=58,slow=75,SNR=60						
H08S1	**Diego Carcia H**	**26.83**	**240**	T	T	12 14 40.0	
	baz=58,slow=75,SNR=58						
WHN	**Wuhan**	**30.00**	**34**	P	**P**	**11 48 37.2**	**-3.1**
SOEI	**Soe**	**32.62**	**119**	P	**P**	**11 49 00.4**	**-3.2**
FITZ	**Fitzroy Crossi**	**38.18**	**130**	P	**P**	**11 49 51.1**	**+0.5**
FITZ				IAmb	IAmb	11 50 39.3	
	comp=Z,12nm,1.7s						
KNRA	**Kununurra**	**39.34**	**124**	P	**P**	**11 50 00.3**	**0.0**
KNRA				IAmb	IAmb	11 50 01.2	
	comp=Z,10nm,1.2s						
MKAR	**Makanchi Array**	**42.10**	**346**	P	**P**	**11 50 23.3**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=166,slow=8.9,SNR=3.5						
NWAO	**Narrogin (SRO)**	**43.95**	**153**	P	**P**	**11 50 39.2**	**+1.9**
	comp=Z,10nm,0.9s,baz=304,slow=11,SNR=4.4						
NWAO	**Narrogin (SRO)**	**43.95**	**153**	P	**P**	**11 50 39.0**	**+1.7**
WRA	**Warramunga Arr**	**46.07**	**125**	P	**P**	**11 50 55.0**	**+0.7**
	comp=Z,3.1nm,0.5s,baz=308,slow=8.5,SNR=58						
WRA				PcP	**PcP**	**11 52 26.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=310,slow=2.9,SNR=2.9						
WRAB	**Tennant Creek**	**46.08**	**125**	P	**P**	**11 50 55.3**	**+1.0**
WRAB				IAmb	IAmb	11 50 55.8	
	comp=Z,5.0nm,0.6s						
WB2	**Warramunga Arr**	**46.08**	**125**	P	**P**	**11 50 55.2**	**+0.8**
WB2				IAmb	IAmb	11 50 55.8	
	comp=Z,5.5nm,0.7s						
WR0	**Warramunga Arr**	**46.24**	**125**	P	**P**	**11 50 56.4**	**+0.7**
WR0				IAmb	IAmb	11 50 57.2	
	comp=Z,13nm,1.4s						
KURBB	**Kurchatov Arra**	**46.59**	**345**	P	**P**	**11 50 58.9**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=156,slow=7.0,SNR=3.8						
KURK	**Kurchatov**	**46.65**	**345**	P	**P**	**11 50 58.8**	**+0.5**
AS31	**Alice Springs**	**47.69**	**130**	P	**P**	**11 51 07.6**	**+0.8**
ASAR	**Alice Springs**	**47.69**	**130**	P	**P**	**11 51 07.7**	**+0.8**
	comp=Z,3.3nm,0.6s,baz=302,slow=7.9,SNR=88						
ASAR				PcP	**PcP**	**11 52 33.0**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=308,slow=3.1,SNR=4.3						
ASAR				ScP	**ScP**	**11 56 04.6**	**-0.5**
	comp=Z,0.2nm,0.8s,baz=304,slow=4.1,SNR=3.0						
FORT	**Forrest**	**48.08

TGUH				eS		Sn	12 00 51.8	+3.9	
TGUH	**Tegucigalpa,Un**	**2.41**	**353**			**Pn**	**12 00 20.0**	**+0.6**	
TGUH					Sn	**Sn**	**12 00 47.6**	**-0.2**	
ARE1	**Arenal 1**	**2.49**	**118**	*eP*		**Pn**	**12 00 21.5**	**+1.1**	
CEDE	**Laguna Cedeo**	**2.49**	**117**	*eP*		**Pn**	**12 00 22.2**	**+1.7**	
ESPN	**Las Esperanzas**	**2.65**	**78**	*eP*		**Pn**	**12 00 23.3**	**+0.7**	
ESPN	**Las Esperanzas**	**2.65**	**78**			**Pn**	**12 00 23.2**	**+0.7**	
VICT	**Victoria**	**2.82**	**325**	*eP*		**Pn**	**12 00 24.8**	**-0.3**	
VICT	**Victoria**	**2.82**	**325**	*eP*		**Pn**	**12 00 24.8**	**-0.3**	
LFRS	**El Faro**	**2.84**	**314**	*eP*		**Pn**	**12 00 25.7**	**+0.4**	
MTO3	**Montecristo**	**3.60**	**320**	*eP*		**Pn**	**12 00 37.1**	**+1.4**	
MTO3				eS		**Sn**	**12 01 16.3**	**-0.9**	
MTO3	**Montecristo**	**3.60**	**320**	*eP*		**Pn**	**12 00 37.1**	**+1.4**	
MTO3				eS		**Sn**	**12 01 16.3**	**-0.9**	
CMIG	**Matias Romero**	**9.39**	**306**	LR	LR	LR	12 06 22.8		
	comp=Z,86nm,18.8s,baz=128,slow=41								
ATAH	**Atahualpa**	**20.51**	**155**	LR		LR	12 11 25.2		
	comp=Z,42nm,19.3s,baz=11,slow=34								
TXAR	**Lajitas Array**	**23.50**	**321**	P		**P**	**12 04 48.2**	**+0.7**	
	comp=Z,2.3nm,0.8s,baz=141,slow=9.8,SNR=18								
TX31	**Lajitas Ar. Si**	**23.50**	**321**	P		**P**	**12 04 48.5**	**+0.9**	
TX32	**Lajitas Array**	**23.50**	**321**	P		**P**	**12 04 48.5**	**+0.9**	
MIAR	**Mount Ida**	**23.58**	**346**	P		**P**	**12 04 49.0**	**+0.9**	
MIAR				IAmb	IAmb	IAmb	12 04 49.1		
	comp=Z,5.2nm,0.8s								
CLTN	**Cedars of Leba**	**24.34**	**1**	P		**P**	**12 04 57.0**	**+1.9**	
CLTN				IAmb		IAmb	12 04 57.7		
	comp=Z,4.0nm,0.8s								
V58A	**Windy Hill, Pi**	**25.06**	**15**	P		**P**	**12 05 02.4**	**+0.7**	
WMOK	**Wichita Mounta**	**25.38**	**337**	P		**P**	**12 05 04.2**	**-0.4**	
WMOK				IAmb	IAmb	IAmb	12 05 07.4		
	comp=Z,11nm,1.0s								
NNA	**Nana**	**25.54**	**157**	LR	LR	LR	12 14 12.5		
	comp=Z,19nm,18.7s,baz=352,slow=34								
MSTX	**Muleshoe**	**26.50**	**329**	P		**P**	**12 05 14.6**	**-0.3**	
MSTX				IAmb		IAmb	12 05 17.8		
	comp=Z,5.5nm,0.8s								
SAML	**Samuel**	**31.27**	**130**	P		**P**	**12 05 57.3**	**0.0**	
SAML				IAmb		IAmb	12 05 58.3		
	comp=Z,2.4nm,0.7s								
GO01	**Chusmiza**	**35.70**	**150**	P		**P**	**12 06 33.5**	**-2.9**	
PDAR	**Pinedale Array**	**36.70**	**332**	P		**P**	**12 06 45.0**	**+0.5**	
	comp=Z,0.6nm,0.6s,baz=126,slow=11,SNR=6.7								
REDW	**Red Top Meadow**	**37.77**	**331**	P		**P**	**12 06 53.4**	**0.0**	
REDW				IAmb		IAmb	12 07 56.7		
	comp=Z,4.2nm,0.9s								
NVAR	**Mina Array Bea**	**38.62**	**319**	P		**P**	**12 07 04.6**	**+3.9**	
	comp=Z,0.4nm,0.7s,baz=122,slow=8.6,SNR=3.0								
NVAR				PcP		**PcP**	**12 09 12.7**	**+0.5**	
	comp=Z,0.3nm,0.6s,baz=145,slow=3.3,SNR=5.4								
NVAR				LR		LR	12 27 09.6		
	comp=Z,25nm,19.0s,baz=56,slow=43								
ULM	**Lac du Bonnet**	**39.18**	**351**	P		**P**	**12 07 02.5**	**-2.4**	
	comp=Z,3.0nm,0.9s,baz=165,slow=5.0,SNR=4.1								
YKA	**Yellowknife Ar**	**54.51**	**345**	P		**P**	**12 09 03.3**	**-1.0**	
	comp=Z,1.0nm,0.8s,baz=138,slow=7.7,SNR=20								
YKA				PcP		**PcP**	**12 10 06.8**	**-0.3**	
	comp=Z,0.1nm,0.6s,baz=147,slow=3.2,SNR=3.0								
ILAR	**Eielson Array**	**66.94**	**336**	P		**P**	**12 10 28.1**	**-0.9**	
	comp=Z,0.6nm,1.0s,baz=147,slow=5.4,SNR=4.9								
WRA	**Warramunga Arr**	**139.51**	**253**	PKP		**PKPdf**	**12 19 06.1**	**+1.4**	
	comp=Z,0.4nm,0.7s,baz=90,slow=2.3,SNR=4.1								
CMAR	**Chiang Mai Arr**	**149.52**	**349**	PKPbc		**PKPbc**	**12 19 27.1**	**+0.5**	
	comp=Z,0.8nm,0.6s,baz=354,slow=4.0,SNR=5.5								

*IDC **10** 12:11:24.6±6.8, 51.°61N×177.°74E, h0km, mb3.3/6, mb1 3.8/7, mb1mx3.5/48, mbtmp3.5/7, ML4.1/1, Error ellipse: s-maj=128.4km s-min=50.6km az=80.0*
*ISCJB **10** 12:12:06.8±0.8, 52.°35N±0.°07×178.°8W±0.°1, h250km, mb3.0/5, Error ellipse: s-maj=12.0km s-min=9.8km az=156.0*
*NEIC **10** 12:12:08.0±1.4, 52.°3N±0.°2×178.°7W±0.°2, h245km±6km, mb4.0/38*

ISC 10 12:12:07.7±1.2, 52.°5N±0.°2×178.°8W±0.°1, h250km, n56, σ1s73/51, mb3.8/15, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**1.18**	**122**	Pn	**Pn**	**12 12 43.3**	**-0.4**
KIWB					**S**	**12 13 11.1**	**-1.0**
ADK	**Adak**	**1.41**	**114**	Pn	**Pn**	**12 12 44.7**	**-0.6**
ADK					**S**	**12 13 13.3**	**-1.6**
GSTR	**Great Sitkin T**	**1.70**	**102**		**Pn**	**12 12 47.1**	**-0.5**
GSTR					**S**	**12 13 16.9**	**-2.1**
ATKA	**Atka Island**	**2.81**	**94**	Pn	**Pn**	**12 12 58.3**	**+0.2**
ATKA					**S**	**12 13 37.9**	**-0.1**
SVW2	**Sparrevohn**	**15.27**	**47**		**Pn**	**12 15 33.3**	**+2.4**
SVW2				IAmb	IAmb	12 15 35.4	
	comp=Z,2.9nm,0.8s						
KDAK	**Kodiak Island**	**15.82**	**60**	P	**Pn**	**12 15 36.8**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=276,slow=9.2,SNR=34						
KDAK	**Kodiak Island**	**15.82**	**60**	P	**Pn**	**12 15 38.6**	**+1.3**
RSO	**Redoubt South**	**16.34**	**51**	Pn	**Pn**	**12 15 45.9**	**+2.2**
CNPM	**China Poot**	**16.83**	**54**		**Pn**	**12 15 48.8**	**-0.4**
BRLK	**Bradley Lake**	**17.06**	**54**		**Pn**	**12 15 50.8**	**-1.2**
BRLK				IAmb	IAmb	12 15 56.6	
	comp=Z,11nm,1.1s						
SKT	**Skwentna**	**17.40**	**46**	P	**Pn**	**12 15 56.2**	**+0.3**
SKT				IAmb	IAmb	12 16 02.5	
	comp=Z,10nm,1.4s						
PPLA	**Purkeypile**	**17.47**	**43**		**Pn**	**12 15 56.3**	**-0.6**
PPLA				IAmb	IAmb	12 16 09.9	
	comp=Z,3.4nm,1.0s						
SUA	**Susitna One**	**17.58**	**48**		**Pn**	**12 15 57.4**	**-0.7**
SUA				IAmb	IAmb	12 15 59.5	
	comp=Z,3.4nm,0.8s						
SEW	**Seward**	**17.84**	**53**		**Pn**	**12 15 59.7**	**-1.2**
RC01	**Rabbit Creek A**	**17.94**	**50**		**Pn**	**12 16 00.3**	**-1.9**
RC01				IAmb	IAmb	12 16 04.8	
	comp=Z,6.5nm,1.3s						
KTH	**Kantishna Hill**	**18.27**	**42**		**Pn**	**12 16 05.0**	**-1.1**
KTH				IAmb	IAmb	12 16 08.9	
	comp=Z,3.6nm,0.9s						
TRF	**Thorofare Moun**	**18.48**	**43**		**Pn**	**12 16 07.7**	**-1.0**
GHO	**Glory Hole Cre**	**18.51**	**48**		**Pn**	**12 16 08.3**	**-0.7**
SCM	**Sheep Creek Mo**	**19.25**	**49**	P	**Pn**	**12 16 14.9**	**-2.8**
HIN	**Hinchinbrook I**	**19.34**	**53**	P	**Pn**	**12 16 15.7**	**-3.0**
FID	**Port Fidalgo**	**19.41**	**52**	P	**Pn**	**12 16 15.3**	**-4.2**
DHY	**Denali Highway**	**19.59**	**45**	P	**Pn**	**12 16 17.8**	**-3.9**
DHY				IAmb	IAmb	12 16 20.7	
	comp=Z,3.2nm,0.9s						
WRH	**Wood River Hil**	**19.78**	**41**	P	**Pn**	**12 16 19.2**	**-4.5**
HDA	**Harding Lake**	**20.21**	**41**	P	Pn	12 16 22.5	-6.4
IL31		**20.37**	**41**	P	Pn	12 16 25.5	-5.1
ILAR	**Eielson Array**	**20.37**	**41**	P	Pn	12 16 25.6	-5.1
	comp=Z,0.4nm,0.5s,baz=237,slow=8.2,SNR=9.9						
ILAR	**Eielson Array**	**20.37**	**41**	P	Pn	12 16 25.6	-5.1
GLB	**Gilahina Butte**	**20.81**	**51**	P	Pn	12 16 30.9	-5.1
GLB				IAmb	IAmb	12 16 35.5	
	comp=Z,2.9nm,1.0s						
RIDG	**Independent Ri**	**20.87**	**44**	P	Pn	12 16 30.2	-6.4
VRDI	**Verde Repeater**	**20.95**	**51**	P	Pn	12 16 33.1	-4.6
VRDI				IAmb	IAmb	12 16 33.4	
	comp=Z,12nm,1.5s						
CRQM	**Cirque**	**21.04**	**53**	P	**P**	**12 16 34.0**	**+1.6**
CRQM				IAmb	IAmb	12 16 38.7	
	comp=Z,7.6nm,1.0s						
MENT	**Mentasta**	**21.15**	**47**	P	**P**	**12 16 36.0**	**+2.6**
MENT				IAmb	IAmb	12 16 38.5	
	comp=Z,3.0nm,1.1s						
MCARA	**McCarthy VSAT**	**21.18**	**51**	P	**P**	**12 16 32.7**	**-0.9**
MCARA				IAmb	IAmb	12 16 44.7	
	comp=Z,14nm,1.4s						
DOT	**Dot Lake**	**21.18**	**45**	P	**P**	**12 16 33.8**	**+0.1**
TGL	**Tana Glacier**	**21.18**	**53**	P	**P**	**12 16 34.3**	**+0.5**
SCRK	**Sand Creek**	**21.30**	**44**	P	**P**	**12 16 34.8**	**-0.1**
BALM	**Baldy**	**21.45**	**52**	P	**P**	**12 16 38.1**	**+1.7**
YAH	**Yahtse**	**21.68**	**54**	P	**P**	**12 16 40.4**	**+1.7**
YAH				IAmb	IAmb	12 16 45.1	
	comp=Z,13nm,1.3s						
FYU	**Fort Yukon**	**21.71**	**37**	P	**P**	**12 16 40.2**	**+1.7**
FYU				IAmb	IAmb	12 16 41.7	
	comp=Z,4.1nm,0.8s						
BARN	**Barnard Glacie**	**21.79**	**52**	P	**P**	**12 16 40.9**	**+1.3**
BARN				IAmb	IAmb	12 16 42.9	
	comp=Z,2.9nm,0.6s						
CTGM	**Chitina Glacie**	**21.94**	**53**	P	**P**	**12 16 42.5**	**+1.6**
CTGM				IAmb	IAmb	12 17 01.5	
	comp=Z,9.5nm,1.3s						
EGAK	**Eagle**	**22.70**	**43**	P	**P**	**12 16 48.9**	**+1.2**
EGAK				IAmb	IAmb	12 16 51.1	
	comp=Z,6.1nm,1.0s						
DAWY	**Dawson**	**23.29**	**45**	P	**P**	**12 16 54.8**	**+1.8**
INK	**Inuvik**	**26.54**	**36**	P	**P**	**12 17 20.1**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=287,slow=7.8,SNR=3.4						
ERM	**Erimo**	**27.59**	**263**	P	**P**	**12 17 32.2**	**+0.5**
YKA	**Yellowknife Ar**	**34.46**	**48**	P	P	12 18 33.0	+1.6
	comp=Z,0.5nm,0.6s,baz=284,slow=8.2,SNR=6.8						
YKA	**Yellowknife Ar**	**34.46**	**48**	P	P	12 18 33.0	+1.5
MCMT	**McKenzie Canyo**	**42.82**	**73**	P	**P**	**12 19 42.4**	**+1.2**
NVAR	**Mina Array Bea**	**43.40**	**84**	P	**P**	**12 19 47.4**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=294,slow=6.6,SNR=3.0						
NVAR	**Mina Array Bea**	**43.40**	**84**	P	**P**	**12 19 47.4**	**+1.5**
PDAR	**Pinedale Array**	**45.96**	**73**	P	**P**	**12 20 06.5**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=336,slow=2.6,SNR=5.3						
PDAR	**Pinedale Array**	**45.96**	**73**	P	**P**	**12 20 06.5**	**+0.6**
PV03	**Paradox Valley**	**49.21**	**78**	P	**P**	**12 20 31.8**	**+0.9**
PV03				IAmb	IAmb	12 20 32.1	
	comp=Z,4.9nm,1.5s						
TX32	**Lajitas Array**	**58.46**	**82**	P	**P**	**12 21 37.2**	**-0.4**
TX32				IAmb	IAmb	12 21 50.8	
	comp=Z,3.9nm,1.4s						
TXAR	**Lajitas Array**	**58.47**	**82**	P	**P**	**12 21 38.2**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=307,slow=5.6,SNR=7.5						
TXAR	**Lajitas Array**	**58.47**	**82**	P	**P**	**12 21 38.2**	**+0.6**

*ISCJB **10** 12:19:24.2±1.0, 50.°5N±0.°2×179.°5E±0.°2, h33km, Error ellipse: s-maj=29.0km s-min=7.4km az=149.6*
*NEIC **10** 12:19:26.2±2.4, 50.°5N±0.°2×179.°5E±0.°3, h29km±8km*
*AEIC **10** 12:19:27.4±2.7, 50.°7N±0.°2×179.°5E±0.°3, h29km±7km, mb4.0/8(NEIC)*

ISC 10 12:19:26.3±1.4, 50.°5N±0.°2×179.°6E±0.°1, h35km, n19, σ1s13/25, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASE	**Tanaga Southea**	**2.04**	**47**		**Pn**	**12 19 58.5**	**+0.2**
TASE					**Sn**	**12 20 22.6**	**+0.1**
TAFP	**Tanaga Falls P**	**2.11**	**46**		**Pn**	**12 19 59.6**	**+0.5**
TAFP					**Sn**	**12 20 24.8**	**+0.6**
TAPA	**Tanaga Point A**	**2.14**	**50**		**Pn**	**12 20 00.7**	**+1.1**
KIWB	**Kanaga Island**	**2.49**	**55**	Pn	**Pn**	**12 20 05.3**	**+1.0**
KIWB				Sn	**Sn**	**12 20 32.4**	**-1.2**
KIKV	**Kanaga Island**	**2.50**	**54**		**Pn**	**12 20 05.8**	**+1.4**
KIKV					**Sn**	**12 20 34.9**	**+1.2**
ADK	**Adak**	**2.76**	**57**	Pn	**Pn**	**12 20 08.7**	**+0.8**
ADK	**Adak**	**2.76**	**57**	Sn	**Sn**	**12 20 40.7**	**+0.7**
GSTD	**Great Sitkin T**	**3.13**	**58**		**Sn**	**12 20 51.0**	**+1.6**
GSTR	**Great Sitkin T**	**3.20**	**58**		**Pn**	**12 20 14.3**	**+0.2**
GSTR				Sn	**Sn**	**12 20 49.9**	**-1.0**
ATKA	**Atka Island**	**4.28**	**64**		**Pn**	**12 20 27.2**	**-1.7**
ATKA				Sn	**Sn**	**12 21 18.5**	**+0.9**
ATKA	**Atka Island**	**4.28**	**64**		**Sn**	**12 21 20.0**	**+2.4**
OHAK	**Old Harbor**	**17.31**	**57**	Pn	**Pn**	**12 23 23.6**	**-1.2**
OHAK				IAmb	IAmb	12 23 38.2	
	comp=Z,14nm,1.1s						
KDAK	**Kodiak Island**	**17.80**	**55**	Pn	**Pn**	**12 23 30.4**	**-0.5**
KDAK				IAmb	IAmb	12 23 46.2	
	comp=Z,12nm,1.2s						
SKT	**Skwentna**	**19.58**	**43**	P	**P**	**12 23 50.1**	**-0.9**
KTH	**Kantishna Hill**	**20.49**	**39**	P	**P**	**12 24 00.4**	**-0.5**
BWN	**Browne**	**21.34**	**38**	P	**P**	**12 24 09.7**	**-0.3**
BWN				IAmb	IAmb	12 24 24.1	
	comp=Z,15nm,0.8s						
DHY	**Denali Highway**	**21.78**	**42**	P	**P**	**12 24 13.3**	**-1.5**
DHY				IAmb	IAmb	12 24 27.1	
	comp=Z,4.0nm,1.2s						
TULEG	**Thule**	**46.17**	**18**	P	**P**	**12 27 46.7**	**-0.1**
WRAB	**Tennant Creek**	**80.62**	**223**	P	**P**	**12 31 36.0**	**+0.8**

*CNRM **10** 12:21:18.6, 35.°40N×5.°39W, h190km*
*IGIL **10** 12:21:36.5, 35.°82N×4.°75W, h10km, ML2.2*
*SFS **10** 12:21:36.0, 35.°72N×4.°71W, h81km, ML2.9, w. DE ALBORAN*
*MDD **10** 12:21:37.2±1.0, 35.°77N×4.°71W, h86km±7km, mb2.9/12, Error ellipse: s-maj=9.2km s-min=4.6km az=167.0, PRXIMO*
*INMG **10** 12:21:37.3±0.8, 35.°78N×4.°74W, h78km±3km, ML2.2, Error ellipse: s-maj=2.9km s-min=2.2km az=169.0*

ISC 10 12:21:34.0±1.4, 35.°71N±0.°05×4.°68W±0.°03, h103km±8km, n57, σ1s69/86, 4C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMIR	**Smir Dam**	**0.57**	**268**	P	Pn	12 21 44.7	-5.8
SMIR				S	**Sn**	**12 22 04.0**	**+1.0**
CEU	**Ceuta**	**0.60**	**289**	*eP*	**Pn**	**12 21 51.9**	**+1.2**
CEU				*eS*	**Sn**	**12 22 04.0**	**+0.6**
CEU	**Ceuta**	**0.60**	**289**	P	**Pn**	**12 21 51.9**	**+1.2**
CEU				S	**Sn**	**12 22 04.0**	**+0.6**
ECEU	**Ceuta**	**0.60**	**289**	P	**Pn**	**12 21 50.3**	**-0.6**
ECEU	14nm,0.1s,SNR=7.9			S	**Sn**	**12 22 01.3**	**-2.1**
	1.4nm,0.2s,SNR=7.9						
CHEFC	**Chefchaouen**	**0.81**	**222**	P	Pn	12 21 43.1	-10
CHEFC				S	**Sn**	**12 22 03.8**	**-3.1**
EMIJ	**Mijas**	**0.86**	**355**	P	**Pn**	**12 21 53.7**	**+0.5**
EMIJ	4.4nm,0.1s,SNR=17			S	**Sn**	**12 22 06.2**	**-1.5**
	23nm,0.2s,SNR=12						
EMAL	**Malaga-Limoner**	**1.07**	**11**	*eP*	**Pn**	**12 21 55.9**	**+0.5**
EMAL				*eS*	**Sn**	**12 22 10.6**	**-0.9**
AKLM	**AKL**	**1.37**	**151**	P	Pn	12 21 51.3	-7.6
AKLM				S	**Sn**	**12 22 15.5**	**-2.2**
ELGU	**Los Guajares,**	**1.44**	**36**	P	**Pn**	**12 22 00.2**	**+0.5**
ELGU	7.4nm,0.1s,SNR=7.9			S	**Sn**	**12 22 18.1**	**-1.1**
	11nm,0.3s,SNR=7.9						
EGOR	**Sierra Gorda,**	**1.48**	**18**	P	**Pn**	**12 22 01.6**	**+1.4**
EGOR	1.6nm,0.2s,SNR=7.9			S	**Sn**	**12 22 19.1**	**-1.0**
	1.3nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.80**	**33**	P	**Pn**	**12 22 06.7**	**+2.5**
EQUE	1.0nm,0.2s,SNR=7.9			S	**Sn**	**12 22 27.3**	**+0.1**
	2.6nm,0.3s,SNR=7.9						
LCRM	**LCR**	**2.02**	**184**	P	Pn	12 21 56.3	-11
LCRM				S	Sn	12 22 24.4	-8.0
HORN	**Hornachuelos**	**2.19**	**348**	P	Pn	12 22 00.7	-8.3
HORN				S	**Sn**	**12 22 34.5**	**-1.5**
JBK	**JBK**	**2.21**	**128**	P	Pn	12 22 02.3	-7.3
JBK				S	**Sn**	**12 22 34.9**	**-1.8**
ECAB	**El Cabril**	**2.44**	**346**	P	**Pn**	**12 22 13.5**	**+1.1**
ECAB	2.8nm,0.1s,SNR=6.0			S	**Sn**	**12 22 40.3**	**-1.5**
	9.2nm,0.1s,SNR=13						
EADA	**Adamuz**	**2.46**	**2**	⇑P	**Pn**	**12 22 14.2**	**+1.6**
EADA	4.7nm,0.1s,SNR=18			S	**Sn**	**12 22 41.0**	**-1.3**
	24nm,0.1s,SNR=22						
EQES	**Quesada**	**2.46**	**31**	P	**Pn**	**12 22 15.2**	**+2.5**
EQES	0.4nm,0.1s,SNR=7.9			S	**Sn**	**12 22 42.2**	**-0.2**
	3.6nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.61**	**323**	⇑P	**Pn**	**12 22 15.9**	**+1.4**
EMIN	6.6nm,0.1s,SNR=18			S	**Sn**	**12 22 44.1**	**-1.7**
	1.7nm,0.1s,SNR=14						
ZHG	**ZHG**	**2.78**	**216**	P	Pn	12 21 59.4	-17
ZHG				S	Sn	12 22 33.8	-16
MDT	**Midelt**	**2.88**	**179**	P	Pn	12 22 04.2	-14
MDT				S	Sn	12 22 39.7	-13
EGRO	**El Granado**	**2.90**	**310**	⇑P	**Pn**	**12 22 19.8**	**+1.4**
EGRO	4.3nm,0.1s,SNR=18			S	**Sn**	**12 22 51.3**	**-1.4**
	4.5nm,0.2s,SNR=6.0						
SESP	**Santiago Espad**	**2.95**	**35**	P	**Pn**	**12 22 21.1**	**+1.8**
SESP	0.3nm,0.1s,SNR=7.9			S	**Sn**	**12 22 53.6**	**-0.6**
	3.5nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**2.98**	**306**	*eP*	**Pn**	**12 22 21.0**	**+1.6**
PVAQ				*eS*	**Sn**	**12 22 53.4**	**-1.1**
PVAQ				A	A	12 22 55.8	
	5.7nm,0.3s						
PVAQ	**Vaqueiros**	**2.98**	**306**	P	**Pn**	**12 22 21.0**	**+1.6**
PVAQ				S	**Sn**	**12 22 53.4**	**-1.1**
	5.7nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.04**	**301**	*eP*	**Pn**	**12 22 21.8**	**+1.5**
PBDV				*eS*	**Sn**	**12 22 55.4**	**-0.6**
PBDV				A	A	12 22 56.6	
	5.7nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.04**	**301**	P	**Pn**	**12 22 21.8**	**+1.5**
PBDV				S	**Sn**	**12 22 55.4**	**-0.6**
	5.7nm,0.4s						
PBAR	**Barrancos**	**3.11**	**323**	*eP*	**Pn**	**12 22 22.9**	**+1.7**
PBAR				*eS*	**Sn**	**12 22 56.7**	**-0.9**
PBAR	**Barrancos**	**3.11**	**323**	P	**Pn**	**12 22 22.9**	**+1.7**
PBAR				S	**Sn**	**12 22 56.7**	**-0.9**
PCVE	**Castro Verde**	**3.32**	**306**	*eP*	**Pn**	**12 22 25.4**	**+1.4**
PCVE				*eS*	**Sn**	**12 23 01.8**	**-0.8**
PCVE				A	A	12 23 03.0	
	4.5nm,0.2s						
PCVE	**Castro Verde**	**3.32**	**306**	P	**Pn**	**12 22 25.4**	**+1.4**
PCVE				S	**Sn**	**12 23 01.8**	**-0.8**
	4.5nm,0.2s						
PBEJ	**Beja**	**3.45**	**313**	*eS*	**Sn**	**12 23 05.0**	**-0.8**
PBEJ	**Beja**	**3.45**	**313**	S	**Sn**	**12 23 05.0**	**-0.8**
MESJ	**Messejana**	**3.55**	**308**	*eP*	**Pn**	**12 22 28.5**	**+1.4**
MESJ				*eS*	**Sn**	**12 23 06.3**	**-2.0**
MESJ				AML	AML	12 23 09.2	
	comp=N,6.8nm,0.2s						
MESJ	**Messejana**	**3.55**	**308**	P	**Pn**	**12 22 28.5**	**+1.4**
MESJ				S	**Sn**	**12 23 06.3**	**-2.0**
	comp=N,6.8nm,0.2s						
EBAD	**Badajoz**	**3.57**	**329**	⇑P	**Pn**	**12 22 29.1**	**+1.7**
	comp=N,3.7nm,0.1s,SNR=18						
EBAD				S	**Sn**	**12 23 07.0**	**-1.6**
	comp=N,6.4nm,0.1s,SNR=4.8						
PFVI	**Vila Bisbo**	**3.64**	**294**	*eS*	**Sn**	**12 23 09.7**	**-0.6**
PFVI	**Vila Bisbo**	**3.64**	**294**	P	**Pn**	**12 22 30.1**	**+1.8**
	comp=N,2.9nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**12 23 09.0**	**-1.3**
	comp=N,4.4nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**3.84**	**4**	P	**Pn**	**12 22 32.0**	**+0.9**
	comp=N,0.4nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**12 23 12.6**	**-2.7**
	comp=N,3.6nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.85**	**40**	P	**Pn**	**12 22 32.7**	**+1.5**
	comp=N,0.4nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**12 23 15.1**	**-0.5**
	comp=N,1.0nm,0.4s,SNR=7.9						
EVO	**Evora**	**3.88**	**318**	*eS*	**Sn**	**12 23 15.4**	**-0.8**
EVO	**Evora**	**3.88**	**318**	S	**Sn**	**12 23 15.4**	**-0.8**
PNCL	**Nicolau / Gran**	**3.91**	**309**	*eP*	**Pn**	**12 22 33.5**	**+1.6**
PNCL				*eS*	**Sn**	**12 23 14.8**	**-2.1**
PNCL				A	A	12 23 15.6	
	comp=N,2.2nm,0.5s						
PNCL	**Nicolau / Gran**	**3.91**	**309**	P	**Pn**	**12 22 33.5**	**+1.6**
PNCL				S	**Sn**	**12 23 14.8**	**-2.1**
	comp=N,2.2nm,0.5s						
PESTR	**Estremoz**	**3.92**	**325**	*eP*	**Pn**	**12 22 33.9**	**+1.8**
PESTR				*eS*	**Sn**	**12 23 15.3**	**-1.8**
PESTR				A	A	12 23 16.9	
	comp=N,3.8nm,0.7s						
ESDC	**Sonseca Array**	**4.00**	**8**	S	**Sn**	**12 23 16.8**	**-2.4**
	comp=N,0.8nm,0.3s,baz=189,slow=23,SNR=7.5						
PMRV	**Marv??o**	**4.30**	**331**	*eP*	**Pn**	**12 22 38.8**	**+1.6**
PMRV				*eS*	**Sn**	**12 23 24.7**	**-1.5**
PMRV				A	A	12 23 38.0	
	comp=N,2.9nm,0.3s						
PMRV	**Marv??o**	**4.30**	**331**	P	**Pn**	**12 22 38.8**	**+1.6**
PMRV				S	**Sn**	**12 23 24.7**	**-1.5**
	comp=N,2.9nm,0.3s						
PMTG	**Montargil**	**4.39**	**321**	*eP*	**Pn**	**12 22 39.4**	**+1.0**
PMTG				*eS*	**Sn**	**12 23 25.3**	**-3.1**
PMTG				A	A	12 23 39.8	
	comp=N,3.2nm,0.6s						
PMTG	**Montargil**	**4.39**	**321**	P	**Pn**	**12 22 39.4**	**+1.0**
PMTG				S	**Sn**	**12 23 25.3**	**-3.1**
	comp=N,3.2nm,0.6s						
EPLA	**Plasencia**	**4.49**	**346**	S	**Sn**	**12 23 28.7**	**-2.2**
	comp=N,3.9nm,0.4s,SNR=7.9						
GUD	**Guadarrama**	**4.95**	**5**	P	**Pn**	**12 22 48.9**	**+2.8**
	comp=N,0.3nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**12 23 38.7**	**-3.4**
	comp=N,1.3nm,0.4s,SNR=7.9						
TZRR	**Tazzarine**	**4.96**	**189**	P	Pn	12 22 30.0	-16
TZRR				S	Sn	12 23 22.3	-20
TZRR	**Tazzarine**	**4.96**	**189**	P	Pn	12 22 30.0	-16
TZRR				S	Sn	12 23 22.3	-20
OUZM	**OUZ

PSRC	**Puddingstone R**	**0.74**	**82**			**Pb**	**12 30 42.5**	**-0.2**
PSRC						**Sb**	**12 30 52.8**	**+0.1**
XTL	**Crystal Lake,**	**0.75**	**66**			**Pb**	**12 30 42.2**	**-0.8**
QAL	**Quail Lake**	**0.76**	**358**			**Pb**	**12 30 42.6**	**-0.6**
LRRC	**Littlerock Res**	**0.77**	**45**			**Pb**	**12 30 42.6**	**-0.6**
ALPC	**Antelope**	**0.77**	**25**			**Sg**	**12 30 53.5**	**+0.1**
SCZ2	**Santa Cruz Isl**	**0.79**	**271**		Sn	**Sg**	**12 30 54.7**	**+0.9**
	baz=90							
STTC	**Scott Ranch**	**0.82**	**13**			**Pb**	**12 30 42.8**	**-1.4**
CHNC	**Chino**	**0.84**	**89**			**Pb**	**12 30 44.6**	**+0.2**
CHNC						**Sb**	**12 30 55.5**	**0.0**
HOLC	**Holcomb Ridge**	**0.84**	**56**			**Pb**	**12 30 43.8**	**-0.8**
FOXC	**Fox Airport**	**0.85**	**26**			**Pb**	**12 30 42.8**	**-1.8**
SSK	**Sunset Peak**	**0.86**	**75**			**Pb**	**12 30 44.5**	**-0.4**
BFSC	**Mount Baldy Ra**	**0.89**	**73**	P		**Pb**	**12 30 44.6**	**-0.8**
	baz=254,SNR=22							
BFSC					S	**Sb**	**12 30 56.4**	**-0.8**
	baz=254							
BFSC	**Mount Baldy Ra**	**0.89**	**73**			**Pb**	**12 30 44.6**	**-0.8**
BFSC						**Sb**	**12 30 57.0**	**-0.1**
MPI	**Mount Pinos, F**	**0.91**	**336**			**Pb**	**12 30 45.3**	**-0.5**
THC	**Tehachapi Micr**	**0.92**	**1**			**Pb**	**12 30 45.5**	**-0.5**
MLSC	**Mira Loma**	**0.94**	**89**			**Pb**	**12 30 45.9**	**-0.2**
MLSC						**Sb**	**12 30 58.3**	**0.0**
SBB	**Saddle Back Bu**	**1.00**	**45**			**Pb**	**12 30 46.8**	**-0.4**
SBB						**Sb**	**12 30 59.8**	**-0.5**
SCI2	**San Clemente I**	**1.01**	**173**	P		**Pb**	**12 30 46.9**	**-0.4**
	baz=353,SNR=5.3							
SNCC	**San Nicolas Is**	**1.01**	**224**	P		**Pb**	**12 30 46.7**	**-0.6**
	baz=43							
SNCC					S	**Sb**	**12 30 59.9**	**-0.6**
	baz=43							
SNCC	**San Nicolas Is**	**1.01**	**224**			**Pb**	**12 30 46.8**	**-0.6**
SNCC	**San Nicolas Is**	**1.01**	**224**			**Sb**	**12 31 00.5**	**0.0**
SNCC	**San Nicolas Is**	**1.01**	**224**			**Sb**	**12 31 01.2**	**+0.7**
SNCC	**San Nicolas Is**	**1.01**	**224**			**Pb**	**12 30 47.1**	**-0.3**
TJR	**Tejon Ranch**	**1.04**	**358**			**Pb**	**12 30 47.4**	**-0.5**
EDW2	**Edwards Air Fo**	**1.06**	**33**	P		**Pb**	**12 30 47.5**	**-0.8**
	baz=213,SNR=41							
EDW2					S	**Sb**	**12 31 01.7**	**-0.3**
	baz=213							
EDW2	**Edwards Air Fo**	**1.06**	**33**			**Pb**	**12 30 47.6**	**-0.8**
RVR	**Riverside**	**1.09**	**89**			**Pb**	**12 30 48.0**	**-0.7**
RVR						**Sb**	**12 31 02.4**	**-0.4**
SME	**Santa Rosa Min**	**1.12**	**98**			**Pn**	**12 30 48.4**	**-1.0**
BCW	**Bitter Crk WRg**	**1.12**	**328**			**Pb**	**12 30 49.2**	**-0.2**
ARVC	**Arvin**	**1.14**	**354**	P		**Pn**	**12 30 49.2**	**-0.5**
	baz=174,SNR=13							
ARVC					S	**Sn**	**12 31 04.3**	**-0.7**
	baz=174							
ARVC	**Arvin**	**1.14**	**354**			**Sb**	**12 31 04.0**	**-0.3**
CSP	**Cedar Springs**	**1.15**	**74**			**Pn**	**12 30 49.3**	**-0.4**
TEJ	**El Tejon**	**1.24**	**0**			**Pn**	**12 30 50.7**	**-0.3**
VTV	**Victorville**	**1.26**	**63**			**Sb**	**12 31 07.5**	**-0.3**
HYS	**Haystack Butte**	**1.27**	**46**			**Pb**	**12 30 51.7**	**-0.2**
MURC	**Murrieta**	**1.30**	**107**	P		**Pn**	**12 30 50.9**	**-0.9**
	baz=288,SNR=6.2							
MURC					S	**Sn**	**12 31 08.1**	**-0.9**
	baz=288							
MURC	**Murrieta**	**1.30**	**107**			**Pn**	**12 30 51.4**	**-0.5**
FIGC	**Figueroa Mtn.**	**1.30**	**305**			**Sg**	**12 31 10.5**	**+0.2**
BSM	**San Miguel Isl**	**1.38**	**273**			**Pn**	**12 30 52.6**	**-0.2**
BACC	**Bachelor Mtn.**	**1.42**	**105**			**Pb**	**12 30 55.1**	**+0.7**
DTP	**Desert Tortois**	**1.46**	**28**			**Pn**	**12 30 54.1**	**+0.1**
BBRC	**Big Bear Solar**	**1.49**	**79**	Pb		**Pn**	**12 30 54.7**	**0.0**
	baz=260,SNR=22							
BBRC					Sb	**Sb**	**12 31 14.6**	**+0.1**
	baz=260							
ISA	**Isabella, Lake**	**1.68**	**6**			**Pb**	**12 30 57.9**	**-1.0**
ISA					Sn	**Sb**	**12 31 19.1**	**-0.8**
SMMC	**Simmler**	**1.71**	**321**	Pb		**Pb**	**12 30 58.4**	**-0.8**
	baz=141							
SMMC					Sb	**Sb**	**12 31 20.4**	**-0.2**
	baz=141							
SMMC	**Simmler**	**1.71**	**321**			**Pb**	**12 30 58.5**	**-0.8**
109C	**Camp Elliot, M**	**1.72**	**129**	Pn		**Pn**	**12 30 58.3**	**+0.8**
109C						**Sb**	**12 31 21.4**	**+0.6**
BZNA	**Buzz No.'s Pla**	**1.76**	**106**			**Pn**	**12 30 58.0**	**-0.1**
DNR	**Dunn Ranch,Anz**	**1.77**	**103**			**Pn**	**12 30 58.0**	**-0.2**
FRD	**Ford Ranch, An**	**1.81**	**105**			**Pn**	**12 30 58.9**	**0.0**
FRD	**Ford Ranch, An**	**1.81**	**105**			**Pn**	**12 30 58.8**	**0.0**
PFO	**Pinyon Flats O**	**1.90**	**101**	P		**Pn**	**12 30 59.6**	**-0.5**
	baz=282							
PFO					Sb	**Sb**	**12 31 26.3**	**+0.2**
	baz=282							
PFO	**Pinyon Flats O**	**1.90**	**101**	Pn		**Pn**	**12 31 00.4**	**+0.3**
PFO				Sn		**Sb**	**12 31 26.4**	**+0.4**
EW2	**E Wide Canyon**	**1.90**	**91**			**Pb**	**12 31 02.6**	**+0.2**
XPFO	**Pion Flat**	**1.90**	**101**	Pn		**Pn**	**12 31 00.2**	**+0.1**
XPFO				Sn		**Sb**	**12 31 26.7**	**+0.6**
GSC	**Goldstone, Bar**	**2.03**	**49**	S		**Sn**	**12 31 26.7**	**-0.4**
	baz=230							
GSC	**Goldstone, Bar**	**2.03**	**49**			**Pn**	**12 31 02.8**	**+0.8**
HEC	**Hector,Ludlow**	**2.12**	**66**	S		**Sn**	**12 31 28.6**	**-0.6**
	baz=247							
BAR	**Barrett**	**2.13**	**127**			**Pn**	**12 31 02.9**	**-0.4**
BAR				Sn		**Sn**	**12 31 27.6**	**-1.8**
PAGB	**Antelope Grade**	**2.16**	**324**	Pn		**Pn**	**12 31 04.3**	**+0.6**
MONP2	**Monument Peak**	**2.19**	**119**	P		**Pn**	**12 31 03.3**	**-0.9**
	baz=301							
MONP2					S	**Sn**	**12 31 29.7**	**-1.4**
	baz=301							
TPC	**Twentynine Pal**	**2.20**	**86**			**Pb**	**12 31 08.5**	**+0.9**
BELC	**Belle Mtn. Jos**	**2.24**	**89**	Sb		**Sb**	**12 31 36.5**	**+0.6**
	baz=270							
MPMC	**Manual Prospec**	**2.29**	**25**	P		**Pn**	**12 31 05.8**	**+0.2**
	baz=206,SNR=6.2							
DAC	**Darwin (Calif)**	**2.46**	**21**	Pn		**Pn**	**12 31 07.4**	**-0.5**
IKP	**In-Ko-Pah, Jac**	**2.54**	**121**	P		**Pn**	**12 31 08.5**	**-0.4**
	baz=302							
IKP					S	**Sn**	**12 31 38.9**	**-0.6**
	baz=302							
GMRC	**Granite Mounta**	**2.63**	**72**	P		**Pn**	**12 31 10.0**	**-0.2**
	baz=253							
GMRC					S	**Sn**	**12 31 41.4**	**-0.5**
	baz=253							
PMPB	**Monarch Peak**	**2.82**	**323**	Pn		**Pn**	**12 31 13.9**	**+1.2**
Y12C	**Blythe**	**3.47**	**93**	Pn		**Pn**	**12 31 21.6**	**0.0**
TPNV	**Topopah Spring**	**3.56**	**33**	Pn		**Pn**	**12 31 24.7**	**+1.7**
TPNV				Sn		**Sn**	**12 32 04.1**	**-0.9**
SAO	**San Andreas Ge**	**3.57**	**322**	Pn		**Pn**	**12 31 23.1**	**+0.1**
SAO				Sn		**Sn**	**12 32 05.1**	**+0.2**
OMMB	**Old Mammoth Mi**	**3.63**	**356**	Pn		**Pn**	**12 31 24.8**	**+0.7**
OMMB				Sn		**Sn**	**12 32 10.1**	**+3.3**
SHPR	**Sheep Range**	**3.83**	**48**	Pn		**Pn**	**12 31 28.3**	**+1.6**
SHPR				Sn		**Sn**	**12 32 13.3**	**+1.7**
W13A	**Hualapai Mount**	**4.12**	**73**	Pn		**Pn**	**12 31 30.9**	**+0.2**
W13A				Sn		**Sn**	**12 32 18.7**	**0.0**
NV11	**Mina Array Sit**	**4.46**	**5**	Pn		**Pn**	**12 31 36.6**	**+1.2**
LCMT	**Little Creek M**	**5.37**	**54**	Pn		**Pn**	**12 31 49.9**	**+2.1**
LCMT				Sn		**Sn**	**12 32 50.7**	**+1.2**

*ISCJB **10** 12:50:06.2±0.9, 8.°48S±0.°07×119.°5E±0.°1, h170km, mb3.6/3, Error ellipse: s-maj=18.1km s-min=6.5km az=154.0*

*IDC **10** 12:50:09.5±3.2, 8.°29S×119.°67E, h180km±28km, mb3.3/4, mb1 3.3/8, mb1mx3.1/43, mbtmp3.7/8, Error ellipse: s-maj=65.8km s-min=10.2km az=60.0*

ISC 10 12:50:07.8±1.0, 8.°45S±0.°10×119.°5E±0.°1, h170km, n8, σ2s49/12, mb3.5/3, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAPI	**Kappang**	**3.42**	**4**	P		**Pn**	**12 51 01.2**	**0.0**
	1.6nm,0.3s,baz=147,slow=15,SNR=3.5							
KAPI				S		**Sn**	**12 51 42.4**	**-0.5**
	baz=94,slow=19,SNR=2.5							
BATI	**Baumata**	**4.44**	**113**	P		**Pn**	**12 51 15.7**	**+1.4**
	3.3nm,0.3s,baz=102,slow=3.4,SNR=3.1							
BATI				S		**Sn**	**12 52 07.0**	**+0.6**
	4.4nm,0.3s,baz=292,slow=23,SNR=6.2							
FITZ	**Fitzroy Crossi**	**11.29**	**149**	P		**Pn**	**12 52 46.1**	**+1.8**
	0.1nm,0.3s,baz=337,slow=13,SNR=4.2							
FITZ				S		**Sn**	**12 54 45.5**	**-4.0**
	0.3nm,0.3s,baz=199,slow=20,SNR=12							
WRA	**Warramunga Arr**	**18.33**	**130**	P		**P**	**12 54 10.0**	**+0.6**
	0.3nm,0.3s,baz=303,slow=13,SNR=20							
WRA				S		**S**	**12 57 25.0**	**-5.1**
	0.0nm,0.3s,baz=325,slow=35,SNR=1.3							
ASAR	**Alice Springs**	**20.46**	**139**	P		**P**	**12 54 33.7**	**+1.4**
	1.6nm,0.4s,baz=312,slow=8.6,SNR=53							
STKA	**Stephens Creek**	**31.05**	**142**	P		**P**	**12 56 11.9**	**+2.1**
	2.5nm,0.6s,baz=313,slow=11,SNR=6.5							
SONM	**Songino Array**	**57.23**	**350**	P		**P**	**12 59 36.6**	**-0.7**
	0.2nm,0.4s,baz=164,slow=5.7,SNR=2.3							
MKAR	**Makanchi Array**	**64.21**	**333**	P		**P**	**13 00 24.2**	**-0.2**
	0.4nm,0.6s,baz=142,slow=9.1,SNR=3.6							

KRSC 10 12:51:06.5±1.5, 49.°99N×157.°05E, h16km±23km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.92**	**320**	*e*P		Pb	12 51 22.9	-1.1
SKR				*e*S		Sb	12 51 34.9	-1.0
PAU	**Pauzhetka**	**1.49**	**354**	*e*P		Pn	12 51 33.1	+0.6
PAU				*e*S		Sb	12 51 52.4	0.0
KDTR	**Khodutka, Kamc**	**1.94**	**19**	*e*P		Pb	12 52 04.0	-1.1
KDTR				*e*S		Sb	12 52 04.1	-1.1
ASAK	**Asacha**	**2.46**	**12**	*e*P		Pb	12 51 48.9	-1.4
MTVR	**Mutnovka**	**2.60**	**15**	*e*P		Pb	12 51 50.8	-1.9
MTVR				*e*S		Sb	12 52 22.8	-1.6
RUS	**Russkaya**	**2.62**	**20**	*e*P		Pn	12 51 49.7	+1.7
RUS				*e*S		Sn	12 52 21.8	+2.4
GRL	**Gorelyy**	**2.65**	**14**	*e*P		Pn	12 51 50.6	+2.0
GRL				*e*S		Sb	12 52 23.7	-2.1
KRMR	**Karymshinskiy**	**2.92**	**13**	*e*P		Pn	12 51 54.5	+2.2
KRMR				*e*S		Sb	12 52 30.7	-3.0
DALK	**Dalny**	**3.23**	**19**	*e*P		Pn	12 51 58.9	+2.5
DALK				*e*S		Sn	12 52 37.1	+2.6
UGLR	**Uglovaya**	**3.41**	**18**	*e*P		Pb	12 52 03.0	-3.5
AVH	**Avacha**	**3.45**	**17**	*e*P		Pb	12 52 03.6	-3.5
AVH				*e*S		Sb	12 52 45.2	-3.6
KOK	**Koryaka**	**3.45**	**16**	*e*P		Pb	12 52 03.9	-3.4
KRER	**Koryakskii**	**3.48**	**17**	*e*P		Pb	12 52 04.6	-3.3
SDLR	**Sedlovina**	**3.49**	**18**	*e*P		Pn	12 52 03.5	+3.4
SPN	**Mys Shipunski**	**3.62**	**30**	*e*P		Pn	12 52 05.1	+3.6
SPN				*e*S		Sn	12 52 48.3	+4.0
KZV	**Kizimen**	**5.50**	**20**	*e*P		Pn	12 52 32.9	+5.1
KBTR	**Krutoberegovo**	**7.13**	**27**	*e*P		Pn	12 52 53.9	+3.9

HEL 10 12:55:46.9±0.1, 60.°92N×25.°60E, h0km, ML1.3, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PVF	**Pernaja**	**0.39**	**161**	*e*P		Pg	12 55 53.9	-0.5
PVF				*e*S		Sg	12 55 59.3	-0.2
FIA0	**FINESS Array S**	**0.58**	**23**	*e*P		Pg	12 55 57.0	-1.0
FIA0				*e*S		Sg	12 56 04.5	-1.0
FIA1	**FINESS Array S**	**0.58**	**24**	*e*P		Pg	12 55 57.1	-0.9
NUR	**Nurmijrvi**	**0.62**	**229**	*e*P		Pg	12 55 57.6	-1.1
VJF	**Virojoki**	**1.03**	**111**	MSG			12 56 18.9	
	comp=Z,3.5nm,0.2s							
VJF				*e*SB		Sg	12 56 19.6	-0.4
KAF	**Kangasniemi**	**1.25**	**15**	*e*PB		Pg	12 56 09.4	-1.4
KAF				MSG			12 56 25.1	
	comp=Z,4.3nm,0.2s							
KAF				*e*SB		Sg	12 56 26.2	-0.8
KEF	**Keuruu**	**1.30**	**345**	*e*PB		Pg	12 56 10.8	-1.1
KEF				MSG			12 56 26.7	
	comp=Z,1.4nm,0.2s							
SUF	**Sumiainen**	**1.83**	**8**	MSG			12 56 41.9	
	comp=Z,0.8nm,0.2s							
SUF				*e*SN		Sn	12 56 43.4	0.0
RAF	**Rauma**	**1.87**	**275**	*e*PN		Pn	12 56 20.0	-0.1
RAF				MSG			12 56 42.2	
	comp=Z,2.7nm,0.2s							
RAF				*e*SG		Sn	12 56 44.5	+0.1

BER 10 12:56:05.9±0.8, 60.°60N×8.°56E, h0km, ML1.2, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKAR	**Skarslia**	**0.15**	**301**	*e*P		Pg	12 56 08.2	-0.6
SKAR				*e*S		Sg	12 56 10.3	-0.4
SKAR				IAML			12 56 12.5	
	comp=Z,52nm,0.6s							
KONO	**Kongsberg**	**1.09**	**151**	*e*P		Pg	12 56 25.1	-1.6
KONO				*e*S		Sg	12 56 39.6	-1.2
KONO				IAML			12 56 44.4	
	comp=Z,4.0nm,0.2s							
NBO00	**NORSAR Array S**	**1.17**	**67**	*e*P		Pg	12 56 26.7	-1.5
NBO00				*e*S		Sg	12 56 42.4	-0.9
NBO00				IAML			12 56 44.3	
	comp=Z,8.8nm,0.8s							
NAO01	**NORSAR Array S**	**1.17**	**77**	*e*P		Pg	12 56 26.7	-1.6
NAO01				*e*S		Sg	12 56 42.2	-1.1
NAO01				IAML			12 56 47.4	
	comp=Z,7.9nm,0.8s							
ODD1	**Odda**	**1.19**	**235**	*e*P		Pg	12 56 28.1	-0.6
ODD1				*e*S		Sg	12 56 42.7	-1.3
NC204	**NORSAR Array S**	**1.27**	**57**	*e*P		Pg	12 56 28.6	-1.6
NC204				*e*S		Sg	12 56 45.1	-1.5
NC204				IAML			12 56 51.6	
	comp=Z,10nm,1.0s							
HYA	**Hoyanger**	**1.29**	**297**	*e*P		Pg	12 56 28.8	-1.8
HYA				*e*S		Sg	12 56 46.4	-0.9
HYA				IAML			12 56 55.9	
	comp=Z,5.1nm,0.7s							
NB201	**NORSAR Array S**	**1.41**	**70**	*e*P		Pn	12 56 30.9	-1.9
NB201				*e*S		Sg	12 56 49.7	-1.5
NB201				IAML			12 56 50.5	
	comp=Z,4.5nm,0.7s							
NC602	**NORSAR Array S**	**1.47**	**84**	*e*P		Pn	12 56 32.1	-1.5
NC602				*e*S		Sg	12 56 51.2	-1.9
ASK	**Askoy**	**1.67**	**267**	*e*S		Sn	12 56 56.0	-2.4
ASK				IAML			12 57 00.7	
	comp=Z,3.6nm,0.7s							

IDC 10 13:06:15.5±922.0, 53.°17N×6.°01E, h0km, Error ellipse: s-maj=423.2km s-min=123.8km az=127.0, The Netherlands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**6.50**	**129**	*i*			13 48 40.0	
	baz=314,slow=333,SNR=0.7							
I48TN	**KESRA INFRASON1**	**7.51**	**171**	*i*			14 56 20.0	
	baz=355,slow=326,SNR=1.2							
I31KZ	**AKTYUBINSK INF**	**31.72**	**74**	*i*			16 19 10.0	
	baz=296,slow=330,SNR=1.1							

*ISCJB **10** 13:14:04.8±0.4, 1.°68S±0.°04×100.°71E±0.°05, h58km, mb3.9/8, MS2.6/2, Error ellipse: s-maj=8.4km s-min=4.4km az=145.5*

*DJA **10** 13:14:04.4±0.3, 2.°3S±2.°×10.°1E±.°, h10km, M4.2/13, MLv4.2/13*

*NEIC **10** 13:14:05.3±1.5, 1.°84S±0.°07×100.°7E±0.°1, h51km±8km, mb4.5/8*

*IDC **10** 13:14:06.4±4.7, 1.°62S×100.°99E, h51km±37km, mb3.6/9, mb1 3.8/10, mb1mx3.5/48, mbtmp3.8/10, ML3.2/1, MS2.8/4, Ms1 2.8/4, ms1mx2.5/34, Error ellipse: s-maj=91.3km s-min=14.5km az=55.0*

ISC 10 13:14:06.6±0.6, 1.°66S±0.°04×100.°72E±0.°05, h58km, n42, σ1s49/45, mb4.3/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PDSI	**Padang**	**0.79**	**341**	P		**Pn**	**13 14 18.7**	**-3.2**
PDSI				S		**Sn**	**13 14 29.4**	**-3.7**
KRJI	**Kerinci**	**0.86**	**120**	P		**Pn**	**13 14 20.5**	**-2.3**
KRJI				S		**Sn**	**13 14 33.0**	**-1.7**
SDSI	**Sungai Dareh**	**1.01**	**44**	P		**Pn**	**13 14 23.9**	**-0.9**
PPSI	**Pulau Pagai**	**1.30**	**213**	P		**Pn**	**13 14 29.2**	**+0.6**
SISI	**Saibi**	**1.66**	**282**	P		**Pn**	**13 14 32.8**	**-0.7**
BKNI	**Bangkinang**	**2.00**	**9**	P		**Pn**	**13 14 37.2**	**-0.9**
BKNI	**Bangkinang**	**2.00**	**9**	Pn		**Pn**	**13 14 38.1**	**0.0**
RGRI	**Rengat**	**2.08**	**51**	P		**Pn**	**13 14 38.9**	**-0.2**
MASI	**Maura Aman, Be**	**2.11**	**134**	P		**Pn**	**13 14 40.9**	**+1.2**
KSI	**Kapahiang**	**2.72**	**137**	P		**Pn**	**13 14 48.8**	**+0.8**
MNAI	**Manna**	**3.49**	**140**	Pn		**Pn**	**13 14 55.3**	**-3.2**
LHSI	**Lahat**	**3.53**	**128**	P		**Pn**	**13 14 59.6**	**+0.6**
GSI	**Gunungsitoli**	**4.31**	**313**	P		**Pn**	**13 15 09.3**	**-0.4**
GSI	**Gunungsitoli**	**4.31**	**313**			**Pn**	**13 15 09.2**	**-0.5**
MDSI	**Maura Dua**	**4.45**	**129**	P		**Pn**	**13 15 12.9**	**+1.3**
TPRI	**Tanjung Pinang**	**4.59**	**56**	P		**Pn**	**13 15 13.6**	**+0.1**
MYKOM	**Kota Tinggi**	**4.64**	**42**			**Pn**	**13 15 14.8**	**+0.5**
RPSI	**Rantau Prapat**	**4.69**	**337**			**Pn**	**13 15 16.7**	**+1.8**
RPSI	**Rantau Prapat**	**4.69**	**337**			**Pn**	**13 15 15.9**	**+1.1**
PSI	**Prapat**	**4.78**	**338**	P		**Pn**	**13 15 15.9**	**-0.4**
	1.0nm,0.3s,baz=144,slow=12,SNR=4.7							
PSI				LR		LR	13 17 28.7	
	comp=Z,180nm,19.2s,baz=128,slow=43							
IPM	**Ipoh**	**6.11**	**3**	Pn		**Pn**	**13 15 36.4**	**+2.0**
KULM	**Kulim**	**6.91**	**359**	Pn		**Pn**	**13 15 47.0**	**+1.6**
LEM	**Lembang**	**8.58**	**127**	LR		LR	13 19 46.3	
	comp=Z,50nm,19.3s,baz=142,slow=40							
CMAR	**Chiang Mai Arr**	**20.07**	**355**	P		**P**	**13 18 36.7**	**+1.3**
	0.3nm,0.3s,baz=179,slow=11,SNR=3.1							
CMAR				LR		LR	13 26 17.2	
	comp=Z,6.0nm,20.2s,baz=80,slow=36							
FITZ	**Fitzroy Crossi**	**29.41**	**125**	P		**P**	**13 20 03.0**	**-1.8**
	0.5nm,0.4s,baz=291,slow=7.2,SNR=6.2							
FITZ	**Fitzroy Crossi**	**29.41**	**125**	P		**P**	**13 20 03.3**	**-1.5**
FITZ				IAmb		IAmb	13 20 34.6	
	comp=Z,18nm,1.9s							
WHN	**Wuhan**	**34.56**	**21**	P		**P**	**13 20 52.8**	**+3.0**
WRA	**Warramunga Arr**	**37.55**	**121**	P		**P**	**13 21 13.1**	**-2.5**
	comp=Z,0.9nm,0.4s,baz=304,slow=8.9,SNR=29							
WRA				PcP		**PcP**	**13 23 32.9**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=311,slow=2.4,SNR=4.3							
WRAB	**Tennant Creek**	**37.55**	**121**	P		**P**	**13 21 14.2**	**-1.4**
WRAB				IAmb		IAmb	13 21 17.1	
	comp=Z,11nm,1.4s							
WB2	**Warramunga Arr**	**37.56**	**121**	P		**P**	**13 21 14.2**	**-1.5**
WR0	**Warramunga Arr**	**37.73**	**121**	P		**P**	**13 21 15.4**	**-1.6**
WR0				IAmb		IAmb	13 21 27.1	
	comp=Z,13nm,1.6s							
AS31	**Alice Springs**	**38.87**	**127**	P		**P**	**13 21 26.2**	**-0.5**
ASAR	**Alice Springs**	**38.87**	**127**	P		**P**	**13 21 25.5**	**-1.3**
	comp=Z,3.3nm,0.6s,baz=302,slow=7.8,SNR=78							
ASAR				PcP		**PcP**	**13 23 37.0**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=318,slow=3.1,SNR=3.7							
BBOO	**Buckleboo**	**45.40**	**137**	P		**P**	**13 22 19.0**	**-0.7**
STKA	**Stephens Creek**	**48.84**	**132**	P		**P**	**13 22 46.8**	**+0.2**
	comp=Z,5.4nm,0.6s,baz=317,slow=7.9,SNR=13							
STKA	**Stephens Creek**	**48.84**	**132**	P		**P**	**13 22 46.6**	**+0.1**
SONM	**Songino Array**	**49.54**	**5**	P		**P**	**13 22 52.1**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=165,slow=7.4,SNR=3.2							
SONM				PcP		**PcP**	**13 24 13.5**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=196,slow=4.7,SNR=3.6							
MKAR	**Makanchi Array**	**50.90**	**344**	P		**P**	**13 23 02.0**	**0.0**
	comp=Z,0.4nm,0.6s,baz=165,slow=8.6,SNR=4.6							
BVAR	**Borovoye Array**	**60.12**	**339**	P		**P**	**13 24 07.8**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=138,slow=8.9,SNR=4.0							
ABKAR	**Akbulak array**	**61.69**	**331**	P		**P**	**13 24 18.9**	**+0.2**
ABKAR				IAmb		IAmb	13 24 30.8	
	comp=Z,7.0nm,1.6s							
TIXI	**Tiksi**	**75.41**	**9**	LR		LR	14 01 33.4	
	comp=Z,15nm,20.1s,baz=187,slow=38							
ARCES	**ARCESS Array B**	**86.40**	**340**	P		**P**	**13 26 42.8**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=100,slow=4.1,SNR=3.5							

KRSC 10 13:46:47.5±1.6, 53.°52N×163.°02E, h66km±30km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKZ	**Mys Kozlova**	**1.29**	**324**	*e*P		Pn	13 47 11.2	+1.7
MKZ				*e*S		Sn	13 47 26.7	+0.8
SPN	**Mys Shipunski**	**1.85**	**258**	*e*P		Pn	13 47 19.5	+2.6
SPN				*e*S		Sn	13 47 40.6	+1.3
KII	**Karymskiy**	**2.18**	**285**	*e*P		Pn	13 47 24.8	+3.3
NLC	**Nalytchevo**	**2.23**	**262**	*e*P		Pn	13 47 25.0	+2.9
NLC				*e*S		Sn	13 47 50.4	+1.8
KZV	**Kizimen**	**2.26**	**316**	*e*P		Pn	13 47 25.4	+2.8
KZV				*e*S		Sn	13 47 51.5	+2.0
BKI	**Bering**	**2.41**	**44**	*e*P		Pn	13 47 25.6	+1.0
BKI				*e*S		Sn	13 47 52.6	-0.4
TUMR	**Tumrok**	**2.44**	**318**	*e*P		Pn	13 47 28.4	+3.3
TUMR				*e*S		Sn	13 47 56.1

baz=6.0
ARLS Aral 2.67 307⇑*i*P **Pn 13 55 14.4 +2.4**
baz=8.0
ARLS ⇑*i*S **Sb 13 55 48.1 -1.6**
baz=8.0
TNSS Tian-Shan 2.75 356 *e*P **Pb 13 55 19.0 +1.2**
193nm,0.5s
TNSS *e*S **Sg 13 55 57.6 +1.5**
198nm,0.6s
TNSS Tian-Shan 2.75 356 Pg **Pb 13 55 19.0 +1.2**
193nm,0.5s
TNSS Lg Lg 13 55 58.1
292nm,0.7s
UCH Uchtor 2.79 315⇓*i*P **Pn 13 55 16.7 +2.8**
baz=15
UCH ⇓*i*S **Sb 13 55 51.5 -2.0**
baz=15
UCH Uchtor 2.79 315 P **Pn 13 55 17.0 +3.1**
SNR=49
MDOK Medeo 2.87 358 *e*P **Pb 13 55 20.8 +1.1**
90nm,0.4s
MDOK *e*S **Sg 13 56 01.0 +1.0**
629nm,0.5s
MDOK Medeo 2.87 358⇓Pn **Pn 13 55 17.3 +2.7**
79nm,0.6s
MDOK ⇑Lg Lg 13 56 01.3
526nm,0.6s
MDOK Medeo 2.87 358 Pg **Pb 13 55 20.8 +1.1**
90nm,0.4s
MDOK Lg Lg 13 56 01.0
629nm,0.5s
TKM2 Tokmak 2 2.88 336⇓*i*P **Pb 13 55 18.2 -1.9**
baz=35
TKM2 ⇓*i*S **Sb 13 55 53.2 -2.6**
baz=35
TKM2 Tokmak 2 2.88 336 P **Pb 13 55 18.4 -1.6**
SNR=36
TKM2 Tokmak 2 2.88 336⇑Pn **Pn 13 55 16.5 +1.6**
37nm,0.6s
TKM2 ⇓Lg Lg 13 56 02.2
177nm,0.6s
MTBS Maitube 2.89 349 *e*P **Pb 13 55 21.3 +1.2**
46nm,0.4s
MTBS ⇑*i*S **Sg 13 56 01.8 +1.0**
204nm,0.4s
MTBS Maitube 2.89 349 Pg **Pb 13 55 21.3 +1.2**
46nm,0.4s
MTBS Lg Lg 13 56 01.8
204nm,0.4s
KST Kastek 2.90 342⇑*i*P **Pb 13 55 21.5 +1.2**
62nm,0.7s
KST ⇓*i*S **Sg 13 56 02.5 +1.5**
223nm,0.6s
KST Kastek 2.90 342 Pg **Pb 13 55 21.5 +1.2**
62nm,0.7s
KST Lg Lg 13 56 02.5
223nm,0.6s
KBK Karagaybulak 2.90 325⇑*i*P **Pb 13 55 18.4 -1.9**
baz=25
KBK ⇑*i*S **Sb 13 55 53.4 -2.8**
baz=25
KBK Karagaybulak 2.90 325 P **Pb 13 55 18.9 -1.5**
SNR=11
SATY Saty 2.91 18 *e*P **Pb 13 55 20.9 +0.5**
184nm,0.6s
SATY ⇑*i*S **Sg 13 56 01.4 +0.1**
430nm,0.6s
SATY Saty 2.91 18 Pg **Pb 13 55 20.9 +0.5**
184nm,0.6s
SATY Lg Lg 13 56 01.4
430nm,0.6s
AAA Alma-Ata 2.92 356 *e*P **Pb 13 55 22.4 +1.8**
87nm,0.2s
AAA *e*S **Sg 13 56 03.8 +2.2**
433nm,0.7s
AAA Alma-Ata 2.92 356 Pg **Pb 13 55 22.4 +1.8**
87nm,0.2s
AAA Lg Lg 13 56 03.8
433nm,0.7s
KNDC Almaty 2.93 357⇓Pg **Pb 13 55 22.3 +1.6**
100nm,0.6s
KNDC ⇑Lg Lg 13 56 04.0
868nm,0.5s
KOTS Kotyrbulak 2.94 359 *e*P **Pb 13 55 22.3 +1.4**
192nm,0.4s
KOTS *e*S **Sg 13 56 03.9 +1.6**
626nm,0.8s
KOTS Kotyrbulak 2.94 359 Pg **Pb 13 55 22.3 +1.4**
192nm,0.4s
KOTS Lg Lg 13 56 03.9
626nm,0.8s
ZHN Zhinishke 3.02 18 *e*P **Pb 13 55 23.4 +1.1**
81nm,0.4s
ZHN *e*S **Sg 13 56 05.3 +0.5**
99nm,0.2s
ZHN Zhinishke 3.02 18 Pg **Pb 13 55 23.4 +1.1**
81nm,0.4s
ZHN Lg Lg 13 56 05.3
99nm,0.2s
AAK Ala-Archa 3.10 320 Pn **Pn 13 55 21.3 +3.5**
6.1nm,0.3s,baz=131,slow=8.3,SNR=65
AAK Lg Lg 13 56 08.3
19nm,0.3s,baz=357,slow=19,SNR=19
AAK LR LR 13 56 51.4
comp=Z,60nm,21.6s,baz=166,slow=44
AAK Ala-Archa 3.10 320⇓*i*P **Pn 13 55 21.1 +3.3**
baz=20
AAK ⇓*i*S **Sb 13 55 58.8 -3.1**
baz=20
AAK Ala-Archa 3.10 320 P **Pn 13 55 21.3 +3.5**
SNR=34
AAK Ala-Archa 3.10 320⇑Pn **Pn 13 55 19.9 +2.1**
52nm,0.6s
AAK ⇓Lg Lg 13 56 09.3
170nm,0.6s
DGS Degeres 3.13 341 *e*P **Pb 13 55 25.5 +1.3**
49nm,0.5s
DGS *e*S **Sg 13 56 09.6 +1.1**
172nm,0.8s
DGS Degeres 3.13 341 Pg **Pb 13 55 25.5 +1.3**
49nm,0.5s
DGS Lg Lg 13 56 09.6
172nm,0.8s
UZB Uzynbulak 3.16 25 *e*P **Pb 13 55 25.7 +0.9**
44nm,0.7s
UZB *e*S **Sg 13 56 09.6 +0.2**
82nm,0.5s
UZB Uzynbulak 3.16 25 Pg **Pb 13 55 25.7 +0.9**
44nm,0.7s
UZB Lg Lg 13 56 09.6
82nm,0.5s
FRU1 Bishkek 3.16 323⇑*i*P **Pn 13 55 21.7 +3.1**
baz=23
FRU1 ⇑*i*S **Sb 13 56 00.2 -3.5**
baz=23
AML Almayashu 3.21 306⇑*i*P **Pn 13 55 22.8 +3.2**
baz=7.0
AML ⇑*i*S **Sn 13 56 01.6 +3.1**
baz=7.0
AML Almayashu 3.21 306 P **Pn 13 55 22.9 +3.3**
SNR=55
CHMS Chumysh 3.26 327⇑*i*P **Pn 13 55 23.0 +3.1**
baz=27
CHMS ⇑*i*S **Sn 13 56 02.2 +3.0**
baz=27
CHMS Chumysh 3.26 327 P **Pn 13 55 23.6 +3.7**
SNR=56
KURS Kuram 3.27 13 *e*P **Pb 13 55 27.6 +1.0**
60nm,0.5s
KURS ⇑*i*S **Sg 13 56 13.0 0.0**
142nm,0.6s
KURS Kuram 3.27 13 Pg **Pb 13 55 27.6 +1.0**
60nm,0.5s
KURS Lg Lg 13 56 13.0
142nm,0.6s
SHLS Shalkode 3.33 30 *e*P **Pg 13 55 32.2 +0.6**
77nm,0.6s
SHLS *e*S **Sg 13 56 20.3 +5.6**
277nm,0.5s
SHLS Shalkode 3.33 30 Pg **Pg 13 55 32.2 +0.6**
77nm,0.6s
SHLS Lg Lg 13 56 20.3
277nm,0.5s
ARSB Arslanbob 3.36 289⇑*e*P **Pn 13 55 25.2 +3.9**
baz=90
ARSB ⇑*i*S **Sn 13 56 05.9 +4.2**
baz=90
KPKS Kokpek 3.36 19 *e*P **Pb 13 55 29.6 +1.5**
61nm,0.5s
KPKS *e*S **Sg 13 56 16.2 +0.4**
230nm,0.5s
KTBS Karatobe 3.44 354 *e*P **Pb 13 55 30.9 +1.5**
38nm,0.5s
KTBS *e*S **Sg 13 56 18.8 +0.5**
143nm,0.8s
KTBS Karatobe 3.44 354 Pg **Pb 13 55 30.9 +1.5**
38nm,0.5s
KTBS Lg Lg 13 56 18.8
143nm,0.8s
PDGK Podgornoye 3.48 29⇑Pn **Pn 13 55 24.6 +1.5**
4.4nm,0.4s
PDGK ⇓Pg **Pb 13 55 31.6 +1.3**
29nm,0.4s
PDGK ⇓Lg Lg 13 56 21.0
135nm,0.6s
EKS2 Erkin-Say 3.49 314⇓*i*P **Pn 13 55 26.5 +3.4**
baz=14
EKS2 ⇓*i*S **Sn 13 56 07.8 +2.8**
baz=14
EKS2 Erkin-Say 3.49 314 P **Pn 13 55 27.2 +4.0**
SNR=43
CHKK Chushkaly 3.56 358 *e*P **Pb 13 55 32.9 +1.4**
42nm,0.5s
CHKK ⇑*i*S **Sg 13 56 22.1 -0.1**
232nm,0.3s
CHKK Chushkaly 3.56 358 Pg **Pb 13 55 32.9 +1.4**
42nm,0.5s
CHKK Lg Lg 13 56 22.1
232nm,0.3s
USP Ospenovka 3.59 327⇓*i*P **Pn 13 55 27.5 +3.1**
baz=27
USP ⇓*i*S **Sn 13 56 10.4 +3.1**
baz=27
USP Ospenovka 3.59 327 P **Pn 13 55 27.8 +3.4**
SNR=5.0
KUU Kurty 3.65 350 *e*P **Pb 13 55 34.4 +1.3**
21nm,0.3s
KUU *e*S **Sg 13 56 24.4 -0.8**
237nm,0.6s
KUU Kurty 3.65 350 Pg **Pb 13 55 34.4 +1.3**
21nm,0.3s
KUU Lg Lg 13 56 24.4
237nm,0.6s
SGDS Sogindy 3.69 330 Pg **Pb 13 55 34.9 +1.2**
39nm,0.6s
SGDS Lg Lg 13 56 25.3
65nm,0.7s
MRKS Merke 3.85 311 *e*P **Pb 13 55 37.9 +1.3**
45nm,0.5s
MRKS *e*S **Sg 13 56 30.6 -1.1**
66nm,0.3s
MRKS Merke 3.85 311 Pg **Pb 13 55 37.9 +1.3**
45nm,0.5s
MRKS Lg Lg 13 56 30.6
66nm,0.3s
ARXS Arharly 3.94 7 *e*P **Pb 13 55 40.0 +2.0**
37nm,0.7s
ARXS *e*S **Sg 13 56 34.3 -0.3**
130nm,0.6s
ARXS Arharly 3.94 7 Pg **Pb 13 55 40.0 +2.0**
37nm,0.7s
ARXS Lg Lg 13 56 34.3
130nm,0.6s
DJR Jarkent 4.47 25 *e*P **Pb 13 55 48.8 +1.7**
6.7nm,0.4s
DJR *e*S **Sg 13 56 49.2 -2.3**
53nm,0.3s
DJR Jarkent 4.47 25 Pg **Pb 13 55 48.8 +1.7**
6.7nm,0.4s
DJR Lg Lg 13 56 49.2
53nm,0.3s
TDK Taldyqorghan 4.79 10 *e*P **Pb 13 55 54.6 +2.2**
82nm,0.8s
TDK *e*S **Sg 13 56 59.7 -2.0**
195nm,0.5s
TDK Taldyqorghan 4.79 10 Pg **Pb 13 55 54.6 +2.2**
82nm,0.8s
TDK Lg Lg 13 56 59.7
195nm,0.5s
KAPS Kapalarasan 5.24 17 *e*P **Pb 13 56 02.6 +2.6**
12nm,0.6s
KAPS *e*S **Sg 13 57 12.8 -3.2**
26nm,0.6s
KAPS Kapalarasan 5.24 17 Pg **Pb 13 56 02.6 +2.6**
12nm,0.6s
KAPS Lg Lg 13 57 12.8
26nm,0.6s
BTLS Baital 5.28 335 *e*P **Pb 13 56 03.9 +3.1**
5.0nm,0.7s
BTLS *e*S **Sg 13 57 15.1 -2.3**
36nm,0.5s
BTLS Baital 5.28 335 Pg **Pb 13 56 03.9 +3.1**
5.0nm,0.7s
BTLS Lg Lg 13 57 15.1
36nm,0.5s
IUG Iuzhnay 5.71 291 *e*P **Pb 13 56 12.8 +4.7**
1.7nm,0.4s
IUG *e*S **Sg 13 57 30.1 -1.1**
48nm,1.1s
IUG Iuzhnay 5.71 291 Pg **Pb 13 56 12.8 +4.7**
1.7nm,0.4s
IUG Lg Lg 13 57 30.1
48nm,1.1s
KK31 Karatay Array 5.73 301⇑Pn **Pn 13 55 55.4 +1.5**
0.8nm,0.5s,baz=140,slow=15,SNR=8.9
KK31 ⇑Pg **Pg 13 56 14.6 -3.1**
5.2nm,0.7s,baz=129,slow=16,SNR=11
KK31 ⇑Lg Lg 13 57 31.9
6.2nm,0.5s,baz=130,slow=30
BRLS Borolday 6.15 299 *e*P **Pb** 13 56 21.7 +6.1
0.6nm,0.3s
BRLS *e*S **Sg 13 57 45.4 +0.1**
8.4nm,1.0s
BRLS Borolday 6.15 299 Pg **Pb** 13 56 21.7 +6.1
0.6nm,0.3s
BRLS Lg Lg 13 57 45.4
8.4nm,1.0s
CHCP Chirah Chowk 7.33 207 P **Pn 13 56 14.5 -1.3**
MAKZ Makanchi 7.38 26⇑Lg Lg 13 58 24.4
16nm,1.4s
MK31 Makanchi Array 7.48 28⇓Pn **Pn 13 56 18.7 +0.9**
1.1nm,0.7s,baz=0.0,slow=0.1,SNR=12
MK31 ⇑Pg Pg 13 56 45.5 -5.5
2.2nm,0.6s,baz=0.0,slow=0.1,SNR=4.0
MK31 ⇑Lg Lg 13 58 28.1
4.4nm,0.7s,baz=0.0,slow=0.1,SNR=4.0
MKAR Makanchi Array 7.48 28 Pn **Pn 13 56 17.9 +0.1**
9.0nm,0.3s,baz=208,slow=14,SNR=1.7
MKAR Lg Lg 13 58 23.3
baz=218,slow=28,SNR=0.3
CEP Cherat 7.71 215 P **Pn 13 56 19.3 -1.9**
KURBB Kurchatov Arra 10.37 5 Pn **Pn 13 56 55.1 -2.3**
baz=191,slow=12,SNR=1.2
KURBB Lg Lg 13 59 55.4
0.1nm,0.3s,baz=190,slow=25,SNR=6.2
DANN Dangsing 13.09 154 *e*P Pn 13 57 27.8 -7.1
BVAR Borovoye Array 13.55 342 Pn **Pn 13 57 39.4 -1.5**
0.2nm,0.3s,baz=150,slow=15,SNR=3.1
BVAR Lg Lg 14 01 40.5
0.2nm,0.3s,baz=154,slow=30,SNR=6.5
KOLN Koldanda 13.57 155 *e*P Pn 13 57 33.8 -7.6
GKN Gorkha 13.71 151 *e*P Pn 13 57 35.4 -7.9
GUN Gumba 14.29 147 *e*P Pn 13 57 42.7 -8.6
7.6nm,0.4s
PKI Pulchoki 14.40 149 *e*P Pn 13 57 45.0 -7.8
8.2nm,0.5s
JIRN Jiri 14.63 147 *e*P Pn 13 57 47.4 -8.7
9.7nm,0.4s
RAMN Ramite 15.43 147 *e*P Pn 13 57 57.0 -10
AKTO Aktyubinsk 16.82 313 P **Pn 13 58 24.7 +0.6**
0.1nm,0.3s,baz=101,slow=16,SNR=3.1
FINES FINESS Array B 37.28 322 P **P 14 01 38.9 -1.7**
3.0nm,0.9s,baz=102,slow=10,SNR=6.0
TORD Torodi Ar. Bea 70.60 271 P **P 14 05 45.0 +0.3**
0.6nm,0.5s,baz=43,slow=6.7,SNR=4.9
YKA Yellowknife Ar 77.12 6 P **P 14 06 18.4 -3.7**
0.4nm,0.5s,baz=346,slow=5.9,SNR=8.1
YKA LR LR 14 43 00.6
comp=Z,72nm,20.2s,baz=34,slow=38

*ISCJB **10** 14:06:28.7±0.6,22.°76S±0.°05×66.°37W±0.°04,h254km±5km, Error ellipse: s-maj=8.4km s-min=5.3km az=35.6*
*SJA **10** 14:06:28.3±1.0,22.°74S×66.°30W,h256km±7km,ML3.0, MW3.0*
*NEIC **10** 14:06:29.5±0.8,22.°65S±0.°09×66.°5W±0.°1,h276km±16km, mb4.1/2,ML4.4(GUC)*
*GUC **10** 14:06:29.9±0.5,22.°56S×66.°80W,h276km±8km,ML4.4*
ISC 10 14:06:27.5±0.8,**22.°73S**±0.°06×**66.°29W**±0.°05,**h255**km±7km, **n47,σ1°77/61,6C-3D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.91**	**53**	*e*P	**Pn**		**14 07 03.6**	**+0.4**
YJA				IAML			14 07 04.9	
	comp=Z,44nm,0.7s							
YJA				*e*S	**S**		**14 07 26.8**	**-4.4**
YJA	**Yavi**	**0.91**	**53**	*i* P	**Pn**		**14 07 04.2**	**+1.0**
YJA				IAML			14 07 04.8	
	comp=Z,44nm,0.7s							
YJA				*e*S	**S**		**14 07 32.3**	**+1.1**
HJA	**Humahuaca**	**0.94**	**120**	*e*P	**Pn**		**14 07 03.4**	**+0.2**
HJA				IAML			14 07 05.3	
	comp=Z,98nm,0.6s							
HJA	**Humahuaca**	**0.94**	**120**	*i* P	**Pn**		**14 07 05.0**	**+1.7**
HJA				IAML			14 07 05.2	
	comp=Z,98nm,0.6s							
HJA				*e*S	**S**		**14 07 31.5**	**+0.2**
AZAP	**Zapla**	**1.86**	**143**	*e*P	**Pn**		**14 07 10.9**	**+1.4**
AZAP	**Zapla**	**1.86**	**143**	*e*S	**S**		**14 07 41.8**	**-0.9**
LVC	**Limon Verde**	**2.42**	**272**	⇑*i*P	**Pn**		**14 07 16.2**	**+1.4**
LVC				*i* S	**S**		**14 07 51.9**	**-0.1**
LVC	**Limon Verde**	**2.42**	**272**	Pn	**Pn**		**14 07 16.2**	**+1.4**
PB09	**IPOC Station P**	**2.89**	**288**	⇑*i*P	**Pn**		**14 07 21.0**	**+1.6**
PB09				*i* S	**S**		**14 08 00.4**	**+0.1**
PB09	**IPOC Station P**	**2.89**	**288**	*i* P	**Pn**		**14 07 20.9**	**+1.6**
PB15	**IPOC Station P**	**2.97**	**260**	*e*P	**Pn**		**14 07 21.9**	**+1.7**
PB15				*e*S	**S**		**14 08 01.9**	**0.0**
PB15	**IPOC Station P**	**2.97**	**260**	⇓*i*P	**Pn**		**14 07 21.9**	**+1.7**
PB06	**IPOC Station P**	**3.03**	**270**	⇓*i*P	**Pn**		**14 07 22.3**	**+1.5**
PB06				*e*S	**S**		**14 08 02.0**	**-0.9**
PB06				IAML			14 08 05.2	
	comp=E,425nm,0.1s							
PB06	**IPOC Station P**	**3.03**	**270**	*i* P	**Pn**		**14 07 22.2**	**+1.4**
PB03	**IPOC Station P**	**3.27**	**281**	⇑*i*P	**Pn**		**14 07 24.4**	**+0.9**
PB03				*i* S	**S**		**14 08 06.2**	**-1.7**
PB03				IAML			14 08 08.3	
	comp=E,415nm,0.1s							
FSA	**Cafayete**	**3.38**	**175**	*e*P	**Pn**		**14 07 26.8**	**+2.2**
FSA	**Cafayete**	**3.38**	**175**	*i* P	**Pn**		**14 07 26.9**	**+2.3**
PB07	**IPOC Station P**	**3.48**	**286**	⇑*i*P	**Pn**		**14 07 26.7**	**+0.9**
PB07				*i* S	**S**		**14 08 09.7**	**-2.2**
PB04	**IPOC Station P**	**3.59**	**276**	*i* P	**Pn**		**14 07 28.2**	**+1.2**
PB04				*i* S	**S**		**14 08 12.2**	**-2.0**
PB04	**IPOC Station P**	**3.59**	**276**	Pn	**Pn**		**14 07 27.5**	**+0.4**
PB04	**IPOC Station P**	**3.59**	**276**	*i* P	**Pn**		**14 07 28.3**	**+1.2**
PB04				*e*S	**S**		**14 08 12.2**	**-2.0**
PB05	**IPOC Station P**	**3.61**	**267**	⇑*i*P	**Pn**		**14 07 28.4**	**+1.2**
PB05				*i* S	**S**		**14 08 12.8**	**-1.7**
PB05	**IPOC Station P**	**3.61**	**267**	*i* P	**Pn**		**14 07 28.4**	**+1.2**
PB08	**IPOC Station P**	**3.71**	**314**	⇑*i*P	**Pn**		**14 07 30.0**	**+1.4**
PB08				*i* S	**S**		**14 08 15.8**	**-1.3**
GO02	**Mina Guanaco**	**3.87**	**231**	Pn	**Pn**		**14 07 32.2**	**+1.9**
PB10	**IPOC Station P**	**4.00**	**258**	Pn	**Pn**		**14 07 32.8**	**+1.2**
PB10	**IPOC Station P**	**4.00**	**258**	*i* P	**Pn**		**14 07 32.4**	**+0.9**
GO01	**Chusmiza**	**4.08**	**318**	Pn	**Pn**		**14 07 33.6**	**+0.6**
PB14	**IPOC Station P**	**4.21**	**243**	*i* P	**Pn**		**14 07 35.2**	**+0.8**
PB11	**IPOC Station P**	**4.31**	**313**	Pn	**Pn**		**14 07 34.9**	**-0.5**
MNMC	**Minye Minye**	**4.73**	**319**	Pn	**Pn**		**14 07 40.8**	**+0.3**
GO03	**Copiap**	**6.02**	**216**	Pn	**Pn**		**14 07 56.3**	**+0.2**
GO03	**Copiap**	**6.02**	**216**	*i* P	**Pn**		**14 07 56.9**	**+0.5**
LPAZ	**La Paz**	**6.64**	**345**	Pn	**Pn**		**14 08 05.0**	**+0.5**
LPAZ	**La Paz**	**6.64**	**345**	*i* P	**Pn**		**14 08 05.4**	**+0.9**
ACLC	**CERRO LA CRUZ**	**6.69**	**185**	*i* P	**Pn**		**14 08 05.8**	**+1.2**
ACLC				*e*S	**S**		**14 09 18.3**	**-4.1**
AGUA	**GUANDACOL**	**7.01**	**196**	*i* P	**Pn**		**14 08 09.9**	**+1.4**
ACCO	**Cerro Coronel**	**8.21**	**197**	*i* P	**Pn**		**14 08 25.1**	**+1.3**
GO04	**Tololo Observa**	**8.44**	**208**	Pn	**Pn**		**14 08 26.9**	**+0.3**
CPUP	**Villa Florida**	**8.91**	**116**	Pn	**P**		**14 08 37.3**	**-1.9**
ACAN	**Cantantal**	**9.54**	**185**	⇓*i*P	**Pn**		**14 08 40.8**	**+0.6**
ASAL	**Salagasta**	**10.08**	**192**	*i* P	**Pn**		**14 08 48.0**	**+0.9**
ROC1	**El Roble**	**11.03**	**201**	Pn	**Pn**		**14 09 01.1**	**+2.0**
GO06	**Curarrehue**	**17.37**	**194**	P	**Pn**		**14 10 16.0**	**+0.5**
GO06				IAmb	IAmb		14 11 14.6	
	comp=Z,6.4nm,1.4s							
PLCA	**Paso Flores**	**18.30**	**190**	P	**P**		**14 10 23.6**	**+0.4**
PLCA				IAmb	IAmb		14 11 09.9	
	comp=Z,20nm,1.9s							
KSH	**Kashi**	**143.93**	**54**	PKP	PKPab		14 25 31.9	+1.1
KSH				pPKP	pPKPdf		14 26 44.0	+4.9
KSH				PKS	**PKSdf**		**14 29 14.3**	**+5.7**
KSH				SKKS			14 35 10.7	
KSH				LR	LR			
	comp=N,270nm,7.3s							
KSH				LR	LR			
	comp=E,200nm,4.6s							
KSH				LR	LR			
	comp=Z,210nm,5.7s							
WHN	**Wuhan**	**172.20**	**356**	PKP	**PKPdf**		**14 26 01.9**	**-4.3**

*IDC **10** 14:21:00.5±3.7,20.°69S×178.°54W,h545km±35km, mb3.1/8, mb1 3.3/8,mb1mx3.1/37,mbtmp4.1/8,Error ellipse: s-maj=33.1km s-min=31.0km az=173.0*
*NEIC **10** 14:21:01.7±1.7,20.°85S±0.°1×178.°6W±0.°1,h559km±10km, mb4.3/13*
*ISCJB **10** 14:21:02.1±0.7,20.°9S±0.°1×178.°6W±0.°1,h587km, mb3.6/8, Error ellipse: s-maj=17.0km s-min=12.6km az=179.3*
ISC 10 14:21:03.3±0.8,**20.°8S**±0.°1×**178.°5W**±0.°1,**h587**km,**n25,**
σ1°44/26,mb4.1/14,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.45**	**313**	P	**P**		**14 22 30.1**	**-1.1**
NIUE	**Niue**	**8.26**	**80**	P	**P**		**14 23 03.9**	**-0.8**
RAO	**Raoul Island**	**8.44**	**176**	P	**P**		**14 23 04.7**	**-1.5**
EIDS	**Eidsvold**	**28.30**	**255**	P	**P**		**14 26 11.1**	**0.0**
EIDS				IAmb	IAmb		14 26 13.8	
	comp=Z,21nm,1.8s							
CTA	**Charters Tower**	**32.98**	**265**	P	**P**		**14 26 51.1**	**-0.1**
	comp=Z,3.9nm,0.5s,baz=97,slow=11,SNR=14							
COEN	**Coen**	**37.12**	**274**	P	**P**		**14 27 24.9**	**-0.6**
STKA	**Stephens Creek**	**37.22**	**244**	P	**P**		**14 27 25.8**	**-0.4**
STKA				IAmb	IAmb		14 28 53.8	
	comp=Z,11nm,2.0s							
BBOO	**Buckleboo**	**41.98**	**244**	P	**P**		**14 28 03.5**	**-0.8**
WR0	**Warramunga Arr**	**43.89**	**262**	P	**P**		**14 28 19.2**	**0.0**
WR0				IAmb	IAmb		14 29 04.0	
	comp=Z,17nm,1.8s							
AS31	**Alice Springs**	**43.98**	**257**	P	**P**		**14 28 18.8**	**-1.2**
ASAR	**Alice Springs**	**43.98**	**257**	P	**P**		**14 28 19.4**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=96,slow=7.9,SNR=44							
ASAR				PcP	**PcP**		**14 29 53.4**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=97,slow=3.5,SNR=5.4							
ASAR				ScP	**ScP**		**14 32 54.0**	**+5.1**
	comp=Z,0.4nm,0.8s,baz=103,slow=4.5,SNR=4.9							
WB2	**Warramunga Arr**	**44.07**	**262**	P	**P**		**14 28 19.6**	**-1.0**
WB2				IAmb	IAmb		14 28 58.0	
	comp=Z,26nm,2.0s							
WRAB	**Tennant Creek**	**44.07**	**262**	P	**P**		**14 28 19.6**	**-1.1**
WRA	**Warramunga Arr**	**44.08**	**262**	P	**P**		**14 28 19.8**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=97,slow=7.2,SNR=18							
MTN	**Manton Dam**	**48.68**	**271**	P	**P**		**14 28 54.5**	**-0.9**
KNRA	**Kununurra**	**50.16**	**267**	P	**P**		**14 29 06.0**	**-0.2**
KNRA				IAmb	IAmb		14 29 38.4	
	comp=Z,24nm,1.4s							
FITZ	**Fitzroy Crossi**	**52.51**	**263**	P	**P**		**14 29 23.3**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=90,slow=6.1,SNR=4.5							
FITZ	**Fitzroy Crossi**	**52.51**	**263**	IAmb	IAmb		14 30 23.2	
	comp=Z,19nm,1.8s							
SIJI	**Sorong**	**52.84**	**285**	P	**P**		**14 29 26.5**	**+0.9**
	comp=Z,7.2nm,0.8s,baz=96,slow=12,SNR=5.2							
SOEI	**Soe**	**56.02**	**272**	P	**P**		**14 29 47.5**	**-0.5**
SOEI				IAmb	IAmb		14 29 50.4	
	comp=Z,11nm,0.8s							
VNDA	**Vanda**	**57.58**	**185**	P	**P**		**14 29 59.1**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=28,slow=7.8,SNR=2.3							
VNDA	**Vanda**	**57.58**	**185**	P	**P**		**14 29 59.0**	**+1.7**
ILAR	**Eielson Array**	**88.71**	**13**	P	**P**		**14 32 55.5**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=220,slow=5.5,SNR=4.4							
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P	**P**		**14 33 01.0**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=94,slow=2.7,SNR=2.2							
AKASG	**Malin Array Be**	**143.03**	**331**	PKP	**PKPdf**		**14 39 29.2**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=42,slow=4.1,SNR=7.5							

*ISCJB **10** 14:26:44.3±0.6,1.°10N±0.°04×96.°62E±0.°05,h10km, mb4.1/9,MS3.3/2,Error ellipse: s-maj=8.5km s-min=4.1km*

az=145.9
*IDC **10** 14:26:44.9±1.6, 1˚.08N×96˚.66E, h0km, mb4.1/8, mb1 4.1/10,mb1mx3.9/45,mbtmp4.0/10,ML3.5/2,MS3.1/4, Ms1 3.2/4,ms1mx2.8/26,Error ellipse: s-maj=45.1km s-min=18.1km az=62.0*
*DJA **10** 14:26:47.2±0.6, 1˚N±2˚×9˚.7E±˚, h13km±4km, M4.3/18, mB5.8/3, mb4.5/8, MLv4.2/18, Mw(mB)5.3/3*
*NEIC **10** 14:26:49.2±0.8, 1˚.15N±0˚.09×96˚.8E±0˚.1, h28km±7km, mb4.4/8*
ISC 10 14:26:46.7±0.8,**1˚.17N**±0˚.06×**96˚.67E**±0˚.07,**h10**km,**n47,** σ1§**17**/45,**mb4.3**/13,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.92**	**82**	P	**Pg**	**14 27 04.6**	**+0.2**
GSI				S	**Sg**	**14 27 15.0**	**-1.4**
GSI	**Gunungsitoli**	**0.92**	**82**		**Pg**	**14 27 04.7**	**+0.2**
SNSI	**Sinabang, Aceh**	**1.28**	**345**	P	Pn	**14 27 09.3**	**-1.4**
SNSI				S	**Sb**	**14 27 27.1**	**-0.3**
TPTI		**2.14**	**14**	P	**Pn**	**14 27 20.9**	**-1.6**
KCSI	**Kotacane, Aceh**	**2.58**	**25**	P	**Pn**	**14 27 27.7**	**-1.0**
RPSI	**Rantau Prapat**	**2.72**	**56**		**Pn**	**14 27 29.9**	**-0.6**
RPSI	**Rantau Prapat**	**2.72**	**56**		**Pn**	**14 27 30.4**	**-0.1**
PSI	**Prapat**	**2.78**	**54**	Pn	**Pn**	**14 27 30.4**	**-1.0**
	1.5nm,0.3s,baz=231,slow=5.1,SNR=27						
PSI				LR	LR	14 28 40.7	
	comp=Z,365nm,19.7s,baz=328,slow=42						
MLSI	**Meulaboh, Aceh**	**3.09**	**355**	P	**Pn**	**14 27 34.6**	**-1.0**
SISI	**Saibi**	**3.46**	**136**	P	**Pn**	**14 27 41.5**	**+0.7**
SISI				S	**Sn**	**14 28 22.4**	**+0.5**
LHMI	**Lhok Sumawe**	**4.04**	**4**	P	**Pn**	**14 27 48.5**	**-0.2**
PDSI	**Padang**	**4.32**	**119**	P	**Pn**	**14 27 52.5**	**-0.1**
BKNI	**Bangkinang**	**4.45**	**101**	P	**Pn**	**14 27 53.7**	**-0.6**
SDSI	**Sungai Dareh**	**5.20**	**114**	P	**Pn**	**14 28 04.4**	**-0.2**
	18nm,0.8s,0.3nm						
IPM	**Ipoh**	**5.45**	**53**		**Pn**	**14 28 07.9**	**-0.3**
KULM	**Kulim**	**5.71**	**44**		**Pn**	**14 28 10.9**	**-0.7**
KRJI	**Kerinci**	**5.78**	**124**	P	**Pn**	**14 28 12.4**	**-0.4**
	89nm,0.9s,0.9nm						
RGRI	**Rengat**	**5.86**	**105**	P	**Pn**	**14 28 13.0**	**-0.8**
	447nm,0.4s,105μm8.7nm						
MYKOM	**Kota Tinggi**	**7.21**	**85**	Pn	**Pn**	**14 28 32.8**	**+0.6**
MNAI	**Manna**	**8.34**	**131**	Pn	**Pn**	**14 28 46.4**	**-1.5**
MDSI	**Maura Dua**	**9.37**	**127**	P	**Pn**	**14 29 00.8**	**-1.2**
PBKT	**Sadao Pong**	**15.88**	**15**	P	**Pn**	**14 30 33.8**	**+3.3**
CMAR	**Chiang Mai Arr**	**17.33**	**7**	P	**Pn**	**14 30 50.6**	**+1.7**
	0.2nm,0.3s,baz=198,slow=12,SNR=12						
CMAR				LR	LR	14 38 05.2	
	comp=Z,26nm,20.8s,baz=190,slow=39						
SLVN	**Son La**	**21.25**	**19**	P	**P**	**14 31 32.8**	**-0.5**
SLVN				IAmb	IAmb	14 31 43.6	
	comp=Z,14nm,0.9s						
SHL	**Shillong**	**24.69**	**350**	P	**P**	**14 32 08.2**	**-0.2**
SHL				IAmb	IAmb	14 32 19.6	
	comp=Z,10nm,0.9s						
H08S2	**Diego Garcia H**	**25.65**	**250**	T	T	14 58 53.1	
	baz=70,slow=75,SNR=298						
H08S3	**Diego Garcia H**	**25.66**	**250**	T	T	14 58 50.9	
	baz=70,slow=75,SNR=253						
H08S1	**Diego Garcia H**	**25.67**	**250**	T	T	14 58 54.2	
	baz=70,slow=75,SNR=444						
WHN	**Wuhan**	**33.69**	**28**	P	**P**	**14 33 31.3**	**+3.2**
FITZ	**Fitzroy Crossi**	**34.34**	**125**	P	**P**	**14 33 32.9**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=23,slow=8.9,SNR=4.1						
FITZ	**Fitzroy Crossi**	**34.34**	**125**	P	**P**	**14 33 33.2**	**-0.8**
GTA	**Gaotai**	**38.17**	**4**	P	**P**	**14 34 06.5**	**-0.1**
GTA				pP	pP	14 34 11.9	+3.1
GTA				sP	pwP	14 34 15.1	+2.4
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
H01W3	**Cape Leeuwin H**	**39.42**	**157**	T	T	15 16 07.7	
	baz=333,slow=76,SNR=31						
H01W2	**Cape Leeuwin H**	**39.43**	**157**	T	T	15 16 04.3	
	baz=333,slow=76,SNR=29						
H01W1	**Cape Leeuwin H**	**39.44**	**157**	T	T	15 16 10.9	
	baz=333,slow=76,SNR=24						
WRA	**Warramunga Arr**	**42.47**	**122**	P	**P**	**14 34 41.6**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=300,slow=9.1,SNR=17						
WRAB	**Tennant Creek**	**42.48**	**122**	P	**P**	**14 34 41.4**	**-1.0**
WRAB				IAmb	IAmb	14 34 53.4	
	comp=Z,6.6nm,1.1s						
WB2	**Warramunga Arr**	**42.48**	**122**	P	**P**	**14 34 41.4**	**-1.1**
WB2				IAmb	IAmb	14 35 38.9	
	comp=Z,15nm,1.6s						
KSH	**Kashi**	**42.58**	**336**	P	P	14 34 41.9	-1.3
KSH				PcP	**PcP**	**14 36 34.4**	**-1.1**
KSH				S	**S**	**14 41 03.1**	**-2.9**
KSH				sS	pS	14 41 11.8	+3.2
KSH				pmax	pmax		
	comp=Z,330nm,4.2s						
KSH				LR	LR		
	comp=N,280nm,4.4s						
KSH				LR	LR		
	comp=E,130nm,6.7s						
KSH				LR	LR		
	comp=Z,300nm,5.8s						
WR0	**Warramunga Arr**	**42.65**	**122**	P	**P**	**14 34 43.1**	**-0.8**
ASAR	**Alice Springs**	**43.80**	**127**	P	**P**	**14 34 52.8**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=302,slow=7.8,SNR=6.6						
ASAR				LR	LR	14 55 04.8	
	comp=Z,34nm,19.3s,baz=282,slow=39						
KSRS	**Korea Array**	**46.18**	**35**	P	**P**	**14 35 11.4**	**-0.3**
	comp=Z,3.2nm,0.9s,baz=219,slow=9.7,SNR=7.0						
KSRS				LR	LR	14 58 01.6	
	comp=Z,38nm,18.6s,baz=224,slow=41						
MKAR	**Makanchi Array**	**47.15**	**347**	P	**P**	**14 35 19.6**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=163,slow=7.6,SNR=13						
SONM	**Songino Array**	**47.24**	**9**	P	**P**	**14 35 19.9**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=194,slow=9.6,SNR=4.5						
USRK	**Ussuriysk Ar.**	**53.07**	**31**	P	**P**	**14 36 04.9**	**+0.6**
	comp=Z,5.0nm,0.8s,baz=254,slow=4.2,SNR=6.1						
ZAA0	**Zalesovo Array**	**53.51**	**351**	P	**P**	**14 36 07.1**	**-0.2**
ZALV	**Zalesovo Beam**	**53.51**	**351**	P	**P**	**14 36 07.3**	**0.0**
	comp=Z,5.8nm,0.7s,baz=183,slow=6.5,SNR=23						

*ISCJB **10** 15:23:54.7±0.9, 22˚.96S±0˚.04×68˚.88W±0˚.06, h100km±12km, Error ellipse: s-maj=9.7km s-min=7.0km az=15.4*
*SJA **10** 15:23:54.1±0.8, 23˚.00S×68˚.87W, h89km±7km, ML3.3, MW3.4*
*GUC **10** 15:23:54.3±0.7, 22˚.97S×68˚.89W, h100km±4km, ML3.5*
ISC 10 15:23:56.1±1.5,**22˚.97S**±0˚.04×**68˚.89W**±0˚.05,**h88**km±12km,**n21,**σ0§**67**/33,**5C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.35**	**357**	*i* P	**Pn**	**15 24 08.8**	**-1.2**
PB15	**IPOC Station P**	**0.58**	**246**	⇓*e*P	**Pn**	**15 24 11.4**	**-0.2**
PB15				*e*S	**Sn**	**15 24 24.3**	**+1.2**
PB15	**IPOC Station P**	**0.58**	**246**	*i* P	**Pn**	**15 24 10.9**	**-0.7**
PB06	**IPOC Station P**	**0.68**	**292**	⇓*e*P	**Pn**	**15 24 12.1**	**-0.3**
PB06				*e*S	**Sn**	**15 24 25.5**	**+1.0**
PB06				IAML		15 24 26.2	
	comp=N,3μm,0.1s						
PB06	**IPOC Station P**	**0.68**	**292**	*i* P	**Pn**	**15 24 11.8**	**-0.6**
PB06				*i* Sg	**Sn**	**15 24 24.4**	**-0.1**
PB06				IAML		15 24 26.0	
	comp=Z,1μm,0.4s						
PB09	**IPOC Station P**	**1.21**	**344**	⇑*i*P	**Pn**	**15 24 18.1**	**-0.2**
PB09				*e*S	**Sn**	**15 24 36.0**	**+1.0**
PB09				IAML		15 24 37.0	
	comp=E,607nm,0.4s						
PB09	**IPOC Station P**	**1.21**	**344**	*i* P	**Pn**	**15 24 17.8**	**-0.5**
PB09				*i* Sg	**Sn**	**15 24 35.7**	**+0.7**
PB09				IAML		15 24 37.6	
	comp=Z,312nm,0.5s						
PB03	**IPOC Station P**	**1.21**	**319**	⇓*e*P	**Pn**	**15 24 17.6**	**-0.7**
PB03				*e*S	**Sn**	**15 24 35.5**	**+0.5**
PB03				IAML		15 24 40.0	
	comp=E,928nm,0.1s						
PB05	**IPOC Station P**	**1.21**	**275**	*e*P	**Pn**	**15 24 17.7**	**-0.6**
PB05				*e*S	**Sn**	**15 24 35.5**	**+0.5**
PB05	**IPOC Station P**	**1.21**	**275**	*i* P	**Pn**	**15 24 17.8**	**-0.6**
PB04	**IPOC Station P**	**1.32**	**298**	⇑*i*P	**Pn**	**15 24 19.2**	**-0.4**
PB04				*e*S	**Sn**	**15 24 38.3**	**+0.8**
PB04				IAML		15 24 43.9	
	comp=E,752nm,0.2s						
PB04	**IPOC Station P**	**1.32**	**298**	*i* P	**Pn**	**15 24 19.1**	**-0.6**
PB07	**IPOC Station P**	**1.54**	**323**	⇑*i*P	**Pn**	**15 24 21.9**	**-0.6**
PB07				*e*S	**Sn**	**15 24 42.5**	**+0.2**
PB07				IAML		15 24 46.5	
	comp=N,765nm,0.1s						
PB10	**IPOC Station P**	**1.62**	**250**	⇑*i*P	**Pn**	**15 24 23.1**	**-0.2**
PB10				*e*S	**Sn**	**15 24 44.7**	**+0.7**
PB10	**IPOC Station P**	**1.62**	**250**	*i* P	**Pn**	**15 24 23.2**	**-0.1**
PB10				IAML		15 24 52.8	
	comp=Z,262nm,0.3s						
PB02	**IPOC Station P**	**1.88**	**330**	*e*P	**Pn**	**15 24 26.3**	**-0.5**
PB02				*e*S	**Sn**	**15 24 50.3**	**+0.1**
PB02				IAML		15 24 53.6	
	comp=E,813nm,0.4s						
PB14	**IPOC Station P**	**2.16**	**220**	⇑*i*P	**Pn**	**15 24 30.0**	**-0.6**
PB14				*e*S	**Sn**	**15 24 57.5**	**+0.6**
PB14	**IPOC Station P**	**2.16**	**220**	*i* P	**Pn**	**15 24 29.4**	**-1.2**
PB14				IAML		15 25 05.1	
	comp=Z,160nm,0.2s						
HJA	**Humahuaca**	**3.22**	**95**	*i* P	**Pn**	**15 24 44.6**	**-0.2**
YJA	**Yavi**	**3.22**	**77**	*i* P	**Pn**	**15 24 44.9**	**0.0**
AZAP	**Zapla**	**3.73**	**110**	*i* P	**Pn**	**15 24 51.1**	**-0.5**

*IDC **10** 15:24:25.7±0.6,36˚.35N×21˚.45E, h0km, mb4.4/24, mb1 4.4/35,mb1mx4.3/52,mbtmp4.3/35,ML3.8/10, MS3.7/32,Ms1 3.8/32,ms1mx3.6/58,Error ellipse: s-maj=14.2km s-min=10.9km az=171.0*
*BJI **10** 15:24:26.4±0.0,36˚.43N×21˚.49E, h15km, mb4.7/36, mB5.1/22,Ms4.9/4,Ms7 4.6/4*
*MOS **10** 15:24:26.3±1.0,36˚.31N×21˚.35E, h18km, mb4.8/29, MS4.1/9,Error ellipse: s-maj=6.4km s-min=3.8km az=74.0*
*NEIC **10** 15:24:27.9±1.9,36˚.27N±0˚.06×21˚.37E±0˚.06, h18km±4km, mb4.4/37,ML4.0(ATH)*
*MED_RC **10** 15:24:27.0±0.5,36˚.28N×21˚.17E, h18km, MW4.7/22, Moment Tensor Solution.Mantle waves: s22,c26; Duration: 1§1 Moment tensor: Scale 10¹⁶Nm; Mrr1.27±.11; Mθθ-0.82±.06; Mφφ-0.45±.06; Mrθ0.07±.09; Mrφ0.56±.03; Mθφ-0.33±.09; Best double couple: M₀1.29000×10¹⁶ NP1:φ₁135.00000°,δ51.00000°, λ102.00000°. NP2:φ₂297.00000°,δ40.00000°,λ76.00000°. Principal axes: T 1.3300, Plg79.0000°, Azm95.0000°; N -0.0800, Plg9.0000°, Azm308.0000°; P -1.2500, Plg6.0000°, Azm217.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*THE **10** 15:24:28.6,36˚.26N×21˚.38E, h2km, ML4.1/13 Error ellipse: s-maj=1.3km s-min=0.7km az=66.0*
*ISCJB **10** 15:24:29.4±0.3,36˚.36N±0˚.02×21˚.27E±0˚.02, h45km±2km, mb4.5/59,MS3.8/25,Error ellipse: s-maj=3.8km s-min=2.1km az=23.8*
*ATH **10** 15:24:30.5,36˚.36N×21˚.59E, h26km±1km, ML4.0/9, Error ellipse: s-maj=3.1km s-min=1.1km az=55.0*
ISC 10 15:24:30.4±0.8,**36˚.40N**±0˚.04×**21˚.32E**±0˚.03,**h34**km±2km,**n477,**σ1§**90**/512,**mb4.5**/61,**MS3.7**/25,**20C-10D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.60**	**34**	P	**Pb**	**15 24 41.3**	**-1.4**
PYL				S	**Sn**	**15 24 51.8**	**+0.8**
PYL	**PYLOS**	**0.60**	**34**	P	**Pb**	**15 24 41.6**	**-1.1**
PYL				S	**Sb**	**15 24 49.8**	**-1.3**
KLMT	**Kalamata**	**0.89**	**42**	P	**Pn**	**15 24 46.7**	**+0.2**
KLMT				S	**Sb**	**15 25 01.3**	**+2.2**
ITM	**Ithomi**	**0.92**	**32**	P	**Pn**	**15 24 46.8**	**-0.1**
ITM				S	**Sb**	**15 25 02.5**	**+2.5**
	12μm,1.2s						
ITM	**Ithomi**	**0.92**	**32**	P	**Pn**	**15 24 47.2**	**+0.3**
ITM				S	**Sn**	**15 24 59.1**	**+0.1**
ITM				AML	AML	15 25 11.6	
	comp=E,26126μm,1.4s						
ITM				AML	AML	15 25 13.4	
	comp=N,15294μm,0.9s						
ITM	**Ithomi**	**0.92**	**32**	*e*P	**Pn**	**15 24 45.8**	**-1.1**
ITM	**Ithomi**	**0.92**	**32**		**Pn**	**15 24 47.1**	**+0.3**
AMT	**Artemida-Makis**	**1.18**	**15**	P	**Pb**	**15 24 52.6**	**+0.4**
AMT				S	**Sb**	**15 25 11.4**	**+4.2**
AMT	**Artemida-Makis**	**1.18**	**15**	P	**Pb**	**15 24 52.6**	**+0.4**
AMT				S	**Sb**	**15 25 09.2**	**+2.0**
AMT				AML	AML	15 25 27.0	
	comp=N,24633μm,1.0s						
AMT				AML	AML	15 25 31.1	
	comp=E,18918μm,0.7s						
VLX	**Vlachokerasia**	**1.29**	**41**	P	**Pb**	**15 24 53.4**	**-0.8**
VLX				S	**Sb**	**15 25 13.5**	**+2.9**
	comp=E,8μm,0.8s						
VLX	**Vlachokerasia**	**1.29**	**41**	P	**Pb**	**15 24 53.7**	**-0.5**
VLX				AML	AML	15 25 18.3	
	comp=N,17784μm,0.7s						
VLX				AML	AML	15 25 24.7	
	comp=E,17133μm,0.6s						
VLI	**Veliai**	**1.34**	**76**	P	**Pb**	**15 24 53.8**	**-1.2**
VLI				S	**Sb**	**15 25 12.1**	**+0.2**
	comp=E,5μm,0.9s						
VLI	**Veliai**	**1.34**	**76**	P	**Pn**	**15 24 52.5**	**-0.2**
VLI				AML	AML	15 25 23.6	
	comp=N,8114μm,0.6s						
VLI				AML	AML	15 25 26.1	
	comp=E,11203μm,0.8s						
KTHR	**Kythira**	**1.37**	**95**	P	**Pn**	**15 24 52.6**	**-0.5**
KTHA	**Kythira Island**	**1.42**	**95**	P	**Pn**	**15 24 53.7**	**0.0**
KTHA	**Kythira Island**	**1.42**	**95**	P	**Pn**	**15 24 53.5**	**-0.2**
KTHA				S	**Sn**	**15 25 09.3**	**-1.9**
KTHA				AML	AML	15 25 38.3	
	comp=N,12358μm,1.3s						
KTHA				AML	AML	15 25 41.8	
	comp=E,13565μm,0.7s						
KTHA	**Kythira Island**	**1.42**	**95**	*e*P	**Pn**	**15 24 54.4**	**+0.7**
VLMS	**Volimes, Zakyn**	**1.57**	**341**	P	**Pb**	**15 24 59.2**	**+0.4**
DRO	**Drossia**	**1.58**	**11**	P	**Pb**	**15 24 58.4**	**-0.7**
DRO	**Drossia**	**1.58**	**11**	P	**Pb**	**15 24 58.7**	**-0.4**
RLS	**Riolos of Patr**	**1.66**	**4**	P	**Pb**	**15 24 59.9**	**-0.5**
RLS	**Riolos of Patr**	**1.66**	**4**	P	**Pb**	**15 24 60.0**	**-0.5**
RLS				AML	AML	15 25 34.3	
	comp=N,6371μm,1.1s						
RLS				AML	AML	15 25 44.7	
	comp=E,5369μm,1.1s						
ANKY	**Antikythira Is**	**1.69**	**108**	P	**Pn**	**15 24 57.8**	**+0.3**
ANKY	**Antikythira Is**	**1.69**	**108**	P	**Pn**	**15 24 57.8**	**+0.3**
KRND	**KRANIDI**	**1.77**	**56**	P	**Pn**	**15 24 59.9**	**+1.4**
KRND	**KRANIDI**	**1.77**	**56**	P	**Pn**	**15 24 59.8**	**+1.2**
KRND				AML	AML	15 25 36.6	
	comp=E,6927μm,1.2s						
KRND				AML	AML	15 25 36.8	
	comp=N,4970μm,0.9s						
KLV	**Kalavryta, Ach**	**1.77**	**22**	P	**Pb**	**15 25 01.4**	**-1.0**
KLV	**Kalavryta, Ach**	**1.77**	**22**	P	**Pb**	**15 25 01.4**	**-1.0**
KLV				AML	AML	15 25 36.2	
	comp=N,5874μm,0.9s						
KLV				AML	AML	15 25 47.5	
	comp=E,6945μm,1.3s						
VLS	**Valsamata**	**1.87**	**342**	P	**Pb**	**15 25 02.3**	**-1.6**
VLS	**Valsamata**	**1.87**	**342**	P	**Pb**	**15 25 02.6**	**-1.3**
DID	**Didima**	**1.90**	**54**	P	**Pn**	**15 25 01.5**	**+1.2**
DID	**Didima**	**1.90**	**54**	P	**Pn**	**15 25 01.6**	**+1.2**
DID				AML	AML	15 25 46.5	
	comp=E,6503μm,1.2s						
DID				AML	AML	15 25 49.8	
	comp=N,4851μm,0.7s						
LAKA	**Lakka**	**1.91**	**16**	P	**Pb**	**15 25 03.7**	**-1.0**
THAL	**Thalero**	**1.96**	**33**	P	**Pb**	**15 25 03.4**	**-2.0**
LOUT	**Loutraki**	**2.07**	**39**	P	**Pn**	**15 25 03.5**	**+0.8**
EFP	**Efpalio**	**2.08**	**13**	P	**Pb**	**15 25 06.7**	**-0.8**
EFP	**Efpalio**	**2.08**	**13**	P	**Pb**	**15 25 06.5**	**-0.9**
LTK	**Loutraki**	**2.09**	**39**	P	**Pn**	**15 25 04.7**	**+1.7**
LTK	**Loutraki**	**2.09**	**39**	P	**Pn**	**15 25 04.6**	**+1.6**
SERG	**Sergoula**	**2.10**	**16**	P	**Pb**	**15 25 06.8**	**-1.0**
SERG	**Sergoula**	**2.10**	**16**	P	**Pb**	**15 25 06.9**	**-0.9**
FSK	**Fiskardo**	**2.14**	**344**	P	**Pb**	**15 25 06.2**	**-2.4**
PDO	**Prodromos**	**2.20**	**357**	P	**Pb**	**15 25 07.9**	**-1.6**
PVO	**Paravola**	**2.22**	**4**	P	**Pb**	**15 25 08.7**	**-1.2**
PVO				S	**Sb**	**15 25 37.5**	**+0.5**
	comp=N,2μm,0.8s						
PVO	**Paravola**	**2.22**	**4**	P	**Pb**	**15 25 08.7**	**-1.2**
PROD	**Prodromos**	**2.25**	**34**	P	**Pn**	**15 25 06.7**	**+1.6**
KNDR	**Palaiochora Ch**	**2.25**	**120**	*e*P	**Pn**	**15 25 05.8**	**+0.7**
EVGI	**Lefkada island**	**2.28**	**347**	P	**Pb**	**15 25 08.5**	**-2.4**
IMMV	**Iera Moni Meta**	**2.36**	**113**	P	**Pn**	**15 25 06.8**	**+0.2**
IMMV	**Iera Moni Meta**	**2.36**	**113**	P	**Pn**	**15 25 06.4**	**-0.2**
IMMV	**Iera Moni Meta**	**2.36**	**113**	*e*P	**Pn**	**15 25 07.2**	**+0.6**
VIL2	**Platees**	**2.39**	**40**	P	**Pn**	**15 25 07.7**	**+0.6**
LKD2	**Lefkada island**	**2.44**	**348**	P	**Pn**	**15 25 10.6**	**+2.7**
LKD2	**Lefkada island**	**2.44**	**348**	P	**Pb**	**15 25 11.5**	**-2.1**
VLY	**Voula,Athens**	**2.46**	**53**	P	**Pn**	**15 25 08.6**	**+0.6**
VLY	**Voula,Athens**	**2.46**	**53**	P	**Pn**	**15 25 08.3**	**+0.3**
ATH	**Athens Observa**	**2.48**	**50**	P	**Pn**	**15 25 09.1**	**+0.8**
TSLK	**Tsoukalades, L**	**2.48**	**348**	P	**Pb**	**15 25 12.1**	**-2.2**
TSLK	**Tsoukalades, L**	**2.48**	**348**	P	**Pb**	**15 25 12.1**	**-2.2**
MHLO	**Agia Marina, M**	**2.50**	**82**	P	**Pn**	**15 25 09.0**	**+0.4**
MHLO	**Agia Marina, M**	**2.50**	**82**	P	**Pn**	**15 25 08.7**	**+0.1**
ATHU	**Athens Univers**	**2.52**	**51**	P	**Pn**	**15 25 09.5**	**+0.6**
ATHU	**Athens Univers**	**2.52**	**51**	P	**Pn**	**15 25 09.8**	**+0.9**
MHLA	**Plaka, Milos I**	**2.52**	**81**	P	**Pn**	**15 25 09.2**	**+0.3**
VAM	**Vamos**	**2.54**	**112**	P	**Pn**	**15 25 09.1**	**-0.1**
VAM	**Vamos**	**2.54**	**112**	P	**Pn**	**15 25 09.0**	**-0.2**
EVR	**Evrytania**	**2.54**	**9**	P	**Pb**	**15 25 13.9**	**-1.5**
EVR	**Evrytania**	**2.54**	**9**	P	**Pb**	**15 25 13.6**	**-1.8**
AXAR	**Agios Charalam**	**2.59**	**24**	P	**Pb**	**15 25 13.0**	**-3.3**
LKR	**Lokris**	**2.62**	**30**	P	**Pn**	**15 25 11.7**	**+1.5**
LKR	**Lokris**	**2.62**	**30**	P	**Pn**	**15 25 11.8**	**+1.5**
PTL	**Penteli**	**2.62**	**50**	P	**Pn**	**15 25 11.5**	**+1.2**
SERI	**Serifos**	**2.66**	**72**	P	**Pn**	**15 25 10.5**	**-0.3**
DION	**Dionisos Attik**	**2.68**	**50**	P	**Pn**	**15 25 12.0**	**+0.9**
MAKR	**Makrakomi, Fth**	**2.69**	**14**	P	**Pb**	**15 25 15.4**	**-2.5**
AGG	**Agios Georgios**	**2.74**	**17**	P	**Pn**	**15 25 15.2**	**+3.2**
AGG	**Agios Georgios**	**2.74**	**17**	P	**Pn**	**15 25 15.2**	**+3.2**
AGG	**Agios Georgios**	**2.74**	**17**	P	**Pn**	**15 25 15.1**	**+3.1**
AGG	**Agios Georgios**	**2.74**	**17**	*e*P	**Pb**	**15 25 15.8**	**-2.9**
AGG	**Agios Georgios**	**2.74**	**17**		**Pn**	**15 25 15.2**	**+3.2**
GVD	**Gavdhos**	**2.74**	**124**	*e*P	**Pn**	**15 25 13.0**	**+1.1**
GVDS	**Gavdos**	**2.74**	**124**	*e*P	**Pn**	**15 25 12.9**	**+1.0**
EREA	**Eretria**	**2.90**	**45**	P	**Pn**	**15 25 14.7**	**+0.6**
KARY	**Karystos**	**2.98**	**56**	P	**Pn**	**15 25 15.5**	**+0.3**
THL	**Klokotos Trika**	**3.21**	**10**	P	**Pn**	**15 25 21.4**	**+3.1**
HRDL	**Herakleio**	**3.26**	**108**	*e*P	**Pn**	**15 25 20.1**	**+1.0**
THR6	**Thira Island,**	**3.29**	**90**	P	**Pn**	**15 25 19.3**	**-0.2**
THT2	**Imerovigli**	**3.31**	**88**	*e*P	**Pn**	**15 25 20.2**	**+0.4**
XOR	**Xorichti**	**3.31**	**26**	P	**Pn**	**15 25 22.4**	**+2.6**
SANT	**Santorini**	**3.34**	**89**	*e*P	**Pn**	**15 25 20.7**	**+0.5**
SANT	**Santorini**	**3.34**	**89**		**Pn**	**15 25 19.6**	**-0.6**
AOS	**Alonnisos**	**3.43**	**36**	*e*P	**Pn**	**15 25 22.3**	**+0.9**
APE	**Apeiranthos**	**3.45**	**78**	*i* P	**Pn**	**15 25 21.4**	**-0.3**
APE	**Apeiranthos**	**3.45**	**78**	P	**Pn**	**15 25 21.1**	**-0.6**
APE	**Apeiranthos**	**3.45**	**78**	⇑P	**Pn**	**15 25 22.0**	**+0.2**
APE				AML	AML	15 26 41.2	
APE	**Apeiranthos**	**3.45**	**78**	*e*P	**Pn**	**15 25 22.7**	**+1.0**
NPS	**Neapolis**	**3.67**	**107**	P	**Pn**	**15 25 25.1**	**+0.4**
LIT	**Litokhoron**	**3.81**	**14**	P	**Pn**	**15 25 28.9**	**+2.3**
LIT	**Litokhoron**	**3.81**	**14**		**Pn**	**15 25 28.9**	**+2.3**
ZKR	**Zakros**	**4.19**	**106**	*e*P	**Pn**	**15 25 32.9**	**+1.1**
CHOS	**Chios island**	**4.26**	**61**	*e*P	**Pn**	**15 25 32.8**	**-0.1**
SCTE	**Santa Cesarea**	**4.30**	**329**		**Pn**	**15 25 34.8**	**+1.4**
FNA	**Florina**	**4.38**	**1**	P	**Pn**	**15 25 36.5**	**+2.0**
FNA	**Florina**	**4.38**	**1**	P	**Pn**	**15 25 36.3**	**+1.8**
FNA	**Florina**	**4.38**	**1**	*e*P	**Pn**	**15 25 36.7**	**+2.2**
FNA	**Florina**	**4.38**	**1**		**Pn**	**15 25 36.4**	**+1.8**
HORT	**Hortiatis**	**4.42**	**18**	*e*P	**Pn**	**15 25 36.8**	**+1.7**
OUR	**Ouranopolis**	**4.45**	**27**	*e*P	**Pn**	**15 25 37.1**	**+1.7**
TIP	**Timpagrande**	**4.55**	**309**	P	**Pn**	**15 25 38.7**	**+1.8**
TIP	**Timpagrande**	**4.55**	**309**	⇑P	**Pn**	**15 25 37.9**	**+1.0**
TIP				⇑S	**Sn**	**15 26 29.2**	**+0.5**
TIP				AML	AML	15 26 32.4	
TIP	**Timpagrande**	**4.55**	**309**		**Pn**	**15 25 37.9**	**+1.0**
SIGR	**SIGRI**	**4.56**	**51**	*e*P	**Pn**	**15 25 37.8**	**+0.9**
KOSK	**Kos Island**	**4.57**	**84**	*e*P	**Pn**	**15 25 38.4**	**+1.3**
SOH	**Sokhos**	**4.70**	**19**	P	**Pn**	**15 25 41.1**	**+2.3**
KARP	**Karpathos**	**4.82**	**98**	*e*P	**Pn**	**15 25 42.4**	**+1.9**
KARP	**Karpathos**	**4.82**	**98**	P	**Pn**	**15 25 39.6**	**-0.9**
BODT	**Bodrum**	**4.86**	**80**	*e*P	**Pn**	**15 25 43.3**	**+2.2**
GCAM	**G?zelcaml?**	**4.91**	**73**	*e*P	**Pn**	**15 25 42.4**	**+0.7**
KNT	**Kendrikon**	**4.92**	**14**	*e*P	**Pn**	**15 25 43.3**	**+1.5**
VAY	**Valandovo

KIZT	**Kizilcal**	**8.74**	**70**	*e*P		**Pn**	**15 26 35.9**	**+1.5**
GOLR		**8.88**	**17**	⇓P		**Pn**	**15 26 39.5**	**+3.4**
GAZI	**Gazipasa**	**8.88**	**88**	*e*P		**Pn**	**15 26 34.0**	**-2.3**
BLY	**Banja Luka**	**8.91**	**341**	*e*Pn		**Pn**	**15 26 37.5**	**+0.9**
BLY	**Banja Luka**	**8.91**	**341**			**Pn**	**15 26 37.3**	**+0.7**
DUGI	**Dugi Otok**	**8.97**	**330**	*e*Pn		**Pn**	**15 26 39.2**	**+1.8**
DUGI				Sn		**Sn**	**15 28 11.7**	**-5.4**
NRCA	**Norcia**	**9.02**	**318**			**Pn**	**15 26 40.5**	**+2.3**
GZR	**Gura Zlata**	**9.05**	**7**	⇑P		**Pn**	**15 26 40.2**	**+1.5**
UDBI	**Udbina**	**9.15**	**334**	*e*Pn		**Pn**	**15 26 41.8**	**+1.8**
UDBI				Sn		**Sn**	**15 28 15.8**	**-6.1**
BZS	**Buzias**	**9.21**	**1**	⇓P		**Pn**	**15 26 40.7**	**-0.1**
ARR	**Arges**	**9.30**	**15**	⇑P		**Pn**	**15 26 44.4**	**+2.3**
MURB	**Monte Urbino**	**9.62**	**318**			**Pn**	**15 26 47.2**	**+0.7**
KEST	**Kesra**	**9.71**	**270**	Pn		**Pn**	**15 26 50.3**	**+2.6**
	comp=N,0.1nm,0.3s,baz=71,slow=21,SNR=4.4							
KEST				Sn		**Sn**	**15 28 33.8**	**-1.9**
	comp=N,0.2nm,0.3s,baz=255,slow=18,SNR=3.2							
KEST				LR		LR	15 31 29.8	
	comp=N,718nm,19.5s,baz=42,slow=43							
MLR	**Muntele Rosu**	**9.73**	**20**	P		**Pn**	**15 26 49.2**	**+1.2**
MLR	**Muntele Rosu**	**9.73**	**20**	Pn		**Pn**	**15 26 48.5**	**+0.5**
	comp=N,0.4nm,0.3s,baz=272,slow=5.4,SNR=3.7							
MLR				LR		LR	15 30 33.3	
	comp=N,221nm,21.4s,baz=120,slow=38							
MLR	**Muntele Rosu**	**9.73**	**20**	⇑P		**Pn**	**15 26 51.2**	**+3.2**
MLR	**Muntele Rosu**	**9.73**	**20**			**Pn**	**15 26 49.2**	**+1.2**
MOSL	**Moslavina**	**9.83**	**341**	*i* Pn		**Pn**	**15 26 49.0**	**-0.2**
CSS	**Mathiatis**	**9.88**	**95**	Pn		**Pn**	**15 26 49.6**	**-0.4**
MORH	**Mrgy, Hungar**	**10.01**	**349**	*e*Pn		**Pn**	**15 26 50.4**	**-1.3**
MORH	**Mrgy, Hungar**	**10.01**	**349**	*e*Pn		**Pn**	**15 26 53.0**	**+1.4**
MORH				Sn		**Sn**	**15 28 40.1**	**-2.6**
DOPR	**Dopca**	**10.04**	**17**	⇑P		**Pn**	**15 26 55.2**	**+3.1**
CFR	**Carcaliu**	**10.18**	**28**	⇑P		**Pn**	**15 26 55.6**	**+1.6**
OZUR		**10.25**	**18**	⇑P		**Pn**	**15 26 57.8**	**+2.7**
PLOR	**Plostina**	**10.26**	**21**	⇑P		**Pn**	**15 26 58.5**	**+3.3**
BR131	**Keskin Array S**	**10.27**	**67**	P		**Pn**	**15 26 55.3**	**-0.1**
BR131	**Keskin Array S**	**10.27**	**67**			**Pn**	**15 26 55.2**	**-0.1**
BRTR	**Keskin Array B**	**10.27**	**67**	Pn		**Pn**	**15 26 56.8**	**+1.4**
	comp=N,0.2nm,0.3s,baz=251,slow=13,SNR=10.0							
BRTR				Sn		**Sn**	**15 28 48.5**	**-0.8**
	comp=N,0.2nm,0.3s,baz=181,slow=23,SNR=3.1							
BRTR				LR		LR	15 31 57.5	
	comp=N,784nm,18.6s,baz=244,slow=44							
VRI	**Vrincioaia**	**10.30**	**22**	⇓P		**Pn**	**15 26 58.6**	**+3.0**
CRES	**Cresnjev**	**10.40**	**337**	*e*Pn		**Pn**	**15 26 57.8**	**+0.7**
CRES				*i* Sn		**Sn**	**15 28 49.8**	**-2.5**
	comp=Z,80nm,1.2s							
CRES	**Cresnjev**	**10.40**	**337**	*e*Pn		**Pn**	**15 26 57.5**	**+0.5**
OSSC	**Osservatorio P**	**10.50**	**316**			**Pn**	**15 26 57.6**	**-0.8**
CEY	**Cerknica**	**10.68**	**333**	*e*Pn		**Pn**	**15 27 01.7**	**+0.9**
GBAS	**Gorenja Brezov**	**10.84**	**334**	*i* Pn		**Pn**	**15 27 04.1**	**+1.1**
GBAS				*e*Sn		**Sn**	**15 28 57.9**	**-5.2**
ARCR	**ARCALIA**	**10.92**	**11**	⇑P		**Pn**	**15 27 06.3**	**+2.2**
JAVS	**Javornik**	**10.94**	**332**	*e*Pn		**Pn**	**15 27 05.8**	**+1.2**
BIZ	**Bicaz**	**11.12**	**17**	⇑P		**Pn**	**15 27 10.7**	**+3.9**
MPLH	**Magyarpolny**	**11.12**	**347**	*e*Pn		**Pn**	**15 27 04.1**	**-2.9**
MPLH				Sn		**Sn**	**15 29 11.1**	**+1.0**
ZCCA	**Zocca**	**11.19**	**318**	Pn		**Pn**	**15 27 08.3**	**+0.5**
SOKA	**Soboth**	**11.29**	**337**	*e*Pn		**Pn**	**15 27 09.9**	**+0.6**
	comp=Z,2.2nm,0.3s							
SOKA				Sn		**Sn**	**15 29 08.7**	**-5.6**
	comp=Z,7.3nm,0.9s							
OBKA	**Obir**	**11.30**	**335**	Pn		**Pn**	**15 27 10.3**	**+0.9**
	comp=Z,1.9nm,0.4s							
OBKA				Sn		**Sn**	**15 29 10.2**	**-4.3**
	comp=Z,25nm,1.1s							
TEOL	**Teolo**	**11.54**	**324**	Pn		**Pn**	**15 27 13.6**	**+0.9**
PSZ	**Piszkesteto**	**11.56**	**355**	P		**Pn**	**15 27 13.6**	**+0.6**
PSZ	**Piszkesteto**	**11.56**	**355**	⇑P		**Pn**	**15 27 13.5**	**+0.5**
PSZ	**Piszkesteto**	**11.56**	**355**	*e*Pn		**Pn**	**15 27 12.0**	**-0.9**
PSZ				Sn		**Sn**	**15 29 19.0**	**-1.8**
PSZ	**Piszkesteto**	**11.56**	**355**			**Pn**	**15 27 13.6**	**+0.6**
BURAR	**Bucovina Array**	**11.57**	**13**	⇑P		**Pn**	**15 27 15.7**	**+2.5**
BUR08	**Bucovina Ar. S**	**11.60**	**13**			**Pn**	**15 27 13.8**	**+0.3**
ARSA	**Arzberg**	**11.67**	**340**	Pn		**Pn**	**15 27 16.3**	**+1.9**
	comp=Z,2.6nm,0.4s							
ARSA				Sn		**Sn**	**15 29 19.6**	**-3.8**
	comp=Z,5.4nm,0.8s							
MYKA	**Terra Mystica**	**11.72**	**333**	*e*Pn		**Pn**	**15 27 16.7**	**+1.5**
	comp=Z,1.8nm,0.3s							
MYKA				Sn		**Sn**	**15 29 22.6**	**-2.2**
	comp=Z,4.9nm,0.5s							
STAL	**STALIGIAL**	**11.78**	**329**			**Pn**	**15 27 16.4**	**+0.5**
KIS	**Kishinev**	**11.98**	**26**	*e*P		**Pn**	**15 27 23.0**	**+4.5**
KIS				*e*S		**Sn**	**15 29 37.0**	**+6.2**
KIS				LRM		MLR	15 32 42.0	
	comp=Z,900nm,12.0s							
KIS	**Kishinev**	**11.98**	**26**	*e*P		**Pn**	**15 27 23.0**	**+4.5**
KIS				*e*S		**Sn**	**15 29 37.0**	**+6.2**
KIS				MLR		MLR		
	comp=Z,900nm,12.0s							
CTI	**Castel Tesino**	**12.07**	**326**	P		**Pn**	**15 27 19.7**	**-0.3**
CTI	**Castel Tesino**	**12.07**	**326**			**Pn**	**15 27 19.7**	**-0.3**
MMAI	**Mount Meron Ar**	**12.07**	**102**	Pn		**Pn**	**15 27 15.9**	**-4.1**
	comp=Z,1.0nm,0.3s,baz=281,slow=12,SNR=3.5							
MMAI				Sn		Sn	15 29 23.8	-10
	comp=Z,1.8nm,0.3s,baz=282,slow=20,SNR=3.8							
CONA	**Conrad Observa**	**12.21**	**342**	Pn		**Pn**	**15 27 26.0**	**+4.2**
	comp=Z,1.6nm,0.6s							
KBA	**Koelnbreinsper**	**12.21**	**333**	*e*Pn		**Pn**	**15 27 23.0**	**+1.0**
	comp=Z,1.2nm,0.2s							
KBA				Sn		**Sn**	**15 29 32.9**	**-4.0**
	comp=Z,12nm,0.7s							
VYHS	**Vyhne**	**12.22**	**352**	*e*P		**Pn**	**15 27 22.9**	**+0.9**
VYHS				*e*			15 29 32.0	
VYHS	**Vyhne**	**12.22**	**352**	*e*PN		**Pn**	**15 27 22.8**	**+0.8**
VYHS	**Vyhne**	**12.22**	**352**	*e*SN		**Sn**	**15 29 32.0**	**-5.0**
UZH	**Uzhgorod**	**12.25**	**3**	*e*P		Pn	15 27 28.2	+6.0
UZH				*e*S		Sn	15 29 47.0	+10
UZH				MLR		MLR		
	comp=N,220nm,13.0s							
UZH				MLR		MLR		
	comp=E,150nm,13.0s							
UZH				MLR		MLR		
	comp=Z,70nm,13.0s							
ABTA	**Abfaltersbach**	**12.25**	**330**	*e*Pn		**Pn**	**15 27 22.3**	**-0.1**
	comp=Z,2.9nm,0.1s							
SALO	**Salr**	**12.29**	**322**			**Pn**	**15 27 23.6**	**+0.7**
MODS	**Modra-Piesok**	**12.33**	**347**	*e*P		**Pn**	**15 27 28.0**	**+4.6**
MODS	**Modra-Piesok**	**12.33**	**347**	*e*PN		**Pn**	**15 27 28.0**	**+4.6**
KOLS	**Kolonicke sedl**	**12.55**	**3**	*e*P		**Pn**	**15 27 29.5**	**+3.1**
KOLS	**Kolonicke sedl**	**12.55**	**3**	*e*PN		**Pn**	**15 27 29.5**	**+3.1**
MOA	**Molln**	**12.57**	**338**	Pn		**Pn**	**15 27 27.8**	**+1.0**
	comp=Z,3.3nm,0.3s							
MOA				Sn		**Sn**	**15 29 43.5**	**-2.0**
	comp=Z,2.5nm,0.4s							
WTTA	**Wattenberg**	**13.02**	**329**	Pn		**Pn**	**15 27 37.5**	**+4.5**
	comp=Z,1.3nm,0.3s							
WTTA				Sn		**Sn**	**15 29 53.3**	**-3.5**
	comp=Z,22nm,0.7s							
WATA	**Walderalm**	**13.11**	**330**	Pn		**P**	**15 27 43.1**	**-0.8**
	comp=Z,8.2nm,0.6s							
FUORN	**Ofenpass-Fuorn**	**13.13**	**324**			**Pn**	**15 27 35.0**	**+0.3**
SQTA	**Sankt Quirin**	**13.17**	**328**	Pn		**P**	**15 27 39.9**	**-4.7**
	comp=Z,2.6nm,0.4s							
SQTA				Sn		**Sn**	**15 29 57.0**	**-3.1**
	comp=Z,10.0nm,0.5s							
FETA	**Feichten**	**13.22**	**327**	Pn		**Pn**	**15 27 39.0**	**+3.3**
	comp=Z,7.1nm,0.7s							
FETA				Sn		**Sn**	**15 29 56.9**	**-4.7**
	comp=Z,5.2nm,0.6s							
EIL	**Elat**	**13.25**	**117**	Pn		**Pn**	**15 27 34.2**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=335,slow=14,SNR=5.4							
EIL				Sn		Sn	15 29 50.0	-12
	comp=Z,0.9nm,0.3s,baz=8.1,slow=19,SNR=4.3							
AQBJ	**Aqaba**	**13.29**	**116**	P		**Pn**	**15 27 36.6**	**-0.1**
	comp=Z,34nm,0.9s							
MOTA	**Moosalm**	**13.31**	**328**	Pn		**P**	**15 27 41.6**	**-4.5**
	comp=Z,5.3nm,0.7s							
MOTA				Sn		**Sn**	**15 30 01.6**	**-2.1**
	comp=Z,11nm,0.6s							
VRAC	**Vranov**	**13.36**	**347**	LR		LR	15 33 47.4	
	comp=Z,336nm,18.3s,baz=166,slow=42							
DAVOX	**Davos/Dischmat**	**13.43**	**324**	Pn		**Pn**	**15 27 37.9**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=153,slow=16,SNR=3.4							
DAVOX				Sn		**Sn**	**15 30 04.9**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=316,slow=18,SNR=4.1							
DAVOX				LR		LR	15 33 54.8	
	comp=Z,258nm,20.0s,baz=82,slow=42							
TUE	**Stuetta**	**13.47**	**322**			**Pn**	**15 27 38.7**	**-0.5**
LVV	**L'vov**	**13.56**	**8**	*e*P		**Pn**	**15 27 43.3**	**+3.1**
LVV				*e*S		**Sn**	**15 30 17.3**	**+7.8**
LVV				MLR		MLR		
	comp=E,100nm,11.0s							
LVV				MLR		MLR		
	comp=N,300nm,14.0s							
LVV				MLR		MLR		
	comp=Z,400nm,13.0s							
RETA	**Reutte**	**13.57**	**328**	Pn		**P**	**15 27 45.6**	**-3.3**
	comp=Z,1.0nm,0.3s							
RETA				Sn		**Sn**	**15 30 08.8**	**-1.1**
	comp=Z,5.9nm,0.5s							
TREC	**Trest**	**13.57**	**344**	AMS		AMS	15 33 50.0	
	comp=Z,2µm,13.3s							
OKC	**Ostrava-Krasne**	**13.63**	**351**	AMS		AMS	15 34 10.0	
	comp=Z,1µm,18.4s							
GEC2	**GERESS Array S**	**13.63**	**338**	Pn		**Pn**	**15 27 41.1**	**-0.2**
GERES	**GERESS Array B**	**13.63**	**338**	Pn		**Pn**	**15 27 41.6**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=155,slow=12,SNR=13							
GERES				Sn		**Sn**	**15 30 09.3**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=156,slow=22,SNR=5.8							
DAVA	**Damuels**	**13.80**	**326**	*e*Pn		**P**	**15 27 49.2**	**-2.5**
	comp=Z,3.8nm,0.5s							
DAVA				Sn		**Sn**	**15 30 08.8**	**-6.9**
	comp=Z,8.8nm,0.7s							
KHC	**Kasperske Hory**	**13.93**	**338**	*e*P		**Pn**	**15 27 45.8**	**+0.6**
KHC				MLR		MLR		
	comp=Z,2µm,15.6s							
KHC	**Kasperske Hory**	**13.93**	**338**	*e*P		**Pn**	**15 27 45.8**	**+0.6**
KHC				*ex*		x	15 27 54.6	
KHC				*ex*		x	15 28 17.0	
KHC				AMS		AMS	15 34 10.0	
	comp=Z,2µm,15.6s							
KRLC	**Kraliky**	**14.06**	**348**	*e*P		**Pn**	**15 27 47.7**	**+0.7**
KRLC				MLR		MLR		
	comp=Z,2µm,14.1s							
KRLC	**Kraliky**	**14.06**	**348**	*e*P		**Pn**	**15 27 47.7**	**+0.7**
KRLC				*ex*		x	15 28 09.8	
KRLC				AMS		AMS	15 34 30.0	
	comp=Z,2µm,14.1s							
PBCC	**Pribram**	**14.31**	**340**	AMS		AMS	15 34 20.0	
	comp=Z,500nm,12.7s							
GOPC	**GO Pecny, Ondr**	**14.32**	**343**	AMS		AMS	15 34 20.0	
	comp=Z,2µm,12.1s							
DPC	**Dobruska-Polom**	**14.41**	**347**	*e*P		**P**	**15 27 55.6**	**-2.6**
DPC				MLR		MLR		
	comp=Z,2µm,12.9s							
DPC	**Dobruska-Polom**	**14.41**	**347**	*e*P		**P**	**15 27 55.6**	**-2.6**
DPC				*e*pP		Pn	15 28 03.2	+11
DPC				AMS		AMS	15 34 30.0	
	comp=Z,2µm,12.9s							
PRU	**Pruhonice**	**14.45**	**342**	AMS		AMS	15 34 20.0	
	comp=Z,2µm,11.8s							
SENIN	**Lac Senin/Sane**	**14.46**	**318**	Pn		**Pn**	**15 27 53.4**	**+0.7**
PRA	**Prague**	**14.55**	**342**	AMS		AMS	15 34 30.0	
	comp=Z,2µm,12.5s							
UPC	**Upice**	**14.61**	**346**	AMS		AMS	15 34 40.0	
	comp=Z,2µm,12.5s							
CHVC	**Chvalec**	**14.68**	**347**	*e*P		P	15 28 06.6	+5.3
CHVC				*ex*		x	15 28 18.4	
CHVC				AMS		AMS	15 34 40.0	
	comp=Z,2µm,12.5s							
ANN	**Anapa**	**14.82**	**51**	P		**Pn**	**15 27 53.8**	**-3.6**
ANN				pmax		pmax		
	comp=Z,173nm,1.8s							
PVCC	**Panska Ves**	**14.94**	**343**	AMS		AMS	15 34 40.0	
	comp=Z,2µm,11.8s							
NKC	**Novy Kostel**	**15.24**	**338**	AMS		AMS	15 36 30.0	
	comp=Z,2µm,13.5s							
AKASG	**Malin Array Be**	**15.39**	**19**	Pn		**Pn**	**15 28 03.2**	**-1.6**
	comp=Z,1.9nm,0.3s,baz=208,slow=12,SNR=9.1							
AKASG				Sn		**S**	**15 31 04.2**	**-5.1**
	comp=Z,0.3nm,0.3s,baz=201,slow=22,SNR=6.9							
AKASG				LR		LR	15 34 37.7	
	comp=Z,154nm,18.0s,baz=205,slow=40							
AKBB	**Malin Array Si**	**15.39**	**19**	P		**Pn**	**15 28 04.8**	**0.0**
AKBB				pmax		pmax		
	comp=Z,11nm,0.9s							
AKBB	**Malin Array Si**	**15.39**	**19**			**Pn**	**15 28 04.8**	**0.0**
BRG	**Berggiesshubel**	**15.41**	**342**	*e*P		**P**	**15 28 11.9**	**+2.6**
	comp=E,5.3nm,0.9s							
	comp=Z,2µm,12.7s							
	comp=N,1µm,12.0s							
	comp=E,690nm,12.0s							
BRG	**Berggiesshubel**	**15.41**	**342**	*e*P		**P**	**15 28 11.9**	**+2.6**
BRG				pmax		pmax		
	comp=Z,5.0nm,0.9s							
BRG				MLR		MLR		
	comp=Z,2µm,12.7s							
BRG				MLR		MLR		
	comp=N,1µm,12.0s							
BRG				MLR		MLR		
	comp=E,690nm,12.0s							
SSB	**Saint Sauveur**	**15.46**	**310**	P		**Pn**	**15 28 07.1**	**+1.2**
SSB	**Saint Sauveur**	**15.46**	**310**	Pn		**Pn**	**15 28 07.1**	**+1.2**
ECH	**Echery**	**15.75**	**323**	P		**Pn**	**15 28 10.6**	**+1.0**
ECH	**Echery**	**15.75**	**323**			**Pn**	**15 28 10.6**	**+1.0**
SOC	**Sochi**	**15.81**	**57**	*e*P		**Pn**	**15 28 07.5**	**-2.7**
SOC				*e*			15 31 01.9	
CLL	**Collm**	**16.05**	**341**	P		**Pn**	**15 28 14.1**	**+0.8**
CLL				pmax		pmax		
	comp=Z,12nm,1.0s							
CLL	**Collm**	**16.05**	**341**	*e*P		**Pn**	**15 28 14.0**	**+0.8**
CLL				*e*pP		**P**	**15 28 19.0**	**+2.6**
	comp=Z,11nm,1.2s							
CLL				*es*P		**pP**	**15 28 22.0**	**-2.0**
CLL				*e*S		**Sn**	**15 31 12.0**	**+2.0**
CLL	**Collm**	**16.05**	**341**	Pn		**Pn**	**15 28 14.1**	**+0.8**
WLF	**Walferdange**	**17.24**	**325**	x		**P**	**15 28 32.1**	**+2.5**
SUW	**Suwalki**	**17.66**	**4**	P		**Pn**	**15 28 32.7**	**-0.8**
SUW				pmax		pmax		
	comp=Z,93nm,0.9s							
SUW	**Suwalki**	**17.66**	**4**	Pn		**Pn**	**15 28 32.7**	**-0.8**
NEY	**Neytrino**	**17.78**	**61**	*ce*P		**Pn**	**15 28 35.5**	**+0.2**
KIV	**Kislovodsk**	**17.96**	**59**	*e*P		**P**	**15 28 37.8**	**+0.1**
KIV				pmax		pmax		
	comp=Z,51nm,1.1s							
KIV				MLR		MLR		
	comp=Z,398nm,14.0s							
MEM	**Membach**	**17.98**	**327**	x		**P**	**15 28 42.7**	**+5.0**
KBZ	**Khabaz**	**18.04**	**59**	*i* P		**P**	**15 28 38.4**	**0.0**
KBZ	**Khabaz**	**18.04**	**59**	P		**P**	**15 28 38.9**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=235,slow=4.8,SNR=9.5							
KBZ				LR		LR	15 37 22.1	
	comp=Z,357nm,18.2s,baz=262,slow=43							
DOU	**Dourbes**	**18.27**	**324**	x		**P**	**15 28 44.5**	**+3.6**
BMRD	**Maredsous**	**18.32**	**324**	x		**Pn**	**15 28 44.4**	**+2.7**
NCK	**Nalchik**	**18.46**	**61**	*ce*P		**Pn**	**15 28 44.4**	**+0.9**
ZEI	**Tsey**	**18.51**	**63**	*e*P		**Pn**	**15 28 45.2**	**+1.0**
ZEI				pmax		pmax		
	comp=Z,14nm,0.8s							
MICGM	**Minsk**	**18.67**	**12**	*e*		**P**	**15 28 43.0**	**-2.2**
MNK	**Minsk**	**18.67**	**12**	*e*P		**P**	**15 28 43.0**	**-2.2**
GNI	**Garni**	**18.76**	**71**	P		**Pn**	**15 28 47.1**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=280,slow=6.1,SNR=4.7							
GNI				LR		LR	15 36 02.6	
	comp=Z,164nm,21.4s,baz=272,slow=37							
PABE	**Paberze**	**19.20**	**5**	*e*P		**Pn**	**15 28 52.1**	**0.0**
PABE				lAmb		lAmb	15 28 54.5	
	comp=Z,77nm,0.8s							
ISAL	**Salakas**	**19.46**	**8**	*e*P		**Pn**	**15 28 56.6**	**+1.4**
ISAL				lAmb		lAmb	15 28 58.3	
	comp=Z,12nm,0.9s							
VSR	**Storozhevoye**	**19.55**	**35**	*e*P		**P**	**15 28 55.1**	**+0.1**
VSR				pmax		pmax		
	comp=Z,20nm,1.1s							
IZAR	**Zarasai**	**19.65**	**8**	*e*P		**Pn**	**15 28 57.0**	**-0.5**
IZAR				lAmb		lAmb	15 29 02.8	
	comp=Z,17nm,0.9s							
GROC	**Groznyy**	**19.96**	**63**	*e*P		**P**	**15 28 59.4**	**-0.1**
GROC				*e*S		**Sn**	**15 32 44.2**	**-0.5**
GROC				pmax		pmax		
	comp=Z,37nm,0.8s							
ESBB	**Sonseca Array**	**20.16**	**287**	P		**P**	**15 29 01.5**	**-0.3**
ESDC	**Sonseca Array**	**20.16**	**287**	P		Pn	15 29 02.9	-0.9
	comp=Z,6.2nm,1.0s,baz=78,slow=10,SNR=14							
ESDC				LR		LR	15 37 26.7	
	comp=Z,120nm,18.9s,baz=85,slow=38							
LPSR	**Galich'ya Gora**	**20.41**	**32**	*e*P		**P**	**15 29 04.3**	**0.0**
LPSR				pmax		pmax		
	comp=Z,80nm,0.9s							
PAB	**San Pablo**	**20.45**	**287**	P		**P**	**15 29 05.1**	**+0.1**
PAB				pmax		pmax		
	comp=Z,10.0nm,1.1s							
PAB	**San Pablo**	**20.45**	**287**	P		**P**	**15 29 05.1**	**+0.1**
VRH	**Novokhopyorsk**	**20.78**	**38**	*e*P		**P**	**15 29 08.1**	**-0.1**
VRH				pmax		pmax		
	comp=Z,10.0nm,0.8s							
AKT	**Akhty**	**21.12**	**68**	*e*P		**P**	**15 29 12.5**	**+0.2**
AKT				*e*			15 29 31.6	
AKT				pmax		pmax		
	comp=Z,35nm,1.0s							
OBN	**Obninsk**	**21.44**	**24**	*d* iP		**P**	**15 29 15.6**	**+0.2**
OBN				*e*			15 29 20.0	
OBN				*e*			15 29 34.7	
OBN				*e*S		**S**	**15 33 11.5**	**+0.3**
OBN				*e*			15 33 16.0	
OBN				SSS		SSS	15 33 49.0	
OBN				pmax		pmax		
	comp=Z,74nm,1.2s							
OBN				MLR		MLR		
	comp=Z,255nm,16.0s							
OBN	**Obninsk**	**21.44**	**24**	P		**P**	**15 29 15.8**	**+0.4**
	comp=Z,10nm,0.4s,baz=27,slow=17,SNR=9.0							
OBN				LR		LR	15 37 30.1	
	comp=Z,36nm,18.5s,baz=280,slow=37							
OBN	**Obninsk**	**21.44**	**24**	P		**P**	**15 29 14.9**	**-0.4**
MDT	**Midelt**	**21.61**	**268**	P		**P**	**15 29 18.5**	**+1.0**
	comp=Z,7.7nm,0.9s,baz=118,slow=2.9,SNR=15							
MDT				LR		LR	15 39 44.9	
	comp=Z,310nm,20.3s,baz=90,slow=42							
MOS	**Moscow**	**22.30**	**25**	*e*P		**P**	**15 29 25.3**	**+0.7**
MOS				*e*			15 29 45.9	
MOS				*e*S		**S**	**15 33 23.4**	**-4.3**
MOS				pmax		pmax		
	comp=Z,74nm,0.8s							
VSU	**Vasula**	**22.36**	**7**	*i* P		**P**	**15 29 24.4**	**-0.8**
VSU				pmax		pmax		
	comp=Z,129nm,1.0s							
VSU	**Vasula**	**22.36**	**7**	*e*P		**P**	**15 29 25.9**	**+0.8**
PESTR	**Estremoz**	**22.99**	**285**	P		**P**	**15 29 31.6**	**-0.4**
PVAQ	**Vaqueiros**	**23.20**	**281**	P		**P**	**15 29 33.9**	**-0.3**
HFS	**Hagfors**	**24.25**	**351**	P		**P**	**15 29 44.4**	**+0.4**
	comp=Z,18nm,1.0s,baz=168,slow=10,SNR=24							
NC602	**NORSAR Array S**	**25.14**	**349**	P		**P**	**15 29 52.8**	**+0.8**
FINES	**FINESS Array B**	**25.25**	**5**	*i* P		**P**	**15 29 54.2**	**+1.3**
FINES				pmax		pmax		
	comp=Z,6.0nm,0.7s							
FINES	**FINESS Array B**	**25.25**	**5**	P		**P**	**15 29 53.0**	**0.0**
	comp=Z,2.4nm,0.4s,baz=165,slow=11,SNR=21							
FINES				LR		LR	15 41 08.0	
	comp=Z,690nm,18.4s,baz=195,slow=40							
FIA1	**FINESS Array S**	**25.25**	**5**	P		**P**	**15 29 53.3**	**+0.4**
EKA	**Eskdalemuir Ar**	**25.25**	**326**	P		**P**	**15 29 53.8**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=127,slow=11,SNR=5.5							
NAO01	**NORSAR Array S**	**25.35**	**348**	P		**P**	**15 29 53.7**	**-0.2**
NC405	**NORSAR Array S**	**25.48**	**349**	P		**P**	**15 29 54.3**	**-0.8**
NB201	**NORSAR Array S**	**25.48**	**349**	P		**P**	**15 29 55.8**	**+0.7**
NB2	**NORSAR Subarra**	**25.48**	**349**	P		**P**	**15 29 55.6**	**+0.5**
	comp=Z,6.6nm,0.8s,baz=158,slow=9.3							
NOA	**NORSAR Array B**	**25.48**	**349**	P		**P**	**15 29 55.7**	**+0.5**
	comp=Z,6.1nm,0.9s,baz=158,slow=9.0,SNR=13							
NOA				LR		LR	15 40 40.5	
	comp=Z,97nm,18.8s,baz=170,slow=38							
NBO00	**NORSAR Array S**	**25.55**	**348**	P		**P**	**15 29 56.3**	**+0.7**
NC204	**NORSAR Array S**	**25.78**	**348**	P		**P**	**15 29 59.7**	**+1.8**
TOA0	**Torodi Ar. Sit**	**29.09**	**222**	P		**P**	**15 30 28.1**	**+0.3**
TORD	**Torodi Ar. Bea**	**29.09**	**222**	P		**P**	**15 30 28.1**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=34,slow=9.0,SNR=13							
TORD				LR		LR	15 43 25.0	
	comp=Z,402nm,18.5s,baz=0.0,slow=39							
GEYT	**Alibeck**	**29.25**	**76**	P		**P**	**15 30 29.1**	**-0.1**
	comp=Z,2.7nm,0.4s,baz=282,slow=7.9,SNR=8.8

KSH S **S** 15 38 43.3 -1.4
KSH SS **SS** 15 41 46.8 -8.6
KSH LR LR
comp=Z,250nm,5.3s
KSH LR LR
comp=Z,280nm,6.3s
KSH LR LR
comp=Z,240nm,6.7s
KURK Kurchatov 42.85 52 *i* P **P** 15 32 24.4 -0.6
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 42.85 52 P **P** 15 32 24.5 -0.6
KURK IAmb IAmb 15 32 38.1
comp=Z,6.6nm,0.9s
KDJ Kajisay 42.98 65 P **P** 15 32 26.3 -0.1
KDJ pmax pmax
comp=Z,8.0nm,0.8s
KDJ Kajisay 42.98 65 P **P** 15 32 26.3 -0.1
KDJ IAmb IAmb 15 32 46.4
comp=Z,7.6nm,0.8s
TARG Taragay, Kyrgy 43.52 65 P **P** 15 32 31.1 +0.1
MAKZ Makanchi 45.50 57 P **P** 15 32 45.4 -0.9
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
MAKZ Makanchi 45.50 57 P **P** 15 32 45.4 -0.9
MAKZ IAmb IAmb 15 32 57.7
comp=Z,4.5nm,0.8s
MK31 Makanchi Array 45.71 57 P **P** 15 32 46.9 -1.1
MK31 Makanchi Array 45.71 57 P **P** 15 32 46.9 -1.1
MKAR Makanchi Array 45.71 57 P **P** 15 32 47.3 -0.8
comp=Z,4.4nm,0.4s,baz=270,slow=7.6,SNR=100
MKAR LR LR 15 56 27.9
comp=Z,70nm,18.1s,baz=278,slow=42
ZAA0 Zalesovo Array 46.42 47 P **P** 15 32 52.1 -1.3
ZALV Zalesovo Beam 46.42 47 P **P** 15 32 52.6 -0.9
comp=Z,9.2nm,0.4s,baz=267,slow=9.2,SNR=50
ZALV LR LR 15 55 23.1
comp=Z,88nm,18.3s,baz=268,slow=40
WMQ Urumqi 50.09 60 *e*P **P** 15 33 23.6 +1.6
WMQ pP pP 15 33 30.3 -0.6
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,120nm,4.7s
DANN Dangsing 52.55 80 *e*P **P** 15 33 40.4 -0.5
comp=Z,183nm,1.0s
KOLN Koldanda 52.67 81 *e*P **P** 15 33 41.7 0.0
comp=Z,67nm,1.2s
GKN Gorkha 53.40 80 *e*P **P** 15 33 46.4 -0.6
DMN Daman 53.94 80 *e*P **P** 15 33 50.8 -0.3
comp=Z,32nm,0.7s
KKN Kakani 54.00 80 *e*P **P** 15 33 50.5 -1.0
comp=Z,17nm,0.6s
PKIN Phulchoki 54.19 80 *e*P **P** 15 33 53.3 +0.4
PKI Pulchoki 54.20 80 *e*P **P** 15 33 52.9 -0.2
comp=Z,21nm,0.8s
GUN Gumba 54.42 79 *e*P **P** 15 33 54.6 -0.1
JIRN Jiri 54.78 79 *e*P **P** 15 33 56.7 -0.7
RAMN Ramite 55.43 80 *e*P **P** 15 34 01.6 -0.3
ODAN Odare 56.09 80 *e*P **P** 15 34 06.3 -0.4
comp=Z,16nm,0.8s
TAPN Taplejung 56.13 79 *e*P **P** 15 34 06.2 -0.7
comp=Z,28nm,1.0s
LSA Lhasa 57.77 75 P **P** 15 34 18.0 -0.8
LSA pmax pmax
comp=Z,4.0nm,0.8s
LSA Lhasa 57.77 75 P **P** 15 34 17.9 -0.8
LSA IAmb IAmb 15 34 29.3
comp=Z,4.0nm,0.8s
ZAK Zakamensk 58.26 48 *e*P **P** 15 34 18.8 -2.7
ZAK pmax pmax
comp=Z,4.0nm,1.0s
GTA Gaotai 60.12 61 P **P** 15 34 34.6 +0.1
GTA pP pP 15 34 44.2 +0.6
GTA sP sP 15 34 47.6 +0.4
GTA pmax pmax
comp=Z,7.0nm,1.0s
SCHQ Schefferville 60.20 318 P **P** 15 34 35.6 +1.0
comp=Z,4.4nm,0.6s,baz=38,slow=6.3,SNR=7.2
SCHQ LR LR 16 00 29.0
comp=Z,37nm,20.5s,baz=104,slow=36
SCHQ Schefferville 60.20 318 IAmb IAmb 15 34 43.6
comp=Z,5.5nm,0.7s
TIXI Tiksi 61.10 20 *i* P **P** 15 34 40.4 -0.1
TIXI pmax pmax
comp=Z,2.0nm,1.0s
TIXI Tiksi 61.10 20 P **P** 15 34 40.9 +0.5
TIXI IAmb IAmb 15 35 03.8
comp=Z,4.0nm,1.1s
SONM Songino Array 61.10 50 P **P** 15 34 41.1 0.0
comp=Z,3.4nm,0.8s,baz=282,slow=8.1,SNR=20
SONM LR LR 16 04 09.4
comp=Z,54nm,18.9s,baz=299,slow=39
BOD Bodaibo 61.39 38 *e*P **P** 15 34 42.8 +0.1
BOD e 15 34 53.2
ULN Ulaanbaatar 61.50 50 *i* P **P** 15 34 43.4 -0.4
ULN pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 61.50 50 P **P** 15 34 43.5 -0.4
LZH Lanzhou 64.44 63 *e*P **P** 15 35 06.2 +2.6
LZH pP sP 15 35 15.4 -0.8
LZH sP pwP 15 35 19.7 +1.3
LZH pmax pmax
comp=Z,17nm,1.0s
BOSA Boshof 64.77 176 LR LR 16 06 04.4
comp=Z,83nm,19.4s,baz=9.5,slow=39
YAK Yakutsk 66.35 29 *e*P **P** 15 35 14.1 -1.1
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK Yakutsk 66.35 29 P **P** 15 35 15.1 -0.1
HHC Hu-ho-hao-te 67.52 55 P **P** 15 35 22.3 -0.9
HHC pmax pmax
comp=N,6.0nm,0.8s
MHMT Maesarieng 68.85 83 P **P** 15 35 33.1 +1.4
comp=N,17nm,0.8s
KMI Kunming 68.99 74 P **P** 15 35 32.2 -0.6
KMI pP pP 15 35 39.8 -2.2
KMI pmax pmax
comp=N,10.0nm,0.5s
XAN Xi'an 69.07 63 P **P** 15 35 35.3 +2.3
XAN pmax pmax
comp=N,8.0nm,1.5s
CMMT Chiang Mai 69.32 81 P **P** 15 35 37.0 +2.3
comp=N,17nm,0.9s
CMAR Chiang Mai Arr 69.51 82 P **P** 15 35 35.6 -0.3
comp=N,2.2nm,0.8s,baz=302,slow=7.1,SNR=17
CMAR LR LR 16 09 18.4
comp=N,17nm,20.6s,baz=352,slow=39
PAYA Payao 69.77 80 P **P** 15 35 38.6 +1.2
UTHA Uthaitani 71.49 84 P P 15 35 58.7 +11
CN2 Changchun 74.64 47 *e*P **P** 15 36 07.3 +1.2
KLR Kul'dur 74.84 40 *i* P **P** 15 36 07.2 0.0
KLR pmax pmax
comp=Z,4.0nm,1.1s
YKA Yellowknife Ar 75.28 340 P **P** 15 36 11.1 +1.6
comp=Z,1.2nm,0.7s,baz=38,slow=5.6,SNR=21
NJ2 Nanjing 77.17 60 *e*P **P** 15 36 20.7 0.0
NJ2 pmax pmax
comp=Z,16nm,0.5s
ULM Lac du Bonnet 77.51 324 P **P** 15 36 23.5 +1.2
comp=Z,2.9nm,0.8s,baz=34,slow=4.4,SNR=4.6
ULM Lac du Bonnet 77.51 324 IAmb IAmb 15 36 34.6
comp=Z,3.4nm,0.8s
USRK Ussuriysk Ar. 78.14 43 P **P** 15 36 26.7 +0.8
comp=Z,2.6nm,0.7s,baz=320,slow=4.3,SNR=6.1
USRK LR LR 16 15 07.7
comp=Z,68nm,18.9s,baz=197,slow=39
PSI Prapat 78.37 95 P **P** 15 36 29.0 +1.2
comp=Z,6.2nm,1.0s,baz=276,slow=9.2,SNR=4.0
RPSI Rantau Prapat 78.43 95 P **P** 15 36 29.0 +1.0
DAWY Dawson 78.71 351 P **P** 15 36 30.6 +1.8
DAWY IAmb IAmb 15 36 32.5
comp=Z,3.7nm,1.0s
HDA Harding Lake 79.10 355 P **P** 15 36 31.7 +0.8
MCK McKinley 79.91 356 P **P** 15 36 36.8 +1.5
MCK pmax pmax
comp=Z,6.0nm,1.1s
MCK McKinley 79.91 356 P **P** 15 36 36.8 +1.5
MCK IAmb IAmb 15 36 38.5
comp=Z,6.4nm,1.1s
KSRS Korea Array 79.96 51 P **P** 15 36 36.4 +0.3
comp=Z,2.0nm,0.7s,baz=312,slow=4.9,SNR=6.4
DHY Denali Highway 80.45 355 P **P** 15 36 39.9 +1.4
DHY IAmb IAmb 15 36 41.8
comp=Z,4.5nm,1.0s
PETK Petropavlovsk- 83.15 25 LR LR 16 18 31.7
comp=Z,69nm,18.5s,baz=241,slow=39
BDFB Brasilia 83.33 245 LR LR 16 14 15.2
comp=Z,312nm,19.1s,baz=79,slow=36
JNU Nakatsue 84.57 53 LR LR 16 17 24.0
comp=Z,6.7nm,21.5s,baz=11,slow=38
PDAR Pinedale Array 89.38 326 P **P** 15 37 25.7 +2.0
comp=Z,32nm,0.6s,baz=49,slow=4.1,SNR=1.5
NVAR Mina Array Bea 96.72 329 LR LR 16 24 22.8
comp=Z,42nm,18.5s,baz=39,slow=37
CPUP Villa Florida 96.78 242 LR LR 16 22 47.7
comp=Z,178nm,19.4s,baz=42,slow=36
LPAZ La Paz 99.05 257 LR LR 16 22 49.0
comp=Z,26nm,20.4s,baz=56,slow=35
ASAR Alice Springs 121.33 98 PKP **PKPdf** 15 43 20.0 -0.2
comp=Z,0.5nm,0.9s,baz=310,slow=1.2,SNR=4.4

ISC 10 15:25:05.5±0.8,**50.00N**±0.04×**18.52E**±0.02,**h0**km,**n15**, σ0.91/31,**Poland**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.29**	**236**	*e*PG	**Pg**		**15 25 11.4**	**+0.3**
OKC				*e*SG	**Sg**		**15 25 16.1**	**+1.2**
comp=Z,25nm,0.4s								
MORC	**Moravsky Berou**	**0.67**	**251**	*e*PG	**Pg**		**15 25 18.3**	**-0.1**
MORC				*e*SG	**Sg**		**15 25 27.2**	**+0.1**
OJC	**Ojcow**	**0.85**	**75**	*e*Pg	**Pg**		**15 25 20.6**	**-1.2**
OJC				*e*Pg	**Pg**		**15 25 20.6**	**-1.2**
OJC				*e*Sg	**Sg**		**15 25 32.7**	**-0.1**
OJC				*e*Sg	**Sg**		**15 25 32.7**	**-0.1**
LANS	**Liptovska Anna**	**1.05**	**144**	*e*PG	**Pg**		**15 25 25.0**	**-0.6**
LANS				*e*SG	**Sg**		**15 25 39.5**	**+0.3**
LANS				*e*LG	Lg		15 25 43.4	
KRLC	**Kraliky**	**1.12**	**274**	*e*PG	**Pg**		**15 25 26.1**	**-1.0**
KRLC				*e*SG	**Sg**		**15 25 42.5**	**+0.8**
comp=Z,10nm,0.7s								
JAVC	**Velka Javorina**	**1.27**	**206**	*e*PG	**Pg**		**15 25 29.4**	**-0.5**
NIE	**Niedzica**	**1.29**	**116**	*e*Pg	**Pg**		**15 25 30.4**	**+0.2**
NIE				*e*Pg	**Pg**		**15 25 30.4**	**+0.2**
NIE				*e*Sg	**Sn**		**15 25 49.2**	**+0.3**
NIE				*e*Sg	**Sn**		**15 25 49.2**	**+0.3**
VRAC	**Vranov**	**1.43**	**242**	*e*PG	**Pn**		**15 25 32.0**	**-0.8**
VRAC				*e*SG	**Sg**		**15 25 51.3**	**-0.2**
DPC	**Dobruska-Polom**	**1.46**	**285**	*e*PG	**Pn**		**15 25 32.3**	**-0.9**
DPC				*e*SG	**Sg**		**15 25 52.4**	**+0.1**
comp=Z,7.4nm,0.5s								
VYHS	**Vyhne**	**1.52**	**172**	*e*PG	**Pn**		**15 25 32.7**	**-1.3**
VYHS				*e*SG	**Sg**		**15 25 53.3**	**-1.1**
CHVC	**Chvalec**	**1.69**	**291**	*e*PG	**Pn**		**15 25 36.2**	**-0.1**
CHVC				*e*SG	**Sb**		**15 26 00.1**	**+0.8**
comp=Z,4.4nm,0.7s								
STHS	**Stebnicka Huta**	**1.86**	**107**	*e*PN	**Pn**		**15 25 39.7**	**+1.0**
STHS				*e*SN	**Sg**		**15 26 06.5**	**+1.3**
PRU	**Pruhonice**	**2.57**	**271**	*e*SG	**Sg**		**15 26 28.4**	**+0.4**
comp=Z,2.9nm,0.4s								
BRG	**Berggiesshubel**	**3.06**	**288**	PG	**Pb**		**15 26 00.3**	**-0.4**
BRG				SG	**Sb**		**15 26 41.1**	**+2.5**
7.4nm,1.4s								
KHC	**Kasperske Hory**	**3.33**	**257**	*e*SG	**Sg**		**15 26 51.2**	**-1.4**

*SJA **10** 15:35:22.1±0.4,36.43S×73.44W,h20km±7km, MD3.3*
*GUC **10** 15:35:24.7±0.7,36.59S×73.40W,h13km±3km, ML3.1*
ISC 10 15:35:22.4±2.4,**36.50S**±0.07×**73.5W**±0.1,**h5**km±18km,**n7**, σ0.96/13,**2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
CCSP	**San Pedro de C**	**0.44**	**141**	⇓*i*P	**Pg**		**15 35 30.9**	**0.0**
CCSP				*i* S	**Sg**		**15 35 35.9**	**-0.7**
CCSP				IAML			15 35 37.7	
comp=E,7μm,0.2s								
COCH	**Cobquecura**	**0.66**	**56**	⇓*i*P	**Pb**		**15 35 36.6**	**+0.3**
COCH				*e*S	**Sb**		**15 35 45.7**	**+0.1**
COCH				IAML			15 35 48.7	
comp=N,1μm,0.2s								
CCHI	**Chillan**	**1.11**	**95**	*e*P	**Pb**		**15 35 43.5**	**-0.7**
CCHI				*e*S	**Sb**		**15 35 57.2**	**-1.7**
CCHI	**Chillan**	**1.11**	**95**	*i* P	**Pb**		**15 35 43.4**	**-0.7**
CCHI				*i* Sg	**Sg**		**15 35 59.1**	**+0.8**
GO05	**Huala**	**1.94**	**40**	*e*P	**Pb**		**15 35 57.1**	**-1.1**
GO05				*i* S	**Sb**		**15 36 22.7**	**0.0**
GO05				IAML			15 36 34.9	
comp=E,184nm,0.6s								
CANA	**Caviahue**	**2.36**	**127**	*i* P	**Pn**		**15 36 03.0**	**+1.1**
CANA				*i* Sg	**Sg**		**15 36 39.1**	**+0.9**
ROC1	**El Roble**	**4.05**	**30**	*i* P	**Pn**		**15 36 25.5**	**+0.3**

*NIED **10** 16:10:00,44.60N×149.30E,h35km,Mw4.1 Best double couple: M0 1.34000×10^15 NP1:ϕs 129.00000°,δ64.00000°, λ-14.00000°. NP2:ϕs 225.00000°,δ78.00000°, λ-153.00000°.*
*ISCJB **10** 16:10:27.7±0.7,44.40N±0.05×149.29E±0.06,h47km±6km, mb4.0/21,MS3.2/5,Error ellipse: s-maj=9.4km s-min=4.8km az=138.9*
*MOS **10** 16:10:28.9±0.8,44.46N×149.21E,h57km,mb4.3/8,Error ellipse: s-maj=10.0km s-min=9.2km az=151.2*
*JMA **10** 16:10:28.4±0.5,44.59N×149.26E,h30km,M4.5*
*SKHL **10** 16:10:29.0±0.3,44.37N×149.34E,h57km±4km,mb5.0/6*
*NEIC **10** 16:10:29.9±2.2,44.59N±0.03×149.3E±0.1,h46km±7km, mb4.6/13*
*IDC **10** 16:10:30.3±2.7,44.59N×149.20E,h52km±24km,mb3.6/16, mb1 3.8/21,mb1mx3.6/48,mbtmp3.9/21,ML3.1/4,MS3.2/7, Ms1 3.2/7,ms1mx2.8/40,Error ellipse: s-maj=18.0km s-min=14.6km az=119.0*
ISC 10 16:10:27.9±1.5,**44.28N**±0.05×**149.39E**±0.07,**h36**km±5km, **n115**,σ1.89/127,**mb4.1**/26,**MS3.2**/5,**3C-5D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
KUR	**Kuril'sk**	**1.44**	**312**	*e*PN	**Pn**		**16 10 50.4**	**-1.1**
KUR				*i* S	**Sn**		**16 11 06.3**	**-2.9**
KUR				pmax	pmax			
comp=Z,894nm,0.3s								
KUR				pmax	pmax			
comp=E,171nm,0.2s								
KUR				pmax	pmax			
comp=N,291nm,0.4s								
KUR				smax	smax			
comp=N,4μm,0.9s								
KUR				smax	smax			
comp=E,5μm,0.4s								
KUR	**Kuril'sk**	**1.44**	**312**	⇓*i*P	**Pn**		**16 10 50.4**	**-1.1**
KUR				AMB	AMB		16 10 51.0	
comp=E,290nm,0.3s								
KUR				AMB	AMB		16 10 51.0	
comp=E,170nm,0.3s								
KUR				AMB	AMB		16 10 51.0	
comp=E,890nm,0.3s								
KUR				*i* S	**Sn**		**16 11 06.7**	**-2.5**
KUR				A	A		16 11 08.0	
comp=E,4μm,0.9s								
KUR				A	A		16 11 08.0	
comp=E,5μm,0.9s								
YUK	**Yuzh-Kuril'sk**	**2.55**	**266**	*e*PN	**Pn**		**16 11 08.1**	**+1.4**
YUK				*i* S	**Sn**		**16 11 37.2**	**+0.7**
YUK				pmax	pmax			
comp=Z,331nm,0.2s								
YUK				smax	smax			
comp=E,1μm,0.3s								
YUK				smax	smax			
comp=N,2μm,0.5s								
YUK	**Yuzh-Kuril'sk**	**2.55**	**266**	*e*P	**Pn**		**16 11 08.1**	**+1.4**
YUK				AMB	AMB		16 11 13.0	
comp=N,330nm,0.3s								
YUK				*i* S	**Sn**		**16 11 37.2**	**+0.7**
YUK				A	A		16 11 44.0	
comp=N,2μm,0.5s								
YUK				A	A		16 11 44.0	
comp=N,1μm,0.5s								
GRPR	**Tuman**	**2.62**	**265**	⇑*i*PN	**Pn**		**16 11 09.3**	**+1.6**
GRPR				*i* S	**Sn**		**16 11 39.4**	**+1.2**
GRPR				pmax	pmax			
comp=N,74nm,0.3s								
GRPR				pmax	pmax			
comp=Z,314nm,0.3s								
GRPR				pmax	pmax			
comp=E,57nm,0.1s								
GRPR				smax	smax			
comp=N,1μm,0.4s								
GRPR				smax	smax			
comp=E,1μm,0.4s								
GRPR	**Tuman**	**2.62**	**265**	⇑*i*P	**Pn**		**16 11 09.3**	**+1.6**
GRPR				AMB	AMB		16 11 18.0	
comp=E,310nm,0.3s								
GRPR				*i* S	**Sn**		**16 11 39.4**	**+1.2**
GRPR				A	A		16 11 44.0	
comp=E,1μm,0.4s								
GRPR				A	A		16 11 44.0	
comp=E,1μm,0.4s								
NEM2	**Nemuro 2**	**2.79**	**252**	P	**Pn**		**16 11 10.7**	**+0.7**
NEM2				*e*S	**Sn**		**16 11 41.7**	**-0.7**
NMR	**Nemuro--Hokkai**	**2.80**	**252**	⇓*i*PN	**Pn**		**16 11 10.3**	**+0.2**
NMR				*i* S	**Sn**		**16 11 41.7**	**-0.9**
NMR	**Nemuro--Hokkai**	**2.80**	**252**	⇓*i*P	**Pn**		**16 11 10.3**	**+0.2**
NMR				*i* S	**Sn**		**16 11 41.7**	**-0.9**
GLVR	**Golovnino**	**2.84**	**260**	⇓*i*PN	**Pn**		**16 11 12.2**	**+1.5**
GLVR				*i* S	**Sn**		**16 11 44.6**	**+0.9**
GLVR				smax	smax			
comp=N,637nm,0.3s								
GLVR				smax	smax			
comp=E,1μm,0.3s								
GLVR	**Golovnino**	**2.84**	**260**	⇓*i*P	**Pn**		**16 11 12.2**	**+1.5**
GLVR				*i* S	**Sn**		**16 11 44.6**	**+0.9**
GLVR				A	A		16 11 52.0	
comp=E,640nm,0.3s								
GLVR				A	A		16 11 52.0	
comp=E,1μm,0.3s								
JRA	**Rausu**	**3.09**	**265**	P	**Pn**		**16 11 15.7**	**+1.6**
JRA				*e*S	**Sn**		**16 11 51.0**	**+1.2**
JNK	**Nakash**	**3.44**	**260**	P	**Pn**		**16 11 19.7**	**+0.7**
JNK				*e*S	**Sn**		**16 11 58.1**	**-0.4**
JAK	**Akkeshi**	**3.64**	**251**	P	**Pn**		**16 11 22.3**	**+0.6**
JAK				*e*S	**Sn**		**16 12 01.9**	**-1.4**
JTKR	**Abashiri--Toko**	**3.96**	**267**	P	**Pn**		**16 11 28.4**	**+2.4**
JAR	**Ashorobuto**	**4.19**	**258**	P	**Pn**		**16 11 31.2**	**+2.0**
JAR				*e*S	**Sn**		**16 12 17.7**	**+0.9**
JMP	**Maruseppu**	**4.35**	**269**	P	**Pn**		**16 11 33.7**	**+2.2**
JCH	**Churui**	**4.69**	**251**	P	**Pn**		**16 11 37.5**	**+1.3**
JCH				*e*S	**Sn**		**16 12 27.9**	**-1.4**
JKA	**Kamikawa-asahi**	**4.88**	**270**	*e*P	**Pn**		**16 11 40.5**	**+1.7**
JKA	**Kamikawa-asahi**	**4.88**	**270**		**Pn**		**16 11 40.5**	**+1.7**
ASAJ	**Asahikawa**	**4.89**	**270**	P	**Pn**		**16 11 40.5**	**+1.6**
comp=E,1.8nm,0.3s,baz=83,slow=12,SNR=18								
ASAJ				LR	LR		16 13 45.0	
comp=E,163nm,20.0s,baz=20,slow=41								
JFR	**Furan**	**5.05**	**260**	P	**Pn**		**16 11 44.0**	**+2.9**
JEM	**Erimo**	**5.09**	**246**	*e*S	**Sn**		**16 12 39.9**	**+0.8**
ERM	**Erimo**	**5.09**	**246**	*i* PN	**Pn**		**16 11 43.8**	**+2.2**
ERM	**Erimo**	**5.09**	**246**		**Pn**		**16 11 44.0**	**+2.4**
JBT2	**Biratori 2**	**5.32**	**256**	P	**Pn**		**16 11 46.2**	**+1.4**
YSS	**Yuzh-Sakhalins**	**5.37**	**302**	PN	**Pn**		**16 11 44.7**	**-0.7**
YSS	**Yuzh-Sakhalins**	**5.37**	**302**	*e*P	**Pn**		**16 11 46.2**	**+0.8**
YSS	**Yuzh-Sakhalins**	**5.37**	**302**	Pn	**Pn**		**16 11 44.7**	**-0.7**
JKB	**Kayabe**	**6.57**	**252**	P	**Pn**		**16 12 01.8**	**-0.1**
JKB				*e*S	**Sn**		**16 13 11.5**	**-4.0**
JANG	**Nango**	**7.02**	**239**	P	**Pn**		**16 12 07.7**	**-0.4**
JANG				*e*S	**Sn**		**16 13 21.0**	**-5.6**
JTM	**Tenmabayashi**	**7.07**	**243**	P	**Pn**		**16 12 09.5**	**+0.7**
JTM				*e*S	**Sn**		**16 13 23.3**	**-4.5**
OFUJ	**Ofunato**	**7.77**	**231**	*e*S	**Sn**		**16 13 40.0**	**-5.0**
SKR	**Severo-Kuril's**	**7.86**	**33**	*i* PN	**Pn**		**16 12 21.2**	**+1.6**
SKR	**Severo-Kuril's**	**7.86**	**33**	*i* P	**Pn**		**16 12 21.2**	**+1.6**
SKR				AMB	AMB		16 12 24.4	
comp=E,70nm,1.0s								
SKR				*e*S	**Sn**		**16 13 47.0**	**-0.2**
JIO	**Ouri**	**8.39**	**229**	P	**Pn**		**16 12 27.1**	**+0.2**
JIO				*e*S	**Sn**		**16 13 52.5**	**-7.8**
PEA0B	**Petropavlovsk-**	**10.40**	**29**	PN	**Pn**		**16 12 52.0**	**-2.3**
PEA0B	**Petropavlovsk-**	**10.40**	**29**	Pn	**Pn**		**16 12 52.0**	**-2.3**
PETK	**Petropavlovsk-**	**10.40**	**29**	P	**Pn**		**16 12 52.2**	**-2.1**
comp=E,0.2nm,0.3s,baz=215,slow=14,SNR=19								
PET	**Petropavlovsk**	**10.67**	**32**	PN	**Pn**		**16 12 56.9**	**-1.2**
PET	**Petropavlovsk**	**10.67**	**32**	*e*P	**Pn**		**16 12 57.8**	**-0.3**
PET	**Petropavlovsk**	**10.67**	**32**	Pn	**Pn**		**16 12 56.9**	**-1.2**
USRK	**Ussuriysk Ar.**	**12.48**	**276**	P	**Pn**		**16 13 24.7**	**+1.8**
baz=84,slow=15,SNR=3.9								
KLR	**Kul'dur**	**13.06**	**298**	LR	LR		16 18 42.2	
comp=E,70nm,18.1s,baz=282,slow=38								
EKMR	**Ekimchan**	**13.95**	**315**	*e*P	**Pn**		**16 13 41.5**	**-1.4**
MA2	**Magadan**	**15.34**	**3**	*i* P	**Pn**		**16 14 02.3**	**+0.8**
MA2				pmax	pmax			
comp=Z,33nm,1.1s								
BMKR	**Bomnak**	**16.88**	**315**	*e*P	**Pn**		**16 14 19.8**	**-1.4**
BMKR				AMB	AMB		16 14 26.0	
comp=Z,10.0nm,0.8s								
KSRS	**Korea Array**	**17.58**	**255**	P	**P**		**16 14 30.5**	**-0.3**
baz=58,slow=12,SNR=3.0								
KROS	**Kirovskiy**	**17.71**	**313**	*e*P	**Pn**		**16 14 30.4**	**-1.1**
SEY	**Seymchan**	**18.77**	**4**	*i* P	**P**		**16 14 43.0**	**-0.6**
SEY	**Seymchan**	**18.77**	**4**	P	**P**		**16 14 41.7**	**-1.9**
comp=Z,0.2nm,0.3s,baz=186,slow=12,SNR=4.7								
YAK	**Yakutsk**	**21.19**	**334**	*e*P	**P**		**16 15 12.7**	**+2.8**
YAK				pmax	pmax			
comp=Z,20nm,1.1s								
YAK				pmax	pmax			
comp=N,10.0nm,1.1s								
YAK				pmax	pmax			
comp=E,15nm,1.5s								
YAK	**Yakutsk**	**21.19**	**334**	P	**P**		**16 15 07.2**	**-2.7**
comp=E,2.3nm,0.3s,baz=124,slow=0.8,SNR=2.6								
YAK	**Yakutsk**	**21.19**	**334**	*e*P	**P**		**16 15 10.9**	**+1.0**
YAK	**Yakutsk**	**21.19**	**334**	P	**P**		**16 15 06.9**	**-3.1**
YAK				IAmb	IAmb		16 15 16.1	
comp=Z,15nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**28.50**	**144**	T	T		16 47 16.9	
baz=333,slow=76,SNR=167								
H11N1	**WAKE ISLAND Hy**	**28.52**	**144**	T	T		16 47 22.6	
baz=333,slow=76,SNR=127								
H11N3	**WAKE ISLAND Hy**	**28.52**	**144**	T	T		16 47 20.3	
baz=333,slow=76,SNR=188								
TIXI	**Tiksi**	**29.19**	**347**	P	**P**		**16 16 22.1**	**-3.4**
TIXI				pmax	pmax			
comp=Z,5.0nm,1.4s								
TIXI	**Tiksi**	**29.19**	**347**	P	**P**		**16 16 22.1**	**-3.4**
comp=Z,0.4nm,0.4s,baz=133,slow=2.8,SNR=3.4								
ULN	**Ulaanbaatar**	**29.32**	**292**	*i* P	**P**		**16 16 26.4**	**-0.7**
ULN				pmax	pmax			
comp=Z,1.0nm,1.0s								
ULN	**Ulaanbaatar**	**29.32**	**292**	*i* P	**P**		**16 16 26.4**	**-0.7**
ULN	**Ulaanbaatar**	**29.32**	**292**	P	**P**		**16 16 23.5**	**-3.6**
H11S1	**WAKE ISLAND Hy**	**29.51**	**145**	T	T		16 48 33.6	
baz=334,slow=76,SNR=142								
H11S3	**WAKE ISLAND Hy**	**29.52**	**145**	T	T		16 48 33.3	
baz=334,slow=76,SNR=154								
H11S2	**WAKE ISLAND Hy**	**29.53**	**145**	T	T		16 48 34.9	
baz=334,slow=76,SNR=129								
SONM	**Songino Array**	**29.76**	**292**	P	**P**		**16 16 29.6**	**-1.4**
comp=Z,0.4nm,0.6s,baz=64,slow=9.8,SNR=3.4								
ZALV	**Zalesovo Beam**	**41.97**	**307**	LR	LR		16 35 32.5	
comp=Z,22nm,20.1s,baz=338,slow=36								
CRQM	**Cirque**	**42.16**	**43**	P	**P**		**16 18 18.3**	**+1.5**
CRQM				IAmb	IAmb		16 19 44.0	
comp=Z,28nm,1.6s								
MKAR	**Makanchi Array**	**45.77**	**298**	*e*P	**P**		**16 18 45.8**	**+0.1**
MKAR				pmax	pmax			
comp=Z,1.0nm,0.5s								
MKAR	**Makanchi Array**	**45.77**	**298**	P	**P**		**16 18 44.0**	**-1.7**
comp=Z,0.7nm,0.5s,baz=76,slow=8.9,SNR=9.8								
MKAR				PcP	**PcP**		**16 20 22.9**	**0.0**
comp=Z,0.6nm,0.7s,baz=67,slow=3.7,SNR=3.0								
MKAR				LR	LR		16 39 10.7	
comp=Z,27nm,19.2s,baz=22,slow=38								
MKAR	**Makanchi Array**	**45.77**	**298**	*e*P	**P**		**16 18 45.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**49.22**	**255**	*e*P	**P**		**16 19 13.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**49.22**	**255**	P	**P**		**16 19 14.1**	**+1.2**
comp=Z,0.4nm,0.6s,baz=38,slow=6.6,SNR=4.3								
CMAR				LR	LR		16 40 11.1	
comp=Z,11nm,18.1s,baz=40,slow

AAK	Ala-Archa	52.58	296	*e*P		P		16 19 36.3 -1.7
AAK	Ala-Archa	52.58	296	P		P		16 19 36.3 -1.7
GUN	Gumba	52.59	274	*e*P		P		16 19 39.0 +0.5
RAMN	Ramite	52.64	273	*e*P		P		16 19 38.6 -0.2
PKI	Pulchoki	53.13	274	*e*P		P		16 19 42.8 +0.4
DMN	Daman	53.32	275	*e*P		P		16 19 44.1 +0.3
DANN	Dangsing	53.85	276	*e*P		P		16 19 48.4 +0.7
HNR	Honiara	54.31	167	P		P		16 19 54.2 +3.6
HNR	comp=Z,82nm,1.0s			pmax	pmax			
HNR	Honiara	54.31	167	P		P		16 19 53.8 +3.2
	comp=Z,45nm,0.5s,baz=331,slow=19,SNR=3.6							
HNR	Honiara	54.31	167	P		P		16 19 54.2 +3.6
YKA	Yellowknife Ar	54.46	35	P		P		16 19 51.9 +0.7
	comp=Z,0.9nm,0.8s,baz=298,slow=7.0,SNR=10							
ARU	Arti	55.06	317	LR		LR		16 45 11.0
	comp=Z,41nm,18.0s,baz=185,slow=38							
GAR	Garm	57.17	294	P		P		16 20 10.9 -0.3
GAR	comp=Z,13nm,1.6s			IAmb	IAmb			16 21 59.2
ABKAR	Akbulak array	57.98	309	P		P		16 20 15.6 -1.0
ABKAR	comp=Z,12nm,1.9s			IAmb	IAmb			16 21 45.0
CHGR	Chuyangaron	58.11	295	P		P		16 20 17.3 -0.5
ARCES	ARCESS Array B	59.30	340	P		P		16 20 24.4 -1.1
	comp=Z,3.9nm,1.0s,baz=50,slow=7.2,SNR=1.4							
PLID	Pearl Lake	63.25	52	P		P		16 20 53.7 +0.8
PLID	comp=Z,4.3nm,1.0s			IAmb	IAmb			16 22 27.2
FINES	FINESS Array B	65.13	334	*i* P		P		16 21 06.6 +2.0
FINES	comp=Z,7.0nm,1.2s			pmax	pmax			
FINES	FINESS Array B	65.13	334	P		P		16 21 02.7 -1.8
	comp=Z,2.6nm,0.9s,baz=49,slow=5.8,SNR=4.8							
WRA	Warramunga Arr	65.38	196	*i* P		P		16 21 07.1 +0.5
WRA	comp=Z,1.0nm,0.6s			pmax	pmax			
WRA	Warramunga Arr	65.38	196	P		P		16 21 08.4 +1.7
	comp=Z,0.5nm,0.6s,baz=13,slow=6.6,SNR=5.7							
GEYT	Alibeck	65.59	300	P		P		16 21 05.3 -2.8
	comp=Z,1.1nm,0.5s,baz=48,slow=2.1,SNR=2.7							
NVAR	Mina Array Bea	65.92	59	P		P		16 21 10.0 -0.5
	comp=Z,0.3nm,0.3s,baz=281,slow=18,SNR=6.1							
ASAR	Alice Springs	69.09	195	P		P		16 21 31.9 +1.8
	comp=Z,0.5nm,0.7s,baz=9.4,slow=5.3,SNR=6.8							
NB2	NORSAR Subarra	69.68	340	P		P		16 21 31.9 -1.6
	comp=Z,0.5nm,0.5s,baz=28,slow=6.5							
NOA	NORSAR Array B	69.68	340	*e*P		P		16 21 32.8 -0.6
NOA	comp=Z,1.0nm,0.5s			pmax	pmax			
NOA	NORSAR Array B	69.68	340	P		P		16 21 31.8 -1.6
	comp=Z,0.6nm,0.5s,baz=28,slow=6.6,SNR=5.1							
KBZ	Khabaz	70.64	313	LR		LR		16 54 38.4
	comp=Z,28nm,19.8s,baz=173,slow=38							
AKASG	Malin Array Be	72.09	325	*e*P		P		16 21 47.3 -0.9
AKASG	comp=Z,1.0nm,0.4s			pmax	pmax			
AKASG	Malin Array Be	72.09	325	P		P		16 21 46.9 -1.3
	comp=Z,0.7nm,0.4s,baz=38,slow=6.0,SNR=6.5							
CLL	Collm	77.57	334	*i* P		P		16 22 20.3 +0.4
CLL	comp=Z,6.0nm,1.0s			pmax	pmax			
CLL	Collm	77.57	334	*i* P		P		16 22 20.3 +0.4
	comp=Z,6.0nm,1.0s							
GERES	GERESS Array B	79.47	332	*e*P		P		16 22 30.2 -0.3
GERES	comp=Z,1.0nm,0.4s			pmax	pmax			
GERES	GERESS Array B	79.47	332	P		P		16 22 29.8 -0.7
	comp=Z,0.5nm,0.4s,baz=43,slow=6.5,SNR=6.8							
TXAR	Lajitas Array	81.01	58	P		P		16 22 39.9 +0.7
	comp=Z,0.7nm,0.5s,baz=298,slow=4.0,SNR=7.3							
TZTN	Tazewell	86.34	40	P		P		16 23 06.6 +0.4

ISCJB ***10*** *16:11:37.5±0.5, 4.°25N±0.°04×128.°07E±0.°06, h71km, mb3.8/7, Error ellipse: s-maj=9.7km s-min=3.3km az=150.4*

MAN ***10*** *16:11:38.9, 4.°12N×127.°91E, h68km, MS4.1*

IDC ***10*** *16:11:43.9±3.8, 4.°00N×127.°70E, h111km±39km, mb3.5/7, mb1 3.8/10, mb1mx3.5/41, mbtmp4.0/10, MS2.5/1, Ms1 2.5/1, ms1mx2.0/33, Error ellipse: s-maj=48.5km s-min=16.9km az=74.0*

NEIC ***10*** *16:11:44.0±1.1, 4.°1N±0.°1×127.°9E±0.°1, h114km±11km, mb4.3/9*

DJA ***10*** *16:11:44.4±0.5, 4.°N±4.°×12.°8E±.°, h78km±7km, M4.3/13, mb4.5/10, mB4.9/6, MLv4.4/13, Mw(mB)4.2/6*

ISC 10 16:11:39.2±0.7, **4.°26N**±0.°04×**128.°04E**±0.°08, **h71**km, **n51, σ1s71/62, mb4.0**/10, **2C-1D, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	Don Marcelino,	2.96	308	P	Pn	16 12 23.4	-0.5
DDMP				S	Sn	16 12 57.5	-0.8
DDMP	Don Marcelino,	2.96	308	P	Pn	16 12 25.6	+1.7
DDMP				S	Sn	16 12 58.6	+0.3
MATI	Mati	3.21	326	P	Pn	16 12 23.1	-4.3
MATI				S	Sn	16 13 01.0	-3.4
MATI	Mati	3.21	326	P	Pn	16 12 27.9	+0.5
MATI				S	Sn	16 13 01.0	-3.4
TNTI	Ternate	3.53	191	P	Pn	16 12 33.4	+1.7
TNTI				S	Sn	16 13 11.1	-1.2
TNTI	Ternate	3.53	191		Pn	16 12 34.5	+2.8
GSPH	General Santos	3.58	301	P	Pn	16 12 32.9	+0.4
DAV	Davao City (W)	3.71	319	S	Sn	16 13 20.2	+3.4
DAV	34nm,0.3s,baz=84,slow=23,SNR=6.1			LR	LR	16 14 01.3	
	comp=Z,61nm,18.7s,baz=152,slow=37						
KCP	Kidapawan	4.01	313	⇑P	Pn	16 12 40.1	+1.8
KCP				S	Sn	16 13 29.3	+5.1
SKMP	Bagumbayan, Su	4.14	303	P	Pn	16 12 40.0	-0.1
SKMP				S	Sn	16 13 29.0	+1.7
SKMP	Bagumbayan, Su	4.14	303	P	Pn	16 12 40.0	-0.1
SKMP				S	Sn	16 13 29.0	+1.7
BUKP	Musuan	4.66	321	P	Pn	16 12 45.2	-2.0
BUKP				S	Sn	16 13 40.6	+0.6
BUKP	Musuan	4.66	321	P	Pn	16 12 45.2	-2.0
BUKP				S	Sn	16 13 40.6	+0.6
CTBH	Cotabato--PC H	4.79	308	⇑P	Pn	16 12 49.8	+0.9
LBMI	Labuha	4.89	186	P	Pn	16 12 51.9	+1.5
CGP	Cagayan de Oro	5.33	322	⇓P	Pn	16 13 06.0	+10
CGP				S	Sn	16 13 56.8	+0.3
KMSI	Cibinong	5.46	228	P	Pn	16 12 59.2	+1.1
KMSI	155nm,0.8s,2μm0.7nm			S	Sn	16 13 56.1	-3.6
	155nm,0.8s,2μm0.7nm						
PAGZ	Pagadian	5.85	308	P	Pn	16 13 02.2	-1.1
PAGZ				S	Sn	16 14 10.1	+1.0
PAGZ	Pagadian	5.85	308	P	Pn	16 13 02.2	-1.1
PAGZ				S	Sn	16 14 08.3	-0.7
SWI	Sorong	6.02	148	P	Pn	16 13 10.1	+4.3
	40nm,0.5s,791nm0.2nm						
SIJI	Sorong	6.03	148	P	Pn	16 13 10.3	+4.4
	6.8nm,0.3s,baz=288,slow=3.2,SNR=91						
SIJI				S	Sn	16 14 14.8	+1.3
	4.6nm,0.3s,baz=29,slow=23,SNR=10						
GTOI	Gorontalo	6.18	235	P	Pn	16 13 08.5	+0.5
	0.1nm,1.0s,0.0nm						
SANI	Sanana	6.59	198	P	Pn	16 13 13.1	-0.5
	69nm,0.9s,1μm0.3nm						
MRSI	Marisa	7.16	239	P	Pn	16 13 22.5	+1.2
	130nm,0.7s,2μm0.5nm						
FAKI	Fak Fak	8.28	149	Pn	Pn	16 13 40.9	+4.2
MPSI	Mapaga	9.02	245	P	Pn	16 13 46.7	-0.1
	8.4nm,0.7s						
JAY	Jayapura	14.33	118	P	P	16 15 04.8	+1.0
	0.3nm,0.3s,baz=292,slow=5.4,SNR=2.6						
SOEI	Soe	14.42	195	P	P	16 15 03.4	-1.5
BATI	Baumata	15.02	197	P	Pn	16 15 07.6	0.0
	3.2nm,0.3s,baz=64,slow=2.9,SNR=11						
BATI	Baumata	15.02	197	P	P	16 15 09.4	-2.0
	10nm,0.5s						
MTN	Manton Dam	17.27	170	P	Pn	16 15 34.5	-1.3
MTN				IAmb	IAmb	16 15 56.4	
	comp=Z,14nm,1.1s						
KNRA	Kununurra	19.82	178	P	P	16 16 03.9	-0.4
FITZ	Fitzroy Crossi	22.34	186	P	P	16 16 29.2	-2.2
	comp=Z,2.1nm,0.4s,baz=15,slow=11,SNR=23						
FITZ	Fitzroy Crossi	22.34	186	P	P	16 16 29.6	-1.8
WRAB	Tennant Creek	24.83	166	P	P	16 16 54.2	-0.8
WRAB				IAmb	IAmb	16 17 47.1	
	comp=Z,11nm,0.9s						
WRA	Warramunga Arr	24.83	166	P	P	16 16 54.3	-0.8
	comp=Z,3.1nm,0.5s,baz=344,slow=10,SNR=28						
WB2	Warramunga Arr	24.84	166	P	P	16 16 55.0	-0.1
WB2				IAmb	IAmb	16 17 31.7	
	comp=Z,30nm,1.9s						
RGRI	Rengat	26.09	261	P	P	16 17 15.4	+8.8
PSA00	Pilbara Seismi	26.90	197	P	P	16 17 12.5	-1.2
PSA00				IAmb	IAmb	16 17 18.7	
	comp=Z,13nm,1.1s						
AS31	Alice Springs	28.34	169	P	P	16 17 26.2	-0.4
ASAR	Alice Springs	28.34	169	P	P	16 17 26.0	-0.7
	comp=Z,1.9nm,0.5s,baz=352,slow=7.5,SNR=97						
ASAR	Alice Springs	28.34	169	P	P	16 17 26.0	-0.7
WHN	Wuhan	29.16	335	P	P	16 17 39.1	+5.2
FORT	Forrest	34.84	180	P	P	16 18 23.0	-0.6
BBOO	Buckleboo	37.64	169	P	P	16 18 47.2	-0.3
STKA	Stephens Creek	38.18	161	P	P	16 18 52.0	-0.1
	comp=Z,1.5nm,0.4s,baz=339,slow=9.2,SNR=6.4						
STKA	Stephens Creek	38.18	161	P	P	16 18 51.9	-0.1
STKA				IAmb	IAmb	16 19 06.7	
	comp=Z,9.3nm,2.0s						
SONM	Songino Array	47.23	340	P	P	16 20 06.2	+0.9
	comp=Z,0.1nm,0.4s,baz=132,slow=11,SNR=1.5						
MKAR	Makanchi Array	57.88	324	P	P	16 21 24.6	+0.8
	comp=Z,0.6nm,0.8s,baz=116,slow=8.2,SNR=6.1						
KSH	Kashi	58.60	314	P	P	16 21 34.0	+4.8
KSH				pP	sP	16 21 58.0	+3.5
KSH				sP	PcP	16 22 08.4	-10
KSH				PcS	**PcS**	**16 26 22.7**	**+2.1**
KSH				S	**S**	**16 29 29.4**	**+1.2**
KSH				ScS	**ScS**	**16 31 10.6**	**-2.3**
KSH				pmax	pmax		
	comp=Z,270nm,4.4s						
KSH				LR	LR		
	comp=N,380nm,5.7s						
KSH				LR	LR		
	comp=E,300nm,5.2s						
KSH				LR	LR		
	comp=Z,360nm,5.6s						
ZALV	Zalesovo Beam	60.72	332	P	P	16 21 44.1	+0.8
	comp=Z,0.3nm,0.4s,baz=106,slow=5.1,SNR=1.7						

IDC ***10*** *16:33:06.6±1.1, 34.°19N×45.°59E, h0km, mb3.7/11, mb1 3.8/15, mb1mx3.6/52, mbtmp3.7/15, ML3.4/4, MS2.6/2, Ms1 2.6/2, ms1mx2.2/34, Error ellipse: s-maj=25.0km s-min=15.0km az=163.0*

ISN ***10*** *16:33:08.2±0.8, 34.°23N×45.°64E, h7km±4km, ML3.8*

NEIC ***10*** *16:33:09.6±1.5, 34.°16N±0.°06×45.°61E±0.°10, h23km±6km, mb4.1/9, ML3.6(THR)*

THR ***10*** *16:33:09.2, 34.°27N×46.°01E, h14km, ML3.6*

TEH ***10*** *16:33:10.3, 34.°27N×45.°67E, h11km, ML3.8*

AZER ***10*** *16:33:10.0±2.9, 34.°11N×45.°41E, h10km, ml3.6/7, Error ellipse: s-maj=31.9km s-min=25.4km az=111.0*

ISC 10 16:33:09.1±1.2, **34.°17N**±0.°03×**45.°62E**±0.°03, **h13**km±8km, **n98, σ2s49/106, mb3.8**/12, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGHG	Ghaleghazi	0.80	79	*e*Pg	Pb	16 33 25.3	+0.3
IGHG				IAMB	IAmb	16 33 40.5	
	comp=Z,33μm,0.5s						
IDHR	Dehrash	0.82	50	*e*Pg	Pg	16 33 24.2	-0.9
IDHR				IAMB	IAmb	16 33 37.9	
	comp=Z,0.0nm,0.3s						
IBDR	Badra	1.09	166	*e*Pg	Pb	16 33 30.0	+0.2
IBDR				*e*Sg	Sb	16 33 46.6	+2.7
KCHF	Cheshme Sefid,	1.18	85	*e*Pg	Pn	16 33 32.3	+0.9
KCHF				*e*Sg	Sn	16 33 49.6	+2.1
KCHF				IAMB	IAmb	16 33 55.1	
	comp=Z,0.0nm,0.4s						
KER	Kermanshah	1.27	80	*e*Pg	Pb	16 33 33.4	+0.5
ILIN	Lien	1.33	56	*e*Pg	Pg	16 33 34.8	0.0
ILIN				*e*Sg	Sn	16 33 52.3	+1.0
ILIN				IAMB	IAmb	16 33 57.7	
	comp=Z,22μm,0.6s						
BHD	Baghdad	1.37	229	*e*Pn	Pn	16 33 36.0	+2.2
BHD				*e*Sn	Sb	16 33 56.0	+4.1
IKOM	Komasi	1.57	89	*e*Pn	Pb	16 33 38.8	+0.8
IKOM				IAMB	IAmb	16 34 09.7	
	comp=Z,0.0nm,0.7s						
IKRK	Kirkuk	1.61	320	*e*Pn	Pn	16 33 38.5	+1.3
IKRK				AML	AML	16 33 40.0	
	comp=Z,630nm,0.4s						
IKRK				*e*Sn	Sg	16 34 01.0	-0.1
IBZA	Bozab	1.88	80	*e*Pn	Pb	16 33 43.8	+0.4
IBZA				IAMB	IAmb	16 33 45.8	
	comp=Z,0.0nm,0.4s						
IKFM	Kafar-mosalman	1.96	109	*e*Pn	Pb	16 33 45.4	+0.8
IKFM				IAMB	IAmb	16 34 19.6	
	comp=Z,0.0nm,0.6s						
IDOB	Doab	2.16	100	*e*Pn	Pn	16 33 47.5	+2.6
IKMR	Kamar-syah	2.39	105	*e*Pn	Pn	16 33 50.0	+2.2
HSRG	Sareghieh	2.44	63	*e*Pn	Pb	16 33 51.6	-1.3
HSRG				IAMB	IAmb	16 34 33.1	
	comp=Z,0.0nm,0.4s						
HSAM	Samen	2.47	88	*e*Pn	Pn	16 33 51.8	+2.5
MAHB	Mahabad	2.59	2	*e*Pn	Pb	16 33 53.3	-2.1
MAHB				IAMB	IAmb	16 34 37.1	
	comp=Z,0.0nm,0.5s						
BMDN	Meydan	2.71	100	*e*Pn	Pn	16 33 55.1	+2.6
BMDN				IAMB	IAmb	16 34 42.9	
	comp=Z,0.0nm,0.6s						
BDRS	Dareh Seyedi	2.72	94	*e*Pn	Pn	16 33 54.9	+2.3
BDRS				IAMB	IAmb	16 34 32.8	
	comp=Z,0.0nm,0.7s						
HAGD	Aghdareh	2.98	76	*e*Pn	Pn	16 33 58.9	+2.7
HAGD				IAMB	IAmb	16 34 05.1	
	comp=Z,0.0nm,0.6s						
MSL	Mosul	3.02	318	*e*Pn	Pn	16 33 58.0	+1.4
MSL				AML	AML	16 34 10.9	
	comp=Z,1μm,0.9s						
MSL				*e*Sn	Sn	16 34 35.0	+2.3
NSR	Nassriya	3.19	172	*e*Pn	Pn	16 34 01.0	+2.2
NSR				*e*Sn	Sn	16 34 40.0	+3.4
SHGR	Shooshtar-Gavs	3.37	127	*e*Pn	Pn	16 34 00.9	-0.5
SHGR	Shooshtar-Gavs	3.37	127	*e*Pn	Pn	16 34 00.8	-0.5
ZNJK	Zanjan	3.53	44	*e*Pn	Pn	16 34 01.9	-1.9
ZNJK	Zanjan	3.53	44	*e*Pn	Pn	16 34 01.9	-1.9
QABG	Abgarm-Qazvin	3.60	64	*e*Pn	Pn	16 34 07.2	+2.5
KHMZ	Khomeyn	3.63	96	*e*Pn	Pn	16 34 03.2	-2.0
KHMZ	Khomeyn	3.63	96	*e*Pn	Pn	16 34 03.1	-2.0
KHMZ	Khomeyn	3.63	96	*e*Sg	Sn	16 34 52.8	+4.8
KHMZ				*e*AML	AML	16 34 55.2	
	comp=N,128nm,0.8s						
ASAO	Ashtian	3.66	83	*e*Pn	Pn	16 34 03.4	-2.2
ASAO	Ashtian	3.66	83	*e*Sg	Sn	16 34 53.5	+4.7
ASAO	Ashtian	3.66	83	*e*P	Pn	16 34 03.4	-2.2
IRAZ	Razeghan	3.75	70	*e*Pn	Pn	16 34 09.7	+2.9
ISRB	Sarab	4.00	24	*e*Pn	Pn	16 34 12.1	+1.8
ITBZ	Tabriz	4.07	6	*e*Pn	Pn	16 34 12.8	+1.6
IHRS	Heris	4.29	15	*e*Pn	Pn	16 34 17.3	+3.0
IMHD	Mahdasht	4.41	69	*e*Pn	Pn	16 34 18.7	+2.9
IMRD	Marand	4.53	1	*e*Pn	Pn	16 34 19.8	+2.3
IQOM	Qom	4.55	80	*e*Pn	Pn	16 34 20.2	+2.4
RTB	Rutbah	4.58	257	*e*Pn	Pn	16 34 20.0	+2.0
RTB				AML	AML	16 34 45.2	
	comp=Z,667nm,0.3s						
RTB				*e*Sn	Sn	16 35 13.5	+2.4
IPIR	Pirpir	4.65	107	*e*Pn	Pn	16 34 20.8	+1.5
QALM	Alamut, Qazvin	4.69	60	*e*Pn	Pn	16 34 22.9	+3.2
GHVR	GHOM	4.71	85	*e*AML	AML	16 35 22.7	
	comp=E,59nm,0.6s						
GHVR				*e*Pn	Pn	16 34 16.7	-3.1
ORD	Ordubad	4.75	4	P	Pn	16 34 23.6	+3.2
ORD				S	Sn	16 35 19.7	+4.2
ROKH	ROKH	4.89	110	*e*Pn	Pn	16 34 24.9	+2.4
LRK	Lerik	4.97	25	P	Pn	16 34 26.5	+3.0
LRK				S	Sn	16 35 26.6	+5.7
NAX	Nakhchivan	4.99	359	P	Pn	16 34 25.8	+2.1
NAX				S	Sn	16 35 25.8	+4.5
IKLH	Kolahrood	5.04	98	*e*Pn	Pn	16 34 26.0	+1.5
ASTR	Astara	5.07	29	P	Pn	16 34 28.2	+3.5
ASTR				S	Sn	16 35 29.1	+6.0
IVRN	Varamin	5.10	79	*e*Pn	Pn	16 34 27.8	+2.5
YRD	Yardimli	5.18	23	P	Pn	16 34 29.6	+3.1
YRD				S	Sn	16 35 30.9	+4.8
LKRN	Lenkeran, Azer	5.19	28	P	Pn	16 34 30.3	+3.9
LKRN				S	Sn	16 35 32.5	+6.4
SBZ	Shahbuz	5.21	359	P	Pn	16 34 29.4	+2.6
SBZ				S	Sn	16 35 32.1	+5.3
IDMV	Damavand	5.45	73	*e*Pn	Pn	16 34 31.8	+1.5
ISFB	Sefidab	5.49	86	*e*Pn	Pn	16 34 31.9	+1.4
IGAR	Gharneh	5.66	106	*e*Pn	Pn	16 34 35.2	+2.1
IZEF	Zefreh	5.75	101	*e*Pn	Pn	16 34 37.1	+2.8
KLNJ	Kolanjah	5.95	120	*e*Pn	Pn	16 34 40.1	+3.0
GNI	Garni	6.01	354	Pg	Pb	16 34 53.8	+0.2
	comp=E,0.3nm,0.3s,baz=174,slow=18,SNR=2.3						
GNI				Lg	Lg	16 36 23.4	
	baz=214,slow=23,SNR=1.3						
IRAM	Ramesheh	6.15	111	*e*Pn	Pn	16 34 41.4	+1.6
ANAR	Anarak	6.83	96	*e*Pn	Pn	16 34 50.9	+1.9
GAZ	Gaziantep	7.47	296	Pn	Pn	16 34 55.4	-2.4
ASF	Jabal al Asfar	7.58	257	Pn	Pn	16 34 58.5	-0.8
	comp=E,0.2nm,0.3s,baz=26,slow=12,SNR=2.5						
ASF				Lg	Lg	16 37 09.8	
	comp=E,0.8nm,0.3s,baz=348,slow=19,SNR=3.5						
MMAI	Mount Meron Ar	8.60	265	Pn	Pn	16 35 13.5	+0.2
	comp=E,0.3nm,0.3s,baz=64,slow=11,SNR=3.1						
MMAI				Lg	Lg	16 37 38.0	
	comp=E,1.6nm,0.3s,baz=74,slow=38,SNR=4.2						
HMDT	Nahal Hemdat	8.67	260	Pn	Sg	16 37 49.5	+2.2
MMLI	Mount Malkishu	8.71	261	Pn	Sg	16 37 49.3	+0.8
HNTI	Hanita	8.78	266	Pn	Sg	16 37 53.6	+2.9
DSI	Dead Sea	8.99	256	Pn	Sg	16 37 55.9	-1.8
SLTI	Sal'it	9.07	261	Pn	Sg	16 37 56.5	
ZFRI	Zfri	9.54	251	Pn	Sg	16 38 02.2	
PRNI	Paran	9.76	250	Pn	Sg	16 38 04.4	
HRFI	Mount Harif	9.88	248	Pn	Sg	16 38 05.3	
EIL	Elat	10.12	247	LR	LR	16 40 23.8	
	comp=E,28nm,19.6s,baz=349,slow=43						
RAYN	Ar Rayn	10.61	181		Pn	16 35 39.3	-1.6
GEYT	Alibeck	10.79	66	LR	LR	16 39 52.4	
	comp=E,29nm,19.5s,baz=45,slow=38						
UOSS	Minazif	13.01	132	Pn	Pn	16 36 13.6	0.0
WSAR	Wadi Sarin	15.76	130	Pn	Pn	16 36 48.9	-1.9
	comp=E,0.4nm,0.3s,baz=322,slow=9.4,SNR=7.4						
ABKAR	Akbulak array	18.43	31	P	Pn	16 37 23.7	-0.3
AKTO	Aktyubinsk	18.61	25	P	P	16 37 26.1	+0.1
	comp=E,0.2nm,0.3s,baz=218,slow=8.3,SNR=3.7						
BUR08	Bucovina Ar. S	20.39	317	P	P	16 37 45.3	-0.3
BUR08				IAmb	IAmb	16 37 54.9	
	comp=Z,13nm,1.5s						
AKASG	Malin Array Be	20.40	329	P	P	16 37 43.1	-2.4
	comp=Z,0.9nm,0.4s,baz=136,slow=11,SNR=6.4						
AKBB	Malin Array Si	20.40	329	P	P	16 37 45.3	-0.2
AKBB				IAmb	IAmb	16 37 50.2	
	comp=Z,4.4nm,0.7s						
PSZ	Piszkesteto	23.63	313	P	P	16 38 19.1	-0.8
PSZ				IAmb	IAmb	16 38 41.2	
	comp=Z,5.2nm,1.1s						
BRVK	Borovoye	25.77	35	P	P	16 38 36.0	-3.3
BVAR	Borovoye Array	25.80	36	P	P	16 38 41.0	+1.4
	comp=Z,0.5nm,0.6s,baz=234,slow=10,SNR=5.7						
FINES	FINESS Array B	30.03	341	P	P	16 39 15.7	-1.7
	comp=Z,2.8nm,0.8s,baz=156,slow=14,SNR=4.4						
MKAR	Makanchi Array	30.33	54	P	P	16 39 19.7	-0.5
	comp=Z,0.4nm,0.8s,baz=254,slow=7.3,SNR=2.6						
BNI	Bardonecchia	31.63	302	P	P	16 39 31.6	-0.3
BNI				IAmb	IAmb	16 39 50.0	
	comp=Z,6.2nm,1.3s						
ZALV	Zalesovo Beam	33.82	42	P	P	16 39 50.0	-0.7
	comp=Z,0.5nm,0.4s,baz=270,slow=7.2,SNR=2.7						
TLY	Talaya	44.69	49	P	P	16 41 18.7	-2.8
TORD	Torodi Ar. Bea	44.92	253	P	P	16 41 23.1	-0.7
	comp=Z,0.3nm,0.5s,baz=33,slow=7.7,SNR=3.4						
SPA0	Spitsbergen Ar	45.87	352	P	P	16 41 30.0	-0.6
CMAR	Chiang Mai Arr	49.76	94	P	P	16 42 00.5	-1.0
	comp=Z,0.9nm,0.7s,baz=291,slow=8.6,SNR=5.1						
TIXI	Tiksi	55.86	22	P	P	16 42 44.6	-1.1
	comp=Z,1.3nm,0.3s,baz=335,slow=6.6,SNR=9.1						
TIXI	Tiksi	55.86	22	P	P	16 42 44.7	-1.1
TIXI				IAmb	IAmb	16 42 48.8	
	comp=Z,3.8nm,1.4s						
SEY	Seymchan	67.18	28	P	P	16 44 03.4	+1.0
	comp=Z,2.5nm,0.6s,baz=285,slow=7.3,SNR=14						
ILAR	Eielson Array	80.89	5	P	P	16 45 22.1	-0.4
	comp=Z,0.3nm,0.7s,baz=315,slow=3.9,SNR=4.5						
YKA	Yellowknife Ar	82.36	351	P	P	16 45 29.2	-1.0
	comp=Z,0.1nm,0.5s,baz=305,slow=7.5,SNR=2.8						

JMA ***10*** *16:33:44.6±0.3, 45.°95N×141.°75E, h19km±3km, M2.9*

SKHL ***10*** *16:33:44.7±0.8, 45.°87N×141.°90E, h10km, mb4.1/6*

ISCJB ***10*** *16:33:46.5±0.8, 45.°84N±0.°05×141.°7E±0.°1, h25km±11km, Error ellipse: s-maj=13.4km s-min=7.6km az=16.5*

ISC 10 16:33:44.9±1.7, **45.°76N**±0.°05×**141.°9E**±0.°1, **h14**km±14km, **n6, σ0s27/11, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWK2	Keihoku	0.45	177	P	Pn	16 33 56.8	-0.1
JWK2				*e*S	Sn	16 34 05.0	+0

SPCG	Spurr Capps Gl	1.86	187		Pn	16 36 10.4 +0.5
DHY	Denali Highway	1.89	90		Pn	16 36 10.5 +0.2
DHY					Sb	16 36 35.6 -0.5
SPCP	Crater Peak Br	1.89	189		Pn	16 36 11.1 +0.7
PMR	Palmer	1.90	143		Pn	16 36 11.0 +0.6
PMR					Sb	16 36 36.4 0.0
SPBG	Spurr Blockage	1.92	192		Pb	16 36 12.4 -0.8
SPWE	Spurr West	1.92	195		Pn	16 36 12.2 +1.4
SPCR	Spurr Chakacha	1.96	190		Pn	16 36 12.4 +1.1
CKL	Chakachamna La	1.98	192		Pb	16 36 13.2 -1.0
SML	Sawmill	1.99	130		Pn	16 36 11.6 0.0
WRH	Wood River Hil	2.03	47		Pn	16 36 11.4 -0.8
TTA	Tatalina	2.06	266		Sg	16 36 43.5 -0.9
TT01	Tatalina	2.06	266		Pn	16 36 12.6 0.0
FIS	Fire Island	2.08	162		Pb	16 36 15.0 -0.9
RC01	Rabbit Creek A	2.21	157		Pn	16 36 16.3 +1.7
KNK	Knik Glacier	2.24	139		Pn	16 36 16.5 +1.4
CCB	Clear Creek Bu	2.24	45		Pn	16 36 14.2 -0.9
MDM	Murphy Dome	2.34	37		Pn	16 36 15.8 -0.7
SCM	Sheep Creek Mo	2.34	122		Pn	16 36 17.6 +1.1
CAPN	Captain Cook N	2.37	176		Pn	16 36 19.0 +2.2
TCOL	CIGO, UAF Yank	2.38	41	P	Pn	16 36 16.5 -0.5
	baz=224					
TCOL				S	Sn	16 36 46.0 0.0
	baz=224					
TCOL	CIGO, UAF Yank	2.38	41		Pn	16 36 16.4 -0.5
I53US	FAIRBANKS INFR	2.38	41	*i*		16 50 40.0
	baz=213,slow=336,SNR=3					
COLA	College	2.38	41		Pn	16 36 16.4 -0.6
HDA	Harding Lake	2.40	56	P	Pn	16 36 16.8 -0.5
	baz=240					
HDA				S	Sn	16 36 46.7 +0.2
	baz=240					
HDA	Harding Lake	2.40	56		Pn	16 36 16.7 -0.5
PS08	TAPS Pump Stn8	2.52	54		Pn	16 36 18.2 -0.7
DFR	Drift River	2.60	193		Pn	16 36 22.3 +2.1
PS10	TAPS Pump St10	2.62	81		Pn	16 36 22.0 +1.8
RDJH	Redoubt Jeurge	2.62	194		Pn	16 36 22.2 +1.8
ILAR	Eielson Array	2.63	49	Pn	Pn	16 36 19.3 -1.0
	3.4nm,0.3s,baz=235,slow=14,SNR=108					
ILAR				Pg	Pg	16 36 27.8 -0.8
	18nm,0.3s,baz=231,slow=17,SNR=55					
ILAR				Lg	Lg	16 36 59.5
	95nm,0.3s,baz=250,slow=28,SNR=21					
NCT	North Crescent	2.66	195		Pn	16 36 22.5 +1.6
POKR	Poker Plat Res	2.68	40	P	Pn	16 36 20.8 -0.3
	baz=224					
POKR				S	Sb	16 37 00.6 +1.7
	baz=224					
POKR	Poker Plat Res	2.68	40		Pn	16 36 20.6 -0.5
SLKM	Skilak Lake	2.70	166		Pn	16 36 22.9 +1.5
RDWB	Redoubt West	2.72	194		Pn	16 36 24.0 +2.2
PWL	Port Wells	2.73	145		Pn	16 36 23.2 +1.5
RSO	Redoubt South	2.74	193		Pn	16 36 22.7 +0.6
PAX	Paxson	2.76	91		Pn	16 36 23.1 +0.9
RED	Redoubt Volcan	2.78	193		Pn	16 36 24.4 +1.9
SVW2	Sparrevohn	2.79	225		Pn	16 36 23.8 +1.2
PS06	TAPS Pump Stn6	2.85	15		Pn	16 36 23.8 +0.5
PS11	TAPS Pump St11	2.99	108		Pn	16 36 27.2 +1.9
RIDG	Independent Ri	3.06	75		Pn	16 36 27.5 +1.1
GLI	Glacier Island	3.07	135		Pn	16 36 27.8 +1.3
JPK	Jack Peak	3.11	130		Pn	16 36 28.1 +1.0
SEW	Seward	3.19	161		Pn	16 36 30.5 +2.5
FID	Port Fidalgo	3.37	133		Pn	16 36 32.1 +1.5
BRLK	Bradley Lake	3.39	175		Pn	16 36 32.9 +2.0
DOT	Dot Lake	3.40	78		Pn	16 36 31.6 +0.6
BRSE	Bradley Lake S	3.42	173		Pn	16 36 32.9 +1.6
SCRK	Sand Creek	3.48	72		Pn	16 36 32.5 +0.3
HOM	Homer	3.48	181	Pn	Pn	16 36 32.2 +0.1
PRP	Porcupine Dome	3.54	45		Pn	16 36 32.9 -0.2
MENT	Mentasta	3.56	90		Pn	16 36 35.5 +2.3
CNPM	China Poot	3.62	178		Pn	16 36 35.2 +1.2
HIN	Hinchinbrook I	3.63	137		Pn	16 36 35.0 +0.8
PS05	TAPS Pump Stn5	3.72	5		Pn	16 36 36.8 +1.5
EYAK	Cordova Ski Ar	3.77	131		Pn	16 36 37.0 +1.1
GLB	Gilahina Butte	3.98	112	Pn	Pn	16 36 39.3 +0.3
GOAT	Goat Mountain	4.11	125		Pn	16 36 42.5 +1.7
COLD	Coldfoot	4.16	7		Pn	16 36 42.5 +1.2
VRDI	Verde Repeater	4.23	113		Pn	16 36 44.5 +1.9
RAGM	Ragged Mountai	4.26	127		Pn	16 36 44.7 +1.9
MCARA	McCarthy VSAT	4.34	110		Pn	16 36 45.1 +1.2
FYU	Fort Yukon	4.37	35		Pn	16 36 44.3 +0.1
HMT	Hamilton	4.44	126		Pn	16 36 47.1 +1.8
CRQM	Cirque	4.62	117		Pn	16 36 49.7 +1.8
PTPK	Patty Peak	4.67	111		Pn	16 36 50.8 +2.1
TGL	Tana Glacier	4.74	116		Pn	16 36 50.6 +1.1
BALM	Baldy	4.80	112		Pn	16 36 52.5 +2.2
KIAG	Kiagna River	4.85	113		Pn	16 36 52.8 +1.8
EGAK	Eagle	4.86	65		Pn	16 36 50.5 -0.5
WAX	Waxell Ridge	4.91	119		Pn	16 36 52.6 +0.8
BARN	Barnard Glacie	5.08	110		Pn	16 36 55.9 +1.7
GRNC	Granite Creek	5.20	113		Pn	16 36 57.5 +1.6
CTGM	Chitina Glacie	5.26	110		Pn	16 36 58.3 +1.6
YUK3	Moose Creek	5.31	100		Pn	16 37 00.1 +2.6
KDAK	Kodiak Island	5.39	186	Pn	Pn	16 36 58.4 +0.1
	0.5nm,0.3s,baz=7.6,slow=15,SNR=18					
KDAK				Sn	Sn	16 37 56.4 -3.6
	baz=22,slow=19,SNR=2.1					
DAWY	Dawson	5.50	75		Pn	16 37 00.0 +0.2
SAMH	Samovar Hills	5.94	116		Pn	16 37 08.0 +2.1
OHAK	Old Harbor	5.99	189		Pn	16 37 08.4 +1.9
ANM	Nome	6.29	289		Pn	16 37 11.9 +1.3
BCPM	Bancas Point	6.51	114		Pn	16 37 15.5 +1.9
YUK6	Outpost Mounta	6.56	104		Pn	16 37 15.9 +1.3
EPYK	Eagle Plains	7.11	56	P	Pn	16 37 21.7 -0.2
	baz=250					
EPYK				S	Sn	16 38 43.5 +1.0
	baz=250					
EPYK	Eagle Plains	7.11	56		Pn	16 37 22.0 0.0
WHY	Whitehorse	8.23	100		Pn	16 37 38.3 +0.9
INK	Inuvik	9.03	47	Pn	Pn	16 37 46.8 -1.3
	0.5nm,0.3s,baz=234,slow=12,SNR=6.6					
INK				Sn	Sn	16 39 30.4 +1.0
	0.2nm,0.3s,baz=270,slow=20,SNR=2.7					
INK				Lg	Lg	16 40 22.3
	0.1nm,0.3s,baz=264,slow=18,SNR=3.1					
INK				LR	LR	16 41 55.8
	comp=Z,56nm,19.0s,baz=170,slow=42					
BESE	Bessie Mountai	9.31	112		Pn	16 37 51.4 -0.7
JIS	Juneau Island	9.69	112		Pn	16 37 57.5 +0.4
DLBC	Dease Lake	11.48	104	Lg	Lg	16 41 44.2
	0.5nm,0.3s,baz=336,slow=3,SNR=3.4					
YKA	Yellowknife Ar	16.74	76	Pn	Pn	16 39 31.1 -1.0
	0.3nm,0.3s,baz=287,slow=9.4,SNR=18					
RES	Resolute Bay	22.30	36	P	P	16 40 34.4 -0.4
	1.0nm,0.6s,baz=235,slow=17,SNR=4.0					
SEY	Seymchan	24.76	295	P	P	16 40 58.9 -0.3
	0.7nm,0.4s,baz=66,slow=20,SNR=4.2					
TIXI	Tiksi	29.44	321	P	P	16 41 41.0 -0.1
	0.5nm,0.2s,baz=51,slow=5.5,SNR=1.7					
PDAR	Pinedale Array	31.63	110	P	P	16 42 01.8 +0.9
	0.4nm,0.6s,baz=296,slow=2.5,SNR=4.3					
NVAR	Mina Array Bea	31.79	125	P	P	16 42 03.3 +0.9
	0.2nm,0.5s,baz=324,slow=9.0,SNR=2.2					
ULM	Lac du Bonnet	32.05	87	P	P	16 42 05.7 +1.5
	2.0nm,0.9s,baz=340,slow=12,SNR=2.8					
X37A	Clayton	44.58	103	P	P	16 43 49.7 -0.1
WHAR	Wooly Hollow	45.37	99	P	P	16 43 56.5 +0.5
W41B	Gary Mavity, V	45.49	99	P	P	16 43 58.4 +1.5
TXAR	Lajitas Array	45.54	115	P	P	16 43 57.2 -0.2
	0.4nm,0.6s,baz=331,slow=5.8,SNR=4.8					
ARCES	ARCESS Array B	47.60	1	P	P	16 44 13.8 +0.7
	6.8nm,1.1s,baz=359,slow=9.0,SNR=2.9					
SONM	Songino Array	53.55	305	P	P	16 44 59.4 +1.0
	0.8nm,0.7s,baz=35,slow=7.0,SNR=5.6					
ZALV	Zalesovo Beam	55.28	323	P	P	16 45 10.9 +0.2
	1.4nm,0.5s,baz=33,slow=8.1,SNR=4.7					
MKAR	Makanchi Array	62.43	321	P	P	16 45 59.5 -1.0
	0.6nm,0.7s,baz=45,slow=6.8,SNR=6.3					
AKASG	Malin Array Be	66.51	359	P	P	16 46 23.7 -3.4
	0.6nm,0.4s,baz=270,slow=38,SNR=4.7					
CMAR	Chiang Mai Arr	82.18	295	P	P	16 47 58.4 -0.4
	0.2nm,0.4s,baz=16,slow=6.9,SNR=4.4					

*IDC **10** 16:41:23.1±0.7,3.80S×151.28E,h0km,mb4.0/11, mb1 4.2/14,mb1mx4.0/40,mbtmp4.1/14,ML2.7/2,MS3.2/13, Ms1 3.2/13,ms1mx3.1/24,Error ellipse: s-maj=16.5km s-min=13.8km az=30.0*

*ISCJB **10** 16:41:26.3±0.5,3.75S±0.07×151.22E±0.05,h33km, mb3.9/10,MS3.1/10,Error ellipse: s-maj=10.4km s-min=7.1km az=26.1*

*NEIC **10** 16:41:28.8±1.8,3.8S±0.1×151.24E±0.10,h40km±10km, mb4.2/4*

ISC 10 16:41:28.1±0.7, 3.74S±0.08×151.29E±0.07, h35km, n28, σ1s26/21, mb3.9/11, MS3.1/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	0.93	128	Pn	Pn	16 41 42.7	-2.1
	74nm,0.3s,baz=302,slow=1.1,SNR=212						
KRVT				Sn	Sn	16 41 57.5	+0.7
	124nm,0.3s,baz=100,slow=23,SNR=9.7						
MANU	Manus Island	4.26	293	Pn	Pn	16 42 28.1	-2.5
PMG	Port Moresby	6.97	216	Pn	Pn	16 43 07.5	-0.3
	1.6nm,0.3s,baz=61,slow=11,SNR=8.1						
PMG				LR	LR	16 45 58.1	
	comp=Z,186nm,19.4s,baz=75,slow=40						
PMG	Port Moresby	6.97	216		Pn	16 43 09.3	+1.5
HNR	Honiara	10.29	124	Pn	Pn	16 43 53.4	0.0
	9.3nm,0.3s,baz=243,slow=2.3,SNR=3.4						
HNR				LR	LR	16 48 05.6	
	comp=Z,332nm,18.1s,baz=324,slow=39						
CTA	Charters Tower	16.98	196	Pn	P	16 45 23.0	-1.7
	0.1nm,0.3s,baz=15,slow=15,SNR=1.9						
GUMO	Guam	18.35	340	LR	LR	16 53 30.9	
	comp=Z,25nm,18.4s,baz=156,slow=40						
SIJI	Sorong	20.20	278	P		16 46 00.7	-1.6
	4.3nm,0.9s,baz=85,slow=12,SNR=3.8						
MTN	Manton Dam	21.88	244	P	P	16 46 19.1	+0.8
MTN				IAmb	IAmb	16 46 34.5	
	comp=Z,15nm,1.3s						
WR0	Warramunga Arr	22.95	224	P	P	16 46 28.4	-1.2
WB2	Warramunga Arr	23.07	224	P	P	16 46 30.0	-0.8
WRA	Warramunga Arr	23.08	224	P	P	16 46 29.5	-1.5
	comp=Z,3.4nm,1.0s,baz=49,slow=11,SNR=16						
WRA				LR	LR	16 55 57.3	
	comp=Z,55nm,20.1s,baz=240,slow=38						
ASAR	Alice Springs	25.97	219	P	P	16 46 56.3	-1.4
	comp=Z,2.6nm,0.8s,baz=55,slow=8.5,SNR=20						
BATI	Baumata	28.15	255	P	P	16 47 16.0	-1.4
	comp=Z,2.2nm,0.3s,baz=68,slow=5.4,SNR=2.9						
FITZ	Fitzroy Crossi	28.88	238	P	P	16 47 24.3	+0.4
	comp=Z,4.2nm,1.1s,baz=67,slow=13,SNR=5.3						
FITZ	Fitzroy Crossi	28.88	238	P	P	16 47 23.6	-0.3
FITZ				IAmb	IAmb	16 47 31.6	
	comp=Z,7.1nm,1.2s						
JCJ	Chichijima	31.89	345	LR	LR	17 01 07.7	
	comp=Z,30nm,18.5s,baz=22,slow=37						
TGY	Tagaytay City	34.93	301	LR	LR	16 59 53.3	
	comp=Z,52nm,20.0s,baz=130,slow=32						
MJAR	Matsushiro Arr	41.89	344	LR	LR	17 05 19.3	
	comp=Z,14nm,21.1s,baz=195,slow=34						
KSRS	Korea Array	46.38	334	LR	LR	17 07 33.9	
	comp=Z,13nm,21.2s,baz=180,slow=34						
CMAR	Chiang Mai Arr	56.06	295	P	P	16 51 05.0	+0.8
	comp=Z,1.2nm,0.8s,baz=116,slow=5.5,SNR=12						
CMAR				LR	LR	17 15 12.9	
	comp=Z,13nm,18.5s,baz=225,slow=36						
PETK	Petropavlovsk-	56.89	5	P	P	16 51 10.1	+0.7
	comp=Z,1.3nm,0.8s,baz=195,slow=10,SNR=3.7						
SONM	Songino Array	64.63	328	P	P	16 52 03.0	+0.6
	comp=Z,0.4nm,0.5s,baz=146,slow=6.2,SNR=4.2						
SONM				LR	LR	17 20 33.2	
	comp=Z,27nm,19.7s,baz=74,slow=36						
MKAR	Makanchi Array	78.54	319	P	P	16 53 26.6	+0.5
	comp=Z,0.5nm,0.5s,baz=98,slow=6.6,SNR=6.9						
MKAR				LR	LR	17 28 33.5	
	comp=Z,17nm,19.7s,baz=56,slow=36						
ZALV	Zalesovo Beam	79.44	327	LR	LR	17 28 38.5	
	comp=Z,12nm,20.3s,baz=110,slow=36						
ILAR	Eielson Array	81.75	22	P	P	16 53 43.5	+0.5
	comp=Z,1.0nm,0.7s,baz=244,slow=5.6,SNR=12						
GEYT	Alibeck	94.78	308	LR	LR	17 37 20.1	
	comp=Z,14nm,21.0s,baz=35,slow=35						
YKA	Yellowknife Ar	95.19	28	P	P	16 54 49.1	+1.3
	comp=Z,0.2nm,0.7s,baz=274,slow=4.2,SNR=5.5						

SJA 10 16:59:47.6±1.0, 23.09S×66.58W, h231km±12km, ML3.2, MW3.5, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HJA	Humahuaca	1.09	97	*i* P	Pn	17 00 22.6	+1.0
HJA				*e*S	S	17 00 48.1	0.0
YJA	Yavi	1.34	48	*i* P	Pn	17 00 24.6	+1.1
YJA				*e*S	S	17 00 51.1	-0.3
AZAP	Zapla	1.79	129	*i* P	Pn	17 00 27.5	+0.6
AZAP				*e*S	S	17 00 56.7	-0.9
LVC	Limon Verde	2.20	282	*i* P	Pn	17 00 31.7	+0.8
PB15	IPOC Station P	2.66	267	*i* P	Pn	17 00 36.2	+0.7
PB09	IPOC Station P	2.77	297	*i* P	Pn	17 00 37.8	+1.1
PB09				IAML		17 01 55.0	
	comp=Z,26nm,0.6s						
PB06	IPOC Station P	2.78	277	*i* P	Pn	17 00 37.5	+0.8
PB06				IAML		17 01 28.9	
	comp=Z,47nm,0.8s						
FSA	Cafayete	3.06	170	*i* P	Pn	17 00 41.1	+1.3
PB03	IPOC Station P	3.11	289	*i* P	Pn	17 00 40.5	+0.2
PB03				IAML		17 01 42.9	
	comp=Z,54nm,0.4s						
PB07	IPOC Station P	3.34	293	*i* P	Pn	17 00 43.4	+0.4
PB07				IAML		17 01 52.9	
	comp=Z,35nm,0.4s						
PB05	IPOC Station P	3.34	273	*i* P	Pn	17 00 43.2	+0.3
PB05				IAML		17 01 32.7	
	comp=Z,35nm,0.6s						
PB04	IPOC Station P	3.38	282	*i* P	Pn	17 00 43.4	-0.1
PB02	IPOC Station P	3.54	299	*i* P	Pn	17 00 45.4	+0.2
PB02				IAML		17 01 31.8	
	comp=Z,46nm,0.3s						
PB10	IPOC Station P	3.67	263	*i* P	Pn	17 00 46.9	+0.2
PB10				IAML		17 01 35.5	
	comp=Z,28nm,0.7s						
APLL	PUNTA DE LOS L	7.28	180	*i* P	Pn	17 01 31.5	-0.2

*ISN **10** 17:24:03.6±1.0,34.87N×45.51E,h7km±5km,ML2.8*
*TEH **10** 17:24:05.4,34.87N×45.55E,h8km,ML3.0*

ISC 10 17:24:03.7±1.3, 34.85N±0.04×45.49E±0.03, h3km±12km, n20, σ1s41/28, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	Dehrash	0.75	102	*e*Pg	Pb	17 24 19.3	-0.2
IDHR				*e*Sg	Sb	17 24 29.5	-0.8
IDHR				IAMB	IAmb	17 24 33.4	
	comp=Z,0.0nm,0.3s						
IGHG	Ghaleghazi	1.03	120	*e*Pg	Pn	17 24 24.6	-0.6
IGHG				*e*Sg	Sn	17 24 40.5	+0.2
IGHG				IAMB	IAmb	17 24 41.6	
	comp=Z,2μm,0.2s						
IKRK	Kirkuk	1.09	300	*e*Pg	Pg	17 24 25.0	+0.5
IKRK				*e*Sg	Sn	17 24 40.7	-0.7
ILIN	Lien	1.21	87	*e*Pg	Pg	17 24 28.2	+1.3
ILIN				IAMB	IAmb	17 24 52.2	
	comp=Z,3μm,0.2s						
KCHF	Cheshme Sefid,	1.40	114	*e*Pg	Pg	17 24 31.6	+1.0
KCHF				IAMB	IAmb	17 24 55.9	
	comp=Z,0.0nm,0.2s						
KER	Kermanshah	1.43	109	*e*Pg	Pg	17 24 32.2	+1.1
IBDR	Badra	1.78	168	*e*Pn	Pb	17 24 36.0	-0.8
IBDR				AML	AML	17 24 45.1	
	comp=Z,77nm,0.5s						
IBDR				*e*Sn	Sg	17 25 01.0	+0.2
IKOM	Komasi	1.80	112	*e*Pn	Pg	17 24 38.7	+0.5
IKOM				IAMB	IAmb	17 25 06.9	
	comp=Z,0.0nm,0.4s						
BHD	Baghdad	1.83	211	*e*Pn	Pb	17 24 37.0	-0.7
BHD				*e*Sn	Sg	17 25 01.5	-0.9
MAHB	Mahabad	1.92	5	*e*Pn	Pg	17 24 40.5	+0.1
MAHB				IAMB	IAmb	17 25 09.5	
	comp=Z,0.0nm,0.4s						
HSRG	Sareghieh	2.32	80	*e*Pn	Pb	17 24 45.6	-0.7
HSRG				IAMB	IAmb	17 25 23.6	
	comp=Z,0.0nm,0.5s						
IKFM	Kafar-mosalman	2.36	124	*e*Pn	Pb	17 24 45.8	-1.0
IKFM				IAMB	IAmb	17 24 46.1	
	comp=Z,0.0nm,0.2s						
IDOB	Doab	2.46	115	*e*Pn	Pb	17 24 46.9	-1.8
MSL	Mosul	2.48	309	*e*Pn	Pn	17 24 46.0	+1.1
MSL				AML	AML	17 24 52.6	
	comp=Z,244nm,0.6s						
MSL				*e*Sn	Sb	17 25 18.0	-1.7
HSAM	Samen	2.65	103	*e*Pn	Pb	17 24 49.9	-2.0
HSAM				IAMB	IAmb	17 25 31.3	
	comp=Z,0.0nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKMR	Kamar-syah	2.74	118	*e*Pn	Pb	17 24 50.7	-2.6
IKMR				IAMB	IAmb	17 25 28.6	
	comp=Z,0.0nm,0.3s						
BMDN	Meydan	3.00	112	*e*Pn	Pb	17 24 54.9	-3.0
ISRB	Sarab	3.45	30	*e*Pn	Pn	17 25 00.9	+2.5
NSR	Nassriya	3.87	172	*e*Pn	Pn	17 25 05.5	+1.5
NSR				*e*Sn	Sn	17 25 51.0	+1.0
RTB	Rutbah	4.68	249	*e*Pn	Pn	17 25 16.5	+1.3
RTB				AML	AML	17 25 26.3	
	comp=Z,23nm,0.1s						
RTB				*e*Sn	Sn	17 26 10.5	+0.6

*IDC **10** 17:24:00.4±1.2,56.05S×27.40W,h0km,mb3.8/3, mb1 3.9/3,mb1mx3.7/32,mbtmp3.8/3,Error ellipse: s-maj=52.4km s-min=28.4km az=74.0*

*ISCJB **10** 17:24:04.2±0.9,56.05S±0.1×27.6W±0.2,h35km,mb3.8/3, Error ellipse: s-maj=23.3km s-min=10.1km az=137.2*

*NEIC **10** 17:24:05.8±1.8,56.05S±0.1×27.5W±0.2,h37km±9km, mb4.7/5*

ISC 10 17:24:05.8±1.0, 56.05S±0.1×27.5W±0.2, h35km, n15, σ0s76/15, mb4.2/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	5.44	285	Pn	Pn	17 25 24.3	0.0
VNA3	Neumayer Olymp	17.07	160	P	Pn	17 28 02.3	+0.9
VNA2	Neumayer--Watz	17.28	158	P	P	17 28 04.9	-0.1
	baz=315,slow=13						
EFI	East Falkland	18.46	271	P	Pn	17 28 18.5	0.0
SNAA	Sanae	18.83	156	P	P	17 28 21.8	-0.5
SNAA	Sanae	18.83	156	P	P	17 28 21.6	-0.6
	baz=304,slow=11						
SNAA	Sanae	18.83	156	P	P	17 28 21.7	-0.5
QSPA	South Pole Qui	34.22	180	P	P	17 30 47.7	-0.1
QSPA				IAmb	IAmb	17 30 59.1	
	comp=Z,13nm,1.9s						
VNDA	Vanda	46.59	183	P	P	17 32 28.9	-0.6
	comp=Z,0.5nm,0.6s,baz=168,slow=9.3,SNR=3.9						
VNDA	Vanda	46.59	183	P	P	17 32 30.4	+0.9
MNMC	Minye Minye	48.44	302	P	P	17 32 44.2	-0.7
MNMC				IAmb	IAmb	17 33 07.9	
	comp=Z,27nm,1.7s						
LPAZ	La Paz	50.22	306	P	P	17 32 59.9	+0.9
	comp=Z,0.7nm,0.5s,baz=162,slow=6.4,SNR=3.7						
LPAZ	La Paz	50.22	306	P	P	17 33 00.0	+1.1
LPAZ				IAmb	IAmb	17 34 35.8	
	comp=Z,11nm,2.0s						
TORD	Torodi Ar. Bea	73.12	30	P	P	17 35 32.6	+0.2
	comp=Z,1.2nm,0.9s,baz=202,slow=7.3,SNR=4.0						
ILAR	Eielson Array	149.97	312	PKPbc	PKPbc	17 43 49.6	-1.2
	comp=Z,0.7nm,0.7s,baz=124,slow=1.6,SNR=5.1						

*IDC **10** 17:26:19.9±5.3,34.84N×23.11E,h0km,mb3.9/5, mb1 3.8/8,mb1mx3.5/57,mbtmp3.6/8,ML3.4/3,Error ellipse: s-maj=93.3km s-min=33.0km az=26.0*

*ISCJB **10** 17:26:29.8±0.8,35.22N±0.07×23.26E±0.07,h69km±5km, mb3.7/5,Error ellipse: s-maj=13.7km s-min=5.7km az=41.8*

*ATH **10** 17:26:30.3,35.28N×23.29E,h57km±4km,ML3.3/5,Error ellipse: s-maj=6.0km s-min=1.4km az=47.0*

*THE **10** 17:26:31.2,35.20N×23.20E,h24km±1km,ML3.2/7,Error ellipse: s-maj=1.6km s-min=0.7km az=60.0*

ISC 10 17:26:30.1±1.4, 35.21N±0.07×23.24E±0.08, h49km±10km, n42, σ1s22/53, mb3.8/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDR	Palaiochora Ch	0.37	86	P	Pn	17 26 39.0	-0.7
KNDR				S	Sn	17 26 45.1	-1.5
	5μm,0.6s						
ANKY	Antikythira Is	0.66	5	P	Pn	17 26 43.5	+0.2
ANKY				S	Sn	17 26 53.3	+0.6
	2μm,0.4s						
ANKY	Antikythira Is	0.66	5	P	Pn	17 26 43.4	+0.2
ANKY				S	Sn	17 26 53.8	+1.1
ANKY				AML	AML	17 26 56.6	
	comp=E,5508μm,1.0s						
ANKY				AML	AML	17 26 56.9	
	comp=N,5174μm,0.5s						
IMMV	Iera Moni Meta	0.66	67	P	Pn	17 26 43.6	+0.4
IMMV				S	Sn	17 26 53.9	+1.2
	comp=N,4μm,0.6s						
IMMV	Iera Moni Meta	0.66	67	P	Pn	17 26 43.5	+0.3
IMMV				S	Sn	17 26 53.2	+0.4
IMMV				AML	AML	17 26 56.8	
	comp=N,8100μm,0.9s						
IMMV				AML	AML	17 26 59.6	
	comp=E,7490μm,0.4s						
CHAN	Chania	0.73	65	P	Pn	17 26 44.9	+0.8
CHAN				S	Sn	17 26 56.8	+2.5
	comp=E,2μm,0.6s						
GVD	Gavdhos	0.79	118	P	Pn	17 26 46.0	+1.1
GVD	Gavdhos	0.79	118	P	Pn	17 26 46.1	+1.1
GVDS	Gavdos	0.79	117	P	Pn	17 26 45.6	+0.7
GVDS				S	Sn	17 26 57.5	+1.7
	comp=E,1μm,0.4s						
VAM	Vamos	0.81	76	P	Pn	17 26 46.2	+1.0
VAM				S	Sn	17 26 58.4	+2.1

s-min=6.0km az=69.0

UCR ***10*** *17:28:31.7±1.9, 10˚.64N×85˚.70W, h51^{km}±11^{km}, MD4.4, ML4.5, mb4.8(NEIC)*

NEIC ***10*** *17:28:32.1±2.1, 10˚.73N±0˚.05×85˚.53W±0˚.07, h70^{km}±4^{km}, mb5.1/436, Mwr4.8, Md4.7(UCR), Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.19; $M_{\theta\theta}$0.36; $M_{\phi\phi}$-1.55; $M_{r\theta}$1.01; $M_{\theta\phi}$-0.38; $M_{\phi r}$-0.96; Fault plane solution: $M_0$2.01000×10^{16} NP1:ϕ_s158.41000˚,δ68.26000˚, λ57.29000˚. NP2:ϕ_s38.44000˚,δ38.59000˚,λ143.57000˚. Principal axes: T 2.1420, Plg55.0000˚, Azm27.0000˚; N -0.2867, Plg30.0000˚, Azm172.0000˚; P -1.8553, Plg17.0000˚, Azm272.0000˚;*

ISCJB ***10*** *17:28:32.1±0.2, 10˚.76N±0˚.02×85˚.59W±0˚.02, h84^{km}±2^{km}, mb4.5/34 Error ellipse: s-maj=3.7km s-min=2.2km az=32.9*

GCMT ***10*** *17:28:34.2±0.2, 10˚.76N±0˚.01×85˚.65W±0˚.02, h64^{km}±2^{km}, MW4.9/88, Moment Tensor Solution. s37,c41; s88,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.35±.10; $M_{\theta\theta}$1.46±.09; $M_{\phi\phi}$-2.81±.08; $M_{r\theta}$1.25±.04; $M_{\theta\phi}$-0.14±.08; $M_{\phi r}$-0.23±.06; Best double couple: $M_0$2.74600×10^{16} NP1:ϕ_s146.00000˚,δ63.00000˚,λ36.00000˚. NP2: ϕ_s38.00000˚,δ58.00000˚,λ148.00000˚. Principal axes: T 2.6690, Plg44.0000˚, Azm4.0000˚; N 0.1550, Plg46.0000˚, Azm178.0000˚; P -2.8240, Plg3.0000˚, Azm271.0000˚; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

SNET ***10*** *17:28:37.0±2.3, 10˚.80N×85˚.97W, h35^{km}±88^{km}, ML4.7*

GCG ***10*** *17:28:41.2±3.1, 11˚.38N×85˚.73W, h50^{km}±99^{km}, MD4.7*

ISC 10 17:28:31.2±0.4, 10˚.71N±0˚.04×85˚.63W±0˚.04, h65^{km}±3^{km}, h65^{km}:pP-P, n1113, σ1937/1152, mb5.1/232, 2C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLVR	**Palo Verde**	**0.46**	**143**	*eP*		**Pn**		**17 28 42.7**	**-0.6**
PLVR				*eS*		**Sn**		**17 28 51.4**	**-0.8**
CUI	**Cuipilapa**	**0.46**	**97**	*eP*		**Pn**		**17 28 43.2**	**0.0**
CUI				*eS*		**Sn**		**17 28 52.5**	**+0.4**
JTS	**Las Juntas de**	**0.79**	**122**	P		**Pn**		**17 28 46.7**	**-0.1**
	2µm,0.3s,baz=3.2,slow=12,SNR=9061								
JTS				S		**Sn**		**17 28 58.1**	**-0.3**
	3µm,0.3s,baz=342,slow=20,SNR=29								
JTS					LR	LR		17 29 16.5	
	comp=Z,7µm,20.5s,baz=158,slow=57								
JTS	**Las Juntas de**	**0.79**	**122**	*eP*		**Pn**		**17 28 46.8**	**-0.1**
CONN	**Concepcion**	**0.85**	**0**	*eP*		**Pn**		**17 28 48.1**	**+0.6**
ARE1	**Arenal 1**	**0.93**	**106**	*eP*		**Pn**		**17 28 49.0**	**+0.4**
SRA1	**San Ramn**	**1.29**	**119**	*eP*		**Pn**		**17 28 53.8**	**+0.5**
SRA1				*eS*		**Sn**		**17 29 13.7**	**+3.7**
ACON	**Acoyapa**	**1.32**	**20**	*eP*		**Pn**		**17 28 54.9**	**+1.2**
ACON	**Acoyapa**	**1.32**	**20**					**17 28 54.6**	**+0.9**
ACON						Sn		**17 29 11.2**	**+0.6**
MASN	**Masaya**	**1.36**	**338**	*eP*		**Pn**		**17 28 55.2**	**+1.0**
MGAN	**Managua**	**1.55**	**337**	*eP*		**Pn**		**17 28 58.0**	**+1.3**
HDC	**Heredia**	**1.65**	**115**	*eP*		**Pn**		**17 28 59.0**	**+0.9**
HDC	**Heredia**	**1.65**	**115**			**Pn**		**17 28 58.8**	**+0.6**
SJS	**Escuela Geolog**	**1.73**	**116**	*eP*		**Pn**		**17 29 00.3**	**+1.1**
COPN	**Copaltepe**	**1.74**	**327**	*eP*		**Pn**		**17 29 00.3**	**+1.2**
LCR2	**La Lucha 2**	**1.87**	**121**	*eP*		**Pn**		**17 29 01.5**	**+0.3**
MOMN	**Momotombo**	**1.91**	**332**	*eP*		**Pn**		**17 29 02.6**	**+1.0**
CVTR	**Volcan Turrial**	**1.97**	**110**	*eP*		**Pn**		**17 29 03.5**	**+0.9**
ESPN	**Las Esperanzas**	**1.97**	**41**	*eP*		**Pn**		**17 29 03.9**	**+1.6**
ESPN	**Las Esperanzas**	**1.97**	**41**			**Pn**		**17 29 03.5**	**+1.2**
CNGN	**Cerro Negro**	**2.06**	**330**	*eP*		**Pn**		**17 29 04.1**	**+0.5**
MATN	**Matagalpa**	**2.22**	**353**	*eP*		**Pn**		**17 29 07.5**	**+1.6**
EDDO	**Dominical**	**2.27**	**130**	*eP*		**Pn**		**17 29 09.4**	**+3.1**
CRIN	**San Cristobal**	**2.42**	**325**	*eP*		**Pn**		**17 29 10.0**	**+1.6**
CRIN				*eS*		**Sn**		**17 29 38.2**	**+1.2**
CRIN					IAML			17 29 44.0	
	comp=E,8µm,0.7s								
ESTN	**Estel**	**2.48**	**343**	*eP*		**Pn**		**17 29 11.1**	**+1.7**
ESTN	**Estel**	**2.48**	**343**			**Pn**		**17 29 11.1**	**+1.7**
EDPN	**Palmar Norte**	**2.76**	**129**	*eP*		**Pn**		**17 29 17.1**	**+4.1**
EDBA	**Buenos Aires**	**2.79**	**123**	*eP*		**Pn**		**17 29 14.8**	**+1.4**
RCON	**San Juan de Ri**	**2.80**	**349**	*eP*		**Pn**		**17 29 16.1**	**+2.3**
EDSV	**San Vito**	**3.23**	**125**	*eP*		**Pn**		**17 29 23.0**	**+3.5**
LCND	**La Caada**	**3.40**	**320**	*eP*		**Pn**		**17 29 23.4**	**+1.6**
LCND				*eS*		**Sn**		**17 30 00.6**	**-0.3**
LCND	**La Caada**	**3.40**	**320**	*eP*		**Pn**		**17 29 23.4**	**+1.6**
LCND				*eS*		**Sn**		**17 30 00.6**	**-0.3**
BRU2	**Volcan**	**3.47**	**123**	*eP*		**Pn**		**17 29 24.0**	**+1.1**
JUCU	**Jucuar¡n**	**3.60**	**315**	*eP*		**Pn**		**17 29 25.7**	**+1.1**
JUCU				*eS*		**Sn**		**17 30 05.8**	**-0.1**
TGUH	**Tegucigalpa,Un**	**3.69**	**334**			**Pn**		**17 29 28.4**	**+2.5**
FAGO	**Alcalda de S**	**3.83**	**321**	*eP*		**Pn**		**17 29 29.4**	**+1.8**
FAGO				*eS*		**Sn**		**17 30 12.5**	**+1.1**
COEB	**Comit de Eme**	**3.96**	**315**	*eP*		**Pn**		**17 29 30.7**	**+1.1**
COEB				*eS*		**Sn**		**17 30 15.1**	**+0.2**
COEB					IAML			17 30 16.3	
	comp=Z,1µm,0.3s								
COEG	**Centro de Oper**	**4.29**	**313**	*eP*		**Pn**		**17 29 36.7**	**+2.6**
VICT	**Victoria**	**4.36**	**318**	*eP*		**Pn**		**17 29 37.0**	**+1.9**
VICT				*eS*		**Sn**		**17 30 25.5**	**+0.7**
VICT	**Victoria**	**4.36**	**318**	*eP*		**Pn**		**17 29 37.0**	**+1.9**
VICT				*eS*		**Sn**		**17 30 25.5**	**+0.7**
PAVA	**Las Pavas**	**4.40**	**313**	*eP*		**Pn**		**17 29 38.8**	**+3.2**
PAVA				*eS*		**Sn**		**17 30 24.9**	**-0.7**
PAVA	**Las Pavas**	**4.40**	**313**	*eP*		**Pn**		**17 29 38.8**	**+3.2**
PAVA				*eS*		**Sn**		**17 30 24.9**	**-0.7**
CUSC	**Alcaldia de Cu**	**4.58**	**311**	*eP*		Pn		17 29 43.1	+5.0
CUSC				*eS*		**Sn**		**17 30 28.9**	**-1.2**
CUSC	**Alcaldia de Cu**	**4.58**	**311**	*eP*		Pn		17 29 43.1	+5.0
CUSC				*eS*		**Sn**		**17 30 28.9**	**-1.2**
SNET	**Serv Nac Est T**	**4.60**	**310**			**Pn**		**17 29 40.7**	**+2.5**
CEVE	**Cerro Verde**	**4.98**	**309**	*eP*		**Pn**		**17 29 47.0**	**+3.4**
CEVE					IAML			17 29 55.0	
	comp=Z,806nm,0.4s								
CEVE				*eS*		**Sn**		**17 30 41.4**	**+1.3**
CEVE	**Cerro Verde**	**4.98**	**309**	*eP*		**Pn**		**17 29 47.0**	**+3.4**
CEVE					IAML			17 29 55.0	
	comp=Z,806nm,0.4s								
CEVE				*eS*		**Sn**		**17 30 41.4**	**+1.3**
ICCO	**Coco Island**	**5.33**	**195**	*eP*		**Pn**		**17 29 47.1**	**-1.1**
IXG	**Ixpaco**	**5.82**	**307**	*eP*		**Pn**		**17 29 58.8**	**+3.7**
IXG	**Ixpaco**	**5.82**	**307**	*eP*		**Pn**		**17 29 58.8**	**+3.7**
BCIP	**Isla Barro Col**	**5.91**	**105**			**Pn**		**17 29 57.1**	**+0.9**
NBG	**Las Nubes**	**6.00**	**310**	*eP*		Pn		17 30 02.8	+5.1
NBG	**Las Nubes**	**6.00**	**310**	*eP*		Pn		17 30 02.8	+5.1
FUG	**Fuego 3**	**6.30**	**307**	*eP*		**Pn**		**17 30 05.8**	**+4.1**
FUG				*eS*		**Sn**		**17 31 12.4**	**+0.1**
FUG	**Fuego 3**	**6.30**	**307**	*eP*		**Pn**		**17 30 05.8**	**+4.1**
FUG				*eS*		**Sn**		**17 31 12.4**	**+0.1**
APG	**El Apazote**	**6.36**	**313**	P		Pn		**17 30 05.2**	**+2.7**
	comp=Z,4.8nm,0.3s,baz=117,slow=4.0,SNR=35								
ERG	**Entre ros, C**	**6.88**	**303**	*eP*		**Pn**		**17 30 13.6**	**+4.2**
STG3	**Santiaguito 3,**	**7.03**	**305**	*eP*		**Pn**		**17 30 16.2**	**+4.6**
CCIG	**Comitan**	**8.41**	**312**			**Pn**		**17 30 33.5**	**+3.0**
FSCY	**Frank Sound, G**	**9.57**	**26**			**Pn**		**17 30 47.8**	**+1.6**
TEIG	**Tepich**	**9.80**	**345**	P		**Pn**		**17 30 53.6**	**+4.2**
	comp=Z,1.7nm,0.3s,baz=139,slow=19,SNR=28								
TEIG					LR	LR		17 34 48.3	
	comp=Z,427nm,20.1s,baz=48,slow=39								
TEIG	**Tepich**	**9.80**	**345**			**Pn**		**17 30 52.0**	**+2.6**
DBBC	**Dabeiba**	**10.01**	**111**	*eP*		**Pn**		**17 30 55.4**	**+3.1**
DBBC	**Dabeiba**	**10.01**	**111**	*eP*		**Pn**		**17 30 55.4**	**+3.1**
SJCC	**San Jacinto, C**	**10.32**	**94**	*eP*		**Pn**		**17 30 58.4**	**+1.8**
SJCC	**San Jacinto, C**	**10.32**	**94**	*eP*		**Pn**		**17 30 58.4**	**+1.8**
CBCY	**The Bluff, Cay**	**10.61**	**32**			**Pn**		**17 31 03.1**	**+2.7**
MTDJ	**Mount Denham**	**10.83**	**45**			**Pn**		**17 31 07.1**	**+3.6**
CMIG	**Matias Romero**	**10.99**	**306**	P		**Pn**		**17 31 07.5**	**+1.8**
	comp=Z,2.9nm,0.3s,baz=106,slow=9.6,SNR=27								
CMIG				S		**Sn**		**17 33 04.7**	**-2.4**
	comp=Z,1.1nm,0.3s,baz=114,slow=19,SNR=4.6								
GUY2C	**Guyana, Caldas**	**11.54**	**117**	*eP*		**Pn**		**17 31 17.5**	**+4.0**
GUY2C	**Guyana, Caldas**	**11.54**	**117**	*eP*		**Pn**		**17 31 17.5**	**+4.0**
SMLC	**San Martn de**	**11.55**	**98**	*eP*		**Pn**		**17 31 14.8**	**+1.5**
SMLC	**San Martn de**	**11.55**	**98**	*eP*		**Pn**		**17 31 14.8**	**+1.5**
RREF	**El Recreo**	**11.71**	**119**	*eP*		**Pn**		**17 31 18.6**	**+2.6**
RREF	**El Recreo**	**11.71**	**119**	*eP*		**Pn**		**17 31 18.6**	**+2.6**
PTBC	**PUERTO BERRIO,**	**11.80**	**110**	*eP*		**Pn**		**17 31 20.1**	**+3.4**
PTBC	**PUERTO BERRIO,**	**11.80**	**110**	*eP*		**Pn**		**17 31 20.1**	**+3.4**
NORC	**Norcasia**	**11.82**	**115**	*eP*		**Pn**		**17 31 21.2**	**+4.1**
NORC	**Norcasia**	**11.82**	**115**	*eP*		**Pn**		**17 31 21.2**	**+4.1**
BBAC	**Balboa, Cauca**	**11.99**	**135**	*eP*		**Pn**		**17 31 23.1**	**+3.5**
BBAC	**Balboa, Cauca**	**11.99**	**135**	*eP*		**Pn**		**17 31 23.1**	**+3.5**
BRRC	**Barranca, Sant**	**12.31**	**106**	*eP*		**Pn**		**17 31 27.5**	**+3.8**
BRRC	**Barranca, Sant**	**12.31**	**106**	*eP*		**Pn**		**17 31 27.5**	**+3.8**
ORTC	**Ortega, Tolima**	**12.32**	**123**	*eP*		**Pn**		**17 31 27.5**	**+3.6**
ORTC	**Ortega, Tolima**	**12.32**	**123**	*eP*		**Pn**		**17 31 27.5**	**+3.6**
SOTA	**Rioblanco**	**12.37**	**133**	*eP*		**Pn**		**17 31 29.0**	**+4.1**
SOTA	**Rioblanco**	**12.37**	**133**	*eP*		**Pn**		**17 31 29.0**	**+4.1**
OCAC	**Ocana**	**12.39**	**100**	*eP*		**Pn**		**17 31 27.1**	**+2.1**
OCAC	**Ocana**	**12.39**	**100**	*eP*		**Pn**		**17 31 27.1**	**+2.1**
CRUC	**La Cruz**	**12.53**	**136**	*eP*		**Pn**		**17 31 31.4**	**+4.4**
CRUC	**La Cruz**	**12.53**	**136**	*eP*		**Pn**		**17 31 31.4**	**+4.4**
OTAV	**Otavalo**	**12.62**	**145**	Pn		**Pn**		**17 31 29.0**	**+0.7**
ROSC	**El Rosal**	**12.63**	**117**	LR		LR		17 37 38.7	
	comp=Z,249nm,18.1s,baz=300,slow=44								
ROSC	**El Rosal**	**12.63**	**117**	Pn		**Pn**		**17 31 27.8**	**-0.7**
BARC	**Barichara**	**12.97**	**107**	*eP*		**Pn**		**17 31 34.9**	**+2.0**
BARC	**Barichara**	**12.97**	**107**	*eP*		**Pn**		**17 31 34.9**	**+2.0**
RUSC	**La Rusia**	**13.31**	**110**	*eP*		**P**		**17 31 41.9**	**-3.3**
RUSC	**La Rusia**	**13.31**	**110**	*eP*		**P**		**17 31 41.9**	**-3.3**
FLOC	**Florencia**	**13.44**	**132**	*eP*		**Pn**		**17 31 41.2**	**+2.1**
FLOC	**Florencia**	**13.44**	**132**	*eP*		**Pn**		**17 31 41.2**	**+2.1**
VILC	**Villavicencio,**	**13.53**	**118**	*eP*		**P**		**17 31 44.7**	**-2.6**
VILC	**Villavicencio,**	**13.53**	**118**	*eP*		**P**		**17 31 44.7**	**-2.6**
TLIG	**Tlapa**	**14.27**	**300**			**Pn**		**17 31 53.5**	**+3.4**
SDV	**Santo Domingo**	**14.89**	**96**	P		**P**		**17 32 00.3**	**-2.2**
	comp=Z,1.3nm,0.3s,baz=275,slow=18,SNR=18								
SDV					LR	LR		17 38 04.2	
	comp=Z,197nm,21.8s,baz=262,slow=40								
SDV	**Santo Domingo**	**14.89**	**96**	P		**P**		**17 32 00.6**	**-1.9**
061Z	**Ochoppi**	**15.72**	**16**	P		**P**		**17 32 10.6**	**-0.8**
	baz=197								
061Z	**Ochoppi**	**15.72**	**16**	Pn		**P**		**17 32 15.3**	**+3.8**
061Z					IAmb	IAmb		17 32 18.5	
	comp=Z,151nm,1.1s								
SDDR	**Presa de Saban**	**16.11**	**58**	P		**P**		**17 32 19.3**	**+3.4**
060A	**Indiantown**	**16.98**	**16**	P		**P**		**17 32 25.8**	**+0.4**
	baz=198								
656A	**Willston**	**18.79**	**8**	P		**Pn**		**17 32 48.3**	**+1.9**
	baz=189								
656A	**Willston**	**18.79**	**8**	P		**Pn**		**17 32 47.4**	**+1.0**
656A					IAmb	IAmb		17 32 54.4	
	comp=Z,91nm,0.8s								
ATAH	**Atahualpa**	**19.14**	**158**	LR		LR		17 39 55.0	
	comp=Z,159nm,18.2s,baz=344,slow=36								
454A	**Quitman**	**19.99**	**5**	P		**Pn**		**17 33 01.4**	**+0.8**
	baz=186								
453A	**Whigham**	**20.08**	**3**	P		Pn		17 33 02.5	+0.9
	baz=184								
ZAIG	**Zacatecas**	**20.14**	**309**	P		Pn		17 33 04.4	+1.6
456A	**Hilliard**	**20.19**	**9**	P		Pn		17 33 03.5	+0.4
	baz=190								
SJG	**San Juan**	**20.24**	**66**	P		Pn		17 33 03.3	-0.4
BRAL	**Brewton**	**20.40**	**357**	P		Pn		17 33 05.6	+0.2
	baz=176								
353A	**Camilla**	**20.58**	**3**	P		Pn		17 33 07.0	-0.5
	baz=184,SNR=11								
PCRV	**Puerto La Cruz**	**20.66**	**90**	P		Pn		17 33 07.6	-1.0
	comp=Z,16nm,0.7s,baz=247,slow=7.7,SNR=3.7								
352A	**Blakely**	**20.68**	**2**	P		Pn		17 33 08.0	-0.7
	baz=182								
352A	**Blakely**	**20.68**	**2**	P		Pn		17 33 08.8	+0.1
352A					IAmb	IAmb		17 33 12.3	
	comp=Z,140nm,1.1s								
PLCV	**Puerto La Cruz**	**20.70**	**90**	P		Pn		17 33 07.6	-1.6
TIGA	**Tifton**	**20.71**	**5**	P		Pn		17 33 08.4	-0.7
	baz=186								
TIGA	**Tifton**	**20.71**	**5**	P		Pn		17 33 10.1	+0.9
TIGA					IAmb	IAmb		17 33 12.1	
	comp=Z,130nm,1.4s								
356A	**Blackshear**	**20.77**	**8**	P		Pn		17 33 09.5	-0.3
	baz=190								
357A	**Townsend**	**20.96**	**10**	P		Pn		17 33 11.3	-0.8
	baz=191								
250A	**Grady**	**21.17**	**359**	P		**P**		**17 33 13.5**	**+2.3**
	baz=178								
250A	**Grady**	**21.17**	**359**	P		**P**		**17 33 12.4**	**+1.3**
250A					IAmb	IAmb		17 33 16.7	
	comp=Z,75nm,1.1s								
252A	**Lumpkin**	**21.20**	**2**	P		**P**		**17 33 15.0**	**+3.6**
	baz=182,SNR=19								
254A	**Abbeville**	**21.24**	**5**	P		**P**		**17 33 15.1**	**+3.3**
	baz=186,SNR=11								
253A	**Americus**	**21.29**	**4**	P		**P**		**17 33 15.5**	**+3.1**
	baz=184								
253A	**Americus**	**21.29**	**4**	P		**P**		**17 33 15.5**	**+3.1**
255A	**Hazlehurst**	**21.31**	**7**	P		**P**		**17 33 16.1**	**+3.4**
	baz=188								
255A	**Hazlehurst**	**21.31**	**7**	P		**P**		**17 33 15.3**	**+2.7**
255A					IAmb	IAmb		17 33 17.8	
	comp=Z,103nm,1.0s								
HKT	**Hockley**	**21.37**	**335**	P		**P**		**17 33 14.4**	**+1.2**
256A	**Glennville**	**21.45**	**9**	P		**P**		**17 33 17.4**	**+3.4**
	baz=190,SNR=6.4								
257A	**Skidaway Islan**	**21.58**	**11**	P		**P**		**17 33 17.6**	**+2.1**
	baz=192								
833A	**Chaparral WMA,**	**21.76**	**326**	P		**P**		**17 33 17.9**	**+0.4**
	baz=141,SNR=26								
833A	**Chaparral WMA,**	**21.76**	**326**	P		**P**		**17 33 17.8**	**+0.3**
152A	**Waverly Hall**	**21.87**	**2**	P		**P**		**17 33 20.0**	**+1.5**
	baz=182,SNR=64								
152A	**Waverly Hall**	**21.87**	**2**	P		**P**		**17 33 19.5**	**+0.9**
VBMS	**Vicksburg**	**21.87**	**349**	P		**P**		**17 33 19.8**	**+1.2**
	baz=167,SNR=8.3								
VBMS	**Vicksburg**	**21.87**	**349**	P		**P**		**17 33 18.9**	**+0.3**
VBMS					IAmb	IAmb		17 33 23.1	
	comp=Z,121nm,0.8s								
153A	**Fort Valley**	**21.89**	**4**	P		**P**		**17 33 19.5**	**+0.7**
	baz=185								
154A	**Montrose**	**21.92**	**6**	P		**P**		**17 33 22.3**	**+3.1**
	baz=186,SNR=16								
154A	**Montrose**	**21.92**	**6**	P		**P**		**17 33 20.6**	**+1.4**
155A	**Kite**	**22.00**	**7**	P		**P**		**17 33 23.2**	**+3.3**
	baz=188,SNR=14								
156A	**Sylvania**	**22.17**	**9**	P		**P**		**17 33 24.4**	**+2.6**
	baz=191								
LRAL	**Lakeview Retre**	**22.25**	**357**	P		**P**		**17 33 24.6**	**+1.9**
	baz=176,SNR=38								
LRAL	**Lakeview Retre**	**22.25**	**357**	P		**P**		**17 33 24.3**	**+1.6**
LRAL					IAmb	IAmb		17 33 26.6	
	comp=Z,114nm,1.0s								
157A	**Early Branch**	**22.27**	**10**	P		**P**		**17 33 26.1**	**+3.1**
	baz=192,SNR=5.5								
Z52A	**Williamson**	**22.40**	**3**	P		**P**		**17 33 25.5**	**+1.2**
	baz=183,SNR=15								
Z50A	**Ashland**	**22.44**	**359**	P		**P**		**17 33 26.3**	**+1.6**
	baz=179,SNR=35								
Z50A	**Ashland**	**22.44**	**359**	P		**P**		**17 33 25.7**	**+1.0**
Z50A					IAmb	IAmb		17 33 28.3	
	comp=Z,137nm,1.1s								
Z51A	**Franklin**	**22.50**	**1**	P		**P**		**17 33 27.2**	**+1.8**
	baz=181,SNR=17								
Z53A	**Monticello**	**22.54**	**5**	P		**P**		**17 33 27.1**	**+1.3**
	baz=185,SNR=14								
NATX	**Nacogdoches**	**22.55**	**340**	P		**P**		**17 33 26.4**	**+0.5**
	baz=156,SNR=7.1								
NATX	**Nacogdoches**	**22.55**	**340**	P		**P**		**17 33 25.9**	**0.0**
NATX					IAmb	IAmb		17 33 28.9	
	comp=Z,74nm,0.8s								
Z54A	**Sparta**	**22.56**	**6**	P		**P**		**17 33 27.6**	**+1.5**
	baz=187,SNR=14								
Z55A	**Blythe**	**22.63**	**8**	P		**P**		**17 33 27.7**	**+0.9**
	baz=189								
GOGA	**Godfrey**	**22.68**	**5**	P		**P**		**17 33 28.3**	**+1.0**
	baz=185,SNR=16								
GOGA	**Godfrey**	**22.68**	**5**	P		**P**		**17 33 28.2**	**+0.9**
GOGA					IAmb	IAmb		17 33 30.4	
	comp=Z,220nm,1.6s								
Z56A	**Williston**	**22.84**	**9**	P		**P**		**17 33 28.8**	**-0.2**
	baz=191								
Z56A	**Williston**	**22.84**	**9**	P		**P**		**17 33 29.7**	**+0.8**
Z56A					IAmb	IAmb		17 33 33.0	
	comp=Z,87nm,1.0s								
NHSC	**New Hope**	**22.84**	**12**	P		**P**		**17 33 29.1**	**+0.1**
	baz=194								
435B	**Jarrell**	**22.85**	**333**	P		**P**		**17 33 29.3**	**+0.2**
	baz=148,SNR=8.2								
435B	**Jarrell**	**22.85**	**333**	P		**P**		**17 33 29.4**	**+0.4**
435B					IAmb	IAmb		17 33 33.1	
	comp=Z,108nm,0.8s								
Z57A	**Bowman**	**22.93**	**11**	P		**P**		**17 33 31.0**	**+1.2**
	baz=192,SNR=5.1								
Y49A	**Blount Mountai**	**23.05**	**358**	P		**P**		**17 33 31.0**	**0.0**
	baz=178,SNR=21								
Y49A	**Blount Mountai**	**23.05**	**358**	P		**P**		**17 33 31.6**	**+0.5**
Y49A					IAmb	IAmb		17 33 34.2	
	comp=Z,66nm,0.7s								
Y51A	**Rockmart**	**23.08**	**1**	P		**P**		**17 33 32.9**	**+1.5**
	baz=181,SNR=58								
Y52A	**Lilburn**	**23.09**	**3**	P		**P**		**17 33 32.8**	**+1.4**
	baz=184,SNR=24								
Y52A	**Lilburn**	**23.09**	**3**	P		**P**		**17 33 32.6**	**+1.1**
Y52A					IAmb	IAmb		17 33 34.2	
	comp=Z,123nm,1.1s								
Y53A	**Monroe**	**23.11**	**4**	P		**P**		**17 33 33.0**	**+1.3**
	baz=185,SNR=37								
Z58A	**St. Stephen**	**23.14**	**12**	P		**P**		**17 33 33.6**	**+1.7**
	baz=194,SNR=6.3								
Z59A	**Georgetown, SC**	**23.17**	**14**	P		**P**		**17 33 34.0**	**+1.8**
	baz=196								
Y54A	**Tignall**	**23.20**	**6**	P		**P**		**17 33 33.7**	**+1.2**
	baz=187,SNR=37								
Y56A	**Pelion**	**23.31**	**9**	P		**P**		**17 33 34.7**	**+1.1**
	baz=191								
Y55A	**Saluda**	**23.37**	**8**	P		**P**		**17 33 35.6**	**+1.4**
	baz=189,SNR=40								
Z41A	**Richland Creek**	**23.39**	**345**	P		**P**		**17 33 34.1**	**-0.2**
	baz=162,SNR=5.8								
Z41A	**Richland Creek**	**23.39**	**345**	P		**P**		**17 33 35.0**	**+0.7**
Z41A					IAmb	IAmb		17 33 36.5	
	comp=Z,70nm,0.8s								
HODGE	**Hodges**	**23.61**	**7**	P		**P**		**17 33 37.2**	**+0.9**
X48A	**Hartselle**	**23.66**	**357**	P		**P**		**17 33 37.0**	**+0.2**
	baz=176,SNR=22								
X48A	**Hartselle**	**23.66**	**357**	P		**P**		**17 33 37.2**	**+0.4**
X48A					IAmb	IAmb		17 33 39.1	
	comp=Z,75nm,1.0s								
JCT	**Junction City**	**23.68**	**328**	P		**P**		**17 33 37.1**	**+0.1**
	baz=143,SNR=33								
JCT	**Junction City**	**23.68**	**328**	P		**P**		**17 33 36.7**	**-0.3**
JCT					IAmb	IAmb		17 33 39.1	
	comp=Z,60nm,0.7s								
Y57A	**Sumter**	**23.69**	**11**	P		**P**		**17 33 38.4**	**+1.4**
	baz=193								
Y57A	**Sumter**	**23.69**	**11**	P		**P**		**17 33 37.8**	**+0.8**
Y57A					IAmb	IAmb		17 33 39.5	
	comp=Z,56nm,0.8s								
FPAL	**Fort Paine**	**23.72**	**0**	P		**P**		**17 33 37.8**	**+0.5**
FPAL					IAmb	IAmb		17 33 40.4	
	comp=Z,45nm,0.9s								
Y58A	**Scranton**	**23.72**	**12**	P		**P**		**17 33 38.5**	**+1.2**
	baz=194								
Y58A	**Scranton**	**23.72**	**12**	P		**P**		**17 33 38.3**	**+1.0**
Y58A					IAmb	IAmb		17 33 40.5	
	comp=Z,96nm,0.8s								
X51A	**Calhoun**	**23.75**	**2**	P		**P**		**17 33 38.8**	**+1.2**
	baz=182,SNR=23								
X51A	**Calhoun**	**

V51A Loudon 25.00 2 P P 17 33 50.3 +1.4
V51A IAmb IAmb 17 33 51.5
comp=Z,101nm,0.8s
TX31 Lajitas Ar. Si 25.04 320 P P 17 33 50.2 +0.7
TX31 PcP 17 37 24.5 +1.6
TX32 Lajitas Array 25.04 320 P P 17 33 50.2 +0.7
TX32 IAmb IAmb 17 33 54.0
comp=Z,51nm,0.8s
TX32 PcP 17 37 24.4 +1.4
TXAR Lajitas Array 25.04 320 P P 17 33 50.3 +0.8
comp=Z,47nm,0.7s,baz=139,slow=7.9,SNR=194
TXAR PcP PcP 17 37 24.6 +1.6
comp=Z,4.6nm,0.8s,baz=134,slow=5.4,SNR=7.8
TXAR ScP ScP 17 40 60.0 +3.4
comp=Z,3.8nm,0.9s,baz=141,slow=5.8,SNR=18
TXAR LR LR 17 44 06.6
comp=Z,53nm,21.8s,baz=0.0,slow=37
V52A Sevierville 25.09 4 P P 17 33 50.9 +1.2
baz=185,SNR=13
V52A Sevierville 25.09 4 P P 17 33 50.9 +1.2
V52A IAmb IAmb 17 33 52.1
comp=Z,44nm,0.8s
W41B Gary Mavity, V 25.09 347 P P 17 33 49.6 -0.1
baz=164,SNR=24
W41B Gary Mavity, V 25.09 347 P P 17 33 49.7 0.0
LPAR Lepanto 25.14 351 P P 17 33 49.7 -0.4
HBAR Harrisburg 25.15 350 P P 17 33 50.1 -0.2
HBAR IAmb IAmb 17 33 54.1
comp=Z,65nm,0.8s
V54A Nebo 25.18 7 P P 17 33 52.3 +1.8
baz=188,SNR=23
WHAR Wooly Hollow 25.21 347 P P 17 33 50.7 -0.1
WHAR IAmb IAmb 17 33 52.4
comp=Z,51nm,0.9s
W59A Clinton 25.21 14 P P 17 33 51.9 +1.1
baz=197
CLTN Cedars of Leba 25.27 359 P P 17 33 52.3 +0.9
CLTN IAmb IAmb 17 33 55.8
comp=Z,36nm,0.8s
W60A Pink Hill 25.28 15 P P 17 33 52.4 +0.9
baz=198
ABTX Abilene, Hawle 25.34 331 P P 17 33 54.1 +2.0
baz=146,SNR=30
ABTX Abilene, Hawle 25.34 331 P P 17 33 51.7 -0.4
ABTX IAmb IAmb 17 33 55.8
comp=Z,104nm,0.9s
V55A Taylorsville 25.35 8 P P 17 33 53.7 +1.7
baz=190,SNR=14
V55A Taylorsville 25.35 8 P P 17 33 53.2 +1.1
V55A IAmb IAmb 17 33 54.8
comp=Z,62nm,0.9s
X37A Clayton 25.38 341 P P 17 33 52.6 +0.2
X37A IAmb IAmb 17 33 55.0
comp=Z,36nm,0.8s
WVT Waverly 25.38 356 P P 17 33 52.4 0.0
baz=175
WVT Waverly 25.38 356 P P 17 33 51.9 -0.5
WVT IAmb IAmb 17 33 53.9
comp=Z,30nm,0.7s
V56A Mocksville 25.42 10 P P 17 33 53.8 +1.1
baz=192,SNR=9.4
W39A Magazine 25.48 344 P P 17 33 53.4 +0.2
baz=161,SNR=16
W39A Magazine 25.48 344 P P 17 33 53.5 +0.2
W39A IAmb IAmb 17 33 56.8
comp=Z,42nm,0.8s
LNXT Lenox 25.52 353 P P 17 33 54.1 +0.5
LNXT IAmb IAmb 17 33 55.0
comp=Z,62nm,0.6s
U51A La Follette 25.59 3 P P 17 33 55.4 +1.1
baz=184,SNR=8.9
U50A Jamestown 25.60 1 P P 17 33 55.6 +1.2
baz=182,SNR=34
V57A Coltrane Farms 25.62 11 P P 17 33 55.8 +1.2
baz=193,SNR=14
U52A Thorn Hill 25.65 4 P P 17 33 55.6 +0.8
baz=185,SNR=19
GLAT Glass 25.66 353 P P 17 33 55.0 +0.1
GLAT IAmb IAmb 17 34 51.6
comp=Z,66nm,0.8s
V58A Windy Hill, Pi 25.66 12 P P 17 33 56.2 +1.3
baz=195,SNR=18
V58A Windy Hill, Pi 25.66 12 P P 17 33 55.6 +0.7
U49A Red Boiling Sp 25.69 360 P P 17 33 55.9 +0.8
baz=180,SNR=24
U53A Fall Branch 25.69 6 P P 17 33 56.6 +1.4
baz=187,SNR=25
LCAR Lake Charles 25.74 350 P P 17 33 55.2 -0.4
LCAR IAmb IAmb 17 33 56.5
comp=Z,36nm,0.8s
FCAR Ozark Folk Cen 25.75 348 P P 17 33 55.6 -0.1
FCAR IAmb IAmb 17 33 59.1
comp=Z,44nm,0.7s
TZTN Tazewell 25.79 4 P P 17 33 57.1 +1.0
baz=185,SNR=8.1
TZTN Tazewell 25.79 4 P P 17 33 56.3 +0.2
TZTN IAmb IAmb 17 34 01.6
comp=Z,43nm,1.0s
V59A Middlesex 25.83 14 P P 17 33 57.4 +1.0
baz=197,SNR=9.2
HICK Hickman 25.92 353 P P 17 33 57.6 +0.4
HICK IAmb IAmb 17 33 59.0
comp=Z,72nm,0.9s
U54A Nelsons Funny 25.93 7 P P 17 33 58.6 +1.2
baz=188,SNR=13
U54A Nelsons Funny 25.93 7 P P 17 33 58.3 +1.0
U54A IAmb IAmb 17 33 60.0
comp=Z,98nm,1.1s
U56A King 25.96 10 P P 17 33 59.4 +1.7
baz=192,SNR=8.2
U56A King 25.96 10 P P 17 33 58.6 +1.0
U56A IAmb IAmb 17 34 00.5
comp=Z,46nm,0.8s
U55A TA2, Sparta 26.01 8 P P 17 33 59.3 +1.2
baz=190,SNR=11
V60A Jim Taylor Roa 26.07 16 P P 17 33 59.7 +1.1
baz=199
V60A Jim Taylor Roa 26.07 16 P P 17 33 59.6 +1.0
V60A IAmb IAmb 17 34 01.0
comp=Z,56nm,0.6s
HENM Henderson Moun 26.12 353 P P 17 33 59.2 +0.1
T51A Gray 26.18 3 P P 17 33 59.9 +0.2
baz=184,SNR=11
T47A Sharon Grove 26.19 357 P P 17 34 00.0 +0.3
baz=177,SNR=31
T47A Sharon Grove 26.19 357 P P 17 33 59.7 -0.1
T47A IAmb IAmb 17 34 01.6
comp=Z,77nm,0.8s
T50A Nancy 26.20 1 P P 17 33 59.1 -0.7
baz=182,SNR=11
U57A Blanch 26.23 12 P P 17 34 01.2 +1.1
baz=194,SNR=12
X34A Smith Ranch, M 26.26 337 P P 17 34 00.8 +0.4
X34A IAmb IAmb 17 34 02.7
comp=Z,42nm,0.9s
T49A Edmonton 26.28 0 P P 17 34 01.2 +0.7
baz=180,SNR=20
T49A Edmonton 26.28 0 P P 17 34 00.7 +0.2
T49A IAmb IAmb 17 34 02.3
comp=Z,40nm,0.8s
T53A Wise 26.30 6 P P 17 34 01.9 +1.1
baz=187,SNR=7.1
PBMO Poplar Bluff 26.31 351 P P 17 34 00.4 -0.4
U40A Yellville 26.35 347 P P 17 34 01.0 -0.2
baz=164,SNR=19
U40A Yellville 26.35 347 P P 17 34 01.2 0.0
U58A Oxford 26.36 13 P P 17 34 02.0 +0.8
baz=196
T52A Hallie 26.39 5 P P 17 34 02.6 +1.1
baz=186,SNR=5.9
T52A Hallie 26.39 5 P P 17 34 02.5 +1.1
T52A IAmb IAmb 17 34 03.7
comp=Z,64nm,1.3s
W35A Tecumseh 26.40 339 P P 17 34 01.6 0.0
T54A Tazewell 26.49 7 P P 17 34 03.6 +1.1
baz=189,SNR=21
U59A Littleton 26.50 14 P P 17 34 03.5 +1.1
baz=197
U59A Littleton 26.50 14 P P 17 34 03.7 +1.2
HHAR Hobbs 26.55 345 P P 17 34 02.1 -0.8
T55A Pulaski 26.65 9 P P 17 34 05.4 +1.5
baz=190,SNR=19
FNO Franklin 26.68 338 P P 17 34 04.2 +0.1
T56A Rocky Mt 26.68 10 P P 17 34 05.8 +1.7
baz=192,SNR=12
TUL1 Leonard 26.73 341 P P 17 34 04.6 +0.1
baz=157
TUL1 Leonard 26.73 341 P P 17 34 03.5 -1.0
TUL1 IAmb IAmb 17 34 05.7
comp=Z,37nm,0.9s
WMOK Wichita Mounta 26.76 335 P P 17 34 05.7 +0.8
baz=150,SNR=31
WMOK Wichita Mounta 26.76 335 P P 17 34 04.7 -0.2
T57A Hurt 26.80 11 P P 17 34 06.4 +1.3
baz=194,SNR=7.5
T57A Hurt 26.80 11 P P 17 34 05.9 +0.7
T57A IAmb IAmb 17 34 07.4
comp=Z,35nm,0.9s
BLA Blacksburg 26.80 9 P P 17 34 05.8 +0.5
baz=191,SNR=10.0
BLA Blacksburg 26.80 9 P P 17 34 06.0 +0.8
BLA IAmb IAmb 17 34 08.6
comp=Z,59nm,0.9s
S50A Richmond 26.87 2 P P 17 34 06.5 +0.7
baz=183,SNR=9.9
S51A Beattyville 26.87 4 P P 17 34 06.8 +1.0
baz=184,SNR=27
S51A Beattyville 26.87 4 P P 17 34 06.7 +0.8
T58A Grand View Acr 26.89 13 P P 17 34 07.0 +0.9
baz=195
S49A Springfield 26.96 1 P P 17 34 06.6 0.0
baz=181,SNR=18
LPIG La Paz 26.99 303 LR LR 17 45 22.9
comp=Z,112nm,21.2s,baz=84,slow=37
MGMO Mountain Grove 27.00 348 P P 17 34 06.5 -0.6
S44A Carbondale 27.06 354 P P 17 34 07.6 +0.1
baz=172,SNR=14
SIUC Southern Illin 27.08 354 P P 17 34 07.9 +0.2
SIUC IAmb IAmb 17 34 09.5
comp=Z,71nm,0.8s
T59A Double "B" Far 27.14 14 P P 17 34 09.6 +1.4
baz=197
T59A Double "B" Far 27.14 14 P P 17 34 08.5 +0.3
T59A IAmb IAmb 17 34 11.4
comp=Z,105nm,1.9s
USIN University of 27.20 356 P P 17 34 08.7 -0.1
USIN IAmb IAmb 17 34 10.0
comp=Z,68nm,0.8s
S54A Dingess, Beckl 27.25 7 P P 17 34 10.0 +0.7
baz=189,SNR=6.6
S54A Dingess, Beckl 27.25 7 P P 17 34 09.9 +0.7
S54A IAmb IAmb 17 34 11.5
comp=Z,65nm,1.1s
CLNB Carlsbad 27.27 325 P P 17 34 10.1 +0.5
S55A Lewisburg 27.34 9 P P 17 34 11.0 +1.0
baz=191,SNR=15
S56A Natural Bridge 27.40 10 P P 17 34 11.4 +0.8
baz=193
WCI Wyandotte Cave 27.41 359 P P 17 34 10.8 +0.2
baz=178
WCI Wyandotte Cave 27.41 359 P P 17 34 10.4 -0.2
R49A Shelbyville 27.46 1 P P 17 34 11.4 +0.2
baz=181,SNR=30
R49A Shelbyville 27.46 1 P P 17 34 11.4 +0.2
R50A Paris 27.48 2 P P 17 34 11.9 +0.7
baz=183,SNR=18
R50A Paris 27.48 2 P P 17 34 11.9 +0.7
R50A IAmb IAmb 17 34 13.1
comp=Z,56nm,0.7s
GDL2 Guadalupe Moun 27.50 324 P P 17 34 12.3 +0.6
T60A Surry 27.51 16 P P 17 34 12.1 +0.6
baz=199
R51A Hillsboro 27.53 3 P P 17 34 12.8 +1.1
baz=184,SNR=34
S57A Dark Hollow, R 27.59 11 P P 17 34 13.3 +1.0
baz=184,SNR=5.0
S57A Dark Hollow, R 27.59 11 P P 17 34 13.1 +0.8
R52A Catlettsburg 27.64 5 P P 17 34 12.9 +0.3
baz=186,SNR=5.1
S58A Poland Farm, P 27.64 13 P P 17 34 13.7 +1.1
baz=196,SNR=5.8
S58A Poland Farm, P 27.64 13 P P 17 34 13.6 +0.9
S58A IAmb IAmb 17 34 14.8
comp=Z,29nm,0.7s
R54A Victor 27.67 8 P P 17 34 13.6 +0.7
baz=190,SNR=11
CCM Cathedral Cave 27.69 350 P P 17 34 13.3 +0.2
baz=168
CCM Cathedral Cave 27.69 350 P P 17 34 12.9 -0.3
CCM IAmb IAmb 17 34 14.5
comp=Z,37nm,0.8s
R53A Hurricane 27.70 6 P P 17 34 14.1 +0.9
baz=188,SNR=8.2
R53A Hurricane 27.70 6 P P 17 34 13.8 +0.6
R53A IAmb IAmb 17 34 15.2
comp=Z,61nm,0.9s
MNTX Cornudas Mount 27.75 322 P P 17 34 13.8 0.0
baz=134,SNR=26
MNTX Cornudas Mount 27.75 322 P P 17 34 14.0 +0.2
R55A Marlinton 27.89 9 P P 17 34 16.4 +1.3
baz=192,SNR=11
R55A Marlinton 27.89 9 P P 17 34 16.5 +1.4
R55A IAmb IAmb 17 34 17.8
comp=Z,52nm,0.8s
S59A Mechanicsville 27.96 14 P P 17 34 15.8 +0.3
baz=198
MSTX Muleshoe 27.97 329 P P 17 34 15.5 -0.3
baz=142,SNR=12
MSTX Muleshoe 27.97 329 P P 17 34 15.2 -0.6
OLIL Olney 27.99 356 P P 17 34 15.8 0.0
R58B Mineral 28.01 13 P P 17 34 17.7 +1.7
baz=196
R58B Mineral 28.01 13 P P 17 34 17.5 +1.5
R58B IAmb IAmb 17 34 18.8
comp=Z,75nm,1.7s
Q50A Georgetown 28.05 3 P P 17 34 16.7 +0.3
baz=183,SNR=8.3
S60A Water View 28.06 15 P P 17 34 18.0 +1.5
baz=199
Q48A North Vernon 28.10 360 P P 17 34 16.7 -0.1
baz=180,SNR=17
R56A Bull Pasture M 28.14 10 P P 17 34 18.6 +1.4
baz=193,SNR=7.6
AMTX Amarillo 28.16 331 P P 17 34 17.2 -0.3
Q49A Aurora 28.18 1 P P 17 34 17.7 +0.2
baz=181,SNR=16
R57A Standardsville 28.20 12 P P 17 34 19.1 +1.4
baz=195,SNR=8.0
Q53A Leroy 28.27 7 P P 17 34 19.3 +1.0
baz=188,SNR=17
Q51A Peebles 28.27 4 P P 17 34 19.2 +0.9
baz=185,SNR=62
Q51A Peebles 28.27 4 P P 17 34 18.6 +0.2
Q52A Bidwell 28.29 6 P P 17 34 19.6 +1.1
baz=187,SNR=19
R58A Rapidan 28.31 13 P P 17 34 19.9 +1.3
baz=196,SNR=5.1
BLO Bloomington 28.35 359 P P 17 34 18.8 -0.2
CBN Corbin Frederi 28.36 14 P P 17 34 20.6 +1.5
baz=197
CBN Corbin Frederi 28.36 14 P P 17 34 18.9 -0.1
CBN IAmb IAmb 17 34 21.7
comp=Z,48nm,0.7s
R59A King George, V 28.42 14 P P 17 34 20.9 +1.4
baz=198
Q54A Coxs Mills 28.48 8 P P 17 34 21.0 +0.9
baz=190,SNR=25
Q54A Coxs Mills 28.48 8 P P 17 34 20.8 +0.6
Q55A Buckhannon 28.60 9 P P 17 34 23.1 +1.8
baz=191,SNR=14
R60A Leonardtown, M 28.61 15 P P 17 34 22.9 +1.6
baz=199
P48A Milroy 28.63 0 P P 17 34 21.3 -0.2
baz=180,SNR=26
P48A Milroy 28.63 0 P P 17 34 21.1 -0.4
P49A Miami Univ. Ec 28.71 1 P P 17 34 21.9 -0.4
baz=182,SNR=13
P51A Williamsport 28.74 4 P P 17 34 22.7 +0.2
baz=185,SNR=13
P51A Williamsport 28.74 4 P P 17 34 22.9 +0.4
P51A IAmb IAmb 17 34 24.1
comp=Z,70nm,0.8s
Q56A Snyder Ridge, 28.79 10 P P 17 34 24.7 +1.8
baz=193,SNR=16
Q56A Snyder Ridge, 28.79 10 P P 17 34 23.8 +0.8
Q56A IAmb IAmb 17 34 26.1
comp=Z,71nm,0.9s
P46A Rosedale 28.82 357 P P 17 34 23.0 -0.2
baz=177,SNR=21
P50A Jamestown 28.82 3 P P 17 34 23.3 0.0
baz=184,SNR=6.2
P53A Whipple 28.82 3 P P 17 34 25.3 +1.3
baz=188,SNR=20
P53A Whipple 28.90 7 P P 17 34 25.0 +1.0
Q57A Strasburg 28.93 12 P P 17 34 25.7 +1.5
baz=195
P52A Corning 28.97 6 P P 17 34 25.1 +0.6
baz=187,SNR=26
Q58A Fox Den Farm, 28.99 13 P P 17 34 25.9 +1.2
baz=196,SNR=5.9
R61A Willards 29.01 17 P P 17 34 26.5 +1.7
baz=201
P43A Skaggs, Pawnee 29.02 354 P P 17 34 25.2 +0.3
P43A IAmb IAmb 17 34 26.1
comp=Z,33nm,0.8s
P54A Burton 29.13 8 P P 17 34 26.7 +0.7
baz=190,SNR=6.8
P55A Reedsville 29.14 9 P P 17 34 27.1 +1.1
baz=192,SNR=13
Q59A Harwood 29.16 14 P P 17 34 27.3 +1.1
baz=198
MCWV Mont Chateau 29.28 9 P P 17 34 28.6 +1.3
baz=192,SNR=10
MCWV Mont Chateau 29.28 9 P P 17 34 27.9 +0.6
MCWV IAmb IAmb 17 34 29.7
comp=Z,32nm,0.8s
P56A Dayton Farm, R 29.30 11 P P 17 34 29.1 +1.6
baz=194,SNR=11
O50A Cable 29.37 3 P P 17 34 28.6 +0.6
baz=184,SNR=23
O49A Covington 29.38 2 P P 17 34 28.0 -0.1
baz=182,SNR=8.8
O49A Covington 29.38 2 P P 17 34 28.0 -0.1
O49A IAmb IAmb 17 34 29.3
comp=Z,46nm,0.8s
O44A Mansfield 29.43 356 P P 17 34 28.3 -0.3
O48A Farmland 29.43 1 P P 17 34 28.4 -0.1
baz=181,SNR=19
O51A Pataskala 29.44 5 P P 17 34 28.8 +0.1
baz=186,SNR=18
P57A Homestead Farm 29.44 12 P P 17 34 30.6 +1.8
baz=195,SNR=16
P57A Homestead Farm 29.44 12 P P 17 34 30.5 +1.8
P57A IAmb IAmb 17 34 31.8
comp=Z,60nm,0.9s
O52A Adamsville 29.48 6 P P 17 34 29.7 +0.7
baz=188,SNR=18
O52A Adamsville 29.48 6 P P 17 34 29.8 +0.8
ACSO Alum Creek Sta 29.49 4 P P 17 34 29.8 +0.6
baz=185,SNR=19
ACSO Alum Creek Sta 29.49 4 P P 17 34 29.4 +0.2
Q60A Greensboro 29.50 16 P P 17 34 30.6 +1.5
baz=200
SFIN Lafayette 29.57 358 P P 17 34 29.1 -0.7
baz=177,SNR=14
SFIN Lafayette 29.57 358 P P 17 34 29.5 -0.3
P58A Pank, Wackersv 29.60 13 P P 17 34 31.7 +1.6
baz=197,SNR=7.5
SDMD Soldier's Deli 29.63 14 P P 17 34 31.3 +0.9
SAML Samuel 29.67 130 P P 17 34 31.4 +0.3
O53A New Philadelph 29.68 7 P P 17 34 31.4 +0.6
baz=189,SNR=21
O54A Avella 29.72 8 P P 17 34 31.9 +0.7
baz=190
O54A Avella 29.72 8 P P 17 34 31.7 +0.6
O54A IAmb IAmb 17 34 32.9
comp=Z,22nm,0.8s
121A Cookes Peak, D 29.80 320 P P 17 34 34.1 +1.9
baz=132,SNR=12
121A Cookes Peak, D 29.80 320 P P 17 34 33.6 +1.4
HDIL Hopedale 29.90 354 P P 17 34 32.6 -0.2
baz=173,SNR=8.1
HDIL Hopedale 29.90 354 P P 17 34 32.5 -0.3
O55A Ligonier 29.91 10 P P 17 34 33.8 +0.9
baz=192,SNR=10.0
KSU1 Kansas State U 29.92 343 P P 17 34 32.4 -0.5
baz=158,SNR=5.8
P59A Jarrettsville 29.92 14 P P 17 34 34.2 +1.3
baz=198
N50A Nevada 30.02 4 P P 17 34 33.9 +0.1
baz=185,SNR=9.3
N48A Decatur 30.03 1 P P 17 34 33.4 -0.5
baz=181,SNR=14
319A Douglas 30.04 317 P P 17 34 35.5 +1.2
319A IAmb IAmb 17 35 42.0
comp=Z,37nm,0.8s
N47A Urbana 30.05 360 P P 17 34 34.1 0.0
baz=180
N47A Urbana 30.05 360 P P 17 34 33.4 -0.6
N47A IAmb IAmb 17 34 35.8
comp=Z,45nm,1.2s
O56A Blue Knob Stat 30.09 11 P P 17 34 35.9 +1.4
baz=194,SNR=7.3
O56A Blue Knob Stat 30.09 11 P P 17 34 35.5 +0.9
O56A IAmb IAmb 17 34 37.2
comp=Z,30nm,0.9s
N49A Columbus Grove 30.12 2 P P 17 34 34.8 +0.1
baz=183,SNR=18
N49A Columbus Grove 30.12 2 P P 17 34 34.7 0.0
BNM Barren Site 30.22 324 P P 17 34 37.0 +1.0
O57A Amberson 30.22 12 P P 17 34 36.6 +1.0
baz=196,SNR=9.7
N51A Ashland 30.22 5 P P 17 34 36.2 +0.6
baz=186
N51A Ashland 30.22 5 P P 17 34 35.7 +0.1
N51A IAmb IAmb 17 34 36.9
comp=Z,38nm,0.8s
N41A Harden Midland 30.23 352 P P 17 34 35.0 -0.7
N41A IAmb IAmb 17 34 36.1
comp=Z,60nm,0.9s
O58A Lewisberry 30.29 13 P P 17 34 37.8 +1.5
baz=197,SNR=12
MVL Millersville 30.31 14 P P 17 34 37.3 +0.9
MVL IAmb IAmb 17 34 39.2
comp=Z,32nm,1.0s
P60A Greenville 30.31 15 P P 17 34 37.5 +1.1
baz=200
P60A Greenville 30.31 15 P P 17 34 37.3 +0.9
Y22D IRIS PASSCAL I 30.33 323 P P 17 34 38.8 +1.9
Y22D IAmb IAmb 17 34 42.3
comp=Z,42nm,0.7s
LPM Los Pinos Moun 30.33 324 P P 17 34 38.1 +1.2
LENM Lemitar 30.43 323 P P 17 34 39.1 +1.4
LENM PP 17 35 45.0 -2.4
PAGS Pennsylvania G 30.44 14 P P 17 34 38.7 +1.2
PSUB Penn St. - Bra 30.47 16 P P 17 34 38.5 +0.8
N55A Marion Center 30.52 10 P P 17 34 39.2 +0.9
baz=193
M47A Cromwell 30.53 0 P P 17 34 37.5 -0.8
baz=180,SNR=5.9
N54A Moraine State 30.54 8 P P 17 34 39.0 +0.6
baz=191
SSPA Standing Stone 30.58 12 P P 17 34 39.9 +1.1
baz=195
SSPA Standing Stone 30.58 12 P P 17 34 39.7 +1.0
SSPA IAmb IAmb 17 34 41.1
comp=Z,51nm,0.8s
O59A Robesonia 30.64 14 P P 17 34 40.9 +1.5
baz=198,SNR=11
M51A Elyria 30.65 5 P P 17 34 39.9 +0.5
baz=186
M50A Fremont 30.66 4 P P 17 34 39.0 -0.3
baz=185,SNR=5.5
M50A Fremont 30.66 4 P P 17 34 39.5 +0.1
M48A Edgerton 30.66 1 P P 17 34 38.8 -0.6
baz=182,SNR=8.1
M48A Edgerton 30.66 1 P P 17 34 39.1 -0.4
M49A Liberty Center 30.68 2 P P 17 34 39.7 +0.1
baz=183,SNR=5.7
CBKS Cedar Bluff 30.69 338 P P 17 34 40.8 +1.0
baz=152
CBKS Cedar Bluff 30.69 338 P P 17 34 40.9 +1.0
ANMO Albuquerque 30.69 325 P P 17 34 40.9 +0.8
baz=137
ANMO Albuquerque 30.69 325 P P 17 34 41.3 +1.2
comp=Z,13nm,1.0s,baz=145,slow=10,SNR=16
ANMO LR LR 17 48 53.8
comp=Z,63nm,20.9s,baz=136,slow=40
ANMO Albuquerque 30.69 325 P P 17 34 41.3 +1.2
N57A Milroy 30.76 12 P P 17 34 41.2 +0.8
baz=196,SNR=6.7
N56A West Decatur 30.77 11 P P 17 34 41.8 +1.3
baz=194,SNR=13
O60A Telford 30.85 15 P P 17 34 42.2 +1.1
baz=200
M53A WI Miller and 30.91 7 P P 17 34 42.4 +0.7
baz=189,SNR=14
M52A Chesterland 30.94 6 P P 17 34 42.1 +0.2
baz=188

M52A Chesterland 30.94 6 P P 17 34 41.3 -0.6
M52A IAmb IAmb 17 34 43.2
comp=Z,43nm,0.9s
N58A Sunbury 31.02 13 P P 17 34 44.1 +1.5
baz=197,SNR=12
N58A Sunbury 31.02 13 P P 17 34 43.3 +0.7
N58A IAmb IAmb 17 34 45.1
comp=Z,59nm,0.9s
M54A Oil Creek Stat 31.12 9 P P 17 34 44.1 +0.5
baz=191
M54A Oil Creek Stat 31.12 9 P P 17 34 44.2 +0.7
M54A IAmb IAmb 17 34 46.1
comp=Z,30nm,1.0s
L48A N Adams 31.13 2 P P 17 34 42.9 -0.7
baz=182,SNR=5.5
L47A Sherwood 31.14 1 P P 17 34 42.9 -0.8
baz=181,SNR=5.9
L46A Eue Claire 31.18 359 P P 17 34 43.2 -0.9
baz=179
L46A Eue Claire 31.18 359 P P 17 34 42.9 -1.2
ALLY Alegheny Colle 31.19 8 P P 17 34 43.7 -0.5
M55A Ridgway 31.23 10 P P 17 34 45.2 +0.7
baz=193,SNR=15
M55A Ridgway 31.23 10 P P 17 34 45.2 +0.7
T25A Trinidad 31.29 330 P P 17 34 46.0 +0.7
baz=142
T25A Trinidad 31.29 330 P P 17 34 46.1 +0.7
L50A Kingsville 31.31 4 P P 17 34 44.9 -0.3
baz=185
L49A Milan 31.32 3 P P 17 34 45.3 +0.1
baz=183
N59A State Game Lan 31.32 14 P P 17 34 46.5 +1.2
baz=199,SNR=13
N59A State Game Lan 31.32 14 P P 17 34 46.7 +1.4
N59A IAmb IAmb 17 34 48.0
comp=Z,53nm,1.1s
M56A Emporium 31.34 11 P P 17 34 46.3 +0.8
baz=194,SNR=26
M56A Emporium 31.34 11 P P 17 34 46.0 +0.5
L42A Oliver, Polo 31.37 354 P P 17 34 45.0 -0.7
L44A Lake County Fo 31.41 357 P P 17 34 45.2 -0.8
baz=176
L44A Lake County Fo 31.41 357 P P 17 34 45.2 -0.8
M57A Sunshine Farm, 31.41 12 P P 17 34 47.3 +1.2
baz=196,SNR=20
M57A Sunshine Farm, 31.41 12 P P 17 34 46.9 +0.8
BRNJ Basking Ridge 31.41 16 P P 17 34 47.0 +0.9
N60A Cedar Hill Far 31.44 15 P P 17 34 47.8 +1.5
baz=200
L53A Girard 31.48 8 P P 17 34 46.8 +0.2
baz=190,SNR=9.9
N61A South Mountain 31.55 17 P P 17 34 48.7 +1.4
baz=202
M58A Price's Panora 31.59 13 P P 17 34 48.8 +1.2
baz=197,SNR=9.0
L40A Anamosa 31.61 352 P P 17 34 47.6 -0.2
TUC Tucson 31.62 317 P P 17 34 49.4 +1.3
baz=127
TUC Tucson 31.62 317 P P 17 34 49.5 +1.4
TUC IAmb IAmb 17 35 20.5
comp=Z,23nm,0.6s
ERPA Erie 31.67 8 P P 17 34 48.6 +0.2
baz=190,SNR=5.6
ERPA Erie 31.67 8 P P 17 34 48.7 +0.3
ODNJ Ogdensburg 31.77 16 P P 17 34 49.6 +0.3
ODNJ IAmb IAmb 17 34 53.6
comp=Z,67nm,1.7s
SCIA State Center 31.78 349 P P 17 34 49.0 -0.3
baz=166
SCIA State Center 31.78 349 P P 17 34 48.1 -1.2
SCIA IAmb IAmb 17 34 50.7
comp=Z,44nm,0.9s
K47A Vermontville 31.84 1 P P 17 34 48.8 -1.0
baz=181,SNR=7.9
K46A Dorr 31.85 360 P P 17 34 48.5 -1.4
baz=180
L54A Sinclairville 31.88 9 P P 17 34 51.4 +1.2
baz=192
PAL Palisades 31.90 17 P P 17 34 51.5 +1.2
baz=202
PAL Palisades 31.90 17 P P 17 34 50.4 +0.1
PAL IAmb IAmb 17 34 52.7
comp=Z,50nm,1.2s
LPAZ La Paz 31.93 147 P P 17 34 53.6 +2.0
comp=Z,0.6nm,0.6s,baz=28,slow=1.5,SNR=2.9
LPAZ pP pP 17 35 08.1 +0.6
comp=Z,1.4nm,0.6s,baz=275,slow=9.1,SNR=5.9
LPAZ LR LR 17 48 20.1
comp=Z,142nm,19.9s,baz=325,slow=37
LPAZ La Paz 31.93 147 P P 17 34 50.9 -0.7
L55A Hinsdale 31.98 10 P P 17 34 51.6 +0.5
baz=193,SNR=7.1
M59A Waymart 31.99 15 P P 17 34 52.0 +0.8
baz=199,SNR=12
K48A Perry 32.00 2 P P 17 34 50.3 -0.9
baz=183,SNR=5.9
M60A Port Jervis 32.00 16 P P 17 34 52.0 +0.8
baz=201,SNR=5.6
KSCO Kaye Shedlock' 32.00 335 P P 17 34 51.6 +0.2
baz=147
KSCO Kaye Shedlock' 32.00 335 P P 17 34 52.0 +0.5
KSCO IAmb IAmb 17 34 55.7
comp=Z,21nm,0.9s
K49A Clarkson 32.01 3 P P 17 34 50.8 -0.4
baz=184
K50A Casco 32.05 4 P P 17 34 51.2 -0.5
baz=186
K50A Casco 32.05 4 P P 17 34 50.8 -0.8
K51A Iona Station 32.09 6 P P 17 34 52.2 +0.2
baz=188
L56A Greenwood 32.09 11 P P 17 34 52.4 +0.3
baz=195,SNR=8.6
L56A Greenwood 32.09 11 P P 17 34 52.6 +0.5
L57A Andrews Acres 32.10 12 P P 17 34 52.6 +0.4
baz=196,SNR=11
WVNY West Valley, N 32.16 10 P P 17 34 53.5 +0.8
WVNY IAmb IAmb 17 34 54.5
comp=Z,43nm,0.9s
M61A Granite Spring 32.22 17 P P 17 34 53.2 0.0
baz=202
K52A Tillsonburg 32.23 7 P P 17 34 53.3 +0.1
baz=189
SDCO Great Sand Dun 32.30 330 P P 17 34 54.9 +0.7
baz=141,SNR=18
SDCO Great Sand Dun 32.30 330 P P 17 34 55.1 +0.8
JFWS Jewell Farm 32.33 354 P P 17 34 53.4 -0.7
baz=171,SNR=6.4
JFWS Jewell Farm 32.33 354 P P 17 34 53.9 -0.3
K54A Basiliko Farm, 32.35 10 P P 17 34 54.6 +0.3
baz=193
L58A Harry Jones Me 32.37 14 P P 17 34 54.9 +0.4
baz=198,SNR=11
J47A Sunmer 32.41 1 P P 17 34 54.0 -0.8
baz=181
J47A Sunmer 32.41 1 P P 17 34 53.6 -1.2
J47A IAmb IAmb 17 34 55.3
comp=Z,34nm,0.7s
YLE Yale 32.47 18 P P 17 34 55.8 +0.5
YLE IAmb IAmb 17 34 58.8
comp=Z,47nm,1.0s
X18A Snowflake 32.48 321 P P 17 34 58.0 +2.3
BINY Binghamton 32.48 13 P P 17 34 55.7 +0.2
baz=198,SNR=16
BINY Binghamton 32.48 13 P P 17 34 56.3 +0.8
BGNE Belgrade 32.50 342 P P 17 34 55.7 0.0
baz=157
BGNE Belgrade 32.50 342 P P 17 34 55.5 -0.2
BGNE IAmb IAmb 17 36 07.3
comp=Z,42nm,0.8s
J48A Bridge Port 32.50 3 P P 17 34 55.2 -0.4
baz=183
J48A Bridge Port 32.50 3 P P 17 34 55.2 -0.4
J48A IAmb IAmb 17 34 56.3
comp=Z,25nm,0.7s
J46A Howard City 32.51 360 P P 17 34 55.0 -0.8
baz=180
K55A Perry 32.57 10 P P 17 34 56.8 +0.5
baz=194,SNR=10.0
J49A Marlette 32.60 3 P P 17 34 56.0 -0.5
baz=184
M62A Hamden 32.60 18 P P 17 34 56.9 +0.5
baz=204
MMNY Mt. Morris Dam 32.60 11 P P 17 34 57.4 +0.9
K56A Middlesex 32.68 11 P P 17 34 57.8 +0.6
baz=195,SNR=6.7
KSCT Kent School, K 32.68 17 P P 17 34 58.0 +0.7
KSCT IAmb IAmb 17 35 47.8
comp=Z,75nm,1.8s
L59A Walton 32.70 15 P P 17 34 58.4 +0.9
baz=199,SNR=7.9
L59A Walton 32.70 15 P P 17 34 58.2 +0.8
J52A Paris 32.72 7 P P 17 34 57.6 +0.1
baz=189,SNR=5.1
L60A Shokan 32.72 16 P P 17 34 58.9 +1.4
baz=201
W18A Petrified Fore 32.73 322 P P 17 34 59.8 +1.8
baz=132,SNR=9.3
W18A Petrified Fore 32.73 322 P P 17 34 59.7 +1.8
W18A IAmb IAmb 17 35 01.2
comp=Z,43nm,0.8s
214A Organ Pipe Nat 32.81 314 P P 17 35 00.1 +1.6
baz=124
214A Organ Pipe Nat 32.81 314 P P 17 35 00.3 +1.7
M63A Gales Ferry 32.83 19 P P 17 35 00.0 +1.6
baz=205
K57A Scipio Center 32.88 12 P P 17 34 59.4 +0.5
baz=196,SNR=5.7
MEDO Medina 32.93 10 P P 17 34 59.5 +0.2
MEDO IAmb IAmb 17 35 00.9
comp=Z,65nm,1.3s
S22A 4UR Ranch, Cre 32.97 328 P P 17 35 01.1 +0.9
baz=139,SNR=8.2
S22A 4UR Ranch, Cre 32.97 328 P P 17 35 00.6 +0.5
J54A Appleton 33.00 9 P P 17 35 00.9 +0.9
baz=193
Q24A Divide 33.09 332 P P 17 35 00.7 -0.5
L61A Hillsdale 1, H 33.10 17 P P 17 35 01.7 +0.9
baz=202
K58A Earlville 33.10 14 P P 17 35 01.5 +0.7
baz=198,SNR=6.8
K58A Earlville 33.10 14 P P 17 35 01.6 +0.7
I46A Reed City 33.11 0 P P 17 35 00.3 -0.6
baz=180
J55A Hilton 33.14 10 P P 17 35 01.4 +0.3
baz=194
J55A Hilton 33.14 10 P P 17 35 00.4 -0.8
J55A IAmb IAmb 17 35 02.0
comp=Z,27nm,0.7s
I42A Draeger Farm, 33.18 356 P P 17 35 01.0 -0.5
I42A IAmb IAmb 17 35 02.0
comp=Z,63nm,1.2s
I47A Gladwin 33.20 1 P P 17 35 00.7 -1.0
baz=182
I47A Gladwin 33.20 1 P P 17 35 00.8 -0.9
I51A Listowel 33.21 6 P P 17 35 01.5 -0.3
baz=188,SNR=6.8
K59A Cooperstown 33.30 15 P P 17 35 03.4 +0.8
baz=199,SNR=13
J56A Wolcott 33.33 12 P P 17 35 03.3 +0.5
baz=196
J56A Wolcott 33.33 12 P P 17 35 03.2 +0.4
I40A Norwalk 33.34 353 P P 17 35 01.7 -1.2
I40A IAmb IAmb 17 35 03.3
comp=Z,25nm,0.6s
M66A Nantucket 33.35 21 P P 17 35 03.7 +0.7
baz=208
X16A Lo Mia Camp, P 33.35 319 P P 17 35 05.0 +1.6
X16A IAmb IAmb 17 35 06.5
comp=Z,22nm,0.8s
L63A North Scituate 33.38 19 P P 17 35 03.6 +0.3
baz=206
K60A Five Rivers En 33.40 16 P P 17 35 04.0 +0.6
baz=201
I53A Kortright Cn E 33.40 8 P P 17 35 03.9 +0.5
baz=191
OGNE Ogallala 33.41 337 P P 17 35 04.2 +0.5
baz=150
OGNE Ogallala 33.41 337 P P 17 35 04.2 +0.5
OGNE IAmb IAmb 17 35 06.1
comp=Z,15nm,0.5s
MVCO Mesa Verde 33.47 326 P P 17 35 05.0 +0.6
baz=136,SNR=7.4
MVCO Mesa Verde 33.47 326 P P 17 35 05.5 +1.1
MVCO IAmb IAmb 17 35 06.8
comp=Z,38nm,1.4s
QUA2 Belchertown 33.52 18 P P 17 35 05.4 +0.9
QUA2 IAmb IAmb 17 35 42.1
comp=Z,72nm,1.6s
TRY Troy 33.56 16 P P 17 35 06.1 +1.3
I52A Shelburne 33.57 7 P P 17 35 05.3 +0.3
baz=190
L61B Northampton 33.58 17 P P 17 35 05.6 +0.6
baz=203,SNR=5.5
MNMC Minye Minye 33.61 152 P P 17 35 09.0 +3.2
MNMC IAmb IAmb 17 35 27.4
comp=Z,18nm,0.8s
K61A Williamstown 33.62 17 P P 17 35 06.7 +1.3
baz=202
J57A Williamstown 33.63 13 P P 17 35 05.6 +0.1
baz=197,SNR=6.5
J57A Williamstown 33.63 13 P P 17 35 06.0 +0.5
H43A Windswept, Lux 33.69 357 P P 17 35 05.5 -0.4
H46A Fife Lake 33.71 1 P P 17 35 04.9 -1.2
baz=181,SNR=5.5
J58A Remsen 33.75 14 P P 17 35 07.2 +0.7
baz=198,SNR=16
J58A Remsen 33.75 14 P P 17 35 07.1 +0.6
K62A Royalston 33.91 18 P P 17 35 09.1 +1.1
baz=204
K62A Royalston 33.91 18 P P 17 35 08.5 +0.6
K62A IAmb IAmb 17 35 10.3
comp=Z,56nm,1.4s
H48A Harrisville 33.92 3 P P 17 35 07.4 -0.6
baz=184
H48A Harrisville 33.92 3 P P 17 35 07.3 -0.6
PECO Prince Edward 33.93 11 P P 17 35 08.5 +0.4
113A Mohawk Valley, 33.94 315 P P 17 35 09.3 +1.1
BCX Boston College 33.95 19 P P 17 35 07.8 -0.4
ISCO Idaho Springs 33.97 332 P P 17 35 09.5 +0.7
baz=143
ISCO Idaho Springs 33.97 332 P P 17 35 09.2 +0.3
GLMI Grayling 34.00 1 P P 17 35 08.4 -0.3
baz=182
GLMI Grayling 34.00 1 P P 17 35 07.8 -0.9
WUAZ Wupatki 34.01 321 P P 17 35 10.5 +1.5
baz=130,SNR=19
WUAZ Wupatki 34.01 321 P P 17 35 10.7 +1.6
WUAZ IAmb IAmb 17 35 12.2
comp=Z,38nm,1.1s
J59A Piesco 34.03 15 P P 17 35 09.1 +0.1
baz=200,SNR=5.4
J59A Piesco 34.03 15 P P 17 35 09.3 +0.3
J59A IAmb IAmb 17 35 10.6
comp=Z,26nm,0.9s
I55A Frankford 34.08 10 P P 17 35 09.1 -0.3
baz=194,SNR=5.6
Y14A Wickenburg 34.08 317 P P 17 35 11.1 +1.5
J60A Lant Hill Farm 34.11 16 P P 17 35 10.8 +1.2
baz=202
I58A Old Forge 34.13 14 P P 17 35 10.3 +0.5
baz=199,SNR=5.3
K63A Dunstable 34.15 19 P P 17 35 09.6 -0.4
baz=205
H52A Wyevale 34.17 7 P P 17 35 10.1 0.0
baz=190
G45A Suttons Bay 34.20 360 P P 17 35 09.4 -1.1
baz=180
G45A Suttons Bay 34.20 360 P P 17 35 09.3 -1.1
I57A Carthage 34.21 13 P P 17 35 10.6 +0.1
baz=198,SNR=5.9
ECSD EROS Data Cent 34.25 346 P P 17 35 09.9 -0.9
baz=160,SNR=14
ECSD EROS Data Cent 34.25 346 P P 17 35 09.5 -1.4
ECSD IAmb IAmb 17 35 10.9
comp=Z,18nm,0.7s
GO01 Chusmiza 34.26 152 P P 17 35 15.1 +3.4
H53A Bobcaygeon 34.28 9 P P 17 35 10.8 -0.3
baz=192,SNR=11
PV02 Paradox Valley 34.32 327 P P 17 35 12.5 +0.7
PV02 IAmb IAmb 17 35 15.1
comp=Z,37nm,1.7s
PV13 Radium Mtn., P 34.33 327 P P 17 35 12.6 +0.7
G47A Hillman 34.37 2 P P 17 35 11.1 -0.7
baz=183
DELO Deloro Mine 34.38 10 P P 17 35 12.1 +0.1
DELO IAmb IAmb 17 35 13.8
comp=Z,17nm,0.8s
PV03 Paradox Valley 34.42 327 P P 17 35 13.3 +0.7
PV03 IAmb IAmb 17 35 14.8
comp=Z,15nm,0.7s
PV05 Paradox Valley 34.42 326 P P 17 35 13.4 +0.7
PV05 IAmb IAmb 17 35 14.6
comp=Z,13nm,0.7s
PV12 Saucer Basin, 34.44 327 P P 17 35 13.8 +1.0
PV12 IAmb IAmb 17 35 15.2
comp=Z,25nm,0.8s
PV07 Paradox Valley 34.44 327 P P 17 35 14.2 +1.4
PV07 IAmb IAmb 17 35 15.3
comp=Z,23nm,1.3s
J61A Chester 34.44 17 P P 17 35 13.4 +0.9
baz=203,SNR=6.0
PV18 Skein Mesa, Pa 34.44 327 P P 17 35 14.1 +1.3
PV18 IAmb IAmb 17 35 14.9
comp=Z,24nm,0.6s
PV11 David Mesa, Pa 34.46 327 P P 17 35 14.0 +1.0
PV11 IAmb IAmb 17 35 16.0
comp=Z,24nm,0.9s
PV16 Nyswonger Mesa 34.49 327 P P 17 35 13.9 +0.6
PV16 IAmb IAmb 17 35 16.1
comp=Z,28nm,1.1s
H55A Tweed 34.49 11 P P 17 35 12.7 -0.2
baz=195,SNR=5.5
PV17 East Wray Mesa 34.49 327 P P 17 35 14.0 +0.7
PV17 IAmb IAmb 17 35 15.3
comp=Z,23nm,0.7s
PV19 Morning Glory 34.53 327 P P 17 35 14.3 +0.7
PV19 IAmb IAmb 17 35 15.7
comp=Z,16nm,0.6s
PV20 West Nyswonger 34.54 327 P P 17 35 14.0 +0.3
PV20 IAmb IAmb 17 35 15.7
comp=Z,14nm,0.7s
PV04 Paradox Valley 34.55 327 P P 17 35 14.9 +1.1
PV04 IAmb IAmb 17 35 16.0
comp=Z,20nm,1.0s
J62A Henniker 34.55 18 P P 17 35 14.4 +1.0
baz=204
NCB Newcomb 34.58 15 P P 17 35 15.3 +1.6
NCB IAmb IAmb 17 35 47.1
comp=Z,25nm,1.3s
PV22 Blue Mesa, Par 34.59 327 P P 17 35 14.9 +0.9
PV22 IAmb IAmb 17 35 16.3
comp=Z,38nm,1.5s
PV14 Lion Creek, Pa 34.60 327 P P 17 35 15.0 +0.8
PV14 IAmb IAmb 17 35 16.2
comp=Z,14nm,0.7s
PV23 Carpenter Ridg 34.65 327 P P 17 35 15.2 +0.5
G40A Rib Lake 34.66 354 P P 17 35 13.8 -0.5
G40A IAmb IAmb 17 35 15.3
comp=Z,16nm,0.8s
I60A Shoreham 34.70 16 P P 17 35 15.6 +0.9
baz=202,SNR=5.6
H56A Elgin 34.71 12 P P 17 35 14.8 0.0
baz=196,SNR=11
PV09 Paradox Valley 34.75 327 P P 17 35 15.8 +0.2
H57A Richville 34.77 13 P P 17 35 15.7 +0.4
baz=198,SNR=5.2
G53A Haliburton 34.81 9 P P 17 35 15.4 -0.3
baz=192,SNR=11
J63A Strafford 34.83 19 P P 17 35 16.3 +0.5
baz=206
GLA Glamis 34.84 314 P P 17 35 17.8 +1.6
baz=123
GLA Glamis 34.84 314 P P 17 35 18.2 +2.1
GLA IAmb IAmb 17 35 20.7
comp=Z,16nm,0.8s
F45A CMU Biological 34.85 0 P P 17 35 16.2 +0.3
baz=180
HNH Hanover 34.85 17 P P 17 35 17.4 +1.4
SPMN Marine on St. 34.94 351 P P 17 35 15.9 -0.8
baz=168,SNR=7.2
SPMN Marine on St. 34.94 351 P P 17 35 15.7 -1.0
N23A Red Feather La 35.00 333 P P 17 35 16.7 -1.0
baz=144
H58A Gabriels 35.01 14 P P 17 35 17.5 +0.1
baz=200,SNR=7.8
Y12C Blythe 35.01 315 P P 17 35 19.7 +2.2
baz=124
Y12C Blythe 35.01 315 P P 17 35 19.0 +1.5
Y12C IAmb IAmb 17 35 20.9
comp=Z,23nm,1.2s
F49A Sandfield 35.06 4 P P 17 35 18.3 +0.5
baz=186
I61A Oroboro, Fairl 35.08 17 P P 17 35 18.9 +0.9
baz=203
F48A Evansville 35.09 4 P P 17 35 17.4 -0.6
baz=185
LONY Lake Ozonia 35.10 14 P P 17 35 18.2 0.0
baz=199,SNR=15
LONY Lake Ozonia 35.10 14 P P 17 35 18.5 +0.3
PHWY Pilot Hill 35.11 334 P P 17 35 19.4 +0.7
PHWY IAmb IAmb 17 36 37.1
comp=Z,24nm,1.4s
U15A North Rim 35.16 321 P P 17 35 20.2 +1.1
U15A IAmb IAmb 17 35 22.5
comp=Z,30nm,1.3s
G54A Lake Saint Pet 35.16 9 P P 17 35 18.2 -0.5
baz=193,SNR=13
G55A Calabogie 35.26 11 P P 17 35 19.4 -0.1
baz=195,SNR=10
I62A Tamworth 35.28 18 P P 17 35 20.5 +0.7
baz=205
I62A Tamworth 35.28 18 P P 17 35 21.3 +1.5
I62A IAmb IAmb 17 35 25.3
comp=Z,60nm,1.4s
H59A Cadyville 35.34 15 P P 17 35 20.5 +0.2
baz=200
W13A Hualapai Mount 35.36 318 P P 17 35 22.6 +1.8
W13A IAmb IAmb 17 35 24.2
comp=Z,21nm,0.9s
F52A Sundridge 35.37 8 P P 17 35 19.9 -0.6
baz=191,SNR=6.8
F51A Arnstein 35.43 7 P P 17 35 20.4 -0.6
baz=190
LBNH Lisbon 35.44 17 P P 17 35 22.1 +1.0
baz=204
LBNH Lisbon 35.44 17 P P 17 35 22.3 +1.2
LBNH IAmb IAmb 17 35 22.9
comp=Z,42nm,1.4s
G57A Newington 35.47 13 P P 17 35 21.5 +0.2
baz=198
SWSC Sam W. Stewart 35.47 313 P P 17 35 23.2 +1.7
baz=122
O20A White River Ci 35.50 329 P P 17 35 23.0 +1.0
baz=139,SNR=7.5
O20A White River Ci 35.50 329 P P 17 35 22.9 +1.0
O20A IAmb IAmb 17 35 24.6
comp=Z,13nm,0.7s
SUSD Miller 35.52 343 P P 17 35 20.9 -0.9
baz=157
SUSD Miller 35.52 343 P P 17 35 20.5 -1.4
H60A Morristown 35.52 16 P P 17 35 22.4 +0.6
baz=202
IKP In-Ko-Pah, Jac 35.54 313 P P 17 35 24.9 +2.7
baz=121
FRNY Flat Rock 35.55 15 P P 17 35 23.1 +1.1
FRNY IAmb IAmb 17 36 00.6
comp=Z,33nm,1.4s
E46A Sault Ste Mari 35.55 2 P P 17 35 22.2 +0.2
E46A IAmb IAmb 17 36 00.1
comp=Z,59nm,1.6s
E43A Lone Tree Farm 35.56 358 P P 17 35 21.0 -1.1
E43A IAmb IAmb 17 35 22.7
comp=Z,30nm,0.9s
BC3 Big Chuckawall 35.60 315 P P 17 35 24.8 +2.0
baz=123,SNR=5.1
NEE2 Needles Airpor 35.65 317 P P 17 35 24.8 +1.7
baz=125
IRM Iron Mountain 35.66 316 P P 17 35 25.4 +2.2
baz=124,SNR=9.1
E47A Iron Bridge 35.68 3 P P 17 35 22.2 -0.8
baz=184,SNR=5.6
I63A Otisfield 35.68 19 P P 17 35 24.3 +1.2
baz=206
I63A Otisfield 35.68 19 P P 17 35 22.6 -0.5
I63A IAmb IAmb 17 35 26.7
comp=Z,29nm,0.9s
ALGO Algonquin Park 35.71 9 P P 17 35 22.8 -0.6
baz=193,SNR=16
H61A Lyndonville 35.71 17 P P 17 35 24.4 +1.0
baz=203
G58A Ormstown 35.73 14 P P 17 35 23.9 +0.4
baz=200
E48A Lockeyer 35.77 4 P P 17 35 23.4 -0.4
baz=186
E44A Grand Marais A 35.79 360 P P 17 35 24.0 0.0
baz=179
E44A Grand Marais A 35.79 360 P P 17 35 23.3 -0.7
E50A Wahnapitae 35.83 6 P P 17 35 23.6 -0.8
baz=188

PKCU **Pink Cliffs** 35.83 322 P P 17 35 26.4 +1.4
KNB **Kanab** 35.86 321 P P 17 35 26.7 +1.6
I64A **Boothbay** 35.87 20 P P 17 35 25.5 +0.8
baz=207
G59A **Clarenceville** 35.88 15 P P 17 35 25.1 +0.3
baz=201
F55A **Otter Lake** 35.89 11 P P 17 35 24.8 -0.1
baz=196,SNR=6.4
MONP2 **Monument Peak** 35.89 313 P P 17 35 26.1 +0.7
baz=121
SRU **San Rafael Swe** 35.94 326 P P 17 35 26.3 +0.6
E52A **Mattawa** 35.95 8 P P 17 35 24.8 -0.6
baz=192,SNR=7.6
H62A **Milan** 35.98 18 P P 17 35 25.4 -0.3
baz=205
E51A **G1948 Merrick** 36.08 7 P P 17 35 26.2 -0.3
baz=190,SNR=9.9
G60A **Masonville** 36.12 16 P P 17 35 27.5 +0.6
baz=202
LCMT **Little Creek M** 36.12 321 P P 17 35 28.9 +1.7
E38A **The Farm, Brul** 36.12 353 P P 17 35 25.6 -1.3
E38A IAmb IAmb 17 35 27.1
comp=Z,21nm,0.6s
MTPU **Mount Pierson** 36.15 323 P P 17 35 28.8 +1.1
Q16A **Castle Valley** 36.17 325 P P 17 35 28.2 +0.6
BELC **Belle Mtn. Jos** 36.17 315 P P 17 35 29.6 +1.9
baz=123,SNR=9.6
E53A **Dumoine, Ponti** 36.19 9 P P 17 35 26.7 -0.7
baz=193,SNR=9.3
F57A **Harrington** 36.21 13 P P 17 35 27.9 +0.3
baz=198
XPFO **Pion Flat** 36.29 314 P P 17 35 31.1 +2.5
XPFO IAmb IAmb 17 35 32.5
comp=Z,30nm,1.5s
PFO **Pinyon Flats O** 36.29 314 P P 17 35 31.1 +2.4
baz=122,SNR=5.7
PFO **Pinyon Flats O** 36.29 314 P P 17 35 30.3 +1.7
comp=Z,7.1nm,0.8s,baz=129,slow=7.4,SNR=7.9
PFO PcP PcP 17 37 52.8 +0.3
comp=Z,1.2nm,0.4s,baz=39,slow=2.7,SNR=4.0
PFO **Pinyon Flats O** 36.29 314 P P 17 35 31.0 +2.3
PFO IAmb IAmb 17 35 32.5
comp=Z,28nm,1.4s
P17A **Butcher Ranch,** 36.32 326 P P 17 35 29.7 +0.8
E54A **Lac Daplat, Po** 36.32 10 P P 17 35 28.2 -0.4
baz=194,SNR=8.7
GMRC **Granite Mounta** 36.37 316 P P 17 35 30.6 +1.3
baz=124,SNR=10
H63A **New Sharon** 36.40 19 P P 17 35 30.4 +1.1
baz=206
TMUT **Trail Mountain** 36.45 326 P P 17 35 30.7 +0.5
MSU **Marysvale** 36.46 324 P P 17 35 31.7 +1.5
RDMU **Red Mountain** 36.49 329 P P 17 35 31.2 +0.8
G61A **St-Isidore-de-** 36.51 17 P P 17 35 30.3 +0.1
baz=204
E55A **Montcerf-Lytto** 36.54 11 P P 17 35 30.1 -0.4
baz=196
D51A **Lot 18 Range I** 36.64 7 P P 17 35 30.6 -0.7
baz=190
H64A **Troy** 36.65 20 P P 17 35 31.2 -0.1
baz=208
D52A **ZEK Kipawa Sen** 36.66 8 P P 17 35 31.2 -0.2
baz=192,SNR=8.2
D50A **G1974 Best Tow** 36.66 7 P P 17 35 31.0 -0.5
baz=189,SNR=5.3
F59A **Saint Guilaume** 36.70 15 P P 17 35 31.8 +0.1
baz=201
G62A **West of Eustis** 36.75 18 P P 17 35 33.5 +1.2
baz=205,SNR=7.0
G62A **West of Eustis** 36.75 18 P P 17 35 33.7 +1.5
MURC **Murrieta** 36.81 313 P P 17 35 35.1 +2.1
baz=121,SNR=6.2
E56A **St. Veronique** 36.83 12 P P 17 35 32.7 -0.2
baz=197,SNR=5.9
HEC **Hector,Ludlow** 36.85 316 P P 17 35 35.8 +2.3
baz=123,SNR=6.0
D53A **Lac Vacive, Po** 36.86 9 P P 17 35 33.3 +0.1
baz=193,SNR=11
D53A **Lac Vacive, Po** 36.86 9 P P 17 35 33.5 +0.3
RSSD **Black Hills** 36.90 338 P P 17 35 35.2 +1.4
baz=149
RSSD **Black Hills** 36.90 338 P P 17 35 35.2 +1.4
E57A **Chemin Saint G** 36.90 13 P P 17 35 33.4 -0.1
baz=199,SNR=8.1
TUQ **Turquoise Moun** 36.91 317 P P 17 35 35.6 +1.6
baz=124,SNR=7.3
G63A **Kingsbury** 36.94 19 P P 17 35 34.7 +0.8
baz=207
LVC **Limon Verde** 36.95 154 P P 17 35 36.1 +1.5
comp=Z,7.2nm,1.0s,baz=299,slow=12,SNR=3.3
LVC pP pP 17 35 51.3 +0.6
comp=Z,5.1nm,0.8s,baz=296,slow=7.9,SNR=3.6
LVC **Limon Verde** 36.95 154 P P 17 35 34.8 +0.2
LVC IAmb IAmb 17 36 32.1
comp=Z,54nm,1.4s
BBRC **Big Bear Solar** 36.96 314 P P 17 35 37.1 +2.6
baz=122
SHPR **Sheep Range** 37.02 319 P P 17 35 36.8 +1.8
H65A **Eastbrook** 37.02 21 P P 17 35 36.1 +1.5
baz=209
F60A **Warwick** 37.03 16 P P 17 35 34.4 -0.1
baz=203,SNR=8.7
E58A **La Victoria** 37.06 14 P P 17 35 34.9 0.0
baz=200,SNR=11
D54A **Lac Fusel, La** 37.10 10 P P 17 35 34.7 -0.6
baz=195,SNR=21
PKME **Peaks-Kenny Pk** 37.17 19 P P 17 35 37.0 +1.1
baz=207
PKME **Peaks-Kenny Pk** 37.17 19 P P 17 35 37.0 +1.1
PKME IAmb IAmb 17 35 38.2
comp=Z,47nm,1.1s
MPU **Maple Canyon** 37.19 326 P P 17 35 37.5 +1.2
D55A **Sainte-Anne-du** 37.20 12 P P 17 35 35.8 -0.2
baz=196,SNR=20
F61A **St Evariste** 37.30 17 P P 17 35 37.5 +0.6
baz=204
G64A **Maxfield** 37.34 20 P P 17 35 38.5 +1.2
baz=208
D56A **ZEC Mazanza, M** 37.37 12 P P 17 35 37.1 -0.4
baz=198,SNR=5.7
NLU **North Lily Min** 37.39 326 P P 17 35 39.2 +1.2
SHOC **Shoshone, Teco** 37.41 317 P P 17 35 40.3 +2.3
baz=124
EYMN **Ely** 37.44 354 P P 17 35 39.4 +1.3
baz=170
PSUT **Pine Spring** 37.47 322 P P 17 35 40.5 +1.8
BFSC **Mount Baldy Ra** 37.47 314 P P 17 35 40.0 +1.3
baz=121
D57A **Chemin Vers le** 37.53 13 P P 17 35 38.5 -0.3
baz=199,SNR=11
F62A **Pittston Farm,** 37.53 18 P P 17 35 39.5 +0.6
baz=206
E60A **Ste Agathe de** 37.53 16 P P 17 35 38.9 +0.1
baz=203,SNR=5.7
CIS **Catalina Islan** 37.59 312 P P 17 35 42.2 +2.6
baz=119
F63A **Nahmakanta, Br** 37.63 19 P P 17 35 40.8 +1.1
baz=207
F63A **Nahmakanta, Br** 37.63 19 P P 17 35 40.5 +0.8
F63A IAmb IAmb 17 35 42.1
comp=Z,52nm,1.2s
CTU **Camp Tracy** 37.73 327 P P 17 35 41.9 +1.1
MWC **Mount Wilson** 37.74 313 P P 17 35 42.9 +1.8
MWC IAmb IAmb 17 35 44.8
comp=Z,66nm,1.9s
D58A **Chemin du LacG** 37.84 14 P P 17 35 41.1 -0.3
baz=201,SNR=17
TCUT **Toone Canyon** 37.85 328 P P 17 35 43.4 +1.4
TCUT PcP 17 37 58.7 +1.4
DUG **Dugway, Tooele** 37.96 325 P P 17 35 43.8 +1.0
baz=133,SNR=12
DUG **Dugway, Tooele** 37.96 325 P P 17 35 44.4 +1.6
DUG IAmb IAmb 17 35 45.4
comp=Z,18nm,1.1s
TPNV **Topopah Spring** 37.99 318 P P 17 35 45.5 +2.4
baz=126,SNR=57
TPNV **Topopah Spring** 37.99 318 P P 17 35 45.4 +2.3
F64A **Sherman** 38.01 20 P P 17 35 43.9 +1.1
baz=208,SNR=6.1
F64A **Sherman** 38.01 20 P P 17 35 44.0 +1.1
EDW2 **Edwards Air Fo** 38.03 314 P P 17 35 45.4 +2.0
baz=121,SNR=5.0
FURC **Furnace Creek,** 38.12 317 P P 17 35 45.9 +1.9
baz=124,SNR=24
LATQ **La Tuque** 38.13 14 P P 17 35 44.4 +0.6
baz=201
LATQ **La Tuque** 38.13 14 P P 17 35 44.5 +0.6

BW06 **Boulder Array** 38.14 331 P P 17 35 43.8 -0.6
baz=140,SNR=6.6
BW06 **Boulder Array** 38.14 331 P P 17 35 44.8 +0.5
PD31 **Pinedale Array** 38.14 331 P P 17 35 43.9 -0.5
PDAR **Pinedale Array** 38.14 331 P P 17 35 44.0 -0.3
comp=Z,3.4nm,0.6s,baz=131,slow=10,SNR=32
PDAR PcP PcP 17 37 58.4 +0.2
comp=Z,2.6nm,0.8s,baz=141,slow=5.9,SNR=7.3
PDAR ScP ScP 17 41 42.6 +2.3
comp=Z,0.4nm,0.6s,baz=132,slow=6.6,SNR=4.4
PDAR LR LR 17 54 20.6
comp=Z,32nn,18.4s,baz=214,slow=41
D60A **Saint Jean D'O** 38.17 16 P P 17 35 44.6 +0.4
baz=204,SNR=5.7
MPMC **Manual Prospec** 38.31 316 P P 17 35 47.6 +1.7
baz=123,SNR=28
R11A **Troy Canyon, C** 38.41 321 P P 17 35 48.6 +2.0
baz=128,SNR=26
R11A **Troy Canyon, C** 38.41 321 P P 17 35 48.1 +1.5
R11A IAmb IAmb 17 35 49.7
comp=Z,35nn,1.4s
AGMN **Agassiz Nation** 38.44 349 P P 17 35 45.3 -1.2
baz=164,SNR=6.9
AGMN **Agassiz Nation** 38.44 349 P P 17 35 45.3 -1.2
AGMN IAmb IAmb 17 35 47.8
comp=Z,14nm,0.8s
E63A **Oxbow** 38.48 19 P P 17 35 48.0 +1.1
baz=208
E63A **Oxbow** 38.48 19 P P 17 35 48.0 +1.1
E63A IAmb IAmb 17 35 48.8
comp=Z,30nm,0.8s
DAC **Darwin (Calif)** 38.51 317 P P 17 35 51.6 +4.1
SPUT **South Promonto** 38.54 327 P P 17 35 48.7 +1.1
BGU **Big Grassy Mou** 38.59 326 P P 17 35 48.6 +0.5
D61A **St Aubert, Com** 38.65 17 P P 17 35 48.4 +0.2
baz=205,SNR=6.7
E64A **Bridgewater** 38.67 20 P P 17 35 49.3 +0.8
baz=209
ARVC **Arvin** 38.75 314 P P 17 35 51.8 +2.5
baz=121
GRAC **Grapevine Rang** 38.75 318 P P 17 35 52.0 +2.6
baz=124,SNR=15
SCZ2 **Santa Cruz Isl** 38.77 312 P P 17 35 51.5 +2.0
baz=119
ISA **Isabella, Lake** 38.78 315 P P 17 35 52.0 +2.4
baz=122,SNR=9.7
ISA **Isabella, Lake** 38.78 315 P P 17 35 51.8 +2.2
ISA PcP 17 38 01.6 +1.6
PQI **Presque Isle** 38.83 19 P P 17 35 50.6 +0.8
PQI IAmb IAmb 17 35 51.8
comp=Z,36nm,1.1s
MDND **Maddock** 38.84 345 P P 17 35 49.6 -0.3
baz=158
AHID **Auburn Hatcher** 38.89 330 P P 17 35 50.2 -0.5
AHID IAmb IAmb 17 35 54.6
comp=Z,14nm,0.8s
LSQQ **Lebel-sur-Quev** 38.90 9 P P 17 35 49.6 -0.8
baz=194
CWC **Cottonwood Cre** 38.92 316 P P 17 35 53.2 +2.2
baz=123
GO02 **Mina Guanaco** 38.94 157 pP 17 36 07.1 -0.4
D63A **Stockholm** 39.13 19 P P 17 35 53.2 +0.9
baz=208
REDW **Red Top Meadow** 39.21 331 P P 17 35 53.4 0.0
REDW IAmb IAmb 17 35 55.0
comp=Z,19nm,0.6s
SNOW **Snow King Moun** 39.24 331 P P 17 35 53.4 -0.2
SNOW IAmb IAmb 17 35 55.4
comp=Z,21nm,1.2s
PKM **Mcpherson Peak** 39.33 313 P P 17 35 56.6 +2.2
baz=119,SNR=5.7
TIN **Tinemaha, Big** 39.36 317 P P 17 35 56.8 +2.3
baz=123,SNR=9.5
MOOW **Moose Ponds** 39.45 331 P P 17 35 55.4 +0.1
MATQ **Matagami** 39.49 8 P P 17 35 54.2 -1.0
baz=192,SNR=17
FXWY **Fox Creek** 39.50 331 P P 17 35 55.7 -0.1
SMMC **Simmler** 39.67 314 P P 17 35 59.3 +2.3
baz=120,SNR=7.1
FLWY **Flagg Ranch** 39.68 331 P P 17 35 57.4 +0.2
ELK **Elko** 39.71 324 P P 17 35 58.7 +1.2
ELK IAmb IAmb 17 36 00.5
comp=Z,32nn,0.9s
RLMT **Red Lodge** 39.84 334 P P 17 35 58.2 -0.2
baz=142,SNR=8.5
RLMT **Red Lodge** 39.84 334 P P 17 35 58.3 -0.2
BATG **Bathurst New B** 40.02 21 P P 17 36 00.1 +0.4
BATG IAmb IAmb 17 36 02.2
comp=Z,46nm,1.0s
PAGB **Antelope Grade** 40.05 314 P P 17 36 02.6 +2.4
YNE **Yellowstone No** 40.08 333 P P 17 35 59.7 -0.8
NV11 **Mina Array Sit** 40.08 319 P P 17 36 02.4 +1.8
NVAR **Mina Array Bea** 40.17 319 P P 17 36 03.8 +2.4
comp=Z,59nn,0.7s,baz=129,slow=7.4,SNR=330
NVAR PcP PcP 17 38 05.7 +1.1
comp=Z,3.6nn,0.8s,baz=150,slow=3.9,SNR=3.9
NVAR ScP ScP 17 41 50.8 +2.5
comp=Z,1.1nn,0.9s,baz=144,slow=5.3,SNR=7.0
NVAR LR LR 17 55 03.7
comp=Z,116nn,18.2s,baz=132,slow=40
CHGQ **Chibougamau** 40.18 11 P P 17 36 00.4 -0.6
baz=197
YHH **Holmes Hill** 40.29 332 P P 17 36 02.8 +0.5
ULM **Lac du Bonnet** 40.32 350 P P 17 36 00.0 -2.1
comp=Z,15nn,0.9s,baz=156,slow=8.9,SNR=17
ULM PcP PcP 17 38 04.2 -0.3
comp=Z,2.5nn,0.7s,baz=146,slow=8.6,SNR=3.1
ULM LR LR 17 54 00.9
comp=Z,68nn,21.9s,baz=138,slow=38
ULM **Lac du Bonnet** 40.32 350 P P 17 35 59.8 -2.2
ULM PcP PcP 17 38 04.4 -0.1
KVN **Kaiserville** 40.40 320 P P 17 36 04.7 +1.5
YHB **Horse Butte** 40.42 332 P P 17 36 03.9 +0.6
RYN **Ryan** 40.43 319 P P 17 36 05.0 +1.5
QLMT **Earthquake Lak** 40.59 332 P P 17 36 05.7 +1.0
BMN **Battle Mountai** 40.68 322 P P 17 36 06.5 +1.0
PMPB **Monarch Peak** 40.68 314 P P 17 36 07.1 +1.7
PMPB IAmb IAmb 17 36 08.4
comp=Z,28nm,0.8s
PMPB PcP PcP 17 38 08.6 +2.5
WAKR **Walker** 40.95 318 P P 17 36 10.0 +2.2
WAKR PcP PcP 17 38 09.0 +1.9
YERR **Yerington** 41.09 319 P P 17 36 10.4 +1.5
BOZ **Bozeman (W)** 41.26 332 P P 17 36 09.8 -0.3
baz=139
MCMT **McKenzie Canyo** 41.26 330 P P 17 36 11.0 +0.7
CMB **Columbia Colle** 41.33 317 P P 17 36 12.4 +1.7
PNTR **Pine Nut** 41.38 319 P P 17 36 13.5 +2.2
SAO **San Andreas Ge** 41.41 315 P P 17 36 13.0 +1.7
VCNR **Virginia City** 41.53 319 P P 17 36 14.2 +1.6
VCNR IAmb IAmb 17 36 17.7
comp=Z,19nm,0.8s
PAHR **Pah Rah Range** 41.59 320 P P 17 36 14.9 +2.0
PAHR IAmb IAmb 17 36 15.8
comp=Z,36nm,1.2s
RUBR **Rubicon Trail** 41.72 318 P P 17 36 16.3 +2.2
RUBR IAmb IAmb 17 36 21.3
comp=Z,36nn,0.8s
MFID **Camas Ranch** 41.80 327 P P 17 36 15.2 +0.6
AFDM **Forest Hills D** 42.20 318 P P 17 36 19.2 +1.4
EGMT **Eagleton** 42.35 336 P P 17 36 18.8 -0.2
baz=143
WVOR **Wild Horse Val** 42.75 324 P P 17 36 23.1 +0.8
WVOR PcP PcP 17 38 14.8 +1.9
ORV **Oroville** 42.87 318 P P 17 36 24.9 +1.7
ORV IAmb IAmb 17 36 26.9
comp=Z,36nn,0.8s
PLID **Pearl Lake** 43.03 328 P P 17 36 24.4 -0.2
PLID PcP PcP 17 38 14.8 +0.9
MSO **Missoula** 43.25 332 P P 17 36 26.2 0.0
baz=137
GDXM **Geysers** 43.35 317 P P 17 36 29.2 +2.1
MOD **Modoc Plateau** 43.42 322 P P 17 36 28.1 +0.3
MOD PcP PcP 17 38 16.7 +1.5
O03E **Paynes Creek** 43.47 319 P P 17 36 28.0 -0.1
baz=122,SNR=11
BMO **Blue Mountains** 43.55 327 P P 17 36 28.4 -0.3
O02D **Mt. Diablo Mer** 44.04 318 P P 17 36 32.4 -0.3
baz=121,SNR=12
WDC **Whiskeytown Da** 44.09 319 P P 17 36 32.0 -1.0
F10A **Beach Ranch, E** 44.26 328 P P 17 36 34.5 +0.1
M04C **Macdoel** 44.30 321 P P 17 36 35.0 +0.2
baz=124,SNR=23
KCPM **Cahto Peak** 44.32 317 P P 17 36 37.2 +2.3
KCPM IAmb IAmb 17 36 38.2

comp=Z,44nm,1.0s
N02D **Trinity Center** 44.41 319 P P 17 36 35.1 -0.5
baz=122
KMRM **Mail Ridge** 44.67 318 P P 17 36 39.3 +1.6
KMRM IAmb IAmb 17 36 41.0
comp=Z,34nm,0.8s
K04D **Chiloquin, OR** 44.72 322 P P 17 36 38.4 +0.3
baz=125,SNR=11
M02C **Callahan** 44.73 320 P P 17 36 38.0 -0.1
baz=122
G08A **Pilot Rock** 44.73 327 P P 17 36 38.5 +0.4
G08A PcP PcP 17 38 20.0 +0.5
J05D **Fort Rock, OR** 44.79 323 P P 17 36 38.9 +0.2
baz=126,SNR=9.7
YBH **Yreka Blue Hor** 44.82 320 P P 17 36 38.5 -0.4
comp=Z,11nm,0.6s,baz=139,slow=3.4,SNR=35
YBH **Yreka Blue Hor** 44.82 320 P P 17 36 37.5 -1.4
L04D **Klamath Falls** 44.83 321 P P 17 36 39.1 +0.1
baz=124,SNR=30
PINE **Pine Mountain** 44.91 324 P P 17 36 40.0 +0.3
PINE IAmb IAmb 17 36 42.1
comp=Z,39nm,0.8s
DRLN **Deer Lake** 44.98 26 P P 17 36 39.9 +0.1
KHMM **Horse Mountain** 45.02 319 P P 17 36 41.6 +1.0
JCC **Jacoby Creek,** 45.18 318 P P 17 36 42.9 +1.2
JCC IAmb IAmb 17 36 44.9
comp=Z,54nm,1.1s
CFA **Coronel Fontan** 45.26 159 pP pP 17 36 58.5 -0.4
comp=Z,6.0nn,0.9s,baz=322,slow=6.6,SNR=4.2
J04D **Umpqua Nationa** 45.29 322 P P 17 36 43.1 +0.4
baz=125,SNR=7.3
HUMO **Hull Mountain** 45.45 321 P P 17 36 42.5 -1.3
I05D **Terrebonne, OR** 45.47 324 P P 17 36 44.5 +0.6
baz=126,SNR=11
BDFB **Brasilia** 45.53 125 P P 17 36 44.9 +0.1
comp=Z,2.0nn,0.3s,baz=265,slow=4.9,SNR=3.8
BDFB pP pP 17 36 58.8 -2.6
comp=Z,9.5nn,0.8s,baz=310,slow=10,SNR=6.0
BDFB LR LR 17 58 21.2
comp=Z,92nn,19.5s,baz=316,slow=40
BDFB **Brasilia** 45.53 125 P P 17 36 44.6 -0.3
BDFB pP pP 17 37 00.6 -0.8
E08A **Dider Farm, El** 45.56 328 P P 17 36 44.9 +0.4
E08A PcP PcP 17 38 23.3 +1.2
L02E **Cave Junction** 45.61 320 P P 17 36 45.6 +0.6
baz=122
G06A **Carlson Farm,** 45.61 325 P P 17 36 45.3 +0.2
HAWA **Hanford** 45.74 327 P P 17 36 45.7 -0.3
HAWA IAmb IAmb 17 36 47.5
comp=Z,14nm,0.8s
FFC **Flin Flon** 45.77 347 P P 17 36 45.4 -0.7
I04A **Tendick Farm,** 45.78 323 P P 17 36 45.9 -0.6
baz=125,SNR=20
NEW **Newport** 45.78 331 P P 17 36 46.3 0.0
baz=134
NEW **Newport** 45.78 331 P P 17 36 45.6 -0.8
comp=Z,1.3nm,0.4s,baz=143,slow=5.5,SNR=3.8
NEW **Newport** 45.78 331 P P 17 36 45.2 -1.1
K02D **Willamette Mer** 45.94 321 P P 17 36 48.0 +0.3
baz=123,SNR=6.4
CPUP **Villa Florida** 45.97 144 P P 17 36 48.3 +0.3
comp=Z,3.5nn,1.0s,baz=346,slow=9.3,SNR=5.1
CPUP LR LR 17 56 34.0
comp=Z,72nn,18.5s,baz=353,slow=37
CPUP **Villa Florida** 45.97 144 P P 17 36 47.9 0.0
G05D **Wamic, OR** 46.00 325 P P 17 36 48.9 +0.8
baz=127,SNR=16
E07A **Sunnyside** 46.02 327 P P 17 36 48.1 -0.1
E07A IAmb IAmb 17 36 50.2
comp=Z,23nm,0.9s
C09A **Chrisman Ranch** 46.03 330 P P 17 36 48.6 +0.3
C09A PcP 17 38 24.4 +0.6
C09A IAmb IAmb 17 38 25.9
comp=Z,9.8nm,0.6s
KBO **Bosley Butte** 46.03 320 P P 17 36 50.4 +1.9
H04A **Detroit Lake** 46.16 324 P P 17 36 49.5 +0.1
I03D **Drain, OR** 46.29 322 P P 17 36 50.2 -0.1
baz=124,SNR=15
J01E **Myrtle Point** 46.35 321 P P 17 36 51.6 +0.8
baz=123,SNR=12
H04D **Lebanon** 46.39 323 P P 17 36 50.4 -0.7
baz=125,SNR=10
KEBM **Edson Butte** 46.45 321 P P 17 36 53.3 +1.7
SCHQ **Schefferville** 46.45 15 P P 17 36 50.1 -1.4
comp=Z,48nn,0.6s,baz=218,slow=6.3,SNR=82
SCHQ LR LR 17 56 27.1
comp=Z,120nn,21.1s,baz=234,slow=36
SCHQ **Schefferville** 46.45 15 P P 17 36 50.1 -1.4
F05D **White Salmon** 46.47 326 P P 17 36 52.1 +0.3
baz=128,SNR=6.2
I02D **Swisshome** 46.81 322 P P 17 36 54.9 +0.5
baz=124,SNR=8.2
LTY **Liberty** 46.90 328 P P 17 36 55.4 +0.2
B08A **Colville Reser** 46.93 330 P P 17 36 55.5 +0.2
F04A **Amboy** 47.03 325 P P 17 36 56.9 +0.8
G03D **McMinnville, O** 47.09 324 P P 17 36 56.8 +0.2
baz=125,SNR=7.0
C06D **Leavenworth** 47.44 328 P P 17 36 59.4 +0.1
baz=130
E04D **Cinebar** 47.49 326 P P 17 37 00.7 +1.1
baz=127
B05A **Bryant** 48.28 328 P P 17 37 04.9 -0.8
baz=128
D03D **Eldon** 48.36 327 P P 17 37 06.2 -0.1
baz=127,SNR=7.4
GO06 **Curarrehue** 51.74 166 P P 17 37 32.7 +0.5
GO06 pP pP 17 37 47.4 -1.6
PLCA **Paso Flores** 53.05 166 P P 17 37 43.2 +1.4
comp=Z,0.9nm,0.5s,baz=354,slow=10.0,SNR=5.3
PLCA pP pP 17 37 57.8 -0.9
comp=Z,15nm,0.9s,baz=357,slow=8.2,SNR=21
PLCA **Paso Flores** 53.05 166 P 17 37 42.8 +1.0
PLCA pP pP 17 37 58.2 -0.5
PLCA IAmb IAmb 17 37 59.1
comp=Z,22nm,0.9s
PLCA **Paso Flores** 53.05 166 P P 17 37 42.6 +0.8
TRQA **Tornquist** 53.32 157 P P 17 37 44.0 +0.2
TRQA pP pP 17 37 59.3 -1.4
TRQA IAmb IAmb 17 38 00.6
comp=Z,17nm,1.4s
TRQA PcP PcP 17 38 51.8 +1.2
FRB **Frobisher Bay** 54.32 9 P P 17 37 48.1 -2.5
comp=Z,9.4nm,0.6s,baz=208,slow=9.0,SNR=22
YKA **Yellowknife Ar** 55.75 344 P P 17 37 59.4 -1.5
comp=Z,7.1nm,0.6s,baz=142,slow=7.0,SNR=80
YKA PcP PcP 17 38 59.1 -0.4
comp=Z,2.1nm,0.7s,baz=142,slow=4.2,SNR=9.2
DLBC **Dease Lake** 58.23 334 PcP PcP 17 39 10.0 +0.6
comp=Z,22nn,0.9s,baz=138,slow=0.7,SNR=3.7
SFJD **Kangerlussuaq** 60.91 15 P P 17 38 34.5 -2.3
comp=Z,4.4nn,0.6s,baz=234,slow=14,SNR=3.4
SFJD **Kangerlussuaq** 60.91 15 P P 17 38 35.5 -1.3
RES **Resolute Bay** 64.16 357 P P 17 38 56.4 -2.0
comp=Z,2.3nn,0.6s,baz=190,slow=10,SNR=11
MESA **MESA** 64.38 333 P P 17 39 01.4 +1.0
MESA IAmb IAmb 17 39 48.9
comp=Z,32nn,1.0s
CTGM **Chitina Glacie** 64.44 333 P P 17 39 00.8 +0.1
BARN **Barnard Glacie** 64.63 333 P P 17 39 02.3 +0.3
BARN IAmb IAmb 17 40 27.7
comp=Z,30nn,2.0s
WAX **Waxell Ridge** 64.90 333 P P 17 39 04.1 +0.5
WAX IAmb IAmb 17 39 40.2
comp=Z,33nn,1.5s
BALM **Baldy** 64.92 333 P P 17 39 03.2 -0.5
BALM PcP PcP 17 39 36.0 -0.5
TGL **Tana Glacier** 65.02 333 P P 17 39 04.3 -0.1
DAWY **Dawson** 65.08 337 P P 17 39 04.5 -0.2
CRQM **Cirque** 65.16 333 P P 17 39 05.8 +0.4
CRQM PcP PcP 17 39 36.2 -1.3
CRQM IAmb IAmb 17 39 48.3
comp=Z,29nn,1.5s
EPYK **Eagle Plains** 65.30 340 P P 17 39 05.3 -0.7
baz=123
EPYK **Eagle Plains** 65.30 340 P P 17 39 05.4 -0.7
MCARA **McCarthy VSAT** 65.36 334 P P 17 39 06.9 +0.4
INK **Inuvik** 65.39 342 P P 17 39 05.5 -0.9
comp=Z,7.1nm,0.8s,baz=100,slow=7.7,SNR=18
INK **Inuvik** 65.39 342 P P 17 39 05.6 -0.9
VRDI **Verde Repeater** 65.49 333 P P 17 39 07.5 0.0
RAGM **Ragged Mountai** 65.71 332 P P 17 39 09.3 +0.6
GLB **Gilahina Butte** 65.73 333 P P 17 39 08.8 -0.2
EGAK **Eagle** 66.09 337 P P 17 39 10.5 -0.6
EYAK **Cordova Ski Ar** 66.26 332 P P 17 39 13.2 +1.0
EYAK IAmb IAmb 17 41 06.6

	comp=Z,62nm,1.7s								
HIN	**Hinchinbrook I**	**66.56**	**332**		P		**P**	**17 39 15.1**	**+0.9**
FID	**Port Fidalgo**	**66.67**	**332**		P		**P**	**17 39 15.5**	**+0.6**
DOT	**Dot Lake**	**66.74**	**336**		P		**P**	**17 39 13.2**	**-2.2**
DOT					IAmb		IAmb	17 39 16.0	
	comp=Z,15nm,0.6s								
SCRK	**Sand Creek**	**66.85**	**336**		P		**P**	**17 39 15.2**	**-0.9**
GLI	**Glacier Island**	**67.00**	**332**		P		**P**	**17 39 17.3**	**+0.4**
GLI					IAmb		IAmb	17 39 33.1	
	comp=Z,38nm,1.4s								
PAX	**Paxson**	**67.05**	**335**		P		**P**	**17 39 16.8**	**-0.6**
RIDG	**Independent Ri**	**67.10**	**335**		P		**P**	**17 39 17.3**	**-0.3**
RIDG					IAmb		IAmb	17 39 20.2	
	comp=Z,19nm,1.2s								
SCM	**Sheep Creek Mo**	**67.44**	**333**		P		**P**	**17 39 20.2**	**+0.3**
SCM					IAmb		IAmb	17 40 28.2	
	comp=Z,39nm,1.6s								
KNK	**Knik Glacier**	**67.80**	**332**		P		**P**	**17 39 21.8**	**-0.3**
SUMG	**Summit**	**67.83**	**14**	*i*	P		**P**	**17 39 21.0**	**-1.5**
	comp=Z,22nm,0.9s								
SUMG	**Summit**	**67.83**	**14**		P		**P**	**17 39 20.7**	**-1.8**
SEW	**Seward**	**67.85**	**331**		P		**P**	**17 39 22.2**	**-0.1**
SML	**Sawmill**	**67.88**	**333**		P		**P**	**17 39 22.8**	**+0.2**
SML					IAmb		IAmb	17 39 40.9	
	comp=Z,22nm,1.3s								
DHY	**Denali Highway**	**67.90**	**334**		P		**P**	**17 39 23.4**	**+0.5**
PRP	**Porcupine Dome**	**68.08**	**337**		P		**P**	**17 39 24.2**	**+0.4**
GHO	**Glory Hole Cre**	**68.13**	**333**		P		**P**	**17 39 23.9**	**-0.4**
GHO					IAmb		IAmb	17 39 26.2	
	comp=Z,19nm,0.9s								
HDA	**Harding Lake**	**68.21**	**336**		P		**P**	**17 39 23.0**	**-1.6**
	baz=112,SNR=11								
HDA	**Harding Lake**	**68.21**	**336**		P		**P**	**17 39 23.7**	**-0.8**
HDA					IAmb		IAmb	17 39 24.7	
	comp=Z,12nm,0.8s								
RC01	**Rabbit Creek A**	**68.29**	**332**		P		**P**	**17 39 24.9**	**-0.2**
RC01					IAmb		IAmb	17 40 15.0	
	comp=Z,21nm,1.3s								
ILAR	**Eielson Array**	**68.32**	**336**		P		**P**	**17 39 24.4**	**-0.9**
	comp=Z,5.9nm,0.7s,baz=121,slow=4.7,SNR=78								
BRLK	**Bradley Lake**	**68.44**	**330**		P		**P**	**17 39 26.5**	**+0.4**
CNPM	**China Poot**	**68.54**	**330**		P		**P**	**17 39 26.1**	**-0.7**
CCB	**Clear Creek Bu**	**68.64**	**336**		P		**P**	**17 39 26.1**	**-1.1**
RND	**Reindeer**	**68.64**	**334**		P		**P**	**17 39 27.0**	**-0.4**
POKR	**Poker Plat Res**	**68.67**	**336**		P		**P**	**17 39 26.6**	**-0.8**
	baz=112								
WRH	**Wood River Hil**	**68.69**	**336**		P		**P**	**17 39 26.5**	**-1.1**
KDAK	**Kodiak Island**	**68.77**	**328**		P		**P**	**17 39 28.0**	**-0.2**
	comp=Z,70nm,0.6s,baz=134,slow=4.0,SNR=7.2								
KDAK	**Kodiak Island**	**68.77**	**328**		P		**P**	**17 39 28.9**	**+0.8**
MCK	**McKinley**	**68.79**	**335**		P		**P**	**17 39 27.5**	**-0.7**
SUA	**Susitna One**	**68.86**	**332**		P		**P**	**17 39 28.5**	**-0.3**
SUA					IAmb		IAmb	17 39 30.0	
	comp=Z,10nm,0.6s								
MDM	**Murphy Dome**	**68.92**	**336**		P		**P**	**17 39 29.2**	**+0.2**
OHAK	**Old Harbor**	**69.01**	**327**		P		**P**	**17 39 30.3**	**+0.7**
PPT	**Papeete**	**69.12**	**247**		LR		LR	18 01 27.9	
	comp=Z,70nm,18.4s,baz=5.0,slow=28								
BWN	**Browne**	**69.15**	**335**		P		**P**	**17 39 29.6**	**-0.8**
BWN					IAmb		IAmb	17 39 31.4	
	comp=Z,40nm,0.9s								
TRF	**Thorofare Moun**	**69.27**	**334**		P		**P**	**17 39 30.7**	**-0.6**
SKT	**Skwentna**	**69.37**	**333**		P		**P**	**17 39 31.1**	**-0.7**
SKT					IAmb		IAmb	17 39 32.5	
	comp=Z,11nm,0.6s								
RSO	**Redoubt South**	**69.53**	**331**		P		**P**	**17 39 32.9**	**-0.1**
KTH	**Kantishna Hill**	**69.57**	**334**		P		**P**	**17 39 31.9**	**-1.2**
PPLA	**Purkeypile**	**69.92**	**333**		P		**P**	**17 39 34.1**	**-1.3**
COLD	**Coldfoot**	**70.46**	**338**		P		**P**	**17 39 38.4**	**0.0**
SVW2	**Sparrevohn**	**71.03**	**331**		P		**P**	**17 39 40.7**	**-1.3**
SCO	**Scoresbysund**	**71.31**	**19**		P		**P**	**17 39 40.9**	**-2.6**
SCO					IAmb		IAmb	17 40 08.1	
	comp=Z,47nm,2.0s								
TTA	**Tatalina**	**71.63**	**333**		P		**P**	**17 39 44.4**	**-1.2**
AKUT	**Akutan**	**75.62**	**323**		P		**P**	**17 40 09.4**	**+0.4**
ANM	**Nome**	**75.99**	**334**		P		**P**	**17 40 11.2**	**+0.2**
ANM					IAmb		IAmb	17 41 54.2	
	comp=Z,58nm,1.6s								
UNV	**Unalaska Valle**	**76.05**	**323**		P		**P**	**17 40 12.6**	**+1.1**
ESDC	**Sonseca Array**	**76.86**	**52**		P		**P**	**17 40 14.7**	**-1.8**
	comp=Z,2.7nm,0.6s,baz=282,slow=5.4,SNR=14								
ESDC					LR		LR	18 09 20.4	
	comp=Z,73nm,20.7s,baz=305,slow=32								
ESBB	**Sonseca Array**	**76.86**	**52**		P		**P**	**17 40 16.0**	**-0.5**
ESK	**Eskdalemuir**	**76.96**	**36**		P		**P**	**17 40 15.2**	**-1.5**
NIKH	**Nikolski High**	**77.45**	**322**		P		**P**	**17 40 20.9**	**+1.4**
CLF	**Chambon-Foret**	**80.72**	**43**		P		**P**	**17 40 35.5**	**-2.0**
CLF					IAmb		IAmb	17 40 36.8	
	comp=Z,15nm,0.8s								
ATKA	**Atka Island**	**80.75**	**321**		P		**P**	**17 40 38.6**	**+1.1**
ATKA					IAmb		IAmb	17 40 39.4	
	comp=Z,35nm,0.8s								
ADK	**Adak**	**82.31**	**321**		P		**P**	**17 40 46.6**	**+0.8**
KIWB	**Kanaga Island**	**82.61**	**321**		P		**P**	**17 40 48.1**	**+0.8**
WLF	**Walferdange**	**83.08**	**41**	⇑	P		**P**	**17 40 48.6**	**-1.2**
WLF	**Walferdange**	**83.08**	**41**		P		**P**	**17 40 48.3**	**-1.5**
WLF					IAmb		IAmb	17 40 49.3	
	comp=Z,18nm,1.1s								
ECH	**Echery**	**83.95**	**42**		P		**P**	**17 40 51.8**	**-2.6**
NB2	**NORSAR Subarra**	**84.01**	**29**		P		**P**	**17 40 52.8**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=281,slow=5.1								
NOA	**NORSAR Array B**	**84.01**	**29**		P		**P**	**17 40 52.9**	**-1.5**
	comp=Z,2.2nm,0.8s,baz=309,slow=5.8,SNR=4.2								
NOA					LR		LR	18 13 24.4	
	comp=Z,22nm,20.9s,baz=275,slow=32								
SENIN	**Lac Senin/Sane**	**84.35**	**44**		P		**P**	**17 40 55.0**	**-1.6**
BFO	**Black Forest**	**84.71**	**42**		P		**P**	**17 40 55.3**	**-2.8**
TORD	**Torodi Ar. Bea**	**85.04**	**78**		P		**P**	**17 40 58.5**	**-2.0**
	comp=Z,0.7nm,0.5s,baz=294,slow=6.2,SNR=4.0								
TORD					LR		LR	18 15 23.9	
	comp=Z,32nm,21.5s,baz=330,slow=33								
TUE	**Stuetta**	**85.73**	**44**		P		**P**	**17 41 01.9**	**-1.6**
DAVA	**Damuels**	**85.93**	**43**	*eP*			**P**	**17 41 03.2**	**-1.3**
	comp=Z,12nm,0.9s								
GRA1	**Grafenberg Arr**	**86.31**	**40**		P		**P**	**17 41 04.7**	**-1.4**
GRA1					IAmb		IAmb	17 42 48.1	
	comp=Z,38nm,1.9s								
FUORN	**Ofenpass-Fuorn**	**86.32**	**43**		P		**P**	**17 41 05.1**	**-1.4**
FUORN					IAmb		IAmb	17 41 05.9	
	comp=Z,7.6nm,0.7s								
RETA	**Reutte**	**86.47**	**42**		P		**P**	**17 41 05.4**	**-1.7**
	comp=Z,6.6nm,1.0s								
FETA	**Feichten**	**86.55**	**43**	*eP*			**P**	**17 41 05.9**	**-1.6**
	comp=Z,11nm,1.2s								
PRMA	**PARMA**	**86.73**	**45**		P		**P**	**17 41 06.6**	**-1.6**
BILL	**Bilibino**	**86.77**	**339**		P		**P**	**17 41 06.7**	**-1.3**
CLL	**Collm**	**87.07**	**38**	⇑*i*	P		**P**	**17 41 07.5**	**-2.2**
	comp=Z,7.0nm,0.8s								
CLL	**Collm**	**87.07**	**38**		P		**P**	**17 41 07.3**	**-2.4**
ARCES	**ARCESS Array B**	**87.23**	**19**		P		**P**	**17 41 08.8**	**-1.4**
	comp=Z,2.7nm,0.9s,baz=288,slow=3.7,SNR=4.2								
ZCCA	**Zocca**	**87.28**	**46**		P		**P**	**17 41 09.7**	**-1.3**
ZCCA					IAmb		IAmb	17 44 08.2	
	comp=Z,21nm,1.3s								
CTI	**Castel Tesino**	**87.38**	**44**		P		**P**	**17 41 09.3**	**-2.2**
BRG	**Berggiesshubel**	**87.75**	**39**	*eP*			**P**	**17 41 11.6**	**-1.4**
	comp=Z,6.8nm,1.2s								
ABTA	**Abfaltersbach**	**87.80**	**43**	*eP*			**P**	**17 41 11.4**	**-2.1**
	comp=Z,4.4nm,0.7s,SNR=5.3								
KEST	**Kesra**	**87.82**	**54**		LR		LR	18 14 51.2	
	comp=Z,65nm,20.9s,baz=241,slow=32								
KHC	**Kasperske Hory**	**87.94**	**40**	*eP*			**P**	**17 41 12.6**	**-1.4**
KHC	**Kasperske Hory**	**87.94**	**40**		P		**P**	**17 41 12.4**	**-1.6**
STAL	**STALIGIAL**	**88.05**	**43**		P		**P**	**17 41 12.7**	**-1.9**
STAL					IAmb		IAmb	17 41 13.4	
	comp=Z,9.3nm,1.0s								
GERES	**GERESS Array B**	**88.09**	**41**		P		**P**	**17 41 12.6**	**-2.2**
	comp=Z,1.6nm,0.9s,baz=282,slow=2.6,SNR=10								
GERES					LR		LR	18 14 38.5	
	comp=Z,57nm,20.2s,baz=296,slow=32								
DPC	**Dobruska-Polom**	**89.35**	**39**	*eP*			**P**	**17 41 19.6**	**-1.0**
FINES	**FINESS Array B**	**90.73**	**27**		LR		LR	18 18 03.6	
	comp=Z,44nm,21.0s,baz=270,slow=33								
TIXI	**Tiksi**	**94.67**	**350**		P		**P**	**17 41 43.3**	**-1.4**
TIXI					IAmb		IAmb	17 41 43.5	
	comp=Z,14nm,1.8s								
PETK	**Petropavlovsk-**	**96.81**	**327**		LR		LR	18 28 22.5	
	comp=Z,14nm,20.1s,baz=61,slow=37								
AKASG	**Malin Array Be**	**96.90**	**36**		LR		LR	18 26 11.8	
	comp=Z,26nm,18.0s,baz=225,slow=36								
ZALV	**Zalesovo Beam**	**115.08**	**6**		PKP		**PKiKP**	**17 47 03.4**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=262,slow=3.7,SNR=4.1								
SONM	**Songino Array**	**120.74**	**351**		PKP		**PKPdf**	**17 47 15.6**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=327,slow=1.1,SNR=11								
SONM					pPKP		**pPKPdf**	**17 47 31.5**	**-3.7**
	comp=Z,0.6nm,0.8s,baz=44,slow=4.4,SNR=2.1								
MKAR	**Makanchi Array**	**121.74**	**10**		PKP		**PKPdf**	**17 47 16.7**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=307,slow=3.3,SNR=7.7								
KSRS	**Korea Array**	**122.68**	**328**		PKP		**PKPdf**	**17 47 20.1**	**+0.2**
	comp=Z,2.7nm,0.5s,baz=11,slow=2.2,SNR=12								
KSRS					pPKP		**pPKPdf**	**17 47 35.9**	**-3.1**
	comp=Z,0.6nm,0.5s,baz=359,slow=22,SNR=1.5								
WMQ	**Urumqi**	**125.39**	**6**	*e*	PKP		**PKPdf**	**17 47 25.5**	**+0.4**
WMQ					LR		LR		
	comp=Z,140nm,20.1s								
NRN	**Naryn**	**125.42**	**17**		PKPpre		PKPpre	17 47 17.7	
NRN							**PKPdf**	**17 47 25.2**	**-0.4**
CHGR	**Chuyangaron**	**125.54**	**24**				**PKPdf**	**17 47 25.4**	**-0.2**
TARG	**Taragay, Kyrgy**	**125.64**	**15**				**PKiKP**	**17 47 26.6**	**+0.1**
GAR	**Garm**	**125.70**	**23**				**PKPdf**	**17 47 25.9**	**-0.1**
HHC	**Hu-ho-hao-te**	**126.29**	**344**		PKP		**PKPdf**	**17 47 21.8**	**-5.2**
HHC					AMB		AMB		
	comp=Z,11nm,4.6s								
KSH	**Kashi**	**127.18**	**18**		PKP		**PKPdf**	**17 47 24.6**	**-4.2**
KSH					PP		**PP**	**17 49 28.8**	**+1.8**
KSH					PKS		**PKSdf**	**17 50 59.8**	**-5.7**
KSH					AMB		AMB		
	comp=Z,140nm,6.3s								
KSH					LR		LR		
	comp=Z,220nm,5.4s								
CTA	**Charters Tower**	**129.29**	**253**		PKP		**PKiKP**	**17 47 34.3**	**+0.5**
	comp=Z,5.9nm,0.9s,baz=130,slow=2.5,SNR=7.0								
NJ2	**Nanjing**	**131.45**	**332**	*e*	PKP		**PKiKP**	**17 47 37.8**	**-0.1**
STKA	**Stephens Creek**	**131.67**	**237**		PKP		**PKiKP**	**17 47 39.1**	**+0.9**
	comp=Z,3.1nm,0.8s,baz=74,slow=2.4,SNR=5.5								
STKA	**Stephens Creek**	**131.67**	**237**				**PKPdf**	**17 47 37.9**	**+0.6**
JAY	**Jayapura**	**133.31**	**277**		PKP		**PKPdf**	**17 47 41.5**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=96,slow=15,SNR=3.6								
WHN	**Wuhan**	**134.71**	**335**		PKP		**PKiKP**	**17 47 45.9**	**+1.4**
ENH	**Enshi**	**136.73**	**341**				**PKPdf**	**17 47 46.5**	**-0.4**
CD2	**Chengdu**	**137.65**	**348**		PKP		**PKPdf**	**17 47 46.5**	**-2.1**
AS31	**Alice Springs**	**140.24**	**246**				PKPpre	17 47 47.1	
AS31					PKPdf		**PKPdf**	**17 47 53.6**	**+0.2**
ASAR	**Alice Springs**	**140.24**	**246**		PKhKP		PKPpre	17 47 46.2	
	comp=Z,1.5nm,0.9s,baz=111,slow=3.5,SNR=12								
ASAR					PKP		**PKPdf**	**17 47 54.3**	**+0.8**
	comp=Z,7.6nm,0.9s,baz=116,slow=2.8,SNR=41								
ASAR					pPKP		pPKPdf	17 48 11.5	-0.9
	comp=Z,1.9nm,0.7s,baz=113,slow=2.0,SNR=3.2								
ASAR					SKPbc		**SKiKP**	**17 51 26.4**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=102,slow=3.0,SNR=8.6								
WR0	**Warramunga Arr**	**140.27**	**252**				**PKPdf**	**17 47 54.9**	**+1.4**
WB2	**Warramunga Arr**	**140.45**	**252**				PKPpre	17 47 47.8	
WB2					PKPdf		**PKPdf**	**17 47 55.0**	**+1.1**
WRAB	**Tennant Creek**	**140.45**	**252**				PKPpre	17 47 48.5	
WRAB					PKPdf		**PKPdf**	**17 47 55.0**	**+1.1**
WRA	**Warramunga Arr**	**140.46**	**252**		PKhKP		PKPpre	17 47 47.0	
	comp=Z,1.7nm,0.7s,baz=102,slow=2.9,SNR=28								
WRA					PKP		**PKPdf**	**17 47 55.1**	**+1.2**
	comp=Z,10nm,0.8s,baz=91,slow=1.6,SNR=41								
WRA					pPKP		pPKPdf	17 48 10.8	-2.1
	comp=Z,2.5nm,0.8s,baz=90,slow=2.2,SNR=2.2								
WRA					SKPbc		**SKiKP**	**17 51 28.4**	**+1.2**
	comp=Z,0.5nm,0.9s,baz=91,slow=3.6,SNR=4.6								
SIJI	**Sorong**	**142.06**	**282**		PKP		**PKPdf**	**17 47 58.0**	**+0.9**
	comp=Z,4.3nm,0.7s,baz=88,slow=5.3,SNR=4.0								
MTN	**Manton Dam**	**143.97**	**263**				**PKPdf**	**17 47 59.9**	**-0.4**
DAV	**Davao City (W)**	**144.26**	**298**		PKP		**PKPdf**	**17 48 01.4**	**+0.6**
	comp=Z,224nm,0.4s,baz=4.8,slow=1.7,SNR=3.8								
KNRA	**Kununurra**	**146.18**	**258**				**PKPbc**	**17 48 05.5**	**+0.3**
SLVN	**Son La**	**146.80**	**344**				**PKPbc**	**17 48 06.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**148.87**	**253**				**PKPdf**	**17 48 10.2**	**+1.7**
NWAO	**Narrogin (SRO)**	**149.49**	**220**		PKPbc		**PKPbc**	**17 48 14.5**	**+0.9**
	comp=Z,20nm,0.8s,baz=117,slow=4.5,SNR=12								
NWAO	**Narrogin (SRO)**	**149.49**	**220**				**PKPbc**	**17 48 14.3**	**+0.7**
LUWI	**Luwuk**	**150.19**	**287**				**PKPbc**	**17 48 16.8**	**+0.9**
CHTO	**Chiang Mai**	**150.32**	**351**				**PKPdf**	**17 48 10.0**	**-0.8**
SOEI	**Soe**	**150.57**	**269**				**PKPdf**	**17 48 09.8**	**-1.7**
SOEI							**PKiKP**	**17 48 17.9**	**+0.3**
CM31	**Chiang Mai Arr**	**150.67**	**351**		PKPdf		**PKPdf**	**17 48 11.0**	**-0.4**
CM31							**PKPbc**	**17 48 16.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**150.67**	**351**		PKP		**PKPdf**	**17 48 11.5**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=312,slow=2.1,SNR=23								
CMAR					PKPbc		**PKPbc**	**17 48 16.8**	**-0.1**
	comp=Z,5.2nm,0.8s,baz=328,slow=3.4,SNR=35								
CMAR					pPKPbc		**pPKPdf**	**17 48 32.0**	**+1.6**
	comp=Z,1.4nm,0.7s,baz=345,slow=4.1,SNR=3.3								
SBUM	**Sibu**	**157.94**	**305**		PKPdf		**PKPdf**	**17 48 20.4**	**-1.2**
SBUM							**PKPab**	**17 48 55.7**	**+0.8**
KSM	**Kuching**	**160.05**	**306**		PKPdf		**PKPdf**	**17 48 21.0**	**-3.1**
KSM							**PKPab**	**17 49 04.8**	**+0.8**
IPM	**Ipoh**	**163.52**	**336**				**PKPdf**	**17 48 27.1**	**-0.6**
PSI	**Prapat**	**165.83**	**341**		PKP		**PKPdf**	**17 48 29.6**	**-0.3**
	comp=Z,8.0nm,0.8s,baz=333,slow=9.0,SNR=6.6								
RPSI	**Rantau Prapat**	**165.93**	**341**				**PKPdf**	**17 48 28.7**	**-1.0**

IDC 10 17:29:11.9±1.8, 2°96N×89°97E, h0km, mb4.1/6, mb1 4.0/7, mb1mx3.6/47, mbtmp3.9/7, ML3.6/1, MS3.2/2, Ms1 3.3/2, ms1mx2.6/27, Error ellipse: s-maj=54.3km s-min=27.8km az=53.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.74**	**29**	P		P	17 33 21.4	-0.1
	0.1nm,0.3s,baz=218,slow=13,SNR=3.4							
CMAR				LR		LR	17 40 24.2	
	comp=Z,20nm,20.7s,baz=245,slow=38							
H08S3	**Diego Garcia H**	**20.37**	**239**	T		T	17 54 48.2	
	baz=60,slow=75,SNR=33							
H08S2	**Diego Garcia H**	**20.37**	**239**	T		T	17 54 44.4	
	baz=60,slow=75,SNR=23							
H08S1	**Diego Carcia H**	**20.39**	**239**	T		T	17 54 48.0	
	baz=60,slow=75,SNR=31							
H01W3	**Cape Leeuwin H**	**43.95**	**151**	T		T	18 23 31.2	
	baz=46,slow=74,SNR=2.6							
H01W2	**Cape Leeuwin H**	**43.97**	**151**	T		T	18 23 30.1	
	baz=328,slow=74,SNR=3.6							
H01W1	**Cape Leeuwin H**	**43.97**	**151**	T		T	18 23 31.1	
MKAR	**Makanchi Array**	**44.17**	**352**	P		P	17 37 22.9	+0.3
	1.2nm,0.7s,baz=172,slow=8.8,SNR=8.4							
GEYT	**Alibeck**	**45.40**	**324**	P		P	17 37 34.0	+1.5
	1.6nm,0.7s,baz=163,slow=11,SNR=3.8							
SONM	**Songino Array**	**46.90**	**15**	P		P	17 37 44.2	-0.1
	2.7nm,0.5s,baz=195,slow=9.1,SNR=25							
WRA	**Warrungaga Arr**	**49.14**	**120**	P		P	17 38 02.5	+0.6
	0.5nm,0.7s,baz=296,slow=8.8,SNR=6.0							
ZALV	**Zalesovo Beam**	**51.00**	**356**	P		P	17 38 15.0	-0.5
	2.2nm,0.4s,baz=177,slow=7.2,SNR=12							
FINES	**FINESS Array B**	**75.16**	**333**	P		P	17 40 55.1	-0.8
	7.1nm,1.0s,baz=95,slow=7.7,SNR=3.3							
ARCES	**ARCESS Array B**	**78.50**	**341**	LR		LR	18 16 27.6	
	comp=Z,52nm,19.7s,baz=224,slow=36							
TXAR	**Lajitas Array**	**145.33**	**21**	PKPbc		PKPbc	17 48 49.8	-2.7
	0.6nm,0.8s,baz=320,slow=2.4,SNR=5.0							

*IDC **10** 17:34:18.7±2.0, 11°40S×118°01E, h0km, mb3.5/1, mb1 3.9/6, mb1mx3.6/30, mbtmp3.8/6, ML3.8/5, Error ellipse: s-maj=50.8km s-min=23.3km az=51.0*
*ISCJB **10** 17:34:21.8±0.7, 11°36S±0°06×118°18E±0°07, h36km, mb3.8/2, Error ellipse: s-maj=10.1km s-min=8.6km az=147.5*
*NEIC **10** 17:34:24.2±2.0, 11°41S±0°08×118°16E±0°07, h43km±8km, mb4.1/5*

ISC 10 17:34:23.1±0.8, 11°36S±0°06×118°19E±0°08, h36km, n19, σ3s10/23, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**4.91**	**305**			**Pn**	**17 35 34.2**	**-0.1**
BATI	**Baumata**	**5.50**	**78**	Pn		**Pn**	**17 35 44.5**	**+2.0**
	2.3nm,0.3s,baz=285,slow=13,SNR=7.3							
BATI				Sn		**Sn**	**17 36 42.8**	**-1.9**
	5.5nm,0.3s,baz=292,slow=19,SNR=8.2							
SOEI	**Soe**	**6.19**	**76**	Pn		**Pn**	**17 35 54.5**	**+2.4**
KAPI	**Kappang**	**6.49**	**14**	Pn		**Pn**	**17 35 57.5**	**+1.3**
	3.4nm,0.3s,baz=187,slow=6.7,SNR=9.4							
KAPI				Sn		**Sn**	**17 37 04.3**	**-4.8**
	0.9nm,0.3s,baz=142,slow=18,SNR=1.1							
KAPI	**Kappang**	**6.49**	**14**			**Pn**	**17 35 57.9**	**+1.7**
FITZ	**Fitzroy Crossi**	**9.84**	**134**	Pn		**Pn**	**17 36 43.0**	**+1.0**
	1.0nm,0.3s,baz=322,slow=12,SNR=41							
FITZ				Sn		**Sn**	**17 38 25.3**	**-6.0**
	0.8nm,0.3s,baz=0.0,slow=20,SNR=5.2							
FITZ	**Fitzroy Crossi**	**9.84**	**134**			**Pn**	**17 36 43.1**	**+1.0**
FITZ						**Sn**	**17 38 26.2**	**-5.1**
PSA00	**Pilbara Seismi**	**10.28**	**171**			**Pn**	**17 36 49.2**	**+1.1**
PSA00				Sn		Sn	17 38 34.3	-7.8

*ISCJB **10** 18:22:21.7±0.6, 7°08S±0°05×129°44E±0°08, h139km, mb3.4/4, Error ellipse: s-maj=10.9km s-min=6.6km az=10.1*
*IDC **10** 18:22:24.2±2.1, 7°18S×129°39E, h149km±22km, mb3.2/4, mb1 3.3/9, mb1mx3.2/47, mbtmp3.7/9, Error ellipse: s-maj=24.6km s-min=18.9km az=107.0*

ISC 10 18:22:22.4±0.8, 7°24S±0°06×129°6E±0°1, h139km, n9, σ2s57/13, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.53**	**243**	P		**Pn**	**18 23 57.5**	**+1.4**
	baz=98,slow=7.1,SNR=2.9							
BATI				S		**Sn**	**18 25 08.9**	**-0.6**
	6.5nm,0.3s,baz=41,slow=20,SNR=5.7							
SIJI	**Sorong**	**6.56**	**15**	P		**Pn**	**18 23 58.0**	**+1.5**
	0.4nm,0.3s,baz=217,slow=20,SNR=6.5							
CISI	**Cisompet, Garu**	**10.91**	**289**	Pn		**Pn**	**17 36 54.1**	**-2.7**
KNRA	**Kununurra**	**11.14**	**114**			**Pn**	**17 37 01.0**	**+1.1**
WRA	**Warramunga Arr**	**17.73**	**121**	P		**Pn**	**17 38 27.2**	**-0.1**
	0.2nm,0.3s,baz=297,slow=13,SNR=14							
WRA				S		Sn	17 41 30.6	-13
	0.1nm,0.3s,baz=293,slow=27,SNR=3.3							
MORW	**Morawa**	**17.73**	**186**			**Pn**	**17 38 28.2**	**+1.0**
MORW				IAmb		IAmb	17 38 30.6	
	comp=Z,30nm,1.4s							
WRAB	**Tennant Creek**	**17.73**	**121**			**Pn**	**17 38 28.5**	**+1.2**
WB2	**Warramunga Arr**	**17.74**	**121**	P		**Pn**	**17 38 27.8**	**+0.4**
WB2				IAmb		IAmb	17 38 46.0	
	comp=Z,5.4nm,1.2s							
ASAR	**Alice Springs**	**19.32**	**131**	P		**P**	**17 38 48.2**	**+2.8**
	comp=Z,0.3nm,0.3s,baz=314,slow=11,SNR=20							
ASAR				S		S	17 42 12.4	-10
	comp=Z,0.1nm,0.3s,baz=312,slow=22,SNR=3.5							
FORT	**Forrest**	**21.38**	**156**	P		**P**	**17 39 11.3**	**+3.7**
NWAO	**Narrogin (SRO)**	**21.48**	**182**	P		P	17 39 17.7	+9.0
	comp=Z,4.3nm,0.4s,baz=10,slow=11,SNR=12							
NWAO				S		**S**	**17 42 59.1**	**-5.9**
	comp=Z,6.7nm,0.8s,baz=44,slow=17,SNR=4.7							
NWAO	**Narrogin (SRO)**	**21.48**	**182**	P		**P**	**17 39 13.0**	**+4.4**
NWAO				IAmb		IAmb	17 39 14.3	
	comp=Z,27nm,1.3s							
NWAO		

SIJI S **Sn** 18 25 06.3 -3.8
1.3nm,0.3s,baz=234,slow=23,SNR=11
FITZ Fitzroy Crossi 11.45 199 P **Pn** 18 25 02.3 +0.5
0.3nm,0.3s,baz=27,slow=8.1,SNR=22
FITZ S **Sn** 18 27 03.5 -4.6
0.7nm,0.3s,baz=20,slow=12,SNR=5.5
WRA Warramunga Arr 13.45 160 P **Pn** 18 25 29.9 +2.1
0.7nm,0.3s,baz=334,slow=14,SNR=38
WRA S Sn 18 27 49.5 -7.0
0.3nm,0.3s,baz=343,slow=23,SNR=5.3
ASAR Alice Springs 16.86 166 P **Pn** 18 26 14.0 +3.8
0.5nm,0.3s,baz=347,slow=9.5,SNR=29
ASAR S **S** 18 29 16.4 -2.1
0.2nm,0.3s,baz=346,slow=27,SNR=5.4
CMAR Chiang Mai Arr 39.55 311 P **P** 18 29 39.6 -0.6
0.4nm,0.8s,baz=140,slow=7.4,SNR=6.5
SONM Songino Array 58.53 342 P **P** 18 32 04.8 +0.5
0.2nm,0.4s,baz=131,slow=4.2,SNR=1.9
MKAR Makanchi Array 68.19 327 P **P** 18 33 07.8 0.0
0.5nm,0.4s,baz=117,slow=7.9,SNR=8.4
ZALV Zalesovo Beam 71.61 334 P **P** 18 33 27.4 -1.1
0.4nm,0.5s,baz=142,slow=4.9,SNR=2.5

*IDC **10** 18:33:03.8±0.6,42.2°41.N×19.2°29.E,h0km,mb4.0/18, mb1 4.1/32,mb1mx4.0/46,mbtmp4.0/32,ML3.9/12, MS3.2/13,Ms1 3.2/13,ms1mx2.9/45,Error ellipse: s-maj=10.6km s-min=8.7km az=25.0*
*TIR **10** 18:33:04.2,42.2°.54N×19.2°.15E,h20km,Md2.7/6*
*THE **10** 18:33:06.5,42.2°.52N×19.2°.07E,h16km±12km,ML3.9/4,Error ellipse: s-maj=16.5km s-min=1.6km az=318.0*
*PDG **10** 18:33:07.2±0.2,42.2°.43N×19.2°.26E,h21km,MD4.3/11, ML4.4/11,Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
*MED_RC **10** 18:33:07.0±0.5,42.2°.43N×19.2°.27E,h32km±2km,MW4.3/10, Moment Tensor Solution.Mantle waves: s10,c11; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; Mrr0.81±.80; Mθθ-1.38±.54; Mφφ0.57±.51; Mrθ-0.82±.32; Mrφ3.08±.24; Mθφ-0.32±.24; Best double couple: M₀3.38000×10¹⁵ NP1:φs263.00000°,δ82.00000°, λ18.00000°. NP2:φs170.00000°,δ73.00000°,λ171.00000°. Principal axes: T 3.0700, Plg18.0000°, Azm128.0000°; N 0.6100, Plg71.0000°, Azm288.0000°; P -3.6900, Plg6.0000°, Azm36.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*RHSSO **10** 18:33:07.5±0.3,42.2°.46N×19.2°.35E,h7km±1km,ML4.4/1*
*SKO **10** 18:33:08.9,42.2°.39N×19.2°.35E,h7km,M2.8,ML3.8*
*BEO **10** 18:33:08.4±0.2,42.2°.48N×19.2°.33E,h9km±1km,ML4.0/24*
*NEIC **10** 18:33:08.8±2.4,42.2°.42N±0.2°.04×19.2°.24E±0.2°.05,h31km±5km, mb4.6/44,ML4.4(VIE),ML4.2(BUC)*
*LDG **10** 18:33:09.4,42.2°.34N×19.2°.36E,h30km*
*PRU **10** 18:33:11.2±0.0,42.2°.55N×19.2°.52E,h17km,M4.6*
ISC 10 18:33:07.1±0.5,42°.47N±0.2°.02×19°.27E±0.2°.02,h22km±3km, n480,σ2ϕ16/627,mb4.4/34,MS3.3/7,37C-35D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.04**	**194**	⇑*i*Pg		**Pb**	**18 33 10.9**	**-0.1**
PDG				*i*Sg		**Sb**	**18 33 13.7**	**+0.1**
PDG	**Podgorica**	**0.04**	**194**	*e*Pg		**Pb**	**18 33 10.7**	**-0.3**
PDG				*e*Sg		**Sb**	**18 33 13.5**	**-0.1**
PDG	**Podgorica**	**0.04**	**194**	⇑*i*Pg		**Pb**	**18 33 10.7**	**-0.3**
PDG				*e*Sg		**Sb**	**18 33 12.8**	**-0.7**
PDG	**Podgorica**	**0.04**	**194**	⇑P		**Pb**	**18 33 10.4**	**-0.5**
PDG				⇑S		**Sb**	**18 33 13.4**	**-0.1**
PDG				AML		AML	18 33 14.0	
PDG	**Podgorica**	**0.04**	**194**			**Pb**	**18 33 10.3**	**-0.7**
PDG						**Sb**	**18 33 13.7**	**+0.1**
TTG	**Podgorica**	**0.04**	**194**	⇑*i*Pg		**Pb**	**18 33 10.8**	**-0.1**
TTG				*i*Sg		**Sb**	**18 33 13.7**	**+0.1**
CEME	**Cevo**	**0.27**	**287**	⇑*i*Pg		**Pb**	**18 33 13.7**	**+0.1**
CEME				*e*Sg		**Sb**	**18 33 18.7**	**+0.7**
DRME	**Dracevica, Mon**	**0.29**	**193**	⇓*i*Pg		**Pb**	**18 33 13.2**	**-0.5**
DRME				*e*Sg		**Sb**	**18 33 18.1**	**-0.1**
DRME	**Dracevica, Mon**	**0.29**	**193**	⇓*i*Pg		**Pb**	**18 33 13.2**	**-0.5**
DRME				*e*Sg		**Sb**	**18 33 17.9**	**-0.3**
BUM	**Brajici-Budva**	**0.32**	**239**	⇓*i*Pg		**Pb**	**18 33 14.2**	**-0.1**
BUM				*e*Sg		**Sb**	**18 33 19.3**	**+0.1**
NKME	**Niksic**	**0.38**	**322**	⇑*i*Pg		**Pb**	**18 33 15.5**	**+0.3**
NKME				*e*Sg		**Sb**	**18 33 22.3**	**+1.6**
NKY	**Niksic**	**0.40**	**330**	⇑*i*Pg		**Pb**	**18 33 16.1**	**+0.5**
NKY				*e*Sg		**Sn**	**18 33 23.2**	**-1.5**
KOME	**Kolasin**	**0.42**	**25**	⇓*i*Pg		**Pb**	**18 33 16.6**	**+0.6**
KOME				*i*Sg		**Sn**	**18 33 24.1**	**-1.1**
ULC	**Ulcinj**	**0.50**	**182**	⇓*i*Pg		**Pb**	**18 33 16.3**	**-1.0**
ULC	**Ulcinj**	**0.50**	**182**	⇓*i*Pg		**Pb**	**18 33 16.4**	**-1.0**
ULC				*e*Sg		**Pb**	**18 33 24.4**	**+0.2**
PVY	**Plav**	**0.53**	**76**	⇓*i*Pg		**Pb**	**18 33 17.8**	**0.0**
PVY				*i*Sg		**Sn**	**18 33 26.9**	**-0.9**
HCY	**Herceg Novi**	**0.57**	**268**	⇓*i*Pg		**Pb**	**18 33 18.2**	**-0.3**
HCY				*e*Sg		**Sn**	**18 33 28.5**	**-0.3**
HCY	**Herceg Novi**	**0.57**	**268**	⇓*i*Pg		**Pb**	**18 33 18.3**	**-0.3**
HCY				*e*Sg		**Sn**	**18 33 27.6**	**-1.2**
BCI	**Bajram Curri**	**0.60**	**99**	*i*PG		**Pb**	**18 33 18.3**	**-0.7**
BCI				*i*SG		**Sb**	**18 33 28.0**	**+0.9**
BEY	**Berane**	**0.61**	**49**	⇓*i*Pg		**Pb**	**18 33 19.7**	**+0.4**
IVA	**Berane**	**0.61**	**49**	⇓*i*Pg		**Pb**	**18 33 19.6**	**+0.4**
IVA				*i*Sg		**Sn**	**18 33 30.0**	**+0.1**
BRY	**Bratogost**	**0.69**	**309**	⇑*i*Pg		**Pb**	**18 33 20.6**	**0.0**
BRY				*e*Sg		**Sn**	**18 33 31.3**	**-0.6**
BRY	**Bratogost**	**0.69**	**309**	⇑*i*Pg		**Pb**	**18 33 20.6**	**0.0**
BRY				*i*Sg		**Sn**	**18 33 32.5**	**+0.6**
TREB	**Trebinje**	**0.72**	**290**	*e*Pg		**Pb**	**18 33 21.3**	**+0.3**
TREB				*e*Sg		**Sn**	**18 33 33.9**	**+1.5**
TREB	**Trebinje**	**0.72**	**290**	*e*Pg		**Pb**	**18 33 21.0**	**0.0**
TREB				*e*Sg		**Sn**	**18 33 33.1**	**+0.7**
PLE	**Pljevlja**	**0.87**	**6**	⇑*i*Pg		**Pn**	**18 33 24.2**	**+0.1**
PLE				*e*Sg		**Sn**	**18 33 38.1**	**+1.9**
SJES	**Sjenica**	**0.95**	**33**	*e*Pg		**Pn**	**18 33 25.7**	**+0.5**
SJES				*e*Sg		**Sb**	**18 33 37.3**	**+0.2**
RUDO	**Rudo**	**1.15**	**4**	⇓*i*Pg		**Pb**	**18 33 28.5**	**+0.1**
RUDO				*e*Sg		**Sn**	**18 33 45.0**	**+1.9**
PHP	**Peshkopia**	**1.17**	**131**	P		**Pn**	**18 33 28.2**	**-0.1**
PHP				S		**Sn**	**18 33 47.5**	**+3.9**
PHP	**Peshkopia**	**1.17**	**131**	*i*PN		**Pb**	**18 33 29.9**	**+1.2**
PHP				*i*SN		**Sn**	**18 33 46.9**	**+3.3**
TIR	**Tirane**	**1.20**	**158**	P		**Pn**	**18 33 28.9**	**+0.2**
TIR				S		**Sb**	**18 33 47.3**	**+3.0**
	4μm,0.6s							
TIR	**Tirane**	**1.20**	**158**	*i*Pg		**Pn**	**18 33 28.9**	**+0.2**
TIR	**Tirane**	**1.20**	**158**	*e*Pg		**Pb**	**18 33 29.4**	**+0.2**
TIR				*e*Sg		**Sb**	**18 33 47.3**	**+3.0**
TIR	**Tirane**	**1.20**	**158**	*i*PN		**Pb**	**18 33 29.3**	**+0.1**
TIR				*i*SN		**Sb**	**18 33 47.3**	**+3.0**
TIR	**Tirane**	**1.20**	**158**	⇑S		**Sb**	**18 33 48.5**	**+4.1**
TIR				AML		AML	18 33 49.5	
TIR	**Tirane**	**1.20**	**158**			**Pn**	**18 33 28.8**	**+0.2**
TIR						**Sb**	**18 33 47.5**	**+3.2**
STON	**Ston**	**1.23**	**290**	*i*Pn		**Pb**	**18 33 29.5**	**0.0**
STON				Sn		**Sb**	**18 33 49.0**	**+4.1**
STON	**Ston**	**1.23**	**290**	*e*Pg		**Pb**	**18 33 29.8**	**+0.2**
STON				*e*Sg		**Sb**	**18 33 49.1**	**+4.1**
STON	**Ston**	**1.23**	**290**	*e*Pg		**Pb**	**18 33 29.6**	**0.0**
STON				*e*Sg		**Sb**	**18 33 47.5**	**+2.6**
IVAS	**Ivanjica**	**1.28**	**30**	*e*Pg		**Pb**	**18 33 31.4**	**+0.8**
IVAS				*e*Sg		**Sb**	**18 33 49.5**	**+2.8**
BBLS	**Lazići**	**1.40**	**4**	*e*Pg		**Pb**	**18 33 33.8**	**+1.2**
BBLS				*e*Sg		**Sb**	**18 33 53.7**	**+3.6**
BBLS	**Lazići**	**1.40**	**4**	⇑*i*Pg		**Pb**	**18 33 32.4**	**-0.2**
BBLS				*e*Sg		**Sb**	**18 33 51.8**	**+1.7**
SELS	**Selova**	**1.56**	**60**	*e*Pg		**Pb**	**18 33 34.8**	**-0.4**
SELS				*e*Sg		**Sb**	**18 33 55.3**	**+0.8**
HAPS	**Han Pijesak,BI**	**1.63**	**352**	*e*Pg		**Pb**	**18 33 36.4**	**-0.2**
HAPS				*e*Sg		**Sb**	**18 33 58.8**	**+1.9**
HAPS	**Han Pijesak,BI**	**1.63**	**352**	⇑*i*Pn		**Pb**	**18 33 36.3**	**-0.3**
HAPS				*e*Sn		**Sb**	**18 33 58.7**	**+1.9**
SKO	**Skopje**	**1.69**	**106**	*i*Pg		**Pb**	**18 33 37.8**	**+0.3**
SKO				*i*Sg		**Sb**	**18 34 00.1**	**+1.9**
SKO				*e*Lg		Lg	18 34 03.0	
	comp=E,230nm,1.2s							
SKO				*e*Lg		Lg	18 34 04.0	
	comp=N,152nm,0.8s							
SKO	**Skopje**	**1.69**	**106**	*e*Pg		**Pb**	**18 33 37.5**	**0.0**
DIVS	**Divibare**	**1.71**	**18**	*e*Pn		**Pb**	**18 33 37.3**	**-0.7**
DIVS				*e*Sn		**Sb**	**18 33 59.2**	**+0.1**
DIVS	**Divibare**	**1.71**	**18**	*e*Pn		**Sb**	**18 33 37.1**	**-0.9**
DIVS				*e*Sn		**Sb**	**18 33 59.4**	**+0.3**
GRUS	**Gruza**	**1.77**	**36**	*e*Pn		**Pb**	**18 33 38.2**	**-0.7**
MAKA	**Makarska**	**1.84**	**297**	*i*Pn		**Pb**	**18 33 39.8**	**-0.3**
MAKA						**Sb**	**18 34 05.1**	**+2.4**
RICI	**Ricice**	**1.87**	**304**	iPn		**Pb**	**18 33 40.8**	**+0.2**
RICI						**Sb**	**18 34 06.2**	**+2.6**
BARS	**Barje**	**1.91**	**79**	*e*Pn		**Pb**	**18 33 40.1**	**-1.2**
BARS	**Barje**	**1.91**	**79**	*e*Pn		Pb	18 33 49.7	+8.4
BARS				*e*Sn		**Sb**	**18 34 04.6**	**-0.1**
TRUS	**Trudelj**	**1.94**	**25**	*e*Pn		**Pn**	**18 33 40.4**	**+1.6**
VLO	**Vlora**	**2.00**	**175**	*i*PN		**Pn**	**18 33 40.9**	**+1.3**
VLO				*i*SN		**Sb**	**18 34 08.7**	**+1.3**
TEKS	**Tekeris**	**2.09**	**5**	*e*Pn		**Pb**	**18 33 43.4**	**-0.9**
TEKS				*e*Sn		**Sn**	**18 34 08.1**	**+1.9**
TEKS	**Tekeris**	**2.09**	**5**	*e*Pn		**Pn**	**18 33 42.3**	**+1.4**
TEKS				*e*Sn		**Sb**	**18 34 08.7**	**-1.1**
BOVS	**Bovan**	**2.13**	**56**	*e*Pn		**Pn**	**18 33 42.7**	**+1.3**
BOVS				*e*Sn		**Sb**	**18 34 10.3**	**-0.8**
TPE	**Tepelena**	**2.24**	**165**	P		**Pn**	**18 33 44.4**	**+1.5**
TPE				S		**Sb**	**18 34 12.6**	**-1.6**
	comp=N,2μm,1.0s							
TPE	**Tepelena**	**2.24**	**165**	*i*PN		**Pn**	**18 33 43.4**	**+0.5**
TPE				*i*SN		**Sb**	**18 34 17.2**	**+3.0**
BAI	**Bari**	**2.25**	**234**	⇓*i*Pn		**Pn**	**18 33 43.2**	**+0.3**
BAI						**Sn**	**18 34 10.5**	**+0.6**
CGL1	**Ceglie Messapi**	**2.26**	**217**	⇓*i*Pn		**Pn**	**18 33 43.0**	**-0.1**
SVIS	**Svilajnac**	**2.29**	**38**	*e*Pn		**Pb**	**18 33 47.0**	**-0.7**
FNA	**Florina**	**2.31**	**136**	P		**Pb**	**18 33 46.1**	**-1.9**
FNA				S		**Sb**	**18 34 15.6**	**-0.6**
	comp=N,2μm,0.8s							
FNA	**Florina**	**2.31**	**136**	*i*Pn		**Pb**	**18 33 46.2**	**-1.9**
FNA	**Florina**	**2.31**	**136**			**Pb**	**18 33 46.2**	**-1.9**
DOB	**Doboj**	**2.42**	**340**	*e*Pn		**Pb**	**18 33 48.1**	**-1.8**
DOB				*e*Sn		**Sb**	**18 34 17.9**	**-1.4**
MASS	**Massafra**	**2.43**	**222**	⇓*i*Pn		**Pn**	**18 33 45.2**	**-0.3**
MASS				Sn		**Sn**	**18 34 13.9**	**-0.6**
TAR1	**Taranto**	**2.45**	**218**	⇓*i*Pn		**Pb**	**18 33 51.4**	**+1.0**
NEST	**Nestorio**	**2.45**	**146**	P		**Pn**	**18 33 48.0**	**+2.1**
SCTE	**Santa Cesarea**	**2.47**	**194**			**Pn**	**18 33 45.4**	**-0.6**
BEO	**Beograd**	**2.50**	**20**	*e*Pn		**Sb**	**18 33 49.1**	**-2.2**
BEO				*e*Sn		**Sb**	**18 34 19.4**	**-2.2**
MGRS	**Mrkonjic Grad**	**2.52**	**322**	⇑*i*Pn		**Pb**	**18 33 50.1**	**-1.5**
MGRS				*e*Sn		**Sb**	**18 34 20.6**	**-1.5**
SG1	**Sgolgore (BA)**	**2.53**	**231**	⇓*i*Pn		**Pn**	**18 33 47.1**	**+0.2**
SG1				Sn		**Sn**	**18 34 17.5**	**+0.4**
ZAGS	**Zajecar**	**2.55**	**57**	*e*Pn		**Pn**	**18 33 48.2**	**+1.0**
KIJV	**Kijevo**	**2.60**	**307**	*i*Pn		**Pb**	**18 33 51.7**	**-1.3**
KIJV				Sn		**Sb**	**18 34 25.5**	**+0.1**
ZAPS	**Zavoj**	**2.60**	**71**	*e*Pn		**Pn**	**18 33 50.3**	**+2.4**
ZAPS				*e*Sn		**Sn**	**18 34 20.8**	**+1.9**
KUBS	**Kucevo**	**2.62**	**41**	*e*Pn		**Pn**	**18 33 50.6**	**+2.5**
SRN	**Sarande**	**2.64**	**168**	P		**Pn**	**18 33 49.0**	**+0.6**
SRN	**Sarande**	**2.64**	**168**	*i*PN		**Sb**	**18 34 25.3**	**-0.5**
SRN				*i*SN		Sn	18 34 42.4	+23
MATE	**Matera**	**2.65**	**227**	⇓P		**Pn**	**18 33 48.4**	**0.0**
MATE				AML		AML	18 34 49.7	
MATE	**Matera**	**2.65**	**227**			**Pn**	**18 33 48.4**	**0.0**
PENT	**Pentalofos**	**2.67**	**148**	P		**Pn**	**18 33 51.2**	**+2.3**
SGRT	**San Giovanni R**	**2.72**	**256**			**Pn**	**18 33 49.9**	**+0.3**
FRGS	**Fruska Gora**	**2.72**	**8**	*e*Pn		**Pn**	**18 33 52.0**	**+2.5**
FRGS				*e*Sn		**Sb**	**18 34 25.4**	**-2.5**
FRGS	**Fruska Gora**	**2.72**	**8**	*e*Pn		**Pn**	**18 33 51.5**	**+2.0**
FRGS				*e*Sn		**Sn**	**18 34 24.3**	**+2.6**
VAY	**Valandovo**	**2.72**	**114**	⇓*i*Pn		**Pn**	**18 33 51.7**	**+2.2**
VAY				*i*Sn		**Sb**	**18 34 31.4**	**+3.5**
VAY				*e*Lg		Lg	18 34 34.3	
	comp=E,398nm,1.0s							
VAY				*e*Lg		Lg	18 34 36.6	
	comp=N,466nm,0.9s							
VAY	**Valandovo**	**2.72**	**114**	*e*Pn		**Pn**	**18 33 51.7**	**+2.2**
BLY	**Banja Luka**	**2.74**	**327**	*e*Pn		**Pb**	**18 33 53.1**	**-2.3**
BLY				*e*Sn		**Sb**	**18 34 27.4**	**-1.0**
BLY	**Banja Luka**	**2.74**	**327**	⇑*i*Pn		**Pb**	**18 33 53.0**	**-2.3**
BLY				*e*Sn		**Sb**	**18 34 26.8**	**-1.6**
BLY	**Banja Luka**	**2.74**	**327**	⇑P		**Pb**	**18 33 52.8**	**-2.6**
BLY				⇑S		**Sb**	**18 34 27.7**	**-0.7**
BLY	**Banja Luka**	**2.74**	**327**			**Pb**	**18 33 52.9**	**-2.4**
KEK	**Kerkira**	**2.78**	**172**	P		**Pn**	**18 33 50.5**	**+0.2**
GRG	**Griva**	**2.79**	**122**	P		**Pn**	**18 33 52.8**	**+2.3**
GRG	**Griva**	**2.79**	**122**	*i*Pn		**Pn**	**18 33 52.7**	**+2.3**
KZN	**Kozani**	**2.87**	**138**	P		**Pn**	**18 33 52.6**	**+1.0**
KZN				S		**Sb**	**18 34 29.5**	**-2.7**
	comp=N,620nm,0.8s							
KKB	**Krupnik**	**2.90**	**101**	*i*Pn		**Pn**	**18 33 54.8**	**+2.8**
KKB				*i*Sn		**Sb**	**18 34 30.0**	**-3.2**
ZIRJ	**Zirje**	**2.91**	**295**	*i*Pn		**Pn**	**18 33 54.5**	**+2.4**
ZIRJ				Sn		**Sn**	**18 34 29.7**	**+3.3**
MDVR	**Moldovita**	**2.92**	**37**	⇑P		**Pn**	**18 33 54.0**	**+1.7**
MDVR				AML		AML	18 34 52.9	
MDVR	**Moldovita**	**2.92**	**37**			**Pn**	**18 33 54.0**	**+1.7**
VTS	**Vitosha**	**2.94**	**86**	P		**Pn**	**18 33 54.2**	**+1.6**
VTS	**Vitosha**	**2.94**	**86**	*i*Pn		**Pn**	**18 33 54.3**	**+1.7**
VTS				*i*Sn		**Sn**	**18 34 29.2**	**+2.0**
VTS	**Vitosha**	**2.94**	**86**	*e*Pn		**Pn**	**18 33 54.7**	**+2.2**
VTS				*e*Sn		**Sn**	**18 34 29.8**	**+2.6**
VTS	**Vitosha**	**2.94**	**86**	*e*P		**Pn**	**18 33 54.8**	**+2.2**
VTS	**Vitosha**	**2.94**	**86**	⇑P		**Pn**	**18 33 55.4**	**+2.8**
VTS				AML		AML	18 34 33.0	
VTS	**Vitosha**	**2.94**	**86**			**Pn**	**18 33 54.2**	**+1.6**
MORI	**Morici**	**2.96**	**299**	*e*Pn		**Pb**	**18 33 56.1**	**-3.0**
KPRO	**Kipourio**	**2.97**	**147**	P		**Pn**	**18 33 54.6**	**+1.6**
KTI	**Kastanea**	**2.98**	**133**	P		**Pn**	**18 33 55.1**	**+1.9**
ACER	**Acerenza**	**3.01**	**237**			**Pn**	**18 33 54.0**	**+0.6**
KNT	**Kendrikon**	**3.01**	**114**	P		**Pn**	**18 33 55.6**	**+2.1**
KNT	**Kendrikon**	**3.01**	**114**	*i*Pn		**Pn**	**18 33 55.5**	**+2.1**
JAN	**Janina**	**3.05**	**156**	P		**Pn**	**18 33 56.4**	**+2.3**
BANR	**Banloc**	**3.21**	**24**	⇓P		**Pn**	**18 33 59.1**	**+2.9**
BANR				AML		AML	18 34 56.2	
BANR	**Banloc**	**3.21**	**24**			**Pn**	**18 33 59.1**	**+2.9**
DJES	**Djerdap**	**3.23**	**46**	*e*Pn		**Pn**	**18 33 59.1**	**+2.6**
PUNG	**Punghina**	**3.23**	**55**	⇓P		**Pn**	**18 34 00.0**	**+3.6**
PUNG				AML		AML	18 34 56.0	
PUNG	**Punghina**	**3.23**	**55**			**Pn**	**18 34 00.0**	**+3.6**
UDBI	**Udbina**	**3.28**	**310**	*i*Pn		**Pb**	**18 34 01.4**	**-3.2**
UDBI				Sn		**Sb**	**18 34 41.9**	**-2.2**
THE	**Thessaloniki**	**3.33**	**122**	*i*Pn		**Pn**	**18 33 59.8**	**+2.0**
THE				*i*Sn		**Sn**	**18 34 38.4**	**+1.8**
LIT	**Litokhoron**	**3.39**	**133**	P		**Pn**	**18 34 00.3**	**+1.6**
LIT	**Litokhoron**	**3.39**	**133**	*i*Pn		**Pn**	**18 34 00.6**	**+1.9**
LIT	**Litokhoron**	**3.39**	**133**			**Pn**	**18 34 00.6**	**+1.9**
DUGI	**Dugi Otok**	**3.43**	**298**	*i*Pn		**Pn**	**18 34 01.7**	**+2.4**
MMB	**Musomiste**	**3.44**	**103**	⇓*i*Pn		**Pn**	**18 34 02.3**	**+2.9**
SOH	**Sokhos**	**3.48**	**117**	P		**Pn**	**18 34 02.6**	**+2.7**
BZS	**Buzias**	**3.58**	**27**	⇓P		**Pn**	**18 34 02.6**	**+1.4**
BZS				AML		AML	18 34 46.1	
BZS	**Buzias**	**3.58**	**27**			**Pn**	**18 34 02.6**	**+1.4**
SRE	**Strehaia**	**3.60**	**51**	⇓P		**Pn**	**18 34 03.8**	**+2.1**
SRE				AML		AML	18 35 19.0	
SRE	**Strehaia**	**3.60**	**51**			**Pn**	**18 34 03.8**	**+2.1**
NVR	**Nevrokopi**	**3.61**	**107**	P		**Pn**	**18 34 03.8**	**+2.1**
MOSL	**Moslavina**	**3.63**	**331**	*i*Pn		**Pn**	**18 34 04.7**	**+2.6**
MOSL				Sn		**Sn**	**18 34 46.1**	**+1.9**
MORH	**Mrgy, Hungar**	**3.77**	**353**	⇓*i*Pn		**Pn**	**18 34 05.5**	**+1.6**
MORH				*e*Sn		**Sn**	**18 34 50.4**	**+2.8**
MORH	**Mrgy, Hungar**	**3.77**	**353**	*e*Pn		**Pn**	**18 34 05.1**	**+1.1**
MORH				Sn		**Sn**	**18 34 49.1**	**+1.4**
TSLK	**Tsoukalades, L**	**3.79**	**163**	P		**Pn**	**18 34 04.9**	**+0.7**
TIP	**Timpagrande**	**3.80**	**211**	P		**Pn**	**18 34 04.3**	**-0.1**
TIP	**Timpagrande**	**3.80**	**211**	⇓P		**Pn**	**18 34 04.3**	**-0.1**
TIP				AML		AML	18 35 29.2	
TIP	**Timpagrande**	**3.80**	**211**			**Pn**	**18 34 04.0**	**-0.4**
PAOL	**Paolisi**	**3.80**	**249**			**Pn**	**18 34 05.8**	**+1.5**
NVLJ	**Novalja**	**3.82**	**305**	*i*Pn		**Pn**	**18 34 07.1**	**+2.4**
NVLJ				Sn		**Sn**	**18 34 51.3**	**+2.5**
LKD2	**Lefkada island**	**3.82**	**163**	P		**Pn**	**18 34 05.0**	**+0.3**
GZR	**Gura Zlata**	**3.87**	**40**	⇑P		**Pn**	**18 34 07.7**	**+2.4**
GZR				AML		AML	18 34 54.3	
GZR	**Gura Zlata**	**3.87**	**40**			**Pn**	**18 34 07.7**	**+2.4**
EVGI	**Lefkada island**	**3.98**	**164**	P		**Pn**	**18 34 07.0**	**+0.1**
INTR	**Introdacqua**	**4.01**	**265**			**Pn**	**18 34 08.0**	**+0.8**
PLVB	**Pleven**	**4.04**	**75**	⇑P		**Pn**	**18 34 10.5**	**+2.9**
PLVB				AML		AML	18 35 24.8	
PLVB	**Pleven**	**4.04**	**75**			**Pn**	**18 34 10.5**	**+2.9**
EVR	**Evrytania**	**4.04**	**151**	P		**Pn**	**18 34 10.2**	**+2.5**
VLAD	**Vladila**	**4.05**	**66**	⇑P		**Pn**	**18 34 10.1**	**+2.3**
VLAD				AML		AML	18 35 33.1	
VLAD	**Vladila**	**4.05**	**66**			**Pn**	**18 34 10.1**	**+2.3**
MAKR	**Makrakomi, Fth**	**4.08**	**147**	P		**Pn**	**18 34 10.4**	**+2.2**
ZAG	**Zagreb**	**4.11**	**326**	*e*Pn		**Pn**	**18 34 10.5**	**+2.0**
ZAG				*e*Sn		**Sn**	**18 34 58.3**	**+2.5**
AGG	**Agios Georgios**	**4.15**	**145**	P		**Pn**	**18 34 10.4**	**+1.2**
AGG	**Agios Georgios**	**4.15**	**145**			**Pn**	**18 34 10.7**	**+1.5**
SIRR	**Siria**	**4.17**	**23**	⇓P		**Pn**	**18 34 11.1**	**+1.7**
SIRR				AML		AML	18 35 25.8	
SIRR	**Siria**	**4.17**	**23**			**Pn**	**18 34 11.1**	**+1.7**
OZLJ	**Ozalj**	**4.17**	**320**	*e*Pn		**Pn**	**18 34 13.0**	**+3.6**
PTJ	**Puntijarka**	**4.18**	**327**	*e*Pn		**Pn**	**18 34 12.3**	**+2.6**
KALN	**Kalnik**	**4.18**	**332**	*i*Pn		**Pn**	**18 34 12.1**	**+2.5**
KAVA	**Kavala**	**4.19**	**109**	P		**Pn**	**18 34 12.3**	**+2.6**
BOJS	**Bojanci**	**4.20**	**318**	*i*Pn		**Pn**	**18 34 13.1**	**+3.4**
BOJS				*i*Sn		**Sn**	**18 35 02.3**	**+4.2**
	comp=Z,243nm,0.6s							
CRES	**Cresnjev**	**4.33**	**322**	*e*Pn		**Pn**	**18 34 14.8**	**+3.1**
CRES				*e*Sn		**Sn**	**18 35 04.8**	**+3.2**
	comp=Z,175nm,0.7s							
CRES	**Cresnjev**	**4.33**	**322**	⇑*i*Pn		**Pn**	**18 34 14.6**	**+2.9**
CRES				*e*Sn		**Sn**	**18 35 03.9**	**+2.4**
AQU	**L'Aquila**	**4.34**	**270**	*e*Pn		**Pn**	**18 34 14.1**	**+2.2**
AQU				*e*Sn		**Sn**	**18 35 04.8**	**+2.9**
AQU	**L'Aquila**	**4.34**	**270**			**Pn**	**18 34 13.4**	**+1.5**
LOT	**Lotru**	**4.41**	**46**	⇑P		**Pn**	**18 34 15.1**	**+2.3**
LOT				AML		AML	18 35 31.8	
LOT	**Lotru**	**4.41**	**46**			**Pn**	**18 34 15.1**	**+2.3**
RIY	**Rijeka**	**4.49**	**311**	*e*Pn		**Pn**	**18 34 16.8**	**+3.0**
RIY	**Rijeka**	**4.49**	**311**	*e*Pn		**Pn**	**18 34 16.6**	**+2.9**
RIY				*e*Sn		**Sn**	**18 35 08.1**	**+2.9**
TIH	**Tihany**	**4.54**	**348**	*e*Pn		**Pn**	**18 34 16.1**	**+1.6**
TIH				Sn		**Sn**	**18 35 11.0**	**+4.5**
NRCA	**Norcia**	**4.55**	**277**			**Pn**	**18 34 15.9**	**+1.2**
NRCA				Sn		**Sn**	**18 35 08.3**	**+1.3**
KALE	**Kalithea**	**4.62**	**151**	P		**Pn**	**18 34 17.8**	**+2.1**
HUMR	**Humele**	**4.64**	**62**	⇑P		**Pn**	**18 34 17.7**	**+1.8**
HUMR				AML		A

ABTA Abfaltersbach 6.45 314 *i* Pn **Pn 18 34 42.7 +1.9**
comp=Z,5.9nm,0.2s,SNR=17
ABTA *e*Sn **Sn 18 35 54.6 +0.9**
comp=Z,40nm,0.2s
ABTA Abfaltersbach 6.45 314 Pn 18 34 42.7 +1.9
ABTA **Sn 18 35 54.5 +0.9**
RAFF Raffo Rosso 6.46 217 Pn 18 34 40.2 -0.6
RAFF **Sn 18 35 52.6 -1.3**
CORL Corleone 6.46 227 Pn 18 34 41.6 +0.7
JAVC Velka Javorina 6.49 351 *e*PN **Pn 18 34 44.5 +3.2**
JAVC *e*SN **Sn 18 35 58.5 +3.8**
CTI Castel Tesino 6.54 306 Pn 18 34 43.2 +1.2
CTI Sn **Sn 18 35 54.1 -1.8**
BURAR Bucovina Array 6.65 37 ⇓P **Pn 18 34 46.9 +3.3**
BURAR Bucovina Array 6.65 37 Pn 18 34 46.9 +3.3
BUR08 Bucovina Ar. S 6.67 37 Pn 18 34 46.4 +2.6
LANS Liptovska Anna 6.69 1 *e*PN **Pn 18 34 48.3 +4.3**
LANS *e*SN **Sn 18 36 00.3 +0.8**
VLC Villacollemand 6.70 288 Pn 18 34 46.0 +1.9
CLTB Caltabellotta 6.74 226 Pn 18 34 46.1 +1.3
KOLS Kolonicke sedl 6.80 17 *e*PN **Pn 18 34 48.6 +3.1**
KOLS *e*SN **Sn 18 36 02.0 -0.2**
PRMA PARMA 6.89 292 Pn 18 34 49.0 +2.2
KRUC Moravsky 6.89 344 *e*PN **Pn 18 34 50.1 +3.3**
KRUC *e*SN **Sn 18 36 05.4 +0.9**
TIRR Tirgusor 6.95 70 Pn **Pn 18 34 47.0 -0.5**
CFR Carcaliu 6.96 64 ⇑P **Pn 18 34 51.0 +3.3**
CFR Carcaliu 6.96 64 Pn 18 34 51.0 +3.3
NIE Niedzica 6.99 6 *e*Pn **Pn 18 34 51.6 +3.4**
NIE *e*Pn **Pn 18 34 51.6 +3.4**
NIE *e*Sn **Sn 18 36 08.9 +2.0**
NIE *e*Sn **Sn 18 36 08.9 +2.0**
SALO Salr 7.04 300 Pn 18 34 50.0 +1.1
STHS Stebnicka Huta 7.08 11 *e*PN **Pn 18 34 51.9 +2.4**
STHS *e*SN **Sn 18 36 09.9 +0.6**
VRAC Vranov 7.09 346 Pn **Pn 18 34 51.5 +2.0**
comp=Z,0.4nm,0.3s,baz=165,slow=15,SNR=2.3
VRAC Sn **Sn 18 36 09.9 +0.5**
comp=Z,1.8nm,0.3s,baz=188,slow=16,SNR=5.4
VRAC Vranov 7.09 346 *e*PN **Pn 18 34 53.0 +3.5**
VRAC *e*SN **Sn 18 36 09.4 0.0**
WTTA Wattenberg 7.24 314 *e*Pn **Pn 18 34 54.1 +2.5**
comp=Z,8.3nm,0.2s,SNR=12
WTTA *e*Sn **Sn 18 36 16.3 +3.0**
comp=Z,76nm,0.5s
WTTA Wattenberg 7.24 314 Pn 18 34 54.1 +2.5
WTTA **Sn 18 36 16.3 +3.0**
WATA Walderalm 7.31 314 *e*Pn **Pn 18 34 55.5 +2.8**
comp=Z,7.6nm,0.2s,SNR=12
WATA *e*Sn **Sn 18 36 18.7 +3.6**
comp=Z,22nm,0.2s
WATA Walderalm 7.31 314 Pn 18 34 55.5 +2.8
WATA **Sn 18 36 18.7 +3.6**
MSSA Maissana 7.34 288 Pn 18 34 54.1 +1.1
MORC Moravsky Berou 7.41 351 *e*PN **Pn 18 34 57.0 +3.1**
MORC *e*SN **Sn 18 36 18.2 +0.9**
MORC Moravsky Berou 7.41 351 Pn 18 34 56.0 +2.1
OKC Ostrava-Krasne 7.41 354 *e*PN **Pn 18 34 57.5 +3.6**
OKC *e*SN **Sn 18 36 16.4 -0.9**
TLCR 7.42 65 ⇑P **Pn 18 34 56.6 +2.6**
TLCR 7.42 65 Pn 18 34 56.6 +2.6
SQTA Sankt Quirin 7.44 312 *e*Pn **Pn 18 34 57.8 +3.4**
comp=Z,14nm,0.3s,SNR=20
SQTA *e*Sn **Sn 18 36 21.1 +2.9**
comp=Z,75nm,0.7s
SQTA Sankt Quirin 7.44 312 Pn 18 34 57.8 +3.4
SQTA **Sn 18 36 21.1 +2.9**
GEC2 GERESS Array S 7.47 330 Pn 18 34 56.0 +1.2
GERES GERESS Array B 7.47 330 Pn **Pn 18 34 58.1 +3.2**
comp=Z,3.0nm,0.3s,baz=154,slow=14,SNR=68
GERES Sn **Sn 18 36 19.8 +0.8**
comp=Z,2.5nm,0.3s,baz=144,slow=23,SNR=8.4
GERES LR LR 18 38 27.6
comp=Z,123nm,19.1s,baz=134,slow=43
KWP Kalwaria Pacla 7.55 17 Pn **Pn 18 34 58.1 +2.3**
MOTA Moosalm 7.57 313 *e*Pn **Pn 18 34 59.4 +3.1**
comp=Z,5.0nm,0.2s,SNR=12
MOTA Sn **Sn 18 36 23.7 +2.2**
comp=Z,102nm,0.6s
MOTA Moosalm 7.57 313 Pn 18 34 59.4 +3.1
MOTA **Sn 18 36 23.7 +2.2**
WDD Wied Dalam 7.58 211 Pn **Pn 18 34 53.4 -2.8**
PGF Pioggiola 7.59 274 *e*Pn **Pn 18 34 57.8 +1.3**
SNR=1.0
PGF Pioggiola 7.59 274 *e*P Pn 18 35 01.7 +5.2
FETA Feichten 7.59 310 *e*Pn **Pn 18 34 58.9 +2.4**
comp=Z,3.2nm,0.2s
FETA Feichten 7.59 310 Pn 18 34 58.9 +2.4
FUORN Ofenpass-Fuorn 7.65 306 Pn 18 34 59.8 +2.3
FUORN Sn **Sn 18 36 23.5 -0.2**
KHC Kasperske Hory 7.76 331 *e*PN **Pn 18 35 02.2 +3.5**
KHC *e*SN **Sn 18 36 27.2 +1.4**
KHC Kasperske Hory 7.76 331 Pn 18 35 01.5 +2.8
OJC Ojcow 7.76 3 *e*Pn Pn 18 35 03.6 +4.9
OJC *e*Pn Pn 18 35 03.6 +4.9
OJC *e*Sn **Sn 18 36 24.7 -1.2**
OJC *e*Sn **Sn 18 36 24.7 -1.2**
OJC Ojcow 7.76 3 Pn **Pn 18 35 02.9 +4.2**
KRLC Kraliky 7.80 348 *e*PN **Pn 18 35 02.1 +2.8**
KRLC *e*SN **Sn 18 36 26.7 -0.2**
RETA Reutte 7.84 313 *e*Pn **Pn 18 35 02.8 +2.9**
comp=Z,6.3nm,0.3s
RETA Sn **Sn 18 36 31.8 +3.8**
comp=Z,87nm,0.8s
RETA Reutte 7.84 313 Pn 18 35 02.8 +2.9
RETA **Sn 18 36 31.9 +3.8**
DAVOX Davos/Dischmat 7.96 306 Pn **Pn 18 35 03.0 +1.4**
comp=Z,4.6nm,0.3s,baz=53,slow=3.7,SNR=37
DAVOX Sn **Sn 18 36 28.4 -2.7**
comp=Z,2.2nm,0.3s,baz=156,slow=20,SNR=3.6
GOPC GO Pecny, Ondr 8.07 339 *e*SN **Sn 18 36 33.4 -0.1**
DPC Dobruska-Polom 8.14 347 *e*PN **Pn 18 35 08.0 +4.0**
DPC *e*SN **Sn 18 36 35.0 -0.3**
TUE Stuetta 8.14 303 Pn 18 35 06.9 +2.7
PRU Pruhonice 8.20 338 *e*SN **Sn 18 36 37.8 +1.1**
DAVA Damuels 8.22 309 *e*Pn **Pn 18 35 08.5 +3.3**
comp=Z,4.8nm,0.2s
DAVA Sn **Sn 18 36 38.8 +1.3**
comp=Z,97nm,1.0s
DAVA Damuels 8.22 309 Pn 18 35 08.5 +3.3
DAVA **Sn 18 36 38.8 +1.3**
CHVC Chvalec 8.42 346 *e*PN **Pn 18 35 11.2 +3.5**
CHVC *e*SN **Sn 18 36 40.6 -1.5**
KSP Ksiaz 8.62 347 *e*Pn Pn 18 35 18.1 +7.6
KSP *e*Pn Pn 18 35 18.1 +7.6
SBF Sospel 8.76 283 *e*Pn **Pn 18 35 12.7 +0.2**
SNR=1.0
SBF Sospel 8.76 283 *e*P Pn 18 35 18.7 +6.2
SBF *e*Sn **Sn 18 36 49.7 -0.9**
comp=Z,37nm,0.7s
GRA1 Grafenberg Arr 9.13 325 Pn 18 35 17.9 +0.4
BRG Berggiesshubel 9.17 338 *e*P **Pn 18 35 18.7 +0.8**
comp=Z,1.5nm,0.7s
BRG *e* 18 37 26.0
comp=Z,4.4nm,1.4s
BRG *e* 18 38 06.3
comp=Z,26nm,1.5s
FRF La Foret Royal 9.31 281 *e*Pn **Pn 18 35 20.7 +0.7**
SNR=1.0
FRF La Foret Royal 9.31 281 *e*P Pn 18 35 24.9 +4.9
FRF *e*Sn **Sn 18 37 01.1 -2.9**
comp=Z,12nm,0.6s,SNR=1.0
MBDF Montbardon 9.35 288 *e*Pn **Pn 18 35 20.3 -0.3**
SNR=1.0
MBDF Montbardon 9.35 288 *e*P Pn 18 35 26.4 +5.8
MBDF *e*Sn **Sn 18 37 04.9 -0.1**
comp=Z,31nm,0.7s
LMR La Mourre 9.41 280 *e*Pn **Pn 18 35 21.6 +0.3**
SNR=1.0
LMR La Mourre 9.41 280 *e*P **Pn 18 35 26.0 +4.7**
LMR *e*Sn **Sn 18 37 04.8 -1.5**
comp=Z,2.9nm,0.3s,SNR=1.0
SENIN Lac Senin/Sane 9.41 299 Pn 18 35 22.6 +1.1
BNI Bardonecchia 9.47 290 Pn 18 35 22.2 -0.1
LPG La Plagne 9.52 293 *e*Pn **Pn 18 35 23.3 +0.2**
SNR=1.0
LPG La Plagne 9.52 293 *e*P Pn 18 35 29.9 +6.8
LPG *e*Sn **Sn 18 37 08.5 -1.0**
comp=Z,54nm,0.6s
LPL La Plagne 9.54 293 *e*Pn **Pn 18 35 22.8 -0.5**
SNR=1.0
LPL La Plagne 9.54 293 *e*P Pn 18 35 28.2 +4.9
LPL *e*Sn **Sn 18 37 05.7 -4.1**
comp=Z,126nm,1.0s
BFO Black Forest 9.67 311 Pn 18 35 25.3 +0.4
CLL Collm 9.82 336 *e*Pn **Pn 18 35 31.0 +4.1**
CLL *e* 18 35 39.0
CLL *e*Sn Sn 18 36 59.0 -17
CLL *e* 18 37 35.0
CLL *e*Sb 18 37 46.0
CLL *e*Sglp 18 38 12.0
comp=N,100nm,18.0s
CLL *e*Sglp 18 38 12.0
comp=E,300nm,19.0s
CLL *e*Sg 18 38 20.0
comp=Z,27nm,1.2s
CLL Lmax 18 39 00.0
CLL Collm 9.82 336 Pn **Pn 18 35 29.5 +2.5**
ELL Elmali 10.00 121 Pn **Pn 18 35 31.9 +2.4**
ORIF Oris-en-Rattie 10.00 289 *e*Pn **Pn 18 35 30.5 +1.0**
SNR=1.0
ORIF Oris-en-Rattie 10.00 289 *e*P Pn 18 35 35.6 +6.1
ORIF *e*Sn **Sn 18 37 18.8 -2.3**
comp=Z,30nm,0.7s
SMRF Simiane la Rot 10.11 283 *e*Pn **Pn 18 35 32.1 +1.1**
SNR=1.0
SMRF Simiane la Rot 10.11 283 *e*P Pn 18 35 37.3 +6.3
KEST Kesra 10.23 232 Pn **Pn 18 35 36.5 +3.9**
comp=Z,0.7nm,0.3s,baz=341,slow=9.5,SNR=8.4
KEST Kesra 10.23 232 Pn 18 35 37.6 +5.0
HINF Hinteralfeld 10.27 306 *e*Pn **Pn 18 35 34.2 +1.1**
SNR=1.0
HINF Hinteralfeld 10.27 306 *e*P Pn 18 35 38.4 +5.3
HINF *e*Sn **Sn 18 37 24.8 -2.7**
comp=Z,22nm,0.4s
ECH Echery 10.28 308 Pn 18 35 34.2 +1.0
CABF La Chapelle 10.28 298 *e*Pn **Pn 18 35 33.8 +0.5**
SNR=1.0
CABF La Chapelle 10.28 298 *e*P **Pn 18 35 37.7 +4.4**
CABF *e*Sn **Sn 18 37 25.8 -2.1**
comp=Z,29nm,0.8s,SNR=1.0
CDF Champ du Feu 10.31 309 *e*Pn **Pn 18 35 34.2 +0.5**
SNR=1.0
CDF Champ du Feu 10.31 309 *e*P Pn 18 35 40.0 +6.3
CDF *e*Sn **Sn 18 37 25.6 -2.9**
comp=Z,9.2nm,0.5s
HAU Haudompre 10.66 306 *e*Pn **Pn 18 35 39.0 +0.6**
SNR=1.0
HAU Haudompre 10.66 306 *e*P Pn 18 35 44.8 +6.4
HAU *e*Sn **Sn 18 37 31.9 -5.1**
comp=Z,65nm,0.8s,SNR=1.0
AKASG Malin Array Be 10.70 36 Pn **Pn 18 35 39.5 +0.5**
comp=Z,0.3nm,0.3s,baz=226,slow=13,SNR=8.8
VIVF Saint-Julien-l 10.84 288 *e*Pn **Pn 18 35 40.3 -0.7**
SNR=1.0
VIVF Saint-Julien-l 10.84 288 *e*P Pn 18 35 47.6 +6.6
VIVF *e*Sn **Sn 18 37 37.9 -3.7**
comp=Z,5.1nm,0.5s,SNR=1.0
SSB Saint Sauveur 11.00 290 Pn 18 35 43.5 +0.4
BR131 Keskin Array S 11.19 99 Pn **Pn 18 35 44.7 -1.1**
BRTR Keskin Array B 11.19 99 Pn **Pn 18 35 46.7 +0.9**
comp=Z,0.1nm,0.3s,baz=252,slow=38,SNR=3.9
BRTR LR LR 18 40 29.4
comp=Z,61nm,19.9s,baz=279,slow=40
PAGF Fort de Pagny 11.28 307 *e*Pn **Pn 18 35 48.8 +1.9**
baz=135
PAGF Fort de Pagny 11.28 307 *e*P Pn 18 35 54.3 +7.4
baz=125
LASF Ste Croix 11.35 283 *e*Pn **Pn 18 35 48.7 +0.7**
SNR=1.0
SFTF Sexfontaines 11.54 305 *e*Pn **Pn 18 35 51.2 +0.8**
baz=131
SFTF Sexfontaines 11.54 305 *e*P Pn 18 35 57.7 +7.3
baz=124
MEZF Maizieres J'vi 11.65 306 *e*Pn **Pn 18 35 53.6 +1.6**
MEZF Maizieres J'vi 11.65 306 *e*P Pn 18 35 59.3 +7.3
baz=125
SMF Signal de Mont 11.77 296 *e*Pn **Pn 18 35 52.7 -0.9**
SNR=1.0
SMF Signal de Mont 11.77 296 *e*P Pn 18 35 59.4 +5.8
SMF *e*Sn **Sn 18 37 59.4 -4.8**
comp=Z,33nm,0.8s,SNR=1.0
LOR Lormes 11.94 299 *e*Pn **Pn 18 35 55.9 0.0**
baz=114,SNR=1.0
LOR Lormes 11.94 299 *e*P Pn 18 36 03.5 +7.6
baz=116
LOR *e*Sn **Sn 18 38 02.8 -5.5**
comp=Z,20nm,0.4s,SNR=1.0
SSF Saint Saulge 12.11 298 *e*Pn **Pn 18 35 57.6 -0.6**
SNR=1.0
SSF Saint Saulge 12.11 298 *e*P **P 18 36 06.6 -4.2**
SSF *e*Sn **Sn 18 38 03.8 -8.6**
comp=Z,24nm,1.0s,SNR=1.0
AVF Avril sur Loir 12.13 296 *e*Pn **Pn 18 35 56.9 -1.6**
SNR=1.0
AVF Avril sur Loir 12.13 296 *e*P P 18 36 05.3 -5.8
AVF *e*Sn **Sn 18 38 09.3 -3.7**
comp=Z,10nm,0.7s,SNR=1.0
BGF Bois d'Agland 12.41 295 *e*Pn **Pn 18 36 01.9 -0.5**
SNR=1.0
BGF Bois d'Agland 12.41 295 *e*P Pn 18 36 07.5 +5.1
BGF *e*Sn **Sn 18 38 13.8 -6.1**
comp=Z,15nm,0.4s,SNR=1.0
MTLF Montolieu 12.54 280 *e*Pn **Pn 18 36 03.5 -0.6**
CAF Calviac 12.69 287 *e*Pn **Pn 18 36 06.3 0.0**
SNR=1.0
HYF Humbligny 12.73 298 *e*Pn **Pn 18 36 06.7 0.0**
HYF Humbligny 12.73 298 *e*P P 18 36 12.9 -4.8
HYF *e*Sn Sn 18 38 18.5 -9.2
TCF Toulx Ste Croi 12.79 293 *e*Pn **Pn 18 36 06.6 -0.9**
SNR=1.0
TCF Toulx Ste Croi 12.79 293 *e*P **Pn 18 36 11.9 +4.4**
TCF *e*Sn **Sn 18 38 22.3 -6.8**
comp=Z,17nm,0.9s,SNR=1.0
BAIF Baives 12.88 311 *e*Pn **Pn 18 36 10.4 +1.7**
LFF La Frestale 13.63 287 *e*Pn **Pn 18 36 19.4 +0.4**
MFF Saint Martin d 14.44 293 *e*Pn **Pn 18 36 29.9 -0.2**
SNR=1.0
GRR Gorron 15.30 300 *e*Pn **Pn 18 36 42.2 +0.6**
SNR=1.0
MMAI Mount Meron Ar 15.85 121 Pn **Pn 18 36 49.5 +0.6**
comp=Z,0.6nm,0.3s,baz=316,slow=11,SNR=4.7
ESDC Sonseca Array 17.73 269 P **P 18 37 13.6 +0.3**
comp=Z,0.2nm,0.3s,baz=81,slow=12,SNR=3.4
ESDC LR LR 18 43 48.8
comp=Z,45nm,21.6s,baz=195,slow=36
HFS Hagfors 18.02 351 P **P 18 37 16.6 +0.4**
comp=Z,0.9nm,0.3s,baz=172,slow=12,SNR=24
KONO Kongsberg 18.21 344 *e*P **P 18 37 19.3 +1.0**
NC602 NORSAR Array S 18.89 348 *e*P **Pn 18 37 26.5 0.0**
NC602 NORSAR Array S 18.89 348 P **Pn 18 37 26.6 0.0**
NC602 IAmb IAmb 18 37 45.5
comp=Z,82nm,1.6s
NAO01 NORSAR Array S 19.09 347 P **Pn 18 37 29.1 +0.1**
NAO01 IAmb IAmb 18 37 39.4
comp=Z,78nm,1.6s
NC405 NORSAR Array S 19.22 349 P **Pn 18 37 30.3 -0.2**
NC405 IAmb IAmb 18 37 42.2
comp=Z,85nm,1.4s
NB201 NORSAR Array S 19.23 348 P **Pn 18 37 30.6 0.0**
NB201 IAmb IAmb 18 37 38.2
comp=Z,53nm,1.5s
NB2 NORSAR Subarra 19.23 348 P **Pn 18 37 31.1 +0.5**
comp=Z,1.9nm,0.4s,baz=159,slow=9.3
NB2 NORSAR Subarra 19.23 348 P **Pn 18 37 31.1 +0.5**
baz=159,slow=9.3
NOA NORSAR Array B 19.23 348 P **P 18 37 30.1 +0.5**
comp=Z,0.1nm,0.3s,baz=154,slow=9.4,SNR=14
NOA LR LR 18 46 07.1
comp=Z,43nm,20.7s,baz=160,slow=41
GNI Garni 19.26 88 P **P 18 37 30.4 +0.2**
comp=Z,0.9nm,0.3s,baz=303,slow=5.2,SNR=6.9
GNI Garni 19.26 88 P **Pn 18 37 32.5 +1.2**
NBO00 NORSAR Array S 19.29 347 P **Pn 18 37 30.9 -0.4**
NC303 NORSAR Array S 19.38 348 P **Pn 18 37 32.0 -0.4**
NC303 IAmb IAmb 18 38 01.4
comp=Z,25nm,1.1s
FINES FINESS Array B 19.44 10 P **P 18 37 32.2 +0.4**
comp=Z,0.9nm,0.3s,baz=185,slow=10,SNR=28
FINES LR LR 18 45 45.9
comp=Z,115nm,19.2s,baz=238,slow=39
FIA1 FINESS Array S 19.44 10 P **P 18 37 32.3 +0.5**
FIA1 IAmb IAmb 18 37 36.3
comp=Z,39nm,1.4s
EKA Eskdalemuir Ar 19.46 319 P **P 18 37 31.9 -0.1**
baz=115,slow=8.8,SNR=9.5
ESK Eskdalemuir 19.47 319 P **Pn 18 37 33.4 -0.2**
ESK IAmb IAmb 18 37 54.5
comp=Z,62nm,1.8s
NC204 NORSAR Array S 19.52 348 Pn 18 37 33.7 -0.4
NC204 IAmb IAmb 18 37 55.8
comp=Z,89nm,1.6s
MTE Manteigas 20.18 273 P Pn 18 37 41.9 -0.2
HYA Hoyanger 20.32 342 *e*P Pn 18 37 43.0 -0.4
DOMB Dombas 20.53 346 *e*P **P 18 37 44.8 +1.1**
MDT Midelt 21.16 251 P **P 18 37 50.6 -0.3**
comp=Z,1.9nm,0.7s,baz=79,slow=6.3,SNR=4.6
MDT LR LR 18 45 38.7
comp=Z,43nm,21.2s,baz=75,slow=36
PVAQ Vaqueiros 21.26 265 P **P 18 37 52.5 +0.8**
PVAQ IAmb IAmb 18 38 12.0
comp=Z,46nm,1.2s
TBLU Trondheim 21.48 349 *e*P **P 18 37 56.9 +3.0**
NSS Namsos 22.50 352 *e*P **P 18 38 05.8 +1.0**
MOR8 Moi Rana 23.90 355 *e*P **P 18 38 21.0 +2.0**
LVZ Lovozero 26.79 13 P **P 18 38 45.0 -0.3**
ARCES ARCESS Array B 27.32 5 P **P 18 38 49.2 -0.8**
comp=Z,1.5nm,0.4s,baz=191,slow=11,SNR=56
ARCES LR LR 18 50 30.0
comp=Z,81nm,18.4s,baz=333,slow=38
ARE0 ARCESS Array S 27.32 5 *e*P **P 18 38 49.4 -0.6**
ARE0 ARCESS Array S 27.32 5 P **P 18 38 49.6 -0.4**
AKTO Aktyubinsk 27.60 60 P **P 18 38 52.5 -0.1**
comp=Z,0.7nm,0.4s,baz=256,slow=12,SNR=3.7
AKTO LR LR 18 51 48.5
comp=Z,66nm,18.3s,baz=291,slow=41
KEV Kevo 27.64 6 P **P 18 38 52.5 -0.3**
HAMF Hammerfest 28.33 3 *e*P **P 18 38 59.1 +0.2**
ARU Arti 28.66 47 P **P 18 39 01.4 -0.6**
comp=Z,0.5nm,0.4s,baz=298,slow=15,SNR=4.4
ARU LR LR 18 51 51.7
comp=Z,90nm,18.2s,baz=234,slow=39
ARU Arti 28.66 47 P **P 18 39 02.4 +0.4**
ARU IAmb IAmb 18 39 12.1
comp=Z,6.8nm,0.9s
ABKAR Akbulak array 28.85 62 P **P 18 39 04.8 +1.0**
GEYT Alibeck 29.84 86 P **P 18 39 11.9 -0.7**
comp=Z,2.0nm,0.5s,baz=268,slow=8.9,SNR=7.4
GYA0B ALIBECK ARRAY 29.84 86 P **P 18 39 12.6 -0.1**
TOA0 Torodi Ar. Sit 32.95 213 P **P 18 39 41.8 +1.7**
TOA0 IAmb IAmb 18 39 45.6
comp=Z,11nm,1.5s
TORD Torodi Ar. Bea 32.95 213 P **P 18 39 41.2 +1.0**
comp=Z,0.6nm,0.6s,baz=21,slow=9.9,SNR=3.6
TORD LR LR 18 54 55.2
comp=Z,32nm,19.3s,baz=80,slow=40
UOSS Minazif 35.01 108 P **P 18 39 56.8 -1.3**
BRVK Borovoye 35.18 55 P **P 18 40 00.6 +1.3**
SPA0 Spitsbergen Ar 35.84 359 *e*P **P 18 40 04.9 +0.2**
SPA0 Spitsbergen Ar 35.84 359 P **P 18 40 04.8 +0.2**
KBS Kingsbay 36.69 358 *e*P **P 18 40 13.7 +1.9**
CHGR Chuyangaron 37.65 79 P **P 18 40 20.5 -0.2**
CHGR IAmb IAmb 18 40 33.6
comp=Z,9.2nm,1.0s
BTK Batken 38.34 76 P **P 18 40 26.2 -0.2**
GAR Garm 38.36 78 P **P 18 40 28.1 +1.5**
GAR IAmb IAmb 18 40 39.4
comp=Z,13nm,1.2s
ARSB Arslanbob 39.44 73 P **P 18 40 37.0 +1.4**
ARSB IAmb IAmb 18 40 57.0
comp=Z,9.4nm,1.2s
AAK Ala-Archa 40.06 70 P **P 18 40 42.2 +1.4**
KURK Kurchatov 40.62 57 P **P 18 40 45.1 0.0**
BOOM Boomskoye usch 41.11 70 P **P 18 40 50.9 +1.4**
DBIC Dimbokro 41.55 218 P **P 18 40 52.4 -0.7**
comp=Z,1.8nm,0.7s,baz=5.7,slow=10,SNR=3.4
DBIC Dimbokro 41.55 218 P **P 18 40 54.2 +1.2**
DBIC IAmb IAmb 18 41 09.7
comp=Z,28nm,1.8s
KDJ Kajisay 42.10 70 P **P 18 40 59.5 +1.9**
KSH Kashi 42.22 74 P **P 18 40 59.2 +0.6**
KSH pP pP 18 41 05.1 -0.4
KSH PP sP 18 41 39.2 +31
KSH PcS **PcS 18 46 45.1 +0.8**
KSH S **S 18 47 16.6 -1.1**
KSH SS **SS 18 50 18.4 -7.5**
KSH pmax pmax
comp=Z,230nm,5.7s
KSH LR LR
comp=N,290nm,5.5s
KSH LR LR
comp=E,220nm,5.7s
KSH LR LR
comp=Z,180nm,7.4s
SOCY Socotra 42.63 125 P **P 18 40 59.4 -2.6**
TARG Taragay, Kyrgy 42.68 70 P **P 18 41 04.7 +2.1**
ZAA0 Zalesovo Array 43.65 51 P **P 18 41 07.3 -2.4**
ZALV Zalesovo Beam 43.65 51 P **P 18 41 09.7 -0.1**
comp=Z,3.0nm,0.4s,baz=283,slow=8.3,SNR=17
MAKZ Makanchi 43.79 62 P **P 18 41 08.0 -3.0**
MAKZ IAmb IAmb 18 41 24.1
comp=Z,5.8nm,0.9s
MK31 Makanchi Array 43.99 62 P **P 18 41 13.3 +0.6**
MKAR Makanchi Array 43.99 62 P **P 18 41 13.1 +0.3**
comp=Z,1.2nm,0.5s,baz=279,slow=7.5,SNR=16
WMQ Urumqi 48.62 64 *e*P **P 18 41 53.1 +4.0**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ pmax pmax
comp=Z,80nm,4.9s
TULEG Thule 48.72 342 P **P 18 41 49.4 +0.1**
TULEG IAmb IAmb 18 41 59.5
comp=Z,3.6nm,0.9s
DANN Dangsing 53.23 83 *e*P **P 18 42 23.4 -0.9**
comp=Z,35nm,1.0s
KOLN Koldanda 53.43 84 *e*P **P 18 42 24.3 -1.4**
GKN Gorkha 54.06 83 *e*P **P 18 42 29.3 -1.0**
comp=Z,26nm,0.8s
DMN Daman 54.63 83 *e*P **P 18 42 33.7 -0.8**
comp=Z,9.7nm,0.7s
KKN Kakani 54.66 83 *e*P **P 18 42 33.7 -0.9**
SCHQ Schefferville 54.70 315 P **P 18 42 34.8 +0.5**
PKIN Phulchoki 54.86 83 *e*P **P 18 42 35.3 -0.9**
GUN Gumba 55.03 82 *e*P **P 18 42 36.3 -1.2**
comp=Z,28nm,1.0s
JIRN Jiri 55.40 82 *e*P **P 18 42 39.0 -1.2**
comp=Z,20nm,0.7s
RAMN Ramite 56.10 83 *e*P **P 18 42 43.6 -1.5**
comp=Z,17nm,0.6s
TAPN Taplejung 56.69 82 *e*P **P 18 42 48.7 -0.6**
ODAN Odare 56.73 83 *e*P **P 18 42 48.8 -0.7**
comp=Z,19nm,1.0s
SONM Songino Array 58.53 52 P **P 18 43 00.6 -1.2**
comp=Z,0.9nm,0.4s,baz=282,slow=7.5,SNR=7.4
GTA Gaotai 58.70 63 *e*P **P 18 43 03.4 +0.3**
GTA pP pP 18 43 10.5 +0.2
GTA sP sP 18 43 14.2 +1.1
GTA pmax pmax
comp=Z,1.0nm,1.4s
HHC Hu-ho-hao-te 65.43 56 P **P 18 43 50.2 +2.0**
HHC pmax pmax
comp=Z,6.0nm,0.7s
HHC AMB AMB
comp=Z,7.0nm,4.9s
MEDO Medina 67.31 308 P **P 18 44 03.8 +3.8**
INK Inuvik 67.68 349 P **P 18 44 01.5 -0.4**
INK IAmb IAmb 18 44 12.1
comp=Z,3.1nm,1.1s
Q60A Greensboro 68.27 303 P **P 18 44 06.1 -0.1**
SEY Seymchan 68.48 21 P **P 18 44 07.0 -0.1**
comp=Z,1.5nm,0.8s,baz=254,slow=14,SNR=5.1
KMI Kunming 68.88 75 P **P 18 44 08.1 -2.4**
KMI pmax pmax
comp=Z,7.0nm,1.1s
YKA Yellowknife Ar 69.04 339 P **P 18 44 10.3 -0.3**
comp=Z,1.0nm,0.5s,baz=34,slow=5.7,SNR=18
CHTO Chiang Mai 70.05 82 P **P 18 44 17.2 -0.4**
CHTO IAmb IAmb 18 44 17.7
comp=Z,5.3nm,0.9s
CMMT Chiang Mai 70.05 82 P **P 18 44 17.3 -0.3**
CMAR Chiang Mai Arr 70.27 83 P **P 18 44 18.1 -0.8**
comp=Z,2.6nm,0.8s,baz=305,slow=7.5,SNR=32
ULM Lac du Bonnet 71.70 322 P **P 18 44 26.5 -0.6**
comp=Z,1.5nm,0.5s,baz=17,slow=5.6,SNR=4.3
ULM Lac du Bonnet 71.70 322 IAmb IAmb 18 44 38.5
comp=Z,11nm,1.3s
DAWY Dawson 72.47 350 P **P 18 44 32.1 +0.6**
DAWY IAmb IAmb 18 44 33.2
comp=Z,3.7nm,0.9s
ILAR Eielson Array 72.55 354 P **P 18 44 31.9 0.0**
comp=Z,0.7nm,0.6s,baz=2.1,slow=4.5,SNR=12
HDA Harding Lake 72.91 354 P **P 18 44 34.5 +0.4**
HDA IAmb IAmb 18 44 36.3
comp=Z,3.7nm,0.8s

WHN	**Wuhan**	**73.52**	**64**	P		**P**		**18 44 37.9**	**-0.3**
NJ2	**Nanjing**	**75.48**	**60**	*e*P		**P**		**18 44 50.9**	**+1.3**
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
KSRS	**Korea Array**	**77.35**	**51**	P		**P**		**18 45 00.3**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=270,slow=2.4,SNR=4.2								
KSRS				LR		LR		19 22 24.6	
	comp=Z,31nm,19.8s,baz=20,slow=38								
PETK	**Petropavlovsk-**	**78.29**	**24**	LR		LR		19 24 10.6	
	comp=Z,29nm,21.4s,baz=241,slow=39								
PDAR	**Pinedale Array**	**83.48**	**325**	P		**P**		**18 45 32.1**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=66,slow=5.0,SNR=3.3								
TXAR	**Lajitas Array**	**91.34**	**313**	P		**P**		**18 46 12.2**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=45,slow=5.2,SNR=5.3								

*ISCJB **10** 18:52:10.1±0.5, 35°.98N±0°.02×4°.78W±0°.03, h96km±8km, Error ellipse: s-maj=4.3km s-min=3.8km az=143.5*
*CNRM **10** 18:52:11.1, 35°.86N×5°.25W, h88km*
*INMG **10** 18:52:12.0±1.1, 35°.94N×4°.74W, h82km±4km, ML2.2, Error ellipse: s-maj=3.3km s-min=2.8km az=139.0*
*MDD **10** 18:52:12.1±1.2, 35°.93N×4°.70W, h82km±10km, mb2.8/7, Error ellipse: s-maj=13.3km s-min=5.5km az=178.0, PRXIMO*

ISC 10 18:52:10.3±1.3, 35°.95N±0°.03×4°.73W±0°.03, h98km±11km, n39, σ1°30/70, 3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EMIJ	**Mijas**	**0.62**	**357**	P		**Pn**	**18 52 27.0**	**+0.2**
	2.1nm,0.1s,SNR=7.9							
EMIJ				S		**Sn**	**18 52 38.0**	**-1.2**
	20nm,0.3s,SNR=19							
ELGU	**Los Guajares,**	**1.28**	**44**	P		**Pn**	**18 52 33.5**	**-0.3**
	1.3nm,0.1s,SNR=7.9							
ELGU				S		**Sn**	**18 52 50.3**	**-1.3**
	5.2nm,0.1s,SNR=7.9							
ESPR	**Espera**	**1.29**	**316**	S		**Sn**	**18 52 51.2**	**-0.6**
	4.1nm,0.3s,SNR=7.6							
AKLM	**AKL**	**1.60**	**153**	P		**Pn**	**18 52 38.7**	**+1.0**
AKLM				S		**Sn**	**18 53 01.0**	**+2.4**
EQUE	**Quentar**	**1.63**	**39**	P		**Pn**	**18 52 39.0**	**+0.8**
	0.5nm,0.2s,SNR=7.9							
EQUE				S		**Sn**	**18 52 58.8**	**-0.5**
	3.6nm,0.3s,SNR=7.9							
HORN	**Hornachuelos**	**1.94**	**347**	P		**Pn**	**18 52 43.3**	**+1.3**
HORN				S		**Sn**	**18 53 06.9**	**+0.6**
ECAB	**El Cabril**	**2.20**	**346**	⇓P		**Pn**	**18 52 46.2**	**+0.9**
	1.7nm,0.1s,SNR=18							
ECAB				S		**Sn**	**18 53 11.2**	**-0.9**
	3.0nm,0.3s,SNR=27							
EADA	**Adamuz**	**2.22**	**3**	⇓P		**Pn**	**18 52 47.0**	**+1.3**
	6.0nm,0.1s,SNR=18							
EADA				S		**Sn**	**18 53 12.5**	**-0.2**
	3.2nm,0.4s,SNR=12							
EQES	**Quesada**	**2.28**	**35**	P		**Pn**	**18 52 47.9**	**+1.4**
	0.5nm,0.1s							
EQES				S		**Sn**	**18 53 14.5**	**+0.3**
	2.7nm,0.3s,SNR=9.4							
EMIN	**Mina Concepcio**	**2.40**	**320**	⇓P		**Pn**	**18 52 49.1**	**+1.1**
	1.2nm,0.1s,SNR=18							
EMIN				S		**Sn**	**18 53 15.9**	**-0.9**
	4.8nm,0.5s,SNR=40							
EGRO	**El Granado**	**2.72**	**306**	P		**Pn**	**18 52 53.2**	**+1.0**
	0.7nm,0.0s							
EGRO				S		**Sn**	**18 53 23.5**	**-1.0**
	4.9nm,0.3s,SNR=11							
SESP	**Santiago Espad**	**2.79**	**38**	P		**Pn**	**18 52 54.4**	**+1.2**
	0.5nm,0.2s,SNR=7.9							
SESP				S		**Sn**	**18 53 25.3**	**-0.9**
	0.6nm,0.2s,SNR=7.9							
PVAQ	**Vaqueiros**	**2.81**	**302**	*e*P		**Pn**	**18 52 54.8**	**+1.4**
PVAQ				*e*S		**Sn**	**18 53 25.7**	**-0.9**
PVAQ				A		A	18 53 27.7	
	14nm,0.2s							
PVAQ	**Vaqueiros**	**2.81**	**302**	P		**Pn**	**18 52 54.8**	**+1.4**
PVAQ				S		**Sn**	**18 53 25.7**	**-0.9**
	14nm,0.2s							
PBDV	**Barranco-do-Ve**	**2.88**	**298**	*e*P		**Pn**	**18 52 56.0**	**+1.6**
PBDV				*e*S		**Sn**	**18 53 28.1**	**-0.3**
PBDV				A		A	18 53 29.6	
	4.0nm,0.3s							
PBDV	**Barranco-do-Ve**	**2.88**	**298**	P		**Pn**	**18 52 56.0**	**+1.6**
PBDV				S		**Sn**	**18 53 28.1**	**-0.3**
	4.0nm,0.3s							
PBAR	**Barrancos**	**2.89**	**321**	*e*S		**Sn**	**18 53 27.8**	**-0.8**
PBAR	**Barrancos**	**2.89**	**321**	S		**Sn**	**18 53 27.8**	**-0.8**
ZHG	**ZHG**	**2.95**	**213**	P		**Pn**	**18 52 55.1**	**-0.3**
ZHG				S		**Sn**	**18 53 28.5**	**-1.7**
MD31	**MD31**	**3.07**	**181**	P		**Pn**	**18 52 58.4**	**+1.3**
MD31				S		**Sn**	**18 53 31.8**	**-1.3**
MDT	**Midelt**	**3.13**	**178**	P		**Pn**	**18 52 58.4**	**+0.6**
MDT				S		**Sn**	**18 53 31.8**	**-2.6**
PCVE	**Castro Verde**	**3.15**	**303**	*e*P		**Pn**	**18 52 59.2**	**+1.3**
PCVE				*e*S		**Sn**	**18 53 33.9**	**-0.7**
PCVE				A		A	18 53 35.3	
	5.1nm,0.3s							
PCVE	**Castro Verde**	**3.15**	**303**	P		**Pn**	**18 52 59.2**	**+1.3**
PCVE				S		**Sn**	**18 53 33.9**	**-0.7**
	5.1nm,0.3s							
EBAD	**Badajoz**	**3.34**	**328**	P		**Pn**	**18 53 02.0**	**+1.4**
	1.0nm,0.1s,SNR=12							
EBAD				S		**Sn**	**18 53 38.7**	**-0.7**
	2.1nm,0.3s,SNR=15							
PFVI	**Vila Bisbo**	**3.51**	**291**	*e*S		**Sn**	**18 53 42.3**	**-1.0**
PFVI				A		A	18 53 44.5	
	12nm,0.6s							
PFVI	**Vila Bisbo**	**3.51**	**291**	S		**Sn**	**18 53 42.4**	**-1.0**
	1.0nm,0.2s,SNR=7.9							
PAB	**San Pablo**	**3.61**	**5**	P		**Pn**	**18 53 05.0**	**+0.9**
	0.4nm,0.2s,SNR=7.9							
PAB				S		**Sn**	**18 53 43.7**	**-2.1**
	0.1nm,0.2s,SNR=7.9							
EVO	**Evora**	**3.68**	**316**	*e*P		**Pn**	**18 53 06.8**	**+1.8**
EVO				*e*S		**Sn**	**18 53 46.3**	**-1.2**
EVO				A		A	18 53 49.2	
	8.6nm,0.1s							
EVO	**Evora**	**3.68**	**316**	P		**Pn**	**18 53 06.8**	**+1.8**
EVO				S		**Sn**	**18 53 46.3**	**-1.2**
	8.6nm,0.1s							
ETOB	**Tobarra**	**3.70**	**42**	P		**Pn**	**18 53 06.4**	**+1.0**
	0.4nm,0.2s,SNR=7.9							
ETOB				S		**Sn**	**18 53 46.9**	**-1.1**
	0.8nm,0.4s,SNR=7.9							
PESTR	**Estremoz**	**3.70**	**323**	*e*P		**Pn**	**18 53 07.0**	**+1.6**
PESTR				*e*S		**Sn**	**18 53 46.8**	**-1.2**
PESTR				A		A	18 53 48.6	
	3.3nm,0.6s							
PNCL	**Nicolau / Gran**	**3.73**	**307**	*e*S		**Sn**	**18 53 47.2**	**-1.5**
PNCL				A		A	18 53 48.9	
	3.3nm,0.3s							
PNCL	**Nicolau / Gran**	**3.73**	**307**	S		**Sn**	**18 53 47.2**	**-1.5**
	3.3nm,0.3s							
ESDC	**Sonseca Array**	**3.77**	**9**	S		**Sn**	**18 53 47.5**	**-2.2**
	0.1nm,0.2s,baz=187,slow=23,SNR=3.6							
PMRV	**Marv??o**	**4.07**	**329**	*e*P		**Pn**	**18 53 11.6**	**+1.3**
PMRV				*e*S		**Sn**	**18 53 55.7**	**-1.2**
PMRV				A		A	18 54 06.3	
	2.1nm,0.3s							
PMRV	**Marv??o**	**4.07**	**329**	P		**Pn**	**18 53 11.6**	**+1.3**
PMRV				S		**Sn**	**18 53 55.7**	**-1.2**
	2.1nm,0.3s							
PMTG	**Montargil**	**4.18**	**319**	*e*P		**Pn**	**18 53 12.5**	**+0.7**
PMTG				*e*S		**Sn**	**18 53 57.9**	**-1.6**
PMTG				A		A	18 54 08.5	
	2.4nm,0.6s							
PMTG	**Montargil**	**4.18**	**319**	P		**Pn**	**18 53 12.5**	**+0.7**
PMTG				S		**Sn**	**18 53 57.9**	**-1.6**
	2.4nm,0.6s							
ETOR	**Torete**	**5.30**	**23**	P		**Pn**	**18 53 28.4**	**+1.3**
	10nm,0.2s,SNR=16							
ETOR				S		**Sn**	**18 54 24.0**	**-2.8**
	1.8nm,0.3s,SNR=7.9							

IDC 10 19:22:16.6±10.0, 17°.39S×178°.69W, h554km±126km, mb2.9/6, mb1 3.3/6, mb1mx3.0/35, mbtmp3.9/6, Error ellipse: s-maj=118.0km s-min=39.5km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**33.27**	**260**	P		P	19 28 08.9	0.0
	0.9nm,0.4s,baz=102,slow=11,SNR=3.5							
ASAR	**Alice Springs**	**44.67**	**254**	P		P	19 29 40.6	-0.3
	2.6nm,0.5s,baz=87,slow=8.7,SNR=27							
NVAR	**Mina Array Bea**	**79.24**	**44**	P		P	19 33 25.3	+0.1
	0.4nm,0.6s,baz=223,slow=7.2,SNR=3.6							
ILAR	**Eielson Array**	**85.44**	**13**	P		P	19 33 55.4	-0.2
	0.8nm,1.1s,baz=224,slow=4.6,SNR=4.2							
TXAR	**Lajitas Array**	**85.95**	**58**	P		P	19 33 59.0	+0.1
	0.2nm,0.6s,baz=205,slow=3.9,SNR=5.1							
PDAR	**Pinedale Array**	**87.16**	**44**	P		P	19 34 04.2	-0.3
	0.3nm,0.5s,baz=242,slow=1.9,SNR=3.2							
GERES	**GERESS Array B**	**147.04**	**345**	PKPbc		PKPbc	19 40 57.1	-0.5
	0.5nm,0.6s,baz=9.9,slow=3.1,SNR=3.8							

IDC 10 19:23:35.0±2.2, 6°.25S×130°.11E, h0km, mb4.3/1, mb1 4.0/4, mb1mx3.5/36, mbtmp3.8/4, ML3.9/3, Error ellipse: s-maj=99.6km s-min=26.8km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.56**	**200**	Pn		Pn	19 26 35.8	+0.6
	0.3nm,0.3s,baz=19,slow=6.9,SNR=11							
FITZ				Sn		Sn	19 28 39.7	-16
	0.5nm,0.3s,baz=282,slow=22,SNR=8.2							
WRA	**Warramunga Arr**	**14.22**	**164**	Pn		Pn	19 26 58.1	+0.2
	0.9nm,0.3s,baz=344,slow=14,SNR=40							
WRA				Sn		Sn	19 29 22.1	-14
	1.2nm,0.3s,baz=333,slow=23,SNR=11							
ASAR	**Alice Springs**	**17.70**	**168**	P		Pn	19 27 42.4	-0.8
	0.2nm,0.3s,baz=348,slow=10,SNR=18							
ASAR				S		Sn	19 30 48.8	-12
	0.3nm,0.3s,baz=345,slow=25,SNR=6.6							
MKAR	**Makanchi Array**	**67.66**	**327**	P		P	19 34 34.1	0.0
	1.2nm,0.4s,baz=118,slow=7.8,SNR=23							

*IDC **10** 19:38:27.8±4.5, 16°.03N×98°.72W, h0km, mb3.5/6, mb1 3.8/8, mb1mx3.7/35, mbtmp3.5/8, ML3.3/2, MS2.8/1, Ms1 2.8/1, ms1mx2.1/25, Error ellipse: s-maj=83.2km s-min=19.0km az=5.0*
*ISCJB **10** 19:38:28.5±1.4, 15°.96N±0°.07×98°.69W±0°.04, h25km±9km, mb3.5/5, MS2.7/1, Error ellipse: s-maj=12.4km s-min=6.3km az=9.1*
*NEIC **10** 19:38:28.9±3.2, 16°.06N±0°.04×98°.75W±0°.04, h18km±7km*
*MEX **10** 19:38:30.8±0.9, 16°.01N×98°.76W, h14km±17km, MD4.2*

ISC 10 19:38:29.2±1.5, 16°.07N±0°.07×98°.75W±0°.03, h12km±9km, n32, σ1°57/44, mb3.7/7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.68**	**62**	*e*P		**Pg**	**19 38 42.1**	**-0.3**
PNIG				*e*S		**Sg**	**19 38 51.4**	**+0.1**
PNIG	**Pinotepa**	**0.68**	**62**			**Pg**	**19 38 42.1**	**-0.3**
PNIG						**Sg**	**19 38 51.4**	**+0.1**
TLIG	**Tlapa**	**1.49**	**7**	*e*P		**Pn**	**19 38 54.2**	**-1.8**
TLIG				*i* S		**Sn**	**19 39 13.8**	**-1.7**
TLIG	**Tlapa**	**1.49**	**7**			**Pn**	**19 38 54.2**	**-1.8**
TLIG						**Sn**	**19 39 13.8**	**-1.7**
TLIG	**Tlapa**	**1.49**	**7**			**Pn**	**19 38 54.2**	**-1.8**
CAIG	**El Cayaco**	**1.75**	**304**	*e*P		**Pn**	**19 38 57.2**	**-2.1**
CAIG				*e*S		**Sn**	**19 39 19.5**	**-2.0**
CAIG	**El Cayaco**	**1.75**	**304**			**Pn**	**19 38 57.2**	**-2.1**
CAIG						**Sn**	**19 39 19.5**	**-2.0**
VHO	**Vista Hermosa**	**2.18**	**63**	*i* P		**Pn**	**19 39 04.8**	**-0.7**
VHO				*i* S		**Sn**	**19 39 30.0**	**-2.4**
PLIG	**Platanillo**	**2.42**	**343**	*i* P		**Pn**	**19 39 08.4**	**-0.3**
PLIG				*e*S		**Sb**	**19 39 41.7**	**-0.7**
PLIG	**Platanillo**	**2.42**	**343**			**Pn**	**19 39 08.4**	**-0.3**
PLIG						**Sb**	**19 39 41.7**	**-0.7**
HUIG	**Huatulco**	**2.56**	**96**	*i* P		**Pn**	**19 39 08.9**	**-1.6**
HUIG				*i* S		**Sg**	**19 39 52.0**	**+0.4**
HUIG	**Huatulco**	**2.56**	**96**			**Pn**	**19 39 08.9**	**-1.6**
HUIG						LR	19 39 52.0	
ARIG	**Puente Sto Nin**	**2.67**	**325**	*e*P		**Pn**	**19 39 13.3**	**+1.2**
ARIG				*e*S		**Sb**	**19 39 48.7**	**-1.1**
ARIG	**Puente Sto Nin**	**2.67**	**325**			**Pn**	**19 39 13.3**	**+1.2**
ARIG						**Sb**	**19 39 48.7**	**-1.1**
ZIIG	**Zihuatanejo**	**3.01**	**301**	*e*P		**Pn**	**19 39 16.2**	**-0.5**
ZIIG				*e*S		**Sg**	**19 40 04.3**	**-1.7**
ZIIG	**Zihuatanejo**	**3.01**	**301**			**Pn**	**19 39 16.2**	**-0.5**
ZIIG						**Sg**	**19 40 04.3**	**-1.7**
CMIG	**Matias Romero**	**3.84**	**74**	Pn		**Pn**	**19 39 27.1**	**-1.1**
	1.4nm,0.3s,baz=249,slow=13,SNR=12							
CMIG				Pg		**Pb**	**19 39 38.2**	**+1.2**
	2.2nm,0.3s,baz=255,slow=12,SNR=10.0							
CMIG				Sn		**Sn**	**19 40 10.8**	**-2.5**
	4.7nm,0.3s,baz=236,slow=12,SNR=5.0							
CMIG				Lg		Lg	19 40 29.7	
	18nm,0.3s,baz=353,slow=17,SNR=16							
MOIG	**Morelia**	**4.27**	**327**			**Pn**	**19 39 36.4**	**+2.1**
TEIG	**Tepich**	**10.78**	**66**	Pn		**Pn**	**19 41 01.0**	**-2.4**
H06E1	**SOCORRO T-PHAS**	**11.93**	**285**	T		T	19 53 24.3	
	SNR=376							
H06S1	**SOCORRO T**	**11.95**	**285**	T		T	19 53 24.2	
	SNR=345							
H06N1	**SOCORRO T-PHAS**	**12.00**	**285**	T		T	19 53 30.5	
	SNR=7.7							
TXAR	**Lajitas Array**	**13.95**	**342**	Pn		**Pn**	**19 41 48.7**	**+1.8**
	0.1nm,0.3s,baz=167,slow=12,SNR=3.4							
ANMO	**Albuquerque**	**20.02**	**341**	P		**P**	**19 43 01.6**	**-0.6**
	0.7nm,0.6s,baz=163,slow=11,SNR=2.2							
X16A	**Lo Mia Camp, P**	**21.54**	**330**	P		**P**	**19 43 21.4**	**+2.8**
X16A				IAmb		IAmb	19 43 28.0	
	comp=Z,3.2nm,0.9s							
WUAZ	**Wupatki**	**22.41**	**332**	P		**P**	**19 43 29.1**	**+1.2**
WUAZ				IAmb		IAmb	19 43 33.4	
	comp=Z,9.0nm,1.2s							
NVAR	**Mina Array Bea**	**28.13**	**326**	P		**P**	**19 44 23.2**	**+1.7**
	comp=Z,0.7nm,0.9s,baz=134,slow=11,SNR=3.3							
PDAR	**Pinedale Array**	**28.17**	**343**	P		**P**	**19 44 23.9**	**+2.2**
	comp=Z,0.9nm,0.9s,baz=149,slow=12,SNR=4.8							
SDV	**Santo Domingo**	**28.34**	**101**	LR		LR	19 55 00.6	
	comp=Z,21nm,21.0s,baz=312,slow=35							
YKA	**Yellowknife Ar**	**47.69**	**350**	P		**P**	**19 47 05.8**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=157,slow=7.3,SNR=3.5							
INK	**Inuvik**	**56.70**	**345**	P		**P**	**19 48 13.5**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=148,slow=5.0,SNR=3.8							
ILAR	**Eielson Array**	**58.43**	**338**	P		**P**	**19 48 24.4**	**-0.2**
	comp=Z,0.7nm,1.0s,baz=140,slow=6.3,SNR=2.8							

*ISCJB **10** 19:43:06.9±1.3, 16°.00N±0°.07×98°.69W±0°.04, h32km±8km, mb3.0/3, Error ellipse: s-maj=12.1km s-min=5.6km az=19.7*
*IDC **10** 19:43:06.2±5.0, 16°.47N×98°.73W, h0km, mb3.1/3, mb1 3.5/5, mb1mx3.4/35, mbtmp3.1/5, ML3.1/2, Error ellipse: s-maj=93.5km s-min=19.2km az=10.0*
*NEIC **10** 19:43:08.5±2.3, 16°.15N±0°.03×98°.74W±0°.03, h23km±13km*
*MEX **10** 19:43:09.5±0.8, 16°.07N×98°.64W, h4km, MD4.1*

ISC 10 19:43:06.8±2.3, 16°.16N±0°.07×98°.70W±0°.04, h14km±13km, n27, σ1°53/44, mb3.1/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.59**	**67**	*e*P		**Pb**	**19 43 19.8**	**+0.8**
PNIG				*e*S		**Sn**	**19 43 29.1**	**-1.2**
PNIG	**Pinotepa**	**0.59**	**67**			**Pb**	**19 43 19.8**	**+0.8**
PNIG						**Sn**	**19 43 29.1**	**-1.2**
TLIG	**Tlapa**	**1.40**	**5**	*e*P		**Pb**	**19 43 33.0**	**+0.1**
TLIG				*e*S		**Sg**	**19 43 52.1**	**-0.1**
TLIG	**Tlapa**	**1.40**	**5**			**Pn**	**19 43 32.0**	**-0.1**
TLIG				Sn		**Sg**	**19 43 51.1**	**-1.1**
TLIG	**Tlapa**	**1.40**	**5**			**Pn**	**19 43 33.0**	**+0.1**
TLIG						**Sg**	**19 43 52.1**	**-0.1**
CAIG	**El Cayaco**	**1.75**	**301**	*e*P		**Pn**	**19 43 34.9**	**-1.8**
CAIG				*i* S		**Sn**	**19 43 58.8**	**0.0**
CAIG	**El Cayaco**	**1.75**	**301**			**Pn**	**19 43 34.9**	**-1.8**
CAIG						**Sn**	**19 43 58.8**	**0.0**
MEIG	**Mezcala**	**1.97**	**333**	*e*P		**Pb**	**19 43 42.4**	**-0.2**
MEIG				*e*S		**Sb**	**19 44 07.5**	**+0.5**
MEIG	**Mezcala**	**1.97**	**333**			**Pb**	**19 43 42.4**	**-0.2**
MEIG						**Sb**	**19 44 07.5**	**+0.5**
PLIG	**Platanillo**	**2.35**	**341**	*e*P		**Pn**	**19 43 45.9**	**+0.8**
PLIG				*e*S		**Sb**	**19 44 17.3**	**-0.7**
PLIG	**Platanillo**	**2.35**	**341**			**Pn**	**19 43 45.9**	**+0.8**
PLIG						**Sb**	**19 44 17.3**	**-0.7**
HUIG	**Huatulco**	**2.52**	**98**	*i* P		**Pn**	**19 43 47.5**	**+0.1**
HUIG				*i* S		**Sn**	**19 44 16.9**	**-0.9**
HUIG	**Huatulco**	**2.52**	**98**			**Pn**	**19 43 47.5**	**+0.1**
HUIG						**Sn**	**19 44 16.9**	**-0.9**
ARIG	**Puente Sto Nin**	**2.64**	**323**	*e*P		**Pn**	**19 43 49.6**	**+0.6**
ARIG				*e*S		**Sg**	**19 44 30.2**	**-1.4**
ARIG	**Puente Sto Nin**	**2.64**	**323**			**Pn**	**19 43 49.6**	**+0.6**
ARIG						**Sg**	**19 44 30.2**	**-1.4**
ZIIG	**Zihuatanejo**	**3.02**	**299**	*i* P		**Pn**	**19 43 54.8**	**+0.6**
ZIIG				*e*S		**Sn**	**19 44 33.2**	**+3.1**
ZIIG	**Zihuatanejo**	**3.02**	**299**			**Pn**	**19 43 54.8**	**+0.6**
ZIIG						**Sn**	**19 44 33.2**	**+3.1**
CMIG	**Matias Romero**	**3.77**	**75**	Pn		**Pn**	**19 44 05.0**	**+0.5**
	1.3nm,0.3s,baz=258,slow=14,SNR=12							
CMIG				Pg		**Pb**	**19 44 15.8**	**+2.6**
	1.5nm,0.3s,baz=262,slow=16,SNR=7.5							
CMIG				Sn		**Sn**	**19 44 47.1**	**-1.6**
	2.7nm,0.3s,baz=238,slow=10,SNR=4.8							
CMIG				Lg		Lg	19 45 03.6	
	6.6nm,0.3s,baz=289,slow=20,SNR=5.0							
MOIG	**Morelia**	**4.23**	**326**	Pn		**Pn**	**19 44 13.6**	**+2.5**
MOIG						**Sb**	**19 45 16.0**	**+3.8**
CCIG	**Comitan**	**6.30**	**88**	Pn		**Pn**	**19 44 43.0**	**+3.4**
H06E1	**SOCORRO T-PHAS**	**11.96**	**284**	T		T	19 58 02.2	
	SNR=7.3							
H06S1	**SOCORRO T**	**11.98**	**284**	T		T	19 58 02.6	
	SNR=43							
H06N1	**SOCORRO T-PHAS**	**12.03**	**285**	T		T	19 58 00.1	
	SNR=8.1							
TXAR	**Lajitas Array**	**13.89**	**342**	Pn		**Pn**	**19 46 23.9**	**+0.4**
	0.0nm,0.3s,baz=158,slow=15,SNR=2.7							
NVAR	**Mina Array Bea**	**28.09**	**326**	P		**P**	**19 48 57.6**	**-0.8**
	0.2nm,0.6s,baz=141,slow=5.8,SNR=1.9							
PDAR	**Pinedale Array**	**28.10**	**343**	P		**P**	**19 48 55.4**	**-3.1**
	0.1nm,0.4s,baz=140,slow=13,SNR=2.4							
YKA	**Yellowknife Ar**	**47.62**	**350**	P		**P**	**19 51 42.2**	**+0.1**
	0.2nm,0.7s,baz=157,slow=6.9,SNR=2.8							

*ISCJB **10** 20:05:26.0±0.4, 36°.92N±0°.03×71°.50E±0°.05, h106km, mb3.6/7, Error ellipse: s-maj=6.1km s-min=3.6km az=150.4*
*IDC **10** 20:05:27.9±3.3, 36°.88N×71°.86E, h124km±29km, mb3.4/7, mb1 3.4/14, mb1mx3.2/56, mbtmp3.8/14, Error ellipse: s-maj=25.9km s-min=19.4km az=158.0*
*NNC **10** 20:05:34.1±1.6, 37°.36N×71°.61E, h191km±19km, mb3.1, mpv4.1, Error ellipse: s-maj=15.6km s-min=9.7km az=31.0*

ISC 10 20:05:27.1±0.6, 36°.96N±0°.05×71°.54E±0°.06, h106km, n43, σ2°60/53, mb3.4/7, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**5.43**	**17**	P		**Pn**	**20 06 48.7**	**+2.6**
	SNR=153							
THN	**Thein Dam**	**5.67**	**141**	*e*P		Pn	20 06 57.0	+8.0
THN				*e*S		**Sn**	**20 07 57.0**	**+4.2**
UCH	**Uchtor**	**5.75**	**23**	P		**Pn**	**20 06 52.7**	**+2.4**
	SNR=59							
KZA	**Kyzart**	**5.87**	**28**	P		**Pn**	**20 06 53.7**	**+1.8**
	SNR=17							
EKS2	**Erkin-Say**	**5.95**	**16**	P		**Pn**	**20 06 55.7**	**+2.8**
	SNR=10							
AAK	**Ala-Archa**	**6.12**	**21**	P		**Pn**	**20 06 57.2**	**+2.1**
	7.1nm,0.3s,baz=185,slow=9.9,SNR=145							
AAK				S		**Sn**	**20 08 01.6**	**-2.0**
	2.7nm,0.3s,baz=139,slow=19,SNR=17							
AAK	**Ala-Archa**	**6.12**	**21**	P		**Pn**	**20 06 57.8**	**+2.7**
	SNR=37							
AAK	**Ala-Archa**	**6.12**	**21**	⇑P		**Pn**	**20 06 57.5**	**+2.5**
	13nm,0.4s							
AAK				⇑S		**Sn**	**20 08 04.3**	**+0.6**
	12nm,0.5s							
DHRM	**DHARAMSHALA**	**6.12**	**139**	*e*P		**Pn**	**20 06 58.7**	**+3.4**
DHRM				*ex*		x	20 08 03.7	
DHRM				IAML			20 08 06.9	
	comp=N,266nm,0.4s							
DHRM				IAML			20 08 07.2	
	comp=E,189nm,0.3s							
KK31	**Karatay Array**	**6.19**	**353**	⇑P		**Pn**	**20 06 59.0**	**+3.1**
	comp=E,9.0nm,0.3s,baz=180,slow=18,SNR=216							
KK31				⇓S		**Sn**	**20 08 05.2**	**-0.1**
	comp=E,14nm,0.3s,baz=172,slow=22,SNR=18							
KBK	**Karagaybulak**	**6.27**	**24**	P		**Pn**	**20 07 00.4**	**+3.2**
	SNR=24							
CHMS	**Chumysh**	**6.52**	**21**	P		**Pn**	**20 07 02.8**	**+2.3**
	SNR=20							
USP	**Ospenovka**	**6.70**	**19**	P		**Pn**	**20 07 04.7**	**+1.9**
	SNR=9.4							
TKM2	**Tokmak 2**	**6.72**	**26**	⇑P		**Pn**	**20 07 05.1**	**+1.7**
	comp=E,11nm,0.6s							
TKM2				⇑S		**Sn**	**20 08 19.0**	**+0.5**

HMMJ	**Hamamatsu 2**	**0.95**	**51**	P		**Pn**	**20 07 36.6**	**-0.5**	
JWY	**Kouya**	**1.03**	**268**	P		**Pn**	**20 07 36.6**	**-0.9**	
JAO	**Obara**	**1.07**	**19**	P		**Pn**	**20 07 37.1**	**-0.5**	
JNY	**Yasuok**	**1.39**	**37**	P		**Pn**	**20 07 38.3**	**-0.6**	
JWT	**Wachi**	**1.56**	**311**	P		**Pn**	**20 07 38.5**	**-1.2**	
JAI	**Aioi**	**2.03**	**258**	P		**Pn**	**20 07 41.6**	**-0.8**	
JKG	**Kaga**	**2.06**	**349**	P		**Pn**	**20 07 41.5**	**-1.0**	
JOD2	**Odawara 2**	**2.11**	**61**	P		**Pn**	**20 07 43.5**	**+0.6**	
JRY	**Ryogami san**	**2.44**	**43**	P		**Pn**	**20 07 45.3**	**+0.2**	
JMN	**Monobe**	**2.51**	**259**	P		**Pn**	**20 07 45.3**	**-0.4**	
MAT	**Matsushiro**	**2.54**	**26**	P		**Pn**	**20 07 45.2**	**-0.7**	
MAT				*eS*		S	20 08 23.4	-11	
MAT	**Matsushiro**	**2.54**	**26**	P		**Pn**	**20 07 45.6**	**-0.3**	
MJAR	**Matsushiro Arr**	**2.54**	**26**	P		**Pn**	**20 07 45.6**	**-0.3**	
	0.4nm,0.3s,baz=201,slow=6.6,SNR=28								
JHU	**Hanno**	**2.56**	**51**	P		**Pn**	**20 07 46.0**	**0.0**	
JHU				S		**S**	**20 08 30.8**	**-3.6**	
BSO4	**Boso 4**	**2.98**	**75**	P		**Pn**	**20 07 49.9**	**+0.7**	
BSO3	**Boso 3**	**3.09**	**79**	P		**Pn**	**20 07 49.6**	**-0.2**	
JHS	**Saijyo**	**3.15**	**285**	P		**Pn**	**20 07 50.2**	**-0.5**	
KSRS	**Korea Array**	**7.91**	**296**	P		**P**	**20 08 41.9**	**+1.4**	
	0.3nm,0.3s,baz=105,slow=13,SNR=7.1								
USRK	**Ussuriysk Ar.**	**10.61**	**341**	P		**Pn**	**20 09 13.2**	**+2.0**	
	baz=150,slow=9.2,SNR=10								
BVAR	**Borovoye Array**	**49.72**	**313**	P		P	20 14 48.7	-11	
	0.5nm,0.6s,baz=103,slow=6.8,SNR=4.6								

IDC ***10*** *20:15:43.0±1.4,9˚.82S×119˚.02E, h0km, mb3.8/3, mb1 4.1/9, mb1mx3.8/48, mbtmp4.1/9, ML4.0/6, MS2.8/1, Ms1 2.8/1, ms1mx2.2/30, Error ellipse: s-maj=44.4km s-min=18.1km az=57.0*

ISCJB ***10*** *20:15:49.5±0.5,9˚.77S±0˚.06×119˚.44E±0˚.04, h46km, mb3.8/3, MS2.7/1, Error ellipse: s-maj=8.5km s-min=4.9km az=19.1*

DJA ***10*** *20:15:49.5±0.4, 10˚S±4˚×11˚9E±˚, h10km, M4.3/18, mb4.5/6, mB4.7/2, MLv4.2/18, Mw(mB)3.9/2*

ISC 10 20:15:51.0±0.7, 9˚.68S±0˚.07×119˚.44E±0˚.05, h46km, n28, σ1§71/28, mb3.9/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLAI	**Plampang**	**1.85**	**297**	P		**Pn**	**20 16 19.7**	**-0.6**
PLAI				S		**Sn**	**20 16 45.3**	**+2.8**
TWSI	**Taliwang, Sumb**	**2.69**	**290**	P		**Pn**	**20 16 32.8**	**+0.9**
BATI	**Baumata**	**4.19**	**97**	Pn		**Pn**	**20 16 53.5**	**+1.0**
	22nm,0.3s,baz=288,slow=19,SNR=30							
BATI				Sn		**Sn**	**20 17 41.8**	**+1.6**
	8.5nm,0.3s,baz=346,slow=19,SNR=10							
BATI	**Baumata**	**4.19**	**97**	P		**Pn**	**20 16 54.1**	**+1.6**
DNP	**Denpasar**	**4.29**	**283**	P		**Pn**	**20 16 54.7**	**+0.9**
IGBI	**Denpasar**	**4.33**	**281**	P		**Pn**	**20 16 55.0**	**+0.7**
BKSI	**Bulukumba**	**4.39**	**9**	P		**Pn**	**20 16 55.3**	**+0.2**
SRBI	**Singaraja**	**4.47**	**290**	P		**Pn**	**20 16 57.5**	**+1.3**
KAPI	**Kappang**	**4.65**	**4**	Pn		**Pn**	**20 16 58.7**	**0.0**
	15nm,0.3s,baz=187,slow=4.5,SNR=212							
KAPI				Sn		**Sn**	**20 17 48.8**	**-2.7**
	12nm,0.3s,baz=206,slow=10,SNR=13							
SOEI	**Soe**	**4.76**	**91**	P		**Pn**	**20 17 02.2**	**+1.9**
BBSI	**Bau Bau**	**5.20**	**37**	P		**Pn**	**20 17 07.9**	**+1.7**
	9.8nm,0.8s,0.0nm							
BNSI	**Bone**	**5.29**	**7**	P		**Pn**	**20 17 08.7**	**+1.2**
	42nm,0.7s,0.3nm							
JAGI	**Jajag, Banyuwa**	**5.36**	**283**	P		**Pn**	**20 17 09.8**	**+1.3**
	34nm,0.5s,1µm0.2nm							
SPSI	**Sidrap Palu**	**5.69**	**3**	P		**Pn**	**20 17 14.5**	**+1.5**
	23nm,0.7s,360nm0.1nm							
KMMI	**Kalianget**	**6.01**	**295**	P		**Pn**	**20 17 18.0**	**+0.5**
	35nm,1.0s,0.2nm							
TTSI	**Tana Toraja**	**6.61**	**3**	P		**Pn**	**20 17 27.3**	**+1.7**
	20nm,0.6s,0.1nm							
FITZ	**Fitzroy Crossi**	**10.30**	**145**	Pn		**Pn**	**20 18 14.0**	**-2.2**
	0.4nm,0.3s,baz=320,slow=13,SNR=26							
FITZ				Sn		Sn	20 20 01.7	-8.7
	0.6nm,0.3s,baz=346,slow=11,SNR=4.9							
SWI	**Sorong**	**14.66**	**54**	P		**P**	**20 19 19.8**	**-1.2**
SIJI	**Sorong**	**14.67**	**54**	Pn		**Pn**	**20 19 17.8**	**+2.1**
	1.4nm,0.3s,baz=170,slow=2.1,SNR=5.5							
KASI	**Kota Agung**	**15.38**	**285**	P		**P**	**20 19 32.2**	**+3.3**
WRA	**Warramunga Arr**	**17.63**	**127**	P		**Pn**	**20 19 52.1**	**-1.3**
	0.3nm,0.3s,baz=302,slow=13,SNR=20							
WRA				S		Sn	20 22 52.4	-17
	0.1nm,0.3s,baz=302,slow=26,SNR=3.8							
ASAR	**Alice Springs**	**19.60**	**137**	P		**P**	**20 20 16.4**	**+0.8**
	0.2nm,0.3s,baz=312,slow=9.8,SNR=28							
ASAR				S		S	20 23 43.4	-11
	0.1nm,0.3s,baz=315,slow=24,SNR=5.0							
STKA	**Stephens Creek**	**30.15**	**140**	P		**P**	**20 21 56.2**	**-0.5**
	2.3nm,0.9s,baz=337,slow=13,SNR=2.6							
STKA				LR		LR	20 36 12.7	
	comp=Z,18nm,18.5s,baz=205,slow=41							
H08S2	**Diego Garcia H**	**46.43**	**269**	T		T	21 13 35.8	
	baz=96,slow=76,SNR=12							
H08S3	**Diego Garcia H**	**46.44**	**269**	T		T	21 13 38.6	
	baz=96,slow=76,SNR=10							
H08S1	**Diego Carcia H**	**46.45**	**269**	T		T	21 13 33.3	
	baz=96,slow=76,SNR=8.0							
SONM	**Songino Array**	**56.42**	**350**	P		**P**	**20 25 39.4**	**-2.7**
	0.5nm,0.5s,baz=166,slow=8.2,SNR=4.6							
MKAR	**Makanchi Array**	**65.26**	**333**	P		**P**	**20 26 26.8**	**-1.2**
	0.4nm,0.5s,baz=151,slow=6.6,SNR=6.3							

IDC ***10*** *20:19:36.1±0.7, 12˚.62N×88˚.46W, h0km, mb4.3/14, mb1 4.5/16, mb1mx4.3/36, mbtmp4.3/16, ML3.6/2, MS3.7/19, Ms1 3.7/19, ms1mx3.5/36, Error ellipse: s-maj=29.5km s-min=15.6km az=56.0*

SNET ***10*** *20:19:38.9±1.2, 12˚.36N×88˚.96W, h13km±4km, ML4.4*

UCR ***10*** *20:19:40.4±2.0, 12˚.40N×88˚.88W, h26km±12km, MD4.0, ML4.2, mb4.7(NEIC)*

ISCJB ***10*** *20:19:40.8±0.3, 12˚.38N±0˚.02×88˚.83W±0˚.02, h56km±2km, mb4.3/15, MS3.8/18, Error ellipse: s-maj=4.8km s-min=2.4km az=39.6*

NEIC ***10*** *20:19:42.7±2.1, 12˚.41N±0˚.07×88˚.81W±0˚.07, h57km±5km, mb4.7/165, Md4.4(SNET)*

GCG ***10*** *20:19:44.1±1.0, 12˚.52N×89˚.00W, h50km±600km, MD4.4*

ISC 10 20:19:39.3±1.2, 12˚.37N±0˚.05×88˚.91W±0˚.03, h24km±8km, n530, σ1§21/551, mb4.8/88, MS3.8/18, 30C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JUCU	**Jucuarın**	**1.09**	**36⇑**	*eP*		**Pb**	**20 19 59.4**	**-0.1**
JUCU				*eS*		**Sn**	**20 20 14.9**	**+1.4**
COEB	**Comit de Eme**	**1.18**	**18**	*eP*		**Pn**	**20 20 00.5**	**+0.1**
COEB				*eS*		**Sb**	**20 20 17.0**	**+1.1**
TECA	**Tecapa**	**1.18**	**19⇑**	*iP*		**Pn**	**20 20 00.9**	**+0.3**
TECA	**Tecapa**	**1.18**	**19⇑**	*iP*		**Pn**	**20 20 00.9**	**+0.3**
LCY	**Lacayo**	**1.20**	**30⇑**	*iP*		**Pb**	**20 20 01.4**	**-0.1**
LCY	**Lacayo**	**1.20**	**30⇑**	*iP*		**Pb**	**20 20 01.4**	**-0.1**
VSM	**San Miguel**	**1.22**	**30**	*eP*		**Pb**	**20 20 01.8**	**-0.1**
VSM				⇑ *iP*		**Pb**	**20 20 02.0**	**+0.1**
VSM	**San Miguel**	**1.22**	**30⇑**	*iP*		**Pb**	**20 20 02.0**	**+0.1**
SNVI	**San Vicente**	**1.23**	**3**	*eP*		**Pn**	**20 20 00.9**	**-0.3**
SNVI	**San Vicente**	**1.23**	**3**	*eP*		**Pn**	**20 20 00.6**	**-0.7**
COEG	**Centro de Oper**	**1.24**	**1⇑**	*eP*		**Pn**	**20 20 01.1**	**-0.1**
COEG				*eS*		**Sb**	**20 20 18.5**	**+0.8**
LFRS	**El Faro**	**1.25**	**353⇑**	*iP*		**Pn**	**20 20 01.4**	**0.0**
PAVA	**Las Pavas**	**1.33**	**359⇑**	*iP*		**Pn**	**20 20 02.9**	**+0.3**
PAVA	**Las Pavas**	**1.33**	**359⇑**	*iP*		**Pn**	**20 20 02.9**	**+0.3**
SNET	**Serv Nac Est T**	**1.34**	**346**	*eP*		**Pn**	**20 20 02.7**	**0.0**
SNET				*eS*		**Sb**	**20 20 20.8**	**+0.1**
SNET	**Serv Nac Est T**	**1.34**	**346**	*eP*		**Pn**	**20 20 02.6**	**0.0**
SNET				*eS*		**Sb**	**20 20 20.8**	**+0.1**
SNET	**Serv Nac Est T**	**1.34**	**346**			**Pn**	**20 20 02.6**	**0.0**
LCND	**La Caada**	**1.36**	**47⇑**	*iP*		**Pn**	**20 20 03.1**	**+0.3**
LCND	**La Caada**	**1.36**	**47⇑**	*iP*		**Pn**	**20 20 03.1**	**+0.3**
OPAM	**Oficina de Pla**	**1.36**	**348**	*eP*		**Pn**	**20 20 03.4**	**+0.5**
OPAM				*eS*		**Sb**	**20 20 23.1**	**+1.9**
OPAM				IAML			20 20 24.9	
	comp=Z,3µm,0.3s							
OPAM	**Oficina de Pla**	**1.36**	**348**	*eP*		**Pn**	**20 20 03.4**	**+0.5**
OPAM				*eS*		**Sb**	**20 20 23.1**	**+1.9**
OPAM				IAML			20 20 24.9	
	comp=Z,3µm,0.3s							
LBRS	**Las Brisas**	**1.36**	**354⇑**	*iP*		**Pn**	**20 20 03.3**	**+0.4**
CUSC	**Alcaldia de Cu**	**1.37**	**349**	*eP*		**Pb**	**20 20 04.0**	**-0.3**
CUSC				*eS*		**Sb**	**20 20 21.4**	**-0.1**
CUSC	**Alcaldia de Cu**	**1.37**	**349**	*eP*		**Pb**	**20 20 04.0**	**-0.3**
CUSC				*eS*		**Sb**	**20 20 21.4**	**-0.1**
UEES	**Universidad Ev**	**1.37**	**346**	*eP*		**Pn**	**20 20 03.8**	**+0.6**
UEES				*eP*		**Pb**	**20 20 04.0**	**-0.4**
UEES	**Universidad Ev**	**1.37**	**346**	*eP*		**Pn**	**20 20 03.8**	**+0.6**
UEES				*eP*		**Pb**	**20 20 04.0**	**-0.4**
CNCH	**Conchagua**	**1.38**	**49⇑**	*eP*		**Pn**	**20 20 03.3**	**+0.1**
CNCH	**Conchagua**	**1.38**	**49⇑**	*eP*		**Pn**	**20 20 03.3**	**+0.1**
LFU	**La Fuente**	**1.38**	**352⇑**	*iP*		**Pn**	**20 20 03.6**	**+0.4**
LFU	**La Fuente**	**1.38**	**352⇑**	*iP*		**Pn**	**20 20 03.6**	**+0.4**
BOQS	**Boqueron**	**1.40**	**345⇑**	*eP*		**Pn**	**20 20 04.0**	**+0.4**
FAGO	**Alcalda de S**	**1.53**	**31⇑**	*iP*		**Pb**	**20 20 06.1**	**-0.8**
FAGO				*eS*		**Sb**	**20 20 27.2**	**+1.2**
FAGO				*eS*		**Sn**	**20 20 27.3**	**+3.0**
VICT	**Victoria**	**1.60**	**9**	*eP*		**Pb**	**20 20 07.5**	**-0.8**
VICT				IAML			20 20 08.5	
	comp=Z,3µm,0.2s							
VICT				*eS*		**Sb**	**20 20 29.8**	**+1.7**
VICT	**Victoria**	**1.60**	**9**	*eP*		**Pb**	**20 20 07.5**	**-0.8**
VICT				IAML			20 20 08.5	
	comp=Z,3µm,0.2s							
VICT				*eS*		**Sb**	**20 20 29.8**	**+1.7**
CEVE	**Cerro Verde**	**1.61**	**334⇑**	*eP*		**Pn**	**20 20 06.9**	**+0.5**
CEVE				*eS*		**Sb**	**20 20 28.9**	**+0.4**
CEVE				IAML			20 20 31.9	
	comp=Z,11µm,0.3s							
CEVE	**Cerro Verde**	**1.61**	**334⇑**	*eP*		**Pn**	**20 20 06.9**	**+0.5**
CEVE				*eS*		**Sb**	**20 20 28.9**	**+0.4**
CEVE				IAML			20 20 31.9	
	comp=Z,11µm,0.3s							
SBLS	**San Blas**	**1.62**	**335⇑**	*iP*		**Pn**	**20 20 07.1**	**+0.6**
SBLS	**San Blas**	**1.62**	**335⇑**	*iP*		**Pn**	**20 20 07.1**	**+0.6**
SNJE	**San Jose**	**1.64**	**335⇑**	*iP*		**Pn**	**20 20 07.4**	**+0.6**
SNJE	**San Jose**	**1.64**	**335⇑**	*iP*		**Pn**	**20 20 07.4**	**+0.6**
RTR	**El Retiro**	**1.68**	**335⇑**	*eP*		**Pn**	**20 20 08.2**	**+0.9**
RTR	**El Retiro**	**1.68**	**335⇑**	*eP*		**Pn**	**20 20 08.2**	**+0.9**
CRIN	**San Cristobal**	**1.84**	**80**	*eP*		**Pn**	**20 20 09.9**	**+0.4**
MTO3	**Montecristo**	**2.06**	**348⇑**	*eP*		**Pn**	**20 20 13.8**	**+1.1**
MTO3				*eS*		**Sb**	**20 20 40.2**	**-1.3**
MTO3	**Montecristo**	**2.06**	**348⇑**	*eP*		**Pn**	**20 20 13.8**	**+1.1**
MTO3				*eS*		**Sb**	**20 20 40.2**	**-1.3**
CNGN	**Cerro Negro**	**2.16**	**86**	*eP*		**Pn**	**20 20 12.6**	**-1.3**
COPN	**Copaltepe**	**2.27**	**95**	*eP*		**Pn**	**20 20 15.1**	**-0.2**
TGUH	**Tegucigalpa,Un**	**2.31**	**43**			**Pn**	**20 20 17.1**	**+1.1**
MOMN	**Momotombo**	**2.31**	**89**	*eP*		**Pn**	**20 20 15.6**	**-0.4**
IXG	**Ixpaco**	**2.33**	**320**	*eP*		**Pn**	**20 20 18.0**	**+1.7**
IXG	**Ixpaco**	**2.33**	**320**	*eP*		**Pn**	**20 20 18.0**	**+1.7**
ESTN	**Estel**	**2.58**	**73**	*eP*		**Pn**	**20 20 20.1**	**+0.4**
ESTN	**Estel**	**2.58**	**73**			**Pn**	**20 20 19.9**	**+0.3**
MGAN	**Managua**	**2.61**	**95**	*eP*		**Pn**	**20 20 19.8**	**-0.2**
MGAN				*eS*		**Sn**	**20 20 50.6**	**-0.4**
NBG	**Las Nubes**	**2.61**	**328**	*eP*		**Pb**	**20 20 23.7**	**-1.8**
NBG	**Las Nubes**	**2.61**	**328**	*eP*		**Pb**	**20 20 23.7**	**-1.8**
FUG	**Fuego 3**	**2.79**	**318**	*eP*		**Pn**	**20 20 25.1**	**+2.4**
FUG				*eS*		**Sn**	**20 20 56.4**	**+0.6**
FUG	**Fuego 3**	**2.79**	**318**	*eP*		**Pn**	**20 20 25.1**	**+2.4**
FUG				*eS*		**Sn**	**20 20 56.4**	**+0.6**
RCON	**San Juan de Ri**	**2.90**	**67**	*eP*		**Pn**	**20 20 25.2**	**+1.0**
MATN	**Matagalpa**	**2.96**	**79**	*eP*		**Pn**	**20 20 25.4**	**+0.5**
MATN				IAML			20 21 10.3	
	comp=N,1µm,0.4s							
APG	**El Apazote**	**3.02**	**330**	Pn		**Pn**	**20 20 26.9**	**+1.0**
	comp=N,4.3nm,0.3s,baz=116,slow=6.7,SNR=21							
APG				LR		LR	20 21 14.6	
	comp=N,217nm,19.4s,baz=158,slow=32							
CONN	**Concepcion**	**3.31**	**104**	*eP*		**Pn**	**20 20 29.2**	**-0.5**
STG3	**Santiaguito 3,**	**3.48**	**312**	*eP*		**Pn**	**20 20 34.6**	**+2.4**
STG3				*eS*		**Sn**	**20 21 12.2**	**-0.6**
ACON	**Acoyapa**	**3.67**	**96**	*eP*		**Pn**	**20 20 34.8**	**+0.2**
ACON				*eS*		**Sn**	**20 21 15.7**	**-1.5**
ACON	**Acoyapa**	**3.67**	**96**			**Pn**	**20 20 34.9**	**+0.2**
GB1A	**Borinquen Arri**	**3.77**	**114**	*eP*		**Pn**	**20 20 38.0**	**+1.9**
GB1A				*eS*		**Sn**	**20 21 21.1**	**+1.4**
BUEV	**Buena Vista**	**3.77**	**114**	*eP*		**Pn**	**20 20 37.3**	**+1.2**
BUEV				*eS*		**Sn**	**20 21 19.6**	**-0.2**
CUI	**Cuipilapa**	**4.04**	**115**	*eP*		**Pn**	**20 20 41.5**	**+1.7**
CUI				*eS*		**Sn**	**20 21 25.3**	**-1.2**
JTS	**Las Juntas de**	**4.39**	**118**	Pn		**Pn**	**20 20 46.2**	**+1.6**
	comp=N,6.5nm,0.3s,baz=301,slow=20,SNR=16							
JTS				Sn		**Sn**	**20 21 33.0**	**-2.1**
	comp=N,5.6nm,0.3s,baz=264,slow=12,SNR=4.5							
JTS	**Las Juntas de**	**4.39**	**118**	*eP*		**Pn**	**20 20 46.5**	**+1.9**
JTS	**Las Juntas de**	**4.39**	**118**			**Pn**	**20 20 46.4**	**+1.8**
ESPN	**Las Esperanzas**	**4.51**	**92**			**Pn**	**20 20 47.5**	**+1.4**
ARE1	**Arenal 1**	**4.52**	**114**	*eP*		**Pn**	**20 20 48.4**	**+2.0**
CEDE	**Laguna Cedeo**	**4.53**	**114**	*eP*		**Pn**	**20 20 48.5**	**+2.0**
CCIG	**Comitan**	**4.99**	**322**			**Pn**	**20 20 56.6**	**+3.7**
HDC	**Heredia**	**5.26**	**116**	Pn		**Pn**	**20 20 57.6**	**+1.0**
LCR2	**La Lucha 2**	**5.48**	**118**	*eP*		**Pn**	**20 21 01.9**	**+2.3**
CVTR	**Volcan Turrial**	**5.56**	**114**	*eP*		Pn	20 21 07.7	+6.6
EDDO	**Dominical**	**5.84**	**122**	*eP*		**Pn**	**20 21 06.7**	**+2.2**
ICCO	**Coco Island**	**7.03**	**165**	*eP*		**Pn**	**20 21 22.4**	**+1.6**
BRU2	**Volcan**	**7.07**	**120**	*eP*		**Pn**	**20 21 24.4**	**+2.9**
CMIG	**Matias Romero**	**7.45**	**310**	Pn		**Pn**	**20 21 28.5**	**+2.0**
	comp=N,1.6nm,0.3s,baz=135,slow=9.0,SNR=15							
CMIG				Sn		**Sn**	**20 22 48.1**	**-2.1**
	comp=N,1.8nm,0.3s,baz=135,slow=1.4,SNR=2.7							
TEIG	**Tepich**	**7.83**	**4**	Pn		**Pn**	**20 21 34.4**	**+2.5**
	comp=N,7.2nm,0.3s,baz=326,slow=0.3,SNR=10							
TEIG				LR		LR	20 24 52.4	
	comp=N,925nm,18.9s,baz=228,slow=42							
TEIG	**Tepich**	**7.83**	**4**			**Pn**	**20 21 34.7**	**+2.8**
BCIP	**Isla Barro Col**	**9.46**	**109**	Pn		**Pn**	**20 21 53.3**	**-0.9**
TLIG	**Tlapa**	**10.66**	**300**			**Pn**	**20 22 13.8**	**+3.0**
MTDJ	**Mount Denham**	**12.42**	**61**	Pn		**Pn**	**20 22 38.1**	**+3.3**
SMLC	**San Martn de**	**15.01**	**102**	*eP*		**P**	**20 23 15.4**	**+0.1**
SMLC	**San Martn de**	**15.01**	**102**	*eP*		**P**	**20 23 15.4**	**+0.1**
GUY2C	**Guyana, Caldas**	**15.14**	**117**	*eP*		**Pn**	**20 23 14.8**	**+2.5**
GUY2C	**Guyana, Caldas**	**15.14**	**117**	*eP*		**Pn**	**20 23 14.8**	**+2.5**
RREF	**El Recreo**	**15.32**	**118**	*eP*		P	20 23 27.9	+8.5
RREF	**El Recreo**	**15.32**	**118**	*eP*		P	20 23 27.9	+8.5
PTBC	**PUERTO BERRIO,**	**15.38**	**111**	*eP*		**P**	**20 23 21.1**	**+1.7**
PTBC	**PUERTO BERRIO,**	**15.38**	**111**	*eP*		**P**	**20 23 21.1**	**+1.7**
061Z	**Ochoppi**	**15.39**	**28**	P		**Pn**	**20 23 17.0**	**+1.9**
	baz=210							
BBAC	**Balboa, Cauca**	**15.47**	**131**	*eP*		**P**	**20 23 21.6**	**+1.0**
BBAC	**Balboa, Cauca**	**15.47**	**131**	*eP*		**P**	**20 23 21.6**	**+1.0**
POPC	**Popayan, Colom**	**15.56**	**128**	*eP*		**P**	**20 23 24.3**	**+2.6**
POPC	**Popayan, Colom**	**15.56**	**128**	*eP*		**P**	**20 23 24.3**	**+2.6**
OCAC	**Ocana**	**15.88**	**104**	*eP*		**P**	**20 23 24.3**	**-0.7**
OCAC	**Ocana**	**15.88**	**104**	*eP*		**P**	**20 23 24.3**	**-0.7**
OTAV	**Otavalo**	**15.90**	**139**			**P**	**20 23 24.2**	**-1.6**
ORTC	**Ortega, Tolima**	**15.91**	**121**	*eP*		**P**	**20 23 28.3**	**+2.9**
ORTC	**Ortega, Tolima**	**15.91**	**121**	*eP*		**P**	**20 23 28.3**	**+2.9**
CRUC	**La Cruz**	**15.99**	**131**	*eP*		**P**	**20 23 28.8**	**+2.2**
CRUC	**La Cruz**	**15.99**	**131**	*eP*		**P**	**20 23 28.8**	**+2.2**
ROSC	**El Rosal**	**16.24**	**116**	LR		LR	20 30 48.9	
	comp=N,143nm,18.1s,baz=51,slow=42							
ROSC	**El Rosal**	**16.24**	**116**	Pn		**Pn**	**20 23 26.6**	**+0.2**
PRAC	**Prado**	**16.32**	**121**	*eP*		**P**	**20 23 32.4**	**+2.4**
PRAC	**Prado**	**16.32**	**121**	*eP*		**P**	**20 23 32.4**	**+2.4**
ZAIG	**Zacatecas**	**16.61**	**310**	P		**P**	**20 23 34.0**	**+0.7**
060A	**Indiantown**	**16.65**	**28**	P		**P**	**20 23 33.0**	**-0.4**
	baz=210							
VILC	**Villavicencio,**	**17.14**	**117**	*eP*		**P**	**20 23 41.3**	**+2.2**
VILC	**Villavicencio,**	**17.14**	**117**	*eP*		**P**	**20 23 41.3**	**+2.2**
SDV	**Santo Domingo**	**18.29**	**99**	*eP*		**Pn**	**20 23 49.3**	**-2.5**
SDV	**Santo Domingo**	**18.29**	**99**	*eP*		**Pn**	**20 23 49.3**	**-2.5**
SDV	**Santo Domingo**	**18.29**	**99**	P		**Pn**	**20 23 50.9**	**-1.0**
	comp=N,0.6nm,0.3s,baz=281,slow=6.5,SNR=7.1							
SDV	**Santo Domingo**	**18.29**	**99**	P		**Pn**	**20 23 51.5**	**-0.3**
833A	**Chaparral WMA,**	**18.65**	**330**	P		**Pn**	**20 23 57.0**	**+1.1**
	baz=146,SNR=8.7							
833A	**Chaparral WMA,**	**18.65**	**330**	P		**Pn**	**20 23 56.9**	**+0.9**
833A				IAmb		IAmb	20 23 58.8	
	comp=Z,52nm,1.0s							
453A	**Whigham**	**18.88**	**12**	P		**Pn**	**20 23 59.4**	**+0.8**
	baz=194							
454A	**Quitman**	**18.89**	**14**	P		**Pn**	**20 23 60.0**	**+1.1**
	baz=196							
352A	**Blakely**	**19.37**	**10**	P		**Pn**	**20 24 04.7**	**+0.2**
	baz=191							
352A	**Blakely**	**19.37**	**10**	P		**Pn**	**20 24 05.7**	**+1.1**
353A	**Camilla**	**19.37**	**12**	P		**Pn**	**20 24 04.9**	**+0.3**
	baz=194							
TIGA	**Tifton**	**19.60**	**14**	P		**Pn**	**20 24 07.3**	**0.0**
	baz=195							
250A	**Grady**	**19.66**	**7**	P		**Pn**	**20 24 07.7**	**-0.4**
	baz=187							
VBMS	**Vicksburg**	**19.81**	**356**	P		**Pn**	**20 24 10.1**	**+0.3**
	baz=175							
VBMS	**Vicksburg**	**19.81**	**356**	P		**Pn**	**20 24 10.5**	**+0.7**
VBMS				IAmb		IAmb	20 24 15.8	
	comp=Z,51nm,0.8s							
252A	**Lumpkin**	**19.90**	**10**	P		**P**	**20 24 10.1**	**+0.9**
	baz=192,SNR=5.1							
435B	**Jarrell**	**20.00**	**338**	P		**P**	**20 24 10.8**	**+0.5**
	baz=154,SNR=8.1							
435B	**Jarrell**	**20.00**	**338**	P		**Pn**	**20 24 11.3**	**-0.8**
NATX	**Nacogdoches**	**20.01**	**346**	P		Pn	20 24 11.6	-0.6
	baz=163							
NATX	**Nacogdoches**	**20.01**	**346**	P		Pn	20 24 11.3	-0.9
NATX				IAmb		IAmb	20 24 18.3	
	comp=Z,77nm,1.2s							
152A	**Waverly Hall**	**20.56**	**10**	P		Pn	20 24 17.8	-0.9
LRAL	**Lakeview Retre**	**20.64**	**5**	P		**P**	**20 24 17.4**	**+0.2**
	baz=185							
LRAL	**Lakeview Retre**	**20.64**	**5**	P		Pn	20 24 19.1	-0.4
JCT	**Junction City**	**20.65**	**332**	P		**P**	**20 24 17.9**	**+0.5**
	baz=148,SNR=25							
JCT	**Junction City**	**20.65**	**332**	P		**P**	**20 24 18.1**	**+0.7**
154A	**Montrose**	**20.84**	**14**	P		**P**	**20 24 20.5**	**+1.1**
	baz=196							
Z50A	**Ashland**	**20.96**	**7**	P		**P**	**20 24 21.4**	**+0.7**
	baz=188							
Z50A	**Ashland**	**20.96**	**7**	P		**P**	**20 24 21.8**	**+1.0**
155A	**Kite**	**21.00**	**15**	P		**P**	**20 24 21.7**	**+0.5**
	baz=197							
WHTX	**Lake Whitney,**	**21.05**	**339**	P		**P**	**20 24 21.7**	**+0.1**
	baz=156,SNR=10.0							
WHTX	**Lake Whitney,**	**21.05**	**339**	P		**P**	**20 24 21.7**	**+0.1**
WHTX				IAmb		IAmb	20 24 22.9	
	comp=Z,40nm,0.8s							
Z41A	**Richland Creek**	**21.09**	**351**	P		**P**	**20 24 23.3**	**+1.2**
Z41A				IAmb		IAmb	20 24 27.6	
	comp=Z,37nm,0.7s							
Z52A	**Williamson**	**21.12**	**10**	P		**P**	**20 24 22.5**	**0.0**
	baz=192							
Z51A	**Franklin**	**21.12**	**9**	P		**P**	**20 24 23.5**	**+1.1**
	baz=190							
156A	**Sylvania**

BIRD Birdtown, Kers 23.46 18 P P 20 24 46.9 -0.2
BIRD IAmb IAmb 20 24 52.0
comp=Z,15nm,0.8s
X34A Smith Ranch, M 23.57 341 P P 20 24 48.2 0.0
FCAR Ozark Folk Cen 23.59 353 P P 20 24 48.0 -0.4
FCAR IAmb IAmb 20 24 49.8
comp=Z,36nm,0.8s
TKL Tuckaleechee C 23.64 10 P P 20 24 47.2 -1.6
comp=Z,16nm,0.7s,baz=185,slow=11,SNR=15
WVT Waverly 23.67 2 P P 20 24 47.9 -1.2
baz=182
WVT Waverly 23.67 2 P P 20 24 47.3 -1.8
LCAR Lake Charles 23.68 355 P P 20 24 48.2 -1.0
LCAR IAmb IAmb 20 24 49.7
comp=Z,19nm,0.7s
KMSC Kings Mountain 23.69 16 P P 20 24 49.1 -0.2
baz=198
CLTN Cedars of Leba 23.73 5 P P 20 24 48.9 -0.7
W35A Tecumseh 23.80 344 P P 20 24 50.2 -0.1
STVI Saint Thomas 23.84 73 P P 20 24 49.2 -1.6
V53A Saluda 23.84 12 P P 20 24 50.8 0.0
baz=195
V53A Saluda 23.84 12 P P 20 24 50.8 0.0
V53A IAmb IAmb 20 24 58.8
comp=Z,15nm,0.8s
W56A Indian Trail 23.89 17 P P 20 24 51.2 +0.1
baz=200
WMOK Wichita Mounta 24.00 340 P P 20 24 51.8 -0.6
baz=156,SNR=14
WMOK Wichita Mounta 24.00 340 P P 20 24 51.1 -1.2
FNO Franklin 24.05 343 P P 20 24 53.3 +0.6
W57A Gilead 24.08 18 P P 20 24 52.7 -0.2
baz=201
W57A Gilead 24.08 18 P P 20 24 52.0 -1.0
W57A IAmb IAmb 20 25 00.9
comp=Z,58nm,1.6s
V54A Nebo 24.14 14 P P 20 24 53.2 -0.3
baz=196
U40A Yellville 24.14 352 P P 20 24 53.4 -0.2
baz=170,SNR=28
U40A Yellville 24.14 352 P P 20 24 53.3 -0.2
W58A Raeford 24.20 20 P P 20 24 53.7 -0.3
baz=203
U49A Red Boiling Sp 24.20 6 P P 20 24 52.7 -1.4
baz=187
U50A Jamestown 24.22 8 P P 20 24 53.3 -1.0
baz=189
HHAR Hobbs 24.23 350 P P 20 24 53.8 -0.7
HHAR IAmb IAmb 20 24 56.4
comp=Z,28nm,0.8s
TUL1 Leonard 24.25 346 P P 20 24 53.6 -0.9
baz=163,SNR=7.1
TUL1 Leonard 24.25 346 P P 20 24 53.8 -0.7
TUL1 IAmb IAmb 20 24 57.2
comp=Z,31nm,0.8s
U51A La Follette 24.30 10 P P 20 24 54.2 -0.8
baz=191
PBMO Poplar Bluff 24.34 357 P P 20 24 54.7 -0.6
PBMO IAmb IAmb 20 24 55.8
comp=Z,18nm,0.7s
V55A Taylorsville 24.39 15 P P 20 24 55.5 -0.3
baz=198
V55A Taylorsville 24.39 15 P P 20 24 55.6 -0.2
V55A IAmb IAmb 20 24 57.9
comp=Z,61nm,1.6s
U52A Thorn Hill 24.43 11 P P 20 24 55.8 -0.5
baz=193
MNTX Cornudas Mount 24.50 324 P P 20 24 57.1 +0.2
baz=138,SNR=8.9
MNTX Cornudas Mount 24.50 324 P P 20 24 56.6 -0.3
V56A Mocksville 24.54 17 P P 20 24 56.5 -0.7
baz=200
U53A Fall Branch 24.56 12 P P 20 24 57.1 -0.3
baz=195
T47A Sharon Grove 24.56 3 P P 20 24 56.3 -1.1
baz=184,SNR=10
T47A Sharon Grove 24.56 3 P P 20 24 55.9 -1.5
T47A IAmb IAmb 20 24 57.3
comp=Z,32nm,0.7s
T49A Edmonton 24.81 6 P P 20 24 58.4 -1.2
baz=188
T49A Edmonton 24.81 6 P P 20 24 58.8 -0.9
T50A Nancy 24.81 8 P P 20 24 58.1 -1.5
baz=189
V57A Coltrane Farms 24.82 18 P P 20 24 59.2 -0.5
baz=201
MGMO Mountain Grove 24.86 354 P P 20 24 59.6 -0.4
U54A Nelsons Funny 24.88 14 P P 20 24 59.6 -0.7
baz=196
U54A Nelsons Funny 24.88 14 P P 20 24 59.2 -1.1
U54A IAmb IAmb 20 25 09.9
comp=Z,45nm,1.3s
T51A Gray 24.89 9 P P 20 24 59.7 -0.7
baz=191
MSTX Muleshoe 24.94 332 P P 20 25 00.5 -0.5
baz=146,SNR=6.2
MSTX Muleshoe 24.94 332 P P 20 25 00.5 -0.5
MSTX IAmb IAmb 20 25 02.4
comp=Z,38nm,1.0s
V58A Windy Hill, Pi 24.94 19 P P 20 25 00.4 -0.4
baz=203
V58A Windy Hill, Pi 24.94 19 P P 20 25 00.6 -0.2
V58A IAmb IAmb 20 25 27.6
comp=Z,18nm,1.0s
U55A TA2, Sparta 25.05 15 P P 20 25 01.2 -0.6
baz=198
T53A Wise 25.16 12 P P 20 25 03.0 +0.1
baz=194
S44A Carbondale 25.22 359 P P 20 25 03.0 -0.3
baz=179
AMTX Amarillo 25.23 335 P P 20 25 04.4 +0.8
baz=150
AMTX Amarillo 25.23 335 P P 20 25 04.6 +1.0
AMTX IAmb IAmb 20 25 05.9
comp=Z,44nm,1.0s
T54A Tazewell 25.45 14 P P 20 25 05.2 -0.3
baz=197
U57A Blanch 25.46 18 P P 20 25 05.3 -0.2
baz=202
S49A Springfield 25.51 7 P P 20 25 05.2 -0.7
baz=188
S50A Richmond 25.52 8 P P 20 25 06.4 +0.3
baz=190
S51A Beattyville 25.61 10 P P 20 25 06.1 -0.7
baz=192
CCM Cathedral Cave 25.66 356 P P 20 25 06.9 -0.4
baz=174
CCM Cathedral Cave 25.66 356 P P 20 25 06.5 -0.9
U58A Oxford 25.67 20 P P 20 25 06.6 -0.8
baz=204
WCI Wyandotte Cave 25.86 5 P P 20 25 08.0 -1.1
baz=186
WCI Wyandotte Cave 25.86 5 P P 20 25 08.0 -1.1
WCI IAmb IAmb 20 25 10.3
comp=Z,20nm,0.7s
T57A Hurt 26.01 18 P P 20 25 09.8 -0.7
baz=202
T57A Hurt 26.01 18 P P 20 25 09.8 -0.7
T57A IAmb IAmb 20 25 18.4
comp=Z,44nm,1.6s
R49A Shelbyville 26.03 7 P P 20 25 09.6 -1.1
baz=188
R49A Shelbyville 26.03 7 P P 20 25 09.3 -1.3
R49A IAmb IAmb 20 25 24.5
comp=Z,46nm,1.8s
R50A Paris 26.12 8 P P 20 25 10.7 -0.8
baz=190
R51A Hillsboro 26.25 9 P P 20 25 11.6 -1.1
baz=192
121A Cookes Peak, D 26.50 322 P P 20 25 16.9 +1.7
baz=135,SNR=5.2
121A Cookes Peak, D 26.50 322 P P 20 25 16.9 +1.7
121A IAmb IAmb 20 25 20.8
comp=Z,14nm,1.1s
S56A Natural Bridge 26.55 17 P P 20 25 15.9 +0.6
baz=200
Q48A North Vernon 26.60 6 P P 20 25 14.4 -1.4
baz=187
R54A Victor 26.66 14 P P 20 25 16.2 -0.2
baz=197
Q49A Aurora 26.76 7 P P 20 25 16.0 -1.3
baz=188
R55A Marlinton 26.97 15 P P 20 25 18.7 -0.5
R55A IAmb IAmb 20 25 31.4
comp=Z,28nm,1.2s
Q51A Peebles 27.00 10 P P 20 25 18.8 -0.7
baz=192
Q51A Peebles 27.00 10 P P 20 25 18.4 -1.0
Q51A IAmb IAmb 20 25 19.6
comp=Z,26nm,1.0s
BNM Barren Site 27.02 326 P P 20 25 19.4 -0.5
Q52A Bidwell 27.13 11 P P 20 25 20.1 -0.5
baz=194
P46A Rosedale 27.18 3 P P 20 25 19.5 -1.5
baz=183
LENM Lemitar 27.22 326 P P 20 25 21.9 +0.2
R58B Mineral 27.32 19 P P 20 25 22.7 +0.4
baz=204
R57A Stanardsville 27.43 18 P P 20 25 23.1 -0.1
baz=202
Q54A Coxs Mills 27.46 14 P P 20 25 22.9 -0.6
baz=197
Q54A Coxs Mills 27.46 14 P P 20 25 22.9 -0.6
KSU1 Kansas State U 27.48 347 P P 20 25 23.1 -0.6
baz=163
ANMO Albuquerque 27.54 328 P P 20 25 25.1 +0.6
comp=Z,0.8nm,0.4s,baz=141,slow=7.1,SNR=2.9
ANMO Albuquerque 27.54 328 P P 20 25 24.8 +0.2
P52A Corning 27.81 11 P P 20 25 25.0 -1.6
baz=194
P53A Whipple 27.81 13 P P 20 25 26.2 -0.5
baz=196
Q56A Snyder Ridge, 27.93 16 P P 20 25 27.8 0.0
Q56A IAmb IAmb 20 25 41.4
comp=Z,52nm,1.6s
SFIN Lafayette 27.94 3 P P 20 25 26.0 -1.8
baz=184
CBKS Cedar Bluff 28.04 342 P P 20 25 29.1 +0.3
baz=157
O50A Cable 28.05 9 P P 20 25 27.7 -1.1
baz=191
TUC Tucson 28.23 318 P P 20 25 31.4 +0.7
ACSO Alum Creek Sta 28.24 10 P P 20 25 29.8 -0.6
baz=192
N41A Harden Midland 28.28 357 P P 20 25 28.4 -2.4
N41A IAmb IAmb 20 25 31.9
comp=Z,17nm,0.8s
T25A Trinidad 28.31 333 P P 20 25 32.7 +1.2
baz=146,SNR=5.5
T25A Trinidad 28.31 333 P P 20 25 33.2 +1.8
T25A IAmb IAmb 20 25 36.5
comp=Z,14nm,0.8s
O52A Adamsville 28.33 11 P P 20 25 30.6 -0.7
baz=194
O52A Adamsville 28.33 11 P P 20 25 30.4 -0.9
O52A IAmb IAmb 20 25 31.2
comp=Z,27nm,1.1s
P56A Dayton Farm, R 28.46 16 P P 20 25 32.3 -0.1
baz=201
P57A Homestead Farm 28.67 18 P P 20 25 34.7 +0.3
baz=202
O54A Avella 28.70 14 P P 20 25 33.8 -0.8
baz=197
P58A Pank, Wackersv 28.90 19 P P 20 25 36.4 0.0
baz=204
M44A Midewin, Midew 28.91 1 P P 20 25 38.2 +1.7
N52A McGinn's Farm, 29.03 11 P P 20 25 37.0 -0.6
baz=194
KSCO Kaye Shedlock' 29.19 338 P P 20 25 39.4 +0.2
baz=152
KSCO Kaye Shedlock' 29.19 338 P P 20 25 38.9 -0.2
KSCO IAmb IAmb 20 25 40.6
comp=Z,27nm,1.1s
N53A Lisbon 29.20 13 P P 20 25 38.5 -0.5
baz=196
SDCO Great Sand Dun 29.30 332 P P 20 25 41.1 +0.8
baz=145,SNR=6.6
SDCO Great Sand Dun 29.30 332 P P 20 25 41.0 +0.6
M50A Fremont 29.37 9 P P 20 25 39.6 -0.9
baz=192
M50A Fremont 29.37 9 P P 20 25 39.1 -1.4
W18A Petrified Fore 29.48 324 P P 20 25 41.1 -0.7
baz=135
L42A Oliver, Polo 29.53 359 P P 20 25 40.5 -1.5
O58A Lewisberry 29.59 19 P P 20 25 42.7 +0.1
baz=204
L40A Anamosa 29.65 357 P P 20 25 41.4 -1.5
L40A IAmb IAmb 20 25 44.0
comp=Z,18nm,0.8s
SCIA State Center 29.66 353 P P 20 25 42.7 -0.4
baz=171
SSPA Standing Stone 29.77 17 P P 20 25 44.2 +0.1
baz=202
SSPA Standing Stone 29.77 17 P P 20 25 42.3 -1.8
SSPA IAmb IAmb 20 25 45.6
comp=Z,30nm,1.5s
S22A 4UR Ranch, Cre 29.92 331 P P 20 25 46.4 +0.6
baz=143,SNR=7.8
S22A 4UR Ranch, Cre 29.92 331 P P 20 25 46.5 +0.7
O59A Robesonia 30.00 20 P P 20 25 45.7 -0.4
baz=205
X16A Lo Mia Camp, P 30.02 321 P P 20 25 47.6 +1.0
L50A Kingsville 30.03 9 P P 20 25 44.7 -1.6
baz=192
BGNE Belgrade 30.04 346 P P 20 25 46.4 -0.1
baz=162
BGNE Belgrade 30.04 346 P P 20 25 46.2 -0.3
M54A Oil Creek Stat 30.13 14 P P 20 25 46.8 -0.5
baz=198
M54A Oil Creek Stat 30.13 14 P P 20 25 46.5 -0.8
M54A IAmb IAmb 20 25 58.2
comp=Z,33nm,1.4s
M55A Ridgway 30.31 15 P P 20 25 48.5 -0.4
baz=200
M55A Ridgway 30.31 15 P P 20 25 48.4 -0.6
M55A IAmb IAmb 20 25 50.1
comp=Z,40nm,1.5s
JFWS Jewell Farm 30.45 358 P P 20 25 49.8 -0.3
baz=177
JFWS Jewell Farm 30.45 358 P P 20 25 49.8 -0.3
JFWS IAmb IAmb 20 25 52.6
comp=Z,16nm,0.8s
M56A Emporium 30.48 16 P P 20 25 48.6 -1.8
K48A Perry 30.60 7 P P 20 25 49.8 -1.6
baz=189
M57A Sunshine Farm, 30.64 18 P P 20 25 52.0 +0.2
baz=203
M57A Sunshine Farm, 30.64 18 P P 20 25 51.9 +0.1
K49A Clarkson 30.67 8 P P 20 25 49.9 -2.1
baz=190
N59A State Game Lan 30.68 20 P P 20 25 52.5 +0.3
baz=206
N59A State Game Lan 30.68 20 P P 20 25 52.1 -0.1
N59A IAmb IAmb 20 26 07.8
comp=Z,28nm,1.4s
OGNE Ogallala 30.71 340 P P 20 25 53.2 +0.7
baz=154
WUAZ Wupatki 30.71 322 P P 20 25 54.1 +1.3
baz=133
WUAZ Wupatki 30.71 322 P P 20 25 53.8 +1.1
K51A Iona Station 30.91 11 P P 20 25 53.9 -0.2
baz=194
N61A South Mountain 31.05 22 P P 20 25 55.2 -0.1
baz=208
ISCO Idaho Springs 31.05 335 P P 20 25 56.4 +0.5
baz=147
ISCO Idaho Springs 31.05 335 P P 20 25 56.0 +0.2
L55A Hinsdale 31.07 15 P P 20 25 55.1 -0.5
baz=200
WVNY West Valley, N 31.24 15 P P 20 25 56.3 -0.8
WVNY IAmb IAmb 20 25 58.0
comp=Z,20nm,1.0s
L56A Greenwood 31.26 16 P P 20 25 57.0 -0.2
L56A IAmb IAmb 20 26 00.1
comp=Z,19nm,1.3s
PV03 Paradox Valley 31.31 329 P P 20 25 58.4 +0.4
PV18 Skein Mesa, Pa 31.33 329 P P 20 25 58.6 +0.4
PV18 IAmb IAmb 20 26 06.2
comp=Z,6.6nm,0.8s
PV12 Saucer Basin, 31.33 329 P P 20 25 58.7 +0.5
PV12 IAmb IAmb 20 26 07.0
comp=Z,10nm,0.9s
PV11 David Mesa, Pa 31.35 329 P P 20 25 58.9 +0.5
PV11 IAmb IAmb 20 26 08.3
comp=Z,7.8nm,0.9s
M59A Waymart 31.36 20 P P 20 25 57.4 -0.8
baz=206
PV17 East Wray Mesa 31.38 329 P P 20 25 59.3 +0.7
PV17 IAmb IAmb 20 26 06.6
comp=Z,6.9nm,0.7s
PV16 Nyswonger Mesa 31.39 329 P P 20 25 58.8 +0.1
I42A Draeger Farm, 31.41 360 P P 20 25 57.5 -1.0
PAL Palisades 31.41 22 P P 20 25 57.3 -1.2
baz=209
PAL Palisades 31.41 22 P P 20 25 56.6 -2.0
PV19 Morning Glory 31.42 329 P P 20 25 59.1 +0.2
PV19 IAmb IAmb 20 26 06.9
comp=Z,7.0nm,0.7s
PV04 Paradox Valley 31.44 329 P P 20 25 59.5 +0.4
PV04 IAmb IAmb 20 26 07.7
comp=Z,5.9nm,0.7s
PV14 Lion Creek, Pa 31.49 329 P P 20 25 59.5 -0.1
PV14 IAmb IAmb 20 26 08.0
comp=Z,6.5nm,0.8s
PV22 Blue Mesa, Par 31.49 329 P P 20 25 59.1 -0.4
PV23 Carpenter Ridg 31.54 329 P P 20 25 60.0 -0.1
PV23 IAmb IAmb 20 26 13.1
comp=Z,6.5nm,0.7s
M61A Granite Spring 31.73 22 P P 20 26 00.3 -1.1
baz=209
K56A Middlesex 31.84 16 P P 20 26 01.4 -1.0
baz=202
N63A Mattituck 31.93 24 P P 20 26 01.7 -1.3
baz=211
ECSD EROS Data Cent 31.95 349 P P 20 26 02.0 -1.3
baz=166,SNR=5.6
ECSD EROS Data Cent 31.95 349 P P 20 26 01.5 -1.8
IKP In-Ko-Pah, Jac 32.07 313 P P 20 26 07.4 +2.8
baz=123
L59A Walton 32.07 20 P P 20 26 03.0 -1.4
baz=206
L59A Walton 32.07 20 P P 20 26 04.2 -0.2
BC3 Big Chuckawall 32.17 316 P P 20 26 07.8 +2.4
baz=125
IRM Iron Mountain 32.25 317 P P 20 26 08.4 +2.3
baz=126
O20A White River Ci 32.48 332 P P 20 26 08.8 +0.5
baz=143,SNR=5.0
O20A White River Ci 32.48 332 P P 20 26 07.9 -0.4
O20A IAmb IAmb 20 26 12.2
comp=Z,11nm,0.8s
H48A Harrisville 32.57 7 P P 20 26 07.5 -1.2
BELC Belle Mtn. Jos 32.74 316 P P 20 26 12.5 +1.9
baz=125
G40A Rib Lake 32.80 358 P P 20 26 09.5 -1.3
G40A IAmb IAmb 20 26 10.6
comp=Z,19nm,1.1s
SRU San Rafael Swe 32.81 328 P P 20 26 12.9 +1.8
PFO Pinyon Flats O 32.84 315 LR LR 20 42 07.0
comp=Z,284nm,18.5s,baz=128,slow=41
SPMN Marine on St. 32.91 355 P P 20 26 10.4 -1.3
baz=173,SNR=17
SPMN Marine on St. 32.91 355 P P 20 26 10.3 -1.3
GMRC Granite Mounta 32.96 317 P P 20 26 14.2 +1.8
baz=126
J58A Remsen 33.05 18 P P 20 26 12.4 -0.5
baz=205
J58A Remsen 33.05 18 P P 20 26 12.1 -0.9
J58A IAmb IAmb 20 26 18.1
comp=Z,10nm,1.0s
SUSD Miller 33.10 347 P P 20 26 12.5 -0.9
baz=162
L61B Northampton 33.12 22 P P 20 26 13.2 -0.4
baz=210
P17A Butcher Ranch, 33.19 328 P P 20 26 13.7 -0.8
SAML Samuel 33.20 128 P P 20 26 13.5 -1.0
H53A Bobcaygeon 33.29 13 P P 20 26 14.5 -0.5
baz=198
J59A Piesco 33.38 19 P P 20 26 15.4 -0.5
baz=206
HEC Hector,Ludlow 33.44 317 P P 20 26 18.6 +2.0
baz=125
HRV Adam Dziewonsk 33.60 23 P P 20 26 18.5 +0.8
baz=212
K63A Dunstable 33.76 23 P P 20 26 17.5 -1.6
baz=211
G53A Haliburton 33.80 13 P P 20 26 18.8 -0.7
baz=198
K22A Casper 33.82 336 P P 20 26 19.1 -0.8
K22A IAmb IAmb 20 26 27.4
comp=Z,15nm,1.1s
E43A Lone Tree Farm 33.93 2 P P 20 26 18.9 -1.6
J62A Henniker 34.11 23 P P 20 26 22.1 -0.1
baz=210
I60A Shoreham 34.12 20 P P 20 26 22.1 -0.2
baz=208
G54A Lake Saint Pet 34.18 14 P P 20 26 21.8 -1.0
baz=199
E38A The Farm, Brul 34.20 357 P P 20 26 21.5 -1.4
RSSD Black Hills 34.21 340 P P 20 26 23.9 +0.6
baz=153
RSSD Black Hills 34.21 340 P P 20 26 23.0 -0.3
RSSD IAmb IAmb 20 26 31.1
comp=Z,7.6nm,0.8s
PSUT Pine Spring 34.22 324 P P 20 26 21.6 -1.9
MWC Mount Wilson 34.28 314 P P 20 26 23.7 -0.4
MWC IAmb IAmb 20 26 30.9
comp=Z,7.1nm,0.9s
E47A Iron Bridge 34.30 7 P P 20 26 23.0 -0.8
baz=190
H58A Gabriels 34.34 19 P P 20 26 23.4 -0.8
baz=206
G55A Calabogie 34.38 15 P P 20 26 23.3 -1.1
baz=201
LONY Lake Ozonia 34.40 18 P P 20 26 23.9 -0.8
baz=205
LONY Lake Ozonia 34.40 18 P P 20 26 22.6 -2.1
LONY IAmb IAmb 20 26 46.5
comp=Z,15nm,1.2s
E48A Lockeyer 34.47 8 P P 20 26 24.0 -1.3
baz=192
H59A Cadyville 34.70 19 P P 20 26 26.9 -0.4
baz=206
ALGO Algonquin Park 34.72 13 P P 20 26 26.4 -1.0
baz=199
TCUT Toone Canyon 34.77 330 P P 20 26 26.0 -2.2
I62A Tamworth 34.85 22 P P 20 26 28.5 0.0
baz=211
I62A Tamworth 34.85 22 P P 20 26 28.9 +0.4
MPMC Manual Prospec 34.91 317 P P 20 26 31.4 +1.9
baz=125
H60A Morristown 34.96 20 P P 20 26 28.6 -0.9
baz=208
DAC Darwin (Calif) 35.11 318 P P 20 26 30.2 -1.0
DAC IAmb IAmb 20 26 44.9
comp=Z,11nm,1.2s
LPAZ La Paz 35.12 144 LR LR 20 40 21.4
comp=Z,89nm,21.9s,baz=334,slow=36
BW06 Boulder Array 35.18 333 P P 20 26 31.7 0.0
baz=143
PD31 Pinedale Array 35.18 333 P P 20 26 29.6 -2.2
PDAR Pinedale Array 35.18 333 P P 20 26 32.1 +0.3
comp=Z,0.8nm,0.5s,baz=130,slow=11,SNR=9.0
PDAR PcP PcP 20 29 03.5 +0.8
comp=Z,0.7nm,0.5s,baz=137,slow=6.5,SNR=5.6
PDAR ScP ScP 20 32 51.1 +4.1
comp=Z,0.2nm,0.5s,baz=98,slow=3.7,SNR=2.3
E53A Dumoine, Ponti 35.20 14 P P 20 26 31.7 +0.1
baz=199
I63A Otisfield 35.28 23 P P 20 26 32.1 -0.2
baz=212
E54A Lac Daplat, Po 35.37 14 P P 20 26 31.9 -1.1
baz=200
EYMN Ely 35.53 357 P P 20 26 32.6 -1.8
baz=176
EYMN Ely 35.53 357 P P 20 26 32.2 -2.2
I64A Boothbay 35.54 24 P P 20 26 33.5 -1.0
baz=213
D53A Lac Vacive, Po 35.86 13 P P 20 26 36.5 -0.7
baz=199
D53A Lac Vacive, Po 35.86 13 P P 20 26 34.4 -2.8
D53A IAmb IAmb 20 26 37.6
comp=Z,14nm,1.0s
D54A Lac Fusel, La 36.17 14 P P 20 26 38.5 -1.4
baz=200
REDW Red Top Meadow 36.23 333 P P 20 26 41.0 +0.3
REDW IAmb IAmb 20 26 43.9
comp=Z,15nm,0.9s
SNOW Snow King Moun 36.27 333 P P 20 26 41.0 -0.1
AGMN Agassiz Nation 36.28 352 P P 20 26 39.3 -1.5
baz=168,SNR=8.7
AGMN Agassiz Nation 36.28 352 P P 20 26 39.1 -1.7
G62A West of Eustis 36.30 22 P P 20 26 39.6 -1.3
baz=211
G62A West of Eustis 36.30 22 P P 20 26 41.0 0.0
G62A IAmb IAmb 20 26 41.3
comp=Z,11nm,0.8s
D55A Sainte-Anne-du 36.34 16 P P 20 26 40.4 -1.0
baz=202
E58A La Victoria 36.38 18 P P 20 26 41.0 -0.6

baz=206
MDND **Maddock** 36.48 348 P P 20 26 42.6 +0.1
baz=162
MDND **Maddock** 36.48 348 P P 20 26 40.9 -1.6
MOOW **Moose Ponds** 36.49 333 P P 20 26 41.7 -1.2
ELK **Elko** 36.51 325 P P 20 26 42.8 -0.3
ELK PcP 20 29 07.6 +0.9
FXWY **Fox Creek** 36.53 333 P P 20 26 44.1 +0.9
G63A **Kingsbury** 36.55 23 P P 20 26 42.7 -0.5
baz=213
D56A **ZEC Mazanza, M** 36.56 16 P P 20 26 42.3 -0.9
baz=203
D57A **Chemin Vers le** 36.78 17 P P 20 26 44.0 -1.0
baz=205
PKME **Peaks-Kenny Pk** 36.80 23 P P 20 26 45.2 -0.1
baz=213
PKME **Peaks-Kenny Pk** 36.80 23 P P 20 26 45.1 -0.1
NVAR **Mina Array Bea** 36.84 320 P P 20 26 47.9 +1.9
comp=Z,2.3nm,0.8s,baz=117,slow=7.4,SNR=4.5
NVAR PcP PcP 20 29 09.3 +1.6
comp=Z,1.0nm,0.6s,baz=137,slow=3.3,SNR=6.6
NVAR ScP ScP 20 32 57.5 +4.3
comp=Z,0.2nm,0.5s,baz=130,slow=3.9,SNR=2.7
NVAR LR LR 20 44 10.6
comp=Z,158nm,18.3s,baz=126,slow=40
RLMT **Red Lodge** 36.98 336 P P 20 26 47.2 +0.1
baz=146
RLMT **Red Lodge** 36.98 336 P P 20 26 47.1 +0.1
RLMT IAmb IAmb 20 26 49.4
comp=Z,7.7nm,0.9s
D58A **Chemin du LacG** 37.15 18 P P 20 26 47.2 -1.0
baz=206
YNE **Yellowstone No** 37.18 335 P P 20 26 47.5 -1.3
YMR **Madison River** 37.31 334 P P 20 26 50.7 +0.8
YHH **Holmes Hill** 37.36 334 P P 20 26 50.6 +0.1
BMN **Battle Mountai** 37.43 323 P P 20 26 51.8 +0.9
LATQ **La Tuque** 37.44 18 P P 20 26 49.5 -1.1
baz=206
F64A **Sherman** 37.67 24 P P 20 26 50.9 -1.7
LSQQ **Lebel-sur-Quev** 37.89 13 P P 20 26 53.0 -1.4
baz=199
E63A **Oxbow** 38.10 23 P P 20 26 55.2 -1.1
baz=213
ULM **Lac du Bonnet** 38.20 353 P P 20 26 55.0 -2.0
comp=Z,13nm,0.8s,baz=168,slow=9.3,SNR=20
ULM LR LR 20 44 14.0
comp=Z,140nm,21.6s,baz=172,slow=39
ULM **Lac du Bonnet** 38.20 353 P P 20 26 55.2 -1.8
MCMT **McKenzie Canyo** 38.28 332 P P 20 26 57.9 -0.2
BOZ **Bozeman (W)** 38.34 334 P P 20 26 57.4 -1.1
baz=142
BOZ **Bozeman (W)** 38.34 334 P P 20 26 56.5 -2.0
BOZ IAmb IAmb 20 27 10.8
comp=Z,5.1nm,0.8s
MATQ **Matagami** 38.42 12 P P 20 26 57.2 -1.7
baz=198
BEKR **Beckworth** 38.97 320 P P 20 27 03.3 -0.7
CHGQ **Chibougamau** 39.29 15 P P 20 27 04.3 -2.0
baz=203
EGMT **Eagleton** 39.58 338 P P 20 27 07.6 -1.2
EGMT IAmb IAmb 20 27 11.7
comp=Z,22nm,1.3s
MSO **Missoula** 40.30 333 P P 20 27 15.1 +0.2
baz=140
M04C **Macdoel** 41.01 322 P P 20 27 21.7 +1.0
baz=126
K04D **Chiloquin, OR** 41.45 323 P P 20 27 24.6 +0.2
baz=127
J05D **Fort Rock, OR** 41.55 324 P P 20 27 26.6 +1.3
baz=128
WALA **Waterton Lakes** 42.03 335 P P 20 27 29.6 +0.6
J04D **Umpqua Nationa** 42.03 323 P P 20 27 30.2 +1.0
baz=127
H04A **Detroit Lake** 42.95 325 P P 20 27 35.9 -0.6
H04A IAmb IAmb 20 27 40.0
comp=Z,15nm,1.7s
I03D **Drain, OR** 43.03 323 P P 20 27 38.0 +1.0
baz=126
J01E **Myrtle Point** 43.06 322 P P 20 27 38.7 +1.3
baz=125
FFC **Flin Flon** 43.49 349 P P 20 27 39.4 -1.2
SCHQ **Schefferville** 45.77 18 P P 20 27 56.7 -2.1
comp=Z,10nm,0.7s,baz=225,slow=7.8,SNR=14
SCHQ PcP PcP 20 29 34.4 -1.8
comp=Z,4.1nm,0.9s,baz=322,slow=1.7,SNR=3.6
SCHQ **Schefferville** 45.77 18 P P 20 27 56.5 -2.4
SCHQ IAmb IAmb 20 27 57.6
comp=Z,13nm,0.8s
SCHQ PcP 20 29 34.0 -2.2
ROC1 **El Roble** 48.22 160 P P 20 28 16.3 -2.2
BDFB **Brasilia** 49.11 123 P P 20 28 25.3 -0.2
comp=Z,2.6nm,0.6s,baz=269,slow=7.7,SNR=3.6
BDFB LR LR 20 51 05.5
comp=Z,164nm,19.6s,baz=288,slow=39
BDFB **Brasilia** 49.11 123 P P 20 28 24.0 -1.5
BDFB IAmb IAmb 20 28 39.5
comp=Z,11nm,1.3s
CPUP **Villa Florida** 49.23 142 LR LR 20 50 30.3
comp=Z,84nm,18.4s,baz=14,slow=38
YKA **Yellowknife Ar** 53.32 345 P P 20 28 55.2 -1.0
comp=Z,3.4nm,0.7s,baz=141,slow=7.6,SNR=54
YKA PcP PcP 20 30 03.8 +0.3
comp=Z,0.5nm,0.4s,baz=151,slow=3.6,SNR=4.4
TAOE **Nuku Hiva Isla** 55.12 250 *e*T T 21 28 26.2
comp=Z,38nm,0.2s
PLCA **Paso Flores** 55.51 163 P P 20 29 13.9 +1.4
comp=Z,2.1nm,0.9s,baz=326,slow=7.4,SNR=2.4
PLCA LR LR 20 47 01.9
comp=Z,54nm,21.7s,baz=359,slow=30
PLCA **Paso Flores** 55.51 163 P P 20 29 12.8 +0.3
SUCK **Suckling Hills** 62.22 332 P P 20 29 55.6 -3.3
INK **Inuvik** 62.86 343 P P 20 30 02.0 -0.9
INK IAmb IAmb 20 30 03.4
comp=Z,8.5nm,1.2s
ANGG **Ammassalik, Gr** 63.42 21 P P 20 30 04.3 -2.4
ILAR **Eielson Array** 65.52 336 P P 20 30 19.8 -0.7
comp=Z,1.3nm,0.9s,baz=169,slow=5.2,SNR=11
ILAR PP PP 20 32 47.5 +2.9
comp=Z,0.5nm,1.1s,baz=138,slow=6.9,SNR=4.6
PPT **Papeete** 66.88 245 LR LR 20 51 51.1
comp=Z,103nm,18.4s,baz=1.0,slow=29
PPT2 **Papeete2** 66.89 245 *e*LR LR 20 50 40.5
comp=Z,96nm,24.2s
TBI **Tubuai** 69.05 239 *e*LR LR 20 51 43.6
comp=Z,90nm,26.2s
TBI **Tubuai** 69.05 239 *e*T T 21 45 54.7
comp=Z,7.4nm,0.3s
DAG **Danmarks Havn** 73.55 13 *i* P P 20 31 07.6 -2.2
comp=Z,3.3nm,0.5s
ESDC **Sonseca Array** 78.36 52 LR LR 21 03 49.7
comp=Z,53nm,18.3s,baz=25,slow=34
NOA **NORSAR Array B** 84.12 29 LR LR 21 06 47.7
comp=Z,36nm,20.5s,baz=275,slow=34
ARCES **ARCESS Array B** 86.72 19 P P 20 32 19.3 -1.7
comp=Z,4.9nm,1.0s,baz=284,slow=4.9,SNR=5.1
ARCES LR LR 21 09 33.5
comp=Z,25nm,20.4s,baz=282,slow=35
TORD **Torodi Ar. Bea** 87.81 77 P P 20 32 25.6 -1.8
comp=Z,0.3nm,0.5s,baz=269,slow=5.8,SNR=2.8
TORD LR LR 21 09 28.3
comp=Z,33nm,19.9s,baz=25,slow=34
GERES **GERESS Array B** 88.92 40 LR LR 21 11 59.7
comp=Z,44nm,18.5s,baz=292,slow=36
FINES **FINESS Array B** 90.66 26 P P 20 32 39.6 -0.1
comp=Z,6.1nm,1.1s,baz=270,slow=5.6,SNR=2.5
FINES LR LR 21 11 28.5
comp=Z,36nm,21.8s,baz=306,slow=34
SONM **Songino Array** 118.53 348 PKP PKPdf 20 38 24.9 -0.6
comp=Z,0.7nm,0.6s,baz=349,slow=2.3,SNR=4.7
MKAR **Makanchi Array** 120.58 7 PKP PKPdf 20 38 28.5 -0.8
comp=Z,0.2nm,0.4s,baz=307,slow=3.3,SNR=7.8
KSH **Kashi** 126.49 15 *e*PKP PKiKP 20 38 43.5 +2.0
KSH PKS PKSdf 20 42 18.3 +0.6
KSH SKS SKSdf 20 45 49.7 -2.0
WRA **Warramunga Arr** 137.88 254 PKP PKiKP 20 39 04.1 -0.6
comp=Z,0.7nm,0.7s,baz=90,slow=2.6,SNR=7.3
ASAR **Alice Springs** 137.92 248 PKP PKPdf 20 39 01.8 -1.0
comp=Z,0.5nm,0.8s,baz=92,slow=3.2,SNR=3.1
CMAR **Chiang Mai Arr** 148.40 346 PKPbc PKPdf 20 39 22.7 +1.4
comp=Z,6.0nm,0.7s,baz=341,slow=3.4,SNR=33

*IDC **10** 20:22:43.0±0.6, 14°.38N×119°.12E, h0km, mb4.2/16, mb1 4.3/17, mb1mx4.1/52, mbtmp4.2/17, ML4.6/1, MS2.9/1, Ms1 3.1/1, ms1mx2.4/36, Error ellipse: s-maj=20.8km s-min=12.8km az=57.0*

*MAN **10** 20:22:43.4, 14°.41N×118°.95E, h31km, MS3.6*
*ISCJB **10** 20:22:44.1±1.9, 14°.41N±0°.03×119°.10E±0°.03, h18km±14km, mb4.1/16, Error ellipse: s-maj=5.8km s-min=5.2km az=22.8*
*NEIC **10** 20:22:48.6±1.6, 14°.4N±0°.1×119°.12E±0°.09, h40km±8km, mb4.6/19*

ISC 10 20:22:43.3±1.8, 14°.38N±0°.04×119°.16E±0°.05, h5km±11km, n52, σ1°.50/65, mb4.3/27, 3C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**1.24**	**121**	P		**P**	**Pb**	**20 23 07.0**	**-0.2**
LUBP				S			**Sb**	**20 23 16.0**	**-7.6**
SCZP	**Santa Cruz**	**1.56**	**28**	P		**P**	**Pn**	**20 23 09.6**	**-2.3**
SCZP				S			**Sn**	**20 23 29.8**	**-2.7**
TGY	**Tagaytay City**	**1.75**	**99**	Pn		**Pg**		**20 23 16.9**	**0.0**
TGY	239nm,0.3s,baz=330,slow=1.5,SNR=18			Sn			**Sb**	**20 23 39.2**	**+0.9**
	244nm,0.3s,baz=226,slow=16,SNR=9.9								
TGY	**Tagaytay City**	**1.75**	**99**	⇑P		**Pg**		**20 23 17.4**	**+0.5**
TGY				S		**Sg**		**20 23 41.1**	**+1.5**
PCPH	**Palayan**	**2.21**	**58**	⇑P		**Pn**		**20 23 21.7**	**+1.0**
PCPH				S		**Sn**		**20 23 49.5**	**+1.0**
LQP	**Lukban**	**2.33**	**96**	⇑P		**Pb**		**20 23 24.0**	**-2.0**
LQP				S		**Sb**		**20 23 53.6**	**-1.5**
BALP	**Baler**	**2.70**	**60**	P		**Pn**		**20 23 28.4**	**+1.0**
BALP				S		**Sn**		**20 23 59.7**	**-0.9**
SJMP	**San Jose**	**2.70**	**135**	P		**Pn**		**20 23 28.0**	**+0.5**
SJMP				S		**Sn**		**20 23 57.3**	**-3.3**
POLP	**Polilio Island**	**2.72**	**82**	P		**Pn**		**20 23 29.3**	**+1.6**
POLP				S		**Sn**		**20 24 02.5**	**+1.5**
BOAC	**Boac**	**2.77**	**109**	P		**Pn**		**20 23 29.8**	**+1.4**
BOAC				S		**Sn**		**20 24 01.6**	**-0.7**
OTRP	**Odiongan**	**3.44**	**125**	P		**Pn**		**20 23 38.2**	**+0.6**
OTRP				S		**Sn**		**20 24 20.2**	**+1.4**
CUYO	**Cuyo Island**	**3.95**	**152**	P		**Pn**		**20 23 44.4**	**-0.4**
CUYO				S		**Pb**		**20 23 52.5**	**-1.1**
APYP	**Conner**	**4.00**	**30**	P		**Pn**		**20 23 46.0**	**+0.6**
APYP				S		**Sn**		**20 24 30.6**	**-2.1**
CMAR	**Chiang Mai Arr**	**19.80**	**285**	P		**Pn**		**20 27 16.4**	**0.0**
CMAR	0.7nm,0.3s,baz=100,slow=8.9,SNR=11			LR				20 34 21.0	
	comp=Z,34nm,21.7s,baz=357,slow=35								
KSRS	**Korea Array**	**24.27**	**17**	P		**P**		**20 28 02.0**	**+0.6**
	1.5nm,0.6s,baz=199,slow=10,SNR=4.9								
SOEI	**Soe**	**24.51**	**168**	P		**P**		**20 28 05.6**	**+1.5**
SOEI				IAmb	IAmb			20 28 23.1	
	comp=Z,20nm,0.8s								
BATI	**Baumata**	**24.84**	**169**	P		**P**		**20 28 08.1**	**+1.2**
	comp=Z,18nm,0.6s,baz=11,slow=1.8,SNR=13								
SHL	**Shillong**	**27.88**	**298**	P		**P**		**20 28 34.8**	**+0.2**
SHL				IAmb	IAmb			20 28 35.6	
	comp=Z,7.7nm,0.8s								
USRK	**Ussuriysk Ar.**	**31.67**	**18**	P		**P**		**20 29 08.8**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=218,slow=6.4,SNR=2.7								
SONM	**Songino Array**	**35.00**	**345**	P		**P**		**20 29 37.0**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=163,slow=9.7,SNR=17								
KLR	**Kul'dur**	**36.26**	**14**	P		**P**		**20 29 47.0**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=196,slow=6.8,SNR=10								
COEN	**Coen**	**36.85**	**139**	P		P		20 29 57.7	+4.8
WRA	**Warramunga Arr**	**37.24**	**156**	P		**P**		**20 29 55.4**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=333,slow=9.8,SNR=13								
WB2	**Warramunga Arr**	**37.24**	**156**	P		**P**		**20 29 54.6**	**-1.6**
WB2				IAmb	IAmb			20 30 20.8	
	comp=Z,4.8nm,0.9s								
WR0	**Warramunga Arr**	**37.33**	**156**	P		**P**		**20 29 54.6**	**-2.4**
WR0				IAmb	IAmb			20 30 19.5	
	comp=Z,7.2nm,1.3s								
PALK	**Pallekele**	**38.38**	**264**	P		**P**		**20 30 05.0**	**-1.0**
PALK				IAmb	IAmb			20 30 07.6	
	comp=Z,12nm,1.1s								
AS31	**Alice Springs**	**40.47**	**159**	P		**P**		**20 30 22.8**	**-0.5**
ASAR	**Alice Springs**	**40.47**	**159**	P		**P**		**20 30 23.6**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=336,slow=6.7,SNR=27								
MKAR	**Makanchi Array**	**44.60**	**324**	P		**P**		**20 30 57.3**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=134,slow=8.8,SNR=8.8								
MKAR				PcP		**PP**		**20 32 40.1**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=114,slow=2.9,SNR=6.8								
ZAA0	**Zalesovo Array**	**47.77**	**333**	P		**P**		**20 31 21.0**	**-0.4**
ZALV	**Zalesovo Beam**	**47.77**	**333**	P		**P**		**20 31 21.5**	**0.0**
	comp=Z,1.7nm,0.6s,baz=124,slow=7.4,SNR=8.2								
KURK	**Kurchatov**	**48.80**	**327**	P		**P**		**20 31 30.1**	**+0.7**
GAR	**Garm**	**49.33**	**309**	P		**P**		**20 31 33.9**	**0.0**
GAR				IAmb	IAmb			20 31 35.8	
	comp=Z,11nm,1.4s								
BBOO	**Buckleboo**	**49.63**	**161**	P		**P**		**20 31 37.7**	**+1.7**
CHGR	**Chuyangaron**	**50.11**	**309**	P		**P**		**20 31 40.2**	**+0.4**
CHGR				IAmb	IAmb			20 31 41.4	
	comp=Z,6.6nm,0.8s								
KK31	**Karatay Array**	**50.43**	**315**	P		**P**		**20 31 43.0**	**+0.9**
KKAR	**Karatay Array**	**50.43**	**315**	P		**P**		**20 31 42.8**	**+0.8**
BRVK	**Borovoye**	**54.44**	**326**	P		**P**		**20 32 11.9**	**+0.3**
BRVK	**Borovoye**	**54.44**	**326**	P		**P**		**20 32 12.4**	**+0.8**
TIXI	**Tiksi**	**57.54**	**4**	P		**P**		**20 32 32.8**	**-0.7**
TIXI				IAmb	IAmb			20 32 34.0	
	comp=Z,6.9nm,1.1s								
GEYT	**Alibeck**	**58.52**	**306**	P		**P**		**20 32 41.1**	**0.0**
	comp=Z,3.0nm,0.9s,baz=172,slow=3.0,SNR=7.6								
ABKAR	**Akbulak array**	**59.24**	**319**	P		**P**		**20 32 46.5**	**+0.7**
ABKAR				IAmb	IAmb			20 32 47.6	
	comp=Z,5.8nm,0.9s								
ARU	**Arti**	**61.99**	**327**	P		**P**		**20 33 04.3**	**-0.2**
ARU				IAmb	IAmb			20 33 05.3	
	comp=Z,5.5nm,1.0s								
RAYN	**Ar Rayn**	**69.62**	**290**	P		**P**		**20 33 55.0**	**+0.7**
RAYN				IAmb	IAmb			20 33 55.4	
	comp=Z,7.1nm,1.2s								
BRTR	**Keskin Array B**	**77.55**	**308**	P		**P**		**20 34 41.8**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=104,slow=6.1,SNR=2.8								
ARCES	**ARCESS Array B**	**77.91**	**339**	P		**P**		**20 34 42.6**	**+0.5**
	comp=Z,3.8nm,0.8s,baz=86,slow=6.3,SNR=6.8								
FINES	**FINESS Array B**	**78.96**	**331**	P		**P**		**20 34 48.0**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=67,slow=6.4,SNR=10.0								
AKASG	**Malin Array Be**	**78.97**	**320**	P		**P**		**20 34 47.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=73,slow=4.5,SNR=5.6								
NB2	**NORSAR Subarra**	**85.97**	**332**	P		**P**		**20 35 24.0**	**-0.7**
	comp=Z,9.2nm,0.9s,baz=69,slow=4.8								
NB2	**NORSAR Subarra**	**85.97**	**332**	P		**P**		**20 35 24.0**	**-0.7**
	baz=69,slow=4.8								
NOA	**NORSAR Array B**	**85.97**	**332**	P		**P**		**20 35 23.9**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=69,slow=4.9,SNR=6.9								
YKA	**Yellowknife Ar**	**92.71**	**22**	P		**P**		**20 35 57.3**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=312,slow=4.1,SNR=6.1								

IDC 10 20:26:36.2±51.0, 16°.39S×173°.72W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/30, mbtmp4.1/3, Error ellipse: s-maj=981.9km s-min=168.7km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.28**	**241**	P		P	P	20 34 40.0	+0.1
	2.6nm,0.8s,baz=63,slow=6.8,SNR=2.7								
WRA	**Warramunga Arr**	**49.33**	**259**	P		P	P	20 35 27.4	-0.3
	0.7nm,0.3s,baz=95,slow=7.1,SNR=18								
ASAR	**Alice Springs**	**49.52**	**253**	P		P	P	20 35 28.9	-0.2
	1.9nm,0.6s,baz=90,slow=7.9,SNR=32								

*NEIC **10** 21:06:14.4±1.9, 58°.35N±0°.04×151°.96W±0°.09, h39km±49km*

AEIC 10 21:06:15.3±1.4, 58°.37N±0°.04×152°.04W±0°.09, h58km±9km, ML2.7, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**0.66**	**207**				Pn	21 06 28.2	-0.7
KDAK	**Kodiak Island**	**0.66**	**207**				Pn	21 06 28.3	-0.6
KDAK						Sn	Sn	21 06 37.3	-1.5
KDAK	**Kodiak Island**	**0.66**	**207**				Sn	21 06 37.1	-1.7
FOSS	**Fourpeaked Sta**	**0.97**	**297**				Pn	21 06 31.5	-1.4
FOSS							Sn	21 06 44.3	-1.6
AUI	**Augustine Isla**	**1.21**	**324**				Pn	21 06 35.3	-0.8
AUI							Sn	21 06 50.9	-0.6
AUJK	**Augustine Jueg**	**1.22**	**325**				Pn	21 06 35.5	-0.6
AU22	**Augustine Moun**	**1.22**	**326**				Pn	21 06 35.4	-0.7
AU22							Sn	21 06 51.0	-0.7
AUQ	**Augustine Qik'**	**1.22**	**325**				Sn	21 06 51.4	-0.4
AUP	**Augustine Pinn**	**1.23**	**325**				Pn	21 06 35.7	-0.7
CNPM	**China Poot**	**1.23**	**19**				Pn	21 06 36.0	-0.4
CNPM	**China Poot**	**1.23**	**19**				Sn	21 06 49.7	-2.4
AUH	**Augustine H**	**1.24**	**324**				Pn	21 06 35.8	-0.7
AUL	**Augustine Lava**	**1.25**	**325**				Pn	21 06 36.0	-0.6
AUL							Sn	21 06 52.0	-0.5
HOM	**Homer**	**1.31**	**9**				Pn	21 06 36.6	-0.7
HOM						Sn	Sn	21 06 52.7	-1.2
KAHG	**Katmai Hook Gl**	**1.33**	**277**				Pn	21 06 37.6	-0.1
OHAK	**Old Harbor**	**1.33**	**211**				Pn	21 06 37.2	-0.4
OHAK							Sn	21 06 52.1	-2.3
OHAK							Sn	21 06 52.2	-2.1
KAWH	**Katmai**	**1.46**	**272**				Pn	21 06 38.0	-1.4
BRLK	**Bradley Lake**	**1.52**	**23**				Pn	21 06 39.6	-0.7
BRSE	**Bradley Lake S**	**1.53**	**25**				Pn	21 06 39.7	-0.7
KAHC	**Katmai Hardscr**	**1.58**	**281**				Pn	21 06 40.5	-0.7
KCG	**Knife Ck. Glac**	**1.62**	**269**				Pn	21 06 41.5	-0.1
ILS	**Iliamna Low So**	**1.68**	**342**				Pn	21 06 41.1	-1.4
CAHL	**Cahill**	**1.76**	**261**				Pn	21 06 43.4	-0.1
RED	**Redoubt Volcan**	**2.09**	**350**				Pn	21 06 47.5	-0.6
RED							Sn	21 07 12.5	-0.4
RSO	**Redoubt South**	**2.13**	**350**				Pn	21 06 48.4	-0.4
RDWB	**Redoubt West**	**2.17**	**349**				Pn	21 06 48.5	-0.6
SEW	**Seward**	**2.19**	**36**				Pn	21 06 48.2	-1.1
SEW	**Seward**	**2.19**	**36**			Sn	Sn	21 07 12.2	-3.1
RDT	**Redoubt**	**2.22**	**355**				Pn	21 06 49.0	-0.8
NCT	**North Crescent**	**2.25**	**349**				Pn	21 06 49.8	-0.4
NCT							Sn	21 07 16.1	-0.7
DFR	**Drift River**	**2.26**	**352**				Pn	21 06 49.6	-0.6
DFR							Sn	21 07 16.8	-0.1
RDJH	**Redoubt Jeurge**	**2.26**	**350**				Pn	21 06 50.1	-0.3
SLKM	**Skilak Lake**	**2.34**	**23**				Pn	21 06 50.5	-0.9
SPCP	**Crater Peak Br**	**2.91**	**359**				Pn	21 06 58.7	-0.5
SPCP							Sn	21 07 34.0	+1.0
RC01	**Rabbit Creek A**	**2.97**	**22**				Pn	21 06 58.3	-1.7
SPNN	**North Nagishla**	**3.03**	**354**				Pn	21 07 00.5	-0.3
PWL	**Port Wells**	**3.13**	**35**				Pn	21 07 01.2	-0.9
SUA	**Susitna One**	**3.17**	**11**				Pn	21 07 02.0	-0.8
SVW2	**Sparrevohn**	**3.27**	**328**				Pn	21 07 03.3	-0.8
HIN	**Hinchinbrook I**	**3.49**	**52**				Pn	21 07 06.3	-0.7
HIN	**Hinchinbrook I**	**3.49**	**52**			Sn	Sn	21 07 44.0	-3.1
KNK	**Knik Glacier**	**3.55**	**29**				Pn	21 07 06.7	-1.2
KNK	**Knik Glacier**	**3.55**	**29**			Sn	Sn	21 07 45.2	-3.3
GLI	**Glacier Island**	**3.56**	**43**				Pn	21 07 06.6	-1.4
GLI	**Glacier Island**	**3.56**	**43**			Sn	Sn	21 07 44.1	-4.6
SKT	**Skwentna**	**3.63**	**4**				Pn	21 07 07.9	-1.1
FID	**Port Fidalgo**	**3.70**	**47**				Pn	21 07 08.3	-1.6
FID							Sn	21 07 47.6	-4.6
GHO	**Glory Hole Cre**	**3.75**	**23**				Pn	21 07 09.7	-1.0
JPK	**Jack Peak**	**3.85**	**43**				Pn	21 07 11.2	-0.9
EYAK	**Cordova Ski Ar**	**3.88**	**53**			Pn	Pn	21 07 11.5	-0.9
EYAK							Sn	21 07 52.0	-4.7
SCM	**Sheep Creek Mo**	**4.20**	**32**				Pn	21 07 16.6	-0.3
SCM	**Sheep Creek Mo**	**4.20**	**32**			Sn	Sn	21 08 01.0	-3.6
RAGM	**Ragged Mountai**	**4.28**	**59**			Pn	Pn	21 07 16.8	-1.0
RAGM							Sn	21 08 01.3	-5.1
GOAT	**Goat Mountain**	**4.34**	**56**				Pn	21 07 18.4	-0.3
HMT	**Hamilton**	**4.44**	**60**			Pn	Pn	21 07 18.7	-1.4
HMT							Sn	21 08 06.3	-4.1
NICHA	**Nichawak Mount**	**4.54**	**62**				Pn	21 07 20.5	-0.9
PPLA	**Purkeypile**	**4.54**	**359**			Pn	Pn	21 07 20.9	-0.7
PS12	**TAPS Pump St12**	**4.66**	**45**				Pn	21 07 22.4	-0.7
BERG	**Berg Lake**	**4.72**	**61**				Pn	21 07 23.4	-0.5
WAT6	**Susitna Watana**	**4.73**	**25**				Pn	21 07 23.4	-0.8
WAT1	**Susitna Watana**	**4.79**	**20**				Pn	21 07 24.3	-0.7
GRIN	**Grindle Hills**	**4.86**	**63**				Pn	21 07 25.0	-0.8
WAT2	**Susitna Watana**	**4.91**	**19**				Pn	21 07 26.2	-0.4
KHIT	**Khitrov Hills**	**4.95**	**61**				Pn	21 07 26.6	-0.5
TT01	**Tatalina**	**4.96**	**338**				Pn	21 07 26.2	-0.9
TTA	**Tatalina**	**4.98**	**339**			Pn	Pn	21 07 26.5	-1.0
CRQM	**Cirque**	**5.12**	**58**				Pn	21 07 29.2	-0.3
CRQM	**Cirque**	**5.12**	**58**			Sn	Sn	21 08 23.9	-3.4
WAX	**Waxell Ridge**	**5.13**	**62**				Pn	21 07 29.4	-0.2
WAX							Sn	21 08 23.7	-3.8
GLB	**Gilahina Butte**	**5.16**	**50**			Pn	Pn	21 07 29.6	-0.3
GLB							Sn	21 08 24.3	-3.9
TRF	**Thorofare Moun**	**5.17**	**9**			Pn	Pn	21 07 29.6	-0.5
VRDI	**Verde Repeater**	**5.20**	**53**			Pn	Pn	21 07 31.1	+0.5
VRDI							Sn	21 08 25.7	-3.5
KTH	**Kantishna Hill**	**5.23**	**5**			Pn	Pn	21 07 30.2	-0.7
DHY	**Denali Highway**	**5.25**	**24**			Pn	Pn	21 07 30.2	-1.1
DHY							Sn	21 08 26.3	-4.1
TGL	**Tana Glacier**	**5.26**	**59**			Pn	Pn	21 07 30.9	-0.5
TGL							Sn	21 08 26.7	-3.9
MCARA	**McCarthy VSAT**	**5.45**	**53**			Pn	Pn	21 07 36.2	+2.3
KIAG	**Kiagna River**	**5.54**	**58**				Pn	21 07 34.2	-1.0
BALM	**Baldy**	**5.59**	**57**				Pn	21 07 35.5	-0.4
BALM							Sn	21 08 35.2	-3.5
MCK	**McKinley**	**5.59**	**14**			Pn	Pn	21 07 36.3	+0.6
GRNC	**Granite Creek**	**5.74**	**61**				Pn	21 07 37.1	-0.9
RKAV	**Rock Avalanche**	**5.80**	**66**				Pn	21 07 38.4	-0.4
BARN	**Barnard Glacie**	**5.90**	**58**			Pn	Pn	21 07 41.2	+0.9
BARN							Sn	21 08 42.4	-4.2
CTGM	**Chitina Glacie**	**6.02**	**60**			Pn	Pn	21 07 42.4	+0.7
CTGM							Sn	21 08 47.0	-2.2
PCA	**Pinnacle**	**6.29**	**69**			Pn	Pn	21 07 45.6	+0.1
WRH	**Wood River Hil**	**6.41**	**15**			Pn	Pn	21 07 46.0	-1.0
CCB	**Clear Creek Bu**	**6.62**	**16**			Pn	Pn	21 07 49.2	-0.6
CCB							Sn	21 08 57.5	-6.2

*IDC **10** 21:07:16.8±1.5, 56°.86N×7°.52E, h0km, mb1 3.7/6, mb1mx3.3/56, mbtmp3.5/6, ML2.9/5, Error ellipse: s-maj=22.6km s-min=11.7km az=107.0*
*NAO **10** 21:07:17.1±1.5, 56°.93N×7°.66E, ML2.5*
*LDG **10** 21:07:17.5±0.1

KON					Sn	Sn	21 08 37.2	0.0	
KON					Lg	Lg	21 08 50.0		
KONO	**Kongsberg**	**2.92**	**19**	*e*P		**Pn**	**21 08 04.8**	**+2.7**	
KONO				*e*S		**Sn**	**21 08 36.5**	**-0.7**	
KONO				IAML			21 09 00.5		
	comp=Z,32nm,0.5s								
LLD	**Lille Linde**	**2.98**	**120**			**Sn**	**21 08 35.5**	**-3.1**	
ODD1	**Odda**	**3.06**	**350**	*e*P		**Pb**	**21 08 07.7**	**-2.5**	
ODD1				*e*S		**Sn**	**21 08 40.9**	**+0.2**	
ODD1				IAML			21 09 08.2		
	comp=Z,53nm,0.5s								
BJUU	**Bjuv**	**3.07**	**104**	P		**Pn**	**21 08 06.1**	**+2.0**	
BJUU				S		**Sn**	**21 08 38.3**	**-2.4**	
GNOU	**Gnosjoe**	**3.33**	**81**	P		**Pn**	**21 08 10.0**	**+2.4**	
DEL	**Delary**	**3.43**	**95**	P		**Pn**	**21 08 11.7**	**+2.7**	
LUNU	**Lund**	**3.45**	**109**	P		**Pn**	**21 08 10.4**	**+1.1**	
LUNU	**Lund**	**3.45**	**109**	*e*P		**Pn**	**21 08 10.3**	**+1.1**	
LUNU				*e*S		**Sn**	**21 08 45.9**	**-4.2**	
FKPU	**Falk**	**3.48**	**66**	P		**Pn**	**21 08 12.9**	**+3.2**	
NASU	**Vaermlandsnaes**	**3.56**	**53**	P		**Pn**	**21 08 13.7**	**+3.0**	
BER	**Bergen**	**3.70**	**341**	*e*P		**Pn**	**21 08 16.7**	**+4.0**	
BER				*e*S		**Sn**	**21 08 55.8**	**-0.4**	
BER				IAML			21 09 27.2		
	comp=Z,36nm,0.5s								
SKAR	**Skarslia**	**3.79**	**4**	*e*P		**Pn**	**21 08 17.5**	**+3.4**	
SKAR				*e*S		**Sn**	**21 08 58.6**	**-0.2**	
SKAR				IAML			21 09 30.9		
	comp=Z,33nm,0.4s								
ASK	**Askoy**	**3.81**	**341**	*e*P		**Pn**	**21 08 17.7**	**+3.4**	
ASK				*e*S		**Sn**	**21 08 57.9**	**-1.2**	
ASK				IAML			21 09 31.2		
	comp=Z,20nm,0.5s								
VXJU	**Vaexsjoe**	**3.97**	**87**	P		**Pn**	**21 08 19.4**	**+3.0**	
NAO01	**NORSAR Array S**	**4.28**	**21**	*e*P		**Pn**	**21 08 22.9**	**+2.2**	
NAO01				*e*S		**Sn**	**21 09 07.8**	**-2.7**	
NAO01				IAML			21 09 45.7		
	comp=Z,27nm,0.6s								
NC602	**NORSAR Array S**	**4.32**	**26**	*e*P		**Pn**	**21 08 23.1**	**+1.8**	
NC602				*e*S		**Sn**	**21 08 08.9**	**-2.8**	
NC602				IAML			21 09 28.2		
	comp=Z,321nm,0.5s								
NRA0	**NORESS Array S**	**4.32**	**26**	Pn		**Pn**	**21 08 23.3**	**+2.0**	
	baz=205,slow=14								
NRA0					Sn	**Sn**	**21 09 09.2**	**-2.5**	
	baz=195,slow=28								
NRA0	**NORESS Array S**	**4.32**	**26**	Pn		**Pn**	**21 08 23.3**	**+2.0**	
	baz=205,slow=14								
NRA0					Sn	**Sn**	**21 09 09.2**	**-2.5**	
	baz=195,slow=28								
HYA	**Hoyanger**	**4.34**	**350**	*e*P		**Pn**	**21 08 25.0**	**+3.6**	
HYA				*e*S		**Sn**	**21 09 10.1**	**-1.9**	
HYA				IAML			21 09 47.7		
	comp=Z,31nm,0.7s								
SUE	**Sulen**	**4.43**	**341**	*e*P		**Pn**	**21 08 25.5**	**+2.8**	
SUE				*e*S		**Sn**	**21 09 13.2**	**-1.0**	
SUE				IAML			21 09 50.4		
	comp=Z,16nm,0.7s								
BSD	**Bornholm Skovb**	**4.43**	**111**	*i* P		**Pn**	**21 08 23.9**	**+1.2**	
BSD				*e*S		**Sn**	**21 09 10.8**	**-3.5**	
BSD	**Bornholm Skovb**	**4.43**	**111**	*i* P		**Pn**	**21 08 24.0**	**+1.2**	
BSD				*e*S		**Sn**	**21 09 10.8**	**-3.5**	
BSD				IAML			21 09 23.6		
	comp=Z,9.8nm,0.4s								
HFS	**Hagfors**	**4.51**	**42**	Pn		**Pn**	**21 08 26.2**	**+2.4**	
	baz=228,slow=14								
HFS					Sn	**Sn**	**21 09 14.6**	**-1.6**	
	baz=222,slow=28								
HFS	**Hagfors**	**4.51**	**42**	Pn		**Pn**	**21 08 26.0**	**+2.2**	
	comp=Z,1.4nm,0.3s,baz=225,slow=12,SNR=49								
HFS					Sn	**Sn**	**21 09 15.5**	**-0.7**	
	comp=Z,3.2nm,0.3s,baz=225,slow=25,SNR=9.9								
HFS					Lg	Lg	21 09 45.1		
	comp=Z,2.5nm,0.3s,baz=227,slow=29,SNR=4.0								
HFS	**Hagfors**	**4.51**	**42**	Pn		**Pn**	**21 08 26.2**	**+2.4**	
	baz=228,slow=14								
HFS					Sn	**Sn**	**21 09 14.6**	**-1.6**	
	baz=222,slow=28								
NB2	**NORSAR Subarra**	**4.52**	**22**	Pn		**Pn**	**21 08 26.1**	**+2.0**	
	baz=202,slow=14								
NB2					Sn	**Sn**	**21 09 17.0**	**+0.4**	
	baz=192,slow=28								
NB2	**NORSAR Subarra**	**4.52**	**22**	Pn		**Pn**	**21 08 26.1**	**+2.0**	
	baz=202,slow=14								
NB2					Sn	**Sn**	**21 09 17.0**	**+0.4**	
	baz=192,slow=28								
NOA	**NORSAR Array B**	**4.52**	**22**	Pn		**Pn**	**21 08 26.3**	**+2.2**	
	comp=Z,0.1nm,0.3s,baz=208,slow=13,SNR=6.1								
NOA					Pg	**Pb**	**21 08 34.2**	**-0.8**	
	comp=Z,0.1nm,0.3s,baz=205,slow=14,SNR=10								
NOA					Sn	**Sn**	**21 09 18.0**	**+1.4**	
	comp=Z,0.1nm,0.3s,baz=7.4,slow=7.2,SNR=2.5								
NOA					Lg	Lg	21 09 41.7		
	comp=Z,0.3nm,0.3s,baz=301,slow=12,SNR=5.8								
NB201	**NORSAR Array S**	**4.55**	**23**	*e*P		**Pn**	**21 08 26.5**	**+2.1**	
NB201				*e*S		**Sn**	**21 09 15.1**	**-2.2**	
NB201				IAML			21 09 34.7		
	comp=Z,27nm,1.0s								
NC204	**NORSAR Array S**	**4.65**	**19**	*e*P		**Pn**	**21 08 28.4**	**+2.5**	
NC204				*e*S		**Sn**	**21 09 16.6**	**-3.4**	
NC204				IAML			21 09 53.1		
	comp=Z,31nm,0.5s								
NC303	**NORSAR Array S**	**4.72**	**22**	*e*P		**Pn**	**21 08 29.0**	**+2.2**	
NC303				*e*S		**Sn**	**21 09 18.9**	**-2.7**	
NC303				IAML			21 10 08.4		
	comp=Z,14nm,0.6s								
AKN	**Aaknes**	**5.30**	**356**	Pn		**Pn**	**21 08 35.9**	**+1.2**	
AKN	**Aaknes**	**5.30**	**356**	Pn		**Pn**	**21 08 35.9**	**+1.2**	
LRW	**Lerwick**	**5.66**	**309**	*e*P		**Pn**	**21 08 41.9**	**+2.3**	
LRW				*e*S		**Sn**	**21 09 41.1**	**-3.6**	
EKA	**Eskdalemuir Ar**	**6.28**	**260**	Pn		**Pn**	**21 08 48.9**	**+0.7**	
EKA				Sn		**Sn**	**21 09 54.9**	**-4.9**	
EKA	**Eskdalemuir Ar**	**6.28**	**260**	Pn		**Pn**	**21 08 48.8**	**+0.7**	
	baz=74,slow=13,SNR=53								
EKA					Sn	**Sn**	**21 09 52.9**	**-6.9**	
	baz=69,slow=25,SNR=4.5								
EKA	**Eskdalemuir Ar**	**6.28**	**260**	Pn		**Pn**	**21 08 48.9**	**+0.7**	
EKA				Sn		**Sn**	**21 09 54.9**	**-4.9**	
GIVF	**Givet**	**7.03**	**195**	*e*Pn		**Pn**	**21 08 56.3**	**-2.2**	
GIVF	**Givet**	**7.03**	**195**	*e*P		**Pn**	**21 09 01.5**	**+3.0**	
GIVF				*e*Sn		Sn	21 10 09.2	-9.2	
	comp=Z,11nm,0.3s								
BRG	**Berggiesshubel**	**7.08**	**146**	*e*(P)		Pn	21 09 07.9	+8.7	
	comp=Z,1.8nm,0.7s								
BRG				*e*			21 10 11.3		
BRG				*e*			21 11 25.6		
	comp=Z,4.0nm,1.0s								
BAIF	**Baives**	**7.17**	**198**	*e*Pn		**Pn**	**21 08 57.2**	**-3.2**	
BAIF	**Baives**	**7.17**	**198**	*e*P		**Pn**	**21 09 03.1**	**+2.7**	
BAIF				*e*Sn		Sn	21 10 12.4	-9.5	
	comp=Z,2.6nm,0.3s								
KPL	**Plockton**	**7.28**	**279**	*e*P		**Pn**	**21 09 03.5**	**+1.6**	
KPL				*e*S		**Sn**	**21 10 19.3**	**-5.2**	
PAGF	**Fort de Pagny**	**8.46**	**189**	*e*Pn		**Pn**	**21 09 16.0**	**-2.0**	
GERES	**GERESS Array B**	**8.85**	**153**	Pn		**Pn**	**21 09 24.6**	**+1.1**	
	comp=Z,0.1nm,0.3s,baz=351,slow=12,SNR=2.3								
FLN	**La Foliniere**	**9.54**	**215**	*e*Pn		Pn	21 09 29.3	-3.5	
FLN	**La Foliniere**	**9.54**	**215**	*e*P		**Pn**	**21 09 34.6**	**+1.8**	
	baz=29								
FLN					Sn	Sn	21 11 08.4	-12	
	comp=Z,10nm,0.6s,baz=26								
LDF	**La Druitiere**	**9.58**	**213**	*e*Pn		Pn	21 09 29.9	-3.5	
LDF	**La Druitiere**	**9.58**	**213**	*e*P		**Pn**	**21 09 35.1**	**+1.7**	
LDF				*e*Sn		Sn	21 11 11.1	-10	
	comp=Z,2.1nm,0.3s								
LOR	**Lormes**	**9.94**	**195**	*e*Pn		**Pn**	**21 09 35.9**	**-2.5**	
LOR	**Lormes**	**9.94**	**195**	*e*P		**Pn**	**21 09 42.0**	**+3.6**	
	baz=21								
LOR				*e*Sn		Sn	21 11 19.3	-11	
	comp=Z,2.0nm,0.3s								
GRR	**Gorron**	**9.99**	**215**	*e*P		**Pn**	**21 09 39.8**	**+0.8**	
GRR				*e*Sn		Sn	21 11 20.3	-11	
	comp=Z,5.0nm,0.3s								
SSF	**Saint Saulge**	**10.20**	**196**	*e*Pn		**Pn**	**21 09 39.6**	**-2.2**	
SSF	**Saint Saulge**	**10.20**	**196**	*e*P		**Pn**	**21 09 45.6**	**+3.8**	
SSF				*e*Sn		Sn	21 11 25.4	-11	
	comp=Z,1.0nm,0.3s								
FIA0	**FINESS Array S**	**10.45**	**57**	Pn		**Pn**	**21 09 46.2**	**+1.0**	
	baz=243,slow=12								
FIA0					Sn	Sn	21 11 33.6	-8.6	
	baz=253,slow=28								
FIA0	**FINESS Array S**	**10.45**	**57**	Pn		**Pn**	**21 09 46.2**	**+1.0**	
	baz=243,slow=12								
FIA0					Sn	Sn	21 11 33.6	-8.6	
	baz=253,slow=28								
FINES	**FINESS Array B**	**10.45**	**57**	Pn		**Pn**	**21 09 45.8**	**+0.6**	
	comp=Z,1.2nm,0.3s,baz=248,slow=12,SNR=37								
FINES					Sn	**Sn**	**21 11 34.5**	**-7.7**	
	comp=Z,0.8nm,0.3s,baz=253,slow=22,SNR=6.8								
SGMF	**Saint Gilles**	**10.67**	**220**	*e*Pn		Pn	21 09 44.0	-4.3	
SGMF	**Saint Gilles**	**10.67**	**220**	*e*P		**Pn**	**21 09 50.1**	**+1.8**	
SGMF				*e*Sn		Sn	21 11 33.7	-14	
	comp=Z,1.9nm,0.3s								
BGF	**Bois d'Agland**	**10.79**	**198**	*e*Sn		Sn	21 11 39.1	-12	
	comp=Z,5.1nm,0.4s								
ROSF	**Rostrenen**	**10.86**	**222**	*e*Pn		Pn	21 09 47.1	-3.8	
ROSF	**Rostrenen**	**10.86**	**222**	*e*P		**Pn**	**21 09 53.1**	**+2.2**	
ROSF				*e*Sn		Sn	21 11 38.1	-14	
	comp=Z,2.5nm,0.2s								
TCF	**Toulx Ste Croi**	**11.17**	**200**	*e*P		**Pn**	**21 09 58.5**	**+3.3**	
QUIF	**Quistinic**	**11.17**	**221**	*e*P		**Pn**	**21 09 54.8**	**-0.4**	
QUIF				*e*Sn		Sn	21 11 47.9	-12	
	comp=Z,1.8nm,0.3s								
MFF	**Saint Martin d**	**11.40**	**208**	*e*P		**Pn**	**21 09 59.6**	**+1.3**	
MFF				*e*Sn		Sn	21 11 52.0	-14	
	comp=Z,3.8nm,0.6s								
ARA0	**ARCESS Array S**	**14.90**	**25**	Pn		**Pn**	**21 10 43.8**	**-2.1**	
	baz=211,slow=14								
ARA0	**ARCESS Array S**	**14.90**	**25**	Pn		**Pn**	**21 10 43.8**	**-2.1**	
	baz=211,slow=14								
ARCES	**ARCESS Array B**	**14.90**	**25**	Pn		**Pn**	**21 10 43.7**	**-2.2**	
	comp=Z,0.1nm,0.3s,baz=211,slow=14,SNR=4.2								
ARCES					Sn	Sn	21 13 18.9	-12	
	comp=Z,0.2nm,0.3s,baz=210,slow=23,SNR=3.4								
LSH	**Leshukonskoye**	**19.86**	**51**	*e*P		**P**	**21 11 46.7**	**+0.4**	
	comp=Z,53nm,3.4s								

*ISCJB **10**21:09:07.0±0.4,5°.65N±0°.04×126°.17E±0°.08,h111km±5km, mb3.9/10,Error ellipse: s-maj=13.6km s-min=6.5km az=164.8*
*MAN **10**21:09:07.3,5°.56N×126°.16E,h78km,MS3.5*
*NEIC **10**21:09:08.8±1.9,5°.70N±0°.09×126°.3E±0°.2,h116km±8km, mb4.2/7*
*IDC **10**21:09:10.2±1.0,5°.71N×126°.06E,h134km±8km,mb3.6/10, mb1 3.7/11,mb1mx3.4/51,mbtmp4.1/11,Error ellipse: s-maj=50.4km s-min=11.5km az=75.0*
ISC 10 21:09:08.1±0.8,**5°.61N**±0°.05×**126°.10E**±0°.08,**h105**km±7km, **n32**,σ**2**°**03**/41,**mb4.0**/12,**2C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.62**	**322**	P	**Pn**	**21 09 25.0**	**-0.3**
DDMP				S	**Sn**	**21 09 36.9**	**-1.4**
GSPH	**General Santos**	**1.23**	**292**	P	**Pn**	**21 09 30.9**	**-0.7**
MATI	**Mati**	**1.33**	**7**	P	**Pn**	**21 09 31.6**	**-1.1**
MATI				S	**Sn**	**21 09 50.2**	**-1.0**
DAV	**Davao City (W)**	**1.54**	**340**	P	**Pn**	**21 09 36.8**	**+1.7**
	62nm,0.3s,baz=54,slow=19,SNR=3.8						
DAV				S	**Sn**	**21 09 59.3**	**+3.7**
	195nm,0.3s,baz=302,slow=21,SNR=7.9						
DAV	**Davao City (W)**	**1.54**	**340**		**Sn**	**21 09 54.0**	**-1.5**
DMPH	**Davao City--Mi**	**1.57**	**338**	⇑P	**Pn**	**21 09 34.6**	**-0.9**
DMPH				S	**Sn**	**21 09 56.6**	**+0.2**
KCP	**Kidapawan**	**1.71**	**324**	⇓P	**Pn**	**21 09 38.4**	**+1.1**
KCP				S	**Sn**	**21 10 01.7**	**+2.2**
SKMP	**Bagumbayan, Su**	**1.79**	**300**	P	**Pn**	**21 09 38.2**	**0.0**
SKMP				S	**Sn**	**21 10 01.0**	**-0.1**
BUKP	**Musuan**	**2.47**	**336**	P	**Pn**	**21 09 48.5**	**+1.4**
BUKP				S	**Sn**	**21 10 15.3**	**-1.7**
CGP	**Cagayan de Oro**	**3.15**	**334**	⇑P	**Pn**	**21 10 00.1**	**+4.2**
CGP				S	**Sn**	**21 10 38.4**	**+5.5**
PAGZ	**Pagadian**	**3.49**	**310**	P	**Pn**	**21 10 01.1**	**+0.5**
PAGZ				S	**Sn**	**21 10 35.6**	**-5.6**
MSLP	**Maasin**	**4.66**	**345**	P	**Pn**	**21 10 16.9**	**+0.6**
TNTI	**Ternate**	**4.97**	**165**	Pn	**Pn**	**21 10 21.6**	**+1.1**
TNTI					**Sn**	**21 11 17.3**	**+0.4**
BATI	**Baumata**	**15.90**	**189**	P	**P**	**21 12 49.5**	**+1.9**
	3.2nm,0.3s,baz=93,slow=4.4,SNR=5.3						
JAGI	**Jajag, Banyuwa**	**18.38**	**221**	P	**Pn**	**21 13 17.0**	**+0.9**
JAGI				IAmb	IAmb	21 13 17.3	
	comp=Z,21nm,1.2s						
DLV	**T Lat**	**18.50**	**291**	P	**Pn**	**21 13 21.1**	**+3.3**
DLV				IAmb	IAmb	21 13 25.3	
	comp=Z,14nm,1.0s						
KNRA	**Kununurra**	**21.32**	**173**	P	**P**	**21 13 47.5**	**+0.9**
KNRA				IAmb	IAmb	21 13 57.2	
	comp=Z,14nm,1.2s						
FITZ	**Fitzroy Crossi**	**23.57**	**181**	P	**P**	**21 14 09.6**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=2.5,slow=8.3,SNR=8.7						
FITZ	**Fitzroy Crossi**	**23.57**	**181**	IAmb	IAmb	21 14 24.8	
	comp=Z,9.6nm,1.5s						
WRA	**Warramunga Arr**	**26.66**	**163**	P	**P**	**21 14 36.8**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=334,slow=11,SNR=11						
WB2	**Warramunga Arr**	**26.66**	**162**	P	**P**	**21 14 37.2**	**-0.1**
WR0	**Warramunga Arr**	**26.74**	**162**	P	**P**	**21 14 37.4**	**-0.5**
WR0				IAmb	IAmb	21 14 45.8	
	comp=Z,15nm,1.5s						
ASAR	**Alice Springs**	**30.08**	**166**	P	**P**	**21 15 08.0**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=346,slow=7.2,SNR=20						
NWAO	**Narrogin (SRO)**	**39.24**	**192**	P	**P**	**21 16 26.4**	**0.0**
	comp=Z,7.7nm,0.9s,baz=20,slow=4.2,SNR=2.2						
BBOO	**Buckleboo**	**39.37**	**167**	P	**P**	**21 16 28.4**	**+1.0**
STKA	**Stephens Creek**	**40.10**	**159**	P	**P**	**21 16 33.7**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=330,slow=14,SNR=2.9						
MKAR	**Makanchi Array**	**55.66**	**325**	P	**P**	**21 18 31.8**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=117,slow=7.6,SNR=21						
ZALV	**Zalesovo Beam**	**58.63**	**333**	P	**P**	**21 18 51.1**	**-3.0**
	comp=Z,0.4nm,0.5s,baz=126,slow=7.4,SNR=2.4						
ILAR	**Eielson Array**	**83.68**	**26**	P	**P**	**21 21 24.0**	**-0.9**
	comp=Z,0.5nm,1.0s,baz=244,slow=5.8,SNR=2.0						
ARCES	**ARCESS Array B**	**88.47**	**340**	P	**P**	**21 21 48.3**	**0.0**
	comp=Z,1.7nm,0.9s,baz=69,slow=4.9,SNR=2.4						
FINES	**FINESS Array B**	**89.88**	**332**	P	**P**	**21 21 53.0**	**-2.1**
	comp=Z,0.4nm,0.8s,baz=90,slow=5.8,SNR=2.5						
TORD	**Torodi Ar. Bea**	**121.72**	**289**	PKP	**PKPdf**	**21 27 49.5**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=100,slow=1.6,SNR=5.2						

*ISCJB **10**21:14:38.4±0.7,29°.05S±0°.2×61°.5E±0°.2,h11km,mb4.0/8, Error ellipse: s-maj=22.6km s-min=19.5km az=12.2*
*IDC **10**21:14:38.6±0.9,29°.00S×61°.50E,h0km,mb4.0/8, mb1 4.1/8,mb1mx3.8/50,mbtmp4.0/8,Error ellipse: s-maj=32.3km s-min=26.7km az=61.0*
*NEIC **10**21:14:40.4±0.4,29°.1S±0°.3×61°.4E±0°.1,h15km±5km, mb4.2/3*
ISC 10 21:14:40.1±0.8,**29°.0S**±0°.2×**61°.4E**±0°.2,**h11**km,**n21,** σ**0**°**68**/15,**mb4.0**/9,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**23.66**	**28**	T	T	21 44 06.6	
	baz=203,slow=76,SNR=796						
H08S2	**Diego Garcia H**	**23.67**	**28**	T	T	21 44 08.5	
	baz=203,slow=76,SNR=4.7						
H08S3	**Diego Garcia H**	**23.68**	**28**	T	T	21 44 09.4	
	baz=203,slow=76,SNR=6.9						
LSZ	**Lusaka**	**33.53**	**287**	P	**P**	**21 21 19.8**	**-0.4**
LSZ				IAmb	IAmb	21 21 23.1	
	comp=Z,2.9nm,0.9s						
H01W2	**Cape Leeuwin H**	**44.71**	**112**	T	T	22 10 37.4	
	baz=262,slow=75,SNR=9.5						
H01W3	**Cape Leeuwin H**	**44.71**	**112**	T	T	22 10 36.8	
	baz=262,slow=75,SNR=7.1						
H01W1	**Cape Leeuwin H**	**44.72**	**112**	T	T	22 10 36.9	
	baz=262,slow=75,SNR=7.1						
CMAR	**Chiang Mai Arr**	**59.50**	**42**	P	**P**	**21 24 43.9**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=235,slow=7.3,SNR=9.3						
QSPA	**South Pole Qui**	**61.16**	**180**	P	**P**	**21 24 55.2**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=259,slow=3.7,SNR=4.7						
SHL	**Shillong**	**61.65**	**31**	P	**P**	**21 24 58.2**	**0.0**
ASAR	**Alice Springs**	**64.28**	**104**	P	**P**	**21 25 15.0**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=244,slow=6.3,SNR=9.9						
WRA	**Warramunga Arr**	**66.09**	**100**	P	**P**	**21 25 27.6**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=248,slow=6.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**71.25**	**297**	P	**P**	**21 26 00.6**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=128,slow=4.7,SNR=2.8						
MKAR	**Makanchi Array**	**77.76**	**15**	P	**P**	**21 26 37.3**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=175,slow=6.1,SNR=5.6						
ZAA0	**Zalesovo Array**	**85.05**	**14**	P	**P**	**21 27 16.0**	**+0.6**
ZALV	**Zalesovo Beam**	**85.05**	**14**	P	**P**	**21 27 15.5**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=212,slow=5.3,SNR=15						
SONM	**Songino Array**	**86.50**	**29**	P	**P**	**21 27 23.0**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=238,slow=4.9,SNR=2.8						
SONM	**Songino Array**	**86.50**	**29**	P	**P**	**21 27 23.0**	**+0.1**
YKA	**Yellowknife Ar**	**146.39**	**357**	PKPbc	**PKPbc**	**21 34 20.4**	**0.0**
	comp=Z,2.0nm,0.9s,baz=355,slow=3.2,SNR=20						
U54A	**Nelsons Funny**	**148.32**	**293**		**PKPbc**	**21 34 25.4**	**-1.4**
ULM	**Lac du Bonnet**	**152.69**	**327**	PKPbc	**PKPbc**	**21 34 35.6**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=11,slow=5.2,SNR=3.0						

*ISCJB **10**21:21:58.3±0.4,21°.32S±0°.07×178°.97W±0°.10,h600km, mb3.8/13,Error ellipse: s-maj=13.1km s-min=8.1km az=30.2*
*IDC **10**21:21:59.0±4.5,21°.10S×178°.98W,h587km,51km, mb3.4/13,mb1 3.6/13,mb1mx3.4/40,mbtmp4.3/13,Error ellipse: s-maj=23.4km s-min=19.5km az=93.0*
*NEIC **10**21:21:59.4±1.3,21°.34S±0°.06×178°.9W±0°.2,h604km±7km, mb4.2/22*
ISC 10 21:21:59.7±0.6,**21°.3S**±0°.1×**178°.9W**±0°.1,**h600**km,**n49,** σ**1**°**04**/48,**mb4.1**/21,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.51**	**321**	P	**P**	**21 23 29.1**	**0.0**
OUZ	**Omahuta**	**15.37**	**204**	P	**P**	**21 25 11.1**	**-0.1**
OUZ				IAmb	IAmb	21 25 13.0	
	comp=Z,12nm,1.0s						
URZ	**Urewera**	**17.28**	**191**	P	**P**	**21 25 25.9**	**-2.7**
	comp=Z,1.0nm,0.3s,baz=346,slow=7.1,SNR=3.6						
URZ	**Urewera**	**17.28**	**191**	IAmb	IAmb	21 25 26.6	
	comp=Z,18nm,1.4s						
BKZ	**Black Stump Fm**	**18.27**	**191**	P	**P**	**21 25 35.8**	**-1.9**
NNZ	**Nelson**	**20.93**	**196**	P	**P**	**21 26 00.5**	**-1.1**
WHZ	**Wether Hill Ro**	**26.81**	**201**	P	**P**	**21 26 54.2**	**+0.5**
STKA	**Stephens Creek**	**36.67**	**245**	P	**P**	**21 28 17.4**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=61,slow=11,SNR=4.2						
STKA	**Stephens Creek**	**36.67**	**245**	IAmb	IAmb	21 28 18.9	
	comp=Z,0.7nm,0.8s						
COEN	**Coen**	**36.76**	**275**	P	**P**	**21 28 18.8**	**+0.5**
BBOO	**Buckleboo**	**41.42**	**244**	P	**P**	**21 28 54.7**	**-0.8**
AS31	**Alice Springs**	**43.49**	**258**	P	**P**	**21 29 11.5**	**-0.3**
ASAR	**Alice Springs**	**43.49**	**258**	P	**P**	**21 29 11.6**	**-0.2**
	comp=Z,5.6nm,0.7s,baz=98,slow=7.6,SNR=70						
ASAR				PcP	**PcP**	**21 30 46.1**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=107,slow=3.8,SNR=9.4						
WB2	**Warramunga Arr**	**43.62**	**263**	P	**P**	**21 29 11.0**	**-1.8**
WB2				IAmb	IAmb	21 29 13.0	
	comp=Z,5.6nm,0.8s						
WB2				PcP	**PcP**	**21 30 44.5**	**-2.0**
WRA	**Warramunga Arr**	**43.63**	**263**	P	**P**	**21 29 12.2**	**-0.7**
	comp=Z,3.5nm,0.6s,baz=98,slow=9.0,SNR=49						
FORT	**Forrest**	**48.19**	**247**	P	**P**	**21 29 46.1**	**-1.0**
KNRA	**Kununurra**	**49.73**	**267**	P	**P**	**21 29 58.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**52.06**	**263**	P	**P**	**21 30 15.0**	**-0.5**
SIJI	**Sorong**	**52.59**	**286**	P	**P**	**21 30 18.8**	**-0.6**
	comp=Z,18nm,0.7s,baz=82,slow=7.1,SNR=9.8						
PSA00	**Pilbara Seismi**	**56.64**	**258**	P	**P**	**21 30 47.3**	**-0.3**
PSA00				IAmb	IAmb	21 30 50.8	
	comp=Z,27nm,1.5s						
VNDA	**Vanda**	**57.08**	**185**	P	**P**	**21 30 50.2**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=25,slow=7.9,SNR=5.1						
PETK	**Petropavlovsk-**	**76.78**	**346**	P	**P**	**21 32 49.6**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=164,slow=7.5,SNR=2.4						
USRK	**Ussuriysk Ar.**	**79.10**	**326**	P	**P**	**21 33 03.9**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=120,slow=6.0,SNR=4.3						
MAW	**Mawson**	**80.55**	**200**	P	**P**	**21 33 12.9**	**+2.7**
	comp=Z,1.8nm,0.3s,baz=336,sl

TLY	**Talaya**	**31.80**	**297**	LR	LR	21 44 23.8			
	comp=Z,24nm,21.3s,baz=31,slow=36								
TRF	**Thorofare Moun**	**34.76**	**41**	P	**P**	**21 32 13.1**	**+2.2**		
TRF				IAmb	IAmb	21 32 30.4			
	comp=Z,6.0nm,1.1s								
SML	**Sawmill**	**35.72**	**44**	P	**P**	**21 32 19.6**	**+0.6**		
SML				IAmb	IAmb	21 32 37.5			
	comp=Z,7.0nm,0.7s								
DHY	**Denali Highway**	**36.09**	**42**	P	**P**	**21 32 23.6**	**+1.3**		
DHY				IAmb	IAmb	21 32 32.5			
	comp=Z,4.1nm,1.0s								
ILAR	**Eielson Array**	**36.25**	**39**	P	**P**	**21 32 24.9**	**+1.4**		
	comp=Z,0.6nm,0.9s,baz=269,slow=8.5,SNR=4.9								
ILAR				pP	**pP**	**21 32 40.8**	**-4.7**		
	comp=Z,0.5nm,0.6s,baz=259,slow=7.4,SNR=3.3								
ENH	**Enshi**	**37.30**	**259**	P	**P**	**21 32 32.2**	**-0.6**		
VRDI	**Verde Repeater**	**38.10**	**45**	P	**P**	**21 32 38.9**	**-0.5**		
VRDI				IAmb	IAmb	21 32 42.5			
	comp=Z,5.7nm,1.2s								
EGAK	**Eagle**	**38.70**	**39**	P	**P**	**21 32 46.0**	**+1.9**		
CTGM	**Chitina Glacie**	**39.16**	**45**	P	**P**	**21 32 50.5**	**+2.3**		
CTGM				IAmb	IAmb	21 32 50.7			
	comp=Z,2.8nm,0.6s								
INK	**Inuvik**	**41.31**	**33**	P	**P**	**21 33 07.7**	**+2.1**		
	comp=Z,1.5nm,0.8s,baz=295,slow=10,SNR=5.0								
INK	**Inuvik**	**41.31**	**33**	IAmb	IAmb	21 33 08.3			
	comp=Z,1.9nm,0.9s								
ZALV	**Zalesovo Beam**	**42.18**	**305**	P	**P**	**21 33 12.7**	**-0.1**		
	comp=Z,0.3nm,0.4s,baz=46,slow=10,SNR=2.0								
ZALV				PcP	**PcP**	**21 35 06.1**	**+1.0**		
	comp=Z,1.0nm,0.6s,baz=57,slow=5.5,SNR=5.0								
ZALV				LR	LR	21 52 06.9			
	comp=Z,33nm,20.1s,baz=16,slow=38								
MKAR	**Makanchi Array**	**46.56**	**297**	P	**P**	**21 33 47.4**	**-0.4**		
	comp=Z,0.7nm,0.9s,baz=73,slow=5.1,SNR=3.8								
MKAR				PcP	**PcP**	**21 35 21.4**	**+1.0**		
	comp=Z,0.7nm,0.5s,baz=69,slow=2.7,SNR=11								
YKA	**Yellowknife Ar**	**50.61**	**37**	pP	pP	21 34 37.4	-4.4		
	comp=Z,1.1nm,0.7s,baz=297,slow=7.1,SNR=7.9								
CHTO	**Chiang Mai**	**52.08**	**256**	P	**P**	**21 34 30.2**	**+0.1**		
CHTO				IAmb	IAmb	21 34 32.1			
	comp=Z,2.5nm,0.8s								
CMAR	**Chiang Mai Arr**	**52.33**	**256**	P	**P**	**21 34 33.0**	**+1.0**		
	comp=Z,1.0nm,0.9s,baz=31,slow=8.1,SNR=7.7								
TAPN	**Taplejung**	**53.91**	**273**	*eP*	**P**	**21 34 45.0**	**+1.1**		
JIRN	**Jiri**	**54.74**	**274**	*eP*	**P**	**21 34 50.8**	**+0.8**		
	comp=Z,10nm,0.5s								
GUN	**Gumba**	**54.79**	**274**	*eP*	**P**	**21 34 50.7**	**+0.4**		
	comp=Z,5.0nm,0.4s								
RAMN	**Ramite**	**54.92**	**273**	*eP*	**P**	**21 34 51.5**	**+0.4**		
	comp=Z,9.5nm,0.5s								
KKN	**Kakani**	**55.28**	**275**	*eP*	**P**	**21 34 54.7**	**+1.0**		
DMN	**Daman**	**55.51**	**275**	*eP*	**P**	**21 34 56.4**	**+1.0**		
GKN	**Gorkha**	**55.58**	**275**	*eP*	**P**	**21 34 56.4**	**+0.7**		
	comp=Z,4.7nm,0.4s								
DANN	**Dangsing**	**55.95**	**276**	*eP*	**P**	**21 34 59.6**	**+1.1**		
	comp=Z,7.0nm,0.4s								
ARCES	**ARCESS Array B**	**57.32**	**341**	P	**P**	**21 35 08.2**	**+0.9**		
	comp=Z,5.2nm,1.0s,baz=27,slow=10,SNR=2.4								
YBH	**Yreka Blue Hor**	**57.65**	**62**	P	**P**	**21 35 11.6**	**+1.5**		
YBH				IAmb	IAmb	21 35 17.6			
	comp=Z,3.8nm,1.4s								
NVAR	**Mina Array Bea**	**62.34**	**62**	P	**P**	**21 35 44.3**	**+1.9**		
	comp=Z,0.4nm,0.6s,baz=289,slow=7.2,SNR=3.6								
NVAR				pP	**pP**	**21 36 01.7**	**-4.8**		
	comp=Z,0.5nm,0.5s,baz=305,slow=6.5,SNR=4.1								
FINES	**FINESS Array B**	**63.51**	**335**	P	**P**	**21 35 49.8**	**+0.4**		
	comp=Z,1.4nm,0.4s,baz=45,slow=6.7,SNR=14								
PDAR	**Pinedale Array**	**64.58**	**54**	P	**P**	**21 35 58.6**	**+1.5**		
	comp=Z,0.6nm,0.7s,baz=252,slow=1.7,SNR=4.6								
PDAR				pP	**pP**	**21 36 16.3**	**-5.0**		
	comp=Z,0.1nm,0.4s,baz=149,slow=29,SNR=1.7								
NB201	**NORSAR Array S**	**67.66**	**341**	P	**P**	**21 36 17.4**	**+1.2**		
NOA	**NORSAR Array B**	**67.69**	**341**	P	**P**	**21 36 17.6**	**+1.1**		
	comp=Z,0.8nm,0.8s,baz=36,slow=6.7,SNR=3.8								
PV17	**East Wray Mesa**	**67.94**	**57**	P	**P**	**21 36 20.3**	**+1.7**		
PV17				IAmb	IAmb	21 36 23.4			
	comp=Z,2.6nm,0.7s								
WRA	**Warramunga Arr**	**68.94**	**199**	P	**P**	**21 36 23.9**	**-0.7**		
	comp=Z,0.4nm,0.6s,baz=14,slow=6.8,SNR=3.6								
KBZ	**Khabaz**	**70.39**	**314**	P	**P**	**21 36 34.7**	**+1.4**		
	comp=Z,2.4nm,1.0s,baz=256,slow=18,SNR=2.3								
AKASG	**Malin Array Be**	**71.03**	**326**	P	**P**	**21 36 37.5**	**+0.4**		
	comp=Z,0.6nm,0.4s,baz=37,slow=6.0,SNR=4.5								
ASAR	**Alice Springs**	**72.64**	**198**	P	**P**	**21 36 47.5**	**+0.5**		
	comp=Z,0.7nm,0.7s,baz=21,slow=6.0,SNR=8.5								
BUR08	**Bucovina Ar. S**	**75.05**	**326**	P	**P**	**21 37 01.5**	**+0.5**		
BUR08				IAmb	IAmb	21 37 06.7			
	comp=Z,4.2nm,1.1s								
TX31	**Lajitas Ar. Si**	**77.38**	**60**	P	**P**	**21 37 16.2**	**+1.7**		
TXAR	**Lajitas Array**	**77.38**	**60**	P	**P**	**21 37 16.1**	**+1.6**		
	comp=Z,1.9nm,0.5s,baz=298,slow=4.2,SNR=20								
TXAR				pP	**pP**	**21 37 33.7**	**-5.7**		
	comp=Z,1.0nm,0.7s,baz=301,slow=4.5,SNR=5.7								
BRTR	**Keskin Array B**	**77.91**	**317**	P	**P**	**21 37 18.9**	**+1.6**		
	comp=Z,1.3nm,0.9s,baz=46,slow=8.3,SNR=3.3								
GERES	**GERESS Array B**	**77.92**	**334**	P	**P**	**21 37 17.5**	**+0.3**		
	comp=Z,0.3nm,0.4s,baz=31,slow=5.9,SNR=3.8								

*IDC **10** 21:31:21.2±0.8, 30°.97S×178°.08W, h0km, mb4.4/7, mb1 4.5/10, mb1mx4.2/42, mbtmp4.4/10, ML3.8/3, MS3.5/8, Ms1 3.5/8, ms1mx3.1/46, Error ellipse: s-maj=26.6km s-min=17.1km az=130.0*

*ISCJB **10** 21:31:23.5±0.6, 31°.08S±0°.03×177°.8W±0°.1, h46km, mb4.4/7, MS3.7/7, Error ellipse: s-maj=13.9km s-min=3.6km az=13.1*

*NEIC **10** 21:31:26.1±2.9, 31°.00S±0°.06×178°.1W±0°.2, h35km±1km, mb4.5/15*

ISC 10 21:31:27.1±0.6, **30°.93S**±0°.06×**178°.2W**±0°.1, **h46**km, **n82,** σ**2s 80**/94, **mb4.5**/12, **MS3.6**/7, **3C-1D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.68**	**7**	P	**Pn**	**21 31 52.3**	**-1.7**
GLKZ				S	**Sn**	**21 32 10.1**	**-4.2**
RAO	**Raoul Island**	**1.69**	**7**	Pn	**Pn**	**21 31 52.5**	**-1.7**
	704nm,0.3s,baz=98,slow=6.3,SNR=26						
RAO				Sn	**Sn**	**21 32 10.4**	**-4.2**
	3µm,0.3s,baz=106,slow=20,SNR=17						
RAO				LR	LR	21 32 34.3	
	comp=Z,322nm,19.4s,baz=138,slow=42						
RAO	**Raoul Island**	**1.69**	**7**		**Pn**	**21 31 52.7**	**-1.5**
RAO					**Sn**	**21 32 09.8**	**-4.8**
RIZ	**Raoul Island**	**1.70**	**7**	P	**Pn**	**21 31 52.4**	**-1.8**
RIZ				S	**Sn**	**21 32 11.8**	**-3.0**
MXZ	**Matakaoa Point**	**7.23**	**203**	P	**Pn**	**21 33 09.2**	**-0.8**
MXZ				S	**Sn**	**21 34 30.9**	**+0.1**
MXZ	**Matakaoa Point**	**7.23**	**203**	Pn	**Pn**	**21 33 09.3**	**-0.8**
MXZ				Sn	**Sn**	**21 34 23.9**	**-6.9**
WMGZ	**Waiomatatini S**	**7.42**	**201**	P	**Pn**	**21 33 12.0**	**-0.9**
WMGZ				S	**Sn**	**21 34 37.0**	**+1.3**
HAZ	**Te Kaha**	**7.58**	**205**	P	**Pn**	**21 33 15.3**	**+0.3**
HAZ				S	**Sn**	**21 34 43.7**	**+4.1**
PKGZ	**Pakihiroa**	**7.60**	**203**	P	**Pn**	**21 33 15.5**	**+0.2**
PKGZ				S	**Sn**	**21 34 40.9**	**+0.8**
PUZ	**Puketiti**	**7.71**	**202**	P	**Pn**	**21 33 15.6**	**-1.2**
PUZ				S	**Sn**	**21 34 41.9**	**-0.8**
RUGZ	**Raukumara Rang**	**7.81**	**205**	P	**Pn**	**21 33 18.1**	**-0.1**
RUGZ				S	**Sn**	**21 34 47.2**	**+1.9**
CNGZ	**Carnagh Statio**	**8.10**	**201**	P	**Pn**	**21 33 20.4**	**-1.6**
OUZ	**Omahuta**	**8.12**	**236**		Pn	21 33 30.5	+8.0
TKGZ	**Te Karaka**	**8.17**	**203**	P	**Pn**	**21 33 18.8**	**-4.3**
TKGZ				S	**Sn**	**21 34 54.4**	**+0.4**
MWZ	**Matawai**	**8.19**	**204**	P	**Pn**	**21 33 22.6**	**-0.7**
MWZ				S	**Sn**	**21 34 55.3**	**+0.7**
URZ	**Urewera**	**8.28**	**207**	Pn	**Pn**	**21 33 22.0**	**-2.6**
	2.1nm,0.3s,baz=266,slow=3.1,SNR=11						
URZ				Sn	**Sn**	**21 34 56.1**	**-0.5**
	6.2nm,0.3s,baz=8.5,slow=23,SNR=11						
URZ	**Urewera**	**8.28**	**207**	P	**Pn**	**21 33 24.3**	**-0.2**
URZ				S	**Sn**	**21 34 57.7**	**+1.1**
URZ	**Urewera**	**8.28**	**207**	Pn	**Pn**	**21 33 23.1**	**-1.4**
URZ				Sn	**Sn**	**21 34 49.9**	**-6.8**
RAGZ	**Rawiri**	**8.37**	**205**	P	**Pn**	**21 33 25.5**	**-0.4**
RAGZ				S	**Sn**	**21 35 01.0**	**+1.9**
RIGZ	**Rimuhau**	**8.44**	**202**	P	**Pn**	**21 33 26.0**	**-0.9**
RIGZ				S	**Sn**	**21 35 00.2**	**-0.5**
SNGZ	**Shannon Statio**	**8.65**	**204**	P	**Pn**	**21 33 29.7**	**-0.1**
SNGZ				S	**Sn**	**21 35 06.6**	**+0.7**
BKZ	**Black Stump Fm**	**9.30**	**207**	P	**Pn**	**21 33 36.6**	**-2.1**
BKZ				S	**Sn**	**21 35 21.1**	**-0.8**
BKZ	**Black Stump Fm**	**9.30**	**207**	Pn	**Pn**	**21 33 35.6**	**-3.1**
KAHZ	**Kahuranaki**	**9.72**	**203**	P	**Pn**	**21 33 41.1**	**-3.2**
BFZ	**Birch Farm**	**10.73**	**203**	Pn	**Pn**	**21 33 54.7**	**-3.4**
MRZ	**Mangatainoka R**	**10.95**	**206**	P	**Pn**	**21 33 58.1**	**-3.0**
SNZO	**South Karori**	**11.84**	**207**	Pn	**Pn**	**21 34 09.9**	**-3.4**
SNZO				Sn	**Sn**	**21 36 16.2**	**-7.8**
PLWZ	**Palliser**	**11.86**	**205**	Pn	**Pn**	**21 34 10.7**	**-2.9**
PLWZ				Sn	**Sn**	**21 36 15.8**	**-8.7**
TUWZ	**Tuamarina**	**12.25**	**209**	Pn	**Pn**	**21 34 17.2**	**-1.7**
BSWZ	**Blackbirch Sta**	**12.52**	**209**	Pn	**Pn**	**21 34 20.8**	**-1.7**
THZ	**Tophouse**	**12.97**	**211**	Pn	**Pn**	**21 34 24.9**	**-3.9**
THZ					**Sn**	**21 36 44.2**	**-7.4**
KHZ	**Kahutara**	**13.24**	**208**	Pn	**Pn**	**21 34 28.3**	**-4.1**
KHZ				Sn	**Sn**	**21 36 49.9**	**-8.2**
OXZ	**Oxford**	**14.61**	**209**	Pn	**Pn**	**21 34 48.0**	**-2.9**
MOZ	**McQueen's Vall**	**14.68**	**207**	Pn	**Pn**	**21 34 48.9**	**-2.9**
RPZ	**Rata Peaks**	**15.35**	**211**	Pn	**Pn**	**21 34 59.0**	**-1.6**
	0.5nm,0.3s,baz=183,slow=18,SNR=2.7						
RPZ				Sn	Sn	21 37 37.1	-12
	1.1nm,0.3s,baz=127,slow=22,SNR=5.6						
RPZ				LR	LR	21 40 59.8	
	comp=Z,182nm,21.1s,baz=30,slow=38						
RPZ	**Rata Peaks**	**15.35**	**211**	Pn	**Pn**	**21 34 58.7**	**-1.9**
DZM	**Mont Dzumac**	**16.35**	**299**	*eP*	**P**	**21 35 17.4**	**+1.6**
	32nm,1.2s						
DZM				*e*LR	LR	21 39 12.6	
	comp=Z,462nm,25.3s						
DZM	**Mont Dzumac**	**16.35**	**299**	LR	LR	21 40 22.2	
	comp=Z,223nm,18.9s,baz=214,slow=33						
ODZ	**Otahua Downs**	**16.59**	**209**	Pn	**Pn**	**21 35 12.5**	**-3.9**
WKZ	**Wanaka**	**17.14**	**212**	Pn	**Pn**	**21 35 21.2**	**-2.0**
WKZ				IAmb	IAmb	21 35 38.6	
	comp=Z,58nm,1.3s						
WHZ	**Wether Hill Ro**	**18.44**	**212**	P	**P**	**21 35 36.1**	**-2.5**
WHZ				IAmb	IAmb	21 35 37.5	
	comp=Z,50nm,1.4s						
RAR	**Rarotonga**	**19.13**	**64**	P	**Pn**	**21 35 45.7**	**-1.9**
	comp=Z,1.4nm,0.3s,baz=254,slow=18,SNR=3.1						
RAR				LR	LR	21 43 50.1	
	comp=Z,39nm,18.2s,baz=250,slow=39						
TBI	**Tubuai**	**26.59**	**81**	*e*LR	LR	21 43 44.8	
	comp=Z,312nm,30.5s,baz=250						
TBI	**Tubuai**	**26.59**	**81**	*eT*	T	22 04 51.0	
	comp=Z,34nm,0.3s						
PAE	**Paea**	**29.11**	**70**	*eT*	T	22 07 50.0	
	comp=Z,13nm,0.3s						
PPT2	**Papeete2**	**29.16**	**70**	*e*LR	LR	21 44 51.4	
	comp=Z,229nm,27.5s,baz=253						
PPT2	**Papeete2**	**29.16**	**70**	*eT*	T	22 07 53.7	
	comp=Z,12nm,0.3s						
TVO	**Taravao**	**29.32**	**70**	*eT*	T	22 08 05.7	
	comp=Z,1.3nm,0.2s						
STKA	**Stephens Creek**	**34.22**	**258**	P	**P**	**21 38 10.9**	**+2.4**
	comp=Z,22nm,0.8s,baz=93,slow=9.7,SNR=25						
STKA				LR	LR	21 50 59.8	
	comp=Z,84nm,18.1s,baz=54,slow=34						
STKA	**Stephens Creek**	**34.22**	**258**	P	**P**	**21 38 11.2**	**+2.7**
STKA				IAmb	IAmb	21 38 12.3	
	comp=Z,5.4nm,0.9s						
BBOO	**Buckleboo**	**38.69**	**255**	P	**P**	**21 38 47.5**	**+1.0**
BBOO				IAmb	IAmb	21 38 58.6	
	comp=Z,18nm,1.1s						
COEN	**Coen**	**39.28**	**287**	P	**P**	**21 38 53.6**	**+2.0**
COEN				IAmb	IAmb	21 38 55.0	
	comp=Z,11nm,1.0s						
AS31	**Alice Springs**	**42.94**	**268**	P	**P**	**21 39 23.1**	**+1.3**
ASAR	**Alice Springs**	**42.94**	**268**	P	**P**	**21 39 23.1**	**+1.3**
	comp=Z,6.1nm,0.7s,baz=108,slow=7.7,SNR=58						
ASAR				PcP	**PcP**	**21 41 12.4**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=111,slow=5.1,SNR=2.5						
WR0	**Warramunga Arr**	**43.80**	**273**	P	**P**	**21 39 29.9**	**+1.2**
WR0				IAmb	IAmb	21 39 31.2	
	comp=Z,7.0nm,0.8s						
WB2	**Warramunga Arr**	**43.97**	**273**	IAmb	IAmb	21 39 32.1	
	comp=Z,8.4nm,0.9s						
WRA	**Warramunga Arr**	**43.98**	**273**	P	**P**	**21 39 31.1**	**+1.0**
	comp=Z,5.2nm,0.5s,baz=111,slow=8.1,SNR=82						
WRA				LR	LR	21 56 57.0	
	comp=Z,65nm,18.5s,baz=120,slow=35						
FORT	**Forrest**	**45.77**	**256**	P	**P**	**21 39 44.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**52.22**	**270**	P	**P**	**21 40 33.0**	**-0.7**
	comp=Z,4.4nm,0.8s,baz=119,slow=8.8,SNR=8.3						
FITZ				LR	LR	22 01 16.1	
	comp=Z,62nm,21.3s,baz=126,slow=34						
CASY	**Casey**	**54.60**	**208**	P	**P**	**21 40 50.5**	**-0.1**
BATI	**Baumata**	**57.58**	**278**	LR	LR	22 06 13.5	
	comp=Z,125nm,18.6s,baz=142,slow=36						
MAW	**Mawson**	**71.76**	**201**	P	**P**	**21 42 44.9**	**+0.8**
	comp=Z,4.0nm,0.9s,baz=72,slow=9.6,SNR=3.4						
MAW	**Mawson**	**71.76**	**201**	IAmb	IAmb	21 42 47.9	
	comp=Z,3.1nm,1.2s						
SYO	**Syowa Base**	**76.56**	**193**	‖*eP*	**P**	**21 43 11.8**	**-0.3**
SYO	**Syowa Base**	**76.56**	**193**	‖*ep*P	pP	21 43 19.4	-5.2
SYO	**Syowa Base**	**76.56**	**193**	‖*e*PcP	**PcP**	**21 43 24.0**	**+0.5**
SYO	**Syowa Base**	**76.56**	**193**	‖*es*P	sP	21 43 27.4	-2.1
SNAA	**Sanae**	**77.63**	**178**	P	**P**	**21 43 20.0**	**+1.9**
SNAA	**Sanae**	**77.63**	**178**	P	**P**	**21 43 19.7**	**+1.5**
SNAA				IAmb	IAmb	21 43 26.1	
	comp=Z,7.8nm,0.9s						
VNA3	**Neumayer Olymp**	**77.78**	**176**	P	**P**	**21 43 20.6**	**+1.6**
VNA2	**Neumayer--Watz**	**78.22**	**177**	P	**P**	**21 43 23.1**	**+1.7**
	baz=167,slow=4.8						
VNA1	**Neumayer--Stat**	**78.45**	**177**	P	**P**	**21 43 24.3**	**+1.7**
PETK	**Petropavlovsk-**	**86.29**	**346**	P	**P**	**21 44 05.7**	**+2.1**
	comp=Z,1.2nm,0.6s,baz=115,slow=7.2,SNR=3.0						
NVAR	**Mina Array Bea**	**88.73**	**43**	P	**P**	**21 44 17.8**	**+1.9**
	comp=Z,0.1nm,0.4s,baz=216,slow=13,SNR=2.0						
NVAR				LR	LR	22 16 09.8	
	comp=Z,20nm,20.9s,baz=240,slow=30						
LSZ	**Lusaka**	**127.53**	**213**	PKP	**PKiKP**	**21 50 29.4**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=152,slow=14,SNR=4.8						
ARCES	**ARCESS Array B**	**139.08**	**348**	PKhKP	PKPpre	21 50 42.6	
	comp=Z,3.9nm,1.1s,baz=64,slow=2.1,SNR=3.4						
FINES	**FINESS Array B**	**145.59**	**340**	PKPbc	**PKPdf**	**21 50 59.1**	**-0.4**
	comp=Z,14nm,0.8s,baz=43,slow=4.3,SNR=19						
NB2	**NORSAR Subarra**	**149.26**	**351**	PKP	**PKPbc**	**21 51 09.5**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=8.6,slow=2.5						
NOA	**NORSAR Array B**	**149.26**	**351**	PKPbc	**PKPbc**	**21 51 09.5**	**-0.5**
	comp=Z,3.2nm,1.0s,baz=14,slow=4.1,SNR=5.0						
AKASG	**Malin Array Be**	**151.63**	**322**	PKPbc	**PKPbc**	**21 51 15.8**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=49,slow=2.5,SNR=12						
BRTR	**Keskin Array B**	**152.72**	**298**	PKPbc	**PKiKP**	**21 51 22.4**	**+3.3**
	comp=Z,1.8nm,0.8s,baz=132,slow=3.9,SNR=4.8						
TORD	**Torodi Ar. Bea**	**162.30**	**180**	PKP	**PKPdf**	**21 51 25.0**	**+0.7**
	comp=Z,1.3nm,1.0s,baz=241,slow=3.0,SNR=2.9						
TORD				PKPab	**PKPab**	**21 52 11.9**	**+0.6**
	comp=Z,2.1nm,1.0s,baz=164,slow=3.1,SNR=5.5						

TAP 10 21:32:01.7, 23°.72N×121°.46E, h12km, **ML1.3, D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGFH	**Guangfu**	**0.06**	**211**	P	Pg	21 32 04.9	+0.7
	baz=210						
EGFH				S	Sg	21 32 06.5	+0.6
	baz=210						
ESL	**Shilin**	**0.10**	**345**	*i* P	Pg	21 32 05.2	+0.7
	baz=349						
ESL				*i* S	Sg	21 32 07.2	+0.6
	baz=349						
HGSD	**Ruisui**	**0.23**	**189**	P	Pb	21 32 08.5	+0.7
	baz=188						
HGSD				*e*S	Sg	21 32 13.0	+3.0
	baz=188						
EHY	**Hungye**	**0.25**	**211**	P	Pb	21 32 07.6	-0.6
	baz=209						
EHY				S	Sg	21 32 11.4	+0.9
	baz=209						
VWDT	**VWDT**	**0.29**	**276**	P	Pb	21 32 09.0	+0.1
	baz=276						
VWDT				S	Sb	21 32 13.6	-0.2
	baz=276						
YULB	**Yu-li**	**0.36**	**205**	P	Pb	21 32 09.6	-0.5
	baz=204						
YULB				S	Sb	21 32 15.0	-0.6
	baz=204						
YULB	**Yu-li**	**0.36**	**205**	P	Pn	21 32 14.9	+2.1
TWF1	**Yuli**	**0.40**	**202**	*eP*	Pb	21 32 10.3	-0.4
	baz=201						
TWF1				S	Sb	21 32 16.4	-0.3
	baz=201						
CHGB	**Renai**	**0.43**	**322**	P	Pb	21 32 11.2	-0.1
	baz=322						
CHGB				S	Sb	21 32 17.4	-0.4
	baz=322						
SSLB	**Suanglung**	**0.47**	**278**	P	Pb	21 32 11.9	0.0
	baz=278						
SSLB				*e*S	Sb	21 32 18.4	-0.4
	baz=278						
SSLB	**Suanglung**	**0.47**	**278**	P	Pb	21 32 11.6	-0.4
ETLH	**Xiulin Townshi**	**0.48**	**2**	*e*S	Sb	21 32 18.9	-0.4
	baz=2.0						
FULB	**Fuli**	**0.54**	**196**	*e*P	Pb	21 32 13.4	+0.2
	baz=196						
FULB				*e*S	Sb	21 32 22.0	+1.1
	baz=196						
WHYT	**Xinyi Township**	**0.56**	**268**	*e*P	Pb	21 32 13.6	+0.2
	baz=267						
WHYT				S	Sb	21 32 21.9	+0.6
	baz=267						
DPDB	**Guoxing**	**0.58**	**303**	*e*S	Sb	21 32 22.8	+0.8
	baz=302						
NNSH	**Datong**	**0.71**	**354**	P	Pb	21 32 16.1	+0.1
	baz=354						
NNSH				S	Sb	21 32 25.4	-0.3
	baz=354						
WHP	**Taichung City**	**0.73**	**320**	*e*S	Sb	21 32 27.0	+0.7
	baz=319						

*IDC **10** 21:32:34.1±3.4, 12°.77N×122°.79E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/52, mbtmp3.5/6, ML4.9/1, MS2.9/3, Ms1 3.0/3, ms1mx2.5/29, Error ellipse: s-maj=69.3km s-min=29.8km az=2.0*

*MAN **10** 21:32:37.5, 13°.04N×122°.59E, h11km, MS3.4*

*ISCJB **10** 21:32:38.0±0.6, 13°.06N±0°.04×122°.69E±0°.04, h23km±5km, mb3.5/6, MS2.8/2, Error ellipse: s-maj=7.6km s-min=5.1km az=144.1*

ISC 10 21:32:37.1±1.2, **13°.04N**±0°.03×**122°.71E**±0°.03, **h8**km±9km, **n21,** σ**1s 22**/30, **mb3.5**/6, **2C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUQP	**San Andres**	**0.28**	**354**	P	**Pb**	**21 32 43.9**	**-0.5**
GQP	**Guinayangan**	**0.90**	**344**	⇑P	**Pg**	**21 32 53.9**	**-0.4**
GQP				S	**Sg**	**21 33 05.9**	**-0.1**
BOAC	**Boac**	**0.94**	**296**	P	**Pg**	**21 32 53.8**	**-1.3**
BOAC				S	**Sg**	**21 33 07.0**	**-0.3**
OTRP	**Odiongan**	**0.95**	**225**	P	**Pg**	**21 32 55.0**	**-0.4**
OTRP				S	**Sg**	**21 33 08.5**	**+0.8**
MMPH	**Masbate**	**1.12**	**127**	P	**Pb**	**21 32 58.8**	**+0.1**
MMPH				S	**Sn**	**21 33 15.0**	**+0.3**
PVCP	**Virac**	**1.51**	**68**	P	**Pb**	**21 33 04.8**	**-0.5**
PVCP				S	**Sg**	**21 33 28.6**	**+2.8**
LQP	**Lukban**	**1.56**	**313**	P	**Pn**	**21 33 05.4**	**+0.2**
LQP				S	**Sn**	**21 33 23.6**	**-2.0**
POLP	**Polilio Island**	**1.83**	**336**	P	**Pn**	**21 33 07.8**	**-1.0**
POLP				S	**Sn**	**21 33 32.7**	**+0.5**
TGY	**Tagaytay City**	**2.02**	**302**	Pn	**Pn**	**21 33 12.1**	**+0.7**
	330nm,0.3s,baz=152,slow=5.8,SNR=32						
TGY				Sn	**Sb**	**21 33 41.0**	**+1.6**
	137nm,0.3s,baz=52,slow=12,SNR=3.8						
TGY	**Tagaytay City**	**2.02**	**302**	‖P	**Pb**	**21 33 15.3**	**+1.3**
TGY				S	**Sb**	**21 33 39.5**	**+0.2**
BALP	**Baler**	**2.90**	**338**	P	**Pn**	**21 33 23.7**	**+0.2**
BALP				S	**Sn**	**21 33 55.3**	**-3.3**
PCPH	**Palayan**	**2.95**	**328**	⇑P	**Pn**	**21 33 25.1**	**+0.9**
MSLP	**Maasin**	**3.58**	**144**	P	**Pn**	**21 33 32.2**	**-0.7**
MSLP				S	**Sg**	**21 34 30.6**	**-1.5**
DAV	**Davao City (W)**	**6.57**	**154**	LR	LR	21 37 19.1	
	comp=Z,92nm,18.3s,baz=300,slow=45						
BATI	**Baumata**	**23.12**	**178**	LR	LR	21 48 39.0	
	comp=Z,45nm,18.1s,baz=236,slow=42						

U55A	**TA2, Sparta**	**1.44 173**	P	Pn	21 38 19.4	-0.8
	baz=354					
S52A	**Salyersville**	**1.47 261**	P	Pn	21 38 20.3	-0.3
	baz=80,SNR=10					
U54A	**Nelsons Funny**	**1.48 198**	P	Pn	21 38 20.1	-0.6
	baz=18					
P53A	**Whipple**	**1.56 356**	P	Pn	21 38 22.0	+0.3
	baz=176,SNR=8.8					
T52A	**Hallie**	**1.61 240**	P	Pn	21 38 22.2	-0.2
	baz=58					
U56A	**King**	**1.73 156**	Pb	Pb	21 38 25.5	+0.1
	baz=337,SNR=12					
S57A	**Dark Hollow, R**	**1.83 95**	Pb	Pb	21 38 26.7	-0.4
	baz=276,SNR=12					
P52A	**Corning**	**1.83 338**	P	Pn	21 38 25.4	-0.1
	baz=158,SNR=7.6					
R51A	**Hillsboro**	**1.88 282**	P	Pn	21 38 25.8	-0.3
	baz=101,SNR=5.2					
P55A	**Reedsville**	**1.93 35**	P	Pn	21 38 27.2	+0.3
	baz=216,SNR=5.7					
U57A	**Blanch**	**2.14 134**	Pb	Pb	21 38 32.0	-0.5
	baz=315,SNR=12					
U52A	**Thorn Hill**	**2.29 228**	P	Pn	21 38 31.9	+0.2
	baz=47,SNR=7.5					
TZTN	**Tazewell**	**2.30 234**	P	Pn	21 38 32.0	+0.1
	baz=52,SNR=9.7					
W57A	**Gilead**	**2.95 160**	P	Pn	21 38 41.0	+0.1
	baz=340					
T50A	**Nancy**	**3.00 253**	P	Pn	21 38 41.6	+0.1
	baz=71					

*ISCJB **10** 21:39:05.3±0.3,30.74S±0.02×178.89W±0.06,h100km, mb4.8/26,Error ellipse: s-maj=7.9km s-min=2.7km az=9.1*
*NEIC **10** 21:39:05.7±2.2,30.95S±0.07×178.5W±0.2,h113km±5km, mb4.8/26*
*BJI **10** 21:39:06.2±0.0,30.68S×178.45W,h119km,mb5.0/16, mB5.3/7*
*IDC **10** 21:39:11.6±0.8,30.42S×178.76W,h149km±7km,mb4.4/19, mb1 4.5/20,mb1mx4.3/41,mbtmp4.8/20,MS3.7/2, Ms1 3.7/2,ms1mx2.8/34,Error ellipse: s-maj=13.8km s-min=12.6km az=162.0*

ISC 10 21:39:06.1±0.3,30.79S±0.05×178.86W±0.07,h100km, n254,σ2§33/272,mb4.9/34,1C-1D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.73**	**28**	P	Pn	21 39 38.7	+3.6
GLKZ				S	**Sn**	**21 40 00.3**	**+3.0**
RAO	**Raoul Island**	**1.74**	**28**	P	**Pn**	**21 39 38.8**	**+3.5**
	690nm,0.3s,baz=82,slow=5.8,SNR=22						
RAO				S	**Sn**	**21 40 01.0**	**+3.4**
	666nm,0.3s,baz=53,slow=19,SNR=6.4						
RAO	**Raoul Island**	**1.74**	**28**		**Pn**	**21 39 38.8**	**+3.5**
RAO				Sn	**Sn**	**21 39 58.2**	**+0.7**
RIZ	**Raoul Island**	**1.74**	**28**	P	Pn	21 39 39.1	+3.8
RIZ				S	**Sn**	**21 40 01.6**	**+4.0**
MXZ	**Matakaoa Point**	**7.15**	**198**	P	**Pn**	**21 40 49.5**	**+1.6**
MXZ				S	**Sn**	**21 42 09.7**	**+2.1**
MXZ	**Matakaoa Point**	**7.15**	**198**	Pn	**Pn**	**21 40 49.8**	**+1.8**
MXZ					**Sn**	**21 42 06.4**	**-1.2**
GRZ	**Great Barrier**	**7.22**	**220**	P	Pn	21 40 57.7	+8.8
WMGZ	**Waiomatatini S**	**7.36**	**197**	P	**Pn**	**21 40 53.4**	**+2.5**
WMGZ				S	**Sn**	**21 42 18.3**	**+5.5**
HAZ	**Te Kaha**	**7.48**	**201**	P	**Pn**	**21 40 55.4**	**+2.9**
HAZ				S	**Sn**	**21 42 23.2**	**+7.6**
PKGZ	**Pakihiroa**	**7.52**	**199**	P	**Pn**	**21 40 54.7**	**+1.7**
PKGZ				S	**Sn**	**21 42 19.9**	**+3.2**
PUZ	**Puketiti**	**7.64**	**197**	P	**Pn**	**21 40 58.9**	**+4.2**
PUZ				S	**Sn**	**21 42 25.5**	**+5.9**
WCZ	**Waipu Caves**	**7.66**	**226**	P	Pn	21 41 04.9	+10
RUGZ	**Raukumara Rang**	**7.71**	**201**	P	**Pn**	**21 40 58.8**	**+3.1**
RUGZ				S	**Sn**	**21 42 27.1**	**+5.7**
OUZ	**Omahuta**	**7.72**	**233**		Pn	21 41 05.4	+10
WIAZ	**Waiheke Island**	**7.80**	**218**	P	Pn	21 41 04.4	+7.7
WHRZ	**Whale Island**	**7.84**	**205**	P	**Pn**	**21 41 02.1**	**+4.7**
OPRZ	**Ohinepanea**	**7.99**	**207**	P	**Pn**	**21 41 02.6**	**+3.2**
CNGZ	**Carnagh Statio**	**8.04**	**197**	P	**Pn**	**21 41 02.1**	**+2.0**
MARZ	**Manawahe**	**8.07**	**206**	P	Pn	21 41 07.9	+7.5
MARZ				S	Sn	21 42 40.3	+10
MWZ	**Matawai**	**8.09**	**201**	P	**Pn**	**21 41 03.0**	**+2.2**
MWZ				S	**Sn**	**21 42 34.5**	**+3.9**
TKGZ	**Te Karaka**	**8.10**	**199**	P	**Pn**	**21 41 03.0**	**+2.2**
TKGZ				S	**Sn**	**21 42 33.8**	**+3.2**
URZ	**Urewera**	**8.16**	**203**	P	**Pn**	**21 41 03.5**	**+1.8**
	3.5nm,0.3s,baz=267,slow=3.9,SNR=15						
URZ				S	**Sn**	**21 42 37.4**	**+5.3**
	18nm,0.3s,baz=177,slow=22,SNR=10						
URZ				LR	LR	21 44 00.1	
	comp=Z,95nm,20.2s,baz=32,slow=34						
URZ	**Urewera**	**8.16**	**203**	P	**Pn**	**21 41 03.7**	**+2.1**
URZ				S	**Sn**	**21 42 35.8**	**+3.8**
URZ	**Urewera**	**8.16**	**203**		**Pn**	**21 41 03.3**	**+1.7**
URZ				Sn	**Sn**	**21 42 30.3**	**-1.8**
RAGZ	**Rawiri**	**8.28**	**201**	P	**Pn**	**21 41 04.9**	**+1.6**
RAGZ				S	**Sn**	**21 42 40.1**	**+5.0**
RIGZ	**Rimuhau**	**8.37**	**198**	P	**Pn**	**21 41 05.2**	**+0.7**
RIGZ				S	**Sn**	**21 42 40.6**	**+3.2**
MUGZ	**Murupara**	**8.47**	**204**	P	**Pn**	**21 41 08.7**	**+2.8**
MUGZ				S	**Sn**	**21 42 42.8**	**+3.1**
RTZ	**Ruatahuna**	**8.52**	**203**	P	**Pn**	**21 41 07.2**	**+0.5**
RTZ				S	**Sn**	**21 42 43.3**	**+2.1**
SNGZ	**Shannon Statio**	**8.56**	**200**	P	**Pn**	**21 41 09.4**	**+2.3**
SNGZ				S	**Sn**	**21 42 45.5**	**+3.5**
RAHZ	**Arahi**	**8.76**	**201**	P	**Pn**	**21 41 11.1**	**+1.2**
RAHZ				S	**Sn**	**21 42 51.1**	**+4.2**
MTHZ	**Maungataniwha**	**8.78**	**203**	P	**Pn**	**21 41 11.7**	**+1.5**
WHHZ	**Waihua**	**8.87**	**200**	P	**Pn**	**21 41 15.0**	**+3.7**
WHHZ				S	**Sn**	**21 42 51.6**	**+2.2**
NMHZ	**Naumai**	**9.02**	**202**	P	**Pn**	**21 41 15.4**	**+2.0**
ARHZ	**Aropaoanui**	**9.11**	**201**	P	**Pn**	**21 41 15.3**	**+0.7**
BKZ	**Black Stump Fm**	**9.18**	**203**	P	**Pn**	**21 41 16.4**	**+0.8**
BKZ	**Black Stump Fm**	**9.18**	**203**		**Pn**	**21 41 15.2**	**-0.5**
HIZ	**Hauiti**	**9.28**	**212**		Pn	21 41 21.8	+5.0
MCHZ	**McNeill Hill**	**9.37**	**202**	P	**Pn**	**21 41 19.6**	**+1.5**
CKHZ	**Cape Kidnapper**	**9.45**	**199**	P	**Pn**	**21 41 19.7**	**+0.6**
WTVZ	**West Tongariro**	**9.47**	**207**	P	**Pn**	**21 41 22.8**	**+3.2**
TWVZ	**Taurewa**	**9.49**	**208**	P	**Pn**	**21 41 24.4**	**+4.5**
NGZ	**Ngauruhoe**	**9.52**	**207**	P	**Pn**	**21 41 22.8**	**+2.5**
TUVZ	**Tukino**	**9.58**	**206**	P	**Pn**	**21 41 24.2**	**+3.1**
FWVZ	**Far West T-bar**	**9.60**	**207**	P	**Pn**	**21 41 25.6**	**+4.1**
BHHZ	**Black Hill Sta**	**9.62**	**204**	P	**Pn**	**21 41 21.2**	**-0.4**
KAHZ	**Kahuranaki**	**9.63**	**200**	P	**Pn**	**21 41 21.0**	**-0.7**
TRVZ	**Turoa**	**9.64**	**207**	P	**Pn**	**21 41 24.4**	**+2.3**
KRHZ	**Kereru**	**9.65**	**203**	P	**Pn**	**21 41 20.7**	**-1.4**
MOVZ	**Moawhango**	**9.66**	**206**	P	**Pn**	**21 41 22.0**	**-0.1**
VRZ	**Vera Road**	**9.82**	**210**	P	Pn	21 41 31.7	+7.4
PXZ	**Pawanui**	**9.86**	**200**	P	**Pn**	**21 41 25.0**	**+0.3**
PNHZ	**Pukenui**	**9.95**	**203**	P	**Pn**	**21 41 26.5**	**+0.4**
PRHZ	**Porangahau**	**10.14**	**200**	P	**Pn**	**21 41 27.0**	**-1.6**
TSZ	**Takapari Road**	**10.16**	**203**	P	Pn	21 41 24.1	-4.9
KHEZ	**Kahui Hut**	**10.29**	**213**	P	Pn	21 41 36.1	+5.3
PRWZ	**Pori Road**	**10.61**	**202**	P	**Pn**	**21 41 36.3**	**+1.4**
BFZ	**Birch Farm**	**10.64**	**201**	P	**Pn**	**21 41 33.1**	**-2.3**
BFZ	**Birch Farm**	**10.64**	**201**		**Pn**	**21 41 33.1**	**-2.3**
BFZ					**Sn**	**21 43 33.2**	**+0.7**
MRZ	**Mangatainoka R**	**10.83**	**203**	P	**Pn**	**21 41 35.0**	**-3.1**
TIWZ	**Tintock**	**10.84**	**202**	P	Pn	21 41 33.1	-5.0
HOWZ	**Holdsworth Sta**	**11.07**	**203**	P	**Pn**	**21 41 42.1**	**+0.9**
OGWZ	**Otaki Gorge**	**11.11**	**204**	P	**Pn**	**21 41 39.1**	**-2.7**
TMWZ	**Te Maipa**	**11.13**	**201**	P	**Pn**	**21 41 39.2**	**-2.9**
KIW	**Kapiti Island**	**11.24**	**205**	P	**Pn**	**21 41 40.3**	**-3.3**
MTW	**Mount Morrison**	**11.30**	**202**	P	**Pn**	**21 41 42.8**	**-1.6**
TRWZ	**Traveller**	**11.46**	**201**	P	**Pn**	**21 41 43.2**	**-3.3**
PAWZ	**Paruwai Farm**	**11.53**	**202**	P	**Pn**	**21 41 47.9**	**+0.4**
DUWZ	**D'Urville Isla**	**11.58**	**208**	P	**Pn**	**21 41 47.9**	**-0.2**
SNZO	**South Karori**	**11.71**	**205**	Pn	**Pn**	**21 41 47.2**	**-2.6**
SNZO					**Sn**	**21 43 57.6**	**-0.9**
BHW	**Baring Head**	**11.74**	**204**	P	**Pn**	**21 41 49.1**	**-1.1**
BHW	**Baring Head**	**11.74**	**204**	Pn	**Pn**	**21 41 48.6**	**-1.6**
BHW					**Sn**	**21 43 57.3**	**-1.9**
PLWZ	**Palliser**	**11.76**	**202**	P	**Pn**	**21 41 47.2**	**-3.3**
PLWZ	**Palliser**	**11.76**	**202**	Pn	**Pn**	**21 41 47.1**	**-3.3**
TCW	**Tory Channel**	**11.78**	**206**	P	**Pn**	**21 41 47.7**	**-3.0**
TUWZ	**Tuamarina**	**12.10**	**207**	P	**Pn**	**21 41 51.9**	**-3.1**
TUWZ	**Tuamarina**	**12.10**	**207**		**Pn**	**21 41 51.7**	**-3.3**
NNZ	**Nelson**	**12.15**	**209**	P	**Pn**	**21 41 53.6**	**-2.0**
NNZ	**Nelson**	**12.15**	**209**	Pn	**Pn**	**21 41 53.8**	**-1.8**
NNZ					**Sn**	**21 44 08.3**	**-0.7**
QRZ	**Quartz Range**	**12.20**	**213**	P	**Pn**	**21 41 57.2**	**+0.9**
QRZ	**Quartz Range**	**12.20**	**213**	Pn	**Pn**	**21 41 58.5**	**+2.1**
CMWZ	**Cape Campbell**	**12.28**	**205**		**Pn**	**21 41 58.2**	**+0.9**
CMWZ					**Sn**	**21 44 10.7**	**-1.5**
BSWZ	**Blackbirch Sta**	**12.37**	**206**	Pn	**Pn**	**21 41 56.1**	**-2.5**
BSWZ					**Sn**	**21 44 12.0**	**-2.5**
THZ	**Tophouse**	**12.80**	**209**	P	**Pn**	**21 42 02.4**	**-1.9**
THZ	**Tophouse**	**12.80**	**209**		**Pn**	**21 42 03.6**	**-0.7**
KHZ	**Kahutara**	**13.10**	**206**		**Pn**	**21 42 04.1**	**-4.0**
GVZ	**Greta Valley S**	**13.77**	**206**	P	**Pn**	**21 42 13.5**	**-3.3**
LTZ	**Lake Taylor**	**13.91**	**208**	Pn	**Pn**	**21 42 17.4**	**-1.3**
NIUE	**Niue**	**14.19**	**37**	Pn	**Pn**	**21 42 20.3**	**-2.2**
OXZ	**Oxford**	**14.46**	**208**	Pn	**Pn**	**21 42 22.6**	**-3.1**
OXZ				S	Sn	21 44 56.1	-8.8
MQZ	**McQueen's Vall**	**14.54**	**205**	Pn	**Pn**	**21 42 22.9**	**-3.9**
RPZ	**Rata Peaks**	**15.18**	**209**	Pn	**Pn**	**21 42 33.3**	**-1.7**
RPZ				IAmb	IAmb	21 42 46.1	
	comp=Z,36nm,1.5s						
DZM	**Mont Dzumac**	**15.76**	**300**	*e*LR	LR	21 46 35.0	
	comp=Z,218nm,28.2s						
DZM	**Mont Dzumac**	**15.76**	**300**	P	**P**	**21 42 45.7**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=114,slow=14,SNR=7.7						
DZM	**Mont Dzumac**	**15.76**	**300**	P	**P**	**21 42 47.4**	**+3.1**
DZM				IAmb	IAmb	21 42 56.8	
	comp=Z,54nm,1.4s						
LBZ	**Lake Benmore**	**16.09**	**209**		**Pn**	**21 42 45.5**	**-0.9**
ODZ	**Otahua Downs**	**16.44**	**207**	Pn	**Pn**	**21 42 48.0**	**-2.7**
WKZ	**Wanaka**	**16.95**	**211**		**Pn**	**21 42 55.8**	**-1.1**
WKZ				IAmb	IAmb	21 42 59.5	
	comp=Z,77nm,1.5s						
MLZ	**Mavora Lakes**	**17.77**	**211**	P	**P**	**21 43 06.7**	**+0.4**
ARMA	**Armidale**	**25.37**	**263**	P	**P**	**21 44 25.4**	**+1.3**
	baz=25,SNR=4.5						
MGCD	**Mangrove Creek**	**25.54**	**257**	P	**P**	**21 44 27.2**	**+1.7**
	baz=25,SNR=6.3						
EIDS	**Eidsvold**	**27.02**	**274**	P	**P**	**21 44 41.2**	**+2.3**
TBI	**Tubuai**	**27.15**	**81**	*e*LR	LR	21 51 18.1	
	comp=Z,92nm,37.2s						
TBI	**Tubuai**	**27.15**	**81**	*e*T	T	22 12 09.5	
	comp=Z,19nm,0.4s						
YNG	**Young**	**27.76**	**254**	P	**P**	**21 44 47.0**	**+1.6**
	baz=28,SNR=4.9						
RMQ	**Roma**	**28.68**	**270**	P	**P**	**21 44 55.3**	**+1.6**
	baz=28,SNR=5.8						
PAE	**Paea**	**29.63**	**71**	*e*T	T	22 14 58.8	
	comp=Z,8.3nm,0.3s						
PPT2	**Papeete2**	**29.67**	**70**	*e*LR	LR	21 52 30.2	
	comp=Z,89nm,27.2s						
TVO	**Taravao**	**29.83**	**71**	*e*T	T	22 15 15.8	
	comp=Z,1.4nm,0.3s						
TOO	**Toolangi**	**30.13**	**247**	P	**P**	**21 45 08.0**	**+1.6**
	baz=30,SNR=7.7						
TOO	**Toolangi**	**30.13**	**247**	P	**P**	**21 45 10.1**	**+3.7**
TOO				IAmb	IAmb	21 45 10.3	
	comp=Z,22nm,1.0s						
CMSA	**Cobar Meteorol**	**30.26**	**259**	P	**P**	**21 45 09.5**	**+1.8**
	baz=30,SNR=11						
STKA	**Stephens Creek**	**33.67**	**258**	P	**P**	**21 45 40.6**	**+3.1**
	baz=33,SNR=65						
STKA	**Stephens Creek**	**33.67**	**258**	P	**P**	**21 45 40.7**	**+3.2**
	comp=Z,55nm,0.8s,baz=87,slow=9.1,SNR=71						
STKA	**Stephens Creek**	**33.67**	**258**	P	**P**	**21 45 40.6**	**+3.1**
STKA				IAmb	IAmb	21 45 41.5	
	comp=Z,14nm,0.9s						
MTSU	**Mount Surprise**	**35.64**	**282**	P	**P**	**21 45 56.7**	**+2.0**
	baz=36,SNR=15						
HTT	**Hallett**	**35.68**	**254**	P	**P**	**21 45 57.2**	**+2.4**
	baz=35,SNR=34						
KRVT	**Keravat (AS076**	**38.03**	**308**	P	**P**	**21 46 14.9**	**+0.1**
	comp=Z,33nm,0.5s,baz=93,slow=3.5,SNR=3.6						
BBOO	**Buckleboo**	**38.15**	**255**	P	**P**	**21 46 17.5**	**+1.8**
	baz=38,SNR=16						
BBOO	**Buckleboo**	**38.15**	**255**	P	**P**	**21 46 17.1**	**+1.4**
BBOO				PcP	**PcP**	**21 48 27.7**	**-0.8**
QIS	**Mount Isa**	**38.61**	**275**	P	**P**	**21 46 20.9**	**+1.2**
	baz=38,SNR=8.5						
COEN	**Coen**	**38.67**	**287**	P	**P**	**21 46 21.6**	**+1.4**
	baz=39,SNR=7.9						
COEN	**Coen**	**38.67**	**287**	P	**P**	**21 46 21.4**	**+1.2**
COEN				IAmb	IAmb	21 46 22.5	
	comp=Z,21nm,0.9s						
AS31	**Alice Springs**	**42.35**	**268**	P	**P**	**21 46 51.5**	**+1.0**
AS31				IAmb	IAmb	21 46 51.9	
	comp=Z,4.6nm,0.6s						
ASAR	**Alice Springs**	**42.35**	**268**	P	**P**	**21 46 51.4**	**+0.9**
	comp=Z,12nm,0.5s,baz=104,slow=7.6,SNR=166						
ASAR				PcP	**PcP**	**21 48 41.2**	**-1.1**
	comp=Z,1.8nm,0.5s,baz=119,slow=5.6,SNR=4.1						
ASAR				ScP	**ScP**	**21 52 17.5**	**-6.3**
	comp=Z,2.8nm,0.8s,baz=115,slow=4.3,SNR=12						
WR0	**Warramunga Arr**	**43.19**	**273**	P	**P**	**21 46 58.2**	**+0.8**
WR0				IAmb	IAmb	21 46 58.7	
	comp=Z,21nm,0.7s						
WRAB	**Tennant Creek**	**43.37**	**273**	P	**P**	**21 46 59.2**	**+0.4**
WRA	**Warramunga Arr**	**43.37**	**273**	P	**P**	**21 46 59.5**	**+0.8**
	comp=Z,48nm,0.7s,baz=112,slow=7.5,SNR=325						
WRA				ScP	**ScP**	**21 52 21.6**	**-6.4**
	comp=Z,1.5nm,0.8s,baz=119,slow=3.9,SNR=7.7						
FORT	**Forrest**	**45.23**	**256**	P	**P**	**21 47 14.1**	**+0.6**
	baz=45,SNR=69						
WRKA	**Warakurna**	**46.70**	**263**	P	**P**	**21 47 24.9**	**-0.2**
	baz=46,SNR=43						
JAY	**Jayapura**	**47.42**	**298**	P	**P**	**21 47 31.8**	**+1.0**
	comp=Z,2.4nm,0.4s,baz=276,slow=21,SNR=5.8						
SBA	**Scott Base**	**47.59**	**184**		P	21 47 37.1	+5.9
KDU	**Kakadu**	**48.26**	**281**	P	**P**	**21 47 37.1**	**0.0**
	baz=48,SNR=10						
MTN	**Manton Dam**	**49.31**	**280**	P	**P**	**21 47 45.3**	**0.0**
	baz=49,SNR=4.4						
MTN	**Manton Dam**	**49.31**	**280**	P	**P**	**21 47 45.5**	**+0.3**
MTN				IAmb	IAmb	21 47 45.9	
	comp=Z,34nm,1.5s						
MTN				PcP	**PcP**	**21 49 05.6**	**-1.1**
KNRA	**Kununurra**	**50.00**	**275**	P	**P**	**21 47 50.9**	**+0.4**
	baz=50,SNR=5.6						
KNRA	**Kununurra**	**50.00**	**275**	IAmb	IAmb	21 47 59.7	
	comp=Z,29nm,1.4s						
KMBL	**Kambalda**	**50.20**	**253**	P	**P**	**21 47 52.1**	**+0.2**
	baz=50,SNR=10						
FITZ	**Fitzroy Crossi**	**51.62**	**271**	P	**P**	**21 48 02.8**	**+0.2**
	baz=51,SNR=11						
FITZ	**Fitzroy Crossi**	**51.62**	**271**	P	**P**	**21 48 02.9**	**+0.2**
	comp=Z,8.9nm,0.7s,baz=157,slow=7.7,SNR=23						
FITZ	**Fitzroy Crossi**	**51.62**	**271**	IAmb	IAmb	21 48 04.5	
	comp=Z,8.8nm,0.8s						
KLBR	**Kellerberrin**	**53.52**	**252**	P	**P**	**21 48 17.6**	**+1.1**
	baz=53,SNR=6.4						
MEEK	**Meekatharra**	**54.37**	**258**	P	**P**	**21 48 24.6**	**+1.8**
	baz=54,SNR=8.8						
BLDU	**Ballidu**	**54.67**	**252**	P	**P**	**21 48 26.7**	**+1.9**
	baz=54,SNR=5.6						
MORW	**Morawa**	**55.71**	**254**	P	**P**	**21 48 32.0**	**-0.4**
	baz=55,SNR=11						
SIJI	**Sorong**	**55.79**	**292**	P	**P**	**21 48 32.4**	**-0.7**
	comp=Z,5.6nm,0.7s,baz=0.0,slow=20,SNR=2.9						
QSPA	**South Pole Qui**	**59.32**	**180**	P	**P**	**21 49 01.3**	**+3.9**
	comp=Z,32nm,0.7s,baz=34,slow=1.5,SNR=76						
QSPA	**South Pole Qui**	**59.32**	**180**		**P**	**21 49 01.2**	**+3.9**
MPSI	**Mapaga**	**65.73**	**286**	P	**P**	**21 49 42.5**	**+2.0**
PWJI	**Pagerwojo**	**68.20**	**274**	P	**P**	**21 49 54.7**	**-1.5**
	comp=Z,20nm,0.6s						
MAW	**Mawson**	**71.68**	**201**	P	**P**	**21 50 17.8**	**+1.2**
	baz=71,SNR=7.3						
MAW	**Mawson**	**71.68**	**201**	P	**P**	**21 50 17.5**	**+0.9**
	comp=Z,2.3nm,0.6s,baz=153,slow=10,SNR=4.1						
MAW	**Mawson**	**71.68**	**201**	P	**P**	**21 50 17.7**	**+1.1**
MDSI	**Maura Dua**	**76.52**	**273**	P	**P**	**21 50 43.3**	**-2.4**
	comp=Z,26nm,0.7s						
SYO	**Syowa Base**	**76.57**	**193**	*e*P	**P**	**21 50 44.0**	**-1.0**
SYO	**Syowa Base**	**76.57**	**193**	*e*PcP	**PcP**	**21 50 52.4**	**-3.7**
SNAA	**Sanae**	**77.78**	**179**	P	**P**	**21 50 53.7**	**+1.8**
SNAA	**Sanae**	**77.78**	**179**	P	**P**	**21 50 53.4**	**+1.5**
SNAA				IAmb	IAmb	21 50 54.6	
	comp=Z,15nm,0.8s						
VNA3	**Neumayer Olymp**	**77.96**	**176**	P	**P**	**21 50 54.5**	**+1.7**
MJAR	**Matsushiro Arr**	**78.14**	**326**	P	**P**	**21 50 52.5**	**-1.7**
	comp=Z,2.8nm,0.8s,baz=164,slow=5.7,SNR=5.0						
VNA2	**Neumayer--Watz**	**78.39**	**177**	P	**P**	**21 50 57.2**	**+2.0**
	baz=170,slow=4.9						
VNA1	**Neumayer--Stat**	**78.62**	**177**	P	**P**	**21 50 58.5**	**+2.1**
JNU	**Nakatsue**	**79.36**	**319**	P	**P**	**21 50 59.5**	**-1.4**
	comp=Z,13nm,0.8s,baz=170,slow=12,SNR=3.7						
JNU	**Nakatsue**	**79.36**	**319**	P	**P**	**21 51 00.2**	**-0.7**
JNU				IAmb	IAmb	21 51 01.2	
	comp=Z,28nm,1.0s						
PLCA	**Paso Flores**	**82.78**	**133**	P	**P**	**21 51 21.4**	**+2.2**
	comp=Z,5.2nm,0.8s,baz=235,slow=6.4,SNR=11						
KSRS	**Korea Array**	**84.17**	**320**	P	**P**	**21 51 26.1**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=145,slow=5.9,SNR=6.8						
GSI	**Gunungsitoli**	**85.13**	**274**	P	**P**	**21 51 31.7**	**+0.2**
NJ2	**Nanjing**	**85.94**	**311**	*e*P	**P**	**21 51 37.2**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
PETK	**Petropavlovsk-**	**86.01**	**346**	P	**P**	**21 51 33.7**	**-1.2**
	comp=Z,7.0nm,0.6s,baz=118,slow=8.1,SNR=25						
USRK	**Ussuriysk Ar.**	**87.08**	**327**	P	**P**	**21 51 39.5**	**-0.8**
	comp=Z,3.6nm,0.8s,baz=144,slow=2.7,SNR=7.3						
WHN	**Wuhan**	**87.99**	**307**	P	**P**	**21 51 45.0**	**0.0**
YBH	**Yreka Blue Hor**	**88.80**	**38**	P	**P**	**21 51 48.2**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=27,slow=2.3,SNR=2.7						
CN2	**Changchun**	**90.01**	**323**	*e*P	**P**	**21 51 53.6**	**-0.5**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
KDAK	**Kodiak Island**	**90.96**	**14**	P	**P**	**21 51 56.4**	**-1.8**
	comp=Z,8.9nm,1.1s,baz=119,slow=19,SNR=2.6						
PINE	**Pine Mountain**	**91.16**	**38**	P	**P**	**21 51 58.5**	**-1.3**
PINE				IAmb	IAmb	21 52 01.4	
	comp=Z,6.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**92.83**	**290**	P	**P**	**21 52 07.8**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=144,slow=3.5,SNR=7.6						
TXAR	**Lajitas Array**	**93.22**	**58**	P	**P**	**21 52 09.5**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=218,slow=5.7,SNR=4.4						
KMI	**Kunming**	**93.34**	**297**	P	**P**	**21 52 11.0**	**+0.7**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CMIG	**Matias Romero**	**93.58**	**72**	LR	LR	22 29 24.0	
	comp=Z,149nm,19.3s,baz=133,slow=32						
HHC	**Hu-ho-hao-te**	**95.97**	**314**	P	**P**	**21 52 21.0**	**-0.9**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
PDAR	**Pinedale Array**	**96.93**	**44**	PKKPbc	PKKPbc	22 09 05.5	-2.7
	comp=Z,0.5nm,0.7s,baz=98,slow=6.1,SNR=4.7						
LZH	**Lanzhou**	**98.36**	**307**	*e*P	Pdif	21 52 34.5	+1.6
LZH				pP	sP	21 53 06.6	-2.3
LZH				sP	pwP	21 53 19.6	+18
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
SONM	**Songjino Array**	**102.94**	**318**	P	**Pdif**	**21 52 52.8**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=134,slow=6.9,SNR=2.9						
YKA	**Yellowknife Ar**	**106.12**	**26**	PKKPbc	PKKPbc	22 08 37.2	-4.5
	comp=Z,0.7nm,0.7s,baz=40,slow=3.1,SNR=9.9						
YKA				PKKP	**PKKPab**	**22 08 55.1**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=47,slow=4.1,SNR=4.9						
WMQ	**Urumqi**	**112.89**	**308**	*e*PKP	**PKiKP**	**21 57 29.8**	**-1.4**
BOSA	**Boshof**	**116.61**	**204**	PKP	**PKPdf**	**21 57 38.2**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=230,slow=1.7,SNR=4.7						
MKAR	**Makanchi Array**	**117.45**	**310**	PKP	**PKPdf**	**21 57 37.5**	**-2.3**
	comp=Z,1.5nm,0.5s,baz=215,slow=1.3,SNR=28						
ZALV	**Zalesovo Beam**	**117.83**	**318**	PKP	**PKPdf**	**21 57 38.0**	**-2.2**
	comp=Z,1.0nm,0.4s,baz=141,slow=1.3,SNR=6.8						
RES	**Resolute Bay**	**117.84**	**17**	PKP	**PKPdf**	**21 57 36.8**	**-2.8**
	comp=Z,1.5nm,0.8s,baz=339

TORD			PKPab	**PKPab**	**21 59 43.8**	**-0.7**
	comp=Z,13nm,0.8s,baz=185,slow=1.4,SNR=31					
ESDC	**Sonseca Array**	**170.21 24**	PKP	**PKPdf**	**21 59 01.6**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=340,slow=3.4,SNR=4.9					

*STR **10** 21:46:19.9±0.7, 48°N±3°×±°, h10km, MLv1.8/7*
*LDG **10** 21:46:20.1±0.0, 47°.60N×9°.01E, h9km, Md2.4/2, Ml2.1/10, Error ellipse: s-maj=0.9km s-min=0.7km az=20.0*
ZUR 10 21:46:19.6, 47°.60N×9°.01E, h9km±1km**, MLh1.9**/39**, 10C-8D, Error ellipse: s-maj=1.9km s-min=0.4km az=136.0, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEIN	**Weingarten**	**0.08**	**193**	Pg	Pg	21 46 21.7	-0.1
WEIN				Sg	Sg	21 46 23.4	+0.1
STEIN	**Stein am Rhein**	**0.12**	**305**	Pg	Pg	21 46 22.7	+0.3
STEIN				Sg	Sg	21 46 24.9	+0.6
WALHA	**Wallhausen, DE**	**0.17**	**27** ⇑	Pg	Pg	21 46 23.4	+0.3
WALHA				Sg	Sg	21 46 26.4	+0.7
SGT02	**Zihlschlacht**	**0.18**	**119** ⇓	Pg	Pg	21 46 23.6	+0.2
SGT02				Sg	Sg	21 46 26.7	+0.7
WILA	**Wila**	**0.20**	**201** ⇑	Pg	Pg	21 46 24.2	+0.4
WILA				Sg	Sg	21 46 27.6	+1.0
TRULL	**Truellikon**	**0.23**	**282** ⇑	Pg	Pg	21 46 24.8	+0.5
TRULL				Sg	Sg	21 46 28.3	+1.0
STIEG	**Stiegenhof Hun**	**0.26**	**247** ⇑	Pg	Pg	21 46 25.3	+0.3
SGT01	**Gaiserwald**	**0.27**	**129**	Sg	Pg	21 46 29.8	+1.2
SGT03	**Degersheim**	**0.27**	**152** ⇓	Pg	Pg	21 46 25.4	+0.4
SGT00	**Sennhlsen**	**0.27**	**131** ⇓	Pg	Pg	21 46 25.4	+0.3
SGT00				Sg	Sg	21 46 29.6	+0.9
FLACH	**Flaach**	**0.30**	**264** ⇑	Pg	Pg	21 46 26.2	+0.6
FLACH				Sg	Sg	21 46 30.8	+1.2
EMING	**Emmingen-Lipti**	**0.31**	**339** ⇓	Pg	Pg	21 46 26.1	+0.3
SGT05	**Eggersriet**	**0.34**	**118**	Pg	Pg	21 46 26.8	+0.4
SGT05				Sg	Sg	21 46 32.1	+1.2
SGT04	**Schlatt-Haslen**	**0.34**	**138** ⇓	Pg	Pg	21 46 27.0	+0.6
SGT04				Sg	Sb	21 46 32.5	-1.0
ZUR	**Degenried**	**0.37**	**232** ⇑	Pg	Pg	21 46 27.5	+0.5
ZUR				Sg	Sb	21 46 33.2	-1.2
SLE	**Schleitheim**	**0.39**	**295** ⇓	Pg	Pg	21 46 27.6	+0.4
SLE				Sg	Sg	21 46 33.0	+0.6
EWZT2	**Wettswil, ZR**	**0.44**	**233** ⇑	Pg	Pg	21 46 28.8	+0.6
EWZT2				Sg	Sb	21 46 35.1	-0.9
LIENZ	**Kamor/St.Gall**	**0.45**	**133** ⇓	Pg	Pg	21 46 29.1	+0.7
GUT	**Gutenstein**	**0.47**	**8** ⇓	Pg	Pg	21 46 29.0	+0.1
ACHB	**Acheberg**	**0.51**	**269** ⇑	Pg	Pg	21 46 29.9	+0.4
METMA	**Mettma DE**	**0.53**	**282** ⇑	Pg	Pg	21 46 30.0	+0.2
METMA				Sg	Sg	21 46 37.1	+0.4
PLONS	**Plons/SG**	**0.61**	**156**	Pn	Pg	21 46 31.9	+0.5
DAVA	**Damuels**	**0.67**	**118**	Pg	Pb	21 46 33.2	-0.4
	0.2nm,0.1s						
DAVA				Sg	Sb	21 46 42.8	-0.2
	4.7nm,0.2s						
UBR	**Ueberruh**	**0.74**	**84** ⇑	Pn	Pb	21 46 34.6	-0.2
KIZ	**Kirchzarten**	**0.82**	**296**	Pg	Pb	21 46 36.0	0.0
KIZ				Sg	Sg	21 46 36.5	+0.5
OPP	**Oppenau**	**1.05**	**329**	Pg	Pg	21 46 39.9	+0.1
OPP				Sg	Sb	21 46 53.8	-0.1
FETA	**Feichten**	**1.30**	**116**	Pg	Pb	21 46 44.4	0.0
	0.2nm,0.2s						
FETA				Sg	Sn	21 47 02.4	+0.5
	1.0nm,0.2s						
ECH	**Echery**	**1.39**	**297**	Pg	Pb	21 46 46.0	+0.2
ECH				Sg	Sg	21 47 04.1	-0.2
CDF	**Champ du Feu**	**1.42**	**305**	*e*Pg	Pg	21 46 46.6	-0.2
CDF				*e*Sg	Sg	21 47 05.1	-0.1
	4.8nm,0.2s						
MOTA	**Moosalm**	**1.44**	**100**	Pg	Pg	21 46 47.1	-0.2
	0.4nm,0.1s						
MOTA				Sn	Sg	21 47 06.0	0.0
	2.8nm,0.2s						
HINF	**Hinteralfeld**	**1.47**	**279**	*e*Pg	Pb	21 46 47.5	+0.3
HINF				*e*Sn	Sn	21 47 03.1	-2.7
	1.4nm,0.2s						
HINF				*e*Sg	Sg	21 47 06.7	-0.3
	3.1nm,0.2s						
LOMF	**Lomont**	**1.50**	**261**	Pg	Pg	21 46 48.4	0.0
LOMF				Sg	Sg	21 47 08.3	+0.4
SQTA	**Sankt Quirin**	**1.54**	**104**	Pg	Pg	21 46 49.1	-0.1
	0.7nm,0.1s						
SQTA				Sg	Sg	21 47 09.8	+0.7
	9.0nm,0.4s						
CHMF	**Charmoille**	**1.64**	**258**	Pn	Pn	21 46 48.4	-0.3
CHMF				Pg	Pg	21 46 51.1	0.0
WATA	**Walderalm**	**1.76**	**98**	Sg	Sg	21 47 17.4	+1.2
	4.3nm,0.3s						
WTTA	**Wattenberg**	**1.81**	**100**	Pg	Pb	21 46 53.6	+0.5
	0.3nm,0.2s						
WTTA				Sg	Sg	21 47 19.0	+1.1
	2.4nm,0.2s						
HAU	**Haudompre**	**1.84**	**284**	*e*Pn	Pn	21 46 50.2	-1.2
HAU	**Haudompre**	**1.84**	**284**	*e*Pg	Pg	21 46 54.5	-0.4
HAU				*e*Sg	Sg	21 47 18.2	-0.5
	5.0nm,0.3s						
CABF	**La Chapelle**	**2.23**	**245**	*e*Pn	Pn	21 46 55.4	-1.4
CABF	**La Chapelle**	**2.23**	**245**	*e*Pg	Pg	21 47 01.9	-0.4
CABF				*e*Sg	Sg	21 47 30.2	-1.0
	1.2nm,0.2s						
PAGF	**Fort de Pagny**	**2.40**	**295**	*e*Pg	Pg	21 47 04.4	-1.2
PAGF				*e*Sn	Sn	21 47 25.5	-3.1
	baz=116						
PAGF				*e*Sg	Sg	21 47 35.5	-1.2
	1.3nm,0.2s,baz=112						
LPL	**La Plagne**	**2.61**	**218**	*e*Pg	Pg	21 47 08.7	-1.0
LPL				*e*Sg	Sg	21 47 42.9	-0.6
	0.9nm,0.2s						
LPG	**La Plagne**	**2.62**	**217**	*e*Pg	Pg	21 47 08.7	-1.1
LPG				*e*Sg	Sg	21 47 42.8	-1.0
	0.5nm,0.2s						
SFTF	**Sexfontaines**	**2.74**	**284**	*e*Pn	Pn	21 47 02.5	-1.3
SFTF				*e*Sg	Sg	21 47 45.9	-1.7
	2.1nm,0.3s						
MEZF	**Maizieres J'vi**	**2.81**	**290**	*e*Pn	Pn	21 47 03.8	-0.8
	baz=109						
MEZF				*e*Sg	Sg	21 47 48.9	-0.7
	2.3nm,0.3s						
KHC	**Kasperske Hory**	**3.41**	**62**	*e*PG	Pg	21 47 25.0	+0.2
KHC				*e*SG	Sg	21 48 07.5	-1.5

*NEIC **10** 21:49:57.3±1.9, 0°.7N±0°.1×125°.26E±0°.05, h65km±10km, mb4.2/11*
*DJA **10** 21:49:57.5±0.6, 1°N±2°×12°5E±°, h18km±5km, M4.3/18, mb4.3/6, mB4.9/4, MLv4.3/18, Mw(mB)4.2/4*
*ISCJB **10** 21:49:58.1±0.4, 0°.57N±0°.03×125°.34E±0°.03, h84km±5km, mb4.1/13, Error ellipse: s-maj=5.6km s-min=4.4km az=4.7*
*IDC **10** 21:49:59.0±2.7, 0°.65N×125°.25E, h75km±27km, mb3.9/13, mb1 3.9/16, mb1mx3.7/42, mbtmp4.1/16, MS2.9/1, Ms1 2.9/1, ms1mx2.2/37, Error ellipse: s-maj=20.7km s-min=13.0km az=75.0*
ISC 10 21:49:59.5±0.9, 0°.54N±0°.05×125°.34E±0°.04, h83km±9km**, n51, σ1s60/59, mb4.2**/18**, 1C, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.36**	**271**	P	**Pn**	**21 50 21.7**	**-1.4**
KMSI				S	**Sn**	**21 50 39.9**	**-1.0**
TNTI	**Ternate**	**2.04**	**84**	P	**Pn**	**21 50 31.0**	**-1.0**
TNTI				S	**Sn**	**21 50 57.2**	**+0.4**
TNTI	**Ternate**	**2.04**	**84**		**Pn**	**21 50 30.9**	**-1.0**
TNTI				Sn	**Sn**	**21 50 55.2**	**-1.5**
LBMI	**Labuha**	**2.46**	**119**	P	**Pn**	**21 50 37.5**	**-0.1**
LBMI				S	**Sn**	**21 51 06.6**	**-0.2**
SANI	**Sanana**	**2.66**	**166**	P	**Pn**	**21 50 38.8**	**-1.5**
SANI				S	**Sn**	**21 51 07.4**	**-4.2**
LUWI	**Luwuk**	**3.01**	**238**	P	**Pn**	**21 50 46.1**	**+1.0**
LUWI				S	**Sn**	**21 51 22.2**	**+2.0**
LUWI	**Luwuk**	**3.01**	**238**		**Pn**	**21 50 42.1**	**-3.0**
MRSI	**Marisa**	**3.40**	**269**	P	**Pn**	**21 50 49.9**	**-0.4**
APSI	**Ampana**	**3.96**	**249**	P	**Pn**	**21 50 59.5**	**+1.5**
APSI				S	**Sn**	**21 51 44.8**	**+1.5**
NLAI	**Namlea**	**4.15**	**155**	P	**Pn**	**21 50 59.7**	**-0.8**
NLAI				S	**Sn**	**21 51 44.3**	**-3.5**
AAI	**Ambon**	**5.08**	**146**	P	**Pn**	**21 51 13.1**	**-0.1**
	59nm,0.5s,1μm0.3nm						
AAI				S	**Sn**	**21 52 08.6**	**-2.0**
	59nm,0.5s,1μm0.3nm						
KDI	**Kendari**	**5.23**	**211**	P	**Pn**	**21 51 15.6**	**+0.3**
MSAI	**Masohi**	**5.27**	**137**	P	**Pn**	**21 51 16.3**	**+0.5**
	22nm,0.6s,949nm0.1nm						

MPSI	**Mapaga**	**5.45**	**268**	P	**Pn**	**21 51 19.5**	**+1.4**
SIJI	**Sorong**	**6.09**	**103**	P	**Pn**	**21 51 28.0**	**+1.0**
	0.6nm,0.3s,baz=270,slow=20,SNR=3.4						
KCP	**Kidapawan**	**6.43**	**358** ⇑	P	**Pn**	**21 51 33.0**	**+1.4**
KCP				S	**Sn**	**21 52 45.1**	**+1.5**
DAV	**Davao City (W)**	**6.49**	**2**	LR	LR	21 54 10.1	
	comp=Z,102nm,19.6s,baz=142,slow=39						
TTSI	**Tana Toraja**	**6.57**	**237**	P	**Pn**	**21 51 33.3**	**-0.2**
	47nm,1.0s,0.2nm						
SPSI	**Siarap Palu**	**7.14**	**231**	P	**Pn**	**21 51 41.7**	**+0.3**
	30nm,0.6s,0.1nm						
BNSI	**Bone**	**7.17**	**227**	P	**Pn**	**21 51 40.9**	**-0.9**
	14nm,0.7s,0.1nm						
FAKI	**Fak Fak**	**7.72**	**117**	Pn	**Pn**	**21 51 49.1**	**-0.1**
BKSI	**Bulukumba**	**7.82**	**222**	P	**Pn**	**21 51 50.0**	**-0.5**
KAPI	**Kappang**	**7.85**	**225**	P	**Pn**	**21 51 51.3**	**+0.3**
	0.7nm,0.3s,baz=141,slow=6.5,SNR=2.8						
KAPI				S	**Sn**	**21 53 20.1**	**+1.8**
	0.7nm,0.3s,baz=119,slow=19,SNR=2.3						
BATI	**Baumata**	**10.81**	**189**	P	**Pn**	**21 52 35.6**	**+4.2**
	1.6nm,0.3s,baz=190,slow=0.6,SNR=5.7						
MTN	**Manton Dam**	**14.49**	**157**	Pn	**Pn**	**21 53 20.4**	**-0.1**
KNRA	**Kununurra**	**16.47**	**168**		**Pn**	**21 53 46.7**	**+1.1**
KNRA				IAmb	IAmb	21 53 52.4	
	comp=Z,11nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.53**	**179**	P	**P**	**21 54 10.3**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=5.2,slow=8.8,SNR=12						
FITZ	**Fitzroy Crossi**	**18.53**	**179**	IAmb	IAmb	21 54 16.4	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**22.19**	**157**	P	**P**	**21 54 48.9**	**-0.2**
	comp=Z,6.2nm,0.5s,baz=336,slow=11,SNR=38						
WB2	**Warramunga Arr**	**22.19**	**157**	P	**P**	**21 54 49.5**	**+0.4**
WB2				IAmb	IAmb	21 54 50.1	
	comp=Z,6.5nm,0.7s						
WR0	**Warramunga Arr**	**22.28**	**157**	P	**P**	**21 54 50.1**	**0.0**
WR0				IAmb	IAmb	21 54 51.0	
	comp=Z,5.5nm,0.5s						
PSA00	**Pilbara Seismi**	**22.63**	**193**	P	**P**	**21 54 53.1**	**-0.5**
COEN	**Coen**	**22.80**	**130**	P	**P**	**21 54 55.9**	**+0.4**
COEN				IAmb	IAmb	21 55 11.5	
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**25.46**	**161**	P	**P**	**21 55 21.6**	**+1.6**
AS31				IAmb	IAmb	21 55 23.4	
	comp=Z,2.9nm,0.4s						
ASAR	**Alice Springs**	**25.46**	**161**	P	**P**	**21 55 21.6**	**+1.7**
	comp=Z,3.8nm,0.5s,baz=337,slow=7.5,SNR=53						
CMAR	**Chiang Mai Arr**	**31.44**	**306**	P	**P**	**21 56 13.2**	**0.0**
	comp=Z,0.3nm,0.6s,baz=136,slow=6.9,SNR=3.7						
STKA	**Stephens Creek**	**35.73**	**156**	P	**P**	**21 56 52.0**	**+1.8**
	comp=Z,1.9nm,0.4s,baz=338,slow=8.0,SNR=7.9						
STKA	**Stephens Creek**	**35.73**	**156**	IAmb	IAmb	21 57 01.1	
	comp=Z,2.4nm,1.4s						
KSRS	**Korea Array**	**36.80**	**3**	P	**P**	**21 56 59.9**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=172,slow=9.3,SNR=7.6						
USRK	**Ussuriysk Ar.**	**43.87**	**7**	P	**P**	**21 57 55.7**	**-1.9**
	comp=Z,1.3nm,0.5s,baz=209,slow=7.5,SNR=5.0						
SONM	**Songino Array**	**49.90**	**343**	P	**P**	**21 58 43.5**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=148,slow=7.8,SNR=6.0						
PETK	**Petropavlovsk-**	**58.88**	**22**	P	**P**	**21 59 51.2**	**+1.6**
	comp=Z,1.8nm,0.6s,baz=194,slow=3.5,SNR=5.4						
MK31	**Makanchi Array**	**59.41**	**327**	P	**P**	**21 59 52.2**	**-1.2**
MKAR	**Makanchi Array**	**59.41**	**327**	P	**P**	**21 59 52.2**	**-1.1**
	comp=Z,1.9nm,0.4s,baz=123,slow=7.6,SNR=26						
ZALV	**Zalesovo Beam**	**62.81**	**334**	P	**P**	**22 00 14.1**	**-2.1**
	comp=Z,1.1nm,0.5s,baz=132,slow=5.1,SNR=5.2						
KURK	**Kurchatov**	**63.70**	**329**	P	**P**	**22 00 20.9**	**-1.2**
ABKAR	**Akbulak array**	**73.75**	**322**	P	**P**	**22 01 20.4**	**-4.2**
ABKAR				IAmb	IAmb	22 01 23.9	
	comp=Z,2.2nm,0.8s						
VNDA	**Vanda**	**80.47**	**172**	P	**P**	**22 02 03.4**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=323,slow=6.4,SNR=2.5						
ARCES	**ARCESS Array B**	**92.94**	**340**	P	**P**	**22 03 02.9**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=69,slow=4.9,SNR=2.7						
FINES	**FINESS Array B**	**93.96**	**332**	P	**P**	**22 03 08.0**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=98,slow=8.6,SNR=2.4						
TORD	**Torodi Ar. Bea**	**122.52**	**286**	PKP	**PKiKP**	**22 08 46.7**	**+0.2**
	comp=Z,0.9nm,1.0s,baz=16,slow=3.1,SNR=3.3						

*ISCJB **10** 21:53:57.0±0.8, 13°.05N±0°.04×122°.70E±0°.04, h21km±7km, mb3.3/4, Error ellipse: s-maj=7.2km s-min=5.8km az=22.0*
*MAN **10** 21:53:56.8, 13°.09N×122°.66E, h15km, MS3.2*
*IDC **10** 21:53:56.5±1.4, 12°.62N×122°.40E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/43, mbtmp3.3/4, ML4.6/1, Error ellipse: s-maj=57.9km s-min=17.7km az=57.0*
ISC 10 21:53:56.5±1.7, 13°.02N±0°.04×122°.68E±0°.04, h7km±12km**, n16, σ1s52/24, mb3.3**/4**, 2C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.30**	**359**	P	**Pg**	**21 54 03.3**	**+0.8**
AUQP				S	**Sb**	**21 54 11.8**	**+2.4**
GQP	**Guinayangan**	**0.91**	**345** ⇑	P	**Pb**	**21 54 12.6**	**-2.0**
GQP				S	**Sb**	**21 54 26.0**	**-0.9**
OTRP	**Odiongan**	**0.92**	**225**	P	**Pb**	**21 54 14.7**	**-0.1**
OTRP				S	**Sn**	**21 54 28.0**	**-1.3**
BOAC	**Boac**	**0.92**	**298**	P	**Pb**	**21 54 12.5**	**-2.3**
BOAC				S	**Sb**	**21 54 25.7**	**-1.6**
PVCP	**Virac**	**1.54**	**68**	P	**Pn**	**21 54 23.8**	**-0.6**
PVCP				S	**Sb**	**21 54 44.6**	**-0.6**
SJMP	**San Jose**	**1.62**	**250**	P	**Pn**	**21 54 24.7**	**-0.8**
SJMP				S	**Sn**	**21 54 47.3**	**+0.6**
TGY	**Tagaytay City**	**2.01**	**303**	Pn	**Pn**	**21 54 31.2**	**+0.3**
	219nm,0.3s,baz=167,slow=6.3,SNR=33						
TGY				Sn	**Sb**	**21 55 00.8**	**+2.2**
	168nm,0.3s,baz=18,slow=24,SNR=9.9						
BALP	**Baler**	**2.91**	**339**	P	**Pn**	**21 54 42.5**	**-0.7**
BALP				S	Sn	21 55 09.8	-8.7
PCPH	**Palayan**	**2.96**	**329** ⇑	P	**Pn**	**21 54 44.7**	**+0.8**
MSLP	**Maasin**	**3.58**	**143**	P	**Pn**	**21 54 52.9**	**+0.5**
SMPP	**San Manuel, Pa**	**3.66**	**328**	P	**Pn**	**21 54 52.8**	**-0.8**
SMPP				S	Sn	21 55 28.1	-9.0
APYP	**Conner**	**5.01**	**344**	P	**Pn**	**21 55 11.1**	**-1.0**
APYP				S	**Sn**	**21 56 10.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**23.47**	**286**	P	**P**	**21 59 06.9**	**0.0**
	0.3nm,0.3s,baz=99,slow=7.8,SNR=6.2						
WRA	**Warramunga Arr**	**34.71**	**160**	P	**P**	**22 00 45.8**	**-1.4**
	0.5nm,1.0s,baz=331,slow=10,SNR=2.9						
SONM	**Songino Array**	**37.27**	**342**	P	**P**	**22 01 12.6**	**+3.4**
	0.4nm,0.7s,baz=153,slow=9.7,SNR=2.7						
ASAR	**Alice Springs**	**38.08**	**163**	P	**P**	**22 01 14.7**	**-1.4**
	0.5nm,1.1s,baz=346,slow=6.5,SNR=4.5						

*IDC **10** 22:16:18.2±1.4, 30°.13N×98°.17E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.3/47, mbtmp3.3/5, ML3.4/2, Error ellipse: s-maj=64.0km s-min=21.3km az=70.0*
*ISCJB **10** 22:16:20.2±0.8, 30°.09N±0°.09×98°.03E±0°.09, h33km, mb3.6/2, Error ellipse: s-maj=13.3km s-min=10.6km az=146.3*
ISC 10 22:16:22.7±1.1, 30°.2N±0°.1×98°.1E±0°.1, h35km**, n14, σ0s92/14, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**9.50**	**255**	*e*P	**Pn**	**22 18 38.5**	**+1.1**
ODAN	**Odare**	**9.94**	**253**	*e*P	**Pn**	**22 18 44.1**	**+0.8**
	6.1nm,0.4s						
RAMN	**Ramite**	**10.57**	**255**	*e*P	**Pn**	**22 18 52.2**	**+0.3**
	5.2nm,0.5s						
JIRN	**Jiri**	**10.69**	**259**	*e*P	**Pn**	**22 18 54.5**	**+0.7**
GUN	**Gumba**	**10.89**	**261**	*e*P	**Pn**	**22 18 56.4**	**-0.1**
	7.9nm,0.4s						
PKI	**Pulchoki**	**11.38**	**260**	*e*P	**Pn**	**22 19 02.3**	**-0.9**
	5.1nm,0.4s						
PKIN	**Phulchoki**	**11.39**	**260**	*e*P	**Pn**	**22 19 02.5**	**-0.7**
	3.7nm,0.3s						
KKN	**Kakani**	**11.44**	**261**	*e*P	**Pn**	**22 19 02.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**11.67**	**176**	Pn	**Pn**	**22 19 06.4**	**-0.4**
	0.1nm,0.3s,baz=338,slow=14,SNR=2.8						
KOLN	**Koldanda**	**12.88**	**263**	*e*P	**Pn**	**22 19 21.9**	**-1.7**
SONM	**Songino Array**	**18.79**	**18**	P	**Pn**	**22 20 39.1**	**-0.7**
	0.1nm,0.3s,baz=190,slow=13,SNR=2.3						
MKAR	**Makanchi Array**	**20.63**	**328**	P	**P**	**22 20 59.9**	**+0.7**
	0.3nm,0.6s,baz=128,slow=12,SNR=2.6						
ZALV	**Zalesovo Beam**	**25.64**	**342**	P	**P**	**22 21 49.8**	**+0.9**
	0.5nm,0.5s,baz=141,slow=9.3,SNR=3.1						
WRA	**Warramunga Arr**	**60.83**	**140**	P	**P**	**22 26 31.9**	**+0.2**
	0.8nm,0.6s,baz=327,slow=7.7,SNR=12						

SJA 10 22:33:19.6±0.8, 28°.94S×68°.46W, h129km±6km**, ML3.7, MW3.8, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.30**	**48**	*i* P	Pn	22 33 38.4	+0.5
VCA				IAML		22 33 51.5	
	comp=Z,2μm,0.3s						
AGUA	**GUANDACOL**	**0.55**	**183**	*i* P	Pn	22 33 39.3	+0.3
ACDV	**Cuesta del Vie**	**1.36**	**205**	*i* P	Pn	22 33 47.7	+1.5
ACDV				IAML		22 33 48.1	
	comp=Z,1μm,0.5s						
ACLC	**CERRO LA CRUZ**	**1.40**	**111**	*i* P	Pn	22 33 47.5	+0.8
AROD	**Rodeo**	**1.51**	**216**	*i* P	Pn	22 33 49.7	+1.6
ACCO	**Cerro Coronel**	**1.73**	**198**	*i* P	Pn	22 33 51.9	+1.3
AMOG	**MOGNA**	**1.99**	**181**	*i* P	Pn	22 33 54.4	+0.8
GO03	**Copiap**	**2.06**	**310**	*i* P	Pn	22 33 55.3	+0.9
APLL	**PUNTA DE LOS L**	**2.22**	**131**	*i* P	Pn	22 33 57.1	+0.8
GO04	**Tololo Observa**	**2.38**	**238**	*i* P	Pn	22 33 59.4	+0.9
RTLL	**Cerro Villicun**	**2.38**	**180**	*i* P	Pn	22 33 59.5	+1.2
RTLL				IAML		22 33 59.8	
	comp=Z,562nm,0.1s						
CYA	**Choya**	**2.38**	**79**	*i* P	Pn	22 33 59.4	+1.0
CFA	**Coronel Fontan**	**2.66**	**176**	*i* P	Pn	22 34 02.9	+1.0
RTCV	**Cerro Valdivia**	**2.91**	**181**	*i* P	Pn	22 34 06.4	+1.3
RTLS	**Leoncito**	**2.94**	**194**	*i* P	Pn	22 34 07.1	+1.4
RTLS				IAML		22 34 44.5	
	comp=Z,111nm,0.2s						
ACAN	**Cantantal**	**3.50**	**162**	*i* P	Pn	22 34 14.2	+1.4
AHML	**Horco Molle**	**3.50**	**53**	*i* P	Pn	22 34 13.3	+0.5
FSA	**Cafayete**	**3.58**	**39**	*i* P	Pn	22 34 16.0	+2.1
ASAL	**Salagasta**	**3.66**	**185**	*i* P	Pn	22 34 16.3	+1.5
ARCO	**CERRO ARCO**	**3.91**	**186**	*i* P	Pn	22 34 19.6	+1.3
ARCO				IAML		22 35 06.7	
	comp=Z,74nm,0.7s						
TCA	**Tanti**	**4.11**	**126**	*i* P	Pn	22 34 20.8	-0.1
AAGR	**Agrelo**	**4.14**	**184**	*i* P	Pn	22 34 22.3	+1.0
ROC1	**El Roble**	**4.58**	**208**	*i* P	Pn	22 34 26.7	-0.6
PEL	**Peldehue**	**4.61**	**204**	*i* P	Pn	22 34 27.7	+0.3
AZAP	**Zapla**	**5.59**	**34**	*i* P	Pn	22 34 42.1	+1.2
RFA	**San Rafael**	**5.81**	**180**	*i* P	Pn	22 34 43.9	+0.2
HJA	**Humahuaca**	**6.33**	**26**	*i* P	Pn	22 34 53.5	+2.5

*ISCJB **10** 22:34:19.9±0.5, 14°.58N±0°.05×92°.40W±0°.04, h81km±3km, mb4.0/9, Error ellipse: s-maj=9.5km s-min=3.6km az=37.8*
*SNET **10** 22:34:19.3±2.6, 14°.40N×92°.41W, h12km±999km, ML4.6*
*NEIC **10** 22:34:20.1±2.8, 14°.52N±0°.07×92°.43W±0°.05, h69km±4km*
*MEX **10** 22:34:20.5±1.1, 14°.44N×92°.50W, h64km±22km, MD4.2*
*IDC **10** 22:34:21.3±0.9, 14°.48N×92°.50W, h76km±6km, mb3.8/9, mb1 4.0/13, mb1mx3.7/45, mbtmp4.1/13, MS3.0/5, Ms1 3.0/5, ms1mx2.7/29, Error ellipse: s-maj=17.3km s-min=7.4km az=17.0*
ISC 10 22:34:20.6±0.7, 14°.49N±0°.05×92°.54W±0°.04, h75km±6km**, n95, σ2s00/120, mb4.3**/19**, 1C-4D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.49**	**33**	*e*P	**Pn**	**22 34 31.6**	**-2.2**
THIG				*i* S	**Sn**	**22 34 41.1**	**-2.4**
THIG		**0.49**	**33**		**Pn**	**22 34 31.6**	**-2.2**
THIG					**Sn**	**22 34 41.1**	**-2.4**
PCIG		**1.37**	**332**	*e*P	**Pn**	**22 34 43.0**	**-1.1**
PCIG				*e*S	**Sn**	**22 35 00.1**	**-1.6**
PCIG		**1.37**	**332**		**Pn**	**22 34 43.0**	**-1.1**
PCIG					**Sn**	**22 35 00.1**	**-1.6**
CCIG	**Comitan**	**1.82**	**12**	*e*P	**Pn**	**22 34 50.7**	**+0.5**
CCIG				*e*S	**Sn**	**22 35 11.1**	**-1.5**
CCIG	**Comitan**	**1.82**	**12**		**Pn**	**22 34 50.7**	**+0.5**
CCIG				Sn	**Sn**	**22 35 11.1**	**-1.5**
CCIG	**Comitan**	**1.82**	**12**		**Pn**	**22 34 50.7**	**+0.5**
CCIG					**Sn**	**22 35 11.1**	**-1.5**
APG	**El Apazote**	**2.07**	**76**	P	**Pn**	**22 34 52.6**	**-1.0**
	105nm,0.3s,baz=192,slow=22,SNR=418		

SWET	**Sewanee**	**21.48**	**15**	P		**P**	**22 39 02.1**	**-1.1**
SWET				IAmb		IAmb	22 39 03.7	
	comp=Z,15nm,1.0s							
WVT	**Waverly**	**21.96**	**10**	P		**P**	**22 39 07.1**	**-1.1**
CPCT	**Cooper Cave**	**22.08**	**18**	P		**P**	**22 39 07.5**	**-2.1**
CPCT				IAmb		IAmb	22 39 25.3	
	comp=Z,31nm,1.5s							
SDV	**Santo Domingo**	**22.16**	**102**	P		**P**	**22 39 09.3**	**-1.5**
	comp=Z,3.7nm,0.4s,baz=288,slow=3.3,SNR=7.2							
SDV	**Santo Domingo**	**22.16**	**102**	P		**P**	**22 39 06.8**	**-4.0**
CLTN	**Cedars of Leba**	**22.22**	**13**	P		**P**	**22 39 09.8**	**-1.2**
PBMO	**Poplar Bluff**	**22.27**	**4**	IAmb		IAmb	22 39 11.8	
	comp=Z,14nm,1.2s							
V51A	**Loudon**	**22.46**	**18**	P		**P**	**22 39 12.1**	**-1.5**
V51A				IAmb		IAmb	22 39 12.9	
	comp=Z,7.6nm,0.9s							
TKL	**Tuckaleechee C**	**22.50**	**19**	P		**P**	**22 39 12.7**	**-1.4**
	comp=Z,3.3nm,0.6s,baz=183,slow=12,SNR=4.6							
TKL				pP		**pP**	**22 39 30.6**	**+0.8**
	comp=Z,10nm,1.0s,baz=190,slow=14,SNR=4.2							
V53A	**Saluda**	**22.82**	**21**	P		**P**	**22 39 16.3**	**-1.3**
V53A				IAmb		IAmb	22 39 21.6	
	comp=Z,11nm,1.2s							
KMSC	**Kings Mountain**	**22.90**	**24**	P		**P**	**22 39 17.4**	**-0.9**
KMSC				IAmb		IAmb	22 39 35.5	
	comp=Z,10.0nm,1.0s							
TZTN	**Tazewell**	**23.39**	**18**	P		**P**	**22 39 21.8**	**-1.1**
TZTN				IAmb		IAmb	22 39 27.9	
	comp=Z,23nm,1.2s							
V55A	**Taylorsville**	**23.57**	**24**	P		**P**	**22 39 22.4**	**-2.2**
V55A				IAmb		IAmb	22 39 25.3	
	comp=Z,16nm,1.1s							
ANMO	**Albuquerque**	**23.92**	**331**	P		**P**	**22 39 29.1**	**+1.2**
	comp=Z,2.1nm,0.6s,baz=152,slow=11,SNR=8.1							
ANMO	**Albuquerque**	**23.92**	**331**	P		**P**	**22 39 29.3**	**+1.4**
T52A	**Hallie**	**24.08**	**19**	P		**P**	**22 39 28.1**	**-1.1**
T52A				IAmb		IAmb	22 39 41.2	
	comp=Z,37nm,1.4s							
WCI	**Wyandotte Cave**	**24.28**	**12**	P		**P**	**22 39 29.2**	**-1.7**
CBYP	**Canovanas**	**25.86**	**78**	P		**P**	**22 39 43.0**	**-2.7**
Q56A	**Snyder Ridge,**	**27.14**	**23**	P		**P**	**22 39 55.2**	**-1.6**
O54A	**Avella**	**27.72**	**20**	P		**P**	**22 39 59.7**	**-2.3**
SSPA	**Standing Stone**	**29.02**	**23**	P		**P**	**22 40 11.5**	**-2.0**
SSPA				IAmb		IAmb	22 40 20.8	
	comp=Z,11nm,1.1s							
M54A	**Oil Creek Stat**	**29.15**	**20**	P		**P**	**22 40 12.2**	**-2.5**
NNA	**Nana**	**30.56**	**149**	LR		LR	22 50 04.8	
	comp=Z,21nm,21.6s,baz=344,slow=31							
J56A	**Wolcott**	**31.68**	**22**	P		**P**	**22 40 34.5**	**-2.5**
K58A	**Earlville**	**31.71**	**24**	P		**P**	**22 40 35.1**	**-2.2**
BGU	**Big Grassy Mou**	**31.81**	**330**	P		**P**	**22 40 39.5**	**+1.2**
ELK	**Elko**	**32.80**	**327**	P		**P**	**22 40 49.5**	**+2.4**
	comp=Z,0.9nm,0.7s,baz=142,slow=5.7,SNR=6.4							
ELK				pP		**pP**	**22 41 05.8**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=66,slow=9.8,SNR=3.0							
NVAR	**Mina Array Bea**	**32.96**	**321**	P		**P**	**22 40 51.1**	**+2.6**
	comp=Z,1.1nm,0.8s,baz=140,slow=9.0,SNR=6.4							
NVAR				pP		**pP**	**22 41 08.5**	**+2.3**
	comp=Z,3.2nm,0.7s,baz=134,slow=8.9,SNR=12							
ULM	**Lac du Bonnet**	**35.76**	**356**	LR		LR	22 58 30.2	
	comp=Z,32nm,19.5s,baz=118,slow=40							
SCHQ	**Schefferville**	**44.95**	**21**	LR		LR	23 01 44.5	
	comp=Z,51nm,19.3s,baz=278,slow=37							
YKA	**Yellowknife Ar**	**50.43**	**347**	P		**P**	**22 43 09.2**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=148,slow=7.6,SNR=26							
YKA				PcP		**PcP**	**22 44 27.4**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=151,slow=3.6,SNR=6.9							
BDFB	**Brasilia**	**53.23**	**122**	P		**P**	**22 43 31.4**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=295,slow=7.0,SNR=4.7							
BDFB	**Brasilia**	**53.23**	**122**	IAmb		IAmb	22 43 32.8	
	comp=Z,3.7nm,0.9s							
INK	**Inuvik**	**59.82**	**344**	P		**P**	**22 44 18.0**	**+0.1**
	comp=Z,5.2nm,0.7s,baz=139,slow=6.3,SNR=12							
INK	**Inuvik**	**59.82**	**344**	P		**P**	**22 44 18.1**	**+0.1**
INK				IAmb		IAmb	22 44 18.7	
	comp=Z,5.1nm,0.8s							
ILAR	**Eielson Array**	**62.18**	**337**	P		**P**	**22 44 34.4**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=125,slow=4.6,SNR=14							
BOSA	**Boshof**	**121.04**	**115**	PKP		**PKiKP**	**22 53 06.4**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=296,slow=2.6,SNR=7.1							
WRA	**Warramunga Arr**	**135.00**	**256**	PKP		**PKiKP**	**22 53 34.5**	**+0.9**
	comp=Z,0.6nm,1.1s,baz=75,slow=1.9,SNR=2.8							
WRA				pPKP		**pPKPdf**	**22 53 53.2**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=93,slow=2.6,SNR=3.2							
CMAR	**Chiang Mai Arr**	**145.36**	**341**	PKPbc		**PKPab**	**22 53 51.6**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=344,slow=4.4,SNR=13							
CMAR				pPKPbc		pPKPab	22 54 10.7	-1.0
	comp=Z,1.2nm,0.7s,baz=351,slow=4.8,SNR=2.6							

IDC ***10*** *22:48:38.0±0.7,31.74N×69.92E, h0km, mb4.0/17, mb1 4.1/21,mb1mx3.9/48,mbtmp4.0/21,ML3.7/4,MS3.0/1, Ms1 3.0/1,ms1mx2.4/34,Error ellipse: s-maj=16.8km s-min=16.7km az=112.0*

ISCJB ***10*** *22:48:39.6±0.4,31.76N±0.03×70.03E±0.04, h29km, mb4.0/17,Error ellipse: s-maj=5.5km s-min=3.7km az=39.3*

NDI ***10*** *22:48:39.1±3.1,31.87N×69.52E, h44km±999km, ML4.2, mb4.1(NEIC)*

NEIC ***10*** *22:48:43.1±2.4,31.75N±0.08×70.06E±0.08, h42km±6km, mb4.1/8*

NNC ***10*** *22:48:46.6±3.3,32.02N×70.23E, h49km±28km, mb4.0, Error ellipse: s-maj=32.2km s-min=26.7km az=109.0*

ISC 10 22:48:41.6±0.5,31.78N±0.05×69.97E±0.05, h29km, n75, σ2**^{s}10**/86**, mb4.2**/19**, 3C-2D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**1.81**	**55**	P	**Pb**	**22 49 12.2**	**-1.9**
SARP	**Sargodha**	**2.30**	**86**	P	**Pn**	**22 49 17.1**	**-0.4**
CEP	**Cherat**	**2.61**	**38**	P	**Pb**	**22 49 23.9**	**-3.9**
KBL	**Kabul**	**2.87**	**344**		**Pb**	**22 49 29.3**	**-2.9**
KBL				Sn	**Sn**	**22 49 56.3**	**-2.9**
NIL	**Nilore**	**3.34**	**55**		**Pn**	**22 49 33.9**	**+2.1**
CHCP	**Chirah Chowk**	**3.35**	**55**	P	**Pn**	**22 49 33.8**	**+1.8**
JMU	**Jammu**	**4.28**	**76**	*e*P	**Pb**	**22 49 58.0**	**+1.9**
JMU				*e*S	**Sn**	**22 50 32.5**	**-1.2**
THN	**Thein Dam**	**4.92**	**81**	*e*P	Pb	22 49 59.3	-7.6
THN				*e*S	**Sn**	**22 50 55.3**	**+5.9**
DHRM	**DHARAMSHALA**	**5.39**	**83**	*e*P	**Pn**	**22 50 02.4**	**+2.1**
DHRM				*e*S	**Sn**	**22 51 02.9**	**+1.3**
DHRM				IAML		22 51 10.1	
	comp=E,298nm,0.4s						
DHRM				IAML		22 51 10.1	
	comp=N,168nm,0.3s						
SMLA	**Simla**	**6.18**	**94**	*e*P	**Pn**	**22 50 13.4**	**+2.6**
SMLA				*e*S	**Sn**	**22 51 22.2**	**+1.7**
SMLA				IAML		22 51 24.6	
	comp=N,208nm,0.2s						
SMLA				IAML		22 51 25.6	
	comp=E,132nm,0.4s						
KUDL	**Kundal**	**6.71**	**121**	*e*P	**Pn**	**22 50 14.8**	**-3.3**
KUDL				*e*S	**Sn**	**22 51 26.3**	**-7.4**
CHGR	**Chuyangaron**	**6.90**	**355**		**Pn**	**22 50 23.0**	**+2.1**
CHGR				Sn	**Sn**	**22 51 38.5**	**+0.1**
NDI	**New Delhi**	**6.98**	**114**	*e*P	**Pn**	**22 50 22.0**	**+0.1**
NDI				*ex*	x	22 51 35.0	
AYAN	**Aya Nagar**	**7.01**	**116**	*e*P	**Pn**	**22 50 22.9**	**+0.7**
BTK	**Batken**	**8.29**	**4**		**Pn**	**22 50 42.4**	**+2.5**
JOSI	**Joshimath**	**8.30**	**96**	*e*P	**Pn**	**22 50 41.9**	**+1.7**
JOSI				*ex*	x	22 52 13.9	
JOSI				IAML		22 52 25.5	
JOSI				IAML		22 52 25.6	
	comp=E,1μm,0.8s						
JOSI				IAML		22 52 25.9	
	comp=N,1μm,0.2s						
ARSB	**Arslanbob**	**9.83**	**13**		**Pn**	**22 51 01.8**	**+0.7**
ARSB				Sn	**Sn**	**22 52 47.0**	**-3.6**
AML	**Almayashu** SNR=29	**10.76**	**15**	P	**Pn**	**22 51 14.7**	**+0.8**
BHPL	**Bhopal**	**10.77**	**140**	*e*P	**Pn**	**22 51 14.0**	**+0.2**
BHPL				*e*S	**Sn**	**22 53 07.0**	**-6.4**
BHPL				IAML		22 53 13.9	
	comp=E,30nm,0.6s						
BHPL				IAML		22 53 14.3	
	comp=N,28nm,0.3s						
NRN	**Naryn**	**10.78**	**25**		**Pn**	**22 51 14.7**	**+0.4**
UCH	**Uchtor** SNR=14	**11.04**	**18**	P	**Pn**	**22 51 18.4**	**+0.4**
KZA	**Kyzart** SNR=6.2	**11.11**	**21**	P	**Pn**	**22 51 20.1**	**+1.2**
EKS2	**Erkin-Say** SNR=5.4	**11.28**	**14**	P	**Pn**	**22 51 21.9**	**+1.0**
KK31	**Karatay Array**	**11.32**	**2**		**Pn**	**22 51 21.6**	**+0.4**
KK31					**Sn**	**22 53 24.4**	**-2.3**
KK31	**Karatay Array**	**11.32**	**2**	P	**Pn**	**22 51 21.4**	**+0.2**
	comp=N,1.2nm,0.3s,baz=195,slow=16,SNR=35						
KK31				S	**Sn**	**22 53 25.8**	**-1.0**
	comp=N,5.0nm,0.7s,baz=189,slow=21,SNR=7.7						
KKAR	**Karatay Array**	**11.32**	**2**		**Pn**	**22 51 21.6**	**+0.4**
KKAR					**Sn**	**22 53 24.4**	**-2.3**
AAK	**Ala-Archa**	**11.42**	**17**	Pn	**Pn**	**22 51 23.6**	**+0.7**
	comp=N,2.8nm,0.3s,baz=171,slow=4.9,SNR=50						
AAK				Sn	**Sn**	**22 53 25.7**	**-3.8**
	comp=N,0.5nm,0.3s,baz=143,slow=20,SNR=5.2						
AAK				LR	LR	22 56 19.0	
	comp=N,66nm,19.2s,baz=196,slow=40						
AAK	**Ala-Archa** SNR=16	**11.42**	**17**	P	**Pn**	**22 51 23.4**	**+0.6**
AAK	**Ala-Archa**	**11.42**	**17**	⇓P	**Pn**	**22 51 23.6**	**+0.7**
	comp=N,4.8nm,0.4s						
AAK				⇓S	**Sn**	**22 53 26.7**	**-2.9**
	comp=N,8.9nm,0.9s						
ULHL	**Ulahol** SNR=8.7	**11.59**	**24**	P	**Pn**	**22 51 27.3**	**+2.1**
CHMS	**Chumysh** SNR=7.2	**11.83**	**17**	P	**Pn**	**22 51 28.6**	**+0.3**
KDJ	**Kajisay**	**11.83**	**27**	Pn	**Pn**	**22 51 29.1**	**+0.7**
TKM2	**Tokmak 2**	**11.99**	**20**	⇑P	**Pn**	**22 51 30.8**	**+0.2**
	comp=N,3.7nm,0.5s						
DANN	**Dangsing**	**12.42**	**102**	*e*P	**Pn**	**22 51 36.2**	**-0.5**
	comp=N,7.2nm,0.2s						
KOLN	**Koldak**	**12.49**	**105**	*e*P	**Pn**	**22 51 36.8**	**-0.8**
	comp=N,21nm,0.4s						
WSAR	**Wadi Sarin**	**13.17**	**233**	Pn	**Pn**	**22 51 47.6**	**+0.9**
	comp=N,0.1nm,0.3s,baz=105,slow=16,SNR=3.9						
GKN	**Gorkha**	**13.27**	**103**	*e*P	**Pn**	**22 51 45.6**	**-2.5**
KKN	**Kakani**	**13.87**	**103**	*e*P	**Pn**	**22 51 54.0**	**-2.5**
PKIN	**Phulchoki**	**14.04**	**103**	*e*P	**Pn**	**22 51 56.7**	**-2.2**
PKI	**Pulchoki**	**14.06**	**103**	*e*P	**Pn**	**22 51 57.2**	**-1.9**
	comp=N,13nm,0.4s						
GUN	**Gumba**	**14.33**	**102**	*e*P	**Pn**	**22 52 00.1**	**-2.8**
	comp=N,27nm,0.4s						
JIRN	**Jiri**	**14.67**	**102**	*e*P	**Pn**	**22 52 05.0**	**-2.5**
	comp=N,25nm,0.3s						
RAMN	**Ramite**	**15.27**	**104**	*e*P	**Pn**	**22 52 12.5**	**-2.9**
	comp=N,17nm,0.5s						
ODAN	**Odare**	**15.96**	**103**	*e*P	**Pn**	**22 52 21.8**	**-2.5**
	comp=N,8.8nm,0.4s						
TAPN	**Taplejung**	**16.05**	**101**	*e*P	**Pn**	**22 52 22.7**	**-2.8**
	comp=N,14nm,0.5s						
MAKZ	**Makanchi**	**17.62**	**28**	Pn	**Pn**	**22 52 42.8**	**-2.1**
MK31	**Makanchi Array**	**17.74**	**29**		**Pn**	**22 52 45.3**	**-1.0**
MK31	**Makanchi Array**	**17.74**	**29**	P	**P**	**22 52 46.7**	**-0.3**
	comp=N,5.1nm,1.1s,baz=209,slow=11,SNR=22						
MKAR	**Makanchi Array**	**17.74**	**29**	P	**P**	**22 52 46.9**	**-0.1**
	comp=N,0.4nm,0.3s,baz=206,slow=11,SNR=19						
AB31	**Akbulak array**	**19.02**	**340**	P	**Pn**	**22 53 02.6**	**+0.7**
	comp=N,1.2nm,0.4s,baz=152,slow=12,SNR=55						
ABKAR	**Akbulak array**	**19.02**	**340**	P	**Pn**	**22 53 02.1**	**+0.2**
ABKAR				IAmb	IAmb	22 53 04.1	
	comp=Z,3.0nm,0.5s						
KURBB	**Kurchatov Arra**	**19.88**	**16**	P	**Pn**	**22 53 11.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=203,slow=11,SNR=4.3						
AKTO	**Aktyubinsk**	**20.66**	**338**	P	Pn	22 53 20.3	-1.0
	comp=Z,7.6nm,0.8s,baz=152,slow=9.4,SNR=16						
AKTO	**Aktyubinsk**	**20.66**	**338**	⇑P	Pn	22 53 21.1	-0.2
	comp=Z,7.6nm,0.8s						
BVAR	**Borovoye Array**	**21.24**	**1**	P	**P**	**22 53 26.0**	**+0.9**
	comp=Z,7.3nm,0.7s,baz=162,slow=10,SNR=34						
BRVK	**Borovoye**	**21.27**	**1**	P	**P**	**22 53 26.1**	**+0.7**
BRVK				IAmb	IAmb	22 53 27.0	
	comp=Z,12nm,0.8s						
BRVK	**Borovoye**	**21.27**	**1**	⇑P	**P**	**22 53 25.5**	**+0.1**
	comp=Z,10nm,0.7s						
ZAA0	**Zalesovo Array**	**24.59**	**21**	P	**P**	**22 53 59.5**	**+0.5**
ZAA0				IAmb	IAmb	22 54 15.3	
	comp=Z,2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**24.59**	**21**	P	**P**	**22 53 59.4**	**+0.4**
	comp=Z,1.8nm,0.4s,baz=217,slow=10.0,SNR=10						
KVAR	**Kislovodsk Arr**	**24.61**	**307**	P	**P**	**22 53 58.6**	**-0.8**
	comp=Z,4.9nm,0.5s,baz=277,slow=1.0,SNR=5.8						
BRTR	**Keskin Array B**	**30.38**	**295**	P	**P**	**22 54 51.8**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=131,slow=9.0,SNR=3.2						
SONM	**Songino Array**	**31.90**	**49**	P	**P**	**22 55 07.0**	**+2.5**
	comp=Z,1.1nm,0.9s,baz=263,slow=6.9,SNR=6.0						
AKASG	**Malin Array Be**	**35.44**	**314**	P	**P**	**22 55 36.0**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=97,slow=7.3,SNR=4.4						
FINES	**FINESS Array B**	**41.02**	**329**	P	**P**	**22 56 22.5**	**+0.6**
	comp=Z,4.7nm,1.1s,baz=116,slow=13,SNR=2.8						
ARCES	**ARCESS Array B**	**45.23**	**340**	P	**P**	**22 56 57.5**	**+1.7**
	comp=Z,5.6nm,0.8s,baz=116,slow=8.2,SNR=13						
NOA	**NORSAR Array B**	**47.72**	**326**	P	**P**	**22 57 16.4**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=104,slow=7.8,SNR=2.9						
KEST	**Kesra**	**49.87**	**292**	P	**P**	**22 57 34.4**	**+2.0**
	comp=Z,4.5nm,0.9s,baz=222,slow=18,SNR=3.8						
TIXI	**Tiksi**	**50.47**	**21**	P	**P**	**22 57 35.8**	**-0.6**
TIXI				IAmb	IAmb	22 57 37.8	
	comp=Z,3.2nm,0.8s						
ESDC	**Sonseca Array**	**59.00**	**300**	P	**P**	**22 58 37.9**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=51,slow=7.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**64.82**	**270**	P	**P**	**22 59 18.4**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=49,slow=6.3,SNR=9.8						
BOSA	**Boshof**	**73.59**	**220**	P	**P**	**23 00 13.3**	**+1.1**
	comp=Z,2.7nm,0.8s,baz=15,slow=20,SNR=3.6						
BOSA	**Boshof**	**73.59**	**220**	P	**P**	**23 00 11.9**	**-0.4**
WRA	**Warramunga Arr**	**80.27**	**121**	P	**P**	**23 00 51.0**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=320,slow=5.1,SNR=18						
ASAR	**Alice Springs**	**82.30**	**124**	P	**P**	**23 01 01.7**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=311,slow=5.2,SNR=14						
YKA	**Yellowknife Ar**	**85.99**	**2**	P	**P**	**23 01 20.1**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=348,slow=5.0,SNR=13						

ISCJB ***10*** *22:56:31.0±0.5,20.46S±0.08×175.78W±0.10, h100km, mb4.1/8,Error ellipse: s-maj=14.7km s-min=9.3km az=36.2*

NEIC ***10*** *22:56:34.2±2.4,20.5S±0.2×175.5W±0.1, h125km±7km, mb4.5/12*

IDC ***10*** *22:56:34.2±3.5,20.40S×175.86W, h114km±29km, mb3.9/8, mb1 4.0/10,mb1mx3.7/39,mbtmp4.3/10,Error ellipse: s-maj=24.6km s-min=22.2km az=131.0*

ISC 10 22:56:32.4±0.5,20.5S±0.1×175.59W±0.07, h100km, n29, σ1**^{s}84/32, mb4.4/11, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.51**	**76**		**Pn**	**22 57 54.4**	**+2.4**
NIUE					**Sn**	**22 58 50.9**	**-3.3**
MSVF	**Nonsavu**	**6.62**	**294**		**Pn**	**22 58 10.1**	**+3.0**
AFI	**Afiamalu**	**7.50**	**30**	Pn	**Pn**	**22 58 19.7**	**+0.5**
RAR	**Rarotonga** 1.0nm,0.3s,baz=235,slow=6.5,SNR=3.7	**14.80**	**96**	P	**P**	**23 00 02.1**	**+2.2**
DZM	**Mont Dzumac**	**16.82**	**261**	P	**P**	**23 00 26.1**	**+3.6**
DZM				IAmb	IAmb	23 00 29.8	
	comp=Z,20nm,0.9s						
URZ	**Urewera**	**18.79**	**198**	P	**P**	**23 00 43.4**	**-0.4**
	comp=Z,4.9nm,0.3s,baz=349,slow=2.3,SNR=14						
URZ	**Urewera**	**18.79**	**198**	P	**P**	**23 00 43.6**	**-0.2**
URZ				IAmb	IAmb	23 00 44.8	
	comp=Z,13nm,0.6s						
HIZ	**Hauiti**	**19.76**	**203**	P	**P**	**23 00 55.2**	**+0.9**
QRZ	**Quartz Range**	**22.64**	**204**	P	**P**	**23 01 26.0**	**+0.9**
QRZ				IAmb	IAmb	23 01 27.9	
	comp=Z,20nm,0.9s						
NNZ	**Nelson**	**22.68**	**202**	P	**P**	**23 01 22.8**	**-2.6**
NNZ				IAmb	IAmb	23 01 32.5	
	comp=Z,27nm,1.2s						
THZ	**Tophouse**	**23.32**	**202**	P	**P**	**23 01 32.9**	**+1.2**
KHZ	**Kahutara**	**23.69**	**200**	P	**P**	**23 01 34.1**	**-0.8**
KHZ				IAmb	IAmb	23 01 42.7	
	comp=Z,25nm,1.2s						
RPZ	**Rata Peaks**	**25.69**	**203**	P	**P**	**23 01 54.6**	**+1.5**
	comp=Z,11nm,0.5s,baz=17,slow=4.4,SNR=10						
RPZ	**Rata Peaks**	**25.69**	**203**	IAmb	IAmb	23 01 55.7	
	comp=Z,18nm,1.1s						
LBZ	**Lake Benmore**	**26.59**	**203**	P	**P**	**23 01 59.3**	**-1.9**
TOO	**Toolangi**	**37.73**	**235**	P	**P**	**23 03 36.9**	**-1.6**
STKA	**Stephens Creek**	**39.83**	**245**	P	**P**	**23 03 55.0**	**-1.1**
	comp=Z,2.8nm,0.6s,baz=93,slow=11,SNR=12						
COEN	**Coen**	**39.84**	**273**	P	**P**	**23 03 56.3**	**-0.1**
JAY	**Jayapura**	**46.20**	**287**	P	**P**	**23 04 46.5**	**-1.2**
	comp=Z,7.4nm,0.5s,baz=217,slow=2.1,SNR=8.4						
ASAR	**Alice Springs**	**46.72**	**256**	P	**P**	**23 04 49.9**	**-1.8**
	comp=Z,1.8nm,0.9s,baz=90,slow=8.3,SNR=13						
ASAR				PcP	**PcP**	**23 06 22.8**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=104,slow=3.9,SNR=14						
ASAR				ScP	**ScP**	**23 10 05.7**	**-2.6**
	comp=Z,0.3nm,0.6s,baz=99,slow=5.7,SNR=3.8						
WRA	**Warramunga Arr**	**46.84**	**262**	P	**P**	**23 04 50.3**	**-2.4**
	comp=Z,0.9nm,0.3s,baz=96,slow=7.5,SNR=40						
WRA				PcP	**PcP**	**23 06 23.0**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=98,slow=3.2,SNR=4.9						
VNDA	**Vanda**	**58.12**	**186**	P	**P**	**23 06 16.0**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=56,slow=5.8,SNR=2.2						
ILAR	**Eielson Array**	**87.84**	**12**	P	**P**	**23 09 09.5**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=215,slow=5.9,SNR=4.4						
CMAR	**Chiang Mai Arr**	**92.25**	**289**	P	**P**	**23 09 31.8**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=147,slow=5.1,SNR=3.2						
MKAR	**Makanchi Array**	**112.85**	**313**	PKiKP	**PKiKP**	**23 14 55.9**	**-1.7**
	comp=Z,0.3nm,0.5s,baz=118,slow=1.6,SNR=5.2						
AKASG	**Malin Array Be**	**144.08**	**333**	PKP	**PKPab**	**23 15 52.8**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=34,slow=3.8,SNR=5.8						
BRTR	**Keskin Array B**	**148.50**	**314**	PKPbc	**PKPdf**	**23 16 07.3**	**+3.1**
	comp=Z,2.0nm,0.8s,baz=115,slow=4.6,SNR=6.7						
CLL	**Cellm**	**148.53**	**350**	*e*PKPbc	**PKPbc**	**23 16 07.0**	**-0.3**
GERES	**GERESS Array B**	**150.76**	**347**	PKPbc	**PKPbc**	**23 16 12.3**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=35,slow=3.6,SNR=5.1						

GUC ***10*** *23:11:06.5±0.7,21.08S×69.04W, h121km±4km, ML3.0*

ISCJB ***10*** *23:11:07.1±0.8,21.09S±0.03×68.99W±0.07, h121km±9km, Error ellipse: s-maj=11.3km s-min=4.5km az=176.7*

SJA ***10*** *23:11:07.1±0.5,21.16S×68.88W, h121km±4km, ML2.6, MW2.9*

ISC 10 23:11:07.9±1.5, 21.09S±0.03×68.98W±0.06, h114km±13km, n21, σ0**^{s}53/36, 6C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.74**	**199**	⇓*i*P	**Pn**	**23 11 26.9**	**-0.4**
PB09				*e*S	**Sn**	**23 11 42.6**	**+0.7**
PB09				IAML		23 11 45.9	
	comp=E,347nm,0.3s						
PB09	**IPOC Station P**	**0.74**	**199**	*i* P	**Pn**	**23 11 27.2**	**-0.1**
PB09				*e*S	**Sn**	**23 11 42.9**	**+1.0**
PB08	**IPOC Station P**	**0.96**	**350**	⇑*i*P	**Pn**	**23 11 29.3**	**-0.3**
PB08				*i* S	**Sn**	**23 11 46.2**	**+0.4**
PB08				IAML		23 11 47.8	
	comp=E,282nm,0.3s						
PB07	**IPOC Station P**	**1.06**	**233**	⇑*i*P	**Pn**	**23 11 30.0**	**-0.2**
PB07				*i* S	**Sn**	**23 11 47.3**	**+0.1**
PB07				IAML		23 11 48.2	
	comp=E,473nm,0.2s						
PB03	**IPOC Station P**	**1.20**	**217**	*e*P	**Pn**	**23 11 31.4**	**-0.3**
PB03				*i* S	**Sn**	**23 11 49.5**	**-0.3**
PB03				IAML		23 11 50.6	
	comp=E,300nm,0.2s						
TA01	**Diego Aracena**	**1.24**	**295**	⇑*i*P	**Pn**	**23 11 31.9**	**-0.2**
TA01				*i* S	**Sn**	**23 11 50.7**	**+0.5**
TA01				IAML		23 11 53.6	
	comp=E,346nm,0.4s						
PB11	**IPOC Station P**	**1.47**	**334**	⇑*i*P	**Pn**	**23 11 34.3**	**-0.5**
PB11				*i* S	**Sn**	**23 11 55.2**	**0.0**
PB11				IAML		23 11 56.6	
	comp=E,345nm,0.5s						
LVC	**Limon Verde**	**1.51**	**178**	*i* P	**Pn**	**23 11 35.4**	**-0.1**
LVC				*e*S	**Sn**	**23 11 56.0**	**-0.5**
LVC				IAML		23 11 59.6	
	comp=Z,54nm,0.3s						
PB04	**IPOC Station P**	**1.65**	**221**	*e*P	**Pn**	**23 11 36.6**	**-0.4**
PB04				*i* S	**Sn**	**23 11 58.9**	**-0.1**
PB04	**IPOC Station P**	**1.65**	**221**	*i* P	**Pn**	**23 11 37.5**	**+0.6**
PB06	**IPOC Station P**	**1.70**	**199**	*i* P	**Pn**	**23 11 37.3**	**-0.3**
PB06				*e*S	**Sn**	**23

WAT1	Susitna Watana	4.30	24			Pn	23 23 50.9	-0.3
TT01	Tatalina	4.33	337			Pn	23 23 51.1	-0.4
HMT	Hamilton	4.35	68	Pn		Pn	23 23 51.5	-0.3
WAT2	Susitna Watana	4.41	23			Pn	23 23 52.5	-0.3
SUCK	Suckling Hills	4.53	72			Pn	23 23 53.6	-0.7
TRF	Thorofare Moun	4.61	12			Pn	23 23 54.3	-1.2
BERG	Berg Lake	4.63	68			Pn	23 23 54.7	-1.0
KTH	Kantishna Hill	4.65	8			Pn	23 23 55.6	-0.4
RND	Reindeer	4.77	20			Pn	23 23 56.7	-1.0
DHY	Denali Highway	4.79	29	Pn		Pn	23 23 57.5	-0.4
DHY						Sn	23 24 50.9	-1.1
KHIT	Khitrov Hills	4.86	68			Pn	23 23 57.7	-1.2
GLB	Gilahina Butte	4.95	56	Pn		Pn	23 23 59.4	-0.7
CRQM	Cirque	5.00	65	Pn		Pn	23 23 59.9	-1.0
VRDI	Verde Repeater	5.01	59			Pn	23 23 59.7	-1.4
WAX	Waxell Ridge	5.05	69	Pn		Pn	23 24 00.2	-1.3
MCK	McKinley	5.06	18	Pn		Pn	23 24 00.9	-0.6
TGL	Tana Glacier	5.14	66	Pn		Pn	23 24 01.8	-1.0
PAX	Paxson	5.24	37	Pn		Pn	23 24 03.7	-0.4
PAX						Sn	23 25 00.1	-3.0
MCARA	McCarthy VSAT	5.26	59	Pn		Pn	23 24 03.9	-0.4
BWN	Browne	5.40	14	Pn		Pn	23 24 06.2	0.0
KIAG	Kiagna River	5.41	65			Pn	23 24 05.5	-1.0
MESA	MESA	5.45	73	Pn		Pn	23 24 06.4	-0.6
BALM	Baldy	5.45	63			Sn	23 25 04.3	-4.1
BALM	Baldy	5.45	63			Pn	23 24 05.7	-1.3
GRNC	Granite Creek	5.65	67			Pn	23 24 09.0	-0.8
CHX	Chaix Hills	5.84	74			Pn	23 24 12.2	-0.2
WRH	Wood River Hil	5.88	18			Pn	23 24 11.7	-1.1
CTGM	Chitina Glacie	5.90	66			Pn	23 24 12.2	-1.0
RIDG	Independent Ri	6.00	34	Pn		Pn	23 24 14.3	-0.1
CCB	Clear Creek Bu	6.09	19	Pn		Pn	23 24 14.6	-1.0
DOT	Dot Lake	6.17	37			Pn	23 24 16.7	0.0
PCA	Pinnacle	6.28	74			Pn	23 24 17.2	-1.1
MDM	Murphy Dome	6.32	16	Pn		Pn	23 24 17.9	-0.9
BCPM	Bancas Point	6.58	76	Pn		Pn	23 24 21.4	-0.9
PNL	Peninsula	6.69	78			Pn	23 24 22.5	-1.3
DHAK	Deception Hill	7.32	83	Pn		Pn	23 24 31.7	-0.8

SOME ***10*** *23:40:42.4, 39˚.83N×75˚.40E, h10km*
KRNET ***10*** *23:40:43.3±0.1, 39˚.86N×75˚.48E, mb3.3*
NNC ***10*** *23:40:45.4±0.9, 39˚.94N×75˚.36E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=6.6km s-min=4.1km az=167.0*

ISC 10 23:40:48.8±1.6, 40˚.04N±0˚.07×75˚.29E±0˚.03, h10km, n67, σt1s 82/103, 28C-20D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.50**	**21**	⇑*i*P	**Pn**	**23 41 13.7**	**-2.3**
NRN	baz=13			⇑*i*S	**Sn**	**23 41 35.8**	**0.0**
ARLS	**Aral**	**1.96**	**338**	⇓*i*P	**Pn**	**23 41 23.0**	**+0.7**
ARLS	baz=37			⇓*i*P	**Sg**	**23 41 52.7**	**+0.8**
KZA	**Kyzart**	**2.04**	**359**	⇑*i*P	**Pn**	**23 41 23.6**	**0.0**
KZA	baz=56			⇑*i*S	**Sg**	**23 41 53.4**	**-1.0**
KZA	**Kyzart**	**2.04**	**359**	P	**Pn**	**23 41 23.8**	**+0.3**
ARSB	**Arslanbob**	**2.17**	**307**	⇑*e*P	**Pn**	**23 41 25.9**	**+0.7**
ARSB	baz=8.0			⇑*i*S	**Sg**	**23 41 57.5**	**-1.1**
UCH	**Uchtor**	**2.26**	**345**	⇑*i*P	**Pn**	**23 41 27.4**	**+0.7**
UCH	baz=43			⇑*i*S	**Sb**	**23 41 59.6**	**+1.3**
UCH	**Uchtor**	**2.26**	**345**	P	**Pn**	**23 41 27.6**	**+0.9**
ULHL	**Ulahol**	**2.32**	**18**	⇓*i*P	**Pn**	**23 41 26.9**	**-0.4**
ULHL	baz=13			⇓*i*S	**Sb**	**23 41 58.8**	**-0.9**
ULHL	**Ulahol**	**2.32**	**18**	P	**Pn**	**23 41 27.9**	**+0.6**
AML	**Almayashu**	**2.41**	**331**	⇑*i*P	**Pn**	**23 41 29.7**	**+1.0**
AML	baz=30			⇑*i*S	**Sb**	**23 42 03.6**	**+1.1**
AML	**Almayashu**	**2.41**	**331**	P	**Pn**	**23 41 30.1**	**+1.4**
BOOM	**Boomskoye usch**	**2.50**	**11**	⇑*e*P	**Pn**	**23 41 29.6**	**-0.1**
BOOM	baz=7.0			⇑*i*S	**Sb**	**23 42 03.3**	**-1.5**
KDJ	**Kajisay**	**2.53**	**34**	⇑*e*P	**Pn**	**23 41 29.2**	**-0.9**
KDJ	baz=29			⇑*i*S	**Sn**	**23 42 02.5**	**+1.3**
TARG	**Taragay, Kyrgy**	**2.55**	**48**	⇓*e*P	**Pn**	**23 41 28.6**	**-2.0**
TARG	baz=43			⇓*i*S	**Sn**	**23 42 01.8**	**-0.1**
KBK	**Karagaybulak**	**2.63**	**355**	⇑*e*P	**Pn**	**23 41 32.0**	**+0.5**
KBK	baz=52			⇑*i*S	**Sb**	**23 42 07.2**	**-1.3**
KBK	**Karagaybulak**	**2.63**	**355**	P	**Pn**	**23 41 33.0**	**+1.6**
AAK	**Ala-Archa**	**2.67**	**347**	⇑*e*P	**Pn**	**23 41 32.7**	**+0.8**
AAK	baz=45			⇑*i*S	**Sb**	**23 42 08.5**	**-1.0**
AAK	**Ala-Archa**	**2.67**	**347**	P	**Pn**	**23 41 33.6**	**+1.7**
AAK	**Ala-Archa**	**2.67**	**347**	⇓Pn	**Pn**	**23 41 31.7**	**-0.3**
AAK	13nm,0.5s			⇓Pg	**Pb**	**23 41 36.5**	**-0.2**
AAK	16nm,0.6s			⇑Lg	Lg	23 42 14.1	
FRU1	**Bishkek**	**2.81**	**350**	⇓*e*P	**Pn**	**23 41 34.7**	**+0.8**
FRU1	baz=48			⇓*i*S	**Sb**	**23 42 11.9**	**-1.8**
EKS2	**Erkin-Say**	**2.86**	**337**	⇑*i*P	**Pn**	**23 41 35.6**	**+1.1**
EKS2	baz=36			⇑*i*S	**Sb**	**23 42 13.9**	**-1.1**
EKS2	**Erkin-Say**	**2.86**	**337**	P	**Pn**	**23 41 36.9**	**+2.3**
TKM2	**Tokmak 2**	**2.89**	**5**	⇓*i*P	**Pn**	**23 41 35.3**	**+0.2**
TKM2	baz=2.0			⇓*i*S	**Sb**	**23 42 13.4**	**-2.6**
TKM2	**Tokmak 2**	**2.89**	**5**	⇑Pg	**Pb**	**23 41 39.8**	**-0.7**
TKM2	28nm,0.6s			⇓Lg	Lg	23 42 19.1	
CHMS	**Chumysh**	**2.98**	**352**	P	**Pn**	**23 41 37.4**	**+1.2**
KST	**Kastek**	**3.04**	**9**	*e*P	**Pb**	**23 41 41.9**	**-1.2**
KST	14nm,0.2s			*e*S	**Sg**	**23 42 25.4**	**-1.2**
KST	**Kastek**	**3.04**	**9**	Pg	**Pb**	**23 41 41.9**	**-1.2**
KST	14nm,0.2s			Lg	Lg	23 42 25.4	
ARK	**Arkit**	**3.07**	**306**	⇑*i*P	**Pn**	**23 41 38.2**	**+0.7**
ARK	baz=7.0			⇑*i*S	**Sb**	**23 42 18.2**	**-3.0**
MRKS	**Merke**	**3.12**	**331**	*e*P	**Pn**	**23 41 41.0**	**+2.9**
MRKS	3.6nm,0.4s			*e*S	**Sb**	**23 42 22.4**	**-0.1**
MRKS	**Merke**	**3.12**	**331**	Pg	**Pb**	**23 41 43.7**	**-0.6**
MRKS	17nm,0.3s			Lg	Lg	23 42 28.2	
IZV	**Izvestkoviy**	**3.16**	**18**	*e*P	**Pb**	**23 41 43.8**	**-1.2**
IZV	11nm,0.3s			*e*S	**Sg**	**23 42 28.7**	**-1.4**
IZV	**Izvestkoviy**	**3.16**	**18**	Pg	**Pb**	**23 41 43.8**	**-1.2**
IZV	11nm,0.3s			Lg	Lg	23 42 28.7	
MTBS	**Maitube**	**3.21**	**15**	*e*P	**Pb**	**23 41 44.9**	**-1.0**
MTBS	2.3nm,0.1s			*e*S	**Sg**	**23 42 30.6**	**-1.2**
MTBS	24nm,0.3s			Lg	Lg	23 42 30.5	
TNSS	**Tian-Shan**	**3.25**	**22**	*e*P	**Pb**	**23 41 45.8**	**-0.9**
TNSS	11nm,0.5s			*e*S	**Sg**	**23 42 31.6**	**-1.5**
TNSS	**Tian-Shan**	**3.25**	**22**	Pg	**Pb**	**23 41 45.8**	**-0.9**
TNSS	11nm,0.5s			Lg	Lg	23 42 31.6	
ANVS	**Anan'yevo**	**3.27**	**32**	⇓*i*P	**Pn**	**23 41 39.3**	**-1.1**
ANVS	baz=29			⇓*i*S	**Sn**	**23 42 20.1**	**+0.6**
USP	**Ospenovka**	**3.28**	**350**	⇓*i*P	**Pn**	**23 41 41.0**	**+0.7**
USP	baz=48			⇓*i*S	**Sn**	**23 42 23.3**	**+3.9**
USP	**Ospenovka**	**3.28**	**350**	P	**Pn**	**23 41 41.8**	**+1.5**
MDOK	**Medeo**	**3.39**	**22**	⇓Pn	**Pn**	**23 41 42.1**	**+0.2**
MDOK	2.8nm,0.7s			⇑Pg	**Pb**	**23 41 50.1**	**+1.1**
MDOK	4.6nm,0.6s			Lg	Lg	23 42 34.2	
KNDC	**Almaty**	**3.42**	**21**	⇑Lg	Lg	23 42 36.4	
SGDS	**Sogindy**	**3.45**	**352**	Pg	**Pb**	**23 41 49.5**	**-0.5**
SGDS	9.1nm,0.5s			Lg	Lg	23 42 38.5	
KOTS	**Kotyrbulak**	**3.47**	**23**	*e*P	**Pb**	**23 41 49.3**	**-1.2**
KOTS	8.7nm,0.4s			*e*S	**Sg**	**23 42 37.8**	**-2.6**
KOTS	**Kotyrbulak**	**3.47**	**23**	Pg	**Pb**	**23 41 49.3**	**-1.2**
KOTS	8.7nm,0.4s			Lg	Lg	23 42 37.8	
KTBS	**Karatobe**	**3.82**	**15**	*e*P	**Pb**	**23 41 56.1**	**-0.2**
KTBS	3.1nm,0.3s			*e*S	**Sg**	**23 42 49.1**	**-2.2**
KTBS	**Karatobe**	**3.82**	**15**	Pg	**Pb**	**23 41 56.1**	**-0.2**
KTBS	3.1nm,0.3s			Lg	Lg	23 42 49.1	
SATY	**Saty**	**3.82**	**37**	*e*P	**Pb**	**23 41 55.1**	**-1.2**
SATY	3.2nm,0.2s			*e*S	**Sg**	**23 42 47.7**	**-3.7**
SATY	**Saty**	**3.82**	**37**	Pg	**Pb**	**23 41 55.1**	**-1.2**
SATY	3.2nm,0.2s			Lg	Lg	23 42 47.7	
ZHN	**Zhinishke**	**3.92**	**36**	*e*P	**Pb**	**23 41 57.2**	**-0.8**
ZHN	2.6nm,0.1s			*e*S	**Sg**	**23 42 51.2**	**-3.4**
ZHN	**Zhinishke**	**3.92**	**36**	Pg	**Pb**	**23 41 57.2**	**-0.8**
ZHN	2.6nm,0.1s			Lg	Lg	23 42 51.2	
KURS	**Kuram**	**4.07**	**31**	*e*P	**Pb**	**23 41 59.0**	**-1.5**
KURS	5.8nm,0.8s			*e*S	**Sb**	**23 42 54.3**	**+4.6**
KURS	**Kuram**	**4.07**	**31**	Pg	**Pb**	**23 41 59.0**	**-1.5**
KURS	5.8nm,0.8s			Lg	Lg	23 42 54.3	
KPKS	**Kokpek**	**4.26**	**35**	*e*P	**Pb**	**23 42 02.4**	**-1.5**
KPKS	6.4nm,0.2s			*e*S	**Sb**	**23 43 00.1**	**+4.6**
SHLS	**Shalkode**	**4.42**	**44**	*e*P	**Pb**	**23 42 09.7**	**+3.2**
SHLS	1.7nm,0.2s			*e*S	**Sg**	**23 43 12.9**	**+2.3**
SHLS	**Shalkode**	**4.42**	**44**	Pg	**Pb**	**23 42 09.7**	**+3.2**
SHLS	1.7nm,0.2s			Lg	Lg	23 43 12.9	
IUG	**Iuzhnay**	**4.50**	**300**	*e*P	**Pb**	**23 42 07.3**	**-0.6**
IUG	0.6nm,0.1s			*e*S	**Sg**	**23 43 08.5**	**-4.6**
IUG	**Iuzhnay**	**4.50**	**300**	Pg	**Pb**	**23 42 07.3**	**-0.6**
IUG	0.6nm,0.1s			Lg	Lg	23 43 08.5	
PDGK	**Podgornoye**	**4.55**	**42**	⇑Pg	**Pb**	**23 42 09.7**	**+0.9**
PDGK	2.5nm,0.6s			⇓Lg	Lg	23 43 10.3	
KK31	**Karatay Array**	**4.71**	**312**	⇓Pg	**Pb**	**23 42 14.2**	**+2.7**
KK31	0.7nm,0.4s,baz=141,slow=18,SNR=7.8			⇑Lg	Lg	23 43 19.3	
BRLS	**Boroldaу**	**5.07**	**308**	*e*P	**Pb**	**23 42 18.3**	**+0.8**
BRLS	2.2nm,0.6s			*e*S	**Sg**	**23 43 27.7**	**-3.7**
BRLS	**Boroldaу**	**5.07**	**308**	Pg	**Pb**	**23 42 18.3**	**+0.8**
BRLS	2.2nm,0.6s			Lg	Lg	23 43 27.7	
BTLS	**Baital**	**5.08**	**350**	*e*P	**Pb**	**23 42 20.2**	**+2.4**
BTLS	4.2nm,0.5s			*e*S	**Sg**	**23 43 30.9**	**-1.0**
BTLS	**Baital**	**5.08**	**350**	Pg	**Pb**	**23 42 20.2**	**+2.4**
BTLS	4.2nm,0.5s			Lg	Lg	23 43 31.0	
DJR	**Jarkent**	**5.44**	**36**	*e*P	**Pb**	**23 42 25.6**	**+1.7**
DJR	2.2nm,0.3s			*e*S	**Sg**	**23 43 39.7**	**-3.7**
DJR	**Jarkent**	**5.44**	**36**	Pg	**Pb**	**23 42 25.6**	**+1.7**
DJR	2.2nm,0.3s			Lg	Lg	23 43 39.7	
KAPS	**Kapalarasan**	**6.04**	**28**	*e*P	**Pb**	**23 42 37.3**	**+3.2**
KAPS	1.6nm,0.3s			*e*S	**Sg**	**23 44 00.3**	**-2.3**
KAPS	**Kapalarasan**	**6.04**	**28**	Pg	**Pb**	**23 42 37.3**	**+3.2**
KAPS	1.6nm,0.3s			Lg	Lg	23 44 00.3	

IDC ***11*** *00:26:19.1±1.1, 29˚.15S×176˚.06W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/35, mbtmp3.8/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/21, Error ellipse: s-maj=57.6km s-min=21.5km az=170.0*

ISC 11 00:26:24.6±1.1, 29˚.2S±0˚.4×176˚.1W±0˚.1, h38km, n9, σt0s 62/9, mb3.8/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.64**	**268**	Pn	**Pn**	**00 26 50.9**	**+0.1**
RAO	163nm,0.3s,baz=255,slow=23,SNR=6.6			Sn	**Sn**	**00 27 11.3**	**+0.7**
DZM	**Mont Dzumac**	**17.30**	**290**	LR	LR	00 35 34.7	
STKA	**Stephens Creek**	**36.41**	**255**	P	**P**	**00 33 25.6**	**-0.1**
ASAR	**Alice Springs**	**44.89**	**265**	P	**P**	**00 34 35.1**	**-0.6**
WRA	**Warramunga Arr**	**45.77**	**270**	P	**P**	**00 34 41.6**	**-1.1**
NVAR	**Mina Array Bea**	**86.21**	**42**	P	**P**	**00 39 02.5**	**+0.3**
FINES	**FINESS Array B**	**144.57**	**342**	PKP	**PKPdf**	**00 45 56.2**	**0.0**
AKASG	**Malin Array Be**	**151.32**	**326**	PKPbc	**PKiKP**	**00 46 14.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**163.89**	**172**	PKPab	**PKPab**	**00 47 17.2**	**+0.4**

IDC ***11*** *00:26:26.3±1.1, 0˚.39S×125˚.29E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/55, mbtmp3.8/7, ML3.0/1, MS3.0/4, Ms1 3.0/4, ms1mx2.6/42, Error ellipse: s-maj=100.4km s-min=17.8km az=69.0, Southern Molucca Sea*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**7.42**	**2**	LR	LR	00 31 08.9	
FITZ	**Fitzroy Crossi**	**17.60**	**179**	P	Pn	00 30 32.2	-0.8
WRA	**Warramunga Arr**	**21.36**	**156**	P	P	00 31 14.5	-0.8
ASAR	**Alice Springs**	**24.60**	**161**	P	P	00 31 49.4	+0.9
STKA	**Stephens Creek**	**34.91**	**155**	LR	LR	00 48 47.2	
KSRS	**Korea Array**	**37.74**	**3**	LR	LR	00 50 35.5	
SONM	**Songino Array**	**50.77**	**344**	P	P	00 35 27.8	-0.6
SONM				LR	LR	00 59 15.2	
MKAR	**Makanchi Array**	**60.16**	**327**	P	P	00 36 35.6	-0.2
ZALV	**Zalesovo Beam**	**63.63**	**335**	P	P	00 37 00.5	+1.5
AKTO	**Aktyubinsk**	**76.00**	**323**	P	P	00 38 14.1	-1.3

IDC ***11*** *00:46:47.9±0.6, 19˚.64N×109˚.05W, h0km, mb4.9/25, mb1 5.0/32, mb1mx4.9/48, mbtmp4.9/32, ML4.3/6, MS4.6/22, Ms1 4.6/22, ms1mx4.5/29, Error ellipse: s-maj=19.9km s-min=9.9km az=55.0*

BJI ***11*** *00:46:48.5±0.0, 19˚.60N×108˚.90W, h10km, Ms7 4.9/5*

MEX ***11*** *00:46:48.7±0.9, 19˚.53N×108˚.92W, h10km, MD5.2*

NEIC ***11*** *00:46:49±2.3, 19˚.50N±0˚.04×109˚.06W±0˚.06, h10km±2km, mb5.2/330, Ms_20 4.7/406, Mwb5.4, Md5.2(MEX), Mwc5.5(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr=0.04; Mθθ=0.93; Mϕϕ=0.98; Mrθ=0.01; Mrϕ=-1.06; Mθϕ=0.19; Fault plane solution: M0 1.44000×10^{17} NP1:ϕs201.10000°, δ88.20000°, λ7.13000°. NP2:ϕs110.87000°, δ82.87000°, λ178.18000°. Principal axes: T 1.4651, Plg6.0000°, Azm66.0000°; N -0.0568, Plg83.0000°, Azm215.0000°; P -1.4083, Plg4.0000°, Azm336.0000°;*

MOS ***11*** *00:46:50.9±1.0, 19˚.64N×108˚.89W, h28km, mb5.4/28, MS4.5/14 Error ellipse: s-maj=9.7km s-min=5.9km az=92.7*

GCMT ***11*** *00:46:51.0±0.1, 19˚.73N±0˚.01×108˚.90W±0˚.01, h19km, MW5.4/139, Moment Tensor Solution. s116,c182; s139,c249; Duration: 1ŝ2 Moment tensor: Scale 10^{17} Nm; Mrr=0.31±.02; Mθθ=1.32±.02; Mϕϕ 1.63±.02; Mrθ=0.17±.04; Mrϕ=0.58±.02; Mθϕ=0.21±.04; Best double couple: M0 1.61000×10^{17} NP1:ϕs34.00000°, δ86.00000°, λ-11.00000°. NP2:ϕs125.00000°, δ79.00000°, λ-176.00000°. Principal axes: T 1.7540, Plg5.0000°, Azm80.0000°; N -0.2860, Plg79.0000°, Azm195.0000°; P -1.4650, Plg10.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***11*** *00:46:52, 19˚.73N×108˚.87W, h20km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; Mrr=0.30; Mθθ-1.45; Mϕϕ 1.75; Mrθ=0.07; Mrϕ=0.66; Mθϕ 0.19; Fault plane solution: M0 1.76000×10^{17} NP1:ϕs304.00000°, δ87.00000°, λ175.00000°. NP2:ϕs34.00000°, δ85.00000°, λ3.00000°. Principal axes: T 1.8957, Plg5.0000°, Azm259.0000°; N -0.3148, Plg85.0000°, Azm96.0000°; P -1.5809, Plg2.0000°, Azm349.0000°;*

ISCJB ***11*** *00:46:53.4±0.6, 19˚.72N±0˚.02×108˚.84W±0˚.02, h47km±5km, mb5.0/51, MS4.7/41 Error ellipse: s-maj=4.6km s-min=2.8km az=33.6*

ISC 11 00:46:47.8±1.8, 19˚.51N±0˚.04×109˚.05W±0˚.04, h4km±10km, n1001, σt1s 29/751, mb5.2/154, MS4.7/236, 2C-1D, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H06E		**1.92**	**248**	*e*P	**Pn**	**00 47 19.6**	**-1.6**
H06E				*e*S	**Sn**	**00 47 44.8**	**-0.9**
H06E		**1.92**	**248**		**Pn**	**00 47 19.6**	**-1.6**
H06E					**Sn**	**00 47 44.8**	**-0.9**
H06N	**Isla Socorro**	**1.95**	**251**	*e*P	**Pn**	**00 47 19.8**	**-1.8**
H06N				*e*S	**Sn**	**00 47 46.1**	**-0.5**
H06N	**Isla Socorro**	**1.95**	**251**		**Pn**	**00 47 19.8**	**-1.8**
H06N					**Sn**	**00 47 46.1**	**-0.5**
H06S		**1.97**	**247**	*e*P	**Pn**	**00 47 20.0**	**-1.9**
H06S				*i* S	**Sn**	**00 47 48.4**	**+1.3**
H06S		**1.97**	**247**		**Pn**	**00 47 20.0**	**-1.9**
H06S					**Sn**	**00 47 48.4**	**+1.3**
CJM	**Chamela**	**3.77**	**90**	*i* P	**Pn**	**00 47 43.2**	**-3.6**
CJM				*i* S	Sn	00 48 13.8	-18
LPIG	**La Paz**	**4.72**	**346**	Pn	**Pn**	**00 47 58.6**	**-1.1**
LPIG	31nm,0.3s,baz=242,slow=1.0,SNR=26			Sn	**Sn**	**00 49 00.8**	**+5.9**
LPIG	6.7nm,0.3s,baz=95,slow=12,SNR=2.2			LR	LR	00 49 30.5	
LPIG	**La Paz**	**4.72**	**346**	*i* P	**Pn**	**00 47 57.9**	**-1.8**
LPIG	comp=Z,12μm,21.1s,baz=135,slow=35			*e*S	Sn	00 48 32.3	-23
LPIG	**La Paz**	**4.72**	**346**		**Pn**	**00 47 57.9**	**-1.8**
ZAIG	**Zacatecas**	**6.86**	**61**		**Pn**	**00 48 28.2**	**-1.2**
MOIG	**Morelia**	**7.41**	**87**		**Pn**	**00 48 36.1**	**-0.9**
HPIG		**8.02**	**22**		**Pn**	**00 48 45.2**	**-0.1**
SRIG	**Santa Rosalia**	**8.31**	**340**		**Pn**	**00 48 51.0**	**+2.0**
GUYB	**Guaymas**	**8.52**	**349**	*i* P	**Pn**	**00 48 52.8**	**+0.9**
HSIG		**9.62**	**350**		**Pn**	**00 49 09.2**	**+2.0**
TLIG	**Tlapa**	**10.13**	**99**		**Pn**	**00 49 14.5**	**+0.3**
TX31	**Lajitas Ar. Si**	**10.94**	**26**		**Pn**	**00 49 26.3**	**+1.1**
TX32	**Lajitas Array**	**10.94**	**26**		**Pn**	**00 49 25.6**	**+0.4**
TXAR	**Lajitas Array**	**10.94**	**26**	Pn	**Pn**	**00 49 25.9**	**+0.7**
TXAR	0.5nm,0.3s,baz=205,slow=12,SNR=73			Sn	**Sn**	**00 51 25.4**	**-2.6**
TXAR	baz=197,slow=23,SNR=1.9			LR	LR	00 53 10.8	
319A	**Douglas**	**11.82**	**359**		**Pn**	**00 49 40.5**	**+3.2**
833A	**Chaparral WMA,**	**12.44**	**43**	P	**Pn**	**00 49 46.9**	**+1.3**
833A	baz=227,SNR=17 **Chaparral WMA,**	**12.44**	**43**		**Pn**	**00 49 45.4**	**-0.3**
MNTX	**Cornudas Mount**	**12.58**	**14**	P	**Pn**	**00 49 50.2**	**+2.6**
MNTX	baz=196,SNR=42 **Cornudas Mount**	**12.58**	**14**		**Pn**	**00 49 49.4**	**+1.9**
TUC	**Tucson**	**12.84**	**353**	P	**Pn**	**00 49 54.4**	**+3.1**
TUC	baz=172 **Tucson**	**12.84**	**353**	P	**Pn**	**00 49 53.5**	**+2.3**
TUC	**Tucson**	**12.84**	**353**		**Pn**	**00 49 53.5**	**+2.3**
214A	**Organ Pipe Nat**	**12.85**	**345**	P	**Pn**	**00 49 52.4**	**+1.1**
214A	baz=163,SNR=23 **Organ Pipe Nat**	**12.85**	**345**		**Pn**	**00 49 53.9**	**+2.6**
SPX	**San Pedro Mart**	**12.86**	**334**	*i* P	**Pn**	**00 49 53.9**	**+2.2**
SPX	**San Pedro Mart**	**12.86**	**334**		**Pn**	**00 49 53.9**	**+2.2**
121A	**Cookes Peak, D**	**13.02**	**5**	P	**Pn**	**00 49 55.9**	**+2.1**
121A	baz=185,SNR=55 **Cookes Peak, D**	**13.02**	**5**		**Pn**	**00 49 56.4**	**+2.6**
CMIG	**Matias Romero**	**13.66**	**98**	Pn	**Pn**	**00 50 03.4**	**+0.9**
JCT	6.0nm,0.3s,baz=270,slow=9.0,SNR=43 **Junction City**	**13.76**	**36**	P	**Pn**	**00 50 04.6**	**+0.8**
JCT	baz=219,SNR=17 **Junction City**	**13.76**	**36**	P	**Pn**	**00 50 04.8**	**+1.1**
JCT	**Junction City**	**13.76**	**36**		**Pn**	**00 50 04.8**	**+1.1**
GLA	**Glamis**	**14.44**	**340**	P	**Pn**	**00 50 15.4**	**+2.3**
GLA	baz=157,SNR=24 **Glamis**	**14.44**	**340**	P	**Pn**	**00 50 15.0**	**+1.9**
GLA	**Glamis**	**14.44**	**340**		**Pn**	**00 50 15.0**	**+1.9**
CBX	**Cerro Bola**	**14.47**	**333**	*i* P	**Pn**	**00 50 15.2**	**+1.7**
CBX	**Cerro Bola**	**14.47**	**333**		**Pn**	**00 50 15.2**	**+1.7**
IKP	**In-Ko-Pah, Jac**	**14.54**	**336**	P	**Pn**	**00 50 16.0**	**+1.6**
Y22D	baz=152,SNR=58 **IRIS PASSCAL I**	**14.63**	**7**	P	**Pn**	**00 50 18.5**	**+2.8**
SWSC	baz=188 **Sam W. Stewart**	**14.68**	**337**	P	**Pn**	**00 50 17.9**	**+1.6**
LENM	baz=154,SNR=22 **Lemitar**	**14.71**	**7**		**Pn**	**00 50 18.4**	**+1.4**
BNM	**Barren Site**	**14.74**	**8**		**Pn**	**00 50 18.9**	**+1.6**
BAR	**Barrett**	**14.79**	**334**	Pn	**Pn**	**00 50 18.4**	**+0.5**
MONP2	**Monument Peak**	**14.87**	**335**	P	**Pn**	**00 50 20.7**	**+1.6**
	baz=151,SNR=37						

LPM **Los Pinos Moun** 14.90 8 Pn Pn 00 50 20.8 +1.4
Y12C **Blythe** 15.00 342 P Pn 00 50 22.6 +2.0
baz=159,SNR=37
X16A **Lo Mia Camp, P** 15.00 352 IAmb IAmb 00 50 28.1
comp=Z,57nm,1.1s
109C **Camp Elliot, M** 15.15 333 P Pn 00 50 23.3 +0.7
baz=149
BC3 **Big Chuckawall** 15.20 339 P Pn 00 50 25.2 +1.8
baz=156,SNR=137
435B **Jarrell** 15.27 40 P Pn 00 50 24.0 -0.3
baz=225,SNR=9.4
435B **Jarrell** 15.27 40 IAmb IAmb 00 50 41.2
comp=Z,93nm,0.8s
MSTX **Muleshoe** 15.45 20 P Pn 00 50 27.1 +0.5
baz=202,SNR=28
MSTX **Muleshoe** 15.45 20 IAmb IAmb 00 50 33.2
comp=Z,80nm,0.9s
XPFO **Pion Flat** 15.52 336 Pn 00 50 28.4 +0.7
XPFO IAmb IAmb 00 50 35.8
comp=Z,104nm,1.1s
PFO **Pinyon Flats O** 15.52 336 P Pn 00 50 28.9 +1.2
baz=152,SNR=37
PFO **Pinyon Flats O** 15.52 336 P Pn 00 50 28.7 +1.0
PFO 00 53 21.6
PFO pmax pmax
comp=Z,104nm,1.1s
PFO **Pinyon Flats O** 15.52 336 Pn Pn 00 50 29.2 +1.5
comp=Z,0.2nm,0.3s,baz=155,slow=12,SNR=23
PFO Sn Sn 00 53 21.6 +1.4
comp=Z,0.1nm,0.3s,baz=266,slow=19,SNR=1.5
PFO **Pinyon Flats O** 15.52 336 Pn 00 50 28.7 +1.0
PFO IAmb IAmb 00 50 35.8
comp=Z,104nm,1.1s
ABTX **Abilene, Hawle** 15.54 31 P Pn 00 50 27.8 0.0
baz=215,SNR=21
ABTX **Abilene, Hawle** 15.54 31 IAmb IAmb 00 50 40.5
comp=Z,95nm,1.1s
ANMO **Albuquerque** 15.54 8 P P 00 50 30.1 -2.4
baz=189
ANMO S Sn 00 53 24.2 +3.4
baz=189
ANMO **Albuquerque** 15.54 8 P Pn 00 50 28.5 +0.5
ANMO 00 53 25.1
ANMO pmax pmax
comp=Z,50nm,1.1s
ANMO **Albuquerque** 15.54 8 Pn Pn 00 50 28.3 +0.3
comp=Z,0.1nm,0.3s,baz=187,slow=13,SNR=23
ANMO Sn Sn 00 53 25.1 +4.3
comp=Z,0.0nm,0.3s,baz=3.5,slow=19,SNR=1.9
ANMO **Albuquerque** 15.54 8 Pn Pn 00 50 28.6 +0.5
W18A **Petrified Fore** 15.56 358 P Pn 00 50 30.2 +2.0
baz=177,SNR=23
W18A **Petrified Fore** 15.56 358 IAmb IAmb 00 50 44.1
comp=Z,98nm,1.1s
IRM **Iron Mountain** 15.56 341 P Pn 00 50 30.0 +1.9
baz=158,SNR=94
BELC **Belle Mtn. Jos** 15.70 338 P Pn 00 50 32.3 +2.3
baz=154,SNR=297
MURC **Murrieta** 15.80 334 P Pn 00 50 32.5 +1.2
baz=150,SNR=56
HKT **Hockley** 15.86 47 P Pn 00 50 31.0 -0.9
HKT pmax pmax
comp=Z,16nm,1.1s
HKT **Hockley** 15.86 47 Pn 00 50 31.0 -0.9
SCI2 **San Clemente I** 15.88 330 P Pn 00 50 33.6 +1.4
baz=145,SNR=10
NEE2 **Needles Airpor** 15.98 343 P Pn 00 50 35.1 +1.6
baz=160,SNR=8.7
WUAZ **Wupatki** 16.08 353 P P 00 50 37.4 -1.0
baz=172,SNR=66
WUAZ **Wupatki** 16.08 353 IAmb IAmb 00 50 39.9
comp=Z,124nm,1.1s
CIS **Catalina Islan** 16.16 331 P Pn 00 50 36.9 +1.0
baz=146,SNR=20
WHTX **Lake Whitney,** 16.21 38 P Pn 00 50 36.2 -0.3
baz=222,SNR=33
WHTX **Lake Whitney,** 16.21 38 IAmb IAmb 00 50 52.1
comp=Z,147nm,1.1s
BBRC **Big Bear Solar** 16.27 336 P P 00 50 40.0 -0.6
baz=152,SNR=12
GMRC **Granite Mounta** 16.30 340 P Pn 00 50 39.6 +1.8
baz=157,SNR=156
CCIG **Comitan** 16.41 99 Pn Pn 00 50 39.4 +0.1
CCIG IAmb IAmb 00 50 48.2
comp=Z,178nm,1.0s
BFSC **Mount Baldy Ra** 16.55 334 P Pn 00 50 42.4 +1.5
baz=150,SNR=28
HEC **Hector,Ludlow** 16.57 339 P P 00 50 43.4 -0.4
baz=155,SNR=99
SNCC **San Nicolas Is** 16.58 328 P Pn 00 50 42.6 +1.4
baz=142
AMTX **Amarillo** 16.64 22 P Pn 00 50 42.4 +0.3
baz=205
PASC **Pasadena Art C** 16.71 333 Pn Pn 00 50 43.1 +0.3
DECC **Green Verdugo** 16.84 333 P P 00 50 46.5 -0.3
baz=148
RRX **Edison Barstow** 16.85 337 P P 00 50 47.2 +0.4
baz=153
TUQ **Turquoise Moun** 16.99 340 P P 00 50 48.7 +0.3
baz=157,SNR=102
BLG **Laguna Peak, P** 17.05 331 P P 00 50 48.8 -0.3
baz=146
U15A **North Rim** 17.09 351 IAmb IAmb 00 51 03.5
comp=Z,120nm,1.1s
GSC **Goldstone, Bar** 17.16 338 P P 00 50 50.6 +0.3
baz=154,SNR=60
SCZ2 **Santa Cruz Isl** 17.23 329 P Pn 00 50 50.2 +0.8
baz=144
EDW2 **Edwards Air Fo** 17.24 334 P P 00 50 51.1 0.0
baz=150,SNR=34
OSI **Osito Audit: C** 17.32 332 P P 00 50 52.2 +0.2
baz=147
SHOC **Shoshone, Teco** 17.52 340 P P 00 50 55.6 +1.3
baz=156
SBC **Santa Barbara** 17.63 330 P P 00 50 55.8 +0.4
baz=144
MVCO **Mesa Verde** 17.64 1 P P 00 50 56.0 +0.3
baz=181,SNR=87
WMOK **Wichita Mounta** 17.69 29 P Pn 00 50 54.8 -0.3
baz=213,SNR=19
SHPR **Sheep Range** 17.76 344 IAmb IAmb 00 51 00.3
comp=Z,157nm,1.1s
NATX **Nacogdoches** 17.78 44 P Pn 00 50 55.2 -1.1
baz=230,SNR=16
NATX **Nacogdoches** 17.78 44 Pn Pn 00 50 54.5 -1.8
ARVC **Arvin** 17.80 333 P P 00 50 58.6 +1.3
baz=148,SNR=12
T25A **Trinidad** 18.02 12 P P 00 50 59.8 -0.2
baz=194,SNR=24
PKM **Mcpherson Peak** 18.04 330 P P 00 51 01.9 +1.7
baz=145,SNR=40
MPMC **Manual Prospec** 18.08 337 P P 00 51 02.1 +1.5
baz=153,SNR=79
ISA **Isabella, Lake** 18.11 335 P P 00 51 02.4 +1.6
baz=150,SNR=26
ISA **Isabella, Lake** 18.11 335 P Pn 00 51 00.3 -0.1
ISA pmax pmax
comp=Z,72nm,1.2s
ISA **Isabella, Lake** 18.11 335 Pn 00 51 00.3 -0.1
FURC **Furnace Creek,** 18.23 339 P P 00 51 03.5 +1.4
baz=155,SNR=8.4
S22A **4UR Ranch, Cre** 18.27 6 P P 00 51 03.9 +1.1
baz=186,SNR=35
APG **El Apazote** 18.30 101 P P 00 51 03.9 +0.7
comp=Z,0.4nm,0.3s,baz=305,slow=9.8,SNR=30
SDCO **Great Sand Dun** 18.43 9 P P 00 51 05.9 +1.4
baz=190,SNR=59
SMMC **Simmler** 18.48 331 P Pn 00 51 06.9 +2.0
baz=145,SNR=8.1
TPNV **Topopah Spring** 18.48 342 P Pn 00 51 07.1 +2.0
baz=158,SNR=95
VES **Vestal, Richgr** 18.52 334 P Pn 00 51 07.3 +2.0
baz=148,SNR=12
PV13 **Radium Mtn., P** 18.58 1 P Pn 00 51 06.9 +0.6
CWC **Cottonwood Cre** 18.64 337 P Pn 00 51 08.8 +1.8
baz=152
GRAC **Grapevine Rang** 18.88 339 P Pn 00 51 10.8 +1.1
baz=155,SNR=66
PAGB **Antelope Grade** 18.94 331 IAmb IAmb 00 51 13.6
comp=Z,103nm,1.0s
U32A **Winter Ranch,** 18.98 26 P P 00 51 09.8 -0.5
VOG **Valley Oaks Go** 19.05 334 P Pn 00 51 13.6 +1.9
baz=148
TIN **Tinemaha, Big** 19.24 337 P Pn 00 51 15.7 +1.6
baz=152,SNR=14
TEIG **Tepich** 19.55 84 P Pn 00 51 16.9 -1.0
comp=Z,0.8nm,0.3s,baz=320,slow=4.9,SNR=11
TEIG **Tepich** 19.55 84 P Pn 00 51 16.3 -1.6
PMPB **Monarch Peak** 19.59 331 IAmb IAmb 00 51 23.0
comp=Z,216nm,1.2s
R11A **Troy Canyon, C** 19.61 345 P Pn 00 51 18.8 +0.2
baz=161,SNR=53
Q24A **Divide** 19.68 9 P Pn 00 51 18.7 -0.8
baz=191,SNR=15
SMCO **Snowmass** 19.68 5 IAmb IAmb 00 51 27.4
comp=Z,79nm,1.0s
Z41A **Richland Creek** 19.94 43 P P 00 51 20.4 -0.4
baz=230,SNR=6.1
MLAC **Mammoth, Mammo** 19.97 337 P Pn 00 51 23.7 +0.7
baz=152,SNR=14
OMMB **Old Mammoth Mi** 20.02 336 IAmb IAmb 00 51 28.1
comp=Z,75nm,1.1s
WLAR **White Oak Lake** 20.02 42 IAmb IAmb 00 51 33.7
comp=Z,198nm,1.2s
WLAR IAMs_20 IAMs_20 00 59 02.2
comp=Z,2µm,19.0s
TUL1 **Leonard** 20.08 33 P P 00 51 21.7 -0.5
baz=219,SNR=13
TUL1 **Leonard** 20.08 33 IAmb IAmb 00 51 37.5
comp=Z,104nm,1.0s
TUL1 IAMs_20 IAMs_20 00 59 15.4
comp=Z,3µm,19.0s
KSCO **Kaye Shedlock'** 20.21 15 P Pn 00 51 24.3 -1.4
baz=197,SNR=9.1
KSCO **Kaye Shedlock'** 20.21 15 IAmb IAmb 00 51 28.8
comp=Z,150nm,1.1s
KSCO IAMs_20 IAMs_20 00 58 52.4
comp=Z,4µm,18.0s
MIAR **Mount Ida** 20.31 39 P P 00 51 24.0 -0.8
baz=226,SNR=9.4
MIAR **Mount Ida** 20.31 39 P P 00 51 23.6 -1.2
MIAR pmax pmax
comp=Z,29nm,1.0s
MIAR MLR MLR
comp=Z,2µm,20.0s
MIAR **Mount Ida** 20.31 39 P P 00 51 23.6 -1.2
SAO **San Andreas Ge** 20.34 330 IAMs_20 IAMs_20 00 58 09.0
comp=Z,2µm,18.0s
ISCO **Idaho Springs** 20.43 8 P P 00 51 26.7 +0.2
baz=189,SNR=42
NV11 **Mina Array Sit** 20.45 339 IAmb IAmb 00 51 29.8
comp=Z,109nm,1.1s
NV11 IAMs_20 IAMs_20 00 58 22.0
comp=Z,3µm,22.0s
NVAR **Mina Array Bea** 20.49 339 P P 00 51 28.4 +1.3
comp=Z,77nm,0.9s,baz=166,slow=12,SNR=178
NVAR LR LR 00 58 33.6
comp=Z,3µm,21.9s,baz=152,slow=35
O20A **White River Ci** 20.57 2 P Pn 00 51 28.9 -1.1
baz=182,SNR=79
O20A **White River Ci** 20.57 2 P P 00 51 28.5 +0.7
O20A IAmb IAmb 00 51 33.8
comp=Z,172nm,1.0s
O20A IAMs_20 IAMs_20 00 59 07.6
comp=Z,3µm,18.0s
W39A **Magazine** 20.64 38 P P 00 51 26.9 -1.6
baz=225,SNR=20
W39A **Magazine** 20.64 38 IAmb IAmb 00 51 39.8
comp=Z,66nm,0.9s
X40A **Basin Creek Fa** 20.72 41 P P 00 51 28.7 -0.6
baz=228,SNR=17
RYN **Ryan** 20.75 339 P P 00 51 30.7 +0.9
RYN IAMs_20 IAMs_20 00 58 54.4
comp=Z,2µm,19.0s
CBKS **Cedar Bluff** 20.86 21 P P 00 51 30.1 -0.7
baz=205,SNR=13
CBKS **Cedar Bluff** 20.86 21 IAmb IAmb 00 51 42.1
comp=Z,150nm,1.1s
DUG **Dugway, Tooele** 20.87 352 P Pn 00 51 32.5 -1.0
baz=170,SNR=126
DUG **Dugway, Tooele** 20.87 352 IAmb IAmb 00 51 36.9
comp=Z,85nm,0.9s
DUG IAMs_20 IAMs_20 00 58 59.0
comp=Z,3µm,20.0s
VBMS **Vicksburg** 20.89 49 P P 00 51 29.9 -1.2
baz=237,SNR=18
VBMS **Vicksburg** 20.89 49 IAmb IAmb 00 51 42.1
comp=Z,137nm,1.0s
WAKR **Walker** 20.97 337 IAmb IAmb 00 51 35.8
comp=Z,137nm,1.1s
KVN **Kaysville** 20.99 340 IAmb IAmb 00 51 35.6
comp=Z,116nm,0.9s
UALR **University of** 21.21 41 P P 00 51 34.0 -0.6
UALR IAMs_20 IAMs_20 00 58 59.8
comp=Z,2µm,22.0s
HHAR **Hobbs** 21.34 35 IAMs_20 IAMs_20 00 59 29.1
comp=Z,2µm,19.0s
N23A **Red Feather La** 21.48 6 P P 00 51 37.5 -0.2
baz=188,SNR=32
N23A **Red Feather La** 21.48 6 IAmb IAmb 00 51 42.3
comp=Z,84nm,1.0s
TGUH **Tegucigalpa,Un** 21.53 101 P P 00 51 39.7 +1.4
W41B **Gary Mavity, V** 21.54 40 P P 00 51 38.0 -0.1
baz=228,SNR=28
WHAR **Wooly Hollow** 21.59 40 P P 00 51 38.4 -0.3
WHAR IAmb IAmb 00 51 52.0
comp=Z,135nm,1.0s
RUBR **Rubicon Trail** 21.71 336 IAmb IAmb 00 51 45.5
comp=Z,128nm,1.0s
RUBR IAMs_20 IAMs_20 00 59 35.0
comp=Z,3µm,19.0s
VCNR **Virginia City** 21.74 337 IAmb IAmb 00 51 45.6
comp=Z,129nm,1.0s
ELK **Elko** 21.82 347 P P 00 51 42.3 +1.0
ELK pmax pmax
comp=Z,67nm,1.1s
ELK MLR MLR
comp=Z,2µm,18.0s
ELK **Elko** 21.82 347 P P 00 51 41.7 +0.4
comp=Z,41nm,0.9s,baz=176,slow=8.8,SNR=52
ELK LR LR 00 59 60.0
comp=Z,1µm,19.8s,baz=157,slow=36
ELK **Elko** 21.82 347 P P 00 51 42.4 +1.0
ELK IAmb IAmb 00 51 45.8
comp=Z,67nm,1.1s
ELK IAMs_20 IAMs_20 00 59 49.2
comp=Z,2µm,18.0s
PHWY **Pilot Hill** 21.93 7 IAmb IAmb 00 51 44.7
comp=Z,76nm,1.1s
AFDM **Forest Hills D** 21.95 334 P P 00 51 43.6 +1.1
X43A **Marvell** 21.98 43 P P 00 51 42.6 -0.2
baz=232,SNR=8.9
X43A **Marvell** 21.98 43 IAMs_20 IAMs_20 00 59 49.0
comp=Z,2µm,21.0s
U40A **Yellville** 22.00 37 P P 00 51 41.9 -1.1
baz=224,SNR=9.6
U40A **Yellville** 22.00 37 IAMs_20 IAMs_20 01 00 05.6
comp=Z,3µm,22.0s
BMN **Battle Mountai** 22.00 343 IAMs_20 IAMs_20 01 00 04.0
comp=Z,2µm,18.0s
PAHR **Pah Rah Range** 22.01 338 IAmb IAmb 00 51 48.1
comp=Z,71nm,1.1s
HWUT **Hardware Ranch** 22.13 355 IAmb IAmb 00 51 48.6
comp=Z,77nm,0.9s
HWUT IAMs_20 IAMs_20 00 59 52.4
comp=Z,3µm,18.0s
RWWY **Rawlins** 22.16 4 IAmb IAmb 00 51 47.2
comp=Z,58nm,0.6s
RWWY IAMs_20 IAMs_20 00 59 56.2
comp=Z,2µm,22.0s
OGNE **Ogallala** 22.19 14 P P 00 51 45.1 0.0
baz=197
OGNE **Ogallala** 22.19 14 IAmb IAmb 00 51 55.3
comp=Z,77nm,1.1s
OGNE IAMs_20 IAMs_20 00 59 25.8
comp=Z,2µm,18.0s
KSU1 **Kansas State U** 22.29 26 P P 00 51 45.5 -0.6
baz=212
KSU1 **Kansas State U** 22.29 26 IAMs_20 IAMs_20 01 00 03.3
comp=Z,3µm,20.0s
GDXM **Geysers** 22.62 331 IAMs_20 IAMs_20 00 59 40.3
comp=Z,2µm,20.0s
ESTN **Estel** 22.66 103 IAmb IAmb 00 51 53.3
comp=Z,90nm,0.9s
ORV **Oroville** 22.68 334 IAmb IAmb 00 51 54.2
comp=Z,66nm,1.1s
HBAR **Harrisburg** 22.77 42 IAMs_20 IAMs_20 01 00 10.0
comp=Z,2µm,21.0s
MGMO **Mountain Grove** 22.89 36 P P 00 51 51.6 -1.0
MGMO IAMs_20 IAMs_20 01 00 41.3
comp=Z,3µm,19.0s
HOPS **Hopland Field** 22.89 331 IAMs_20 IAMs_20 00 59 28.6
comp=Z,2µm,19.0s
OXF **Oxford** 22.94 45 P P 00 51 52.1 -1.0
baz=234
BRAL **Brewton** 22.97 55 P P 00 51 52.0 -1.4
baz=245,SNR=8.9
BRAL **Brewton** 22.97 55 P P 00 51 53.0 -0.4
LPAR **Lepanto** 23.02 42 IAMs_20 IAMs_20 01 00 08.7
comp=Z,2µm,18.0s
K22A **Casper** 23.17 5 P P 00 51 55.6 +0.1
baz=186,SNR=44
BW06 **Boulder Array** 23.19 359 P P 00 51 55.2 -0.6
baz=178,SNR=27
PDAR **Pinedale Array** 23.19 359 P P 00 51 55.8 0.0
comp=Z,20nm,0.8s,baz=167,slow=9.1,SNR=106
PDAR PcP PcP 00 55 44.0 -0.2
comp=Z,0.3nm,0.6s,baz=176,slow=2.7,SNR=2.5
PDAR LR LR 01 00 49.0
comp=Z,1µm,20.1s,baz=180,slow=36
AHID **Auburn Hatcher** 23.25 356 P P 00 51 56.0 -0.4
AHID IAmb IAmb 00 51 59.9
comp=Z,40nm,0.9s
AHID IAMs_20 IAMs_20 01 01 41.0
comp=Z,2µm,18.0s
O03E **Paynes Creek** 23.43 335 P P 00 51 59.0 +0.9
baz=148,SNR=24
BGNE **Belgrade** 23.72 21 P P 00 52 00.3 -0.6
baz=206
BGNE **Belgrade** 23.72 21 IAmb IAmb 00 52 14.1
comp=Z,93nm,0.9s
O02D **Mt. Diablo Mer** 23.74 333 P P 00 52 01.9 +0.7
baz=146
HALT **Halls** 23.83 43 IAMs_20 IAMs_20 01 00 43.0
comp=Z,2µm,18.0s
REDW **Red Top Meadow** 23.83 357 IAmb IAmb 00 52 04.0
comp=Z,58nm,0.8s
LRAL **Lakeview Retre** 23.86 51 P P 00 52 02.1 -0.2
baz=241,SNR=10.0
LRAL **Lakeview Retre** 23.86 51 P P 00 52 00.9 -1.4
250A **Grady** 23.92 54 P P 00 52 02.8 -0.1
baz=244,SNR=24
WDC **Whiskeytown Da** 23.97 334 P P 00 52 03.0 -0.3
WDC pmax pmax
comp=Z,21nm,1.1s
WDC MLR MLR
comp=Z,1µm,21.0s
WDC **Whiskeytown Da** 23.97 334 P P 00 52 03.0 -0.3
GLAT **Glass** 24.08 42 IAMs_20 IAMs_20 01 00 49.2
comp=Z,2µm,21.0s
CCM **Cathedral Cave** 24.11 36 P P 00 52 03.7 -0.9
baz=225
CCM **Cathedral Cave** 24.11 36 P P 00 52 04.9 +0.3
CCM pmax pmax
comp=Z,29nm,1.0s
CCM MLR MLR
comp=Z,2µm,20.0s
CCM **Cathedral Cave** 24.11 36 P P 00 52 04.9 +0.3
CCM **Cathedral Cave** 24.11 36 IAMs_20 IAMs_20 01 01 18.4
comp=Z,2µm,20.0s
PLAL **Pickwick Lake** 24.11 46 P P 00 52 04.1 -0.6
PLAL IAmb IAmb 00 52 14.9
comp=Z,90nm,1.0s
PLAL IAMs_20 IAMs_20 01 01 51.6
comp=Z,2µm,19.0s
ACON **Acoyapa** 24.15 105 IAmb IAmb 00 52 08.3
comp=Z,86nm,1.0s
MOOW **Moose Ponds** 24.21 357 IAmb IAmb 00 52 10.5
comp=Z,54nm,1.0s
MOOW IAMs_20 IAMs_20 01 01 12.4
comp=Z,2µm,19.0s
WVOR **Wild Horse Val** 24.25 343 P P 00 52 06.4 +0.3
WVOR pmax pmax
comp=Z,72nm,1.0s
WVOR MLR MLR
comp=Z,2µm,18.0s
WVOR **Wild Horse Val** 24.25 343 P P 00 52 06.4 +0.3
WVOR IAmb IAmb 00 52 09.0
comp=Z,72nm,0.9s
WVOR IAMs_20 IAMs_20 01 01 42.7
comp=Z,2µm,18.0s
N02D **Trinity Center** 24.37 334 P P 00 52 06.8 -0.3
baz=147,SNR=13
MFID **Camas Ranch** 24.51 348 IAMs_20 IAMs_20 01 01 35.3
comp=Z,2µm,18.0s
X48A **Hartselle** 24.54 48 P P 00 52 07.8 -0.8
baz=238,SNR=15
FLWY **Flagg Ranch** 24.54 357 IAmb IAmb 00 52 11.0
comp=Z,60nm,1.1s
FLWY IAMs_20 IAMs_20 01 01 22.1
comp=Z,2µm,18.0s
553A **Crawfordville** 24.68 60 P P 00 52 08.9 -1.0
baz=250
Y49A **Blount Mountai** 24.69 50 P P 00 52 09.4 -0.5
baz=240,SNR=12
Y49A **Blount Mountai** 24.69 50 IAMs_20 IAMs_20 01 02 58.7
comp=Z,2µm,20.0s
KHMM **Horse Mountain** 24.72 333 IAmb IAmb 00 52 23.8
comp=Z,69nm,1.0s
M04C **Macdoel** 24.72 337 P P 00 52 10.5 +0.2
baz=150,SNR=34
Z50A **Ashland** 24.75 52 P P 00 52 09.9 -0.7
baz=242,SNR=39
Z50A **Ashland** 24.75 52 P P 00 52 10.7 0.0
352A **Blakely** 24.76 56 P P 00 52 10.6 0.0
baz=247,SNR=6.2
M02C **Callahan** 24.78 335 P P 00 52 10.1 -0.8
baz=147,SNR=7.8
JCC **Jacoby Creek,** 24.80 332 IAmb IAmb 00 52 14.7
comp=Z,57nm,1.1s
H17A **Grant Village** 24.84 357 P P 00 52 11.8 +0.3
baz=176,SNR=12
H17A **Grant Village** 24.84 357 IAmb IAmb 00 52 15.4
comp=Z,47nm,1.1s
ESPN **Las Esperanzas** 24.87 103 IAmb IAmb 00 52 29.7
comp=Z,42nm,1.1s
RSSD **Black Hills** 24.89 9 P P 00 52 11.7 -0.3
baz=191
RSSD **Black Hills** 24.89 9 P P 00 52 12.4 +0.4
RSSD pmax pmax
comp=Z,28nm,1.0s
RSSD MLR MLR
comp=Z,7µm,19.0s
RSSD **Black Hills** 24.89 9 P P 00 52 12.4 +0.4
WVT **Waverly** 24.93 44 P P 00 52 11.6 -0.6
baz=234
WVT **Waverly** 24.93 44 P P 00 52 11.3 -0.9
WVT pmax pmax
comp=Z,53nm,1.1s
WVT MLR MLR
comp=Z,2µm,20.0s
WVT **Waverly** 24.93 44 P P 00 52 11.3 -0.9
WVT IAmb IAmb 00 52 23.6
comp=Z,52nm,1.1s
WVT **Waverly** 24.93 44 IAMs_20 IAMs_20 01 01 27.3
comp=Z,2µm,20.0s
JTS **Las Juntas de** 24.99 108*c* *i*P P 00 52 11.5 -1.4
JTS pmax pmax
comp=Z,40nm,1.2s
JTS **Las Juntas de** 24.99 108 P P 00 52 14.6 +1.7
comp=Z,44nm,1.1s,baz=12,slow=9.3,SNR=14
JTS **Las Juntas de** 24.99 108 P P 00 52 13.8 +0.9
JTS IAmb IAmb 00 52 31.5
comp=Z,60nm,1.1s
453A **Whigham** 25.01 58 P P 00 52 13.0 +0.1
baz=249
LKWY **Lake** 25.01 358 IAmb IAmb 00 52 27.0
comp=Z,49nm,1.0s
LKWY IAMs_20 IAMs_20 01 02 57.5
comp=Z,1µm,18.0s
S44A **Carbondale** 25.01 39 P P 00 52 12.8 0.0
baz=229
YBH **Yreka Blue Hor** 25.01 335 P P 00 52 12.3 -0.6
comp=Z,9.7nm,0.8s,baz=127,slow=5.7,SNR=23
YBH LR LR 01 01 56.9
comp=Z,1µm,19.0s,baz=159,slow=36
SIUC **Southern Illin** 25.05 39 IAmb IAmb 00 52 23.4
comp=Z,39nm,0.9s
252A **Lumpkin** 25.11 56 P P 00 52 13.1 -0.6
baz=246,SNR=9.8
YMP **Mirror Lake Pl** 25.17 358 P P 00 52 15.3 +0.8
353A **Camilla** 25.27 57 P P 00 52 14.6 -0.6
baz=248
L04D **Klamath Falls** 25.27 336 P P 00 52 15.4 +0.1
baz=149,SNR=28
KRMB **Red Mountain** 25.33 333 IAmb IAmb 00 52 20.0
comp=Z,82nm,1.1s
Z51A **Franklin** 25.34 52 P P 00 52 15.3 -0.6
baz=243,SNR=10.0
V48A **Smith Brothers** 25.39 46 P P 00 52 16.1 -0.2
baz=236,SNR=6.3
152A **Waverly Hall** 25.40 54 P P 00 52 16.1 -0.3

baz=245,SNR=25
K04D Chiloquin, OR 25.42 338 P P 00 52 17.2 +0.5
baz=151
W49A Belvidere 25.43 48 P P 00 52 15.8 -0.9
baz=238,SNR=22
YNE Yellowstone No 25.44 358 P P 00 52 17.5 +0.6
454A Quitman 25.51 59 P P 00 52 16.2 -1.2
baz=250
RLMT Red Lodge 25.54 360 P P 00 52 18.6 +0.8
baz=179,SNR=24
RLMT Red Lodge 25.54 360 IAmb IAmb 00 52 22.2
comp=Z,46nm,1.1s
253A Americus 25.61 56 P P 00 52 17.7 -0.6
baz=247,SNR=6.2
Y51A Rockmart 25.69 51 P P 00 52 18.6 -0.5
baz=242,SNR=21
SWET Sewanee 25.72 48 IAmb IAmb 00 52 29.7
comp=Z,57nm,0.9s
SWET IAMs_20 IAMs_20 01 03 01.0
comp=Z,2µm,20.0s
L02E Cave Junction 25.73 335 P P 00 52 19.8 +0.5
baz=147,SNR=8.7
TIGA Tifton 25.80 58 P P 00 52 19.8 -0.2
baz=249,SNR=6.5
J05D Fort Rock, OR 25.83 339 P P 00 52 21.1 +0.7
baz=152,SNR=49
Z52A Williamson 25.85 53 P P 00 52 20.2 -0.3
baz=244,SNR=31
HUMO Hull Mountain 25.85 336 IAMs_20 IAMs_20 01 02 11.6
comp=Z,2µm,20.0s
HDC Heredia 25.86 108 P P 00 52 22.0 +1.0
T47A Sharon Grove 25.91 43 P P 00 52 20.6 -0.5
baz=234,SNR=7.7
T47A Sharon Grove 25.91 43 IAMs_20 IAMs_20 01 01 56.2
comp=Z,2µm,21.0s
DLMT Dillon 25.95 354 IAmb IAmb 00 52 26.7
comp=Z,41nm,1.1s
DLMT IAMs_20 IAMs_20 01 02 06.4
comp=Z,2µm,21.0s
V49A McMinnville 26.03 47 P P 00 52 21.4 -0.7
baz=238,SNR=8.6
KBO Bosley Butte 26.03 334 IAmb IAmb 00 52 33.8
comp=Z,51nm,1.2s
SCIA State Center 26.06 28 P P 00 52 22.1 -0.2
baz=216
SCIA State Center 26.06 28 IAMs_20 IAMs_20 01 01 55.2
comp=Z,2µm,18.0s
153A Fort Valley 26.07 55 P P 00 52 21.8 -0.8
baz=246
J04D Umpqua Nationa 26.09 338 P P 00 52 23.2 +0.4
baz=151,SNR=34
BOZ Bozeman (W) 26.10 356 P P 00 52 23.3 +0.4
baz=174,SNR=36
BOZ Bozeman (W) 26.10 356 IAMs_20 IAMs_20 01 02 22.5
comp=Z,2µm,19.0s
W50A Signal Mountai 26.14 48 P P 00 52 22.7 -0.5
baz=239,SNR=20
W50A Signal Mountai 26.14 48 IAMs_20 IAMs_20 01 03 40.3
comp=Z,2µm,20.0s
PLID Pearl Lake 26.15 349 P P 00 52 23.7 +0.3
PLID IAmb IAmb 00 52 24.8
comp=Z,49nm,0.9s
X51A Calhoun 26.16 50 P P 00 52 22.7 -0.6
baz=241
X51A Calhoun 26.16 50 IAmb IAmb 00 52 36.4
comp=Z,67nm,0.9s
X51A IAMs_20 IAMs_20 01 03 40.1
comp=Z,2µm,18.0s
P43A Skaggs, Pawnee 26.18 36 IAMs_20 IAMs_20 01 01 14.2
comp=Z,2µm,20.0s
K02D Willamette Mer 26.21 335 P P 00 52 24.4 +0.7
baz=147,SNR=26
254A Abbeville 26.22 57 P P 00 52 23.3 -0.5
baz=248,SNR=10.0
N41A Harden Midland 26.24 32 IAMs_20 IAMs_20 01 02 34.9
comp=Z,3µm,19.0s
SUSD Miller 26.25 16 P P 00 52 22.9 -1.1
baz=202
SUSD Miller 26.25 16 IAMs_20 IAMs_20 01 01 53.2
comp=Z,2µm,22.0s
ECSD EROS Data Cent 26.31 21 P P 00 52 23.6 -1.0
baz=207
OLIL Olney 26.38 39 IAmb IAmb 00 52 35.9
comp=Z,47nm,1.1s
OLIL IAMs_20 IAMs_20 01 02 26.6
comp=Z,2µm,20.0s
Y52A Lilburn 26.41 52 P P 00 52 24.6 -1.0
baz=244,SNR=8.5
Y52A Lilburn 26.41 52 IAmb IAmb 00 52 29.6
comp=Z,40nm,1.0s
U49A Red Boiling Sp 26.52 45 P P 00 52 25.7 -0.7
baz=236
W51A Cleveland 26.52 49 P P 00 52 25.8 -0.7
baz=240
V50A Pikevile 26.53 48 P P 00 52 26.1 -0.6
baz=239,SNR=7.9
Z53A Monticello 26.53 54 P P 00 52 25.4 -1.3
baz=245,SNR=15
154A Montrose 26.62 55 P P 00 52 27.1 -0.4
baz=247,SNR=16
KEBM Edson Butte 26.62 334 IAmb IAmb 00 52 30.0
comp=Z,75nm,1.2s
KEBM IAMs_20 IAMs_20 01 02 19.0
comp=Z,2µm,20.0s
DWPF Disney Wildern 26.63 66 P P 00 52 26.8 -0.7
baz=257
GOGA Godfrey 26.67 54 P P 00 52 27.0 -0.9
baz=245,SNR=5.9
GOGA Godfrey 26.67 54 P P 00 52 27.4 -0.5
GOGA pmax pmax
comp=Z,49nm,1.0s
GOGA MLR MLR
comp=Z,700nm,20.0s
GOGA Godfrey 26.67 54 P P 00 52 27.4 -0.5
GOGA IAmb IAmb 00 52 40.5
comp=Z,49nm,0.9s
I04A Tendick Farm, 26.68 338 P P 00 52 27.9 -0.1
baz=151,SNR=19
061Z Ochoppi 26.69 71 P P 00 52 26.6 -1.5
baz=262
J01E Myrtle Point 26.70 335 P P 00 52 28.6 +0.5
baz=147,SNR=12
Y53A Monroe 26.77 53 P P 00 52 27.8 -1.0
baz=244
I05D Terrebonne, OR 26.80 340 P P 00 52 29.9 +0.8
baz=153,SNR=16
456A Hilliard 26.82 60 P P 00 52 28.1 -1.3
baz=252
CPCT Cooper Cave 26.83 49 IAmb IAmb 00 52 40.2
comp=Z,62nm,1.0s
CPCT IAMs_20 IAMs_20 01 04 02.4
comp=Z,2µm,18.0s
255A Hazlehurst 26.86 57 P P 00 52 28.6 -1.0
baz=249
X52A Dahlonega 26.87 51 P P 00 52 28.9 -0.9
baz=242,SNR=7.2
356A Blackshear 26.93 59 P P 00 52 29.3 -1.0
baz=251
I03D Drain, OR 26.93 337 P P 00 52 30.5 +0.4
baz=149,SNR=14
HDIL Hopedale 26.94 35 IAMs_20 IAMs_20 01 02 06.5
comp=Z,2µm,22.0s
T49A Edmonton 27.01 45 P P 00 52 30.3 -0.6
baz=236
T49A Edmonton 27.01 45 IAMs_20 IAMs_20 01 03 04.2
comp=Z,2µm,21.0s
W52A Murphy 27.08 50 P P 00 52 31.1 -0.5
baz=242,SNR=8.8
W52A Murphy 27.08 50 IAMs_20 IAMs_20 01 04 09.1
comp=Z,1µm,18.0s
L40A Anamosa 27.09 30 IAMs_20 IAMs_20 01 02 37.4
comp=Z,1µm,18.0s
U50A Jamestown 27.10 47 P P 00 52 31.4 -0.3
baz=238
O44A Mansfield 27.11 36 IAMs_20 IAMs_20 01 03 12.1
comp=Z,2µm,18.0s
155A Kite 27.12 56 P P 00 52 31.3 -0.7
baz=248,SNR=6.2
V51A Loudon 27.12 48 P P 00 52 31.3 -0.7
baz=240,SNR=8.9
V51A Loudon 27.12 48 IAmb IAmb 00 52 42.4
comp=Z,55nm,0.8s
WCI Wyandotte Cave 27.17 42 P P 00 52 31.8 -0.5
baz=233
WCI Wyandotte Cave 27.17 42 P P 00 52 32.7 +0.4
WCI pmax pmax
comp=Z,37nm,1.0s
WCI MLR MLR
comp=Z,1µm,21.0s
WCI Wyandotte Cave 27.17 42 P P 00 52 32.7 +0.4
WCI IAmb IAmb 00 52 43.7
comp=Z,37nm,0.9s
LAO LASA Array 27.20 4 P P 00 52 32.2 -0.5
baz=186,SNR=10
LAO LASA Array 27.20 4 IAmb IAmb 00 52 37.6
comp=Z,46nm,1.0s
LAO IAMs_20 IAMs_20 01 02 41.6
comp=Z,1µm,18.0s
PAYG Puerto Ayora 27.22 135 IAMs_20 IAMs_20 01 00 27.8
comp=Z,2µm,20.0s
F10A Beach Ranch, E 27.24 347 IAMs_20 IAMs_20 01 03 51.7
comp=Z,1µm,19.0s
X53A Estanollee 27.26 52 P P 00 52 31.7 -1.5
baz=243
256A Glennville 27.35 58 P P 00 52 33.3 -0.7
baz=250
060A Indiantown 27.35 69 P P 00 52 34.0 0.0
baz=260
H04A Detroit Lake 27.38 339 IAmb IAmb 00 52 35.7
comp=Z,59nm,1.1s
G06A Carlson Farm, 27.40 342 IAmb IAmb 00 52 36.5
comp=Z,33nm,1.2s
G06A IAMs_20 IAMs_20 01 03 43.9
comp=Z,2µm,18.0s
T50A Nancy 27.42 45 P P 00 52 34.3 -0.4
baz=237
H04D Lebanon 27.43 338 P P 00 52 34.3 -0.3
baz=151,SNR=7.6
Y54A Tignall 27.45 53 P P 00 52 34.4 -0.5
baz=245,SNR=5.3
TKL Tuckaleechee C 27.46 49 P P 00 52 34.2 -0.9
comp=Z,15nm,1.1s,baz=217,slow=12,SNR=4.3
I02D Swisshome 27.47 336 P P 00 52 35.5 +0.5
baz=148,SNR=5.8
P46A Rosedale 27.48 39 P P 00 52 34.4 -0.7
baz=229
MSO Missoula 27.54 353 P P 00 52 35.5 -0.2
baz=170,SNR=22
MSO Missoula 27.54 353 IAmb IAmb 00 52 38.2
comp=Z,43nm,1.1s
MSO IAMs_20 IAMs_20 01 03 22.6
comp=Z,1µm,19.0s
S49A Springfield 27.55 44 P P 00 52 35.1 -0.7
baz=235
G05D Wamic, OR 27.61 341 P P 00 52 37.2 +1.0
baz=154,SNR=7.2
Z55A Blythe 27.61 55 P P 00 52 35.8 -0.5
baz=247
U51A La Follette 27.65 47 P P 00 52 35.9 -0.8
baz=239
W53A Cullowhee 27.67 50 P P 00 52 36.1 -1.0
baz=242,SNR=6.8
V52A Sevierville 27.68 49 P P 00 52 36.5 -0.5
baz=241
V52A Sevierville 27.68 49 IAmb IAmb 00 52 47.1
comp=Z,39nm,0.9s
COR Corvallis 27.68 338 P P 00 52 38.5 +1.6
COR pmax pmax
comp=Z,64nm,1.1s
COR MLR MLR
comp=Z,2µm,20.0s
COR Corvallis 27.68 338 P P 00 52 38.5 +1.6
COR IAmb IAmb 00 52 39.2
comp=Z,64nm,1.1s
COR Corvallis 27.68 338 IAMs_20 IAMs_20 01 03 21.0
comp=Z,2µm,20.0s
BG3 Lake Jocassee 27.76 51 IAmb IAmb 00 52 51.9
comp=Z,42nm,1.1s
L42A Oliver, Polo 27.80 32 IAMs_20 IAMs_20 01 03 39.2
comp=Z,2µm,18.0s
F07A Phinny Hill Vi 27.80 344 IAmb IAmb 00 52 40.3
comp=Z,27nm,1.0s
F07A IAMs_20 IAMs_20 01 04 16.7
comp=Z,2µm,19.0s
156A Sylvania 27.90 57 P P 00 52 38.8 -0.1
baz=249
R49A Shelbyville 27.92 43 P P 00 52 38.7 -0.3
baz=234
R49A Shelbyville 27.92 43 IAMs_20 IAMs_20 01 03 45.3
comp=Z,1µm,21.0s
Q48A New Vernon 27.94 41 P P 00 52 39.0 -0.3
baz=233
X54A Belton 27.97 52 P P 00 52 39.4 -0.2
baz=244
T51A Gray 28.00 46 P P 00 52 39.3 -0.5
baz=238,SNR=5.8
SFIN Lafayette 28.04 37 IAMs_20 IAMs_20 01 03 49.1
comp=Z,2µm,18.0s
TZTN Tazewell 28.06 47 P P 00 52 40.4 0.0
baz=148,SNR=6.0
TZTN Tazewell 28.06 47 IAMs_20 IAMs_20 01 04 38.0
comp=Z,2µm,18.0s
S50A Richmond 28.08 45 P P 00 52 39.7 -0.8
baz=237
Y55A Saluda 28.11 54 P P 00 52 40.3 -0.5
baz=246
U52A Thorn Hill 28.11 48 P P 00 52 40.0 -0.8
baz=240,SNR=6.6
V53A Saluda 28.15 50 P P 00 52 40.6 -0.7
baz=242
V53A Saluda 28.15 50 IAMs_20 IAMs_20 01 04 54.5
comp=Z,2µm,19.0s
HAWA Hanford 28.16 345 P P 00 52 41.6 +0.5
M44A Midewin, Midew 28.20 35 IAMs_20 IAMs_20 01 03 47.8
comp=Z,2µm,19.0s
G03D McMinnville, O 28.21 338 P P 00 52 42.3 +0.7
baz=150
F05D White Salmon 28.23 341 P P 00 52 42.5 +0.7
baz=154,SNR=13
W54A Cherokee Point 28.34 51 P P 00 52 42.5 -0.4
baz=244
E07A Sunnyside 28.40 344 IAmb IAmb 00 52 45.8
comp=Z,33nm,1.0s
E07A IAMs_20 IAMs_20 01 04 00.4
comp=Z,2µm,19.0s
EGMT Eagleton 28.45 359 P P 00 52 42.8 -1.0
baz=178,SNR=8.4
EGMT Eagleton 28.45 359 IAmb IAmb 00 52 45.0
comp=Z,27nm,1.0s
P48A Milroy 28.45 41 P P 00 52 43.4 -0.4
baz=232
R50A Paris 28.46 44 P P 00 52 43.5 -0.4
baz=236
R50A Paris 28.46 44 IAMs_20 IAMs_20 01 03 25.6
comp=Z,2µm,21.0s
JTMT Jette 28.49 353 IAMs_20 IAMs_20 01 04 02.6
comp=Z,2µm,18.0s
X55A Gracelyn & Ava 28.49 53 P P 00 52 42.7 -1.5
baz=246
Q49A Aurora 28.51 42 P P 00 52 43.8 -0.5
baz=234
F04A Amboy 28.57 340 IAmb IAmb 00 52 46.4
comp=Z,65nm,1.0s
S51A Beattyville 28.59 45 P P 00 52 43.6 -1.5
baz=238
S51A Beattyville 28.59 45 IAmb IAmb 00 52 55.4
comp=Z,35nm,0.9s
S51A IAMs_20 IAMs_20 01 04 06.2
comp=Z,2µm,21.0s
U53A Fall Branch 28.65 49 P P 00 52 44.6 -1.1
baz=241
T52A Hallie 28.73 47 P P 00 52 45.8 -0.6
baz=240
T52A Hallie 28.73 47 IAMs_20 IAMs_20 01 04 47.8
comp=Z,2µm,22.0s
L44A Lake County Fo 28.83 34 IAMs_20 IAMs_20 01 04 06.0
comp=Z,1µm,19.0s
V54A Nebo 28.83 50 P P 00 52 46.7 -0.5
baz=243
F04D Rainier, OR 28.89 340 P P 00 52 48.4 +0.8
baz=152
P49A Miami Univ. Ec 28.93 41 P P 00 52 47.7 -0.4
baz=233
R51A Hillsboro 28.95 44 P P 00 52 47.4 -0.9
baz=237,SNR=7.1
X56A White Oak 28.96 53 P P 00 52 47.6 -0.7
baz=246
SPMN Marine on St. 28.96 24 P P 00 52 47.9 -0.4
baz=213
SPMN Marine on St. 28.96 24 IAMs_20 IAMs_20 01 03 44.1
comp=Z,2µm,18.0s
K43A Burlington 28.99 33 IAMs_20 IAMs_20 01 04 17.6
comp=Z,2µm,19.0s
KMSC Kings Mountain 29.00 52 P P 00 52 48.1 -0.6
baz=245
KMSC Kings Mountain 29.00 52 IAmb IAmb 00 52 59.2
comp=Z,25nm,0.9s
Q50A Georgetown 29.00 43 P P 00 52 47.9 -0.8
baz=235
NHSC New Hope 29.09 56 P P 00 52 49.4 -0.2
baz=250
E04D Cinebar 29.17 341 P P 00 52 50.7 +0.6
baz=153,SNR=18
N47A Urbana 29.18 38 P P 00 52 49.5 -0.8
baz=230
N47A Urbana 29.18 38 IAMs_20 IAMs_20 01 04 26.6
comp=Z,2µm,21.0s
C09A Chrisman Ranch 29.20 347 IAMs_20 IAMs_20 01 05 26.6
comp=Z,1µm,18.0s
Y57A Sumter 29.26 55 P P 00 52 50.6 -0.4
baz=248
U54A Nelsons Funny 29.26 49 P P 00 52 50.4 -0.8
baz=242
U54A Nelsons Funny 29.26 49 IAmb IAmb 00 53 01.6
comp=Z,47nm,0.9s
U54A IAMs_20 IAMs_20 01 05 27.9
comp=Z,2µm,18.0s
MDND Maddock 29.29 13 P P 00 52 50.6 -0.6
baz=198
V55A Taylorsville 29.39 51 P P 00 52 50.8 -1.4
baz=244
V55A Taylorsville 29.39 51 IAMs_20 IAMs_20 01 05 45.3
comp=Z,2µm,20.0s
NEW Newport 29.42 349 P P 00 52 52.8 +0.4
baz=164,SNR=14
NEW Newport 29.42 349 P P 00 52 53.1 +0.7
NEW 00 55 58.3
NEW pmax pmax
comp=Z,30nm,1.1s
NEW MLR MLR
comp=Z,1µm,18.0s
NEW Newport 29.42 349 P P 00 52 52.7 +0.4
comp=Z,16nm,0.9s,baz=158,slow=12,SNR=20
NEW PcP PcP 00 55 58.0 -0.2
comp=Z,3.3nm,0.8s,baz=137,slow=3.7,SNR=4.8
NEW Newport 29.42 349 P P 00 52 53.1 +0.7
NEW IAmb IAmb 00 52 54.4
comp=Z,30nm,1.1s
NEW PcP 00 55 58.2 0.0
NEW Newport 29.42 349 IAMs_20 IAMs_20 01 05 05.4
comp=Z,1µm,18.0s
Q51A Peebles 29.51 43 P P 00 52 52.3 -0.9
baz=236,SNR=7.0
M47A Cromwell 29.53 37 P P 00 52 52.7 -0.7
baz=229
P50A Jamestown 29.55 42 P P 00 52 52.7 -0.9
baz=234
N48A Decatur 29.55 39 P P 00 52 52.7 -0.9
baz=231
W56A Indian Trail 29.55 52 P P 00 52 52.7 -1.0
baz=246
O49A Covington 29.56 40 P P 00 52 53.0 -0.6
baz=233
L46A Eue Claire 29.58 36 IAMs_20 IAMs_20 01 03 38.4
comp=Z,2µm,22.0s
R52A Catlettsburg 29.60 45 P P 00 52 53.5 -0.5
baz=238
X57A Johnson Farm, 29.66 54 P P 00 52 54.2 -0.4
baz=247
T54A Tazewell 29.69 48 P P 00 52 54.3 -0.7
baz=241,SNR=5.9
WALA Waterton Lakes 29.74 354 IAmb IAmb 00 52 57.6
comp=Z,23nm,0.9s
WALA IAMs_20 IAMs_20 01 04 44.7
comp=Z,2µm,19.0s
Y58A Scranton 29.78 55 P P 00 52 55.2 -0.4
baz=249
D04E Lakebay 29.79 341 P P 00 52 56.5 +0.9
baz=153,SNR=6.9
U55A TA2, Sparta 29.80 50 P P 00 52 55.5 -0.5
baz=243
MTDJ Mount Denham 29.82 87 P P 00 52 57.1 +0.7
MTDJ IAMs_20 IAMs_20 01 04 17.9
comp=Z,1µm,20.0s
V56A Mocksville 29.90 51 P P 00 52 56.4 -0.4
baz=245
C06D Leavenworth 29.93 344 P P 00 52 57.1 +0.2
baz=157,SNR=5.8
P51A Williamsport 29.95 43 P P 00 52 56.6 -0.6
baz=236,SNR=6.6
B08A Colville Reser 29.96 346 IAmb IAmb 00 52 59.9
comp=Z,21nm,0.9s
O50A Cable 29.98 41 P P 00 52 56.6 -0.8
baz=234
W57A Gilead 30.00 53 P P 00 52 56.4 -1.2
baz=246
R53A Hurricane 30.06 46 P P 00 52 57.3 -0.9
baz=239
R53A Hurricane 30.06 46 IAmb IAmb 00 53 09.2
comp=Z,50nm,1.1s
R53A IAMs_20 IAMs_20 01 04 38.5
comp=Z,2µm,21.0s
N49A Columbus Grove 30.10 39 P P 00 52 58.0 -0.4
baz=232
M48A Edgerton 30.13 38 IAMs_20 IAMs_20 01 05 03.9
comp=Z,2µm,21.0s
L47A Sherwood 30.17 37 P P 00 52 59.0 0.0
baz=229
Q52A Bidwell 30.18 44 P P 00 52 58.8 -0.4
baz=238
D03D Eldon 30.20 341 P P 00 52 59.6 +0.3
baz=153,SNR=12
U56A King 30.22 50 P P 00 52 59.3 -0.3
baz=244
U56A King 30.22 50 IAmb IAmb 00 53 10.1
comp=Z,44nm,0.9s
U56A IAMs_20 IAMs_20 01 06 08.1
comp=Z,2µm,18.0s
S54A Dingess, Beckl 30.23 47 P P 00 52 59.1 -0.6
baz=241
S54A Dingess, Beckl 30.23 47 IAMs_20 IAMs_20 01 05 22.0
comp=Z,2µm,20.0s
X58A Rowland 30.27 54 P P 00 52 59.7 -0.3
baz=248
T55A Pulaski 30.27 49 P P 00 52 59.9 -0.2
baz=242
NLWA Neilton Lookou 30.32 340 IAmb IAmb 00 53 02.9
comp=Z,38nm,1.1s
Y59A Loris 30.42 56 P P 00 53 00.8 -0.5
baz=249
V57A Coltrane Farms 30.46 52 P P 00 53 01.4 -0.3
baz=245
J45A Montague 30.51 34 IAMs_20 IAMs_20 01 04 30.9
comp=Z,2µm,20.0s
W58A Raeford 30.52 53 P P 00 53 01.8 -0.4
baz=247
H43A Windswept, Lux 30.56 31 IAMs_20 IAMs_20 01 04 56.2
comp=Z,2µm,21.0s
M49A Liberty Center 30.56 39 P P 00 53 02.4 -0.1
baz=232
B05A Bryant 30.57 343 P P 00 53 02.1 -0.4
baz=155,SNR=15
BLA Blacksburg 30.58 49 P P 00 53 02.1 -0.6
baz=243
BLA Blacksburg 30.58 49 P P 00 53 03.9 +1.1
BLA pmax pmax
comp=Z,51nm,1.2s
BLA MLR MLR
comp=Z,2µm,18.0s
BLA Blacksburg 30.58 49 P P 00 53 03.9 +1.1
BLA IAmb IAmb 00 53 21.3
comp=Z,50nm,1.1s
BLA IAMs_20 IAMs_20 01 06 07.7
comp=Z,2µm,18.0s
L48A N Adams 30.59 38 P P 00 53 02.5 -0.2
baz=230
O51A Pataskala 30.61 42 P P 00 53 02.2 -0.8
baz=235
Q53A Leroy 30.62 45 P P 00 53 02.5 -0.5
baz=239
P52A Corning 30.63 43 P P 00 53 02.3 -0.8
baz=237
N50A Nevada 30.63 41 P P 00 53 02.7 -0.4
baz=234,SNR=5.1
B06A Marblemount 30.64 344 IAmb IAmb 00 53 04.4
comp=Z,44nm,0.9s
B06A IAMs_20 IAMs_20 01 05 23.6
comp=Z,1µm,20.0s
R54A Victor 30.64 47 P P 00 53 02.4 -0.9
baz=240
K47A Vermontville 30.74 36 P P 00 53 03.5 -0.5
baz=229
S55A Lewisburg 30.78 48 P P 00 53 04.0 -0.5
baz=242

V58A	**Windy Hill, Pi**	30.92	52	P	P	00 53 05.1	-0.6	
	baz=246							
I45A	**Fountain**	31.01	33	IAMs_20	IAMs_20	01 04 57.1		
	comp=Z,1µm,19.0s							
U57A	**Blanch**	31.02	51	P	P	00 53 05.0	-1.6	
	baz=245							
P53A	**Whipple**	31.04	44	P	P	00 53 05.3	-1.4	
	baz=238,SNR=5.4							
P53A	**Whipple**	31.04	44	IAMs_20	IAMs_20	01 05 41.8		
	comp=Z,2µm,22.0s							
M50A	**Fremont**	31.07	40	P	P	00 53 06.4	-0.6	
	baz=233							
M50A	**Fremont**	31.07	40	IAMs_20	IAMs_20	01 05 38.8		
	comp=Z,2µm,22.0s							
O52A	**Adamsville**	31.09	43	P	P	00 53 06.6	-0.6	
	baz=237							
O52A	**Adamsville**	31.09	43	IAmb	IAmb	00 53 18.7		
	comp=Z,41nm,0.9s							
O52A				IAMs_20	IAMs_20	01 05 33.6		
	comp=Z,1µm,22.0s							
Q54A	**Coxs Mills**	31.14	45	P	P	00 53 07.4	-0.3	
	baz=240							
Q54A	**Coxs Mills**	31.14	45	IAmb	IAmb	00 53 17.8		
	comp=Z,46nm,1.1s							
Q54A				IAMs_20	IAMs_20	01 05 34.7		
	comp=Z,2µm,20.0s							
A04D	**Lummi Island**	31.16	342	P	P	00 53 08.6	+1.0	
	baz=154							
N51A	**Ashland**	31.20	41	P	P	00 53 08.3	+0.1	
	baz=235							
J47A	**Sunmer**	31.21	35	IAMs_20	IAMs_20	01 04 09.4		
	comp=Z,2µm,21.0s							
R55A	**Marlinton**	31.29	47	P	P	00 53 08.3	-0.8	
	baz=241,SNR=6.6							
R55A	**Marlinton**	31.29	47	IAMs_20	IAMs_20	01 06 18.5		
	comp=Z,2µm,21.0s							
T57A	**Hurt**	31.32	50	P	P	00 53 09.3	+0.1	
	baz=244							
T57A	**Hurt**	31.32	50	IAMs_20	IAMs_20	01 07 56.2		
	comp=Z,2µm,22.0s							
F42A	**Maple Grove Fa**	31.36	29	IAMs_20	IAMs_20	01 06 18.3		
	comp=Z,1µm,18.0s							
S56A	**Natural Bridge**	31.39	49	P	P	00 53 09.5	-0.4	
	baz=243							
O53A	**New Philadelph**	31.56	43	P	P	00 53 10.9	-0.4	
	baz=237							
V59A	**Middlesex**	31.56	53	P	P	00 53 10.8	-0.5	
	baz=247							
N52A	**McGinn's Farm,**	31.57	42	P	P	00 53 11.0	-0.4	
	baz=236							
U58A	**Oxford**	31.58	51	P	P	00 53 11.0	-0.5	
	baz=246							
Q55A	**Buckhannon**	31.66	46	P	P	00 53 11.3	-1.0	
	baz=240,SNR=6.1							
P54A	**Burton**	31.70	45	P	P	00 53 11.7	-0.9	
	baz=239,SNR=5.4							
EYMN	**Ely**	31.74	23	IAmb	IAmb	00 53 22.3		
	comp=Z,36nm,1.0s							
EYMN	**Ely**	31.74	23	IAMs_20	IAMs_20	01 05 17.5		
	comp=Z,2µm,22.0s							
T58A	**Grand View Acr**	31.82	50	P	P	00 53 12.9	-0.7	
	baz=245,SNR=6.3							
R56A	**Bull Pasture M**	31.84	47	P	P	00 53 13.3	-0.7	
	baz=242							
S57A	**Dark Hollow, R**	31.86	49	IAMs_20	IAMs_20	01 07 21.8		
	comp=Z,2µm,20.0s							
H46A	**Fife Lake**	31.89	33	P	P	00 53 13.7	-0.5	
	baz=226							
I47A	**Gladwin**	31.90	35	IAMs_20	IAMs_20	01 05 59.7		
	comp=Z,2µm,20.0s							
GTBY	**Guantanamo Bay**	31.92	83	IAMs_20	IAMs_20	01 06 27.3		
	comp=Z,1µm,19.0s							
G45A	**Suttons Bay**	32.01	32	IAMs_20	IAMs_20	01 06 09.6		
	comp=Z,2µm,19.0s							
O54A	**Avella**	32.06	44	P	P	00 53 15.0	-0.8	
	baz=238							
O54A	**Avella**	32.06	44	IAMs_20	IAMs_20	01 04 05.0		
	comp=Z,949nm,18.0s							
P55A	**Reedsville**	32.09	45	P	P	00 53 15.6	-0.4	
	baz=240							
N53A	**Lisbon**	32.10	42	IAMs_20	IAMs_20	01 06 05.0		
	comp=Z,1µm,22.0s							
U59A	**Littleton**	32.12	52	P	P	00 53 15.9	-0.4	
	baz=247							
MCWV	**Mont Chateau**	32.15	45	P	P	00 53 16.1	-0.4	
	baz=240							
MCWV	**Mont Chateau**	32.15	45	IAmb	IAmb	00 53 34.4		
	comp=Z,32nm,1.1s							
K50A	**Casco**	32.15	38	IAMs_20	IAMs_20	01 06 15.4		
	comp=Z,2µm,19.0s							
Q56A	**Snyder Ridge,**	32.29	47	P	P	00 53 17.4	-0.4	
	baz=241							
Q56A	**Snyder Ridge,**	32.29	47	P	P	00 53 17.3	-0.5	
Q56A				IAMs_20	IAMs_20	01 06 48.0		
	comp=Z,1µm,20.0s							
E43A	**Lone Tree Farm**	32.34	29	IAMs_20	IAMs_20	01 06 47.4		
	comp=Z,2µm,19.0s							
GLMI	**Grayling**	32.39	33	IAMs_20	IAMs_20	01 06 28.6		
	comp=Z,2µm,19.0s							
R57A	**Stanardsville**	32.41	48	P	P	00 53 18.3	-0.5	
	baz=243							
ULM	**Lac du Bonnet**	32.41	16	P	P	00 53 17.6	-1.1	
	comp=Z,14nm,0.8s,baz=199,slow=8.8,SNR=19							
ULM				LR	LR	01 06 56.6		
	comp=Z,1µm,19.8s,baz=202,slow=37							
ULM	**Lac du Bonnet**	32.41	16	IAMs_20	IAMs_20	01 05 32.4		
	comp=Z,2µm,18.0s							
S58A	**Poland Farm, P**	32.45	50	P	P	00 53 18.9	-0.3	
	baz=245							
S58A	**Poland Farm, P**	32.45	50	IAMs_20	IAMs_20	01 07 17.1		
	comp=Z,2µm,19.0s							
T59A	**Double "B" Far**	32.54	51	P	P	00 53 19.9	-0.1	
	baz=246							
M53A	**WI Miller and**	32.55	42	P	P	00 53 20.0	0.0	
	baz=236							
U60A	**Pendleton**	32.64	52	P	P	00 53 20.4	-0.4	
	baz=248							
R58B	**Mineral**	32.72	49	P	P	00 53 21.1	-0.4	
	baz=244							
R58B	**Mineral**	32.72	49	IAMs_20	IAMs_20	01 07 22.4		
	comp=Z,2µm,21.0s							
N54A	**Moraine State**	32.73	43	P	P	00 53 21.2	-0.4	
	baz=238							
N54A	**Moraine State**	32.73	43	IAmb	IAmb	00 53 39.6		
	comp=Z,28nm,1.0s							
N54A				IAMs_20	IAMs_20	01 06 11.5		
	comp=Z,1µm,19.0s							
P56A	**Dayton Farm, R**	32.75	46	P	P	00 53 21.1	-0.7	
	baz=241							
R58A	**Rapidan**	32.77	49	P	P	00 53 21.3	-0.7	
	baz=244							
O55A	**Ligonier**	32.78	45	P	P	00 53 20.7	-1.4	
	baz=240,SNR=5.1							
Q57A	**Strasburg**	32.82	47	P	P	00 53 22.6	+0.2	
	baz=242							
V61A	**Roper**	32.83	54	P	P	00 53 22.6	+0.1	
	baz=249							
H48A	**Harrisville**	32.99	35	IAMs_20	IAMs_20	01 06 45.5		
	comp=Z,2µm,19.0s							
S59A	**Mechanicsville**	33.05	50	P	P	00 53 24.6	+0.2	
	baz=246							
CBN	**Corbin Frederi**	33.18	49	P	P	00 53 25.5	-0.1	
	baz=245							
M54A	**Oil Creek Stat**	33.22	42	IAmb	IAmb	00 53 36.4		
	comp=Z,35nm,0.8s							
N55A	**Marion Center**	33.28	44	P	P	00 53 25.3	-1.2	
	baz=239,SNR=5.1							
Q58A	**Fox Den Farm,**	33.28	48	P	P	00 53 26.4	0.0	
	baz=243							
O56A	**Blue Knob Stat**	33.30	45	IAMs_20	IAMs_20	01 07 03.8		
	comp=Z,1µm,20.0s							
P57A	**Homestead Farm**	33.30	47	P	P	00 53 26.1	-0.5	
	baz=242							
P57A	**Homestead Farm**	33.30	47	IAMs_20	IAMs_20	01 07 28.8		
	comp=Z,1µm,18.0s							
R59A	**King George, V**	33.36	49	P	P	00 53 26.6	-0.5	
	baz=245							
E46A	**Sault Ste Mari**	33.62	32	IAMs_20	IAMs_20	01 05 48.1		
	comp=Z,2µm,21.0s							
M55A	**Ridgway**	33.78	43	P	P	00 53 30.1	-0.7	
	baz=239							
M55A	**Ridgway**	33.78	43	IAMs_20	IAMs_20	01 07 07.4		
	comp=Z,2µm,21.0s							
P58A	**Pank, Wackersv**	33.80	47	P	P	00 53 30.2	-0.7	
	baz=243,SNR=5.7							
N56A	**West Decatur**	33.80	44	P	P	00 53 30.4	-0.6	
	baz=240							
O57A	**Amberson**	33.90	46	P	P	00 53 30.9	-1.0	
	baz=242,SNR=6.3							
SSPA	**Standing Stone**	33.93	45	P	P	00 53 31.3	-0.8	
	baz=241							
SSPA	**Standing Stone**	33.93	45	IAMs_20	IAMs_20	01 08 14.5		
	comp=Z,1µm,18.0s							
SJCC	**San Jacinto, C**	34.06	101	eP	P	00 53 35.4	+1.8	
SJCC	**San Jacinto, C**	34.06	101	eP	P	00 53 35.4	+1.8	
SDMD	**Soldier's Deli**	34.08	47	IAMs_20	IAMs_20	01 08 01.4		
	comp=Z,949nm,18.0s							
M56A	**Emporium**	34.16	43	P	P	00 53 33.0	-1.2	
	baz=239							
M56A	**Emporium**	34.16	43	IAMs_20	IAMs_20	01 06 55.0		
	comp=Z,1µm,18.0s							
N57A	**Milroy**	34.22	45	P	P	00 53 33.5	-1.1	
	baz=241							
O58A	**Lewisberry**	34.34	46	P	P	00 53 34.9	-0.7	
	baz=243							
L55A	**Hinsdale**	34.36	42	P	P	00 53 35.3	-0.6	
	baz=238							
PAGS	**Pennsylvania G**	34.53	46	IAmb	IAmb	00 53 47.5		
	comp=Z,41nm,1.1s							
PAGS				IAMs_20	IAMs_20	01 08 37.2		
	comp=Z,2µm,18.0s							
Q60A	**Greensboro**	34.60	49	IAMs_20	IAMs_20	01 09 31.3		
	comp=Z,2µm,20.0s							
M57A	**Sunshine Farm,**	34.78	44	P	P	00 53 38.9	-0.5	
	baz=241							
M57A	**Sunshine Farm,**	34.78	44	IAMs_20	IAMs_20	01 07 14.8		
	comp=Z,1µm,20.0s							
N58A	**Sunbury**	34.81	45	P	P	00 53 38.9	-0.8	
	baz=242							
J54A	**Appleton**	34.82	40	IAMs_20	IAMs_20	01 09 00.9		
	comp=Z,1µm,18.0s							
MEDO	**Medina**	34.87	41	IAMs_20	IAMs_20	01 09 01.4		
	comp=Z,1µm,20.0s							
CBOC	**Ciudad Bolivar**	34.87	108	eP	P	00 53 44.0	+3.3	
CBOC	**Ciudad Bolivar**	34.87	108	eP	P	00 53 44.0	+3.3	
K55A	**Perry**	34.88	42	P	P	00 53 39.3	-1.0	
	baz=238							
L56A	**Greenwood**	34.89	43	P	P	00 53 39.6	-0.8	
	baz=239							
L56A	**Greenwood**	34.89	43	IAmb	IAmb	00 53 50.4		
	comp=Z,31nm,0.9s							
L56A				IAMs_20	IAMs_20	01 07 17.9		
	comp=Z,1µm,21.0s							
O59A	**Robesonia**	34.93	46	P	P	00 53 40.2	-0.5	
	baz=243							
MMNY	**Mt. Morris Dam**	34.98	42	IAmb	IAmb	00 53 43.4		
	comp=Z,27nm,0.9s							
MMNY				IAMs_20	IAMs_20	01 07 08.2		
	comp=Z,1µm,20.0s							
P60A	**Greenville**	35.09	48	IAMs_20	IAMs_20	01 08 34.2		
	comp=Z,2µm,20.0s							
HELC	**Santa Helena**	35.17	108	eP	P	00 53 45.0	+1.5	
HELC	**Santa Helena**	35.17	108	eP	P	00 53 45.0	+1.5	
M58A	**Price's Panora**	35.23	45	P	P	00 53 42.5	-0.9	
	baz=242							
PSUB	**Penn St. - Bra**	35.27	47	IAMs_20	IAMs_20	01 08 39.9		
	comp=Z,1µm,22.0s							
L57A	**Andrews Acres**	35.28	43	P	P	00 53 42.5	-1.3	
	baz=240							
J55A	**Hilton**	35.32	41	IAMs_20	IAMs_20	01 07 53.2		
	comp=Z,1µm,20.0s							
K56A	**Middlesex**	35.33	42	P	P	00 53 43.2	-1.1	
	baz=239,SNR=6.1							
D48A	**Paudash Townsh**	35.42	33	P	P	00 53 44.0	-0.9	
	baz=228							
YOTC	**Yotoco, Valle**	35.43	112	eP	P	00 53 46.8	+1.3	
YOTC	**Yotoco, Valle**	35.43	112	eP	P	00 53 46.8	+1.3	
O60A	**Telford**	35.47	47	P	P	00 53 45.0	-0.4	
	baz=244							
SMLC	**San Martn de**	35.47	102	eP	P	00 53 47.0	+1.4	
SMLC	**San Martn de**	35.47	102	eP	P	00 53 47.0	+1.4	
N59A	**State Game Lan**	35.49	46	P	P	00 53 44.8	-0.8	
	baz=243							
N59A	**State Game Lan**	35.49	46	IAMs_20	IAMs_20	01 08 24.6		
	comp=Z,1µm,22.0s							
GRTK	**Grand Turk**	35.51	80	IAMs_20	IAMs_20	01 08 45.6		
	comp=Z,1µm,20.0s							
FFC	**Flin Flon**	35.56	7	P	P	00 53 45.2	-0.8	
FFC				pmax	pmax			
FFC	comp=Z,29nm,1.1s			MLR	MLR			
	comp=Z,5µm,18.0s							
FFC	**Flin Flon**	35.56	7	P	P	00 53 45.2	-0.8	
FFC				IAmb	IAmb	00 53 46.4		
	comp=Z,29nm,1.1s							
OTAV	**Otavalo**	35.58	119	P	P	00 53 49.4	+2.3	
OTAV				pmax	pmax			
	comp=Z,195nm,1.2s							
OTAV	**Otavalo**	35.58	119	eP	P	00 53 50.0	+2.9	
OTAV	**Otavalo**	35.58	119	eP	P	00 53 50.0	+2.9	
OTAV	**Otavalo**	35.58	119	P	P	00 53 49.4	+2.3	
OTAV	**Otavalo**	35.58	119	IAMs_20	IAMs_20	01 04 29.6		
	comp=Z,1µm,22.0s							
H53A	**Bobcaygeon**	35.58	39	P	P	00 53 45.2	-1.0	
	baz=235							
BBAC	**Balboa, Cauca**	35.63	115	eP	P	00 53 50.1	+2.8	
BBAC	**Balboa, Cauca**	35.63	115	eP	P	00 53 50.1	+2.8	
CODC	**Agustn Codazz**	35.66	100	eP	P	00 53 46.2	-1.1	
CODC	**Agustn Codazz**	35.66	100	eP	P	00 53 46.2	-1.1	
GUY2C	**Guyana, Caldas**	35.73	109	eP	P	00 53 51.2	+2.7	
GUY2C	**Guyana, Caldas**	35.73	109	eP	P	00 53 51.2	+2.7	
BBB	**Bella Bella**	35.85	340	P	P	00 53 48.1	-0.4	
	comp=Z,41nm,1.2s,baz=304,slow=17,SNR=4.1							
K57A	**Scipio Center**	35.86	43	P	P	00 53 47.7	-1.0	
	baz=240							
RREF	**El Recreo**	35.89	109	eP	P	00 53 52.8	+2.7	
RREF	**El Recreo**	35.89	109	eP	P	00 53 52.8	+2.7	
I55A	**Frankford**	35.91	40	P	P	00 53 48.9	-0.2	
	baz=237							
J56A	**Wolcott**	35.92	42	IAMs_20	IAMs_20	01 07 46.1		
	comp=Z,1µm,21.0s							
BINY	**Binghamton**	35.94	44	P	P	00 53 48.8	-0.6	
	baz=241							
BINY	**Binghamton**	35.94	44	IAmb	IAmb	00 54 06.8		
	comp=Z,29nm,1.0s							
BINY				IAMs_20	IAMs_20	01 08 13.7		
	comp=Z,1µm,22.0s							
L58A	**Harry Jones Me**	35.96	44	P	P	00 53 49.3	-0.3	
	baz=242							
O61A	**Allentown**	35.97	48	P	P	00 53 49.0	-0.7	
	baz=245							
PTBC	**PUERTO BERRIO,**	35.99	106	eP	P	00 53 51.7	+1.5	
PTBC	**PUERTO BERRIO,**	35.99	106	eP	P	00 53 51.7	+1.5	
NORC	**Norcasia**	36.03	108	eP	P	00 53 51.2	+0.7	
NORC	**Norcasia**	36.03	108	eP	P	00 53 51.2	+0.7	
CRUC	**La Cruz**	36.11	116	eP	P	00 53 54.8	+3.2	
CRUC	**La Cruz**	36.11	116	eP	P	00 53 54.8	+3.2	
SOTA	**Rioblanco**	36.11	115	eP	P	00 53 53.8	+2.0	
SOTA	**Rioblanco**	36.11	115	eP	P	00 53 53.8	+2.0	
DELO	**Deloro Mine**	36.12	39	IAMs_20	IAMs_20	01 08 07.3		
	comp=Z,1µm,21.0s							
PCON	**Cinco Dias**	36.20	114	eP	P	00 53 54.6	+2.0	
PCON	**Cinco Dias**	36.20	114	eP	P	00 53 54.6	+2.0	
G54A	**Lake Saint Pet**	36.34	38	P	P	00 53 52.0	-0.8	
	baz=235							
ODNJ	**Ogdensburg**	36.35	46	IAMs_20	IAMs_20	01 08 59.5		
	comp=Z,1µm,22.0s							
OCAC	**Ocana**	36.37	103	eP	P	00 53 54.8	+1.2	
OCAC	**Ocana**	36.37	103	eP	P	00 53 54.8	+1.2	
H55A	**Tweed**	36.40	39	P	P	00 53 52.7	-0.6	
	baz=237							
N61A	**South Mountain**	36.42	47	P	P	00 53 52.7	-0.8	
	baz=245							
K58A	**Earlville**	36.43	43	P	P	00 53 52.7	-1.0	
	baz=241							
K58A	**Earlville**	36.43	43	IAmb	IAmb	00 54 10.9		
	comp=Z,28nm,1.1s							
K58A				IAMs_20	IAMs_20	01 08 06.7		
	comp=Z,1µm,19.0s							
ORTC	**Ortega, Tolima**	36.43	111	eP	P	00 53 55.9	+1.9	
ORTC	**Ortega, Tolima**	36.43	111	eP	P	00 53 55.9	+1.9	
BRRC	**Barranca, Sant**	36.44	105	eP	P	00 53 56.0	+2.0	
BRRC	**Barranca, Sant**	36.44	105	eP	P	00 53 56.0	+2.0	
J57A	**Williamstown**	36.53	42	IAMs_20	IAMs_20	01 08 41.2		
	comp=Z,1µm,19.0s							
E52A	**Mattawa**	36.54	36	P	P	00 53 53.6	-0.9	
	baz=233							
L59A	**Walton**	36.55	44	P	P	00 53 53.9	-0.8	
	baz=242							
L59A	**Walton**	36.55	44	IAmb	IAmb	00 54 05.4		
	comp=Z,34nm,0.9s							
L59A				IAMs_20	IAMs_20	01 08 54.9		
	comp=Z,1µm,21.0s							
BANI	**BANI**	36.56	85	P	P	00 53 56.4	+1.3	
SPBC	**San Pablo de B**	36.71	107	eP	P	00 53 58.0	+1.6	
SPBC	**San Pablo de B**	36.71	107	eP	P	00 53 58.0	+1.6	
PAL	**Palisades**	36.79	47	P	P	00 53 55.9	-0.8	
	baz=245							
ROSC	**El Rosal**	36.84	109	eP	P	00 54 01.3	+3.5	
ROSC	**El Rosal**	36.84	109	eP	P	00 54 01.3	+3.5	
ROSC	**El Rosal**	36.84	109	P	P	00 54 00.3	+2.5	
	comp=Z,31nm,1.0s,baz=5.1,slow=5.8,SNR=16							
ROSC	**El Rosal**	36.84	109	IAmb	IAmb	00 54 10.5		
	comp=Z,30nm,1.1s							
PRAC	**Prado**	36.84	111	eP	P	00 53 59.5	+2.0	
PRAC	**Prado**	36.84	111	eP	P	00 53 59.5	+2.0	
J58A	**Remsen**	36.96	42	IAMs_20	IAMs_20	01 08 54.5		
	comp=Z,1µm,19.0s							
H56A	**Elgin**	36.98	40	P	P	00 53 58.5	+0.3	
	baz=238							
L60A	**Shokan**	37.01	45	P	P	00 53 58.2	-0.3	
	baz=243							
G55A	**Calabogie**	37.06	39	P	P	00 53 58.4	-0.5	
	baz=237							
BARC	**Barichara**	37.12	105	eP	P	00 54 01.3	+1.2	
BARC	**Barichara**	37.12	105	eP	P	00 54 01.3	+1.2	
FLOC	**Florencia**	37.22	115	eP	P	00 54 03.2	+2.5	
FLOC	**Florencia**	37.22	115	eP	P	00 54 03.2	+2.5	
PAMC	**Pamplona, Colo**	37.27	104	eP	P	00 54 03.1	+1.5	
PAMC	**Pamplona, Colo**	37.27	104	eP	P	00 54 03.1	+1.5	
I58A	**Old Forge**	37.31	42	P	P	00 54 00.3	-0.9	
	baz=241							
KSCT	**Kent School, K**	37.39	46	IAMs_20	IAMs_20	01 10 21.9		
	comp=Z,1µm,18.0s							
CHIC	**Chingaza**	37.45	109	eP	P	00 54 05.5	+2.4	
CHIC	**Chingaza**	37.45	109	eP	P	00 54 05.5	+2.4	
RUSC	**La Rusia**	37.50	106	eP	P	00 54 04.5	+0.9	
RUSC	**La Rusia**	37.50	106	eP	P	00 54 04.5	+0.9	
J59A	**Piesco**	37.50	43	P	P	00 54 01.8	-1.0	
	baz=241							
J59A	**Piesco**	37.50	43	IAMs_20	IAMs_20	01 11 29.0		
	comp=Z,981nm,20.0s							
D53A	**Lac Vacive, Po**	37.54	36	P	P	00 54 02.6	-0.4	
	baz=234							
YLE	**Yale**	37.59	47	IAMs_20	IAMs_20	01 10 01.3		
	comp=Z,1µm,21.0s							
F55A	**Otter Lake**	37.59	38	P	P	00 54 02.8	-0.6	
	baz=236							
TRY	**Troy**	37.71	44	IAMs_20	IAMs_20	01 09 03.4		
	comp=Z,1µm,20.0s							
ACCN	**Adirondack Com**	38.00	43	IAMs_20	IAMs_20	01 09 03.3		
	comp=Z,1µm,19.0s							
G57A	**Newington**	38.02	40	P	P	00 54 06.2	-0.9	
	baz=239							
LONY	**Lake Ozonia**	38.02	41	IAMs_20	IAMs_20	01 09 39.6		
	comp=Z,1µm,22.0s							
E55A	**Montcerf-Lytto**	38.10	38	P	P	00 54 07.4	-0.3	
	baz=236							
M63A	**Gales Ferry**	38.24	47	P	P	00 54 08.5	-0.4	
	baz=246							
L61B	**Northampton**	38.24	45	P	P	00 54 08.7	-0.2	
	baz=245							
TAMC	**Tame, Arauca**	38.45	105	eP	P	00 54 12.5	+1.3	
TAMC	**Tame, Arauca**	38.45	105	eP	P	00 54 12.5	+1.3	
MACC	**Macarena, Meta**	38.50	112	eP	P	00 54 13.0	+1.5	
MACC	**Macarena, Meta**	38.50	112	eP	P	00 54 13.0	+1.5	
H59A	**Cadyville**	38.59	41	P	P	00 54 11.2	-0.7	
	baz=241							
G58A	**Ormstown**	38.61	41	P	P	00 54 11.2	-0.8	
	baz=240							
SDV	**Santo Domingo**	38.62	100	eP	P	00 54 14.3	+1.6	
SDV	**Santo Domingo**	38.62	100	eP	P	00 54 14.3	+1.6	
SDV	**Santo Domingo**	38.62	100	P	P	00 54 13.6	+0.9	
SDV				IAmb	IAmb	00 54 15.5		
	comp=Z,80nm,1.1s							
K62A	**Royalston**	38.63	45	IAMs_20	IAMs_20	01 10 08.8		
	comp=Z,2µm,22.0s							
PTLC	**Puerto Leguiza**	38.67	116	eP	P	00 54 16.4	+3.4	
PTLC	**Puerto Leguiza**	38.67	116	eP	P	00 54 16.4	+3.4	
J61A	**Chester**	38.71	44	P	P	00 54 12.1	-0.9	
	baz=244							
FRNY	**Flat Rock**	38.74	41	IAMs_20	IAMs_20	01 09 49.8		
	comp=Z,1µm,21.0s							
E56A	**St. Veronique**	38.75	38	P	P	00 54 12.2	-1.0	
	baz=237							
D55A	**Sainte-Anne-du**	38.75	37	P	P	00 54 12.2	-1.1	
	baz=236							
BRYW	**Bryant College**	38.79	46	IAMs_20	IAMs_20	01 10 32.1		
	comp=Z,1µm,21.0s							
M64A	**Tiverton**	38.87	47	P	P	00 54 12.6	-1.7	
	baz=247							
PTGC	**Puerto Gaitan,**	39.07	108	eP	P	00 54 16.9	+0.6	
PTGC	**Puerto Gaitan,**	39.07	108	eP	P	00 54 16.9	+0.6	
K63A	**Dunstable**	39.11	45	P	P	00 54 15.6	-0.7	
	baz=246							
G59A	**Clarenceville**	39.11	41	P	P	00 54 15.5	-0.8	
	baz=241							
LSQQ	**Lebel-sur-Quev**	39.11	34	P	P	00 54 15.7	-0.5	
	baz=232							
D56A	**ZEC Mazanza, M**	39.18	38	P	P	00 54 16.4	-0.4	
	baz=237							
E57A	**Chemin Saint G**	39.20	39	P	P	00 54 15.7	-1.2	
	baz=238,SNR=5.4							
MATQ	**Matagami**	39.21	32	P	P	00 54 16.1	-0.9	
	baz=231							
M65A	**Busby, Falmout**	39.27	47	IAMs_20	IAMs_20	01 11 37.7		
	comp=Z,1µm,18.0s							
L64A	**Middleborough**	39.28	47	P	P	00 54 16.9	-0.8	
	baz=247							
FFD	**Franklin Falls**	39.36	44	IAMs_20

baz=242
CBYP Canovanas 40.80 84 IAmb IAmb 00 54 40.8
comp=Z,57nm,0.9s
HUMP Col San Antoni 40.83 85 IAmb IAmb 00 54 41.2
comp=Z,46nm,0.8s
G62A West of Eustis 40.84 42 P **P** **00 54 30.3 -0.3**
baz=244
CHGQ Chibougamau 40.99 34 P **P** **00 54 31.5 -0.3**
baz=235
MTP Monte Pirata 41.12 85 P **P** **00 54 33.7 +0.4**
D60A Saint Jean D'O 41.37 40 P **P** **00 54 34.7 -0.2**
baz=242
H64A Troy 41.44 44 P **P** **00 54 34.8 -0.8**
baz=246
TAOE Nuku Hiva Isla 41.63 230 *e*LR LR 01 06 02.0
comp=Z,2µm,25.6s,baz=41
TAOE Nuku Hiva Isla 41.63 230 *e*T T 01 38 44.2
comp=Z,144nm,0.2s
PKME Peaks-Kenny Pk 41.65 43 P **P** **00 54 36.6 -0.6**
baz=245
F63A Nahmakanta, Br 41.96 42 P **P** **00 54 39.5 -0.3**
baz=245
F63A Nahmakanta, Br 41.96 42 P **P** **00 54 39.9 0.0**
F63A IAmb IAmb 00 54 50.3
comp=Z,33nm,0.9s
E63A Oxbow 42.69 42 P **P** **00 54 44.8 -1.0**
baz=245
E63A Oxbow 42.69 42 P **P** **00 54 45.6 -0.2**
E63A IAmb IAmb 00 54 56.7
comp=Z,47nm,1.1s
H66A Whiting 42.75 44 P **P** **00 54 45.3 -0.9**
baz=248
JIS Juneau Island 42.92 341 IAMs_20 IAMs_20 01 11 29.4
comp=Z,798nm,21.0s
E64A Bridgewater 43.06 42 P **P** **00 54 48.4 -0.4**
baz=246
YKA Yellowknife Ar 43.12 356 P **P** **00 54 48.0 -1.0**
comp=Z,16nm,0.8s,baz=172,slow=7.9,SNR=251
YKA PcP **PcP** **00 56 38.2 -0.4**
comp=Z,2.1nm,0.7s,baz=162,slow=3.2,SNR=8.4
YKA LR LR 01 13 10.7
comp=Z,180nm,18.2s,baz=175,slow=37
D63A Stockholm 43.15 41 P **P** **00 54 49.2 -0.3**
baz=245
BESE Bessie Mountai 43.31 341 IAmb IAmb 00 54 53.4
comp=Z,35nm,1.2s
SABA Saba 43.36 85 IAMs_20 IAMs_20 01 10 24.6
comp=Z,942nm,19.0s
SMRT St. Maarten 43.45 84 IAMs_20 IAMs_20 01 15 07.8
comp=Z,796nm,18.0s
SKI Saint Kitts 43.89 85 IAMs_20 IAMs_20 01 12 09.5
comp=Z,946nm,22.0s
BATG Bathurst New B 44.52 41 P **P** **00 55 00.5 0.0**
BATG IAmb IAmb 00 55 18.7
comp=Z,49nm,1.1s
NNA Nana 44.56 132 P **P** **00 55 02.6 +1.4**
NNA pmax pmax
comp=Z,65nm,1.0s
NNA Nana 44.56 132 P **P** **00 55 02.6 +1.4**
NNA Nana 44.56 132 IAMs_20 IAMs_20 01 09 22.4
comp=Z,669nm,20.0s
ANWB Willy Bob 44.72 84 IAMs_20 IAMs_20 01 09 02.6
comp=Z,678nm,20.0s
BCPM Bancas Point 45.93 339 IAMs_20 IAMs_20 01 12 15.2
comp=Z,648nm,21.0s
SVB Belmont 46.15 90 IAMs_20 IAMs_20 01 11 14.6
comp=Z,1µm,22.0s
MESA MESA 46.89 338 IAMs_20 IAMs_20 01 14 00.0
comp=Z,622nm,20.0s
YAH Yahtse 46.95 338 IAMs_20 IAMs_20 01 14 00.6
comp=Z,658nm,19.0s
BARN Barnard Glacie 47.43 339 P **P** **00 55 24.8 +1.3**
BARN IAmb IAmb 00 55 31.4
comp=Z,23nm,1.1s
SCHQ Schefferville 47.55 32 P **P** **00 55 24.0 -0.2**
comp=Z,9.3nm,1.0s,baz=249,slow=6.9,SNR=8.9
SCHQ LR LR 01 15 06.1
comp=Z,545nm,18.4s,baz=261,slow=36
SCHQ Schefferville 47.55 32 IAmb IAmb 00 55 34.3
comp=Z,23nm,0.8s
TGL Tana Glacier 47.61 338 IAmb IAmb 00 55 44.3
comp=Z,36nm,1.2s
TGL IAMs_20 IAMs_20 01 14 11.0
comp=Z,538nm,19.0s
BALM Baldy 47.64 339 IAmb IAmb 00 55 44.6
comp=Z,26nm,1.2s
BALM IAMs_20 IAMs_20 01 13 17.8
comp=Z,619nm,22.0s
MCARA McCarthy VSAT 48.12 339 IAmb IAmb 00 55 48.5
comp=Z,29nm,1.0s
VRDI Verde Repeater 48.16 338 IAmb IAmb 00 55 34.9
comp=Z,25nm,1.2s
GLB Gilahina Butte 48.43 339 IAmb IAmb 00 55 50.6
comp=Z,26nm,1.2s
EYAK Cordova Ski Ar 48.52 337 IAmb IAmb 00 55 44.6
comp=Z,29nm,1.1s
DAWY Dawson 48.99 343 IAMs_20 IAMs_20 01 17 33.0
comp=Z,651nm,18.0s
MENT Mentasta 49.45 340 IAMs_20 IAMs_20 01 14 45.3
comp=Z,571nm,21.0s
SEW Seward 49.67 335 IAmb IAmb 00 55 42.5
comp=Z,25nm,0.8s
KDAK Kodiak Island 49.71 331 P **P** **00 55 42.7 +1.9**
KDAK pmax pmax
comp=Z,51nm,1.2s
KDAK Kodiak Island 49.71 331 P **P** **00 55 41.4 +0.6**
comp=Z,46nm,1.1s,baz=116,slow=3.9,SNR=7.7
KDAK Kodiak Island 49.71 331 P **P** **00 55 42.7 +1.9**
EGAK Eagle 50.03 343 IAmb IAmb 00 55 45.0
comp=Z,17nm,0.8s
EGAK IAMs_20 IAMs_20 01 18 23.6
comp=Z,524nm,18.0s
BRLK Bradley Lake 50.06 334 IAmb IAmb 00 55 45.7
comp=Z,35nm,1.0s
DOT Dot Lake 50.07 340 P **P** **00 55 44.7 +1.2**
DOT IAMs_20 IAMs_20 01 18 21.6
comp=Z,709nm,18.0s
KNK Knik Glacier 50.09 337 IAmb IAmb 00 55 45.9
comp=Z,23nm,0.9s
EPYK Eagle Plains 50.17 346 P **P** **00 55 44.0 -0.3**
baz=145,SNR=11
EPYK Eagle Plains 50.17 346 IAmb IAmb 00 55 45.1
comp=Z,21nm,1.0s
SCRK Sand Creek 50.28 341 IAMs_20 IAMs_20 01 15 47.1
comp=Z,494nm,19.0s
SML Sawmill 50.29 337 IAmb IAmb 00 55 47.1
comp=Z,29nm,1.0s
RC01 Rabbit Creek A 50.38 336 IAmb IAmb 00 55 47.8
comp=Z,21nm,1.0s
RC01 IAMs_20 IAMs_20 01 12 17.3
comp=Z,550nm,19.0s
RIDG Independent Ri 50.38 340 IAmb IAmb 00 55 48.1
comp=Z,41nm,0.9s
RIDG IAMs_20 IAMs_20 01 15 13.8
comp=Z,813nm,21.0s
PMR Palmer 50.45 336 P **P** **00 55 47.3 +0.9**
PMR pmax pmax
comp=Z,20nm,1.0s
PMR MLR MLR
comp=Z,500nm,20.0s
PMR Palmer 50.45 336 P **P** **00 55 47.3 +0.9**
PMR IAmb IAmb 00 55 48.5
comp=Z,20nm,1.0s
PMR IAMs_20 IAMs_20 01 18 22.2
comp=Z,509nm,20.0s
GHO Glory Hole Cre 50.49 337 IAmb IAmb 00 55 48.7
comp=Z,27nm,1.0s
C36M Paulatuk 50.68 353 P **P** **00 55 47.1 -0.9**
baz=161,SNR=5.3
DHY Denali Highway 50.77 339 IAMs_20 IAMs_20 01 13 28.5
comp=Z,463nm,18.0s
INK Inuvik 51.14 349 P **P** **00 55 51.6 +0.1**
comp=Z,42nm,0.8s,baz=144,slow=8.3,SNR=126
INK Inuvik 51.14 349 IAMs_20 IAMs_20 01 17 59.7
comp=Z,633nm,20.0s
HDA Harding Lake 51.52 340 P **P** **00 55 54.5 +0.1**
baz=132
HDA Harding Lake 51.52 340 IAMs_20 IAMs_20 01 15 45.7
comp=Z,588nm,22.0s
SKT Skwentna 51.60 336 IAmb IAmb 00 55 57.0
comp=Z,25nm,0.9s
MCK McKinley 51.73 339 IAmb IAmb 00 56 01.0
comp=Z,19nm,0.9s
MCK IAMs_20 IAMs_20 01 16 42.9
comp=Z,495nm,20.0s
ILAR Eielson Array 51.74 340 P **P** **00 55 56.2 +0.1**
comp=Z,10nm,0.7s,baz=147,slow=5.8,SNR=105
PRP Porcupine Dome 51.84 342 IAMs_20 IAMs_20 01 16 46.3
comp=Z,543nm,19.0s
WRH Wood River Hil 51.93 340 IAMs_20 IAMs_20 01 20 11.1
comp=Z,838nm,19.0s
CCB Clear Creek Bu 51.95 340 IAMs_20 IAMs_20 01 15 58.2
comp=Z,592nm,21.0s
TRF Thorofare Moun 52.02 338 IAmb IAmb 00 55 59.5
comp=Z,24nm,0.9s
COLA College 52.12 340 *i* P **P** **00 55 56.1 -2.7**
COLA pmax pmax
comp=Z,4.0nm,0.8s
COLA College 52.12 340 IAMs_20 IAMs_20 01 19 52.7
comp=Z,560nm,18.0s
TCOL CIGO, UAF Yank 52.12 340 P **P** **00 55 59.1 +0.3**
baz=131
POKR Poker Plat Res 52.15 341 P **P** **00 55 59.1 0.0**
baz=132,SNR=5.2
BWN Browne 52.19 339 P **P** **00 55 59.6 +0.2**
BWN IAMs_20 IAMs_20 01 20 10.2
comp=Z,721nm,18.0s
MDM Murphy Dome 52.29 340 IAMs_20 IAMs_20 01 15 18.4
comp=Z,918nm,21.0s
KTH Kantishna Hill 52.31 338 IAmb IAmb 00 56 01.9
comp=Z,23nm,1.1s
KTH IAMs_20 IAMs_20 01 18 15.4
comp=Z,517nm,19.0s
PPLA Purkeypile 52.38 337 IAmb IAmb 00 56 02.2
comp=Z,33nm,1.0s
FYU Fort Yukon 52.50 343 IAmb IAmb 00 56 02.9
comp=Z,21nm,0.8s
FYU IAMs_20 IAMs_20 01 19 09.7
comp=Z,625nm,19.0s
SVW2 Sparrevohn 52.74 334 P **P** **00 56 04.0 +0.4**
SVW2 IAmb IAmb 00 56 04.7
comp=Z,27nm,0.9s
SAML Samuel 53.30 118 P **P** **00 56 07.2 -1.1**
SAML pmax pmax
comp=Z,39nm,1.0s
SAML Samuel 53.30 118 *e*P **P** **00 56 07.1 -1.2**
SAML Samuel 53.30 118 *e*P **P** **00 56 07.1 -1.2**
SAML Samuel 53.30 118 P **P** **00 56 07.2 -1.1**
SAML IAmb IAmb 00 56 08.5
comp=Z,39nm,1.0s
LPAZ La Paz 53.70 129 P **P** **00 56 13.2 +1.3**
LPAZ pmax pmax
comp=Z,32nm,0.9s
LPAZ La Paz 53.70 129 P **P** **00 56 13.1 +1.2**
comp=Z,23nm,0.9s,baz=329,slow=7.3,SNR=74
LPAZ LR LR 01 17 39.0
comp=Z,334nm,18.1s,baz=314,slow=34
LPAZ La Paz 53.70 129 *e*P **P** **00 56 12.8 +0.9**
LPAZ La Paz 53.70 129 *e*P **P** **00 56 12.8 +0.9**
LPAZ La Paz 53.70 129 P **P** **00 56 13.2 +1.3**
LPAZ IAmb IAmb 00 56 14.3
comp=Z,32nm,0.9s
TTA Tatalina 53.86 336 IAmb IAmb 00 56 12.7
comp=Z,16nm,1.0s
PPT Papeete 54.24 230 LR LR 01 13 46.6
comp=Z,690nm,18.0s,baz=7.0,slow=30
PPT2 Papeete2 54.26 230 *e*S **S** **01 03 55.6 +1.8**
PPT2 comp=Z,376nm,27.0s
*e*LR LR 01 11 54.8
comp=Z,2µm,26.8s,baz=40
MNMC Minye Minye 54.52 132 P **P** **00 56 18.4 +1.0**
PB11 IPOC Station P 54.90 133 P **P** **00 56 21.5 +1.4**
GO01 Chusmiza 55.16 133 P **P** **00 56 24.0 +1.7**
GO01 IAmb IAmb 00 56 35.8
comp=Z,36nm,1.0s
RES Resolute Bay 55.73 5 P **P** **00 56 23.6 -1.5**
comp=Z,6.5nm,1.0s,baz=179,slow=11,SNR=14
PB04 IPOC Station P 56.34 136 P **P** **00 56 32.1 +1.7**
LVC Limon Verde 57.35 135 P **P** **00 56 39.9 +2.1**
LVC pmax pmax
comp=Z,45nm,1.1s
LVC Limon Verde 57.35 135 *e*P **P** **00 56 41.1 +3.2**
LVC Limon Verde 57.35 135 *e*P **P** **00 56 41.1 +3.2**
LVC Limon Verde 57.35 135 P **P** **00 56 39.9 +2.1**
TBI Tubuai 58.05 225 *e*S **S** **01 04 48.0 +4.2**
comp=Z,741nm,27.8s
TBI *e*LQ LQ 01 11 01.0
comp=Z,588nm,28.8s
TBI *e*LR LR 01 13 36.6
comp=Z,1µm,27.2s,baz=40
TBI Tubuai 58.05 225 *e*T T 01 59 15.2
comp=Z,5.5nm,0.3s
GO02 Mina Guanaco 58.69 138 P **P** **00 56 49.2 +2.1**
GO03 Copiap 60.04 140 P **P** **00 56 57.6 +1.5**
CLDB Colider 60.52 115 *e*P **P** **00 56 58.1 -1.4**
CLDB Colider 60.52 115 *e*P **P** **00 56 58.1 -1.4**
TULEG Thule 60.56 10 P **P** **00 56 58.6 -0.3**
GO04 Tololo Observa 61.61 142 P **P** **00 57 08.8 +1.8**
PEL Peldehue 63.90 145 P **P** **00 57 23.2 +1.2**
PEL pmax pmax
comp=Z,43nm,0.8s
PEL Peldehue 63.90 145 P **P** **00 57 23.2 +1.2**
GO05 Huala 64.67 147 P **P** **00 57 28.8 +1.8**
PP1B Ponte de Pedra 64.73 121 *e*P **P** **00 57 28.2 +0.6**
PP1B Ponte de Pedra 64.73 121 *e*P **P** **00 57 28.2 +0.6**
AQDB Aquidauana 65.64 124 *e*P **P** **00 57 33.8 +0.3**
AQDB Aquidauana 65.64 124 *e*P **P** **00 57 33.8 +0.3**
SUMG Summit 65.73 18 *i* P **P** **00 57 33.0 -0.8**
SUMG pmax pmax
comp=Z,86nm,1.0s
SUMG Summit 65.73 18 *i* P **P** **00 57 33.0 -0.8**
comp=Z,86nm,1.0s
SUMG Summit 65.73 18 P **P** **00 57 33.0 -0.8**
ARAG Araguaiana, MT 66.27 118 *e*P **P** **00 57 37.8 +0.1**
ARAG Araguaiana, MT 66.27 118 *e*P **P** **00 57 37.8 +0.1**
PEXB Peixe 67.56 113 *e*P **P** **00 57 46.6 +0.6**
PEXB Peixe 67.56 113 *e*P **P** **00 57 46.6 +0.6**
CPUP Villa Florida 67.79 130 P **P** **00 57 48.3 +1.2**
CPUP pmax pmax
comp=Z,46nm,1.0s
CPUP Villa Florida 67.79 130 P **P** **00 57 48.2 +1.2**
comp=Z,33nm,0.9s,baz=321,slow=7.0,SNR=46
CPUP LR LR 01 25 42.5
comp=Z,261nm,19.8s,baz=320,slow=34
CPUP Villa Florida 67.79 130 *e*P **P** **00 57 48.3 +1.2**
CPUP Villa Florida 67.79 130 *e*P **P** **00 57 48.3 +1.2**
CPUP Villa Florida 67.79 130 P **P** **00 57 48.3 +1.2**
GO06 Curarrehue 68.47 150 P **P** **00 57 52.1 +0.8**
TRCB Terra Rica 69.29 125 *e*P **P** **00 57 57.2 +0.6**
TRCB Terra Rica 69.29 125 *e*P **P** **00 57 57.2 +0.6**
BDFB Brasilia 69.44 116 P **P** **00 57 58.8 +1.1**
BDFB pmax pmax
comp=Z,36nm,1.1s
BDFB Brasilia 69.44 116 P **P** **00 57 58.9 +1.1**
comp=Z,32nm,1.1s,baz=299,slow=8.5,SNR=14
BDFB Brasilia 69.44 116 P **P** **00 57 58.8 +1.1**
ITRB Iturama 69.47 121 *e*P **P** **00 57 59.0 +1.2**
ITRB Iturama 69.47 121 *e*P **P** **00 57 59.0 +1.2**
PCMB Pacaembu 69.73 123 *e*P **P** **00 57 59.9 +0.5**
PCMB Pacaembu 69.73 123 *e*P **P** **00 57 59.9 +0.5**
PLCA Paso Flores 69.81 150 P **P** **00 58 01.8 +2.3**
PLCA pmax pmax
comp=Z,36nm,1.1s
PLCA Paso Flores 69.81 150 P **P** **00 58 01.5 +2.0**
comp=Z,10nm,1.0s,baz=359,slow=9.2,SNR=8.0
PLCA LR LR 01 22 01.6
comp=Z,997nm,19.5s,baz=344,slow=30
PLCA Paso Flores 69.81 150 *e*P **P** **00 58 02.0 +2.6**
PLCA Paso Flores 69.81 150 *e*P **P** **00 58 02.0 +2.6**
PLCA Paso Flores 69.81 150 P **P** **00 58 01.8 +2.3**
BILL Bilibino 70.09 337 *e*P **P** **00 57 57.0 -3.8**
BILL *e* 00 58 19.0
BILL *e* 01 00 31.7
BILL *e*PPP PPP 01 02 13.3
BILL pmax pmax
comp=Z,12nm,1.0s
BILL MLR MLR
comp=Z,371nm,17.0s
BILL Bilibino 70.09 337 P **P** **00 58 01.1 +0.3**
BILL IAmb IAmb 00 58 05.3
comp=Z,10nm,0.9s
ITQB Itaqui 70.30 133 *e*P **P** **00 58 03.8 +1.2**
ITQB Itaqui 70.30 133 *e*P **P** **00 58 03.8 +1.2**
IPMB Ipameri, GO 70.39 118 *e*P **P** **00 58 03.6 +0.1**
IPMB Ipameri, GO 70.39 118 *e*P **P** **00 58 03.6 +0.1**
PTGB Pitanga 70.77 126 *e*P **P** **00 58 06.5 +0.8**
PTGB Pitanga 70.77 126 *e*P **P** **00 58 06.5 +0.8**
DAG Danmarks Havn 71.24 14 *i* P **P** **00 58 06.4 -1.3**
DAG pmax pmax
comp=Z,30nm,1.0s
DAG Danmarks Havn 71.24 14 *i* P **P** **00 58 06.4 -1.3**
comp=Z,30nm,1.0s
BB19B Bebedouro 71.64 121 *e*P **P** **00 58 12.3 +1.2**
BB19B Bebedouro 71.64 121 *e*P **P** **00 58 12.3 +1.2**
FRTB Fartura 71.97 124 *e*P **P** **00 58 13.6 +0.6**
FRTB Fartura 71.97 124 *e*P **P** **00 58 13.6 +0.6**
ITAB Concordia 72.10 128 *e*P **P** **00 58 14.5 +0.9**
ITAB Concordia 72.10 128 *e*P **P** **00 58 14.5 +0.9**
PMNB Patos De Minas 72.13 118 *e*P **P** **00 58 14.9 +0.8**
PMNB Patos De Minas 72.13 118 *e*P **P** **00 58 14.9 +0.8**
TRQA Tornquist 72.34 143 P **P** **00 58 16.9 +2.0**
TRQA pmax pmax
comp=Z,24nm,1.0s
TRQA Tornquist 72.34 143 *e*P **P** **00 58 16.4 +1.5**
TRQA Tornquist 72.34 143 *e*P **P** **00 58 16.4 +1.5**
TRQA Tornquist 72.34 143 P **P** **00 58 16.9 +2.0**
TRQA IAmb IAmb 00 58 26.8
comp=Z,24nm,0.9s
LPA La Plata 72.69 138 *e*P **P** **00 58 15.7 -1.3**
LPA PCP **PcP** **00 58 35.5 +1.1**
LPA PP **PP** **01 00 58.9 0.0**
LPA PPP PPP 01 02 48.1
LPA PKIKP **PKiKP** **01 04 15.8 -2.2**
LPA S **SKiKP** **01 07 48.0 -4.4**
LPA PS **PnS** **01 08 15.4 +2.3**
LPA SKS **SKSac** **01 08 21.8 -1.2**
LPA SKIKS 01 11 25.9
LPA SS **SS** **01 12 23.2 +0.3**
LPA SSS SSS 01 15 56.7
RCLB Rio Claro- Sao 73.12 122 *e*P **P** **00 58 21.0 +1.1**
RCLB Rio Claro- Sao 73.12 122 *e*P **P** **00 58 21.0 +1.1**
PLTB Pedras Altas 73.63 133 *e*P **P** **00 58 24.9 +2.3**
PLTB Pedras Altas 73.63 133 *e*P **P** **00 58 24.9 +2.3**
SPB Sao Paulo 73.78 123 *e*P **P** **00 58 24.9 +1.2**
SPB Sao Paulo 73.78 123 *e*P **P** **00 58 24.9 +1.2**
SPB Sao Paulo 73.78 123 P **P** **00 58 24.4 +0.7**
VAO Valinhos 73.86 122 *e*P **P** **00 58 25.3 +1.0**
VAO Valinhos 73.86 122 *e*P **P** **00 58 25.3 +1.0**
CNLB Canela 74.19 130 *e*P **P** **00 58 26.8 +0.8**
CNLB Canela 74.19 130 *e*P **P** **00 58 26.8 +0.8**
NBPA Parau_RN 75.05 102 *e*P **P** **00 58 30.4 -0.9**
NBPA Parau_RN 75.05 102 *e*P **P** **00 58 30.4 -0.9**
NBLI Livramento-PB 75.80 103 *e*P **P** **00 58 35.2 -0.4**
NBLI Livramento-PB 75.80 103 *e*P **P** **00 58 35.2 -0.4**
ESAR Angra dos Reis 75.90 121 *e*P **P** **00 58 37.4 +1.4**
ESAR Angra dos Reis 75.90 121 *e*P **P** **00 58 37.4 +1.4**
PET Petropavlovsk 76.01 322 *e*P P 00 58 41.5 +5.4
PET *e*S S **01 08 20.1 +0.2**
PET MLR MLR
comp=Z,400nm,19.0s
PET MLR MLR
comp=Z,400nm,17.0s
RCBR Riachuelo 76.19 101 *e*P **P** **00 58 38.2 +0.2**
RCBR Riachuelo 76.19 101 *e*P **P** **00 58 38.2 +0.2**
PETK Petropavlovsk- 76.55 322 P **P** **00 58 39.7 +0.5**
comp=Z,2.5nm,0.3s,baz=91,slow=13,SNR=6.7
PETK LR LR 01 24 08.7
comp=Z,108nm,20.8s,baz=65,slow=29
SJMB Sao Joao De Ma 76.64 116 *e*P **P** **00 58 39.9 -0.3**
SJMB Sao Joao De Ma 76.64 116 *e*P **P** **00 58 39.9 -0.3**
SEY Seymchan 76.65 332 *i* P **P** **00 58 35.3 -4.3**
SEY Seymchan 76.65 332 P **P** **00 58 39.9 +0.3**
comp=Z,9.5nm,0.9s,baz=91,slow=5.2,SNR=17
BSFB Barra de Sao F 76.98 115 *e*P **P** **00 58 43.1 +0.9**
BSFB Barra de Sao F 76.98 115 *e*P **P** **00 58 43.1 +0.9**
TIXI Tiksi 81.01 344 ||| *i* P **P** **00 58 59.6 -3.8**
TIXI pmax pmax
comp=Z,12nm,0.9s
TIXI Tiksi 81.01 344 P **P** **00 59 02.6 -0.8**
TIXI IAmb IAmb 00 59 03.8
comp=Z,14nm,0.9s
TIXI IAMs_20 IAMs_20 01 35 57.4
comp=Z,318nm,21.0s
POLO Lamas de Olo 85.41 48 *e*P **P** **00 59 26.2 -0.6**
ARCES ARCESS Array B 85.52 15 P **P** **00 59 25.5 -1.2**
comp=Z,9.6nm,0.8s,baz=328,slow=4.3,SNR=9.8
ARCES LR LR 01 38 16.6
comp=Z,504nm,21.4s,baz=320,slow=36
MTE Manteigas 85.95 49 *e*P **P** **00 59 30.0 +0.5**
comp=Z,32nm,1.3s
MTE Manteigas 85.95 49 P **P** **00 59 29.8 +0.3**
PMTG Montargil 85.95 50 *e*P **P** **00 59 28.8 -0.7**
comp=Z,41nm,1.3s
PBRG Braganca 85.97 47 A A 00 59 31.2
comp=Z,29nm,2.0s
PCBR Castelo Branco 86.20 49 *e*P **P** **00 59 30.9 +0.2**
comp=Z,20nm,1.4s
EVO Evora 86.31 50 *e*P **P** **00 59 31.8 +0.6**
comp=Z,22nm,1.3s
PMRV Marv??o 86.42 49 *e*P **P** **00 59 31.4 -0.4**
comp=Z,22nm,2.4s
YAK Yakutsk 86.45 336 P **P** **00 59 31.6 +0.2**
YAK pmax pmax
comp=Z,29nm,1.1s
YAK Yakutsk 86.45 336 P **P** **00 59 31.6 +0.2**
NOA NORSAR Array B 86.64 25 LR LR 01 39 07.8
comp=Z,208nm,18.5s,baz=310,slow=36
PVAQ Vaqueiros 86.95 51 *e*LR LR 01 28 30.6
comp=Z,232nm,20.0s
ESDC Sonseca Array 88.76 48 P **P** **00 59 43.6 +0.5**
comp=Z,1.3nm,1.0s,baz=305,slow=6.1,SNR=4.4
ESDC LR LR 01 37 21.0
comp=Z,134nm,21.8s,baz=345,slow=34
URZ Urewera 89.89 229 LR LR 01 30 31.9
comp=Z,627nm,21.9s,baz=3.0,slow=29
PMSA Palmer Station 90.81 162 *e*P **P** **00 59 53.5 +1.7**
PMSA Palmer Station 90.81 162 *e*P **P** **00 59 53.5 +1.7**
FINES FINESS Array B 91.72 20 LR LR 01 40 23.5
comp=Z,550nm,18.0s,baz=314,slow=35
DZM Mont Dzumac 92.31 248 *e*LR LR 01 29 40.3
comp=Z,2µm,30.2s
KHC Kasperske Hory 94.80 34 IAMs_20 IAMs_20 01 41 04.2
comp=Z,315nm,20.0s
GERES GERESS Array B 95.04 34 P **P** **01 00 13.3 +1.2**
comp=Z,0.1nm,0.3s,baz=335,slow=6.7,SNR=2.1
GERES LR LR 01 41 30.1
comp=Z,525nm,20.1s,baz=305,slow=35
MJAR Matsushiro Arr 95.56 312 LR LR 01 35 52.5
comp=Z,251nm,20.9s,baz=100,slow=31
CN2 Changchun 99.65 323 *e*P **Pdif** **01 00 32.6 -0.3**
KEST Kesra 99.90 47 LR LR 01 45 55.2
comp=Z,215nm,18.5s,baz=17,slow=36
OBN Obninsk 100.11 19 *e*P **Pdif** **01 00 30.5 -4.1**
OBN *e* 01 04 34.7
OBN *e*PPP PPP 01 06 46.4
OBN pmax pmax
comp=Z,2.0nm,1.0s
OBN MLR MLR
comp=Z,322nm,18.0s
CORL Corleone 101.32 43 IAMs_20 IAMs_20 01 31 51.4
comp=Z,220nm,21.0s
TOA2 Torodi Ar. Sit 104.50 70 IAMs_20 IAMs_20 01 43 17.1
comp=Z,266nm,20.0s
TOB2 Torodi Ar. Sit 104.51 70 IAMs_20 IAMs_20 01 43 56.2
comp=Z,316nm,22.0s
TOB3 Torodi Ar. Sit 104.51 70 IAMs_20 IAMs_20 01 46 46.3
comp=Z,282nm,21.0s
TOC2 Torodi Ar. Sit 104.52 70 IAMs_20 IAMs_20 01 44 19.5
comp=Z,307nm,22.0s
KIV Kislovodsk 111.74 22 *i* PKIKP **PKiKP** **01 05 19.1 -5.1**
KIV pmax pmax
comp=Z,31nm,1.0s
SNAA Sanae 113.47 161 IAMs_20 IAMs_20 01 38 35.3
comp=Z,131nm,18.0s
WMQ Urumqi 115.14 347 *e*PKP **PKPdf** **01 05 31.4 +0.7**
WMQ LR LR
comp=Z,250nm,23.9s
LZH Lanzhou 116.55 331 *e*PKP **PKiKP** **01 05 34.4 +0.7**
LZH sPKP 01 05 40.1
LZH LR LR
comp=Z,230nm,20.0s
WRA Warramunga Arr 120.67 258 PKP **PKPdf** **01 05 41.8 0.0**
comp=Z,0.9nm,0.6s,baz=80,slow=2.2,SNR=8.6
WRA PKKPbc **PKKPbc** **01 15 45.6 -0.7**
comp=Z,0.6nm,0.8s,baz=258,slow=1.9,SNR=6.8
CD2 Chengdu 120.78 327 PKP **PKPdf** **01 05 41.6 -0.3**
KSH Kashi 121.09 355 *e*PKP **PKiKP** **01 05 45.5 +3.0**
KSH PKS 01 09 21.0
KSH SS SS 01 23 48.5 +5.5
GEYT Alibeck 121.60 12 PKP **PKiKP** **01 05 43.8 +0.4**
comp=Z,1.2nm,0.6s,baz=300,slow=3.2,SNR=3.1
ASAR Alice Springs 121.72 254 PKP **PKPdf** **01 05 43.8 0.0**
comp=Z,0.8nm,0.8s,baz=62,slow=2.7,SNR=6.3
ASAR PKKPbc **PKKPbc** **01 15 41.9 -0.5**
comp=Z,1.1nm,0.8s,baz=258,slow=2.8,SNR=7.8
SYO Syowa Base 126.86 166 ||| *e*X **Pdif** **01 02 28.0 -5.1**
KKM Kota Kinabalu 128.73 295 IAMs_20 IAMs_20 02 14 10.5

comp=Z,114nm,18.0s
CMAR Chiang Mai Arr 133.33 322 PKP **PKPdf 01 06 06.5 +0.4**
comp=Z,1.6nm,0.3s,baz=68,slow=2.4,SNR=8.0
KSM Kuching 136.11 294 IAMs_20 IAMs_20 02 00 25.3
comp=Z,133nm,21.0s
LSZ Lusaka 139.05 91 PKIKP **PKPdf 01 06 14.1 -2.7**
LSZ Lusaka 139.05 91 PKPdf **PKPdf 01 06 14.1 -2.7**
KMBO Kilima Mbogo 142.29 65 PKP **PKPdf 01 06 22.6 -0.3**
comp=Z,0.7nm,0.3s,baz=56,slow=3.6,SNR=2.4
GSI Gunungsitoli 146.67 305 PKPbc **PKPbc 01 06 32.4 +0.5**

*IDC **11** 00:52:09.8±6.2, 14.96S×167.33E, h120km±58km, mb3.8/5, mb1 4.0/6, mb1mx3.6/35, mbtmp4.2/6, Error ellipse: s-maj=46.1km s-min=34.1km az=162.0*
*ISCJB **11** 00:52:10.2±2.3, 15.15S±0.1×167.2E±0.3, h129km, Error ellipse: s-maj=43.2km s-min=12.8km az=169.0*
ISC 11 00:52:10.8±1.9, 15.05S±0.1×167.4E±0.3, h129km, n7, σ1s30/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.07**	**187**	P		**Pn**	**00 53 52.7**	**+0.9**
	3.5nm,0.3s,baz=330,slow=23,SNR=22							
DZM				S		**Sn**	**00 55 09.5**	**-1.4**
	3.6nm,0.3s,baz=308,slow=19,SNR=4.6							
CTA	**Charters Tower**	**20.75**	**253**	P		**P**	**00 56 42.5**	**+1.0**
	2.2nm,0.4s,baz=80,slow=12,SNR=8.6							
STKA	**Stephens Creek**	**28.89**	**230**	P		**P**	**00 57 58.7**	**+1.2**
	7.1nm,0.5s,baz=50,slow=10,SNR=25							
WRA	**Warramunga Arr**	**31.85**	**256**	P		**P**	**00 58 22.4**	**-1.4**
	1.3nm,0.7s,baz=86,slow=9.3,SNR=20							
ASAR	**Alice Springs**	**32.66**	**250**	P		**P**	**00 58 29.8**	**-1.1**
	2.4nm,0.6s,baz=82,slow=9.1,SNR=28							
SONM	**Songino Array**	**82.78**	**324**	P		**P**	**01 04 20.5**	**-0.1**
	0.4nm,0.6s,baz=106,slow=4.3,SNR=3.4							
ARCES	**ARCESS Array B**	**120.55**	**345**	PKP		**PKPdf**	**01 10 46.2**	**-0.4**
	6.2nm,1.2s,baz=93,slow=1.5,SNR=9.6							

*JMA **11** 01:13:03.9±0.1, 24.73N×122.55E, h107km±2km, M2.4*
*ISCJB **11** 01:13:04.7±0.4, 24.75N±0.02×122.56E±0.02, h99km±3km, Error ellipse: s-maj=3.8km s-min=2.6km az=168.4*
*TAP **11** 01:13:04.7, 24.78N×122.55E, h100km±1km, ML3.6, C*
ISC 11 01:13:04.8±1.4, 24.76N±0.04×122.56E±0.03, h100km±8km, n89, σ0.73/163, 1C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.45**	**242**	⇓P		**Pn**	**01 13 20.3**	**+0.1**
	baz=239							
EOS1				S		**Sn**	**01 13 32.7**	**+1.0**
	baz=239							
JYNG	**Yonagunijimaku**	**0.47**	**131**	P		**Pn**	**01 13 20.2**	**-0.2**
JYNG				*e*S		**Sn**	**01 13 32.2**	**+0.2**
YOJ	**Yonaguni jima**	**0.51**	**126**	P		**Pn**	**01 13 20.5**	**-0.2**
YOJ				*e*S		**Sn**	**01 13 33.7**	**+1.2**
YOJ	**Yonaguni jima**	**0.51**	**126**	P		**Pn**	**01 13 20.4**	**-0.2**
	baz=126							
YOJ				S		**Sn**	**01 13 33.5**	**+1.0**
	baz=126							
TWB1	**Santiao Chiao**	**0.58**	**296**	⇓*i*P		**Pn**	**01 13 21.1**	**-0.1**
	baz=294							
TWB1				*i* S		**Sn**	**01 13 32.2**	**-1.2**
	baz=294							
EGS		**0.58**	**279**	P		**Pn**	**01 13 21.4**	**+0.3**
	baz=276							
EGS				*e*S		**Sn**	**01 13 33.0**	**-0.5**
	baz=276							
TWC	**Suao**	**0.67**	**257**	⇓*i*P		**Pn**	**01 13 21.6**	**-0.3**
	baz=255							
TWC				S		**Sn**	**01 13 34.1**	**-0.6**
	baz=255							
NTC	**Toucheng**	**0.67**	**278**	*e*P		**Pn**	**01 13 22.1**	**+0.1**
	baz=276							
NTC				*e*S		**Sn**	**01 13 34.9**	**0.0**
	baz=276							
TIPB	**Shuangxi**	**0.70**	**288**	⇓*i*P		**Pn**	**01 13 22.3**	**0.0**
	baz=286							
TIPB				*i* S		**Sn**	**01 13 34.9**	**-0.5**
	baz=286							
NWF	**Wu-fen Shan**	**0.77**	**294**	*i* P		**Pn**	**01 13 22.8**	**-0.2**
	baz=292							
NWF				*i* S		**Sn**	**01 13 36.4**	**-0.3**
	baz=292							
WFSB	**Wu-fen Shan**	**0.77**	**294**	P		**Pn**	**01 13 22.7**	**-0.2**
	baz=292							
WFSB				S		**Sn**	**01 13 37.0**	**+0.5**
	baz=292							
NANB	**Nanao**	**0.81**	**246**	⇓*i*P		**Pn**	**01 13 23.4**	**+0.1**
	baz=244							
NANB				*i* S		**Sn**	**01 13 37.5**	**+0.4**
	baz=244							
TWE	**Neicheng**	**0.81**	**268**	*i* P		**Pn**	**01 13 23.3**	**0.0**
	baz=265							
TWE				*e*S		**Sn**	**01 13 36.4**	**-0.8**
	baz=265							
ENA	**Nanau**	**0.82**	**246**	*i* P		**Pn**	**01 13 23.5**	**+0.1**
	baz=244							
ENA				*i* S		**Sn**	**01 13 37.9**	**+0.7**
	baz=244							
SLBB	**Yuanshan**	**0.84**	**270**	P		**Pn**	**01 13 22.6**	**-1.0**
	baz=268							
SLBB				*e*S		**Sn**	**01 13 37.0**	**-0.8**
	baz=268							
ENTT	**Nioudou**	**0.91**	**263**	*i* P		**Pn**	**01 13 24.8**	**+0.4**
	baz=261							
ENTT				S		**Sn**	**01 13 39.1**	**+0.1**
	baz=261							
TWA	**Mucha**	**0.92**	**284**	*e*P		**Pn**	**01 13 25.1**	**+0.8**
	baz=283							
TWA				S		**Sn**	**01 13 39.0**	**-0.1**
	baz=283							
NWLT	**Wulai**	**0.96**	**271**	*e*P		**Pn**	**01 13 24.8**	**-0.1**
	baz=270							
NWLT				*e*S		**Sn**	**01 13 40.2**	**+0.2**
	baz=270							
NDT	**Datong Townshi**	**0.97**	**261**	P		**Pn**	**01 13 25.7**	**+0.8**
	baz=259							
NDT				*e*S		**Sn**	**01 13 40.7**	**+0.7**
	baz=259							
PCYT	**Pengchaiyu**	**0.97**	**333**	*i* P		**Pn**	**01 13 25.2**	**+0.2**
	baz=333							
PCYT				S		**Sn**	**01 13 39.1**	**-1.1**
	baz=333							
YM08	**YM08**	**0.98**	**296**	*e*S		**Sn**	**01 13 40.3**	**0.0**
	baz=295							
YM11	**YM11**	**0.98**	**294**	*e*P		**Pn**	**01 13 25.6**	**+0.4**
	baz=293							
YM11				*e*S		**Sn**	**01 13 40.4**	**0.0**
	baz=293							
TATO	**Taipei**	**1.00**	**283**	*e*P		**Pn**	**01 13 25.1**	**-0.1**
	baz=281							
TATO				*e*S		**Sn**	**01 13 39.9**	**-0.7**
	baz=281							
YM04	**YM04**	**1.01**	**293**	P		**Pn**	**01 13 25.1**	**-0.3**
	baz=292							
YM04				S		**Sn**	**01 13 40.5**	**-0.4**
	baz=292							
NACB	**Ninganchiao**	**1.06**	**237**	⇑P		**Pn**	**01 13 25.4**	**-0.5**
	baz=235							
NACB				S		**Sn**	**01 13 41.2**	**-0.6**
	baz=235							
YHNB	**Yeheng**	**1.08**	**266**	P		**Pn**	**01 13 26.6**	**+0.4**
	baz=264							
YHNB				S		**Sn**	**01 13 42.4**	**+0.1**
	baz=264							
NTST	**Danshui**	**1.09**	**292**	*e*P		**Pn**	**01 13 27.1**	**+0.9**
	baz=291							
TWS1	**Kuangyinshan**	**1.09**	**288**	*e*S		**Sn**	**01 13 42.0**	**-0.4**
	baz=287							
TWD	**Chiawan**	**1.11**	**233**	P		**Pn**	**01 13 26.0**	**-0.4**
	baz=231							
TWD				*i* S		**Sn**	**01 13 42.0**	**-0.7**
	baz=231							
NNSH	**Datong**	**1.12**	**253**	P		**Pn**	**01 13 26.9**	**+0.1**
	baz=251							
NNSH				*e*S		**Sn**	**01 13 42.8**	**-0.4**
	baz=251							
ETLH	**Xiulin Townshi**	**1.13**	**241**	*i* P		**Pn**	**01 13 26.4**	**-0.4**
	baz=239							
ETLH				S		**Sn**	**01 13 43.0**	**-0.3**
	baz=239							
NNS	**Nan Shan**	**1.13**	**254**	P		**Pn**	**01 13 26.9**	**+0.1**
	baz=252							
NNS				S		**Sn**	**01 13 43.0**	**-0.3**
	baz=252							
IRIF	**Iriomote-Funau**	**1.15**	**111**	P		**Pn**	**01 13 26.7**	**-0.1**
IRIF				*e*S		**Sn**	**01 13 43.9**	**+0.4**
HWA	**Hwalien**	**1.17**	**228**	*e*P		**Pn**	**01 13 26.9**	**-0.3**
	baz=226							
HWA				S		**Sn**	**01 13 44.9**	**+0.9**
	baz=226							
WLTB	**Daxi**	**1.19**	**275**	*e*S		**Sn**	**01 13 45.5**	**+1.0**
	baz=273							
ENLB	**Shoufeng**	**1.22**	**226**	*e*P		**Pn**	**01 13 26.8**	**-0.9**
	baz=224							
ENLB				S		**Sn**	**01 13 44.6**	**-0.4**
	baz=224							
WHF	**Hehuan Shan**	**1.33**	**243**	P		**Pn**	**01 13 29.4**	**0.0**
	baz=241							
WHF				S		**Sn**	**01 13 47.2**	**-0.9**
	baz=241							
HATJ	**Hateruma jima**	**1.33**	**121**	P		**Pn**	**01 13 28.9**	**-0.1**
HATJ				S		**Sn**	**01 13 47.7**	**+0.4**
TWT	**Tachien**	**1.36**	**249**	P		**Pn**	**01 13 30.4**	**+0.9**
	baz=247							
TWT				S		**Sn**	**01 13 48.4**	**+0.2**
	baz=247							
TDCB	**Techi**	**1.37**	**249**	P		**Pn**	**01 13 30.2**	**+0.5**
	baz=247							
TDCB				S		**Sn**	**01 13 48.0**	**-0.5**
	baz=247							
ESL	**Shilin**	**1.40**	**228**	*e*P		**Pn**	**01 13 28.3**	**-1.5**
	baz=226							
ESL				*e*S		**Sn**	**01 13 47.0**	**-1.8**
	baz=226							
LIOB	**Emei**	**1.41**	**266**	P		**Pn**	**01 13 30.3**	**+0.3**
	baz=264							
LIOB				S		**Sn**	**01 13 48.8**	**-0.3**
	baz=264							
JKRS	**Kuro-shima**	**1.42**	**111**	P		**Pn**	**01 13 30.1**	**+0.1**
JKRS				*e*S		**Sn**	**01 13 50.0**	**+0.8**
NSTT	**Nanjuang**	**1.43**	**265**	P		**Pn**	**01 13 29.9**	**-0.3**
	baz=264							
NSTT				S		**Sn**	**01 13 49.0**	**-0.4**
	baz=264							
CHGB	**Renai**	**1.44**	**241**	P		**Pn**	**01 13 30.9**	**+0.3**
	baz=240							
CHGB				S		**Sn**	**01 13 49.8**	**-0.3**
	baz=240							
JIJ	**Ishigaki jima**	**1.49**	**105**	P		**Pn**	**01 13 30.6**	**-0.4**
JIJ				*e*S		**Sn**	**01 13 50.5**	**-0.3**
OWD	**Renai**	**1.50**	**238**	*e*P		**Pn**	**01 13 31.2**	**0.0**
	baz=236							
OWD				S		**Sn**	**01 13 50.7**	**-0.5**
	baz=236							
EGFH	**Guangfu**	**1.50**	**224**	*e*P		**Pn**	**01 13 32.2**	**+1.1**
	baz=222							
EGFH				*e*S		**Sn**	**01 13 49.5**	**-1.5**
	baz=222							
WHP	**Taichung City**	**1.55**	**252**	P		**Pn**	**01 13 33.0**	**+1.2**
	baz=251							
WHP				*e*S		**Sn**	**01 13 52.7**	**+0.5**
	baz=251							
JISG	**Ishigakijimahi**	**1.60**	**96**	P		**Pn**	**01 13 32.5**	**+0.2**
JISG				*e*S		**Sn**	**01 13 54.1**	**+0.9**
HGSD	**Ruisui**	**1.64**	**220**	P		**Pn**	**01 13 33.6**	**+0.8**
	baz=218							
HGSD				S		**Sn**	**01 13 54.0**	**0.0**
	baz=218							
VWDT	**VWDT**	**1.64**	**233**	*e*P		**Pn**	**01 13 33.2**	**+0.4**
	baz=231							
VWDT				*e*S		**Sn**	**01 13 53.5**	**-0.5**
	baz=231							
DPDB	**Guoxing**	**1.66**	**244**	*e*P		**Pn**	**01 13 33.8**	**+0.7**
	baz=243							
DPDB				*e*S		**Sn**	**01 13 55.2**	**+0.7**
	baz=243							
NSY	**Sanyi**	**1.67**	**259**	P		**Pn**	**01 13 32.7**	**-0.6**
	baz=257							
NSY				S		**Sn**	**01 13 55.2**	**+0.3**
	baz=257							
TWQ1	**Liyutan**	**1.68**	**256**	*e*P		**Pn**	**01 13 34.2**	**+0.9**
	baz=255							
TWQ1				S		**Sn**	**01 13 54.8**	**-0.2**
	baz=255							
EHY	**Hungye**	**1.69**	**222**	P		**Pn**	**01 13 32.5**	**-0.9**
	baz=221							
PTSB	**Yuanli**	**1.72**	**260**	*e*S		**Sn**	**01 13 56.1**	**+0.2**
	baz=258							
SMLT	**Sun Moon Lake**	**1.75**	**240**	*e*P		**Pn**	**01 13 35.7**	**+1.4**
	baz=239							
SMLT				S		**Sn**	**01 13 57.9**	**+1.1**
	baz=239							
SSLB	**Suanglung**	**1.76**	**237**	P		**Pn**	**01 13 35.0**	**+0.7**
	baz=235							
SSLB				*e*S		**Sn**	**01 13 57.2**	**+0.4**
	baz=235							
TYC	**Yuchr**	**1.77**	**242**	P		**Pn**	**01 13 35.5**	**+1.1**
	baz=240							
TYC				S		**Sn**	**01 13 58.5**	**+1.4**
	baz=240							
YULB	**Yu-li**	**1.79**	**221**	P		**Pn**	**01 13 34.0**	**-0.6**
	baz=219							
YULB				S		**Sn**	**01 13 56.8**	**-0.6**
	baz=219							
WDJ	**Dajia District**	**1.80**	**257**	*e*S		**Sn**	**01 13 57.9**	**+0.2**
	baz=256							
TWF1	**Yuli**	**1.82**	**220**	P		**Pn**	**01 13 35.6**	**+0.6**
	baz=218							
TWF1				S		**Sn**	**01 13 57.3**	**-0.8**
	baz=218							
WHYT	**Xinyi Township**	**1.89**	**236**	P		**Pn**	**01 13 37.1**	**+1.1**
	baz=235							
WHYT				*e*S		**Sn**	**01 14 00.6**	**+0.9**
	baz=235							
WJS	**Zhushan**	**1.92**	**241**	*e*P		**Pn**	**01 13 37.7**	**+1.4**
	baz=240							
WJS				*e*S		**Sn**	**01 14 01.3**	**+1.0**
	baz=240							
FULB	**Fuli**	**1.94**	**217**	*e*P		**Pn**	**01 13 37.3**	**+0.7**
	baz=216							
FULB				S		**Sn**	**01 14 00.3**	**-0.6**
	baz=216							
YUS	**Yu-Shan**	**1.94**	**230**	*e*P		**Pn**	**01 13 38.0**	**+0.9**
	baz=228							
YUS				S		**Sn**	**01 14 01.6**	**0.0**
	baz=228							
JTJ	**Tarama**	**1.95**	**93**	P		**Pn**	**01 13 35.8**	**-0.9**
JTJ				S		**Sn**	**01 14 00.9**	**-0.2**
CHKT	**Chengkung**	**1.98**	**214**	*e*P		**Pn**	**01 13 37.7**	**+0.5**
	baz=212							
CHN5	**Tsauling**	**2.07**	**236**	P		**Pn**	**01 13 39.2**	**+0.7**
	baz=235							
CHN5				S		**Sn**	**01 14 05.2**	**+1.1**
	baz=235							
ELDTW	**Lidau**	**2.11**	**222**	P		**Pn**	**01 13 39.0**	**+0.1**
	baz=221							
ELDTW				*e*S		**Sn**	**01 14 04.2**	**-0.7**
	baz=221							
WGK	**Gukeng**	**2.12**	**240**	*e*P		**Pn**	**01 13 39.9**	**+1.0**
	baz=238							
WGK				*e*S		**Sn**	**01 14 04.6**	**-0.4**
	baz=238							
RLNB	**Erlin**	**2.19**	**247**	*e*S		**Sn**	**01 14 06.5**	**0.0**
	baz=246							
CHN4	**Tsaushan**	**2.28**	**232**	P		**Pn**	**01 13 42.2**	**+1.1**
	baz=231							
CHN4				*e*S		**Sn**	**01 14 08.8**	**0.0**
	baz=231							
TPUB	**Ta-pu**	**2.29**	**231**	*e*P		**Pn**	**01 13 41.8**	**+0.7**
	baz=230							
TPUB				*e*S		**Sn**	**01 14 08.9**	**-0.1**
	baz=230							
STYT	**Tauyuan**	**2.29**	**226**	*e*S		**Sn**	**01 14 09.6**	**+0.4**
	baz=225							
WTP	**Ta-pu**	**2.33**	**230**	P		**Pn**	**01 13 42.7**	**+0.9**
	baz=229							
WTP				S		**Sn**	**01 14 10.9**	**+0.8**
	baz=229							
TWGBT	**Beinan**	**2.36**	**215**	*e*P		**Pn**	**01 13 41.4**	**-0.8**
	baz=214							
TWGBT				*e*S		**Sn**	**01 14 10.0**	**-0.7**
	baz=214							
TWG	**Pinlang**	**2.36**	**216**	*e*P		**Pn**	**01 13 43.5**	**+1.4**
	baz=214							
TWG				*e*S		**Sn**	**01 14 09.6**	**-1.2**
	baz=214							
TTN	**Taitung**	**2.38**	**213**	*e*S		**Sn**	**01 14 11.5**	**+0.4**
	baz=212							
CHN1	**Nanshi**	**2.43**	**230**	*e*P		**Pn**	**01 13 44.2**	**+1.1**
	baz=229							
CHN1				*e*S		**Sn**	**01 14 12.8**	**+0.4**
	baz=229							
SLGT	**Liugui**	**2.48**	**225**	*e*P		**Pn**	**01 13 44.9**	**+1.1**
	baz=224							
SLGT				*e*S		**Sn**	**01 14 14.8**	**+1.2**
	baz=224							
ECL	**Taimali**	**2.61**	**215**	*e*S		**Sn**	**01 14 14.6**	**-2.0**
	baz=213							
MASBT	**Mashibuluo**	**2.77**	**220**	*e*P		**Pn**	**01 13 48.3**	**+0.7**
	baz=219							
MASBT				*e*S		**Sn**	**01 14 20.4**	**-0.1**
	baz=219							
SGLT	**Jiouru**	**2.77**	**224**	*e*S		**Sn**	**01 14 20.2**	**-0.3**
	baz=222							
VWUC	**VWUC**	**2.84**	**275**	*e*S		**Sn**	**01 14 20.4**	**-1.5**
	baz=274							
TAW	**Tawu**	**2.84**	**213**	*e*S		**Sn**	**01 14 20.4**	**-1.5**
	baz=212							
EAST	**Anshuo**	**2.84**	**214**	*e*P		**Pn**	**01 13 47.9**	**-0.6**
	baz=213							
EAST				*e*S		**Sn**	**01 14 20.4**	**-1.7**
	baz=213							
PNG	**Penghu**	**2.99**	**247**	*e*P		**Pn**	**01 13 50.0**	**-0.4**
	baz=246							
PNG				*e*S		**Sn**	**01 14 25.0**	**-0.7**
	baz=246							

*ISCJB **11** 01:25:05.9±0.7, 8.0S±0.1×158.38E±0.09, h61km, mb3.8/7, Error ellipse: s-maj=15.8km s-min=10.5km az=30.6*
*IDC **11** 01:25:09.4±5.4, 8.00S×158.50E, h82km±60km, mb3.6/7, mb1 3.9/8, mb1mx3.6/29, mbtmp4.0/8, ML4.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/36, Error ellipse: s-maj=52.0km s-min=19.5km az=151.0*
*NEIC **11** 01:25:11.3±1.3, 8.3S±0.1×158.7E±0.1, h108km±10km, mb4.1/6*
ISC 11 01:25:06.6±0.7, 8.0S±0.1×158.5E±0.1, h61km, n17, σ1s83/18, mb4.0/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.04**	**134**	P		**Pn**	**01 25 40.5**	**+1.8**
	144nm,0.3s,baz=241,slow=3.0,SNR=39							
HNR				S		**Sn**	**01 26 06.9**	**+3.9**
	154nm,0.3s,baz=248,slow=23,SNR=14							
HNR				LR		LR	01 26 44.1	
	comp=Z,271nm,20.1s,baz=309,slow=47							
HNR	**Honiara**	**2.04**	**134**	*i* P		**Pn**	**01 25 40.0**	**+1.3**
HNR				*i* S		Sn	01 26 10.5	+7.4
HNR	**Honiara**	**2.04**	**134**			**Pn**	**01 25 39.9**	**+1.2**
HNR						**Sn**	**01 26 03.7**	**+0.6**
ARMA	**Armidale**	**23.19**	**195**	P		**P**	**01 30 07.0**	**-1.4**
ARMA				IAmb		IAmb	01 30 21.1	
	comp=Z,8.9nm,1.1s							
WB2	**Warramunga Arr**	**26.18**	**241**	P		**P**	**01 30 36.7**	**+1.0**
WRA	**Warramunga Arr**	**26.19**	**241**	P		**P**	**01 30 37.1**	**+1.4**
	comp=Z,1.2nm,0.5s,baz=65,slow=8.8,SNR=17							
ASAR	**Alice Springs**	**28.21**	**234**	P		**P**	**01 30 54.6**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=62,slow=9.3,SNR=5.3							
KNRA	**Kununurra**	**30.01**	**253**	P		**P**	**01 31 10.3**	**+0.4**
KNRA				IAmb		IAmb	01 31 21.4	
	comp=Z,4.9nm,0.8s							
NIUE	**Niue**	**32.59**	**113**	P		**P**	**01 31 30.0**	**-2.5**
FITZ	**Fitzroy Crossi**	**33.44**	**249**	P		**P**	**01 31 40.6**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=86,slow=13,SNR=3.9							
FITZ	**Fitzroy Crossi**	**33.44**	**249**	P		**P**	**01 31 40.2**	**+0.1**
FITZ				IAmb		IAmb	01 31 45.4	
	comp=Z,1.8nm,1.0s							
URZ	**Urewera**	**34.51**	**154**	P		**P**	**01 31 45.6**	**-3.3**
KSRS	**Korea Array**	**53.49**	**330**	LR		LR	01 55 58.6	
	comp=Z,38nm,18.3s,baz=25,slow=35							
SONM	**Songino Array**	**72.06**	**326**	P		**P**	**01 36 26.4**	**+1.9**
	comp=Z,0.5nm,0.4s,baz=141,slow=4.8,SNR=3.3							
ILAR	**Eielson Array**	**83.08**	**21**	P		**P**	**01 37 24.2**	**-1.1**
	comp=Z,2.0nm,1.1s,baz=251,slow=5.4,SNR=9.7							
MKAR	**Makanchi Array**	**86.44**	**318**	P		**P**	**01 37 43.6**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=93,slow=7.9,SNR=5.7							
YKA	**Yellowknife Ar**	**95.63**	**28**	P		**P**	**01 38 25.5**	**+0.3**
	comp=Z,0.8nm,1.0s,baz=260,slow=4.8,SNR=7.7							

*SJA **11** 01:37:31.4±0.4, 37.37S×74.75W, h30km, ML3.7, MW4.1*
*GUC **11** 01:37:36.0±0.8, 37.47S×74.28W, h33km±5km, ML3.5*
ISC 11 01:37:39.0±2.6, 37.32S±0.08×74.3W±0.2, h35km, n21, σ1s77/25, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.06**	**64**	*e*P		**Pn**	**01 37 55.0**	**-2.4**
CCSP				*i* S		**Sn**	**01 38 09.7**	**-1.3**
CCSP				IAML			01 38 18.0	
	comp=N,2μm,0.6s							
COCH	**Cobquecura**	**1.70**	**46**	⇑*i*P		**Pn**	**01 38 04.9**	**-1.2**
CCHI	**Chillan**	**1.92**	**69**	⇓*i*P		**Pn**	**01 38 07.6**	**-1.6**
CCHI				*i* S		**Sn**	**01 38 31.9**	**-0.2**
CCHI				IAML			01 38 44.3	
	comp=N,1μm,0.4s							
CCHI	**Chillan**	**1.92**	**69**	*i* P		**Pn**	**01 38 08.8**	**-0.4**
CCHI				*e*S		**Sn**	**01 38 37.4**	**+5.2**
GO05	**Huala**	**3.00**	**41**	*e*P		**Pn**	**01 38 23.9**	**-0.2**
GO05				IAML			01 39 26.2	
	comp=E,154nm,0.8s							
GO05	**Huala**	**3.00**	**41**	*i* P		**Pn**	**01 38 23.6**	**-0.5**
GO06	**Curarrehue**	**3.17**	**136**	⇑*i*P		**Pn**	**01 38 23.5**	**-3.1**
GO06				IAML			01 39 17.1	
	comp=N,92nm,0.7s							
GO06	**Curarrehue**	**3.17**	**136**	*i* P		**Pn**	**01 38 25.2**	**-1.3**
GO06				*e*S		**Sn**	**01 39 05.2**	**+2.0**
PUMA	**Malargue**	**4.31**	**67**	*i* P		**Pn**	**01 38 43.3**	**+1.1**
COIS	**El Sosneado**	**4.40**	**61**	*i* P		**Pn**	**01 38 40.9**	**-2.4**
PLCA	**Paso Flores**	**4.49**	**141**	*i* P		**Pn**	**01 38 44.0**	**-0.7**
PEL	**Peldehue**	**5.11**	**36**	*i* P		**Pn**	**01 38 53.5**	**+0.4**
ARCO	**CERRO ARCO**	**6.27**	**46**	*i* P		**Pn**	**01 39 09.5**	**+0.3**
ARCO				IAML			01 41 07.0	
	comp=Z,16nm,2.6s							
ASAL	**Salagasta**	**6.51**	**45**	⇓*i*P		**Pn**	**01 39 12.5**	**+0.1**
ASAL				IAML			01 41 17.3	
	comp=Z,12nm,1.3s							
RTLS	**Leoncito**	**6.88**	**38**	*i* P		**Pn**	**01 39 18.0**	**+0.3**
CFA	**Coronel Fontan**	**7.58**	**43**	*i* P		**Pn**	**01 39 27.0**	**-0.1**
GO04	**Tololo Observa**	**7.70**	**23**	*i* P		**Pn**	**01 39 27.5**	**-1.4**
AMOG	**MOGNA**	**7.98**	**39**	*i* P		**Pn**	**01 39 31.9**	**-0.7**
ACCO	**Cerro Coronel**	**8.00**	**34**	*i* P		**Pn**	**01 39 32.8**	**-0.3**
AROD	**Rodeo**	**8.19**	**31**	*i* P		**Pn**	**01 39 35.0**	**-0.7**
TCA	**Tanti**	**10.00**	**56**	*i* P		**Pn**	**01 39 58.5**	**-1.7**

*ISCJB **11** 01:59:53.1±0.2, 6.82N±0.02×73.10W±0.02, h161km±3km, mb3.6/6, Error ellipse: s-maj=4.3km s-min=3.0km az=36.9*
*NEIC **11** 01:59:53.5±1.7, 6.72N±0.05×73.00W±0.09, h159km±8km*
*IDC **11** 01:59:54.9±0.6, 6.75N×72.89W, h168km±7km, mb3.4/6, mb1 3.8/11, mb1mx3.3/48, mbtmp4.2/11, Error ellipse: s-maj=21.5km s-min=6.9km az=135.0*
*RSNC **11** 01:59:55.1±1.2, 6.81N×73.15W

PTBC *i* 02 00 45.3
comp=Z,1µm,0.5s
OCAC Ocana 1.41 351⇑ *eP* **Pn 02 00 23.9 +0.4**
OCAC *eS* **Sn 02 00 46.1 0.0**
OCAC *i* 02 00 50.4
comp=Z,1µm,0.5s
SPBC San Pablo de B 1.52 220⇑ *iP* **Pn 02 00 24.6 +0.1**
SPBC *eS* **Sn 02 00 46.6 -1.3**
SPBC *i* 02 00 52.2
comp=Z,2µm,0.3s
ZARC Zaragoza, Cauc 1.87 291 *eP* **Pn 02 00 28.0 -0.1**
ZARC *eS* **Sn 02 00 53.9 -0.3**
ZARC *i* 02 01 00.4
comp=Z,1µm,0.5s
NORC Norcasia 2.17 234 *eP* **Pn 02 00 31.4 -0.2**
NORC *eS* **Sn 02 00 59.5 -1.1**
NORC *i* 02 01 04.0
comp=Z,1µm,0.2s
NORC *i* 02 01 04.1
comp=Z,1µm,0.2s
SMLC San Martn de 2.18 334 *eP* **Pn 02 00 31.9 +0.3**
SMLC *eS* **Sn 02 01 01.3 +0.5**
SMLC *i* 02 01 02.6
comp=Z,669nm,0.1s
CHIC Chingaza 2.28 196⇑ *iP* **Pn 02 00 33.4 +0.1**
CHIC *eS* **Sn 02 01 02.8 -0.7**
CHIC *i* 02 01 08.7
comp=Z,484nm,0.3s
CHIC *i* 02 01 11.2
comp=Z,590nm,0.5s
ROSC El Rosal 2.33 212⇑ *eP* **Pn 02 00 35.3 +1.6**
ROSC *eS* **Sn 02 01 07.0 +2.5**
ROSC *i* 02 01 13.5
comp=Z,918nm,0.3s
ROSC El Rosal 2.33 212 P **Pn 02 00 35.9 +2.1**
comp=Z,261nm,0.3s,baz=227,slow=2.6,SNR=204
ROSC S **Sn 02 01 07.8 +3.4**
comp=Z,361nm,0.3s,baz=184,slow=23,SNR=20
ROSC El Rosal 2.33 212 Pn 02 00 32.6 -1.2
ROSC **Sn 02 01 02.8 -1.7**
HELC Santa Helena 2.50 255 *eP* **Pn 02 00 35.6 -0.2**
HELC *eS* **Sn 02 01 07.9 -0.2**
HELC *i* 02 01 14.0
comp=Z,738nm,0.3s
HELC *i* 02 01 14.1
comp=Z,616nm,0.3s
GUY2C Guyana, Caldas 2.77 235 *eP* **Pn 02 00 39.8 +0.6**
GUY2C *i* 02 01 21.1
comp=Z,731nm,0.7s
VILC Villavicencio, 2.77 192 *eP* **Pn 02 00 38.6 -0.3**
VILC *eS* **Sn 02 01 12.8 -0.9**
VILC *i* 02 01 28.5
comp=Z,535nm,0.4s
PTGC Puerto Gaitan, 2.79 160⇑ *eP* **Pn 02 00 38.6 -0.4**
PTGC *eS* **Sn 02 01 11.6 -2.4**
PTGC *i* 02 01 15.2
comp=Z,409nm,0.2s
RREF El Recreo 2.95 230 *eP* **Pn 02 00 42.8 +1.2**
RREF *i* 02 01 26.7
comp=Z,850nm,0.3s
RREF *i* 02 01 26.8
comp=Z,658nm,0.2s
CBOC Ciudad Bolivar 3.06 252 *eP* **Pn 02 00 43.0 +0.5**
CBOC *eS* **Sn 02 01 18.9 -1.2**
CBOC *i* 02 01 23.9
comp=Z,204nm,0.2s
CBOC *i* 02 01 26.3
comp=Z,265nm,0.5s
DBBC Dabeiba 3.10 274⇓ *eP* **Pn 02 00 43.2 +0.2**
DBBC *eS* **Sn 02 01 18.9 -2.0**
DBBC *i* 02 01 21.6
comp=Z,705nm,0.3s
CODC Agustn Codazz 3.10 354 *eP* **Pn 02 00 42.9 0.0**
CODC *eS* **Sn 02 01 19.4 -1.5**
CODC *i* 02 01 28.5
comp=Z,183nm,0.3s
CODC *i* 02 01 29.2
comp=Z,243nm,0.5s
SDV Santo Domingo 3.18 50 P **Pn 02 00 45.2 +1.1**
comp=Z,88nm,0.3s,baz=218,slow=5.1,SNR=307
SDV S **Sn 02 01 22.6 -0.3**
comp=Z,81nm,0.3s,baz=338,slow=6.2,SNR=30
SDV Santo Domingo 3.18 50 Pn 02 00 44.8 +0.7
SDV Sn **Sn 02 01 22.7 -0.2**
ARGC Ariguani, Magd 3.21 339 *eP* **Pn 02 00 45.8 +1.4**
ARGC *i* 02 01 28.1
comp=Z,228nm,0.4s
PRAC Prado 3.58 210 *eP* **Pn 02 00 48.9 -0.1**
PRAC *eS* **Sn 02 01 29.9 -1.9**
PRAC *i* 02 01 37.0
comp=Z,392nm,0.3s
PRAC *i* 02 01 37.1
comp=Z,417nm,0.3s
ORTC Ortega, Tolima 3.61 216⇑ *eP* **Pn 02 00 49.4 0.0**
ORTC *eS* **Sn 02 01 32.4 -0.2**
ORTC *i* 02 01 39.1
comp=Z,376nm,0.6s
SJCC San Jacinto, C 3.68 326 *eP* **Pn 02 00 49.4 -0.9**
SJCC *eS* **Sn 02 01 30.7 -3.4**
SJCC *i* 02 01 34.8
comp=Z,229nm,0.8s
PLMC San Jos del P 3.70 239 *eP* **Pn 02 00 51.5 +0.8**
PLMC *i* 02 01 39.8
comp=Z,291nm,0.2s
GUVC San Jose del G 4.29 174 *eP* **Pn 02 00 57.9 -0.3**
GUVC *i* 02 01 52.5
comp=Z,293nm,0.2s
YOTC Yotoco, Valle 4.30 229 *eP* **Pn 02 00 58.1 -0.3**
YOTC *i* 02 02 02.3
comp=Z,31nm,0.4s
PTAC Punta Ardita, 4.69 274 *eP* **Pn 02 01 02.7 -0.7**
PTAC *eS* **Sn 02 01 56.2 -1.4**
MACC Macarena, Meta 4.72 189⇑ *iP* **Pn 02 01 02.2 -1.7**
MACC *eS* **Sn 02 01 53.8 -4.6**
MACC *i* 02 01 59.5
comp=Z,122nm,0.9s
BETC Betania 4.74 210 *eP* **Pn 02 01 03.3 -0.9**
URIC Uribia, Colomb 4.96 13 *eP* **Pn 02 01 06.0 -1.0**
MALC Bahia Malaga 5.07 237 *eP* **Pn 02 01 10.2 +1.8**
MALC *eS* **Sn 02 02 04.7 -1.9**
FLOC Florencia 5.81 206 *eP* **Pn 02 01 17.7 -0.6**
SOTA Rioblanco 5.83 217 *eP* **Pn 02 01 20.4 +1.3**
SOTA *eS* **Sn 02 02 30.8 +5.2**
BBAC Balboa, Cauca 6.32 221 *eP* **Pn 02 01 26.4 +1.1**
BBAC *eS* **Sn 02 02 33.7 -3.1**
BCIP Isla Barro Col 7.07 290 Pn **Pn 02 01 33.3 -1.7**
OTAV Otavalo 8.45 219 Pn 02 01 53.9 0.0
PCRV Puerto La Cruz 9.00 68 P **Pn 02 01 59.5 -1.2**
comp=Z,1.0nm,0.3s,baz=69,slow=9.2,SNR=7.1
PCRV S **Sn 02 03 39.1 -1.7**
comp=Z,1.3nm,0.3s,baz=242,slow=18,SNR=2.8
PLCV Puerto La Cruz 9.04 68 Pn 02 01 59.5 -1.7
PLCV **Sn 02 03 39.1 -2.6**
MTDJ Mount Denham 12.12 339 Pn **Pn 02 02 44.4 +2.6**
JTS Las Juntas de 12.22 287 P **P 02 02 48.2 -0.7**
comp=Z,1.6nm,0.3s,baz=284,slow=3.0,SNR=9.6
JTS Las Juntas de 12.22 287 Pn 02 02 42.7 -0.3
PDPR Patillas Dam, 13.08 31 Pn **Pn 02 02 53.6 -0.5**
SJG San Juan 13.10 31 P **Pn 02 02 53.8 -0.3**
comp=Z,2.5nm,0.3s,baz=16,slow=18,SNR=6.8
SJG San Juan 13.10 31 P **Pn 02 02 53.4 -0.8**
GTBY Guantanamo Bay 13.16 352 Pn **Pn 02 02 56.8 +1.8**
HUMP Col San Antoni 13.28 31 Pn **Pn 02 02 55.3 -1.2**
GCPR Guaynabo City 13.30 30 Pn **Pn 02 02 56.3 -0.4**
CBYP Canovanas 13.38 31 Pn **Pn 02 02 57.9 0.0**
MTP Monte Pirata 13.39 33 Pn **Pn 02 02 58.1 +0.1**
CUPR Culebra, Puert 13.71 33 Pn **Pn 02 03 02.8 +0.8**
SAML Samuel 18.53 148 P **Pn 02 03 59.3 -1.5**
SAML IAmb IAmb 02 04 00.3
comp=Z,2.6nm,1.1s
TXAR Lajitas Array 36.47 312 P **P 02 06 45.2 +1.1**
comp=Z,0.7nm,0.6s,baz=121,slow=10,SNR=9.6
PDAR Pinedale Array 48.08 324 P **P 02 08 18.6 +0.6**
comp=Z,0.2nm,0.6s,baz=129,slow=9.8,SNR=2.9
SCHQ Schefferville 48.13 5 P **P 02 08 19.0 +1.2**
comp=Z,3.8nm,0.5s,baz=190,slow=6.6,SNR=13
SCHQ Schefferville 48.13 5 P **P 02 08 18.8 +1.0**
SCHQ IAmb IAmb 02 08 19.3
comp=Z,9.2nm,1.1s
YKA Yellowknife Ar 63.26 340 P **P 02 10 05.8 +0.3**
comp=Z,0.4nm,0.5s,baz=133,slow=6.6,SNR=14
NOA NORSAR Array B 81.31 29 P **P 02 11 53.4 +0.7**
comp=Z,0.4nm,0.7s,baz=263,slow=6.7,SNR=2.5
ARCES ARCESS Array B 86.65 20 P **P 02 12 19.5 0.0**
comp=Z,3.5nm,0.9s,baz=282,slow=4.5,SNR=3.4
MKAR Makanchi Array 122.30 20 PKP **PKPdf 02 18 30.1 -0.5**
comp=Z,0.2nm,0.4s,baz=318,slow=3.3,SNR=4.0
ASAR Alice Springs 149.14 234 PKPbc **PKPbc 02 19 23.5 -1.2**
comp=Z,0.7nm,0.5s,baz=123,slow=3.4,SNR=7.7
WRA Warramunga Arr 150.37 241 PKPbc **PKPbc 02 19 26.9 -0.8**
comp=Z,0.5nm,0.4s,baz=108,slow=2.9,SNR=14

IDC ***11*** *02:01:21.4±2.0, 39°.15N×107°.15W, h0km, mb3.0/1, mb1 3.2/3, mb1mx3.1/46, mbtmp2.8/3, ML3.2/2, Error ellipse: s-maj=26.0km s-min=14.2km az=88.0*
NEIC ***11*** *02:01:22.1±1.4, 38°.85N±0°.03×107°.64W±0°.03, h1km±2km, ML2.9/95*
ISC 11 02:01:21.7±1.3**, 38°.84N**±0°.03×**107°.62W**±0°.03**, h3**km±13km**, n56**, σ0**°98/65, Colorado**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMCO	**Snowmass**	**0.60**	**56**	Pg	**Pg**	**02 01 32.0**	**-1.3**
PV07	**Paradox Valley**	**0.90**	**244**	Pg	**Pg**	**02 01 39.3**	**+0.3**
PV22	**Blue Mesa, Par**	**0.97**	**252**	Pg	**Pg**	**02 01 40.6**	**+0.4**
PV22				Sg	**Sg**	**02 01 52.6**	**-0.1**
PV22				IAML		02 01 58.6	
	comp=N,315nm,0.8s						
PV22				IAML		02 02 12.7	
	comp=E,253nm,0.9s						
PV12	**Saucer Basin,**	**1.07**	**241**		**Pb**	**02 01 42.8**	**-0.1**
PV12				Sg	**Sg**	**02 01 56.3**	**+0.4**
PV12				IAML		02 02 06.2	
	comp=N,606nm,0.8s						
PV12				IAML		02 02 15.0	
	comp=E,616nm,1.0s						
PV02	**Paradox Valley**	**1.08**	**235**	Pg	**Pn**	**02 01 43.6**	**-0.3**
PV02				Sg	**Sg**	**02 01 56.2**	**-0.3**
PV02				IAML		02 02 06.2	
	comp=N,323nm,0.7s						
PV02				IAML		02 02 18.5	
	comp=E,300nm,1.5s						
PV21	**Cone Mtn., Par**	**1.10**	**256**	Pg	**Pb**	**02 01 43.1**	**-0.4**
PV21				Sg	**Sb**	**02 01 57.3**	**-1.0**
PV21				IAML		02 02 04.3	
	comp=N,405nm,0.7s						
PV21				IAML		02 02 10.0	
	comp=E,309nm,0.8s						
PV04	**Paradox Valley**	**1.10**	**246**	Pg	**Pn**	**02 01 43.5**	**-0.7**
PV04				Sg	**Sb**	**02 01 57.8**	**-0.6**
PV04				IAML		02 02 00.0	
	comp=N,290nm,0.6s						
PV04				IAML		02 02 21.5	
	comp=E,290nm,1.1s						
PV11	**David Mesa, Pa**	**1.12**	**242**	Pn	**Pn**	**02 01 44.1**	**-0.4**
PV11				Sg	**Sb**	**02 01 58.2**	**-0.8**
PV11				IAML		02 02 04.2	
	comp=N,689nm,0.5s						
PV11				IAML		02 02 07.0	
	comp=E,589nm,0.4s						
PV03	**Paradox Valley**	**1.13**	**239**	Pn	**Pn**	**02 01 44.2**	**-0.4**
PV03				Sg	**Sg**	**02 01 58.0**	**0.0**
PV03				IAML		02 02 06.7	
	comp=N,349nm,0.9s						
PV03				IAML		02 02 12.2	
	comp=E,159nm,0.8s						
PV16	**Nyswonger Mesa**	**1.15**	**243**	Pn	**Pn**	**02 01 44.5**	**-0.4**
PV16				Sg	**Sb**	**02 01 59.1**	**-0.6**
PV16				IAML		02 02 10.0	
	comp=E,310nm,0.6s						
PV16				IAML		02 02 10.0	
	comp=N,434nm,0.7s						
PV23	**Carpenter Ridg**	**1.16**	**251**	Pn	**Pn**	**02 01 44.6**	**-0.5**
PV23				Sg	**Sg**	**02 01 59.1**	**+0.2**
PV23				IAML		02 02 06.0	
	comp=N,610nm,0.8s						
S22A	**4UR Ranch, Cre**	**1.26**	**150**		**Pb**	**02 01 46.5**	**+0.3**
S22A				Sg	**Sg**	**02 02 03.1**	**+1.0**
O20A	**White River Ci**	**1.38**	**340**		**Pn**	**02 01 46.8**	**-1.2**
O20A				IAML		02 02 15.4	
	comp=E,121nm,0.8s						
MVCO	**Mesa Verde**	**1.77**	**203**		**Pb**	**02 01 54.4**	**-0.5**
MVCO				IAML		02 02 01.6	
	comp=E,68nm,0.6s						
MVCO				IAML		02 02 29.8	
	comp=E,86nm,0.9s						
ISCO	**Idaho Springs**	**1.82**	**58**		**Pn**	**02 01 54.8**	**+0.5**
Q24A	**Divide**	**1.93**	**86**		**Pn**	**02 01 56.6**	**+0.9**
SDCO	**Great Sand Dun**	**1.99**	**123**		**Pn**	**02 01 57.0**	**+0.5**
SRU	**San Rafael Swe**	**2.28**	**278**		**Pn**	**02 02 00.5**	**+0.1**
RDMU	**Red Mountain**	**2.29**	**320**		**Pb**	**02 02 01.8**	**-2.0**
N23A	**Red Feather La**	**2.42**	**32**		**Pn**	**02 02 03.1**	**+0.7**
N23A				IAML		02 02 39.7	
	comp=N,36nm,0.6s						
N23A				IAML		02 02 47.6	
	comp=E,34nm,0.9s						
P17A	**Butcher Ranch,**	**2.51**	**286**		**Pn**	**02 02 04.4**	**+0.9**
Q16A	**Castle Valley**	**2.78**	**273**		**Pn**	**02 02 08.0**	**+0.8**
TMUT	**Trail Mountain**	**2.83**	**280**		**Pn**	**02 02 08.5**	**+0.4**
PHWY	**Pilot Hill**	**2.96**	**33**		**Pn**	**02 02 10.6**	**+0.7**
T25A	**Trinidad**	**3.05**	**123**		**Pn**	**02 02 12.1**	**+1.1**
T25A				IAML		02 03 07.8	
	comp=E,22nm,1.2s						
T25A				IAML		02 03 17.3	
	comp=N,20nm,3.6s						
MPU	**Maple Canyon**	**3.32**	**292**		**Pn**	**02 02 15.6**	**+0.8**
JLU	**Jordanelle**	**3.44**	**302**		**Pn**	**02 02 16.6**	**+0.2**
TCUT	**Toone Canyon**	**3.69**	**309**		**Pn**	**02 02 20.8**	**+0.9**
K22A	**Casper**	**3.89**	**12**	Pn	**Pn**	**02 02 22.7**	**+0.2**
K22A				IAML		02 03 31.8	
	comp=E,30nm,1.2s						
K22A				IAML		02 03 46.8	
	comp=N,19nm,1.9s						
ANMO	**Albuquerque**	**4.00**	**166**	Pg	**Pg**	**02 02 37.3**	**-1.0**
	comp=N,1.1nm,0.3s,baz=352,slow=15,SNR=23						
ANMO				Lg	Lg	02 03 27.9	
	comp=N,0.2nm,0.3s,baz=72,slow=20,SNR=1.6						
W18A	**Petrified Fore**	**4.09**	**205**	Pn	**Pn**	**02 02 26.8**	**+1.6**
W18A				IAML		02 03 42.4	
	comp=E,47nm,0.8s						
W18A				IAML		02 03 42.6	
	comp=N,40nm,0.9s						
BW06	**Boulder Array**	**4.19**	**340**	Pn	**Pn**	**02 02 27.7**	**+1.0**
BW06				IAML		02 03 45.7	
	comp=E,16nm,0.7s						
BW06				IAML		02 03 46.0	
	comp=N,12nm,0.9s						
PD31	**Pinedale Array**	**4.19**	**340**		**Pn**	**02 02 27.6**	**+1.0**
PDAR	**Pinedale Array**	**4.19**	**340**	Pn	**Pn**	**02 02 27.6**	**+1.0**
	comp=N,0.4nm,0.3s,baz=142,slow=15,SNR=12						
PDAR				Pg	**Pb**	**02 02 37.1**	**+1.0**
	comp=N,0.5nm,0.3s,baz=146,slow=12,SNR=6.2						
PDAR				Lg	Lg	02 03 28.1	
	comp=N,0.4nm,0.3s,baz=140,slow=21,SNR=2.5						
DUG	**Dugway, Tooele**	**4.24**	**290**		**Pn**	**02 02 27.5**	**+0.2**
DUG				IAML		02 03 46.9	
	comp=N,9.6nm,0.7s						
DUG				IAML		02 03 48.3	
	comp=N,7.6nm,1.0s						
U15A	**North Rim**	**4.42**	**238**	Pn	**Pn**	**02 02 30.2**	**+0.3**
SPUT	**South Promonto**	**4.45**	**305**		**Pn**	**02 02 29.7**	**-0.5**
WUAZ	**Wupatki**	**4.47**	**223**		**Pn**	**02 02 34.1**	**+3.6**
KNB	**Kanab**	**4.50**	**248**		**Pn**	**02 02 31.1**	**+0.2**
LENM	**Lemitar**	**4.70**	**173**	Pn	**Pn**	**02 02 34.9**	**+1.3**
LCMT	**Little Creek M**	**4.81**	**249**		**Pn**	**02 02 35.0**	**-0.1**
PSUT	**Pine Spring**	**4.89**	**268**		**Pn**	**02 02 37.1**	**+0.8**
REDW	**Red Top Meadow**	**5.13**	**333**		**Pn**	**02 02 40.0**	**+0.3**
SNOW	**Snow King Moun**	**5.19**	**334**	Pn	**Pn**	**02 02 40.3**	**-0.1**
X16A	**Lo Mia Camp, P**	**5.38**	**216**		**Pn**	**02 02 42.8**	**-0.3**
MOOW	**Moose Ponds**	**5.44**	**335**	Pn	**Pn**	**02 02 44.3**	**+0.5**
FLWY	**Flagg Ranch**	**5.72**	**337**	Pn	**Pn**	**02 02 47.2**	**-0.6**
ELK	**Elko**	**6.17**	**290**	Pg	**Pb**	**02 03 13.6**	**+3.6**
	comp=N,0.1nm,0.3s,baz=96,slow=10,SNR=2.2						
ELK				Lg	Lg	02 04 35.0	
	comp=N,0.1nm,0.3s,baz=30,slow=16,SNR=2.2						
W13A	**Hualapai Mount**	**6.26**	**235**	Pn	**Pn**	**02 02 55.6**	**+0.5**
R11A	**Troy Canyon, C**	**6.26**	**268**		**Pn**	**02 02 55.6**	**+0.5**
RLMT	**Red Lodge**	**6.39**	**349**	Pn	**Pn**	**02 02 56.8**	**-0.1**
SHPR	**Sheep Range**	**6.42**	**251**	Pn	**Pn**	**02 02 58.5**	**+1.2**
MCMT	**McKenzie Canyo**	**7.14**	**329**		**Pn**	**02 03 06.8**	**-0.4**
NVAR	**Mina Array Bea**	**8.38**	**271**	Pn	**Pn**	**02 03 31.1**	**+7.0**
	comp=N,0.1nm,0.3s,baz=82,slow=13,SNR=2.4						
TXAR	**Lajitas Array**	**10.03**	**160**	Pg	Pn	**02 04 29.8**	**+43**
	comp=N,0.0nm,0.3s,baz=351,slow=14,SNR=4.5						
YKA	**Yellowknife Ar**	**24.06**	**352**	P	**P**	**02 06 37.2**	**-0.7**
	comp=N,0.2nm,0.8s,baz=167,slow=9.2,SNR=5.8						

IDC ***11*** *02:03:00.4±1.0, 35°.02N×25°.33E, h0km, mb3.8/10, mb1 3.9/15, mb1mx3.7/47, mbtmp3.8/15, ML3.6/5, Error ellipse: s-maj=23.6km s-min=15.9km az=173.0*
ATH ***11*** *02:03:05.8, 34°.87N×25°.36E, h66km±2km, ML3.8/9, Error ellipse: s-maj=3.1km s-min=1.3km az=176.0*
ISCJB ***11*** *02:03:06.6±0.5, 34°.89N±0°.05×25°.36E±0°.03, h69km±3km, mb3.6/10, Error ellipse: s-maj=7.9km s-min=4.0km az=179.3*
ISK ***11*** *02:03:06.2, 34°.79N×25°.42E, h24km, ML4.0/9*
THE ***11*** *02:03:07.8, 34°.76N×25°.36E, h14km±2km, ML3.6/6, Error ellipse: s-maj=3.2km s-min=1.0km az=359.0*
ISC 11 02:03:05.7±0.8**, 34°.83N**±0°.05×**25°.38E**±0°.03**, h47**km±7km**, n103**, σ2**°46/123**, mb3.7**/10**, Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRMA	**Ierapetra Chan**	**0.35**	**58**	P	**Pn**	**02 03 17.4**	**+2.4**
FRMA				S	**Sn**	**02 03 26.1**	**+4.5**
	7µm,0.5s						
NPS	**Neapolis**	**0.48**	**24**	P	**Pn**	**02 03 17.5**	**+1.0**
NPS				S	**Sn**	**02 03 25.7**	**+1.5**
	6µm,0.5s						
NPS	**Neapolis**	**0.48**	**24**	P	**Pn**	**02 03 17.5**	**+1.0**
NPS				AML	AML	02 03 28.3	
	comp=N,8805µm,0.5s						
NPS				AML	AML	02 03 29.7	
	comp=E,14093µm,0.4s						
SIVA	**Sivas**	**0.50**	**292**	P	**Pn**	**02 03 18.1**	**+1.3**
SIVA				S	**Sn**	**02 03 27.0**	**+2.4**
	comp=E,38µm,0.6s						
SIVA	**Sivas**	**0.50**	**292**	P	**Pn**	**02 03 18.1**	**+1.3**
SIVA				S	**Sn**	**02 03 27.1**	**+2.4**
SIVA				AML	AML	02 03 30.5	
	comp=E,96856µm,0.5s						
SIVA				AML	AML	02 03 32.0	
	comp=N,51684µm,0.7s						
HRKL	**Herakleio**	**0.53**	**335**	P	**Pn**	**02 03 18.4**	**+1.3**
HRKL				S	**Sn**	**02 03 28.6**	**+3.3**
	comp=N,15µm,0.5s						
HRKL	**Herakleio**	**0.53**	**335**	PG	**Pn**	**02 03 18.4**	**+1.3**
HRKL				SG	**Sn**	**02 03 27.6**	**+2.3**
KSTL	**Kastelli Herak**	**0.54**	**332**	P	**Pn**	**02 03 16.1**	**-1.1**
KSTL				S	**Sn**	**02 03 24.1**	**-1.3**
IACM	**Heraklion**	**0.54**	**332**	P	**Pn**	**02 03 18.4**	**+1.2**
IACM	**Heraklion**	**0.54**	**332**	P	**Pn**	**02 03 18.5**	**+1.3**
IACM				S	**Sn**	**02 03 28.9**	**+3.4**
TMBK	**Timbaki Herakl**	**0.56**	**296**	P	**Pn**	**02 03 18.9**	**+1.5**
TMBK				S	**Sn**	**02 03 28.9**	**+3.0**
	comp=N,7µm,0.5s						
STIA	**Sitia Lasithi**	**0.70**	**57**	P	**Pn**	**02 03 21.8**	**+2.6**
STIA				S	**Sn**	**02 03 33.0**	**+4.0**
ZKR	**Zakros**	**0.75**	**67**	P	**Pn**	**02 03 22.3**	**+2.4**
ZKR				S	**Sn**	**02 03 35.5**	**+5.2**
	comp=N,5µm,0.7s						
ZKR	**Zakros**	**0.75**	**67**	P	**Pn**	**02 03 22.1**	**+2.1**
ZKR				S	**Sn**	**02 03 33.2**	**+2.9**
ZKR				AML	AML	02 03 36.1	
	comp=E,13328µm,0.6s						
ZKR				AML	AML	02 03 36.7	
	comp=N,5622µm,0.7s						
ZKR	**Zakros**	**0.75**	**67**	PG	**Pn**	**02 03 21.9**	**+2.0**
ZKR				SG	**Sn**	**02 03 32.1**	**+1.8**
PRNS	**Prines Rethymn**	**0.90**	**307**	P	**Pn**	**02 03 25.0**	**+3.1**
PRNS				S	**Sn**	**02 03 38.2**	**+4.4**
GVDS	**Gavdos**	**1.06**	**271**	P	**Pn**	**02 03 26.5**	**+2.4**
GVDS	**Gavdos**	**1.06**	**271**	PN	**Pn**	**02 03 26.8**	**+2.7**
GVD	**Gavdhos**	**1.06**	**271**	P	**Pn**	**02 03 26.8**	**+2.7**
GVD	**Gavdhos**	**1.06**	**271**	P	**Pn**	**02 03 26.3**	**+2.2**
GVD				S	**Sn**	**02 03 39.1**	**+1.4**
GVD				AML	AML	02 03 53.7	
	comp=N,8298µm,0.5s						
GVD				AML	AML	02 04 01.1	
	comp=E,7379µm,0.5s						
GVD	**Gavdhos**	**1.06**	**271**	PN	**Pn**	**02 03 26.4**	**+2.2**
GVD				SN	**Sn**	**02 03 41.5**	**+3.7**
VAM	**Vamos**	**1.12**	**301**	P	**Pn**	**02 03 27.4**	**+2.4**
VAM	**Vamos**	**1.12**	**301**	P	**Pn**	**02 03 27.2**	**+2.2**
VAM				S	**Sn**	**02 03 42.0**	**+2.6**
VAM				AML	AML	02 03 52.5	
	comp=E,7869µm,0.7s						
VAM				AML	AML	02 03 52.5	
	comp=N,6196µm,0.3s						
CHAN	**Chania**	**1.29**	**303**	P	**Pn**	**02 03 29.8**	**+2.5**
IMMV	**Iera Moni Meta**	**1.31**	**299**	P	**Pn**	**02 03 30.0**	**+2.5**
IMMV	**Iera Moni Meta**	**1.31**	**299**	P	**Pn**	**02 03 30.0**	**+2.5**
IMMV				AML	AML	02 03 56.4	
	comp=E,7485µm,0.5s						
IMMV				AML	AML	02 04 02.7	
	comp=N,6283µm,0.6s						
IMMV	**Iera Moni Meta**	**1.31**	**299**	PN	**Pn**	**02 03 30.3**	**+2.8**
IMMV				SN	**Sn**	**02 03 47.7**	**+3.9**
KNDR	**Palaiochora Ch**	**1.45**	**287**	P	**Pn**	**02 03 33.8**	**+4.5**
KNDR	**Palaiochora Ch**	**1.45**	**287**	PN	**Pn**	**02 03 32.8**	**+3.5**
THR6	**Thira Island,**	**1.53**	**1**	P	**Pn**	**02 03 34.2**	**+3.7**
THR6	**Thira Island,**	**1.53**	**1**	P	**Pn**	**02 03 31.2**	**+0.8**
SANT	**Santorini**	**1.54**	**3**	PN	**Pn**	**02 03 33.4**	**+2.6**
THR3	**Thira Island,**	**1.58**	**1**	P	**Pn**	**02 03 35.8**	**+4.6**
THR5	**Thira Island,**	**1.59**	**359**	P	**Pn**	**02 03 32.9**	**+1.5**
THT2	**Imerovigli**	**1.60**	**1**	PN	**Pn**	**02 03 34.3**	**+2.7**
KARP	**Karpathos**	**1.63**	**63**	P	**Pn**	**02 03 35.6**	**+3.7**
KARP	**Karpathos**	**1.63**	**63**	P	**Pn**	**02 03 34.0**	**+2.1**
KARP				AML	AML	02 04 06.6	
	comp=E,2177µm,0.6s						
KARP				AML	AML	02 04 10.8	
	comp=N,1960µm,0.5s						
KARP	**Karpathos**	**1.63**	**63**	PN	**Pn**	**02 03 33.8**	**+1.9**
IOSP	**Ios island**	**1.89**	**358**	P	**Pn**	**02 03 36.6**	**+1.1**
IOSP				AML	AML	02 04 04.5	
	comp=E,2967µm,0.6s						
IOSP				AML	AML	02 04 12.2	
	comp=N,1701µm,0.5s						
MHLO	**Agia Marina, M**	**2.02**	**337**	P	**Pn**	**02 03 38.3**	**+1.1**
MHLO				S	**Sn**	**02 04 01.9**	**+0.6**
MHLO				AML	AML	02 04 09.1	
	comp=N,5573µm,0.6s						
MHLO				AML	AML	02 04 24.8	
	comp=E,4319µm,0.8s						
MHLA	**Plaka, Milos I**	**2.06**	**338**	P	**Pn**	**02 03 39.4**	**+1.6**
APE	**Apeiranthos**	**2.24**	**3**	P	**Pn**	**02 03 41.0**	**+0.7**
APE	**Apeiranthos**	**2.24**	**3**	PN	**Pn**	**02 03 43.4**	**+3.1**
KOSK	**Kos Island**	**2.32**	**34**	PN	**Pn**	**02 03 44.1**	**+2.7**
KTHA	**Kythira Island**	**2.37**	**308**	P	**Pn**	**02 03 42.9**	**+0.9**
KTHA	**Kythira Island**	**2.37**	**308**	PN	**Pn**	**02 03 45.4**	**+3.4**
KTHR	**Kythira**	**2.41**	**307**	P	**Pn**	**02 03 44.4**	**+1.9**
DAT	**Datca**	**2.61**	**43**	PN	**Pn**	**02 03 48.0**	**+2.6**
BODT	**Bodrum**	**2.73**	**35**	PN	**Pn**	**02 03 49.9**	**+2.9**
VLI	**Veliai**	**2.74**	**314**	P	**Pn**	**02 03 47.3**	**+0.2**
SMG	**Samos**	**3.11**	**22**	P	**Pn**	**02 03 53.3**	**+1.1**
DID	**Didima**	**3.18**	**328**	P	**Pn**	**02 03 53.6**	**+0.3**
GCAM	**G?zelcaml?**	**3.24**	**27**	PN	**Pn**	**02 03 57.1**	**+3.2**
VLY	**Voula,Athens**	**3.28**	**338**	P	**Pn**	**02 03 55.6**	**+1.1**
KARY	**Karystos**	**3.29**	**347**	P	**Pn**	**02 03 55.9**	**+1.2**
TURN	**Turunc**	**3.32**	**51**	PN	**Pn**	**02 03 54.2**	**-0.9**
ATHU	**Athens Univers**	**3.38**	**338**	P	**Pn**	**02 03 57.1**	**+1.1**
PTL	**Penteli**	**3.44**	**340**	P	**Pn**	**02 03 58.0**	**+1.3**
DION	**

MMAI				Sn	Sn	02 06 37.3	-4.2	
	comp=E,2.8nm,0.3s,baz=272,slow=25,SNR=8.0							
VAE	**Valguarnera**	**9.25**	**290**	Pn	**Pn**	**02 05 14.8**	**-1.7**	
	comp=E,2.0nm,0.3s,baz=249,slow=1.5,SNR=14							
VAE				Sn	**Sn**	**02 06 56.1**	**-3.1**	
	comp=E,0.9nm,0.3s,baz=318,slow=14,SNR=4.1							
EIL	**Elat**	**9.60**	**120**	Pn	**Pn**	**02 05 21.3**	**+0.1**	
	comp=E,0.7nm,0.3s,baz=354,slow=7.0,SNR=8.6							
EIL				Sn	**Sn**	**02 07 00.7**	**-7.0**	
	comp=E,1.2nm,0.3s,baz=266,slow=19,SNR=5.0							
STON	**Ston**	**10.01**	**326**	*i* Pn	**Pn**	**02 05 23.5**	**-3.3**	
STON				Sn	Sn	02 07 06.8	-11	
MAKA	**Makarska**	**10.65**	**325**	Sn	Sn	02 07 23.4	-10	
RICI	**Ricice**	**10.76**	**326**	ePn	Pn	02 05 32.1	-4.9	
RICI				Sn	Sn	02 07 24.1	-12	
KIJV	**Kijevo**	**11.49**	**326**	*i* Pn	**Pn**	**02 05 42.9**	**-4.1**	
ZIRJ	**Zirje**	**11.59**	**322**	*e*Pn	**Pn**	**02 05 44.6**	**-3.8**	
DUGI	**Dugi Otok**	**12.13**	**322**	*e*Pn	**Pn**	**02 05 52.0**	**-3.8**	
NVLJ	**Novalja**	**12.64**	**323**	*e*Pn	**Pn**	**02 05 58.1**	**-4.5**	
VYHS	**Vyhne**	**14.49**	**342**	*e*PN	**Pn**	**02 06 23.8**	**-4.0**	
AKASG	**Malin Array Be**	**16.11**	**9**	Pn	**Pn**	**02 06 49.1**	**+0.4**	
	comp=E,1.1nm,0.3s,baz=201,slow=11,SNR=7.5							
GERES	**GERESS Array B**	**16.46**	**332**	Pn	**Pn**	**02 06 52.7**	**-0.5**	
	comp=E,0.2nm,0.3s,baz=139,slow=8.9,SNR=5.0							
ESDC	**Sonseca Array**	**23.79**	**290**	P	**P**	**02 08 14.4**	**+0.3**	
	comp=E,0.5nm,0.5s,baz=82,slow=9.7,SNR=6.9							
FINES	**FINESS Array B**	**26.64**	**1**	P	**P**	**02 08 37.4**	**-2.2**	
	comp=E,2.2nm,0.8s,baz=178,slow=9.1,SNR=5.0							
AKTO	**Aktyubinsk**	**28.35**	**47**	P	**P**	**02 08 56.6**	**+1.6**	
	comp=E,0.5nm,0.5s,baz=219,slow=6.5,SNR=3.4							
TORD	**Torodi Ar. Bea**	**30.41**	**231**	P	**P**	**02 09 15.2**	**+1.6**	
	comp=E,0.8nm,0.5s,baz=33,slow=8.5,SNR=18							
ARCES	**ARCESS Array B**	**34.76**	**0**	P	**P**	**02 09 49.4**	**-1.8**	
	comp=E,3.4nm,0.9s,baz=191,slow=10,SNR=11							
MKAR	**Makanchi Array**	**43.81**	**56**	P	**P**	**02 11 08.1**	**+1.2**	
	comp=E,0.5nm,0.7s,baz=265,slow=7.8,SNR=4.2							
ZALV	**Zalesovo Beam**	**45.11**	**46**	P	**P**	**02 11 16.7**	**-0.4**	
	comp=E,0.8nm,0.3s,baz=272,slow=9.7,SNR=3.5							
SONM	**Songino Array**	**59.56**	**51**	P	**P**	**02 13 05.1**	**+0.6**	
	comp=E,0.2nm,0.4s,baz=266,slow=7.3,SNR=2.9							
SCHQ	**Schefferville**	**63.55**	**320**	P	**P**	**02 13 31.5**	**+0.4**	
	comp=E,1.7nm,0.4s,baz=80,slow=4.8,SNR=9.1							
YKA	**Yellowknife Ar**	**77.82**	**342**	P	**P**	**02 14 57.8**	**+0.2**	
	comp=E,0.2nm,0.4s,baz=31,slow=5.3,SNR=4.2							

NIED ***11*** *02:20:00.44⁀60N×149⁀30E,h29km,Mw4.0 Best double couple: M₀1.06000×10¹⁵ NP1:φs282.00000°,δ52.00000°, λ-179.00000°. NP2:φs191.00000°,δ89.00000°, λ-38.00000°.*

IDC ***11*** *02:20:01.2±0.9,44⁀40N×148⁀88E,h0km,mb3.6/12, mb1 3.8/15,mb1mx3.7/36,mbtmp3.6/15,ML2.5/3,MS3.1/3, Ms1 3.1/3,ms1mx2.6/39,Error ellipse: s-maj=26.4km s-min=16.0km az=163.0*

MOS ***11*** *02:20:02.5±1.7,44⁀43N×149⁀14E,h19km,mb4.0/4,Error ellipse: s-maj=13.4km s-min=10.5km az=153.8*

JMA ***11*** *02:20:03.3±0.6,44⁀63N×149⁀33E,h30km,M4.3*

ISCJB ***11*** *02:20:05.9±1.0,44⁀38N±0⁀06×149⁀10E±0⁀09, h49km±10km,mb3.7/15,MS3.2/1,Error ellipse: s-maj=13.1km s-min=7.5km az=43.5*

SKHL ***11*** *02:20:06.0±0.5,44⁀32N×149⁀20E,h46km±1km,mb4.0/3*

ISC 11 02:20:06.4±0.8,44°27N±0⁀06×149°15E±0⁀09,h38km±3km, n54,σ2s21/61,mb3.6/15,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.33**	**317**	*d* iPN	**Pn**	**02 20 26.6**	**-1.8**
KUR				*i* S	**Sn**	**02 20 42.4**	**-2.4**
KUR				pmax	pmax		
	comp=E,1μm,0.4s						
KUR				pmax	pmax		
	comp=N,521nm,0.3s						
KUR				pmax	pmax		
	comp=E,200nm,0.5s						
KUR				smax	smax		
	comp=N,2μm,0.3s						
KUR				smax	smax		
	comp=E,703nm,0.2s						
KUR	**Kuril'sk**	**1.33**	**317**	*i* P	**Pn**	**02 20 26.6**	**-1.8**
KUR				AMB	AMB	02 20 27.4	
	comp=E,10.0nm,0.4s						
KUR				AMB	AMB	02 20 27.4	
	comp=E,40nm,0.4s						
KUR				*e*S	**Sn**	**02 20 42.4**	**-2.4**
KUR				A	A	02 20 44.9	
	comp=E,200nm,0.2s						
KUR				A	A	02 20 44.9	
	comp=E,150nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.38**	**265**	*e*PN	**Pn**	**02 20 43.8**	**+1.0**
YUK				*e*S	**Sn**	**02 21 13.5**	**+2.8**
YUK				smax	smax		
	comp=N,329nm,0.3s						
YUK				smax	smax		
	comp=E,706nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.38**	**265**	*e*P	**Pn**	**02 20 43.6**	**+0.8**
YUK				*e*S	**Sn**	**02 21 11.4**	**+0.7**
YUK				A	A	02 21 14.9	
	comp=E,210nm,0.5s						
YUK				A	A	02 21 14.9	
	comp=E,350nm,0.5s						
GRPR	**Tuman**	**2.45**	**265**	*e*PN	**Pn**	**02 20 46.2**	**+2.4**
GRPR				*e*S	**Sn**	**02 21 15.5**	**+3.0**
GRPR				pmax	pmax		
	comp=E,141nm,0.1s						
GRPR				smax	smax		
	comp=N,382nm,0.3s						
GRPR				smax	smax		
	comp=E,121nm,0.1s						
GRPR	**Tuman**	**2.45**	**265**	*e*P	**Pn**	**02 20 46.2**	**+2.4**
GRPR				AMB	AMB	02 20 48.0	
	comp=E,20nm,0.3s						
GRPR				*e*S	**Sn**	**02 21 15.5**	**+3.0**
GRPR				A	A	02 21 16.0	
	comp=E,190nm,0.3s						
GRPR				A	A	02 21 16.0	
	comp=E,60nm,0.3s						
NEM2	**Nemuro 2**	**2.63**	**251**	P	**Pn**	**02 20 46.2**	**-0.1**
NEM2				*e*S	**Sn**	**02 21 18.1**	**+1.2**
NMR	**Nemuro--Hokkai**	**2.64**	**251**	*e*PN	**Pn**	**02 20 46.5**	**+0.1**
NMR				*e*S	**Sn**	**02 21 18.3**	**+1.2**
NMR	**Nemuro--Hokkai**	**2.64**	**251**	*e*P	**Pn**	**02 20 46.0**	**-0.4**
GLVR	**Golovnino**	**2.67**	**260**	*e*PN	**Pn**	**02 20 47.3**	**+0.4**
GLVR				*e*S	**Sn**	**02 21 19.7**	**+1.7**
GLVR				pmax	pmax		
	comp=Z,355nm,0.5s						
GLVR				smax	smax		
	comp=E,444nm,0.3s						
GLVR				smax	smax		
	comp=N,943nm,0.5s						
GLVR	**Golovnino**	**2.67**	**260**	*e*P	**Pn**	**02 20 47.0**	**+0.1**
GLVR				AMB	AMB	02 20 48.0	
	comp=N,40nm,0.5s						
GLVR				*e*S	**Sn**	**02 21 19.7**	**+1.7**
GLVR				A	A	02 21 31.0	
	comp=N,220nm,0.4s						
GLVR				A	A	02 21 31.0	
	comp=N,110nm,0.4s						
JRA	**Rausu**	**2.92**	**265**	P	**Pn**	**02 20 51.7**	**+1.4**
JNK	**Nakash**	**3.27**	**259**	P	**Pn**	**02 20 55.6**	**+0.4**
JTKR	**Abashiri--Toko**	**3.79**	**267**	P	**Pn**	**02 21 03.6**	**+1.4**
JAR	**Ashorobuto**	**4.02**	**258**	P	**Pn**	**02 21 06.4**	**+1.0**
JAR				*e*S	**Sn**	**02 21 56.1**	**+5.0**
JOB	**Onbets**	**4.10**	**252**	P	**Pn**	**02 21 07.6**	**+1.1**
JCH	**Churui**	**4.53**	**251**	P	**Pn**	**02 21 12.8**	**+0.4**
JCH				*e*S	**Sn**	**02 22 04.7**	**+0.9**
ASAJ	**Asahikawa**	**4.72**	**270**	Pn	**Pn**	**02 21 12.8**	**-2.1**
	comp=N,0.3nm,0.3s,baz=68,slow=19,SNR=1.8						
ASAJ				LR	LR	02 23 10.6	
	comp=N,294nm,19.0s,baz=142,slow=42						
JFR	**Furan**	**4.88**	**259**	P	**Pn**	**02 21 20.1**	**+2.9**
ERM	**Erimo**	**4.93**	**245**	*i* PN	**Pn**	**02 21 19.3**	**+1.4**
JNBK	**Urakawa-nobuka**	**5.08**	**249**	P	**Pn**	**02 21 20.0**	**+0.1**
JBT2	**Biratori 2**	**5.16**	**255**	P	**Pn**	**02 21 21.9**	**+0.9**
JKB	**Kayabe**	**6.41**	**251**	P	**Pn**	**02 21 37.6**	**-0.5**
JKB				*e*S	**Sn**	**02 22 46.8**	**-3.1**
JANG	**Nango**	**6.87**	**238**	P	**Pn**	**02 21 42.8**	**-1.8**
JANG				*e*S	**Sn**	**02 22 56.7**	**-4.7**
JTM	**Tenmabayashi**	**6.91**	**243**	*e*S	**Sn**	**02 22 58.1**	**-4.3**
OFUJ	**Ofunato**	**7.63**	**230**	*e*S	**Sn**	**02 23 12.8**	**-7.4**
PETK	**Petropavlovsk-**	**10.48**	**30**	Pn	**Pn**	**02 22 34.1**	**+0.1**
	comp=N,0.2nm,0.3s,baz=181,slow=11,SNR=2.7						
USRK	**Ussuriysk Ar.**	**12.31**	**276**	Pn	**Pn**	**02 22 56.2**	**-2.8**
	baz=117,slow=13,SNR=4.2						
KLR	**Kul'dur**	**12.91**	**299**	LR	LR	02 27 43.0	
	comp=N,50nm,21.2s,baz=229,slow=36						
BILL	**Bilibino**	**25.47**	**15**	*e*P	**P**	**02 25 35.3**	**+4.9**
BILL				*e*		02 26 08.6	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**28.60**	**143**	T	T	02 56 49.6	
	baz=334,slow=75,SNR=121						
H11N1	**WAKE ISLAND Hy**	**28.62**	**143**	T	T	02 56 58.3	
	baz=334,slow=75,SNR=54						
H11N3	**WAKE ISLAND Hy**	**28.62**	**143**	T	T	02 57 00.9	
	baz=334,slow=75,SNR=111						
SONM	**Songino Array**	**29.61**	**292**	P	**P**	**02 26 07.2**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=89,slow=8.0,SNR=3.8						
SONM				LR	LR	02 38 59.5	
	comp=Z,57nm,19.9s,baz=120,slow=39						
H11S1	**WAKE ISLAND Hy**	**29.61**	**145**	T	T	02 58 18.0	
	baz=335,slow=76,SNR=141						
H11S3	**WAKE ISLAND Hy**	**29.61**	**145**	T	T	02 58 13.9	
	baz=335,slow=76,SNR=104						
H11S2	**WAKE ISLAND Hy**	**29.62**	**145**	T	T	02 58 12.3	
	baz=335,slow=76,SNR=92						
ILAR	**Eielson Array**	**40.21**	**37**	P	**P**	**02 27 39.3**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=273,slow=9.7,SNR=5.5						
INK	**Inuvik**	**45.22**	**31**	P	**P**	**02 28 19.7**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=276,slow=6.4,SNR=5.9						
MKAR	**Makanchi Array**	**45.62**	**298**	*e*P	**P**	**02 28 20.8**	**-2.0**
MKAR	**Makanchi Array**	**45.62**	**298**	P	**P**	**02 28 21.4**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=71,slow=9.0,SNR=6.1						
YKA	**Yellowknife Ar**	**54.56**	**35**	P	**P**	**02 29 30.0**	**-0.2**
YKA	**Yellowknife Ar**	**54.56**	**35**	P	**P**	**02 29 30.0**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=299,slow=7.0,SNR=3.4						
FINES	**FINESS Array B**	**65.06**	**334**	*e*P	**P**	**02 30 42.1**	**-0.2**
FINES	**FINESS Array B**	**65.06**	**334**	P	**P**	**02 30 39.9**	**-2.5**
	comp=Z,12nm,1.3s,baz=93,slow=7.8,SNR=3.4						
WRA	**Warramunga Arr**	**65.33**	**195**	P	**P**	**02 30 44.9**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=8.8,slow=6.1,SNR=2.9						
GEYT	**Alibeck**	**65.44**	**300**	P	**P**	**02 30 44.4**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=94,slow=4.6,SNR=3.8						
OBN	**Obninsk**	**65.74**	**324**	*e*P	**P**	**02 30 46.8**	**0.0**
OBN				*e*		02 31 18.6	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
OBN	**Obninsk**	**65.74**	**324**	*e*P	**P**	**02 30 46.8**	**0.0**
NVAR	**Mina Array Bea**	**66.07**	**59**	P	**P**	**02 30 51.2**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=336,slow=2.0,SNR=2.1						
PDAR	**Pinedale Array**	**68.46**	**51**	P	**P**	**02 31 06.4**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=305,slow=3.2,SNR=2.5						
NOA	**NORSAR Array B**	**69.62**	**340**	P	**P**	**02 31 09.8**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=32,slow=6.6,SNR=4.4						
AKASG	**Malin Array Be**	**72.00**	**325**	P	**P**	**02 31 24.3**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=39,slow=5.9,SNR=6.4						
TXAR	**Lajitas Array**	**81.15**	**58**	P	**P**	**02 32 19.6**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=313,slow=4.2,SNR=6.3						

JMA ***11*** *02:41:33.4±0.3,30⁀16N×139⁀60E,h432km±5km,M4.1*

ISCJB ***11*** *02:41:34.5±0.3,30⁀11N±0⁀03×139⁀33E±0⁀06,h400km, mb3.8/18,Error ellipse: s-maj=6.8km s-min=4.2km az=5.5*

IDC ***11*** *02:41:34.6±0.8,30⁀11N×139⁀23E,h377km±9km,mb3.5/18, mb1 3.6/22,mb1mx3.5/49,mbtmp4.3/22,Error ellipse: s-maj=17.4km s-min=7.6km az=76.0*

NEIC ***11*** *02:41:35.2±0.9,30⁀09N±0⁀07×139⁀18E±0⁀08, h384km±5km,mb4.0/26*

ISC 11 02:41:36.0±0.5,30°13N±0⁀06×139°32E±0⁀08,h400km,n83, σ1s27/93,mb3.8/30,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.00**	**8**	P	**Pn**	**02 42 39.5**	**+0.4**
JHJ2	**Mitsune**	**3.00**	**8**	Pn	**Pn**	**02 42 37.0**	**-2.1**
JHJ2				S	**S**	**02 43 27.6**	**-2.7**
CBIJ	**Chichi jima**	**3.93**	**140**	P	**Pn**	**02 42 46.0**	**-1.5**
JCJ	**Chichijima**	**3.93**	**140**	P	**Pn**	**02 42 46.1**	**-1.4**
	75nm,0.3s,baz=278,slow=21,SNR=13						
JCJ				S	**S**	**02 43 40.5**	**-4.9**
	72nm,0.3s,baz=291,slow=22,SNR=13						
TTO1	**TONANKAI O.B.S**	**4.10**	**329**	P	**Pn**	**02 42 50.0**	**+1.5**
BSO1	**Boso 1**	**4.72**	**17**	P	**Pn**	**02 42 54.5**	**+0.1**
BSO3	**Boso 3**	**4.77**	**12**	P	**Pn**	**02 42 54.8**	**-0.4**
BSO3				*e*S	**S**	**02 43 58.6**	**-1.1**
JIE	**Ise**	**4.79**	**333**	P	**Pn**	**02 42 56.8**	**+1.1**
JKN2	**Miekihoku**	**4.84**	**329**	P	**Pn**	**02 42 57.2**	**+0.9**
JTNC	**Tanabenakahech**	**4.84**	**320**	P	**Pn**	**02 42 56.9**	**+0.6**
HMMJ	**Hamamatsu 2**	**4.90**	**344**	P	**Pn**	**02 42 56.9**	**0.0**
BSO4	**Boso 4**	**4.92**	**10**	P	**Pn**	**02 42 56.6**	**-0.3**
JOD2	**Odawara 2**	**5.12**	**358**	P	**Pn**	**02 42 58.8**	**-0.4**
JOD2				*e*S	**S**	**02 44 03.6**	**-3.3**
INU	**Inuyama**	**5.56**	**340**		**Pn**	**02 43 02.5**	**-1.1**
JHU	**Hanno**	**5.71**	**360**	P	**Pn**	**02 43 04.0**	**-1.3**
JHU				*e*S	**S**	**02 44 12.9**	**-5.2**
JRY	**Ryogami san**	**5.88**	**357**	P	**Pn**	**02 43 06.7**	**-0.5**
JYT	**Yasato**	**6.13**	**7**	P	**Pn**	**02 43 08.7**	**-1.1**
JAG	**Ashikaga**	**6.28**	**1**	P	**Pn**	**02 43 09.8**	**-1.7**
MJAR	**Matsushiro Arr**	**6.46**	**352**	P	**Pn**	**02 43 12.4**	**-1.2**
	0.6nm,0.3s,baz=171,slow=11,SNR=24						
MJAR				S	**S**	**02 44 30.2**	**-3.0**
	0.3nm,0.3s,baz=136,slow=18,SNR=3.4						
MAJO	**Matsushiro**	**6.46**	**352**		**Pn**	**02 43 13.0**	**-0.6**
MAT	**Matsushiro**	**6.46**	**352**	P	**Pn**	**02 43 13.2**	**-0.4**
MAT				S	**S**	**02 44 30.4**	**-2.9**
MJB9	**Matsu-Tunnel**	**6.47**	**352**		**Pn**	**02 43 13.2**	**-0.4**
JHO	**Hitachi**	**6.55**	**9**	P	**Pn**	**02 43 13.6**	**-0.9**
KSRS	**Korea Array**	**11.96**	**311**	P	**Pn**	**02 44 15.8**	**-0.7**
	0.7nm,0.3s,baz=126,slow=10,SNR=9.2						
USA0B	**Ussuriysk Arra**	**15.20**	**340**	P	**P**	**02 44 50.5**	**+0.1**
USA0B				IAmb	IAmb	02 44 54.1	
	comp=Z,3.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**15.20**	**340**	P	**P**	**02 44 51.0**	**+0.5**
	baz=149,slow=7.6,SNR=5.3						
YULB	**Yu-li**	**17.43**	**252**	P	**P**	**02 45 13.3**	**-1.2**
SSLB	**Suanglung**	**17.54**	**253**	P	**P**	**02 45 14.4**	**-1.3**
SSLB				IAmb	IAmb	02 45 16.2	
	comp=Z,8.8nm,0.8s						
KLR	**Kul'dur**	**19.93**	**345**	P	**P**	**02 45 40.3**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=161,slow=10,SNR=14						
ENH	**Enshi**	**25.75**	**278**	P	**P**	**02 46 31.2**	**-1.2**
XAN	**Xi'an**	**26.00**	**287**	P	**P**	**02 46 33.6**	**-1.0**
ULN	**Ulaanbaatar**	**30.40**	**315**	P	**P**	**02 47 12.7**	**-0.5**
ULN				IAmb	IAmb	02 47 14.1	
	comp=Z,4.5nm,0.9s						
SONM	**Songino Array**	**30.80**	**314**	P	**P**	**02 47 16.9**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=109,slow=6.1,SNR=6.4						
CMAR	**Chiang Mai Arr**	**38.41**	**262**	P	**P**	**02 48 20.2**	**-1.0**
	comp=Z,2.7nm,0.6s,baz=62,slow=6.1,SNR=10						
TAPN	**Taplejung**	**45.03**	**280**	*e*P	**P**	**02 49 14.2**	**-0.1**
	comp=Z,1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**45.56**	**318**	P	**P**	**02 49 18.0**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=103,slow=7.1,SNR=5.9						
ZALV				PcP	**PcP**	**02 50 48.7**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=110,slow=3.2,SNR=7.2						
RAMN	**Ramite**	**46.09**	**280**	*e*P	**P**	**02 49 22.5**	**0.0**
	comp=Z,24nm,0.5s						
JIRN	**Jiri**	**46.24**	**281**	*e*P	**P**	**02 49 24.3**	**+0.5**
	comp=Z,75nm,0.4s						
GUN	**Gumba**	**46.43**	**281**	*e*P	**P**	**02 49 25.6**	**+0.4**
	comp=Z,35nm,0.5s						
MKAR	**Makanchi Array**	**46.62**	**308**	P	**P**	**02 49 26.0**	**0.0**
	comp=Z,1.5nm,0.5s,baz=85,slow=10,SNR=19						
MKAR				PcP	**PcP**	**02 50 53.1**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=76,slow=10,SNR=6.6						
PKI	**Pulchoki**	**46.93**	**281**	*e*P	**P**	**02 49 28.7**	**-0.3**
	comp=Z,6.8nm,0.5s						
PKIN	**Phulchoki**	**46.94**	**281**	*e*P	**P**	**02 49 28.7**	**-0.3**
	comp=Z,8.5nm,0.4s						
KKN	**Kakani**	**46.97**	**281**	*e*P	**P**	**02 49 29.2**	**0.0**
DMN	**Daman**	**47.17**	**281**	*e*P	**P**	**02 49 30.6**	**-0.2**
	comp=Z,11nm,0.4s						
GKN	**Gorkha**	**47.46**	**282**	*e*P	**P**	**02 49 33.5**	**+0.7**
DANN	**Dangsing**	**48.11**	**282**	*e*P	**P**	**02 49 38.3**	**+0.4**
	comp=Z,20nm,0.4s						
KOLN	**Koldanda**	**48.41**	**282**	*e*P	**P**	**02 49 40.1**	**+0.1**
	comp=Z,12nm,0.4s						
GSI	**Gunungsitoli**	**48.89**	**242**	P	**P**	**02 49 43.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**49.73**	**197**	P	**P**	**02 49 50.4**	**+0.8**
	comp=Z,2.5nm,0.7s,baz=22,slow=6.2,SNR=12						
FITZ	**Fitzroy Crossi**	**49.73**	**197**	P	**P**	**02 49 49.4**	**-0.2**
WRAB	**Tennant Creek**	**50.00**	**186**	P	**P**	**02 49 51.4**	**-0.3**
WRAB				IAmb	IAmb	02 49 52.9	
	comp=Z,4.6nm,1.0s						
WB2	**Warramunga Arr**	**50.01**	**186**	P	**P**	**02 49 51.9**	**+0.2**
WRA	**Warramunga Arr**	**50.01**	**186**	P	**P**	**02 49 52.1**	**+0.3**
	comp=Z,1.4nm,0.4s,baz=0.1,slow=7.6,SNR=42						
WRA				PcP	**PcP**	**02 51 06.5**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=358,slow=4.1,SNR=5.9						
BOOM	**Boomskoye usch**	**51.45**	**302**	P	**P**	**02 50 02.2**	**-0.2**
BOOM				IAmb	IAmb	02 50 03.5	
	comp=Z,2.8nm,0.6s						
AAK	**Ala-Archa**	**52.48**	**303**	P	**P**	**02 50 09.9**	**0.0**
AS31	**Alice Springs**	**53.74**	**186**	P	**P**	**02 50 19.2**	**+0.4**
ASAR	**Alice Springs**	**53.74**	**186**	P	**P**	**02 50 19.5**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=18,slow=10,SNR=27						
BRVK	**Borovoye**	**54.18**	**316**	P	**P**	**02 50 21.5**	**-0.1**
BRVK				IAmb	IAmb	02 50 22.9	
	comp=Z,5.1nm,0.9s						
KK31	**Karatay Array**	**55.29**	**304**	P	**P**	**02 50 30.0**	**+0.3**
KK31				IAmb	IAmb	02 50 30.8	
	comp=Z,8.5nm,0.8s						
KKAR	**Karatay Array**	**55.29**	**304**	P	**P**	**02 50 29.8**	**0.0**
KKAR				IAmb	IAmb	02 50 30.8	
	comp=Z,8.5nm,0.8s						
RND	**Reindeer**	**55.42**	**31**	P	**P**	**02 50 31.6**	**+1.3**
RND				IAmb	IAmb	02 50 37.7	
	comp=Z,3.8nm,1.2s						
KNK	**Knik Glacier**	**55.59**	**34**	P	**P**	**02 50 32.6**	**+1.0**
KNK				IAmb	IAmb	02 50 51.8	
	comp=Z,8.7nm,1.1s						
SCM	**Sheep Creek Mo**	**56.12**	**33**	P	**P**	**02 50 37.2**	**+1.9**
SCM				IAmb	IAmb	02 50 39.9	
	comp=Z,11nm,1.2s						
GAR	**Garm**	**56.30**	**299**	P	**P**	**02 50 36.8**	**-0.2**
GAR				IAmb	IAmb	02 50 37.8	
	comp=Z,11nm,0.8s						
CHGR	**Chuyangaron**	**57.26**	**299**	P	**P**	**02 50 43.3**	**-0.3**
ABKAR	**Akbulak array**	**61.19**	**313**	P	**P**	**02 51 10.1**	**+0.2**
ABKAR				IAmb	IAmb	02 51 10.8	
	comp=Z,7.0nm,0.9s						
INK	**Inuvik**	**61.34**	**25**	P	**P**	**02 51 12.3**	**+1.8**
	comp=Z,0.9nm,0.3s,baz=276,slow=6.9,SNR=5.6						
INK	**Inuvik**	**61.34**	**25**	P	**P**	**02 51 12.2**	**+1.7**
STKA	**Stephens Creek**	**61.70**	**178**	P	**P**	**02 51 14.5**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=342,slow=7.1,SNR=5.6						
STKA	**Stephens Creek**	**61.70**	**178**	P	**P**	**02 51 13.8**	**+0.5**
GEYT	**Alibeck**	**65.77**	**301**	P	**P**	**02 51 39.9**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=318,slow=2.0,SNR=4.2						
ARCES	**ARCESS Array B**	**69.85**	**340**	P	**P**	**02 52 05.4**	**+1.1**
	comp=Z,2.7nm,0.5s,baz=70,slow=8.9,SNR=18						
YKA	**Yellowknife Ar**	**70.67**	**28**	P	**P**	**02 52 10.6**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=298,slow=6.0,SNR=4.7						
KBZ	**Khabaz**	**74.11**	**311**	P	**P**	**02 52 30.4**	**+0.7**
	comp=Z,6.7nm,0.8s,baz=102,slow=5.3,SNR=9.7						
FINES	**FINESS Array B**	**74.11**	**333**	P	**P**	**02 52 29.9**	**+0.5**
	comp=Z,2.5nm,0.4s,baz=70,slow=5.3,SNR=34						
AKASG	**Malin Array Be**	**78.69**	**322**	P	**P**	**02 52 55.0**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=51,slow=5.9,SNR=9.5						
NB2	**NORSAR Subarra**	**79.86**	**337**	P	**P**	**02 53 01.4**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=45,slow=4.8						
NOA	**NORSAR Array B**	**79.86**	**337**	P	**P**	**02 53 01.4**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=56,slow=6.1,SNR=14						
RAYN	**Ar Rayn**	**81.65**	**292**	P	**P**	**02 53 11.3**	**+0.1**
RAYN				IAmb	IAmb	02 53 12.2	
	comp=Z,3.9nm,0.7s						
BR131	**Keskin Array S**	**82.11**	**311**	P	**P**	**02 53 13.1**	**-0.3**
BRTR	**Keskin Array B**	**82.11**	**311**	P	**P**	**02 53 14.1**	**+0.7**
	comp=Z,4.9nm,0.7s,baz=91,slow=3.3,SNR=17						
GERES	**GERESS Array B**	**87.61**	**327**	P	**P**	**02 53 40.0**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=32,slow=5.8,SNR=6.3						
TORD	**Torodi Ar. Bea**	**120.70**	**310**	PKP

TXAR	**Lajitas Array**	**90.18**	**52**	P	**P**	03 13 15.4	**+2.2**
	comp=Z,0.3nm,0.8s,baz=308,slow=4.4,SNR=3.3						
HHAR	**Hobbs**	**90.88**	**42**	P	**P**	03 13 13.3	**-2.9**
HHAR				IAmb	IAmb	03 13 20.4	
	comp=Z,2.6nm,0.8s						

*SOME **11** 03:52:01.3, 41.78N×81.80E, h20km*
*NNC **11** 03:52:03.3±3.2, 41.68N×81.72E, h0km, mb3.6, mpv3.1,*
Error ellipse: s-maj=27.2km s-min=20.7km az=175.0
ISC 11 03:52:05.0±2.2, 41.88N±0.09×81.49E±0.07, h10km, n21,
σ1s82/41, 2C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.78**	**332**	*e*P	**Pb**	**03 52 38.0**	**+0.3**
	25nm,0.1s						
KTMS				*e*S	**Sg**	**03 53 04.7**	**+2.6**
	81nm,0.2s						
SHLS	**Shalkode**	**1.97**	**311**	*e*P	**Pn**	**03 52 38.5**	**0.0**
	44nm,0.2s						
SHLS				*e*S	**Sb**	**03 53 05.3**	**-0.4**
	262nm,0.3s						
PDGK	**Podgornoye**	**2.07**	**315**	⇑Pn	**Pb**	**03 52 43.1**	**+0.4**
	22nm,0.5s						
PDGK				⇓Sn	**Sg**	**03 53 14.1**	**+2.6**
	53nm,0.5s						
ZHN	**Zhinishke**	**2.60**	**301**	*e*P	**Pg**	**03 52 52.9**	**-1.9**
	3.2nm,0.1s						
ZHN				*e*S	**Sg**	**03 53 30.1**	**+1.5**
	42nm,0.3s						
KPKS	**Kokpek**	**2.61**	**308**	*e*P	**Pb**	**03 52 50.7**	**-1.2**
	15nm,0.3s						
KPKS				*e*S	**Sb**	**03 53 26.1**	**+2.1**
	99nm,0.4s						
DJR	**Jarkent**	**2.75**	**334**	*e*P	**Pb**	**03 52 54.3**	**+0.1**
	1.6nm,0.3s						
DJR				*e*S	**Sg**	**03 53 32.7**	**-0.6**
	28nm,0.5s						
KURS	**Kuram**	**2.93**	**304**	*e*P	**Pb**	**03 52 58.0**	**+0.7**
	8.9nm,1.5s						
KURS				*e*S	**Sg**	**03 53 38.6**	**-0.5**
	24nm,1.2s						
MNBS	**Baschi**	**3.16**	**315**	*e*P	**Pb**	**03 53 01.7**	**+0.4**
	53nm,0.3s						
MNBS				*e*S	**Sg**	**03 53 45.4**	**-1.1**
	24nm,0.5s						
KOTS	**Kotyrbulak**	**3.51**	**294**	*e*P	**Pb**	**03 53 08.2**	**+0.9**
	14nm,0.2s						
KOTS				*e*S	**Sg**	**03 53 56.7**	**-1.0**
	38nm,0.7s						
MDOK	**Medeo**	**3.53**	**293**	*e*P	**Pg**	**03 53 09.4**	**-3.2**
	6.7nm,0.2s						
MDOK				*e*S	**Sg**	**03 53 58.2**	**-0.1**
	13nm,0.5s						
ARXS	**Arharly**	**3.56**	**312**	*e*P	**Pb**	**03 53 10.0**	**+1.9**
	6.8nm,0.5s						
ARXS				*e*S	**Sg**	**03 53 59.4**	**+0.2**
	21nm,0.6s						
TNSS	**Tian-Shan**	**3.56**	**290**	*e*P	**Pg**	**03 53 10.8**	**-2.4**
	4.9nm,0.5s						
TNSS				*e*S	**Sg**	**03 54 00.7**	**+1.4**
	16nm,0.6s						
KAPS	**Kapalarasan**	**3.74**	**336**	*e*P	**Pb**	**03 53 12.7**	**+1.5**
	11nm,0.4s						
KAPS				*e*S	**Sg**	**03 54 03.9**	**-1.2**
	9.1nm,0.7s						
IZV	**Izvestkoviy**	**3.79**	**289**	*e*P	**Pb**	**03 53 13.5**	**+1.4**
	10nm,0.5s						
IZV				*e*S	**Sg**	**03 54 05.7**	**-1.1**
	20nm,0.4s						
CHKK	**Chushkaly**	**3.85**	**302**	*e*P	**Pg**	**03 53 15.5**	**-3.3**
	2.7nm,0.2s						
CHKK				*e*S	**Sg**	**03 54 08.8**	**+0.1**
	13nm,0.6s						
KTBS	**Karatobe**	**3.99**	**299**	*e*P	**Pb**	**03 53 16.2**	**+0.9**
	7.1nm,0.5s						
KTBS				*e*S	**Sg**	**03 54 10.6**	**-2.4**
	26nm,0.6s						
KST	**Kastek**	**4.25**	**288**	*e*P	**Pg**	**03 53 22.8**	**-3.7**
	4.4nm,0.4s						
KST				*e*S	**Sg**	**03 54 21.4**	**-0.1**
	7.1nm,1.0s						
KUU	**Kurty**	**4.29**	**300**	*e*P	**Pg**	**03 53 25.5**	**-1.6**
	4.3nm,0.5s						
KUU				*e*S	**Sg**	**03 54 25.8**	**+3.2**
	11nm,0.8s						
DGS	**Degeres**	**4.44**	**290**	*e*P	**Pg**	**03 53 27.2**	**-2.8**
	2.5nm,0.6s						
DGS				*e*S	**Sg**	**03 54 29.0**	**+1.4**
	16nm,0.6s						
TKM2	**Tokmak 2**	**4.49**	**285**	⇓Pn	**Pn**	**03 53 16.0**	**+2.7**
	3.0nm,0.6s						
TKM2				⇓Lg	Lg	03 54 28.8	
	5.9nm,0.5s						
MK31	**Makanchi Array**	**4.95**	**6**	Pn	**Pn**	**03 53 20.5**	**+1.2**
	0.2nm,0.2s,baz=189,slow=13,SNR=11						
MK31				⇓Pg	**Pg**	**03 53 37.3**	**-2.3**
	1.4nm,0.5s						
MK31				⇑Lg	Lg	03 54 42.2	
	5.3nm,0.7s,baz=188,slow=27,SNR=3.6						

*PDG **11** 04:01:28.8±0.2, 42.91N×17.60E, h7km, ML2.8/7, Error*
ellipse: s-maj=0.5km s-min=0.8km az=0.0
*RHSSO **11** 04:01:28.5±0.4, 42.90N×17.54E, h4km±3km, ML2.8/1*
*BEO **11** 04:01:28.8±0.4, 42.92N×17.52E, h2km±1km, ML2.8/17*
*PRU **11** 04:01:30.0±0.0, 42.87N×17.48E, h0km*
ISC 11 04:01:28.4±1.0, 42.92N±0.03×17.53E±0.02, h6km±7km,
n91, σ1s16/166, 25C-13D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.14**	**110**	*i* Pg	**Pg**	**04 01 31.0**	**-0.2**
STON				Sg	**Sg**	**04 01 33.6**	**+0.6**
STON	**Ston**	**0.14**	**110**	*e*Pg	**Pg**	**04 01 31.0**	**-0.2**
STON				*e*Sg	**Sg**	**04 01 33.7**	**+0.6**
STON	**Ston**	**0.14**	**110**	⇓*i*Pg	**Pg**	**04 01 30.9**	**-0.2**
STON				*e*Sg	**Sg**	**04 01 33.6**	**+0.6**
MAKA	**Makarska**	**0.52**	**315**	*i* Pg	**Pg**	**04 01 37.0**	**-1.4**
MAKA				Sg	**Sg**	**04 01 45.1**	**-0.1**
TREB	**Trebinje**	**0.64**	**108**	*e*Pg	**Pg**	**04 01 39.6**	**-1.1**
TREB				*e*Sg	**Sg**	**04 01 50.0**	**+1.0**
TREB	**Trebinje**	**0.64**	**108**	⇑*i*Pg	**Pg**	**04 01 39.4**	**-1.3**
TREB				*e*Sg	**Sg**	**04 01 49.5**	**+0.5**
RICI	**Ricice**	**0.64**	**334**	iPg	**Pg**	**04 01 39.4**	**-1.4**
RICI				Sg	**Sg**	**04 01 49.3**	**+0.2**
BRY	**Bratogost**	**0.74**	**91**	⇑*i*Pg	**Pg**	**04 01 41.3**	**-1.4**
BRY				*e*Sg	**Sg**	**04 01 52.4**	**0.0**
BRY	**Bratogost**	**0.74**	**91**	⇑*i*Pg	**Pg**	**04 01 41.4**	**-1.3**
BRY				*i* Sg	**Sg**	**04 01 52.6**	**+0.2**
HCY	**Herceg Novi**	**0.86**	**123**	*i*Pg	**Pg**	**04 01 43.0**	**-1.8**
HCY				*e*Sg	**Sg**	**04 01 55.6**	**-0.3**
HCY	**Herceg Novi**	**0.86**	**123**	⇑*i*Pg	**Pg**	**04 01 43.8**	**-1.0**
HCY				*i* Sg	**Sg**	**04 01 56.5**	**+0.6**
NKME	**Niksic**	**1.06**	**99**	⇓*i*Pg	**Pg**	**04 01 47.1**	**-1.6**
NKME				*i* Sg	**Sb**	**04 02 03.3**	**-0.1**
CEME	**Cevo**	**1.09**	**109**	⇑*i*Pg	**Pg**	**04 01 47.7**	**-1.6**
CEME				*i* Sg	**Sb**	**04 02 04.0**	**-0.2**
BUM	**Brajici-Budva**	**1.19**	**121**	⇓*i*Pg	**Pg**	**04 01 49.8**	**-1.3**
BUM				*i* Sg	**Sb**	**04 02 07.5**	**+0.6**
KIJV	**Kijevo**	**1.36**	**323**	*e*Pn	**Pn**	**04 01 52.5**	**-1.4**
KIJV				Sn	**Sn**	**04 02 13.8**	**+1.5**
PDG	**Podgorica**	**1.37**	**110**	*e*Pg	**Pn**	**04 01 53.7**	**-0.3**
PDG				*e*Sg	**Sb**	**04 02 11.4**	**-0.6**
PDG	**Podgorica**	**1.37**	**110**	*e*Pg	**Pn**	**04 01 52.9**	**-1.0**
PDG				*e*Sg	**Sb**	**04 02 11.5**	**-0.6**
PDG	**Podgorica**	**1.37**	**110**	⇑P	**Pn**	**04 01 53.1**	**-0.9**
PDG				⇑S	**Sn**	**04 02 15.1**	**+2.7**
PDG				AML	AML	04 02 20.4	
TTG	**Podgorica**	**1.37**	**110**	⇓*i*Pg	**Pn**	**04 01 53.0**	**-1.0**
TTG				*i* Sg	**Sn**	**04 02 13.8**	**+1.4**
PLE	**Pljevlja**	**1.43**	**73**	⇓*i*Pg	**Pn**	**04 01 54.3**	**-0.6**
PLE				*i* Sg	**Sn**	**04 02 15.8**	**+1.7**
DRME	**Dracevica, Mon**	**1.43**	**120**	⇓*i*Pg	**Pn**	**04 01 54.2**	**-0.7**
DRME				*e*Sg	**Sb**	**04 02 13.6**	**-0.3**
DRME	**Dracevica, Mon**	**1.43**	**120**	⇑*i*Pg	**Pn**	**04 01 53.5**	**-1.4**
DRME				*i* Sg	**Sn**	**04 02 15.8**	**+1.6**
KOME	**Kolasin**	**1.46**	**92**	⇑*i*Pg	**Pn**	**04 01 54.8**	**-0.6**
KOME				*i* Sg	**Sg**	**04 02 17.1**	**+1.7**
RUDO	**Rudo**	**1.52**	**62**	⇑*i*Pg	**Pn**	**04 01 55.0**	**-1.1**
RUDO				*e*Sg	**Sg**	**04 02 16.9**	**-0.2**
MGRS	**Mrkonjic Grad**	**1.53**	**348**	*e*Pn	**Pb**	**04 01 57.0**	**-0.2**
MGRS				*e*Sn	**Sb**	**04 02 17.3**	**+0.4**
ZIRJ	**Zirje**	**1.56**	**299**	*e*Pn	**Pn**	**04 01 55.7**	**-0.9**
ZIRJ				Sn	**Sb**	**04 02 17.9**	**+0.3**
HAPS	**Han Pijesak,Bl**	**1.56**	**41**	*e*Pn	**Pn**	**04 01 56.2**	**-0.6**
HAPS				*e*Sg	**Sg**	**04 02 19.8**	**+1.3**
HAPS	**Han Pijesak,Bl**	**1.56**	**41**	*e*Pn	**Pn**	**04 01 56.3**	**-0.6**
HAPS				*e*Sn	**Sb**	**04 02 18.1**	**+0.3**
ULC	**Ulcinj**	**1.59**	**126**	⇓*i*Pg	**Pn**	**04 01 57.0**	**-0.1**
ULC				*i* Sg	**Sg**	**04 02 20.7**	**+1.2**
MORI	**Morici**	**1.63**	**306**	*e*Pn	**Pn**	**04 01 57.6**	**0.0**
MORI				Sn	**Sb**	**04 02 19.9**	**+0.3**
BBLS	**Lazići**	**1.67**	**55**	*e*Pg	**Pb**	**04 01 59.2**	**-0.3**
BBLS	**Lazići**	**1.67**	**55**	*e*Pn	**Pn**	**04 01 58.3**	**+0.1**
BBLS				*e*Sn	**Sb**	**04 02 20.6**	**-0.2**
IVA	**Berane**	**1.74**	**91**	⇑*i*Pn	**Pn**	**04 01 59.9**	**+0.7**
IVA				*i* Sn	**Sg**	**04 02 24.3**	**0.0**
PVY	**Plav**	**1.82**	**99**	⇓*i*Pn	**Pn**	**04 02 01.3**	**+0.9**
PVY				*i* Sn	**Sb**	**04 02 26.1**	**+0.8**
SJES	**Sjenica**	**1.83**	**78**	*e*Pg	**Pb**	**04 02 02.3**	**0.0**
SJES				*e*Sg	**Sg**	**04 02 27.9**	**+0.9**
BLY	**Banja Luka**	**1.84**	**352**	*e*Pn	**Pb**	**04 02 02.4**	**-0.1**
BLY				*e*Sg	**Sg**	**04 02 28.4**	**+0.7**
BLY	**Banja Luka**	**1.84**	**352**	*e*Pn	**Pn**	**04 02 01.5**	**+0.9**
BLY				*e*Sn	**Sb**	**04 02 25.4**	**-0.5**
BLY	**Banja Luka**	**1.84**	**352**	⇑P	**Pb**	**04 02 02.6**	**0.0**
BLY				⇑S	**Sb**	**04 02 26.8**	**+0.9**
BLY				AML	AML	04 02 33.9	
DOB	**Doboj**	**1.86**	**13**	*e*Pn	**Pn**	**04 02 00.4**	**-0.4**
DOB				*e*Sn	**Sn**	**04 02 25.6**	**+1.0**
DOB	**Doboj**	**1.86**	**13**	*e*Pn	**Pn**	**04 02 01.0**	**+0.2**
DOB				*e*Sn	**Sn**	**04 02 25.6**	**+1.0**
IVAS	**Ivanjica**	**2.03**	**70**	*e*Pn	**Pn**	**04 02 04.0**	**+0.8**
IVAS				*e*Sg	**Sb**	**04 02 28.3**	**+0.9**
UDBI	**Udbina**	**2.05**	**322**	*e*Pn	**Pb**	**04 02 05.0**	**-1.1**
UDBI				Sn	**Sb**	**04 02 32.8**	**+0.9**
DUGI	**Dugi Otok**	**2.09**	**302**	*e*Pn	**Pn**	**04 02 03.9**	**-0.1**
DUGI				Sn	**Sb**	**04 02 32.1**	**-0.9**
DIVS	**Divibare**	**2.15**	**56**	*e*Pn	**Pn**	**04 02 05.7**	**+0.9**
DIVS				*e*Sg	**Sb**	**04 02 35.9**	**+1.2**
DIVS	**Divibare**	**2.15**	**56**	*e*Pn	**Pn**	**04 02 05.5**	**+0.7**
DIVS				*e*Sn	**Sn**	**04 02 32.3**	**+0.5**
TEKS	**Tekeris**	**2.18**	**41**	*e*Pn	**Pn**	**04 02 05.1**	**-0.2**
TEKS				*e*Sn	**Sn**	**04 02 32.7**	**+0.1**
TRUS	**Trudelj**	**2.47**	**57**	*e*Pn	**Pn**	**04 02 09.3**	**+0.2**
GRUS	**Gruza**	**2.52**	**66**	*e*Pn	**Pn**	**04 02 10.7**	**+0.8**
GRUS				*e*Sn	**Sb**	**04 02 43.5**	**-1.8**
NVLJ	**Novalja**	**2.53**	**311**	*i* Pn	**Pn**	**04 02 12.0**	**+2.0**
NVLJ				Sn	**Sn**	**04 02 42.1**	**+1.0**
MOSL	**Moslavina**	**2.75**	**349**	*e*Pn	**Pn**	**04 02 14.2**	**+1.1**
MOSL				Sn	**Sn**	**04 02 48.3**	**+1.6**
FRGS	**Fruska Gora**	**2.78**	**36**	*e*Pn	**Pn**	**04 02 13.4**	**-0.1**
FRGS				*e*Sn	**Sn**	**04 02 47.5**	**+0.2**
FRGS	**Fruska Gora**	**2.78**	**36**	*e*Pn	**Pn**	**04 02 13.4**	**-0.1**
FRGS				*e*Sn	**Sn**	**04 02 47.6**	**+0.2**
SVIS	**Svilajnac**	**3.00**	**62**	*e*Sn	**Pn**	**04 02 18.2**	**+1.8**
SVIS	**Svilajnac**	**3.00**	**62**	*e*Pn	**Sn**	**04 02 53.0**	**+0.3**
BOJS	**Bojanci**	**3.06**	**328**	*i* Pn	**Pn**	**04 02 19.4**	**+2.2**
BOJS				*e*Sn	**Sb**	**04 02 58.8**	**-2.0**
OZLJ	**Ozalj**	**3.07**	**332**	*e*Pn	**Pn**	**04 02 20.0**	**+2.6**
BOVS	**Bovan**	**3.14**	**75**	*e*Pn	**Pn**	**04 02 19.6**	**+1.3**
BOVS				*e*Sn	**Sn**	**04 02 57.6**	**+1.5**
BARS	**Barje**	**3.16**	**90**	*e*Pn	**Pn**	**04 02 19.6**	**+1.0**
BARS				*e*Sn	**Sn**	**04 02 56.4**	**-0.2**
PTJ	**Puntijarka**	**3.19**	**340**	iPn	**Pn**	**04 02 20.3**	**+1.2**
GBRS	**Gornja Briga**	**3.26**	**324**	*i* Pn	**Pn**	**04 02 21.3**	**+1.3**
GBRS				*i* Sn	**Sn**	**04 03 01.6**	**+2.3**
CRES	**Cresnjev**	**3.26**	**334**	*e*Pn	**Pn**	**04 02 20.8**	**+0.7**
CRES				*e*Sn	**Sn**	**04 02 59.0**	**-0.1**
MORH	**Mrgy, Hungar**	**3.39**	**13**	*e*Pn	**Pn**	**04 02 21.6**	**-0.2**
MORH				*e*Sn	**Sn**	**04 03 02.6**	**+0.2**
MORH	**Mrgy, Hungar**	**3.39**	**13**	*e*Pn	**Pn**	**04 02 21.1**	**-0.7**
MORH				Sn	**Sn**	**04 03 03.0**	**+0.7**
ZAGS	**Zajecar**	**3.55**	**74**	*e*Pn	**Pn**	**04 02 24.2**	**+0.2**
ZAGS				*e*Sn	**Sn**	**04 03 07.1**	**+0.9**
MDVR	**Moldovita**	**3.56**	**57**	⇑P	**Pn**	**04 02 24.8**	**+0.6**
MDVR				⇓S	**Sn**	**04 03 03.7**	**-2.8**
MDVR				AML	AML	04 03 08.4	
CEY	**Cerknica**	**3.59**	**323**	*e*Sg	**Sg**	**04 03 23.2**	**-0.4**
CEY	**Cerknica**	**3.59**	**323**	*e*Pn	**Pn**	**04 02 25.2**	**+0.6**
CEY				*e*Sn	**Sn**	**04 03 07.4**	**+0.1**
ZAPS	**Zavoj**	**3.76**	**83**	*e*Pn	**Pn**	**04 02 27.8**	**+0.9**
ZAPS				*e*Sn	**Sn**	**04 03 12.7**	**+1.2**
TIP	**Timpagrande**	**3.78**	**189**	⇓P	**Pg**	**04 02 39.2**	**-1.6**
TIP				⇑S	Sg	04 03 41.0	+11
BLKB	**Belogradchik**	**3.83**	**78**	⇑S	**Sn**	**04 03 13.9**	**+0.7**
BZS	**Buzias**	**3.99**	**46**	⇑P	**Pn**	**04 02 30.2**	**+0.1**
BZS				⇑S	**Sn**	**04 03 14.4**	**-2.7**
BZS				AML	AML	04 03 21.0	
VOJS	**Vojsko**	**4.06**	**321**	*i* Pn	**Pn**	**04 02 31.1**	**0.0**
SOKA	**Soboth**	**4.16**	**336**	*e*Pn	**Pn**	**04 02 33.6**	**+1.2**
	1.0nm,0.3s						
SOKA				*e*Sn	**Sn**	**04 03 22.5**	**+1.1**
	2.2nm,0.5s						
OBKA	**Obir**	**4.17**	**330**	*e*Pn	**Pn**	**04 02 34.7**	**+2.1**
	1.2nm,0.3s						
VTS	**Vitosha**	**4.21**	**92**	⇑P	**Pn**	**04 02 36.1**	**+2.8**
VTS				⇑S	**Sn**	**04 03 22.2**	**-0.7**
GORS	**Gorjuse**	**4.23**	**325**	*i* Pn	**Pn**	**04 02 33.5**	**+0.1**
MPLH	**Magyarpolny**	**4.25**	**0**	*e*Pn	**Pn**	**04 02 35.1**	**+1.4**
MPLH				Sn	**Sn**	**04 03 22.0**	**-1.6**
ROBS	**Robic**	**4.39**	**321**	*i* Pn	**Pn**	**04 02 35.4**	**-0.2**
SIRR	**Siria**	**4.46**	**40**	⇑P	**Pn**	**04 02 36.5**	**-0.1**
SIRR				⇓S	**Sn**	**04 03 26.6**	**-2.3**
SIRR				AML	AML	04 03 53.7	
GZR	**Gura Zlata**	**4.52**	**55**	*e*Pn	**Pn**	**04 02 38.0**	**+0.7**
GZR				*e*Sn	**Sn**	**04 03 28.8**	**-1.4**
GZR	**Gura Zlata**	**4.52**	**55**	⇓P	**Pn**	**04 02 38.0**	**+0.7**
GZR				⇑S	**Sn**	**04 03 27.3**	**-2.9**
ARSA	**Arzberg**	**4.56**	**343**	*e*Pn	**Pn**	**04 02 39.3**	**+1.4**
	1.2nm,0.3s						
CONA	**Conrad Observa**	**5.14**	**347**	*e*Pn	**Pn**	**04 02 47.5**	**+1.5**
	0.6nm,0.3s						
CONA				Sn	**Sn**	**04 03 46.5**	**+0.8**
	1.8nm,0.6s						
PSZ	**Piszkesteto**	**5.27**	**18**	⇓P	**Pn**	**04 02 49.1**	**+1.4**
MOA	**Molln**	**5.44**	**336**	*e*Pn	**Pn**	**04 02 51.9**	**+1.9**
	1.0nm,0.3s						
MOA				*e*Sn	**Sn**	**04 03 54.6**	**+1.7**
	1.6nm,0.3s						
VYHS	**Vyhne**	**5.65**	**9**	*e*PN	**Pn**	**04 02 53.6**	**+0.7**
VYHS				*e*SN	**Sn**	**04 04 00.6**	**+2.5**
VOIR		**5.97**	**62**	⇑P	**Pn**	**04 02 58.4**	**+1.1**
VOIR				⇑S	**Sn**	**04 04 03.4**	**-2.6**
WTTA	**Wattenberg**	**6.02**	**318**	*e*Pn	**Pn**	**04 02 58.8**	**+0.6**
	1.8nm,0.3s						
WTTA				Sn	**Sn**	**04 04 08.2**	**+0.8**
	0.7nm,0.3s						
WATA	**Walderalm**	**6.10**	**318**	*e*Pn	**Pn**	**04 02 59.9**	**+0.7**
	0.6nm,0.2s						
MOTA	**Moosalm**	**6.34**	**316**	*e*Pn	**Pn**	**04 03 03.1**	**+0.6**
	0.3nm,0.2s						
MOTA				*e*Sn	**Sn**	**04 04 14.8**	**-0.5**
	1.8nm,0.5s						
KHC	**Kasperske Hory**	**6.79**	**338**	*e*PN	**Pn**	**04 03 11.5**	**+2.9**
KHC				*e*SN	**Sn**	**04 04 26.1**	**-0.1**

*IDC **11** 04:03:25.7±1.9, 29.86S×177.09W, h0km, mb3.9/3,*
mb1 4.1/3, mb1mx3.8/23, mbtmp3.9/3, Error ellipse:
s-maj=44.5km s-min=26.4km az=48.0
*ISCJB **11** 04:03:27.1±1.7, 30.02S±0.06×177.2W±0.2, h24km,*
mb3.9/3, Error ellipse: s-maj=26.4km s-min=7.5km
az=169.9
*NEIC **11** 04:03:30.6±1.2, 29.92S±0.06×177.26W±0.04, h35km±2km,*
mb4.0/5
ISC 11 04:03:28.6±1.4, 29.91S±0.07×177.1W±0.1, h24km, n17,
σ0s85/20, mb4.0/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.96**	**313**	Pn	**Pn**	**04 03 46.7**	**0.0**
	1µm,0.3s,baz=90,slow=17,SNR=43						
RAO				Sn	**Sn**	**04 04 00.4**	**+0.9**
	1µm,0.3s,baz=126,slow=19,SNR=19						
RAO	**Raoul Island**	**0.96**	**313**		**Pn**	**04 03 46.6**	**0.0**
RAO					**Sb**	**04 03 58.2**	**-0.7**
URZ	**Urewera**	**9.60**	**208**	Sn	**Sn**	**04 07 33.9**	**+1.5**
	0.8nm,0.3s,baz=54,slow=23,SNR=6.3						
URZ	**Urewera**	**9.60**	**208**	Pn	**Pn**	**04 05 45.6**	**+0.3**
URZ					**Sn**	**04 07 31.3**	**-1.1**
BKZ	**Black Stump Fm**	**10.63**	**208**	Pn	**Pn**	**04 05 59.3**	**-0.1**
TUWZ	**Tuamarina**	**13.59**	**210**	Pn	**Pn**	**04 06 40.5**	**+0.7**
THZ	**Tophouse**	**14.31**	**212**	Pn	**Pn**	**04 06 48.7**	**-1.1**
STKA	**Stephens Creek**	**35.34**	**256**	P	**P**	**04 10 23.0**	**+0.9**
	3.2nm,0.9s,baz=97,slow=8.1,SNR=2.5						
STKA	**Stephens Creek**	**35.34**	**256**	P	**P**	**04 10 21.2**	**-1.0**
STKA				IAmb	IAmb	04 10 27.1	
	comp=Z,1.2nm,1.1s						
ASAR	**Alice Springs**	**43.90**	**266**	P	**P**	**04 11 34.5**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=103,slow=6.9,SNR=5.5						
WR0	**Warramunga Arr**	**44.67**	**271**	P	**P**	**04 11 38.9**	**-0.9**
WR0				IAmb	IAmb	04 11 45.9	
	comp=Z,2.6nm,0.8s						
WB2	**Warramunga Arr**	**44.84**	**271**	P	**P**	**04 11 41.0**	**-0.1**
WRA	**Warramunga Arr**	**44.85**	**271**	P	**P**	**04 11 41.9**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=110,slow=8.1,SNR=2.4						
VNDA	**Vanda**	**48.66**	**186**	P	**P**	**04 12 10.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**53.13**	**269**	P	**P**	**04 12 43.5**	**-1.2**
FITZ				IAmb	IAmb	04 12 47.7	
	comp=Z,1.6nm,0.8s						
FINES	**FINESS Array B**	**144.94**	**341**	PKP	**PKPdf**	**04 23 03.2**	**+0.2**
	comp=Z,5.6nm,1.1s,baz=40,slow=2.4,SNR=7.7						
AKASG	**Malin Array Be**	**151.37**	**324**	PKPbc	**PKiKP**	**04 23 20.8**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=47,slow=3.0,SNR=5.2						

IDC 11 04:42:04.3±17.0, 20.78S×178.39W, h566km±150km,
mb2.9/3, mb1 3.2/3, mb1mx2.9/25, mbtmp3.9/3, Error
ellipse: s-maj=210.3km s-min=51.7km az=134.0, Fiji
Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.10**	**257**	P	P	04 49 23.4	+0.1
	1.6nm,0.6s,baz=97,slow=7.5,SNR=27						
ASAR				PcP	PcP	04 50 55.9	-0.1
	0.2nm,0.5s,baz=113,slow=4.0,SNR=4.2						
WRA	**Warramunga Arr**	**44.20**	**262**	P	P	04 49 23.6	-0.5
	0.6nm,0.3s,baz=97,slow=7.7,SNR=13						
ILAR	**Eielson Array**	**88.66**	**13**	P	P	04 53 57.4	+0.2
	0.1nm,0.4s,baz=224,slow=5.0,SNR=4.2						
AKASG	**Malin Array Be**	**143.08**	**331**	PKP	PKPab	05 00 31.3	-0.4
	0.3nm,0.3s,baz=42,slow=4.9,SNR=7.3						
BRTR	**Keskin Array B**	**146.75**	**312**	PKPbc	PKPbc	05 00 43.6	-0.1
	0.9nm,0.8s,baz=140,slow=2.2,SNR=3.6						

*SJA **11** 05:00:45.5±0.6, 22.41S×65.95W, h292km±4km, ML3.4,*
MW3.6
*NEIC **11** 05:00:48.0±2.0, 22.57S±0.08×66.1W±0.1, h268km±15km,*
mb4.4/7
*ISCJB **11** 05:00:47.3±0.2, 22.55S±0.03×66.15W±0.03, h279km±3km,*
mb4.1/2, Error ellipse: s-maj=4.6km s-min=3.9km az=40.1
*IDC **11** 05:00:47.7±0.9, 22.49S×65.99W, h253km±14km, mb3.9/2,*
mb1 3.6/8, mb1mx3.4/29, mbtmp4.3/8, Error ellipse:
s-maj=20.3km s-min=14.4km az=120.0
*GUC **11** 05:00:48.5±0.5, 22.49S×66.58W, h326km±13km, ML4.1*
*VAO **11** 05:00:48.8±0.4, 22.52S×66.26W, h295km±6km, mb4.1*
ISC 11 05:00:47.9±0.6, 22.56S±0.04×66.15W±0.04, h270km±6km,
n113, σ1s24/139, mb4.3/4, 12C-3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**0.70**	**57**	*i* P	**Pn**	**05 01 24.4**	**+0.1**
YJA				IAML		05 01 24.9	
	comp=Z,353nm,0.4s						
YJA				*e*S	**S**	**05 01 52.4**	**-0.5**
HJA	**Humahuaca**	**0.94**	**134**	*i* P	**Pn**	**05 01 25.7**	**+0.5**
HJA				IAML		05 01 26.9	
	comp=Z,102nm,0.3s						
HJA				*e*S	**S**	**05 01 55.3**	**+0.6**
AZAP	**Zapla**	**1.94**	**149**	*i* P	**Pn**	**05 01 32.0**	**+0.3**
AZAP				IAML		05 01 35.7	
	comp=Z,17nm,0.5s						
AZAP				*e*S	**S**	**05 02 06.4**	**0.0**
SLA	**San L

AQDB	**Aquidauana**	**9.95**	**80**	*e*P		**Pn**	**05 03 05.5**	**-0.1**	
AQDB	**Aquidauana**	**9.95**	**80**	*e*P		**Pn**	**05 03 05.5**	**-0.1**	
ARCO	**CERRO ARCO**	**10.54**	**193**	*i* P		Pn	05 03 09.1	-3.9	
AAGR	**Agrelo**	**10.75**	**192**	*i* P		**Pn**	**05 03 15.6**	**0.0**	
ITQB	**Itaqui**	**11.11**	**132**	*e*P		**P**	**05 03 22.5**	**-0.9**	
ITQB	**Itaqui**	**11.11**	**132**	*e*P		**P**	**05 03 22.5**	**-0.9**	
ROC1	**El Roble**	**11.23**	**201**			**Pn**	**05 03 22.5**	**+0.8**	
TRCB	**Terra Rica**	**12.48**	**94**	*e*P		**P**	**05 03 39.0**	**+0.2**	
TRCB	**Terra Rica**	**12.48**	**94**	*e*P		**P**	**05 03 39.0**	**+0.2**	
PTGB	**Pitanga**	**13.09**	**102**	*e*P		**P**	**05 03 45.4**	**-0.2**	
PTGB	**Pitanga**	**13.09**	**102**	*e*P		**P**	**05 03 45.4**	**-0.2**	
GO05	**Huala**	**13.40**	**201**			**Pn**	**05 03 49.6**	**+1.6**	
ITAB	**Concordia**	**13.55**	**113**	*e*P		**P**	**05 03 50.9**	**+0.4**	
ITAB	**Concordia**	**13.55**	**113**	*e*P		**P**	**05 03 50.9**	**+0.4**	
SAML	**Samuel**	**13.83**	**12**	*e*P		**P**	**05 03 53.1**	**-0.6**	
SAML	**Samuel**	**13.83**	**12**	*e*P		**P**	**05 03 53.1**	**-0.6**	
SAML	**Samuel**	**13.83**	**12**	P		**P**	**05 03 53.3**	**-0.4**	
PLTB	**Pedras Altas**	**14.44**	**132**	*e*P		**Pn**	**05 04 01.4**	**+0.8**	
PLTB	**Pedras Altas**	**14.44**	**132**	*e*P		**Pn**	**05 04 01.4**	**+0.8**	
ITRB	**Iturama**	**15.01**	**82**	*e*P		**Pn**	**05 04 07.0**	**-0.5**	
ITRB	**Iturama**	**15.01**	**82**	*e*P		**Pn**	**05 04 07.0**	**-0.5**	
ARAG	**Araguaiana, MT**	**15.16**	**66**	*e*P		**Pn**	**05 04 09.7**	**+0.3**	
ARAG	**Araguaiana, MT**	**15.16**	**66**	*e*P		**Pn**	**05 04 09.7**	**+0.3**	
CLDB	**Colider**	**15.27**	**42**	*e*P		**Pn**	**05 04 09.5**	**-1.1**	
CLDB	**Colider**	**15.27**	**42**	*e*P		**Pn**	**05 04 09.5**	**-1.1**	
FRTB	**Fartura**	**15.30**	**96**	*e*P		**Pn**	**05 04 10.7**	**-0.3**	
FRTB	**Fartura**	**15.30**	**96**	*e*P		**Pn**	**05 04 10.7**	**-0.3**	
TRQA	**Tornquist**	**15.86**	**168**	P		**P**	**05 04 16.8**	**+0.9**	
BB19B	**Bebedouro**	**16.43**	**88**	*e*P		**Pn**	**05 04 23.6**	**-0.8**	
BB19B	**Bebedouro**	**16.43**	**88**	*e*P		**Pn**	**05 04 23.6**	**-0.8**	
RCLB	**Rio Claro- Sao**	**17.21**	**93**	*e*P		**P**	**05 04 30.9**	**+0.1**	
RCLB	**Rio Claro- Sao**	**17.21**	**93**	*e*P		**P**	**05 04 30.9**	**+0.1**	
SPB	**Sao Paulo**	**17.26**	**97**	*e*P		**P**	**05 04 32.2**	**+0.9**	
SPB	**Sao Paulo**	**17.26**	**97**	*e*P		**P**	**05 04 32.2**	**+0.9**	
IPMB	**Ipameri, GO**	**17.43**	**78**	*e*P		**P**	**05 04 33.9**	**+0.6**	
IPMB	**Ipameri, GO**	**17.43**	**78**	*e*P		**P**	**05 04 33.9**	**+0.6**	
GO06	**Curarrehue**	**17.57**	**194**	P		**P**	**05 04 36.9**	**+2.3**	
GO06				IAmb	IAmb		05 04 40.8		
	comp=Z,14nm,0.8s								
VAO	**Valinhos**	**17.70**	**95**	*e*P		**P**	**05 04 36.1**	**-0.1**	
VAO	**Valinhos**	**17.70**	**95**	*e*P		**P**	**05 04 36.1**	**-0.1**	
BDFB	**Brasilia**	**18.46**	**71**	P		**P**	**05 04 44.4**	**-0.1**	
	comp=Z,0.8nm,0.3s,baz=243,slow=12,SNR=10								
BDFB	**Brasilia**	**18.46**	**71**	P		**P**	**05 04 45.0**	**+0.5**	
BDFB				IAmb	IAmb		05 04 45.7		
	comp=Z,8.1nm,0.7s								
PLCA	**Paso Flores**	**18.50**	**191**	P		**P**	**05 04 46.6**	**+2.0**	
	comp=Z,0.4nm,0.3s,baz=36,slow=12,SNR=16								
PLCA	**Paso Flores**	**18.50**	**191**	*e*P		**P**	**05 04 43.5**	**-1.1**	
PLCA	**Paso Flores**	**18.50**	**191**	*e*P		**P**	**05 04 43.5**	**-1.1**	
PLCA	**Paso Flores**	**18.50**	**191**	P		**P**	**05 04 46.7**	**+2.1**	
PLCA				IAmb	IAmb		05 04 48.0		
	comp=Z,7.9nm,1.0s								
PMNB	**Patos De Minas**	**18.89**	**81**	*e*P		**P**	**05 04 49.3**	**+0.3**	
PMNB	**Patos De Minas**	**18.89**	**81**	*e*P		**P**	**05 04 49.3**	**+0.3**	
PEXB	**Peixe**	**19.94**	**62**	*e*P		**P**	**05 04 59.4**	**-0.8**	
PEXB	**Peixe**	**19.94**	**62**	*e*P		**P**	**05 04 59.4**	**-0.8**	
SMTB	**Santa Maria do**	**22.43**	**56**	*e*P		**P**	**05 05 23.8**	**-0.6**	
SMTB	**Santa Maria do**	**22.43**	**56**	*e*P		**P**	**05 05 23.8**	**-0.6**	
SJMB	**Sao Joao De Ma**	**23.67**	**85**	*e*P		**P**	**05 05 35.3**	**-0.3**	
SJMB	**Sao Joao De Ma**	**23.67**	**85**	*e*P		**P**	**05 05 35.3**	**-0.3**	
BSFB	**Barra de Sao F**	**23.95**	**86**	*e*P		**P**	**05 05 37.8**	**-0.4**	
BSFB	**Barra de Sao F**	**23.95**	**86**	*e*P		**P**	**05 05 37.8**	**-0.4**	
RCBR	**Riachuelo**	**33.60**	**65**	P		**P**	**05 07 03.4**	**0.0**	
RCBR				IAmb	IAmb		05 07 22.2		
	comp=Z,15nm,1.1s								
DBIC	**Dimbokro**	**66.61**	**72**	P		**P**	**05 11 09.9**	**-0.1**	
	comp=Z,1.8nm,0.5s,baz=225,slow=6.8,SNR=4.2								
DBIC	**Dimbokro**	**66.61**	**72**	IAmb	IAmb		05 11 16.3		
	comp=Z,14nm,1.3s								
TOA0	**Torodi Ar. Sit**	**75.32**	**69**	P		**P**	**05 12 02.2**	**0.0**	
TOA0				IAmb	IAmb		05 12 02.4		
	comp=Z,3.1nm,0.4s								
TORD	**Torodi Ar. Bea**	**75.32**	**69**	P		**P**	**05 12 02.2**	**0.0**	
	comp=Z,2.1nm,0.4s,baz=260,slow=5.9,SNR=64								
WRA	**Warramunga Arr**	**133.26**	**207**	PKP		**PKiKP**	**05 19 36.0**	**+2.3**	
	comp=Z,0.1nm,0.3s,baz=161,slow=1.5,SNR=3.1								
MKAR	**Makanchi Array**	**144.92**	**39**	PKP		**PKPdf**	**05 19 54.9**	**+2.1**	
	comp=Z,2.6nm,0.7s,baz=307,slow=2.9,SNR=11								

*ISN **11** 05:48:32.4±0.9, 36°.47N×43°.36E, h8km±300km, ML2.8*
*ISCJB **11** 05:48:34.2±0.8, 36°.39N±0°.04×43°.29E±0°.06, h8km±7km, Error ellipse: s-maj=8.3km s-min=6.3km az=165.6*
*ISK **11** 05:48:34.9, 36°.41N×43°.35E, h20km, ML2.9/8*

ISC 11 05:48:34.0±1.4, **36°.45N**±0°.04×**43°.35E**±0°.05, **h3**km±12km, **n12,** σ0**80**/17, **Iraq**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSL	**Mosul**	**0.20**	**256**	*e*Pg	**Pg**	**05 48 37.0**	**-0.9**
MSL				AML	AML	05 48 37.7	
	comp=Z,491nm,0.2s						
MSL				*e*Sg	**Sg**	**05 48 40.0**	**-0.4**
CUKT	**Cukurca**	**0.82**	**15**	PG	**Pn**	**05 48 52.1**	**-0.6**
CUKT				SG	**Sn**	**05 49 04.6**	**-0.9**
SIRT	**Sirnak**	**1.28**	**326**	PN	**Pg**	**05 48 58.9**	**+0.3**
IKRK	**Kirkuk**	**1.32**	**142**	*e*Pn	**Pg**	**05 48 59.0**	**-0.4**
IKRK				AML	AML	05 48 59.5	
	comp=Z,24nm,0.2s						
IKRK				*e*Sn	**Sg**	**05 49 18.0**	**+1.5**
AKDM	**Akdamar-Van**	**1.90**	**351**	PN	**Pn**	**05 49 07.7**	**+0.2**
GURO	**Guroymak-BITLI**	**2.34**	**334**	PN	**Pn**	**05 49 13.9**	**+0.3**
MAZI	**Mazidag**	**2.53**	**294**	PN	**Pn**	**05 49 16.4**	**+0.2**
BHD	**Baghdad**	**3.28**	**165**	*e*Pn	**Pn**	**05 49 26.0**	**-0.3**
BHD				AML	AML	05 49 27.2	
	comp=Z,4μm,0.4s						
BHD				*e*Sn	**Sn**	**05 50 06.0**	**+0.1**
BNGB	**Bingl**	**3.30**	**321**	PN	**Pn**	**05 49 27.1**	**+0.3**
SVRC	**Sivrice-ELAZID**	**3.75**	**302**	PN	**Pn**	**05 49 34.1**	**+1.2**
URFA	**Urfa**	**3.76**	**287**	PN	**Pn**	**05 49 33.9**	**+0.9**
IBDR	**Badra**	**3.95**	**147**	*e*Pn	**Pn**	**05 49 36.0**	**+0.5**
IBDR				AML	AML	05 49 37.5	
	comp=N,33nm,0.5s						
IBDR				*e*Sn	**Sn**	**05 50 21.5**	**-0.9**

*IDC **11** 05:59:36.4±0.7, 3°.51N×126°.70E, h0km, mb4.3/10, mb1 4.5/11, mb1mx4.1/38, mbtmp4.4/11, ML4.5/1, MS3.2/9, Ms1 3.2/9, ms1mx2.9/34, Error ellipse: s-maj=53.7km s-min=13.9km az=71.0*
*ISCJB **11** 05:59:40.8±0.4, 3°.60N±0°.06×126°.97E±0°.08, h48km, mb4.3/10, MS3.1/7, Error ellipse: s-maj=12.8km s-min=5.9km az=149.6*
*NEIC **11** 05:59:42.7±0.6, 3°.5N±0°.1×126°.9E±0°.1, h49km±10km, mb4.4/6*
*DJA **11** 05:59:43.1±0.5, 4°.N±5°.×12°.7E±°, h50km±7km, M4.4/7, mB4.9/3, mb4.6/7, MLv4.3/7, Mw(mB)4.2/3*

ISC 11 05:59:42.8±0.6, **3°.58N**±0°.09×**126°.95E**±0°.10, **h48**km, **n36,** σ0**78**/30, **mb4.4**/12, **MS3.1**/7, **1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.82**	**171**	P	**Pn**	**06 00 26.8**	**+1.4**
CTBH	**Cotabato--PC H**	**4.50**	**323**	⇓P	Pn	06 00 54.4	+5.8
SANI	**Sanana**	**5.68**	**190**	P	**Pn**	**06 01 05.5**	**+0.9**
	16nm,0.6s,715nm0.1nm						
MRSI	**Marisa**	**5.88**	**238**	P	**Pn**	**06 01 09.2**	**+1.8**
	28nm,0.6s,2μm0.2nm						
SIJI	**Sorong**	**6.18**	**136**	Pn	**Pn**	**06 01 11.7**	**+0.1**
	10nm,0.3s,baz=324,slow=14,SNR=10						
SIJI				Sn	**Sn**	**06 02 21.4**	**+0.4**
	1.7nm,0.3s,baz=217,slow=20,SNR=3.4						
SIJI				LR	LR	06 03 56.6	
	comp=Z,239nm,21.0s,baz=340,slow=41						
MPSI	**Mapaga**	**7.75**	**246**	P	Pn	06 01 44.4	+11
KAPI	**Kappang**	**11.16**	**220**		**Pn**	**06 02 18.3**	**-1.5**
JAY	**Jayapura**	**15.03**	**114**	Pn	**P**	**06 03 17.2**	**+0.5**
	1.5nm,0.3s,baz=307,slow=5.1,SNR=22						
JAY				LR	LR	06 08 16.2	
	comp=Z,77nm,21.2s,baz=300,slow=34						
JAY	**Jayapura**	**15.03**	**114**	P	**P**	**06 03 16.2**	**-0.5**
	22nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.58**	**183**	P	**P**	**06 04 28.1**	**-0.4**
	3.2nm,0.5s,baz=14,slow=9.0,SNR=20						
LEM	**Lembang**	**21.89**	**242**	LR	LR	06 13 37.8	
	comp=Z,36nm,20.1s,baz=30,slow=39						
PMG	**Port Moresby**	**23.92**	**123**	LR	LR	06 15 18.8	
	comp=Z,62nm,19.7s,baz=262,slow=39						
WRA	**Warramunga Arr**	**24.48**	**163**	P	**P**	**06 04 56.6**	**-1.0**
	13nm,0.6s,baz=343,slow=10,SNR=58						
WB2	**Warramunga Arr**	**24.48**	**163**	P	**P**	**06 04 56.5**	**-1.1**
WR0	**Warramunga Arr**	**24.56**	**163**	P	**P**	**06 04 57.4**	**-0.9**
WR0				IAmb	IAmb	06 04 59.5	
	comp=Z,16nm,1.0s						
KRVT	**Keravat (AS076**	**26.25**	**107**	LR	LR	06 13 52.8	
	comp=Z,67nm,18.9s,baz=295,slow=32						
AS31	**Alice Springs**	**27.92**	**166**	P	**P**	**06 05 28.8**	**+0.2**
ASAR	**Alice Springs**	**27.92**	**166**	P	**P**	**06 05 27.9**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=347,slow=6.9,SNR=38						
PSI	**Prapat**	**27.99**	**269**	LR	LR	06 17 12.1	
	comp=Z,41nm,21.2s,baz=112,slow=38						
CMAR	**Chiang Mai Arr**	**31.13**	**300**	LR	LR	06 20 58.5	
	comp=Z,22nm,18.4s,baz=183,slow=41						
STKA	**Stephens Creek**	**37.92**	**160**	P	**P**	**06 06 55.7**	**+0.1**
	comp=Z,9.1nm,0.4s,baz=335,slow=9.0,SNR=25						
STKA	**Stephens Creek**	**37.92**	**160**	P	**P**	**06 06 55.7**	**+0.1**
STKA				IAmb	IAmb	06 06 56.5	
	comp=Z,2.5nm,0.6s						
RAMN	**Ramite**	**45.01**	**305**	*e*P	**P**	**06 07 54.3**	**+0.1**
JIRN	**Jiri**	**45.63**	**306**	*e*P	**P**	**06 07 58.4**	**-0.9**
	comp=Z,12nm,0.6s						
KLR	**Kul'dur**	**45.66**	**4**	P	**P**	**06 07 59.5**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=174,slow=9.2,SNR=4.6						
GUN	**Gumba**	**45.99**	**306**	*e*P	**P**	**06 08 01.3**	**-0.7**
	comp=Z,48nm,1.2s						
SONM	**Songino Array**	**47.51**	**341**	P	**P**	**06 08 13.4**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=154,slow=7.7,SNR=13						
KOLN	**Koldanda**	**47.79**	**305**	*e*P	**P**	**06 08 15.4**	**-0.5**
DANN	**Dangsing**	**47.88**	**306**	*e*P	**P**	**06 08 15.9**	**-0.8**
	comp=Z,28nm,0.6s						
MK31	**Makanchi Array**	**57.80**	**325**	P	**P**	**06 09 29.2**	**-0.1**
MK31				IAmb	IAmb	06 09 36.0	
	comp=Z,6.0nm,1.4s						
MKAR	**Makanchi Array**	**57.80**	**325**	P	**P**	**06 09 29.0**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=121,slow=7.9,SNR=16						
MKAR				LR	LR	06 35 06.7	
	comp=Z,31nm,20.0s,baz=58,slow=37						
ZALV	**Zalesovo Beam**	**60.82**	**333**	P	**P**	**06 09 49.7**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=120,slow=8.7,SNR=4.3						
ZALV				LR	LR	06 36 27.0	
	comp=Z,14nm,19.4s,baz=52,slow=36						
KURK	**Kurchatov**	**61.98**	**327**	P	**P**	**06 09 57.9**	**+0.1**
BRTR	**Keskin Array B**	**90.28**	**310**	P	**P**	**06 12 38.7**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=29,slow=2.8,SNR=3.5						
ARCES	**ARCESS Array B**	**90.66**	**340**	P	**P**	**06 12 40.8**	**+0.8**
	comp=Z,3.1nm,0.8s,baz=66,slow=6.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**123.17**	**288**	PKP	**PKiKP**	**06 18 35.8**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=95,slow=0.8,SNR=3.2						

*ISCJB **11** 06:10:25.7±0.6, 31°.02S±0°.03×71°.60W±0°.06, h70km±7km, mb3.5/1, Error ellipse: s-maj=8.8km s-min=4.2km az=10.7*
*SJA **11** 06:10:25.9±0.8, 31°.03S×71°.35W, h25km±9km, ML4.0, MW4.1*
*GUC **11** 06:10:26.6±0.7, 31°.00S×71°.19W, h66km±3km, ML3.9*
*IDC **11** 06:10:31.1±2.8, 31°.37S×71°.20W, h100km±24km, mb3.6/1, mb1 3.5/5, mb1mx3.3/20, mbtmp3.7/5, MS2.8/2, Ms1 2.8/2, ms1mx2.5/21, Error ellipse: s-maj=28.5km s-min=19.8km az=77.0*

ISC 11 06:10:26.4±1.0, **31°.06S**±0°.03×**71°.56W**±0°.06, **h59**km±10km, **n46,** σ1**975**/55, **4C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.50**	**107**	⇑*i*P	**Pn**	**06 10 38.4**	**-0.1**
CO02				*i* S	**Sn**	**06 10 46.6**	**-0.6**
GO04	**Tololo Observa**	**1.10**	**37**	⇑*i*P	**Pn**	**06 10 45.4**	**-0.6**
GO04				*i* S	**Sn**	**06 10 59.3**	**-1.2**
GO04	**Tololo Observa**	**1.10**	**37**	*i* P	**Pn**	**06 10 45.5**	**-0.5**
GO04				*e*S	**Sn**	**06 10 59.0**	**-1.4**
LSCH	**La Serena**	**1.18**	**13**	⇑*i*P	**Pn**	**06 10 47.3**	**+0.5**
LSCH				*i* S	**Sn**	**06 11 02.1**	**+0.1**
LSCH				IAML		06 11 02.9	
	comp=E,3μm,0.4s						
ROCH	**El Roble**	**1.96**	**166**	⇑*i*P	**Pn**	**06 10 58.7**	**+1.1**
ROCH				*i* S	**Sn**	**06 11 23.7**	**+2.5**
ROCH				IAML		06 11 31.0	
	comp=N,2μm,0.3s						
AROD	**Rodeo**	**2.01**	**64**	*i* P	**Pn**	**06 10 59.3**	**+1.0**
AROD				*e*S	**Sn**	**06 11 22.7**	**+0.3**
RTLS	**Leoncito**	**2.07**	**111**	*i* P	**Pn**	**06 11 00.2**	**+1.1**
RTLS				*e*S	**Sn**	**06 11 24.9**	**+0.9**
RTLS				IAML		06 11 26.4	
	comp=Z,1μm,0.3s						
ACCO	**Cerro Coronel**	**2.20**	**78**	*i* P	**Pn**	**06 11 01.6**	**+0.8**
ACCO				*e*S	**Sn**	**06 11 27.9**	**+0.8**
PEL	**Peldehue**	**2.21**	**161**	*e*P	**Pn**	**06 11 02.0**	**+1.2**
PEL	**Peldehue**	**2.21**	**161**	*i* P	**Pn**	**06 11 01.9**	**+1.2**
PEL				*e*S	**Sn**	**06 11 19.1**	**-7.9**
ACDV	**Cuesta del Vie**	**2.28**	**68**	*i* P	**Pn**	**06 11 02.7**	**+0.9**
ACDV				*e*S	**Sn**	**06 11 29.7**	**+0.7**
CLCH	**Cerro Calan**	**2.48**	**160**	*e*P	**Pn**	**06 11 05.4**	**+0.8**
CLCH				*i* S	**Sn**	**06 11 35.3**	**+1.5**
CLCH				IAML		06 11 55.0	
	comp=N,1μm,0.6s						
FCH	**Farellones**	**2.50**	**155**	*i* Pg	**Pn**	**06 11 06.3**	**+1.3**
FCH				⇓*i*P	**Pn**	**06 11 06.6**	**+1.5**
FCH				*i* S	**Sn**	**06 11 36.9**	**+2.3**
FCH				IAML		06 11 45.0	
	comp=E,673nm,0.2s						
AMOG	**MOGNA**	**2.63**	**88**	⇓*i*P	**Pn**	**06 11 07.2**	**+0.6**
RTLL	**Cerro Villicun**	**2.66**	**97**	*i* P	**Pn**	**06 11 07.1**	**+0.2**
RTLL				IAML		06 11 07.3	
	comp=Z,510nm,0.5s						
RTCV	**Cerro Valdivia**	**2.70**	**108**	*i* P	**Pn**	**06 11 08.4**	**+0.9**
ASAL	**Salagasta**	**2.77**	**124**	*i* P	**Pn**	**06 11 10.6**	**+2.1**
ARCO	**CERRO ARCO**	**2.85**	**129**	*i* P	**Pn**	**06 11 12.0**	**+2.3**
ARCO				IAML		06 11 12.8	
	comp=Z,771nm,0.3s						
CFA	**Coronel Fontan**	**2.89**	**102**	P	**Pn**	**06 11 10.7**	**+0.6**
	comp=Z,202nm,0.3s,baz=289,slow=14,SNR=3051						
CFA				S	**Sn**	**06 11 41.7**	**-2.1**
	comp=Z,75nm,0.3s,baz=336,slow=6.9,SNR=4.4						
CFA				LR	LR	06 12 14.6	
	comp=Z,105nm,19.5s,baz=278,slow=41						
CFA	**Coronel Fontan**	**2.89**	**102**	*i* P	**Pn**	**06 11 10.5**	**+0.4**
AAGR	**Agrelo**	**3.07**	**132**	*i* P	**Pn**	**06 11 15.3**	**+2.7**
AGUA	**GUANDACOL**	**3.08**	**60**	*i* P	**Pn**	**06 11 14.5**	**+1.8**
GO03	**Copiap**	**3.64**	**19**	*i* P	**Pn**	**06 11 20.4**	**0.0**
GO03				*e*S	**Sn**	**06 12 05.1**	**+2.9**
VCA	**Vinchina**	**3.72**	**52**	*i* P	**Pn**	**06 11 23.3**	**+1.7**
VCA				IAML		06 11 51.6	
	comp=Z,318nm,0.5s						
ACAN	**Cantantal**	**3.92**	**109**	*i* P	**Pn**	**06 11 24.0**	**-0.1**
GO05	**Huala**	**3.95**	**184**	*i* P	**Pn**	**06 11 24.8**	**+0.3**
ACLC	**CERRO LA CRUZ**	**4.31**	**69**	*i* P	**Pn**	**06 11 29.2**	**-0.4**
ACLC				*e*S	**Sn**	**06 12 16.6**	**-2.0**
COIS	**El Sosneado**	**4.36**	**158**	*i* P	**Pn**	**06 11 29.4**	**-0.7**
APLL	**PUNTA DE LOS L**	**4.38**	**83**	*i* P	**Pn**	**06 11 29.7**	**-0.8**
APLL				IAML		06 11 30.6	
	comp=Z,206nm,0.5s						
RFA	**San Rafael**	**4.52**	**146**	*i* P	**Pn**	**06 11 33.4**	**+0.9**
PUMA	**Malargue**	**4.76**	**159**	*i* P	**Pn**	**06 11 37.9**	**+2.2**
CYA	**Choya**	**5.64**	**64**	*i* P	**Pn**	**06 11 46.5**	**-1.3**
GO06	**Curarrehue**	**8.51**	**180**	*i* P	**Pn**	**06 12 28.9**	**+1.9**
LVC	**Limon Verde**	**8.74**	**16**	P	Pn	06 12 37.8	+7.3
	comp=Z,0.5nm,0.3s,baz=193,slow=14,SNR=4.1						
LVC				S	Sn	06 14 18.1	+10
	comp=Z,0.8nm,0.3s,baz=39,slow=23,SNR=3.4						
PLCA	**Paso Flores**	**9.69**	**175**	P	**Pn**	**06 12 43.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=7.2,slow=13,SNR=5.1						
CPUP	**Villa Florida**	**13.35**	**73**	P	**Pn**	**06 13 34.1**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=245,slow=14,SNR=4.5						
CPUP				LR	LR	06 19 49.9	
	comp=Z,71nm,18.1s,baz=210,slow=42						
LPAZ	**La Paz**	**15.04**	**13**	P	**P**	**06 14 01.9**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=203,slow=13,SNR=2.9						
SIV	**San Ignacio**	**17.80**	**35**	P	**Pn**	**06 14 28.8**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=217,slow=9.3,SNR=15						
TORD	**Torodi Ar. Bea**	**82.83**	**70**	P	**P**	**06 22 43.8**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=245,slow=3.6,SNR=4.8						
WRA	**Warramunga Arr**	**123.52**	**210**	PKP	**PKPdf**	**06 29 16.9**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=138,slow=2.1,SNR=2.9						
H11S2	**WAKE ISLAND Hyd**	**26.17**	**271**	T	T	08 48 16.1	
	baz=115,slow=74,SNR=27						
H11S1	**WAKE ISLAND Hyd**	**26.19**	**271**	T	T	08 48 16.9	
	baz=115,slow=74,SNR=37						
H11S3	**WAKE ISLAND Hyd**	**26.19**	**271**	T	T	08 48 17.6	
	baz=115,slow=74,SNR=23						
H11N3	**WAKE ISLAND Hyd**	**26.51**	**272**	T	T	08 48 41.1	
	baz=116,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hyd**	**26.53**	**272**	T	T	08 48 30.4	
	baz=116,slow=75,SNR=8.6						
H11N2	**WAKE ISLAND Hyd**	**26.53**	**272**	T	T	08 48 39.8	
	baz=116,slow=75,SNR=21						

IDC 11 06:36:42.4±2.3, **6°.60S**×**129°.66E, h0**km, **mb3.5**/1, **mb1 3.7**/4, **mb1mx3.5**/26, **mbtmp3.6**/4, **ML3.8**/3, **Error ellipse: s-maj=91.9km s-min=29.0km az=76.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.91**	**16**	Sn	Sn	06 39 28.7	+8.8
	5.7nm,0.3s,baz=318,slow=23,SNR=17						
FITZ	**Fitzroy Crossi**	**12.08**	**199**	Pn	Pn	06 39 35.7	-0.3
	0.4nm,0.3s,baz=23,slow=12,SNR=12						
FITZ				Sn	Sn	06 41 37.1	-14
	1.1nm,0.3s,baz=125,slow=16,SNR=9.1						
WRA	**Warramunga Arr**	**14.02**	**162**	Pn	Pn	06 40 02.5	-0.1
	0.5nm,0.3s,baz=344,slow=13,SNR=24						
WRA				Sn	Sn	06 42 22.8	-16
	0.7nm,0.3s,baz=331,slow=22,SNR=7.7						
ASAR	**Alice Springs**	**17.45**	**167**	P	Pn	06 40 47.8	+0.3
	0.2nm,0.3s,baz=342,slow=8.7,SNR=12						
ASAR				S	Sn	06 43 49.0	-14
	0.2nm,0.3s,baz=352,slow=25,SNR=5.1						
MKAR	**Makanchi Array**	**67.70**	**327**	P	P	06 47 41.7	0.0
	0.2nm,0.4s,baz=116,slow=7.4,SNR=4.1						

BJI 11 06:48:59.2±0.0, **37°.11N**×**120°.02E, h6**km, **ML3.6**/8, **Northeastern China**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DL2	**Dalian**	**2.20**	**35**	Pg	Pb	06 49 38.0	-1.3
DL2				Sn	Sn	06 50 02.2	-1.5
DL2				Sg	Sb	06 50 06.3	-0.5
DL2				smax	smax		
	comp=N,430nm,0.6s						
DL2				smax	smax		
	comp=E,550nm,0.6s						
TIA	**Tai'an**	**2.50**	**250**	Pg	Pb	06 49 42.6	-1.8
TIA				Sg	Sb	06 50 14.8	-0.6
TIA				smax	smax		
	comp=N,110nm,0.5s						
TIA				smax	smax		
	comp=E,85nm,0.3s						
NJ2	**Nanjing**	**5.14**	**191**	*e*Pg	Pb	06 50 33.0	+3.5
NJ2				Sg	Sb	06 51 37.0	+5.6
NJ2				smax	smax		
	comp=N,62nm,0.4s						
NJ2				smax	smax		
	comp=E,59nm,0.3s						
WMQ	**Urumqi**	**25.38**	**295**	*e*P	P	06 54 26.9	-0.3

*IDC **11** 06:57:45.5±1.6, 3°.94N×95°.61E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.8/43, mbtmp4.0/8, ML3.8/1, MS3.2/3, Ms1 3.2/3, ms1mx2.6/58, Error ellipse: s-maj=65.2km s-min=17.2km az=53.0*
*ISCJB **11** 06:57:50.9±0.6, 3°.99N±0°.05×95°.69E±0°.06, h51km, mb4.0/7, MS3.4/2, Error ellipse: s-maj=9.7km s-min=5.3km az=140.1*
*NEIC **11** 06:57:50.8±0.7, 3°.89N±0°.08×95°.57E±0°.

TGY S Sn 07 08 03.7 0.0
11μm,0.3s,baz=107,slow=20,SNR=106
TGY Tagaytay City 0.45 43 ⇑P Pn 07 07 50.4 -0.3
TGY S Sn 07 08 05.3 +1.6
LQP Lukban 0.96 69 ⇑P Pn 07 07 55.3 +0.4
LQP S Sn 07 08 11.3 +0.2
BOAC Boac 1.23 104 P Pn 07 07 57.2 -0.3
BOAC S Sn 07 08 16.4 +0.7
SJMP San Jose 1.39 159 P Pn 07 07 59.3 -0.1
SJMP S Sn 07 08 18.5 -0.4
POLP Polilio Island 1.60 53 P Pn 07 08 01.6 -0.2
GQP Guinayangan 1.78 85 ⇓P Pn 07 08 05.4 +1.4
GQP S Sn 07 08 26.9 -0.3
PCPH Palayan 1.84 14 ⇑P Pn 07 08 03.9 -0.9
PCPH S Sn 07 08 27.5 -1.1
OTRP Odiongan 1.95 136 P Pn 07 08 06.4 +0.3
OTRP S Sn 07 08 30.2 -0.9
SCZP Santa Cruz 2.11 341 P Pn 07 08 06.5 -1.6
SCZP S Sn 07 08 31.2 -3.4
SMPP San Manuel, Pa 2.37 1 P Pn 07 08 10.7 -0.8
SMPP S Sn 07 08 39.0 -1.6
BOLP Bolinao 2.69 345 P Pn 07 08 15.2 -0.3
ENPP El Nido 2.80 205 P Pn 07 08 16.2 -0.9
ENPP S Sn 07 08 47.8 -2.8
CUYO Cuyo Island 2.93 172 P Pn 07 08 18.1 -0.6
CAUP Cauayan 3.36 20 P Pn 07 08 26.1 +1.6
PALP Palanan 3.71 28 P Pn 07 08 29.0 -0.1
PALP S Sn 07 09 08.9 -3.2
KCP Kidapawan 8.03 146 ⇓P Pn 07 09 30.6 +3.1
DAV Davao City (W) 8.25 143 LR LR 07 13 39.3
comp=Z,99nm,18.2s,baz=166,slow=45
QIZ Qiongzhong 11.59 298 Pn 07 10 16.5 +1.1
UBPT Khong Chiam 14.74 278 P P 07 11 03.6 +4.2
SKNT Sakolnakorn 16.36 283 P P 07 11 26.7 +9.4
SANI Sanana 16.59 161 P Pn 07 11 15.6 -3.8
14nm,1.3s
WHN Wuhan 17.67 342 ⇑P Pn 07 11 33.4 +1.0
WHN sP sP 07 12 16.7 +9.5
WHN pmax pmax
comp=Z,130nm,1.3s
BNSI Bone 18.06 182 P P 07 11 23.4 -13
CHAI Chaiyaphum 18.14 279 P Pn 07 11 39.7 +1.6
36μm,0.7s
KAPI Kappang 18.68 183 P Pn 07 11 46.2 +1.6
1.2nm,0.3s,baz=310,slow=6.6,SNR=11
KAPI Kappang 18.68 183 P P 07 11 43.3 +0.5
MSAI Masohi 18.90 154 P P 07 11 41.2 -4.0
26nm,1.0s
ENH Enshi 19.37 330 P P 07 11 51.3 +1.0
ENH IAmb IAmb 07 12 00.1
comp=Z,63nm,1.1s
PHRA Phrae 20.14 286 P P 07 12 01.1 +2.4
comp=Z,2.7nm,0.9s
KMI Kunming 20.27 307 P Pn 07 12 03.0 -0.3
KMI pmax pmax
comp=Z,21nm,1.4s
KMI Kunming 20.27 307 P P 07 12 01.7 +1.4
KMI IAmb IAmb 07 12 05.5
comp=Z,26nm,0.9s
PHET Kaeng Krachan 20.44 270 P Pn 07 12 10.0 +4.8
comp=Z,20μm,0.9s
UTHA Uthaitani 20.56 278 P Pn 07 12 08.4 +1.8
comp=Z,16μm,0.7s
PAYA Payao 20.64 288 P P 07 12 06.5 +2.3
comp=Z,106μm,0.9s,comp=Z,877μm
UMPA Umpang Tak 21.16 279 P P 07 12 13.9 +4.2
CM31 Chiang Mai Arr 21.34 285 P P 07 12 13.6 +2.0
CM31 IAmb IAmb 07 12 15.9
comp=Z,26nm,0.8s
CMAR Chiang Mai Arr 21.34 285 P P 07 12 13.7 +2.1
comp=Z,12nm,0.7s,baz=97,slow=7.2,SNR=51
CMMT Chiang Mai 21.39 286 P P 07 12 14.0 +1.8
comp=Z,12nm,1.0s
CHTO Chiang Mai 21.39 286 P P 07 12 13.4 +1.2
JNU Nakatsue 21.41 24 P P 07 12 12.2 -0.1
comp=Z,13nm,1.0s,baz=166,slow=4.2,SNR=2.3
MHMT Maesarieng 22.24 284 P P 07 12 23.2 +2.1
comp=Z,55nm,1.0s
PLAI Plampang 22.62 187 P P 07 12 23.2 -1.7
comp=Z,58nm,0.9s
XAN Xi'an 22.80 334 P P 07 12 25.8 -0.8
XAN pmax pmax
comp=Z,39nm,1.2s
XAN pmax pmax
comp=Z,190nm,4.0s
XAN LR LR
comp=Z,260nm,5.0s
XAN LR LR
comp=Z,120nm,8.5s
XAN LR LR
comp=Z,310nm,15.9s
XAN Xi'an 22.80 334 P P 07 12 25.9 -0.8
XAN IAmb IAmb 07 12 27.1
comp=Z,41nm,0.7s
JAGI Jajag, Banyuwa 23.01 197 P P 07 12 27.7 -1.0
JAGI IAmb IAmb 07 12 46.7
comp=Z,45nm,1.3s
CD2 Chengdu 23.06 320 P P 07 12 30.2 +1.1
CD2 pmax pmax
comp=Z,210nm,0.8s
SOEI Soe 23.65 171 P P 07 12 35.1 +0.5
SMPI Sarmi 23.81 130 P P 07 12 26.7 -9.3
KPJI Karang Pucung 23.96 210 P P 07 12 34.4 -3.0
comp=Z,56nm,0.4s,comp=Z,2μm
BATI Baumata 24.01 173 P P 07 12 37.6 -0.2
comp=Z,27nm,0.5s,baz=79,slow=5.2,SNR=3.1
BATI pP pP 07 13 01.3 -0.4
comp=Z,50nm,0.6s,baz=128,slow=3.8,SNR=2.1
PSI Prapat 24.05 245 P P 07 12 39.5 +1.2
comp=Z,5.5nm,0.4s,baz=60,slow=5.3,SNR=8.3
PSI pP pP 07 13 05.0 +3.9
comp=Z,6.1nm,0.5s,baz=120,slow=5.1,SNR=3.1
RPSI Rantau Prapat 24.10 245 P P 07 12 39.5 +0.9
KLSI 24.19 222 P P 07 12 38.6 -0.8
comp=Z,23nm,1.1s
MDSI Maura Dua 24.40 223 P P 07 12 39.7 -1.6
KSRS Korea Array 24.47 14 P P 07 12 41.2 -0.5
comp=Z,15nm,1.2s,baz=196,slow=10,SNR=7.3
KSRS LR LR 07 22 36.0
comp=Z,55nm,19.4s,baz=180,slow=37
TIY Taiyuan 24.94 344 *e*P P 07 12 46.5 +0.4
BJT Baijiatuau 26.44 352 P P 07 12 58.7 -0.9
BJT IAmb IAmb 07 13 01.1
comp=Z,17nm,0.8s
LZH Lanzhou 26.85 329 *e*P P 07 13 04.4 +0.9
LZH pmax pmax
comp=Z,27nm,1.2s
MJAR Matsushiro Arr 27.61 32 P P 07 13 09.0 -1.2
comp=Z,1.0nm,0.5s,baz=234,slow=10,SNR=3.0
SHL Shillong 29.42 298 ⇑*i*P P 07 13 27.0 +0.4
GTA Gaotai 31.44 328 ⇑P P 07 13 45.0 +0.9
GTA pmax pmax
comp=Z,22nm,0.9s
GTA pmax pmax
comp=Z,150nm,7.3s
GTA LR LR
comp=Z,110nm,15.6s
GTA LR LR
comp=Z,160nm,15.6s
GTA LR LR
comp=Z,150nm,15.6s
LSA Lhasa 31.51 305 P P 07 13 46.5 +1.3
USA0B Ussuriysk Arra 31.85 16 P P 07 13 47.7 +0.2
USA0B IAmb IAmb 07 14 00.0
comp=Z,23nm,1.4s
USRK Ussuriysk Ar. 31.85 16 P P 07 13 47.0 -0.5
comp=Z,5.8nm,0.7s,baz=203,slow=5.8,SNR=9.8
TAPN Taplejung 33.53 299 ⇑*i*P P 07 14 03.6 +0.9
ODAN Odare 33.66 298 ⇑*i*P P 07 14 04.6 +0.8
comp=Z,156nm,0.7s
RAMN Ramite 34.36 298 ⇑*i*P P 07 14 10.8 +0.9
comp=Z,138nm,0.8s
JIRN Jiri 34.91 299 ⇑*i*P P 07 14 15.7 +1.0
GUN Gumba 35.24 299 ⇑*i*P P 07 14 18.5 +0.9
PKI Pulchoki 35.55 298 ⇑*i*P P 07 14 20.5 +0.3
comp=Z,73nm,0.6s
PKIN Phulchoki 35.56 298 ⇑*i*P P 07 14 20.5 +0.3
comp=Z,46nm,0.5s
KKN Kakani 35.72 299 ⇑*i*P P 07 14 21.9 +0.4
DMN Daman 35.82 298 ⇑*i*P P 07 14 22.8 +0.4
comp=Z,197nm,1.2s
ULN Ulaanbaatar 35.82 344 P P 07 14 21.3 -0.7
SONM Songino Array 35.97 344 P P 07 14 23.6 +0.3
comp=Z,33nm,0.7s,baz=163,slow=9.8,SNR=102
WRA Warramunga Arr 36.12 158 P P 07 14 23.0 -1.6
comp=Z,1.2nm,0.5s,baz=336,slow=9.6,SNR=5.3
WRA pP pP 07 14 48.5 -1.9
comp=Z,12nm,0.8s,baz=335,slow=9.7,SNR=22
WRA LR LR 07 30 39.6
comp=Z,154nm,19.3s,baz=85,slow=38
WB2 Warramunga Arr 36.12 158 P P 07 14 23.4 -1.3
WR0 Warramunga Ar 36.21 157 P P 07 14 25.9 +0.5
GKN Gorkha 36.33 299 ⇑*i*P P 07 14 26.6 0.0
KOLN Koldanda 37.15 298 ⇑*i*P P 07 14 33.9 +0.2
comp=Z,74nm,1.1s
DANN Dangsing 37.16 299 ⇑*i*P P 07 14 34.1 +0.2
comp=Z,85nm,0.9s
AS31 Alice Springs 39.41 161 P P 07 14 51.5 -0.8
ASAR Alice Springs 39.41 161 P P 07 14 51.6 -0.7
comp=Z,1.5nm,0.6s,baz=338,slow=6.9,SNR=27
ASAR pP pP 07 15 17.1 -1.4
comp=Z,5.3nm,0.7s,baz=339,slow=6.6,SNR=15
ASAR LR LR 07 32 57.6
comp=Z,77nm,18.4s,baz=80,slow=39
TLY Talaya 40.21 344 P P 07 14 57.6 -1.1
CTA Charters Tower 42.05 143 P P 07 15 14.1 0.0
comp=Z,1.7nm,0.7s,baz=324,slow=11,SNR=3.8
MK31 Makanchi Array 45.93 324 P P 07 15 45.8 +1.0
MK31 IAmb IAmb 07 15 46.8
comp=Z,25nm,0.8s
MKAR Makanchi Array 45.93 324 P P 07 15 45.8 +1.0
comp=Z,24nm,0.7s,baz=129,slow=8.8,SNR=104
MAKZ Makanchi 46.12 323 P P 07 15 46.8 +0.5
MAKZ IAmb IAmb 07 15 47.7
comp=Z,14nm,0.7s
KSH Kashi 46.80 312 P P 07 15 55.4 +3.6
KSH PcS PcS 07 21 19.7 +1.3
KSH S S 07 22 35.9 +2.4
KSH sS sS 07 23 30.1 +10
KSH SS SS 07 25 58.5 -2.9
KSH pmax pmax
comp=Z,660nm,4.5s
KSH LR LR
comp=Z,380nm,5.7s
KSH LR LR
comp=Z,220nm,8.3s
KSH LR LR
comp=Z,230nm,7.5s
NIL Nilore 47.21 303 P P 07 15 54.0 -1.0
NIL IAmb IAmb 07 15 56.2
comp=Z,29nm,1.1s
ULHL Ulahol 47.62 315 P P 07 15 59.6 +1.3
SNR=22
KZA Kyzart 48.24 315 P P 07 16 05.2 +1.9
SNR=24
TKM2 Tokmak 2 48.32 316 P P 07 16 05.0 +1.3
SNR=20
YAK Yakutsk 48.63 6 P P 07 16 04.0 -1.3
YAK IAmb IAmb 07 16 05.3
comp=Z,20nm,0.9s
KBK Karagaybulak 48.66 315 P P 07 16 08.1 +1.8
SNR=6.9
UCH Uchtor 48.80 315 P P 07 16 09.4 +1.8
SNR=48
CHMS Chumysh 48.92 316 P P 07 16 09.0 +1.0
SNR=14
ZAA0 Zalesovo Array 48.96 333 P P 07 16 05.9 -2.2
ZALV Zalesovo Beam 48.96 333 P P 07 16 07.9 -0.2
comp=Z,11nm,0.4s,baz=128,slow=7.2,SNR=19
AAK Ala-Archa 48.96 315 P P 07 16 09.6 +1.1
comp=Z,11nm,0.7s,baz=125,slow=8.7
AAK Ala-Archa 48.96 315 P P 07 16 10.0 +1.5
SNR=12
AAK Ala-Archa 48.96 315 P P 07 16 09.5 +1.0
AAK IAmb IAmb 07 16 11.7
comp=Z,13nm,0.8s
PETK Petropavlovsk- 49.00 29 P P 07 16 08.1 -0.4
comp=Z,3.5nm,0.7s,baz=198,slow=3.9,SNR=4.3
USP Ospenovka 49.20 316 P P 07 16 11.2 +1.1
SNR=25
AML Almayashu 49.33 314 P P 07 16 13.2 +1.6
SNR=29
EKS2 Erkin-Say 49.47 315 P P 07 16 13.7 +1.4
SNR=20
KURK Kurchatov 50.09 326 P P 07 16 17.4 +0.7
KBL Kabul 50.81 303 P P 07 16 22.7 +0.1
KBL IAmb IAmb 07 16 24.3
comp=Z,13nm,0.8s
KK31 Karatay Array 51.87 314 P P 07 16 30.6 +0.3
BRVK Borovoye 55.74 326 P P 07 16 58.8 +0.6
HRA Herat 56.34 302 P P 07 17 03.2 +0.2
HRA IAmb IAmb 07 17 04.4
comp=Z,9.5nm,0.8s
TIXI Tiksi 58.07 3 P P 07 17 12.8 -1.4
TIXI IAmb IAmb 07 17 14.1
comp=Z,13nm,0.9s
GEYT Alibeck 60.03 306 P P 07 17 29.7 +1.2
comp=Z,20nm,0.9s,baz=132,slow=4.2,SNR=26
BILL Bilibino 61.67 18 P P 07 17 38.7 -0.2
AKTO Aktyubinsk 62.11 320 LR LR 07 44 13.0
comp=Z,36nm,19.5s,baz=105,slow=35
ARU Arti 63.28 327 P P 07 17 49.4 -0.5
RAYN Ar Rayn 71.16 290 P P 07 18 40.8 +0.5
RAYN IAmb IAmb 07 18 41.8
comp=Z,21nm,0.9s
AKH Akhalkalaki 71.42 309 ⇑P P 07 18 43.1 +1.4
KBZ Khabaz 71.78 312 P P 07 18 43.7 +0.2
comp=Z,10nm,0.9s,baz=175,slow=9.7,SNR=5.1
KBZ LR LR 07 53 39.4
comp=Z,50nm,18.3s,baz=60,slow=38
KIV Kislovodsk 71.92 312 P P 07 18 44.4 -0.2
DAMY Dhamar 73.56 281 P P 07 18 56.1 +1.1
TTA Tatalina 74.83 28 P P 07 19 02.5 +1.2
TTA IAmb IAmb 07 19 02.8
comp=Z,8.4nm,1.0s
SVW2 Sparrevohn 75.07 30 P P 07 19 03.9 +1.4
PPLA Purkeypile 76.58 28 P P 07 19 12.1 +0.8
KDAK Kodiak Island 76.78 33 P P 07 19 12.8 +0.6
KDAK IAmb IAmb 07 19 23.5
comp=Z,31nm,1.2s
PMR Palmer 78.13 29 P P 07 19 19.6 -0.1
PMR IAmb IAmb 07 19 19.9
comp=Z,19nm,1.3s
SEW Seward 78.15 31 P P 07 19 19.9 0.0
SEW IAmb IAmb 07 19 20.4
comp=Z,18nm,1.0s
KEV Kevo 78.44 339 P P 07 19 21.0 -0.3
KEV IAmb IAmb 07 19 39.9
comp=Z,33nm,1.4s
ILAR Eielson Array 78.72 26 P P 07 19 21.8 -1.2
comp=Z,1.5nm,0.8s,baz=274,slow=4.2,SNR=13
ARCES ARCESS Array B 78.99 339 P P 07 19 24.1 -0.2
comp=Z,4.4nm,0.5s,baz=76,slow=6.9,SNR=40
ARE0 ARCESS Array S 78.99 339 *e*P P 07 19 23.9 -0.5
ARE0 ARCESS Array S 78.99 339 P P 07 19 24.3 0.0
BR131 Keskin Array S 79.05 308 P P 07 19 24.5 -0.9
BRTR Keskin Array B 79.05 308 P P 07 19 25.2 -0.2
comp=Z,4.0nm,0.8s,baz=129,slow=5.0,SNR=16
SPA0 Spitsbergen Ar 79.51 348 *e*P P 07 19 27.0 0.0
SPA0 Spitsbergen Ar 79.51 348 P P 07 19 27.2 +0.2
KTK1 Kautokeino 79.89 339 *e*P P 07 19 28.2 -1.0
EYAK Cordova Ski Ar 79.91 30 P P 07 19 29.9 +0.5
EYAK IAmb IAmb 07 19 32.1
comp=Z,12nm,1.3s
CSS Mathiatis 80.06 304 P P 07 19 30.0 -0.8
DOT Dot Lake 80.13 27 P P 07 19 30.8 +0.2
DOT IAmb IAmb 07 19 31.4
comp=Z,11nm,1.3s
FINES FINESS Array B 80.19 331 P P 07 19 30.2 -0.7
comp=Z,1.8nm,0.5s,baz=66,slow=4.2,SNR=15
AKASG Malin Array Be 80.36 320 P P 07 19 31.1 -0.9
comp=Z,2.4nm,0.6s,baz=62,slow=6.3,SNR=7.7
EGAK Eagle 81.13 25 P P 07 19 35.8 -0.2
TRO Tromso 81.22 340 *e*P P 07 19 36.3 0.0
YAH Yahtse 81.89 30 P P 07 19 38.2 -2.1
DAWY Dawson 82.05 26 P P 07 19 39.7 -1.1
TESR Tescani 82.84 316 ⇑P P 07 19 44.9 -0.4
VRI Vrincioaia 82.93 315 ⇑P P 07 19 45.3 -0.4
STEI Steigen 83.02 338 *e*P P 07 19 44.8 -0.8
INK Inuvik 83.06 21 P P 07 19 46.1 +0.3
INK IAmb IAmb 07 19 46.6
comp=Z,9.3nm,0.9s
BIZ Bicaz 83.12 317 ⇑P P 07 19 46.8 +0.1
MLR Muntele Rosu 83.55 315 ⇑P P 07 19 49.2 +0.2
MLR Muntele Rosu 83.55 315 P P 07 19 49.1 0.0
MLR IAmb IAmb 07 19 50.1
comp=Z,9.5nm,0.7s
LOF Lofoten 83.55 339 *e*P P 07 19 47.9 -0.5
BURAR Bucovina Array 83.56 317 ⇑P P 07 19 49.4 +0.4
BUR08 Bucovina Ar. S 83.56 317 P P 07 19 49.6 +0.6
BUR08 IAmb IAmb 07 19 50.1
comp=Z,8.4nm,0.7s
DOPR Dopca 83.82 316 ⇑P P 07 19 49.8 -0.5
KMBO Kilima Mbogo 83.82 267 P P 07 19 52.9 +1.7
comp=Z,4.2nm,0.9s,baz=68,slow=7.9,SNR=10.0
KMBO Kilima Mbogo 83.82 267 P P 07 19 52.7 +1.5
MOR8 Moi Rana 83.91 337 *e*P P 07 19 49.1 -1.3
VOIR 84.17 315 ⇑P P 07 19 50.7 -1.5
KWP Kalwaria Pacla 84.68 320 P P 07 19 53.9 -0.7
PLVB Pleven 84.96 313 ⇑P P 07 19 55.6 -0.5
TRPA Tarpa 85.18 318 ⇑P P 07 19 56.7 -0.4
DRGR 85.41 317 ⇑P P 07 19 58.2 -0.2
NSS Namsos 85.48 336 *e*P P 07 19 56.6 -1.6
VTS Vitosha 86.14 313 ⇑P P 07 20 02.0 -0.1
VTS Vitosha 86.14 313 P P 07 20 01.0 -1.1
VTS IAmb IAmb 07 20 02.9
comp=Z,5.1nm,0.7s
NIE Niedzica 86.25 320 *e*P P 07 20 03.2 +0.8
NIE *e*P P 07 20 03.2 +0.8
SIRR Siria 86.25 317 ⇑P P 07 20 02.4 -0.1
OJC Ojcow 86.33 321 *e*P P 07 20 02.7 0.0
OJC *e*P P 07 20 02.7 0.0
OJC Ojcow 86.33 321 P P 07 20 02.9 +0.2
NC405 NORSAR Array S 86.91 333 P P 07 20 03.6 -1.7
NC602 NORSAR Array S 87.14 332 *e*P P 07 20 04.5 -1.9
NB2 NORSAR Subarra 87.16 333 P P 07 20 05.0 -1.6
comp=Z,2.0nm,0.7s,baz=66,slow=4.8
NB2 NORSAR Subarra 87.16 333 P P 07 20 05.0 -1.6
baz=66,slow=4.8
NOA NORSAR Array B 87.16 333 P P 07 20 05.4 -1.2
comp=Z,3.8nm,0.7s,baz=68,slow=4.7,SNR=9.0
DOMB Dombas 87.69 334 *e*P P 07 20 08.4 -0.6
MOL Molde 88.09 335 *e*P P 07 20 10.3 -0.5
KONO Kongsberg 88.47 332 *e*P P 07 20 11.9 -0.8
SUE Sulen 89.97 334 *e*P P 07 20 18.6 -1.1
CLL Collm 90.03 323 *e*P P 07 20 20.0 -0.2
CLL *e*PP PP 07 23 52.0 -2.4
GERES GERESS Array B 90.53 321 P P 07 20 22.8 +0.1
comp=Z,0.8nm,0.7s,baz=59,slow=5.1,SNR=6.3
MAW Mawson 91.13 199 LR LR 07 58 05.3
comp=Z,48nm,18.1s,baz=64,slow=33
YKA Yellowknife Ar 92.74 22 P P 07 20 32.4 -0.2
comp=Z,1.1nm,0.6s,baz=307,slow=4.4,SNR=25
SFJD Kangerlussuaq 99.20 357 LR LR 08 08 49.3
comp=Z,20nm,18.2s,baz=22,slow=37
PLCA Paso Flores 151.41 162 PKPbc **PKiKP 07 27 14.5 -0.2**
comp=Z,2.7nm,0.8s,baz=274,slow=1.6,SNR=9.3

*ISCJB **11** 07:11:42.9±0.1, 12°.32S±0°.02×167°.12E±0°.02, h250km, mb5.1/105, Error ellipse: s-maj=3.5km s-min=3.1km az=40.8*
*BJI **11** 07:11:43.2±0.0, 12°.01S×167°.46E, h258km, mb5.2/65, mB5.1/35*
*IDC **11** 07:11:43.5±0.6, 12°.32S×167°.19E, h244km±4km, mb4.7/39, mb1 4.8/42, mb1mx4.7/46, mbtmp5.3/42, Error ellipse: s-maj=7.2km s-min=6.9km az=89.0*
*NEIC **11** 07:11:45.7±1.3, 12°.28S±0°.07×167°.17E±0°.09, h264km±5km, mb5.2/143*
*GCMT **11** 07:11:45.7±0.2, 12°.22S±0°.01×167°.06E±0°.02, h258km±1km, MW5.3/117, Moment Tensor Solution. s79,c108; s117,c162; Duration: 1ŝ1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.29±.02; $M_{\theta\theta}$0.24±.03; $M_{\phi\phi}$-0.52±.02; $M_{r\theta}$0.54±.02; $M_{\theta\phi}$-0.83±.02; $M_{\phi r}$-0.35±.02; Best double couple: $M_0$1.13700×10^{17} NP1:$\phi_1$173.00000°, δ66.00000°, λ26.00000°. NP2:$\phi_2$72.00000°, δ66.00000°, λ154.00000°. Principal axes: T 1.2160, Plg35.0000°, Azm33.0000°; N -0.1580, Plg55.0000°, Azm212.0000°; P -1.0570, Plg0.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **11** 07:11:45.7±1.0, 12°.20S×167°.11E, h269km, mb5.5/41 Error ellipse: s-maj=7.2km s-min=6.4km az=115.3*

ISC 11 07:11:43.9±0.2, 12°.32S±0°.04×167°.22E±0°.04, h250km, n816, σ1ŝ14/879, mb5.2/148, 29C-44D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.70**	**291**	P		P	Pn	07 13 34.7	+1.2
HNR	**Honiara**	**7.70**	**291**	P		P	Pn	07 13 34.4	+1.0
	66nm,0.3s,baz=159,slow=9.0,SNR=8.6								
HNR	**Honiara**	**7.70**	**291**	*e*P		P	Pn	07 13 35.0	+1.6
HNR	**Honiara**	**7.70**	**291**	P		P	Pn	07 13 34.7	+1.2
DZM	**Mont Dzumac**	**9.73**	**184**	*e*Pn		P	Pn	07 14 01.3	+2.1
	208nm,1.1s								
DZM				*e*Sn		S	S	07 15 44.3	-4.5
	243nm,1.4s								
DZM				*e*LR		LR	LR	07 16 20.0	
	comp=Z,738nm,22.6s								
DZM	**Mont Dzumac**	**9.73**	**184**	P		P	Pn	07 14 01.4	+2.3
	4.9nm,0.3s,baz=38,slow=14,SNR=42								
DZM				S		S	S	07 15 50.4	+1.6
	baz=231,slow=3.7,SNR=3.7								
MSVF	**Nonsavu**	**11.77**	**119**	*d*P		P	P	07 14 29.1	+1.0
MSVF	**Nonsavu**	**11.77**	**119**	P		P	P	07 14 29.5	+1.4
FUNA	**Funafuti**	**12.37**	**73**	P		P	Pn	07 14 35.1	+2.9
TARA	**Tarawa**	**14.72**	**23**	P		P	P	07 15 01.4	+0.6
KRVT	**Keravat (AS076**	**17.00**	**297**	P		P	P	07 15 25.6	-0.3
	33nm,0.3s,baz=191,slow=3.2,SNR=15								
KRVT				S		S	S	07 18 31.9	+1.6
	baz=231,slow=14,SNR=1.4								
PMG	**Port Moresby**	**19.91**	**276**	P		P	P	07 15 57.9	+0.7
PMG				pmax		pmax			
	comp=Z,221nm,1.1s								
PMG	**Port Moresby**	**19.91**	**276**	P		P	P	07 15 57.3	+0.1
	comp=Z,8.2nm,0.3s,baz=101,slow=10,SNR=32								
PMG	**Port Moresby**	**19.91**	**276**	P		P	P	07 15 57.9	+0.7
AFI	**Afiamalu**	**20.52**	**97**	P		P	P	07 16 04.3	+0.5
	comp=Z,81nm,0.9s,baz=56,slow=7.0,SNR=6.4								
AFI	**Afiamalu**	**20.52**	**97**	P		P	P	07 16 04.1	+0.3
AFI				IAmb		IAmb	IAmb	07 16 05.7	
	comp=Z,103nm,1.0s								
KWAJ	**Kwajalein Atol**	**20.99**	**1**	P		P	P	07 16 08.3	-0.2
KWAJ				pmax		pmax			
	comp=Z,317nm,0.7s								
KWAJ	**Kwajalein Atol**	**20.99**	**1**	P		P	P	07 16 08.3	-0.2
CTA	**Charters Tower**	**21.55**	**246**	P		P	P	07 16 14.5	+0.6
	comp=Z,49nm,0.7s,baz=76,slow=13,SNR=80								
KNTN	**Kanton**	**22.91**	**67**	P		P	P	07 16 25.9	-0.5
KNTN				IAmb		IAmb	IAmb	07 16 29.6	
	comp=Z,93nm,1.1s								
OUZ	**Omahuta**	**23.52**	**167**	P		P	P	07 16 34.1	+2.4
OUZ				IAmb		IAmb	IAmb	07 16 35.1	
	comp=Z,43nm,0.8s								
HIZ	**Hauiti**	**26.96**	**167**	P		P	P	07 17 05.2	+2.6
HIZ				IAmb		IAmb	IAmb	07 17 06.9	
	comp=Z,88nm,1.2s								
MXZ	**Matakaoa Point**	**27.03**	**160**	P		P	P	07 17 04.0	+0.8
MXZ				IAmb		IAmb	IAmb	07 17 10.0	
	comp=Z,46nm,0.5s								
URZ	**Urewera**	**27.30**	**163**	P		P	P	07 17 06.5	+0.9
	comp=Z,12nm,0.3s,baz=6.0,slow=3.0,SNR=20								
URZ				S		S	S	07 21 25.4	-0.9
	comp=Z,2.9nm,0.7s,baz=180,slow=2.0,SNR=4.4								
URZ	**Urewera**	**27.30**	**163**	P		P	P	07 17 06.8	+1.1
BKZ	**Black Stump Fm**	**27.98**	**165**	P		P	P	07 17 12.4	+0.7
BKZ				IAmb		IAmb	IAmb	07 17 15.1	
	comp=Z,45nm,0.6s								
BKZ						S	S	07 21 38.7	+1.6
JAY	**Jayapura**	**28.00**	**288**	P		P	P	07 17 11.8	-0.4
	comp=Z,5.4nm,0.5s,baz=164,slow=6.9,SNR=6.7								
JAY				pP		pP	P	07 17 59.0	-0.9
	comp=Z,11nm,0.8s,baz=324,slow=3.8,SNR=3.4								
JAY	**Jayapura**	**28.00**	**288**	P		P	P	07 17 11.6	-0.6
	comp=Z,9.5nm,0.9s								
QRZ	**Quartz Range**	**28.78**	**172**	P		P	P	07 17 21.4	+2.7
QRZ				IAmb		IAmb	IAmb	07 17 23.1	
	comp=Z,75nm,0.9s								
NNZ	**Nelson**	**29.29**	**170**	P		P	P	07 17 25.2	+2.0
NNZ				IAmb		IAmb	IAmb	07 17 34.4	
	comp=Z,48nm,1.0s								
BFZ	**Birch Farm**	**29.35**	**166**	P		P	P	07 17 23.4	-0.4
TUWZ	**Tuamarina**	**29.59**	**170**	P		P	P	07 17 26.3	+0.5
SNZO	**South Karori**	**29.62**	**169**	P		P	P	07 17 26.0	0.0
SNZO				IAmb		IAmb	IAmb	07 17 28.8	
	comp=Z,126nm,1.1s								
BHW	**Baring Head**	**29.74**	**168**	P		P	P	07 17 27.7	+0.5
THZ	**Tophouse**	**29.75**	**171**	P		P	P	07 17 28.3	+1.0
THZ				IAmb		IAmb	IAmb	07 17 30.4	
	comp=Z,79nm,0.7s								
MSWZ	**Moikau Station**	**29.83**	**168**	P		P	P	07 17 27.6	-0.3

BSWZ Blackbirch Sta 29.86 170 P **P** **07 17 29.4 +1.2**
CMWZ Cape Campbell 29.95 169 P **P** **07 17 29.2 +0.2**
PLWZ Palliser 29.98 168 P **P** **07 17 29.2 -0.1**
SMPI Sarmi 30.05 288 P **P** **07 17 30.4 +0.2**
comp=Z,104nm,1.2s,comp=Z,3µm
KHZ Kahutara 30.49 171 P **P** **07 17 33.8 +0.1**
KHZ IAmb IAmb 07 17 36.5
comp=Z,52nm,0.7s
STKA Stephens Creek 30.56 226 P **P** **07 17 35.3 +0.8**
comp=Z,7.6nm,0.6s,baz=51,slow=7.7,SNR=15
STKA pP **pP** **07 18 24.5 +1.1**
comp=Z,13nm,0.9s,baz=55,slow=4.2,SNR=3.5
STKA ScP **ScP** **07 23 44.9 -0.6**
comp=Z,1.7nm,0.8s,baz=203,slow=1.5,SNR=3.0
STKA Stephens Creek 30.56 226 P **P** **07 17 34.9 +0.3**
H11S2 WAKE ISLAND Hy 30.62 359 T T 07 48 31.7
baz=182,slow=76,SNR=3.9
H11S3 WAKE ISLAND Hy 30.62 359 T T 07 48 47.8
baz=182,slow=76,SNR=2.0
H11S1 WAKE ISLAND Hy 30.64 359 T T 07 48 33.1
baz=182,slow=76,SNR=4.3
LTZ Lake Taylor 30.67 173 P **P** **07 17 36.6 +1.3**
OXZ Oxford 31.18 173 P **P** **07 17 40.5 +0.8**
FOZ Fox Glacier 31.18 176 P **P** **07 17 41.0 +1.3**
FOZ IAmb IAmb 07 17 42.0
comp=Z,45nm,0.7s
RPZ Rata Peaks 31.46 175 P **P** **07 17 42.8 +0.6**
comp=Z,37nm,0.4s,baz=358,slow=5.2,SNR=29
RPZ Rata Peaks 31.46 175 P **P** **07 17 43.3 +1.0**
RPZ IAmb IAmb 07 17 48.5
comp=Z,44nm,0.7s
MQZ McQueen's Vall 31.62 172 P **P** **07 17 44.5 +0.9**
MQZ IAmb IAmb 07 17 46.3
comp=Z,68nm,1.0s
LBZ Lake Benmore 32.06 176 P **P** **07 17 48.6 +1.1**
WR0 Warramunga Arr 32.25 252 P **P** **07 17 48.3 -1.2**
WRAB Tennant Creek 32.42 252 *d* iP **P** **07 17 49.8 -1.2**
WRAB pmax pmax
comp=Z,16nm,0.7s
WRAB Tennant Creek 32.42 252 P **P** **07 17 50.0 -0.9**
WB2 Warramunga Arr 32.42 252 P **P** **07 17 49.9 -1.1**
WKZ Wanaka 32.43 178 P **P** **07 17 52.2 +1.5**
WKZ IAmb IAmb 07 18 04.2
comp=Z,57nm,0.9s
WRA Warramunga Arr 32.44 252 P **P** **07 17 50.1 -1.0**
comp=Z,13nm,0.5s,baz=84,slow=9.0,SNR=101
WRA pP **pP** **07 18 39.8 0.0**
comp=Z,5.2nm,0.7s,baz=83,slow=8.4,SNR=2.6
WRA S **S** **07 22 45.1 -1.9**
comp=Z,1.6nm,0.9s,baz=88,slow=17,SNR=3.1
WRA ScP **ScP** **07 23 51.8 -0.2**
comp=Z,4.2nm,1.0s,baz=80,slow=4.0,SNR=6.3
WRA PKiKP **PKiKP** **07 27 57.4 -1.9**
comp=Z,0.5nm,0.6s,baz=13,slow=0.6,SNR=4.7
ODZ Otahua Downs 32.74 176 P **P** **07 17 54.8 +1.5**
MLZ Mavora Lakes 32.94 179 P **P** **07 17 56.3 +1.2**
MLZ IAmb IAmb 07 17 56.9
comp=Z,51nm,1.1s
DCZ Deep Cove 33.03 180 P **P** **07 17 57.1 +1.3**
DCZ IAmb IAmb 07 17 58.3
comp=Z,38nm,0.8s
WHZ Wether Hill Ro 33.47 179 P **P** **07 17 59.9 +0.3**
WHZ IAmb IAmb 07 18 00.9
comp=Z,39nm,1.1s
AS31 Alice Springs 33.55 246 P **P** **07 17 59.8 -0.9**
ASAR Alice Springs 33.55 246 P **P** **07 17 59.7 -1.0**
comp=Z,17nm,0.7s,baz=74,slow=9.7,SNR=104
ASAR pP **pP** **07 18 49.1 -0.9**
comp=Z,24nm,0.8s,baz=75,slow=9.6,SNR=9.8
ASAR sP **sP** **07 19 17.0 -1.5**
comp=Z,12nm,0.8s,baz=78,slow=9.6,SNR=2.7
ASAR S **S** **07 23 00.3 -3.9**
comp=Z,1.3nm,0.9s,baz=75,slow=14,SNR=4.9
ASAR ScP **ScP** **07 23 55.9 0.0**
comp=Z,9.5nm,1.0s,baz=85,slow=3.4,SNR=18
RKPI Ransiki, Papua 34.46 286 P **P** **07 18 09.7 +1.1**
BBOO Buckleboo 35.06 229 P **P** **07 18 13.6 +0.1**
MTN Manton Dam 35.20 265 P **P** **07 18 15.5 +0.6**
FAKI Fak Fak 35.85 282 P **P** **07 18 19.8 -0.6**
SWI Sorong 37.43 285 P **P** **07 18 33.8 +0.1**
comp=Z,94nm,1.0s
KNRA Kununurra 37.43 260 P **P** **07 18 33.7 0.0**
NLAI Namlea 40.71 279 P **P** **07 19 01.5 +0.7**
comp=Z,69nm,0.6s,comp=Z,4µm
PPT Papeete 42.00 103 P **P** **07 19 12.3 +1.1**
comp=Z,27nm,0.8s,baz=218,slow=18,SNR=3.4
PPT2 Papeete2 42.00 103 *e*S S 07 25 03.7 -7.7
comp=Z,88nm,25.0s
SANI Sanana 42.09 281 P **P** **07 19 11.5 -0.5**
comp=Z,44nm,0.8s,comp=Z,738nm
SOEI Soe 42.20 269 P **P** **07 19 13.4 +0.4**
comp=Z,40nm,1.0s
SOEI Soe 42.20 269 P **P** **07 19 13.1 0.0**
BATI Baumata 42.73 268 P **P** **07 19 18.1 +0.9**
comp=Z,63nm,0.6s,baz=144,slow=3.9,SNR=6.9
MMRI Maumere 44.34 270 P **P** **07 19 29.4 -0.6**
JCJ Chichijima 46.10 328 P **P** **07 19 42.8 -0.7**
comp=Z,96nm,0.4s,baz=311,slow=19,SNR=4.6
BKSI Bulukumba 47.00 274 P **P** **07 19 53.2 +2.5**
comp=Z,18nm,0.6s
BNSI Bone 47.21 275 P **P** **07 19 52.8 +0.5**
comp=Z,76nm,0.8s,comp=Z,700nm
KAPI Kappang 47.42 275 *ce*P **P** **07 19 54.3 +0.3**
KAPI pmax pmax
comp=Z,38nm,1.3s
KAPI Kappang 47.42 275 P **P** **07 19 54.2 +0.2**
SPSI Sidrap Palu 47.63 276 P **P** **07 19 54.7 -0.9**
comp=Z,26nm,0.7s
OPA Opana 48.03 46 P **P** **07 19 58.9 +0.5**
OPA pmax pmax
comp=Z,273nm,0.8s
OPA Opana 48.03 46 P **P** **07 19 58.9 +0.5**
UWE Uwekahuna 48.56 50 P **P** **07 20 02.7 0.0**
UWE IAmb IAmb 07 20 03.6
comp=Z,169nm,0.9s
POHA Pohakuloa 48.59 49 P **P** **07 20 03.2 +0.2**
POHA IAmb IAmb 07 20 04.2
comp=Z,109nm,0.7s
MPSI Mapaga 48.60 281 P **P** **07 20 02.6 -0.4**
comp=Z,48nm,0.8s
HPAH Hawaii Prepara 48.64 49 P **P** **07 20 03.5 +0.3**
TWSI Taliwang, Sumb 49.56 269 P **P** **07 20 09.7 -0.5**
comp=Z,50nm,0.7s
NWAO Narrogin (SRO) 49.97 237 P **P** **07 20 12.9 -0.2**
comp=Z,14nm,0.8s,baz=93,slow=6.4,SNR=7.0
NWAO pP **pP** **07 21 05.7 +0.2**
comp=Z,13nm,0.9s,baz=48,slow=6.6,SNR=3.5
NWAO Narrogin (SRO) 49.97 237 P **P** **07 20 12.5 -0.5**
SRBI Singaraja 51.29 269 P **P** **07 20 23.6 +0.4**
JAGI Jajag, Banyuwa 52.27 269 P **P** **07 20 28.8 -1.6**
MJAR Matsushiro Arr 55.76 332 P **P** **07 20 54.4 -0.7**
comp=Z,34nm,0.7s,baz=161,slow=8.1,SNR=51
MJAR PcP **pP** **07 21 51.3 +1.5**
comp=Z,7.1nm,0.8s,baz=159,slow=3.9,SNR=5.2
MAJO Matsushiro 55.76 332 P **P** **07 20 54.4 -0.7**
MAJO pmax pmax
comp=Z,65nm,0.9s
MAJO Matsushiro 55.76 332 P **P** **07 20 54.4 -0.7**
MAJO IAmb IAmb 07 20 55.3
comp=Z,65nm,0.9s
MAT Matsushiro 55.76 332 P **P** **07 20 54.2 -0.9**
MJB9 Matsu-Tunnel 55.77 332 P **P** **07 20 54.5 -0.6**
MJB9 IAmb IAmb 07 20 55.3
comp=Z,64nm,0.9s
UGM Wanagama 55.90 269 P **P** **07 20 56.2 -0.4**
UGM IAmb IAmb 07 21 01.2
comp=Z,86nm,1.3s
KPJI Karang Pucung 57.56 269 P **P** **07 21 08.1 0.0**
ERM Erimo 58.42 339 ⇓ *e*P **P** **07 21 14.2 +0.7**
ERM pmax pmax
comp=Z,231nm,1.7s
ERM Erimo 58.42 339 P **P** **07 21 13.7 +0.2**
ERM IAmb IAmb 07 21 15.1
comp=Z,102nm,0.9s
CISI Cisompet, Garu 58.61 269 P **P** **07 21 15.1 -0.4**
CISI IAmb IAmb 07 21 20.3
comp=Z,48nm,1.1s
LEM Lembang 58.93 269 P **P** **07 21 18.0 +0.2**
comp=Z,29nm,0.6s,baz=14,slow=10,SNR=6.1
JKA Kamikawa-asahi 60.47 340 P **P** **07 21 27.8 +0.3**
ASAJ Asahikawa 60.47 340 P **P** **07 21 27.8 +0.3**
comp=Z,66nm,0.6s,baz=212,slow=6.8,SNR=43
KSRS Korea Array 61.74 325 P **P** **07 21 36.2 +0.1**
comp=Z,13nm,0.8s,baz=135,slow=7.1,SNR=25
KSRS PcP **PcP** **07 22 15.1 +0.3**
comp=Z,6.3nm,0.9s,baz=127,slow=4.2,SNR=4.9

YSS Yuzh-Sakhalins 62.94 341 ⇑ *e*P **P** **07 21 44.7 +0.9**
YSS pmax pmax
comp=Z,180nm,1.0s
YSS Yuzh-Sakhalins 62.94 341 P **P** **07 21 44.9 +1.1**
TEY Ternei 63.46 336 ⇑ *e*P P 07 21 36.9 -10
TEY pmax pmax
comp=E,10.0nm,2.0s
TEY pmax pmax
comp=N,10.0nm,1.3s
TEY pmax pmax
comp=Z,20nm,2.0s
NJ2 Nanjing 63.93 315 *e*P **P** **07 21 50.9 +0.2**
NJ2 pmax pmax
comp=Z,50nm,0.8s
VLA Vladivostok 63.94 332 *ce*P **P** **07 21 51.3 +0.9**
VLA pmax pmax
comp=Z,45nm,0.8s
USA0B Ussuriysk Arra 64.73 333 P **P** **07 21 56.8 +1.2**
USA0B pmax pmax
comp=Z,172nm,1.4s
USA0B Ussuriysk Arra 64.73 333 P **P** **07 21 56.8 +1.2**
USRK Ussuriysk Ar. 64.73 333 P **P** **07 21 56.3 +0.7**
comp=Z,32nm,0.8s,baz=134,slow=5.5,SNR=30
USRK PcP **PcP** **07 22 26.8 -0.1**
comp=Z,13nm,0.8s,baz=106,slow=3.1,SNR=5.3
SMY Shemya 65.05 5 P **P** **07 21 57.6 +0.2**
SMY pmax pmax
comp=Z,185nm,1.3s
SMY Shemya 65.05 5 P **P** **07 21 57.6 +0.2**
VNDA Vanda 65.26 181 P **P** **07 21 59.6 +1.1**
VNDA pmax pmax
comp=Z,3.0nm,0.8s
VNDA Vanda 65.26 181 P **P** **07 21 59.3 +0.8**
comp=Z,2.4nm,0.8s,baz=4.7,slow=7.8,SNR=10
VNDA Vanda 65.26 181 P **P** **07 21 59.6 +1.1**
ADK Adak 65.44 11 P **P** **07 22 00.1 +0.2**
ADK pmax pmax
comp=Z,298nm,1.4s
ADK Adak 65.44 11 P **P** **07 22 00.1 +0.2**
PET Petropavlovsk 65.49 354 *e*P **P** **07 22 01.1 +0.9**
PET pmax pmax
comp=Z,660nm,1.0s
SBA Scott Base 65.53 180 P **P** **07 22 01.9 +1.7**
SBA pmax pmax
comp=Z,28nm,1.5s
SBA Scott Base 65.53 180 P **P** **07 22 01.9 +1.7**
PEA0B Petropavlovsk- 65.67 354 P **P** **07 22 02.1 +0.7**
PEA0B pmax pmax
comp=Z,77nm,1.1s
PEA0B Petropavlovsk- 65.67 354 P **P** **07 22 02.1 +0.7**
PEA0B IAmb IAmb 07 22 03.8
comp=Z,77nm,1.1s
PETK Petropavlovsk- 65.67 354 P **P** **07 22 01.7 +0.3**
comp=Z,44nm,0.8s,baz=147,slow=8.4,SNR=34
CASY Casey 65.73 202 P **P** **07 22 02.0 +0.4**
MDJ Mudanjiang 66.15 332 P **P** **07 22 05.0 +0.3**
MDJ S **S** **07 30 37.3 +4.6**
MDJ pmax pmax
comp=Z,68nm,0.9s
MDJ Mudanjiang 66.15 332 P **P** **07 22 04.9 +0.3**
MDJ IAmb IAmb 07 22 06.4
comp=Z,61nm,1.0s
ATKA Atka Island 66.23 12 P **P** **07 22 04.7 -0.2**
WHN Wuhan 66.31 311 ⇑ P **P** **07 22 05.8 -0.1**
WHN pmax pmax
comp=Z,38nm,0.6s
DL2 Dalian 66.36 323 P **P** **07 22 06.3 +0.2**
DL2 pmax pmax
comp=Z,85nm,0.8s
CN2 Changchun 67.57 329 ⇑ *i*P **P** **07 22 13.7 +0.1**
CN2 pmax pmax
comp=Z,50nm,0.7s
NIKH Nikolski High 68.20 15 P **P** **07 22 17.4 +0.1**
GRNR Gornyy 68.33 340 ⇑ *i*P **P** **07 22 19.3 +1.1**
GRNR pmax pmax
comp=Z,70nm,1.0s
PANO Nakornpanom 68.42 294 P **P** **07 22 22.9 +3.5**
comp=Z,15nm,0.6s,comp=Z,384nm
KLR Kul'dur 68.80 336 *c* iP **P** **07 22 21.9 +0.9**
KLR pmax pmax
comp=Z,110nm,1.5s
KLR Kul'dur 68.80 336 P **P** **07 22 21.9 +0.9**
comp=Z,31nm,0.7s,baz=143,slow=3.9,SNR=63
RPSI Rantau Prapat 69.44 278 P **P** **07 22 25.4 -0.4**
PSI Prapat 69.47 278 P **P** **07 22 25.4 -0.8**
comp=Z,9.7nm,0.8s,baz=101,slow=6.0,SNR=10.0
UNV Unalaska Valle 69.61 16 P **P** **07 22 25.3 -0.5**
UNV IAmb IAmb 07 22 26.0
comp=Z,100nm,1.0s
AKUT Akutan 70.06 17 P **P** **07 22 27.7 -0.9**
GYA Guiyang 70.32 304 ⇑ *i*P **P** **07 22 31.2 +0.2**
GYA pP pwP 07 23 32.5 +1.7
GYA sP sP 07 23 55.8 +1.7
GYA PP **PP** **07 25 11.2 +0.7**
GYA S **S** **07 31 21.4 -1.5**
GYA sS sS 07 33 10.5 +7.9
GYA SS **SS** **07 35 58.1 -1.2**
GYA pmax pmax
comp=Z,20nm,0.7s
GYA pmax pmax
comp=Z,100nm,4.9s
BJT Baijiatuau 70.36 321 P **P** **07 22 31.5 +0.7**
BJT pmax pmax
comp=Z,23nm,0.8s
BJT Baijiatuau 70.36 321 P **P** **07 22 31.5 +0.7**
BJT IAmb IAmb 07 22 31.6
comp=Z,23nm,0.8s
TIY Taiyuan 71.47 317 *e*P **P** **07 22 37.7 +0.1**
SPIA Saint Paul Isl 71.71 13 P **P** **07 22 35.4 -3.1**
XAN Xi'an 72.04 312 P **P** **07 22 41.4 +0.3**
XAN pmax pmax
comp=Z,34nm,0.8s
XAN Xi'an 72.04 312 P **P** **07 22 41.0 -0.1**
XAN pmax pmax
comp=Z,28nm,0.8s
XAN Xi'an 72.04 312 P **P** **07 22 41.0 -0.1**
XAN IAmb IAmb 07 22 42.2
comp=Z,28nm,0.8s
UTHA Uthaitani 72.55 291 P **P** **07 22 45.2 +0.8**
SDPT Sand Point 72.68 19 P **P** **07 22 43.2 -1.0**
SDPT IAmb IAmb 07 23 02.4
comp=Z,81nm,0.9s
PHRA Phrae 72.80 294 P **P** **07 22 46.7 +0.9**
MA2 Magadan 72.87 351 ⇓ *e*P **P** **07 22 46.5 +1.2**
MA2 pmax pmax
comp=Z,22nm,0.7s
MA2 Magadan 72.87 351 P **P** **07 22 46.4 +1.1**
MA2 IAmb IAmb 07 22 48.0
comp=Z,24nm,0.8s
KMI Kunming 73.01 301 P **P** **07 22 48.5 +1.3**
KMI pmax pmax
comp=Z,39nm,1.2s
LAMP Lampang 73.34 294 P **P** **07 22 50.3 +1.3**
PAYA Payao 73.41 295 P **P** **07 22 50.1 +0.7**
HHC Hu-ho-hao-te 73.73 319 P **P** **07 22 51.8 +0.9**
HHC pmax pmax
comp=Z,8.0nm,1.0s
CMAR Chiang Mai Arr 73.94 293 *i* P **P** **07 22 53.5 +1.1**
CMAR pmax pmax
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 73.94 293 P **P** **07 22 53.5 +1.1**
comp=Z,13nm,0.8s,baz=121,slow=4.3,SNR=56
CMMT Chiang Mai 74.05 294 P **P** **07 22 53.8 +0.7**
ZEA Zeya 74.07 337 *e*P **P** **07 22 52.7 +0.3**
ZEA pmax pmax
comp=N,41nm,1.0s
ZEA pmax pmax
comp=Z,41nm,1.0s
HIA Hailar 74.19 330 P **P** **07 22 53.4 +0.1**
HIA pmax pmax
comp=Z,34nm,0.9s
HIA Hailar 74.19 330 P **P** **07 22 53.4 +0.1**
HIA IAmb IAmb 07 22 54.4
comp=Z,34nm,0.9s
CD2 Chengdu 74.52 307 P **P** **07 22 55.9 +0.3**
CD2 pmax pmax
comp=Z,50nm,1.0s
BTO Baotou 74.59 318 *e*P **P** **07 22 56.7 +0.8**
MHMT Maesarieng 74.76 293 P **P** **07 22 58.5 +1.4**
SEY Seymchan 75.90 353 *c i*P **P** **07 23 02.9 +0.3**
OHAK Old Harbor 76.57 21 P **P** **07 23 06.8 +0.3**
LZH Lanzhou 76.68 312 ⇑ P **P** **07 23 09.2 +1.4**
LZH pP pP 07 24 08.4 +2.1
LZH sP sP 07 24 33.9 +1.2
LZH PP **PP** **07 26 07.1 +2.9**
LZH pmax pmax
comp=Z,21nm,1.3s
KDAK Kodiak Island 77.24 21 P **P** **07 23 10.7 +0.5**
KDAK pmax pmax
comp=Z,135nm,1.3s
KDAK Kodiak Island 77.24 21 P **P** **07 23 10.2 0.0**
comp=Z,76nm,0.9s,baz=230,slow=4.2,SNR=24
KDAK Kodiak Island 77.24 21 P **P** **07 23 10.7 +0.5**
GAMB Gambell 77.57 9 P **P** **07 23 12.1 +0.2**
QSPA South Pole Qui 77.69 180 P **P** **07 23 13.6 +0.7**
comp=Z,14nm,0.8s,baz=331,slow=0.9,SNR=65
QSPA South Pole Qui 77.69 180 P **P** **07 23 13.7 +0.7**
SVW2 Sparrevohn 78.88 17 P **P** **07 23 19.5 +0.3**
SVW2 IAmb IAmb 07 23 22.4
comp=Z,29nm,1.0s
YAK Yakutsk 79.72 343 *e*P **P** **07 23 23.2 -0.5**
YAK *e* 07 23 30.5
YAK *e* 07 24 26.2
YAK *e*S **S** **07 33 03.3 -1.4**
YAK *e* 07 33 23.8
YAK *e*SS **SS** **07 38 17.3 -2.5**
YAK pmax pmax
comp=Z,111nm,1.1s
YAK pmax pmax
comp=E,22nm,1.1s
YAK pmax pmax
comp=N,42nm,1.2s
YAK pmax pmax
comp=Z,200nm,4.0s
YAK pmax pmax
comp=N,194nm,3.3s
YAK pmax pmax
comp=E,123nm,3.8s
YAK smax smax
comp=N,276nm,3.3s
YAK smax smax
comp=E,128nm,3.3s
YAK Yakutsk 79.72 343 P **P** **07 23 23.0 -0.7**
SEW Seward 80.06 20 P **P** **07 23 25.4 -0.1**
SEW IAmb IAmb 07 23 26.5
comp=Z,60nm,0.9s
BILL Bilibino 80.15 360 *c* iP **P** **07 23 26.0 +0.2**
BILL *e* 07 24 32.1
BILL *e*S **S** **07 33 05.7 -3.2**
BILL *e*SS **SS** **07 38 25.3 -0.6**
BILL pmax pmax
comp=Z,158nm,0.9s
BILL MLR MLR
comp=Z,104nm,23.0s
BILL Bilibino 80.15 360 P **P** **07 23 26.1 +0.3**
ULN Ulaanbaatar 80.17 324 P **P** **07 23 27.1 +0.5**
ULN pmax pmax
comp=Z,62nm,1.2s
ULN Ulaanbaatar 80.17 324 P **P** **07 23 27.1 +0.5**
ULN IAmb IAmb 07 23 28.1
comp=Z,62nm,1.2s
TTA Tatalina 80.23 16 P **P** **07 23 26.7 +0.2**
TTA Tatalina 80.23 16 P **P** **07 23 26.7 +0.2**
SONM Songino Array 80.54 323 P **P** **07 23 28.7 +0.1**
comp=Z,15nm,0.9s,baz=144,slow=4.5,SNR=41
MID Middleton Isla 80.68 22 P **P** **07 23 29.3 +0.5**
MID pmax pmax
comp=Z,263nm,0.9s
MID Middleton Isla 80.68 22 P **P** **07 23 29.3 +0.5**
GTA Gaotai 80.97 314 ⇑ P **P** **07 23 31.7 +0.6**
GTA pP pP 07 24 32.0 +1.8
GTA sP sP 07 24 58.3 +1.8
GTA SKS **S** **07 33 23.6 +4.6**
GTA sS sS 07 35 05.6 +3.4
GTA pmax pmax
comp=Z,21nm,1.1s
GTA pmax pmax
comp=Z,71nm,6.7s
GTA LR LR
comp=Z,140nm,19.0s
GTA LR LR
comp=Z,190nm,21.9s
GTA LR LR
comp=Z,180nm,21.6s
PMR Palmer 81.26 20 P **P** **07 23 31.7 -0.1**
PMR pmax pmax
comp=Z,114nm,1.0s
PMR Palmer 81.26 20 P **P** **07 23 31.7 -0.1**
PPLA Purkeypile 81.29 18 P **P** **07 23 31.4 -0.7**
PPLA IAmb IAmb 07 23 34.2
comp=Z,25nm,0.7s
EYAK Cordova Ski Ar 81.67 21 P **P** **07 23 34.1 +0.1**
MCCM Marconi Confer 82.28 48 P **P** **07 23 38.5 +0.8**
MCCM IAmb IAmb 07 23 39.1
comp=Z,65nm,0.8s
BOD Bodaibo 82.29 334 *e*P **P** **07 23 37.1 -0.2**
BOD pmax pmax
comp=Z,41nm,1.7s
HOPS Hopland Field 82.46 48 P **P** **07 23 39.2 +0.6**
JCC Jacoby Creek, 82.49 46 P **P** **07 23 39.5 +0.8**
SAO San Andreas Ge 82.83 50 P **P** **07 23 40.0 -0.6**
SAO pmax pmax
comp=Z,34nm,1.0s
SAO San Andreas Ge 82.83 50 P **P** **07 23 40.0 -0.6**
SAO IAmb IAmb 07 23 42.4
comp=Z,34nm,0.9s
YAH Yahtse 83.02 23 P **P** **07 23 41.7 +0.3**
SNCC San Nicolas Is 83.09 54 P **P** **07 23 43.0 +0.9**
baz=250
O02D Mt. Diablo Mer 83.11 46 P **P** **07 23 43.3 +1.2**
baz=248,SNR=70
MOBC Moresby Island 83.23 32 P **P** **07 23 41.6 -0.7**
SCZ2 Santa Cruz Isl 83.26 53 P **P** **07 23 43.4 +0.5**
baz=250
L02E Cave Junction 83.31 44 P **P** **07 23 43.9 +1.0**
baz=247,SNR=12
SBC Santa Barbara 83.35 53 P **P** **07 23 43.8 +0.6**
baz=250
PKM Mcpherson Peak 83.42 52 P **P** **07 23 44.7 +0.8**
baz=250,SNR=9.8
WDC Whiskeytown Da 83.44 46 P **P** **07 23 44.3 +0.7**
WDC pmax pmax
comp=Z,84nm,1.3s
WDC Whiskeytown Da 83.44 46 P **P** **07 23 44.3 +0.7**
WDC IAmb IAmb 07 23 45.6
comp=Z,84nm,1.2s
PAX Paxson 83.44 20 P **P** **07 23 43.0 -0.3**
PAX pmax pmax
comp=Z,93nm,1.4s
PAX Paxson 83.44 20 P **P** **07 23 43.0 -0.3**
PAX IAmb IAmb 07 23 44.1
comp=Z,93nm,1.4s
N02D Trinity Center 83.47 46 P **P** **07 23 45.1 +1.2**
baz=248,SNR=40
K02D Willamette Mer 83.48 44 P **P** **07 23 44.7 +0.8**
baz=247,SNR=34
J01E Myrtle Point 83.48 43 P **P** **07 23 44.6 +0.8**
baz=246,SNR=18
M02C Callahan 83.53 45 P **P** **07 23 45.4 +1.3**
baz=247,SNR=59
ZAK Zakamensk 83.57 325 *e*P P 07 23 40.2 -4.0
ZAK pmax pmax
comp=Z,32nm,1.1s
DHAK Deception Hill 83.63 25 P **P** **07 23 44.5 +0.3**
YBH Yreka Blue Hor 83.76 45 P **P** **07 23 46.3 +0.9**
comp=Z,72nm,0.9s,baz=203,slow=1.3,SNR=165
YBH Yreka Blue Hor 83.76 45 P **P** **07 23 46.2 +0.9**
SCI2 San Clemente I 83.78 54 P **P** **07 23 45.9 +0.3**
baz=251
ORV Oroville 83.80 47 P **P** **07 23 45.6 +0.1**
ORV pmax pmax
comp=Z,60nm,1.1s
ORV Oroville 83.80 47 P **P** **07 23 45.6 +0.1**
ORV IAmb IAmb 07 23 47.0
comp=Z,60nm,1.1s
O03E Paynes Creek 83.86 47 P **P** **07 23 46.2 +0.4**
baz=248,SNR=59
I02D Swisshome 83.92 43 P **P** **07 23 47.1 +1.2**
baz=246,SNR=8.9
HUMO Hull Mountain 83.92 44 P **P** **07 23 47.0 +0.9**
TLY Talaya 83.98 326 *c i*P **P** **07 23 45.7 -0.4**
TLY pmax pmax
comp=Z,48nm,0.9s
TLY Talaya 83.98 326 P **P** **07 23 46.3 +0.2**
comp=Z,30nm,0.7s,baz=200,slow=4.6,SNR=17
TLY Talaya 83.98 326 P **P** **07 23 46.0 -0.1**
TLY IAmb IAmb 07 23 47.1
comp=Z,41nm,0.8s
HDA Harding Lake 83.99 18 P **P** **07 23 45.8 0.0**

baz=225,SNR=377
MENT Mentasta 84.01 20 P **P 07 23 46.3 +0.3**
CIS Catalina Islan 84.02 54 P **P 07 23 46.9 +0.1**
baz=251
TCOL CIGO, UAF Yank 84.05 18 P **P 07 23 45.6 -0.4**
baz=224,SNR=36
COLA College 84.05 18 P **P 07 23 45.6 -0.5**
COLA pmax pmax
comp=Z,292nm,0.9s
COLA College 84.05 18 P **P 07 23 45.6 -0.5**
CMB Columbia Colle 84.07 49 P **P 07 23 47.3 +0.4**
CMB pmax pmax
comp=Z,38nm,1.0s
CMB Columbia Colle 84.07 49 P **P 07 23 47.3 +0.4**
CMB IAmb IAmb 07 23 48.3
comp=Z,38nm,0.9s
I03D Drain, OR 84.08 43 P **P 07 23 47.6 +0.8**
baz=247,SNR=25
MAW Mawson 84.09 202 P **P 07 23 47.2 +0.8**
comp=Z,19nm,0.9s,baz=97,slow=6.3,SNR=14
MAW Mawson 84.09 202 P **P 07 23 47.2 +0.8**
OSI Osito Audit: C 84.17 53 P **P 07 23 47.9 +0.3**
baz=251
FMP Fort Macarthur 84.22 54 P **P 07 23 48.1 +0.5**
baz=251
L04D Klamath Falls 84.22 45 P **P 07 23 48.3 +0.6**
baz=248,SNR=42
VOG Valley Oaks Go 84.23 51 P **P 07 23 48.0 +0.3**
baz=250
ARVC Arvin 84.26 52 P **P 07 23 48.3 +0.4**
baz=251,SNR=7.1
ILAR Eielson Array 84.26 18 P **P 07 23 47.0 -0.3**
comp=Z,190nm,0.6s,baz=252,slow=5.3,SNR=1630
ILAR PKiKP **PKiKP 07 28 58.9 -1.0**
comp=Z,0.6nm,0.5s,baz=289,slow=3.6,SNR=5.8
VES Vestal, Richgr 84.30 52 P **P 07 23 48.0 0.0**
baz=250,SNR=11
POKR Poker Plat Res 84.35 18 P **P 07 23 46.9 -0.7**
baz=224,SNR=94
DECC Green Verdugo 84.36 53 P **P 07 23 48.4 -0.1**
baz=251
DOT Dot Lake 84.38 20 P **P 07 23 47.7 -0.1**
M04C Macdoel 84.38 45 P **P 07 23 49.2 +0.7**
baz=248,SNR=44
COR Corvallis 84.46 42 P **P 07 23 49.8 +1.2**
COR pmax pmax
comp=Z,124nm,1.3s
COR Corvallis 84.46 42 P **P 07 23 49.8 +1.2**
ISA Isabella, Lake 84.71 52 P **P 07 23 50.7 +0.5**
baz=251,SNR=22
G03D McMinnville, O 84.73 42 P **P 07 23 50.9 +0.9**
baz=247,SNR=16
WRAK Wrangell Islan 84.74 29 P **P 07 23 50.0 +0.2**
J04D Umpqua Nationa 84.74 44 P **P 07 23 51.1 +0.8**
baz=248,SNR=52
I04A Tendick Farm, 84.75 43 P **P 07 23 50.5 +0.3**
baz=248,SNR=32
K04D Chiloquin, OR 84.75 45 P **P 07 23 51.0 +0.7**
baz=248,SNR=7.7
BESE Bessie Mountai 84.76 26 P **P 07 23 50.5 +0.6**
BESE IAmb IAmb 07 23 52.2
comp=Z,63nm,1.0s
H04D Lebanon 84.81 42 P **P 07 23 51.2 +0.8**
baz=247,SNR=26
BBB Bella Bella 84.81 34 P **P 07 23 50.5 +0.3**
comp=Z,52nm,0.9s,baz=298,slow=5.1,SNR=9.9
EDW2 Edwards Air Fo 84.83 53 P **P 07 23 51.4 +0.6**
baz=251,SNR=40
BFSC Mount Baldy Ra 84.89 54 P **P 07 23 51.4 +0.2**
baz=251,SNR=18
109C Camp Elliot, M 84.90 55 P **P 07 23 51.5 +0.4**
baz=252,SNR=6.4
MURC Murrieta 85.05 54 P **P 07 23 52.2 +0.2**
baz=252,SNR=7.9
SKAG Skagway 85.05 26 P **P 07 23 51.4 +0.2**
SKAG IAmb IAmb 07 23 52.9
comp=Z,68nm,1.2s
MLAC Mammoth, Mammo 85.08 50 P **P 07 23 53.0 +0.8**
baz=250,SNR=12
COLD Coldfoot 85.13 15 P **P 07 23 52.6 +1.1**
COLD IAmb IAmb 07 23 53.7
comp=Z,39nm,1.0s
NLWA Neilton Lookou 85.22 40 P **P 07 23 53.3 +0.9**
NLWA IAmb IAmb 07 23 54.5
comp=Z,68nm,1.1s
F04D Rainier, OR 85.24 41 P **P 07 23 53.4 +1.0**
baz=247
CWC Cottonwood Cre 85.27 51 P **P 07 23 53.5 +0.5**
baz=251
J05D Fort Rock, OR 85.35 44 P **P 07 23 54.3 +1.0**
baz=248,SNR=100
TIN Tinemaha, Big 85.35 51 P **P 07 23 54.1 +0.7**
baz=251
MONP2 Monument Peak 85.45 55 P **P 07 23 54.9 +0.7**
baz=252,SNR=16
BBRC Big Bear Solar 85.47 54 P **P 07 23 54.5 +0.3**
baz=252
MOD Modoc Plateau 85.49 46 P **P 07 23 54.6 +0.5**
DAC Darwin (Calif) 85.58 52 P **P 07 23 55.8 +1.1**
DAC pmax pmax
comp=Z,26nm,1.0s
DAC Darwin (Calif) 85.58 52 P **P 07 23 55.8 +1.1**
DAC IAmb IAmb 07 23 58.8
comp=Z,26nm,1.0s
MPMC Manual Prospec 85.60 52 P **P 07 23 55.3 +0.5**
baz=251,SNR=33
RRX Edison Barstow 85.61 53 P **P 07 23 55.1 +0.5**
baz=252
IKP In-Ko-Pah, Jac 85.63 55 P **P 07 23 55.7 +0.8**
baz=252,SNR=11
PFO Pinyon Flats O 85.64 54 P **P 07 23 55.3 +0.3**
baz=252,SNR=14
PFO Pinyon Flats O 85.64 54 *i* P **P 07 23 55.5 +0.6**
PFO Pinyon Flats O 85.64 54 P **P 07 23 55.4 +0.5**
XPFO Pion Flat 85.64 54 P **P 07 23 55.4 +0.4**
I05D Terrebonne, OR 85.67 43 P **P 07 23 55.3 +0.6**
baz=248,SNR=33
E04D Cinebar 85.71 41 P **P 07 23 55.7 +1.0**
baz=247,SNR=21
NVAR Mina Array Bea 85.75 49 P **P 07 23 56.0 +0.5**
comp=Z,22nm,0.8s,baz=234,slow=8.3,SNR=149
D03D Eldon 85.76 40 P **P 07 23 56.0 +1.0**
baz=247,SNR=48
D04E Lakebay 85.82 40 P **P 07 23 56.6 +1.3**
baz=247,SNR=12
NV11 Mina Array Sit 85.86 49 P **P 07 23 56.2 +0.3**
NV11 IAmb IAmb 07 23 57.6
comp=Z,62nm,1.1s
GSC Goldstone, Bar 85.89 53 P **P 07 23 56.5 +0.5**
baz=252,SNR=15
SWSC Sam W. Stewart 85.97 55 P **P 07 23 57.1 +0.7**
baz=253,SNR=15
GRAC Grapevine Rang 85.99 51 P **P 07 23 57.1 +0.6**
baz=251
G05D Wamic, OR 86.02 42 P **P 07 23 57.0 +0.6**
baz=248,SNR=17
EGAK Eagle 86.08 20 P **P 07 23 56.0 -0.2**
HEC Hector,Ludlow 86.11 53 P **P 07 23 57.5 +0.4**
baz=252,SNR=25
BELC Belle Mtn. Jos 86.12 54 P **P 07 23 57.9 +0.6**
baz=252,SNR=31
F05D White Salmon 86.16 42 P **P 07 23 57.7 +0.6**
baz=248,SNR=22
FURC Furnace Creek, 86.20 52 P **P 07 23 58.1 +0.7**
baz=252,SNR=44
BC3 Big Chuckawall 86.45 55 P **P 07 23 59.6 +0.7**
baz=253,SNR=14
A04D Lummi Island 86.46 39 P **P 07 23 59.4 +1.0**
baz=247,SNR=22
TAPN Taplejung 86.48 299⇑ *iP* **P 07 23 59.2 -0.2**
comp=Z,84nm,1.3s
SHOC Shoshone, Teco 86.48 52 P **P 07 23 59.3 +0.5**
baz=252,SNR=16
TUQ Turquoise Moun 86.61 53 P **P 07 24 00.1 +0.5**
baz=252,SNR=14
ODAN Odare 86.62 298⇑ *iP* **P 07 23 59.9 -0.1**
comp=Z,98nm,0.9s
GMRC Granite Mounta 86.62 53 P **P 07 24 00.2 +0.5**
baz=253,SNR=23
B05A Bryant 86.66 39 P **P 07 24 00.1 +0.7**
baz=248,SNR=40
GLA Glamis 86.78 55 P **P 07 24 01.5 +1.1**
baz=253,SNR=12
TPNV Topopah Spring 86.82 51 P **P 07 24 01.2 +0.6**
TPNV pmax pmax
comp=Z,22nm,0.8s
TPNV Topopah Spring 86.82 51 P **P 07 24 01.2 +0.6**
TPNV IAmb IAmb 07 24 01.8
comp=Z,22nm,0.8s
WVOR Wild Horse Val 86.84 45 P **P 07 24 01.2 +0.6**
WVOR pmax pmax
comp=Z,82nm,1.3s
WVOR Wild Horse Val 86.84 45 P **P 07 24 01.1 +0.6**
WVOR IAmb IAmb 07 24 02.5
comp=Z,82nm,1.2s
DLBC Dease Lake 86.85 28 P **P 07 24 00.6 +0.5**
comp=Z,47nm,1.1s,baz=230,slow=5.4,SNR=6.9
IRM Iron Mountain 86.85 54 P **P 07 24 01.5 +0.8**
baz=253,SNR=33
Y12C Blythe 87.22 55 P **P 07 24 03.3 +0.9**
baz=253,SNR=11
RAMN Ramite 87.33 298⇑ *iP* **P 07 24 02.9 -0.5**
comp=Z,21nm,0.5s
NEE2 Needles Airpor 87.44 54 P **P 07 24 04.2 +0.8**
baz=253
HAWA Hanford 87.60 42 P **P 07 24 04.7 +0.8**
TIXI Tiksi 87.61 349⇑ *cP* **P 07 24 02.9 -0.5**
TIXI pmax pmax
comp=Z,43nm,1.3s
TIXI Tiksi 87.61 349 P **P 07 24 02.9 -0.5**
TIXI IAmb IAmb 07 24 05.7
comp=Z,18nm,0.9s
R11A Troy Canyon, C 87.75 50 P **P 07 24 05.4 +0.4**
baz=252,SNR=41
JIRN Jiri 87.86 299⇑ *iP* **P 07 24 05.9 -0.2**
214A Organ Pipe Nat 88.11 57 P **P 07 24 07.9 +1.2**
baz=254
PALK Pallekele 88.15 278 *i* P **P 07 24 09.3 +2.0**
GUN Gumba 88.19 299⇑ *iP* **P 07 24 07.3 -0.3**
comp=Z,55nm,0.9s
PKI Pulchoki 88.51 298⇑ *iP* **P 07 24 08.6 -0.5**
EPYK Eagle Plains 88.52 20 P **P 07 24 07.2 -0.6**
baz=234
PKIN Phulchoki 88.52 298⇑ *iP* **P 07 24 08.4 -0.6**
comp=Z,56nm,1.0s
BMO Blue Mountains 88.55 44 P **P 07 24 09.0 +0.4**
BMO pmax pmax
comp=Z,88nm,1.4s
BMO Blue Mountains 88.55 44 P **P 07 24 09.0 +0.4**
BMO IAmb IAmb 07 24 10.1
comp=Z,88nm,1.4s
KKN Kakani 88.67 299⇑ *iP* **P 07 24 09.3 -0.4**
comp=Z,56nm,0.8s
ELK Elko 88.72 48 P **P 07 24 10.4 +0.7**
ELK pmax pmax
comp=Z,59nm,1.1s
ELK Elko 88.72 48 P **P 07 24 10.4 +0.7**
ELK IAmb IAmb 07 24 11.4
comp=Z,59nm,1.1s
DMN Daman 88.78 298⇑ *iP* **P 07 24 10.1 -0.1**
comp=Z,112nm,0.8s
MFID Camas Ranch 89.11 45 P **P 07 24 11.9 +0.7**
GKN Gorkha 89.28 299⇑ *iP* **P 07 24 11.5 -0.9**
NEW Newport 89.77 40 P **P 07 24 14.3 +0.2**
baz=251
NEW Newport 89.77 40 P **P 07 24 14.3 +0.2**
NEW pmax pmax
comp=Z,62nm,1.0s
NEW Newport 89.77 40 P **P 07 24 14.3 +0.2**
TUC Tucson 89.86 57 P **P 07 24 16.2 +1.2**
baz=255
TUC Tucson 89.86 57 P **P 07 24 16.2 +1.2**
TUC pmax pmax
comp=Z,29nm,1.0s
TUC Tucson 89.86 57 P **P 07 24 16.2 +1.2**
TUC IAmb IAmb 07 24 17.4
comp=Z,29nm,1.0s
KOLN Koldanda 90.11 298⇑ *iP* **P 07 24 15.2 -1.2**
DANN Dangsing 90.11 299⇑ *iP* **P 07 24 15.4 -1.1**
comp=Z,55nm,0.9s
WUAZ Wupatki 90.20 54 P **P 07 24 17.6 +1.0**
baz=255
WUAZ Wupatki 90.20 54 P **P 07 24 17.6 +1.0**
WUAZ IAmb IAmb 07 24 18.8
comp=Z,36nm,0.9s
DUG Dugway, Tooele 90.34 49 P **P 07 24 17.7 +0.6**
baz=254
DUG Dugway, Tooele 90.34 49 P **P 07 24 17.8 +0.7**
DUG pmax pmax
comp=Z,18nm,0.9s
DUG Dugway, Tooele 90.34 49 P **P 07 24 17.8 +0.7**
DUG IAmb IAmb 07 24 19.7
comp=Z,18nm,0.9s
INK Inuvik 90.63 19 P **P 07 24 16.5 -1.0**
comp=Z,4.1nm,0.5s,baz=272,slow=5.4,SNR=17
INK PKiKP **PKiKP 07 29 09.5 -0.7**
comp=Z,1.0nm,0.5s,baz=138,slow=3.0,SNR=5.7
INK Inuvik 90.63 19 IAmb IAmb 07 24 17.5
comp=Z,14nm,1.3s
SYO Syowa Base 90.99 197‖ *eP* **P 07 24 17.6 -1.7**
SYO Syowa Base 90.99 197⇑ *ePcP* **P 07 24 20.2 +0.9**
SYO Syowa Base 90.99 197⇑ *epP* pP 07 25 24.8 +5.4
WMQ Urumqi 91.01 315 *eP* **P 07 24 20.5 +0.5**
WMQ sP sP 07 25 48.9 +2.7
WMQ pmax pmax
comp=Z,27nm,1.1s
WMQ pmax pmax
comp=Z,100nm,4.5s
WMQ LR LR
comp=Z,150nm,29.3s
WMQ LR LR
comp=Z,580nm,28.9s
WMQ LR LR
comp=Z,140nm,29.0s
MSO Missoula 91.39 42 P **P 07 24 21.4 -0.4**
baz=254
MSO Missoula 91.39 42 P **P 07 24 21.3 -0.4**
MSO IAmb IAmb 07 24 22.6
comp=Z,12nm,0.7s
W18A Petrified Fore 91.40 54 P **P 07 24 23.0 +0.8**
baz=256,SNR=8.8
HWUT Hardware Ranch 91.62 48 P **P 07 24 23.2 +0.1**
DLMT Dillon 91.89 44 P **P 07 24 24.7 +0.6**
DLMT IAmb IAmb 07 24 25.9
comp=Z,40nm,0.9s
121A Cookes Peak, D 92.38 57 P **P 07 24 27.6 +0.9**
baz=257,SNR=15
REDW Red Top Meadow 92.58 46 P **P 07 24 27.8 +0.4**
BOZ Bozeman (W) 92.60 44 P **P 07 24 28.0 +0.6**
baz=255
MOOW Moose Ponds 92.75 46 P **P 07 24 28.4 +0.2**
MVCO Mesa Verde 92.86 53 P **P 07 24 29.2 +0.3**
baz=257
MVCO Mesa Verde 92.86 53 P **P 07 24 29.5 +0.6**
FLWY Flagg Ranch 92.86 46 P **P 07 24 29.4 +0.6**
FLWY IAmb IAmb 07 24 30.7
comp=Z,15nm,1.1s
H17A Grant Village 93.03 45 P **P 07 24 29.7 +0.2**
baz=256
BW06 Boulder Array 93.36 47 P **P 07 24 30.5 -0.6**
baz=256
BW06 Boulder Array 93.36 47 P **P 07 24 30.9 -0.1**
PD31 Pinedale Array 93.36 47 P **P 07 24 30.9 -0.1**
PDAR Pinedale Array 93.36 47 P **P 07 24 30.6 -0.5**
comp=Z,3.4nm,0.7s,baz=191,slow=2.7,SNR=26
PDAR PKKPbc **PKKPdf 07 41 36.5 -0.5**
comp=Z,0.5nm,0.7s,baz=91,slow=5.9,SNR=3.9
O20A White River Ci 93.72 50 P **P 07 24 33.1 +0.4**
baz=257
ANMO Albuquerque 93.98 55 P **P 07 24 34.2 +0.1**
baz=258
ANMO Albuquerque 93.98 55 P **P 07 24 34.2 +0.1**
ANMO pmax pmax
comp=Z,7.0nm,0.8s
ANMO Albuquerque 93.98 55 P **P 07 24 34.0 0.0**
comp=Z,6.9nm,0.8s,baz=246,slow=4.1,SNR=23
ANMO Albuquerque 93.98 55 P **P 07 24 34.2 +0.1**
PMSA Palmer Station 94.04 160 P **P 07 24 34.3 +0.9**
comp=Z,10nm,0.7s,baz=257,slow=3.9,SNR=10
PMSA Palmer Station 94.04 160 P **P 07 24 34.7 +1.2**
PMSA IAmb IAmb 07 24 35.3
comp=Z,13nm,0.7s
RLMT Red Lodge 94.11 45 P **P 07 24 34.9 +0.5**
baz=257
RLMT Red Lodge 94.11 45 P **P 07 24 35.3 +0.9**
C36M Paulatuk 94.15 19 P **P 07 24 32.5 -1.2**
baz=246
MNTX Cornudas Mount 94.19 59 P **P 07 24 35.0 +0.1**
baz=258
MNTX Cornudas Mount 94.19 59 P **P 07 24 35.0 +0.1**
S22A 4UR Ranch, Cre 94.28 52 P **P 07 24 36.3 +0.8**
baz=258
EGMT Eagleton 94.44 42 P **P 07 24 36.4 +0.7**
baz=257
EGMT Eagleton 94.44 42 P **P 07 24 36.2 +0.5**
EGMT IAmb IAmb 07 24 37.9
comp=Z,33nm,1.1s
SMCO Snowmass 94.47 51 P **P 07 24 36.8 +0.3**
SMCO IAmb IAmb 07 24 39.8
comp=Z,8.9nm,0.8s
TX31 Lajitas Ar. Si 95.17 61 P **P 07 24 39.8 +0.3**
TX32 Lajitas Array 95.17 61 P **P 07 24 39.9 +0.3**
TX32 IAmb IAmb 07 24 40.8
comp=Z,7.8nm,0.8s
TXAR Lajitas Array 95.17 61 P **P 07 24 39.8 +0.2**
comp=Z,7.2nm,0.8s,baz=226,slow=5.4,SNR=84
SDCO Great Sand Dun 95.31 53 P **P 07 24 40.0 -0.2**
baz=259
ZALV Zalesovo Beam 95.43 324 P **P 07 24 39.0 -1.0**
ZALV Zalesovo Beam 95.43 324 P **P 07 24 39.0 -1.0**
comp=Z,6.0nm,0.8s,baz=114,slow=4.0,SNR=17
ZALV PKKPbc **PKKPdf 07 41 29.8 -3.5**
comp=Z,1.3nm,0.4s,baz=270,slow=3.4,SNR=4.1
MK31 Makanchi Array 95.43 317 P **P 07 24 40.1 -0.1**
MK31 pmax pmax
comp=Z,40nm,0.9s
MK31 Makanchi Array 95.43 317 P **P 07 24 40.1 -0.1**
MKAR Makanchi Array 95.43 317 P **P 07 24 40.1 0.0**
comp=Z,51nm,0.8s,baz=95,slow=6.4,SNR=223
MKAR PKiKP **PKiKP 07 29 18.5 -0.7**
comp=Z,0.9nm,0.5s,baz=228,slow=2.5,SNR=9.1
MKAR PKKPbc **PKKPdf 07 41 30.1 -3.1**
comp=Z,2.0nm,0.7s,baz=280,slow=3.2,SNR=8.6
YKA Yellowknife Ar 95.44 27 P **P 07 24 38.8 -1.0**
comp=Z,18nm,0.6s,baz=259,slow=4.6,SNR=329
YKA PKiKP **PKiKP 07 29 18.2 -0.5**
comp=Z,0.8nm,0.5s,baz=251,slow=1.3,SNR=18
YKA PKKPbc **PKKPdf 07 41 29.8 -3.6**
comp=Z,0.2nm,0.6s,baz=70,slow=2.6,SNR=4.6
YKW3 Yellowknife Ar 95.45 27 P **P 07 24 38.6 -1.3**
YKW3 IAmb IAmb 07 24 39.6
comp=Z,20nm,0.8s
K22A Casper 95.51 48 P **P 07 24 40.6 -0.3**
baz=258
N23A Red Feather La 95.59 50 P **P 07 24 41.9 +0.6**
baz=259
ISCO Idaho Springs 95.62 51 P **P 07 24 42.0 +0.4**
baz=259
Q24A Divide 95.81 52 P **P 07 24 42.9 +0.4**
baz=259
SNAA Sanae 95.94 183 P **P 07 24 41.2 -0.9**
SNAA Sanae 95.94 183‖ *iP* **P 07 24 41.8 -0.3**
SNAA Sanae 95.94 183 P **P 07 24 41.5 -0.6**
T25A Trinidad 96.04 53 P **P 07 24 43.2 -0.2**
baz=259
LAO LASA Array 96.51 44 P **P 07 24 46.4 +1.2**
baz=259
LAO LASA Array 96.51 44 P **P 07 24 44.8 -0.4**
LAO IAmb IAmb 07 24 48.2
comp=Z,15nm,0.9s
VNA3 Neumayer Olymp 96.61 181 P **P 07 24 44.6 -0.5**
MSTX Muleshoe 96.78 57 P **P 07 24 46.3 -0.4**
baz=260
VNA2 Neumayer--Watz 96.87 182 P **P 07 24 45.8 -0.5**
baz=178,slow=4.3
VNA1 Neumayer--Stat 97.17 182 P **P 07 24 47.3 -0.3**
RSSD Black Hills 97.57 47 Pdiff **P 07 24 49.9 -0.3**
baz=260
AMTX Amarillo 97.83 56 Pdiff **P 07 24 50.8 -0.6**
baz=260
KURK Kurchatov 98.54 320⇑ *iP* Pdif 07 24 52.7 -1.3
KURK pmax pmax
comp=Z,7.0nm,1.3s
KURK Kurchatov 98.54 320 P Pdif 07 24 52.9 -1.1
KURK Kurchatov 98.54 320 PKiKP 07 29 24.7 +0.2
KURBB Kurchatov Arra 98.58 320 P Pdif 07 24 53.1 -1.1
comp=Z,1.5nm,0.6s,baz=103,slow=3.3,SNR=16
KURBB PKiKP **PKiKP 07 29 24.7 +0.1**
comp=Z,0.7nm,0.5s,baz=122,slow=1.7,SNR=5.1
KURBB PKKPbc **PKKPbc 07 41 21.8 -2.9**
comp=Z,1.4nm,0.7s,baz=280,slow=3.2,SNR=7.1
JCT Junction City 98.68 61 Pdiff Pdif 07 24 54.4 -0.8
baz=261
JCT Junction City 98.68 61 P Pdif 07 24 54.9 -0.3
JCT pmax pmax
comp=Z,13nm,0.9s
JCT Junction City 98.68 61 P Pdif 07 24 54.9 -0.3
JCT IAmb IAmb 07 24 55.5
comp=Z,13nm,0.9s
833A Chaparral WMA, 98.68 63 Pdiff Pdif 07 24 54.9 -0.3
baz=261
ABTX Abilene, Hawle 99.14 59 Pdiff **Pdif 07 24 56.8 -0.4**
baz=261
CBKS Cedar Bluff 99.96 52 Pdiff **Pdif 07 25 01.2 +0.4**
baz=262
WMOK Wichita Mounta 100.16 57 Pdiff **Pdif 07 25 01.5 -0.2**
baz=262
AAK Ala-Archa 100.21 312‖ *eP* **Pdif 07 25 01.3 -0.6**
AAK Ala-Archa 100.21 312 PKKPbc PKKPbc 07 41 18.1 -1.8
comp=Z,1.5nm,0.5s,baz=200,slow=3.5,SNR=5.3
FFC Flin Flon 100.41 36 *i* P **Pdif 07 25 02.1 -0.2**
ULM Lac du Bonnet 103.77 41 Pdiff **Pdif 07 25 17.2 -0.1**
comp=Z,1.4nm,0.4s,baz=265,slow=5.0,SNR=4.6
ULM PKiKP **PKiKP 07 29 33.0 -1.0**
comp=Z,3.6nm,0.6s,baz=358,slow=1.9,SNR=6.3
BVAR Borovoye Array 103.83 322 Pdiff **Pdif 07 25 16.6 -0.9**
comp=Z,1.0nm,0.6s,baz=73,slow=6.8,SNR=5.1
BVAR PKiKP **PKiKP 07 29 33.9 -0.1**
comp=Z,2.3nm,0.7s,baz=54,slow=2.6,SNR=5.7
BVAR PKKPbc **PKKPbc 07 41 07.3 -2.3**
comp=Z,0.7nm,0.5s,baz=316,slow=4.1,SNR=3.7
ARU Arti 110.48 326‖ *iP* PKiKP **PKiKP 07 29 46.3 0.0**
ARU Arti 110.48 326 PKiKP **PKiKP 07 29 45.6 -0.6**
comp=Z,3.0nm,0.2s,baz=116,slow=6.2,SNR=7.1
AKTO Aktyubinsk 111.62 319 PKiKP **PKiKP 07 29 48.5 -0.1**
comp=Z,2.9nm,0.6s,baz=60,slow=5.8,SNR=12
GEYT Alibeck 112.50 306 PKiKP **PKiKP 07 29 50.8 +0.1**
comp=Z,2.7nm,0.6s,baz=246,slow=2.6,SNR=4.5
SPITS Spitsbergen Ar 112.55 354 PKiKP **PKiKP 07 29 49.4 -0.3**
comp=Z,18nm,1.0s,baz=139,slow=2.9,SNR=6.1
E48A Lockeyer 113.02 45 PKiKP **PKiKP 07 29 51.2 -0.2**
baz=262
D48A Paudash Townsh 113.18 44 PKiKP **PKiKP 07 29 50.6 -1.1**
baz=277
O51A Pataskala 113.24 52 PKiKP **PKiKP 07 29 50.5 -1.6**
baz=273
V53A Saluda 113.26 56 PKiKP **PKiKP 07 29 51.4 -0.9**
baz=271
U53A Fall Branch 113.43 56 PKiKP **PKiKP 07 29 51.7 -0.8**
baz=272
T53A Wise 113.44 55 PKiKP **PKiKP 07 29 52.1 -0.5**
baz=272
656A Willston 113.50 63 PKiKP **PKiKP 07 29 51.9 -0.9**
baz=269
Q52A Bidwell 113.56 53 PKiKP **PKiKP 07 29 51.6 -1.1**
baz=273
P52A Corning 113.63 52 PKiKP **PKiKP 07 29 51.9 -0.9**
baz=274
R53A Hurricane 113.84 53 PKiKP **PKiKP 07 29 52.4 -0.9**
baz=273
Z55A Blythe 113.86 59 PKiKP **PKiKP 07 29 52.1 -1.3**
baz=271
K51A Iona Station 113.87 49 PKiKP **PKiKP 07 29 52.6 -0.6**
baz=275
M52A Chesterland 114.08 50 PKiKP PKPdf 07 29 52.4 -1.2
baz=275
P53A Whipple 114.21 52 PKiKP PKPdf 07 29 53.8 -0.1
baz=274
X55A Gracelyn & Ava 114.25 58 PKiKP PKPdf 07 29 54.2 0.0
baz=272
O53A New Philadelph 114.29 51 PKiKP PKPdf 07 29 53.2 -0.8
baz=274
S54A Dingess, Beckl 114.38 54 PKiKP PKPdf 07 29 53.6 -0.8
baz=273
N53A Lisbon 114.53 51 PKiKP PKPdf 07 29 53.8 -0.7
baz=275
V55A Taylorsville 114.55 56 PKiKP PKPdf 07 29 54.5 -0.2
baz=272
F51A Arnstein 114.64 45 PKiKP PKPdf 07 29 54.2 -0.4
baz=278
Q54A Coxs Mills 114.68 53 PKiKP PKPdf 07 29 54.1 -0.7
baz=274
X56A White Oak 114.75 58 PKiKP PKPdf 07 29 54.5 -0.6
baz=272
T55A Pulaski 114.83 55 PKiKP PKPdf 07 29 54.9 -0.4
baz=273
P54A Burton 114.91 52 PKiKP **PKiKP 07 29 54.6 -0.7**
baz=275
O54A Avella 114.94 51 PKiKP **PKiKP 07 29 54.9 -0.5**
baz=275

N54A	Moraine State baz=276	115.16	50	PKiKP	PKiKP	07 29 55.0	-0.7
R55A	Marlinton baz=274	115.29	53	PKiKP	PKPdf	07 29 55.2	-0.9
M54A	Oil Creek Stat baz=276	115.35	50	PKiKP	PKPdf	07 29 55.2	-0.9
DAG	Danmarks Havn DAG comp=Z,8.0nm,0.8s	115.48	1	*i* PKiKP pmax	PKiKP pmax	07 29 54.0	-1.3
DAG	Danmarks Havn comp=Z,8.0nm,0.8s	115.48	1	*i* P	PKiKP	07 29 54.0	-1.3
D52A	ZEK Kipawa Sen baz=280	115.51	44	PKiKP	PKPdf	07 29 55.2	-0.9
MATQ	Matagami baz=282	115.51	41	PKiKP	PKPdf	07 29 55.0	-1.1
PRGR	Permogore PRGR comp=Z,12nm,0.6s	115.51	333	*e*PKiKP pmax	PKPdf pmax	07 29 53.3	-2.4
X57A	Johnson Farm, baz=272	115.52	58	PKiKP	PKPdf	07 29 55.1	-1.4
W57A	Gilead baz=273	115.58	57	PKiKP	PKPdf	07 29 54.7	-1.9
G53A	Haliburton baz=278	115.65	46	PKiKP	PKPdf	07 29 55.6	-0.9
O55A	Ligonier baz=276	115.75	51	PKiKP	PKPdf	07 29 55.8	-1.1
S56A	Natural Bridge baz=274	115.77	54	PKiKP	PKPdf	07 29 55.8	-1.2
ALGO	Algonquin Park baz=279	115.92	45	PKiKP	PKPdf	07 29 56.0	-1.0
D53A	Lac Vacive, Po baz=280	115.97	44	PKiKP	PKPdf	07 29 56.0	-1.1
G54A	Lake Saint Pet baz=279	115.98	45	PKiKP	PKPdf	07 29 56.5	-0.7
M55A	Ridgway baz=277	116.03	50	PKiKP	PKPdf	07 29 56.5	-0.9
LSQQ	Lebel-sur-Quev baz=282	116.07	41	PKiKP	PKPdf	07 29 55.9	-1.3
L55A	Hinsdale baz=277	116.18	49	PKiKP	PKPdf	07 29 57.0	-0.7
W58A	Raeford baz=273	116.20	57	PKiKP	PKPdf	07 29 56.8	-1.0
O56A	Blue Knob Stat baz=276	116.31	51	PKiKP	PKPdf	07 29 57.4	-0.6
K55A	Perry baz=278	116.38	48	PKiKP	PKPdf	07 29 57.1	-1.0
N56A	West Decatur baz=277	116.44	50	PKiKP	PKPdf	07 29 57.6	-0.6
M56A	Emporium baz=277	116.46	50	PKiKP	PKPdf	07 29 57.9	-0.4
Q57A	Strasburg baz=276	116.56	52	PKiKP	PKPdf	07 29 57.5	-0.9
T58A	Grand View Acr baz=275	116.64	55	PKiKP	PKPdf	07 29 57.9	-0.8
U58A	Oxford baz=274	116.67	55	PKiKP	PKPdf	07 29 57.6	-1.1
X59A	McDuffie Farm, baz=273	116.75	57	PKiKP	PKPdf	07 29 57.9	-1.0
P57A	Homestead Farm baz=276	116.82	52	PKiKP	PKPdf	07 29 57.9	-1.1
L56A	Greenwood baz=278	116.84	49	PKiKP	PKPdf	07 29 57.9	-1.0
O57A	Amberson baz=277	117.02	51	PKiKP	PKPdf	07 29 58.9	-0.5
R58B	Mineral baz=276	117.07	54	PKiKP	PKPdf	07 29 58.9	-0.5
Q58A	Fox Den Farm, baz=276	117.13	53	PKiKP	PKPdf	07 29 59.1	-0.5
J56A	Wolcott baz=279	117.18	48	PKiKP	PKPdf	07 29 59.0	-0.5
M57A	Sunshine Farm, baz=278	117.27	50	PKiKP	PKPdf	07 29 59.0	-0.7
L57A	Andrews Acres baz=278	117.38	49	PKiKP	PKPdf	07 29 59.4	-0.6
H56A	Elgin baz=280	117.39	46	PKiKP	PKPdf	07 29 59.0	-0.9
D55A	Sainte-Anne-du baz=282	117.48	43	PKiKP	PKPdf	07 29 58.8	-1.1
HAMF	Hammerfest	117.51	347	*e*PKPdf	PKPdf	07 29 58.8	-0.5
K57A	Scipio Center baz=279	117.52	48	PKiKP	PKPdf	07 29 59.1	-1.1
CHGQ	Chibougamau baz=284	117.54	40	PKiKP	PKPdf	07 29 58.5	-1.5
S59A	Mechanicsville baz=276	117.55	54	PKiKP	PKPdf	07 29 59.9	-0.5
O58A	Lewisberry baz=277	117.58	51	PKiKP	PKPdf	07 29 59.6	-0.7
N58A	Sunbury baz=278	117.64	50	PKiKP	PKPdf	07 29 59.8	-0.7
R59A	King George, V baz=276	117.65	53	PKiKP	PKPdf	07 30 00.2	-0.3
M58A	Price's Panora baz=278	117.76	50	PKiKP	PKPdf	07 30 00.1	-0.6
V60A	Jim Taylor Roa baz=275	117.76	56	PKiKP	PKPdf	07 30 00.0	-0.8
U60A	Pendleton baz=275	117.78	55	PKiKP	PKPdf	07 30 00.2	-0.7
E56A	St. Veronique baz=282	117.87	44	PKiKP	PKPdf	07 29 59.5	-1.2
SUMG	Summit	117.87	8	PKiKP	PKPdf	07 30 00.6	+0.1
SUMG	Summit comp=Z,22nm,0.6s	117.87	8	*i* P	PKPdf	07 30 00.0	-0.5
SUMG	Summit	117.87	8		PKPdf	07 30 00.6	+0.1
ARCES	ARCESS Array B comp=Z,26nm,0.6s,baz=79,slow=2.3,SNR=164 ARCES comp=Z,2.1nm,0.6s,baz=220,slow=3.5,SNR=19	117.92	346	PKP PKKPbc	PKPdf PKKPbc	07 29 59.9	-0.3 -4.2
ARE0	ARCESS Array S	117.92	346	*e*PKPdf	PKPdf	07 29 60.0	-0.2
I57A	Carthage baz=280	117.93	47	PKiKP	PKPdf	07 30 00.2	-0.8
D56A	ZEC Mazanza, M baz=282	117.95	43	PKiKP	PKPdf	07 30 00.0	-0.9
BINY	Binghamton baz=279	117.98	49	PKiKP	PKPdf	07 30 00.6	-0.6
T60A	Surry baz=276	118.06	54	PKiKP	PKPdf	07 30 00.7	-0.6
L58A	Harry Jones Me baz=279	118.11	49	PKiKP	PKPdf	07 30 01.2	-0.1
J58A	Remsen baz=280	118.30	47	PKiKP	PKPdf	07 30 01.3	-0.4
LPAZ	La Paz	118.33	116	PKiKP	PKPdf	07 30 03.0	-0.3
LPAZ	La Paz comp=Z,2.8nm,0.9s,baz=295,slow=0.9,SNR=6.0	118.33	116	PKP	PKPdf	07 30 02.9	-0.4
LPAZ	La Paz	118.33	116		PKPdf	07 30 03.0	-0.3
I58A	Old Forge baz=281	118.47	47	PKiKP	PKPdf	07 30 01.2	-0.9
E57A	Chemin Saint G baz=283	118.50	44	PKiKP	PKPdf	07 30 01.2	-0.8
M59A	Waymart baz=279	118.50	49	PKiKP	PKPdf	07 30 01.4	-0.7
D57A	Chemin Vers le baz=283	118.54	43	PKiKP	PKPdf	07 30 01.2	-0.9
Q60A	Greensboro baz=277	118.55	52	PKiKP	PKPdf	07 30 01.6	-0.6
LONY	Lake Ozonia baz=281	118.57	46	PKiKP	PKPdf	07 30 01.4	-0.7
P60A	Greenville baz=278	118.60	51	PKiKP	PKPdf	07 30 01.6	-0.7
L59A	Walton baz=280	118.68	49	PKiKP	PKPdf	07 30 01.7	-0.8
O60A	Telford baz=278	118.70	51	PKiKP	PKPdf	07 30 02.7	+0.2
K59A	Cooperstown baz=280	118.72	48	PKiKP	PKPdf	07 30 01.8	-0.7
G58A	Ormstown baz=282	118.83	45	PKiKP	PKPdf	07 30 01.7	-0.9
J59A	Piesco baz=281	118.84	47	PKiKP	PKPdf	07 30 02.0	-0.8
N60A	Cedar Hill Far baz=279	118.85	50	PKiKP	PKPdf	07 30 02.1	-0.7
KTK1	Kautokeino	118.85	346	*e*PKPdf	PKPdf	07 30 01.3	-0.7
H58A	Gabriels baz=282	118.89	46	PKiKP	PKPdf	07 30 01.9	-0.9
E58A	La Victoria baz=283	119.09	44	PKiKP	PKPdf	07 30 02.4	-0.7
M60A	Port Jervis baz=280	119.13	49	PKiKP	PKPdf	07 30 02.6	-0.7
LATQ	La Tuque baz=284	119.18	42	PKiKP	PKPdf	07 30 02.1	-1.1
D58A	Chemin du LacG baz=284	119.19	43	PKiKP	PKPdf	07 30 02.0	-1.2
TRO	Tromso	119.32	348	*e*PKPdf	PKPdf	07 30 01.9	-0.9
F59A	Saint Guilaume baz=284	119.55	44	PKiKP	PKPdf	07 30 04.1	+0.2
I60A	Shoreham baz=282	119.63	46	PKiKP	PKPdf	07 30 03.8	-0.3
J60A	Lant Hill Farm baz=282	119.66	47	PKiKP	PKPdf	07 30 04.0	-0.2
PAL	Palisades baz=280	119.72	50	PKiKP	PKPdf	07 30 03.6	-0.9
L61A	Hillsdale 1, H baz=281	119.77	48	PKiKP	PKPdf	07 30 04.0	-0.6
M61A	Granite Spring baz=280	119.77	49	PKiKP	PKPdf	07 30 04.0	-0.6
K61A	Williamstown baz=281	119.88	48	PKiKP	PKPdf	07 30 04.2	-0.6
G60A	Masonville baz=283	120.03	45	PKiKP	PKPdf	07 30 04.2	-0.8
F60A	Warwick baz=284	120.08	44	PKiKP	PKPdf	07 30 04.3	-0.8
J61A	Chester baz=282	120.26	47	PKiKP	PKPdf	07 30 04.9	-0.5
SCHQ	Schefferville comp=Z,15nm,0.7s,baz=273,slow=2.1,SNR=27	120.32	33	PKP	PKPdf	07 30 04.7	-0.5
E60A	Ste Agathe de baz=285	120.32	43	PKiKP	PKPdf	07 30 04.7	-0.7
L61B	Northampton baz=282	120.35	48	PKiKP	PKPdf	07 30 05.2	-0.4
I61A	Oroboro, Fairl baz=283	120.38	46	PKiKP	PKPdf	07 30 05.3	-0.4
LBNH	Lisbon baz=283	120.51	46	PKiKP	PKPdf	07 30 05.4	-0.5
D60A	Saint Jean D'O baz=286	120.53	43	PKiKP	PKPdf	07 30 05.1	-0.7
G61A	St-Isidore-de- baz=284	120.54	44	PKiKP	PKPdf	07 30 05.3	-0.7
K62A	Royalston baz=282	120.63	48	PKiKP	PKPdf	07 30 05.8	-0.4
F61A	St Evariste baz=285	120.73	44	PKiKP	PKPdf	07 30 05.9	-0.4
J62A	Henniker baz=283	120.81	47	PKiKP	PKPdf	07 30 05.9	-0.6
D61A	St Aubert, Com baz=285	120.93	42	PKiKP	PKPdf	07 30 06.0	-0.6
E61A	Lac Etchemin baz=286	120.95	43	PKiKP	PKPdf	07 30 06.2	-0.5
H62A	Milan baz=284	120.97	45	PKiKP	PKPdf	07 30 06.2	-0.5
I62A	Tamworth baz=284	121.01	46	PKiKP	PKPdf	07 30 06.5	-0.4
G62A	West of Eustis baz=285	121.23	44	PKiKP	PKPdf	07 30 06.7	-0.5
L63A	North Scituate baz=282	121.25	48	PKiKP	PKPdf	07 30 06.9	-0.4
J63A	Strafford baz=283	121.33	47	PKiKP	PKPdf	07 30 07.1	-0.4
F62A	Pittston Farm, baz=286	121.44	43	PKiKP	PKPdf	07 30 07.4	-0.2
VRH	Novokhopyorsk VRH comp=Z,40nm,0.7s	121.45	323	*e*PKIKP pmax	PKPdf pmax	07 30 06.5	-0.9
SCO	Scoresbysund	121.59	4	PKiKP	PKPdf	07 30 07.5	+0.3
SCO	Scoresbysund comp=Z,20nm,1.0s	121.59	4	*i* P	PKPdf	07 30 07.1	-0.1
SCO	Scoresbysund	121.59	4		PKPdf	07 30 07.5	+0.3
LOF	Lofoten	121.65	349	*e*PKPdf	PKPdf	07 30 08.1	+0.8
H63A	New Sharon baz=285	121.72	45	PKiKP	PKPdf	07 30 07.7	-0.5
L64A	Middleborough baz=283	121.80	48	PKiKP	PKPdf	07 30 08.0	-0.4
G63A	Kingsbury baz=286	121.89	44	PKiKP	PKPdf	07 30 07.8	-0.7
M65A	Busby, Falmout baz=283	122.02	49	PKiKP	PKPdf	07 30 08.0	-0.9
PKME	Peaks-Kenny Pk baz=286	122.07	44	PKiKP	PKPdf	07 30 08.5	-0.4
F63A	Nahmakanta, Br baz=286	122.07	43	PKiKP	PKPdf	07 30 08.2	-0.7
CPUP	Villa Florida comp=Z,5.1nm,0.9s,baz=308,slow=1.5,SNR=7.6	122.11	132	PKP	PKPdf	07 30 08.7	-0.9
I64A	Boothbay baz=285	122.19	46	PKiKP	PKPdf	07 30 08.7	-0.4
H64A	Troy baz=286	122.29	45	PKiKP	PKPdf	07 30 08.9	-0.4
E63A	Oxbow baz=287	122.32	43	PKiKP	PKPdf	07 30 08.4	-0.9
D63A	Stockholm baz=288	122.34	42	PKiKP	PKPdf	07 30 08.5	-0.8
L65A	Cape Cod Natio baz=283	122.35	48	PKiKP	PKPdf	07 30 08.0	-1.5
G64A	Maxfield baz=286	122.44	44	PKiKP	PKPdf	07 30 09.5	-0.1
LPSR	Galich'ya Gora LPSR comp=Z,20nm,0.8s	122.50	325	*e*PKIKP pmax	PKPdf pmax	07 30 09.2	-0.2
F64A	Sherman baz=287	122.53	43	PKiKP	PKPdf	07 30 09.2	-0.5
ZEI	Tsey ZEI comp=Z,8.0nm,0.8s	122.59	313	*i* PKIKP pmax	PKPdf pmax	07 30 10.2	0.0
OBN	Obninsk OBN OBN OBN comp=Z,15nm,0.8s	122.63	329	⇓*i* PKIKP *e* *e*PPP pmax	PKPdf PPP pmax	07 30 09.8 07 31 50.4 07 34 28.3	+0.2
E64A	Bridgewater baz=288	122.71	42	PKiKP	PKPdf	07 30 09.4	-0.6
VSR	Storozhevoye VSR comp=Z,20nm,0.7s	122.93	324	*e*PKIKP pmax	PKPdf pmax	07 30 08.8	-1.5
H65A	Eastbrook baz=286	122.94	44	PKiKP	PKPdf	07 30 10.0	-0.5
KBZ	Khabaz comp=Z,6.3nm,0.8s,baz=81,slow=4.3,SNR=6.3	123.06	314	PKP	PKPdf	07 30 11.0	+0.2
SDV	Santo Domingo	123.12	87		PKPdf	07 30 10.7	-1.3
KIV	Kislovodsk KIV comp=Z,24nm,1.0s	123.14	315	*i* PKIKP pmax	PKPdf pmax	07 30 11.7	+0.6
KONS	Konsvik	123.14	348	*e*PKPdf	PKPdf	07 30 10.1	-0.2
MOR8	Moi Rana	123.14	347	*e*PKPdf	PKPdf	07 30 09.3	-1.0
AKH	Akhalkalaki	123.22	312	⇓P	PKPdf	07 30 11.3	-0.1
NEY	Neytrino	123.31	314	*d* PKIKP	PKPdf	07 30 12.8	+1.3
FIA1	FINESS Array S	123.47	339		PKPdf	07 30 10.9	-0.1
FINES	FINESS Array B comp=Z,15nm,0.6s,baz=32,slow=2.1,SNR=50 FINES comp=Z,3.5nm,1.0s,baz=274,slow=5.4,SNR=3.9	123.47	339	PKP PKKPbc	PKPdf PKKPab	07 30 10.8 07 40 00.9	-0.2 +0.5
H66A	Whiting baz=287	123.55	44	PKiKP	PKPdf	07 30 10.7	-1.0
RAYN	Ar Rayn	123.76	290	PKIKP	PKPdf	07 30 13.2	+0.4
RAYN	Ar Rayn	123.76	290		PKPdf	07 30 13.2	+0.4
NSS	Namsos	125.09	347	*e*PKPdf	PKPdf	07 30 13.7	-0.3
BOSA	Boshof comp=Z,6.2nm,0.9s,baz=132,slow=2.4,SNR=6.8 BOSA comp=Z,2.3nm,0.6s,baz=320,slow=3.8,SNR=7.4	125.15	221	PKP PKKPbc	PKPdf PKKPbc	07 30 15.4 07 39 54.6	-0.1 -1.4
VSU	Vasula	125.21	336	*d* PKIKP	PKPdf	07 30 14.5	+0.1
SAML	Samuel	125.64	110	PKiKP	PKPdf	07 30 15.6	-1.0
SAML	Samuel	125.64	110		PKPdf	07 30 15.6	-1.0
TBLU	Trondheim	126.58	347	*e*PKPdf	PKPdf	07 30 16.7	-0.2
NACGM	Naroch	127.46	332	*e*	PKPdf	07 30 19.0	+0.1
MOL	Molde	127.75	348	*e*PKPdf	PKPdf	07 30 20.1	+0.9
DOMB	Dombas	127.91	347	*e*PKPdf	PKPdf	07 30 19.4	-0.2
NC303	NORSAR Array S	128.10	345		PKPdf	07 30 20.4	+0.4
AKN	Aaknes AKN	128.22	348	*e*Pdif *e*PKPdf	Pdif PKPdf	07 27 05.5 07 30 19.8	-0.4 -0.4
NB2	NORSAR Subarra comp=Z,14nm,0.8s,baz=31,slow=1.9	128.29	345	PKPdf	PKPdf	07 30 20.2	-0.1
NB2	NORSAR Subarra baz=31,slow=1.9	128.29	345	PKPdf	PKPdf	07 30 20.2	-0.1
NOA	NORSAR Array B comp=Z,7.5nm,0.6s,baz=31,slow=2.0,SNR=25	128.29	345	PKP	PKPdf	07 30 20.3	-0.1
NBO00	NORSAR Array S	128.41	346		PKPdf	07 30 21.4	+0.9
HFS	Hagfors comp=Z,10nm,0.6s,baz=104,slow=6.3,SNR=24	128.41	343	PKP	PKPdf	07 30 20.2	-0.4
NC602	NORSAR Array S	128.48	345	*e*PKPdf	PKPdf	07 30 20.2	-0.4
NC602	NORSAR Array S	128.48	345		PKPdf	07 30 20.6	-0.1
AKASG	Malin Array Be comp=Z,4.3nm,0.7s,baz=49,slow=2.6,SNR=15	128.71	327	PKP	PKPdf	07 30 20.6	-0.7
FOO	Foro	129.12	349	*e*PKPdf	PKPdf	07 30 21.7	-0.1
SKAR	Skarslia	129.29	347	*e*PKPdf	PKPdf	07 30 23.3	+1.0
HYA	Hoyanger	129.30	348	*e*PKPdf	PKPdf	07 30 20.2	-2.0
SUW	Suwalki	129.64	333	*e*PKIKP	PKPdf	07 30 23.7	+0.6
SUW	Suwalki SUW	129.64	333	*e*PKP *e*PKP	PKPdf PKPdf	07 30 23.6 07 30 23.6	+0.6 +0.6
KONO	Kongsberg	129.91	345	*e*PKPdf	PKPdf	07 30 24.0	+0.6
ASK	Askoy	130.13	348	*e*PKPdf	PKPdf	07 30 24.4	+0.6
BER	Bergen	130.19	348	*e*PKPdf	PKPdf	07 30 25.1	+1.2
ODD1	Odda	130.35	347	*e*PKPdf	PKPdf	07 30 24.3	0.0
ASF	Jabal al Asfar	130.44	302	PKIKP	PKPdf	07 30 26.0	+0.6
ASF	Jabal al Asfar comp=Z,4.9nm,0.7s,baz=110,slow=5.8,SNR=5.9 ASF comp=Z,4.7nm,0.8s,baz=111,slow=4.8,SNR=5.1	130.44	302	PKP SKPbc	PKPdf SKPbc	07 30 26.0 07 33 26.6	+0.6 +1.4
BLS5	Blasjo	130.84	347	*e*PKPdf	PKPdf	07 30 25.5	+0.3
BR131	Keskin Array S	130.88	312	PKIKP	PKPdf	07 30 26.0	-0.1
BR131	Keskin Array S	130.88	312		PKPdf	07 30 26.0	-0.1
BRTR	Keskin Array B comp=Z,2.3nm,0.5s,baz=135,slow=4.4,SNR=13 BRTR comp=Z,2.2nm,0.8s,baz=134,slow=5.1,SNR=5.4	130.88	312	PKP SKPbc	PKPdf SKPbc	07 30 25.9 07 33 25.5	-0.2 -1.2
LSZ	Lusaka comp=Z,1.7nm,0.5s,baz=96,slow=1.9,SNR=4.3 LSZ comp=Z,4.3nm,0.8s,baz=135,slow=3.5,SNR=5.8	131.04	237	PKP SKPbc	PKPdf SKPbc	07 30 26.9 07 33 27.6	-0.1 -0.4
KMY	Karmoy	131.29	348	*e*PKPdf	PKPdf	07 30 26.0	0.0
HOMB	Homborsund	131.39	345	*e*PKPdf	PKPdf	07 30 26.8	+0.5
MMAI	Mount Meron Ar comp=Z,3.4nm,0.5s,baz=96,slow=8.5,SNR=4.6 MMAI comp=Z,7.9nm,0.9s,baz=17,slow=0.9,SNR=4.4	131.48	303	PKP SKPbc	PKPdf SKPbc	07 30 28.3 07 33 29.6	+1.0 +0.6
SNART	Snartemo	131.64	346	*e*PKPdf	PKPdf	07 30 26.9	+0.2
BSD	Bornholm Skovb	132.12	339	*i* PKIKP	PKPdf	07 30 27.0	-0.7
BSD comp=Z,25nm,0.9s				pmax	pmax		
BSD	Bornholm Skovb comp=Z,24nm,0.9s	132.12	339	*i* P	PKPdf	07 30 27.0	-0.7
CFR	Carcaliu	132.23	321	⇓PKIKP	PKPdf	07 30 28.3	+0.1
CFR	Carcaliu	132.23	321	⇓P	PKPdf	07 30 28.3	+0.1
BIZ	Bicaz	132.50	324	⇓P	PKPdf	07 30 29.7	+1.0
EIL	Elat comp=Z,10nm,0.8s,baz=344,slow=7.9,SNR=6.8	132.57	299	PKP	PKPdf	07 30 30.0	+0.6
HARR	Harsova	132.60	321	⇓PKIKP	PKPdf	07 30 29.7	+0.8
HARR	Harsova	132.60	321	⇓P	PKPdf	07 30 29.7	+0.8
BUR08	Bucovina Ar. S	132.61	326		PKPdf	07 30 30.7	+1.7
BURAR	Bucovina Array	132.62	326	⇓PKIKP	PKPdf	07 30 29.9	+0.9
BURAR	Bucovina Array	132.62	326	⇓P	PKPdf	07 30 29.9	+0.9
KWP	Kalwaria Pacla	132.72	329	*e*PKIKP	PKPdf	07 30 29.7	+0.6
KWP	Kalwaria Pacla KWP	132.72	329	*e*PKP *e*PKP	PKPdf PKPdf	07 30 29.7 07 30 29.7	+0.6 +0.6
KWP	Kalwaria Pacla	132.72	329		PKPdf	07 30 29.7	+0.6
KOLS	Kolonicke sedl	133.39	329	*e*PKIKP	PKPdf	07 30 31.5	+1.2
KOLS	Kolonicke sedl	133.39	329	*e*PKP	PKPdf	07 30 31.5	+1.2
MLR	Muntele Rosu comp=Z,3.3nm,0.6s,baz=100,slow=4.6,SNR=6.1 MLR comp=Z,4.9nm,0.9s,baz=153,slow=11,SNR=4.0	133.39	323	PKP SKPbc	PKPdf SKPbc	07 30 31.3 07 33 36.4	+0.7 +1.2
MLR	Muntele Rosu	133.39	323	⇓P	PKPdf	07 30 29.4	-1.2
MLR	Muntele Rosu	133.39	323		PKPdf	07 30 29.6	-1.0
DOPR	Dopca	133.46	324	⇓P	PKPdf	07 30 31.4	+0.8
OJC	Ojcow	133.75	331	*e*PKIKP	PKPdf	07 30 31.5	+0.5
OJC	Ojcow OJC	133.75	331	*e*PKP *e*PKP	PKPdf PKPdf	07 30 31.5 07 30 31.5	+0.5 +0.5
TRPA	Tarpa	133.75	328	⇓P	PKPdf	07 30 31.5	+0.5
VOIR		133.95	323	⇓PKIKP	PKPdf	07 30 31.5	-0.1
VOIR		133.95	323	⇓P	PKPdf	07 30 31.5	-0.1
NIE	Niedzica	134.05	330	*e*PKIKP	PKPdf	07 30 32.8	+1.2
NIE	Niedzica NIE	134.05	330	*e*PKP *e*PKP	PKPdf PKPdf	07 30 32.8 07 30 32.8	+1.2 +1.2
ARR	Arges	134.23	323	⇓P	PKPdf	07 30 33.1	+1.0
COPA	Copaceanca	134.56	322	⇓P	PKPdf	07 30 31.9	-0.7
LANS	Liptovska Anna	134.63	331	*e*PKIKP	PKPdf	07 30 34.3	+1.5
LANS	Liptovska Anna	134.63	331	*e*PKP	PKPdf	07 30 34.2	+1.5
OKC	Ostrava-Krasne	134.78	332	*e*PKIKP	PKPdf	07 30 34.4	+1.5
OKC	Ostrava-Krasne	134.78	332	*e*PKPDF	PKPdf	07 30 34.4	+1.5
ELND	Elena	134.78	320	⇓P	PKPdf	07 30 33.6	+0.5
KSP	Ksiaz	134.87	334	*e*PKIKP	PKPdf	07 30 33.9	+0.9
KSP	Ksiaz KSP	134.87	334	*e*PKP *e*PKP	PKPdf PKPdf	07 30 33.9 07 30 33.9	+0.9 +0.9
DEV	Deva	134.92	325	⇓PKIKP	PKPdf	07 30 34.4	+1.1
DEV	Deva	134.92	325	⇓P	PKPdf	07 30 34.4	+1.1
MORC	Moravsky Berou	135.09	332	⇓PKIKP	PKPdf	07 30 34.4	+0.8
MORC	Moravsky Berou	135.09	332	⇓P	PKPdf	07 30 34.4	+0.8
MORC	Moravsky Berou MORC	135.09	332	*e*PKP *e*PP	PKPdf SKPbc	07 30 33.8 07 33 43.1	+0.2 +2.6
MORC	Moravsky Berou	135.09	332	PKPdf	PKPdf	07 30 33.3	-0.2
CHVC	Chvalec CHVC	135.16	334	*e*PKPDF *e*SKP	PKPdf SKPbc	07 30 34.0 07 33 43.6	+0.4 +3.0
DPC	Dobruska-Polom	135.22	334	*e*PKIKP	PKPdf	07 30 34.2	+0.4
DPC	Dobruska-Polom DPC	135.22	334	*e*PKPDF *e*SKP	PKPdf SKPbc	07 30 34.2 07 33 43.9	+0.4 +3.0
KRLC	Kraliky	135.22	333	*e*PKIKP	PKPdf	07 30 34.1	+0.3
KRLC	Kraliky KRLC	135.22	333	*e*PKPDF *e*SKP	PKPdf SKPbc	07 30 34.1 07 33 43.4	+0.3 +2.5
UPC	Upice	135.24	334	*e*PKIKP	PKPdf	07 30 35.1	+1.4
UPC	Upice	135.24	334	*e*PKPDF	PKPdf	07 30 35.1	+1.4
PSZ	Piszkesteto	135.25	329	⇓PKIKP	PKPdf	07 30 34.3	+0.4
PSZ	Piszkesteto	135.25	329	⇓P	PKPdf	07 30 34.3	+0.4
PSZ	Piszkesteto PSZ	135.25	329	PKPdf *e*PKP	PKPdf PKPdf	07 30 33.9 07 30 34.3	0.0 +0.4
GZR	Gura Zlata	135.28	324	⇓PKIKP	PKPdf	07 30 34.2	+0.1
GZR	Gura Zlata	135.28	324	⇓P	PKPdf	07 30 34.2	+0.1
PLVB	Pleven	135.32	321	⇓P	PKPdf	07 30 34.6	+0.5
SIRR	Siria	135.38	326	⇓P	PKPdf	07 30 34.8	+0.6
VYHS	Vyhne	135.39	330	*e*PKIKP	PKPdf	07 30 34.2	+0.1
VYHS VYHS	Vyhne VYHS	135.39	330	*e*PKP *e*	PKPdf	07 30 34.2 07 33 44.4	+0.1
BDFB	Brasilia comp=Z,5.4nm,0.8s,baz=147,slow=2.8,SNR=6.9	135.42	128	PKP	PKPdf	07 30 35.0	-0.2
JAVC	Velka Javorina JAVC	135.69	331	*e*PKP *e*PP	PKPdf

MOA				*e*SKPab	**SKPbc**	**07 33 51.5**	**+2.3**			
	comp=Z,15nm,1.4s									
SOKA	**Soboth**	**138.49**	**331**	*e*PKPdf	**PKPdf**	**07 30 35.3**	**-4.7**			
	comp=Z,2.2nm,0.6s									
SOKA				*e*SKPdf	**SKPbc**	**07 33 51.9**	**+1.2**			
	comp=Z,8.4nm,1.1s									
MEM	**Membach**	**138.84**	**342**	PKPdf	**PKPdf**	**07 30 40.8**	**+0.4**			
MEM				PKiKP	**PKiKP**	**07 30 43.0**	**+0.4**			
KBA	**Koelnbreinsper**	**138.97**	**333**	*e*PKPdf	**PKPdf**	**07 30 36.2**	**-4.8**			
	comp=Z,3.7nm,0.6s									
KBA				*e*SKPab	**SKPbc**	**07 33 53.9**	**+1.8**			
	comp=Z,10nm,1.1s									
MYKA	**Terra Mystica**	**139.18**	**332**	*e*PKPdf	PKPdf	07 30 34.4	-6.8			
	comp=Z,2.0nm,0.6s									
MYKA				*e*SKPbc	**SKPbc**	**07 33 53.8**	**+1.1**			
	comp=Z,4.2nm,0.9s									
BMRD	**Maredsous**	**139.48**	**343**	PKPdf	**PKPdf**	**07 30 42.0**	**+0.4**			
BMRD				PKiKP	**PKiKP**	**07 30 43.9**	**0.0**			
WATA	**Walderalm**	**139.55**	**334**	*e*PKPdf	**PKPdf**	**07 30 37.2**	**-4.8**			
	comp=Z,14nm,0.9s									
WATA				*e*SKPbc	**SKPbc**	**07 33 55.2**	**+1.5**			
	comp=Z,3.3nm,0.5s									
WTTA	**Wattenberg**	**139.58**	**334**	*e*PKPdf	**PKPdf**	**07 30 36.2**	**-5.9**			
	comp=Z,25nm,0.9s									
WTTA				*e*SKPab	**SKPbc**	**07 33 56.1**	**+2.2**			
	comp=Z,15nm,1.2s									
ABTA	**Abfaltersbach**	**139.60**	**333**	*e*PKPdf	PKPdf	07 30 34.7	-7.4			
	comp=Z,2.3nm,0.5s									
ABTA				*e*SKPbc	**SKPbc**	**07 33 55.5**	**+1.7**			
	comp=Z,12nm,1.0s									
WLF	**Walferdange**	**139.62**	**341**	PKiKP	**PKPdf**	**07 30 43.4**	**+1.6**			
WLF	**Walferdange**	**139.62**	**341**	PKiKP	**PKiKP**	**07 30 45.1**	**+0.9**			
WLF	**Walferdange**	**139.62**	**341**		**PKPdf**	**07 30 43.4**	**+1.6**			
DOU	**Dourbes**	**139.72**	**343**	PKPdf	**PKPdf**	**07 30 42.5**	**+0.5**			
DOU				PKiKP	**PKiKP**	**07 30 44.6**	**+0.2**			
MOTA	**Moosalm**	**139.74**	**335**	*e*PKPdf	**PKPdf**	**07 30 36.4**	**-5.9**			
	comp=Z,2.3nm,0.5s									
MOTA				*e*SKPab	**SKPbc**	**07 33 56.2**	**+2.0**			
	comp=Z,21nm,1.0s									
RETA	**Reutte**	**139.76**	**335**	*e*PKPdf	**PKPdf**	**07 30 38.1**	**-4.2**			
	comp=Z,2.3nm,0.5s									
RETA				*e*SKPbc	**SKPbc**	**07 33 55.8**	**+1.6**			
	comp=Z,10nm,1.0s									
SQTA	**Sankt Quirin**	**139.79**	**335**	*e*PKPdf	**PKPdf**	**07 30 37.5**	**-4.9**			
	comp=Z,16nm,1.0s									
SQTA				*e*SKPab	**SKPbc**	**07 33 56.4**	**+2.1**			
	comp=Z,7.1nm,0.8s									
FETA	**Feichten**	**140.15**	**335**	*e*PKPdf	PKPdf	07 30 36.6	-6.5			
	comp=Z,2.2nm,0.5s									
FETA				*e*SKPbc	**SKPbc**	**07 33 57.5**	**+2.1**			
	comp=Z,12nm,0.9s									
DAVA	**Damuels**	**140.28**	**336**	*e*PKPdf	**PKPdf**	**07 30 37.9**	**-5.4**			
	comp=Z,11nm,0.9s									
DAVA				*e*SKPbc	**SKPbc**	**07 33 57.4**	**+1.8**			
	comp=Z,13nm,1.1s									
DAVOX	**Davos/Dischmat**	**140.69**	**335**	PKhKP	PKPpre	07 30 37.2				
	comp=Z,3.5nm,0.3s,baz=22,slow=2.6,SNR=8.1									
DAVOX				PKP	**PKPdf**	**07 30 44.2**	**+0.1**			
	comp=Z,24nm,0.7s,baz=196,slow=4.9,SNR=16									
TIP	**Timpagrande**	**142.58**	**321**	⇓P	**PKPdf**	**07 30 45.4**	**-2.2**			
TIP	**Timpagrande**	**142.58**	**321**		**PKPdf**	**07 30 44.9**	**-2.7**			
BNI	**Bardonecchia**	**143.39**	**337**	PKiKP	PKPab	07 30 46.9	+1.3			
BNI	**Bardonecchia**	**143.39**	**337**		PKPab	07 30 46.9	+1.3			
VAE	**Valguarnera**	**145.08**	**321**	PKPbc	**PKPbc**	**07 30 52.9**	**+0.9**			
	comp=Z,18nm,0.7s,baz=211,slow=5.9,SNR=4.1									
CLTB	**Caltabellotta**	**145.75**	**322**		**PKPdf**	**07 30 53.8**	**+0.6**			
KEST	**Kesra**	**149.29**	**323**	PKP	**PKPdf**	**07 30 59.1**	**+0.1**			
	comp=Z,36nm,1.1s,baz=76,slow=5.5,SNR=3.7									
KEST				PKPbc	**PKPbc**	**07 31 04.1**	**+0.4**			
	comp=Z,88nm,0.9s,baz=105,slow=1.6,SNR=53									
CMAH	**Djebel Manchou**	**149.74**	**327**	P	**PKPbc**	**07 31 04.6**	**-0.1**			
CAEH	**'Ain El Ouahch**	**149.93**	**327**	P	**PKPbc**	**07 31 05.9**	**+0.8**			
ABSA	**Djebel Ababsia**	**149.97**	**326**	P	**PKPbc**	**07 31 05.5**	**+0.2**			
PBRG	**Braganca**	**150.16**	**351**	*e*PKPbc	**PKPbc**	**07 31 05.7**	**+0.2**			
PBRG	**Braganca**	**150.16**	**351**	*e*PKPab	**PKPab**	**07 31 12.6**	**+0.3**			
CKFL	**Kef-Lekhel**	**150.28**	**327**	P	**PKPbc**	**07 31 06.3**	**+0.2**			
PCAB	**Cabril**	**150.43**	**353**	*e*PKPbc	**PKPbc**	**07 31 06.7**	**+0.6**			
CASM	**Ain Smara**	**150.51**	**327**	P	**PKPbc**	**07 31 06.8**	**+0.3**			
DFRA	**Djebel Bou Aff**	**150.61**	**328**	P	**PKPbc**	**07 31 07.7**	**+0.9**			
CTEI	**Djebel Teioual**	**150.70**	**327**	P	**PKPbc**	**07 31 07.2**	**+0.1**			
POLO	**Lamas de Olo**	**150.73**	**352**	*e*PKPbc	**PKPbc**	**07 31 07.4**	**+0.5**			
POLO	**Lamas de Olo**	**150.73**	**352**	*e*PKPab	**PKPab**	**07 31 14.0**	**-0.7**			
PVRL	**Vila Real**	**150.81**	**352**	*e*PKPbc	**PKPbc**	**07 31 07.8**	**+0.7**			
MVO	**Moncorvo**	**150.82**	**351**	*e*PKPbc	**PKPbc**	**07 31 07.6**	**+0.5**			
SHEL	**Horse Pasture**	**151.05**	**194**	*i* PKIKP	**PKPbc**	**07 31 09.6**	**+1.3**			
CKHR	**Kef el Ahmar**	**151.21**	**328**	P	**PKPbc**	**07 31 08.3**	**+0.1**			
PVIS	**Viseu**	**151.39**	**352**	*e*PKPbc	**PKPbc**	**07 31 08.6**	**+0.2**			
MTE	**Manteigas**	**151.65**	**352**	*e*PKPdf	**PKPdf**	**07 31 01.4**	**-1.1**			
MTE	**Manteigas**	**151.65**	**352**	*e*PKPbc	**PKPbc**	**07 31 09.5**	**+0.5**			
ESBB	**Sonseca Array**	**151.66**	**346**		**PKPbc**	**07 31 09.3**	**+0.3**			
ESDC	**Sonseca Array**	**151.66**	**346**	PKP	**PKPdf**	**07 31 03.2**	**+0.6**			
	comp=Z,3.5nm,0.9s,baz=0.3,slow=2.3,SNR=8.8									
ESDC				PKPbc	**PKPbc**	**07 31 09.4**	**+0.4**			
	comp=Z,18nm,0.7s,baz=13,slow=2.7,SNR=63									
ESDC				PKPab	**PKPab**	**07 31 19.1**	**+0.4**			
	comp=Z,19nm,0.7s,baz=14,slow=4.1,SNR=22									
ESDC				PP	**PP**	**07 34 45.2**	**-4.8**			
	comp=Z,2.0nm,0.7s,baz=8.0,slow=5.8,SNR=4.0									
COI	**Coimbra**	**151.95**	**353**	*e*PKPbc	**PKPbc**	**07 31 09.7**	**+0.1**			
PCAS	**Casmilo, Conde**	**152.12**	**353**	*e*PKPbc	**PKPbc**	**07 31 10.3**	**+0.3**			
PCBR	**Castelo Branco**	**152.19**	**351**	*e*PKPbc	**PKPbc**	**07 31 10.3**	**+0.1**			
PTOM	**Tomar**	**152.54**	**353**	*e*PKPdf	**PKPdf**	**07 31 04.4**	**+0.6**			
PTOM	**Tomar**	**152.54**	**353**	*e*PKPbc	**PKPbc**	**07 31 11.5**	**+0.6**			
PMRV	**Marv??o**	**152.58**	**351**	*e*PKPbc	**PKPbc**	**07 31 11.5**	**+0.4**			
PMTG	**Montargil**	**153.05**	**352**	*e*PKPbc	**PKPbc**	**07 31 11.3**	**-0.8**			
PMTG	**Montargil**	**153.05**	**352**	*e*PKPab	**PKPab**	**07 31 24.3**	**-0.1**			
PMAFR	**Mafra**	**153.29**	**354**	*e*PKPbc	**PKPbc**	**07 31 13.3**	**+0.7**			
PMAFR	**Mafra**	**153.29**	**354**	*e*PKPab	**PKPab**	**07 31 26.6**	**+1.2**			
EVO	**Evora**	**153.55**	**352**	*e*PKPdf	**PKPdf**	**07 31 05.7**	**+0.4**			
EVO	**Evora**	**153.55**	**352**	*e*PKPbc	**PKPbc**	**07 31 13.5**	**+0.3**			
EVO	**Evora**	**153.55**	**352**	*e*PKPab	**PKPab**	**07 31 27.6**	**+1.1**			
PBEJ	**Beja**	**154.03**	**351**	*e*PKPbc	**PKPbc**	**07 31 15.0**	**+0.8**			
PBEJ	**Beja**	**154.03**	**351**	*e*PKPab	**PKPab**	**07 31 29.7**	**+1.1**			
PNCL	**Nicolau / Gran**	**154.03**	**352**	*e*PKPbc	**PKPbc**	**07 31 14.7**	**+0.5**			
PNCL	**Nicolau / Gran**	**154.03**	**352**	*e*PKPab	**PKPab**	**07 31 28.9**	**+0.3**			
PCVE	**Castro Verde**	**154.44**	**351**	*e*PKPbc	**PKPbc**	**07 31 15.9**	**+0.8**			
PCVE	**Castro Verde**	**154.44**	**351**	*e*PKPab	**PKPab**	**07 31 31.4**	**+1.1**			
PVAQ	**Vaqueiros**	**154.61**	**351**	*e*PKPab	**PKPab**	**07 31 32.4**	**+1.3**			
LIJA	**Lijar**	**154.63**	**346**	PKP1	**PKPbc**	**07 31 16.4**	**+0.7**			
LIJA	**Lijar**	**154.63**	**346**	PKP2	**PKPab**	**07 31 32.4**	**+1.1**			
MDT	**Midelt**	**158.27**	**341**	PKP	**PKPdf**	**07 31 12.0**	**+0.2**			
	comp=Z,2.2nm,0.8s,baz=155,slow=4.5,SNR=4.1									
MDT				PKPab	**PKPab**	**07 31 47.0**	**-0.1**			
	comp=Z,6.5nm,0.5s,baz=56,slow=5.1,SNR=3.9									
TOA0	**Torodi Ar. Sit**	**165.85**	**275**		**PKPdf**	**07 31 19.0**	**-0.8**			
TORD	**Torodi Ar. Bea**	**165.85**	**275**	PKP	**PKPdf**	**07 31 19.3**	**-0.5**			
	comp=Z,8.4nm,1.0s,baz=29,slow=1.1,SNR=22									
TORD				PKPab	**PKPab**	**07 32 20.9**	**-0.1**			
	comp=Z,7.7nm,0.9s,baz=75,slow=5.0,SNR=15									
TORD				PP	**PP**	**07 36 12.1**	**+3.0**			
	comp=Z,2.0nm,1.1s,baz=118,slow=7.2,SNR=3.4									

IDC ***11*** *07:14:54.5±2.1, 11°.29N×141°.17E, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.8/65, mbtmp4.1/6, ML4.3/1, Error ellipse: s-maj=66.1km s-min=34.2km az=2.0*

ISC 11 07:15:03.4±1.3, 12°.0N±0°.3×141°.1E±0°.1, h35km, n8, σ2s 06/9, mb4.2/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.00**	**67**	Pn	**Pn**	**07 16 02.6**	**+0.3**
	16nm,0.3s,baz=228,slow=12,SNR=6.3						
GUMO				Sn	**Sn**	**07 16 49.6**	**+1.7**
	9.7nm,0.3s,baz=210,slow=20,SNR=3.6						
MRSI	**Marisa**	**22.20**	**240**	P	**P**	**07 19 59.4**	**+2.5**
KURBB	**Kurchatov Arra**	**63.48**	**321**	P	**P**	**07 25 30.8**	**+0.9**
	1.1nm,0.6s,baz=106,slow=6.9,SNR=4.6						
BVAR	**Borovoye Array**	**68.89**	**322**	P	**P**	**07 26 05.5**	**+0.8**
	0.9nm,0.4s,baz=104,slow=7.9,SNR=5.6						
ILAR	**Eielson Array**	**71.56**	**25**	P	**P**	**07 26 20.1**	**-0.6**
	0.7nm,0.6s,baz=244,slow=5.7,SNR=3.1						
YKA	**Yellowknife Ar**	**85.93**	**27**	P	**P**	**07 27 39.6**	**0.0**
	0.5nm,0.5s,baz=288,slow=4.9,SNR=4.2						
FINES	**FINESS Array B**	**91.00**	**334**	P	**P**	**07 28 02.5**	**-1.3**
	2.9nm,0.9s,baz=46,slow=5.5,SNR=6.8						
LPAZ	**La Paz**	**151.36**	**102**	PKPbc	**PKPbc**	**07 34 51.6**	**-3.6**
	1.3nm,0.6s,baz=269,slow=2.3,SNR=3.9						

ISCJB ***11*** *07:29:55.6±0.7, 0°.32N±0°.06×30°.54E±0°.07, h10km, mb4.1/6, MS3.3/4, Error ellipse: s-maj=10.6km s-min=8.7km az=175.7*

IDC ***11*** *07:29:56.2±0.9, 0°.30N×30°.60E, h0km, mb4.2/6, mb1 4.1/7, mb1mx3.7/57, mbtmp4.1/7, ML3.4/1, MS3.3/6, Ms1 3.3/6, ms1mx3.0/32, Error ellipse: s-maj=22.4km s-min=9.2km az=84.0*

ISC 11 07:29:57.7±1.0, 0°.27N±0°.09×30°.5E±0°.1, h10km, n14, σ0s 72/10, mb4.1/6, MS3.4/4, Uganda

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBAR	**Mbarara**	**0.89**	**166**	Pg	**Pg**	**07 30 14.2**	**-0.8**
	2µm,0.3s,baz=322,slow=19,SNR=3237						
MBAR				Lg	Lg	07 30 25.6	
	10µm,0.3s,baz=252,slow=20,SNR=102						
KMBO	**Kilima Mbogo**	**6.87**	**102**	Pn	**Pn**	**07 31 39.6**	**+0.7**
	0.7nm,0.3s,baz=264,slow=16,SNR=3.0						
KMBO				Sn	**Sn**	**07 32 57.8**	**+0.4**
	3.4nm,0.3s,baz=260,slow=12,SNR=3.9						
KMBO				Lg	Lg	07 33 31.1	
	3.1nm,0.3s,baz=195,slow=20,SNR=6.1						
LSZ	**Lusaka**	**15.62**	**188**	Sn	**Sn**	**07 36 32.4**	**+0.8**
	0.2nm,0.3s,baz=107,slow=16,SNR=2.5						
LSZ				Lg	Lg	07 38 00.9	
	0.3nm,0.3s,baz=107,slow=19,SNR=5.6						
LSZ				LR	LR	07 40 03.5	
	comp=Z,40nm,21.6s,baz=332,slow=39						
ATD	**Arta Tunnel**	**16.59**	**47**	LR	LR	07 40 28.1	
	comp=Z,127nm,19.4s,baz=38,slow=38						
TSUM	**Tsumeb**	**23.14**	**213**	LR	LR	07 42 45.6	
	comp=Z,33nm,19.8s,baz=329,slow=33						
LBTB	**Lobatse**	**25.58**	**190**	LR	LR	07 45 28.7	
	comp=Z,174nm,18.4s,baz=6.5,slow=36						
BOSA	**Boshof**	**29.16**	**190**	LR	LR	07 47 28.2	
	comp=Z,85nm,20.3s,baz=9.0,slow=36						
TORD	**Torodi Ar. Bea**	**31.30**	**295**	P	**P**	**07 36 19.1**	**+0.8**
	1.5nm,0.6s,baz=112,slow=8.5,SNR=6.4						
KEST	**Kesra**	**40.41**	**333**	LR	LR	07 54 09.4	
	comp=Z,56nm,20.1s,baz=222,slow=36						
AKTO	**Aktyubinsk**	**55.19**	**21**	P	**P**	**07 39 30.3**	**-0.3**
	1.7nm,1.0s,baz=234,slow=5.3,SNR=6.4						
ARU	**Arti**	**60.38**	**17**	P	**P**	**07 40 06.7**	**-0.3**
	3.1nm,0.2s,baz=208,slow=4.8,SNR=6.1						
KURBB	**Kurchatov Arra**	**64.55**	**32**	P	**P**	**07 40 34.6**	**-0.4**
	1.3nm,0.6s,baz=238,slow=6.5,SNR=8.1						
MKAR	**Makanchi Array**	**64.62**	**37**	P	**P**	**07 40 35.3**	**-0.3**
	1.0nm,0.9s,baz=253,slow=7.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**69.59**	**31**	P	**P**	**07 41 06.2**	**-0.8**
	0.7nm,0.4s,baz=255,slow=4.5,SNR=5.8						

NNC 11 07:33:04.9±0.5, 50°.02N×78°.66E, h0km, mb3.8, mpv3.3, 13C-13D, Error ellipse: s-maj=5.2km s-min=2.5km az=70.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.57**	**351**	⇑P	Pg	07 33 15.8	0.0
KUR07				⇓S	Sg	07 33 24.6	+1.4
KUR06	**Kurchatov Arra**	**0.59**	**351**	⇑P	Pg	07 33 16.3	+0.1
KUR06				⇓S	Sg	07 33 24.9	+1.0
KUR14	**Kurchatov Arra**	**0.60**	**356**	⇓P	Pg	07 33 16.1	-0.2
KUR14				⇑S	Sg	07 33 24.9	+0.9
KUR15	**Kurchatov Arra**	**0.60**	**354**	⇓P	Pg	07 33 16.3	-0.1
KUR15				⇓S	Sg	07 33 25.6	+1.3
KURBB	**Kurchatov Arra**	**0.61**	**352**	⇑P	Pg	07 33 16.6	0.0
	27nm,0.2s						
KURBB				⇑S	Sg	07 33 25.7	+1.2
	61nm,0.3s						
KUR16	**Kurchatov Arra**	**0.62**	**350**	⇓P	Pg	07 33 16.8	+0.1
KUR16				⇑S	Sg	07 33 25.9	+1.2
KUR17	**Kurchatov Arra**	**0.62**	**349**	⇑P	Pg	07 33 17.2	+0.4
KUR17				⇓S	Sb	07 33 26.5	-1.4
KUR05	**Kurchatov Arra**	**0.63**	**353**	⇑P	Pg	07 33 16.9	0.0
KUR05				⇑S	Sg	07 33 25.6	+0.6
KUR04	**Kurchatov Arra**	**0.65**	**353**	⇑P	Pg	07 33 17.3	+0.1
KUR04				⇓S	Sg	07 33 26.4	+0.8
KURK	**Kurchatov**	**0.70**	**358**	⇓P	Pg	07 33 17.9	-0.4
	13nm,0.3s						
KURK				⇓S	Sg	07 33 28.3	+1.0
	42nm,0.5s						
SEM	**Semipalatinsk**	**1.09**	**69**	P	Pb	07 33 26.4	-0.4
	8.5nm,0.2s						
SEM				S	Sg	07 33 40.3	+0.4
	81nm,0.4s						
BRZS	**Berezniki**	**3.86**	**272**	Pg	Pg	07 34 16.7	-2.2
	16nm,0.3s						
BRZS				Lg	Lg	07 35 08.7	
	11nm,0.3s						
MAKZ	**Makanchi**	**3.90**	**144**	⇓Pg	Pg	07 34 17.7	-1.9
	0.9nm,0.3s						
MAKZ				⇓Lg	Lg	07 35 05.8	
	8.2nm,0.4s						
MK31	**Makanchi Array**	**4.03**	**142**	⇑Pn	Pn	07 34 08.7	+0.8
	0.3nm,0.2s,baz=322,slow=10.0,SNR=35						
MK31				⇑Pg	Pb	07 34 18.0	+1.3
	0.5nm,0.2s,baz=325,slow=13,SNR=23						
MK31				Lg	Lg	07 35 09.8	
	6.4nm,0.5s,baz=335,slow=26,SNR=13						
KAPS	**Kapalarasan**	**4.76**	**174**	Pg	Pb	07 34 29.7	+0.5
	2.0nm,0.4s						
KAPS				Lg	Lg	07 35 32.4	
	9.9nm,0.6s						
ZSN	**Zaisan**	**4.84**	**120**	Pg	Pb	07 34 33.5	+2.9
	4.3nm,0.3s						
ZSN				Lg	Lg	07 35 38.4	
	12nm,0.8s						
ARXS	**Arharly**	**5.84**	**186**	Pg	Pb	07 34 49.6	+2.1
	1.9nm,0.4s						
ARXS				Lg	Lg	07 36 06.5	
	9.6nm,0.5s						
KTBS	**Karatobe**	**6.46**	**193**	Pg	Pb	07 35 02.1	+4.0
	1.2nm,0.4s						
KTBS				Lg	Lg	07 36 28.4	
	13nm,0.6s						
PDGK	**Podgornoye**	**6.72**	**175**	⇑Lg	Lg	07 36 39.5	
	2.9nm,0.6s						
DGS	**Degeres**	**7.07**	**197**	Pg	Pg	07 35 14.6	-5.6
	2.8nm,0.4s						
DGS				Lg	Lg	07 36 50.2	
	9.9nm,0.6s						
IZV	**Izvestkoviy**	**7.13**	**192**	Pg	Pg	07 35 16.6	-4.8
	1.2nm,0.3s						
IZV				Lg	Lg	07 36 53.6	
	5.0nm,0.7s						
TKM2	**Tokmak 2**	**7.41**	**198**	⇓Lg	Lg	07 37 03.2	
	2.7nm,0.6s						

NIED ***11*** *07:36:00, 30°.90N×130°.80E, h53km, Mw4.5 Best double couple: M07.40000×10^15 NP1:φs13.00000°, δ18.00000°, λ-115.00000°. NP2:φs218.00000°, δ74.00000°, λ-82.00000°.*

BJI ***11*** *07:36:42.4±0.0, 30°.48N×131°.19E, h56km, mb4.7/52, mB4.9/35, Ms4.2/13, Ms7 3.9/13*

ISCJB ***11*** *07:36:45.8±0.2, 30°.84N±0°.02×130°.86E±0°.03, h63km±2km, mb4.5/38, Error ellipse: s-maj=4.9km s-min=3.0km az=11.1*

IDC ***11*** *07:36:47.7±1.0, 30°.88N×130°.84E, h66km±8km, mb4.2/31, mb1 4.4/36, mb1mx4.2/59, mbtmp4.5/36, MS3.5/27, Ms1 3.5/27, ms1mx3.4/46, Error ellipse: s-maj=11.7km s-min=6.2km az=95.0*

JMA ***11*** *07:36:47.0, 30°.88N×130°.85E, h53km±1km, M4.4*

JMA Felt III J1.

NEIC ***11*** *07:36:48.1±1.2, 30°.85N±0°.03×130°.9E±0°.1, h69km±6km, mb4.7/54*

ISC 11 07:36:47.2±0.6, 30°.84N±0°.03×130°.90E±0°.04, h60km±5km, n144, σ1s 35/161, mb4.7/55, MS3.6/26, 1C-13D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.20**	**159**	⇓P	**Pn**	**07 36 55.8**	**-0.8**
JTN				*e*S	**Sn**	**07 37 02.6**	**-0.8**
JTSR	**Tashiro 2**	**0.33**	**3**	⇓P	**Pn**	**07 36 56.2**	**-1.4**
JTSR				*e*S	**Sn**	**07 37 02.6**	**-2.4**
JMTN	**Minamitane**	**0.44**	**180**	⇓P	**Pn**	**07 36 58.2**	**-0.3**
JMTN				*e*S	**Sn**	**07 37 06.8**	**+0.1**
JYAK	**Yakushimahirau**	**0.69**	**209**	⇓P	**Pn**	**07 37 00.7**	**-0.6**
JYAK				S	**Sn**	**07 37 10.9**	**-0.6**
JKC	**Kuchinoerabu**	**0.71**	**238**	⇓P	**Pn**	**07 37 00.7**	**-0.9**
JKC				*e*S	**Sn**	**07 37 10.3**	**-1.8**
JNAR	**Kushima--Naru**	**0.76**	**25**	⇓P	**Pn**	**07 37 01.7**	**-0.4**
JNAR				*e*S	**Sn**	**07 37 12.4**	**-0.7**
JSU	**Suzuyama**	**0.77**	**330**	⇓P	**Pn**	**07 37 01.0**	**-1.3**
JSU				*e*S	**Sn**	**07 37 11.2**	**-2.1**
JNKG	**Nichinankitago**	**0.92**	**26**	⇓P	**Pn**	**07 37 04.1**	**-0.1**
JNKG				*e*S	**Sn**	**07 37 16.8**	**+0.2**
JTZ	**Takazaki**	**1.07**	**9**	⇓P	**Pn**	**07 37 05.5**	**-0.7**
JTZ				*e*S	**Sn**	**07 37 19.2**	**-1.1**
JSJ	**Shimokoshiki**	**1.31**	**310**	⇑P	**Pn**	**07 37 08.1**	**-1.3**
JSJ				S	**Sn**	**07 37 24.4**	**-1.6**
JZO	**Okuchi**	**1.32**	**349**	⇓P	**Pn**	**07 37 08.8**	**-0.8**
JZO				S	**Sn**	**07 37 25.5**	**-0.8**
JNN	**Nakanoshima**	**1.33**	**222**	⇓P	**Pn**	**07 37 09.3**	**-0.3**
JNN				S	**Sn**	**07 37 25.8**	**-0.6**
JNU	**Nakatsue**	**2.28**	**360**	P	**Pn**	**07 37 23.0**	**+0.5**
	46nm,0.3s,baz=189,slow=6.7,SNR=109						
JNU				S	**Sn**	**07 37 48.8**	**-0.6**
	131nm,0.3s,baz=221,slow=17,SNR=13						
JNU				LR	LR	07 38 30.1	
	comp=Z,1µm,19.9s,baz=176,slow=46						
JOW	**Kunigami**	**4.61**	**211**	P	**Pn**	**07 37 54.6**	**+0.2**
	2.2nm,0.3s,baz=88,slow=20,SNR=18						
JOW				S	**Sn**	**07 38 46.4**	**-0.2**
	5.7nm,0.3s,baz=233,slow=27,SNR=6.4						
KSRS	**Korea Array**	**7.04**	**340**	P	**Pn**	**07 38 28.4**	**+0.8**
	1.5nm,0.3s,baz=160,slow=14,SNR=32						
KSRS				S	**Sn**	**07 39 46.7**	**+0.4**
	0.7nm,0.3s,baz=161,slow=28,SNR=4.1						
KSRS				LR	LR	07 41 29.0	
	comp=Z,338nm,19.8s,baz=159,slow=40						
KS19	**Wonju Array Si**	**7.11**	**340**		**Pn**	**07 38 28.4**	**-0.2**
KS19				Sn	**Sn**	**07 39 48.1**	**+0.3**
MAJO	**Matsushiro**	**8.33**	**45**		**Pn**	**07 38 46.1**	**+0.8**
MAT	**Matsushiro**	**8.33**	**45**	P	**Pn**	**07 38 45.7**	**+0.4**
MAT				*e*S	**Sn**	**07 40 15.9**	**-2.0**
MJB9	**Matsu-Tunnel**	**8.33**	**45**		**Pn**	**07 38 46.0**	**+0.6**
MJAR	**Matsushiro Arr**	**8.33**	**45**	P	**Pn**	**07 38 46.6**	**+1.2**
	0.4nm,0.3s,baz=239,slow=14,SNR=9.4						
MJAR				LR	LR	07 41 51.9	
	comp=Z,173nm,20.4s,baz=235,slow=36						
NJ2	**Nanjing**	**10.36**	**280**	*e*P	**Pn**	**07 39 11.7**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
JCJ	**Chichijima**	**10.56**	**108**	LR	LR	07 43 00.3	
	comp=Z,116nm,19.4s,baz=265,slow=35						
USA0B	**Ussuriysk Arra**	**13.37**	**3**	Pn	**Pn**	**07 39 55.3**	**+1.3**
USRK	**Ussuriysk Ar.**	**13.37**	**3**	P	**P**	**07 40 01.6**	**0.0**
	baz=180,slow=9.9,SNR=20						
USRK				LR	LR	07 44 48.4	
	comp=Z,163nm,21.9s,baz=193,slow=36						
CN2	**Changchun**	**13.64**	**343**	*e*P	**P**	**07 40 07.0**	**+2.3**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
BJT	**Baijiatuan**	**15.09**	**311**	P	**P**	**07 40 19.6**	**-1.2**
BJT				lAmb	lAmb	07 40 24.3	
	comp=Z,32nm,

WMQ			LR	LR		
	comp=Z,600nm,22.3s					
WMQ			LR	LR		
	comp=Z,200nm,28.8s					
KAPI	**Kappang**	**37.21 199**	LR	LR	07 59 18.1	
	comp=Z,15nm,21.8s,baz=78,slow=36					
ZALV	**Zalesovo Beam**	**40.17 319**	P	**P**	**07 44 16.8**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=113,slow=7.2,SNR=6.0					
ZALV			PcP	**PcP**	**07 46 20.0**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=129,slow=5.6,SNR=4.4					
ZALV			ScP	**ScP**	**07 50 01.0**	**-3.6**
	comp=Z,0.7nm,0.3s,baz=66,slow=3.5,SNR=3.0					
ZALV			LR	LR	08 01 57.0	
	comp=Z,112nm,18.7s,baz=90,slow=38					
KRVT	**Keravat (AS076**	**40.36 146**	LR	LR	08 00 02.5	
	comp=Z,53nm,19.0s,baz=283,slow=34					
MKAR	**Makanchi Array**	**40.41 307**	P	**P**	**07 44 19.3**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=91,slow=9.8,SNR=14					
MKAR			PcP	**PcP**	**07 46 20.2**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=81,slow=4.4,SNR=4.4					
MKAR			ScP	**ScP**	**07 50 02.6**	**-3.2**
	comp=Z,1.7nm,0.8s,baz=89,slow=5.5,SNR=6.6					
MKAR			LR	LR	08 02 21.6	
	comp=Z,87nm,20.2s,baz=92,slow=38					
TIXI	**Tiksi**	**40.88 359**	P	**P**	**07 44 23.6**	**+0.7**
TIXI			IAmb	IAmb	07 44 24.9	
	comp=Z,6.7nm,0.6s					
PSI	**Prapat**	**41.10 234**	P	**P**	**07 44 26.9**	**+1.3**
	comp=Z,3.4nm,0.4s,baz=22,slow=6.5,SNR=5.3					
PSI			LR	LR	08 01 03.6	
	comp=Z,48nm,21.6s,baz=28,slow=35					
RPSI	**Rantau Prapat**	**41.18 233**	P	**P**	**07 44 26.9**	**+0.8**
KURK	**Kurchatov**	**43.26 313**	P	**P**	**07 44 42.4**	**-0.2**
KURK			IAmb	IAmb	07 44 44.6	
	comp=Z,11nm,0.8s					
KURBB	**Kurchatov Arra**	**43.30 313**	P	**P**	**07 44 42.8**	**-0.2**
	comp=Z,5.7nm,0.6s,baz=99,slow=8.9,SNR=34					
KURBB			PcP	**PcP**	**07 46 29.6**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=102,slow=3.7,SNR=2.0					
MTN	**Manton Dam**	**43.43 180**	P	**P**	**07 44 43.7**	**-0.6**
LEM	**Lembang**	**43.59 215**	P	**P**	**07 44 46.0**	**+0.2**
	comp=Z,48nm,0.8s,baz=103,slow=13,SNR=8.5					
KSH	**Kashi**	**45.12 297**	P	**P**	**07 45 01.9**	**+4.0**
KSH			PcP	**PcP**	**07 46 40.2**	**+2.6**
KSH			PcS	**PcS**	**07 50 33.1**	**+1.6**
KSH			S	**S**	**07 51 37.4**	**+4.3**
KSH			sS	sS	07 52 04.8	+5.9
KSH			pmax	pmax		
	comp=Z,320nm,6.3s					
KSH			LR	LR		
	comp=Z,330nm,12.0s					
KSH			LR	LR		
	comp=Z,730nm,5.6s					
KSH			LR	LR		
	comp=Z,340nm,8.2s					
AAK	**Ala-Archa**	**45.94 301**	P	**P**	**07 45 04.3**	**0.0**
	comp=Z,2.2nm,0.5s,baz=90,slow=8.5,SNR=4.2					
AAK	**Ala-Archa**	**45.94 301**	P	**P**	**07 45 04.2**	**-0.1**
AAK			IAmb	IAmb	07 45 19.1	
	comp=Z,4.6nm,0.8s					
COEN	**Coen**	**46.08 163**	P	**P**	**07 45 05.8**	**+0.5**
COEN			IAmb	IAmb	07 45 06.9	
	comp=Z,6.1nm,0.8s					
KNRA	**Kununurra**	**46.29 183**	P	**P**	**07 45 06.8**	**-0.2**
NIL	**Nilore**	**48.30 289**	P	**P**	**07 45 19.2**	**-3.4**
BVAR	**Borovoye Array**	**48.53 315**	P	**P**	**07 45 23.6**	**-0.5**
	comp=Z,4.8nm,0.3s,baz=96,slow=9.1,SNR=32					
BRVK	**Borovoye**	**48.59 315**	P	**P**	**07 45 24.4**	**-0.1**
KK31	**Karatay Array**	**48.81 302**	P	**P**	**07 45 27.3**	**+0.9**
KK31			IAmb	IAmb	07 45 41.4	
	comp=Z,8.3nm,0.8s					
FITZ	**Fitzroy Crossi**	**48.92 187**	P	**P**	**07 45 27.1**	**-0.3**
	comp=Z,7.2nm,0.9s,baz=7.5,slow=7.5,SNR=17					
FITZ	**Fitzroy Crossi**	**48.92 187**	P	**P**	**07 45 27.4**	**0.0**
FITZ			IAmb	IAmb	07 45 27.8	
	comp=Z,6.0nm,0.8s					
WRAB	**Tennant Creek**	**50.59 176**	P	**P**	**07 45 39.6**	**-0.4**
WRA	**Warramunga Arr**	**50.60 176**	P	**P**	**07 45 39.7**	**-0.4**
	comp=Z,15nm,0.7s,baz=356,slow=8.2,SNR=154					
WRA			LR	LR	08 06 24.4	
	comp=Z,15nm,21.8s,baz=70,slow=35					
WB2	**Warramunga Arr**	**50.60 176**	P	**P**	**07 45 39.6**	**-0.5**
WR0	**Warramunga Ar**	**50.63 176**	P	**P**	**07 45 40.1**	**-0.2**
CTA	**Charters Tower**	**52.74 162**	P	**P**	**07 45 56.0**	**-0.1**
	comp=Z,5.8nm,0.5s,baz=340,slow=9.2,SNR=16					
PSA00	**Pilbara Seismi**	**53.18 193**	P	**P**	**07 45 59.1**	**-0.2**
PSA00			IAmb	IAmb	07 45 59.7	
	comp=Z,10.0nm,0.8s					
AS31	**Alice Springs**	**54.27 177**	P	**P**	**07 46 07.0**	**-0.3**
ASAR	**Alice Springs**	**54.27 177**	P	**P**	**07 46 07.1**	**-0.2**
	comp=Z,6.8nm,0.6s,baz=10,slow=13,SNR=117					
ARU	**Arti**	**55.31 320**	P	**P**	**07 46 13.6**	**-0.9**
	baz=125,slow=18					
SVW2	**Sparrevohn**	**55.64 34**	P	**P**	**07 46 17.9**	**+1.1**
SVW2			IAmb	IAmb	07 46 28.9	
	comp=Z,16nm,1.5s					
COLD	**Coldfoot**	**57.70 27**	P	**P**	**07 46 31.9**	**+0.6**
ILAR	**Eielson Array**	**59.28 30**	P	**P**	**07 46 41.7**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=300,slow=8.4,SNR=9.9					
DOT	**Dot Lake**	**60.68 31**	P	**P**	**07 46 51.9**	**-0.1**
DOT			IAmb	IAmb	07 46 52.1	
	comp=Z,4.3nm,0.8s					
FORT	**Forrest**	**61.34 183**	P	**P**	**07 46 56.5**	**-0.1**
STKA	**Stephens Creek**	**63.19 170**	P	**P**	**07 47 09.2**	**+0.1**
	comp=Z,15nm,0.6s,baz=345,slow=6.8,SNR=54					
STKA			LR	LR	08 15 16.6	
	comp=Z,26nm,19.3s,baz=26,slow=36					
STKA	**Stephens Creek**	**63.19 170**	P	**P**	**07 47 09.5**	**+0.4**
STKA			IAmb	IAmb	07 47 10.1	
	comp=Z,3.2nm,0.7s					
BBOO	**Buckleboo**	**63.49 175**	P	**P**	**07 47 10.5**	**-0.6**
INK	**Inuvik**	**63.74 24**	P	**P**	**07 47 11.9**	**-0.4**
	comp=Z,4.8nm,0.9s,baz=303,slow=5.9,SNR=16					
INK	**Inuvik**	**63.74 24**	IAmb	IAmb	07 47 27.6	
	comp=Z,5.5nm,0.9s					
SPA0	**Spitsbergen Ar**	**64.82 348**	P	**P**	**07 47 18.0**	**-1.3**
KEV	**Kevo**	**66.03 338**	P	**P**	**07 47 26.4**	**-0.7**
ARCES	**ARCESS Array B**	**66.60 338**	P	**P**	**07 47 30.5**	**-0.4**
	comp=Z,2.6nm,0.5s,baz=64,slow=9.4,SNR=24					
ARCES			LR	LR	08 21 51.0	
	comp=Z,88nm,18.1s,baz=104,slow=41					
ARE0	**ARCESS Array S**	**66.60 338**	P	**P**	**07 47 30.3**	**-0.5**
KBZ	**Khabaz**	**68.09 309**	P	**P**	**07 47 40.4**	**-0.3**
	comp=Z,7.3nm,0.8s,baz=119,slow=2.3,SNR=7.5					
KBZ			LR	LR	08 21 34.5	
	comp=Z,43nm,18.4s,baz=53,slow=40					
FIA1	**FINESS Array S**	**70.02 330**	P	**P**	**07 47 50.6**	**-1.8**
FIA1			IAmb	IAmb	07 47 52.4	
	comp=Z,8.9nm,1.1s					
FINES	**FINESS Array B**	**70.03 330**	P	**P**	**07 47 50.7**	**-1.6**
	comp=Z,3.4nm,0.5s,baz=58,slow=7.5,SNR=16					
FINES			LR	LR	08 23 51.6	
	comp=Z,88nm,18.5s,baz=46,slow=40					
YKA	**Yellowknife Ar**	**73.37 26**	P	**P**	**07 48 12.2**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=303,slow=5.6,SNR=21					
AKASG	**Malin Array Be**	**73.56 320**	P	**P**	**07 48 12.2**	**-1.5**
	comp=Z,1.3nm,0.4s,baz=55,slow=6.7,SNR=12					
AKASG			LR	LR	08 23 31.8	
	comp=Z,42nm,18.1s,baz=45,slow=38					
RAYN	**Ar Rayn**	**74.58 288**	P	**P**	**07 48 20.4**	**+0.1**
RAYN			IAmb	IAmb	07 48 21.3	
	comp=Z,6.2nm,1.1s					
BR131	**Keskin Array S**	**76.06 308**	P	**P**	**07 48 29.5**	**+0.8**
BR131			IAmb	IAmb	07 48 29.9	
	comp=Z,13nm,1.1s					
BRTR	**Keskin Array B**	**76.06 308**	P	**P**	**07 48 27.9**	**-0.7**
	comp=Z,4.9nm,0.9s,baz=114,slow=6.1,SNR=10					
BRTR			LR	LR	08 26 33.4	
	comp=Z,28nm,18.4s,baz=26,slow=39					
NB2	**NORSAR Subarra**	**76.21 334**	P	**P**	**07 48 26.6**	**-2.4**
	comp=Z,2.6nm,0.7s,baz=51,slow=5.9					
NOA	**NORSAR Array B**	**76.21 334**	P	**P**	**07 48 28.1**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=50,slow=5.6,SNR=4.3					
NOA			LR	LR	08 23 16.2	
	comp=Z,45nm,21.1s,baz=0.0,slow=37					
NC204	**NORSAR Array S**	**76.23 335**	P	**P**	**07 48 27.4**	**-1.7**
SUMG	**Summit**	**76.60 357**	P	**P**	**07 48 31.2**	**-0.2**
SUMG			IAmb	IAmb	07 48 33.5	
	comp=Z,12nm,1.0s					
BUR08	**Bucovina Ar. S**	**77.38 318**	P	**P**	**07 48 35.8**	**-0.1**
BUR08			IAmb	IAmb	07 48 37.1	
	comp=Z,8.9nm,1.1s					
HUMO	**Hull Mountain**	**80.36 46**	P	**P**	**07 48 52.1**	**0.0**
VYHS	**Vyhne**	**80.45 321**	*eP*	**P**	**07 48 53.3**	**+0.8**
SMOL	**Smolenice**	**81.19 322**	*eP*	**P**	**07 48 57.2**	**+0.7**
MODS	**Modra-Piesok**	**81.35 322**	*eP*	**P**	**07 48 56.9**	**-0.5**
BKZ	**Black Stump Fm**	**81.55 146**	P	**P**	**07 48 58.0**	**-0.3**
BKZ			IAmb	IAmb	07 49 00.5	
	comp=Z,19nm,1.3s					
CLL	**Collm**	**81.69 326**	*i* P	**P**	**07 48 58.0**	**-1.0**
	comp=Z,11nm,1.0s					
CLL			*e*		07 49 10.0	
CLL	**Collm**	**81.69 326**	P	**P**	**07 48 58.6**	**-0.5**
CLL			IAmb	IAmb	07 49 00.2	
	comp=Z,10.0nm,0.9s					
MOD	**Modoc Plateau**	**82.39 45**	P	**P**	**07 49 03.7**	**+0.6**
BMO	**Blue Mountains**	**82.45 42**	P	**P**	**07 49 03.8**	**+0.5**
KARP	**Karpathos**	**82.61 307**	P	**P**	**07 49 01.7**	**-2.5**
MSWZ	**Moikau Station**	**82.74 148**	P	**P**	**07 49 03.8**	**-0.6**
KHZ	**Kahutara**	**82.78 150**	P	**P**	**07 49 03.2**	**-1.4**
KHZ			IAmb	IAmb	07 49 08.0	
	comp=Z,14nm,1.2s					
GERES	**GERESS Array B**	**82.92 324**	P	**P**	**07 49 05.2**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=38,slow=6.8,SNR=7.7					
GERES			LR	LR	08 31 16.3	
	comp=Z,61nm,18.1s,baz=30,slow=40					
WVOR	**Wild Horse Val**	**83.09 44**	P	**P**	**07 49 06.8**	**+0.1**
MFID	**Camas Ranch**	**84.16 42**	P	**P**	**07 49 12.6**	**+0.4**
MFID			IAmb	IAmb	07 49 13.5	
	comp=Z,4.2nm,0.8s					
DLMT	**Dillon**	**84.77 39**	P	**P**	**07 49 15.9**	**+0.6**
DLMT			IAmb	IAmb	07 49 16.5	
	comp=Z,9.2nm,1.1s					
NVAR	**Mina Array Bea**	**85.65 47**	P	**P**	**07 49 20.2**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=302,slow=5.3,SNR=30					
FLWY	**Flagg Ranch**	**86.63 39**	P	**P**	**07 49 25.0**	**+0.4**
FLWY			IAmb	IAmb	07 49 26.9	
	comp=Z,6.7nm,0.9s					
TPNV	**Topopah Spring**	**87.84 48**	P	**P**	**07 49 30.9**	**+0.4**
DUG	**Dugway, Tooele**	**87.93 43**	P	**P**	**07 49 29.1**	**-1.8**
DUG			IAmb	IAmb	07 49 32.5	
	comp=Z,4.8nm,0.9s					
BW06	**Boulder Array**	**88.12 40**	P	**P**	**07 49 29.9**	**-2.0**
PD31	**Pinedale Array**	**88.12 40**	P	**P**	**07 49 31.5**	**-0.3**
PDAR	**Pinedale Array**	**88.12 40**	P	**P**	**07 49 31.6**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=297,slow=1.3,SNR=19					
ULM	**Lac du Bonnet**	**89.26 28**	P	**P**	**07 49 36.4**	**-0.3**
	comp=Z,5.6nm,0.9s,baz=276,slow=4.5,SNR=6.5					
ULM	**Lac du Bonnet**	**89.26 28**	P	**P**	**07 49 36.6**	**-0.1**
PPT	**Papeete**	**90.22 110**	LR	LR	08 25 34.5	
	comp=Z,23nm,20.4s,baz=129,slow=32					
WUAZ	**Wupatki**	**91.80 46**	P	**P**	**07 49 49.0**	**-0.1**
TXAR	**Lajitas Array**	**100.77 46**	P	**Pdif**	**07 50 29.7**	**0.0**
	comp=Z,0.8nm,0.9s,baz=293,slow=3.2,SNR=4.5					
TORD	**Torodi Ar. Bea**	**114.48 304**	PKP	**PKiKP**	**07 55 19.4**	**-1.7**
	comp=Z,0.8nm,1.0s,baz=31,slow=1.6,SNR=4.6					

BUC 11 07:48:41.0±0.5, 45°27'N×23°59'E, h13km±2km, ml1.7/2, 16C-8D, Error ellipse: s-maj=4.9km s-min=2.4km az=173.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOT	**Lotru**	**0.22**	**36**	⇑P	Pg	07 48 46.2	+0.4
LOT				⇑S	Sb	07 48 50.0	-0.8
LOT	**Lotru**	**0.22**	**36**	⇑P	Pg	07 48 46.2	+0.4
LOT				⇑S	Sb	07 48 50.0	-0.8
LOT				AML	AML	07 48 50.3	
GZR	**Gura Zlata**	**0.58**	**282**	⇑P	Pg	07 48 52.3	-0.2
GZR				⇑S	Sg	07 48 60.0	-0.2
GZR	**Gura Zlata**	**0.58**	**282**	⇑P	Pg	07 48 52.3	-0.2
GZR				⇑S	Sg	07 48 60.0	-0.2
GZR				AML	AML	07 49 01.4	
VOIR		**1.04**	**80**	⇓P	Pb	07 49 00.3	-0.6
VOIR				⇓S	Sg	07 49 15.0	+0.3
VOIR		**1.04**	**80**	⇓P	Pb	07 49 00.3	-0.6
VOIR				⇓S	Sg	07 49 15.0	+0.3
MDVR	**Moldovita**	**1.42**	**250**	⇑P	Pb	07 49 07.0	-0.3
MDVR				⇑S	Sg	07 49 26.2	-0.5
MDVR	**Moldovita**	**1.42**	**250**	⇑P	Pb	07 49 07.0	-0.3
MDVR				⇑S	Sg	07 49 26.2	-0.5
BZS	**Buzias**	**1.43**	**285**	⇓P	Pb	07 49 07.1	-0.4
BZS				⇓S	Sn	07 49 24.9	-0.3
BZS	**Buzias**	**1.43**	**285**	⇓P	Pb	07 49 07.1	-0.4
BZS				⇓S	Sn	07 49 24.9	-0.3
DRGR		**1.64**	**338**	⇑S	Sn	07 49 30.7	+0.2
DRGR		**1.64**	**338**	⇑S	Sn	07 49 30.7	+0.2
SIRR	**Siria**	**1.68**	**307**	⇑S	Sb	07 49 33.1	+0.4
SIRR	**Siria**	**1.68**	**307**	⇑S	Sb	07 49 33.1	+0.4

*ISCJB **11** 07:50:31.5±0.7, 27°.80N±0°.04×105°.77W±0°.06, h10km, Error ellipse: s-maj=7.8km s-min=5.9km az=1.6*
*NEIC **11** 07:50:32.5±0.6, 27°.75N±0°.03×105°.80W±0°.08, h15km±8km, Md4.0(MEX)*
*MEX **11** 07:50:33.9±0.3, 27°.79N×105°.66W, h8km±8km, MD4.0*
ISC 11 07:50:32.2±1.0, 27°.78N±0°.05×105°.76W±0°.06, h10km, n9, σ0s91/15, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HPIG		**0.84**	**174**	*e*P	**Pg**	**07 50 48.3**	**-0.2**
	baz=0.3,slow=18						
HPIG				*i* S	**Sg**	**07 50 59.5**	**+0.1**
HPIG		**0.84**	**174**		**Pg**	**07 50 48.3**	**-0.2**
HPIG					**Sg**	**07 50 59.5**	**+0.1**
TX31	**Lajitas Ar. Si**	**2.41**	**49**		**Pn**	**07 51 11.9**	**+0.2**
TX31				Sn	**Sn**	**07 51 41.5**	**+0.3**
TX32	**Lajitas Array**	**2.41**	**49**		**Pn**	**07 51 11.3**	**-0.4**
TX32				Sn	**Sn**	**07 51 41.9**	**+0.6**
CGIG		**3.23**	**324**	*i* P	**Pn**	**07 51 22.9**	**-0.2**
CGIG				*i* S	**Sn**	**07 52 01.1**	**-0.6**
CGIG		**3.23**	**324**		**Pn**	**07 51 22.9**	**-0.2**
CGIG					**Sn**	**07 52 01.1**	**-0.6**
MNTX	**Cornudas Mount**	**3.92**	**5**		**Pn**	**07 51 31.6**	**-0.9**
JCT	**Junction City**	**5.86**	**61**	Pn	**Pn**	**07 51 59.5**	**+0.3**
TUC	**Tucson**	**6.28**	**317**	Pn	**Pn**	**07 52 07.6**	**+2.7**

NNC 11 08:16:16.7±9.8, 37°.83N×71°.65E, h0km, mb3.6, mpv3.2, 3C-1D, Error ellipse: s-maj=83.9km s-min=51.6km az=159.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.28**	**23**	P	Pn	08 17 37.1	+0.1
	3.7nm,0.5s						
AAK				⇑S	Sn	08 18 38.9	+0.4
	4.2nm,0.8s						
KK31	**Karatay Array**	**5.34**	**351**	⇑P	Pn	08 17 39.3	+1.6
	0.5nm,0.3s,baz=178,slow=13,SNR=4.5						
KK31				⇑S	Sn	08 18 42.4	+2.5
	12nm,0.6s,baz=169,slow=22,SNR=6.8						
AB31	**Akbulak array**	**14.21**	**327**	⇓P	Pn	08 19 37.6	-1.5
	0.4nm,0.6s,baz=133,slow=14,SNR=5.6						

*NEIC **11** 08:23:30.4±2.0, 30°.83S±0°.08×178°.2W±0°.3, h17km±6km, mb4.2/7*
*IDC **11** 08:23:36.0±2.7, 30°.56S×178°.36W, h50km±26km, mb4.1/4, mb1 4.2/4, mb1mx3.7/24, mbtmp4.3/4, Error ellipse: s-maj=30.7km s-min=20.8km az=126.0*
ISC 11 08:23:32.3±1.1, 30°.81S±0°.09×178°.2W±0°.2, h35km, n19, σ1s37/20, mb4.2/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.57**	**8**	P	**Pn**	**08 23 57.4**	**-0.3**
	69nm,0.3s,baz=114,slow=20,SNR=5.8						
RAO				S	**Sn**	**08 24 15.5**	**-1.3**
	451nm,0.3s,baz=201,slow=23,SNR=11						
RAO	**Raoul Island**	**1.57**	**8**		**Sn**	**08 24 16.7**	**-0.1**
URZ	**Urewera**	**8.38**	**206**	P	**Pn**	**08 25 29.8**	**-1.5**
	0.7nm,0.3s,baz=14,slow=19,SNR=4.7						
URZ				S	**Sn**	**08 27 03.1**	**-1.5**
	1.7nm,0.3s,baz=122,slow=18,SNR=9.1						
BKZ	**Black Stump Fm**	**9.41**	**206**	Pn	**Pn**	**08 25 44.1**	**-1.3**
STKA	**Stephens Creek**	**34.24**	**258**	P	**P**	**08 30 17.2**	**+2.4**
	6.7nm,0.9s,baz=101,slow=12,SNR=9.1						
STKA	**Stephens Creek**	**34.24**	**258**	P	**P**	**08 30 15.7**	**+0.8**
BBOO	**Buckleboo**	**38.71**	**255**	P	**P**	**08 30 53.5**	**+0.5**
ASAR	**Alice Springs**	**42.94**	**267**	P	**P**	**08 31 28.6**	**+0.6**
	2.2nm,0.8s,baz=104,slow=7.0,SNR=25						
WR0	**Warramunga Arr**	**43.78**	**273**	P	**P**	**08 31 35.2**	**+0.4**
WR0				IAmb	IAmb	08 31 46.7	
	comp=Z,5.9nm,1.4s						
WB2	**Warramunga Arr**	**43.95**	**273**	P	**P**	**08 31 37.0**	**+0.8**
WB2				IAmb	IAmb	08 31 38.9	
	comp=Z,3.0nm,0.6s						
WRAB	**Tennant Creek**	**43.96**	**273**	P	**P**	**08 31 37.3**	**+1.0**
WRAB				IAmb	IAmb	08 31 38.9	
	comp=Z,2.3nm,0.7s						
WRA	**Warramunga Arr**	**43.96**	**273**	P	**P**	**08 31 36.5**	**+0.2**
	comp=Z,2.2nm,0.5s,baz=114,slow=7.5,SNR=32						
ANA2	**Anatahan**	**58.34**	**318**	P	**P**	**08 33 22.7**	**-1.4**
QSPA	**South Pole Qui**	**59.30**	**180**	P	**P**	**08 33 34.2**	**+3.8**
	comp=Z,4.7nm,1.0s,baz=136,slow=0.6,SNR=12						
QSPA	**South Pole Qui**	**59.30**	**180**	P	**P**	**08 33 32.0**	**+1.7**
FINES	**FINESS Array B**	**145.48**	**340**	PKPbc	**PKPab**	**08 43 05.2**	**-1.1**
	comp=Z,4.0nm,0.7s,baz=72,slow=2.7,SNR=11						
NOA	**NORSAR Array B**	**149.13**	**351**	PKPbc	**PKiKP**	**08 43 16.2**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=23,slow=3.8,SNR=2.5						
AKASG	**Malin Array Be**	**151.53**	**322**	PKPbc	**PKiKP**	**08 43 23.6**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=54,slow=3.4,SNR=5.9						
BRTR	**Keskin Array B**	**152.66**	**298**	PKPbc	**PKiKP**	**08 43 28.2**	**+2.6**
	comp=Z,0.5nm,0.4s,baz=118,slow=3.1,SNR=3.4						

*IDC **11** 08:27:21.8±1.2, 21°.61S×66°.65W, h201km±12km, mb3.2/4, mb1 3.4/7, mb1mx3.3/26, mbtmp3.7/7, Error ellipse: s-maj=23.8km s-min=12.2km az=111.0*
*ISCJB **11** 08:27:22.3±0.5, 21°.66S±0°.03×66°.88W±0°.07, h224km±7km, mb3.3/4, Error ellipse: s-maj=10.8km s-min=5.2km az=170.3*
*SJA **11** 08:27:22.8±0.8, 21°.74S×66°.92W, h245km±11km, ML2.9, MW3.1*
*GUC **11** 08:27:23.6±0.4, 21°.55S×67°.40W, h257km±12km, ML3.9*
ISC 11 08:27:22.2±0.8, 21°.58S±0°.06×66°.77W±0°.07, h209km±9km, n39, σ1s46/52, mb3.4/4, 5C-4D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.23**	**242**	P	**Pn**	**08 28 05.2**	**+1.0**
	3.3nm,0.3s,baz=62,slow=6.3,SNR=26						
LVC				S	**Sn**	**08 28 36.8**	**-0.1**
	7.8nm,0.3s,baz=250,slow=21,SNR=33						
PB09	**IPOC Station P**	**2.31**	**264**	⇓*i*P	**Pn**	**08 28 06.3**	**+1.5**
PB08	**IPOC Station P**	**2.64**	**302**	⇑*i*P	**Pn**	**08 28 10.8**	**+2.1**
PB08				*i* S	**Sn**	**08 28 46.1**	**+1.2**
PB08				IAML		08 28 48.3	
	comp=N,70nm,0.6s						
PB03	**IPOC Station P**	**2.81**	**260**	⇓*i*P	**Pn**	**08 28 10.8**	**+0.5**
PB03				*i* S	**Sn**	**08 28 46.9**	**-1.1**
PB03				IAML		08 28 47.4	
	comp=E,154nm,0.2s						
PB06	**IPOC Station P**	**2.83**	**246**	IAML		08 28 49.6	
	comp=E,166nm,0.4s						
PB06	**IPOC Station P**	**2.83**	**246**	*i* P	**Pn**	**08 28 12.1**	**+1.5**
PB06				*eS*	**Sn**	**08 28 47.9**	**-0.5**
PB07	**IPOC Station P**	**2.90**	**266**	⇑*i*P	**Pn**	**08 28 12.0**	**+0.6**
PB07				*i* S	**Sn**	**08 28 48.6**	**-1.2**
PB07				IAML		08 28 49.1	
	comp=E,236nm,0.4s						
GO01	**Chusmiza**	**2.96**	**309**	⇑*i*P	**Pn**	**08 28 14.0**	**+1.6**
GO01				IAML		08 29 01.8	
	comp=N,295nm,0.1s						
PB15	**IPOC Station P**	**2.98**	**236**	⇑*i*P	**Pn**	**08 28 13.9**	**+1.6**
PB15				*i* S	**Sn**	**08 28 51.2**	**-0.3**
PB15	**IPOC Station P**	**2.98**	**236**	*i* P	**Pn**	**08 28 13.8**	**+1.5**
PB15				*eS*	**Sn**	**08 28 50.6**	**-0.9**
PB04	**IPOC Station P**	**3.22**	**256**	IAML		08 28 56.0	
	comp=N,191nm,0.2s						
PB04	**IPOC Station P**	**3.22**	**256**	*i* P	**Pn**	**08 28 15.9**	**+0.8**
PB04				*eS*	**Sn**	**08 28 54.7**	**-1.9**
PB11	**IPOC Station P**	**3.25**	**303**	⇓*i*P	**Pn**	**08 28 16.3**	**+0.9**
PB11				*i* S	**Sn**	**08 28 56.4**	**-0.7**
PB11				IAML		08 28 59.3	
	comp=N,284nm,0.2s						
SLA	**San Lorenzo**	**3.34**	**160**	*i* P	**Pn**	**08 28 18.0**	**+1.5**
SLA				IAML		08 28 19.4	
	comp=Z,17nm,0.4s						
PB05	**IPOC Station P**	**3.42**	**248**	*eP*	**Pn**	**08 28 17.9**	**+0.4**
PB05				*i* S	**Sn**	**08 28 58.2**	**-2.5**
PB05	**IPOC Station P**	**3.42**	**248**	*i* P	**Pn**	**08 28 18.0**	**+0.6**
PB05				*eS*	**Sn**	**08 28 58.9**	**-1.9**
MNMC	**Minye Minye**	**3.59**	**312**	⇑*i*P	**Pn**	**08 28 21.2**	**+1.5**
MNMC				*i* S	**Sn**	**08 29 05.4**	**+0.6**
PSGC	**Pisagua**	**3.70**	**302**	*eP*	**Pn**	**08 28 20.6**	**-0.2**
PSGC				*i* S	**Sn**	**08 29 04.5**	**-2.4**
PB10	**IPOC Station P**	**3.99**	**240**	*i* P	**Pn**	**08 28 24.4**	**+0.2**
PB14	**IPOC Station P**	**4.51**	**227**	*i* P	**Pn**	**08 28 30.9**	**-0.2**
FSA	**Cafayete**	**4.57**	**171**	*i* P	**Pn**	**08 28 32.7**	**+1.0**
AHML	**Horco Molle**	**5.35**	**166**	*i* P	**Pn**	**08 28 41.4**	**0.0**
**LPAZ

DGS					S		Sg	08 49 00.7	+0.9
	15nm,0.6s								
KST	**Kastek**	**0.99**	**102**		P		**Pg**	**08 48 52.7**	**+0.4**
	8.1nm,0.6s								
KST					S		**Sg**	**08 49 06.3**	**+1.3**
	14nm,0.7s								
UCH	**Uchtor**	**1.03**	**185**	⇓	P		**Pn**	**08 48 54.8**	**-0.6**
	1.1nm,0.1s,SNR=6.9								
MRKS	**Merke**	**1.16**	**244**		P		**Pn**	**08 48 56.3**	**-0.6**
	2.9nm,0.4s								
MRKS					S		**Sn**	**08 49 12.5**	**-1.0**
	4.5nm,0.5s								
KTBS	**Karatobe**	**1.55**	**72**		P		**Pn**	**08 49 02.1**	**-0.1**
	4.3nm,0.6s								
KTBS					S		**Sn**	**08 49 22.8**	**-0.4**
	23nm,0.5s								
MDOK	**Medeo**	**1.76**	**92**		P		**Pb**	**08 49 06.8**	**+0.3**
	6.2nm,0.7s								
MDOK					S		**Sn**	**08 49 27.7**	**-0.7**
	2.3nm,0.3s								
KOTS	**Kotyrbulak**	**1.80**	**90**		P		**Pg**	**08 49 08.5**	**+0.6**
	8.9nm,0.5s								
KOTS					S		**Sg**	**08 49 33.6**	**+2.3**
	29nm,0.5s								
BTLS	**Baital**	**1.84**	**347**		P		**Pb**	**08 49 07.7**	**-0.1**
	1.4nm,0.5s								
BTLS					S		**Sg**	**08 49 32.0**	**-0.4**
	5.4nm,0.6s								

NNC ***11*** *08:49:48.7±0.7,44.76N×80.60E,h0km,mb3.7,mpv3.5, Error ellipse: s-maj=6.1km s-min=3.9km az=116.0*
SOME ***11*** *08:49:49.2,44.72N×80.53E,h5km*
ISC 11 08:49:47.6±1.2,44.74N±0.03×80.57E±0.04,h13km±10km, n35,σ1%51/52,7C-5D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.69**	**234**	*e*P		**Pn**	**08 50 03.1**	**0.0**
	7.5nm,0.2s							
DJR				*e*S		**Sn**	**08 50 13.4**	**-0.3**
	60nm,0.1s							
DJR	**Jarkent**	**0.69**	**234**	P		**Pn**	**08 50 03.1**	**0.0**
	5.9nm,0.2s							
DJR				S		**Sn**	**08 50 13.4**	**-0.3**
	59nm,0.1s							
KAPS	**Kapalarasan**	**1.02**	**303**	*e*P		**Pn**	**08 50 07.9**	**+0.3**
	20nm,0.2s							
KAPS				*e*S		**Sn**	**08 50 21.6**	**-0.2**
	93nm,0.2s							
KAPS	**Kapalarasan**	**1.02**	**303**	P		**Pn**	**08 50 07.9**	**+0.3**
	23nm,0.2s							
KAPS				S		**Sn**	**08 50 21.4**	**-0.5**
	107nm,0.3s							
TDK	**Taldyqorghan**	**1.56**	**281**	*e*P		**Pg**	**08 50 18.3**	**+0.7**
	77nm,0.3s							
TDK				*e*S		**Sg**	**08 50 39.9**	**+2.0**
	402nm,0.4s							
TDK	**Taldyqorghan**	**1.56**	**281**	P		**Pg**	**08 50 18.3**	**+0.7**
	90nm,0.3s							
TDK				S		**Sg**	**08 50 40.6**	**+2.8**
	500nm,0.5s							
PDGK	**Podgornoye**	**1.61**	**209**	P		**Pg**	**08 50 18.5**	**0.0**
	29nm,0.4s							
PDGK				S		**Sg**	**08 50 39.8**	**+0.4**
	68nm,0.2s							
PDGK	**Podgornoye**	**1.61**	**209**	⇓P		**Pg**	**08 50 18.3**	**-0.2**
	24nm,0.4s							
PDGK				⇑S		**Sg**	**08 50 40.3**	**+0.9**
	43nm,0.4s							
SHLS	**Shalkode**	**1.77**	**207**	*e*P		**Pn**	**08 50 19.0**	**+1.0**
	56nm,0.2s							
SHLS				*e*S		**Sn**	**08 50 40.7**	**+0.2**
	275nm,0.3s							
SHLS	**Shalkode**	**1.77**	**207**	P		**Pn**	**08 50 19.0**	**+1.0**
	56nm,0.5s							
SHLS				S		**Sn**	**08 50 41.7**	**+1.2**
	252nm,0.2s							
ARXS	**Arharly**	**2.03**	**256**	*e*P		**Pg**	**08 50 26.6**	**0.0**
	5.8nm,0.4s							
ARXS				*e*S		**Sg**	**08 50 54.0**	**+1.1**
	145nm,0.3s							
ARXS	**Arharly**	**2.03**	**256**	Pg		**Pg**	**08 50 26.6**	**0.0**
	9.9nm,0.2s							
ARXS				Lg		Lg	08 50 54.0	
	139nm,0.3s							
ZHN	**Zhinishke**	**2.20**	**225**	*e*P		**Pg**	**08 50 28.9**	**-0.9**
	9.4nm,0.2s							
ZHN				*e*S		**Sg**	**08 50 57.3**	**-1.0**
	74nm,0.3s							
ZHN	**Zhinishke**	**2.20**	**225**	Pg		**Pg**	**08 50 28.9**	**-0.9**
	16nm,0.3s							
ZHN				Lg		Lg	08 50 57.4	
	83nm,0.2s							
MAKZ	**Makanchi**	**2.29**	**25**	⇓Pn		**Pg**	**08 50 29.6**	**-2.0**
	2.9nm,0.4s							
MAKZ				⇑Sn		**Sb**	**08 50 55.4**	**-1.6**
	4.8nm,0.2s							
SATY	**Saty**	**2.29**	**224**	*e*P		**Pg**	**08 50 31.1**	**-0.5**
	14nm,0.1s							
SATY				*e*S		**Sg**	**08 51 01.4**	**+0.1**
	196nm,0.3s							
SATY	**Saty**	**2.29**	**224**	Pg		**Pg**	**08 50 31.1**	**-0.5**
	15nm,0.1s							
SATY				Lg		Lg	08 51 02.1	
	178nm,0.3s							
MK31	**Makanchi Array**	**2.38**	**30**	⇑Pn		**Pg**	**08 50 27.5**	**+1.2**
	0.8nm,0.2s,baz=210,slow=13,SNR=83							
MK31				Pg		**Pg**	**08 50 34.2**	**+0.9**
	2.0nm,0.3s,baz=201,slow=17,SNR=16							
MK31				⇑Lg		Lg	08 50 56.7	
	3.8nm,0.2s,baz=239,slow=29,SNR=4.0							
KOTS	**Kotyrbulak**	**2.91**	**240**	*e*P		**Pg**	**08 50 42.5**	**-1.0**
	11nm,0.3s							
KOTS				*e*S		**Sg**	**08 51 20.8**	**-0.4**
	110nm,0.5s							
KOTS	**Kotyrbulak**	**2.91**	**240**	Pg		**Pg**	**08 50 42.5**	**-1.0**
	17nm,0.3s							
KOTS				Lg		Lg	08 51 20.8	
	107nm,0.5s							
KTBS	**Karatobe**	**2.98**	**251**	*e*P		**Pg**	**08 50 43.1**	**-1.5**
	1.1nm,0.3s							
KTBS				*e*S		**Sg**	**08 51 21.8**	**-1.4**
	61nm,0.5s							
KTBS	**Karatobe**	**2.98**	**251**	Pg		**Pg**	**08 50 43.1**	**-1.5**
	2.9nm,0.2s							
KTBS				Lg		Lg	08 51 21.8	
	59nm,0.3s							
MDOK	**Medeo**	**2.99**	**239**	Pg		**Pg**	**08 50 48.1**	**+3.2**
	3.5nm,0.4s							
MDOK				⇑Lg		Lg	08 51 22.9	
	9.6nm,0.4s							
KST	**Kastek**	**3.74**	**245**	*e*P		**Pg**	**08 50 58.1**	**-1.0**
	7.0nm,0.6s							
KST				*e*S		**Sg**	**08 51 47.4**	**-0.2**
	16nm,0.5s							
KST	**Kastek**	**3.74**	**245**	Pg		**Pg**	**08 50 58.1**	**-1.0**
	7.6nm,0.6s							
KST				Lg		Lg	08 51 47.4	
	15nm,0.5s							
DGS	**Degeres**	**3.77**	**248**	*e*P		**Pg**	**08 50 57.2**	**-2.7**
	4.1nm,0.3s							
DGS				*e*S		**Sg**	**08 51 46.1**	**-2.6**
	38nm,0.5s							
DGS	**Degeres**	**3.77**	**248**	Pg		**Pg**	**08 50 57.2**	**-2.7**
	4.1nm,0.3s							
DGS				Lg		Lg	08 51 46.1	
	38nm,0.5s							
TKM2	**Tokmak 2**	**4.03**	**245**	⇑Pg		**Pg**	**08 51 08.1**	**+3.3**
	1.5nm,0.4s							
TKM2				⇑Lg		Lg	08 51 57.8	
	7.6nm,0.5s							
ZSN	**Zaisan**	**4.04**	**46**	*e*P		**Pb**	**08 50 58.6**	**+0.1**
	5.3nm,0.3s							
ZSN				*e*S		**Sb**	**08 51 48.3**	**+1.1**
	18nm,0.4s							
ZSN	**Zaisan**	**4.04**	**46**	Pg		**Pb**	**08 50 58.6**	**+0.1**
	5.5nm,0.3s							
ZSN				Lg		Lg	08 51 48.3	
	15nm,0.4s							
AAK	**Ala-Archa**	**4.88**	**247**	⇓Lg		Lg	08 52 23.5	
	5.6nm,0.6s							
SEM	**Semipalatinsk**	**5.68**	**358**	Pg		**Pg**	**08 51 32.7**	**-3.6**
	3.1nm,0.2s							
SEM				Lg		Lg	08 52 46.5	
	8.9nm,0.2s							
MRKS	**Merke**	**5.68**	**252**	Pg		**Pg**	**08 51 32.7**	**-3.6**
	1.5nm,0.6s							
MRKS				Lg		Lg	08 52 46.8	
	2.9nm,0.4s							
KURBB	**Kurchatov Arra**	**6.05**	**348**	⇓Lg		Lg	08 53 00.6	
	24nm,0.7s							
KURK	**Kurchatov**	**6.12**	**348**	⇓Lg		Lg	08 52 59.1	
	8.6nm,0.6s							

IDC 11 09:03:30.1±1.1,2.14N×127.94E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.5/43,mbtmp3.8/5,MS3.0/2,Ms1 3.0/2, ms1mx2.3/33,Error ellipse: s-maj=60.6km s-min=19.5km az=60.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
LEM	**Lembang**	**22.15**	**246**	LR		LR	09 18 09.6	
	comp=Z,29nm,18.6s,baz=228,slow=40							
PMG	**Port Moresby**	**22.32**	**121**	P		P	09 08 29.0	-0.6
	8.0nm,0.4s,baz=228,slow=14,SNR=5.3							
WRA	**Warramunga Arr**	**22.83**	**164**	P		P	09 08 35.9	+1.0
	2.3nm,0.5s,baz=343,slow=11,SNR=30							
ASAR	**Alice Springs**	**26.30**	**168**	P		P	09 09 06.8	-0.9
	0.2nm,0.3s,baz=348,slow=6.9,SNR=5.7							
TLY	**Talaya**	**53.41**	**341**	LR		LR	09 35 38.7	
	comp=Z,14nm,19.2s,baz=106,slow=36							
MKAR	**Makanchi Array**	**59.54**	**325**	P		P	09 13 35.7	+0.2
	0.6nm,0.8s,baz=121,slow=9.0,SNR=3.6							
KURBB	**Kurchatov Arra**	**63.72**	**327**	P		P	09 14 03.4	-0.1
	0.3nm,0.5s,baz=135,slow=6.2,SNR=3.4							

ISCJB ***11*** *09:27:06.1±0.9,24.92N±0.06×122.85E±0.03,h15km±8km, Error ellipse: s-maj=10.2km s-min=4.2km az=17.2*
TAP ***11*** *09:27:07.1,24.87N×122.84E,h19km±1km,ML2.8,D*
JMA ***11*** *09:27:07.8±0.1,24.81N×122.88E,h32km±3km,M2.0*
ISC 11 09:27:05.4±1.7,24.93N±0.09×122.87E±0.04,h27km±12km, n22,σ0%76/33,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.48**	**172**	P		**Pn**	**09 27 16.1**	**-0.4**
JYNG				S		**Sb**	**09 27 21.8**	**-0.3**
YOJ	**Yonaguni jima**	**0.48**	**164**	P		**Pn**	**09 27 16.0**	**-0.5**
YOJ				*e*S		**Sb**	**09 27 21.9**	**-0.3**
YOJ	**Yonaguni jima**	**0.48**	**164**	P		**Pn**	**09 27 15.6**	**-0.9**
	baz=159							
YOJ				S		**Sb**	**09 27 22.0**	**-0.1**
	baz=159							
EOS1	**EOS1**	**0.77**	**241**	P		**Pb**	**09 27 20.9**	**+0.8**
	baz=243							
EOS1				S		**Sn**	**09 27 30.4**	**-0.7**
	baz=243							
TIPB	**Shuangxi**	**0.95**	**273**	*e*P		**Pb**	**09 27 23.1**	**-0.1**
	baz=276							
TIPB				*e*S		**Sn**	**09 27 34.6**	**-1.0**
	baz=276							
TWC	**Suao**	**0.98**	**251**	*e*S		**Sn**	**09 27 36.3**	**-0.1**
	baz=253							
IRIF	**Iriomote-Funau**	**0.98**	**127**	P		**Pb**	**09 27 24.4**	**+0.6**
NANB	**Nanao**	**1.13**	**244**	P		**Pb**	**09 27 26.1**	**-0.3**
	baz=245							
NANB				*e*S		**Sn**	**09 27 41.2**	**+1.1**
	baz=245							
ENA	**Nanau**	**1.14**	**244**	P		**Pb**	**09 27 26.6**	**+0.2**
	baz=245							
ENA				*e*S		**Sn**	**09 27 39.8**	**-0.6**
	baz=245							
YM11	**YM11**	**1.20**	**282**	*e*S		**Sn**	**09 27 42.7**	**+0.8**
	baz=284							
ENTT	**Nioudou**	**1.22**	**257**	*e*P		**Pb**	**09 27 28.2**	**+0.4**
	baz=258							
ENTT				*e*S		**Sn**	**09 27 43.6**	**+1.3**
	baz=258							
JKRS	**Kuro-shima**	**1.25**	**123**	P		**Pb**	**09 27 28.7**	**+0.4**
NWLT	**Wulai**	**1.25**	**263**	*e*P		**Pb**	**09 27 28.2**	**-0.1**
	baz=265							
JIJ	**Ishigaki jima**	**1.29**	**116**	P		**Pb**	**09 27 29.1**	**+0.1**
YHNB	**Yeheng**	**1.38**	**260**	P		**Pb**	**09 27 30.6**	**0.0**
	baz=261							
YHNB				*e*S		**Sn**	**09 27 48.0**	**+1.6**
	baz=261							
NACB	**Ninganchiao**	**1.38**	**237**	*e*P		**Pb**	**09 27 31.5**	**+1.0**
	baz=238							
NSK	**Sanguang**	**1.40**	**260**	P		**Pb**	**09 27 31.4**	**+0.5**
	baz=261							
NSK				*e*S		**Sn**	**09 27 48.2**	**+1.4**
	baz=261							
NNSH	**Datong**	**1.44**	**250**	*e*P		**Pb**	**09 27 31.7**	**+0.1**
	baz=251							
NNS	**Nan Shan**	**1.44**	**251**	*e*P		**Pb**	**09 27 31.7**	**0.0**
	baz=251							
ETLH	**Xiulin Townshi**	**1.45**	**241**	*e*P		**Pb**	**09 27 32.6**	**+0.8**
	baz=241							
WHF	**Hehuan Shan**	**1.65**	**242**	*e*P		**Pb**	**09 27 34.6**	**-0.8**
	baz=243							
TDCB	**Techi**	**1.69**	**247**	*e*P		**Pb**	**09 27 35.6**	**-0.4**
	baz=247							
TDCB				*e*S		**Sn**	**09 27 55.3**	**+1.0**
	baz=247							

ISCJB ***11*** *10:07:43.0±0.2,37.75N±0.02×72.42E±0.03,h119km, mb4.0/14,Error ellipse: s-maj=4.1km s-min=2.8km az=153.7*
IDC ***11*** *10:07:43.3±3.2,37.69N×72.38E,h111km±26km,mb3.3/7, mb1 3.7/12,mb1mx3.4/45,mbtmp4.0/12,Error ellipse: s-maj=27.9km s-min=20.0km az=1.0*
BJI ***11*** *10:07:44.6±0.0,38.04N×72.35E,h119km,mb4.6/17, mB4.8/14*
NNC ***11*** *10:07:45.5±3.8,37.91N×72.01E,h104km±101km,mb4.1, mpv4.7,Error ellipse: s-maj=35.7km s-min=24.9km az=163.0*
MOS ***11*** *10:07:45.5±1.1,37.91N×72.42E,h144km,mb4.2/5,Error ellipse: s-maj=10.5km s-min=5.1km az=85.4*
NEIC ***11*** *10:07:46.3±2.4,37.95N±0.05×72.35E±0.07,h138km±8km, mb4.4/11*
ISC 11 10:07:44.3±0.4,37.84N±0.04×72.46E±0.04,h119km,n118, σ2%38/138,mb4.1/16,11C-7D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
GAR	**Garm**	**2.05**	**305**			**Pn**	**10 08 19.8**	**+1.4**
GAR				Sn		**Sn**	**10 08 44.7**	**+0.2**
BTK	**Batken**	**2.56**	**330**	PN		**Pn**	**10 08 27.6**	**+2.7**
BTK	**Batken**	**2.56**	**330**			**Pn**	**10 08 27.6**	**+2.7**
BTK				Sn		**Sn**	**10 08 56.4**	**+0.2**
CHGR	**Chuyangaron**	**2.73**	**288**			**Pn**	**10 08 27.5**	**+0.4**
CHGR				Sn		**Sn**	**10 08 59.4**	**-0.6**
KSH	**Kashi**	**3.22**	**58**	P		**Pn**	**10 08 32.5**	**-1.0**
KSH				S		**Sn**	**10 09 05.7**	**-5.8**
KSH				smax		smax		
	comp=N,11μm,0.4s							
KSH				smax		smax		
	comp=E,6μm,0.5s							
ARSB	**Arslanbob**	**3.50**	**6**			**Pn**	**10 08 38.9**	**+1.6**
ARSB				Sn		**Sn**	**10 09 18.1**	**-0.3**
CEP	**Cherat**	**4.03**	**187**	P		**Pn**	**10 08 47.3**	**+2.9**
CEP				S		**Sn**	**10 09 34.0**	**+3.1**
CHCP	**Chirah Chowk**	**4.22**	**171**	P		**Pn**	**10 08 50.9**	**+4.1**
NIL	**Nilore**	**4.23**	**171**	PN		**Pn**	**10 08 50.8**	**+3.9**
NIL	**Nilore**	**4.23**	**171**			**Pn**	**10 08 50.8**	**+3.9**
TAS	**Tashkent**	**4.26**	**326**	PN		**Pn**	**10 08 48.5**	**+1.1**
TAS	**Tashkent**	**4.26**	**326**	Pn		**Pn**	**10 08 48.5**	**+1.1**
KBL	**Kabul**	**4.30**	**221**	PN		**Pn**	**10 08 51.1**	**+3.1**
KBL							10 09 40.6	
KBL	**Kabul**	**4.30**	**221**			**Pn**	**10 08 51.1**	**+3.1**
KBL				Sn		**Sn**	**10 09 40.6**	**+3.2**
AML	**Almayashu**	**4.39**	**12**	P		**Pn**	**10 08 51.4**	**+2.0**
	SNR=497							
NRN	**Naryn**	**4.51**	**36**	PN		**Pn**	**10 08 52.3**	**+1.4**
NRN							10 09 43.2	
NRN	**Naryn**	**4.51**	**36**			**Pn**	**10 08 52.3**	**+1.4**
NRN				Sn		**Sn**	**10 09 43.2**	**+0.5**
UCH	**Uchtor**	**4.66**	**19**	P		**Pn**	**10 08 55.1**	**+2.1**
	SNR=333							
KZA	**Kyzart**	**4.75**	**26**	P		**Pn**	**10 08 56.1**	**+1.9**
	SNR=191							
EKS2	**Erkin-Say**	**4.92**	**11**	P		**Pn**	**10 08 58.3**	**+2.1**
	SNR=203							
AAK	**Ala-Archa**	**5.04**	**17**	*c i*PN		**Pn**	**10 09 00.5**	**+2.6**
AAK				pmax		pmax		
	comp=Z,100nm,0.5s							

AAK	**Ala-Archa**	**5.04**	**17**		P		**Pn**	**10 09 00.5**	**+2.6**
	comp=Z,81nm,0.3s,baz=166,slow=6.0,SNR=626								
AAK					S		**Sn**	**10 09 55.7**	**+0.6**
	comp=Z,4.4nm,0.3s,baz=300,slow=22,SNR=12								
AAK	**Ala-Archa**	**5.04**	**17**		P		**Pn**	**10 09 00.7**	**+2.8**
	SNR=224								
AAK	**Ala-Archa**	**5.04**	**17**	⇑	P		**Pn**	**10 09 00.6**	**+2.8**
	comp=Z,99nm,0.3s								
AAK				⇓	S		**Sn**	**10 09 55.7**	**+0.6**
	comp=Z,112nm,1.1s								
THW	**Thamme Wali**	**5.07**	**187**		P		**Pn**	**10 08 59.9**	**+1.7**
KBK	**Karagaybulak**	**5.17**	**21**		P		**Pn**	**10 09 02.4**	**+2.7**
	SNR=32								
FRU1	**Bishkek**	**5.24**	**18**		PN		**Pn**	**10 09 03.6**	**+3.2**
FRU1	**Bishkek**	**5.24**	**18**				**Pn**	**10 09 03.6**	**+3.2**
FRU1					Sn		**Sn**	**10 09 59.0**	**-0.7**
ULHL	**Ulahol**	**5.27**	**32**		P		**Pn**	**10 09 03.1**	**+2.1**
	SNR=40								
BOOM	**Boomskoye usch**	**5.36**	**29**		PN		**Pn**	**10 09 04.4**	**+2.2**
BOOM	**Boomskoye usch**	**5.36**	**29**				**Pn**	**10 09 04.4**	**+2.2**
CHMS	**Chumysh**	**5.44**	**18**		P		**Pn**	**10 09 05.7**	**+2.5**
	SNR=72								
KK31	**Karatay Array**	**5.47**	**345**		PN		**Pn**	**10 09 04.9**	**+1.4**
KK31					pmax		pmax		
	comp=Z,44nm,0.3s								
KK31	**Karatay Array**	**5.47**	**345**				**Pn**	**10 09 04.9**	**+1.4**
KK31					Sn		**Sn**	**10 10 02.8**	**-2.4**
KK31	**Karatay Array**	**5.47**	**345**	⇑	P		**Pn**	**10 09 05.0**	**+1.4**
	comp=Z,44nm,0.3s,baz=167,slow=12,SNR=785								
KK31				⇓	S		**Sn**	**10 10 02.1**	**-3.1**
	comp=Z,110nm,0.5s,baz=186,slow=28,SNR=26								
KKAR	**Karatay Array**	**5.47**	**345**		PN		**Pn**	**10 09 05.0**	**+1.5**
KKAR	**Karatay Array**	**5.47**	**345**				**Pn**	**10 09 05.0**	**+1.5**
KKAR					Sn		**Sn**	**10 10 02.8**	**-2.4**
JMU	**Jammu**	**5.48**	**158**	*e*	P		**Sn**	**10 10 00.0**	**-5.6**
KDJ	**Kajisay**	**5.61**	**39**		PN		**Pn**	**10 09 07.2**	**+1.6**
KDJ	**Kajisay**	**5.61**	**39**				**Pn**	**10 09 07.2**	**+1.6**
TKM2	**Tokmak 2**	**5.61**	**24**		PN		**Pn**	**10 09 07.7**	**+2.1**
TKM2					pmax		pmax		
	comp=Z,24nm,0.5s								
TKM2	**Tokmak 2**	**5.61**	**24**		P		**Pn**	**10 09 07.8**	**+2.1**
	SNR=61								
TKM2	**Tokmak 2**	**5.61**	**24**	⇑	P		**Pn**	**10 09 07.8**	**+2.1**
	comp=Z,24nm,0.5s								
TKM2				⇑	S		**Sn**	**10 10 15.7**	**+6.7**
	comp=Z,9.3nm,0.4s								
USP	**Ospenovka**	**5.64**	**15**		P		**Pn**	**10 09 07.8**	**+1.9**
	SNR=75								
TARG	**Taragay, Kyrgy**	**5.66**	**45**				**Pn**	**10 09 08.8**	**+2.3**
THN	**Thein Dam**	**6.01**	**153**	*e*	P		Pn	10 09 17.0	+6.1
THN				*e*	S		**Sn**	**10 10 19.5**	**+1.0**
MDOK	**Medeo**	**6.36**	**32**	⇓	P		**Pn**	**10 09 17.4**	**+1.7**
	comp=Z,18nm,0.6s								
DHRM	**DHARAMSHALA**	**6.40**	**149**	*e*	P		**Pn**	**10 09 18.6**	**+2.2**
DHRM				*e*	S		**Sn**	**10 10 26.0**	**-2.2**
DHRM					IAML			10 10 52.9	
	comp=N,102nm,0.3s								
DHRM					IAML			10 10 53.0	
	comp=E,166nm,0.0s								
PDGK	**Podgornoye**	**7.66**	**42**		PN		**Pn**	**10 09 34.0**	**+0.8**
PDGK					pmax		pmax		
	comp=Z,23nm,0.7s								
PDGK	**Podgornoye**	**7.66**	**42**	⇑	P		**Pn**	**10 09 34.1**	**+0.8**
	comp=Z,23nm,0.7s								
SMLA	**Simla**	**7.74**	**149**	*e*	P		**Pn**	**10 09 35.2**	**+1.0**
SMLA				*e*	S		**Sn**	**10 10 54.6**	**-5.6**
SMLA					IAML			10 10 59.4	
	comp=N,242nm,0.5s								
SMLA					IAML			10 10 59.5	
	comp=E,410nm,0.5s								
JOSI	**Joshimath**	**9.34**	**139**	*e*	P		**Pn**	**10 09 57.0**	**+0.9**
JOSI				*e*	S		Sn	10 11 30.9	-8.5
NDI	**New Delhi**	**9.96**	**155**	*e*	P		**Pn**	**10 10 01.0**	**-3.2**
NDI				*e*	S		**Sn**	**10 11 46.0**	**-8.1**
KUDL	**Kundal**	**10.24**	**160**	*e*	P		**Pn**	**10 10 04.3**	**-3.7**
KUDL				*e*	S		Sn	10 11 47.6	-13
GEYT	**Alibeck**	**11.34**	**275**		P		**Pn**	**10 10 19.8**	**-3.0**
	comp=E,3.4nm,0.3s,baz=130,slow=7.9,SNR=12								
GEYT					S		Sn	10 12 18.7	-8.9
	comp=E,3.9nm,0.3s,baz=243,slow=26,SNR=6.6								
GYA0B	**ALIBECK ARRAY**	**11.34**	**275**		Pn		**Pn**	**10 10 20.3**	**-2.5**
GYA0B	**ALIBECK ARRAY**	**11.34**	**275**	⇑	P		**Pn**	**10 10 20.0**	**-2.8**
GYA0B				⇓	S		Sn	10 12 17.2	-10
MAKZ	**Makanchi**	**11.39**	**35**		P		**Pn**	**10 10 23.9**	**+0.5**
MAKZ	**Makanchi**	**11.39**	**35**				**Pn**	**10 10 23.9**	**+0.5**
MK31	**Makanchi Array**	**11.52**	**36**	*i*	P		**Pn**	**10 10 26.2**	**+1.0**
MK31					pmax		pmax		
	comp=Z,11nm,1.0s								
MK31	**Makanchi Array**	**11.52**	**36**				**Pn**	**10 10 26.1**	**+1.0**
MKAR	**Makanchi Array**	**11.52**	**36**	*i*	P		**Pn**	**10 10 26.3**	**+1.2**
MKAR					pmax		pmax		
	comp=Z,6.0nm,0.7s								
MKAR	**Makanchi Array**	**11.52**	**36**		P		**Pn**	**10 10 26.4**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=223,slow=15,SNR=24								
WMQ	**Urumqi**	**12.98**	**58**	*e*	P		**Pn**	**10 10 46.2**	**+1.9**
WMQ					pmax		pmax		
	comp=Z,15nm,0.7s								
WMQ					pmax		pmax		
	comp=Z,110nm,3.7s								
WMQ					LR		LR		
	comp=Z,200nm,5.9s								
WMQ					LR		LR		
	comp=Z,210nm,5.1s								
WMQ					LR		LR		
	comp=Z,160nm,5.1s								
DANN	**Dangsing**	**13.38**	**132**	*e*	P		**Pn**	**10 10 47.1**	**-2.6**
	comp=Z,90nm,0.4s								
KURBB	**Kurchatov Arra**	**13.49**	**17**		P		**Pn**	**10 10 49.3**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=204,slow=12,SNR=19								
KURK	**Kurchatov**	**13.60**	**17**	⇑	eP		**Pn**	**10 10 50.3**	**-1.9**
KURK					pmax		pmax		
	comp=Z,9.0nm,1.3s								
KURK	**Kurchatov**	**13.60**	**17**				**Pn**	**10 10 50.1**	**-2.1**
KOLN	**Koldanda**	**13.72**	**134**	*e*	P		**Pn**	**10 10 52.1**	**-2.0**
	comp=Z,22nm,0.3s								
**G

ZALV	**Zalesovo Beam**	**18.22**	**24**	P		**P**	**10 11 48.6**	**+0.7**
	comp=Z,2.3nm,0.3s,baz=211,slow=12,SNR=20							
SHL	**Shillong**	**20.51**	**121**	P		**P**	**10 12 14.7**	**+1.4**
SHL				pmax	pmax			
	comp=Z,10.0nm,0.5s							
SHL	**Shillong**	**20.51**	**121**	P		**P**	**10 12 14.7**	**+1.4**
SHL				IAmb	IAmb		10 12 15.6	
	comp=Z,10nm,0.5s							
GTA	**Gaotai**	**21.40**	**77**	*e*P		**P**	**10 12 24.0**	**+1.4**
GTA				pP	pP		10 12 48.1	+2.3
GTA				sP	sP		10 13 04.0	+2.8
LZH	**Lanzhou**	**25.08**	**84**	⇓P		**P**	**10 12 59.0**	**+1.1**
LZH				pP	pP		10 13 26.2	+1.4
LZH				sP	sP		10 13 41.5	+2.2
LZH				PP		**PnPn**	**10 13 42.7**	**+3.5**
LZH				pmax	pmax			
	comp=Z,20nm,1.1s							
LZH				pmax	pmax			
	comp=Z,81nm,4.7s							
BRTR	**Keskin Array B**	**30.17**	**286**	P		**P**	**10 13 43.6**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=104,slow=7.1,SNR=3.7							
HHC	**Hu-ho-hao-te**	**30.22**	**72**	P		**P**	**10 13 46.6**	**+2.9**
HHC				pmax	pmax			
	comp=Z,4.0nm,0.8s							
DAMY	**Dhamar**	**33.99**	**235**	P		**P**	**10 14 17.6**	**+0.5**
DAMY				IAmb	IAmb		10 14 36.4	
	comp=Z,16nm,1.4s							
FINES	**FINESS Array B**	**37.05**	**325**	P		**P**	**10 14 43.9**	**+1.6**
	comp=Z,1.3nm,0.7s,baz=123,slow=10,SNR=4.1							
SUW	**Suwalki**	**37.07**	**312**	P		**P**	**10 14 40.7**	**-1.9**
SUW				pmax	pmax			
	comp=Z,17nm,0.6s							
SUW	**Suwalki**	**37.07**	**312**	P		**P**	**10 14 40.7**	**-1.9**
LHMI	**Lhok Sumawe**	**39.39**	**139**	P		**P**	**10 15 03.4**	**+1.0**
VYHS	**Vyhne**	**39.79**	**303**	*e*P		**P**	**10 15 07.1**	**+1.6**
VYHS	**Vyhne**	**39.79**	**303**	*e*P		**P**	**10 15 07.1**	**+1.6**
ARCES	**ARCESS Array B**	**40.37**	**337**	P		**P**	**10 15 10.7**	**+0.8**
	comp=Z,5.3nm,1.0s,baz=99,slow=5.6,SNR=3.1							
NOA	**NORSAR Array B**	**44.03**	**322**	P		**P**	**10 15 38.7**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=101,slow=6.7,SNR=2.9							
TIXI	**Tiksi**	**44.10**	**22**	⇓*e*P		**P**	**10 15 41.7**	**+1.6**
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.7s							
VLC	**Villacollemand**	**46.30**	**298**	P		**P**	**10 15 57.5**	**-0.4**
VLC				IAmb	IAmb		10 16 14.8	
	comp=Z,7.5nm,1.0s							
SSB	**Saint Sauveur**	**50.01**	**301**	P		**P**	**10 16 25.8**	**-0.7**
SSB				pmax	pmax			
	comp=Z,10.0nm,1.3s							
SSB	**Saint Sauveur**	**50.01**	**301**	P		**P**	**10 16 25.8**	**-0.7**
SSB				IAmb	IAmb		10 16 29.2	
	comp=Z,9.7nm,1.3s							
BILL	**Bilibino**	**56.89**	**27**	*e*P		**P**	**10 17 15.4**	**-0.9**
BILL				*e*			10 19 21.9	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.1s							
LSZ	**Lusaka**	**67.22**	**227**	P		**P**	**10 18 26.2**	**+0.1**
LSZ				pmax	pmax			
	comp=Z,10.0nm,1.5s							
LSZ	**Lusaka**	**67.22**	**227**	P		**P**	**10 18 26.1**	**+0.1**
LSZ				IAmb	IAmb		10 18 30.8	
	comp=Z,10nm,1.4s							
INK	**Inuvik**	**72.39**	**10**	P		**P**	**10 18 56.6**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=11,slow=4.8,SNR=4.1							
INK	**Inuvik**	**72.39**	**10**	P		**P**	**10 18 56.3**	**-0.5**
YKA	**Yellowknife Ar**	**79.85**	**3**	P		**P**	**10 19 40.7**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=350,slow=5.6,SNR=4.8							
WRA	**Warramunga Arr**	**81.72**	**123**	P		**P**	**10 19 49.6**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=318,slow=4.7,SNR=6.5							

IDC 11 10:12:54.6±2.3, 2.99N×127.94E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/27, mbtmp3.3/3, Error ellipse: s-maj=178.6km s-min=25.0km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.64**	**165**	P	P	10 18 06.7	-1.0
	0.6nm,0.8s,baz=344,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**27.12**	**168**	P	P	10 18 40.4	+0.9
	0.1nm,0.3s,baz=347,slow=13,SNR=6.4						
MKAR	**Makanchi Array**	**58.85**	**325**	P	P	10 22 55.1	0.0
	0.4nm,0.7s,baz=116,slow=6.7,SNR=3.0						

*ISCJB **11** 10:37:25.9±1.9, 36.52N±0.07×71.4E±0.3, h150km, Error ellipse: s-maj=31.8km s-min=6.0km az=164.7*
*NNC **11** 10:37:30.1±10.0, 37.18N×71.10E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=98.6km s-min=75.1km az=136.0*
ISC 11 10:37:23.8±1.9, 36.49N±0.09×71.3E±0.2, h150km, n19, σ2s25/22, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.94**	**18**	P	**Pn**	**10 38 52.4**	**+2.4**
	SNR=42						
UCH	**Uchtor**	**6.26**	**23**	P	**Pn**	**10 38 57.0**	**+2.7**
	SNR=25						
KZA	**Kyzart**	**6.38**	**28**	P	**Pn**	**10 38 57.8**	**+1.9**
	SNR=12						
EKS2	**Erkin-Say**	**6.46**	**17**	P	**Pn**	**10 38 59.3**	**+2.5**
	SNR=5.0						
AAK	**Ala-Archa**	**6.63**	**21**	P	**Pn**	**10 39 01.4**	**+2.5**
	SNR=7.7						
AAK	**Ala-Archa**	**6.63**	**21**	⇓P	**Pn**	**10 39 01.0**	**+2.1**
	2.5nm,0.3s						
AAK				⇑S	**Sn**	**10 40 14.6**	**+1.1**
	4.7nm,0.6s						
KK31	**Karatay Array**	**6.63**	**355**	⇓P	**Pn**	**10 39 01.0**	**+2.2**
	1.5nm,0.3s,baz=181,slow=14,SNR=4.4						
KK31				⇑S	**Sn**	**10 40 09.1**	**-4.2**
	3.4nm,0.4s,baz=179,slow=22,SNR=6.1						
USP	**Ospenovka**	**7.21**	**19**	P	**Pn**	**10 39 08.7**	**+2.1**
	SNR=5.4						
TKM2	**Tokmak 2**	**7.24**	**26**	P	**Pn**	**10 39 09.5**	**+2.3**
	SNR=6.0						
TKM2	**Tokmak 2**	**7.24**	**26**	⇑P	**Pn**	**10 39 09.4**	**+2.3**
	10nm,0.8s						
TKM2				⇑S	**Sn**	**10 40 24.0**	**-4.3**
	0.8nm,0.5s						
DANN	**Dangsing**	**13.31**	**124**	*e*P	**P**	**10 40 29.9**	**-1.7**
	9.4nm,0.4s						
KOLN	**Koldanda**	**13.59**	**126**	*e*P	**P**	**10 40 33.2**	**-1.4**
	5.1nm,0.3s						
GKN	**Gorkha**	**14.12**	**123**	*e*P	**P**	**10 40 39.9**	**-0.6**
	16nm,0.3s						
PKIN	**Phulchoki**	**14.91**	**123**	*e*P	**P**	**10 40 49.2**	**-0.1**
PKI	**Pulchoki**	**14.93**	**123**	*e*P	**P**	**10 40 49.4**	**-0.1**
	6.7nm,0.3s						
GUN	**Gumba**	**15.04**	**121**	*e*P	**P**	**10 40 51.3**	**+0.6**
	9.5nm,0.4s						
JIRN	**Jiri**	**15.41**	**121**	*e*P	**P**	**10 40 55.4**	**+0.5**
RAMN	**Ramite**	**16.14**	**122**	*e*P	**P**	**10 41 02.4**	**-0.4**
	5.3nm,0.4s						
TAPN	**Taplejung**	**16.66**	**118**	*e*P	**Pn**	**10 41 08.2**	**-0.7**

*NNC **11** 10:41:23.1±0.9, 50.95N×73.74E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=13.9km s-min=5.8km az=26.0, Suspected Mining explosion.*
*IDC **11** 10:41:26.2±1.3, 51.31N×74.15E, h0km, mb3.4/2, mb1 3.5/5, mb1mx3.3/52, mbtmp3.2/5, ML2.3/2, Error ellipse: s-maj=32.5km s-min=9.3km az=27.0*
ISC 11 10:41:20.5±1.4, 50.5N±0.1×74.24E±0.08, h0km, n16, σ0s92/10, 4C-9D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.73**	**86**	Pn	**Pg**	**10 42 13.1**	**+0.1**
	0.1nm,0.3s,baz=285,slow=13,SNR=53						
KURBB				Lg	Lg	10 42 56.9	
	0.4nm,0.3s,baz=281,slow=29,SNR=10						
KURBB	**Kurchatov Arra**	**2.73**	**86**	⇓Pn	**Pg**	**10 42 13.2**	**+0.3**
	19nm,0.6s						
KURBB				⇑Lg	Lg	10 42 60.0	
	115nm,0.8s						
KURK	**Kurchatov**	**2.79**	**84**	⇓Pn	**Pg**	**10 42 14.0**	**-0.1**
	6.7nm,0.8s						
KURK				⇓Lg	Lg	10 42 59.8	
	78nm,1.0s						
BVA2	**Borovoye Array**	**3.46**	**318**	⇓Pg	**Pn**	**10 42 16.7**	**+1.0**
	16nm,0.6s						
BVA2				⇓Lg	Lg	10 42 54.6	
	68nm,0.8s						
BVAR	**Borovoye Array**	**3.47**	**318**	Pn	**Pn**	**10 42 13.9**	**-1.8**
	1.3nm,0.3s,baz=130,slow=15,SNR=17						
BVAR				Lg	Lg	10 42 55.1	
	4.7nm,0.3s,baz=127,slow=31,SNR=18						
MAKZ	**Makanchi**	**6.33**	**123**	⇑Lg	Lg	10 44 54.6	
	18nm,0.8s						
MKAR	**Makanchi Array**	**6.50**	**122**	Pg	**Pg**	**10 43 25.0**	**-0.1**
	baz=316,slow=16,SNR=2.2						
MKAR				Lg	Lg	10 45 04.8	
	0.6nm,0.3s,baz=317,slow=34,SNR=8.9						
ZALV	**Zalesovo Beam**	**7.34**	**58**	Pn	**Pn**	**10 43 08.6**	**-0.3**
	baz=251,slow=14,SNR=2.0						
ZALV				Sn	**Sn**	**10 44 32.6**	**-0.3**
	0.2nm,0.3s,baz=251,slow=23,SNR=3.0						
MDOK	**Medeo**	**7.61**	**164**	⇓Lg	Lg	10 45 42.9	
	15nm,0.9s						
TKM2	**Tokmak 2**	**7.66**	**173**	⇓Lg	Lg	10 45 38.6	
	16nm,1.0s						
KK31	**Karatay Array**	**7.85**	**200**	⇑Lg	Lg	10 45 39.6	
	6.5nm,0.8s,baz=14,slow=25,SNR=3.6						
AAK	**Ala-Archa**	**7.89**	**179**	⇓Lg	Lg	10 45 49.2	
	22nm,1.1s						
AB31	**Akbulak array**	**9.32**	**268**	⇑Lg	Lg	10 46 11.2	
	2.6nm,0.8s,baz=79,slow=28,SNR=3.8						
AKTO	**Aktyubinsk**	**10.35**	**276**	⇓Lg	Lg	10 46 39.3	
	7.4nm,0.9s						
ILAR	**Eielson Array**	**60.70**	**19**	P	**P**	**10 51 32.7**	**-0.4**
	0.3nm,0.6s,baz=325,slow=6.1,SNR=3.8						
YKA	**Yellowknife Ar**	**67.11**	**4**	P	**P**	**10 52 16.4**	**+1.1**
	0.4nm,0.9s,baz=358,slow=6.0,SNR=5.3						

*ISCJB **11** 11:44:51.7±0.5, 56.23S±0.08×27.5W±0.2, h112km, mb4.1/6, Error ellipse: s-maj=15.5km s-min=7.3km az=136.4*
*NEIC **11** 11:44:52.3±1.4, 56.20S±0.09×27.6W±0.2, h100km±8km, mb4.4/14*
*IDC **11** 11:44:54.3±7.0, 56.20S×27.31W, h123km±63km, mb3.9/6, mb1 4.0/7, mb1mx3.7/21, mbtmp4.3/7, MS3.1/1, Ms1 3.1/1, ms1mx2.6/17, Error ellipse: s-maj=29.0km s-min=19.5km az=74.0*
ISC 11 11:44:53.0±0.6, 56.2S±0.1×27.6W±0.1, h112km, n31, σ0s85/31, mb4.2/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.46**	**287**	Pn	**Pn**	**11 46 11.7**	**-0.1**
HOPE				Sn	**Sn**	**11 47 12.0**	**-1.4**
VNA1	**Neumayer--Stat**	**16.73**	**158**	P	**Pn**	**11 48 39.7**	**-0.4**
VNA3	**Neumayer Olymp**	**16.91**	**160**	P	**Pn**	**11 48 41.8**	**-0.6**
VNA2	**Neumayer--Watz**	**17.12**	**157**	P	**P**	**11 48 44.7**	**-0.2**
	baz=315,slow=13						
SNAA	**Sanae**	**18.68**	**156**	P	**P**	**11 49 01.1**	**-0.9**
SNAA	**Sanae**	**18.68**	**156**	P	**P**	**11 49 01.3**	**-0.7**
	1.7nm,0.3s,baz=302,slow=10,SNR=125						
SNAA	**Sanae**	**18.68**	**156**	P	**P**	**11 49 01.4**	**-0.6**
SNAA				IAmb	IAmb	11 49 01.9	
	comp=Z,14nm,0.6s						
PMSA	**Palmer Station**	**19.64**	**229**	LR	LR	11 56 10.4	
	comp=Z,58nm,19.4s,baz=170,slow=34						
MAW	**Mawson**	**40.14**	**144**	P	**P**	**11 52 16.8**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=234,slow=8.7,SNR=4.9						
MAW	**Mawson**	**40.14**	**144**	P	**P**	**11 52 17.5**	**+0.3**
GO02	**Mina Guanaco**	**43.38**	**298**	P	**P**	**11 52 45.3**	**+0.9**
LVC	**Limon Verde**	**45.20**	**301**	P	**P**	**11 53 00.1**	**+1.0**
LVC				IAmb	IAmb	11 53 06.9	
	comp=Z,7.0nm,1.2s						
PB10	**IPOC Station P**	**45.24**	**298**	P	**P**	**11 52 59.4**	**+0.5**
VNDA	**Vanda**	**46.41**	**183**	P	**P**	**11 53 08.2**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=183,slow=5.6,SNR=14						
VNDA	**Vanda**	**46.41**	**183**	P	**P**	**11 53 08.9**	**+1.5**
GO01	**Chusmiza**	**47.85**	**302**	P	**P**	**11 53 20.8**	**+0.9**
GO01				IAmb	IAmb	11 53 21.3	
	comp=Z,5.1nm,0.7s						
PB11	**IPOC Station P**	**47.99**	**302**	P	**P**	**11 53 20.9**	**+0.3**
MNMC	**Minye Minye**	**48.51**	**302**	P	**P**	**11 53 25.8**	**+1.2**
LPAZ	**La Paz**	**50.30**	**306**	P	**P**	**11 53 39.5**	**+0.8**
	comp=Z,2.5nm,0.4s,baz=136,slow=3.6,SNR=11						
LPAZ	**La Paz**	**50.30**	**306**	P	**P**	**11 53 39.7**	**+1.0**
LPAZ				IAmb	IAmb	11 53 43.5	
	comp=Z,2.8nm,0.5s						
DBIC	**Dimbokro**	**65.40**	**25**	P	**P**	**11 55 23.1**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=173,slow=8.1,SNR=5.5						
DBIC	**Dimbokro**	**65.40**	**25**	P	**P**	**11 55 23.7**	**+0.4**
TOA0	**Torodi Ar. Sit**	**73.29**	**30**	P	**P**	**11 56 12.6**	**+0.6**
TOA0				IAmb	IAmb	11 56 12.7	
	comp=Z,3.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.29**	**30**	P	**P**	**11 56 12.1**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=200,slow=6.6,SNR=18						
PTCN	**Pitcairn Island**	**76.14**	**246**	P	**P**	**11 56 28.6**	**+0.1**
THZ	**Tophouse**	**80.87**	**195**	P	**P**	**11 56 55.8**	**+1.5**
ASAR	**Alice Springs**	**98.90**	**163**	P	**P**	**11 58 19.6**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=170,slow=3.4,SNR=4.8						
FINES	**FINESS Array B**	**124.62**	**28**	PKP	**PKPdf**	**12 03 36.7**	**-0.8**
	comp=Z,3.4nm,1.0s,baz=232,slow=1.6,SNR=4.3						
YKA	**Yellowknife Ar**	**136.15**	**318**	PKP	**PKPdf**	**12 03 58.2**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=126,slow=2.3,SNR=9.3						
ILAR	**Eielson Array**	**150.07**	**312**	PKPbc	**PKPbc**	**12 04 28.9**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=133,slow=2.2,SNR=30						
SONM	**Songino Array**	**150.94**	**87**	PKPbc	**PKPbc**	**12 04 30.7**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=196,slow=1.4,SNR=4.0						

*ISCJB **11** 11:45:22.7±0.8, 51.44N±0.04×16.16E±0.05, h0km, Error ellipse: s-maj=5.9km s-min=3.3km az=30.4*
*VIE **11** 11:45:24.9±1.3, 51.36N×16.22E, h0km, mb1.9/2, ml2.7/4, Error ellipse: s-maj=9.2km s-min=7.9km az=51.0 63 km WNW of Wroclaw Suspected Mining induced.*
ISC 11 11:45:23.1±1.5, 51.51N±0.07×16.20E±0.04, h0km, n20, σ0s76/44, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**175**	*i* Pg	**Pg**	**11 45 36.6**	**+0.7**
KSP				*i* Pg	**Pg**	**11 45 36.6**	**+0.7**
KSP				*i* Sg	**Sg**	**11 45 45.0**	**+0.4**
KSP				*i* Sg	**Sg**	**11 45 45.0**	**+0.4**
CHVC	**Chvalec**	**0.93**	**186**	*e*PG	**Pg**	**11 45 41.5**	**+0.6**
CHVC				*e*SG	**Sg**	**11 45 53.2**	**+0.3**
UPC	**Upice**	**1.01**	**187**	*e*PG	**Pg**	**11 45 42.9**	**+0.4**
UPC				*e*SG	**Sg**	**11 45 56.2**	**+0.6**
	comp=Z,70nm,0.4s						
DPC	**Dobruska-Polom**	**1.17**	**176**	*e*PG	**Pg**	**11 45 45.4**	**0.0**
DPC				*e*SG	**Sg**	**11 46 00.1**	**-0.4**
	comp=Z,23nm,0.6s						
PVCC	**Panska Ves**	**1.43**	**227**	*e*PG	**Pn**	**11 45 50.0**	**-0.2**
PVCC				*e*SG	**Sg**	**11 46 08.3**	**-0.5**
	comp=Z,69nm,0.2s						
KRLC	**Kraliky**	**1.49**	**165**	*e*PG	**Pg**	**11 45 51.3**	**-0.2**
KRLC				*e*SG	**Sg**	**11 46 10.5**	**-0.3**
	comp=Z,27nm,0.5s						
BRG	**Berggiesshubel**	**1.56**	**247**	PN	**Pn**	**11 45 51.5**	**-0.5**
BRG				PG	**Pb**	**11 45 52.4**	**-0.3**
BRG				SG	**Sn**	**11 46 12.3**	**-0.6**
	26nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.83**	**210**	*e*PN	**Pn**	**11 45 56.0**	**+0.1**
GOPC				*e*PG	**Pb**	**11 45 57.0**	**-0.5**
PRU	**Pruhonice**	**1.85**	**215**	*e*PN	**Pn**	**11 45 56.1**	**0.0**
PRU				*e*PG	**Pb**	**11 45 57.4**	**-0.4**
PRU				*e*SG	**Sb**	**11 46 22.2**	**+0.7**
	comp=Z,11nm,0.3s						
MORC	**Moravsky Berou**	**1.94**	**153**	*e*PN	**Pn**	**11 45 57.3**	**0.0**
MORC				*e*SG	**Sn**	**11 46 21.6**	**-0.7**
CLL	**Collm**	**2.01**	**265**	*e*Pn	**Pn**	**11 45 58.0**	**-0.2**
CLL				*e*Pg	**Pb**	**11 46 01.0**	**+0.5**
CLL				*e*Sg	**Sb**	**11 46 27.0**	**+0.9**
	comp=Z,14nm,0.4s						
OKC	**Ostrava-Krasne**	**2.09**	**143**	*e*PG	**Pg**	**11 46 03.0**	**0.0**
OKC				*e*SG	**Sg**	**11 46 29.2**	**-0.8**
	comp=Z,22nm,0.5s						
VRAC	**Vranov**	**2.22**	**173**	*e*PN	**Pn**	**11 46 01.9**	**+0.7**
VRAC				*e*SG	**Sg**	**11 46 33.7**	**-0.7**
KRUC	**Moravsky**	**2.46**	**177**	*e*SG	**Sb**	**11 46 40.2**	**+1.3**
KHC	**Kasperske Hory**	**2.92**	**216**	*e*PN	**Pn**	**11 46 10.5**	**-0.2**
KHC				*e*PG	**Pb**	**11 46 16.0**	**+0.1**
KHC				*e*SG	**Sg**	**11 46 57.4**	**+0.7**
	comp=Z,6.7nm,0.6s						
LANS	**Liptovska Anna**	**3.16**	**137**	*e*SG	**Sg**	**11 47 04.6**	**+0.1**
LANS				eLG	Lg	11 47 11.4	
MODS	**Modra-Piesok**	**3.22**	**167**	*e*SG	**Sg**	**11 47 03.7**	**-2.7**
VYHS	**Vyhne**	**3.47**	**150**	*e*SG	**Sg**	**11 47 14.2**	**-0.2**
CONA	**Conrad Observa**	**3.59**	**184**	*i* Pn	**Pn**	**11 46 21.1**	**+1.0**
	comp=Z,0.4nm,0.1s						
CONA				*i* Pg	**Pg**	**11 46 31.0**	**-0.9**
	comp=Z,2.3nm,0.3s						
CONA				*i* Sn	**Sn**	**11 47 03.2**	**0.0**
	comp=Z,2.2nm,0.4s						
CONA				*i* Sg	**Sg**	**11 47 17.3**	**-1.2**
	comp=Z,8.2nm,0.3s						
MOA	**Molln**	**3.88**	**200**	*i* Pn	**Pn**	**11 46 24.4**	**+0.5**
	comp=Z,0.7nm,0.1s						
MOA				Sg	**Sg**	**11 47 25.9**	**-1.6**
	comp=Z,4.6nm,0.3s						

*ISCJB **11** 11:49:27.5±0.4, 22.24N±0.02×121.43E±0.01, h10km±2km, Error ellipse: s-maj=3.2km s-min=2.3km az=170.8*
*TAP **11** 11:49:28.2, 22.32N×121.34E, h6km, ML3.6, C*
*JMA **11** 11:49:29.4±0.3, 22.53N×121.51E, h6km±3km, M3.5*
ISC 11 11:49:28.4±1.1, 22.31N±0.02×121.42E±0.02, h8km±9km, n125, σ1s03/234, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.29**	**156**	P	**Pb**	**11 49 36.4**	**+0.4**
	baz=143						
LAY				*e*S	**Sb**	**11 49 41.6**	**+0.6**
	baz=143						
TAW	**Tawu**	**0.49**	**276**	P	**Pg**	**11 49 37.4**	**-0.5**
	baz=275						
TAW				S	**Sg**	**11 49 43.5**	**-0.8**
	baz=275						
TTN	**Taitung**	**0.51**	**330**	P	**Pb**	**11 49 39.5**	**-0.1**
	baz=338						
TTN				*e*S	**Sb**	**11 49 46.6**	**-0.7**
	baz=338						
ECL	**Taimali**	**0.52**	**304**	*i* P	**Pg**	**11 49 37.8**	**-0.6**
	baz=308						
ECL				*e*S	**Sg**	**11 49 44.5**	**-0.8**
	baz=308						
EAST	**Anshuo**	**0.54**	**278**	P	**Pg**	**11 49 38.0**	**-0.8**
	baz=278						
EAST				*e*S	**Sg**	**11 49 45.8**	**0.0**
	baz=278						
TWGBT	**Beinan**	**0.60**	**328**	*i* P	**Pg**	**11 49 39.5**	**-0.5**
	baz=334						
TWGBT				*e*S	**Sb**	**11 49 49.2**	**-0.5**
	baz=334						
TWG	**Pinlang**	**0.60**	**328**	P	**Pg**	**11 49 39.6**	**-0.4**
	baz=334						
TWG				*e*S	**Sb**	**11 49 49.1**	**-0.8**
	baz=334						
TSEB	**Hengchuen, Pin**	**0.63**	**230**	P	**Pg**	**11 49 41.3**	**+0.7**
	baz=227						
TSEB				*e*S	**Sg**	**11 49 50.9**	**+2.0**
	baz=227						
TWKBT	**Hengchun**	**0.67**	**237**	*i* P	**Pg**	**11 49 41.2**	**-0.2**
	baz=232						
TWKBT				*e*S	**Sg**	**11 49 51.3**	**+1.1**
	baz=232						
TWK1	**Hengchun**	**0.68**	**238**	P	**Pg**	**11 49 41.0**	**-0.4**
	baz=232						
TWK1				*e*S	**Sg**	**11 49 51.3**	**+1.0**
	baz=232						
HEN	**Hengchun**	**0.70**	**245**	*e*P	**Pg**	**11 49 41.9**	**0.0**
	baz=240						
HEN				*e*S	**Sg**	**11 49 51.8**	**+0.8**
	baz=240						
SCZT	**Fangliau**	**0.74**	**275**	P	**Pg**	**11 49 41.6**	**-1.1**
	baz=274						
SCZT				*e*S	**Sg**	**11 49 52.7**	**+0.3**
	baz=274						
CHKT	**Chengkung**	**0.79**	**356**	*e*P	**Pb**	**11 49 44.4**	**0.0**
	baz=2.0						
CHKT				*e*S	**Sb**	**11 49 55.8**	**+0.5**
	baz=2.0						
MASBT	**Mashibuluo**	**0.79**	**293**	P	**Pg**	**11 49 42.2**	**-1.4**
	baz=294						
MASBT				*e*S	**Sb**	**11 49 55.1**	**-0.1**
	baz=294						
SSPT	**Xinbi**	**0.81**	**283**	*e*P	**Pg**	**11 49 43.8**	**-0.1**
	baz=283						
SSPT				*e*S	**Sb**	**11 49 56.4**	**+0.6**
	baz=283						
SSD	**Sandimen**	**0.85**	**301**	*e*P	**Pg**	**11 49 44.5**	**-0.2**
	baz=303						
SSD				*e*S	**Sg**	**11 49 56.2**	**+0.3**
	baz=303						
FULB	**Fuli**	**0.89**	**353**	P	**Pg**	**11 49 45.6**	**0.0**
	baz=357						
FULB				*e*S	**Sb**	**11 49 59.5**	**+1.2**
	baz=357						
ELDTW	**Lidau**	**0.95**	**337**	*e*P	**Pg**	**11 49 46.2**	**-0.6**
	baz=341						
ELDTW				*e*S	**Sb**	**11 50 00.2**	**+0.1**
	baz=341						
SGLT	**Jiouru**	**0.95**	**296**	*e*P	**Pg**	**11 49 47.0**	**+0.2**
	baz=297						
SGLT				*e*S	**Sb**	**11 50 00.4**	**+0.4**
	baz=297						
SLGT	**Liugui**	**0.99**	**314**	*e*P	**Pg**	**11 49 45.8**	**-1.6**
	baz=316						
SLGT				*e*S	**Sb**	**11 50 01.2**	**+0.2**
	baz=316						
TWF1	**Yuli**	**1.04**	**354**	P	**Pg**	**11 49 48.3**	**-0.2**
	baz=358						
TWF1				*e*S	**Sn**	**11 50 03.9**	**-0.3**
	baz=358						
STYT	**Tauyuan**	**1.05**	**324**	*e*P	**Pg**	**11 49 48.6**	**0.0**
	baz=327						
STYT				*e*S	**Sb**	**11 50 03.3**	**+0.5**
	baz=327						
TWM1	**Shoushan**	**1.05**	**299**	*e*P	**Pg**	**11 49 47.4**	**-1.3**
	baz=301						
YULB	**Yu-li**	**1.08**	**354**	P	**Pg**	**11 49 49.1**	**-0.2**
	baz=358						
YULB				*e*S	**Sn**	**11 50 05.3**	**+0.1**
	baz=358						
SGST	**Jiashian**	**1.09**	**315**	P	**Pg**	**11 49 47.8**	**-1.6**
	baz=317						
SGST				*e*S	**

baz=334
CHN5 eS Sb 11 50 14.7 +0.2
baz=334
VWDT VWDT 1.46 350 eP Pn 11 49 54.8 -0.3
baz=352
VWDT eS Sg 11 50 16.3 +0.8
baz=352
WHYT Xinyi Township 1.48 339 eP Pn 11 49 56.0 +0.6
baz=342
WHYT eS Sb 11 50 15.0 -0.1
baz=342
CHN2 Minshiung 1.50 325 eS Sg 11 50 16.6 0.0
baz=326
CHY Chiayi 1.50 322 P Pn 11 49 55.6 0.0
baz=324
CHY eS Sn 11 50 15.4 0.0
baz=324
ESL Shilin 1.50 0 eP Pn 11 49 55.5 -0.1
baz=3.0
ESL eS Sg 11 50 16.6 -0.1
baz=3.0
CHN8 Yiju 1.52 313 eS Sn 11 50 15.3 -0.6
baz=314
SSLB Suanglung 1.53 344 eP Pn 11 49 56.4 +0.3
baz=346
SSLB eS Sn 11 50 16.9 +0.6
baz=346
WLGB Puzi 1.56 319 eP Pn 11 49 56.0 -0.4
baz=320
WLGB eS Sn 11 50 17.1 +0.3
baz=320
WGK Gukeng 1.58 330 eP Pn 11 49 56.8 0.0
baz=332
WGK eS Sn 11 50 17.4 0.0
baz=332
ENLB Shoufeng 1.60 6 eP Pn 11 49 57.3 +0.3
baz=8.0
ENLB eS Sb 11 50 18.6 +0.1
baz=8.0
WDLH Douliu 1.60 330 eP Pn 11 49 57.2 +0.2
baz=331
WDLH eS Sn 11 50 18.1 +0.3
baz=331
WJS Zhushan 1.64 337 eP Pn 11 49 57.1 -0.4
baz=339
WJS eS Sn 11 50 19.3 +0.5
baz=339
OWD Renai 1.65 352 eP Pn 11 49 58.1 +0.2
baz=354
OWD eS Sn 11 50 20.2 +0.8
baz=354
HWA Hwalien 1.67 6 eS Sb 11 50 21.0 +0.4
baz=8.0
TYC Yuchr 1.67 342 eP Pn 11 49 58.5 +0.5
baz=344
TYC eS Sn 11 50 20.3 +0.6
baz=344
WNT Mingjian 1.70 337 eP Pn 11 49 59.0 +0.6
baz=339
WNT eS Sn 11 50 21.1 +0.6
baz=339
WSF Szhu 1.72 320 eS Sn 11 50 21.0 +0.1
baz=322
CHGB Renai 1.76 353 eP Pn 11 49 59.1 -0.3
baz=355
CHGB eS Sn 11 50 22.7 +0.5
baz=355
TWD Chiawan 1.77 5 eP Pn 11 49 59.5 +0.2
baz=7.0
TWD eS Sn 11 50 23.0 +0.9
baz=7.0
DPDB Guoxing 1.78 345 eP Pn 11 49 58.7 -0.8
baz=347
DPDB eS Sn 11 50 22.4 0.0
baz=347
WHF Hehuan Shan 1.83 356 eP Pn 11 50 00.2 -0.4
baz=358
WHF eS Sn 11 50 24.7 +0.4
baz=358
RLNB Erlin 1.85 328 eS Sn 11 50 24.6 +0.5
baz=330
NACB Ninganchiao 1.86 5 P Pn 11 50 01.1 +0.4
baz=7.0
NACB S Sb 11 50 26.1 -0.2
baz=7.0
WTCT Ta-ch'eng 1.87 326 eS Sn 11 50 24.2 -0.3
baz=327
WDGT Dungji 1.88 301 eP Pn 11 50 00.5 -0.4
baz=301
WDGT eS Sn 11 50 24.3 -0.5
baz=301
ETLH Xiulin Townshi 1.89 2 P Pn 11 50 02.0 +0.8
baz=4.0
ETLH eS Sn 11 50 26.3 +1.1
baz=4.0
WCHH Zhanghua 1.93 336 eS Sn 11 50 26.5 +0.4
baz=337
TDCB Techi 1.95 353 eP Pn 11 50 02.9 +0.9
baz=355
TDCB eS Sn 11 50 27.5 +0.8
baz=355
TCU Taichung 1.95 340 eP Pn 11 50 02.0 +0.1
baz=341
TCU eS Sn 11 50 27.2 +0.6
baz=341
WHP Taichung City 2.01 348 P Pn 11 50 03.5 +0.8
baz=349
WHP eS Sn 11 50 28.7 +0.6
baz=349
VCHM Qimei 2.04 296 eP Pn 11 50 01.8 -1.3
baz=296
VCHM eS Sn 11 50 28.5 -0.3
baz=296
PHUB P'eng-hu 2.08 305 eP Pn 11 50 02.6 -1.1
baz=306
PHUB eS Sn 11 50 28.1 -1.8
baz=306
NNSH Datong 2.11 359 eP Pn 11 50 04.3 +0.1
baz=1.0
NNSH eS Sn 11 50 31.7 +1.0
baz=1.0
TWQ1 Liyutan 2.12 344 eP Pn 11 50 05.1 +0.9
baz=345
TWQ1 eS Sn 11 50 32.0 +1.3
baz=345
NNS Nan Shan 2.12 359 eP Pn 11 50 04.4 +0.1
baz=1.0
NNS eS Sn 11 50 31.9 +1.0
baz=1.0
PNG Penghu 2.13 306 eP Pn 11 50 03.9 -0.4
baz=307
PNG eS Sn 11 50 30.5 -0.4
baz=307
ENA Nanau 2.13 8 eP Pn 11 50 04.4 +0.1
baz=10.0
ENA eS Sn 11 50 32.3 +1.3
baz=10.0
NANB Nanao 2.13 8 eP Pn 11 50 04.7 +0.4
baz=10.0
NANB eS Sn 11 50 32.5 +1.5
baz=10.0
WDJ Dajia District 2.15 341 eP Pn 11 50 05.2 +0.6
baz=342
WDJ eS Sn 11 50 33.0 +1.4
baz=342
NSY Sanyi 2.18 344 eP Pn 11 50 05.3 +0.2
baz=345
NSY eS Sn 11 50 33.5 +1.1
baz=345
PTSB Yuanli 2.23 343 eS Sn 11 50 33.6 +0.2
baz=344
NDT Datong Townshi 2.29 2 eP Pn 11 50 07.4 +1.0
baz=4.0
NDT eS Sn 11 50 36.5 +1.7
baz=4.0
NMLH Miaoli 2.29 346 eP Pn 11 50 06.2 -0.4
baz=347
NMLH eS Sn 11 50 36.2 +1.2
baz=347
EOS1 EOS1 2.32 16 eP Pn 11 50 07.5 +0.5
baz=18
EOS1 eS Sn 11 50 37.6 +1.9
baz=18
TWC Suao 2.32 10 eP Pn 11 50 07.4 +0.4
baz=11
TWC eS Sn 11 50 36.9 +1.1
baz=11
ENTT Nioudou 2.32 3 eP Pn 11 50 07.4 +0.4
baz=5.0
ENTT eS Sn 11 50 36.4 +0.6
baz=5.0
NSTT Nanjuang 2.34 351 eP Pn 11 50 07.7 +0.4
baz=352
NSTT eS Sn 11 50 37.4 +1.1
baz=352
YHNB Yeheng 2.35 359 P Pn 11 50 07.9 +0.5
YHNB eS Sn 11 50 37.6 +1.0
LIOB Emei 2.35 351 eP Pn 11 50 08.0 +0.5
baz=352
LIOB eS Sn 11 50 38.3 +1.7
baz=352
NSK Sanguang 2.36 359 eP Pn 11 50 07.8 +0.2
NSK eS Sn 11 50 37.8 +1.1
TWE Neicheng 2.41 5 eP Pn 11 50 08.7 +0.5
baz=7.0
TWE eS Sn 11 50 39.4 +1.4
baz=7.0
SLBB Yuanshan 2.44 5 eP Pn 11 50 09.5 +0.8
baz=6.0
SLBB eS Sn 11 50 40.6 +1.9
baz=6.0
NWLT Wulai 2.46 2 eP Pn 11 50 09.0 +0.2
baz=3.0
NWLT eS Sn 11 50 40.6 +1.5
baz=3.0
WLTB Daxi 2.54 357 eP Pn 11 50 10.7 +0.8
baz=358
WLTB eS Sn 11 50 42.3 +1.2
baz=358
JYNG Yonagunijimaku 2.55 33 eS Sn 11 50 38.4 -3.0
NTC Toucheng 2.56 8 eP Pn 11 50 11.2 +0.9
baz=10.0
NTC eS Sn 11 50 43.3 +1.7
baz=10.0
YOJ Yonaguni jima 2.59 34 eP Pn 11 50 12.7 +2.0
baz=35
YOJ eS Sn 11 50 44.7 +2.3
baz=35
NHDH Xindian Distri 2.64 2 eS Sn 11 50 45.4 +1.7
baz=3.0
TATO Taipei 2.66 1 eP Pn 11 50 11.9 +0.4
baz=3.0
TATO eS Sn 11 50 44.9 +0.9
baz=3.0
TIPB Shuangxi 2.68 8 eP Pn 11 50 13.3 +1.4
baz=9.0
TIPB eS Sn 11 50 45.8 +1.3
baz=9.0
NWF Wu-fen Shan 2.77 7 eP Pn 11 50 14.7 +1.5
baz=8.0
NWF eS Sn 11 50 49.3 +2.4
baz=8.0
WFSB Wu-fen Shan 2.77 7 eP Pn 11 50 14.6 +1.5
baz=8.0
WFSB eS Sn 11 50 49.0 +2.2
baz=8.0
HATJ Hateruma jima 2.80 51 P Pn 11 50 13.2 -0.3
HATJ eS Sn 11 50 44.8 -2.7
YM01 YM01 2.83 3 eP Pn 11 50 15.2 +1.2
baz=4.0
YM01 eS Sn 11 50 50.2 +1.9
baz=4.0
YM04 YM04 2.83 2 eP Pn 11 50 16.0 +2.0
baz=3.0
YM04 eS Sn 11 50 49.3 +0.9
baz=3.0
YM10 YM10 2.84 3 eP Pn 11 50 16.0 +1.9
baz=4.0
YM10 eS Sn 11 50 49.6 +1.1
baz=4.0
YM05 YM05 2.84 3 eP Pn 11 50 15.2 +1.0
baz=4.0
YM05 eS Sn 11 50 49.9 +1.1
baz=4.0
YM11 YM11 2.85 3 eP Pn 11 50 16.3 +2.0
baz=4.0
YM11 eS Sn 11 50 50.7 +1.9
baz=4.0
ANP Anpu 2.87 2 eP Pn 11 50 14.9 +0.4
baz=3.0
ANP eS Sn 11 50 49.9 +0.6
baz=3.0
IRIF Iriomote-Funau 2.93 46 P Pn 11 50 15.2 -0.1
IRIF eS Sn 11 50 49.0 -1.7
JKRS Kuro-shima 3.06 51 P Pn 11 50 16.9 -0.2
JKRS eS Sn 11 50 51.7 -2.2
VWUC VWUC 3.22 326 eP Pn 11 50 20.2 +0.9
baz=326
VWUC eS Sn 11 50 58.3 +0.4
baz=326
JIJ Ishigaki jima 3.23 50 P Pn 11 50 19.4 -0.1
JIJ eS Sn 11 50 55.5 -2.7
KNM Kinmen 3.45 308 eP Pn 11 50 23.6 +1.0
baz=306
KNM eS Sn 11 51 05.9 +2.2
baz=306
JISG Ishigakijimahi 3.49 49 P Pn 11 50 22.2 -0.8
JISG eS Sn 11 51 02.0 -2.6
KNMB Chin-men Tao 3.52 308 eP Pn 11 50 22.5 -0.9
baz=308
KNMB eS Sn 11 51 04.5 -0.7
baz=308
PTTC Pingtan 3.52 335 eS Sn 11 51 05.8 +0.6
baz=335
ZPLA Ao Xicun 3.74 296 eP Pn 11 50 26.4 -0.1
baz=295
JTJ Tarama 3.80 52 P Pn 11 50 26.9 -0.4
JTJ S Sn 11 51 10.3 -2.0
AXDP Jialang 4.08 310 eP Pn 11 50 30.3 -0.9
baz=309
JIRB Irabujima 4.26 53 P Pn 11 50 33.3 -0.3
JIRB eS Sn 11 51 21.3 -2.2
JMJ2 Miyako jima3 4.33 55 P Pn 11 50 34.2 -0.3
JMJ2 eS Sn 11 51 23.2 -2.0
JMJ Miyako jima 2 4.34 54 eP Pn 11 50 37.0 +2.2
baz=55
JMJ eS Sn 11 51 27.8 +2.2
baz=55
JIKM Ikemajima 4.37 53 P Pn 11 50 34.6 -0.5
JIKM eS Sn 11 51 24.2 -2.1
LYJJ Jianjiangzhen 4.49 341 eP Pn 11 50 37.1 +0.4
baz=341
LYJJ eS Sn 11 51 28.6 -0.5
baz=341
XPSS Dashiqiu 4.74 347 eP Pn 11 50 40.2 +0.1
baz=347
XPSS eS Sn 11 51 33.7 -1.6
baz=347

NNC ***11*** *11:58:30.8±6.7, 38°.54N×72°.89E, h0km, mb3.8, mpv3.3, Error ellipse: s-maj=64.0km s-min=36.7km az=146.0*
KRNET ***11*** *11:58:38.9±0.1, 39°.19N×73°.46E, mb3.1*
ISC 11 11:58:40.7±2.2, 39°.2N±0°.1×73°.46E±0°.05, h10km, n17, σ1§04/29, 17C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**		**2.21**	**351**	⇑*i*P		**Pn**	**11 59 17.8**	**+0.3**
baz=50									
ARSB					⇑*i*S		**Sb**	**11 59 46.3**	**-1.9**
baz=50									
BTK	**Batken**		**2.23**	**295**	⇑*i*P		**Pn**	**11 59 18.8**	**+1.0**
baz=94									
BTK					⇑*i*S		**Sb**	**11 59 48.0**	**-0.9**
baz=94									
ARLS	**Aral**		**2.79**	**13**	⇑*i*P		**Pn**	**11 59 25.9**	**+0.3**
baz=14									
ARLS					⇑*i*S		**Sn**	**12 00 00.3**	**+0.9**
baz=14									
ARK	**Arkit**		**2.88**	**337**	⇑*i*P		**Pn**	**11 59 27.1**	**+0.3**
baz=37									
ARK					⇑*i*S		**Sn**	**12 00 02.3**	**+0.7**
baz=37									
AML	**Almayashu**		**2.99**	**3**	⇑*i*P		**Pn**	**11 59 29.0**	**+0.6**
baz=3.0									
AML					⇑*i*S		**Sn**	**12 00 05.8**	**+1.2**
baz=3.0									
AML	**Almayashu**		**2.99**	**3**	P		**Pn**	**11 59 29.1**	**+0.6**
SNR=10									
NRN	**Naryn**		**3.00**	**40**	⇓*i*P		**Pn**	**11 59 29.3**	**+0.7**
baz=40									
NRN					⇓*i*S		**Sn**	**12 00 05.6**	**+0.8**
baz=40									
UCH	**Uchtor**		**3.18**	**14**	⇑*i*P		**Pn**	**11 59 31.8**	**+0.6**
baz=14									
UCH					⇑*i*S		**Sn**	**12 00 11.0**	**+1.6**
baz=14									
UCH	**Uchtor**		**3.18**	**14**	P		**Pn**	**11 59 31.9**	**+0.7**
SNR=9.8									
KZA	**Kyzart**		**3.23**	**24**	P		**Pb**	**11 59 36.3**	**-2.0**
SNR=5.7									
AAK	**Ala-Archa**		**3.58**	**12**	P		**Pn**	**11 59 37.8**	**+1.4**
SNR=7.2									
AAK	**Ala-Archa**		**3.58**	**12**	⇓Pn		**Pn**	**11 59 37.4**	**+1.0**
7.9nm,0.9s									
AAK					⇓Sn		**Sb**	**12 00 28.2**	**+0.6**
24nm,0.8s									
ULHL	**Ulahol**		**3.75**	**33**	P		**Pb**	**11 59 46.0**	**-1.1**
SNR=7.3									
BOOM	**Boomskoye usch**		**3.84**	**29**	⇓*i*P		**Pn**	**11 59 40.4**	**+0.5**
baz=29									
BOOM					⇓*i*S		**Sn**	**12 00 25.5**	**+0.3**
baz=29									
TKM2	**Tokmak 2**		**4.10**	**23**	⇑Pn		**Pn**	**11 59 43.6**	**0.0**
3.6nm,0.6s									
TKM2					Sn		**Sb**	**12 00 43.3**	**+0.4**
6.1nm,0.6s									
KDJ	**Kajisay**		**4.11**	**42**	⇑*i*P		**Pn**	**11 59 44.7**	**+1.0**
baz=43									
KDJ					⇑*i*S		**Sn**	**12 00 32.2**	**+0.2**
baz=43									
KK31	**Karatay Array**		**4.54**	**332**	⇑Pn		**Pn**	**11 59 49.8**	**+0.4**
2.1nm,0.6s,baz=160,slow=16,SNR=9.9									
KK31					⇑Sn		**Sn**	**12 00 44.1**	**+1.9**
1.9nm,0.4s,baz=159,slow=27,SNR=4.0									

ISCJB ***11*** *12:29:04.9±0.5, 10°.38S±0°.06×161°.60E±0°.07, h61km, mb3.9/7, Error ellipse: s-maj=10.5km s-min=6.9km az=141.9*
NEIC ***11*** *12:29:07.5±1.6, 10°.34S±0°.09×161°.6E±0°.1, h71km±8km, mb4.3/16*
IDC ***11*** *12:29:08.1±2.7, 10°.34S×161°.47E, h78km±21km, mb3.7/6, mb1 4.0/8, mb1mx3.7/35, mbtmp4.1/8, MS3.1/6, Ms1 3.0/6, ms1mx2.8/22, Error ellipse: s-maj=25.4km s-min=19.4km az=82.0*
ISC 11 12:29:06.7±0.7, 10°.31S±0°.08×161°.64E±0°.10, h61km, n33, σ1§40/30, mb4.1/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**		**1.88**	**298**	P		**Pn**	**12 29 36.3**	**-0.2**
307nm,0.3s,baz=152,slow=6.3,SNR=71									
HNR					LR		LR	12 29 52.4	
comp=Z,63nm,19.4s,baz=166,slow=25									
HNR					S		**Sn**	**12 29 58.5**	**-0.6**
350nm,0.3s,baz=190,slow=19,SNR=6.7									
HNR	**Honiara**		**1.88**	**298**	*i*P		**Pn**	**12 29 36.5**	**0.0**
DZM	**Mont Dzumac**		**12.57**	**159**	P		**Pn**	**12 32 04.6**	**+1.8**
3.7nm,0.3s,baz=358,slow=6.5,SNR=304									
DZM					S		**Sn**	**12 34 18.7**	**-2.6**
0.5nm,0.3s,baz=255,slow=19,SNR=4.5									
PMG	**Port Moresby**		**14.29**	**272**	LR		LR	12 37 20.4	
comp=Z,153nm,20.4s,baz=110,slow=35									
CTA	**Charters Tower**		**17.73**	**235**	P		**Pn**	**12 33 09.3**	**-0.1**
0.4nm,0.3s,baz=64,slow=13,SNR=15									
EIDS	**Eidsvold**		**18.02**	**212**	P		**Pn**	**12 33 14.1**	**+1.2**
EIDS					IAmb		IAmb	12 33 16.3	
comp=Z,8.9nm,1.0s									
COEN	**Coen**		**18.41**	**257**	P		**Pn**	**12 33 19.3**	**+1.6**
ARMA	**Armidale**		**22.07**	**204**	P		**P**	**12 33 57.9**	**+1.1**
ARMA					IAmb		IAmb	12 34 18.9	
comp=Z,44nm,1.8s									
SMPI	**Sarmi**		**24.23**	**288**	P		**P**	**12 34 21.3**	**+3.3**
comp=Z,11nm,1.0s									
AFI	**Afiamalu**		**26.23**	**101**	LR		LR	12 43 14.0	
comp=Z,39nm,22.0s,baz=9.5,slow=32									
WR0	**Warramunga Arr**		**27.82**	**247**	P		**P**	**12 34 49.1**	**-1.4**
WR0					IAmb		IAmb	12 35 33.9	
comp=Z,14nm,1.7s									
WRAB	**Tennant Creek**		**27.98**	**247**	P		**P**	**12 34 51.1**	**-0.8**
WRAB					IAmb		IAmb	12 34 51.2	
comp=Z,4.2nm,0.7s									
WB2	**Warramunga Arr**		**27.98**	**247**	P		**P**	**12 34 50.7**	**-1.2**
WB2					IAmb		IAmb	12 34 51.3	
comp=Z,3.9nm,0.8s									
WRA	**Warramunga Arr**		**28.00**	**247**	P		**P**	**12 34 50.7**	**-1.4**
comp=Z,2.8nm,0.7s,baz=76,slow=9.1,SNR=32									
STKA	**Stephens Creek**		**28.36**	**218**	LR		LR	12 45 18.0	
comp=Z,36nm,18.3s,baz=26,slow=34									
GUMO	**Guam**		**28.99**	**325**	LR		LR	12 46 15.5	
comp=Z,7.8nm,18.9s,baz=173,slow=36									
AS31	**Alice Springs**		**29.58**	**240**	P		**P**	**12 35 04.3**	**-1.8**
ASAR	**Alice Springs**		**29.59**	**240**	P		**P**	**12 35 03.7**	**-2.4**
comp=Z,1.0nm,0.8s,baz=64,slow=10.0,SNR=16									
ASAR					LR		LR	12 46 16.7	
comp=Z,66nm,20.4s,baz=65,slow=35									
TOO	**Toolangi**		**30.79**	**206**	P		**P**	**12 35 18.2**	**+1.6**
KNRA	**Kununurra**		**32.45**	**257**	P		**P**	**12 35 30.6**	**-0.8**
BBOO	**Buckleboo**		**32.50**	**223**	P		**P**	**12 35 31.3**	**-0.3**
TUWZ	**Tuamarina**		**32.84**	**163**	P		**P**	**12 35 35.5**	**+1.0**
MQZ	**McQueen's Vall**		**34.62**	**166**	P		**P**	**12 35 49.9**	**0.0**
FITZ	**Fitzroy Crossi**		**35.69**	**253**	P		**P**	**12 35 58.2**	**-1.3**
CASY	**Casey**		**65.63**	**200**	P		**P**	**12 39 42.5**	**-1.6**
CASY					IAmb		IAmb	12 41 07.7	
comp=Z,12nm,1.4s									
SONM	**Songino Array**		**75.72**	**325**	P		**P**	**12 40 45.5**	**-0.4**
comp=Z,0.9nm,0.5s,baz=104,slow=6.1,SNR=4.6									
QSPA	**South Pole Qui**		**79.69**	**180**	P		**P**	**12 41 07.5**	**-0.1**
QSPA					IAmb		IAmb	12 41 10.2	
comp=Z,3.8nm,1.1s									
SKT	**Skwentna**		**80.73**	**20**	P		**P**	**12 41 13.0**	**-0.1**
BCPM	**Bancas Point**		**84.07**	**26**	P		**P**	**12 41 31.6**	**+1.2**
ILAR	**Eielson Array**		**84.15**	**20**	P		**P**	**12 41 30.4**	**-0.4**
comp=Z,0.5nm,0.7s,baz=244,slow=4.6,SNR=4.2									
ILAR					LR		LR	13 15 38.2	
comp=Z,205nm,19.6s,baz=184,slow=33									
MKAR	**Makanchi Array**		**90.24**	**318**	P		**P**	**12 41 59.5**	**-1.3**
comp=Z,0.4nm,0.6s,baz=101,slow=4.6,SNR=2.6									
YKA	**Yellowknife Ar**		**96.19**	**28**	P		**P**	**12 42 27.5**	**-0.2**
comp=Z,0.2nm,0.6s,baz=260,slow=4.4,SNR=4.6									
TXAR	**Lajitas Array**		**99.04**	**62**	LR		LR	13 19 31.1	
comp=Z,7.6nm,21.5s,baz=0.0,slow=30									

NDI ***11*** *12:34:18.7±2.8, 29°.99N×69°.32E, h24km±64km, ML4.3, mb4.5(NEIC)*
ISCJB ***11*** *12:34:18.9±0.2, 29°.86N±0°.03×69°.83E±0°.03, h12km, mb4.6/57, MS3.5/16, Error ellipse: s-maj=4.2km s-min=3.3km az=20.3*
BJI ***11*** *12:34:19.1±0.0, 29°.99N×69°.68E, h12km, mb4.5/43, mB4.9/28, Ms4.3/10, Ms7 4.1/10*
IDC ***11*** *12:34:19.2±0.5, 29°.85N×69°.83E, h0km, mb4.3/25, mb1 4.4/27, mb1mx4.3/42, mbtmp4.3/27, ML4.0/2, MS3.4/18, Ms1 3.4/18, ms1mx3.2/47, Error ellipse: s-maj=14.4km s-min=12.7km az=8.0*
NEIC ***11*** *12:34:19.7±1.6, 29°.76N±0°.07×69°.73E±0°.08, h10km±1km, mb4.5/31*
MOS ***11*** *12:34:20.6±1.2, 29°.94N×69°.81E, h21km, mb4.7/25, Error ellipse: s-maj=8.5km s-min=4.8km az=86.2*
ISC 11 12:34:20.9±0.3, 29°.93N±0°.04×69°.82E±0°.04, h12km, n178, σ1§81/185, mb4.5/62, MS3.6/16, 12C-4D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JASL	**Jaisalmer**		**3.14**	**162**	eP		**Pn**	**12 35 09.9**	**-0.4**
SARP	**Sargodha**		**3.15**	**50**	P		**Pn**	**12 35 11.5**	**+1.1**
THW	**Thamme Wali**		**3.29**	**29**	P		**Pn**	**12 35 14.7**	**+2.3**
CEP	**Cherat**		**4.27**	**24**	⇑P		**Pn**	**12 35 28.3**	**+2.5**
KBL	**Kabul**		**4.64**	**352**	P		**Pn**	**12 35 31.5**	**+0.4**
KBL	**Kabul**		**4.64**	**352**			**Pn**	**12 35 31.5**	**+0.4**
NIL	**Nilore**		**4.72**	**37**	P		**Pn**	**12 35 34.8**	**+2.8**
NIL	**Nilore**		**4.72**	**37**			**Pn**	**12 35 34.8**	**+2.8**
CHCP	**Chirah Chowk**		**4.73**	**37**	P		**Pn**	**12 35 34.1**	**+2.0**
JMU	**Jammu**		**5.16**	**56**	eP		**Pn**	**12 35 39.0**	**+1.1**
JMU					eS		**Sn**	**12 36 35.5**	**-1.8**
DHRM	**DHARAMSHALA**		**6.02**	**66**	eP		**Pn**	**12 35 52.2**	**+2.2**
DHRM					eS		**Sn**	**12 37 00.0**	**+1.1**
DHRM					IAML			12 37 07.3	
comp=E,446nm,0.7s									
DHRM					IAML			12 37 09.2	
comp=N,410nm,0.9s									
KUDL	**Kundal**		**6.10**	**105**	eP		**Pn**	**12 35 48.0**	**-2.9**
KUDL					eS		**Sn**	**12 36 55.9**	**-4.8**
SMLA	**Simla**		**6.45**	**77**	eP		**Pn**	**12 35 56.9**	**+1.3**
SMLA					eS		**Sn**	**12 37 11.1**	**+1.9**

SMLA IAML 12 37 15.6
comp=E,249nm,0.4s
SMLA IAML 12 37 15.8
comp=N,180nm,0.4s
AYAN Aya Nagar 6.55 101 *eP* **Pn 12 35 58.3 +1.3**
AYAN IAML 12 38 06.3
comp=Z,119nm,0.7s
NDI New Delhi 6.58 99 *eP* **Pn 12 35 58.0 +0.6**
NDI *eS* **Sn 12 37 07.0 -5.4**
JOSI Joshimath 8.45 83 *eP* **Pn 12 36 25.4 +2.1**
CHGR Chuyangaron 8.72 357 Pn 12 36 28.5 +1.6
CHGR Sn **Sn 12 38 08.5 +3.2**
GAR Garm 9.06 2 Pn 12 36 32.4 +0.9
BHPL Bhopal 9.52 133 *eP* **Pn 12 36 39.1 +1.2**
BHPL IAML 12 39 23.4
comp=N,94nm,0.9s
BHPL IAML 12 39 34.9
comp=E,123nm,0.7s
BTK Batken 10.14 4 P **Pn 12 36 47.5 +1.2**
BTK Batken 10.14 4 P **Pn 12 36 47.5 +1.2**
KSH Kashi 10.82 26 P **Pn 12 36 52.9 -2.8**
KSH S **Sn 12 38 49.7 -7.0**
KSH sS 12 38 54.7
KSH pmax pmax
comp=E,52nm,0.8s
KSH pmax pmax
comp=E,440nm,4.9s
KSH LR LR
comp=E,330nm,11.2s
KSH LR LR
comp=E,800nm,4.2s
KSH LR LR
comp=E,750nm,7.2s
ARSB Arslanbob 11.65 12 Pn 12 37 07.3 +0.2
POO Poona 11.93 161 *eP* Pn 12 37 18.0 +7.1
comp=E,20nm,1.0s
WSAR Wadi Sarin 12.02 239 Pn **Pn 12 37 08.6 -3.6**
comp=E,1.0nm,0.3s,baz=79,slow=7.3,SNR=4.7
WSAR Sn Sn 12 39 13.2 -13
comp=E,0.6nm,0.3s,baz=288,slow=20,SNR=4.5
WSAR LR LR 12 42 55.7
comp=E,51nm,19.1s,baz=69,slow=43
KOLN Koldanda 12.27 97 *eP* **Pn 12 37 14.1 -1.6**
comp=E,65nm,0.9s
DANN Dangsing 12.29 94 *eP* **Pn 12 37 15.1 -0.9**
comp=E,71nm,0.5s
NRN Naryn 12.52 22 P **Pn 12 37 19.3 +0.1**
NRN Naryn 12.52 22 Pn 12 37 19.4 +0.1
GEYT Alibeck 12.57 312 LR LR 12 43 06.7
comp=E,138nm,18.2s,baz=25,slow=42
GYA0B ALIBECK ARRAY 12.57 312 Pn **Pn 12 37 19.5 0.0**
GKN Gorkha 13.12 95 *eP* **Pn 12 37 25.0 -2.2**
comp=E,14nm,0.2s
KK31 Karatay Array 13.16 2 P **Pn 12 37 27.5 -0.1**
KK31 Karatay Array 13.16 2 **Pn 12 37 27.5 -0.1**
KKAR Karatay Array 13.16 2 P **Pn 12 37 27.5 -0.1**
KKAR Karatay Array 13.16 2 **Pn 12 37 27.5 -0.1**
AAK Ala-Archa 13.23 15 *de*P **Pn 12 37 28.6 0.0**
AAK pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 13.23 15 Pn **Pn 12 37 28.5 -0.2**
comp=Z,1.1nm,0.3s,baz=183,slow=8.6,SNR=15
AAK Sn **Sn 12 39 51.0 -4.7**
comp=Z,0.0nm,0.3s,baz=185,slow=17,SNR=1.8
AAK LR LR 12 43 23.0
comp=Z,115nm,21.2s,baz=196,slow=41
AAK Ala-Archa 13.23 15 **Pn 12 37 28.9 +0.2**
TARG Taragay, Kyrgy 13.43 27 **Pn 12 37 32.8 +1.2**
KDJ Kajisay 13.54 24 P **Pn 12 37 33.7 +0.7**
KDJ Kajisay 13.54 24 **Pn 12 37 33.7 +0.7**
DMN Daman 13.61 96 *eP* **Pn 12 37 32.4 -1.6**
comp=Z,7.3nm,0.3s
KKN Kakani 13.72 95 *eP* **Pn 12 37 33.3 -2.1**
comp=Z,23nm,0.5s
TKM2 Tokmak 2 13.77 18 P **Pn 12 37 37.0 +0.9**
TKM2 pmax pmax
comp=Z,4.0nm,0.6s
PKIN Phulchoki 13.86 96 *eP* **Pn 12 37 36.1 -1.4**
comp=Z,13nm,0.4s
PKI Pulchoki 13.88 96 *eP* **Pn 12 37 36.2 -1.5**
comp=Z,8.9nm,0.3s
GUN Gumba 14.21 94 *eP* **Pn 12 37 38.9 -3.4**
comp=Z,70nm,0.5s
JIRN Jiri 14.53 95 *eP* **Pn 12 37 44.3 -2.5**
comp=Z,30nm,0.3s
HYB Hyderabad 14.79 145 *i* P **P 12 37 59.0 +3.0**
HYB *eS* **Sn 12 40 40.0 +6.0**
RAMN Ramite 15.06 97 *eP* **Pn 12 37 51.5 -2.3**
comp=Z,12nm,0.4s
PDGK Podgornoye 15.45 27 P **Pn 12 37 56.9 -1.8**
PDGK pmax pmax
comp=Z,8.0nm,1.0s
ODAN Odare 15.76 97 *eP* **Pn 12 37 59.9 -3.1**
comp=Z,11nm,0.5s
TAPN Taplejung 15.92 95 *eP* **Pn 12 38 01.2 -3.9**
MAKZ Makanchi 19.32 26 P **P 12 38 46.3 +0.5**
MAKZ pmax pmax
comp=Z,10.0nm,0.7s
MAKZ Makanchi 19.32 26 P **Pn 12 38 46.3 +0.5**
MK31 Makanchi Array 19.43 26 P **Pn 12 38 47.7 -0.5**
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MK31 Makanchi Array 19.43 26 P **Pn 12 38 47.7 -0.5**
MKAR Makanchi Array 19.43 26 P **Pn 12 38 47.8 -0.4**
comp=Z,0.4nm,0.3s,baz=210,slow=9.6,SNR=7.8
MKAR LR LR 12 48 03.5
comp=Z,68nm,19.0s,baz=207,slow=42
WMQ Urumqi 19.86 41 *eP* **Pn 12 38 54.9 +1.5**
WMQ sP sP 12 39 01.9 +4.6
WMQ S **S 12 42 30.1 -5.2**
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ pmax pmax
comp=Z,76nm,3.7s
WMQ LR LR
comp=Z,76nm,4.1s
WMQ LR LR
comp=Z,190nm,4.1s
WMQ LR LR
comp=Z,200nm,4.0s
AB31 Akbulak array 20.71 341 P **P 12 39 01.2 +0.2**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 20.71 341 P **P 12 39 01.7 +0.7**
AKT Akhty 21.26 309 *eP* **P 12 39 07.7 +0.6**
AKT *e* 12 39 26.4
AKT pmax pmax
comp=Z,14nm,0.9s
KURBB Kurchatov Arra 21.68 15 P **P 12 39 11.7 +0.4**
comp=Z,11nm,0.8s,baz=208,slow=9.4,SNR=54
KURK Kurchatov 21.79 15⇓ *i* P **P 12 39 12.3 -0.2**
KURK pmax pmax
comp=Z,28nm,1.7s
KURK Kurchatov 21.79 15 P **P 12 39 12.7 +0.2**
KURK IAmb IAmb 12 39 18.5
comp=Z,16nm,0.9s
AKTO Aktyubinsk 22.32 340 P **P 12 39 20.5 +2.2**
comp=Z,4.1nm,0.7s,baz=156,slow=11,SNR=8.5
AKTO LR LR 12 48 29.0
comp=Z,93nm,19.0s,baz=145,slow=38
RAYN Ar Rayn 22.61 259 P **P 12 39 21.0 -0.7**
RAYN pmax pmax
comp=Z,22nm,1.3s
RAYN Ar Rayn 22.61 259 P **P 12 39 21.1 -0.7**
RAYN IAmb IAmb 12 39 27.9
comp=Z,22nm,1.2s
GNI Garni 22.86 303⇑ *eP* **P 12 39 26.6 +2.3**
GNI pmax pmax
comp=Z,63nm,0.8s
GNI Garni 22.86 303 LR LR 12 50 40.7
comp=Z,59nm,18.5s,baz=126,slow=43
BVAR Borovoye Array 23.08 1 P **P 12 39 26.9 +0.6**
comp=Z,7.8nm,0.8s,baz=170,slow=9.0,SNR=24
BRVK Borovoye 23.11 1 *ce*P **P 12 39 27.1 +0.5**
BRVK pmax pmax
comp=Z,16nm,1.0s
BRVK Borovoye 23.11 1 P **P 12 39 27.0 +0.4**
BRVK IAmb IAmb 12 39 30.9
comp=Z,12nm,0.8s
KBZ Khabaz 25.44 310 P **P 12 39 49.2 +0.8**
comp=Z,3.0nm,0.7s,baz=98,slow=14,SNR=4.3
GTA Gaotai 26.32 61 *eP* **P 12 39 59.6 +2.9**
GTA pP sP 12 40 04.0 +1.6
GTA sP pP 12 40 06.6 +5.9
GTA pmax pmax
comp=Z,2.0nm,0.8s
GTA pmax pmax
comp=Z,37nm,7.0s
GTA LR LR
comp=Z,120nm,14.6s
GTA LR LR
comp=Z,170nm,15.2s
GTA LR LR
comp=Z,270nm,14.3s
ZAA0 Zalesovo Array 26.36 20 P **P 12 39 57.6 +0.9**
ZAA0 IAmb IAmb 12 40 02.7
comp=Z,6.0nm,0.8s
ZALV Zalesovo Beam 26.36 20 P **P 12 39 57.3 +0.7**
comp=Z,4.3nm,0.6s,baz=218,slow=9.5,SNR=17
ZALV LR LR 12 51 35.4
comp=Z,56nm,18.7s,baz=208,slow=39
ARU Arti 27.66 346 *c i*P **P 12 40 10.9 +2.6**
ARU 12 40 52.5
ARU S **S 12 44 52.3 +2.4**
ARU pmax pmax
comp=Z,10.0nm,1.2s
MHMT Maesarieng 28.13 108 P **P 12 40 15.1 +2.1**
comp=Z,14nm,0.7s
CHTO Chiang Mai 28.66 106 P **P 12 40 17.7 0.0**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 28.66 106 P **P 12 40 17.7 0.0**
CHTO IAmb IAmb 12 40 20.6
comp=Z,6.7nm,0.9s
CMMT Chiang Mai 28.67 106 P **P 12 40 18.7 +0.9**
CM31 Chiang Mai Arr 28.83 107 P **P 12 40 19.2 0.0**
CM31 IAmb IAmb 12 40 25.1
comp=Z,11nm,0.9s
CMAR Chiang Mai Arr 28.83 107 P **P 12 40 19.4 +0.2**
comp=Z,3.4nm,0.7s,baz=299,slow=8.0,SNR=24
CMAR LR LR 12 55 01.0
comp=Z,40nm,18.8s,baz=319,slow=43
LZH Lanzhou 29.09 69 *eP* **P 12 40 22.5 +1.0**
LZH pP pP 12 40 25.4 -0.2
LZH sP sP 12 40 27.3 +0.1
LZH *eP*P **PnPn 12 41 16.7 +3.0**
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,68nm,5.2s
LZH LR LR
comp=Z,260nm,12.7s
LZH LR LR
comp=Z,270nm,13.0s
LZH LR LR
comp=Z,370nm,16.2s
ANN Anapa 29.48 309 *eP* **P 12 40 24.1 -0.6**
ANN *e**PP **pP 12 40 27.3 -1.5**
ANN *e* 12 43 29.0
ANN *e*S **S 12 45 19.8 +0.9**
ANN *e*SS ScP 12 46 48.1 -24
ANN pmax pmax
comp=Z,38nm,0.9s
PHRA Phrae 29.89 105 P **P 12 40 31.2 +2.6**
comp=Z,1.1nm,1.0s
UTTA Uttaradit 30.52 106 P **P 12 40 38.6 +4.5**
comp=Z,13μm,0.9s
UTHA Uthaitani 30.73 111 P **P 12 40 39.3 +3.3**
comp=Z,9μm,0.8s,comp=Z,427μm
BR131 Keskin Array S 31.09 298 P **P 12 40 39.2 0.0**
BR131 pmax pmax
comp=Z,4.0nm,0.8s
BR131 Keskin Array S 31.09 298 P **P 12 40 39.2 0.0**
BRTR Keskin Array B 31.09 298 *ce*P **P 12 40 40.2 +1.0**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 31.09 298 P **P 12 40 39.9 +0.7**
comp=Z,1.8nm,0.7s,baz=112,slow=8.6,SNR=7.0
VSR Storozhevoye 31.17 322⇑ *i*P **P 12 40 40.3 +0.7**
VSR pmax pmax
comp=Z,6.0nm,0.7s
CHAI Chaiyaphum 32.62 108 P **P 12 40 54.6 +1.9**
comp=Z,25μm,0.9s
SONM Songino Array 33.22 47 P **P 12 41 00.3 +2.5**
comp=Z,2.3nm,0.8s,baz=257,slow=9.4,SNR=9.6
ULN Ulaanbaatar 33.65 47⇓ *eP* **P 12 40 59.5 -2.1**
ULN pmax pmax
comp=Z,13nm,2.5s
ULN Ulaanbaatar 33.65 47 P **P 12 40 59.1 -2.5**
ULN IAmb IAmb 12 41 09.0
comp=Z,4.8nm,1.0s
OBN Obninsk 34.57 326 *eP* **P 12 41 08.2 -1.0**
OBN pmax pmax
comp=Z,5.0nm,1.0s
HHC Hu-ho-hao-te 35.43 61 P **P 12 41 17.4 +0.4**
HHC pmax pmax
comp=Z,6.0nm,0.6s
UBPT Khong Chiam 35.83 106 P **P 12 41 22.6 +2.1**
comp=Z,8.4nm,0.8s
UBPT Khong Chiam 35.83 106 P **P 12 41 19.7 -0.8**
AKASG Malin Array Be 36.65 316 *ce*P **P 12 41 27.6 +0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 36.65 316 P **P 12 41 27.6 +0.4**
comp=Z,1.0nm,0.4s,baz=98,slow=7.5,SNR=14
AKASG PcP **PcP 12 43 52.0 +2.1**
comp=Z,0.3nm,0.2s,baz=81,slow=3.2,SNR=4.0
AKBB Malin Array Si 36.65 316 P **P 12 41 27.1 -0.1**
AKBB pmax pmax
comp=Z,14nm,1.4s
AKBB Malin Array Si 36.65 316 P **P 12 41 27.1 -0.1**
AKBB IAmb IAmb 12 41 32.6
comp=Z,14nm,1.4s
ALN Alexandroupoli 36.97 299 P **P 12 41 29.2 -0.9**
ALN pmax pmax
comp=Z,8.0nm,1.0s
ALN Alexandroupoli 36.97 299 P **P 12 41 29.2 -0.9**
ALN IAmb IAmb 12 41 40.6
comp=Z,8.2nm,1.0s
KULM Kulim 38.02 124 P **P 12 41 37.6 -1.6**
KULM IAmb IAmb 12 41 41.9
comp=Z,11nm,0.9s
BUR08 Bucovina Ar. S 38.41 310 P **P 12 41 40.7 -1.6**
PSI Prapat 38.59 129 LR LR 12 58 34.8
comp=Z,99nm,18.7s,baz=301,slow=38
IPM Ipoh 38.85 125 P **P 12 41 44.6 -1.6**
IPM IAmb IAmb 12 41 48.0
comp=Z,7.6nm,0.7s
NJ2 Nanjing 41.80 74 *eP* **P 12 42 09.2 -1.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
LANS Liptovska Anna 42.43 311 *eP* **P 12 42 15.4 -0.1**
LANS Liptovska Anna 42.43 311 *eP* **P 12 42 15.4 -0.1**
FINES FINESS Array B 42.55 331 P **P 12 42 16.6 +0.4**
comp=Z,2.1nm,0.6s,baz=106,slow=11,SNR=6.3
FINES LR LR 13 04 01.0
comp=Z,151nm,18.8s,baz=127,slow=42
VYHS Vyhne 42.76 310 *eP* **P 12 42 15.9 -2.2**
VYHS Vyhne 42.76 310 *eP* **P 12 42 15.9 -2.2**
KMBO Kilima Mbogo 43.80 231 P **P 12 42 28.5 +1.4**
comp=Z,1.7nm,0.3s,baz=36,slow=12,SNR=4.6
KMBO Kilima Mbogo 43.80 231 P **P 12 42 26.1 -1.1**
CN2 Changchun 45.79 56 *eP* **P 12 42 44.3 +1.9**
GERES GERESS Array B 46.18 311 P **P 12 42 47.4 +1.9**
comp=Z,0.4nm,0.5s,baz=97,slow=8.0,SNR=3.7
GERES PcP **PcP 12 44 24.1 +2.8**
comp=Z,0.3nm,0.4s,baz=72,slow=4.3,SNR=3.9
ARCES ARCESS Array B 46.91 340 P **P 12 42 51.9 +1.0**
comp=Z,3.8nm,0.6s,baz=129,slow=8.0,SNR=19
ARCES LR LR 13 04 17.4
comp=Z,74nm,18.8s,baz=198,slow=38
HFS Hagfors 47.78 326 LR LR 13 06 50.4
comp=Z,130nm,19.1s,baz=72,slow=41
KSRS Korea Array 48.27 65 P **P 12 43 02.6 +0.8**
comp=Z,3.6nm,0.8s,baz=268,slow=8.3,SNR=10.0
KSRS LR LR 13 04 42.0
comp=Z,17nm,18.5s,baz=95,slow=38
NB2 NORSAR Subarra 49.17 327 P **P 12 43 08.2 -0.3**
comp=Z,1.2nm,0.7s,baz=104,slow=7.9
NOA NORSAR Array B 49.17 327 P **P 12 43 07.9 -0.6**
comp=Z,1.3nm,0.7s,baz=105,slow=7.7,SNR=4.9
NOA LR LR 13 07 18.7
comp=Z,78nm,19.7s,baz=105,slow=40
BFO Black Forest 49.74 310 *i* P **P 12 43 13.0 -0.1**
YAK Yakutsk 49.96 32⇑ *eP* **P 12 43 14.4 0.0**
YAK pmax pmax
comp=Z,10.0nm,0.7s
KLR Kul'dur 50.01 49⇑ *eP* **P 12 43 15.9 +0.9**
KLR pmax pmax
comp=Z,65nm,4.0s
KEST Kesra 50.45 293 P **P 12 43 20.4 +1.6**
comp=Z,4.6nm,0.6s,baz=38,slow=2.0,SNR=4.7
USA0B Ussuriysk Arra 50.48 56 P **P 12 43 18.9 +0.3**
USA0B pmax pmax
comp=Z,21nm,1.4s
USA0B Ussuriysk Arra 50.48 56 P **P 12 43 18.9 +0.3**
USRK Ussuriysk Ar. 50.48 56 P **P 12 43 19.2 +0.6**
comp=Z,2.0nm,0.7s,baz=259,slow=6.8,SNR=3.5
LEM Lembang 51.50 129 LR LR 13 08 22.7
comp=Z,25nm,18.4s,baz=302,slow=40
JNU Nakatsue 51.50 70 LR LR 13 07 22.3
comp=Z,43nm,19.1s,baz=1.0,slow=38
RER Riviere de l'E 52.57 197 P **P 12 43 32.6 -1.9**
KAPI Kappang 59.10 117 LR LR 13 13 41.8
comp=Z,12nm,18.4s,baz=305,slow=40
ESDC Sonseca Array 59.82 301 P **P 12 44 25.4 -0.8**
comp=Z,0.8nm,0.5s,baz=65,slow=6.9,SNR=6.3
SEY Seymchan 60.47 31⇑ *eP* **P 12 44 31.4 +1.2**
DAG Danmarks Havn 60.76 345 *i* P **P 12 44 33.0 +1.0**
DAG pmax pmax
comp=Z,4.0nm,0.7s
DAG Danmarks Havn 60.76 345 *i* P **P 12 44 33.0 +1.0**
comp=Z,4.3nm,0.7s
PFVI Vila Bisbo 64.22 300 P **P 12 44 53.9 -1.9**
TOA0 Torodi Ar. Sit 64.71 271 P **P 12 44 58.1 -1.2**
TOA0 IAmb IAmb 12 45 02.9
comp=Z,4.4nm,0.8s
TORD Torodi Ar. Bea 64.71 271 P **P 12 44 58.5 -0.7**
comp=Z,2.7nm,0.5s,baz=59,slow=5.6,SNR=27
BILL Bilibino 64.96 24⇑ *eP* **P 12 45 03.1 +3.0**
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL Bilibino 64.96 24 P **P 12 45 01.3 +1.2**
BILL IAmb IAmb 12 45 11.1
comp=Z,4.6nm,1.2s
PETK Petropavlovsk- 65.45 41 LR LR 13 19 00.8
comp=Z,52nm,18.3s,baz=239,slow=41
SUMG Summit 66.96 342 *i* P **P 12 45 14.7 +1.3**
SUMG pmax pmax
comp=Z,21nm,0.7s
SUMG Summit 66.96 342 *i* P **P 12 45 14.7 +1.3**
comp=Z,21nm,0.7s
BOSA Boshof 72.11 220 P **P 12 45 43.8 -1.6**
BOSA pmax pmax
comp=Z,6.0nm,1.1s
BOSA Boshof 72.11 220 P **P 12 45 44.6 -0.8**
comp=Z,2.5nm,0.8s,baz=17,slow=8.7,SNR=3.7
BOSA Boshof 72.11 220 P **P 12 45 43.8 -1.6**
BOSA IAmb IAmb 12 45 48.3
comp=Z,5.7nm,1.1s
DBIC Dimbokro 73.43 268 P **P 12 45 52.9 -0.6**
DBIC pmax pmax
comp=Z,11nm,1.2s
DBIC Dimbokro 73.43 268 P **P 12 45 53.5 0.0**
comp=Z,3.1nm,0.8s,baz=81,slow=5.4,SNR=3.8
DBIC Dimbokro 73.43 268 P **P 12 45 52.9 -0.6**
KIC Kosan Boka 73.48 268 *eP* **P 12 45 53.7 -0.1**
comp=Z,8.0nm,0.9s
TIC Toumodi 73.59 268 *eP* **P 12 45 54.3 -0.2**
comp=Z,7.5nm,0.5s
LIC Lamto 73.80 268 *eP* **P 12 45 55.3 -0.4**
comp=Z,16nm,0.8s
WRA Warramunga Arr 79.45 120 *i* P **P 12 46 27.2 -0.3**
WRA pmax pmax
comp=Z,5.0nm,0.8s
WRA Warramunga Arr 79.45 120 P **P 12 46 27.0 -0.5**
comp=Z,4.8nm,0.8s,baz=318,slow=5.3,SNR=33
WRAB Tennant Creek 79.46 120⇓ *eP* **P 12 46 27.2 -0.3**
WRAB pmax pmax
comp=Z,6.0nm,0.8s
INK Inuvik 80.53 9 P **P 12 46 32.8 +0.3**
INK pmax pmax
comp=Z,11nm,1.2s
INK Inuvik 80.53 9 P **P 12 46 32.8 +0.3**
COLA College 81.05 15⇑ *eP* **P 12 46 36.5 +1.1**
COLA pmax pmax
comp=Z,9.0nm,1.2s
ILAR Eielson Array 81.36 15 P **P 12 46 36.3 -0.8**
comp=Z,1.0nm,0.6s,baz=304,slow=4.9,SNR=15
AS31 Alice Springs 81.39 123 P **P 12 46 36.6 -1.3**
ASAR Alice Springs 81.39 123 P **P 12 46 37.1 -0.8**
comp=Z,4.5nm,0.8s,baz=309,slow=5.3,SNR=60
DAWY Dawson 83.53 12 P **P 12 46 46.9 -1.6**
MCARA McCarthy VSAT 85.18 15 P **P 12 46 56.9 +0.1**
YKW3 Yellowknife Ar 87.76 2 P **P 12 47 09.6 +0.2**
YKA Yellowknife Ar 87.83 2 P **P 12 47 10.4 +0.6**
comp=Z,4.8nm,0.7s,baz=348,slow=4.9,SNR=44
FFC Flin Flon 95.40 355 *i* P **P 12 47 46.3 +1.2**
FFC Flin Flon 95.40 355 P **P 12 47 45.4 +0.3**
PLCA Paso Flores 146.18 241 PKIKP **PKPdf 12 53 57.9 -2.3**
PLCA Paso Flores 146.18 241 PKPbc **PKPab 12 54 01.9 +0.1**
comp=Z,3.1nm,0.9s,baz=153,slow=5.9,SNR=6.6
PLCA Paso Flores 146.18 241 **PKPdf 12 53 57.9 -2.3**

NNC 11 12:39:31.1±9.5, 37.76N×71.00E, h0km, mb3.8, mpv3.5, 2C-4D, Error ellipse: s-maj=89.8km s-min=50.6km az=158.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.35**	**356**	⇑P	Pn	12 40 55.3	+3.1
	1.2nm,0.4s,baz=181,slow=14,SNR=15						
KK31				⇓S	Sn	12 41 59.6	+5.1
	0.9nm,0.3s,baz=181,slow=23,SNR=5.1						
AAK	**Ala-Archa**	**5.56**	**28**	⇓P	Pn	12 40 55.0	-0.2
	4.9nm,0.4s						
AAK				⇓S	Sn	12 41 58.7	-1.1
	5.2nm,0.5s						
TKM2	**Tokmak 2**	**6.24**	**33**	⇓P	Pn	12 41 03.5	-1.1
	2.8nm,0.5s						
TKM2				⇑S	Sn	12 42 17.8	+1.2
	2.3nm,0.6s						
AB31	**Akbulak array**	**13.99**	**329**	P	Pn	12 42 49.4	-1.1
	0.3nm,0.5s,baz=159,slow=10,SNR=8.5						

*IDC **11** 12:57:45.8±4.5, 1.86N×96.16E, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.4/53, mbtmp3.8/4, ML3.4/2, Error ellipse: s-maj=93.9km s-min=40.3km az=8.0*
*ISCJB **11** 12:57:48.2±1.0, 1.89N±0.07×96.73E±0.08, h28km, mb3.9/3, Error ellipse: s-maj=13.1km s-min=7.3km az=142.5*
*DJA **11** 12:57:48.9±0.6, 2°N±3°×9°7E±°, h10km, M3.4/6, mb3.6/1, MLv3.2/6*

ISC 11 12:57:48.7±1.1, **1.81N**±0.07×**96.74E**±0.07, **h28km, n13, σ1§37/13, mb3.9/3, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.72**	**325**	P	Pn	12 58 02.4	-0.7
GSI	**Gunungsitoli**	**0.97**	**121**	P	Pb	12 58 08.0	+1.0
GSI				S	Sb	12 58 20.2	+0.7
TPTI		**1.51**	**17**	P	Pn	12 58 12.0	-1.8
KCSI	**Kotacane, Aceh**	**1.99**	**31**	P	Pn	12 58 19.9	-0.6
KCSI				S	Sn	12 58 43.3	-1.2
PSI	**Prapat**	**2.39**	**66**	Pn	Pb	12 58 33.2	+2.0
	0.6nm,0.3s,baz=259,slow=6.1,SNR=6.6						
PSI				Sn	Sb	12 59 00.5	+0.2
	1.6nm,0.3s,baz=318,slow=18,SNR=6.7						
MLSI	**Meulaboh, Aceh**	**2.46**	**352**	Pg	Pb	12 58 34.7	+2.4
CMAR	**Chiang Mai Arr**	**16.68**	**7**	Pn	P	13 01 41.6	-1.2
	0.3nm,0.3s,baz=195,slow=12,SNR=5.3						
H08S2	**Diego Garcia H**	**25.95**	**248**	T	T	13 30 10.5	
	baz=69,slow=75,SNR=82						
H08S3	**Diego Garcia H**	**25.95**	**249**	T	T	13 30 08.9	
	baz=69,slow=75,SNR=62						
H08S1	**Diego Carcia H**	**25.97**	**249**	T	T	13 30 10.0	
	baz=69,slow=75,SNR=68						
MKAR	**Makanchi Array**	**46.54**	**346**	P	P	13 06 14.0	+0.1
	0.8nm,0.8s,baz=165,slow=8.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**52.89**	**351**	P	P	13 07 01.9	-0.1
	1.1nm,0.7s,baz=179,slow=6.8,SNR=3.5						
FINES	**FINESS Array B**	**79.25**	**333**	P	P	13 09 51.0	-0.2
	1.5nm,0.6s,baz=72,slow=4.5,SNR=3.3						

*TIR **11** 13:00:49.4, 38.92N×22.62E, h19km, Md4.3/9*
*SKO **11** 13:00:50.7, 38.77N×22.46E, h10km, M3.5, ML4.0*
*BJI **11** 13:00:50.6±0.0, 39.08N×22.19E, h8km, mb4.7/24, mB5.1/15, Ms4.7/5, Ms7 4.4/4*
*DDA **11** 13:00:52.9, 39.19N×22.21E, h15km, MW4.5*
*ATH **11** 13:00:53.7, 39.01N×22.29E, h21km, ML4.2/25, Error ellipse: s-maj=0.9km s-min=0.7km az=270.0*
*MOS **11** 13:00:53.2±1.0, 38.95N×22.33E, h15km, mb4.4/12, Error*

ellipse: s-maj=7.3km s-min=4.3km az=93.5
MED_RC ***11*** *13:00:54.0±0.4,38°.99N×22°.30E,h14km±1km,MW4.3/17, Moment Tensor Solution.Mantle waves: s17,c23; Duration: 1ŝ0 Moment tensor: Scale 10¹⁵Nm; Mrr-3.86±.46; Mθθ3.76±.29; Mϕϕ0.10±.24; Mrθ-1.23±.32; Mθϕ0.01±.17; Mϕr-0.10±.29; Best double couple: M₀4.00000×10¹⁵ NP1:ϕs88.00000°,δ54.00000°, λ-92.00000°. NP2:ϕs271.00000°,δ36.00000°, λ-88.00000°. Principal axes: T 3.9500, Plg9.0000°, Azm180.0000°; N 0.1000, Plg1.0000°, Azm89.0000°; P -4.0600, Plg81.0000°, Azm351.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
THE ***11*** *13:00:54.7,38°.99N×22°.30E,h12km,ML4.2/18 Error ellipse: s-maj=0.7km s-min=0.5km az=307.0*
ISCJB ***11*** *13:00:54.6±0.2,39°.02N±0°.01×22°.29E±0°.01,h23km±1km, mb4.3/31,MS3.6/14,Error ellipse: s-maj=2.0km s-min=1.7km az=43.6*
PDG ***11*** *13:00:54.2±0.5,38°.99N×22°.30E,h13km,ML4.1/12,Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
NEIC ***11*** *13:00:55.2±1.5,39°.04N±0°.06×22°.35E±0°.07,h17km±4km, mb4.7/37,ML4.2(THE)*
IDC ***11*** *13:00:58.7±1.9,39°.01N×22°.37E,h51km±17km,mb3.8/17, mb1 4.1/24,mb1mx3.9/48,mbtmp4.1/24,ML3.9/7,MS3.4/16, Ms1 3.4/16,ms1mx3.1/51,Error ellipse: s-maj=17.9km s-min=11.7km az=155.0*

ISC 11 13:00:54.9±0.6,38°.99N±0°.01×22°.30E±0°.02,h17km±3km, n425,σ1ŝ48/499,mb4.3/41,MS3.5/15,34C-18D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.04**	**40**	P	**Pg**	**13 00 57.4**	**-0.7**
AGG				S	**Sg**	**13 00 59.6**	**-0.6**
AGG	**Agios Georgios**	**0.04**	**40**	P	**Pg**	**13 00 57.4**	**-0.7**
AGG	**Agios Georgios**	**0.04**	**40**	P	**Pg**	**13 00 57.4**	**-0.7**
AGG				S	**Sg**	**13 00 59.5**	**-0.6**
AGG	**Agios Georgios**	**0.04**	**40**		**Pg**	**13 00 57.4**	**-0.7**
MAKR	**Makrakomi, Fth**	**0.13**	**280**	P	**Pg**	**13 00 58.1**	**-0.7**
MAKR				S	**Sg**	**13 01 00.8**	**-0.7**
MAKR	**Makrakomi, Fth**	**0.13**	**280**	P	**Pg**	**13 00 58.1**	**-0.7**
MAKR				S	**Sg**	**13 01 00.9**	**-0.5**
AXAR	**Agios Charalam**	**0.36**	**128**	P	**Pb**	**13 01 02.5**	**-0.4**
AXAR				S	**Sb**	**13 01 07.7**	**-0.5**
AXAR				AML	AML	13 01 12.6	
AXAR				AML	AML	13 01 12.9	
EVR	**Evrytania**	**0.39**	**259**	P	**Pg**	**13 01 02.1**	**-0.8**
EVR				S	**Sg**	**13 01 08.4**	**0.0**
	24μm,0.4s						
EVR	**Evrytania**	**0.39**	**259**	P	**Pg**	**13 01 02.1**	**-0.8**
EVR				S	**Sg**	**13 01 07.5**	**-0.8**
EVR				AML	AML	13 01 09.3	
	comp=E,50720μm,0.2s						
EVR				AML	AML	13 01 12.1	
	comp=N,51175μm,0.5s						
DLFA	**Delphi**	**0.54**	**163**	P	**Pg**	**13 01 05.0**	**-0.6**
DLFA				AML	AML	13 01 14.6	
DLFA				AML	AML	13 01 19.2	
	comp=N,82893μm,0.7s						
SERG	**Sergoula**	**0.61**	**198**	P	**Pg**	**13 01 05.6**	**-1.3**
SERG				S	**Sg**	**13 01 14.5**	**-0.5**
	comp=N,82μm,0.4s						
SERG	**Sergoula**	**0.61**	**198**	P	**Pg**	**13 01 05.7**	**-1.3**
SERG				AML	AML	13 01 18.1	
SERG				AML	AML	13 01 20.3	
KALE	**Kalithea**	**0.61**	**192**	P	**Pg**	**13 01 05.8**	**-1.2**
KALE				S	**Sb**	**13 01 15.4**	**-0.1**
	comp=N,54μm,0.2s						
KALE	**Kalithea**	**0.61**	**192**	P	**Pg**	**13 01 05.8**	**-1.2**
KALE				S	**Sb**	**13 01 15.4**	**-0.1**
KALE				AML	AML	13 01 16.4	
	comp=E,79235μm,0.2s						
KALE				AML	AML	13 01 17.4	
THL	**Klokotos Trika**	**0.61**	**339**	P	**Pg**	**13 01 06.1**	**-0.9**
THL	**Klokotos Trika**	**0.61**	**339**	P	**Pg**	**13 01 06.0**	**-1.1**
THL				S	**Sg**	**13 01 14.1**	**-1.1**
THL				AML	AML	13 01 19.4	
	comp=N,14808μm,0.5s						
THL				AML	AML	13 01 19.5	
	comp=E,18109μm,0.6s						
EFP	**Efpalio**	**0.64**	**209**	P	**Pg**	**13 01 06.3**	**-1.2**
EFP				S	**Sg**	**13 01 15.5**	**-0.6**
	comp=E,80μm,0.3s						
EFP	**Efpalio**	**0.64**	**209**	P	**Pg**	**13 01 06.3**	**-1.2**
EFP				S	**Sg**	**13 01 16.0**	**0.0**
EFP				AML	AML	13 01 17.1	
EFP				AML	AML	13 01 17.9	
LKR	**Lokris**	**0.65**	**122**	P	**Pg**	**13 01 06.8**	**-0.8**
LKR				S	**Sb**	**13 01 16.8**	**+0.4**
	comp=E,16μm,0.2s						
LKR	**Lokris**	**0.65**	**122**	P	**Pg**	**13 01 06.8**	**-0.8**
LKR				AML	AML	13 01 18.7	
	comp=E,33461μm,0.2s						
LKR				AML	AML	13 01 19.0	
	comp=N,30494μm,0.2s						
TRIZ	**Trizonia**	**0.65**	**196**	P	**Pg**	**13 01 06.2**	**-1.5**
TRIZ				S	**Sg**	**13 01 16.2**	**-0.1**
	comp=N,113μm,0.3s						
TRIZ	**Trizonia**	**0.65**	**196**	P	**Pg**	**13 01 06.3**	**-1.3**
LRSO	**Larissa Observ**	**0.68**	**6**	P	**Pg**	**13 01 07.4**	**-0.9**
LRSO				S	**Sb**	**13 01 18.0**	**+0.5**
	comp=N,22μm,0.6s						
LRSO	**Larissa Observ**	**0.68**	**6**	P	**Pg**	**13 01 07.3**	**-0.9**
LRSO				S	**Sg**	**13 01 16.2**	**-1.2**
PVO	**Paravola**	**0.71**	**238**	P	**Pb**	**13 01 07.4**	**-1.3**
PVO				S	**Sb**	**13 01 18.2**	**0.0**
	comp=N,28μm,0.4s						
PVO	**Paravola**	**0.71**	**238**	P	**Pb**	**13 01 07.4**	**-1.3**
PVO				S	**Sb**	**13 01 17.8**	**-0.4**
PVO				AML	AML	13 01 21.3	
	comp=N,68185μm,0.6s						
PVO				AML	AML	13 01 23.3	
	comp=E,39893μm,0.3s						
ALIK	**Aliki, Aigiali**	**0.74**	**191**	P	**Pg**	**13 01 09.6**	**+0.2**
ALIK				S	**Sn**	**13 01 20.3**	**-1.1**
NEO	**Neokhori**	**0.79**	**66**	P	**Pb**	**13 01 08.9**	**-1.2**
NEO				S	**Sn**	**13 01 21.3**	**-1.3**
	comp=E,19μm,0.5s						
NEO	**Neokhori**	**0.79**	**66**	P	**Pb**	**13 01 09.2**	**-0.9**
NEO				AML	AML	13 01 23.7	
	comp=E,27122μm,0.5s						
NEO				AML	AML	13 01 25.1	
	comp=N,51276μm,0.4s						
LAKA	**Lakka**	**0.79**	**198**	P	**Pb**	**13 01 08.7**	**-1.5**
LAKA				AML	AML	13 01 24.0	
	comp=E,22634μm,0.4s						
LAKA				AML	AML	13 01 27.0	
	comp=N,21166μm,0.4s						
XOR	**Xorichti**	**0.79**	**61**	P	**Pb**	**13 01 09.0**	**-1.2**
XOR				S	**Sg**	**13 01 20.8**	**0.0**
	comp=N,19μm,0.7s						
XOR	**Xorichti**	**0.79**	**61**	P	**Pb**	**13 01 09.2**	**-1.0**
XOR				AML	AML	13 01 24.4	
	comp=N,53944μm,0.8s						
XOR				AML	AML	13 01 25.3	
	comp=E,23407μm,1.1s						
UPR	**University Cam**	**0.81**	**210**	P	**Pb**	**13 01 10.0**	**-0.5**
PROD	**Prodromos**	**0.87**	**147**	P	**Pb**	**13 01 10.2**	**-1.4**
PROD				S	**Sn**	**13 01 24.4**	**-0.2**
PROD	**Prodromos**	**0.87**	**147**	P	**Pb**	**13 01 10.2**	**-1.4**
PROD				AML	AML	13 01 27.7	
	comp=N,31700μm,0.3s						
PROD				AML	AML	13 01 28.3	
	comp=E,69058μm,0.5s						
SKIA	**Skiathos**	**0.93**	**79**	P	**Pb**	**13 01 11.8**	**-0.7**
SKIA				S	**Sn**	**13 01 26.1**	**+0.1**
	comp=E,8μm,0.6s						
SKIA	**Skiathos**	**0.93**	**79**	P	**Pb**	**13 01 11.6**	**-0.9**
SKIA				AML	AML	13 01 29.3	
	comp=E,11919μm,0.6s						
SKIA				AML	AML	13 01 32.8	
	comp=N,18761μm,0.6s						
KLV	**Kalavryta, Ach**	**0.95**	**187**	P	**Pb**	**13 01 12.6**	**-0.4**
KLV	**Kalavryta, Ach**	**0.95**	**187**	P	**Pb**	**13 01 11.5**	**-1.5**
THAL	**Thalero**	**0.99**	**163**	P	**Pb**	**13 01 12.8**	**-0.8**
THAL	**Thalero**	**0.99**	**163**	P	**Pb**	**13 01 13.1**	**-0.5**
THAL				AML	AML	13 01 31.8	
	comp=N,42679μm,0.3s						
THAL				AML	AML	13 01 31.9	
	comp=E,62359μm,0.6s						
MRKA	**Markates**	**1.05**	**105**	P	**Pn**	**13 01 14.4**	**-0.4**
MRKA	**Markates**	**1.05**	**105**	P	**Pb**	**13 01 14.3**	**-0.3**
MRKA				AML	AML	13 01 37.0	
	comp=N,8749μm,0.7s						
MRKA				AML	AML	13 01 38.6	
	comp=E,8728μm,1.0s						
VIL2	**Platees**	**1.09**	**135**	P	**Pg**	**13 01 15.8**	**-0.2**
VIL2				AML	AML	13 01 36.9	
	comp=E,23041μm,0.6s						
VIL2				AML	AML	13 01 37.6	
	comp=N,27324μm,0.5s						
LTK	**Loutraki**	**1.10**	**151**	P	**Pb**	**13 01 15.1**	**-0.4**
LTK	**Loutraki**	**1.10**	**151**	P	**Pb**	**13 01 14.6**	**-0.8**
LIT	**Litokhoron**	**1.12**	**8**	P	**Pb**	**13 01 14.7**	**-1.1**
LIT	**Litokhoron**	**1.12**	**8**	*i* Pg	**Pb**	**13 01 14.7**	**-1.1**
LIT				*i* Sg	**Sg**	**13 01 33.9**	**+2.7**
LIT	**Litokhoron**	**1.12**	**8**	P	**Pb**	**13 01 14.6**	**-1.2**
LIT	**Litokhoron**	**1.12**	**8**	P	**Pb**	**13 01 14.7**	**-1.2**
LIT	**Litokhoron**	**1.12**	**8**		**Pb**	**13 01 14.6**	**-1.2**
LOUT	**Loutraki**	**1.13**	**152**	P	**Pn**	**13 01 15.3**	**-0.7**
LOUT				S	**Sg**	**13 01 32.3**	**+0.6**
	comp=N,11μm,0.3s						
LOUT	**Loutraki**	**1.13**	**152**	P	**Pn**	**13 01 15.3**	**-0.7**
DRO	**Drossia**	**1.14**	**204**	P	**Pn**	**13 01 15.4**	**-0.6**
DRO				S	**Sg**	**13 01 32.4**	**+0.7**
	comp=N,31μm,0.4s						
DRO	**Drossia**	**1.14**	**204**	P	**Pn**	**13 01 15.3**	**-0.7**
RLS	**Riolos of Patr**	**1.14**	**215**	P	**Pn**	**13 01 15.6**	**-0.4**
RLS				S	**Sn**	**13 01 31.4**	**+0.2**
	comp=N,10μm,0.5s						
RLS	**Riolos of Patr**	**1.14**	**215**	P	**Pn**	**13 01 15.5**	**-0.4**
RLS				AML	AML	13 01 34.5	
	comp=N,20922μm,0.6s						
RLS				AML	AML	13 01 35.5	
	comp=E,19371μm,0.4s						
VILL	**Villia**	**1.15**	**136**	P	**Pn**	**13 01 15.7**	**-0.5**
VILL				S	**Sn**	**13 01 31.4**	**-0.1**
	comp=E,14μm,0.6s						
KPRO	**Kipourio**	**1.20**	**323**	P	**Pn**	**13 01 16.4**	**-0.6**
KPRO				S	**Sg**	**13 01 34.0**	**+0.1**
	comp=E,10μm,1.1s						
KPRO	**Kipourio**	**1.20**	**323**	P	**Pn**	**13 01 16.2**	**-0.8**
AOS	**Alonnisos**	**1.25**	**81**	P	**Pn**	**13 01 17.2**	**-0.3**
AOS				S	**Sn**	**13 01 33.5**	**-0.4**
	comp=E,4μm,0.9s						
AOS	**Alonnisos**	**1.25**	**81**	P	**Pn**	**13 01 17.1**	**-0.3**
AOS				AML	AML	13 01 43.9	
	comp=N,8137μm,0.7s						
AOS				AML	AML	13 01 47.1	
	comp=E,7131μm,1.0s						
TSLK	**Tsoukalades, L**	**1.29**	**263**	P	**Pb**	**13 01 18.7**	**0.0**
TSLK	**Tsoukalades, L**	**1.29**	**263**	P	**Pb**	**13 01 18.6**	**0.0**
LKD2	**Lefkada island**	**1.29**	**262**	*i* PN	**Pn**	**13 01 17.8**	**-0.4**
LKD2				*i* SN	**Sg**	**13 01 40.1**	**+3.3**
LKD2	**Lefkada island**	**1.29**	**262**	P	**Pb**	**13 01 18.5**	**-0.3**
JAN	**Janina**	**1.30**	**301**	P	**Pb**	**13 01 19.2**	**+0.2**
JAN				AML	AML	13 01 49.8	
	comp=N,22323μm,0.6s						
JAN				AML	AML	13 01 51.1	
	comp=E,18797μm,0.6s						
EVGI	**Lefkada island**	**1.33**	**254**	P	**Pn**	**13 01 18.6**	**-0.1**
EVGI	**Lefkada island**	**1.33**	**254**	P	**Pn**	**13 01 18.7**	**0.0**
KZN	**Kozani**	**1.38**	**343**	P	**Pn**	**13 01 19.5**	**+0.1**
KZN	**Kozani**	**1.38**	**343**	P	**Pn**	**13 01 19.3**	**-0.1**
KZN				AML	AML	13 01 46.5	
	comp=E,7383μm,0.7s						
KZN				AML	AML	13 01 49.9	
	comp=N,6493μm,0.5s						
EREA	**Eretria**	**1.40**	**114**	P	**Pb**	**13 01 20.2**	**-0.4**
EREA				S	**Sb**	**13 01 38.0**	**-0.2**
	comp=N,5μm,0.7s						
EREA	**Eretria**	**1.40**	**114**	P	**Pb**	**13 01 20.3**	**-0.4**
PAIG	**Paliouri**	**1.42**	**48**	P	**Pn**	**13 01 19.4**	**-0.5**
PAIG				AML	AML	13 01 38.6	
	comp=E,3598μm,0.6s						
PAIG				AML	AML	13 01 48.2	
	comp=N,3838μm,0.9s						
FSK	**Fiskardo**	**1.46**	**249**	P	**Pn**	**13 01 20.6**	**+0.2**
FSK	**Fiskardo**	**1.46**	**249**	P	**Pn**	**13 01 20.4**	**+0.1**
PENT	**Pentalofos**	**1.50**	**324**	P	**Pn**	**13 01 21.3**	**+0.2**
ATH	**Athens Observa**	**1.51**	**132**	P	**Pb**	**13 01 22.1**	**-0.3**
ATH				AML	AML	13 01 47.1	
	comp=E,13474μm,0.7s						
ATH				AML	AML	13 01 50.9	
	comp=N,11093μm,0.7s						
AMT	**Artemida-Makis**	**1.53**	**198**	P	**Pb**	**13 01 22.6**	**-0.1**
PTL	**Penteli**	**1.55**	**127**	P	**Pb**	**13 01 22.4**	**-0.7**
PTL	**Penteli**	**1.55**	**127**	P	**Pb**	**13 01 22.5**	**-0.6**
ATHU	**Athens Univers**	**1.55**	**131**	P	**Pb**	**13 01 22.7**	**-0.5**
ATHU				AML	AML	13 01 48.5	
	comp=E,2856μm,0.9s						
ATHU				AML	AML	13 01 50.5	
	comp=N,5668μm,0.4s						
VLS	**Valsamata**	**1.56**	**239**	P	**Pb**	**13 01 22.6**	**-0.8**
VLS	**Valsamata**	**1.56**	**239**	P	**Pn**	**13 01 22.5**	**+0.5**
DION	**Dionisos Attik**	**1.57**	**125**	P	**Pb**	**13 01 22.8**	**-0.7**
VLX	**Vlachokerasia**	**1.62**	**178**	P	**Pb**	**13 01 23.9**	**-0.4**
VLY	**Voula,Athens**	**1.64**	**134**	P	**Pb**	**13 01 23.8**	**-0.7**
VLY				AML	AML	13 01 52.5	
	comp=E,9319μm,0.4s						
VLY				AML	AML	13 01 58.5	
	comp=N,9192μm,0.8s						
PLG	**Polygyros**	**1.64**	**32**	P	**Pn**	**13 01 22.5**	**-0.5**
PLG	**Polygyros**	**1.64**	**32**	P	**Pn**	**13 01 22.5**	**-0.5**
DID	**Didima**	**1.66**	**153**	P	**Pn**	**13 01 23.8**	**+0.6**
DID	**Didima**	**1.66**	**153**	P	**Pn**	**13 01 23.8**	**+0.6**
VLMS	**Volimes, Zakyn**	**1.70**	**230**	P	**Pb**	**13 01 25.0**	**-0.7**
NEST	**Nestorio**	**1.72**	**326**	P	**Pn**	**13 01 24.8**	**+0.7**
THE	**Thessaloniki**	**1.72**	**17**	*i* Pn	**Pn**	**13 01 23.1**	**-0.9**
THE				*i* Sg	**Sg**	**13 01 50.4**	**+0.1**
THE	**Thessaloniki**	**1.72**	**17**	*i* PN	**Pn**	**13 01 21.9**	**-2.1**
THE				*i* SN	**Sn**	**13 01 45.9**	**+0.3**
HORT	**Hortiatis**	**1.72**	**21**	P	**Pn**	**13 01 23.3**	**-0.8**
HORT	**Hortiatis**	**1.72**	**21**	P	**Pn**	**13 01 23.3**	**-0.8**
KRND	**KRANIDI**	**1.74**	**157**	P	**Pb**	**13 01 25.2**	**-1.2**
KRND	**KRANIDI**	**1.74**	**157**	P	**Pb**	**13 01 25.2**	**-1.2**
ITM	**Ithomi**	**1.83**	**189**	P	**Pb**	**13 01 27.9**	**-0.1**
ITM	**Ithomi**	**1.83**	**189**	Pn	**Pb**	**13 01 28.0**	**+0.1**
OUR	**Ouranopolis**	**1.87**	**44**	P	**Pn**	**13 01 25.9**	**-0.1**
FNA	**Florina**	**1.93**	**339**	P	**Pn**	**13 01 27.3**	**+0.4**
FNA	**Florina**	**1.93**	**339**	*i* Pn	**Pn**	**13 01 27.3**	**+0.4**
FNA	**Florina**	**1.93**	**339**	P	**Pn**	**13 01 27.1**	**+0.2**
FNA	**Florina**	**1.93**	**339**	*i* PN	**Pn**	**13 01 27.4**	**+0.5**
FNA				*i* SN	**Sb**	**13 01 54.5**	**+1.1**
FNA	**Florina**	**1.93**	**339**		**Pn**	**13 01 27.1**	**+0.2**
KARY	**Karystos**	**1.93**	**119**	P	**Pn**	**13 01 27.8**	**+0.8**
GRG	**Griva**	**1.96**	**2**	*i* Pn	**Pn**	**13 01 27.1**	**-0.4**
GRG	**Griva**	**1.96**	**2**	P	**Pn**	**13 01 27.3**	**-0.1**
GRG	**Griva**	**1.96**	**2**	P	**Pn**	**13 01 27.0**	**-0.4**
SRN	**Sarande**	**1.99**	**297**	*i* PN	**Pb**	**13 01 30.1**	**-0.5**
SRN				*i* SN	**Sg**	**13 01 58.9**	**0.0**
SOH	**Sokhos**	**2.00**	**24**	*i* Pn	**Pn**	**13 01 28.1**	**+0.1**
SOH				*i* Sn	**Sn**	**13 01 53.5**	**+0.9**
SOH	**Sokhos**	**2.00**	**24**	P	**Pn**	**13 01 27.9**	**0.0**
SOH	**Sokhos**	**2.00**	**24**	P	**Pn**	**13 01 27.9**	**0.0**
TPE	**Tepelena**	**2.19**	**307**	*i* PN	**Pb**	**13 01 33.0**	**-1.1**
TPE				*i* SN	**Sg**	**13 02 05.1**	**-0.3**
KNT	**Kendrikon**	**2.22**	**12**	*i* Pn	**Pn**	**13 01 31.0**	**+0.2**
KNT	**Kendrikon**	**2.22**	**12**	P	**Pn**	**13 01 30.9**	**0.0**
VLI	**Veliai**	**2.33**	**167**	P	**Pn**	**13 01 33.0**	**+0.7**
VAY	**Valandovo**	**2.34**	**5**	*i* Pn	**Pn**	**13 01 31.6**	**-0.9**
VAY				*i* Sn	**Sg**	**13 02 09.3**	**-0.7**
VAY				*e*Lg	Lg	13 02 26.3	
	comp=E,842nm,1.1s						
VAY				*e*Lg	Lg	13 02 26.4	
	comp=N,534nm,0.8s						
THAS	**Thassos island**	**2.47**	**48**	P	**Pn**	**13 01 33.6**	**-0.7**
VLO	**Vlora**	**2.62**	**305**	*i* PN	**Pb**	**13 01 39.9**	**-1.4**
VLO				*i* SN	**Sb**	**13 02 15.9**	**+2.8**
KAVA	**Kavala**	**2.63**	**40**	P	**Pn**	**13 01 36.0**	**-0.5**
MMB	**Musomiste**	**2.82**	**22**	*i* Pn	**Pn**	**13 01 39.0**	**-0.2**
MMB	**Musomiste**	**2.82**	**22**	*i* P	**Pn**	**13 01 39.1**	**0.0**
TIR	**Tirane**	**3.00**	**322**	P	**Pn**	**13 01 44.2**	**+2.6**
TIR	**Tirane**	**3.00**	**322**	*i* PN	**Pb**	**13 01 44.9**	**-3.0**
TIR	**Tirane**	**3.00**	**322**	P	**Pb**	**13 01 44.6**	**-3.3**
TIR	**Tirane**	**3.00**	**322**		**Pn**	**13 01 44.2**	**+2.6**
BOZC	**Bozcaada**	**3.03**	**73**	*i* P	**Pn**	**13 01 42.3**	**+0.3**
PHP	**Peshkopia**	**3.04**	**333**	*i* PN	**Pn**	**13 01 42.2**	**-0.1**
PHP				*i* SN	**Sb**	**13 02 27.5**	**+2.1**
SCTE	**Santa Cesarea**	**3.15**	**291**		**Pn**	**13 01 45.2**	**+1.5**
APE	**Apeiranthos**	**3.19**	**126**	P	**Pn**	**13 01 45.2**	**+0.9**
APE	**Apeiranthos**	**3.19**	**126**	P	**Pn**	**13 01 45.7**	**+1.4**
APE				AML	AML	13 01 57.5	
RZN	**Rozhen**	**3.27**	**34**	*i* P	**Pn**	**13 01 46.0**	**+0.5**
RDO	**Rodhopi**	**3.29**	**48**	P	**Pn**	**13 01 45.1**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**3.38**	**76**	*i* P	**Pn**	**13 01 47.6**	**+0.8**
ZEY	**zmir**	**3.38**	**102**	*i* P	**Pn**	**13 01 49.0**	**+2.1**
AYVA	**Ayvalik**	**3.43**	**83**	*i* P	**Pn**	**13 01 48.5**	**+1.0**
ALN	**Alexandroupoli**	**3.45**	**55**	P	**Pn**	**13 01 47.5**	**-0.3**
ALN	**Alexandroupoli**	**3.45**	**55**		**Pn**	**13 01 47.5**	**-0.3**
KDZ	**Kurdzhali**	**3.57**	**41**	*i* P	**Pn**	**13 01 48.6**	**-0.9**
VTS	**Vitosha**	**3.69**	**11**	*i* P	**Pn**	**13 01 51.4**	**+0.1**
VTS	**Vitosha**	**3.69**	**11**	P	**Pn**	**13 01 51.4**	**+0.1**
VTS	**Vitosha**	**3.69**	**11**	⇑P	**Pn**	**13 01 51.7**	**+0.4**
VTS				AML	AML	13 02 53.9	
VTS	**Vitosha**	**3.69**	**11**		**Pn**	**13 01 51.4**	**+0.1**
DGB	**zmir**	**3.72**	**103**	*i* P	**Pn**	**13 01 53.3**	**+1.9**
ZEDA	**zmir-Bergama**	**3.73**	**89**	*i* P	**Pn**	**13 01 53.1**	**+1.5**
ULC	**Ulcinj**	**3.77**	**325**	⇓*i* Pn	**Pn**	**13 01 54.5**	**+2.2**
ULC				*e*Sn	**Sn**	**13 02 38.6**	**+2.3**
BCI	**Bajram Curri**	**3.77**	**334**	*i* PN	**Pn**	**13 01 53.0**	**+0.7**
BCI				*i* SN	**Sb**	**13 02 43.8**	**-2.7**
KESN	**Edirne-Kesan**	**3.84**	**60**	*e*P	**Pn**	**13 01 52.7**	**-0.8**
DIM	**Dimitrovgrad**	**3.93**	**38**	*i* P	**Pn**	**13 01 55.8**	**+1.5**
DRME	**Dracevica, Mon**	**3.98**	**324**	⇓*i* Pn	**Pn**	**13 01 56.6**	**+1.6**
DRME	**Dracevica, Mon**	**3.98**	**324**	⇓*i* Pn	**Pn**	**13 01 56.8**	**+1.8**
DRME				*e*Sn	**Sn**	**13 02 43.9**	**+2.7**
PVY	**Plav**	**4.01**	**335**	⇓*i* Pn	**Pn**	**13 01 57.4**	**+1.7**
PVY				*e*Sn	**Sn**	**13 02 44.5**	**+2.2**
CGL1	**Ceglie Messapi**	**4.07**	**296**	*e*Pn	**Pn**	**13 01 58.0**	**+1.7**
PDG	**Podgorica**	**4.14**	**327**	*e*Pn	**Pn**	**13 01 58.6**	**+1.3**
PDG	**Podgorica**	**4.14**	**327**	⇑P	**Pn**	**13 01 59.4**	**+2.1**
PDG				AML	AML	13 02 58.2	
PDG	**Podgorica**	**4.14**	**327**		**Pn**	**13 01 58.1**	**+0.9**
TTG	**Podgorica**	**4.14**	**327**	⇑*i* Pn	**Pn**	**13 01 58.4**	**+1.1**
TTG				*e*Sn	**Sn**	**13 02 47.7**	**+2.4**
TAR1	**Taranto**	**4.16**	**293**	*e*Pn	**Pn**	**13 01 58.9**	**+1.4**
BUM	**Brajici-Budva**	**4.20**	**323**	⇓*i* Pn	**Pn**	**13 01 59.3**	**+1.1**
BUM				*e*Sn	**Sn**	**13 02 48.8**	**+2.0**
STEP	**BALIKESIR_Sava**	**4.23**	**83**	*i* P	**Pn**	**13 02 00.5**	**+1.9**
IVA	**Berane**	**4.28**	**336**	⇓*i* Pn	**Pn**	**13 02 00.8**	**+1.5**
IVA				*e*Sn	**Sn**	**13 02 51.0**	**+2.1**
MASS	**Massafra**	**4.29**	**294**	*e*Pn	**Pn**	**13 02 00.8**	**+1.4**
AKHS	**Akhisar**	**4.30**	**90**	*i* P	**Pn**	**13 02 01.5**	**+2.0**
TIP	**Timpagrande**	**4.31**	**274**	⇑P	**Pn**	**13 02 01.4**	**+1.6**
TIP				AML	AML	13 02 59.2	
TIP	**Timpagrande**	**4.31**	**274**		**Pn**	**13 02 01.1**	**+1.3**
BALB	**Balikesir**	**4.38**	**80**	Pn	**Pn**	**13 02 01.3**	**+0.8**
CEME	**Cevo**	**4.38**	**325**	⇑*i* Pn	**Pn**	**13 02 01.7**	**+1.0**
CEME				*e*Sn	**Sn**	**13 02 53.2**	**+1.9**
KOME	**Kolasin**	**4.39**	**332**	⇓*i* Pn	**Pn**	**13 02 03.1**	**+2.2**
KOME				*e*Sn	**Sn**	**13 02 53.8**	**+2.1**
HCY	**Herceg Novi**	**4.50**	**321**	*e*Pn	**Pn**	**13 02 02.9**	**+0.6**
HCY	**Herceg Novi**	**4.50**	**321**	⇓*i* Pn	**Pn**	**13 02 03.3**	**+1.0**
HCY				*e*Sn	**Sn**	**13 02 56.1**	**+1.9**
NKME	**Niksic**	**4.54**	**327**	⇓*i* Pn	**Pn**	**13 02 04.3**	**+1.4**
NKME				*e*Sn	**Sn**	**13 02 57.0**	**+1.7**
NKY	**Niksic**	**4.56**	**328**	⇑*i* Pn	**Pn**	**13 02 04.9**	**+1.7**
NKY				*e*Sn	**Sn**	**13 02 57.7**	**+1.8**
KIRK	**Kırklareli**	**4.61**	**51**	*i* P	**Pn**	**13 02 03.8**	**+0.2**
MATE	**Matera**	**4.61**	**293**	⇑P	**Pn**	**13 02 05.2**	**+1.5**
MATE				AML	AML	13 03 41.0	
BAI	**Bari**	**4.66**	**299**	*e*Pn	**Pn**	**13 02 05.5**	**+1.0**
SG1	**Sgolgore (BA)**	**4.70**	**295**	*e*Pn	**Pn**	**13 02 06.1**	**+1.1**
PLVB	**Pleven**	**4.73**	**21**	⇑P	**Pn**	**13 02 08.4**	**+3.1**
TREB	**Trebinje**	**4.78**	**322**	*e*Pn	**Pn**	**13 02 06.1**	**+0.1**
BRY	**Bratogost**	**4.83**	**325**	*e*Pn	**Pn**	**13 02 08.0**	**+1.1**
BRY	**Bratogost**	**4.83**	**325**	⇑*i* Pn	**Pn**	**13 02 07.8**	**+0.9**
BRY				*e*Sn	**Sn**	**13 03 03.8**	**+1.2**
PLE	**Pljevlja**	**4.86**	**334**	⇑*i* Pn	**Pn**	**13 02 08.9**	**+1.6**
PLE				*e*Sn	**Sn**	**13 03 05.0**	**+1.8**
MANT	**Manisa**	**4.92**	**94**	Pn	**Pn**	**13 02 09.9**	**+1.7**
RUDO	**Rudo**	**5.12**	**335**	*e*Pn	**Pn**	**13 02

PSZ Snd Sn 13 04 49.1 +1.8
PSZ Piszkesteto 9.09 350 Pn 13 03 06.4 +1.1
TRI Trieste 9.21 320 P Pn 13 03 05.5 -1.4
TRI Trieste 9.21 320 Pn Pn 13 03 05.5 -1.4
KIS Kishinev 9.32 29 *e*P Pn 13 03 12.0 +3.7
KIS LRM MLR 13 07 16.0
comp=N,900nm,8.0s
KIS Kishinev 9.32 29 *e*P Pn 13 03 12.0 +3.7
KIS MLR MLR
comp=Z,900nm,8.0s
SOKA Soboth 9.35 328 *e*Pn Pn 13 03 08.8 -0.1
comp=Z,22nm,1.1s
OBKA Obir 9.43 325 *e*Pn Pn 13 03 12.8 +2.9
comp=Z,13nm,0.8s
OBKA *i* Sn Sn 13 04 53.5 -2.0
comp=Z,11nm,0.6s
OSSC Osservatorio P 9.47 302 Pn Pn 13 03 10.6 +0.1
KECS Kecovo 9.58 353 *e*P Pn 13 03 15.3 +3.4
KECS Kecovo 9.58 353 *e*PN Pn 13 03 15.3 +3.4
ARSA Arzberg 9.62 331 *e*Pn Pn 13 03 13.0 +0.4
comp=Z,10.0nm,0.6s
ARSA *i* Sn Sn 13 05 01.2 +1.0
comp=Z,6.1nm,0.7s
VYHS Vyhne 9.82 346 *e*P Pn 13 03 17.5 +2.2
VYHS *e* 13 05 04.5
VYHS Vyhne 9.82 346 *e*PN Pn 13 03 17.5 +2.2
VYHS *e*SN Sn 13 05 04.5 -0.6
MODS Modra-Piesok 10.06 340 *e*P Pn 13 03 19.7 +1.2
MODS Modra-Piesok 10.06 340 *e*PN Pn 13 03 19.7 +1.2
STAL STALIGIAL 10.13 319 Pn Pn 13 03 18.3 -1.2
TEOL Teolo 10.13 312 Pn Pn 13 03 18.5 -1.0
LANS Liptovska Anna 10.36 350 *e*P Pn 13 03 26.1 +3.5
LANS Liptovska Anna 10.36 350 *e*PN Pn 13 03 26.1 +3.5
KBA Koelnbreinsper 10.40 324 *e*Pn Pn 13 03 25.9 +2.6
comp=Z,10nm,0.8s
KBA *e*Sn Sn 13 05 17.3 -2.1
comp=Z,4.8nm,0.6s
CTI Castel Tesino 10.55 315 P Pn 13 03 24.7 -0.7
CTI Castel Tesino 10.55 315 Pn Pn 13 03 24.7 -0.7
ABTA Abfaltersbach 10.56 320 *e*Pn Pn 13 03 25.9 +0.5
comp=Z,7.3nm,0.5s
MOA Molln 10.60 329 Pn Pn 13 03 26.5 +0.5
comp=Z,11nm,0.9s
MOA *i* Sn Sn 13 05 24.2 +0.1
comp=Z,1.6nm,0.4s
KEST Kesra 10.81 256 P Pn 13 03 31.6 +2.7
comp=Z,1.0nm,0.3s,baz=25,slow=3.3,SNR=19
KEST Kesra 10.81 256 Pn Pn 13 03 30.8 +1.9
MSSA Maissana 10.94 303 Pn Pn 13 03 31.5 +0.9
SALO Salr 10.94 311 Pn Pn 13 03 29.7 -0.9
VRAC Vranov 11.09 340 LR LR 13 09 05.3
comp=Z,192nm,19.0s,baz=184,slow=44
WTTA Wattenberg 11.35 320 *i* Pn Pn 13 03 37.7 +1.4
comp=Z,5.4nm,0.4s
WTTA *i* Sn Sn 13 05 37.2 -5.6
comp=Z,17nm,0.6s
WATA Walderalm 11.43 320 *i* Pn Pn 13 03 40.3 +2.9
comp=Z,12nm,0.6s
WATA *e*Sn Sn 13 05 41.1 -3.6
comp=Z,42nm,0.9s
SQTA Sankt Quirin 11.54 319 *e*Pn Pn 13 03 41.1 +2.2
comp=Z,9.0nm,0.6s
SQTA *e*Sn Sn 13 05 43.3 -3.9
comp=Z,18nm,0.9s
GERES GERESS Array B 11.63 331 P Pn 13 03 42.4 +2.4
comp=Z,0.5nm,0.3s,baz=164,slow=11,SNR=11
GERES LR LR 13 09 09.5
comp=Z,156nm,20.9s,baz=154,slow=42
FETA Feichten 11.66 317 *e*Pn Pn 13 03 42.5 +2.0
comp=Z,13nm,1.0s
FETA *i* Sn Sn 13 05 48.7 -1.5
comp=Z,15nm,1.0s
MOTA Moosalm 11.67 319 *e*Pn Pn 13 03 42.6 +1.9
comp=Z,29nm,1.2s
MOTA *e*Sn Sn 13 05 46.6 -4.0
comp=Z,39nm,1.1s
KRLC Kraliky 11.76 342 *e*P Pn 13 03 44.5 +2.8
KRLC Kraliky 11.76 342 *e*P Pn 13 03 44.5 +2.8
KHC Kasperske Hory 11.91 331⇑ *e*P Pn 13 03 47.4 +3.6
KHC pmax pmax
comp=Z,9.0nm,0.9s
KHC Kasperske Hory 11.91 331 *e*P Pn 13 03 45.3 +1.5
KHC Kasperske Hory 11.91 331 Pn 13 03 43.6 -0.2
RETA Reutte 11.94 319 *i* Sn Sn 13 05 54.2 -2.9
comp=Z,27nm,1.4s
DAVOX Davos/Dischmat 11.97 315 P Pn 13 03 46.2 +1.4
comp=Z,0.4nm,0.3s,baz=138,slow=14,SNR=4.6
DAVOX S Sn 13 05 51.9 -6.1
comp=Z,0.4nm,0.3s,baz=330,slow=20,SNR=3.1
DAVOX LR LR 13 10 04.9
comp=Z,113nm,18.9s,baz=88,slow=46
DAVA Damuels 12.28 316 *i* Pn Pn 13 03 52.8 +3.8
comp=Z,8.2nm,0.7s
DAVA *i* Sn Sn 13 06 04.0 -1.4
comp=Z,12nm,1.1s
ANN Anapa 12.68 58 *e*P Pn 13 03 53.4 -0.9
ANN *e*S Sn 13 06 15.5 +0.6
ANN pmax pmax
comp=Z,34nm,0.9s
AKASG Malin Array Be 12.69 20 *i* P P 13 04 01.1 -4.5
AKASG Malin Array Be 12.69 20 P Pn 13 03 54.6 +0.1
comp=Z,0.6nm,0.3s,baz=201,slow=12,SNR=4.2
BNI Bardonecchia 13.09 303 P Pn 13 04 02.2 +2.2
BNI Bardonecchia 13.09 303 Pn Pn 13 04 02.2 +2.2
SENIN Lac Senin/Sane 13.26 309 Pn Pn 13 04 04.7 +2.3
BFO Black Forest 13.74 317 *e*P P 13 04 14.2 -3.2
BFO Black Forest 13.74 317 Pn 13 04 09.2 +0.4
CLL Collm 13.94 335 *e*P P 13 04 22.0 +2.5
CLL Collm 13.94 335 *e*PP P 13 04 22.0 +2.5
CLL *e*SPP 13 04 26.0
comp=Z,7.0nm,0.9s
EIL Elat 13.98 128 LR LR 13 10 59.3
comp=Z,51nm,21.1s,baz=320,slow=43
ECH Echery 14.31 315 P Pn 13 04 17.3 +0.7
ECH Echery 14.31 315 Pn Pn 13 04 17.3 +0.7
SUW Suwalki 15.04 2 P P 13 04 31.6 -0.1
SUW Suwalki 15.04 2 P P 13 04 31.6 -0.1
NEY Neytrino 15.96 68⇑ *e*P P 13 04 42.7 +0.5
NEY pmax pmax
comp=Z,1.0nm,0.7s
KIV Kislovodsk 16.06 65 *e*P P 13 04 44.8 +1.6
KIV pmax pmax
comp=Z,40nm,1.1s
KIV MLR MLR
comp=Z,56nm,13.0s
VSR Storozhevoye 17.01 39⇓ *e*P P 13 04 58.1 +4.5
VSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 17.82 35 *e*P P 13 05 05.8 +3.3
LPSR pmax pmax
comp=Z,7.0nm,0.6s
VRH Novokhopyorsk 18.29 42 *e*P P 13 05 10.5 +2.8
VRH pmax pmax
comp=Z,7.0nm,0.4s
OBN Obninsk 18.77 26 *e*P Pn 13 05 16.5 +3.1
OBN pmax pmax
comp=Z,14nm,1.1s
VSU Vasula 19.70 7⇓ *e*P Pn 13 05 25.7 +1.2
VSU pmax pmax
comp=Z,307nm,4.7s
ESBB Sonseca Array 20.30 280 P P 13 05 30.2 +0.3
ESDC Sonseca Array 20.30 280 P P 13 05 30.5 +0.6
comp=Z,2.1nm,0.6s,baz=81,slow=11,SNR=11
PAB San Pablo 20.62 280 P P 13 05 33.8 +0.4
PAB pmax pmax
comp=Z,22nm,1.2s
PAB San Pablo 20.62 280 P P 13 05 33.8 +0.4
PAB IAmb IAmb 13 05 39.5
comp=Z,22nm,1.1s
HFS Hagfors 21.85 348 P P 13 05 46.6 +0.3
comp=Z,1.6nm,0.5s,baz=165,slow=12,SNR=7.9
FINES FINESS Array B 22.60 5 *i* P P 13 05 56.7 +2.4
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 22.60 5 P P 13 05 53.8 -0.6
comp=Z,2.8nm,0.9s,baz=177,slow=11,SNR=7.6
FINES LR LR 13 14 26.0
comp=Z,90nm,18.0s,baz=272,slow=36
FIA1 FINESS Array S 22.60 5 P P 13 05 54.9 +0.6
FIA1 IAmb IAmb 13 06 08.2
comp=Z,43nm,1.4s
MDT Midelt 22.60 262 P P 13 05 55.5 +0.7
comp=Z,7.7nm,1.1s,baz=32,slow=9.5,SNR=3.4
NC602 NORSAR Array S 22.78 346 P P 13 05 57.0 +0.7
NC602 IAmb IAmb 13 06 15.7
comp=Z,19nm,0.9s
NAO01 NORSAR Array S 23.01 346 P P 13 05 59.1 +0.4
NC405 NORSAR Array S 23.11 347 P P 13 05 58.9 -0.7
NC405 IAmb IAmb 13 06 13.3
comp=Z,16nm,0.9s
NB201 NORSAR Array S 23.12 346 P P 13 05 59.8 0.0
NB2 NORSAR Subarra 23.13 346 P P 13 05 59.4 -0.5
comp=Z,14nm,1.2s,baz=159,slow=9.3
NOA NORSAR Array B 23.13 346 P P 13 05 59.6 -0.3
comp=Z,2.4nm,0.9s,baz=153,slow=9.9,SNR=5.5
NBO00 NORSAR Array S 23.20 346 P P 13 06 00.6 0.0
NBO00 IAmb IAmb 13 06 16.0
comp=Z,31nm,1.1s
EKA Eskdalemuir Ar 23.60 322 P P 13 06 05.2 +0.5
comp=Z,4.8nm,0.4s,baz=123,slow=9.7,SNR=19
ESK Eskdalemuir 23.62 322 *i* P P 13 06 06.7 +1.9
ESK Eskdalemuir 23.62 322 P P 13 06 04.3 -0.5
RAYN Ar Rayn 25.02 121 P P 13 06 18.7 +0.6
RAYN pmax pmax
comp=Z,5.0nm,1.0s
RAYN Ar Rayn 25.02 121 P P 13 06 18.7 +0.6
AKTO Aktyubinsk 27.58 54 LR LR 13 19 43.5
comp=Z,46nm,19.3s,baz=285,slow=41
APA Apatity 29.29 9⇑ *i*P P 13 07 00.3 +4.4
APA pmax pmax
comp=Z,6.0nm,1.2s
APA MLR MLR
comp=Z,1μm,17.0s
ARU Arti 29.53 42 LR LR 13 19 15.2
comp=Z,43nm,20.7s,baz=190,slow=37
ARCES ARCESS Array B 30.65 2 P P 13 07 07.1 -0.9
comp=Z,2.8nm,0.8s,baz=195,slow=8.8,SNR=6.2
ARCES LR LR 13 18 52.3
comp=Z,105nm,18.5s,baz=178,slow=35
TOA0 Torodi Ar. Sit 31.55 221 P P 13 07 16.5 +0.2
TORD Torodi Ar. Bea 31.55 221 P P 13 07 16.1 -0.2
comp=Z,2.1nm,0.7s,baz=31,slow=8.6,SNR=8.5
TORD LR LR 13 19 49.7
comp=Z,48nm,21.7s,baz=20,slow=36
KK31 Karatay Array 36.20 68 P P 13 07 56.6 0.0
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KK31 Karatay Array 36.20 68 P P 13 07 56.6 0.0
KKAR Karatay Array 36.20 68 P P 13 07 56.7 +0.1
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 36.20 68 P P 13 07 56.7 +0.1
AAK Ala-Archa 39.16 67⇓ *e*P P 13 08 22.6 +0.8
AAK pmax pmax
comp=Z,4.0nm,1.5s
AAK Ala-Archa 39.16 67 P P 13 08 22.8 +1.0
KURK Kurchatov 40.67 54⇑ *e*P P 13 08 34.3 +0.3
KURK pmax pmax
comp=Z,9.0nm,4.3s
KURK Kurchatov 40.67 54 P P 13 08 33.9 -0.1
NIL Nilore 40.97 81 P P 13 08 36.3 -0.5
NIL pmax pmax
comp=Z,16nm,1.2s
NIL Nilore 40.97 81 P P 13 08 36.3 -0.5
NIL IAmb IAmb 13 08 38.3
comp=Z,16nm,1.1s
KSH Kashi 41.04 72 P P 13 08 35.9 -1.5
KSH PP PP 13 10 12.7 +0.7
KSH PcS PcS 13 14 27.5 -0.7
KSH S S 13 14 44.1 -5.1
KSH pmax pmax
comp=Z,340nm,7.1s
KSH LR LR
comp=Z,280nm,10.8s
KSH LR LR
comp=Z,360nm,8.2s
KSH LR LR
comp=Z,520nm,6.5s
MAKZ Makanchi 43.48 60 P P 13 08 56.8 -0.2
MAKZ pmax pmax
comp=Z,6.0nm,1.2s
MAKZ Makanchi 43.48 60 P P 13 08 56.8 -0.2
MAKZ IAmb IAmb 13 09 04.9
comp=Z,6.3nm,1.2s
MK31 Makanchi Array 43.69 59 P P 13 08 58.5 -0.2
MK31 pmax pmax
comp=Z,9.0nm,1.5s
MK31 Makanchi Array 43.69 59 P P 13 08 58.5 -0.2
MK31 IAmb IAmb 13 09 13.9
comp=Z,8.6nm,1.4s
MKAR Makanchi Array 43.69 59*ce*P P 13 08 58.9 +0.1
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 43.69 59 P P 13 08 58.5 -0.3
comp=Z,1.7nm,0.4s,baz=276,slow=7.8,SNR=35
MKAR LR LR 13 29 29.3
comp=Z,27nm,20.9s,baz=302,slow=39
ZAA0 Zalesovo Array 44.11 49 P P 13 09 01.6 -0.4
ZALV Zalesovo Beam 44.11 49 P P 13 09 01.9 -0.1
comp=Z,3.7nm,0.7s,baz=277,slow=9.1,SNR=15
ZALV LR LR 13 28 53.5
comp=Z,43nm,18.4s,baz=318,slow=38
WMQ Urumqi 48.15 62 *e*P P 13 09 36.3 +2.3
WMQ sP sP 13 09 43.8 +2.0
WMQ LR LR
comp=Z,330nm,26.9s
WMQ LR LR
comp=Z,490nm,29.2s
DANN Dangsing 51.38 82 *e*P P 13 09 58.5 -0.6
comp=Z,52nm,0.7s
KOLN Koldanda 51.54 83 *e*P P 13 09 59.0 -1.2
comp=Z,15nm,0.7s
GKN Gorkha 52.23 82 *e*P P 13 10 04.1 -1.1
DMN Daman 52.78 82 *e*P P 13 10 08.6 -0.9
KKN Kakani 52.83 82 *e*P P 13 10 08.4 -1.4
comp=Z,15nm,0.7s
PKI Pulchoki 53.03 82 *e*P P 13 10 10.0 -1.4
comp=Z,15nm,0.8s
GUN Gumba 53.23 82 *e*P P 13 10 11.9 -1.0
JIRN Jiri 53.59 82 *e*P P 13 10 14.4 -1.2
comp=Z,29nm,0.8s
RAMN Ramite 54.26 82 *e*P P 13 10 18.9 -1.4
comp=Z,19nm,0.7s
TAPN Taplejung 54.92 81 *e*P P 13 10 24.0 -1.2
comp=Z,24nm,1.0s
FRB Frobisher Bay 56.21 328 LR LR 13 34 57.3
comp=Z,31nm,18.8s,baz=188,slow=36
GTA Gaotai 58.22 63⇑ P P 13 10 48.1 -0.2
GTA pP pP 13 10 52.5 -1.4
GTA sP sP 13 10 55.0 -1.1
GTA pmax pmax
comp=Z,5.0nm,0.8s
SCHQ Schefferville 58.80 317 P P 13 10 52.2 +0.3
LZH Lanzhou 62.60 64 *e*P P 13 11 18.2 -0.1
LZH pP pP 13 11 22.3 -1.7
LZH sP sP 13 11 24.5 -1.6
LZH *e*PP PP 13 13 38.0 +2.2
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,130nm,6.6s
LZH LR LR
comp=Z,180nm,15.9s
LZH LR LR
comp=Z,200nm,16.3s
LZH LR LR
comp=Z,310nm,17.8s
HHC Hu-ho-hao-te 65.43 57 P P 13 11 37.0 +0.2
HHC pmax pmax
comp=Z,5.0nm,0.6s
CMAR Chiang Mai Arr 68.41 83 P P 13 11 54.5 -1.5
comp=Z,1.4nm,0.8s,baz=306,slow=8.3,SNR=10
BILL Bilibino 69.91 14 *e*P P 13 12 03.8 -0.6
BILL *e* 13 12 27.7
BILL *e* 13 14 43.1
BILL pmax pmax
comp=Z,2.0nm,1.1s
YKW3 Yellowknife Ar 73.04 341 P P 13 12 23.3 -0.1
YKW3 IAmb IAmb 13 12 24.3
comp=Z,11nm,1.4s
YKA Yellowknife Ar 73.09 341 P P 13 12 23.4 -0.3
comp=Z,0.9nm,0.5s,baz=36,slow=5.5,SNR=12
RDOG Red Dog Mine 73.20 2 P P 13 12 23.9 -0.4
RDOG IAmb IAmb 13 12 24.5
comp=Z,4.9nm,0.6s
FFC Flin Flon 75.18 330 *i* P P 13 12 37.4 +1.4
NJ2 Nanjing 75.20 61 *e*P P 13 12 35.2 -1.4
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
ULM Lac du Bonnet 75.86 324 P P 13 12 40.2 +0.1
ULM pmax pmax
comp=Z,9.0nm,0.8s
ULM Lac du Bonnet 75.86 324 P P 13 12 40.2 +0.1
comp=Z,8.1nm,0.8s,baz=76,slow=7.8,SNR=5.6
ULM LR LR 13 47 48.3
comp=Z,27nm,18.3s,baz=265,slow=37
ULM Lac du Bonnet 75.86 324 IAmb IAmb 13 12 45.0
comp=Z,8.8nm,0.8s
ILAR Eielson Array 76.22 355 P P 13 12 41.9 0.0
comp=Z,0.4nm,0.6s,baz=336,slow=5.3,SNR=4.8
KSRS Korea Array 77.74 52 P P 13 12 48.3 -2.5
comp=Z,1.5nm,0.8s,baz=320,slow=5.6,SNR=3.1
SML Sawmill 79.26 355 P P 13 12 58.8 -0.1
JTMT Jette 85.39 332 P P 13 13 31.6 +0.3
JTMT IAmb IAmb 13 13 36.9
comp=Z,6.9nm,0.9s
MIAR Mount Ida 85.81 312 P P 13 13 34.2 +0.7
MIAR pmax pmax
comp=Z,9.0nm,1.0s
MIAR Mount Ida 85.81 312 P P 13 13 34.2 +0.7
MIAR IAmb IAmb 13 13 40.1
comp=Z,9.0nm,1.0s
YNE Yellowstone No 86.01 328 P P 13 13 35.2 +0.6
PDAR Pinedale Array 87.65 327 P P 13 13 41.6 -1.0
comp=Z,0.8nm,0.8s,baz=36,slow=5.0,SNR=4.9
PDAR LR LR 13 54 21.8
comp=Z,25nm,18.6s,baz=30,slow=36
HAWA Hanford 88.38 335 P P 13 13 46.0 +0.3
HAWA IAmb IAmb 13 13 52.4
comp=Z,2.9nm,0.8s
WMOK Wichita Mounta 88.61 315 P P 13 13 47.5 +0.4
WMOK pmax pmax
comp=Z,10.0nm,1.4s
WMOK Wichita Mounta 88.61 315 P P 13 13 47.5 +0.4
WMOK IAmb IAmb 13 13 52.3
comp=Z,10nm,1.4s
RDMU Red Mountain 89.44 325 P P 13 13 50.8 -0.3
BGU Big Grassy Mou 90.63 328 P P 13 13 56.3 -0.3
ABTX Abilene, Hawle 90.67 314 P P 13 13 57.0 +0.2
PV23 Carpenter Ridg 90.91 324 P P 13 13 57.8 -0.2
PV23 IAmb IAmb 13 14 03.0
comp=Z,5.7nm,0.8s
PV12 Saucer Basin, 90.92 324 P P 13 13 58.1 0.0
PV12 IAmb IAmb 13 14 03.2
comp=Z,7.6nm,1.1s
PV09 Paradox Valley 90.92 324 P P 13 13 58.2 0.0
PV11 David Mesa, Pa 90.97 324 P P 13 13 58.0 -0.2
PV14 Lion Creek, Pa 90.98 324 P P 13 13 58.1 -0.2
PV16 Nyswonger Mesa 90.98 324 P P 13 13 58.2 -0.1
PV17 East Wray Mesa 91.02 324 P P 13 13 58.4 -0.2
NVAR Mina Array Bea 94.88 330 LR LR 14 01 32.3
comp=Z,28nm,18.1s,baz=10,slow=38
TXAR Lajitas Array 95.41 315 P P 13 14 19.1 +0.3
comp=Z,1.9nm,1.0s,baz=83,slow=5.3,SNR=8.6
WRA Warramunga Arr 119.18 93 PKP PKPdf 13 19 41.8 -1.4
comp=Z,0.7nm,0.6s,baz=306,slow=1.8,SNR=5.4
ASAR Alice Springs 120.88 97 PKP PKPdf 13 19 45.4 -1.1
comp=Z,1.1nm,0.6s,baz=326,slow=1.4,SNR=14

BER 11 13:02:58.8±2.2, 59.91N×10.55E, h0km, ML1.2,
Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OSL	**Oslo**	**0.09**	**75**	*e*P			Pg	13 03 00.9	+0.4
OSL				*e*S			Sg	13 03 02.9	+1.2
OSL				IAML				13 03 04.6	
comp=Z,101nm,0.3s									
KONO	**Kongsberg**	**0.55**	**241**	*e*S			Sg	13 03 16.8	+0.4
KONO				IAML				13 03 23.8	
comp=Z,14nm,0.7s									
STRU	**Stroemstad**	**0.94**	**160**	*e*P			Pg	13 03 14.6	-2.2
STRU				*e*S			Sg	13 03 28.7	-0.2
NAO01	**NORSAR Array S**	**0.95**	**10**	*e*P			Pg	13 03 15.0	-2.0
NAO01				*e*S			Sg	13 03 29.4	+0.1
NAO01				IAML				13 03 33.4	
comp=Z,7.0nm,0.2s									
NC602	**NORSAR Array S**	**0.96**	**31**	*e*P			Pg	13 03 14.6	-2.6
NC602				*e*S			Sg	13 03 27.3	-2.3
NBO00	**NORSAR Array S**	**1.13**	**6**	*e*P			Pg	13 03 19.6	-0.8
NBO00				*e*S			Sg	13 03 34.6	-0.3
NBO00				IAML				13 03 35.8	
comp=Z,6.0nm,0.5s									
NB201	**NORSAR Array S**	**1.20**	**18**	*e*P			Pg	13 03 19.3	-2.4
NB201				*e*S			Sg	13 03 37.6	+0.4
NB201				IAML				13 03 41.0	
comp=Z,8.1nm,0.3s									
SKAR	**Skarslia**	**1.36**	**306**	*e*P			Pg	13 03 22.9	-1.9
SKAR				*e*S			Sg	13 03 41.0	-1.4
SKAR				IAML				13 03 45.6	
comp=Z,9.2nm,0.5s									
NC204	**NORSAR Array S**	**1.37**	**4**	*e*P			Pg	13 03 22.3	-2.7
NC204				*e*S			Sg	13 03 41.5	-1.3
NC204				IAML				13 03 44.2	
comp=Z,5.0nm,0.2s									

HEL 11 13:03:36.3±0.0, 60.52N×26.78E, h0km, ML1.1,
Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.39**	**87**		PG		Pg	13 03 43.3	-0.4
VJF					SG		Sg	13 03 48.2	-0.4
PVF	**Pernaja**	**0.45**	**273**		PG		Pg	13 03 44.4	-0.5
baz=92									
PVF					SG		Sg	13 03 50.4	-0.4
FIA0	**FINESS Array S**	**0.98**	**340**		PG		Pg	13 03 54.0	-1.1
baz=164									
NUR	**Nurmijrvi**	**1.05**	**270**		SB		Sg	13 04 09.7	-0.4
KEF	**Keuruu**	**1.89**	**332**		MSG			13 04 32.5	
comp=Z,0.8nm,0.2s									
KEF					SG		Sb	13 04 36.2	+0.5

*ISCJB **11** 13:15:52.6±0.4, 37.43S×177.84E, h114km±2km, mb4.4/7, Error ellipse: s-maj=6.5km s-min=4.9km az=43.9*
*NEIC **11** 13:15:53.2±1.2, 37.49S×177.87E, h11km±4km, mb4.5/10*
*IDC **11** 13:15:54.8±1.3, 37.93S×177.81E, h124km±6km, mb3.9/5, mb1 4.1/6, mb1mx3.7/27, mbtmp4.3/6, Error ellipse: s-maj=33.9km s-min=23.9km az=141.0*
*WEL **11** 13:15:54.1±1.2, 37.8°S×17.8°E, h79km±11km, ML4.5/12, MLv4.2/21, Error ellipse: s-maj=0.0km s-min=0.0km az=160.3*

ISC 11 13:15:54.0±0.7, 37.53S±0.05×177.78E±0.05, h115km±5km, n159, σ1.963/167, mb4.4/13, 1C-1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.22**	**180**	P			**Pn**	**13 16 08.6**	**-1.4**
HAZ				S			**Sn**	**13 16 19.8**	**-2.3**
MXZ	**Matakaoa Point**	**0.42**	**94**	P			**Pn**	**13 16 09.3**	**-1.5**
MXZ				S			**Sn**	**13 16 21.7**	**-1.9**
MXZ	**Matakaoa Point**	**0.42**	**94**				**Pn**	**13 16 09.3**	**-1.5**
PKGZ	**Pakihiroa**	**0.42**	**147**	P			**Pn**	**13 16 10.4**	**-0.6**
PKGZ				S			**Sn**	**13 16 22.7**	**-1.1**
RUGZ	**Raukumara Rang**	**0.44**	**191**	P			**Pn**	**13 16 10.0**	**-1.2**
WIZ	**White Island**	**0.47**	**271**	P			**Pn**	**13 16 09.1**	**-2.0**
WMGZ	**Waiomatatini S**	**0.58**	**120**	P			**Pn**	**13 16 11.2**	**-0.6**
WMGZ				S			**Sn**	**13 16 24.6**	**-0.7**
PUZ	**Puketiti**	**0.66**	**145**	P			**Pn**	**13 16 12.2**	**-0.3**
PUZ				S			**Sn**	**13 16 26.3**	**-0.2**
WHRZ	**Whale Island**	**0.72**	**243**	P			**Pn**	**13 16 12.3**	**-0.7**
MWZ	**Matawai**	**0.83**	**194**	P			**Pn**	**13 16 14.2**	**+0.2**
MWZ				S			**Sn**	**13 16 29.7**	**+0.7**
URZ	**Urewera**	**0.90**	**216**	LR	LR		LR	13 16 03.5	
comp=Z,37nm,19.1s,baz=26,slow=14									
URZ				P			**Pn**	**13 16 14.3**	**-0.2**
141nm,0.3s,baz=316,slow=2.5,SNR=1245									
URZ				S			**Sn**	**13 16 30.1**	**-0.1**
460nm,0.3s,baz=53,slow=20,SNR=69									
URZ	**Urewera**	**0.90**	**216**	P			**Pn**	**13 16 14.4**	**-0.2**
URZ				S			**Sn**	**13 16 30.0**	**-0.1**
TKGZ	**Te Karaka**	**0.91**	**177**	P			**Pn**	**13 16 15.3**	**+0.6**
TKGZ				S			**Sn**	**13 16 31.5**	**+1.3**
MARZ	**Manawahe**	**0.99**	**242**	P			**Pn**	**13 16 14.9**	**-0.5**
MARZ				S			**Sn**	**13 16 31.2**	**-0.5**
RAGZ	**Rawiri**	**1.00**	**197**	P			**Pn**	**13 16 16.5**	**+0.8**
CNGZ	**Carnagh Statio**	**1.01**	**161**	P			**Pn**	**13 16 16.6**	**+0.9**
EDRZ	**Edgecumbe**	**1.01**	**235**	P			**Pn**	**13 16 15.5**	**-0.2**

OPRZ Ohinepanea 1.02 252 P **Pn** **13 16 15.0 -0.8**
OPRZ S **Sn** **13 16 30.9 -1.4**
RIGZ Rimuhau 1.17 181 P **Pn** **13 16 18.1 +0.8**
LIRZ Lichensteins R 1.21 247 P **Pn** **13 16 17.5 -0.2**
MKRZ Makatiti 1.21 239 P **Pn** **13 16 18.4 +0.6**
TGRZ Tauranga 1.23 260 P **Pn** **13 16 17.1 -0.8**
TARZ Mount Tarawera 1.23 235 P **Pn** **13 16 18.4 +0.3**
MUGZ Murupara 1.24 220 P **Pn** **13 16 18.3 +0.3**
RTZ Ruatahuna 1.25 210 P **Pn** **13 16 18.6 +0.3**
OMRZ Omania 1.26 242 P **Pn** **13 16 18.3 0.0**
RRRZ Republican Roa 1.29 231 P **Pn** **13 16 19.0 +0.3**
SNGZ Shannon Statio 1.30 196 P **Pn** **13 16 19.7 +1.0**
KARZ Kaharoa 1.31 248 P **Pn** **13 16 18.7 -0.2**
HLRZ Highlands Stat 1.34 237 P **Pn** **13 16 19.7 +0.4**
NGRZ Ngongotaha 1.39 245 P **Pn** **13 16 19.9 +0.2**
PRGZ Paritu Road 1.39 177 P **Pn** **13 16 20.3 +0.5**
UTU Utuhina 1.41 242 P **Pn** **13 16 21.0 +0.9**
HSRZ Hossack Road 1.45 237 P **Pn** **13 16 21.2 +0.7**
HRRZ Handcock Road 1.46 234 P **Pn** **13 16 21.2 +0.5**
PRRZ Plateau Road 1.46 228 P **Pn** **13 16 21.2 +0.6**
RAHZ Arahi 1.49 201 P **Pn** **13 16 22.0 +1.0**
KNZ Kokohu 1.49 183 P **Pn** **13 16 21.4 +0.5**
KMRZ Kaimai 1.50 257 P **Pn** **13 16 20.6 -0.4**
MTHZ Maungataniwha 1.51 209 P **Pn** **13 16 21.7 +0.4**
ALRZ Allen Road 1.53 227 P **Pn** **13 16 22.1 +0.6**
GRRZ Galatos Road 1.56 238 P **Pn** **13 16 22.5 +0.8**
WHHZ Waihua 1.60 196 P **Pn** **13 16 23.3 +1.0**
WPRZ Whakapapatarin 1.62 232 P **Pn** **13 16 23.3 +0.9**
MHGZ Mahia Peninsul 1.62 177 P **Pn** **13 16 23.3 +0.8**
MRHZ Matea Rd 1.69 219 P **Pn** **13 16 24.0 +0.6**
NMHZ Naumai 1.74 206 P **Pn** **13 16 25.3 +1.3**
KUTZ Kaahu Road 1.82 238 P **Pn** **13 16 25.9 +0.9**
TOZ Tahuroa Road 1.82 263 P **Pn** **13 16 24.6 -0.3**
KUZ Kuaotunu 1.83 295 P **Pn** **13 16 23.0 -1.9**
WHTZ Whakaora 1.83 231 P **Pn** **13 16 26.6 +1.5**
ARHZ Aropaoanui 1.84 199 P **Pn** **13 16 26.0 +0.9**
HATZ Hinemaiaia 1.90 224 P **Pn** **13 16 26.6 +0.6**
BKZ Black Stump Fm 1.92 212 P **Pn** **13 16 26.6 +0.4**
BKZ Black Stump Fm 1.92 212 **Pn** **13 16 26.5 +0.2**
TLZ Tolley Road 1.95 245 P **Pn** **13 16 27.0 +0.5**
WATZ Wairara 2.00 233 P **Pn** **13 16 28.2 +1.0**
RATZ Rangitukua 2.07 229 P **Pn** **13 16 29.2 +1.1**
MCHZ McNeill Hill 2.09 204 P **Pn** **13 16 29.1 +0.8**
RITZ Rihia Road 2.09 226 P **Pn** **13 16 29.6 +1.2**
MKAZ Moumakai 2.13 281 P **Pn** **13 16 28.0 -0.8**
KWHZ Kaweka Forest 2.17 209 P **Pn** **13 16 29.7 +0.3**
KATZ Kakaramea 2.19 228 P **Pn** **13 16 30.9 +1.3**
CKHZ Cape Kidnapper 2.19 194 P **Pn** **13 16 29.8 +0.2**
WIAZ Waiheke Island 2.24 288 P **Pn** **13 16 29.1 -1.1**
GRZ Great Barrier 2.26 304 P **Pn** **13 16 28.5 -2.0**
KRVZ Karewarewa 2.30 227 P **Pn** **13 16 32.1 +1.1**
WTVZ West Tongariro 2.34 227 P **Pn** **13 16 32.5 +0.9**
KBAZ Karaka Road Bo 2.35 280 P **Pn** **13 16 31.5 0.0**
ETAZ East Tamaki Re 2.35 283 P **Pn** **13 16 31.1 -0.5**
KAHZ Kahuranaki 2.37 197 P **Pn** **13 16 32.1 +0.2**
NGZ Ngauruhoe 2.37 226 P **Pn** **13 16 32.8 +0.8**
BHHZ Black Hill Sta 2.38 214 P **Pn** **13 16 32.1 +0.1**
KRHZ Kereru 2.38 207 P **Pn** **13 16 31.9 -0.2**
TWVZ Taurewa 2.40 230 P **Pn** **13 16 33.2 +0.8**
TUVZ Tukino 2.41 223 P **Pn** **13 16 33.0 +0.5**
MBAZ Motutapu North 2.43 287 P **Pn** **13 16 31.8 -0.8**
WHVZ Whangaehu Hut 2.46 224 P **Pn** **13 16 33.6 +0.4**
FWVZ Far West T-bar 2.46 225 P **Pn** **13 16 33.7 +0.5**
MOVZ Moawhango 2.46 220 P **Pn** **13 16 33.0 0.0**
DRZ Dome Shelter 2.46 224 P **Pn** **13 16 35.0 +1.6**
TRVZ Turoa 2.49 224 P **Pn** **13 16 34.1 +0.5**
HIZ Hauiti 2.51 246 P **Pn** **13 16 34.9 +1.3**
HIZ Hauiti 2.51 246 **Pn** **13 16 34.8 +1.2**
EPAZ Eden Park BICE 2.52 284 P **Pn** **13 16 33.6 -0.1**
ABAZ Army Bay 2.54 291 P **Pn** **13 16 33.2 -0.8**
AWAZ Awhitu Peninsu 2.55 280 P **Pn** **13 16 33.9 -0.2**
MTVZ Mangateitei 2.59 224 P **Pn** **13 16 35.1 +0.3**
PKVZ Pokaka 2.60 227 P **Pn** **13 16 35.4 +0.6**
PXZ Pawanui 2.60 196 P **Pn** **13 16 34.2 -0.6**
WTAZ Waiatarua 2.63 282 P **Pn** **13 16 35.2 -0.1**
PNHZ Pukenui 2.68 207 P **Pn** **13 16 35.4 -0.6**
WPHZ Waipukurau 2.74 202 P **Pn** **13 16 36.0 -0.7**
VRZ Vera Road 2.86 235 P **Pn** **13 16 39.5 +1.2**
PRHZ Porangahau 2.87 198 P **Pn** **13 16 37.8 -0.6**
TSZ Takapari Road 2.90 209 P **Pn** **13 16 37.7 -1.0**
DVHZ Dannevirke 3.04 204 P **Pn** **13 16 39.4 -1.1**
ANWZ Angora Road 3.10 199 P **Pn** **13 16 40.5 -0.8**
MHEZ Mangahewa 3.13 239 P **Pn** **13 16 44.4 +2.6**
WCZ Waipu Caves 3.19 299 P **Pn** **13 16 41.0 -1.5**
POWZ Post Office Ro 3.26 208 P **Pn** **13 16 42.7 +0.9**
DREZ Durham Road 3.27 238 P **Pn** **13 16 45.9 +2.3**
LREZ Lake Rotokare 3.28 233 P **Pn** **13 16 45.1 +1.4**
OHWZ Ohakea 3.29 215 P **Pn** **13 16 43.9 +0.1**
PRWZ Pori Road 3.33 205 P **Pn** **13 16 43.7 -0.8**
BFZ Birch Farm 3.37 200 **Pn** **13 16 43.0 -1.9**
PREZ Palmer Road 3.37 236 P **Pn** **13 16 47.8 +2.8**
PKE Pukeiti 3.42 240 P **Pn** **13 16 47.0 +1.4**
KHEZ Kahui Hut 3.44 238 P **Pn** **13 16 47.5 +1.5**
NBEZ Newall Road No 3.53 239 P **Pn** **13 16 49.1 +2.0**
CPWZ Castlepoint 3.59 200 P **Pn** **13 16 47.2 -0.7**
NMEZ Namu Road 3.59 237 P **Pn** **13 16 49.7 +1.8**
OUZ Omahuta 4.09 303 P **Pn** **13 16 53.6 -1.0**
OUZ Omahuta 4.09 303 **Pn** **13 16 53.2 -1.4**
MSWZ Moikau Station 4.35 206 **Pn** **13 16 54.9 -3.1**
SNZO South Karori 4.46 211 Pn **Pn** **13 16 56.2 -3.3**
SNZO **Sn** **13 17 47.6 -2.8**
BHW Baring Head 4.48 209 **Pn** **13 16 56.6 -3.2**
PLWZ Palliser 4.48 205 Pn **Pn** **13 16 56.9 -3.0**
PLWZ **Sn** **13 17 47.9 -3.1**
TUWZ Tuamarina 4.90 216 **Pn** **13 17 02.3 -3.1**
NNZ Nelson 5.02 221 Pn **Pn** **13 17 03.8 -3.2**
BSWZ Blackbirch Sta 5.15 215 Pn **Pn** **13 17 05.6 -3.3**
QRZ Quartz Range 5.24 230 Pn **Pn** **13 17 07.6 -2.5**
THZ Tophouse 5.66 220 **Pn** **13 17 12.3 -3.4**
KHZ Kahutara 5.87 212 **Pn** **13 17 14.7 -3.7**
LTZ Lake Taylor 6.73 217 Pn Pn 13 17 25.6 -4.6
CRLZ Canterbury Las 7.20 211 Pn Pn 13 17 31.2 -5.3
OXZ Oxford 7.26 215 Pn 13 17 31.8 -5.5
MQZ McQueen's Vall 7.30 211 Pn Pn 13 17 32.6 -5.1
CTZ Chatham Island 7.52 147 P **Pn** **13 17 41.0 +0.3**
RPZ Rata Peaks 8.02 218 P **Pn** **13 17 43.8 -3.8**
1.7nm,0.3s,baz=273,slow=1.7,SNR=7.3
RPZ S **Sn** **13 19 09.6 -6.9**
7.1nm,0.3s,baz=316,slow=3.9,SNR=21
RPZ Rata Peaks 8.02 218 Pn **Pn** **13 17 43.5 -4.1**
FOZ Fox Glacier 8.53 223 Pn **Pn** **13 17 50.7 -3.7**
LBZ Lake Benmore 8.94 218 Pn Pn 13 17 55.8 -4.2
ODZ Otahua Downs 9.23 213 Pn Pn 13 17 59.0 -4.9
MLZ Mavora Lakes 10.66 220 Pn **Pn** **13 18 19.4 -4.0**
WHZ Wether Hill Ro 11.12 218 Pn Pn 13 18 24.9 -4.6
STKA Stephens Creek 30.16 270 P **P** **13 21 54.8 +1.7**
1.3nm,0.6s,baz=108,slow=11,SNR=3.7
CTA Charters Tower 32.43 294 P **P** **13 22 14.2 +1.0**
6.8nm,0.8s,baz=124,slow=10,SNR=12
ASAR Alice Springs 39.87 277 P **P** **13 23 16.6 +0.1**
2.6nm,0.6s,baz=122,slow=8.2,SNR=36
ASAR PcP **PcP** **13 25 19.4 -0.7**
0.5nm,0.5s,baz=119,slow=4.0,SNR=4.8
WR0 Warramunga Arr 41.36 283 P **P** **13 23 24.8 -4.0**
WR0 IAmb IAmb 13 24 17.2
comp=Z,3.9nm,0.6s
WB2 Warramunga Arr 41.52 283 P **P** **13 23 29.7 -0.3**
WB2 IAmb IAmb 13 23 30.6
comp=Z,3.5nm,0.6s
WRAB Tennant Creek 41.52 283 P **P** **13 23 27.0 -3.1**
WRA Warramunga Arr 41.52 283 P **P** **13 23 30.2 +0.1**
comp=Z,2.0nm,0.4s,baz=120,slow=7.9,SNR=76
WRA PcP **PcP** **13 25 26.8 +1.3**
comp=Z,0.2nm,0.6s,baz=137,slow=4.7,SNR=2.4
CASY Casey 47.22 211 P **P** **13 24 16.8 +2.0**
CASY IAmb IAmb 13 24 17.6
comp=Z,6.3nm,0.8s
KNRA Kununurra 48.31 283 P **P** **13 24 24.1 +0.3**
KNRA IAmb IAmb 13 25 41.8
comp=Z,26nm,1.6s
FITZ Fitzroy Crossi 49.36 278 P **P** **13 24 32.1 +0.2**
FITZ IAmb IAmb 13 25 05.3
comp=Z,10nm,1.4s
MORW Morawa 51.49 260 P **P** **13 24 47.8 +0.1**
PSA00 Pilbara Seismi 52.08 271 P **P** **13 24 52.2 0.0**
QSPA South Pole Qui 52.59 180 P **P** **13 24 55.7 +0.1**
QSPA IAmb IAmb 13 25 46.7
comp=Z,7.8nm,1.6s
SYO Syowa Base 69.37 195↑*eX* **P** **13 26 51.0 +2.4**
NJ2 Nanjing 88.39 313 *eP* **P** **13 28 33.6 +0.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 92.57 291 P **P** **13 28 53.5 +0.9**
comp=Z,0.7nm,0.6s,baz=166,slow=4.2,SNR=4.6
HHC Hu-ho-hao-te 98.75 315 P Pdif 13 29 22.5 +2.2
HHC pmax pmax
comp=Z,5.0nm,0.7s
HHC AMB AMB
comp=Z,10.0nm,6.6s
LZH Lanzhou 100.23 308 ||P **Pdif** **13 29 28.0 +0.9**
LZH pP pP 13 29 57.2 +0.6
LZH sP sP 13 30 09.3 +0.8
LZH PP **PP** **13 33 38.5 +3.6**
LZH pmax pmax
comp=Z,18nm,1.4s
KSH Kashi 120.69 298 *e*PKP **PKPdf** **13 34 27.2 -5.0**
ARCES ARCESS Array B 144.62 344 PKPbc **PKPab** **13 35 14.4 -0.3**
comp=Z,3.3nm,0.6s,baz=67,slow=3.0,SNR=13
FINES FINESS Array B 150.27 333 PKPbc **PKPbc** **13 35 30.2 -0.4**
comp=Z,3.0nm,0.5s,baz=38,slow=4.9,SNR=29
BRTR Keskin Array B 152.02 286 PKPbc **PKPbc** **13 35 35.7 +0.1**
comp=Z,0.6nm,0.7s,baz=90,slow=2.9,SNR=3.8
TORD Torodi Ar. Bea 155.47 189 PKPbc PKPdf 13 35 46.8 +12
comp=Z,0.3nm,0.3s,baz=171,slow=3.0,SNR=10

DJA 11 13:23:03.3±0.3, 8°S±6°×10°8E±°, h80km±7km, M3.4/12, mb3.0/2, mB4.9/1, MLv3.6/12, Mw(mB)4.1/1, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.64**	**323**	P		P	Pn	13 23 20.3	+1.8
CISI				S		S	Sn	13 23 32.5	+2.8
KPJI	**Karang Pucung**	**1.02**	**44**	P		P	Pn	13 23 22.4	-0.2
KPJI				S		S	Sn	13 23 36.2	-0.9
CNJI	**Cibinong**	**1.31**	**305**	P		P	Pn	13 23 27.2	+1.0
LEM	**Lembang**	**1.37**	**335**	P		P	Pn	13 23 27.7	+0.6
LEM				S		S	Sn	13 23 44.9	-0.1
YOGI	**Yogyakarta**	**2.08**	**83**	P		P	Pn	13 23 36.7	+0.4
YOGI				S		S	Sn	13 24 01.7	+0.2
DBJI	**Dramaga**	**2.09**	**316**	P		P	Pn	13 23 36.9	+0.5
UGM	**Wanagama**	**2.30**	**86**	P		P	Pn	13 23 39.9	+0.7
UGM				S		S	Sn	13 24 07.0	+0.3
SMRI	**Semarang**	**2.43**	**66**	P		P	Pn	13 23 40.8	-0.2
SMRI				S		S	Sn	13 24 08.9	-1.0
WOJI	**Wonogiri, Jawa**	**2.70**	**85**	P		P	Pn	13 23 44.5	-0.1
WOJI				S		S	Sn	13 24 16.6	+0.3
PWJI	**Pagerwojo**	**3.56**	**89**	P		P	Pn	13 23 56.2	0.0
PWJI				S		S	Sn	13 24 37.7	+0.5
KASI	**Kota Agung**	**4.47**	**304**	P		P	Pn	13 24 09.6	+0.9
KLSI		**4.82**	**314**	P		P	Pn	13 24 13.8	+0.3
JAGI	**Jajag, Banyuwa**	**5.89**	**94**	P		P	Pn	13 24 28.9	+0.8

*IDC **11** 14:03:23.9±1.6, 56°.25N×163°.37E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/70, mbtmp3.5/5, ML2.4/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/32, Error ellipse: s-maj=57.1km s-min=21.9km az=141.0*
*KRSC **11** 14:03:25.1±1.4, 55°.71N×163°.71E, h16km±15km, ML4.0*
ISC 11 14:03:23.1±1.6, 55°.85N±0°.04×163°.77E±0°.04, h5km±10km, n41, σ2°42/48, mb3.7/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.64**	**304**	*i* P		**P**	**Pn**	**14 03 38.7**	**-0.1**
KBTR				*e*S		**S**	**Sb**	**14 03 47.5**	**+1.5**
KBG	**Krutoberegovo**	**0.72**	**304**	*i* P		**P**	**Pn**	**14 03 39.9**	**0.0**
KBG				*e*S		**S**	**Sn**	**14 03 49.6**	**-1.7**
BKI	**Bering**	**1.41**	**117**	*e*P		**P**	**Pn**	**14 03 49.6**	**+0.2**
BKI				*e*S		**S**	**Sn**	**14 04 06.9**	**-1.5**
SMKR	**Semkarok**	**1.48**	**301**	*e*P		**P**	**Pg**	**14 03 52.1**	**+0.7**
SMKR				*e*S		**S**	**Sn**	**14 04 09.7**	**-0.4**
BDR	**Baidarnaya**	**1.60**	**298**	*e*P		**P**	**Pg**	**14 03 54.4**	**+0.7**
BDR				*e*S		**S**	**Sg**	**14 04 13.8**	**-0.6**
SRKR	**Sorokina**	**1.66**	**300**	*e*P		**P**	**Pg**	**14 03 55.1**	**+0.2**
ZLN	**Zelenaya**	**1.68**	**277**	*e*P		**P**	**Pg**	**14 03 55.9**	**+0.7**
ZLN				*e*S		**S**	**Sg**	**14 04 16.0**	**-0.9**
CIRR	**Tsirk**	**1.72**	**280**	*e*P		**P**	**Pg**	**14 03 56.2**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**1.73**	**274**	*e*P		**P**	**Pg**	**14 03 56.0**	**-0.3**
MKZ	**Mys Kozlova**	**1.75**	**223**	*e*P		**P**	**Pn**	**14 03 55.0**	**+1.0**
MKZ				*e*S		**S**	**Sn**	**14 04 15.0**	**-1.6**
BZWR	**Bezymyannyi-We**	**1.84**	**275**	*e*P		**P**	**Pg**	**14 03 57.9**	**-0.5**
KMNR	**Kamenistaya**	**2.00**	**269**	*e*P		**P**	**Pg**	**14 04 00.4**	**-0.9**
KZV	**Kizimen**	**2.11**	**251**	*e*P		**P**	**Pb**	**14 04 02.1**	**+0.2**
KZV				*e*S		**S**	**Sb**	**14 04 27.0**	**-1.5**
TUMR	**Tumrok**	**2.13**	**256**	*e*P		**P**	**Pb**	**14 04 02.5**	**+0.2**
TUMR				*e*S		**S**	**Sb**	**14 04 27.3**	**-1.8**
SRDR	**Sredinnyy**	**2.32**	**283**	*e*P		**P**	**Pg**	**14 04 05.0**	**-2.5**
SPN	**Mys Shipunski**	**3.52**	**220**	*e*P		**P**	**Pn**	**14 04 20.9**	**+2.5**
SPN				*e*S		**S**	**Sn**	**14 04 56.3**	**-4.1**
NLC	**Nalytchevo**	**3.72**	**226**	*e*P		**P**	**Pn**	**14 04 25.2**	**+4.0**
NLC				*e*S		**S**	**Sn**	**14 05 04.7**	**-0.6**
SDLR	**Sedlovina**	**3.84**	**230**	*e*P		**P**	**Pn**	**14 04 25.7**	**+2.8**
KRER	**Koryakskii**	**3.88**	**231**	*e*P		**P**	**Pn**	**14 04 27.3**	**+3.8**
SMAR	**Somma**	**3.88**	**230**	*e*P		**P**	**Pn**	**14 04 26.1**	**+2.5**
KRX	**Arik**	**3.89**	**232**	*e*P		**P**	**Pn**	**14 04 26.9**	**+3.3**
AVH	**Avacha**	**3.91**	**231**	*e*P		**P**	**Pn**	**14 04 27.6**	**+3.8**
UGLR	**Uglovaya**	**3.91**	**229**	*e*P		**P**	**Pn**	**14 04 27.9**	**+4.0**
KOK	**Koryaka**	**3.94**	**231**	*e*P		**P**	**Pn**	**14 04 26.9**	**+2.7**
DALK	**Dalny**	**4.07**	**228**	*e*P		**P**	**Pn**	**14 04 28.2**	**+2.3**
DALK				*e*S		**S**	**Sn**	**14 05 13.5**	**-0.4**
KRMR	**Karymshinskiy**	**4.48**	**230**	*e*P		**P**	**Pn**	**14 04 35.6**	**+4.1**
KRMR				*e*S		**S**	**Sn**	**14 05 25.0**	**+1.1**
PETK	**Petropavlovsk-** 1.0nm,0.3s,baz=79,slow=18,SNR=16	**4.48**	**235**	Pn		**P**	**Pn**	**14 04 35.7**	**+4.1**
PETK				Sn		**S**	**Sb**	**14 05 30.6**	**-5.9**
	1.7nm,0.3s,baz=46,slow=20,SNR=6.1								
PETK				LR		LR		14 06 46.2	
	comp=Z,50nm,18.6s,baz=225,slow=44								
GRL	**Gorelyy**	**4.70**	**228**	*e*P		**P**	**Pn**	**14 04 38.4**	**+3.6**
MTVR	**Mutnovka**	**4.71**	**226**	*e*P		**P**	**Pn**	**14 04 37.9**	**+3.1**
ASAK	**Asacha**	**4.90**	**227**	P		P	Pn	**14 04 41.1**	**+3.7**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=257,slow=8.1,SNR=4.0	**25.36**	**49**	P		**P**	**14 08 51.8**	**+1.1**
MJAR	**Matsushiro Arr** 1.6nm,0.7s,baz=21,slow=7.8,SNR=3.3	**25.94**	**233**	P		**P**	**14 08 57.8**	**+1.7**
H11N2	**WAKE ISLAND Hy 36.14** baz=357,slow=76,SNR=200	**175**		T		T		14 49 22.9	
H11N3	**WAKE ISLAND Hy 36.16** baz=357,slow=76,SNR=116	**175**		T		T		14 49 28.0	
H11N1	**WAKE ISLAND Hy 36.16** baz=357,slow=76,SNR=146	**175**		T		T		14 49 28.2	
H11S1	**WAKE ISLAND Hy 37.35** baz=358,slow=76,SNR=4.0	**175**		T		T		14 50 53.5	
H11S3	**WAKE ISLAND Hy 37.36** baz=358,slow=76,SNR=3.0	**175**		T		T		14 50 59.6	
H11S2	**WAKE ISLAND Hy 37.37** baz=358,slow=76,SNR=4.4	**175**		T		T		14 50 51.4	
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=48,slow=6.7,SNR=8.5	**18.89**	**296**	P		**P**	**14 12 08.5**	**-1.0**	
FINES	**FINESS Array B** comp=Z,14nm,20.2s,baz=38,slow=39	**58.41**	**338**	LR		LR		14 40 59.5	
CMAR	**Chiang Mai Arr** 0.3nm,0.6s,baz=27,slow=8.2,SNR=3.3	**60.82**	**260**	P		**P**	**14 13 36.1**	**-0.1**	

*ISCJB **11** 14:15:23.6±0.3, 51°.89N±0°.04×95°.61E±0°.04, h10km, mb4.1/17, MS3.0/6, Error ellipse: s-maj=6.1km s-min=3.4km az=167.1*
*IDC **11** 14:15:23.3±0.6, 51°.93N×95°.91E, h0km, mb3.8/11, mb1 4.0/15, mb1mx3.8/51, mbtmp3.9/15, ML3.4/4, MS3.1/9, Ms1 3.2/9, ms1mx2.9/43, Error ellipse: s-maj=19.8km s-min=8.9km az=2.0*
*MOS **11** 14:15:23.5±2.0, 51°.78N×95°.67E, h12km, mb4.3/5, Error ellipse: s-maj=8.8km s-min=7.6km az=145.3*
MOS Felt (II) at Kyzyl.
*NEIC **11** 14:15:25.2±2.6, 52°.4N±0°.2×95°.4E±0°.1, h15km±5km, mb4.1/11, ML4.5/2*
*ASRS **11** 14:15:25.3±0.4, 52°.N±4°.×9°.6E±°, h10km, MLh4.6/9, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
ISC 11 14:15:24.0±0.5, 51.89N±0°.05×95.75E±0°.03, h10km, n84, σ2°10/77, mb4.2/21, MS3.0/6, 5C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TDJR	**Todzha**	**0.56**	**23**	PG		**Pb**		**14 15 34.7**	**-1.2**
TDJR	**Todzha**	**0.56**	**23**	P		**Pb**		**14 15 34.7**	**-1.2**
TDJR				S		**Sb**		**14 15 41.9**	**-2.1**
KZLR	**Kyzyl**	**0.82**	**258**	*de*PG		**Pg**		**14 15 38.3**	**-1.5**
ARDR	**Aradan**	**1.59**	**297**	P		**Pn**		**14 15 51.4**	**-0.8**
ARDR				S		**Sn**		**14 16 08.8**	**-4.0**
ORL	**Orlik**	**2.58**	**74**↑	*i*PN		**Pb**		**14 16 08.2**	**-2.2**
ORL				*e*				14 16 43.0	
ORL				pmax	pmax				
	comp=Z,493nm,0.4s								
ORL				smax	smax				
	comp=N,989nm,0.9s								
ORL	**Orlik**	**2.58**	**74**	P		**Pb**		**14 16 08.3**	**-2.2**
ORL				S		**Sg**		**14 16 41.7**	**-5.2**
ORL	**Orlik**	**2.58**	**74**	P		**Pb**		**14 16 08.2**	**-2.2**
ORY	**Orie**	**3.15**	**353**	PN		**Pb**		**14 16 18.7**	**-1.2**
ORY								14 16 58.0	
ORY	**Orie**	**3.15**	**353**	P		**Pn**		**14 16 14.9**	**+1.4**
ORY				S		**Sb**		**14 16 56.2**	**-2.2**
MINR	**Mina**	**3.16**	**344**	PN		**Pb**		**14 16 21.3**	**+1.1**
MINR								14 17 01.3	
MINR	**Mina**	**3.16**	**344**	P		**Pn**		**14 16 15.9**	**+2.2**
ABNR	**Abakan**	**3.20**	**307**	*de*PN		**Pn**		**14 16 15.5**	**+1.2**
MOY	**Mondy**	**3.27**	**92**	*e*PN		**Pb**		**14 16 21.8**	**-0.3**
MOY				*i*				14 16 25.8	
MOY				*e*				14 17 05.0	
MOY				*i*				14 17 17.8	
MOY	**Mondy**	**3.27**	**92**	P		**Pb**		**14 16 17.6**	**-4.4**
MOY	**Mondy**	**3.27**	**92**			**Pb**		**14 16 21.7**	**-0.3**
TEL	**Teeli**	**3.58**	**258**	PN		**Pb**		**14 16 26.1**	**-1.2**
TEL								14 17 13.3	
TEL	**Teeli**	**3.58**	**258**	P		**Pn**		**14 16 20.6**	**+1.1**
VEH	**Verkhnyaya Baz**	**3.58**	**295**	P		**Pn**		**14 16 20.6**	**+0.9**
ARS	**Arshan**	**4.13**	**87**	*e*PN		**Pb**		**14 16 37.4**	**+0.6**
ARS				*e*				14 17 30.9	
ARS				pmax	pmax				
	comp=Z,159nm,0.5s								
ARS				smax	smax				
	comp=E,2μm,0.8s								
LUZB	**Luzhba, Kemero**	**4.52**	**296**	P		**Pn**		**14 16 33.4**	**+0.9**
TLY	**Talaya**	**4.91**	**89**	*e*PN		**Pb**		**14 16 49.2**	**-0.7**
TLY				*e*				14 17 54.2	
TLY				pmax	pmax				
	comp=Z,69nm,0.4s								
TLY				smax	smax				
	comp=N,542nm,0.6s								
TLY	**Talaya**	**4.91**	**89**	Pg		**Pb**		**14 16 49.4**	**-0.5**
	comp=N,0.1nm,0.3s,baz=291,slow=10,SNR=23								
TLY				Lg		Lg		14 17 54.4	
	comp=N,0.4nm,0.3s,baz=28,slow=20,SNR=25								
TLY				LR		LR		14 18 23.3	
	comp=N,144nm,18.1s,baz=281,slow=37								
TLY	**Talaya**	**4.91**	**89**				Pn	14 16 40.7	+3.0
TLY				IAML				14 17 59.4	
	comp=N,230nm,0.8s								
TLY				IAML				14 18 00.7	
	comp=N,292nm,0.6s								
ZAK	**Zakamensk**	**4.98**	**105**	*e*PN		**Pb**		**14 16 49.5**	**-1.7**
ZAK				*e*				14 17 53.8	
ZAK				pmax	pmax				
	comp=Z,75nm,0.5s								
ZAK				smax	smax				
	comp=N,324nm,0.6s								
IRK	**Irkutsk**	**5.27**	**83**	*e*PN		**Pb**		**14 16 55.6**	**-0.5**
IRK				*e*				14 18 03.0	
IRK				pmax	pmax				
	comp=Z,65nm,0.1s								
IRK				smax	smax				
	comp=N,1μm,0.8s								
TRG	**Tyrgan**	**6.56**	**78**	*e*PN		**Pn**		**14 17 02.3**	**+1.9**
TRG				*e*				14 17 21.1	
TRG				*e*				14 18 42.6	
TRG				pmax	pmax				
	comp=Z,19nm,0.6s								
TRG				smax	smax				
	comp=N,364nm,0.9s								
ZALV	**Zalesovo Beam**	**6.92**	**292**	Pn		**Pn**		**14 17 07.3**	**+1.9**
	comp=N,1.2nm,0.3s,baz=102,slow=12,SNR=16								
ZALV				Lg		Lg		14 18 56.7	
	comp=N,6.0nm,0.3s,baz=121,slow=24,SNR=4.1								
OGRR	**Ongureny**	**7.40**	**72**	*e*P		**Pn**		14 17 14.9	+2.9
OGRR				pmax	pmax				
	comp=Z,22nm,0.6s								
SONM	**Songino Array**	**7.98**	**116**	Pg		Pb		14 17 46.8	+4.4
	comp=Z,1.5nm,0.3s,baz=303,slow=16,SNR=12								
SONM				Lg		Lg		14 19 34.4	
	comp=Z,4.8nm,0.3s,baz=310,slow=31,SNR=12								
ULN	**Ulaanbaatar**	**8.34**	**114**‖	*e*P		Pn		14 17 28.4	+3.5
MK31	**Makanchi Array**	**10.15**	**245**	*e*P		**Pn**		**14 17 51.5**	**+1.8**
MK31				pmax	pmax				
	comp=Z,4.0nm,0.7s								
MK31	**Makanchi Array**	**10.15**	**245**			**Pn**		**14 17 51.3**	**+1.7**
MKAR	**Makanchi Array**	**10.15**	**245**	Pn		**Pn**		**14 17 51.5**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=53,slow=13,SNR=17								
MKAR				Lg		Lg		14 20 43.0	
	comp=Z,0.9nm,0.3s,baz=43,slow=30,SNR=5.4								
MKAR				LR		LR		14 21 55.9	
	comp=Z,156nm,19.4s,baz=42,slow=38								
MAKZ	**Makanchi**	**10.32**	**246**	P		**Pn**		**14 17 53.2**	**+1.2**
MAKZ	**Makanchi**	**10.32**	**246**			**Pn**		**14 17 53.2**	**+1.2**
KURK	**Kurchatov**	**10.79**	**271**↑	*e*P		**Pn**		**14 18 02.5**	**

comp=Z,59nm,18.5s,baz=226,slow=37
USRK Ussuriysk Ar. 25.21 93 P **P** **14 20 50.9 +1.3**
comp=Z,3.2nm,0.6s,baz=284,slow=8.3,SNR=8.8
VLA Vladivostok 25.71 96‖ *e*P **P** **14 20 58.6 +4.5**
KSRS Korea Array 26.79 110 LR LR 14 32 24.1
comp=Z,28nm,19.9s,baz=300,slow=38
GYA0B ALIBECK ARRAY 29.71 257 P **P** **14 21 28.7 -1.4**
YSS Yuzh-Sakhalins 30.54 80 *e*P P 14 21 41.5 +4.2
CMAR Chiang Mai Arr 33.45 174 LR LR 14 36 22.5
comp=Z,16nm,19.4s,baz=280,slow=38
OBN Obninsk 34.44 299 *e*P **P** **14 22 13.6 +2.4**
OBN pmax pmax
comp=Z,3.0nm,0.9s
BILL Bilibino 36.40 37 *e*P **P** **14 22 31.2 +3.2**
BILL *e* 14 23 54.6
BILL pmax pmax
comp=Z,2.0nm,1.2s
FINES FINESS Array B 37.66 312 *i* P **P** **14 22 42.4 +3.7**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 37.66 312 P **P** **14 22 38.9 +0.2**
comp=Z,1.5nm,0.5s,baz=79,slow=8.6,SNR=2.8
AKASG Malin Array Be 40.30 296 LR LR 14 40 33.2
comp=Z,40nm,18.6s,baz=320,slow=37
BRTR Keskin Array B 43.69 279 P **P** **14 23 31.2 +2.3**
comp=Z,2.6nm,0.7s,baz=78,slow=6.2,SNR=8.2
TIRR Tirgusor 44.05 288 P **P** **14 23 29.3 -2.3**
TIRR pmax pmax
comp=Z,296nm,1.8s
TIRR Tirgusor 44.05 288 P **P** **14 23 29.3 -2.3**
ANTO Ankara 44.11 280 P **P** **14 23 30.0 -2.4**
ANTO pmax pmax
comp=Z,13nm,1.0s
ANTO Ankara 44.11 280 P **P** **14 23 29.9 -2.4**
NOA NORSAR Array B 44.42 316 P **P** **14 23 34.3 -0.1**
comp=Z,0.3nm,0.5s,baz=63,slow=8.0,SNR=2.5
NOA LR LR 14 41 58.8
comp=Z,23nm,19.3s,baz=355,slow=36
CLL Collm 48.70 304 *e*P P 14 24 13.0 +4.9
COLD Coldfoot 51.35 27 P **P** **14 24 26.5 -1.5**
COLD IAmb IAmb 14 24 34.8
comp=Z,16nm,2.0s
ILAR Eielson Array 54.06 28 P **P** **14 24 48.0 0.0**
comp=Z,0.6nm,0.7s,baz=325,slow=4.5,SNR=5.6
YKA Yellowknife Ar 63.47 15 P **P** **14 25 52.9 -0.5**
comp=Z,0.8nm,0.7s,baz=338,slow=6.9,SNR=7.1
FFC Flin Flon 72.74 11 *ce*P **P** **14 26 52.6 +0.8**
FFC pmax pmax
comp=Z,36nm,2.5s
WRA Warramunga Arr 79.07 143 P **P** **14 27 28.2 0.0**
comp=Z,0.3nm,0.8s,baz=343,slow=6.1,SNR=5.4
TORD Torodi Ar. Bea 82.26 281 P **P** **14 27 47.1 +1.5**
comp=Z,1.8nm,0.9s,baz=26,slow=6.3,SNR=5.1
ASAR Alice Springs 82.32 145 P **P** **14 27 45.7 +0.1**
comp=Z,0.4nm,0.7s,baz=329,slow=5.3,SNR=7.0

IDC 11 14:19:04.3±9.1, 22.06S×175.23W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.6/23, mbtmp3.4/3, Error ellipse: s-maj=397.7km s-min=38.5km az=145.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.69**	**258**	P	P	14 27 35.9	+0.6
	0.3nm,0.6s,baz=97,slow=8.3,SNR=17						
WRA	**Warramunga Arr**	**46.95**	**263**	P	P	14 27 36.3	-1.0
	0.2nm,0.5s,baz=101,slow=7.3,SNR=6.3						
ILAR	**Eielson Array**	**89.28**	**12**	P	P	14 32 01.9	0.0
	0.5nm,1.0s,baz=210,slow=5.1,SNR=2.6						

*IDC **11** 14:41:23.0±0.8, 60.24S×48.86W, h0km, mb4.1/7, mb1 4.1/8, mb1mx4.0/22, mbtmp4.1/8, ML4.0/1, MS3.4/7, Ms1 3.3/7, ms1mx3.1/20, Error ellipse: s-maj=32.7km s-min=18.0km az=68.0*
*ISCJB **11** 14:41:23.4±0.5, 60.37S±0.07×49.3W±0.2, h10km, mb4.0/7, MS3.3/6, Error ellipse: s-maj=14.3km s-min=9.7km az=162.7*
*NEIC **11** 14:41:25.8±2.3, 60.27S±0.07×49.0W±0.2, h16km±4km, mb4.5/12*
ISC 11 14:41:24.5±0.6, 60.25S±0.09×49.06W±0.09, h10km, n30, σ1§30/23, mb4.2/10, MS3.3/6, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**8.27**	**230**	Pn	**Pn**	**14 43 24.4**	**0.0**
	1.9nm,0.3s,baz=68,slow=9.9,SNR=9.7						
PMSA				Sn	**Sn**	**14 44 54.9**	**-2.8**
	baz=322,slow=19,SNR=1.8						
PMSA				LR	LR	14 46 33.1	
	comp=Z,177nm,18.3s,baz=24,slow=37						
PMSA	**Palmer Station**	**8.27**	**230**		Pn	14 43 19.1	-5.3
HOPE	**Hope Point**	**9.05**	**54**	Pn	**Pn**	**14 43 31.9**	**-3.1**
SNAA	**Sanae**	**21.34**	**141**	P	**P**	**14 46 12.0**	**+0.6**
	3.1nm,0.9s,baz=281,slow=8.7,SNR=7.2						
SNAA	**Sanae**	**21.34**	**141**	P	**P**	**14 46 11.4**	**0.0**
PLCA	**Paso Flores**	**23.65**	**316**	P	**P**	**14 46 36.5**	**+0.7**
	2.3nm,0.8s,baz=178,slow=7.0,SNR=6.1						
PLCA				LR	LR	14 55 09.2	
	comp=Z,60nm,18.1s,baz=186,slow=35						
PLCA	**Paso Flores**	**23.65**	**316**	P	**P**	**14 46 36.7**	**+0.9**
PLCA				IAmb	IAmb	14 47 22.6	
	comp=Z,26nm,1.9s						
QSPA	**South Pole Qui**	**29.98**	**180**	P	**P**	**14 47 33.2**	**+0.3**
	comp=Z,12nm,1.0s,baz=172,slow=7.7,SNR=51						
QSPA				LR	LR	15 00 59.6	
	comp=Z,85nm,20.5s,baz=172,slow=39						
QSPA	**South Pole Qui**	**29.98**	**180**	P	**P**	**14 47 33.0**	**+0.1**
QSPA				IAmb	IAmb	14 47 34.2	
	comp=Z,9.5nm,0.8s						
CPUP	**Villa Florida**	**34.38**	**347**	LR	LR	15 01 33.9	
	comp=Z,58nm,20.5s,baz=206,slow=35						
GO03	**Copiap**	**35.70**	**327**	P	**P**	**14 48 22.2**	**-0.8**
GO02	**Mina Guanaco**	**37.84**	**329**	P	**P**	**14 48 43.3**	**+1.9**
GO02				IAmb	IAmb	14 48 52.6	
	comp=Z,5.2nm,0.7s						
VNDA	**Vanda**	**41.15**	**190**	P	**P**	**14 49 08.4**	**+0.1**
GO01	**Chusmiza**	**43.01**	**332**	P	**P**	**14 49 24.3**	**-0.2**
GO01				IAmb	IAmb	14 50 29.2	
	comp=Z,15nm,1.4s						
PB11	**IPOC Station P**	**43.03**	**331**	P	**P**	**14 49 25.4**	**+1.1**
PB11				IAmb	IAmb	14 50 47.4	
	comp=Z,11nm,1.0s						
MAW	**Mawson**	**43.18**	**149**	P	**P**	**14 49 25.2**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=225,slow=10.0,SNR=4.6						
MAW				LR	LR	15 06 24.0	
	comp=Z,62nm,19.3s,baz=238,slow=35						
MAW	**Mawson**	**43.18**	**149**	P	**P**	**14 49 25.0**	**+0.2**
MNMC	**Minye Minye**	**43.62**	**331**	P	**P**	**14 49 29.9**	**+0.7**
BDFB	**Brasilia**	**44.55**	**1**	LR	LR	15 06 30.7	
	comp=Z,38nm,19.6s,baz=112,slow=34						
SIV	**San Ignacio**	**45.05**	**344**	P	**P**	**14 49 41.0**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=193,slow=7.8,SNR=6.7						
LPAZ	**La Paz**	**46.03**	**334**	P	**P**	**14 49 50.2**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=140,slow=8.4,SNR=3.6						
LPAZ				LR	LR	15 10 45.0	
	comp=Z,29nm,18.1s,baz=172,slow=38						
LPAZ	**La Paz**	**46.03**	**334**	IAmb	IAmb	14 50 11.0	
	comp=Z,12nm,1.9s						
SUR	**Sutherland**	**52.61**	**91**	P	**P**	**14 50 40.1**	**+1.6**
H10S3	**ASCENSION HYDR**	**57.28**	**42**	T	T	15 53 31.0	
	baz=200,slow=74						
H10N3	**ASCENSION HYDR**	**58.37**	**41**	T	T	15 54 55.0	
	baz=199,slow=75,SNR=17						
H10N1	**ASCENSION HYDR**	**58.38**	**41**	T	T	15 54 55.1	
	baz=199,slow=75,SNR=16						
H10N2	**ASCENSION HYDR**	**58.39**	**41**	T	T	15 54 55.7	
	baz=199,slow=75,SNR=21						
TORD	**Torodi Ar. Bea**	**83.60**	**49**	P	**P**	**14 53 52.3**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=195,slow=5.0,SNR=3.5						
ILAR	**Eielson Array**	**144.32**	**313**	PKP	**PKPab**	**15 00 56.4**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=148,slow=1.4,SNR=22						
MKAR	**Makanchi Array**	**148.89**	**93**	PKPbc	**PKPdf**	**15 01 09.1**	**+1.7**
	comp=Z,1.1nm,0.6s,baz=242,slow=2.8,SNR=10						

*IDC **11** 14:50:17.5±0.7, 9.90S×124.49E, h0km, mb4.2/9, mb1 4.3/9, mb1mx4.1/29, mbtmp4.3/9, MS3.6/9, Ms1 3.6/9, ms1mx3.2/22, Error ellipse: s-maj=17.7km s-min=15.9km az=133.0*
*BJI **11** 14:50:17.0±0.0, 10.30S×124.50E, h10km, mb4.6/18, mB5.1/9, Ms5.0/4, Ms7 4.9/3*
*ISCJB **11** 14:50:19.4±0.2, 10.22S±0.03×124.59E±0.03, h33km, mb4.3/16, MS3.8/8, Error ellipse: s-maj=5.4km s-min=3.5km az=34.8*
*NEIC **11** 14:50:20.8±3.0, 10.17S±0.04×124.53E±0.05, h22km±4km, mb4.5/19*
*DJA **11** 14:50:21.3±0.5, 10°S±.3°×12°4E±°, h17km±5km, M4.7/16, mB5.2/6, mb4.7/16, MLv4.9/11, Mw(mB)4.5/6*
ISC 11 14:50:22.2±0.4, 10.28S±0.04×124.54E±0.05, h35km, n97, σ1§98/100, mb4.5/23, MS3.8/8, 1C, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.59**	**333**	P	**Pn**	**14 50 33.3**	**-0.8**
SOEI				S	**Sn**	**14 50 41.5**	**-1.0**
SOEI	**Soe**	**0.59**	**333**		**Pn**	**14 50 33.3**	**-0.8**
BATI	**Baumata**	**0.86**	**275**	Pn	**Pn**	**14 50 38.4**	**+0.5**
	465nm,0.3s,baz=271,slow=2.2,SNR=873						
BATI				Sn	**Sn**	**14 50 50.1**	**+0.9**
	5µm,0.3s,baz=18,slow=20,SNR=49						
BATI	**Baumata**	**0.86**	**275**	P	**Pn**	**14 50 38.3**	**+0.5**
BATI				S	**Sn**	**14 50 48.6**	**-0.7**
MMRI	**Maumere**	**2.80**	**306**	P	**Pn**	**14 51 04.6**	**+0.2**
MMRI	**Maumere**	**2.80**	**306**		**Pn**	**14 51 04.4**	**0.0**
WSI	**Waingapu**	**4.22**	**278**	P	**Pn**	**14 51 24.7**	**+0.7**
BKSI	**Bulukumba**	**6.59**	**318**	P	**Pn**	**14 51 56.4**	**-0.2**
KNRA	**Kununurra**	**6.76**	**143**		**Pn**	**14 52 00.4**	**+1.4**
PLAI	**Plampang**	**6.82**	**282**	P	**Pn**	**14 51 59.3**	**-0.5**
	117nm,0.7s,1µm0.4nm						
MTN	**Manton Dam**	**6.95**	**112**		**Pn**	**14 52 02.7**	**+1.2**
SAUI	**Saumlaki**	**7.06**	**72**	P	**Pn**	**14 52 05.0**	**+2.0**
	93nm,0.6s,0.8nm						
SAUI	**Saumlaki**	**7.06**	**72**		**Pn**	**14 52 03.4**	**+0.4**
KAPI	**Kappang**	**7.06**	**317**	Pn	**Pn**	**14 52 04.2**	**+1.1**
	1.6nm,0.3s,baz=132,slow=5.5,SNR=12						
KAPI				LR	LR	14 55 09.0	
	comp=Z,590nm,21.5s,baz=296,slow=43						
KAPI	**Kappang**	**7.06**	**317**		**Pn**	**14 52 03.1**	**0.0**
BNSI	**Bone**	**7.31**	**323**	P	**Pn**	**14 52 07.4**	**+0.9**
TWSI	**Taliwang, Sumb**	**7.70**	**281**	P	**Pn**	**14 52 11.5**	**-0.4**
	36nm,0.9s,763nm0.2nm						
FITZ	**Fitzroy Crossi**	**7.84**	**172**	Pn	**Pn**	**14 52 14.8**	**+1.0**
	8.5nm,0.3s,baz=11,slow=13,SNR=204						
FITZ				Sn	**Sn**	**14 53 38.2**	**-3.2**
	18nm,0.3s,baz=142,slow=8.9,SNR=21						
FITZ				Lg	Lg	14 54 34.7	
	9.6nm,0.3s,baz=258,slow=18,SNR=3.2						
FITZ				LR	LR	14 55 44.5	
	comp=Z,320nm,20.1s,baz=358,slow=40						
FITZ	**Fitzroy Crossi**	**7.84**	**172**		**Pn**	**14 52 14.5**	**+0.7**
SANI	**Sanana**	**8.30**	**10**	P	**Pn**	**14 52 21.5**	**+1.3**
	32nm,0.9s						
JAGI	**Jajag, Banyuwa**	**10.40**	**279**		**Pn**	**14 52 46.4**	**-2.6**
FAKI	**Fak Fak**	**10.59**	**47**	Pn	**Pn**	**14 52 51.3**	**-0.2**
KMMI	**Kalianget**	**10.93**	**286**	P	**Pn**	**14 52 54.0**	**-2.2**
GMJI	**Gumukmas**	**11.13**	**279**	P	**Pn**	**14 52 59.7**	**+0.8**
	32nm,0.7s						
PSA00	**Pilbara Seismi**	**12.10**	**201**	Pn	**Pn**	**14 53 13.8**	**+1.7**
WRA	**Warramunga Arr**	**13.48**	**137**	Pn	**Pn**	**14 53 29.0**	**-2.1**
	1.0nm,0.3s,baz=320,slow=14,SNR=51						
WRA				Sn	Sn	14 55 49.9	-10
	5.6nm,0.3s,baz=318,slow=24,SNR=17						
WRAB	**Tennant Creek**	**13.48**	**137**		**Pn**	**14 53 30.2**	**-0.9**
WB2	**Warramunga Arr**	**13.49**	**137**		**Pn**	**14 53 29.1**	**-2.0**
WR0	**Warramunga Arr**	**13.63**	**136**		**Pn**	**14 53 30.9**	**-2.1**
UGM	**Wanagama**	**14.04**	**278**	Pn	**Pn**	**14 53 37.8**	**-0.9**
SMRI	**Semarang**	**14.30**	**282**	Pn	**Pn**	**14 53 38.5**	**-3.8**
AS31	**Alice Springs**	**16.03**	**147**		**Pn**	**14 54 03.8**	**-1.4**
ASAR	**Alice Springs**	**16.03**	**147**	Pn	**Pn**	**14 54 04.8**	**-0.4**
	1.5nm,0.3s,baz=320,slow=12,SNR=252						
ASAR				Sn	**Sn**	**14 56 54.1**	**-7.8**
	2.4nm,0.3s,baz=310,slow=20,SNR=15						
ASAR				LR	LR	15 00 51.7	
	comp=Z,315nm,18.6s,baz=324,slow=39						
CISI	**Cisompet, Garu**	**16.74**	**278**	P	**Pn**	**14 54 13.2**	**-1.0**
	49nm,1.0s						
CISI	**Cisompet, Garu**	**16.74**	**278**	Pn	**Pn**	**14 54 11.7**	**-2.5**
CISI				IAmb	IAmb	14 54 41.7	
	comp=Z,112nm,1.6s						
LEM	**Lembang**	**17.08**	**280**	Pn	**P**	**14 54 20.2**	**+0.3**
	comp=Z,2.6nm,0.3s,baz=44,slow=18,SNR=4.1						
LEM	**Lembang**	**17.08**	**280**	P	**P**	**14 54 20.3**	**+0.3**
	comp=Z,32nm,0.9s						
SBUM	**Sibu**	**17.62**	**315**		**P**	**14 54 25.5**	**-0.3**
JAY	**Jayapura**	**17.81**	**65**	P	**P**	**14 54 29.4**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=236,slow=6.2,SNR=7.5						
JAY	**Jayapura**	**17.81**	**65**	P	**P**	**14 54 30.4**	**+2.4**
	comp=Z,1.0nm,1.1s						
KSM	**Kuching**	**18.36**	**309**		**Pn**	**14 54 34.7**	**+0.6**
KSM				IAmb	IAmb	14 54 40.9	
	comp=Z,14nm,1.1s						
COEN	**Coen**	**18.58**	**103**	P	**Pn**	**14 54 37.3**	**+0.4**
MORW	**Morawa**	**20.31**	**202**	P	Pn	14 54 56.1	-1.3
MORW				IAmb	IAmb	14 55 27.5	
	comp=Z,20nm,1.2s						
KASI	**Kota Agung**	**20.40**	**282**	P	**P**	**14 54 55.1**	**-1.2**
	comp=Z,193nm,0.8s						
FORT	**Forrest**	**20.66**	**171**	P	Pn	14 55 00.5	-0.9
PMG	**Port Moresby**	**22.31**	**90**	P	**P**	**14 55 16.9**	**+0.1**
PMG				IAmb	IAmb	14 55 39.4	
	comp=Z,29nm,1.3s						
CTA	**Charters Tower**	**23.09**	**118**	P	**P**	**14 55 27.5**	**+2.5**
	comp=Z,9nm,0.9s,baz=298,slow=13,SNR=3.6						
NWAO	**Narrogin (SRO)**	**23.52**	**196**	P	**P**	**14 55 29.8**	**+0.7**
NWAO				IAmb	IAmb	14 55 36.0	
	comp=Z,29nm,1.4s						
BBOO	**Buckleboo**	**24.81**	**156**	P	**P**	**14 55 41.8**	**+0.7**
BBOO				IAmb	IAmb	14 55 57.5	
	comp=Z,32nm,1.4s						
STKA	**Stephens Creek**	**26.67**	**146**	P	**P**	**14 56 01.5**	**+3.6**
	comp=Z,1.8nm,0.6s,baz=316,slow=8.1,SNR=5.6						
STKA				LR	LR	15 07 37.5	
	comp=Z,222nm,18.6s,baz=16,slow=38						
STKA	**Stephens Creek**	**26.67**	**146**	P	**P**	**14 56 00.8**	**+2.9**
CM31	**Chiang Mai Arr**	**38.12**	**318**	P	**P**	**14 57 36.3**	**-1.8**
CM31				IAmb	IAmb	14 57 37.6	
	comp=Z,5.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**38.12**	**318**	P	**P**	**14 57 36.3**	**-1.9**
	comp=Z,2.8nm,0.9s,baz=142,slow=6.5,SNR=20						
CMAR				LR	LR	15 16 00.5	
	comp=Z,41nm,18.4s,baz=182,slow=41						
CMMT	**Chiang Mai**	**38.38**	**319**	P	**P**	**14 57 39.5**	**-0.8**
	comp=Z,2.9nm,0.8s						
CHTO	**Chiang Mai**	**38.38**	**319**	P	**P**	**14 57 38.2**	**-2.1**
CHTO				IAmb	IAmb	14 57 39.7	
	comp=Z,3.8nm,0.9s						
NJ2	**Nanjing**	**42.44**	**353**	*e*P	**P**	**14 58 15.9**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
XAN	**Xi'an**	**46.51**	**342**	P	**P**	**14 58 43.4**	**-2.8**
XAN				pP	pP	14 58 48.3	-8.4
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MAJO	**Matsushiro**	**48.32**	**15**	P	**P**	**14 58 58.6**	**-1.6**
MAT	**Matsushiro**	**48.32**	**15**	P	**P**	**14 58 58.3**	**-1.9**
MJAR	**Matsushiro Arr**	**48.32**	**15**	P	**P**	**14 58 58.2**	**-2.1**
	comp=Z,6.1nm,0.7s,baz=193,slow=8.5,SNR=13						
MJB9	**Matsu-Tunnel**	**48.32**	**15**	P	**P**	**14 58 58.6**	**-1.7**
LZH	**Lanzhou**	**50.08**	**338**	*e*P	**P**	**14 59 15.0**	**+1.1**
LZH				pP	pP	14 59 23.5	-0.9
LZH				sP	sP	14 59 27.1	-1.5
LZH				*e*PP	**PP**	**15 01 11.2**	**+1.8**
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,74nm,6.5s						
LZH				LR	LR		
	comp=Z,160nm,14.8s						
LZH				LR	LR		
	comp=Z,170nm,15.0s						
LZH				LR	LR		
	comp=Z,280nm,17.0s						
LSA	**Lhasa**	**51.13**	**322**	P	**P**	**14 59 21.9**	**-0.4**
LSA				IAmb	IAmb	14 59 22.8	
	comp=Z,2.7nm,0.6s						
ODAN	**Odare**	**51.60**	**317**	*e*P	**P**	**14 59 23.3**	**-2.4**
	comp=Z,5.9nm,0.5s						
TAPN	**Taplejung**	**51.71**	**317**	*e*P	**P**	**14 59 24.1**	**-2.4**
	comp=Z,14nm,0.8s						
RAMN	**Ramite**	**52.20**	**316**	*e*P	**P**	**14 59 28.1**	**-2.0**
	comp=Z,15nm,0.7s						
HHC	**Hu-ho-hao-te**	**52.27**	**348**	P	**P**	**14 59 33.4**	**+3.2**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
JIRN	**Jiri**	**52.93**	**316**	*e*P	**P**	**14 59 33.5**	**-2.2**
	comp=Z,15nm,0.6s						
GUN	**Gumba**	**53.30**	**316**	*e*P	**P**	**14 59 36.0**	**-2.4**
	comp=Z,16nm,0.6s						
PKI	**Pulchoki**	**53.41**	**316**	*e*P	**P**	**14 59 36.4**	**-2.8**
	comp=Z,6.2nm,0.4s						
PKIN	**Phulchoki**	**53.42**	**316**	*e*P	**P**	**14 59 36.3**	**-2.9**
	comp=Z,6.6nm,0.5s						
KKN	**Kakani**	**53.64**	**316**	*e*P	**P**	**14 59 37.7**	**-3.0**
DMN	**Daman**	**53.64**	**316**	*e*P	**P**	**14 59 38.3**	**-2.5**
GKN	**Gorkha**	**54.21**	**316**	*e*P	**P**	**14 59 42.5**	**-2.3**
GTA	**Gaotai**	**54.52**	**337**	*e*P	**P**	**14 59 45.7**	**-1.1**
GTA				pP	pP	14 59 51.2	-6.2
GTA				sP	sP	14 59 54.4	-7.2
GTA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**54.64**	**7**	P	**P**	**14 59 45.9**	**-1.5**
	comp=Z,2.0nm,0.8s,baz=183,slow=5.3,SNR=3.8						
KOLN	**Koldanda**	**54.79**	**315**	*e*P	**P**	**14 59 46.5**	**-2.6**
DANN	**Dangsing**	**55.03**	**315**	*e*P	**P**	**14 59 47.8**	**-3.1**
	comp=Z,17nm,0.6s						
SONM	**Songino Array**	**60.06**	**346**	P	**P**	**15 00 24.2**	**-1.5**
	comp=Z,1.9nm,0.6s,baz=157,slow=7.6,SNR=6.5						
WMQ	**Urumqi**	**63.40**	**331**	*e*P	**P**	**15 00 50.8**	**+2.5**
WMQ				pP	pP	15 00 59.1	+0.3
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,230nm,3.7s						
WMQ				LR	LR		
	comp=Z,750nm,29.1s						
WMQ				LR	LR		
	comp=Z,680nm,28.8s						
KSH	**Kashi**	**66.96**	**321**	P	**P**	**15 01 14.7**	**+3.2**
KSH				S	**S**	**15 10 04.4**	**+1.8**
KSH				sS	pS	15 10 17.2	+1.2
KSH				ScS	**ScS**	**15 11 07.0**	**+0.4**
KSH				SS	**SS**	**15 14 25.2**	**+3.3**
KSH				pmax	pmax		
	comp=Z,590nm,6.1s						
KSH				LR	LR		
	comp=Z,430nm,5.5s						
KSH				LR	LR		
	comp=Z,630nm,6.3s						
KSH				LR	LR		
	comp=Z,550nm,5.5s						
MKAR	**Makanchi Array**	**68.18**	**330**	P	**P**	**15 01 16.7**	**-2.3**
	comp=Z,2.5nm,0.6s,baz=123,slow=6.5,SNR=16						
VNDA	**Vanda**	**69.92**	**172**	LR	LR	15 32 11.3	
	comp=Z,68nm,18.1s,baz=340,slow=36						
MAW	**Mawson**	**69.95**	**201**	P	**P**	**15 01 30.9**	**+1.3**
	comp=Z,2.7nm,0.7s,baz=74,slow=7.4,SNR=4.5						
MAW				LR	LR	15 30 38.5	
	comp=Z,47nm,18.4s,baz=58,slow=34						
MAW	**Mawson**	**69.95**	**201**	IAmb	IAmb	15 03 59.2	
	comp=Z,14nm,1.9s						
ZALV	**Zalesovo Beam**	**72.28**	**337**	P	**P**	**15 01 41.4**	**-2.4**
	comp=Z,4.4nm,1.0s,baz=134,slow=5.8,SNR=9.0						
GEYT	**Alibeck**	**78.30**	**312**	LR	LR	15 41 17.5	
	comp=Z,17nm,21.2s,baz=245,slow=39						
SYO	**Syowa Base**	**78.66**	**201**⇑	*e*P	**P**	**15 02 20.8**	**+0.5**
QSPA	**South Pole Qui**	**79.72**	**180**	P	**P**	**15 02 28.4**	**+2.0**
RAYN	**Ar Rayn**	**84.18**	**295**	P	**P**	**15 02 49.2**	**-1.2**
RAYN				IAmb	IAmb	15 02 51.7	
	comp=Z,5.1nm,1.1s						
BOSA	**Boshof**	**93.16**	**240**	LR	LR	15 44 00.0	
	comp=Z,13nm,18.1s,baz=31,slow=34						
BPAW	**Bear Paw Mtn.**	**96.76**	**26**	P	**P**	**15 03 50.1**	**+1.2**
TORD	**Torodi Ar. Bea**	**124.06**	**279**	PKP	**PKiKP**	**15 09 18.6**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=45,slow=2.2,SNR=6.0						
P60A	**Greenville**	**145.55**	**28**		**PKPab**	**15 09 57.6**	**+0.2**
KMSC	**Kings Mountain**	**145.82**	**40**	PKPbc	**PKiKP**	**15 09 59.8**	**-2.0**
LPAZ	**La Paz**	**150.78**	**154**	PKPbc	**PKiKP**	**15 10 15.1**	**+1.8**
	comp=Z,3.0nm,0.7s,baz=144,slow=1.4,SNR=9.8						
LPAZ	**La Paz**	**150.78**	**154**	PKPbc	**PKiKP**	**15 10 14.5**	**+1.2**

*IDC **11** 15:04:22.0±9.3, 34.96N×26.79E, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.5/48, mbtmp3.9/6, ML3.7/2, MS3.0/1, Ms1 3.0/1, ms1mx2.2/49, Error ellipse: s-maj=187.5km s-min=29.3km az=34.0*
*ISCJB **11** 15:04:23.6±4.5, 34.9N±0.6×27.0E±0.4, h23km, mb3.8/4, Error ellipse: s-maj=93.1km s-min=10.3km az=31.1*
ISC 11 15:04:25.6±5.3, 34.9N±0.7×27.0E±0.4, h23km, n7, σ1§46/7, mb3.9/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMAI	**Mount Meron Ar**	**7.27**	**103**	Pn	**Pn**	**15 06 10.1**	**-0.3**
	0.8nm,0.3s,baz=310,slow=9.0,SNR=3.9						
MMAI				Sn	**Sn**	**15 07 31.9**	**-0.3**
	0.8nm,0.3s,baz=267,slow=17,SNR=2.6						
MLR	**Muntele Rosu**	**10.59**	**356**	LR	LR	15 11 12.1	
	comp=Z,94nm,20.7s,baz=301,slow=39						
GERES	**GERESS Array B**	**17.02**	**329**	Pn	**Pn**	**15 08 23.0**	**+0.9**
	0.1nm,0.3s,baz=138,slow=12,SNR=6.5						
FINES	**FINESS Array B**	**26.55**	**359**	P	**P**	**15 10 00.1**	**-1.2**
	3.4nm,0.9s,baz=139,slow=13,SNR=4.1						
ARCES	**ARCESS Array B**	**34.68**	**359**	P	**P**	**15 11 11.3**	**-1.7**
	3.7nm,1.0s,baz=180,slow=8.0,SNR=5.3						
MKAR	**Makanchi Array**	**42.67**	**56**	P	**P**	**15 12 21.9**	**+1.5**
	0.4nm,0.5s,baz=282,slow=6.2,SNR=6.9						
ZALV	**Zalesovo Beam**	**44.10**	**46**	P	**P**	**15 12 32.9**	**+1.1**
	0.6nm,0.3s,baz=260,slow=8.5,SNR=3.3						

**IDC 11 15:34:48.4±7.4, 1.37S×137.33E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/33, mbtmp3.6/5, ML3.3/2, MS3.2/1, Ms1 3.2/1, ms1mx2.3/36,

TNTI	**Ternate**	**4.22 180**	P		**Pn**	**15 41 58.4**	**-0.6**
TNTI			S		**Sn**	**15 42 49.9**	**+2.6**
TNTI	**Ternate**	**4.22 180**			**Pn**	**15 41 58.1**	**-0.8**
BUTP	**Butuan**	**4.29 336**	P		**Pn**	**15 41 56.8**	**-3.1**
BUTP			S		**Sn**	**15 42 51.5**	**+2.5**
CGP	**Cagayan de Oro**	**4.32 322**	⇑P		**Pn**	**15 42 03.3**	**+3.0**
CGP			S		**Sn**	**15 42 47.5**	**-2.2**
KMSI	**Cibinong**	**5.56 218**	P		**Pn**	**15 42 16.1**	**-1.0**
	431nm,0.7s,4μm1.4nm						
LBMI	**Labuha**	**5.62 179**	P		**Pn**	**15 42 17.5**	**-0.4**
	277nm,0.7s,1.2nm						
SWI	**Sorong**	**7.02 146**	P		**Pn**	**15 42 36.2**	**-0.7**
	22nm,0.5s,0.2nm						
SIJI	**Sorong**	**7.03 146**	P		**Pn**	**15 42 35.7**	**-1.3**
	2.9nm,0.3s,baz=149,slow=20,SNR=14						
SIJI			S		**Sn**	**15 43 48.8**	**-6.6**
	2.5nm,0.3s,baz=0.0,slow=20,SNR=5.0						
MRSI	**Marisa**	**7.05 230**	P		**Pn**	**15 42 35.7**	**-1.6**
	401nm,0.9s,3μm1.4nm						
SANI	**Sanana**	**7.16 191**	P		**Pn**	**15 42 34.7**	**-4.0**
LUWI	**Luwuk**	**7.57 217**	P		**Pn**	**15 42 44.0**	**-0.3**
	169nm,1.2s,4μm0.6nm						
LUWI	**Luwuk**	**7.57 217**			**Pn**	**15 42 44.0**	**-0.3**
APSI	**Ampana**	**8.21 224**	P		**Pn**	**15 42 51.3**	**-1.7**
	66nm,0.9s,732nm						
NLAI	**Namlea**	**8.21 182**	P		**Pn**	**15 42 52.5**	**-0.5**
	38nm,0.8s						
MSAI	**Masohi**	**8.46 169**	P		**Pn**	**15 42 53.1**	**-3.3**
MPSI	**Mapaga**	**8.79 238**	P		**Pn**	**15 42 58.7**	**-2.2**
	8.1nm,0.7s						
FAKI	**Fak Fak**	**9.27 148**	P		**Pn**	**15 43 06.9**	**-0.6**
	28nm,1.2s						
FAKI	**Fak Fak**	**9.27 148**	Pn		**Pn**	**15 43 06.6**	**-0.9**
KDI	**Kendari**	**10.10 208**	P		**Pn**	**15 43 18.7**	**0.0**
	37nm,0.9s						
KKM	**Kota Kinabalu**	**11.15 276**	Pn		**Pn**	**15 43 33.0**	**0.0**
KAPI	**Kappang**	**12.54 217**	P		**Pn**	**15 43 49.1**	**-2.2**
	baz=22,slow=7.3,SNR=5.3						
KAPI			LR	LR		15 49 15.0	
	comp=Z,58nm,20.8s,baz=310,slow=40						
MMRI	**Maumere**	**14.50 201**			**P**	**15 44 18.7**	**-1.6**
SOEI	**Soe**	**15.00 192**	Pn		**P**	**15 44 24.1**	**-2.0**
SOEI			IAmb	IAmb		15 44 48.7	
	comp=Z,20nm,0.8s						
SBUM	**Sibu**	**15.33 261**	Pn		**P**	**15 44 28.4**	**-1.2**
BATI	**Baumata**	**15.57 194**	P		**Pn**	**15 44 29.2**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=293,slow=17,SNR=2.2						
KSM	**Kuching**	**17.39 259**	P		**Pn**	**15 44 53.3**	**+0.6**
MTN	**Manton Dam**	**18.14 168**	P		**P**	**15 44 59.9**	**-0.7**
JAGI	**Jajag, Banyuwa**	**18.80 225**	P		**Pn**	**15 45 09.1**	**-0.4**
JAGI			IAmb	IAmb		15 45 58.6	
	comp=Z,32nm,1.2s						
YULB	**Yu-li**	**19.18 343**	P		**P**	**15 45 09.7**	**-2.2**
YULB			IAmb	IAmb		15 46 02.3	
	comp=Z,33nm,1.3s						
TPUB	**Ta-pu**	**19.30 341**	P		**P**	**15 45 11.0**	**-2.3**
TPUB			IAmb	IAmb		15 46 01.8	
	comp=Z,62nm,1.4s						
YOJ	**Yonaguni jima**	**19.78 348**	P		**P**	**15 45 15.2**	**-3.1**
KNRA	**Kununurra**	**20.61 176**	P		**P**	**15 45 28.1**	**+0.7**
KNRA			IAmb	IAmb		15 45 29.4	
	comp=Z,26nm,0.7s						
LEM	**Lembang**	**22.96 239**	LR	LR		15 54 53.7	
	comp=Z,29nm,21.8s,baz=310,slow=37						
FITZ	**Fitzroy Crossi**	**23.04 184**	P		**P**	**15 45 53.2**	**+0.5**
	comp=Z,8.5nm,1.0s,baz=22,slow=8.5,SNR=13						
FITZ	**Fitzroy Crossi**	**23.04 184**	P		**P**	**15 45 53.3**	**+0.7**
FITZ			IAmb	IAmb		15 45 55.6	
	comp=Z,32nm,1.4s						
COEN	**Coen**	**24.53 140**	P		**P**	**15 46 05.6**	**-0.7**
WRA	**Warramunga Arr**	**25.74 165**	P		**P**	**15 46 17.4**	**+0.1**
	comp=Z,9.2nm,0.7s,baz=342,slow=10,SNR=38						
WB2	**Warramunga Arr**	**25.74 165**	P		**P**	**15 46 17.6**	**+0.3**
WB2			IAmb	IAmb		15 46 22.0	
	comp=Z,12nm,0.8s						
WR0	**Warramunga Arr**	**25.81 164**	P		**P**	**15 46 18.2**	**+0.3**
WR0			IAmb	IAmb		15 46 22.7	
	comp=Z,9.5nm,0.8s						
NJ2	**Nanjing**	**28.05 344**	*e*P		**P**	**15 46 37.7**	**-0.1**
NJ2			pmax	pmax			
	comp=Z,21nm,0.5s						
JNU	**Nakatsue**	**28.15 6**	LR	LR		16 00 30.0	
	comp=Z,8.8nm,19.3s,baz=202,slow=42						
PSI	**Prapat**	**28.46 267**	LR	LR		15 59 58.6	
	comp=Z,20nm,20.1s,baz=356,slow=40						
AS31	**Alice Springs**	**29.22 168**	P		**P**	**15 46 48.6**	**+0.3**
ASAR	**Alice Springs**	**29.22 168**	P		**P**	**15 46 48.9**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=356,slow=7.8,SNR=83						
ENH	**Enshi**	**30.25 328**	P		**P**	**15 46 56.8**	**-0.7**
ENH			IAmb	IAmb		15 46 58.3	
	comp=Z,6.8nm,0.9s						
LHMI	**Lhok Sumawe**	**30.30 272**	P		**P**	**15 46 58.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**30.80 298**	LR	LR		16 01 19.8	
	comp=Z,20nm,18.1s,baz=187,slow=40						
KSRS	**Korea Array**	**32.28 1**	LR	LR		16 06 51.2	
	comp=Z,4.8nm,18.2s,baz=105,slow=46						
XAN	**Xi'an**	**33.57 332**	P		**P**	**15 47 26.4**	**-0.1**
XAN			pmax	pmax			
	comp=Z,10.0nm,1.1s						
XAN	**Xi'an**	**33.57 332**	P		**P**	**15 47 25.5**	**-1.0**
XAN			IAmb	IAmb		15 47 26.9	
	comp=Z,8.9nm,0.9s						
CD2	**Chengdu**	**34.00 322**	*e*P		**P**	**15 47 29.6**	**-0.7**
HNR	**Honiara**	**35.50 114**	P		**P**	**15 47 42.4**	**-0.9**
MORW	**Morawa**	**35.60 197**	P		**P**	**15 47 44.6**	**+0.7**
MORW			IAmb	IAmb		15 47 54.9	
	comp=Z,24nm,1.5s						
FORT	**Forrest**	**35.60 179**	P		**P**	**15 47 44.4**	**+0.5**
LZH	**Lanzhou**	**37.73 328**	*e*P		**P**	**15 48 03.2**	**+1.0**
LZH			pP	pP		15 48 22.5	-3.0
LZH			sP	pwP		15 48 32.3	+1.5
LZH			pmax	pmax			
	comp=Z,20nm,1.3s						
LZH			pmax	pmax			
	comp=Z,110nm,5.4s						
LZH			LR	LR			
	comp=Z,300nm,13.0s						
LZH			LR	LR			
	comp=Z,310nm,13.2s						
LZH			LR	LR			
	comp=Z,400nm,16.6s						
EIDS	**Eidsvold**	**37.99 144**	P		**P**	**15 48 02.5**	**-1.7**
HHC	**Hu-ho-hao-te**	**38.39 341**	P		**P**	**15 48 08.6**	**+1.0**
HHC			pmax	pmax			
	comp=Z,4.0nm,0.7s						
BBOO	**Buckleboo**	**38.52 168**	P		**P**	**15 48 08.1**	**-0.4**
NWAO	**Narrogin (SRO)**	**38.95 194**	P		**P**	**15 48 13.7**	**+1.6**
NWAO			IAmb	IAmb		15 48 14.6	
	comp=Z,15nm,0.8s						
STKA	**Stephens Creek**	**39.12 161**	P		**P**	**15 48 13.9**	**+0.3**
	comp=Z,2.6nm,0.5s,baz=340,slow=8.8,SNR=15						
STKA	**Stephens Creek**	**39.12 161**	P		**P**	**15 48 13.6**	**0.0**
ARMA	**Armidale**	**42.20 148**	P		**P**	**15 48 40.0**	**+0.8**
GTA	**Gaotai**	**42.34 328**	*e*P		**P**	**15 48 41.2**	**+1.0**
GTA			pP	pP		15 49 00.0	-3.7
GTA			sP	pwP		15 49 09.7	+0.3
GTA			pmax	pmax			
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**46.29 341**	P		**P**	**15 49 12.8**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=196,slow=8.6,SNR=4.1						
WMQ	**Urumqi**	**52.05 324**	*e*P		**P**	**15 49 56.8**	**+1.4**
WMQ			pP	pP		15 50 16.3	-3.7
WMQ			pmax	pmax			
	comp=Z,10.0nm,0.8s						
WMQ			pmax	pmax			
	comp=Z,44nm,3.9s						
WMQ			LR	LR			
	comp=Z,390nm,27.1s						
PETK	**Petropavlovsk-**	**54.00 22**	P		**P**	**15 50 11.4**	**+1.9**
	comp=Z,5.2nm,0.8s,baz=190,slow=8.7,SNR=3.8						
MK31	**Makanchi Array**	**56.87 324**	P		**P**	**15 50 31.2**	**+1.0**
MK31			IAmb	IAmb		15 50 32.0	
	comp=Z,3.6nm,0.7s						
MKAR	**Makanchi Array**	**56.87 324**	P		**P**	**15 50 31.5**	**+1.3**
	comp=Z,5.6nm,0.6s,baz=120,slow=8.3,SNR=51						
MKAR			pP		**pwP**	**15 50 58.3**	**-1.9**
	comp=Z,2.3nm,0.7s,baz=123,slow=8.4,SNR=5.2						
MAKZ	**Makanchi**	**57.06 324**	P		**P**	**15 50 32.6**	**+1.0**
MAKZ			IAmb	IAmb		15 50 33.3	
	comp=Z,5.0nm,0.8s						
KSH	**Kashi**	**57.59 314**	P	P		15 50 39.8	+4.2
KSH			pP	pP		15 50 58.5	-2.4
KSH			PcP	**PcP**		**15 51 30.0**	**+2.3**
KSH			PP	**PP**		**15 52 49.4**	**+4.9**
KSH			S	**S**		**15 58 30.3**	**+4.8**
KSH			ScS	**ScS**		**16 00 17.2**	**+2.2**
KSH			pmax	pmax			
	comp=Z,320nm,7.6s						
KSH			LR	LR			
	comp=Z,280nm,5.3s						
KSH			LR	LR			
	comp=Z,410nm,5.4s						
KDJ	**Kajisay**	**57.82 318**	P		**P**	**15 50 37.9**	**+0.7**
KDJ			IAmb	IAmb		15 50 56.0	
	comp=Z,4.3nm,0.8s						
ZALV	**Zalesovo Beam**	**59.74 332**	P		**P**	**15 50 49.4**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=90,slow=5.9,SNR=4.6						
KURK	**Kurchatov**	**61.01 327**	P		**P**	**15 50 59.5**	**+0.8**
KK31	**Karatay Array**	**62.73 316**	P		**P**	**15 51 10.9**	**+0.4**
KKAR	**Karatay Array**	**62.73 316**	P		**P**	**15 51 11.0**	**+0.5**
BRVK	**Borovoye**	**66.67 327**	P		**P**	**15 51 36.4**	**+0.6**
BRVK			IAmb	IAmb		15 51 38.7	
	comp=Z,12nm,1.4s						
ABKAR	**Akbulak array**	**71.56 320**	P		**P**	**15 52 06.2**	**+0.1**
ABKAR			IAmb	IAmb		15 52 07.2	
	comp=Z,14nm,1.9s						
RSO	**Redoubt South**	**80.66 30**	P		**P**	**15 52 58.4**	**+0.7**
VNDA	**Vanda**	**84.62 173**	LR	LR		16 29 43.4	
	comp=Z,20nm,20.7s,baz=306,slow=35						

*IDC **11** 15:44:27.6±0.9,2°.72S×139°.27E,h0km,mb3.7/6, mb1 4.0/7,mb1mx3.8/37,mbtmp3.8/7,ML3.9/1,MS3.2/3, Ms1 3.2/3,ms1mx2.7/36,Error ellipse: s-maj=18.2km s-min=11.7km az=133.0*

*ISCJB **11** 15:44:31.0±0.6,2°.75S±0°.07×139°.27E±0°.07,h35km, mb3.8/5,MS3.1/3,Error ellipse: s-maj=10.5km s-min=9.0km az=144.3*

*NEIC **11** 15:44:31.4±2.2,2°.70S±0°.06×139°.38E±0°.06,h27km±6km, mb4.6/11*

ISC 11 15:44:32.9±0.7,**2°.83S**±0°.09×**139°.33E**±0°.07,**h35**km,**n24,** σ1§**99**/24,**mb4.3**/10,**MS3.2**/3,**Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.41**	**77**	Pg		**Pn**		**15 44 54.7**	**-1.5**
	13nm,0.3s,baz=241,slow=10,SNR=69								
JAY				Lg		Lg		15 45 13.4	
	32nm,0.3s,baz=118,slow=17,SNR=23								
FAKI	**Fak Fak**	**7.07**	**269**	Pn		**Pn**		**15 46 14.4**	**+0.5**
COEN	**Coen**	**11.69**	**161**	Pn		**Pn**		**15 47 19.8**	**+2.5**
MTN	**Manton Dam**	**12.83**	**219**	Pn		**Pn**		**15 47 33.0**	**+0.1**
KNRA	**Kununurra**	**16.47**	**219**	Pn		**Pn**		**15 48 21.6**	**+0.3**
KNRA				IAmb		IAmb		15 48 38.6	
	comp=Z,39nm,1.6s								
BATI	**Baumata**	**17.19**	**244**	P		**P**		**15 48 33.9**	**+2.1**
	comp=Z,0.9nm,0.3s,baz=344,slow=4.8,SNR=4.5								
WB2	**Warramunga Arr**	**17.69**	**196**			**P**		**15 48 37.7**	**+0.5**
WB2				IAmb		IAmb		15 48 56.0	
	comp=Z,14nm,1.2s								
WRA	**Warramunga Arr**	**17.69**	**196**	P		**P**		**15 48 37.5**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=17,slow=12,SNR=6.9								
WRA				S		**Sn**		**15 51 46.4**	**-6.4**
	comp=Z,0.1nm,0.3s,baz=16,slow=22,SNR=4.5								
WRA				Lg		Lg		15 53 55.5	
	baz=24,slow=30,SNR=2.8								
FITZ	**Fitzroy Crossi**	**20.25**	**221**	P		**P**		**15 49 05.1**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=30,slow=15,SNR=2.6								
FITZ				S		**S**		**15 52 47.2**	**-3.6**
	comp=Z,1.3nm,0.6s,baz=163,slow=17,SNR=2.9								
AS31	**Alice Springs**	**21.36**	**194**	P		**P**		**15 49 18.4**	**+1.0**
ASAR	**Alice Springs**	**21.36**	**194**	P		**P**		**15 49 18.3**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=24,slow=9.7,SNR=12								
ASAR				S		Sn		15 53 16.9	-4.5
	comp=Z,0.9nm,1.0s,baz=17,slow=25,SNR=3.0								
ASAR				LR		LR		15 57 37.3	
	comp=Z,31nm,20.4s,baz=2.0,slow=37								
KKM	**Kota Kinabalu**	**24.71**	**291**	P		**P**		**15 49 50.0**	**-1.2**
KKM				IAmb		IAmb		15 49 50.6	
	comp=Z,17nm,0.9s								
EIDS	**Eidsvold**	**25.10**	**154**	P		**P**		**15 49 55.8**	**+1.3**
EIDS				IAmb		IAmb		15 50 13.0	
	comp=Z,12nm,1.4s								
STKA	**Stephens Creek**	**28.97**	**176**	LR		LR		16 03 14.4	
	comp=Z,110nm,18.3s,baz=24,slow=39								
UGM	**Wanagama**	**29.11**	**259**	P		**P**		**15 50 29.7**	**-1.0**
FORT	**Forrest**	**29.77**	**200**	P		**P**		**15 50 37.1**	**+0.9**
FORT				IAmb		IAmb		15 50 51.8	
	comp=Z,26nm,1.3s								
DZM	**Mont Dzumac**	**32.55**	**128**	P		**P**		**15 51 00.2**	**-0.8**
DZM				IAmb		IAmb		15 51 15.0	
	comp=Z,28nm,1.6s								
MA2	**Magadan**	**62.87**	**7**	LR		LR		16 22 28.0	
	comp=Z,17nm,19.4s,baz=95,slow=36								
MKAR	**Makanchi Array**	**70.26**	**322**	P		**P**		**15 55 42.0**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=95,slow=10,SNR=2.7								
VNDA	**Vanda**	**75.61**	**175**	P		**P**		**15 56 15.8**	**+2.1**
	comp=Z,1.7nm,0.7s,baz=344,slow=5.5,SNR=7.4								
ILAR	**Eielson Array**	**85.69**	**24**	P		**P**		**15 57 07.8**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=246,slow=5.2,SNR=3.3								
QSPA	**South Pole Qui**	**87.11**	**180**	P		**P**		**15 57 16.2**	**+1.2**
QSPA				IAmb		IAmb		15 57 17.4	
	comp=Z,4.3nm,0.8s								
INK	**Inuvik**	**91.55**	**22**	P		**P**		**15 57 34.6**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=265,slow=12,SNR=4.4								
INK	**Inuvik**	**91.55**	**22**	P		**P**		**15 57 34.6**	**-1.0**

*NIED **11** 16:04:00,36°.10N×142°.00E,h14km,Mw3.7 Best double couple: M0=4.06000×10^14 NP1:φ=223.00000°,δ31.00000°, λ120.00000°. NP2:φ=10.00000°,δ64.00000°,λ74.00000°.*

*IDC **11** 16:04:35.4±1.5,36°.01N×142°.13E,h0km,mb3.6/6, mb1 3.7/8,mb1mx3.5/46,mbtmp3.7/8,ML3.2/2,MS2.8/1, Ms1 2.8/1,ms1mx2.3/43,Error ellipse: s-maj=40.9km s-min=20.6km az=65.0*

*ISCJB **11** 16:04:36.9±0.7,36°.06N±0°.05×142°.11E±0°.06,h23km, mb3.6/6,Error ellipse: s-maj=8.0km s-min=7.1km az=147.5*

*JMA **11** 16:04:38.4±0.2,36°.06N×142°.03E,h58km,M3.6*

ISC 11 16:04:38.3±1.1,**36°.10N**±0°.05×**142°.00E**±0°.07,**h23**km,**n30,** σ1§**67**/29,**mb3.7**/6,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.00**	**247**	P		**Pb**		**16 04 56.7**	**-0.3**
CHOJ					*e*S		**Sn**	**16 05 10.8**	**+0.4**
JHYU	**Hitachinakayam**	**1.16**	**282**	P		**Pb**		**16 04 59.1**	**-0.6**
JHYU					*e*S		**Sb**	**16 05 14.7**	**+0.3**
JIHU	**Itakohorinouch**	**1.20**	**264**	P		**Pb**		**16 05 00.0**	**-0.3**
JHO	**Hitachi**	**1.26**	**294**	P		**Pb**		**16 05 00.2**	**-1.2**
JFK	**Kawauchi**	**1.55**	**325**	P		**Pb**		**16 05 05.0**	**-1.4**
BSO1	**Boso 1**	**1.67**	**210**	P		**Pb**		**16 05 05.8**	**-2.2**
BSO3	**Boso 3**	**1.77**	**223**	P		**Pb**		**16 05 07.2**	**-2.8**
JFT	**Otama**	**1.94**	**317**	P		**Pb**		**16 05 11.4**	**-1.6**
JMM	**Marumori**	**2.01**	**332**	P		**Pb**		**16 05 11.7**	**-2.4**
JAG	**Ashikaga**	**2.08**	**280**	P		**Pn**		**16 05 11.8**	**0.0**
JAG					*e*S		**Sn**	**16 05 36.9**	**-0.1**
JFY	**Yanaizu**	**2.25**	**306**	P		**Pn**		**16 05 15.5**	**+1.3**
JRY	**Ryogami san**	**2.51**	**269**	P		**Pn**		**16 05 17.7**	**0.0**
JOD2	**Odawara 2**	**2.51**	**251**	P		**Pn**		**16 05 18.2**	**+0.5**
JYN	**Shimob**	**2.87**	**259**	P		**Pn**		**16 05 23.6**	**+0.9**
MJAR	**Matsushiro Arr**	**3.09**	**279**	Pn		**Pn**		**16 05 27.2**	**+1.5**
	2.0nm,0.3s,baz=105,slow=7.4,SNR=76								
MJAR					Sn		**Sb**	**16 06 06.2**	**-3.6**
	0.9nm,0.3s,baz=165,slow=19,SNR=6.0								
MAT	**Matsushiro**	**3.09**	**279**	P		**Pn**		**16 05 27.1**	**+1.4**
MAT				S		**Sn**		**16 05 59.0**	**-2.9**
ASAJ	**Asahikawa**	**8.02**	**3**	Pn		**Pn**		**16 06 34.4**	**+1.0**
	0.4nm,0.3s,baz=209,slow=13,SNR=6.6								
ASAJ					Sn		**Sn**	**16 08 00.8**	**-2.5**
	0.1nm,0.3s,baz=209,slow=19,SNR=1.8								
JNU	**Nakatsue**	**9.63**	**255**	LR		LR		16 10 45.2	
	comp=Z,64nm,21.6s,baz=24,slow=38								
H11N2	**WAKE ISLAND Hy**	**27.27**	**120**	T		T		16 38 59.3	
	baz=312,slow=75,SNR=7.0								
H11N1	**WAKE ISLAND Hy**	**27.28**	**120**	T		T		16 39 00.1	
	baz=312,slow=75,SNR=6.4								
H11N3	**WAKE ISLAND Hy**	**27.29**	**120**	T		T		16 39 00.9	
	baz=312,slow=75,SNR=5.5								
H11S1	**WAKE ISLAND Hy**	**27.96**	**122**	T		T		16 39 48.7	
	baz=314,slow=75,SNR=13								
H11S3	**WAKE ISLAND Hy**	**27.96**	**122**	T		T		16 39 46.4	
	baz=314,slow=75,SNR=11								
H11S2	**WAKE ISLAND Hy**	**27.98**	**122**	T		T		16 39 47.7	
	baz=314,slow=75,SNR=9.0								
SONM	**Songino Array**	**28.70**	**305**	P		**P**		**16 10 35.0**	**+1.3**
	0.8nm,0.7s,baz=98,slow=10,SNR=3.3								
ZALV	**Zalesovo Beam**	**42.89**	**313**	P		**P**		**16 12 37.0**	**+2.2**
	0.8nm,0.4s,baz=106,slow=7.1,SNR=4.1								
MKAR	**Makanchi Array**	**45.01**	**303**	P		**P**		**16 12 53.5**	**+1.5**
	0.7nm,0.6s,baz=84,slow=11,SNR=6.0								
KURBB	**Kurchatov Arra**	**46.95**	**309**	P		**P**		**16 13 08.5**	**+1.4**
	1.1nm,0.5s,baz=83,slow=7.7								
WRA	**Warramunga Arr**	**56.21**	**189**	P		**P**		**16 14 16.4**	**-0.2**
	0.2nm,0.4s,baz=5.4,slow=7.2,SNR=6.4								
ASAR	**Alice Springs**	**59.94**	**189**	P		**P**		**16 14 43.0**	**+0.3**
	0.2nm,0.8s,baz=1.0,slow=7.1,SNR=5.5								

*ISCJB **11** 16:06:06.7±0.3,24°.14N±0°.02×122°.42E±0°.02,h17km±4km, Error ellipse: s-maj=3.3km s-min=2.2km az=156.2*

*JMA **11** 16:06:06.3±0.2,24°.05N×122°.43E,h20km±4km,M2.5*

*TAP **11** 16:06:07.6,24°.15N×122°.38E,h15km,ML2.5,D*

ISC 11 16:06:04.6±1.3,**24°.11N**±0°.02×**122°.42E**±0°.02,**h5**km±11km, **n69,**σ0§**61**/126,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.51**	**329**	P		**Pb**		**16 06 16.5**	**+0.5**
	baz=330								
EOS1					S		**Sb**	**16 06 23.2**	**-0.5**
	baz=330								
JYNG	**Yonagunijimaku**	**0.59**	**55**	P		**Pb**		**16 06 18.1**	**+0.7**
JYNG					*e*S		**Sb**	**16 06 26.3**	**+0.3**
YOJ	**Yonaguni jima**	**0.64**	**57**	P		**Pb**		**16 06 19.1**	**+0.8**
YOJ					*e*S		**Sb**	**16 06 28.6**	**+1.0**
NANB	**Nanao**	**0.69**	**297**	P		**Pb**		**16 06 19.0**	**0.0**
	baz=295								
NANB					*e*S		**Sb**	**16 06 27.4**	**-1.5**
	baz=295								
ENA	**Nanau**	**0.69**	**297**	*e*P		**Pb**		**16 06 18.8**	**-0.4**
	baz=295								
ENA					*e*S		**Sb**	**16 06 28.0**	**-1.1**
	baz=295								
TWC	**Suao**	**0.72**	**314**	*e*P		**Pb**		**16 06 19.5**	**0.0**
	baz=314								
TWC					*e*S		**Sb**	**16 06 28.4**	**-1.4**
	baz=314								
TWD	**Chiawan**	**0.75**	**268**	*e*P		**Pn**		**16 06 21.3**	**-0.6**
	baz=264								
NACB	**Ninganchiao**	**0.75**	**275**	*e*P		**Pb**		**16 06 20.8**	**+0.6**
	baz=271								
NACB					*e*S		**Sb**	**16 06 30.9**	**+0.1**
	baz=271								
ETLH	**Xiulin Townshi**	**0.86**	**276**	*e*P		**Pn**		**16 06 22.8**	**-0.7**
	baz=274								
ETLH					*e*S		**Sb**	**16 06 34.5**	**+0.5**
	baz=274								
NTC	**Toucheng**	**0.91**	**324**	*e*P		**Pn**		**16 06 23.4**	**-0.7**
	baz=324								
NTC					*e*S		**Sb**	**16 06 35.3**	**-0.1**
	baz=324								
TWE	**Neicheng**	**0.91**	**312**	P		**Pn**		**16 06 23.3**	**-0.8**
	baz=311								
TWE					*e*S		**Sg**	**16 06 33.7**	**-0.3**
	baz=311								
ENTT	**Nioudou**	**0.94**	**304**	P		**Pn**		**16 06 23.6**	**-0.9**
	baz=303								
ENTT					S		**Sb**	**16 06 35.5**	**-0.7**
	baz=303								
ESL	**Shilin**	**0.95**	**252**	*e*P		**Pn**		**16 06 24.0**	**-0.6**
	baz=248								
SLBB	**Yuanshan**	**0.96**	**312**	*e*P		**Pb**		**16 06 23.3**	**-0.4**
	baz=311								
SLBB					*e*S		**Sb**	**16 06 36.3**	**-0.4**
	baz=311								
NDT	**Datong Townshi**	**0.96**	**301**	*e*P		**Pn**		**16 06 24.7**	**-0.1**
	baz=299								
NDT					S		**Sb**	**16 06 35.8**	**-0.9**
	baz=299								
TWB1	**Santiao Chiao**	**0.97**	**336**	*e*P		**Pn**		**16 06 24.8**	**-0.1**
	baz=337								
NNSH	**Datong**	**0.99**	**289**	*e*P		**Pb**		**16 06 23.9**	**-0.5**
	baz=287								
NNSH					*e*S		**Sb**	**16 06 37.2**	**-0.7**
	baz=287								
NNS	**Nan Shan**	**1.01**	**289**	*e*P		**Pn**		**16 06 25.0**	**-0.5**
	baz=287								
NNS					*e*S		**Sb**	**16 06 37.7**	**-0.5**
	baz=287								
EGFH	**Guangfu**	**1.01**	**244**	*e*P		**Pn**		**16 06 25.3**	**-0.1**
	baz=241								
EGFH					*e*S		**Sb**	**16 06 38.9**	**+0.7**
	baz=241								
TIPB	**Shuangxi**	**1.01**	**328**	P		**Pn**		**16 06 25.4**	**-0.1**
	baz=328								
TIPB					S		**Sb**	**16 06 37.9**	**-0.3**
	baz=328								
WHF	**Hehuan Shan**	**1.05**	**272**	*e*P		**Pn**		**16 06 26.1**	**-0.4**
	baz=269

	baz=226							
FULB				*e*S		**Sn**	**16 06 49.6**	**+0.5**
	baz=226							
SSLB	**Suanglung**	**1.38**	**257**	*e*P		**Pg**	**16 06 31.3**	**+0.2**
	baz=254							
SSLB				*e*S		**Sb**	**16 06 48.8**	**0.0**
	baz=254							
LIOB	**Emei**	**1.38**	**293**	*e*P		**Pg**	**16 06 31.9**	**+0.8**
	baz=291							
LIOB				*e*S		**Sn**	**16 06 49.8**	**+0.4**
	baz=291							
NSTT	**Nanjuang**	**1.39**	**292**	*e*P		**Pg**	**16 06 32.0**	**+0.7**
	baz=290							
NSTT				*e*S		**Sb**	**16 06 48.9**	**-0.3**
	baz=290							
CHKT	**Chengkung**	**1.40**	**224**	*e*P		**Pg**	**16 06 32.3**	**+0.9**
	baz=221							
JKRS	**Kuro-shima**	**1.46**	**85**	P		**Pg**	**16 06 33.0**	**+0.4**
WHYT	**Xinyi Township**	**1.49**	**254**	*e*P		**Pb**	**16 06 32.7**	**-0.1**
	baz=252							
WHYT				*e*S		**Sb**	**16 06 52.0**	**0.0**
	baz=252							
ELDTW	**Lidau**	**1.58**	**235**	*e*P		**Pg**	**16 06 34.6**	**-0.3**
	baz=232							
ELDTW				*e*S		**Sn**	**16 06 54.4**	**+0.1**
	baz=232							
JIJ	**Ishigaki jima**	**1.59**	**81**	P		**Pn**	**16 06 33.6**	**+0.1**
JIJ				S		**Sn**	**16 06 54.0**	**-0.5**
CHN5	**Tsauling**	**1.67**	**252**	*e*P		**Pb**	**16 06 36.0**	**0.0**
	baz=250							
CHN5				*e*S		**Sb**	**16 06 57.3**	**-0.1**
	baz=250							
TWGBT	**Beinan**	**1.78**	**224**	*e*P		**Pb**	**16 06 37.4**	**-0.3**
	baz=221							
TWG	**Pinlang**	**1.78**	**224**	*e*P		**Pb**	**16 06 37.8**	**0.0**
	baz=221							
TWG				*e*S		**Sb**	**16 07 00.1**	**-0.4**
	baz=221							
JISG	**Ishigakijimahi**	**1.79**	**74**	P		**Pn**	**16 06 36.7**	**+0.5**
JISG				*e*S		**Sn**	**16 06 58.9**	**-0.4**
STYT	**Tauyuan**	**1.79**	**239**	*e*P		**Pb**	**16 06 37.5**	**-0.5**
	baz=236							
STYT				*e*S		**Sn**	**16 06 59.6**	**+0.1**
	baz=236							
TPUB	**Ta-pu**	**1.83**	**244**	*e*P		**Pb**	**16 06 37.9**	**-0.6**
	baz=242							
TPUB				*e*S		**Sb**	**16 07 01.5**	**-0.3**
	baz=242							
CHN4	**Tsaushan**	**1.84**	**246**	*e*P		**Pb**	**16 06 38.6**	**-0.1**
	baz=244							
CHN4				*e*S		**Sb**	**16 07 01.5**	**-0.5**
	baz=244							
WTP	**Ta-pu**	**1.86**	**243**	*e*P		**Pb**	**16 06 38.8**	**-0.4**
	baz=240							
WTP				*e*S		**Sb**	**16 07 02.4**	**-0.5**
	baz=240							
TWK	**Hsinying**	**1.96**	**245**	*e*P		**Pb**	**16 06 40.5**	**-0.4**
	baz=242							
TWK				*e*S		**Sn**	**16 07 04.5**	**+0.9**
	baz=242							
CHN1	**Nanshi**	**1.96**	**242**	*e*P		**Pb**	**16 06 40.2**	**-0.7**
	baz=240							
CHN1				*e*S		**Sn**	**16 07 04.1**	**+0.4**
	baz=240							
SLGT	**Liugui**	**1.97**	**236**	*e*P		**Pb**	**16 06 40.6**	**-0.4**
	baz=234							
SLGT				*e*S		**Sb**	**16 07 05.1**	**-0.7**
	baz=234							
SGST	**Jiashian**	**1.97**	**239**	*e*P		**Pb**	**16 06 40.5**	**-0.5**
	baz=236							
SGST				*e*S		**Sn**	**16 07 04.7**	**+0.9**
	baz=236							
SNST	**Tainan City**	**1.97**	**244**	*e*P		**Pb**	**16 06 40.6**	**-0.4**
	baz=241							
SNST				*e*S		**Sn**	**16 07 04.3**	**+0.4**
	baz=241							
ECL	**Taimali**	**2.02**	**222**	*e*S		**Sn**	**16 07 05.8**	**+0.7**
	baz=220							
SSD	**Sandimen**	**2.13**	**231**	*e*P		**Pb**	**16 06 42.7**	**-1.0**
	baz=228							
SSD				*e*S		**Sn**	**16 07 09.1**	**+1.4**
	baz=228							
JTJ	**Tarama**	**2.15**	**75**	P		**Pb**	**16 06 42.4**	**-1.6**
JTJ				*e*S		**Sn**	**16 07 07.7**	**-0.5**
MASBT	**Mashibuluo**	**2.22**	**228**	*e*P		**Pb**	**16 06 44.3**	**-0.9**
	baz=226							
MASBT				*e*S		**Sn**	**16 07 11.5**	**+1.6**
	baz=226							
EAST	**Anshuo**	**2.25**	**220**	*e*P		**Pb**	**16 06 44.2**	**-1.5**
	baz=218							
EAST				*e*S		**Sn**	**16 07 11.3**	**+0.7**
	baz=218							

NDI ***11*** *16:14:34.8±2.7, 34.°36N×89.°59E, h10km, mb4.4, MS4.4, MS4.2*

IDC ***11*** *16:14:35.5±0.4, 33.°96N×89.°24E, h0km, mb4.5/26, mb1 4.6/29, mb1mx4.5/48, mbtmp4.5/29, ML4.0/3, MS4.2/28, Ms1 4.2/28, ms1mx4.2/33, Error ellipse: s-maj=15.0km s-min=10.6km az=34.0*

ISCJB ***11*** *16:14:36.7±0.1, 34.°04N±0.°02×89.°21E±0.°02, h17km, mb4.9/84, MS4.3/38, Error ellipse: s-maj=3.1km s-min=2.1km az=135.3*

BJI ***11*** *16:14:37.0±0.0, 33.°92N×89.°25E, h5km, mb4.6/50, mB5.1/38, ML5.0/2, Ms4.9/57, Ms7 4.8/47*

MOS ***11*** *16:14:38.4±1.1, 33.°95N×89.°18E, h31km, mb4.9/25, MS4.4/5, Error ellipse: s-maj=7.4km s-min=4.5km az=125.5*

GCMT ***11*** *16:14:39.4±0.2, 33.°96N±0.°01×89.°30E±0.°01, h16km, MW5.1/117, Moment Tensor Solution. s73,c99; s117,c196; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.88±.14; Mθθ-0.34±.10; Mϕϕ4.21±.10; Mrθ-1.56±.33; Mθϕ2.26±.08; Mϕr1.92±.30; Best double couple: M₀5.26000×10¹⁶ NP1:ϕs177.00000°, δ59.00000°, λ-123.00000°. NP2:ϕs48.00000°, δ44.00000°, λ-48.00000°. Principal axes: T 5.3070, Plg8.0000°, Azm290.0000°; N -0.1010, Plg28.0000°, Azm196.0000°; P -5.2130, Plg61.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***11*** *16:14:39.4±1.5, 34.°01N±0.°07×89.°19E±0.°09, h26km±4km, mb4.9/90*

ISC 11 16:14:38.8±0.3**, 33.°98N**±0.°04×**89.°19E**±0.°03**, h17**km**, n344,** σ1.9**67**/350**, mb4.8**/112**, MS4.3**/38**, 22C-9D, Xizang**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.58**	**158**	Pg		**Pn**		**16 15 52.0**	**+4.2**
LSA				smax		smax			
	comp=N,3μm,0.9s								
LSA				smax		smax			
	comp=E,1μm,1.0s								
LSA	**Lhasa**	**4.58**	**158**	P		**Pn**		**16 15 51.3**	**+3.4**
LSA	**Lhasa**	**4.58**	**158**			**Pn**		**16 15 51.2**	**+3.4**
GTK	**Tadong**	**6.66**	**185**	*e*P		**Pn**		**16 16 20.2**	**+4.1**
GTK				*i* Rg		Rg		16 18 36.4	
GTK				*i* Rg		Rg		16 18 56.3	
GTK				*i* Rg		Rg		16 18 57.8	
GTK				IAMs_20		IAMs_20		16 19 07.8	
	comp=Z,5μm,8.8s								
GUN	**Gumba**	**6.69**	**206**	*e*P		**Pn**		**16 16 18.4**	**+1.8**
	comp=Z,79nm,0.5s								
TAPN	**Taplejung**	**6.73**	**191**	*e*P		**Pn**		**16 16 18.9**	**+1.7**
	comp=Z,42nm,0.4s								
JIRN	**Jiri**	**6.81**	**203**	*e*P		**Pn**		**16 16 20.9**	**+2.6**
	comp=Z,144nm,0.5s								
KKN	**Kakani**	**7.03**	**210**	*e*P		**Pn**		**16 16 23.1**	**+1.9**
	comp=Z,82nm,0.8s								
GKN	**Gorkha**	**7.13**	**214**	*e*P		**Pn**		**16 16 24.0**	**+1.5**
	comp=Z,24nm,0.3s								
PKIN	**Phulchoki**	**7.17**	**208**	*e*P		**Pn**		**16 16 24.6**	**+1.4**
	comp=Z,84nm,0.8s								
PKI	**Pulchoki**	**7.17**	**208**	*e*P		**Pn**		**16 16 24.2**	**+0.9**
	comp=Z,12nm,0.3s								
DMN	**Daman**	**7.26**	**210**	*e*P		**Pn**		**16 16 26.4**	**+2.0**
	comp=Z,14nm,0.3s								
ODAN	**Odare**	**7.27**	**193**	*e*P		**Pn**		**16 16 26.3**	**+1.8**
	comp=Z,94nm,0.6s								
DANN	**Dangsing**	**7.29**	**221**	*e*P		**Pn**		**16 16 26.8**	**+1.9**
	comp=Z,76nm,0.6s								
RAMN	**Ramite**	**7.36**	**198**	*e*P		**Pn**		**16 16 27.7**	**+1.9**
	comp=Z,73nm,0.6s								
ZIRO	**ZIRO**	**7.58**	**147**	*e*P		**Pn**		**16 16 30.1**	**+1.4**
ZIRO				IAMs_20		IAMs_20		16 19 28.0	
	comp=Z,5μm,6.4s								
KOLN	**Koldanda**	**7.84**	**219**	*e*P		**Pn**		**16 16 33.5**	**+1.2**
	comp=Z,40nm,0.7s								
JORH	**JORHAT**	**8.44**	**147**	IAMs_20		IAMs_20		16 21 11.7	
	comp=Z,9μm,4.6s								
SHL	**Shillong**	**8.71**	**164**	P		**Pn**		**16 16 43.0**	**-1.2**
SHL	**Shillong**	**8.71**	**164**	*e*P		**Pn**		**16 16 44.0**	**-0.2**
SHL				IAmb		IAmb		16 16 48.9	
	comp=Z,31nm,0.5s								
SHL				IAMs_20		IAMs_20		16 20 27.7	
	comp=Z,2μm,7.9s								
SHL	**Shillong**	**8.71**	**164**			**Pn**		**16 16 43.0**	**-1.2**
LKP	**Lekhapani**	**8.76**	**137**	*e*P		Pn		16 16 35.0	-10
JOSI	**Joshimath**	**8.84**	**250**	*e*P		**Pn**		**16 16 48.4**	**+2.4**
KOHI	**KOHIMA**	**9.27**	**151**	*e*P		**Pn**		**16 16 52.0**	**0.0**
KOHI				IAmb		IAmb		16 16 57.8	
	comp=Z,162nm,1.1s								
WMQ	**Urumqi**	**9.89**	**354**	P		**Pn**		**16 17 01.9**	**+1.6**
WMQ				S		**Sn**		**16 18 53.1**	**+2.2**
WMQ				pmax		pmax			
	comp=Z,11nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,77nm,3.7s								
WMQ				LR		LR			
	comp=Z,2μm,8.7s								
WMQ				LR		LR			
	comp=Z,4μm,10.1s								
GTA	**Gaotai**	**10.10**	**55**	⇑P		**Pn**		**16 17 04.4**	**+1.2**
GTA				pP				16 17 09.0	
GTA				sP				16 17 11.4	
GTA				S		**Sn**		**16 18 53.1**	**-3.1**
GTA				pmax		pmax			
	comp=Z,6.0nm,1.1s								
GTA				pmax		pmax			
	comp=Z,210nm,6.8s								
GTA				LR		LR			
	comp=Z,6μm,14.9s								
GTA				LR		LR			
	comp=Z,3μm,16.5s								
GTA				LR		LR			
	comp=Z,4μm,11.1s								
DDI	**Dehra Dun**	**10.12**	**252**	*i* Rg		Rg		16 20 15.8	
DDI				IAMs_20		IAMs_20		16 21 01.2	
	comp=Z,4μm,9.8s								
SMLA	**Simla**	**10.54**	**258**	*e*P		**Pn**		**16 17 10.2**	**+1.1**
SMLA				IAmb		IAmb		16 17 14.9	
	comp=Z,35nm,0.7s								
SMLA				*i* Rg		Rg		16 20 56.4	
SMLA				IAMs_20		IAMs_20		16 21 11.9	
	comp=Z,4μm,9.1s								
BOK	**Bokaro**	**10.56**	**197**	*e*P		**Pn**		**16 17 10.2**	**+0.8**
BOK				IAmb		IAmb		16 17 12.5	
	comp=Z,41nm,0.8s								
BOK				IAMs_20		IAMs_20		16 21 19.6	
	comp=Z,2μm,11.9s								
BOK				*i* Rg		Rg		16 21 23.4	
BOK				IVMs_BB		IVMs_BB		16 21 29.4	
	comp=Z,2μm,9.8s								
DHRM	**DHARAMSHALA**	**10.95**	**264**	*e*P		**Pn**		**16 17 15.0**	**+0.1**
DHRM				IAmb		IAmb		16 17 19.2	
	comp=Z,24nm,0.5s								
DHRM				*i* Rg		Rg		16 20 41.1	
DHRM				IAMs_20		IAMs_20		16 21 39.3	
	comp=Z,6μm,9.1s								
BRDH	**Bariadhala**	**11.47**	**169**	Pn		**Pn**		**16 17 23.5**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=331,slow=24,SNR=5.6								
TARG	**Taragay, Kyrgy**	**11.86**	**314**			**Pn**		**16 17 28.7**	**+1.2**
KSH	**Kashi**	**11.95**	**301**	P		**Pn**		**16 17 31.0**	**+2.5**
KSH				S		**Sn**		**16 19 43.4**	**+1.9**
KSH				pmax		pmax			
	comp=Z,120nm,1.6s								
KSH				pmax		pmax			
	comp=Z,340nm,4.4s								
KSH				LR		LR			
	comp=Z,2μm,11.0s								
KSH				LR		LR			
	comp=Z,6μm,11.3s								
KSH				LR		LR			
	comp=Z,12μm,17.1s								
PDGK	**Podgornoye**	**12.01**	**324**	P		**Pn**		**16 17 29.4**	**0.0**
PDGK				pmax		pmax			
	comp=Z,14nm,0.9s								
LZH	**Lanzhou**	**12.19**	**76**	*e*P		**Pn**		**16 17 33.1**	**+1.2**
LZH				pP		P		16 17 40.4	-4.0
LZH				sS		Sn		16 20 00.8	+13
LZH				SS		**SnSn**		**16 20 05.6**	**+6.2**
LZH				pmax		pmax			
	comp=Z,45nm,1.0s								
LZH				pmax		pmax			
	comp=Z,420nm,4.3s								
LZH				LR		LR			
	comp=Z,4μm,11.9s								
LZH				LR		LR			
	comp=Z,6μm,11.4s								
LZH				LR		LR			
	comp=Z,6μm,13.0s								
KDJ	**Kajisay**	**12.47**	**314**	P		**Pn**		**16 17 34.7**	**-1.0**
KDJ	**Kajisay**	**12.47**	**314**	Pn		**Pn**		**16 17 34.7**	**-1.0**
CD2	**Chengdu**	**12.68**	**100**	P		**Pn**		**16 17 39.1**	**+0.6**
CD2				S		**Sn**		**16 19 59.2**	**-0.1**
CD2				SS		**SnSn**		**16 20 15.5**	**+4.2**
CD2				pmax		pmax			
	comp=Z,40nm,0.6s								
CD2				LR		LR			
	comp=Z,4μm,5.8s								
CD2				LR		LR			
	comp=Z,5μm,9.3s								
CD2				LR		LR			
	comp=Z,6μm,10.7s								
NRN	**Naryn**	**12.81**	**309**	P		**Pn**		**16 17 39.7**	**-0.8**
NRN	**Naryn**	**12.81**	**309**			**Pn**		**16 17 39.7**	**-0.8**
NIL	**Nilore**	**13.26**	**273**	P		**Pn**		**16 17 44.6**	**-1.8**
NIL	**Nilore**	**13.26**	**273**			**Pn**		**16 17 44.6**	**-1.8**
MK31	**Makanchi Array**	**13.82**	**340**	P		**Pn**		**16 17 51.1**	**-2.9**
MK31	**Makanchi Array**	**13.82**	**340**			**Pn**		**16 17 51.1**	**-2.9**
MKAR	**Makanchi Array**	**13.82**	**340**	Pn		**Pn**		**16 17 51.3**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=151,slow=15,SNR=12								
TKM2	**Tokmak 2**	**13.88**	**314**	P		**Pn**		**16 17 55.6**	**+0.7**
TKM2				pmax		pmax			
	comp=Z,21nm,1.1s								
TKM2	**Tokmak 2**	**13.88**	**314**	P		**Pn**		**16 17 55.6**	**+0.7**
	SNR=7.7								
MAKZ	**Makanchi**	**13.93**	**339**	P		**Pn**		**16 17 52.4**	**-3.0**
MAKZ	**Makanchi**	**13.93**	**339**			**Pn**		**16 17 52.4**	**-3.0**
KBK	**Karagaybulak**	**14.13**	**312**	P		**P**		**16 18 08.2**	**+2.4**
	SNR=15								
UCH	**Uchtor**	**14.17**	**310**	P		**P**		**16 18 08.2**	**+1.5**
	SNR=17								
SIMRM	**Sittwe**	**14.18**	**166**			**Pn**		**16 17 58.2**	**-0.7**
AAK	**Ala-Archa**	**14.40**	**311**	⇑*e*P		**Pn**		**16 18 02.7**	**+0.7**
AAK				pmax		pmax			
	comp=Z,8.0nm,1.4s								
AAK	**Ala-Archa**	**14.40**	**311**	Pn		**Pn**		**16 18 03.1**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=127,slow=6.2,SNR=9.6								
AAK				LR		LR		16 24 58.1	
	comp=Z,1μm,19.8s,baz=110,slow=43								
AAK	**Ala-Archa**	**14.40**	**311**	P		**P**		**16 18 10.0**	**+1.1**
	SNR=8.1								
AAK	**Ala-Archa**	**14.40**	**311**			**Pn**		**16 18 01.7**	**-0.3**
CHMS	**Chumysh**	**14.44**	**313**	P		**P**		**16 18 11.0**	**+1.8**
	SNR=11								
AML	**Almayashu**	**14.65**	**308**	P		**P**		**16 18 15.1**	**+3.1**
	SNR=5.7								
KMI	**Kunming**	**14.72**	**123**	P		**Pn**		**16 18 06.4**	**-0.1**
KMI				pP		P		16 18 15.1	+2.5
KMI				sP				16 18 19.0	
KMI				S		**Sn**		**16 20 51.5**	**+2.1**
KMI				SS		**S**		**16 21 09.5**	**+1.4**
KMI				pmax		pmax			
	comp=Z,15nm,0.9s								
KMI				pmax		pmax			
	comp=Z,370nm,4.9s								
KMI				LR		LR			
	comp=Z,3μm,13.6s								
KMI				LR		LR			
	comp=Z,3μm,10.4s								
KMI				LR		LR			
	comp=Z,2μm,10.6s								
USP	**Ospenovka**	**14.74**	**313**	P		**P**		**16 18 14.2**	**+1.6**
	SNR=7.8								
ARSB	**Arslanbob**	**14.77**	**304**	P		**P**		**16 18 12.3**	**-0.7**
EKS2	**Erkin-Say**	**14.86**	**310**	P		**P**		**16 18 16.2**	**+2.2**
	SNR=11								
BTK	**Batken**	**15.87**	**298**	P		**Pn**		**16 18 19.8**	**-1.6**
BTK				pmax		pmax			
	comp=Z,112nm,1.8s								
BTK	**Batken**	**15.87**	**298**			**Pn**		**16 18 19.8**	**-1.6**
BTK				IAmb		IAmb		16 18 31.3	
	comp=Z,112nm,1.8s								
GAR	**Garm**	**15.98**	**294**			**Pn**		**16 18 20.3**	**-2.6**
XAN	**Xi'an**	**16.36**	**84**	P		**P**		**16 18 31.2**	**+0.6**
XAN				PP		**sP**		**16 18 46.1**	**+6.2**
XAN				pmax		pmax			
	comp=Z,20nm,1.0s								
XAN				LR		LR			
	comp=Z,5μm,16.7s								
XAN				LR		LR			
	comp=Z,1μm,16.8s								
XAN				LR		LR			
	comp=Z,4μm,11.4s								
XAN	**Xi'an**	**16.36**	**84**	P		**Pn**		**16 18 25.6**	**-2.2**
XAN				pmax		pmax			
	comp=Z,29nm,0.9s								
XAN	**Xi'an**	**16.36**	**84**	Pn		**Pn**		**16 18 25.6**	**-2.2**
KBL	**Kabul**	**16.67**	**278**	P		**Pn**		**16 18 29.4**	**-2.4**
KBL				pmax		pmax			
	comp=Z,21nm,0.9s								
KBL	**Kabul**	**16.67**	**278**			**Pn**		**16 18 29.4**	**-2.4**
CHGR	**Chuyangaron**	**16.80**	**292**			**Pn**		**16 18 30.5**	**-2.9**
CHGR				IAmb		IAmb		16 18 38.6	
	comp=Z,177nm,1.7s								
GYA	**Guiyang**	**16.85**	**112**	⇑*i*P		**Pn**		**16 18 32.6**	**-1.5**
GYA				PP		**sP**		**16 18 45.7**	**+0.3**
GYA				S		**Sn**		**16 21 40.2**	**-0.8**
GYA				pmax		pmax			
	comp=Z,20nm,0.8s								
GYA				pmax		pmax			
	comp=Z,240nm,4.6s								
GYA				LR		LR			
	comp=Z,980nm,7.0s								
GYA				LR		LR			
	comp=Z,780nm,9.8s								
GYA				LR		LR			
	comp=Z,2μm,13.1s								
KK31	**Karatay Array**	**17.19**	**307**	P		**Pn**		**16 18 38.8**	**+0.7**
KK31				pmax		pmax			
	comp=Z,39nm,1.8s								
KK31	**Karatay Array**	**17.19**	**307**	P		**Pn**		**16 18 38.8**	**+0.7**
KKAR	**Karatay Array**	**17.19**	**307**	P		**Pn**		**16 18 38.8**	**+0.7**
KKAR				pmax		pmax			
	comp=Z,39nm,1.8s								
KKAR	**Karatay Array**	**17.19**	**307**	P		**Pn**		**16 18 38.8**	**+0.7**
JASL	**Jaisalmer**	**17.25**	**251**	*e*P		**P**		**16 18 42.0**	**+1.5**
TAS	**Tashkent**	**17.36**	**301**	P		**Pn**		**16 18 40.2**	**-0.1**
TAS				pmax		pmax			
	comp=Z,61nm,1.1s								
TAS	**Tashkent**	**17.36**	**301**	P		**Pn**		**16 18 40.2**	**-0.1**
PAYA	**Payao**	**17.39**	**144**	P		**P**		**16 18 44.1**	**+2.0**
	comp=Z,34μm,1.1s,comp=Z,405μm								
CHTO	**Chiang Mai**	**17.44**	**148**	P		**Pn**		**16 18 41.1**	**-0.2**
CHTO				pmax		pmax			
	comp=Z,33nm,1.1s								
CHTO	**Chiang Mai**	**17.44**	**148**	P		**Pn**		**16 18 41.1**	**-0.2**
CMMT	**Chiang Mai**	**17.44**	**148**	P		**P**		**16 18 42.2**	**-0.4**
	comp=Z,16nm,1.2s								
MHMT	**Maesarieng**	**17.58**	**151**	P		**P**		**16 18 45.4**	**+1.3**
	comp=Z,70nm,0.9s								
ENH	**Enshi**	**17.58**	**97**	Pn		**Pn**		**16 18 40.9**	**-2.2**
ENH				IAmb		IAmb		16 18 59.6	
	comp=Z,54nm,0.9s								
CM31	**Chiang Mai Arr**	**17.75**	**148**	P		**P**		**16 18 45.9**	**-0.1**
CM31				IAmb		IAmb		16 18 50.0	
	comp=Z,70nm,1.1s								
CMAR	**Chiang Mai Arr**	**17.75**	**148**	*ce*P		**P**		**16 18 46.2**	**+0.2**
CMAR				pmax		pmax			
	comp=Z,33nm,0.9s								
CMAR	**Chiang Mai Arr**	**17.75**	**148**	P		**Pn**		**16 18 43.9**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=336,slow=11,SNR=49								
CMAR				PcP		**PcP**		**16 23 22.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=307,slow=2.6,SNR=6.5								
CMAR				LR		LR		16 26 11.5	
	comp=Z,1μm,20.5s,baz=337,slow=39								
LAMP	**Lampang**	**18.00**	**146**	P		**P**		**16 18 52.9**	**+4.1**
	comp=Z,42μm,1.0s								
SLVN	**Son La**	**18.10**	**130**	P		**P**		**16 18 50.6**	**+0.7**
SLVN				IAmb		IAmb		16 18 55.3	
	comp=Z,125nm,1.1s								
PHRA	**Phrae**	**18.30**	**145**	P		**P**		**16 18 53.0**	**+0.9**
	comp=Z,7.3nm,1.4s								
KURBB	**Kurchatov Arra**	**18.37**	**338**	P		**P**		**16 18 49.7**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=147,slow=12,SNR=22								
KURK	**Kurchatov**	**18.42**	**338**	⇑*e*P		**Pn**		**16 18 54.4**	**+1.2**
KURK				pmax		pmax			
	comp=Z,23nm,1.7s								
KURK	**Kurchatov**	**18.42**	**338**	P		**P**		**16 18 52.2**	**-0.9**
SONM	**Songino Array**	**18.93**	**38**	P		**P**		**16 18 58.4**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=225,slow=11,SNR=37								
SONM				LR		LR		16 26 52.8	
	comp=Z,789nm,21.7s,baz=228,slow=39								
HHC	**Hu-ho-hao-te**	**19.02**	**62**	P		**Pn**		**16 19 01.5**	**+0.8**
HHC				pmax		pmax			
	comp=Z,7.0nm,0.7s								
HYB	**Hyderabad**	**19.06**	**213**	*i* P		**Pn**		**16 19 02.0**	**+0.8**
HYB	**Hyderabad**	**19.06**	**213**	*e*P		**Pn**		**16 19 02.9**	**+1.7**
HYB				IAmb		IAmb		16 19 04.4	
	comp=Z,38nm,1.2s								
UTTA	**Uttaradit**	**19.11**	**145**	P		**Pn**		**16 19 03.4**	**+1.6**
	comp=Z,21μm,0.9s,comp=Z,225μm								
ULN	**Ulaanbaatar**	**19.29**	**39**	*d* *i*P		**P**		**16 19 01.9**	**-1.0**
ULN				pmax		pmax			
	comp=Z,26nm,1.3s								
ULN	**Ulaanbaatar**	**19.29**	**39**	P		**P**		**16 19 02.2**	**-0.6**
ZAK	**Zakamensk**	**19.37**	**28**	*e*P		**P**		**16 18 58.9**	**-4.8**
ZAK				pmax		pmax			
	comp=Z,13nm,1.1s								
MOY	**Mondy**	**19.63**	**22**	*e*P		**Pn**		**16 19 11.3**	**+3.3**
MOY				pmax		pmax			
	comp=Z,49nm,1.3s								
NONG	**Nongkai**	**20.18**	**138**	P		**P**		**16 19 13.3**	**+0.7**
	comp=Z,2.4nm,1.1s								
ZAA0	**Zalesovo Array**	**20.20**	**353**	P		**P**		**16 19 11.3**	**-1.3**
ZAA0				IAmb		IAmb		16 19 15.9	
	comp=Z,28nm,0.8s								
ZALV	**Zalesovo Beam**	**20.20**	**353**	P		**P**		**16 19 11.5**	**-1.1**
	comp=Z,34nm,0.6s,baz=172,slow=11,SNR=84								
ZALV				LR		LR		16 27 45.8	
	comp=Z,676nm,20.3s,baz=173,slow=39								
UTHA	**Uthaitani**	**20.55**	**151**	P		Pn		16 19 18.6	-0.3
	comp=Z,57μm,1.4s,comp=Z,562μm

QIZ pP **pP** **16 19 56.6 +0.3**
QIZ S **S** **16 24 03.8 0.0**
QIZ LR LR
comp=Z,1µm,12.6s
QIZ LR LR
comp=Z,1µm,12.2s
QIZ LR LR
comp=Z,2µm,12.0s
UBPT Khong Chiam **23.73 138** P **P** **16 19 50.3 +0.2**
comp=Z,39nm,0.9s
UBPT Khong Chiam **23.73 138** P **P** **16 19 49.2 -0.9**
UBPT IAmb IAmb 16 19 54.0
comp=Z,70nm,1.0s
GZH Guangzhou **23.78 111** *e*P **P** **16 19 53.4 +2.8**
GZH S **S** **16 24 08.1 +2.7**
GZH LR LR
comp=Z,710nm,8.2s
GZH LR LR
comp=Z,1µm,9.1s
NJ2 Nanjing **24.91 86** *e*P **P** **16 20 00.6 -0.4**
NJ2 S **S** **16 24 22.8 -0.8**
NJ2 pmax pmax
comp=Z,27nm,0.9s
NJ2 pmax pmax
comp=Z,670nm,4.3s
NJ2 LR LR
comp=Z,2µm,13.7s
NJ2 LR LR
comp=Z,2µm,13.3s
NJ2 LR LR
comp=Z,2µm,19.4s
GEYT Alibeck **25.40 288** P **P** **16 20 07.0 +1.6**
comp=Z,12nm,1.0s,baz=92,slow=10,SNR=13
GEYT LR LR 16 32 20.2
comp=Z,1µm,18.6s,baz=65,slow=42
GYA0B ALIBECK ARRAY **25.40 288** P **P** **16 20 05.6 +0.2**
GYA0B IAmb IAmb 16 20 13.8
comp=Z,24nm,1.0s
SURT Suratani **26.43 158** P **P** **16 20 17.6 +2.8**
comp=Z,19nm,1.0s
AB31 Akbulak array **26.45 314** *i*P **P** **16 20 14.5 -0.2**
AB31 pmax pmax
comp=Z,5.0nm,0.9s
ABKAR Akbulak array **26.45 314** P **P** **16 20 14.6 -0.1**
AKTO Aktyubinsk **28.07 315** P **P** **16 20 29.4 +0.1**
comp=Z,1.0nm,0.7s,baz=108,slow=9.6,SNR=2.7
AKTO LR LR 16 33 10.6
comp=Z,2µm,19.2s,baz=118,slow=40
CN2 Changchun **29.67 60** *e*P **P** **16 20 42.9 -0.7**
CN2 *e*S **S** **16 25 35.9 -2.6**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 LR LR
comp=Z,2µm,14.0s
CN2 LR LR
comp=Z,1µm,14.0s
CN2 LR LR
comp=Z,1µm,14.0s
SVE Sverdlovsk **30.00 328** *e*P **P** **16 20 47.0 +0.6**
SVE pmax pmax
comp=Z,9.0nm,0.9s
KULM Kulim **30.47 157** P **P** **16 20 49.2 -1.6**
KULM IAmb IAmb 16 20 52.5
comp=Z,26nm,1.0s
ARU Arti **30.70 326** *d* *i*P **P** **16 20 53.2 +0.7**
ARU 16 21 49.6
ARU S **S** **16 25 57.0 +2.6**
ARU SS **ScP** **16 27 29.2 -2.7**
ARU pmax pmax
comp=Z,20nm,2.9s
TJN Taejon **31.16 75**⇑ *e*P **P** **16 20 57.9 +1.1**
IPM Ipoh **31.35 157** P **P** **16 20 58.1 -0.6**
KSRS Korea Array **31.49 72** P **P** **16 20 58.7 -1.0**
comp=Z,7.0nm,1.0s,baz=261,slow=9.4,SNR=9.3
KSRS LR LR 16 34 29.9
comp=Z,755nm,18.4s,baz=278,slow=38
MDJ Mudanjiang **32.72 59** P **P** **16 21 09.9 -0.5**
USRK Ussuriysk Ar. **34.41 60** P **P** **16 21 24.5 -0.6**
comp=Z,9.4nm,1.1s,baz=280,slow=5.6,SNR=5.6
USRK LR LR 16 35 55.7
comp=Z,541nm,19.1s,baz=260,slow=37
KLR Kul'dur **34.78 51**⇓ *e*P **P** **16 21 28.3 0.0**
KLR pmax pmax
comp=Z,19nm,1.1s
MYKOM Kota Tinggi **34.84 154** P **P** **16 21 28.6 -0.5**
MYKOM IAmb IAmb 16 21 32.4
comp=Z,23nm,1.3s
PDSI Padang **36.29 161** P **P** **16 21 40.3 -1.3**
comp=Z,10nm,0.9s
KBZ Khabaz **36.92 299** LR LR 16 39 55.1
comp=Z,369nm,19.0s,baz=94,slow=41
KIV Kislovodsk **37.07 300** *e*P **P** **16 21 49.2 +1.1**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,466nm,16.0s
KKM Kota Kinabalu **37.41 132** P **P** **16 21 51.6 +0.4**
KSM Kuching **37.90 144** P **P** **16 21 55.3 +0.1**
KSM IAmb IAmb 16 22 39.3
comp=Z,22nm,1.2s
YAK Yakutsk **37.95 30** P **P** **16 21 55.0 -0.2**
YAK pmax pmax
comp=Z,17nm,0.9s
YAK Yakutsk **37.95 30** P **P** **16 21 55.0 -0.2**
comp=Z,6.3nm,0.3s,baz=68,slow=12,SNR=4.1
YAK Yakutsk **37.95 30** IAmb IAmb 16 21 59.4
comp=Z,17nm,0.9s
VRH Novokhopyorsk **38.20 311** *e*P **P** **16 21 56.3 -1.1**
VRH pmax pmax
comp=Z,9.0nm,0.9s
SOC Sochi **39.23 299** *e*P **P** **16 22 06.3 +0.1**
SOC *e* 16 23 35.7
SOC *e*S **S** **16 28 04.3 -1.6**
SOC MLR MLR
comp=Z,447nm,19.0s
RAYN Ar Rayn **39.44 266** P **P** **16 22 09.5 +1.3**
RAYN pmax pmax
comp=Z,12nm,1.0s
RAYN Ar Rayn **39.44 266** P **P** **16 22 09.5 +1.3**
STKI Sintang **39.69 144** P **P** **16 22 09.0 -1.3**
MAJO Matsushiro **39.76 72**⇓ *e*P **P** **16 22 12.1 +1.3**
MJAR Matsushiro Arr **39.76 72** P **P** **16 22 10.1 -0.7**
comp=Z,7.3nm,1.0s,baz=296,slow=11,SNR=5.0
MJAR LR LR 16 39 33.9
comp=Z,368nm,18.8s,baz=310,slow=38
VSR Storozhevoye **39.80 311** *e*P **P** **16 22 12.2 +1.4**
VSR pmax pmax
comp=Z,8.0nm,0.7s
LPSR Galich'ya Gora **40.10 313** *e*P **P** **16 22 13.7 +0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
ANN Anapa **40.81 301** *e*P **P** **16 22 16.1 -3.2**
ANN *e*S **S** **16 28 26.5 -2.9**
ANN pmax pmax
comp=Z,95nm,1.1s
OBN Obninsk **41.82 317** *e*P **P** **16 22 27.0 -0.4**
OBN *e* 16 24 24.2
OBN *e*PPP PPP 16 24 34.7
OBN pmax pmax
comp=Z,19nm,0.9s
ERM Erimo **42.67 63**⇓ *e*P **P** **16 22 32.1 -2.4**
ERM pmax pmax
comp=Z,68nm,1.3s
TIXI Tiksi **43.09 17**⇓ *e*P **P** **16 22 37.6 +0.1**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi **43.09 17** P **P** **16 22 37.4 -0.1**
BR131 Keskin Array S **44.22 294** P **P** **16 22 45.5 -1.8**
BR131 pmax pmax
comp=Z,8.0nm,1.0s
BR131 Keskin Array S **44.22 294** P **P** **16 22 45.5 -1.8**
BRTR Keskin Array B **44.22 294** *i*P **P** **16 22 47.7 +0.4**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
BRTR Keskin Array B **44.22 294** P **P** **16 22 47.0 -0.3**
comp=Z,5.6nm,0.8s,baz=92,slow=7.7,SNR=16
KPJI Karang Pucung **45.15 152** P **P** **16 22 53.4 -1.3**
comp=Z,36nm,0.8s
MRSI Marisa **45.30 130** P **P** **16 22 54.6 -1.3**
comp=Z,11nm,0.9s
SMRI Semarang **45.51 150** P **P** **16 22 56.2 -1.3**
comp=Z,367nm,1.7s
LVZ Lovozero **45.78 335** P **P** **16 22 58.5 -0.7**
LVZ pmax pmax
comp=Z,208nm,1.7s
LVZ Lovozero **45.78 335** P **P** **16 22 58.5 -0.7**

AKASG Malin Array Be **46.06 310** *i*P **P** **16 23 01.7 +0.1**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be **46.06 310** P **P** **16 23 00.9 -0.6**
comp=Z,3.2nm,0.8s,baz=80,slow=7.1,SNR=7.8
AKASG LR LR 16 44 29.6
comp=Z,586nm,20.6s,baz=80,slow=39
AKBB Malin Array Si **46.06 310** P **P** **16 23 01.7 +0.1**
AKBB pmax pmax
comp=Z,14nm,1.2s
AKBB Malin Array Si **46.06 310** P **P** **16 23 01.7 +0.1**
AKBB IAmb IAmb 16 23 12.4
comp=Z,14nm,1.1s
UGM Wanagama **46.32 150** P **P** **16 23 02.5 -1.4**
KMSI Cibinong **46.54 128** P **P** **16 23 04.4 -1.3**
comp=Z,69nm,1.0s
TTSI Tana Toraja **46.79 136** P **P** **16 23 06.4 -1.3**
comp=Z,22nm,0.9s
SORM Soroca **46.82 307**⇑ P **P** **16 23 06.7 -0.8**
PWJI Pagerwojo **46.96 149** P **P** **16 23 07.6 -1.3**
comp=Z,26nm,0.9s
CFR Carcaliu **47.33 303** P **P** **16 23 12.0 +0.4**
HARR Harsova **47.55 302** P **P** **16 23 13.9 +0.6**
FIA1 FINESS Array S **48.05 325** P **P** **16 23 16.5 -0.4**
FINES FINESS Array B **48.05 325** P **P** **16 23 16.7 -0.2**
comp=Z,2.8nm,0.7s,baz=101,slow=9.9,SNR=7.8
FINES LR LR 16 45 05.0
comp=Z,265nm,20.1s,baz=94,slow=38
TESR Tescani **48.16 305**⇑ P **P** **16 23 18.6 +0.5**
VRI Vrincioaia **48.21 304**⇑ P **P** **16 23 19.8 +1.4**
SEY Seymchan **48.23 33**⇑ *e*P **P** **16 23 18.4 +0.1**
PLOR Plostina **48.26 304**⇑ P **P** **16 23 20.3 +1.5**
JAGI Jajag, Banyuwa **48.41 146** P **P** **16 23 19.8 -0.4**
BIZ Bicaz **48.47 305**⇑ P **P** **16 23 20.5 +0.1**
MLR Muntele Rosu **48.81 303** P **P** **16 23 23.5 +0.3**
MLR pmax pmax
comp=Z,34nm,0.9s
MLR Muntele Rosu **48.81 303**⇑ P **P** **16 23 24.5 +1.3**
MLR mb 16 23 28.9
MLR Muntele Rosu **48.81 303** P **P** **16 23 23.5 +0.3**
BURAR Bucovina Array **48.98 306**⇑ P **P** **16 23 24.7 +0.2**
BURAR mb 16 23 38.6
BUR08 Bucovina Ar. S **48.98 306** P **P** **16 23 24.0 -0.5**
DOPR Dopca **49.11 304**⇑ P **P** **16 23 26.1 +0.7**
ARCES ARCESS Array B **49.43 335** P **P** **16 23 26.9 -0.6**
comp=Z,5.1nm,0.9s,baz=83,slow=7.4,SNR=3.2
ARCES LR LR 16 45 20.7
comp=Z,368nm,20.9s,baz=100,slow=37
VOIR **49.44 303**⇑ P **P** **16 23 28.4 +0.4**
LVV L'vov **49.46 309** *e*P **P** **16 23 26.7 -1.2**
LVV *e* 16 24 50.1
LVV *e* 16 25 23.0
LVV *e* 16 26 23.1
LVV *e*S **S** **16 30 34.1 -0.3**
LVV *e* 16 33 18.5
LVV *e* 16 35 27.3
LVV MLR MLR
comp=E,400nm,14.0s
LVV MLR MLR
comp=N,100nm,13.0s
LVV MLR MLR
comp=Z,300nm,14.0s
ARR Arges **49.74 303** P **P** **16 23 30.5 +0.3**
SANI Sanana **49.82 128** P **P** **16 23 28.2 -2.9**
comp=Z,8.8nm,0.9s
TRPA Tarpa **50.68 307**⇑ P **P** **16 23 37.9 +0.7**
TRPA mb 16 23 41.3
KOLS Kolonicke sedl **50.72 308** *e*P **P** **16 23 37.5 -0.1**
KOLS Kolonicke sedl **50.72 308** *e*P **P** **16 23 37.5 -0.1**
UZH Uzhgorod **50.76 308** *e*P **P** **16 23 42.0 +4.2**
UZH *e* 16 23 58.6
GZR Gura Zlata **51.02 304**⇑ P **P** **16 23 40.4 +0.5**
PETK Petropavlovsk- **51.14 46** LR LR 16 46 31.1
comp=Z,254nm,18.9s,baz=265,slow=38
VTS Vitosha **51.30 300** P **P** **16 23 41.8 -0.4**
VTS pmax pmax
comp=Z,6.0nm,0.9s
VTS Vitosha **51.30 300** P **P** **16 23 41.8 -0.4**
SIRR Siria **51.61 305**⇑ P **P** **16 23 44.9 +0.6**
MDVR Moldovita **51.88 303**⇑ P **P** **16 23 46.5 +0.1**
MMRI Maumere **52.72 137** P **P** **16 23 50.9 -1.9**
AGG Agios Georgios **52.90 296** P **P** **16 23 53.0 -1.0**
AGG pmax pmax
comp=Z,96nm,1.8s
AGG Agios Georgios **52.90 296** P **P** **16 23 53.0 -1.0**
VYHS Vyhne **53.04 308** *e*P **P** **16 23 55.8 +0.9**
VYHS Vyhne **53.04 308** *e*P **P** **16 23 55.8 +0.9**
KRLC Kraliky **54.03 311** *e*P **P** **16 24 01.8 -0.4**
KRLC MLR MLR
comp=Z,500nm,18.2s
KRLC Kraliky **54.03 311** *e*P **P** **16 24 01.8 -0.4**
KRLC AMS AMS 16 48 50.0
comp=Z,500nm,18.2s
BILL Bilibino **54.17 27** *e*P **P** **16 24 02.7 -0.1**
BILL *e* 16 24 10.7
BILL *e* 16 26 02.9
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL Bilibino **54.17 27** P **P** **16 24 02.9 +0.1**
BILL IAmb IAmb 16 24 08.2
comp=Z,14nm,1.2s
DPC Dobruska-Polom **54.27 311** *e*P **P** **16 24 03.9 0.0**
DPC MLR MLR
comp=Z,600nm,24.0s
DPC Dobruska-Polom **54.27 311** *e*P **P** **16 24 03.9 0.0**
DPC AMS AMS 16 49 00.0
comp=Z,600nm,24.0s
CHVC Chvalec **54.38 311** *e*P **P** **16 24 05.3 +0.6**
UPC Upice **54.43 311** *e*P **P** **16 24 05.6 +0.6**
UPC Upice **54.43 311** *e*P **P** **16 24 05.6 +0.6**
SOEI Soe **54.78 136** P **P** **16 24 06.6 -1.5**
comp=Z,109nm,0.9s
SOEI Soe **54.78 136** P **P** **16 24 06.2 -1.8**
BATI Baumata **54.80 137** LR LR 16 49 54.3
comp=Z,189nm,21.8s,baz=333,slow=39
NC405 NORSAR Array S **54.98 325** P **P** **16 24 08.3 -0.5**
CONA Conrad Observa **55.10 308** *i*P **P** **16 24 07.9 -2.1**
comp=Z,12nm,1.1s,SNR=6.0
NC602 NORSAR Array S **55.12 324** P **P** **16 24 08.8 -0.9**
NC303 NORSAR Array S **55.13 325** P **P** **16 24 09.1 -0.8**
NB201 NORSAR Array S **55.19 325** P **P** **16 24 09.2 -1.2**
NB2 NORSAR Subarra **55.23 325** P **P** **16 24 09.7 -0.9**
comp=Z,2.4nm,0.6s,baz=81,slow=7.4
NOA NORSAR Array B **55.23 325** P **P** **16 24 09.8 -0.9**
comp=Z,3.8nm,0.8s,baz=82,slow=7.2,SNR=14
NOA LR LR 16 49 37.1
comp=Z,406nm,19.4s,baz=80,slow=38
NC204 NORSAR Array S **55.41 325** P **P** **16 24 11.3 -0.6**
NAO01 NORSAR Array S **55.42 324** P **P** **16 24 11.1 -0.9**
PRU Pruhonice **55.46 311** AMS AMS 16 49 40.0
comp=Z,600nm,19.5s
ARSA Arzberg **55.49 308** *i*P **P** **16 24 12.4 -0.4**
comp=Z,5.7nm,1.1s
GROS Grobnik **55.71 307** *i*P **P** **16 24 14.0 -0.4**
SOKA Soboth **55.97 307** *i*P **P** **16 24 16.1 -0.1**
comp=Z,8.4nm,0.7s
CLL Collm **56.11 313** *e*S **S** **16 32 14.0 +8.9**
CLL *e*SS **SS** **16 36 00.0 +9.0**
MOA Molln **56.16 308** *i*P **P** **16 24 17.1 -0.5**
comp=Z,7.8nm,1.2s
GEC2 GERESS Array S **56.27 310** P **P** **16 24 18.1 -0.3**
GEC2 IAmb IAmb 16 24 21.3
comp=Z,10nm,1.0s
GERES GERESS Array B **56.27 310** P **P** **16 24 18.3 -0.1**
comp=Z,4.5nm,0.8s,baz=79,slow=6.9,SNR=24
GERES LR LR 16 50 40.1
comp=Z,581nm,21.5s,baz=80,slow=38
KHC Kasperske Hory **56.28 310**⇓ *e*P **P** **16 24 18.4 0.0**
KHC pmax pmax
comp=Z,27nm,2.5s
KHC Kasperske Hory **56.28 310** *e*P **P** **16 24 16.1 -2.3**
KHC Kasperske Hory **56.28 310** P **P** **16 24 18.6 +0.2**
CEY Cerknica **56.63 306** *i*P **P** **16 24 20.7 -0.2**
TRI Trieste **57.08 306** P **P** **16 24 22.9 -1.1**
TRI pmax pmax
comp=Z,16nm,0.7s
TRI Trieste **57.08 306** P **P** **16 24 22.9 -1.1**
TRI IAmb IAmb 16 24 24.3
comp=Z,16nm,0.7s
STAL STALIGIAL **57.62 307** P **P** **16 24 26.8 -1.2**
STAL IAmb IAmb 16 24 29.3
comp=Z,13nm,1.1s
SAUI Saumlaki **57.74 128** P **P** **16 24 28.0 -1.0**
WTTA Wattenberg **58.04 308** *i*P **P** **16 24 30.8 -0.3**
comp=Z,13nm,0.9s
SQTA Sankt Quirin **58.33 308** *i*P **P** **16 24 32.3 -0.7**
comp=Z,5.9nm,0.5s
MOTA Moosalm **58.36 309** *i*P **P** **16 24 33.4 +0.2**
comp=Z,14nm,1.1s
CTI Castel Tesino **58.39 307** P **P** **16 24 32.1 -1.3**
CTI pmax pmax
comp=Z,21nm,1.6s
CTI Castel Tesino **58.39 307** P **P** **16 24 32.1 -1.3**
CTI IAmb IAmb 16 24 48.8
comp=Z,21nm,1.6s
NRCA Norcia **58.40 303** P **P** **16 24 33.0 -0.5**
NRCA IAmb IAmb 16 24 37.4
comp=Z,7.8nm,0.8s
RETA Reutte **58.54 309** *i*P **P** **16 24 33.6 -0.8**
comp=Z,11nm,1.1s
TEOL Teolo **58.59 306** P **P** **16 24 33.1 -1.6**
TEOL IAmb IAmb 16 24 37.1
comp=Z,20nm,0.8s
MURB Monte Urbino **58.67 304** P **P** **16 24 34.0 -1.3**
FETA Feichten **58.70 308** *i*P **P** **16 24 34.6 -1.0**
comp=Z,6.0nm,0.8s,SNR=7.1
FUORN Ofenpass-Fuorn **59.13 308** P **P** **16 24 37.6 -1.1**
FUORN IAmb IAmb 16 24 40.0
comp=Z,7.7nm,0.9s
DAVA Damuels **59.17 309** *i*P **P** **16 24 38.6 -0.3**
comp=Z,9.3nm,1.0s
SALO Salr **59.27 307** P **P** **16 24 38.6 -0.9**
SALO IAmb IAmb 16 24 52.8
comp=Z,12nm,0.7s
TUE Stuetta **59.78 308** P **P** **16 24 41.8 -1.3**
TUE IAmb IAmb 16 24 47.0
comp=Z,8.3nm,0.7s
VLC Villacollemand **59.84 305** P **P** **16 24 42.8 -0.6**
VLC IAmb IAmb 16 25 54.4
comp=Z,7.8nm,1.0s
KMBO Kilima Mbogo **59.91 245** P **P** **16 24 43.6 -0.9**
KMBO pmax pmax
comp=Z,5.0nm,1.2s
KMBO Kilima Mbogo **59.91 245** P **P** **16 24 44.0 -0.5**
comp=Z,2.0nm,0.8s,baz=52,slow=9.2,SNR=6.5
KMBO Kilima Mbogo **59.91 245** P **P** **16 24 43.6 -0.9**
ECH Echery **60.62 311** P **P** **16 24 47.6 -1.1**
ECH pmax pmax
comp=Z,32nm,1.8s
ECH Echery **60.62 311** P **P** **16 24 47.6 -1.1**
ECH IAmb IAmb 16 26 44.1
comp=Z,32nm,1.8s
DAG Danmarks Havn **61.13 346** *i*P **P** **16 24 51.2 -0.4**
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn **61.13 346** *i*P **P** **16 24 51.2 -0.4**
comp=Z,3.0nm,0.8s
SENIN Lac Senin/Sane **61.15 308** P **P** **16 24 51.6 -1.0**
SENIN IAmb IAmb 16 24 56.7
comp=Z,12nm,0.8s
BNI Bardonecchia **62.02 307** P **P** **16 24 57.4 -0.9**
BNI pmax pmax
comp=Z,10.0nm,1.1s
BNI Bardonecchia **62.02 307** P **P** **16 24 57.4 -0.9**
BNI IAmb IAmb 16 25 05.9
comp=Z,10nm,1.1s
FITZ Fitzroy Crossi **62.36 140** P **P** **16 24 59.7 -1.0**
FITZ IAmb IAmb 16 25 06.4
comp=Z,5.6nm,1.0s
KEST Kesra **63.73 297** LR LR 16 57 57.8
comp=Z,109nm,20.5s,baz=244,slow=41
RDOG Red Dog Mine **65.19 23** P **P** **16 25 17.9 -0.9**
RDOG IAmb IAmb 16 25 55.8
comp=Z,37nm,2.0s
SUMG Summit **67.81 345** *i*P **P** **16 25 35.7 -0.2**
SUMG pmax pmax
comp=Z,19nm,1.0s
SUMG Summit **67.81 345** *i*P **P** **16 25 35.7 -0.2**
comp=Z,19nm,1.0s
WRAB Tennant Creek **68.73 134**⇓ *e*P **P** **16 25 42.2 +0.3**
WRAB pmax pmax
comp=Z,10.0nm,1.1s
WRA Warramunga Arr **68.74 134** P **P** **16 25 41.1 -0.8**
comp=Z,4.7nm,0.9s,baz=330,slow=6.2,SNR=24
WRA LR LR 16 58 41.6
comp=Z,38nm,21.2s,baz=280,slow=38
WB2 Warramunga Arr **68.74 134** P **P** **16 25 40.5 -1.4**
WB2 IAmb IAmb 16 25 55.6
comp=Z,7.4nm,0.9s
TULEG Thule **68.88 355** P **P** **16 25 40.7 -1.3**
TULEG IAmb IAmb 16 25 58.0
comp=Z,13nm,0.8s
KRVT Keravat (AS076 **70.32 110** P **P** **16 25 52.0 +0.2**
comp=Z,4.4nm,0.3s,baz=217,slow=20,SNR=2.2
AS31 Alice Springs **71.38 137** P **P** **16 25 56.7 -1.3**
ASAR Alice Springs **71.38 137** P **P** **16 25 56.7 -1.4**
comp=Z,4.1nm,0.9s,baz=325,slow=6.4,SNR=24
ASAR LR LR 17 01 15.3
comp=Z,78nm,19.5s,baz=316,slow=39
ESDC Sonseca Array **71.43 306** P **P** **16 25 57.7 -0.6**
comp=Z,3.6nm,0.8s,baz=54,slow=6.5,SNR=16
ESDC LR LR 17 03 34.6
comp=Z,121nm,18.1s,baz=85,slow=41
BPAW Bear Paw Mtn. **71.44 24** P **P** **16 25 58.2 +0.3**
BPAW IAmb IAmb 16 26 53.8
comp=Z,9.6nm,0.8s
PPLA Purkeypile **71.80 25** P **P** **16 26 00.0 -0.3**
PPLA IAmb IAmb 16 26 03.4
comp=Z,16nm,0.7s
KTH Kantishna Hill **71.81 24** P **P** **16 26 00.4 +0.1**
KTH IAmb IAmb 16 26 03.0
comp=Z,12nm,0.9s
COLA College **71.93 22***ce*P **P** **16 26 02.3 +1.5**
COLA pmax pmax
comp=Z,25nm,1.0s
COLA College **71.93 22** P **P** **16 26 00.7 -0.1**
COLA IAmb IAmb 16 26 03.5
comp=Z,24nm,1.0s
CCB Clear Creek Bu **72.10 22** P **P** **16 26 02.1 +0.2**
CCB IAmb IAmb 16 26 07.6
comp=Z,8.8nm,1.1s
ILAR Eielson Array **72.31 22** P **P** **16 26 02.6 -0.4**
comp=Z,8.3nm,1.0s,baz=304,slow=5.0,SNR=40
SKT Skwentna **72.63 26** P **P** **16 26 04.6 -0.5**
INK Inuvik **73.17 15** P **P** **16 26 06.9 -1.2**
comp=Z,8.9nm,1.0s,baz=330,slow=5.8,SNR=16
INK Inuvik **73.17 15** P **P** **16 26 07.7 -0.4**
INK IAmb IAmb 16 26 11.1
comp=Z,10.0nm,1.1s
SUA Susitna One **73.25 26** P **P** **16 26 08.3 -0.6**
RIDG Independent Ri **73.67 22** P **P** **16 26 11.3 +0.1**
RIDG IAmb IAmb 16 26 14.1
comp=Z,13nm,0.9s
PMR Palmer **73.74 25** P **P** **16 26 11.3 -0.3**
PMR pmax pmax
comp=Z,14nm,1.0s
PMR Palmer **73.74 25** P **P** **16 26 11.3 -0.3**
PMR IAmb IAmb 16 26 13.6
comp=Z,14nm,1.0s
RC01 Rabbit Creek A **73.87 26** P **P** **16 26 12.4 0.0**
EPYK Eagle Plains **73.97 18** P **P** **16 26 12.3 -0.7**
EPYK IAmb IAmb 16 26 14.8
comp=Z,9.3nm,1.1s
EGAK Eagle **74.01 20** P **P** **16 26 12.9 -0.3**
EGAK IAmb IAmb 16 26 17.0
comp=Z,7.4nm,1.0s
KNK Knik Glacier **74.10 25** P **P** **16 26 10.3 -3.5**
SCM Sheep Creek Mo **74.20 24** P **P** **16 26 13.6 -0.8**
SCM Sheep Creek Mo **74.20 24** P **P** **16 26 13.6 -0.8**
SCM IAmb IAmb 16 26 17.4
comp=Z,22nm,0.9s
MCARA McCarthy VSAT **75.96 23** P **P** **16 26 24.1 -0.4**
MCARA IAmb IAmb 16 26 28.6
comp=Z,22nm,1.0s
CTA Charters Tower **76.43 126** P **P** **16 26 27.1 -0.6**
comp=Z,7.0nm,0.9s,baz=307,slow=9.5,SNR=8.1
TOA0 Torodi Ar. Sit **80.73 280** P **P** **16 26 50.5 -1.1**
TOA0 IAmb IAmb 16 26 52.9
comp=Z,7.5nm,1.1s
TORD Torodi Ar. Bea **80.73 280** P **P** **16 26 50.9 -0.7**
comp=Z,4.5nm,0.9s,baz=54,slow=4.8,SNR=17
TORD LR LR 17 07 05.2
comp=Z,119nm,18.3s,baz=15,slow=39
YKA Yellowknife Ar **81.97 11** P **P** **16 26 55.7 -1.6**
comp=Z,1.0nm,0.8s,baz=336,slow=6.3,SNR=7.1
STKA Stephens Creek **82.02 137** P **P** **16 26 56.5 -1.4**
comp=Z,6.0nm,0.8s,baz=338,slow=5.8,SNR=9.6
STKA LR LR 17 09 12.1
comp=Z,36nm,20.4s,baz=314,slow=40
STKA Stephens Creek **82.02 137** P **P** **16 26 56.2 -1.8**

EIDS	**Eidsvold**	**83.28**	**127**	P	**P**	**16 27 04.0**	**-0.7**
EIDS				IAmb	IAmb	16 27 08.1	
	comp=Z,6.4nm,0.8s						
LBTB	**Lobatse**	**84.19**	**235**	P	**P**	**16 27 08.6**	**-0.9**
LBTB				pmax	pmax		
	comp=Z,35nm,1.5s						
LBTB	**Lobatse**	**84.19**	**235**	P	**P**	**16 27 08.6**	**-0.9**
BOSA	**Boshof**	**86.79**	**232**	P	**P**	**16 27 21.9**	**-0.6**
	comp=Z,13nm,0.9s,baz=39,slow=5.4,SNR=12						
BOSA				LR	LR	17 04 22.5	
	comp=Z,45nm,20.6s,baz=34,slow=34						
BOSA	**Boshof**	**86.79**	**232**	P	**P**	**16 27 21.6**	**-0.8**
SCHQ	**Schefferville**	**89.17**	**346**	LR	LR	17 12 36.9	
	comp=Z,83nm,18.5s,baz=28,slow=39						
DBIC	**Dimbokro**	**89.66**	**278**	LR	LR	17 11 34.9	
	comp=Z,132nm,20.4s,baz=38,slow=38						
FFC	**Flin Flon**	**91.13**	**6**	*i* P	**P**	**16 27 44.7**	**+2.2**
DZM	**Mont Dzumac**	**92.17**	**115**	*e*LR	LR	16 57 30.8	
	comp=Z,156nm,26.0s						
ULM	**Lac du Bonnet**	**96.01**	**3**	LR	LR	17 15 26.9	
	comp=Z,76nm,18.6s,baz=22,slow=38						
SNAA	**Sanae**	**122.49**	**202**	PKPdf	**PKPdf**	**16 33 30.5**	**-1.7**
QSPA	**South Pole Qui**	**123.77**	**180**		**PKPdf**	**16 33 34.8**	**0.0**
VNA2	**Neumayer--Watz**	**123.83**	**203**	PKPdf	**PKPdf**	**16 33 34.2**	**-0.5**
	baz=55,slow=4.0						
VNA1	**Neumayer--Stat**	**124.09**	**204**	PKPdf	**PKPdf**	**16 33 35.0**	**-0.2**
VNA3	**Neumayer Olymp**	**124.60**	**203**	PKPdf	**PKPdf**	**16 33 36.1**	**-0.2**
PPT2	**Papeete2**	**125.31**	**88**	*e*LR	LR	17 12 50.4	
	comp=Z,295nm,30.5s						
TBI	**Tubuai**	**128.07**	**94**	*e*LR	LR	17 14 05.1	
	comp=Z,115nm,25.2s						
SAML	**Samuel**	**144.42**	**308**	PKIKP	**PKPab**	**16 34 12.3**	**-0.6**
SAML	**Samuel**	**144.42**	**308**		**PKPab**	**16 34 12.3**	**-0.6**
CPUP	**Villa Florida**	**150.16**	**276**	PKP	**PKPdf**	**16 34 24.3**	**+0.3**
	comp=Z,5.7nm,0.9s,baz=0.6,slow=0.9,SNR=8.6						
CPUP				PKPbc	**PKPbc**	**16 34 27.4**	**-1.6**
	comp=Z,5.7nm,0.9s,baz=81,slow=2.9,SNR=8.6						
CPUP	**Villa Florida**	**150.16**	**276**		**PKPbc**	**16 34 27.2**	**-1.9**
LPAZ	**La Paz**	**153.05**	**305**	PKPbc	**PKPbc**	**16 34 34.9**	**-1.9**
	comp=Z,0.8nm,0.6s,baz=218,slow=1.0,SNR=3.5						

*NEIC **11** 16:29:52.9±1.7, 25°.4S±0°.1×179°.2E±0°.2, h550km±11km, mb4.5/18*
*IDC **11** 16:30:05.8±18.0, 24°.69S×178°.11E, h644km±175km, mb3.3/5, mb1 3.4/5, mb1mx3.0/27, mbtmp4.5/5, Error ellipse: s-maj=162.2km s-min=84.7km az=85.0*
ISC 11 16:29:48.9±1.7, **25°.1S**±0°.1×**179°.8W**±0°.2, **h600km**, **n26**, σ1§**39**/24, **mb4.4**/12, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUNA	**Funafuti**	**16.54**	**357**	P	**P**	**16 33 13.2**	**+1.8**
QRZ	**Quartz Range**	**16.90**	**200**	P	**P**	**16 33 16.2**	**+1.9**
CMWZ	**Cape Campbell**	**17.29**	**195**	P	**P**	**16 33 14.8**	**-3.1**
THZ	**Tophouse**	**17.65**	**198**	P	**P**	**16 33 22.3**	**+1.1**
THZ				IAmb	IAmb	16 33 40.9	
	comp=Z,14nm,1.1s						
KHZ	**Kahutara**	**18.09**	**196**	P	**P**	**16 33 24.9**	**-0.2**
KHZ				IAmb	IAmb	16 33 47.2	
	comp=Z,22nm,1.4s						
LTZ	**Lake Taylor**	**18.77**	**198**	P	**P**	**16 33 33.0**	**+1.6**
LTZ				IAmb	IAmb	16 33 58.8	
	comp=Z,29nm,1.5s						
KNTN	**Kanton**	**23.56**	**21**	P	P	16 34 27.2	+13
ARMA	**Armidale**	**25.76**	**252**	P	**P**	**16 34 33.9**	**0.0**
CTA	**Charters Tower**	**31.65**	**272**	P	**P**	**16 35 24.1**	**-0.8**
	comp=Z,5.4nm,0.3s,baz=94,slow=11,SNR=10						
STKA	**Stephens Creek**	**34.42**	**250**	P	**P**	**16 35 48.6**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=88,slow=9.7,SNR=11						
STKA	**Stephens Creek**	**34.42**	**250**	P	**P**	**16 35 48.3**	**+0.3**
COEN	**Coen**	**36.48**	**281**	P	**P**	**16 36 04.4**	**-0.8**
COEN				IAmb	IAmb	16 36 18.2	
	comp=Z,11nm,1.4s						
BBOO	**Buckleboo**	**39.12**	**248**	P	**P**	**16 36 26.2**	**-0.2**
BBOO				IAmb	IAmb	16 36 29.0	
	comp=Z,24nm,1.4s						
AS31	**Alice Springs**	**42.00**	**262**	P	**P**	**16 36 49.1**	**-0.3**
ASAR	**Alice Springs**	**42.00**	**262**	P	**P**	**16 36 49.2**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=92,slow=7.0,SNR=151						
WB2	**Warramunga Arr**	**42.48**	**267**	P	**P**	**16 36 52.2**	**-0.9**
WB2				IAmb	IAmb	16 36 52.6	
	comp=Z,6.1nm,0.5s						
WRA	**Warramunga Arr**	**42.49**	**267**	P	**P**	**16 36 52.6**	**-0.7**
	comp=Z,3.6nm,0.3s,baz=100,slow=7.0,SNR=98						
FORT	**Forrest**	**46.04**	**251**	P	**P**	**16 37 19.8**	**-0.5**
FORT				IAmb	IAmb	16 37 29.3	
	comp=Z,11nm,0.9s						
KNRA	**Kununurra**	**48.84**	**271**	P	**P**	**16 37 41.3**	**-0.1**
KNRA				IAmb	IAmb	16 37 41.8	
	comp=Z,8.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**50.90**	**267**	P	**P**	**16 37 57.2**	**+0.9**
	comp=Z,2.4nm,0.6s,baz=72,slow=3.4,SNR=12						
FITZ	**Fitzroy Crossi**	**50.90**	**267**	P	**P**	**16 37 56.6**	**+0.3**
PSA00	**Pilbara Seismi**	**55.10**	**260**	P	**P**	**16 38 26.2**	**+0.1**
PSA00				IAmb	IAmb	16 38 48.8	
	comp=Z,29nm,1.4s						
MORW	**Morawa**	**56.60**	**251**	P	**P**	**16 38 37.4**	**+1.1**
MORW				IAmb	IAmb	16 38 37.7	
	comp=Z,19nm,1.2s						
WAX	**Waxell Ridge**	**90.45**	**17**	P	P	16 41 56.0	+8.8
BRTR	**Keskin Array B**	**148.43**	**306**	PKPbc	**PKPab**	**16 48 36.6**	**+1.7**
	comp=Z,0.9nm,0.9s,baz=122,slow=1.9,SNR=3.5						
CLL	**Collm**	**152.07**	**343**	*e*PKPbc	**PKPab**	**16 48 46.0**	**-3.6**

*IDC **11** 16:32:40.7±1.0, 0°.28S×125°.14E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/40, mbtmp3.7/6, Error ellipse: s-maj=58.8km s-min=20.0km az=68.0*
*ISCJB **11** 16:32:44.4±0.4, 0°.38S±0°.05×125°.21E±0°.04, h52km, mb3.6/6, Error ellipse: s-maj=7.4km s-min=4.9km az=16.5*
*DJA **11** 16:32:44.2±1.2, 0°.5S×12°.5E±°, h26km±11km, M3.9/11, mb4.1/4, mB4.5/1, MLv3.8/11, Mw(mB)3.6/1*
ISC 11 16:32:46.4±0.9, **0°.38S**±0°.06×**125°.23E**±0°.04, **h52km**, **n16**, σ1§**48**/20, **mb3.8**/6, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.57**	**307**	P	**Pn**	**16 33 10.3**	**-1.6**
KMSI				S	Sn	16 33 30.4	-0.8
SANI	**Sanana**	**1.82**	**155**	P	**Pn**	**16 33 13.6**	**-1.8**
SANI				S	Sn	16 33 37.1	-0.2
LBMI	**Labuha**	**2.28**	**96**	P	**Pn**	**16 33 19.8**	**-1.9**
LBMI				S	Sn	**16 33 47.6**	**-1.0**
TNTI	**Ternate**	**2.42**	**62**	P	**Pn**	**16 33 22.6**	**-1.0**
TNTI				S	Sn	**16 33 51.0**	**-1.1**
LUWI	**Luwuk**	**2.55**	**255**	P	**Pn**	**16 33 23.1**	**-2.2**
NLAI	**Namlea**	**3.40**	**147**	P	**Pn**	**16 33 35.5**	**-1.5**
MRSI	**Marisa**	**3.40**	**285**	P	**Pn**	**16 33 35.7**	**-1.3**
APSI	**Ampana**	**3.62**	**262**	P	**Pn**	**16 33 39.0**	**-1.0**
MPSI	**Mapaga**	**5.38**	**278**	P	**Pn**	**16 34 02.9**	**-1.3**
	13nm,0.7s,423nm0.1nm						
TTSI	**Tana Toraja**	**6.02**	**244**	P	**Pn**	**16 34 11.6**	**-1.4**
WRA	**Warramunga Arr**	**21.39**	**156**	P	**P**	**16 37 31.4**	**+1.5**
	0.6nm,0.7s,baz=333,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**24.63**	**161**	P	**P**	**16 38 04.4**	**+2.2**
	0.3nm,0.8s,baz=348,slow=8.5,SNR=3.3						
PETK	**Petropavlovsk-**	**59.78**	**22**	P	**P**	**16 42 46.9**	**+0.9**
	6.1nm,0.9s,baz=231,slow=9.1,SNR=2.5						
MKAR	**Makanchi Array**	**60.12**	**327**	P	**P**	**16 42 48.4**	**-0.2**
	0.4nm,0.4s,baz=121,slow=8.0,SNR=11						
ZALV	**Zalesovo Beam**	**63.59**	**335**	P	**P**	**16 43 12.0**	**+0.3**
	0.3nm,0.3s,baz=114,slow=8.2,SNR=2.9						
KURBB	**Kurchatov Arra**	**64.42**	**329**	P	**P**	**16 43 18.9**	**+1.7**
	0.5nm,0.7s,baz=137,slow=6.5						

*ISCJB **11** 17:00:02.5±0.9, 8°.27N±0°.05×82°.95W±0°.03, h16km±6km, Error ellipse: s-maj=8.5km s-min=2.9km az=26.3*
*UPA **11** 17:00:04.1±1.1, 8°.38N×82°.90W, h16km±2km, MW4.4*
*UCR **11** 17:00:04.0±1.8, 8°.37N×82°.92W, h16km±4km*
ISC 11 17:00:02.4±1.5, **8°.32N**±0°.06×**82°.95W**±0°.03, **h14km**±10km, **n31**, σ0§**93**/56, **4C-5D**, **Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDSV	**San Vito**	**0.50**	**358**	*e*P	**Pb**	**17 00 13.4**	**+0.3**
DVD	**David**	**0.51**	**76**	⇓*i*P	**Pb**	**17 00 13.4**	**+0.3**
DVD				*e*S	**Sg**	**17 00 20.0**	**+0.7**
DVD	**David**	**0.51**	**76**	⇓*i*P	**Pb**	**17 00 13.4**	**+0.3**
DVD				*e*S	**Sg**	**17 00 20.0**	**+0.7**
LOCO3	**Loma Colorada,**	**0.54**	**80**	⇑*i*P	**Pb**	**17 00 13.9**	**+0.3**
LOCO3				*e*S	**Sb**	**17 00 21.9**	**+0.7**
BRU2	**Volcan**	**0.54**	**28**	⇑*i*P	**Pb**	**17 00 14.1**	**+0.3**
BRU2				*e*S	**Sb**	**17 00 22.1**	**+0.5**
BRU2	**Volcan**	**0.54**	**28**	⇑*i*P	**Pb**	**17 00 14.1**	**+0.3**
BRU2				*e*S	**Sb**	**17 00 22.1**	**+0.5**
BCO2	**Palmira**	**0.58**	**46**	⇓*i*P	**Pb**	**17 00 14.7**	**+0.2**
BCO2				*e*S	**Sb**	**17 00 23.0**	**+0.3**
CHIR3	**Chiriqui UPA,**	**0.62**	**83**	⇑*i*P	**Pb**	**17 00 15.0**	**-0.1**
CHIR3				*e*S	**Sb**	**17 00 23.7**	**+0.1**
EDPN	**Palmar Norte**	**0.81**	**322**	*e*P	**Pg**	**17 00 17.7**	**-0.5**
EDPN				*e*S	**Sb**	**17 00 29.4**	**+0.2**
CHGR2	**Aguacate**	**1.01**	**52**	*e*P	**Pb**	**17 00 21.0**	**-0.7**
CHGR2				*e*S	**Sb**	**17 00 34.1**	**-0.8**
EDLM	**Las Mercedes**	**1.15**	**327**	*e*P	**Pb**	**17 00 23.0**	**-1.1**
EDLM				*e*S	**Sg**	**17 00 39.5**	**0.0**
CNI2	**El Empalme, Bo**	**1.20**	**23**	*e*P	**Pn**	**17 00 24.0**	**-0.8**
CNI2				*e*S	**Sb**	**17 00 38.5**	**-1.8**
NANC3	**Nancito, Chiri**	**1.21**	**93**	*e*P	**Pn**	**17 00 23.9**	**-1.0**
NANC3				*e*S	**Sb**	**17 00 39.9**	**-0.7**
EDDO	**Dominical**	**1.30**	**316**	*e*P	**Pn**	**17 00 25.4**	**-0.7**
EDDO				*e*S	**Sn**	**17 00 43.6**	**+0.3**
LCR2	**La Lucha 2**	**1.76**	**324**	*e*P	**Pn**	**17 00 32.1**	**-0.6**
LCR2				*e*S	**Sn**	**17 00 55.5**	**+0.5**
GMAL	**Guarumal, Vera**	**1.79**	**108**	*e*P	**Pn**	**17 00 32.3**	**-0.6**
GMAL				*e*S	**Sn**	**17 00 55.2**	**-0.2**
CVTR	**Volcan Turrial**	**1.87**	**335**	*e*P	**Pn**	**17 00 34.7**	**+0.3**
CVTR				*e*S	**Sb**	**17 00 59.4**	**-0.7**
HDC	**Heredia**	**2.03**	**326**	⇓*i*P	**Pn**	**17 00 37.7**	**+1.4**
HDC				*e*S	**Sb**	**17 01 03.8**	**-0.7**
HDC	**Heredia**	**2.03**	**326**	⇓*i*P	**Pn**	**17 00 37.7**	**+1.4**
HDC				*e*S	**Sb**	**17 01 03.8**	**-0.7**
CACAO	**El Cacao, Vera**	**2.28**	**115**	*e*P	**Pn**	**17 00 39.5**	**-0.2**
CACAO				*e*S	**Sn**	**17 01 08.6**	**+0.9**
SRA1	**San Ramn**	**2.32**	**319**	*e*P	**Pn**	**17 00 41.8**	**+1.5**
SRA1				*e*S	**Sb**	**17 01 11.7**	**-1.0**
AZU	**Azuero**	**2.70**	**101**	*e*P	**Pn**	**17 00 46.6**	**+1.2**
AZU				*e*S	**Sn**	**17 01 17.9**	**-0.1**
AZU	**Azuero**	**2.70**	**101**	*e*P	**Pn**	**17 00 47.2**	**+1.8**
AZU				*e*S	**Sn**	**17 01 17.9**	**-0.1**
ARE1	**Arenal 1**	**2.75**	**321**	*e*P	**Pn**	**17 00 47.9**	**+1.7**
CEDE	**Laguna Cedeo**	**2.77**	**321**	*e*P	**Pn**	**17 00 48.0**	**+1.5**
JTS	**Las Juntas de**	**2.79**	**315**	*e*P	**Pn**	**17 00 48.3**	**+1.7**
JTS				*e*S	**Sn**	**17 01 19.5**	**-0.6**
JTS	**Las Juntas de**	**2.79**	**315**	*e*P	**Pn**	**17 00 48.3**	**+1.7**
JTS				*e*S	**Sn**	**17 01 19.5**	**-0.6**
VTON	**El Valle, Cocl**	**2.82**	**84**	*e*P	**Pb**	**17 00 51.2**	**-1.4**
VTON				*e*S	**Sn**	**17 01 21.0**	**-0.2**
PLVR	**Palo Verde**	**3.11**	**311**	*e*P	**Pn**	**17 00 52.0**	**+0.7**
CUI	**Cuipilapa**	**3.19**	**317**	*e*P	**Pn**	**17 00 53.6**	**+1.4**
BUEV	**Buena Vista**	**3.46**	**316**	*e*P	**Pn**	**17 00 57.7**	**+1.8**

SJA 11 17:08:53.3±0.3, **30°.46S**×**69°.43W**, **h21km**±1km, **ML2.1, MW2.8, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AROD	**Rodeo**	**0.29**	**352**	*e*P	Pb	17 09 01.1	+0.8
AROD				*e*S	Sb	17 09 06.3	+1.7
ACCO	**Cerro Coronel**	**0.34**	**112**	*e*P	Pb	17 09 01.7	+0.9
ACCO				*e*S	Sn	17 09 08.0	-1.7
ACCO	**Cerro Coronel**	**0.34**	**112**	*i* P	Pn	17 09 02.6	-0.6
ACCO				*i* Sg	Sn	17 09 09.3	-0.3
ACCO				IAML		17 09 10.7	
	comp=Z,146nm,0.1s						
ACDV	**Cuesta del Vie**	**0.39**	**43**	*e*P	Pb	17 09 02.1	+0.6
ACDV				*e*S	Sb	17 09 08.7	+1.6
AMOG	**MOGNA**	**0.94**	**121**	*e*P	Pn	17 09 11.5	+0.3
AMOG	**MOGNA**	**0.94**	**121**	*i* P	Pn	17 09 11.3	+0.1
AMOG				*i* Sg	Sn	17 09 23.8	-0.3
AMOG				IAML		17 09 26.1	
	comp=Z,21nm,0.3s						
RTLL	**Cerro Villicun**	**1.19**	**137**	*i* P	Pb	17 09 15.6	+0.3
RTLL				IAML		17 09 32.4	
	comp=Z,25nm,0.4s						
RTLS	**Leoncito**	**1.34**	**175**	IAML		17 09 38.4	
	comp=Z,17nm,0.4s						
RTLS	**Leoncito**	**1.34**	**175**	*i* P	Pb	17 09 18.4	+0.5
RTLS				IAML		17 09 38.8	
	comp=Z,20nm,0.8s						
CFA	**Coronel Fontan**	**1.53**	**139**	*i* P	Pb	17 09 20.3	-0.7
VCA	**Vinchina**	**2.02**	**32**	*e*P	Pb	17 09 28.7	-0.7
VCA				IAML		17 09 58.0	
	comp=Z,28nm,0.2s						
ASAL	**Salagasta**	**2.18**	**167**	*e*P	Pb	17 09 30.9	-1.3
ASAL	**Salagasta**	**2.18**	**167**	*i* P	Pn	17 09 29.5	+1.0
ASAL				IAML		17 10 04.0	
	comp=Z,11nm,0.5s						
ACLC	**CERRO LA CRUZ**	**2.38**	**65**	*i* P	Pn	17 09 33.4	+2.1
APLL	**PUNTA DE LOS L**	**2.50**	**89**	*e*P	Pb	17 09 35.5	-2.1
APLL	**PUNTA DE LOS L**	**2.50**	**89**	*i* P	Pn	17 09 34.5	+1.6
ROC1	**El Roble**	**2.85**	**208**	*i* P	Pn	17 09 40.5	+2.7

*RHSSO **11** 17:09:24.4±0.6, 42°.96N×20°.34E, h3km±3km, ML2.6/9*
*BEO **11** 17:09:24.6±0.2, 42°.93N×20°.38E, h0km, ML2.5/15*
*PDG **11** 17:09:25.4±0.1, 42°.94N×20°.23E, h12km, MD2.6/1, ML2.5/8, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
ISC 11 17:09:23.0±1.1, **42°.92N**±0°.02×**20°.37E**±0°.01, **h5km**±9km, **n64**, σ1§**07**/114, **12C-15D**, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IVA	**Berane**	**0.35**	**262**	⇓*i*Pg	**Pb**	**17 09 30.6**	**-1.2**
IVA				*e*Sg	**Sg**	**17 09 35.5**	**+1.1**
SJES	**Sjenica**	**0.45**	**320**	*e*Pg	**Pg**	**17 09 32.0**	**+0.4**
SJES				*e*Sg	**Sg**	**17 09 38.1**	**+0.6**
SELS	**Selova**	**0.63**	**61**	*e*Pg	**Pg**	**17 09 35.1**	**+0.1**
SELS				*e*Sg	**Sg**	**17 09 43.4**	**+0.2**
KOME	**Kolasin**	**0.63**	**264**	⇓*i*Pg	**Pb**	**17 09 35.6**	**-0.9**
KOME				*e*Sg	**Sb**	**17 09 44.2**	**-1.5**
IVAS	**Ivanjica**	**0.68**	**347**	*e*Pg	**Pg**	**17 09 35.8**	**-0.1**
IVAS				*e*Sg	**Sg**	**17 09 44.7**	**0.0**
PLE	**Pljevlja**	**0.82**	**300**	⇑*i*Pg	**Pg**	**17 09 39.1**	**+0.3**
PLE				*e*Sg	**Sb**	**17 09 50.5**	**-0.9**
PDG	**Podgorica**	**0.95**	**240**	*e*Pg	**Pb**	**17 09 41.6**	**-0.4**
PDG				*e*Sg	**Sn**	**17 09 55.7**	**-1.3**
PDG	**Podgorica**	**0.95**	**240**	⇓*i*Pg	**Pb**	**17 09 41.9**	**-0.1**
PDG				*e*Sg	**Sb**	**17 09 54.4**	**-0.5**
PDG	**Podgorica**	**0.95**	**240**	⇑*i*P	**Pb**	**17 09 41.9**	**-0.1**
PDG				⇑*i*S	**Sb**	**17 09 54.9**	**0.0**
PDG				AML	AML	17 09 56.9	
TTG	**Podgorica**	**0.95**	**240**	⇓*i*Pg	**Pb**	**17 09 42.0**	**-0.1**
TTG				*e*Sg	**Sn**	**17 09 55.9**	**-1.1**
GRUS	**Gruza**	**1.00**	**15**	*e*Pg	**Pb**	**17 09 42.6**	**-0.2**
GRUS				*e*Sg	**Sb**	**17 09 56.4**	**+0.1**
RUDO	**Rudo**	**1.01**	**314**	⇓*i*Pg	**Pg**	**17 09 41.2**	**-1.1**
RUDO				*e*Sg	**Sg**	**17 09 54.8**	**-0.6**
NKY	**Niksic**	**1.01**	**264**	⇑*i*Pg	**Pg**	**17 09 42.5**	**+0.1**
NKY				*e*Sg	**Sb**	**17 09 57.0**	**+0.2**
NKME	**Niksic**	**1.05**	**262**	⇓*i*Pg	**Pb**	**17 09 43.3**	**-0.4**
NKME				*e*Sg	**Sn**	**17 09 58.5**	**-1.0**
BARS	**Barje**	**1.07**	**95**	*e*Pg	**Pb**	**17 09 43.4**	**-0.5**
BARS	**Barje**	**1.07**	**95**	*e*Pg	**Sn**	**17 09 55.4**	**-4.5**
BARS				*e*Sg	**Sb**	**17 09 59.4**	**+1.1**
BARS				*e*Sg	Sg	17 10 17.1	+20
CEME	**Cevo**	**1.13**	**251**	⇓*i*Pg	**Pg**	**17 09 44.4**	**-0.2**
CEME				*e*Sg	**Sn**	**17 10 01.5**	**0.0**
DRME	**Dracevica, Mon**	**1.14**	**230**	⇓*i*Pg	**Pg**	**17 09 44.2**	**-0.6**
DRME				*e*Sg	**Sb**	**17 10 00.3**	**0.0**
DRME	**Dracevica, Mon**	**1.14**	**230**	⇓*i*Pg	**Pn**	**17 09 45.3**	**-0.3**
DRME				*e*Sg	**Sn**	**17 10 02.9**	**+1.3**
BBLS	**Lazi?i**	**1.18**	**324**	*e*Pg	**Pg**	**17 09 45.0**	**-0.5**
BBLS				*e*Sg	**Sn**	**17 10 02.9**	**+0.2**
BBLS	**Lazi?i**	**1.18**	**324**	⇓*i*Pg	**Pg**	**17 09 45.1**	**-0.5**
BBLS				*e*Sg	**Sg**	**17 10 00.6**	**-0.2**
DIVS	**Divibare**	**1.21**	**347**	*e*Pg	**Pg**	**17 09 45.9**	**-0.3**
DIVS				*e*Sg	**Sg**	**17 10 01.1**	**-0.8**
DIVS	**Divibare**	**1.21**	**347**	⇓*i*Pg	**Pg**	**17 09 45.6**	**-0.6**
DIVS				*e*Sg	**Sg**	**17 10 01.4**	**-0.5**
BOVS	**Bovan**	**1.21**	**53**	*e*Pg	**Pn**	**17 09 46.6**	**0.0**
BOVS				*e*Sg	**Sg**	**17 10 02.0**	**+0.1**
SKO	**Skopje**	**1.24**	**140**	*i* Pn	**Pg**	**17 09 46.5**	**-0.1**
SKO				*i* Sn	**Sn**	**17 10 03.8**	**-0.2**
BUM	**Brajici-Budva**	**1.25**	**241**	⇓*i*Pg	**Pn**	**17 09 47.3**	**+0.1**
BUM				*e*Sg	**Sn**	**17 10 06.0**	**+1.5**
ULC	**Ulcinj**	**1.27**	**221**	⇑*i*Pg	**Pn**	**17 09 47.8**	**+0.4**
ULC				*e*Sg	**Sn**	**17 10 07.7**	**+2.9**
TRUS	**Trudelj**	**1.30**	**1**	*e*Pg	**Pb**	**17 09 48.9**	**+0.9**
TRUS				*e*Sg	**Sn**	**17 10 06.8**	**+1.1**
BRY	**Bratogost**	**1.34**	**270**	*e*Pg	**Pb**	**17 09 48.8**	**+0.1**
BRY				*e*Sg	**Sb**	**17 10 06.1**	**-0.2**
BRY	**Bratogost**	**1.34**	**270**	⇓*i*Pg	**Pb**	**17 09 48.5**	**-0.2**
BRY				*e*Sg	**Sn**	**17 10 08.0**	**+1.1**
HCY	**Herceg Novi**	**1.46**	**252**	*e*Pg	**Pb**	**17 09 50.5**	**-0.1**
HCY				*e*Sg	**Sg**	**17 10 10.2**	**+0.4**
HCY	**Herceg Novi**	**1.46**	**252**	⇑*i*Pg	**Pb**	**17 09 50.3**	**-0.3**
HCY				*e*Sg	**Sg**	**17 10 11.9**	**+2.1**
SVIS	**Svilajnac**	**1.48**	**24**	*e*Sg	**Pg**	**17 09 51.8**	**+0.5**
SVIS	**Svilajnac**	**1.48**	**24**	*e*Pg	**Sn**	**17 10 10.1**	**+0.1**
TREB	**Trebinje**	**1.50**	**263**	*e*Pg	**Pb**	**17 09 50.9**	**-0.4**
TREB	**Trebinje**	**1.50**	**263**	*e*Pg	**Sb**	**17 09 50.9**	**-0.4**
TREB				*e*Sg	**Sg**	**17 10 11.9**	**+0.8**
HAPS	**Han Pijesak,Bl**	**1.56**	**319**	*e*Pn	**Pn**	**17 09 51.7**	**+0.2**
HAPS				*e*Sn	**Sb**	**17 10 12.2**	**-0.2**
BOSS	**Bosilegrad**	**1.61**	**104**	*e*Pg	**Pb**	**17 09 53.1**	**-0.2**
BOSS				*e*Sg	**Sg**	**17 10 14.7**	**-0.1**
TIR	**Tirane**	**1.61**	**194**	⇓*i*P	**Pg**	**17 09 53.6**	**-0.3**
TIR				⇑*i*S	**Sg**	**17 10 15.2**	**+0.4**
TIR				AML	AML	17 10 29.6	
ZAGS	**Zajecar**	**1.63**	**56**	*e*Pg	**Pn**	**17 09 52.6**	**+0.3**
ZAGS				*e*Sg	**Sg**	**17 10 16.3**	**+1.0**
ZAPS	**Zavoj**	**1.70**	**77**	*e*Pg	**Pb**	**17 09 54.9**	**+0.2**
ZAPS				*e*Sg	**Sg**	**17 10 17.8**	**+0.3**
TEKS	**Tekeris**	**1.74**	**340**	*e*Pg	**Pg**	**17 09 56.5**	**+0.2**
TEKS				*e*Sg	**Sg**	**17 10 20.1**	**+1.3**
TEKS	**Tekeris**	**1.74**	**340**	*e*Pn	**Pb**	**17 09 55.0**	**-0.4**
TEKS				*e*Sn	**Sn**	**17 10 16.8**	**+0.3**
KUBS	**Kucevo**	**1.77**	**32**	*e*Sg	**Sg**	**17 10 20.1**	**+0.3**
BLKB	**Belogradchik**	**1.83**	**67**	⇑S	**Sb**	**17 10 19.7**	**-0.4**
BLKB				AML	AML	17 10 24.1	
STON	**Ston**	**1.96**	**269**	*i* Pn	**Pg**	**17 10 00.9**	**+0.4**
STON				Sn	**Sg**	**17 10 27.6**	**+1.7**
STON	**Ston**	**1.96**	**269**	*e*Pg	**Pg**	**17 10 00.6**	**+0.1**
STON	**Ston**	**1.96**	**269**	*e*Pn	**Pb**	**17 09 58.7**	**-0.4**
STON				*e*Sn	**Sb**	**17 10 23.4**	**-0.5**
MDVR	**Moldovita**	**2.10**	**27**	⇑P	**Pn**	**17 09 59.4**	**+0.5**
MDVR				⇑S	**Sb**	**17 10 28.1**	**+0.1**
MDVR				AML	AML	17 10 33.6	
VTS	**Vitosha**	**2.13**	**97**	⇑P	**Pb**	**17 10 01.1**	**-1.1**
VTS				S	**Sb**	**17 10 28.5**	**-0.6**
VTS				AML	AML	17 10 37.0	
FRGS	**Fruska Gora**	**2.27**	**350**	*e*Pn	**Pb**	**17 10 03.1**	**-1.4**
FRGS				*e*Sg	**Sg**	**17 10 36.1**	**+0.1**
FRGS	**Fruska Gora**	**2.27**	**350**	*e*Pn	**Pn**	**17 10 01.8**	**+0.6**
FRGS				*e*Sn	**Sn**	**17 10 30.0**	**+0.3**
RICI	**Ricice**	**2.43**	**285**	*e*Pn	**Pb**	**17 10 07.8**	**+0.6**
RICI				Sn	**Sg**	**17 10 40.9**	**-0.2**
MAKA	**Makarska**	**2.48**	**280**	*e*Pn	**Pb

PMTG	**Montargil**	**3.89**	**59**	P		**Pn**	**17 11 23.9**	**+0.4**
PMTG				S		**Sn**	**17 12 08.6**	**-0.6**
	comp=N,2.7nm,0.3s							
EGRO	**El Granado**	**4.03**	**83**	P		**Pn**	**17 11 26.5**	**+1.1**
	comp=N,5.3nm,0.6s,SNR=15							
EGRO				S		**Sn**	**17 12 10.0**	**-2.6**
	comp=N,11nm,0.8s,SNR=4.6							
PTOM	**Tomar**	**4.06**	**51**	*e*S		**Sn**	**17 12 13.4**	**-0.1**
PTOM	**Tomar**	**4.06**	**51**	S		**Sn**	**17 12 13.4**	**-0.1**
PESTR	**Estremoz**	**4.25**	**65**	*e*P		**Pn**	**17 11 30.6**	**+2.1**
PESTR				*e*S		**Sn**	**17 12 18.1**	**-0.1**
PESTR				A		A	17 12 24.6	
	comp=N,3.5nm,0.7s							
PCAS	**Casmilo, Conde**	**4.28**	**46**	*e*P		**Pn**	**17 11 30.4**	**+1.5**
PCAS				*e*S		**Sn**	**17 12 18.5**	**-0.4**
PCAS				A		A	17 12 27.8	
	comp=N,4.0nm,0.6s							
PCAS	**Casmilo, Conde**	**4.28**	**46**	P		**Pn**	**17 11 30.4**	**+1.5**
PCAS				S		**Sn**	**17 12 18.5**	**-0.4**
	comp=N,4.0nm,0.6s							
PBAR	**Barrancos**	**4.46**	**75**	*e*S		**Sn**	**17 12 22.9**	**-0.5**
PBAR	**Barrancos**	**4.46**	**75**	S		**Sn**	**17 12 22.9**	**-0.5**
PMRV	**Marv??o**	**4.63**	**59**	*e*P		**Pn**	**17 11 35.0**	**+1.3**
PMRV				*e*S		**Sn**	**17 12 27.0**	**-0.5**
PMRV				A		A	17 12 31.2	
	comp=N,2.8nm,0.4s							
PMRV	**Marv??o**	**4.63**	**59**	P		**Pn**	**17 11 35.0**	**+1.3**
PMRV				S		**Sn**	**17 12 27.0**	**-0.5**
	comp=N,2.8nm,0.4s							
EBAD	**Badajoz**	**4.63**	**68**	P		**Pn**	**17 11 35.5**	**+1.7**
	comp=N,3.5nm,0.7s,SNR=10.0							
EBAD				S		**Sn**	**17 12 25.2**	**-2.4**
	comp=N,0.7nm,0.3s,SNR=6.7							
EMIN	**Mina Concepcio**	**4.69**	**81**	P		**Pn**	**17 11 35.7**	**+1.1**
	comp=N,3.0nm,0.8s,SNR=12							
EMIN				S		**Sn**	**17 12 26.2**	**-2.7**
	comp=N,12nm,1.1s							
PCBR	**Castelo Branco**	**4.78**	**54**	*e*P		**Pn**	**17 11 37.5**	**+1.7**
PCBR				*e*S		**Sn**	**17 12 31.2**	**0.0**
PCBR				A		A	17 12 32.1	
	comp=N,1.2nm,0.2s							
PCBR	**Castelo Branco**	**4.78**	**54**	P		**Pn**	**17 11 37.5**	**+1.7**
PCBR				S		**Sn**	**17 12 31.2**	**0.0**
	comp=N,0.6nm,0.2s							
PVIS	**Viseu**	**5.07**	**44**	*e*P		**Pn**	**17 11 41.4**	**+1.6**
PVIS				*e*S		**Sn**	**17 12 37.1**	**-1.3**
PVIS				A		A	17 12 45.9	
	comp=N,5.2nm,0.1s							
PVIS	**Viseu**	**5.07**	**44**	P		**Pn**	**17 11 41.4**	**+1.6**
PVIS				S		**Sn**	**17 12 37.1**	**-1.3**
	comp=N,2.6nm,0.1s							
ESPR	**Espera**	**5.33**	**91**	P		**Pn**	**17 11 44.0**	**+0.6**
	comp=N,2.5nm,0.1s,SNR=7.9							
ESPR				S		**Sn**	**17 12 44.5**	**-0.3**
	comp=N,11nm,0.3s,SNR=7.9							
PVRL	**Vila Real**	**5.56**	**41**	*e*S		**Sn**	**17 12 47.6**	**-2.8**
PVRL	**Vila Real**	**5.56**	**41**	S		**Sn**	**17 12 47.6**	**-2.8**
POLO	**Lamas de Olo**	**5.59**	**39**	*e*P		**Pn**	**17 11 48.6**	**+1.6**
POLO				*e*S		**Sn**	**17 12 49.5**	**-1.8**
POLO	**Lamas de Olo**	**5.59**	**39**	P		**Pn**	**17 11 48.6**	**+1.6**
POLO				S		**Sn**	**17 12 49.5**	**-1.8**
ECAB	**El Cabril**	**5.71**	**78**	P		**Pn**	**17 11 49.9**	**+1.3**
	comp=N,1.4nm,0.4s,SNR=14							
ECAB				S		**Sn**	**17 12 50.9**	**-3.3**
	comp=N,0.3nm,0.2s							
EZAM	**Zamans**	**5.80**	**29**	S		**Sn**	**17 12 53.9**	**-2.5**
	comp=N,0.7nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.84**	**35**	P		**Pn**	**17 11 51.8**	**+1.4**
	comp=N,0.5nm,0.1s,SNR=7.9							
ELOB				S		**Sn**	**17 12 55.0**	**-2.4**
	comp=N,0.9nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.85**	**45**	*e*P		**Pn**	**17 11 52.4**	**+1.8**
MVO				*e*S		**Sn**	**17 12 56.2**	**-1.6**
MVO				A		A	17 13 02.2	
	comp=N,3.5nm,0.6s							
MVO	**Moncorvo**	**5.85**	**45**	P		**Pn**	**17 11 51.8**	**+1.2**
	comp=N,1.2nm,0.1s,SNR=7.9							
MVO				S		**Sn**	**17 12 55.0**	**-2.8**
	comp=N,1.1nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**6.38**	**78**	P		**Pn**	**17 11 58.5**	**+0.8**
	comp=N,0.4nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**17 13 08.6**	**-2.1**
	comp=N,0.4nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**6.54**	**41**	P		**Pn**	**17 12 01.6**	**+1.5**
	comp=N,12nm,1.0s,SNR=5.9							
ECAL				S		**Sn**	**17 13 13.1**	**-1.8**
	comp=N,1.1nm,0.2s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.59**	**30**	P		**Pn**	**17 12 01.4**	**+0.7**
	comp=N,0.6nm,0.1s,SNR=7.9							
EAGO				S		**Sn**	**17 13 11.7**	**-4.2**
	comp=N,1.3nm,0.1s,SNR=7.9							
PAB	**San Pablo**	**6.85**	**67**	P		**Pn**	**17 12 06.3**	**+2.0**
	comp=N,0.2nm,0.1s,SNR=7.9							
PAB				S		**Sn**	**17 13 20.9**	**-1.5**
	comp=N,0.1nm,0.1s,SNR=7.9							

VIE ***11*** *17:14:09.8±0.3, 47°.80N×16°.18E, h14km±3km, mb2.2/8, ml3.0/8, Error ellipse: s-maj=2.7km s-min=1.9km az=119.0*
4 km SSE of Bad Fischau felt 4-5 ems98 W of Wiener Neustadt / Lower Austria
IPEC ***11*** *17:14:10.1±0.1, 47°.81N×16°.17E, h16km±1km, ML2.7/4, Error ellipse: s-maj=0.9km s-min=0.6km az=95.0*
LDG ***11*** *17:14:10.7±0.2, 47°.78N×16°.14E, h2km, Ml3.1/6, Error ellipse: s-maj=4.7km s-min=3.8km az=169.0*
PRU ***11*** *17:14:11.0±0.0, 47°.87N×16°.17E, h2km, Wiener Neustadt*
BGR ***11*** *17:14:11.9±0.5, 47°.60N×16°.18E, h10km, ML3.0/5, Error ellipse: s-maj=11.1km s-min=4.4km az=134.0*
BGR Felt in the area of Baden and Neunkirchen. Clangour of tableware, shaking of furniture are reported.

ISC 11 17:14:09.0±1.1, 47°.81N±0°.02×16°.20E±0°.02, h7km±9km, n79, σ1§97/142, Austria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CONA	**Conrad Observa**	**0.26**	**297**	*i* Pg		**Pb**	**17 14 15.8**	**-0.3**
	21nm,0.1s,SNR=199							
CONA				*e*Sg		**Sg**	**17 14 19.2**	**+1.7**
	105nm,0.1s							
SOP	**Sopron**	**0.27**	**118**	*e*Pn		**Pb**	**17 14 16.2**	**0.0**
SOP	**Sopron**	**0.27**	**118**	*e*Pg		**Pb**	**17 14 16.0**	**-0.2**
SOP				*e*Sg		**Sb**	**17 14 20.1**	**-1.0**
ZST	**Bratislava**	**0.71**	**57**	*e*PG		**Pb**	**17 14 23.3**	**-0.5**
ZST				*e*SG		**Sb**	**17 14 33.9**	**+0.1**
ARSA	**Arzberg**	**0.73**	**220**	*e*Pn		**Pb**	**17 14 24.0**	**-0.1**
ARSA				*e*Sn		**Sb**	**17 14 34.0**	**-0.2**
ARSA	**Arzberg**	**0.73**	**220**	*e*Pg		**Pb**	**17 14 23.9**	**-0.1**
	SNR=82							
ARSA				*e*Sg		**Sb**	**17 14 33.9**	**-0.2**
	285nm,0.3s							
MODS	**Modra-Piesok**	**0.91**	**52**	*e*PG		**Pb**	**17 14 26.9**	**-0.3**
MODS				*e*SG		**Sn**	**17 14 40.7**	**-1.0**
MODS				eLG		Lg	17 14 42.8	
SMOL	**Smolenice**	**1.08**	**49**	*e*PG		**Pn**	**17 14 31.1**	**+0.6**
SMOL				*e*SG		**Sn**	**17 14 47.2**	**+1.4**
SMOL				eLg		Lg	17 14 48.8	
MPLH	**Magyarpolny**	**1.11**	**125**	*e*Pn		**Pn**	**17 14 32.0**	**+1.0**
MPLH				Sn		**Sn**	**17 14 47.0**	**+0.5**
KRUC	**Moravsky**	**1.26**	**6**	*e*PG		**Pn**	**17 14 33.4**	**+0.4**
KRUC				*e*SG		**Sb**	**17 14 49.7**	**+0.3**
KRUC	**Moravsky**	**1.26**	**6**	*e*Pg		**Pn**	**17 14 33.3**	**+0.3**
	baz=187							
KRUC				*e*Sg		**Sb**	**17 14 49.7**	**+0.3**
	76nm,0.1s,baz=187							
MOA	**Molln**	**1.31**	**272**	*e*Pn		**Pb**	**17 14 34.4**	**+0.5**
MOA				*e*Sn		**Sn**	**17 14 52.3**	**+0.8**
MOA	**Molln**	**1.31**	**272**	*e*Pg		**Pb**	**17 14 34.5**	**+0.6**
	9.1nm,0.1s,SNR=65							
MOA				*e*Sg		**Sn**	**17 14 52.6**	**+1.2**
	42nm,0.1s							
SOKA	**Soboth**	**1.39**	**216**	*e*Pg		**Pg**	**17 14 35.7**	**+0.1**
	SNR=47							
SOKA				*e*Sg		**Sb**	**17 14 53.5**	**+0.2**
	13nm,0.2s							
BEHE	**Becsehely**	**1.40**	**164**	*e*Pn		**Pn**	**17 14 35.0**	**+0.1**
BEHE				Sn		**Sn**	**17 14 55.1**	**+1.5**
SRO	**Srobarova**	**1.42**	**89**	*e*PG		**Pb**	**17 14 35.4**	**-0.4**
SRO				*e*SG		**Sb**	**17 14 53.9**	**-0.2**
SRO				eLg		Lg	17 14 59.7	
JAVC	**Velka Javorina**	**1.43**	**43**	*e*PG		**Pg**	**17 14 37.0**	**+0.6**
CSKK	**Cskako**	**1.46**	**107**	*e*Pn		**Pn**	**17 14 36.1**	**+0.3**
CSKK				Sn		**Sb**	**17 14 54.1**	**-1.2**
TIH	**Tihany**	**1.47**	**128**	*e*Pn		**Pn**	**17 14 36.1**	**+0.2**
VRAC	**Vranov**	**1.52**	**10**	*e*PN		**Pn**	**17 14 37.0**	**+0.4**
VRAC				*e*SN		**Sb**	**17 14 57.0**	**0.0**
VRAC	**Vranov**	**1.52**	**10**	*e*Pn		**Pn**	**17 14 37.0**	**+0.4**
	baz=191							
VRAC				*e*Sn		**Sb**	**17 14 56.9**	**0.0**
	53nm,0.2s,baz=191							
TREC	**Trest**	**1.56**	**342**	*e*PG		**Pb**	**17 14 38.1**	**-0.1**
TREC				*e*SG		**Sg**	**17 14 58.9**	**-0.1**
	comp=Z,112nm,0.4s							
KOLL	**Kolacno**	**1.66**	**62**	*e*PG		**Pn**	**17 14 39.0**	**+0.5**
KALN	**Kalnik**	**1.69**	**174**	*i* Pn		**Pb**	**17 14 39.9**	**-0.5**
KALN				Sn		**Sn**	**17 15 01.5**	**+0.6**
OBKA	**Obir**	**1.73**	**221**	*i* Pn		**Pb**	**17 14 40.6**	**-0.5**
	2.0nm,0.3s,SNR=17							
OBKA				Sg		**Sg**	**17 15 05.0**	**+0.6**
	56nm,0.5s							
VYHS	**Vyhne**	**1.89**	**68**	*e*PN		**Pn**	**17 14 41.8**	**+0.1**
VYHS				*e*SN		**Sn**	**17 15 04.6**	**-1.2**
PTJ	**Puntijarka**	**1.91**	**185**	ePn		**Pn**	**17 14 42.7**	**+0.6**
GEC2	**GERESS Array S**	**1.96**	**303**	*e*Pn		**Pb**	**17 14 45.2**	**+0.1**
KBA	**Koelnbreinsper**	**2.08**	**250**	*e*Pg		**Pg**	**17 14 49.3**	**+0.6**
KBA	**Koelnbreinsper**	**2.08**	**250**	Pg		**Pg**	**17 14 49.1**	**+0.4**
	18nm,0.4s							
KBA				Sg		**Sg**	**17 15 17.6**	**+2.0**
	25nm,0.5s							
MYKA	**Terra Mystica**	**2.11**	**237**	Sg		**Sg**	**17 15 17.1**	**+0.4**
	9.1nm,0.3s							
MORC	**Moravsky Berou**	**2.15**	**24**	*e*PN		**Pn**	**17 14 46.2**	**+0.8**
MORC				*e*SN		**Sn**	**17 15 12.8**	**+0.4**
KHC	**Kasperske Hory**	**2.19**	**308**	*e*PN		**Pb**	**17 14 47.8**	**-1.1**
KHC				*e*PG		**Pg**	**17 14 49.9**	**-1.0**
KHC				*e*SN		**Sn**	**17 15 14.3**	**+1.1**
KHC				*e*SG		**Sb**	**17 15 17.5**	**+1.2**
	comp=Z,48nm,0.4s							
MOSL	**Moslavina**	**2.23**	**170**	*i* Pn		**Pn**	**17 14 47.2**	**+0.8**
OZLJ	**Ozalj**	**2.26**	**193**	*i* Pn		**Pn**	**17 14 48.0**	**+1.4**
KRLC	**Kralíky**	**2.30**	**9**	*e*PN		**Pn**	**17 14 48.5**	**+1.2**
KRLC				*e*PG		**Pg**	**17 14 51.9**	**-1.1**
KRLC				*e*SG		**Sg**	**17 15 22.5**	**-0.2**
GOPC	**GO Pecny, Ondr**	**2.30**	**337**	*e*PN		**Pb**	**17 14 49.5**	**-1.3**
GOPC				*e*SN		**Sn**	**17 15 17.6**	**+1.6**
GOPC				*e*SG		**Sg**	**17 15 22.6**	**-0.3**
	comp=Z,38nm,0.3s							
MORH	**Mrgy, Hungar**	**2.31**	**133**	*e*Pn		**Pn**	**17 14 47.1**	**-0.4**
MORH				Sn		**Sn**	**17 15 14.0**	**-2.1**
PRU	**Pruhonice**	**2.44**	**334**	*e*PN		**Pn**	**17 14 51.0**	**+1.8**
PRU				*e*PG		**Pg**	**17 14 54.7**	**-1.0**
PRU				*e*SG		**Sb**	**17 15 24.8**	**+1.4**
	comp=Z,39nm,0.3s							
PSZ	**Piszkesteto**	**2.49**	**86**	*e*Pn		**Pb**	**17 14 53.0**	**-1.0**
PSZ				Sn		**Sn**	**17 15 19.1**	**-1.5**
DPC	**Dobruska-Polom**	**2.54**	**2**	*e*PN		**Pn**	**17 14 52.5**	**+1.8**
DPC				*e*PG		**Pb**	**17 14 55.5**	**+0.6**
LANS	**Liptovska Anna**	**2.55**	**57**	*e*PN		**Pn**	**17 14 52.1**	**+1.3**
LANS				*e*SN		**Sn**	**17 15 22.7**	**+0.6**
WET	**Wettzell**	**2.58**	**302**	*e*Pn		**Pb**	**17 14 55.4**	**-0.2**
UPC	**Upice**	**2.70**	**357**	*e*PN		**Pn**	**17 14 53.7**	**+0.9**
UPC				*e*PG		**Pb**	**17 14 58.5**	**+0.9**
UPC				*e*SG		**Sg**	**17 15 33.8**	**-1.9**
	comp=Z,23nm,0.3s							
ABTA	**Abfaltersbach**	**2.73**	**248**	Pg		**Pg**	**17 15 01.1**	**-0.2**
	4.6nm,0.4s							
ABTA				Sg		**Sg**	**17 15 37.4**	**+0.8**
	6.4nm,0.3s							
PVCC	**Panska Ves**	**2.92**	**339**	*e*SG		**Sg**	**17 15 41.0**	**-1.8**
	comp=Z,61nm,0.2s							
KECS	**Kecovo**	**2.94**	**75**	*e*PN		**Pn**	**17 14 57.0**	**+0.8**
KECS				*e*SN		**Sn**	**17 15 32.2**	**+0.4**
WTTA	**Wattenberg**	**3.14**	**262**	*e*Pn		**Pn**	**17 15 01.9**	**+2.8**
WTTA	**Wattenberg**	**3.14**	**262**	*i* Pn		**Pn**	**17 15 01.9**	**+2.8**
	1.7nm,0.2s							
WTTA				Sg		**Sg**	**17 15 49.6**	**-0.2**
	8.3nm,0.3s							
ROTZ	**Rotzenmuhle**	**3.29**	**308**	*e*Sn		**Sn**	**17 15 39.5**	**-0.7**
UDBI	**Udbina**	**3.30**	**185**	*e*Pn		**Pn**	**17 15 03.1**	**+2.0**
BRJN	**Brijuni**	**3.37**	**211**	*e*Pn		**Pn**	**17 15 03.7**	**+1.8**
BRJN				Sn		**Sn**	**17 15 42.7**	**+0.6**
NVLJ	**Novalja**	**3.38**	**196**	*i* Pn		**Pn**	**17 15 04.5**	**+2.4**
BRG	**Berggiesshubel**	**3.40**	**335**	Pg		**Pg**	**17 15 12.2**	**-1.9**
BRG				SG		**Sg**	**17 15 55.4**	**-2.7**
	23nm,0.3s							
SQTA	**Sankt Quirin**	**3.44**	**262**	*e*Pn		**Pn**	**17 15 06.2**	**+3.2**
	5.9nm,0.4s							
SQTA				*i* Sn		**Sn**	**17 15 47.5**	**+3.4**
	4.0nm,0.2s							
MANZ	**Manzenberg**	**3.47**	**310**	*e*Pn		**Pn**	**17 15 06.6**	**+3.2**
MOTA	**Moosalm**	**3.48**	**264**	*i* Pn		**Pn**	**17 15 06.4**	**+2.7**
MOTA				*i* Sn		**Sn**	**17 15 47.7**	**+2.4**
	2.7nm,0.2s							
MOTA				*e*Sg		**Sg**	**17 16 00.6**	**-0.2**
	4.1nm,0.2s							
RETA	**Reutte**	**3.69**	**267**	*e*Pn		**Pn**	**17 15 10.1**	**+3.6**
	0.2nm,0.1s							
RETA				Sg		**Sg**	**17 16 07.9**	**+0.3**
	4.7nm,0.2s							
STHS	**Stebnicka Huta**	**3.71**	**62**	*e*PN		**Pn**	**17 15 08.6**	**+1.9**
STHS				*e*SN		**Sn**	**17 15 52.4**	**+1.8**
STHS				eLG		Lg	17 15 55.3	
FETA	**Feichten**	**3.80**	**260**	*e*Pn		**Pn**	**17 15 10.6**	**+2.5**
	1.0nm,0.3s							
FETA				Sg		**Sg**	**17 16 11.0**	**0.0**
	2.6nm,0.3s							
KIJV	**Kijevo**	**3.81**	**178**	*e*Pn		**Pn**	**17 15 10.6**	**+2.5**
DUGI	**Dugi Otok**	**3.91**	**192**	*i* Pn		**Pn**	**17 15 11.4**	**+2.1**
MORI	**Morici**	**3.96**	**185**	*e*Pn		**Pn**	**17 15 12.6**	**+2.4**
MORI				Sn		**Sn**	**17 15 58.2**	**+1.4**
CLL	**Collm**	**4.07**	**330**	*e*Pn		**Pn**	**17 15 14.0**	**+2.4**
CLL				*e*Pg		**Pg**	**17 15 28.0**	**+1.1**
CLL				*e*Sn		**Sn**	**17 16 01.0**	**+1.5**
CLL				*e*Sg		**Sg**	**17 16 18.0**	**-1.6**
	comp=Z,32nm,0.7s							
UBR	**Ueberruh**	**4.12**	**270**	*e*Pn		**Pn**	**17 15 14.4**	**+2.0**
MOX	**Moxa**	**4.13**	**315**	*e*Pn		**Pn**	**17 15 16.3**	**+3.8**
ZIRJ	**Zirje**	**4.18**	**186**	*i* Pn		**Pn**	**17 15 15.8**	**+2.6**
DAVA	**Damuels**	**4.32**	**265**	*e*Pn		**Pn**	**17 15 18.3**	**+3.1**
	comp=Z,1.3nm,0.2s							
DAVA				*e*Sn		**Sn**	**17 16 08.4**	**+2.6**
	comp=Z,2.7nm,0.2s							
DAVA				*e*Sg		**Sg**	**17 16 27.9**	**+0.4**
	comp=Z,4.1nm,0.2s							
CDF	**Champ du Feu**	**6.01**	**279**	*e*Pn		**Pn**	**17 15 36.4**	**-2.0**
CDF				*e*Sn		**Sn**	**17 16 41.0**	**-6.4**
CDF				*e*Sg		**Sg**	**17 17 18.6**	**-3.2**
	comp=Z,6.0nm,0.5s							
HINF	**Hinteralfeld**	**6.30**	**273**	*e*Pn		**Pn**	**17 15 40.7**	**-1.6**
HINF				*e*Sn		**Sn**	**17 16 48.3**	**-6.2**
	comp=Z,1.9nm,0.2s							
HINF				*e*Sg		**Sg**	**17 17 27.5**	**-3.6**
	comp=Z,3.8nm,0.5s							
HAU	**Haudompre**	**6.63**	**275**	*e*Pn		**Pn**	**17 15 44.6**	**-2.2**
HAU				*e*Sn		**Sn**	**17 16 56.1**	**-6.5**
	comp=Z,2.7nm,0.3s							
HAU				*e*Sg		**Sg**	**17 17 37.7**	**-4.0**
	comp=Z,4.7nm,0.4s							
LPG	**La Plagne**	**6.91**	**254**	*e*P		**Pn**	**17 15 53.3**	**+2.5**
LPL	**La Plagne**	**6.91**	**254**	*e*P		**Pn**	**17 15 53.8**	**+2.9**
MBDF	**Montbardon**	**7.23**	**248**	*e*P		**Pn**	**17 15 59.0**	**+3.8**
ORIF	**Oris-en-Rattie**	**7.71**	**252**	*e*P		**Pn**	**17 16 03.9**	**+2.3**
SMF	**Signal de Mont**	**8.50**	**267**	*e*Pn		**Pn**	**17 16 10.7**	**-1.7**
SMF				*e*Sn		**Sn**	**17 17 40.4**	**-8.1**
	comp=Z,0.8nm,0.3s							
VIVF	**Saint-Julien-l**	**8.51**	**254**	*e*Pn		**Pn**	**17 16 10.7**	**-1.9**
AVF	**Avril sur Loir**	**8.80**	**268**	*e*Pn		**Pn**	**17 16 14.9**	**-1.6**
LASF	**Ste Croix**	**9.38**	**251**	*e*Pn		**Pn**	**17 16 23.1**	**-1.4**

IDC 11 17:37:17.3±2.9, 22°.95N×11°.32W, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.4/27, mbtmp3.5/3, ML3.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/27, Error ellipse: s-maj=95.7km s-min=46.3km az=87.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**15.74**	**126**	Pn		Pn	17 41 00.1	-0.3
	0.1nm,0.3s,baz=307,slow=10,SNR=2.8							
I48TN	**KESRA INFRASON**	**22.03**	**50**	*i*			19 51 20.0	
	baz=246,slow=320,SNR=3.3							
GERES	**GERESS Array B**	**32.56**	**31**	P		P	17 43 50.4	+0.2
	0.2nm,0.3s,baz=219,slow=10,SNR=3.5							
GERES				LR		LR	17 58 11.2	
	comp=Z,15nm,21.3s,baz=72,slow=38							
MKAR	**Makanchi Array**	**76.00**	**45**	P		P	17 49 06.4	-0.1
	0.4nm,0.8s,baz=318,slow=1.9,SNR=2.8							
WRA	**Warramunga Arr**	**147.94**	**91**	PKPbc		PKPbc	17 57 04.7	-0.7
	0.3nm,0.6s,baz=286,slow=2.7,SNR=2.8							
ASAR	**Alice Springs**	**148.09**	**98**	PKPbc		PKPbc	17 57 05.0	-0.7
	0.3nm,0.6s,baz=295,slow=2.1,SNR=5.8							

IDC ***11*** *17:55:43.9±1.6, 2°.28N×126°.61E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.4/37, mbtmp3.5/4, ML4.2/1, Error ellipse: s-maj=59.6km s-min=23.4km az=69.0*
ISCJB ***11*** *17:55:51.5±1.2, 1°.5N±0°.1×125°.75E±0°.07, h83km, mb3.1/3, Error ellipse: s-maj=20.0km s-min=9.0km az=7.8*
DJA ***11*** *17:55:51.3±0.4, 2°.1S±5°×12°.6E±°, h68km±9km, M3.6/10, mb3.7/1, MLv3.5/10*

ISC 11 17:55:51.6±2.4, 1°.7N±0°.2×125°.78E±0°.07, h83km, n9, σ2§63/8, mb3.2/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.84**	**120**	P		**Pn**	**17 56 20.5**	**-1.1**
TNTI				S		**Sn**	**17 56 42.0**	**-2.4**
KMSI	**Cibinong**	**2.12**	**238**	P		**Pn**	**17 56 24.2**	**-1.0**
SANI	**Sanana**	**3.74**	**177**	P		**Pn**	**17 56 46.0**	**-1.2**
MRSI	**Marisa**	**4.03**	**252**	P		**Pn**	**17 56 49.4**	**-1.6**
LUWI	**Luwuk**	**4.06**	**228**	P		**Pn**	**17 56 50.2**	**-1.3**
KAPI	**Kappang**	**8.99**	**222**	Pn		Pn	17 58 08.1	+9.4
	2.1nm,0.3s,baz=68,slow=9.6,SNR=6.3							
WRA	**Warramunga Arr**	**23.10**	**159**	P		**P**	**18 00 53.2**	**+2.5**
	0.5nm,0.4s,baz=340,slow=9.8,SNR=7.4							
ASAR	**Alice Springs**	**26.44**	**163**	P		**P**	**18 01 24.8**	**+3.9**
	0.2nm,0.4s,baz=346,slow=12,SNR=16							
MKAR	**Makanchi Array**	**58.68**	**326**	P		P	18 05 44.5	+4.0
	0.1nm,0.5s,baz=123,slow=7.6,SNR=3.2							

IDC ***11*** *18:09:12.1±0.7, 16°.16S×177°.72W, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.2/37, mbtmp4.2/12, MS3.9/18, Ms1 3.9/18, ms1mx3.8/35, Error ellipse: s-maj=41.2km s-min=16.2km az=144.0*
NEIC ***11*** *18:09:13.6±2.3, 16°.2S±0°.2×177°.7W±0°.2, h10km±4km, mb4.6/27*
BJI ***11*** *18:09:14.3±0.0, 16°.60S×177°.65W, h28km, mb4.9/11, mB5.3/3*
ISCJB ***11*** *18:09:15.3±0.3, 16°.3S±0°.1×177°.69W±0°.09, h33km, mb4.3/14, MS4.0/19, Error ellipse: s-maj=18.8km s-min=7.6km az=143.5*
GCMT ***11*** *18:09:18.6±0.3, 16°.10S±0°.02×177°.49W±0°.01, h20km±1km, MW4.9/103, Moment Tensor Solution. s30,c35; s103,c135; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.76±.13; Mθθ-0.99±.10; Mϕϕ1.75±.10; Mrθ0.26±.18; Mθϕ2.30±.08; Mϕr0.14±.17; Best double couple: M₀2.69300×10^16 NP1:ϕs254.00000°, δ89.00000°, λ-7.00000°. NP2:ϕs345.00000°, δ83.00000°, λ-179.00000°. Principal axes: T 3.0730, Plg4.0000°, Azm300.0000°; N -0.7620, Plg83.0000°, Azm63.0000°; P -2.3130, Plg6.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 18:09:17.3±0.6, 16°.3S±0°.1×177°.6W±0°.1, h35km, n66, σ1§53/48, mb4.5/24, MS4.0/19, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.42**	**250**			**Pn**	**18 10 19.3**	**-2.8**
DZM	**Mont Dzumac**	**16.15**	**247**	*e*P		**P**	**18 13 09.0**	**+4.3**
	45nm,1.4s							
DZM				*e*LQ		LQ	18 16 05.5	
	3μm,28.4s							
DZM				*e*LR		LR	18 16 49.0	
	comp=Z,520nm,25.3s							
DZM	**Mont Dzumac**	**16.15**	**247**	LR		LR	18 18 25.5	
	comp=Z,267nm,19.5s,baz=77,slow=34							
RAR	**Rarotonga**	**17.56**	**109**	LR		LR	18 18 29.0	
	comp=Z,418nm,21.1s,baz=299,slow=31							
OUZ	**Omahuta**	**20.45**	**

TXAR	**Lajitas Array**	**84.46**	**57**	P		**P**		**18 21 48.2**	**+1.3**	
	comp=Z,0.6nm,0.9s,baz=243,slow=5.5,SNR=4.6									
TXAR				LR		LR		18 51 53.4		
	comp=Z,28nm,20.7s,baz=0.0,slow=30									
ANMO	**Albuquerque**	**84.47**	**51**	P		**P**		**18 21 47.3**	**+0.3**	
	comp=Z,1.1nm,0.6s,baz=250,slow=4.8,SNR=2.2									
ANMO				LR		LR		18 52 52.0		
	comp=Z,49nm,19.1s,baz=205,slow=31									
ANMO	**Albuquerque**	**84.47**	**51**	IAmb		IAmb		18 22 00.2		
	comp=Z,6.0nm,1.2s									
YHB	**Horse Butte**	**85.49**	**41**	P		**P**		**18 21 52.4**	**+0.5**	
YHL	**Hebgen Lake**	**85.54**	**41**	P		**P**		**18 21 53.2**	**+0.9**	
PDAR	**Pinedale Array**	**85.63**	**43**	P		**P**		**18 21 52.2**	**-0.4**	
	comp=Z,0.7nm,0.8s,baz=204,slow=3.3,SNR=4.7									
PDAR				LR		LR		18 52 38.5		
	comp=Z,37nm,20.4s,baz=240,slow=30									
YNE	**Yellowstone No**	**86.36**	**41**	P		**P**		**18 21 54.1**	**-2.1**	
HHC	**Hu-ho-hao-te**	**86.71**	**314**	P		**P**		**18 21 58.1**	**+0.2**	
HHC				pmax		pmax				
	comp=Z,5.0nm,0.6s									
CMIG	**Matias Romero**	**87.97**	**72**	LR		LR		18 52 30.8		
	comp=Z,57nm,21.6s,baz=219,slow=30									
CMAR	**Chiang Mai Arr**	**89.09**	**289**	LR		LR		18 59 33.1		
	comp=Z,56nm,19.9s,baz=100,slow=34									
PLCA	**Paso Flores**	**91.87**	**133**	LR		LR		18 54 23.6		
	comp=Z,55nm,19.6s,baz=284,slow=30									
TEIG	**Tepich**	**94.86**	**70**	LR		LR		19 00 08.8		
	comp=Z,20nm,18.5s,baz=228,slow=32									
JTS	**Las Juntas de**	**95.32**	**81**	LR		LR		18 54 46.4		
	comp=Z,79nm,21.8s,baz=330,slow=29									
ULM	**Lac du Bonnet**	**97.16**	**40**	LR		LR		18 58 21.2		
	comp=Z,91nm,19.4s,baz=286,slow=30									
LSA	**Lhasa**	**98.97**	**298**	P		Pdif		18 22 55.7	+0.4	
KSH	**Kashi**	**112.76**	**306**	*e*PKP		**PKiKP**		**18 27 50.1**	**-0.7**	
KSH				PP		**PP**		**18 28 44.0**	**+5.1**	
KSH				SKS		**SKSdf**		**18 34 58.2**	**-2.3**	
BRTR	**Keskin Array B**	**144.18**	**317**	PKP		PKPbc		18 28 49.0	+0.9	
	comp=Z,1.7nm,1.0s,baz=89,slow=2.1,SNR=3.5									
VYHS	**Vyhne**	**145.17**	**341**	*e*PKP		**PKPab**		**18 28 51.0**	**+0.1**	
VOIR		**145.29**	**332**	⇑P		**PKiKP**		**18 28 54.0**	**-1.5**	
ARR	**Arges**	**145.53**	**332**	⇓P		**PKPab**		**18 28 53.8**	**+1.4**	
KHC	**Kasperske Hory**	**146.00**	**347**	*e*PKP		**PKPab**		**18 28 54.0**	**+0.1**	
GERES	**GERESS Array B**	**146.24**	**347**	PKPbc		**PKPbc**		**18 28 53.9**	**-0.4**	
	comp=Z,0.3nm,0.5s,baz=28,slow=3.2,SNR=5.0									

IDC 11 18:19:42.4±2.9, 50.77N×139.51W, h0km, mb3.0/1, mb1 3.7/6, mb1mx3.5/42, mbtmp3.5/6, ML3.2/5, Error ellipse: s-maj=53.7km s-min=24.6km az=48.0, West of Vancouver Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**4.99**	**58**	Pn		Pn	18 20 56.6	-1.8
H02S1				Sn		Sn	18 21 48.1	-8.6
KDAK	**Kodiak Island**	**10.37**	**318**	Pn		Pn	18 22 11.9	-0.3
	0.6nm,0.3s,baz=124,slow=6.5,SNR=7.9							
KDAK				Sn		Sn	18 24 02.7	-6.3
	0.2nm,0.3s,baz=348,slow=20,SNR=2.5							
ILAR	**Eielson Array**	**14.57**	**347**	Pn		P	18 23 13.2	-3.2
	0.1nm,0.3s,baz=170,slow=13,SNR=8.0							
YBH	**Yreka Blue Hor**	**14.70**	**121**	Pn		Pn	18 23 12.8	+1.2
	0.1nm,0.3s,baz=318,slow=13,SNR=4.3							
YKA	**Yellowknife Ar**	**17.90**	**40**	P		P	18 23 53.5	+0.3
	0.1nm,0.3s,baz=235,slow=11,SNR=5.8							
NVAR	**Mina Array Bea**	**19.42**	**121**	P		P	18 24 10.4	+0.1
	0.1nm,0.3s,baz=305,slow=9.5,SNR=3.9							
PDAR	**Pinedale Array**	**21.91**	**100**	P		P	18 24 37.4	+0.1
	0.6nm,0.8s,baz=300,slow=9.9,SNR=4.2							
H11N2	**WAKE ISLAND Hy**	**52.10**	**254**	T		T	19 25 21.9	
	baz=39							
H11N3	**WAKE ISLAND Hy**	**52.10**	**254**	T		T	19 25 22.5	
	baz=39							
H11N1	**WAKE ISLAND Hy**	**52.11**	**254**	T		T	19 25 26.7	
	baz=39							

*BJI **11** 18:22:50.2±2.0, 0.0, 10.89S×107.27E, h6km, mb4.8/52, mB5.3/38, Ms4.8/22, Ms7 4.5/17*

*DJA **11** 18:22:57.7±0.2, 10.2°S±2.2°×107.7°E±1.1°, h10km, M5.0/83, mB5.4/40, mb5.0/83, MLv5.5/21, Mw(mB)4.9/40*

*IDC **11** 18:22:57.3±0.5, 10.12S×107.09E, h0km, mb4.6/20, mb1 4.7/23, mb1mx4.5/39, mbtmp4.6/23, ML5.0/3, MS3.9/25, Ms1 3.9/25, ms1mx3.8/35, Error ellipse: s-maj=16.4km s-min=11.9km az=54.0*

*ISCJB **11** 18:22:59.8±0.2, 10.15S±0.02°×107.13E±0.03, h33km, mb4.9/43, MS4.1/31, Error ellipse: s-maj=4.0km s-min=2.8km az=139.4*

*GCMT **11** 18:23:00.2±0.2, 10.26S±0.01°×107.05E±0.01, h15km±1km, MW4.9/100, Moment Tensor Solution. s35,c43; s100,c148; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.66±.09; Mθθ1.58±.08; Mϕϕ-0.92±.07; Mrθ0.22±.15; Mθϕ-2.35±.07; Mϕr-0.60±.16; Best double couple: M=2.74200×10^16 NP1:ϕs345.00000°, δ86.00000°, λ-15.00000°. NP2:ϕs76.00000°, δ75.00000°, λ-176.00000°. Principal axes: T 3.0580, Plg8.0000°, Azm32.0000°; N -0.6360, Plg75.0000°, Azm151.0000°; P -2.4260, Plg13.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **11** 18:23:02.2±2.0, 10.10S±0.06×107.12E±0.07, h37km±4km, mb4.9/75*

ISC 11 18:23:02.0±0.3, 10.12S±0.05×107.21E±0.05, h35km, n264, σ1s94/247, mb4.9/88, MS4.0/31, 2C-1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CISI	**Cisompet, Garu**	**2.62**	**13**	P		**Pn**	**18 23 40.3**	**-1.6**
CISI	**Cisompet, Garu**	**2.62**	**13**			**Pn**	**18 23 40.1**	**-1.8**
SKJI	**Sukabumi**	**3.16**	**348**	P		**Pn**	**18 23 47.5**	**-1.8**
KPJI	**Karang Pucung**	**3.25**	**32**	P		**Pn**	**18 23 51.2**	**+0.6**
LEM	**Lembang**	**3.30**	**7**	Pn		**Pn**	**18 23 50.8**	**-0.5**
	437nm,0.3s,baz=260,slow=12,SNR=132							
LEM				Sn		**Sn**	**18 24 32.1**	**+2.6**
	240nm,0.3s,baz=300,slow=20,SNR=4.7							
LEM				LR		LR	18 25 30.2	
	comp=Z,4μm,20.0s,baz=200,slow=46							
LEM	**Lembang**	**3.30**	**7**	P		**Pn**	**18 23 51.3**	**-0.1**
DBJI	**Dramaga**	**3.57**	**353**	P		**Pn**	**18 23 54.2**	**-0.8**
YOGI	**Yogyakarta**	**3.81**	**53**	P		**Pn**	**18 23 58.5**	**+0.2**
UGM	**Wanagama**	**3.94**	**56**	P		**Pn**	**18 24 00.1**	**0.0**
UGM	**Wanagama**	**3.94**	**56**			**Pn**	**18 23 59.5**	**-0.6**
SBJI	**Serang**	**4.12**	**345**	P		**Pn**	**18 24 01.8**	**-0.7**
WOJI	**Wonogiri, Jawa**	**4.32**	**59**	P		**Pn**	**18 24 05.9**	**+0.7**
SMRI	**Semarang**	**4.42**	**47**	P		**Pn**	**18 24 07.8**	**+1.2**
SMRI	**Semarang**	**4.42**	**47**			**Pn**	**18 24 07.9**	**+1.2**
PWJI	**Pagerwojo**	**5.00**	**66**	P		**Pn**	**18 24 15.7**	**+1.2**
	1μm,0.6s,41μm17nm							
NGJI	**Ngawi**	**5.01**	**57**	P		**Pn**	**18 24 18.1**	**+3.3**
	436nm,0.5s,8μm3.6nm							
BLSI	**Bandar Lampung**	**5.11**	**337**	P		**Pn**	**18 24 13.3**	**-2.8**
	198nm,0.8s,3μm1.8nm							
KASI	**Kota Agung**	**5.30**	**329**	P		**Pn**	**18 24 14.2**	**-4.5**
	160nm,0.5s,16μm3.9nm							
TBJI	**Tambak Boyo**	**5.64**	**55**	P		**Pn**	**18 24 24.8**	**+1.4**
	388nm,1.3s,1.9nm							
KLSI		**5.93**	**335**	P		**Pn**	**18 24 24.0**	**-3.4**
	66nm,0.7s,776nm0.3nm							
LWLI	**Liwa**	**5.96**	**328**	P		**Pn**	**18 24 24.5**	**-3.4**
	233nm,0.7s,9μm4.1nm							
GRJI	**Gresik**	**6.11**	**59**	P		**Pn**	**18 24 31.4**	**+1.5**
	250nm,0.5s,7μm1.8nm							
MDSI	**Maura Dua**	**6.35**	**332**	P		**Pn**	**18 24 28.6**	**-4.6**
	73nm,0.6s,1μm0.3nm							
GMJI	**Gumukmas**	**6.42**	**74**	P		**Pn**	**18 24 36.3**	**+2.1**
	359nm,0.6s,5μm4.0nm							
JAGI	**Jajag, Banyuwa**	**7.05**	**77**	P		**Pn**	**18 24 44.8**	**+2.0**
	660nm,0.7s,12μm14nm							
JAGI	**Jajag, Banyuwa**	**7.05**	**77**			**Pn**	**18 24 43.8**	**+1.0**
MNAI	**Manna**	**7.11**	**323**	P		Pn	18 24 37.2	-6.4
	366nm,0.7s,3.2nm							
LHSI	**Lahat**	**7.25**	**329**	P		**Pn**	**18 24 41.3**	**-4.2**
	124nm,1.1s,1μm0.7nm							
TPI	**Tanjungpandan**	**7.33**	**3**	P		**Pn**	**18 24 45.3**	**-1.3**
	53nm,0.7s,621nm0.2nm							
KMMI	**Kalianget**	**7.35**	**66**	P		**Pn**	**18 24 48.9**	**+2.0**
	138nm,0.8s,2μm0.7nm							
IGBI	**Denpasar**	**7.94**	**81**	P		**Pn**	**18 24 57.5**	**+2.5**
	273nm,0.7s,5μm							
DNP	**Denpasar**	**8.02**	**80**	P		**Pn**	**18 24 58.7**	**+2.5**
SRBI	**Singaraja**	**8.16**	**76**	P		**Pn**	**18 24 59.2**	**+1.2**
	267nm,0.4s,3μm							
MASI	**Maura Aman, Be**	**8.51**	**324**	P		**Pn**	**18 24 58.3**	**-4.6**
	217nm,0.8s							
TWSI	**Taliwang, Sumb**	**9.64**	**83**	P		**Pn**	**18 25 19.0**	**+0.6**
	150nm,0.6s,2μm							
PPSI	**Pulau Pagai**	**10.22**	**315**	P		Pn	18 25 21.0	-5.4
	102nm,0.6s							
PLAI	**Plampang**	**10.50**	**84**	P		**Pn**	**18 25 29.5**	**-0.7**
	170nm,1.1s,2μm							
STKI	**Sintang**	**10.97**	**23**	P		**Pn**	**18 25 36.4**	**-0.3**
PDSI	**Padang**	**11.35**	**323**	P		**Pn**	**18 25 45.6**	**+3.9**
SISI	**Saibi**	**11.89**	**317**	P		Pn	18 25 43.8	-5.4
	44nm,0.9s							
KSM	**Kuching**	**11.93**	**15**	P		**Pn**	**18 25 51.0**	**+1.4**
WSI	**Waingapu**	**12.90**	**89**	P		**Pn**	**18 26 03.8**	**+0.8**
	268nm,0.6s,4μm							
KAPI	**Kappang**	**13.43**	**69**	Pn		**Pn**	**18 26 10.5**	**+0.3**
	2.8nm,0.3s,baz=242,slow=10,SNR=25							
KAPI				Sn		**Sn**	**18 28 35.7**	**-2.5**
	0.7nm,0.3s,baz=128,slow=19,SNR=2.3							
KAPI				LR		LR	18 32 20.1	
	comp=Z,337nm,19.4s,baz=119,slow=42							
SBUM	**Sibu**	**13.45**	**22**			**Pn**	**18 26 11.2**	**+0.7**
BKSI	**Bulukumba**	**13.65**	**71**	P		**Pn**	**18 26 15.5**	**+2.2**
	70nm,0.9s,650nm							
SPSI	**Sidrap Palu**	**13.88**	**65**	P		**Pn**	**18 26 18.2**	**+1.8**
	38nm,1.1s,572nm							
BNSI	**Bone**	**14.00**	**67**	P		**Pn**	**18 26 20.4**	**+2.4**
	63nm,1.1s,888nm							
TTSI	**Tana Toraja**	**14.36**	**62**	P		**Pn**	**18 26 25.3**	**+2.4**
	96nm,0.9s,1μm							
GSI	**Gunungsitoli**	**14.86**	**319**	P		Pn	18 26 19.7	-10
	26nm,1.0s							
GSI	**Gunungsitoli**	**14.86**	**319**			Pn	18 26 19.3	-10
RPSI	**Rantau Prapat**	**15.17**	**327**	P		**Pn**	**18 26 29.3**	**-4.5**
RPSI				IAmb		IAmb	18 26 39.6	
	comp=Z,15nm,0.9s							
RPSI	**Rantau Prapat**	**15.17**	**327**			**Pn**	**18 26 35.2**	**+1.4**
PSI	**Prapat**	**15.26**	**327**	Pn		**Pn**	**18 26 35.2**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=154,slow=18,SNR=7.7							
PSI				LR		LR	18 33 17.3	
	comp=Z,731nm,19.2s,baz=132,slow=41							
IPM	**Ipoh**	**15.76**	**337**	P		**P**	**18 26 46.0**	**+1.0**
IPM	**Ipoh**	**15.76**	**337**	Pn		**Pn**	**18 26 36.5**	**-5.0**
IPM				IAmb		IAmb	18 26 46.6	
	comp=Z,37nm,0.8s							
BATI	**Baumata**	**16.20**	**92**	Pn		**Pn**	**18 26 45.4**	**-1.8**
	comp=Z,6.4nm,0.3s,baz=255,slow=1.3,SNR=11							
BATI				Sn		**Sn**	**18 29 37.5**	**-8.4**
	comp=Z,15nm,0.3s,baz=0.0,slow=19,SNR=7.2							
BATI	**Baumata**	**16.20**	**92**	P		**Pn**	**18 26 45.8**	**-1.3**
	comp=Z,41nm,0.7s							
MPSI	**Mapaga**	**16.35**	**51**	P		**Pn**	**18 26 49.1**	**+0.1**
	comp=Z,50nm,1.5s,comp=Z,570nm							
KCSI	**Kotacane, Aceh**	**16.49**	**325**	P		**Pn**	**18 26 49.8**	**-1.1**
	comp=Z,17nm,0.7s							
SNSI	**Sinabang, Aceh**	**16.50**	**318**	P		**P**	**18 26 58.4**	**+5.1**
PSAD1	**Pilbara Seismi**	**16.55**	**134**	Pn		**Pn**	**18 26 47.2**	**-4.3**
PSAD1				IAmb		IAmb	18 26 52.1	
	comp=Z,83nm,1.1s							
PSAC1	**Pilbara Seismi**	**16.59**	**135**	Pn		**Pn**	**18 26 48.7**	**-3.4**
PSAC1				IAmb		IAmb	18 26 56.8	
	comp=Z,47nm,0.8s							
PSAB1	**Pilbara Seismi**	**16.62**	**135**	Pn		**Pn**	**18 26 49.0**	**-3.5**
PSAB1				IAmb		IAmb	18 26 57.1	
	comp=Z,42nm,0.7s							
TPTI		**16.63**	**323**	P		**Pn**	**18 26 50.7**	**-1.8**
	comp=Z,15nm,0.7s							
PSAA2	**Pilbara Seismi**	**16.64**	**135**	Pn		**Pn**	**18 26 49.3**	**-3.3**
PSAA2				IAmb		IAmb	18 26 57.3	
	comp=Z,56nm,0.9s							
PSAA1	**Pilbara Seismi**	**16.64**	**135**	Pn		**Pn**	**18 26 49.2**	**-3.4**
PSAA1				IAmb		IAmb	18 26 57.3	
	comp=Z,46nm,0.7s							
PSA00	**Pilbara Seismi**	**16.64**	**135**			**Pn**	**18 26 49.4**	**-3.2**
PSA00				IAmb		IAmb	18 26 57.3	
	comp=Z,53nm,0.8s							
PSAB2	**Pilbara Seismi**	**16.64**	**135**	Pn		**Pn**	**18 26 49.5**	**-3.2**
PSAB2				IAmb		IAmb	18 26 57.4	
	comp=Z,40nm,0.8s							
PSAD3	**Pilbara Seismi**	**16.64**	**135**	Pn		**Pn**	**18 26 48.5**	**-4.2**
PSAD3				IAmb		IAmb	18 26 51.4	
	comp=Z,46nm,0.5s							
KULM	**Kulim**	**16.65**	**337**	P		**Pn**	**18 26 48.0**	**-4.8**
KULM	**Kulim**	**16.65**	**337**	Pn		**Pn**	**18 26 46.9**	**-5.9**
KULM				IAmb		IAmb	18 26 55.9	
	comp=Z,22nm,1.2s							
PSAA3	**Pilbara Seismi**	**16.65**	**135**	Pn		**Pn**	**18 26 49.4**	**-3.4**
PSAA3				IAmb		IAmb	18 26 57.5	
	comp=Z,60nm,0.9s							
PSAB3	**Pilbara Seismi**	**16.66**	**135**	Pn		**Pn**	**18 26 49.7**	**-3.2**
PSAB3				IAmb		IAmb	18 26 57.6	
	comp=Z,61nm,0.9s							
PSAC3	**Pilbara Seismi**	**16.66**	**135**	Pn		**Pn**	**18 26 49.4**	**-3.5**
PSAC3				IAmb		IAmb	18 26 51.6	
	comp=Z,51nm,0.5s							
PSAC2	**Pilbara Seismi**	**16.67**	**135**	Pn		**Pn**	**18 26 50.4**	**-2.7**
PSAC2				IAmb		IAmb	18 26 57.7	
	comp=Z,78nm,1.1s							
PSAD2	**Pilbara Seismi**	**16.75**	**135**	Pn		**Pn**	**18 26 51.4**	**-2.7**
PSAD2				IAmb		IAmb	18 26 58.7	
	comp=Z,72nm,1.1s							
SOEI	**Soe**	**16.81**	**90**	P		**Pn**	**18 26 52.7**	**-2.2**
	comp=Z,113nm,1.3s,comp=Z,2μm							
SOEI	**Soe**	**16.81**	**90**			**Pn**	**18 26 52.7**	**-2.2**
SOEI				IAmb		IAmb	18 27 25.4	
	comp=Z,109nm,0.8s							
APSI	**Ampana**	**17.03**	**58**	P		**Pn**	**18 26 58.6**	**+1.1**
	comp=Z,57nm,0.8s,comp=Z,508nm							
MLSI	**Meulaboh, Aceh**	**17.89**	**323**	P		**Pn**	**18 27 03.2**	**-5.1**
	comp=Z,148nm,1.2s							
LUWI	**Luwuk**	**17.91**	**61**	P		P	18 27 20.8	+12
MRSI	**Marisa**	**18.05**	**55**	P		**Pn**	**18 27 10.5**	**+0.3**
	comp=Z,93nm,1.0s,comp=Z,822nm							
KKM	**Kota Kinabalu**	**18.39**	**30**	P		**P**	**18 27 13.2**	**-1.0**
KKM				IAmb		IAmb	18 27 15.5	
	comp=Z,51nm,0.8s							
TRTT	**Trang**	**19.35**	**337**	P		**P**	**18 27 24.4**	**-0.2**
	comp=Z,29nm,0.9s							
FITZ	**Fitzroy Crossi**	**19.54**	**116**	P		**P**	**18 27 27.3**	**+0.6**
	baz=20,SNR=61							
FITZ	**Fitzroy Crossi**	**19.54**	**116**	P		**Pn**	**18 27 28.4**	**+0.2**
	comp=Z,4.1nm,0.3s,baz=288,slow=7.7,SNR=72							
FITZ				S		S	18 30 51.8	-14
	comp=Z,1.4nm,0.3s,baz=180,slow=19,SNR=4.5							
FITZ				LR		LR	18 34 07.3	
	comp=Z,620nm,21.9s,baz=345,slow=34							
FITZ	**Fitzroy Crossi**	**19.54**	**116**	P		**Pn**	**18 27 28.4**	**+0.2**
FITZ				IAmb		IAmb	18 27 33.0	
	comp=Z,52nm,0.8s							
MEEK	**Meekatharra**	**19.65**	**148**	P		**Pn**	**18 27 29.2**	**-0.3**
	baz=20,SNR=18							
SANI	**Sanana**	**20.31**	**68**	P		**P**	**18 27 35.5**	**+0.3**
	comp=Z,49nm,1.2s							
MORW	**Morawa**	**20.59**	**158**	P		**P**	**18 27 37.4**	**-0.7**
	baz=21,SNR=7.1							
MORW	**Morawa**	**20.59**	**158**	P		**P**	**18 27 38.0**	**0.0**
MORW				IAmb		IAmb	18 27 43.1	
	comp=Z,40nm,1.2s							
SURT	**Suratani**	**20.72**	**336**	P		**P**	**18 27 39.7**	**+0.1**
	comp=Z,70nm,0.8s,comp=Z,832nm							
NLAI	**Namlea**	**20.89**	**72**	P		Pn	18 27 44.3	+0.1
	comp=Z,114nm,0.8s							
KNRA	**Kununurra**	**21.71**	**107**	P		**P**	**18 27 51.7**	**+1.4**
KNRA				IAmb		IAmb	18 27 56.7	
	comp=Z,117nm,1.1s							
AAI	**Ambon**	**21.78**	**74**	P		**P**	**18 27 53.6**	**+2.5**
	comp=Z,125nm,1.1s,comp=Z,1μm							
BLDU	**Ballidu**	**22.23**	**158**	P		**P**	**18 27 57.2**	**+1.6**
	baz=22,SNR=6.1							
TNTI	**Ternate**	**22.79**	**63**	P		**P**	**18 28 02.9**	**+1.0**
	comp=Z,88nm,1.0s,comp=Z,1μm							
TNTI	**Ternate**	**22.79**	**63**	P		**P**	**18 28 01.2**	**-0.6**
TNTI				IAmb		IAmb	18 28 05.7	
	comp=Z,113nm,1.1s							
MUN	**Mundaring**	**23.29**	**160**	P		**P**	**18 28 06.9**	**+0.1**
	baz=23,SNR=4.0							
MTN	**Manton Dam**	**23.60**	**99**	P		**P**	**18 28 11.2**	**+1.3**
	baz=24,SNR=13							
MTN	**Manton Dam**	**23.60**	**99**	P		**P**	**18 28 10.9**	**+1.0**
MTN				IAmb		IAmb	18 28 46.0	
	comp=Z,32nm,0.8s							
PATY	**Pattaya**	**23.75**	**344**	P		**P**	**18 28 16.2**	**+5.0**
SAUI	**Saumlaki**	**23.88**	**87**	P		**P**	**18 28 13.4**	**+0.8**
	comp=Z,114nm,0.7s							
SAUI	**Saumlaki**	**23.88**	**87**	P		**P**	**18 28 11.8**	**-0.8**
SAUI				IAmb		IAmb	18 28 36.4	
	comp=Z,120nm,1.0s							
NWAO	**Narrogin (SRO)**	**24.51**	**159**	P		**P**	**18 28 20.0**	**+1.8**
	baz=25,SNR=3.8							
NWAO	**Narrogin (SRO)**	**24.51**	**159**	P		**P**	**18 28 17.7**	**-0.5**
NWAO				IAmb		IAmb	18 28 20.0	
	comp=Z,23nm,0.8s							
NWAO	**Narrogin (SRO)**	**24.51**	**159**	P		**P**	**18 28 18.1**	**-0.1**
SRAK	**Srakaew**	**24.52**	**348**	P		**P**	**18 28 18.5**	**+0.1**
	comp=Z,185μm,0.6s							
KCP	**Kidapawan**	**24.63**	**47**	⇓P		**P**	**18 28 21.3**	**+1.8**
KDU	**Kakadu**	**24.89**	**98**	P		**P**	**18 28 23.1**	**+1.3**
	baz=25,SNR=26							
WRKA	**Warakurna**	**24.93**	**129**	P		**P**	**18 28 22.9**	**+0.7**
	baz=25,SNR=32							
DAV	**Davao City (W)**	**25.03**	**48**	P		**P**	**18 28 24.8**	**+1.7**
	comp=Z,74nm,0.3s,baz=160,slow=1.5,SNR=4.1							
DAV				LR		LR	18 38 53.9	
	comp=Z,186nm,20.2s,baz=178,slow=38							
DAV	**Davao City (W)**	**25.03**	**48**	IAmb		IAmb	18 29 12.4	
	comp=Z,297nm,0.5s							
KMBL	**Kambalda**	**25.15**	**149**	P		**P**	**18 28 23.8**	**-0.2**
	baz=25,SNR=4.9							
UBPT	**Khong Chiam**	**25.30**	**356**	P		**P**	**18 28 24.9**	**-0.5**
UBPT				IAmb		IAmb	18 28 27.1	
	comp=Z,12nm,0.7s							
H01W3	**Cape Leeuwin H**	**25.45**	**167**	T		T	18 55 22.2	
	baz=342,slow=74							
H01W1	**Cape Leeuwin H**	**25.46**	**167**	T		T	18 55 00.5	
	baz=342,SNR=33							
H01W2	**Cape Leeuwin H**	**25.46**	**167**	T		T	18 55 23.1	
	baz=342,slow=74							
SRDT	**SRDT**	**25.60**	**342**	P		**P**	**18 28 30.4**	**+2.2**
	comp=Z,26nm,1.4s							
SWI	**Sorong**	**25.62**	**70**	P		**P**	**18 28 29.1**	**+0.6**
	comp=Z,31nm,0.9s							
SIJI	**Sorong**	**25.62**	**70**	P		**P**	**18 28 29.8**	**+1.2**
	comp=Z,5.3nm,0.5s,baz=328,slow=3.8,SNR=5.6							
FAKI	**Fak Fak**	**25.87**	**76**	P		**P**	**18 28 32.1**	**+1.4**
FAKI				IAmb		IAmb	18 28 52.9	
	comp=Z,33nm,0.8s							
UTHA	**Uthaitani**	**26.65**	**343**	P		**P**	**18 28 39.8**	**+2.1**
	comp=Z,41μm,1.0s,comp=Z,337μm							
SKNT	**Sakolnakorn**	**27.11**	**353**	P		**P**	**18 28 46.2**	**+4.4**
	comp=Z,27nm,2.3s							
PBKT	**Sadao Pong**	**27.23**	**347**	P		**P**	**18 28 44.0**	**+1.1**
	comp=Z,14nm,0.9s							
PBKT	**Sadao Pong**	**27.23**	**347**	P		**P**	**18 28 43.0**	**+0.2**
PBKT				IAmb		IAmb	18 28 46.6	
	comp=Z,24nm,1.1s							
UMPA	**Umpang Tak**	**27.43**	**342**	P		**P**	**18 28 44.9**	**+0.1**
	comp=Z,36μm,0.8s,comp=Z,315μm							
TGY	**Tagaytay City**	**27.65**	**30**	LR		LR	18 42 29.4	
	comp=Z,102nm,19.9s,baz=258,slow=42							
WRA	**Warramunga Arr**	**27.92**	**114**	P		**P**	**18 28 49.7**	**+0.5**
	comp=Z,13nm,0.9s,baz=286,slow=11,SNR=60							
WRA				LR		LR	18 40 55.8	
	comp=Z,334nm,19.3s,baz=285,slow=38							
WRAB	**Tennant Creek**	**27.93**	**114**	P		**P**	**18 28 48.7**	**-0.5**
WRAB				IAmb		IAmb	18 29 26.1	
	comp=Z,15nm,0.6s							
WB2	**Warramunga Arr**	**27.93**	**114**	P		**P**	**18 28 49.1**	**-0.2**
WB2				IAmb		IAmb	18 28 50.9	
	comp=Z,19nm,1.0s							
WR0	**Warramunga Arr**	**28.11**	**114**	P		**P**	**18 28 51.0**	**+0.2**
WR0				IAmb		IAmb	18 29 27.2	
	comp=Z,16nm,0.8s							
RKPI	**Ransiki, Papua**	**28.14**	**74**	P		**P**	**18 28 54.7**	**+3.6**
	comp=Z,88nm,1.0s							
FORT	**Forrest**	**28.26**	**140**	P		**P**	**18 28 51.4**	**-0.6**
FORT				IAmb		IAmb	18 29 35.1	
	comp=Z,42nm,0.7

LSA				IAmb	IAmb	18 31 16.3		
	comp=Z,16nm,0.8s							
JIRN	**Jiri**	**42.72**	**332**	*eP*	**P**	**18 30 56.7**	**+0.3**
PKI	**Pulchoki**	**43.02**	**331**	*eP*	**P**	**18 30 58.6**	**-0.1**
	comp=Z,9.4nm,0.6s							
PKIN	**Phulchoki**	**43.03**	**331**	*eP*	**P**	**18 30 58.5**	**-0.2**
GUN	**Gumba**	**43.08**	**332**	*eP*	**P**	**18 30 59.2**	**0.0**
DMN	**Daman**	**43.19**	**331**	*eP*	**P**	**18 31 00.1**	**+0.1**
	comp=Z,52nm,1.0s							
KKN	**Kakani**	**43.26**	**331**	*eP*	**P**	**18 31 00.6**	**+0.1**
	comp=Z,88nm,1.4s							
NJ2	**Nanjing**	**43.39**	**14**	*eP*	**P**	**18 31 02.3**	**+1.1**
NJ2				pmax	pmax			
	comp=Z,19nm,0.6s							
GKN	**Gorkha**	**43.75**	**331**	*eP*	**P**	**18 31 04.6**	**+0.2**
XAN	**Xi'an**	**43.95**	**2**	P	**P**	**18 31 08.3**	**+2.5**
XAN				S	**S**	**18 37 34.5**	**-0.7**
XAN				pmax	pmax			
	comp=Z,18nm,0.8s							
XAN				pmax	pmax			
	comp=Z,77nm,4.5s							
XAN				LR	LR			
	comp=Z,260nm,13.0s							
XAN				LR	LR			
	comp=Z,450nm,13.4s							
XAN				LR	LR			
	comp=Z,300nm,16.5s							
XAN	**Xi'an**	**43.95**	**2**	P	**P**	**18 31 05.6**	**-0.2**
XAN				IAmb	IAmb	18 31 26.8		
	comp=Z,20nm,0.9s							
KOLN	**Koldanda**	**44.06**	**329**	*eP*	**P**	**18 31 06.9**	**-0.1**
	comp=Z,43nm,0.6s							
EIDS	**Eidsvold**	**44.23**	**116**	P	**P**	**18 31 09.6**	**+1.4**
EIDS				IAmb	IAmb	18 31 29.8		
	comp=Z,12nm,1.2s							
DANN	**Dangsing**	**44.46**	**330**	*eP*	**P**	**18 31 10.0**	**-0.3**
	comp=Z,51nm,0.7s							
YNG	**Young**	**44.65**	**129**	P	**P**	**18 31 12.2**	**+0.7**
	baz=45,SNR=11							
CAN	**Canberra**	**45.51**	**130**	P	**P**	**18 31 19.9**	**+1.6**
CAN				IAmb	IAmb	18 31 33.7		
	comp=Z,42nm,1.4s							
ARMA	**Armidale**	**45.94**	**123**	P	**P**	**18 31 24.1**	**+2.2**
ARMA				IAmb	IAmb	18 31 30.5		
	comp=Z,74nm,2.0s							
LZH	**Lanzhou**	**46.07**	**356**	*eP*	**P**	**18 31 23.8**	**+1.1**
LZH				pP	pP	18 31 28.0	-3.1	
LZH				sP	sP	18 31 31.1	-3.4	
LZH				pmax	pmax			
	comp=Z,25nm,1.3s							
LZH				pmax	pmax			
	comp=Z,300nm,6.5s							
LZH				LR	LR			
	comp=Z,470nm,14.1s							
LZH				LR	LR			
	comp=Z,400nm,13.6s							
LZH				LR	LR			
	comp=Z,550nm,16.8s							
GTA	**Gaotai**	**49.76**	**352**	*eP*	**P**	**18 31 52.3**	**+1.1**
GTA				pP	pP	18 31 56.8	-2.9	
GTA				sP	sP	18 31 59.9	-3.1	
GTA				S	**S**	**18 38 58.9**	**+0.7**
GTA				pmax	pmax			
	comp=Z,7.0nm,1.3s							
GTA				pmax	pmax			
	comp=Z,270nm,7.8s							
GTA				LR	LR			
	comp=Z,230nm,18.1s							
GTA				LR	LR			
	comp=Z,580nm,20.0s							
GTA				LR	LR			
	comp=Z,300nm,20.3s							
HHC	**Hu-ho-hao-te**	**50.87**	**4**	P	**P**	**18 32 01.2**	**+1.6**
HHC				pmax	pmax			
	comp=Z,7.0nm,0.8s							
KSRS	**Korea Array**	**51.16**	**21**	P	**P**	**18 32 03.5**	**+1.9**
	comp=Z,1.4nm,0.5s,baz=217,slow=7.1,SNR=4.3							
KSRS				LR	LR	18 56 33.6		
	comp=Z,44nm,18.6s,baz=195,slow=39							
NIL	**Nilore**	**54.20**	**325**	P	**P**	**18 32 22.1**	**-2.2**
NIL				IAmb	IAmb	18 32 42.2		
	comp=Z,16nm,0.8s							
MAJO	**Matsushiro**	**54.82**	**30**	P	**P**	**18 32 26.3**	**-2.4**
MAJO				IAmb	IAmb	18 32 45.2		
	comp=Z,93nm,1.8s							
MJAR	**Matsushiro Arr**	**54.82**	**30**	P	**P**	**18 32 31.5**	**+2.8**
	comp=Z,1.5nm,0.4s,baz=219,slow=7.6,SNR=8.0							
MJB9	**Matsu-Tunnel**	**54.82**	**30**	P	**P**	**18 32 26.2**	**-2.5**
MJB9				IAmb	IAmb	18 32 45.2		
	comp=Z,94nm,1.8s							
CN2	**Changchun**	**56.17**	**16**	*eP*	**P**	**18 32 41.0**	**+2.7**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
WMQ	**Urumqi**	**56.54**	**343**	*eP*	**P**	**18 32 41.5**	**+0.5**
WMQ				pP	pP	18 32 44.7	-4.9	
WMQ				pmax	pmax			
	comp=Z,9.0nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,240nm,5.5s							
WMQ				LR	LR			
	comp=Z,490nm,28.9s							
WMQ				LR	LR			
	comp=Z,980nm,29.1s							
KSH	**Kashi**	**57.28**	**332**	P	**P**	**18 32 46.2**	**-0.2**
KSH				sP	pP	18 32 53.3	-1.8	
KSH				PcS	**PcS**	**18 37 40.3**	**-1.2**
KSH				S	**S**	**18 40 39.1**	**-1.2**
KSH				SS	**SS**	**18 44 31.0**	**+0.8**
KSH				pmax	pmax			
	comp=Z,34nm,1.1s							
KSH				pmax	pmax			
	comp=Z,230nm,5.3s							
KSH				LR	LR			
	comp=Z,430nm,5.5s							
KSH				LR	LR			
	comp=Z,580nm,6.0s							
KSH				LR	LR			
	comp=Z,970nm,5.1s							
SONM	**Songino Array**	**57.70**	**359**	P	**P**	**18 32 49.5**	**+0.3**
	comp=Z,4.0nm,0.5s,baz=180,slow=8.0,SNR=22							
ULN	**Ulaanbaatar**	**57.73**	**360**	P	**P**	**18 32 49.9**	**+0.5**
ULN				IAmb	IAmb	18 32 55.6		
	comp=Z,12nm,0.8s							
DZM	**Mont Dzumac**	**57.83**	**110**	*eLR*	LR	18 49 40.3		
	comp=Z,457nm,25.9s							
USRK	**Ussuriysk Ar.**	**58.55**	**21**	P	**P**	**18 32 55.1**	**+0.1**
	comp=Z,3.0nm,0.5s,baz=200,slow=7.0,SNR=6.3							
NRN	**Naryn**	**58.79**	**333**	P	**P**	**18 32 56.2**	**-1.0**
NRN				IAmb	IAmb	18 33 17.0		
	comp=Z,7.6nm,0.9s							
KDJ	**Kajisay**	**58.84**	**334**	P	**P**	**18 32 57.1**	**-0.2**
KDJ				IAmb	IAmb	18 33 17.4		
	comp=Z,13nm,0.8s							
GAR	**Garm**	**59.72**	**327**	P	**P**	**18 33 01.4**	**-2.0**
GAR				IAmb	IAmb	18 33 16.4		
	comp=Z,14nm,0.7s							
CHGR	**Chuyangaron**	**60.10**	**326**	P	**P**	**18 33 03.7**	**-2.3**
CHGR				IAmb	IAmb	18 33 13.1		
	comp=Z,25nm,1.0s							
ARSB	**Arslanbob**	**60.11**	**331**	P	**P**	**18 33 05.3**	**-0.8**
ARSB				IAmb	IAmb	18 33 23.6		
	comp=Z,14nm,0.9s							
BTK	**Batken**	**60.24**	**328**	P	**P**	**18 33 06.5**	**-0.4**
BTK				IAmb	IAmb	18 33 26.6		
	comp=Z,11nm,0.8s							
AAK	**Ala-Archa**	**60.43**	**333**	P	**P**	**18 33 08.5**	**+0.2**
AAK				IAmb	IAmb	18 33 41.8		
	comp=Z,5.2nm,0.9s							
MK31	**Makanchi Array**	**60.88**	**341**	P	**P**	**18 33 11.2**	**+0.1**
MK31				IAmb	IAmb	18 33 40.5		
	comp=Z,21nm,1.3s							
MKAR	**Makanchi Array**	**60.88**	**341**	P	**P**	**18 33 10.9**	**-0.2**
	comp=Z,7.4nm,0.6s,baz=140,slow=7.7,SNR=38							
MKAR				LR	LR	19 02 42.7		
	comp=Z,86nm,19.2s,baz=141,slow=39							
MAKZ	**Makanchi**	**60.99**	**340**		IAmb	IAmb	18 33 14.2	**+2.4**
MAKZ					IAmb	IAmb	18 33 41.3	
	comp=Z,16nm,1.4s							
MLZ	**Mavora Lakes**	**62.53**	**136**	P	**P**	**18 33 22.5**	**+0.1**
MLZ				IAmb	IAmb	18 35 20.6		
	comp=Z,125nm,1.9s							
KK31	**Karatay Array**	**62.66**	**330**	P	**P**	**18 33 21.5**	**-1.6**
KK31				IAmb	IAmb	18 34 20.3		
	comp=Z,2.9nm,0.8s							
KKAR	**Karatay Array**	**62.66**	**330**	P	**P**	**18 33 21.6**	**-1.6**
KKAR				IAmb	IAmb	18 34 20.3		
	comp=Z,2.9nm,0.8s							
MAW	**Mawson**	**64.46**	**197**	P	**P**	**18 33 35.4**	**+0.8**
	comp=Z,2.3nm,0.7s,baz=59,slow=5.9,SNR=2.5							
MAW	**Mawson**	**64.46**	**197**	IAmb	IAmb	18 35 50.1		
	comp=Z,13nm,2.0s							
KURK	**Kurchatov**	**65.49**	**340**	P	**P**	**18 33 41.2**	**-0.3**
KURK				IAmb	IAmb	18 33 44.8		
	comp=Z,17nm,0.8s							
GEYT	**Alibeck**	**66.23**	**319**	P	**P**	**18 33 45.9**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=142,slow=7.5,SNR=5.6							
GEYT				LR	LR	19 04 10.6		
	comp=Z,102nm,21.3s,baz=195,slow=37							
ZAA0	**Zalesovo Array**	**66.59**	**346**	P	**P**	**18 33 47.8**	**-0.7**
ZAA0				IAmb	IAmb	18 34 01.7		
	comp=Z,6.3nm,0.9s							
ZALV	**Zalesovo Beam**	**66.59**	**346**	P	**P**	**18 33 47.9**	**-0.6**
	comp=Z,2.7nm,0.5s,baz=160,slow=4.5,SNR=12							
BKZ	**Black Stump Fm**	**67.63**	**128**	P	**P**	**18 33 56.5**	**+0.8**
BKZ				IAmb	IAmb	18 33 57.6		
	comp=Z,34nm,1.1s							
URZ	**Urewera**	**68.04**	**127**	LR	LR	19 06 04.3		
	comp=Z,201nm,18.1s,baz=290,slow=38							
KMBO	**Kilima Mbogo**	**70.07**	**272**	LR	LR	18 58 55.3		
	comp=Z,77nm,21.2s,baz=92,slow=31							
BRVK	**Borovoye**	**70.37**	**337**	P	**P**	**18 34 11.3**	**-0.9**
BRVK				IAmb	IAmb	18 34 32.8		
	comp=Z,10nm,0.8s							
ABKAR	**Akbulak array**	**72.19**	**330**	P	**P**	**18 34 22.2**	**-1.0**
ABKAR				IAmb	IAmb	18 34 43.9		
	comp=Z,15nm,0.9s							
SYO	**Syowa Base**	**72.66**	**200**	*eP*	**P**	**18 34 24.4**	**-1.4**
VNDA	**Vanda**	**72.88**	**169**	P	**P**	**18 34 27.1**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=287,slow=8.8,SNR=5.4							
VNDA				LR	LR	19 05 16.9		
	comp=Z,61nm,18.2s,baz=318,slow=35							
VNDA	**Vanda**	**72.88**	**169**	P	**P**	**18 34 25.8**	**-1.2**
VNDA				IAmb	IAmb	18 34 42.4		
	comp=Z,4.9nm,1.1s							
SBA	**Scott Base**	**73.96**	**169**	P	**P**	**18 34 32.6**	**-0.8**
SBA				IAmb	IAmb	18 35 28.0		
	comp=Z,49nm,1.8s							
PEA0B	**Petropavlovsk-**	**76.21**	**29**	P	**P**	**18 34 46.5**	**-0.2**
PEA0B				IAmb	IAmb	18 37 26.8		
	comp=Z,143nm,1.5s							
PETK	**Petropavlovsk-**	**76.21**	**29**	P	**P**	**18 34 47.0**	**+0.4**
	comp=Z,9.9nm,0.9s,baz=214,slow=1.8,SNR=9.6							
PETK				LR	LR	19 11 03.3		
	comp=Z,54nm,19.7s,baz=241,slow=38							
LSZ	**Lusaka**	**76.90**	**257**	P	**P**	**18 34 53.2**	**+1.7**
	comp=Z,1.5nm,0.2s,baz=98,slow=4.6,SNR=5.9							
LSZ	**Lusaka**	**76.90**	**257**	IAmb	IAmb	18 35 03.3		
	comp=Z,13nm,1.3s							
BOSA	**Boshof**	**78.21**	**243**	LR	LR	19 04 55.8		
	comp=Z,143nm,18.2s,baz=74,slow=32							
LBTB	**Lobatse**	**78.24**	**246**	LR	LR	19 03 05.9		
	comp=Z,69nm,18.7s,baz=94,slow=31							
KBZ	**Khabaz**	**79.10**	**318**	P	**P**	**18 35 05.1**	**+2.2**
	comp=Z,4.9nm,0.9s,baz=145,slow=7.5,SNR=6.2							
QSPA	**South Pole Qui**	**79.89**	**180**	LR	LR	19 06 33.0		
	comp=Z,92nm,18.1s,baz=298,slow=33							
SUR	**Sutherland**	**81.64**	**239**	LR	LR	19 04 02.6		
	comp=Z,140nm,19.8s,baz=104,slow=30							
TIXI	**Tiksi**	**82.86**	**7**	P	**P**	**18 35 21.5**	**-0.9**
TIXI				IAmb	IAmb	18 35 34.3		
	comp=Z,18nm,0.7s							
BRTR	**Keskin Array B**	**84.05**	**312**	P	**P**	**18 35 29.0**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=144,slow=5.7,SNR=6.5							
BRTR				LR	LR	19 12 46.2		
	comp=Z,44nm,22.0s,baz=113,slow=36							
SNAA	**Sanae**	**86.63**	**197**	P	**P**	**18 35 42.3**	**+0.7**
SNAA	**Sanae**	**86.63**	**197**	P	**P**	**18 35 40.9**	**-0.8**
SNAA				IAmb	IAmb	18 35 57.1		
	comp=Z,5.7nm,1.2s							
VNA2	**Neumayer--Watz**	**88.27**	**197**	P	**P**	**18 35 49.6**	**+0.1**
	baz=86,slow=4.7							
VNA1	**Neumayer--Stat**	**88.66**	**198**	P	**P**	**18 35 51.3**	**+0.1**
VNA3	**Neumayer Olymp**	**88.78**	**197**	P	**P**	**18 35 52.7**	**+0.7**
RAR	**Rarotonga**	**89.17**	**111**	LR	LR	19 11 52.8		
	comp=Z,53nm,21.8s,baz=274,slow=33							
FINES	**FINESS Array B**	**94.60**	**332**	LR	LR	19 25 02.2		
	comp=Z,47nm,18.4s,baz=34,slow=39							
VYHS	**Vyhne**	**96.42**	**318**	*e*	PDIFF	**P**	**18 36 26.6**	**-0.9**
TBI	**Tubuai**	**98.04**	**115**	*e*	LR	LR	19 08 37.8	
	comp=Z,136nm,28.0s							
PPT2	**Papeete2**	**99.34**	**110**	*e*	LR	LR	19 09 22.0	
	comp=Z,80nm,24.8s							
PPT	**Papeete**	**99.34**	**110**	LR	LR	19 18 16.3		
	comp=Z,22nm,20.9s,baz=259,slow=33							
YKA	**Yellowknife Ar**	**119.69**	**21**	PKP		**PKPdf**	**18 41 46.6**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=296,slow=1.6,SNR=3.4							
NVAR	**Mina Array Bea**	**130.54**	**48**	PKP		**PKiKP**	**18 42 11.6**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=236,slow=1.6,SNR=4.5							
BDFB	**Brasilia**	**144.54**	**224**	PKP		**PKPdf**	**18 42 37.0**	**+1.0**
	comp=Z,4.5nm,0.6s,baz=125,slow=6.7,SNR=4.3							
GO02	**Mina Guanaco**	**144.79**	**185**			**PKPdf**	**18 42 35.9**	**-0.6**
TX31	**Lajitas Ar. Si**	**145.39**	**52**			**PKPab**	**18 42 38.2**	**+1.0**
TX32	**Lajitas Array**	**145.39**	**52**			**PKPab**	**18 42 37.8**	**+0.6**
TXAR	**Lajitas Array**	**145.39**	**52**	PKPbc		**PKPab**	**18 42 38.9**	**+1.7**
	comp=Z,2.7nm,0.8s,baz=261,slow=2.3,SNR=11							
CCM	**Cathedral Cave**	**147.62**	**28**			**PKPdf**	**18 42 40.8**	**+0.3**
JCT	**Junction City**	**147.72**	**47**			**PKPdf**	**18 42 40.4**	**-0.5**
MGMO	**Mountain Grove**	**147.85**	**30**			**PKPbc**	**18 42 44.2**	**+0.3**
U40A	**Yellville**	**148.18**	**32**			**PKPbc**	**18 42 45.1**	**+0.4**
MIAR	**Mount Ida**	**149.14**	**35**			**PKiKP**	**18 42 48.4**	**-0.1**
LCAR	**Lake Charles**	**149.26**	**30**			**PKPbc**	**18 42 47.8**	**+0.3**
PB11	**IPOC Station P**	**150.15**	**186**			**PKPbc**	**18 42 50.0**	**-0.3**
GO01	**Chusmiza**	**150.19**	**187**			**PKiKP**	**18 42 51.6**	**0.0**
WVT	**Waverly**	**150.73**	**25**			**PKiKP**	**18 42 51.6**	**-0.1**
PLAL	**Pickwick Lake**	**151.59**	**27**			**PKiKP**	**18 42 53.2**	**-0.3**
LPAZ	**La Paz**	**153.36**	**190**	PKPbc		**PKiKP**	**18 42 60.0**	**+1.5**
	comp=Z,2.1nm,1.1s,baz=176,slow=2.3,SNR=3.5							

*ISCJB **11** 18:49:59.2±1.0,27.°75S±0.°08×69.°20W±0.°06, h107km, Error ellipse: s-maj=10.9km s-min=7.5km az=10.0*
*SJA **11** 18:49:59.5±0.3,27.°78S×68.°96W, h140km±6km, ML2.9, MW3.2*
*GUC **11** 18:50:00.0±0.6,27.°82S×69.°40W, h111km±9km, ML3.3*

ISC 11 18:49:58.8±1.6**,27.°65S**±0.°08×**69.°18W**±0.°06**, h107**km**, n11,**
σ1s60/16, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO03	**Copiap**	**0.94**	**273**	*i*	*P*	**Pn**	**18 50 19.7**	**+0.6**
GO03				*i*	S	**Sn**	**18 50 35.1**	**+0.6**
GO03					IAML		18 50 35.7	
	comp=E,2μm,0.1s							
VCA	**Vinchina**	**1.38**	**142**	*eP*		**Pn**	**18 50 25.7**	**+1.5**
VCA					IAML		18 50 48.7	
	comp=Z,99nm,0.4s							
AROD	**Rodeo**	**2.52**	**186**	*eP*		**Pn**	**18 50 40.9**	**+2.3**
AROD				*eS*		**Sn**	**18 51 11.4**	**+2.2**
ACLC	**CERRO LA CRUZ**	**2.64**	**132**	*eP*		**Pn**	**18 50 40.3**	**+0.2**
ACLC				*eS*		**Sn**	**18 51 10.2**	**-1.7**
GO04	**Tololo Observa**	**2.88**	**209**	*eP*		**Pn**	**18 50 43.2**	**-0.1**
GO04				*i*	S	**Sn**	**18 51 15.3**	**-2.3**
ACCO	**Cerro Coronel**	**2.92**	**178**	*eP*		**Pn**	**18 50 45.7**	**+1.7**
CYA	**Choya**	**3.09**	**106**	*eP*		**Pn**	**18 50 45.6**	**-0.3**
CYA					IAML		18 50 46.5	
	comp=Z,37nm,0.4s							
AMOG	**MOGNA**	**3.33**	**170**	*eP*		**Pn**	**18 50 49.6**	**+0.5**
CO02	**Combarbal**	**3.88**	**204**	*i*	*P*	**Pn**	**18 50 55.7**	**-0.8**
CO02				*e*	S	**Sn**	**18 51 38.6**	**-2.6**
RTLS	**Leoncito**	**4.13**	**181**	*eP*		**Pn**	**18 51 01.2**	**+1.1**
RTCV	**Cerro Valdivia**	**4.23**	**173**	*eP*		**Pn**	**18 51 01.8**	**+0.6**

*IDC **11** 18:52:23.1±1.4,27.°07N×125.°85E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/42, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=71.1km s-min=20.4km az=70.0*
*ISCJB **11** 18:52:25.3±0.8,27.°17N±0.°09×126.°2E±0.°1, h33km, mb3.4/4, Error ellipse: s-maj=15.6km s-min=9.2km az=135.8*
*JMA **11** 18:52:33.8±0.4,26.°79N×126.°79E, h34km±4km, M2.5*

ISC 11 18:52:27.0±1.0**,27.°04N**±0.°08×**126.°4E**±0.°1**, h35**km**, n12,**
σ2s43/14, mb3.5/4, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.80**	**154**	P		**Pn**	**18 52 43.5**	**+1.8**
JKE				*e*	S	**Sn**	**18 52 50.6**	**-1.7**
JAGN	**Aguni-jima**	**0.88**	**121**	P		**Pn**	**18 52 43.4**	**+0.5**
JAGN				*e*	S	**Sn**	**18 52 50.0**	**-4.5**
JIH	**Iheya**	**1.40**	**90**	P		**Pn**	**18 52 53.5**	**+3.4**
JJT3	**Tamagusuku3**	**1.53**	**125**	P		**Pn**	**18 52 53.9**	**+2.0**
JNTH	**Nagotoyohara**	**1.55**	**109**	P		**Pn**	**18 52 52.4**	**+0.4**
JOW	**Kunigami**	**1.69**	**97**	P		**Pn**	**18 52 54.5**	**+0.4**
JYRO	**Yoronjima**	**1.84**	**90**	P		**Pn**	**18 52 58.6**	**+2.6**
KSRS	**Korea Array**	**10.46**	**7**	Pn		**Pn**	**18 54 54.5**	**+0.1**
	0.3nm,0.3s,baz=190,slow=15,SNR=3.5							
KSRS				Lg	Lg	18 57 50.1		
	0.2nm,0.3s,baz=194,slow=30,SNR=7.4							
SONM	**Songino Array**	**25.99**	**328**	P		**P**	**18 57 55.2**	**-1.3**
	0.5nm,0.6s,baz=146,slow=9.1,SNR=3.7							
MKAR	**Makanchi Array**	**39.77**	**312**	P		**P**	**18 59 54.4**	**-2.1**
	0.3nm,0.4s,baz=98,slow=9.1,SNR=5.7							
WRA	**Warramunga Arr**	**47.34**	**170**	P		**P**	**19 00 59.4**	**+1.9**
	0.5nm,0.6s,baz=351,slow=8.4,SNR=3.6							
ASAR	**Alice Springs**	**50.93**	**171**	P		**P**	**19 01 27.3**	**+2.3**
	0.5nm,0.6s,baz=355,slow=8.5,SNR=11							

*ISCJB **11** 18:53:19.8±0.7,61.°1S±0.°2×26.°6W±0.°4, h10km, mb4.1/6, MS3.3/1, Error ellipse: s-maj=36.2km s-min=8.4km az=142.3*
*IDC **11** 18:53:21.1±0.8,60.°74S×26.°58W, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.0/29, mbtmp4.2/6, MS3.4/1, Ms1 3.4/1, ms1mx2.8/17, Error ellipse: s-maj=37.9km s-min=22.9km az=59.0*
*NEIC **11** 18:53:22.5±2.2, 60.°94S±0.°09×26.°6W±0.°3, h10km±1km, mb4.6/6*

ISC 11 18:53:22.0±0.7**, 60.°9S**±0.°2×**26.°4W**±0.°2**, h10**km**, n27,**
σ1s28/23, mb4.3/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.23**	**151**	P		**Pn**	**18 56 15.2**	**-0.7**
VNA1				S		Sn	18 58 22.9	-9.2
VNA3	**Neumayer Olymp**	**12.34**	**154**	P		**Pn**	**18 56 16.1**	**-1.4**
VNA3				S		Sn	18 58 22.0	-13
VNA2	**Neumayer--Watz**	**12.63**	**151**	P		**Pn**	**18 56 19.9**	**-1.6**
	baz=311,slow=14							
VNA2				S		Sn	18 58 32.5	-9.4
	baz=314,slow=23							
SNAA	**Sanae**	**14.23**	**149**	P		**Pn**	**18 56 41.9**	**-1.4**
SNAA				S		Sn	18 59 08.8	-12
SNAA	**Sanae**	**14.23**	**149**	Pn		**Pn**	**18 56 42.0**	**-1.4**
	2.7nm,0.3s,baz=329,slow=20,SNR=88							
SNAA				Sn		Sn	18 59 08.6	-13
	0.4nm,0.3s,baz=349,slow=19,SNR=4.6							
SNAA	**Sanae**	**14.23**	**149**			**Pn**	**18 56 41.5**	**-1.9**
SNAA						Sn	18 59 11.2	-10
QSPA	**South Pole Qui**	**29.34**	**180**	P		**P**	**18 59 27.7**	**+3.0**
	5.8nm,1.0s,baz=201,slow=8.6,SNR=9.1							
QSPA	**South Pole Qui**	**29.34**	**180**	P		**P**	**18 59 25.1**	**+0.4**
QSPA				IAmb	IAmb	19 00 10.8		
	comp=Z,9.0nm,0.9s							
TRQA	**Tornquist**	**31.85**	**300**	P		**P**	**18 59 47.1**	**+0.2**
TRQA				IAmb	IAmb	18 59 48.4		
	comp=Z,13nm,1.4s							
CFA	**Coronel Fontan**	**40.02**	**298**	P		**P**	**19 00 55.8**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=162,slow=5.7,SNR=4.3							
CPUP	**Villa Florida**	**40.42**	**315**	P		**P**	**19 00 59.1**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=152,slow=9.1,SNR=6.5							
CPUP	**Villa Florida**	**40.42**	**315**	P		**P**	**19 00 59.2**	**-1.0**
VNDA	**Vanda**	**41.74**	**183**	LR	LR	19 16 56.3		
	comp=Z,46nm,21.0s,baz=200,slow=34							
GO02	**Mina Guanaco**	**46.22**	**301**	P		**P**	**19 01 47.3**	**0.0**
MNMC	**Minye Minye**	**51.59**	**304**	P		**P**	**19 02 27.9**	**-0.7**
MNMC				IAmb	IAmb	19 02 31.6		
	comp=Z,5.5nm,0.6s							
LPAZ	**La Paz**	**53.59**	**307**	P		**P**	**19 02 43.5**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=126,slow=8.7,SNR=4.7							
LPAZ	**La Paz**	**53.59**	**307**	P		**P**	**19 02 43.7**	**-0.1**
LPAZ				IAmb	IAmb	19 02 46.8		
	comp=Z,5.2nm,1.4s							
H10N1	**ASCENSION HYDR**	**53.68**	**15**	T		T	20 01 01.0	
	baz=186							
H10N3	**ASCENSION HYDR**	**53.69**	**15**	T		T	20 01 03.8	
	baz=186,slow=74							
H10N2	**ASCENSION HYDR**	**53.70**	**15**	T		T	20 01 02.9	
	baz=186,slow=74							
TORD	**Torodi Ar. Bea**	**77.12**	**28**	P		**P**	**19 05 16.3**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=197,slow=5.7,SNR=8.0							
ASAR	**Alice Springs**	**94.24**	**162**	P		**P**	**19 06 41.9**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=184,slow=4.5,SNR=9.5							
ULM	**Lac du Bonnet**	**123.97**	**314**	PKP		**PKPdf**	**19 12 18.0**	**-1.1**
	comp=Z,2.1nm,0.5s,baz=112,slow=5.4,SNR=4.1							
YKA	**Yellowknife Ar**	**139.95**	**314**	PKP		**PKiKP**	**19 12 50.8**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=126,slow=2.3,SNR=4.9							
SONM	**Songino Array**	**150.28**	**94**	PKPbc		**PKPbc**	**19 13 12.1**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=207,slow=3.2,SNR=2.8							
DOT	**Dot Lake**	**151.87**	**303**			**PKiKP**	**19 13 17.4**	**+1.6**
ILAR	**Eielson Array**	**153.

PSRA	**Psara**	**0.46**	**263**	P	**Pb**	**19 01 09.2**	**+0.7**
PSRA				S	**Sb**	**19 01 15.5**	**+0.4**
ZEY	**zmir**	**0.46**	**142**	*i* P	**Pb**	**19 01 08.4**	**-0.3**
ZEY				IAML		19 01 14.0	
	comp=N,270nm,1.0s						
ZEY				*i* S	**Sg**	**19 01 14.6**	**0.0**
ZEY				IAML		19 01 15.0	
	comp=E,205nm,0.2s						
SIGR	**SIGRI**	**0.65**	**340**	P	**Pg**	**19 01 11.3**	**-0.5**
SIGR				S	**Sg**	**19 01 20.7**	**+0.2**
	comp=E,692nm,0.4s						
SIGR	**SIGRI**	**0.65**	**340**	P	**Pg**	**19 01 11.5**	**-0.3**
SIGR				S	**Sg**	**19 01 20.8**	**+0.4**
PRK	**Paraskevi**	**0.65**	**9**	P	**Pg**	**19 01 11.9**	**0.0**
PRK				S	**Sn**	**19 01 22.8**	**-0.6**
	comp=E,435nm,0.3s						
PRK	**Paraskevi**	**0.65**	**9**	P	**Pg**	**19 01 11.0**	**-0.9**
PRK				S	**Sb**	**19 01 21.4**	**+0.7**
PRK				AML	AML	19 01 24.5	
	comp=E,766µm,0.3s						
PRK				AML	AML	19 01 24.5	
	comp=N,940µm,0.4s						
DGB	**zmir**	**0.80**	**133**	*i* P	**Pg**	**19 01 14.2**	**-0.4**
DGB				*i* S	**Sb**	**19 01 25.6**	**+0.6**
DGB				IAML		19 01 26.0	
	comp=N,48nm,0.6s						
DGB				IAML		19 01 27.0	
	comp=E,52nm,0.2s						
ZEDA	**zmir-Bergama**	**0.82**	**63**	*i* P	**Pn**	**19 01 15.6**	**-0.1**
ZEDA				*i* S	**Sb**	**19 01 26.3**	**+0.8**
ZEDA				IAML		19 01 28.0	
	comp=N,111nm,0.3s						
ZEDA				IAML		19 01 29.0	
	comp=E,69nm,0.4s						
SMG	**Samos**	**1.05**	**148**	P	**Pb**	**19 01 18.5**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**1.18**	**15**	*i* P	**Pn**	**19 01 20.2**	**-0.6**
BAYC				*i* S	**Sb**	**19 01 35.9**	**-0.2**
BAYC				IAML		19 01 37.0	
	comp=N,23nm,0.2s						
BAYC				IAML		19 01 42.0	
	comp=E,27nm,0.4s						
BOZC	**Bozcaada**	**1.24**	**357**	*i* P	**Pb**	**19 01 22.7**	**+0.7**
AKHS	**Akhisar**	**1.34**	**78**	*i* P	**Pg**	**19 01 26.1**	**+1.3**
AKHS				*i* S	**Sg**	**19 01 42.6**	**+0.3**
AKHS				IAML		19 01 45.0	
	comp=E,23nm,0.5s						
STEP	**BALIKESIR_Sava**	**1.45**	**57**	*i* P	**Pg**	**19 01 26.6**	**-0.5**
STEP				*i* S	**Sg**	**19 01 45.8**	**-0.2**
STEP				IAML		19 01 47.0	
	comp=E,46nm,0.8s						
BALY	**Balya**	**1.62**	**45**	*i* P	**Pg**	**19 01 30.0**	**-0.2**
BALY				*i* S	**Sg**	**19 01 51.1**	**-0.2**
BALY				IAML		19 01 55.0	
	comp=N,51nm,0.4s						
BALY				IAML		19 01 55.0	
	comp=E,41nm,0.5s						

SJA 11 19:09:41.7±0.3, 31°32S×69°18W, h105km±2km, ML2.2, MW2.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.49**	**191**	*e*P	Pn	19 09 59.5	+1.1
RTLS				IAML		19 09 59.6	
	comp=Z,56nm,0.3s						
RTLS				*e*S	Sn	19 10 12.6	+1.8
RTLS	**Leoncito**	**0.49**	**191**	*i* P	Pn	19 09 59.4	+1.1
RTLS				IAML		19 09 59.6	
	comp=Z,56nm,0.3s						
RTLS				*i* Sg	Sn	19 10 12.5	+1.7
AMOG	**MOGNA**	**0.70**	**58**	*e*P	Pn	19 10 01.2	+1.5
AMOG				*e*S	Sn	19 10 14.9	+1.7
AMOG	**MOGNA**	**0.70**	**58**	*i* P	Pn	19 10 00.5	+0.8
ACCO	**Cerro Coronel**	**0.74**	**8**	*e*P	Pn	19 10 02.3	+2.0
ACCO	**Cerro Coronel**	**0.74**	**8**	*i* P	Pn	19 10 01.5	+1.1
ACCO				*i* Sg	Sn	19 10 16.1	+1.9
RTCV	**Cerro Valdivia**	**0.77**	**135**	*e*P	Pn	19 10 01.3	+1.0
RTCV				*e*S	Sn	19 10 15.4	+1.1
CFA	**Coronel Fontan**	**0.86**	**110**	*i* P	Pn	19 10 01.8	+0.7
CFA				*i* Sg	Sn	19 10 16.8	+1.0
AROD	**Rodeo**	**1.18**	**348**	*e*P	Pn	19 10 06.9	+2.1
ASAL	**Salagasta**	**1.30**	**167**	*e*P	Pn	19 10 07.1	+1.1
ASAL	**Salagasta**	**1.30**	**167**	*i* P	Pn	19 10 06.9	+0.9
ARCO	**CERRO ARCO**	**1.53**	**172**	*i* P	Pn	19 10 09.9	+1.1
ARCO				IAML		19 10 31.8	
	comp=Z,30nm,0.7s						
AAGR	**Agrelo**	**1.79**	**170**	*i* P	Pn	19 10 12.9	+1.1
ACAN	**Cantantal**	**1.95**	**120**	*i* P	Pn	19 10 15.0	+1.2
VCA	**Vinchina**	**2.71**	**18**	*e*P	Pn	19 10 25.6	+1.6
VCA				IAML		19 11 07.7	
	comp=Z,4.8nm,0.2s						

*ISCJB **11** 19:10:08.8±2.2, 14°.4N±0°.3×92°.3W±0°.2, h61km±31km, Error ellipse: s-maj=53.9km s-min=8.2km az=26.2*
*MEX **11** 19:10:08.5±0.5, 14°.44N×92°.05W, h78km±24km, MD3.6*
*GCG **11** 19:10:10.0±0.6, 14°.21N×92°.11W, h21km±5km, MD3.4*

ISC 11 19:10:09.9±3.0, 14°.4N±0°.4×92°.2W±0°.2, h62km±35km, n5, σ0§50/10, 1C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.47**	**355**	*e*P	**Pn**	**19 10 21.6**	**-0.2**
THIG				*i* S	**Sn**	**19 10 30.8**	**+0.5**
STG3	**Santiaguito 3,**	**0.69**	**66**	*e*P	**Pn**	**19 10 23.7**	**-0.7**
STG3				*e*S	**Sn**	**19 10 35.1**	**+0.3**
FUG	**Fuego 3**	**1.34**	**89**	*e*P	**Pn**	**19 10 32.6**	**0.0**
FUG				*e*S	**Sn**	**19 10 50.2**	**+0.6**
PCIG		**1.59**	**323**	*e*P	**Pn**	**19 10 35.5**	**-0.4**
PCIG				‖ *i*S	**Sn**	**19 10 55.9**	**+0.5**
IXG	**Ixpaco**	**1.75**	**98**‖	*e*P	**Pn**	**19 10 38.2**	**0.0**
IXG				*e*S	**Sn**	**19 10 59.3**	**-0.2**

*IDC **11** 19:10:34.9±0.8, 33°.91N×89°.32E, h0km, mb3.8/9, mb1 3.9/13, mb1mx3.7/42, mbtmp3.7/13, ML3.3/4, MS3.3/8, Ms1 3.4/8, ms1mx3.1/34, Error ellipse: s-maj=32.1km s-min=16.4km az=53.0*
*BJI **11** 19:10:36.5±0.0, 34°.09N×89°.22E, h6km, mb4.0/6, ML4.1/1, Ms4.0/4, Ms7 3.7/2*
*ISCJB **11** 19:10:37.8±0.4, 34°.05N±0°.04×89°.34E±0°.09, h35km, mb3.7/8, MS3.2/4, Error ellipse: s-maj=11.2km s-min=5.3km az=13.8*

ISC 11 19:10:40.4±0.7, 34°.08N±0°.07×89°.23E±0°.09, h35km, n32, σ1§28/27, mb3.8/8, MS3.2/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.66**	**159**	Pn	**Pn**	**19 11 52.1**	**+3.4**
LSA				*s*max	*s*max		
	comp=N,290nm,0.9s						
GUN	**Gumba**	**6.79**	**206**	*e*P	**Pn**	**19 12 19.0**	**+1.2**
	20nm,0.5s						
TAPN	**Taplejung**	**6.83**	**191**	*e*P	**Pn**	**19 12 17.7**	**-0.7**
	16nm,0.5s						
JIRN	**Jiri**	**6.91**	**203**	*e*P	**Pn**	**19 12 20.7**	**+1.2**
	70nm,0.5s						
KKN	**Kakani**	**7.13**	**209**	*e*P	**Pn**	**19 12 22.5**	**+0.1**
	16nm,0.6s						
GKN	**Gorkha**	**7.22**	**214**	*e*P	**Pn**	**19 12 23.3**	**-0.3**
PKI	**Pulchoki**	**7.27**	**208**	*e*P	**Pn**	**19 12 24.6**	**+0.2**
	26nm,0.7s						
PKIN	**Phulchoki**	**7.27**	**208**	*e*P	**Pn**	**19 12 25.0**	**+0.6**
	14nm,0.6s						
DMN	**Daman**	**7.36**	**210**	*e*P	**Pn**	**19 12 26.6**	**+1.0**
ODAN	**Odare**	**7.37**	**193**	*e*P	**Pn**	**19 12 25.4**	**-0.3**
	42nm,0.5s						
DANN	**Dangsing**	**7.38**	**221**	*e*P	**Pn**	**19 12 25.0**	**-1.0**
	11nm,0.5s						
RAMN	**Ramite**	**7.46**	**198**	*e*P	**Pn**	**19 12 26.8**	**-0.2**
	34nm,0.7s						
KOLN	**Koldanda**	**7.93**	**219**	*e*P	**Pn**	**19 12 32.1**	**-1.3**
	18nm,0.9s						
WMQ	**Urumqi**	**9.80**	**353**	*e*P	**Pn**	**19 12 58.3**	**-0.5**
WMQ				sP		19 13 03.6	
GTA	**Gaotai**	**10.02**	**55**	*e*P	**Pn**	**19 12 59.8**	**-2.1**
GTA				pP		19 13 03.7	
GTA				sP		19 13 06.0	
GTA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MKAR	**Makanchi Array**	**13.74**	**340**	Pn	**Pn**	**19 13 52.3**	**-0.3**
	0.0nm,0.3s,baz=155,slow=14,SNR=3.6						
MKAR				LR	LR	19 19 25.3	
	comp=Z,76nm,19.7s,baz=152,slow=38						
AAK	**Ala-Archa**	**14.36**	**311**	LR	LR	19 20 18.3	
	comp=Z,168nm,20.6s,baz=112,slow=40						
CMAR	**Chiang Mai Arr**	**17.82**	**148**	Pn	**Pn**	**19 14 43.9**	**-1.7**
	0.2nm,0.3s,baz=330,slow=12,SNR=16						
CMAR				LR	LR	19 22 11.3	
	comp=Z,100nm,18.9s,baz=348,slow=40						
KURBB	**Kurchatov Arra**	**18.29**	**338**	Pn	**P**	**19 14 50.2**	**-0.8**
	0.0nm,0.3s,baz=149,slow=11,SNR=6.5						
SONM	**Songino Array**	**18.83**	**38**	P	**Pn**	**19 14 58.1**	**+0.2**
	0.1nm,0.3s,baz=220,slow=13,SNR=8.2						
SONM				LR	LR	19 22 55.4	
	comp=Z,119nm,19.6s,baz=178,slow=39						
ZALV	**Zalesovo Beam**	**20.11**	**352**	P	Pn	19 15 11.8	-1.1
	4.1nm,0.7s,baz=170,slow=11,SNR=17						
ZALV				LR	LR	19 23 17.7	
	comp=Z,79nm,21.9s,baz=218,slow=38						
TLY	**Talaya**	**20.45**	**26**	LR	LR	19 23 48.8	
	comp=Z,53nm,19.6s,baz=212,slow=39						
BVAR	**Borovoye Array**	**23.22**	**330**	P	**P**	**19 15 46.4**	**+2.3**
	1.7nm,0.9s,baz=134,slow=8.6,SNR=7.7						
GEYT	**Alibeck**	**25.40**	**288**	LR	LR	19 28 08.2	
	comp=Z,114nm,18.6s,baz=210,slow=41						
AKTO	**Aktyubinsk**	**28.02**	**315**	LR	LR	19 29 10.3	
	comp=Z,83nm,20.3s,baz=110,slow=40						
BRTR	**Keskin Array B**	**44.21**	**294**	P	**P**	**19 18 47.6**	**+1.4**
	1.5nm,0.9s,baz=82,slow=10,SNR=5.0						
NOA	**NORSAR Array B**	**55.17**	**325**	P	**P**	**19 20 09.8**	**+0.6**
	1.8nm,1.0s,baz=82,slow=7.4,SNR=3.0						
GERES	**GERESS Array B**	**56.23**	**310**	P	**P**	**19 20 18.3**	**+1.2**
	1.2nm,1.0s,baz=79,slow=5.3,SNR=4.5						
WRA	**Warramunga Arr**	**68.78**	**134**	P	**P**	**19 21 39.6**	**-1.5**
	0.7nm,0.8s,baz=330,slow=6.6,SNR=3.8						
ESDC	**Sonseca Array**	**71.39**	**306**	P	**P**	**19 21 57.1**	**+0.1**
	0.7nm,0.6s,baz=50,slow=7.4,SNR=4.3						
ASAR	**Alice Springs**	**71.43**	**137**	P	**P**	**19 21 56.4**	**-0.8**
	0.5nm,0.9s,baz=339,slow=7.5,SNR=4.5						
ILAR	**Eielson Array**	**72.20**	**22**	P	**P**	**19 22 01.7**	**+0.3**
	1.0nm,0.9s,baz=309,slow=6.6,SNR=7.7						

DJA 11 19:15:35.7±0.6, 5°S±5°×130°E±°, h137km±6km, M3.9/9, mb4.4/1, mB4.9/1, MLv3.6/9, Mw(mB)4.1/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.10**	**274**	P	Pn	19 15 55.3	+1.1
BNDI				S	Sn	19 16 09.7	+1.5
MSAI	**Masohi**	**1.60**	**317**	P	Pn	19 16 06.0	+0.6
MSAI				S	Sn	19 16 27.5	-0.5
AAI	**Ambon**	**2.00**	**295**	P	Pn	19 16 10.5	+0.5
FAKI	**Fak Fak**	**2.75**	**54**	P	Pn	19 16 19.6	+0.2
SAUI	**Saumlaki**	**3.66**	**160**	P	Pn	19 16 30.5	-0.7
KMPI	**Kaimana, Papua**	**3.79**	**77**	P	Pn	19 16 32.6	-0.2
SWI	**Sorong**	**3.85**	**99**	P	Pn	19 16 33.6	-0.1
SANI	**Sanana**	**4.71**	**301**	P	Pn	19 16 45.2	+0.1
RKPI	**Ransiki, Papua**	**5.13**	**54**	P	Pn	19 16 50.6	-0.1

*ATH **11** 19:21:52.5, 36°.27N×21°.30E, h17km±2km, ML2.9/6, Error ellipse: s-maj=3.5km s-min=1.7km az=65.0*
*BEO **11** 19:21:52.7±1.1, 36°.37N×20°.89E, h0km, ML3.8/4*
*THE **11** 19:21:54.2, 36°.30N×21°.35E, h6km±2km, ML3.0/2, Error ellipse: s-maj=4.1km s-min=1.8km az=5.0*
*IDC **11** 19:22:08.4±58.0, 38°.23N×23°.38E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.3/30, mbtmp3.8/3, Error ellipse: s-maj=1081.0km s-min=57.1km az=43.0*

ISC 11 19:21:50.7±1.8, 36°.22N±0°.07×21°.19E±0°.05, h18km±6km, n43, σ1§73/55, mb3.9/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.80**	**33**	P	**Pb**	**19 22 06.2**	**+0.1**
PYL	**PYLOS**	**0.80**	**33**	P	**Pb**	**19 22 06.3**	**+0.1**
KLMT	**Kalamata**	**1.09**	**40**	P	**Pg**	**19 22 12.2**	**+0.4**
KLMT				S	**Sn**	**19 22 26.7**	**+1.1**
	1µm,0.6s						
ITM	**Ithomi**	**1.12**	**32**	P	**Pb**	**19 22 11.9**	**+0.3**
ITM	**Ithomi**	**1.12**	**32**	P	**Pb**	**19 22 11.7**	**+0.2**
ITM				S	**Sn**	**19 22 27.8**	**+1.3**
ITM				AML	AML	19 22 31.4	
	comp=N,1050µm,0.6s						
ITM				AML	AML	19 22 39.9	
	comp=E,742µm,0.4s						
AMT	**Artemida-Makis**	**1.37**	**18**	P	**Pg**	**19 22 17.4**	**+0.3**
AMT	**Artemida-Makis**	**1.37**	**18**	P	**Pg**	**19 22 17.4**	**+0.3**
AMT				AML	AML	19 22 49.8	
	comp=N,1289µm,0.6s						
AMT				AML	AML	19 22 56.8	
	comp=E,1073µm,0.9s						
KTHR	**Kythira**	**1.47**	**88**	P	**Pg**	**19 22 18.9**	**0.0**
VLX	**Vlachokerasia**	**1.49**	**39**	P	**Pb**	**19 22 18.7**	**+0.8**
VLX	**Vlachokerasia**	**1.49**	**39**	P	**Pb**	**19 22 18.7**	**+0.8**
VLX				S	**Sg**	**19 22 37.1**	**-1.7**
VLX				AML	AML	19 22 47.5	
	comp=E,967µm,0.8s						
VLX				AML	AML	19 22 50.7	
	comp=N,1135µm,0.6s						
VLI	**Veliai**	**1.49**	**70**	P	**Pg**	**19 22 19.5**	**+0.1**
VLI				S	**Sg**	**19 22 37.0**	**-1.9**
	comp=N,450nm,0.8s						
VLI	**Veliai**	**1.49**	**70**	P	**Pg**	**19 22 19.0**	**-0.4**
VLI				S	**Sg**	**19 22 38.9**	**0.0**
VLI				AML	AML	19 22 46.3	
	comp=E,739µm,0.6s						
VLI				AML	AML	19 22 51.6	
	comp=N,900µm,0.8s						
KTHA	**Kythira Island**	**1.51**	**88**	P	**Pg**	**19 22 19.3**	**-0.5**
VLMS	**Volimes, Zakyn**	**1.70**	**346**	P	**Pb**	**19 22 23.3**	**+1.8**
DRO	**Drossia**	**1.77**	**13**	P	**Pb**	**19 22 23.5**	**+0.8**
DRO	**Drossia**	**1.77**	**13**	P	**Pb**	**19 22 23.7**	**+1.0**
DRO				S	**Sg**	**19 22 47.0**	**-0.8**
DRO				AML	AML	19 22 59.6	
	comp=N,668µm,0.4s						
DRO				AML	AML	19 23 01.4	
	comp=E,678µm,0.5s						
RLS	**Riolos of Patr**	**1.84**	**7**	P	**Pb**	**19 22 25.1**	**+1.3**
KRND	**KRANIDI**	**1.95**	**53**	P	**Pb**	**19 22 24.8**	**-0.9**
KRND	**KRANIDI**	**1.95**	**53**	P	**Pn**	**19 22 24.6**	**+1.7**
KLV	**Kalavryta, Ach**	**1.97**	**23**	P	**Pb**	**19 22 26.5**	**+0.4**
KLV	**Kalavryta, Ach**	**1.97**	**23**	P	**Pb**	**19 22 26.1**	**0.0**
KLV				S	**Sb**	**19 22 51.0**	**+0.7**
KLV				AML	AML	19 23 04.2	
	comp=N,208µm,0.7s						
KLV				AML	AML	19 23 05.5	
	comp=E,232µm,0.7s						
VLS	**Valsamata**	**2.01**	**346**	P	**Pb**	**19 22 27.5**	**+0.9**
DID	**Didima**	**2.08**	**51**	P	**Pb**	**19 22 27.0**	**-0.9**
LAKA	**Lakka**	**2.11**	**17**	P	**Pb**	**19 22 29.0**	**+0.6**
THAL	**Thalero**	**2.16**	**33**	P	**Pn**	**19 22 27.6**	**+1.9**
TRIZ	**Trizonia**	**2.25**	**18**	P	**Pb**	**19 22 30.1**	**-0.7**
EFP	**Efpalio**	**2.27**	**14**	P	**Pb**	**19 22 31.3**	**+0.2**
KALE	**Kalithea**	**2.29**	**19**	P	**Pb**	**19 22 31.6**	**+0.1**
SERG	**Sergoula**	**2.29**	**17**	P	**Pb**	**19 22 31.7**	**+0.2**
EVGI	**Lefkada island**	**2.43**	**350**	P	**Pn**	**19 22 32.6**	**+3.1**
TSLK	**Tsoukalades, L**	**2.63**	**351**	P	**Pn**	**19 22 35.3**	**+3.1**
AGG	**Agios Georgios**	**2.94**	**18**	P	**Pn**	**19 22 39.8**	**+3.3**
AGG	**Agios Georgios**	**2.94**	**18**	P	**Pn**	**19 22 39.7**	**+3.2**
TREB	**Trebinje**	**6.84**	**342**	*e*Pn	**Pn**	**19 23 30.6**	**+0.5**
TREB				*e*Sn	**Sn**	**19 24 43.8**	**-3.8**
SJES	**Sjenica**	**7.09**	**353**	*e*Pn	**Pn**	**19 23 35.7**	**+2.1**
SJES				*e*Sn	**Sn**	**19 24 51.3**	**-2.4**
STON	**Ston**	**7.16**	**339**	*e*Pn	**Pn**	**19 23 34.3**	**-0.2**
STON				*e*Sn	**Sn**	**19 24 52.2**	**-3.2**
IVAS	**Ivanjica**	**7.39**	**354**	*e*Pn	**Pn**	**19 23 37.6**	**0.0**
IVAS				*e*Sn	**Sn**	**19 25 00.0**	**-1.0**
GRUS	**Gruza**	**7.66**	**357**	*e*Pn	**Pn**	**19 23 42.2**	**+0.9**
BBLS	**Lazići**	**7.75**	**350**	*e*Sn	**Sn**	**19 25 05.5**	**-4.5**
DIVS	**Divibare**	**7.92**	**354**	*e*Pn	**Pn**	**19 23 45.4**	**+0.5**
DIVS				*e*Sn	**Sn**	**19 25 09.0**	**-5.1**
FINES	**FINESS Array B**	**25.43**	**5**	P	**P**	**19 27 17.6**	**+0.6**
	comp=E,2.5nm,0.9s,baz=187,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**45.89**	**57**	P	**P**	**19 30 12.0**	**0.0**
	comp=E,0.5nm,0.4s,baz=274,slow=8.1,SNR=12						
ZALV	**Zalesovo Beam**	**46.62**	**47**	P	**P**	**19 30 17.2**	**-0.3**
	comp=E,0.6nm,0.4s,baz=282,slow=8.7,SNR=4.9						

*NDI **11** 19:59:00.8±1.4, 30°.06N×69°.16E, h36km, ML4.2, mb4.0(NEIC)*
*ISCJB **11** 19:59:01.9±0.3, 29°.87N±0°.04×69°.97E±0°.03, h12km, mb4.1/31, MS3.2/1, Error ellipse: s-maj=5.9km s-min=3.6km az=25.4*
*IDC **11** 19:59:02.1±0.7, 29°.83N×69°.83E, h0km, mb4.0/21, mb1 4.1/24, mb1mx4.0/48, mbtmp4.0/24, ML3.9/3, MS3.3/3, Ms1 3.4/3, ms1mx2.8/33, Error ellipse: s-maj=16.6km s-min=13.3km az=13.0*
*MOS **11** 19:59:03.6±1.1, 29°.97N×69°.92E, h19km, mb4.4/8, Error ellipse: s-maj=10.5km s-min=5.8km az=82.4*
*NEIC **11** 19:59:03.5±1.2, 29°.9N±0°.1×69°.91E±0°.09, h9km±5km, mb4.0/11*
*BJI **11** 19:59:08.9±0.0, 30°.12N×70°.38E, h10km, mb4.1/14, mB4.6/6, Ms4.1/2*

ISC 11 19:59:03.5±0.5, 29°.79N±0°.07×69°.90E±0°.04, h12km, n90, σ1§41/95, mb4.1/32, 3C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIL	**Nilore**	**4.79**	**36**	P	**Pn**	**20 00 14.6**	**-1.0**
NIL	**Nilore**	**4.79**	**36**		**Pn**	**20 00 14.6**	**-1.0**
KBL	**Kabul**	**4.79**	**351**	P	**Pn**	**20 00 15.4**	**-0.3**
KBL	**Kabul**	**4.79**	**351**		**Pn**	**20 00 15.4**	**-0.3**
JMU	**Jammu**	**5.18**	**54**	*e*P	**Pn**	**20 00 24.0**	**+3.2**
JMU				*e*S	**Sn**	**20 01 18.5**	**-2.0**
KUDL	**Kundal**	**6.00**	**104**	*e*P	**Pn**	**20 00 30.3**	**-1.8**
KUDL				*e*S	**Sn**	**20 01 39.4**	**-1.3**
KUDL				IAML		20 02 19.6	
DHRM	**DHARAMSHALA**	**6.01**	**64**	*e*P	**Pn**	**20 00 35.1**	**+2.5**
DHRM				*e*S	**Sn**	**20 01 41.3**	**-0.1**
DHRM				IAML		20 02 28.7	
	comp=E,6µm,1.1s						
SMLA	**Simla**	**6.41**	**76**	*e*P	**Pn**	**20 00 40.0**	**+2.3**
SMLA				*e*S	**Sn**	**20 01 53.3**	**+2.4**
SMLA				IAML		20 02 36.4	
	comp=Z,96nm,0.9s						
SMLA				IAML		20 02 37.7	
	comp=E,180nm,0.2s						
SMLA				IAML		20 02 44.2	
	comp=N,184nm,1.1s						
NDI	**New Delhi**	**6.49**	**98**	*e*P	Pb	20 00 50.0	-6.3
NDI				*e*S	**Sb**	**20 02 10.0**	**-3.8**
HRA	**Herat**	**7.95**	**307**	Pn	**Pn**	**20 00 59.2**	**+0.1**
JOSI	**Joshimath**	**8.39**	**82**	*e*P	**Pn**	**20 01 07.1**	**+1.9**
JOSI				*e*S	**Sn**	**20 02 39.9**	**-0.2**
JOSI				IAML		20 03 48.3	
CHGR	**Chuyangaron**	**8.87**	**356**		**Pn**	**20 01 10.8**	**-0.8**
GAR	**Garm**	**9.19**	**2**		**Pn**	**20 01 15.9**	**-0.2**
BHPL	**Bhopal**	**9.37**	**132**	*e*P	**Pn**	**20 01 21.7**	**+3.2**
BHPL				*e*S	**Sn**	**20 03 04.2**	**+0.3**
BHPL				IAML		20 03 26.9	
	comp=N,27nm,0.5s						
BHPL				IAML		20 03 26.9	
	comp=E,26nm,0.4s						
BTK	**Batken**	**10.27**	**4**	P	**Pn**	**20 01 30.9**	**+0.1**
BTK	**Batken**	**10.27**	**4**		**Pn**	**20 01 30.9**	**+0.1**
ARSB	**Arslanbob**	**11.78**	**11**	Pn	**Pn**	**20 01 50.5**	**-1.0**
WSAR	**Wadi Sarin**	**12.01**	**240**	Pn	**Pn**	**20 01 52.1**	**-2.5**
	comp=E,0.4nm,0.3s,baz=40,slow=7.1,SNR=4.9						
WSAR				Sn	Sn	20 03 55.4	-13
	comp=E,0.2nm,0.3s,baz=294,slow=18,SNR=3.1						
KOLN	**Koldanda**	**12.18**	**96**	*e*P	**Pn**	**20 01 57.7**	**+0.6**
	comp=E,17nm,0.4s						
DANN	**Dangsing**	**12.21**	**93**	*e*P	**Pn**	**20 01 57.1**	**-0.4**
	comp=E,32nm,0.5s						
NRN	**Naryn**	**12.63**	**21**	P	**Pn**	**20 02 02.2**	**-1.0**
NRN	**Naryn**	**12.63**	**21**		**Pn**	**20 02 02.2**	**-1.0**
GKN	**Gorkha**	**13.03**	**94**	*e*P	**Pn**	**20 02 07.7**	**-1.0**
	comp=E,13nm,0.3s						
KK31	**Karatay Array**	**13.30**	**2**	P	**Pn**	**20 02 10.2**	**-1.9**
KK31	**Karatay Array**	**13.30**	**2**		**Pn**	**20 02 10.2**	**-1.9**
KKAR	**Karatay Array**	**13.30**	**2**	P	**Pn**	**20 02 10.0**	**-2.1**
KKAR	**Karatay Array**	**13.30**	**2**		**Pn**	**20 02 10.0**	**-2.1**
AAK	**Ala-Archa**	**13.34**	**15**‖	*e*P	**Pn**	**20 02 11.3**	**-1.6**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
AAK	**Ala-Archa**	**13.34**	**15**	Pn	**Pn**	**20 02 11.0**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=176,slow=6.6,SNR=13						
AAK	**Ala-Archa**	**13.34**	**15**		**Pn**	**20 02 10.9**	**-1.9**
DMN	**Daman**	**13.52**	**96**	*e*P	**Pn**	**20 02 14.7**	**-0.7**
KKN	**Kakani**	**13.63**	**95**	*e*P	**Pn**	**20 02 15.9**	**-1.0**
	comp=Z,3.6nm,0.2s						
PKIN	**Phulchoki**	**13.78**	**95**	*e*P	**Pn**	**20 02 18.9**	**-0.1**
	comp=Z,8.6nm,0.4s						
PKI	**Pulchoki**	**13.79**	**95**	*e*P	**Pn**	**20 02 18.0**	**-1.2**
	comp=Z,7.4nm,0.4s						
GUN	**Gumba**	**14.13**	**94**	*e*P	**Pn**	**20 02 22.2**	**-1.6**
	comp=Z,38nm,0.5s						
JIRN	**Jiri**	**14.45**	**94**	*e*P	**Pn**	**20 02 27.6**	**-0.6**
	comp=Z,16nm,0.3s						
RAMN	**Ramite**	**14.97**	**97**	*e*P	**Pn**	**20 02 33.7**	**-1.5**
	comp=Z,10.0nm,0.5s						
ODAN	**Odare**	**15.67**	**96**	*e*P	**Pn**	**20 02 43.9**	**-0.6**
TAPN	**Taplejung**	**15.83**	**94**	*e*P	**Pn**	**20 02 44.8**	**-1.8**
	comp=Z,7.2nm,0.5s						
LSA	**Lhasa**	**18.45**	**85**	P	**P**	**20 03 18.4**	**-1.2**
LSA				pmax	pmax		
	comp=Z,6.0nm,1.2s

OBN pmax pmax
comp=Z,5.0nm,1.0s
AKASG Malin Array Be 36.80 316 P **P** **20 06 10.0 -1.1**
comp=Z,0.6nm,0.4s,baz=98,slow=7.0,SNR=6.6
FINES FINESS Array B 42.71 331 P **P** **20 07 00.2 +0.1**
comp=Z,4.3nm,1.0s,baz=104,slow=8.0,SNR=4.4
ARCES ARCESS Array B 47.06 340 *eP* **P** **20 07 34.9 +0.2**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 47.06 340 P **P** **20 07 34.8 +0.1**
comp=Z,3.0nm,0.7s,baz=119,slow=7.6,SNR=5.3
KSRS Korea Array 48.26 65 P **P** **20 07 45.5 +1.1**
comp=Z,1.3nm,0.8s,baz=272,slow=8.7,SNR=3.0
NOA NORSAR Array B 49.33 327 P **P** **20 07 51.4 -1.0**
comp=Z,0.6nm,0.7s,baz=106,slow=7.4,SNR=3.0
NOA LR LR 20 31 40.7
comp=Z,24nm,19.5s,baz=5.0,slow=40
KLR Kul'dur 50.05 49 *eP* **P** **20 07 57.5 -0.4**
KLR pmax pmax
comp=Z,60nm,4.2s
USA0B Ussuriysk Arra 50.50 55 P **P** **20 08 01.1 -0.3**
USA0B pmax pmax
comp=Z,10.0nm,0.8s
USA0B Ussuriysk Arra 50.50 55 P **P** **20 08 01.1 -0.3**
KEST Kesra 50.58 293 P **P** **20 08 03.0 +0.7**
comp=Z,3.8nm,0.9s,baz=36,slow=19,SNR=8.8
KEST Kesra 50.58 293 P **P** **20 08 03.6 +1.4**
ESDC Sonseca Array 59.95 301 P **P** **20 09 10.3 +0.5**
comp=Z,0.3nm,0.5s,baz=60,slow=6.4,SNR=3.7
TORD Torodi Ar. Bea 64.78 271 P **P** **20 09 41.7 -0.7**
comp=Z,1.2nm,0.4s,baz=60,slow=5.5,SNR=31
BILL Bilibino 65.06 24 *eP* **P** **20 09 41.8 -1.6**
BILL *e* 20 10 13.5
BILL pmax pmax
comp=Z,2.0nm,1.1s
PETK Petropavlovsk- 65.51 41 LR LR 20 42 48.7
comp=Z,69nm,18.8s,baz=242,slow=40
DBIC Dimbokro 73.50 268 P **P** **20 10 37.6 +1.1**
comp=Z,2.0nm,0.7s,baz=14,slow=4.2,SNR=3.1
WRA Warramunga Arr 79.32 120 P **P** **20 11 09.9 +0.5**
comp=Z,1.2nm,0.8s,baz=320,slow=5.1,SNR=13
WRAB Tennant Creek 79.32 120 *eP* **P** **20 11 11.5 +2.1**
WRAB pmax pmax
comp=Z,16nm,2.5s
AS31 Alice Springs 81.25 124 P **P** **20 11 19.8 0.0**
AS31 IAmb IAmb 20 11 30.3
comp=Z,0.8nm,1.1s
ASAR Alice Springs 81.25 124 P **P** **20 11 20.3 +0.5**
comp=Z,1.1nm,0.6s,baz=307,slow=5.6,SNR=16
ILAR Eielson Array 81.47 15 *eP* **P** **20 11 19.7 -0.6**
ILAR pmax pmax
comp=Z,1.0nm,0.5s
ILAR Eielson Array 81.47 15 P **P** **20 11 19.6 -0.7**
comp=Z,0.5nm,0.5s,baz=315,slow=5.0,SNR=6.8
YKA Yellowknife Ar 87.97 2 P **P** **20 11 53.6 +0.6**
comp=Z,1.7nm,0.6s,baz=349,slow=4.9,SNR=20

*NEIC **11** 20:13:31.4±0.6, 19°.29N±0°.05×145°.0E±0°.3, h160km±9km, mb4.4/4*
*ISCJB **11** 20:13:34.1±0.7, 19°.05N±0°.09×145°.6E±0°.3, h200km, mb3.3/6, Error ellipse: s-maj=40.3km s-min=9.8km az=10.5*
*IDC **11** 20:13:37.7±3.7, 19°.18N×145°.16E, h220km±35km, mb3.2/6, mb1 3.5/7, mb1mx3.1/48, mbtmp3.8/7, Error ellipse: s-maj=74.1km s-min=17.3km az=112.0*
ISC 11 20:13:35.0±0.8, 19°.14N±0°.08×145°.4E±0°.3, h200km, n14, σ2$20/15, mb3.4/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**2.44**	**172**	Pn	**Pn**	**20 14 15.2**	**-3.2**
ANA2	**Anatahan**	**2.79**	**175**	Pn	**Pn**	**20 14 19.2**	**-3.1**
GUMO	**Guam**	**5.54**	**186**	P	**Pn**	**20 14 59.9**	**+3.5**
	3.8nm,0.3s,baz=21,slow=17,SNR=4.9						
GUMO				S	**Sn**	**20 16 00.1**	**-0.7**
	12nm,0.3s,baz=0.0,slow=20,SNR=3.4						
GUMO	**Guam**	**5.54**	**186**		**Sn**	**20 15 59.8**	**-1.0**
MAJO	**Matsushiro**	**18.47**	**341**	P	**P**	**20 17 31.9**	**-4.0**
MAJO				IAmb	IAmb	20 17 45.4	
	comp=Z,36nm,1.4s						
WRAB	**Tennant Creek**	**40.32**	**196**	P	**P**	**20 20 53.4**	**+0.2**
WB2	**Warramunga Arr**	**40.33**	**196**	P	**P**	**20 20 52.5**	**-0.7**
WB2				IAmb	IAmb	20 20 58.9	
	comp=Z,9.6nm,1.4s						
WRA	**Warramunga Arr**	**40.33**	**196**	P	**P**	**20 20 53.6**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=11,slow=8.9,SNR=14						
FITZ	**Fitzroy Crossi**	**41.80**	**209**	P	**P**	**20 21 06.7**	**+1.5**
ASAR	**Alice Springs**	**44.01**	**195**	P	**P**	**20 21 23.2**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=12,slow=7.5,SNR=8.7						
ILAR	**Eielson Array**	**63.36**	**26**	P	**P**	**20 23 43.4**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=265,slow=5.8,SNR=4.0						
YKA	**Yellowknife Ar**	**77.72**	**28**	P	**P**	**20 25 10.5**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=287,slow=5.5,SNR=3.9						
NVAR	**Mina Array Bea**	**83.06**	**52**	P	**P**	**20 25 40.7**	**+2.0**
	comp=Z,0.7nm,0.9s,baz=263,slow=6.0,SNR=4.0						
FINES	**FINESS Array B**	**86.39**	**335**	P	**P**	**20 25 54.5**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=78,slow=4.7,SNR=4.1						

IDC 11 20:20:50.4±1.8, 28°.35N×100°.04E, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.1/51, mbtmp3.3/2, Error ellipse: s-maj=92.5km s-min=29.8km az=61.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.90**	**186**	Pg	Pg	20 23 52.0	
	0.2nm,0.3s,baz=357,slow=16,SNR=6.7						
CMAR				Lg	Lg	20 25 60.0	
	0.2nm,0.3s,baz=2.0,slow=28,SNR=3.5						
MKAR	**Makanchi Array**	**23.08**	**328**	P	P	20 25 57.7	+0.1
	0.4nm,0.6s,baz=127,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**58.34**	**141**	P	P	20 30 47.3	-0.2
	0.3nm,0.5s,baz=328,slow=7.7,SNR=3.9						

*ISCJB **11** 20:22:01.8±2.4, 27°.4N±0°.2×111°.3W±0°.1, h10km, Error ellipse: s-maj=29.2km s-min=6.0km az=147.1*
*MEX **11** 20:22:03.9±0.5, 27°.40N×111°.29W, h10km, MD4.2*
*ECX **11** 20:22:04.0±0.4, 27°.48N×111°.37W, h7km, MD2.8*
ISC 11 20:22:02.0±3.4, 27°.4N±0°.3×111°.3W±0°.1, h10km, n6, σ0$65/10, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUYB	**Guaymas**	**0.64**	**40**	*eP*	**Pg**	**20 22 14.8**	**+0.3**
GUYB				*eS*	**Sg**	**20 22 22.7**	**-0.2**
GUYB	**Guaymas**	**0.64**	**40**	*eP*	**Pg**	**20 22 14.7**	**+0.3**
GUYB				*eS*	**Sg**	**20 22 23.1**	**+0.2**
SRIG	**Santa Rosalia**	**0.81**	**264**	*eP*	**Pg**	**20 22 17.7**	**+0.1**
SRIG	**Santa Rosalia**	**0.81**	**264**	*eP*	**Pg**	**20 22 17.6**	**+0.1**
SRIG				*eS*	**Sg**	**20 22 28.6**	**+0.4**
HSIG		**1.64**	**12**	*eP*	**Pn**	**20 22 29.6**	**-1.4**
HSIG		**1.64**	**12**	*eP*	**Pn**	**20 22 31.7**	**+0.7**
HSIG				*eS*	**Sn**	**20 22 52.4**	**+0.1**

*ISCJB **11** 20:26:05.8±0.8, 27°.67S±0°.04×69°.17W±0°.05, h112km±11km, Error ellipse: s-maj=7.9km s-min=5.6km az=17.9*
*GUC **11** 20:26:05.1±0.5, 27°.65S×69°.45W, h130km±10km, ML3.3*
*SJA **11** 20:26:07.0±0.5, 27°.79S×68°.97W, h128km±5km, ML2.7, MW3.0*
ISC 11 20:26:06.6±1.6, 27°.67S±0°.04×69°.18W±0°.05, h106km±18km, n15, σ1$08/23, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO03	**Copiap**	**0.94**	**275**	*iP*	**Pn**	**20 26 26.4**	**-0.5**
GO03				*i* S	**Sn**	**20 26 41.8**	**-0.5**
GO03				IAML		20 26 42.5	
	comp=E,2μm,0.1s						
VCA	**Vinchina**	**1.36**	**141**	*i* P	**Pn**	**20 26 32.3**	**+0.6**
VCA				*e*S	**Sn**	**20 26 50.9**	**+0.2**
VCA				IAML		20 26 55.5	
	comp=Z,58nm,0.3s						
AROD	**Rodeo**	**2.50**	**186**	*i* P	**Pn**	**20 26 47.8**	**+1.7**
AROD				*e*S	**Sn**	**20 27 17.7**	**+1.2**
GO02	**Mina Guanaco**	**2.53**	**351**	*eP*	**Pn**	**20 26 46.8**	**+0.3**
GO02				*i* S	**Sn**	**20 27 18.1**	**+0.9**
GO04	**Tololo Observa**	**2.87**	**209**	*eP*	**Pn**	**20 26 50.0**	**-0.9**
GO04				*i* S	**Sn**	**20 27 24.4**	**-0.6**
ACCO	**Cerro Coronel**	**2.91**	**178**	*i* P	**Pn**	**20 26 52.6**	**+1.1**
ACCO				*e*S	**Sn**	**20 27 26.9**	**+0.7**
ACCO				IAML		20 27 35.0	
	comp=Z,16nm,0.5s						
CYA	**Choya**	**3.08**	**105**	*i* P	**Pn**	**20 26 52.6**	**-0.9**
CYA				*e*S	**Sn**	**20 27 27.1**	**-2.7**
CYA				IAML		20 27 27.4	
	comp=Z,10nm,1.0s						
FSA	**Cafayete**	**3.25**	**62**	*i* P	**Pn**	**20 26 57.2**	**+1.2**
FSA				*e*S	**Sn**	**20 27 34.0**	**-0.1**
AMOG	**MOGNA**	**3.31**	**170**	*i* P	**Pn**	**20 26 56.7**	**0.0**
AMOG				IAML		20 27 36.5	
	comp=Z,14nm,0.3s						
AHML	**Horco Molle**	**3.53**	**76**	*i* P	**Pn**	**20 26 59.6**	**-0.1**
AHML				IAML		20 27 53.3	
	comp=Z,8.2nm,3.2s						
CO02	**Combarbal**	**3.86**	**204**	*e*P	**Pn**	**20 27 02.7**	**-1.4**
CFA	**Coronel Fontan**	**4.00**	**168**	*i* P	**Pn**	**20 27 05.9**	**0.0**
RTLS	**Leoncito**	**4.11**	**181**	*i* P	**Pn**	**20 27 08.6**	**+0.9**
RTLS				IAML		20 28 21.5	
	comp=Z,15nm,3.7s						
ACAN	**Cantantal**	**4.90**	**160**	*i* P	**Pn**	**20 27 17.7**	**-0.4**
ACAN				IAML		20 28 40.4	
	comp=Z,19nm,2.0s						
ASAL	**Salagasta**	**4.91**	**177**	*i* P	**Pn**	**20 27 18.9**	**+0.7**

*ISCJB **11** 20:28:03.8±1.2, 18°.3S±0°.2×169°.1E±0°.3, h240km, mb3.6/5, Error ellipse: s-maj=39.8km s-min=12.7km az=33.5*
*IDC **11** 20:28:06.3±3.6, 18°.62S×169°.37E, h260km±41km, mb3.4/5, mb1 3.6/6, mb1mx3.2/41, mbtmp4.0/6, Error ellipse: s-maj=87.1km s-min=24.7km az=153.0*
ISC 11 20:28:04.7±1.3, 18°.4S±0°.2×169°.2E±0°.3, h240km, n6, σ1$05/8, mb3.4/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.49**	**215**	P	**Pn**	**20 29 15.2**	**+1.1**
	2.7nm,0.3s,baz=58,slow=19,SNR=37						
DZM				S	**S**	**20 30 08.2**	**-1.0**
	1.8nm,0.3s,baz=97,slow=19,SNR=2.5						
STKA	**Stephens Creek**	**28.28**	**236**	P	**P**	**20 33 35.9**	**-0.2**
	2.0nm,0.6s,baz=63,slow=8.2,SNR=7.8						
WRA	**Warramunga Arr**	**32.93**	**262**	P	**P**	**20 34 17.8**	**+0.7**
	0.3nm,0.5s,baz=95,slow=7.9,SNR=4.5						
ASAR	**Alice Springs**	**33.31**	**255**	P	**P**	**20 34 20.9**	**+0.6**
	4.3nm,0.5s,baz=83,slow=9.1,SNR=90						
ASAR				pP	**pwP**	**20 35 11.9**	**-1.5**
	0.8nm,0.7s,baz=83,slow=8.8,SNR=4.2						
NVAR	**Mina Array Bea**	**88.26**	**49**	P	**P**	**20 40 28.9**	**-0.4**
	0.5nm,0.8s,baz=234,slow=5.5,SNR=3.6						
ILAR	**Eielson Array**	**89.42**	**17**	P	**P**	**20 40 34.0**	**+0.1**
	0.4nm,0.8s,baz=224,slow=3.8,SNR=3.0						

*DDA **11** 20:34:28.7, 35°.06N×27°.90E, h14km±3km, ML2.5*
*IDC **11** 20:34:29.6±2.4, 35°.18N×27°.91E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.2/39, mbtmp3.3/3, ML2.5/1, Error ellipse: s-maj=72.2km s-min=24.1km az=142.0*
*ISCJB **11** 20:34:31.6±1.0, 35°.08N±0°.07×27°.98E±0°.09, h28km, mb3.2/2, Error ellipse: s-maj=12.6km s-min=8.8km az=41.8*
ISC 11 20:34:33.8±1.4, 35°.19N±0°.09×27°.89E±0°.08, h28km, n12, σ1$25/16, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**1.56**	**351**	*i* P	**Pn**	**20 34 60.0**	**+0.2**
DAT				*i* S	**Sn**	**20 35 21.0**	**+1.9**
DAT				IAML		20 35 28.0	
	comp=N,57nm,1.8s						
DAT				IAML		20 35 36.0	
	comp=E,39nm,0.5s						
AKAS	**Kas**	**1.74**	**53**	*i* P	**Pn**	**20 35 00.5**	**-1.8**
TURN	**Turunc**	**1.78**	**19**	*i* P	**Pn**	**20 35 01.4**	**-1.2**
TURN				*i* S	**Sn**	**20 35 24.8**	**+0.5**
TURN				IAML		20 35 26.0	
	comp=E,72nm,0.7s						
TURN				IAML		20 35 33.0	
	comp=N,64nm,0.5s						
TAVA	**DENIZLI_Tavas**	**2.42**	**20**	*i* P	**Pn**	**20 35 10.1**	**-1.5**
TAVA				*i* S	**Sb**	**20 35 44.9**	**-1.2**
TAVA				IAML		20 35 56.0	
	comp=E,37nm,0.8s						
TAVA				IAML		20 36 04.0	
	comp=N,32nm,1.0s						
GOLH	**Golhisar**	**2.45**	**33**	*i* P	**Pn**	**20 35 12.0**	**0.0**
AYDN	**Tasoluk**	**2.47**	**360**	*i* P	**Pn**	**20 35 12.8**	**+0.6**
KORT	**Korkueli**	**2.69**	**47**	*i* P	**Pn**	**20 35 16.6**	**+1.2**
USAK	**Uak-Merkez**	**3.63**	**14**	*i* P	**Pn**	**20 35 29.4**	**+1.1**
ZEDA	**zmir-Bergama**	**3.83**	**350**	*i* P	**Pn**	**20 35 29.0**	**-1.8**
BRTR	**Keskin Array B**	**6.43**	**44**	Pn	**Pn**	**20 36 08.2**	**+1.4**
	comp=N,0.1nm,0.3s,baz=244,slow=16,SNR=2.6						
BRTR				Sn	**Sn**	**20 37 19.4**	**+0.1**
	comp=N,0.1nm,0.3s,baz=203,slow=29,SNR=3.0						
ESDC	**Sonseca Array**	**25.61**	**290**	P	**P**	**20 40 00.9**	**+0.1**
	comp=N,0.2nm,0.5s,baz=84,slow=9.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**32.27**	**234**	P	**P**	**20 41 00.0**	**-0.1**
	comp=N,0.6nm,0.7s,baz=40,slow=7.6,SNR=5.5						

IDC 11 20:37:42.0±2.0, 3°.81S×149°.91E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.4/37, mbtmp3.6/3, ML2.7/1, MS3.0/5, Ms1 3.0/5, ms1mx2.7/23, Error ellipse: s-maj=53.0km s-min=24.5km az=173.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.17**	**103**	Pn	Pn	20 38 19.9	+0.4
	2.2nm,0.3s,baz=207,slow=19,SNR=4.2						
KRVT				Sn	Sn	20 38 47.8	+0.7
	2.5nm,0.3s,baz=253,slow=19,SNR=2.8						
KRVT				LR	LR	20 39 16.6	
	comp=Z,224nm,18.5s,baz=270,slow=44						
PMG	**Port Moresby**	**6.19**	**206**	LR	LR	20 41 51.5	
	comp=Z,50nm,21.6s,baz=312,slow=40						
HNR	**Honiara**	**11.43**	**120**	LR	LR	20 44 21.2	
	comp=Z,89nm,19.0s,baz=314,slow=35						
WRA	**Warramunga Arr**	**22.08**	**222**	P	P	20 42 39.1	+0.2
	2.6nm,1.1s,baz=50,slow=9.3,SNR=8.0						
DZM	**Mont Dzumac**	**24.22**	**140**	LR	LR	20 51 13.9	
	comp=Z,69nm,19.2s,baz=38,slow=34						
ASAR	**Alice Springs**	**25.07**	**217**	P	P	20 43 08.3	-0.1
	1.3nm,1.0s,baz=49,slow=9.2,SNR=7.2						
BATI	**Baumata**	**26.80**	**255**	LR	LR	20 54 43.5	
	comp=Z,48nm,20.9s,baz=86,slow=38						
TORD	**Torodi Ar. Bea**	**147.26**	**288**	PKPbc	PKPbc	20 57 27.7	-0.9
	0.4nm,0.8s,baz=66,slow=1.7,SNR=2.9						

*ISCJB **11** 20:38:22.6±0.8, 1°.09N±0°.06×121°.84E±0°.09, h10km, mb3.3/4, MS2.7/1, Error ellipse: s-maj=14.1km s-min=8.0km az=160.9*
*IDC **11** 20:38:22.0±1.1, 0°.82N×121°.72E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/39, mbtmp3.3/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/12, Error ellipse: s-maj=156.5km s-min=21.4km az=65.0*
*DJA **11** 20:38:24.9±0.4, 1°.N±4°×12°.2E±°, h10km, M4.0/9, mb4.2/1, MLv3.8/9*
ISC 11 20:38:24.2±0.9, 1°.00N±0°.07×121°.79E±0°.07, h10km, n13, σ1$04/14, mb3.4/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.54**	**164**	P	**Pb**	**20 38 36.2**	**+0.4**
MRSI				S	**Sb**	**20 38 43.9**	**+0.3**
APSI	**Ampana**	**1.90**	**184**	P	**Pn**	**20 38 57.0**	**+0.3**
MPSI	**Mapaga**	**2.00**	**251**	P	**Pn**	**20 38 58.7**	**+0.6**
KMSI	**Cibinong**	**2.23**	**101**	P	**Pb**	**20 39 05.2**	**+0.5**
LUWI	**Luwuk**	**2.25**	**154**	P	**Pn**	**20 39 02.4**	**+0.9**
TTSI	**Tana Toraja**	**4.47**	**206**	P	**Pn**	**20 39 33.0**	**+0.9**
SANI	**Sanana**	**5.18**	**126**	P	**Pn**	**20 39 42.4**	**+0.6**
SPSI	**Sidrap Palu**	**5.33**	**202**	P	**Pn**	**20 39 44.4**	**+0.6**
WRA	**Warramunga Arr**	**24.18**	**150**	P	**P**	**20 43 39.6**	**-1.3**
	0.5nm,0.7s,baz=325,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**27.20**	**155**	P	**P**	**20 44 06.8**	**-1.6**
	0.2nm,0.5s,baz=344,slow=14,SNR=6.1						
ASAR				PcP	**PcP**	**20 47 26.8**	**-2.0**
	0.2nm,0.3s,baz=330,slow=1.9,SNR=3.5						
MJAR	**Matsushiro Arr**	**38.50**	**21**	LR	LR	21 02 41.4	
	comp=Z,10nm,18.5s,baz=45,slow=38						
SONM	**Songino Array**	**48.53**	**346**	P	**P**	**20 47 08.1**	**+0.6**
	0.2nm,0.4s,baz=165,slow=8.7,SNR=3.0						
MKAR	**Makanchi Array**	**57.13**	**329**	P	**P**	**20 48 11.4**	**+0.3**
	0.4nm,0.5s,baz=130,slow=8.4,SNR=5.6						

*ISCJB **11** 20:47:37.1±0.7, 29°.46S±0°.05×143°.79E±0°.05, h10km, Error ellipse: s-maj=7.2km s-min=6.2km az=155.4*
*AUST **11** 20:47:40.1±0.8, 29°.57S×143°.84E, h10km, Error ellipse: s-maj=7.9km s-min=5.5km az=140.0*
*IDC **11** 20:47:41.9±7.2, 29°.38S×143°.38E, h0km, mb1 3.3/3, mb1mx3.3/20, mbtmp3.1/3, ML3.0/3, Error ellipse: s-maj=98.2km s-min=22.3km az=96.0*
ISC 11 20:47:39.0±1.0, 29°.57S±0°.06×143°.89E±0°.05, h10km, n8, σ2$10/14, New South Wales

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMSA	**Cobar Meteorol**	**2.50**	**142**	P	**Pb**	**20 48 23.2**	**-0.9**
	baz=2.5						
CMSA				S	**Sb**	**20 48 52.9**	**-2.0**
	baz=2.5						
STKA	**Stephens Creek**	**3.03**	**220**	Pn	**Pn**	**20 48 29.5**	**+2.5**
	1.1nm,0.3s,baz=28,slow=14,SNR=18						
STKA				Sn	**Sn**	**20 49 04.8**	**+1.4**
	2.8nm,0.3s,baz=109,slow=20,SNR=15						
STKA				Lg	Lg	20 49 15.4	
	2.6nm,0.3s,baz=131,slow=20,SNR=7.1						
RMQ	**Roma**	**5.29**	**56**	P	**Pn**	**20 49 00.7**	**+2.6**
	baz=5.3						
RMQ				S	**Sn**	**20 50 00.5**	**+1.4**
	baz=5.3						
HTT	**Hallett**	**5.72**	**227**	P	**Pn**	**20 49 05.7**	**+1.6**
	baz=5.7						
HTT				S	**Sn**	**20 50 10.3**	**+0.4**
	baz=5.7						
YNG	**Young**	**6.08**	**142**	P	**Pn**	**20 49 10.4**	**+1.5**
	baz=6.1						
YNG				S	**Sn**	**20 50 20.7**	**+2.3**
	baz=6.1						
CNB	**Canberra Magne**	**7.36**	**142**	P	**Pn**	**20 49 28.5**	**+1.9**
	baz=7.4						
CNB				S	**Sn**	**20 50 48.4**	**-1.8**
	baz=7.4						
ASAR	**Alice Springs**	**10.69**	**301**	Pn	**Pn**	**20 50 09.8**	**-2.4**
	0.1nm,0.3s,baz=133,slow=14,SNR=3.6						
ASAR				Sn	Sn	20 52 01.8	-10
	0.1nm,0.3s,baz=121,slow=22,SNR=3.4						
WRA	**Warramunga Arr**	**12.92**	**316**	Pn	**Pn**	**20 50 40.8**	**-1.9**
	0.2nm,0.3s,baz=140,slow=12,SNR=5.5						
WRA				Sn	Sn	20 52 54.1	-13
	0.2nm,0.3s,baz=134,slow=23,SNR=3.1						

ISC 11 20:54:35.1±1.8, 51°.39N±0°.08×16°.28E±0°.06, h0km, n12, σ0$62/25, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.55**	**179**	*e*Pg	**Pg**	**20 54 45.9**	**+0.4**
KSP				*e*Pg	**Pg**	**20 54 45.9**	**+0.4**
KSP				*e*Sg	**Sg**	**20 54 53.3**	**+0.7**
KSP				*e*Sg	**Sg**	**20 54 53.3**	**+0.7**
CHVC	**Chvalec**	**0.81**	**190**	*e*PG	**Pg**	**20 54 51.1**	**+0.4**
CHVC				*e*SG	**Sg**	**20 55 01.8**	**+0.6**
UPC	**Upice**	**0.90**	**191**	*e*PG	**Pg**	**20 54 52.6**	**+0.3**
UPC				*e*SG	**Sg**	**20 55 04.4**	**+0.5**
	comp=Z,12nm,0.3s						
DPC	**Dobruska-Polom**	**1.04**	**179**	*e*PG	**Pg**	**20 54 55.1**	**+0.1**
DPC				*e*SG	**Sg**	**20 55 08.3**	**-0.2**
KRLC	**Kraliky**	**1.35**	**166**	*e*PG	**Pg**	**20 55 00.5**	**-0.5**
KRLC				*e*SG	**Sg**	**20 55 18.3**	**-0.2**
	comp=Z,6.3nm,0.4s						
PVCC	**Panska Ves**	**1.38**	**232**	*e*PG	**Pg**	**20 55 01.4**	**-0.2**
PVCC				*e*SG	**Sg**	**20 55 19.7**	**+0.2**
	comp=Z,20nm,0.2s						
BRG	**Berggiesshubel**	**1.56**	**252**	PG	**Pn**	**20 55 04.6**	**+0.5**
BRG				SG	**Sn**	**20 55 25.3**	**+0.3**
	4.8nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.76**	**213**	*e*PG	**Pb**	**20 55 08.5**	**+0.3**
GOPC				*e*SG	**Sb**	**20 55 30.8**	**0.0**
PRU	**Pruhonice**	**1.79**	**219**	*e*SG	**Sb**	**20 55 31.5**	**-0.1**
MORC	**Moravsky Berou**	**1.80**	**153**	*e*PN	**Pn**	**20 55 07.2**	**-0.3**
MORC				*e*SG	**Sb**	**20 55 32.0**	**-0.1**
CLL	**Collm**	**2.06**	**269**	*e*Pg	**Pb**	**20 55 13.0**	**-0.3**
CLL				*e*Sg	**Sb**	**20 55 40.0**	**+0.6**
KHC	**Kasperske Hory**	**2.85**	**219**	*e*SN	**Sn**	**20 55 55.5**	**-1.4**
KHC				*e*SG	**Sg**	**20 56 04.8**	**-1.8**

*ISCJB **11** 21:18:52.5±0.6, 9°.1S±0°.2×125°.5E±0°.3, h33km, mb4.0/3, Error ellipse: s-maj=57.4km s-min=7.3km az=145.3*
*IDC **11** 21:18:52.6±1.5, 8°.69S×125°.46E, h0km, mb4.0/3, mb1 4.3/5, mb1mx3.9/20, mbtmp4.2/5, ML4.4/2, Error ellipse: s-maj=140.4km s-min=29.0km az=61.0*
ISC 11 21:18:55.1±0.9, 9°.0S±0°.3×125°.7E±0°.5, h35km, n13, σ1$47/15, mb4.3/3, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.74**	**143**	Pn	**P**	**21 22 14.4**	**-1.3**
	3.0nm,0.3s,baz=320,slow=13,SNR=105						
WRA				Sn	**Sn**	**21 24 39.2**	**+0.1**
	2.1nm,0.3s,baz=322,slow=24,SNR=10						
ASAR	**Alice Springs**	**16.59**	**153**	Pn	**P**	**21 22 51.0**	**+3.6**
	0.5nm,0.3s,baz=322,slow=11,SNR=41						
ASAR				Sn	**Sn**	**21 25 47.4**	**-1.1**
	0.6nm,0.3s,baz=320,slow=23,SNR=17						
TAPN	**Taplejung**	**51.55**	**316**	*eP*	**P**	**21 27 57.4**	**-0.9**
RAMN	**Ramite**	**52.08**	**314**	*eP*	**P**	**21 28 01.2**	**-1.0**
	6.8nm,0.5s						
GUN	**Gumba**	**53.17**	**315**	*eP*	**P**	**21 28 09.8**	**-0.5**
	3.6nm,0.4s						
PKI	**Pulchoki**	**53.29**	**314**	*eP*	**P**	**21 28 10.1**	**-1.2**
	3.2nm,0.3s						
PKIN	**Phulchoki**	**53.31**	**314**	*eP*	**P**	**21 28 10.1**	**-1.2**
	2.8nm,0.4s						
GKN	**Gorkha**	**54.10**	**314**	*eP*	**P**	**21 28 16.1**	**-0.8**
	5.9nm,0.3s						
KOLN	**Koldanda**	**54.70**	**313**	*eP*	**P**	**21 28 19.8**	**-1.6**
DANN	**Dangsing**	**54.93**	**314**	*eP*	**P**	**21 28 22.2**	**-0.9**
SONM	**Songino Array**	**59.08**	**345**	P	**P**	**21 28 52.7**	**+0.7**
	0.3nm,0.5s,baz=158,slow=8.1,SNR=3.4						
MKAR	**Makanchi Array**	**67.63**	**329**

	0.6nm,0.8s,baz=58,slow=9.1,SNR=5.7						
ILAR	**Eielson Array**	**47.76**	**328**	P	**P**	**21 51 51.4**	**+0.5**
	0.8nm,1.0s,baz=38,slow=7.4,SNR=5.1						
PDAR	**Pinedale Array**	**48.87**	**287**	LR	LR	22 10 52.7	
	comp=Z,28nm,19.4s,baz=42,slow=34						
TORD	**Torodi Ar. Bea**	**51.69**	**137**	P	**P**	**21 52 20.5**	**-0.8**
	0.5nm,0.6s,baz=331,slow=7.2,SNR=3.9						
DBIC	**Dimbokro**	**55.63**	**147**	LR	LR	22 12 47.1	
	comp=Z,24nm,20.9s,baz=57,slow=32						
NVAR	**Mina Array Bea**	**56.51**	**290**	LR	LR	22 14 42.2	
	comp=Z,28nm,18.4s,baz=26,slow=34						
MKAR	**Makanchi Array**	**62.02**	**45**	P	**P**	**21 53 34.1**	**-0.3**
	0.5nm,0.6s,baz=327,slow=5.7,SNR=6.6						

IDC 11 21:43:41.9±2.7, 11°42S×164°86E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/26, mbtmp3.6/5, ML3.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/25, Error ellipse: s-maj=62.7km s-min=37.3km az=86.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.22**	**292**	LR	LR			21 47 00.1	
	comp=Z,48nm,20.5s,baz=82,slow=38								
DZM	**Mont Dzumac**	**10.70**	**172**	Pn	Pn			21 46 16.9	+0.2
	0.3nm,0.3s,baz=356,slow=19,SNR=3.0								
H11S2	**WAKE ISLAND Hy**	**29.78**	**4**	T	T			22 21 02.8	
	baz=184,slow=76,SNR=14								
H11S3	**WAKE ISLAND Hy**	**29.78**	**3**	T	T			22 21 00.9	
	baz=184,slow=76,SNR=10.0								
H11S1	**WAKE ISLAND Hy**	**29.79**	**4**	T	T			22 21 04.0	
	baz=184,slow=76,SNR=11								
WRA	**Warramunga Arr**	**30.54**	**250**	P	P			21 49 57.5	+0.2
	0.4nm,0.6s,baz=81,slow=8.5,SNR=5.5								
H11N1	**WAKE ISLAND Hy**	**31.00**	**4**	T	T			22 22 32.6	
	baz=183,slow=76,SNR=5.3								
H11N3	**WAKE ISLAND Hy**	**31.01**	**4**	T	T			22 22 41.3	
	baz=183,slow=76,SNR=4.5								
H11N2	**WAKE ISLAND Hy**	**31.02**	**4**	T	T			22 22 34.5	
	baz=183,slow=76,SNR=4.8								
ASAR	**Alice Springs**	**31.85**	**243**	P	P			21 50 08.6	-0.4
	0.6nm,0.8s,baz=70,slow=9.8,SNR=6.6								
CMAR	**Chiang Mai Arr**	**71.47**	**294**	P	P			21 55 05.2	+0.3
	0.2nm,0.5s,baz=124,slow=4.7,SNR=3.3								
INK	**Inuvik**	**90.53**	**19**	LR	LR			22 33 58.7	
	comp=Z,84nm,20.2s,baz=309,slow=33								
MKAR	**Makanchi Array**	**93.20**	**317**	P	P			21 56 58.1	-0.3
	0.4nm,0.8s,baz=108,slow=4.7,SNR=3.1								

NNC 11 21:51:12.3±3.8, 36°77N×70°46E, h192km±82km, mb2.6, mpv3.6, 4C-3D, Error ellipse: s-maj=40.6km s-min=18.6km az=14.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.91**	**24**	P			Pn	21 52 39.2	+0.7
	SNR=27								
UCH	**Uchtor**	**6.29**	**29**	P			Pn	21 52 44.1	+0.6
	SNR=9.5								
KK31	**Karatay Array**	**6.32**	**0**	⇑P			Pn	21 52 44.9	+1.3
	0.7nm,0.2s,baz=183,slow=13,SNR=3.6								
KK31				⇓S			Sn	21 53 56.0	+0.2
	0.5nm,0.3s								
EKS2	**Erkin-Say**	**6.42**	**22**	P			Pn	21 52 45.7	+0.9
	SNR=9.8								
AAK	**Ala-Archa**	**6.63**	**27**	P			Pn	21 52 48.5	+0.8
	SNR=7.3								
AAK	**Ala-Archa**	**6.63**	**27**	⇑P			Pn	21 52 47.4	-0.3
	3.8nm,0.7s								
AAK				⇓S			Sn	21 54 04.3	+1.0
	2.5nm,0.6s								
TKM2	**Tokmak 2**	**7.30**	**31**	P			Pn	21 52 56.9	+0.4
	SNR=10								
TKM2	**Tokmak 2**	**7.30**	**31**	⇑P			Pn	21 52 56.4	-0.1
	4.4nm,0.7s								
TKM2				⇓S			Sn	21 54 19.4	+0.2
	1.0nm,0.7s								
AB31	**Akbulak array**	**14.64**	**332**	⇑P			Pn	21 54 30.4	+0.3
	0.6nm,0.7s,baz=157,slow=7.9,SNR=4.3								

IDC 11 21:51:56.6±2.6, 30°09S×177°37W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/19, mbtmp3.8/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/28, Error ellipse: s-maj=52.4km s-min=24.7km az=87.0

NEIC 11 21:51:59.3±0.4, 30°18S±0°06×177°3W±0°3, h25km±6km, mb4.3/1

ISC 11 21:52:01.2±2.6, 30°25S±0°07×177°5W±0°4, h35km, n13, σ1s93/14, mb4.0/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.06**	**339**	Pn			**Pn**	**21 52 18.3**	**-1.2**
	413nm,0.3s,baz=135,slow=14,SNR=18								
RAO				LR	LR			21 52 22.0	
	comp=Z,255nm,18.1s,baz=118,slow=26								
RAO				Sn			**Sn**	**21 52 31.1**	**-2.0**
	230nm,0.3s,baz=128,slow=23,SNR=4.4								
RAO	**Raoul Island**	**1.06**	**339**				**Pn**	**21 52 18.7**	**-0.8**
URZ	**Urewera**	**9.16**	**208**	Pn			**Pn**	**21 54 11.5**	**+0.8**
BKZ	**Black Stump Fm**	**10.18**	**207**	Pn			**Pn**	**21 54 25.6**	**+0.7**
BFZ	**Birch Farm**	**11.59**	**204**	Pn			**Pn**	**21 54 44.7**	**+0.5**
BFZ				Sn			**Sn**	**21 56 47.9**	**-4.4**
THZ	**Tophouse**	**13.86**	**211**	Pn			**Pn**	**21 55 15.1**	**0.0**
KHZ	**Kahutara**	**14.12**	**208**	Pn			**Pn**	**21 55 17.8**	**-0.8**
DZM	**Mont Dzumac**	**16.55**	**296**	LR	LR			22 00 55.9	
	comp=Z,61nm,18.6s,baz=232,slow=32								
STKA	**Stephens Creek**	**34.94**	**257**	P			**P**	**21 58 53.1**	**+3.3**
	1.0nm,0.5s,baz=99,slow=13,SNR=3.9								
ASAR	**Alice Springs**	**43.66**	**267**	P			**P**	**22 00 02.5**	**+0.6**
	0.6nm,0.7s,baz=107,slow=8.0,SNR=5.9								
WB2	**Warramunga Arr**	**44.52**	**272**	P			**P**	**22 00 11.3**	**+1.6**
WB2				IAmb			IAmb	22 00 29.5	
	comp=Z,5.1nm,1.2s								
WRA	**Warramunga Arr**	**44.53**	**272**	P			**P**	**22 00 10.2**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=111,slow=8.1,SNR=12								
FINES	**FINESS Array B**	**145.15**	**340**	PKPbc			**PKPbc**	**22 11 33.4**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=46,slow=4.0,SNR=9.8								

KRSC 11 21:53:39.6±1.8, 49°31N×157°22E, h7km±42km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.55**	**333**	*eP*			Pn	21 54 07.1	-0.5
SKR				*eS*			Sn	21 54 27.4	-0.6
PAU	**Pauzhetka**	**2.18**	**353**	*eP*			Pb	21 54 18.1	-1.2
ASAK	**Asacha**	**3.11**	**8**	*eP*			Pn	21 54 31.9	+2.8
RUS	**Russkaya**	**3.24**	**14**	*eS*			Sb	21 55 13.8	-3.1
MTVR	**Mutnovka**	**3.24**	**10**	*eP*			Pn	21 54 33.7	+2.8
MTVR				*eS*			Sb	21 55 13.5	-3.6
GRL	**Gorelyy**	**3.29**	**9**	*eP*			Pb	21 54 35.4	-3.0
KRMR	**Karymshinskiy**	**3.58**	**9**	*eP*			Pn	21 54 38.7	+3.3
KRMR				*eS*			Sb	21 55 22.5	-4.1
AVH	**Avacha**	**4.08**	**13**	*eP*			Pn	21 54 46.8	+4.4
SMAR	**Somma**	**4.08**	**13**	*eP*			Pb	21 54 48.0	-3.9
KOK	**Koryaka**	**4.09**	**12**	*eP*			Pn	21 54 47.1	+4.5
SDLR	**Sedlovina**	**4.11**	**14**	*eP*			Pn	21 54 46.5	+3.6
KRX	**Arik**	**4.16**	**12**	*eP*			Pb	21 54 48.7	-4.4
SPN	**Mys Shipunski**	**4.19**	**24**	P			Pn	21 54 48.0	+4.2
MKZ	**Mys Kozlova**	**5.95**	**26**	*eP*			Pn	21 55 11.2	+3.2

IDC 11 22:48:16.9±6.2, 10°67S×161°08E, h72km±40km, mb3.4/5, mb1 3.5/5, mb1mx3.4/23, mbtmp3.7/5, ML5.0/1, MS2.9/1, Ms1 2.8/1, ms1mx2.4/15, Error ellipse: s-maj=63.9km s-min=23.7km az=98.0

ISC 11 22:48:15.6±2.0, 10°7S±0°2×161°2E±0°3, h62km, n8, σ1s24/8, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.76**	**315**	P			**Pn**	**22 48 43.4**	**-0.5**
	39nm,0.3s,baz=184,slow=15,SNR=3.3								
HNR				S			**Sn**	**22 49 04.9**	**-0.4**
	60nm,0.3s,baz=23,slow=5.4,SNR=4.7								
HNR	**Honiara**	**1.76**	**315**	P			Pn	22 48 31.0	-13
KRVT	**Keravat (AS076**	**11.09**	**304**	P			**Pn**	**22 50 52.7**	**+1.2**
	11nm,0.3s,baz=163,slow=4.5,SNR=4.2								
WRA	**Warramunga Arr**	**27.45**	**247**	P			**P**	**22 53 54.9**	**-1.1**
	0.8nm,0.8s,baz=75,slow=10,SNR=4.0								
STKA	**Stephens Creek**	**27.79**	**218**	P			**P**	**22 53 59.4**	**+0.4**
	1.1nm,0.7s,baz=56,slow=7.8,SNR=3.3								
STKA				LR			LR	23 03 17.0	
	comp=Z,24nm,21.6s,baz=28,slow=32								
ASAR	**Alice Springs**	**29.02**	**240**	P			**P**	**22 54 09.6**	**-0.4**
	0.3nm,0.8s,baz=66,slow=11,SNR=3.3								
SONM	**Songino Array**	**75.80**	**325**	P			**P**	**22 59 53.7**	**-1.4**
	0.6nm,0.6s,baz=136,slow=5.5,SNR=2.6								
MKAR	**Makanchi Array**	**90.23**	**318**	P			**P**	**23 01 11.0**	**+1.4**
	0.2nm,0.5s,baz=91,slow=6.4,SNR=3.8								

ISCJB 11 22:49:08.1±0.4, 48°24N±0°02×3°91W±0°03, h10km, Error ellipse: s-maj=3.5km s-min=2.8km az=143.0

NEIC 11 22:49:09.0±2.1, 48°21N±0°07×4°1W±0°1, h8km±7km

STR 11 22:49:09.2±0.9, 48°N±3°×±°, h13km±5km, MLv3.4/4

BGS 11 22:49:10.0±1.7, 48°29N×4°53W, h10km, ML3.1, ML3.1

LDG 11 22:49:10.3±0.1, 48°35N×4°30W, h14km, Md3.5/3, Ml3.5/57, Error ellipse: s-maj=2.0km s-min=1.5km az=52.0

ISC 11 22:49:08.2±1.1, 48°30N±0°02×4°20W±0°05, h10km, n94, σ2s14/179, France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROSF	**Rostrenen**	**0.62**	**86**	*ePg*			**Pn**	**22 49 23.4**	**+0.4**
ROSF	**Rostrenen**	**0.62**	**86**	*eP*			**Pn**	**22 49 24.3**	**+1.3**
	SNR=1.0								
ROSF				*eSg*			**Sn**	**22 49 32.0**	**-0.9**
	224nm,0.2s								
ROSF				*eSn*			**Sb**	**22 49 34.2**	**+4.5**
QUIF	**Quistinic**	**0.79**	**119**	*ePn*			**Pn**	**22 49 26.2**	**+0.9**
QUIF	**Quistinic**	**0.79**	**119**	*ePg*			**Pn**	**22 49 26.7**	**+1.4**
QUIF				*eSn*			**Sn**	**22 49 38.5**	**+1.3**
	50nm,0.2s								
QUIF				*eSg*			**Sb**	**22 49 39.5**	**+4.8**
	307nm,0.3s								
QUIF				*eS*			Sg	22 49 42.0	+8.4
	249nm,0.2s								
SGMF	**Saint Gilles**	**1.10**	**92**	*ePn*			**Pn**	**22 49 30.5**	**+0.9**
SGMF	**Saint Gilles**	**1.10**	**92**	*ePg*			**Pn**	**22 49 32.3**	**+2.8**
SGMF				*eSn*			**Sn**	**22 49 46.0**	**+1.3**
SGMF				*eSg*			**Sb**	**22 49 48.1**	**+4.6**
	452nm,0.5s,SNR=1.0								
JVM	**Valle D.L. Mar**	**1.61**	**54**	*eP*			**Pg**	**22 49 40.1**	**+1.1**
JSA	**Saint Aubin**	**1.61**	**56**	*eP*			**Pg**	**22 49 40.1**	**+1.1**
JSA				*eS*			**Sg**	**22 50 01.6**	**+1.7**
JSA				IAML				22 50 03.1	
	comp=E,272nm,0.2s								
JSA				IAML				22 50 03.5	
	comp=N,196nm,0.3s								
JSA	**Saint Aubin**	**1.61**	**56**	Pn			**Pn**	**22 49 37.4**	**+0.8**
JSA				Sn			**Sb**	**22 49 59.2**	**+0.9**
JRS	**Jersey**	**1.66**	**57**	*eP*			**Pg**	**22 49 40.9**	**+1.0**
JRS				*eS*			**Sg**	**22 50 03.3**	**+1.9**
JRS				IAML				22 50 04.5	
	comp=E,116nm,0.3s								
JRS				IAML				22 50 07.7	
	comp=N,172nm,0.2s								
JLP	**Les Platons**	**1.68**	**55**	*eP*			**Pg**	**22 49 41.4**	**+1.1**
JLP				*eS*			**Sg**	**22 50 03.8**	**+1.8**
JDG	**Jersey Dam (Ga**	**1.68**	**57**	*eP*			**Pg**	**22 49 42.0**	**+1.6**
CCA1	**Carnmenellis**	**2.01**	**341**	*eP*			**Pn**	**22 49 43.1**	**+1.1**
CCA1				*eS*			**Sn**	**22 50 06.7**	**-0.5**
CCA1				IAML				22 50 13.6	
	comp=N,62nm,0.4s								
CCA1				IAML				22 50 13.9	
	comp=E,87nm,0.4s								
CCA1	**Carnmenellis**	**2.01**	**341**	Pn			**Pn**	**22 49 39.7**	**-2.4**
CCA1				Sn			**Sn**	**22 50 04.2**	**-3.1**
GRR	**Gorron**	**2.23**	**86**	*ePn*			**Pn**	**22 49 46.1**	**+1.0**
GRR	**Gorron**	**2.23**	**86**	*ePg*			**Pg**	**22 49 53.0**	**+2.2**
GRR				*eSg*			**Sg**	**22 50 22.9**	**+3.2**
	comp=E,171nm,0.3s								
SBD	**Saint Breward**	**2.29**	**352**	*eP*			**Pn**	**22 49 44.7**	**-1.3**
SBD				IAML				22 50 25.8	
	comp=N,70nm,0.3s								
SBD				IAML				22 50 27.5	
	comp=E,143nm,0.7s								
FLN	**La Foliniere**	**2.51**	**78**	*ePn*			**Pn**	**22 49 49.9**	**+0.9**
	baz=263								
FLN	**La Foliniere**	**2.51**	**78**	*ePg*			**Pg**	**22 49 57.7**	**+1.4**
	baz=265								
FLN				*eSn*			**Sn**	**22 50 18.5**	**-1.2**
	SNR=1.0								
FLN				*eS*			**Sb**	**22 50 23.4**	**-0.9**
FLN				*eSg*			**Sg**	**22 50 30.6**	**+1.8**
	comp=E,145nm,0.3s,baz=266								
FLN	**La Foliniere**	**2.51**	**78**	Pn			**Pn**	**22 49 49.1**	**+0.1**
FLN				Pg			**Pg**	**22 49 56.6**	**+0.3**
FLN				Sn			**Sn**	**22 50 16.7**	**-3.0**
HTL	**Hartland**	**2.71**	**356**	IAML				22 50 35.8	
	comp=E,118nm,0.4s								
HTL				IAML				22 50 40.8	
	comp=N,112nm,0.5s								
HTL	**Hartland**	**2.71**	**356**	Pn			Pn	22 49 48.7	-3.0
HTL				Sn			**Sn**	**22 50 22.0**	**-2.4**
LDF	**La Druitiere**	**2.73**	**82**	*ePn*			**Pn**	**22 49 53.5**	**+1.5**
LDF	**La Druitiere**	**2.73**	**82**	*ePg*			**Pg**	**22 50 02.1**	**+1.7**
LDF				*eSn*			**Sn**	**22 50 23.9**	**-1.1**
	comp=N,200nm,0.5s,SNR=1.0								
LDF				*eSg*			**Sg**	**22 50 38.0**	**+2.3**
	comp=N,199nm,0.5s								
MFF	**Saint Martin d**	**3.23**	**120**	*ePn*			**Pn**	**22 50 00.5**	**+1.6**
MFF	**Saint Martin d**	**3.23**	**120**	*ePg*			**Pg**	**22 50 11.7**	**+1.7**
MFF				*eSn*			**Sn**	**22 50 37.4**	**0.0**
MFF				*eSg*			**Sg**	**22 50 55.0**	**+3.2**
	comp=N,28nm,0.3s								
MFF	**Saint Martin d**	**3.23**	**120**	Pn			**Pn**	**22 50 00.5**	**+1.6**
CHIF	**Chize**	**3.37**	**129**	Pn			**Pn**	**22 50 02.1**	**+1.3**
CHIF				Sg			**Sg**	**22 50 59.7**	**+3.4**
OLDB	**Oldbury-Upon-S**	**3.53**	**17**	IAML				22 51 12.0	
	comp=N,151nm,0.4s								
OLDB				IAML				22 51 16.3	
	comp=E,129nm,0.4s								
MONM	**Monmouth**	**3.66**	**14**	*eP*			**Pn**	**22 50 04.5**	**-0.3**
MONM				IAML				22 51 08.6	
	comp=N,36nm,0.6s								
MONM				IAML				22 51 14.8	
	comp=E,31nm,0.5s								
RSBS	**Rosebush, Pemb**	**3.68**	**355**	*eP*			**Pn**	**22 50 03.8**	**-1.2**
RSBS				IAML				22 50 49.7	
	comp=E,5.3nm,0.3s								
RSBS				IAML				22 50 52.8	
	comp=N,6.5nm,0.3s								
STRD	**Stroud**	**3.72**	**20**	*eP*			**Pn**	**22 50 07.1**	**+1.5**
STRD				IAML				22 51 12.9	
	comp=N,45nm,0.5s								
STRD				IAML				22 51 16.0	
	comp=E,54nm,0.8s								
MCH1	**Michaelchurch**	**3.78**	**11**	IAML				22 51 11.0	
	comp=E,17nm,0.3s								
MCH1				IAML				22 51 14.1	
	comp=N,22nm,0.4s								
HMNX	**Herstmonceux**	**3.91**	**47**	IAML				22 51 23.9	
	comp=N,108nm,0.4s								
HMNX				IAML				22 51 26.2	
	comp=E,97nm,0.4s								
HLM1	**Long Mynd**	**4.31**	**11**	*eS*			**Sn**	**22 50 59.9**	**-4.1**
HLM1				IAML				22 51 08.5	
	comp=E,7.7nm,0.3s								
HLM1				IAML				22 51 27.9	
	comp=N,12nm,0.6s								
CLF	**Chambon-Foret**	**4.33**	**91**	Pn			**Pn**	**22 50 15.9**	**+1.9**
CLF				Sn			**Sn**	**22 51 03.7**	**-0.8**
CLF							Lg	22 51 31.9	
HYF	**Humbligny**	**4.72**	**100**	*ePn*			**Pn**	**22 50 20.4**	**+1.0**
HYF				*eSn*			**Sn**	**22 51 12.3**	**-1.9**
HYF				*eSg*			**Sg**	**22 51 40.8**	**+1.1**
LFF	**La Frestale**	**4.78**	**133**	*ePn*			**Pn**	**22 50 21.1**	**+0.9**
LFF	**La Frestale**	**4.78**	**133**	*ePg*			**Pg**	**22 50 39.4**	**-0.3**
LFF				*eSn*			**Sn**	**22 51 12.6**	**-3.0**
LFF				*eSg*			**Sg**	**22 51 43.2**	**+1.6**
	comp=N,51nm,0.4s								
TCF	**Toulx Ste Croi**	**4.80**	**112**	*ePn*			**Pn**	**22 50 21.4**	**+0.9**
TCF				*eSn*			**Sn**	**22 51 13.4**	**-2.8**
	comp=N,7.1nm,0.3s								
TCF				*eSg*			**Sg**	**22 51 42.4**	**+0.2**
	comp=N,44nm,0.7s								
RJF	**Les Rejaudoux**	**4.94**	**125**	*ePn*			**Pn**	**22 50 22.8**	**+0.5**
RJF				*eSn*			**Sn**	**22 51 16.8**	**-2.6**
	SNR=1.0								
RJF				*eSg*			**Sg**	**22 51 47.0**	**+0.5**
	comp=N,37nm,0.4s								
RJF	**Les Rejaudoux**	**4.94**	**125**	Pn			**Pn**	**22 50 22.8**	**+0.5**
RJF				Sn			**Sn**	**22 51 15.0**	**-4.4**
RJF				Sg			**Sg**	**22 51 45.0**	**-1.5**
BGF	**Bois d'Agland**	**5.09**	**107**	*ePn*			**Pn**	**22 50 25.3**	**+0.9**
BGF	**Bois d'Agland**	**5.09**	**107**	*ePg*			**Pg**	**22 50 45.8**	**+0.3**
BGF				*eSn*			**Sn**	**22 51 21.1**	**-2.1**
	comp=N,13nm,0.3s,SNR=1.0								
BGF				*eSg*			**Sg**	**22 51 53.3**	**+1.9**
	comp=N,53nm,0.4s								
BGF	**Bois d'Agland**	**5.09**	**107**	Pn			**Pn**	**22 50 24.8**	**+0.4**
BGF				Sn			**Sn**	**22 51 18.5**	**-4.7**
DSB	**Dublin**	**5.14**	**345**	Pn			**Pn**	**22 50 27.3**	**+2.2**
DSB				Sn			**Sn**	**22 51 19.1**	**-5.3**
AVF	**Avril sur Loir**	**5.33**	**104**	*ePn*			**Pn**	**22 50 28.6**	**+0.9**
AVF	**Avril sur Loir**	**5.33**	**104**	*ePg*			**Pg**	**22 50 49.9**	**-0.3**
	SNR=1.0								
AVF				*eSn*			**Sn**	**22 51 25.8**	**-3.3**
	comp=N,4.1nm,0.3s								
AVF				*eSg*			**Sg**	**22 51 59.9**	**+0.7**
	comp=N,20nm,0.6s								
AVF	**Avril sur Loir**	**5.33**	**104**	Pn			**Pn**	**22 50 26.2**	**-1.5**
AVF				Pg			**Pg**	**22 50 49.2**	**-1.0**
SSF	**Saint Saulge**	**5.35**	**101**	*ePn*			**Pn**	**22 50 28.3**	**+0.3**
SSF				*eSn*			**Sn**	**22 51 26.9**	**-2.7**
SSF				*eSg*			**Sg**	**22 52 00.4**	**+0.7**
	comp=N,15nm,0.3s								
CAF	**Calviac**	**5.47**	**126**	*ePn*			**Pn**	**22 50 30.1**	**+0.3**
CAF				*eSn*			**Sn**	**22 51 28.5**	**-4.3**
	comp=N,2.1nm,0.2s								
CAF				*eSg*			**Sg**	**22 52 05.7**	**+1.9**
	comp=N,24nm,0.4s								
CAF	**Calviac**	**5.47**	**126**	Pn			**Pn**	**22 50 29.4**	**-0.4**
CAF				Sn			**Sn**	**22 51 29.5**	**-3.3**
LOR	**Lormes**	**5.53**	**98**	*ePn*			**Pn**	**22 50 31.0**	**+0.5**
	baz=279								
LOR				*eSn*			**Sn**	**22 51 30.7**	**-3.3**
LOR				*eSg*			**Sg**	**22 52 05.3**	**-0.2**
	comp=N,37nm,0.6s,baz=282								
SJPF	**Ste Jean**	**5.59**	**157**	*ePn*			**Pn**	**22 50 31.4**	**+0.1**
SJPF				*eSn*			**Sn**	**22 51 32.3**	**-3.2**
	comp=N,4.1nm,0.3s								
SJPF				*eSg*			**Sg**	**22 52 08.7**	**+1.3**
	comp=N,13nm,0.8s								
SMF	**Signal de Mont**	**5.70**	**104**	*ePn*			**Pn**	**22 50 33.7**	**+0.9**
SMF				*eSn*			**Sn**	**22 51 35.2**	**-3.0**
	comp=N,3.2nm,0.3s								
SMF				*eSg*			**Sg**	**22 52 10.5**	**-0.4**
	comp=N,22nm,0.6s								
BAIF	**Baives**	**5.79**	**69**	*ePn*			**Pn**	**22 50 34.5**	**+0.5**
BAIF				*eSn*			**Sn**	**22 51 35.6**	**-4.8**
	comp=N,7.6nm,0.3s								
BAIF				*eSg*			**Sg**	**22 52 12.6**	**-1.2**
	comp=N,29nm,0.6s								
ETSF	**Etsaut**	**5.97**	**153**	*ePn*			**Pn**	**22 50 36.9**	**+0.3**
ETSF				*eSn*			**Sn**	**22 51 42.2**	**-2.9**
	comp=N,1.7nm,0.3s								
ETSF				*eSg*			**Sg**	**22 52 20.9**	**+1.1**
	comp=N,6.2nm,0.6s								
DOU	**Dourbes**	**6.04**	**69**	Sn			**Sn**	**22 51 45.3**	**-1.2**
EPF	**Esparros**	**6.15**	**147**	*ePn*			**Pn**	**22 50 38.7**	**-0.4**
EPF				*eSn*			**Sn**	**22 51 44.9**	**-4.6**
	comp=N,3.5nm,0.3s								
EPF				*eSg*			**Sg**	**22 52 25.9**	**+0.4**
	comp=N,6.5nm,0.4s,SNR=1.0								
EPF	**Esparros**	**6.15**	**147**	Pn			**Pn**	**22 50 38.4**	**-0.7**
EPF				Sg			**Sg**	**22 52 21.6**	**-3.9**
MEZF	**Maizieres J'vi**	**6.16**	**85**	*eSn*			**Sn**	**22 51 45.9**	**-3.7**
	comp=N,7.8nm,0.4s,baz=269								
MEZF				*eSg*			**Sg**	**22 52 25.6**	**-0.3**
	comp=N,38nm,0.6s,baz=268								
SFTF	**Sexfontaines**	**6.17**	**87**	*ePn*			**Pn**	**22 50 39.3**	**0.0**
	baz=267								
SFTF	**Sexfontaines**	**6.17**	**87**	*ePg*			**Pg**	**22 51 05.4**	**-0.8**
SFTF				*eSn*			**Sn**	**22 51 46.1**	**-3.7**
	comp=N,8.7nm,0.4s								
SFTF				*eSg*			**Sg**	**22 52 25.5**	**-0.6**
	comp=N,44nm,0.7s								
GIVF	**Givet**	**6.18**	**70**	*ePn*			**Pn**	**22 50 40.2**	**+0.8**
	SNR=1.0								
GIVF				*eSn*			**Sn**	**22 51 46.9**	**-3.2**
	comp=N,14nm,0.4s,SNR=1.0								
GIVF				*eSg*			**Sg**	**22 52 25.8**	**-0.6**
	comp=N,20nm,0.5s								
PAGF	**Fort de Pagny**	**6.61**	**84**	*ePn*			**Pn**	**22 50 45.3**	**0.0**
	baz=264								
PAGF	**Fort de Pagny**	**6.61**	**84**	*ePg*			**Pg**	**22 51 13.4**	**-1.2**
PAGF				*eSn*			**Sn**	**22 51 57.5**	**-3.1**
	comp=N,2.

*NEIC **11** 23:06:33.0±1.6, 47.0N±0.1×153.0E±0.1, h67km±7km, mb4.5/18*
*IDC **11** 23:06:34.4±2.5, 47.11N×152.91E, h75km±23km, mb3.7/20, mb1 4.0/24, mb1mx3.8/48, mbtmp4.1/24, MS3.2/8, Ms1 3.2/8, ms1mx2.9/41, Error ellipse: s-maj=20.0km s-min=11.6km az=157.0*
ISC 11 23:06:30.9±0.6, **46.80N**±0.09×**153.16E**±0.08, **h56**km, **n122, σ1°20/115, mb4.2**/32, **MS3.2**/7, **19C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.01**	**249**	⇑*i*	PN	**Pn**		**23 07 30.9**	**+1.2**
KUR				*i*	S	**Sn**		**23 08 17.0**	**+1.7**
KUR					pmax	pmax			
	comp=Z,188nm,0.3s								
KUR					pmax	pmax			
	comp=N,76nm,0.1s								
KUR					pmax	pmax			
	comp=E,50nm,0.1s								
KUR					smax	smax			
	comp=E,195nm,0.2s								
KUR					smax	smax			
	comp=N,372nm,0.6s								
KUR	**Kuril'sk**	**4.01**	**249**	*i*	P	**Pn**		**23 07 30.9**	**+1.2**
KUR					AMB	AMB		23 07 34.0	
	comp=N,200nm,0.5s								
KUR				*i*	S	**Sn**		**23 08 16.0**	**+0.7**
KUR					A	A		23 08 25.0	
	comp=N,40nm,0.3s								
KUR					A	A		23 08 25.0	
	comp=N,100nm,0.3s								
SKR	**Severo-Kuril's**	**4.35**	**26**	*e*	PN	**Pn**		**23 07 34.7**	**+0.3**
SKR					pmax	pmax			
	comp=Z,30nm,0.8s								
SHO	**Shikotan**	**5.34**	**239**	⇑*i*	PN	**Pn**		**23 07 47.0**	**-0.9**
SHO					pmax	pmax			
	comp=Z,51nm,0.4s								
SHO					pmax	pmax			
	comp=N,34nm,0.2s								
SHO					pmax	pmax			
	comp=E,54nm,0.2s								
SHO	**Shikotan**	**5.34**	**239**	*i*	P	**Pn**		**23 07 47.0**	**-0.9**
SHO					AMB	AMB		23 07 58.0	
	comp=E,30nm,0.4s								
SHO					AMB	AMB		23 07 58.0	
	comp=E,20nm,0.4s								
SHO				*i*	S	**Sn**		**23 08 45.0**	**-3.0**
SHO					A	A		23 08 57.0	
	comp=E,30nm,0.5s								
SHO					A	A		23 08 57.0	
	comp=E,130nm,0.5s								
GRPR	**Tuman**	**5.91**	**244**	⇑*i*	PN	**Pn**		**23 07 55.8**	**0.0**
GRPR					pmax	pmax			
	comp=Z,90nm,0.3s								
GRPR	**Tuman**	**5.91**	**244**	*i*	P	**Pn**		**23 07 56.4**	**+0.6**
GRPR					AMB	AMB		23 07 57.0	
	comp=Z,30nm,0.5s								
GRPR				*e*	S	**Sn**		**23 09 00.4**	**-1.7**
GRPR					A	A		23 09 06.0	
	comp=Z,80nm,0.5s								
GRPR					A	A		23 09 06.0	
	comp=Z,100nm,0.5s								
GLVR	**Golovnino**	**6.20**	**243**	*e*	PN	**Pn**		**23 08 00.0**	**+0.3**
GLVR					pmax	pmax			
	comp=Z,117nm,0.4s								
GLVR	**Golovnino**	**6.20**	**243**	*e*	P	**Pn**		**23 07 59.7**	**0.0**
GLVR					AMB	AMB		23 08 05.0	
	comp=Z,20nm,0.5s								
GLVR				*e*	S	**Sn**		**23 09 07.0**	**-2.2**
GLVR					A	A		23 09 14.0	
	comp=Z,60nm,0.6s								
GLVR					A	A		23 09 14.0	
	comp=Z,70nm,0.6s								
NMR	**Nemuro--Hokkai**	**6.28**	**240**	⇑*i*	PN	**Pn**		**23 07 59.7**	**-1.1**
NMR	**Nemuro--Hokkai**	**6.28**	**240**	*i*	P	**Pn**		**23 07 59.7**	**-1.1**
NMR				*i*	S	**Sn**		**23 09 07.7**	**-3.5**
PETK	**Petropavlovsk-**	**6.96**	**23**		P	**Pn**		**23 08 09.4**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=214,slow=12,SNR=2.9								
YSS	**Yuzh-Sakhalins**	**7.14**	**275**		PN	Pn		23 08 03.6	-8.9
JKA	**Kamikawa-asahi**	**7.89**	**254**	*e*	P	**Pn**		**23 08 26.1**	**+3.1**
JKA	**Kamikawa-asahi**	**7.89**	**254**			**Pn**		**23 08 26.1**	**+3.1**
ASAJ	**Asahikawa**	**7.90**	**254**		P	**Pn**		**23 08 26.1**	**+3.1**
	comp=Z,2.5nm,0.3s,baz=83,slow=16,SNR=13								
ASAJ					LR	LR		23 11 03.3	
	comp=Z,102nm,20.8s,baz=36,slow=34								
ERM	**Erimo**	**8.61**	**240**	⇑*e*	PN	**Pn**		**23 08 33.8**	**+1.0**
ERM	**Erimo**	**8.61**	**240**			**Pn**		**23 08 33.7**	**+1.0**
ERM					Sn	**Sn**		**23 10 09.3**	**+1.0**
USRK	**Ussuriysk Ar.**	**15.07**	**268**		P	**Pn**		**23 10 01.3**	**+1.1**
	baz=78,slow=11,SNR=7.6								
MJAR	**Matsushiro Arr**	**15.13**	**233**		P	**P**		**23 10 05.7**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=46,slow=11,SNR=5.9								
KSRS	**Korea Array**	**20.84**	**252**		P	Pn		23 11 10.2	-0.6
	comp=Z,1.1nm,0.5s,baz=55,slow=11,SNR=3.7								
KSRS					LR	LR		23 18 15.0	
	comp=Z,30nm,18.1s,baz=45,slow=34								
TJN	**Taejon**	**21.83**	**251**	*e*	P	**P**		**23 11 17.1**	**-1.3**
BILL	**Bilibino**	**22.34**	**13**	*e*	P	**P**		**23 11 22.5**	**-1.1**
BILL				*e*				23 11 48.0	
BILL					pmax	pmax			
	comp=Z,2.0nm,1.0s								
TIXI	**Tiksi**	**27.43**	**344**	⇑*e*	P	**P**		**23 12 08.0**	**-2.9**
TIXI					pmax	pmax			
	comp=Z,29nm,4.0s								
TIXI	**Tiksi**	**27.43**	**344**		LR	LR		23 23 33.7	
	comp=Z,48nm,21.7s,baz=298,slow=38								
H11N2	**WAKE ISLAND Hy**	**29.24**	**153**		T	T		23 43 53.4	
	baz=340,slow=76,SNR=775								
H11N1	**WAKE ISLAND Hy**	**29.26**	**153**		T	T		23 44 22.2	
	baz=340,slow=76,SNR=730								
H11N3	**WAKE ISLAND Hy**	**29.26**	**153**		T	T		23 44 22.3	
	baz=340,slow=76,SNR=490								
H11S1	**WAKE ISLAND Hy**	**30.33**	**154**		T	T		23 45 33.5	
	baz=341,slow=76,SNR=534								
H11S3	**WAKE ISLAND Hy**	**30.34**	**154**		T	T		23 45 12.9	
	baz=341,slow=76,SNR=574								
H11S2	**WAKE ISLAND Hy**	**30.35**	**154**		T	T		23 45 13.1	
	baz=341,slow=76,SNR=511								
SONM	**Songino Array**	**31.35**	**289**		P	**P**		**23 12 45.5**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=86,slow=7.4,SNR=3.0								
SONM					LR	LR		23 26 23.5	
	comp=Z,50nm,18.8s,baz=22,slow=38								
TLY	**Talaya**	**32.19**	**297**		LR	LR		23 26 32.3	
	comp=Z,55nm,18.7s,baz=46,slow=38								
WRH	**Wood River Hil**	**35.97**	**39**		P	**P**		**23 13 26.3**	**+0.5**
ILAR	**Eielson Array**	**36.49**	**39**	*e*	P	**P**		**23 13 31.2**	**+1.0**
ILAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
ILAR	**Eielson Array**	**36.49**	**39**		P	**P**		**23 13 30.6**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=265,slow=7.7,SNR=9.9								
INK	**Inuvik**	**41.59**	**32**		P	**P**		**23 14 13.3**	**+0.6**
INK					pmax	pmax			
	comp=Z,4.0nm,1.3s								
INK	**Inuvik**	**41.59**	**32**		P	**P**		**23 14 13.3**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=295,slow=7.1,SNR=9.0								
ZALV	**Zalesovo Beam**	**42.61**	**306**		P	**P**		**23 14 18.8**	**-2.4**
	comp=Z,0.4nm,0.4s,baz=65,slow=6.3,SNR=3.2								
ZALV					LR	LR		23 33 26.3	
	comp=Z,42nm,18.9s,baz=63,slow=38								
KIP	**Kipapa**	**46.74**	**106**		P	**P**		**23 14 52.2**	**-2.2**
KIP	**Kipapa**	**46.74**	**106**		P	**P**		**23 14 52.2**	**-2.2**
MKAR	**Makanchi Array**	**46.95**	**297**	*e*	P	**P**		**23 14 55.0**	**-0.9**
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
MKAR	**Makanchi Array**	**46.95**	**297**		P	**P**		**23 14 54.3**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=68,slow=6.3,SNR=9.4								
MKAR					PcP	**PcP**		**23 16 26.4**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=56,slow=5.5,SNR=4.3								
MKAR					LR	LR		23 35 46.2	
	comp=Z,53nm,18.3s,baz=48,slow=38								
MKAR	**Makanchi Array**	**46.95**	**297**	*e*	P	**P**		**23 14 55.0**	**-0.9**
KURK	**Kurchatov**	**47.37**	**304**		P	**P**		**23 14 58.2**	**-0.8**
KURK	**Kurchatov**	**47.37**	**304**	*e*	P	**P**		**23 14 58.2**	**-0.8**
KURK	**Kurchatov**	**47.37**	**304**		P	**P**		**23 14 58.2**	**-0.8**
KURK	**Kurchatov**	**47.37**	**304**		IAmb	IAmb		23 14 59.1	
	comp=Z,2.2nm,0.6s								
KURBB	**Kurchatov Arra**	**47.46**	**304**		P	**P**		**23 14 58.2**	**-1.5**
	comp=Z,1.0nm,0.2s,baz=70,slow=8.2,SNR=4.2								
BVAR	**Borovoye Array**	**50.85**	**309**		P	**P**		**23 15 24.4**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=47,slow=7.8,SNR=11								
BVAR					PcP	**PcP**		**23 16 41.6**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=117,slow=1.9,SNR=7.8								
YKA	**Yellowknife Ar**	**50.87**	**37**		P	**P**		**23 15 25.8**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=296,slow=7.1,SNR=10								
BRVK	**Borovoye**	**50.90**	**309**	⇓*e*	P	**P**		**23 15 25.2**	**-0.7**
BRVK					pmax	pmax			
	comp=Z,6.0nm,2.1s								
CHTO	**Chiang Mai**	**52.16**	**257**		P	**P**		**23 15 36.2**	**+0.4**
CHTO					pmax	pmax			
	comp=Z,3.0nm,0.7s								
CHTO	**Chiang Mai**	**52.16**	**257**		P	**P**		**23 15 36.2**	**+0.4**
CHTO					IAmb	IAmb		23 15 38.2	
	comp=Z,3.2nm,0.7s								
SHL	**Shillong**	**52.41**	**269**		P	**P**		**23 15 38.2**	**+0.4**
SHL					pmax	pmax			
	comp=Z,8.0nm,0.6s								
SHL	**Shillong**	**52.41**	**269**		P	**P**		**23 15 38.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**52.41**	**256**	*e*	P	**P**		**23 15 39.8**	**+2.1**
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**52.41**	**256**		P	**P**		**23 15 39.4**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=38,slow=7.6,SNR=12								
TAPN	**Taplejung**	**54.13**	**273**	*e*	P	**P**		**23 15 51.5**	**+0.9**
	comp=Z,8.2nm,0.7s								
ODAN	**Odare**	**54.66**	**273**	*e*	P	**P**		**23 15 55.8**	**+1.4**
JIRN	**Jiri**	**54.98**	**275**	*e*	P	**P**		**23 15 57.7**	**+0.9**
	comp=Z,18nm,0.5s								
GUN	**Gumba**	**55.03**	**275**	*e*	P	**P**		**23 15 58.0**	**+0.9**
RAMN	**Ramite**	**55.15**	**274**	*e*	P	**P**		**23 15 58.6**	**+0.7**
	comp=Z,21nm,0.7s								
KKN	**Kakani**	**55.52**	**275**	*e*	P	**P**		**23 16 01.9**	**+1.4**
	comp=Z,9.9nm,0.7s								
PKI	**Pulchoki**	**55.57**	**275**	*e*	P	**P**		**23 16 01.9**	**+0.9**
PKIN	**Phulchoki**	**55.57**	**275**	*e*	P	**P**		**23 16 01.8**	**+0.9**
DMN	**Daman**	**55.75**	**275**	*e*	P	**P**		**23 16 03.3**	**+1.1**
GKN	**Gorkha**	**55.82**	**276**	*e*	P	**P**		**23 16 03.4**	**+0.8**
	comp=Z,8.6nm,0.5s								
DANN	**Dangsing**	**56.20**	**277**	*e*	P	**P**		**23 16 06.2**	**+0.7**
	comp=Z,14nm,0.6s								
KOLN	**Koldanda**	**56.68**	**276**	*e*	P	**P**		**23 16 09.1**	**+0.3**
	comp=Z,17nm,1.0s								
NEW	**Newport**	**57.12**	**53**		LR	LR		23 37 07.1	
	comp=Z,12nm,21.7s,baz=334,slow=32								
ABKAR	**Akbulak array**	**58.42**	**310**		IAmb	IAmb		23 16 24.0	
	comp=Z,1.1nm,0.6s								
CHGR	**Chuyangaron**	**59.45**	**295**		IAmb	IAmb		23 16 30.5	
	comp=Z,6.1nm,0.7s								
SUMG	**Summit**	**60.65**	**4**		P	**P**		**23 16 36.3**	**+0.4**
SUMG					pmax	pmax			
	comp=Z,9.0nm,0.8s								
SUMG	**Summit**	**60.65**	**4**	*i*	P	**P**		**23 16 36.4**	**+0.4**
	comp=Z,20nm,0.8s								
SUMG	**Summit**	**60.65**	**4**		P	**P**		**23 16 36.3**	**+0.4**
NVAR	**Mina Array Bea**	**62.38**	**62**		P	**P**		**23 16 49.9**	**+2.0**
	comp=Z,0.7nm,0.8s,baz=284,slow=7.3,SNR=4.5								
FIA1	**FINESS Array S**	**64.01**	**335**		P	**P**		**23 16 57.1**	**-0.9**
FINES	**FINESS Array B**	**64.01**	**335**	*i*	P	**P**		**23 16 57.4**	**-0.6**
FINES					pmax	pmax			
	comp=Z,2.0nm,0.4s								
FINES	**FINESS Array B**	**64.01**	**335**		P	**P**		**23 16 57.0**	**-1.0**
	comp=Z,2.3nm,0.4s,baz=37,slow=7.3,SNR=33								
PDAR	**Pinedale Array**	**64.69**	**54**		P	**P**		**23 17 04.4**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=283,slow=1.3,SNR=8.0								
OBN	**Obninsk**	**65.29**	**326**	*e*	P	**P**		**23 17 05.7**	**-0.7**
OBN				*e*				23 17 38.4	
OBN					pmax	pmax			
	comp=Z,4.0nm,0.8s								
ANGG	**Ammassalik, Gr**	**67.61**	**5**		P	**P**		**23 17 22.0**	**+0.9**
NC405	**NORSAR Array S**	**68.02**	**341**		P	**P**		**23 17 23.6**	**-0.2**
NB201	**NORSAR Array S**	**68.17**	**341**		P	**P**		**23 17 24.6**	**-0.2**
NB2	**NORSAR Subarra**	**68.19**	**341**		P	**P**		**23 17 24.5**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**68.19**	**341**	*e*	P	**P**		**23 17 24.8**	**-0.1**
NOA					pmax	pmax			
	comp=Z,3.0nm,0.7s								
NOA	**NORSAR Array B**	**68.19**	**341**		P	**P**		**23 17 24.4**	**-0.5**
	comp=Z,2.9nm,0.7s,baz=30,slow=6.6,SNR=13								
KBZ	**Khabaz**		**70.85**	**314**	P	**P**		**23 17 41.9**	**+0.4**
	comp=Z,3.9nm,0.9s,baz=182,slow=1.2,SNR=6.8								
AKASG	**Malin Array Be**	**71.53**	**326**		P	**P**		**23 17 44.9**	**-0.6**
	comp=Z,4.9nm,0.4s,baz=34,slow=6.3,SNR=17								
AKBB	**Malin Array Si**	**71.53**	**326**		P	**P**		**23 17 44.5**	**-1.0**
AKBB					pmax	pmax			
	comp=Z,17nm,1.3s								
AKBB	**Malin Array Si**	**71.53**	**326**		P	**P**		**23 17 44.5**	**-1.0**
AKBB					IAmb	IAmb		23 17 45.7	
	comp=Z,17nm,1.2s								
ASAR	**Alice Springs**	**72.26**	**199**		P	**P**		**23 17 52.0**	**+1.9**
ASAR	**Alice Springs**	**72.26**	**199**		P	**P**		**23 17 52.0**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=12,slow=6.0,SNR=8.1								
SORM	**Soroca**	**73.93**	**325**	⇑	P	**P**		**23 17 59.3**	**-0.5**
MILM	**Milestii Mici**	**74.73**	**324**	⇓	P	**P**		**23 18 04.3**	**-0.1**
KOLS	**Kolonicke sedl**	**75.54**	**329**	*e*	P	**P**		**23 18 09.7**	**+0.6**
KOLS	**Kolonicke sedl**	**75.54**	**329**	*e*	P	**P**		**23 18 09.7**	**+0.6**
BUR08	**Bucovina Ar. S**	**75.55**	**327**		IAmb	IAmb		23 18 10.4	
	comp=Z,4.5nm,0.8s								
BURAR	**Bucovina Array**	**75.57**	**327**	⇑	P	**P**		**23 18 10.0**	**+0.6**
BIZ	**Bicaz**	**75.79**	**326**	⇑	P	**P**		**23 18 11.0**	**+0.4**
TESR	**Tescani**	**75.93**	**325**	⇑	P	**P**		**23 18 11.3**	**-0.1**
TRPA	**Tarpa**	**76.12**	**328**	⇑	P	**P**		**23 18 13.1**	**+0.7**
CFR	**Carcaliu**	**76.42**	**323**	⇑	P	**P**		**23 18 14.3**	**+0.2**
VRI	**Vrincioaia**	**76.43**	**325**	⇑	P	**P**		**23 18 13.9**	**-0.4**
CLL	**Collm**	**76.44**	**336**	*i*	P	**P**		**23 18 13.8**	**-0.3**
CLL	**Collm**	**76.44**	**336**	*i*	P	**P**		**23 18 13.8**	**-0.3**
UOSS	**Minazif**	**76.75**	**292**		P	**P**		**23 18 16.2**	**-0.2**
UOSS					IAmb	IAmb		23 18 17.4	
	comp=Z,8.2nm,0.8s								
VYHS	**Vyhne**	**77.10**	**331**	*e*	P	**P**		**23 18 18.4**	**+0.4**
VYHS	**Vyhne**	**77.10**	**331**	*e*	P	**P**		**23 18 18.4**	**+0.4**
TXAR	**Lajitas Array**	**77.44**	**61**		P	**P**		**23 18 21.4**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=299,slow=4.8,SNR=28								
VOIR			**77.44**	**325**	⇑	P	**P**		**23 18 21.1**	**+1.1**
MODS	**Modra-Piesok**	**77.72**	**332**	*e*	P	**P**		**23 18 21.7**	**+0.3**
MODS	**Modra-Piesok**	**77.72**	**332**	*e*	P	**P**		**23 18 21.7**	**+0.3**
GZR	**Gura Zlata**	**78.35**	**327**	⇑	P	**P**		**23 18 25.0**	**0.0**
BRTR	**Keskin Array B**	**78.38**	**317**	*e*	P	**P**		**23 18 26.7**	**+1.3**
BRTR					pmax	pmax			
	comp=Z,2.0nm,0.9s								
BRTR	**Keskin Array B**	**78.38**	**317**		P	**P**		**23 18 24.4**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=58,slow=7.4,SNR=6.0								
GERES	**GERESS Array B**	**78.43**	**334**		P	**P**		**23 18 24.7**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=43,slow=5.4,SNR=7.7								
BZS	**Buzias**	**78.59**	**328**	⇑	P	**P**		**23 18 26.7**	**+0.4**
MDVR	**Moldovita**	**79.27**	**327**	⇑	P	**P**		**23 18 29.7**	**-0.3**
VTS	**Vitosha**	**80.52**	**325**		IAmb	IAmb		23 18 38.3	
	comp=Z,3.3nm,0.7s								
PDG	**Podgorica**	**82.20**	**327**	⇑	P	**P**		**23 18 45.2**	**-0.5**

*ROM **11** 23:15:43.8±0.1, 43°37.7N±0.0°.003×12°.557E±0°.004, h4km, ML0.8/4, Error ellipse: s-maj=0.3km s-min=0.1km az=47.0, Central Italy*

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.01**	**135**			P	Pg	23 15 44.5	-0.2
ATFO						S	Sg	23 15 45.1	-0.2
ATVO	**AVT- Monte Val**	**0.11**	**273**			P	Pg	23 15 46.2	+0.2
ATVO						S	Sg	23 15 48.4	+0.8
ATVO						AML	AML		
	comp=E,61μm,0.2s								
ATVO						AML	AML		
	comp=N,57μm,1.2s								
ATVO						AML	AML		
	comp=E,61μm,0.2s								
MURB	**Monte Urbino**	**0.12**	**192**			P	Pg	23 15 46.4	+0.2
MURB						S	Sg	23 15 48.7	+1.0
MURB						AML	AML		
	comp=N,288μm,0.2s								
MURB						AML	AML		
	comp=N,288μm,0.2s								
MURB						AML	AML		
	comp=E,206μm,1.3s								
ATPI	**Pietralunga -**	**0.13**	**303**			P	Pg	23 15 46.9	+0.4
ATPI						S	Sg	23 15 49.5	+1.1
ATPI						AML	AML		
	comp=E,37μm,1.6s								
ATPI						AML	AML		
	comp=N,40μm,1.1s								
FOSV	**Fossato di Vic**	**0.17**	**119**			P	Pg	23 15 47.6	+0.4
SSFR	**Montelago di S**	**0.17**	**70**			P	Pg	23 15 47.6	+0.4
SSFR						S	Sg	23 15 51.0	+1.4
SSFR						AML	AML		
	comp=N,56μm,0.3s								
SSFR						AML	AML		
	comp=E,73μm,0.3s								
FRON	**Frontone**	**0.19**	**41**			P	Pg	23 15 47.9	+0.4
FRON						S	Sg	23 15 51.5	+1.5
FRON						AML	AML		
	comp=E,31μm,1.6s								
FRON						AML	AML		
	comp=N,35μm,1.2s								
ATCC	**AVT- Casa Cast**	**0.20**	**162**			P	Pg	23 15 48.1	+0.3
ATCC						S	Sg	23 15 52.0	+1.7
ATCC						AML	AML		
	comp=E,45μm,0.8s								
ATCC						AML	AML		
	comp=N,55μm,0.2s								
NARO	**Abbazia di Nar**	**0.23**	**4**			P	Pg	23 15 48.8	+0.4
NARO						S	Sg	23 15 53.0	+1.5
BADI	**Badiali**	**0.26**	**300**			P	Pg	23 15 49.4	+0.4
BADI						S	Sg	23 15 54.1	+1.7

*ISCJB **11** 23:23:36.8±0.3, 24°.03S±0°.02×70°.16W±0°.04, h67km±2km, mb4.2/18, Error ellipse: s-maj=6.3km s-min=3.4km az=178.1*
*GUC **11** 23:23:37.4±0.8, 24°.00S×70°.10W, h47km±4km, ML4.3*
*NEIC **11** 23:23:37.0±2.8, 24°.01S±0°.04×70°.21W±0°.05, h51km±5km*
*IDC **11** 23:23:38.1±0.4, 24°.10S×70°.08W, h54km±2km, mb4.1/15, mb1 4.2/18, mb1mx4.1/34, mbtmp4.3/18, MS3.3/8, Ms1 3.3/8, ms1mx3.2/19, Error ellipse: s-maj=11.4km s-min=7.9km az=114.0*
*BJI **11** 23:23:39.0±0.0, 24°.00S×70°.10W, h33km, Ms5.3/2, Ms7 5.0/2*
*VAO **11** 23:23:53.8±0.5, 23°.02S×68°.26W, h10km, mb4.7*
ISC 11 23:23:37.7±0.4, **24°.01S**±0°.03×**70°.13W**±0°.04, **h52**km±3km, **n182, σ1°55/200, mb4.7**/37, **MS3.4**/6, **6C-4D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB10	**IPOC Station P**	**0.62**	**322**	⇑	*i*	P	**Pn**	**23 23 50.8**	**+0.2**
PB10					*i*	S	**Sn**	**23 24 00.1**	**+0.2**
PB10						IAML		23 24 02.4	
	comp=E,29μm,0.2s								
PB10	**IPOC Station P**	**0.62**	**322**				**Pn**	**23 23 50.6**	**0.0**
PB14	**IPOC Station P**	**0.67**	**202**	⇑	*i*	P	**Pn**	**23 23 51.9**	**+0.5**
PB14					*i*	S	**Sn**	**23 24 02.2**	**+0.8**
PB14						IAML		23 24 03.7	
	comp=E,19μm,0.7s								
PB15	**IPOC Station P**	**1.00**	**38**	⇓	*i*	P	**Pn**	**23 23 55.9**	**+0.2**
PB15					*i*	S	**Sn**	**23 24 09.5**	**+0.6**
PB05	**IPOC Station P**	**1.15**	**357**		*e*	P	**Pn**	**23 23 58.1**	**+0.5**
PB05					*e*	S	**Sn**	**23 24 13.3**	**+1.0**
PB05						IAML		23 24 19.7	
	comp=N,6μm,0.6s								
GO02	**Mina Guanaco**	**1.25**	**157**	⇓	*i*	P	**Pn**	**23 24 00.6**	**+1.4**
GO02					*i*	S	**Sn**	**23 24 16.9**	**+1.8**
GO02	**Mina Guanaco**	**1.25**	**157**				**Pn**	**23 24 00.6**	**+1.4**
GO02						Sn	**Sn**	**23 24 16.9**	**+1.8**
PB06	**IPOC Station P**	**1.39**	**22**	⇓	*i*	P	**Pn**	**23 24 01.5**	**+0.6**
PB06					*i*	S	**Sn**	**23 24 19.1**	**+0.8**
PB06						IAML		23 24 24.3	
	comp=N,12μm,0.4s								
PB04	**IPOC Station P**	**1.66**	**359**	⇑	*i*	P	**Pn**	**23 24 04.9**	**+0.3**
PB04					*i*	S	**Sn**	**23 24 26.5**	**+1.6**
PB04	**IPOC Station P**	**1.66**	**359**				**Pn**	**23 24 04.4**	**-0.2**
PB04						Sn	**Sn**	**23 24 26.4**	**+1.4**
LVC	**Limon Verde**	**1.79**	**39**	⇓	*e*	P	**Pn**	**23 24 08.2**	**+1.7**
LVC					*i*	S	**Sn**	**23 24 30.2**	**+2.0**
LVC	**Limon Verde**	**1.79**	**39**		P		**Pn**	**23 24 08.1**	**+1.6**
	comp=N,296nm,0.3s,baz=194,slow=10,SNR=2402								
LVC						S	**Sn**	**23 24 30.7**	**+2.5**
	comp=N,964nm,0.3s,baz=256,slow=14,SNR=6.8								
LVC	**Limon Verde**	**1.79**	**39**	*e*	P		**Pn**	**23 24 08.5**	**+2.1**
LVC	**Limon Verde**	**1.79**	**39**	*e*	P		**Pn**	**23 24 08.5**	**+2.1**
PB03	**IPOC Station P**	**1.98**	**10**	⇑	*i*	P	**Pn**	**23 24 09.1**	**+0.2**
PB03					*i*	S	**Sn**	**23 24 34.0**	**+1.4**
PB07	**IPOC Station P**	**2.28**	**6**	*e*	P		**Pn**	**23 24 13.2**	**+0.1**
PB09	**IPOC Station P**	**2.35**	**21**	⇑	*i*	P	**Pn**	**23 24 15.4**	**+1.4**
GO03	**Copiap**	**3.58**	**181**					**23 24 30.7**	**0.0**
GO03						Sn	**Sn**	**23 25 10.9**	**-0.8**
PB11	**IPOC Station P**	**4.25**	**6**				**Pn**	**23 24 38.7**	**-1.3**
GO01	**Chusmiza**	**4.40**

baz=270,slow=6.7
Z50A Ashland 58.90 345 P **P** 23 33 31.2 -0.1
SNAA Sanae 60.30 160 P **P** 23 33 41.0 +0.4
SNAA Sanae 60.30 160 P **P** 23 33 40.7 +0.1
comp=Z,9.2nm,0.8s,baz=283,slow=9.2,SNR=44
SNAA Sanae 60.30 160 P **P** 23 33 41.2 +0.6
CPCT Cooper Cave 60.68 347 IAmb IAmb 23 33 58.2
comp=Z,7.3nm,1.0s
TKL Tuckaleechee C 60.73 347 P **P** 23 33 43.3 -0.5
comp=Z,3.3nm,0.8s,baz=160,slow=9.0,SNR=5.6
SWET Sewanee 60.77 345 P **P** 23 33 42.3 -1.9
JCT Junction City 61.20 331 P **P** 23 33 46.8 -0.3
JCT IAmb IAmb 23 34 03.1
comp=Z,8.3nm,0.8s
WLAR White Oak Lake 61.40 338 P **P** 23 33 50.0 +1.6
TXAR Lajitas Array 62.07 327 P **P** 23 33 53.4 +0.3
comp=Z,0.8nm,0.7s,baz=150,slow=7.8,SNR=12
TXAR pP **pP** 23 34 08.2 +0.4
comp=Z,1.1nm,0.8s,baz=153,slow=9.5,SNR=8.6
TXAR sP **sP** 23 34 14.6 +0.8
comp=Z,1.0nm,0.8s,baz=153,slow=8.4,SNR=5.8
WVT Waverly 62.10 344 P **P** 23 33 52.5 -0.6
WVT IAmb IAmb 23 33 53.5
comp=Z,8.8nm,0.8s
MIAR Mount Ida 62.34 338 P **P** 23 33 52.7 -2.0
MIAR IAmb IAmb 23 34 10.3
comp=Z,9.9nm,1.1s
WHAR Wooly Hollow 62.60 340 P **P** 23 33 54.8 -1.6
WHAR IAmb IAmb 23 34 11.4
comp=Z,9.7nm,1.0s
ABTX Abilene, Hawle 62.96 332 P **P** 23 33 57.5 -1.5
PBMO Poplar Bluff 63.42 342 IAmb IAmb 23 34 16.4
comp=Z,8.3nm,0.9s
U40A Yellville 63.76 340 P **P** 23 34 02.5 -1.6
U40A IAmb IAmb 23 34 19.1
comp=Z,10.0nm,0.9s
MGMO Mountain Grove 64.31 340 IAmb IAmb 23 34 22.8
comp=Z,14nm,1.4s
CCM Cathedral Cave 64.84 342 P **P** 23 34 11.3 +0.2
CCM IAmb IAmb 23 34 12.7
comp=Z,6.2nm,0.8s
MSTX Muleshoe 65.48 330 P **P** 23 34 13.4 -2.1
MSTX IAmb IAmb 23 34 31.0
comp=Z,10nm,0.9s
QSPA South Pole Qui 66.20 180 P **P** 23 34 21.1 +1.3
ANMO Albuquerque 68.00 328 P **P** 23 34 32.9 +1.2
comp=Z,2.4nm,0.8s,baz=148,slow=9.1,SNR=9.0
ANMO pP **pP** 23 34 48.8 +2.1
comp=Z,2.1nm,0.7s,baz=155,slow=7.9,SNR=4.1
ANMO sP **sP** 23 34 54.1 +1.3
comp=Z,2.4nm,0.8s,baz=109,slow=3.3,SNR=4.2
ANMO Albuquerque 68.00 328 P **P** 23 34 31.8 +0.2
ANMO IAmb IAmb 23 34 48.8
comp=Z,11nm,1.5s
CBKS Cedar Bluff 68.37 335 P **P** 23 34 33.4 -0.2
L40A Anamosa 68.57 343 P **P** 23 34 34.5 -0.3
SDCO Great Sand Dun 69.84 331 P **P** 23 34 43.1 -0.1
SDCO IAmb IAmb 23 35 00.7
comp=Z,8.1nm,0.9s
X16A Lo Mia Camp, P 70.11 325 P **P** 23 34 44.0 -0.7
X16A PP PP 23 37 09.3 -11
LIC Lamto 70.17 73 *e*PKP1 **P** 23 34 46.5 +1.1
comp=Z,3.2nm,0.3s
TIC Toumodi 70.38 73 *e*PKP1 **P** 23 34 45.8 -0.8
KIC Kosan Boka 70.49 73 *e*PKP1 **P** 23 34 46.9 -0.4
comp=Z,9.8nm,0.6s
DBIC Dimbokro 70.53 73 P **P** 23 34 46.9 -0.6
comp=Z,7.7nm,0.8s,baz=213,slow=8.6,SNR=7.7
DBIC pP **pP** 23 35 01.5 -1.2
comp=Z,5.4nm,0.9s,baz=203,slow=9.0,SNR=2.8
DBIC sP **sP** 23 35 07.8 -1.0
comp=Z,10nm,0.8s,baz=194,slow=7.2,SNR=5.6
DBIC LR LR 00 04 44.6
comp=Z,40nm,19.7s,baz=203,slow=35
DBIC Dimbokro 70.53 73 IAmb IAmb 23 34 48.1
comp=Z,9.7nm,0.9s
MVCO Mesa Verde 70.80 328 P **P** 23 34 47.1 -1.9
MVCO IAmb IAmb 23 35 06.0
comp=Z,9.6nm,1.2s
WUAZ Wupatki 70.91 325 P **P** 23 34 47.8 -1.8
WUAZ IAmb IAmb 23 35 06.6
comp=Z,5.6nm,1.0s
ECSD EROS Data Cent 71.66 340 P **P** 23 34 53.2 -0.6
ECSD IAmb IAmb 23 35 10.3
comp=Z,7.3nm,1.3s
U15A North Rim 72.09 325 P **P** 23 34 54.6 -2.2
O20A White River Ci 73.03 330 P **P** 23 35 01.6 -0.6
O20A IAmb IAmb 23 35 19.2
comp=Z,13nm,0.9s
RDMU Red Mountain 73.98 330 P **P** 23 35 07.6 -0.2
PSUT Pine Spring 74.49 326 P **P** 23 35 10.7 -0.1
SYO Syowa Base 74.56 159⇑*iP* **P** 23 35 10.0 -0.6
PDAR Pinedale Array 75.73 331 P **P** 23 35 18.7 +0.8
comp=Z,0.6nm,0.8s,baz=103,slow=6.6,SNR=3.4
PDAR pP **pP** 23 35 34.0 +0.9
comp=Z,0.6nm,0.5s,baz=136,slow=6.9,SNR=4.8
PDAR sP **sP** 23 35 42.1 +3.0
comp=Z,1.0nm,0.8s,baz=146,slow=6.6,SNR=4.0
REDW Red Top Meadow 76.78 331 P **P** 23 35 22.1 -1.8
REDW IAmb IAmb 23 35 40.2
comp=Z,6.7nm,0.9s
NVAR Mina Array Bea 76.78 323 P **P** 23 35 25.7 +1.7
comp=Z,0.7nm,0.7s,baz=148,slow=8.6,SNR=8.0
NVAR pP **pP** 23 35 40.0 +0.7
comp=Z,1.4nm,0.8s,baz=162,slow=2.8,SNR=7.0
ELK Elko 76.86 326 P **P** 23 35 25.7 +1.4
comp=Z,1.3nm,0.9s,baz=173,slow=10,SNR=5.1
ELK pP **pP** 23 35 40.8 +1.2
comp=Z,2.3nm,0.8s,baz=156,slow=4.1,SNR=4.9
ELK Elko 76.86 326 P **P** 23 35 23.0 -1.4
MOOW Moose Ponds 77.03 331 P **P** 23 35 23.5 -1.7
FLWY Flagg Ranch 77.28 331 P **P** 23 35 24.9 -1.7
FLWY IAmb IAmb 23 35 43.9
comp=Z,9.7nm,0.8s
ULM Lac du Bonnet 77.37 343 P **P** 23 35 26.5 -0.2
comp=Z,2.2nm,0.6s,baz=165,slow=5.2,SNR=3.9
ULM Lac du Bonnet 77.37 343 IAmb IAmb 23 35 41.3
comp=Z,8.9nm,1.2s
YNE Yellowstone No 77.72 332 P **P** 23 35 27.3 -1.8
YHH Holmes Hill 77.91 332 P **P** 23 35 29.5 -0.7
PNTR Pine Nut 77.97 323 P **P** 23 35 29.6 -0.9
PNTR IAmb IAmb 23 35 49.2
comp=Z,5.6nm,0.8s
YHB Horse Butte 78.03 331 P **P** 23 35 31.6 +0.8
MCMT McKenzie Canyo 78.82 331 P **P** 23 35 36.2 +1.0
TOA0 Torodi Ar. Sit 79.26 70 P **P** 23 35 37.7 -0.2
TORD Torodi Ar. Bea 79.26 70 P **P** 23 35 37.4 -0.6
comp=Z,21nm,0.8s,baz=256,slow=5.0,SNR=82
TORD pP **pP** 23 35 52.6 -0.6
comp=Z,13nm,0.8s,baz=257,slow=5.5,SNR=11
TORD LR LR 00 08 58.8
comp=Z,37nm,21.0s,baz=310,slow=34
ORV Oroville 79.35 322 P **P** 23 35 35.2 -2.7
TSUM Tsumeb 80.40 107 P **P** 23 35 42.2 -2.1
TSUM IAmb IAmb 23 35 45.6
comp=Z,5.4nm,0.8s
BMO Blue Mountains 80.92 328 P **P** 23 35 43.9 -2.5
YBH Yreka Blue Hor 81.51 323 P **P** 23 35 49.8 +0.3
comp=Z,1.0nm,0.7s,baz=112,slow=23,SNR=4.0
YBH pP **pP** 23 36 04.8 -0.1
comp=Z,1.6nm,0.8s,baz=50,slow=4.6,SNR=3.4
MAW Mawson 82.26 164 P **P** 23 35 53.3 +0.3
comp=Z,9.1nm,0.8s,baz=230,slow=7.8,SNR=12
MAW pP **pP** 23 36 09.1 +0.6
comp=Z,8.6nm,0.9s,baz=241,slow=7.8,SNR=6.8
MAW Mawson 82.26 164 P **P** 23 35 52.6 -0.5
BOSA Boshof 83.27 118 P **P** 23 35 58.2 -1.0
comp=Z,4.8nm,0.8s,baz=269,slow=3.3,SNR=6.6
BOSA LR LR 00 10 24.1
comp=Z,29nm,19.6s,baz=242,slow=34
BOSA Boshof 83.27 118 IAmb IAmb 23 36 00.1
comp=Z,21nm,1.2s
ESDC Sonseca Array 88.40 45 P **P** 23 36 24.7 +0.6
comp=Z,0.5nm,0.6s,baz=262,slow=3.6,SNR=5.1
YKA Yellowknife Ar 93.17 341 P **P** 23 36 45.6 0.0
comp=Z,1.1nm,0.7s,baz=135,slow=4.4,SNR=16
YKA pP **pP** 23 37 00.7 -0.5
comp=Z,1.4nm,0.7s,baz=138,slow=4.4,SNR=9.0
ASAR Alice Springs 127.18 208 PKP **PKPdf** 23 42 37.0 +0.1
comp=Z,1.6nm,0.8s,baz=143,slow=1.9,SNR=12
ASAR pPKP **pPKPdf** 23 42 51.5 -1.6
comp=Z,4.3nm,0.8s,baz=144,slow=2.1,SNR=18
H11N3 WAKE ISLAND Hyl 27.18 277 T T 02 02 25.8
baz=107,slow=75
H11N1 WAKE ISLAND Hyl 27.20 277 T T 02 02 28.1
baz=107,slow=75
H11N2 WAKE ISLAND Hyl 27.20 277 T T 02 02 30.1
baz=107,slow=75
WRA Warramunga Arr 130.23 211 PKP **PKPdf** 23 42 43.2 +0.4
comp=Z,1.7nm,0.8s,baz=155,slow=1.8,SNR=8.9
WRA pPKP **pPKPdf** 23 42 58.8 -0.2
comp=Z,5.2nm,0.9s,baz=158,slow=1.7,SNR=19
KURK Kurchatov 144.03 34 **PKPab** 23 43 05.8 +1.1
ZALV Zalesovo Beam 144.69 26 PKP **PKPab** 23 43 07.7 +0.7
comp=Z,11nm,0.8s,baz=303,slow=4.5,SNR=48
ZALV pPKP **pPKPdf** 23 43 23.4 -1.0
comp=Z,20nm,0.9s,baz=305,slow=5.2,SNR=18
EKS2 Erkin-Say 144.91 49 P **PKPdf** 23 43 10.2 +1.0
SNR=7.4
AML Almayashu 145.03 50 P **PKPab** 23 43 10.2 +1.0
SNR=15
USP Ospenovka 145.19 48 P **PKPdf** 23 43 10.5 +1.0
SNR=7.9
AAK Ala-Archa 145.41 49 P **PKPab** 23 43 11.7 +1.4
SNR=26
AAK Ala-Archa 145.41 49 **PKPab** 23 43 11.8 +1.5
CHMS Chumysh 145.46 48 P **PKPab** 23 43 11.8 +1.5
SNR=13
UCH Uchtor 145.57 49 P **PKPab** 23 43 12.6 +1.3
SNR=35
KBK Karagaybulak 145.72 49 P **PKPab** 23 43 12.8 +1.3
SNR=12
TKM2 Tokmak 2 146.06 48 P **PKPbc** 23 43 13.0 +0.8
SNR=12
KZA Kyzart 146.14 49 P **PKPbc** 23 43 13.3 +0.6
SNR=7.4
NIL Nilore 146.66 65 **PKPdf** 23 43 13.5 +1.2
ULHL Ulahol 146.76 49 P **PKPab** 23 43 16.3 +0.8
SNR=7.5
KSH Kashi 147.52 53 PKPbc **PKPbc** 23 43 17.0 +0.7
KSH sPKP 23 43 31.0
KSH PP **PP** 23 46 48.2 +5.2
KSH SS SS 00 05 45.2 +2.4
SIJI Sorong 147.70 223 PKPbc **PKPbc** 23 43 18.4 +1.0
comp=Z,3.9nm,0.4s,baz=172,slow=9.7,SNR=4.5
SIJI pPKPbc **pPKPbc** 23 43 33.7 +0.3
comp=Z,5.5nm,0.4s,baz=42,slow=9.7,SNR=3.4
TARG Taragay, Kyrgy 148.03 49 **PKPbc** 23 43 18.1 +0.1
MAKZ Makanchi 148.13 37 PKPdf **PKPdf** 23 43 13.9 -0.4
MAKZ **PKPbc** 23 43 17.5 0.0
MK31 Makanchi Array 148.31 37 **PKPbc** 23 43 18.5 +0.5
MKAR Makanchi Array 148.31 37 PKPbc **PKPbc** 23 43 18.6 +0.5
comp=Z,8.2nm,0.8s,baz=319,slow=2.4,SNR=48
MKAR pPKPbc **pPKPbc** 23 43 34.1 -0.1
comp=Z,15nm,0.8s,baz=326,slow=1.6,SNR=23
USRK Ussuriysk Ar. 152.92 323 PKPbc **PKPbc** 23 43 29.6 +0.6
comp=Z,1.8nm,0.8s,baz=46,slow=4.2,SNR=3.6
WMQ Urumqi 153.14 37 *e*PKPbc **PKPdf** 23 43 23.2 +1.0
SONM Songino Array 156.06 6 PKP **PKPdf** 23 43 26.6 +0.4
comp=Z,0.6nm,0.9s,baz=29,slow=3.3,SNR=3.0
SONM PKPab **PKPab** 23 43 54.7 +1.0
comp=Z,1.6nm,0.8s,baz=322,slow=3.6,SNR=6.1
SONM pPKPab **pPKPab** 23 44 10.4 +1.0
comp=Z,2.2nm,0.9s,baz=344,slow=3.7,SNR=5.2
HHC Hu-ho-hao-te 163.14 356 *e*PKP **PKPdf** 23 43 36.5 +2.0
LZH Lanzhou 166.88 22 *e*PKP **PKPdf** 23 43 37.3 -0.6
LZH pPKP pPKPdf 23 43 53.0 -1.2
LZH sPKP 23 43 58.9
LZH PKPab **PKPab** 23 44 42.8 +1.5
LZH LR LR
comp=Z,130nm,18.1s
LZH LR LR
comp=Z,130nm,18.3s
LZH LR LR
comp=Z,160nm,20.2s
NJ2 Nanjing 168.72 317 *e*PKP **PKPdf** 23 43 39.0 -0.1
CD2 Chengdu 171.24 37 PKP **PKPdf** 23 43 40.0 -0.7

JMA 11 23:36:09.3±0.1,**38°40N**×144°53E,**h38**km,**M3.7,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.34**	**288**	P	Pn	23 36 46.6	+1.4
OFUJ				*e*S	Sn	23 37 14.2	+1.6
JIKH	**Ishinomakikobu**	**2.41**	**269**	P	Pn	23 36 47.4	+1.3
JIKH				S	Sn	23 37 15.6	+1.2
MIYJ	**Miyakonagasawa**	**2.42**	**300**	P	Pn	23 36 47.6	+1.4
MIYJ				S	Sn	23 37 16.2	+1.6
JKMT	**Kesennumamotoy**	**2.43**	**281**	P	Pn	23 36 48.0	+1.6
JKMT				*e*S	Sn	23 37 17.3	+2.4
JMK	**Ichinoseki**	**2.65**	**283**	P	Pn	23 36 51.3	+1.9
JMK				*e*S	Sn	23 37 22.2	+1.9
JOM	**Ohasama**	**2.74**	**294**	P	Pn	23 36 52.5	+1.8
JOM				*e*S	Sn	23 37 24.9	+2.3
JANG	**Nango**	**3.06**	**311**	*e*S	Sn	23 37 31.0	+0.7
JYK	**Kaneyama**	**3.31**	**280**	P	Pn	23 37 00.9	+2.4
JYK				*e*S	Sn	23 37 40.9	+4.4
JFT	**Otama**	**3.43**	**256**	S	Sn	23 37 41.1	+1.5
JCH	**Churui**	**4.30**	**348**	P	Pn	23 37 11.4	-0.7
JCH				*e*S	Sn	23 37 59.8	-1.2
JKB	**Kayabe**	**4.39**	**324**	P	Pn	23 37 16.1	+2.7
JKB				*e*S	Sn	23 38 05.1	+1.8
NEM2	**Nemuro 2**	**5.04**	**10**	P	Pn	23 37 20.0	-2.3
NEM2				*e*S	Sn	23 38 14.2	-5.1
JRY	**Ryogami san**	**5.08**	**244**	P	Pn	23 37 24.1	+1.2
JRY				*e*S	Sn	23 38 19.2	-1.2
JTKR	**Abashiri--Toko**	**5.58**	**355**	P	Pn	23 37 29.4	-0.3
JTKR				S	Sn	23 38 29.7	-2.9

*IDC **11** 23:41:30.6±7.0,34°.04N×22°.85E,h0km,mb3.4/3, mb1 3.4/5,mb1mx3.2/45,mbtmp3.3/5,ML3.4/2,Error ellipse: s-maj=129.1km s-min=47.0km az=26.0*
*THE **11** 23:41:40.2,35°.13N×23°.13E,h0km±4km,ML2.9/5,Error ellipse: s-maj=4.8km s-min=1.1km az=249.0*
*ATH **11** 23:41:42.3,35°.19N×23°.31E,h7km±3km,ML3.0/3,Error ellipse: s-maj=6.8km s-min=1.5km az=48.0*
ISC 11 23:41:40.9±1.8,**35°14N**±0°.07×**23°23E**±0°.07,**h16**km±9km, **n23,σ0°62/27,mb3.4/3,Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.39**	**76**	P	**Pg**	**23 41 48.2**	**-0.6**
KNDR				S	**Sg**	**23 41 54.9**	**+0.7**
	1μm,0.3s						
IMMV	**Iera Moni Meta**	**0.69**	**63**	P	**Pg**	**23 41 54.6**	**+0.1**
IMMV				S	**Sn**	**23 42 07.0**	**+0.5**
	2μm,0.8s						
IMMV	**Iera Moni Meta**	**0.69**	**63**	P	**Pb**	**23 41 53.7**	**-0.9**
IMMV				AML	AML	23 42 16.3	
	comp=E,3550μm,0.8s						
IMMV				AML	AML	23 42 16.5	
	comp=N,3960μm,0.8s						
ANKY	**Antikythira Is**	**0.72**	**5**	P	**Pb**	**23 41 53.8**	**-1.4**
ANKY	**Antikythira Is**	**0.72**	**5**	P	**Pg**	**23 41 55.1**	**0.0**
ANKY				AML	AML	23 42 17.6	
	comp=N,2126μm,0.8s						
ANKY				AML	AML	23 42 18.6	
	comp=E,1662μm,0.5s						
GVD	**Gavdhos**	**0.77**	**113**	P	**Pb**	**23 41 55.9**	**0.0**
GVD				S	**Sn**	**23 42 08.7**	**+0.4**
	comp=E,2μm,0.4s						
GVD	**Gavdhos**	**0.77**	**113**	P	**Pb**	**23 41 56.0**	**0.0**
GVD				AML	AML	23 42 17.0	
	comp=N,3740μm,0.5s						
GVD				AML	AML	23 42 17.3	
	comp=E,2254μm,0.4s						
GVDS	**Gavdos**	**0.77**	**113**	P	**Pb**	**23 41 55.8**	**-0.1**
GVDS				S	**Sn**	**23 42 08.4**	**+0.1**
	comp=E,778nm,0.3s						
VAM	**Vamos**	**0.84**	**71**	P	**Pb**	**23 41 57.2**	**+0.1**
VAM				S	**Sn**	**23 42 11.0**	**+1.0**
	comp=E,932nm,0.6s						
VAM	**Vamos**	**0.84**	**71**	P	**Pb**	**23 41 57.2**	**+0.1**
KTHA	**Kythira Island**	**1.12**	**353**	P	**Pg**	**23 42 03.1**	**+0.5**
KTHR	**Kythira**	**1.13**	**351**	P	**Pb**	**23 42 01.4**	**-0.7**
SIVA	**Sivas**	**1.30**	**95**	P	**Pg**	**23 42 05.9**	**-0.2**
VLI	**Veliai**	**1.59**	**352**	P	**Pb**	**23 42 09.9**	**0.0**
VLI	**Veliai**	**1.59**	**352**	P	**Pg**	**23 42 11.2**	**-0.3**
KRND	**KRANIDI**	**2.23**	**358**	P	**Pb**	**23 42 21.4**	**+0.5**
VLX	**Vlachokerasia**	**2.33**	**343**	P	**Pb**	**23 42 22.9**	**+0.4**
DID	**Didima**	**2.36**	**0**	P	**Pb**	**23 42 23.2**	**+0.2**
BRTR	**Keskin Array B**	**9.46**	**58**	Pn	Pn	23 44 03.6	+7.0
	comp=E,0.1nm,0.3s,baz=234,slow=9.8,SNR=3.7						
GERES	**GERESS Array B**	**15.39**	**336**	Pn	**P**	**23 45 22.3**	**+0.3**
	comp=E,0.1nm,0.3s,baz=144,slow=12,SNR=3.8						
KURBB	**Kurchatov Arra**	**42.36**	**51**	P	**P**	**23 49 34.8**	**+0.6**
	comp=E,0.2nm,0.5s,baz=273,slow=8.7,SNR=2.5						
MKAR	**Makanchi Array**	**45.10**	**56**	P	**P**	**23 49 55.2**	**-1.0**
	comp=E,0.2nm,0.4s,baz=269,slow=6.4,SNR=5.4						
ZALV	**Zalesovo Beam**	**46.16**	**46**	P	**P**	**23 50 03.5**	**-1.0**
	comp=E,0.4nm,0.4s,baz=264,slow=7.8,SNR=2.6						

*ASRS **11** 23:49:04.4±0.7,50°.5N×9°.2E±°,h10km,MLv3.5/8, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
*IDC **11** 23:49:29.6±2.4,50°.21N×91°.61E,h0km,mb1 2.8/4, mb1mx2.7/59,mbtmp2.8/4,ML2.3/4,Error ellipse: s-maj=31.5km s-min=22.8km az=157.0*
*NNC **11** 23:49:51.0±7.5,49°.55N×89°.79E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=59.5km s-min=34.0km az=54.0*
ISC 11 23:49:05.8±1.5,**49°68N**±0°.07×**92°35E**±0°.06,**h10**km,**n17, σ2s70/22,4C-2D,Mongolia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEL	**Teeli**	**1.92**	**315**	P	**Pn**	**23 49 39.0**	**+0.4**
TEL				S	**Sb**	**23 50 05.2**	**+0.2**
ULGR	**Ulagan, Altay**	**2.98**	**290**	P	**Pn**	**23 49 52.4**	**-0.7**
ULGR				S	**Sn**	**23 50 30.7**	**+1.8**
AKAR	**Aktash**	**3.12**	**284**	P	**Pn**	**23 49 54.7**	**-0.4**
AKAR				S	**Sn**	**23 50 32.4**	**-0.1**
CHBI	**Chibit, Altay**	**3.19**	**283**	P	**Pn**	**23 49 56.1**	**0.0**
CHBI				S	**Sn**	**23 50 34.6**	**+0.4**
DGZ	**Jazzator, Alta**	**3.19**	**272**	P	**Pn**	**23 49 55.0**	**-1.1**
DGZ				S	**Sn**	**23 50 33.5**	**-0.9**
TDJR	**Todzha**	**3.61**	**40**	P	**Pn**	**23 50 01.4**	**-0.3**
TDJR				S	**Sn**	**23 50 44.5**	**+0.1**
ARTR	**Artybash**	**3.85**	**305**	P	**Pb**	**23 50 09.8**	**-4.0**
ARTR				S	**Sn**	**23 50 51.5**	**+1.1**
TASR	**Tashtagol**	**4.17**	**319**	P	**Pn**	**23 50 10.5**	**+1.4**
TASR				S	**Sn**	**23 50 59.6**	**+1.4**
LUZB	**Luzhba, Kemero**	**4.53**	**333**	P	**Pn**	**23 50 14.7**	**+0.4**
ZALV	**Zalesovo Beam**	**6.33**	**315**	Pn	**Pb**	**23 50 54.4**	**-1.5**
	0.2nm,0.3s,baz=132,slow=49,SNR=2.9						
ZALV				Sn	**Sn**	**23 51 59.4**	**+8.2**
	0.2nm,0.3s,baz=134,slow=19,SNR=3.0						
ZALV				Lg	Lg	23 52 19.8	
	0.3nm,0.3s,baz=130,slow=24,SNR=3.2						
MK31	**Makanchi Array**	**7.31**	**251**	⇓Pn	**Pb**	**23 51 16.1**	**+3.4**
	0.3nm,0.3s,baz=54,slow=18,SNR=4.0						
MK31				⇑Lg	Lg	23 52 51.8	
	5.0nm,0.8s,baz=58,slow=33,SNR=6.0						
MKAR	**Makanchi Array**	**7.31**	**251**	Pn	**Pb**	**23 51 15.5**	**+2.7**
	0.2nm,0.3s,baz=50,slow=13,SNR=6.1						
MKAR				Sn	**Sb**	**23 52 35.1**	**-4.9**
	0.3nm,0.3s,baz=69,slow=31,SNR=2.8						
MAKZ	**Makanchi**	**7.50**	**251**	⇑Pn	Pb	23 51 19.6	+3.7
	1.3nm,0.8s						
MAKZ				⇓Lg	Lg	23 52 56.6	
	12nm,1.2s						
KURK	**Kurchatov**	**8.87**	**282**	⇑Lg	Lg	23 53 43.5	
	8.3nm,0.9s						
KURBB	**Kurchatov Arra**	**8.93**	**281**	Pn	Pn	23 51 32.2	+18
	0.0nm,0.3s,baz=86,slow=14,SNR=3.2						
KURBB				Lg	Lg	23 53 46.9	
	0.1nm,0.3s,baz=312,slow=13,SNR=6.8						
KURBB	**Kurchatov Arra**	**8.93**	**281**	⇑Lg	Lg	23 53 48.9	
	8.9nm,0.7s						
SONM	**Songino Array**	**9.46**	**96**	Pn	Pn	23 51 54.1	+32
	0.0nm,0.3s,baz=293,slow=22,SNR=2.4						
SONM				Sn	Sn	23 53 54.2	+46
	0.3nm,0.3s,baz=279,slow=26,SNR=9.9						

*ISCJB **11** 23:54:27.6±0.5,24°.01S±0°.02×70°.27W±0°.07,h71km±7km, mb3.8/1,Error ellipse: s-maj=11.0km s-min=4.0km az=6.4*
*SJA **11** 23:54:27.1±0.8,24°.00S×70°.28W,h62km±4km,ML3.7, MW3.8*
*GUC **11** 23:54:27.9±0.8,24°.00S×70°.08W,h46km±2km,ML3.5*
*IDC **11** 23:54:34.3±2.3,24°.07S×69°.53W,h88km±16km,mb3.7/1, mb1 3.6/4,mb1mx3.3/24,mbtmp3.9/4,MS2.5/1,Ms1 2.6/1, ms1mx2.3/22,Error ellipse: s-maj=50.8km s-min=19.6km az=103.0*
ISC 11 23:54:28.0±0.9,**24°01S**±0°.04×**70°23W**±0°.06,**h59**km±10km, **n37,σ1s42/47,5C-4D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB10	**IPOC Station P**	**0.57**	**329**	⇑*iP*	**Pn**	**23 54 41.3**	**+0.6**
PB10				*i* S	**Sn**	**23 54 51.1**	**+1.2**
PB10				IAML		23 54 52.8	
	comp=E,4μm,0.3s						
PB10	**IPOC Station P**	**0.57**	**329**	*i* P	**Pn**	**23 54 41.2**	**+0.6**
PB10				*e*S	**Sn**	**23 54 50.1**	**+0.1**
PB14	**IPOC Station P**	**0.64**	**194**	⇑*iP*	**Pn**	**23 54 42.3**	**+0.5**
PB14				*i* S	**Sn**	**23 54 52.5**	**+0.7**
PB14				IAML		23 54 53.6	
	comp=E,5μm,0.2s						
PB14	**IPOC Station P**	**0.64**	**194**	*i* P	**Pn**	**23 54 42.2**	**+0.3**
PB14				*e*S	**Sn**	**23 54 52.9**	**+1.0**
PB15	**IPOC Station P**	**1.06**	**42**	⇑*iP*	**Pn**	**23 54 46.5**	**-0.6**
PB15				*i* S	**Sn**	**23 54 59.8**	**-1.3**
PB15				IAML		23 55 04.3	
	comp=E,7μm,0.3s						
PB15	**IPOC Station P**	**1.06**	**42**	*i* P	**Pn**	**23 54 46.6**	**-0.5**
PB15				*e*S	**Sn**	**23 55 02.4**	**+1.3**
PB05	**IPOC Station P**	**1.15**	**1**	⇓*iP*	**Pn**	**23 54 48.4**	**+0.3**
PB05				*i* S	**Sn**	**23 55 04.4**	**+1.3**
PB05				IAML		23 55 05.5	
	comp=E,889nm,0.5s						
PB05	**IPOC Station P**	**1.15**	**1**	*i* P	**Pn**	**23 54 48.4**	**+0.3**
GO02	**Mina Guanaco**	**1.29**	**153**	⇑*iP*	**Pn**	**23 54 50.5**	**+0.3**
GO02				*e*S	**Sn**	**23 55 07.2**	**+0.5**
PB06	**IPOC Station P**	**1.43**	**25**	⇓*iP*	**Pn**	**23 54 52.1**	**+0.2**
PB06				*i* S	**Sn**	**23 55 10.1**	**+0.3**
PB06				IAML		23 55 13.3	
	comp=E,1μm,0.3s						
PB04	**IPOC Station P**	**1.67**	**3**	⇓*iP*	**Pn**	**23 54 55.5**	**+0.3**
PB04				⇑*iS*	**Sn**	**23 55 17.4**	**+1.8**
PB04				IAML		23 55 21.4	
	comp=E,735nm,0.4s						
PB04	**IPOC Station P**	**1.67**	**3**	*i* P	**Pn**	**23 54 55.2**	**+0.1**
LVC	**Limon Verde**	**1.85**	**41**	P	**Pn**	**23 54 59.0**	**+1.3**
	comp=E,35nm,0.3s,baz=194,slow=9.3,SNR=545						
LVC				S	**Sn**	**23 55 21.3**	**+1.0**
	comp=E,171nm,0.3s,baz=34,slow=15,SNR=38						
LVC				LR	LR	23 55 46.6	
	comp=E,99nm,19.1s,baz=183,slow=46						
LVC	**Limon Verde**	**1.85**	**41**	*i* P	**Pn**	**23 54 58.8**	**+1.0**
LVC				IAML		23 55 21.8	
	comp=Z,229nm,0.3s						
LVC				*e*S	**Sn**	**23 55 22.7**	**+2.5**
PB03	**IPOC Station P**	**2.00**	**13**	⇓*iP*	**Pn**	**23 54 59.7**	**0.0**
PB03				*i* S	**Sn**	**23 55 24.8**	**+1.2**
PB03				IAML		23 55 29.3	
	comp=E,632nm,0.3s						
PB09	**IPOC Station P**	**2.38**	**23**	*i* P	**Pn**	**23 55 06.0**	**+1.1**
GO03	**Copiap**	**3.57**	**180**	*i* P	**Pn**	**23 55 22.6**	**+1.6**
SLA	**San Lorenzo**	**4.37**	**100**	*i* P	Pn	23 55 37.0	+5.0
SLA				IAML		23 56 02.7	
	comp=Z,10.0nm,0.5s						
AZAP	**Zapla**	**4.73**	**94**	*i* P	**Pn**	**23 55 39.6**	**+2.5**
AZAP				IAML		23 56 13.5	
	comp=Z,10nm,0.6s						
VCA	**Vinchina**	**5.05**	**159**	*i* P	Pn	23 55 46.5	+5.2
VCA				IAML		23 56 56.5	
	comp=Z,121nm,0.7s						
AHML	**Horco Molle**	**5.22**	**123**	*i* P	**Pn**	**23 55 45.5**	**+1.8**
ACLC	**CERRO LA CRUZ**	**6.14**	**152**	*i* P	**Pn**	**23 55 57.7

AAGR	**Agrelo**	**9.13**	**173**	*i* P		**Pn**	**23 56 33.4**	**-3.8**
SIV	**San Ignacio**	**11.73**	**49**	P		**Pn**	**23 57 12.4**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=250,slow=11,SNR=8.0							
SIV				S		**Sn**	**23 59 18.2**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=319,slow=19,SNR=2.0							
TORD	**Torodi Ar. Bea**	**79.34**	**70**	P		**P**	**00 06 27.9**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=259,slow=4.9,SNR=10							
MKAR	**Makanchi Array**	**148.37**	**37**	PKPbc		**PKiKP**	**00 14 08.8**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=298,slow=3.1,SNR=5.9							

IDC ***11*** *23:55:09.3±1.1, 36°.77S×73°.20W, h0km, mb3.7/6, mb1 4.0/8, mb1mx3.9/25, mbtmp3.8/8, ML3.9/2, MS3.6/12, Ms1 3.6/12, ms1mx3.4/21, Error ellipse: s-maj=37.8km s-min=21.9km az=114.0*

ISCJB ***11*** *23:55:12.5±0.7, 36°.84S±0°.04×73°.17W±0°.09, h33km±5km, mb3.8/5, MS3.6/10, Error ellipse: s-maj=11.7km s-min=6.4km az=13.4*

GUC ***11*** *23:55:13.3±0.6, 36°.88S×73°.15W, h29km±3km, ML4.5*

NEIC ***11*** *23:55:14.2±1.3, 36°.79S±0°.04×73°.2W±0°.2, h32km±6km*

ISC 11 23:55:13.0±0.8, 36°.87S±0°.05×73°.06W±0°.08, h29km±6km, n38, σ1§61/36, mb3.8/6, MS3.7/10, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.05**	**307**	⇑*i* P		**Pb**	**23 55 17.9**	**-0.1**
CCSP				*i* S		**Sb**	**23 55 21.2**	**-0.1**
CCSP				IAML			23 55 23.1	
	comp=N,76μm,0.3s							
COCH	**Cobquecura**	**0.77**	**17**	⇑*i* P		**Pb**	**23 55 27.0**	**-0.9**
COCH				*i* S		**Sn**	**23 55 38.3**	**-0.4**
COCH				IAML			23 55 40.7	
	comp=N,20μm,0.7s							
CCHI	**Chillan**	**0.83**	**71**	*e*P		**Pn**	**23 55 29.0**	**+0.1**
CCHI				*i* S		**Sn**	**23 55 41.8**	**+1.6**
CCHI				IAML			23 55 44.4	
	comp=E,27μm,0.4s							
GO05	**Huala**	**2.07**	**27**	*e*P		**Pn**	**23 55 46.9**	**+0.9**
GO05				*i* S		**Sb**	**23 56 12.8**	**-2.6**
GO05	**Huala**	**2.07**	**27**			**Pn**	**23 55 46.3**	**+0.3**
GO06	**Curarrehue**	**2.98**	**156**			**Pn**	**23 56 00.8**	**+2.3**
GO06				Sn		**Sn**	**23 56 27.8**	**-5.5**
CLCH	**Cerro Calan**	**4.04**	**32**	*e*P		**Pn**	**23 56 14.9**	**+1.9**
PEL	**Peldehue**	**4.20**	**28**			**Pn**	**23 56 16.1**	**+0.8**
ROC1	**El Roble**	**4.24**	**24**			**Pn**	**23 56 16.3**	**+0.4**
PLCA	**Paso Flores**	**4.32**	**154**			**Pn**	**23 56 18.9**	**+2.0**
CFA	**Coronel Fontan**	**6.60**	**39**	Pn		**Pn**	**23 56 49.0**	**+0.9**
	comp=E,2.0nm,0.3s,baz=233,slow=14,SNR=5.5							
CFA				Sn		**Sn**	**23 58 03.1**	**+0.6**
	comp=E,3.8nm,0.3s,baz=215,slow=17,SNR=3.9							
CFA				LR		LR	23 59 35.2	
	comp=E,387nm,21.8s,baz=234,slow=40							
GO04	**Tololo Observa**	**6.94**	**16**	Pn		**Pn**	**23 56 52.4**	**-0.7**
TRQA	**Tornquist**	**8.89**	**101**			**Pn**	**23 57 22.1**	**+2.5**
CPUP	**Villa Florida**	**17.01**	**56**	P		**Pn**	**23 59 08.1**	**-0.7**
	comp=E,0.1nm,0.3s,baz=230,slow=14,SNR=2.0							
CPUP				LR		LR	00 06 20.5	
	comp=E,271nm,19.9s,baz=230,slow=39							
CPUP	**Villa Florida**	**17.01**	**56**			**Pn**	**23 59 08.2**	**-0.6**
LPAZ	**La Paz**	**20.96**	**13**	P		**P**	**23 59 54.5**	**0.0**
	comp=E,1.6nm,0.7s,baz=197,slow=7.1,SNR=4.9							
LPAZ	**La Paz**	**20.96**	**13**	P		**P**	**23 59 55.0**	**+0.5**
LPAZ				IAmb		IAmb	00 00 14.5	
	comp=Z,3.9nm,0.8s							
SIV	**San Ignacio**	**23.36**	**30**	P		**P**	**00 00 18.8**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=219,slow=8.1,SNR=8.4							
SIV				LR		LR	00 10 27.2	
	comp=Z,156nm,19.7s,baz=266,slow=39							
NNA	**Nana**	**25.01**	**351**	LR		LR	00 08 59.5	
	comp=Z,61nm,18.4s,baz=180,slow=33							
PMSA	**Palmer Station**	**28.45**	**172**	LR		LR	00 11 17.0	
	comp=Z,229nm,19.3s,baz=316,slow=34							
ATAH	**Atahualpa**	**30.00**	**349**	LR		LR	00 11 09.0	
	comp=Z,68nm,20.1s,baz=202,slow=32							
BDFB	**Brasilia**	**30.68**	**53**	LR		LR	00 13 24.4	
	comp=Z,190nm,18.0s,baz=252,slow=36							
VNA3	**Neumayer Olymp**	**47.04**	**157**	P		**P**	**00 03 42.3**	**+0.8**
VNA2	**Neumayer--Watz**	**47.71**	**156**	P		**P**	**00 03 47.8**	**+1.1**
	baz=293,slow=6.9							
SNAA	**Sanae**	**49.26**	**157**	P		**P**	**00 03 59.9**	**+1.2**
SNAA	**Sanae**	**49.26**	**157**	P		**P**	**00 03 58.4**	**-0.3**
SNAA				IAmb		IAmb	00 04 09.8	
	comp=Z,6.3nm,1.2s							
QSPA	**South Pole Qui**	**53.37**	**180**	P		**P**	**00 04 31.1**	**+1.5**
	comp=Z,3.2nm,0.9s,baz=138,slow=3.3,SNR=9.1							
QSPA	**South Pole Qui**	**53.37**	**180**	P		**P**	**00 04 31.5**	**+1.8**
PPT	**Papeete**	**69.05**	**263**	LR		LR	00 28 12.2	
	comp=Z,51nm,18.3s,baz=180,slow=29							
MAW	**Mawson**	**70.67**	**164**	LR		LR	00 39 49.6	
	comp=Z,60nm,18.1s,baz=240,slow=38							
TXAR	**Lajitas Array**	**71.85**	**332**	P		**P**	**00 06 33.8**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=148,slow=10,SNR=5.6							
TXAR				LR		LR	00 33 29.9	
	comp=Z,20nm,18.4s,baz=0.0,slow=32							
NVAR	**Mina Array Bea**	**85.78**	**326**	P		**P**	**00 07 49.9**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=170,slow=5.5,SNR=4.2							
PDAR	**Pinedale Array**	**85.96**	**334**	P		**P**	**00 07 49.5**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=151,slow=2.1,SNR=3.0							
TORD	**Torodi Ar. Bea**	**85.97**	**70**	LR		LR	00 45 20.5	
	comp=Z,31nm,18.5s,baz=305,slow=35							
ESDC	**Sonseca Array**	**99.16**	**47**	LR		LR	00 52 42.0	
	comp=Z,23nm,19.1s,baz=30,slow=35							
HRA	**Herat**	**143.83**	**80**					
GTA	**Gaotai**	**173.84**	**64**	*e*PKP		**PKPdf**	**00 14 46.0**	**+0.3**
GTA				pPKP		pPKPdf	**00 15 18.1**	**-1.6**
GTA				sPKP			00 15 28.6	-0.8
LZH				pPKP			00 15 32.3	
LZH	**Lanzhou**	**177.38**	**107**	*e*PKP		**PKPdf**	**00 15 18.5**	**-2.3**
LZH				pPKP		pPKPdf	00 15 28.6	-1.8
LZH				sPKP			00 15 32.7	
LZH				PKP		PKPab	00 17 06.6	+0.4

ISCJB ***11*** *23:59:10.8±0.5, 44°.01S±0°.02×169°.51E±0°.04, h9km±4km, mb3.7/2, MS3.4/8, Error ellipse: s-maj=4.6km s-min=3.0km az=28.5*

NEIC ***11*** *23:59:11.4±1.5, 44°.06S±0°.01×169°.54E±0°.05, h4km±4km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.14; $M_{\theta\theta}$=1.75; $M_{\phi\phi}$=-1.61; $M_{r\theta}$=0.56; $M_{r\phi}$=-2.66; $M_{\theta\phi}$=0.11; Fault plane solution: $M_0$3.20000×10^{15} NP1: ϕ_s253.87000°, δ89.78000°, λ169.72000°. NP2: ϕ_s343.91000°, δ79.72000°, λ0.22000°. Principal axes: T 3.2709, Plg7.0000°, Azm208.0000°; N -0.1563, Plg80.0000°, Azm73.0000°; P -3.1146, Plg7.0000°, Azm299.0000°;*

WEL ***11*** *23:59:11.3±0.4, 44°.S±3°×17°.0E±°, h5km, ML4.8/13, MLv4.6/15 Error ellipse: s-maj=0.0km s-min=0.0km az=138.8*

IDC ***11*** *23:59:12.1±1.0, 43°.88S×169°.49E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/27, mbtmp3.7/3, ML3.5/1, MS3.4/9, Ms1 3.4/9, ms1mx3.3/24, Error ellipse: s-maj=51.8km s-min=11.2km az=177.0*

ISC 11 23:59:11.3±1.1, 44°.03S±0°.02×169°.53E±0°.03, h8km±7km, n104, σ1§49/104, mb4.0/4, MS3.5/8, 1C-1D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FOZ	**Fox Glacier**	**0.54**	**23**	P		**Pg**	**23 59 21.7**	**+0.1**
FOZ				S		**Sg**	**23 59 28.1**	**-0.5**
FOZ	**Fox Glacier**	**0.54**	**23**			**Pg**	**23 59 21.7**	**+0.1**
FOZ						**Sg**	**23 59 28.2**	**-0.4**
JCZ	**Jackson Bay**	**0.54**	**265**	P		**Pb**	**23 59 22.5**	**-0.6**
JCZ				S		**Sg**	**23 59 29.1**	**+0.2**
LBZ	**Lake Benmore**	**0.59**	**128**	P		**Pg**	**23 59 23.5**	**+0.8**
LBZ				S		**Sg**	**23 59 30.7**	**+0.3**
LBZ	**Lake Benmore**	**0.59**	**128**			**Pg**	**23 59 23.5**	**+0.8**
WKZ	**Wanaka**	**0.88**	**205**	P		**Pg**	**23 59 27.9**	**-0.4**
WKZ	**Wanaka**	**0.88**	**205**			**Pg**	**23 59 27.9**	**-0.4**
WKZ						**Sg**	**23 59 37.5**	**-2.2**
RPZ	**Rata Peaks**	**1.14**	**75**	Pg		**Pg**	**23 59 33.2**	**+0.1**
	1μm,0.3s,baz=236,slow=7.6,SNR=191							
RPZ				Lg		Lg	23 59 50.0	
	955nm,0.3s,baz=114,slow=19,SNR=29							
RPZ				LR		LR	00 00 16.3	
	comp=Z,863nm,20.4s,baz=58,slow=56							
RPZ	**Rata Peaks**	**1.14**	**75**	P		**Pg**	**23 59 33.3**	**+0.1**
EAZ	**Earnscleugh**	**1.22**	**188**	P		**Pg**	**23 59 33.8**	**-0.8**
EAZ				S		**Sg**	**23 59 50.9**	**+0.5**
ODZ	**Otahua Downs**	**1.29**	**142**	P		**Pg**	**23 59 35.6**	**-0.4**
ODZ				S		**Sg**	**23 59 52.5**	**-0.3**
ODZ	**Otahua Downs**	**1.29**	**142**			**Pg**	**23 59 35.6**	**-0.4**
ODZ						**Sg**	**23 59 51.3**	**-1.4**
ODZ						**Sg**	**23 59 52.5**	**-0.3**
WVZ	**Waitaha Valley**	**1.29**	**43**	P		**Pg**	**23 59 35.2**	**-0.8**
MSZ	**Milford Sound**	**1.32**	**240**	P		**Pn**	**23 59 35.7**	**-0.3**
MLZ	**Mavora Lakes**	**1.68**	**216**	P		**Pn**	**23 59 41.9**	**+0.9**
MLZ	**Mavora Lakes**	**1.68**	**216**			**Pn**	**23 59 41.9**	**+0.9**
INZ	**Inchbonnie**	**1.91**	**48**	P		**Pn**	**23 59 44.5**	**+0.4**
TUZ	**Tuapeka**	**1.93**	**178**	P		**Pn**	**23 59 44.4**	**0.0**
OXZ	**Oxford**	**1.95**	**70**	P		**Pn**	**23 59 45.4**	**+0.8**
OXZ	**Oxford**	**1.95**	**70**			**Pn**	**23 59 45.2**	**+0.6**
HHSZ	**Highcliff Hill**	**2.00**	**158**	P		**Pn**	**23 59 46.9**	**+1.5**
WHZ	**Wether Hill Ro**	**2.18**	**211**	P		**Pn**	**23 59 48.2**	**+0.3**
WHZ	**Wether Hill Ro**	**2.18**	**211**			**Pn**	**23 59 48.0**	**+0.2**
DCZ	**Deep Cove**	**2.22**	**229**	P		**Pn**	**23 59 49.7**	**+1.2**
DCZ	**Deep Cove**	**2.22**	**229**			**Pn**	**23 59 48.8**	**+1.4**
MQZ	**McQueen's Vall**	**2.28**	**83**	P		**Pn**	**23 59 50.2**	**+1.0**
MQZ	**McQueen's Vall**	**2.28**	**83**			**Pn**	**23 59 50.2**	**+1.0**
CRLZ	**Canterbury Las**	**2.28**	**80**	P		**Pn**	**23 59 50.8**	**+1.5**
CRLZ	**Canterbury Las**	**2.28**	**80**			**Pn**	**23 59 50.4**	**+1.1**
LTZ	**Lake Taylor**	**2.35**	**59**	P		**Pn**	**23 59 51.3**	**+1.0**
LTZ	**Lake Taylor**	**2.35**	**59**			**Pn**	**23 59 51.3**	**+1.0**
AMCZ	**Amberley**	**2.42**	**71**	P		**Pn**	**23 59 52.3**	**+1.1**
AKCZ	**Akaroa Harbour**	**2.44**	**88**	P		**Pn**	**23 59 52.3**	**+0.8**
SYZ	**Scrubby Hill**	**2.52**	**186**	P		**Pn**	**23 59 52.3**	**-0.2**
OKCZ	**Okains Bay**	**2.57**	**84**	P		**Pn**	**23 59 54.6**	**+1.4**
GVZ	**Greta Valley S**	**2.76**	**69**	P		**Pn**	**23 59 56.6**	**+0.8**
DSZ	**Denniston Nort**	**2.83**	**37**	P		**Pn**	**23 59 56.9**	**+0.1**
APZ	**The Paps**	**3.01**	**201**	P		**Pn**	**23 59 58.5**	**-0.8**
KHZ	**Kahutara**	**3.34**	**63**	P		**Pn**	**00 00 04.7**	**+0.9**
KHZ	**Kahutara**	**3.34**	**63**			**Pn**	**00 00 04.5**	**+0.7**
THZ	**Tophouse**	**3.36**	**49**	P		**Pn**	**00 00 05.2**	**+1.2**
THZ	**Tophouse**	**3.36**	**49**			**Pn**	**00 00 05.2**	**+1.2**
QRZ	**Quartz Range**	**3.89**	**36**	P		**Pn**	**00 00 11.8**	**+0.4**
QRZ	**Quartz Range**	**3.89**	**36**			**Pn**	**00 00 12.1**	**+0.7**
BSWZ	**Blackbirch Sta**	**3.94**	**56**			**Pn**	**00 00 14.7**	**+2.7**
NNZ	**Nelson**	**3.99**	**47**	P		**Pn**	**00 00 13.9**	**+1.2**
DUWZ	**D'Urville Isla**	**4.58**	**47**	P		**Pn**	**00 00 22.7**	**+1.8**
SNZO	**South Karori**	**4.68**	**56**			**Pn**	**00 00 23.6**	**+1.4**
PLWZ	**Palliser**	**4.87**	**62**	P		**Pn**	**00 00 25.0**	**+0.1**
PLWZ	**Palliser**	**4.87**	**62**	Pn		**Pn**	**00 00 25.8**	**+0.8**
MSWZ	**Moikau Station**	**4.95**	**60**	P		**Pn**	**00 00 27.1**	**+1.1**
CAW	**Cannon Point**	**5.02**	**56**	P		**Pn**	**00 00 28.3**	**+1.4**
KIW	**Kapiti Island**	**5.08**	**53**	P		**Pn**	**00 00 28.6**	**+0.9**
MTW	**Mount Morrison**	**5.26**	**59**	P		**Pn**	**00 00 30.9**	**+0.7**
OGWZ	**Otaki Gorge**	**5.26**	**54**	P		**Pn**	**00 00 31.1**	**+0.8**
MRZ	**Mangatainoka R**	**5.60**	**55**	P		**Pn**	**00 00 34.7**	**-0.2**
NMEZ	**Namu Road**	**5.64**	**37**	P		**Pn**	**00 00 37.1**	**+1.7**
NBEZ	**Newall Road No**	**5.76**	**36**	P		**Pn**	**00 00 38.1**	**+1.1**
KHEZ	**Kahui Hut**	**5.80**	**37**	P		**Pn**	**00 00 38.7**	**+1.1**
PREZ	**Palmer Road**	**5.82**	**38**	P		**Pn**	**00 00 39.4**	**+1.4**
LREZ	**Lake Rotokare**	**5.84**	**40**	P		**Pn**	**00 00 40.7**	**+2.6**
PKE	**Pukeiti**	**5.87**	**36**	P		**Pn**	**00 00 40.0**	**+1.4**
PRWZ	**Pori Road**	**5.90**	**56**	P		**Pn**	**00 00 41.8**	**+2.8**
BFZ	**Birch Farm**	**5.99**	**58**	P		**Pn**	**00 00 40.8**	**+0.6**
VRZ	**Vera Road**	**6.27**	**40**	P		**Pn**	**00 00 45.6**	**+1.5**
PKVZ	**Pokaka**	**6.43**	**45**	P		**Pn**	**00 00 48.0**	**+1.7**
PNHZ	**Pukenui**	**6.45**	**53**	P		**Pn**	**00 00 49.2**	**+2.7**
MOVZ	**Moawhango**	**6.55**	**47**	P		**Pn**	**00 00 50.1**	**+2.1**
FWVZ	**Far West T-bar**	**6.56**	**45**	P		**Pn**	**00 00 50.6**	**+2.4**
TWVZ	**Taurewa**	**6.64**	**44**	P		**Pn**	**00 00 51.0**	**+1.7**
WTVZ	**West Tongariro**	**6.69**	**45**	P		**Pn**	**00 00 52.6**	**+2.7**
HIZ	**Hauiti**	**6.81**	**38**	P		**Pn**	**00 00 52.0**	**+0.5**
HIZ	**Hauiti**	**6.81**	**38**			**Pn**	**00 00 51.9**	**+0.4**
AWAZ	**Awhitu Peninsu**	**7.97**	**31**	P		**Pn**	**00 01 09.2**	**+1.9**
URZ	**Urewera**	**8.12**	**47**	Pn		**Pn**	**00 01 10.2**	**+0.8**
	0.6nm,0.3s,baz=233,slow=13,SNR=2.1							
URZ				Sn		**Sn**	**00 02 33.6**	**-7.6**
	1.2nm,0.3s,baz=76,slow=18,SNR=2.5							
URZ				LR		LR	00 04 59.6	
	comp=Z,235nm,19.8s,baz=230,slow=43							
MKAZ	**Moumakai**	**8.13**	**34**	P		**Pn**	**00 01 11.5**	**+1.9**
MBAZ	**Motutapu North**	**8.32**	**31**	P		**Pn**	**00 01 14.5**	**+2.3**
WIAZ	**Waiheke Island**	**8.39**	**32**	P		**Pn**	**00 01 15.0**	**+1.8**
KUZ	**Kuaotunu**	**8.67**	**35**	P		**Pn**	**00 01 17.7**	**+0.7**
WCZ	**Waipu Caves**	**8.88**	**26**	P		**Pn**	**00 01 20.1**	**+0.2**
MXZ	**Matakaoa Point**	**9.27**	**49**	Pn		**Pn**	**00 01 25.7**	**+0.5**
OUZ	**Omahuta**	**9.34**	**21**	P		**Pn**	**00 01 26.4**	**+0.3**
OUZ	**Omahuta**	**9.34**	**21**			**Pn**	**00 01 26.6**	**+0.5**
STKA	**Stephens Creek**	**25.02**	**290**	LR		LR	00 13 54.0	
	comp=Z,66nm,18.1s,baz=127,slow=35							
VNDA	**Vanda**	**33.75**	**183**	LR		LR	00 17 29.3	
	comp=Z,93nm,20.6s,baz=9.0,slow=32							
ASAR	**Alice Springs**	**35.51**	**293**	P		**P**	**00 06 08.8**	**+0.1**
	0.8nm,1.0s,baz=126,slow=7.3,SNR=5.1							
ASAR				PcP		**PcP**	**00 08 40.4**	**+2.5**
	0.4nm,0.6s,baz=122,slow=3.8,SNR=4.2							
WB2	**Warramunga Arr**	**37.86**	**298**	P		P	00 06 23.6	-5.1
WB2				IAmb		IAmb	00 06 25.1	
	comp=Z,5.5nm,0.5s							
WRA	**Warramunga Arr**	**37.87**	**298**	P		**P**	**00 06 29.3**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=136,slow=7.8,SNR=5.1							
WRA				PcP		**PcP**	**00 08 47.5**	**+2.4**
	comp=Z,0.7nm,0.9s,baz=141,slow=2.9,SNR=3.9							
WRA				LR		LR	00 21 48.9	
	comp=Z,66nm,19.9s,baz=125,slow=36							
BATI	**Baumata**	**51.95**	**296**	LR		LR	00 28 49.1	
	comp=Z,46nm,21.2s,baz=173,slow=34							
SIJI	**Sorong**	**54.78**	**311**	LR		LR	00 31 43.3	
	comp=Z,33nm,20.1s,baz=103,slow=36							
MAW	**Mawson**	**55.91**	**206**	P		**P**	**00 08 48.1**	**-1.0**
MAW				IAmb		IAmb	00 08 57.9	
	comp=Z,3.0nm,1.4s							
SYO	**Syowa Base**	**61.37**	**198**	⇑*e*P		P	00 09 21.4	-5.7
SYO	**Syowa Base**	**61.37**	**198**	⇓*e*P		**P**	**00 09 23.8**	**-3.3**
SNAA	**Sanae**	**64.48**	**183**	P		**P**	**00 09 48.9**	**+1.0**
LEM	**Lembang**	**65.23**	**285**	LR		LR	00 35 59.5	
	comp=Z,34nm,21.4s,baz=94,slow=34							
CMAR	**Chiang Mai Arr**	**89.45**	**296**	LR		LR	00 54 29.6	
	comp=Z,12nm,20.0s,baz=280,slow=37							
H08S2	**Diego Garcia H**	**89.78**	**260**	T		T	01 50 13.7	
	baz=134,slow=76,SNR=32							
H08S1	**Diego Carcia H**	**89.79**	**260**	T		T	01 50 10.9	
	baz=134,slow=76,SNR=17							
H08S3	**Diego Garcia H**	**89.80**	**260**	T		T	01 50 06.7	
	baz=134,slow=76,SNR=29							
NNA	**Nana**	**98.04**	**115**	LR		LR	00 48 08.5	
	comp=Z,20nm,20.9s,baz=267,slow=30							
BRTR	**Keskin Array B**	**147.18**	**278**	PKPbc		**PKPbc**	**00 18 55.8**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=139,slow=5.6,SNR=10							
TORD	**Torodi Ar. Bea**	**147.50**	**202**	PKPbc		**PKPbc**	**00 18 57.4**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=166,slow=2.9,SNR=8.1							
ARCES	**ARCESS Array B**	**148.61**	**337**	PKPbc		**PKiKP**	**00 18 59.6**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=83,slow=2.8,SNR=6.9							
FINES	**FINESS Array B**	**152.36**	**322**	PKPbc		**PKiKP**	**00 19 09.0**	**+2.0**
	comp=Z,2.8nm,0.7s,baz=48,slow=2.8,SNR=6.0							

DJA 12 00:01:42.6±0.5, 0°.N±4°×12°.4E±°, h181km±6km, M3.9/11, mb4.1/3, MLv3.8/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMSI	**Cibinong**	**0.36**	**29**	P		Pn	00 02 08.0	+1.0
LUWI	**Luwuk**	**1.66**	**219**	P		Pn	00 02 16.6	+0.4
LUWI				S		Sn	00 02 42.5	+0.2
MPSI	**Marisa**	**1.88**	**277**	P		Pn	00 02 18.8	+0.3
APSI	**Ampana**	**2.45**	**242**	P		Pn	00 02 25.0	+0.2
TNTI	**Ternate**	**3.59**	**82**	P		Pn	00 02 38.0	+0.6
MPSI	**Mapaga**	**3.91**	**271**	P		Pn	00 02 42.1	-0.5
TTSI	**Tana Toraja**	**5.17**	**231**	P		Pn	00 02 58.7	-0.1
	62nm,0.9s,0.2nm							
BBSI	**Bau Bau**	**5.84**	**192**	P		Pn	00 03 07.8	+0.2
	11nm,0.8s,0.1nm							

NNC ***12*** *00:13:28.0±1.9, 39°.04N×74°.92E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=14.8km s-min=10.1km az=157.0*

ISC 12 00:13:25.7±3.4, 38°.7N±0°.2×74°.73E±0°.09, h20km, n30, σ1§51/33, 7C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KZA	**Kyzart**	**3.42**	**7**	P		**Pn**	**00 14 20.4**	**+2.2**
	SNR=12							
AML	**Almayashu**	**3.53**	**347**	P		**Pn**	**00 14 20.9**	**+1.0**
	SNR=16							
UCH	**Uchtor**	**3.55**	**357**	P		**Pn**	**00 14 21.0**	**+1.0**
	SNR=34							
ULHL	**Ulahol**	**3.74**	**18**	P		**Pb**	**00 14 27.6**	**-3.6**
	SNR=26							
AAK	**Ala-Archa**	**3.96**	**358**	P		**Pn**	**00 14 26.9**	**+1.5**
	SNR=10							
AAK	**Ala-Archa**	**3.96**	**358**	Pn		**Pn**	**00 14 26.2**	**+0.8**
	24nm,0.7s							
AAK				Lg		Lg	00 15 22.9	
	66nm,1.4s							
KBK	**Karagaybulak**	**3.97**	**2**	P		**Pn**	**00 14 27.9**	**+2.2**
	SNR=6.4							
MRKS	**Merke**	**4.22**	**345**	Pg		**Pb**	**00 14 37.8**	**-1.4**
	17nm,0.5s							
MRKS				Lg		Lg	00 15 30.2	
	10nm,0.4s							
TKM2	**Tokmak 2**	**4.29**	**9**	P		**Pn**	**00 14 31.0**	**+1.1**
	SNR=32							
TKM2	**Tokmak 2**	**4.29**	**9**	⇑Pn		**Pn**	**00 14 30.9**	**+0.9**
	11nm,0.4s							
TKM2				⇑Sn		**Sn**	**00 15 19.3**	**-0.2**
	33nm,0.6s							
CHMS	**Chumysh**	**4.31**	**0**	P		**Pn**	**00 14 31.4**	**+1.2**
	SNR=6.9							
KST	**Kastek**	**4.46**	**12**	Pg		**Pb**	**00 14 43.8**	**+0.4**
	14nm,0.5s							
KST				Lg		Lg	00 15 40.0	
	18nm,0.7s							
IZV	**Izvestkoviy**	**4.58**	**18**	Pg		**Pb**	**00 14 45.5**	**+0.1**
	23nm,0.6s							
IZV				Lg		Lg	00 15 43.3	
	28nm,0.6s							
USP	**Ospenovka**	**4.58**	**358**	P		**Pb**	**00 14 44.8**	**-0.6**
	SNR=9.3							
DGS	**Degeres**	**4.62**	**10**	Pg		**Pb**	**00 14 46.5**	**+0.3**
	20nm,0.7s							
DGS				Lg		Lg	00 15 44.8	
	16nm,0.6s							
MTBS	**Maitube**	**4.63**	**16**	Pg		**Pb**	**00 14 44.3**	**-1.9**
	11nm,0.5s							
MTBS				Lg		Lg	00 15 41.5	
	13nm,0.4s							
TNSS	**Tian-Shan**	**4.67**	**20**	Pg		**Pb**	**00 14 44.9**	**-2.2**
	22nm,0.5s							
TNSS				Lg		Lg	00 15 41.5	
	22nm,0.7s							
MDOK	**Medeo**	**4.81**	**21**	Pg		**Pb**	**00 14 46.2**	**-3.2**
	9.2nm,0.6s							
MDOK				Lg		Lg	00 15 46.6	
	34nm,0.8s							
KNDC	**Almaty**	**4.84**	**20**	⇑Pg		**Pb**	**00 14 47.6**	**-2.2**
	27nm,0.6s							
KNDC				⇑Lg		Lg	00 15 49.2	
	66nm,0.9s							
KOTS	**Kotyrbulak**	**4.89**	**21**	Pg		**Pb**	**00 14 50.3**	**-0.5**
	44nm,0.5s							
KOTS				Lg		Lg	00 15 51.6	
	32nm,0.6s							
SATY	**Saty**	**5.19**	**31**	Pg		**Pb**	**00 14 55.6**	**-0.2**
	35nm,0.6s							
SATY				Lg		Lg	00 15 59.9	
	36nm,1.1s							
KTBS	**Karatobe**	**5.24**	**16**	Pg		**Pb**	**00 14 57.2**	**+0.6**
	14nm,0.6s							
KTBS				Lg		Lg	00 16 02.6	
	25nm,0.8s							
KUU	**Kurty**	**5.35**	**13**	Pg		**Pb**	**00 14 57.5**	**-1.0**

PCVE	**Castro Verde**	**3.70**	**328**	*e*P		**Pn**	**00 42 45.6**	**+1.9**
PCVE				*e*S		**Sn**	**00 43 27.4**	**+0.4**
PCVE				A		A	00 43 28.9	
	5.3nm,0.5s							
PCVE	**Castro Verde**	**3.70**	**328**	P		**Pn**	**00 42 45.6**	**+1.9**
PCVE				S		**Sn**	**00 43 27.4**	**+0.4**
	5.3nm,0.5s							
TZRR	**Tazzarine**	**3.72**	**180**	P		**Pn**	**00 42 42.8**	**-1.4**
TZRR				S		**Sn**	**00 43 29.7**	**+2.0**
PFVI	**Vila Bisbo**	**3.72**	**315**	*e*P		**Pn**	**00 42 46.1**	**+2.0**
PFVI				*e*S		**Sn**	**00 43 28.4**	**+0.8**
PFVI				A		A	00 43 35.9	
	15nm,0.8s							
EADA	**Adamuz**	**3.73**	**12**	P		**Pn**	**00 42 44.8**	**+0.7**
	0.7nm,0.3s,SNR=7.9							
EADA				S		**Sn**	**00 43 27.3**	**-0.4**
	0.8nm,0.2s,SNR=7.9							
OUZM	**OUZ**	**3.74**	**196**	P		**Pn**	**00 42 44.6**	**+0.2**
OUZM				S		**Sn**	**00 43 28.8**	**+0.7**
OUK	**Oukaimeden**	**3.83**	**211**	P		**Pn**	**00 42 43.3**	**-2.5**
OUK				S		**Sn**	**00 43 29.3**	**-1.4**
EQES	**Quesada**	**3.85**	**31**	P		**Pn**	**00 42 47.4**	**+1.6**
	0.4nm,0.2s,SNR=7.9							
EQES				S		**Sn**	**00 43 31.2**	**+0.5**
	1.3nm,0.4s,SNR=7.9							
MESJ	**Messejana**	**3.95**	**328**	*e*P		**Pn**	**00 42 48.1**	**+0.9**
MESJ				*e*S		**Sn**	**00 43 31.9**	**-1.3**
MESJ				AML		AML	00 43 35.8	
	comp=N,9.7nm,0.3s							
MESJ	**Messejana**	**3.95**	**328**	P		**Pn**	**00 42 48.1**	**+0.9**
MESJ				S		**Sn**	**00 43 31.9**	**-1.3**
	comp=N,9.7nm,0.3s							
PTEO	**Sao Teotonio**	**3.96**	**321**	*e*P		**Pn**	**00 42 48.3**	**+1.0**
PTEO				*e*S		**Sn**	**00 43 33.3**	**-0.2**
PTEO				A		A	00 43 37.4	
	comp=N,7.9nm,0.6s							
PTEO	**Sao Teotonio**	**3.96**	**321**	P		**Pn**	**00 42 48.3**	**+1.0**
PTEO				S		**Sn**	**00 43 33.3**	**-0.2**
	comp=N,4.0nm,0.6s							
PBEJ	**Beja**	**3.97**	**333**	*e*S		**Sn**	**00 43 33.3**	**-0.3**
PBEJ				A		A	00 43 42.0	
	comp=N,2.8nm,0.6s							
PBEJ	**Beja**	**3.97**	**333**	S		**Sn**	**00 43 33.3**	**-0.3**
	comp=N,1.4nm,0.6s							
PNCL	**Nicolau / Gran**	**4.32**	**327**	*e*P		**Pn**	**00 42 53.9**	**+1.7**
PNCL				*e*S		**Sn**	**00 43 42.0**	**-0.1**
PNCL				A		A	00 43 55.6	
	comp=N,3.5nm,0.8s							
PNCL	**Nicolau / Gran**	**4.32**	**327**	P		**Pn**	**00 42 53.9**	**+1.7**
PNCL				S		**Sn**	**00 43 42.0**	**-0.1**
	comp=N,3.5nm,0.8s							
SESP	**Santiago Espad**	**4.34**	**33**	P		**Pn**	**00 42 56.7**	**+4.0**
	comp=N,0.6nm,0.3s,SNR=7.9							
SESP				S		**Sn**	**00 43 45.9**	**+2.9**
	comp=N,0.9nm,0.2s,SNR=7.9							
ZGR	**Zagora**	**4.39**	**181**	P		**Pn**	**00 42 52.5**	**-0.8**
ZGR				S		**Sn**	**00 43 44.8**	**+0.7**
EBAD	**Badajoz**	**4.39**	**345**	P		**Pn**	**00 42 54.9**	**+1.7**
	comp=N,2.9nm,0.1s,SNR=46							
EBAD				S		**Sn**	**00 43 43.8**	**-0.2**
	comp=N,1.9nm,0.2s,SNR=7.9							
EVO	**Evora**	**4.47**	**334**	*e*P		**Pn**	**00 42 55.8**	**+1.5**
EVO				*e*S		**Sn**	**00 43 45.7**	**-0.2**
EVO				A		A	00 43 46.9	
	comp=N,5.0nm,0.1s							
EVO	**Evora**	**4.47**	**334**	P		**Pn**	**00 42 55.8**	**+1.5**
EVO				S		**Sn**	**00 43 45.7**	**-0.2**
	comp=N,5.0nm,0.1s							
PESTR	**Estremoz**	**4.64**	**340**	*e*P		**Pn**	**00 42 57.8**	**+1.2**
PESTR				*e*S		**Sn**	**00 43 50.0**	**-0.1**
PESTR				A		A	00 44 01.5	
	comp=N,2.7nm,0.7s							
TTIG	**Tnine Tigouga,**	**4.65**	**212**	P		**Pn**	**00 42 56.0**	**-0.9**
TTIG				S		**Sn**	**00 43 50.3**	**-0.3**
PMTG	**Montargil**	**5.02**	**336**	*e*P		**Pn**	**00 43 01.9**	**0.0**
PMTG				*e*S		**Sn**	**00 43 57.9**	**-1.7**
PMTG				A		A	00 43 59.6	
	comp=N,2.5nm,0.8s							
PMTG	**Montargil**	**5.02**	**336**	P		**Pn**	**00 43 01.9**	**0.0**
PMTG				S		**Sn**	**00 43 57.9**	**-1.7**
	comp=N,2.5nm,0.8s							
PAB	**San Pablo**	**5.11**	**11**	P		**Pn**	**00 43 04.5**	**+1.3**
	comp=N,0.1nm,0.2s,SNR=7.9							
PAB				S		**Sn**	**00 43 59.6**	**-2.3**
	comp=N,0.8nm,0.4s,SNR=7.9							
PMRV	**Marv??o**	**5.12**	**344**	*e*P		**Pn**	**00 43 04.4**	**+1.2**
PMRV				*e*S		**Sn**	**00 44 00.5**	**-1.4**
PMRV				A		A	00 44 12.8	
	comp=N,2.2nm,0.9s							
PMRV	**Marv??o**	**5.12**	**344**	P		**Pn**	**00 43 04.4**	**+1.2**
PMRV				S		**Sn**	**00 44 00.5**	**-1.4**
	comp=N,2.2nm,0.9s							
ESDC	**Sonseca Array**	**5.30**	**13**	S		**Sn**	**00 44 03.7**	**-2.9**
	comp=N,0.6nm,0.2s,baz=195,slow=23,SNR=6.4							
PCBR	**Castelo Branco**	**5.53**	**344**	*e*P		**Pn**	**00 43 10.1**	**+1.2**
PCBR				*e*S		**Sn**	**00 44 10.3**	**-1.8**
PCBR				A		A	00 44 11.1	
	comp=N,1.6nm,0.8s							
PCBR	**Castelo Branco**	**5.53**	**344**	P		**Pn**	**00 43 10.1**	**+1.2**
PCBR				S		**Sn**	**00 44 10.3**	**-1.8**
	comp=N,0.8nm,0.8s							
PTOM	**Tomar**	**5.58**	**337**	*e*S		**Sn**	**00 44 13.8**	**+0.5**
PTOM	**Tomar**	**5.58**	**337**	S		**Sn**	**00 44 13.8**	**+0.5**
MTE	**Manteigas**	**6.08**	**346**	*e*P		**Pn**	**00 43 17.6**	**+1.1**
MTE	**Manteigas**	**6.08**	**346**	P		**Pn**	**00 43 17.6**	**+1.1**
PVIS	**Viseu**	**6.46**	**344**	*e*P		**Pn**	**00 43 22.9**	**+1.2**
PVIS	**Viseu**	**6.46**	**344**	P		**Pn**	**00 43 22.9**	**+1.2**
MVO	**Moncorvo**	**6.74**	**350**	*e*P		**Pn**	**00 43 26.5**	**+1.0**
MVO				*e*S		**Sn**	**00 44 41.1**	**-0.8**
MVO	**Moncorvo**	**6.74**	**350**	P		**Pn**	**00 43 26.0**	**+0.5**
	comp=N,1.4nm,0.1s,SNR=7.9							
MVO				S		**Sn**	**00 44 38.0**	**-4.0**
	comp=N,1.8nm,0.3s,SNR=7.9							
ETOR	**Torete**	**6.88**	**23**	P		**Pn**	**00 43 27.3**	**-0.2**
	comp=N,2.4nm,0.4s,SNR=7.9							
ETOR				S		**Sn**	**00 44 41.4**	**-4.0**
	comp=N,2.7nm,0.3s,SNR=7.9							
PVRL	**Vila Real**	**6.96**	**346**	*e*P		**Pn**	**00 43 29.3**	**+0.8**
PVRL	**Vila Real**	**6.96**	**346**	P		**Pn**	**00 43 29.3**	**+0.8**
ECAL	**Calabor**	**7.47**	**353**	P		**Pn**	**00 43 36.0**	**+0.5**
	comp=N,2.0nm,0.4s,SNR=7.9							

IDC **12** *00:41:46.7±1.9, 18°.68N×68°.55W, h102km±24km, mb3.3/5, mb1 3.7/9, mb1mx3.4/44, mbtmp3.9/9, MS3.1/1, Ms1 3.1/1, ms1mx2.3/22, Error ellipse: s-maj=28.0km s-min=17.9km az=175.0*

ISCJB **12** *00:41:47.9±0.3, 18°.54N±0°.06×68°.35W±0°.02, h151km±3km, mb3.5/5, Error ellipse: s-maj=9.5km s-min=2.9km az=11.3*

NEIC **12** *00:41:48.6±1.5, 18°.53N±0°.07×68°.34W±0°.05, h152km±8km*

OSPL **12** *00:41:49.9±1.4, 18°.06N×68°.40W, h152km±10km, MD3.8, ML4.0*

RSPR **12** *00:41:49.6, 18°.53N×68°.21W, h157km±2km, MD3.8/13*

ISC 12 00:41:49.5±0.7, 18°.45N±0°.07×68°.38W±0°.03, h150km±6km, n88, σ1°34/116, mb3.5/5, 8C-16D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCDR	**Punta Cana, DR**	**0.06**	**355**	⇑*e*P		**Pn**	**00 42 09.4**	**-0.2**
PCDR	**Punta Cana, DR**	**0.06**	**355**	⇑*e*P		**Pn**	**00 42 09.4**	**-0.2**
PCDR	**Punta Cana, DR**	**0.06**	**355**	*i* P		**Pn**	**00 42 09.5**	**-0.2**
PCDR				*e*S		**Sn**	**00 42 25.1**	**+0.2**
PCDR				IAML			00 42 27.3	
	comp=Z,4μm,0.6s							
PCDR	**Punta Cana, DR**	**0.06**	**355**			**Pn**	**00 42 09.4**	**-0.2**
PCDR	**Punta Cana, DR**	**0.06**	**355**	Sn		**Sn**	**00 42 25.4**	**+0.4**
DR12	**Loma Pena Alta**	**1.01**	**289**	Pn		**Pn**	**00 42 13.7**	**-0.7**
MPR	**Mayaguez**	**1.20**	**101**	*i* P		**Pn**	**00 42 15.2**	**-0.8**
MPR				IAML			00 42 41.6	
	comp=Z,87nm,0.1s							
MPR	**Mayaguez**	**1.20**	**101**			**Pn**	**00 42 15.4**	**-0.7**
AGPR	**Aguadilla, PR**	**1.20**	**89**	⇓*e*P		**Pn**	**00 42 16.1**	**+0.1**
AGPR	**Aguadilla, PR**	**1.20**	**89**	⇓*e*P		**Pn**	**00 42 16.1**	**+0.1**
AGPR				*e*S		**Sn**	**00 42 36.4**	**0.0**
AGPR	**Aguadilla, PR**	**1.20**	**89**	*i* P		**Pn**	**00 42 16.0**	**0.0**
AGPR				*e*S		**Sn**	**00 42 36.8**	**+0.4**
AGPR				IAML			00 42 39.0	
	comp=Z,1μm,0.2s							
AGPR	**Aguadilla, PR**	**1.20**	**89**			**Sn**	**00 42 36.4**	**0.0**
AGPR	**Aguadilla, PR**	**1.20**	**89**			**Pn**	**00 42 15.9**	**-0.2**
LSP	**Las Mesas**	**1.26**	**103**	⇑*e*P		**Pn**	**00 42 15.9**	**-0.7**
LSP	**Las Mesas**	**1.26**	**103**	⇑*e*P		**Pn**	**00 42 15.9**	**-0.7**
LSP				*e*S		**Sn**	**00 42 36.6**	**-0.8**
LSP	**Las Mesas**	**1.26**	**103**			**Pn**	**00 42 15.9**	**-0.7**
LSP						**Sn**	**00 42 36.6**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.28**	**110**	⇓*e*P		**Pn**	**00 42 16.2**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.28**	**110**	⇓*e*P		**Pn**	**00 42 16.2**	**-0.6**
CRPR				*e*S		**Sn**	**00 42 37.3**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.28**	**110**			**Pn**	**00 42 15.7**	**-1.1**
CRPR						**Sn**	**00 42 33.7**	**-4.0**
MLPR	**Magueyes Islan**	**1.35**	**111**	⇓*e*P		**Pn**	**00 42 17.0**	**-0.6**
MLPR	**Magueyes Islan**	**1.35**	**111**	*e*S		**Sn**	**00 42 37.7**	**-1.3**
MLPR	**Magueyes Islan**	**1.35**	**111**			**Sn**	**00 42 37.7**	**-1.3**
MLPR	**Magueyes Islan**	**1.35**	**111**			**Pn**	**00 42 16.6**	**-1.0**
SDD	**Santo Domingo**	**1.46**	**270**	*i* P		**Pn**	**00 42 17.8**	**-0.9**
SDD				*e*S		**Sn**	**00 42 39.0**	**-2.0**
SDD				IAML			00 42 42.5	
	comp=Z,209nm,0.5s							
SDD	**Santo Domingo**	**1.46**	**270**			**Pn**	**00 42 18.0**	**-0.6**
GBPR	**Guanica, Bosqu**	**1.50**	**108**	⇓*e*P		**Pn**	**00 42 18.6**	**-0.5**
GBPR	**Guanica, Bosqu**	**1.50**	**108**	⇓*e*P		**Pn**	**00 42 18.6**	**-0.5**
GBPR				*e*S		**Sn**	**00 42 41.4**	**-0.3**
GBPR	**Guanica, Bosqu**	**1.50**	**108**			**Pn**	**00 42 18.6**	**-0.5**
GBPR						**Sn**	**00 42 41.4**	**-0.3**
AOPR	**Arecibo Observ**	**1.54**	**94**	⇓*e*P		**Pn**	**00 42 18.7**	**-0.8**
AOPR	**Arecibo Observ**	**1.54**	**94**	⇑*e*P		**Pn**	**00 42 18.7**	**-0.8**
AOPR				*e*S		**Sn**	**00 42 41.8**	**-0.8**
AOPR	**Arecibo Observ**	**1.54**	**94**	⇓*e*P		**Pn**	**00 42 18.7**	**-0.8**
AOPR				*e*S		**Sn**	**00 42 41.8**	**-0.8**
AOPR	**Arecibo Observ**	**1.54**	**94**			**Pn**	**00 42 18.7**	**-0.8**
AOPR	**Arecibo Observ**	**1.54**	**94**			**Sn**	**00 42 41.4**	**-1.2**
UUPR	**Utuado, UPR, P**	**1.58**	**97**			**Pn**	**00 42 19.3**	**-0.7**
UUPR						**Sn**	**00 42 42.7**	**-0.6**
OBIP	**Obispado Ponce**	**1.73**	**103**	⇓*e*P		**Pn**	**00 42 20.8**	**-0.8**
OBIP	**Obispado Ponce**	**1.73**	**103**	⇓*e*P		**Pn**	**00 42 20.8**	**-0.8**
OBIP				*e*S		**Sn**	**00 42 45.2**	**-0.9**
OBIP	**Obispado Ponce**	**1.73**	**103**			**Pn**	**00 42 20.8**	**-0.8**
OBIP						**Sn**	**00 42 45.2**	**-0.9**
ICMP	**Isla Caja de M**	**1.85**	**108**	⇓*e*P		**Pn**	**00 42 22.2**	**-0.7**
ICMP	**Isla Caja de M**	**1.85**	**108**	*e*S		**Sn**	**00 42 47.6**	**-0.9**
ICMP	**Isla Caja de M**	**1.85**	**108**			**Pn**	**00 42 22.2**	**-0.7**
ICMP						**Sn**	**00 42 47.6**	**-0.9**
BANI	**BANI**	**1.88**	**268**			**Pn**	**00 42 22.6**	**-0.8**
BANI						**Sn**	**00 42 47.9**	**-1.5**
BON1	**Bonao**	**1.98**	**285**	*i* P		**Pn**	**00 42 24.7**	**+0.4**
BON1				*e*S		**Sn**	**00 42 50.2**	**-0.9**
SJG	**San Juan**	**2.14**	**99**	P		**Pn**	**00 42 25.3**	**-1.0**
	comp=Z,22nm,0.3s,baz=268,slow=8.7,SNR=38							
SJG				S		**Sn**	**00 42 52.7**	**-1.9**
	comp=Z,28nm,0.3s,baz=303,slow=8.2,SNR=7.2							
SJG	**San Juan**	**2.14**	**99**			**Pn**	**00 42 25.1**	**-1.2**
GCPR	**Guaynabo City**	**2.18**	**93**	Pn		**Pn**	**00 42 25.1**	**-1.7**
IGPR	**InterUniversit**	**2.21**	**102**	⇓*e*P		**Pn**	**00 42 26.7**	**-0.4**
IGPR	**InterUniversit**	**2.21**	**102**	*e*S		**Sn**	**00 42 54.5**	**-1.5**
IGPR	**InterUniversit**	**2.21**	**102**			**Pn**	**00 42 26.6**	**-0.4**
PDPR	**Patillas Dam,**	**2.28**	**101**	⇓*e*P		**Pn**	**00 42 27.4**	**-0.5**
PDPR	**Patillas Dam,**	**2.28**	**101**	*e*S		**Sn**	**00 42 56.1**	**-1.4**
PDPR	**Patillas Dam,**	**2.28**	**101**			**Sn**	**00 42 56.1**	**-1.4**
PDPR	**Patillas Dam,**	**2.28**	**101**			**Pn**	**00 42 27.1**	**-0.8**
CBYP	**Canovanas**	**2.40**	**94**	⇑*e*P		**Pn**	**00 42 27.9**	**-1.6**
CBYP	**Canovanas**	**2.40**	**94**	⇑*e*P		**Pn**	**00 42 27.9**	**-1.6**
CBYP				*e*S		**Sn**	**00 42 58.2**	**-2.0**
CBYP	**Canovanas**	**2.40**	**94**			**Pn**	**00 42 27.9**	**-1.6**
CBYP						**Sn**	**00 42 58.2**	**-2.0**
HUMP	**Col San Antoni**	**2.42**	**97**	⇓*e*P		**Pn**	**00 42 28.4**	**-1.2**
HUMP	**Col San Antoni**	**2.42**	**97**	⇓*e*P		**Pn**	**00 42 28.4**	**-1.2**
HUMP				*e*S		**Sn**	**00 42 58.0**	**-2.5**
HUMP	**Col San Antoni**	**2.42**	**97**			**Pn**	**00 42 28.4**	**-1.2**
HUMP						**Sn**	**00 42 58.0**	**-2.5**
SC01	**Santiago de lo**	**2.43**	**294**	*i* P		**Pn**	**00 42 29.9**	**+0.1**
SC01				*e*S		**Sn**	**00 43 01.1**	**+0.4**
SC01				IAML			00 43 13.8	
	comp=Z,554nm,0.6s							
SC01	**Santiago de lo**	**2.43**	**294**			**Pn**	**00 42 29.7**	**-0.1**
LOBA1	**Barahona**	**2.59**	**263**	*i* P		**Pn**	**00 42 30.5**	**-1.3**
LOBA1				*e*S		**Sn**	**00 43 00.4**	**-4.0**
LOBA1				IAML			00 43 02.4	
	comp=Z,887nm,0.3s							
MTP	**Monte Pirata**	**2.71**	**97**			**Pn**	**00 42 32.7**	**-0.5**
SJM1	**San Juan de la**	**2.72**	**278**	*e*S		**Sn**	**00 43 05.5**	**-1.7**
SDDR	**Presa de Saban**	**2.81**	**281**	*i* P		**Pn**	**00 42 35.1**	**+0.5**
SDDR				*e*S		**Sn**	**00 43 07.5**	**-1.8**
SDDR				IAML			00 43 14.5	
	comp=Z,177nm,0.5s							
SDDR	**Presa de Saban**	**2.81**	**281**			**Pn**	**00 42 35.0**	**+0.5**
CUPR	**Culebra, Puert**	**2.94**	**92**	⇑*e*P		**Pn**	**00 42 34.9**	**-1.2**
CUPR	**Culebra, Puert**	**2.94**	**92**	*e*S		**Sn**	**00 43 09.5**	**-2.6**
CUPR	**Culebra, Puert**	**2.94**	**92**	Pn		**Pn**	**00 42 35.3**	**-0.8**
CUPR				Sn		**Sn**	**00 43 09.3**	**-2.8**
STVI	**Saint Thomas**	**3.25**	**91**			**Pn**	**00 42 39.0**	**-1.1**
CDVI	**St. Croix**	**3.50**	**101**	Pn		**Pn**	**00 42 40.9**	**-2.4**
CDVI				Pn		**Pn**	**00 42 41.9**	**-1.4**
ABVI	**Anegada Island**	**3.84**	**85**	Pn		**Pn**	**00 42 44.5**	**-3.2**
GRTK	**Grand Turk**	**4.00**	**320**			**Pn**	**00 42 48.5**	**-1.2**
GRTK						**Sn**	**00 43 33.3**	**-3.3**
LGNH	**Logne**	**4.01**	**271**	Pn		**Pn**	**00 42 50.0**	**+0.1**
LGNH				Sn		**Sn**	**00 43 35.8**	**-1.2**
SMRT	**St. Maarten**	**5.05**	**94**	Pn		**Pn**	**00 43 02.7**	**-1.0**
SKI	**Saint Kitts**	**5.48**	**101**	Pn		**Pn**	**00 43 07.0**	**-2.3**
SVB	**Belmont**	**8.57**	**126**	Pn		**Pn**	**00 43 49.8**	**-0.8**
PCRV	**Puerto La Cruz**	**8.99**	**156**	P		**Pn**	**00 43 57.4**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=352,slow=15,SNR=2.0							
SDV	**Santo Domingo**	**9.76**	**193**	P		**Pn**	**00 44 05.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=84,slow=6.6,SNR=4.0							
SDV	**Santo Domingo**	**9.76**	**193**	Pn		**Pn**	**00 44 06.0**	**-0.6**
ROSC	**El Rosal**	**14.72**	**204**	P		**Pn**	**00 45 12.0**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=42,slow=8.0,SNR=9.4							
ROSC	**El Rosal**	**14.72**	**204**	P		**P**	**00 45 13.1**	**0.0**
OTAV	**Otavalo**	**20.63**	**210**	P		**P**	**00 46 17.1**	**-0.7**
OTAV				IAmb		IAmb	00 46 24.4	
	comp=Z,6.0nm,1.1s							
ATAH	**Atahualpa**	**27.28**	**202**	LR		LR	00 59 17.0	
	comp=Z,40nm,18.8s,baz=20,slow=38							
TXAR	**Lajitas Array**	**33.91**	**295**	P		**P**	**00 48 18.2**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=106,slow=9.5,SNR=11							
NVAR	**Mina Array Bea**	**47.57**	**305**	P		**P**	**00 50 12.0**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=84,slow=9.2,SNR=4.3							
YKA	**Yellowknife Ar**	**54.30**	**336**	P		**P**	**00 50 59.4**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=112,slow=7.2,SNR=5.7							
DBIC	**Dimbokro**	**62.82**	**92**	P		**P**	**00 52 03.6**	**+3.9**
	comp=Z,1.4nm,0.8s,baz=263,slow=8.1,SNR=2.3							
ILAR	**Eielson Array**	**68.57**	**333**	P		**P**	**00 52 35.4**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=104,slow=5.6,SNR=4.7							

IDC **12** *00:46:42.0±0.7, 44°.12N×81°.58E, h0km, mb3.7/9, mb1 3.8/17, mb1mx3.7/44, mbtmp3.7/17, ML3.5/8, MS2.8/5, Ms1 2.8/5, ms1mx2.6/45, Error ellipse: s-maj=11.7km s-min=7.8km az=117.0*

NNC **12** *00:46:46.1±0.6, 44°.18N×81°.42E, h0km±4km, mb4.9, mpv4.7, Error ellipse: s-maj=5.7km s-min=2.8km az=128.0*

SOME **12** *00:46:46.9, 44°.15N×81°.38E, h15km, MS3.5*

BJI **12** *00:46:46.3±0.0, 44°.16N×81°.50E, h5km, mb4.3/3, mB4.2/1, ML4.0/9*

ISC 12 00:46:44.8±1.2, 44°.20N±0°.03×81°.72E±0°.03, h19km±4km, n95, σ1°55/135, mb3.5/9, 23C-11D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KTMS	**Ketmen**	**1.24**	**233**	*e*P		**Pn**	**00 47 06.9**	**-0.3**
	161nm,0.1s							
KTMS				*e*S		**Sb**	**00 47 22.0**	**-1.3**
	1μm,0.2s							
KTMS	**Ketmen**	**1.24**	**233**	P		**Pn**	**00 47 06.9**	**-0.3**
	153nm,0.1s							
KTMS				S		**Sb**	**00 47 21.6**	**-1.7**
	2μm,0.3s							
DJR	**Jarkent**	**1.39**	**276**	*e*P		**Pn**	**00 47 09.6**	**+0.4**
	244nm,0.2s							
DJR				*e*S		**Sn**	**00 47 26.3**	**-0.8**
	979nm,0.2s							
DJR	**Jarkent**	**1.39**	**276**	P		**Pn**	**00 47 09.7**	**+0.4**
	255nm,0.2s							
DJR				S		**Sn**	**00 47 26.3**	**-0.8**
	1μm,0.7s							
PDGK	**Podgornoye**	**1.83**	**242**	P		**Pb**	**00 47 16.9**	**-0.9**
	276nm,0.3s							
PDGK				S		**Sn**	**00 47 38.3**	**+0.3**
	805nm,0.3s							
PDGK	**Podgornoye**	**1.83**	**242**	⇑P		**Pn**	**00 47 15.9**	**+0.6**
	479nm,0.7s							
PDGK				⇑S		**Sn**	**00 47 38.3**	**+0.3**
	3μm,0.8s							
SHLS	**Shalkode**	**1.94**	**238**	*e*P		**Pn**	**00 47 15.3**	**-1.5**
	414nm,0.2s							
SHLS				*e*S		**Sn**	**00 47 35.6**	**-5.1**
	13μm,0.4s							
SHLS	**Shalkode**	**1.94**	**238**	P		**Pn**	**00 47 14.2**	**-2.6**
	711nm,0.2s							
SHLS				S		**Sn**	**00 47 34.5**	**-6.2**
	13μm,0.4s							
KAPS	**Kapalarasan**	**2.00**	**304**	⇓*i*P		**Pb**	**00 47 20.5**	**-0.1**
	135nm,0.4s							
KAPS				⇓*i*S		**Sb**	**00 47 44.9**	**-0.2**
	3μm,0.4s							
KAPS	**Kapalarasan**	**2.00**	**304**	P		**Pb**	**00 47 20.5**	**-0.1**
	236nm,0.4s							
KAPS				S		**Sb**	**00 47 44.9**	**-0.2**
	3μm,0.5s							
UZB	**Uzynbulak**	**2.22**	**243**	*e*P		**Pb**	**00 47 23.4**	**-1.0**
	125nm,0.3s							
UZB				*e*S		**Sn**	**00 47 49.4**	**+1.8**
	2μm,0.4s							
UZB	**Uzynbulak**	**2.22**	**243**	Pg		**Pb**	**00 47 23.3**	**-1.0**
	125nm,0.3s							
UZB				Lg		Lg	00 47 49.4	
	2μm,0.4s							
KPKS	**Kokpek**	**2.31**	**253**	*e*P		**Pb**	**00 47 25.2**	**-0.7**
	896nm,0.3s							
KPKS				*e*S		**Sb**	**00 47 52.5**	**-1.6**
	5μm,0.3s							
MNBS	**Baschi**	**2.39**	**268**	*e*P		**Pb**	**00 47 25.4**	**-1.8**
	160nm,0.3s							
MNBS				*e*S		**Sn**	**00 47 52.8**	**+1.0**
	1μm,0.3s							
MNBS	**Baschi**	**2.39**	**268**	Pg		**Pn**	**00 47 25.0**	**+2.0**
	160nm,0.3s							
MNBS				Lg		Lg	00 47 52.8	
	1μm,0.3s							
TDK	**Taldyqorghan**	**2.50**	**290**	*e*P		**Pb**	**00 47 28.8**	**-0.2**
	506nm,0.4s							
TDK				*e*S		**Sb**	**00 47 58.6**	**-0.7**
	6μm,0.7s							
TDK	**Taldyqorghan**	**2.50**	**290**	Pg		**Pb**	**00 47 28.4**	**-0.6**
	506nm,0.4s							
TDK				Lg		Lg	00 47 58.6	
	6μm,0.7s							
ZHN	**Zhinishke**	**2.59**	**248**	*e*P		**Pb**	**00 47 29.4**	**-1.2**
	290nm,0.6s							
ZHN				*e*S		**Sb**	**00 47 59.9**	**-2.4**
	745nm,0.2s							
ZHN	**Zhinishke**	**2.59**	**248**	Pg		**Pb**	**00 47 29.4**	**-1.2**
	290nm,0.6s							
ZHN				Lg		Lg	00 47 59.9	
	745nm,0.2s							
MAKZ	**Makanchi**	**2.62**	**4**	⇓Pn		**Pb**	**00 47 29.1**	**-1.9**
	13nm,0.8s							
MAKZ				⇑Pg		**Pg**	**00 47 36.0**	**+1.0**
	85nm,0.5s							
MAKZ				⇓Lg		Lg	00 48 08.2	
	358nm,0.5s							
MK31	**Makanchi Array**	**2.63**	**9**	⇑Pn		**Pb**	**00 47 29.5**	**-1.7**
	1.3nm,0.2s,baz=192,slow=15							
MK31				⇑Pg		**Pg**	**00 47 36.2**	**+1.0**
	39nm,0.3s,baz=197,slow=16							
MK31				⇑Lg		Lg	00 48 09.7	
	266nm,0.5s,baz=191,slow=27,SNR=22							
MKAR	**Makanchi Array**	**2.63**	**9**	Pn		**Pb**

	436nm,0.8s							
ZSN	**Zaisan**	**3.93**	**33**	Pg	**Pg**	**00 47 59.0**	**-1.0**
	67nm,0.5s							
ZSN				Lg	Lg	00 48 50.5		
	436nm,0.8s							
MTBS	**Maitube**	**3.98**	**256**	*e*P	**Pb**	**00 47 53.9**	**-0.5**
	214nm,0.3s							
MTBS				*e*S	**Sb**	**00 48 41.8**	**-0.3**
	643nm,0.4s							
MTBS	**Maitube**	**3.98**	**256**	Pg	**Pb**	**00 47 53.9**	**-0.5**
	214nm,0.3s							
MTBS				Lg	Lg	00 48 41.8		
	643nm,0.4s							
WMQ	**Urumqi**	**4.33**	**93**	*e*Pn	**Pb**	**00 47 56.0**	**-4.2**
WMQ				Sn	**Sb**	**00 48 54.2**	**+2.1**
KST	**Kastek**	**4.33**	**257**	*e*P	**Pb**	**00 48 02.0**	**+1.7**
	156nm,0.4s							
KST				*e*S	**Sb**	**00 48 55.5**	**+3.2**
	378nm,0.7s							
KST	**Kastek**	**4.33**	**257**	Pg	**Pb**	**00 48 01.5**	**+1.1**
	246nm,0.5s							
KST				Lg	Lg	00 48 55.5		
	378nm,0.7s							
DGS	**Degeres**	**4.41**	**260**	*e*P	**Pb**	**00 48 02.3**	**+0.6**
	102nm,0.4s							
DGS				*e*S	**Sb**	**00 48 56.5**	**+1.9**
	673nm,0.5s							
DGS	**Degeres**	**4.41**	**260**	Pg	**Pb**	**00 48 02.3**	**+0.6**
	223nm,0.4s							
DGS				Lg	Lg	00 48 56.5		
	673nm,0.5s							
ULHL	**Ulahol**	**4.45**	**246**	P	**Pn**	**00 47 52.6**	**+1.2**
	SNR=17							
TKM2	**Tokmak 2**	**4.63**	**256**	P	**Pn**	**00 47 54.5**	**+0.7**
	SNR=21							
TKM2	**Tokmak 2**	**4.63**	**256**	⇑Pn	**Pn**	**00 47 54.0**	**+0.2**
	7.1nm,0.4s							
TKM2				⇑Pg	**Pb**	**00 48 05.2**	**-0.2**
	99nm,0.5s							
TKM2				⇓Lg	Lg	00 49 07.1		
	313nm,0.8s							
KBK	**Karagaybulak**	**5.17**	**255**	P	**Pn**	**00 48 02.6**	**+1.5**
	SNR=46							
KZA	**Kyzart**	**5.18**	**248**	P	**Pn**	**00 48 03.9**	**+2.3**
	SNR=8.2							
CHMS	**Chumysh**	**5.20**	**259**	P	**Pn**	**00 48 02.1**	**+0.6**
	SNR=34							
USP	**Ospenovka**	**5.31**	**262**	P	**Pn**	**00 48 03.4**	**+0.4**
	SNR=54							
AAK	**Ala-Archa**	**5.49**	**256**	Pn	**Pn**	**00 48 07.1**	**+1.5**
	6.8nm,0.3s,baz=82,slow=9.1,SNR=98							
AAK				Pg	**Pb**	**00 48 21.1**	**+1.1**
	14nm,0.3s,baz=70,slow=6.0,SNR=30							
AAK				Lg	Lg	00 49 33.6		
	15nm,0.3s,baz=127,slow=20,SNR=9.5							
AAK				LR	LR	00 50 20.6		
	comp=Z,90nm,20.5s,baz=56,slow=41							
AAK	**Ala-Archa**	**5.49**	**256**	P	**Pn**	**00 48 06.6**	**+1.1**
	SNR=21							
AAK	**Ala-Archa**	**5.49**	**256**	⇑Pn	**Pn**	**00 48 06.4**	**+0.9**
	7.1nm,0.3s							
AAK				⇓Pg	**Pb**	**00 48 20.5**	**+0.5**
	105nm,0.5s							
AAK				⇑Lg	Lg	00 49 31.3		
	265nm,0.9s							
UCH	**Uchtor**	**5.62**	**252**	P	**Pn**	**00 48 09.7**	**+2.0**
	SNR=9.3							
EKS2	**Erkin-Say**	**5.98**	**258**	P	**Pn**	**00 48 13.3**	**+1.0**
	SNR=37							
AML	**Almayashu**	**6.22**	**253**	P	**Pn**	**00 48 17.5**	**+1.7**
	SNR=11							
SEM	**Semipalatinsk**	**6.29**	**351**	Pg	**Pg**	**00 48 43.5**	**-1.7**
	14nm,0.6s							
SEM				Lg	Lg	00 50 05.5		
	123nm,0.5s							
MRKS	**Merke**	**6.35**	**260**	Pg	**Pb**	**00 48 38.8**	**+4.2**
	49nm,0.5s							
MRKS				Lg	Lg	00 49 58.6		
	29nm,0.6s							
KURBB	**Kurchatov Arra**	**6.78**	**343**	Pn	**Pn**	**00 48 24.2**	**+1.1**
	0.6nm,0.3s,baz=165,slow=12,SNR=12							
KURBB				Sn	**Sn**	**00 49 39.9**	**+0.2**
	1.2nm,0.3s,baz=158,slow=23,SNR=6.5							
KURBB				Lg	Lg	00 50 17.6		
	2.5nm,0.3s,baz=161,slow=32,SNR=7.8							
KURBB	**Kurchatov Arra**	**6.78**	**343**	⇑Pn	**Pn**	**00 48 23.6**	**+0.5**
	15nm,0.5s							
KURBB				⇓Lg	Lg	00 50 19.2		
	302nm,0.6s							
KURK	**Kurchatov**	**6.85**	**343**	⇑Pn	**Pn**	**00 48 24.2**	**+0.1**
	7.0nm,0.4s							
KURK				⇑Lg	Lg	00 50 19.2		
	208nm,0.7s							
KK31	**Karatay Array**	**8.20**	**266**	⇓Pn	**Pn**	**00 48 42.9**	**+0.2**
	3.3nm,0.5s,baz=76,slow=14,SNR=23							
KK31				⇑Pg	**Pb**	**00 49 09.2**	**+3.1**
	6.3nm,0.5s,baz=74,slow=15,SNR=2.9							
KK31				⇓Lg	Lg	00 50 57.2		
	29nm,0.6s,baz=70,slow=26,SNR=10							
ZAA0	**Zalesovo Array**	**9.97**	**11**	⇑P	**Pn**	**00 49 08.3**	**+1.5**
	0.8nm,0.7s							
ZALV	**Zalesovo Beam**	**9.97**	**11**	Pn	**Pn**	**00 49 08.2**	**+1.4**
	1.2nm,0.3s,baz=196,slow=14,SNR=19							
ZALV				Sn	**Sn**	**00 50 56.2**	**-1.8**
	0.6nm,0.3s,baz=198,slow=18,SNR=2.8							
ZALV				Lg	Lg	00 52 01.0		
	1.1nm,0.3s,baz=199,slow=26,SNR=3.6							
ZALV				LR	LR	00 52 48.6		
	comp=Z,26nm,20.5s,baz=248,slow=36							
BVAR	**Borovoye Array**	**11.57**	**324**	Pn	**Pn**	**00 49 28.1**	**-0.6**
	0.1nm,0.3s,baz=135,slow=16,SNR=3.6							
BVAR				Lg	Lg	00 52 47.0		
	2.4nm,0.3s,baz=131,slow=32,SNR=8.3							
BRVK	**Borovoye**	**11.64**	**324**	⇓Pn	**Pn**	**00 49 30.1**	**+0.4**
	3.4nm,0.9s							
BRVK				⇑Lg	Lg	00 52 51.5		
	41nm,0.9s							
GTA	**Gaotai**	**14.32**	**103**	*e*P	**P**	**00 50 16.3**	**+2.8**
GTA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AB31	**Akbulak array**	**15.74**	**296**	⇑P	**Pn**	**00 50 20.9**	**-4.3**
	1.3nm,0.6s,baz=106,slow=7.1,SNR=11							
AKTO	**Aktyubinsk**	**17.20**	**300**	Pn	**Pn**	**00 50 40.7**	**-3.0**
	0.2nm,0.3s,baz=110,slow=15,SNR=2.7							
AKTO				Lg	Lg	00 55 44.4		
	0.2nm,0.3s,baz=153,slow=18,SNR=2.5							
AKTO	**Aktyubinsk**	**17.20**	**300**	⇑P	**P**	**00 50 45.9**	**+0.7**
	6.8nm,1.2s							
SONM	**Songino Array**	**17.50**	**69**	P	**P**	**00 50 50.7**	**+2.0**
	0.2nm,0.3s,baz=269,slow=12,SNR=2.9							
SONM				Lg	Lg	00 55 56.8		
	0.2nm,0.3s,baz=276,slow=30,SNR=2.6							
GEYT	**Alibeck**	**18.83**	**259**	P	**P**	**00 51 03.4**	**0.0**
	0.2nm,0.3s,baz=76,slow=8.0,SNR=7.9							
WSAR	**Wadi Sarin**	**28.21**	**230**	LR	LR	01 03 41.6		
	comp=Z,21nm,18.8s,baz=15,slow=36							
WHN	**Wuhan**	**29.09**	**107**	P	**P**	**00 52 44.2**	**+0.2**
KSRS	**Korea Array**	**35.23**	**85**	LR	LR	01 09 32.0		
	comp=Z,66nm,18.5s,baz=47,slow=39							
AKASG	**Malin Array Be**	**35.45**	**300**	P	**P**	**00 53 37.5**	**-1.9**
	0.2nm,0.3s,baz=69,slow=7.6,SNR=2.6							
BRTR	**Keskin Array B**	**35.62**	**280**	P	**P**	**00 53 39.9**	**-1.4**
	0.8nm,0.8s,baz=99,slow=7.5,SNR=4.9							
NOA	**NORSAR Array B**	**43.63**	**318**	P	**P**	**00 54 47.9**	**+0.3**
	0.2nm,0.5s,baz=67,slow=7.7,SNR=3.3							
PETK	**Petropavlovsk-**	**48.75**	**51**	P	**P**	**00 55 27.8**	**-0.1**
	5.4nm,1.0s,baz=321,slow=1.1,SNR=3.0							
YKA	**Yellowknife Ar**	**72.85**	**8**	P	**P**	**00 58 11.7**	**0.0**
	0.1nm,0.4s,baz=328,slow=5.6,SNR=2.9							
TORD	**Torodi Ar. Bea**	**73.83**	**273**	P	**P**	**00 58 18.0**	**-0.3**
	0.9nm,0.5s,baz=42,slow=5.2,SNR=22							
WRA	**Warramunga Arr**	**79.91**	**131**	P	**P**	**00 58 52.4**	**+0.1**
	0.2nm,0.7s,baz=333,slow=5.1,SNR=3.2							
ASAR	**Alice Springs**	**82.70**	**133**	P	**P**	**00 59 08.5**	**+1.4**
	0.1nm,0.3s,baz=330,slow=4.5,SNR=3.2							
DBIC	**Dimbokro**	**82.94**	**272**	P	**P**	**00 59 08.1**	**-0.5**
	2.4nm,0.8s,baz=9.9,slow=2.4,SNR=3.6							

ISCJB ***12*** *00:59:18.3±0.1, 47˚.089N±0˚.007×9˚.495E±0˚.009, h12km±1km, Error ellipse: s-maj=1.2km s-min=1.0km az=28.4*

VIE ***12*** *00:59:18.5±0.3, 47˚.06N×9˚.47E, h6km±2km, mb3.5/9, ml3.9/10, Error ellipse: s-maj=1.8km s-min=1.2km az=92.0 2 km ENE of Sargans*

IDC ***12*** *00:59:18.0±1.3, 47˚.15N×9˚.53E, h0km, mb3.4/1, mb1 3.8/8, mb1mx3.5/57, mbtmp3.7/8, ML4.1/5, MS2.7/3, Ms1 2.7/3, ms1mx2.5/31, Error ellipse: s-maj=13.2km s-min=7.0km az=96.0*

ZUR ***12*** *00:59:18.8, 47˚.06N×9˚.49E, h4km, MLh4.1/75, Error ellipse: s-maj=1.4km s-min=0.3km az=166.0*

ROM ***12*** *00:59:19.9±0.2, 47˚.02N±0˚.02×9˚.50E±0˚.01, h10km, ML3.6/60, Error ellipse: s-maj=2.0km s-min=1.0km az=352.0*

PRU ***12*** *00:59:19.4±0.0, 47˚.12N×9˚.51E, h9km*

LDG ***12*** *00:59:19.1±0.1, 47˚.07N×9˚.52E, h7km, Md4.1/2, Ml4.1/66, Error ellipse: s-maj=1.4km s-min=1.3km az=81.0*

NEIC ***12*** *00:59:19.1±2.5, 47˚.07N±0˚.03×9˚.48E±0˚.02, h7km±7km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=0.49; Mθθ=0.50; Mϕϕ=-0.01; Mrθ=0.07; Mrϕ=-3.57; Mθϕ=-0.76; Fault plane solution: M₀3.68000×10¹⁴ NP1:ϕ₁=88.02000°, δ=77.71000°, λ=-178.14000°. NP2:ϕ₂=357.62000°, δ=88.18000°, λ=-12.30000°. Principal axes: T 3.8979, Plg=7.0000°, Azm=43.0000°; N -0.4724, Plg=78.0000°, Azm=169.0000°; P -3.4255, Plg=10.0000°, Azm=312.0000°;*

STR ***12*** *00:59:19.6±0.6, 47˚.N±2˚×1˚.0E±˚, h17km±3km, MLv4.2/6*

BNS ***12*** *00:59:20.5±0.3, 47˚.08N×9˚.54E, h6km, ML3.7*

BGR ***12*** *00:59:20.1±0.5, 47˚.09N×9˚.50E, h10km, ML3.8/11, Error ellipse: s-maj=7.8km s-min=3.3km az=1.0*

BGR Felt in Vorarlberg. Felt also in Bregenz, mainly in upper floors.

ISC 12 00:59:18.6±0.6, 47˚.08N±0˚.01×9˚.46E±0˚.01, h10km±4km, n498, σ1°88/688, 47C-89D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SBUB	**Buchserberg Ma**	**0.07**	**344**	⇓Pg		**Pg**		**00 59 21.2**	**+0.3**
SBUB				Sg		**Sg**		**00 59 22.8**	**+0.2**
SBUA2	**Buchs, Altendo**	**0.08**	**5**	⇓Pg		**Pg**		**00 59 21.2**	**+0.3**
SBUA2				Sg		**Sg**		**00 59 22.8**	**+0.2**
SBUH	**Buchs, Hochsch**	**0.09**	**5**	⇓Pg		**Pg**		**00 59 21.5**	**+0.4**
SBUH				Sg		**Sg**		**00 59 23.6**	**+0.7**
LIENZ	**Kamor/St.Gall**	**0.22**	**6**	⇑Pg		**Pg**		**00 59 23.5**	**+0.3**
LIENZ				Sg		**Sg**		**00 59 27.2**	**+0.9**
LIENZ	**Kamor/St.Gall**	**0.22**	**6**	⇑Pg		**Pg**		**00 59 23.8**	**+0.7**
LIENZ				Sg		**Sg**		**00 59 27.1**	**+0.9**
SCUG	**Chur Gewerbesc**	**0.23**	**169**	⇓Pg		**Pg**		**00 59 23.6**	**+0.3**
SCUG				Sg		**Sg**		**00 59 27.1**	**+0.6**
SGT04	**Schlatt-Haslen**	**0.28**	**344**	⇓Pg		**Pg**		**00 59 25.2**	**+0.9**
SGT04				Sg		**Sb**		**00 59 30.1**	**-0.5**
SGT03	**Degersheim**	**0.34**	**328**	⇓Pg		**Pb**		**00 59 26.6**	**-0.2**
SGT03				Sg		**Sb**		**00 59 32.4**	**+0.1**
PANIX	**Pigniu (Panix)**	**0.35**	**223**	⇑Pg		**Pg**		**00 59 25.7**	**+0.1**
PANIX				Sg		**Sg**		**00 59 30.8**	**+0.6**
STGK	**St. Gallen Klo**	**0.35**	**351**	⇓Pg		**Pb**		**00 59 26.7**	**-0.3**
STGK				Sg		**Sb**		**00 59 32.5**	**-0.1**
SLTM2	**Linthal, Matt**	**0.35**	**244**	⇑Pg		**Pg**		**00 59 26.1**	**+0.5**
SLTM2				Sg		**Sg**		**00 59 31.3**	**+1.0**
DAVA	**Damuels**	**0.35**	**54**	⇑Pg		**Pg**		**00 59 25.6**	**-0.1**
DAVA	**Damuels**	**0.35**	**54**	⇑Pg		**Pg**		**00 59 25.6**	**-0.1**
DAVA				Sg		**Sg**		**00 59 31.4**	**+1.0**
DAVA	**Damuels**	**0.35**	**54**	*e*Pg		**Pg**		**00 59 25.6**	**-0.1**
	215nm,0.1s,SNR=487								
DAVA				*e*Sg		**Sg**		**00 59 31.0**	**+0.6**
	2µm,0.2s								
SGT00	**Sennhlsen**	**0.36**	**343**	⇓Pg		**Pb**		**00 59 26.9**	**-0.3**
SGT00				Sg		**Sb**		**00 59 32.9**	**+0.0**
SGT05	**Eggersriet**	**0.36**	**359**	⇓Pg		**Pb**		**00 59 26.9**	**-0.3**
SGT05				Sg		**Sb**		**00 59 32.8**	**-0.2**
SGT01	**Gaiserwald**	**0.36**	**345**	⇓Pg		**Pb**		**00 59 27.1**	**-0.2**
SGT01				Sg		**Sb**		**00 59 33.2**	**+0.1**
LLS	**Linth-Limmern**	**0.39**	**233**	⇑Pg		**Pg**		**00 59 26.5**	**+0.2**
SVAM	**Vaz, Muldain**	**0.39**	**173**	⇓Pg		**Pg**		**00 59 26.6**	**+0.3**
SVAM				Sg		**Sg**		**00 59 31.9**	**+0.5**
DAVOX	**Davos/Dischmat**	**0.41**	**136**	⇓Pg		**Pg**		**00 59 26.7**	**-0.1**
DAVOX	**Davos/Dischmat**	**0.41**	**136**	Pg		**Pg**		**00 59 26.7**	**-0.1**
	92nm,0.3s,baz=309,slow=18,SNR=1446								
DAVOX				Lg		Lg		00 59 32.4	
	213nm,0.3s,baz=198,slow=19,SNR=71								
DAVOX				LR		LR		00 59 46.6	
	comp=Z,247nm,18.1s,baz=222,slow=65								
DAVOX	**Davos/Dischmat**	**0.41**	**136**	P		**Pg**		**00 59 26.7**	**-0.1**
DAVOX				S		**Sg**		**00 59 32.4**	**+0.1**
DAVOX				AML		AML			
	comp=N,3960µm,0.5s								
DAVOX				AML		AML			
	comp=N,3960µm,0.5s								
DAVOX				AML		AML			
	comp=E,2340µm,0.6s								
SGT02	**Zihlschlacht**	**0.46**	**342**	⇓Pg		**Pb**		**00 59 28.7**	**-0.1**
SGT02				Sg		**Sb**		**00 59 35.9**	**+0.2**
WILA	**Wila**	**0.50**	**312**	⇓Pg		**Pb**		**00 59 29.8**	**+0.2**
WILA				Sg		**Sb**		**00 59 37.6**	**+0.5**
WILA	**Wila**	**0.50**	**312**	*e*Pg		**Pb**		**00 59 29.8**	**+0.2**
WILA				*e*Sg		**Sb**		**00 59 37.6**	**+0.5**
WEIN	**Weingarten**	**0.55**	**324**	⇓Pg		**Pb**		**00 59 30.6**	**+0.2**
MUO	**Muotathal**	**0.57**	**259**	⇑Pg		**Pg**		**00 59 30.5**	**+0.7**
MUO				Sg		**Sg**		**00 59 38.9**	**+1.5**
SALTS	**Altdorf, Kanto**	**0.60**	**251**	⇑Pg		**Pg**		**00 59 30.6**	**+0.4**
VDL	**Val di Lei**	**0.60**	**181**	⇑Pg		**Pg**		**00 59 30.4**	**+0.1**
VDL				Sg		**Sg**		**00 59 38.0**	**-0.1**
TUE	**Stuetta**	**0.61**	**187**	⇑Pg		**Pg**		**00 59 30.6**	**+0.1**
TUE				Sg		**Sg**		**00 59 38.5**	**-0.2**
TUE	**Stuetta**	**0.61**	**187**	P		**Pg**		**00 59 30.7**	**+0.1**
TUE				S		**Sg**		**00 59 38.4**	**-0.2**
TUE				AML		AML			
	comp=N,1655µm,0.6s								
TUE				AML		AML			
	comp=N,1650µm,0.6s								
TUE				AML		AML			
	comp=E,3935µm,0.5s								
TUE				AML		AML			
	comp=E,2920µm,0.5s								
TUE				AML		AML			
	comp=N,2045µm,0.6s								
TUE	**Stuetta**	**0.61**	**187**			**Pg**		**00 59 30.6**	**+0.1**
TUE						**Sg**		**00 59 37.2**	**-1.4**
SCEL	**Celerina**	**0.63**	**155**	⇓Pg		**Pg**		**00 59 30.8**	**-0.1**
SCUC	**Scuol-Clozza**	**0.64**	**116**	⇓Pg		**Pg**		**00 59 30.7**	**-0.3**
OBER	**Oberstdorf**	**0.66**	**60**	*e*Pg		**Pg**		**00 59 31.4**	**+0.1**
ZUR	**Degenried**	**0.67**	**296**	⇓Pg		**Pb**		**00 59 32.7**	**+0.4**
ZUR				Sg		**Sb**		**00 59 42.6**	**+0.9**
NALPS	**Val Nalps**	**0.69**	**226**	⇑Pg		**Pg**		**00 59 32.3**	**+0.4**
NALPS				Sg		**Sg**		**00 59 41.2**	**+0.2**
STIEG	**Stiegenhof Hun**	**0.69**	**308**	⇓Pg		**Pb**		**00 59 33.1**	**+0.4**
STIEG				PmP				00 59 35.7	
STIEG				Sg		**Sb**		**00 59 43.1**	**+0.8**
STIEG				SmS				00 59 47.2	
SISB	**Singen-Schiene**	**0.69**	**331**	⇓Pg		**Pb**		**00 59 33.2**	**+0.4**
SISB				PmP				00 59 35.7	
SISB				Sg		**Sb**		**00 59 43.6**	**+1.2**
SISB				SmS				00 59 47.5	
SZUZ	**Zrich, Zeugha**	**0.70**	**295**	⇓Pg		**Pb**		**00 59 33.4**	**+0.5**
SZUZ				PmP				00 59 36.0	
SZUZ				Sg		**Sb**		**00 59 43.8**	**+1.1**
EWZT2	**Wettswil, ZR**	**0.71**	**292**	⇓Pg		**Pb**		**00 59 33.6**	**+0.5**
EWZT2				Sg		**Sb**		**00 59 44.0**	**+1.1**
WALHA	**Wallhausen, DE**	**0.71**	**341**	⇓Pg		**Pb**		**00 59 33.5**	**+0.4**
WALHA				PmP				00 59 35.8	
WALHA				Sg		**Sb**		**00 59 43.9**	**+0.9**
WALHA	**Wallhausen, DE**	**0.71**	**341**	⇓Pg		**Pb**		**00 59 33.5**	**+0.4**
WALHA				PmP				00 59 35.8	
WALHA				Sg		**Sb**		**00 59 44.0**	**+1.0**
WALHA				SmS				00 59 47.5	
STEIN	**Stein am Rhein**	**0.71**	**326**	⇓Pg		**Pb**		**00 59 33.6**	**+0.5**
FUORN	**Ofenpass-Fuorn**	**0.72**	**130**	⇓Pg		**Pg**		**00 59 32.1**	**-0.4**
FUORN	**Ofenpass-Fuorn**	**0.72**	**130**	P		**Pg**		**00 59 32.1**	**-0.4**
FUORN				S		**Sg**		**00 59 42.4**	**+0.5**
FUORN				AML		AML			
	comp=N,1050µm,0.5s								
FUORN				AML		AML			
	comp=E,1505µm,0.6s								
FUORN	**Ofenpass-Fuorn**	**0.72**	**130**			**Pg**		**00 59 32.0**	**-0.4**
FUORN						**Sg**		**00 59 40.0**	**-1.9**
BNALP	**Bannalp**	**0.74**	**254**	⇑Pg		**Pg**		**00 59 33.3**	**+0.4**
BNALP	**Bannalp**	**0.74**	**254**	P		**Pg**		**00 59 33.4**	**+0.4**
BNALP				S		**Sg**		**00 59 43.5**	**+1.0**
BNALP				AML		AML			
	comp=E,13550µm,0.4s								
BNALP				AML		AML			
	comp=E,13550µm,0.3s								
BNALP				AML		AML			
	comp=N,8410µm,0.4s								
UBR	**Ueberruh**	**0.74**	**36**	⇑Pg		**Pb**		**00 59 33.8**	**0.0**
UBR				PmP				00 59 36.4	
UBR	**Ueberruh**	**0.74**	**36**	*e*Pg		**Pb**		**00 59 33.9**	**+0.1**
UBR				PmP				00 59 36.4	
BERNI	**Berninapass**	**0.77**	**150**	⇓Pg		**Pg**		**00 59 33.2**	**-0.3**
BERNI	**Berninapass**	**0.77**	**150**	P		**Pg**		**00 59 33.2**	**-0.3**
BERNI				AML		AML			
	comp=E,890µm,0.8s								
BERNI				AML		AML			
	comp=N,1020µm,1.6s								
TRULL	**Truellikon**	**0.78**	**317**	⇓Pg		**Pb**		**00 59 34.8**	**+0.5**
TRULL				PmP				00 59 36.9	
FLACH	**Flaach**	**0.78**	**309**	⇓Pg		**Pb**		**00 59 34.8**	**+0.5**
FLACH				PmP				00 59 37.1	
FLACH				Sg		**Sb**		**00 59 46.3**	**+1.3**
FLACH				SmS				00 59 49.4	
SLUW	**Luzern Werkhof**	**0.78**	**268**	⇑Pg		**Pb**		**00 59 35.0**	**+0.7**
SLUB	**Luzern Bramber**	**0.79**	**269**	⇑Pg		**Pb**		**00 59 35.1**	**+0.6**
SLUB				Sg		**Sb**		**00 59 46.3**	**+1.1**
SLUB				SmS				00 59 50.7	
FUSIO	**Fusio**	**0.83**	**222**	⇑Pg		**Pg**		**00 59 35.0**	**+0.3**
FUSIO				Sg		**Sg**		**00 59 45.8**	**+0.3**
FUSIO	**Fusio**	**0.83**	**222**	P		**Pg**		**00 59 35.0**	**+0.3**
FUSIO				S		**Sg**		**00 59 45.7**	**+0.2**
FUSIO				AML		AML			
	comp=N,5295µm,1.1s								
FUSIO				AML		AML			
	comp=E,6570µm,0.9s								
SCHS	**Schaffhausen,**	**0.84**	**319**	⇓Pg		**Pb**		**00 59 35.9**	**+0.5**
SARK	**Sarnen Kantons**	**0.85**	**258**	⇑Pg		**Pg**		**00 59 35.6**	**+0.6**
FETA	**Feichten**	**0.87**	**93**	*e*Pg		**Pg**		**00 59 35.0**	**-0.3**
	SNR=56								
FETA				*i* Sg		**Sb**		**00 59 47.5**	**-0.1**
BRMO	**Bormio**	**0.87**	**134**	⇓Pg		**Pg**		**00 59 34.5**	**-0.9**
BRMO	**Bormio**	**0.87**	**134**	P		**Pg**		**00 59 34.7**	**-0.7**
BRMO				AML		AML			
	comp=E,490µm,1.4s								
BRMO				AML		AML			
	comp=N,460µm,0.6s								
MOSI	**Grossmontoni**	**0.88**	**121**	⇓Pg		**Pg**		**00 59 35.0**	**-0.6**
MOSI	**Grossmontoni**	**0.88**	**121**	P		**Pg**		**00 59 35.0**	**-0.6**
MOSI				AML		AML			
	comp=E,3660µm,0.8s								
MOSI				AML		AML			
	comp=N,5130µm,0.7s								
EMING	**Emmingen-Lipti**	**0.92**	**333**	⇓Pg		**Pb**		**00 59 37.1**	**+0.5**
EMING	**Emmingen-Lipti**	**0.92**	**333**	⇓Pg		**Pb**		**00 59 37.1**	**+0.5**
EMING				PmP				00 59 38.4	
EMING				SmS				00 59 52.4	
GRIMS	**Grimsel Gerste**	**0.93**	**238**	⇑Pg		**Pg**		**00 59 36.8**	**+0.3**
SLE	**Schleitheim**	**0.95**	**316**	⇓Pg		**Pb**		**00 59 37.7**	**+0.5**
SLE				PmP				00 59 39.2	
SLE				Sg		**Sb**		**00 59 50.7**	**+0.9**
SLE	**Schleitheim**	**0.95**	**316**	*e*Pg		**Pb**		**00 59 37.8**	**+0.6**
SLE				PmP				00 59 39.2	
SLE				SmS				00 59 53.5	
HASLI	**Hasliberg/Brie**	**0.95**	**251**	⇑Pg		**Pg**		**00 59 37.1**	**+0.2**
ACHB	**Acheberg**	**0.96**	**302**	⇓Pg		**Pb**		**00 59 38.1**	**+0.7**
ACHB				PmP				00 59 39.7	
ACHB				Sg		**Sb**		**00 59 51.4**	**+1.2**
ACHB				SmS				00 59 53.8	
RETA	**Reutte**	**0.97**	**65**	⇑Pg		**Pg**		**00 59 37.0**	**-0.4**
RETA				PmP				00 59 39.6	
RETA				SmS				00 59 54.8	
RETA	**Reutte**	**0.97**	**65**	*e*Pg		**Pg**		**00 59 37.0**	**-0.4**
	comp=N,167nm,0.2s,SNR=126								
RETA				*e*Sg		**Sn**		**00 59 52.6**	**+0.2**
	comp=N,615nm,0.4s								
DAGMA	**Lutertal, Dagm**	**1.00**	**279**	⇓Pg		**Pb**		**00 59 38.8**	**+0.8**
DAGMA				Sg		**Sn**		**00 59 52.8**	**-0.1**
GUT	**Gutenstein**	**1.02**	**347**	⇓Pg		**Pb**		**00 59 38.8**	**+0.4**
GUT	**Gutenstein**	**1.02**	**347**	⇓Pg		**Pb**		**00 59 38.8**	**+0.4**
GUT				PmP				00 59 40.1	
GUT				SmS				00 59 54.9	
SULZ	**Cheisacher**	**1.02**	**296**	⇓Pg		**Pn**		**00 59 39.3**	**+0.2**
SULZ				PmP				00 59 40.4	
SULZ	**Cheisacher**	**1.02**	**296**	*e*Pg		**Pn**		**00 59 39.3**	**+0.2**
SULZ				PmP				00 59 40.4	
SULZ				Sg		**S

LAUCH	Lauchernalp	1.34	241	⇑Pg		Pb		00 59 44.3	+0.4
SRER	Reinach, Raine	1.34	289	⇓Pn		Pb		00 59 44.5	+0.7
SRHB	Riehen-Baumlih	1.34	292	⇓Pn		Pb		00 59 44.5	+0.7
SVIT	Visp-Terbiners	1.34	234	⇑Pg		Pb		00 59 44.3	+0.4
ROSI	Rosskopf	1.34	96	P		Pb		00 59 43.8	-0.2
ROSI	comp=E,5740µm,0.4s			AML	AML				
ROSI	comp=N,6135µm,0.9s			AML	AML				
SVIO	Visp Obere Sta	1.34	235	⇑Pg		Pb		00 59 44.3	+0.4
APPI	Appiano	1.35	116	P		Pn		00 59 43.7	+0.1
APPI	comp=N,3940µm,0.8s			AML	AML				
APPI	comp=E,1905µm,0.8s			AML	AML				
APPI	comp=N,3935µm,0.8s			AML	AML				
SBIS2	Binningen	1.36	291	⇓Pn		Pb		00 59 44.8	+0.7
KIZ	Kirchzarten	1.36	311	Pg		Pg		00 59 45.7	+0.9
KIZ				Sg		Sg		01 00 03.9	+1.4
KIZ	Kirchzarten	1.36	311	⇓Pn		Pn		00 59 44.3	+0.6
KIZ				PmP				00 59 45.8	
KIZ				Sg		Sg		01 00 04.0	+1.6
KIZ	Kirchzarten	1.36	311	Pn		Pn		00 59 44.3	+0.6
MATTE	Schuetzenmatte	1.37	291	⇓Pn		Pb		00 59 44.8	+0.4
BUCH	Bad Urach	1.37	357	⇓Pn		Pn		00 59 44.1	+0.2
BUCH				PmP				00 59 46.0	
BUCH				SmS				01 00 04.6	
BOSI	Bolzano	1.40	114	AML	AML				
BOSI	comp=N,7735µm,0.8s			AML	AML				
BOSI	comp=E,5725µm,0.9s			AML	AML				
EMBD	Embd, Matterta	1.42	233	⇑Pn		Pb		00 59 45.4	+0.2
FBB	Freiburg im Br	1.43	311	Pn		Pn		00 59 45.2	+0.7
FBB				PmP				00 59 46.7	
FBB				Sg		Sg		01 00 05.6	+1.1
SGNA	Graechen Ausbl	1.43	232	⇑Pn		Pb		00 59 45.7	+0.3
GAGG	Gaggia	1.44	133	*e*Pg		Pb		00 59 45.3	-0.2
LKBD	Leukerbad	1.44	242	⇑Pn		Pb		00 59 46.2	+0.6
KOSI	Kohlern	1.46	114	P		Pb		00 59 45.9	+0.1
KOSI	comp=E,2110µm,1.1s			AML	AML				
KOSI	comp=N,3170µm,1.2s			AML	AML				
MMK	Mattmark	1.46	226	⇑Pn		Pb		00 59 46.1	+0.1
MMK	Mattmark	1.46	226	P		Pb		00 59 46.1	+0.1
MMK	comp=E,1800µm,0.3s			AML	AML				
MMK	comp=N,3080µm,0.6s			AML	AML				
MMK	Mattmark	1.46	226			Pb		00 59 46.1	+0.1
WATA	Walderalm	1.46	79	*e*Pn		Pb		00 59 45.7	-0.3
WATA	comp=N,7.7nm,0.4s,SNR=107			*i* Sg		Sg		01 00 06.7	+1.0
BFO	comp=N,251nm,0.3s								
BFO	Black Forest	1.47	329	⇓Pn		Pn		00 59 45.7	+0.5
BFO	Black Forest	1.47	329	*e*Pn		Pn		00 59 45.7	+0.5
BFO				Pg		Pg		00 59 47.2	+0.5
BFO				*e*Sg		Sg		01 00 06.9	+1.2
BFO	Black Forest	1.47	329			Pn		00 59 45.7	+0.5
BFO						Sn		01 00 02.2	-2.2
BFO	Black Forest	1.47	329	Pn		Pn		00 59 45.6	+0.5
TUBL	Tuebingen-Lenn	1.47	350	⇓Pn		Pn		00 59 45.2	+0.1
TUBL				PmP				00 59 47.5	
TUBL				Sn		Sn		01 00 03.5	-0.9
TUBL				Sg		Sg		01 00 06.5	+0.7
WTTA	Wattenberg	1.50	82	Pn		Pb		00 59 46.3	-0.3
WTTA	Wattenberg	1.50	82	P		Pb		00 59 46.4	-0.1
WTTA	comp=N,1470µm,1.6s			AML	AML				
WTTA	comp=E,1485µm,0.7s			AML	AML				
WTTA	Wattenberg	1.50	82	Pn		Pb		00 59 46.3	-0.3
WTTA	comp=E,101nm,0.2s,SNR=130			*e*Sg		Sg		01 00 08.6	+1.9
MAGA	comp=E,334nm,0.3s								
MAGA	Magasa	1.54	148	P		Pb		00 59 47.2	0.0
MAGA	comp=N,2560µm,0.5s			AML	AML				
MAGA	comp=E,5575µm,1.6s			AML	AML				
BOURR	Bourrignon	1.55	282	⇓Pn		Pb		00 59 47.4	-0.1
BOURR	Bourrignon	1.55	282	⇓Pn		Pb		00 59 47.4	-0.1
BOURR				Pg		Pg		00 59 49.5	+1.1
BOURR				Sg		Sg		01 00 10.1	+1.6
BOURR	Bourrignon	1.55	282	Pn		Pb		00 59 47.4	-0.1
BOURR				Pg		Pg		00 59 49.5	+1.1
VANNI	Vissoie, Val d	1.55	237	⇑Pn		Pb		00 59 48.1	+0.6
STAF	Tafers	1.56	261	⇓Pn		Pb		00 59 48.0	+0.4
HDH	Heidenheim-Cha	1.59	18	⇑Pn		Pn		00 59 46.4	-0.4
HDH				Sg		Sg		01 00 10.2	+0.6
BRES	Bressanone	1.60	103	AML	AML				
BRES	comp=E,2265µm,0.9s			AML	AML				
BRES	comp=N,3070µm,0.8s			AML	AML				
SCOU	Cournillens	1.63	263	⇓Pn		Pb		00 59 48.9	+0.1
SATI	Passo dei Sala	1.63	223	P		Pn		00 59 48.6	+0.8
SATI				S		Sb		01 00 10.3	+0.6
SATI	Passo dei Sala	1.63	223	Pn		Pn		00 59 48.5	+0.8
SATI	Passo dei Sala	1.63	223	AML	AML				
SATI	comp=E,3190µm,0.4s			AML	AML				
SATI	comp=N,1595µm,0.9s			AML	AML				
SALO	Salr	1.64	153	Pn		Pb		00 59 49.1	+0.2
SALO	Salr	1.64	153	P		Pb		00 59 49.1	+0.2
SALO	comp=E,1870µm,0.6s			AML	AML				
SALO	comp=N,2065µm,1.0s			AML	AML				
SALO	Salr	1.64	153			Pb		00 59 49.3	+0.4
FUR	Furstenfeldbru	1.64	48	*e*Pn		Pn		00 59 48.2	+0.7
LBG	Lerchenberg	1.65	344	⇓Pn		Pn		00 59 47.9	+0.3
LBG				PmP				00 59 54.8	
LBG				Sg		Sg		01 00 12.3	+0.8
SENIN	Lac Senin/Sane	1.65	245			Pb		00 59 49.8	+0.6
PANI	Panarotta	1.65	128	*e*Pg		Pb		00 59 49.6	+0.3
OPP	Oppenau	1.66	329	⇓Pn		Pn		00 59 48.3	+0.5
SIOO	Sion-Ophtalmol	1.66	240	Pn		Pg		00 59 50.5	0.0
BALD	Monte Baldo	1.68	146	*e*Pg		Pb		00 59 50.0	+0.2
BALD				*e*Sg		Sg		01 00 13.2	+0.5
DOSS	Dosso del Somm	1.69	135	*e*Pg		Pb		00 59 50.1	+0.2
STU	Stuttgart	1.70	354	*e*Pn		Pn		00 59 48.4	+0.1
STU				Sg		Sg		01 00 13.9	+0.6
STU	Stuttgart	1.70	354			Pn		00 59 48.7	+0.3
STU						Sn		01 00 09.2	-1.0
DIX	Grande Dixence	1.73	236	⇑Pn		Pb		00 59 51.1	+0.4
DIX	Grande Dixence	1.73	236	P		Pb		00 59 51.2	+0.5
DIX	comp=N,3595µm,0.3s			AML	AML				
DIX	comp=N,3595µm,0.3s			AML	AML				
DIX	comp=E,3615µm,0.3s			AML	AML				
DIX	Grande Dixence	1.73	236	Pn		Pb		00 59 51.1	+0.4
MOF	Molkenrain	1.76	297	Pn		Pn		00 59 49.9	+0.7
MOF				Sg		Sg		01 00 15.6	+0.5
MOF	Molkenrain	1.76	297	⇓Pn		Pn		00 59 50.1	+0.9
RISI	Rein	1.80	93	⇑Pn		Pb		00 59 52.2	+0.5
RISI	Rein	1.80	93	P		Pb		00 59 51.7	0.0
RISI	comp=E,2890µm,1.5s			AML	AML				
RISI	comp=N,7545µm,0.4s			AML	AML				
RISI	Rein	1.80	93	*e*Pg		Pg		00 59 52.3	-0.7
LOMF	Lomont	1.82	280	Pn		Pn		00 59 51.2	+1.1
LOMF				Sg		Sg		01 00 18.7	+1.7
LOMF	Lomont	1.82	280	⇓Pn		Pn		00 59 51.1	+1.1
ROVR	Rover Verones	1.82	142	P		Pb		00 59 52.4	+0.4
ROVR	comp=N,941µm,0.5s			AML	AML				
ROVR	comp=E,341µm,0.6s			AML	AML				
ROVR	comp=N,374µm,0.9s			AML	AML				
ROVR	comp=E,908µm,0.6s			AML	AML				
NORI	Noerdlinger Ri	1.82	25	*e*Pn		Pn		00 59 49.4	-0.5
NORI				*e*Sg		Sg		01 00 17.6	+0.5
GRYON	Gryon	1.82	244	Pn		Pb		00 59 51.8	-0.2
CTI	Castel Tesino	1.83	124	Pn		Pn		00 59 49.8	-0.4
CTI						Sn		01 00 10.8	-2.7
MARN	Marana (Italy)	1.88	139	*e*Pg		Pb		00 59 53.1	0.0
HINF	Hinteralfeld	1.92	294	*e*P		Pn		00 59 52.0	+0.6
HINF	Hinteralfeld	1.92	294	*e*Pg		Pg		00 59 55.7	+0.4
HINF				*e*Sn		Sn		01 00 13.6	-2.0
HINF	comp=E,213nm,0.2s			*e*Sg		Sg		01 00 20.5	+0.3
HINF	comp=E,465nm,0.2s								
CHMF	Charmoille	1.92	276	Pn		Pn		00 59 52.5	+1.0
CHMF				Sg		Sg		01 00 21.7	+1.2
CHMF	Charmoille	1.92	276	⇓Pn		Pn		00 59 52.4	+1.0
CHMF	Charmoille	1.92	276	Pn		Pn		00 59 52.4	+1.0
CHMF				Pg		Pg		00 59 56.0	+0.5
ECH	Echery	1.93	307	Pn		Pn		00 59 52.1	+0.6
ECH	Echery	1.93	307	⇓Pn		Pn		00 59 52.1	+0.6
ECH	Echery	1.93	307	⇓Pn		Pn		00 59 52.1	+0.6
ECH				Pg		Pg		00 59 55.8	+0.2
ECH	Echery	1.93	307			Pn		00 59 52.3	+0.8
ECH						Sn		01 00 13.5	-2.3
ECH	Echery	1.93	307	Pn		Pn		00 59 52.2	+0.8
FAU	Forcella Aurin	1.93	115	*e*Pn		Pb		00 59 54.1	+0.1
AFL	Alpe Faloria	1.95	105	*e*Pn		Pb		00 59 54.3	0.0
WLS	Welschbruch	1.95	314	Pn		Pn		00 59 52.8	+1.0
WLS				Sn		Sn		01 00 16.5	+0.1
WLS	Welschbruch	1.95	314	⇓Pn		Pn		00 59 52.6	+0.8
WLS				Pg		Pg		00 59 56.5	+0.6
TRAV	Traversella	1.97	218	P		Pn		00 59 52.9	+0.8
TRAV	comp=E,2485µm,0.6s			AML	AML				
TRAV	comp=N,1755µm,0.8s			AML	AML				
TRAV	Traversella	1.97	218	Pg		Pb		00 59 55.6	+1.1
CIRO	Champorcher	1.98	222	AML	AML				
CIRO	comp=E,1012µm,0.4s			AML	AML				
CIRO	comp=N,1190µm,1.5s			AML	AML				
CDF	Champ du Feu	1.99	313	*e*P		Pn		00 59 53.1	+0.7
CDF	Champ du Feu	1.99	313	*e*Pg		Pg		00 59 57.4	+0.7
CDF				*e*Sn		Sn		01 00 15.7	-1.7
CDF				*e*Sg		Sg		01 00 22.8	+0.3
CDF	comp=N,521nm,0.3s								
BRET	Bretten	2.00	345	⇓Pn		Pn		00 59 52.9	+0.4
CGRP	Cima Grappa	2.01	126	Pn		Pb		00 59 55.9	+0.5
CGRP	Cima Grappa	2.01	126	P		Pb		00 59 55.9	+0.5
CGRP	comp=E,1135µm,1.4s			AML	AML				
CGRP	comp=N,1310µm,0.9s			AML	AML				
REMY	Saint-Rhmy-en	2.02	233	P		Pb		00 59 55.8	+0.2
REMY	comp=N,3745µm,0.5s			AML	AML				
REMY	comp=E,3320µm,0.9s			AML	AML				
BRANT	Les Verrieres	2.05	267	⇓Pn		Pn		00 59 54.5	+1.2
BRANT	Les Verrieres	2.05	267	Pn		Pn		00 59 54.4	+1.2
MRGE	Morge	2.12	233	Pn		Pb		00 59 57.0	-0.2
MRGE	Morge	2.12	233	AML	AML				
MRGE	comp=N,1615µm,0.3s			AML	AML				
MRGE	comp=E,2060µm,0.5s			AML	AML				
ABTA	Abfaltersbach	2.12	98	*e*Pn		Pb		00 59 57.3	+0.2
SUBF	comp=E,41nm,0.3s,SNR=64								
SUBF	Surbourg	2.13	330	Pn		Pn		00 59 55.4	+1.1
SUBF				Sn		Sn		01 00 20.2	-0.5
LANF	Langenberg	2.20	330	Pn		Pn		00 59 56.3	+1.0
LANF	Langenberg	2.20	330	⇓Pn		Pn		00 59 56.1	+0.8
LANF				PmP				01 00 03.4	
GIMEL	St. Georges /	2.26	257	⇓Pn		Pn		00 59 57.3	+1.2
GIMEL	St. Georges /	2.26	257	AML	AML				
GIMEL	comp=E,1825µm,1.1s			AML	AML				
GIMEL	comp=N,2505µm,0.5s			AML	AML				
SIND	Sindeldorf	2.27	2	Pn		Pn		00 59 55.5	-0.7
SIND				Sn		Sn		01 00 23.7	-0.5
SIND				Sg		Sg		01 00 32.0	+0.4
MONC	Moncucco Torin	2.27	209	AML	AML				
MONC	comp=E,1245µm,0.8s			AML	AML				
MONC	comp=N,1068µm,0.5s			AML	AML				
LSD	Lago del Serru	2.29	226	AML	AML				
LSD	comp=N,937µm,1.3s			AML	AML				
LSD	comp=E,948µm,0.5s			AML	AML				
HAU	Haudompre	2.30	295	*e*P		Pn		00 59 57.5	+0.9
HAU	Haudompre	2.30	295	*e*Pg		Pg		01 00 02.5	-0.2
HAU				*e*Sn		Sn		01 00 22.3	-2.8
HAU	comp=E,725nm,0.3s			*e*Sg		Sg		01 00 31.6	-1.0
TEOL	comp=E,768nm,0.3s,SNR=1.0 Teolo	2.31	137			Pn		00 59 57.8	+1.1
PEB	Petersbachel	2.31	330	⇓Pn		Pn		00 59 57.4	+0.8
PEB				PmP				01 00 04.9	
FVI	Forni Avoltri	2.33	101	AML	AML				
FVI	comp=N,528µm,0.6s			AML	AML				
FVI	comp=E,467µm,1.0s			AML	AML				
POLC	Polcenigo	2.35	116	AML	AML				
POLC	comp=E,852µm,0.6s			AML	AML				
POLC	comp=N,1260µm,0.9s			AML	AML				
ROTM	Rocchetta Tana	2.36	200	AML	AML				
ROTM	comp=E,2745µm,0.5s			AML	AML				
ROTM	comp=N,3655µm,0.5s			AML	AML				
CABF	La Chapelle	2.36	260	*e*P		Pn		00 59 58.8	+1.3
CABF	SNR=1.0 La Chapelle	2.36	260	*e*Pg		Pg		01 00 03.6	-0.3
CABF				*e*Sg		Sg		01 00 33.6	-0.9
GRC1	comp=N,992nm,0.3s Grafenberg Arr	2.36	35	⇑Pn		Pn		00 59 56.7	-0.8
GRC1				Pg		Pg		01 00 03.5	-0.3
STAL	STALIGIAL	2.38	109	AML	AML				
STAL	comp=N,834µm,1.0s			AML	AML				
STAL	comp=N,873µm,0.9s			AML	AML				
STAL	comp=E,635µm,0.8s			AML	AML				
STAL	comp=E,604µm,0.8s			AML	AML				
STAL	STALIGIAL	2.38	109			Pb		01 00 00.3	-1.3
PRMA	PARMA	2.39	165			Pn		00 59 57.8	0.0
PRMA				Pg		Pb		01 00 02.3	+0.6
RSL	Roselend	2.41	236	Pn		Pn		00 59 59.5	+1.3
OG02	Monnetier-Morn	2.42	249	Pn		Pn		00 59 59.7	+1.5
KTD	Kalmit	2.42	338	Pn		Pn		00 59 58.9	+0.6
KTD				Sn		Sn		01 00 26.6	-1.5
KTD	Kalmit	2.42	338	⇓Pn		Pn		00 59 58.9	+0.6
NOVE	Novellara	2.44	159	AML	AML				
NOVE	comp=E,1148µm,0.6s			AML	AML				
NOVE	comp=N,1360µm,0.8s			AML	AML				
LPL	La Plagne	2.46	231	*e*P		Pb		01 00 01.9	-1.0
LPL	SNR=1.0 La Plagne	2.46	231	*e*Pg		Pg		01 00 05.3	-0.3
LPL				*e*Sn		Sn		01 00 26.6	-2.5
LPL	SNR=1.0			*e*Sg		Sg		01 00 37.4	0.0
LPG	comp=N,229nm,0.4s La Plagne	2.46	231	*e*P		Pb		01 00 01.6	-1.4
LPG	SNR=1.0 La Plagne	2.46	231	*e*Pg		Pg		01 00 05.5	-0.2
LPG				*e*Sg		Sg		01 00 37.5	0.0
SWS	comp=N,703nm,0.5s Schriesheim-Wi	2.46	348	Pn		Pn		00 59 58.8	0.0
SWS				Sg		Sg		01 00 37.8	+0.2
RSP	Reno Superiore	2.46	219	AML	AML				
RSP	comp=N,916µm,1.0s			AML	AML				
RSP	comp=E,1145µm,0.4s			AML	AML				
TOD	Tromm	2.56	350	Pn		Pn		01 00 00.2	-0.1
WBA	Furth	2.61	351	Pn		Pn		01 00 00.9	0.0
THEF	They Montfort	2.61	297	Pn		Pn		01 00 02.6	+1.7
THEF				Sn		Sn		01 00 32.1	-0.6
GRB2	Grafenberg Arr	2.64	33	⇑Pn		Pn		01 00 00.4	-0.9
KBA	Koelnbreinsper	2.65	89	*i* Pn		Pb		01 00 04.3	-2.0
IMS	SNR=36 Imsbach	2.72	338	⇓Pn		Pn		01 00 02.9	+0.5
IMS				Pg		Pg		01 00 11.7	+1.0
ERBM	Eremo	2.74	166	AML	AML				
ERBM	comp=N,323µm,1.0s			AML	AML				
ERBM	comp=E,394µm,1.1s			AML	AML				
PTCC	Patocco-Chiusa	2.76	103	AML	AML				
PTCC	comp=E,278µm,1.6s			AML	AML				
PTCC	comp=N,293µm,0.9s			AML	AML				
MSSA	Maissana	2.77	179	AML	AML				
MSSA	comp=N,319µm,0.6s			AML	AML				
MSSA	comp=E,352µm,0.7s			AML	AML				
BNI	Bardonecchia	2.81	225	AML	AML				
BNI	comp=N,536µm,0.6s			AML	AML				
BNI	comp=E,391µm,1.0s			AML	AML				
BNI	comp=E,303µm,1.0s			AML	AML				
BNI	comp=N,422µm,0.6s			AML	AML				
BNI	Bardonecchia	2.81	225			Pn		01 00 04.0	+0.4
BNI				Pg		Pb		01 00 09.9	+1.1
WBB	Darmstadt	2.82	349	Pn		Pn		01 00 03.9	+0.2
ACOM	Acomizza, Ital	2.83	99	AML	AML				
ACOM	comp=E,572µm,1.0s			AML	AML				
ACOM	comp=N,656µm,0.7s			AML	AML				
RRL	Rocca Remolon	2.85	222	AML	AML				
RRL	comp=N,692µm,0.7s			AML	AML				
RRL	comp=E,768µm,0.8s			AML	AML				
GRA1	Grafenberg Arr	2.87	24			Pn		01 00 03.1	-1.2
GRF	Grafenberg Arr	2.87	24	*e*Pn		Pn		01 00 02.8	-1.5
QLNO	Quiliano	2.87	196	AML	AML				
QLNO	comp=N,289µm,0.7s			AML	AML				
QLNO	comp=E,270µm,1.6s			AML	AML				
MYKA	Terra Mystica	2.90	97	*e*Pn		Pb		01 00 07.9	-2.6
ROBS	comp=E,42nm,0.6s,SNR=18 Robic	2.91	105	*i* Pn		Pn		01 00 07.4	+2.4
ROBS				*e*Sn		Sb		01 00 47.0	+0.8
PAGF	Fort de Pagny	2.92	302	*e*P		Pn		01 00 06.7	+1.6
PAGF	baz=120 Fort de Pagny	2.92	302	*e*Pg		Pg		01 00 14.4	-0.1
PAGF	baz=122			*e*Sn		Sn		01 00 37.5	-2.7
PAGF				*e*Sg		Sg		01 00 50.8	-1.5
DUP	comp=E,107nm,0.3s Duppenweiler	2.94	324	⇑Pn		Pn		01 00 07.1	+1.8
DUP				Pg		Pg		01 00 16.0	+1.1
DUP				Sg		Sg		01 00 53.5	+0.5
MBDF	Montbardon	3.01	220	*e*P		Pn		01 00 08.4	+1.9
MBDF	Montbardon	3.01	220	*e*Pg		Pb		01 00 14.3	+1.9
MBDF				*e*Sn		Sn		01 00 40.1	-2.6
MBDF	SNR=1.0			*e*Sg		Sg		01 00 54.6	-0.7
PZZ	comp=E,479nm,0.6s Stroppo	3.05	213	AML	AML				
PZZ	comp=E,483µm,0.5s			AML	AML				
PZZ	comp=N,376µm,1.4s			AML	AML				
GBOS	Grotte di Boss	3.06	202	AML	AML				
GBOS	comp=N,302µm,0.7s			AML	AML				
GBOS	comp=E,240µm,0.5s			AML	AML				
ABH	Alteburg	3.08	336	⇓Pn		Pn		01 00 08.3	+1.0
ABH				Pg		Pg		01 00 18.5	+0.9
ABH				Sn		Sn		01 00 41.6	-2.6
WET	Wettzell	3.08	47	*e*Pn		Pn		01 00 07.3	0.0
WBG	Bieber	3.10	359	Pn		Pn		01 00 07.2	-0.3
BDI	Bagni Di Lucca	3.12	165	AML	AML				
BDI	comp=E,259µm,1.1s			AML	AML				
BDI	comp=N,272µm,0.9s			AML	AML				
RORO	Rocca Rossa	3.13	199	AML	AML				
RORO	comp=N,232µm,0.8s			AML	AML				
RORO	comp=E,263µm,1.3s			AML	AML				
POPM	Popiglio	3.17	163	AML	AML				
POPM	comp=N,212µm,0.8s			AML	AML				
POPM	comp=E,241µm,1.1s			AML	AML				
RIVT	Riveris	3.19	327	Pn		Pn		01 00 10.5	+1.7
ENR	Entracque	3.19	207	AML	AML				
ENR	comp=E,230µm,1.4s			AML	AML				
ENR	comp=N,262µm,0.7s			AML	AML				
SFTF	Sexfontaines	3.19	292	*e*P		Pn		01 00 10.0	+1.1
SFTF	baz=111 Sexfontaines	3.19	292	*e*Pg		Pg		01 00 19.5	-0.3
SFTF	baz=111			*e*Sn		Sn		01 00 45.0	-2.0
SFTF	comp=N,67nm,0.2s,baz=111			*e*Sg		Sg		01 00 59.8	-1.4
TNS	comp=N,185nm,0.3s,baz=112 Taunus Mts	3.22	348	⇓Pn		Pn		01 00 09.5	+0.3
VOJS	Vojsko	3.23	107	*i* Pn		Pn		01 00 11.5	+2.1
MAIM	Mastiano	3.25	167	AML	AML				
MAIM	comp=N,290µm,0.7s			AML	AML				
MAIM	comp=E,258µm,0.7s			AML	AML				
TRI	Trieste	3.28	113	Pn		Pn		01 00 11.5	+1.5
MEZF	Maizieres J'vi	3.29	297	*e*P		Pn		01 00 12.2	+2.0
MEZF	baz=116 Maizieres J'vi	3.29	297	*e*Pg		Pg		01 00 20.3	-1.4
MEZF	baz=116			*e*Sn		Sn		01 00 46.7	-2.8
MEZF				*e*Sg		Sg		01 01 02.9	-1.5
ORIF	comp=E,191nm,0.4s,baz=114 Oris-en-Rattie	3.30	230	*e*P		Pn		01 00 13.2	+2.8
ORIF	SNR=1.0 Oris-en-Rattie	3.30	230	*e*Pg		Pg		01 00 20.7	-1.1
ORIF				*e*Sn		Sn		01 00 46.2	-3.6
ORIF	SNR=1.0			*e*Sg		Sg		01 01 02.7	-1.9
MOA	comp=E,387nm,0.6s Molln	3.35	75	Pn		Pn		01 00 12.3	+1.3
GEC2	comp=E,2.5nm,0.1s,SNR=6.2 GERESS Array S	3.35	57			Pn		01 00 11.5	+0.3
GERES	GERESS Array B	3.35	57	Pn		Pn		01 00 11.4	+0.3
GERES	comp=E,8.6nm,0.3s,baz=240,slow=13,SNR=288			Pg		Pb		01 00 17.1	-1.1
GERES	comp=E,7.2nm,0.3s,baz=246,slow=14,SNR=24			Sn		Sn		01 00 50.3	-0.7
GERES	comp=E,8.5nm,0.3s,baz=247,slow=17,SNR=6.7			Lg		Lg		01 01 03.9	
IMI	comp=E,10nm,0.3s,baz=247,slow=27,SNR=6.2 Imperia	3.36	200	AML	AML				
IMI	comp=N,386µm,0.6s			AML	AML				
SAOF	comp=E,296µm,0.6s Saorge	3.37	204	AML	AML				
SAOF	comp=N,376µm,0.7s			AML	AML				
WLF	comp=E,359µm,0.6s Walferdange	3.40	321	Pn		Pn		01 00 13.7	+2.0
WLF				pP		Pb		01 00 14.0	-4.9
WLF	Walferdange	3.40	321	Pn		Pn		01 00 13.7	+2.0
WLF				Pg		Pg		01 00 23.7	0.0
WLF	Walferdange	3.40	321			Pn		01 00 13.6	+1.9
WLF				Pg		Pg		01 00 23.5	-0.2
GWBC	Aumenau	3.41	347	Pn		Pn		01 00 12.7	+0.9
FACH	Fachingen	3.42	344	Pn		Pn		01 00 12.5	+0.6
BGG	Burgeitz	3.43	337	*e*Pn		Pn		01 00 13.4	+1.3
BGG				*e*Sn		Sn		01 00 53.6	+0.8
KHC	Kasperske Hory	3.44	52	*e*PN		Pn		01 00 12.3	+0.1
KHC				*e*PG		Pb		01 00 20.3	+0.7
KHC				*e*SN		Sn		01 00 52.3	-0.8
KHC	comp=E,144nm,0.7s			*e*SG		Sg		01 01 07.4	-1.6
KHC	Kasperske Hory	3.44	52			Pn		01 00 12.5	+0.2
SBF	Sospel	3.52	205	*e*P		Pn		01 00 15.6	+2.2
SBF	Sospel	3.52	205	*e*Pg		Pg		01 00 24.5	-1.5
SBF				*e*Sn		Sn		01 00 52.5	-2.6
SBF	comp=E,247nm,0.6s,SNR=1.0			*e*Sg		Sg		01 01 10

CSNT	**Castellina Chi**	**3.83**	**160**		AML	AML		
	comp=N,132μm,0.6s							
CSNT					AML	AML		
	comp=E,89μm,0.6s							
SOKA	**Soboth**	**3.84**	**94**	*i*	Pn	**Pn**	**01 00 19.5**	**+1.7**
	comp=E,9.5nm,0.3s,SNR=8.3							
SOKA					Sg	**Sg**	**01 01 25.3**	**+3.3**
	comp=E,52nm,1.0s							
SSB	**Saint Sauveur**	**3.86**	**244**			**Pn**	**01 00 19.9**	**+1.8**
SSB					Pg	**Pg**	**01 00 31.3**	**-1.3**
CRE	**Caprese Michel**	**3.88**	**152**		AML	AML		
	comp=N,120μm,0.8s							
CRE					AML	AML		
	comp=E,83μm,0.8s							
SMF	**Signal de Mont**	**3.88**	**266**	*e*	P	**Pn**	**01 00 19.5**	**+1.2**
SMF	**Signal de Mont**	**3.88**	**266**	*e*	Pg	**Pg**	**01 00 31.0**	**-1.9**
SMF					eSn	**Sn**	**01 01 00.3**	**-3.6**
SMF					eSg	**Sg**	**01 01 22.8**	**-0.3**
	comp=E,166nm,0.2s							
STB	**Steinbach**	**3.92**	**335**	*e*	Pn	**Pn**	**01 00 20.1**	**+1.3**
PBCC	**Pribram**	**3.99**	**48**	*e*	PN	**Pn**	**01 00 19.3**	**-0.5**
PBCC					eSG	**Sg**	**01 01 23.8**	**-2.9**
	comp=E,31nm,0.9s							
BHOU	**Houvegnez**	**4.00**	**326**		Pn	**Pn**	**01 00 21.2**	**+1.4**
BHOU					Sn	**Sn**	**01 01 05.8**	**-1.0**
VIVF	**Saint-Julien-l**	**4.01**	**238**	*e*	P	**Pn**	**01 00 21.7**	**+1.6**
VIVF	**Saint-Julien-l**	**4.01**	**238**	*e*	Pg	**Pg**	**01 00 34.0**	**-1.4**
VIVF					eSn	**Sn**	**01 01 04.2**	**-3.0**
VIVF					eSg	**Sg**	**01 01 25.7**	**-1.7**
	comp=E,103nm,0.3s							
FRF	**La Foret Royal**	**4.04**	**210**	*e*	P	**Pn**	**01 00 23.1**	**+2.6**
FRF	**La Foret Royal**	**4.04**	**210**	*e*	Pg	**Pg**	**01 00 36.0**	**0.0**
FRF					eSn	**Sn**	**01 01 04.7**	**-3.2**
	comp=E,65nm,0.5s							
SSF	**Saint Saulge**	**4.07**	**272**	*e*	P	**Pn**	**01 00 22.5**	**+1.6**
SSF	**Saint Saulge**	**4.07**	**272**	*e*	Pg	**Pg**	**01 00 35.6**	**-0.9**
SSF					eSn	**Sn**	**01 01 04.6**	**-4.0**
SSF					eSg	**Sg**	**01 01 27.3**	**-1.9**
	comp=E,170nm,0.3s							
KLL	**Kalltalsperre**	**4.13**	**331**	*e*	Pn	**Pn**	**01 00 23.0**	**+1.3**
SMRF	**Simiane la Rot**	**4.13**	**223**	*e*	P	**Pn**	**01 00 24.5**	**+2.7**
SMRF	**Simiane la Rot**	**4.13**	**223**	*e*	Pg	**Pg**	**01 00 36.0**	**-1.8**
SMRF					eSn	**Sn**	**01 01 06.0**	**-4.2**
	comp=E,17nm,0.4s							
SMRF					eSg	**Sg**	**01 01 29.0**	**-2.3**
	comp=E,115nm,0.9s							
ARSA	**Arzberg**	**4.14**	**85**	*i*	Pn	**Pn**	**01 00 23.4**	**+1.5**
	comp=E,13nm,0.4s,SNR=14							
ARSA					*i* Sg	**Sg**	**01 01 34.2**	**+2.7**
	comp=E,39nm,0.7s							
HOBG	**Hohbusch**	**4.15**	**341**	*e*	Pn	**Pn**	**01 00 23.2**	**+1.2**
BNS	**Bensberg**	**4.17**	**340**	*e*	Pn	**Pn**	**01 00 23.8**	**+1.6**
DREG	**Dreilaegerbach**	**4.17**	**330**	*e*	Pn	**Pn**	**01 00 23.8**	**+1.5**
AVF	**Avril sur Loir**	**4.20**	**268**	*e*	P	**Pn**	**01 00 23.5**	**+0.9**
AVF	**Avril sur Loir**	**4.20**	**268**	*e*	Pg	**Pg**	**01 00 37.7**	**-1.2**
	SNR=1.0							
AVF					eSn	**Sn**	**01 01 07.8**	**-3.8**
	comp=E,23nm,0.3s,SNR=1.0							
AVF					eSg	**Sg**	**01 01 30.6**	**-2.6**
	comp=E,47nm,0.2s							
MEM	**Membach**	**4.20**	**328**		Pn	**Pn**	**01 00 24.2**	**+1.5**
MEM					x	x	01 00 27.3	
MEM					PnPn	**PnPn**	**01 00 31.3**	**+1.2**
MEM					Sn	**Sn**	**01 01 14.1**	**+2.2**
MEM					Sg	**Sg**	**01 01 33.5**	**0.0**
MEM					x	x	01 01 46.9	
ATVO	**AVT- Monte Val**	**4.24**	**150**		AML	AML		
	comp=N,128μm,0.9s							
ATVO					AML	AML		
	comp=E,114μm,0.6s							
LMR	**La Mourre**	**4.29**	**210**	*e*	P	**Pn**	**01 00 26.4**	**+2.5**
LMR	**La Mourre**	**4.29**	**210**	*e*	Pg	**Pg**	**01 00 38.6**	**-2.1**
LMR					eSn	**Sn**	**01 01 10.4**	**-3.5**
	comp=E,28nm,0.4s,SNR=1.0							
BOJS	**Bojanci**	**4.31**	**109**		AML	AML		
	comp=N,133μm,1.1s							
BOJS					AML	AML		
	comp=E,102μm,1.1s							
GIVF	**Givet**	**4.32**	**316**	*e*	P	**Pn**	**01 00 26.3**	**+2.1**
GIVF					eSn	**Sn**	**01 01 10.5**	**-4.1**
	comp=E,78nm,0.3s							
GIVF					eSg	**Sg**	**01 01 34.5**	**-2.6**
	comp=E,196nm,0.7s,SNR=1.0							
BCLA	**Clavier**	**4.33**	**322**		Pn	**Pn**	**01 00 26.4**	**+2.0**
BCLA					Sn	**Sn**	**01 01 13.6**	**-1.3**
CRES	**Cresnjev**	**4.33**	**105**	*e*	Pn	**Pn**	**01 00 25.9**	**+1.4**
BSTI	**Sart Tilman**	**4.35**	**325**		Pn	**Pn**	**01 00 26.7**	**+2.0**
HGN	**Heimansgroeve**	**4.36**	**329**	*e*	Pn	**Pn**	**01 00 26.4**	**+1.6**
HGN					ePg	**Pb**	**01 00 34.0**	**-1.3**
HGN					eSn	**Sn**	**01 01 14.0**	**-1.7**
HGN					eSg	Sb	01 01 17.8	-10
CASP	**Castiglione de**	**4.40**	**166**		Pn	**Pn**	**01 00 27.7**	**+2.2**
OZLJ	**Ozalj**	**4.41**	**107**	*e*	Pn	**Pn**	**01 00 28.3**	**+2.8**
CONA	**Conrad Observa**	**4.42**	**77**	*i*	Pn	**Pn**	**01 00 26.6**	**+0.8**
	comp=E,8.8nm,0.3s,SNR=8.8							
CONA					*i* Sn	**Sn**	**01 01 16.4**	**-1.0**
	comp=E,20nm,0.4s							
DOU	**Dourbes**	**4.42**	**315**		Pn	**Pn**	**01 00 27.7**	**+2.0**
DOU					Sn	**Sn**	**01 01 19.0**	**+1.8**
PRA	**Prague**	**4.46**	**46**	*e*	SG	**Sg**	**01 01 38.8**	**-2.7**
	comp=E,140nm,0.8s							
PRU	**Pruhonice**	**4.46**	**47**	*e*	PN	**Pn**	**01 00 25.6**	**-0.6**
PRU					eSG	**Sg**	**01 01 39.3**	**-2.3**
	comp=E,120nm,0.9s							
BEBN	**Eben Emael**	**4.48**	**328**		Pn	**Pn**	**01 00 27.1**	**+0.6**
BEBN					sPn	**sPn**	**01 00 28.2**	**-2.5**
BEBN					x	x	01 00 28.6	
BEBN					Sn	**Sn**	**01 01 18.6**	**0.0**
BMRD	**Maredsous**	**4.48**	**318**		Pn	**Pn**	**01 00 28.6**	**+2.1**
BMRD					Sn	**Sn**	**01 01 18.1**	**-0.6**
GOPC	**GO Pecny, Ondr**	**4.54**	**49**	*e*	PN	**Pn**	**01 00 26.8**	**-0.5**
GOPC					eSG	**Sg**	**01 01 42.2**	**-2.0**
	comp=E,94nm,0.9s							
NVLJ	**Novalja**	**4.54**	**122**	*e*	Pn	**Pn**	**01 00 29.6**	**+2.2**
NVLJ					Sn	**Sn**	**01 01 21.1**	**+1.0**
PGF	**Pioggiola**	**4.54**	**184**	*e*	P	**Pn**	**01 00 30.2**	**+2.7**
	SNR=1.0							
PGF	**Pioggiola**	**4.54**	**184**	*e*	Pg	**Pg**	**01 00 43.5**	**-2.1**
PGF					eSn	**Sn**	**01 01 15.8**	**-4.6**
	comp=E,16nm,0.5s							
BGF	**Bois d'Agland**	**4.57**	**266**	*e*	P	**Pn**	**01 00 28.6**	**+0.8**
BGF	**Bois d'Agland**	**4.57**	**266**	*e*	Pg	**Pg**	**01 00 44.7**	**-1.4**
BGF					eSn	**Sn**	**01 01 17.1**	**-3.8**
BGF					eSg	**Sg**	**01 01 42.6**	**-2.7**
	comp=E,149nm,0.3s							
LAUG	**Laupendahl**	**4.58**	**340**	*e*	Pn	**Pn**	**01 00 29.2**	**+1.3**
BAIF	**Baives**	**4.59**	**312**	*e*	P	**Pn**	**01 00 30.1**	**+2.1**
BAIF	**Baives**	**4.59**	**312**	*e*	Pg	**Pg**	**01 00 43.9**	**-2.5**
BAIF					eSn	**Sn**	**01 01 17.4**	**-3.9**
	comp=E,56nm,0.5s,SNR=1.0							
BAIF					eSg	**Sg**	**01 01 42.9**	**-2.9**
	comp=E,102nm,0.7s							
TREC	**Trest**	**4.60**	**59**	*e*	PN	**Pn**	**01 00 28.5**	**+0.3**
TREC					eSG	**Sg**	**01 01 43.5**	**-2.7**
	comp=E,73nm,0.8s							
PTJ	**Puntijarka**	**4.64**	**102**		iPn	**Pn**	**01 00 30.5**	**+1.6**
HYF	**Humbligny**	**4.66**	**275**	*e*	P	**Pn**	**01 00 31.0**	**+2.0**
HYF					eSg	**Sg**	**01 01 46.8**	**-1.2**
LATE	**Laterza**	**4.77**	**159**			**Pn**	**01 00 33.1**	**+2.6**
BRG	**Berggiesshubel**	**4.81**	**36**	*i*	PN	**Pn**	**01 00 29.8**	**-1.2**
	comp=E,11nm,0.6s							
BRG				*e*			01 00 45.3	
BRG	**Berggiesshubel**	**4.81**	**36**		PB	**Pg**	**01 00 49.4**	**-1.2**
BRG					SN	**Sn**	**01 01 28.4**	**+1.7**
BRG					SB	**Sg**	**01 01 58.4**	**+5.5**
BRG					SG	**Sg**	**01 01 58.9**	**+6.0**
	comp=E,125nm,1.2s							
CLL	**Collm**	**4.83**	**27**	*e*	Pn	**Pn**	**01 00 29.0**	**-2.3**
CLL					ePg	**Pg**	**01 00 50.0**	**-1.0**
CLL					eSglp		01 01 47.0	
	comp=N,100nm,22.0s							
CLL					eSglp		01 01 47.0	
	comp=E,300nm,14.1s							
CLL					eSglp		01 01 47.0	
	comp=Z,200nm,14.0s							
CLL					eSg	**Sg**	**01 01 51.0**	**-2.4**
	comp=Z,104nm,0.9s							
CLL	**Collm**	**4.83**	**27**			**Pn**	**01 00 29.2**	**-2.1**
PVCC	**Panska Ves**	**4.83**	**42**	*e*	SG	**Sg**	**01 01 49.9**	**-3.6**
	comp=Z,102nm,0.5s							
SNF	**Seneffe**	**4.84**	**317**		Pn	**Pn**	**01 00 33.9**	**+2.4**
SNF					x	x	01 01 37.0	
SOP	**Sopron**	**4.86**	**80**	*e*	Pn	**Pn**	**01 00 32.0**	**+0.3**
SOP					eSg	**Pg**	**01 00 49.0**	**-2.6**
SOP					eSg	**Sg**	**01 01 56.0**	**+1.5**
KALN	**Kalnik**	**4.91**	**99**	*e*	Pn	**Pn**	**01 00 33.2**	**+0.7**
LASF	**Ste Croix**	**4.95**	**235**	*e*	P	**Pn**	**01 00 34.9**	**+1.9**
LASF	**Ste Croix**	**4.95**	**235**	*e*	Pg	**Pg**	**01 00 51.2**	**-2.2**
LASF					eSn	**Sn**	**01 01 26.5**	**-3.8**
	comp=Z,28nm,0.4s							
LASF					eSg	**Sg**	**01 01 55.4**	**-2.0**
	comp=Z,68nm,0.4s							
CLF	**Chambon-Foret**	**4.97**	**284**			**Pn**	**01 00 35.2**	**+2.0**
NRCA	**Norcia**	**4.97**	**147**			**Pn**	**01 00 36.6**	**+3.2**
DUGI	**Dugi Otok**	**5.00**	**126**	*i*	Pn	**Pn**	**01 00 36.5**	**+2.8**
DUGI					Sn	**Sn**	**01 01 32.5**	**+1.0**
UCC	**Uccle**	**5.01**	**320**		Pn	**Pn**	**01 00 35.9**	**+2.1**
UCC					Sn	**Sn**	**01 01 32.6**	**+0.8**
UCC	**Uccle**	**5.01**	**320**			**Pn**	**01 00 35.6**	**+1.8**
UCC					Sn	**Sn**	**01 01 32.5**	**+0.8**
KRUC	**Moravsky**	**5.05**	**64**	*e*	PN	**Pn**	**01 00 34.5**	**+0.1**
KRUC					eSN	**Sn**	**01 01 30.5**	**-2.3**
KRUC					eSG	**Sg**	**01 01 57.8**	**-2.9**
TCF	**Toulx Ste Croi**	**5.05**	**264**	*e*	P	**Pn**	**01 00 35.1**	**+0.7**
TCF	**Toulx Ste Croi**	**5.05**	**264**	*e*	Pg	**Pg**	**01 00 52.8**	**-2.5**
TCF					eSn	**Sn**	**01 01 28.4**	**-4.4**
	comp=Z,40nm,0.3s							
TCF					eSg	**Sg**	**01 01 57.6**	**-3.1**
	comp=Z,132nm,0.4s							
BEHE	**Becsehely**	**5.06**	**94**	*e*	Pn	**Pn**	**01 00 35.7**	**+1.2**
BEHE	**Becsehely**	**5.06**	**94**	*e*	Pn	**Pn**	**01 00 35.0**	**+0.5**
BEHE					eSg	**Pg**	**01 00 54.1**	**-1.4**
BEHE					eSg	**Sg**	**01 02 06.1**	**+5.0**
UDBI	**Udbina**	**5.09**	**118**	*e*	Pn	**Pn**	**01 00 37.9**	**+2.9**
MOSL	**Moslavina**	**5.26**	**104**	*e*	Pn	**Pn**	**01 00 37.6**	**+0.4**
VRAC	**Vranov**	**5.26**	**62**		Pn	**Pn**	**01 00 37.3**	**0.0**
	comp=Z,2.8nm,0.3s,baz=251,slow=14,SNR=41							
VRAC					Sn	**Sn**	**01 01 35.4**	**-2.6**
	comp=Z,2.0nm,0.3s,baz=193,slow=18,SNR=4.2							
VRAC					Lg	Lg	01 02 04.7	
	comp=Z,2.5nm,0.3s,baz=175,slow=8.1,SNR=4.9							
VRAC					LR	LR	01 02 39.2	
	comp=Z,60nm,18.2s,baz=268,slow=39							
VRAC	**Vranov**	**5.26**	**62**	⇑	P	**Pn**	**01 00 38.0**	**+0.7**
VRAC	**Vranov**	**5.26**	**62**	*e*	PN	**Pn**	**01 00 37.4**	**+0.1**
VRAC					eSN	**Sn**	**01 01 35.2**	**-2.8**
VRAC					eSG	**Sg**	**01 02 03.9**	**-3.6**
ZST	**Bratislava**	**5.28**	**75**	*e*	PN	**Pn**	**01 00 37.0**	**-0.6**
ZST					eSG	**Sg**	**01 02 10.9**	**+2.7**
ZST					eLG	Lg	01 02 12.8	
IBBN	**Ibbenburen**	**5.35**	**349**			**Pn**	**01 00 38.7**	**+0.3**
MODS	**Modra-Piesok**	**5.43**	**73**	*e*	PN	**Pn**	**01 00 39.0**	**-0.6**
MODS					ePG	**Pg**	**01 01 04.4**	**+1.9**
MODS					eSN	**Sn**	**01 01 40.1**	**-2.0**
MODS					eSG	**Sg**	**01 02 12.0**	**-0.8**
MODS					eLG	Lg	01 02 29.5	
MORI	**Morici**	**5.44**	**124**	*e*	Pn	**Pn**	**01 00 44.0**	**+4.2**
MORI					Sn	**Sn**	**01 01 44.6**	**+2.2**
AQU	**L'Aquila**	**5.50**	**148**	*e*	Pn	Pn	01 00 47.2	+6.7
AQU	**L'Aquila**	**5.50**	**148**			**Pn**	**01 00 41.1**	**+0.5**
MPLH	**Magyarpolny**	**5.51**	**86**	*e*	Pn	**Pn**	**01 00 41.0**	**+0.3**
UPC	**Upice**	**5.52**	**49**	*e*	PN	**Pn**	**01 00 40.2**	**-0.6**
UPC					eSG	**Sg**	**01 02 13.2**	**-2.6**
	comp=Z,103nm,1.1s							
ZIRJ	**Zirje**	**5.54**	**126**	*i*	Pn	**Pn**	**01 00 43.6**	**+2.6**
ZIRJ					Sn	**Sn**	**01 01 44.7**	**-0.1**
SMOL	**Smolenice**	**5.56**	**72**	*e*	PN	**Pn**	**01 00 38.9**	**-2.4**
SMOL					eSG	**Sg**	**01 02 15.3**	**-1.6**
SMOL					eLG	Lg	01 02 29.6	
CAF	**Calviac**	**5.58**	**250**	*e*	P	**Pn**	**01 00 44.1**	**+2.4**
CAF	**Calviac**	**5.58**	**250**	*e*	Pg	**Pg**	**01 01 02.6**	**-2.9**
CAF					eSn	**Sn**	**01 01 42.0**	**-4.0**
	comp=Z,9.3nm,0.3s							
CAF					eSg	**Sg**	**01 02 14.1**	**-3.7**
	comp=Z,90nm,0.6s,SNR=1.0							
CHVC	**Chvalec**	**5.59**	**49**	*e*	PN	**Pn**	**01 00 41.2**	**-0.6**
CHVC					eSG	**Sg**	**01 02 16.0**	**-2.0**
	comp=Z,79nm,0.8s							
DPC	**Dobruska-Polom**	**5.60**	**52**	*e*	PN	**Pn**	**01 00 41.3**	**-0.6**
DPC					eSG	**Sg**	**01 02 14.6**	**-3.5**
	comp=Z,42nm,0.6s							
OSTC	**Ostas**	**5.66**	**50**	*e*	PN	**Pn**	**01 00 42.0**	**-0.7**
OSTC					eSG	**Sg**	**01 02 17.4**	**-2.7**
	comp=Z,64nm,0.8s							
KRLC	**Kraliky**	**5.71**	**56**	*e*	PN	**Pn**	**01 00 43.4**	**0.0**
KRLC					eSG	**Sg**	**01 02 19.5**	**-2.2**
	comp=Z,77nm,0.7s							
KIJV	**Kijevo**	**5.76**	**120**	*i*	Pn	**Pn**	**01 00 46.9**	**+2.7**
TIH	**Tihany**	**5.77**	**89**	*e*	PN	**Pn**	**01 00 44.1**	**-0.2**
TIH					eSg	**Sg**	**01 02 31.0**	**+7.2**
JAVC	**Velka Javorina**	**5.79**	**69**	*e*	PN	**Pn**	**01 00 45.3**	**+0.7**
RJF	**Les Rejaudoux**	**5.79**	**255**	*e*	P	**Pn**	**01 00 46.3**	**+1.7**
RJF	**Les Rejaudoux**	**5.79**	**255**	*e*	Pg	**Pg**	**01 01 07.4**	**-2.1**
RJF					eSn	**Sn**	**01 01 46.6**	**-4.5**
	comp=Z,13nm,0.4s							
RJF					eSg	**Sg**	**01 02 22.5**	**-2.0**
	comp=Z,107nm,0.5s							
BLY	**Banja Luka**	**5.87**	**111**	*e*	Pn	**Pn**	**01 00 45.5**	**-0.1**
BLY	**Banja Luka**	**5.87**	**111**	⇓	P	**Pn**	**01 00 49.0**	**+3.4**
BLY	**Banja Luka**	**5.87**	**111**			**Pn**	**01 00 46.5**	**+0.9**
MGRS	**Mrkonjic Grad**	**5.96**	**114**	*e*	Pn	**Pn**	**01 00 50.2**	**+3.3**
INTR	**Introdacqua**	**5.98**	**146**			**Pn**	**01 00 48.1**	**+0.9**
CSKK	**Cskako**	**6.00**	**84**	*e*	Pn	**Pn**	**01 00 50.1**	**+2.7**
CSKK					eSg	**Sg**	**01 02 35.1**	**+3.9**
MORC	**Moravsky Berou**	**6.02**	**60**	⇑	P	**Pn**	**01 00 47.7**	**+0.1**
MORC	**Moravsky Berou**	**6.02**	**60**	*e*	PN	**Pn**	**01 00 47.6**	**-0.1**
MORC					eSG	**Sg**	**01 02 32.7**	**+1.1**
MORC	**Moravsky Berou**	**6.02**	**60**			**Pn**	**01 00 47.6**	**-0.1**
MORC	**Moravsky Berou**	**6.02**	**60**		Sn	**Sn**	**01 01 54.5**	**-2.1**
SRO	**Srobarova**	**6.05**	**80**	*e*	SG	Sg	01 02 42.1	+9.4
MTLF	**Montolieu**	**6.34**	**236**	*e*	P	**Pn**	**01 00 55.0**	**+3.0**
MTLF	**Montolieu**	**6.34**	**236**	*e*	Pg	**Pg**	**01 01 18.4**	**-1.5**
MTLF					eSn	**Sn**	**01 01 59.0**	**-5.4**
	comp=Z,9.3nm,0.3s							
MTLF					eSg	**Sg**	**01 02 38.4**	**-3.5**
	comp=Z,31nm,0.6s							
MORH	**Mrgy, Hungar**	**6.38**	**94**	*e*	Pn	**Pn**	**01 00 52.1**	**-0.5**
MORH	**Mrgy, Hungar**	**6.38**	**94**	*e*	Pn	**Pn**	**01 00 51.1**	**-1.5**
MORH					Sn	**Sn**	**01 02 02.0**	**-3.4**
OKC	**Ostrava-Krasne**	**6.40**	**61**	*e*	PN	**Pn**	**01 00 52.5**	**-0.4**
OKC					eSG	**Sg**	**01 02 40.0**	**-3.9**
	comp=Z,241nm,1.5s							
LFF	**La Frestale**	**6.44**	**254**	*e*	P	**Pn**	**01 00 56.8**	**+3.4**
LFF	**La Frestale**	**6.44**	**254**	*e*	Pg	**Pg**	**01 01 19.0**	**-2.9**
LFF					eSg	**Sg**	**01 02 42.7**	**-2.5**
	comp=Z,69nm,0.4s							
VYHS	**Vyhne**	**6.47**	**74**	*e*	PN	**Pn**	**01 00 53.8**	**-0.1**
VYHS					eSN	**Sn**	**01 02 01.9**	**-5.9**
RICI	**Ricice**	**6.49**	**121**		iPn	**Pn**	**01 00 57.2**	**+3.1**
RICI					Sn	**Sn**	**01 02 10.9**	**+2.7**
MAKA	**Makarska**	**6.55**	**123**	*e*	Pn	**Pn**	**01 00 58.0**	**+3.1**
SJAF	**Saint Jean de**	**6.56**	**228**			**Pn**	**01 00 59.7**	**+4.6**
EJON	**La Jonquera**	**6.58**	**228**			Pn	01 01 01.8	+6.4
MFF	**Saint Martin d**	**6.61**	**269**	*e*	P	**Pn**	**01 00 56.9**	**+1.2**
MFF					eSn	**Sn**	**01 02 06.2**	**-4.9**
MFF					eSg	**Sg**	**01 02 48.2**	**-2.4**
	comp=Z,17nm,0.3s							
LDF	**La Druitiere**	**6.63**	**287**	*e*	P	**Pn**	**01 00 57.0**	**+1.0**
LDF	**La Druitiere**	**6.63**	**287**	*e*	Pg	**Pg**	**01 01 21.6**	**-3.8**
LDF					eSn	**Sn**	**01 02 06.7**	**-4.8**
	comp=Z,14nm,0.3s							
LDF					eSg	**Sg**	**01 02 47.0**	**-4.2**
	comp=Z,93nm,0.6s							
FLN	**La Foliniere**	**6.89**	**288**	*e*	P	**Pn**	**01 01 00.6**	**+1.0**
	baz=108							
FLN	**La Foliniere**	**6.89**	**288**	*e*	Pg	**Pg**	**01 01 29.6**	**-0.9**
	baz=109							
FLN					eSn	**Sn**	**01 02 12.8**	**-5.2**
	comp=Z,15nm,0.3s,baz=102							
FLN					eSg	**Sg**	**01 02 56.6**	**-3.0**
	comp=Z,59nm,0.5s,baz=105							
SGRT	**San Giovanni R**	**6.97**	**138**		Pn	**Pn**	**01 01 01.6**	**+0.9**
SGRT					Sn	**Sn**	**01 02 15.6**	**-4.5**
LANS	**Liptovska Anna**	**7.01**	**69**	*e*	PN	**Pn**	**01 01 02.1**	**+0.8**
LANS					ePG	**Pg**	**01 01 30.8**	**-2.0**
LANS					eSG	**Sg**	**01 03 11.4**	**+7.9**
LANS					eLG	Lg	01 03 28.6	
CLLI	**Llivia**	**7.04**	**232**			**Pn**	**01 01 05.3**	**+3.5**
GRR	**Gorron**	**7.08**	**284**	*e*	P	**Pn**	**01 01 03.1**	**+0.9**
GRR					eSn	**Sn**	**01 02 17.6**	**-5.1**
	comp=Z,16nm,0.2s							
GRR					eSg	**Sg**	**01 03 02.1**	**-3.7**
	comp=Z,36nm,0.4s							
PSZ	**Piszkesteto**	**7.12**	**79**	⇑	P	**Pn**	**01 01 03.4**	**+0.6**
PSZ	**Piszkesteto**	**7.12**	**79**	*e*	Pn	**Pn**	**01 01 01.0**	**-1.8**
PSZ	**Piszkesteto**	**7.12**	**79**			**Pn**	**01 01 02.2**	**-0.6**
HAPS	**Han Pijesak,Bl**	**7.30**	**111**	*e*	Pn	**Pn**	**01 01 06.2**	**+0.9**
CFON	**Fontmartina**	**7.32**	**226**			Pn	01 01 10.4	+4.8
FRGS	**Fruska Gora**	**7.45**	**101**	*e*	Pn	Pn	01 01 01.0	-6.2
OJC	**Ojcow**	**7.53**	**62**		Pn	**Pn**	**01 01 09.3**	**+0.9**
CSOR	**Sort**	**7.57**	**235**			**Pn**	**01 01 12.7**	**+3.6**
EPF	**Esparros**	**7.62**	**241**	*e*	P	Pn	01 01 14.7	+5.0
EPF	**Esparros**	**7.62**	**241**	*e*	Pg	**Pg**	**01 01 40.4**	**-4.0**
EPF					eSg	**Sg**	**01 03 19.4**	**-3.7**
	comp=Z,21nm,0.5s							
EMIR	**Miracle**	**7.67**	**231**			Pn	01 01 17.3	+6.9
TREB	**Trebinje**	**7.67**	**121**	*e*	Pn	**Pn**	**01 01 11.3**	**+1.0**
ECHI	**Chisagues Biel**	**7.92**	**240**			Pn	01 01 20.7	+6.7
DIVS	**Divibare**	**7.96**	**108**	*e*	Pn	**Pn**	**01 01 11.5**	**-3.0**
SGMF	**Saint Gilles**	**8.20**	**283**	*e*	P	**Pn**	**01 01 18.2**	**+0.7**
SGMF					eSn	**Sn**	**01 02 43.6**	**-6.6**
	comp=Z,3.8nm,0.2s							
SGMF					eSg	**Sg**	**01 03 36.6**	**-4.9**
	comp=Z,15nm,0.4s							
ATE	**Arette**	**8.22**	**245**			Pn	01 01 23.9	+6.0
ETSF	**Etsaut**	**8.24**	**243**	*e*	P	**Pn**	**01 01 22.7**	**+4.5**
ETSF	**Etsaut**	**8.24**	**243**	*e*	Pg	Pg	01 01 51.7	-4.6
ETSF					eSn	**Sn**	**01 02 44.6**	**-6.8**
ETSF					eSg	**Sg**	**01 03 38.9**	**-4.0**
	comp=Z,20nm,0.6s							
PDG	**Podgorica**	**8.38**	**120**	*e*	Pn	**Pn**	**01 01 16.3**	**-3.7**
DRME	**Dracevica, Mon**	**8.48**	**122**	*e*	Pn	Pn	01 01 12.2	-9.3
SJPF	**Ste Jean**	**8.54**	**246**	*e*	P	**Pn**	**01 01 26.6**	**+4.4**
SJPF	**Ste Jean**	**8.54**	**246**	*e*	Pg	Pg	01 01 57.5	-4.4
SJPF					eSg	**Sg**	**01 03 46.8**	**-5.6**
	comp=Z,18nm,0.6s							
QUIF	**Quistinic**	**8.59**	**280**	*e*	P	**Pn**	**01 01 23.6**	**+0.7**
QUIF					eSn	**Sn**	**01 02 54.2**	**-5.7**
	comp=Z,10nm,0.3s,SNR=1.0							
QUIF					eSg	**Sg**	**01 03 48.3**	**-5.9**
	comp=Z,28nm,0.6s							
ROSF	**Rostrenen**	**8.68**	**283**	*e*	P	**Pn**	**01 01 24.6**	**+0.4**
ROSF					eSn	**Sn**	**01 02 55.9**	**-6.2**
	comp=Z,11nm,0.4s							
ROSF					eSg	**Sg**	**01 03 51.4**	**-5.6**
	comp=Z,38nm,0.6s							
EORO	**Oroz-Betelu**	**8.70**	**245**			Pn	01 01 30.8	+6.2
ETOS	**Mallorca**	**8.76**	**216**			Pn	01 01 32.1	+6.8
TRPA	**Tarpa**	**8.90**	**78**	⇑	P	**Pn**	**01 01 26.5**	**-0.7**
TRPA	**Tarpa**	**8.90**	**78**	*e*	Pn	**Pn**	**01 01 24.1**	**-3.1**
ERTA	**Horta de San J**	**8.98**	**230**			Pn	01 01 35.6	+7.2
GZR	**Gura Zlata**	**9.38**	**95**	⇑	P	**Pn**	**01 01 36.0**	**+2.1**
HPK	**Haverah Park**	**9.85**	**318**			**Pn**	**01 01 41.3**	**+1.1**
BURAR	**Bucovina Array**	**10.71**	**81**	⇑	P	**Pn**	**01 01 53.0**	**

comp=E,4μm,0.2s
GRPR Tuman 1.54 300 *e*P **Pn 01 00 44.2 -0.5**
GRPR AMB AMB 01 00 45.0
comp=E,370nm,0.3s
GRPR AMB AMB 01 00 45.0
comp=E,150nm,0.3s
GRPR *i* S **Sn 01 01 01.9 -1.5**
GRPR A A 01 01 03.0
comp=E,550nm,0.3s
GRPR A A 01 01 03.0
comp=E,440nm,0.3s
GLVR Golovnino 1.61 289 *e*PN **Pn 01 00 45.4 -0.2**
GLVR *i* S **Sn 01 01 04.2 -1.0**
GLVR pmax pmax
comp=Z,289nm,0.3s
GLVR pmax pmax
comp=E,81nm,0.1s
GLVR pmax pmax
comp=N,137nm,0.2s
GLVR smax smax
comp=N,3μm,0.2s
GLVR smax smax
comp=E,3μm,0.2s
GLVR Golovnino 1.61 289 *e*P **Pn 01 00 45.9 +0.3**
GLVR AMB AMB 01 00 49.0
comp=E,140nm,0.4s
GLVR *i* S **Sn 01 01 04.2 -1.0**
GLVR A A 01 01 09.0
comp=E,280nm,0.2s
GLVR A A 01 01 09.0
comp=E,270nm,0.2s
JKHN Kushirohamanak 1.81 266 P **Pn 01 00 48.5 +0.1**
JRA Rausu 1.95 292 P **Pn 01 00 50.3 +0.1**
JRA *e*S **Sn 01 01 13.1 -0.3**
JNSB Nemuroshibetsu 1.98 287 P **Pn 01 00 50.7 0.0**
JNSB *e*S **Sn 01 01 13.7 -0.6**
KUR Kuril'sk 2.00 5 *e*PN **Pn 01 00 51.5 +0.6**
KUR *i* S **Sn 01 01 14.7 +0.1**
KUR pmax pmax
comp=Z,144nm,0.4s
KUR pmax pmax
comp=N,81nm,0.2s
KUR pmax pmax
comp=E,126nm,0.2s
KUR smax smax
comp=N,344nm,0.2s
KUR smax smax
comp=E,636nm,0.2s
KUR Kuril'sk 2.00 5 *e*P **Pn 01 00 52.0 +1.1**
KUR AMB AMB 01 00 52.3
comp=E,30nm,0.4s
KUR AMB AMB 01 00 52.3
comp=E,20nm,0.4s
KUR AMB AMB 01 00 52.3
comp=E,140nm,0.4s
KUR *i* S **Sn 01 01 14.8 +0.1**
KUR A A 01 01 17.0
comp=E,340nm,0.4s
KUR A A 01 01 17.0
comp=E,640nm,0.4s
JNK Nakash 2.15 280 P **Pn 01 00 52.6 -0.4**
JNK *e*S **Sn 01 01 17.4 -1.0**
JAK Akkeshi 2.16 264 P **Pn 01 00 53.0 -0.1**
JTKR Abashiri--Toko 2.80 286 P **Pn 01 01 02.9 +1.0**
JTKR *e*S **Sn 01 01 35.4 +1.0**
JOB Onbets 2.80 264 P **Pn 01 01 02.2 +0.3**
JAR Ashorobuto 2.82 272 P **Pn 01 01 02.5 +0.3**
JAR *e*S **Sn 01 01 34.7 -0.2**
JMP Maruseppu 3.19 285 P **Pn 01 01 08.6 +1.2**
JCH Churui 3.19 260 P **Pn 01 01 07.1 -0.3**
ERM Erimo 3.52 251 *de*PN **Pn 01 01 13.7 +1.9**
JEM Erimo 3.52 251 P **Pn 01 01 12.9 +1.1**
JKK2 Kamakawa 2 3.60 282 P **Pn 01 01 14.4 +1.4**
JFR Furan 3.68 270 P **Pn 01 01 15.3 +1.2**
JNBK Urakawa-nobuka 3.72 257 P **Pn 01 01 14.7 +0.2**
ASAJ Asahikawa 3.75 285 P **Pn 01 01 16.4 +1.4**
comp=E,6.3nm,0.3s,baz=118,slow=6.3,SNR=22
ASAJ S **Sn 01 02 04.0 +6.0**
comp=E,3.9nm,0.3s,baz=63,slow=16,SNR=3.3
YSS Yuzh-Sakhalins 5.07 319 *e*P **Pn 01 01 35.5 +2.4**
TYV Tymovskoe 8.34 338 *e*P **Pn 01 02 19.9 +1.9**
SKR Severo-Kuril's 9.43 35 ⇓*e*PN **Pn 01 02 31.5 -1.4**
SKR Severo-Kuril's 9.43 35 *e*P **Pn 01 02 34.5 +1.6**
MJAR Matsushiro Arr 9.85 230 LR LR 01 06 58.3
comp=E,36nm,18.8s,baz=5.0,slow=40
PETK Petropavlovsk- 11.93 31 P **Pn 01 03 07.1 0.0**
comp=E,0.4nm,0.3s,baz=203,slow=11,SNR=4.3
SEY Seymchan 19.92 6 P **P 01 04 48.0 -0.1**
SEY Seymchan 19.92 6 P **P 01 04 48.0 -0.1**
comp=E,0.2nm,0.3s,baz=197,slow=2.7,SNR=4.6
SEY Seymchan 19.92 6 *e*P **P 01 04 48.0 -0.1**
H11N2 WAKE ISLAND Hy 28.49 139 T T 01 37 11.8
baz=330,slow=75,SNR=27
H11N1 WAKE ISLAND Hy 28.50 139 T T 01 37 08.9
baz=330,slow=75,SNR=21
H11N3 WAKE ISLAND Hy 28.51 139 T T 01 37 07.7
baz=330,slow=75,SNR=20
SONM Songino Array 28.99 294 *e*P **P 01 06 16.8 +0.8**
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 28.99 294 P **P 01 06 16.4 +0.4**
comp=Z,1.1nm,0.5s,baz=76,slow=8.9,SNR=4.1
H11S1 WAKE ISLAND Hy 29.45 141 T T 01 38 19.0
baz=330,slow=76,SNR=35
H11S3 WAKE ISLAND Hy 29.46 141 T T 01 38 19.8
baz=330,slow=76,SNR=31
H11S2 WAKE ISLAND Hy 29.47 141 T T 01 38 22.1
baz=330,slow=76,SNR=27
COLA College 41.28 36⇑*e*P **P 01 07 59.3 -1.8**
COLA pmax pmax
comp=Z,6.0nm,0.9s
ZALV Zalesovo Beam 41.58 308 P **P 01 08 03.2 -0.6**
comp=Z,0.5nm,0.4s,baz=92,slow=3.3,SNR=2.7
ILAR Eielson Array 41.69 36 P **P 01 08 04.2 -0.4**
comp=Z,0.4nm,0.5s,baz=264,slow=8.1,SNR=5.3
MK31 Makanchi Array 45.13 298 *e*P **P 01 08 32.7 +0.2**
MKAR Makanchi Array 45.13 298 *e*P **P 01 08 32.7 +0.2**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 45.13 298 P **P 01 08 32.7 +0.2**
comp=Z,2.4nm,0.7s,baz=80,slow=8.0,SNR=26
MKAR Makanchi Array 45.13 298 *e*P **P 01 08 32.6 +0.1**
KURK Kurchatov 46.10 305⇓*e*P **P 01 08 39.7 -0.4**
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURK Kurchatov 46.10 305 *e*P **P 01 08 39.7 -0.4**
INK Inuvik 46.66 30 P **P 01 08 43.8 -0.4**
comp=Z,1.9nm,0.6s,baz=299,slow=8.5,SNR=13
BRVK Borovoye 50.14 310⇓*e*P **P 01 09 11.5 +0.2**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 50.14 310 *e*P **P 01 09 11.5 +0.2**
AAK Ala-Archa 51.89 296⇑*e*P **P 01 09 24.8 0.0**
AAK pmax pmax
comp=Z,13nm,3.8s
AAK Ala-Archa 51.89 296 *e*P **P 01 09 24.8 0.0**
RES Resolute Bay 55.35 17 P **P 01 09 49.0 -0.4**
comp=Z,2.5nm,0.8s,baz=334,slow=9.8,SNR=8.0
YKA Yellowknife Ar 56.03 34 P **P 01 09 54.7 +0.2**
comp=Z,0.5nm,0.5s,baz=299,slow=6.6,SNR=6.2
AKTO Aktyubinsk 58.13 311 LR LR 01 39 25.6
comp=Z,38nm,18.2s,baz=158,slow=40
ARCES ARCESS Array B 59.84 340 *e*P **P 01 10 21.0 -0.1**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 59.84 340 P **P 01 10 20.8 -0.3**
comp=Z,2.3nm,0.5s,baz=48,slow=7.3,SNR=6.7
FINES FINESS Array B 65.48 333 P **P 01 10 58.4 -0.3**
comp=Z,4.4nm,0.6s,baz=36,slow=7.6,SNR=29
VSR Storozhevoye 67.34 320⇑*e*P **P 01 11 10.7 -0.1**
VSR pmax pmax
comp=Z,8.0nm,0.7s
NVAR Mina Array Bea 67.55 58 P **P 01 11 12.6 -0.1**
comp=Z,0.8nm,0.8s,baz=278,slow=7.0,SNR=5.7
ASAR Alice Springs 67.77 194 P **P 01 11 14.2 +0.4**
comp=Z,0.1nm,0.3s,baz=1.8,slow=3.0,SNR=6.8
NB2 NORSAR Subarra 70.20 339 P **P 01 11 28.2 -0.3**
comp=Z,1.2nm,0.5s,baz=30,slow=6.5
NOA NORSAR Array B 70.20 339 *e*P **P 01 11 28.2 -0.3**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 70.20 339 P **P 01 11 28.6 +0.1**
comp=Z,1.8nm,0.5s,baz=33,slow=6.5,SNR=24
HFS Hagfors 70.29 337 P **P 01 11 28.7 -0.4**
comp=Z,3.4nm,0.4s,baz=35,slow=5.4,SNR=35
KBZ Khabaz 70.40 312 P **P 01 11 29.6 -0.4**
comp=Z,1.5nm,0.7s,baz=12,slow=20,SNR=4.6
AKASG Malin Array Be 72.19 324 *i* P **P 01 11 41.5 +0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 72.19 324 P **P 01 11 40.1 -0.6**
comp=Z,2.0nm,0.6s,baz=41,slow=6.3,SNR=6.5
CLL Collm 77.92 333 *e*P **P 01 12 14.0 +0.3**
BRTR Keskin Array B 78.15 314 P **P 01 12 15.1 -0.3**
comp=Z,0.8nm,0.9s,baz=52,slow=9.3,SNR=2.5
GERES GERESS Array B 79.77 331 P **P 01 12 24.0 0.0**
comp=Z,0.3nm,0.3s,baz=40,slow=5.3,SNR=6.7
TXAR Lajitas Array 82.64 57 P **P 01 12 40.3 +0.7**
comp=Z,0.7nm,0.7s,baz=297,slow=3.8,SNR=10.0
TORD Torodi Ar. Bea 115.81 323 PKP **PKiKP 01 18 58.2 -0.6**
comp=Z,0.7nm,1.0s,baz=338,slow=3.1,SNR=3.0

TAP ***12*** *01:14:04.9, 24.91N×122.68E, h36km±1km, ML3.3, D*
ISCJB ***12*** *01:14:06.0±0.6, 24.88N±0.05×122.60E±0.03, h15km±7km, Error ellipse: s-maj=8.7km s-min=4.0km az=23.0*
JMA ***12*** *01:14:05.9±0.3, 24.83N×122.59E, h0km±4km, M2.6*
ISC 12 01:14:05.2±1.2**, 24.90N**±0.05×**122.60E**±0.03**, h17**km±11km**, n46, σ0.45/51, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.54**	**145**	P		**Pg**	**01 14 16.1**	**+0.1**
JYNG				*e*S		**Sg**	**01 14 22.8**	**-0.5**
EOS1	**EOS1** baz=234	**0.55**	**231**	P		**Pb**	**01 14 17.0**	**+0.6**
EOS1				S		**Sn**	**01 14 26.5**	**-0.6**
TWB1	**Santiao Chiao** baz=279	**0.57**	**282**	P		**Pb**	**01 14 17.3**	**+0.5**
YOJ	**Yonaguni jima**	**0.57**	**139**	P		**Pg**	**01 14 16.4**	**-0.1**
YOJ				S		**Sg**	**01 14 24.2**	**0.0**
YOJ	**Yonaguni jima** baz=140	**0.57**	**139**	*e*P		**Pg**	**01 14 15.9**	**-0.7**
YOJ				*e*S		**Sg**	**01 14 24.5**	**+0.3**
EGS	baz=264	**0.61**	**265**	*e*P		**Pb**	**01 14 17.9**	**+0.4**
NTC	**Toucheng** baz=273	**0.70**	**267**	*e*P		**Pb**	**01 14 19.8**	**+0.7**
TIPB	**Shuangxi** baz=275	**0.71**	**276**	P		**Pb**	**01 14 19.4**	**+0.2**
TIPB				*e*S		**Sn**	**01 14 30.5**	**-0.6**
TWC	**Suao** baz=248	**0.74**	**247**	*e*P		**Pg**	**01 14 19.6**	**-0.1**
TWE	**Neicheng** baz=258	**0.87**	**259**	*e*P		**Pb**	**01 14 21.9**	**0.0**
PCYT	**Pengchaiyu** baz=311	**0.87**	**327**	*e*P		**Pb**	**01 14 21.7**	**-0.3**
SLBB	**Yuanshan** baz=261	**0.89**	**261**	*e*P		**Pb**	**01 14 21.9**	**-0.3**
NANB	**Nanao** baz=240	**0.90**	**239**	*e*P		**Pb**	**01 14 22.1**	**-0.4**
ENA	**Nanau** baz=240	**0.91**	**239**	*e*P		**Pb**	**01 14 22.4**	**-0.1**
YM08	**YM08** baz=297	**0.96**	**288**	*e*P		**Pb**	**01 14 23.8**	**+0.3**
YM01	**YM01** baz=294	**0.97**	**285**	*e*P		**Pb**	**01 14 23.5**	**-0.1**
YM11	**YM11** baz=295	**0.97**	**286**	*e*P		**Pb**	**01 14 23.4**	**-0.3**
ENTT	**Nioudou** baz=255	**0.97**	**255**	*e*P		**Pb**	**01 14 23.8**	**+0.1**
YM05	**YM05** baz=295	**0.98**	**286**	*e*P		**Pb**	**01 14 23.4**	**-0.4**
YM10	**YM10** baz=294	**0.98**	**286**	*e*P		**Pb**	**01 14 23.7**	**-0.1**
NWLT	**Wulai** baz=263	**1.00**	**263**	*e*P		**Pn**	**01 14 24.7**	**0.0**
NDT	**Datong Townshi** baz=261	**1.03**	**254**	*e*P		**Pb**	**01 14 24.4**	**-0.3**
YHNB	**Yeheng** baz=259	**1.14**	**259**	*e*P		**Pb**	**01 14 26.1**	**-0.4**
NSK	**Sanguang** baz=259	**1.15**	**259**	*e*P		**Pn**	**01 14 26.6**	**-0.1**
NACB	**Ninganchiao** baz=233	**1.16**	**232**	*e*P		**Pn**	**01 14 27.0**	**+0.2**
IRIF	**Iriomote-Funau**	**1.17**	**118**	P		**Pg**	**01 14 28.3**	**+0.5**
NNSH	**Datong** baz=240	**1.20**	**247**	*e*P		**Pb**	**01 14 27.9**	**+0.2**
NNS	**Nan Shan** baz=240	**1.21**	**248**	P		**Pg**	**01 14 28.6**	**0.0**
TWD	**Chiawan** baz=230	**1.22**	**229**	*e*P		**Pn**	**01 14 27.7**	**+0.1**
ETLH	**Xiulin Townshi** baz=245	**1.23**	**236**	*e*P		**Pb**	**01 14 28.3**	**+0.2**
HATJ	**Hateruma jima**	**1.38**	**127**	P		**Pg**	**01 14 32.0**	**+0.2**
WHF	**Hehuan Shan** baz=226	**1.43**	**239**	*e*P		**Pn**	**01 14 31.4**	**+0.6**
JKRS	**Kuro-shima**	**1.44**	**117**	P		**Pb**	**01 14 31.5**	**-0.1**
TWT	**Tachien** baz=233	**1.45**	**244**	*e*P		**Pb**	**01 14 31.6**	**-0.2**
TDCB	**Techi** baz=234	**1.46**	**244**	*e*P		**Pn**	**01 14 31.5**	**+0.5**
LIOB	**Emei** baz=260	**1.46**	**261**	*e*P		**Pb**	**01 14 31.8**	**-0.2**
NSTT	**Nanjuang** baz=260	**1.48**	**260**	*e*P		**Pb**	**01 14 32.1**	**-0.2**
JIJ	**Ishigaki jima**	**1.50**	**110**	P		**Pg**	**01 14 34.5**	**+0.4**
CHGB	**Renai** baz=225	**1.54**	**238**	*e*P		**Pn**	**01 14 32.4**	**+0.2**
WHP	**Taichung City** baz=239	**1.63**	**248**	*e*P		**Pb**	**01 14 35.3**	**+0.4**
VWDT	**VWDT** baz=221	**1.75**	**230**	*e*P		**Pn**	**01 14 35.4**	**+0.6**
SMLT	**Sun Moon Lake** baz=226	**1.85**	**237**	*e*P		**Pn**	**01 14 37.4**	**+1.0**
SSLB	**Suanglung** baz=223	**1.86**	**234**	*e*P		**Pn**	**01 14 36.7**	**+0.2**
TYC	**Yuchr** baz=227	**1.87**	**239**	*e*P		**Pn**	**01 14 37.8**	**+1.3**
YULB	**Yu-li** baz=233	**1.91**	**219**	*e*P		**Pn**	**01 14 36.3**	**-0.9**
WHYT	**Xinyi Township** baz=223	**1.99**	**234**	*e*P		**Pn**	**01 14 38.6**	**+0.4**

ISCJB ***12*** *01:15:40.8±1.6, 14.76N±0.2×92.74W±0.1, h67km, Error ellipse: s-maj=26.7km s-min=7.5km az=31.4*
MEX ***12*** *01:15:41.4±0.7, 14.43N×92.30W, h59km±11km, MD3.7*
GCG ***12*** *01:15:43.4±0.3, 14.70N×92.17W, h62km±7km, MD4.1*
UCR ***12*** *01:15:43.5±0.3, 14.28N×92.10W, h5km±59km, MD3.7*
ISC 12 01:15:40.6±2.0**, 14.5N**±0.1×**92.39W**±0.1**, h67**km**, n15, σ19/04/19, 1D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
THIG		**0.42**	**17**	*e*P		**Pn**	**01 15 52.1**	**-0.3**
THIG				*e*S		**Sn**	**01 15 59.8**	**-1.3**
THIG		**0.42**	**17**	*e*P		**Pn**	**01 15 51.5**	**-1.0**
THIG				*e*S		**Sn**	**01 15 59.8**	**-1.3**
ERG	**Entre ros, C**	**0.80**	**94**	*e*P		**Pn**	**01 15 57.0**	**+0.5**
STG3	**Santiaguito 3,**	**0.82**	**75**	⇓*i*P		**Pn**	**01 15 57.0**	**0.0**
PCIG		**1.44**	**326**	*e*P		**Pn**	**01 16 04.9**	**+0.3**
PCIG		**1.44**	**326**	*e*P		**Pn**	**01 16 04.8**	**+0.1**
FUG	**Fuego 3**	**1.50**	**92**	*e*P		**Pn**	**01 16 06.2**	**+0.5**
FUG				*e*S		**Sn**	**01 16 23.9**	**-0.6**
FUG	**Fuego 3**	**1.50**	**92**	*e*P		**Pn**	**01 16 06.2**	**+0.5**
FUG				*e*S		**Sn**	**01 16 23.9**	**-0.6**
CCIG	**Comitan**	**1.79**	**8**	*e*P		**Pn**	**01 16 10.6**	**+1.0**
CCIG	**Comitan**	**1.79**	**8**	*e*P		**Pn**	**01 16 10.7**	**+1.1**
IXG	**Ixpaco**	**1.92**	**100**	*e*P		**Pn**	**01 16 12.2**	**+1.0**
IXG	**Ixpaco**	**1.92**	**100**	*e*P		**Pn**	**01 16 12.2**	**+1.0**
TGIG		**2.37**	**343**	*e*P		**Pn**	**01 16 18.0**	**+0.7**
TGIG		**2.37**	**343**	*e*P		**Pn**	**01 16 19.9**	**+2.6**
CMIG	**Matias Romero**	**3.52**	**317**	*e*P		**Pn**	**01 16 33.4**	**+0.5**

IDC ***12*** *01:24:03.4±0.8, 36.87N×71.13E, h0km, mb3.9/15, mb1 4.0/21, mb1mx3.9/47, mbtmp3.9/21, ML3.7/6, MS2.7/3, Ms1 2.7/3, ms1mx2.4/46, Error ellipse: s-maj=16.8km s-min=15.5km az=146.0*
ISCJB ***12*** *01:24:09.2±0.5, 36.82N±0.03×71.22E±0.07, h106km, mb3.7/15, Error ellipse: s-maj=8.3km s-min=3.9km az=163.3*
NNC ***12*** *01:24:09.4±3.0, 36.77N×70.80E, h128km±56km, mb3.7, mpv4.2, Error ellipse: s-maj=27.5km s-min=16.3km az=164.0*

ISC 12 01:24:13.8±0.6**, 36.93N**±0.05×**71.31E**±0.07**, h106**km**, n56, σ3.27/57, mb3.8/15, 8C-9D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.14**	**171**	P		**Pn**	**01 24 58.3**	**-3.4**
CHCP	**Chirah Chowk**	**3.63**	**153**	P		**Pn**	**01 25 06.5**	**-1.7**
THW	**Thamme Wali**	**4.14**	**175**	P		**Pn**	**01 25 11.3**	**-3.8**
AML	**Almayashu** SNR=113	**5.51**	**19**	P		**Pn**	**01 25 32.6**	**-1.3**
UCH	**Uchtor** SNR=11	**5.84**	**24**	P		**Pn**	**01 25 37.2**	**-1.2**
KZA	**Kyzart** SNR=10	**5.98**	**29**	P		**Pn**	**01 25 40.4**	**+0.2**
EKS2	**Erkin-Say** SNR=8.7	**6.03**	**18**	P		**Pn**	**01 25 39.6**	**-1.1**
KK31	**Karatay Array** 9.2nm,0.3s,baz=180,slow=13,SNR=473	**6.20**	**355**	⇓P		**Pn**	**01 25 39.5**	**-3.4**
KK31	10.0nm,0.3s,baz=190,slow=25,SNR=4.8			⇓S		**Sn**	**01 26 50.5**	**-1.8**
AAK	**Ala-Archa** 4.1nm,0.3s,baz=169,slow=5.5,SNR=31	**6.21**	**22**	Pn		**Pn**	**01 25 41.6**	**-1.4**
AAK	1.9nm,0.3s,baz=180,slow=14,SNR=1.9			Sn		**Sn**	**01 26 50.9**	**-1.8**
AAK	comp=Z,16nm,19.6s,baz=222,slow=35			LR		LR	01 27 46.5	
AAK	**Ala-Archa** SNR=20	**6.21**	**22**	P		**Pn**	**01 25 42.5**	**-0.6**
AAK	**Ala-Archa** 25nm,0.9s	**6.21**	**22**	⇓P		**Pn**	**01 25 42.6**	**-0.6**
AAK	32nm,0.8s			⇓S		**Sn**	**01 27 01.2**	**+8.5**
KBK	**Karagaybulak** SNR=9.9	**6.37**	**25**	P		**Pn**	**01 25 45.4**	**+0.1**
CHMS	**Chumysh** SNR=17	**6.61**	**22**	P		**Pn**	**01 25 47.7**	**-0.8**
USP	**Ospenovka** SNR=9.8	**6.79**	**20**	P		**Pn**	**01 25 49.5**	**-1.4**
TKM2	**Tokmak 2** SNR=19	**6.83**	**27**	P		**Pn**	**01 25 51.1**	**-0.5**
TKM2	**Tokmak 2** 8.6nm,0.6s	**6.83**	**27**	⇑P		**Pn**	**01 25 50.9**	**-0.7**
TKM2	14nm,0.9s			⇑S		**Sn**	**01 27 09.9**	**+2.0**
MDOK	**Medeo** 9.5nm,0.9s	**7.62**	**33**	⇓P		**Pn**	**01 26 03.1**	**+0.8**
PDGK	**Podgornoye** 4.7nm,0.8s	**8.95**	**42**	⇓P		**Pn**	**01 26 19.9**	**-0.4**
GEYT	**Alibeck** 1.6nm,0.3s,baz=129,slow=12,SNR=13	**10.54**	**279**	Pn		Pn	01 26 32.0	-10
GEYT	2.9nm,0.3s,baz=104,slow=18,SNR=10			Sn		Sn	01 28 25.5	-12
GEYT	comp=Z,39nm,19.6s,baz=140,slow=41			LR		LR	01 31 14.5	
GYA0B	**ALIBECK ARRAY**	**10.54**	**279**	⇓P		Pn	01 26 32.1	-10
GYA0B				⇑S		Sn	01 28 26.1	-12
MAKZ	**Makanchi** 5.4nm,0.8s	**12.66**	**35**	⇓P		**Pn**	**01 27 07.9**	**-2.1**
MK31	**Makanchi Array** 3.2nm,0.7s,baz=240,slow=14,SNR=22	**12.80**	**36**	⇑P		**Pn**	**01 27 11.9**	**+0.1**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=224,slow=14,SNR=28	**12.80**	**36**	Pn		**Pn**	**01 27 09.3**	**-2.5**
DANN	**Dangsing** 19nm,0.5s	**13.53**	**126**	*e*P		Pn	01 27 15.4	-6.3
KOLN	**Koldanda** 5.4nm,0.3s	**13.82**	**128**	*e*P		**Pn**	**01 27 21.0**	**-4.4**
GKN	**Gorkha** 8.1nm,0.3s	**14.33**	**125**	*e*P		Pn	01 27 26.6	-5.4
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=212,slow=12,SNR=6.1	**14.64**	**18**	Pn		**Pn**	**01 27 31.7**	**-3.8**
AB31	**Akbulak array** 1.6nm,0.3s,baz=146,slow=12,SNR=96	**14.84**	**330**	⇓P		Pn	01 27 32.4	-5.7
AB31	4.4nm,0.7s,baz=146,slow=22,SNR=9.2			⇑S		**Sn**	**01 30 15.8**	**-5.8**
KKN	**Kakani** 15nm,0.5s	**14.90**	**124**	*e*P		Pn	01 27 33.6	-5.6
PKIN	**Phulchoki** 8.1nm,0.4s	**15.12**	**124**	*e*P		**Pn**	**01 27 37.1**	**-4.9**
PKI	**Pulchoki** 6.2nm,0.4s	**15.13**	**124**	*e*P		**Pn**	**01 27 37.3**	**-4.9**
GUN	**Gumba** 7.5nm,0.4s	**15.22**	**122**	*e*P		**Pn**	**01 27 38.0**	**-5.5**
JIRN	**Jiri** 13nm,0.3s	**15.60**	**122**	*e*P		**Pn**	**01 27 43.0**	**-5.1**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=165,slow=12,SNR=4.3	**16.11**	**358**	Pn		**Pn**	**01 27 50.0**	**-3.9**
BVAR	0.1nm,0.3s,baz=196,slow=14,SNR=2.7			Sn		**Sn**	**01 30 45.2**	**-7.1**
BRVK	**Borovoye** 11nm,1.4s	**16.15**	**358**	⇑P		**Pn**	**01 27 49.9**	**-4.5**
RAMN	**Ramite** 18nm,0.6s	**16.33**	**123**	*e*P		**Pn**	**01 27 53.5**	**-3.7**
AKTO	**Aktyubinsk** 0.7nm,0.3s,baz=143,slow=12,SNR=9.3	**16.54**	**329**	Pn		**Pn**	**01 27 54.6**	**-4.7**
AKTO	0.1nm,0.3s,baz=139,slow=20,SNR=4.3			Sn		Sn	01 30 51.0	-12
AKTO	**Aktyubinsk** 13nm,0.9s	**16.54**	**329**	⇑P		**Pn**	**01 27 55.6**	**-3.7**
AKTO	6.7nm,0.9s			⇑S		Sn	01 30 53.4	-9.3
TAPN	**Taplejung** 4.4nm,0.4s	**16.84**	**120**	*e*P		**Pn**	**01 27 58.6**	**-4.8**
ZALV	**Zalesovo Beam** 1.2nm,0.3s,baz=222,slow=12,SNR=21	**19.42**	**25**	P		**P**	**01 28 31.8**	**+0.2**
ARU	**Arti** 1.2nm,0.4s,baz=191,slow=6.9,SNR=7.6	**21.31**	**340**	P		**P**	**01 28 51.5**	**-0.3**
ARU	0.5nm,0.3s,baz=162,slow=20,SNR=3.0			S		**S**	**01 32 44.5**	**+2.1**
KBZ	**Khabaz** 3.9nm,0.7s,baz=89,slow=18,SNR=3.9	**22.63**	**296**	P		**P**	**01 29 03.5**	**-2.2**
KVAR	**Kislovodsk Arr** 2.2nm,0.8s,baz=75,slow=16,SNR=1.8	**22.81**	**297**	P		**P**	**01 29 07.9**	**+0.2**
BRTR	**Keskin Array B** 1.1nm,0.8s,baz=72,slow=9.3,SNR=3.4	**29.54**	**287**	P		**P**	**01 30 08.9**	**+0.3**
FINES	**FINESS Array B** 1.1nm,0.3s,baz=122,slow=9.1,SNR=20	**37.27**	**326**	P		**P**	**01 31 16.9**	**+1.9**
ARCES	**ARCESS Array B** 4.9nm,1.0s,baz=35,slow=11,SNR=2.4	**40.85**	**337**	P		**P**	**01 31 47.1**	**+2.4**
NB2	**NORSAR Subarra** comp=Z,1.6nm,0.8s,baz=96,slow=7.9	**44.19**	**323**	P		**P**	**01 32 13.0**	**+1.1**
NOA	**NORSAR Array B** comp=Z,1.1nm,0.8s,baz=96,slow=7.7,SNR=3.2	**44.19**	**323**	P		**P**	**01 32 13.2**	**+1.3**
KEST	**Kesra** comp=Z,1.6nm,0.6s,baz=36,slow=8.7,SNR=4.0	**49.14**	**288**	P		**P**	**01 32 52.3**	**+1.4**
KEST	comp=Z,29nm,18.2s,baz=294,slow=40			LR		LR	01 57 09.3	
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.5s,baz=48,slow=6.4,SNR=6.6	**65.98**	**269**	P		**P**	**01 34 50.5**	**+1.3**
INK	**Inuvik** comp=Z,1.1nm,0.6s,baz=325,slow=5.2,SNR=9.5	**73.44**	**9**	P		**P**	**01 35 37.1**	**+3.1**
ILAR	**Eielson Array** comp=Z,0.4nm,0.9s,baz=292,slow=5.7,SNR=2.9	**74.30**	**16**	P		**P**	**01 35 42.6**	**+3.4**
BOSA	**Boshof** comp=Z,3.0nm,0.9s,baz=141,slow=14,SNR=3.3	**78.23**	**220**	P		**P**	**01 36 04.6**	**+2.6**
YKA	**Yellowknife Ar** comp=Z,0.8nm,0.5s,baz=349,slow=5.5,SNR=12	**80.81**	**3**	P		**P**	**01 36 18.9**	**+3.6**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.5s,baz=330,slow=4.8,SNR=4.7	**82.01**	**122**	P		**P**	**01 36 26.7**	**+4.4**
ASAR	**Alice Springs** comp=Z,0.2nm,0.5s,baz=306,slow=4.9,SNR=4.5	**84.30**	**125**	P		**P**	**01 36 37.8**	**+3.8**

DJA ***12*** *01:32:17.8±0.6, 0.52×12.3E±, h13km±6km, M4.2/12, mb4.3/6, mB5.1/1, MLv4.2/12, Mw(mB)4.4/1*
ISCJB ***12*** *01:32:18.8±0.6, 0.29S±0.05×123.19E±0.05, h35km, mb3.5/3, Error ellipse: s-maj=8.4km s-min=6.1km az=41.4*
IDC ***12*** *01:32:21.9±2.0, 0.95S×124.86E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/26, mbtmp3.5/3, Error ellipse: s-maj=271.8km s-min=26.3km az=63.0*
ISC 12 01:32:18.2±1.1**, 0.28S**±0.05×**123.22E**±0.05**, h35**km**, n13, σ2.49/15, mb3.5/3, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.88**	**211**	P		**Pn**	**01 32 34.8**	**+0.7**
LUWI				S		**Sn**	**01 32 47.9**	**+2.2**
KMSI	**Cibinong**	**1.14**	**42**	P		**Pn**	**01 32 38.1**	**+0.5**
KMSI				S		**Sn**	**01 32 53.9**	**+1.9**
MRSI	**Marisa**	**1.48**	**300**	P		**Pn**	**01 32 43.0**	**+0.6**
MRSI				S		**Sn**	**01 33 02.1**	**+1.6**
APSI	**Ampana**	**1.69**	**248**	P		**Pn**	**01 32 47.4**	**+2.1**
SANI	**Sanana**	**3.28**	**122**	P		**Pn**	**01 33 10.6**	**+3.5**
MPSI	**Mapaga**	**3.38**	**280**	P		**Pn**	**01 33 10.1**	**+1.7**
TTSI	**Tana Toraja**	**4.37**	**231**	P		**Pn**	**01 33 23.2**	**+1.1**
SPSI	**Sidrap Palu** 28nm,0.4s,0.3nm	**5.03**	**223**	P		**Pn**	**01 33 32.6**	**+1.4**

BNSI	**Bone**	**5.14**	**217**	P	**Pn**	**01 33 33.0**	**+0.3**
	24nm,0.4s,0.2nm						
BKSI	**Bulukumba**	**5.89**	**212**	P	**Pn**	**01 33 44.3**	**+1.3**
	15nm,0.5s,0.1nm						
WRA	**Warramunga Arr**	**22.37**	**152**	P	**P**	**01 37 08.7**	**-4.9**
	1.0nm,0.6s,baz=332,slow=9.9,SNR=9.1						
ASAR	**Alice Springs**	**25.46**	**157**	P	**P**	**01 37 39.4**	**-3.8**
	0.5nm,0.6s,baz=347,slow=17,SNR=5.1						
MKAR	**Makanchi Array**	**58.96**	**328**	P	P	01 42 33.4	+19
	0.5nm,0.6s,baz=128,slow=8.6,SNR=6.2						

NIED ***12*** *01:47:00,32.50N×128.50E,h14km,Mw3.6 Best double couple: M₀2.45000×10¹⁴ NP1:φ₁272.00000°,δ71.00000°, λ0.00000°. NP2:φ₂2.00000°,δ90.00000°,λ-161.00000°.*

JMA 12 01:47:02.0±0.1,32.46N×128.48E,h15km±1km,MM3.7, 1C-2D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFU	**Fukue jima 2**	**0.30**	**49**	⇓P	Pg	01 47 08.4	+0.1
JFU				S	Sg	01 47 12.7	+0.1
NGSJ	**Nagasakinomoza**	**1.13**	**81**	P	Pb	01 47 22.6	-0.6
NGSJ				*e*S	Sg	01 47 39.1	+0.6
JSJ	**Shimokoshiki**	**1.31**	**126**	⇑P	Pn	01 47 25.0	-0.7
JSJ				*e*S	Sb	01 47 42.2	-0.7
JUR	**Ureshino**	**1.39**	**63**	⇓P	Pb	01 47 27.6	-0.1
JUR				S	Sg	01 47 46.1	-0.7
JII	**Iki**	**1.70**	**38**	P	Pn	01 47 31.6	+0.5
JII				S	Sb	01 47 53.5	-0.6
JIU3	**Izumi3**	**1.97**	**87**	*e*S	Sn	01 47 57.8	-1.6
JTSM	**Tsushimamitsus**	**2.02**	**22**	P	Pn	01 47 36.0	+0.5
JTSM				*e*S	Sn	01 48 01.8	+1.3
JTU	**Tsushima**	**2.20**	**20**	P	Pn	01 47 39.3	+1.3
JTU				S	Sb	01 48 07.5	-1.0
JTZ	**Takazaki**	**2.28**	**103**	P	Pn	01 47 39.4	+0.3

ISCJB ***12*** *01:47:29.1±0.5,19.2S±0.1×177.52W±0.10,h550km, mb3.5/9,Error ellipse: s-maj=16.9km s-min=8.4km az=143.9*

IDC ***12*** *01:47:30.1±1.6,19.27S×177.57W,h548km±19km,mb3.1/9, mb1 3.5/13,mb1mx3.2/48,mbtmp4.2/13,Error ellipse: s-maj=19.2km s-min=11.7km az=151.0*

ISC 12 01:47:29.7±0.5,19.2S±0.1×177.55W±0.10,h550km,n35, σ1§12/40,mb3.4/9,4C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.61**	**48**	P	**P**	**01 49 23.6**	**-0.2**
	8.8nm,0.3s,baz=256,slow=4.2,SNR=7.8						
AFI				S	**S**	**01 50 54.4**	**-2.8**
	6.9nm,0.3s,baz=345,slow=20,SNR=4.5						
DZM	**Mont Dzumac**	**15.26**	**256**	P	**P**	**01 50 43.0**	**+1.0**
	0.9nm,0.3s,baz=75,slow=19,SNR=11						
RAR	**Rarotonga**	**16.82**	**100**	P	**P**	**01 50 55.4**	**-1.4**
	0.7nm,0.3s,baz=288,slow=20,SNR=3.4						
URZ	**Urewera**	**19.59**	**193**	P	**P**	**01 51 19.5**	**-2.4**
	4.5nm,0.3s,baz=335,slow=7.4,SNR=9.8						
WRA	**Warramunga Arr**	**45.22**	**261**	P	**P**	**01 54 58.7**	**+0.3**
	2.1nm,0.5s,baz=97,slow=8.5,SNR=57						
WRA				PcP	**PcP**	**01 56 26.5**	**-0.4**
	0.3nm,0.4s,baz=97,slow=7.0,SNR=5.1						
WRA				S	**S**	**02 00 55.4**	**-3.3**
	0.5nm,0.8s,baz=94,slow=15,SNR=2.9						
ASAR	**Alice Springs**	**45.25**	**255**	P	**P**	**01 54 59.5**	**+0.8**
	2.4nm,0.4s,baz=86,slow=8.2,SNR=35						
ASAR				PcP	**PcP**	**01 56 27.0**	**+0.1**
	0.7nm,0.5s,baz=124,slow=3.3,SNR=6.0						
ASAR				S	**S**	**02 00 57.5**	**-1.7**
	1.2nm,0.8s,baz=91,slow=16,SNR=15						
FITZ	**Fitzroy Crossi**	**53.63**	**261**	P	**P**	**01 56 01.1**	**+0.8**
	0.9nm,0.4s,baz=78,slow=3.8,SNR=9.3						
VNDA	**Vanda**	**59.28**	**185**	P	**P**	**01 56 39.4**	**+1.3**
	1.4nm,0.7s,baz=1.0,slow=8.3,SNR=5.5						
NVAR	**Mina Array Bea**	**79.77**	**43**	P	**P**	**01 58 42.8**	**+1.5**
	0.4nm,0.6s,baz=213,slow=8.6,SNR=4.4						
MAW	**Mawson**	**82.96**	**200**	P	**P**	**01 58 56.6**	**-0.3**
	1.7nm,0.6s,baz=117,slow=6.6,SNR=5.6						
TXAR	**Lajitas Array**	**85.98**	**57**	P	**P**	**01 59 14.1**	**+1.6**
	1.0nm,0.8s,baz=216,slow=5.5,SNR=7.3						
ILAR	**Eielson Array**	**86.92**	**13**	P	**P**	**01 59 15.5**	**-0.5**
	0.3nm,0.4s,baz=219,slow=7.0,SNR=4.5						
PDAR	**Pinedale Array**	**87.70**	**43**	P	**P**	**01 59 21.3**	**+0.8**
	0.3nm,0.6s,baz=207,slow=3.7,SNR=2.7						
SNAA	**Sanae**	**89.33**	**178**	P	**P**	**01 59 26.8**	**-0.6**
VNA3	**Neumayer Olymp**	**89.44**	**176**	P	**P**	**01 59 27.6**	**-0.3**
VNA2	**Neumayer--Watz**	**89.89**	**177**	P	**P**	**01 59 30.0**	**+0.1**
	baz=188,slow=4.4						
ARCES	**ARCESS Array B**	**127.68**	**350**	PKP	**PKPdf**	**02 05 32.2**	**+0.1**
	5.5nm,1.0s,baz=15,slow=3.7,SNR=4.7						
BURAR	**Bucovina Array**	**146.09**	**332**	⇑P	**PKPab**	**02 06 10.6**	**0.0**
BIZ	**Bicaz**	**146.19**	**330**	⇑P	**PKPbc**	**02 06 10.2**	**+1.4**
BRTR	**Keskin Array B**	**146.23**	**314**	PKPbc	**PKPbc**	**02 06 09.2**	**-0.1**
	0.8nm,0.4s,baz=130,slow=4.1,SNR=7.3						
PRU	**Pruhonice**	**147.76**	**345**	*e*PKP	**PKPbc**	**02 06 13.6**	**+0.8**
ARR	**Arges**	**148.04**	**330**	⇑P	**PKiKP**	**02 06 15.4**	**+0.3**
KHC	**Kasperske Hory**	**148.78**	**346**	*e*PKP	**PKPbc**	**02 06 15.5**	**+0.1**
GERES	**GERESS Array B**	**149.02**	**345**	PKPbc	**PKPbc**	**02 06 16.5**	**+0.4**
	1.6nm,0.7s,baz=48,slow=2.0,SNR=9.5						
BZS	**Buzias**	**149.21**	**333**	⇑P	**PKPbc**	**02 06 15.4**	**-1.1**
CONA	**Conrad Observa**	**149.30**	**342**	*i* PKPbc	**PKPbc**	**02 06 17.6**	**+0.9**
	1.4nm,0.6s						
MOA	**Molln**	**149.81**	**344**	*i* PKPbc	**PKPbc**	**02 06 18.3**	**+0.4**
	1.0nm,0.4s						
KBA	**Koelnbreinsper**	**150.76**	**345**	*i* PKPbc	**PKPbc**	**02 06 20.5**	**+0.2**
	1.3nm,0.4s						
WATA	**Walderalm**	**150.92**	**347**	*i* PKPbc	**PKPbc**	**02 06 20.8**	**+0.1**
	2.9nm,0.5s						
WTTA	**Wattenberg**	**150.98**	**347**	*i* PKPbc	**PKPbc**	**02 06 21.1**	**+0.2**
	3.6nm,0.5s						
MOTA	**Moosalm**	**151.01**	**348**	*i* PKPbc	**PKPbc**	**02 06 21.0**	**+0.1**
	1.1nm,0.4s						
ABTA	**Abfaltersbach**	**151.27**	**346**	*i* PKPbc	**PKPbc**	**02 06 21.1**	**-0.3**
	3.5nm,0.6s						
DAVA	**Damuels**	**151.29**	**349**	*i* PKPbc	**PKPbc**	**02 06 21.6**	**0.0**
	1.4nm,0.5s						
FETA	**Feichten**	**151.39**	**348**	*i* PKPbc	**PKPbc**	**02 06 22.1**	**+0.3**
	1.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**173.98**	**173**	PKPab	**PKPab**	**02 08 13.1**	**+1.2**
	0.4nm,0.9s,baz=163,slow=6.5,SNR=2.9						

RSNC 12 01:50:40.7±0.6,6.77N×73.41W,h129km±5km,ML1.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.28**	**129**	*e*P	Pn	01 50 58.7	-0.2
BARC				*e*S	Sn	01 51 12.3	-0.3
BRRC	**Barranca, Sant**	**0.45**	**318**	*e*P	Pn	01 50 59.0	-0.3
BRRC				*e*S	Sn	01 51 13.1	-0.4
BRRC				*i*		01 51 20.0	
	comp=Z,5.1nm,0.5s						
RUSC	**La Rusia**	**0.93**	**160**	*e*S	Sn	01 51 20.1	-0.4
RUSC				*i*		01 51 22.3	
	comp=Z,2.8nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.07**	**258**	*e*P	Pn	01 51 03.9	-0.2
PTBC				*e*S	Sn	01 51 21.3	-0.6
PTBC				*i*		01 51 25.7	
	comp=Z,4.7nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.61**	**297**	*e*S	Sn	01 51 32.0	-0.3
SMLC	**San Martn de**	**2.12**	**342**	*e*P	Pn	01 51 15.1	-1.0
SMLC				*e*S	Sn	01 51 42.5	-0.7

IDC ***12*** *01:50:60.0±0.8,9.71N×123.66E,h0km,mb3.9/10, mb1 4.1/10,mb1mx3.8/43,mbtmp3.9/10,MS2.9/4, Ms1 2.9/4,ms1mx2.6/41,Error ellipse: s-maj=43.5km s-min=16.7km az=67.0*

MAN ***12*** *01:51:03.1,9.75N×123.69E,h18km,MS3.6*

MAN Intensity III - Tagbilaran City; Intensity II - Lapu-Lapu city.

ISC 12 01:51:00.9±1.7,9.70N±0.03×123.65E±0.04,h5km±11km, n28,σ1§24/32,mb4.0/10,3C-4D,Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.54**	**229**	⇓P	**Pn**	**01 51 16.0**	**+0.7**
SNPH				S	**Sn**	**01 51 25.3**	**+0.5**
LLP	**Lapu-Lapu**	**0.69**	**27**	⇑P	**Pb**	**01 51 15.0**	**-0.4**
LLP				S	**Sg**	**01 51 23.8**	**+0.7**
DCPH	**Dipolog City**	**1.15**	**195**	⇑P	**Pn**	**01 51 24.2**	**+0.6**
DCPH				S	**Sn**	**01 51 41.0**	**+1.3**
MSLP	**Maasin**	**1.27**	**70**	P	**Pn**	**01 51 25.2**	**-0.1**
MSLP				S	**Sn**	**01 51 43.6**	**+0.9**
GUIM	**Jordan**	**1.39**	**311**	P	**Pn**	**01 51 26.6**	**-0.4**
GUIM				S	**Sg**	**01 51 46.4**	**+0.8**
CGP	**Cagayan de Oro**	**1.61**	**140**	⇓P	**Pn**	**01 51 30.2**	**+0.2**
SCPH	**Surigao**	**1.81**	**87**	⇑P	**Pn**	**01 51 33.3**	**+0.5**
SCPH				S	**Sn**	**01 51 56.4**	**+0.2**
PAGZ	**Pagadian**	**1.86**	**188**	P	**Pb**	**01 51 34.6**	**-0.7**
PAGZ				S	**Sg**	**01 52 01.1**	**+0.5**
BUTP	**Butuan**	**2.08**	**110**	P	**Pn**	**01 51 36.9**	**+0.5**
BUTP				S	**Sb**	**01 52 05.9**	**+0.7**
BUKP	**Musuan**	**2.29**	**142**	P	**Pn**	**01 51 40.4**	**+1.1**
BUKP				S	**Sg**	**01 52 13.4**	**-1.0**
CTBH	**Cotabato--PC H**	**2.53**	**166**	⇓P	**Pb**	**01 51 45.5**	**-1.3**
KCP	**Kidapawan**	**3.03**	**152**	⇓P	**Pn**	**01 51 46.2**	**-3.3**
DAV	**Davao City (W)**	**3.24**	**144**	LR	LR	01 52 49.1	
	comp=Z,124nm,20.6s,baz=91,slow=34						
DDMP	**Don Marcelino,**	**4.11**	**150**	P	**Pn**	**01 52 08.3**	**+3.8**
DDMP				S	Sn	01 52 29.5	-23
LEM	**Lembang**	**22.91**	**225**	LR	LR	02 05 13.2	
	comp=Z,16nm,21.2s,baz=98,slow=37						
CMAR	**Chiang Mai Arr**	**25.47**	**293**	P	**P**	**01 56 30.2**	**+0.1**
	1.0nm,0.3s,baz=115,slow=8.0,SNR=4.3						
FITZ	**Fitzroy Crossi**	**27.69**	**176**	P	**P**	**01 56 49.9**	**-0.3**
	0.7nm,0.6s,baz=30,slow=8.1,SNR=2.9						
WRA	**Warramunga Arr**	**31.28**	**160**	P	**P**	**01 57 23.3**	**+1.2**
	0.3nm,0.8s,baz=341,slow=9.5,SNR=2.1						
ASAR	**Alice Springs**	**34.64**	**163**	P	**P**	**01 57 51.6**	**+0.2**
	0.4nm,0.4s,baz=340,slow=7.4,SNR=4.1						
KLR	**Kul'dur**	**39.98**	**8**	LR	LR	02 15 48.0	
	comp=Z,28nm,20.4s,baz=24,slow=37						
SONM	**Songino Array**	**40.71**	**342**	LR	LR	02 18 50.1	
	comp=Z,37nm,18.8s,baz=8.0,slow=41						
MKAR	**Makanchi Array**	**50.95**	**324**	P	**P**	**02 00 04.1**	**+0.7**
	1.1nm,0.8s,baz=123,slow=7.7,SNR=9.1						
ZALV	**Zalesovo Beam**	**53.91**	**333**	P	**P**	**02 00 24.4**	**-0.9**
	0.4nm,0.3s,baz=125,slow=7.4,SNR=2.3						
RAR	**Rarotonga**	**81.18**	**113**	LR	LR	02 33 18.4	
	comp=Z,273nm,20.4s,baz=72,slow=31						
BRTR	**Keskin Array B**	**83.89**	**309**	P	**P**	**02 03 32.3**	**0.0**
	1.0nm,0.9s,baz=89,slow=6.2,SNR=3.1						
INK	**Inuvik**	**85.75**	**21**	P	**P**	**02 03 40.4**	**-0.5**
	3.8nm,1.0s,baz=264,slow=9.2,SNR=5.6						
VNDA	**Vanda**	**89.70**	**172**	P	**P**	**02 03 57.8**	**-1.8**
	1.0nm,0.7s,baz=303,slow=4.8,SNR=3.7						
YKA	**Yellowknife Ar**	**95.31**	**23**	P	**P**	**02 04 26.1**	**+0.2**
	0.5nm,0.6s,baz=301,slow=4.3,SNR=4.4						

UCR ***12*** *01:52:13.7±0.7,15.96N×91.45W,h7km±11km,MD3.3*

GCG 12 01:52:13.6±0.6,15.43N×91.93W,h137km±32km,MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STG3	**Santiaguito 3,**	**0.79**	**154**	*e*P	Pn	01 52 36.0	+0.3
STG3				*e*S	Sn	01 52 54.1	+1.6
FUG	**Fuego 3**	**1.44**	**133**	*e*P	Pn	01 52 42.8	+1.1
FUG				*e*S	Sn	01 53 04.6	+1.4
FUG	**Fuego 3**	**1.44**	**133**	*e*P	Pn	01 52 42.8	+1.1
FUG				*e*S	Sn	01 53 04.6	+1.4
IXG	**Ixpaco**	**1.91**	**131**	*e*P	Pn	01 52 47.7	+0.7
IXG				*e*S	Sn	01 53 14.6	+1.9
IXG	**Ixpaco**	**1.91**	**131**	*e*P	Pn	01 52 47.7	+0.7
IXG				*e*S	Sn	01 53 14.6	+1.9

IDC ***12*** *01:55:17.5±6.0,52.86N×167.69W,h0km,mb3.6/5, mb1 4.0/7,mb1mx3.6/48,mbtmp3.7/7,ML3.7/2,Error ellipse: s-maj=106.2km s-min=33.9km az=85.0*

ISCJB ***12*** *01:55:18.3±0.5,52.83N±0.06×168.56W±0.05,h69km±3km, mb3.6/5,Error ellipse: s-maj=10.5km s-min=3.4km az=157.6*

NEIC ***12*** *01:55:19.0±1.5,52.79N±0.08×168.50W±0.08,h61km±6km, mb4.1/24,ML3.8(AEIC)*

AEIC ***12*** *01:55:18.1±3.1,52.67N±0.04×168.25W±0.05,h19km±5km*

ISC 12 01:55:19.2±0.9,52.84N±0.08×168.51W±0.04,h56km±7km, n73,σ1§26/90,mb4.1/11,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**0.25**	**303**		**Pn**	**01 55 28.0**	**-0.5**
NIKH				Sn	**Sn**	**01 55 35.3**	**+0.1**
OKSP	**Okmok Steeple**	**0.44**	**17**		**Pn**	**01 55 30.1**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**0.62**	**27**		**Pn**	**01 55 32.5**	**+0.3**
OKNC	**Okmok New Cone**	**0.66**	**20**		**Pn**	**01 55 33.6**	**+0.9**
OKNC					**Sn**	**01 55 45.6**	**+3.0**
OKFG	**Magazine Ridge**	**0.68**	**32**		**Pn**	**01 55 33.0**	**+0.1**
OKFG					**Sn**	**01 55 43.8**	**+0.9**
MGOD	**Makushin Gods**	**1.37**	**45**		**Pn**	**01 55 42.2**	**+0.1**
MGOD					**Sn**	**01 56 00.3**	**+1.1**
MREP	**Makushin Rep't**	**1.44**	**47**		**Pn**	**01 55 42.6**	**-0.3**
MCIR	**Makushin Cirqu**	**1.48**	**40**		**Pn**	**01 55 44.2**	**+0.7**
MSW	**Makushin Switc**	**1.49**	**43**		**Pn**	**01 55 43.6**	**-0.1**
MSW					**Sn**	**01 56 04.0**	**+1.8**
MNAT	**Makushin Natee**	**1.52**	**45**		**Pn**	**01 55 44.1**	**+0.1**
MNAT					**Sn**	**01 56 04.3**	**+1.7**
UNV	**Unalaska Valle**	**1.57**	**49**		**Pn**	**01 55 44.5**	**-0.2**
UNV				Sn	**Sn**	**01 56 05.7**	**+1.8**
MTBL	**Makushin Table**	**1.58**	**43**		**Pn**	**01 55 45.4**	**+0.5**
AKRB	**Akutan Reef Bi**	**1.95**	**47**		**Pn**	**01 55 50.7**	**+0.9**
AKRB					**Sn**	**01 56 16.8**	**+3.6**
AKMO	**Akutan Morgan**	**1.95**	**49**		**Pn**	**01 55 50.4**	**+0.5**
AKMO					**Sn**	**01 56 14.9**	**+1.7**
AKBBA	**Akutan Broad B**	**1.99**	**50**		**Pn**	**01 55 51.5**	**+1.1**
AKLV	**Akutan Long Va**	**2.02**	**48**		**Pn**	**01 55 51.8**	**+1.0**
AKGG	**Akutan Green G**	**2.03**	**47**		**Pn**	**01 55 52.2**	**+1.3**
AKUT	**Akutan**	**2.09**	**50**		**Pn**	**01 55 52.0**	**+0.3**
AKUT				Sn	**Sn**	**01 56 16.8**	**+0.3**
WEBT	**Westdahl Beart**	**2.84**	**50**		**Pn**	**01 56 03.7**	**+1.7**
KOFP	**Korovin Flat P**	**3.46**	**263**		**Pn**	**01 56 13.4**	**+2.8**
ATKA	**Atka Island**	**3.53**	**262**		**Pn**	**01 56 13.1**	**+1.6**
ATKA				Sn	**Sn**	**01 56 51.3**	**-0.7**
FALS	**False Pass**	**3.63**	**54**		**Pn**	**01 56 12.4**	**-0.3**
FALS				Sn	**Sn**	**01 56 55.2**	**+0.9**
SPIA	**Saint Paul Isl**	**4.46**	**348**		**Pn**	**01 56 24.5**	**+0.3**
SPIA				Sn	**Sn**	**01 57 16.9**	**+2.1**
GSTR	**Great Sitkin T**	**4.68**	**264**		**Pn**	**01 56 28.3**	**+1.1**
GSTR				Sn	**Sn**	**01 57 19.9**	**-0.2**
GSMY	**Great Sitkin M**	**4.69**	**263**		**Pn**	**01 56 29.4**	**+2.1**
GSTD	**Great Sitkin T**	**4.74**	**264**		**Pn**	**01 56 29.7**	**+1.7**
ADK	**Adak**	**5.10**	**262**		**Pn**	**01 56 33.2**	**+0.3**
ADK				Sn	**Sn**	**01 57 30.5**	**0.0**
SDPT	**Sand Point**	**5.35**	**59**		**Pn**	**01 56 37.3**	**+0.9**
SDPT				Sn	**Sn**	**01 57 35.8**	**-0.8**
CNBA	**Chernabura Isl**	**5.64**	**66**		**Pn**	**01 56 40.6**	**+0.3**
CNBA				Sn	**Sn**	**01 57 42.8**	**-0.9**
OHAK	**Old Harbor**	**9.77**	**57**		**Pn**	**01 57 37.2**	**+0.4**
KDAK	**Kodiak Island**	**10.33**	**55**		**Pn**	**01 57 43.7**	**-0.8**
	1.1nm,0.3s,baz=237,slow=5.8,SNR=15						
SVW2	**Sparrevohn**	**10.86**	**35**		**Pn**	**01 57 54.2**	**+2.6**
RSO	**Redoubt South**	**11.53**	**42**		**Pn**	**01 58 02.7**	**+1.7**
CNPM	**China Poot**	**11.70**	**48**		**Pn**	**01 58 03.5**	**+0.3**
SEW	**Seward**	**12.77**	**48**		**Pn**	**01 58 18.3**	**+0.6**
SUA	**Susitna One**	**12.90**	**41**		**Pn**	**01 58 19.7**	**0.0**
RC01	**Rabbit Creek A**	**13.12**	**44**		**Pn**	**01 58 23.0**	**+0.6**
PPLA	**Purkeypile**	**13.26**	**34**		**Pn**	**01 58 25.0**	**+0.5**
KNK	**Knik Glacier**	**13.81**	**44**		**Pn**	**01 58 32.3**	**+0.3**
HIN	**Hinchinbrook I**	**14.23**	**49**		**Pn**	**01 58 37.1**	**-0.4**
FID	**Port Fidalgo**	**14.38**	**48**		**Pn**	**01 58 37.4**	**-2.1**
BPAW	**Bear Paw Mtn.**	**14.47**	**32**		**Pn**	**01 58 41.8**	**+1.2**
SCM	**Sheep Creek Mo**	**14.49**	**43**		**Pn**	**01 58 40.5**	**-0.5**
DHY	**Denali Highway**	**15.11**	**39**	Pn	**Pn**	**01 58 49.2**	**+0.1**
HMT	**Hamilton**	**15.25**	**51**	Pn	**Pn**	**01 58 51.5**	**+0.8**
GLB	**Gilahina Butte**	**15.84**	**47**	Pn	**Pn**	**01 58 58.2**	**-0.2**
GLB					IAmb	IAmb	01 59 07.3
	comp=Z,3.0nm,0.4s						
VRDI	**Verde Repeater**	**15.93**	**48**	Pn	**Pn**	**01 58 59.2**	**-0.3**
TGL	**Tana Glacier**	**16.05**	**50**	Pn	**Pn**	**01 59 01.5**	**+0.4**
TGL					IAmb	IAmb	01 59 07.3
	comp=Z,16nm,0.9s						
ILAR	**Eielson Array**	**16.27**	**34**	Pn	**Pn**	**01 59 04.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=228,slow=10,SNR=6.7						
BALM	**Baldy**	**16.37**	**50**	Pn	**Pn**	**01 59 04.3**	**-0.7**
BALM					IAmb	IAmb	01 59 05.4
	comp=Z,11nm,1.1s						
YAH	**Yahtse**	**16.45**	**52**	P	**P**	**01 59 07.8**	**-0.3**
CTGM	**Chitina Glacie**	**16.82**	**50**	Pn	**Pn**	**01 59 09.4**	**-1.2**
CTGM					IAmb	IAmb	01 59 24.6
	comp=Z,10nm,1.0s						
EGAK	**Eagle**	**18.34**	**39**	P	**P**	**01 59 25.5**	**-3.2**
SKAG	**Skagway**	**19.48**	**57**	P	**P**	**01 59 41.1**	**0.0**
WHY	**Whitehorse**	**19.84**	**53**	P	**P**	**01 59 43.6**	**-1.6**
WHY				IAmb	IAmb	01 59 59.5	
	comp=Z,7.8nm,0.9s						
EPYK	**Eagle Plains**	**20.71**	**37**	P	**P**	**01 59 53.5**	**-1.0**
EPYK				IAmb	IAmb	01 59 59.6	
	comp=Z,8.3nm,0.7s						
INK	**Inuvik**	**22.66**	**34**	P	**P**	**02 00 15.2**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=247,slow=8.4,SNR=16						
INK	**Inuvik**	**22.66**	**34**	P	**P**	**02 00 14.9**	**-0.4**
PGC	**Sidney**	**28.45**	**80**	P	**P**	**02 01 08.3**	**-0.1**
PGC				IAmb	IAmb	02 01 18.4	
	comp=Z,5.0nm,1.1s						
YKA	**Yellowknife Ar**	**29.54**	**50**	P	**P**	**02 01 19.7**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=274,slow=7.6,SNR=14						
TIXI	**Tiksi**	**32.61**	**329**	P	**P**	**02 01 43.1**	**-1.7**
TIXI				IAmb	IAmb	02 01 44.1	
	comp=Z,2.9nm,0.8s						
KMRM	**Mail Ridge**	**32.76**	**94**	P	**P**	**02 01 45.3**	**-1.3**
KMRM				IAmb	IAmb	02 01 57.1	
	comp=Z,1.7nm,0.8s						
NVAR	**Mina Array Bea**	**37.15**	**92**	P	**P**	**02 02 27.2**	**+2.6**
	comp=Z,0.2nm,0.5s,baz=289,slow=8.5,SNR=3.6						
PDAR	**Pinedale Array**	**39.80**	**80**	P	**P**	**02 02 47.5**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=305,slow=3.1,SNR=4.2						
FCC	**Fort Churchill**	**40.24**	**51**	P	**P**	**02 02 49.9**	**0.0**
TULEG	**Thule**	**41.50**	**20**	P	**P**	**02 02 59.2**	**-0.9**
RSSD	**Black Hills**	**42.28**	**75**	P	**P**	**02 03 06.5**	**-0.7**
AMTX	**Amarillo**	**49.54**	**83**	P	**P**	**02 04 03.8**	**-0.5**
AMTX				IAmb	IAmb	02 04 14.9	
	comp=Z,2.4nm,0.8s						
ILULI	**Ilulissat**	**49.99**	**24**	P	**P**	**02 04 06.7**	**-0.4**
BJT	**Baijiatuan**	**51.16**	**287**	P	**P**	**02 04 14.3**	**-2.0**
TX31	**Lajitas Ar. Si**	**52.22**	**90**	P	**P**	**02 04 25.5**	**+1.1**
TX31				IAmb	IAmb	02 04 26.6	
	comp=Z,2.0nm,0.8s						
TX32	**Lajitas Array**	**52.22**	**90**	P	**P**	**02 04 26.3**	**+1.9**
TX32				IAmb	IAmb	02 04 26.6	
	comp=Z,2.0nm,0.8s						
TXAR	**Lajitas Array**	**52.22**	**90**	P	**P**	**02 04 26.0**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=302,slow=5.8,SNR=11						

RSNC 12 01:56:00.5±0.9,6.81N×73.12W,h148km±5km,ML1.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.23**	**196**	*e*P	Pn	01 56 20.9	-0.1
BARC				*e*S	Sn	01 56 35.8	-0.7
BARC				*i*		01 56 39.7	
	comp=Z,20nm,0.8s						
BRRC	**Barranca, Sant**	**0.66**	**297**	*e*P	Pn	01 56 22.4	-0.2
BRRC				*e*S	Sn	01 56 39.4	+0.1
BRRC				*i*		01 56 43.9	
	comp=Z,9.4nm,0.3s						
RUSC	**La Rusia**	**0.91**	**178**	*e*P	Pn	01 56 24.7	-0.3
RUSC				*e*S	Sn	01 56 42.9	-0.7
RUSC				*i*		01 56 44.7	
	comp=Z,4.8nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.35**	**259**	*e*P	Pn	01 56 27.8	-0.7
PTBC				*e*S	Sn	01 56 48.9	-1.0
PTBC				*i*		01 56 51.8	
	comp=Z,8.0nm,0.2s						
SPBC	**San Pablo de B**	**1.49**	**219**	*e*P	Pn	01 56 29.8	-0.1
SPBC				*e*S	Sn	01 56 52.5	+0.1
SPBC				*i*		01 56 57.5	
	comp=Z,12nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.85**	**292**	*e*S	Sn	01 56 59.1	-0.3
NORC	**Norcasia**	**2.13**	**235**	*e*P	Pn	01 56 36.2	-1.0
NORC				*e*S	Sn	01 57 04.9	-0.5
NORC				*i*

ISC 12 02:22:10.9±1.2, 48°25N±0.03×4°28W±0.05, h10km, n71, σ2s09/126, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSF	**Rostrenen**	**0.68**	**82**	*e*Pg	**Pg**	**02 22 26.3**	**+2.3**
ROSF				*e*Sg	**Sg**	**02 22 36.0**	**+3.0**
	170nm,0.2s						
QUIF	**Quistinic**	**0.82**	**113**	*e*Pg	**Pg**	**02 22 29.0**	**+2.3**
QUIF	**Quistinic**	**0.82**	**113**	*e*Pn	**Pg**	**02 22 29.6**	**+2.9**
	SNR=1.0						
QUIF				*e*Sg	**Sg**	**02 22 41.6**	**+4.3**
	221nm,0.2s						
SGMF	**Saint Gilles**	**1.15**	**89**	*e*Pn	**Pb**	**02 22 33.4**	**+0.5**
SGMF	**Saint Gilles**	**1.15**	**89**	*e*Pg	**Pb**	**02 22 35.1**	**+2.2**
SGMF				*e*Sg	**Sb**	**02 22 50.8**	**+2.9**
	75nm,0.2s						
JVM	**Valle D.L. Mar**	**1.68**	**54**	*e*P	**Pn**	**02 22 42.9**	**+2.5**
JSA	**Saint Aubin**	**1.69**	**55**	*e*P	**Pn**	**02 22 43.0**	**+2.6**
JSA				*e*S	**Sb**	**02 23 05.0**	**+1.8**
JSA				IAML		02 23 05.8	
	comp=E,128nm,0.2s						
JSA				IAML		02 23 06.3	
	comp=N,86nm,0.2s						
JSA	**Saint Aubin**	**1.69**	**55**	Pn	**Pn**	**02 22 39.2**	**-1.2**
JSA				Sn	**Sn**	**02 23 00.1**	**-2.0**
JSA				Sg	**Sb**	**02 23 05.5**	**+2.2**
JRS	**Jersey**	**1.73**	**56**	*e*P	**Pb**	**02 22 43.9**	**+1.1**
JRS				*e*S	**Sb**	**02 23 06.6**	**+2.0**
JRS				IAML		02 23 08.1	
	comp=N,72nm,0.1s						
JRS				IAML		02 23 08.7	
	comp=E,61nm,0.1s						
JLP	**Les Platons**	**1.75**	**54**	*e*P	**Pb**	**02 22 44.6**	**+1.4**
JDG	**Jersey Dam (Ga**	**1.76**	**56**	*e*P	**Pb**	**02 22 44.6**	**+1.4**
JQE	**Queens East**	**1.77**	**56**	*e*P	**Pb**	**02 22 44.7**	**+1.3**
CCA1	**Carnmenellis**	**2.04**	**343**	*e*P	**Pn**	**02 22 46.0**	**+0.7**
CCA1				*e*S	**Sn**	**02 23 10.4**	**-0.4**
CCA1				IAML		02 23 21.9	
	comp=N,38nm,0.3s						
CCA1				IAML		02 23 22.0	
	comp=E,34nm,0.5s						
CCA1	**Carnmenellis**	**2.04**	**343**	Pn	**Pn**	**02 22 42.4**	**-2.8**
GRR	**Gorron**	**2.29**	**85**	*e*Pn	**Pn**	**02 22 49.1**	**+0.4**
GRR	**Gorron**	**2.29**	**85**	*e*Pg	**Pg**	**02 22 56.1**	**+1.3**
GRR				*e*Sg	**Sg**	**02 23 25.6**	**+1.2**
	comp=E,81nm,0.3s						
SBD	**Saint Breward**	**2.34**	**354**	*e*P	**Pn**	**02 22 51.3**	**+1.9**
SBD				IAML		02 23 26.6	
	comp=N,27nm,0.5s						
SBD				IAML		02 23 30.6	
	comp=E,41nm,0.7s						
FLN	**La Foliniere**	**2.58**	**77**	*e*Pn	**Pn**	**02 22 52.9**	**+0.2**
	baz=258						
FLN	**La Foliniere**	**2.58**	**77**	*e*Pg	**Pb**	**02 23 00.5**	**+3.3**
	baz=258						
FLN				*e*Sn	**Sn**	**02 23 22.9**	**-1.2**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**02 23 34.3**	**+0.6**
	comp=E,80nm,0.3s,baz=262						
HTL	**Hartland**	**2.75**	**357**	IAML		02 23 38.7	
	comp=E,32nm,0.4s						
HTL				IAML		02 23 43.2	
	comp=N,34nm,0.6s						
LDF	**La Druitiere**	**2.79**	**81**	*e*Pn	**Pn**	**02 22 56.3**	**+0.7**
LDF	**La Druitiere**	**2.79**	**81**	*e*Pg	**Pb**	**02 23 05.0**	**+4.1**
LDF				*e*Sn	**Sn**	**02 23 28.5**	**-0.9**
LDF				*e*Sg	**Sg**	**02 23 42.2**	**+1.6**
	comp=N,65nm,0.2s						
MFF	**Saint Martin d**	**3.25**	**119**	*e*Pn	**Pn**	**02 23 03.4**	**+1.4**
MFF				*e*Sg	**Sg**	**02 23 56.3**	**+0.9**
	comp=N,18nm,0.2s						
MFF	**Saint Martin d**	**3.25**	**119**	Pn	**Pn**	**02 23 03.4**	**+1.4**
CHIF	**Chize**	**3.38**	**127**	Pn	**Pn**	**02 23 05.0**	**+1.3**
CHIF				Sg	**Sg**	**02 24 03.0**	**+3.5**
HYF	**Humbligny**	**4.77**	**99**	*e*Pn	**Pn**	**02 23 23.0**	**+0.2**
HYF	**Humbligny**	**4.77**	**99**	*e*Pg	**Pg**	**02 23 42.0**	**-0.2**
HYF				*e*Sn	**Sn**	**02 24 14.8**	**-3.3**
HYF				*e*Sg	**Sg**	**02 24 43.8**	**-0.2**
LFF	**La Frestale**	**4.79**	**132**	*e*Pn	**Pn**	**02 23 23.5**	**+0.5**
LFF	**La Frestale**	**4.79**	**132**	*e*Pg	Pb	02 23 41.7	+6.9
LFF				*e*Sn	**Sn**	**02 24 16.4**	**-2.1**
	comp=N,3.3nm,0.3s						
LFF				*e*Sg	**Sg**	**02 24 47.8**	**+3.3**
	comp=N,17nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**4.83**	**111**	*e*Pn	**Pn**	**02 23 24.6**	**+0.9**
TCF	**Toulx Ste Croi**	**4.83**	**111**	*e*Pg	**Pg**	**02 23 43.1**	**-0.3**
TCF				*e*Sn	**Sn**	**02 24 16.7**	**-3.0**
	comp=N,1.8nm,0.2s						
TCF				*e*Sg	**Sg**	**02 24 46.0**	**0.0**
	comp=N,7.0nm,0.3s,SNR=1.0						
RJF	**Les Rejaudoux**	**4.95**	**124**	*e*Pn	**Pn**	**02 23 25.7**	**+0.4**
RJF	**Les Rejaudoux**	**4.95**	**124**	*e*Pg	**Pg**	**02 23 45.6**	**-0.1**
RJF				*e*Sn	**Sn**	**02 24 20.2**	**-2.4**
	comp=N,2.4nm,0.2s						
RJF				*e*Sg	**Sg**	**02 24 50.6**	**+0.8**
	comp=N,17nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**5.13**	**107**	*e*Pn	**Pn**	**02 23 28.2**	**+0.5**
BGF	**Bois d'Agland**	**5.13**	**107**	*e*Pg	**Pg**	**02 23 48.4**	**-0.6**
BGF				*e*Sn	**Sn**	**02 24 23.9**	**-3.0**
	comp=N,7.7nm,0.3s						
BGF				*e*Sg	**Sg**	**02 24 55.3**	**-0.1**
	comp=N,19nm,0.3s						
AVF	**Avril sur Loir**	**5.37**	**103**	*e*Pn	**Pn**	**02 23 31.0**	**-0.1**
AVF				*e*Sn	**Sn**	**02 24 29.3**	**-3.7**
	comp=N,2.3nm,0.3s						
AVF				*e*Sg	**Sg**	**02 25 03.0**	**-0.3**
	comp=N,6.5nm,0.6s						
SSF	**Saint Saulge**	**5.39**	**100**	*e*Pn	**Pn**	**02 23 31.5**	**+0.1**
SSF				*e*Sn	**Sn**	**02 24 30.0**	**-3.5**
	comp=N,1.2nm,0.2s						
SSF				*e*Sg	**Sg**	**02 25 03.2**	**-0.8**
	comp=N,5.9nm,0.3s,SNR=1.0						
CAF	**Calviac**	**5.49**	**125**	*e*Pn	**Pn**	**02 23 33.1**	**+0.3**
CAF	**Calviac**	**5.49**	**125**	*e*Pg	**Pg**	**02 23 56.2**	**+0.2**
CAF				*e*Sn	**Sn**	**02 24 33.5**	**-2.5**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**02 25 07.7**	**+0.6**
	comp=N,12nm,0.5s,SNR=1.0						
SJPF	**Ste Jean**	**5.56**	**156**	*e*Pn	**Pn**	**02 23 34.2**	**+0.5**
SJPF	**Ste Jean**	**5.56**	**156**	*e*Pg	**Pg**	**02 23 57.3**	**-0.1**
SJPF				*e*Sn	**Sn**	**02 24 33.4**	**-4.2**
	comp=N,2.8nm,0.2s						
LOR	**Lormes**	**5.58**	**97**	*e*Pn	**Pn**	**02 23 33.5**	**-0.4**
	baz=280						
LOR				*e*Sn	**Sn**	**02 24 34.0**	**-4.0**
	comp=N,1.1nm,0.2s,baz=282						
LOR				*e*Sg	**Sg**	**02 25 08.8**	**-1.1**
	comp=N,17nm,0.7s,baz=280						
SMF	**Signal de Mont**	**5.74**	**103**	*e*Pn	**Pn**	**02 23 36.4**	**+0.3**
SMF	**Signal de Mont**	**5.74**	**103**	*e*Pg	**Pg**	**02 23 59.7**	**-1.0**
SMF				*e*Sn	**Sn**	**02 24 38.8**	**-3.2**
	comp=N,1.3nm,0.2s						
SMF				*e*Sg	**Sg**	**02 25 14.3**	**-0.7**
	comp=N,3.8nm,0.3s,SNR=1.0						
BAIF	**Baives**	**5.86**	**69**	*e*Pn	**Pn**	**02 23 37.3**	**-0.4**
	SNR=1.0						
BAIF	**Baives**	**5.86**	**69**	*e*Pg	**Pg**	**02 24 01.1**	**-1.9**
BAIF				*e*Sn	**Sn**	**02 24 39.0**	**-5.9**
	comp=N,2.0nm,0.2s,SNR=1.0						
BAIF				*e*Sg	**Sg**	**02 25 17.6**	**-1.3**
	comp=N,3.7nm,0.3s						
ETSF	**Etsaut**	**5.95**	**153**	*e*Pn	**Pn**	**02 23 39.2**	**+0.1**
ETSF	**Etsaut**	**5.95**	**153**	*e*Pg	**Pg**	**02 24 04.1**	**-0.7**
ETSF				*e*Sn	**Sn**	**02 24 44.2**	**-3.1**
	comp=N,1.2nm,0.2s						
ETSF				*e*Sg	**Sg**	**02 25 20.4**	**-1.5**
	comp=N,2.2nm,0.5s,SNR=1.0						
EPF	**Esparros**	**6.14**	**146**	*e*Pn	**Pn**	**02 23 41.8**	**+0.1**
EPF	**Esparros**	**6.14**	**146**	*e*Pg	**Pg**	**02 24 07.9**	**-0.5**
EPF				*e*Sn	**Sn**	**02 24 47.7**	**-4.2**
	comp=N,1.7nm,0.2s						
EPF				*e*Sg	**Sg**	**02 25 26.6**	**-1.3**
	comp=N,2.1nm,0.3s						
MEZF	**Maizieres J'vi**	**6.22**	**84**	*e*Pn	**Pn**	**02 23 42.4**	**-0.4**
	baz=265						
MEZF	**Maizieres J'vi**	**6.22**	**84**	*e*Pg	**Pg**	**02 24 08.1**	**-1.9**
MEZF				*e*Sn	**Sn**	**02 24 50.1**	**-3.8**
MEZF				*e*Sg	**Sg**	**02 25 29.0**	**-1.6**
	comp=N,7.3nm,0.4s						
SFTF	**Sexfontaines**	**6.23**	**87**	*e*Pn	**Pn**	**02 23 42.1**	**-0.7**
SFTF	**Sexfontaines**	**6.23**	**87**	*e*Pg	**Pg**	**02 24 08.9**	**-1.2**
SFTF				*e*Sn	**Sn**	**02 24 49.8**	**-4.3**
SFTF				*e*Sg	**Sg**	**02 25 28.6**	**-2.1**
	comp=N,10.0nm,0.4s						
GIVF	**Givet**	**6.25**	**69**	*e*Pg	Pg	02 24 07.9	-2.7
GIVF				*e*Sn	**Sn**	**02 24 50.7**	**-3.9**
	comp=N,5.8nm,0.3s,SNR=1.0						
PAGF	**Fort de Pagny**	**6.67**	**84**	*e*Pn	**Pn**	**02 23 48.1**	**-0.8**
PAGF				*e*Sn	Sn	02 24 57.5	-7.5
PAGF				*e*Sg	**Sg**	**02 25 43.9**	**-1.0**
	comp=N,6.4nm,0.5s						
MTLF	**Montolieu**	**6.68**	**135**	*e*Pn	**Pn**	**02 23 48.8**	**-0.3**
MTLF	**Montolieu**	**6.68**	**135**	*e*Pg	Pg	02 24 17.2	-1.6
MTLF				*e*Sn	Sn	02 24 58.5	-6.8
	comp=N,1.8nm,0.3s						
MTLF				*e*Sg	**Sg**	**02 25 43.8**	**-1.6**
	comp=N,2.0nm,0.4s						
LASF	**Ste Croix**	**7.02**	**123**	*e*Pn	**Pn**	**02 23 54.1**	**+0.3**
	SNR=1.0						
LASF	**Ste Croix**	**7.02**	**123**	*e*Pg	**Pg**	**02 24 24.5**	**-0.8**
LASF				*e*Sn	**Sn**	**02 25 09.4**	**-4.2**
LASF				*e*Sg	**Sg**	**02 25 55.8**	**-0.4**
	comp=N,6.1nm,0.5s						
VIVF	**Saint-Julien-l**	**7.04**	**115**	*e*Pn	**Pn**	**02 23 55.3**	**+1.2**
VIVF	**Saint-Julien-l**	**7.04**	**115**	*e*Pg	**Pg**	**02 24 24.2**	**-1.5**
VIVF				*e*Sg	**Sg**	**02 25 55.5**	**-1.3**
	comp=N,3.1nm,0.4s						
HAU	**Haudompre**	**7.12**	**88**	*e*Pn	**Pn**	**02 23 54.4**	**-0.7**
HAU	**Haudompre**	**7.12**	**88**	*e*Pg	Pg	02 24 24.5	-2.7
HAU				*e*Sn	Sn	02 25 08.6	-7.4
HAU				*e*Sg	**Sg**	**02 25 57.4**	**-1.9**
	comp=N,5.2nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**7.22**	**99**	*e*Pn	**Pn**	**02 23 56.9**	**+0.3**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**02 25 15.4**	**-3.2**
CABF				*e*Sg	**Sg**	**02 26 01.6**	**-1.0**
	comp=N,4.1nm,0.6s						
HINF	**Hinteralfeld**	**7.48**	**89**	*e*Pn	**Pn**	**02 24 00.1**	**+0.1**
HINF				*e*Sn	**Sn**	**02 25 19.6**	**-5.3**
HINF				*e*Sg	**Sg**	**02 26 08.8**	**-2.0**
	comp=N,3.7nm,0.4s						
CDF	**Champ du Feu**	**7.71**	**84**	*e*Pn	**Pn**	**02 24 02.7**	**-0.5**
CDF				*e*Sn	Sn	02 25 22.5	-8.1
CDF				*e*Sg	**Sg**	**02 26 15.9**	**-2.2**
	comp=N,1.5nm,0.4s						
ORIF	**Oris-en-Rattie**	**7.75**	**112**	*e*Pn	**Pn**	**02 24 04.7**	**+0.9**
ORIF				*e*Sn	**Sn**	**02 25 27.7**	**-4.0**
ORIF				*e*Sg	**Sg**	**02 26 17.1**	**-2.4**
	comp=N,1.8nm,0.5s						
LPL	**La Plagne**	**8.03**	**106**	*e*Pn	**Pn**	**02 24 08.4**	**+0.7**
LPG	**La Plagne**	**8.04**	**106**	*e*Pn	**Pn**	**02 24 08.8**	**+0.8**
SMRF	**Simiane la Rot**	**8.07**	**118**	*e*Pn	**Pn**	**02 24 08.5**	**+0.4**

NIED ***12*** *02:24:00, 31.°10N×131.°50E, h32km, Mw4.5 Best double couple: M₀6.20000×10¹⁵ NP1:φ₀174.00000°, δ30.00000°, λ47.00000°. NP2:φ₀41.00000°, δ69.00000°, λ112.00000°.*

MOS ***12*** *02:24:56.4±1.4, 31.°09N×131.°16E, h37km, mb4.8/16, Error ellipse: s-maj=11.6km s-min=6.3km az=116.5*

JMA ***12*** *02:24:57.4±0.1, 31.°11N×131.°54E, h28km±1km, M4.3*

JMA Felt II J1.

ISCJB ***12*** *02:24:57.1±0.5, 31.°12N±0.°03×131.°53E±0.°05, h51km±3km, mb4.4/43, MS4.0/5, Error ellipse: s-maj=7.5km s-min=4.2km az=25.6*

NEIC ***12*** *02:24:57.7±1.8, 31.°22N±0.°07×131.°32E±0.°04, h53km±7km, mb4.7/26*

IDC ***12*** *02:24:59.2±1.4, 31.°13N×131.°22E, h48km±11km, mb4.0/25, mb1 4.1/29, mb1mx4.0/55, mbtmp4.2/29, ML3.6/4, MS3.7/8, Ms1 3.7/8, ms1mx3.4/24, Error ellipse: s-maj=15.5km s-min=8.5km az=101.0*

BJI ***12*** *02:25:02.5±0.0, 31.°30N×131.°30E, h66km, mb4.5/31, mB4.9/20, Ms4.3/13, Ms7 4.1/14*

ISC 12 02:24:56.5±1.1, 31.°15N±0.°03×131.°50E±0.°04, h33km±6km, n151, σ1s69/157, mb4.5/51, MS4.0/6, 18C-12D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.42**	**333**	⇓P	**Pn**	**02 25 07.3**	**+0.9**
JNAR				S	**Sn**	**02 25 14.5**	**+1.4**
JTSR	**Tashiro 2**	**0.49**	**273**	⇓P	**Pn**	**02 25 08.1**	**+0.8**
JTSR				S	**Sn**	**02 25 16.3**	**+1.5**
JNKG	**Nichinankitago**	**0.53**	**349**	⇓P	**Pn**	**02 25 09.0**	**+1.3**
JNKG				S	**Sn**	**02 25 17.8**	**+2.3**
JTN	**Tanegashima 3**	**0.66**	**222**	⇑P	**Pn**	**02 25 10.5**	**+0.9**
JTN				*e*S	**Sn**	**02 25 21.0**	**+2.1**
JTZ	**Takazaki**	**0.83**	**335**	⇑P	**Pb**	**02 25 13.8**	**+1.3**
JTZ				*e*S	**Sn**	**02 25 26.8**	**+3.7**
JMTN	**Minamitane**	**0.91**	**215**	P	**Pb**	**02 25 14.1**	**+0.3**
JSU	**Suzuyama**	**0.96**	**292**	⇑P	**Pb**	**02 25 15.4**	**+0.7**
JSU				S	**Sb**	**02 25 29.8**	**+2.7**
JTSN	**Tsuno**	**1.10**	**0**	⇑P	**Pb**	**02 25 16.9**	**-0.1**
JTSN				*e*S	**Sb**	**02 25 32.1**	**+1.1**
JYAK	**Yakushimahirau**	**1.24**	**223**	P	**Pb**	**02 25 19.2**	**-0.2**
JYAK				*e*S	**Sb**	**02 25 34.4**	**-0.7**
JZO	**Okuchi**	**1.25**	**323**	⇑P	**Pb**	**02 25 19.9**	**+0.3**
JKC	**Kuchinoerabu**	**1.31**	**239**	P	**Pb**	**02 25 19.8**	**-0.8**
JKC				*e*S	**Sb**	**02 25 37.0**	**0.0**
JNU	**Nakatsue**	**2.04**	**345**	P	**Pb**	**02 25 30.9**	**-2.1**
	52nm,0.3s,baz=107,slow=1.2,SNR=73						
JNU				LR	LR	02 25 53.7	
	comp=Z,346nm,18.8s,baz=210,slow=27						
JNU				S	**Sb**	**02 25 55.4**	**-2.5**
	43nm,0.3s,baz=97,slow=3.6,SNR=6.0						
JNU	**Nakatsue**	**2.04**	**345**	Pn	**Pn**	**02 25 29.3**	**+0.7**
JNU				Sn	**Sn**	**02 25 47.3**	**-5.7**
JOW	**Kunigami**	**5.14**	**214**	P	**Pn**	**02 26 12.0**	**+0.8**
	2.2nm,0.3s,baz=97,slow=18,SNR=29						
JOW				S	**Sn**	**02 27 07.6**	**-1.8**
	1.6nm,0.3s,baz=233,slow=20,SNR=3.6						
JOW	**Kunigami**	**5.14**	**214**	Pn	**Pn**	**02 26 11.9**	**+0.7**
INU	**Inuyama**	**6.24**	**46**		**Pn**	**02 26 28.3**	**+2.0**
INU				Sn	**Sn**	**02 27 36.2**	**-0.4**
TJN	**Taejon**	**6.25**	**328**	⇓*e*P	**Pn**	**02 26 29.7**	**+3.3**
KSRS	**Korea Array**	**6.95**	**336**	P	**Pn**	**02 26 37.4**	**+1.4**
	0.6nm,0.3s,baz=154,slow=14,SNR=2.9						
KSRS				LR	LR	02 29 37.6	
	comp=Z,1μm,18.5s,baz=156,slow=40						
MAJO	**Matsushiro**	**7.75**	**44**	P	**Pn**	**02 26 47.3**	**+0.2**
MAJO	**Matsushiro**	**7.75**	**44**	Pn	**Pn**	**02 26 47.3**	**+0.2**
JCJ	**Chichijima**	**10.18**	**111**	LR	LR	02 31 14.3	
	comp=Z,241nm,18.3s,baz=204,slow=36						
TIA	**Tai'an**	**12.99**	**297**	P	**P**	**02 28 05.1**	**-3.7**
TIA				S	Sn	02 30 32.5	+10
TIA				pmax	pmax		
	comp=Z,18nm,0.8s						
TIA				LR	LR		
	comp=N,190nm,3.8s						
TIA				LR	LR		
	comp=E,500nm,6.5s						
TIA				LR	LR		
	comp=Z,730nm,10.2s						
USRK	**Ussuriysk Ar.**	**13.04**	**2**	P	P	02 28 04.2	-5.1
	baz=158,slow=12,SNR=3.8						
USRK				LR	LR	02 32 58.7	
	comp=Z,484nm,19.7s,baz=168,slow=37						
CN2	**Changchun**	**13.51**	**341**	*e*P	**P**	**02 28 17.3**	**+2.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ERM	**Erimo**	**14.32**	**38**	⇑*e*P	**P**	**02 28 22.1**	**-1.4**
ERM				pmax	pmax		
	comp=Z,68nm,1.2s						
WHN	**Wuhan**	**14.74**	**272**	P	**P**	**02 28 28.6**	**+0.2**
WHN				S	**Sn**	**02 31 03.9**	**-1.1**
WHN				LR	LR		
	comp=Z,2μm,14.9s						
BJT	**Baijiatuao**	**15.28**	**310**	P	**Pn**	**02 28 26.8**	**-2.9**
BJT				pmax	pmax		
	comp=Z,17nm,0.9s						
BJT	**Baijiatuao**	**15.28**	**310**	Pn	**Pn**	**02 28 26.8**	**-2.9**
ASAJ	**Asahikawa**	**15.63**	**31**	LR	LR	02 35 27.2	
	comp=Z,360nm,18.6s,baz=192,slow=40						
KLR	**Kul'dur**	**18.07**	**1**	⇑*e*P	**P**	**02 29 06.5**	**+1.5**
KLR				pmax	pmax		
	comp=Z,35nm,1.8s						
KLR	**Kul'dur**	**18.07**	**1**	P	**P**	**02 29 06.5**	**+1.5**
	comp=Z,1.4nm,0.3s,baz=189,slow=8.2,SNR=28						
KLR				LR	LR	02 36 06.4	
	comp=Z,204nm,19.1s,baz=198,slow=37						
ENH	**Enshi**	**18.94**	**273**	P	**P**	**02 29 11.8**	**-3.1**
ENH				IAmb	IAmb	02 29 18.6	
	comp=Z,38nm,0.6s						
XAN	**Xi'an**	**19.23**	**285**	P	**Pn**	**02 29 19.8**	**+0.6**
XAN				pmax	pmax		
	comp=Z,12nm,0.8s						
XAN				pmax	pmax		
	comp=Z,120nm,5.3s						
XAN				LR	LR		
	comp=Z,150nm,6.1s						
XAN				LR	LR		
	comp=Z,580nm,15.2s						
XAN				LR	LR		
	comp=Z,650nm,15.1s						
XAN	**Xi'an**	**19.23**	**285**	P	**P**	**02 29 15.2**	**-2.9**
XAN				pmax	pmax		
	comp=Z,20nm,1.1s						
XAN	**Xi'an**	**19.23**	**285**	P	**P**	**02 29 15.2**	**-2.9**
HIA	**Hailar**	**20.16**	**337**	⇓*e*P	Pn	02 29 28.6	-1.4
HIA				pmax	pmax		
	comp=Z,76nm,1.0s						
HIA	**Hailar**	**20.16**	**337**	P	**P**	**02 29 26.4**	**-1.6**
ULN	**Ulaanbaatar**	**25.03**	**319**	*de*P	**P**	**02 30 18.5**	**+0.8**
ULN				pmax	pmax		
	comp=Z,39nm,1.0s						
ULN	**Ulaanbaatar**	**25.03**	**319**	P	**P**	**02 30 16.1**	**-1.6**
ULN				IAmb	IAmb	02 30 19.7	
	comp=Z,28nm,0.8s						
SONM	**Songino Array**	**25.39**	**318**	*e*P	**P**	**02 30 21.5**	**+0.6**
SONM				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SONM	**Songino Array**	**25.39**	**318**	P	**P**	**02 30 21.4**	**+0.5**
	comp=Z,8.8nm,0.8s,baz=136,slow=8.4,SNR=34						
GTA	**Gaotai**	**27.04**	**296**	*e*P	**P**	**02 30 36.3**	**+0.3**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,200nm,5.7s						
GTA				LR	LR		
	comp=Z,270nm,14.6s						
GTA				LR	LR		
	comp=Z,260nm,17.5s						
GTA				LR	LR		
	comp=Z,330nm,15.5s						
PETK	**Petropavlovsk-**	**29.02**	**33**	LR	LR	02 43 23.8	
	comp=Z,111nm,18.4s,baz=238,slow=38						
CHTO	**Chiang Mai**	**31.84**	**255**	P	**P**	**02 31 15.7**	**-2.8**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CHTO	**Chiang Mai**	**31.84**	**255**	P	**P**	**02 31 15.7**	**-2.8**
CHTO				IAmb	IAmb	02 31 20.2	
	comp=Z,8.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**32.01**	**254**	*e*P	**P**	**02 31 20.8**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**32.01**	**254**	P	**P**	**02 31 20.0**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=51,slow=6.5,SNR=12						
H11N2	**WAKE ISLAND Hy**	**33.79**	**101**	T	T	03 07 25.2	
	baz=296,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**33.80**	**101**	T	T	03 07 30.8	
	baz=296,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**33.81**	**101**	T	T	03 07 31.9	
	baz=296,slow=75,SNR=28						
H11S3	**WAKE ISLAND Hy**	**34.19**	**103**	T	T	03 08 01.3	
	baz=305,slow=74						
H11S1	**WAKE ISLAND Hy**	**34.19**	**103**	T	T	03 08 44.9	
	baz=305,slow=74						
H11S2	**WAKE ISLAND Hy**	**34.20**	**103**	T	T	03 08 51.8	
	baz=305						
SEY	**Seymchan**	**34.50**	**17**	⇓*e*P	**P**	**02 31 43.3**	**+2.0**
SEY	**Seymchan**	**34.50**	**17**	P	**P**	**02 31 43.6**	**+2.3**
	comp=Z,3.4nm,0.5s,baz=215,slow=7.6,SNR=5.4						
ODAN	**Odare**	**38.62**	**275**	*e*P	**P**	**02 32 17.5**	**+0.3**
	comp=Z,12nm,0.6s						
RAMN	**Ramite**	**39.27**	**276**	*e*P	**P**	**02 32 22.2**	**-0.4**
	comp=Z,9.2nm,0.6s						
JIRN	**Jiri**	**39.42**	**277**	*e*P	**P**	**02 32 25.2**	**+1.2**
	comp=Z,10nm,0.4s						
GUN	**Gumba**	**39.61**	**277**	*e*P	**P**	**02 32 26.1**	**+0.5**
	comp=Z,40nm,0.6s						
PKI	**Pulchoki**	**40.11**	**277**	*e*P	**P**	**02 32 30.4**	**+0.8**
PKIN	**Phulchoki**	**40.12**	**277**	*e*P	**P**	**02 32 30.6**	**+0.9**
KKN	**Kakani**	**40.16**	**277**	*e*P	**P**	**02 32 31.2**	**+1.3**
ZALV	**Zalesovo Beam**	**40.28**	**318**	*e*P	**P**	**02 32 29.9**	**-0.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**40.28**	**318**	P	**P**	**02 32 29.7**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=155,slow=4.1,SNR=7.2						
TIXI	**Tiksi**	**40.58**	**359**	⇑*e*P	**P**	**02 32 34.2**	**+1.6**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.6s						
TIXI	**Tiksi**	**40.58**	**359**	P	**P**	**02 32 32.9**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=180,slow=24,SNR=5.6						
MK31	**Makanchi Array**	**40.64**	**307**	P	**P**	**02 32 31.5**	**-2.0**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MK31	**Makanchi Array**	**40.64**	**307**	P	**P**	**02 32 31.4**	**-2.0**
MKAR	**Makanchi Array**	**40.64**	**307**	*e*P	**P**	**02 32 33.5**	**0.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**40.64**	**307**	P	**P**	**02 32 31.7**	**-1.8**
	com

RND	**Reindeer**	**58.07**	**31**	P	**P**	**02 34 45.0**	**-1.3**
MDM	**Murphy Dome**	**58.17**	**30**	P	**P**	**02 34 44.9**	**-2.0**
MDM				IAmb	IAmb	02 34 50.5	
	comp=Z,7.9nm,0.7s						
ILAR	**Eielson Array**	**58.76**	**30**	P	**P**	**02 34 52.5**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=269,slow=6.9,SNR=12						
DOT	**Dot Lake**	**60.16**	**31**	P	**P**	**02 35 01.4**	**+0.7**
DOT				IAmb	IAmb	02 35 03.5	
	comp=Z,4.6nm,0.8s						
WAX	**Waxell Ridge**	**61.37**	**34**	P	**P**	**02 35 08.7**	**-0.4**
INK	**Inuvik**	**63.25**	**25**	P	**P**	**02 35 23.3**	**+1.9**
	comp=Z,1.6nm,0.5s,baz=302,slow=4.8,SNR=7.6						
STKA	**Stephens Creek**	**63.41**	**170**	*e*P	**P**	**02 35 25.5**	**+2.7**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
STKA	**Stephens Creek**	**63.41**	**170**	P	**P**	**02 35 23.5**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=338,slow=10,SNR=3.1						
ARCES	**ARCESS Array B**	**66.50**	**338**	P	**P**	**02 35 42.1**	**-0.4**
	comp=Z,8.7nm,1.0s,baz=61,slow=9.4,SNR=3.0						
VSR	**Storozhevoye**	**67.78**	**317**	*e*P	**P**	**02 35 48.5**	**-2.4**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.6s						
KBZ	**Khabaz**	**68.30**	**309**	*e*P	**P**	**02 35 55.7**	**+1.4**
KBZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KBZ	**Khabaz**	**68.30**	**309**	P	**P**	**02 35 54.9**	**+0.6**
	comp=Z,6.2nm,0.9s,baz=57,slow=6.7,SNR=8.8						
KIV	**Kislovodsk**	**68.36**	**309**	*e*P	**P**	**02 35 56.0**	**+1.2**
KIV				pmax	pmax		
	comp=Z,39nm,1.1s						
KIV				MLR	MLR		
	comp=Z,252nm,17.0s						
NEY	**Neytrino**	**68.61**	**308**⇓	*e*P	**P**	**02 35 58.9**	**+2.4**
NEY				pmax	pmax		
	comp=Z,3.0nm,1.2s						
FINES	**FINESS Array B**	**70.01**	**330**	*e*P	**P**	**02 36 04.7**	**+0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**70.01**	**330**	P	**P**	**02 36 03.7**	**-0.9**
	comp=Z,2.1nm,0.4s,baz=67,slow=5.9,SNR=23						
YKA	**Yellowknife Ar**	**72.87**	**26**	P	**P**	**02 36 23.7**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=304,slow=5.5,SNR=12						
AKASG	**Malin Array Be**	**73.66**	**320**	P	**P**	**02 36 27.1**	**+0.3**
	comp=Z,2.2nm,0.5s,baz=55,slow=6.6,SNR=9.7						
RAYN	**Ar Rayn**	**74.97**	**289**	P	**P**	**02 36 32.4**	**-2.6**
RAYN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
RAYN	**Ar Rayn**	**74.97**	**289**	P	**P**	**02 36 32.4**	**-2.6**
RAYN				IAmb	IAmb	02 36 37.2	
	comp=Z,6.9nm,1.0s						
NB2	**NORSAR Subarra**	**76.16**	**334**	P	**P**	**02 36 40.1**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=48,slow=6.2						
NOA	**NORSAR Array B**	**76.16**	**334**	P	**P**	**02 36 40.4**	**-0.7**
	comp=Z,2.2nm,0.8s,baz=49,slow=5.5,SNR=7.3						
BR131	**Keskin Array S**	**76.28**	**308**	*d* iP	**P**	**02 36 43.1**	**+0.8**
BR131	**Keskin Array S**	**76.28**	**308**	P	**P**	**02 36 39.3**	**-2.9**
BR131				IAmb	IAmb	02 36 53.9	
	comp=Z,7.3nm,0.9s						
BRTR	**Keskin Array B**	**76.28**	**308**	*e*P	**P**	**02 36 42.9**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRTR	**Keskin Array B**	**76.28**	**308**	P	**P**	**02 36 43.1**	**+0.8**
	comp=Z,4.9nm,0.8s,baz=98,slow=5.7,SNR=21						
BURAR	**Bucovina Array**	**77.50**	**318**	⇑P	**P**	**02 36 50.1**	**+1.1**
BURAR	**Bucovina Array**	**77.50**	**318**	⇑P	**P**	**02 36 50.1**	**+1.1**
VRI	**Vrincioaia**	**77.56**	**316**	⇑P	**P**	**02 36 51.1**	**+1.9**
VRI	**Vrincioaia**	**77.56**	**316**	⇑P	**P**	**02 36 51.1**	**+1.9**
KOLS	**Kolonicke sedl**	**78.42**	**321**	*e*P	**P**	**02 36 55.9**	**+2.0**
KOLS	**Kolonicke sedl**	**78.42**	**321**	*e*P	**P**	**02 36 55.9**	**+2.0**
TRPA	**Tarpa**	**78.72**	**320**	⇓P	**P**	**02 36 57.0**	**+1.4**
GZR	**Gura Zlata**	**80.14**	**317**	⇑P	**P**	**02 37 04.7**	**+1.3**
GZR	**Gura Zlata**	**80.14**	**317**	⇑P	**P**	**02 37 04.7**	**+1.3**
VYHS	**Vyhne**	**80.53**	**322**	*e*P	**P**	**02 37 06.7**	**+1.3**
VYHS	**Vyhne**	**80.53**	**322**	*e*P	**P**	**02 37 06.7**	**+1.3**
MDVR	**Moldovita**	**81.10**	**317**	⇑P	**P**	**02 37 09.7**	**+1.1**
CLL	**Collm**	**81.72**	**326**	*e*P	**P**	**02 37 13.0**	**+1.3**
CLL	**Collm**	**81.72**	**326**	*e*P	**P**	**02 37 12.0**	**+0.3**
CLL				Lm	MLR	03 17 00.0	
	comp=Z,200nm,19.0s						
GERES	**GERESS Array B**	**82.98**	**324**	P	**P**	**02 37 18.9**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=37,slow=9.0,SNR=6.6						
SOKA	**Soboth**	**83.67**	**322**	*i* PcP	**P**	**02 37 23.6**	**+1.6**
	comp=Z,1.3nm,0.4s						
MYKA	**Terra Mystica**	**84.44**	**322**	*i* P	**P**	**02 37 24.7**	**-1.2**
	comp=Z,1.8nm,0.4s						
ABTA	**Abfaltersbach**	**84.95**	**323**	*i* P	**P**	**02 37 29.4**	**+0.8**
	comp=Z,1.0nm,0.4s						
NVAR	**Mina Array Bea**	**85.06**	**48**	P	**P**	**02 37 31.8**	**+2.4**
	comp=Z,0.7nm,0.8s,baz=309,slow=4.2,SNR=5.8						
MOTA	**Moosalm**	**85.28**	**324**	*i* PcP	**PcP**	**02 37 33.5**	**+0.2**
	comp=Z,2.4nm,0.7s						
ITM	**Ithomi**	**85.39**	**311**	P	**P**	**02 37 28.4**	**-2.4**
FETA	**Feichten**	**85.68**	**324**	*i* PcP	**P**	**02 37 33.5**	**+1.2**
	comp=Z,0.8nm,0.6s						
YPP	**Pitchstone Pla**	**85.89**	**40**	P	**P**	**02 37 29.5**	**-4.0**
PDAR	**Pinedale Array**	**87.56**	**40**	P	**P**	**02 37 43.0**	**+1.4**
	comp=Z,0.8nm,0.9s,baz=37,slow=1.8,SNR=4.8						
ULM	**Lac du Bonnet**	**88.75**	**28**	*e*P	**P**	**02 37 48.5**	**+1.7**
ULM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ULM	**Lac du Bonnet**	**88.75**	**28**	P	**P**	**02 37 48.3**	**+1.5**
	comp=Z,7.1nm,0.8s,baz=317,slow=4.4,SNR=10						
SCHQ	**Schefferville**	**92.93**	**10**	LR	LR	03 23 56.8	
	comp=Z,49nm,18.3s,baz=116,slow=38						

ISCJB ***12*** *02:26:07.9±1.0,31.˚12N±0.˚04×131.˚5E±0.˚1, h50km±5km, mb3.7/11, Error ellipse: s-maj=15.7km s-min=5.7km az=17.9*

JMA ***12*** *02:26:08.5±0.1,31.˚12N×131.˚52E, h26km±1km, M3.9*

JMA Felt I J1.

IDC ***12*** *02:26:11.6±5.0,31.˚21N×131.˚29E, h60km±34km, mb3.6/11, mb1 3.7/12, mb1mx3.5/49, mbtmp3.9/12, ML3.9/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/21, Error ellipse: s-maj=37.1km s-min=22.1km az=146.0*

ISC 12 02:26:08.8±1.2, 31.˚13N±0.˚05×131.˚5E±0.˚1, h40km±9km, n23, σ0s91/29, mb3.8/11, 2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNAR	**Kushima--Naru**	**0.44**	**335**	⇓P	**Pn**	**02 26 18.0**	**-0.7**
JNAR				S	**Sn**	**02 26 25.3**	**-0.3**
JTSR	**Tashiro 2**	**0.49**	**274**	P	**Pn**	**02 26 18.8**	**-0.6**
JTSR				*e*S	**Sn**	**02 26 27.0**	**+0.1**
JNKG	**Nichinankitago**	**0.54**	**350**	P	**Pn**	**02 26 19.7**	**-0.4**
JNKG				S	**Sn**	**02 26 28.1**	**+0.1**
JTN	**Tanegashima 3**	**0.65**	**223**	⇓P	**Pn**	**02 26 21.4**	**-0.1**
JTN				S	**Sn**	**02 26 31.4**	**+0.8**
JTZ	**Takazaki**	**0.84**	**336**	P	**Pn**	**02 26 24.5**	**+0.3**
JTZ				*e*S	**Sn**	**02 26 36.3**	**+0.9**
JSU	**Suzuyama**	**0.96**	**293**	P	**Pn**	**02 26 26.2**	**+0.4**
JYAK	**Yakushimahirau**	**1.23**	**224**	*e*S	**Sn**	**02 26 45.8**	**+1.0**
JZO	**Okuchi**	**1.26**	**323**	P	**Pn**	**02 26 30.4**	**+0.4**
JZO				*e*S	**Sn**	**02 26 47.3**	**+1.6**
JKC	**Kuchinoerabu**	**1.30**	**239**	S	**Sn**	**02 26 48.2**	**+1.6**
JNU	**Nakatsue**	**2.05**	**345**	P	**Pn**	**02 26 41.6**	**+0.7**
	baz=184,slow=14,SNR=0.9						
JNU				S	**Sn**	**02 27 06.1**	**+0.9**
	baz=135,slow=4.0,SNR=1.0						
KLR	**Kul'dur**	**18.08**	**1**	P	**P**	**02 30 17.8**	**+1.0**
	0.4nm,0.3s,baz=127,slow=13,SNR=2.1						
TGY	**Tagaytay City**	**19.53**	**212**	LR	LR	02 38 07.7	
	comp=Z,188nm,21.4s,baz=102,slow=37						
SONM	**Songino Array**	**25.39**	**318**	P	**P**	**02 31 32.0**	**-0.5**
	2.2nm,0.7s,baz=127,slow=9.3,SNR=2.6						
CMAR	**Chiang Mai Arr**	**32.00**	**254**	P	**P**	**02 32 31.4**	**-0.1**
	1.0nm,0.3s,baz=56,slow=8.3,SNR=3.2						
ZALV	**Zalesovo Beam**	**40.29**	**318**	P	**P**	**02 33 39.8**	**-2.1**
	0.6nm,0.5s,baz=110,slow=6.3,SNR=2.0						
MKAR	**Makanchi Array**	**40.64**	**307**	P	**P**	**02 33 44.2**	**-0.8**
	0.7nm,0.7s,baz=94,slow=9.3,SNR=3.1						
KURBB	**Kurchatov Arra**	**43.48**	**312**	P	**P**	**02 34 07.2**	**-0.8**
	3.0nm,0.7s,baz=99,slow=9.0,SNR=5.8						
ILAR	**Eielson Array**	**58.78**	**30**	P	**P**	**02 36 03.6**	**+1.1**
	0.5nm,0.7s,baz=286,slow=7.4,SNR=2.6						
FINES	**FINESS Array B**	**70.02**	**330**	P	**P**	**02 37 15.1**	**-1.0**
	1.5nm,0.6s,baz=72,slow=6.3,SNR=2.9						
YKA	**Yellowknife Ar**	**72.88**	**26**	P	**P**	**02 37 33.6**	**+0.2**
	0.3nm,0.7s,baz=299,slow=6.0,SNR=2.8						
AKASG	**Malin Array Be**	**73.67**	**320**	P	**P**	**02 37 37.6**	**-0.6**
	0.4nm,0.4s,baz=60,slow=6.8,SNR=3.2						
BRTR	**Keskin Array B**	**76.28**	**308**	P	**P**	**02 37 53.7**	**0.0**
	1.2nm,0.8s,baz=108,slow=5.8,SNR=2.8						
GERES	**GERESS Array B**	**82.98**	**324**	P	**P**	**02 38 30.6**	**+0.8**
	0.3nm,0.6s,baz=96,slow=7.0,SNR=2.3						

IDC ***12*** *02:31:09.5±1.7,54.˚32N×162.˚19E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/43, mbtmp3.4/4, ML2.3/1, Error ellipse: s-maj=98.8km s-min=22.7km az=151.0*

KRSC ***12*** *02:31:17.8±0.7,54.˚73N×160.˚57E, h115km±9km, ML3.8*

ISCJB ***12*** *02:31:18.6±0.4,54.˚74N±0.˚03×160.˚54E±0.˚09, h119km±4km, mb3.1/3, Error ellipse: s-maj=8.9km s-min=3.2km az=25.7*

ISC 12 02:31:19.2±0.9, 54.˚74N±0.˚04×160.˚53E±0.˚05, h114km±7km, n43, σ0s85/57, mb3.2/3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.40**	**340**	*i* P	**Pn**	**02 31 36.2**	**+0.1**
KZV				*e*S	**Sn**	**02 31 49.0**	**+0.2**
TUMD	**Tumrok D**	**0.47**	**351**	*i* P	**Pn**	**02 31 36.0**	**-0.3**
TUMD				*e*S	**Sn**	**02 31 48.7**	**-0.5**
TUMR	**Tumrok**	**0.59**	**338**	*i* P	**Pn**	**02 31 37.4**	**+0.2**
TUMR				*e*S	**Sn**	**02 31 51.1**	**+0.3**
MKZ	**Mys Kozlova**	**0.72**	**104**	*i* P	**Pn**	**02 31 38.5**	**+0.5**
MKZ				*e*S	**Sn**	**02 31 53.0**	**+0.7**
KMNR	**Kamenistaya**	**1.03**	**351**	*e*P	**Pn**	**02 31 41.1**	**0.0**
BZGR	**Bezymyannyi-Gr**	**1.21**	**4**	*e*P	**Pn**	**02 31 43.5**	**+0.5**
KIRR	**Kirishev**	**1.22**	**355**	*e*P	**Pn**	**02 31 42.3**	**-0.9**
BZWR	**Bezymyannyi-We**	**1.23**	**359**	*e*P	**Pn**	**02 31 43.5**	**+0.2**
KPT	**Kopyto**	**1.24**	**352**	*e*P	**Pn**	**02 31 42.7**	**-0.6**
ZLN	**Zelenaya**	**1.29**	**7**	*e*P	**Pn**	**02 31 45.3**	**+1.4**
KOZ	**Kozyrevsk**	**1.37**	**344**	*e*P	**Pn**	**02 31 44.0**	**-0.7**
KOZ				*e*S	**Sn**	**02 32 02.8**	**-1.4**
CIRR	**Tsirk**	**1.39**	**5**	*e*P	**Pn**	**02 31 45.1**	**+0.1**
KLY	**Klyuchi**	**1.58**	**2**	*e*P	**Pn**	**02 31 47.4**	**+0.3**
SRDR	**Sredinnyy**	**1.65**	**344**	*e*P	**Pn**	**02 31 47.5**	**-0.5**
SPN	**Mys Shipunski**	**1.67**	**191**	*e*P	**Pn**	**02 31 47.6**	**-0.6**
SPN				*e*S	**Sn**	**02 32 08.8**	**-1.6**
NLC	**Nalytchevo**	**1.72**	**205**	*e*P	**Pn**	**02 31 49.1**	**+0.3**
NLC				*e*S	**Sn**	**02 32 11.3**	**-0.1**
SDLR	**Sedlovina**	**1.76**	**214**	*e*P	**Pn**	**02 31 49.9**	**+0.5**
KRX	**Arik**	**1.77**	**220**	*e*P	**Pn**	**02 31 50.3**	**+0.7**
KRER	**Koryakskii**	**1.78**	**217**	*e*P	**Pn**	**02 31 50.5**	**+0.7**
SMAR	**Somma**	**1.80**	**215**	*e*P	**Pn**	**02 31 50.5**	**+0.5**
SMAR				*e*S	**Sn**	**02 32 14.5**	**+1.0**
AVH	**Avacha**	**1.82**	**216**	*e*P	**Pn**	**02 31 50.8**	**+0.7**
KOK	**Koryaka**	**1.83**	**218**	*e*P	**Pn**	**02 31 51.2**	**+0.9**
UGLR	**Uglovaya**	**1.83**	**214**	*e*P	**Pn**	**02 31 51.0**	**+0.6**
BDR	**Baidarnaya**	**1.87**	**12**	*e*P	**Pn**	**02 31 51.5**	**+0.7**
BDR				*e*S	**Sn**	**02 32 15.8**	**+0.9**
SMKR	**Semkarok**	**1.92**	**16**	*e*P	**Pn**	**02 31 53.3**	**+1.9**
SRKR	**Sorokina**	**1.95**	**10**	*e*P	**Pn**	**02 31 51.9**	**+0.1**
SRKR				*e*S	**Sn**	**02 32 16.1**	**-0.6**
KBG	**Krutoberegovo**	**1.96**	**38**	*e*P	**Pn**	**02 31 53.0**	**+1.3**
KBG				*e*S	**Sn**	**02 32 18.7**	**+2.1**
KBTR	**Krutoberegovo**	**1.97**	**41**	*e*P	**Pn**	**02 31 52.3**	**+0.5**
KBTR				*e*S	**Sn**	**02 32 17.1**	**+0.3**
DALK	**Dalny**	**2.01**	**212**	*e*P	**Pn**	**02 31 53.0**	**+0.6**
DALK				*e*S	**Sn**	**02 32 18.6**	**+0.8**
PETK	**Petropavlovsk-**	**2.34**	**227**	Pn	**Pn**	**02 31 56.9**	**+0.2**
	2.2nm,0.3s,baz=68,slow=15,SNR=22						
PETK				Sn	Sn	02 32 35.5	+10
	3.3nm,0.3s,baz=83,slow=20,SNR=5.0						
KRMR	**Karymshinskiy**	**2.38**	**218**	*e*P	**Pn**	**02 31 57.6**	**+0.4**
KRMR				*e*S	**Sn**	**02 32 26.0**	**-0.4**
RUS	**Russkaya**	**2.60**	**208**	*e*P	**Pn**	**02 32 00.0**	**0.0**
RUS				*e*S	**Sn**	**02 32 30.8**	**-0.6**
GRL	**Gorelyy**	**2.63**	**215**	*e*P	**Pn**	**02 32 01.3**	**+0.7**
MTVR	**Mutnovka**	**2.66**	**213**	*e*P	**Pn**	**02 32 01.4**	**+0.5**
MTVR				*e*S	**Sn**	**02 32 33.0**	**+0.1**
APC	**Apacha**	**2.70**	**229**	*e*P	**Pn**	**02 32 02.5**	**+1.2**
ASAK	**Asacha**	**2.83**	**215**	*e*P	**Pn**	**02 32 03.6**	**+0.5**
BKI	**Bering**	**3.17**	**79**	*e*P	**Pn**	**02 32 07.6**	**+0.2**
BKI				*e*S	**Sn**	**02 32 42.1**	**-2.6**
ILAR	**Eielson Array**	**27.49**	**48**	P	**P**	**02 36 53.6**	**-0.7**
	0.2nm,0.6s,baz=263,slow=6.0,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**35.28**	**170**	T	T	03 15 23.6	
	baz=353,slow=76						
H11N3	**WAKE ISLAND Hy**	**35.30**	**170**	T	T	03 15 28.8	
	baz=353,slow=76						
H11N1	**WAKE ISLAND Hy**	**35.30**	**170**	T	T	03 15 33.4	
	baz=353,slow=76						
YKA	**Yellowknife Ar**	**41.78**	**44**	P	**P**	**02 38 56.4**	**-0.3**
	0.2nm,0.5s,baz=302,slow=8.2,SNR=2.8						
TXAR	**Lajitas Array**	**69.76**	**68**	P	**P**	**02 42 17.2**	**+0.3**
	0.4nm,0.5s,baz=306,slow=6.3,SNR=4.3						

ISCJB ***12*** *02:31:27.4±0.2,6.˚80N±0.˚02×73.˚08W±0.˚02, h158km±1km, mb4.2/17, Error ellipse: s-maj=4.1km s-min=3.0km az=10.2*

NEIC ***12*** *02:31:28.5±0.9,6.˚8N±0.˚1×73.˚1W±0.˚1, h159km±10km, mb4.4/79, ML4.2(RSNC)*

IDC ***12*** *02:31:28.7±0.5,6.˚79N×72.˚98W, h159km±4km, mb3.9/15, mb1 4.1/20, mb1mx3.9/32, mbtmp4.4/20, Error ellipse: s-maj=9.1km s-min=6.7km az=128.0*

RSNC ***12*** *02:31:29.4±1.3,6.˚81N×73.˚14W, h148km±5km, ML4.2, Mw4.1, Fault plane solution: NP1:φs118.00000°, δ32.00000°, λ-36.00000°.*

ISC 12 02:31:28.6±0.5, 6.˚81N±0.˚03×73.˚07W±0.˚03, h158km±4km, n290, σ1s21/323, mb4.3/50, 9C-9D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**207**	⇓P	**Pn**	**02 31 49.6**	**-0.6**
BARC				*e*S	**Sn**	**02 32 04.7**	**-2.0**
BARC				*i*		02 32 05.3	
	comp=Z,12μm,0.3s						
PAMC	**Pamplona, Colo**	**0.64**	**35**	⇑*i*P	**Pn**	**02 31 52.3**	**+0.2**
PAMC				*e*S	**Sn**	**02 32 09.3**	**-0.9**
PAMC				*i*		02 32 11.4	
	comp=Z,7μm,0.5s						
BRRC	**Barranca, Sant**	**0.70**	**295**	⇓*i*P	**Pn**	**02 31 51.4**	**-0.5**
BRRC				*e*S	**Sn**	**02 32 08.4**	**-1.3**
BRRC				*i*		02 32 11.4	
	comp=Z,7μm,0.3s						
RUSC	**La Rusia**	**0.92**	**181**	⇑*i*P	**Pn**	**02 31 53.5**	**-0.5**
RUSC				*e*S	**Sn**	**02 32 11.9**	**-1.6**
RUSC				*i*		02 32 13.1	
	comp=Z,2μm,0.5s						
TAMC	**Tame, Arauca**	**1.32**	**106**	⇑*i*P	**Pn**	**02 31 58.0**	**+0.9**
TAMC				*e*S	**Sn**	**02 32 19.3**	**+0.4**
TAMC				*i*		02 32 24.4	
	comp=Z,933nm,1.1s						
PTBC	**PUERTO BERRIO,**	**1.41**	**259**	⇓*i*P	**Pn**	**02 31 56.1**	**-1.7**
PTBC				*e*S	**Sn**	**02 32 16.9**	**-3.3**
PTBC				*i*		02 32 20.7	
	comp=Z,2μm,0.2s						
OCAC	**Ocana**	**1.44**	**350**	⇓*i*P	**Pn**	**02 31 57.6**	**-0.7**
OCAC				*e*S	**Sn**	**02 32 19.3**	**-1.8**
OCAC				*i*		02 32 23.4	
	comp=Z,4μm,0.2s						
SPBC	**San Pablo de B**	**1.53**	**221**	*e*P	**Pn**	**02 31 58.5**	**-0.7**
SPBC				*e*S	**Sn**	**02 32 20.5**	**-2.1**
SPBC				*i*		02 32 27.2	
	comp=Z,2μm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.90**	**291**	⇓*e*P	**Pn**	**02 32 01.6**	**-1.4**
ZARC				*e*S	**Sn**	**02 32 27.7**	**-1.9**
ZARC				*i*		02 32 34.0	
	comp=Z,4μm,0.3s						
NORC	**Norcasia**	**2.18**	**235**	⇓*e*P	**Pn**	**02 32 05.3**	**-1.0**
NORC				*e*S	**Sn**	**02 32 33.3**	**-2.2**
NORC				*i*		02 32 40.1	
	comp=Z,1μm,0.4s						
SMLC	**San Martn de**	**2.21**	**333**	*e*P	**Pn**	**02 32 05.6**	**-1.0**
SMLC				*e*S	**Sn**	**02 32 36.0**	**-0.1**
SMLC				*i*		02 32 43.4	
	comp=Z,3μm,0.1s						
CHIC	**Chingaza**	**2.27**	**197**	⇑*i*P	**Pn**	**02 32 07.5**	**-0.3**
CHIC				*e*S	**Sn**	**02 32 36.4**	**-1.5**
CHIC				*i*		02 32 39.9	
	comp=Z,921nm,0.9s						
ROSC	**El Rosal**	**2.32**	**212**	P	**Pn**	**02 32 09.6**	**+1.2**
	comp=Z,190nm,0.3s,baz=224,slow=13,SNR=387						
ROSC				S	**Sn**	**02 32 39.7**	**+0.6**
	comp=Z,438nm,0.3s,baz=139,slow=20,SNR=21						
ROSC	**El Rosal**	**2.32**	**212**		**Pn**	**02 32 07.7**	**-0.6**
ROSC				Sn	**Sn**	**02 32 36.4**	**-2.7**
CVER	**Cruz Verde, Cu**	**2.49**	**204**	*e*P	**Pn**	**02 32 11.0**	**+0.6**
HELC	**Santa Helena**	**2.52**	**256**	*e*P	**Pn**	**02 32 09.5**	**-1.2**
HELC				*e*S	**Sn**	**02 32 41.2**	**-2.0**
HELC				*i*		02 32 47.5	
	comp=Z,2μm,0.5s						
PTGC	**Puerto Gaitan,**	**2.76**	**160**	⇑*i*P	**Pn**	**02 32 12.8**	**-0.5**
PTGC				*e*S	**Sn**	**02 32 46.0**	**-1.9**
PTGC				*i*		02 32 47.9	
	comp=Z,906nm,0.6s						
GUY2C	**Guyana, Caldas**	**2.78**	**235**	*e*P	**Pn**	**02 32 13.9**	**-0.1**
GUY2C				*e*S	**Sn**	**02 32 47.7**	**-1.3**
GUY2C				*i*		02 32 55.7	
	comp=Z,972nm,0.3s						
RREF	**El Recreo**	**2.96**	**230**	*e*P	**Pn**	**02 32 16.1**	**-0.2**
RREF				*e*S	**Sn**	**02 32 53.1**	**-0.2**
RREF				*i*		02 33 03.6	
	comp=Z,909nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.08**	**252**	⇓*e*P	**Pn**	**02 32 17.1**	**-0.3**
CBOC				*e*S	**Sn**	**02 32 53.3**	**-1.8**
CBOC				*i*		02 33 08.3	
	comp=Z,488nm,0.8s						
CODC	**Agustn Codazz**	**3.12**	**353**	*e*P	**Pn**	**02 32 16.9**	**-0.9**
CODC				*e*S	**Sn**	**02 32 54.0**	**-2.1**
CODC				*i*		02 33 04.1	
	comp=Z,366nm,0.5s						
DBBC	**Dabeiba**	**3.13**	**274**	⇓*e*P	**Pn**	**02 32 17.3**	**-0.7**
DBBC				*i*		02 32 57.5	
	comp=Z,2μm,0.4s						
SDV	**Santo Domingo**	**3.17**	**49**	P	**Pn**	**02 32 19.0**	**+0.4**
	comp=Z,64nm,0.3s,baz=212,slow=4.8,SNR=354						
SDV				S	**Sn**	**02 32 56.1**	**-1.3**
	comp=Z,243nm,0.3s,baz=254,slow=22,SNR=50						
ARGC	**Ariguani, Magd**	**3.24**	**339**	*e*P	**Pn**	**02 32 19.8**	**+0.5**
ARGC				*e*S	**Sn**	**02 32 57.9**	**-0.9**
ARGC				*i*		02 33 08.8	
	comp=Z,531nm,0.3s						
PRAC	**Prado**	**3.57**	**211**	⇑*e*P	**Pn**	**02 32 22.8**	**-0.8**
PRAC				*e*S	**Sn**	**02 33 04.6**	**-1.8**
PRAC				*i*		02 33 12.8	
	comp=Z,837nm,0.6s						
ORTC	**Ortega, Tolima**	**3.61**	**217**	⇓*e*P	**Pn**	**02 32 23.9**	**-0.2**
ORTC				*e*S	**Sn**	**02 33 06.7**	**-0.5**
ORTC				*i*		02 33 12.1	
	comp=Z,695nm,0.4s						
SJCC	**San Jacinto, C**	**3.71**	**326**	*e*P	**Pn**	**02 32 23.4**	**-1.9**
SJCC				*e*S	**Sn**	**02 33 04.6**	**-4.9**
SJCC				*i*		02 33 09.1	
	comp=Z,811nm,0.4s						
PLMC	**San Jos del P**	**3.72**	**240**	*e*P	**Pn**	**02 32 25.5**	**0.0**
PLMC				*i*		02 33 21.3	
	comp=Z,344nm,0.8s						
GUVC	**San Jose del G**	**4.26**	**174**	*e*P	**Pn**	**02 32 32.2**	**-0.4**
GUVC				*e*S	**Sn**	**02 33 20.2**	**-2.2**
GUVC				*i*		02 33 25.1	
	comp=Z,494nm,0.3s						
YOTC	**Yotoco, Valle**	**4.31**	**229**	⇑*e*P	**Pn**	**02 32 32.4**	**-0.8**
YOTC				*i*		02 33 40.7	
	comp=Z,90nm,0.8s						
SMRC	**Santa Marta, M**	**4.47**	**345**	*e*P	**Pn**	**02 32 34.0**	**-1.3**
SMRC				*e*S	**Sn**	**02 33 22.7**	**-4.5**
SMRC				*i*		02 33 25.1	
	comp=Z,206nm,0.5s						
MACC	**Macarena, Meta**	**4.70**	**190**	⇑*e*P	**Pn**	**02 32 36.7**	**-1.6**
MACC				*e*S	**Sn**	**02 33 27.5**	**-5.2**
MACC				*i*		02 33 32.0	
	comp=Z,294nm,0.8s						
PTAC	**Punta Ardita,**	**4.72**	**274**	*e*P	**Pn**	**02 32 36.9**	**-1.6**
PTAC				*i*		02 33 38.6	
	comp=Z,408nm,0.3s						
BETC	**Betania**	**4.74**	**210**	*e*P	**Pn**	**02 32 37.8**	**-1.0**
BETC				*i*		02 33 35.2	
	comp=Z,32nm,0.8s						
URIC	**Uribia, Colomb**	**4.97**	**12**	*e*P	**Pn**	**02 32 40.

V50A	Pikevile	30.77	341	P		P	02 37 30.8	+1.5
	baz=156							
U52A	Thorn Hill	30.91	344	P		P	02 37 32.0	+1.5
	baz=160							
U51A	La Follette	31.09	343	P		P	02 37 33.5	+1.5
	baz=158							
T54A	Tazewell	31.09	347	P		P	02 37 33.1	+1.1
	baz=163							
V49A	McMinnville	31.13	340	P		P	02 37 33.5	+1.1
	baz=155							
OXF	Oxford	31.42	334	P		P	02 37 36.0	+1.1
	baz=148							
V48A	Smith Brothers	31.43	338	P		P	02 37 36.7	+1.6
	baz=153,SNR=7.7							
S55A	Lewisburg	31.55	349	P		P	02 37 37.5	+1.5
	baz=166							
T51A	Gray	31.61	343	P		P	02 37 38.1	+1.5
	baz=159							
T50A	Nancy	31.93	342	P		P	02 37 40.9	+1.5
	baz=157							
WVT	Waverly	32.16	337	P		P	02 37 42.9	+1.5
	baz=152							
WVT	Waverly	32.16	337	P		P	02 37 41.8	+0.4
T49A	Edmonton	32.22	341	P		P	02 37 43.4	+1.5
	baz=156							
T47A	Sharon Grove	32.65	339	P		P	02 37 46.7	+1.0
	baz=153,SNR=5.1							
S49A	Springfield	32.77	342	P		P	02 37 48.6	+1.9
	baz=157							
Q54A	Coxs Mills	32.79	349	P		P	02 37 48.7	+1.9
	baz=166							
R50A	Paris	32.95	344	P		P	02 37 50.5	+2.3
	baz=159							
X40A	Basin Creek Fa	33.03	329	P		P	02 37 49.7	+0.6
	baz=142							
X40A	Basin Creek Fa	33.03	329	P		P	02 37 49.6	+0.6
X40A				IAmb		IAmb	02 37 50.3	
	comp=Z,5.9nm,0.8s							
W41B	Gary Mavity, V	33.28	331	P		P	02 37 51.9	+0.8
	baz=144							
BDFB	Brasilia	33.37	132	P		P	02 37 52.3	0.0
	comp=Z,5.8nm,0.6s,baz=296,slow=10,SNR=13							
Q50A	Georgetown	33.38	344	P		P	02 37 52.7	+0.7
	baz=160							
Q51A	Peebles	33.38	345	P		P	02 37 53.5	+1.5
	baz=161							
WHAR	Wooly Hollow	33.40	331	P		P	02 37 52.9	+0.7
WHAR				IAmb		IAmb	02 37 53.6	
	comp=Z,10.0nm,0.9s							
MIAR	Mount Ida	33.46	328	P		P	02 37 53.4	+0.6
	baz=141							
WCI	Wyandotte Cave	33.49	341	P		P	02 37 54.1	+1.1
	baz=156							
LCAR	Lake Charles	33.50	333	P		P	02 37 53.6	+0.6
LCAR				IAmb		IAmb	02 37 54.7	
	comp=Z,6.3nm,0.6s							
O56A	Blue Knob Stat	33.67	352	P		P	02 37 56.3	+1.8
	baz=170							
P52A	Corning	33.68	347	P		P	02 37 55.6	+1.1
	baz=163							
PBMO	Poplar Bluff	33.78	334	P		P	02 37 56.0	+0.6
N61A	South Mountain	33.81	358	P		P	02 37 55.9	+0.2
	baz=178							
P50A	Jamestown	34.05	345	P		P	02 37 58.8	+1.1
	baz=161							
W39A	Magazine	34.07	329	P		P	02 37 58.5	+0.5
	baz=141,SNR=6.2							
W39A	Magazine	34.07	329	P		P	02 37 58.8	+0.8
O52A	Adamsville	34.08	348	P		P	02 37 59.1	+1.1
	baz=164							
S44A	Carbondale	34.08	337	P		P	02 37 59.1	+1.1
	baz=150							
O53A	New Philadelph	34.08	349	P		P	02 37 59.1	+1.1
	baz=165							
N55A	Marion Center	34.23	352	P		P	02 38 00.8	+1.5
	baz=169							
O51A	Pataskala	34.27	347	P		P	02 38 01.2	+1.5
	baz=163							
BLO	Bloomington	34.42	341	P		P	02 38 00.6	-0.4
O50A	Cable	34.51	346	P		P	02 38 03.6	+1.9
	baz=161							
U40A	Yellville	34.53	331	P		P	02 38 02.5	+0.6
	baz=144,SNR=15							
U40A	Yellville	34.53	331	P		P	02 38 02.6	+0.7
M58A	Price's Panora	34.55	355	P		P	02 38 03.8	+1.8
	baz=174							
M59A	Waymart	34.65	357	P		P	02 38 04.2	+1.4
	baz=176							
M56A	Emporium	34.82	353	P		P	02 38 05.8	+1.4
	baz=171							
N50A	Nevada	34.99	347	P		P	02 38 07.3	+1.5
	baz=162							
M54A	Oil Creek Stat	35.04	351	P		P	02 38 07.7	+1.4
	baz=168							
P46A	Rosedale	35.05	341	P		P	02 38 07.2	+0.9
	baz=155,SNR=5.9							
CCM	Cathedral Cave	35.20	335	P		P	02 38 08.3	+0.6
	baz=147							
CCM	Cathedral Cave	35.20	335	P		P	02 38 08.3	+0.6
M50A	Fremont	35.57	347	P		P	02 38 11.9	+1.1
	baz=163							
ABTX	Abilene, Hawle	35.64	320	P		P	02 38 12.0	+0.5
	baz=130							
TUL1	Leonard	35.67	327	P		P	02 38 11.8	+0.1
	baz=139							
ERPA	Erie	35.69	351	P		P	02 38 12.8	+1.1
	baz=168							
SFIN	Lafayette	35.70	342	P		P	02 38 12.8	+0.9
	baz=156,SNR=5.7							
K52A	Tillsonburg	36.45	351	P		P	02 38 20.8	+2.6
	baz=167							
TX31	Lajitas Ar. Si	36.51	312	P		P	02 38 18.9	-0.1
TX31				IAmb		IAmb	02 38 20.4	
	comp=Z,4.1nm,0.8s							
TX32	Lajitas Array	36.51	312	P		P	02 38 19.2	+0.1
TX32				IAmb		IAmb	02 38 20.4	
	comp=Z,4.3nm,0.8s							
TXAR	Lajitas Array	36.51	312	P		P	02 38 19.7	+0.7
	comp=Z,3.2nm,0.6s,baz=126,slow=9.1,SNR=29							
TXAR				PcP		PcP	02 40 40.9	+1.4
	comp=Z,0.7nm,0.6s,baz=144,slow=4.2,SNR=5.0							
WMOK	Wichita Mounta	36.52	323	P		P	02 38 18.4	-0.5
	baz=134,SNR=5.7							
WMOK	Wichita Mounta	36.52	323	P		P	02 38 18.6	-0.4
WMOK				IAmb		IAmb	02 38 19.3	
	comp=Z,4.7nm,0.7s							
J59A	Piesco	36.53	358	P		P	02 38 17.5	-1.4
	baz=177							
J52A	Paris	36.86	351	P		P	02 38 21.8	+0.2
	baz=168							
H60A	Morristown	37.60	0	P		P	02 38 30.0	+2.0
	baz=180							
AMTX	Amarillo	38.39	321	P		P	02 38 35.5	+0.7
	baz=130							
AMTX	Amarillo	38.39	321	P		P	02 38 34.9	+0.1
KSU1	Kansas State U	38.52	330	P		P	02 38 35.1	-0.6
	baz=140							
MSTX	Muleshoe	38.52	319	P		P	02 38 36.0	0.0
MSTX				IAmb		IAmb	02 38 36.4	
	comp=Z,7.0nm,0.6s							
MNTX	Cornudas Mount	39.01	314	P		P	02 38 40.6	+0.6
	baz=122,SNR=15							
MNTX	Cornudas Mount	39.01	314	P		P	02 38 39.8	-0.2
MNTX				IAmb		IAmb	02 38 42.2	
	comp=Z,8.2nm,0.8s							
JFWS	Jewell Farm	39.02	340	P		P	02 38 39.7	-0.1
	baz=152							
SCIA	State Center	39.26	336	P		P	02 38 42.0	+0.2
	baz=147							
E57A	Chemin Saint G	39.46	359	P		P	02 38 44.7	+1.3
	baz=178							
D54A	Lac Fusel, La	40.31	356	P		P	02 38 51.4	+1.0
	baz=174							
LATQ	La Tuque	40.42	0	P		P	02 38 51.9	+0.6
	baz=180							
D48A	Paudash Townsh	40.91	351	P		P	02 38 56.6	+1.3
	baz=166							
121A	Cookes Peak, D	41.19	313	P		P	02 38 59.5	+1.5
	baz=121							
121A	Cookes Peak, D	41.19	313	P		P	02 38 58.1	0.0
121A				IAmb		IAmb	02 39 00.6	
	comp=Z,7.1nm,1.1s							
T25A	Trinidad	41.53	321	P		P	02 39 02.3	+1.5
	baz=129							
ANMO	Albuquerque	41.55	317	P		P	02 39 02.6	+1.6
	baz=124							
ANMO	Albuquerque	41.55	317	P		P	02 39 00.9	-0.1
SPMN	Marine on St.	41.93	339	P		P	02 39 03.4	-0.3
	baz=150							
ECSD	EROS Data Cent	42.18	334	P		P	02 39 05.4	-0.3
	baz=144,SNR=6.2							
ECSD	EROS Data Cent	42.18	334	P		P	02 39 05.3	-0.4
ECSD				IAmb		IAmb	02 39 06.5	
	comp=Z,4.7nm,0.6s							
SDCO	Great Sand Dun	42.59	321	P		P	02 39 10.4	+0.9
	baz=128,SNR=10							
SDCO	Great Sand Dun	42.59	321	P		P	02 39 09.8	+0.3
TUC	Tucson	43.29	311	P		P	02 39 15.7	+0.7
	baz=118							
TUC	Tucson	43.29	311	P		P	02 39 15.4	+0.5
TUC				IAmb		IAmb	02 39 16.8	
	comp=Z,4.8nm,0.8s							
S22A	4UR Ranch, Cre	43.42	320	P		P	02 39 17.3	+1.1
	baz=127,SNR=7.4							
S22A	4UR Ranch, Cre	43.42	320	P		P	02 39 16.1	-0.1
X18A	Snowflake	43.76	314	P		P	02 39 19.0	+0.2
X18A				IAmb		IAmb	02 39 21.2	
	comp=Z,6.0nm,0.8s							
SUSD	Miller	43.77	333	P		P	02 39 18.6	0.0
	baz=141							
SUSD	Miller	43.77	333	P		P	02 39 18.5	0.0
EYMN	Ely	43.89	342	P		P	02 39 19.6	+0.2
	baz=153							
W18A	Petrified Fore	43.91	315	P		P	02 39 21.8	+1.9
	baz=121							
W18A	Petrified Fore	43.91	315	P		P	02 39 20.4	+0.4
W18A				IAmb		IAmb	02 39 22.4	
	comp=Z,12nm,0.9s							
ISCO	Idaho Springs	43.94	323	P		P	02 39 21.2	+0.9
	baz=130							
ISCO	Idaho Springs	43.94	323	P		P	02 39 20.4	0.0
ISCO				IAmb		IAmb	02 39 22.5	
	comp=Z,6.3nm,0.9s							
MVCO	Mesa Verde	44.20	318	P		P	02 39 23.4	+1.1
	baz=124							
MVCO	Mesa Verde	44.20	318	P		P	02 39 23.2	+0.9
X16A	Lo Mia Camp, P	44.77	313	P		P	02 39 27.7	+0.8
PHWY	Pilot Hill	44.82	325	P		P	02 39 27.6	+0.3
PHWY				IAmb		IAmb	02 39 33.6	
	comp=Z,5.1nm,0.7s							
N23A	Red Feather La	44.84	324	P		P	02 39 28.8	+1.4
	baz=130							
N23A	Red Feather La	44.84	324	P		P	02 39 27.6	+0.3
WUAZ	Wupatki	45.26	315	P		P	02 39 32.0	+1.3
	baz=120,SNR=16							
WUAZ	Wupatki	45.26	315	P		P	02 39 31.1	+0.4
WUAZ				IAmb		IAmb	02 39 34.0	
	comp=Z,15nm,1.0s							
Y14A	Wickenburg	45.69	312	P		P	02 39 34.4	+0.5
Y14A				IAmb		IAmb	02 39 35.8	
	comp=Z,8.5nm,0.8s							
O20A	White River Ci	45.73	322	P		P	02 39 35.3	+1.0
	baz=127							
RSSD	Black Hills	45.97	329	P		P	02 39 36.7	+0.5
	baz=135							
U15A	North Rim	46.36	315	P		P	02 39 39.5	+0.1
U15A				IAmb		IAmb	02 39 41.9	
	comp=Z,7.9nm,1.0s							
SRU	San Rafael Swe	46.58	319	P		P	02 39 41.4	+0.4
Y12C	Blythe	46.74	311	P		P	02 39 42.9	+0.8
	baz=116							
P17A	Butcher Ranch,	46.92	320	P		P	02 39 44.0	+0.3
KNB	Kanab	47.02	316	P		P	02 39 44.9	+0.5
MTPU	Mount Pierson	47.10	317	P		P	02 39 46.1	+0.8
ULM	Lac du Bonnet	47.31	340	P		P	02 39 45.8	-0.4
	comp=Z,7.3nm,0.4s,baz=142,slow=7.4,SNR=17							
ULM	Lac du Bonnet	47.31	340	P		P	02 39 46.0	-0.2
LCMT	Little Creek M	47.31	315	P		P	02 39 47.0	+0.3
MSU	Marysvale	47.34	318	P		P	02 39 47.4	+0.4
SWSC	Sam W. Stewart	47.38	309	P		P	02 39 47.8	+0.7
	baz=114							
IRM	Iron Mountain	47.38	311	P		P	02 39 48.2	+1.1
	baz=115							
SZCU	Shurtz Canyon	47.49	316	P		P	02 39 48.4	+0.3
MPU	Maple Canyon	47.79	320	P		P	02 39 50.4	0.0
MONP2	Monument Peak	47.84	309	P		P	02 39 51.6	+0.7
	baz=113							
NLU	North Lily Min	48.05	319	P		P	02 39 52.5	+0.2
BW06	Boulder Array	48.11	324	P		P	02 39 53.2	+0.3
	baz=128							
BW06	Boulder Array	48.11	324	P		P	02 39 52.9	0.0
PD31	Pinedale Array	48.11	324	P		P	02 39 53.2	+0.3
PDAR	Pinedale Array	48.11	324	P		P	02 39 53.0	+0.1
	comp=Z,2.2nm,0.6s,baz=125,slow=9.0,SNR=18							
PDAR				PcP		PcP	02 41 17.9	-0.1
	comp=Z,0.4nm,0.6s,baz=129,slow=7.1,SNR=2.2							
SCHQ	Schefferville	48.14	5	P		P	02 39 53.0	+0.5
	comp=Z,3.7nm,0.5s,baz=191,slow=7.5,SNR=16							
PSUT	Pine Spring	48.49	317	P		P	02 39 55.5	-0.2
HWUT	Hardware Ranch	48.64	322	P		P	02 39 56.7	-0.1
HWUT				IAmb		IAmb	02 39 58.3	
	comp=Z,3.8nm,0.6s							
DUG	Dugway, Tooele	48.65	319	P		P	02 39 57.7	+0.8
	baz=122,SNR=7.0							
DUG	Dugway, Tooele	48.65	319	P		P	02 39 56.8	0.0
LAO	LASA Array	48.87	330	P		P	02 39 58.6	+0.3
	baz=134							
GSC	Goldstone, Bar	49.11	312	P		P	02 40 01.3	+0.9
	baz=115,SNR=5.7							
GSC	Goldstone, Bar	49.11	312	P		P	02 39 59.6	-0.7
GSC				IAmb		IAmb	02 40 02.2	
	comp=Z,5.9nm,0.8s							
BGU	Big Grassy Mou	49.18	320	P		P	02 40 00.8	-0.1
REDW	Red Top Meadow	49.23	324	P		P	02 40 01.1	-0.2
REDW				IAmb		IAmb	02 40 02.9	
	comp=Z,9.3nm,0.7s							
TPAW	Teton Pass	49.36	324	P		P	02 40 02.3	-0.1
TPAW				IAmb		IAmb	02 40 04.0	
	comp=Z,7.2nm,1.1s							
MOOW	Moose Ponds	49.40	324	P		P	02 40 02.5	-0.1
TPNV	Topopah Spring	49.41	314	P		P	02 40 04.1	+1.3
	baz=116							
TPNV	Topopah Spring	49.41	314	P		P	02 40 02.3	-0.4
TPNV				IAmb		IAmb	02 40 05.0	
	comp=Z,4.6nm,0.8s							
RLMT	Red Lodge	49.41	327	P		P	02 40 02.7	0.0
	baz=129							
R11A	Troy Canyon, C	49.59	316	P		P	02 40 04.9	+0.9
	baz=118,SNR=5.5							
FURC	Furnace Creek,	49.64	313	P		P	02 40 05.5	+1.2
	baz=116							
EDW2	Edwards Air Fo	49.82	311	P		P	02 40 06.2	+0.5
	baz=113							
MPMC	Manual Prospec	49.93	312	P		P	02 40 07.2	+0.5
	baz=115							
YHL	Hebgen Lake	50.31	325	P		P	02 40 08.7	-0.9
ELK	Elko	50.52	319	P		P	02 40 10.3	-0.8
CWC	Cottonwood Cre	50.52	312	P		P	02 40 12.0	+0.9
	baz=114							
PKM	Mcpherson Peak	51.21	310	P		P	02 40 17.5	+1.2
	baz=112							
NVAR	Mina Array Bea	51.52	315	P		P	02 40 19.5	+0.9
	comp=Z,2.2nm,0.7s,baz=123,slow=7.1,SNR=13							
NVAR				PcP		PcP	02 41 31.5	+0.9
	comp=Z,0.6nm,0.5s,baz=140,slow=4.6,SNR=3.7							
EGMT	Eagleton	51.54	329	P		P	02 40 19.2	+0.8
	baz=131							
KVN	Kaiserville	51.66	315	P		P	02 40 19.1	-0.4
BMN	Battle Mountai	51.68	317	P		P	02 40 18.5	-1.2
MDPB	Devils Postpil	51.74	313	P		P	02 40 19.9	-0.5
MFID	Camas Ranch	52.27	321	P		P	02 40 23.5	-0.4
MFID				IAmb		IAmb	02 40 26.5	
	comp=Z,6.4nm,0.8s							
YERR	Yerington	52.43	315	IAmb		IAmb	02 40 27.1	
	comp=Z,5.1nm,0.9s							
VCNR	Virginia City	52.85	315	IAmb		IAmb	02 40 30.4	
	comp=Z,6.4nm,1.2s							
MSO	Missoula	53.04	326	P		P	02 40 30.0	+0.4
	baz=126							
WVOR	Wild Horse Val	53.57	319	IAmb		IAmb	02 40 36.4	
	comp=Z,6.5nm,1.0s							
BEKR	Beckworth	53.58	315	P		P	02 40 33.2	-0.5
F10A	Beach Ranch, E	54.46	323	P		P	02 40 39.1	-0.7
F10A				IAmb		IAmb	02 40 40.3	
	comp=Z,4.6nm,0.6s							
O03E	Paynes Creek	54.77	315	P		P	02 40 41.9	-0.3
	baz=114							
G08A	Pilot Rock	55.15	322	P		P	02 40 44.3	-0.6
M04C	Macdoel	55.41	317	P		P	02 40 47.3	+0.5
	baz=115							
O02D	Mt. Diablo Mer	55.41	315	P		P	02 40 45.8	-1.0
	baz=113							
NEW	Newport	55.63	326	P		P	02 40 48.0	-0.1
	baz=123							
J05D	Fort Rock, OR	55.66	319	P		P	02 40 49.4	+0.9
	baz=116,SNR=7.7							
PINE	Pine Mountain	55.69	319	P		P	02 40 48.4	-0.4
L04D	Klamath Falls	55.91	317	P		P	02 40 50.5	+0.1
	baz=115							
YBH	Yreka Blue Hor	55.98	317	P		P	02 40 50.0	-0.8
YBH				IAmb		IAmb	02 40 50.5	
	comp=Z,2.5nm,0.5s							
KMRM	Mail Ridge	56.08	314	P		P	02 40 51.3	-0.3
G06A	Carlson Farm,	56.16	321	P		P	02 40 52.5	+0.5
G06A				IAmb		IAmb	02 40 53.8	
	comp=Z,4.2nm,0.7s							
J04D	Umpqua Nationa	56.21	318	P		P	02 40 53.0	+0.4
	baz=116,SNR=5.7							
KHMM	Horse Mountain	56.35	315	P		P	02 40 53.0	-0.5
G05D	Wamic, OR	56.59	321	P		P	02 40 56.8	+1.8
	baz=117							
I04A	Tendick Farm,	56.65	319	P		P	02 40 55.7	+0.3
	baz=116							
B08A	Colville Reser	56.93	325	P		P	02 40 57.1	-0.2
B08A				IAmb		IAmb	02 40 58.0	
	comp=Z,5.1nm,0.8s							
K02D	Willamette Mer	57.02	317	P		P	02 40 58.3	+0.2
	baz=114							
LTY	Liberty	57.15	323	P		P	02 40 59.0	0.0
LTY				IAmb		IAmb	02 41 00.6	
	comp=Z,3.9nm,0.7s							
KBO	Bosley Butte	57.21	317	P		P	02 40 59.3	-0.2
I03D	Drain, OR	57.22	318	P		P	02 40 59.7	+0.3
	baz=115							
J01E	Myrtle Point	57.39	318	P		P	02 41 01.5	+0.9
	baz=114							
I02D	Swisshome	57.72	319	P		P	02 41 04.2	+1.4
	baz=114							
YKA	Yellowknife Ar	63.29	340	P		P	02 41 40.3	0.0
	comp=Z,5.9nm,0.6s,baz=132,slow=6.7,SNR=98							
YKA				pP		pP	02 42 18.3	+0.5
	comp=Z,0.6nm,0.4s,baz=132,slow=6.8,SNR=2.3							
TIC	Toumodi	67.52	86	*e*P		P	02 42 07.0	-1.5
LIC	Lamto	67.55	86	*e*P		P	02 42 07.3	-1.3
	comp=Z,17nm,0.6s							
DBIC	Dimbokro	67.68	86	P		P	02 42 08.4	-1.0
	comp=Z,3.1nm,0.7s,baz=256,slow=7.1,SNR=6.4							
KIC	Kosan Boka	67.82	86	*e*P		P	02 42 09.2	-1.1
	comp=Z,13nm,0.7s							
SUMG	Summit	68.98	11	*i* P		P	02 42 17.0	+0.1
	comp=Z,12nm,0.4s							
INK	Inuvik	73.06	340	P		P	02 42 41.2	+0.3
EPYK	Eagle Plains	73.41	338	P		P	02 42 43.7	+0.5
	baz=112							
TORD	Torodi Ar. Bea	73.69	78	P		P	02 42 44.1	-1.7
	comp=Z,0.4nm,0.3s,baz=286,slow=6.4,SNR=14							
TORD				pP		pP	02 43 23.9	-1.2
	comp=Z,0.5nm,0.8s,baz=258,slow=5.2,SNR=2.6							
DOT	Dot Lake	75.53	334	P		P	02 42 55.5	0.0
DOT				IAmb		IAmb	02 42 57.4	
	comp=Z,4.5nm,0.6s							
DOU	Dourbes	76.89	40	PcP		PcP	02 43 15.3	+1.5
ILAR	Eielson Array	76.99	335	P		P	02 43 03.8	+0.1
	comp=Z,0.7nm,0.5s,baz=102,slow=4.6,SNR=7.8							
ILAR				pP		pP	02 43 43.1	+0.6
	comp=Z,0.5nm,0.7s,baz=94,slow=5.0,SNR=2.7							
NOA	NORSAR Array B	81.31	29	P		P	02 43 27.8	+0.6
	comp=Z,0.6nm,0.7s,baz=266,slow=5.4,SNR=2.6							
ARCES	ARCESS Array B	86.66	20	P		P	02 43 54.2	0.0
	comp=Z,4.0nm,0.8s,baz=294,slow=2.9,SNR=3.7							
VNA3	Neumayer Olymp	88.15	163	P		P	02 43 59.3	-1.8
VNA2	Neumayer--Watz	88.67	163	P		P	02 44 02.4	-1.2
	baz=317,slow=8.7							
SNAA	Sanae	90.32	163	P		P	02 44 10.0	-1.3
SONM	Songino Array	125.59	0	PKP		PKiKP	02 50 12.2	+0.3
	comp=Z,0.7nm,0.5s,baz=337,slow=1.6,SNR=6.2							
HHC	Hu-ho-hao-te	132.38	355	*e*P		PKPdf	02 50 22.7	-2.0
LZH	Lanzhou	137.23	4	⇑PKP		PKPdf	02 50 32.9	-1.0
LZH				pPKP		pPKPdf	02 51 02.5	-14
LZH	Lanzhou	137.23	4	sPKP		sPKiKP	02 51 34.2	-0.2
CD2	Chengdu	142.37	4	PKP		PKPdf	02 50 40.9	-2.4
ASAR	Alice Springs	149.15	234	PKPbc		PKPbc	02 50 58.4	-0.9
	comp=Z,2.0nm,0.8s,baz=117,slow=3.1,SNR=18							
WRA	Warramunga Arr	150.38	241	PKPbc		PKPbc	02 51 01.6	-0.7
	comp=Z,1.6nm,0.4s,baz=108,slow=2.8,SNR=63							

ISCJB ***12*** *02:35:13.9*±*1.5, 15°.6S*±*0°.6*×*174°.2W*±*0°.4, h100*km*, mb3.8/6, Error ellipse: s-maj=102.9km s-min=9.7km az=148.3*
IDC ***12*** *02:35:15.1*±*2.9, 15°.73S*×*174°.14W, h95*km±*26*km*, mb3.6/6, mb1 3.9/7, mb1mx3.6/25, mbtmp4.0/7, Error ellipse: s-maj=102.8km s-min=16.9km az=146.0*

ISC 12 02:35:15.3±1.5, 15°.6S±0°.5×174°.1W±0°.3, h100km, n15, σ0s 83/14, mb3.9/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.84	53	P	Pn	02 35 59.9	+0.9
	44nm,0.3s,baz=129,slow=0.6,SNR=31						
AFI				S	Sn	02 36 30.4	-2.2
	199nm,0.3s,baz=136,slow=22,SNR=35						
H11S2	WAKE ISLAND Hy	38.81	330	T	T	03 23 47.8	
	baz=144,slow=74,SNR=7.0						
H11S3	WAKE ISLAND Hy	38.82	330	T	T	03 23 41.5	
	baz=144,slow=74,SNR=6.1						
H11S1	WAKE ISLAND Hy	38.83	330	T	T	03 23 39.0	
	baz=144						
STKA	Stephens Creek	43.32	240	P	P	02 43 07.0	-0.7
	1.5nm,0.7s,baz=85,slow=11,SNR=3.8						
WRA	Warramunga Arr	49.12	257	P	P	02 43 52.6	-0.6
	0.9nm,0.6s,baz=94,slow=7.7,SNR=21						
WRA				PcP	PcP	02 45 15.5	+0.2
	0.2nm,0.4s,baz=95,slow=3.8,SNR=5.0						
ASAR	Alice Springs	49.38	252	P	P	02 43 54.9	-0.3
	5.8nm,0.6s,baz=85,slow=8.2,SNR=68						
NVAR	Mina Array Bea	74.96	42	P	P	02 46 46.7	+0.7
	0.4nm,0.8s,baz=222,slow=9.4,SNR=3.3						
ILAR	Eielson Array	82.80	11	P	P	02 47 28.4	+0.4
	0.9nm,0.6s,baz=231,slow=6.6,SNR=14						
PDAR	Pinedale Array	82.90	42	P	P	02 47 29.9	+0.6
	0.7nm,0.6s,baz=168,slow=2.6,SNR=7.5						
ARCES	ARCESS Array B	124.73	352	PKP	PKPdf	02 54

ASAR	**Alice Springs**	**29.60**	**159**	P	P	02 46 33.2	+0.9	
	0.3nm,0.5s,baz=348,slow=7.6,SNR=3.7							
MKAR	**Makanchi Array**	**55.14**	**327**	P	P	02 49 60.0	+0.5	
	0.3nm,0.4s,baz=124,slow=8.7,SNR=6.9							
KURBB	**Kurchatov Arra**	**59.43**	**329**	P	P	02 50 29.0	-0.6	
	0.3nm,0.6s,baz=122,slow=8.3,SNR=3.7							

ISCJB **12** *02:49:32.8±1.4,39°.20N±0°.07×111°.1E±0°.3,h10km, mb3.4/4,MS3.8/1,Error ellipse: s-maj=30.4km s-min=9.7km az=0.4*

IDC **12** *02:49:33.5±1.7,39°.13N×110°.94E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.4/50,mbtmp3.5/5,ML2.6/1,MS3.9/1, Ms1 3.9/1,ms1mx2.6/34,Error ellipse: s-maj=49.5km s-min=20.2km az=67.0*

ISC 12 02:49:36.0±1.5,**39°.05N**±0°.06×**111°.0E**±0°.2,**h10**km,**n9, σ2§80/9,mb3.5**/4,**1C, Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTO	**Baotou**	**1.71**	**336**	*e*P	**Pg**	**02 50 10.5**	**+1.7**
XAN	**Xi'an**	**5.26**	**199**	Pg	**Pn**	**02 50 56.4**	**+1.6**
XAN				Sn	**Sn**	**02 51 59.7**	**+4.2**
XAN				Sg	**Sg**	**02 52 21.0**	**-3.9**
XAN				smax	smax		
	comp=N,39nm,1.2s						
XAN				smax	smax		
	comp=E,25nm,1.1s						
LZH	**Lanzhou**	**6.37**	**245**	⇑P	Pb	02 51 30.9	+3.8
LZH				pP	Pg	02 51 37.0	-1.0
LZH				sP	Pn	02 51 39.7	+30
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
SONM	**Songino Array**	**9.38**	**341**	Pn	**Pn**	**02 51 50.5**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=154,slow=13,SNR=17						
SONM				Lg	Lg	02 54 28.1	
	baz=165,slow=28,SNR=4.3						
MKAR	**Makanchi Array**	**22.28**	**300**	P	**P**	**02 54 31.2**	**-2.0**
	comp=Z,0.9nm,0.3s,baz=107,slow=10,SNR=6.7						
CMAR	**Chiang Mai Arr**	**23.02**	**210**	P	**P**	**02 54 41.6**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=12,slow=11,SNR=8.2						
KURBB	**Kurchatov Arra**	**25.53**	**308**	P	**P**	**02 55 03.0**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=106,slow=9.9,SNR=4.2						
TGY	**Tagaytay City**	**26.37**	**158**	LR	LR	03 06 40.0	
	comp=Z,288nm,21.7s,baz=206,slow=39						
ASAR	**Alice Springs**	**65.99**	**157**	P	**P**	**03 00 21.7**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=345,slow=9.1,SNR=6.1						

ISCJB **12** *02:57:33.5±0.6,19°.51N±0°.08×73°.08W±0°.05,h35km,Error ellipse: s-maj=12.3km s-min=4.0km az=26.4*

SSNC **12** *02:57:33.2±1.4,19°.28N×73°.11W,h5km,MD3.4,ML2.6, MW3.3*

OSPL **12** *02:57:33.8±1.0,19°.47N×73°.01W,h113km±23km,MD3.9, ML2.8*

ISC 12 02:57:33.5±1.3,**19°.5N**±0°.1×**73°.08W**±0°.05,**h35**km,**n10, σ2§13/18,Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASC	**Masc**	**1.27**	**301**	*e*P	**Pn**	**02 57 56.0**	**+1.2**
MASC				*e*S	**Sn**	**02 58 12.7**	**+2.1**
MASC				IAML		02 58 19.1	
	comp=E,78nm,0.3s						
MASC				IAML		02 58 19.6	
	comp=N,67nm,0.2s						
JAKH	**Jacmel**	**1.38**	**157**	*i* P	Pn	02 57 58.1	+1.9
JAKH				*e*S	**Sn**	**02 58 14.5**	**+1.3**
SDDR	**Presa de Saban**	**1.77**	**107**	*i* P	**Pn**	**02 58 02.1**	**+0.3**
SDDR				*e*S	**Sn**	**02 58 23.2**	**+0.1**
SDDR				IAML		02 58 27.4	
	comp=Z,122nm,0.2s						
GTBY	**Guantanamo Bay**	**1.96**	**282**	*i* P	**Pn**	**02 58 05.8**	**+1.5**
GTBY				*e*S	**Sn**	**02 58 29.7**	**+2.1**
GTBY				IAML		02 58 38.0	
	comp=Z,29nm,0.6s						
GTMO	**Guantanamo**	**2.02**	**287**	*e*P	**Pn**	**02 58 04.7**	**-0.4**
GTMO				*e*S	**Sn**	**02 58 27.8**	**-1.4**
GTMO				IAML		02 58 38.8	
	comp=N,84nm,0.2s						
GTMO				IAML		02 58 42.2	
	comp=E,97nm,0.7s						
MOAC	**Moa**	**2.10**	**303**	*e*P	**Pn**	**02 58 08.7**	**+2.4**
MOAC				*e*S	**Sn**	**02 58 33.6**	**+2.3**
MOAC				IAML		02 58 47.4	
	comp=E,26nm,0.3s						
MOAC				IAML		02 58 49.0	
	comp=N,34nm,0.3s						
SC01	**Santiago de lo**	**2.22**	**92**	*i* P	**Pn**	**02 58 07.0**	**-0.8**
SC01				IAML		02 58 52.5	
	comp=Z,55nm,0.3s						
RCC	**Rio Carpintero**	**2.51**	**281**	*e*P	**Pn**	**02 58 12.8**	**+0.9**
RCC				*e*S	**Sn**	**02 58 40.7**	**-0.6**
RCC				IAML		02 58 55.5	
	comp=E,18nm,0.3s						
RCC				IAML		02 58 56.0	
	comp=N,19nm,0.2s						
LMGC	**Las Mercedes**	**3.74**	**279**	*e*P	**Pn**	**02 58 29.2**	**+0.4**
LMGC				*e*S	**Sn**	**02 59 10.9**	**-0.6**
LMGC				IAML		02 59 17.9	
	comp=N,9.2nm,0.4s						
LMGC				IAML		02 59 23.9	
	comp=E,10nm,0.2s						
CCCC	**Cccc**	**4.71**	**292**	*e*P	**Pn**	**02 58 38.9**	**-3.1**
CCCC				*e*S	**Sn**	**02 59 30.2**	**-5.3**
CCCC				IAML		02 59 32.2	
	comp=E,2.1nm,0.4s						
CCCC				IAML		02 59 40.9	
	comp=N,1.4nm,0.2s						

ISCJB **12** *02:57:51.5±1.1,5°.41S±0°.06×152°.6E±0°.1,h40km,mb3.8/6, MS2.7/1,Error ellipse: s-maj=17.4km s-min=8.4km az=12.6*

IDC **12** *02:57:56.1±3.2,5°.26S×152°.35E,h61km±20km,mb3.6/6, mb1 3.9/7,mb1mx3.5/34,mbtmp3.9/7,MS2.7/2,Ms1 2.7/2, ms1mx2.4/27,Error ellipse: s-maj=48.5km s-min=11.8km az=113.0*

ISC 12 02:57:52.9±1.3,**5°.33S**±0°.08×**152°.6E**±0°.2,**h40**km,**n9, σ1§09/11,mb3.9/6,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.19**	**329**	P	**Pn**	**02 58 14.2**	**+1.1**
	177nm,0.3s,baz=160,slow=1.1,SNR=75						
KRVT				S	**Sn**	**02 58 28.0**	**0.0**
	193nm,0.3s,baz=280,slow=23,SNR=13						
KRVT				LR	LR	02 58 52.5	
	comp=Z,80nm,18.1s,baz=131,slow=56						
PMG	**Port Moresby**	**6.78**	**233**	P	**Pn**	**02 59 32.0**	**+2.1**
	1.8nm,0.3s,baz=56,slow=4.0,SNR=4.3						
PMG				S	**Sn**	**03 00 45.3**	**-0.5**
	8.8nm,0.3s,baz=134,slow=23,SNR=11						
PMG				LR	LR	03 02 04.7	
	comp=Z,47nm,18.9s,baz=100,slow=38						
WRA	**Warramunga Arr**	**22.98**	**229**	P	**P**	**03 02 53.4**	**-0.9**
	2.9nm,0.4s,baz=54,slow=9.9,SNR=54						
WRA				LR	LR	03 12 39.9	
	comp=Z,27nm,19.3s,baz=85,slow=39						
ASAR	**Alice Springs**	**25.65**	**223**	P	**P**	**03 03 19.2**	**+0.1**
	1.4nm,0.4s,baz=55,slow=9.3,SNR=23						
FITZ	**Fitzroy Crossi**	**29.27**	**242**	P	**P**	**03 03 50.3**	**-1.3**
	4.5nm,0.7s,baz=55,slow=8.7,SNR=26						
SONM	**Songino Array**	**66.69**	**328**	P	**P**	**03 08 39.8**	**-0.1**
	0.2nm,0.5s,baz=150,slow=5.3,SNR=2.2						
MKAR	**Makanchi Array**	**80.62**	**319**	P	**P**	**03 10 00.9**	**-0.7**
	0.2nm,0.4s,baz=103,slow=6.5,SNR=3.7						
ILAR	**Eielson Array**	**82.71**	**22**	P	**P**	**03 10 12.8**	**+0.6**
	0.8nm,0.7s,baz=257,slow=5.8,SNR=7.8						
TORD	**Torodi Ar. Bea**	**150.31**	**287**	PKPbc	**PKPbc**	**03 17 40.8**	**-0.2**
	0.3nm,0.3s,baz=92,slow=2.5,SNR=10.0						

SOME **12** *03:25:06.3,40°.92N×77°.85E,h10km*

KRNET **12** *03:25:08.6±0.1,40°.97N×77°.73E,h15km,mb3.4*

NNC **12** *03:25:10.3±1.9,41°.04N×77°.93E,h0km,mb4.1,mpv3.7, Error ellipse: s-maj=13.7km s-min=8.5km az=169.0*

ISC 12 03:25:08.8±1.3,**40°.98N**±0°.06×**77°.77E**±0°.03,**h10**km,**n80, σ1§70/125,32C-20D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.75**	**2**	⇑*i*P	**Pb**	**03 25 23.2**	**-1.0**
	baz=4.0						
TARG				⇑*i*S	**Sb**	**03 25 34.3**	**-0.4**
	baz=4.0						
KDJ	**Kajisay**	**1.23**	**339**	⇓*i*P	**Pb**	**03 25 31.8**	**-0.5**
	baz=41						
KDJ				⇓*i*S	**Sn**	**03 25 49.1**	**0.0**
	baz=41						
NRN	**Naryn**	**1.41**	**289**	⇑*i*P	**Pb**	**03 25 34.7**	**-0.7**
	baz=89						
NRN				⇑*i*S	**Sg**	**03 25 54.1**	**-0.2**
	baz=89						
PRZ	**Przheval'sk**	**1.58**	**17**	⇑*i*P	**Pg**	**03 25 38.2**	**-0.8**
	baz=19						
PRZ				⇑*i*S	**Sg**	**03 26 00.3**	**+0.8**
	baz=19						
ULHL	**Ulahol**	**1.71**	**318**	⇑*i*P	**Pb**	**03 25 40.5**	**+0.1**
	baz=19						
ULHL				⇑*i*S	**Sg**	**03 26 03.4**	**-0.4**
	baz=19						
ULHL	**Ulahol**	**1.71**	**318**	P	**Pg**	**03 25 40.8**	**-0.8**
	SNR=9.8						
ANVS	**Anan'yevo**	**1.81**	**358**	⇓*i*P	**Pg**	**03 25 42.5**	**-0.9**
	baz=59						
ANVS				⇓*i*S	**Sg**	**03 26 06.7**	**-0.2**
	baz=59						
BOOM	**Boomskoye usch**	**2.04**	**318**	⇑*i*P	**Pb**	**03 25 46.2**	**+0.2**
	baz=19						
BOOM				⇑*i*S	**Sg**	**03 26 13.2**	**-1.2**
	baz=19						
SATY	**Saty**	**2.13**	**13**	*e*P	**Pb**	**03 25 47.2**	**-0.4**
	122nm,0.4s						
SATY				*e*S	**Sg**	**03 26 16.6**	**-0.8**
	210nm,0.5s						
SATY	**Saty**	**2.13**	**13**	Pg	**Pb**	**03 25 47.2**	**-0.4**
	122nm,0.4s						
SATY				Lg	Lg	03 26 16.6	
	210nm,0.5s						
TNSS	**Tian-Shan**	**2.15**	**344**	*e*P	**Pb**	**03 25 48.0**	**0.0**
	120nm,0.4s						
TNSS				*e*S	**Sg**	**03 26 18.0**	**+0.2**
	41nm,0.3s						
TNSS	**Tian-Shan**	**2.15**	**344**	Pg	**Pb**	**03 25 48.0**	**0.0**
	120nm,0.4s						
TNSS				Lg	Lg	03 26 18.0	
	41nm,0.3s						
KZA	**Kyzart**	**2.19**	**301**	⇑*i*P	**Pb**	**03 25 48.0**	**-0.7**
	baz=2.0						
KZA				⇑*i*S	**Sb**	**03 26 16.8**	**+0.7**
	baz=2.0						
KZA	**Kyzart**	**2.19**	**301**	P	**Pg**	**03 25 49.9**	**-0.9**
	SNR=40						
IZV	**Izvestkoviy**	**2.23**	**338**	*e*P	**Pb**	**03 25 48.8**	**-0.5**
	28nm,0.3s						
IZV				*e*S	**Sg**	**03 26 19.2**	**-1.3**
	102nm,0.3s						
IZV	**Izvestkoviy**	**2.23**	**338**	Pg	**Pb**	**03 25 48.8**	**-0.5**
	28nm,0.3s						
IZV				Lg	Lg	03 26 20.1	
	102nm,0.3s						
ZHN	**Zhinishke**	**2.24**	**12**	*e*P	**Pb**	**03 25 48.6**	**-0.9**
	58nm,0.3s						
ZHN				*e*S	**Sg**	**03 26 18.8**	**-2.1**
	59nm,0.2s						
ZHN	**Zhinishke**	**2.24**	**12**	Pg	**Pb**	**03 25 48.6**	**-0.9**
	58nm,0.3s						
ZHN				Lg	Lg	03 26 18.8	
	59nm,0.2s						
MDOK	**Medeo**	**2.25**	**346**	*e*P	**Pb**	**03 25 48.5**	**-1.1**
	44nm,0.3s						
MDOK				*e*S	**Sb**	**03 26 18.9**	**+1.3**
	52nm,0.5s						
MDOK	**Medeo**	**2.25**	**346**	⇓Pn	**Pb**	**03 25 49.8**	**+0.2**
	27nm,0.4s						
MDOK				⇑Sn	**Sg**	**03 26 19.2**	**-1.9**
	26nm,0.4s						
MDOK	**Medeo**	**2.25**	**346**	Pg	**Pb**	**03 25 48.5**	**-1.1**
	44nm,0.3s						
MDOK				Lg	Lg	03 26 18.9	
	52nm,0.5s						
KOTS	**Kotyrbulak**	**2.31**	**348**	*e*P	**Pb**	**03 25 50.8**	**+0.2**
	46nm,0.5s						
KOTS				*e*S	**Sg**	**03 26 22.9**	**-0.1**
	202nm,0.3s						
KOTS	**Kotyrbulak**	**2.31**	**348**	Pg	**Pb**	**03 25 50.8**	**+0.2**
	46nm,0.5s						
KOTS				Lg	Lg	03 26 22.9	
	202nm,0.3s						
UZB	**Uzynbulak**	**2.36**	**23**	*e*P	**Pb**	**03 25 50.0**	**-1.5**
	14nm,0.3s						
UZB				*e*S	**Sb**	**03 26 21.2**	**+0.5**
	41nm,0.4s						
UZB	**Uzynbulak**	**2.36**	**23**	Pg	**Pb**	**03 25 50.0**	**-1.5**
	21nm,0.6s						
UZB				Lg	Lg	03 26 21.2	
	41nm,0.4s						
MTBS	**Maitube**	**2.37**	**336**	*e*P	**Pb**	**03 25 51.5**	**-0.1**
	16nm,0.3s						
MTBS				*e*S	**Sg**	**03 26 24.1**	**-0.9**
	47nm,0.3s						
MTBS	**Maitube**	**2.37**	**336**	Pg	**Pb**	**03 25 51.5**	**-0.1**
	16nm,0.3s						
MTBS				Lg	Lg	03 26 24.1	
	47nm,0.3s						
KST	**Kastek**	**2.47**	**327**	*e*P	**Pb**	**03 25 53.6**	**+0.3**
	21nm,0.4s						
KST				*e*S	**Sg**	**03 26 27.7**	**-0.3**
	96nm,0.5s						
KST	**Kastek**	**2.47**	**327**	Pg	**Pb**	**03 25 53.6**	**+0.3**
	21nm,0.4s						
KST				Lg	Lg	03 26 27.7	
	96nm,0.5s						
SHLS	**Shalkode**	**2.52**	**29**	*e*P	**Pg**	**03 25 56.0**	**-1.0**
	52nm,0.5s						
SHLS				*e*S	**Sg**	**03 26 31.5**	**+1.9**
	126nm,0.5s						
SHLS	**Shalkode**	**2.52**	**29**	Pg	**Pg**	**03 25 56.0**	**-1.0**
	52nm,0.5s						
SHLS				Lg	Lg	03 26 31.5	
	126nm,0.5s						
KURS	**Kuram**	**2.53**	**7**	*e*P	**Pb**	**03 25 54.4**	**+0.1**
	61nm,0.2s						
KURS				*e*S	**Sg**	**03 26 28.9**	**-1.1**
	54nm,0.5s						
KURS	**Kuram**	**2.53**	**7**	Pg	**Pb**	**03 25 54.4**	**+0.1**
	61nm,0.2s						
KURS				Lg	Lg	03 26 28.9	
	54nm,0.5s						
TKM2	**Tokmak 2**	**2.53**	**321**	⇑*e*P	**Pb**	**03 25 52.7**	**-1.7**
	baz=21						
TKM2				⇑*i*S	**Sb**	**03 26 25.0**	**-0.7**
	baz=21						
TKM2	**Tokmak 2**	**2.53**	**321**	P	**Pb**	**03 25 53.2**	**-1.2**
	SNR=15						
TKM2	**Tokmak 2**	**2.53**	**321**	⇑Pn	**Pb**	**03 25 52.9**	**-1.5**
	6.8nm,0.3s						
TKM2				⇓Sn	**Sg**	**03 26 30.3**	**+0.2**
	58nm,0.6s						
KPKS	**Kokpek**	**2.58**	**15**	*e*P	**Pb**	**03 25 54.6**	**-0.6**
	47nm,0.2s						
KPKS				*e*S	**Sg**	**03 26 29.5**	**-2.0**
	67nm,0.5s						
PDGK	**Podgornoye**	**2.67**	**28**	Pg	**Pb**	**03 25 55.3**	**-1.5**
	25nm,0.4s						
PDGK				Lg	Lg	03 26 30.7	
	60nm,0.7s						
PDGK	**Podgornoye**	**2.67**	**28**	⇓Pn	**Pb**	**03 25 54.2**	**-2.6**
	25nm,0.4s						
PDGK				⇑Sn	**Sg**	**03 26 31.6**	**-3.1**
	133nm,0.7s						
KBK	**Karagaybulak**	**2.70**	**309**	⇑*i*P	**Pb**	**03 25 55.1**	**-2.1**
	baz=10.0						
KBK				⇑*i*S	**Sb**	**03 26 28.7**	**-1.7**
	baz=10.0						
KBK	**Karagaybulak**	**2.70**	**309**	P	**Pg**	**03 25 59.0**	**-1.5**
	SNR=19						
DGS	**Degeres**	**2.71**	**327**	*e*P	**Pb**	**03 25 57.6**	**+0.2**
	15nm,0.4s						
DGS				*e*S	**Sg**	**03 26 34.5**	**-1.2**
	65nm,0.6s						
DGS	**Degeres**	**2.71**	**327**	Pg	**Pb**	**03 25 57.6**	**+0.2**
	15nm,0.4s						
DGS				Lg	Lg	03 26 34.5	
	65nm,0.6s						
ARLS	**Aral**	**2.74**	**290**	⇑*i*P	**Pb**	**03 25 55.4**	**-2.5**
	baz=91						
ARLS				⇑*i*S	**Sb**	**03 26 29.5**	**-2.2**
	baz=91						
UCH	**Uchtor**	**2.75**	**298**	⇑*i*P	**Pb**	**03 25 55.8**	**-2.4**
	baz=99						
UCH				⇑*i*S	**Sb**	**03 26 30.3**	**-1.8**
	baz=99						
UCH	**Uchtor**	**2.75**	**298**	P	**Pg**	**03 25 59.7**	**-1.7**
	SNR=19						
KTBS	**Karatobe**	**2.85**	**344**	*e*P	**Pb**	**03 26 00.2**	**+0.4**
	19nm,0.3s						
KTBS				*e*S	**Sg**	**03 26 39.0**	**-1.3**
	104nm,0.4s						
KTBS	**Karatobe**	**2.85**	**344**	Pg	**Pb**	**03 26 00.2**	**+0.4**
	19nm,0.3s						
KTBS				Lg	Lg	03 26 39.0	
	104nm,0.4s						
CHKK	**Chushkaly**	**2.93**	**349**	*e*P	**Pb**	**03 26 01.2**	**0.0**
	22nm,0.3s						
CHKK				*e*S	**Sg**	**03 26 40.5**	**-2.4**
	131nm,0.3s						
CHKK	**Chushkaly**	**2.93**	**349**	Pg	**Pb**	**03 26 01.2**	**0.0**
	22nm,0.3s						
CHKK				Lg	Lg	03 26 40.5	
	131nm,0.3s						
AAK	**Ala-Archa**	**2.96**	**305**	⇑*i*P	**Pb**	**03 25 58.7**	**-3.0**
	baz=6.0						
AAK				⇑*i*S	**Sb**	**03 26 35.3**	**-2.7**
	baz=6.0						
AAK	**Ala-Archa**	**2.96**	**305**	P	**Pg**	**03 26 03.3**	**-2.2**
	SNR=19						
AAK	**Ala-Archa**	**2.96**	**305**	⇓Pn	**Pb**	**03 26 03.0**	**+1.3**
	5.9nm,0.3s						
AAK				⇑Sn	**Sg**	**03 26 42.3**	**-1.5**
	17nm,0.4s						
FRU1	**Bishkek**	**2.98**	**309**	⇑*i*P	**Pb**	**03 25 58.9**	**-3.0**
	baz=10.0						
FRU1				⇑*i*S	**Sb**	**03 26 35.6**	**-2.8**
	baz=10.0						
CHMS	**Chumysh**	**3.02**	**313**	⇑*i*P	**Pb**	**03 25 59.3**	**-3.4**
	baz=13						
CHMS				⇑*i*S	**Sb**	**03 26 36.3**	**-3.4**
	baz=13						
CHMS	**Chumysh**	**3.02**	**313**	P	**Pg**	**03 26 04.5**	**-2.3**
	SNR=9.9						
KUU	**Kurty**	**3.10**	**340**	*e*P	**Pb**	**03 26 04.3**	**+0.3**
	7.2nm,0.6s						
KUU				*e*S	**Sg**	**03 26 45.9**	**-2.4**
	38nm,0.6s						
KUU	**Kurty**	**3.10**	**340**	Pg	**Pb**	**03 26 04.3**	**+0.3**
	7.2nm,0.6s						
KUU				Lg	Lg	03 26 45.9	
	38nm,0.6s						
KTMS	**Ketmen**	**3.12**	**37**	*e*P	**Pb**	**03 26 04.2**	**-0.3**
	2.0nm,0.2s						
KTMS				*e*S	**Sg**	**03 26 45.5**	**-3.6**
	126nm,0.7s						
KTMS	**Ketmen**	**3.12**	**37**	Pg	**Pb**	**03 26 04.2**	**-0.3**
	2.0nm,0.2s						
KTMS				Lg	Lg	03 26 46.2	
	126nm,0.7s						
MNBS	**Baschi**	**3.13**	**8**	*e*P	**Pb**	**03 26 05.8**	**+1.1**
	11nm,0.5s						
MNBS				*e*S	**Sg**	**03 26 48.2**	**-1.2**
	97nm,0.5s						
MNBS	**Baschi**	**3.13**	**8**	Pg	**Pb**	**03 26 05.7**	**+1.1**
	11nm,0.5s						
MNBS				Lg	Lg	03 26 48.9	
	97nm,0.5s						
ARXS	**Arharly**	**3.23**	**1**	*e*P	**Pb**	**03 26 06.9**	**+0.6**
	14nm,0.4s						
ARXS				*e*S	**Sg**	**03 26 50.2**	**-2.4**
	214nm,0.4s						
ARXS	**Arharly**	**3.23**	**1**	Pg	**Pb**	**03 26 06.9**	**+0.6**
	14nm,0.4s						
ARXS				Lg	Lg	03 26 51.3	
	214nm,0.4s						
AML	**Almayashu**	**3.27**	**292**	⇓*e*P	**Pn**	**03 26 03.1**	**+2.6**
	baz=92						
AML				⇓*i*S	**Sn**	**03 26 42.6**	**+3.0**
	baz=92						
AML	**Almayashu**	**3.27**	**292**	P	**Pg**	**03 26 09.4**	**-2.1**
	SNR=11						
USP	**Ospenovka**	**3.34**	**314**	⇓*i*P	**Pn**	**03 26 03.6**	**+2.5**
	baz=15						
USP				⇓*i*S	**Sn**	**03 26 44.2**	**+3.3**
	baz=15						
USP	**Ospenovka**	**3.34**	**314**	P	**Pb**	**03 26 09.6**	**+1.5**
	SNR=11						
EKS2	**Erkin-Say**	**3.43**	**301**	⇓*e*P	**Pn**	**03 26 05.1**	**+2.7**
	baz=1.0						
EKS2				⇓*i*S	**Sn**	**03 26 46.2**	**+3.1**
	baz=1.0						
EKS2	**Erkin-Say**	**3.43**	**301**	P	**Pg**	**03 26 12.3**	**-2.2**
	SNR=12						
ARSB	**Arslanbob**	**3.63**	**277**	⇓*i*P	**Pn**	**03 26 07.7**	**+2.5**
	baz=77						
ARSB				⇓*i*S	**Sn**	**03 26 51.3**	**+3.1**
	baz=77						
DJR	**Jarkent**	**3.67**	**23**	*e*P	**Pb**	**03 26 14.7**	**+1.0**
	1.5nm,0.2s						
DJR				*e*S	**Sg**	**03 27 03.8**	**-2.8**
	24nm,0.6s						
DJR	**Jarkent**	**3.67**	**23**	Pg	**Pb**	**03 26 14.7**	**+1.0**
	4.2nm,0.4s						
DJR				Lg	Lg	03 27 03.8	
	24nm,0.6s						
MRKS	**Merke**	**3.83**	**299**	*e*P	**Pb**	**03 26 18.4**	**+2.0**
	14nm,0.4s						
MRKS				*e*S	**Sg**	**03 27 10.3**	**-1.4**
	10nm,0.4s						
MRKS	**Merke**	**3.83**	**299**	Pg	**Pb**	**03 26 18.4**	**+2.0**
	14nm,0.4s						
MRKS				Lg	Lg	03 27 10.3	
	10nm,0.4s						
KAPS	**Kapalarasan**	**4.46**	**15**	*e*P	**Pb**	**03 26 29.7**	**+2.5**
	9.1nm,0.6s						
KAPS				*e*S	**Sg**	**03 27 29.6**	**-2.3**
	18nm,0.6s						
KAPS	**Kapalarasan**	**4.46**	**15**	Pg	**Pb**	**03 26 29.7**	**+2.5**
	9.1nm,0.6s						
KAPS				Lg	Lg	03 27 29.6	
	18nm,0.6s						
KK31	**Karatay Array**	**5.81**	**294**	Pg	**Pg**	**03 26 58.0**	**-1.9**
	0.5nm,0.3s,baz=100,slow=18,SNR=8.9						
KK31				⇓Lg	Lg	03 28 19.5	
	1.7nm,0.4s,baz=113,slow=27,SNR=5.0						
MAKZ	**Makanchi**	**6.57**	**26**	⇓Pn	Pn	03 26 49.3	+3.9
	0.8nm,0.5s						
MAKZ				⇓Lg	Lg	03 28 40.4	
	3.0nm,0.8s						
MK31	**Makanchi Array**	**6.67**	**28**	⇑Pn	**Pn**	**03 26 48.7**	**+1.9**
	0.1nm,0.2s,baz=202,slow=15,SNR=6.3						
MK31				⇓Pg	**Pg**	**03 27 11.8**	**-4.6**
	0.8nm,0.6s,baz=193,slow=14						
MK31				⇑Lg	Lg	03 28 39.8	
	2.6nm,0.7s,baz=210,slow=28,SNR=4.0						

IGQ 12 03:40:29.9±1.0,**1°N**±7°×**8°0W**±°,**h10**km,**Mjma4.0,ML4.5, MLv4.1,Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAG1	**Magdalena**	**0.95**	**147**	P	Pg	03 40 46.7	-1.5
TERV	**Terraza Guagua**	**1.91**	**118**	P	Pn	03 41 01.5	-1.5
YANA	**Yana**	**1.91**	**116**	P	Pn	03 41 01.4	-1.6
GGPC	**Guagua Pichinc**	**1.92**	**118**	P	Pn	03 41 01.5	-1.7
PULU	**Pululahua**	**1.92**	**111**	P	Pn	03 41 01.8	-1.2
CUSE	**Cuicocha Este**	**1.94**	**102**	P	Pn	03 41 02.1	-1.2
CUSE				S	Sn	03 41 28.2	+0.3
CUIC	**Cuicocha-Domo**	**1.97**	**102**	P	Pn

BOSC	**San Juan Bosco**	**4.25**	**155**	P		Pn	03 41 37.6	+2.7
ZUMB	**Zumba**	**5.67**	**168**	P		Pn	03 41 56.8	+2.4

SJA 12 03:41:00.7±0.7, 27°90S×71°33W, h48km±15km, ML3.6, MW3.6,2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO03	**Copiap**	**1.02**	**73**	*i* P	Pn	03 41 19.8	+1.0
GO03				*eS*	Sn	03 41 34.2	+2.2
GO04	**Tololo Observa**	**2.32**	**168**	*i* P	Pn	03 41 37.3	+0.7
GO04				*eS*	Sn	03 42 05.1	+1.1
AROD	**Rodeo**	**2.79**	**145**	*i* P	Pn	03 41 46.6	+3.4
AROD				*eS*	Sn	03 42 20.1	+4.3
VCA	**Vinchina**	**2.88**	**108**	*i* P	Pn	03 41 49.8	+5.5
VCA				IAML		03 42 00.3	
	comp=Z,190nm,0.3s						
VCA				*eS*	Sn	03 42 26.3	+8.4
ACCO	**Cerro Coronel**	**3.33**	**144**	*i* P	Pn	03 41 54.6	+3.9
AMOG	**MOGNA**	**3.92**	**141**	*i* P	Pn	03 42 01.4	+3.0
ACLC	**CERRO LA CRUZ**	**4.14**	**113**	*i* P	Pn	03 42 05.2	+3.6
RTLS	**Leoncito**	**4.27**	**156**	⇓*i* P	Pn	03 42 07.5	+4.0
RTLS				IAML		03 43 12.3	
	comp=Z,63nm,0.5s						
CFA	**Coronel Fontan**	**4.57**	**145**	*i* P	Pn	03 42 10.1	+2.7
RTCV	**Cerro Valdivia**	**4.64**	**149**	*i* P	Pn	03 42 11.1	+2.8
APLL	**PUNTA DE LOS L**	**4.89**	**122**	*i* P	Pn	03 42 14.1	+2.4
APLL				IAML		03 43 18.1	
	comp=Z,38nm,0.5s						
PB15	**IPOC Station P**	**4.96**	**20**	*i* P	Pn	03 42 15.0	+2.1
ROC1	**El Roble**	**5.07**	**177**	*i* P	Pn	03 42 14.8	+0.4
ARCO	**CERRO ARCO**	**5.35**	**158**	*i* P	Pn	03 42 20.4	+2.3
ARCO				IAML		03 43 40.1	
	comp=Z,28nm,0.3s						
AHML	**Horco Molle**	**5.45**	**80**	*i* P	Pn	03 42 26.4	+7.0
AAGR	**Agrelo**	**5.61**	**158**	*i* P	Pn	03 42 22.5	+0.9
ACAN	**Cantantal**	**5.65**	**142**	*i* P	Pn	03 42 25.6	+3.4
LVC	**Limon Verde**	**5.70**	**23**	*i* P	Pn	03 42 26.0	+2.8
LVC				IAML		03 44 07.7	
	comp=Z,13nm,0.5s						
PB09	**IPOC Station P**	**6.36**	**18**	*i* P	Pn	03 42 34.6	+2.5
TCA	**Tanti**	**6.79**	**122**	*i* P	Pn	03 42 39.1	+1.2
TCA				IAML		03 44 02.9	
	comp=Z,18nm,0.5s						
GO05	**Huala**	**7.11**	**184**	*i* P	Pn	03 42 40.2	-2.0
COIS	**El Sosneado**	**7.34**	**169**	⇓*i* P	Pn	03 42 47.3	+2.0

ISCJB 12 03:43:25.5±0.6, 36°06N±0°04×140°04E±0°06, h79km±5km, mb3.7/4, Error ellipse: s-maj=8.3km s-min=5.2km az=34.4
IDC 12 03:43:26.9±5.0, 36°10N×140°00E, h81km±37km, mb3.5/4, mb1 3.7/4, mb1mx3.2/34, mbtmp3.8/4, Error ellipse: s-maj=56.0km s-min=24.7km az=73.0
JMA 12 03:43:27.1, 36°09N×140°01E, h66km±1km, M3.3

ISC 12 03:43:26.3±0.9, 36°07N±0°04×140°04E±0°05, h72km±7km, n19, σ0°60/31, mb3.7/4, 1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.20**	**38**	⇑P	**Pn**	**03 43 37.4**	**+0.3**
JYT				*eS*	**Sn**	**03 43 44.9**	**-0.2**
JAG	**Ashikaga**	**0.59**	**307**	⇓P	**Pn**	**03 43 40.4**	**+0.2**
JAG				*eS*	**Sn**	**03 43 50.1**	**-0.4**
JRY	**Ryogami san**	**0.92**	**267**	⇓P	**Pn**	**03 43 44.4**	**+0.4**
JRY				*eS*	**Sn**	**03 43 56.5**	**-0.6**
JKT	**Katashina**	**0.95**	**318**	⇓P	**Pn**	**03 43 44.3**	**0.0**
JOD2	**Odawara 2**	**1.12**	**224**	⇓P	**Pn**	**03 43 46.7**	**+0.4**
JOD2				*eS*	**Sn**	**03 44 01.1**	**-0.2**
BSO3	**Boso 3**	**1.32**	**163**	P	**Pn**	**03 43 49.3**	**+0.6**
JYN	**Shimob**	**1.34**	**245**	⇓P	**Pn**	**03 43 50.2**	**+0.9**
JYN				*eS*	**Sn**	**03 44 06.9**	**+0.3**
JFY	**Yanaizu**	**1.36**	**349**	P	**Pn**	**03 43 50.1**	**+0.6**
JFY				*eS*	**Sn**	**03 44 07.4**	**+0.4**
JFNN	**Fujinakano**	**1.41**	**232**	P	**Pn**	**03 43 50.7**	**+0.7**
JFNN				*eS*	**Sn**	**03 44 08.1**	**+0.1**
JHK	**Hiroka**	**1.44**	**325**	⇓P	**Pn**	**03 43 50.9**	**+0.4**
JHK				*eS*	**Sn**	**03 44 08.7**	**0.0**
JFK	**Kawauchi**	**1.46**	**27**	P	**Pn**	**03 43 51.3**	**+0.5**
JFK				*eS*	**Sn**	**03 44 09.8**	**+0.5**
JFT	**Otama**	**1.47**	**9**	P	**Pn**	**03 43 51.4**	**+0.5**
JFT				*eS*	**Sn**	**03 44 09.7**	**+0.3**
MJAR	**Matsushiro Arr**	**1.55**	**288**	P	**Pn**	**03 43 52.5**	**+0.5**
	4.4nm,0.3s,baz=108,slow=12,SNR=166						
MJAR				S	**Sn**	**03 44 10.8**	**-0.6**
	2.5nm,0.3s,baz=222,slow=32,SNR=8.9						
MAT	**Matsushiro**	**1.56**	**288**	P	**Pn**	**03 43 53.1**	**+1.1**
MAT				S	**Sn**	**03 44 12.5**	**+1.0**
MAT	**Matsushiro**	**1.56**	**288**	P	**Pn**	**03 43 52.6**	**+0.6**
MKAR	**Makanchi Array**	**43.70**	**303**	P	**P**	**03 51 24.3**	**+0.3**
	0.8nm,0.7s,baz=91,slow=8.4,SNR=5.8						
WRA	**Warramunga Arr**	**55.97**	**186**	P	**P**	**03 52 57.0**	**-0.2**
	0.5nm,0.7s,baz=2.5,slow=7.7,SNR=6.5						
FINES	**FINESS Array B**	**69.15**	**332**	P	**P**	**03 54 24.3**	**-0.2**
	4.1nm,1.1s,baz=60,slow=8.2,SNR=2.9						
NOA	**NORSAR Array B**	**74.64**	**337**	P	**P**	**03 54 56.1**	**-1.4**
	1.0nm,0.8s,baz=42,slow=6.0,SNR=2.6						

IGQ 12 03:46:23.7±0.9, 1°N±6°×8°0W±°, h10km, Mjma4.5, ML5.0, MLv4.7
IDC 12 03:46:32.2±2.8, 0°65N×80°04W, h78km±29km, mb3.3/5, mb1 3.6/8, mb1mx3.5/31, mbtmp3.8/8, MS2.8/4, Ms1 2.8/4, ms1mx2.7/17, Error ellipse: s-maj=31.0km s-min=18.3km az=80.0

ISC 12 03:46:24.2±0.9, 0°49N±0°05×80°24W±0°07, h11km, n91, σ1§77/87, mb3.7/4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAG1	**Magdalena**	**0.73**	**140**	P	**Pn**	**03 46 40.8**	**+0.4**
PAC1	**Pacto, Paraso**	**1.47**	**99**	P	**Pn**	**03 46 49.6**	**-1.2**
TERV	**Terraza Guagua**	**1.77**	**112**	P	**Pn**	**03 46 55.4**	**+0.2**
GGPC	**Guagua Pichinc**	**1.78**	**112**	P	**Pn**	**03 46 55.4**	**0.0**
YANA	**Yana**	**1.78**	**110**	P	**Pn**	**03 46 55.2**	**-0.1**
PULU	**Pululahua**	**1.80**	**105**	P	**Pn**	**03 46 55.7**	**+0.2**
OTAV	**Otavalo**	**1.81**	**98**	*eP*	**Pn**	**03 46 55.2**	**-0.6**
OTAV	**Otavalo**	**1.81**	**98**	*eP*	**Pn**	**03 46 55.2**	**-0.6**
NINA	**Atacazo Ninahu**	**1.85**	**118**	P	**Pn**	**03 46 56.8**	**+0.5**
CUSE	**Cuicocha Este**	**1.85**	**96**	P	**Pn**	**03 46 56.0**	**-0.3**
CUIC	**Cuicocha-Domo**	**1.89**	**96**	P	**Pn**	**03 46 56.5**	**-0.3**
CUIC				S	**Sb**	**03 47 23.8**	**+1.0**
CUSW	**Cuicocha Oeste**	**1.90**	**96**	P	**Pn**	**03 46 57.0**	**0.0**
COTA	**Cotacachi**	**1.91**	**95**	P	**Pn**	**03 46 57.3**	**+0.1**
ACOT	**Cotacachi (Cas**	**1.98**	**96**	P	**Pb**	**03 46 58.9**	**-1.5**
URCU	**Urcuqui**	**1.99**	**92**	P	**Pn**	**03 46 57.4**	**-0.8**
IMBA	**Imbabura, San**	**2.06**	**96**	P	**Pb**	**03 47 00.5**	**-1.2**
BNAS	**Cotopaxi Volca**	**2.11**	**123**	P	**Pb**	**03 47 01.7**	**-1.0**
AIB2	**Ibarra (Univer**	**2.15**	**94**	P	**Pb**	**03 47 02.1**	**-1.1**
BVC2	**Cotopaxi Volca**	**2.16**	**122**	P	**Pb**	**03 47 02.6**	**-1.0**
VC1	**Cotopaxi 1**	**2.16**	**121**	P	**Pb**	**03 47 02.7**	**-0.9**
YAHU	**Yahuarcocha**	**2.18**	**93**	P	**Pn**	**03 47 02.0**	**+1.3**
BTAM	**Cotopaxi Volca**	**2.18**	**122**	P	**Pb**	**03 47 03.0**	**-1.0**
ANTG	**Antisana-Guama**	**2.22**	**116**	P	**Pb**	**03 47 03.0**	**-1.7**
ANTM	**Antisana-La Mi**	**2.26**	**117**	P	**Pb**	**03 47 04.1**	**-1.3**
CAYA	**Cayambe**	**2.29**	**100**	P	**Pb**	**03 47 04.2**	**-1.7**
ANTS	**Antisana-Sarah**	**2.29**	**115**	P	**Pb**	**03 47 04.2**	**-1.8**
PIS1	**Pisayambo**	**2.41**	**130**	P	**Pb**	**03 47 06.8**	**-1.2**
PIS1				S	**Sg**	**03 47 40.0**	**-1.9**
PISA	**Pisayambo**	**2.41**	**130**	P	**Pb**	**03 47 07.0**	**-1.0**
TULM	**Tulcn-Chalpat**	**2.47**	**85**	P	**Pn**	**03 47 04.8**	**0.0**
ATUL	**Tulcn**	**2.54**	**84**	P	**Pn**	**03 47 07.4**	**+1.8**
BRUN	**Tungurahua Vol**	**2.64**	**136**	P	**Pb**	**03 47 09.8**	**-1.9**
BULB	**Ulba Tungurahu**	**2.65**	**136**	P	**Pb**	**03 47 10.8**	**-1.2**
BMAS	**Trigal station**	**2.65**	**138**	P	**Pb**	**03 47 10.4**	**-1.6**
BPAT	**Tungurahua Vol**	**2.68**	**138**	P	**Pb**	**03 47 11.5**	**-1.0**
GCUF	**Volcan Galeras**	**2.99**	**76**	*eP*	**Pn**	**03 47 11.1**	**-0.9**
GCUF	**Volcan Galeras**	**2.99**	**76**	*eP*	**Pn**	**03 47 11.1**	**-0.9**
BBAC	**Balboa, Cauca**	**3.36**	**63**	*eP*	**Pn**	**03 47 14.3**	**-2.5**
BBAC	**Balboa, Cauca**	**3.36**	**63**	*eP*	**Pn**	**03 47 14.3**	**-2.5**
CRUC	**La Cruz**	**3.46**	**72**	*eP*	**Pn**	**03 47 17.8**	**-0.5**
CRUC	**La Cruz**	**3.46**	**72**	*eP*	**Pn**	**03 47 17.8**	**-0.5**
SOTA	**Rioblanco**	**3.98**	**66**	*eP*	**Pn**	**03 47 24.1**	**-1.5**
SOTA	**Rioblanco**	**3.98**	**66**	*eP*	**Pn**	**03 47 24.1**	**-1.5**
PCON	**Cinco Dias**	**4.26**	**65**	*eP*	**Pn**	**03 47 28.3**	**-1.2**
PCON	**Cinco Dias**	**4.26**	**65**	*eP*	**Pn**	**03 47 28.3**	**-1.2**
MALC	**Bahia Malaga**	**4.55**	**40**	*eP*	**Pn**	**03 47 37.6**	**+4.6**
MALC	**Bahia Malaga**	**4.55**	**40**	*eP*	**Pn**	**03 47 37.6**	**+4.6**
FLOC	**Florencia**	**4.72**	**77**	*eP*	**Pn**	**03 47 33.5**	**-1.8**
FLOC	**Florencia**	**4.72**	**77**	*eP*	**Pn**	**03 47 33.5**	**-1.8**
YOTC	**Yotoco, Valle**	**5.22**	**48**	*eP*	**Pn**	**03 47 40.6**	**-1.7**
YOTC	**Yotoco, Valle**	**5.22**	**48**	*eP*	**Pn**	**03 47 40.6**	**-1.7**
PTLC	**Puerto Leguiza**	**5.46**	**93**	*eP*	**Pn**	**03 47 46.1**	**+0.6**
PTLC	**Puerto Leguiza**	**5.46**	**93**	*eP*	**Pn**	**03 47 46.1**	**+0.6**
PLMC	**San Jos del P**	**5.91**	**42**	*eP*	**Pn**	**03 47 51.2**	**-0.5**
PLMC	**San Jos del P**	**5.91**	**42**	*eP*	**Pn**	**03 47 51.2**	**-0.5**
ORTC	**Ortega, Tolima**	**6.04**	**56**	*eP*	**Pn**	**03 47 52.2**	**-1.3**
ORTC	**Ortega, Tolima**	**6.04**	**56**	*eP*	**Pn**	**03 47 52.2**	**-1.3**
PRAC	**Prado**	**6.24**	**59**	*eP*	**Pn**	**03 47 54.9**	**-1.4**
PRAC	**Prado**	**6.24**	**59**	*eP*	**Pn**	**03 47 54.9**	**-1.4**
TOLC	**Tolima**	**6.38**	**50**	*eP*	**Pn**	**03 47 58.4**	**-0.1**
TOLC	**Tolima**	**6.38**	**50**	*eP*	**Pn**	**03 47 58.4**	**-0.1**
RREF	**El Recreo**	**6.56**	**48**	*eP*	**Pn**	**03 48 03.1**	**+1.8**
RREF	**El Recreo**	**6.56**	**48**	*eP*	**Pn**	**03 48 03.1**	**+1.8**
MACC	**Macarena, Meta**	**6.60**	**76**	*eP*	**Pn**	**03 48 01.3**	**+0.1**
MACC	**Macarena, Meta**	**6.60**	**76**	*eP*	**Pn**	**03 48 01.3**	**+0.1**
CBOC	**Ciudad Bolivar**	**6.81**	**38**	*eP*	**Pn**	**03 48 04.0**	**-0.2**
CBOC	**Ciudad Bolivar**	**6.81**	**38**	*eP*	**Pn**	**03 48 04.0**	**-0.2**
ROSC	**El Rosal**	**7.33**	**54**	*eP*	**Pn**	**03 48 13.6**	**+2.1**
ROSC	**El Rosal**	**7.33**	**54**	*eP*	**Pn**	**03 48 13.6**	**+2.1**
ROSC	**El Rosal**	**7.33**	**54**	P	**Pn**	**03 48 13.6**	**+2.1**
	3.2nm,0.3s,baz=176,slow=12,SNR=5.1						
ROSC				S	**Sn**	**03 49 42.0**	**+7.0**
	1.0nm,0.3s,baz=73,slow=19,SNR=1.5						
NORC	**Norcasia**	**7.36**	**47**	*eP*	**Pn**	**03 48 12.8**	**+1.1**
NORC	**Norcasia**	**7.36**	**47**	*eP*	**Pn**	**03 48 12.8**	**+1.1**
HELC	**Santa Helena**	**7.36**	**40**	*eP*	Pn	03 48 17.4	+5.4
HELC	**Santa Helena**	**7.36**	**40**	*eP*	**Pn**	**03 48 17.4**	**+5.4**
CHIC	**Chingaza**	**7.69**	**58**	*eP*	**Pn**	**03 48 16.4**	**-0.2**
CHIC	**Chingaza**	**7.69**	**58**	*eP*	**Pn**	**03 48 16.4**	**-0.2**
ATAH	**Atahalpa**	**7.80**	**166**	P	Pn	03 48 25.7	+7.7
	1.1nm,0.3s,baz=24,slow=13,SNR=4.7						
ATAH				S	**Sn**	**03 49 53.0**	**+6.4**
	0.8nm,0.3s,baz=130,slow=6.5,SNR=4.1						
SPBC	**San Pablo de B**	**8.02**	**50**	*eP*	**Pn**	**03 48 20.1**	**-0.6**
SPBC	**San Pablo de B**	**8.02**	**50**	*eP*	**Pn**	**03 48 20.1**	**-0.6**
RUSC	**La Rusia**	**8.94**	**53**	*eP*	**Pn**	**03 48 31.6**	**-2.2**
RUSC	**La Rusia**	**8.94**	**53**	*eP*	**Pn**	**03 48 31.6**	**-2.2**
JTS	**Las Juntas de**	**10.80**	**334**	LR	LR	03 51 20.0	
	comp=Z,38nm,19.4s,baz=264,slow=27						
SDV	**Santo Domingo**	**12.69**	**49**	P	**Pn**	**03 49 25.9**	**+0.9**
	0.4nm,0.3s,baz=156,slow=18,SNR=3.1						
NNA	**Nana**	**12.85**	**165**	LR	LR	03 54 22.7	
	comp=Z,48nm,20.9s,baz=340,slow=36						
LPAZ	**La Paz**	**20.52**	**145**	P	Pn	03 51 05.0	-0.4
	2.3nm,0.7s,baz=331,slow=12,SNR=11						
TEIG	**Tepich**	**21.13**	**339**	LR	LR	03 58 16.8	
	comp=Z,40nm,21.6s,baz=234,slow=34						
CMIG	**Matias Romero**	**21.91**	**320**	LR	LR	03 58 17.2	
	comp=Z,29nm,20.6s,baz=192,slow=32						
PDAR	**Pinedale Array**	**49.62**	**332**	P	**P**	**03 55 15.2**	**-0.8**
	0.2nm,0.6s,baz=120,slow=8.7,SNR=2.4						
NVAR	**Mina Array Bea**	**51.42**	**322**	P	**P**	**03 55 30.6**	**+1.0**
	0.6nm,0.6s,baz=134,slow=6.4,SNR=6.0						
YKA	**Yellowknife Ar**	**67.00**	**343**	P	**P**	**03 57 15.2**	**-1.6**
	0.2nm,0.4s,baz=138,slow=5.7,SNR=3.9						
TORD	**Torodi Ar. Bea**	**82.04**	**77**	P	**P**	**03 58 43.9**	**-1.4**
	0.6nm,0.5s,baz=281,slow=6.7,SNR=8.7						
WRA	**Warramunga Arr**	**141.02**	**238**	PKP	**PKPdf**	**04 05 53.3**	**-2.3**
	0.2nm,0.6s,baz=104,slow=2.6,SNR=6.1						

NIED 12 03:53:00, 41°00N×143°10E, h35km, Mw3.8 Best double couple: M0 5.82000×10^14 NP1:φs179.00000°, δ20.00000°, λ76.00000°; NP2:φs14.00000°, δ71.00000°, λ95.00000°.
JMA 12 03:53:22.7±0.1, 40°99N×143°07E, h25km, M3.8
IDC 12 03:53:25.2±2.4, 40°99N×143°07E, h45km±20km, mb3.5/9, mb1 3.6/12, mb1mx3.4/36, mbtmp3.7/12, ML2.8/3, MS2.9/2, Ms1 2.9/2, ms1mx2.4/28, Error ellipse: s-maj=25.2km s-min=15.7km az=108.0

ISC 12 03:53:22.6±1.1, 41°02N±0°04×143°10E±0°05, h23km±12km, n34, σ0°93/42, mb3.6/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.99**	**2**	P	**Pn**	**03 53 41.4**	**+0.3**
JEM				S	**Sb**	**03 53 53.8**	**+0.1**
JTHR	**Tokachihiroo**	**1.27**	**7**	P	**Pn**	**03 53 45.6**	**+0.6**
JTHR				*eS*	**Sb**	**03 54 02.1**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.28**	**348**	P	**Pn**	**03 53 45.8**	**-0.2**
JARK	**Aomorirokkasho**	**1.31**	**270**	P	**Pn**	**03 53 45.1**	**-0.4**
JARK				*eS*	**Sn**	**03 54 01.4**	**-0.9**
JKEN	**Kujiedanarisaw**	**1.34**	**233**	P	**Pn**	**03 53 45.4**	**-0.5**
JANG	**Nango**	**1.37**	**242**	P	**Pn**	**03 53 45.9**	**-0.4**
JTM	**Tenmabayashi**	**1.56**	**262**	P	**Pn**	**03 53 49.3**	**+0.4**
JTM				*eS*	**Sn**	**03 54 08.5**	**+0.1**
JOT	**Ohata**	**1.59**	**284**	P	**Pn**	**03 53 49.6**	**+0.3**
JOT				*eS*	**Sn**	**03 54 09.1**	**-0.1**
JCH	**Churui**	**1.60**	**7**	P	**Pn**	**03 53 49.5**	**0.0**
JCH				*eS*	**Sn**	**03 54 09.8**	**+0.4**
JKB	**Kayabe**	**1.78**	**300**	P	**Pn**	**03 53 52.4**	**+0.5**
JKB				*eS*	**Sn**	**03 54 14.0**	**+0.2**
JIAM	**Iburiatsuma**	**1.83**	**331**	P	**Pb**	**03 53 55.6**	**+0.3**
JBT2	**Biratori 2**	**1.84**	**343**	P	**Pn**	**03 53 53.6**	**+0.9**
JOM	**Ohasama**	**2.08**	**222**	P	**Pn**	**03 53 57.3**	**+1.2**
JOM				*eS*	**Sn**	**03 54 21.9**	**+0.7**
JEW	**Eniwo**	**2.19**	**326**	P	**Pn**	**03 53 59.4**	**+1.8**
JEW				*eS*	**Sb**	**03 54 26.2**	**-2.1**
JAK	**Akkeshi**	**2.30**	**31**	P	**Pn**	**03 53 59.1**	**0.0**
JAK				*eS*	**Sn**	**03 54 25.7**	**-0.9**
JAR	**Ashorobuto**	**2.32**	**12**	P	**Pn**	**03 53 59.8**	**+0.4**
JAR				*eS*	**Sn**	**03 54 25.7**	**-1.6**
JMK	**Ichinoseki**	**2.53**	**216**	P	**Pn**	**03 54 03.3**	**+1.1**
JMK				*eS*	**Sn**	**03 54 32.9**	**+0.7**
ASAJ	**Asahikawa**	**3.11**	**353**	P	**Pn**	**03 54 12.1**	**+1.9**
	2.0nm,0.3s,baz=207,slow=22,SNR=14						
ASAJ				S	**Sn**	**03 54 48.5**	**+1.8**
	2.8nm,0.3s,baz=322,slow=2.5,SNR=3.5						
MJAR	**Matsushiro Arr**	**5.89**	**222**	P	**Pn**	**03 54 49.5**	**+1.1**
	0.1nm,0.3s,baz=35,slow=14,SNR=4.9						
USRK	**Ussurysk Ar.**	**8.79**	**295**	P	**Pn**	**03 55 30.3**	**+2.1**
	baz=107,slow=14,SNR=4.6						
KLR	**Kul'dur**	**11.46**	**320**	LR	LR	04 01 11.3	
	comp=Z,57nm,19.8s,baz=115,slow=41						
KSRS	**Korea Array**	**12.30**	**258**	LR	LR	04 00 42.8	
	comp=Z,53nm,18.1s,baz=90,slow=36						
SONM	**Songino Array**	**26.89**	**297**	P	**P**	**03 59 01.6**	**-0.2**
	0.8nm,0.7s,baz=75,slow=8.6,SNR=4.3						
H11S1	**WAKE ISLAND Hy**	**30.20**	**131**	T	T	04 31 18.1	
	baz=323,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**30.21**	**131**	T	T	04 31 18.4	
	baz=323,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**30.22**	**131**	T	T	04 31 19.5	
	baz=323,slow=76,SNR=12						
ZALV	**Zalesovo Beam**	**40.31**	**309**	P	**P**	**04 00 58.1**	**+0.2**
	1.2nm,0.5s,baz=97,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**43.23**	**299**	P	**P**	**04 01 21.5**	**-0.4**
	0.5nm,0.5s,baz=87,slow=11,SNR=5.5						
ILAR	**Eielson Array**	**45.44**	**3**	P	**P**	**04 01 39.3**	**0.0**
	0.1nm,0.6s,baz=265,slow=9.6,SNR=4.0						
INK	**Inuvik**	**50.25**	**29**	P	**P**	**04 02 17.2**	**+0.8**
	0.5nm,0.5s,baz=127,slow=13,SNR=3.8						
WRA	**Warramunga Arr**	**61.20**	**189**	P	**P**	**04 03 34.6**	**-0.9**
	0.2nm,0.5s,baz=6.6,slow=6.9,SNR=6.8						
FINES	**FINESS Array B**	**65.91**	**332**	P	**P**	**04 04 05.9**	**-0.2**
	2.3nm,0.8s,baz=57,slow=7.0,SNR=6.8						
KBZ	**Khabaz**	**69.32**	**310**	P	**P**	**04 04 28.1**	**+0.2**
	2.0nm,0.9s,baz=252,slow=20,SNR=2.7						
AKASG	**Malin Array Be**	**71.95**	**322**	P	**P**	**04 04 43.5**	**-0.4**
	0.2nm,0.3s,baz=48,slow=6.5,SNR=5.0						

BJI 12 04:57:04.0±0.0, 30°10S×177°10W, h5km, mb5.3/11, Ms5.2/3, Ms7 5.1/3
IDC 12 04:57:05.0±0.5, 29°83S×177°20W, h0km, mb4.5/16, mb1 4.7/19, mb1mx4.6/33, mbtmp4.6/19, ML4.9/2, MS4.4/19, Ms1 4.3/19, ms1mx4.2/31, Error ellipse: s-maj=16.2km s-min=13.6km az=67.0
NEIC 12 04:57:05.0±1.8, 29°98S±0°06×177°3W±0°1, h10km±2km, mb4.7/35
ISCJB 12 04:57:06.4±0.3, 30°09S±0°02×177°32W±0°05, h24km, mb4.7/28, MS4.5/23, Error ellipse: s-maj=5.7km s-min=2.7km az=8.4
MOS 12 04:57:07.3±1.1, 29°90S×177°21W, h25km, mb4.7/9, Error ellipse: s-maj=13.6km s-min=12.0km az=90.1
GCMT 12 04:57:10.1±0.2, 29°70S±0°02×176°87W±0°02, h23km, MW5.0/88, Moment Tensor Solution. s65,c79; s88,c119; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 3.38±.15; Mθθ -0.39±.11; Mϕϕ -2.99±.10; Mrθ 0.30±.17; Mrϕ -1.29±.07; Mθϕ 2.58±.14; Best double couple: M0 4.32100×10^16

NP1:φs13.00000°, δ64.00000°, λ81.00000°; NP2: φs212.00000°, δ28.00000°, λ107.00000°; Principal axes: T 4.2990, Plg70.0000°, Azm264.0000°; N 0.0400, Plg8.0000°, Azm17.0000°; P -4.3420, Plg18.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 12 04:57:08.1±0.4, 29°95S±0°04×177°24W±0°07, h24km, n214, σ1§81/212, mb4.8/35, MS4.5/24, 17C-3D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**0.91**	**319**	P	**Pb**	**04 57 24.4**	**-0.7**
GLKZ				S	**Sn**	**04 57 37.5**	**-0.2**
RAO	**Raoul Island**	**0.91**	**319**	P	**Pb**	**04 57 24.2**	**-1.1**
RAO						04 57 38.7	
RAO	**Raoul Island**	**0.91**	**319**	Pn	**Pb**	**04 57 24.4**	**-0.9**
	8μm,0.3s,baz=97,slow=4.0,SNR=177						
RAO				Sn	**Sn**	**04 57 38.4**	**+0.6**
	22μm,0.3s,baz=90,slow=20,SNR=51						
RAO	**Raoul Island**	**0.91**	**319**	Pn	**Pb**	**04 57 24.2**	**-1.1**
RAO				Sn	**Sn**	**04 57 38.7**	**+0.9**
RIZ	**Raoul Island**	**0.93**	**319**	P	**Pb**	**04 57 24.5**	**-1.0**
RIZ				S	**Sn**	**04 57 37.9**	**-0.2**
MXZ	**Matakaoa Point**	**8.45**	**205**	S	**Sn**	**05 00 46.4**	**+2.9**
MXZ	**Matakaoa Point**	**8.45**	**205**	Pn	**Pn**	**04 59 07.5**	**-1.5**
MXZ				Sn	**Sn**	**05 00 41.3**	**-2.2**
WMGZ	**Waiomatatini S**	**8.64**	**204**	P	**Pn**	**04 59 10.5**	**-1.0**
WMGZ				S	**Sn**	**05 00 50.9**	**+2.7**
HAZ	**Te Kaha**	**8.81**	**207**	P	**Pn**	**04 59 14.3**	**+0.4**
PKGZ	**Pakihiroa**	**8.82**	**205**	P	**Pn**	**04 59 13.4**	**-0.7**
PUZ	**Puketiti**	**8.92**	**204**	P	**Pn**	**04 59 13.7**	**-1.7**
RUGZ	**Raukumara Rang**	**9.04**	**206**	P	**Pn**	**04 59 17.5**	**+0.4**
WCZ	**Waipu Caves**	**9.25**	**228**	P	Pn	04 59 28.7	+8.8
OUZ	**Omahuta**	**9.35**	**233**	P	Pn	04 59 30.7	+9.4
URZ	**Urewera**	**9.52**	**208**	Pn	**Pn**	**04 59 25.8**	**+2.3**
	baz=101,slow=5.2,SNR=1.2						
URZ				Sn	**Sn**	**05 01 10.6**	**+0.8**
	7.4nm,0.3s,baz=154,slow=12,SNR=4.4						
URZ	**Urewera**	**9.52**	**208**	P	**Pn**	**04 59 23.1**	**-0.4**
URZ	**Urewera**	**9.52**	**208**	Pn	**Pn**	**04 59 22.9**	**-0.7**
URZ				Sn	**Sn**	**05 01 07.5**	**-2.3**
RTZ	**Ruatahuna**	**9.88**	**207**	P	**Pn**	**04 59 29.5**	**+0.9**
BKZ	**Black Stump Fm**	**10.54**	**208**	Pn	**Pn**	**04 59 37.0**	**-0.7**
BKZ				Sn	**Sn**	**05 01 32.5**	**-2.5**
PRHZ	**Porangahau**	**11.44**	**204**	P	**Pn**	**04 59 49.6**	**-0.4**
DVHZ	**Dannevirke**	**11.64**	**206**	P	**Pn**	**04 59 53.3**	**+0.5**
ANWZ	**

comp=Z,8.9nm,0.9s,baz=151,slow=8.3,SNR=15
FITZ LR LR 05 28 30.4
comp=Z,366nm,18.4s,baz=115,slow=36
FITZ Fitzroy Crossi 53.02 269 P **P** **05 06 21.1 -2.2**
FITZ IAmb IAmb 05 06 30.1
comp=Z,13nm,1.0s
CASY Casey 55.84 208 P **P** **05 06 41.7 -1.4**
GUMO Guam 56.63 314 LR LR 05 27 49.4
comp=Z,218nm,20.7s,baz=121,slow=33
SOEI Soe 57.95 277 P **P** **05 06 58.1 -0.9**
BATI Baumata 58.25 277 LR LR 05 32 51.8
comp=Z,2μm,18.1s,baz=130,slow=37
QSPA South Pole Qui 60.16 180 P **P** **05 07 16.4 +2.8**
comp=Z,8.8nm,0.6s,baz=18,slow=1.0,SNR=69
QSPA South Pole Qui 60.16 180 P **P** **05 07 13.8 +0.2**
TWSI Taliwang, Sumb 64.81 274 P P 05 07 50.4 +5.1
MAW Mawson 72.96 200 P **P** **05 08 34.3 -0.8**
MAW pmax pmax
comp=Z,3.0nm,1.0s
MAW Mawson 72.96 200 P **P** **05 08 35.2 +0.1**
comp=Z,3.0nm,0.3s,baz=127,slow=10,SNR=11
MAW LR LR 05 40 18.6
comp=Z,270nm,19.5s,baz=68,slow=36
MAW Mawson 72.96 200 P **P** **05 08 34.3 -0.8**
SYO Syowa Base 77.70 193⇑*eP* **P** **05 09 02.0 -0.3**
SYO Syowa Base 77.70 193⇑*iP* **P** **05 09 05.4 +3.1**
MDSI Maura Dua 77.89 272 P **P** **05 09 03.2 -1.1**
MJAR Matsushiro Arr 78.25 325 P **P** **05 09 07.3 +1.5**
comp=Z,1.0nm,0.3s,baz=140,slow=4.7,SNR=2.5
MJAR LR LR 05 43 54.7
comp=Z,71nm,18.1s,baz=80,slow=36
SNAA Sanae 78.58 178 P **P** **05 09 08.5 +1.2**
SNAA Sanae 78.58 178⇓*iP* **P** **05 09 09.1 +1.8**
SNAA Sanae 78.58 178 P **P** **05 09 06.7 -0.6**
SNAA IAmb IAmb 05 09 09.9
comp=Z,8.8nm,1.1s
VNA3 Neumayer Olymp 78.71 176 P **P** **05 09 08.9 +0.9**
VNA2 Neumayer--Watz 79.15 177 P **P** **05 09 08.4 -1.9**
baz=174,slow=3.4
VNA1 Neumayer--Stat 79.38 176 P P 05 09 04.0 -7.5
KSRS Korea Array 84.44 319 P **P** **05 09 40.1 +1.6**
comp=Z,2.7nm,0.8s,baz=132,slow=5.2,SNR=4.2
KSRS LR LR 05 44 31.4
comp=Z,95nm,18.7s,baz=145,slow=34
YSS Yuzh-Sakhalins 84.63 334⇓*iP* P 05 09 47.7 +8.4
YSS *e**PP pwP 05 09 57.7 +6.5
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,300nm,20.0s
PFO Pinyon Flats O 85.42 47⇓*eP* **P** **05 09 44.4 +0.6**
PFO pmax pmax
comp=Z,4.0nm,1.3s
ISA Isabella, Lake 85.52 44 P **P** **05 09 42.5 -1.6**
ISA pmax pmax
comp=Z,5.0nm,1.0s
ISA Isabella, Lake 85.52 44 P **P** **05 09 42.5 -1.6**
ISA IAmb IAmb 05 09 56.5
comp=Z,4.6nm,0.9s
PETK Petropavlovsk- 85.55 345 P **P** **05 09 43.6 -0.1**
comp=Z,6.0nm,0.7s,baz=119,slow=5.8,SNR=8.1
CMB Columbia Colle 85.99 42 P **P** **05 09 46.6 +0.2**
CMB pmax pmax
comp=Z,4.0nm,1.0s
CMB Columbia Colle 85.99 42 P **P** **05 09 46.6 +0.2**
CMB IAmb IAmb 05 09 54.7
comp=Z,4.3nm,1.0s
NJ2 Nanjing 86.46 310 *eP* **P** **05 09 52.3 +3.6**
NJ2 pmax pmax
comp=Z,16nm,0.5s
WDC Whiskeytown Da 86.55 39 P **P** **05 09 47.4 -1.6**
WDC pmax pmax
comp=Z,6.0nm,1.1s
WDC Whiskeytown Da 86.55 39 P **P** **05 09 47.4 -1.6**
WDC IAmb IAmb 05 09 50.5
comp=Z,5.9nm,1.1s
WAKR Walker 86.86 42 P **P** **05 09 50.1 -0.8**
WAKR IAmb IAmb 05 10 06.7
comp=Z,4.0nm,1.0s
USA0B Ussuriysk Arra 87.15 326 *eP* **P** **05 09 53.1 +1.3**
USRK Ussuriysk Ar. 87.15 326 P **P** **05 09 52.4 +0.6**
comp=Z,3.4nm,0.6s,baz=104,slow=4.8,SNR=7.7
YBH Yreka Blue Hor 87.28 38 P **P** **05 09 53.1 +0.5**
YBH pmax pmax
comp=Z,4.0nm,1.1s
YBH Yreka Blue Hor 87.28 38 P **P** **05 09 53.1 +0.5**
NVAR Mina Array Bea 87.46 42 P **P** **05 09 53.9 +0.1**
comp=Z,0.8nm,0.7s,baz=217,slow=6.9,SNR=7.1
NVAR LR LR 05 44 03.9
comp=Z,240nm,18.0s,baz=224,slow=32
NV11 Mina Array Sit 87.55 42 P **P** **05 09 53.7 -0.5**
KVN Kaiserville 88.00 42 P **P** **05 09 56.1 -0.2**
KVN pmax pmax
comp=Z,3.0nm,0.9s
KVN Kaiserville 88.00 42 P **P** **05 09 56.1 -0.2**
KVN IAmb IAmb 05 10 07.7
comp=Z,2.9nm,0.9s
TUC Tucson 88.32 51 P **P** **05 09 57.3 -0.6**
TUC pmax pmax
comp=Z,3.0nm,1.0s
TUC Tucson 88.32 51 P **P** **05 09 57.3 -0.6**
WHN Wuhan 88.61 307 P P 05 10 03.6 +4.5
X16A Lo Mia Camp, P 89.16 49 P **P** **05 10 02.3 +0.4**
X16A IAmb IAmb 05 10 19.0
comp=Z,4.6nm,0.8s
U15A North Rim 89.84 47 P **P** **05 10 05.8 +0.6**
U15A IAmb IAmb 05 10 22.2
comp=Z,4.8nm,1.0s
WUAZ Wupatki 89.87 48 IAmb IAmb 05 10 22.1
comp=Z,6.1nm,0.9s
CN2 Changchun 90.19 322 *eP* **P** **05 10 06.6 +0.4**
CN2 pmax pmax
comp=Z,20nm,1.3s
MTPU Mount Pierson 90.91 46 P **P** **05 10 09.5 -0.7**
KLR Kul'dur 90.98 329 *eP* **P** **05 10 10.5 +0.7**
KLR pmax pmax
comp=Z,15nm,1.5s
TXAR Lajitas Array 91.59 57 P **P** **05 10 14.8 +1.5**
comp=Z,0.5nm,0.7s,baz=188,slow=6.1,SNR=5.0
TXAR LR LR 05 42 09.4
comp=Z,52nm,21.9s,baz=0.0,slow=30
ANMO Albuquerque 92.78 51 *eP* **P** **05 10 19.0 +0.2**
PDAR Pinedale Array 95.36 43 P **P** **05 10 31.8 +1.4**
comp=Z,0.1nm,0.6s,baz=206,slow=6.0,SNR=2.1
PDAR LR LR 05 48 40.4
comp=Z,160nm,18.3s,baz=237,slow=32
HHC Hu-ho-hao-te 96.40 314 *eP* **P** **05 10 38.5 +3.4**
HHC pmax pmax
comp=Z,5.0nm,1.3s
CD2 Chengdu 96.41 302 P **P** **05 10 36.6 +1.3**
YNE Yellowstone No 96.42 41 P **P** **05 10 34.3 -1.0**
JTS Las Juntas de 97.02 82 *eP* **P** **05 10 38.5 +0.1**
JTS pmax pmax
comp=Z,5.0nm,1.2s
ILAR Eielson Array 97.34 13 P Pdif 05 10 39.5 +0.8
comp=Z,0.4nm,0.8s,baz=232,slow=4.4,SNR=3.1
LPAZ La Paz 97.72 114 LR LR 05 46 57.0
comp=Z,60nm,20.0s,baz=229,slow=31
LZH Lanzhou 98.98 306 *eP* Pdif 05 10 47.5 +0.6
LZH pP pP 05 10 50.7 -2.6
LZH sP sP 05 10 52.3 -3.3
LZH pmax pmax
comp=Z,18nm,1.3s
LZH LR LR
comp=Z,110nm,17.4s
LZH LR LR
comp=Z,120nm,17.3s
LZH LR LR
comp=Z,160nm,19.7s
CPUP Villa Florida 99.74 128 LR LR 05 47 31.7
comp=Z,108nm,21.6s,baz=230,slow=30
WMQ Urumqi 113.47 308 *e*PKP **PKiKP** **05 15 45.3 +1.3**
MKAR Makanchi Array 117.99 310 PKP **PKPdf** **05 15 51.3 -1.2**
comp=Z,0.5nm,0.5s,baz=175,slow=1.1,SNR=6.5
KSH Kashi 120.58 301 PKP **PKiKP** **05 16 01.2 +3.2**
KSH PP PP 05 17 34.5 +8.7
KSH SKKS 05 24 26.1
KURK Kurchatov 121.21 314 *e*PKIKP **PKiKP** **05 15 58.4 -0.3**
AAK Ala-Archa 122.41 304 *e*PKIKP **PKiKP** **05 16 03.1 +1.6**
KK31 Karatay Array 125.37 304 PKIKP **PKPdf** **05 16 05.2 -1.6**
KK31 Karatay Array 125.37 304 **PKPdf** **05 16 05.2 -1.6**
KKAR Karatay Array 125.37 304 PKIKP **PKPdf** **05 16 06.2 -0.6**
KKAR Karatay Array 125.37 304 **PKPdf** **05 16 06.2 -0.6**
BRVK Borovoye 126.61 316 PKIKP **PKPdf** **05 16 06.1 -2.7**
BRVK Borovoye 126.61 316 **PKPdf** **05 16 06.1 -2.7**

ARCES ARCESS Array B 138.29 348 PKP **PKPdf** **05 16 30.3 0.0**
comp=Z,15nm,1.1s,baz=338,slow=1.3,SNR=6.6
AKT Akhty 142.11 300 *eP* **Pdif** **05 14 07.7 +9.2**
AKT pmax pmax
comp=Z,5.0nm,0.1s
FIA1 FINESS Array S 144.94 341 **PKPab** **05 16 40.5 -1.2**
FINES FINESS Array B 144.95 341 PKP **PKPab** **05 16 40.7 -1.0**
comp=Z,9.6nm,0.6s,baz=51,slow=3.2,SNR=40
GOF Gofitskoye 145.05 307⇑*e*PKIKP **PKPdf** **05 16 43.1 -0.1**
GOF pmax pmax
comp=Z,83nm,1.8s
LPSR Galich'ya Gora 145.19 321 *e*PKP2 **PKPbc** **05 16 41.9 -0.9**
LPSR pmax pmax
comp=Z,30nm,0.9s
AKH Akhalkalaki 145.29 300 PKIKP **PKPdf** **05 16 44.5 +0.6**
AKH Akhalkalaki 145.29 300⇑P **PKPdf** **05 16 44.8 +0.8**
AKH Akhalkalaki 145.29 300 **PKPdf** **05 16 44.5 +0.6**
KBZ Khabaz 145.40 305 PKPbc **PKPab** **05 16 43.5 -0.5**
comp=Z,5.0nm,0.8s,baz=142,slow=5.0,SNR=9.3
KIV Kislovodsk 145.51 305 *i* PKIKP **PKiKP** **05 16 48.4 +0.3**
KIV pmax pmax
comp=Z,30nm,1.1s
KIV MLR MLR
comp=Z,267nm,24.0s
VSR Storozhevoye 145.64 319 *e*PKP2 **PKPdf** **05 16 43.5 -0.5**
VSR pmax pmax
comp=Z,70nm,1.7s
VORD Divnogorie 145.67 318 *e*PKIKP **PKPdf** **05 16 43.0 -1.0**
VORD pmax pmax
comp=Z,40nm,1.6s
NOA NORSAR Array B 148.40 352 PKPbc **PKPbc** **05 16 51.0 -0.9**
comp=Z,3.4nm,0.6s,baz=14,slow=4.3,SNR=10
NACGM Naroch 149.69 332 *e* PKPab 05 17 08.0 +7.5
GAZ Gaziantep 150.52 293 PKPdf **PKPdf** **05 16 51.9 -0.7**
GAZ **PKiKP** **05 16 57.8 -0.9**
AKASG Malin Array Be 151.34 324 PKPbc **PKPbc** **05 16 58.8 -0.5**
comp=Z,6.9nm,0.6s,baz=46,slow=2.9,SNR=31
AKBB Malin Array Si 151.34 324 PKIKP **PKPdf** **05 16 53.8 +0.6**
AKBB 05 16 58.9
AKBB Malin Array Si 151.34 324 PKPdf **PKPdf** **05 16 53.8 +0.6**
AKBB PKPbc **PKPbc** **05 16 58.9 -0.4**
SUW Suwalki 151.77 334 PKIKP **PKPdf** **05 16 52.8 -1.0**
SUW Suwalki 151.77 334 PKPdf **PKPdf** **05 16 52.8 -1.0**
BRTR Keskin Array B 152.96 299 PKPbc **PKPbc** **05 17 03.0 -0.5**
comp=Z,1.5nm,0.9s,baz=108,slow=4.0,SNR=5.7
LVV L'vov 154.47 327 *e*PKP2 **PKPab** **05 17 20.3 -0.4**
TOPG Topolog 154.92 314⇑P **PKPab** **05 17 23.6 +0.8**
TESR Tescani 155.13 318⇑P **PKPab** **05 17 22.4 -1.2**
BIZ Bicaz 155.21 320⇑P PKPdf 05 17 10.7 +12
KWP Kalwaria Pacla 155.21 328 PKP2 **PKPab** **05 17 22.9 -1.0**
KWP Kalwaria Pacla 155.21 328 **PKPab** **05 17 22.9 -1.0**
BUR08 Bucovina Ar. S 155.28 322 PKPdf **PKPdf** **05 16 56.8 -2.4**
BUR08 **PKPab** **05 17 22.5 -1.9**
BURAR Bucovina Array 155.29 322⇑PKIKP PKPdf 05 17 09.4 +10
BURAR Bucovina Array 155.29 322⇑P PKPdf 05 17 09.4 +10
PLOR Plostina 155.49 317⇑PKP2 **PKPab** **05 17 22.8 -2.5**
PLOR Plostina 155.49 317⇑P **PKPab** **05 17 22.8 -2.5**
DOPR Dopca 156.16 318⇑P PKPab 05 17 18.1 -10
TRPA Tarpa 156.34 326⇑P **PKPab** **05 17 28.8 +0.1**
LANS Liptovska Anna 156.99 331 *e*PKP2 **PKPab** **05 17 32.2 +0.6**
LANS Liptovska Anna 156.99 331 *e*PKP **PKPab** **05 17 32.2 +0.6**
CHVC Chvalec 157.09 338 *e*PKPAB **PKPab** **05 17 37.0 +5.1**
DPC Dobruska-Polom 157.21 337 *e*PKP2 **PKPab** **05 17 33.1 +0.7**
DPC Dobruska-Polom 157.21 337 *e*PKPAB **PKPab** **05 17 33.1 +0.7**
DPC *e*PKP **pPKPab** **05 17 38.6 -0.4**
CLL Collm 157.34 343 *e*PKP2 **PKPab** **05 17 31.0 -1.9**
CLL *e* 05 21 16.0
CLL Collm 157.34 343 *e*PKPab **PKPab** **05 17 31.0 -1.9**
CLL *e* 05 17 46.0
CLL *e*PP **PP** **05 21 16.0 +4.7**
CLL Lm MLR 06 29 00.0
comp=N,100nm,19.3s
CLL Lm MLR 06 29 00.0
comp=E,100nm,18.7s
CLL Lm MLR 06 29 00.0
comp=Z,100nm,19.8s
BRG Berggiesshubel 157.48 341 *e*PKP **PKPdf** **05 17 03.1 +1.2**
comp=Z,11nm,1.6s
BRG *e* 05 17 03.1
comp=Z,11nm,1.6s
BRG *e* 05 17 33.2
comp=Z,6.5nm,1.2s
BRG *e* 05 17 39.8
comp=Z,9.3nm,1.0s
BRG Berggiesshubel 157.48 341 *e*PKIKP **PKPdf** **05 17 03.1 +1.3**
BRG pmax pmax
comp=Z,11nm,1.6s
BRG pmax pmax
comp=Z,11nm,1.6s
BRG pmax pmax
comp=Z,7.0nm,1.2s
BRG pmax pmax
comp=Z,9.0nm,1.0s
PSZ Piszkesteto 157.74 328 PKIKP **PKPdf** **05 16 59.8 -2.6**
PSZ 05 17 33.7
PSZ Piszkesteto 157.74 328⇑P **PKPab** **05 17 34.6 -0.2**
PSZ Piszkesteto 157.74 328 PKPdf **PKPdf** **05 16 59.8 -2.6**
PSZ **PKPab** **05 17 33.7 -1.2**
VYHS Vyhne 157.77 331 *e*PKP2 **PKPab** **05 17 35.0 +0.1**
VYHS Vyhne 157.77 331 *e*PKP **PKPab** **05 17 35.0 +0.1**
MDVR Moldovita 158.96 320⇑P **PKPab** **05 17 40.2 -0.1**
KHC Kasperske Hory 159.15 340 *e*PKP2 **PKPab** **05 17 41.4 +0.6**
KHC Kasperske Hory 159.15 340 *e*PKPAB **PKPab** **05 17 41.4 +0.6**
KHC *ex* x 05 17 48.9
KHC *ex* x 05 17 55.3
VTS Vitosha 159.28 313 PKP2 **PKPab** **05 17 42.7 +0.9**
VTS Vitosha 159.28 313 **PKPab** **05 17 42.7 +0.9**
GERES GERESS Array B 159.36 339 PKPab **PKPab** **05 17 42.1 +0.2**
comp=Z,0.7nm,0.8s,baz=17,slow=4.1,SNR=4.1
CONA Conrad Observa 159.41 334 *i* PKPab **PKPab** **05 17 42.1 0.0**
comp=Z,8.3nm,1.2s
MOA Molln 160.05 337 *i* PKPab **PKPab** **05 17 45.4 +0.6**
comp=Z,9.2nm,1.5s
ARSA Arzberg 160.10 334 *i* PKPab **PKPab** **05 17 45.7 +0.7**
comp=Z,4.2nm,1.0s
SOKA Soboth 160.76 334 *i* PKPab **PKPab** **05 17 48.4 +0.4**
comp=Z,8.7nm,1.6s
KBA Koelnbreinsper 161.03 337 *i* pPKPab **PKPab** **05 17 50.0 +0.7**
comp=Z,6.4nm,1.4s
MYKA Terra Mystica 161.32 336 *i* PKPab **PKPab** **05 17 50.0 -0.5**
comp=Z,2.6nm,0.6s
WATA Walderalm 161.35 341 *i* PKPab **PKPab** **05 17 51.0 +0.4**
comp=Z,9.9nm,1.6s
WTTA Wattenberg 161.40 341 *i* PKPab **PKPab** **05 17 51.1 +0.2**
comp=Z,19nm,1.7s
RETA Reutte 161.43 343 *i* PKPab **PKPab** **05 17 51.3 +0.4**
comp=Z,7.1nm,1.4s
MOTA Moosalm 161.47 342 *i* PKPab **PKPab** **05 17 51.5 +0.4**
comp=Z,2.4nm,0.8s
SQTA Sankt Quirin 161.56 342 *i* pPKPab **PKPab** **05 17 53.4 +1.9**
comp=Z,8.9nm,1.0s
ABTA Abfaltersbach 161.59 338 *i* PKPab **PKPab** **05 17 51.3 -0.4**
comp=Z,6.6nm,1.2s
DAVA Damuels 161.83 344 *i* pPKPab **PKPab** **05 17 54.0 +1.3**
comp=Z,8.5nm,1.4s
FUORN Ofenpass-Fuorn 162.36 343 **PKPab** **05 17 52.3 -2.9**
TORD Torodi Ar. Bea 163.25 176 PKP **PKPdf** **05 17 09.8 +0.5**
comp=Z,2.0nm,1.2s,baz=142,slow=0.6,SNR=3.5
TORD PKPab **PKPab** **05 18 00.5 +1.1**
comp=Z,0.8nm,0.5s,baz=186,slow=3.9,SNR=7.7

ROM 12 05:14:56.5±0.1, 43°.398N±0°.003×12°.474E±0°.004, h8km, ML1.3/16, Error ellipse: s-maj=0.3km s-min=0.2km az=26.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATVO	**AVT- Monte Val**	**0.05**	**252**	*e*P	Pg	05 14 58.2	0.0
ATVO				S	Sg	05 14 59.2	-0.3
	comp=N,1031μm,0.4s						
ATVO				AML	AML		
	comp=E,938μm,1.1s						
ATPI	**Pietralunga -**	**0.07**	**315**	*e*P	Pg	05 14 58.8	+0.2
ATPI				S	Sg	05 15 00.3	+0.3
ATPI				AML	AML		
	comp=E,402μm,0.4s						
ATPI				AML	AML		
	comp=N,328μm,0.3s						
ATPI				AML	AML		
	comp=E,402μm,0.4s						
ATFO	**Monte Foce - G**	**0.08**	**114**	P	Pg	05 14 58.8	+0.2
ATFO				S	Sg	05 15 00.5	+0.4
ATFO				AML	AML		
	comp=E,634μm,0.3s						
ATFO				AML	AML		
	comp=N,488μm,0.7s						
MURB	**Monte Urbino**	**0.14**	**165**	*e*P	Pg	05 15 00.0	+0.5
MURB				S	Sg	05 15 03.0	+1.4
MURB				AML	AML		
	comp=E,683μm,1.3s						
MURB				AML	AML		
	comp=N,584μm,0.3s						
MURB				AML	AML		
	comp=E,732μm,1.3s						
MURB				AML	AML		
	comp=E,683μm,1.3s						
MURB				AML	AML		
	comp=N,666μm,0.2s						
MURB				AML	AML		
	comp=N,584μm,0.3s						
ATMI	**Monte Miggiano**	**0.16**	**247**	*e*P	Pg	05 15 01.1	+1.2
ATMI				S	Sg	05 15 03.4	+1.2
ATMI				AML	AML		
	comp=E,129μm,0.2s						
ATMI				AML	AML		
	comp=N,156μm,1.5s						
ATMI				AML	AML		
	comp=N,156μm,1.5s						
ATMI				AML	AML		
	comp=E,128μm,0.2s						
BADI	**Badiali**	**0.20**	**304**	*e*P	Pg	05 15 01.2	+0.6
BADI				S	Sg	05 15 05.1	+1.8
BADI				AML	AML		
	comp=E,267μm,0.2s						
BADI				AML	AML		
	comp=N,228μm,0.3s						
ATTE	**AVT- Monte Tez**	**0.22**	**204**	*e*P	Pg	05 15 01.3	+0.4
ATTE				S	Sg	05 15 04.9	+1.0
ATTE				AML	AML		
	comp=N,62μm,1.5s						
ATTE				AML	AML		
	comp=N,61μm,1.5s						
ATTE				AML	AML		
	comp=E,75μm,0.5s						
FRON	**Frontone**	**0.22**	**57**	*e*P	Pg	05 15 01.6	+0.7
FRON				S	Sg	05 15 05.5	+1.6
FRON				AML	AML		
	comp=E,71μm,0.1s						
FRON				AML	AML		
	comp=N,174μm,0.3s						
NARO	**Abbazia di Nar**	**0.23**	**20**	*e*P	Pg	05 15 01.7	+0.6
NARO				S	Sg	05 15 05.7	+1.5
NARO				AML	AML		
	comp=E,51μm,0.2s						
NARO				AML	AML		
	comp=N,58μm,1.5s						
SSFR	**Montelago di S**	**0.23**	**80**	*e*P	Pg	05 15 01.7	+0.6
SSFR				S	Sg	05 15 05.8	+1.6
SSFR				AML	AML		
	comp=N,270μm,0.7s						
SSFR				AML	AML		
	comp=E,397μm,0.2s						
FOSV	**Fossato di Vic**	**0.23**	**116**	*e*P	Pg	05 15 01.8	+0.7
FOSV				S	Sg	05 15 06.3	+1.9
FOSV				AML	AML		
	comp=E,47μm,1.1s						
FOSV				AML	AML		
	comp=N,50μm,0.7s						
ATCC	**AVT- Casa Cast**	**0.24**	**150**	*e*P	Pg	05 15 02.1	+0.8
ATCC				S	Sg	05 15 06.8	+2.2
ATCC				AML	AML		
	comp=E,208μm,1.0s						
ATCC				AML	AML		
	comp=N,256μm,0.3s						
ATCC				AML	AML		
	comp=E,207μm,1.0s						
PE3	**Peglio**	**0.30**	**3**	AML	AML		
	comp=N,122μm,0.3s						
PE3				AML	AML		
	comp=E,100μm,0.9s						
PARC	**Parchiule**	**0.30**	**326**	*e*P	Pg	05 15 03.2	+0.7
PARC				S	Sb	05 15 08.7	-0.7
PARC				AML	AML		
	comp=N,46μm,0.8s						
PARC				AML	AML		
	comp=E,38μm,0.4s						
MPAG	**Monte Paganucc**	**0.31**	**42**	*e*P	Pg	05 15 03.3	+0.6
MPAG				S	Sb	05 15 08.8	-0.9
ARVD	**Arcevia**	**0.35**	**73**	*e*P	Pg	05 15 03.9	+0.4
ARVD				S	Sb	05 15 10.3	-0.5
ARVD				AML	AML		
	comp=E,34μm,1.4s						
ARVD				AML	AML		
	comp=N,31μm,1.5s						
SNTG	**Esanatoglia**	**0.37**	**113**	*e*P	Pg	05 15 04.2	+0.5
SNTG				S	Sb	05 15 10.5	-0.8
SNTG				AML	AML		
	comp=N,50μm,0.3s						
SNTG				AML	AML		
	comp=E,43μm,0.2s						
ASSB	**Assisi San Ben**	**0.38**	**159**	*e*P	Pg	05 15 04.5	+0.6
ASSB				S	Sb	05 15 10.9	-0.7
ASSB				AML	AML		
	comp=N,58μm,0.7s						
ASSB				AML	AML		
	comp=E,36μm,0.2s						
CRE	**Caprese Michel**	**0.44**	**300**	*e*P	Pg	05 15 05.5	+0.4
CRE				S	Sb	05 15 13.4	0.0
EL6	**Elcito**	**0.46**	**98**	S	Sb	05 15 16.0	+2.0
FDMO	**Fiordimonte**	**0.58**	**129**	*e*P	Pg	05 15 07.8	+0.2
FDMO				S	Sb	05 15 17.4	+0.2

PRU 12 05:15:18.4±0.0, 51°.47N×16°.18E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.63**	**173**	*e*Pg	Pg	05 15 30.4	0.0
KSP				*e*Pg	Pg	05 15 30.4	0.0
KSP				*e*Sg	Sg	05 15 39.0	+0.3
KSP				*e*Sg	Sg	05 15 39.0	+0.3
CHVC	**Chvalec**	**0.89**	**185**	*e*PG	Pg	05 15 34.9	-0.5
CHVC				*e*SG	Sg	05 15 46.8	0.0
UPC	**Upice**	**0.97**	**186**	*e*PG	Pg	05 15 36.6	-0.4
UPC				*e*SG	Sg	05 15 48.7	-0.8
	comp=Z,6.9nm,0.2s						
DPC	**Dobruska-Polom**	**1.12**	**175**	*e*PG	Pg	05 15 39.1	-0.8
DPC				*e*SG	Sg	05 15 54.2	-0.3
PVCC	**Panska Ves**	**1.39**	**228**	*e*PG	Pg	05 15 43.7	-1.3
PVCC				*e*SG	Sg	05 16 03.0	+0.1
	comp=Z,13nm,0.3s						
KRLC	**Kraliky**	**1.45**	**164**	*e*PG	Pn	05 15 45.5	-0.4
KRLC				*e*SG	Sg	05 16 04.2	-0.7
BRG	**Berggiesshubel**	**1.53**	**248**	PG	Pg	05 15 47.7	0.0
BRG				SG	Sg	05 16 06.0	-1.5
	3.6nm,0.4s						
KHC	**Kasperske Hory**	**2.88**	**216**	*e*SG	Sg	05 16 50.4	-0.3

IDC ***12*** *05:29:36.5±1.4, 2°.44S×140°.21E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/23, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=28.6km s-min=9.6km az=0.0*
DJA ***12*** *05:29:37.0±1.9, 3°.5S×146°.×14°.0E±°, h21km±6km, M3.1/3, MLv3.1/3*
ISCJB ***12*** *05:29:38.1±0.8, 2°.5S±0°.1×140°.31E±0°.06, h28km±5km, mb3.4/3, Error ellipse: s-maj=20.4km s-min=9.0km az=171.7*

ISC 12 05:29:38.4±1.2, 2°.5S±0°.1×140°.32E±0°.06, h19km±3km, n14, o0&64/10, mb3.3/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.21**	**229**	P	**Pb**	**05 29 43.1**	**0.0**
GENI				S	**Sg**	**05 29 47.8**	**+0.7**
JAY	**Jayapura**	**0.39**	**99**	Pg	**Pg**	**05 29 46.3**	**-0.3**
	144nm,0.3s,baz=257,slow=18,SNR=369						
JAY				Lg	Lg	05 29 53.0	
	374nm,0.3s,baz=114,slow=20,SNR=77						
JAY	**Jayapura**	**0.39**	**99**	P	**Pg**	**05 29 46.2**	**-0.3**
JAY				S	**Sb**	**05 29 52.8**	**+0.3**
SMPI	**Sarmi**	**1.68**	**286**	P	**Pn**	**05 30 06.1**	**-0.7**
WRA	**Warramunga Arr**	**18.34**	**198**	P	**Pn**	**05 33 51.4**	**-0.6**
	0.2nm,0.3s,baz=20,slow=12,SNR=14						
FITZ	**Fitzroy Crossi**	**21.19**	**222**	P	**P**	**05 34 23.3**	**+0.2**
	0.8nm,0.6s,baz=34,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**21.98**	**196**	P	**P**	**05 34 31.5**	**-0.1**
	0.7nm,0.5s,baz=25,slow=10,SNR=17						
H11S3	**WAKE ISLAND Hy**	**33.27**	**50**	T	T	06 11 17.1	

baz=232,slow=74,SNR=162
H11S2 WAKE ISLAND Hy 33.28 50 T T 06 11 18.2
baz=232,slow=74,SNR=71
H11S1 WAKE ISLAND Hy 33.29 50 T T 06 11 18.5
baz=232,slow=74,SNR=78
H11N1 WAKE ISLAND Hy 34.15 49 T T 06 12 21.2
baz=229,slow=76,SNR=57
H11N2 WAKE ISLAND Hy 34.16 49 T T 06 12 22.2
baz=229,slow=76,SNR=110
H11N3 WAKE ISLAND Hy 34.16 49 T T 06 12 22.1
baz=229,slow=76,SNR=33
MKAR Makanchi Array 70.58 322 P **P** **05 40 53.4 +0.9**
0.6nm,0.7s,baz=101,slow=7.3,SNR=4.4

MAN ***12*** *05:59:28.9, 9.°68N×123.°68E, h3km, MS3.5*
MAN Intensity II - Panglao Island.
ISCJB ***12*** *05:59:30.1±0.7, 9.°65N±0.°03×123.°68E±0.°04, h20km±5km, mb4.6/22, MS3.5/10, Error ellipse: s-maj=6.3km s-min=5.3km az=15.4*
IDC ***12*** *05:59:38.5±2.8, 9.°64N×123.°63E, h86km±26km, mb3.8/15, mb1 4.0/17, mb1mx3.9/37, mbtmp4.2/17, MS3.4/15, Ms1 3.5/15, ms1mx3.2/44, Error ellipse: s-maj=25.6km s-min=11.8km az=65.0*
ISC 12 05:59:30.4±1.1, 9.°66N±0.°03×123.°59E±0.°03, h15km±7km, n48, σ2s 47/51, mb4.2/22, MS3.4/10, 2C-5D, Negros

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.47**	**228**	⇓P		**Pg**		**05 59 39.7**	**-0.2**
SNPH				S		**Sb**		**05 59 47.8**	**+0.6**
LLP	**Lapu-Lapu**	**0.75**	**29**	⇑P		**Pb**		**05 59 42.9**	**-2.2**
LLP				S		**Sg**		**05 59 54.4**	**-0.6**
DCPH	**Dipolog City**	**1.09**	**193**	⇑P		**Pb**		**05 59 47.9**	**-3.1**
DCPH				S		**Sb**		**06 00 03.4**	**-1.7**
MSLP	**Maasin**	**1.33**	**69**	P		**Pn**		**05 59 51.8**	**-2.6**
MSLP				S		**Sg**		**06 00 14.8**	**+1.3**
GUIM	**Jordan**	**1.38**	**314**	P		**Pn**		**05 59 54.5**	**-0.5**
GUIM				S		**Sg**		**06 00 15.5**	**+0.5**
CGP	**Cagayan de Oro**	**1.62**	**138**	⇓P		**Pb**		**05 59 58.2**	**-1.7**
PAGZ	**Pagadian**	**1.81**	**187**	P		**Pn**		**05 59 57.7**	**-3.3**
PAGZ				S		**Sg**		**06 00 28.7**	**-0.1**
SCPH	**Surigao**	**1.87**	**86**	⇓P		**Pn**		**05 59 59.6**	**-2.2**
BUTP	**Butuan**	**2.12**	**109**	P		**Pn**		**06 00 03.9**	**-1.3**
BUTP				S		**Sb**		**06 00 34.7**	**+0.2**
BUKP	**Musuan**	**2.29**	**140**	P		**Pn**		**06 00 07.7**	**+0.1**
BUKP				S		**Sg**		**06 00 50.0**	**+6.0**
CTBH	**Cotabato--PC H**	**2.51**	**165**	⇓P		**Pb**		**06 00 12.5**	**-2.6**
BESP	**Borongan**	**2.65**	**43**	P		**Pn**		**06 00 11.9**	**-0.7**
BESP				S		**Sb**		**06 00 49.3**	**-0.6**
KCP	**Kidapawan**	**3.02**	**151**	⇓P		**Pb**		**06 00 20.3**	**-3.7**
DAV	**Davao City (W)**	**3.24**	**142**	P		**Pb**		**06 00 27.3**	**-0.3**
	212nm,0.3s,baz=56,slow=3.6,SNR=3.5								
DAV				S		**Sb**		**06 01 09.1**	**+2.3**
	84nm,0.3s,baz=127,slow=20,SNR=2.9								
DAV				LR	LR			06 01 47.8	
	comp=Z,1μm,20.8s,baz=344,slow=40								
TGY	**Tagaytay City**	**5.12**	**330**	LR	LR			06 03 00.5	
	comp=Z,584nm,19.4s,baz=113,slow=39								
SIJI	**Sorong**	**12.95**	**143**	LR	LR			06 08 26.9	
	comp=Z,135nm,18.5s,baz=24,slow=41								
KAPI	**Kappang**	**15.07**	**195**	P	**P**			**06 03 08.0**	**-0.1**
	0.3nm,0.3s,baz=16,slow=1.7,SNR=4.9								
KAPI				LR	LR			06 09 59.4	
	comp=Z,40nm,18.9s,baz=13,slow=41								
UBPT	**Khong Chiam**	**18.55**	**289**	P	**Pn**			**06 03 50.3**	**+3.4**
	26nm,1.0s								
BATI	**Baumata**	**19.73**	**180**	LR	LR			06 14 27.0	
	comp=Z,85nm,18.3s,baz=49,slow=45								
JAY	**Jayapura**	**20.90**	**125**	P	Pn			06 04 17.0	+2.1
	20nm,0.9s,baz=309,slow=17,SNR=3.4								
GUMO	**Guam**	**21.20**	**77**	LR	LR			06 13 05.7	
	comp=Z,44nm,19.3s,baz=162,slow=38								
PHET	**Kaeng Krachan**	**23.72**	**280**	P	**P**			**06 04 45.3**	**+3.3**
	18μm,1.1s								
UTHA	**Uthaitani**	**24.27**	**286**	P	**P**			**06 04 52.3**	**+5.1**
	12μm,1.2s								
PHRA	**Phrae**	**24.28**	**294**	P	**P**			**06 04 53.1**	**+5.8**
	1.1nm,1.2s								
SRDT	**SRDT**	**24.38**	**283**	P	**P**			**06 04 52.0**	**+3.8**
	5.0nm,1.6s,2μm								
PAYA	**Payao**	**24.88**	**295**	P	**P**			**06 04 58.6**	**+5.8**
	11μm,0.7s,472μm								
UMPA	**Umpang Tak**	**24.95**	**288**	P	**P**			**06 04 58.0**	**+4.6**
	8μm,0.8s								
CMAR	**Chiang Mai Arr**	**25.43**	**293**	P	**P**			**06 04 58.2**	**+0.5**
	2.0nm,0.7s,baz=111,slow=8.0,SNR=13								
CMAR				LR	LR			06 14 44.4	
	comp=Z,72nm,18.9s,baz=182,slow=36								
MHMT	**Maesarieng**	**26.28**	**292**	P	**P**			**06 05 08.6**	**+3.2**
	30nm,0.5s,2μm								
FITZ	**Fitzroy Crossi**	**27.65**	**176**	P	**P**			**06 05 17.7**	**0.0**
	7.3nm,1.0s,baz=37,slow=3.3,SNR=11								
KSRS	**Korea Array**	**27.95**	**7**	LR	LR			06 17 49.4	
	comp=Z,43nm,18.1s,baz=190,slow=39								
WRA	**Warramunga Arr**	**31.26**	**160**	P	**P**			**06 05 49.0**	**-0.7**
	0.8nm,0.9s,baz=342,slow=8.9,SNR=4.9								
WRA				PcP	**PcP**			**06 08 42.4**	**-1.8**
	0.4nm,0.8s,baz=337,slow=3.1,SNR=6.2								
WRA				LR	LR			06 20 07.6	
	comp=Z,52nm,21.2s,baz=340,slow=39								
ASAR	**Alice Springs**	**34.62**	**163**	P	**P**			**06 06 18.2**	**-1.0**
	1.8nm,0.8s,baz=335,slow=6.7,SNR=24								
ASAR				PcP	**PcP**			**06 08 51.8**	**-1.7**
	0.9nm,0.8s,baz=348,slow=2.0,SNR=6.5								
CTA	**Charters Tower**	**37.03**	**143**	P	**P**			**06 06 41.0**	**+1.1**
	3.9nm,1.0s,baz=349,slow=7.4								
KLR	**Kul'dur**	**40.03**	**8**	P	**P**			**06 07 04.4**	**-0.3**
	4.4nm,0.8s,baz=247,slow=8.4,SNR=6.4								
SONM	**Songino Array**	**40.73**	**342**	P	**P**			**06 07 11.4**	**+0.7**
	1.3nm,1.1s,baz=144,slow=5.2,SNR=4.8								
SONM				LR	LR			06 25 09.7	
	comp=Z,103nm,18.5s,baz=176,slow=38								
STKA	**Stephens Creek**	**44.75**	**158**	P	**P**			**06 07 43.4**	**+0.1**
	2.7nm,0.8s,baz=321,slow=8.0,SNR=5.0								
STKA				LR	LR			06 27 08.2	
	comp=Z,42nm,19.5s,baz=23,slow=37								
MKAR	**Makanchi Array**	**50.95**	**324**	P	**P**			**06 08 31.3**	**+0.1**
	2.8nm,0.8s,baz=123,slow=8.8,SNR=14								
MKAR				LR	LR			06 31 35.3	
	comp=Z,122nm,18.5s,baz=116,slow=38								
ZALV	**Zalesovo Beam**	**53.92**	**333**	LR	LR			06 33 23.3	
	comp=Z,77nm,19.1s,baz=102,slow=38								
GEYT	**Alibeck**	**64.81**	**307**	P	**P**			**06 10 09.6**	**+0.7**
	3.1nm,1.1s,baz=35,slow=3.5,SNR=3.8								
ILAR	**Eielson Array**	**81.13**	**26**	P	**P**			**06 11 44.0**	**-1.0**
	0.9nm,0.7s,baz=265,slow=5.9,SNR=9.0								
BRTR	**Keskin Array B**	**83.87**	**309**	P	**P**			**06 11 59.5**	**-0.5**
	2.3nm,1.0s,baz=121,slow=5.0,SNR=4.5								
AKASG	**Malin Array Be**	**85.36**	**320**	P	**P**			**06 12 05.9**	**-1.1**
	0.3nm,0.3s,baz=68,slow=4.3,SNR=6.8								
VNDA	**Vanda**	**89.67**	**172**	P	**P**			**06 12 27.6**	**+0.5**
	1.6nm,1.0s,baz=304,slow=4.8,SNR=3.6								
PPT	**Papeete**	**89.89**	**108**	LR	LR			06 43 40.8	
	comp=Z,19nm,20.9s,baz=192,slow=29								
NOA	**NORSAR Array B**	**92.12**	**333**	LR	LR			06 55 56.7	
	comp=Z,44nm,21.0s,baz=75,slow=37								
YKA	**Yellowknife Ar**	**95.37**	**23**	P	**P**			**06 12 53.0**	**-0.9**
	1.4nm,0.9s,baz=298,slow=4.7,SNR=9.0								
TORD	**Torodi Ar. Bea**	**118.03**	**290**	PKP	**PKPdf**			**06 18 16.2**	**-1.4**
	1.1nm,0.9s,baz=74,slow=1.5,SNR=4.7								

ISCJB ***12*** *06:02:49.1±0.2, 47.°05N±0.°01×9.°44E±0.°02, h8km±2km, Error ellipse: s-maj=2.1km s-min=1.8km az=12.9*
ZUR ***12*** *06:02:49.5, 47.°06N×9.°49E, h6km±1km, MLh2.0/27, Error ellipse: s-maj=2.7km s-min=0.5km az=179.0*
LDG ***12*** *06:02:49.6±0.1, 47.°05N×9.°48E, h7km, Md2.3/2, Ml2.3/13, Error ellipse: s-maj=2.0km s-min=1.5km az=88.0*
VIE ***12*** *06:02:49.5±0.3, 47.°06N×9.°46E, h6km, mb1.7/3, ml2.6/6, Error ellipse: s-maj=2.1km s-min=1.3km az=102.0 1 km ENE of Sargans*
BGR ***12*** *06:02:50.4±0.4, 47.°05N×9.°47E, h10km, ML2.0/13, Error ellipse: s-maj=4.4km s-min=1.1km az=6.0*
ROM ***12*** *06:02:50.9±0.3, 46.°98N±0.°02×9.°46E±0.°02, h10km, ML1.9/7, Error ellipse: s-maj=2.5km s-min=1.3km az=357.0*
STR ***12*** *06:02:51.3±1.1, 47.°N±4.°×±.°, h8km±6km, MLv2.0/4*
ISC 12 06:02:49.3±0.8, 47.°06N±0.°01×9.°42E±0.°01, h10km±5km, n88, σ0s 85/142, 8C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SBUB	**Buchserberg Ma**	**0.09**	**6**	⇓Pg		**Pg**		**06 02 51.8**	**-0.1**
SBUB				Sg		**Sg**		**06 02 53.3**	**-0.4**
SBUA2	**Buchs, Altendo**	**0.11**	**18**	⇑Pg		**Pg**		**06 02 51.8**	**-0.2**
SBUA2				Sg		**Sg**		**06 02 53.4**	**-0.6**
SBUH	**Buchs, Hochsch**	**0.12**	**17**	⇑Pg		**Pg**		**06 02 52.1**	**-0.1**
SBUH				Sg		**Sg**		**06 02 54.2**	**-0.1**
SCUG	**Chur Gewerbesc**	**0.21**	**160**	Pg		**Pg**		**06 02 54.4**	**+0.7**
LIENZ	**Kamor/St.Gall**	**0.24**	**12**	Pg		**Pg**		**06 02 54.1**	**-0.2**
LIENZ				Sg		**Sg**		**06 02 58.0**	**+0.2**
SGT04	**Schlatt-Haslen**	**0.30**	**351**	Pg		**Pg**		**06 02 56.0**	**+0.7**
SGT04				Sg		**Sg**		**06 03 00.7**	**+1.3**
PANIX	**Pigniu (Panix)**	**0.31**	**223**	⇑Pg		**Pg**		**06 02 56.4**	**+0.8**
PANIX				Sg		**Sg**		**06 03 01.3**	**+1.6**
SLTM2	**Linthal, Matt**	**0.32**	**245**	Pg		**Pb**		**06 02 56.8**	**-0.3**
SGT03	**Degersheim**	**0.34**	**334**	Pg		**Pb**		**06 02 57.4**	**-0.3**
SGT03				Sg		**Sb**		**06 03 02.9**	**-0.3**
SGT05	**Eggersriet**	**0.39**	**4**	Pg		**Pg**		**06 02 57.7**	**+0.7**
DAVA	**Damuels**	**0.39**	**53**	⇑Pg		**Pg**		**06 02 56.3**	**-0.8**
DAVA	**Damuels**	**0.39**	**53**	*e*Pg		**Pg**		**06 02 56.4**	**-0.7**
DAVA				*e*Sg		**Sg**		**06 03 01.7**	**-0.6**
DAVA	**Damuels**	**0.39**	**53**	*e*Pg		**Pg**		**06 02 56.4**	**-0.7**
	21nm,0.0s								
DAVA				*e*Sg		**Sg**		**06 03 01.7**	**-0.6**
	67nm,0.2s								
DAVOX	**Davos/Dischmat**	**0.42**	**131**	P		**Pg**		**06 02 57.3**	**-0.2**
DAVOX				S		**Sg**		**06 03 03.1**	**0.0**
DAVOX				AML	AML				
	comp=E,108μm,0.3s								
DAVOX				AML	AML				
	comp=N,132μm,0.6s								
SGT02	**Zihlschlacht**	**0.47**	**346**	Sg		**Sb**		**06 03 06.5**	**-0.4**
WILA	**Wila**	**0.50**	**316**	⇓Pg		**Pb**		**06 03 00.4**	**+0.1**
WILA				Sg		**Sb**		**06 03 08.1**	**+0.4**
WILA	**Wila**	**0.50**	**316**	*e*Pg		**Pb**		**06 03 00.4**	**+0.1**
WILA				*e*Sg		**Sb**		**06 03 08.1**	**+0.4**
MUO	**Muotathal**	**0.54**	**261**	Pg		**Pb**		**06 03 01.1**	**0.0**
WEIN	**Weingarten**	**0.56**	**328**	Pg		**Pb**		**06 03 01.3**	**+0.1**
WEIN				Sg		**Sb**		**06 03 09.6**	**+0.3**
VDL	**Val di Lei**	**0.57**	**178**	⇑Pg		**Pg**		**06 03 01.0**	**+0.5**
VDL				Sg		**Sg**		**06 03 08.6**	**+0.6**
TUE	**Stuetta**	**0.59**	**185**	P		**Pg**		**06 03 01.1**	**+0.4**
TUE				S		**Sg**		**06 03 09.0**	**+0.6**
NALPS	**Val Nalps**	**0.65**	**225**	⇑Pg		**Pb**		**06 03 03.0**	**0.0**
ZUR	**Degenried**	**0.65**	**299**	⇓Pg		**Pb**		**06 03 03.3**	**+0.5**
ZUR				Sg		**Sb**		**06 03 13.0**	**+1.0**
STIEG	**Stiegenhof Hun**	**0.68**	**311**	⇓Pg		**Pb**		**06 03 03.8**	**+0.4**
STIEG				PmP				06 03 06.4	
STIEG				Sg		**Sb**		**06 03 13.6**	**+0.7**
EWZT2	**Wettswil, ZR**	**0.69**	**294**	Pg		**Pb**		**06 03 04.1**	**+0.6**
BNALP	**Bannalp**	**0.71**	**255**	Pg		**Pb**		**06 03 04.1**	**+0.3**
BNALP	**Bannalp**	**0.71**	**255**	P		**Pb**		**06 03 04.2**	**+0.3**
BNALP				S		**Sb**		**06 03 14.0**	**+0.3**
BNALP				AML	AML				
	comp=N,63μm,0.3s								
BNALP				AML	AML				
	comp=E,109μm,0.3s								
FUORN	**Ofenpass-Fuorn**	**0.72**	**127**	P		**Pg**		**06 03 03.1**	**-0.2**
WALHA	**Wallhausen, DE**	**0.73**	**344**	*e*Pg		**Pb**		**06 03 04.8**	**+0.7**
WALHA				*e*Sg		**Sb**		**06 03 14.5**	**+0.3**
BERNI	**Berninapass**	**0.76**	**147**	P		**Pg**		**06 03 04.0**	**0.0**
BERNI				S		**Sg**		**06 03 14.0**	**-0.1**
UBR	**Ueberruh**	**0.78**	**37**	Pg		**Pg**		**06 03 04.5**	**+0.1**
UBR	**Ueberruh**	**0.78**	**37**	*e*Pg		**Pg**		**06 03 04.6**	**+0.2**
UBR				*e*Sg		**Sb**		**06 03 15.9**	**+0.1**
FUSIO	**Fusio**	**0.80**	**221**	⇑Pg		**Pb**		**06 03 05.6**	**+0.3**
FUSIO	**Fusio**	**0.80**	**221**	P		**Pb**		**06 03 05.6**	**+0.3**
FUSIO				S		**Sb**		**06 03 16.4**	**+0.2**
FUSIO				AML	AML				
	comp=E,40μm,1.2s								
FUSIO				AML	AML				
	comp=N,39μm,1.6s								
FUSIO				AML	AML				
	comp=E,40μm,1.2s								
FUSIO				AML	AML				
	comp=N,39μm,1.5s								
MOSI	**Grossmontoni**	**0.89**	**119**	P		**Pg**		**06 03 06.1**	**-0.4**
EMING	**Emmingen-Lipti**	**0.93**	**335**	*e*Pg		**Pb**		**06 03 08.2**	**+0.7**
EMING				*e*Sg		**Sb**		**06 03 20.4**	**+0.5**
SLE	**Schleitheim**	**0.95**	**319**	⇓Pg		**Pb**		**06 03 08.3**	**+0.4**
SLE				PmP				06 03 09.8	
SLE	**Schleitheim**	**0.95**	**319**	*e*Pg		**Pb**		**06 03 08.4**	**+0.4**
SLE				*e*Sg		**Sb**		**06 03 21.2**	**+0.6**
ACHB	**Acheberg**	**0.95**	**304**	Pg		**Pn**		**06 03 08.7**	**-0.2**
DAGMA	**Lutertal, Dagm**	**0.98**	**281**	Pg		**Pn**		**06 03 09.4**	**+0.3**
SULZ	**Cheisacher**	**1.01**	**298**	⇓Pg		**Pn**		**06 03 09.9**	**+0.3**
SULZ	**Cheisacher**	**1.01**	**298**	*e*Pg		**Pn**		**06 03 09.9**	**+0.3**
SULZ				*e*Sg		**Sn**		**06 03 24.0**	**+0.1**
RETA	**Reutte**	**1.01**	**64**	*e*Pg		**Pg**		**06 03 08.7**	**0.0**
	comp=N,1.0nm,0.1s								
RETA				*e*Sg		**Sg**		**06 03 21.9**	**+0.1**
	comp=N,8.6nm,0.3s								
METMA	**Mettma DE**	**1.03**	**310**	⇓Pg		**Pn**		**06 03 09.8**	**-0.1**
METMA	**Mettma DE**	**1.03**	**310**	*e*Pg		**Pn**		**06 03 09.9**	**-0.1**
METMA				*e*Sg		**Sn**		**06 03 23.9**	**-0.5**
FIESA	**Fiescheralp**	**1.09**	**236**	⇑Pg		**Pn**		**06 03 11.1**	**+0.1**
BERGE	**Lenzkirch (DE)**	**1.17**	**315**	Pg		**Pn**		**06 03 12.4**	**+0.5**
BERGE	**Lenzkirch (DE)**	**1.17**	**315**	*e*Pg		**Pn**		**06 03 13.0**	**+1.1**
BERGE				*e*Sg		**Sn**		**06 03 28.9**	**+0.9**
MOTA	**Moosalm**	**1.18**	**75**	*e*Pg		**Pb**		**06 03 11.9**	**-0.1**
	comp=N,0.4nm,0.1s,SNR=9.9								
MOTA				*e*Sg		**Sg**		**06 03 27.9**	**+0.5**
	comp=N,17nm,0.1s								
BALST	**Balsthal**	**1.21**	**284**	*e*Pg		**Pg**		**06 03 14.0**	**+1.5**
BALST				*e*Sg		**Sn**		**06 03 30.5**	**+1.6**
SQTA	**Sankt Quirin**	**1.23**	**82**	*e*Pg		**Pg**		**06 03 13.5**	**+0.5**
	comp=N,0.4nm,0.1s,SNR=6.3								
SQTA				*e*Sg		**Sb**		**06 03 29.1**	**+0.3**
	comp=N,5.4nm,0.3s								
VARE	**Varese**	**1.27**	**201**	P		**Pg**		**06 03 14.7**	**+1.0**
ABSI	**Aberstueckl**	**1.34**	**103**	P		**Pg**		**06 03 16.0**	**+0.9**
ABSI				AML	AML				
	comp=E,42μm,0.7s								
ABSI				AML	AML				
	comp=N,54μm,0.3s								
KIZ	**Kirchzarten**	**1.36**	**312**	Pg		**Pg**		**06 03 16.2**	**+0.8**
KIZ				Sg		**Sg**		**06 03 34.6**	**+1.6**
ROSI	**Rosskopf**	**1.37**	**95**	P		**Pg**		**06 03 16.1**	**+0.5**
ROSI				AML	AML				
	comp=N,78μm,0.3s								
ROSI				AML	AML				
	comp=E,105μm,0.4s								
KOSI	**Kohlern**	**1.47**	**113**	P		**Pg**		**06 03 18.4**	**+0.9**
BFO	**Black Forest**	**1.47**	**330**	*e*Pg		**Pg**		**06 03 18.0**	**+0.4**
BFO				*e*Sg		**Sg**		**06 03 37.5**	**+0.8**
WATA	**Walderalm**	**1.50**	**78**	*i* Pg		**Pg**		**06 03 18.3**	**+0.3**
	comp=E,0.9nm,0.1s								
WATA				*e*Sg		**Sg**		**06 03 38.5**	**+1.0**
	comp=E,7.1nm,0.1s								
WTTA	**Wattenberg**	**1.53**	**81**	*e*Pg		**Pg**		**06 03 18.7**	**+0.1**
WTTA				*e*Sg		**Sg**		**06 03 39.0**	**+0.6**
WTTA	**Wattenberg**	**1.53**	**81**	P		**Pb**		**06 03 18.5**	**+0.7**
WTTA	**Wattenberg**	**1.53**	**81**	*e*Pg		**Pb**		**06 03 18.5**	**+0.7**
	comp=E,1.9nm,0.2s								
WTTA				Sg		**Sg**		**06 03 39.0**	**+0.6**
	comp=E,6.3nm,0.2s								
SATI	**Passo dei Sala**	**1.59**	**223**	P		**Pg**		**06 03 19.9**	**0.0**
SATI				AML	AML				
	comp=E,27μm,1.6s								
SATI				AML	AML				
	comp=N,27μm,1.6s								
BRES	**Bressanone**	**1.63**	**102**	P		**Pg**		**06 03 20.8**	**+0.2**
FUR	**Furstenfeldbru**	**1.68**	**48**	*e*Pg		**Pb**		**06 03 20.9**	**+0.6**
FUR				*e*Sg		**Sg**		**06 03 42.8**	**-0.4**
RISI	**Rein**	**1.82**	**92**	P		**Pb**		**06 03 23.2**	**+0.3**
RISI				AML	AML				
	comp=N,124μm,0.4s								
RISI				AML	AML				
	comp=E,50μm,0.9s								
HINF	**Hinteralfeld**	**1.90**	**295**	*e*P		**Pn**		**06 03 22.8**	**+0.9**
HINF	**Hinteralfeld**	**1.90**	**295**	*e*Pg		**Pg**		**06 03 25.7**	**-0.1**
HINF				*e*Sn		**Sn**		**06 03 44.6**	**-1.3**
HINF				*e*Sg		**Sg**		**06 03 50.6**	**+0.2**
	comp=E,1.9nm,0.2s								
ECH	**Echery**	**1.92**	**308**	Pn		**Pn**		**06 03 22.8**	**+0.7**
ECH				Pg		**Pg**		**06 03 26.5**	**+0.4**
ECH				Sn		**Sn**		**06 03 47.4**	**+1.0**
ECH	**Echery**	**1.92**	**308**	*e*Pg		**Pg**		**06 03 26.8**	**+0.6**
ECH				*e*Sg		**Sg**		**06 03 51.8**	**+0.8**
CDF	**Champ du Feu**	**1.98**	**314**	*e*P		**Pn**		**06 03 23.8**	**+0.7**
CDF	**Champ du Feu**	**1.98**	**314**	*e*Pg		**Pg**		**06 03 27.1**	**-0.2**
CDF				*e*Sg		**Sg**		**06 03 53.5**	**+0.4**
	comp=E,8.1nm,0.5s								
HAU	**Haudompre**	**2.29**	**296**	*e*P		**Pn**		**06 03 28.3**	**+1.1**
HAU	**Haudompre**	**2.29**	**296**	*e*Pg		**Pg**		**06 03 32.3**	**-0.9**
HAU				*e*Sg		**Sg**		**06 04 02.5**	**-0.3**
	comp=E,3.0nm,0.3s								
CABF	**La Chapelle**	**2.33**	**260**	*e*Pg		**Pg**		**06 03 33.7**	**-0.3**
CABF				*e*Sg		**Sg**		**06 04 04.5**	**+0.3**
	comp=E,5.4nm,0.3s								
RSL	**Roselend**	**2.37**	**236**	Pg		**Pg**		**06 03 35.5**	**+0.8**
RJOB	**Jochberg**	**2.39**	**72**	*e*Sg		**Sg**		**06 04 05.6**	**-0.6**
LPL	**La Plagne**	**2.42**	**231**	*e*Pg		**Pg**		**06 03 35.5**	**-0.1**
LPL				*e*Sg		**Sg**		**06 04 07.2**	**+0.2**
	comp=E,0.8nm,0.3s								
LPG	**La Plagne**	**2.42**	**231**	*e*Pg		**Pg**		**06 03 35.9**	**+0.2**
LPG				*e*Sg		**Sg**		**06 04 07.4**	**+0.4**
	comp=E,1.7nm,0.4s								
PAGF	**Fort de Pagny**	**2.91**	**302**	*e*P		**Pn**		**06 03 37.4**	**+1.7**
PAGF	**Fort de Pagny**	**2.91**	**302**	*e*Pg		**Pg**		**06 03 43.8**	**-1.2**
PAGF				*e*Sn		**Sn**		**06 04 07.3**	**-3.4**
PAGF				*e*Sg		**Sg**		**06 04 21.9**	**-0.8**
	comp=E,22nm,0.5s								
MBDF	**Montbardon**	**2.97**	**219**	*e*Pg		**Pb**		**06 03 44.3**	**+1.8**
MBDF				*e*Sg		**Sg**		**06 04 22.5**	**-2.3**
	comp=E,0.5nm,0.2s								
WET	**Wettzell**	**3.12**	**47**	*e*Pn		**Pn**		**06 03 38.0**	**-0.7**
ORIF	**Oris-en-Rattie**	**3.27**	**230**	*e*Pg		**Pg**		**06 03 51.5**	**-0.3**
ORIF				*e*Sg		**Sg**		**06 04 31.7**	**-2.4**
	comp=E,3.0nm,0.6s								
GEC2	**GERESS Array S**	**3.39**	**57**	*e*Pn		**Pn**		**06 03 42.3**	**0.0**
LOR	**Lormes**	**3.80**	**275**	*e*Pn		**Pn**		**06 03 46.6**	**-1.3**
LOR	**Lormes**	**3.80**	**275**	*e*Pg		**Pg**		**06 04 01.1**	**-1.0**
	baz=95								
LOR				*e*Sn		**Sn**		**06 04 29.3**	**-3.4**
LOR				*e*Sg		**Sg**		**06 04 49.9**	**-1.4**
	comp=E,1.5nm,0.2s								
SMF	**Signal de Mont**	**3.85**	**266**	*e*Pn		**Pn**		**06 03 47.1**	**-1.5**
SMF	**Signal de Mont**	**3.85**	**266**	*e*Pg		**Pg**		**06 04 01.1**	**-1.9**
SMF				*e*Sg		**Sg**		**06 04 51.3**	**-1.6**
	comp=E,1.2nm,0.3s								

KRAR ***12*** *06:07:44.7±0.2, 53.°56N×87.°78E, M2.4, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
NNC 12 06:07:53.4±3.9, 53.°56N×88.°25E, h1km, 27km, mb3.7, mpv3.4, 9C-5D, Error ellipse: s-maj=32.4km s-min=14.8km az=69.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**2.08**	**282**	⇓Pn		**Pn**		06 08 28.9	-0.4
	1.2nm,0.5s								
ZAA0				⇓Sn		Sn		06 08 56.7	+0.9
	1.6nm,0.3s								
KURK	**Kurchatov**	**6.58**	**248**	⇑Pn		Pn		06 09 34.2	+3.0
	18nm,1.1s								
KURK				⇓Sn		Sn		06 10 47.0	+0.3
	1.5nm,0.6s								
KURK				⇑Lg		Lg		06 11 20.5	
	4.1nm,0.8s								
KURBB	**Kurchatov Arra**	**6.67**	**248**	⇓Pn		Pn		06 09 33.3	+0.8
	2.7nm,0.4s								
KURBB				⇑Sn		Sn		06 10 49.4	+0.3
	4.5nm,0.5s								
KURBB				⇑Lg		Lg		06 11 24.2

baz=352
H11S3 WAKE ISLAND Hy 36.64 173 T T 07 26 40.5
baz=352
H11S2 WAKE ISLAND Hy 36.64 173 T T 07 26 42.6
baz=352
YKA Yellowknife Ar 40.78 45 P **P** **06 48 34.0 +1.6**
0.3nm,0.6s,baz=300,slow=8.0,SNR=4.0
MKAR Makanchi Array 48.56 295 P **P** **06 49 33.1 -1.4**
0.2nm,0.6s,baz=52,slow=7.8,SNR=2.7
YBH Yreka Blue Hor 49.08 73 LR LR 07 06 16.7
comp=Z,20nm,21.9s,baz=340,slow=31
FINES FINESS Array B 58.86 337 P **P** **06 50 49.3 -0.1**
2.6nm,0.8s,baz=27,slow=6.5,SNR=3.9
AKASG Malin Array Be 67.63 330 P **P** **06 51 46.8 -0.8**
0.5nm,0.3s,baz=28,slow=6.8,SNR=3.8

IDC 12 06:59:05.2±56.0, 16°.24S×178°.36W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/45, mbtmp3.8/3, Error ellipse: s-maj=1022.0km s-min=165.6km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.49**	**239**	P		P	P	07 06 38.0	+0.3
	0.9nm,0.4s,baz=91,slow=8.3,SNR=4.1								
WRA	**Warramunga Arr**	**45.00**	**256**	P		P	P	07 07 22.6	-0.2
	0.1nm,0.3s,baz=94,slow=7.7,SNR=6.1								
ASAR	**Alice Springs**	**45.31**	**253**	P		P	P	07 07 25.0	-0.3
	1.7nm,0.6s,baz=86,slow=8.2,SNR=32								

*IDC **12** 07:03:31.5±1.4, 2°.45S×140°.20E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/34, mbtmp3.6/3, ML3.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.3/26, Error ellipse: s-maj=29.7km s-min=10.3km az=3.0*
*DJA **12** 07:03:32.1±1.9, 3°.S×36°.×14°.0E±°, h20km±5km, M3.1/3, MLv3.1/3*
*ISCJB **12** 07:03:33.3±0.8, 2°.5S±0°.1×140°.32E±0°.06, h28km±5km, mb3.5/2, Error ellipse: s-maj=21.3km s-min=9.1km az=172.7*
ISC 12 07:03:33.6±3.1, 2°.5S±0°.2×140°.3E±0°.2, h19km±10km, n11, σ0°.71/9, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.20**	**234**	P		P	**Pg**	**07 03 38.2**	**-0.5**
GENI				S			**Sg**	**07 03 43.0**	**+0.9**
JAY	**Jayapura**	**0.38**	**96**	Pg			**Pb**	**07 03 41.5**	**-0.4**
	102nm,0.3s,baz=257,slow=16,SNR=287								
JAY				Lg			Lg	07 03 48.2	
	261nm,0.3s,baz=144,slow=19,SNR=93								
JAY	**Jayapura**	**0.38**	**96**	P			**Pb**	**07 03 41.4**	**-0.4**
JAY				S			**Sb**	**07 03 47.9**	**+0.5**
SMPI	**Sarmi**	**1.69**	**287**	P			**Pn**	**07 04 01.6**	**-0.5**
SIJI	**Sorong**	**9.20**	**280**	LR			LR	07 09 32.5	
	comp=Z,84nm,19.8s,baz=152,slow=40								
WRA	**Warramunga Arr**	**18.32**	**198**	P			**P**	**07 07 46.7**	**-0.1**
	0.2nm,0.3s,baz=18,slow=12,SNR=9.3								
ASAR	**Alice Springs**	**21.96**	**196**	P			**P**	**07 08 26.4**	**-0.1**
	1.0nm,0.6s,baz=26,slow=9.9,SNR=18								
H11N1	**WAKE ISLAND Hy 34.16**		**49**	T			T	07 46 22.6	
	baz=234,slow=76,SNR=62								
H11N2	**WAKE ISLAND Hy 34.17**		**49**	T			T	07 46 15.8	
	baz=234,slow=76,SNR=66								
H11N3	**WAKE ISLAND Hy 34.17**		**49**	T			T	07 46 18.1	
	baz=234,slow=76,SNR=39								
MKAR	**Makanchi Array**	**70.60**	**322**	P			**P**	**07 14 48.5**	**+0.8**
	0.8nm,0.9s,baz=110,slow=7.8,SNR=5.4								

*IDC **12** 07:04:49.4±1.1, 37°.11N×144°.81E, h0km, mb3.4/4, mb1 3.8/7, mb1mx3.5/43, mbtmp3.6/7, ML3.5/3, Error ellipse: s-maj=33.2km s-min=22.0km az=103.0*
*ISCJB **12** 07:04:52.7±0.6, 37°.25N±0°.04×144°.54E±0°.05, h35km, mb3.4/4, Error ellipse: s-maj=5.6km s-min=5.2km az=39.7*
*JMA **12** 07:04:55.0±0.2, 37°.29N×144°.42E, h45km, M4.1*
ISC 12 07:04:53.9±1.0, 37°.29N±0°.06×144°.67E±0°.07, h35km, n35, σ2s0°.07/49, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.87**	**295**	P			**Pn**	**07 05 37.4**	**+0.3**
JIO				S			**Sn**	**07 06 08.9**	**-1.5**
JKMT	**Kesennumamotoy**	**2.94**	**302**	P			**Pn**	**07 05 38.3**	**+0.2**
JKMT				S			**Sn**	**07 06 10.5**	**-1.7**
OFUJ	**Ofunato**	**2.96**	**308**	P			**Pn**	**07 05 38.6**	**+0.2**
OFUJ				eS			**Sn**	**07 06 11.1**	**-1.6**
JMST	**Minamisoumatoc**	**3.04**	**279**	P			**Pn**	**07 05 38.9**	**-0.5**
JMST				eS			**Sn**	**07 06 11.9**	**-2.6**
JMK	**Ichinoseki**	**3.19**	**302**	P			**Pn**	**07 05 41.9**	**+0.5**
JMK				S			**Sn**	**07 06 17.0**	**-1.2**
JOU	**Okura**	**3.35**	**290**	P			**Pn**	**07 05 44.5**	**+0.8**
JOU				eS			**Sn**	**07 06 20.9**	**-1.3**
JFT	**Otama**	**3.46**	**275**	P			**Pn**	**07 05 45.7**	**+0.5**
JFT				eS			**Sn**	**07 06 23.3**	**-1.6**
JYK	**Kaneyama**	**3.77**	**297**	P			**Pn**	**07 05 50.3**	**+0.8**
JYK				eS			**Sn**	**07 06 31.7**	**-0.9**
JRG	**Rokugo**	**3.80**	**305**	P			**Pn**	**07 05 50.6**	**+0.6**
JRG				eS			**Sn**	**07 06 33.5**	**0.0**
BSO1	**Boso 1**	**3.99**	**230**	P			**Pn**	**07 05 51.1**	**-0.9**
BSO1				eS			**Sn**	**07 06 35.3**	**-1.9**
JAH	**Hinai**	**4.28**	**314**	P			**Pn**	**07 05 57.9**	**+1.4**
JTM	**Tenmabayashi**	**4.48**	**322**	P			**Pn**	**07 06 00.1**	**+0.9**
JTM				eS			**Sn**	**07 06 47.5**	**-2.5**
JRY	**Ryogami san**	**4.81**	**256**	P			**Pn**	**07 06 03.3**	**-0.5**
JRY				eS			**Sn**	**07 06 54.7**	**-3.6**
JOD2	**Odawara 2**	**4.94**	**247**	P			**Pn**	**07 06 05.8**	**+0.2**
JOD2				eS			**Sn**	**07 06 59.0**	**-2.6**
JOT	**Ohata**	**4.96**	**327**	P			**Pn**	**07 06 06.4**	**+0.6**
JOT				eS			**Sn**	**07 06 59.2**	**-2.6**
MJAR	**Matsushiro Arr**	**5.23**	**264**	Pn			**Pn**	**07 06 10.3**	**+0.7**
	0.6nm,0.3s,baz=85,slow=15,SNR=14								
MJAR				Sn			**Sn**	**07 07 08.1**	**-0.6**
	0.2nm,0.3s,baz=353,slow=15,SNR=5.7								
MAT	**Matsushiro**	**5.23**	**264**	P			**Pn**	**07 06 10.7**	**+1.1**
MAT				eS			**Sn**	**07 07 04.8**	**-3.9**
JKB	**Kayabe**	**5.38**	**330**	P			**Pn**	**07 06 12.8**	**+1.2**
JCH	**Churui**	**5.41**	**350**	P			**Pn**	**07 06 11.8**	**-0.2**
JCH				S			**Sn**	**07 07 09.7**	**-3.3**
JHJ2	**Mitsune**	**5.76**	**225**	eS			**Sn**	**07 07 15.9**	**-5.8**
NEM2	**Nemuro 2**	**6.12**	**7**	P			**Pn**	**07 06 19.7**	**-2.1**
NEM2				eS			**Sn**	**07 07 25.2**	**-5.3**
JTKR	**Abashiri--Toko**	**6.70**	**355**	P			**Pn**	**07 06 29.3**	**-0.4**
JTKR				eS			**Sn**	**07 07 40.4**	**-4.3**
ASAJ	**Asahikawa**	**7.00**	**348**	Pn			**Pn**	**07 06 34.7**	**+0.9**
	2.9nm,0.3s,baz=192,slow=15,SNR=7.0								
ASAJ				Sn			**Sn**	**07 07 50.3**	**-1.8**
	0.8nm,0.3s,baz=323,slow=20,SNR=2.6								
USRK	**Ussuriysk Ar.**	**11.83**	**310**	Pn			**Pn**	**07 07 42.5**	**+2.5**
	baz=121,slow=14,SNR=5.9								
KLR	**Kul'dur**	**15.17**	**326**	Pn			**P**	**07 08 31.8**	**+1.8**
	0.2nm,0.3s,baz=133,slow=9.6,SNR=6.1								
H11N2	**WAKE ISLAND Hy 26.12**		**126**	T			T	07 37 13.1	
	baz=317,slow=75,SNR=54								
H11N1	**WAKE ISLAND Hy 26.13**		**126**	T			T	07 37 20.6	
	baz=317,slow=75,SNR=29								
H11N3	**WAKE ISLAND Hy 26.14**		**126**	T			T	07 37 15.0	
	baz=317,slow=75,SNR=28								
H11S1	**WAKE ISLAND Hy 26.89**		**128**	T			T	07 38 10.0	
	baz=318,slow=76,SNR=15								
H11S3	**WAKE ISLAND Hy 26.89**		**128**	T			T	07 38 10.4	
	baz=318,slow=76,SNR=13								
H11S2	**WAKE ISLAND Hy 26.91**		**128**	T			T	07 38 12.1	
	baz=318,slow=76,SNR=12								
INK	**Inuvik**	**52.97**	**27**	P			**P**	**07 14 08.3**	**+2.0**
	0.4nm,0.7s,baz=300,slow=4.6,SNR=4.4								
WRA	**Warramunga Arr**	**57.75**	**192**	P			**P**	**07 14 41.0**	**-0.4**
	0.2nm,0.4s,baz=11,slow=7.5,SNR=1.8								
ASAR	**Alice Springs**	**61.47**	**191**	P			**P**	**07 15 06.6**	**-0.4**
	0.3nm,0.8s,baz=14,slow=8.3,SNR=3.7								
PDAR	**Pinedale Array**	**75.61**	**47**	P			**P**	**07 16 36.5**	**+1.0**
	0.3nm,0.7s,baz=318,slow=2.0,SNR=3.5								

*ISCJB **12** 07:09:37.9±1.2, 8°.63N±0°.05×84°.50W±0°.04, h15km±8km, Error ellipse: s-maj=9.8km s-min=4.7km az=28.6*
*UPA **12** 07:09:39.5±1.1, 8°.58N×84°.45W, h10km±22km, MW4.5*
*UCR **12** 07:09:40.2±1.7, 8°.76N×84°.45W, h13km±11km*
ISC 12 07:09:38.8±2.3, 8°.69N±0°.07×84°.45W±0°.07, h13km±11km, n28, σ0s68/45, 3C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EDDO	**Dominical**	**0.80**	**46**	*eP*			**Pg**	**07 09 54.6**	**+0.2**
EDPN	**Palmar Norte**	**1.02**	**75**	*eP*			**Pb**	**07 09 57.9**	**-0.4**
EDPN				*eS*			**Sg**	**07 10 11.6**	**-0.2**
EDLM	**Las Mercedes**	**1.03**	**56**	*eP*			**Pb**	**07 09 58.4**	**-0.2**
EDLM				*eS*			**Sg**	**07 10 12.7**	**+0.4**
LCR2	**La Lucha 2**	**1.13**	**23**	*eP*			Pb	07 09 59.4	-1.1
LCR2				*eS*			**Sb**	**07 10 14.6**	**-0.6**
SJS	**Escuela Geolog**	**1.30**	**18**	*eP*			**Pn**	**07 10 01.9**	**-0.9**
SJS				*eS*			**Sb**	**07 10 19.2**	**-0.6**
EDSV	**San Vito**	**1.47**	**85**	*eP*			**Pn**	**07 10 05.2**	**+0.1**
EDSV				*eS*			**Sn**	**07 10 25.7**	**+1.3**
CVTR	**Volcan Turrial**	**1.48**	**27**	*eP*			**Pn**	**07 10 05.3**	**-0.4**
JTS	**Las Juntas de**	**1.66**	**343**	*eP*			**Pn**	**07 10 06.7**	**-1.1**
LESP3	**La Esperanza,**	**1.67**	**100**	*eP*			**Pn**	**07 10 07.4**	**-0.4**
LESP3				*eS*			**Sn**	**07 10 28.9**	**-0.2**
BRU2	**Volcan**	**1.75**	**87**	*eP*			**Pn**	**07 10 08.8**	**-0.2**
BRU2				*eS*			**Sn**	**07 10 31.9**	**+0.7**
ARE1	**Arenal 1**	**1.77**	**352**	*eP*			**Pn**	**07 10 09.4**	**+0.1**
BCO2	**Palmira**	**1.90**	**89**	*eP*			**Pn**	**07 10 11.2**	**+0.1**
BCO2				*eS*			**Sn**	**07 10 36.7**	**+1.6**
BAGA3	**Bagala, Chiriq**	**1.92**	**97**	*eP*			**Pn**	**07 10 11.5**	**+0.3**
DVD	**David**	**2.00**	**97**	*eP*			**Pn**	**07 10 12.4**	**+0.1**
DVD				*eS*			**Sn**	**07 10 37.4**	**+0.2**
LOCO3	**Loma Colorada,**	**2.03**	**98**	*eP*			**Pn**	**07 10 12.9**	**+0.1**
LOCO3				*eS*			**Sn**	**07 10 38.7**	**+0.6**
PEDE3	**Pedregal, Chir**	**2.03**	**99**	*eP*			**Pn**	**07 10 12.7**	**-0.1**
PEDE3				*eS*			**Sn**	**07 10 38.0**	**-0.1**
LOMA3	**Las Lomas, Chi**	**2.06**	**97**	*eP*			**Pn**	**07 10 13.3**	**+0.1**
LOMA3				*eS*			**Sn**	**07 10 39.1**	**+0.5**
CUI	**Cuipilapa**	**2.07**	**340**	*eP*			**Pn**	**07 10 13.8**	**+0.3**
CNI2	**El Empalme, Bo**	**2.09**	**70**	*eP*			**Pn**	**07 10 13.9**	**+0.3**
CNI2				*eS*			**Sn**	**07 10 40.1**	**+0.7**
CHIR3	**Chiriqui UPA,**	**2.12**	**98**	*eP*			**Pn**	**07 10 15.0**	**+1.0**
CHIR3				*eS*			**Sn**	**07 10 41.3**	**+1.1**
BUEV	**Buena Vista**	**2.29**	**336**	*eP*			**Pn**	**07 10 16.9**	**+0.4**
CHGR2	**Aguacate**	**2.29**	**84**	*eP*			**Pn**	**07 10 16.4**	**0.0**
CHGR2				*eS*			**Sn**	**07 10 45.5**	**+0.9**
GB1A	**Borinquen Arri**	**2.31**	**336**	*eP*			**Pn**	**07 10 17.5**	**+0.8**
GMAL	**Guarumal, Vera**	**3.32**	**106**	*eP*			**Pn**	**07 10 31.1**	**+0.6**
GMAL				*eS*			**Sn**	**07 11 08.2**	**-1.6**
ACON	**Acoyapa**	**3.33**	**348**	*eP*			**Pn**	**07 10 31.4**	**+0.8**
ESPN	**Las Esperanzas**	**3.48**	**2**	*eP*			**Pn**	**07 10 32.9**	**+0.2**
CACAO	**El Cacao, Vera**	**3.80**	**110**	*eP*			**Pn**	**07 10 37.5**	**+0.4**
CACAO				*eS*			**Sn**	**07 11 20.6**	**-1.2**
AZU	**Azuero**	**4.23**	**102**	*eP*			**Pn**	**07 10 42.9**	**-0.1**
AZU				*eS*			**Sn**	**07 11 32.3**	**-0.1**

*ISCJB **12** 07:14:19.6±0.8, 36°.06N±0°.05×2°.10E±0°.06, h16km, Error ellipse: s-maj=7.9km s-min=5.5km az=137.6*
*MDD **12** 07:14:20.1±0.8, 35°.97N×2°.09E, h0km, mb3.7/8, Error ellipse: s-maj=9.8km s-min=5.7km az=161.0, PRXIMO*
*CRAAG **12** 07:14:20.2, 36°.60N×1°.17E, Ml2.9*
ISC 12 07:14:19.1±1.0, 35°.92N±0°.05×2°.08E±0°.04, h16km, n20, σ2s09/29, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.57**	**310**	P			**Pn**	**07 14 30.6**	**-2.1**
ECHA	**Ech Chlef**	**0.62**	**292**	P			**Pb**	**07 14 31.2**	**-0.3**
ECHF	**Ech Chlef**	**0.64**	**292**	P			**Pb**	**07 14 31.2**	**-0.7**
EMHD	**Djebel Mahouad**	**0.76**	**68**	P			**Pb**	**07 14 33.9**	**-0.2**
EMHD	**Djebel Mahouad**	**0.76**	**68**	P			**Pb**	**07 14 33.9**	**-0.2**
EANR	**'Ain N'Sour**	**0.79**	**272**	P			**Pg**	**07 14 35.0**	**+0.5**
EANR	**'Ain N'Sour**	**0.79**	**272**	P			**Pb**	**07 14 35.0**	**+0.5**
ETRT	**Tiaret**	**0.82**	**230**	P			**Pb**	**07 14 35.1**	**0.0**
ETRT	**Tiaret**	**0.82**	**230**	P			**Pb**	**07 14 35.1**	**0.0**
OKGL	**Djebel Kef Gue**	**1.17**	**276**	P			**Pg**	**07 14 43.0**	**+1.3**
	13nm,0.2s,SNR=7.9								
OKGL				S			**Sg**	**07 14 57.3**	**+0.4**
	34nm,0.2s,SNR=7.9								
EIBI	**Ibiza**	**3.15**	**350**	P			**Pn**	**07 15 09.0**	**+0.9**
	9.0nm,0.2s,SNR=25								
EIBI				S			**Sn**	**07 15 43.8**	**-1.6**
	8.3nm,0.3s								
ETOS	**Mallorca**	**3.88**	**8**	P			**Pn**	**07 15 18.4**	**+0.3**
	1.3nm,0.2s,SNR=6.5								
ETOS				S			**Sn**	**07 16 01.1**	**-2.3**
	0.2nm,0.1s								
ETOB	**Tobarra**	**3.97**	**314**	P			**Pn**	**07 15 21.3**	**+1.9**
	1.1nm,0.2s,SNR=7.9								
ETOB				S			**Sn**	**07 16 04.7**	**-0.8**
	0.2nm,0.1s,SNR=7.9								
JBK	**JBK**	**4.12**	**249**	P			**Pn**	**07 15 22.4**	**+0.8**
JBK				S			**Sg**	**07 16 31.9**	**+0.4**
EBER	**Berja**	**4.12**	**285**	P			**Pn**	**07 15 21.5**	**-0.1**
	1.4nm,0.2s,SNR=7.9								
SESP	**Santiago Espad**	**4.30**	**302**	P			**Pn**	**07 15 25.9**	**+1.9**
	1.0nm,0.2s,SNR=7.9								
SESP				S			**Sn**	**07 16 16.2**	**+2.4**
	0.4nm,0.1s,SNR=7.9								
EQUE	**Quentar**	**4.62**	**288**	P			**Pn**	**07 15 30.1**	**+1.7**
	0.9nm,0.3s,SNR=7.9								
FIGM	**Figuig**	**4.69**	**217**	P			**Pn**	**07 15 27.7**	**-1.5**
FIGM				S			**Sb**	**07 16 42.5**	**+5.3**
EMOS	**Mosqueruela**	**4.87**	**336**	P			**Pn**	**07 15 33.8**	**+2.0**
	1.9nm,0.3s,SNR=16								
EMOS				S			**Sn**	**07 16 25.9**	**-2.1**
	0.1nm,0.1s								
MDT	**Midelt**	**6.33**	**243**	P			**Pn**	**07 15 48.4**	**-3.5**
MDT				S			**Sb**	**07 17 19.2**	**-5.4**

IDC 12 07:35:41.8±3.7, 29°.13S×136°.59E, h0km, mb1 2.8/3, mb1mx2.8/38, mbtmp2.6/3, ML2.7/3, Error ellipse: s-maj=79.4km s-min=20.1km az=52.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**5.11**	**124**	Pn			Pn	07 36 59.5	-0.2
	0.2nm,0.3s,baz=299,slow=14,SNR=3.5								
STKA				Sn			Sn	07 38 01.3	+1.9
	0.6nm,0.3s,baz=345,slow=10,SNR=6.5								
STKA				Lg			Lg	07 38 28.3	
	0.2nm,0.3s,baz=74,slow=6.6,SNR=1.9								
ASAR	**Alice Springs**	**5.95**	**335**	Pn			Pn	07 37 11.8	+0.5
	0.1nm,0.3s,baz=168,slow=9.5,SNR=5.0								
ASAR				Pg			Pb	07 37 30.5	+4.1
	0.1nm,0.3s,baz=169,slow=16,SNR=4.5								
ASAR				Sn			Sn	07 38 16.8	-3.3
	0.1nm,0.3s,baz=161,slow=22,SNR=4.8								
ASAR				Lg			Lg	07 38 51.7	
	0.1nm,0.3s,baz=158,slow=27,SNR=3.5								
WRA	**Warramunga Arr**	**9.37**	**347**	Pn			Pn	07 37 57.6	-0.6
	0.1nm,0.3s,baz=170,slow=14,SNR=4.0								
WRA				Sn			Sn	07 39 43.7	-0.6
	0.1nm,0.3s,baz=167,slow=22,SNR=6.1								

IDC 12 07:42:33.0±2.1, 23°.59S×174°.61W, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/28, mbtmp4.0/6, ML3.1/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/31, Error ellipse: s-maj=132.2km s-min=25.4km az=162.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.92**	**83**	Pn			Pn	07 45 51.8	+0.1
	0.9nm,0.3s,baz=284,slow=17,SNR=3.2								
RAR				Sn			Sn	07 48 13.6	-13
	0.7nm,0.3s,baz=336,slow=20,SNR=2.6								
RAR				LR			LR	07 50 30.7	
	comp=Z,50nm,20.6s,baz=270,slow=34								
DZM	**Mont Dzumac**	**17.54**	**271**	*e*LR			LR	07 50 39.7	
	comp=Z,130nm,22.2s								
DZM	**Mont Dzumac**	**17.54**	**271**	LR			LR	07 52 33.2	
	comp=Z,123nm,20.4s,baz=100,slow=34								
PAE	**Paea**	**24.13**	**81**	*e*T			T	08 12 55.0	
	7.8nm,0.3s								
PPT2	**Papeete2**	**24.16**	**80**	*e*LR			LR	07 53 43.7	
	comp=Z,112nm,27.2s								
PPT2	**Papeete2**	**24.16**	**80**	*e*T			T	08 13 11.0	
	3.9nm,0.3s								
PPT	**Papeete**	**24.17**	**80**	LR			LR	07 56 49.0	
	comp=Z,31nm,19.1s,baz=194,slow=35								
CTA	**Charters Tower**	**36.42**	**268**	P			P	07 49 39.7	0.0
	0.6nm,0.3s,baz=113,slow=9.0,SNR=5.8								
ASAR	**Alice Springs**	**46.95**	**259**	P			P	07 51 06.1	+0.1
	0.5nm,0.4s,baz=99,slow=7.1,SNR=15								
ASAR				LR			LR	08 10 26.6	
	comp=Z,74nm,18.0s,baz=126,slow=36								
WRA	**Warramunga Arr**	**47.36**	**264**	P			P	07 51 08.4	-0.8
	1.5nm,0.8s,baz=102,slow=8.1,SNR=14								

NVAR	**Mina Array Bea**	**81.17**	**41**	P			P	07 54 50.8	0.0
	0.5nm,0.8s,baz=224,slow=8.2,SNR=3.7								
CMAR	**Chiang Mai Arr**	**94.09**	**288**	P			P	07 55 54.8	+0.8
	0.7nm,0.3s,baz=126,slow=3.1,SNR=7.6								
AKASG	**Malin Array Be**	**147.22**	**332**	PKPbc			PKPdf	08 02 16.7	+0.9
	1.5nm,0.6s,baz=40,slow=4.3,SNR=7.0								
BRTR	**Keskin Array B**	**151.24**	**311**	PKPbc			PKPbc	08 02 28.8	0.0
	1.2nm,0.9s,baz=330,slow=5.5,SNR=3.6								

IDC 12 07:50:38.6±1.7, 6°.51S×154°.69E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.7/24, mbtmp3.6/5, MS2.9/1, Ms1 2.9/1, ms1mx2.4/33, Error ellipse: s-maj=82.9km s-min=25.1km az=130.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.00**	**248**	LR			LR	07 55 57.1	
	comp=Z,78nm,18.2s,baz=57,slow=40								
WRA	**Warramunga Arr**	**23.85**	**234**	P			P	07 55 54.3	+0.4
	1.4nm,0.7s,baz=59,slow=9.8,SNR=11								
WRA				PcP			PcP	07 59 37.2	-0.1
	0.6nm,0.5s,baz=59,slow=2.3,SNR=9.8								
ASAR	**Alice Springs**	**26.27**	**227**	P			P	07 56 15.9	-0.1
	0.7nm,0.8s,baz=60,slow=8.7,SNR=8.2								
H11S3	**WAKE ISLAND Hy 27.52**		**25**	T			T	08 24 54.9	
	baz=207,slow=74								
H11S2	**WAKE ISLAND Hy 27.52**		**25**	T			T	08 24 52.1	
	baz=207,slow=74,SNR=11								
H11S1	**WAKE ISLAND Hy 27.54**		**25**	T			T	08 24 48.6	
	baz=207								
FITZ	**Fitzroy Crossi**	**30.58**	**245**	P			P	07 56 54.2	-0.2
	0.6nm,0.7s,baz=83,slow=8.1,SNR=2.6								
MKAR	**Makanchi Array**	**82.85**	**319**	P			P	08 03 05.7	+0.6
	0.4nm,0.6s,baz=100,slow=4.3,SNR=3.8								
ILAR	**Eielson Array**	**83.04**	**22**	P			P	08 03 05.8	+0.1
	0.4nm,0.8s,baz=234,slow=6.2,SNR=3.4								
TORD	**Torodi Ar. Bea**	**152.61**	**286**	PKPbc			PKPbc	08 10 37.4	-1.0
	1.2nm,0.7s,baz=71,slow=2.2,SNR=6.8								

IDC 12 08:08:49.1±6.0, 8°.78S×120°.45E, h223km±57km, mb3.4/1, mb1 2.9/4, mb1mx2.7/29, mbtmp3.4/4, Error ellipse: s-maj=112.9km s-min=46.1km az=48.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.54**	**152**	P			Pn	08 11 15.0	0.0
	0.1nm,0.3s,baz=333,slow=12,SNR=4.1								
FITZ				S			S	08 13 14.4	+1.1
	0.2nm,0.3s,baz=286,slow=20,SNR=4.6								
WRA	**Warramunga Arr**	**17.43**	**131**	P			P	08 12 36.9	-0.4
	0.1nm,0.3s,baz=309,slow=11,SNR=7.9								
WRA				S			S	08 15 47.7	+0.6
	0.0nm,0.3s,baz=300,slow=20,SNR=2.8								
ASAR	**Alice Springs**	**19.62**	**141**	P			P	08 13 01.1	0.0
	0.1nm,0.3s,baz=321,slow=8.9,SNR=7.9								
STKA	**Stephens Creek**	**30.23**	**142**	P			P	08 14 39.4	+0.2
	0.8nm,0.4s,baz=311,slow=11,SNR=5.0								

*NNC **12** 08:18:25.9±8.1, 38°.19N×71°.64E, h222km±120km, mb2.3, mpv3.5, Error ellipse: s-maj=89.6km s-min=46.1km az=16.0*
*SOME **12** 08:18:25.2, 39°.02N×72°.25E, h0km*
*KRNET **12** 08:18:35.8±0.1, 39°.07N×71°.68E, mb3.2*
ISC 12 08:18:37.1±2.5, 39°.1N±0°.1×71°.76E±0°.05, h34km, n31, σ2s18/51, 21C-15D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.22**	**324**	*i*	*P*		**Pb**	**08 18 57.9**	**-1.9**
	baz=26								
BTK				*i*	*S*		**Sb**	**08 19 13.7**	**-1.6**
	baz=26								
ARSB	**Arslanbob**	**2.43**	**22**	*i*	*P*		**Pn**	**08 19 16.0**	**+1.4**
	baz=24								
ARSB				*i*	*S*		**Sn**	**08 19 46.1**	**+2.8**
	baz=24								
ARK	**Arkit**	**2.72**	**3**	*i*	*P*		**Pn**	**08 19 19.7**	**+1.1**
	baz=5.0		

SNR=6.5
TKM2 Tokmak 2 4.81 36 ⇓P Pn 08 19 49.0 +1.6
1.9nm,0.4s
TKM2 ⇓S Sb 08 20 58.0 -0.4
3.8nm,0.5s
KST Kastek 5.08 37 *e*P Pn 08 19 57.1 +6.1
0.9nm,0.2s
KST *e*S Sb 08 21 02.6 -3.3
6.3nm,0.4s
AB31 Akbulak array 13.23 324 ⇑P Pn 08 21 34.9 -7.5
0.3nm,0.5s,baz=134,slow=13,SNR=9.6
AB31 ⇑S Sn 08 24 06.2 -2.1
1.1nm,0.8s

*ISCJB **12** 08:34:58.5±0.4, 7°.92S±0°.06×108°.22E±0°.03, h101km±3km, mb4.1/12, Error ellipse: s-maj=11.1km s-min=3.4km az=17.7*
*NEIC **12** 08:34:59.2±2.4, 7°.8S±0°.1×108°.19E±0°.06, h98km±4km, mb4.3/16*
*DJA **12** 08:34:59.8±0.3, 8°.5S×10°8E±°, h67km±7km, M4.7/18, mb5.0/9, mB5.3/6, MLv4.5/18, Mw(mB)4.7/6*
*IDC **12** 08:35:01.6±0.8, 7°.59S×108°.21E, h121km±6km, mb3.6/9, mb1 3.7/10, mb1mx3.4/56, mbtmp4.0/10, MS2.6/3, Ms1 2.6/3, ms1mx2.4/28, Error ellipse: s-maj=36.0km s-min=12.2km az=45.0*
ISC 12 08:34:59.0±0.7, **7°.93S**×0°.07×**108°.20E**±0°.04, **h94**km±6km, **n71**, σ1°**46**/87, **mb4.2**/19, **Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**0.29**	**59**	P	**Pn**	**08 35 13.1**	**+0.3**
CISI	**Cisompet, Garu**	**0.53**	**315**	P	**Pn**	**08 35 14.7**	**+0.2**
CISI				S	**Sn**	**08 35 26.2**	**+0.2**
CISI	**Cisompet, Garu**	**0.53**	**315**		**Pn**	**08 35 14.8**	**+0.2**
CISI				Sn	**Sn**	**08 35 25.5**	**-0.6**
KPJI	**Karang Pucung**	**0.94**	**51**	P	**Pn**	**08 35 18.5**	**+0.2**
KPJI				S	**Sn**	**08 35 32.2**	**-0.6**
CNJI	**Cibinong**	**1.23**	**300**	P	**Pn**	**08 35 22.0**	**+0.4**
CNJI				S	**Sn**	**08 35 39.2**	**+0.5**
LEM	**Lembang**	**1.24**	**332**	P	**Pn**	**08 35 23.4**	**+1.4**
	110nm,0.3s,baz=78,slow=14,SNR=38						
LEM				S	**Sn**	**08 35 40.6**	**+1.4**
	160nm,0.3s,baz=102,slow=22,SNR=8.2						
LEM	**Lembang**	**1.24**	**332**	P	**Pn**	**08 35 22.8**	**+0.8**
LEM				S	**Sn**	**08 35 40.6**	**+1.4**
SKJI	**Sukabumi**	**1.87**	**299**	P	**Pn**	**08 35 31.0**	**+1.3**
SKJI				S	**Sn**	**08 35 53.2**	**+0.1**
DBJI	**Dramaga**	**1.99**	**314**	P	**Pn**	**08 35 32.3**	**+1.1**
DBJI				S	**Sn**	**08 35 57.0**	**+1.3**
YOGI	**Yogyakarta**	**2.08**	**87**	P	**Pn**	**08 35 32.7**	**+0.3**
YOGI				S	**Sn**	**08 35 57.8**	**-0.2**
UGM	**Wanagama**	**2.30**	**90**	P	**Pn**	**08 35 35.8**	**+0.4**
UGM				S	**Sn**	**08 36 03.0**	**-0.2**
UGM	**Wanagama**	**2.30**	**90**		**Pn**	**08 35 36.0**	**+0.6**
UGM				Sn	**Sn**	**08 36 01.6**	**-1.6**
SMRI	**Semarang**	**2.39**	**69**	P	**Pn**	**08 35 37.2**	**+0.7**
SMRI				S	**Sn**	**08 36 07.1**	**+1.8**
SMRI	**Semarang**	**2.39**	**69**		**Pn**	**08 35 37.6**	**+1.1**
SMRI				Sn	**Sn**	**08 36 04.8**	**-0.5**
WOJI	**Wonogiri, Jawa**	**2.70**	**88**	P	**Pn**	**08 35 41.2**	**+0.6**
WOJI				S	**Sn**	**08 36 12.0**	**-0.6**
CGJI	**Cibinong**	**2.81**	**298**	P	**Pn**	**08 35 42.2**	**+0.1**
PCJI	**Pacitan**	**2.96**	**95**	P	**Pn**	**08 35 44.9**	**+0.8**
NGJI	**Ngawi**	**3.28**	**80**	P	**Pn**	**08 35 49.6**	**+1.2**
PWJI	**Pagerwojo**	**3.57**	**92**	P	**Pn**	**08 35 53.9**	**+1.6**
GRJI	**Gresik**	**4.37**	**77**	P	**Pn**	**08 36 03.6**	**+0.5**
KASI	**Kota Agung**	**4.39**	**303**	P	**Pn**	**08 36 05.5**	**+2.1**
KLSI		**4.72**	**313**	P	**Pn**	**08 36 09.9**	**+2.0**
GMJI	**Gumukmas**	**5.21**	**94**	P	**Pn**	**08 36 15.1**	**+0.6**
	55nm,0.5s,0.3nm						
MDSI	**Maura Dua**	**5.26**	**310**	P	**Pn**	**08 36 14.2**	**-1.1**
JAGI	**Jajag, Banyuwa**	**5.92**	**96**	P	**Pn**	**08 36 26.8**	**+2.6**
JAGI	**Jajag, Banyuwa**	**5.92**	**96**		**Pn**	**08 36 25.8**	**+1.6**
JAGI				Sn	**Sn**	**08 37 30.5**	**-0.2**
MNAI	**Manna**	**6.31**	**304**	Pn	**Pn**	**08 36 29.1**	**-0.4**
MNAI				Sn	**Sn**	**08 37 35.8**	**-4.4**
IGBI	**Denpasar**	**6.93**	**98**	P	**Pn**	**08 36 37.4**	**-0.6**
	81nm,0.6s,3μm0.5nm						
SRBI	**Singaraja**	**6.95**	**92**	P	**Pn**	**08 36 39.9**	**+1.7**
	170nm,0.6s,3μm0.8nm						
TWSI	**Taliwang, Sumb**	**8.63**	**96**	P	**Pn**	**08 37 00.4**	**-0.7**
	46nm,0.7s,1μm						
PLAI	**Plampang**	**9.52**	**96**	P	**Pn**	**08 37 12.8**	**-0.5**
	106nm,0.7s,1μm						
PPSI	**Pulau Pagai**	**9.63**	**302**	P	**Pn**	**08 37 16.2**	**+1.4**
	131nm,0.9s						
KAPI	**Kappang**	**11.84**	**77**	LR	LR	08 42 37.4	
	comp=Z,30nm,20.9s,baz=158,slow=39						
SOEI	**Soe**	**15.98**	**98**		**Pn**	**08 38 37.1**	**-1.5**
PSA00	**Pilbara Seismi**	**17.61**	**142**		**P**	**08 38 56.9**	**-1.2**
PSA00				IAmb	IAmb	08 39 14.8	
	comp=Z,46nm,1.9s						
FITZ	**Fitzroy Crossi**	**19.75**	**122**	P	**P**	**08 39 23.5**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=290,slow=6.2,SNR=22						
FITZ				S	**S**	**08 42 56.5**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=344,slow=23,SNR=6.0						
FITZ				LR	LR	08 48 12.9	
	comp=Z,17nm,18.9s,baz=340,slow=40						
FITZ	**Fitzroy Crossi**	**19.75**	**122**	P	**P**	**08 39 23.4**	**+1.9**
KNRA	**Kununurra**	**21.54**	**113**	P	**P**	**08 39 40.5**	**-0.2**
KNRA				IAmb	IAmb	08 40 15.8	
	comp=Z,32nm,1.7s						
FAKI	**Fak Fak**	**24.45**	**80**	P	**P**	**08 40 12.1**	**+2.8**
FAKI				IAmb	IAmb	08 40 13.9	
	comp=Z,5.9nm,0.8s						
NWAO	**Narrogin (SRO)**	**26.24**	**163**	P	**P**	**08 40 25.9**	**+0.6**
NWAO	**Narrogin (SRO)**	**26.24**	**163**	P	**P**	**08 40 25.8**	**+0.4**
NWAO				IAmb	IAmb	08 40 34.2	
	comp=Z,39nm,1.6s						
WRA	**Warramunga Arr**	**27.99**	**118**	P	**P**	**08 40 42.4**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=292,slow=12,SNR=12						
WRA				LR	LR	08 52 37.9	
	comp=Z,9.4nm,18.6s,baz=205,slow=38						
WRAB	**Tennant Creek**	**27.99**	**118**	P	**P**	**08 40 42.7**	**+1.5**
WRAB				IAmb	IAmb	08 41 05.2	
	comp=Z,9.6nm,1.6s						
WB2	**Warramunga Arr**	**28.00**	**118**	P	**P**	**08 40 41.7**	**+0.4**
WR0	**Warramunga Arr**	**28.17**	**118**	P	**P**	**08 40 43.5**	**+0.7**
WR0				IAmb	IAmb	08 41 10.2	
	comp=Z,22nm,1.9s						
ASAR	**Alice Springs**	**29.18**	**125**	P	**P**	**08 40 53.9**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=302,slow=9.0,SNR=18						
COEN	**Coen**	**34.83**	**103**	P	**P**	**08 41 40.6**	**-0.7**
COEN				IAmb	IAmb	08 41 52.4	
	comp=Z,14nm,1.9s						
H08S2	**Diego Garcia H**	**35.37**	**268**	T	T	09 19 11.3	
	baz=93,slow=75,SNR=44						
H08S3	**Diego Garcia H**	**35.38**	**268**	T	T	09 19 12.1	
	baz=93,slow=75,SNR=31						
H08S1	**Diego Garcia H**	**35.39**	**268**	T	T	09 19 14.9	
	baz=93,slow=75,SNR=32						
CD2	**Chengdu**	**38.86**	**354**	P	**P**	**08 42 16.0**	**+0.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
STKA	**Stephens Creek**	**39.14**	**132**	P	**P**	**08 42 19.5**	**+1.9**
	comp=Z,1.5nm,0.5s,baz=304,slow=9.9,SNR=5.7						
STKA	**Stephens Creek**	**39.14**	**132**	P	**P**	**08 42 19.1**	**+1.5**
LZH	**Lanzhou**	**43.98**	**355**	*e*P	**P**	**08 42 57.6**	**+0.4**
LZH				pP	pP	08 43 19.5	-0.1
LZH				sP	sP	08 43 30.2	-0.1
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
HHC	**Hu-ho-hao-te**	**48.64**	**3**	*e*P	**P**	**08 43 36.8**	**+3.3**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HHC				AMB	AMB		
	comp=Z,9.0nm,5.6s						
WMQ	**Urumqi**	**54.76**	**342**	*e*P	**P**	**08 44 20.6**	**+1.6**
SONM	**Songino Array**	**55.55**	**359**	P	**P**	**08 44 22.1**	**-2.6**
	comp=Z,0.6nm,0.6s,baz=173,slow=7.3,SNR=4.5						
KSH	**Kashi**	**55.85**	**330**	P	**P**	**08 44 29.4**	**+2.4**
KSH				pP	pP	08 44 53.5	+3.2
KSH				ScP	**ScP**	**08 49 16.4**	**+0.9**
KSH				PcS	**PcS**	**08 49 26.2**	**+0.9**
KSH				S	**S**	**08 52 09.2**	**+1.8**
KSH				sS	sS	08 52 50.6	+3.6
KSH				ScS	**ScS**	**08 54 06.9**	**-0.6**
KSH				pmax	pmax		
	comp=Z,590nm,4.9s						
KSH				LR	LR		
	comp=N,530nm,5.4s						
KSH				LR	LR		
	comp=E,670nm,5.2s						
KSH				LR	LR		
	comp=Z,420nm,5.3s						
WSAR	**Wadi Sarin**	**57.51**	**304**	P	**P**	**08 44 38.0**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=191,slow=5.2,SNR=4.3						
MK31	**Makanchi Array**	**59.17**	**340**	P	**P**	**08 44 48.9**	**-1.1**
MK31				IAmb	IAmb	08 46 39.5	
	comp=Z,3.7nm,1.6s						
MKAR	**Makanchi Array**	**59.17**	**340**	P	**P**	**08 44 46.8**	**-3.2**
	comp=Z,0.6nm,0.6s,baz=144,slow=7.8,SNR=8.2						
ZALV	**Zalesovo Beam**	**64.73**	**345**	P	**P**	**08 45 25.0**	**-2.1**
	comp=Z,0.8nm,0.4s,baz=159,slow=8.5,SNR=2.8						
ABKAR	**Akbulak array**	**70.82**	**329**	P	**P**	**08 46 02.6**	**-2.9**
BOSA	**Boshof**	**80.08**	**242**	P	**P**	**08 46 59.2**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=92,slow=4.3,SNR=3.3						
BOSA	**Boshof**	**80.08**	**242**	P	**P**	**08 46 59.9**	**+0.8**
QSPA	**South Pole Qui**	**82.06**	**180**	P	**P**	**08 47 10.1**	**+1.2**
QSPA				IAmb	IAmb	08 48 12.7	
	comp=Z,11nm,1.8s						
BRTR	**Keskin Array B**	**83.33**	**312**	P	**P**	**08 47 14.3**	**-1.7**
	comp=Z,2.1nm,0.9s,baz=101,slow=6.4,SNR=5.7						
TXAR	**Lajitas Array**	**143.27**	**50**	PKP	PKPbc	08 54 21.2	+0.8
	comp=Z,0.2nm,0.4s,baz=210,slow=1.3,SNR=4.6						
JCT	**Junction City**	**145.51**	**46**		**PKPdf**	**08 54 27.0**	**+0.1**
WVT	**Waverly**	**148.35**	**25**	PKPbc	**PKPbc**	**08 54 33.9**	**-1.0**
V52A	**Sevierville**	**150.20**	**20**	PKPbc	**PKPbc**	**08 54 39.1**	**-0.5**

*SOME **12** 09:17:42.6, 40°.37N×72°.97E, h0km*
*KRNET **12** 09:17:45.3±0.1, 40°.30N×72°.93E, h29km, mb2.5*
*NNC **12** 09:17:49.6±4.4, 40°.59N×73°.37E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=42.6km s-min=18.6km az=155.0*
ISC 12 09:17:42.4±1.5, **40°.32N**±0°.06×**73°.02E**±0°.04, **h7**km±12km, **n17**, σ1°**37**/31, **17C-12D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**1.01**	**359**	⇑*e*P	**Pn**	**09 18 04.3**	**+1.1**
	baz=2.0						
ARSB				⇑*i*S	**Sn**	**09 18 18.5**	**+0.7**
	baz=2.0						
ARK	**Arkit**	**1.68**	**332**	⇓*i*P	**Pg**	**09 18 15.3**	**+0.6**
	baz=35						
ARK				⇓*i*S	**Sg**	**09 18 37.4**	**+0.9**
	baz=35						
BTK	**Batken**	**1.70**	**262**	⇓*i*P	**Pg**	**09 18 14.9**	**-0.2**
	baz=62						
BTK				⇓*i*S	**Sg**	**09 18 37.0**	**-0.2**
	baz=62						
ARLS	**Aral**	**1.83**	**32**	⇑*i*P	**Pg**	**09 18 18.6**	**+1.0**
	baz=34						
ARLS				⇑*i*S	**Sg**	**09 18 43.1**	**+1.7**
	baz=34						
AML	**Almayashu**	**1.89**	**15**	⇑*i*P	**Pg**	**09 18 18.9**	**+0.3**
	baz=17						
AML				⇑*i*S	**Sg**	**09 18 43.9**	**+0.8**
	baz=17						
UCH	**Uchtor**	**2.22**	**30**	⇓*i*P	**Pg**	**09 18 24.3**	**-0.7**
	baz=31						
UCH				⇓*i*S	**Sg**	**09 18 53.7**	**-0.1**
	baz=31						
EKS2	**Erkin-Say**	**2.41**	**13**	⇓*i*P	**Pb**	**09 18 26.1**	**-0.2**
	baz=15						
EKS2				⇓*i*S	**Sb**	**09 18 56.1**	**-0.2**
	baz=15						
MRKS	**Merke**	**2.43**	**4**	*e*P	**Pg**	**09 18 28.6**	**-0.5**
	1.8nm,0.1s						
MRKS				*e*S	**Sg**	**09 19 00.8**	**+0.2**
	10.0nm,0.2s						
KZA	**Kyzart**	**2.44**	**43**	⇑*i*P	**Pb**	**09 18 28.1**	**+1.2**
	baz=44						
KZA				⇑*i*S	**Sg**	**09 18 59.7**	**-1.1**
	baz=44						
NRN	**Naryn**	**2.52**	**63**	⇑*i*P	**Pb**	**09 18 28.0**	**-0.3**
	baz=63						
NRN				⇑*i*S	**Sb**	**09 18 59.1**	**-0.6**
	baz=63						
AAK	**Ala-Archa**	**2.57**	**25**	⇑*i*P	**Pb**	**09 18 29.0**	**0.0**
	baz=26						
AAK				⇑*i*S	**Sb**	**09 19 01.1**	**+0.1**
	baz=26						
AAK	**Ala-Archa**	**2.57**	**25**	Pg	**Pb**	**09 18 29.4**	**+0.3**
	1.7nm,0.7s						
AAK				⇑Lg	Lg	09 19 02.3	
	2.5nm,0.5s						
BOOM	**Boomskoye usch**	**3.09**	**44**	⇑*i*P	**Pb**	**09 18 37.0**	**-0.9**
	baz=45						
BOOM				⇑*i*S	**Sb**	**09 19 13.8**	**-2.1**
	baz=45						
USP	**Ospenovka**	**3.15**	**20**	⇓*i*P	**Pb**	**09 18 36.6**	**-2.2**
	baz=21						
USP				⇓*i*S	**Sb**	**09 19 14.3**	**-3.2**
	baz=21						
TKM2	**Tokmak 2**	**3.24**	**36**	⇑Pg	**Pb**	**09 18 41.7**	**+1.2**
	2.4nm,1.1s						
TKM2				⇓Lg	Lg	09 19 21.3	
	1.5nm,0.7s						
KK31	**Karatay Array**	**3.36**	**327**	⇑Pn	**Pb**	**09 18 43.2**	**+0.9**
	0.4nm,0.4s,baz=133,slow=14,SNR=4.7						
KK31				⇓Lg	Lg	09 19 32.0	
	1.3nm,0.5s,baz=139,slow=26,SNR=5.1						
BRLS	**Boroldoy**	**3.61**	**320**	*e*P	**Pb**	**09 18 47.9**	**+1.2**
	0.3nm,0.1s						
BRLS				*e*S	**Sg**	**09 19 34.5**	**-3.9**
	2.4nm,0.2s						

*ISK **12** 09:25:06.8, 38°.62N×26°.14E, h18km, ML2.7/17*
*ATH **12** 09:25:06.1, 38°.59N×26°.13E, h28km±2km, ML2.9/3, Error ellipse: s-maj=3.5km s-min=1.4km az=85.0*
*ISCJB **12** 09:25:07.2±0.4, 38°.60N±0°.03×26°.12E±0°.05, h21km±5km, Error ellipse: s-maj=6.8km s-min=4.2km az=6.7*
*THE **12** 09:25:07.5, 38°.61N×26°.05E, h14km±1km, ML2.7/4, Error ellipse: s-maj=2.8km s-min=0.8km az=268.0*
ISC 12 09:25:06.9±1.0, **38°.61N**±0°.02×**26°.12E**±0°.03, **h18**km±6km, **n34**, σ0°**54**/44, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOS	**Chios island**	**0.23**	**193**	P	**Pb**	**09 25 12.7**	**+0.2**
CHOS				S	**Sg**	**09 25 15.9**	**-0.1**
	2μm,0.3s						
CHOS	**Chios island**	**0.23**	**193**	P	**Pb**	**09 25 12.7**	**+0.2**
CHOS				S	**Sg**	**09 25 15.9**	**-0.1**
CHOS	**Chios island**	**0.23**	**193**	PG	**Pb**	**09 25 12.7**	**+0.2**
CESE	**eme**	**0.31**	**153**	PG	**Pg**	**09 25 13.4**	**-0.2**
KRBN	**Karaburun**	**0.34**	**93**	PG	**Pb**	**09 25 14.3**	**-0.1**
FOCM	**Foa**	**0.49**	**78**	PG	**Pb**	**09 25 16.8**	**-0.2**
FOCM				SG	**Sb**	**09 25 23.3**	**-0.5**
SIGR	**SIGRI**	**0.64**	**341**	P	**Pb**	**09 25 18.8**	**-0.7**
SIGR				S	**Sb**	**09 25 28.0**	**0.0**
	1μm,0.5s						
SIGR	**SIGRI**	**0.64**	**341**	P	**Pb**	**09 25 18.7**	**-0.7**
SIGR				S	**Sn**	**09 25 29.6**	**-1.1**
SIGR				AML	AML	09 25 31.4	
	comp=N,2952μm,0.4s						
SIGR				AML	AML	09 25 31.5	
	comp=E,2650μm,0.4s						
SIGR	**SIGRI**	**0.64**	**341**	PG	**Pg**	**09 25 19.7**	**+0.2**
PRK	**Paraskevi**	**0.65**	**10**	P	**Pg**	**09 25 20.2**	**+0.5**
PRK				S	**Sn**	**09 25 30.7**	**-0.3**
	comp=E,608nm,0.3s						
PRK	**Paraskevi**	**0.65**	**10**	P	**Pg**	**09 25 20.3**	**+0.7**
PRK				S	**Sn**	**09 25 29.7**	**-1.3**
PRK				AML	AML	09 25 32.5	
	comp=N,1409μm,0.4s						
PRK				AML	AML	09 25 32.9	
	comp=E,1005μm,0.3s						
BLCB	**Balcova**	**0.76**	**107**	PG	**Pg**	**09 25 21.9**	**+0.2**
DKL	**Dikili**	**0.77**	**53**	PG	**Pg**	**09 25 22.1**	**+0.2**
SMG	**Samos**	**1.06**	**148**	P	**Pg**	**09 25 27.1**	**-0.4**
SMG				S	**Sg**	**09 25 42.0**	**+0.6**
	comp=E,698nm,0.3s						
SMG	**Samos**	**1.06**	**148**	P	**Pn**	**09 25 26.9**	**-0.1**
SMG				S	**Sb**	**09 25 40.1**	**-0.2**
SMG				AML	AML	09 25 43.5	
	comp=E,1587μm,0.3s						
SMG				AML	AML	09 25 44.0	
	comp=N,1220μm,0.5s						
EZN	**Ezine**	**1.22**	**7**	PN	**Pb**	**09 25 29.3**	**-0.2**
BOZC	**Bozcaada**	**1.23**	**358**	PN	**Pb**	**09 25 29.6**	**-0.1**
KARY	**Karystos**	**1.45**	**247**	P	**Pn**	**09 25 32.7**	**+0.5**
GADA	**Gvkgeada**	**1.59**	**354**	P	**Pn**	**09 25 34.6**	**+0.4**
GADA	**Gvkgeada**	**1.59**	**354**	PN	**Pn**	**09 25 34.7**	**+0.5**
APE	**Apeiranthos**	**1.61**	**197**	P	**Pn**	**09 25 34.8**	**+0.3**
APE				S	**Sn**	**09 25 55.1**	**+0.3**
APE	**Apeiranthos**	**1.61**	**197**	P	**Pn**	**09 25 34.8**	**+0.3**
BALB	**Balikesir**	**1.71**	**53**	PN	**Pn**	**09 25 36.3**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.81**	**9**	PN	**Pn**	**09 25 37.7**	**+0.5**
LPK	**Lapseki**	**1.83**	**15**	PN	**Pn**	**09 25 38.0**	**+0.5**
SMTH	**Samothraki Isl**	**1.91**	**346**	P	**Pn**	**09 25 39.1**	**+0.4**
SMTH	**Samothraki Isl**	**1.91**	**346**	P	**Pn**	**09 25 38.6**	**-0.1**
SERI	**Serifos**	**1.94**	**222**	P	**Pn**	**09 25 39.2**	**+0.1**
KRBG	**Karabiga-Canak**	**2.00**	**27**	PN	**Pn**	**09 25 40.5**	**+0.7**
ERIK	**Erikli-Kesan**	**2.08**	**8**	PN	**Pn**	**09 25 41.6**	**+0.7**
EDC	**Edincik**	**2.20**	**37**	PN	**Pn**	**09 25 43.3**	**+0.8**
ALN	**Alexandroupoli**	**2.29**	**359**	PN	**Pn**	**09 25 44.5**	**+0.8**
MRMT	**Marmara Adasi**	**2.29**	**29**	PN	**Pn**	**09 25 44.8**	**+0.9**
RDO	**Rodhopi**	**2.57**	**350**	PN	**Pn**	**09 25 48.6**	**+0.9**

*SJA **12** 09:30:55.4±0.7, 24°.77S×64°.97W, h33km, ML3.5, MW3.8*
*IDC **12** 09:30:57.7±3.6, 24°.80S×64°.53W, h35km±36km, mb3.7/1, mb1 3.6/5, mb1mx3.4/35, mbtmp3.5/5, ML3.4/4, Error ellipse: s-maj=29.4km s-min=25.9km az=61.0*
ISC 12 09:30:55.9±2.1, **24°.76S**±0°.04×**64°.72W**±0°.08, **h29**km±17km, **n13**, σ1°**96**/18, **Salta Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AZAP	**Zapla**	**0.62**	**329**	*e*P	**Pn**	**09 31 05.8**	**-3.2**
AZAP				*e*S	**Sb**	**09 31 17.0**	**0.0**
SLA	**San Lorenzo**	**0.71**	**273**	*e*P	**Pn**	**09 31 06.2**	**-4.0**
HJA	**Humahuaca**	**1.67**	**338**	*e*P	**Pn**	**09 31 24.2**	**+0.6**
HJA				*e*S	**Sn**	**09 31 45.8**	**+1.7**
HJA				IAML		09 31 51.4	
	comp=Z,672nm,1.1s						
FSA	**Cafayete**	**1.77**	**220**	*e*P	**Pn**	**09 31 24.3**	**-0.4**
FSA				*e*S	**Sn**	**09 31 45.5**	**-0.8**
AHML	**Horco Molle**	**2.09**	**195**	*e*P	**Pn**	**09 31 29.1**	**0.0**
AHML				*e*S	**Sn**	**09 31 55.1**	**+0.8**
AHML				IAML		09 32 01.9	
	comp=Z,345nm,0.5s						
YJA	**Yavi**	**2.67**	**344**	*e*P	**Pn**	**09 31 39.4**	**+1.9**
YJA				*e*S	**Sn**	**09 32 12.0**	**+3.0**
YJA				IAML		09 32 20.8	
	comp=Z,158nm,0.6s						
VCA	**Vinchina**	**5.04**	**217**	*e*P	**Pn**	**09 32 10.7**	**+0.9**
TCA	**Tanti**	**6.56**	**179**	*e*P	**Pn**	**09 32 28.4**	**-2.2**
CPUP	**Villa Florida**	**6.86**	**105**	Pn	**Pn**	**09 32 33.6**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=280,slow=10,SNR=12						
CPUP				Lg	Lg	09 34 31.0	
	comp=Z,3.7nm,0.3s,baz=360,slow=18,SNR=5.0						
CFA	**Coronel Fontan**	**7.50**	**204**	Pn	**Pn**	**09 32 44.6**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=3.4,slow=19,SNR=5.7						
LPAZ	**La Paz**	**9.01**	**339**	Pn	Pn	09 33 09.4	+4.7
	comp=Z,0.1nm,0.3s,baz=167,slow=14,SNR=2.6						
SIV	**San Ignacio**	**9.37**	**22**	Pn	**Pn**	**09 33 09.6**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=208,slow=13,SNR=17						
SIV				Sn	**Sn**	**09 34 52.0**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=261,slow=19,SNR=2.4						
TORD	**Torodi Ar. Bea**	**74.92**	**68**	P	**P**	**09 42 34.5**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=236,slow=5.7,SNR=4.0						

*IDC **12** 09:43:18.9±2.7, 43°.85N×103°.42W, h0km, mb1 3.5/3, mb1mx3.3/59, mbtmp3.2/3, ML3.2/3, Error ellipse: s-maj=58.8km s-min=9.6km az=149.0*
*ISCJB **12** 09:43:19.5±0.3, 43°.85N±0°.03×103°.32W±0°.03, h10km, Error ellipse: s-maj=3.9km s-min=3.5km az=6.6*
*ANF **12** 09:43:20.3±1.7, 43°.79N×103°.38W, h6km±13km, ML4.0/12, Error ellipse: s-maj=8.5km s-min=8.3km az=138.0*
*NEIC **12** 09:43:20.4±2.5, 43°.82N±0°.04×103°.32W±0°.04, h5km±2km, ML3.5/46*
ISC 12 09:43:21.0±0.7, **43°.82N**±0°.03×**103°.33W**±0°.03, **h10**km, **n55**, σ1°**58**/72, **South Dakota**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.59**	**301**	P	**Pg**	**09 43 31.1**	**-1.4**
	baz=124						
RSSD				S	**Sg**	**09 43 39.8**	**-0.6**
	baz=124						
RSSD	**Black Hills**	**0.59**	**301**		**Pg**	**09 43 31.5**	**-1.0**
RSSD				Sg	**Sg**	**09 43 39.0**	**-1.4**
K22A	**Casper**	**2.61**	**245**	P	**Pn**	**09 44 03.2**	**-0.2**
	baz=62						
K22A	**Casper**	**2.61**	**245**		**Pn**	**09 44 03.5**	**+0.1**
PHWY	**Pilot Hill**	**2.96**	**213**		**Pn**	**09 44 07.7**	**-0.8**
PHWY				Sn	**Sn**	**09 44 43.3**	**+0.1**
PHWY				IAML		09 44 49.8	
	191nm,0.5s						
PHWY				IAML		09 44 52.9	
	102nm,0.4s						
OGNE	**Ogallala**	**3.03**	**161**	P	**Pn**	**09 44 08.8**	**-0.3**
	baz=341						
OGNE				S	**Sn**	**09 44 46.9**	**+1.4**
	baz=341						
OGNE	**Ogallala**	**3.03**	**161**		**Pn**	**09 44 07.5**	**-1.6**
SUSD	**Miller**	**3.21**	**77**	P	**Pn**	**09 44 12.4**	**+0.8**
	baz=260						
SUSD				S	**Sn**	**09 44 49.2**	**-0.8**
	baz=260						
SUSD	**Miller**	**3.21**	**77**	Pn	**Pn**	**09 44 12.3**	**+0.8**
SUSD				Sn	**Sn**	**09 44 49.1**	**-0.8**
N23A	**Red Feather La**	**3.50**	**214**	P	**Pn**	**09 44 15.4**	**-0.4**
	baz=32						
N23A				S	**Sn**	**09 44 57.4**	**0.0**
	baz=32						
**

GCMT	**Greycliff**	**4.92**	**296**	Pn	**Pn**	**09 44 35.1**	**-0.1**
YNE	**Yellowstone No**	**4.93**	**286**		**Pn**	**09 44 35.2**	**-0.1**
YMP	**Mirror Lake Pl**	**4.99**	**283**	Pn	**Pn**	**09 44 35.5**	**-0.7**
Q24A	**Divide**	**5.04**	**196**	Pn	**Pn**	**09 44 40.3**	**+3.3**
Q24A				IAML		09 45 57.7	
	comp=N,37nm,0.4s						
O20A	**White River Ci**	**5.19**	**226**		**Pn**	**09 44 39.5**	**+0.6**
O20A				Sn	**Sb**	**09 45 50.1**	**-4.3**
O20A				IAML		09 46 11.3	
	comp=E,36nm,1.0s						
O20A				IAML		09 46 14.3	
	comp=N,36nm,0.7s						
FLWY	**Flagg Ranch**	**5.33**	**275**	Pn	**Pn**	**09 44 40.6**	**-0.2**
FLWY				IAML		09 46 17.8	
	comp=N,32nm,1.1s						
FLWY				IAML		09 46 35.7	
	comp=N,27nm,3.1s						
MOOW	**Moose Ponds**	**5.37**	**272**		**Pn**	**09 44 42.1**	**+0.7**
SNOW	**Snow King Moun**	**5.40**	**269**		**Pn**	**09 44 42.0**	**+0.2**
REDW	**Red Top Meadow**	**5.48**	**268**		**Pn**	**09 44 41.9**	**-1.1**
YHH	**Holmes Hill**	**5.48**	**283**	Pn	**Pn**	**09 44 44.2**	**+1.2**
TPAW	**Teton Pass**	**5.54**	**269**		**Pn**	**09 44 45.2**	**+1.5**
FXWY	**Fox Creek**	**5.58**	**271**		**Pn**	**09 44 43.9**	**-0.4**
RDMU	**Red Mountain**	**5.66**	**237**		**Pn**	**09 44 44.9**	**-0.5**
CBKS	**Cedar Bluff**	**5.69**	**150**		**Pn**	**09 44 45.0**	**-0.6**
YHL	**Hebgen Lake**	**5.72**	**283**		**Pn**	**09 44 48.3**	**+1.9**
SDCO	**Great Sand Dun**	**6.29**	**196**		**Pn**	**09 44 51.5**	**-2.5**
HWUT	**Hardware Ranch**	**6.45**	**253**	Pn	**Pn**	**09 44 56.3**	**+0.1**
S22A	**4UR Ranch, Cre**	**6.62**	**205**		**Pn**	**09 44 57.5**	**-1.1**
LRM	**Limekiln Ridge**	**6.79**	**290**	Pn	**Pn**	**09 45 01.3**	**+0.4**
PV02	**Paradox Valley**	**6.94**	**218**	Pn	**Pn**	**09 45 04.1**	**+1.2**
SPUT	**South Promonto**	**7.18**	**253**	Pn	**Pn**	**09 45 06.3**	**+0.1**
SPMN	**Marine on St.**	**7.66**	**76**	Pn	**Pn**	**09 45 12.7**	**+0.1**
Q16A	**Castle Valley**	**7.66**	**233**	Pn	**Pn**	**09 45 11.7**	**-1.2**
ULM	**Lac du Bonnet**	**8.20**	**36**	Pn	**Pn**	**09 45 16.9**	**-3.1**
	comp=N,0.8nm,0.3s,baz=216,slow=10,SNR=9.9						
ULM				Sn	Sn	09 46 43.3	-9.4
	comp=N,1.6nm,0.3s,baz=117,slow=18,SNR=4.6						
ULM				Lg	Lg	09 47 31.2	
	comp=N,2.3nm,0.3s,baz=120,slow=18,SNR=4.4						
YKA	**Yellowknife Ar**	**19.84**	**344**	P	**P**	**09 47 51.3**	**-0.3**
	comp=N,0.1nm,0.3s,baz=152,slow=12,SNR=4.3						

*ISCJB **12** 09:46:25.9±0.3,24.°79S±0.°03×64.°59W±0.°04, h33km, mb4.1/6, MS3.5/2, Error ellipse: s-maj=5.1km s-min=3.8km az=175.0*
*SJA **12** 09:46:25.4±2.4,24.°82S±0.°08×64.°78W±0.°10, h33km,3km*
*IDC **12** 09:46:28.4±3.4,24.°80S×64.°65W, h35km±26km, mb4.0/6, mb1 4.2/10,mb1mx3.9/43,mbtmp4.1/10,ML4.2/4,MS3.3/6, Ms1 3.3/6,ms1mx3.0/24,Error ellipse: s-maj=23.9km s-min=18.8km az=36.0*
*NEIC **12** 09:46:29.7±1.4,24.°70S±0.°05×64.°52W±0.°09, h49km±10km, mb4.8/14,Md4.2(SJA)*
*BJI **12** 09:46:30.0±0.0,24.°70S×64.°60W, h43km, mB5.2/1, Ms5.2/2,Ms7 4.9/1*

ISC 12 09:46:28.2±0.5, 24.°79S±0.°04×64.°67W±0.°05, h35km, n55, σ1§69/60, mb4.7/13, 1C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AZAP	**Zapla**	**0.67**	**327**	*e*P	**Pn**	**09 46 37.6**	**-3.8**
AZAP				*e*S	**Sn**	**09 46 49.5**	**-1.3**
AZAP				IAML		09 46 59.6	
	comp=Z,4μm,0.2s						
SLA	**San Lorenzo**	**0.76**	**275**	*e*P	Pn	09 46 37.3	-5.3
SLA				*e*S	**Sn**	**09 46 49.8**	**-3.2**
SLA				IAML		09 46 57.4	
	comp=Z,4μm,0.7s						
HJA	**Humahuaca**	**1.71**	**337**	*e*P	**Pn**	**09 46 56.2**	**+0.2**
HJA				*e*S	**Sn**	**09 47 17.9**	**+1.1**
HJA				IAML		09 47 23.8	
	comp=Z,3μm,0.4s						
FSA	**Cafayete**	**1.77**	**222**	*e*P	**Pn**	**09 46 54.9**	**-1.6**
FSA				*e*S	**Sn**	**09 47 16.9**	**-1.0**
FSA				IAML		09 47 19.1	
	comp=Z,998nm,0.4s						
AHML	**Horco Molle**	**2.08**	**197**	*e*P	**Pn**	**09 46 59.3**	**-1.3**
AHML				*e*S	**Sn**	**09 47 24.6**	**-0.7**
AHML				IAML		09 47 33.6	
	comp=Z,784nm,0.4s						
CYA	**Choya**	**3.77**	**195**	*e*P	**Pn**	**09 47 23.1**	**-0.9**
CYA				IAML		09 48 28.1	
	comp=Z,169nm,0.4s						
LVC	**Limon Verde**	**4.45**	**298**	Pn	**Pn**	**09 47 36.9**	**+3.4**
	comp=Z,0.7nm,0.3s,baz=103,slow=6.7,SNR=4.7						
LVC				LR	LR	09 49 46.6	
	comp=Z,410nm,20.8s,baz=116,slow=44						
LVC	**Limon Verde**	**4.45**	**298**		**Pn**	**09 47 37.3**	**+3.7**
GO02	**Mina Guanaco**	**4.48**	**264**	Pn	**Pn**	**09 47 36.9**	**+3.0**
VCA	**Vinchina**	**5.04**	**218**	*e*P	**Pn**	**09 47 41.1**	**-0.4**
VCA				IAML		09 49 03.7	
	comp=Z,145nm,0.4s						
PB03	**IPOC Station P**	**5.41**	**299**	*e*P	**Pn**	**09 47 45.8**	**-0.7**
PB04	**IPOC Station P**	**5.59**	**295**		**Pn**	**09 47 52.2**	**+3.2**
PB04	**IPOC Station P**	**5.59**	**295**	*e*P	Pn	09 47 45.0	-4.0
GO03	**Copiap**	**5.72**	**240**		Pn	09 47 56.0	+5.2
GO01	**Chusmiza**	**6.60**	**320**		**Pn**	**09 48 05.2**	**+2.0**
CPUP	**Villa Florida**	**6.81**	**105**	Pn	**Pn**	**09 48 05.1**	**-0.5**
	comp=Z,3.4nm,0.3s,baz=286,slow=10,SNR=36						
CPUP				Sn	**Sn**	**09 49 21.1**	**-0.8**
	comp=Z,7.6nm,0.3s,baz=351,slow=3.9,SNR=4.4						
CPUP				Lg	Lg	09 50 05.4	
	comp=Z,19nm,0.3s,baz=348,slow=13,SNR=4.6						
CPUP				LR	LR	09 50 55.8	
	comp=Z,213nm,21.5s,baz=304,slow=39						
CPUP	**Villa Florida**	**6.81**	**105**		**Pn**	**09 48 05.5**	**-0.1**
PB11	**IPOC Station P**	**6.81**	**316**		**Pn**	**09 48 07.1**	**+1.3**
MNMC	**Minye Minye**	**7.25**	**320**		**Pn**	**09 48 13.6**	**+1.6**
CFA	**Coronel Fontan**	**7.48**	**204**	Pn	**Pn**	**09 48 15.1**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=41,slow=19,SNR=10						
LPAZ	**La Paz**	**9.06**	**338**	Pn	**Pn**	**09 48 38.6**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=150,slow=8.3,SNR=12						
LPAZ				Sn	**Sn**	**09 50 19.0**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=257,slow=19,SNR=2.9						
LPAZ	**La Paz**	**9.06**	**338**		**Pn**	**09 48 38.4**	**+1.3**
SIV	**San Ignacio**	**9.38**	**22**	Pn	**Pn**	**09 48 40.9**	**-0.1**
	comp=Z,3.4nm,0.3s,baz=238,slow=9.4,SNR=39						
SIV				Sn	**Sn**	**09 50 24.3**	**-1.0**
	comp=Z,2.3nm,0.3s,baz=266,slow=19,SNR=2.1						
SIV				LR	LR	09 53 05.5	
	comp=Z,97nm,19.0s,baz=110,slow=42						
TRQA	**Tornquist**	**13.42**	**171**	Pn	**Pn**	**09 49 37.9**	**+1.7**
SAML	**Samuel**	**15.82**	**5**		**Pn**	**09 50 05.3**	**-3.0**
BDFB	**Brasilia**	**18.07**	**63**	LR	LR	09 58 35.9	
	comp=Z,176nm,18.6s,baz=240,slow=40						
SDV	**Santo Domingo**	**33.97**	**349**	P	**P**	**09 53 07.3**	**-1.5**
SDV				IAmb	IAmb	09 53 08.2	
	comp=Z,11nm,1.1s						
MLPR	**Magueyes Islan**	**42.56**	**357**	P	**P**	**09 54 21.1**	**+0.3**
HUMP	**Col San Antoni**	**42.69**	**358**	P	**P**	**09 54 21.9**	**+0.1**
HUMP				IAmb	IAmb	09 54 32.3	
	comp=Z,36nm,1.3s						
X48A	**Hartselle**	**62.63**	**339**	P	**P**	**09 56 49.0**	**-0.1**
X48A				IAmb	IAmb	09 56 49.5	
	comp=Z,14nm,1.2s						
WVT	**Waverly**	**64.42**	**339**	P	**P**	**09 57 00.0**	**-0.8**
WVT				IAmb	IAmb	09 57 00.6	
	comp=Z,11nm,1.0s						
QSPA	**South Pole Qui**	**65.42**	**180**	P	**P**	**09 57 07.9**	**+0.7**
QSPA				IAmb	IAmb	09 57 11.0	
	comp=Z,7.1nm,0.8s						
TXAR	**Lajitas Array**	**65.57**	**323**	P	**P**	**09 57 08.7**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=122,slow=4.4,SNR=3.5						
PBMO	**Poplar Bluff**	**65.88**	**338**	P	**P**	**09 57 09.6**	**-0.7**
DBIC	**Dimbokro**	**66.06**	**70**	P	**P**	**09 57 12.8**	**+0.8**
	comp=Z,7.7nm,1.1s,baz=225,slow=4.3,SNR=3.6						
DBIC				LR	LR	10 23 19.6	
	comp=Z,30nm,20.3s,baz=226,slow=34						
HHAR	**Hobbs**	**66.73**	**335**	P	**P**	**09 57 15.3**	**-0.5**
HHAR				IAmb	IAmb	09 57 19.4	
	comp=Z,11nm,1.1s						
CCM	**Cathedral Cave**	**67.31**	**337**	P	**P**	**09 57 18.9**	**-0.5**
CCM				IAmb	IAmb	09 57 19.5	
	comp=Z,7.3nm,0.9s						
SYO	**Syowa Base**	**72.05**	**158**	⇑*e*P	**P**	**09 57 47.4**	**-0.8**
SYO	**Syowa Base**	**72.05**	**158**	⇓*e*PcP	**PcP**	**09 58 04.2**	**-2.4**
ECSD	**EROS Data Cent**	**74.23**	**337**	P	**P**	**09 58 00.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**74.89**	**68**	P	**P**	**09 58 05.8**	**-0.1**
	comp=Z,4.5nm,0.8s,baz=252,slow=5.8,SNR=14						
TORD				LR	LR	10 28 30.1	
	comp=Z,24nm,20.5s,baz=300,slow=34						
PDAR	**Pinedale Array**	**78.92**	**328**	P	**P**	**09 58 29.6**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=129,slow=8.6,SNR=3.5						
GCMT	**Greycliff**	**81.27**	**330**	P	**P**	**09 58 41.2**	**+0.4**
ESDC	**Sonseca Array**	**85.52**	**42**	P	**P**	**09 59 03.3**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=223,slow=4.4,SNR=6.9						
YKA	**Yellowknife Ar**	**95.61**	**339**	P	**P**	**09 59 48.8**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=127,slow=4.4,SNR=12						
MODS	**Modra-Piesok**	**103.05**	**43**	*e*PDIFF	**Pdif**	**10 00 23.4**	**+0.2**
ASAR	**Alice Springs**	**128.57**	**202**	PKP	**PKPdf**	**10 05 31.9**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=118,slow=1.6,SNR=6.4						
WRA	**Warramunga Arr**	**131.84**	**204**	PKP	**PKPdf**	**10 05 38.3**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=159,slow=1.6,SNR=4.6						
KSH	**Kashi**	**143.89**	**56**	*e*PKP	**PKiKP**	**10 06 09.7**	**+6.1**
MKAR	**Makanchi Array**	**145.74**	**42**	PKPbc	**PKPdf**	**10 06 03.0**	**0.0**
	comp=Z,1.8nm,0.8s,baz=318,slow=3.3,SNR=11						
WMQ	**Urumqi**	**150.52**	**43**	*e*PKPbc	**PKPdf**	**10 06 10.7**	**-0.3**
HHC	**Hu-ho-hao-te**	**163.68**	**10**	*e*PKP	**PKPdf**	**10 06 26.8**	**-0.9**
LZH	**Lanzhou**	**165.02**	**39**	*e*PKP	**PKPdf**	**10 06 28.0**	**-1.1**
LZH				pPKP	pPKPdf	10 06 42.5	+1.6
LZH				sPKP		10 06 47.6	
LZH				PKPab	**PKPab**	**10 07 27.2**	**+1.4**
LZH				LR	LR		
	comp=Z,130nm,18.0s						
LZH				LR	LR		
	comp=Z,140nm,18.1s						
LZH				LR	LR		
	comp=Z,170nm,20.3s						
CD2	**Chengdu**	**168.09**	**57**	PKP	**PKPdf**	**10 06 30.5**	**-1.0**
NJ2	**Nanjing**	**172.13**	**338**	*e*PKP	**PKPdf**	**10 06 34.5**	**+0.9**

*IDC **12** 09:50:17.2±1.8,5.°31S×152.°99E, h0km, mb3.7/7, mb1 4.0/7,mb1mx3.7/30,mbtmp3.8/7,MS2.5/1,Ms1 2.5/1, ms1mx2.1/30, Error ellipse: s-maj=63.6km s-min=23.7km az=122.0*
*ISCJB **12** 09:50:21.7±1.5,5.°2S±0.°2×152.°9E±0.°3, h37km, mb3.6/7, Error ellipse: s-maj=47.7km s-min=11.4km az=40.7*

ISC 12 09:50:22.7±1.8,5.°3S±0.°3×153.°0E±0.°3, h37km, n9, σ1§14/10, mb3.5/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.12**	**235**	Pn	**Pn**	**09 52 06.1**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=90,slow=6.1,SNR=2.5						
PMG				Sn	**Sn**	**09 53 23.5**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=108,slow=19,SNR=4.5						
PMG				LR	LR	09 54 53.3	
	comp=Z,37nm,19.7s,baz=83,slow=39						
WRA	**Warramunga Arr**	**23.30**	**230**	P	**P**	**09 55 27.7**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=53,slow=9.9,SNR=6.5						
ASAR	**Alice Springs**	**25.95**	**223**	P	**P**	**09 55 50.9**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=63,slow=8.8,SNR=5.0						
FITZ	**Fitzroy Crossi**	**29.63**	**242**	P	**P**	**09 56 23.4**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=64,slow=9.2,SNR=4.6						
CMAR	**Chiang Mai Arr**	**58.29**	**295**	P	**P**	**10 00 14.4**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=116,slow=6.5,SNR=4.2						
MKAR	**Makanchi Array**	**80.84**	**319**	P	**P**	**10 02 33.8**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=99,slow=7.6,SNR=2.6						
ZALV	**Zalesovo Beam**	**81.69**	**326**	P	**P**	**10 02 36.0**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=109,slow=13,SNR=3.5						
ILAR	**Eielson Array**	**82.52**	**22**	P	**P**	**10 02 42.0**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=252,slow=6.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**150.68**	**287**	PKPbc	**PKPbc**	**10 10 11.8**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=57,slow=2.7,SNR=8.8						

ATH 12 10:04:43.5, 38.°66N×23.°55E, h0km±9km, ML0.0, Error ellipse: s-maj=9.7km s-min=1.6km az=40.0, Suspected Mining explosion., Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRKA	**Markates**	**0.05**	**33**	P	Pg	10 04 44.4	0.0
EREA	**Eretria**	**0.38**	**129**	P	Pg	10 04 50.5	-0.3
LKR	**Lokris**	**0.43**	**269**	P	Pg	10 04 51.7	-0.1
VIL2	**Platees**	**0.50**	**206**	P	Pg	10 04 54.1	+1.0
SKIA	**Skiathos**	**0.51**	**352**	P	Pg	10 04 53.4	+0.2
XOR	**Xorichti**	**0.76**	**338**	P	Pg	10 04 58.8	+0.8
LTK	**Loutraki**	**0.79**	**216**	P	Pg	10 04 58.4	-0.1
KARY	**Karystos**	**0.94**	**132**	P	Pb	10 05 02.3	-0.3
KALE	**Kalithea**	**1.14**	**257**	P	Pg	10 05 05.6	+0.3
DID	**Didima**	**1.18**	**192**	P	Pg	10 05 06.1	0.0
KLV	**Kalavryta, Ach**	**1.26**	**241**	P	Pg	10 05 07.9	+0.2

IDC 12 10:07:26.4±49.0, 21.°95S×176.°10W, h0km, mb4.3/3, mb1 4.4/3,mb1mx3.7/36,mbtmp4.3/3, Error ellipse: s-maj=903.1km s-min=158.7km az=85.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.79**	**246**	P	P	10 14 53.4	+0.3
	1.6nm,0.5s,baz=90,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**45.93**	**258**	P	P	10 15 51.0	-0.3
	3.3nm,0.8s,baz=94,slow=8.0,SNR=34						
WRA	**Warramunga Arr**	**46.17**	**263**	P	P	10 15 53.0	-0.3
	3.3nm,0.6s,baz=102,slow=8.4,SNR=36						

IDC 12 10:18:27.3±11.0, 6.°62S×154.°70E, h101km±76km, mb3.5/3, mb1 3.8/4,mb1mx3.4/24,mbtmp3.9/4,ML2.3/1,MS2.7/2, Ms1 2.7/2,ms1mx2.4/21, Error ellipse: s-maj=98.9km s-min=43.6km az=84.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.96**	**249**	P	Pn	10 20 20.0	-0.4
	2.3nm,0.3s,baz=65,slow=5.3,SNR=7.0						
PMG				LR	LR	10 23 41.1	
	comp=Z,45nm,19.0s,baz=92,slow=39						
WRA	**Warramunga Arr**	**23.79**	**234**	P	P	10 23 31.4	+0.4
	0.7nm,0.5s,baz=56,slow=9.6,SNR=14						
WRA				PcP	PcP	10 27 11.4	-0.7
	0.3nm,0.6s,baz=54,slow=2.0,SNR=4.8						
WRA				LR	LR	10 31 51.3	
	comp=Z,22nm,19.8s,baz=15,slow=34						
ASAR	**Alice Springs**	**26.20**	**227**	P	P	10 23 52.5	-0.3
	0.4nm,0.7s,baz=60,slow=8.4,SNR=6.3						
ASAR				PcP	PcP	10 27 16.8	-0.6
	0.4nm,1.1s,baz=53,slow=2.6,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**27.61**	**25**	T	T	10 52 36.5	
	baz=203,slow=76,SNR=8.9						
H11S2	**WAKE ISLAND Hy**	**27.62**	**25**	T	T	10 52 11.9	
	baz=203,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**27.63**	**25**	T	T	10 52 08.5	
	baz=203,slow=76,SNR=7.0						
CMAR	**Chiang Mai Arr**	**60.35**	**295**	P	P	10 28 26.5	+0.3
	0.9nm,0.3s,baz=128,slow=4.0,SNR=6.3						

DDA 12 10:21:05.9, 40.°47N×29.°27E, h7km±2km, ML1.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGD	**Bursa**	**0.21**	**194**	*i* P	Pg	10 21 11.0	+1.0
IGD				IAML		10 21 14.0	
	comp=E,19nm,0.2s						
IGD				*i* S	Sg	10 21 14.0	+1.2
DURS	**Dursunbey**	**1.06**	**216**	*i* P	Pn	10 21 28.4	+1.2
DURS				*i* S	Sn	10 21 43.6	+1.4

*IDC **12** 10:21:40.8±0.9,39.°67N×20.°65E, h0km, mb3.9/9, mb1 3.9/10,mb1mx3.7/34,mbtmp3.9/10,ML3.7/1,MS3.1/3, Ms1 3.1/3,ms1mx2.6/49,Error ellipse: s-maj=23.3km s-min=16.9km az=101.0*
*ISCJB **12** 10:21:43.4±0.4,39.°66N±0.°01×20.°44E±0.°02, h9km±3km, mb3.9/8,MS3.0/2, Error ellipse: s-maj=2.8km s-min=2.1km az=143.6*
*TIR **12** 10:21:43.6,39.°62N×20.°50E, h32km, Md3.9/9*
*ATH **12** 10:21:44.1,39.°64N×20.°54E, h20km±1km, ML3.6/4, Error ellipse: s-maj=1.5km s-min=0.8km az=347.0*
*ROM **12** 10:21:44.0,39.°64N×20.°55E, h1km, Mw3.7*
*BEO **12** 10:21:44.6±1.4,39.°45N×20.°30E, h41km±9km, ML3.4/13*
*PDG **12** 10:21:44.2±0.6,39.°65N×20.°52E, h14km±1km, ML3.7/8, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
*THE **12** 10:21:44.6,39.°64N×20.°55E, h0km±2km, ML3.4/13, Error ellipse: s-maj=2.3km s-min=0.7km az=312.0*

ISC 12 10:21:43.7±0.9, 39.°66N±0.°02×20.°47E±0.°02, h15km±6km, n168, σ1§47/236, mb3.9/8, 20C-13D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.29**	**89**	P	**Pg**	**10 21 49.8**	**-0.1**
JAN				S	**Sg**	**10 21 53.5**	**-0.6**
	43μm,0.4s						
JAN	**Janina**	**0.29**	**89**	P	**Pg**	**10 21 49.8**	**-0.1**
JAN				S	**Sg**	**10 21 53.9**	**-0.2**
JAN				AML	AML	10 21 55.2	
	comp=E,98416μm,0.3s						
JAN				AML	AML	10 21 55.5	
	comp=N,72052μm,0.5s						
KASA	**Kassiopi**	**0.42**	**283**	P	**Pb**	**10 21 54.0**	**+1.1**
KASA				S	**Sb**	**10 22 01.0**	**+1.9**
KASA				AML	AML	10 22 04.3	
	comp=E,9363μm,0.3s						
KASA				AML	AML	10 22 06.8	
	comp=N,9654μm,0.3s						
SRN	**Sarande**	**0.43**	**302**	P	**Pb**	**10 21 53.9**	**+1.0**
SRN				S	**Sn**	**10 22 01.6**	**-1.3**
	comp=N,3μm,0.4s						
SRN	**Sarande**	**0.43**	**302**	*i* PG	**Pb**	**10 21 53.9**	**+1.0**
SRN				*i* SG	**Sn**	**10 22 01.6**	**-1.3**
KEK	**Kerkira**	**0.52**	**277**	P	**Pb**	**10 21 55.2**	**+0.6**
KEK				S	**Sn**	**10 22 05.1**	**-0.2**
	comp=N,4μm,0.5s						
KEK	**Kerkira**	**0.52**	**277**	P	**Pb**	**10 21 55.4**	**+0.8**
KEK				S	**Sn**	**10 22 04.3**	**-0.9**
KEK				AML	AML	10 22 11.1	
	comp=N,6500μm,0.3s						
KEK				AML	AML	10 22 12.8	
	comp=E,9165μm,0.6s						
MEV	**Metsovon**	**0.60**	**77**	P	**Pg**	**10 21 55.0**	**-0.5**
TPE	**Tepelena**	**0.73**	**331**	P	**Pn**	**10 21 59.4**	**-0.1**
TPE	**Tepelena**	**0.73**	**331**	*i* PG	**Pn**	**10 21 59.6**	**+0.1**
TPE				*i* SG	**Sn**	**10 22 10.8**	**+0.3**
PENT	**Pentalofos**	**0.74**	**43**	P	**Pg**	**10 21 57.6**	**-0.6**
PENT				S	**Sb**	**10 22 08.5**	**0.0**
	comp=E,2μm,0.2s						
PENT	**Pentalofos**	**0.74**	**43**	P	**Pg**	**10 21 57.8**	**-0.4**
PENT				S	**Sb**	**10 22 08.8**	**+0.3**
KPRO	**Kipourio**	**0.75**	**66**	P	**Pg**	**10 21 57.5**	**-0.8**
KPRO				S	**Sb**	**10 22 08.6**	**0.0**
	comp=E,7μm,0.4s						
KPRO	**Kipourio**	**0.75**	**66**	P	**Pg**	**10 21 57.5**	**-0.8**
KPRO				S	**Sb**	**10 22 08.3**	**-0.3**
KPRO				AML	AML	10 22 10.3	
	comp=N,10512μm,0.4s						
KPRO				AML	AML	10 22 11.0	
	comp=E,17440μm,0.4s						
TSLK	**Tsoukalades, L**	**0.84**	**170**	P	**Pb**	**10 21 59.4**	**-0.6**
TSLK				S	**Sn**	**10 22 12.9**	**-0.2**
	comp=E,2μm,0.3s						
TSLK	**Tsoukalades, L**	**0.84**	**170**	P	**Pb**	**10 21 59.7**	**-0.3**
LKD2	**Lefkada island**	**0.88**	**170**	P	**Pb**	**10 22 00.0**	**-0.6**
LKD2	**Lefkada island**	**0.88**	**170**	*i* PG	**Pb**	**10 22 00.1**	**-0.6**
LKD2				*i* SG	**Sg**	**10 22 12.6**	**+0.4**
LKD2	**Lefkada island**	**0.88**	**170**	P	**Pb**	**10 22 00.0**	**-0.6**
NEST	**Nestorio**	**0.88**	**30**	P	**Pg**	**10 22 00.9**	**+0.1**
NEST	**Nestorio**	**0.88**	**30**	P	**Pb**	**10 22 00.8**	**-0.2**
MGNA	**Meganis**	**1.03**	**166**	P	**Pg**	**10 22 03.7**	**-0.1**
EVGI	**Lefkada island**	**1.04**	**172**	P	**Pb**	**10 22 03.0**	**-0.5**
EVGI				S	**Sn**	**10 22 18.7**	**+0.6**
	comp=E,902nm,0.4s						
EVGI	**Lefkada island**	**1.04**	**172**	P	**Pb**	**10 22 09.2**	**-0.5**
VLO	**Vlora**	**1.10**	**318**	*i* PG	**Pg**	**10 22 06.5**	**+1.5**
KZN	**Kozani**	**1.19**	**56**	P	**Pn**	**10 22 05.6**	**-0.3**
KZN	**Kozani**	**1.19**	**56**	P	**Pn**	**10 22 05.8**	**-0.2**
FSK	**Fiskardo**	**1.20**	**177**	P	**Pb**	**10 22 06.1**	**+0.1**
FSK	**Fiskardo**	**1.20**	**177**	P	**Pb**	**10 22 06.2**	**+0.2**
THL	**Klokotos Trika**	**1.20**	**94**	P	**Pn**	**10 22 04.9**	**-1.0**
THL				S	**Sg**	**10 22 22.0**	**-0.3**
	comp=E,2μm,0.7s						
THL	**Klokotos Trika**	**1.20**	**94**	P	**Pn**	**10 22 05.1**	**-0.7**
THL				S	**Sg**	**10 22 22.0**	**-0.3**
EVR	**Evrytania**	**1.27**	**125**	P	**Pn**	**10 22 06.7**	**-0.4**
EVR				S	**Sg**	**10 22 25.9**	**+1.1**
	comp=E,1μm,0.6s						
EVR	**Evrytania**	**1.27**	**125**	P	**Pn**	**10 22 07.0**	**0.0**
PVO	**Paravola**	**1.32**	**141**	P	**Pg**	**10 22 08.9**	**-0.2**
PVO				S	**Sg**	**10 22 27.3**	**+1.0**
	comp=E,2μm,0.6s						
PVO	**Paravola**	**1.32**	**141**	P	**Pg**	**10 22 08.9**	**-0.2**
FNA	**Florina**	**1.32**	**31**	P	**Pb**	**10 22 08.4**	**+0.1**
FNA				S	**Sg**	**10 22 27.8**	**+1.4**
	comp=E,3μm,0.6s						
FNA	**Florina**	**1.32**	**31**	*i* PN	**Pb**	**10 22 08.6**	**+0.3**
FNA				*i* SN	**Sg**	**10 22 27.8**	**+1.4**
FNA	**Florina**	**1.32**	**31**

CEME	**Cevo**	**3.12**	**338**	⇑*i*Pn	**Pn**	**10 22 33.4**	**+1.0**
CEME				*e*Sn	**Sb**	**10 23 13.5**	**-3.3**
SG1	**Sgolgore (BA)**	**3.13**	**293**	*e*Pn	**Pn**	**10 22 34.0**	**+1.4**
SG1				Sn	**Sg**	**10 23 27.2**	**+2.8**
HCY	**Herceg Novi**	**3.17**	**332**	*e*Pn	**Pn**	**10 22 33.2**	**+0.2**
HCY	**Herceg Novi**	**3.17**	**332**	⇑*i*Pn	**Pn**	**10 22 33.5**	**+0.5**
HCY				*e*Sn	**Sn**	**10 23 14.1**	**+3.6**
BOSS	**Bosilegrad**	**3.22**	**27**	*e*Pn	**Pn**	**10 22 36.0**	**+2.2**
BOSS				*e*Sn	**Sn**	**10 23 14.1**	**+2.2**
IVA	**Berane**	**3.24**	**352**	⇑*i*Pn	**Pn**	**10 22 36.6**	**+2.4**
IVA				*e*Sn	**Sn**	**10 23 15.8**	**+3.2**
KOME	**Kolasin**	**3.27**	**348**	⇑*i*Pn	**Pn**	**10 22 36.9**	**+2.3**
KOME				*e*Sn	**Sn**	**10 23 17.1**	**+3.8**
NKME	**Niksic**	**3.31**	**340**	⇑*i*Pn	**Pn**	**10 22 36.5**	**+1.4**
NKME				*e*Sn	**Sn**	**10 23 17.4**	**+3.2**
BARS	**Barje**	**3.32**	**17**	*e*Pn	**Pn**	**10 22 36.8**	**+1.7**
BARS				*e*Sn	**Sn**	**10 23 16.8**	**+2.5**
TREB	**Trebinje**	**3.45**	**333**	*e*Pn	**Pn**	**10 22 37.4**	**+0.5**
TREB				*e*Sn	**Sn**	**10 23 16.7**	**-0.9**
TREB	**Trebinje**	**3.45**	**333**	*e*Pn	**Pn**	**10 22 37.2**	**+0.3**
BRY	**Bratogost**	**3.56**	**336**	*e*Pn	**Pn**	**10 22 39.2**	**+0.7**
SELS	**Selova**	**3.59**	**8**	*e*Pn	**Pn**	**10 22 39.7**	**+0.8**
VTS	**Vitosha**	**3.62**	**34**	*e*Pn	**Pn**	**10 22 41.5**	**+2.1**
VTS				*e*Sn	**Sn**	**10 23 23.8**	**+1.8**
VTS	**Vitosha**	**3.62**	**34**	⇓P	**Pn**	**10 22 41.8**	**+2.4**
VTS				⇓S	**Sn**	**10 23 23.7**	**+1.8**
VTS				AML	AML	10 23 27.2	
SJES	**Sjenica**	**3.62**	**354**	*e*Pn	**Pn**	**10 22 41.4**	**+2.0**
PLE	**Pljevlja**	**3.76**	**348**	⇓*i*Pn	**Pn**	**10 22 43.5**	**+2.2**
PLE				*e*Sn	**Sn**	**10 23 28.6**	**+3.2**
STON	**Ston**	**3.83**	**328**	*e*Pn	**Pn**	**10 22 42.3**	**+0.2**
STON				Sn	**Sn**	**10 23 26.3**	**-0.6**
STON	**Ston**	**3.83**	**328**	*e*Pn	**Pn**	**10 22 42.2**	**+0.1**
STON				*e*Sn	**Sn**	**10 23 26.3**	**-0.6**
STON	**Ston**	**3.83**	**328**	*e*Pn	**Pn**	**10 22 42.3**	**+0.2**
IVAS	**Ivanjica**	**3.93**	**357**	*e*Pn	**Pn**	**10 22 44.2**	**+0.7**
ZAPS	**Zavoj**	**3.96**	**23**	*e*Pn	**Pn**	**10 22 46.6**	**+2.6**
ZAPS				*e*Sn	**Sn**	**10 23 31.8**	**+1.5**
RUDO	**Rudo**	**4.04**	**349**	*e*Pn	**Pn**	**10 22 45.9**	**+0.8**
BOVS	**Bovan**	**4.08**	**13**	*e*Pn	**Pn**	**10 22 46.8**	**+1.2**
BOVS				*e*Sn	**Sn**	**10 23 34.8**	**+1.7**
GRUS	**Gruza**	**4.24**	**2**	*e*Pn	**Pn**	**10 22 49.1**	**+1.4**
BBLS	**Lazići**	**4.28**	**350**	*e*Pn	**Pn**	**10 22 49.6**	**+1.2**
BBLS	**Lazići**	**4.28**	**350**	*e*Pn	**Pn**	**10 22 49.2**	**+0.8**
ZAGS	**Zajecar**	**4.36**	**17**	*e*Pn	**Pn**	**10 22 50.6**	**+1.2**
DIVS	**Divibare**	**4.46**	**356**	*e*Pn	**Pn**	**10 22 51.8**	**+1.0**
DIVS				*e*Sn	**Sn**	**10 23 42.2**	**-0.2**
DIVS	**Divibare**	**4.46**	**356**	*e*Pn	**Pn**	**10 22 51.7**	**+1.0**
MAKA	**Makarska**	**4.46**	**326**	*i* Pn	**Pn**	**10 22 51.6**	**+0.8**
MAKA				Sn	**Sn**	**10 23 42.1**	**-0.3**
TRUS	**Trudelj**	**4.57**	**359**	*e*Pn	**Pn**	**10 22 53.5**	**+1.3**
HAPS	**Han Pijesak,BI**	**4.57**	**346**	*e*Pn	**Pn**	**10 22 52.2**	**-0.2**
RICI	**Ricice**	**4.58**	**328**	iPn	**Pn**	**10 22 53.2**	**+0.8**
RICI				Sn	**Sn**	**10 23 44.2**	**-1.2**
HVAR	**Hvar**	**4.64**	**321**	*e*Pn	**Pn**	**10 22 53.4**	**+0.2**
HVAR				Sn	**Sn**	**10 23 44.2**	**-2.7**
PLVB	**Pleven**	**4.86**	**39**	⇑P	**Pn**	**10 22 59.5**	**+3.3**
PLVB				⇓S	**Sn**	**10 23 57.0**	**+4.8**
PLVB				AML	AML	10 24 34.8	
TEKS	**Tekeris**	**4.94**	**352**	*e*Pn	**Pn**	**10 22 56.9**	**-0.5**
MDVR	**Moldovita**	**5.21**	**10**	⇑P	**Pn**	**10 23 03.0**	**+1.9**
MDVR				AML	AML	10 24 58.3	
KIJV	**Kijevo**	**5.30**	**326**	*e*Pn	**Pn**	**10 23 03.5**	**+1.2**
KIJV				Sn	**Sn**	**10 24 01.3**	**-1.9**
MGRS	**Mrkonjic Grad**	**5.38**	**333**	*e*Pn	**Pn**	**10 23 04.0**	**+0.5**
ZIRJ	**Zirje**	**5.39**	**319**	*i* Pn	**Pn**	**10 23 03.8**	**+0.3**
ZIRJ				Sn	**Sn**	**10 24 03.1**	**-2.2**
MORI	**Morici**	**5.51**	**321**	*e*Pn	**Pn**	**10 23 06.1**	**+0.9**
FRGS	**Fruska Gora**	**5.52**	**355**	*e*Pn	**Pn**	**10 23 05.4**	**0.0**
FRGS	**Fruska Gora**	**5.52**	**355**	*e*Pn	**Pn**	**10 23 05.1**	**-0.3**
BLY	**Banja Luka**	**5.64**	**335**	*e*Pn	**Pn**	**10 23 07.8**	**+0.8**
BLY	**Banja Luka**	**5.64**	**335**	⇓P	**Pn**	**10 23 08.1**	**+1.0**
DUGI	**Dugi Otok**	**5.93**	**319**	*e*Pn	**Pn**	**10 23 11.6**	**+0.7**
DUGI				Sn	**Sn**	**10 24 16.6**	**-2.0**
GZR	**Gura Zlata**	**5.98**	**16**	⇑P	**Pn**	**10 23 14.2**	**+2.4**
UDBI	**Udbina**	**6.00**	**326**	*i* Pn	**Pn**	**10 23 14.0**	**+2.0**
UDBI				Sn	**Sn**	**10 24 19.9**	**-0.5**
BZS	**Buzias**	**6.02**	**8**	⇑P	**Pn**	**10 23 14.5**	**+2.4**
NVLJ	**Novalja**	**6.43**	**321**	*i* Pn	**Pn**	**10 23 18.7**	**+0.9**
NVLJ				Sn	**Sn**	**10 24 29.2**	**-1.8**
MOSL	**Moslavina**	**6.55**	**337**	*e*Pn	**Pn**	**10 23 19.3**	**-0.2**
SIRR	**Siria**	**6.67**	**7**	⇓P	**Pn**	**10 23 24.3**	**+3.2**
MORH	**Mrgy, Hungar**	**6.69**	**349**	*e*Pn	**Pn**	**10 23 22.7**	**+1.3**
VOIR		**6.69**	**29**	⇓P	**Pn**	**10 23 25.0**	**+3.5**
BOJS	**Bojanci**	**7.00**	**328**	*e*Pn	**Pn**	**10 23 26.0**	**+0.5**
BOJS				*e*Sn	**Sn**	**10 24 42.0**	**-3.0**
OZLJ	**Ozalj**	**7.01**	**330**	*e*Pn	**Pn**	**10 23 26.3**	**+0.7**
MLR	**Muntele Rosu**	**7.09**	**33**	⇑P	**Pn**	**10 23 30.7**	**+3.7**
CRES	**Cresnjev**	**7.19**	**331**	*i* Pn	**Pn**	**10 23 28.3**	**+0.1**
CRES	**Cresnjev**	**7.19**	**331**	*e*Pn	**Pn**	**10 23 28.2**	**0.0**
RIY	**Rijeka**	**7.19**	**324**	*e*Pn	**Pn**	**10 23 27.6**	**-0.6**
BRJN	**Brijuni**	**7.24**	**319**	*e*Pn	**Pn**	**10 23 29.5**	**+0.7**
DOPR	**Dopca**	**7.27**	**28**	⇑P	**Pn**	**10 23 32.5**	**+3.1**
CEY	**Cerknica**	**7.53**	**326**	*e*Pn	**Pn**	**10 23 33.6**	**+0.6**
PLOR	**Plostina**	**7.68**	**34**	⇓P	**Pn**	**10 23 38.6**	**+3.6**
VRI	**Vrincioaia**	**7.73**	**35**	⇓P	**Pn**	**10 23 39.0**	**+3.4**
SOKA	**Soboth**	**8.06**	**332**	*i* Pn	**Pn**	**10 23 40.6**	**+0.2**
	comp=E,3.2nm,0.2s						
OBKA	**Obir**	**8.10**	**330**	*i* Pn	**Pn**	**10 23 41.8**	**+0.9**
	comp=E,3.0nm,0.2s						
KBA	**Koelnbreinsper**	**9.05**	**327**	*e*Pn	**Pn**	**10 23 55.5**	**+1.6**
	comp=E,3.1nm,0.6s						
MOA	**Molln**	**9.34**	**333**	*i* Pn	**Pn**	**10 24 00.0**	**+2.3**
	comp=E,2.5nm,0.3s						
WTTA	**Wattenberg**	**9.95**	**323**	*i* Pn	**Pn**	**10 24 08.0**	**+1.8**
	comp=E,0.9nm,0.2s						
VRAC	**Vranov**	**10.04**	**345**	LR	LR	10 28 34.2	
	comp=E,79nm,19.9s,baz=179,slow=41						
GERES	**GERESS Array B**	**10.39**	**334**	Pn	**Pn**	**10 24 12.3**	**+0.1**
	comp=E,0.3nm,0.3s,baz=157,slow=13,SNR=4.1						
HFS	**Hagfors**	**20.94**	**350**	P	**P**	**10 26 25.1**	**-0.5**
	comp=E,2.4nm,0.5s,baz=146,slow=11,SNR=9.9						
FINES	**FINESS Array B**	**22.09**	**7**	P	**P**	**10 26 37.3**	**-0.7**
	comp=E,1.8nm,0.6s,baz=165,slow=11,SNR=7.7						
FINES				LR	LR	10 35 48.7	
	comp=E,79nm,18.4s,baz=324,slow=38						
NB2	**NORSAR Subarra**	**22.17**	**348**	P	**P**	**10 26 38.9**	**0.0**
	comp=Z,0.6nm,0.4s,baz=150,slow=11						
NOA	**NORSAR Array B**	**22.17**	**348**	P	**P**	**10 26 38.5**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=158,slow=11,SNR=4.0						
NOA				LR	LR	10 36 42.0	
	comp=Z,34nm,18.9s,baz=45,slow=41						
EKA	**Eskdalemuir Ar**	**22.22**	**323**	P	**P**	**10 26 39.2**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=118,slow=10.0,SNR=8.8						
TORD	**Torodi Ar. Bea**	**31.17**	**217**	P	**P**	**10 28 02.4**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=30,slow=9.7,SNR=12						
DBIC	**Dimbokro**	**39.96**	**221**	P	**P**	**10 29 17.9**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=41,slow=6.3,SNR=3.0						
MKAR	**Makanchi Array**	**44.58**	**60**	P	**P**	**10 29 53.5**	**-1.6**
	comp=Z,1.5nm,0.4s,baz=282,slow=7.4,SNR=28						
ZALV	**Zalesovo Beam**	**44.75**	**49**	P	**P**	**10 29 54.6**	**-1.6**
	comp=Z,1.3nm,0.4s,baz=270,slow=10,SNR=5.4						
TXAR	**Lajitas Array**	**93.93**	**314**	P	**P**	**10 35 02.0**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=64,slow=5.7,SNR=3.4						
ASAR	**Alice Springs**	**122.36**	**95**	PKP	**PKPdf**	**10 40 36.6**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=291,slow=1.4,SNR=7.9						

IDC 12 10:57:05.0±1.6, 1°.18N×122°.60E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/39, mbtmp3.3/3, Error ellipse: s-maj=257.8km s-min=24.8km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
WRA	**Warramunga Arr**	**23.94**	**152**	P		P	11 02 21.5	+0.4
	0.3nm,0.4s,baz=328,slow=11,SNR=9.1							
ASAR	**Alice Springs**	**27.03**	**157**	P		P	11 02 48.9	-0.3
	0.3nm,0.6s,baz=344,slow=13,SNR=6.9							
MKAR	**Makanchi Array**	**57.41**	**328**	P		P	11 06 55.4	-0.1
	0.3nm,0.3s,baz=120,slow=8.5,SNR=4.0							

*THR **12** 11:41:05.3, 30°.71N×56°.91E, h17km, ML3.7*
*IDC **12** 11:41:05.1±1.1, 30°.73N×56°.80E, h0km, mb3.8/8, mb1 3.8/11, mb1mx3.6/54, mbtmp3.7/11, ML3.5/3, Error ellipse: s-maj=29.1km s-min=21.7km az=112.0*
*TEH **12** 11:41:05.5, 30°.81N×56°.86E, h10km, ML4.0*
*ISCJB **12** 11:41:06.1±0.3, 30°.76N±0°.03×56°.87E±0°.04, h11km,*
mb3.7/8, Error ellipse: s-maj=5.0km s-min=4.1km az=5.7
ISC 12 11:41:06.4±0.7, 30°.75N±0°.04×56°.87E±0°.04, h11km, n59,

σ1§29/56, mb3.8/8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
KHGB	**Koh Gabri**	**0.50**	**223**	*e*Pg		**Pg**	**11 41 16.4**	**+0.1**
TVBK	**TV Kerman**	**0.76**	**187**	*e*Pg		**Pb**	**11 41 22.1**	**+0.2**
TVBK				IAML		IAmb	11 41 37.5	
	comp=Z,0.0nm,0.2s							
KRBR	**Kerman**	**0.77**	**187**	*e*Pg		**Pg**	**11 41 19.6**	**-1.7**
KRBR	**Kerman**	**0.77**	**187**	*e*Pg		**Pg**	**11 41 19.6**	**-1.7**
CHMN	**Cheshme madani**	**1.06**	**147**	*e*Pg		**Pn**	**11 41 26.8**	**-0.6**
NGRK	**Negar Kerman**	**1.11**	**186**	*e*Pg		**Pn**	**11 41 28.5**	**+0.3**
NGRK				IAML		IAmb	11 41 48.0	
	comp=Z,0.0nm,0.3s							
IBAF	**Bafgh**	**1.40**	**307**	*e*Pg		**Pn**	**11 41 30.6**	**-1.4**
IBAF				IAML		IAmb	11 41 35.5	
	comp=Z,15μm,0.2s							
IMEH	**Mehriz**	**2.04**	**289**	*e*Pn		**Pn**	**11 41 42.0**	**+1.1**
BSRN	**Basiran**	**2.28**	**57**	*e*Pn		**Pn**	**11 41 44.2**	**+0.1**
BSRN	**Basiran**	**2.28**	**57**	*e*Sg		**Sb**	**11 42 16.7**	**+0.8**
BSRN	**Basiran**	**2.28**	**57**	*e*Pn		**Pn**	**11 41 44.2**	**+0.1**
TPRV	**Parvadeh(Tabas**	**2.28**	**356**	*e*Pn		**Pn**	**11 41 44.2**	**+0.1**
TPRV				IAML		IAmb	11 42 20.5	
	comp=Z,0.0nm,0.5s							
IKOO	**Kooshah**	**2.47**	**47**	*e*Pn		**Pn**	**11 41 47.2**	**+0.3**
IKOO				IAMB		IAmb	11 42 33.8	
	comp=Z,9μm,0.4s							
YZKH	**Yazd**	**2.54**	**311**	*e*Pn		**Pn**	**11 41 48.7**	**+1.0**
YZKH	**Yazd**	**2.54**	**311**	*e*Pn		**Pn**	**11 41 48.7**	**+1.0**
YZKH	**Yazd**	**2.54**	**311**	*e*AML		AML	11 42 27.5	
	comp=E,329nm,0.6s							
YZKH	**Yazd**	**2.54**	**311**	*e*AML		AML	11 42 29.8	
	comp=N,245nm,0.4s							
ICHK	**Chekchek**	**2.58**	**306**	*e*Pn		**Pb**	**11 41 50.5**	**-2.3**
ICHK				IAMB		IAmb	11 42 34.4	
	comp=Z,5μm,0.4s							
ITEG	**Tejag**	**2.67**	**36**	*e*Pn		**Pn**	**11 41 49.7**	**+0.1**
ITEG				IAMB		IAmb	11 42 46.5	
	comp=Z,4μm,0.6s							
NHDN	**Nehbandan**	**2.80**	**76**	*e*Pn		**Pn**	**11 41 52.5**	**+1.2**
NHDN				IAMB		IAmb	11 42 43.9	
	comp=Z,0.0nm,0.6s							
TKDS	**Koohdasht(Taba**	**2.87**	**4**	*e*Pn		**Pn**	**11 41 52.7**	**+0.5**
TKDS				IAMB		IAmb	11 42 42.6	
	comp=Z,0.0nm,0.4s							
TABS	**Tabas**	**2.90**	**4**	*e*Pn		**Pn**	**11 41 53.2**	**+0.6**
TABS	**Tabas**	**2.90**	**4**	*e*Pn		**Pn**	**11 41 53.2**	**+0.6**
TABS	**Tabas**	**2.90**	**4**	*e*AML		AML	11 42 50.0	
	comp=N,227nm,0.4s							
ISAD	**Sadrabad**	**2.96**	**294**	*e*Pn		**Pn**	**11 41 55.0**	**+1.4**
ISAD				IAMB		IAmb	11 42 40.3	
	comp=Z,3μm,0.6s							
NIAN	**Nian**	**3.18**	**181**	*e*Pn		**Pb**	**11 42 00.2**	**-2.6**
TNSJ	**Nastanj**	**3.21**	**356**	*e*Pn		**Pn**	**11 41 57.4**	**+0.5**
AFRZ	**Afriz**	**3.23**	**34**	*e*Pn		**Pn**	**11 41 57.2**	**0.0**
AFRZ				IAMB		IAmb	11 43 08.6	
	comp=Z,0.0nm,0.9s							
IDAH	**Dahanechah**	**3.23**	**51**	*e*Pn		**Pn**	**11 41 59.7**	**+2.3**
IDAH				IAMB		IAmb	11 43 00.3	
	comp=N,5μm,0.4s							
GENO	**Geno**	**3.39**	**191**	*e*Pn		**Pn**	**11 42 02.3**	**+2.9**
ANAR	**Anarak**	**3.61**	**313**	*e*Pn		**Pn**	**11 42 03.5**	**+1.1**
ANAR				IAMB		IAmb	11 43 08.8	
	comp=Z,0.0nm,0.9s							
SZD1	**Zahaedan-tmp**	**3.68**	**109**	*e*Pn		**Pn**	**11 42 05.5**	**+2.1**
SHRT	**Shahrakht**	**4.09**	**44**	*e*Pn		**Pn**	**11 42 09.3**	**+0.3**
SHRT	**Shahrakht**	**4.09**	**44**	*e*Pn		**Pn**	**11 42 09.3**	**+0.3**
IZEF	**Zefreh**	**4.42**	**300**	*e*Pn		**Pn**	**11 42 15.2**	**+1.6**
IZEF				IAMB		IAmb	11 43 35.8	
	comp=Z,703nm,0.6s							
KRSH	**Karshahi**	**5.14**	**310**	*e*Pn		**Pn**	**11 42 25.1**	**+1.7**
KRSH				IAMB		IAmb	11 44 02.9	
	comp=Z,0.0nm,0.9s							
IANJ	**Anjilo**	**5.32**	**333**	*e*Pn		**Pn**	**11 42 26.4**	**+0.4**
SBZV	**Sabzevar**	**5.66**	**6**	*e*Pn		**Pn**	**11 42 31.6**	**+0.9**
JRKH	**Jarkhoshk**	**5.91**	**29**	*e*Pn		**Pn**	**11 42 35.3**	**+1.3**
IPAY	**Payeh**	**5.96**	**17**	*e*Pn		**Pn**	**11 42 36.7**	**+2.0**
GHVR	**GHOM**	**6.00**	**310**	*e*Pn		**Pn**	**11 42 36.9**	**+1.7**
GHVR	**GHOM**	**6.00**	**310**	*e*Pn		**Pn**	**11 42 36.9**	**+1.7**
IAKL	**Akhelmad**	**6.05**	**15**	*e*Pn		**Pn**	**11 42 37.6**	**+1.6**
IVRN	**Varamin**	**6.05**	**316**	*e*Pn		**Pn**	**11 42 36.4**	**+0.5**
IMYA	**Miami**	**6.20**	**25**	*e*Pn		**Pn**	**11 42 39.8**	**+1.8**
IEMG	**Emamgholi**	**6.81**	**12**	*e*Pn		**Pn**	**11 42 48.2**	**+1.6**
ASAO	**Ashtian**	**6.91**	**305**	*e*Pn		**Pn**	**11 42 48.9**	**+1.1**
ASAO	**Ashtian**	**6.91**	**305**	*e*Pn		**Pn**	**11 42 48.9**	**+1.1**
GEYT	**Alibeck**	**7.24**	**8**	Pn		**Pn**	**11 42 53.4**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=192,slow=17,SNR=8.6							
WSAR	**Wadi Sarin**		**7.64**	**168**	Pn	**Pn**	**11 42 59.7**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=3.9,slow=13,SNR=5.3							
AKTO	**Aktyubinsk**		**19.69**	**2**	P	**Pn**	**11 45 36.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=197,slow=9.7,SNR=4.4							
BVAR	**Borovoye Array**	**24.35**	**20**	P		**P**	**11 46 25.1**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=197,slow=4.6,SNR=8.9							
MKAR	**Makanchi Array**	**25.33**	**44**	P		**P**	**11 46 34.1**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=228,slow=11,SNR=6.6							
KURBB	**Kurchatov Arra**	**25.60**	**33**	P		**P**	**11 46 36.6**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=232,slow=9.7,SNR=4.6							
ZALV	**Zalesovo Beam**	**30.70**	**33**	P		**P**	**11 47 21.3**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=243,slow=9.5,SNR=7.5							
FINES	**FINESS Array B**	**36.73**	**336**	P		**P**	**11 48 13.9**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=138,slow=6.8,SNR=2.9							
TORD	**Torodi Ar. Bea**	**53.57**	**264**	P		**P**	**11 50 27.4**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=58,slow=7.7,SNR=6.1							
YKA	**Yellowknife Ar**	**86.83**	**356**	P		**P**	**11 53 50.8**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=3.9,slow=5.1,SNR=4.9							
ASAR	**Alice Springs**	**91.49**	**117**	P		**P**	**11 54 13.1**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=305,slow=4.1,SNR=4.2							

WEL 12 11:53:29.1±0.7, 32°.5E±10°×118°.0W±2°.5, h167km±21km, mB4.8/9, MLv4.6/18, Mw(mB)4.1/9, Error ellipse: s-maj=0.0km s-min=0.0km az=111.6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
GLKZ	**Green Lake**	**3.45**	**28**	S		Sn	11 55 03.7	-0.9
MXZ	**Matakaoa Point**	**5.45**	**196**	P		Pn	11 54 48.9	+0.2
MXZ				S		Sn	11 55 52.3	+1.3
WMGZ	**Waiomatatini S**	**5.67**	**195**	P		Pn	11 54 52.4	+0.9
WMGZ				S		Sn	11 55 59.1	+2.9
HAZ	**Te Kaha**	**5.77**	**200**	P		Pn	11 54 52.9	+0.1
HAZ				S		Sn	11 56 01.7	+3.1
PKGZ	**Pakihiroa**	**5.82**	**197**	P		Pn	11 54 54.4	+0.9
PKGZ				S		Sn	11 56 02.6	+2.8
PUZ	**Puketiti**	**5.95**	**195**	P		Pn	11 54 53.9	-1.3
PUZ				S		Sn	11 56 04.0	+1.1
RUGZ	**Raukumara Rang**	**6.00**	**200**	P		Pn	11 54 56.9	+0.9
RUGZ				S		Sn	11 56 03.5	-0.7
WHRZ	**Whale Island**	**6.12**	**205**	P		Pn	11 54 59.8	+2.3
WHRZ				S		Sn	11 56 08.3	+1.3
CNGZ	**Carnagh Statio**	**6.36**	**195**	P		Pn	11 54 59.2	-1.4
URZ	**Urewera**	**6.44**	**202**	P		Pn	11 55 02.3	+0.6
URZ				S		Sn	11 56 13.5	-1.0
RTZ	**Ruatahuna**	**6.81**	**202**	P		Pn	11 55 06.2	-0.4
RTZ				S		Sn	11 56 23.5	+0.2
KNZ	**Kokohu**	**6.99**	**197**	P		Pn	11 55 08.2	-0.7
KNZ				S		Sn	11 56 24.2	-3.4
TLZ	**Tolley Road**	**7.11**	**211**	P		Pn	11 55 13.0	+2.5
BKZ	**Black Stump Fm**	**7.46**	**203**	P		Pn	11 55 15.0	-0.3
BKZ				S		Sn	11 56 35.6	-3.4
HIZ	**Hauiti**	**7.57**	**214**	P		Pn	11 55 19.7	+3.1
NGZ	**Ngauruhoe**	**7.79**	**208**	P		Pn	11 55 19.7	-0.1
FWVZ	**Far West T-bar**	**7.88**	**208**	P		Pn	11 55 20.5	-0.6
TRVZ	**Turoa**	**7.92**	**207**	P		Pn	11 55 21.1	-0.5
MOVZ	**Moawhango**	**7.94**	**206**	P		Pn	11 55 19.9	-1.7
MOVZ				S		Sn	11 56 46.4	-4.0
PKVZ	**Pokaka**	**7.99**	**208**	P		Pn	11 55 22.0	-0.3
VRZ	**Vera Road**	**8.11**	**212**	P		Pn	11 55 24.7	+1.0
TSZ	**Takapari Road**	**8.45**	**203**	P		Pn	11 55 24.3	-4.0
KHEZ	**Kahui Hut**	**8.59**	**214**	P		Pn	11 55 31.7	+1.5
DVHZ	**Dannevirke**	**8.60**	**201**	P		Pn	11 55 27.8	-2.4
ANWZ	**Angora Road**	**8.66**	**199**	P		Pn	11 55 28.9	-2.1
POWZ	**Post Office Ro**	**8.81**	**203**	P		Pn	11 55 30.4	-2.7
PRWZ	**Pori Road**	**8.89**	**201**	P		Pn	11 55 31.7	-2.5
BFZ	**Birch Farm**	**8.93**	**200**	P		Pn	11 55 30.7	-3.9
MRZ	**Mangatainoka R**	**9.11**	**203**	P		Pn	11 55 32.5	-4.6
TIWZ	**Tintock**	**9.12**	**201**	P		Pn	11 55 34.0	-3.2
CPWZ	**Castlepoint**	**9.15**	**200**	P		Pn	11 55 35.6	-1.9
HOWZ	**Holdsworth Sta**	**9.35**	**203**	P		Pn	11 55 35.8	-4.4
OGWZ	**Otaki Gorge**	**9.39**	**204**	P		Pn	11 55 35.8	-4.9
TMWZ	**Te Maipa**	**9.42**	**200**	P		Pn	11 55 36.8	-4.3
KIW	**Kapiti Island**	**9.52**	**205**	P		Pn	11 55 38.0	-4.4
MTW	**Mount Morrison**	**9.59**	**202**	P		Pn	11 55 38.8	-4.5
CAW	**Cannon Point**	**9.69**	**204**	P		Pn	11 55 39.5	-5.1
TRWZ	**Traveller**	**9.75**	**201**	P		Pn	11 55 40.9	-4.5
PAWZ	**Paruwai Farm**	**9.81**	**202**	P		Pn	11 55 41.4	-4.9
DUWZ	**D'Urville Isla**	**9.86**	**209**	P		Pn	11 55 42.3	-4.6
MSWZ	**Moikau Station**	**9.90**	**202**	P		Pn	11 55 42.6	-4.9
BHW	**Baring Head**	**10.02**	**204**	P		Pn	11 55 43.3	-5.7
PLWZ	**Palliser**	**10.04**	**202**	P		Pn	11 55 44.4	-4.9
TCW	**Tory Channel**	**10.06**	**207**	P		Pn	11 55 44.1	-5.4
TUWZ	**Tuamarina**	**10.38**	**207**	P		Pn	11 55 47.7	-6.0
NNZ	**Nelson**	**10.43**	**210**	P		Pn	11 55 49.2	-5.1
QRZ	**Quartz Range**	**10.49**	**214**	P		Pn	11 55 50.2	-5.0
BSWZ	**Blackbirch Sta**	**10.65**	**207**	P		Pn	11 55 51.7	-5.5
THZ	**Tophouse**	**11.08**	**210**	P		Pn	11 55 56.8	-6.1
KHZ	**Kahutara**	**11.38**	**206**	P		Pn	11 56 00.4	-6.4
GVZ	**Greta Valley S**	**12.04**	**206**	P		Pn	11 56 07.2	-8.2
LTZ	**Lake Taylor**	**12.19**	**209**	P		Pn	11 56 10.2	-7.1
OKCZ	**Okains Bay**	**12.69**	**204**	P		Pn	11 56 17.8	-5.9
OXZ	**Oxford**	**12.73**	**208**	P		Pn	11 56 17.0	-7.2
MQZ	**McQueen's Vall**	**12.82**	**206**	P		Pn	11 56 18.2	-7.1
AKCZ	**Akaroa Harbour**	**12.87**	**204**	P		Pn	11 56 20.0	-5.9

*IDC **12** 12:08:42.7±3.5, 1°.77N×96°.33E, h0km, mb3.3/3, mb1 3.6/4, mb

	1.0nm,0.3s,baz=204,slow=27,SNR=16							
CHKK	**Chushkaly**	**2.93**	**262**	*eP*		**Pb**	**12 17 32.4**	**+0.9**
	4.3nm,0.1s							
CHKK				*eS*		**Sb**	**12 18 08.6**	**+1.4**
	33nm,0.2s							
CHKK	**Chushkaly**	**2.93**	**262**	Pg		**Pb**	**12 17 32.4**	**+0.9**
	4.3nm,0.1s							
CHKK				Lg	Lg		12 18 08.6	
	33nm,0.2s							
KOTS	**Kotyrbulak**	**3.02**	**250**	*eP*		**Pb**	**12 17 35.6**	**+2.4**
	12nm,0.3s							
KOTS				*eS*		**Sg**	**12 18 14.2**	**-2.4**
	36nm,0.3s							
KOTS	**Kotyrbulak**	**3.02**	**250**	Pg		**Pb**	**12 17 35.6**	**+2.4**
	12nm,0.3s							
KOTS				Lg	Lg		12 18 14.2	
	36nm,0.3s							
MDOK	**Medeo**	**3.10**	**249**	*eP*		**Pb**	**12 17 36.1**	**+1.7**
	5.1nm,0.3s							
MDOK				*eS*		**Sb**	**12 18 14.9**	**+2.7**
	7.6nm,0.2s							
MDOK	**Medeo**	**3.10**	**249**	Pg		**Pb**	**12 17 36.5**	**+2.1**
	14nm,1.0s							
MDOK				Lg	Lg		12 18 13.6	
	8.7nm,0.7s							
MDOK	**Medeo**	**3.10**	**249**	Pg		**Pb**	**12 17 36.1**	**+1.7**
	8.0nm,0.5s							
MDOK				Lg	Lg		12 18 14.9	
	7.6nm,0.3s							
KTBS	**Karatobe**	**3.18**	**260**	*eP*		**Pb**	**12 17 38.3**	**+2.6**
	3.2nm,0.3s							
KTBS				*eS*		**Sg**	**12 18 18.6**	**-2.8**
	36nm,0.4s							
KTBS	**Karatobe**	**3.18**	**260**	Pg		**Pb**	**12 17 38.3**	**+2.6**
	3.2nm,0.3s							
KTBS				Lg	Lg		12 18 18.6	
	36nm,0.4s							
TNSS	**Tian-Shan**	**3.21**	**247**	*eP*		**Pb**	**12 17 38.1**	**+1.5**
	7.1nm,0.6s							
TNSS				*eS*		**Sb**	**12 18 18.3**	**+2.5**
	7.0nm,0.3s							
TNSS	**Tian-Shan**	**3.21**	**247**	Pg		**Pb**	**12 17 38.1**	**+1.5**
	7.1nm,0.6s							
TNSS				Lg	Lg		12 18 18.3	
	7.0nm,0.3s							
KUU	**Kurty**	**3.38**	**264**	*eP*		**Pb**	**12 17 40.5**	**+1.2**
	2.4nm,0.0s							
KUU				*eS*		**Sb**	**12 18 22.4**	**+2.0**
	18nm,0.4s							
KUU	**Kurty**	**3.38**	**264**	Pg		**Pb**	**12 17 40.5**	**+1.2**
	1.9nm,0.1s							
KUU				Lg	Lg		12 18 22.4	
	18nm,0.4s							
IZV	**Izvestkoviy**	**3.44**	**249**	*eP*		**Pb**	**12 17 42.2**	**+1.9**
	1.2nm,0.1s							
IZV				*eS*		**Sb**	**12 18 25.5**	**+3.5**
	5.7nm,0.1s							
IZV	**Izvestkoviy**	**3.44**	**249**	Pg		**Pb**	**12 17 42.2**	**+1.9**
	4.3nm,0.6s							
IZV				Lg	Lg		12 18 25.5	
	7.8nm,0.4s							
MTBS	**Maitube**	**3.53**	**251**	*eP*		**Pb**	**12 17 44.0**	**+2.3**
	6.2nm,0.3s							
MTBS				*eS*		**Sb**	**12 18 28.5**	**+4.0**
	19nm,0.3s							
MTBS	**Maitube**	**3.53**	**251**	Pg		**Pb**	**12 17 44.0**	**+2.3**
	6.2nm,0.3s							
MTBS				Lg	Lg		12 18 28.5	
	19nm,0.3s							
KST	**Kastek**	**3.88**	**252**	*eP*		**Pb**	**12 17 50.8**	**+3.1**
	1.6nm,0.1s							
KST				*eS*		**Sg**	**12 18 40.1**	**-3.8**
	3.1nm,0.3s							
KST	**Kastek**	**3.88**	**252**	Pg		**Pb**	**12 17 50.8**	**+3.1**
	5.9nm,0.3s							
KST				Lg	Lg		12 18 40.1	
	3.9nm,0.3s							
DGS	**Degeres**	**3.94**	**256**	*eP*		**Pb**	**12 17 51.8**	**+3.0**
	3.3nm,0.4s							
DGS				*eS*		**Sg**	**12 18 42.4**	**-3.5**
	17nm,0.5s							
DGS	**Degeres**	**3.94**	**256**	Pg		**Pb**	**12 17 51.8**	**+3.0**
	3.3nm,0.4s							
DGS				Lg	Lg		12 18 42.4	
	17nm,0.5s							
TKM2	**Tokmak 2**	**4.17**	**252**	⇑Pg		**Pb**	**12 17 55.1**	**+2.3**
	5.4nm,1.3s							
TKM2				⇑Lg	Lg		12 18 48.0	
	2.6nm,0.4s							
AAK	**Ala-Archa**	**5.03**	**252**	⇑Pg		**Pb**	**12 18 10.7**	**+3.3**
	3.2nm,1.0s							
AAK				⇑Lg	Lg		12 19 16.9	
	2.9nm,0.8s							

DJA 12 12:30:25.9±0.5,**3°S**±3′×**12°9E**±′,**h10**km,**M3.0/5,MLv3.0/5,**
Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.48**	**157**	P	Pg	12 30 35.9	+0.6
MSAI				S	Sb	12 30 42.9	-0.7
AAI	**Ambon**	**0.95**	**215**	P	Pb	12 30 44.9	+0.4
AAI				S	Sb	12 30 58.0	+0.8
NLAI	**Namlea**	**1.67**	**258**	P	Pg	12 30 57.9	-0.1
SANI	**Sanana**	**2.88**	**287**	P	Pn	12 31 11.1	-0.7
SWI	**Sorong**	**3.23**	**51**	P	Sn	12 31 56.7	+1.4

IDC ***12*** *12:43:19.6±0.6,8.2°S×76.9°W,h0km,mb4.1/10,*
mb1 4.3/14,mb1mx4.2/29,mbtmp4.1/14,ML4.0/4,MS3.4/13,
Ms1 3.4/13,ms1mx3.2/31,Error ellipse: s-maj=25.0km
s-min=13.6km az=53.0
ISCJB ***12*** *12:43:23.2±0.3,8.2°S±0.0°×76.1°W±0.0°,h33km,*
mb4.0/10,MS3.2/8,Error ellipse: s-maj=7.2km
s-min=4.3km az=163.3
VAO ***12*** *12:43:34.0±0.6,7.9°S×75.4°W,h72km,mb4.4*
ISC 12 12:43:25.1±0.5,**8.16S**±0.05°×**75.97W**±0.06°,**h35**km,**n78,**
σ1°81/75,mb4.1/10,MS3.2/8,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.61**	**293**	Pn	**Pn**	**12 44 03.4**	**-1.8**
	67nm,0.3s,baz=140,slow=4.2,SNR=157						
ATAH				Sn	**Sn**	**12 44 36.2**	**+0.2**
	67nm,0.3s,baz=311,slow=17,SNR=7.6						
NNA	**Nana**	**3.90**	**193**	Pn	**Pn**	**12 44 20.5**	**-2.1**
	25nm,0.3s,baz=341,slow=12,SNR=30						
NNA				Sn	**Sn**	**12 45 06.4**	**-0.8**
	40nm,0.3s,baz=336,slow=11,SNR=4.6						
NNA				LR	LR	12 45 51.0	
	comp=Z,936nm,19.6s,baz=341,slow=40						
PTLC	**Puerto Leguiza**	**8.36**	**8**	*eP*	**Pn**	**12 45 21.1**	**-2.9**
PTLC	**Puerto Leguiza**	**8.36**	**8**	*eP*	**Pn**	**12 45 21.1**	**-2.9**
OTAV	**Otavalo**	**8.70**	**343**	*eP*	Pn	12 45 36.1	+7.1
OTAV	**Otavalo**	**8.70**	**343**	*eP*	Pn	12 45 36.1	+7.1
FLOC	**Florencia**	**9.69**	**2**	*eP*	**Pn**	**12 45 42.5**	**+0.3**
FLOC	**Florencia**	**9.69**	**2**	*eP*	**Pn**	**12 45 42.5**	**+0.3**
CRUC	**La Cruz**	**9.71**	**354**	*eP*	**Pn**	**12 45 44.0**	**+1.2**
CRUC	**La Cruz**	**9.71**	**354**	*eP*	**Pn**	**12 45 44.0**	**+1.2**
BBAC	**Balboa, Cauca**	**10.20**	**353**	*eP*	**Pn**	**12 45 51.5**	**+2.2**
BBAC	**Balboa, Cauca**	**10.20**	**353**	*eP*	**Pn**	**12 45 51.5**	**+2.2**
SOTA	**Rioblanco**	**10.25**	**356**	*eP*	**Pn**	**12 45 51.1**	**+0.8**
SOTA	**Rioblanco**	**10.25**	**356**	*eP*	**Pn**	**12 45 51.1**	**+0.8**
PCON	**Cinco Dias**	**10.43**	**358**	*eP*	**Pn**	**12 45 54.9**	**+2.1**
PCON	**Cinco Dias**	**10.43**	**358**	*eP*	**Pn**	**12 45 54.9**	**+2.1**
MACC	**Macarena, Meta**	**10.46**	**12**	*eP*	**Pn**	**12 45 54.2**	**+1.5**
MACC	**Macarena, Meta**	**10.46**	**12**	*eP*	**Pn**	**12 45 54.2**	**+1.5**
LPAZ	**La Paz**	**11.13**	**137**	Pn	**Pn**	**12 46 02.9**	**+0.5**
	0.1nm,0.3s,baz=316,slow=12,SNR=4.2						
LPAZ	**La Paz**	**11.13**	**137**	*eP*	Pn	12 46 08.8	+6.4
LPAZ				*eS*	**Sn**	**12 48 10.0**	**+4.0**
LPAZ	**La Paz**	**11.13**	**137**	*eP*	Pn	12 46 08.8	+6.4
LPAZ				*eS*	**Sn**	**12 48 10.0**	**+4.0**
PRAC	**Prado**	**11.85**	**5**	*eP*	**Pn**	**12 46 13.1**	**+1.3**
PRAC	**Prado**	**11.85**	**5**	*eP*	**Pn**	**12 46 13.1**	**+1.3**
ORTC	**Ortega, Tolima**	**12.01**	**3**	*eP*	**Pn**	**12 46 15.0**	**+1.0**
ORTC	**Ortega, Tolima**	**12.01**	**3**	*eP*	**Pn**	**12 46 15.0**	**+1.0**
YOTC	**Yotoco, Valle**	**12.07**	**358**	*eP*	**Pn**	**12 46 16.9**	**+2.0**
YOTC	**Yotoco, Valle**	**12.07**	**358**	*eP*	**Pn**	**12 46 16.9**	**+2.0**
VILC	**Villavicencio,**	**12.40**	**11**	*eP*	**Pn**	**12 46 21.1**	**+1.7**
VILC	**Villavicencio,**	**12.40**	**11**	*eP*	**Pn**	**12 46 21.1**	**+1.7**
SAML	**Samuel**	**12.67**	**94**	*eP*	**Pn**	**12 46 24.1**	**+1.1**
SAML				*eS*	**Sn**	**12 48 38.8**	**-4.1**
SAML	**Samuel**	**12.67**	**94**	*eP*	**Pn**	**12 46 24.1**	**+1.1**
CVER	**Cruz Verde, Cu**	**12.74**	**9**	*eP*	**Pn**	**12 46 27.4**	**+3.0**
CVER	**Cruz Verde, Cu**	**12.74**	**9**	*eP*	**Pn**	**12 46 27.4**	**+3.0**
CHIC	**Chingaza**	**12.90**	**10**	*eP*	**Pn**	**12 46 28.0**	**+1.5**
CHIC	**Chingaza**	**12.90**	**10**	*eP*	**Pn**	**12 46 28.0**	**+1.5**
ROSC	**El Rosal**	**13.02**	**7**	LR	LR	12 52 28.7	
	comp=Z,250nm,18.3s,baz=243,slow=42						
GUY2C	**Guyana, Caldas**	**13.31**	**3**	*eP*	**Pn**	**12 46 35.3**	**+3.1**
GUY2C	**Guyana, Caldas**	**13.31**	**3**	*eP*	**Pn**	**12 46 35.3**	**+3.1**
RUSC	**La Rusia**	**14.26**	**12**	*eP*	**Pn**	**12 46 46.0**	**+0.9**
RUSC	**La Rusia**	**14.26**	**12**	*eP*	**Pn**	**12 46 46.0**	**+0.9**
ZARC	**Zaragoza, Cauc**	**15.59**	**4**	*eP*	**P**	**12 47 08.5**	**+2.2**
ZARC	**Zaragoza, Cauc**	**15.59**	**4**	*eP*	**P**	**12 47 08.5**	**+2.2**
LVC	**Limon Verde**	**15.89**	**155**	LR	LR	12 53 59.2	
	comp=Z,136nm,21.1s,baz=319,slow=40						
SIV	**San Ignacio**	**16.51**	**120**	Pn	**Pn**	**12 47 13.5**	**-0.7**
	1.4nm,0.3s,baz=310,slow=11,SNR=53						
SIV				LR	LR	12 53 55.5	
	comp=Z,137nm,21.6s,baz=280,slow=38						
SMLC	**San Martn de**	**16.96**	**6**	*eP*	**P**	**12 47 22.8**	**+1.3**
SMLC	**San Martn de**	**16.96**	**6**	*eP*	**P**	**12 47 22.8**	**+1.3**
SDV	**Santo Domingo**	**17.75**	**18**	P	**P**	**12 47 32.0**	**+1.6**
	2.4nm,0.3s,baz=193,slow=14,SNR=11						
SDV				LR	LR	12 55 57.5	
	comp=Z,203nm,18.6s,baz=230,slow=42						
SDV	**Santo Domingo**	**17.75**	**18**	*eP*	**P**	**12 47 32.0**	**+1.6**
SDV	**Santo Domingo**	**17.75**	**18**	*eP*	**P**	**12 47 32.0**	**+1.6**
CLDB	**Colider**	**20.08**	**99**	*eP*	**P**	**12 47 55.7**	**-0.1**
CLDB	**Colider**	**20.08**	**99**	*eP*	**P**	**12 47 55.7**	**-0.1**
JTS	**Las Juntas de**	**20.40**	**334**	LR	LR	12 55 46.1	
	comp=Z,33nm,20.7s,baz=200,slow=37						
AQDB	**Aquidauana**	**23.11**	**124**	*eP*	**P**	**12 48 30.7**	**+2.5**
AQDB				*eS*	**S**	**12 52 35.6**	**-1.5**
AQDB	**Aquidauana**	**23.11**	**124**	*eP*	**P**	**12 48 30.7**	**+2.5**
AQDB				*eS*	**S**	**12 52 35.6**	**-1.5**
CFA	**Coronel Fontan**	**24.41**	**164**	P	**P**	**12 48 39.7**	**-0.8**
	10nm,0.7s,baz=340,slow=9.1,SNR=16						
CFA				LR	LR	12 57 59.4	
	comp=Z,68nm,18.1s,baz=302,slow=36						
CPUP	**Villa Florida**	**25.30**	**138**	P	**P**	**12 48 48.3**	**-0.3**
	4.2nm,0.8s,baz=320,slow=9.3,SNR=9.9						
CPUP				LR	LR	13 01 10.8	
	comp=Z,78nm,21.9s,baz=315,slow=42						
MDP	**Montagnes des**	**26.74**	**61**	LR	LR	12 59 43.0	
	comp=Z,38nm,21.0s,baz=203,slow=37						
APG	**El Apazote**	**27.13**	**328**	LR	LR	12 59 03.9	
	comp=Z,81nm,18.3s,baz=48,slow=35						
IPMB	**Ipameri, GO**	**28.71**	**113**	*eP*	**P**	**12 49 20.2**	**+0.9**
IPMB	**Ipameri, GO**	**28.71**	**113**	*eP*	**P**	**12 49 20.2**	**+0.9**
TXAR	**Lajitas Array**	**45.84**	**326**	P	**P**	**12 51 43.7**	**-0.4**
	0.9nm,0.7s,baz=149,slow=7.3,SNR=7.3						
PMSA	**Palmer Station**	**57.14**	**174**	LR	LR	13 14 55.1	
	comp=Z,67nm,18.9s,baz=316,slow=33						
PDAR	**Pinedale Array**	**59.21**	**332**	P	**P**	**12 53 22.8**	**-0.3**
	0.3nm,0.6s,baz=125,slow=8.9,SNR=3.1						
ULM	**Lac du Bonnet**	**60.70**	**345**	P	**P**	**12 53 32.2**	**-0.6**
	3.4nm,0.7s,baz=158,slow=7.6,SNR=6.0						
NVAR	**Mina Array Bea**	**60.82**	**323**	P	**P**	**12 53 33.8**	**-0.5**
	0.6nm,0.8s,baz=107,slow=8.2,SNR=4.6						
SCHQ	**Schefferville**	**63.23**	**6**	LR	LR	13 22 43.2	
	comp=Z,46nm,20.0s,baz=98,slow=37						
DBIC	**Dimbokro**	**72.42**	**80**	P	**P**	**12 54 50.0**	**+1.4**
	3.8nm,0.6s,baz=237,slow=5.8,SNR=5.6						
VNA2	**Neumayer--Watz**	**75.40**	**162**	P	**P**	**12 55 04.6**	**-0.4**
	baz=297,slow=8.0						
YKA	**Yellowknife Ar**	**76.46**	**343**	P	**P**	**12 55 10.2**	**-0.7**
	0.5nm,0.6s,baz=140,slow=5.7,SNR=7.0						
SNAA	**Sanae**	**77.02**	**162**	P	**P**	**12 55 13.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**79.97**	**75**	P	**P**	**12 55 32.5**	**+1.0**
	2.9nm,0.9s,baz=281,slow=4.6,SNR=9.6						
ILAR	**Eielson Array**	**89.35**	**336**	P	**P**	**12 56 17.4**	**-0.3**
	1.0nm,1.0s,baz=136,slow=6.2,SNR=5.5						
MAW	**Mawson**	**98.94**	**165**	LR	LR	13 39 33.4	
	comp=Z,10nm,21.9s,baz=241,slow=34						
STKA	**Stephens Creek**	**126.41**	**228**	PKP	**PKPdf**	**13 02 24.2**	**-0.9**
	0.9nm,0.4s,baz=72,slow=3.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**131.79**	**15**	PKP	**PKPdf**	**13 02 34.9**	**+0.3**
	0.8nm,0.5s,baz=318,slow=2.0,SNR=4.1						
ASAR	**Alice Springs**	**136.96**	**222**	PKP	**PKPdf**	**13 02 43.8**	**-1.4**
	1.5nm,0.8s,baz=119,slow=2.1,SNR=16						
WRA	**Warramunga Arr**	**139.13**	**227**	PKP	**PKPdf**	**13 02 47.9**	**-1.4**
	1.7nm,0.8s,baz=128,slow=1.9,SNR=18						
KSH	**Kashi**	**139.92**	**34**	PKP	**PKiKP**	**13 02 52.1**	**-0.6**
KSH				PKS	**PKSdf**	**13 06 26.4**	**0.0**
KSH				SKKS		13 12 42.4	

ANF ***12*** *12:48:22.9±0.1,34.1°S×117.3°W,h15km,ML2.6/26,*
ML2.6/26,Error ellipse: s-maj=1.1km s-min=1.0km az=5.0
NEIC ***12*** *12:48:23.7±1.1,34.1°S±0.0°×117.3°W±0.0°,h16km,2km*
PAS ***12*** *12:48:24.2±0.0,34.1°S×117.3°W,h10km,ML2.7*
SCEDC ***12*** *12:48:24.2,34.1°S×117.3°W,h10km,ML2.7,ML2.7,*
ML2.6
ISC 12 12:48:23.9±0.8,**34.17N**±0.02°×**117.35W**±0.01°,**h15**km±5km,
n74,σ0°68/107,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLTC	**Calectric**	**0.08**	**162**		**Pg**	**12 48 26.9**	**0.0**
FON	**Fontana**	**0.10**	**226**		**Pg**	**12 48 26.9**	**-0.3**
FON					**Sg**	**12 48 29.1**	**-0.3**
HLNC	**Highland**	**0.12**	**115**		**Pg**	**12 48 27.0**	**-0.3**
SS2	**San Sevaine**	**0.13**	**286**		**Pg**	**12 48 27.2**	**-0.2**
RVR	**Riverside**	**0.18**	**187**		**Pg**	**12 48 27.9**	**-0.2**
RVR					**Sg**	**12 48 30.8**	**-0.2**
RSBC	**Riverside Bore**	**0.20**	**175**		**Pg**	**12 48 28.2**	**-0.2**
RSBC					**Sg**	**12 48 31.5**	**-0.1**
SVD	**Seven Oaks Dam**	**0.22**	**107**		**Pg**	**12 48 28.5**	**-0.2**
SVD					**Sg**	**12 48 31.9**	**-0.1**
CFT	**Crafton Hills**	**0.24**	**125**		**Pg**	**12 48 28.9**	**-0.2**
MLSC	**Mira Loma**	**0.24**	**227**		**Pg**	**12 48 29.1**	**-0.1**
MLSC					**Sg**	**12 48 32.8**	**0.0**
BFSC	**Mount Baldy Ra**	**0.27**	**285**	P	**Pg**	**12 48 29.2**	**-0.4**
	baz=102,SNR=288						
BFSC				S	**Sg**	**12 48 33.1**	**-0.5**
	baz=102						
BFSC	**Mount Baldy Ra**	**0.27**	**285**		**Pg**	**12 48 29.3**	**-0.4**
SSK	**Sunset Peak**	**0.29**	**278**		**Pg**	**12 48 29.8**	**-0.2**
BTL	**Butler Peak**	**0.30**	**73**		**Pg**	**12 48 30.0**	**-0.3**
PEC	**Perris**	**0.32**	**151**		**Pg**	**12 48 30.3**	**-0.1**
PEC					**Sg**	**12 48 35.2**	**+0.2**
SME	**Santa Rosa Min**	**0.35**	**181**		**Pg**	**12 48 30.8**	**-0.2**
BBRC	**Big Bear Solar**	**0.36**	**76**	P	**Pg**	**12 48 31.1**	**-0.3**
	baz=257,SNR=199						
BBRC				S	**Sg**	**12 48 36.1**	**-0.5**
	baz=257						
BBRC	**Big Bear Solar**	**0.36**	**76**		**Pg**	**12 48 31.1**	**-0.3**
VTV	**Victorville**	**0.39**	**2**		**Pg**	**12 48 31.1**	**-0.7**
VTV					**Sg**	**12 48 36.2**	**-0.9**
PSRC	**Puddingstone R**	**0.39**	**258**		**Pg**	**12 48 31.7**	**0.0**
PEM	**Pine Mountain**	**0.43**	**270**		**Pg**	**12 48 32.4**	**-0.2**
XTL	**Crystal Lake,**	**0.44**	**286**		**Pg**	**12 48 32.4**	**-0.4**
HOLC	**Holcomb Ridge**	**0.50**	**305**		**Pg**	**12 48 33.3**	**-0.5**
CHFC	**Chilao Flat St**	**0.58**	**286**		**Pg**	**12 48 34.7**	**-0.7**
MURC	**Murrieta**	**0.58**	**167**	P	**Pg**	**12 48 34.9**	**-0.5**
	baz=348,SNR=15						
MURC				S	**Sg**	**12 48 42.7**	**-0.4**
	baz=348						
MWC	**Mount Wilson**	**0.59**	**275**	Pg	**Pg**	**12 48 35.1**	**-0.4**
MWC				Sg	**Sg**	**12 48 43.4**	**-0.1**
CACC	**Caltech Cellar**	**0.64**	**267**		**Pg**	**12 48 36.3**	**-0.2**
PASC	**Pasadena Art C**	**0.69**	**270**		**Pg**	**12 48 36.9**	**-0.5**
PASC					Pn	12 48 45.6	+6.4
RRX	**Edison Barstow**	**0.76**	**22**	P	**Pg**	**12 48 37.9**	**-0.7**
	baz=202						
RRX				S	**Sg**	**12 48 48.3**	**-0.4**
	baz=202						
RRX	**Edison Barstow**	**0.76**	**22**		**Pg**	**12 48 38.0**	**-0.6**
DECC	**Green Verdugo**	**0.82**	**276**	P	**Pg**	**12 48 39.2**	**-0.7**
	baz=95,SNR=8.3						
DECC				S	**Sg**	**12 48 50.4**	**-0.2**
	baz=95						
EDW2	**Edwards Air Fo**	**0.89**	**323**	P	**Pb**	**12 48 40.1**	**-0.9**
	baz=142,SNR=24						
EDW2				S	**Sb**	**12 48 51.4**	**-1.3**
	baz=142						
FMP	**Fort Macarthur**	**0.91**	**240**	P	**Pb**	**12 48 40.6**	**-0.8**
	baz=59						
FMP				S	**Sb**	**12 48 52.9**	**-0.4**
	baz=59						
PFO	**Pinyon Flats O**	**0.93**	**127**	P	**Pb**	**12 48 40.9**	**-0.8**
	baz=308,SNR=30						
PFO				S	**Sb**	**12 48 53.4**	**-0.6**
	baz=308						
PFO	**Pinyon Flats O**	**0.93**	**127**		**Pb**	**12 48 41.0**	**-0.8**
PFO				Sg	**Sb**	**12 48 53.7**	**-0.2**
XPFO	**Pion Flat**	**0.93**	**127**		**Pb**	**12 48 41.0**	**-0.8**
XPFO				Sg	**Sb**	**12 48 53.0**	**-1.1**
HEC	**Hector,Ludlow**	**1.06**	**52**	P	**Pb**	**12 48 43.4**	**-0.6**
	baz=232,SNR=35						
HEC				S	**Sb**	**12 48 57.8**	**0.0**
	baz=232						
BELC	**Belle Mtn. Jos**	**1.13**	**98**	Pg	**Pb**	**12 48 44.9**	**-0.4**
	baz=280,SNR=151						
BELC				S	**Sb**	**12 48 59.7**	**-0.2**
	baz=280						
CIS	**Catalina Islan**	**1.18**	**229**	P	**Pn**	**12 48 45.1**	**-0.7**
	baz=48,SNR=10						
CIS				S	**Sb**	**12 49 01.1**	**+0.1**
	baz=48						
GSC	**Goldstone, Bar**	**1.21**	**21**	Pb	**Pn**	**12 48 46.0**	**-0.4**
	baz=202,SNR=45						
GSC				S	**Sb**	**12 49 02.0**	**-0.1**
	baz=202						
GSC	**Goldstone, Bar**	**1.21**	**21**		**Pn**	**12 48 46.0**	**-0.4**
GSC				Sn	**Sb**	**12 49 01.9**	**-0.3**
OSI	**Osito Audit: C**	**1.22**	**292**	S	**Sb**	**12 49 02.3**	**0.0**
	baz=110						
OSI	**Osito Audit: C**	**1.22**	**292**		**Pg**	**12 48 48.4**	**+1.0**
OSI				Sn	**Sb**	**12 49 02.5**	**+0.2**
109C	**Camp Elliot, M**	**1.29**	**171**	P	**Pn**	**12 48 46.8**	**-0.7**
	baz=351						
109C				S	**Sb**	**12 49 03.4**	**-1.0**
	baz=351						
109C	**Camp Elliot, M**	**1.29**	**171**	Pn	**Pn**	**12 48 46.7**	**-0.8**
BLG	**Laguna Peak, P**	**1.43**	**268**	Pb	**Pn**	**12 48 49.2**	**-0.1**
	baz=86						
BLG				S	**Sn**	**12 49 07.3**	**-0.5**
	baz=86						
MONP2	**Monument Peak**	**1.49**	**149**	Pb	**Pn**	**12 48 50.6**	**+0.2**
	baz=330,SNR=9.4						
MONP2				S	**Sn**	**12 49 09.6**	**-0.1**
	baz=330						
GMRC	**Granite Mounta**	**1.52**	**66**	P	**Pn**	**12 48 50.1**	**-0.6**
	baz=247,SNR=37						
GMRC				Sb	**Sb**	**12 49 11.5**	**+0.4**
	baz=247						
GMRC	**Granite Mounta**	**1.52**	**66**		**Pn**	**12 48 50.1**	**-0.6**
ARVC	**Arvin**	**1.55**	**308**	Sb	**Sb**	**12 49 12.2**	**+0.4**
	baz=127						
SCI2	**San Clemente I**	**1.55**	**220**	Pg	**Pb**	**12 48 53.2**	**+0.9**
	baz=40						
SCI2				S	**Sn**	**12 49 11.2**	**+0.3**
	baz=40						
BAR	**Barrett**	**1.59**	**159**		**Pn**	**12 48 51.6**	**0.0**
BAR				Sn	**Sn**	**12 49 11.8**	**-0.1**
ISA	**Isabella, Lake**	**1.75**	**328**	P	**Pn**	**12 48 53.8**	**0.0**
	baz=148						
ISA	**Isabella, Lake**	**1.75**	**328**		**Pn**	**12 48 54.1**	**+0.2**
ISA				Sn	**Sb**	**12 49 17.1**	**-0.6**
SWSC	**Sam W. Stewart**	**1.78**	**133**	Pg	**Pb**	**12 48 57.3**	**+1.1**
	baz=314						
SWSC				Sb	**Sb**	**12 49 19.7**	**+1.3**
	baz=314						
IRM	**Iron Mountain**	**1.83**	**90**	Pg	**Pb**	**12 48 57.3**	**+0.3**
	baz=271						
IRM				Sb	**Sb**	**12 49 21.2**	**+1.4**
	baz=271						
IKP	**In-Ko-Pah, Jac**	**1.84**	**145**	Sb	**Sb**	**12 49 20.8**	**+0.7**
	baz=326						
MPMC	**Manual Prospec**	**1.89**	**357**	Pg	**Pb**	**12 48 59.1**	**+1.0**
	baz=176						
SNCC	**San Nicolas Is**	**2.04**	**244**	Pn	**Pb**	**12 49 00.7**	**+0.2**
DAC	**Darwin (Calif)**	**2.11**	**355**	Pn	**Pg**	**12 49 03.3**	**-1.1**
PKM	**Mcpherson Peak**	**2.16**	**290**	Pg	**Pb**	**12 49 03.7**	**+0.9**
	baz=108						
Y12C	**Blythe**	**2.38**	**99**	Pg	**Pb**	**12 49 07.8**	**+1.3**
	baz=281						
Y12C	**Blythe**	**2.38**	**99**	Pn	**Pn**	**12 49 02.2**	**-0.3**
TPNV	**Topopah Spring**	**2.91**	**18**	Pn	**Pn**	**12 49 11.3**	**+1.5**
SHPR	**Sheep Range**	**2.94**	**37**	Pn	**Pn**	**12 49 11.6**	**+1.4**
W13A	**Hualapai Mount**	**3.00**	**71**		**Pn**	**12 49 11.2**	**+0.1**
113A	**Mohawk Valley,**	**3.30**	**114**	Pn	**Pn**	**12 49 14.8**	**-0.3**
Y14A	**Wickenburg**	**3.61**	**92**		**Pn**	**12 49 19.7**	**+0.3**
OMMB	**Old Mammoth Mi**	**3.69**	**339**	Pn	**Pn**	**12 49 23.2**	**+2.6**
**MDP

NEIC **12** *13:10:18.4±1.4, 47°.85N±0°.08×145°.15E±0°.07, h24km±4km, mb4.7/63*
JMA **12** *13:10:18.6±0.5, 47°.53N×145°.19E, h10km, M4.4*
IDC **12** *13:10:20.8±2.4, 47°.87N×145°.06E, h38km±20km, mb4.2/24, mb1 4.3/29, mb1mx4.2/41, mbtmp4.4/29, ML3.9/3, MS3.5/13, Ms1 3.5/13, ms1mx3.3/32, Error ellipse: s-maj=13.8km s-min=10.8km az=146.0*
MOS **12** *13:10:20.2±1.1, 47°.56N×145°.10E, h67km, mb4.7/40, Error ellipse: s-maj=10.3km s-min=5.0km az=100.7*
ISC 12 13:10:15.5±1.2, **47°.86N**±0°.03×**145°.30E**±0°.03, **h6**km±7km, **n256**, σ**1**§**34**/304, **mb4.7**/85, **MS3.8**/13, **14C-25D**, **Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**1.95**	**243**	⇓	*i*	P	**Pn**	**13 10 47.3**	**-1.8**
YSS						S	**Sn**	**13 11 11.5**	**-2.4**
YSS						pmax	pmax		
	comp=Z,50nm,1.3s								
YSS						smax	smax		
	comp=E,4μm,3.7s								
YSS						smax	smax		
	comp=N,1μm,0.8s								
YSS	**Yuzh-Sakhalins**	**1.95**	**243**		*i*	P	**Pn**	**13 10 47.0**	**-2.1**
YSS						AMB	AMB	13 10 48.0	
	comp=N,50nm,1.0s								
YSS						S	**Sn**	**13 11 09.8**	**-4.1**
YSS						A	A	13 11 15.0	
	comp=N,4μm,3.7s								
YSS						A	A	13 11 15.0	
	comp=N,1μm,0.8s								
YSS	**Yuzh-Sakhalins**	**1.95**	**243**		*e*	P	**Pn**	**13 10 47.7**	**-1.4**
YSS					*e*	Pb	**Pb**	**13 10 49.7**	**-1.7**
YSS					*e*	Pg	**Pg**	**13 10 52.8**	**-0.1**
YSS						AMB	AMB	13 10 53.9	
	comp=N,406nm,0.6s								
YSS					*e*	Sb	**Sn**	**13 11 13.4**	**-0.5**
YSS					*e*	Sg	**Sg**	**13 11 20.2**	**+2.0**
YSS						A	A	13 11 26.7	
	comp=N,4μm,0.8s								
YSS						A	A	13 11 26.7	
	comp=N,3μm,0.8s								
YSS						AMS	AMS	13 11 45.0	
	comp=N,5μm,15.0s								
YSS						AMS	AMS	13 11 45.0	
	comp=N,5μm,15.0s								
YSS	**Yuzh-Sakhalins**	**1.95**	**243**				**Pn**	**13 10 48.2**	**-0.9**
KHLM	**Kholmsk**	**2.35**	**251**		*e*	Pg	**Pb**	**13 11 00.3**	**+2.2**
KHLM						AMB	AMB	13 11 02.0	
	comp=N,700nm,0.4s								
KHLM					*e*	Sg	**Sg**	**13 11 30.3**	**-0.5**
KHLM						A	A	13 11 32.2	
	comp=N,2μm,0.9s								
UGL	**Uglegorsk**	**2.48**	**301**		*e*	PN	**Pn**	**13 10 55.4**	**-0.9**
UGL					*e*	S	**Sn**	**13 11 23.3**	**-3.6**
UGL						pmax	pmax		
	comp=Z,4μm,1.2s								
UGL						pmax	pmax		
	comp=Z,3μm,1.1s								
UGL						smax	smax		
	comp=N,7μm,2.9s								
UGL						smax	smax		
	comp=E,7μm,2.5s								
UGL						smax	smax		
	comp=N,4μm,0.8s								
UGL						MLR	MLR		
	comp=Z,5μm,4.0s								
UGL	**Uglegorsk**	**2.48**	**301**		*e*	P	**Pn**	**13 10 55.3**	**-1.0**
UGL						AMB	AMB	13 10 56.3	
	comp=Z,570nm,0.3s								
UGL					*e*	S	**Sn**	**13 11 24.2**	**-2.7**
UGL						A	A	13 11 41.2	
	comp=Z,5μm,0.9s								
UGL						A	A	13 11 41.2	
	comp=Z,5μm,0.9s								
UGL						A	A	13 13 52.0	
	comp=Z,7μm,3.0s								
UGL	**Uglegorsk**	**2.48**	**301**		*e*	Pb	**Pn**	**13 10 55.5**	**-0.9**
UGL					*e*	Pg	**Pb**	**13 10 59.9**	**-0.5**
UGL						AMB	AMB	13 11 03.2	
	comp=Z,3μm,1.0s								
UGL					*e*	Sb	**Sn**	**13 11 23.2**	**-3.6**
UGL					*e*	Sg	**Sb**	**13 11 31.1**	**0.0**
UGL						A	A	13 11 34.7	
	comp=Z,4μm,0.8s								
UGL						A	A	13 11 34.7	
	comp=Z,3μm,0.8s								
KUR	**Kuril'sk**	**3.16**	**145**	⇑	*i*	PN	**Pn**	**13 11 06.0**	**+0.2**
KUR					*i*	S	**Sn**	**13 11 41.7**	**-2.1**
KUR						pmax	pmax		
	comp=Z,64nm,0.4s								
KUR						pmax	pmax		
	comp=N,48nm,0.2s								
KUR						pmax	pmax		
	comp=E,35nm,0.2s								
KUR						smax	smax		
	comp=E,215nm,0.2s								
KUR						smax	smax		
	comp=N,49nm,0.3s								
KUR	**Kuril'sk**	**3.16**	**145**		*i*	P	**Pn**	**13 11 04.8**	**-1.0**
KUR						AMB	AMB	13 11 06.8	
	comp=N,100nm,0.3s								
KUR					*i*	S	**Sn**	**13 11 40.6**	**-3.2**
KUR						A	A	13 11 46.2	
	comp=N,910nm,0.4s								
KUR						A	A	13 11 46.2	
	comp=N,380nm,0.4s								
JSE	**Soyaes**	**3.45**	**214**			P	**Pn**	**13 11 09.6**	**-0.2**
JSE						S	**Sn**	**13 11 47.4**	**-3.6**
JWK2	**Keihoku**	**3.46**	**224**			P	**Pn**	**13 11 10.2**	**+0.4**
TYV	**Tymovskoe**	**3.47**	**331**		*e*	PN	**Pb**	**13 11 17.8**	**+0.5**
TYV						pmax	pmax		
	comp=Z,91nm,0.8s								
TYV						pmax	pmax		
	comp=Z,500nm,2.3s								
TYV	**Tymovskoe**	**3.47**	**331**		*e*	P	**Pn**	**13 11 09.3**	**-0.8**
TYV						AMB	AMB	13 11 18.5	
	comp=Z,90nm,0.8s								
TYV						AMB	AMB	13 11 20.5	
	comp=Z,500nm,2.3s								
TYV					*e*	S	**Sn**	**13 11 48.6**	**-2.8**
TYV						A	A	13 12 08.4	
	comp=Z,360nm,0.8s								
TYV						A	A	13 12 09.1	
	comp=Z,2μm,3.2s								
TYV	**Tymovskoe**	**3.47**	**331**		*e*	P	**Pn**	**13 11 09.2**	**-0.8**
TYV					*e*	Pb	**Pb**	**13 11 14.0**	**-3.3**
TYV					*e*	Pg	Pg	13 11 18.0	-4.0
TYV						AMB	AMB	13 11 18.4	
	comp=Z,90nm,0.4s								
TYV					*e*	Sg	**Sg**	**13 12 05.6**	**-1.3**
TYV						A	A	13 12 09.4	
	comp=Z,400nm,0.6s								
TYV						A	A	13 12 09.4	
	comp=Z,900nm,0.6s								
TYV						A	A	13 12 10.3	
	comp=Z,2μm,3.0s								
TYV						A	A	13 12 10.3	
	comp=Z,4μm,3.0s								
TYV						AMS	AMS	13 12 43.0	
	comp=Z,3μm,17.0s								
TYV						AMS	AMS	13 12 43.0	
	comp=Z,6μm,17.0s								
JRBN	**Rebuntou**	**3.80**	**232**			P	**Pn**	**13 11 14.7**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**3.84**	**174**	⇑	*i*	PN	**Pn**	**13 11 14.1**	**-1.0**
YUK					*i*	S	**Sn**	**13 11 57.7**	**-2.8**
YUK						pmax	pmax		
	comp=Z,392nm,0.3s								
YUK						pmax	pmax		
	comp=E,135nm,0.2s								
YUK						pmax	pmax		
	comp=N,78nm,0.3s								
YUK						smax	smax		
	comp=N,439nm,0.5s								
YUK						smax	smax		
	comp=E,268nm,0.6s								
YUK	**Yuzh-Kuril'sk**	**3.84**	**174**		*i*	P	**Pn**	**13 11 14.0**	**-1.0**
YUK						AMB	AMB	13 11 14.6	
	comp=E,330nm,0.3s								
YUK					*i*	S	**Sn**	**13 11 57.0**	**-3.5**
YUK						A	A	13 11 59.7	
	comp=E,610nm,0.5s								
GRPR	**Tuman**	**3.88**	**175**	⇓	*i*	PN	**Pn**	**13 11 14.9**	**-0.7**
GRPR					*i*	S	**Sn**	**13 11 58.8**	**-2.6**
GRPR						pmax	pmax		
	comp=Z,250nm,0.4s								
GRPR						pmax	pmax		
	comp=N,89nm,0.2s								
GRPR						pmax	pmax		
	comp=E,86nm,0.4s								
GRPR						smax	smax		
	comp=E,199nm,0.3s								
GRPR						smax	smax		
	comp=N,414nm,0.4s								
GRPR	**Tuman**	**3.88**	**175**		*i*	P	**Pn**	**13 11 14.0**	**-1.6**
GRPR						AMB	AMB	13 11 20.0	
	comp=N,250nm,0.4s								
GRPR					*i*	S	**Sn**	**13 11 58.0**	**-3.4**
GRPR						A	A	13 12 00.0	
	comp=N,410nm,0.4s								
GRPR						A	A	13 12 00.0	
	comp=N,200nm,0.4s								
JRA	**Rausu**	**3.92**	**182**			P	**Pn**	**13 11 16.0**	**-0.2**
JTKR	**Abashiri--Toko**	**4.01**	**195**			P	**Pn**	**13 11 16.8**	**-0.5**
GLVR	**Golovnino**	**4.12**	**178**	⇑	*i*	PN	**Pn**	**13 11 18.6**	**-0.3**
GLVR						eS	**Sn**	**13 12 05.3**	**-2.1**
GLVR						pmax	pmax		
	comp=Z,131nm,0.5s								
GLVR						smax	smax		
	comp=N,154nm,0.4s								
GLVR						smax	smax		
	comp=E,349nm,0.4s								
GLVR	**Golovnino**	**4.12**	**178**		*i*	P	**Pn**	**13 11 18.0**	**-0.9**
GLVR						AMB	AMB	13 11 29.0	
	comp=E,130nm,0.5s								
GLVR						eS	**Sn**	**13 12 05.0**	**-2.4**
GLVR						A	A	13 12 10.0	
	comp=E,154nm,0.4s								
GLVR						A	A	13 12 10.0	
	comp=E,349nm,0.4s								
SHO	**Shikotan**	**4.13**	**164**	⇑	*i*	PN	**Pn**	**13 11 18.7**	**-0.3**
SHO					*i*	S	**Sn**	**13 12 05.5**	**-2.1**
SHO						pmax	pmax		
	comp=Z,203nm,0.6s								
SHO						pmax	pmax		
	comp=E,40nm,0.2s								
SHO						pmax	pmax		
	comp=N,127nm,0.3s								
SHO						smax	smax		
	comp=N,82nm,0.4s								
SHO						smax	smax		
	comp=E,263nm,0.5s								
SHO	**Shikotan**	**4.13**	**164**		*i*	P	**Pn**	**13 11 18.0**	**-1.0**
SHO						AMB	AMB	13 11 19.7	
	comp=E,200nm,0.6s								
SHO					*i*	S	**Sn**	**13 12 05.0**	**-2.6**
SHO						A	A	13 12 10.3	
	comp=E,500nm,0.8s								
SHO						A	A	13 12 10.3	
	comp=E,470nm,0.8s								
ASAJ	**Asahikawa**	**4.19**	**208**			Pn	**Pn**	**13 11 19.3**	**-0.6**
	comp=E,5.5nm,0.3s,baz=14,slow=12,SNR=41								
ASAJ						Sn	**Sn**	**13 12 07.3**	**-1.8**
	comp=E,9.4nm,0.3s,baz=248,slow=32,SNR=7.2								
ASAJ						LR	LR	13 12 40.3	
	comp=E,143nm,20.6s,baz=149,slow=34								
JKA	**Kamikawa-asahi**	**4.19**	**208**		*e*	P	**Pn**	**13 11 19.3**	**-0.6**
JKK2	**Kamakawa 2**	**4.37**	**205**			P	**Pn**	**13 11 22.2**	**-0.1**
NMR	**Nemuro--Hokkai**	**4.50**	**176**		*d*	PN	**Pn**	**13 11 23.9**	**-0.2**
NMR						S	**Sn**	**13 12 15.1**	**-1.6**
NMR	**Nemuro--Hokkai**	**4.50**	**176**		*i*	P	**Pn**	**13 11 23.0**	**-1.1**
NMR						S	**Sn**	**13 12 15.0**	**-1.6**
NEM2	**Nemuro 2**	**4.50**	**176**			P	**Pn**	**13 11 23.8**	**-0.4**
JAR	**Ashorobuto**	**4.69**	**194**			P	**Pn**	**13 11 26.9**	**+0.2**
JHR	**Hokuryu**	**4.81**	**213**			P	**Pn**	**13 11 29.9**	**+1.4**
JCH	**Churui**	**5.42**	**195**			P	**Pn**	**13 11 37.1**	**+0.3**
ERM	**Erimo**	**6.04**	**195**			PN	**Pn**	**13 11 44.3**	**-0.9**
ERM	**Erimo**	**6.04**	**195**			Pn	**Pn**	**13 11 44.3**	**-0.9**
NKL	**Nikolayevsk**	**6.07**	**333**		*e*	P	**Pn**	**13 11 45.5**	**-0.1**
NKL						AMB	AMB	13 12 17.7	
	comp=E,800nm,1.0s								
GRNR	**Gornyy**	**6.50**	**300**		*e*	PN	Pn	13 11 43.0	-8.6
GRNR					*e*			13 13 18.5	
GRNR						pmax	pmax		
	comp=Z,20nm,0.4s								
GRNR						smax	smax		
	comp=N,50nm,0.5s								
GRNR						MLR	MLR		
	comp=Z,610nm,17.0s								
TEY	**Ternei**	**6.64**	**248**	⇑	*e*	PN	Pn	13 11 58.6	+5.1
TEY						pmax	pmax		
	comp=E,20nm,1.0s								
TEY	**Ternei**	**6.64**	**248**		*e*	P	**Pn**	**13 11 52.8**	**-0.7**
TEY	**Ternei**	**6.64**	**248**		*e*	P	**Pn**	**13 11 54.6**	**+1.1**
TEY						AMB	AMB	13 11 56.6	
	comp=E,30nm,1.0s								
TEY					*e*	S	**Sn**	**13 13 07.1**	**-2.3**
TEY						A	A	13 13 08.4	
	comp=E,40nm,0.8s								
TEY						A	A	13 13 08.4	
	comp=E,30nm,0.8s								
KLR	**Kul'dur**	**9.10**	**284**		*i*	PN	**Pn**	**13 12 27.2**	**0.0**
KLR	**Kul'dur**	**9.10**	**284**			Pn	**Pn**	**13 12 27.5**	**+0.3**
	comp=E,1.0nm,0.3s,baz=108,slow=15,SNR=14								
KLR						LR	LR	13 16 05.0	
	comp=E,424nm,18.3s,baz=94,slow=38								
KLR	**Kul'dur**	**9.10**	**284**		*e*	P	**Pn**	**13 12 27.2**	**0.0**
EKMR	**Ekimchan**	**9.45**	**308**		*e*	P	**Pn**	**13 12 32.0**	**0.0**
EKMR						AMB	AMB	13 12 38.0	
	comp=E,10.0nm,0.8s								
EKMR	**Ekimchan**	**9.45**	**308**		*e*	P	**Pn**	**13 12 32.0**	**0.0**
EKMR						AMB	AMB	13 12 38.0	
	comp=E,11nm,0.8s								
EKMR					*e*	S	**Sn**	**13 14 21.0**	**+2.5**
EKMR						A	A	13 14 23.0	
	comp=E,10.0nm,0.6s								
PEA0B	**Petropavlovsk-**	**9.49**	**52**			PN	**Pn**	**13 12 36.6**	**+4.1**
PEA0B	**Petropavlovsk-**	**9.49**	**52**			Pn	**Pn**	**13 12 36.6**	**+4.1**
PETK	**Petropavlovsk-**	**9.49**	**52**			Pn	**Pn**	**13 12 36.2**	**+3.6**
	comp=E,0.3nm,0.3s,baz=227,slow=12,SNR=3.4								
PETK						Sn	**Sn**	**13 14 15.7**	**-3.8**
	comp=E,1.1nm,0.3s,baz=228,slow=6.9,SNR=7.4								
USRK	**Ussuriysk Ar.**	**9.96**	**253**			LR	LR	13 16 14.6	
	comp=E,202nm,20.5s,baz=70,slow=36								
MA2	**Magadan**	**12.17**	**13**			PN	**Pn**	**13 13 08.8**	**-0.5**
MA2	**Magadan**	**12.17**	**13**			Pn	**Pn**	**13 13 08.8**	**-0.5**
BMKR	**Bomnak**	**12.36**	**310**		*e*	P	**Pn**	**13 13 12.5**	**+0.6**
BMKR						AMB	AMB	13 13 19.3	
	comp=E,10.0nm,1.0s								
BMKR	**Bomnak**	**12.36**	**310**		*e*	P	**Pn**	**13 13 12.5**	**+0.6**
BMKR						AMB	AMB	13 13 19.3	
	comp=E,8.0nm,1.0s								
MJAR	**Matsushiro Arr**	**12.46**	**207**			LR	LR	13 19 13.0	
	comp=E,56nm,20.8s,baz=20,slow=43								
ZEA	**Zeya**	**12.83**	**304**		*e*	PN	**Pn**	**13 13 21.6**	**+3.3**
ZEA						pmax	pmax		
	comp=Z,15nm,1.0s								
ZEA	**Zeya**	**12.83**	**304**		*e*	P	**Pn**	**13 13 17.2**	**-1.1**
ZEA						AMB	AMB	13 13 24.9	
	comp=Z,20nm,1.0s								
ZEA	**Zeya**	**12.83**	**304**		*e*	P	**Pn**	**13 13 17.2**	**-1.1**
ZEA						AMB	AMB	13 13 24.9	
	comp=Z,15nm,1.0s								
KROS	**Kirovskiy**	**13.24**	**307**		*e*	P	**Pn**	**13 13 23.0**	**-0.8**
KROS						AMB	AMB	13 13 25.0	
	comp=Z,3.0nm,0.8s								
JHJ2	**Mitsune**	**15.30**	**198**			Pn	**Pn**	**13 13 51.0**	**-1.0**
SEY	**Seymchan**	**15.62**	**12**			Pn	**Pn**	**13 13 58.4**	**+2.4**
	comp=Z,0.9nm,0.3s,baz=190,slow=11,SNR=17								
KSRS	**Korea Array**	**16.44**	**237**			LR	LR	13 19 56.8	
	comp=Z,126nm,18.4s,baz=52,slow=35								
YAK	**Yakutsk**	**16.73**	**334**		*e*	P	**Pn**	**13 14 11.4**	**+1.2**
YAK					*e*	S	**Sn**	**13 17 16.5**	**+0.5**
YAK						pmax	pmax		
	comp=Z,10.0nm,0.9s								
YAK						pmax	pmax		
	comp=N,7.0nm,1.2s								
YAK						pmax	pmax		
	comp=E,7.0nm,1.3s								
YAK						pmax	pmax		
	comp=Z,142nm,2.6s								
YAK						pmax	pmax		
	comp=N,381nm,3.2s								
YAK						pmax	pmax		
	comp=E,273nm,2.8s								
YAK						smax	smax		
	comp=N,452nm,4.0s								
YAK						smax	smax		
	comp=E,267nm,3.6s								
YAK						MLR	MLR		
	comp=Z,99nm,14.0s								
YAK						MLR	MLR		
	comp=N,48nm,14.0s								
YAK						MLR	MLR		
	comp=E,40nm,15.0s								
YAK	**Yakutsk**	**16.73**	**334**			Pn	**Pn**	**13 14 11.4**	**+1.2**
	baz=245,slow=20,SNR=3.4								
YAK	**Yakutsk**	**16.73**	**334**			P	**P**	**13 14 11.7**	**-0.8**
JNU	**Nakatsue**	**18.31**	**222**				**Pn**	**13 14 30.0**	**-0.1**
BOD	**Bodaibo**	**21.19**	**310**		*e*	P	**P**	**13 15 01.3**	**-0.1**
BOD						pmax	pmax		
	comp=Z,18nm,1.9s								
BILL	**Bilibino**	**22.86**	**20**	⇑	*e*	P	**P**	**13 15 19.2**	**0.0**
BILL					*e*			13 15 45.9	
BILL						pmax	pmax		
	comp=Z,11nm,1.3s								
BILL						MLR	MLR		
	comp=Z,74nm,12.0s								
BILL	**Bilibino**	**22.86**	**20**		*e*	P	**P**	**13 15 19.2**	**0.0**
HHC	**Hu-ho-hao-te**	**24.98**	**266**		*e*	P	**P**	**13 15 39.5**	**-0.3**
HHC						pP	pP	13 15 43.7	+2.1
HHC						pmax	pmax		
	comp=Z,6.0nm,0.8s								
TIXI	**Tiksi**	**25.07**	**348**		*ce*	P	**P**	**13 15 40.9**	**+0.6**
TIXI						pmax	pmax		
	comp=Z,16nm,1.3s								
TIXI	**Tiksi**	**25.07**	**348**			P	**P**	**13 15 41.0**	**+0.7**
	comp=Z,8.6nm,0.9s,baz=0.0,slow=24,SNR=6.8								
TIXI	**Tiksi**	**25.07**	**348**		*e*	P	**P**	**13 15 40.9**	**+0.6**
TIXI	**Tiksi**	**25.07**	**348**			P	**P**	**13 15 41.3**	**+1.0**
ULN	**Ulaanbaatar**	**25.49**	**284**		*ce*	P	**P**	**13 15 43.7**	**-0.8**
ULN						pmax	pmax		
	comp=Z,19nm,2.5s								
ULN	**Ulaanbaatar**	**25.49**	**284**		*e*	P	**P**	**13 15 43.7**	**-0.8**
ULN	**Ulaanbaatar**	**25.49**	**284**			P	**P**	**13 15 43.4**	**-1.1**
NJ2	**Nanjing**	**25.52**	**241**		*e*	P	**P**	**13 15 45.2**	**+0.5**
NJ2						pmax	pmax		
	comp=Z,6.0nm,0.5s								
SONM	**Songino Array**	**25.93**	**285**			P	**P**	**13 15 47.6**	**-0.9**
	comp=Z,6.5nm,1.1s,baz=71,slow=7.7,SNR=11								
SONM						PcP	**PcP**	**13 19 16.9**	**0.0**
	comp=Z,0.9nm,0.7s,baz=213,slow=2.3,SNR=4.0								
SONM						LR	LR	13 26 17.0	
	comp=Z,98nm,20.9s,baz=41,slow=37								
TLY	**Talaya**	**26.91**	**294**		*i*	P	**P**	**13 15 55.5**	**-1.6**
TLY						pmax	pmax		
	comp=Z,7.0nm,1.2s								
TLY	**Talaya**	**26.91**	**294**			LR	LR	13 26 34.8	
	comp=Z,165nm,18.7s,baz=65,slow=36								
TLY	**Talaya**	**26.91**	**294**		*e*	P	**P**	**13 15 55.5**	**-1.6**
ZAK	**Zakamensk**	**27.36**	**291**		*e*	P	**P**	**13 15 57.0**	**-4.3**
ZAK						pmax	pmax		
	comp=Z,7.0nm,1.1s								
ANM	**Nome**	**31.10**	**39**			P	**P**	**13 16 33.2**	**-1.0**
ANM								13 19 28.6	
ANM						pmax	pmax		
	comp=Z,15nm,1.3s								
ANM	**Nome**	**31.10**	**39**			P	**P**	**13 16 33.2**	**-1.0**
ANM						IAmb	IAmb	13 16 49.0	
	comp=Z,16nm,1.3s								
ANM						PcP	**PcP**	**13 19 28.6**	**-0.7**
LZH	**Lanzhou**	**32.61**	**264**		*e*	P	**P**	**13 16 50.4**	**+2.4**
LZH						pP	sP	13 16 54.5	+4.0
LZH						sP	pP	13 16 56.7	+6.9
LZH						pmax	pmax		
	comp=Z,23nm,1.1s								
LZH						pmax	pmax		
	comp=Z,79nm,4.9s								
LZH						LR	LR		
	comp=Z,400nm,12.9s								
LZH						LR	LR		
	comp=Z,410nm,13.1s								
LZH						LR	LR		
	comp=Z,540nm,16.5s								
GTA	**Gaotai**	**33.57**	**273**		*e*	P	**P**	**13 16 58.0**	**+1.7**
GTA						pP	sP	13 17 02.3	+3.5
GTA						sP	pP	13 17 05.0	+6.9
GTA						S	**S**	**13 22 19.7**	**+0.7**
GTA						pmax	pmax		
	comp=Z,2.0nm,1.1s								
GTA						pmax	pmax		
	comp=Z,81nm,7.3s								
GTA						LR	LR		
	comp=Z,150nm,17.5s								
GTA						LR	LR		
	comp=Z,200nm,15.2s								
GTA						LR	LR		
	comp=Z,270nm,14.9s								
CD2	**Chengdu**	**35.80**	**257**			P	**P**	**13 17 14.1**	**-1.4**
CD2						pmax	pmax		
	comp=Z,10.0nm,0.5s								
PPLA	**Purkeypile**	**36.92**	**43**			P	**P**	**13 17 22.9**	**-2.0**
PPLA						IAmb	IAmb	13 17 36.2	
	comp=Z,14nm,1.2s								
BPAW	**Bear Paw Mtn.**	**37.33**	**40**			P	**P**	**13 17 25.7**	**-2.6**
ZAA0	**Zalesovo Array**	**37.59**	**303**			P	**P**	**13 17 28.7**	**-1.8**
ZALV	**Zalesovo Beam**	**37.59**	**303**		*i*	P	**P**	**13 17 33.0**	**+2.5**
ZALV						pmax	pmax		
	comp=Z,2.0nm,0.5s								
ZALV	**Zalesovo Beam**	**37.59**	**303**			P	**P**	**13 17 29.4**	**-1.1**
	comp=Z,1.9nm,0.5s,baz=77,slow=7.8,SNR=7.4								
ZALV						PcP	**PcP**	**13 19 47.9**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=62,slow=1.6,SNR=13								
ZALV						LR	LR	13 32 39.0	
	comp=Z,90nm,19.2s,baz=65,slow=36								
TRF	**Thorofare Moun**	**37.71**	**41**			P	**P**	**13 17 32.7**	**+1.1**
TRF						IAmb	IAmb	13 17 49.1	
	comp=Z,15nm,1.5s								
RND	**Reindeer**	**38.36**	**41**			P	**P**	**13 17 35.5**	**-1.5**
RND						pmax	pmax		
	comp=Z,4.0nm,0.9s								
RND	**Reindeer**	**38.36**	**41**			P	**P**	**13 17 35.5**	**-1.5**
COLA	**College**	**38.60**	**39**		*i*	P	**P**	**13 17 40.4**	**+1.6**
COLA						pmax	pmax		
	comp=Z,21nm,1.2s								
SML	**Sawmill**	**38.85**	**44**			P	**P**	**13 17 40.2**	**-0.9**
SML						IAmb	IAmb	13 17 53.8	
	comp=Z,21nm,1.2s								
SML						PcP	**PcP**	**13 19 51.1**	**-0.8**
KNK	**Knik Glacier**	**38.87**	**45**			P	**P**	**13 17 41.8**	**+0.6**
KNK						IAmb	IAmb	13 17 43.2	
	comp=Z,18nm,1.0s								
KNK						PcP	**PcP**	**13 19 53.2**	**+1.2**
ILAR	**Eielson Array**	**39.02**	**39**			P	**P**	**13 17 43.4**	**+1.0**
	comp=Z,3.4nm,0.8s,baz=283,slow=8.5,SNR=26								
ILAR						PcP	**PcP**	**13 19 51.5**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=302,slow=5.2,SNR=5.0								
DHY	**Denali Highway**	**39.07**	**42**			P	**P**	**13 17 43.9**	**+0.8**
DHY						PcP	**PcP**	**13 19 53.9**	**+1.2**
SCM	**Sheep Creek Mo**	**39.32**	**44**			P	**P**	**13 17 47.0**	**+2.0**
SCM						pmax	pmax		
	comp=Z,14nm,1.2s								
SCM	**Sheep Creek Mo**	**39.32**	**44**			P	**P**	**13 17 47.0**	**+2.0**
SCM	

MAKZ Makanchi 41.85 293 P P 13 18 05.2 -0.9
MAKZ pmax pmax
comp=Z,8.0nm,1.2s
MAKZ Makanchi 41.85 293 P P 13 18 05.2 -0.9
KURK Kurchatov 42.26 300 *i* P **P 13 18 08.6 -0.7**
KURK pmax pmax
comp=Z,2.0nm,0.9s
KURK Kurchatov 42.26 300 *eP* **P 13 18 08.6 -0.7**
KURK Kurchatov 42.26 300 P **P 13 18 08.7 -0.6**
KURK **PcP 13 20 02.9 -0.1**
KURBB Kurchatov Arra 42.35 300 P **P 13 18 09.0 -1.0**
comp=Z,3.0nm,0.5s,baz=70,slow=8.9,SNR=9.7
KURBB PcP **PcP 13 20 03.1 -0.3**
comp=Z,1.4nm,0.3s,baz=73,slow=3.2,SNR=11
EPYK Eagle Plains 42.86 35 P **P 13 18 15.9 +1.8**
EPYK IAmb IAmb 13 18 16.3
comp=Z,9.6nm,0.8s
INK Inuvik 43.56 32 P **P 13 18 20.5 +0.9**
INK pmax pmax
comp=Z,9.0nm,1.5s
INK Inuvik 43.56 32 P **P 13 18 20.6 +1.1**
comp=Z,2.3nm,0.5s,baz=307,slow=5.8,SNR=19
INK PcP **PcP 13 20 07.6 +0.6**
comp=Z,1.7nm,0.8s,baz=321,slow=0.9,SNR=4.0
INK Inuvik 43.56 32 P **P 13 18 20.5 +0.9**
BVAR Borovoye Array 45.97 306 P **P 13 18 38.4 -0.7**
comp=Z,3.4nm,0.7s,baz=101,slow=7.7,SNR=7.3
BVAR PcP **PcP 13 20 15.4 -0.2**
comp=Z,1.8nm,0.8s,baz=169,slow=2.4,SNR=5.2
BRVK Borovoye 46.02 306 *i* P **P 13 18 38.9 -0.5**
BRVK pmax pmax
comp=Z,7.0nm,0.9s
BRVK Borovoye 46.02 306 *eP* **P 13 18 38.9 -0.5**
BRVK Borovoye 46.02 306 P **P 13 18 39.1 -0.3**
BRVK IAmb IAmb 13 18 43.3
comp=Z,6.8nm,0.8s
CMAR Chiang Mai Arr 47.64 248 P **P 13 18 52.8 +0.3**
comp=Z,0.2nm,0.3s,baz=39,slow=7.8,SNR=4.6
CMAR PcP **PcP 13 20 22.5 +0.4**
comp=Z,1.0nm,0.7s,baz=11,slow=2.6,SNR=7.3
CMAR LR LR 13 40 04.6
comp=Z,49nm,18.2s,baz=80,slow=38
AAK Ala-Archa 48.53 292 *i* P **P 13 18 58.3 -1.0**
AAK pmax pmax
comp=Z,1.0nm,0.9s
AAK Ala-Archa 48.53 292 *eP* **P 13 18 58.3 -1.0**
KSH Kashi 49.28 287 P **P 13 19 08.1 +3.0**
KSH pP sP 13 19 13.1 +5.4
KSH ScP **ScP 13 24 24.3 +0.8**
KSH S **S 13 26 14.8 +3.2**
KSH SS **SS 13 29 41.6 -1.0**
KSH pmax pmax
comp=Z,670nm,5.4s
ARSB Arslanbob 50.19 291 P **P 13 19 13.0 +1.0**
ARSB IAmb IAmb 13 19 16.6
comp=Z,5.9nm,0.7s
ARU Arti 50.51 314 *c i* P **P 13 19 12.3 -1.8**
ARU S **S 13 26 28.5 +0.4**
ARU SS **SS 13 30 01.8 +0.4**
ARU pmax pmax
comp=Z,61nm,4.8s
ARU Arti 50.51 314 *eP* **P 13 19 12.2 -1.8**
KBS Kingsbay 50.52 350 P **P 13 19 13.8 0.0**
KBS pmax pmax
comp=Z,35nm,1.2s
KBS Kingsbay 50.52 350 P **P 13 19 13.8 0.0**
RES Resolute Bay 51.41 17 P **P 13 19 20.9 +0.3**
RES pmax pmax
comp=Z,8.0nm,1.0s
RES Resolute Bay 51.41 17 P **P 13 19 20.9 +0.3**
RES IAmb IAmb 13 19 25.4
comp=Z,8.5nm,1.0s
FAKI Fak Fak 51.84 197 P **P 13 19 24.4 0.0**
YKA Yellowknife Ar 53.14 35 P **P 13 19 34.1 +0.6**
comp=Z,9.3nm,0.7s,baz=304,slow=7.0,SNR=114
YKA PcP **PcP 13 20 41.7 +0.1**
comp=Z,0.8nm,0.6s,baz=316,slow=3.4,SNR=4.1
PRGR Permogore 53.46 324 *eP* **P 13 19 34.7 -1.2**
PRGR pmax pmax
comp=Z,45nm,0.9s
ABKAR Akbulak array 53.55 306 P **P 13 19 36.5 -0.3**
ABKAR IAmb IAmb 13 19 39.2
comp=Z,4.7nm,0.7s
TULEG Thule 53.98 9 P **P 13 19 39.4 -0.2**
TULEG IAmb IAmb 13 19 39.9
comp=Z,10.0nm,0.9s
CHGR Chuyangaron 54.12 290 P **P 13 19 41.0 -0.2**
SUMG Summit 59.84 1 P **P 13 20 20.6 -1.0**
SUMG pmax pmax
comp=Z,11nm,0.9s
SUMG Summit 59.84 1 P **P 13 20 20.6 -1.0**
H04A Detroit Lake 60.20 55 PcP **PcP 13 21 09.0 -0.5**
FINES FINESS Array B 60.64 331 P **P 13 20 26.4 -0.3**
comp=Z,7.7nm,0.7s,baz=44,slow=8.3,SNR=15
OBN Obninsk 61.27 322 *de* P **P 13 20 30.5 -0.6**
OBN *e* 13 22 55.3
OBN pmax pmax
comp=Z,12nm,1.1s
OBN MLR MLR
comp=Z,96nm,15.0s
OBN Obninsk 61.27 322 *eP* **P 13 20 30.5 -0.6**
GEYT Alibeck 61.40 296 P **P 13 20 32.1 -0.2**
comp=Z,3.1nm,0.6s,baz=225,slow=1.7,SNR=4.6
GEYT LR LR 13 49 58.9
comp=Z,61nm,19.1s,baz=355,slow=39
PINE Pine Mountain 61.46 55 P **P 13 20 32.6 -0.2**
VRH Novokhopyorsk 61.63 316 *eP* **P 13 20 31.5 -2.1**
VRH pmax pmax
comp=Z,10.0nm,1.2s
MTN Manton Dam 61.73 196 P **P 13 20 34.3 -0.3**
YBH Yreka Blue Hor 61.79 58 P **P 13 20 35.2 +0.2**
YBH pmax pmax
comp=Z,4.0nm,0.9s
YBH Yreka Blue Hor 61.79 58 P **P 13 20 35.2 +0.2**
YBH IAmb IAmb 13 20 42.0
comp=Z,4.0nm,0.8s
VSR Storozhevoye 62.81 317 *eP* **P 13 20 39.9 -1.6**
VSR pmax pmax
comp=Z,20nm,1.4s
FFC Flin Flon 63.18 37 *ceP* **P 13 20 44.9 +1.0**
FFC Flin Flon 63.18 37 P **P 13 20 44.6 +0.7**
PLID Pearl Lake 63.28 52 P **P 13 20 46.0 +0.9**
PLID IAmb IAmb 13 20 47.4
comp=Z,7.2nm,0.9s
WVOR Wild Horse Val 63.62 55 P **P 13 20 48.3 +1.0**
WVOR pmax pmax
comp=Z,8.0nm,0.9s
WVOR Wild Horse Val 63.62 55 P **P 13 20 48.3 +1.0**
WVOR IAmb IAmb 13 20 50.4
comp=Z,8.1nm,0.9s
KNRA Kununurra 64.95 198 P **P 13 20 55.7 -0.2**
NB2 NORSAR Subarra 65.31 337 P **P 13 20 57.6 -0.3**
comp=Z,12nm,1.0s,baz=32,slow=6.9
NOA NORSAR Array B 65.31 337 P **P 13 20 57.5 -0.4**
comp=Z,5.1nm,0.8s,baz=33,slow=6.3,SNR=10.0
NOA LR LR 13 51 16.5
comp=Z,28nm,21.2s,baz=70,slow=38
PNTR Pine Nut 65.31 59 P **P 13 20 59.5 +1.0**
PNTR IAmb IAmb 13 21 05.1
comp=Z,7.6nm,1.0s
YERR Yerington 65.59 58 P **P 13 21 01.4 +1.2**
BMN Battle Mountai 65.75 56 P **P 13 21 01.2 0.0**
BMN pmax pmax
comp=Z,6.0nm,0.7s
BMN Battle Mountai 65.75 56 P **P 13 21 01.2 0.0**
BMN IAmb IAmb 13 21 04.2
comp=Z,5.7nm,0.7s
WAKR Walker 65.80 59 P **P 13 21 02.0 +0.4**
WAKR IAmb IAmb 13 21 04.8
comp=Z,9.3nm,1.2s
KIV Kislovodsk 66.11 310 *eP* **P 13 21 04.2 +0.8**
KIV pmax pmax
comp=Z,45nm,1.1s
KIV MLR MLR
comp=Z,156nm,17.0s
KIV Kislovodsk 66.11 310 ⇓P **P 13 21 03.1 -0.3**
KIV Kislovodsk 66.11 310 *eP* **P 13 21 04.2 +0.8**
KBZ Khabaz 66.15 309 P **P 13 21 03.8 +0.4**
comp=Z,7.0nm,0.9s,baz=146,slow=5.0,SNR=8.5
KBZ LR LR 13 53 38.9
comp=Z,88nm,18.9s,baz=48,slow=39
KVN Kaiserville 66.20 58 P **P 13 21 05.4 +1.2**
KVN pmax pmax
comp=Z,8.0nm,0.8s
KVN Kaiserville 66.20 58 P **P 13 21 05.4 +1.2**
RYN Ryan 66.24 58 P **P 13 21 05.1 +0.7**
RYN IAmb IAmb 13 21 10.8
comp=Z,4.1nm,0.8s
NVAR Mina Array Bea 66.51 58 P **P 13 21 08.2 +2.1**
comp=Z,4.1nm,0.7s,baz=298,slow=6.6,SNR=28
NV11 Mina Array Sit 66.59 58 P **P 13 21 08.3 +1.7**
NV11 IAmb IAmb 13 21 09.7
comp=Z,12nm,1.5s
ELK Elko 66.64 55 P **P 13 21 08.2 +1.2**
ELK pmax pmax
comp=Z,3.0nm,0.7s
ELK Elko 66.64 55 P **P 13 21 08.2 +1.2**
FXWY Fox Creek 66.87 50 P **P 13 21 09.4 +0.9**
AKASG Malin Array Be 67.53 322 P **P 13 21 11.1 -1.0**
comp=Z,5.3nm,0.8s,baz=39,slow=6.9,SNR=15
HWUT Hardware Ranch 68.02 52 P **P 13 21 17.6 +1.8**
HWUT IAmb IAmb 13 21 21.7
comp=Z,7.5nm,1.1s
R11A Troy Canyon, C 68.11 57 P **P 13 21 16.9 +0.7**
R11A IAmb IAmb 13 21 18.4
comp=Z,3.4nm,0.8s
WRAB Tennant Creek 68.19 191 *ce* P **P 13 21 17.0 +0.4**
WRAB pmax pmax
comp=Z,6.0nm,1.3s
WRAB Tennant Creek 68.19 191 P **P 13 21 16.3 -0.2**
WRAB IAmb IAmb 13 21 17.5
comp=Z,6.4nm,0.9s
WR0 Warramunga Arr 68.19 191 P **P 13 21 16.8 +0.2**
WR0 IAmb IAmb 13 21 17.1
comp=Z,5.6nm,0.8s
WB2 Warramunga Arr 68.20 191 IAmb IAmb 13 21 17.6
comp=Z,6.3nm,0.8s
WRA Warramunga Arr 68.20 191 P **P 13 21 16.6 0.0**
comp=Z,6.2nm,0.9s,baz=8.4,slow=6.7,SNR=39
BW06 Boulder Array 68.25 50 P **P 13 21 17.7 +0.5**
BW06 IAmb IAmb 13 21 19.1
comp=Z,8.7nm,1.2s
PD31 Pinedale Array 68.25 50 P **P 13 21 17.7 +0.5**
PD31 IAmb IAmb 13 21 19.1
comp=Z,8.8nm,1.2s
PDAR Pinedale Array 68.25 50 P **P 13 21 18.2 +1.0**
comp=Z,3.4nm,0.8s,baz=313,slow=1.8,SNR=28
TPNV Topopah Spring 68.70 58 P **P 13 21 21.2 +1.2**
TPNV pmax pmax
comp=Z,9.0nm,0.9s
TPNV Topopah Spring 68.70 58 P **P 13 21 21.2 +1.2**
NLU North Lily Min 68.92 54 P **P 13 21 21.3 -0.1**
PSUT Pine Spring 68.94 56 P **P 13 21 22.9 +1.3**
ULM Lac du Bonnet 69.00 37 P **P 13 21 21.9 +0.4**
comp=Z,3.9nm,0.8s,baz=14,slow=2.4,SNR=4.0
SORM Soroca 69.86 321 ⇓P **P 13 21 25.1 -1.6**
SORM Soroca 69.86 321 ⇓P **P 13 21 25.1 -1.6**
CCUT Cedar City 69.92 56 P **P 13 21 29.0 +1.4**
SRU San Rafael Swe 70.36 53 P **P 13 21 30.9 +0.7**
SRU pmax pmax
comp=Z,8.0nm,0.9s
SRU San Rafael Swe 70.36 53 P **P 13 21 30.9 +0.7**
PFO Pinyon Flats O 70.93 61 *ce* P **P 13 21 34.7 +1.0**
PFO pmax pmax
comp=Z,8.0nm,1.1s
BUR08 Bucovina Ar. S 71.57 322 P **P 13 21 37.2 -0.1**
BUR08 IAmb IAmb 13 21 41.4
comp=Z,6.4nm,0.9s
BURAR Bucovina Array 71.58 322 ⇓P **P 13 21 37.3 -0.1**
BURAR Bucovina Array 71.58 322 ⇓P **P 13 21 37.3 -0.1**
KOLS Kolonicke sedl 71.72 324 *eP* **P 13 21 38.5 +0.4**
KOLS Kolonicke sedl 71.72 324 *eP* **P 13 21 38.5 +0.4**
BIZ Bicaz 71.74 321 ⇓P **P 13 21 38.4 +0.1**
TESR Tescani 71.85 320 ⇓P **P 13 21 38.7 -0.2**
AS31 Alice Springs 71.92 191 P **P 13 21 39.5 +0.1**
ASAR Alice Springs 71.92 191 P **P 13 21 40.3 +0.8**
comp=Z,3.3nm,0.7s,baz=3.1,slow=5.3,SNR=69
TRPA Tarpa 72.26 324 ⇓P **P 13 21 41.9 +0.5**
OZUR 72.54 321 ⇓P **P 13 21 44.0 +0.8**
LANS Liptovska Anna 72.62 326 *eP* **P 13 21 44.4 +0.9**
LANS pmax pmax
comp=Z,4.0nm,0.8s
LANS Liptovska Anna 72.62 326 *eP* **P 13 21 44.3 +0.8**
KRLC Kraliky 72.84 328 *eP* **P 13 21 43.9 -0.9**
KRLC Kraliky 72.84 328 *eP* **P 13 21 43.9 -0.9**
CLL Collm 73.09 331 ⇓*eP* **P 13 21 46.0 -0.2**
CLL pmax pmax
comp=Z,7.0nm,0.6s
CLL Collm 73.09 331 *eP* **P 13 21 46.0 -0.2**
comp=Z,7.0nm,0.6s
CLL *i* P(2) 13 21 49.3
comp=Z,11nm,0.8s
VOIR 73.38 321 ⇓P **P 13 21 48.5 +0.4**
VOIR 73.38 321 ⇓P **P 13 21 48.5 +0.4**
VYHS Vyhne 73.40 326 *eP* **P 13 21 46.2 -1.9**
VYHS pmax pmax
comp=Z,8.0nm,1.0s
VYHS Vyhne 73.40 326 *eP* **P 13 21 46.2 -1.9**
ECSD EROS Data Cent 73.78 42 P **P 13 21 50.6 +0.2**
ECSD IAmb IAmb 13 21 51.5
comp=Z,6.8nm,0.8s
BRTR Keskin Array B 73.81 312 P **P 13 21 50.2 -0.6**
comp=Z,1.9nm,0.8s,baz=123,slow=4.6,SNR=5.4
MODS Modra-Piesok 74.08 327 *eP* **P 13 21 52.4 +0.3**
MODS Modra-Piesok 74.08 327 *eP* **P 13 21 52.4 +0.3**
SIRR Siria 74.12 323 ⇓P **P 13 21 52.0 -0.4**
SCHQ Schefferville 74.16 19 P **P 13 21 52.6 +0.2**
comp=Z,3.7nm,0.8s,baz=13,slow=5.9,SNR=4.5
GZR Gura Zlata 74.37 322 ⇓P **P 13 21 53.0 -1.0**
GZR Gura Zlata 74.37 322 ⇓P **P 13 21 53.0 -1.0**
BZS Buzias 74.67 323 ⇓P **P 13 21 55.4 -0.1**
BZS Buzias 74.67 323 ⇓P **P 13 21 55.4 -0.1**
KHC Kasperske Hory 74.75 329 *eP* **P 13 21 56.4 +0.4**
KHC Kasperske Hory 74.75 329 *eP* **P 13 21 56.4 +0.4**
KHC *ex* x 13 21 59.8
GERES GERESS Array B 74.96 329 P **P 13 21 57.1 -0.2**
comp=Z,1.1nm,0.7s,baz=36,slow=5.0,SNR=6.0
MDVR Moldovita 75.31 322 ⇓P **P 13 21 59.1 -0.3**
ANMO Albuquerque 75.62 54 *ce* P **P 13 22 01.1 -0.4**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
VTS Vitosha 76.42 320 ⇓P **P 13 22 06.3 +0.5**
VTS Vitosha 76.42 320 ⇓P **P 13 22 06.3 +0.5**
PDG Podgorica 78.26 322 ⇓P **P 13 22 15.3 -0.6**
RAYN Ar Rayn 79.16 293 P **P 13 22 20.7 -0.6**
RAYN pmax pmax
comp=Z,9.0nm,1.2s
RAYN Ar Rayn 79.16 293 P **P 13 22 20.7 -0.6**
RAYN IAmb IAmb 13 22 25.1
comp=Z,9.3nm,1.1s
TXAR Lajitas Array 81.42 56 P **P 13 22 34.6 +1.2**
comp=Z,2.4nm,0.7s,baz=301,slow=4.4,SNR=28
BOSA Boshof 130.44 270 PKIKP **PKPdf 13 29 26.3 -0.7**
BOSA Boshof 130.44 270 PKPdf **PKPdf 13 29 26.3 -0.7**
GO02 Mina Guanaco 144.41 63 PKPdf **PKPdf 13 29 53.0 +0.1**
GO03 Copiap 145.79 67 PKPdf **PKPdf 13 29 53.4 -1.6**
BDFB Brasilia 146.04 23 PKPbc **PKPab 13 29 56.9 -0.1**
comp=Z,2.1nm,0.3s,baz=339,slow=1.6,SNR=5.9
SNAA Sanae 151.91 201 PKPdf **PKPbc 13 30 09.4 -0.5**
SNAA Sanae 151.91 201 PKIKP **PKPbc 13 30 10.0 0.0**
SNAA Sanae 151.91 201 PKPbc **PKPbc 13 30 10.0 0.0**
SNAA PKPab **PKPab 13 30 18.5 -0.8**
CPUP Villa Florida 152.12 48 PKPbc **PKiKP 13 30 11.9 -0.2**
comp=Z,1.4nm,0.6s,baz=73,slow=2.1,SNR=3.4
VNA2 Neumayer--Watz 153.49 200 PKPdf **PKPdf 13 30 07.4 +1.7**
baz=86,slow=2.0

IDC ***12*** *13:22:52.2±1.0, 40.07N×77.52E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.5/44, mbtmp3.6/8, ML3.1/2, Error ellipse: s-maj=25.4km s-min=14.4km az=45.0*
SOME ***12*** *13:22:56.8, 40.42N×77.55E, h0km*
KRNET ***12*** *13:22:56.1±0.1, 40.32N×77.54E, h14km, mb4.1*
BJI ***12*** *13:22:57.2±0.0, 40.28N×77.55E, h5km, mb3.7/1, ML3.5/7*
NNC ***12*** *13:22:59.6±1.1, 40.45N×77.56E, h0km, mb4.6, mpv4.2, Error ellipse: s-maj=7.3km s-min=5.7km az=162.0*
ISC 12 13:22:58.7±1.4, 40.38N±0.04×77.53E±0.03, h2km±10km, n93, σ1s78/126, mb3.7/6, 25C-25D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.36**	**9**	⇓*iP*		**Pg**	**13 23 23.1**	**-1.7**
	baz=8.0							
TARG				⇓*iS*		**Sg**	**13 23 42.2**	**-0.2**
	baz=8.0							
KSH	**Kashi**	**1.48**	**235**	Pg		**Pg**	**13 23 30.6**	**+3.6**
KSH				Sg		Sn	13 23 56.9	+10
KSH	comp=N,320nm,0.3s			smax		smax		
KSH	comp=E,330nm,0.3s			smax		smax		
NRN	**Naryn**	**1.57**	**313**	⇓*iP*		**Pn**	**13 23 26.1**	**-1.8**
	baz=13							
NRN				⇓*iS*		**Sn**	**13 23 47.8**	**-1.1**
	baz=13							
KDJ	**Kajisay**	**1.77**	**351**	⇑*iP*		**Pn**	**13 23 30.2**	**-0.3**
	baz=52							
KDJ				⇑*iS*		**Sn**	**13 23 54.5**	**+0.8**
	baz=52							
ULHL	**Ulahol**	**2.10**	**333**	⇑*iP*		**Pn**	**13 23 35.7**	**+0.6**
	baz=33							
ULHL				⇑*iS*		**Sn**	**13 24 03.8**	**+1.8**
	baz=33							
ULHL	**Ulahol**	**2.10**	**333**	P		**Pn**	**13 23 35.9**	**+0.8**
	SNR=27							
PRZ	**Przheval'sk**	**2.20**	**17**	⇓*iP*		**Pn**	**13 23 36.8**	**+0.4**
	baz=17							
PRZ				⇓*iS*		**Sn**	**13 24 05.8**	**+1.5**
	baz=17							
ANVS	**Anan'yevo**	**2.40**	**2**	⇓*iP*		**Pn**	**13 23 39.8**	**+0.6**
	baz=2.0							
ANVS				⇓*iS*		**Sn**	**13 24 11.2**	**+1.9**
	baz=2.0							
KZA	**Kyzart**	**2.42**	**315**	⇓*iP*		**Pn**	**13 23 39.8**	**+0.2**
	baz=16							
KZA				⇓*iS*		**Sn**	**13 24 11.4**	**+1.4**
	baz=16							
KZA	**Kyzart**	**2.42**	**315**	P		**Pn**	**13 23 40.2**	**+0.5**
	SNR=135							
BOOM	**Boomskoye usch**	**2.42**	**331**	⇑*iP*		**Pn**	**13 23 39.8**	**+0.3**
	baz=32							
BOOM				⇑*iS*		**Sn**	**13 24 11.3**	**+1.5**
	baz=32							
TNSS	**Tian-Shan**	**2.69**	**351**	*eP*		**Pb**	**13 23 47.3**	**-0.5**
	182nm,0.3s							
TNSS				*eS*		**Sb**	**13 24 23.7**	**+2.3**
	131nm,0.3s							
TNSS	**Tian-Shan**	**2.69**	**351**	Pg		**Pb**	**13 23 47.3**	**-0.5**
	182nm,0.3s							
TNSS				Lg		Lg	13 24 23.7	
	131nm,0.3s							
IZV	**Izvestkoviy**	**2.74**	**346**	*eP*		**Pb**	**13 23 48.9**	**+0.4**
	146nm,0.5s							
IZV				*eS*		**Sb**	**13 24 26.4**	**+3.7**
	256nm,0.4s							
IZV	**Izvestkoviy**	**2.74**	**346**	Pg		**Pb**	**13 23 48.4**	**-0.1**
	146nm,0.5s							
IZV				Lg		Lg	13 24 26.4	
	256nm,0.4s							
SATY	**Saty**	**2.75**	**13**	*eP*		**Pb**	**13 23 48.6**	**-0.1**
	129nm,0.3s							
SATY				*eS*		**Sb**	**13 24 25.8**	**+2.9**
	147nm,0.3s							
SATY	**Saty**	**2.75**	**13**	Pg		**Pb**	**13 23 48.6**	**-0.1**
	129nm,0.3s							
SATY				Lg		Lg	13 24 25.8	
	147nm,0.3s							
MDOK	**Medeo**	**2.80**	**353**	*eP*		**Pb**	**13 23 48.7**	**-0.9**
	181nm,0.3s							
MDOK				*eS*		**Sb**	**13 24 26.2**	**+1.8**
	206nm,0.6s							
MDOK	**Medeo**	**2.80**	**353**	⇓Pg		**Pb**	**13 23 49.5**	**-0.1**
	95nm,0.4s							
MDOK				⇑Lg		Lg	13 24 28.1	
	174nm,0.9s							
MDOK	**Medeo**	**2.80**	**353**	Pg		**Pb**	**13 23 48.7**	**-0.9**
	181nm,0.3s							
MDOK				Lg		Lg	13 24 26.2	
	206nm,0.6s							
ARLS	**Aral**	**2.84**	**302**	⇑*iP*		**Pn**	**13 23 45.5**	**+0.3**
	baz=4.0							
ARLS				⇑*iS*		**Sn**	**13 24 20.7**	**+0.6**
	baz=4.0							
AAA	**Alma-Ata**	**2.86**	**351**	*eP*		**Pb**	**13 23 51.4**	**+0.9**
	219nm,0.3s							
AAA				*eS*		**Sg**	**13 24 30.5**	**-0.1**
	126nm,0.4s							
AAA	**Alma-Ata**	**2.86**	**351**	Pg		**Pb**	**13 23 51.0**	**+0.4**
	219nm,0.3s							
AAA				Lg		Lg	13 24 30.5	
	126nm,0.4s							
KNDC	**Almaty**	**2.86**	**352**	⇑Pn		**Pb**	**13 23 50.8**	**+0.2**
	122nm,0.5s							
KNDC				⇓Lg		Lg	13 24 29.4	
	149nm,0.6s							
ZHN	**Zhinishke**	**2.86**	**13**	*eP*		**Pb**	**13 23 50.2**	**-0.3**
	45nm,0.3s							
ZHN				*eS*		**Sb**	**13 24 28.7**	**+2.6**
	85nm,0.3s							
ZHN	**Zhinishke**	**2.86**	**13**	Pg		**Pb**	**13 23 50.2**	**-0.3**
	45nm,0.3s							
ZHN				Lg		Lg	13 24 28.7	
	85nm,0.3s							
KOTS	**Kotyrbulak**	**2.87**	**354**	*eP*		**Pb**	**13 23 51.0**	**+0.4**
	329nm,0.4s							
KOTS				*eS*		**Sb**	**13 24 29.9**	**+3.7**
	240nm,0.4s							
KOTS	**Kotyrbulak**	**2.87**	**354**	Pg		**Pb**	**13 23 50.6**	**0.0**
	329nm,0.4s							
KOTS				Lg		Lg	13 24 29.9	
	240nm,0.4s							
MTBS	**Maitube**	**2.87**	**344**	*eP*		**Pb**	**13 23 50.0**	**-0.6**
	71nm,0.3s							
MTBS				*eS*		**Sb**	**13 24 28.3**	**+2.1**
	126nm,0.5s							
MTBS	**Maitube**	**2.87**	**344**	Pg		**Pb**	**13 23 50.0**	**-0.6**
	71nm,0.3s							
MTBS				Lg		Lg	13 24 28.3	
	126nm,0.5s							
KST	**Kastek**	**2.91**	**337**	*eP*		**Pb**	**13 23 51.4**	**0.0**
	61nm,0.3s							
KST				*eS*		**Sb**	**13 24 30.8**	**+3.4**
	109nm,0.4s							
KST	**Kastek**	**2.91**	**337**	Pg		**Pb**	**13 23 51.4**	**0.0**
	61nm,0.3s							
KST				Lg		Lg	13 24 30.8	
	109nm,0.4s							
TKM2	**Tokmak 2**	**2.92**	**331**	⇓*iP*		**Pn**	**13 23 46.8**	**+0.4**
	baz=31							
TKM2				⇓*iS*		**Sn**	**13 24 23.4**	**+1.2**
	baz=31							
TKM2	**Tokmak 2**	**2.92**	**331**	P		**Pn**	**13 23 47.0**	**+0.6**
	SNR=61							
TKM2	**Tokmak 2**	**2.92**	**331**	⇑Pg		**Pb**	**13 23 50.7**	**-0.9**
	40nm,0.5s							
TKM2				⇓Lg		Lg	13 24 31.3	
	72nm,0.7s							
UCH	**Uchtor**	**2.93**	**310**	⇓*iP*		**Pn**	**13 23 46.8**	**+0.1**
	baz=11							
UCH				⇓*iS*		**Sn**	**13 24 23.4**	**+0.7**
	baz=11							
UCH	**Uchtor**	**2.93**	**310**	P		**Pn**	**13 23 46.4**	**-0.3**
	SNR=21							
UZB	**Uzynbulak**	**2.98**	**21**	*eP*		**Pb**	**13 23 52.1**	**-0.4**
	16nm,0.3s							
UZB				*eS*		**Sb**	**13 24 31.9**	**+2.5**
	61nm,0.6s							
UZB	**Uzynbulak**	**2.98**	**21**	Pg		**Pb**	**13 23 52.1**	**-0.4**
	46nm,0.4s							
UZB				Lg		Lg	13 24 31.9	
	61nm,0.6s							
KBK	**Karagaybulak**	**2.99**	**320**	⇑*iP*		**Pn**	**13 23 47.8**	**+0.5**
	baz=21							
KBK				⇑*iS*		**Sn**	**13 24 24.7**	**+0.9**
	baz=21							
KBK	**Karagaybulak**	**2.99**	**320**	P		**Pn**	**13 23 48.0**	**+0.7**
	SNR=9.2							
SHLS	**Shalkode**	**3.12**	**27**	*eP*		**Pg**	**13 23 58.2**	**-0.4**
	58nm,0.5s							
SHLS				*eS*		**Sg**	**13 24 42.3**	**+3.2**
	235nm,0.5s							
SHLS	**Shalkode**	**3.12**	**27**	Pg		**Pg**	**13 23 58.2**	**-0.4**
	58nm,0.5s							
SHLS				Lg		Lg	13 24 42.3	
	235nm,0.5s							
KURS	**Kuram**	**3.14**	**8**	*eP*		**Pb**	**13 23 55.6**	**+0.3**
	32nm,0.5s							
KURS				⇓*iS*		**Sb**	**13 24 38.0**	**+4.0**
	104nm,0.6s							
KURS	**Kuram**	**3.14**	**8**	Pg		**Pb**	**13 23 55.6**	**+0.3**
	80nm,0.7s							
KURS				Lg		Lg	13 24 38.0	
	104nm,0.6s							
DGS	**Degeres**	**3.15**	**336**	*eP*		**Pb**	**13 23 55.8**	**+0.4**
	48nm,0.5s							

DGS				*e*S	**Sb**	**13 24 38.0**	**+3.7**
	162nm,0.5s						
DGS	**Degeres**	**3.15**	**336**	Pg	**Pb**	**13 23 55.4**	**-0.1**
	48nm,0.5s						
DGS				Lg	Lg	13 24 38.0	
	162nm,0.5s						
KPKS	**Kokpek**	**3.20**	**15**	*e*P	**Pb**	**13 23 56.4**	**+0.1**
	91nm,0.4s						
KPKS				*e*S	**Sb**	**13 24 39.4**	**+3.7**
	186nm,0.4s						
AAK	**Ala-Archa**	**3.21**	**316**	Pn	**Pn**	**13 23 50.5**	**+0.2**
	2.4nm,0.3s,baz=98,slow=8.6,SNR=20						
AAK				Pg	**Pb**	**13 23 56.0**	**-0.4**
	11nm,0.3s,baz=125,slow=11,SNR=73						
AAK				Lg	Lg	13 24 39.3	
	13nm,0.3s,baz=252,slow=22,SNR=8.1						
AAK	**Ala-Archa**	**3.21**	**316**	⇑*i*P	**Pn**	**13 23 50.7**	**+0.4**
	baz=16						
AAK				⇑*i*S	**Sn**	**13 24 30.1**	**+0.9**
	baz=16						
AAK	**Ala-Archa**	**3.21**	**316**	P	**Pn**	**13 23 51.9**	**+1.6**
	SNR=7.3						
AAK	**Ala-Archa**	**3.21**	**316**	Pn	**Pn**	**13 23 49.9**	**-0.3**
AAK				Lg	Lg	13 24 40.0	
	81nm,0.8s						
FRU1	**Bishkek**	**3.26**	**319**	⇑*i*P	**Pn**	**13 23 51.5**	**+0.6**
	baz=20						
FRU1				⇑*i*S	**Sn**	**13 24 31.2**	**+0.9**
	baz=20						
PDGK	**Podgornoye**	**3.29**	**26**	Pg	**Pb**	**13 23 58.2**	**+0.4**
	21nm,0.4s						
PDGK				Lg	Lg	13 24 42.3	
	84nm,0.5s						
PDGK	**Podgornoye**	**3.29**	**26**	⇑Pg	**Pb**	**13 23 58.2**	**+0.4**
	25nm,0.5s						
PDGK				⇓Lg	Lg	13 24 42.0	
	74nm,0.6s						
CHMS	**Chumysh**	**3.34**	**322**	⇓*e*P	**Pn**	**13 23 52.7**	**+0.7**
	baz=23						
CHMS				⇓*i*S	**Sn**	**13 24 33.2**	**+0.9**
	baz=23						
CHMS	**Chumysh**	**3.34**	**322**	P	**Pn**	**13 23 52.4**	**+0.4**
	SNR=10						
AML	**Almayashu**	**3.38**	**302**	⇑*e*P	**Pn**	**13 23 53.4**	**+0.5**
	baz=3.0						
AML				⇑*i*S	**Sn**	**13 24 34.4**	**+0.6**
	baz=3.0						
AML	**Almayashu**	**3.38**	**302**	P	**Pn**	**13 23 54.8**	**+1.9**
	SNR=15						
KTBS	**Karatobe**	**3.39**	**349**	*e*P	**Pb**	**13 24 00.2**	**+0.7**
	42nm,0.3s						
KTBS				*e*S	**Sb**	**13 24 45.5**	**+4.4**
	291nm,0.4s						
KTBS	**Karatobe**	**3.39**	**349**	Pg	**Pb**	**13 23 59.7**	**+0.3**
	74nm,0.4s						
KTBS				Lg	Lg	13 24 45.5	
	291nm,0.4s						
CHKK	**Chushkaly**	**3.49**	**353**	*e*P	**Pb**	**13 24 01.4**	**+0.2**
	72nm,0.5s						
CHKK				*e*S	**Sb**	**13 24 48.0**	**+3.9**
	165nm,0.2s						
CHKK	**Chushkaly**	**3.49**	**353**	Pg	**Pb**	**13 24 01.4**	**+0.2**
	72nm,0.5s						
CHKK				Lg	Lg	13 24 48.0	
	165nm,0.2s						
ARSB	**Arslanbob**	**3.58**	**287**	⇓*i*P	**Pn**	**13 23 55.6**	**+0.2**
	baz=88						
ARSB				⇓*i*S	**Sn**	**13 24 38.3**	**0.0**
	baz=88						
KUU	**Kurty**	**3.62**	**346**	*e*P	**Pb**	**13 24 03.7**	**+0.3**
	23nm,0.3s						
KUU				⇑*i*S	**Sb**	**13 24 51.9**	**+4.1**
	49nm,0.3s						
KUU	**Kurty**	**3.62**	**346**	Pg	**Pb**	**13 24 03.7**	**+0.3**
	26nm,0.3s						
KUU				Lg	Lg	13 24 51.9	
	49nm,0.3s						
EKS2	**Erkin-Say**	**3.62**	**310**	P	**Pn**	**13 23 57.9**	**+1.9**
	SNR=6.7						
USP	**Ospenovka**	**3.67**	**323**	P	**Pb**	**13 24 04.1**	**-0.1**
	SNR=33						
KTMS	**Ketmen**	**3.71**	**34**	*e*P	**Pb**	**13 24 06.3**	**+1.2**
	1.7nm,0.1s						
KTMS				*e*S	**Sg**	**13 24 56.0**	**-2.0**
	67nm,0.6s						
KTMS	**Ketmen**	**3.71**	**34**	Pg	**Pb**	**13 24 05.7**	**+0.6**
	2.6nm,0.1s						
KTMS				Lg	Lg	13 24 56.0	
	67nm,0.6s						
ARXS	**Arharly**	**3.83**	**3**	*e*P	**Pb**	**13 24 07.9**	**+0.8**
	25nm,0.2s						
ARXS				*e*S	**Sb**	**13 24 59.2**	**+5.2**
	172nm,0.4s						
ARXS	**Arharly**	**3.83**	**3**	Pg	**Pb**	**13 24 07.9**	**+0.8**
	24nm,0.7s						
ARXS				Lg	Lg	13 24 59.2	
	172nm,0.4s						
MRKS	**Merke**	**4.00**	**308**	*e*P	**Pb**	**13 24 11.7**	**+1.7**
	34nm,0.4s						
MRKS				*e*S	**Sg**	**13 25 05.5**	**-1.7**
	20nm,0.5s						
MRKS	**Merke**	**4.00**	**308**	Pg	**Pb**	**13 24 11.7**	**+1.7**
	34nm,0.4s						
MRKS				Lg	Lg	13 25 05.5	
	20nm,0.5s						
DJR	**Jarkent**	**4.29**	**22**	*e*P	**Pb**	**13 24 15.4**	**+0.6**
	2.8nm,0.4s						
DJR				*e*S	**Sb**	**13 25 12.0**	**+4.9**
	46nm,0.4s						
DJR	**Jarkent**	**4.29**	**22**	Pg	**Pb**	**13 24 15.4**	**+0.6**
	7.2nm,0.5s						
DJR				Lg	Lg	13 25 12.0	
	46nm,0.4s						
KAPS	**Kapalarasan**	**5.08**	**15**	Pg	**Pb**	**13 24 30.6**	**+2.3**
	10.0nm,0.4s						
KAPS				Lg	Lg	13 25 38.1	
	28nm,0.7s						
KK31	**Karatay Array**	**5.91**	**300**	⇓Pn	**Pn**	**13 24 31.3**	**+4.0**
	0.5nm,0.4s,baz=134,slow=12,SNR=6.1						
KK31				⇑Pg	**Pg**	**13 24 48.5**	**-3.5**
	3.0nm,0.5s,baz=115,slow=17,SNR=7.0						
KK31				Lg	Lg	13 26 03.9	
	12nm,0.8s,baz=125,slow=27,SNR=4.4						
MAKZ	**Makanchi**	**7.19**	**25**	⇓Pg	Pg	13 25 10.7	-5.5
	1.6nm,0.6s						
MAKZ				⇑Lg	Lg	13 26 49.6	
	7.1nm,1.2s						
MK31	**Makanchi Array**	**7.28**	**27**	⇑Pn	**Pn**	**13 24 44.9**	**-1.1**
	1.7nm,0.7s,baz=207,slow=15,SNR=7.5						
MK31				⇑Lg	Lg	13 26 48.5	
	4.2nm,0.7s,baz=206,slow=28,SNR=3.6						
MKAR	**Makanchi Array**	**7.28**	**27**	Pn	**Pn**	**13 24 44.7**	**-1.4**
	0.2nm,0.3s,baz=202,slow=15,SNR=8.5						
MKAR				Lg	Lg	13 26 47.9	
	0.4nm,0.3s,baz=206,slow=29,SNR=3.3						
CHCP	**Chirah Chowk**	**7.53**	**208**	P	**Pn**	**13 24 46.8**	**-2.7**
CEP	**Cherat**	**7.94**	**216**	P	**Pn**	**13 24 53.0**	**-2.3**
WMQ	**Urumqi**	**8.30**	**62**	*e*P	**Pn**	**13 25 01.6**	**+1.5**
KURBB	**Kurchatov Arra**	**10.27**	**4**	Lg	Lg	13 28 24.1	
	0.1nm,0.3s,baz=189,slow=30,SNR=5.2						
BVAR	**Borovoye Array**	**13.55**	**341**	Lg	Lg	13 30 06.7	
	0.2nm,0.3s,baz=147,slow=30,SNR=5.2						
GTA	**Gaotai**	**17.12**	**86**	*e*P	**Pn**	**13 26 58.8**	**-0.4**
GTA				pP	sP	13 27 05.5	+3.0
GTA				sP	sP	13 27 08.7	+6.2
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**21.93**	**61**	P	**P**	**13 27 50.2**	**-3.3**
	0.8nm,0.7s,baz=261,slow=8.7,SNR=4.8						
ARCES	**ARCESS Array B**	**39.70**	**334**	P	**P**	**13 30 28.1**	**-3.8**
	2.6nm,0.8s,baz=104,slow=10,SNR=3.5						
TORD	**Torodi Ar. Bea**	**70.86**	**271**	P	P	13 34 11.1	-6.3
	0.6nm,0.4s,baz=45,slow=5.0,SNR=5.7						
YKA	**Yellowknife Ar**	**77.01**	**6**	P	P	13 34 46.8	-5.8
	0.4nm,0.5s,baz=342,slow=5.8,SNR=6.1						
WRA	**Warramunga Arr**	**79.94**	**127**	P	P	13 35 02.6	-6.8
	0.4nm,0.8s,baz=322,slow=6.4,SNR=2.4						
ASAR	**Alice Springs**	**82.51**	**130**	P	P	13 35 15.8	-7.2
	0.3nm,0.8s,baz=302,slow=5.3,SNR=3.9						

*IDC **12** 13:25:37.7±4.9, 11°.31S×115°.04E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/33, mbtmp3.3/3, Error ellipse: s-maj=288.3km s-min=27.0km az=45.0*
*ISCJB **12** 13:25:45.7±0.9, 10°.27S±0°.08×116°.46E±0°.06, h33km, mb3.4/2, Error ellipse: s-maj=12.4km s-min=7.7km az=14.7*

*DJA **12** 13:25:45.2±0.9, 10°.S±15°×11°.6E±°, h70km±79km, M3.5/7, MLv3.5/7*
ISC 12 13:25:46.9±1.2, 10°.2S±0°.1×116°.45E±0°.06, h35km, n10, σ1§14/12, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**1.55**	**16**	P	**Pn**	**13 26 12.6**	**+0.6**
IGBI	**Denpasar**	**1.91**	**318**	P	**Pn**	**13 26 17.4**	**+0.5**
PLAI	**Plampang**	**1.92**	**43**	P	**Pn**	**13 26 17.4**	**+0.4**
PLAI				S	**Sn**	**13 26 38.7**	**-1.3**
DNP	**Denpasar**	**1.98**	**322**	P	**Pn**	**13 26 18.2**	**+0.4**
SRBI	**Singaraja**	**2.46**	**330**	P	**Pn**	**13 26 26.4**	**+1.8**
JAGI	**Jajag, Banyuwa**	**2.87**	**308**	P	**Pn**	**13 26 29.9**	**-0.3**
JAGI				S	**Sn**	**13 27 04.0**	**+0.5**
GMJI	**Gumukmas**	**3.55**	**303**	P	**Pn**	**13 26 39.2**	**-0.3**
WRA	**Warramunga Arr**	**19.76**	**121**	P	**Pn**	**13 30 17.7**	**+1.9**
	0.2nm,0.5s,baz=295,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**21.34**	**131**	P	**P**	**13 30 30.6**	**-0.6**
	0.8nm,0.6s,baz=305,slow=10,SNR=26						
MKAR	**Makanchi Array**	**64.45**	**335**	P	**P**	**13 36 18.5**	**-1.2**
	0.4nm,0.6s,baz=144,slow=7.0,SNR=5.5						

*ISCJB **12** 13:30:06.2±0.6, 14°.59N±0°.05×92°.99W±0°.04, h48km±5km, mb4.3/8, MS3.6/4, Error ellipse: s-maj=9.7km s-min=4.0km az=38.4*
*SNET **12** 13:30:06.2±1.2, 14°.51N×92°.92W, h17km±9km, ML4.6*
*UCR **12** 13:30:06.2±1.0, 14°.31N×93°.06W, h60km±134km, MD4.3, mb4.5(NEIC)*
*NEIC **12** 13:30:08.8±2.4, 14°.67N±0°.06×93°.03W±0°.06, h47km±9km*
*IDC **12** 13:30:08.1±2.0, 14°.76N×92°.88W, h54km±16km, mb4.0/7, mb1 4.4/11, mb1mx3.9/35, mbtmp4.3/11, ML4.7/5, MS3.2/8, Ms1 3.3/8, ms1mx3.1/24, Error ellipse: s-maj=25.6km s-min=10.6km az=35.0*
*MEX **12** 13:30:08.0±0.5, 14°.65N×93°.01W, h13km±15km, MD4.1*
*GCG **12** 13:30:13.5±0.5, 14°.39N×92°.46W, h61km±49km, MD4.6*
ISC 12 13:30:07.2±1.2, 14°.61N±0°.06×93°.04W±0°.06, h46km±11km, n118, σ1§59/128, mb4.4/22, MS3.6/4, 2C-2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.80**	**69**	*e*P	**Pn**	**13 30 20.4**	**-1.8**
THIG				*e*S	**Sn**	**13 30 30.6**	**-2.5**
THIG		**0.80**	**69**		**Pn**	**13 30 20.4**	**-1.8**
THIG					**Sn**	**13 30 30.6**	**-2.5**
PCIG		**1.10**	**351**	*e*P	**Pn**	**13 30 25.1**	**-1.1**
PCIG				*i* S	**Sn**	**13 30 37.5**	**-2.7**
PCIG		**1.10**	**351**		**Pn**	**13 30 25.1**	**-1.1**
PCIG					**Sn**	**13 30 37.5**	**-2.7**
ERIG	**Entre ros, C**	**1.43**	**97**	*e*P	**Pn**	**13 30 29.9**	**-0.8**
CCIG	**Comitan**	**1.87**	**27**	*e*P	**Pn**	**13 30 38.1**	**+1.2**
CCIG	**Comitan**	**1.87**	**27**		**Pn**	**13 30 38.7**	**+1.7**
CCIG				Sg	**Sn**	**13 31 05.8**	**+6.4**
CCIG	**Comitan**	**1.87**	**27**		**Pn**	**13 30 38.1**	**+1.2**
FUG	**Fuego 3**	**2.13**	**94**	⇓*i*P	**Pn**	**13 30 39.7**	**-0.8**
FUG	**Fuego 3**	**2.13**	**94**	⇓*i*P	**Pn**	**13 30 39.7**	**-0.8**
PCG	**Pacaya**	**2.36**	**95**	*e*P	**Pn**	**13 30 43.5**	**-0.2**
PCG	**Pacaya**	**2.36**	**95**	*e*P	**Pn**	**13 30 43.5**	**-0.2**
APG	**El Apazote**	**2.52**	**81**	P	**Pn**	**13 30 45.5**	**-0.3**
	133nm,0.3s,baz=285,slow=22,SNR=237						
APG				S	**Sn**	**13 31 17.8**	**+2.4**
	103nm,0.3s,baz=350,slow=21,SNR=8.9						
APG				LR	LR	13 31 34.2	
	comp=Z,390nm,21.6s,baz=324,slow=37						
IXG	**Ixpaco**	**2.55**	**100**	*e*P	**Pn**	**13 30 45.3**	**-1.0**
IXG	**Ixpaco**	**2.55**	**100**	*e*P	**Pn**	**13 30 45.3**	**-1.0**
NBG	**Las Nubes**	**2.60**	**90**	*e*P	**Pn**	**13 30 48.1**	**+1.1**
NBG	**Las Nubes**	**2.60**	**90**	*e*P	**Pn**	**13 30 48.1**	**+1.1**
CMIG	**Matias Romero**	**3.04**	**324**	P	**Pn**	**13 30 52.8**	**0.0**
	40nm,0.3s,baz=154,slow=14,SNR=146						
CMIG				S	**Sn**	**13 31 28.3**	**+0.4**
	242nm,0.3s,baz=37,slow=18,SNR=8.3						
CMIG	**Matias Romero**	**3.04**	**324**	*e*P	**Pn**	**13 30 52.9**	**0.0**
MRL	**Marmol**	**3.27**	**81**	*e*P	**Pn**	**13 30 56.6**	**+0.4**
MRL	**Marmol**	**3.27**	**81**	*e*P	**Pn**	**13 30 56.6**	**+0.4**
RTR	**El Retiro**	**3.36**	**102**	⇑*i*P	**Pn**	**13 30 57.1**	**-0.3**
RTR	**El Retiro**	**3.36**	**102**	⇑*i*P	**Pn**	**13 30 57.1**	**-0.3**
SBLS	**San Blas**	**3.40**	**103**	*e*P	**Pn**	**13 30 57.2**	**-0.8**
SBLS	**San Blas**	**3.40**	**103**	*e*P	**Pn**	**13 30 57.2**	**-0.8**
SNJE	**San Jose**	**3.41**	**102**	*e*P	**Pn**	**13 30 57.4**	**-0.7**
SNJE	**San Jose**	**3.41**	**102**	*e*P	**Pn**	**13 30 57.4**	**-0.7**
MTO3	**Montecristo**	**3.57**	**93**	*i* P	**Pn**	**13 30 59.8**	**-0.4**
MTO3	**Montecristo**	**3.57**	**93**	*i* P	**Pn**	**13 30 59.8**	**-0.4**
BOQS	**Boqueron**	**3.75**	**103**	*e*P	**Pn**	**13 31 01.9**	**-0.8**
LFU	**La Fuente**	**3.90**	**102**	*e*P	**Pn**	**13 31 04.2**	**-0.5**
LFU	**La Fuente**	**3.90**	**102**	*e*P	**Pn**	**13 31 04.2**	**-0.5**
LBRS	**Las Brisas**	**3.97**	**102**	*e*P	**Pn**	**13 31 04.9**	**-0.8**
LFRS	**El Faro**	**3.98**	**104**	*e*P	**Pn**	**13 31 05.3**	**-0.5**
LFRS				*e*S	**Sn**	**13 31 50.7**	**-0.6**
TECA	**Tecapa**	**4.54**	**104**	*e*P	**Pn**	**13 31 12.5**	**-1.0**
TECA	**Tecapa**	**4.54**	**104**	*e*P	**Pn**	**13 31 12.5**	**-1.0**
TGUH	**Tegucigalpa,Un**	**5.61**	**95**	*e*P	**Pn**	**13 31 28.2**	**-0.1**
TGUH	**Tegucigalpa,Un**	**5.61**	**95**	*e*P	**Pn**	**13 31 28.2**	**-0.1**
TGUH	**Tegucigalpa,Un**	**5.61**	**95**		**Pn**	**13 31 28.1**	**-0.2**
TLIG	**Tlaja**	**6.07**	**300**		**Pn**	**13 31 36.1**	**+1.5**
ESTN	**Estel**	**6.65**	**102**		**Pn**	**13 31 40.6**	**-1.9**
ESTN				Sn	**Sn**	**13 32 59.4**	**+2.4**
MOMN	**Momotombo**	**6.69**	**108**	*e*P	**Pn**	**13 31 41.4**	**-1.6**
MOMN	**Momotombo**	**6.69**	**108**	*e*P	**Pn**	**13 31 41.4**	**-1.6**
TEIG	**Tepich**	**7.20**	**38**	P	**Pn**	**13 31 48.5**	**-1.4**
	75nm,0.3s,baz=140,slow=0.1,SNR=64						
TEIG				S	**Sn**	**13 33 05.4**	**-4.9**
	28nm,0.3s,baz=319,slow=19,SNR=7.9						
TEIG				LR	LR	13 35 15.4	
	comp=Z,335nm,18.3s,baz=46,slow=44						
TEIG	**Tepich**	**7.20**	**38**		**Pn**	**13 31 48.8**	**-1.1**
TEIG				Sn	**Sn**	**13 33 12.6**	**+2.3**
ACON	**Acoyapa**	**8.09**	**108**		**Pn**	**13 32 04.9**	**+2.7**
JTS	**Las Juntas de**	**8.99**	**118**	P	**Pn**	**13 32 15.4**	**+0.9**
	5.9nm,0.3s,baz=18,slow=15,SNR=16						
JTS				LR	LR	13 34 39.0	
	comp=Z,35nm,18.2s,baz=6.5,slow=30						
JTS	**Las Juntas de**	**8.99**	**118**		**Pn**	**13 32 16.9**	**+2.4**
MOIG	**Morelia**	**9.28**	**304**		**Pn**	**13 32 19.9**	**+1.3**
833A	**Chaparral WMA,**	**14.86**	**338**		**Pn**	**13 33 36.9**	**+2.4**
JCT	**Junction City**	**16.97**	**340**		**P**	**13 34 04.3**	**+1.5**
JCT					**Sn**	**13 37 07.1**	**-2.0**
NATX	**Nacogdoches**	**17.13**	**355**	Pn	**Pn**	**13 34 04.1**	**+0.8**
NATX				IAmb	IAmb	13 34 19.2	
	comp=Z,23nm,0.5s						
H06E1	**SOCORRO T-PHAS**	**17.63**	**286**	T	T	13 52 28.1	
	SNR=2.4						
TX32	**Lajitas Array**	**17.64**	**328**		**P**	**13 34 12.2**	**+2.0**
TXAR	**Lajitas Array**	**17.64**	**328**	P	**P**	**13 34 11.6**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=149,slow=13,SNR=34						
TXAR				LR	LR	13 40 36.6	
	comp=Z,29nm,20.4s,baz=0.0,slow=36						
TX31	**Lajitas Ar. Si**	**17.64**	**328**		**P**	**13 34 11.9**	**+1.7**
WHTX	**Lake Whitney,**	**17.76**	**348**		**P**	**13 34 13.8**	**+2.4**
WHTX				IAmb	IAmb	13 34 30.4	
	comp=Z,15nm,0.5s						
WHTX					**Sn**	**13 37 24.9**	**-3.3**
TIGA	**Tifton**	**18.85**	**26**	P	**Pn**	**13 34 25.2**	**+0.9**
ABTX	**Abilene, Hawle**	**18.91**	**343**	P	**Pn**	**13 34 26.8**	**+1.7**
LRAL	**Lakeview Retre**	**19.14**	**16**		**Pn**	**13 34 30.8**	**+3.0**
MIAR	**Mount Ida**	**19.85**	**359**	P	**P**	**13 34 34.9**	**+0.6**
MIAR				IAmb	IAmb	13 34 40.6	
	comp=Z,32nm,0.9s						
OXF	**Oxford**	**20.08**	**9**	P	Pn	13 34 40.2	+1.3
OXF				IAmb	IAmb	13 34 42.3	
	comp=Z,24nm,0.8s						
MNTX	**Cornudas Mount**	**20.41**	**329**	P	**P**	**13 34 41.6**	**+1.1**
WHAR	**Wooly Hollow**	**20.60**	**2**	P	Pn	13 34 44.8	-0.2
WHAR				IAmb	IAmb	13 34 50.0	
	comp=Z,27nm,1.2s						
GOGA	**Godfrey**	**20.63**	**23**	P	**P**	**13 34 44.1**	**+1.4**
GOGA				IAmb	IAmb	13 34 47.6	
	comp=Z,28nm,1.1s						
WMOK	**Wichita Mounta**	**20.70**	**347**	P	**P**	**13 34 44.5**	**+1.0**
W35A	**Tecumseh**	**20.74**	**351**	P	**P**	**13 34 45.4**	**+1.4**
Y52A	**Lilburn**	**20.82**	**21**	P	**P**	**13 34 46.0**	**+1.2**
Y52A				IAmb	IAmb	13 34 59.3	
	comp=Z,27nm,1.1s						
FNO	**Franklin**	**20.93**	**350**	P	**P**	**13 34 47.5**	**+1.5**
FPAL	**Fort Paine**	**20.94**	**17**	P	**P**	**13 34 47.7**	**+1.5**
FPAL				IAmb	IAmb	13 34 53.6	
	comp=Z,15nm,1.1s						
MSTX	**Muleshoe**	**21.19**	**337**	P	**P**	**13 34 50.2**	**+1.2**
MSTX				IAmb	IAmb	13 34 56.3	
	comp=Z,12nm,0.8s						
HHAR	**Hobbs**	**21.59**	**358**	P	**P**	**13 34 53.8**	**+0.7**
AMTX	**Amarillo**	**21.63**	**340**	P	**P**	**13 34 53.4**	**-0.2**
U40A	**Yellville**	**21.65**	**0**	P	**P**	**13 34 54.2**	**+0.4**
U40A				IAmb	IAmb	13 35 51.6	
	comp=Z,25nm,1.5s						
WVT	**Waverly**	**21.93**	**11**	P	**P**	**13 34 56.8**	**+0.1**
PBMO	**Poplar Bluff**	**22.20**	**6**	P	**P**	**13 35 00.0**	**+0.5**
PBMO				IAmb	IAmb	13 35 22.7	
	comp=Z,18nm,1.2s						
121A	**Cookes Peak, D**	**22.33**	**326**	P	**P**	**13 35 02.2**	**+0.9**
319A	**Douglas**	**22.36**	**321**	P	**P**	**13 35 02.5**	**+1.1**
319A				IAmb	IAmb	13 35 10.6	
	comp=Z,21nm,1.1s						
SDV	**Santo Domingo**	**22.65**	**102**	P	**P**	**13 35 04.2**	**-0.6**
	comp=Z,3.3nm,0.4s,baz=120,slow=4.8,SNR=3.3						
BNM	**Barren Site**	**23.01**	**330**	P	**P**	**13 35 10.4**	**+2.0**
LENM	**Lemitar**	**23.19**	**330**	P	**P**	**13 35 11.6**	**+1.4**
ANMO	**Albuquerque**	**23.58**	**332**	P	**P**	**13 35 14.7**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=138,slow=9.6,SNR=8.7						
ANMO	**Albuquerque**	**23.58**	**332**	P	P	**13 35 14.2**	**+0.3**
TUC	**Tucson**	**23.92**	**320**	P	P	**13 35 16.3**	**-0.7**
T25A	**Trinidad**	**24.61**	**338**	P	P	**13 35 25.4**	**+1.9**
SDCO	**Great Sand Dun**	**25.56**	**337**	P	P	**13 35 32.9**	**+0.8**
SDCO				IAmb	IAmb	13 35 34.3	
	comp=Z,13nm,1.2s						
S22A	**4UR Ranch, Cre**	**26.09**	**335**	P	P	**13 35 38.8**	**+1.9**
S22A				IAmb	IAmb	13 35 39.5	
	comp=Z,9.6nm,1.1s						
MVCO	**Mesa Verde**	**26.38**	**331**	P	P	**13 35 41.4**	**+2.0**
SMCO	**Snowmass**	**27.37**	**336**	P	P	**13 35 50.1**	**+1.5**
SMCO				IAmb	IAmb	13 35 51.4	
	comp=Z,13nm,1.4s						
ISCO	**Idaho Springs**	**27.41**	**339**	P	P	**13 35 49.6**	**+0.9**
ISCO				IAmb	IAmb	13 36 21.2	
	comp=Z,18nm,1.9s						
PV12	**Saucer Basin,**	**27.42**	**332**	P	P	**13 35 50.0**	**+1.2**
PDAR	**Pinedale Array**	**31.45**	**336**	P	P	**13 36 24.6**	**0.0**
	comp=Z,0.9nm,0.6s,baz=135,slow=9.9,SNR=9.2						
PDAR				PcP	**PcP**	**13 39 18.3**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=131,slow=5.2,SNR=8.5						
REDW	**Red Top Meadow**	**32.47**	**335**	P	P	**13 36 34.5**	**+1.1**
NVAR	**Mina Array Bea**	**32.57**	**321**	P	P	**13 36 36.6**	**+2.2**
	comp=Z,4.9nm,0.7s,baz=133,slow=8.5,SNR=42						
NVAR				LR	LR	13 51 45.7	
	comp=Z,98nm,19.3s,baz=132,slow=40						
TPAW	**Teton Pass**	**32.61**	**335**	P	P	**13 36 36.0**	**+1.2**
MOOW	**Moose Ponds**	**32.75**	**336**	P	P	**13 36 36.4**	**+0.5**
MOOW				IAmb	IAmb	13 36 37.6	
	comp=Z,5.3nm,0.9s						
FXWY	**Fox Creek**	**32.77**	**336**	P	P	**13 36 36.5**	**+0.5**
FXWY				IAmb	IAmb	13 36 37.5	
	comp=Z,4.9nm,1.0s						
KVN	**Kaiserville**	**32.85**	**323**	P	P	**13 36 38.4**	**+1.6**
KVN				IAmb	IAmb	13 36 39.7	
	comp=Z,7.4nm,1.3s						
FLWY	**Flagg Ranch**	**33.01**	**336**	P	P	**13 36 39.3**	**+1.2**
FLWY				IAmb	IAmb	13 36 40.1	
	comp=Z,5.8nm,0.8s						
YERR	**Yerington**	**33.48**	**321**	P	P	**13 36 43.8**	**+1.4**
YERR				IAmb	IAmb	13 36 44.9	
	comp=Z,3.4nm,0.7s						
MCMT	**McKenzie Canyo**	**34.49**	**335**	P	P	**13 36 52.8**	**+1.8**
PLID	**Pearl Lake**	**36.06**	**332**	P	P	**13 37 05.1**	**+0.6**
PLID				IAmb	IAmb	13 37 06.1	
	comp=Z,13nm,1.4s						
SIV	**San Ignacio**	**43.84**	**133**	P	P	**13 38 07.5**	**-1.7**
	comp=Z,0.9nm,0.6s,baz=325,slow=5.2,SNR=7.6						
YKA	**Yellowknife Ar**	**50.20**	**347**	P	P	**13 38 57.0**	**-1.1**
	comp=Z,3.1nm,0.4s,baz=152,slow=7.3,SNR=56						
YKA				PcP	**PcP**	**13 40 15.5**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=154,slow=3.6,SNR=4.1						
INK	**Inuvik**	**59.57**	**344**	P	P	**13 40 05.5**	**-0.2**
PAX	**Paxson**	**60.48**	**335**		**PcP**	**13 40 53.7**	**-2.9**
ILAR	**Eielson Array**	**61.88**	**337**	P	P	**13 40 21.1**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=128,slow=4.3,SNR=15						
RND	**Reindeer**	**62.05**	**335**	P	P	**13 40 23.1**	**+0.3**
NOA	**NORSAR Array B**	**84.08**	**28**	LR	LR	14 18 14.7	
	comp=Z,28nm,21.7s,baz=305,slow=34						
ARCES	**ARCESS Array B**	**85.87**	**18**	P	P	**13 42 40.1**	**-1.6**
	comp=Z,20nm,1.2s,baz=275,slow=4.4,SNR=4.1						
ARCES				LR	LR	14 21 07.8	
	comp=Z,39nm,18.6s,baz=260,slow=36						
**F

baz=229,SNR=68
MPMC S **Sg** 13 40 49.4 -0.3
baz=229
MPMC Manual Prospec 0.98 48 Pg 13 40 36.6 -0.3
MPMC **Sg** 13 40 49.4 -0.3
TMB Temblor Range 0.99 252 Pg 13 40 37.0 -0.1
IR2C Iron Canyon 1.02 180 Pg 13 40 37.0 -0.5
HOLC Holcomb Ridge 1.05 155 Pg 13 40 37.9 -0.2
CWC Cottonwood Cre 1.06 14 P **Pg** 13 40 37.8 -0.6
baz=194
CWC S **Sg** 13 40 51.7 -0.5
baz=194
CWC Cottonwood Cre 1.06 14 Pg 13 40 37.9 -0.6
DAC Darwin (Calif) 1.08 36 Pn 13 40 40.7 +1.3
DAC Sn **Sn** 13 40 55.1 +0.5
CRGC Crocker Grade 1.10 262 Pb 13 40 39.1 -0.1
CHFC Chilao Flat St 1.11 164 Pb 13 40 38.8 -0.7
DECC Green Verdugo 1.15 178 P **Pb** 13 40 39.6 -0.4
baz=357,SNR=8.0
DECC Green Verdugo 1.15 178 Pb 13 40 39.5 -0.6
MWC Mount Wilson 1.21 167 Pn 13 40 40.5 -0.7
MWC Sn **Sb** 13 40 57.1 +0.2
VOG Valley Oaks Go 1.22 319 S **Sb** 13 40 56.2 -0.7
baz=139
CGO Cerro Gordo 1.24 22 Pn 13 40 41.3 -0.4
PASC Pasadena Art C 1.24 172 Pn 13 40 41.4 -0.1
PASC Sn **Sb** 13 40 58.2 +0.5
RRX Edison Barstow 1.26 115 Pg **Pn** 13 40 41.8 +0.1
baz=295,SNR=5.3
RRX S **Sb** 13 40 58.7 +0.6
baz=295
PKM Mcpherson Peak 1.28 246 P **Pn** 13 40 41.3 -0.8
baz=66,SNR=15
PKM S **Sb** 13 40 58.5 -0.3
baz=66
GSC Goldstone, Bar 1.30 94 P **Pn** 13 40 41.7 -0.6
baz=275,SNR=58
GSC S **Sb** 13 40 59.2 -0.1
baz=275
GSC Goldstone, Bar 1.30 94 Pn 13 40 41.7 -0.6
BFSC Mount Baldy Ra 1.31 152 P **Pn** 13 40 42.0 -0.5
baz=333,SNR=19
BFSC S **Sb** 13 40 59.3 -0.5
baz=333
BLG Laguna Peak, P 1.41 203 Pb **Pn** 13 40 44.1 +0.3
baz=23
BLG S **Sn** 13 41 02.5 +0.1
baz=23
SBC Santa Barbara 1.45 229 Sg **Sg** 13 41 06.0 +1.3
baz=48
PAGB Antelope Grade 1.55 283 Pn 13 40 45.4 -0.2
FURC Furnace Creek, 1.63 49 Sg **Sg** 13 41 10.8 +0.4
baz=230
TIN Tinemaha, Big 1.65 4 Pg **Pb** 13 40 48.7 +0.2
baz=185
TIN Sg **Sg** 13 41 11.6 +0.5
baz=185
BBRC Big Bear Solar 1.66 133 Pb **Pb** 13 40 49.3 +0.4
baz=314
BBRC Sb **Sb** 13 41 10.4 +0.5
baz=314
HEC Hector,Ludlow 1.78 108 P **Pn** 13 40 47.9 -1.0
baz=289,SNR=11
CIS Catalina Islan 2.00 181 P **Pn** 13 40 51.5 -0.4
baz=0.4
MURC Murrieta 2.06 151 P **Pn** 13 40 52.4 -0.3
baz=332
PMPB Monarch Peak 2.12 293 Pn 13 40 55.0 +1.4
MLAC Mammoth, Mammo 2.25 351 Pg **Pb** 13 40 59.4 +0.5
baz=171
OMMB Old Mammoth Mi 2.26 348 Pb 13 40 58.9 -0.2
MCSM Casa Diablo Ho 2.28 350 Pb 13 40 60.0 +0.5
MDPB Devils Postpil 2.29 346 Pb 13 40 59.5 -0.1
TPNV Topopah Spring 2.32 48 P **Pn** 13 40 56.4 0.0
baz=229,SNR=6.5
TPNV Topopah Spring 2.32 48 Pn 13 40 56.8 +0.4
GMRC Granite Mounta 2.32 105 P **Pn** 13 40 55.1 -1.3
baz=286
GMRC Granite Mounta 2.32 105 Pn 13 40 55.6 -0.8
PFO Pinyon Flats O 2.40 138 Pg **Pb** 13 41 02.9 +1.5
baz=319
PFO Pinyon Flats O 2.40 138 Pn 13 40 56.8 -0.6
XPFO Pion Flat 2.40 138 Pn 13 40 57.0 -0.5
BELC Belle Mtn. Jos 2.42 125 Pg **Pb** 13 41 03.1 +1.4
baz=306
SHPR Sheep Range 2.84 66 Pn 13 41 03.1 -0.4
IRM Iron Mountain 2.95 114 P **Pn** 13 41 03.7 -1.2
baz=296

IDC 12 14:07:26.6±5.2, 11°.57S×164°.89E, h40km±38km, mb3.7/3, mb1 3.9/5, mb1mx3.5/34, mbtmp4.0/5, ML4.1/2, MS3.0/3, Ms1 2.9/3, ms1mx2.6/34, Error ellipse: s-maj=57.8km s-min=32.3km az=56.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s ISC
HNR	**Honiara**	**5.31**	**293**	Pn		Pn	14 08 43.1 -0.3
	16nm,0.3s,baz=153,slow=9.2,SNR=5.9						
HNR				Sn		Sn	14 09 44.2 +0.8
	10.0nm,0.3s,baz=62,slow=23,SNR=3.9						
DZM	**Mont Dzumac**	**10.55**	**172**	Pn		Pn	14 09 55.5 +0.1
	0.6nm,0.3s,baz=306,slow=18,SNR=20						
DZM				LR		LR	14 13 04.2
	comp=Z,34nm,18.0s,baz=334,slow=32						
PMG	**Port Moresby**	**17.57**	**275**	LR		LR	14 17 39.4
	comp=Z,60nm,18.8s,baz=104,slow=35						
STKA	**Stephens Creek**	**29.49**	**223**	LR		LR	14 24 26.6
	comp=Z,36nm,19.3s,baz=25,slow=35						
H11S2	**WAKE ISLAND Hy**	**29.93**	**3**	T		T	14 44 40.4
	baz=188,slow=74,SNR=6.1						
H11S3	**WAKE ISLAND Hy**	**29.93**	**3**	T		T	14 44 44.6
	baz=188						
H11S1	**WAKE ISLAND Hy**	**29.94**	**3**	T		T	14 44 41.7
	baz=188,slow=74,SNR=3.7						
WRA	**Warramunga Arr**	**30.52**	**250**	P		P	14 13 36.6 +0.2
	1.6nm,0.9s,baz=82,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**31.81**	**244**	P		P	14 13 47.5 -0.3
	1.5nm,0.9s,baz=67,slow=10,SNR=24						
MKAR	**Makanchi Array**	**93.33**	**317**	P		P	14 20 37.4 -0.2
	0.3nm,0.7s,baz=111,slow=5.8,SNR=3.8						

NIED ***12*** *14:08:00, 42°.70N×142°.90E, h86km, Mw4.0 Best double couple: M₀1.14000×10¹⁵ NP1:φ₀=64.00000°, δ68.00000°, λ174.00000°. NP2:φ₀=156.00000°, δ85.00000°, λ22.00000°.*

ISCJB ***12*** *14:08:41.2±0.2, 42°.67N±0°.03×142°.85E±0°.03, h103km±2km, mb4.0/22, Error ellipse: s-maj=5.0km s-min=3.3km az=155.6*

MOS ***12*** *14:08:41.2±0.8, 42°.64N×142°.83E, h109km, mb4.2/10, Error ellipse: s-maj=10.1km s-min=6.5km az=74.7*

IDC ***12*** *14:08:42.8±1.5, 42°.71N×142°.79E, h101km±11km, mb3.7/12, mb1 3.9/16, mb1mx3.6/45, mbtmp4.0/16, MS2.6/1, Ms1 2.6/1, ms1mx2.2/34, Error ellipse: s-maj=18.0km s-min=13.1km az=135.0*

JMA ***12*** *14:08:42.9±0.1, 42°.72N×142°.88E, h90km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φ₀=161.00000°, δ86.00000°, λ12.00000°. NP2:φ₀=70.00000°, δ78.00000°, λ176.00000°. Principal axes: T Plg11.0000°, Azm26.0000°; N Plg77.0000°, Azm177.0000°; P Plg6.0000°, Azm295.0000°;*

JMA Felt I J1.

ISC 12 14:08:42.6±0.6, 42°.68N±0°.04×142°.87E±0°.03, h101km±4km, n77, σ1§56/100, mb4.1/22, 15C-16D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s ISC
JCH	**Churui**	**0.37**	**101**	⇓P		**Pn**	14 08 56.7 -1.0
JCH				*e*S		**Sn**	14 09 07.3 -1.7
JBT2	**Biratori 2**	**0.39**	**284**	⇓P		**Pn**	14 08 56.6 -1.2
JBT2				*e*S		**Sn**	14 09 08.1 -1.1
JSHD	**Hidakashinhida**	**0.41**	**228**	⇑P		**Pn**	14 08 57.3 -0.6
JNBK	**Urakawa-nobuka**	**0.41**	**192**	⇑P		**Pn**	14 08 57.6 -0.4
JNBK				*e*S		**Sn**	14 09 09.2 -0.2
JFR	**Furan**	**0.52**	**337**	⇓P		**Pn**	14 08 57.6 -1.1
JFR				*e*S		**Sn**	14 09 08.9 -1.9
JEM	**Erimo**	**0.70**	**162**	⇑P		**Pn**	14 09 00.0 -0.1
ERM	**Erimo**	**0.70**	**162**	*ce*PN		**Pn**	14 08 59.9 -0.3
ERM				pmax		pmax	
	comp=Z,3μm,0.6s						
JIAM	**Iburiatsuma**	**0.70**	**265**	⇓P		**Pn**	14 09 00.3 +0.1
JIAM				*e*S		**Sn**	14 09 14.1 +0.8
JOB	**Onbets**	**0.74**	**72**	⇓P		**Pn**	14 09 00.4 -0.1
JOB				*e*S		**Sn**	14 09 13.8 -0.1
JAR	**Ashorobuto**	**0.90**	**47**	⇑P		**Pn**	14 09 01.6 -0.5
JAR				*e*S		**Sn**	14 09 15.0 -1.7
JAB	**Ashibetsu**	**0.95**	**330**	⇓P		**Pn**	14 09 01.7 -0.9
JAB				*e*S		**Sn**	14 09 16.5 -1.1
JEW	**Eniwo**	**1.06**	**279**	⇓P		**Pn**	14 09 02.9 -0.9
JEW				*e*S		**Sn**	14 09 17.8 -1.9
JKK2	**Kamakawa 2**	**1.19**	**356**	P		**Pn**	14 09 04.8 -0.5
JKK2				*e*S		**Sn**	14 09 21.8 -0.6
JISS	**Ishikarishitsu**	**1.22**	**300**	⇓P		**Pn**	14 09 04.8 -0.8
JISS				*e*S		**Sn**	14 09 22.5 -0.4
JHR	**Hokuryu**	**1.35**	**322**	⇓P		**Pn**	14 09 06.6 -0.5
JHR				*e*S		**Sn**	14 09 24.9 -0.8
JMP	**Maruseppu**	**1.37**	**15**	⇑P		**Pn**	14 09 07.4 0.0
JMP				*e*S		**Sn**	14 09 26.0 -0.2
JAK	**Akkeshi**	**1.38**	**76**	⇓P		**Pn**	14 09 06.9 -0.5
JAK				*e*S		**Sn**	14 09 25.1 -1.1
ASAJ	**Asahikawa**	**1.45**	**352**	P		**Pn**	14 09 08.2 -0.1
	comp=Z,47nm,0.3s,baz=201,slow=14,SNR=447						
ASAJ				S		**Sn**	14 09 27.2 -0.5
	comp=Z,71nm,0.3s,baz=38,slow=29,SNR=60						
JTKR	**Abashiri--Toko**	**1.49**	**30**	⇑P		**Pn**	14 09 08.9 +0.1
JTKR				*e*S		**Sn**	14 09 28.4 -0.3
JKB	**Kayabe**	**1.58**	**240**	⇑P		**Pn**	14 09 08.5 -1.4
JKB				*e*S		**Sn**	14 09 27.8 -2.8
GLVR	**Golovnino**	**2.20**	**60**	⇓*i*PN		**Pn**	14 09 18.3 +0.5
GLVR				*i* S		**Sn**	14 09 44.2 -0.6
GLVR				smax	smax		
	comp=N,842nm,0.3s						
GLVR				smax	smax		
	comp=E,2μm,0.3s						
NMR	**Nemuro--Hokkai**	**2.20**	**71**	⇓*i*PN		**Pn**	14 09 17.1 -0.7
NMR				*i* S		**Sn**	14 09 42.4 -2.4
GRPR	**Tuman**	**2.49**	**57**	⇓*i*PN		**Pn**	14 09 22.7 +1.1
GRPR				*i* S		**Sn**	14 09 51.6 +0.1
GRPR				pmax	pmax		
	comp=Z,184nm,0.2s						
GRPR				pmax	pmax		
	comp=N,34nm,0.1s						
GRPR				pmax	pmax		
	comp=E,120nm,0.3s						
GRPR				smax	smax		
	comp=E,1μm,0.3s						
GRPR				smax	smax		
	comp=N,2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.56**	**57**	*d i*PN		**Pn**	14 09 23.5 +0.9
YUK				*i* S		**Sn**	14 09 53.7 +0.5
YUK				pmax	pmax		
	comp=N,49nm,0.2s						
YUK				pmax	pmax		
	comp=Z,242nm,0.2s						
YUK				pmax	pmax		
	comp=E,66nm,0.3s						
YUK				smax	smax		
	comp=E,1μm,0.6s						
YUK				smax	smax		
	comp=E,562nm,0.3s						
YUK				smax	smax		
	comp=E,2μm,1.3s						
YUK				smax	smax		
	comp=N,2μm,1.2s						
SHO	**Shikotan**	**3.12**	**66**	*d i*PN		**Pn**	14 09 29.5 -0.5
SHO				*i* S		**Sn**	14 10 04.4 -2.1
SHO				pmax	pmax		
	comp=E,41nm,0.3s						
SHO				pmax	pmax		
	comp=Z,93nm,0.3s						
SHO				pmax	pmax		
	comp=N,20nm,0.1s						
SHO				smax	smax		
	comp=N,610nm,0.6s						
SHO				smax	smax		
	comp=E,477nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.27**	**359**	⇑*i*PN		**Pn**	14 09 46.4 +1.0
YSS				*e*S		**Sn**	14 10 35.6 +1.5
YSS				pmax	pmax		
	comp=Z,90nm,0.9s						
YSS				smax	smax		
	comp=N,50nm,1.0s						
YSS				smax	smax		
	comp=E,30nm,1.0s						
KUR	**Kuril'sk**	**4.42**	**53**	*e*PN		**Pn**	14 09 49.1 +1.7
KUR				*e*S		**Sn**	14 10 40.9 +3.3
KUR				smax	smax		
	comp=E,138nm,0.3s						
KUR				smax	smax		
	comp=N,85nm,0.2s						
MAJO	**Matsushiro**	**7.11**	**212**	*d i*PN		**Pn**	14 10 22.9 -1.1
MAT	**Matsushiro**	**7.11**	**212**	P		**Pn**	14 10 22.9 -1.1
MAT				*e*S		**Sn**	14 11 51.4 +8.1
MJAR	**Matsushiro Arr**	**7.11**	**212**	P		**Pn**	14 10 22.7 -1.3
	comp=N,0.5nm,0.3s,baz=32,slow=7.4,SNR=22						
USRK	**Ussuriysk Ar.**	**8.06**	**285**	P		**Pn**	14 10 37.1 +0.2
	baz=83,slow=14,SNR=9.2						
KLR	**Kul'dur**	**10.13**	**314**	*i* PN		**Pn**	14 11 05.6 +0.6
KLR	**Kul'dur**	**10.13**	**314**	P		**Pn**	14 11 06.0 +1.0
	comp=N,0.4nm,0.3s,baz=116,slow=15,SNR=13						
KLR				LR		LR	14 15 06.6
	comp=N,34nm,19.7s,baz=334,slow=38						
PETK	**Petropavlovsk-**	**14.38**	**38**	P		**Pn**	14 12 00.4 -0.8
	comp=N,1.0nm,0.3s,baz=216,slow=9.5,SNR=13						
MA2	**Magadan**	**17.60**	**13**	*i* P		**P**	14 12 40.1 -0.6
SEY	**Seymchan**	**21.04**	**12**	*i* P		**P**	14 13 16.6 -1.4
SEY	**Seymchan**	**21.04**	**12**	P		**P**	14 13 16.2 -1.8
	comp=N,4.2nm,0.4s,baz=184,slow=9.2,SNR=27						
ULN	**Ulaanbaatar**	**25.58**	**294**	*ce*P		**P**	14 14 02.0 -0.2
ULN				pmax	pmax		
	comp=Z,15nm,2.5s						
SONM	**Songino Array**	**26.02**	**294**	P		**P**	14 14 05.9 -0.3
	comp=Z,3.1nm,0.8s,baz=76,slow=8.3,SNR=17						
TLY	**Talaya**	**27.84**	**303**	*i* P		**P**	14 14 22.1 -0.3
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BILL	**Bilibino**	**28.31**	**18**	*i* P		**P**	14 14 27.6 +1.4
BILL				*e**PP		**pP**	14 14 52.5 +3.5
BILL				*e*			14 15 17.6
BILL				*e*S		**S**	14 18 57.9 -7.0
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TIXI	**Tiksi**	**29.85**	**351**	*i* P		**P**	14 14 38.7 -1.1
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**30.56**	**131**	T		T	14 46 29.0
	baz=327,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**30.57**	**131**	T		T	14 46 27.0
	baz=327,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**30.57**	**131**	T		T	14 46 28.9
	baz=327,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**31.44**	**133**	T		T	14 47 38.2
	baz=329,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**31.44**	**133**	T		T	14 47 35.6
	baz=329,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**31.45**	**133**	T		T	14 47 38.9
	baz=329,slow=76,SNR=18						
ZALV	**Zalesovo Beam**	**39.15**	**307**	P		**P**	14 15 59.5 -0.6
	comp=Z,0.9nm,0.4s,baz=91,slow=7.0,SNR=5.0						
KDAK	**Kodiak Island**	**42.26**	**46**	*ce*P		**P**	14 16 25.6 +0.1
MKAR	**Makanchi Array**	**42.30**	**297**	*ce*P		**P**	14 16 26.0 -0.1
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**42.30**	**297**	P		**P**	14 16 25.7 -0.4
	comp=Z,3.1nm,0.5s,baz=81,slow=10,SNR=49						
KURK	**Kurchatov**	**43.53**	**304**	*ce*P		**P**	14 16 35.8 -0.1
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ILAR	**Eielson Array**	**44.18**	**35**	P		**P**	14 16 41.3 +0.4
	comp=Z,3.4nm,0.5s,baz=265,slow=5.6,SNR=33						
TAPN	**Taplejung**	**46.89**	**270**	*e*P		**P**	14 17 03.7 +0.5
	comp=Z,3.6nm,0.4s						
BRVK	**Borovoye**	**47.80**	**309**	*i* P		**P**	14 17 09.5 0.0
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GUN	**Gumba**	**47.93**	**271**	*e*P		**P**	14 17 11.0 -0.3
	comp=Z,16nm,0.4s						
RAMN	**Ramite**	**47.94**	**270**	*e*P		**P**	14 17 11.1 -0.1
DMN	**Daman**	**48.67**	**272**	*e*P		**P**	14 17 17.0 +0.2
GKN	**Gorkha**	**48.80**	**272**	*e*P		**P**	14 17 17.3 -0.4
DANN	**Dangsing**	**49.25**	**273**	*e*P		**P**	14 17 21.7 +0.4
	comp=Z,22nm,0.5s						
KOLN	**Koldanda**	**49.69**	**273**	*e*P		**P**	14 17 24.7 +0.2
	comp=Z,4.0nm,0.3s						
YKA	**Yellowknife Ar**	**58.40**	**32**	P		**P**	14 18 27.5 +0.5
	comp=Z,1.2nm,0.4s,baz=306,slow=6.8,SNR=21						
DAG	**Danmarks Havn**	**60.25**	**355**	*i* P		**P**	14 18 38.5 -1.0
DAG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
DAG	**Danmarks Havn**	**60.25**	**355**	*i* P		**P**	14 18 38.5 -1.0
	comp=Z,2.4nm,0.8s						
WRAB	**Tennant Creek**	**62.80**	**189**	*i* P		**P**	14 18 58.0 +0.7
WRA	**Warramunga Arr**	**62.81**	**189**	P		**P**	14 18 57.7 +0.3
	comp=Z,0.3nm,0.8s,baz=5.8,slow=7.1,SNR=2.8						
OBN	**Obninsk**	**64.28**	**322**	⇑*e*P		**P**	14 19 07.5 +0.8
OBN				*e**PP		**pP**	14 19 31.2 -0.9
OBN				*e*S		**S**	14 27 40.0 +3.7
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
FINES	**FINESS Array B**	**64.36**	**332**	*ce*P		**P**	14 19 06.4 -0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.36**	**332**	P		**P**	14 19 06.8 -0.4
	comp=Z,1.1nm,0.4s,baz=41,slow=6.9,SNR=8.8						
SUMG	**Summit**	**65.04**	**0**	*i* P		**P**	14 19 12.2 +0.3
SUMG				pmax	pmax		
	comp=Z,18nm,0.8s						
SUMG	**Summit**	**65.04**	**0**	*i* P		**P**	14 19 12.2 +0.3
	comp=Z,18nm,0.8s						
KIV	**Kislovodsk**	**68.10**	**310**	*e*P		**P**	14 19 30.9 -0.6
KIV				pmax	pmax		
	comp=Z,19nm,1.1s						
NOA	**NORSAR Array B**	**69.42**	**337**	P		**P**	14 19 39.2 -0.1
	comp=Z,1.4nm,0.8s,baz=38,slow=6.2,SNR=2.9						
NVAR	**Mina Array Bea**	**70.78**	**55**	P		**P**	14 19 49.4 +1.1
	comp=Z,0.5nm,0.7s,baz=307,slow=5.4,SNR=4.1						
PDAR	**Pinedale Array**	**72.96**	**47**	P		**P**	14 20 01.7 +0.5
	comp=Z,0.5nm,0.5s,baz=314,slow=0.6,SNR=8.7						
TXAR	**Lajitas Array**	**85.82**	**53**	P		**P**	14 21 12.1 +1.1
	comp=Z,0.6nm,0.6s,baz=305,slow=2.6,SNR=3.9						

ROM ***12*** *14:14:02.0±0.1, 44°.911N±0°.007×11°.25E±0°.01, h8km, ML2.6/26, Error ellipse: s-maj=1.1km s-min=0.7km az=295.0*

ISCJB ***12*** *14:14:03.9±0.4, 44°.90N±0°.02×11°.37E±0°.03, h6km±3km, Error ellipse: s-maj=4.1km s-min=2.6km az=35.7*

LDG ***12*** *14:14:08.8±0.3, 45°.45N×10°.65E, h2km, Ml2.8/4, Error ellipse: s-maj=9.5km s-min=5.5km az=145.0*

VIE ***12*** *14:14:12.0±1.6, 45°.27N×11°.28E, h10km, mb2.3/7, ml3.2/8, Error ellipse: s-maj=10.1km s-min=9.2km az=59.0 85 km N of Bologna*

ISC 12 14:14:03.6±1.0, 44°.88N±0°.02×11°.37E±0°.02, h8km±8km, n61, σ1§17/88, 3C, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s ISC
RAVA	**Ravarino**	**0.22**	**235**	P		**Pg**	14 14 07.7 -0.3
RAVA				S		**Sg**	14 14 12.0 +1.0
RAVA				AML		AML	
	comp=N,26100μm,0.4s						
RAVA				AML		AML	
	comp=E,17050μm,0.2s						
RAVA				AML		AML	
	comp=N,26100μm,0.4s						
RAVA				AML		AML	
	comp=E,17050μm,0.2s						
RAVA				END			
CAVE	**Cavezzo**	**0.26**	**266**	P		**Pg**	14 14 07.6 -1.2
CAVE				S		**Sg**	14 14 11.4 -0.9
CAVE				AML		AML	
	comp=E,10085μm,1.1s						
CAVE				AML		AML	
	comp=N,9515μm,0.2s						
CAVE				END			
SBPO	**S.Benedetto Po**	**0.36**	**298**	P		**Pg**	14 14 11.5 +0.8
NOVE	**Novellara**	**0.47**	**260**	P		**Pg**	14 14 11.9 -0.8
NOVE				AML		AML	
	comp=N,744μm,0.8s						
NOVE				AML		AML	
	comp=E,982μm,0.8s						
NOVE				AML		AML	
	comp=N,742μm,0.8s						
NOVE				AML		AML	
	comp=N,746μm,0.8s						
NOVE				AML		AML	
	comp=E,982μm,0.8s						
TEOL	**Teolo**	**0.52**	**24**	P		**Pb**	14 14 15.1 +0.1
TEOL				AML		AML	
	comp=N,1400μm,0.4s						
TEOL				AML		AML	
	comp=E,1265μm,0.2s						
TEOL				AML		AML	
	comp=E,1264μm,0.2s						
TEOL				AML		AML	
	comp=N,1405μm,0.4s						
TEOL	**Teolo**	**0.52**	**24**	⇑*e*Pg		**Pb**	14 14 15.2 +0.1
TEOL				*e*Sg		**Sb**	14 14 24.4 +1.6
ZOVE	**Zovencedo**	**0.58**	**8**	P		**Pb**	14 14 15.5 -0.5
ZCCA	**Zocca**	**0.60**	**208**	P		**Pb**	14 14 17.1 +0.6
ZCCA				AML		AML	
	comp=E,392μm,0.5s						
ZCCA				AML		AML	
	comp=E,393μm,0.5s						
ZCCA				AML		AML	
	comp=N,480μm,1.3s						
ZCCA				AML		AML	
	comp=E,422μm,0.4s						
ZCCA				AML		AML	
	comp=N,474μm,0.4s						
TREG	**Tregnago**	**0.66**	**347**	P		**Pb**	14 14 17.2 -0.1
MARN	**Marana (Italy)**	**0.76**	**351**	*e*Pg		**Pg**	14 14 18.4 +0.2
MARN				*e*Sg		**Sg**	14 14 29.3 +1.1
ROVR	**Rover Verones**	**0.79**	**345**	P		**Pg**	14 14 18.9 +0.1
ROVR				AML		AML	
	comp=E,885μm,0.3s						
ROVR				AML		AML	
	comp=E,884μm,0.3s						
ROVR				AML		AML	
	comp=E,884μm,0.3s						
ROVR				AML		AML	
	comp=N,1550μm,0.2s						
ZEN8	**San Zeno di Mo**	**0.88**	**329**	P		**Pg**	14 14 21.3 +0.8
BALD	**Monte Baldo**	**0.89**	**334**	*e*Pg		**Pg**	14 14 21.0 +0.3
BALD				*e*Sg		**Sg**	14 14 33.1 +0.8
MTCR	**Monte La Croce**	**0.90**	**197**	P		**Pb**	14 14 21.9 +0.4
POPM	**Popiglio**	**0.95**	**208**	P		**Pn**	14 14 23.6 +0.3
POPM				S		**Sn**	14 14 39.3 +2.3
POPM	**Popiglio**	**0.95**	**208**	P		**Pb**	14 14 22.4 +0.1
POPM				AML		AML	
	comp=N,337μm,1.5s						
POPM				AML		AML	
	comp=N,336μm,1.5s						
POPM				AML		AML	
	comp=E,256μm,0.6s						
PTF	**Prato**	**0.95**	**193**	P		**Pn**	14 14 23.5 +0.2
SARO	**Sassorosso**	**0.98**	**225**	P		**Pg**	14 14 22.5 -0.1
SARO				S		**Sn**	14 14 39.1 +1.0
SARO	**Sassorosso**	**0.98**	**225**	P		**Pb**	14 14 23.1 +0.1
SARO				AML		AML	
	comp=E,83μm,0.4s						
SARO				AML		AML	
	comp=N,67μm,0.5s						
DOSS	**Dosso del Somm**	**1.00**	**353**	*e*Pg		**Pg**	14 14 23.2 +0.3
DOSS				*e*Sg		**Sg**	14 14 36.1 +0.1
GRAM	**Graiana**	**1.01**	**248**	P		**Pg**	14 14 22.6 -0.4
GRAM				S		**Sn**	14 14 39.3 +0.7
MAGA	**Magasa**	**1.03**	**330**	P		**Pg**	14 14 23.1 -0.3
MAGA				AML		AML	
	comp=E,2230μm,0.4s						
MAGA				AML		AML	
	comp=N,2290μm,0.6s						
SFI	**Santa Sofia**	**1.04**	**161**	P		**Pn**	14 14 25.2 +0.7
SFI				AML		AML	
	comp=E,142μm,0.5s						
SFI				AML		AML	
	comp=N,170μm,0.4s						
SFI				AML		AML	
	comp=N,170μm,0.4s						
SFI				AML		AML	
	comp=E,143μm,0.5s						
CGRP	**Cima Grappa**	**1.04**	**17**	P		**Pb**	14 14 24.0 -0.1
CGRP				AML		AML	
	comp=E,208μm,0.6s						
CGRP				AML		AML	
	comp=N,298μm,0.7s						
CGRP	**Cima Grappa**	**1.04**	**17**	*e*Pg		**Pn**	14 14 24.5 -0.2
CGRP				*e*Sg		**Sn**	14 14 38.8 -0.8
MTLO	**Montello**	**1.06**	**29**	⇑*e*Pg		**Pn**	14 14 25.4 +0.6
CARD	**Cardoso**	**1.07**	**217**

EQUI				S	**Sn**	**14 14 42.9**	**+1.4**	
EQUI	**Equi**	**1.13**	**231**	P	**Pn**	**14 14 26.5**	**+0.8**	
EQUI				AML	AML			
	comp=E,96μm,1.0s							
EQUI				AML	AML			
	comp=N,129μm,0.5s							
EQUI				AML	AML			
	comp=E,96μm,1.0s							
CRMI	**Carmignano**	**1.13**	**195**	P	**Pn**	**14 14 26.2**	**+0.4**	
CRMI				AML	AML			
	comp=E,42μm,0.4s							
CRMI				AML	AML			
	comp=N,45μm,0.5s							
MAIM	**Mastiano**	**1.16**	**213**	P	**Pn**	**14 14 26.6**	**+0.5**	
MAIM				S	**Sn**	**14 14 44.5**	**+2.4**	
MAIM	**Mastiano**	**1.16**	**213**	P	**Pg**	**14 14 25.7**	**0.0**	
MAIM				AML	AML			
	comp=E,206μm,0.3s							
MAIM				AML	AML			
	comp=E,206μm,0.3s							
MAIM				AML	AML			
	comp=N,202μm,0.6s							
PANI	**Panarotta**	**1.17**	**359**↑	*e*Pg	**Pg**	**14 14 25.9**	**-0.2**	
PANI				*e*Sg	**Sg**	**14 14 41.7**	**+0.5**	
MABI	**Malga Bissina**	**1.32**	**333**	P	**Pn**	**14 14 27.6**	**-0.9**	
MABI				AML	AML			
	comp=E,89μm,1.0s							
MABI				AML	AML			
	comp=N,76μm,0.2s							
OSSC	**Osservatorio P**	**1.36**	**184**	P	**Pg**	**14 14 29.6**	**-0.1**	
OSSC				AML	AML			
	comp=N,66μm,0.6s							
OSSC				AML	AML			
	comp=E,71μm,1.3s							
PLMA	**Palmaria, Port**	**1.37**	**233**	P	**Pn**	**14 14 28.9**	**-0.2**	
PLMA				AML	AML			
	comp=N,216μm,0.3s							
PLMA				AML	AML			
	comp=E,182μm,0.3s							
BOB	**Bobbio (Coli)**	**1.37**	**266**	P	**Pn**	**14 14 29.4**	**+0.2**	
BOB				AML	AML			
	comp=N,194μm,0.6s							
BOB				AML	AML			
	comp=E,204μm,0.6s							
CSNT	**Castellina Chi**	**1.41**	**182**	P	**Pg**	**14 14 30.4**	**-0.2**	
CSNT				AML	AML			
	comp=E,48μm,1.1s							
CSNT				AML	AML			
	comp=N,68μm,0.5s							
MSSA	**Maissana**	**1.44**	**247**	P	**Pn**	**14 14 30.5**	**+0.4**	
MSSA				AML	AML			
	comp=E,125μm,0.5s							
MSSA				AML	AML			
	comp=N,164μm,1.4s							
MSSA				AML	AML			
	comp=N,164μm,1.4s							
MSSA				AML	AML			
	comp=E,125μm,0.5s							
GORR	**Gorreto**	**1.51**	**260**	P	**Pn**	**14 14 31.3**	**+0.3**	
GORR				S	**Sb**	**14 14 52.5**	**+1.3**	
GORR	**Gorreto**	**1.51**	**260**	P	**Pn**	**14 14 31.3**	**+0.3**	
GORR				AML	AML			
	comp=N,192μm,0.4s							
GORR				AML	AML			
	comp=E,168μm,0.8s							
GORR				AML	AML			
	comp=N,192μm,0.4s							
KOSI	**Kohlern**	**1.58**	**0**	P	**Pb**	**14 14 33.0**	**-0.2**	
KOSI				AML	AML			
	comp=N,253μm,1.0s							
KOSI				AML	AML			
	comp=E,316μm,0.4s							
BRJN	**Brijuni**	**1.69**	**88**	*e*Pn	**Pg**	**14 14 37.8**	**+1.8**	
BRJN				Sn	**Sg**	**14 14 57.5**	**-0.5**	
MOSI	**Grossmontoni**	**1.83**	**342**	P	**Pb**	**14 14 37.7**	**+0.3**	
MOSI				AML	AML			
	comp=E,252μm,0.6s							
MOSI				AML	AML			
	comp=N,480μm,1.0s							
BRES	**Bressanone**	**1.83**	**8**	P	**Pb**	**14 14 37.3**	**-0.3**	
ABSI	**Aberstueckl**	**1.84**	**359**	P	**Pn**	**14 14 36.5**	**+0.7**	
ABSI				AML	AML			
	comp=N,242μm,0.3s							
ABSI				AML	AML			
	comp=E,336μm,0.8s							
RISI	**Rein**	**2.12**	**13**	AML	AML			
	comp=E,234μm,0.3s							
RISI				AML	AML			
	comp=N,254μm,0.3s							
SQTA	**Sankt Quirin**	**2.34**	**357**	*i* Pn	**Pb**	**14 14 46.4**	**+0.2**	
	comp=N,3.9nm,0.2s							
SQTA				*e*Sg	**Sb**	**14 15 17.0**	**+1.8**	
	comp=N,39nm,0.2s							
WTTA	**Wattenberg**	**2.39**	**4**	*e*Pg	**Pb**	**14 14 47.9**	**+0.9**	
	comp=N,4.0nm,0.2s,SNR=7.0							
WTTA				*i* Sg	**Sb**	**14 15 16.4**	**-0.3**	
	comp=N,39nm,0.4s							
WATA	**Walderalm**	**2.46**	**3**	Pn	**Pb**	**14 14 47.6**	**-0.5**	
	comp=N,1.6nm,0.2s							
WATA				*e*Sg	**Sb**	**14 15 18.7**	**+0.1**	
	comp=N,19nm,0.2s							
MOTA	**Moosalm**	**2.47**	**356**	Pn	**Pg**	**14 14 49.8**	**-1.1**	
	comp=N,3.1nm,0.2s							
MOTA				*i* Sg	**Sb**	**14 15 18.9**	**-0.1**	
	comp=N,17nm,0.5s							
NVLJ	**Novalja**	**2.52**	**96**	*e*Pn	**Pb**	**14 14 46.8**	**-2.2**	
NVLJ				Sn	**Sb**	**14 15 16.8**	**-3.3**	
KBA	**Koelnbreinsper**	**2.59**	**31**	*e*Pn	**Pg**	**14 14 52.9**	**-0.3**	
	comp=N,0.6nm,0.1s,SNR=5.7							
KBA				Sg	**Sg**	**14 15 27.2**	**+0.3**	
	comp=N,0.2nm,0.0s							
DUGI	**Dugi Otok**	**2.79**	**107**	*e*Pn	**Pb**	**14 14 50.5**	**-3.2**	
DUGI				Sn	**Sn**	**14 15 21.5**	**-0.8**	
OZLJ	**Ozalj**	**2.98**	**74**	Sn	**Sn**	**14 15 26.9**	**-0.3**	
SBF	**Sospel**	**3.00**	**252**	*e*Pn	**Pn**	**14 14 52.6**	**+1.0**	
SBF				*e*Sn	**Sn**	**14 15 25.1**	**-2.7**	
	comp=N,22nm,0.3s							
MORI	**Morici**	**3.27**	**107**	*e*Pn	**Pn**	**14 14 57.4**	**+2.2**	
MORI				Sn	**Sn**	**14 15 34.9**	**+0.6**	
MBDF	**Montbardon**	**3.28**	**269**	*e*Pn	**Pn**	**14 14 53.4**	**-2.0**	
MBDF				*e*Sn	Sn	14 15 26.5	-8.2	
	comp=N,2.7nm,0.3s							
ZIRJ	**Zirje**	**3.31**	**110**	*i* Pn	**Pn**	**14 14 57.4**	**+1.7**	
ZIRJ				Sn	**Sn**	**14 15 35.4**	**+0.2**	
FRF	**La Foret Royal**	**3.65**	**250**	*e*Pn	**Pn**	**14 15 01.4**	**+1.1**	
FRF				*e*Sn	**Sn**	**14 15 39.9**	**-3.6**	
	comp=N,6.4nm,0.3s							
LMR	**La Mourre**	**3.83**	**248**	*e*Pn	**Pn**	**14 15 02.2**	**-0.7**	
LMR				*e*Sn	**Sn**	**14 15 45.0**	**-3.1**	
	comp=N,3.4nm,0.3s							

IDC 12 15:03:12.9±1.4, 28°17N×101°90E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/61, mbtmp3.4/4, ML3.7/1, MS2.9/3, Ms1 3.0/3, ms1mx2.7/31, Error ellipse: s-maj=53.3km s-min=25.7km az=65.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.04**	**196**	Pn	Pn	15 05 39.3	+0.8
	0.2nm,0.3s,baz=9.2,slow=12,SNR=3.0						
CMAR				Pg		15 06 15.8	
	baz=8.2,slow=18,SNR=13						
CMAR				Lg	Lg	15 08 25.9	
	0.1nm,0.3s,baz=9.3,slow=28,SNR=5.5						
CMAR				LR	LR	15 09 54.6	
	comp=Z,32nm,19.0s,baz=3.0,slow=40						
TLY	**Talaya**	**23.52**	**3**	LR	LR	15 18 33.5	
	comp=Z,50nm,20.2s,baz=315,slow=39						
MKAR	**Makanchi Array**	**24.13**	**326**	P	P	15 08 30.5	+0.1
	0.8nm,0.7s,baz=136,slow=11,SNR=7.7						
ZALV	**Zalesovo Beam**	**28.64**	**339**	LR	LR	15 21 11.4	
	comp=Z,30nm,20.9s,baz=14,slow=38						
WRA	**Warramunga Arr**	**57.20**	**143**	P	P	15 13 02.3	+0.3
	0.8nm,0.7s,baz=331,slow=7.9,SNR=5.2						
ASAR	**Alice Springs**	**60.07**	**146**	P	P	15 13 21.4	-0.6
	0.2nm,0.7s,baz=320,slow=6.6,SNR=2.8						

IDC 12 15:04:28.9±7.7, 8°94S×127°10E, h79km±88km, mb3.0/1, mb1 3.4/5, mb1mx3.1/41, mbtmp3.5/5, ML3.6/4, Error ellipse: s-maj=82.9km s-min=20.6km az=22.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.62**	**249**	P	Pn	15 05 22.6	-0.1
	4.8nm,0.3s,baz=113,slow=7.7,SNR=6.5						
BATI				S	Sn	15 06 05.1	+0.7
	14nm,0.3s,baz=350,slow=11,SNR=9.6						
FITZ	**Fitzroy Crossi**	**9.22**	**189**	P	Pn	15 06 39.1	-0.1
	0.4nm,0.3s,baz=9.7,slow=11,SNR=11						
FITZ				S	Sn	15 08 17.4	-3.8
	0.3nm,0.3s,baz=342,slow=20,SNR=5.2						
WRA	**Warramunga Arr**	**12.99**	**148**	P	Pn	15 07 29.3	-1.2
	0.5nm,0.3s,baz=311,slow=15,SNR=27						
WRA				S	Sn	15 09 49.5	-3.7
	0.5nm,0.3s,baz=327,slow=23,SNR=9.0						
ASAR	**Alice Springs**	**16.03**	**157**	P	P	15 08 11.0	-0.8
	0.2nm,0.3s,baz=338,slow=9.3,SNR=22						
ASAR				S	Sn	15 11 02.4	-4.5
	0.2nm,0.3s,baz=323,slow=21,SNR=10						
MKAR	**Makanchi Array**	**68.32**	**329**	P	P	15 15 21.7	-0.1
	0.1nm,0.4s,baz=119,slow=7.3,SNR=5.1						

*ISCJB **12** 15:43:40.3±0.5, 24°37N±0°03×122°73E±0°02, h80km±5km, Error ellipse: s-maj=5.1km s-min=2.9km az=0.9*
*JMA **12** 15:43:40.5±0.1, 24°36N×122°74E, h81km±1km, M1.5*
*TAP **12** 15:43:40.3, 24°40N×122°69E, h87km±2km, ML2.5, D*
ISC 12 15:43:40.2±1.5, 24°38N±0°05×122°74E±0°03, h85km±10km, n50, σ0°55/93, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.20**	**70**	P	**Pn**	**15 43 52.5**	**-0.1**
JYNG				S	**Sn**	**15 44 01.3**	**-0.4**
YOJ	**Yonaguni jima**	**0.26**	**72**	P	**Pn**	**15 43 52.9**	**+0.1**
YOJ				S	**Sn**	**15 44 01.6**	**-0.5**
EOS1	**EOS1**	**0.58**	**287**	P	**Pn**	**15 43 55.4**	**+0.4**
	baz=286						
EOS1				S	**Sn**	**15 44 06.7**	**+0.6**
	baz=286						
TWC	**Suao**	**0.84**	**286**	*i* P	**Pn**	**15 43 57.8**	**+0.1**
	baz=285						
TWC				*i* S	**Sn**	**15 44 10.1**	**-0.8**
	baz=285						
NANB	**Nanao**	**0.90**	**273**	P	**Pn**	**15 43 59.3**	**+0.9**
	baz=272						
NANB				*e*S	**Sn**	**15 44 11.8**	**-0.2**
	baz=272						
IRIF	**Iriomote-Funau**	**0.91**	**93**	P	**Pn**	**15 43 58.8**	**+0.4**
IRIF				S	**Sn**	**15 44 12.1**	**0.0**
ENA	**Nanau**	**0.91**	**273**	*i* P	**Pn**	**15 43 59.4**	**+0.9**
	baz=272						
ENA				*i* S	**Sn**	**15 44 12.8**	**+0.6**
	baz=272						
NTC	**Toucheng**	**0.95**	**300**	P	**Pn**	**15 43 59.0**	**0.0**
	baz=300						
NTC				*e*S	**Sn**	**15 44 12.6**	**-0.4**
	baz=300						
TIPB	**Shuangxi**	**1.02**	**305**	*i* P	**Pn**	**15 43 59.2**	**-0.6**
	baz=306						
TIPB				*e*S	**Sn**	**15 44 13.9**	**-0.5**
	baz=306						
HATJ	**Hateruma jima**	**1.02**	**108**	*e*S	**Sn**	**15 44 14.7**	**+0.2**
TWE	**Neicheng**	**1.03**	**289**	*i* P	**Pn**	**15 44 00.5**	**+0.5**
	baz=289						
TWE				*i* S	**Sn**	**15 44 14.3**	**-0.4**
	baz=289						
NACB	**Ninganchiao**	**1.06**	**259**	*e*P	**Pn**	**15 44 00.5**	**+0.2**
	baz=257						
NACB				*e*S	**Sn**	**15 44 14.7**	**-0.7**
	baz=257						
SLBB	**Yuanshan**	**1.07**	**290**	P	**Pn**	**15 44 00.0**	**-0.4**
	baz=290						
SLBB				S	**Sn**	**15 44 15.0**	**-0.6**
	baz=290						
TWD	**Chiawan**	**1.09**	**254**	*e*P	**Pn**	**15 44 01.6**	**+1.0**
	baz=252						
TWD				*e*S	**Sn**	**15 44 15.5**	**-0.4**
	baz=252						
ENTT	**Nioudou**	**1.10**	**284**	P	**Pn**	**15 44 01.8**	**+1.0**
	baz=283						
ENTT				*e*S	**Sn**	**15 44 16.1**	**0.0**
	baz=283						
WFSB	**Wu-fen Shan**	**1.11**	**308**	*e*P	**Pn**	**15 44 00.8**	**0.0**
	baz=309						
NDT	**Datong Townshi**	**1.14**	**281**	P	**Pn**	**15 44 02.0**	**+0.8**
	baz=280						
NDT				S	**Sn**	**15 44 17.5**	**+0.5**
	baz=280						
ETLH	**Xiulin Townshi**	**1.16**	**262**	*e*P	**Pn**	**15 44 02.0**	**+0.4**
	baz=260						
ETLH				S	**Sn**	**15 44 17.6**	**-0.1**
	baz=260						
JKRS	**Kuro-shima**	**1.17**	**97**	P	**Pn**	**15 44 02.3**	**+0.8**
JKRS				S	**Sn**	**15 44 18.6**	**+1.0**
NWLT	**Wulai**	**1.19**	**289**	*e*P	**Pn**	**15 44 02.4**	**+0.5**
	baz=289						
NWLT				*e*S	**Sn**	**15 44 18.7**	**+0.5**
	baz=289						
NNSH	**Datong**	**1.24**	**272**	*e*P	**Pn**	**15 44 03.0**	**+0.5**
	baz=271						
NNSH				*e*S	**Sn**	**15 44 18.9**	**-0.4**
	baz=271						
NNS	**Nan Shan**	**1.25**	**273**	*e*P	**Pn**	**15 44 02.9**	**+0.3**
	baz=271						
NNS				S	**Sn**	**15 44 19.5**	**0.0**
	baz=271						
YHNB	**Yeheng**	**1.27**	**283**	P	**Pn**	**15 44 03.6**	**+0.6**
	baz=282						
YHNB				S	**Sn**	**15 44 20.2**	**+0.1**
	baz=282						
JIJ	**Ishigaki jima**	**1.28**	**91**	P	**Pn**	**15 44 03.2**	**+0.3**
JIJ				S	**Sn**	**15 44 19.2**	**-0.9**
NSK	**Sanguang**	**1.29**	**283**	*i* P	**Pn**	**15 44 03.9**	**+0.7**
	baz=282						
NSK				*i* S	**Sn**	**15 44 19.9**	**-0.5**
	baz=282						
YM01	**YM01**	**1.31**	**306**	P	**Pn**	**15 44 03.6**	**+0.3**
	baz=306						
YM01				S	**Sn**	**15 44 20.3**	**-0.4**
	baz=306						
YM10	**YM10**	**1.32**	**306**	*e*P	**Pn**	**15 44 03.2**	**-0.3**
	baz=306						
YM10				S	**Sn**	**15 44 20.3**	**-0.7**
	baz=306						
ESL	**Shilin**	**1.32**	**245**	*e*P	**Pn**	**15 44 03.6**	**+0.2**
	baz=242						
ESL				S	**Sn**	**15 44 20.5**	**-0.5**
	baz=242						
YM05	**YM05**	**1.32**	**306**	*e*P	**Pn**	**15 44 03.5**	**-0.1**
	baz=306						
YM05				*e*S	**Sn**	**15 44 20.7**	**-0.4**
	baz=306						
YM04	**YM04**	**1.34**	**305**	P	**Pn**	**15 44 03.6**	**0.0**
	baz=305						
YM04				S	**Sn**	**15 44 20.7**	**-0.6**
	baz=305						
WHF	**Hehuan Shan**	**1.37**	**260**	*e*S	**Sn**	**15 44 22.1**	**-0.5**
	baz=258						
EGFH	**Guangfu**	**1.39**	**240**	*e*P	**Pn**	**15 44 04.3**	**-0.1**
	baz=237						
EGFH				*e*S	**Sn**	**15 44 21.9**	**-0.7**
	baz=237						
TWT	**Tachien**	**1.43**	**265**	*e*P	**Pn**	**15 44 06.3**	**+1.3**
	baz=264						
TWT				*e*S	**Sn**	**15 44 24.2**	**+0.4**
	baz=264						
JISG	**Ishigakijimahi**	**1.45**	**82**	P	**Pn**	**15 44 05.2**	**+0.2**
JISG				*e*S	**Sn**	**15 44 23.0**	**-0.8**
TDCB	**Techi**	**1.45**	**265**	P	**Pn**	**15 44 06.4**	**+1.2**
	baz=264						
TDCB				S	**Sn**	**15 44 24.1**	**0.0**
	baz=264						
CHGB	**Renai**	**1.47**	**258**	*e*P	**Pn**	**15 44 05.9**	**+0.4**
	baz=256						
CHGB				S	**Sn**	**15 44 25.1**	**+0.6**
	baz=256						
HGSD	**Ruisui**	**1.50**	**234**	*e*P	**Pn**	**15 44 05.7**	**0.0**
	baz=232						
HGSD				*e*S	**Sn**	**15 44 25.4**	**+0.5**
	baz=232						
EHY	**Hungye**	**1.56**	**236**	P	**Pn**	**15 44 06.1**	**-0.5**
	baz=234						
EHY				S	**Sn**	**15 44 26.0**	**-0.5**
	baz=234						
VWDT	**VWDT**	**1.59**	**247**	P	**Pn**	**15 44 07.5**	**+0.6**
	baz=245						
VWDT				*e*S	**Sn**	**15 44 26.2**	**-0.8**
	baz=245						
LIOB	**Emei**	**1.59**	**280**	*e*S	**Sn**	**15 44 28.2**	**+1.1**
	baz=279						
NSTT	**Nanjuang**	**1.60**	**279**	P	**Pn**	**15 44 07.3**	**+0.2**
	baz=278						
NSTT				S	**Sn**	**15 44 26.6**	**-0.8**
	baz=278						
WHP	**Taichung City**	**1.64**	**267**	*e*P	**Pn**	**15 44 08.3**	**+0.7**
	baz=265						
WHP				*e*S	**Sn**	**15 44 28.4**	**+0.1**
	baz=265						
YULB	**Yu-li**	**1.65**	**234**	*e*P	**Pn**	**15 44 07.6**	**-0.1**
	baz=231						
YULB				*e*S	**Sn**	**15 44 27.8**	**-0.6**
	baz=231						
TWF1	**Yuli**	**1.67**	**232**	P	**Pn**	**15 44 07.9**	**-0.1**
	baz=230						
TWF1				S	**Sn**	**15 44 28.4**	**-0.6**
	baz=230						
DPDB	**Guoxing**	**1.69**	**259**	*e*S	**Sn**	**15 44 29.5**	**0.0**
	baz=257						
SSLB	**Suanglung**	**1.74**	**250**	*e*P	**Pn**	**15 44 08.3**	**-0.5**
	baz=249						
SSLB				*e*S	**Sn**	**15 44 30.7**	**+0.1**
	baz=249						
FULB	**Fuli**	**1.77**	**229**	P	**Pn**	**15 44 09.1**	**-0.2**
	baz=226						
FULB				*e*S	**Sn**	**15 44 30.7**	**-0.7**
	baz=226						
CHKT	**Chengkung**	**1.79**	**225**	*e*S	**Sn**	**15 44 30.9**	**-0.9**
	baz=223						
WHYT	**Xinyi Township**	**1.85**	**249**	*e*P	**Pn**	**15 44 10.7**	**+0.3**
	baz=247						
ELDTW	**Lidau**	**1.98**	**233**	*e*P	**Pn**	**15 44 12.4**	**+0.3**
	baz=231						
ELDTW				*e*S	**Sn**	**15 44 35.7**	**-0.5**
	baz=231						

IDC 12 15:52:24.9±6.0, 2°86S×128°80E, h83km±79km, mb3.4/2, mb1 3.5/4, mb1mx3.1/29, mbtmp3.6/4, ML3.4/2, MS2.8/2, Ms1 2.9/2, ms1mx2.3/23, Error ellipse: s-maj=81.9km s-min=44.7km az=127.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.16**	**51**	P	Pn	15 53 13.1	+0.6
	4.5nm,0.3s,baz=237,slow=17,SNR=64						
SIJI				S	Sn	15 53 49.6	+0.4
	3.7nm,0.3s,baz=228,slow=23,SNR=16						
WRA	**Warramunga Arr**	**17.82**	**163**	P	P	15 56 26.3	-1.0
	0.1nm,0.3s,baz=340,slow=12,SNR=11						
ASAR	**Alice Springs**	**21.27**	**167**	P	P	15 57 05.4	+0.7
	0.8nm,0.4s,baz=348,slow=12,SNR=47						
STKA	**Stephens Creek**	**31.28**	**159**	P	P	15 58 36.9	-0.2
	0.6nm,0.6s,baz=318,slow=14,SNR=2.2						
CMAR	**Chiang Mai Arr**	**36.23**	**307**	LR	LR	16 14 30.5	
	comp=Z,8.1nm,19.8s,baz=260,slow=37						
SONM	**Songino Array**	**54.16**	**342**	LR	LR	16 26 29.8	
	comp=Z,20nm,21.7s,baz=186,slow=38						

*ISK **12** 16:08:26.9, 37°40N×27°01E, h8km, ML2.6/9*
*ISCJB **12** 16:08:27.6±0.5, 37°40N±0°03×27°03E±0°04, h21km±8km, Error ellipse: s-maj=5.8km s-min=4.7km az=149.6*
*ATH **12** 16:08:27.4, 37°42N×26°92E, h26km±1km, ML2.8/1, Error ellipse: s-maj=5.3km s-min=1.3km az=112.0*
*THE **12** 16:08:28.2, 37°43N×26°96E, h0km±1km, ML2.6/1, Error ellipse: s-maj=1.6km s-min=0.7km az=35.0*
ISC 12 16:08:26.7±1.2, 37°40N±0°03×27°02E±0°03, h14km±13km, n15, σ0°58/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.34**	**335**	P	**Pb**	**16 08 34.1**	**-0.5**
SMG				S	**Sb**	**16 08 40.0**	**+0.1**
	2μm,0.2s						
SMG	**Samos**	**0.34**	**335**	P	**Pb**	**16 08 34.2**	**-0.5**
SMG				S	**Sb**	**16 08 39.7**	**-0.2**
SMG				AML	AML	16 08 40.6	
	comp=N,4488μm,0.2s						
SMG				AML	AML	16 08 41.0	
	comp=E,3366μm,0.2s						
GCAM	**G?zelcaml?**	**0.35**	**30**	PG	**Pb**	**16 08 34.6**	**-0.1**
GCAM				SG	**Sb**	**16 08 40.1**	**+0.1**
BODT	**Bodrum**	**0.41**	**145**	PG	**Pg**	**16 08 35.1**	**+0.2**
BODT				SG	**Sb**	**16 08 41.8**	**-0.1**
DAT	**Datca**	**0.81**	**146**	PG	**Pg**	**16 08 42.4**	**0.0**
DAT				SG	**Sb**	**16 08 54.6**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**0.88**	**51**	PG	**Pb**	**16 08 44.2**	**+0.3**
BLCB	**Balcova**	**0.98**	**1**	PG	**Pn**	**16 08 46.3**	**+0.2**
YER	**Yerkesik**	**1.04**	**104**	PG	**Pn**	**16 08 47.5**	**+0.5**
AMGA	**Amorgos Island**	**1.06**	**238**	P	**Pg**	**16 08 46.7**	**-0.5**
AMGA				S	**Sg**	**16 09 00.9**	**-0.2**
APE	**Apeiranthos**	**1.23**	**255**	P	**Pb**	**16 08 50.1**	**+0.3**
APE				S	**Sb**	**16 09 05.9**	**+0.3**
APE	**Apeiranthos**	**1.23**	**255**	PN	**Pg**	**16 08 50.9**	**+0.4**
CHOS	**Chios island**	**1.25**	**323**	P	**Pg**	**16 08 50.8**	**+0.1**
CHOS				S	**Sb**	**16 09 06.0**	**0.0**
CHOS	**Chios island**	**1.25**	**323**	PN	**Pg**	**16 08 51.1**	**+0.4**
TURN	**Turunc**	**1.37**	**112**	PN	**Pn**	**16 08 49.7**	**-1.7**
SIGR	**SIGRI**	**2.03**	**334**	P	**Pn**	**16 09 00.8**	**+0.4**

*IDC **12** 16:17:45.8±5.8, 36°15N×71°30E, h33km±42km, mb3.7/10, mb1 3.9/14, mb1mx3.6/42, mbtmp3.9/14, ML4.4/4, MS3.9/1, Ms1 3.9/1, ms1mx2.6/40, Error ellipse: s-maj=26.8km s-min=19.2km az=13.0*
*NEIC **12** 16:17:52.5±1.7, 36°53N±0°03×71°0E±0°1, h150km±14km, mb4.0/5*
*MOS **12** 16:17:52.5±1.1, 36°55N×71°35E, h95km, mb4.4/2, Error ellipse: s-maj=13.5km s-min=5.3km az=84.2*
*BJI **12** 16:17:53.4±0.0, 36°94N×70°93E, h147km, mb4.1/10, mB4.6/8*
*NNC **12** 16:17:55.3±9.3, 36°96N×70°52E, h22km±99km, mb4.3, mpv4.4, Error ellipse: s-maj=88.0km s-min=27.5km az=161.0*
ISC 12 16:17:52.4±0.5, 36°48N±0°05×71°18E±0°05, h100km, n112, σ2°77/115, mb4.0/14, 15C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.60**	**345**		**Pn**	**16 18 33.8**	**+0.8**
KBL	**Kabul**	**2.60**	**223**	PN	**Pn**	**16 18 35.4**	**+2.3**
KBL	**Kabul**	**2.60**	**223**		**Pn**	**16 18 35.4**	**+2.3**
CHGR	**Chuyangaron**	**2.70**	**324**		**Pn**	**16 18 34.2**	**0.0**
CEP	**Cherat**	**2.72**	**167**	P	**Pn**	**16 18 36.1**	**+1.5**
CEP				S	**Sn**	**16 19 09.0**	**+2.1**
CHCP	**Chirah Chowk**	**3.30**	**148**	P	**Pn**	**16 18 43.7**	**+1.5**
NIL	**Nilore**	**3.30**	**148**	PN	**Pn**	**16 18 43.8**	**+1.6**
NIL	**Nilore**	**3.30**	**148**		**Pn**	**16 18 43.8**	**+1.6**
BTK	**Batken**	**3.58**	**356**	PN	**Pn**	**16 18 47.8**	**+1.8**
BTK	**Batken**	**3.58**	**356**		**Pn**	**16 18 47.8**	**+1.8**
THW	**Thamme Wali**	**3.71**	**173**	P	**Pn**	**16 18 48.7**	**+1.0**
SARP	**Sargodha**	**4.71**	**164**	P	**Pn**	**16 19 00.8**	**-0.4**
KSH	**Kashi**	**4.85**	**50**	P	**Pn**	**16 18 59.8**	**-3.3**
KSH				S	Sn	16 19 48.0	-10
KSH				smax	smax		
	comp=N,570nm,0.3s						
KSH				smax	smax		
	comp=E,380nm,0.3s						
JMU	**Jammu**	**4.85**	**140**	*e*P	Pn	16 19 00.0	-3.1
JMU				*e*S	**Sn**	**16 19 52.5**	**-5.5**
ARSB	**Arslanbob**	**5.04**	**16**		**Pn**	**16 19 05.9**	**+0.2**
TAS	**Tashkent**	**5.05**	**344**	PN	**Pn**	**16 19 05.4**	**-0.5**
TAS	**Tashkent**	**5.05**	**344**	Pn	**Pn**	**16 19 05.4**	**-0.5**
THN	**Thein Dam**	**5.51**	**136**	*e*P	**Pn**	**16 19 15.3**

SNR=10
EKS2 Erkin-Say 6.49 17 P **Pn** 16 19 26.9 +1.5
SNR=20
KK31 Karatay Array 6.63 356 *i* PN **Pn** 16 19 27.7 +0.5
KK31 pmax pmax
comp=E,5.0nm,0.3s
KK31 Karatay Array 6.63 356 **Pn** 16 19 27.6 +0.3
KK31 Karatay Array 6.63 356 ⇑P **Pn** 16 19 27.4 +0.2
comp=E,4.7nm,0.3s,baz=182,slow=13,SNR=157
KK31 ⇑S **Sn** 16 20 36.7 -4.6
comp=E,13nm,0.6s,baz=191,slow=28
KKAR Karatay Array 6.63 356 PN **Pn** 16 19 27.5 +0.3
KKAR Karatay Array 6.63 356 **Pn** 16 19 27.6 +0.3
AAK Ala-Archa 6.66 22 PN **Pn** 16 19 28.5 +0.8
AAK pmax pmax
comp=E,22nm,0.4s
AAK Ala-Archa 6.66 22 Pn **Pn** 16 19 29.1 +1.3
comp=E,12nm,0.3s,baz=173,slow=6.1,SNR=192
AAK Sn **Sn** 16 20 41.6 -0.5
comp=E,1.1nm,0.3s,baz=304,slow=23,SNR=3.4
AAK LR LR 16 21 35.6
comp=E,16nm,20.8s,baz=268,slow=33
AAK Ala-Archa 6.66 22 P **Pn** 16 19 29.0 +1.3
SNR=48
AAK Ala-Archa 6.66 22 ⇓P **Pn** 16 19 28.5 +0.8
comp=E,22nm,0.4s
AAK ⇑S **Sn** 16 20 41.7 -0.5
comp=E,17nm,0.8s
BHK Bhakra 6.67 138 *e*P **Pn** 16 19 27.6 -0.2
BHK *e*S **Sn** 16 20 37.2 -5.1
KBK Karagaybulak 6.82 24 P **Pn** 16 19 31.0 +1.1
SNR=12
FRU1 Bishkek 6.86 22 PN **Pn** 16 19 31.9 +1.6
FRU1 Bishkek 6.86 22 **Pn** 16 19 31.9 +1.6
CHMS Chumysh 7.07 22 P **Pn** 16 19 34.3 +1.2
SNR=21
USP Ospenovka 7.24 20 P **Pn** 16 19 35.9 +0.3
SNR=30
TKM2 Tokmak 2 7.28 27 *i* PN **Pn** 16 19 36.6 +0.5
TKM2 pmax pmax
comp=E,16nm,0.5s
TKM2 Tokmak 2 7.28 27 P **Pn** 16 19 37.2 +1.1
SNR=12
TKM2 Tokmak 2 7.28 27 ⇓P **Pn** 16 19 36.6 +0.5
comp=E,16nm,0.6s
TKM2 ⇑S **Sn** 16 20 57.0 -0.2
comp=E,8.7nm,1.1s
SMLA Simla 7.30 135 *e*P **Pn** 16 19 35.2 -1.2
SMLA *e*S Sn 16 20 51.8 -5.9
SMLA IAML 16 20 55.3
comp=E,251nm,0.2s
SMLA IAML 16 20 55.5
comp=N,344nm,0.2s
KDJ Kajisay 7.31 38 PN **Pn** 16 19 36.8 +0.2
KDJ Kajisay 7.31 38 Pn **Pn** 16 19 36.8 +0.2
JOSI Joshimath 9.15 128 *e*P **Pn** 16 20 00.0 -1.8
JOSI *e*S Sn 16 21 34.4 -8.8
KUDL Kundal 9.45 150 *e*P Pn 16 19 59.9 -5.7
KUDL *e*S Sn 16 21 38.3 -12
GEYT Alibeck 10.52 282 Pn **Pn** 16 20 17.3 -2.8
comp=N,2.8nm,0.3s,baz=94,slow=9.7,SNR=37
GEYT Sn **Sn** 16 22 08.2 -7.8
comp=N,2.7nm,0.3s,baz=314,slow=56,SNR=9.1
GYA0B ALIBECK ARRAY 10.52 282 Pn **Pn** 16 20 17.5 -2.7
GYA0B **Sn** 16 22 10.6 -5.4
GYA0B ALIBECK ARRAY 10.52 282 ⇑P **Pn** 16 20 17.3 -2.8
GYA0B ⇑S **Sn** 16 22 08.4 -7.5
MAKZ Makanchi 13.09 35 P **Pn** 16 20 53.8 -0.5
MAKZ Makanchi 13.09 35 **Pn** 16 20 53.8 -0.5
MAKZ Makanchi 13.09 35 ⇓P **P** 16 20 59.2 -1.5
comp=N,3.6nm,1.2s
MK31 Makanchi Array 13.22 35 P **Pn** 16 20 54.2 -1.9
MK31 Makanchi Array 13.22 35 **Pn** 16 20 54.2 -1.9
MK31 Makanchi Array 13.22 35 P **Pn** 16 20 59.7 +3.6
comp=N,0.5nm,0.5s,baz=216,slow=12,SNR=6.7
MKAR Makanchi Array 13.22 35 Pn **Pn** 16 20 54.1 -2.0
comp=N,0.1nm,0.3s,baz=221,slow=13,SNR=6.7
DANN Dangsing 13.36 124 *e*P Pn 16 20 54.6 -3.7
comp=N,18nm,0.4s
KOLN Koldanda 13.64 126 *e*P Pn 16 20 58.2 -3.6
comp=N,6.6nm,0.3s
GKN Gorkha 14.17 123 *e*P Pn 16 21 05.2 -3.5
comp=N,19nm,0.2s
WMQ Urumqi 14.59 55 *e*P **Pn** 16 21 13.6 -0.2
WMQ LR LR
comp=N,550nm,25.1s
WMQ LR LR
comp=N,2μm,23.7s
WMQ LR LR
comp=N,110nm,22.3s
DMN Daman 14.74 123 *e*P Pn 16 21 12.7 -3.4
comp=N,8.7nm,0.3s
KKN Kakani 14.75 122 *e*P Pn 16 21 13.0 -3.1
comp=N,13nm,0.5s
PKIN Phulchoki 14.96 122 *e*P **Pn** 16 21 14.7 -4.2
comp=N,4.1nm,0.3s
PKI Pulchoki 14.97 122 *e*P **Pn** 16 21 15.2 -3.9
comp=N,6.3nm,0.3s
GUN Gumba 15.08 120 *e*P **Pn** 16 21 16.2 -4.3
comp=N,9.9nm,0.4s
KURBB Kurchatov Arra 15.09 18 Pn **Pn** 16 21 16.9 -3.2
comp=N,0.0nm,0.3s,baz=209,slow=11,SNR=5.8
KURBB Kurchatov Arra 15.09 18 ⇑P **P** 16 21 22.0 -0.9
comp=N,3.0nm,0.8s
AB31 Akbulak array 15.17 331 *i* P **Pn** 16 21 19.6 -1.5
AB31 pmax pmax
comp=E,1.0nm,0.3s
AB31 Akbulak array 15.17 331 ⇑P **Pn** 16 21 18.6 -2.5
comp=E,1.6nm,0.4s,baz=141,slow=12,SNR=94
AB31 ⇑S **Sn** 16 24 02.5 -5.9
comp=E,1.0nm,0.5s,baz=159,slow=23,SNR=2.7
ABKAR Akbulak array 15.17 331 P **Pn** 16 21 19.2 -1.8
ABKAR IAmb IAmb 16 21 31.1
comp=E,11nm,1.2s
KURK Kurchatov 15.20 18 *ce*P **Pn** 16 21 19.3 -2.2
KURK pmax pmax
comp=E,4.0nm,1.3s
KURK Kurchatov 15.20 18 P **Pn** 16 21 21.2 -0.2
KURK IAmb IAmb 16 21 25.9
comp=E,3.0nm,0.8s
KURK Kurchatov 15.20 18 ⇑P **Pn** 16 21 22.5 +1.0
comp=E,4.3nm,1.0s
JIRN Jiri 15.46 120 *e*P **Pn** 16 21 21.3 -3.9
RAMN Ramite 16.18 122 *e*P **Pn** 16 21 29.6 -4.6
BVAR Borovoye Array 16.55 358 Pn **Pn** 16 21 37.1 -1.2
comp=E,1.0nm,0.3s,baz=166,slow=12,SNR=11
BRVK Borovoye 16.59 358 *ce*P **P** 16 21 39.2 -0.3
BRVK pmax pmax
comp=E,9.0nm,2.5s
TAPN Taplejung 16.71 118 *e*P **Pn** 16 21 36.8 -3.9
comp=E,8.6nm,0.3s
ODAN Odare 16.79 120 *e*P **Pn** 16 21 37.4 -4.2
AKTO Aktyubinsk 16.87 330 P **P** 16 21 43.1 +0.5
AKTO pmax pmax
comp=E,15nm,0.8s
AKTO Aktyubinsk 16.87 330 P **P** 16 21 42.4 -0.2
comp=E,1.6nm,0.3s,baz=145,slow=9.5,SNR=18
AKTO Aktyubinsk 16.87 330 ⇑P **P** 16 21 42.5 -0.1
comp=E,15nm,0.8s
AKTO ⇓S **Sn** 16 24 42.8 -6.5
comp=E,4.1nm,1.0s
ZAA0 Zalesovo Array 19.87 24 P **P** 16 22 13.5 -1.9
ZAA0 IAmb IAmb 16 22 21.8
comp=E,7.0nm,0.4s
ZALV Zalesovo Beam 19.87 24 P **P** 16 22 16.2 +0.8
comp=E,7.0nm,0.3s,baz=231,slow=9.2,SNR=15
ARU Arti 21.70 341 *c i*P **P** 16 22 40.9 +6.0
ARU 16 23 11.7
ARU S **S** 16 26 31.4 +2.3
ARU SS SnSn 16 27 23.7 +21
ARU pmax pmax
comp=E,20nm,1.5s
GTA Gaotai 22.73 74 P **P** 16 22 49.4 +3.3
GTA S **S** 16 26 42.2 -5.1
GTA pmax pmax
comp=E,8.0nm,1.1s
GTA pmax pmax
comp=E,110nm,5.6s
GTA LR LR
comp=E,160nm,14.3s
GTA LR LR
comp=E,120nm,14.6s
GTA LR LR
comp=E,150nm,14.9s
KIV Kislovodsk 22.92 298 *e*P P 16 22 54.3 +6.4
KIV pmax pmax
comp=E,18nm,1.0s
LZH Lanzhou 26.27 81 ⇓P **P** 16 23 15.0 -3.5
LZH pP pP 16 23 46.2 +4.2
LZH sP sP 16 24 03.8 +9.5
LZH pmax pmax
comp=E,19nm,1.0s
LZH pmax pmax
comp=E,52nm,4.6s
HHC Hu-ho-hao-te 31.64 70 *e*P P 16 24 01.7 -4.3
HHC pmax pmax
comp=E,4.0nm,0.9s
AKASG Malin Array Be 33.07 309 P **P** 16 24 20.8 +2.5
comp=E,0.5nm,0.4s,baz=78,slow=8.0,SNR=7.8
CFR Carcaliu 33.37 299 ⇑P **P** 16 24 24.4 +3.4
FINES FINESS Array B 37.58 326 *e*P **P** 16 24 59.5 +2.8
FINES FINESS Array B 37.58 326 P **P** 16 24 59.8 +3.1
comp=E,2.3nm,0.7s,baz=117,slow=7.0,SNR=10
ARCES ARCESS Array B 41.22 338 *e*P **P** 16 25 29.9 +3.0
ARCES ARCESS Array B 41.22 338 P **P** 16 25 30.0 +3.1
comp=E,3.5nm,0.7s,baz=23,slow=4.6,SNR=12
NORES NORESS Array B 44.29 323 *e*P P 16 25 56.2 +4.4
NB2 NORSAR Subarra 44.48 323 P **P** 16 25 55.6 +2.2
comp=E,1.5nm,0.5s,baz=94,slow=7.9
NOA NORSAR Array B 44.48 323 P **P** 16 25 55.8 +2.5
comp=E,2.0nm,0.5s,baz=96,slow=7.7,SNR=8.7
NBO00 NORSAR Array S 44.69 323 P P 16 25 48.8 -6.2
NC204 NORSAR Array S 44.72 323 P P 16 25 49.3 -6.0
DAG Danmarks Havn 54.79 344 *i* P **P** 16 27 15.3 +4.1
DAG Danmarks Havn 54.79 344 *i* P **P** 16 27 15.3 +4.1
SUMG Summit 61.12 341 *e*P **P** 16 27 59.3 +3.3
SUMG Summit 61.12 341 *i* P **P** 16 27 59.3 +3.3
TORD Torodi Ar. Bea 65.86 269 P **P** 16 28 28.1 +0.5
comp=E,0.6nm,0.4s,baz=55,slow=6.2,SNR=7.9
INK Inuvik 73.90 9 P **P** 16 29 19.1 +3.2
comp=E,0.4nm,0.4s,baz=323,slow=4.4,SNR=5.4
YKA Yellowknife Ar 81.26 3 P **P** 16 29 59.2 +2.2
comp=E,0.3nm,0.4s,baz=348,slow=5.4,SNR=6.6
WRA Warramunga Arr 81.86 122 P **P** 16 30 00.6 -0.2
comp=E,0.5nm,0.9s,baz=323,slow=5.0,SNR=6.7
ASAR Alice Springs 84.13 125 P **P** 16 30 12.9 +0.5
comp=E,0.2nm,0.6s,baz=307,slow=5.1,SNR=9.7
KRVT Keravat (AS076 85.20 99 LR LR 17 09 06.5
comp=E,60nm,20.5s,baz=235,slow=36

*SJA **12** 16:35:45.9±0.8,23.°13S×66.°64W,h238km±6km, ML4.3, MW4.3*
*ISCJB **12** 16:35:46.5±0.2,23.°17S±0.°03×66.°67W±0.°03,h221km±2km, mb3.9/8, Error ellipse: s-maj=4.5km s-min=3.7km az=137.6*
*IDC **12** 16:35:47.1±0.9,23.°07S×66.°57W,h210km±8km, mb3.8/8, mb1 4.1/13,mb1mx3.8/29,mbtmp4.4/13, Error ellipse: s-maj=13.3km s-min=12.1km az=161.0*
*NEIC **12** 16:35:47.1±1.5,23.°14S±0.°07×66.°60W±0.°10,h211km±6km, mb4.4/63, ML4.8(GUC)*
*VAO **12** 16:35:47.6±0.3,23.°07S×66.°82W,h246km, mb4.3*
*GUC **12** 16:35:48.3±0.9,23.°02S×67.°13W,h258km±8km, ML4.8*
ISC 12 16:35:47.3±0.5, 23.°11S±0.°04×66.°69W±0.°04, h219km±5km, n159,σ1§14/193, mb4.3/33, 15C-3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HJA	**Humahuaca**	**1.18**	**95**	*i* P	**Pn**	**16 36 21.9**	**+1.2**
YJA	**Yavi**	**1.43**	**50**	*i* P	**Pn**	**16 36 23.8**	**+1.1**
YJA				*e*S	**S**	**16 36 51.0**	**+0.9**
AZAP	**Zapla**	**1.85**	**127**	*i* P	**Pn**	**16 36 26.4**	**+0.3**
AZAP				*e*S	**S**	**16 36 57.0**	**+0.7**
LVC	**Limon Verde**	**2.11**	**283**	⇓*i* P	**Pn**	**16 36 29.9**	**+1.1**
LVC				*i* S	**S**	**16 37 01.7**	**+0.9**
LVC	**Limon Verde**	**2.11**	**283**	P	**Pn**	**16 36 29.9**	**+1.1**
	175nm,0.3s,baz=91,slow=5.8,SNR=914						
LVC				S	**S**	**16 37 01.4**	**+0.6**
	108nm,0.3s,baz=251,slow=21,SNR=25						
LVC	**Limon Verde**	**2.11**	**283**	*e*P	**Pn**	**16 36 30.0**	**+1.2**
LVC				*e*S	**S**	**16 37 01.9**	**+1.1**
LVC	**Limon Verde**	**2.11**	**283**	*e*P	**Pn**	**16 36 30.0**	**+1.2**
LVC				*e*S	**S**	**16 37 01.9**	**+1.1**
LVC	**Limon Verde**	**2.11**	**283**	⇑*i* P	**Pn**	**16 36 29.9**	**+1.1**
LVC				*e*S	**S**	**16 37 01.8**	**+1.0**
LVC				IAML		16 37 06.0	
	comp=Z,300nm,0.7s						
PB15	**IPOC Station P**	**2.56**	**267**	⇑*i* P	**Pn**	**16 36 34.4**	**+1.1**
PB15				*i* S	**S**	**16 37 09.6**	**+0.7**
PB15	**IPOC Station P**	**2.56**	**267**	⇑*i* P	**Pn**	**16 36 34.4**	**+1.1**
PB15				*e*S	**S**	**16 37 09.6**	**+0.7**
PB06	**IPOC Station P**	**2.69**	**278**	⇑*i* P	**Pn**	**16 36 35.4**	**+0.8**
PB06				*i* S	**S**	**16 37 11.3**	**-0.1**
PB06				IAML		16 37 12.2	
	comp=N,2μm,0.3s						
PB06	**IPOC Station P**	**2.69**	**278**	*i* P	**Pn**	**16 36 35.5**	**+0.8**
PB06				*e*S	**S**	**16 37 11.8**	**+0.4**
PB06				IAML		16 37 15.4	
	comp=Z,1μm,0.2s						
PB09	**IPOC Station P**	**2.70**	**299**	⇑*i* P	**Pn**	**16 36 36.2**	**+1.4**
PB09				*i* S	**S**	**16 37 12.4**	**+0.7**
PB09				IAML		16 37 17.6	
	comp=E,998nm,0.5s						
PB09	**IPOC Station P**	**2.70**	**299**	*i* P	**Pn**	**16 36 36.0**	**+1.2**
PB09				*e*S	**S**	**16 37 12.2**	**+0.5**
PB09				IAML		16 37 17.0	
	comp=Z,549nm,0.3s						
PB03	**IPOC Station P**	**3.02**	**290**	⇑*i* P	**Pn**	**16 36 39.0**	**+0.6**
PB03				*i* S	**S**	**16 37 17.2**	**-1.0**
PB03				IAML		16 37 22.1	
	comp=E,2μm,0.4s						
PB05	**IPOC Station P**	**3.25**	**274**	⇑*i* P	**Pn**	**16 36 41.4**	**+0.4**
PB05				*i* S	**S**	**16 37 21.0**	**-1.8**
PB05				IAML		16 37 23.8	
	comp=E,939nm,0.2s						
PB05	**IPOC Station P**	**3.25**	**274**	⇑*i* P	**Pn**	**16 36 41.3**	**+0.4**
PB05				IAML		16 37 26.8	
	comp=Z,456nm,0.4s						
PB07	**IPOC Station P**	**3.26**	**294**	⇑*i* P	**Pn**	**16 36 41.6**	**+0.4**
PB07				*i* S	**S**	**16 37 21.8**	**-1.4**
PB04	**IPOC Station P**	**3.29**	**283**	⇑*i* P	**Pn**	**16 36 41.9**	**+0.5**
PB04				*i* S	**S**	**16 37 22.3**	**-1.4**
PB04	**IPOC Station P**	**3.29**	**283**		**Pn**	**16 36 41.9**	**+0.5**
PB04				S	**S**	**16 37 22.6**	**-1.1**
PB04	**IPOC Station P**	**3.29**	**283**	*i* P	**Pn**	**16 36 42.0**	**+0.5**
PB04				*e*S	**S**	**16 37 23.2**	**-0.5**
GO02	**Mina Guanaco**	**3.34**	**232**	⇑*i* P	**Pn**	**16 36 42.8**	**+0.5**
GO02				*i* S	**S**	**16 37 25.5**	**+0.4**
GO02	**Mina Guanaco**	**3.34**	**232**		**Pn**	**16 36 42.9**	**+0.7**
GO02				S	**S**	**16 37 25.1**	**-0.1**
PB10	**IPOC Station P**	**3.57**	**263**	⇑*i* P	**Pn**	**16 36 45.0**	**+0.3**
PB10				*i* S	**S**	**16 37 27.4**	**-2.1**
PB10	**IPOC Station P**	**3.57**	**263**		**Pn**	**16 36 44.8**	**+0.1**
PB10				S	**S**	**16 37 27.6**	**-1.9**
PB10	**IPOC Station P**	**3.57**	**263**	⇑*i* P	**Pn**	**16 36 45.0**	**+0.3**
PB10				IAML		16 37 33.7	
	comp=Z,595nm,1.0s						
PB14	**IPOC Station P**	**3.72**	**245**	⇑*i* P	**Pn**	**16 36 46.9**	**+0.2**
PB14				*i* S	**S**	**16 37 31.7**	**-1.4**
PB08	**IPOC Station P**	**3.74**	**322**	⇑*i* P	**Pn**	**16 36 48.4**	**+1.2**
PB08				*i* S	**S**	**16 37 34.1**	**+0.3**
TA01	**Diego Aracena**	**4.12**	**307**	⇑*i* P	**Pn**	**16 36 50.5**	**-0.7**
TA01				*i* S	**S**	**16 37 38.8**	**-2.6**
GO01	**Chusmiza**	**4.15**	**325**	⇑*i* P	**Pn**	**16 36 52.9**	**+0.7**
GO01				*i* S	**S**	**16 37 42.6**	**-0.3**
GO01	**Chusmiza**	**4.15**	**325**	Pn	**Pn**	**16 36 52.8**	**+0.7**
PB11	**IPOC Station P**	**4.33**	**320**	Pn	**Pn**	**16 36 53.6**	**-0.5**
MNMC	**Minye Minye**	**4.80**	**325**	⇑*i* P	**Pn**	**16 37 00.1**	**0.0**
MNMC				*i* S	**S**	**16 37 55.6**	**-1.7**
MNMC	**Minye Minye**	**4.80**	**325**	Pn	**Pn**	**16 37 00.0**	**0.0**
CYA	**Choya**	**5.37**	**172**	*i* P	**Pn**	**16 37 06.4**	**-0.4**
GO03	**Copiap**	**5.49**	**215**		**Pn**	**16 37 06.7**	**-1.8**
ACLC	**CERRO LA CRUZ**	**6.29**	**182**	⇓*i* P	**Pn**	**16 37 18.1**	**-0.7**
LPAZ	**La Paz**	**6.92**	**348**	P	**Pn**	**16 37 28.1**	**+0.7**
	comp=Z,8.6nm,0.3s,baz=159,slow=7.9,SNR=152						
LPAZ				S	**S**	**16 38 45.8**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=258,slow=21,SNR=2.7						
LPAZ	**La Paz**	**6.92**	**348**	*e*P	**Pn**	**16 37 27.9**	**+0.5**
LPAZ	**La Paz**	**6.92**	**348**	*e*P	**Pn**	**16 37 27.9**	**+0.5**
LPAZ	**La Paz**	**6.92**	**348**		**Pn**	**16 37 27.9**	**+0.5**
GO04	**Tololo Observa**	**7.93**	**207**		**Pn**	**16 37 37.7**	**-2.2**
AMOG	**MOGNA**	**7.96**	**191**	⇑*i* P	**Pn**	**16 37 38.4**	**-1.7**
CFA	**Coronel Fontan**	**8.57**	**189**	P	**Pn**	**16 37 45.7**	**-2.2**
	comp=Z,3.1nm,0.3s,baz=351,slow=9.2,SNR=305						
CFA				S	S	16 39 15.3	-9.3
	comp=Z,6.6nm,0.3s,baz=270,slow=20,SNR=16						
CFA	**Coronel Fontan**	**8.57**	**189**	⇓*i* P	**Pn**	**16 37 45.9**	**-2.0**
SIV	**San Ignacio**	**8.85**	**38**	P	**Pn**	**16 37 49.9**	**-1.6**
	comp=Z,1.9nm,0.3s,baz=241,slow=12,SNR=68						
SIV				S	S	16 39 18.8	-13
	comp=Z,0.3nm,0.3s,baz=232,slow=13,SNR=3.9						
CPUP	**Villa Florida**	**9.09**	**113**	P	**Pn**	**16 37 52.5**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=289,slow=12,SNR=14						
ASAL	**Salagasta**	**9.63**	**191**	*i* P	**Pn**	**16 38 00.3**	**-1.3**
ARCO	**CERRO ARCO**	**9.89**	**191**	*i* P	**Pn**	**16 38 04.0**	**-1.0**
ROC1	**El Roble**	**10.54**	**200**	Pn	**Pn**	**16 38 11.8**	**-1.6**
AQDB	**Aquidauana**	**10.54**	**78**	*e*P	**Pn**	**16 38 13.7**	**+0.4**
AQDB	**Aquidauana**	**10.54**	**78**	*e*P	**Pn**	**16 38 13.7**	**+0.4**
TRCB	**Terra Rica**	**12.96**	**91**	*e*P	**Pn**	**16 38 44.5**	**+0.8**
TRCB	**Terra Rica**	**12.96**	**91**	*e*P	**Pn**	**16 38 44.5**	**+0.8**
ITAB	**Concordia**	**13.81**	**110**	*e*P	**Pn**	**16 38 53.4**	**-0.8**
ITAB	**Concordia**	**13.81**	**110**	*e*P	**Pn**	**16 38 53.4**	**-0.8**
SAML	**Samuel**	**14.48**	**14**	*e*P	**Pn**	**16 39 01.5**	**-1.0**
SAML	**Samuel**	**14.48**	**14**	*e*P	**Pn**	**16 39 01.5**	**-1.0**
SAML	**Samuel**	**14.48**	**14**	P	**Pn**	**16 39 02.0**	**-0.5**
TRQA	**Tornquist**	**15.43**	**166**	*e*P	**P**	**16 39 12.5**	**-1.3**
TRQA				*e*S	**S**	**16 42 05.5**	**+1.1**
TRQA	**Tornquist**	**15.43**	**166**	*e*P	**P**	**16 39 12.5**	**-1.3**
TRQA				*e*S	**S**	**16 42 05.5**	**+1.1**
TRQA	**Tornquist**	**15.43**	**166**	P	**P**	**16 39 11.6**	**-2.2**
TRQA				IAmb	IAmb	16 39 15.5	
	comp=Z,9.2nm,0.7s						
ARAG	**Araguaiana, MT**	**15.85**	**65**	*e*P	**Pn**	**16 39 18.9**	**-0.2**
ARAG	**Araguaiana, MT**	**15.85**	**65**	*e*P	**Pn**	**16 39 18.9**	**-0.2**
CLDB	**Colider**	**16.01**	**42**	*e*P	**P**	**16 39 18.7**	**-1.6**
CLDB				*e*S	**S**	**16 42 16.8**	**-0.6**
CLDB	**Colider**	**16.01**	**42**	*e*P	**P**	**16 39 18.7**	**-1.6**
CLDB				*e*S	**S**	**16 42 16.8**	**-0.6**
GO06	**Curarrehue**	**16.91**	**193**	P	**P**	**16 39 29.5**	**-0.6**
SPB	**Sao Paulo**	**17.69**	**95**	P	**P**	**16 39 37.7**	**-0.9**
PLCA	**Paso Flores**	**17.87**	**190**	P	**P**	**16 39 40.2**	**-0.3**
IPMB	**Ipameri, GO**	**18.04**	**77**	*e*P	**P**	**16 39 42.2**	**-0.3**
IPMB	**Ipameri, GO**	**18.04**	**77**	*e*P	**P**	**16 39 42.2**	**-0.3**
VAO	**Valinhos**	**18.16**	**94**	*e*P	**P**	**16 39 43.1**	**-0.6**
VAO	**Valinhos**	**18.16**	**94**	*e*P	**P**	**16 39 43.1**	**-0.6**
BDFB	**Brasilia**	**19.11**	**70**	P	**P**	**16 39 53.9**	**-0.2**
	comp=Z,2.1nm,0.3s,baz=240,slow=11,SNR=25						
BDFB	**Brasilia**	**19.11**	**70**	P	**P**	**16 39 53.5**	**-0.6**
EFI	**East Falkland**	**29.28**	**169**	P	**P**	**16 41 29.2**	**+0.1**
MDP	**Montagnes des**	**31.22**	**28**	P	**P**	**16 41 47.0**	**+0.5**
	comp=Z,15nm,1.0s,baz=190,slow=9.6,SNR=4.6						
GRGR	**Grenville**	**35.37**	**9**	P	**P**	**16 42 22.6**	**+0.2**
BBGH	**Gun Hill**	**36.70**	**12**	P	**P**	**16 42 33.7**	**+0.1**
MCLT	**Moule a Chique**	**37.03**	**9**	P	**P**	**16 42 36.6**	**+0.2**
VNA3	**Neumayer Olymp**	**57.90**	**161**	P	**P**	**16 45 16.8**	**+0.7**
VNA2	**Neumayer--Wa**	**58.45**	**161**	P	**P**	**16 45 19.9**	**0.0**
	baz=286,slow=7.9						
833A	**Chaparral WMA,**	**60.08**	**327**	P	**P**	**16 45 32.2**	**+0.6**
V55A	**Taylorsville**	**60.23**	**346**	P	**P**	**16 45 32.7**	**+0.3**
V53A	**Saluda**	**60.42**	**345**	P	**P**	**16 45 34.4**	**+0.6**
V53A				IAmb	IAmb	16 45 36.9	
	comp=Z,6.3nm,1.0s						
X48A	**Hartselle**	**60.43**	**341**	P	**P**	**16 45 33.5**	**-0.3**
X48A				IAmb	IAmb	16 45 34.3	
	comp=Z,9.2nm,0.8s						
W50A	**Signal Mountai**	**60.62**	**343**	P	**P**	**16 45 35.1**	**0.0**
W50A				IAmb	IAmb	16 45 41.7	
	comp=Z,10nm,1.1s						
WLAR	**White Oak Lake**	**61.84**	**335**	P	**P**	**16 45 44.4**	**+1.1**
JCT	**Junction City**	**62.05**	**328**	P	**P**	**16 45 44.8**	**0.0**
JCT				IAmb	IAmb	16 45 46.5	
	comp=Z,7.9nm,0.8s						
WVT	**Waverly**	**62.22**	**341**	P	**P**	**16 45 44.8**	**-0.9**
WVT				IAmb	IAmb	16 45 45.8	
	comp=Z,8.0nm,0.8s						
TXAR	**Lajitas Array**	**63.13**	**324**	P	**P**	**16 45 52.6**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=149,slow=8.0,SNR=7.0						
TX31	**Lajitas Ar. Si**	**63.13**	**324**	P	**P**	**16 45 52.2**	**+0.2**
TX32	**Lajitas Array**	**63.13**	**324**	P	**P**	**16 45 52.5**	**+0.5**
PBMO	**Poplar Bluff**	**63.64**	**339**	P	**P**	**16 45 54.6**	**-0.5**
PBMO				IAmb	IAmb	16 45 55.6	
	comp=Z,8.5nm,0.8s						
CCM	**Cathedral Cave**	**65.07**	**339**	P	**P**	**16 46 04.0**	**-0.3**
MNTX	**Cornudas Mount**	**65.89**	**324**	P	**P**	**16 46 09.3**	**-0.5**
MNTX				IAmb	IAmb	16 46 11.4	
	comp=Z,8.7nm,1.4s						
MSTX	**Muleshoe**	**66.34**	**328**	P	**P**	**16 46 12.9**	**+0.3**
QSPA	**South Pole Qui**	**67.09**	**180**	P	**P**	**16 46 18.2**	**+1.2**
	comp=Z,3.7nm,0.5s,baz=181,slow=0.7,SNR=32						
QSPA	**South Pole Qui**	**67.09**	**180**	P	**P**	**16 46 17.8**	**+0.8**
QSPA				IAmb	IAmb	16 46 18.6	
	comp=Z,4.6nm,0.7s						
DBIC	**Dimbokro**	**67.25**	**72**	P	**P**	**16 46 19.9**	**+1.1**
	comp=Z,2.7nm,0.6s,baz=3.9,slow=3.4,SNR=3.6						
121A	**Cookes Peak, D**	**67.84**	**323**	P	**P**	**16 46 23.4**	**+1.2**
121A				IAmb	IAmb	16 46 24.6	
	comp=Z,6.3nm,1.0s						
ANMO	**Albuquerque**	**68.97**	**326**	P	**P**	**16 46 30.1**	**+0.8**
SDCO	**Great Sand Dun**	**70.68**	**328**	P	**P**	**16 46 40.8**	**+1.1**
SDCO				IAmb	IAmb	16 46 42.1	
	comp=Z,3.8nm,0.8s						
X16A	**Lo Mia Camp, P**	**71.28**	**322**	P	**P**	**16 46 44.2**	**+1.0**
Q24A	**Divide**	**71.48**	**329**	P	**P**	**16 46 45.9**	**+1.4**
Q24A				IAmb	IAmb	16 46 46.8	
	comp=Z,7.4nm,0.9s						
WUAZ	**Wupatki**	**72.05**	**323**	P	**P**	**16 46 49.7**	**+2.0**
WUAZ				IAmb	IAmb	16 46 50.8	
	comp=Z,5.2nm,0.8s						
SMCO	**Snowmass**	**72.52**	**328**	P	**P**	**16 46 52.3**	**+1.6**
SMCO				IAmb	IAmb	16 46 53.4	
	comp=Z,3.7nm,0.8s						
U15A	**North Rim**	**73.22**	**323**	P	**P**	**16 46 56.6**	**+1.8**
U15A				IAmb	IAmb	16 46 57.9	
	comp=Z,3.9nm,0.8s						
KNB	**Kanab**	**73.94**	**323**	P	**P**	**16 47 01.2**	**+2.4**
SRU	**San Rafael Swe**	**74.25**	**326**	P	**P**	**16 47 01.9**	**+1.3**
CCUT	**Cedar City**	**74.62**	**323**	P	**P**	**16 47 05.2**	**+2.4**
P17A	**Butcher Ranch,**	**74.63**	**326**	P	**P**	**16 47 04.3**	**+1.6**
RDMU	**Red Mountain**	**74.87**	**328**	P	**P**	**16 47 05.4**	**+1.2**
PSUT	**Pine Spring**	**75.59**	**324**	P	**P**	**16 47 10.0**	**+1.6**
TPNV	**Topopah Spring**	**75.83**	**321**	P	**P**	**16 47 11.6**	**+2.0**
TPNV				IAmb	IAmb	16 47 12.9	
	comp=Z,7.3nm,1.1s						
JLU	**Jordanelle**	**75.83**	**326**	P	**P**	**16 47 10.9**	**+1.2**
TORD	**Torodi Ar. Bea**	**75.99**	**69**	P	**P**	**16 47 09.5**	**-1.3**
	comp=Z,1.4nm,0.4s,baz=258,slow=5.1,SNR=12						
TORD				pP	**pP**	**16 48 05.0**	**+1.1**
	comp=Z,2.0nm,0.8s,baz=253,slow=6.4,SNR=5.7						
DUG	**Dugway, Tooele**	**

F10A					IAmb	IAmb	16 47 46.7	
	comp=Z,17nm,1.5s							
PINE	**Pine Mountain**	**83.09**	**324**		P	**P**	**16 47 50.0**	**+1.4**
PINE					IAmb	IAmb	16 47 51.1	
	comp=Z,4.9nm,0.7s							
C09A	**Chrisman Ranch**	**84.41**	**328**		P	**P**	**16 47 55.7**	**+0.7**
C09A					IAmb	IAmb	16 47 56.7	
	comp=Z,7.9nm,0.7s							
YKA	**Yellowknife Ar**	**93.39**	**340**		P	**P**	**16 48 37.3**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=131,slow=4.3,SNR=15							
ASAR	**Alice Springs**	**129.38**	**205**		PKP	**PKPdf**	**16 54 30.5**	**0.0**
	comp=Z,1.2nm,0.9s,baz=124,slow=1.4,SNR=15							
WRA	**Warramunga Arr**	**132.54**	**207**		PKP	**PKPdf**	**16 54 36.8**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=165,slow=1.6,SNR=19							
ZALV	**Zalesovo Beam**	**142.48**	**28**		PKhKP	PKPpre	16 54 50.6	
	comp=Z,0.9nm,0.4s,baz=315,slow=5.8,SNR=4.9							
KSH	**Kashi**	**144.45**	**54**		PKP	**PKPab**	**16 54 56.1**	**-0.6**
KSH					pPKP	pPKPdf	16 55 53.4	-2.3
BATI	**Baumata**	**145.37**	**198**		PKPbc	**PKPbc**	**16 55 01.5**	**+1.3**
	comp=Z,4.1nm,0.4s,baz=280,slow=4.5,SNR=4.7							
MAKZ	**Makanchi**	**145.47**	**39**			**PKPdf**	**16 54 59.7**	**+0.5**
SOEI	**Soe**	**145.62**	**199**			**PKPdf**	**16 55 01.5**	**+1.0**
MK31	**Makanchi Array**	**145.66**	**39**			**PKPdf**	**16 54 59.9**	**+0.4**
MKAR	**Makanchi Array**	**145.66**	**39**		PKPbc	**PKPdf**	**16 55 00.2**	**+0.7**
	comp=Z,5.0nm,0.7s,baz=313,slow=2.9,SNR=40							
CISI	**Cisompet, Garu**	**149.05**	**169**			**PKPbc**	**16 55 10.6**	**+0.2**
SIJI	**Sorong**	**150.44**	**219**		PKPbc	**PKPbc**	**16 55 14.7**	**+0.9**
	comp=Z,11nm,0.8s,baz=40,slow=5.9,SNR=8.8							
SONM	**Songino Array**	**154.72**	**11**		PKPab	**PKPab**	**16 55 39.0**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=330,slow=8.6,SNR=4.0							
LZH	**Lanzhou**	**164.69**	**30**	⇑	PKP	**PKPdf**	**16 55 23.2**	**-2.1**
LZH					pPKP	PKPab	16 56 18.7	-3.3
LZH					PKP	**pPKPdf**	**16 56 21.0**	**-2.5**
LZH					sPKP		16 56 41.3	
CD2	**Chengdu**	**168.48**	**46**		PKP	**PKPdf**	**16 55 27.6**	**-0.6**

*ISCJB **12** 16:40:24.5±0.4,36°.98N±0°.03×54°.93E±0°.03,h15km, Error ellipse: s-maj=5.2km s-min=3.2km az=31.1*
*TEH **12** 16:40:24.7,36°.83N×55°.13E,h10km,ML3.2*
*THR **12** 16:40:26.6,36°.81N×55°.33E,h15km,ML3.2*
*AZER **12** 16:40:28.9±3.0,36°.77N×54°.79E,h56km±397km,ml4.4/2, Error ellipse: s-maj=42.8km s-min=22.5km az=160.0*

ISC 12 16:40:25.7±0.9,36°.90N±0°.05×55°.03E±0°.04,h15km,n36, σ1§66/46,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMND	**Minoodasht**	**0.47**	**40**	*e*Pg	**Pg**	**16 40 34.0**	**-1.0**
IMND				*e*Sg	**Sg**	**16 40 40.8**	**-0.6**
IMND				IAMB	IAmb	16 40 43.4	
	comp=Z,0.0nm,0.4s						
IGLO	**Ghaloghah**	**1.04**	**248**	*e*Pg	**Pb**	**16 40 44.8**	**-0.7**
IGLO				IAMB	IAmb	16 41 15.1	
	comp=Z,0.0nm,0.5s						
SHRO	**Shahrood**	**1.20**	**139**	*e*Pg	**Pn**	**16 40 45.0**	**-3.0**
SHRO	**Shahrood**	**1.20**	**139**	*e*Pg	**Pn**	**16 40 45.0**	**-3.0**
IKIA	**Kiasar**	**1.28**	**238**	*e*Pn	**Pn**	**16 40 49.5**	**+0.2**
IANJ	**Anjilo**	**1.69**	**213**	*e*Pn	**Pn**	**16 40 55.2**	**+0.3**
IANJ				IAMB	IAmb	16 41 26.7	
	comp=Z,3µm,0.4s						
BJRD	**Bojnurd**	**2.06**	**66**	*e*Pg	**Pn**	**16 41 01.0**	**+1.2**
BJRD	**Bojnurd**	**2.06**	**66**	*e*Pg	**Pn**	**16 41 01.0**	**+1.2**
SBZV	**Sabzevar**	**2.14**	**103**	*e*Pn	**Pn**	**16 41 01.7**	**+0.7**
ILAS	**Lasjerd**	**2.26**	**229**	IAMB	IAmb	16 41 46.0	
	comp=Z,1µm,0.4s						
ILAS				*e*Pn	**Pn**	**16 41 05.6**	**+2.9**
IPRN	**Peran**	**2.26**	**254**	*e*Pn	**Pb**	**16 41 06.2**	**-0.1**
ISFR	**Sfrayin**	**2.38**	**85**	IAMB	IAmb	16 41 44.8	
	comp=Z,2µm,0.3s						
ISFR				*e*Pn	**Pn**	**16 41 05.7**	**+1.3**
DAMV	**Damavand**	**2.78**	**244**	*e*AML	AML	16 42 02.1	
	comp=Z,98nm,0.5s						
DAMV				*e*Pn	**Pb**	**16 41 15.4**	**+0.2**
IKRD	**Kardeh**	**2.80**	**91**	*e*Pn	**Pg**	**16 41 23.0**	**+3.7**
IEMG	**Emamgholi**	**2.94**	**79**	IAMB	IAmb	16 41 19.7	
	comp=Z,586nm,0.3s						
TNSJ	**Nastanj**	**3.20**	**156**	*e*Pn	**Pn**	**16 41 16.2**	**+0.7**
TNSJ				IAMB	IAmb	16 42 03.9	
	comp=Z,0.0nm,0.9s						
IPAY	**Payeh**	**3.22**	**97**	*e*Pn	**Pn**	**16 41 17.2**	**+1.3**
IPAY				IAMB	IAmb	16 42 13.7	
	comp=Z,304nm,0.4s						
IVRN	**Varamin**	**3.28**	**236**	*e*Pn	**Pn**	**16 41 19.2**	**+2.6**
QALM	**Alamut, Qazvin**	**3.56**	**264**	*e*Pn	**Pn**	**16 41 23.7**	**+3.2**
TKDS	**Koohdasht(Taba**	**3.70**	**152**	*e*Pn	**Pn**	**16 41 22.5**	**+0.1**
TKDS				IAMB	IAmb	16 42 38.6	
	comp=Z,0.0nm,1.0s						
KRSH	**Karshahi**	**3.76**	**220**	*e*Pn	**Pn**	**16 41 24.4**	**+1.1**
ANAR	**Anarak**	**3.85**	**196**	*e*Pn	**Pn**	**16 41 25.4**	**+0.9**
TPRV	**Parvadeh(Tabas**	**4.09**	**160**	*e*Pn	**Pn**	**16 41 28.2**	**+0.4**
TPRV				IAMB	IAmb	16 42 42.2	
	comp=Z,0.0nm,0.6s						
ITEG	**Tejag**	**5.03**	**141**	*e*Pn	**Pn**	**16 41 41.1**	**+0.4**
LKRN	**Lenkeran, Azer**	**5.27**	**292**	P	**Pn**	**16 41 43.8**	**0.0**
LKRN				S	**Sn**	**16 42 42.5**	**-1.8**
NDR	**Nardaran**	**5.39**	**315**	P	**Pn**	**16 41 46.0**	**+0.5**
NDR				S	**Sn**	**16 42 45.8**	**-1.4**
LRK	**Lerik**	**5.58**	**290**	P	**Pn**	**16 41 47.2**	**-1.1**
LRK				S	**Sn**	**16 42 48.8**	**-3.4**
YRD	**Yardimli**	**5.74**	**293**	P	**Pn**	**16 41 48.8**	**-1.6**
YRD				S	**Sn**	**16 42 53.1**	**-3.0**
GLBA	**Clilabad**	**5.74**	**296**	P	**Pn**	**16 41 49.3**	**-1.0**
GLBA				S	**Sn**	**16 42 54.4**	**-1.5**
GRMI	**Germi**	**5.96**	**291**	*e*AML	AML	16 43 07.8	
	comp=Z,5.0nm,0.3s						
ATGJ	**Altiaghaj**	**6.18**	**312**	P	**Pn**	**16 41 57.2**	**+0.7**
ATGJ				S	**Sn**	**16 43 05.1**	**-2.0**
SIZA	**Siyzn**	**6.34**	**313**	P	**Pn**	**16 41 59.5**	**+0.9**
SIZA				S	**Sn**	**16 43 10.9**	**+0.1**
PQL	**Pirkuli**	**6.35**	**310**	P	**Pn**	**16 41 59.7**	**+0.8**
PQL				S	**Sn**	**16 43 10.3**	**-0.9**
ZRD	**Zardab**	**6.67**	**303**	P	**Pn**	**16 42 02.5**	**-0.6**
ZRD				S	**Sn**	**16 43 16.3**	**-2.5**
XNQ	**Khinaliq**	**6.85**	**311**	P	**Pn**	**16 42 05.2**	**-0.6**
XNQ				S	**Sn**	**16 43 22.6**	**-1.1**
QBL	**Gabala**	**6.91**	**308**	P	**Pn**	**16 42 07.2**	**+0.8**
QBL				S	**Sn**	**16 43 23.7**	**-1.2**

*SJA **12** 16:51:05.3±1.3,32°.42S×69°.72W,h121km±9km,ML2.8, MW3.1*
*ISCJB **12** 16:51:06.1±1.0,32°.43S±0°.04×69°.71W±0°.05,h122km±9km, Error ellipse: s-maj=8.4km s-min=5.5km az=139.3*
*GUC **12** 16:51:07.0±0.7,32°.39S×69°.81W,h104km±13km,ML2.7*

ISC 12 16:51:05.5±2.4,32°.46S±0°.06×69°.69W±0°.05, h128km±19km,n15,σ0§60/25,1C-1D,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.73**	**27**	*i* P	**Pn**	**16 51 26.9**	**+0.5**
RTLS				IAML		16 51 26.9	
	comp=Z,218nm,0.2s						
RTLS				*e*S	**Sn**	**16 51 42.0**	**-0.1**
ASAL	**Salagasta**	**0.73**	**101**	*i* P	**Pn**	**16 51 26.3**	**+0.2**
ARCO	**CERRO ARCO**	**0.75**	**121**	*i* P	**Pn**	**16 51 26.6**	**+0.3**
ARCO				IAML		16 51 26.9	
	comp=Z,128nm,0.5s						
AAGR	**Agrelo**	**0.96**	**131**	*i* P	**Pn**	**16 51 28.7**	**+0.7**
AAGR				*e*S	**Sn**	**16 51 45.4**	**+0.3**
FCH	**Farellones**	**1.01**	**210**	⇓*i*P	**Pn**	**16 51 29.3**	**+0.6**
FCH				*i* S	**Sn**	**16 51 46.6**	**+0.3**
FCH				IAML		16 51 47.4	
	comp=N,176nm,0.2s						
PEL	**Peldehue**	**1.08**	**230**	*e*P	**Pn**	**16 51 29.3**	**+0.1**
PEL				*i* S	**Sn**	**16 51 46.3**	**-0.8**
PEL				IAML		16 51 47.6	
	comp=N,108nm,0.2s						
RTCV	**Cerro Valdivia**	**1.14**	**59**	*i* P	**Pn**	**16 51 30.1**	**+0.4**
RTCV				*e*S	**Sn**	**16 51 47.1**	**-0.9**
CLCH	**Cerro Calan**	**1.18**	**217**	⇑*i*P	**Pn**	**16 51 30.9**	**+0.7**
CLCH				*i* S	**Sn**	**16 51 48.6**	**-0.2**
CLCH				IAML		16 51 50.6	
	comp=N,129nm,0.5s						
ROCH	**El Roble**	**1.23**	**245**	*e*P	**Pn**	**16 51 30.9**	**+0.1**
ROCH				*i* S	**Sn**	**16 51 49.0**	**-1.0**
ROCH				IAML		16 51 50.6	
	comp=E,270nm,0.4s						
ROC1	**El Roble**	**1.23**	**245**	*i* P	**Pn**	**16 51 30.8**	**0.0**
ROC1				*e*S	**Sn**	**16 51 49.2**	**-0.9**
CFA	**Coronel Fontan**	**1.50**	**56**	*i* P	**Pn**	**16 51 33.9**	**+0.4**
CO02	**Combarbal**	**1.67**	**318**	*e*P	**Pn**	**16 51 36.1**	**+0.5**
AMOG	**MOGNA**	**1.82**	**34**	*i* P	**Pn**	**16 51 38.0**	**+0.6**
AMOG				*e*S	**Sn**	**16 52 00.8**	**-0.9**
ACAN	**Cantantal**	**2.12**	**86**	*i* P	**Pn**	**16 51 40.6**	**-0.4**
GO04	**Tololo Observa**	**2.46**	**337**	*e*P	**Pn**	**16 51 46.1**	**+0.6**
GO04				*i* S	**Sn**	**16 52 16.0**	**-0.1**

*ISCJB **12** 16:51:21.5±0.6,24°.81S±0°.04×64°.59W±0°.08,h10km, mb3.9/2, Error ellipse: s-maj=10.2km s-min=6.2km az=3.4*
*SJA **12** 16:51:21.7±0.5,24°.83S×64°.77W,h17km±2km,ML3.5, MW3.8*
*IDC **12** 16:51:23.9±4.1,24°.82S×64°.67W,h18km±25km,mb4.0/2, mb1 4.1/4,mb1mx3.6/28,mbtmp4.0/4,ML4.1/2,MS2.7/2, Ms1 2.7/2,ms1mx2.4/26,Error ellipse: s-maj=34.5km s-min=22.2km az=18.0*

ISC 12 16:51:21.9±0.7,24°.82S±0°.04×64°.75W±0°.07,h10km,n14, σ1§11/17,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AZAP	**Zapla**	**0.66**	**334**	*e*P	**Pb**	**16 51 35.1**	**-0.6**
AZAP				IAML		16 51 54.8	
	comp=Z,2µm,0.3s						
SLA	**San Lorenzo**	**0.69**	**278**	*e*P	**Pb**	**16 51 35.4**	**-0.7**
SLA				IAML		16 51 54.1	
	comp=Z,2µm,0.5s						
HJA	**Humahuaca**	**1.72**	**339**	*e*P	**Pb**	**16 51 54.0**	**+0.2**
HJA				*e*S	**Sg**	**16 52 17.6**	**+0.4**
HJA				IAML		16 52 21.7	
	comp=Z,925nm,0.6s						
AHML	**Horco Molle**	**2.02**	**195**	*e*P	**Pb**	**16 51 57.3**	**-1.5**
AHML				*e*S	**Sb**	**16 52 23.4**	**-0.6**
YJA	**Yavi**	**2.73**	**345**	*e*P	**Pb**	**16 52 08.6**	**-2.4**
CYA	**Choya**	**3.72**	**194**	*e*P	**Pn**	**16 52 21.2**	**+1.7**
LVC	**Limon Verde**	**4.40**	**299**	Pg	**Pg**	**16 52 45.6**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=117,slow=12,SNR=4.6						
LVC				LR	LR	16 54 46.5	
	comp=Z,91nm,21.1s,baz=138,slow=45						
CPUP	**Villa Florida**	**6.87**	**104**	Pn	**Pn**	**16 53 03.2**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=286,slow=11,SNR=15						
CPUP				Lg	Lg	16 54 58.8	
	comp=Z,3.3nm,0.3s,baz=23,slow=18,SNR=3.0						
CPUP				LR	LR	16 55 39.9	
	comp=Z,59nm,20.7s,baz=246,slow=38						
SIV	**San Ignacio**	**9.44**	**22**	Pn	**Pn**	**16 53 39.3**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=238,slow=8.0,SNR=19						
SIV				Sn	**Sn**	**16 55 22.9**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=0.8,slow=12,SNR=2.6						
TORD	**Torodi Ar. Bea**	**74.97**	**68**	P	**P**	**17 03 04.2**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=257,slow=5.6,SNR=5.0						
YKA	**Yellowknife Ar**	**95.61**	**339**	P	**P**	**17 04 47.3**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=126,slow=4.0,SNR=4.8						
ASAR	**Alice Springs**	**128.51**	**202**	PKP	**PKiKP**	**17 10 30.0**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=116,slow=1.2,SNR=4.6						
WRA	**Warramunga Arr**	**131.78**	**204**	PKP	**PKPdf**	**17 10 36.1**	**0.0**
	comp=Z,0.5nm,1.0s,baz=166,slow=2.0,SNR=3.2						
MKAR	**Makanchi Array**	**145.81**	**42**	PKPbc	**PKPab**	**17 11 01.9**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=296,slow=4.1,SNR=4.3						

*ISCJB **12** 17:02:42.8±0.6,24°.94S±0°.05×64°.60W±0°.06,h10km, mb4.0/2,MS3.7/1,Error ellipse: s-maj=8.4km s-min=6.3km az=158.9*
*IDC **12** 17:02:42.7±1.5,24°.71S×64°.72W,h0km,mb4.1/2, mb1 4.1/5,mb1mx3.8/26,mbtmp3.9/5,ML3.9/3,MS3.2/2, Ms1 3.2/2,ms1mx2.6/24,Error ellipse: s-maj=28.8km s-min=28.1km az=16.0*
*SJA **12** 17:02:42.6±1.3,24°.81S×66°.35W,h13km±11km,ML3.7, MW3.6*

ISC 12 17:02:44.0±1.0,24°.87S±0°.06×64°.69W±0°.07,h10km,n13, σ1§41/15,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**0.75**	**281**	*i* P	**Pg**	**17 02 57.1**	**-1.4**
SLA				*e*S	**Sb**	**17 03 10.0**	**+0.3**
SLA				IAML		17 03 15.3	
	comp=Z,2µm,0.5s						
HJA	**Humahuaca**	**1.78**	**338**	*i* P	**Pn**	**17 03 16.5**	**+1.3**
HJA				*e*S	**Sb**	**17 03 40.7**	**+1.3**
HJA				IAML		17 03 42.1	
	comp=Z,973nm,0.3s						
YJA	**Yavi**	**2.78**	**344**	*e*P	**Pn**	**17 03 30.4**	**+1.3**
YJA				*e*S	**Sn**	**17 04 05.0**	**+2.1**
CYA	**Choya**	**3.70**	**195**	*i* P	**Pn**	**17 03 42.0**	**+0.7**
PB05	**IPOC Station P**	**5.43**	**291**	*i* P	Pn	17 03 47.2	-18
APLL	**PUNTA DE LOS L**	**5.74**	**196**	*i* P	**Pn**	**17 04 08.9**	**-0.5**
CPUP	**Villa Florida**	**6.80**	**104**	Pn	**Pn**	**17 04 24.5**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=286,slow=12,SNR=14						
CPUP				Lg	Lg	17 06 21.4	
	comp=Z,4.0nm,0.3s,baz=4.9,slow=10,SNR=3.0						
CPUP				LR	LR	17 07 23.4	
	comp=Z,79nm,19.6s,baz=321,slow=41						
CFA	**Coronel Fontan**	**7.41**	**204**	Pn	**Pn**	**17 04 34.4**	**+2.2**
	comp=Z,0.5nm,0.3s,baz=22,slow=16,SNR=4.1						
SIV	**San Ignacio**	**9.46**	**22**	Pn	**Pn**	**17 05 00.3**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=223,slow=14,SNR=22						
SIV				Sn	**Sn**	**17 06 44.7**	**-2.2**
	comp=Z,0.9nm,0.3s,baz=142,slow=22,SNR=2.7						
TORD	**Torodi Ar. Bea**	**74.93**	**68**	P	**P**	**17 14 25.5**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=249,slow=4.8,SNR=5.1						
URZ	**Urewera**	**94.59**	**224**	LR	LR	17 49 55.7	
	comp=Z,24nm,19.5s,baz=36,slow=30						
YKA	**Yellowknife Ar**	**95.67**	**339**	P	**P**	**17 16 08.3**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=127,slow=4.6,SNR=3.9						
MKAR	**Makanchi Array**	**145.81**	**42**	PKPbc	**PKPdf**	**17 22 23.0**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=300,slow=4.9,SNR=6.6						

IDC 12 17:09:49.9±4.6,4°.10S×141°.67E,h80km±30km,mb3.0/3, mb1 3.3/4,mb1mx3.1/31,mbtmp3.5/4,Error ellipse: s-maj=69.5km s-min=17.9km az=86.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.84**	**329**	P	Pn	17 10 20.2	+0.4
	6.6nm,0.3s,baz=160,slow=9.2,SNR=71						
JAY				S	Sn	17 10 42.7	+0.3
	16nm,0.3s,baz=324,slow=21,SNR=17						
WRA	**Warramunga Arr**	**17.30**	**204**	P	Pn	17 13 45.3	-1.1
	0.5nm,0.3s,baz=27,slow=12,SNR=15						
ASAR	**Alice Springs**	**20.85**	**200**	P	P	17 14 25.2	-0.3
	0.4nm,0.5s,baz=29,slow=11,SNR=13						
FITZ	**Fitzroy Crossi**	**20.97**	**227**	P	P	17 14 27.7	+0.9
	0.8nm,0.6s,baz=34,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**72.69**	**322**	P	P	17 21 09.3	-0.1
	0.4nm,0.8s,baz=99,slow=7.2,SNR=3.1						

*IDC **12** 17:24:52.8±4.1,25°.42S×140°.16E,h0km,mb1 3.3/3, mb1mx3.2/28,mbtmp3.1/3,ML3.0/3,Error ellipse: s-maj=72.7km s-min=19.9km az=61.0*
*ISCJB **12** 17:24:53.9±0.6,25°.58S±0°.04×139°.75E±0°.06,h10km, Error ellipse: s-maj=8.1km s-min=5.1km az=160.1*
*AUST **12** 17:24:53.9±0.1,25°.60S×139°.84E,h6km,Error ellipse: s-maj=0.1km s-min=0.1km az=247.0*

ISC 12 17:24:54.2±0.9,25°.62S±0°.05×139°.86E±0°.07,h10km,n15, σ1§88/21,Queensland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INKA	**Innaminka**	**2.25**	**160**	P	**Pb**	**17 25 34.3**	**-0.7**
	baz=2.3						
INKA				S	**Sb**	**17 26 03.0**	**0.0**
	baz=2.3						
OOD	**Oodnadatta**	**4.32**	**239**	P	**Pn**	**17 26 02.3**	**+2.4**
	baz=4.3						
OOD				S	**Sn**	**17 26 51.3**	**+1.0**
	baz=4.3						
LCRK	**Leigh Creek**	**5.02**	**196**	P	**Pn**	**17 26 11.7**	**+2.1**
	baz=5.1						
QIS	**Mount Isa**	**5.05**	**357**	P	**Pn**	**17 26 11.6**	**+1.5**
	baz=5.0						
QIS				S	**Sn**	**17 27 09.3**	**+0.8**
	baz=5.0						
AS01	**Alice Springs**	**5.72**	**289**	P	**Pn**	**17 26 21.5**	**+2.2**
	baz=5.7						
ASAR	**Alice Springs**	**5.76**	**289**	Pn	**Pn**	**17 26 21.8**	**+1.9**
	0.9nm,0.3s,baz=109,slow=14,SNR=95						
ASAR				Sn	**Sn**	**17 27 24.7**	**-1.4**
	0.9nm,0.3s,baz=107,slow=24,SNR=4.2						
STKA	**Stephens Creek**	**6.41**	**167**	Pn	**Pn**	**17 26 31.2**	**+2.5**
	0.1nm,0.3s,baz=348,slow=12,SNR=4.0						
STKA				Sn	**Sn**	**17 27 38.8**	**-3.3**
	0.6nm,0.3s,baz=281,slow=6.5,SNR=5.2						
STKA				Lg	Lg	17 28 19.7	
	0.6nm,0.3s,baz=45,slow=20,SNR=3.4						
MULG	**Mulgathing**	**6.92**	**227**	P	**Pn**	**17 26 37.8**	**+2.1**
	baz=6.9,SNR=5.2						
WB2	**Warramunga Arr**	**7.60**	**317**	P	**Pn**	**17 26 45.5**	**+0.4**
	baz=7.6						
WRA	**Warramunga Arr**	**7.61**	**317**	Pn	**Pn**	**17 26 45.6**	**+0.4**
	0.2nm,0.3s,baz=140,slow=13,SNR=17						
WRA				Sn	**Sn**	**17 28 08.3**	**-3.3**
	0.4nm,0.3s,baz=141,slow=25,SNR=5.9						
WRA				Lg	Lg	17 28 56.5	
	0.7nm,0.3s,baz=135,slow=26,SNR=6.7						
CMSA	**Cobar Meteorol**	**7.81**	**140**	P	**Pn**	**17 26 48.6**	**+0.7**
	baz=7.8						
HTT	**Hallett**	**7.82**	**186**	P	**Pn**	**17 26 50.3**	**+2.2**
	baz=7.9						
BBOO	**Buckleboo**	**7.89**	**204**	P	**Pn**	**17 26 49.9**	**+0.8**
	baz=7.9						
WRKA	**Warakurna**	**10.48**	**271**	P	**Pn**	**17 27 24.5**	**-0.1**
	baz=10						
FORT	**Forrest**	**11.61**	**241**	P	**Pn**	**17 27 39.4**	**-0.6**
	baz=12						

WEL 12 17:38:01.3±1.2,35°S±11°×177°9W±1°9,h33km,mB4.5/1, ML4.0/12,MLv3.9/13,Mw(mB)3.6/1,Error ellipse: s-maj=0.0km s-min=0.0km az=115.9,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.34**	**212**	P	Pn	17 38 51.8	+0.6
MXZ				S	Sn	17 39 30.7	+0.9
WMGZ	**Waiomatatini S**	**3.52**	**209**	P	Pn	17 38 54.6	+0.9
WMGZ				S	Sn	17 39 35.7	+1.6
PKGZ	**Pakihiroa**	**3.72**	**212**	P	Pn	17 38 56.6	+0.1
PKGZ				S	Sn	17 39 39.3	+0.1
HAZ	**Te Kaha**	**3.74**	**216**	P	Pn	17 38 56.9	+0.1
HAZ				S	Sn	17 39 41.6	+1.9
PUZ	**Puketiti**	**3.80**	**208**	P	Pn	17 38 57.7	+0.1
PUZ				S	Sn	17 39 41.6	+0.5
RUGZ	**Raukumara Rang**	**3.96**	**215**	P	Pn	17 38 59.7	-0.2
RUGZ				S	Sn	17 39 45.8	+0.6
CNGZ	**Carnagh Statio**	**4.18**	**206**	P	Pn	17 39 03.3	+0.5
MWZ	**Matawai**	**4.33**	**213**	P	Pn	17 39 04.8	0.0
URZ	**Urewera**	**4.47**	**217**	P	Pn	17 39 05.9	-0.8
RAGZ	**Rawiri**	**4.51**	**213**	P	Pn	17 39 07.7	+0.3
RIGZ	**Rimuhau**	**4.54**	**209**	P	Pn	17 39 07.6	-0.2
RIGZ				S	Sn	17 39 59.3	-0.2
SNGZ	**Shannon Statio**	**4.78**	**212**	P	Pn	17 39 11.5	+0.5
SNGZ				S	Sn	17 40 05.2	-0.2
MHGZ	**Mahia Peninsul**	**4.88**	**205**	P	Pn	17 39 11.3	-1.2
MKAZ	**Moumakai**	**4.96**	**240**	P	Pn	17 39 13.1	-0.3
TOZ	**Tahuroa Road**	**5.05**	**232**	P	Pn	17 39 14.9	+0.2
MTHZ	**Maungataniwha**	**5.06**	**215**	P	Pn	17 39 14.6	-0.3
NMHZ	**Naumai**	**5.28**	**213**	P	Pn	17 39 16.6	-1.3
ARHZ	**Aropaoanui**	**5.33**	**211**	P	Pn	17 39 18.8	+0.2
BKZ	**Black Stump Fm**	**5.48**	**215**	P	Pn	17 39 19.7	-0.9
KAHZ	**Kahuranaki**	**5.83**	**209**	P	Pn	17 39 23.5	-1.9
NGZ	**Ngauruhoe**	**5.93**	**220**	P	Pn	17 39 25.7	-1.3
BHHZ	**Black Hill Sta**	**5.94**	**216**	P	Pn	17 39 25.1	-1.8

IDC 12 17:39:15.1±9.6,21°.83S×179°.07W,h0km,mb3.9/3, mb1 4.2/3,mb1mx3.7/21,mbtmp3.9/3,MS3.3/1,Ms1 3.2/1, ms1mx2.5/22,Error ellipse: s-maj=294.4km s-min=90.5km az=138.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.32**	**246**	LR	LR	17 59 09.5	
	comp=Z,44nm,19.7s,baz=209,slow=33						
ASAR	**Alice Springs**	**43.26**	**258**	P	P	17 47 18.1	-0.6
	1.5nm,0.8s,baz=94,slow=7.3,SNR=17						
WRA	**Warramunga Arr**	**43.45**	**264**	P	P	17 47 20.5	+0.3
	0.9nm,0.5s,baz=100,slow=8.4,SNR=15						
CMAR	**Chiang Mai Arr**	**89.63**	**290**	P	P	17 52 15.3	0.0
	0.5nm,0.8s,baz=123,slow=3.6,SNR=4.8						

IDC 12 18:02:10.1±5.5,25°.33S×69°.72E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/37,mbtmp3.5/4,MS3.4/2,Ms1 3.4/2, ms1mx2.8/18,Error ellipse: s-maj=154.5km s-min=37.3km az=56.0,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**17.78**	**

RNF					*e*SG	**Sg**	**18 03 36.1**	**-0.3**
KTK1	**Kautokeino**	**2.14**	**23**		*e*P	**Pb**	**18 03 08.6**	**-1.0**
KTK1					*e*S	**Sn**	**18 03 35.3**	**+1.1**
KTK1					IAML		18 03 43.1	
	comp=Z,9.0nm,0.2s							
SGF	**Sodankyl**	**2.21**	**78**		*e*PB	**Pn**	**18 03 09.4**	**+1.5**
SGF					*e*SG	**Sb**	**18 03 39.7**	**+0.9**
STEI	**Steigen**	**2.35**	**294**		*e*P	**Pb**	**18 03 12.7**	**-0.4**
STEI					*e*S	**Sb**	**18 03 43.3**	**+0.7**
STEI					IAML		18 03 50.3	
	comp=Z,5.8nm,0.3s							
MOR8	**Moi Rana**	**2.73**	**254**		*e*P	**Pn**	**18 03 16.9**	**+1.8**
MOR8					*e*S	**Sn**	**18 03 47.7**	**-1.1**
MOR8					IAML		18 03 59.0	
	comp=Z,6.1nm,0.2s							
OUL	**Oulu**	**2.84**	**132**		*e*PB	**Pb**	**18 03 19.4**	**-2.1**
OBF0	**Syolatti, Pyha**	**2.92**	**150**		*e*SB	**Sb**	**18 03 58.1**	**-0.9**
ARA0	**ARCESS Array S**	**3.01**	**32**		Pn	**Pn**	**18 03 19.4**	**+0.5**
	baz=210,slow=16							
ARA0					Sn	**Sn**	**18 03 54.8**	**-0.8**
	baz=205,slow=18							
ARA0	**ARCESS Array S**	**3.01**	**32**		Pn	**Pn**	**18 03 19.4**	**+0.5**
	baz=210,slow=16							
ARA0					Sn	**Sn**	**18 03 54.8**	**-0.8**
	baz=205,slow=18							
ARCES	**ARCESS Array B**	**3.01**	**32**		Pn	**Pn**	**18 03 19.3**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=210,slow=14,SNR=26							
ARCES					Sn	**Sn**	**18 03 56.8**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=213,slow=26,SNR=9.0							
ARCES					Lg	Lg	18 04 01.4	
	comp=Z,1.3nm,0.3s,baz=214,slow=25,SNR=8.6							
OUF	**Merijarvi**	**3.13**	**148**		*e*P	**Pn**	**18 03 22.1**	**+1.6**
	baz=334							
OUF					MSG		18 04 03.3	
	comp=Z,4.7nm,0.2s							
UMAU	**Umeaa**	**3.20**	**182**		*e*P	**Pn**	**18 03 22.7**	**+1.2**
VRF	**Varrio**	**3.43**	**74**		*e*P	**Pn**	**18 03 27.1**	**+2.5**
MSF	**Maaselka**	**3.46**	**106**		*e*PB	**Pb**	**18 03 30.1**	**-1.9**
KEV	**Kevo**	**3.52**	**37**		Pn	**Pn**	**18 03 26.4**	**+0.6**
KEV					Sn	**Sn**	**18 04 08.0**	**0.0**
KEV	**Kevo**	**3.52**	**37**		*e*P	**Pn**	**18 03 28.4**	**+2.6**
KEV	**Kevo**	**3.52**	**37**		Pn	**Pn**	**18 03 26.4**	**+0.6**
KEV					Sn	**Sn**	**18 04 08.0**	**0.0**
KU6	**Riekki**	**3.74**	**102**		*e*P	**Pn**	**18 03 31.1**	**+2.2**
	baz=287							
VAF	**Ylistaro**	**4.11**	**169**		*e*P	**Pn**	**18 03 35.5**	**+1.6**
	baz=346							
FIA0	**FINESS Array S**	**6.07**	**156**		Pn	**Pn**	**18 04 02.5**	**+1.6**
	baz=342,slow=16							
FIA0					Sn	**Sn**	**18 05 10.6**	**-0.4**
	baz=348,slow=28							
FIA0	**FINESS Array S**	**6.07**	**156**		Pn	**Pn**	**18 04 02.5**	**+1.6**
	baz=342,slow=16							
FIA0					Sn	**Sn**	**18 05 10.6**	**-0.4**
	baz=348,slow=28							
FINES	**FINESS Array B**	**6.07**	**156**		Pn	**Pn**	**18 04 02.3**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=344,slow=14,SNR=13							
FINES					Sn	**Sn**	**18 05 10.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=345,slow=22,SNR=13							
NB2	**NORSAR Subarra**	**7.38**	**220**		Pn	**Pn**	**18 04 21.9**	**+3.0**
	baz=27,slow=14							
NB2	**NORSAR Subarra**	**7.38**	**220**		Pn	**Pn**	**18 04 21.9**	**+3.0**
	baz=27,slow=14							
NOA	**NORSAR Array B**	**7.38**	**220**		Pn	**Pn**	**18 04 20.7**	**+1.7**
	comp=Z,0.0nm,0.3s,baz=25,slow=11,SNR=3.3							
NRA0	**NORESS Array S**	**7.57**	**217**		Pn	**Pn**	**18 04 22.3**	**+0.8**
	baz=32,slow=12							
NRA0					Sn	**Sn**	**18 05 45.7**	**-2.2**
	baz=47,slow=22							
NRA0	**NORESS Array S**	**7.57**	**217**		Pn	**Pn**	**18 04 22.3**	**+0.8**
	baz=32,slow=12							
NRA0					Sn	**Sn**	**18 05 45.7**	**-2.2**
	baz=47,slow=22							
HFS	**Hagfors**	**7.66**	**208**		Pn	**Pn**	**18 04 23.0**	**+0.4**
	baz=24,slow=14							
HFS					Sn	**Sn**	**18 05 47.8**	**-2.2**
	baz=27,slow=22							
HFS	**Hagfors**	**7.66**	**208**		Pn	**Pn**	**18 04 23.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=23,slow=13,SNR=8.4							
HFS	**Hagfors**	**7.66**	**208**		Pn	**Pn**	**18 04 23.0**	**+0.4**
	baz=24,slow=14							
HFS					Sn	**Sn**	**18 05 47.8**	**-2.2**
	baz=27,slow=22							

NNC ***12*** *18:07:43.2±1.7,53°.96N×85°.70E,h0km,mb3.6,mpv2.9, Error ellipse: s-maj=16.8km s-min=7.0km az=16.0, Suspected Mining explosion.*
ISCJB ***12*** *18:07:44.9±0.4,53°.95N±0°.03×85°.59E±0°.04,h0km, Error ellipse: s-maj=4.2km s-min=3.0km az=44.7*
ASRS ***12*** *18:07:46.6±0.2,54°.N±1°×8°.6E±°,h1km,MLh3.3/11, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

ISC 12 18:07:44.1±0.7, 53°.98N±0°.02×85°.66E±0°.02, h0km, n20, σ0s98/44, 6C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SALR	**Pechorkino, Sa**	**0.44**	**4**		Pg	**Pg**	**18 07 52.7**	**+0.2**
SALR					P	**Pb**	**18 07 54.0**	**-0.7**
SALR					Sg	**Sg**	**18 07 57.2**	**-1.0**
SALR					S	**Sb**	**18 08 00.4**	**-1.5**
ZAA0	**Zalesovo Array**	**0.50**	**267**	↑	P	**Pg**	**18 07 53.1**	**-0.4**
	0.8nm,0.3s							
ZAA0				↑	S	**Sg**	**18 08 00.8**	**+0.8**
	5.1nm,0.5s							
ELT	**Eltsovka**	**0.80**	**154**		Pg	**Pg**	**18 07 58.9**	**-0.4**
ELT					P	**Pb**	**18 08 00.3**	**-0.5**
ELT					S	**Sb**	**18 08 12.1**	**0.0**
KEM	**Kemerovo**	**1.39**	**10**		Pg	**Pn**	**18 08 10.1**	**-0.6**
KEM					S	**Sn**	**18 08 31.4**	**+1.6**
NVSII	**Novosibirsk**	**1.66**	**302**		P	**Pn**	**18 08 14.5**	**+0.2**
NVSII					Pg	**Pb**	**18 08 14.7**	**-0.7**
NVSII					S	**Sg**	**18 08 37.8**	**+0.5**
NVS	**Novosibirsk**	**1.66**	**302**		P	**Pn**	**18 08 14.5**	**+0.2**
NVS					Pg	**Pb**	**18 08 14.7**	**-0.7**
NVS					S	**Sg**	**18 08 37.9**	**+0.5**
NHES	**Novosibirsk, N**	**1.79**	**301**		P	**Pb**	**18 08 17.4**	**-0.3**
NHES					S	**Sg**	**18 08 42.0**	**+0.4**
TASR	**Tashtagol**	**1.81**	**132**		P	**Pb**	**18 08 18.0**	**0.0**
TASR					Pg	**Pg**	**18 08 18.3**	**-0.4**
TASR					S	**Sg**	**18 08 42.2**	**+0.2**
BSTK	**Bystrovka, Nov**	**1.86**	**290**		P	**Pg**	**18 08 19.9**	**+0.3**
BSTK					S	**Sg**	**18 08 44.3**	**+0.6**
LUZB	**Luzhba, Kemero**	**1.95**	**98**		Pg	**Pb**	**18 08 20.4**	**0.0**
LUZB					P	**Pg**	**18 08 22.1**	**+0.7**
LUZB					S	**Sg**	**18 08 47.5**	**+0.9**
GALT	**Gorno-Altaysk,**	**2.03**	**175**		P	**Pb**	**18 08 21.8**	**0.0**
GALT					S	**Sg**	**18 08 50.2**	**+1.0**
ALXA	**Alekseevka, NS**	**2.03**	**299**		S	**Sg**	**18 08 50.4**	**+1.0**
BRCR	**Berchikul'**	**2.27**	**42**		P	**Pn**	**18 08 24.2**	**+1.4**
BRCR					Pg	**Pb**	**18 08 24.9**	**-1.0**
BRCR					S	**Sg**	**18 08 56.8**	**-0.1**
ARTR	**Artybash**	**2.40**	**155**		P	**Pb**	**18 08 27.0**	**-1.0**
ARTR					S	**Sb**	**18 08 57.6**	**-0.5**
VEH	**Verkhnyaya Baz**	**2.87**	**103**		P	**Pb**	**18 08 36.6**	**+0.4**
UKR	**Ust'-Kan**	**3.09**	**190**		S	**Sg**	**18 09 21.4**	**-2.0**
KURK	**Kurchatov**	**5.41**	**236**	↓	Pn	**Pn**	**18 09 08.3**	**+2.4**
	1.1nm,0.6s							
KURK				↓	Lg	Lg	18 10 36.0	
	7.3nm,0.6s							
KURBB	**Kurchatov Arra**	**5.51**	**235**	↑	Pn	**Pn**	**18 09 08.5**	**+1.2**
	1.8nm,0.3s							
KURBB				↓	Sn	**Sn**	**18 10 11.0**	**-0.3**
	3.4nm,0.4s							
KURBB				↑	Lg	Lg	18 10 37.2	
	11nm,0.7s							
MK31	**Makanchi Array**	**7.51**	**198**	↓	Pn	**Pn**	**18 09 35.8**	**+1.0**
	1.1nm,0.6s,baz=25,slow=14,SNR=53							
MK31				↑	Sn	**Sn**	**18 10 59.4**	**-1.1**
	1.4nm,0.6s,baz=29,slow=25,SNR=8.8							
MK31				↓	Lg	Lg	18 11 41.0	
	0.9nm,0.5s,baz=24,slow=30,SNR=3.8							
MAKZ	**Makanchi**	**7.55**	**200**	↑	Pn	**Pn**	**18 09 36.9**	**+1.5**
	1.4nm,1.1s							
MAKZ				↓	Sn	**Sn**	**18 10 59.4**	**-2.3**
	5.0nm,0.9s							
MAKZ				↓	Lg	Lg	18 11 41.0	
	3.4nm,0.9s							

RSPR ***12*** *18:10:12.9,19°.23N×67°.74W,h10km±31km, MD3.6/18*
NEIC ***12*** *18:10:13.5±1.5,19°.15N±0°.07×67°.65W±0°.06,h30km±12km*

OSPL ***12*** *18:10:15.8±2.7,19°.01N×67°.63W,h0km±17km, MD3.7, ML3.7*

ISC 12 18:10:10.1±1.4, 19°.16N±0°.05×67°.64W±0°.02, h11km±10km, n75, σ1s23/94, 28C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.79**	**169**	↑	*e*P	**Pn**	**18 10 26.7**	**-0.5**
IDE	**Isla Desecheo**	**0.79**	**169**	↑	*e*P	**Pn**	**18 10 26.7**	**-0.5**
IDE	**Isla Desecheo**	**0.79**	**169**		*e*P	**Pn**	**18 10 26.7**	**-0.5**
AGPR	**Aguadilla, PR**	**0.85**	**144**	↑	*e*P	**Pn**	**18 10 28.4**	**+0.3**
AGPR	**Aguadilla, PR**	**0.85**	**144**	↑	*e*P	**Pn**	**18 10 28.4**	**+0.3**
AGPR	**Aguadilla, PR**	**0.85**	**144**	*i*	P	**Pn**	**18 10 28.3**	**+0.2**
AGPR					*e*S	**Sn**	**18 10 39.8**	**-0.8**
AGPR					IAML		18 10 40.2	
	comp=Z,3μm,0.2s							
AGPR	**Aguadilla, PR**	**0.85**	**144**			**Pn**	**18 10 28.2**	**+0.2**
AGPR	**Aguadilla, PR**	**0.85**	**144**			**Pn**	**18 10 28.0**	**-0.1**
PCDR	**Punta Cana, DR**	**0.96**	**228**	↑	*e*P	**Pn**	**18 10 29.6**	**0.0**
PCDR	**Punta Cana, DR**	**0.96**	**228**	↓	*e*P	**Pn**	**18 10 29.7**	**+0.1**
PCDR					*e*S	**Sb**	**18 10 42.2**	**+0.9**
PCDR	**Punta Cana, DR**	**0.96**	**228**	↑	*e*P	**Pn**	**18 10 29.6**	**0.0**
PCDR					*e*S	**Sb**	**18 10 41.4**	**0.0**
PCDR	**Punta Cana, DR**	**0.96**	**228**	*i*	P	**Pn**	**18 10 29.8**	**+0.3**
PCDR					*e*S	**Sb**	**18 10 42.3**	**+0.9**
PCDR					IAML		18 10 44.1	
	comp=Z,2μm,0.2s							
PCDR	**Punta Cana, DR**	**0.96**	**228**			**Pn**	**18 10 29.5**	**0.0**
MPR	**Mayaguez**	**1.06**	**153**	*i*	P	**Pn**	**18 10 31.6**	**+0.7**
MPR					*e*S	**Sn**	**18 10 45.1**	**-0.5**
MPR	**Mayaguez**	**1.06**	**153**			**Pn**	**18 10 31.4**	**+0.5**
LSP	**Las Mesas**	**1.11**	**152**	↑	*e*P	**Pn**	**18 10 32.6**	**+0.9**
LSP	**Las Mesas**	**1.11**	**152**	↑	*e*P	**Pn**	**18 10 32.6**	**+0.9**
LSP	**Las Mesas**	**1.11**	**152**			**Pn**	**18 10 32.6**	**+0.9**
AOPR	**Arecibo Observ**	**1.17**	**134**	↑	*e*P	**Pg**	**18 10 33.1**	**+0.6**
AOPR	**Arecibo Observ**	**1.17**	**134**	↑	*e*P	**Pg**	**18 10 33.3**	**+0.7**
AOPR					*e*S	**Sn**	**18 10 49.8**	**+1.4**
AOPR	**Arecibo Observ**	**1.17**	**134**	↑	*e*P	**Pg**	**18 10 33.1**	**+0.6**
AOPR					*e*S	**Sn**	**18 10 49.8**	**+1.4**
AOPR	**Arecibo Observ**	**1.17**	**134**	Pn		**Pg**	**18 10 33.0**	**+0.4**
EMPR	**Esperanza - Ma**	**1.25**	**123**	Pn		Pg	18 10 38.5	+4.3
CRPR	**Cabo Rojo, PR**	**1.25**	**156**	↑	*e*P	**Pg**	**18 10 34.3**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.25**	**156**	↑	*e*P	**Pg**	**18 10 34.3**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.25**	**156**			**Pg**	**18 10 34.5**	**+0.2**
MLPR	**Magueyes Islan**	**1.31**	**155**	↑	*e*P	**Pg**	**18 10 35.3**	**-0.1**
MLPR	**Magueyes Islan**	**1.31**	**155**	*e*S		**Sg**	**18 10 53.3**	**+0.8**
MLPR	**Magueyes Islan**	**1.31**	**155**			**Pg**	**18 10 35.3**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.38**	**149**	↑	*e*P	**Pg**	**18 10 36.7**	**0.0**
GBPR	**Guanica, Bosqu**	**1.38**	**149**	↑	*e*P	**Pg**	**18 10 36.7**	**0.0**
GBPR					*e*S	**Sg**	**18 10 55.6**	**+0.9**
GBPR	**Guanica, Bosqu**	**1.38**	**149**			**Pg**	**18 10 36.7**	**0.0**
GBPR						**Sg**	**18 10 55.6**	**+0.9**
CELP	**Cerrillos**	**1.48**	**137**	↑	*e*P	**Pg**	**18 10 38.0**	**-0.5**
CELP					*e*S	**Sg**	**18 10 58.0**	**+0.9**
CELP	**Cerrillos**	**1.48**	**137**	↑	*e*P	**Pg**	**18 10 38.0**	**-0.5**
CELP					*e*S	**Sg**	**18 10 58.5**	**+0.9**
CELP	**Cerrillos**	**1.48**	**137**			**Pg**	**18 10 38.0**	**-0.5**
CELP						**Sg**	**18 10 58.5**	**+0.9**
OBIP	**Obispado Ponce**	**1.48**	**139**	↑	*e*P	**Pg**	**18 10 38.3**	**-0.3**
OBIP	**Obispado Ponce**	**1.48**	**139**	↑	*e*P	**Pg**	**18 10 38.3**	**-0.3**
OBIP					*e*S	**Sg**	**18 10 57.8**	**-0.1**
OBIP	**Obispado Ponce**	**1.48**	**139**			**Pg**	**18 10 38.0**	**-0.6**
ICMP	**Isla Caja de M**	**1.65**	**140**	↑	*e*P	**Pg**	**18 10 42.0**	**+0.2**
ICMP	**Isla Caja de M**	**1.65**	**140**			**Pg**	**18 10 41.2**	**-0.6**
DR12	**Loma Pena Alta**	**1.69**	**258**	Pn		**Pb**	**18 10 41.2**	**-0.1**
GCPR	**Guaynabo City**	**1.70**	**120**			**Pb**	**18 10 41.1**	**-0.3**
SJG	**San Juan**	**1.76**	**126**			**Pb**	**18 10 41.9**	**-0.5**
IGPR	**InterUniversit**	**1.88**	**129**	↓	*e*P	**Pb**	**18 10 44.4**	**-0.1**
IGPR	**InterUniversit**	**1.88**	**129**	*e*S		**Sb**	**18 11 08.5**	**+0.5**
IGPR	**InterUniversit**	**1.88**	**129**			**Pb**	**18 10 44.8**	**+0.3**
CBYP	**Canovanas**	**1.91**	**117**	↑	*e*P	**Pb**	**18 10 44.7**	**-0.3**
CBYP	**Canovanas**	**1.91**	**117**	↑	*e*P	**Pb**	**18 10 44.7**	**-0.3**
CBYP					*e*S	**Sb**	**18 11 09.4**	**+0.6**
CBYP	**Canovanas**	**1.91**	**117**			**Pb**	**18 10 44.1**	**-0.9**
PDPR	**Patillas Dam,**	**1.91**	**126**	↑	*e*P	**Pb**	**18 10 44.2**	**-0.8**
PDPR	**Patillas Dam,**	**1.91**	**126**	↑	*e*P	**Pb**	**18 10 44.5**	**-0.5**
PDPR	**Patillas Dam,**	**1.91**	**126**			**Pb**	**18 10 44.4**	**-0.6**
HUMP	**Col San Antoni**	**1.98**	**121**	↓	*e*P	**Pb**	**18 10 45.7**	**-0.4**
HUMP	**Col San Antoni**	**1.98**	**121**	↓	*e*P	**Pb**	**18 10 45.7**	**-0.4**
HUMP					*e*S	**Sb**	**18 11 11.2**	**+0.4**
HUMP	**Col San Antoni**	**1.98**	**121**	Pn		**Pb**	**18 10 45.5**	**-0.6**
MTP	**Monte Pirata**	**2.24**	**118**			**Pb**	**18 10 49.2**	**-1.5**
SDD	**Santo Domingo**	**2.27**	**252**	*i*	P	**Pb**	**18 10 51.3**	**+0.2**
SDD					*e*S	**Sb**	**18 11 20.3**	**+1.1**
SDD					IAML		18 11 30.9	
	comp=Z,91nm,0.3s							
SDD	**Santo Domingo**	**2.27**	**252**			**Pn**	**18 10 48.8**	**+1.2**
CUPR	**Culebra, Puert**	**2.39**	**111**	↓	*e*P	**Pb**	**18 10 50.7**	**-2.5**
CUPR	**Culebra, Puert**	**2.39**	**111**	*e*S		**Sb**	**18 11 21.7**	**-1.0**
CUPR	**Culebra, Puert**	**2.39**	**111**			**Pb**	**18 10 50.6**	**-2.5**
BON1	**Bonao**	**2.62**	**266**	*i*	P	**Pb**	**18 10 56.6**	**-0.5**
BON1					*e*S	**Sb**	**18 11 29.2**	**-0.1**
STVI	**Saint Thomas**	**2.67**	**107**	↑	*e*P	**Pb**	**18 10 55.3**	**-2.6**
STVI	**Saint Thomas**	**2.67**	**107**	↑	*e*P	**Pb**	**18 10 55.3**	**-2.6**
STVI					*e*S	**Sb**	**18 11 27.7**	**-3.0**
STVI	**Saint Thomas**	**2.67**	**107**			**Pb**	**18 10 55.3**	**-2.6**
BANI	**BANI**	**2.69**	**254**	Pn		**Pb**	**18 10 55.9**	**-2.5**
SC01	**Santiago de lo**	**2.93**	**276**	*i*	P	**Pb**	**18 11 02.8**	**+0.3**
SC01					IAML		18 12 04.2	
	comp=Z,358nm,0.8s							
SC01	**Santiago de lo**	**2.93**	**276**			**Pn**	**18 10 58.0**	**+1.3**
CDVI	**St. Croix**	**3.07**	**117**			**Pb**	**18 11 02.5**	**-2.3**
VGBI	**Virgin Gorda,**	**3.14**	**102**	↑	*e*P	**Pn**	**18 11 02.0**	**+2.4**
VGBI	**Virgin Gorda,**	**3.14**	**102**	*e*S		**Sn**	**18 11 39.7**	**+2.7**
VGBI	**Virgin Gorda,**	**3.14**	**102**			**Pn**	**18 11 02.0**	**+2.4**
VGBI						**Sn**	**18 11 39.7**	**+2.7**
SDDR	**Presa de Saban**	**3.46**	**268**	*i*	P	**Pb**	**18 11 08.7**	**-2.8**
SDDR					*e*S	**Sb**	**18 11 50.5**	**-3.0**
SDDR					IAML		18 12 11.6	
	comp=Z,158nm,0.6s							
SDDR	**Presa de Saban**	**3.46**	**268**			**Pn**	**18 11 06.4**	**+2.4**
FPAL	**Fort Paine**	**22.12**	**317**	P		**P**	**18 15 03.5**	**-2.2**

JMA 12 18:18:16.6±0.1, 39°.03N×142°.49E, h30km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.64**	**275**	P		Pb	18 18 29.2	-0.1
OFUJ				S		Sb	18 18 37.9	-0.1
MIYJ	**Miyakonagasawa**	**0.75**	**317**	P		Pn	18 18 30.6	-0.6
MIYJ				S		Sb	18 18 40.4	-0.8
JKMT	**Kesennumamotoy**	**0.82**	**255**	P		Pn	18 18 31.7	-0.4
JKMT				S		Sb	18 18 42.3	-0.8
JMK	**Ichinoseki**	**0.99**	**266**	P		Pn	18 18 34.5	0.0
JMK				S		Sn	18 18 47.4	-0.1
JTH	**Tanohata**	**1.03**	**332**	P		Pn	18 18 34.8	-0.2
JOM	**Ohasama**	**1.03**	**296**	P		Pn	18 18 35.4	+0.4
JOM				*e*S		Sn	18 18 48.7	+0.3
JIO	**Ouri**	**1.06**	**238**	P		Pn	18 18 34.9	-0.5
JIO				S		Sn	18 18 47.8	-1.3
JKZ	**Kuzumaki**	**1.31**	**317**	P		Pn	18 18 39.7	+0.8
JKZ				S		Sn	18 18 56.2	+0.8
JRG	**Rokugo**	**1.49**	**285**	P		Pb	18 18 43.3	-0.3
JANG	**Nango**	**1.54**	**331**	P		Pn	18 18 42.9	+0.9
JOU	**Okura**	**1.57**	**246**	P		Pn	18 18 43.4	+0.9
JOU				S		Sb	18 19 03.8	-0.8
MAT	**Matsushiro**	**4.20**	**235**	P		Pn	18 19 22.5	+3.8

ISC 12 19:02:59.2±1.9, 50°.27N±0°.10×18°.67E±0°.07, h0km, n7, σ0s64/13, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.88**	**236**	*e*PG		**Pg**	**19 03 16.4**	**+0.3**
MORC				*e*SG		**Sg**	**19 03 28.4**	**+0.9**
KRLC	**Kraliky**	**1.23**	**261**	*e*PG		**Pg**	**19 03 21.7**	**-1.1**
KRLC				*e*SG		**Sg**	**19 03 38.4**	**-0.3**
LANS	**Liptovska Anna**	**1.24**	**155**	*e*PG		**Pg**	**19 03 23.0**	**+0.1**
LANS				*e*SG		**Sb**	**19 03 40.2**	**+0.3**
LANS				*e*LG		Lg	19 03 42.6	
DPC	**Dobruska-Polom**	**1.51**	**274**	*e*PG		**Pn**	**19 03 27.9**	**+0.4**
DPC				*e*SG		**Sn**	**19 03 48.4**	**+0.5**
CHVC	**Chvalec**	**1.70**	**282**	*e*PG		**Pn**	**19 03 30.1**	**-0.1**
CHVC				*e*SG		**Sg**	**19 03 54.7**	**+0.8**
VYHS	**Vyhne**	**1.78**	**177**	*e*PN		**Pn**	**19 03 30.7**	**-0.6**
VYHS				*e*SN		**Sn**	**19 03 54.2**	**-0.4**
KHC	**Kasperske Hory**	**3.50**	**253**	*e*SG		**Sg**	**19 04 51.1**	**-0.4**

ISCJB ***12*** *19:03:20.8±0.5,38°.66N±0°.05×55°.40E±0°.05,h33km, Error ellipse: s-maj=8.5km s-min=3.1km az=31.7*
TEH ***12*** *19:03:26.1,38°.19N×56°.02E,h10km,ML3.2*
AZER ***12*** *19:03:28.8±2.2,38°.49N×54°.71E,h10km,ml4.1/5,Error ellipse: s-maj=19.1km s-min=14.1km az=25.0*

ISC 12 19:03:22.4±1.0, 38°.64N±0°.06×55°.45E±0°.06, h35km, n29, σ1s77/40, 1C-2D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**1.38**	**181**	*e*Pg		**Pn**	**19 03 45.3**	**+0.1**
IMND				*e*Sg		**Sn**	**19 04 03.5**	**+1.3**
IMND				IAMB		IAmb	19 04 06.3	
	comp=Z,0.0nm,0.6s							
GYA0B	**ALIBECK ARRAY**	**2.22**	**108**	↑	Pn	**Pn**	**19 03 57.0**	**+0.3**
GYA0B				↓	Lg	Lg	19 04 31.2	
ISFR	**Sfrayin**	**2.57**	**127**	*e*P		**Pn**	**19 04 01.3**	**-0.4**
ISFR				IAMB		IAmb	19 04 48.7	
	comp=Z,2μm,0.6s							
IKIA	**Kiasar**	**2.81**	**211**	*e*Pn		Pn	19 04 12.8	+7.8
IEMG	**Emamgholi**	**2.81**	**115**	IAMB		IAmb	19 04 12.2	
	comp=Z,2μm,0.3s							
IEMG				*e*Pn		**Pn**	**19 04 06.1**	**+1.0**
SBZV	**Sabzevar**	**2.83**	**142**	*e*Pn		**Pn**	**19 04 04.8**	**-0.5**
IKRD	**Kardeh**	**3.06**	**126**	*e*Pn		Pn	19 04 17.7	+9.2
IKRD				IAMB		IAmb	19 05 26.9	
	comp=Z,548nm,0.7s							
IANJ	**Anjilo**	**3.40**	**202**	IAMB		IAmb	19 05 24.9	
	comp=Z,501nm,0.7s							
IMYA	**Miami**	**4.35**	**120**	*e*Pn		**Pn**	**19 04 25.8**	**-0.4**
IMYA				IAMB		IAmb	19 06 08.1	
	comp=Z,369nm,0.7s							
TNSJ	**Nastanj**	**4.76**	**168**	*e*Pn		**Pn**	**19 04 32.4**	**+0.6**
JRKH	**Jarkhoshk**	**4.77**	**123**	*e*Pn		**Pn**	**19 04 30.7**	**-1.1**
JRKH				IAMB		IAmb	19 06 06.5	
	comp=Z,0.0nm,0.8s							
TKDS	**Koohdasht(Taba**	**5.20**	**164**	*e*Pn		**Pn**	**19 04 38.5**	**+0.8**
ATGJ	**Altiaghaj**	**5.49**	**296**	P		**Pn**	**19 04 45.2**	**+3.5**
ATGJ				S		**Sn**	**19 05 43.9**	**+0.3**
GLBA	**Clilabad**	**5.53**	**278**	P		**Pn**	**19 04 43.7**	**+1.5**
GLBA				S		**Sn**	**19 05 43.2**	**-1.4**
LRK	**Lerik**	**5.56**	**272**	P		**Pn**	**19 04 43.9**	**+1.1**
LRK				S		**Sn**	**19 05 43.2**	**-2.5**
SIZA	**Siyzn**	**5.60**	**298**	P		**Pn**	**19 04 47.0**	**+3.8**
SIZA				S		**Sn**	**19 05 47.6**	**+1.3**
YRD	**Yardimli**	**5.64**	**275**	P		**Pn**	**19 04 45.1**	**+1.2**
YRD				S		**Sn**	**19 05 46.0**	**-1.5**
XNQ	**Khinaliq**	**6.16**	**297**	P		**Pn**	**19 04 53.6**	**+2.5**
XNQ				S		**Sn**	**19 06 02.7**	**+2.3**
QSAR	**Qusar**	**6.21**	**300**	S		**Sn**	**19 06 03.0**	**+1.6**
ITEG	**Tejag**	**6.33**	**154**	*e*Pn		**Pn**	**19 04 53.7**	**+0.3**
QRD	**Qoradiz**	**6.38**	**280**	P		**Pn**	**19 04 56.2**	**+2.3**
QRD				S		**Sn**	**19 06 04.6**	**-0.9**
AGDM	**Agdam**	**

ARCES	**ARCESS Array B**	**41.28**	**338**	P		**P**	**19 13 50.2**	**+1.9**
	comp=E,2.9nm,0.8s,baz=105,slow=8.3,SNR=7.8							
NOA	**NORSAR Array B**	**44.55**	**323**	P		**P**	**19 14 15.3**	**+0.5**
	comp=E,1.2nm,0.6s,baz=96,slow=7.7,SNR=3.7							
TORD	**Torodi Ar. Bea**	**65.92**	**269**	P		P	19 16 46.2	-2.6
	comp=E,0.3nm,0.5s,baz=43,slow=5.6,SNR=5.3							
YKA	**Yellowknife Ar**	**81.29**	**3**	P		**P**	**19 18 18.8**	**+1.0**
	comp=E,0.3nm,0.4s,baz=350,slow=5.3,SNR=4.5							
ASAR	**Alice Springs**	**84.05**	**125**	P		**P**	**19 18 31.6**	**-1.1**
	comp=E,0.3nm,0.7s,baz=316,slow=5.1,SNR=6.6							

ISCJB ***12*** *19:28:28.0±0.3,6˚46S±0˚05×106˚39E±0˚04,h180km±2km, mb4.9/28,Error ellipse: s-maj=10.1km s-min=3.1km az=33.3*

KLM ***12*** *19:28:28.0,6˚66S×106˚19E,h171km,mb4.7*

NEIC ***12*** *19:28:29.2±2.4,6˚37S±0˚03×106˚43E±0˚08,h174km±8km, mb4.5/27*

DJA ***12*** *19:28:29.1±0.3,7˚S±5˚×10˚6E±˚,h167km±3km,M4.7/25, mb5.1/16,mB5.2/16,MLv4.7/25,Mw(mB)4.5/16*

IDC ***12*** *19:28:29.8±0.8,6˚13S×106˚52E,h168km±6km,mb4.0/15, mb1 4.2/16,mb1mx3.8/48,mbtmp4.5/16,MS2.7/1, Ms1 2.9/1,ms1mx2.4/31,Error ellipse: s-maj=27.6km s-min=9.2km az=42.0*

ISC 12 19:28:28.7±0.6,6˚54S±0˚07×106˚38E±0˚05,h172km±5km, n132,σ1§53/148,mb4.4/41,2C,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DBJI	**Dramaga**	**0.37**	**92**	P		**Pn**	**19 28 52.9**	**+0.7**
SBJI	**Serang**	**0.48**	**330**	P		**Pn**	**19 28 53.1**	**+0.5**
SKJI	**Sukabumi**	**0.50**	**159**	P		**Pn**	**19 28 53.3**	**+0.6**
SKJI				S		**Sn**	**19 29 10.7**	**-0.4**
CGJI	**Cibinong**	**0.68**	**264**	P		**Pn**	**19 28 54.7**	**+1.1**
CGJI				S		**Sn**	**19 29 12.4**	**-0.2**
CNJI	**Cibinong**	**1.07**	**136**	P		**Pn**	**19 29 16.2**	**0.0**
CNJI				S		**Sn**	**19 29 16.1**	**-1.4**
LEM	**Lembang**	**1.27**	**103**	P		**Pn**	**19 28 59.5**	**+1.5**
	55nm,0.3s,baz=308,slow=5.3,SNR=64							
LEM				S		**Sn**	**19 29 21.4**	**+0.8**
	39nm,0.3s,baz=133,slow=13,SNR=6.7							
LEM	**Lembang**	**1.27**	**103**	P		**Pn**	**19 28 59.2**	**+1.1**
LEM				S		**Sn**	**19 29 20.6**	**-0.1**
BLSI	**Bandar Lampung**	**1.62**	**316**	P		**Pn**	**19 29 02.4**	**+1.1**
CISI	**Cisompet, Garu**	**1.75**	**125**	P		**Pn**	**19 29 02.9**	**+0.2**
CISI				S		**Sn**	**19 29 28.6**	**-0.3**
CISI	**Cisompet, Garu**	**1.75**	**125**			**Pn**	**19 29 02.6**	**-0.1**
KASI	**Kota Agung**	**2.12**	**298**	P		**Pn**	**19 29 08.1**	**+1.4**
KASI				S		**Sn**	**19 29 35.3**	**-0.8**
CMJI	**Cimerak**	**2.40**	**121**	P		**Pn**	**19 29 10.0**	**+0.2**
CMJI				S		**Sn**	**19 29 39.5**	**-2.2**
KLSI		**2.46**	**318**	P		**Pn**	**19 29 11.8**	**+1.2**
KLSI				S		**Sn**	**19 29 43.1**	**0.0**
KPJI	**Karang Pucung**	**2.66**	**107**	P		**Pn**	**19 29 13.8**	**+0.9**
LWLI	**Liwa**	**2.76**	**303**	P		**Pn**	**19 29 15.7**	**+1.5**
MDSI	**Maura Dua**	**2.99**	**313**	P		**Pn**	**19 29 18.3**	**+1.4**
LHSI	**Lahat**	**3.92**	**313**	P		**Pn**	**19 29 30.3**	**+1.7**
PMBI	**Palembang**	**3.93**	**336**			**Pn**	**19 29 30.2**	**+1.5**
TPI	**Tanjungpandan**	**3.97**	**19**	P		**Pn**	**19 29 28.6**	**-0.7**
MNAI	**Manna**	**4.03**	**302**	P		**Pn**	**19 29 31.3**	**+1.2**
MNAI	**Manna**	**4.03**	**302**			**Pn**	**19 29 31.1**	**+1.0**
SMRI	**Semarang**	**4.07**	**97**	P		**Pn**	**19 29 32.4**	**+1.8**
SMRI	**Semarang**	**4.07**	**97**			**Pn**	**19 29 32.4**	**+1.8**
YOGI	**Yogyakarta**	**4.09**	**108**	P		**Pn**	**19 29 31.6**	**+0.8**
UGM	**Wanagama**	**4.33**	**109**	P		**Pn**	**19 29 34.5**	**+0.5**
UGM	**Wanagama**	**4.33**	**109**			**Pn**	**19 29 34.5**	**+0.5**
WOJI	**Wonogiri, Jawa**	**4.69**	**106**	P		**Pn**	**19 29 38.9**	**+0.3**
PCJI	**Pacitan**	**5.04**	**109**	P		**Pn**	**19 29 43.5**	**+0.4**
MASI	**Maura Aman, Be**	**5.33**	**309**	P		**Pn**	**19 29 48.3**	**+1.4**
	364nm,0.8s,3µm1.3nm							
PWJI	**Pagerwojo**	**5.58**	**106**	P		**Pn**	**19 29 50.9**	**+0.7**
	93nm,0.7s,2µm1.2nm							
GRJI	**Gresik**	**6.07**	**94**	P		**Pn**	**19 29 58.2**	**+1.5**
	211nm,0.7s,2µm0.6nm							
KRJI	**Kerinci**	**6.60**	**312**	P		**Pn**	**19 30 02.3**	**-1.4**
	192nm,0.6s,3µm0.8nm							
GMJI	**Gumukmas**	**7.22**	**104**	P		**Pn**	**19 30 12.5**	**+0.7**
	61nm,0.5s,2µm0.4nm							
PPSI	**Pulau Pagai**	**7.37**	**300**	P		**Pn**	**19 30 13.6**	**-0.2**
	289nm,0.7s,1.7nm							
JAGI	**Jajag, Banyuwa**	**7.95**	**104**	P		**Pn**	**19 30 21.5**	**+0.1**
	279nm,0.6s,4µm1.2nm							
JAGI	**Jajag, Banyuwa**	**7.95**	**104**			**Pn**	**19 30 21.3**	**-0.2**
PDSI	**Padang**	**8.13**	**313**	P		**Pn**	**19 30 23.1**	**-0.7**
MYKOM	**Kota Tinggi**	**8.65**	**343**	P		**Pn**	**19 30 31.0**	**+0.3**
MYKOM	**Kota Tinggi**	**8.65**	**343**			**Pn**	**19 30 30.5**	**-0.2**
BKNI	**Bangkinang**	**8.65**	**322**			**Pn**	**19 30 29.9**	**-0.9**
SRBI	**Singaraja**	**8.90**	**100**	P		**Pn**	**19 30 34.4**	**+0.4**
	224nm,0.7s,3µm							
IGBI	**Denpasar**	**8.98**	**105**	P		**Pn**	**19 30 34.6**	**-0.5**
	152nm,0.7s,3µm							
DNP	**Denpasar**	**9.01**	**104**	P		**Pn**	**19 30 34.9**	**-0.6**
TWSI	**Taliwang, Sumb**	**10.64**	**103**	P		**Pn**	**19 30 54.5**	**-2.4**
	68nm,0.7s,1µm							
JRMM	**Jerantut**	**11.06**	**339**	P		**Pn**	**19 31 03.0**	**+0.6**
PLAI	**Plampang**	**11.53**	**102**	P		**Pn**	**19 31 06.3**	**-2.1**
	146nm,0.7s,2µm							
GSI	**Gunungsitoli**	**11.74**	**311**			**Pn**	**19 31 07.1**	**-4.1**
RPSI	**Rantau Prapat**	**11.81**	**321**			**Pn**	**19 31 09.1**	**-2.9**
PSI	**Prapat**	**11.89**	**321**	P		**Pn**	**19 31 09.1**	**-4.1**
	1.4nm,0.3s,baz=134,slow=12,SNR=7.7							
IPM	**Ipoh**	**12.18**	**334**	P		**Pn**	**19 31 17.0**	**+0.2**
IPM	**Ipoh**	**12.18**	**334**	Pn		**Pn**	**19 31 15.7**	**-1.1**
KULM	**Kulim**	**13.07**	**334**	P		**Pn**	**19 31 28.0**	**-0.1**
KULM	**Kulim**	**13.07**	**334**			**Pn**	**19 31 26.1**	**-2.0**
KAPI	**Kappang**	**13.39**	**84**	Pn		**Pn**	**19 31 30.2**	**-2.1**
LHMI	**Lhok Sumawe**	**15.01**	**321**	Pn		**Pn**	**19 31 47.6**	**-4.8**
TRTT	**Trang**	**15.76**	**335**	P		**P**	**19 32 02.2**	**+0.3**
	18nm,0.8s							
APSI	**Ampana**	**16.23**	**70**	P		**Pn**	**19 32 08.2**	**+0.9**
	29nm,0.8s,458nm							
MRSI	**Marisa**	**17.03**	**66**	P		**Pn**	**19 32 16.4**	**-0.5**
LUWI	**Luwuk**	**17.24**	**72**			**Pn**	**19 32 19.9**	**+0.4**
LUWI				IAmb		IAmb	19 32 22.2	
	comp=Z,90nm,1.3s							
BATI	**Baumata**	**17.48**	**103**	P		**Pn**	**19 32 22.4**	**0.0**
	comp=Z,70nm,0.3s,baz=298,slow=4.2,SNR=97							
BATI				S		**S**	**19 35 27.1**	**-7.0**
	comp=Z,3.0nm,0.3s,baz=60,slow=17,SNR=4.2							
SOEI	**Soe**	**18.00**	**101**	P		**P**	**19 32 26.5**	**-0.2**
PATY	**Pattaya**	**20.09**	**344**	P		Pn	19 32 54.0	+0.9
	comp=Z,35µm,0.7s							
FITZ	**Fitzroy Crossi**	**22.02**	**123**	P		**P**	**19 33 11.6**	**+2.1**
	comp=Z,7.9nm,0.7s,baz=328,slow=8.1,SNR=32							
TNTI	**Ternate**	**22.17**	**72**	P		**P**	**19 33 10.5**	**-0.6**
CHAI	**Chaiyaphum**	**22.72**	**349**	P		**P**	**19 33 15.8**	**-0.2**
	comp=Z,16µm,0.5s							
UTHA	**Uthaitani**	**23.00**	**343**	P		**P**	**19 33 18.4**	**-0.3**
	comp=Z,21µm,0.7s							
PBKT	**Sadao Pong**	**23.57**	**347**	P		**P**	**19 33 22.7**	**-1.2**
PBKT				IAmb		IAmb	19 33 23.3	
	comp=Z,6.5nm,0.7s							
KNRA	**Kununurra**	**23.75**	**114**	P		**P**	**19 33 26.2**	**+0.7**
UMPA	**Umpang Tak**	**23.79**	**342**	P		**P**	**19 33 24.0**	**-1.9**
	comp=Z,19µm,0.8s,comp=Z,225µm							
UTTA	**Uttaradit**	**24.80**	**347**	P		**P**	**19 33 34.4**	**-0.6**
	comp=Z,18µm,0.9s,comp=Z,180µm							
MTN	**Manton Dam**	**25.18**	**106**	P		**P**	**19 33 40.3**	**+1.7**
SIJI	**Sorong**	**25.46**	**78**	P		**P**	**19 33 40.5**	**-0.6**
	comp=Z,7.1nm,0.7s,baz=233,slow=5.1,SNR=7.2							
PHRA	**Phrae**	**25.61**	**346**	P		**P**	**19 33 41.9**	**-0.4**
	comp=Z,1.3nm,1.2s,comp=Z,907nm							
CM31	**Chiang Mai Arr**	**25.90**	**344**	P		**P**	**19 33 43.7**	**-1.2**
CM31				IAmb		IAmb	19 33 44.4	
	comp=Z,6.1nm,0.7s							
CMAR	**Chiang Mai Arr**	**25.90**	**344**	P		**P**	**19 33 43.6**	**-1.3**
	comp=Z,5.5nm,0.6s,baz=180,slow=8.6,SNR=56							
CMAR				ScP		**ScP**	**19 40 34.8**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=195,slow=3.4,SNR=6.3							
CMAR				LR		LR	19 45 43.6	
	comp=Z,15nm,18.6s,baz=25,slow=40							
MHMT	**Maesarieng**	**25.93**	**341**	P		**P**	**19 33 44.2**	**-1.0**
	comp=Z,19nm,0.9s							
CMMT	**Chiang Mai**	**26.23**	**344**	P		**P**	**19 33 47.0**	**-0.9**
	comp=Z,3.7nm,0.9s							
CHTO	**Chiang Mai**	**26.24**	**344**	P		**P**	**19 33 46.2**	**-1.8**
PAYA	**Payao**	**26.52**	**346**	P		**P**	**19 33 51.4**	**+0.9**
	comp=Z,12µm,0.9s							
WRA	**Warramunga Arr**	**30.24**	**119**	P		**P**	**19 34 25.1**	**+1.6**
	comp=Z,6.4nm,0.5s,baz=294,slow=10,SNR=14							
WRAB	**Tennant Creek**	**30.24**	**119**	P		**P**	**19 34 25.2**	**+1.6**
WRAB				IAmb		IAmb	19 34 26.9	
	comp=Z,6.2nm,0.6s							
WB2	**Warramunga Arr**	**30.25**	**119**	P		**P**	**19 34 25.3**	**+1.6**
WB2				IAmb		IAmb	19 34 27.4	
	comp=Z,7.1nm,0.9s							
WR0	**Warramunga Arr**	**30.42**	**119**	P		**P**	**19 34 26.5**	**+1.4**
WR0				IAmb		IAmb	19 34 27.6	
	comp=Z,8.3nm,0.6s							
ASAR	**Alice Springs**	**31.46**	**126**	P		**P**	**19 34 36.6**	**+2.3**
	comp=Z,9.0nm,0.4s,baz=295,slow=7.8,SNR=456							
ASAR				S		**S**	**19 39 30.0**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=296,slow=16,SNR=16							
AS31	**Alice Springs**	**31.46**	**126**	P		**P**	**19 34 36.4**	**+2.1**
AS31				IAmb		IAmb	19 34 37.2	
	comp=Z,7.3nm,0.4s							
SHL	**Shillong**	**34.88**	**337**	P		**P**	**19 35 01.8**	**-2.3**
SHL				IAmb		IAmb	19 35 02.6	
	comp=Z,4.9nm,0.7s							
COEN	**Coen**	**36.91**	**104**	P		**P**	**19 35 21.7**	**+0.4**
COEN				IAmb		IAmb	19 35 23.1	
	comp=Z,18nm,1.2s							
CD2	**Chengdu**	**37.32**	**356**	P		**P**	**19 35 24.6**	**+0.1**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
ODAN	**Odare**	**37.96**	**332**	*e*P		**P**	**19 35 28.3**	**-1.8**
	comp=Z,16nm,0.5s							
TAPN	**Taplejung**	**38.23**	**333**	*e*P		**P**	**19 35 31.2**	**-1.3**
	comp=Z,20nm,0.7s							
RAMN	**Ramite**	**38.41**	**331**	*e*P		**P**	**19 35 32.4**	**-1.5**
	comp=Z,9.4nm,0.6s							
LSA	**Lhasa**	**38.89**	**339**	P		**P**	**19 35 36.9**	**-1.3**
JIRN	**Jiri**	**39.20**	**331**	*e*P		**P**	**19 35 39.1**	**-1.6**
	comp=Z,32nm,0.6s							
PKI	**Pulchoki**	**39.51**	**330**	*e*P		**P**	**19 35 41.0**	**-2.2**
PKIN	**Phulchoki**	**39.52**	**330**	*e*P		**P**	**19 35 41.0**	**-2.2**
	comp=Z,3.6nm,0.6s							
GUN	**Gumba**	**39.56**	**331**	*e*P		**P**	**19 35 42.0**	**-1.6**
	comp=Z,22nm,0.6s							
DMN	**Daman**	**39.69**	**330**	*e*P		**P**	**19 35 42.7**	**-1.9**
	comp=Z,14nm,0.8s							
KKN	**Kakani**	**39.75**	**330**	*e*P		**P**	**19 35 43.2**	**-1.9**
	comp=Z,12nm,0.8s							
NJ2	**Nanjing**	**40.18**	**17**	*e*P		**P**	**19 35 49.2**	**+1.0**
NJ2				pmax		pmax		
	comp=Z,13nm,0.6s							
GKN	**Gorkha**	**40.25**	**330**	*e*P		**P**	**19 35 47.3**	**-1.8**
	comp=Z,9.3nm,0.3s							
PMG	**Port Moresby**	**40.47**	**97**	P		**P**	**19 35 51.5**	**+0.5**
PMG				IAmb		IAmb	19 35 52.8	
	comp=Z,27nm,0.9s							
KOLN	**Koldanda**	**40.59**	**328**	*e*P		**P**	**19 35 50.3**	**-1.7**
	comp=Z,33nm,0.7s							
STKA	**Stephens Creek**	**41.41**	**132**	P		**P**	**19 36 01.4**	**+3.1**
	comp=Z,20nm,0.5s,baz=308,slow=8.3,SNR=75							
STKA	**Stephens Creek**	**41.41**	**132**	P		**P**	**19 36 00.8**	**+2.5**
LZH	**Lanzhou**	**42.47**	**357**	⇑P		**P**	**19 36 06.0**	**-1.0**
LZH				pP		pP	19 36 43.9	-0.7
LZH				sP		sP	19 37 04.2	+0.2
LZH				PP		**PP**	**19 37 50.1**	**+0.9**
LZH				pmax		pmax		
	comp=Z,21nm,1.3s							
LZH				pmax		pmax		
	comp=Z,100nm,5.6s							
GTA	**Gaotai**	**46.12**	**353**	⇑P		**P**	**19 36 35.9**	**0.0**
GTA				pP		pP	19 37 15.1	+1.0
GTA				sP		sP	19 37 34.1	+0.7
GTA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
GTA				pmax		pmax		
	comp=Z,60nm,5.9s							
GTA				LR		LR		
	comp=Z,110nm,16.2s							
GTA				LR		LR		
	comp=Z,140nm,15.2s							
GTA				LR		LR		
	comp=Z,140nm,16.2s							
HHC	**Hu-ho-hao-te**	**47.40**	**5**	*e*P		**P**	**19 36 47.4**	**+1.6**
HHC				pmax		pmax		
	comp=Z,4.0nm,1.0s							
WMQ	**Urumqi**	**52.90**	**343**	*e*P		**P**	**19 37 28.3**	**+1.3**
HNR	**Honiara**	**53.09**	**97**	P		**P**	**19 37 28.2**	**-0.7**
KSH	**Kashi**	**53.76**	**331**	P		**P**	**19 37 36.2**	**+2.7**
KSH				ScP		**ScP**	**19 42 19.4**	**+0.5**
KSH				S		**S**	**19 44 56.0**	**+1.4**
KSH				sS		sS	19 46 05.9	+2.6
KSH				pmax		pmax		
	comp=Z,220nm,7.9s							
KSH				LR		LR		
	comp=Z,850nm,5.3s							
KSH				LR		LR		
	comp=Z,490nm,5.3s							
KSH				LR		LR		
	comp=Z,590nm,5.7s							
SONM	**Songino Array**	**54.14**	**0**	P		**P**	**19 37 35.9**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=180,slow=9.4,SNR=12							
SONM				ScP		**ScP**	**19 42 19.5**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=176,slow=3.3,SNR=8.8							
WSAR	**Wadi Sarin**	**55.24**	**304**	P		**P**	**19 37 46.0**	**+1.7**
	comp=Z,4.5nm,0.6s,baz=160,slow=5.5,SNR=12							
MK31	**Makanchi Array**	**57.25**	**341**	P		**P**	**19 37 56.4**	**-1.7**
MKAR	**Makanchi Array**	**57.25**	**341**	P		**P**	**19 37 56.3**	**-1.8**
	comp=Z,1.9nm,0.5s,baz=151,slow=8.5,SNR=30							
UOSS	**Minazif**	**57.98**	**305**	P		**P**	**19 38 04.0**	**+0.4**
UOSS				IAmb		IAmb	19 38 05.2	
	comp=Z,6.4nm,0.9s							
KURK	**Kurchatov**	**61.86**	**340**	P		**P**	**19 38 27.9**	**-1.7**
KURK				IAmb		IAmb	19 38 28.9	
	comp=Z,6.9nm,1.1s							
ZAA0	**Zalesovo Array**	**62.94**	**346**	P		**P**	**19 38 34.5**	**-2.1**
ZALV	**Zalesovo Beam**	**62.94**	**346**	P		**P**	**19 38 34.5**	**-2.1**
	comp=Z,2.1nm,0.4s,baz=165,slow=6.4,SNR=8.2							
GEYT	**Alibeck**	**63.01**	**319**	P		**P**	**19 38 37.3**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=140,slow=4.7,SNR=4.1							
BRVK	**Borovoye**	**66.77**	**337**	P		**P**	**19 39 00.1**	**-1.3**
ABKAR	**Akbulak array**	**68.70**	**329**	P		**P**	**19 39 12.4**	**-1.2**
ABKAR				IAmb		IAmb	19 39 12.7	
	comp=Z,3.0nm,0.6s							
KBZ	**Khabaz**	**75.89**	**318**	P		**P**	**19 39 56.7**	**+0.4**
	comp=Z,4.6nm,1.0s,baz=224,slow=6.0,SNR=6.2							
BRTR	**Keskin Array B**	**81.06**	**312**	P		**P**	**19 40 25.2**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=138,slow=7.3,SNR=15							
BR131	**Keskin Array S**	**81.06**	**312**	P		**P**	**19 40 25.3**	**+0.3**
BR131				IAmb		IAmb	19 40 26.1	
	comp=Z,4.5nm,0.8s							
AKASG	**Malin Array Be**	**86.95**	**322**	P		**P**	**19 40 54.2**	**0.0**
	comp=Z,0.9nm,0.4s,baz=85,slow=4.7,SNR=9.9							
AKBB	**Malin Array Si**	**86.95**	**322**	P		**P**	**19 40 54.2**	**0.0**
AKBB				IAmb		IAmb	19 43 17.0	
	comp=Z,20nm,1.8s							
LIT	**Litokhoron**	**89.51**	**310**	P		**P**	**19 41 07.9**	**+1.3**
FINES	**FINESS Array B**	**91.08**	**332**	P		**P**	**19 41 13.7**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=83,slow=4.3,SNR=3.2							
VYHS	**Vyhne**	**93.22**	**318**	*e*P		**P**	**19 41 25.3**	**+1.7**
PDAR	**Pinedale Array**	**131.99**	**36**	SKPbc		**SKPbc**	**19 50 32.1**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=311,slow=3.2,SNR=5.8							
ULM	**Lac du Bonnet**	**132.62**	**19**	SKPbc		**SKPbc**	**19 50 34.1**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=245,slow=4.8,SNR=4.6							
TXAR	**Lajitas Array**	**143.72**	**48**	PKP		**PKPdf**	**19 47 43.2**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=297,slow=1.1,SNR=4.4							
TXAR				SKPbc		**SKiKP**	**19 51 07.4**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=256,slow=1.0,SNR=7.1							

KRSC ***12*** *19:47:26.1±2.1,49˚05N×156˚55E,h87km±26km,ML5.0*

BJI ***12*** *19:47:28.2±0.0,49˚30N×156˚41E,h42km,mb4.7/49, mB5.1/37,Ms4.7/24,Ms7 4.4/23*

ISCJB ***12*** *19:47:28.9±0.2,49˚24N±0˚03×156˚21E±0˚05,h34km, mb4.8/95,MS4.0/18,Error ellipse: s-maj=6.1km s-min=2.1km az=39.4*

SKHL ***12*** *19:47:28.5±0.4,49˚01N×156˚60E,h57km±1km,mb5.2/7*

NEIC ***12*** *19:47:31.6±1.2,49˚3N±0˚1×156˚1E±0˚2,h39km±5km, mb4.8/75*

MOS ***12*** *19:47:31.2±1.2,49˚38N×156˚17E,h54km,mb4.8/18, MS3.8/5,Error ellipse: s-maj=8.0km s-min=3.2km az=81.5*

IDC ***12*** *19:47:32.2±2.4,49˚30N×156˚12E,h51km±21km,mb4.0/25, mb1 4.3/31,mb1mx4.1/52,mbtmp4.4/31,ML5.2/3,MS3.7/16, Ms1 3.7/16,ms1mx3.5/44,Error ellipse: s-maj=15.6km s-min=10.9km az=137.0*

ISC 12 19:47:30.0±0.4,49˚16N±0˚05×156˚29E±0˚05,h34km,n417, σ1§33/448,mb4.8/113,MS4.0/18,42C-12D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.53**	**356**	*e*P		**Pn**	**19 47 55.0**	**+0.2**
SKR				*e*S		**Sb**	**19 48 15.6**	**-1.2**
SKR	**Severo-Kuril's**	**1.53**	**356**	*e*PN		**Pn**	**19 47 55.2**	**+0.3**
SKR						pmax	pmax	
	comp=Z,1µm,0.7s							
SKR						pmax	pmax	
	comp=Z,2µm,0.6s							
SKR	**Severo-Kuril's**	**1.53**	**356**	*e*P		**Pn**	**19 47 55.1**	**+0.2**
SKR						AMB	AMB	19 47 59.0
	comp=Z,1µm,0.7s							
SKR				*e*S		**Sb**	**19 48 15.3**	**-1.5**
SKR				A		A	19 48 20.0	
	comp=Z,4µm,0.7s							
SKR				A		A	19 48 20.0	
	comp=Z,2µm,0.7s							
ASAK	**Asacha**	**3.38**	**17**	*e*P		**Pn**	**19 48 20.4**	**-0.1**
ASAK	**Asacha**	**3.38**	**17**	PN		**Pn**	**19 48 20.4**	**-0.1**
MTVR	**Mutnovka**	**3.54**	**19**	*e*P		**Pn**	**19 48 22.4**	**-0.2**
MTVR				*e*S		**Sn**	**19 49 02.6**	**-0.7**
MTVR	**Mutnovka**	**3.54**	**19**	PN		**Pn**	**19 48 22.4**	**-0.2**
MTVR				S		**Sn**	**19 49 02.6**	**-0.7**
RUS	**Russkaya**	**3.57**	**22**	*e*P		**Pn**	**19 48 21.9**	**-1.0**
RUS				*e*S		**Sn**	**19 49 02.2**	**-1.6**
RUS	**Russkaya**	**3.57**	**22**	PN		**Pn**	**19 48 21.9**	**-1.0**
RUS				S		**Sn**	**19 49 02.2**	**-1.6**
RUS	**Russkaya**	**3.57**	**22**	*e*P		**Pn**	**19 48 21.9**	**-1.0**
RUS				*e*S		**Sn**	**19 49 02.2**	**-1.6**
GRL	**Gorelyy**	**3.58**	**18**	*e*P		**Pn**	**19 48 23.5**	**+0.3**
GRL				*e*S		**Sn**	**19 49 04.2**	**-0.1**
GRL	**Gorelyy**	**3.58**	**18**	PN		**Pn**	**19 48 23.5**	**+0.3**
GRL				S		**Sn**	**19 49 04.2**	**-0.1**
APC	**Apacha**	**3.81**	**8**	*e*P		**Pn**	**19 48 27.3**	**+1.1**
APC				*e*S		**Sn**	**19 49 11.3**	**+1.6**
APC	**Apacha**	**3.81**	**8**	PN		**Pn**	**19 48 27.3**	**+1.1**
APC				S		**Sn**	**19 49 11.3**	**+1.6**
KRMR	**Karymshinskiy**	**3.85**	**17**	*e*P		**Pn**	**19 48 27.4**	**+0.6**
KRMR				*e*S		**Sn**	**19 49 11.6**	**+0.8**
KRMR	**Karymshinskiy**	**3.85**	**17**	PN		**Pn**	**19 48 27.4**	**+0.6**
KRMR				S		**Sn**	**19 49 11.6**	**+0.8**
PEA0B	**Petropavlovsk-**	**4.05**	**12**	*i* PN		**Pn**	**19 48 30.1**	**+0.6**
PEA0B	**Petropavlovsk-**	**4.05**	**12**			**Pn**	**19 48 29.9**	**+0.4**
PETK	**Petropavlovsk-**	**4.05**	**12**	P		**Pn**	**19 48 30.6**	**+1.0**
	comp=Z,16nm,0.3s,baz=276,slow=14,SNR=119							
PETK				LR		LR	19 50 15.6	
	comp=Z,838nm,20.4s,baz=191,slow=41							
PET	**Petropavlovsk**	**4.14**	**20**	*e*PN		**Pn**	**19 48 30.6**	**-0.2**
PET				*e*S		**Sn**	**19 49 16.6**	**-1.4**
PET				pmax		pmax		
	comp=Z,201nm,0.4s							
PET				smax		smax		
	comp=E,825nm,0.7s							
PET				smax		smax		
	comp=N,858nm,0.5s							
PET				MLR		MLR		
	comp=Z,700nm,13.0s							
PET				MLR		MLR		
	comp=Z,400nm,13.0s							
PET	**Petropavlovsk**	**4.14**	**20**	*e*P		**Pn**	**19 48 30.6**	**-0.2**
PET				AMB		AMB	19 48 34.5	
	comp=Z,150nm,0.5s							
PET				*e*S		**Sn**	**19 49 16.9**	**-1.1**
PET				A		A	19 49 30.4	
	comp=Z,390nm,0.6s							
PET				A		A	19 49 30.4	
	comp=Z,540nm,0.6s							
PET				AMS		AMS	19 51 33.8	
	comp=Z,700nm,13.0s							
PET	**Petropavlovsk**	**4.14**	**20**			**Pn**	**19 48 30.5**	**-0.2**
DALK	**Dalny**	**4.17**	**21**	*e*P		**Pn**	**19 48 31.3**	**+0.1**
DALK				*e*S		**Sn**	**19 49 17.9**	**-0.8**
DALK	**Dalny**	**4.17**	**21**	PN		**Pn**	**19 48 31.3**	**+0.1**
DALK				S		**Sn**	**19 49 17.9**	**-0.8**
UGLR	**Uglovaya**	**4.36**	**20**	*e*P		**Pn**	**19 48 34.9**	**+1.1**
UGLR				*e*S		**Sn**	**19 49 23.9**	**+0.5**
UGLR	**Uglovaya**	**4.36**	**20**	PN		**Pn**	**19 48 34.9**	**+1.1**
UGLR				S		**Sn**	**19 49 23.9**	**+0.5**
AVH	**Avacha**	**4.39**	**20**	*e*P		**Pn**	**19 48 35.5**	**+1.3**
AVH				*e*S		**Sn**	**19 49 25.5**	**+1

comp=N,148nm,0.5s
YUK Yuzh-Kuril'sk 8.82 238 *i* P **Pn 19 49 35.3 +0.3**
YUK AMB AMB 19 49 38.0
comp=N,80nm,0.8s
YUK AMB AMB 19 49 38.0
comp=N,280nm,0.8s
YUK *e*S **Sn 19 51 10.3 -2.8**
YUK A A 19 51 16.5
comp=N,510nm,1.0s
YUK A A 19 51 16.5
comp=N,600nm,1.0s
YUK AMS AMS 19 52 59.4
comp=N,860nm,14.0s
GRPR Tuman 8.90 238⇓ *i* PN **Pn 19 49 36.3 +0.3**
GRPR pmax pmax
comp=Z,245nm,0.4s
GRPR pmax pmax
comp=N,154nm,0.2s
GRPR pmax pmax
comp=E,111nm,0.3s
GRPR Tuman 8.90 238 *i* P **Pn 19 49 36.3 +0.3**
GRPR AMB AMB 19 49 45.2
comp=E,130nm,0.5s
GRPR *e*S **Sn 19 51 13.3 -1.7**
NMR Nemuro--Hokkai 9.33 236⇑ *i* PN **Pn 19 49 39.3 -2.6**
NMR Nemuro--Hokkai 9.33 236 *i* P **Pn 19 49 39.3 -2.6**
YSS Yuzh-Sakhalins 9.33 261 *e*PN **Pn 19 49 45.8 +3.8**
YSS MLR MLR
comp=Z,1µm,18.0s
YSS MLR MLR
comp=E,700nm,16.0s
YSS Yuzh-Sakhalins 9.33 261 *e*P **Pn 19 49 45.8 +3.8**
YSS AMS AMS 19 53 09.0
comp=E,700nm,17.0s
YSS AMS AMS 19 53 09.0
comp=E,1µm,17.0s
YSS Yuzh-Sakhalins 9.33 261 Pn 19 49 44.6 +2.6
ASAJ Asahikawa 10.68 247 P **Pn 19 50 02.4 +1.9**
comp=E,14nm,0.3s,baz=71,slow=14,SNR=20
ASAJ LR LR 19 53 49.8
comp=E,435nm,19.4s,baz=32,slow=36
MA2 Magadan 10.92 345 PN **Pn 19 50 03.0 -0.6**
MA2 Magadan 10.92 345 P **Pn 19 50 05.2 +1.6**
comp=E,3.3nm,0.3s,baz=171,slow=8.7,SNR=9.5
MA2 LR LR 19 54 56.4
comp=E,414nm,18.2s,baz=137,slow=41
MA2 Magadan 10.92 345 Pn **Pn 19 50 04.0 +0.4**
ERM Erimo 11.64 237 *i* PN **Pn 19 50 12.5 -1.1**
ERM Erimo 11.64 237 Pn **Pn 19 50 12.7 -0.9**
TEY Ternei 14.02 260 *e*P **P 19 50 53.7 +0.2**
TEY Ternei 14.02 260 *e*rx rx 19 50 53.7
KMSK Kamenskaya 14.43 19 *e*P **Pn 19 50 49.0 -2.5**
KMSK Kamenskaya 14.43 19 P **Pn 19 50 49.0 -2.5**
EKMR Ekimchan 15.15 294 *e*P **Pn 19 51 01.8 +0.5**
EKMR AMB AMB 19 51 09.0
comp=E,20nm,0.7s
KLR Kul'dur 16.03 280 *i* P **Pn 19 51 12.5 -0.2**
KLR Kul'dur 16.03 280 P **P 19 51 15.6 -0.2**
comp=E,0.5nm,0.3s,baz=60,slow=12,SNR=12
KLR Kul'dur 16.03 280 *e*P **Pn 19 51 12.5 -0.2**
USA0B Ussuriysk Arra 17.37 263 P **Pn 19 51 29.1 -0.4**
USA0B pmax pmax
comp=Z,13nm,0.9s
USA0B Ussuriysk Arra 17.37 263 Pn **Pn 19 51 29.1 -0.4**
USRK Ussuriysk Ar. 17.37 263 P **Pn 19 51 29.6 +0.1**
baz=66,slow=12,SNR=18
USRK LR LR 19 58 01.3
comp=Z,83nm,18.3s,baz=48,slow=36
BMKR Bomnak 17.75 299 *e*P **Pn 19 51 34.0 -0.2**
BMKR AMB AMB 19 51 36.3
comp=Z,60nm,0.8s
MJAR Matsushiro Arr 18.24 233 P **Pn 19 51 40.9 +0.6**
comp=Z,0.2nm,0.3s,baz=32,slow=9.7,SNR=10
MJB9 Matsu-Tunnel 18.24 233 P **Pn 19 51 41.2 +0.9**
MAJO Matsushiro 18.24 233 *i* P **Pn 19 51 41.0 +0.7**
MAJO pmax pmax
comp=Z,11nm,1.0s
MAJO Matsushiro 18.24 233 P **Pn 19 51 41.3 +1.0**
MAT Matsushiro 18.24 233 P **P 19 51 40.4 +0.1**
ZEA Zeya 18.60 295 *e*P **Pn 19 51 51.1 +6.5**
ZEA Zeya 18.60 295 *e*rx rx 19 51 51.1
MDJ Mudanjiang 18.76 266 P **P 19 51 45.0 -1.0**
MDJ pP pP 19 51 54.9 +0.6
MDJ sP pwP 19 51 59.5 +2.3
MDJ pmax pmax
comp=Z,6.0nm,0.9s
MDJ pmax pmax
comp=Z,290nm,4.5s
MDJ Mudanjiang 18.76 266 P **P 19 51 43.7 -2.2**
KROS Kirovskiy 18.80 297 *e*P **P 19 51 46.5 +0.1**
KROS AMB AMB 19 51 51.1
comp=Z,10.0nm,0.8s
ATKA Atka Island 18.89 69 P **Pn 19 51 48.6 +0.6**
ATKA IAmb IAmb 19 52 25.9
comp=Z,134nm,1.5s
BILL Bilibino 19.58 11⇓ *e*P **P 19 51 53.8 -1.0**
BILL pmax pmax
comp=Z,18nm,1.0s
BILL MLR MLR
comp=Z,417nm,19.0s
BILL Bilibino 19.58 11 P **P 19 51 54.1 -0.6**
YAK Yakutsk 19.61 321 *e*P **P 19 51 54.0 -1.1**
YAK *e*S **S 19 55 32.3 -2.0**
YAK pmax pmax
comp=Z,27nm,1.1s
YAK pmax pmax
comp=E,19nm,1.3s
YAK pmax pmax
comp=Z,354nm,3.3s
YAK pmax pmax
comp=N,258nm,3.3s
YAK pmax pmax
comp=E,456nm,3.6s
YAK smax smax
comp=N,903nm,4.2s
YAK smax smax
comp=E,361nm,3.9s
YAK MLR MLR
comp=Z,184nm,16.0s
YAK MLR MLR
comp=N,125nm,16.0s
YAK MLR MLR
comp=E,142nm,15.0s
YAK Yakutsk 19.61 321 P **P 19 51 53.8 -1.3**
comp=E,0.2nm,0.3s,baz=109,slow=0.8,SNR=10
YAK Yakutsk 19.61 321 P **P 19 51 53.1 -2.0**
YAK IAmb IAmb 19 52 01.9
comp=Z,30nm,0.8s
INU Inuyama 19.77 233 P **P 19 51 57.7 +0.6**
SPIA Saint Paul Isl 21.42 55 P **P 19 52 16.9 +2.3**
CN2 Changchun 21.81 268 *e*P **P 19 52 22.6 +3.6**
CN2 *e*S **S 19 56 09.7 -8.5**
CN2 LR LR
comp=Z,410nm,10.0s
CN2 LR LR
comp=Z,280nm,10.0s
CN2 LR LR
comp=Z,340nm,11.0s
KSRS Korea Array 23.58 251 P **P 19 52 37.7 +0.2**
comp=Z,4.9nm,0.7s,baz=49,slow=10,SNR=11
KSRS LR LR 20 01 21.7
comp=Z,165nm,18.8s,baz=62,slow=35
JNU Nakatsue 24.79 239 P **P 19 52 50.1 +1.4**
TIXI Tiksi 25.83 340 *ce*P **P 19 52 55.2 -2.5**
TIXI pmax pmax
comp=Z,18nm,0.8s
TIXI Tiksi 25.83 340 P **P 19 52 55.1 -2.5**
comp=Z,16nm,0.7s,baz=135,slow=11,SNR=58
TIXI Tiksi 25.83 340 P **P 19 52 55.2 -2.5**
TIXI IAmb IAmb 19 52 57.3
comp=Z,16nm,0.7s
RDOG Red Dog Mine 27.64 32 P **P 19 53 13.2 -0.8**
H11N2 WAKE ISLAND Hy 30.57 160 T T 20 26 22.5
baz=358,slow=74
H11N1 WAKE ISLAND Hy 30.59 160 T T 20 26 38.6
baz=358
H11N3 WAKE ISLAND Hy 30.59 160 T T 20 26 40.4
baz=358,slow=74
H11S1 WAKE ISLAND Hy 31.71 161 T T 20 28 03.0
baz=347,slow=76,SNR=295
H11S3 WAKE ISLAND Hy 31.72 161 T T 20 28 04.0
baz=347,slow=76,SNR=535
H11S2 WAKE ISLAND Hy 31.73 161 T T 20 28 14.8
baz=347,slow=76,SNR=361
ULN Ulaanbaatar 32.19 287 *ce*P **P 19 53 53.5 -1.2**
ULN pmax pmax
comp=Z,8.0nm,1.7s
ULN Ulaanbaatar 32.19 287 *e*P **P 19 53 53.5 -1.2**
HHC Hu-ho-hao-te 32.30 272 *e*P **P 19 53 56.6 +1.0**
HHC pmax pmax
comp=Z,5.0nm,0.8s
SONM Songino Array 32.61 287 P **P 19 53 56.9 -1.5**
comp=Z,0.4nm,0.4s,baz=77,slow=8.1,SNR=8.1
SONM LR LR 20 08 29.6
comp=Z,222nm,18.8s,baz=43,slow=39
NJ2 Nanjing 32.75 253 *e*P **P 19 53 59.7 +0.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
WRH Wood River Hil 32.81 41 P **P 19 54 02.2 +2.5**
WRH IAmb IAmb 19 54 15.4
comp=Z,15nm,1.1s
TLY Talaya 33.04 295 *i* P **P 19 54 01.3 -0.6**
TLY pmax pmax
comp=Z,8.0nm,0.9s
TLY Talaya 33.04 295 *e*P **P 19 54 01.3 -0.6**
TLY Talaya 33.04 295 P **P 19 54 01.5 -0.4**
TLY IAmb IAmb 19 54 50.7
comp=Z,46nm,1.8s
ILAR Eielson Array 33.33 41 P **P 19 54 03.9 -0.3**
comp=Z,0.6nm,0.6s,baz=253,slow=8.0,SNR=6.1
WHN Wuhan 36.61 255 P **P 19 54 32.5 -0.4**
INK Inuvik 38.46 34 P **P 19 54 48.8 +0.7**
INK pmax pmax
comp=Z,13nm,1.2s
INK Inuvik 38.46 34 P **P 19 54 48.9 +0.8**
comp=Z,6.0nm,0.9s,baz=282,slow=6.5,SNR=17
INK Inuvik 38.46 34 P **P 19 54 48.8 +0.7**
INK IAmb IAmb 19 54 49.8
comp=Z,13nm,1.2s
ENH Enshi 39.91 259 P **P 19 55 00.5 -0.1**
LZH Lanzhou 39.96 271 *e*P **P 19 55 01.2 0.0**
LZH pP pwP 19 55 12.3 -1.8
LZH sP sP 19 55 17.0 +3.7
LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,92nm,5.4s
LZH LR LR
comp=Z,410nm,13.2s
LZH LR LR
comp=Z,420nm,13.4s
LZH LR LR
comp=Z,560nm,16.7s
GTA Gaotai 40.72 278⇓ **P 19 55 07.2 -0.3**
GTA pP pwP 19 55 18.8 -0.7
GTA sP sP 19 55 23.4 +3.8
GTA SS SS 20 04 11.2 -5.4
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,110nm,6.2s
GTA LR LR
comp=Z,150nm,14.6s
GTA LR LR
comp=Z,400nm,14.6s
GTA LR LR
comp=Z,470nm,16.5s
ZAA0 Zalesovo Array 42.97 305 P **P 19 55 24.2 -1.3**
ZALV Zalesovo Beam 42.97 305 P **P 19 55 23.7 -1.7**
comp=Z,2.5nm,0.5s,baz=61,slow=6.2,SNR=10.0
ZALV PcP **PcP 19 57 16.1 +0.8**
comp=Z,1.1nm,0.5s,baz=92,slow=3.7,SNR=4.3
ZALV LR LR 20 14 43.8
comp=Z,98nm,18.4s,baz=48,slow=38
CD2 Chengdu 43.21 265 P **P 19 55 26.4 -1.4**
CD2 pmax pmax
comp=Z,20nm,0.6s
GYA Guiyang 44.32 258⇑ *i* P **P 19 55 36.8 0.0**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,60nm,4.9s
WMQ Urumqi 46.06 291 *e*P **P 19 55 51.2 +0.8**
WMQ sP sP 19 56 06.6 +4.0
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,69nm,4.5s
WMQ LR LR
comp=Z,380nm,20.9s
WMQ LR LR
comp=Z,1µm,23.5s
YKA Yellowknife Ar 47.71 39 P **P 19 56 03.0 +0.2**
comp=Z,2.2nm,0.8s,baz=296,slow=7.6,SNR=15
MK31 Makanchi Array 47.75 297 P **P 19 56 02.5 -1.0**
MK31 pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 47.75 297 P **P 19 56 02.5 -1.0**
MKAR Makanchi Array 47.75 297 P **P 19 56 02.5 -0.9**
comp=Z,3.5nm,0.7s,baz=64,slow=7.7,SNR=34
MKAR LR LR 20 17 36.3
comp=Z,287nm,18.4s,baz=34,slow=38
KMI Kunming 47.77 260 P **P 19 56 04.9 +0.8**
KMI pmax pmax
comp=Z,13nm,0.7s
KURK Kurchatov 47.82 303 *ce*P **P 19 56 03.2 -0.7**
KURK pmax pmax
comp=Z,15nm,0.8s
KURK Kurchatov 47.82 303 *e*P **P 19 56 03.2 -0.7**
KURK Kurchatov 47.82 303 P **P 19 56 02.8 -1.1**
KURK IAmb IAmb 19 56 04.0
comp=Z,15nm,0.8s
RES Resolute Bay 47.86 20 P **P 19 56 04.5 +0.6**
comp=Z,3.6nm,0.6s,baz=302,slow=7.7,SNR=9.6
MAKZ Makanchi 47.92 297 P **P 19 56 03.4 -1.4**
MAKZ pmax pmax
comp=Z,7.0nm,0.7s
MAKZ Makanchi 47.92 297 P **P 19 56 03.4 -1.4**
MAKZ IAmb IAmb 19 57 53.5
comp=Z,6.8nm,0.7s
BRVK Borovoye 51.02 309 *ce*P **P 19 56 27.4 -0.9**
BRVK pmax pmax
comp=Z,10.0nm,0.8s
BRVK Borovoye 51.02 309 *e*P **P 19 56 27.4 -0.9**
BRVK Borovoye 51.02 309 P **P 19 56 27.1 -1.1**
BRVK IAmb IAmb 19 56 28.1
comp=Z,9.7nm,0.8s
LSA Lhasa 52.27 273 P **P 19 56 39.9 +1.4**
LSA Lhasa 52.27 273 P **P 19 56 39.4 +0.9**
LSA pmax pmax
comp=Z,4.0nm,0.8s
LSA Lhasa 52.27 273 P **P 19 56 39.4 +0.9**
NONG Nongkai 52.62 253 P **P 19 56 43.4 +2.8**
comp=Z,0.4nm,0.8s,comp=Z,242nm
PAYA Payao 53.75 257 P **P 19 56 53.7 +4.8**
comp=Z,17µm,0.6s
NEW Newport 54.03 56 LR LR 20 19 36.5
comp=Z,78nm,18.6s,baz=20,slow=36
PHRA Phrae 54.15 256 P **P 19 56 53.6 +1.8**
comp=Z,3.1nm,1.1s
DAG Danmarks Havn 54.30 359 *i* P **P 19 56 51.1 -1.1**
DAG pmax pmax
comp=Z,4.0nm,0.8s
DAG Danmarks Havn 54.30 359 *i* P **P 19 56 51.1 -1.1**
comp=Z,3.9nm,0.8s
UTTA Uttaradit 54.50 255 P **P 19 56 56.7 +2.3**
comp=Z,16µm,0.9s
SHL Shillong 54.56 269 P **P 19 56 55.0 0.0**
SHL pmax pmax
comp=Z,26nm,0.4s
SHL Shillong 54.56 269 *e*P **P 19 56 55.0 0.0**
SHL Shillong 54.56 269 P **P 19 56 55.0 0.0**
AAK Ala-Archa 54.67 296 P **P 19 56 55.4 -0.2**
ARU Arti 54.68 318 *d* iP **P 19 56 54.4 -0.8**
ARU 19 58 54.7
ARU S **S 20 04 36.2 +3.6**
ARU SS **SS 20 08 15.5 +0.5**
ARU pmax pmax
comp=Z,26nm,0.9s
ARU Arti 54.68 318 *e*P **P 19 56 54.4 -0.8**
ARU Arti 54.68 318 P **P 19 56 53.7 -1.5**
CMMT Chiang Mai 54.74 258 P **P 19 56 57.5 +1.4**
comp=Z,9.0nm,1.0s
CHTO Chiang Mai 54.74 258 P **P 19 56 57.2 +1.1**
CHTO pmax pmax
comp=Z,16nm,1.0s
CHTO Chiang Mai 54.74 258 P **P 19 56 57.2 +1.1**
CHTO IAmb IAmb 19 57 12.3
comp=Z,16nm,0.9s
YBH Yreka Blue Hor 54.75 65 LR LR 20 15 58.0
comp=Z,48nm,20.0s,baz=355,slow=31
CHAI Chaiyaphum 54.97 253 P **P 19 56 59.2 +1.4**
comp=Z,30µm,0.9s
CM31 Chiang Mai Arr 55.00 257 P **P 19 56 58.7 +0.6**
CM31 IAmb IAmb 19 57 11.5
comp=Z,8.7nm,0.8s
CMAR Chiang Mai Arr 55.00 257 P **P 19 56 59.2 +1.2**
comp=Z,5.4nm,0.8s,baz=31,slow=7.0,SNR=38
CMAR LR LR 20 21 21.6
comp=Z,57nm,20.5s,baz=30,slow=37
PBKT Sadao Pong 55.11 254 P **P 19 57 01.6 +2.8**
comp=Z,5.2nm,0.7s,comp=Z,728nm
PBKT Sadao Pong 55.11 254 P **P 19 56 59.7 +0.9**
KSH Kashi 55.70 293 P **P 19 57 06.1 +3.1**
KSH pP sP 19 57 19.7 +4.0
KSH ScP **ScP 20 01 58.3 +0.1**
KSH S **S 20 04 48.1 +1.0**
KSH sS sS 20 05 09.3 +9.0
KSH pmax pmax
comp=Z,530nm,5.3s
KSH LR LR
comp=Z,820nm,5.9s
KSH LR LR
comp=Z,520nm,4.2s
KSH LR LR
comp=Z,250nm,4.9s
MHMT Maesarieng 55.86 258 P **P 19 57 07.3 +3.1**
comp=Z,21nm,1.0s,comp=Z,844nm
TAPN Taplejung 56.09 274 *e*P **P 19 57 06.6 +0.5**
ARCES ARCESS Array B 56.27 341 P **P 19 57 05.1 -1.4**
comp=Z,3.0nm,0.8s,baz=42,slow=8.1,SNR=5.1
PLID Pearl Lake 56.56 58 P **P 19 57 10.6 +1.4**
ODAN Odare 56.63 274 *e*P **P 19 57 11.3 +1.4**
UMPA Umpang Tak 56.72 256 P **P 19 57 14.8 +4.4**
comp=Z,26µm,0.9s
JIRN Jiri 56.87 275 *e*P **P 19 57 11.9 +0.1**
GUN Gumba 56.91 276 *e*P **P 19 57 12.5 +0.5**
comp=Z,11nm,0.4s
RAMN Ramite 57.08 274 *e*P **P 19 57 13.0 -0.1**
comp=Z,27nm,0.7s
KKN Kakani 57.38 276 *e*P **P 19 57 15.5 +0.3**
comp=Z,9.1nm,0.6s
PKI Pulchoki 57.44 276 *e*P **P 19 57 15.7 -0.1**
PKIN Phulchoki 57.45 276 *e*P **P 19 57 16.3 +0.6**
FFC Flin Flon 57.52 42 *i* P **P 19 57 17.0 +1.5**
DMN Daman 57.61 276 *e*P **P 19 57 17.5 +0.6**
comp=Z,33nm,0.9s
GKN Gorkha 57.66 277 *e*P **P 19 57 17.0 -0.1**
SUMG Summit 58.13 5 P **P 19 57 20.1 +0.1**
SUMG pmax pmax
comp=Z,23nm,1.1s
SUMG Summit 58.13 5 *i* P **P 19 57 20.0 +0.1**
comp=Z,69nm,1.1s
SUMG Summit 58.13 5 P **P 19 57 20.1 +0.1**
BTK Batken 58.45 296 P **P 19 57 21.7 -0.6**
BTK pmax pmax
comp=Z,5.0nm,1.0s
BTK Batken 58.45 296 P **P 19 57 21.7 -0.6**
KOLN Koldanda 58.49 277 *e*P **P 19 57 23.3 +0.3**
ABKAR Akbulak array 58.51 310 P **P 19 57 21.4 -1.1**
ABKAR IAmb IAmb 19 57 22.4
comp=Z,7.8nm,0.7s
PHET Kaeng Krachan 58.72 252 P **P** 19 57 31.1 +6.7
comp=Z,22µm,0.8s,comp=Z,315µm
GAR Garm 59.42 295 P **P 19 57 28.6 -0.6**
NVAR Mina Array Bea 59.45 65 LR LR 20 19 03.7
comp=Z,44nm,21.3s,baz=5.0,slow=32
ELK Elko 59.75 62 LR LR 20 19 45.3
comp=Z,37nm,19.9s,baz=3.0,slow=32
SCO Scoresbysund 60.66 359 P **P 19 57 37.2 +0.2**
SCO pmax pmax
comp=Z,30nm,1.7s
SCO Scoresbysund 60.66 359 P **P 19 57 37.2 +0.2**
NIL Nilore 61.16 289 P **P 19 57 41.6 +0.6**
NIL pmax pmax
comp=Z,17nm,0.9s
NIL Nilore 61.16 289 P **P 19 57 41.6 +0.6**
PDAR Pinedale Array 61.62 57 P **P 19 57 44.9 +0.7**
comp=Z,1.7nm,0.9s,baz=311,slow=3.0,SNR=9.4
FINES FINESS Array B 62.75 336 *i* P **P 19 57 50.0 -1.2**
FINES pmax pmax
comp=Z,6.0nm,1.0s
FINES FINESS Array B 62.75 336 P **P 19 57 49.0 -2.1**
comp=Z,6.4nm,1.0s,baz=36,slow=6.9,SNR=17
CCUT Cedar City 62.96 63 P **P 19 57 54.7 +1.5**
RSSD Black Hills 63.65 52 P **P 19 57 58.1 +0.4**
RSSD pmax pmax
comp=Z,35nm,1.8s
RSSD Black Hills 63.65 52 P **P 19 57 58.1 +0.4**
OBN Obninsk 64.50 326⇓ *e*P **P 19 58 02.5 -0.3**
OBN *e* 19 58 35.7
OBN *e* 20 00 21.9
OBN *e*S **S 20 06 43.6 +4.4**
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,132nm,16.0s
OBN Obninsk 64.50 326 *e*P **P 19 58 02.8 0.0**
PV22 Blue Mesa, Par 64.92 60 P **P 19 58 07.1 +1.0**
PV17 East Wray Mesa 65.00 60 P **P 19 58 07.6 +1.0**
PV17 IAmb IAmb 19 58 21.9
comp=Z,8.5nm,0.7s
PV13 Radium Mtn., P 65.16 60 P **P 19 58 08.5 +0.7**
PV13 IAmb IAmb 19 58 23.0
comp=Z,6.5nm,0.7s
VRH Novokhopyorsk 65.50 321 *e*P **P 19 58 07.2 -2.2**
VRH pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 65.56 323 *e*P **P 19 58 07.1 -2.7**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
ISCO Idaho Springs 65.81 57 P **P 19 58 13.1 +1.1**
ISCO pmax pmax
comp=Z,4.0nm,0.9s
ISCO Idaho Springs 65.81 57 P **P 19 58 13.1 +1.1**
VSR Storozhevoye 66.53 322 *e*P **P 19 58 14.7 -1.3**
VSR pmax pmax
comp=Z,10.0nm,0.9s
NB2 NORSAR Subarra 66.61 342 P **P 19 58 15.4 -1.0**
comp=Z,0.5nm,0.5s,baz=28,slow=6.2
NOA NORSAR Array B 66.61 342 P **P 19 58 14.0 -2.4**
comp=Z,1.2nm,0.9s,baz=21,slow=7.8,SNR=8.7
VORD Divnogorie 66.67 322 *e*P **P 19 58 14.7 -2.2**
VORD pmax pmax
comp=Z,10.0nm,1.2s
GEYT Alibeck 67.17 302 P **P 19 58 20.5 +0.1**
comp=Z,3.9nm,0.5s,baz=54,slow=4.1,SNR=21
GYA0B ALIBECK ARRAY 67.17 302 P **P 19 58 20.5 +0.1**
GYA0B IAmb IAmb 19 58 21.5
comp=Z,5.3nm,0.5s
HRA Herat 67.31 297 P **P 19 58 21.6 +0.1**
SCHQ Schefferville 70.24 25 P **P 19 58 39.5 +0.3**
KIV Kislovodsk 70.61 315 P **P 19 58 42.0 +0.2**
KIV Kislovodsk 70.61 315 *e*P **P 19 58 42.2 +0.4**
KIV pmax pmax
comp=Z,39nm,1.0s
KIV MLR MLR
comp=Z,129nm,17.0s
KIV Kislovodsk 70.61 315⇑ P **P 19 58 42.4 +0.6**
KIV mb 19 58 45.1
KIV Kislovodsk 70.61 315 *e*P **P 19 58 42.2 +0.4**
KBZ Khabaz 70.69 315 *i* P **P 19 58 42.5 +0.4**
KBZ Khabaz 70.69 315 P **P 19 58 42.2 +0.1**
comp=Z,6.4nm,0.8s,baz=63,slow=2.3,SNR=20
KBZ LR LR 20 34 14.9
comp=Z,103nm,18.0s,baz=0.0,slow=40
KBZ Khabaz 70.69 315 *e*P **P 19 58 42.5 +0.4**
AKASG Malin Array Be 70.70 327 *i* P **P 19 58 41.0 -1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 70.70 327 P **P 19 58 41.0 -1.0**
comp=Z,1.5nm,0.3s,baz=33,slow=6.4,SNR=5.5
AKASG LR LR 20 32 07.7
comp=Z,87nm,18.4s,baz=345,slow=38
WRA Warramunga Arr 71.52 202 *i* P **P 19 58 47.2 0.0**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 71.52 202 P **P 19 58 47.0 -0.3**
comp=Z,2.2nm,0.8s,baz=19,slow=6.5,SNR=13
AKH Akhalkalaki 72.20 313⇑ P **P 19 58 51.6 +0.1**
TX31 Lajitas Ar. Si 74.47 63 P **P 19 59 05.3 +0.3**
TX32 Lajitas Array 74.47 63 P **P 19 59 05.3 +0.4**
TX32 IAmb IAmb 19 59 07.8
comp=Z,22nm,1.9s
TXAR Lajitas Array 74.47 63 P **P 19 59 05.2 +0.3**
comp=Z,1.8nm,0.7s,baz=300,slow=3.9,SNR=20
ESK Eskdalemuir 74.48 348 P **P 19 59 04.3 -0.2**

ESK				pmax	pmax		
	comp=Z,41nm,1.3s						
ESK	Eskdalemuir	74.48	348	P	P	19 59 04.3	-0.2
KOLS	Kolonicke sedl	74.56	331	eP	P	19 59 05.2	+0.2
KOLS	Kolonicke sedl	74.56	331	eP	P	19 59 05.2	+0.2
LEOM	Leova	74.60	326	⇑P	P	19 59 02.0	-3.2
LEOM	Leova	74.60	326	⇑P	P	19 59 02.0	-3.2
BUR08	Bucovina Ar. S	74.69	328	P	P	19 59 05.6	-0.4
BUR08				IAmb	IAmb	19 59 09.0	
	comp=Z,21nm,1.6s						
BURAR	Bucovina Array	74.71	328	⇑P	P	19 59 05.9	-0.2
BURAR	Bucovina Array	74.71	328	⇑P	P	19 59 05.9	-0.2
OKC	Ostrava-Krasne	75.03	333	eP	P	19 59 08.5	+0.8
OKC	Ostrava-Krasne	75.03	333	eP	P	19 59 08.5	+0.8
DPC	Dobruska-Polom	75.09	335	eP	P	19 59 09.1	+0.9
DPC	Dobruska-Polom	75.09	335	eP	P	19 59 09.1	+0.9
CLL	Collm	75.11	337	P	P	19 59 07.7	-0.5
CLL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CLL	Collm	75.11	337	i P	P	19 59 07.4	-0.8
	comp=Z,11nm,1.0s						
CLL				LmV		20 38 00.0	
	comp=Z,100nm,18.7s						
CLL	Collm	75.11	337	P	P	19 59 07.7	-0.5
CLL				IAmb	IAmb	19 59 09.3	
	comp=Z,8.7nm,0.9s						
TRPA	Tarpa	75.17	330	⇓P	P	19 59 08.9	+0.4
TRPA				mb		19 59 09.3	
TRPA	Tarpa	75.17	330	eP	P	19 59 08.1	-0.5
ASAR	Alice Springs	75.20	201	P	P	19 59 09.5	+0.6
	comp=Z,0.9nm,0.8s,baz=12,slow=5.3,SNR=12						
KRLC	Kraliky	75.21	334	eP	P	19 59 08.8	0.0
KRLC	Kraliky	75.21	334	eP	P	19 59 08.8	0.0
LANS	Liptovska Anna	75.25	332	eP	P	19 59 10.3	+1.2
LANS				pmax	pmax		
	comp=Z,6.0nm,1.2s						
LANS	Liptovska Anna	75.25	332	eP	P	19 59 10.3	+1.2
MORC	Moravsky Berou	75.26	334	⇑P	P	19 59 09.5	+0.3
MORC	Moravsky Berou	75.26	334	⇑P	P	19 59 09.5	+0.3
MORC				mb		19 59 10.4	
MORC	Moravsky Berou	75.26	334	eP	P	19 59 09.4	+0.3
MORC	Moravsky Berou	75.26	334	P	P	19 59 09.5	+0.3
MORC				IAmb	IAmb	19 59 10.8	
	comp=Z,9.5nm,1.0s						
CFR	Carcaliu	75.73	325	⇑P	P	19 59 11.1	-0.7
CFR	Carcaliu	75.73	325	⇑P	P	19 59 11.1	-0.7
TOPG	Topolog	75.90	325	⇓P	P	19 59 17.5	+4.8
PRU	Pruhonice	75.91	336	eP	P	19 59 12.8	0.0
PRU	Pruhonice	75.91	336	eP	P	19 59 12.8	0.0
GOPC	GO Pecny, Ondr	75.91	335	eP	P	19 59 12.1	-0.7
GOPC	GO Pecny, Ondr	75.91	335	eP	P	19 59 12.1	-0.7
VRAC	Vranov	75.96	334	⇓P	P	19 59 13.5	+0.4
VRAC	Vranov	75.96	334	⇓P	P	19 59 13.5	+0.4
VRAC				mb		19 59 14.2	
VRAC	Vranov	75.96	334	eP	P	19 59 13.5	+0.4
VYHS	Vyhne	76.02	332	eP	P	19 59 14.1	+0.6
VYHS	Vyhne	76.02	332	eP	P	19 59 14.1	+0.6
LTVH	Ltavrtes, Hu	76.03	330	eP	P	19 59 16.0	+2.6
JAVC	Velka Javorina	76.05	333	eP	P	19 59 14.9	+1.3
DOPR	Dopca	76.07	327	⇑P	P	19 59 13.4	-0.4
PSZ	Piszkesteto	76.21	331	eP	P	19 59 15.1	+0.5
HARR	Harsova	76.22	325	⇑P	P	19 59 14.4	-0.2
HARR	Harsova	76.22	325	⇑P	P	19 59 14.4	-0.2
HARR				mb		19 59 15.1	
KRUC	Moravsky	76.23	334	eP	P	19 59 15.0	+0.4
TIRR	Tirgusor	76.24	324	⇑P	P	19 59 14.5	-0.2
TIRR	Tirgusor	76.24	324	⇑P	P	19 59 14.5	-0.2
MLR	Muntele Rosu	76.28	327	⇑P	P	19 59 15.8	+0.7
MLR	Muntele Rosu	76.28	327	⇑P	P	19 59 15.8	+0.7
MLR	Muntele Rosu	76.28	327	P	P	19 59 14.6	-0.5
MLR				IAmb	IAmb	19 59 16.7	
	comp=Z,9.3nm,0.9s						
ISR	Istrita	76.38	326	⇑P	P	19 59 15.9	+0.3
ISR	Istrita	76.38	326	⇑P	P	19 59 15.9	+0.3
SMOL	Smolenice	76.43	333	eP	P	19 59 17.0	+1.3
SMOL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SMOL	Smolenice	76.43	333	eP	P	19 59 17.0	+1.3
MODS	Modra-Piesok	76.60	333	eP	P	19 59 17.9	+1.2
MODS	Modra-Piesok	76.60	333	eP	P	19 59 17.9	+1.2
VOIR		76.64	327	⇑P	P	19 59 17.6	+0.5
VOIR		76.64	327	⇑P	P	19 59 17.6	+0.5
ARR	Arges	76.85	327	⇑P	P	19 59 19.1	+0.8
DSB	Dublin	76.92	349	P	P	19 59 18.7	+0.3
KHC	Kasperske Hory	76.95	336	eP	P	19 59 19.0	+0.2
KHC				e		19 59 31.3	
KHC				e		19 59 35.4	
KHC	Kasperske Hory	76.95	336	eP	P	19 59 19.0	+0.2
KHC				epP	sP	19 59 31.3	-0.1
KHC				esP	pwP	19 59 35.4	+4.3
KHC	Kasperske Hory	76.95	336	P	P	19 59 19.2	+0.4
BANOM	Banah	76.97	294	i P	P	19 59 19.5	+0.3
	SNR=16						
SHME	Shamm	76.97	295	i P	P	19 59 19.3	0.0
	SNR=9.6						
GRA1	Grafenberg Arr	77.05	338	P	P	19 59 20.2	+1.0
GRF	Grafenberg Arr	77.05	338	P	P	19 59 20.2	+1.0
GRF				pmax	pmax		
	comp=Z,30nm,1.2s						
SIRR	Siria	77.09	330	⇑P	P	19 59 19.4	-0.1
BATG	Bathurst New B	77.17	28	P	P	19 59 20.2	+0.3
GEC2	GERESS Array S	77.18	336	P	P	19 59 20.1	-0.1
GEC2				IAmb	IAmb	19 59 41.0	
	comp=Z,22nm,1.9s						
GERES	GERESS Array B	77.18	336	P	P	19 59 20.0	-0.1
GERES	GERESS Array B	77.18	336	P	P	19 59 20.0	-0.1
	comp=Z,1.9nm,0.5s,baz=37,slow=5.7,SNR=21						
CSKK	Cskako	77.21	332	eP	P	19 59 20.1	-0.1
MEM	Membach	77.40	341	P	P	19 59 21.3	+0.1
	comp=Z,20nm,1.1s						
CONA	Conrad Observa	77.41	334	i P	P	19 59 22.2	+0.8
	comp=Z,12nm,1.2s						
SOP	Sopron	77.43	333	eP	P	19 59 22.1	+0.7
MSFE	Esma-Masafi	77.48	294	i P	P	19 59 22.2	+0.1
	SNR=5.0						
GZR	Gura Zlata	77.48	328	⇑P	P	19 59 21.5	-0.3
GZR	Gura Zlata	77.48	328	⇑P	P	19 59 21.5	-0.3
BSTI	Sart Tilman	77.52	341	P	P	19 59 22.5	+0.7
MPLH	Magyarpolny	77.60	333	eP	P	19 59 23.0	+0.7
BZS	Buzias	77.68	329	⇑P	P	19 59 22.4	-0.4
BZS	Buzias	77.68	329	⇑P	P	19 59 22.4	-0.4
RAZG	Razgrad	77.72	325	⇑P	P	19 59 22.7	-0.4
BCLA	Clavier	77.73	341	⇓P	P	19 59 23.2	+0.2
UOSS	Minazif	77.76	294	i P	P	19 59 23.6	0.0
	SNR=16						
UOSS	Minazif	77.76	294	P	P	19 59 23.8	+0.2
HATD	Hatta, Dubai	77.89	294	i P	P	19 59 24.8	+0.5
	SNR=14						
MOA	Molln	77.94	335	i P	P	19 59 24.8	+0.5
	comp=Z,4.3nm,0.9s						
BMRD	Maredsous	77.95	342	P	P	19 59 24.4	+0.2
	comp=Z,18nm,1.2s						
ASHO	Ashiyiah	78.04	294	i P	P	19 59 25.5	+0.2
	SNR=11						
BR131	Keskin Array S	78.05	318	P	P	19 59 25.2	0.0
BR131				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BR131	Keskin Array S	78.05	318	P	P	19 59 25.2	0.0
BR131				IAmb	IAmb	19 59 26.8	
	comp=Z,10nm,0.9s						
BRTR	Keskin Array B	78.05	318	i P	P	19 59 25.2	0.0
BRTR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BRTR	Keskin Array B	78.05	318	P	P	19 59 25.2	0.0
	comp=Z,8.4nm,0.9s,baz=69,slow=3.3,SNR=24						
NAZ	Nazwa, Dubai	78.05	294	i P	P	19 59 25.5	+0.2
	SNR=9.5						
MORH	Mrgy, Hungar	78.11	331	eP	P	19 59 24.0	-1.2
ARSA	Arzberg	78.12	334	i P	P	19 59 25.9	+0.6
	comp=Z,8.4nm,1.2s						
DOU	Dourbes	78.18	342	⇓P	P	19 59 25.8	+0.3
ANTO	Ankara	78.30	319	⇑P	P	19 59 27.1	+0.6
ANTO	Ankara	78.30	319	⇑P	P	19 59 27.1	+0.6
ANTO				mb		19 59 27.9	
MDVR	Moldovita	78.38	329	⇑P	P	19 59 26.3	-0.5
ASUD	Al Ashush, Dub	78.52	294	i P	P	19 59 28.3	+0.5
	SNR=8.1						
PLVB	Pleven	78.57	326	⇑P	P	19 59 27.6	-0.2
SOKA	Soboth	78.78	334	i P	P	19 59 29.6	+0.6
	comp=Z,14nm,1.0s,SNR=6.9						
PERS	Pernice	78.80	334	i P	P	19 59 29.4	+0.4
KBA	Koelnbreinsper	78.89	335	i P	P	19 59 30.9	+1.1
	comp=Z,18nm,0.5s,SNR=12						
BFO	Black Forest	79.02	339	P	P	19 59 30.6	+0.4
BFO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BFO	Black Forest	79.02	339	P	P	19 59 30.6	+0.4
BFO				IAmb	IAmb	19 59 31.1	
	comp=Z,6.8nm,0.8s						
OBKA	Obir	79.08	334	i P	P	19 59 31.0	+0.4
	comp=Z,5.2nm,0.6s						
WATA	Walderalm	79.13	336	i P	P	19 59 31.7	+0.7
	comp=Z,7.6nm,0.6s						
WTTA	Wattenberg	79.18	336	i P	P	19 59 32.2	+0.9
	comp=Z,22nm,1.1s,SNR=7.9						
RETA	Reutte	79.20	337	i P	P	19 59 31.7	+0.4
	comp=Z,6.4nm,0.9s						
MYKA	Terra Mystica	79.22	335	i P	P	19 59 31.6	+0.1
	comp=Z,4.3nm,0.7s						
MOTA	Moosalm	79.25	337	i P	P	19 59 32.2	+0.5
	comp=Z,18nm,0.9s,SNR=5.8						
SQTA	Sankt Quirin	79.34	337	i P	P	19 59 32.8	+0.7
	comp=Z,13nm,1.0s,SNR=6.0						
ECH	Echery	79.40	340	P	P	19 59 32.8	+0.5
ECH				pmax	pmax		
	comp=Z,12nm,1.0s						
ECH	Echery	79.40	340	P	P	19 59 32.8	+0.5
ECH				IAmb	IAmb	19 59 33.3	
	comp=Z,12nm,1.0s						
ABTA	Abfaltersbach	79.43	336	i P	P	19 59 33.0	+0.4
	comp=Z,18nm,1.2s,SNR=5.3						
DAVA	Damuels	79.61	337	i P	P	19 59 34.0	+0.4
	comp=Z,11nm,0.9s						
FETA	Feichten	79.64	337	i P	P	19 59 32.7	-1.2
	comp=Z,5.6nm,0.7s						
VTS	Vitosha	79.74	327	⇑P	P	19 59 34.3	-0.2
VTS	Vitosha	79.74	327	⇑P	P	19 59 34.3	-0.2
VTS				mb		19 59 35.4	
VTS	Vitosha	79.74	327	P	P	19 59 34.2	-0.2
VTS				IAmb	IAmb	19 59 35.4	
	comp=Z,14nm,0.8s						
STAL	STALIGIAL	79.82	335	P	P	19 59 34.1	-0.5
STAL				IAmb	IAmb	19 59 34.7	
	comp=Z,8.0nm,0.9s						
TRI	Trieste	80.03	334	P	P	19 59 35.2	-0.5
TRI				pmax	pmax		
	comp=Z,18nm,1.2s						
TRI	Trieste	80.03	334	P	P	19 59 35.1	-0.5
TRI				IAmb	IAmb	19 59 35.7	
	comp=Z,18nm,1.2s						
FUORN	Ofenpass-Fuorn	80.14	337	P	P	19 59 37.5	+0.9
FUORN				IAmb	IAmb	19 59 37.9	
	comp=Z,9.0nm,0.7s						
RAR	Rarotonga	80.23	139	LR	LR	20 29 16.1	
	comp=Z,35nm,20.6s,baz=320,slow=31						
CTI	Castel Tesino	80.30	336	P	P	19 59 36.7	-0.6
CTI				pmax	pmax		
	comp=Z,12nm,1.1s						
CTI	Castel Tesino	80.30	336	P	P	19 59 36.7	-0.6
CTI				IAmb	IAmb	19 59 37.8	
	comp=Z,12nm,1.1s						
TUE	Stuetta	80.51	338	P	P	19 59 38.5	-0.1
TUE				IAmb	IAmb	19 59 40.1	
	comp=Z,15nm,0.9s						
MZR	Muzera	80.85	294	i P	P	19 59 40.9	+0.4
	SNR=9.8						
MANT	Manisa	81.24	321	P	P	19 59 42.3	-0.3
PDG	Podgorica	81.29	329	⇑P	P	19 59 41.9	-0.6
PDG	Podgorica	81.29	329	P	P	19 59 41.8	-0.6
PDG				IAmb	IAmb	19 59 42.9	
	comp=Z,19nm,1.0s						
STKA	Stephens Creek	81.73	193	P	P	19 59 45.6	+0.9
	comp=Z,1.8nm,0.9s,baz=306,slow=3.7,SNR=3.7						
VLC	Villacollemand	82.39	336	P	P	19 59 48.5	+0.2
VLC				IAmb	IAmb	19 59 57.9	
	comp=Z,10.0nm,0.8s						
MSSA	Maissana	82.47	337	P	P	19 59 48.9	0.0
MSSA				IAmb	IAmb	19 59 55.9	
	comp=Z,14nm,1.0s						
BNI	Bardonecchia	82.49	339	P	P	19 59 49.7	+0.7
BNI				pmax	pmax		
	comp=Z,11nm,1.2s						
BNI	Bardonecchia	82.49	339	P	P	19 59 49.6	+0.7
BNI				IAmb	IAmb	20 00 11.3	
	comp=Z,11nm,1.2s						
MURB	Monte Urbino	82.63	334	P	P	19 59 50.5	+0.8
OSSC	Osservatorio P	82.75	335	P	P	19 59 50.1	-0.1
OSSC				IAmb	IAmb	19 59 51.0	
	comp=Z,12nm,1.0s						
SSB	Saint Sauveur	82.77	340	P	P	19 59 50.6	+0.3
SSB				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SSB	Saint Sauveur	82.77	340	P	P	19 59 50.6	+0.3
SSB				IAmb	IAmb	19 59 51.9	
	comp=Z,5.6nm,0.7s						
NRCA	Norcia	82.85	334	P	P	19 59 51.7	+0.9
RAYN	Ar Rayn	85.09	301	i P	P	20 00 02.8	+0.2
	SNR=7.6						
RAYN	Ar Rayn	85.09	301	P	P	20 00 02.1	-0.4
RAYN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
RAYN	Ar Rayn	85.09	301	P	P	20 00 02.1	-0.4
RAYN				IAmb	IAmb	20 00 15.1	
	comp=Z,7.0nm,0.8s						
ESDC	Sonseca Array	89.84	345	P	P	20 00 24.7	-0.4
	comp=Z,0.3nm,0.4s,baz=6.4,slow=5.7,SNR=4.5						
KEST	Kesra	90.52	334	P	P	20 00 29.6	+1.2
	comp=Z,2.7nm,0.9s,baz=341,slow=4.7,SNR=6.4						
KEST	Kesra	90.52	334	P	P	20 00 28.4	0.0
KEST				IAmb	IAmb	20 00 41.3	
	comp=Z,7.0nm,0.9s						
CPUP	Villa Florida	145.42	61	PKPbc	PKPdf	20 07 04.2	0.0
	comp=Z,2.4nm,0.7s,baz=267,slow=5.0,SNR=5.8						

ISK ***12*** *20:18:49.2, 38.86N×25.90E, h7km, ML2.6/14*
ATH ***12*** *20:18:49.0, 38.87N×25.92E, h28km±1km, ML2.5/5, Error ellipse: s-maj=2.1km s-min=1.0km az=98.0*
THE ***12*** *20:18:49.5, 38.86N×25.81E, h3km±2km, ML2.4/5, Error ellipse: s-maj=2.8km s-min=0.8km az=84.0*
ISCJB ***12*** *20:18:50.3±0.4, 38.87N±0.02×25.87E±0.05, h20km±5km, Error ellipse: s-maj=6.2km s-min=3.7km az=7.6*
ISC 12 20:18:49.5±0.9**, 38.85N**±0.02×**25.88E**±0.03**, h16**km±8km**, n33, σ0.67**/49**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIGR	SIGRI	0.36	358	P	Pg	20 18 57.1	+0.1
SIGR				S	Sg	20 19 02.2	0.0
	638nm,0.4s						
SIGR	SIGRI	0.36	358	P	Pg	20 18 57.1	+0.1
SIGR				S	Sg	20 19 02.2	0.0
SIGR				AML	AML	20 19 02.7	
	comp=N,1402μm,0.2s						
SIGR				AML	AML	20 19 04.7	
	comp=E,1454μm,0.3s						
SIGR	SIGRI	0.36	358	PG	Pg	20 18 57.1	+0.1
SIGR				SG	Sg	20 19 01.9	-0.2
PSRA	Psara	0.39	219	P	Pn	20 18 59.6	-0.9
PSRA				S	Sb	20 19 05.2	+1.4
PSRA				AML	AML	20 19 10.2	
	comp=E,3849μm,0.2s						
PSRA				AML	AML	20 19 11.4	
	comp=N,2354μm,0.2s						
CHOS	Chios island	0.48	163	P	Pb	20 18 59.4	-0.2
CHOS				S	Sb	20 19 06.0	-0.5
	comp=N,1μm,0.2s						
CHOS	Chios island	0.48	163	P	Pb	20 18 59.4	-0.2
CHOS				S	Sb	20 19 06.1	-0.5
CHOS				AML	AML	20 19 07.4	
	comp=N,1471μm,0.3s						
CHOS				AML	AML	20 19 07.4	
	comp=E,3172μm,0.3s						
CHOS	Chios island	0.48	163	PG	Pb	20 18 59.4	-0.2
CHOS				SG	Sb	20 19 06.0	-0.5
PRK	Paraskevi	0.50	38	P	Pb	20 18 59.8	-0.2
PRK				S	Sb	20 19 07.7	+0.6
	comp=E,218nm,0.5s						
PRK	Paraskevi	0.50	38	P	Pb	20 18 59.8	-0.2
PRK				S	Sb	20 19 06.6	-0.5
PRK				AML	AML	20 19 11.4	
	comp=E,417μm,0.2s						
PRK				AML	AML	20 19 12.2	
	comp=N,455μm,0.3s						
DKL	Dikili	0.83	74	PG	Pg	20 19 05.8	+0.1
DKL				SG	Sg	20 19 16.9	+0.2
BOZC	Bozcaada	1.00	8	PG	Pb	20 19 07.9	-0.6
BLCB	Balcova	1.02	116	PG	Pg	20 19 09.3	0.0
EZN	Ezine	1.04	20	P	Pb	20 19 08.7	-0.4
EZN				S	Sn	20 19 24.0	+0.5
	comp=N,240nm,0.6s						
EZN	Ezine	1.04	20	PG	Pb	20 19 08.4	-0.7
GADA	Gvkgeada	1.34	1	P	Pb	20 19 13.9	-0.4
GADA				S	Sg	20 19 32.3	-0.6
GADA	Gvkgeada	1.34	1	PN	Pb	20 19 14.6	+0.3
SMG	Samos	1.37	146	P	Pg	20 19 15.7	-0.1
SMG				S	Sg	20 19 35.4	+1.8
	comp=N,210nm,0.4s						
SMG	Samos	1.37	146	P	Pn	20 19 14.0	+0.1
SMG				S	Sg	20 19 32.9	-0.7
SMG				AML	AML	20 19 35.5	
	comp=E,494μm,0.3s						
SMG				AML	AML	20 19 35.5	
	comp=N,341μm,0.4s						
KARY	Karystos	1.39	235	P	Pb	20 19 15.2	+0.1
GELI	Tayfur-Gelibol	1.62	16	PN	Pb	20 19 18.4	-0.5
SMTH	Samothraki Isl	1.64	351	P	Pn	20 19 17.2	-0.6
SMTH				S	Sn	20 19 38.4	-0.2
LPK	Lapseki	1.67	24	PN	Pb	20 19 19.2	-0.7
BALB	Balikesir	1.75	62	PN	Pb	20 19 20.2	-1.0
MRKA	Markates	1.79	266	P	Pb	20 19 21.5	-0.4
APE	Apeiranthos	1.80	189	P	Pn	20 19 20.3	+0.4
ERIK	Erikli-Kesan	1.89	15	PN	Pn	20 19 21.8	+0.8
KRBG	Karabiga-Canak	1.90	35	PN	Pb	20 19 22.4	-1.3
THAS	Thassos island	1.97	333	P	Pn	20 19 22.7	+0.5
ALN	Alexandroupoli	2.05	4	P	Pn	20 19 23.4	0.0
ALN				S	Sn	20 19 47.8	-0.7
ALN	Alexandroupoli	2.05	4	PN	Pn	20 19 24.6	+1.3
RKY	Sarkoy-Tekirda	2.09	28	PN	Pn	20 19 25.3	+1.3
MRMT	Marmara Adasi	2.20	37	PN	Pn	20 19 26.7	+1.3
RDO	Rodhopi	2.31	354	P	Pn	20 19 27.3	+0.5

ISCJB ***12*** *20:22:20.2±0.5, 7.03S±0.08×155.70E±0.05, h100km, mb4.5/14, Error ellipse: s-maj=12.3km s-min=6.6km az=16.4*
IDC ***12*** *20:22:21.9±1.7, 7.00S×155.71E, h103km±16km, mb3.7/10, mb1 3.9/14, mb1mx3.8/31, mbtmp4.1/14, MS3.1/10, Ms1 3.1/10, ms1mx2.9/32, Error ellipse: s-maj=18.7km s-min=11.9km az=21.0*
ISC 12 20:22:21.6±0.6**, 7.00S**±0.10×**155.72E**±0.07**, h100km, n30, σ0.70**/21**, mb4.0**/14**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	4.54	306	P	Pn	20 23 29.4	+1.3
	5.4nm,0.3s,baz=43,slow=2.5,SNR=4.0						
KRVT				LR	LR	20 25 09.5	
	comp=Z,239nm,21.2s,baz=107,slow=37						
HNR	Honiara	4.84	120	P	Pn	20 23 31.8	-0.4
	6.1nm,0.3s,baz=328,slow=2.5,SNR=5.6						
HNR				S	Sn	20 24 28.3	+1.3
	13nm,0.3s,baz=293,slow=17,SNR=4.7						
HNR				LR	LR	20 25 28.8	
	comp=Z,308nm,18.5s,baz=328,slow=39						
HNR	Honiara	4.84	120	P	Pn	20 23 32.0	-0.2
PMG	Port Moresby	8.80	254	P	Pn	20 24 26.4	+0.3
	6.2nm,0.3s,baz=53,slow=8.8,SNR=22						
PMG				S	Sn	20 26 03.5	-0.1
	1.2nm,0.3s,baz=344,slow=17,SNR=6.7						
PMG				LR	LR	20 27 11.9	
	comp=Z,113nm,21.6s,baz=59,slow=33						
JAY	Jayapura	15.60	286	LR	LR	20 31 07.5	
	comp=Z,63nm,20.3s,baz=67,slow=34						
DZM	Mont Dzumac	18.21	146	P	P	20 26 26.5	-0.6
	0.4nm,0.3s,baz=332,slow=17,SNR=6.5						
DZM				LR	LR	20 32 18.9	
	comp=Z,74nm,18.5s,baz=219,slow=33						
GUMO	Guam	23.12	332	LR	LR	20 34 54.5	
	comp=Z,65nm,19.1s,baz=108,slow=33						
WRA	Warramunga Arr	24.41	236	P	P	20 27 30.3	-0.7
	1.5nm,0.6s,baz=61,slow=10.0,SNR=22						
SIJI	Sorong	25.13	283	P	P	20 27 36.9	-0.7
	4.6nm,0.6s,baz=95,slow=22,SNR=4.6						
ASAR	Alice Springs	26.71	229	PcP	PcP	20 31 13.7	+0.7
	0.4nm,0.5s,baz=66,slow=2.9,SNR=7.1						
H11S3	WAKE ISLAND Hy	27.55	23	T	T	20 56 26.4	
	baz=203,slow=75,SNR=64						
H11S2	WAKE ISLAND Hy	27.55	23	T	T	20 56 26.5	
	baz=203,slow=75,SNR=59						
H11S1	WAKE ISLAND Hy	27.57	23	T	T	20 56 20.0	
	baz=203,slow=75,SNR=40						
STKA	Stephens Creek	28.04	206	P	P	20 28 04.1	+0.5
	2.0nm,0.7s,baz=23,slow=14,SNR=4.5						
STKA				LR	LR	20 39 14.7	
	comp=Z,78nm,19.3s,baz=26,slow=36						
DAV	Davao City (W)	33.15	294	LR	LR	20 39 39.1	
	comp=Z,32nm,21.8s,baz=321,slow=31						
KSRS	Korea Array	51.28	332	LR	LR	20 51 37.5	
	comp=Z,19nm,20.4s,baz=35,slow=34						
UTTA	Uttaradit	59.75	295	P	P	20 32 29.0	+12
	13μm,1.2s						
SRDT	SRDT	60.01	291	P	P	20 32 31.0	+13
	8.2nm,1.1s,697nm						
PHRA	Phrae	60.29	296	P	P	20 32 33.1	+13
	1.3nm,1.1s,949nm						
PAYA	Payao	60.90	297	P	P	20 32 37.4	+13
	16μm,0.8s,202μm						
CMAR	Chiang Mai Arr	61.43	295	P	P	20 32 28.3	+0.4
	1.5nm,0.6s,baz=118,slow=5.2,SNR=22						
CMAR				LR	LR	20 56 54.5	
	comp=Z,5.1nm,21.6s,baz=345,slow=34						
CMMT	Chiang Mai	61.54	296	P	P	20 32 41.4	+13
SONM	Songino Array	69.73	327	P	P	20 33 21.2	+0.3
	0.4nm,0.5s,baz=108,slow=7.1,SNR=6.2						
VNDA	Vanda	70.56	179	P	P	20 33 25.5	+0.1
	1.1nm,0.9s,baz=354,slow=3.7,SNR=3.8						
QSPA	South Pole Qui	82.98	180	P	P	20 34 36.0	+0.4
	1.2nm,0.2s,baz=336,slow=1.8,SNR=3.9						
ILAR	Eielson Array	83.12	21	P	P	20 34 35.0	-1.1
	0.5nm,0.5s,baz=253,slow=4.7,SNR=5.8						
MKAR	Makanchi Array	83.88	319	P	P	20 34 40.6	+0.2
	0.6nm,0.6s,baz=106,slow=5.7,SNR=9.3						
YKA	Yellowknife Ar	96.01	28	P	P	20 35 36.9	-0.4
	0.3nm,0.5s,baz=265,slow=4.8,SNR=4.7						
GERES	GERESS Array B	127.42	329	PKP	PKPdf	20 41 15.4	+0.4
	0.2nm,0.2s,baz=70,slow=1.6,SNR=5.0						
TORD	Torodi Ar. Bea	153.72	286	PKPbc	PKPbc	20 42 09.5	-0.6
	0.7nm,0.7s,baz=12,slow=3.4,SNR=7.8						
TORD				PKPab	PKPab	20 42 22.1	-1.1
	0.6nm,0.5s,baz=73,slow=2.3,SNR=6.9						

GCG ***12*** *20:35:07.5±1.6, 13.67N×92.34W, h74km±131km, MD4.3*
IDC ***12*** *20:35:07.7±1.0, 13.70N×92.02W, h0km, mb4.1/8, mb1 4.4/11, mb1mx4.1/40, mbtmp4.2/11, ML4.3/3, MS3.5/8, Ms1 3.5/8, ms1mx3.1/33, Error ellipse: s-maj=26.8km s-min=18.0km az=33.0*
UCR ***12*** *20:35:12.0±2.5, 13.72N×92.08W, h33km, MD3.9, ML4.1, mb4.3(NEIC)*
SNET ***12*** *20:35:13.8±2.3, 13.79N×91.96W, h33km, ML4.3*
MEX ***12*** *20:35:14.7±0.5, 14.11N×91.99W, h74km±25km, MD4.1*
NEIC ***12*** *20:35:16.4±1.5, 14.08N±0.09×91.85W±0.09, h46km±10km, mb4.3/44, Md4.1(MEX)*
ISC 12 20:35:10.9±2.4**, 13.91N**±0.06×**92.08W**±0.05**, h15**km±14km**, n131, σ1.49**/145**, mb4.3**/24**, MS3.5**/7**, 2C-3D, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERG	Entre ros, C	0.73	43	eP	Pn	20 35 27.7	+1.0
STG3	Santiaguito 3,	0.94	32	⇓eP	Pn	20 35 29.7	0.0
THIG		1.01	350	i P	Pb	20 35 30.3	+0.1
THIG				i S	Sb	20 35 42.0	-1.3
THIG		1.01	350		Pb	20 35 30.3	+0.1
THIG					Sb	20 35 42.0	-1.3
FUG	Fuego 3	1.32	66	eP	Pn	20 35 34.9	0.0
FUG	Fuego 3	1.32	66	eP	Pn	20 35 34.9	0.0
PCG	Pacaya	1.51	71	eP	Pn	20 35 38.2	+0.6
PCG	Pacaya	1.51	71	eP	Pn	20 35 38.2	+0.6
IXG	Ixpaco	1.61	80	⇑eP	Pn	20 35 38.0	-1.0
IXG	Ixpaco	1.61	80	⇑eP	Pn	20 35 38.0	-1.0
NBG	Las Nubes	1.81	68	eP	Pb	20 35 43.6	-0.4
NBG				eS	Sg	20 36 09.2	-0.1
NBG	Las Nubes	1.81	68	eP	Pb	20 35 43.6	-0.4
NBG				eS	Sg	20 36 09.2	-0.1
APG	El Apazote	1.91	55	Pn	Pn	20 35 44.2	+1.1
	99nm,0.3s,baz=251,slow=23,SNR=359						
APG				Sn	Sb	20 36 09.9	+0.6
	86nm,0.3s,baz=251,slow=23,SNR=6.3						

PCIG		**2.10**	**329**	*i* P		**Pn**	**20 35 44.9**	**-0.7**
PCIG				*i* S		**Sn**	**20 36 08.0**	**-3.4**
PCIG		**2.10**	**329**			**Pn**	**20 35 44.9**	**-0.7**
PCIG						**Sn**	**20 36 08.0**	**-3.4**
RTR	**El Retiro**	**2.36**	**90**	*e*P		**Pn**	**20 35 50.1**	**+0.8**
RTR	**El Retiro**	**2.36**	**90**	*e*P		**Pn**	**20 35 50.1**	**+0.8**
CCIG	**Comitan**	**2.36**	**359**	*e*P		**Pb**	**20 35 52.3**	**-1.0**
CCIG				*i* S		**Sn**	**20 36 15.8**	**-2.4**
CCIG	**Comitan**	**2.36**	**359**			**Pb**	**20 35 51.9**	**-1.5**
CCIG	**Comitan**	**2.36**	**359**			**Pb**	**20 35 52.3**	**-1.0**
CCIG						**Sn**	**20 36 15.8**	**-2.4**
CEVE	**Cerro Verde**	**2.39**	**92**	*e*P		**Pn**	**20 35 50.2**	**+0.5**
CEVE				*e*S		**Sn**	**20 36 19.1**	**+0.3**
CEVE				IAML			20 36 28.9	
	comp=Z,6μm,0.5s							
CEVE	**Cerro Verde**	**2.39**	**92**	*e*P		**Pn**	**20 35 50.2**	**+0.5**
CEVE				*e*S		**Sn**	**20 36 19.1**	**+0.3**
CEVE				IAML			20 36 28.9	
	comp=Z,6μm,0.5s							
SNJE	**San Jose**	**2.40**	**91**	*e*P		**Pn**	**20 35 49.9**	**0.0**
SNJE	**San Jose**	**2.40**	**91**	*e*P		**Pn**	**20 35 49.9**	**0.0**
MRL	**Marmol**	**2.60**	**63**	*e*P		**Pb**	**20 35 56.5**	**-0.9**
MRL	**Marmol**	**2.60**	**63**	*e*P		**Pb**	**20 35 56.5**	**-0.9**
MTO3	**Montecristo**	**2.68**	**79**	⇓*i*P		**Pn**	**20 35 53.5**	**-0.2**
MTO3				IAML			20 36 35.4	
	comp=Z,248nm,0.4s							
MTO3	**Montecristo**	**2.68**	**79**	⇓*i*P		**Pn**	**20 35 53.5**	**-0.2**
MTO3				IAML			20 36 35.4	
	comp=Z,248nm,0.4s							
BOQS	**Boqueron**	**2.72**	**93**	*e*P		**Pn**	**20 35 54.2**	**-0.2**
BOQS				*e*S		**Sn**	**20 36 26.3**	**-0.8**
SNET	**Serv Nac Est T**	**2.77**	**94**	*e*S		**Sn**	**20 36 27.0**	**-1.2**
SNET	**Serv Nac Est T**	**2.77**	**94**	*e*S		**Sn**	**20 36 27.0**	**-1.2**
SNET	**Serv Nac Est T**	**2.77**	**94**			**Sn**	**20 36 54.9**	**0.0**
LFU	**La Fuente**	**2.88**	**93**	*e*P		**Pn**	**20 35 56.4**	**0.0**
LFU	**La Fuente**	**2.88**	**93**	*e*P		**Pn**	**20 35 56.4**	**0.0**
LFRS	**El Faro**	**2.94**	**95**	*e*P		**Pn**	**20 35 57.0**	**-0.3**
TGIG		**3.03**	**341**	*i* P		**Pn**	**20 36 00.4**	**+2.0**
TGIG				*e*S		**Sn**	**20 36 35.8**	**+1.4**
TGIG		**3.03**	**341**			**Pn**	**20 36 00.4**	**+2.0**
TGIG						**Sn**	**20 36 35.8**	**+1.4**
PAVA	**Las Pavas**	**3.06**	**93**	*e*P		**Pn**	**20 35 59.1**	**+0.2**
PAVA	**Las Pavas**	**3.06**	**93**	*e*P		**Pn**	**20 35 59.1**	**+0.2**
COEG	**Centro de Oper**	**3.12**	**95**	*e*P		**Pn**	**20 36 00.1**	**+0.4**
COEG				IAML			20 36 47.7	
	comp=Z,933nm,0.3s							
TECA	**Tecapa**	**3.50**	**96**	*e*P		**Pn**	**20 36 05.0**	**0.0**
TECA	**Tecapa**	**3.50**	**96**	*e*P		**Pn**	**20 36 05.0**	**0.0**
CMIG	**Matias Romero**	**4.17**	**320**	Pn		**Pn**	**20 36 14.3**	**+0.3**
	comp=Z,4.6nm,0.3s,baz=137,slow=8.5,SNR=19							
CMIG	**Matias Romero**	**4.17**	**320**	*e*P		**Pn**	**20 36 14.2**	**+0.3**
CMIG				*i* S		**Sn**	**20 37 00.9**	**-1.5**
CMIG	**Matias Romero**	**4.17**	**320**			**Pn**	**20 36 14.2**	**+0.3**
CMIG						**Sn**	**20 37 00.9**	**-1.5**
CNCH	**Conchagua**	**4.17**	**98**	*e*P		**Pn**	**20 36 15.6**	**+1.4**
CNCH				IAML			20 37 21.7	
	comp=Z,1μm,0.4s							
CNCH	**Conchagua**	**4.17**	**98**	*e*P		**Pn**	**20 36 15.6**	**+1.4**
CNCH				IAML			20 37 21.7	
	comp=Z,1μm,0.4s							
TGUH	**Tegucigalpa,Un**	**4.67**	**88**	Pn		**Pn**	**20 36 21.9**	**+0.9**
ESTN	**Estel**	**5.61**	**98**			**Pn**	**20 36 34.6**	**+0.7**
TEIG	**Tepich**	**7.26**	**30**	Pn		**Pn**	**20 36 58.4**	**+1.9**
	comp=Z,24nm,0.3s,baz=138,slow=0.6,SNR=58							
ESPN	**Las Esperanzas**	**7.77**	**102**	Pn		**Pn**	**20 37 05.2**	**+1.7**
JTS	**Las Juntas de**	**7.84**	**116**	Pn		**Pn**	**20 37 06.5**	**+2.0**
TXAR	**Lajitas Array**	**18.73**	**327**	P		**Pn**	**20 39 31.9**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=152,slow=11,SNR=21							
TX31	**Lajitas Ar. Si**	**18.73**	**327**	P		**Pn**	**20 39 30.8**	**+1.1**
TX32	**Lajitas Array**	**18.73**	**327**	P		**Pn**	**20 39 31.0**	**+1.3**
LPIG	**La Paz**	**19.98**	**303**	LR		LR	20 46 06.7	
	comp=Z,46nm,19.4s,baz=31,slow=33							
X48A	**Hartselle**	**20.96**	**12**	P		**P**	**20 39 54.2**	**+0.8**
X48A				IAmb		IAmb	20 40 01.3	
	comp=Z,9.5nm,0.8s							
CLNB	**Carlsbad**	**21.22**	**331**	P		**P**	**20 39 58.8**	**+2.4**
GDL2	**Guadalupe Moun**	**21.40**	**330**	P		**P**	**20 40 00.3**	**+2.0**
MNTX	**Cornudas Mount**	**21.50**	**328**	P		**P**	**20 40 00.3**	**+0.9**
MNTX				IAmb		IAmb	20 40 02.0	
	comp=Z,10nm,0.9s							
SDV	**Santo Domingo**	**21.60**	**101**	P		**P**	**20 39 57.8**	**-2.9**
	comp=Z,1.7nm,0.4s,baz=294,slow=6.0,SNR=4.7							
SDV	**Santo Domingo**	**21.60**	**101**	P		**P**	**20 39 57.6**	**-3.1**
WMOK	**Wichita Mounta**	**21.61**	**345**	P		**P**	**20 40 00.8**	**+0.3**
FNO	**Franklin**	**21.80**	**348**	P		**P**	**20 40 02.9**	**+0.5**
LCAR	**Lake Charles**	**22.09**	**2**	P		**P**	**20 40 05.4**	**-0.1**
MSTX	**Muleshoe**	**22.21**	**336**	P		**P**	**20 40 06.8**	**-0.2**
MSTX				IAmb		IAmb	20 40 09.0	
	comp=Z,8.2nm,0.8s							
V48A	**Smith Brothers**	**22.25**	**11**	P		**P**	**20 40 06.5**	**-0.7**
V48A				IAmb		IAmb	20 40 09.5	
	comp=Z,15nm,1.1s							
WVT	**Waverly**	**22.46**	**9**	P		**P**	**20 40 08.2**	**-1.3**
WVT				IAmb		IAmb	20 40 13.7	
	comp=Z,31nm,1.8s							
AMTX	**Amarillo**	**22.62**	**339**	P		**P**	**20 40 11.3**	**0.0**
AMTX				IAmb		IAmb	20 40 12.9	
	comp=Z,19nm,0.6s							
PBMO	**Poplar Bluff**	**22.83**	**3**	P		**P**	**20 40 12.5**	**-0.9**
PBMO				IAmb		IAmb	20 40 13.1	
	comp=Z,8.3nm,0.6s							
TKL	**Tuckaleechee C**	**22.91**	**18**	LR		LR	20 49 58.8	
	comp=Z,185nm,18.7s,baz=204,slow=39							
T47A	**Sharon Grove**	**23.41**	**10**	P		**P**	**20 40 17.4**	**-1.9**
T47A				IAmb		IAmb	20 40 18.3	
	comp=Z,14nm,1.1s							
121A	**Cookes Peak, D**	**23.44**	**325**	P		**P**	**20 40 22.6**	**+2.7**
121A				IAmb		IAmb	20 40 24.3	
	comp=Z,12nm,1.0s							
319A	**Douglas**	**23.49**	**321**	P		**P**	**20 40 23.2**	**+2.8**
SIUC	**Southern Illin**	**23.85**	**6**	P		**P**	**20 40 22.3**	**-1.3**
BNM	**Barren Site**	**24.09**	**329**	P		**P**	**20 40 27.9**	**+1.7**
LPM	**Los Pinos Moun**	**24.22**	**330**	P		**P**	**20 40 29.1**	**+1.8**
LENM	**Lemitar**	**24.27**	**329**	P		**P**	**20 40 29.9**	**+2.1**
ANMO	**Albuquerque**	**24.64**	**331**	P		**P**	**20 40 32.7**	**+1.4**
	comp=Z,4.6nm,0.9s,baz=150,slow=13,SNR=13							
ANMO	**Albuquerque**	**24.64**	**331**	P		**P**	**20 40 32.6**	**+1.4**
SLM	**Saint Louis**	**24.69**	**3**	P		**P**	**20 40 31.3**	**0.0**
ATAH	**Atahualpa**	**24.93**	**146**	LR		LR	20 48 52.8	
	comp=Z,94nm,18.2s,baz=356,slow=33							
OLIL	**Olney**	**24.98**	**7**	P		**P**	**20 40 33.3**	**-0.7**
SJG	**San Juan**	**25.26**	**77**	LR		LR	20 50 22.6	
	comp=Z,81nm,20.3s,baz=278,slow=36							
KSU1	**Kansas State U**	**25.41**	**352**	P		**P**	**20 40 39.5**	**+1.6**
PCRV	**Puerto La Cruz**	**27.09**	**95**	LR		LR	20 53 07.4	
	comp=Z,127nm,20.0s,slow=40							
MVCO	**Mesa Verde**	**27.45**	**331**	P		**P**	**20 40 57.6**	**+1.0**
MVCO				IAmb		IAmb	20 40 59.8	
	comp=Z,8.5nm,1.0s							
WUAZ	**Wupatki**	**27.65**	**324**	P		**P**	**20 41 00.4**	**+2.0**
U15A	**North Rim**	**28.82**	**325**	P		**P**	**20 41 11.0**	**+2.0**
U15A				IAmb		IAmb	20 42 06.5	
	comp=Z,14nm,1.9s							
PKCU	**Pink Cliffs**	**29.57**	**326**	P		**P**	**20 41 17.3**	**+1.7**
SZCU	**Shurtz Canyon**	**30.10**	**325**	P		**P**	**20 41 22.4**	**+2.2**
CCUT	**Cedar City**	**30.22**	**325**	P		**P**	**20 41 23.8**	**+2.5**
P17A	**Butcher Ranch,**	**30.31**	**331**	P		**P**	**20 41 23.7**	**+1.7**
PSUT	**Pine Spring**	**31.20**	**326**	P		**P**	**20 41 31.9**	**+2.1**
HWUT	**Hardware Ranch**	**32.38**	**332**	P		**P**	**20 41 42.3**	**+2.1**
HWUT				IAmb		IAmb	20 41 43.0	
	comp=Z,3.3nm,0.8s							
PDAR	**Pinedale Array**	**32.48**	**336**	P		**P**	**20 41 43.4**	**+2.3**
	comp=Z,1.0nm,0.9s,baz=138,slow=9.6,SNR=3.9							
PDAR				PcP		**PcP**	**20 44 28.9**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=134,slow=4.3,SNR=3.5							
BGU	**Big Grassy Mou**	**32.54**	**330**	P		**P**	**20 41 43.0**	**+1.4**
REDW	**Red Top Meadow**	**33.50**	**335**	P		**P**	**20 41 50.8**	**+0.8**
ELK	**Elko**	**33.53**	**327**	P		**P**	**20 41 52.2**	**+1.9**
ELK				IAmb		IAmb	20 41 54.5	
	comp=Z,2.8nm,0.8s							
SNOW	**Snow King Moun**	**33.54**	**335**	P		**P**	**20 41 51.5**	**+1.1**
NV11	**Mina Array Sit**	**33.61**	**321**	P		**P**	**20 41 53.0**	**+2.1**
NV11				IAmb		IAmb	20 41 54.5	
	comp=Z,4.0nm,0.9s							
NVAR	**Mina Array Bea**	**33.70**	**321**	P		**P**	**20 41 54.4**	**+2.6**
	comp=Z,3.1nm,0.7s,baz=132,slow=8.6,SNR=28							
NVAR				PcP		**PcP**	**20 44 32.2**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=136,slow=3.8,SNR=4.5							
NVAR				LR		LR	20 57 58.3	
	comp=Z,92nm,20.1s,baz=97,slow=40							
KVN	**Kaiserville**	**33.97**	**322**	P		**P**	**20 41 55.9**	**+1.8**
KVN				IAmb		IAmb	20 41 57.4	
	comp=Z,4.5nm,1.1s							

MCMT	**McKenzie Canyo**	**35.52**	**334**	P		**P**	**20 42 09.2**	**+1.7**
BEKR	**Beckworth**	**35.84**	**321**	P		**P**	**20 42 12.3**	**+2.0**
WVOR	**Wild Horse Val**	**36.53**	**326**	P		**P**	**20 42 18.1**	**+2.0**
WVOR				IAmb		IAmb	20 42 23.3	
	comp=Z,3.9nm,1.0s							
PLID	**Pearl Lake**	**37.12**	**332**	P		**P**	**20 42 21.9**	**+0.7**
PLID				IAmb		IAmb	20 42 22.8	
	comp=Z,3.7nm,0.8s							
F10A	**Beach Ranch, E**	**38.36**	**331**	P		**P**	**20 42 32.2**	**+0.7**
SIV	**San Ignacio**	**42.68**	**133**	P		**P**	**20 43 05.6**	**-1.9**
	comp=Z,1.1nm,0.9s,baz=297,slow=10.0,SNR=4.2							
SCHQ	**Schefferville**	**45.34**	**20**	LR		LR	21 03 05.2	
	comp=Z,187nm,20.1s,baz=183,slow=37							
YKA	**Yellowknife Ar**	**51.10**	**347**	P		**P**	**20 44 11.5**	**-1.1**
	comp=Z,2.5nm,0.6s,baz=148,slow=7.6,SNR=33							
YKA				PcP		**PcP**	**20 45 27.6**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=148,slow=3.9,SNR=12							
CPUP	**Villa Florida**	**52.36**	**140**	LR		LR	21 05 59.1	
	comp=Z,44nm,20.4s,baz=347,slow=36							
ILAR	**Eielson Array**	**62.90**	**337**	P		**P**	**20 45 35.3**	**-0.9**
	comp=Z,2.3nm,0.9s,baz=130,slow=4.0,SNR=13							
TULEG	**Thule**	**63.82**	**6**	P		**P**	**20 45 42.3**	**+0.1**
MLY	**Manley**	**64.49**	**336**	P		**P**	**20 45 47.5**	**+0.7**
TIXI	**Tiksi**	**90.33**	**348**	P		**P**	**20 48 10.0**	**-1.0**
	comp=Z,2.5nm,0.6s,baz=60,slow=5.5,SNR=12							
TIXI	**Tiksi**	**90.33**	**348**	P		**P**	**20 48 09.9**	**-1.1**
TIXI				IAmb		IAmb	20 48 10.9	
	comp=Z,3.6nm,0.8s							
MODS	**Modra-Piesok**	**92.10**	**39**	*e*P		**P**	**20 48 18.0**	**-1.8**
VYHS	**Vyhne**	**93.00**	**38**	*e*P		**P**	**20 48 23.1**	**-0.8**
SONM	**Songino Array**	**116.36**	**346**	PKP		**PKPdf**	**20 53 54.7**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=324,slow=1.8,SNR=3.6							
WMQ	**Urumqi**	**122.56**	**0**	*e*P		**PKPdf**	**20 54 05.4**	**-0.9**
KSH	**Kashi**	**125.70**	**11**	*e*PKP		**PKiKP**	**20 54 14.4**	**+1.5**
KSH				sPKP			20 54 29.4	
KSH				PP		**PP**	**20 56 10.4**	**+7.4**
KSH				PKS		**PKSdf**	**20 57 49.0**	**-0.3**
KSH				SKKS			21 02 58.5	
KSH				AMB		AMB		
	comp=Z,580nm,5.3s							
LZH	**Lanzhou**	**128.05**	**344**	*e*PKP		**PKPdf**	**20 54 16.7**	**-0.4**
LZH				pPKP		sPKPdf	20 54 32.8	+8.8
LZH				sPKP			20 54 39.2	
PHRA	**Phrae**	**145.59**	**339**	P		**PKPbc**	**20 54 49.7**	**0.0**
CMMT	**Chiang Mai**	**145.72**	**341**	P		**PKPbc**	**20 54 50.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**146.06**	**341**	*i* P		**PKPdf**	**20 54 50.5**	**+0.1**
CMAR				pmax		pmax		
	comp=Z,7.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**146.06**	**341**	PKPbc		**PKPdf**	**20 54 50.2**	**-0.3**
	comp=Z,6.9nm,0.7s,baz=333,slow=3.4,SNR=56							
UTTA	**Uttaradit**	**146.17**	**338**	P		**PKPab**	**20 54 52.1**	**0.0**
MHMT	**Maesarieng**	**146.63**	**343**	P		**PKiKP**	**20 54 55.0**	**-0.8**
CHAI	**Chaiyaphum**	**147.28**	**334**	P		**PKPab**	**20 54 56.3**	**-0.2**
UTHA	**Uthaitani**	**148.59**	**338**	P		**PKPbc**	**20 54 58.9**	**+0.6**

IGQ ***12*** *20:35:25.2±0.9, 1°N±7°×8°0W±°, h10km, Mjma3.6, ML4.2, MLv3.8*
ISC 12 20:35:24.4±2.6, 0.76N±0.08×80.1W±0.1, h13km, n32, σ0.92/37, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**0.90**	**156**	P	**Pg**	**20 35 40.5**	**-1.3**
PAC1	**Pacto, Paraso**	**1.43**	**110**	P	**Pn**	**20 35 49.2**	**-1.0**
PAC1				S	**Sb**	**20 36 10.1**	**+0.9**
OTAV	**Otavalo**	**1.76**	**107**	*e*P	**Pn**	**20 35 54.7**	**-0.3**
OTAV				*e*S	**Sn**	**20 36 18.4**	**+0.8**
OTAV	**Otavalo**	**1.76**	**107**	*e*P	**Pn**	**20 35 54.7**	**-0.3**
OTAV				*e*S	**Sn**	**20 36 18.4**	**+0.8**
OTAV	**Otavalo**	**1.76**	**107**	P	**Pn**	**20 35 54.8**	**-0.3**
PULU	**Pululahua**	**1.79**	**114**	P	**Pn**	**20 35 55.4**	**0.0**
PULU				S	**Sb**	**20 36 19.7**	**-0.1**
TERV	**Terraza Guagua**	**1.79**	**121**	P	**Pn**	**20 35 55.0**	**-0.5**
YANA	**Yana**	**1.79**	**119**	P	**Pn**	**20 35 55.0**	**-0.4**
CUSE	**Cuicocha Este**	**1.79**	**104**	P	**Pn**	**20 35 55.7**	**+0.2**
CUSE				S	**Sn**	**20 36 18.8**	**+0.4**
GGPC	**Guagua Pichinc**	**1.80**	**121**	P	**Pn**	**20 35 55.0**	**-0.6**
CUIC	**Cuicocha-Domo**	**1.83**	**104**	P	**Pn**	**20 35 56.2**	**+0.2**
CUSW	**Cuicocha Oeste**	**1.84**	**105**	P	**Pn**	**20 35 56.5**	**+0.4**
COTA	**Cotacachi**	**1.84**	**103**	P	**Pn**	**20 35 57.0**	**+0.7**
URCU	**Urcuqui**	**1.91**	**99**	P	**Pn**	**20 35 57.0**	**0.0**
IMBA	**Imbabura, San**	**1.99**	**104**	P	**Pn**	**20 35 59.8**	**+1.6**
BNAS	**Cotopaxi Volca**	**2.18**	**131**	P	**Pn**	**20 36 01.5**	**+0.6**
BREF	**Cotopaxi Volca**	**2.21**	**130**	P	**Pn**	**20 36 03.1**	**+1.7**
VC1	**Cotopaxi 1**	**2.22**	**129**	P	**Pn**	**20 36 01.9**	**+0.5**
BVC2	**Cotopaxi Volca**	**2.22**	**129**	P	**Pn**	**20 36 02.4**	**+0.9**
BTAM	**Cotopaxi Volca**	**2.25**	**129**	P	**Pn**	**20 36 02.5**	**+0.7**
ANTG	**Antisana-Guama**	**2.26**	**124**	P	**Pn**	**20 36 02.8**	**+0.8**
ANTS	**Antisana-Sarah**	**2.33**	**122**	P	**Pn**	**20 36 03.9**	**+1.0**
TULM	**Tulcn-Chalpat**	**2.35**	**91**	P	**Pb**	**20 36 06.1**	**-0.8**
PISA	**Pisayambo**	**2.51**	**136**	P	**Pn**	**20 36 06.8**	**+1.4**
BULB	**Ulba Tungurahu**	**2.78**	**142**	P	**Pn**	**20 36 10.6**	**+1.6**
BPAT	**Tungurahua Vol**	**2.82**	**143**	P	**Pn**	**20 36 10.9**	**+1.3**
GCUF	**Volcan Galeras**	**2.83**	**80**	*e*P	**Pn**	**20 36 11.0**	**+1.2**
GCUF	**Volcan Galeras**	**2.83**	**80**	*e*P	**Pn**	**20 36 11.0**	**+1.2**
BBAC	**Balboa, Cauca**	**3.15**	**66**	*e*P	**Pn**	**20 36 14.1**	**+0.1**
BBAC	**Balboa, Cauca**	**3.15**	**66**	*e*P	**Pn**	**20 36 14.1**	**+0.1**
CRUC	**La Cruz**	**3.28**	**76**	*e*P	**Pn**	**20 36 17.2**	**+1.2**
CRUC	**La Cruz**	**3.28**	**76**	*e*P	**Pn**	**20 36 17.2**	**+1.2**

ISCJB ***12*** *20:44:37.6±0.6, 26°44S±0°04×27°57E±0°04, h9km±4km, Error ellipse: s-maj=7.0km s-min=5.3km az=140.8*
PRE ***12*** *20:44:37.6±1.6, 26°45S×27°57E, h2km, ML2.7*
EAF ***12*** *20:44:40.9±1.1, 25°82S×25°89E, h0km±14km, MD3.7*
ISC 12 20:44:35.7±0.9, 26°52S±0°04×27°52E±0°04, h15km±6km, n13, σ1s60/25, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.13**	**317**	*e*P	**Pg**	**20 44 40.5**	**+1.0**
WDLM				*e*S	**Sg**	**20 44 42.0**	**-0.1**
WDLM				AML	AML	20 44 42.3	
	comp=Z,16μm,0.1s						
KLOF	**Kloof**	**0.19**	**25**	*e*P	**Pg**	**20 44 40.5**	**+0.1**
KLOF				*e*S	**Sg**	**20 44 41.5**	**-1.9**
KLOF				AML	AML	20 44 42.1	
	comp=Z,12μm,0.2s						
PRYS	**Parys**	**0.43**	**200**	*e*P	**Pn**	**20 44 48.9**	**+1.3**
PRYS				*e*S	**Sn**	**20 44 55.1**	**-0.2**
PRYS				AML	AML	20 44 57.6	
	comp=Z,165nm,0.3s						
ERPM	**east rand prop**	**0.67**	**75**	*e*P	**Pb**	**20 44 50.2**	**+0.9**
ERPM				*e*S	**Sg**	**20 44 57.9**	**+0.2**
ERPM				AML	AML	20 44 59.3	
	comp=Z,150nm,0.2s						
LBTB	**Lobatse**	**2.29**	**310**	*e*P	**Pb**	**20 45 16.9**	**-0.1**
LBTB				*e*S	**Sb**	**20 45 45.4**	**+0.2**
LBTB				AML	AML	20 45 47.8	
	comp=Z,92nm,0.3s						
BOSA	**Boshof**	**2.90**	**223**	*i* P	**Pb**	**20 45 26.4**	**-0.8**
BOSA				*i* S	**Sb**	**20 46 01.4**	**-1.1**
BOSA	**Boshof**	**2.90**	**223**	*e*P	**Pb**	**20 45 25.6**	**-1.6**
BOSA				*e*S	**Sb**	**20 46 01.1**	**-1.5**
BOSA				AML	AML	20 46 13.3	
	comp=Z,14nm,0.4s						
BOSA	**Boshof**	**2.90**	**223**	*i* P	**Pb**	**20 45 26.4**	**-0.8**
BOSA				*i* S	**Sb**	**20 46 01.4**	**-1.1**
MSNA	**Messina**	**4.74**	**29**	*i* P	**Pb**	**20 45 58.0**	**-0.7**
MSNA				*i* S	**Sb**	**20 46 54.5**	**-1.1**
MSNA	**Messina**	**4.74**	**29**	*i* P	**Pb**	**20 45 58.0**	**-0.7**
MSNA				*i* S	**Sb**	**20 46 54.5**	**-1.1**
UPI	**Upington**	**5.87**	**250**	*e*P	Pn	20 46 07.7	+5.4
UPI				*e*S	**Sn**	**20 47 12.2**	**+2.8**
UPI				AML	AML	20 47 43.9	
	comp=Z,8.4nm,0.5s						
MATP	**Matopo**	**6.13**	**9**	*i* P	**Pn**	**20 46 08.2**	**+2.2**
MATP				*i* S	**Sn**	**20 47 13.2**	**-2.9**
MATP	**Matopo**	**6.13**	**9**	*i* P	**Pn**	**20 46 08.2**	**+2.2**
MATP				*i* S	**Sn**	**20 47 13.2**	**-2.9**

IDC 12 20:46:07.4±1.6, 14.58S×72.49W, h68km±22km, mb3.3/1, mb1 3.9/6, mb1mx3.6/27, mbtmp4.1/6, Error ellipse: s-maj=31.7km s-min=11.1km az=34.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.53**	**113**	P	Pn	20 47 15.0	+0.9
	4.0nm,0.3s,baz=315,slow=12,SNR=90						
LPAZ				S	Sn	20 48 06.5	+0.6
	1.5nm,0.3s,baz=184,slow=5.3,SNR=4.0						

NNA	**Nana**	**4.96**	**301**	P		**Pn**	20 47 19.1	-0.4
	24nm,0.3s,baz=116,slow=13,SNR=19							
NNA				S		Sn	20 48 16.2	+0.6
	22nm,0.3s,baz=194,slow=15,SNR=4.8							
LVC	**Limon Verde**	**8.68**	**158**	P		**Pn**	20 48 11.0	+0.4
	2.8nm,0.3s,baz=357,slow=9.0,SNR=30							
LVC				S		Sn	20 49 46.3	-0.9
	4.2nm,0.3s,baz=97,slow=22,SNR=13							
SIV	**San Ignacio**	**11.11**	**99**	P		**Pn**	20 48 40.1	-3.4
	1.0nm,0.3s,baz=288,slow=12,SNR=18							
CFA	**Coronel Fontan**	**17.39**	**168**	P		P	20 50 06.4	+0.4
	0.4nm,0.3s,baz=350,slow=11,SNR=5.6							
CPUP	**Villa Florida**	**18.38**	**132**	P		P	20 50 16.3	-0.6
	0.2nm,0.3s,baz=328,slow=11,SNR=3.6							
TORD	**Torodi Ar. Bea**	**78.43**	**73**	P		P	20 58 01.6	+0.1
	0.3nm,0.5s,baz=261,slow=6.0,SNR=5.3							
YKA	**Yellowknife Ar**	**83.57**	**342**	pP		pP	20 58 48.6	+0.6
	0.4nm,0.8s,baz=134,slow=5.7,SNR=3.0							

SKHL ***12*** *20:46:21.8±0.0, 44°99N×148°16E, h124km±5km, mb4.4/4, msh5.3/5*
MOS ***12*** *20:46:21.2±1.8, 45°07N×148°06E, h136km, mb4.2/3, Error ellipse: s-maj=20.3km s-min=10.5km az=45.7*
ISCJB ***12*** *20:46:22.1±0.6, 44°92N±0°08×148°1E±0°1, h121km±5km, mb3.6/6, Error ellipse: s-maj=17.7km s-min=6.9km az=135.8*
JMA ***12*** *20:46:24.3±0.7, 44°63N×148°16E, h126km, M3.9*
IDC ***12*** *20:46:26.1±2.6, 45°49N×147°71E, h136km±25km, mb3.4/5, mb1 3.6/8, mb1mx3.2/34, mbtmp3.8/8, Error ellipse: s-maj=52.5km s-min=20.8km az=168.0*
ISC 12 20:46:21.8±0.8, 45.02N±0°07×148.14E±0°08, h119km±6km, n43, σ1s63/52, mb3.6/6, 4C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.28**	**318**	*i* PN	**Pn**	**20 46 39.8**	**+1.4**
KUR				*i* S	**Sn**	**20 46 52.2**	**+1.2**
KUR				pmax	pmax		
	comp=Z,652nm,0.3s						
KUR				pmax	pmax		
	comp=N,200nm,0.2s						
KUR				pmax	pmax		
	comp=E,110nm,0.1s						
KUR				smax	smax		
	comp=N,2μm,0.7s						
KUR				smax	smax		
	comp=E,1μm,0.4s						
KUR	**Kuril'sk**	**0.28**	**318**	*i* P	**Pn**	**20 46 38.9**	**+0.5**
KUR				AMB	AMB	20 46 39.9	
	comp=E,70nm,0.2s						
KUR				*i* S	**Sn**	**20 46 51.8**	**+0.8**
KUR				A	A	20 46 52.7	
	comp=E,130nm,0.5s						
KUR				A	A	20 46 52.7	
	comp=E,970nm,0.5s						
SHO	**Shikotan**	**1.48**	**219**	*c* iPN	**Pn**	**20 46 49.0**	**+0.1**
SHO				*i* S	**Sn**	**20 47 08.2**	**-1.3**
SHO				pmax	pmax		
	comp=Z,94nm,0.3s						
S

baz=333,slow=76,SNR=60
H11N1 WAKE ISLAND Hy 29.65 142 T T 21 23 32.4
baz=333,slow=76,SNR=44
H11N3 WAKE ISLAND Hy 29.66 142 T T 21 23 31.5
baz=333,slow=76,SNR=50
H11S1 WAKE ISLAND Hy 30.64 144 T T 21 24 39.4
baz=334,slow=76,SNR=100
H11S3 WAKE ISLAND Hy 30.64 144 T T 21 24 40.6
baz=334,slow=75,SNR=75
H11S2 WAKE ISLAND Hy 30.66 144 T T 21 24 44.2
baz=334,slow=76,SNR=72
MKAR Makanchi Array 44.63 297 P **P** **20 54 21.7 -0.5**
comp=Z,0.2nm,0.4s,baz=76,slow=10,SNR=4.8
FINES FINESS Array B 64.06 333 *i* P **P** **20 56 39.4 -3.0**
FINES pmax pmax
comp=Z,5.0nm,1.0s
FINES FINESS Array B 64.06 333 P **P** **20 56 40.1 -2.3**
comp=Z,4.6nm,1.0s,baz=57,slow=8.4,SNR=4.0
NVAR Mina Array Bea 66.31 59 P **P** **20 57 00.3 +2.6**
comp=Z,0.3nm,0.6s,baz=294,slow=8.7,SNR=3.6
PDAR Pinedale Array 68.55 51 P **P** **20 57 13.7 +2.0**
comp=Z,0.4nm,0.5s,baz=298,slow=1.9,SNR=3.7
TXAR Lajitas Array 81.36 57 P **P** **20 58 27.6 +2.2**
comp=Z,0.6nm,0.5s,baz=291,slow=4.2,SNR=6.1

ISCJB ***12*** *21:00:04.0±0.4,6°.78S±0°.04×130°.05E±0°.05,h146km, mb3.6/2,Error ellipse: s-maj=7.5km s-min=4.7km az=14.3*
IDC ***12*** *21:00:04.5±2.1,6°.73S×130°.05E,h142km±24km,mb3.5/2, mb1 3.8/7,mb1mx3.4/37,mbtmp4.2/7,MS3.2/2,Ms1 3.2/2, ms1mx2.4/20,Error ellipse: s-maj=34.6km s-min=19.3km az=92.0*
DJA ***12*** *21:00:05.2±0.3,7°.S±2°×13°.0E±°,h178km±5km,M4.4/10, mb4.2/7,mB4.8/5,MLv4.7/10,Mw(mB)4.1/5*
ISC 12 21:00:04.4±0.7,6°.75S±0°.05×129°.99E±0°.07,h146km,n22, σ2s80/26,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.79**	**133**	P	Pn	21 00 41.7	+4.8
SAUI				S	**Sn**	**21 01 08.1**	**+6.3**
BNDI	**Bandanaira**	**2.21**	**358**	P	**Pn**	**21 00 44.5**	**+2.7**
BNDI				S	**Sn**	**21 01 13.4**	**+2.8**
AAI	**Ambon**	**3.52**	**330**	P	**Pn**	**21 01 01.0**	**+2.6**
MSAI	**Masohi**	**3.54**	**343**	P	**Pn**	**21 00 58.2**	**-0.4**
FAKI	**Fak Fak**	**4.42**	**31**	P	**Pn**	**21 01 10.5**	**+0.4**
FAKI				S	**Sn**	**21 01 58.9**	**-2.4**
NLAI	**Namlea**	**4.52**	**320**	P	Pn	21 01 18.2	+6.8
KMPI	**Kaimana, Papua**	**4.81**	**51**	P	**Pn**	**21 01 17.2**	**+2.0**
KMPI				S	**Sn**	**21 02 09.6**	**-0.8**
SIJI	**Sorong**	**5.98**	**12**	P	**Pn**	**21 01 30.8**	**-0.1**
	4.6nm,0.3s,baz=197,slow=20,SNR=54						
SIJI				S	**Sn**	**21 02 33.7**	**-4.7**
	22nm,0.3s,baz=264,slow=23,SNR=19						
SWI	**Sorong**	**5.98**	**12**	P	**Pn**	**21 01 30.9**	**0.0**
SANI	**Sanana**	**6.14**	**319**	P	**Pn**	**21 01 35.1**	**+2.2**
	36nm,0.6s,0.1nm						
SOEI	**Soe**	**6.40**	**242**	P	**Pn**	**21 01 38.4**	**+1.9**
	65nm,0.8s,0.6nm						
BATI	**Baumata**	**7.13**	**241**	P	**Pn**	**21 01 47.8**	**+1.5**
	18nm,0.3s,baz=75,slow=2.7,SNR=23						
BATI				S	**Sn**	**21 03 05.2**	**-1.0**
	17nm,0.3s,baz=89,slow=22,SNR=8.7						
BATI	**Baumata**	**7.13**	**241**	P	**Pn**	**21 01 47.8**	**+1.5**
	51nm,0.6s,676nm0.2nm						
FITZ	**Fitzroy Crossi**	**12.05**	**200**	P	**Pn**	**21 02 51.0**	**-0.5**
	0.7nm,0.3s,baz=34,slow=13,SNR=23						
FITZ				S	Sn	21 04 56.1	-8.6
	3.7nm,0.3s,baz=202,slow=12,SNR=11						
WRA	**Warramunga Arr**	**13.78**	**163**	P	**Pn**	**21 03 12.8**	**-0.9**
	1.6nm,0.3s,baz=348,slow=13,SNR=54						
WRA				S	**Sn**	**21 05 40.6**	**-5.8**
	2.1nm,0.3s,baz=331,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.24**	**168**	P	**Pn**	**21 03 58.2**	**+1.7**
	1.1nm,0.3s,baz=355,slow=11,SNR=38						
ASAR				S	**S**	**21 07 03.5**	**-4.5**
	0.7nm,0.3s,baz=337,slow=18,SNR=6.8						
LEM	**Lembang**	**22.21**	**268**	LR	LR	21 14 40.8	
	comp=Z,36nm,18.6s,baz=70,slow=39						
CMAR	**Chiang Mai Arr**	**39.56**	**310**	P	**P**	**21 07 21.7**	**+0.2**
	0.2nm,0.4s,baz=132,slow=6.9,SNR=4.9						
PETK	**Petropavlovsk-**	**64.09**	**18**	LR	LR	21 34 27.3	
	comp=Z,26nm,21.3s,baz=247,slow=32						
KSH	**Kashi**	**67.82**	**317**	P	**P**	**21 10 50.6**	**+3.6**
KSH				sP	sP	21 11 46.2	+9.3
KSH				S	**S**	**21 19 34.3**	**+0.6**
KSH				sS	sS	21 20 42.1	+8.8
KSH	**Kashi**	**67.82**	**317**	SS	SS	21 24 01.5	+3.1
KSH				pmax	pmax		
	comp=Z,470nm,6.4s						
KSH				LR	LR		
	comp=N,920nm,5.5s						
KSH				LR	LR		
	comp=E,370nm,5.5s						
KSH				LR	LR		
	comp=Z,880nm,6.0s						
MKAR	**Makanchi Array**	**68.01**	**327**	P	**P**	**21 10 48.6**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=116,slow=8.1,SNR=33						

IDC 12 21:03:38.5±2.4,12°.65S×72°.01W,h0km,mb3.6/2, mb1 3.7/3,mb1mx3.5/22,mbtmp3.5/3,ML3.0/1,MS2.2/1, Ms1 2.4/1,ms1mx2.3/18,Error ellipse: s-maj=107.5km s-min=19.9km az=47.0,Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.21**	**134**	Pn	Pn	21 04 57.4	-1.0
	0.3nm,0.3s,baz=318,slow=16,SNR=8.3						
LPAZ				Pg	Pb	21 05 12.6	+1.7
	0.8nm,0.3s,baz=325,slow=8.2,SNR=8.1						
LPAZ				Lg	Lg	21 06 26.8	
	0.2nm,0.3s,baz=170,slow=18,SNR=1.8						
LPAZ				LR	LR	21 06 40.6	
	comp=Z,26nm,20.1s,baz=56,slow=35						
PDAR	**Pinedale Array**	**65.00**	**330**	P	P	21 14 20.9	+0.2
	0.1nm,0.3s,baz=128,slow=7.3,SNR=2.2						
TORD	**Torodi Ar. Bea**	**77.43**	**73**	P	P	21 15 36.3	0.0
	0.9nm,0.8s,baz=268,slow=5.7,SNR=4.6						

NIED ***12*** *21:06:00,24°.90N×128°.70E,h8km,Mw3.8 Best double couple: M0 6.12000×10^14 NP1:φs=23.00000°,δ=29.00000°, λ=-118.00000°. NP2:φs=233.00000°,δ=65.00000°, λ=-76.00000°.*
IDC ***12*** *21:06:47.1±1.1,24°.89N×128°.68E,h0km,mb3.8/5, mb1 3.9/7,mb1mx3.7/36,mbtmp3.8/7,ML3.5/2,MS2.7/2, Ms1 2.7/2,ms1mx2.4/33,Error ellipse: s-maj=52.2km s-min=16.5km az=78.0*
JMA ***12*** *21:06:48.0±0.2,24°.94N×128°.74E,h49km,M4.1*
ISC 12 21:06:46.7±2.8,24°.95N±0°.05×128°.70E±0°.04,h6km±18km, n31,σ2s44/47,mb3.9/5,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT3	**Tamagusuku3**	**1.45**	**325**	S	**Sg**	**21 07 30.9**	**-2.3**
JNTH	**Nagotoyohara**	**1.68**	**339**	P	**Pn**	**21 07 16.1**	**-0.4**
JOW	**Kunigami**	**1.91**	**348**	P	**Pn**	**21 07 19.7**	**-0.1**
JOW				S	**Sn**	**21 07 40.6**	**-3.6**
JOW	**Kunigami**	**1.91**	**348**	Pn	**Pn**	**21 07 19.8**	**-0.1**
	12nm,0.3s,baz=157,slow=11,SNR=449						
JOW				Sn	**Sn**	**21 07 40.3**	**-3.9**
	12nm,0.3s,baz=69,slow=27,SNR=16						
JYRO	**Yoronjima**	**2.08**	**354**	P	**Pn**	**21 07 21.8**	**-0.2**
JYRO				S	**Sn**	**21 07 45.0**	**-3.2**
JAGN	**Aguni-jima**	**2.09**	**321**	P	**Pn**	**21 07 22.6**	**+0.3**
JAGN				*e*S	**Sn**	**21 07 46.6**	**-2.1**
JIH	**Iheya**	**2.18**	**342**	P	**Pn**	**21 07 23.8**	**+0.4**
JIH				S	**Sn**	**21 07 47.7**	**-3.0**
JKE	**Kume jima 2**	**2.21**	**309**	P	**Pn**	**21 07 23.6**	**-0.2**
JKE				*e*S	**Sn**	**21 07 48.7**	**-2.7**
JOKE	**Okinoerabujima**	**2.40**	**357**	P	**Pn**	**21 07 26.6**	**+0.1**
JOKE				S	**Sn**	**21 07 52.4**	**-3.9**
JMZ	**Minamidaito 2**	**2.44**	**69**	P	**Pn**	**21 07 25.3**	**-1.7**
JKDJ	**Kitadaitoujima**	**2.55**	**67**	P	**Pn**	**21 07 27.2**	**-1.3**
JKDJ				S	**Sn**	**21 07 55.5**	**-4.3**
JTK	**Tokunoshima**	**2.83**	**4**	P	**Pn**	**21 07 32.4**	**0.0**
JTK				*e*S	**Sn**	**21 08 02.1**	**-4.7**
JOGS	**Gusukube**	**3.00**	**267**	P	**Pn**	**21 07 35.0**	**+0.2**
JOGS				*e*S	**Sn**	**21 08 08.6**	**-2.5**
JMJ2	**Miyako jima3**	**3.07**	**267**	P	**Pn**	**21 07 35.8**	**0.0**
JMJ2				*e*S	**Sn**	**21 08 10.5**	**-2.4**
JIKM	**Ikemajima**	**3.14**	**270**	P	**Pn**	**21 07 36.8**	**+0.2**
JIKM				*e*S	**Sn**	**21 08 12.0**	**-2.4**
JIRB	**Irabujima**	**3.21**	**269**	P	**Pn**	**21 07 37.4**	**-0.2**
JIRB				*e*S	**Sn**	**21 08 13.0**	**-3.2**
JAMN	**Amaminishikomi**	**3.30**	**7**	P	**Pn**	**21 07 39.1**	**+0.2**
JZK	**Kikaishima**	**3.54**	**18**	P	**Pn**	**21 07 42.4**	**+0.3**
JZK				S	**Sn**	**21 08 21.5**	**-2.7**
JAM	**Amami Oshima**	**3.54**	**13**	P	**Pn**	**21 07 42.0**	**-0.1**
JTJ	**Tarama**	**3.65**	**266**	P	**Pn**	**21 07 43.5**	**-0.2**
JTJ				S	**Sn**	**21 08 22.5**	**-4.6**
JISG	**Ishigakijimahi**	**4.01**	**266**	P	**Pn**	**21 07 48.1**	**-0.5**
JISG				S	**Sn**	**21 08 31.5**	**-4.4**
JIJ	**Ishigaki jima**	**4.19**	**263**	P	**Pn**	**21 07 50.5**	**-0.6**
JIJ				S	**Sn**	**21 08 34.9**	**-5.5**
JKRS	**Kuro-shima**	**4.33**	**262**	P	**Pn**	**21 07 52.8**	**-0.3**
JNU	**Nakatsue**	**8.36**	**13**	Pn	**Pn**	**21 08 50.1**	**+1.6**
	1.2nm,0.3s,baz=170,slow=3.4,SNR=16						
JNU				LR	LR	21 12 18.5	
	comp=Z,37nm,18.8s,baz=222,slow=39						
KSRS	**Korea Array**	**12.48**	**357**	LR	LR	21 15 16.6	
	comp=Z,50nm,18.5s,baz=134,slow=41						
USRK	**Ussuriysk Ar.**	**19.39**	**7**	P	**Pn**	**21 11 16.8**	**+2.5**
	baz=180,slow=3.6,SNR=4.2						
SONM	**Songino Array**	**28.86**	**328**	P	**P**	**21 12 49.2**	**+3.2**
	0.3nm,0.6s,baz=124,slow=9.2,SNR=5.1						
MKAR	**Makanchi Array**	**42.71**	**313**	P	**P**	**21 14 45.8**	**+1.3**
	0.6nm,0.6s,baz=95,slow=9.6,SNR=6.6						
ZALV	**Zalesovo Beam**	**43.52**	**323**	P	**P**	**21 14 51.9**	**+1.1**
	1.1nm,0.5s,baz=99,slow=9.5,SNR=4.3						
WRA	**Warramunga Arr**	**44.96**	**172**	P	**P**	**21 15 03.5**	**+0.7**
	2.6nm,0.7s,baz=353,slow=8.5,SNR=17						
ASAR	**Alice Springs**	**48.59**	**174**	P	**P**	**21 15 31.9**	**+0.7**
	0.8nm,0.8s,baz=2.0,slow=7.9,SNR=13						

ANF 12 21:08:43.5±0.2,38°.04N×81°.51W,ML2.5/9,ML2.3/24, Error ellipse: s-maj=1.5km s-min=1.2km az=97.0,West Virginia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
S54A	**Dingess, Beckl**	**0.29**	**147**	P	Pg	21 08 49.2	+0.2
	baz=327,SNR=28						
S54A				S	Sg	21 08 53.7	+0.9
	baz=327						
R54A	**Victor**	**0.43**	**71**	P	Pg	21 08 52.1	+0.3
	baz=250,SNR=12						
R54A				S	Sg	21 08 58.2	+0.7
	baz=250						
R53A	**Hurricane**	**0.45**	**310**	P	Pg	21 08 52.8	+0.7
	baz=130						
R53A				S	Sg	21 08 58.2	+0.2
	baz=130						
Q53A	**Leroy**	**0.81**	**359**	P	Pg	21 08 59.6	+0.4
	baz=179						
S55A	**Lewisburg**	**0.84**	**108**	P	Pg	21 09 00.2	+0.5
	baz=289,SNR=6.3						
S55A				S	Sg	21 09 10.9	+0.3
	baz=289						
T54A	**Tazewell**	**0.98**	**183**	P	Pg	21 09 02.8	+0.5
	baz=2.9						
Q54A	**Coxs Mills**	**1.08**	**29**	P	Pg	21 09 04.5	+0.2
	baz=210,SNR=8.4						
T55A	**Pulaski**	**1.09**	**148**	P	Pg	21 09 04.3	0.0
	baz=328						
T55A				S	Sb	21 09 19.6	-0.4
	baz=328						
Q52A	**Bidwell**	**1.09**	**327**	P	Pg	21 09 04.3	-0.1
	baz=147,SNR=13						
R55A	**Marlinton**	**1.12**	**77**	P	Pg	21 09 05.2	+0.2
	baz=265,SNR=27						
BLA	**Blacksburg**	**1.20**	**133**	S	Sg	21 09 22.0	0.0
	baz=314						
S52A	**Salyersville**	**1.29**	**254**	P	Pg	21 09 08.0	-0.2
	baz=73						
T53A	**Wise**	**1.33**	**218**	P	Pg	21 09 09.2	+0.2
	baz=37						
T53A				S	Sn	21 09 27.6	-0.4
	baz=37						
P53A	**Whipple**	**1.45**	**4**	P	Pn	21 09 10.7	-0.2
	baz=184,SNR=13						
P53A				S	Sn	21 09 30.8	+0.2
	baz=184						
Q55A	**Buckhannon**	**1.47**	**49**	P	Pn	21 09 10.9	-0.4
	baz=230						
Q55A				S	Sb	21 09 31.1	0.0
	baz=230						
T52A	**Hallie**	**1.50**	**232**	P	Pn	21 09 11.9	+0.2
	baz=51						
U54A	**Nelsons Funny**	**1.54**	**189**	P	Pb	21 09 12.7	-0.2
	baz=9.1						
U54A				S	Sg	21 09 32.8	-0.1
	baz=9.1						
T56A	**Rocky Mt**	**1.55**	**130**	P	Pn	21 09 12.6	+0.2
	baz=311						
U55A	**TA2, Sparta**	**1.58**	**166**	P	Pn	21 09 12.9	+0.1
	baz=347,SNR=8.5						
U55A				S	Sn	21 09 33.8	-0.2
	baz=347						
R51A	**Hillsboro**	**1.65**	**280**	P	Pn	21 09 14.0	+0.3
	baz=98,SNR=6.5						
P52A	**Corning**	**1.66**	**343**	P	Pn	21 09 14.0	+0.2
	baz=163,SNR=15						
S51A	**Beattyville**	**1.70**	**257**	Pb	Pb	21 09 15.6	+0.1
	baz=76,SNR=10						
R56A	**Bull Pasture M**	**1.70**	**77**	P	Pn	21 09 14.4	-0.1
	baz=258,SNR=11						
R56A				S	Sn	21 09 37.3	+0.3
	baz=258						
Q51A	**Peebles**	**1.74**	**305**	P	Pn	21 09 15.0	0.0
	baz=124						
P54A	**Burton**	**1.75**	**27**	P	Pn	21 09 15.5	+0.3
	baz=208						
U52A	**Thorn Hill**	**2.21**	**223**	Pb	Pb	21 09 24.6	+0.1
	baz=41,SNR=5.3						
O53A	**New Philadelph**	**2.22**	**6**	Pb	Pb	21 09 24.0	-0.5
	baz=186,SNR=9.0						

ANF 12 21:09:08.6±0.6,38°.13N×82°.14W,Error ellipse: s-maj=4.6km s-min=3.0km az=94.0,West Virginia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R53A	**Hurricane**	**0.25**	**36**	P	Pg	21 09 13.6	+0.2
	baz=216						
R53A				S	Sg	21 09 17.2	+0.6
	baz=216						
Q52A	**Bidwell**	**0.84**	**353**	P	Pg	21 09 24.0	-0.7
	baz=173						
Q53A	**Leroy**	**0.87**	**33**	S	Sb	21 09 37.8	-1.1
	baz=213						
T54A	**Tazewell**	**1.16**	**157**	S	Sb	21 09 47.0	0.0
	baz=338						
T52A	**Hallie**	**1.22**	**214**	P	Pb	21 09 32.4	-0.2
	baz=33						
Q54A	**Coxs Mills**	**1.33**	**50**	S	Sn	21 09 53.0	+0.1
	baz=230						
S55A	**Lewisburg**	**1.34**	**105**	S	Sn	21 09 53.7	+0.5
	baz=286						
T55A	**Pulaski**	**1.47**	**133**	S	Sn	21 09 57.5	+1.0
	baz=314						
P53A	**Whipple**	**1.48**	**23**	S	Sn	21 09 57.6	+1.1
	baz=203						
R55A	**Marlinton**	**1.59**	**84**	S	Sn	21 09 59.4	-0.2
	baz=265						

KRNET ***12*** *21:16:51.9±0.1,41°.65N×79°.37E,h11km,mb2.5*
NNC ***12*** *21:16:53.1±2.0,41°.75N×79°.41E,h0km±11km,mb3.0, mpv2.8,Error ellipse: s-maj=15.2km s-min=11.6km az=7.0*
SOME ***12*** *21:16:53.1,41°.80N×79°.33E,h0km*
ISC 12 21:16:51.0±2.1,41°.66N±0°.07×79°.38E±0°.06,h6km±11km, n34,σ1s09/60,6C-11D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.10**	**319**	⇓*i*P	**Pn**	**21 17 12.9**	**-0.3**
	baz=20						
PRZ				⇓*i*S	**Sb**	**21 17 28.2**	**+0.8**
	baz=20						
TARG	**Taragay, Kyrgy**	**1.18**	**274**	⇑*i*P	**Pn**	**21 17 14.4**	**-0.1**
	baz=74						
TARG				⇑*i*S	**Sn**	**21 17 30.8**	**-0.3**
	baz=74						
SHLS	**Shalkode**	**1.50**	**2**	*e*P	**Pg**	**21 17 20.3**	**+0.5**
	2.2nm,0.1s						
SHLS				*e*S	**Sg**	**21 17 40.2**	**+0.9**
	40nm,0.3s						
SHLS	**Shalkode**	**1.50**	**2**	P	**Pg**	**21 17 20.4**	**+0.5**
	2.3nm,0.3s						
SHLS				S	**Sg**	**21 17 40.3**	**+0.9**
	11nm,0.5s						
UZB	**Uzunbulak**	**1.52**	**350**	*e*P	**Pb**	**21 17 19.1**	**-0.6**
	2.4nm,0.2s						
UZB				*e*S	**Sn**	**21 17 38.0**	**-1.0**
	2.5nm,0.1s						
UZB	**Uzunbulak**	**1.52**	**350**	P	**Pg**	**21 17 21.0**	**+0.9**
	0.9nm,0.3s						
UZB				S	**Sg**	**21 17 41.2**	**+1.5**
	5.3nm,0.6s						
SATY	**Saty**	**1.58**	**333**	*e*P	**Pg**	**21 17 20.8**	**-0.5**
	4.2nm,0.1s						
SATY				*e*S	**Sn**	**21 17 40.8**	**+0.3**
	11nm,0.1s						
SATY	**Saty**	**1.58**	**333**	P	**Pn**	**21 17 19.6**	**-0.1**
	4.5nm,0.4s						
SATY				S	**Sn**	**21 17 39.2**	**-1.4**
	4.7nm,0.3s						
PDGK	**Podgornoye**	**1.68**	**3**	P	**Pg**	**21 17 22.6**	**-0.5**
	0.7nm,0.3s						
PDGK				S	**Sg**	**21 17 44.4**	**-0.5**
	3.3nm,0.6s						
PDGK	**Podgornoye**	**1.68**	**3**	⇑Pn	**Pb**	**21 17 21.5**	**-0.8**
	1.6nm,0.6s						
PDGK				⇑Sn	**Sb**	**21 17 43.9**	**+0.1**
	6.8nm,0.8s						
ANVS	**Anan'yevo**	**1.70**	**312**	⇓*i*P	**Pg**	**21 17 23.7**	**0.0**
	baz=12						
ANVS				⇓*i*S	**Sg**	**21 17 47.2**	**+1.5**
	baz=12						
KDJ	**Kajisay**	**1.71**	**287**	⇑*i*P	**Pg**	**21 17 24.0**	**+0.2**
	baz=87						
KDJ				⇑*i*S	**Sg**	**21 17 47.5**	**+1.5**
	baz=87						
KPKS	**Kokpek**	**1.88**	**344**	*e*P	**Pg**	**21 17 26.2**	**-0.9**
	5.7nm,0.1s						
KPKS				*e*S	**Sb**	**21 17 50.1**	**+0.5**
	15nm,0.2s						
KURS	**Kuram**	**2.04**	**334**	*e*P	**Pg**	**21 17 30.4**	**+0.3**
	1.1nm,0.2s						
KURS				*e*S	**Sg**	**21 17 57.0**	**+0.5**
	4.0nm,0.3s						
TNSS	**Tian-Shan**	**2.27**	**308**	*e*P	**Pg**	**21 17 34.1**	**-0.5**
	4.8nm,0.2s						
TNSS				*e*S	**Sg**	**21 18 03.3**	**-0.8**
	6.0nm,0.2s						
TNSS	**Tian-Shan**	**2.27**	**308**	Pg	**Pg**	**21 17 34.3**	**-0.3**
	3.7nm,0.3s						
TNSS				Lg	Lg	21 18 04.1	
	7.0nm,0.6s						
MDOK	**Medeo**	**2.29**	**312**	⇓Pg	**Pg**	**21 17 34.0**	**-1.0**
	5.3nm,1.0s						
MDOK				Lg	Lg	21 18 03.6	
	16nm,0.9s						
KOTS	**Kotyrbulak**	**2.31**	**314**	*e*P	**Pg**	**21 17 35.0**	**-0.2**
	9.4nm,0.1s						
KOTS				*e*S	**Sg**	**21 18 05.0**	**-0.1**
	22nm,0.2s						
KOTS	**Kotyrbulak**	**2.31**	**314**	Pg	**Pg**	**21 17 34.8**	**-0.4**
	6.9nm,0.2s						
KOTS				Lg	Lg	21 18 05.2	
	16nm,0.5s						
ULHL	**Ulahol**	**2.42**	**285**	⇓*i*P	**Pb**	**21 17 35.6**	**+0.6**
	baz=85						
ULHL				⇓*i*S	**Sb**	**21 18 06.7**	**+1.6**
	baz=85						
IZV	**Izvestkoviy**	**2.47**	**305**	*e*P	**Pg**	**21 17 38.8**	**+0.3**
	2.2nm,0.1s						
IZV				*e*S	**Sg**	**21 18 11.3**	**+0.8**
	12nm,0.2s						
NRN	**Naryn**	**2.55**	**266**	⇓*e*P	**Pb**	**21 17 36.4**	**-0.9**
	baz=66						
NRN				⇓*i*S	**Sb**	**21 18 09.8**	**+0.7**
	baz=66						
DJR	**Jarkent**	**2.69**	**6**	*e*P	**Pb**	**21 17 40.5**	**+0.8**
	0.8nm,0.2s						
DJR				*e*S	**Sb**	**21 18 14.4**	**+1.5**
	5.6nm,0.4s						
DJR	**Jarkent**	**2.69**	**6**	Pg	**Pb**	**21 17 38.8**	**-0.9**
	0.3nm,0.4s						
DJR				Lg	Lg	21 18 12.2	
	3.4nm,0.5s						
ARXS	**Arharly**	**2.80**	**336**	*e*P	**Pg**	**21 17 43.2**	**-1.5**
	1.6nm,0.2s						
ARXS				*e*S	**Sb**	**21 18 18.7**	**+2.6**
	3.3nm,0.3s						
CHKK	**Chushkaly**	**2.82**	**322**	*e*P	**Pg**	**21 17 43.4**	**-1.7**
	3.9nm,0.2s						
CHKK				*e*S	**Sg**	**21 18 19.5**	**-2.1**
	10nm,0.2s						
CHKK	**Chushkaly**	**2.82**	**322**	Pg	**Pg**	**21 17 43.3**	**-1.7**
	3.8nm,0.3s						
CHKK				Lg	Lg	21 18 20.3	
	10nm,0.4s						
KTBS	**Karatobe**	**2.86**	**317**	*e*P	**Pg**	**21 17 44.4**	**-1.4**
	2.6nm,0.2s						
KTBS				*e*S	**Sg**	**21 18 21.1**	**-1.8**
	17nm,0.4s						
KTBS	**Karatobe**	**2.86**	**317**	Pg	**Pb**	**21 17 44.0**	**+1.5**
	2.3nm,0.4s						
KTBS				Lg	Lg	21 18 20.9	
	14nm,0.6s						
KST	**Kastek**	**2.89**	**300**	*e*P	**Pg**	**21 17 45.5**	**-0.9**
	4.1nm,0.3s						
KST				*e*S	**Sg**	**21 18 22.9**	**-0.9**
	7.1nm,0.3s						
TKM2	**Tokmak 2**	**3.08**	**296**	⇓Pg	**Pg**	**21 17 50.8**	**+0.7**
	3.5nm,1.1s						
TKM2				⇓Lg	Lg	21 18 29.2	
	4.3nm,0.6s						
DGS	**Degeres**	**3.11**	**302**	*e*P	**Pg**	**21 17 49.6**	**-0.9**
	1.4nm,0.2s						
DGS				*e*S	**Sg**	**21 18 29.8**	**-1.0**
	3.4nm,0.3s						
KUU	**Kurty**	**3.17**	**316**	*e*P	**Pg**	**21 17 50.1**	**-1.6**
	0.9nm,0.2s						
KUU				*e*S	**Sg**	**21 18 30.8**	**-1.9**
	6.2nm,0.2s						
KUU	**Kurty**	**3.17**	**316**	Pg	**Pb**	**21 17 49.5**	**+1.8**
	1.1nm,0.4s						
KUU				Lg	Lg	21 18 30.2	
	7.0nm,0.7s						

IGQ ***12*** *21:18:51.1±0.7,1°.N±7°.×8°.0W±°,h10km,Mjma3.9,ML4.4, ML4.0*
ISC 12 21:18:49.8±3.1,0°.75N±0°.08×80°.2W±0°.2,h0km±21km,n39, σ0s90/46,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAG1	**Magdalena**	**0.94**	**151**	P	**Pg**	**21 19 07.6**	**-0.1**
OTAV	**Otavalo**	**1.85**	**106**	*e*P	**Pn**	**21 19 21.7**	**-1.5**
OTAV				*e*S	**Sn**	**21 19 46.1**	**-1.4**
OTAV	**Otavalo**	**1.85**	**106**	*e*P	**Pn**	**21 19 21.7**	**-1.5**
OTAV				*e*S	**Sn**	**21 19 46.1**	**-1.4**
TERV	**Terraza Guagua**	**1.87**	**119**	P	**Pn**	**21 19 22.1**	**-1.4**

TULM	**Tulcn-Chalpat**	**2.44**	**91**	P		**Pn**	**21 19 33.1**	**+1.8**
SAGO	**Sagoatoa**	**2.45**	**140**	P		**Pn**	**21 19 31.6**	**+0.1**
PIS1	**Pisayambo**	**2.57**	**134**	P		**Pn**	**21 19 34.1**	**+0.9**
GCUF	**Volcan Galeras**	**2.92**	**81**	*e*P		**Pn**	**21 19 37.5**	**-0.5**
GCUF	**Volcan Galeras**	**2.92**	**81**	*e*P		**Pn**	**21 19 37.5**	**-0.5**
BBAC	**Balboa, Cauca**	**3.24**	**67**	*e*P		**Pn**	**21 19 41.2**	**-0.9**
BBAC	**Balboa, Cauca**	**3.24**	**67**	*e*P		**Pn**	**21 19 41.2**	**-0.9**
CRUC	**La Cruz**	**3.38**	**76**	*e*P		**Pn**	**21 19 44.5**	**+0.4**
CRUC	**La Cruz**	**3.38**	**76**	*e*P		**Pn**	**21 19 44.5**	**+0.4**
SOTA	**Rioblanco**	**3.87**	**69**	*e*P		**Pn**	**21 19 51.1**	**0.0**
SOTA	**Rioblanco**	**3.87**	**69**	*e*P		**Pn**	**21 19 51.1**	**0.0**
PCON	**Cinco Dias**	**4.14**	**68**	*e*P		**Pn**	**21 19 55.4**	**+0.6**
PCON	**Cinco Dias**	**4.14**	**68**	*e*P		**Pn**	**21 19 55.4**	**+0.6**
PTLC	**Puerto Leguiza**	**5.46**	**96**	*e*P		**Pn**	**21 20 14.2**	**+1.6**
PTLC	**Puerto Leguiza**	**5.46**	**96**	*e*P		**Pn**	**21 20 14.2**	**+1.6**

IDC 12 21:27:39.4±5.3, 61°.45S×155°.98E, h0km, mb3.9/3, mb1 4.2/4, mb1mx4.0/24, mbtmp4.0/4, ML4.3/1, MS3.8/9, Ms1 3.8/9, ms1mx3.6/15, Error ellipse: s-maj=325.6km s-min=23.1km az=75.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNDA	**Vanda**	**16.26**	**175**	Pn		Pn	21 31 27.6	-1.2
VNDA	1.0nm,0.3s,baz=347,slow=13,SNR=43			LR		LR	21 37 14.4	
	comp=Z,459nm,18.9s,baz=358,slow=35							
RPZ	**Rata Peaks**	**19.89**	**34**	LR		LR	21 38 34.9	
	comp=Z,449nm,20.8s,baz=192,slow=33							
URZ	**Urewera**	**26.67**	**39**	LR		LR	21 42 14.4	
	comp=Z,116nm,20.8s,baz=202,slow=33							
QSPA	**South Pole Qui**	**28.64**	**180**	P		P	21 33 37.7	+0.3
QSPA	1.7nm,0.6s,baz=338,slow=5.4,SNR=4.3			LR		LR	21 44 56.3	
	comp=Z,148nm,20.8s,baz=16,slow=36							
STKA	**Stephens Creek**	**31.04**	**336**	LR		LR	21 44 34.8	
	comp=Z,795nm,18.4s,baz=176,slow=33							
MAW	**Mawson**	**36.86**	**220**	LR		LR	21 49 52.3	
	comp=Z,295nm,18.3s,baz=70,slow=36							
H01W1	**Cape Leeuwin H**	**37.46**	**296**	T		T	22 14 21.3	
	baz=148,slow=75,SNR=130							
H01W2	**Cape Leeuwin H**	**37.47**	**296**	T		T	22 14 11.1	
	baz=148,slow=75,SNR=122							
H01W3	**Cape Leeuwin H**	**37.48**	**296**	T		T	22 14 03.4	
	baz=148,slow=75,SNR=137							
DZM	**Mont Dzumac**	**40.01**	**15**	*e*LR		LR	21 45 44.2	
	comp=Z,304nm,25.4s							
ASAR	**Alice Springs**	**40.69**	**328**	P		P	21 35 21.3	0.0
	1.5nm,1.0s,baz=162,slow=8.6,SNR=10							
ASAR				LR		LR	21 49 42.7	
	comp=Z,99nm,19.4s,baz=157,slow=32							
WRA	**Warramunga Arr**	**44.15**	**330**	P		P	21 35 49.3	-0.3
	0.9nm,0.6s,baz=163,slow=7.3,SNR=10							
SNAA	**Sanae**	**46.35**	**189**	P		P	21 36 09.3	+2.8
SNAA	**Sanae**	**46.35**	**189**	P		P	21 36 08.7	+2.2
	1.6nm,0.8s,baz=174,slow=11,SNR=7.2							
VNA3	**Neumayer Olymp**	**47.21**	**186**	P		P	21 36 16.0	+2.8
VNA2	**Neumayer--Watz**	**47.40**	**187**	P		P	21 36 17.4	+2.8
	baz=160,slow=6.1							
TBI	**Tubuai**	**53.01**	**70**	*e*T		T	22 34 36.8	
	56nm,0.3s							
PPT2	**Papeete2**	**58.00**	**66**	*e*LR		LR	21 54 30.7	
	comp=Z,65nm,26.2s							
H08S2	**Diego Garcia H**	**80.22**	**272**	T		T	23 07 31.7	
	baz=152,slow=76,SNR=21							
H08S1	**Diego Garcia H**	**80.22**	**272**	T		T	23 07 23.9	
	baz=152,slow=76,SNR=12							
H08S3	**Diego Garcia H**	**80.23**	**272**	T		T	23 07 36.0	
	baz=152,slow=76,SNR=28							
BOSA	**Boshof**	**81.82**	**222**	LR		LR	22 14 29.8	
	comp=Z,42nm,18.2s,baz=143,slow=34							
CMAR	**Chiang Mai Arr**	**91.60**	**307**	LR		LR	22 20 28.6	
	comp=Z,26nm,18.9s,baz=185,slow=35							

IDC 12 22:04:36.1±15.0, 14°.78S×179°.38W, h385km±165km, mb3.3/6, mb1 3.6/6, mb1mx3.3/26, mbtmp4.1/6, Error ellipse: s-maj=96.3km s-min=38.4km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**39.41**	**238**	P		P	22 11 30.4	-0.2
	4.0nm,0.8s,baz=79,slow=6.0,SNR=8.5							
WRA	**Warramunga Arr**	**44.36**	**257**	P		P	22 12 10.1	-0.3
	0.7nm,0.7s,baz=94,slow=7.5,SNR=2.8							
ASAR	**Alice Springs**	**44.82**	**251**	P		P	22 12 13.8	0.0
	7.4nm,0.7s,baz=84,slow=8.4,SNR=90							
NVAR	**Mina Array Bea**	**77.85**	**45**	P		P	22 15 52.9	+0.4
	0.8nm,0.8s,baz=223,slow=9.4,SNR=5.4							
ILAR	**Eielson Array**	**83.07**	**13**	P		P	22 16 19.1	0.0
	1.1nm,0.6s,baz=246,slow=5.7,SNR=8.3							
PDAR	**Pinedale Array**	**85.75**	**44**	P		P	22 16 32.6	-0.7
	0.4nm,0.6s,baz=223,slow=3.0,SNR=4.0							
GERES	**GERESS Array B**	**144.36**	**345**	PKP		PKPab	22 23 26.7	+0.1
	0.6nm,0.6s,baz=23,slow=4.4,SNR=6.1							

LDG 12 22:23:36.5±0.2, 46°.40N×3°.47E, h2km, Ml1.4/2, Error ellipse: s-maj=3.5km s-min=1.5km az=149.0, France

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMF	**Signal de Mont**	**0.36**	**46**	*e*Pg		Pg	22 23 43.6	+0.2
SMF				*e*Sg		Sg	22 23 48.7	+0.6
AVF	**Avril sur Loir**	**0.40**	**349**	*e*Pg		Pg	22 23 44.4	+0.2
AVF				*e*Sg		Sg	22 23 49.8	+0.3
BGF	**Bois d'Agland**	**0.46**	**291**	*e*Pg		Pg	22 23 45.5	+0.2
BGF				*e*Sg		Sg	22 23 51.5	+0.2
SSF	**Saint Saulge**	**0.67**	**2**	*e*Pg		Pg	22 23 48.7	-0.6
SSF				*e*Sg		Sg	22 23 57.9	0.0
	0.8nm,0.2s							
TCF	**Toulx Ste Croi**	**0.88**	**263**	*e*Pg		Pg	22 23 52.9	-0.4
TCF				*e*Sg		Sg	22 24 04.7	0.0
	0.7nm,0.1s							
LOR	**Lormes**	**0.91**	**17**	*e*Pg		Pg	22 23 53.7	-0.3
LOR				*e*Sg		Sg	22 24 05.5	-0.3
	0.5nm,0.2s							

ISC 12 22:24:33.0±1.1, 50°.28N±0°.07×18°.65E±0°.02, h0km, n12, σ0²65/30, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAC	**Raciborz**	**0.35**	**237**	*e*Pg		**Pb**	**22 24 41.8**	**-0.3**
RAC				*e*Pg		**Pb**	**22 24 41.8**	**-0.3**
RAC				*e*Sg		**Sb**	**22 24 47.6**	**-0.5**
RAC				*e*Sg		**Sb**	**22 24 47.6**	**-0.5**
RAC				*e*Sg		**Sb**	**22 24 47.6**	**-0.5**
RAC				*e*Sg		**Sb**	**22 24 47.6**	**-0.5**
OKC	**Ostrava-Krasne**	**0.55**	**217**	*e*PG		**Pg**	**22 24 44.3**	**+0.9**
OKC				*e*SG		**Sg**	**22 24 50.6**	**+0.2**
	comp=Z,26nm,0.5s							
OJC	**Ojcow**	**0.74**	**94**	*e*Pg		**Pg**	**22 24 47.1**	**0.0**
OJC				*e*Pg		**Pg**	**22 24 47.1**	**0.0**
OJC				*e*Sg		**Sg**	**22 24 57.1**	**+0.4**
OJC				*e*Sg		**Sg**	**22 24 57.1**	**+0.4**
MORC	**Moravsky Berou**	**0.87**	**236**	*e*PG		**Pg**	**22 24 50.2**	**+0.5**
MORC				*e*SG		**Sg**	**22 25 02.1**	**+1.2**
NIE	**Niedzica**	**1.37**	**128**	*e*Pg		**Pg**	**22 24 59.3**	**+0.1**
NIE				*e*Pg		**Pg**	**22 24 59.3**	**+0.1**
NIE				*e*Sg		**Sb**	**22 25 17.8**	**+0.3**
NIE				*e*Sg		**Sb**	**22 25 17.8**	**+0.3**
JAVC	**Velka Javorina**	**1.56**	**205**	*e*PN		**Pn**	**22 25 02.5**	**+0.6**
VRAC	**Vranov**	**1.65**	**235**	*e*PN		**Pn**	**22 25 03.5**	**+0.3**
VRAC				*e*SG		**Sn**	**22 25 25.0**	**-0.1**
UPC	**Upice**	**1.71**	**279**	*e*SG		**Sg**	**22 25 29.5**	**+1.8**
VYHS	**Vyhne**	**1.79**	**176**	*e*PN		**Pn**	**22 25 05.0**	**-0.1**
VYHS				*e*SN		**Sn**	**22 25 27.2**	**-1.3**
KRUC	**Moravsky**	**1.90**	**231**	*e*PN		**Pn**	**22 25 07.2**	**+0.5**
KRUC				*e*SG		**Sn**	**22 25 30.6**	**-0.7**
PRU	**Pruhonice**	**2.66**	**265**	*e*SG		**Sg**	**22 25 58.0**	**-0.4**
KHC	**Kasperske Hory**	**3.49**	**253**	*e*PN		**Pn**	**22 25 28.5**	**0.0**
KHC				*e*PG		**Pg**	**22 25 39.0**	**-0.8**
KHC				*e*SG		**Sg**	**22 26 25.2**	**+0.3**

NIED ***12*** *22:52:00, 45°.00N×148°.20E, h5km, Mw4.9 Best double couple: M₀2.22000×10¹⁶ NP1:φs31.00000°, δ22.00000°, λ110.00000°. NP2:φs189.00000°, δ69.00000°, λ82.00000°.*

BJI ***12*** *22:52:14.0±0.0, 45°.43N×148°.84E, h28km, mb5.0/76, mB5.5/67, Ms5.1/81, Ms7 4.8/77*

MOS ***12*** *22:52:14.8±0.9, 45°.22N×148°.24E, h11km, mb5.0/29, MS4.3/10, Error ellipse: s-maj=5.8km s-min=4.4km az=86.1*

MOS Felt (IV) at Kuril'sk, Reydovo, (II) at Goryachiye Klyuchi.

IDC ***12*** *22:52:14.8±0.4, 45°.32N×148°.28E, h0km, mb4.8/33, mb1 5.0/38, mb1mx4.9/44, mbtmp4.8/38, ML4.3/5, MS4.1/25, Ms1 4.1/25, ms1mx3.9/44, Error ellipse: s-maj=13.7km s-min=10.0km az=140.0*

SKHL ***12*** *22:52:15.7±0.5, 45°.21N×148°.33E, h13km±1km, mb5.9/6, Ms5.0/3, msh5.9/6*

SKHL Felt (IV) at Reidovo, Kitovyi, Kuril'sk; (II) at Goryachie Kluchi, Gornyi.

ISCJB ***12*** *22:52:15.4±0.6, 45°.22N±0°.02×148°.29E±0°.02, h13km±3km, mb5.1/135, MS4.5/39, Error ellipse: s-maj=3.7km s-min=1.8km az=152.9*

JMA ***12*** *22:52:17.8±0.8, 44°.97N×148°.23E, h11km, M5.5*

GCMT ***12*** *22:52:18.7±0.2, 45°.24N±0°.02×148°.18E±0°.02, h17km, MW5.0/112, Moment Tension Solution. s56,c68; s112,c157; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.94±.12; Mθθ-0.48±.07; Mϕϕ-2.46±.08; Mrθ-0.27±.22; Mθϕ-0.07±.05; Mϕr-2.26±.19; Best double couple: Mo3.53100×10¹⁶ NP1:φs185.00000°, δ65.00000°, λ92.00000°. NP2:φs0.00000°, δ25.00000°, λ86.00000°. Principal axes: T 3.7730, Plg70.0000°, Azm99.0000°; N -0.4830, Plg2.0000°, Azm4.0000°; P -3.2900, Plg20.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***12*** *22:52:18.7±1.1, 45°.28N±0°.07×148°.18E±0°.10, h22km±3km, mb5.2/413*

ISC 12 22:52:18.1±0.6, 45°.23N±0°.03×148°.29E±0°.03, h20km±2km, n1107, σ1°10/1048, mb5.1/311, MS4.5/39, 61C-19D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**0.30**	**271**	*d* iPN		**Pg**	**22 52 21.8**	**-2.9**
KUR				*e*S		**Sg**	**22 52 26.3**	**-3.0**
KUR				pmax		pmax		
	comp=Z,34μm,0.4s							
KUR				pmax		pmax		
	comp=N,13μm,0.3s							
KUR				pmax		pmax		
	comp=E,9μm,0.3s							
KUR				smax		smax		
	comp=N,102μm,0.6s							
KUR				smax		smax		
	comp=E,45μm,0.4s							
KUR	**Kuril'sk**	**0.30**	**271**	*i* P		**Pg**	**22 52 21.8**	**-2.9**
KUR				AMB		AMB	22 52 23.6	
	comp=E,1μm,0.5s							
KUR				AMB		AMB	22 52 23.6	
	comp=E,880nm,0.5s							
KUR				AMB		AMB	22 52 23.6	
	comp=E,6μm,0.5s							
KUR				*e*S		**Sg**	**22 52 26.3**	**-3.0**
KUR				A		A	22 52 29.6	
	comp=E,20μm,0.8s							
KUR				A		A	22 52 29.6	
	comp=E,27μm,0.8s							
KUR				A		A	22 52 33.5	
	comp=E,22μm,4.0s							
KUR				A		A	22 52 33.5	
	comp=E,34μm,4.0s							
SHO	**Shikotan**	**1.71**	**218**	*d* iPN		**Pn**	**22 52 43.9**	**-2.9**
SHO				*i* S		**Sn**	**22 53 05.3**	**-2.9**
SHO				pmax		pmax		
	comp=N,614nm,0.5s							
SHO				pmax		pmax		
	comp=Z,1μm,0.5s							
SHO				pmax		pmax		
	comp=E,512nm,0.6s							
SHO				pmax		pmax		
	comp=Z,4μm,2.3s							
SHO				smax		smax		
	comp=N,28μm,2.9s							
SHO				smax		smax		
	comp=E,30μm,3.1s							
SHO				smax		smax		
	comp=E,2μm,0.3s							
SHO				smax		smax		
	comp=N,4μm,0.5s							
SHO	**Shikotan**	**1.71**	**218**	*i* P		**Pn**	**22 52 44.0**	**-2.9**
SHO				AMB		AMB	22 52 46.7	
	comp=N,900nm,0.5s							
SHO				AMB		AMB	22 52 46.7	
	comp=N,4μm,0.5s							
SHO				AMB		AMB	22 52 49.4	
	comp=N,12μm,4.0s							
SHO				*i* S		**Sn**	**22 53 05.3**	**-2.9**
SHO				A		A	22 53 12.4	
	comp=N,9μm,3.0s							
SHO				A		A	22 53 12.4	
	comp=N,9μm,3.0s							
SHO				A		A	22 53 19.5	
	comp=N,7μm,0.8s							
SHO				A		A	22 53 19.5	
	comp=N,12μm,0.8s							
YUK	**Yuzh-Kuril'sk**	**2.10**	**236**	*c* iPN		**Pn**	**22 52 51.2**	**-1.0**
YUK				*i* S		**Sb**	**22 53 22.0**	**+0.7**
YUK				pmax		pmax		
	comp=Z,8μm,0.5s							
YUK				pmax		pmax		
	comp=E,3μm,0.4s							
YUK				pmax		pmax		
	comp=N,2μm,0.5s							
YUK				pmax		pmax		
	comp=Z,23μm,1.6s							
YUK				smax		smax		
	comp=N,3μm,0.9s							
YUK				smax		smax		
	comp=E,6μm,0.6s							
YUK				smax		smax		
	comp=E,41μm,1.7s							
YUK				smax		smax		
	comp=N,56μm,3.6s							
YUK				MLR		MLR		
	comp=Z,16μm,11.0s							
YUK	**Yuzh-Kuril'sk**	**2.10**	**236**	*i* P		**Pn**	**22 52 50.4**	**-1.8**
YUK				AMB		AMB	22 52 57.8	
	comp=Z,2μm,0.7s							
YUK				AMB		AMB	22 52 57.8	
	comp=Z,4μm,0.7s							
YUK				AMB		AMB	22 52 57.8	
	comp=Z,8μm,0.7s							
YUK				AMB		AMB	22 53 00.9	
	comp=Z,2μm,2.0s							
YUK				*i* S		**Sn**	**22 53 16.9**	**-0.9**
YUK				A		A	22 53 22.9	
	comp=Z,56μm,4.0s							
YUK				A		A	22 53 22.9	
	comp=Z,41μm,2.0s							
YUK				A		A	22 53 26.7	
	comp=Z,3μm,0.7s							
YUK				A		A	22 53 26.7	
	comp=Z,6μm,0.7s							
GRPR	**Tuman**	**2.18**	**236**	*d* iPN		**Pn**	**22 52 52.8**	**-0.5**
GRPR				*i* S		**Sb**	**22 53 23.2**	**-0.3**
GRPR				pmax		pmax		
	comp=Z,5μm,0.8s							
GRPR				pmax		pmax		
	comp=N,2μm,0.5s							
GRPR				pmax		pmax		
	comp=E,2μm,0.4s							
GRPR				pmax		pmax		
	comp=Z,16μm,2.2s							
GRPR				smax		smax		
	comp=N,4μm,0.6s							
GRPR				smax		smax		
	comp=E,4μm,0.7s							
GRPR				smax		smax		
	comp=N,29μm,3.0s							
GRPR				smax		smax		
	comp=E,23μm,2.6s							
GRPR				MLR		MLR		
	comp=Z,16μm,10.0s							
GRPR	**Tuman**	**2.18**	**236**	*i* P		**Pn**	**22 52 52.2**	**-1.1**
GRPR				AMB		AMB	22 52 58.8	
	comp=Z,5μm,0.5s							
GRPR				AMB		AMB	22 53 00.8	
	comp=Z,2μm,2.0s							
GRPR				*i* S		**Sn**	**22 53 19.2**	**-0.5**
GRPR				A		A	22 53 28.9	
	comp=Z,4μm,0.6s							
GRPR				A		A	22 53 28.9	
	comp=Z,4μm,0.6s							
GRPR				A		A	22 53 32.0	
	comp=Z,28μm,3.0s							
GRPR				A		A	22 53 32.0	
	comp=Z,23μm,3.0s							
GLVR	**Golovnino**	**2.48**	**234**	*d* iPN		**Pb**	**22 53 00.1**	**-1.9**
GLVR				*i* S		**Sn**	**22 53 25.9**	**-1.2**
GLVR				pmax		pmax		
	comp=Z,8μm,2.5s							
GLVR				pmax		pmax		
	comp=Z,3μm,0.6s							
GLVR				pmax		pmax		
	comp=N,808nm,0.4s							
GLVR				pmax		pmax		
	comp=E,661nm,0.4s							
GLVR				smax		smax		
	comp=N,2μm,0.8s							
GLVR				smax		smax		
	comp=E,5μm,0.7s							
GLVR				smax		smax		
	comp=E,20μm,2.1s							
GLVR				smax		smax		
	comp=N,22μm,4.6s							
GLVR	**Golovnino**	**2.48**	**234**	*i* P		**Pn**	**22 52 55.8**	**-1.6**
GLVR				AMB		AMB	22 53 03.0	
	comp=N,8μm,4.0s							
GLVR				AMB		AMB	22 53 05.2	
	comp=N,2μm,0.5s							
GLVR				*i* S		**Sn**	**22 53 25.9**	**-1.2**
GLVR				A		A	22 53 26.3	
	comp=N,2μm,0.8s							
GLVR				A		A	22 53 26.3	
	comp=N,5μm,0.8s							
GLVR				A		A	22 53 31.9	
	comp=N,22μm,5.0s							
GLVR				A		A	22 53 31.9	
	comp=N,20μm,2.0s							
JRA	**Rausu**	**2.61**	**241**	P		**Pn**	**22 52 58.9**	**-0.2**
JRA				*e*S		**Sn**	**22 53 29.2**	**-1.0**
NEM2	**Nemuro 2**	**2.61**	**225**	P		**Pn**	**22 52 57.5**	**-1.7**
NEM2				*e*S		**Sn**	**22 53 27.2**	**-3.1**
NMR	**Nemuro--Hokkai**	**2.62**	**226**	‖ *i* PN		**Pn**	**22 52 57.2**	**-2.0**
NMR				*i* S		**Sn**	**22 53 32.3**	**+1.9**
NMR	**Nemuro--Hokkai**	**2.62**	**226**	*i* P		**Pn**	**22 52 57.2**	**-2.0**
JNSB	**Nemuroshibetsu**	**2.76**	**239**	P		**Pn**	**22 53 01.3**	**0.0**
JNK	**Nakash**	**3.04**	**239**	P		**Pn**	**22 53 04.8**	**-0.3**
JKHN	**Kushirohamanak**	**3.11**	**227**	P		**Pn**	**22 53 04.8**	**-1.2**
JTKR	**Abashiri--Toko**	**3.37**	**250**	‖ P		**Pn**	**22 53 08.8**	**-0.8**
JAK	**Akkeshi**	**3.42**	**230**	P		**Pn**	**22 53 09.4**	**-0.9**
JAR	**Ashorobuto**	**3.78**	**241**	P		**Pn**	**22 53 15.9**	**+0.7**
JSE	**Soyaes**	**4.05**	**268**	P		**Pn**	**22 53 18.4**	**-0.5**
JKK2	**Kamakawa 2**	**4.19**	**253**	P		**Pn**	**22 53 20.6**	**-0.3**
JKA	**Kamikawa-asahi**	**4.21**	**257**	*i* P		**Pn**	**22 53 21.7**	**+0.6**
ASAJ	**Asahikawa**	**4.21**	**257**	Pn		**Pn**	**22 53 21.6**	**+0.5**
	comp=N,44nm,0.3s,baz=65,slow=11,SNR=48							
YSS	**Yuzh-Sakhalins**	**4.22**	**296**	*b* iPN		**Pn**	**22 53 20.7**	**-0.6**
YSS				pmax		pmax		
	comp=Z,210nm,0.7s							
YSS				MLR		MLR		
	comp=Z,8μm,11.0s							
YSS				MLR		MLR		
	comp=N,8μm,15.0s							
YSS				MLR		MLR		
	comp=E,7μm,10.0s							
YSS	**Yuzh-Sakhalins**	**4.22**	**296**	*i* P		**Pn**	**22 53 20.7**	**-0.6**
YSS				AMB		AMB	22 53 22.7	
	comp=E,210nm,0.7s							
YSS				*e*S		**Sn**	**22 54 08.7**	**-1.2**
YSS				A		A	22 54 11.0	
	comp=E,630nm,0.9s							
YSS				A		A	22 54 11.0	
	comp=E,820nm,0.9s							
YSS				AMS		AMS	22 55 18.0	
	comp=E,8μm,11.0s							
YSS				AMS		AMS	22 55 18.0	
	comp=E,4μm,11.0s							
YSS				AMS		AMS	22 55 18.0	
	comp=E,8μm,11.0s							
YSS	**Yuzh-Sakhalins**	**4.22**	**296**			**Pn**	**22 53 20.4**	**-0.8**
JCH	**Churui**	**4.42**	**235**	P		**Pn**	**22 53 23.3**	**-0.7**
JWK2	**Keihoku**	**4.51**	**273**	P		**Pn**	**22 53 27.3**	**+2.0**
JFR	**Furan**	**4.59**	**245**	P		**Pn**	**22 53 27.8**	**+1.4**
ERM	**Erimo**	**4.92**	**231**	*i* PN		**Pn**	**22 53 33.3**	**+2.4**
ERM	**Erimo**	**4.92**	**231**			**Pn**	**22 53 33.0**	**+2.1**
JHR	**Hokuryu**	**4.93**	**255**	P		Pn	22 53 35.5	+4.5
JNBK	**Urakawa-nobuka**	**4.98**	**236**	P		**Pn**	**22 53 31.7**	**0.0**
JRBN	**Rebuntou**	**5.10**	**275**	P		**Pn**	**22 53 34.3**	**+1.0**
JEW	**Eniwo**	**5.48**	**247**	P		**Pn**	**22 53 38.9**	**+0.3**
UGL	**Uglegorsk**	**5.73**	**314**	*e*PN		**Pn**	**22 53 42.4**	**+0.4**
UGL				*e*S		**Sn**	**22 54 49.0**	**+1.9**
UGL				pmax		pmax		
	comp=Z,297nm,0.8s							
UGL				smax		smax		
	comp=E,316nm,0.8s							
UGL				smax		smax		
	comp=N,633nm,1.0s							
UGL				MLR		MLR		
	comp=Z,11μm,9.0s							
UGL				MLR		MLR		
	comp=N,9μm,5.0s							
UGL	**Uglegorsk**	**5.73**	**314**	*e*P		**Pn**	**22 53 42.4**	**+0.4**
UGL				AMB		AMB	22 53 58.5	
	comp=N,300nm,0.8s							
UGL				*e*S		**Sn**	**22 54 47.0**	**-0.1**
UGL				A		A	22 54 57.0	
	comp=N,630nm,0.9s							
UGL				A		A	22 54 57.0	
	comp=N,320nm,0.9s							
UGL				AMS		AMS	22 56 58.0	
	comp=N,11μm,14.0s							
JKB	**Kayabe**	**6.24**	**240**	P		**Pn**	**22 53 50.5**	**+1.5**
JOT	**Ohata**	**6.53**	**236**	P		**Pn**	**22 53 52.9**	**-0.2**
JOSM	**Okushiri--Mats**	**7.12**	**247**	P		**Pn**	**22 54 03.8**	**+2.6**
SKR	**Severo-Kuril's**	**7.57**	**41**	*e*PN		**Pn**	**22 54 10.0**	**+2.7**
SKR				pmax		pmax		
	comp=Z,7μm,3.1s							
SKR				pmax		pmax		
	comp=Z,2μm,3.7s							
SKR				pmax		pmax		
	comp=Z,770nm,0.9s							
SKR				MLR		MLR		
	comp=Z,4μm,12.0s							
SKR				MLR		MLR		
	comp=Z,6μm,14.0s							
SKR				MLR		MLR		
	comp=E,6μm,12.0s							
SKR				MLR		MLR		
	comp=N,3μm,13.0s							
SKR	**Severo-Kuril's**	**7.57**	**41**	*e*P		**Pn**	**22 54 06.7**	**-0.6**
SKR				AMB		AMB	22 54 13.3	
	comp=N,740nm,3.0s							
SKR				AMB		AMB	22 54 16.9	
	comp=N,770nm,0.9s							
SKR				*e*S		**Sn**	**22 55 29.9**	**-2.6**
SKR				A		A	22 56 10.0	
	comp=N,1μm,1.0s							
SKR				A		A	22 56 10.0	
	comp=N,1μm,1.0s							
SKR				AMS		AMS	22 57 15.0	
	comp=N,3μm,14.0s							
SKR				AMS		AMS	22 57 15.0	
	comp=N,6μm,14.0s							
SKR				AMS		AMS	22 57 15.0	
	comp=N,6μm,14.0s							
JMK	**Ichinoseki**	**8.18**	**222**	P		**Pn**	**22 54 14.6**	**-1.1**
JMK				*e*S		**Sn**	**22 55 41.7**	**-5.8**
TEY	**Ternei**	**8.27**	**273**	‖ *e*PN		Pn	22 54 22.8	+6.0

comp=E,130nm,0.7s
GRNR Gornyy 9.69 309 ⇓*i* PN Pn 22 54 25.6 -11
GRNR pmax pmax
comp=Z,10.0nm,0.6s
GRNR MLR MLR
comp=Z,2μm,15.0s
PEA0B Petropavlovsk- 10.00 35 *i* PN **Pn** **22 54 42.8 +2.2**
PEA0B Petropavlovsk- 10.00 35 **Pn** **22 54 43.0 +2.4**
PETK Petropavlovsk- 10.00 35 Pn **Pn** **22 54 43.0 +2.4**
comp=Z,2.5nm,0.3s,baz=209,slow=12,SNR=30
PETK LR LR 22 58 31.2
comp=Z,2μm,18.2s,baz=220,slow=38
PET Petropavlovsk 10.33 37 PN **Pn** **22 54 46.8 +1.7**
PET Petropavlovsk 10.33 37 *e*P **Pn** **22 54 44.7 -0.4**
PET Petropavlovsk 10.33 37 **Pn** **22 54 46.8 +1.7**
JHK Hiroka 10.59 224 P **Pn** **22 54 48.0 -0.7**
JAG Ashikaga 11.05 220 P **Pn** **22 54 52.9 -2.1**
MJB9 Matsu-Tunnel 11.55 225 **Pn** **22 55 01.4 -0.4**
MAJO Matsushiro 11.55 225*d* *i* PN **Pn** **22 55 01.1 -0.7**
MAJO pmax pmax
comp=Z,64nm,0.8s
MAJO Matsushiro 11.55 225 **Pn** **22 55 01.8 -0.1**
MAT Matsushiro 11.55 225 P **Pn** **22 55 00.6 -1.2**
MAT S **Sn** **22 57 10.0 -0.2**
MJAR Matsushiro Arr 11.55 225 Pn **Pn** **22 55 01.1 -0.8**
comp=Z,0.4nm,0.3s,baz=27,slow=13,SNR=40
MJAR LR LR 23 00 14.0
comp=Z,955nm,19.7s,baz=45,slow=41
USA0B Ussuriysk Arra 11.65 271 *i* PN **Pn** **22 55 03.9 +0.8**
USA0B Ussuriysk Arra 11.65 271 **Pn** **22 55 03.8 +0.6**
USRK Ussuriysk Ar. 11.65 271 Pn **Pn** **22 55 05.0 +1.8**
baz=81,slow=12,SNR=40
USRK LR LR 22 58 42.9
comp=Z,1μm,20.5s,baz=75,slow=33
JNG Nsakai 11.71 225 P **Pn** **22 55 03.6 -0.5**
KLR Kul'dur 11.93 295 *i* PN **Pn** **22 55 06.4 -0.6**
KLR Kul'dur 11.93 295 LR LR 22 59 41.2
comp=Z,1μm,18.3s,baz=112,slow=38
KLR Kul'dur 11.93 295 *e*P **Pn** **22 55 06.4 -0.6**
VLA Vladivostok 11.97 266 *i* PN **Pn** **22 55 08.7 +1.2**
VLA Vladivostok 11.97 266 *e*P **Pn** **22 55 08.7 +1.2**
JYN Shimob 12.23 221 P **Pn** **22 55 10.0 -1.2**
EKMR Ekimchan 12.72 314 *e*P **Pn** **22 55 18.0 +0.2**
EKMR AMB AMB 22 55 38.0
comp=Z,100nm,1.0s
EKMR AMB AMB 22 55 38.0
comp=Z,20nm,1.0s
EKMR AMB AMB 22 55 38.0
comp=Z,60nm,1.0s
INU Inuyama 13.08 225 **Pn** **22 55 21.3 -1.5**
MDJ Mudanjiang 13.27 274 P **Pn** **22 55 28.8 +3.5**
MDJ pP P 22 55 35.7 +0.7
MDJ sP 22 55 42.3
MDJ S **Sn** **22 57 52.0 -0.1**
MDJ pmax pmax
comp=Z,100nm,1.4s
MDJ LR LR
comp=Z,2μm,8.6s
MDJ LR LR
comp=Z,3μm,13.9s
MDJ LR LR
comp=Z,4μm,14.1s
MDJ Mudanjiang 13.27 274 **Pn** **22 55 24.1 -1.2**
MA2 Magadan 14.45 5 *i* P **Pn** **22 55 41.9 +0.6**
MA2 Magadan 14.45 5 LR LR 23 01 35.3
comp=Z,803nm,18.2s,baz=148,slow=39
MA2 Magadan 14.45 5 *e*P **Pn** **22 55 41.8 +0.5**
MA2 Magadan 14.45 **Pn** **22 55 42.5 +1.2**
BMKR Bomnak 15.65 314 *e*P **P** **22 56 02.0 +0.6**
BMKR AMB AMB 22 56 10.2
comp=Z,100nm,1.0s
ZEA Zeya 16.06 310 *e*P **Pn** **22 56 02.2 -0.4**
ZEA pmax pmax
comp=N,390nm,1.8s
ZEA pmax pmax
comp=E,370nm,1.6s
ZEA pmax pmax
comp=Z,470nm,1.6s
ZEA pmax pmax
comp=N,1μm,5.0s
ZEA pmax pmax
comp=Z,2μm,5.0s
ZEA MLR MLR
comp=Z,2μm,11.0s
ZEA MLR MLR
comp=E,2μm,9.0s
ZEA MLR MLR
comp=N,1μm,11.0s
ZEA Zeya 16.06 310 *e*P **Pn** **22 56 01.8 -0.8**
ZEA AMB AMB 22 56 09.8
comp=N,290nm,2.0s
ZEA AMB AMB 22 56 09.8
comp=N,270nm,2.0s
ZEA AMS AMS 23 05 03.0
comp=N,1μm,14.0s
ZEA AMS AMS 23 05 03.0
comp=N,2μm,14.0s
ZEA AMS AMS 23 05 03.0
comp=N,2μm,14.0s
CN2 Changchun 16.35 273 *e*P **Pn** **22 56 07.0 +0.6**
CN2 *es*P sP 22 56 15.5 -1.7
CN2 *e*S **Sn** **22 59 09.4 +2.3**
CN2 pmax pmax
comp=N,30nm,1.6s
CN2 pmax pmax
comp=N,200nm,4.0s
CN2 LR LR
comp=N,1μm,12.0s
CN2 LR LR
comp=N,3μm,12.0s
CN2 LR LR
comp=N,3μm,13.0s
KROS Kirovskiy 16.49 312 *e*P **Pn** **22 56 05.9 -2.3**
KROS AMB AMB 22 56 15.2
comp=N,50nm,1.0s
KROS AMB AMB 22 56 15.2
comp=N,60nm,1.0s
KROS AMB AMB 22 56 15.2
comp=N,80nm,1.0s
KSRS Korea Array 17.12 250 P **Pn** **22 56 14.7 -1.5**
comp=N,0.3nm,0.3s,baz=60,slow=12,SNR=11
KSRS PcP **PcP** **23 01 01.2 +1.2**
comp=N,0.1nm,0.3s,baz=52,slow=2.1,SNR=4.8
KSRS LR LR 23 02 49.4
comp=N,456nm,18.9s,baz=62,slow=37
KS19 Wonju Array Si 17.14 250 P **Pn** **22 56 16.1 -0.3**
SEY Seymchan 17.89 6 *i* P **Pn** **22 56 25.7 +0.2**
SEY Seymchan 17.89 6 P **Pn** **22 56 25.2 -0.3**
comp=N,0.8nm,0.3s,baz=180,slow=8.1,SNR=29
JNU Nakatsue 18.08 234 P **P** **22 56 28.5 +0.2**
comp=N,1.2nm,0.3s,baz=52,slow=9.4,SNR=12
JNU LR LR 23 04 03.9
comp=N,426nm,19.8s,baz=31,slow=39
JNU Nakatsue 18.08 234 P **P** **22 56 29.1 +0.7**
TJN Taejon 18.10 248 *i* P **P** **22 56 28.2 -0.4**
SNY Shenyang 18.22 268 ⇓P **P** **22 56 32.9 +3.1**
SNY S **S** **23 00 01.0 +3.6**
SNY pmax pmax
comp=N,880nm,6.3s
SNY LR LR
comp=N,2μm,11.4s
SNY LR LR
comp=N,2μm,12.8s
SNY LR LR
comp=N,2μm,14.3s
SMY Shemya 18.46 57 P **P** **22 56 29.8 -2.5**
SMY pmax pmax
comp=Z,108nm,1.0s
SMY Shemya 18.46 57 P **P** **22 56 29.9 -2.5**
JCJ Chichijima 18.75 197 LR LR 23 02 11.4
comp=Z,243nm,22.0s,baz=337,slow=32
HIA Hailar 19.74 292 *i* P **P** **22 56 46.0 -0.5**
HIA pmax pmax
comp=Z,472nm,1.1s
HIA Hailar 19.74 292 P **P** **22 56 46.0 -0.5**
HIA IAmb IAmb 22 56 54.9
comp=Z,152nm,1.2s
YAK Yakutsk 19.99 334*d* *i* P Pn 22 56 50.2 -0.7
YAK *e*S Sn 23 00 34.6 -0.3
YAK pmax pmax
comp=Z,98nm,0.9s
YAK pmax pmax
comp=N,63nm,1.2s
YAK pmax pmax
comp=E,60nm,1.3s
YAK pmax pmax
comp=Z,1μm,2.7s
YAK pmax pmax
comp=N,1μm,2.6s
YAK pmax pmax
comp=E,780nm,2.3s
YAK smax smax
comp=N,2μm,3.6s
YAK smax smax
comp=E,3μm,4.1s
YAK Yakutsk 19.99 334 *e*P Pn 22 56 50.2 -0.7
YAK Yakutsk 19.99 334 P **P** **22 56 48.6 -0.5**
DL2 Dalian 20.72 262 P Pn 22 57 00.8 +1.2
DL2 S **S** **23 00 49.2 +1.5**
DL2 pmax pmax
comp=E,34nm,0.7s
DL2 pmax pmax
comp=E,490nm,7.3s
DL2 LR LR
comp=E,1μm,16.1s
DL2 LR LR
comp=E,780nm,11.7s
DL2 LR LR
comp=E,900nm,14.7s
KIWB Kanaga Island 23.66 61 P **P** **22 57 29.6 +1.6**
ADK Adak 23.95 61 P **P** **22 57 31.2 +0.4**
ADK pmax pmax
comp=Z,117nm,1.1s
ADK Adak 23.95 61 P **P** **22 57 31.1 +0.4**
BJI Beijing 24.09 269 P **P** **22 57 32.3 +0.1**
BJI S **S** **23 01 45.8 -2.8**
BJI pmax pmax
comp=Z,18nm,2.0s
BJI LR LR
comp=Z,1μm,12.8s
BJI LR LR
comp=Z,2μm,15.7s
BJI LR LR
comp=Z,650nm,15.3s
BJT Baijiatuau 24.11 269 P **P** **22 57 32.5 +0.1**
BJT pmax pmax
comp=Z,20nm,0.9s
BJT Baijiatuau 24.11 269 P **P** **22 57 32.5 +0.1**
GSTR Great Sitkin T 24.34 61 P **P** **22 57 34.5 0.0**
JOW Kunigami 24.36 228 P **P** **22 57 35.5 +0.7**
comp=Z,4.9nm,1.0s,baz=104,slow=16,SNR=6.5
JOW Kunigami 24.36 228 P **P** **22 57 34.9 0.0**
BOD Bodaibo 24.47 313 *e*P **P** **22 57 32.3 -3.2**
BOD pmax pmax
comp=Z,77nm,1.8s
BILL Bilibino 24.71 16⇑ *e*P **P** **22 57 36.7 -0.9**
BILL *e* 22 58 09.4
BILL pmax pmax
comp=Z,29nm,1.6s
BILL MLR MLR
comp=Z,2μm,14.0s
BILL Bilibino 24.71 16 *e*P **P** **22 57 37.2 -0.4**
BILL Bilibino 24.71 16 P **P** **22 57 34.6 -3.0**
TIA Tai'an 25.15 260 P **P** **22 57 42.7 +0.8**
TIA S **S** **23 02 05.7 -0.1**
TIA pmax pmax
comp=Z,37nm,1.7s
TIA pmax pmax
comp=Z,650nm,3.7s
TIA LR LR
comp=Z,610nm,9.8s
TIA LR LR
comp=Z,750nm,10.3s
TIA LR LR
comp=Z,790nm,11.6s
SSE Sheshan 25.41 246 P **P** **22 57 45.3 +1.1**
SSE S **S** **23 02 12.7 +2.8**
SSE pmax pmax
comp=Z,18nm,0.7s
SSE pmax pmax
comp=Z,490nm,5.0s
SSE LR LR
comp=Z,470nm,13.1s
SSE LR LR
comp=Z,390nm,13.4s
SSE Sheshan 25.41 246 P **P** **22 57 42.4 -1.8**
SSE IAmb IAmb 22 57 58.5
comp=Z,50nm,0.7s
ATKA Atka Island 25.49 61 P **P** **22 57 45.1 +0.3**
NJ2 Nanjing 26.33 250 *e*P **P** **22 57 56.4 +3.8**
NJ2 S **S** **23 02 23.8 -0.6**
NJ2 sS **sS** **23 02 38.5 +4.4**
NJ2 pmax pmax
comp=Z,48nm,1.0s
NJ2 pmax pmax
comp=Z,780nm,4.1s
NJ2 LR LR
comp=Z,2μm,12.9s
NJ2 LR LR
comp=Z,2μm,15.3s
NJ2 LR LR
comp=Z,3μm,14.7s
HHC Hu-ho-hao-te 27.04 274 *e*P **P** **22 58 00.6 +1.5**
HHC pP sP 22 58 12.8 +5.3
HHC PP **PnPn** **22 58 42.3 +0.5**
HHC sS sS 23 02 52.8 +7.3
HHC pmax pmax
comp=Z,6.0nm,0.9s
HHC pmax pmax
comp=Z,42nm,4.2s
TIY Taiyuan 27.72 267 *e*P **P** **22 58 08.9 +3.7**
TIY S **S** **23 02 46.7 +0.2**
TIXI Tiksi 28.09 347*ce*P **P** **22 58 06.6 -1.4**
TIXI pmax pmax
comp=Z,22nm,1.7s
TIXI Tiksi 28.09 347 P **P** **22 58 06.6 -1.4**
comp=Z,6.4nm,0.7s,baz=180,slow=24,SNR=13
TIXI Tiksi 28.09 347 P **P** **22 58 07.2 -0.7**
BTO Baotou 28.22 274 *e*P **P** **22 58 10.4 +0.8**
ULN Ulaanbaatar 28.24 290 *e*P **P** **22 58 09.7 -0.2**
ULN pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 28.24 290 *e*P **P** **22 58 09.7 -0.2**
ULN Ulaanbaatar 28.24 290 P **P** **22 58 08.9 -0.9**
SONM Songino Array 28.68 290 P **P** **22 58 13.2 -0.5**
comp=Z,7.7nm,0.9s,baz=79,slow=7.6,SNR=17
SONM LR LR 23 10 02.8
comp=Z,404nm,19.3s,baz=82,slow=37
YOJ Yonaguni jima 29.11 233 P **P** **22 58 17.5 0.0**
YOJ pmax pmax
comp=Z,21nm,0.9s
YOJ Yonaguni jima 29.11 233 P **P** **22 58 17.5 0.0**
H11N2 WAKE ISLAND Hy 29.74 143 T T 23 29 35.0
baz=334,slow=76,SNR=3142
H11N1 WAKE ISLAND Hy 29.75 143 T T 23 29 36.6
baz=334,slow=76,SNR=2985
H11N3 WAKE ISLAND Hy 29.75 143 T T 23 29 37.0
baz=334,slow=76,SNR=2503
TLY Talaya 29.92 299 LR LR 23 10 33.9
comp=Z,409nm,18.6s,baz=80,slow=37
WHN Wuhan 30.28 253 ⇑P **P** **22 58 28.1 +0.3**
WHN S **S** **23 03 23.8 -2.9**
WHN pmax pmax
comp=Z,1μm,4.4s
WHN LR LR
comp=Z,2μm,15.1s
WHN LR LR
comp=Z,2μm,14.6s
WHN LR LR
comp=Z,2μm,14.2s
ZAK Zakamensk 30.30 296 *e*P P 22 58 20.3 -7.7
ZAK pmax pmax
comp=Z,9.0nm,1.4s
H11S1 WAKE ISLAND Hy 30.74 144 T T 23 30 50.6
baz=334,slow=76,SNR=5371
H11S3 WAKE ISLAND Hy 30.75 144 T T 23 30 51.1
baz=334,slow=76,SNR=2672
H11S2 WAKE ISLAND Hy 30.76 144 T T 23 30 52.4
baz=334,slow=76,SNR=3630
QZH Quanzhou 31.35 240 P **P** **22 58 39.0 +1.7**
QZH S **S** **23 03 48.0 +4.5**
QZH LR LR
comp=Z,580nm,13.3s
QZH LR LR
comp=Z,640nm,11.8s
QZH LR LR
comp=Z,440nm,12.8s
TPUB Ta-pu 31.38 235 P **P** **22 58 38.0 +0.3**
TPUB IAmb IAmb 22 58 41.4
comp=Z,42nm,1.0s
TWG Pinlang 31.50 234 P **P** **22 58 36.8 -1.9**
GUMO Guam 31.67 186 P **P** **22 58 38.1 -2.1**
GUMO pmax pmax
comp=Z,110nm,1.0s
GUMO Guam 31.67 186 P **P** **22 58 38.1 -2.1**
ANM Nome 31.91 36 P **P** **22 58 42.4 +0.5**
ANM pmax pmax
comp=Z,26nm,1.1s
ANM Nome 31.91 36 P **P** **22 58 42.4 +0.5**
ANM IAmb IAmb 22 58 44.9
comp=Z,26nm,1.1s
XAN Xi'an 32.02 263 P **P** **22 58 43.6 +0.4**
XAN pP sP 22 58 51.1 -0.5
XAN S **S** **23 03 55.9 +2.0**
XAN pmax pmax
comp=Z,14nm,1.5s
XAN pmax pmax
comp=Z,200nm,4.6s
XAN LR LR
comp=Z,290nm,6.6s
XAN LR LR
comp=Z,740nm,14.8s
XAN LR LR
comp=Z,610nm,15.3s
XAN Xi'an 32.02 263 P **P** **22 58 43.0 -0.2**
XAN pmax pmax
comp=Z,12nm,0.8s
XAN Xi'an 32.02 263 P **P** **22 58 43.0 -0.2**
ENH Enshi 33.77 257 P **P** **22 58 57.4 -1.2**
ENH IAmb IAmb 22 59 02.3
comp=Z,35nm,0.9s
ENH **PcP** **23 01 38.2 +0.6**
RDOG Red Dog Mine 33.84 31 P **P** **22 58 58.8 +0.1**
RDOG IAmb IAmb 22 59 00.3
comp=Z,39nm,1.2s
LZH Lanzhou 34.56 271 *e*P **P** **22 59 05.7 +0.2**
LZH pP sP 22 59 16.8 +2.9
LZH PP **PnPn** **23 00 20.9 +0.1**
LZH sS sS 23 04 45.6 +2.3
LZH pmax pmax
comp=Z,41nm,1.2s
LZH pmax pmax
comp=Z,460nm,5.4s
LZH LR LR
comp=Z,760nm,13.6s
LZH LR LR
comp=Z,1μm,13.2s
LZH LR LR
comp=Z,1μm,16.3s
TTA Tatalina 35.77 40 IAmb IAmb 22 59 18.9
comp=Z,30nm,0.8s
GTA Gaotai 35.87 278 ⇓P **P** **22 59 17.5 +0.8**
GTA pP sP 22 59 27.9 +2.7
GTA sP pP 22 59 32.3 +9.4
GTA PP **PP** **23 00 44.8 +6.6**
GTA PcP **PcP** **23 01 44.6 +0.9**
GTA S **S** **23 04 54.6 +1.0**
GTA sS sS 23 05 09.8 +6.4
GTA ScP **ScP** **23 05 28.3 -0.3**
GTA PcS **PcS** **23 05 31.9 +0.7**
GTA ScS **ScS** **23 09 34.2 +0.2**
GTA pmax pmax
comp=Z,21nm,1.3s
GTA pmax pmax
comp=Z,430nm,7.6s
GTA LR LR
comp=Z,1μm,14.9s
GTA LR LR
comp=Z,850nm,15.9s
GTA LR LR
comp=Z,2μm,14.0s
SVW2 Sparrevohn 35.92 43 P **P** **22 59 17.9 +1.1**
SVW2 IAmb IAmb 22 59 20.8
comp=Z,44nm,1.1s
CHIR Chirikof Islan 36.23 52 P **P** **22 59 20.8 +1.4**
RSO Redoubt South 37.33 44 P **P** **22 59 29.7 +0.7**
OHAK Old Harbor 37.34 50 P **P** **22 59 29.3 +0.4**
OHAK IAmb IAmb 22 59 40.4
comp=Z,55nm,1.1s
CD2 Chengdu 37.38 263 ⇓*i* P **P** **22 59 29.1 -0.5**
CD2 S **S** **23 05 16.0 -0.6**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,410nm,3.8s
CD2 LR LR
comp=Z,780nm,11.5s
CD2 LR LR
comp=Z,770nm,14.0s
CD2 LR LR
comp=Z,700nm,10.9s
PPLA Purkeypile 37.52 40 P **P** **22 59 31.7 +1.2**
KDAK Kodiak Island 37.65 49*ce*P **P** **22 59 31.4 -0.1**
KDAK Kodiak Island 37.65 49 P **P** **22 59 30.6 -0.9**
comp=Z,59nm,1.0s,baz=323,slow=2.5,SNR=7.7
KDAK LR LR 23 14 07.5
comp=Z,339nm,21.9s,baz=233,slow=35
KDAK Kodiak Island 37.65 49 P **P** **22 59 32.0 +0.5**
SKT Skwentna 37.85 42 P **P** **22 59 33.7 +0.6**
BPAW Bear Paw Mtn. 38.05 38 P **P** **22 59 35.5 +0.6**
BPAW IAmb IAmb 22 59 38.0
comp=Z,27nm,0.9s
GYA Guiyang 38.09 255 ⇓*i* P **P** **22 59 35.5 -0.2**
GYA pP sP 22 59 48.0 +3.9
GYA PP **PnPn** **23 01 10.1 +5.9**
GYA S **S** **23 05 21.4 -6.1**
GYA sS ScP 23 05 45.4 +8.4
GYA SS **SnSn** **23 08 06.9 -3.9**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,260nm,4.1s
GYA LR LR
comp=Z,410nm,13.7s
GYA LR LR
comp=Z,650nm,13.7s
GYA LR LR
comp=Z,860nm,14.3s
CNPM China Poot 38.16 46 P **P** **22 59 36.9 +1.1**
CNPM IAmb IAmb 22 59 43.2
comp=Z,55nm,1.2s
MLY Manley 38.17 37 IAmb IAmb 22 59 44.2
comp=Z,46nm,1.2s
MLY **PcP** **23 01 51.9 +1.8**
SUA Susitna One 38.25 43 P **P** **22 59 36.9 +0.3**
SUA IAmb IAmb 22 59 50.5
comp=Z,38nm,1.2s
BRLK Bradley Lake 38.32 45 IAmb IAmb 22 59 38.9
comp=Z,57nm,1.2s
TRF Thorofare Moun 38.37 39 IAmb IAmb 22 59 42.8
comp=Z,38nm,1.1s
RC01 Rabbit Creek A 38.76 43 IAmb IAmb 22 59 43.5
comp=Z,48nm,1.0s
MCK McKinley 38.97 39 P **P** **22 59 43.0 +0.4**
MCK pmax pmax
comp=Z,47nm,1.2s
MCK McKinley 38.97 39 P **P** **22 59 43.0 +0.4**
MCK IAmb IAmb 22 59 55.8
comp=Z,47nm,1.2s
SEW Seward 39.00 45 P **P** **22 59 43.4 +0.6**
PMR Palmer 39.01 42 P **P** **22 59 42.7 -0.2**
PMR pmax pmax
comp=Z,16nm,1.0s
PMR Palmer 39.01 42 P **P** **22 59 42.7 -0.2**
RND Reindeer 39.02 40 IAmb IAmb 22 59 47.5
comp=Z,41nm,1.0s
GHO Glory Hole Cre 39.09 42 P **P** **22 59 43.9 +0.2**
GHO IAmb IAmb 22 59 46.1
comp=Z,42nm,1.1s
MDM Murphy Dome 39.23 37 P **P** **22 59 45.1 +0.3**
MDM IAmb IAmb 23 00 00.3
comp=Z,44nm,1.2s
WRH Wood River Hil 39.31 38 P **P** **22 59 46.5 +1.2**
WRH IAmb IAmb 22 59 52.3
comp=Z,66nm,1.2s
KNK Knik Glacier 39.35 43 IAmb IAmb 22 59 49.7
comp=Z,61nm,1.2s
TCOL CIGO, UAF Yank 39.39 37 P **P** **22 59 46.1 0.0**
baz=272
COLA College 39.40 37 *i* P **P** **22 59 46.0 0.0**
COLA pmax pmax
comp=Z,77nm,1.3s
COLA College 39.40 37 P **P** **22 59 47.5 +1.5**
COLA IAmb IAmb 22 59 49.6
comp=Z,47nm,0.8s
CCB Clear Creek Bu 39.42 38 IAmb IAmb 22 59 52.3
comp=Z,38nm,1.1s

POKR Poker Plat Res 39.57 37 P P 22 59 47.6 +0.1
baz=272,SNR=27
DHY Denali Highway 39.71 40 P P 22 59 48.8 -0.1
DHY IAmb IAmb 23 00 04.2
comp=Z,39nm,1.2s
HDA Harding Lake 39.81 38 P P 22 59 48.8 -0.7
baz=273,SNR=11
ILAR Eielson Array 39.81 37 P P 22 59 48.9 -0.7
comp=Z,31nm,1.0s,baz=272,slow=7.3,SNR=79
SCM Sheep Creek Mo 39.84 42 IAmb IAmb 22 59 53.0
comp=Z,51nm,1.1s
GLI Glacier Island 40.06 43 P P 22 59 52.1 +0.4
GLI IAmb IAmb 22 59 54.2
comp=Z,64nm,1.1s
PRP Porcupine Dome 40.35 36 P P 22 59 55.0 +0.8
PRP IAmb IAmb 22 59 57.7
comp=Z,57nm,1.1s
FID Port Fidalgo 40.38 43 P P 22 59 53.9 -0.4
FID IAmb IAmb 22 59 58.5
comp=Z,57nm,1.2s
FYU Fort Yukon 40.42 34 P P 22 59 55.8 +1.3
ZAA0 Zalesovo Array 40.77 306 P P 22 59 56.9 -0.7
ZAA0 PcP PcP 23 01 58.2 -0.2
ZALV Zalesovo Beam 40.77 306 *i* P P 22 59 58.4 +0.8
ZALV pmax pmax
comp=Z,3.0nm,0.9s
ZALV Zalesovo Beam 40.77 306 P P 22 59 56.0 -1.6
comp=Z,2.7nm,0.8s,baz=69,slow=8.1,SNR=9.5
ZALV PcP PcP 23 01 58.1 -0.3
comp=Z,15nm,0.9s,baz=90,slow=3.0,SNR=10
ZALV LR LR 23 17 38.9
comp=Z,187nm,18.6s,baz=34,slow=37
RIDG Independent Ri 40.78 39 IAmb IAmb 23 00 07.8
comp=Z,51nm,1.1s
SCRK Sand Creek 41.13 38 P P 23 00 01.1 +0.5
SCRK IAmb IAmb 23 00 04.9
comp=Z,48nm,1.2s
QIZ Qiongzhong 41.16 243 P P 23 00 00.5 -0.7
QIZ S S 23 06 10.1 -3.4
QIZ sS sS 23 06 30.2 +6.6
QIZ pmax pmax
comp=Z,530nm,3.9s
QIZ LR LR
comp=Z,540nm,11.4s
QIZ LR LR
comp=Z,720nm,12.2s
QIZ LR LR
comp=Z,650nm,11.8s
RAGM Ragged Mountai 41.32 44 P P 23 00 02.5 +0.4
RAGM IAmb IAmb 23 00 10.4
comp=Z,44nm,1.0s
GLB Gilahina Butte 41.56 42 P P 23 00 05.5 +1.4
KMI Kunming 41.64 257 P P 23 00 05.5 +0.2
KMI pP sP 23 00 16.2 +2.4
KMI PP PP 23 01 42.9 +1.3
KMI S S 23 06 21.0 0.0
KMI SS SS 23 09 24.4 -1.9
KMI pmax pmax
comp=Z,40nm,0.9s
KMI pmax pmax
comp=Z,790nm,3.9s
KMI LR LR
comp=Z,430nm,10.2s
KMI LR LR
comp=Z,600nm,12.8s
KMI LR LR
comp=Z,610nm,13.3s
KMI Kunming 41.64 257 P P 23 00 05.7 +0.4
KMI pmax pmax
comp=Z,52nm,0.9s
KMI Kunming 41.64 257 P P 23 00 05.7 +0.4
KMI IAmb IAmb 23 00 10.1
comp=Z,52nm,0.9s
MCARA McCarthy VSAT 41.94 42 P P 23 00 07.9 +0.7
CRQM Cirque 42.00 43 P P 23 00 08.8 +1.0
TGL Tana Glacier 42.15 43 P P 23 00 09.5 +0.6
TGL IAmb IAmb 23 00 24.8
comp=Z,44nm,1.2s
WAX Waxell Ridge 42.20 43 IAmb IAmb 23 00 12.6
comp=Z,56nm,0.9s
EGAK Eagle 42.26 37 IAmb IAmb 23 00 11.9
comp=Z,58nm,1.1s
WMQ Urumqi 42.32 291 *e*P P 23 00 11.5 +0.9
WMQ sP sP 23 00 28.2 +9.1
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,310nm,5.7s
WMQ LR LR
comp=Z,590nm,9.3s
WMQ LR LR
comp=Z,820nm,9.3s
WMQ LR LR
comp=Z,620nm,10.5s
BALM Baldy 42.33 43 IAmb IAmb 23 00 14.0
comp=Z,43nm,1.1s
BARN Barnard Glacie 42.65 42 P P 23 00 14.0 +0.9
BARN IAmb IAmb 23 00 25.7
comp=Z,62nm,1.2s
MESA MESA 42.69 44 P P 23 00 14.4 +0.9
MESA IAmb IAmb 23 00 21.9
comp=Z,53nm,1.0s
CTGM Chitina Glacie 42.83 43 IAmb IAmb 23 00 18.2
comp=Z,50nm,1.0s
DAWY Dawson 43.12 38 P P 23 00 17.0 +0.2
DAWY PcP PcP 23 02 09.1 +3.0
SLVN Son La 43.39 252 P P 23 00 19.5 +0.1
EPYK Eagle Plains 43.84 34 P P 23 00 22.2 -0.3
baz=280,SNR=37
MK31 Makanchi Array 44.63 297 PcP 23 02 11.8 +0.3
MKAR Makanchi Array 44.63 297 P P 23 00 28.5 -0.6
comp=Z,6.8nm,0.8s,baz=74,slow=8.3,SNR=36
MKAR PcP PcP 23 02 11.2 -0.4
comp=Z,15nm,1.0s,baz=60,slow=5.5,SNR=10.0
MKAR LR LR 23 19 58.8
comp=Z,627nm,18.2s,baz=66,slow=37
INK Inuvik 44.71 31 P P 23 00 29.8 +0.4
INK pmax pmax
comp=Z,50nm,1.2s
INK Inuvik 44.71 31 P P 23 00 28.7 -0.7
comp=Z,37nm,1.1s,baz=277,slow=9.1,SNR=29
INK Inuvik 44.71 31 P P 23 00 29.8 +0.4
MAKZ Makanchi 44.83 297 P P 23 00 30.1 -0.5
MAKZ pmax pmax
comp=Z,9.0nm,0.9s
MAKZ Makanchi 44.83 297 P P 23 00 30.1 -0.5
KURK Kurchatov 45.39 303 *ce*P P 23 00 33.9 -1.1
KURK pmax pmax
comp=Z,14nm,0.8s
KURK Kurchatov 45.39 303 *e*P P 23 00 33.9 -1.1
KURK Kurchatov 45.39 303 P P 23 00 33.9 -1.1
NONG Nongkai 46.19 249 P P 23 00 43.2 +1.5
comp=Z,0.7nm,1.0s,comp=Z,270nm
BESE Bessie Mountai 46.62 45 P P 23 00 45.2 +0.6
BESE IAmb IAmb 23 00 53.9
comp=Z,36nm,1.1s
UBPT Khong Chiam 46.72 244 P P 23 00 47.1 +1.3
LSA Lhasa 46.97 271 P P 23 00 49.3 +1.1
LSA Lhasa 46.97 271 P P 23 00 49.6 +1.4
LSA pmax pmax
comp=Z,18nm,0.9s
LSA Lhasa 46.97 271 P P 23 00 49.6 +1.4
LSA IAmb IAmb 23 00 53.7
comp=Z,18nm,0.9s
KOHI KOHIMA 47.28 265 *e*P P 23 00 49.5 -0.8
DLV T Lat 47.41 238 P P 23 00 51.8 +0.3
PAYA Payao 47.47 253 P P 23 00 53.0 +1.3
comp=Z,59µm,0.9s,comp=Z,427µm
SMPI Sarmi 47.78 193 P P 23 00 54.7 +0.7
comp=Z,40nm,0.9s,comp=Z,4µm
C36M Paulatuk 47.79 29 P P 23 00 52.5 -1.0
baz=288,SNR=12
PHRA Phrae 47.83 252 P P 23 00 55.3 +0.8
comp=Z,7.1nm,1.1s
UTTA Uttaradit 48.14 251 P P 23 00 57.9 +1.0
comp=Z,45µm,0.9s,comp=Z,360µm
LAMP Lampang 48.22 253 P P 23 01 01.2 +3.7
comp=Z,97µm,0.9s,comp=Z,877µm
SWI Sorong 48.32 203 P P 23 00 56.6 -1.6
comp=Z,37nm,2.8s,comp=Z,1µm
CMMT Chiang Mai 48.48 254 P P 23 00 59.8 +0.3
comp=Z,22nm,1.6s,comp=Z,406nm
CHTO Chiang Mai 48.48 254 P P 23 01 00.2 +0.6
CHTO Chiang Mai 48.48 254 P P 23 00 59.8 +0.3
CHTO pmax pmax
comp=Z,37nm,1.0s

CHTO Chiang Mai 48.48 254 P P 23 00 59.8 +0.3
CHAI Chaiyaphum 48.52 248 P P 23 01 00.3 +0.5
comp=Z,62µm,0.9s,comp=Z,562µm
CM31 Chiang Mai Arr 48.73 253 P P 23 01 02.3 +0.9
SNR=8.2
CMAR Chiang Mai Arr 48.73 253 *ce*P P 23 01 02.0 +0.6
CMAR pmax pmax
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 48.73 253 P P 23 01 01.9 +0.6
comp=Z,10nm,0.8s,baz=36,slow=7.4,SNR=24
CMAR PcP PcP 23 02 26.2 -0.2
comp=Z,0.9nm,0.3s,baz=349,slow=2.8,SNR=3.2
CMAR LR LR 23 22 13.9
comp=Z,174nm,20.4s,baz=30,slow=37
SHL Shillong 48.94 266 P P 23 01 04.6 +1.4
SNR=11
SHL Shillong 48.94 266 P P 23 01 02.9 -0.3
SHL pmax pmax
comp=Z,27nm,0.8s
SHL Shillong 48.94 266 *e*P P 23 01 03.7 +0.5
SHL IAmb IAmb 23 01 10.8
comp=Z,15nm,0.9s
SHL Shillong 48.94 266 P P 23 01 02.9 -0.3
BRVK Borovoye 49.25 309 P P 23 01 06.5 +1.5
BRVK Borovoye 49.25 309 *ce*P P 23 01 03.2 -1.8
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 49.25 309 *e*P P 23 01 03.2 -1.8
BRVK Borovoye 49.25 309 P P 23 01 04.0 -1.0
BRVK PcP 23 02 28.4 +0.7
MHMT Maesarieng 49.61 254 P P 23 01 09.9 +1.7
comp=Z,37nm,1.3s,comp=Z,1µm
FAKI Fak Fak 50.02 201 P P 23 01 11.2 -0.1
comp=Z,31nm,1.8s,comp=Z,1µm
FAKI Fak Fak 50.02 201 P P 23 01 11.6 +0.3
FAKI IAmb IAmb 23 01 18.5
comp=Z,26nm,1.0s
MRSI Marisa 50.28 215 P P 23 01 14.9 +1.7
UMPA Umpang Tak 50.37 251 P P 23 01 16.8 +2.8
comp=Z,48µm,1.0s,comp=Z,405µm
UTHA Uthaitani 50.44 250 P P 23 01 16.0 +1.5
comp=Z,26µm,0.9s,comp=Z,315µm
TKM2 Tokmak 2 50.61 295 P P 23 01 16.4 +0.6
SNR=7.8
TAPN Taplejung 50.79 271 *e*P P 23 01 18.1 +0.7
comp=Z,70nm,1.0s
SANI Sanana 51.08 209 P P 23 01 17.8 -1.4
comp=Z,42nm,0.9s,comp=Z,876nm
USP Ospenovka 51.15 296 P P 23 01 19.8 +0.2
SNR=18
KHLH Kahului Airpor 51.16 99 P P 23 01 21.6 +1.7
KBK Karagaybulak 51.16 295 P P 23 01 19.9 0.0
SNR=20
KZA Kyzart 51.25 294 P P 23 01 22.2 +1.4
SNR=20
MPSI Mapaga 51.26 218 P P 23 01 20.5 -0.1
comp=Z,12nm,2.5s
FRU1 Bishkek 51.29 295 P P 23 01 20.6 -0.1
FRU1 pmax pmax
comp=Z,16nm,1.1s
FRU1 Bishkek 51.29 295 P P 23 01 20.6 -0.1
ODAN Odare 51.32 271 *e*P P 23 01 22.3 +1.0
comp=Z,52nm,1.0s
PATY Pattaya 51.44 247 P P 23 01 26.8 +4.8
comp=Z,44µm,0.9s
AAK Ala-Archa 51.46 295 *i* P P 23 01 22.1 -0.1
SNR=15
AAK Ala-Archa 51.46 295 P P 23 01 22.5 +0.4
AAK Ala-Archa 51.46 295 *ce*P P 23 01 22.3 +0.2
AAK pmax pmax
comp=Z,23nm,1.0s
AAK Ala-Archa 51.46 295 P P 23 01 22.5 +0.4
SNR=14
AAK Ala-Archa 51.46 295 *e*P P 23 01 22.3 +0.2
AAK Ala-Archa 51.46 295 P P 23 01 22.3 +0.2
AAK IAmb IAmb 23 01 25.5
comp=Z,21nm,1.0s
SRDT SRDT 51.53 249 P P 23 01 24.0 +1.3
comp=Z,11nm,2.0s,comp=Z,390nm
JIRN Jiri 51.68 272 *e*P P 23 01 24.1 -0.1
comp=Z,303nm,1.1s
GUN Gumba 51.75 273 *e*P P 23 01 24.2 -0.5
comp=Z,186nm,1.1s
RAMN Ramite 51.82 271 *e*P P 23 01 25.4 +0.3
comp=Z,151nm,1.0s
EKS2 Erkin-Say 51.91 295 P P 23 01 25.1 -0.3
SNR=12
KSH Kashi 52.09 291 P P 23 01 29.8 +3.0
KSH PP PP 23 03 29.8 +5.0
KSH ScP ScP 23 06 32.3 -2.1
KSH PcS PcS 23 06 38.6 +1.7
KSH S S 23 08 49.1 -0.6
KSH ScS ScS 23 11 12.4 -3.4
KSH pmax pmax
comp=Z,990nm,5.2s
KSH LR LR
comp=Z,1µm,12.8s
KSH LR LR
comp=Z,2µm,16.3s
KSH LR LR
comp=Z,2µm,7.9s
AML Almayashu 52.23 295 P P 23 01 30.6 +2.5
SNR=6.4
KKN Kakani 52.24 273 *e*P P 23 01 28.4 +0.2
comp=Z,382nm,1.7s
PHET Kaeng Krachan 52.25 248 P P 23 01 30.3 +2.2
comp=Z,97µm,0.8s
PKI Pulchoki 52.29 273 *e*P P 23 01 28.5 -0.1
comp=Z,159nm,1.2s
PKIN Phulchoki 52.29 273 *e*P P 23 01 28.7 +0.1
comp=Z,137nm,1.2s
DMN Daman 52.48 273 *e*P P 23 01 30.1 +0.1
comp=Z,249nm,1.3s
GKN Gorkha 52.57 274 *e*P P 23 01 30.5 0.0
comp=Z,272nm,1.1s
HLP Hilina Pali 53.01 100 P P 23 01 33.5 -0.2
SBUM Sibu 53.08 227 P P 23 01 38.0 +3.8
RES Resolute Bay 53.31 17 P P 23 01 34.0 -1.1
comp=Z,20nm,0.7s,baz=312,slow=7.7,SNR=29
KOLN Koldanda 53.44 274 *e*P P 23 01 37.2 +0.2
comp=Z,310nm,1.1s
KK31 Karatay Array 53.75 297 IAmb IAmb 23 01 41.7
comp=Z,22nm,0.9s
KKAR Karatay Array 53.75 297 IAmb IAmb 23 01 41.7
comp=Z,22nm,0.9s
ARU Arti 53.83 317 *c i* P P 23 01 38.3 -0.9
ARU 23 02 44.1
ARU 23 03 38.2
ARU S S 23 09 13.8 +1.1
ARU pmax pmax
comp=Z,32nm,1.5s
ARU MLR MLR
comp=Z,623nm,15.0s
ARU Arti 53.83 317 *e*P P 23 01 38.3 -0.9
ARU Arti 53.83 317 P P 23 01 37.7 -1.5
YKA Yellowknife Ar 54.12 35 P P 23 01 40.2 -1.0
comp=Z,10nm,0.8s,baz=302,slow=7.3,SNR=84
YKA PcP PcP 23 02 46.2 +0.5
comp=Z,3.2nm,1.0s,baz=301,slow=3.5,SNR=4.4
BOK Bokaro 54.29 269 *e*P P 23 01 42.8 -0.2
BOK IAmb IAmb 23 01 49.2
comp=Z,16nm,0.6s
KSM Kuching 54.91 229 P P 23 01 51.0 +3.5
BTK Batken 55.16 294 P P 23 01 48.5 -0.7
BTK pmax pmax
comp=Z,36nm,1.0s
BTK Batken 55.16 294 P P 23 01 48.5 -0.7
DHRM DHARAMSHALA 55.88 283 *e*P P 23 01 54.8 0.0
DHRM IAmb IAmb 23 02 06.5
comp=Z,67nm,1.2s
SMLA Simla 55.94 282 *e*P P 23 01 54.9 0.0
KAPI Kappang 56.15 215 P P 23 01 56.7 +0.3
KAPI pmax pmax
comp=Z,21nm,1.0s
KAPI Kappang 56.15 215 P P 23 01 56.7 +0.3
KAPI IAmb IAmb 23 01 59.1
comp=Z,21nm,0.9s
PRGR Permogore 56.79 326 *e*P P 23 01 58.0 -2.4
PRGR *e* 23 02 51.7
PRGR pmax pmax
comp=Z,16nm,1.0s
LLLB Lillooet 56.86 50 IAmb IAmb 23 02 05.3
comp=Z,22nm,1.1s
NIL Nilore 57.15 286 P P 23 02 03.9 +0.4
NIL pmax pmax
comp=Z,67nm,1.0s

NIL Nilore 57.15 286 P P 23 02 03.9 +0.4
APA Apatity 57.37 336 *i* P P 23 02 21.7 +17
APA pmax pmax
comp=Z,11nm,1.2s
JRMM Jerantut 57.38 238 P P 23 02 08.0 +2.8
KULM Kulim 57.39 241 P P 23 02 08.0 +2.7
KULM Kulim 57.39 241 P P 23 02 05.9 +0.6
KULM IAmb IAmb 23 02 10.7
comp=Z,18nm,0.8s
A04D Lummi Island 57.43 52 P P 23 02 05.6 +0.5
baz=303
NLWA Neilton Lookou 57.50 54 P P 23 02 06.5 +0.8
NLWA IAmb IAmb 23 02 09.5
comp=Z,28nm,0.9s
IPM Ipoh 57.79 240 P P 23 02 11.0 +2.9
D03D Eldon 57.87 53 P P 23 02 08.3 0.0
baz=304
B05A Bryant 58.02 52 P P 23 02 09.5 +0.1
baz=304
TMCR Tamitsa 58.07 331 *e*P P 23 02 07.4 -2.0
TMCR pmax pmax
comp=Z,26nm,1.5s
ARCES ARCESS Array B 58.14 340 PcP PcP 23 03 02.7 +1.5
comp=Z,9.8nm,0.9s,baz=46,slow=5.7,SNR=4.6
ARCES LR LR 23 30 32.6
comp=Z,110nm,18.5s,baz=352,slow=40
B06A Marblemount 58.22 51 P P 23 02 10.8 +0.1
D04E Lakebay 58.24 53 P P 23 02 11.6 +0.7
baz=304
MYKOM Kota Tinggi 58.25 235 P P 23 02 14.0 +2.7
MYKOM Kota Tinggi 58.25 235 P P 23 02 11.0 -0.3
MYKOM IAmb IAmb 23 02 15.9
comp=Z,23nm,0.9s
D05A Enumclaw 58.68 53 P P 23 02 14.9 +0.9
E04D Cinebar 58.71 54 P P 23 02 15.3 +1.1
baz=304
F04D Rainier, OR 58.72 55 P P 23 02 15.1 +0.9
baz=304
SOEI Soe 58.86 208 P P 23 02 15.4 -0.2
C06D Leavenworth 58.88 52 P P 23 02 16.1 +0.7
baz=305
G03D McMinnville, O 59.07 55 P P 23 02 17.2 +0.6
baz=305
COEN Coen 59.09 186 P P 23 02 17.9 +0.9
KBL Kabul 59.45 290 P P 23 02 19.0 -0.8
KBL pmax pmax
comp=Z,28nm,1.1s
KBL Kabul 59.45 290 P P 23 02 19.0 -0.8
KBL IAmb IAmb 23 02 22.1
comp=Z,28nm,1.1s
B08A Colville Reser 59.49 51 IAmb IAmb 23 02 22.2
comp=Z,16nm,0.9s
F05D White Salmon 59.72 54 P P 23 02 21.4 +0.2
baz=305
H04D Lebanon 59.77 56 P P 23 02 22.1 +0.6
baz=305
J01E Myrtle Point 59.85 58 P P 23 02 22.7 +0.6
baz=305
MTN Manton Dam 59.85 199 P P 23 02 22.4 +0.1
I03D Drain, OR 59.88 57 P P 23 02 23.3 +1.0
baz=305
G05D Wamic, OR 60.18 55 P P 23 02 24.7 +0.3
baz=306
E07A Sunnyside 60.24 53 IAmb IAmb 23 02 26.6
comp=Z,18nm,1.0s
K02D Willamette Mer 60.27 58 P P 23 02 25.6 +0.4
baz=306
I04A Tendick Farm, 60.38 56 P P 23 02 25.9 +0.1
baz=306,SNR=5.5
C09A Chrisman Ranch 60.39 51 IAmb IAmb 23 02 28.3
comp=Z,17nm,0.8s
PSI Prapat 60.40 241 P P 23 02 26.7 +0.4
PSI pmax pmax
comp=Z,22nm,1.0s
RPSI Rantau Prapat 60.48 241 P P 23 02 26.7 -0.1
RPSI IAmb IAmb 23 02 30.9
comp=Z,22nm,1.0s
HAWA Hanford 60.52 53 P P 23 02 27.2 +0.6
HAWA IAmb IAmb 23 02 29.6
comp=Z,25nm,1.1s
G06A Carlson Farm, 60.57 54 P P 23 02 27.3 +0.2
G06A IAmb IAmb 23 02 29.9
comp=Z,18nm,1.1s
BHPL Bhopal 60.61 274 *e*P P 23 02 27.6 -0.1
BHPL IAmb IAmb 23 02 32.4
comp=Z,86nm,1.0s
L02E Cave Junction 60.63 59 P P 23 02 27.9 +0.4
baz=306
I05D Terrebonne, OR 60.69 55 P P 23 02 28.3 +0.4
baz=306
E08A Dider Farm, El 60.73 52 IAmb IAmb 23 02 31.4
comp=Z,14nm,0.9s
NEW Newport 60.75 50 P P 23 02 28.1 -0.2
baz=306,SNR=13
NEW Newport 60.75 50 P P 23 02 27.8 -0.4
comp=Z,16nm,0.9s,baz=316,slow=6.2,SNR=13
NEW Newport 60.75 50 IAmb IAmb 23 02 31.4
comp=Z,18nm,1.0s
KRMB Red Mountain 60.81 59 P P 23 02 30.2 +1.3
NGP Nagpur 60.81 271 *e*P P 23 02 28.4 -0.6
NGP IAmb IAmb 23 02 33.4
comp=Z,60nm,0.9s
NGP Nagpur 60.81 271 *e*P P 23 02 28.1 -0.9
NGP *e*S P 23 02 32.2 +3.2
J04D Umpqua Nationa 60.88 57 P P 23 02 29.9 +0.5
baz=306,SNR=10
BKNI Bangkinang 61.08 237 P P 23 02 32.0 +1.2
JCC Jacoby Creek, 61.16 60 IAmb IAmb 23 02 44.3
comp=Z,28nm,1.1s
L04D Klamath Falls 61.37 58 P P 23 02 32.8 +0.1
baz=307,SNR=18
J05D Fort Rock, OR 61.37 56 P P 23 02 33.2 +0.5
baz=307,SNR=20
YBH Yreka Blue Hor 61.41 58 IAmb IAmb 23 02 37.1
comp=Z,13nm,0.8s
K04D Chiloquin, OR 61.46 57 P P 23 02 33.3 0.0
baz=307
M02C Callahan 61.53 59 P P 23 02 34.6 +0.9
baz=307,SNR=9.8
KMRM Mail Ridge 61.71 60 IAmb IAmb 23 02 40.0
comp=Z,17nm,1.0s
N02D Trinity Center 61.87 59 P P 23 02 36.9 +0.9
baz=307,SNR=11
M04C Macdoel 61.91 58 P P 23 02 36.8 +0.5
baz=307,SNR=14
WALA Waterton Lakes 61.97 48 IAmb IAmb 23 02 39.3
comp=Z,20nm,0.8s
F10A Beach Ranch, E 62.06 52 IAmb IAmb 23 02 54.6
comp=Z,17nm,1.0s
KCPM Cahto Peak 62.10 61 P P 23 02 38.3 +0.6
SMRI Semarang 62.12 224 P P 23 02 38.2 +0.4
WDC Whiskeytown Da 62.21 59 IAmb IAmb 23 02 41.9
comp=Z,17nm,1.0s
O02D Mt. Diablo Mer 62.30 60 P P 23 02 39.8 +0.9
baz=307,SNR=15
GSI Gunungsitoli 62.40 241 P P 23 02 39.7 0.0
GSI IAmb IAmb 23 02 55.0
comp=Z,22nm,1.0s
SUMG Summit 62.40 2 P P 23 02 39.6 +0.2
SUMG pmax pmax
comp=Z,7.0nm,1.0s
SUMG Summit 62.40 2 P P 23 02 39.6 +0.2
JTMT Jette 62.58 49 IAmb IAmb 23 02 43.8
comp=Z,17nm,0.9s
MOD Modoc Plateau 62.75 57 IAmb IAmb 23 02 45.5
comp=Z,16nm,0.9s
O03E Paynes Creek 62.83 59 P P 23 02 42.2 -0.2
baz=308,SNR=19
GDXM Geysers 63.12 61 IAmb IAmb 23 02 47.8
comp=Z,28nm,1.2s
KNRA Kununurra 63.16 201 P P 23 02 45.1 +0.5
MSO Missoula 63.33 50 P P 23 02 45.8 +0.1
baz=309,SNR=19
WVOR Wild Horse Val 63.41 56 IAmb IAmb 23 02 50.7
comp=Z,21nm,1.0s
ORV Oroville 63.46 60 IAmb IAmb 23 02 50.0
comp=Z,12nm,1.0s
MCCM Marconi Confer 63.48 62 P P 23 02 47.7 +1.1
HYB Hyderabad 63.63 268 *i* P P 23 02 47.0 -1.0
FIA1 FINESS Array S 63.92 333 P P 23 02 48.8 -0.4
FINES FINESS Array B 63.92 333 P P 23 02 47.5 -1.7
comp=Z,18nm,0.8s,baz=49,slow=7.5,SNR=19
BEKR Beckworth 63.96 59 IAmb IAmb 23 02 53.3
comp=Z,20nm,0.9s
HRA Herat 64.02 293 IAmb IAmb 23 02 52.9
comp=Z,17nm,1.1s

FFC Flin Flon 64.03 37 *ce*P P 23 02 50.6 +0.6
FFC Flin Flon 64.03 37 P P 23 02 49.6 -0.4
FFC IAmb IAmb 23 02 53.2
comp=Z,23nm,1.0s
GEYT Alibeck 64.44 299 P P 23 02 53.1 0.0
comp=Z,15nm,1.0s,baz=336,slow=3.3,SNR=15
GEYT LR LR 23 31 42.4
comp=Z,145nm,18.4s,baz=175,slow=37
GYA0B ALIBECK ARRAY 64.44 299 IAmb IAmb 23 02 57.0
comp=Z,24nm,1.1s
RUBR Rubicon Trail 64.59 60 P P 23 02 54.8 +0.5
OBN Obninsk 64.60 324⇑ *e*P P 23 02 52.3 -1.4
OBN *e* 23 03 26.9
OBN *e* 23 05 11.1
OBN *e*S S 23 11 54.3 +22
OBN pmax pmax
comp=Z,16nm,1.0s
OBN MLR MLR
comp=Z,351nm,15.0s
OBN Obninsk 64.60 324 *e*P P 23 02 52.7 -1.0
PAHR Pah Rah Range 64.65 59 IAmb IAmb 23 02 57.3
comp=Z,28nm,1.2s
VCNR Virginia City 64.75 59 P P 23 02 55.7 +0.4
VCNR IAmb IAmb 23 02 58.2
comp=Z,21nm,1.1s
EGMT Eagleton 64.78 47 P P 23 02 55.1 -0.1
baz=310
PNTR Pine Nut 64.91 59 P P 23 02 56.6 +0.3
PNTR IAmb IAmb 23 02 59.4
comp=Z,22nm,0.9s
VRH Novokhopyorsk 64.96 318 *e*P P 23 02 54.9 -1.2
VRH pmax pmax
comp=Z,10.0nm,0.8s
DLMT Dillon 64.98 50 P P 23 02 56.4 -0.3
DLMT IAmb IAmb 23 02 58.8
comp=Z,12nm,1.0s
CMB Columbia Colle 65.09 61 IAmb IAmb 23 03 00.8
comp=Z,16nm,1.0s
SAO San Andreas Ge 65.22 62 IAmb IAmb 23 03 04.9
comp=Z,15nm,1.1s
LPSR Galich'ya Gora 65.30 321 *e*P P 23 02 57.4 -0.9
LPSR pmax pmax
comp=Z,10.0nm,1.0s
BOZ Bozeman (W) 65.35 50 P P 23 02 59.0 0.0
baz=310
BOZ Bozeman (W) 65.35 50 P P 23 02 59.2 +0.2
BOZ pmax pmax
comp=Z,21nm,0.9s
BOZ Bozeman (W) 65.35 50 P P 23 02 59.2 +0.2
BOZ IAmb IAmb 23 03 02.0
comp=Z,21nm,0.9s
WAKR Walker 65.37 60 IAmb IAmb 23 03 03.9
comp=Z,27nm,1.2s
BMN Battle Mountai 65.49 57 IAmb IAmb 23 03 04.4
comp=Z,12nm,0.8s
RYN Ryan 65.85 59 IAmb IAmb 23 03 06.6
comp=Z,14nm,0.9s
PMPB Monarch Peak 65.97 62 P P 23 03 03.9 +0.9
PMPB IAmb IAmb 23 03 13.3
comp=Z,25nm,1.2s
WR0 Warramunga Arr 66.07 194 P P 23 03 03.9 +0.3
WRAB Tennant Creek 66.08 194 *ce*P P 23 03 03.5 -0.1
WRAB pmax pmax
comp=Z,17nm,1.0s
WRAB Tennant Creek 66.08 194 P P 23 03 02.9 -0.8
WRAB IAmb IAmb 23 03 05.0
comp=Z,13nm,0.8s
WRA Warramunga Arr 66.09 194 P P 23 03 02.7 -1.0
comp=Z,8.6nm,0.8s,baz=9.2,slow=6.6,SNR=42
NVAR Mina Array Bea 66.11 59 P P 23 03 04.2 +0.1
comp=Z,13nm,0.8s,baz=288,slow=6.8,SNR=52
NVAR LR LR 23 29 23.9
comp=Z,42nm,20.7s,baz=16,slow=34
YHB Horse Butte 66.14 50 P P 23 03 04.2 0.0
VSR Storozhevoye 66.14 319 *e*P P 23 03 02.1 -1.7
VSR pmax pmax
comp=Z,20nm,1.1s
MDPB Devils Postpil 66.14 60 P P 23 03 04.9 +0.5
MDPB IAmb IAmb 23 03 08.7
comp=Z,14nm,1.0s
NV11 Mina Array Sit 66.20 59 P P 23 03 05.2 +0.7
NV11 IAmb IAmb 23 03 07.5
comp=Z,19nm,1.1s
POO Poona 66.21 273 *e*P P 23 03 05.2 +0.4
POO Poona 66.21 273 *e*P P 23 03 03.5 -1.3
GCMT Greycliff 66.27 48 P P 23 03 05.5 +0.5
MLAC Mammoth, Mammo 66.29 60 P P 23 03 05.9 +0.6
baz=310
FITZ Fitzroy Crossi 66.31 204 P P 23 03 05.5 +0.4
YMR Madison River 66.31 50 P P 23 03 05.3 0.0
YNR Norris Junctio 66.44 50 P P 23 03 06.7 +0.5
YUF Upper Falls 66.53 50 P P 23 03 06.6 -0.2
YNE Yellowstone No 66.61 49 P P 23 03 06.9 -0.3
H17A Grant Village 66.70 50 P P 23 03 09.0 +1.1
baz=311,SNR=12
H17A Grant Village 66.70 50 IAmb IAmb 23 03 13.8
comp=Z,21nm,1.0s
RLMT Red Lodge 66.93 49 P P 23 03 09.1 -0.1
baz=312
FXWY Fox Creek 66.95 51 IAmb IAmb 23 03 12.8
comp=Z,19nm,1.1s
TIN Tinemaha, Big 67.03 60 P P 23 03 10.4 +0.5
baz=310
MOOW Moose Ponds 67.04 51 IAmb IAmb 23 03 13.4
comp=Z,22nm,1.1s
SMMC Simmler 67.05 63 P P 23 03 10.6 +0.7
baz=310
VES Vestal, Richgr 67.28 62 P P 23 03 11.2 -0.1
baz=310,SNR=5.9
PKM Mcpherson Peak 67.44 63 P P 23 03 12.0 -0.5
baz=310,SNR=11
LAO LASA Array 67.46 46 IAmb IAmb 23 03 14.5
comp=Z,20nm,1.0s
CWC Cottonwood Cre 67.52 61 P P 23 03 12.8 -0.2
baz=310
GRAC Grapevine Rang 67.60 60 P P 23 03 13.8 +0.5
baz=311,SNR=16
ISA Isabella, Lake 67.78 61 P P 23 03 13.6 -1.0
baz=311,SNR=12
ISA Isabella, Lake 67.78 61 IAmb IAmb 23 03 17.9
comp=Z,13nm,1.1s
SBC Santa Barbara 67.79 63 P P 23 03 14.0 -0.5
baz=310
R11A Troy Canyon, C 67.80 58 P P 23 03 14.3 -0.4
baz=311,SNR=19
ARVC Arvin 67.90 62 P P 23 03 14.0 -1.2
baz=311
SCZ2 Santa Cruz Isl 68.13 63 P P 23 03 16.6 -0.1
baz=311
MPMC Manual Prospec 68.13 61 P P 23 03 16.6 -0.4
baz=311,SNR=26
DUG Dugway, Tooele 68.21 55 P P 23 03 17.0 -0.3
baz=312,SNR=20
DUG Dugway, Tooele 68.21 55 IAmb IAmb 23 03 20.9
comp=Z,18nm,0.8s
FURC Furnace Creek, 68.25 60 P P 23 03 17.4 0.0
baz=311,SNR=25
OSI Osito Audit: C 68.30 62 P P 23 03 17.5 -0.4
baz=311
TPNV Topopah Spring 68.31 59 P P 23 03 18.0 0.0
baz=311,SNR=21
TPNV Topopah Spring 68.31 59 IAmb IAmb 23 03 25.0
comp=Z,24nm,1.1s
BW06 Boulder Array 68.34 51 P P 23 03 17.4 -0.8
baz=312,SNR=6.7
BW06 Boulder Array 68.34 51 IAmb IAmb 23 03 19.3
comp=Z,15nm,1.0s
PD31 Pinedale Array 68.34 51 IAmb IAmb 23 03 19.3
comp=Z,14nm,1.0s
PDAR Pinedale Array 68.34 51 P P 23 03 17.1 -1.1
comp=Z,9.1nm,0.8s,baz=276,slow=1.3,SNR=16
BTLR Botlikh 68.36 309 *i* P P 23 03 17.7 -0.4
BLG Laguna Peak, P 68.41 63 P P 23 03 18.4 -0.1
baz=311
GOF Gofitskoye 68.44 313⇑ *e*P P 23 03 18.2 -0.3
GOF pmax pmax
comp=Z,76nm,0.8s
NB2 NORSAR Subarra 68.51 339 P P 23 03 15.8 -2.9
comp=Z,4.7nm,0.9s,baz=31,slow=6.2
NOA NORSAR Array B 68.51 339 P P 23 03 16.1 -2.6
comp=Z,9.3nm,0.9s,baz=32,slow=6.1,SNR=13
EDW2 Edwards Air Fo 68.58 62 P P 23 03 19.5 -0.1
baz=311,SNR=34
HFS Hagfors 68.64 337 P P 23 03 17.1 -2.4
comp=Z,11nm,0.9s,baz=47,slow=6.5,SNR=6.5
SNCC San Nicolas Is 68.68 64 P P 23 03 20.1 0.0
baz=311

DECC Green Verdugo 68.78 62 P P 23 03 20.9 +0.1
baz=311
MWC Mount Wilson 68.97 62 IAmb IAmb 23 03 24.1
comp=Z,22nm,1.1s
SHOC Shoshone, Teco 68.98 60 P P 23 03 21.5 -0.5
baz=311
DZM Mont Dzumac 68.99 162 *e*P P 23 03 24.3 +2.2
comp=Z,69nm,1.3s
DZM Mont Dzumac 68.99 162 IAmb IAmb 23 03 28.5
comp=Z,17nm,1.0s
GSC Goldstone, Bar 69.04 61 P P 23 03 22.5 0.0
baz=311,SNR=12
GSC Goldstone, Bar 69.04 61 IAmb IAmb 23 03 26.5
comp=Z,19nm,1.1s
PALK Pallekele 69.13 259 pP 23 03 29.9 +0.3
PALK PcP 23 03 52.3 +5.2
BFSC Mount Baldy Ra 69.21 62 P P 23 03 23.2 -0.4
baz=311,SNR=12
SHPR Sheep Range 69.26 59 IAmb IAmb 23 03 28.3
comp=Z,28nm,1.2s
CIS Catalina Islan 69.28 63 P P 23 03 23.5 -0.4
baz=311
KIV Kislovodsk 69.38 312 *i* P P 23 03 25.5 +1.0
SNR=10
KIV Kislovodsk 69.38 312 *e*P P 23 03 23.9 -0.6
KIV pmax pmax
comp=Z,94nm,1.1s
KIV MLR MLR
comp=Z,909nm,18.0s
KIV Kislovodsk 69.38 312 ⇓P P 23 03 24.8 +0.3
KIV mb 23 03 28.8
KIV Kislovodsk 69.38 312 *e*P P 23 03 23.9 -0.6
KIV Kislovodsk 69.38 312 P P 23 03 25.4 +0.9
KBZ Khabaz 69.42 312 *i* P P 23 03 24.4 -0.2
KBZ Khabaz 69.42 312 P P 23 03 24.9 +0.3
comp=Z,14nm,0.9s,baz=45,slow=5.1,SNR=17
KBZ LR LR 23 37 25.6
comp=Z,153nm,19.1s,baz=40,slow=39
KBZ Khabaz 69.42 312 *e*P P 23 03 24.4 -0.2
SCI2 San Clemente I 69.48 64 P P 23 03 24.8 -0.3
baz=311
TUQ Turquoise Moun 69.50 60 P P 23 03 25.2 -0.2
baz=312,SNR=29
HEC Hector,Ludlow 69.64 61 P P 23 03 26.1 -0.1
baz=312
BBRC Big Bear Solar 69.66 62 P P 23 03 25.8 -0.7
baz=312
AS31 Alice Springs 69.81 194 P P 23 03 27.9 +0.8
ASAR Alice Springs 69.81 194 P P 23 03 26.9 -0.2
comp=Z,6.6nm,0.9s,baz=9.1,slow=5.4,SNR=30
ULM Lac du Bonnet 69.83 38 *i* P P 23 03 26.3 -0.7
ULM Lac du Bonnet 69.83 38 P P 23 03 26.1 -0.9
comp=Z,6.7nm,0.7s,baz=312,slow=6.8,SNR=9.2
ULM LR LR 23 36 04.9
comp=Z,97nm,18.1s,baz=316,slow=38
NEY Neytrino 69.85 311 *i* P P 23 03 26.5 -1.0
NEY pmax pmax
comp=Z,2.0nm,1.0s
MDND Maddock 69.89 42 P P 23 03 27.2 -0.3
baz=316
MURC Murrieta 69.92 62 P P 23 03 27.3 -0.6
baz=312,SNR=6.0
K22A Casper 70.06 49 P P 23 03 28.5 -0.3
baz=314
GMRC Granite Mounta 70.09 61 P P 23 03 28.6 -0.4
baz=312,SNR=7.8
SRU San Rafael Swe 70.25 54 P P 23 03 27.8 -2.2
SRU pmax pmax
comp=Z,32nm,0.8s
SRU San Rafael Swe 70.25 54 P P 23 03 27.9 -2.2
EIDS Eidsvold 70.31 177 IAmb IAmb 23 03 35.0
comp=Z,16nm,1.0s
RSSD Black Hills 70.34 47 P P 23 03 29.7 -0.9
baz=315
RSSD Black Hills 70.34 47 P P 23 03 31.1 +0.5
RSSD Black Hills 70.34 47 P P 23 03 31.1 +0.5
RSSD IAmb IAmb 23 03 32.7
comp=Z,17nm,0.9s
PFO Pinyon Flats O 70.37 62 P P 23 03 30.2 -0.6
baz=312,SNR=12
PFO Pinyon Flats O 70.37 62 *ce*P P 23 03 31.5 +0.7
PFO Pinyon Flats O 70.37 62 P P 23 03 31.5 +0.7
PFO IAmb IAmb 23 03 34.6
comp=Z,24nm,1.1s
XPFO Pion Flat 70.38 62 P P 23 03 31.5 +0.7
XPFO IAmb IAmb 23 03 34.6
comp=Z,22nm,1.1s
BELC Belle Mtn. Jos 70.40 61 P P 23 03 29.9 -1.1
baz=312,SNR=12
109C Camp Elliot, M 70.45 63 P P 23 03 30.8 -0.3
baz=312
AKH Akhalkalaki 70.70 310 P P 23 03 32.5 -0.2
AKH pmax pmax
comp=Z,13nm,1.2s
AKH Akhalkalaki 70.70 310 ⇑P P 23 03 32.8 +0.1
AKH Akhalkalaki 70.70 310 P P 23 03 32.5 -0.2
NEE2 Needles Airpor 70.74 60 P P 23 03 32.7 -0.2
baz=312
IRM Iron Mountain 70.83 61 P P 23 03 33.1 -0.3
baz=312,SNR=17
O20A White River Ci 70.85 52 P P 23 03 32.8 -0.8
baz=314
BAR Barrett 70.86 63 IAmb IAmb 23 03 37.4
comp=Z,17nm,1.0s
AKASG Malin Array Be 70.87 324 *ce*P P 23 03 34.5 +1.2
AKASG pmax pmax
comp=Z,15nm,1.0s
AKASG Malin Array Be 70.87 324 P P 23 03 31.5 -1.8
comp=Z,15nm,1.0s,baz=36,slow=6.3,SNR=18
AKASG LR LR 23 36 01.8
comp=Z,98nm,18.6s,baz=10.0,slow=37
AKBB Malin Array Si 70.87 324 *i* P P 23 03 33.2 -0.1
AKBB Malin Array Si 70.87 324 IAmb IAmb 23 03 35.7
comp=Z,24nm,1.1s
MONP2 Monument Peak 70.88 62 P P 23 03 33.5 -0.5
baz=312,SNR=8.7
BC3 Big Chuckawall 70.97 61 P P 23 03 33.9 -0.5
baz=312,SNR=14
U15A North Rim 71.03 57 IAmb IAmb 23 03 39.4
comp=Z,24nm,1.1s
SWSC Sam W. Stewart 71.23 62 P P 23 03 35.4 -0.4
baz=312
IKP In-Ko-Pah, Jac 71.23 62 P P 23 03 35.6 -0.3
baz=312,SNR=10
AGMN Agassiz Nation 71.28 39 P P 23 03 35.3 -0.5
baz=318,SNR=6.3
AGMN Agassiz Nation 71.28 39 IAmb IAmb 23 03 37.9
comp=Z,16nm,1.1s
PSA00 Pilbara Seismi 71.36 208 P P 23 03 35.9 -0.6
PSA00 IAmb IAmb 23 03 39.0
comp=Z,15nm,1.0s
PV09 Paradox Valley 71.46 54 P P 23 03 36.9 -0.7
Y12C Blythe 71.48 61 P P 23 03 37.1 -0.2
baz=312,SNR=6.8
Y12C Blythe 71.48 61 IAmb IAmb 23 03 41.6
comp=Z,27nm,1.1s
PV21 Cone Mtn., Par 71.51 54 P P 23 03 37.9 +0.2
PV21 IAmb IAmb 23 03 41.0
comp=Z,19nm,0.9s
PV23 Carpenter Ridg 71.56 54 P P 23 03 38.3 +0.1
PV23 IAmb IAmb 23 03 42.1
comp=Z,24nm,0.9s
N23A Red Feather La 71.59 50 P P 23 03 37.8 -0.4
baz=314
N23A Red Feather La 71.59 50 P P 23 03 38.6 +0.4
N23A IAmb IAmb 23 03 53.2
comp=Z,21nm,1.1s
PV14 Lion Creek, Pa 71.61 54 P P 23 03 38.4 0.0
PV14 IAmb IAmb 23 03 40.9
comp=Z,25nm,0.9s
PV22 Blue Mesa, Par 71.64 54 P P 23 03 38.7 +0.2
PV04 Paradox Valley 71.67 54 P P 23 03 38.8 +0.1
PV04 IAmb IAmb 23 03 41.4
comp=Z,24nm,0.9s
PV20 West Nyswonger 71.67 54 P P 23 03 38.9 +0.2
PV20 IAmb IAmb 23 03 41.8
comp=Z,25nm,0.9s
PV19 Morning Glory 71.68 54 P P 23 03 38.8 0.0
PV17 East Wray Mesa 71.71 54 P P 23 03 38.6 -0.3
PV16 Nyswonger Mesa 71.72 54 P P 23 03 38.9 -0.1
PV16 IAmb IAmb 23 03 42.2
comp=Z,23nm,0.9s
PV11 David Mesa, Pa 71.75 54 P P 23 03 39.0 -0.1
GLA Glamis 71.76 61 P P 23 03 39.3 +0.2
baz=313,SNR=6.2
GLA Glamis 71.76 61 IAmb IAmb 23 03 43.3
comp=Z,21nm,1.1s
PV18 Skein Mesa, Pa 71.77 54 P P 23 03 39.2 -0.1
PV05 Paradox Valley 71.77 54 P P 23 03 39.1 -0.2
PV12 Saucer Basin, 71.78 54 P P 23 03 39.3 0.0
PV12 IAmb IAmb 23 03 42.0
comp=Z,18nm,0.9s
PV07 Paradox Valley 71.78 54 P P 23 03 39.1 -0.2
PV07 IAmb IAmb 23 03 43.4
comp=Z,31nm,1.2s
PV03 Paradox Valley 71.79 54 P P 23 03 39.1 -0.3
PV03 IAmb IAmb 23 03 42.6
comp=Z,25nm,1.0s
PV13 Radium Mtn., P 71.88 54 P P 23 03 39.6 -0.4
PV02 Paradox Valley 71.89 54 P P 23 03 40.4 +0.3
WUAZ Wupatki 72.19 57 P P 23 03 41.8 0.0
baz=313,SNR=7.9
SMCO Snowmass 72.21 52 P P 23 03 42.4 +0.2
Y14A Wickenburg 72.28 60 P P 23 03 42.6 +0.4
Y14A IAmb IAmb 23 03 46.5
comp=Z,25nm,1.1s
ISCO Idaho Springs 72.53 51 P P 23 03 43.4 -0.6
baz=315,SNR=8.0
ISCO Idaho Springs 72.53 51 P P 23 03 44.2 +0.2
ISCO pmax pmax
comp=Z,16nm,1.2s
ISCO Idaho Springs 72.53 51 P P 23 03 44.2 +0.2
SUSD Miller 72.67 44 P P 23 03 43.7 -0.6
baz=317
MVCO Mesa Verde 72.72 54 P P 23 03 44.7 -0.3
baz=314,SNR=14
MVCO Mesa Verde 72.72 54 IAmb IAmb 23 03 48.1
comp=Z,18nm,0.8s
X16A Lo Mia Camp, P 72.91 58 IAmb IAmb 23 03 50.7
comp=Z,24nm,1.1s
SORM Soroca 73.19 323 ⇑P P 23 03 45.3 -2.0
SORM Soroca 73.19 323 ⇑P P 23 03 45.3 -2.0
S22A 4UR Ranch, Cre 73.29 53 P P 23 03 48.2 -0.3
baz=315,SNR=10
BANOM Banah 73.41 290 *i* P P 23 03 49.2 +0.2
SNR=40
BANOM Banah 73.41 290 P P 23 03 49.4 +0.4
SNR=19
SHME Shamm 73.43 290 *i* P P 23 03 48.9 -0.2
SNR=19
W18A Petrified Fore 73.44 57 P P 23 03 49.0 -0.3
baz=314
W18A Petrified Fore 73.44 57 P P 23 03 49.7 +0.4
EYMN Ely 73.46 37 P P 23 03 48.7 -0.2
baz=321
EYMN Ely 73.46 37 IAmb IAmb 23 03 49.6
comp=Z,19nm,1.0s
OGNE Ogallala 73.64 48 P P 23 03 49.7 -0.5
baz=316
WSAR Wadi Sarin 73.65 287 P P 23 03 51.6 +1.2
SNR=6.1
LVV L'vov 73.66 326 *e*P P 23 03 48.9 -1.1
214A Organ Pipe Nat 73.75 61 P P 23 03 50.9 -0.1
baz=314,SNR=10
BIDO Bidbid 73.80 287 P P 23 03 53.0 +1.8
SNR=12
MDH Madha 73.83 290 *i* P P 23 03 51.4 0.0
SNR=6.2
WBK Wadi Bani Khal 73.84 286 P P 23 03 53.0 +1.4
SNR=14
MSFE Esma-Masafi 73.88 290 *i* P P 23 03 51.9 +0.1
SNR=9.9
MILM Milestii Mici 73.93 322 ⇑P P 23 03 50.7 -1.0
SDCO Great Sand Dun 74.04 52 P P 23 03 52.4 -0.5
baz=315,SNR=7.3
UOSS Minazif 74.13 289 *i* P P 23 03 53.0 -0.2
SNR=40
UOSS Minazif 74.13 289 P P 23 03 53.2 0.0
UOSS Minazif 74.13 289 P P 23 03 52.9 -0.3
SMDO Samad 74.17 287 P P 23 03 54.4 +0.8
SNR=11
HATD Hatta, Dubai 74.26 289 *i* P P 23 03 54.2 +0.2
SNR=40
HATD Hatta, Dubai 74.26 289 P P 23 03 54.3 +0.4
SNR=23
HOQ Hoqain 74.31 288 P P 23 03 54.8 +0.6
SNR=15
KWP Kalwaria Pacla 74.32 327 *e*P P 23 03 53.6 -0.3
KWP Kalwaria Pacla 74.32 327 *e*P P 23 03 53.6 -0.3
KWP *e*P P 23 03 53.6 -0.3
ECSD EROS Data Cent 74.33 43 P P 23 03 52.9 -1.2
baz=318,SNR=9.1
ECSD EROS Data Cent 74.33 43 IAmb IAmb 23 03 55.9
comp=Z,26nm,1.0s
ASHO Ashiyiah 74.41 289 *i* P P 23 03 54.9 +0.1
SNR=22
ASHO Ashiyiah 74.41 289 P P 23 03 55.4 +0.5
SNR=19
NAZ Nazwa, Dubai 74.46 290 *i* P P 23 03 55.4 +0.3
SNR=9.7
NAZ Nazwa, Dubai 74.46 290 P P 23 03 55.7 +0.6
SNR=9.0
E38A The Farm, Brul 74.47 38 IAmb IAmb 23 03 56.6
comp=Z,27nm,0.9s
JMDO Jabal Madar 74.59 286 P P 23 03 56.1 +0.2
SNR=21
KSCO Kaye Shedlock' 74.72 50 P P 23 03 56.1 -0.5
baz=316
HMDM Hanimaadhoo 74.74 264 P P 23 03 56.3 -0.5
TUC Tucson 74.75 60 P P 23 03 56.4 -0.4
baz=314
TUC Tucson 74.75 60 P P 23 03 57.4 +0.6
TUC pmax pmax
comp=Z,14nm,1.1s
TUC Tucson 74.75 60 P P 23 03 57.4 +0.6
BUR08 Bucovina Ar. S 74.91 324 P P 23 03 56.6 -0.8
BURAR Bucovina Array 74.92 324 ⇑P P 23 03 57.1 -0.4
BURAR Bucovina Array 74.92 324 ⇑P P 23 03 57.1 -0.4
ASUD Al Ashush, Dub 74.93 290 *i* P P 23 03 58.1 +0.3
SNR=10
ASUD Al Ashush, Dub 74.93 290 P P 23 03 58.3 +0.5
SNR=6.1
OJC Ojcow 74.94 329 *e*P P 23 03 57.3 -0.2
OJC Ojcow 74.94 329 *e*P P 23 03 57.3 -0.2
OJC *e*P P 23 03 57.3 -0.2
BIR Birlad 74.95 322 ⇑P P 23 03 57.8 +0.2
BIR Birlad 74.95 322 ⇑P P 23 03 57.8 +0.2
BSY Bisya 74.95 287 P P 23 03 58.8 +0.8
SNR=22
SPMN Marine on St. 74.98 40 P P 23 03 57.2 -0.5
baz=320
ARQ Araqi 75.01 288 P P 23 03 58.8 +0.5
SNR=9.3
ALNE Al Ain 75.04 289 *i* P P 23 03 58.6 +0.1
SNR=18
KOLS Kolonicke sedl 75.05 326 *e*P P 23 03 58.0 -0.2
KOLS Kolonicke sedl 75.05 326 *e*P P 23 03 58.0 -0.2
T25A Trinidad 75.08 52 P P 23 03 58.3 -0.5
baz=316
BIZ Bicaz 75.08 323 ⇑P P 23 03 57.8 -0.6
TESR Tescani 75.18 323 ⇑P P 23 03 58.0 -0.9
GHRR 75.21 322 ⇑P P 23 03 59.6 +0.5
BGNE Belgrade 75.30 45 P P 23 03 59.4 -0.3
baz=318
BGNE Belgrade 75.30 45 P P 23 03 58.9 -0.8
ARMA Armidale 75.35 177 P P 23 04 01.5 +1.5
NIE Niedzica 75.42 328 *e*P P 23 04 00.3 +0.1
NIE Niedzica 75.42 328 *e*P P 23 04 00.3 +0.1
NIE *e*P P 23 04 00.3 +0.1
ANMO Albuquerque 75.48 55 P P 23 04 00.4 -0.7
baz=315
ANMO Albuquerque 75.48 55 *ce*P P 23 04 01.6 +0.5
ANMO pmax pmax
comp=Z,14nm,1.3s
ANMO Albuquerque 75.48 55 P P 23 04 01.6 +0.5
CFR Carcaliu 75.57 321 ⇑P P 23 04 00.4 -0.8
CFR Carcaliu 75.57 321 ⇑P P 23 04 00.4 -0.8
TRPA Tarpa 75.60 326 ⇓P P 23 04 01.1 -0.2
TRPA mb 23 04 07.0
TRPA Tarpa 75.60 326 *e*P P 23 04 01.0 -0.2
VRI Vrincioaia 75.66 322 ⇑P P 23 04 00.3 -1.4
VRI Vrincioaia 75.66 322 ⇑P P 23 04 00.3 -1.4
TOPG Topolog 75.70 321 ⇑P P 23 04 01.3 -0.6
ARCR ARCALIA 75.70 324 ⇑P P 23 04 02.5 +0.6
LPM Los Pinos Moun 75.83 56 P P 23 04 03.1 0.0
OZUR 75.88 323 ⇑P P 23 04 03.3 +0.3
LANS Liptovska Anna 75.95 328 *e*P P 23 04 04.1 +0.8
LANS pmax pmax
comp=Z,9.0nm,1.0s
LANS Liptovska Anna 75.95 328 *e*P P 23 04 04.1 +0.8
SCHQ Schefferville 75.95 20 P P 23 04 02.6 -0.7

SCHQ LR LR 23 41 47.2
comp=Z,178nm,18.6s,baz=330,slow=39
SCHQ Schefferville 75.95 20 P **P** **23 04 03.1 -0.1**
HARR Harsova 76.04 321 ⇑P **P** **23 04 03.4 -0.5**
HARR Harsova 76.04 321 ⇑P **P** **23 04 03.4 -0.5**
DPC Dobruska-Polom 76.08 331 *e*P **P** **23 04 03.8 -0.3**
DPC Dobruska-Polom 76.08 331 *e*P **P** **23 04 03.8 -0.3**
MORC Moravsky Berou 76.13 330 ⇓P **P** **23 04 04.0 -0.4**
MORC Moravsky Berou 76.13 330 ⇓P **P** **23 04 04.0 -0.4**
MORC mb 23 04 09.9
MORC Moravsky Berou 76.13 330 *e*P **P** **23 04 04.0 -0.4**
KRLC Kraliky 76.15 330 *e*P **P** **23 04 03.9 -0.6**
KRLC *e* 23 04 09.3
KRLC Kraliky 76.15 330 *e*P **P** **23 04 03.9 -0.6**
KRLC *e*pP **pP** **23 04 09.3 -1.6**
MLR Muntele Rosu 76.29 322 ⇑P **P** **23 04 05.5 0.0**
MLR Muntele Rosu 76.29 322 P **P** **23 04 06.5 +1.1**
comp=Z,5.3nm,0.9s,baz=359,slow=9.8,SNR=6.4
MLR Muntele Rosu 76.29 322 ⇑P **P** **23 04 05.5 0.0**
MLR Muntele Rosu 76.29 322 P **P** **23 04 05.4 0.0**
ISR Istrita 76.32 322 ⇑P **P** **23 04 04.8 -0.8**
ISR Istrita 76.32 322 ⇑P **P** **23 04 04.8 -0.8**
CLL Collm 76.37 333 *e*P **P** **23 04 04.0 -1.6**
CLL *i* 23 04 09.2
CLL Collm 76.37 333 *e*P **P** **23 04 05.0 -0.6**
CLL *i* Pmax 23 04 09.2
comp=Z,17nm,1.0s
CLL Collm 76.37 333 IAmb IAmb 23 04 10.3
comp=Z,18nm,1.1s
CBKS Cedar Bluff 76.40 48 P **P** **23 04 05.8 -0.3**
CBKS pmax pmax
comp=Z,14nm,1.1s
CBKS Cedar Bluff 76.40 48 P **P** **23 04 05.8 -0.3**
121A Cookes Peak, D 76.41 58 P **P** **23 04 05.9 -0.5**
baz=315,SNR=14
121A Cookes Peak, D 76.41 58 IAmb IAmb 23 04 09.6
comp=Z,29nm,1.1s
BRG Berggiesshubel 76.44 332 *e*P **P** **23 04 04.9 -1.1**
comp=Z,12nm,1.4s
BRG Berggiesshubel 76.44 332 *e*P **P** **23 04 04.9 -1.1**
BRG pmax pmax
comp=Z,12nm,1.4s
LTVH Ltavrtes, Hu 76.45 326 *e*P **P** **23 04 09.1 +2.9**
VOIR 76.72 323 ⇑P **P** **23 04 08.0 +0.2**
VOIR 76.72 323 ⇑P **P** **23 04 08.0 +0.2**
VYHS Vyhne 76.72 328 *e*P **P** **23 04 07.5 -0.2**
VYHS Vyhne 76.72 328 *e*P **P** **23 04 07.5 -0.2**
PSZ Piszkesteto 76.80 327 ⇑P **P** **23 04 08.2 0.0**
PSZ Piszkesteto 76.80 327 ⇑P **P** **23 04 08.2 0.0**
PSZ mb 23 04 22.9
PSZ Piszkesteto 76.80 327 *e*P **P** **23 04 09.0 +0.8**
JAVC Velka Javorina 76.85 329 *e*P **P** **23 04 09.1 +0.6**
VRAC Vranov 76.86 330 P **P** **23 04 08.4 -0.1**
comp=Z,6.3nm,1.0s,baz=26,slow=4,8,SNR=4.7
VRAC Vranov 76.86 330 ⇑P **P** **23 04 07.7 -0.8**
VRAC mb 23 04 14.3
VRAC Vranov 76.86 330 *e*P **P** **23 04 08.3 -0.1**
EKA Eskdalemuir Ar 76.94 344 P **P** **23 04 08.1 -0.6**
comp=Z,2.5nm,0.6s,baz=29,slow=5,6,SNR=9.2
ARR Arges 76.95 323 ⇑P **P** **23 04 09.9 +0.8**
STKA Stephens Creek 76.98 186 P **P** **23 04 10.0 +0.9**
comp=Z,4.3nm,0.9s,baz=337,slow=8,9,SNR=5.3
PRU Pruhonice 77.00 331 *e*P **P** **23 04 11.0 +1.8**
PRU Pruhonice 77.00 331 *e*P **P** **23 04 11.0 +1.8**
BRTR Keskin Array B 77.11 314 *ce*P **P** **23 04 10.3 +0.1**
BRTR pmax pmax
comp=Z,8.0nm,1.0s
BRTR Keskin Array B 77.11 314 P **P** **23 04 10.4 +0.2**
comp=Z,7.8nm,1.0s,baz=66,slow=3.5,SNR=14
BRTR LR LR 23 44 21.5
comp=Z,117nm,18.1s,baz=26,slow=41
KRUC Moravsky 77.14 330 *e*P **P** **23 04 09.8 -0.2**
BSZH Besenyszg 77.17 327 *e*P P 23 04 15.1 +4.9
SMOL Smolenice 77.23 329 *e*P **P** **23 04 10.9 +0.4**
SMOL pmax pmax
comp=Z,6.0nm,0.9s
SMOL Smolenice 77.23 329 *e*P **P** **23 04 10.8 +0.3**
MZR Muzera 77.27 290 *i*P **P** **23 04 11.6 +0.4**
SNR=12
MZR Muzera 77.27 290 P **P** **23 04 11.7 +0.5**
SNR=10
MATQ Matagami 77.30 29 P **P** **23 04 09.6 -1.3**
baz=229
SCIA State Center 77.34 42 P **P** **23 04 10.5 -0.8**
baz=321
MODS Modra-Piesok 77.40 329 *e*P **P** **23 04 11.1 -0.4**
MODS Modra-Piesok 77.40 329 *e*P **P** **23 04 11.1 -0.4**
ANTO Ankara 77.43 315 P **P** **23 04 11.5 -0.4**
ANTO pmax pmax
comp=Z,27nm,1.2s
ANTO Ankara 77.43 315 P **P** **23 04 11.5 -0.4**
ANTO IAmb IAmb 23 04 15.8
comp=Z,27nm,1.1s
BR231 Keskin MP Arra 77.46 315 P **P** **23 04 12.5 +0.3**
BR231 IAmb IAmb 23 04 16.0
comp=Z,25nm,1.1s
SIRR Siria 77.46 325 ⇑P **P** **23 04 11.7 -0.2**
GZR Gura Zlata 77.71 324 ⇑P **P** **23 04 13.0 -0.4**
GZR Gura Zlata 77.71 324 ⇑P **P** **23 04 13.0 -0.4**
KSU1 Kansas State U 77.81 46 P **P** **23 04 13.1 -0.9**
baz=319
FORT Forrest 77.86 198 P **P** **23 04 14.7 +0.7**
FORT IAmb IAmb 23 04 23.6
comp=Z,13nm,0.8s
CSKK Cskako 77.88 328 *e*P **P** **23 04 14.0 -0.2**
JFWS Jewell Farm 77.93 40 P **P** **23 04 13.7 -0.9**
baz=322
BZS Buzias 78.00 325 ⇑P **P** **23 04 14.1 -0.8**
BZS Buzias 78.00 325 ⇑P **P** **23 04 14.1 -0.8**
E47A Iron Bridge 78.02 34 P **P** **23 04 13.8 -1.2**
baz=326
KHC Kasperske Hory 78.05 332 *i*P **P** **23 04 15.0 -0.2**
KHC pmax pmax
comp=Z,29nm,1.1s
KHC Kasperske Hory 78.05 332 *e*P **P** **23 04 14.6 -0.6**
KHC *ex* x 23 04 17.5
LSQQ Lebel-sur-Quev 78.12 29 P **P** **23 04 14.9 -0.6**
baz=329
L40A Anamosa 78.15 41 IAmb IAmb 23 04 17.4
comp=Z,21nm,1.1s
AMTX Amarillo 78.24 52 P **P** **23 04 15.9 -0.6**
baz=318
AMTX Amarillo 78.24 52 IAmb IAmb 23 04 19.3
comp=Z,21nm,0.9s
CHGQ Chibougamau 78.24 27 P **P** **23 04 15.4 -0.8**
baz=331
SOP Sopron 78.24 329 *e*P **P** **23 04 17.0 +0.8**
GERES GERESS Array B 78.26 331 P **P** **23 04 15.7 -0.7**
comp=Z,3.0nm,1.0s,baz=35,slow=4.9,SNR=12
CONA Conrad Observa 78.29 330 *i*P **P** **23 04 16.9 +0.3**
comp=Z,8.9nm,1.1s
MSTX Muleshoe 78.29 53 P **P** **23 04 16.5 -0.4**
baz=317
MSTX Muleshoe 78.29 53 IAmb IAmb 23 04 19.1
comp=Z,18nm,1.1s
MPLH Magyarpolny 78.31 328 *e*P **P** **23 04 17.0 +0.4**
GRA1 Grafenberg Arr 78.34 333 P **P** **23 04 16.6 -0.1**
GRF Grafenberg Arr 78.34 333 P **P** **23 04 16.6 -0.1**
GRF pmax pmax
comp=Z,14nm,1.1s
MNTX Cornudas Mount 78.43 57 P **P** **23 04 17.3 -0.2**
baz=316,SNR=16
PLVB Pleven 78.54 322 ⇑P **P** **23 04 17.1 -0.8**
U32A Winter Ranch, 78.60 49 P **P** **23 04 18.9 +0.5**
MDVR Moldovita 78.65 324 ⇑P **P** **23 04 16.9 -1.6**
GDL2 Guadalupe Moun 78.66 56 P **P** **23 04 19.1 +0.1**
MORH Mrgy, Hungar 78.69 327 *e*P **P** **23 04 17.0 -1.6**
MOA Molln 78.92 330 *i*pP **P** **23 04 22.3 +2.3**
comp=Z,4.1nm,0.9s
ARSA Arzberg 78.98 329 *i*P **P** **23 04 20.0 -0.3**
comp=Z,7.0nm,1.1s
MEM Membach 79.09 337 P **P** **23 04 20.8 0.0**
H47A Mio 79.18 35 P **P** **23 04 20.7 -0.7**
baz=325
N41A Harden Midland 79.39 42 IAmb IAmb 23 04 24.2
comp=Z,29nm,0.9s
E51A G1948 Merrick 79.39 31 P **P** **23 04 21.8 -0.8**
baz=328
J46A Howard City 79.60 37 P **P** **23 04 23.2 -0.5**
baz=325
SOKA Soboth 79.65 329 *i*P **P** **23 04 23.9 -0.2**
comp=Z,20nm,1.1s,SNR=10
BMRD Maredsous 79.71 337 P **P** **23 04 23.5 -0.7**

VTS Vitosha 79.76 322 ⇑P **P** **23 04 24.5 -0.3**
VTS 23 04 29.0
VTS Vitosha 79.76 322 ⇑P **P** **23 04 24.5 -0.3**
VTS mb 23 04 29.0
VTS Vitosha 79.76 322 IAmb IAmb 23 04 28.3
comp=Z,21nm,1.0s
D54A Lac Fusel, La 79.88 29 P **P** **23 04 24.5 -0.7**
baz=330
KBA Koelnbreinsper 79.90 331 *i*P **P** **23 04 25.5 0.0**
comp=Z,34nm,1.2s,SNR=14
WMOK Wichita Mounta 79.94 50 P **P** **23 04 25.4 -0.4**
baz=319,SNR=8.2
OBKA Obir 79.96 330 *i*pP **P** **23 04 27.8 +2.0**
comp=Z,7.9nm,0.9s
J47A Sunmer 80.04 36 P **P** **23 04 25.4 -0.7**
baz=325
K46A Dorr 80.08 37 P **P** **23 04 25.8 -0.5**
baz=325
MYKA Terra Mystica 80.18 330 *i*P **P** **23 04 27.5 +0.6**
comp=Z,15nm,1.5s
HDIL Hopedale 80.23 41 P **P** **23 04 27.0 -0.2**
baz=323
WATA Walderalm 80.28 332 *i*P **P** **23 04 27.5 -0.1**
comp=Z,26nm,1.0s,SNR=9.8
I49A Point Hope 80.28 35 P **P** **23 04 26.6 -0.8**
FNO Franklin 80.30 49 P **P** **23 04 28.1 +0.4**
WTTA Wattenberg 80.32 332 *i*P **P** **23 04 27.6 -0.2**
comp=Z,24nm,1.4s,SNR=9.9
D55A Sainte-Anne-du 80.39 29 P **P** **23 04 27.3 -0.6**
baz=330
RETA Reutte 80.42 332 *i*P **P** **23 04 27.2 -1.0**
comp=Z,20nm,1.1s,SNR=9.0
MOTA Moosalm 80.43 332 *i*P **P** **23 04 28.2 -0.2**
comp=Z,34nm,1.1s,SNR=11
BFO Black Forest 80.45 334 *ce*P **P** **23 04 28.9 +0.6**
BFO Black Forest 80.45 334 P **P** **23 04 27.7 -0.6**
ABTA Abfaltersbach 80.47 331 *i*P **P** **23 04 27.3 -1.2**
comp=Z,7.2nm,1.2s
SQTA Sankt Ulrirn 80.50 332 *i*P **P** **23 04 28.7 0.0**
comp=Z,18nm,1.2s,SNR=9.8
X34A Smith Ranch, M 80.56 50 P **P** **23 04 29.3 +0.2**
X34A IAmb IAmb 23 04 30.5
comp=Z,22nm,1.0s
D56A ZEC Mazanza, M 80.61 28 P **P** **23 04 27.9 -1.3**
baz=331
J49A Marlette 80.63 35 P **P** **23 04 28.8 -0.5**
baz=326
TUL1 Leonard 80.65 48 P **P** **23 04 28.7 -0.8**
baz=320
TUL1 Leonard 80.65 48 P **P** **23 04 29.7 +0.2**
TUL1 IAmb IAmb 23 04 31.7
comp=Z,21nm,1.1s
W35A Tecumseh 80.66 49 P **P** **23 04 29.2 -0.4**
K48A Perry 80.69 36 P **P** **23 04 28.7 -0.9**
baz=326
FETA Feichten 80.84 332 *i*P **P** **23 04 30.6 +0.1**
comp=Z,9.8nm,1.2s
P43A Skaggs, Pawnee 80.86 41 IAmb IAmb 23 04 31.4
comp=Z,24nm,1.1s
G54A Lake Saint Pet 80.87 31 P **P** **23 04 29.7 -0.9**
baz=329
DAVA Damuels 80.88 333 *i*P **P** **23 04 30.7 -0.1**
comp=Z,13nm,1.2s
D57A Chemin Vers le 80.93 28 P **P** **23 04 30.6 -0.2**
baz=331
E56A St. Veronique 80.96 29 P **P** **23 04 30.1 -0.9**
baz=331
STIP Stip 80.96 322 *i*P **P** **23 04 29.8 -1.3**
K49A Clarkson 80.98 36 P **P** **23 04 30.4 -0.8**
baz=326
ABTX Abilene, Hawle 81.05 52 P **P** **23 04 31.1 -0.6**
baz=319
SKO Skopje 81.06 323 *i*P **P** **23 04 30.5 -1.1**
VAY Valandovo 81.10 322 *e*P **P** **23 04 31.2 -0.6**
TX32 Lajitas Array 81.16 57 IAmb IAmb 23 04 37.2
comp=Z,26nm,0.9s
TXAR Lajitas Array 81.16 57 P **P** **23 04 32.2 -0.2**
comp=Z,18nm,0.9s,baz=298,slow=2.7,SNR=64
D58A Chemin du LacG 81.19 27 P **P** **23 04 31.5 -0.7**
baz=332
L48A N Adams 81.26 37 P **P** **23 04 32.0 -0.7**
baz=326
CCM Cathedral Cave 81.28 44 P **P** **23 04 32.6 -0.3**
baz=322
CCM Cathedral Cave 81.28 44 P **P** **23 04 32.6 -0.3**
CCM pmax pmax
comp=Z,27nm,1.0s
CCM Cathedral Cave 81.28 44 P **P** **23 04 32.6 -0.3**
CCM IAmb IAmb 23 04 36.0
comp=Z,27nm,1.0s
DAVOX Davos/Dischmat 81.33 333 P **P** **23 04 33.1 -0.1**
comp=Z,4.6nm,0.7s,baz=289,slow=4.1,SNR=9.0
FUORN Ofenpass-Fuorn 81.34 332 IAmb IAmb 23 04 37.3
comp=Z,26nm,1.1s
E57A Chemin Saint G 81.37 28 P **P** **23 04 32.8 -0.5**
baz=331
CTI Castel Tesino 81.38 331 P **P** **23 04 31.7 -1.6**
CTI pmax pmax
comp=Z,10.0nm,1.0s
CTI Castel Tesino 81.38 331 P **P** **23 04 31.7 -1.6**
H53A Bobcaygeon 81.39 32 P **P** **23 04 32.9 -0.4**
baz=329
TRQ Mont Tremblant 81.40 29 P **P** **23 04 32.5 -0.9**
L49A Milan 81.41 36 P **P** **23 04 32.7 -0.8**
baz=326
MGMO Mountain Grove 81.49 45 IAmb IAmb 23 04 35.4
comp=Z,18nm,1.1s
G55A Calabogie 81.49 30 P **P** **23 04 32.7 -1.1**
baz=330
N47A Urbana 81.59 38 P **P** **23 04 33.9 -0.5**
baz=325
PDG Podgorica 81.59 324 IAmb IAmb 23 04 37.0
comp=Z,27nm,1.1s
E58A La Victoria 81.69 28 P **P** **23 04 33.6 -1.3**
baz=332
HPIG 81.69 60 P **P** **23 04 36.0 +0.6**
HPIG IAmb IAmb 23 04 39.5
comp=Z,29nm,1.1s
DELO Deloro Mine 81.80 31 P **P** **23 04 35.7 +0.2**
DELO IAmb IAmb 23 04 42.4
comp=Z,29nm,1.1s
U40A Yellville 81.82 46 P **P** **23 04 34.8 -0.9**
baz=322,SNR=18
U40A Yellville 81.82 46 IAmb IAmb 23 04 38.9
comp=Z,24nm,0.8s
M49A Liberty Center 81.84 37 P **P** **23 04 34.6 -1.1**
baz=326
N48A Decatur 81.90 38 P **P** **23 04 35.1 -1.0**
baz=325
D61A St Aubert, Com 81.93 25 P **P** **23 04 35.2 -0.9**
baz=334
P46A Rosedale 81.94 40 P **P** **23 04 35.7 -0.6**
baz=324,SNR=5.2
D60A Saint Jean D'O 81.96 26 P **P** **23 04 35.1 -1.1**
baz=333
TEOL Teolo 81.97 331 P **P** **23 04 35.6 -0.7**
TEOL IAmb IAmb 23 04 38.8
comp=Z,16nm,0.9s
FNA Florina 82.06 322 P **P** **23 04 36.6 -0.4**
FNA pmax pmax
comp=Z,12nm,1.0s
FNA Florina 82.06 322 P **P** **23 04 36.6 -0.4**
RAYN Ar Rayn 82.11 295 *i*P **P** **23 04 37.9 +0.4**
SNR=17
RAYN Ar Rayn 82.11 295 P **P** **23 04 37.8 +0.3**
RAYN pmax pmax
comp=Z,35nm,1.2s
RAYN Ar Rayn 82.11 295 P **P** **23 04 37.8 +0.3**
RAYN IAmb IAmb 23 04 41.3
comp=Z,35nm,1.1s
LIT Litokhoron 82.13 321 P **P** **23 04 36.9 -0.4**
LIT pmax pmax
comp=Z,8.0nm,0.9s
LIT Litokhoron 82.13 321 P **P** **23 04 36.9 -0.4**
SALO Salr 82.14 332 P **P** **23 04 36.2 -1.0**
SALO IAmb IAmb 23 04 39.5
comp=Z,28nm,1.0s
N49A Columbus Grove 82.21 37 P **P** **23 04 36.7 -1.0**
baz=326
G57A Newington 82.23 29 P **P** **23 04 36.9 -0.8**
baz=331
W39A Magazine 82.24 47 P **P** **23 04 37.0 -0.9**
baz=321
E60A Ste Agathe de 82.29 27 P **P** **23 04 37.5 -0.5**
baz=333
M50A Fremont 82.30 36 P **P** **23 04 37.6 -0.6**
baz=326

F59A Saint Guilaume 82.31 28 P **P** **23 04 38.0 -0.2**
baz=332
O48A Farmland 82.34 38 P **P** **23 04 37.8 -0.5**
baz=325
J54A Appleton 82.48 33 P **P** **23 04 39.8 +0.7**
G58A Ormstown 82.51 29 P **P** **23 04 38.7 -0.5**
baz=332
SENIN Lac Senin/Sane 82.52 334 P **P** **23 04 39.1 -0.4**
S44A Carbondale 82.53 42 P **P** **23 04 38.4 -1.0**
baz=323
SIUC Southern Illin 82.53 42 P **P** **23 04 39.3 -0.1**
JCT Junction City 82.56 54 P **P** **23 04 38.8 -1.0**
baz=319,SNR=7.8
JCT Junction City 82.56 54 IAmb IAmb 23 04 42.0
comp=Z,20nm,0.9s
H57A Richville 82.65 30 P **P** **23 04 39.6 -0.2**
baz=331
WHTX Lake Whitney, 82.74 51 P **P** **23 04 40.3 -0.3**
baz=320,SNR=10
O49A Covington 82.75 38 P **P** **23 04 40.2 -0.3**
baz=326
N50A Nevada 82.78 37 P **P** **23 04 39.9 -0.8**
baz=326
LONY Lake Ozonia 82.79 29 P **P** **23 04 40.5 -0.2**
baz=331
MIAR Mount Ida 82.86 47 P **P** **23 04 40.1 -1.1**
baz=321,SNR=11
P48A Milroy 82.87 39 P **P** **23 04 39.7 -1.4**
baz=325
M52A Chesterland 82.88 35 P **P** **23 04 40.2 -1.0**
baz=327
M52A Chesterland 82.88 35 P **P** **23 04 39.8 -1.4**
WHAR Wooly Hollow 82.94 46 IAmb IAmb 23 04 42.1
comp=Z,22nm,1.0s
L53A Girard 82.97 34 P **P** **23 04 40.4 -1.3**
baz=328
W41B Gary Mavity, V 83.05 46 P **P** **23 04 40.9 -1.2**
baz=322,SNR=6.5
W41B Gary Mavity, V 83.05 46 IAmb IAmb 23 04 48.3
comp=Z,22nm,1.1s
H59A Cadyville 83.08 29 P **P** **23 04 40.9 -1.3**
baz=332
ZCCA Zocca 83.09 331 P **P** **23 04 42.3 0.0**
ZCCA IAmb IAmb 23 04 57.9
comp=Z,13nm,1.0s
O50A Cable 83.09 37 P **P** **23 04 41.6 -0.7**
baz=326
H58A Gabriels 83.11 29 P **P** **23 04 41.3 -1.1**
baz=331
P49A Miami Univ. Ec 83.12 38 P **P** **23 04 42.3 -0.2**
baz=326
Q48A North Vernon 83.17 39 P **P** **23 04 42.0 -0.7**
baz=325
X40A Basin Creek Fa 83.28 47 P **P** **23 04 42.7 -0.7**
baz=322
X40A Basin Creek Fa 83.28 47 P **P** **23 04 43.4 0.0**
X40A IAmb IAmb 23 04 48.8
comp=Z,20nm,1.1s
E64A Bridgewater 83.34 24 P **P** **23 04 43.0 -0.4**
baz=335
N52A McGinn's Farm, 83.35 36 P **P** **23 04 42.7 -0.9**
baz=327
P50A Jamestown 83.46 38 P **P** **23 04 43.1 -1.1**
baz=326
HICK Hickman 83.46 43 P **P** **23 04 44.1 -0.1**
VLC Villacollemand 83.46 331 P **P** **23 04 44.2 +0.1**
VLC IAmb IAmb 23 04 56.4
comp=Z,18nm,1.1s
WCI Wyandotte Cave 83.48 40 P **P** **23 04 44.3 0.0**
baz=325
WCI Wyandotte Cave 83.48 40 P **P** **23 04 44.5 +0.2**
WCI pmax pmax
comp=Z,13nm,1.0s
WCI Wyandotte Cave 83.48 40 P **P** **23 04 44.5 +0.2**
WCI IAmb IAmb 23 04 45.0
comp=Z,13nm,0.9s
H60A Morristown 83.48 28 P **P** **23 04 43.2 -1.1**
baz=332
O51A Pataskala 83.53 37 P **P** **23 04 44.1 -0.5**
baz=327
M54A Oil Creek Stat 83.59 34 P **P** **23 04 43.9 -1.0**
baz=328
M54A Oil Creek Stat 83.59 34 P **P** **23 04 45.3 +0.4**
G62A West of Eustis 83.60 26 P **P** **23 04 44.1 -0.7**
baz=334
F63A Nahmakanta, Br 83.61 25 P **P** **23 04 44.1 -0.7**
baz=335
MSSA Maissana 83.62 332 IAmb IAmb 23 04 47.7
comp=Z,19nm,1.1s
J58A Remsen 83.64 30 P **P** **23 04 44.4 -0.7**
baz=331
NRCA Norcia 83.65 329 IAmb IAmb 23 04 52.4
comp=Z,11nm,0.7s
GLAT Glass 83.65 43 P **P** **23 04 45.3 0.0**
F64A Sherman 83.69 25 P **P** **23 04 44.3 -1.0**
baz=335
N53A Lisbon 83.71 35 P **P** **23 04 44.8 -0.7**
baz=328
OSSC Osservatorio P 83.72 330 P **P** **23 04 45.0 -0.5**
OSSC IAmb IAmb 23 04 50.4
comp=Z,13nm,1.1s
I59A Olmsteadville 83.76 29 P **P** **23 04 45.4 -0.3**
baz=332
H61A Lyndonville 83.76 28 P **P** **23 04 45.1 -0.6**
baz=333
J59A Piesco 83.83 30 P **P** **23 04 45.5 -0.6**
baz=331
O52A Adamsville 83.88 36 P **P** **23 04 46.2 -0.1**
baz=327
O52A Adamsville 83.88 36 IAmb IAmb 23 04 47.1
comp=Z,23nm,1.1s
BNI Bardonecchia 83.89 334 P **P** **23 04 46.6 +0.1**
BNI pmax pmax
comp=Z,12nm,1.0s
BNI Bardonecchia 83.89 334 P **P** **23 04 46.6 +0.1**
BNI IAmb IAmb 23 04 50.8
comp=Z,12nm,1.0s
I60A Shoreham 83.92 29 P **P** **23 04 46.3 -0.2**
baz=332
N54A Moraine State 83.92 35 P **P** **23 04 46.4 -0.2**
baz=328
N54A Moraine State 83.92 35 P **P** **23 04 45.9 -0.7**
AQU L'Aquila 83.95 328 IAmb IAmb 23 05 03.8
comp=Z,17nm,1.1s
M55A Ridgway 83.97 34 P **P** **23 04 46.7 -0.1**
baz=329
H62A Milan 83.98 27 P **P** **23 04 46.1 -0.7**
baz=333
G63A Kingsbury 83.98 26 P **P** **23 04 46.4 -0.4**
baz=334
Q50A Georgetown 84.01 38 P **P** **23 04 46.5 -0.5**
baz=326
O53A New Philadelph 84.02 36 P **P** **23 04 46.9 -0.2**
baz=328
INTR Introdacqua 84.06 328 P **P** **23 04 46.3 -1.0**
INTR IAmb IAmb 23 04 53.7
comp=Z,9.0nm,0.9s
PPT Papeete 84.10 122 LR LR 23 35 31.8
comp=Z,159nm,20.9s,baz=360,slow=31
T47A Sharon Grove 84.11 41 P **P** **23 04 46.9 -0.7**
baz=324,SNR=6.4
PPT2 Papeete2 84.12 122 *e*LR LR 23 31 11.6
comp=Z,174nm,20.5s
G64A Maxfield 84.12 25 P **P** **23 04 46.9 -0.6**
baz=335
Q51A Peebles 84.14 38 P **P** **23 04 47.8 +0.1**
baz=326
Q51A Peebles 84.14 38 IAmb IAmb 23 04 50.2
comp=Z,15nm,0.8s
P52A Corning 84.15 37 P **P** **23 04 48.2 +0.4**
baz=327
I61A Oroboro, Fairl 84.20 28 P **P** **23 04 47.5 -0.5**
baz=333
S49A Springfield 84.30 40 P **P** **23 04 47.7 -0.9**
baz=325,SNR=5.4
K59A Cooperstown 84.31 30 P **P** **23 04 48.1 -0.4**
baz=331
ACER Acerenza 84.32 326 P **P** **23 04 48.0 -0.7**
R50A Paris 84.32 39 P **P** **23 04 48.3 -0.3**
baz=326
SSB Saint Sauveur 84.33 335 IAmb IAmb 23 04 52.9
comp=Z,10nm,1.0s
833A Chaparral WMA, 84.41 55 P **P** **23 04 49.4 +0.1**
baz=319
833A Chaparral WMA, 84.41 55 P **P** **23 04 49.9 +0.6**
833A IAmb IAmb 23 04 52.2
comp=Z,12nm,0.9s

O54A	Avella	84.42	35	P	P	23 04 48.5	-0.6	
	baz=328							
NATX	Nacogdoches	84.44	50	P	P	23 04 49.5	+0.1	
	baz=321							
NATX	Nacogdoches	84.44	50	P	P	23 04 49.9	+0.5	
WVT	Waverly	84.47	42	P	P	23 04 48.9	-0.5	
	baz=324							
WVT	Waverly	84.47	42	P	P	23 04 48.8	-0.6	
WVT				pmax	pmax			
	comp=Z,18nm,1.1s							
WVT	Waverly	84.47	42	P	P	23 04 48.8	-0.6	
WVT				IAmb	IAmb	23 04 52.9		
	comp=Z,18nm,1.1s							
N55A	Marion Center	84.47	34	P	P	23 04 49.1	-0.3	
	baz=329							
I62A	Tamworth	84.54	28	P	P	23 04 49.8	+0.1	
	baz=333							
P53A	Whipple	84.59	36	P	P	23 04 49.7	-0.3	
	baz=327							
N56A	West Decatur	84.63	34	P	P	23 04 50.0	-0.1	
	baz=329							
I63A	Otisfield	84.63	27	P	P	23 04 50.1	0.0	
	baz=334							
R51A	Hillsboro	84.64	38	P	P	23 04 49.9	-0.3	
	baz=326							
M57A	Sunshine Farm,	84.72	33	P	P	23 04 50.1	-0.5	
	baz=330							
M57A	Sunshine Farm,	84.72	33	IAmb	IAmb	23 04 51.5		
	comp=Z,20nm,1.1s							
T49A	Edmonton	84.75	40	P	P	23 04 50.5	-0.3	
	baz=325							
T49A	Edmonton	84.75	40	IAmb	IAmb	23 04 52.9		
	comp=Z,15nm,1.0s							
ITM	Ithomi	84.77	320	P	P	23 04 51.5	+0.5	
H65A	Eastbrook	84.78	25	P	P	23 04 50.0	-0.8	
	baz=335							
S50A	Richmond	84.79	39	P	P	23 04 51.0	0.0	
	baz=326							
O55A	Ligonier	84.83	35	P	P	23 04 50.8	-0.4	
	baz=329							
P54A	Burton	84.87	36	P	P	23 04 51.1	-0.3	
	baz=328							
M58A	Price's Panora	84.94	32	P	P	23 04 51.2	-0.5	
	baz=330							
K61A	Williamstown	84.96	29	P	P	23 04 51.2	-0.6	
	baz=332							
OXF	Oxford	85.00	44	P	P	23 04 51.4	-0.6	
	baz=323							
R52A	Catlettsburg	85.02	38	P	P	23 04 51.7	-0.5	
	baz=327							
SSPA	Standing Stone	85.03	33	P	P	23 04 51.8	-0.3	
	baz=329							
SSPA	Standing Stone	85.03	33	P	P	23 04 52.5	+0.3	
SSPA				IAmb	IAmb	23 04 54.9		
	comp=Z,11nm,1.0s							
N57A	Milroy	85.06	33	P	P	23 04 51.4	-0.9	
	baz=330,SNR=8.0							
Q53A	Leroy	85.06	37	P	P	23 04 51.7	-0.7	
	baz=327							
O56A	Blue Knob Stat	85.08	34	P	P	23 04 52.1	-0.4	
	baz=329							
O56A	Blue Knob Stat	85.08	34	P	P	23 04 52.1	-0.4	
O56A				IAmb	IAmb	23 05 01.8		
	comp=Z,19nm,1.1s							
MCWV	Mont Chateau	85.08	35	P	P	23 04 51.7	-0.7	
	baz=328							
U49A	Red Boiling Sp	85.12	41	P	P	23 04 52.4	-0.3	
	baz=325,SNR=7.3							
T50A	Nancy	85.13	40	P	P	23 04 51.4	-1.3	
	baz=326,SNR=8.7							
M59A	Waymart	85.18	31	P	P	23 04 52.3	-0.6	
	baz=331							
S51A	Beattyville	85.18	39	P	P	23 04 52.5	-0.4	
	baz=326							
S51A	Beattyville	85.18	39	IAmb	IAmb	23 04 54.8		
	comp=Z,13nm,0.9s							
HKT	Hockley	85.19	52	P	P	23 04 53.3	+0.2	
HKT				pmax	pmax			
	comp=Z,3.0nm,0.8s							
HKT	Hockley	85.19	52	P	P	23 04 53.3	+0.2	
CLTN	Cedars of Leba	85.20	42	IAmb	IAmb	23 04 56.7		
	comp=Z,16nm,1.2s							
P55A	Reedsville	85.22	35	P	P	23 04 52.5	-0.7	
	baz=328,SNR=6.0							
Q54A	Coxs Mills	85.25	36	P	P	23 04 52.6	-0.7	
	baz=328							
Q54A	Coxs Mills	85.25	36	IAmb	IAmb	23 04 56.9		
	comp=Z,19nm,1.1s							
V48A	Smith Brothers	85.26	42	P	P	23 04 52.7	-0.7	
	baz=325,SNR=5.6							
N58A	Sunbury	85.30	33	P	P	23 04 52.9	-0.6	
	baz=330							
N58A	Sunbury	85.30	33	IAmb	IAmb	23 04 57.4		
	comp=Z,20nm,1.1s							
K62A	Royalston	85.32	29	P	P	23 04 52.5	-1.0	
	baz=333							
R53A	Hurricane	85.32	37	P	P	23 04 53.3	-0.4	
	baz=327							
TIP	Timpagrande	85.35	324	IAmb	IAmb	23 04 55.3		
	comp=Z,15nm,1.1s							
O57A	Amberson	85.49	33	P	P	23 04 53.5	-1.0	
	baz=330							
K63A	Dunstable	85.54	28	P	P	23 04 54.1	-0.6	
	baz=333							
Q55A	Buckhannon	85.55	36	P	P	23 04 53.8	-1.0	
	baz=328							
T51A	Gray	85.58	39	P	P	23 04 54.5	-0.6	
	baz=326							
N59A	State Game Lan	85.59	32	P	P	23 04 54.6	-0.4	
	baz=331							
N59A	State Game Lan	85.59	32	IAmb	IAmb	23 04 55.6		
	comp=Z,18nm,1.1s							
P56A	Dayton Farm, R	85.62	35	P	P	23 04 54.3	-0.8	
	baz=329,SNR=5.9							
U50A	Jamestown	85.63	40	P	P	23 04 54.6	-0.7	
	baz=326,SNR=5.6							
M60A	Port Jervis	85.66	31	P	P	23 04 54.9	-0.4	
	baz=331							
V49A	McMinnville	85.67	41	P	P	23 04 55.3	-0.2	
	baz=325							
HRV	Adam Dziewonsk	85.69	28	P	P	23 04 55.0	-0.4	
	baz=333							
O58A	Lewisberry	85.84	33	P	P	23 04 55.9	-0.4	
	baz=330							
R54A	Victor	85.86	37	P	P	23 04 55.5	-0.9	
	baz=328							
Q56A	Snyder Ridge,	85.88	35	P	P	23 04 55.2	-1.2	
	baz=329							
Q56A	Snyder Ridge,	85.88	35	IAmb	IAmb	23 04 57.5		
	comp=Z,16nm,1.1s							
T52A	Hallie	85.89	39	P	P	23 04 56.1	-0.5	
	baz=327							
O59A	Robesonia	85.96	32	P	P	23 04 56.2	-0.6	
	baz=330							
P57A	Homestead Farm	85.97	34	P	P	23 04 56.8	-0.1	
	baz=329							
M61A	Granite Spring	85.98	30	P	P	23 04 56.7	-0.2	
	baz=332							
W49A	Belvidere	86.03	42	P	P	23 04 56.9	-0.4	
	baz=325							
U51A	La Follette	86.03	40	P	P	23 04 57.4	+0.1	
	baz=326							
S54A	Dingess, Beckl	86.04	37	P	P	23 04 57.2	-0.1	
	baz=328							
SWET	Sewanee	86.11	42	IAmb	IAmb	23 04 58.1		
	comp=Z,18nm,1.0s							
V50A	Pikevile	86.12	41	P	P	23 04 57.3	-0.4	
	baz=326							
R55A	Marlinton	86.14	36	P	P	23 04 57.5	-0.4	
	baz=328							
T53A	Wise	86.19	38	P	P	23 04 57.5	-0.7	
	baz=327							
X48A	Hartselle	86.20	43	P	P	23 04 57.6	-0.5	
	baz=325							
P58A	Pank, Wackersv	86.24	34	P	P	23 04 57.8	-0.4	
	baz=330							
O60A	Telford	86.25	32	P	P	23 04 57.8	-0.4	
	baz=331							
VBMS	Vicksburg	86.26	47	P	P	23 04 58.5	+0.1	
	baz=323							
N61A	South Mountain	86.28	31	P	P	23 04 57.6	-0.8	
	baz=332							
U52A	Thorn Hill	86.31	39	P	P	23 04 58.5	-0.1	
	baz=326							
V51A	Loudon	86.36	40	P	P	23 04 58.1	-0.8	
	baz=326							
V51A	Loudon	86.36	40	IAmb	IAmb	23 05 01.7		
	comp=Z,11nm,0.9s							
S55A	Lewisburg	86.41	37	P	P	23 04 58.2	-0.9	
	baz=328							
W50A	Signal Mountai	86.41	41	P	P	23 04 58.1	-1.1	
	baz=326							
L64A	Middleborough	86.44	28	P	P	23 04 57.5	-1.6	
	baz=334							
P59A	Jarrettsville	86.48	33	P	P	23 04 58.6	-0.7	
	baz=330							
T54A	Tazewell	86.55	38	P	P	23 04 59.0	-0.9	
	baz=327							
Q58A	Fox Den Farm,	86.56	34	P	P	23 04 59.2	-0.6	
	baz=330							
CPCT	Cooper Cave	86.57	41	IAmb	IAmb	23 05 00.5		
	comp=Z,13nm,1.0s							
ZAIG	Zacatecas	86.65	61	IAmb	IAmb	23 05 04.5		
	comp=Z,14nm,1.1s							
V52A	Sevierville	86.67	40	P	P	23 04 59.7	-0.7	
	baz=326							
U53A	Fall Branch	86.69	39	P	P	23 05 00.4	-0.2	
	baz=327							
W51A	Cleveland	86.70	41	P	P	23 04 59.9	-0.6	
	baz=326							
O61A	Allentown	86.76	31	P	P	23 05 00.4	-0.3	
	baz=331							
R57A	Stanardsville	86.78	35	P	P	23 05 00.4	-0.5	
	baz=329							
T55A	Pulaski	86.84	37	P	P	23 05 01.3	0.0	
	baz=328							
U54A	Nelsons Funny	86.89	38	P	P	23 05 00.9	-0.7	
	baz=327							
BLA	Blacksburg	86.92	37	P	P	23 05 01.2	-0.4	
	baz=328							
Y49A	Blount Mountai	86.98	43	P	P	23 05 01.0	-1.0	
	baz=325							
R58A	Rapidan	86.99	35	P	P	23 05 01.7	-0.2	
	baz=329							
Q59A	Harwood	87.04	34	P	P	23 05 01.9	-0.2	
	baz=330							
S57A	Dark Hollow, R	87.06	36	P	P	23 05 01.9	-0.4	
	baz=329							
W52A	Murphy	87.14	40	P	P	23 05 01.8	-0.9	
	baz=326							
X51A	Calhoun	87.14	41	P	P	23 05 02.2	-0.5	
	baz=326							
V53A	Saluda	87.17	39	P	P	23 05 02.1	-0.7	
	baz=327							
Q60A	Greensboro	87.23	33	P	P	23 05 02.2	-0.8	
	baz=331							
U55A	TA2, Sparta	87.25	38	P	P	23 05 02.8	-0.5	
	baz=328							
W53A	Cullowhee	87.42	40	P	P	23 05 03.3	-0.9	
	baz=327							
X52A	Dahlonega	87.56	41	P	P	23 05 04.4	-0.3	
	baz=326							
T57A	Hurt	87.59	36	P	P	23 05 04.3	-0.5	
	baz=329							
T57A	Hurt	87.59	36	IAmb	IAmb	23 05 07.2		
	comp=Z,8.2nm,0.8s							
Y51A	Rockmart	87.59	42	P	P	23 05 04.4	-0.5	
	baz=326							
U56A	King	87.66	37	P	P	23 05 04.3	-0.9	
	baz=328							
BG3	Lake Jocassee	87.67	40	IAmb	IAmb	23 05 18.9		
	comp=Z,12nm,1.2s							
Z50A	Ashland	87.71	43	P	P	23 05 04.8	-0.7	
	baz=325,SNR=12							
V55A	Taylorsville	87.72	38	P	P	23 05 04.5	-1.0	
	baz=328							
T58A	Grand View Acr	87.93	36	P	P	23 05 05.5	-0.9	
	baz=329							
W54A	Cherokee Point	87.93	39	P	P	23 05 06.1	-0.5	
	baz=327							
U57A	Blanch	88.03	37	P	P	23 05 06.3	-0.7	
	baz=329							
V56A	Mocksville	88.07	38	P	P	23 05 05.9	-1.3	
	baz=328							
Y52A	Lilburn	88.09	41	P	P	23 05 07.0	-0.3	
	baz=326							
Y52A	Lilburn	88.09	41	IAmb	IAmb	23 05 08.3		
	comp=Z,9.5nm,0.9s							
KMSC	Kinge Mountain	88.26	39	P	P	23 05 07.9	-0.1	
	baz=328							
X54A	Belton	88.30	40	P	P	23 05 07.9	-0.3	
	baz=327							
T59A	Double "B" Far	88.31	35	P	P	23 05 07.6	-0.6	
	baz=330							
V57A	Coltrane Farms	88.31	37	P	P	23 05 07.9	-0.4	
	baz=328							
Y53A	Monroe	88.32	41	P	P	23 05 08.0	-0.4	
	baz=326							
U58A	Oxford	88.40	36	P	P	23 05 08.4	-0.3	
	baz=329							
Z52A	Williamson	88.48	42	P	P	23 05 08.6	-0.5	
	baz=326							
250A	Grady	88.59	44	P	P	23 05 09.1	-0.6	
	baz=325							
W56A	Indian Trail	88.60	38	P	P	23 05 09.9	+0.2	
	baz=328							
HODGE	Hodges	88.61	40	IAmb	IAmb	23 05 12.1		
	comp=Z,20nm,1.2s							
TBI	Tubuai	88.65	126	eLR	LR	23 33 00.0		
	comp=Z,146nm,30.5s							
V58A	Windy Hill, Pi	88.67	37	P	P	23 05 09.6	-0.4	
	baz=329							
X55A	Gracelyn & Ava	88.69	39	P	P	23 05 10.0	-0.1	
	baz=328							
Y54A	Tignall	88.73	40	P	P	23 05 09.9	-0.4	
	baz=327,SNR=8.7							
GOGA	Godfrey	88.74	41	P	P	23 05 10.1	-0.3	
	baz=326							
U59A	Littleton	88.75	36	P	P	23 05 09.6	-0.7	
	baz=330							
152A	Waverly Hall	88.77	42	P	P	23 05 09.9	-0.6	
	baz=326							
152A	Waverly Hall	88.77	42	IAmb	IAmb	23 05 20.3		
	comp=Z,12nm,1.1s							
Z53A	Monticello	88.80	41	P	P	23 05 09.9	-0.7	
	baz=326							
W57A	Gilead	88.84	38	P	P	23 05 09.9	-0.9	
	baz=328							
X56A	White Oak	88.94	39	P	P	23 05 10.5	-0.8	
	baz=328							
Y55A	Saluda	89.04	40	P	P	23 05 11.9	+0.1	
	baz=327							
V59A	Middlesex	89.06	36	P	P	23 05 11.6	-0.2	
	baz=329							
Z54A	Sparta	89.18	41	P	P	23 05 11.9	-0.5	
	baz=327							
W58A	Raeford	89.28	37	P	P	23 05 12.5	-0.3	
	baz=329							
252A	Lumpkin	89.31	43	P	P	23 05 12.6	-0.5	
	baz=326							
253A	Americus	89.55	42	P	P	23 05 13.9	-0.3	
	baz=326							
X58A	Rowland	89.63	38	P	P	23 05 13.8	-0.7	
	baz=329							
352A	Blakely	89.65	43	P	P	23 05 14.6	0.0	
	baz=326							
155A	Kite	89.86	41	P	P	23 05 15.6	-0.1	
	baz=327							
254A	Abbeville	90.04	42	P	P	23 05 16.4	0.0	
	baz=327							
353A	Camilla	90.10	43	P	P	23 05 17.3	+0.5	
	baz=326							
V62A	Hyde County Ai	90.17	35	P	P	23 05 17.1	+0.1	
	baz=331							
Y59A	Loris	90.31	38	P	P	23 05 17.3	-0.4	
	baz=329							
TIGA	Tifton	90.32	42	P	P	23 05 17.7	0.0	
	baz=326							
255A	Hazlehurst	90.44	41	P	P	23 05 18.2	-0.1	
	baz=327							
KEST	Kesra	91.27	328	P	P	23 05 22.0	-0.2	
	comp=Z,5.3nm,1.0s,baz=297,slow=6.2,SNR=4.2							
KEST				LR	LR	23 53 12.7		
	comp=Z,182nm,18.6s,baz=287,slow=40							
ESDC	Sonseca Array	91.88	339	P	P	23 05 24.5	-0.4	
	comp=Z,1.0nm,0.7s,baz=5.4,slow=3.7,SNR=7.0							
ESDC				LR	LR	23 51 27.9		
	comp=Z,72nm,18.3s,baz=65,slow=39							
TORD	Torodi Ar. Bea	114.50	324	PKP	PKiKP	23 10 56.1	-0.9	
	comp=Z,0.7nm,0.5s,baz=8.2,slow=1.8,SNR=5.5							
VNDA	Vanda	122.77	177	PKiKP	PKiKP	23 11 11.5	+0.3	
VNDA	Vanda	122.77	177	PKP	PKPdf	23 11 10.2	-0.8	
	comp=Z,2.4nm,0.8s,baz=309,slow=2.7,SNR=8.6							
VNDA	Vanda	122.77	177		PKiKP	23 11 11.5	+0.3	
QSPA	South Pole Qui	134.97	180		PKiKP	23 11 35.9	-0.1	
SYO	Syowa Base	137.87	211	⇓eX	Pdif	23 08 46.0	-3.1	
LPAZ	La Paz	138.01	58	PKP	PKPdf	23 11 43.2	+0.7	
	comp=Z,1.1nm,0.7s,baz=177,slow=5.2,SNR=3.9							
LPAZ	La Paz	138.01	58		PKiKP	23 11 43.5	-0.9	
GO03	Copiap	144.75	73		PKPdf	23 11 53.1	-0.4	
GO04	Tololo Observa	145.98	77		PKPab	23 11 56.9	-0.2	
ROC1	El Roble	147.45	82		PKPab	23 12 01.8	-1.0	
BDFB	Brasilia	147.46	30	PKPbc	PKPbc	23 12 01.5	+0.5	
	comp=Z,14nm,1.0s,baz=319,slow=2.7,SNR=12							
PEL	Peldehue	147.77	82	PKP2	PKPbc	23 12 01.3	0.0	
PEL	Peldehue	147.77	82		PKPbc	23 12 01.3	0.0	
SNAA	Sanae	150.11	198	PKPdf	PKPbc	23 12 06.0	-0.1	
SNAA	Sanae	150.11	198	PKIKP	PKPbc	23 12 05.9	-0.2	
SNAA	Sanae	150.11	198		PKPbc	23 12 05.9	-0.2	
GO06	Curarrehue	150.33	93		PKiKP	23 12 08.1	-0.4	
VNA2	Neumayer--Watz	151.64	197	PKPdf	PKiKP	23 12 09.8	-0.2	
	baz=88,slow=1.0							
VNA3	Neumayer Olymp	151.81	195	PKPdf	PKPbc	23 12 09.7	-0.3	
VNA1	Neumayer--Stat	152.03	196	PKPdf	PKiKP	23 12 10.8	0.0	
CPUP	Villa Florida	152.12	56	PKP	PKPdf	23 12 05.8	+0.3	
	comp=Z,4.9nm,1.1s,baz=247,slow=4.0,SNR=4.0							
CPUP				PKPbc	PKPbc	23 12 12.1	0.0	
	comp=Z,5.2nm,0.9s,baz=308,slow=1.6,SNR=7.0							
CPUP	Villa Florida	152.12	56		PKPdf	23 12 06.8	+1.4	
CPUP				PKPbc	PKPbc	23 12 14.1	+2.0	

ISCJB ***12*** *22:56:21.7±1.4, 45°23N×0°06×148°32E±0°09, h7km±7km, mb3.9/7, MS3.6/2, Error ellipse: s-maj=13.9km s-min=5.7km az=137.1*

SKHL ***12*** *22:56:22.1±0.6, 45°30N×148°34E, h11km±2km, mb4.3/5*

SKHL Felt (III) at Kuril'sk.

MOS ***12*** *22:56:22.5±1.3, 45°32N×148°17E, h15km, mb4.2/1, Error ellipse: s-maj=21.5km s-min=10.1km az=53.2*

MOS Felt (III) at Kuril'sk.

IDC ***12*** *22:56:23.8±1.9, 45°51N×148°12E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.8/41, mbtmp4.0/8, ML4.0/1, MS3.6/2, Ms1 3.6/2, ms1mx3.1/40, Error ellipse: s-maj=59.3km s-min=22.5km az=164.0*

ISC 12 22:56:22.4±1.8, 45°19N±0°07×148°33E±0°07, h3km±9km, n36, σ1°16/44, mb4.0/7, MS3.7/3, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.33**	**279**	*d*	*i*	**Pg**	**22 56 29.1**	**+0.4**
KUR					*e*	**Sg**	**22 56 32.8**	**-0.2**
KUR				pmax		pmax		
	comp=Z,9μm,0.7s							
KUR				pmax		pmax		
	comp=E,5μm,0.8s							
KUR				pmax		pmax		
	comp=N,3μm,0.6s							
KUR				smax		smax		
	comp=E,23μm,0.6s							
KUR				smax		smax		
	comp=N,4μm,0.5s							
KUR	**Kuril'sk**	**0.33**	**279**		*i*	**Pg**	**22 56 28.8**	**+0.1**
KUR				AMB		AMB	22 56 31.1	
	comp=N,30nm,0.4s							
KUR				AMB		AMB	22 56 31.1	
	comp=N,50nm,0.4s							
KUR				AMB		AMB	22 56 31.1	
	comp=N,90nm,0.4s							
KUR					*e*	**Sg**	**22 56 33.4**	**+0.4**
KUR				A		A	22 56 33.9	
	comp=N,400nm,0.5s							
KUR				A		A	22 56 33.9	
	comp=N,230nm,0.5s							
SHO	**Shikotan**	**1.70**	**220**	⇑	*i*	**Pn**	**22 56 50.8**	**-2.1**
SHO					*i*	**Sn**	**22 57 13.4**	**-1.7**
SHO				pmax		pmax		
	comp=N,154nm,0.5s							
SHO				pmax		pmax		
	comp=E,129nm,0.5s							
SHO				pmax		pmax		
	comp=Z,334nm,0.5s							
SHO				smax		smax		
	comp=N,426nm,0.4s							
SHO				smax		smax		
	comp=E,240nm,0.5s							
SHO	**Shikotan**	**1.70**	**220**		*i*	**Pn**	**22 56 51.1**	**-1.8**
SHO				AMB		AMB	22 56 52.2	
	comp=E,130nm,0.5s							
SHO				AMB		AMB	22 56 52.2	
	comp=E,190nm,0.5s							
SHO					*i*	**Sn**	**22 57 13.3**	**-1.8**
SHO				A		A	22 57 15.2	
	comp=E,530nm,0.5s							
SHO				A		A	22 57 15.2	
	comp=E,760nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.10**	**238**		*e*	**Pn**	**22 56 58.5**	**0.0**
YUK					*e*	**Sn**	**22 57 26.1**	**+0.9**
YUK				pmax		pmax		
	comp=Z,570nm,0.4s							
YUK				pmax		pmax		
	comp=N,55nm,0.2s							
YUK				pmax		pmax		
	comp=E,163nm,0.3s							
YUK				smax		smax		
	comp=N,663nm,0.6s							
YUK				smax		smax		
	comp=E,648nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**2.10**	**238**		*e*	**Pn**	**22 56 58.0**	**-0.5**
YUK				AMB		AMB	22 57 02.7	
	comp=E,90nm,0.5s							
YUK					*e*	**Sn**	**22 57 25.7**	**+0.5**
YUK				A		A	22 57 30.0	
	comp=E,660nm,0.6s							
YUK				A		A	22 57 30.0	
	comp=E,650nm,0.6s							
GRPR	**Tuman**	**2.18**	**238**		*e*	**Pn**	**22 57 00.0**	**+0.4**
GRPR					*e*	**Sn**	**22 57 27.7**	**+0.6**
GRPR				pmax		pmax		
	comp=N,287nm,0.5s							
GRPR				pmax		pmax		
	comp=Z,453nm,0.5s							
GRPR				pmax		pmax		
	comp=E,277nm,0.4s							
GRPR				smax		smax		
	comp=N,536nm,0.5s							
GRPR				smax		smax		
	comp=E,440nm,0.4s							
GRPR	**Tuman**	**2.18**	**238**		*e*	**Pn**	**22 56 59.0**	**-0.6**
GRPR				AMB		AMB	22 57 07.0	
	comp=E,90nm,0.5s							
GRPR					*e*	**Sn**	**22 57 27.7**	**+0.6**
GRPR				A		A	22 57 36.0	
	comp=E,540nm,0.5s							
GRPR				A		A	22 57 36.0	
	comp=E,440nm,0.5s							
GLVR	**Golovnino**	**2.48**	**235**		*e*	**Pn**	**22 57 03.3**	**-0.3**
GLVR				AMB		AMB	22 57 07.0	
	comp=E,80nm,0.6s							
GLVR					*e*	**Sn**	**22 57 34.2**	**-0.2**
GLVR				A		A	22 57 41.0	
	comp=E,300nm,0.6s							
GLVR				A		A	22 57 41.0	
	comp=E,530nm,0.6s							
NMR	**Nemuro--Hokkai**	**2.60**	**227**		*e*	**Pn**	**22 57 04.3**	**-1.1**
NMR					*e*	**Sn**	**22 57 37.8**	**+0.3**
NMR	**Nemuro--Hokkai**	**2.60**	**227**		*e*	**Pn**	**22 57 04.3**	**-1.1**
NMR					*e*	**Sn**	**22 57 37.8**	**+0.3**
JKA	**Kamikawa-asahi**	**4.22**	**257**		*e*	**Pn**	**22 57 29.1**	**+1.4**
ASAJ	**Asahikawa**	**4.23**	**257**	Pn		**Pn**	**22 57 29.1**	**+1.4**
	comp=E,7.1nm,0.3s,baz=82,slow=15,SNR=7.0							
YSS	**Yuzh-Sakhalins**	**4.26**	**296**		*e*	**Pn**	**22 57 26.6**	**-1.6**
ERM	**Erimo**	**4.91**	**232**		*i*	**Pn**	**22 57 39.7**	**+2.6**
HIA	**Hailar**	**19.78**	**292**		*i*	**P**	**23 00 51.7**	**-2.0**
HIA				pmax		pmax		
	comp=Z,21nm,0.8s							
TIXI	**Tiksi**	**28.14**	**347**		*i*	**P**	**23 02 13.9**	**-1.4**
TIXI	**Tiksi**	**28.14**	**347**		*e*	**P**	**23 02 13.9**	**-1.4**
H11N2	**WAKE ISLAND Hy**	**29.68**	**143**		T	T	23 33 43.9	
	baz=334,slow=76,SNR=24							
H11N1	**WAKE ISLAND Hy**	**29.70**	**143**		T	T	23 33 44.9	
	baz=334,slow=76,SNR=28							
H11N3	**WAKE ISLAND Hy**	**29.70**	**143**		T	T	23 33 45.2	
	baz=334,slow=76,SNR=28							
H11S1	**WAKE ISLAND Hy**	**30.69**	**144**		T	T	23 34 58.4	
	baz=334,slow=76,SNR

comp=Z,1.0nm,0.8s,baz=265,slow=8.6,SNR=6.1
ZALV Zalesovo Beam 40.82 306 PcP **PcP 23 06 06.1 +0.3**
comp=Z,0.9nm,0.5s,baz=102,slow=3.5,SNR=3.9
MKAR Makanchi Array 44.68 297 P **P 23 04 36.5 0.0**
comp=Z,0.7nm,0.7s,baz=73,slow=8.7,SNR=2.3
MKAR PcP **PcP 23 06 18.9 0.0**
comp=Z,0.6nm,0.6s,baz=71,slow=5.6,SNR=5.9
JAY Jayapura 47.97 190 LR LR 23 25 33.8
comp=Z,46nm,18.5s,baz=158,slow=36
KSH Kashi 52.13 291 P **P 23 05 35.6 +1.5**
KSH PcP **PcP 23 06 46.7 +0.8**
KSH PcS **PcS 23 10 43.9 -0.4**
KSH S **S 23 12 59.2 +0.2**
KSH Kashi 52.13 291 SS **SS 23 16 35.6 -0.2**
KSH pmax pmax
comp=Z,360nm,5.2s
KSH LR LR
comp=N,1μm,14.6s
KSH LR LR
comp=E,980nm,6.0s
RES Resolute Bay 53.35 17 P **P 23 05 41.8 -0.6**
comp=E,1.1nm,0.3s,baz=338,slow=8.1,SNR=5.3
YKA Yellowknife Ar 54.14 35 P **P 23 05 49.1 +0.7**
comp=E,1.3nm,0.8s,baz=304,slow=7.1,SNR=6.3
FINES FINESS Array B 63.98 333 P **P 23 06 55.0 -1.6**
FINES FINESS Array B 63.98 333 P **P 23 06 55.0 -1.6**
comp=E,5.6nm,0.9s,baz=58,slow=10,SNR=3.4
NVAR Mina Array Bea 66.11 59 P **P 23 07 12.5 +1.4**
comp=E,1.1nm,0.8s,baz=267,slow=7.8,SNR=3.9
TXAR Lajitas Array 81.16 57 P **P 23 08 40.9 +1.3**
comp=E,0.6nm,0.7s,baz=350,slow=6.6,SNR=5.0
TXAR LR LR 23 45 36.2
comp=E,34nm,18.5s,baz=0.0,slow=36

*ISCJB **12** 22:57:33.3±0.6, 37°.35N±0°.02×42°.37E±0°.03, h4km±4km, Error ellipse: s-maj=4.6km s-min=3.0km az=145.2*
*ISK **12** 22:57:33.5, 37°.40N×42°.35E, h1km, ML3.0/15*
*DDA **12** 22:57:33.5, 37°.39N×42°.38E, h11km, ML2.5*
*ISN **12** 22:57:34.0±0.6, 37°.40N×42°.58E, h7km±2km, ML2.9*
ISC 12 22:57:33.6±0.9, 37°.39N±0°.03×42°.35E±0°.03, h8km±7km, n37, σ0s98/59, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIRN	**Sirnak**	**0.12**	**24**	*i* PA	**Pg**	**22 57 36.5**	**+0.2**
SIRN				*i* S	**Sg**	**22 57 38.5**	**+0.1**
SIRN				IAML		22 57 39.0	
	comp=N,4μm,0.2s						
SIRN				IAML		22 57 39.0	
	comp=E,5μm,0.3s						
SIRT	**Sirnak**	**0.13**	**31**	PG	**Pg**	**22 57 36.6**	**0.0**
SIRT				SG	**Sg**	**22 57 38.5**	**-0.2**
SRTM	**Siirt_Merkez**	**0.69**	**331**	*i* PA	**Pg**	**22 57 47.1**	**+0.2**
SRTM				*i* S	**Sb**	**22 57 57.0**	**-0.8**
SRTM				IAML		22 58 00.0	
	comp=N,292nm,0.5s						
SRTM				IAML		22 58 02.0	
	comp=E,372nm,0.4s						
BLIS	**Bitlis-Merkez**	**1.04**	**350**	*i* PA	**Pg**	**22 57 54.5**	**+0.8**
BLIS				*i* S	**Sb**	**22 58 08.1**	**+0.2**
BLIS				IAML		22 58 11.0	
	comp=N,245nm,0.7s						
BLIS				IAML		22 58 11.0	
	comp=E,282nm,0.4s						
GEVA	**Gevas**	**1.08**	**31**	*i* P	**Pb**	**22 57 54.4**	**-0.2**
GEVA				*i* S	**Sb**	**22 58 08.9**	**0.0**
GEVA				IAML		22 58 14.0	
	comp=E,74nm,0.8s						
GEVA				IAML		22 58 18.0	
	comp=N,48nm,0.6s						
HAKT	**HAKKARI**	**1.09**	**81**	*i* PA	**Pg**	**22 57 53.9**	**-0.7**
HAKT				*i* S	**Sg**	**22 58 08.7**	**-0.1**
HAKT				IAML		22 58 13.0	
	comp=E,239nm,0.3s						
HAKT				IAML		22 58 14.0	
	comp=N,142nm,0.5s						
MSL	**Mosul**	**1.16**	**148**	*e*Pg	**Pb**	**22 57 54.6**	**-1.2**
MSL				AML	AML	22 57 56.5	
	comp=Z,1μm,0.4s						
MSL				*e*Sg	**Sg**	**22 58 10.0**	**-0.8**
GURO	**Guroymak-BITLI**	**1.19**	**348**	PN	**Pn**	**22 57 57.1**	**+0.5**
GURO				SN	**Sn**	**22 58 14.2**	**+1.1**
SVAN	**Silvan-Diyarba**	**1.19**	**310**	*i* PA	**Pg**	**22 57 56.8**	**+0.3**
SVAN				*i* S	**Sn**	**22 58 12.7**	**-0.3**
SVAN				IAML		22 58 14.0	
	comp=N,208nm,0.3s						
SVAN				IAML		22 58 14.0	
	comp=E,216nm,0.6s						
SVAN	**Silvan-Diyarba**	**1.19**	**310**	PN	**Pn**	**22 57 57.1**	**+0.5**
MARD	**Mardin**	**1.26**	**267**	*i* PA	**Pg**	**22 57 57.9**	**+0.2**
MARD				*i* S	**Sn**	**22 58 15.2**	**+0.5**
MARD				IAML		22 58 17.0	
	comp=E,619nm,0.3s						
MARD				IAML		22 58 18.0	
	comp=N,855nm,0.4s						
VANB	**Van**	**1.46**	**34**	PN	**Pb**	**22 58 00.8**	**-0.2**
MUSM	**Mu-Merkez**	**1.49**	**334**	*i* P	**Pn**	**22 58 00.9**	**+0.2**
MUSM				*i* S	**Sn**	**22 58 20.2**	**-0.2**
MUSM				IAML		22 58 22.0	
	comp=N,66nm,0.9s						
MUSM				IAML		22 58 22.0	
	comp=E,110nm,0.9s						
MAZI	**Mazidag**	**1.52**	**273**	PN	**Pg**	**22 58 02.7**	**0.0**
YOVA	**Hakkari_Yksek**	**1.55**	**82**	*i* P	**Pb**	**22 58 02.6**	**-0.1**
YOVA				*i* S	**Sg**	**22 58 23.4**	**-0.1**
YOVA				IAML		22 58 27.0	
	comp=E,86nm,0.3s						
YOVA				IAML		22 58 29.0	
	comp=N,63nm,0.4s						
MLAZ	**Malazgirt-MUS**	**1.76**	**5**	PN	**Pb**	**22 58 05.9**	**-0.3**
BNGL	**BINGOL**	**1.83**	**329**	*i* P	**Pb**	**22 58 07.3**	**0.0**
BNGL				*i* S	**Sb**	**22 58 29.9**	**-0.6**
DYBB	**Diyarbakir**	**1.84**	**288**	PN	**Pb**	**22 58 07.4**	**-0.2**
DIYA	**Diyarbakir**	**1.85**	**287**	*i* PA	**Pg**	**22 58 07.9**	**-1.2**
DIYA				*i* S	**Sb**	**22 58 31.6**	**+0.6**
DIYA				IAML		22 58 35.0	
	comp=N,117nm,0.3s						
DIYA				IAML		22 58 35.0	
	comp=E,165nm,0.3s						
HANI	**Diyarbakir_Han**	**1.85**	**304**	*i* P	**Pn**	**22 58 06.1**	**+0.4**
HANI				*i* S	**Sn**	**22 58 28.6**	**-0.8**
HANI				IAML		22 58 41.0	
	comp=N,66nm,0.4s						
HANI				IAML		22 58 45.0	
	comp=E,69nm,0.4s						
VRTB	**Varto-Mus**	**1.91**	**339**	*i* P	**Pb**	**22 58 08.9**	**+0.2**
VRTB				*i* S	**Sg**	**22 58 34.5**	**-0.3**
VRTB				IAML		22 58 35.0	
	comp=E,85nm,0.7s						
VRTB				IAML		22 58 41.0	
	comp=N,91nm,0.7s						
VRTB	**Varto-Mus**	**1.91**	**339**	PN	**Pb**	**22 58 08.1**	**-0.6**
TUTA	**Tutak**	**2.04**	**10**	*i* P	**Pn**	**22 58 08.9**	**+0.4**
TUTA				IAML		22 58 41.0	
	comp=E,0.2nm,1.1s						
TUTA				IAML		22 58 44.0	
	comp=N,35nm,1.1s						
BNGB	**Bingl**	**2.07**	**321**	PN	**Pn**	**22 58 09.6**	**+0.8**
BGOL	**Bingol**	**2.08**	**321**	*i* P	**Pn**	**22 58 09.6**	**+0.8**
BGOL				*i* S	**Sn**	**22 58 32.8**	**-2.1**
BGOL				IAML		22 58 40.0	
	comp=N,29nm,0.7s						
BGOL				IAML		22 58 47.0	
	comp=E,27nm,0.6s						
CLDR	**Caldiran**	**2.14**	**35**	*i* P	**Pb**	**22 58 11.8**	**-1.0**
CLDR				IAML		22 58 59.0	
	comp=E,5.7nm,0.7s						
CLDR				IAML		22 59 04.0	
	comp=N,5.3nm,1.0s						
CLDR	**Caldiran**	**2.14**	**35**	PN	**Pb**	**22 58 11.5**	**-1.3**
KARO	**Karliova-Bingo**	**2.17**	**332**	PN	**Pb**	**22 58 11.9**	**-1.4**
AGRB	**Hanur-Agry**	**2.24**	**13**	PN	**Pb**	**22 58 12.8**	**-1.6**
ECAT	**Cat-ERZURUM**	**2.46**	**334**	*i* P	**Pg**	**22 58 19.6**	**-1.3**
ECAT				*i* S	**Sn**	**22 58 45.7**	**+1.1**
ECAT				IAML		22 58 54.0	
	comp=E,16nm,0.4s						
ECAT				IAML		22 58 55.0	
	comp=N,11nm,1.0s						
YEDI	**Yedisu-Bingol**	**2.49**	**326**	PN	**Pn**	**22 58 16.5**	**+1.9**
IKRK	**Kirkuk**	**2.55**	**140**	*e*Pn	**Pn**	**22 58 16.0**	**+0.8**
IKRK				AML	AML	22 58 24.4	
	comp=Z,46nm,0.8s						
IKRK				*e*Sn	**Sn**	**22 58 47.0**	**+0.5**
SVRC	**Sivrice-ELAZID**	**2.60**	**293**	PN	**Pn**	**22 58 18.1**	**+1.9**
KOPR	**Koprukoy-ERZUR**	**2.63**	**352**	PN	**Pn**	**22 58 18.6**	**+2.1**
BHD	**Baghdad**	**4.43**	**157**	*e*Pn	**Pn**	**22 58 42.5**	**+1.4**
BHD				*e*Sn	**Sn**	**22 59 33.0**	**+0.2**
IBDR	**Badra**	**5.17**	**145**	*e*Pn	**Pn**	**22 58 53.0**	**+1.7**
IBDR				*e*Sn	**Sn**	**22 59 50.0**	**-1.2**
NSR	**Nassriya**	**7.09**	**153**	*e*Pn	**Pn**	**22 59 20.0**	**+2.4**
NSR				*e*Sn	**Sn**	**23 00 37.0**	**-1.4**

IDC 12 23:27:10.1±2.3, 0°.71N×127°.08E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/37, mbtmp3.6/3, Error ellipse: s-maj=211.1km s-min=24.7km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.72**	**161**	P	P	23 32 02.5	-0.6
	1.5nm,0.7s,baz=340,slow=10.0,SNR=9.5						
ASAR	**Alice Springs**	**25.12**	**165**	P	P	23 32 37.4	+0.4
	0.4nm,0.3s,baz=344,slow=12,SNR=12						
MKAR	**Makanchi Array**	**60.23**	**326**	P	P	23 37 20.1	-0.1
	0.3nm,0.3s,baz=118,slow=7.9,SNR=8.5						

*ISCJB **12** 23:36:29.4±1.2, 13°.8N±0°.2×90°.2W±0°.1, h111km±11km, Error ellipse: s-maj=36.4km s-min=7.4km az=24.6*
*SNET **12** 23:36:29.0±0.6, 13°.88N×90°.28W, h99km±2km, ML3.4*
*UCR **12** 23:36:30.0±1.3, 13°.83N×90°.22W, h99km±6km, MD3.4, ML3.4*
*GCG **12** 23:36:31.0±0.4, 13°.77N×90°.30W, h89km±7km, MD3.7*
ISC 12 23:36:30.9±2.2, 13°.8N±0°.1×90°.19W±0°.07, h100km±14km, n34, σ0s73/42, 8D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.41**	**323**	⇓*i* P	**Pn**	**23 36 45.6**	**-0.7**
IXG	**Ixpaco**	**0.41**	**323**	⇓*i* P	**Pn**	**23 36 45.6**	**-0.7**
RTR	**El Retiro**	**0.53**	**84**	*e*P	**Pn**	**23 36 46.4**	**-0.7**
RTR	**El Retiro**	**0.53**	**84**	*e*P	**Pn**	**23 36 46.4**	**-0.7**
CEVE	**Cerro Verde**	**0.55**	**91**	*e*P	**Pn**	**23 36 46.6**	**-0.7**
CEVE				*e*S	**Sn**	**23 37 00.9**	**+1.2**
CEVE				IAML		23 37 05.2	
	comp=Z,1μm,0.3s						
CEVE	**Cerro Verde**	**0.55**	**91**	*e*P	**Pn**	**23 36 46.6**	**-0.7**
CEVE				*e*S	**Sn**	**23 37 00.9**	**+1.2**
CEVE				IAML		23 37 05.2	
	comp=Z,1μm,0.3s						
SBLS	**San Blas**	**0.55**	**90**	⇓*e*P	**Pn**	**23 36 46.5**	**-0.8**
SBLS	**San Blas**	**0.55**	**90**	⇓*e*P	**Pn**	**23 36 46.5**	**-0.8**
SNJE	**San Jose**	**0.56**	**87**	⇓*i*P	**Pn**	**23 36 46.7**	**-0.7**
SNJE	**San Jose**	**0.56**	**87**	⇓*i*P	**Pn**	**23 36 46.7**	**-0.7**
UNIC	**Universidad Ca**	**0.64**	**77**	*e*P	**Pn**	**23 36 47.0**	**-0.8**
UNIC				*e*S	**Sn**	**23 37 00.3**	**-0.3**
UNIC	**Universidad Ca**	**0.64**	**77**	*e*P	**Pn**	**23 36 47.0**	**-0.8**
UNIC				*e*S	**Sn**	**23 37 00.3**	**-0.3**
PCG	**Pacaya**	**0.69**	**323**	*e*P	**Pn**	**23 36 49.3**	**+0.8**
PCG				*e*S	**Sn**	**23 37 01.6**	**-0.1**
PCG	**Pacaya**	**0.69**	**323**	*e*P	**Pn**	**23 36 49.3**	**+0.8**
PCG				*e*S	**Sn**	**23 37 01.6**	**-0.1**
NBG	**Las Nubes**	**0.76**	**348**	*e*P	**Pn**	**23 36 49.5**	**+0.3**
NBG	**Las Nubes**	**0.76**	**348**	*e*P	**Pn**	**23 36 49.5**	**+0.3**
FUG	**Fuego 3**	**0.88**	**314**	*e*P	**Pn**	**23 36 49.7**	**-0.6**
FUG	**Fuego 3**	**0.88**	**314**	*e*P	**Pn**	**23 36 49.7**	**-0.6**
BOQS	**Boqueron**	**0.89**	**97**	*e*P	**Pn**	**23 36 49.8**	**-0.6**
BOQS				*e*S	**Sn**	**23 37 06.5**	**+1.5**
MTO3	**Montecristo**	**0.97**	**55**	⇓*i*P	**Pn**	**23 36 50.6**	**-0.7**
MTO3	**Montecristo**	**0.97**	**55**	⇓*i*P	**Pn**	**23 36 50.6**	**-0.7**
LFRS	**El Faro**	**1.11**	**101**	*e*P	**Pn**	**23 36 52.0**	**-0.7**
LFRS				*e*S	**Sn**	**23 37 10.3**	**+1.2**
LBRS	**Las Brisas**	**1.11**	**95**	*e*P	**Pn**	**23 36 52.3**	**-0.4**
PAVA	**Las Pavas**	**1.22**	**96**	*e*P	**Pn**	**23 36 53.5**	**-0.4**
PAVA	**Las Pavas**	**1.22**	**96**	*e*P	**Pn**	**23 36 53.5**	**-0.4**
LLGN	**La Laguna**	**1.25**	**75**	*e*P	**Pn**	**23 36 53.5**	**-0.7**
LLGN				IAML		23 36 54.8	
	comp=Z,335nm,0.5s						
LLGN	**La Laguna**	**1.25**	**75**	*e*P	**Pn**	**23 36 53.5**	**-0.7**
LLGN				IAML		23 36 54.8	
	comp=Z,335nm,0.5s						
COEG	**Centro de Oper**	**1.29**	**100**	*e*P	**Pn**	**23 36 54.3**	**-0.4**
COEG				IAML		23 36 55.4	
	comp=Z,840nm,0.4s						
VICT	**Victoria**	**1.51**	**85**	*e*P	**Pn**	**23 36 56.7**	**-0.6**
VICT	**Victoria**	**1.51**	**85**	*e*P	**Pn**	**23 36 56.7**	**-0.6**
STG3	**Santiaguito 3,**	**1.60**	**303**	*e*P	**Pn**	**23 36 58.0**	**-0.6**
COEB	**Comit de Eme**	**1.65**	**102**	*e*P	**Pn**	**23 36 58.9**	**-0.2**
COEB				IAML		23 36 59.9	
	comp=Z,391nm,0.4s						
TECA	**Tecapa**	**1.67**	**102**	*e*P	**Pn**	**23 36 59.3**	**-0.2**
TECA	**Tecapa**	**1.67**	**102**	*e*P	**Pn**	**23 36 59.3**	**-0.2**

SKHL 12 23:47:49.3±0.6, 45°.62N×148°.02E, h22km±1km, mb3.7/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.40**	**196**	*i* P	Pb	23 47 57.9	+0.2
KUR				AMB	AMB	23 48 00.8	
	90nm,0.9s						
KUR				AMB	AMB	23 48 00.8	
	150nm,0.9s						
KUR				*e*S	Sb	23 48 04.8	+1.5
KUR				A	A	23 48 08.9	
	3μm,0.4s						
KUR				A	A	23 48 08.9	
	3μm,0.4s						
SHO	**Shikotan**	**1.94**	**206**	*i* P	Pn	23 48 20.5	-0.5
SHO				AMB	AMB	23 48 30.0	
	70nm,0.8s						
SHO				*i* S	Sn	23 48 43.5	-1.2
SHO				A	A	23 48 45.0	
	110nm,0.4s						
SHO				A	A	23 48 45.0	
	210nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.21**	**225**	*e*P	Pn	23 48 24.8	+0.2
YUK				*e*S	Sn	23 48 48.3	-2.9
GRPR	**Tuman**	**2.28**	**225**	*e*P	Pn	23 48 25.3	-0.3
NMR	**Nemuro--Hokkai**	**2.78**	**217**	*i* P	Pb	23 48 36.0	-2.3
YSS	**Yuzh-Sakhalins**	**3.89**	**292**	*e*P	Pn	23 48 48.3	+0.7
BILL	**Bilibino**	**24.39**	**17**	*e*P	P	23 53 08.9	+3.3
TIXI	**Tiksi**	**27.66**	**347**	*e*P	P	23 53 38.8	+3.7

*NNC **13** 00:00:33.2±3.0, 37°.73N×71°.66E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=24.1km s-min=20.3km az=155.0*
ISC 13 00:00:31.7±3.5, 37°.4N±0°.2×71°.6E±0°.2, h109km, n8, σ0s84/10, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.02**	**18**	P	**Pn**	**00 01 45.5**	**+0.4**
	SNR=6.9						
UCH	**Uchtor**	**5.34**	**24**	P	**Pn**	**00 01 49.8**	**+0.3**
	SNR=5.5						
EKS2	**Erkin-Say**	**5.54**	**17**	P	**Pn**	**00 01 53.7**	**+1.7**
	SNR=15						
AAK	**Ala-Archa**	**5.71**	**22**	P	**Pn**	**00 01 54.7**	**+0.4**
	SNR=5.9						
AAK	**Ala-Archa**	**5.71**	**22**	⇑Pn	**Pn**	**00 01 54.7**	**+0.4**
	2.1nm,0.3s						
AAK				⇑Sn	**Sn**	**00 02 58.0**	**-0.6**
	4.2nm,1.1s						
KK31	**Karatay Array**	**5.79**	**352**	⇓Pn	**Pn**	**00 01 56.0**	**+0.7**
	3.9nm,0.3s,baz=179,slow=13,SNR=102						
KK31				⇑Sn	**Sn**	**00 03 00.1**	**-0.2**
	0.6nm,0.2s,baz=173,slow=22,SNR=6.0						
USP	**Ospenovka**	**6.29**	**20**	P	**Pn**	**00 02 02.1**	**+0.1**
	SNR=7.8						
AB31	**Akbulak array**	**14.59**	**328**	Pn	**P**	**00 03 55.4**	**-0.6**
	0.5nm,0.5s,baz=136,slow=14,SNR=18						

*ISCJB **13** 00:03:18.2±0.2, 0°.24S±0°.03×124°.55E±0°.03, h60km, mb4.4/21, MS3.5/8, Error ellipse: s-maj=4.6km s-min=3.7km az=29.3*
*DJA **13** 00:03:18.9±1.0, 0°.5S±2°×12°.5E±°, h20km±9km, M4.6/15, mb4.8/5, mB4.9/3, MLv4.6/15, Mw(mB)4.2/3*
*NEIC **13** 00:03:20.9±2.1, 0°.31S±0°.08×124°.57E±0°.06, h76km±7km, mb4.5/32*
*IDC **13** 00:03:22.9±2.1, 0°.33S×124°.51E, h86km±22km, mb4.1/13, mb1 4.2/16, mb1mx3.9/35, mbtmp4.4/16, MS3.3/8, Ms1 3.3/8, ms1mx3.0/34, Error ellipse: s-maj=14.6km s-min=13.3km az=81.0*

ISC 13 00:03:20.1±0.4, 0°.30S±0°.05×124°.61E±0°.05, h60km, n84, σ1s57/88, mb4.5/36, MS3.4/8, 1C-1D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.07**	**324**	P	**Pn**	**00 03 36.5**	**-2.6**
LUWI	**Luwuk**	**1.98**	**248**	P	**Pn**	**00 03 52.9**	**+1.7**
LUWI	**Luwuk**	**1.98**	**248**		**Pn**	**00 03 52.0**	**+0.7**
SANI	**Sanana**	**2.22**	**141**	P	**Pn**	**00 03 53.3**	**-1.3**
MRSI	**Marisa**	**2.77**	**286**	P	**Pn**	**00 03 59.4**	**-2.7**
LBMI	**Labuha**	**2.92**	**97**	S	**Sn**	**00 04 38.9**	**+1.0**
TNTI	**Ternate**	**2.96**	**69**	P	**Pn**	**00 04 05.9**	**+1.2**
TNTI				S	**Sn**	**00 04 40.8**	**+1.8**
TNTI	**Ternate**	**2.96**	**69**		**Pn**	**00 04 05.2**	**+0.5**
APSI	**Ampana**	**3.02**	**258**	P	**Pn**	**00 04 07.3**	**+1.9**
NLAI	**Namlea**	**3.84**	**140**	P	**Pn**	**00 04 16.6**	**-0.1**
MPSI	**Mapaga**	**4.75**	**278**	P	**Pn**	**00 04 27.8**	**-1.4**
AAI	**Ambon**	**4.92**	**133**	P	**Pn**	**00 04 33.0**	**+1.5**
MSAI	**Masohi**	**5.27**	**125**	P	**Pn**	**00 04 38.2**	**+1.8**
	124nm,0.8s,2μm0.5nm						
TTSI	**Tana Toraja**	**5.50**	**240**	P	**Pn**	**00 04 40.4**	**+0.9**
	106nm,0.5s,0.4nm						
SPSI	**Sidrap Palu**	**6.05**	**233**	P	**Pn**	**00 04 48.9**	**+1.9**
	71nm,0.6s,1μm0.3nm						
BNSI	**Bone**	**6.06**	**228**	P	**Pn**	**00 04 49.0**	**+1.8**
	54nm,0.7s,0.2nm						
SIJI	**Sorong**	**6.68**	**95**	P	**Pn**	**00 05 00.2**	**+4.4**
	4.9nm,0.3s,baz=258,slow=6.7,SNR=5.3						
SIJI				S	**Sn**	**00 06 13.8**	**+3.3**
	1.9nm,0.3s,baz=229,slow=22,SNR=1.4						
KAPI	**Kappang**	**6.74**	**226**	P	**Pn**	**00 04 58.2**	**+1.8**
	2.7nm,0.3s,baz=68,slow=12,SNR=11						
KAPI				S	**Sn**	**00 06 13.4**	**+1.5**
	3.4nm,0.3s,baz=223,slow=22,SNR=5.6						
KAPI	**Kappang**	**6.74**	**226**		**Pn**	**00 04 56.7**	**+0.3**
KAPI					**Sn**	**00 06 10.9**	**-0.9**
KCP	**Kidapawan**	**7.28**	**4**	⇓P	**Pn**	**00 05 06.9**	**+3.0**
DAV	**Davao City (W)**	**7.39**	**8**	LR	LR	00 08 07.3	
	comp=Z,306nm,21.0s,baz=159,slow=38						
FAKI	**Fak Fak**	**8.07**	**109**		**Pn**	**00 05 14.1**	**-0.6**
FAKI					**Sn**	**00 06 40.9**	**-3.7**
SOEI	**Soe**	**9.40**	**182**	Pn	**Pn**	**00 05 33.3**	**+0.3**
BATI	**Baumata**	**9.88**	**185**	LR	LR	00 10 14.7	
	comp=Z,205nm,18.6s,baz=5.0,slow=42						
KKM	**Kota Kinabalu**	**10.48**	**307**	Pn	**Pn**	**00 05 48.1**	**+0.3**
MTN	**Manton Dam**	**14.04**	**153**		**Pn**	**00 06 37.4**	**+1.2**
KNRA	**Kununurra**	**15.82**	**165**	P	**Pn**	**00 07 00.0**	**+0.9**
KNRA				IAmb	IAmb	00 07 04.7	
	comp=Z,24nm,0.8s						
FITZ	**Fitzroy Crossi**	**17.71**	**177**	P	**P**	**00 07 23.9**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=23,slow=6.6,SNR=18						
FITZ	**Fitzroy Crossi**	**17.71**	**177**	P	**P**	**00 07 22.9**	**+0.1**
WRA	**Warramunga Arr**	**21.72**	**155**	P	**P**	**00 08 06.4**	**-0.1**
	comp=Z,5.1nm,0.6s,baz=330,slow=11,SNR=28						
COEN	**Coen**	**22.85**	**127**	P	**P**	**00 08 16.7**	**-1.9**
NACB	**Ninganchiao**	**24.50**	**353**	P	**P**	**00 08 31.6**	**-2.3**
NACB				IAmb	IAmb	00 08 48.8	
	comp=Z,18nm,0.8s						
AS31	**Alice Springs**	**24.92**	**159**	P	**P**	**00 08 38.1**	**+0.3**
ASAR	**Alice Springs**	**24.92**	**159**	P	**P**	**00 08 39.0**	**+1.2**
	comp=Z,8.7nm,0.8s,baz=325,slow=6.9,SNR=99						
PHRA	**Phrae**	**30.38**	**309**	P	**P**	**00 09 28.2**	**+1.5**
	comp=Z,0.9nm,0.8s,comp=Z,2μm						
FORT	**Forrest**	**30.49**	**174**	P	**P**	**00 09 27.7**	**+0.3**
FORT				IAmb	IAmb	00 09 29.6	
	comp=Z,9.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.36**	**308**	P	**P**	**00 09 35.5**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=138,slow=7.7,SNR=6.6						
CMAR				LR	LR	00 22 27.4	
	comp=Z,49nm,21.9s,baz=189,slow=37						
CMMT	**Chiang Mai**	**31.55**	**308**	P	**P**	**00 09 38.1**	**+1.0**
	comp=Z,3.3nm,0.8s						
CHTO	**Chiang Mai**	**31.56**	**308**	P	**P**	**00 09 36.1**	**-1.0**
WHN	**Wuhan**	**32.19**	**343**	P	**P**	**00 09 45.7**	**+3.3**
STKA	**Stephens Creek**	**35.28**	**155**	P	**P**	**00 10 10.2**	**+0.9**
	comp=Z,3.5nm,0.6s,baz=328,slow=11,SNR=11						
STKA				LR	LR	00 25 32.5	
	comp=Z,35nm,18.0s,baz=28,slow=38						
STKA	**Stephens Creek**	**35.28**	**155**	P	**P**	**00 10 09.0**	**-0.3**
CD2	**Chengdu**	**36.82**	**329**	P	**P**	**00 10 21.8**	**-0.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	**Xi'an**	**37.20**	**338**	P	P	00 10 16.1	-10
XAN				pP	pP	00 10 26.1	-14
XAN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KSRS	**Korea Array**	**37.69**	**4**	P	**P**	**00 10 31.1**	**+1.4**
	comp=Z,2.0nm,0.8s,baz=45,slow=29,SNR=4.6						
KSRS				LR	LR	00 25 45.8	
	comp=Z,15nm,21.0s,baz=175,slow=36						
MJAR	**Matsushiro Arr**	**38.77**	**18**	P	**P**	**00 10 41.0**	**+2.1**
	comp=Z,4.3nm,0.8s,baz=194,slow=8.8,SNR=2.7						
LZH	**Lanzhou**	**41.03**	**334**	*e*P	**P**	**00 11 00.3**	**+2.5**
LZH				pP	sP	00 11 18.0	-0.6
LZH				sP	pwP	00 11 26.5	+10
LZH				*e*PP	**PnPn**	**00 12 39.2**	**+0.9**
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,67nm,5.2s						
LZH				LR	LR		
	comp=Z,280nm,13.6s						
LZH				LR	LR		
	comp=Z,280nm,13.4s						
HHC	**Hu-ho-hao-te**	**42.64**	**345**	*e*P	P	00 11 04.2	-6.6
HHC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LSA	**Lhasa**	**43.67**	**316**	P	**P**	**00 11 17.5**	**-2.2**
LSA				IAmb	IAmb	00 11 21.9	
	comp=

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKZ	Black Stump Fm	61.11	136	P	P	00 13 28.5	+0.2
BKZ				IAmb	IAmb	00 13 30.4	
	comp=Z,4.4nm,0.7s						
RAO	Raoul Island	61.81	123	P	P	00 13 31.0	-2.2
FRU1	Bishkek	61.98	320	P	P	00 13 32.4	-1.7
AAK	Ala-Archa	61.99	320	P	P	00 13 33.1	-1.1
AAK				IAmb	IAmb	00 13 36.1	
	comp=Z,3.5nm,0.9s						
YAK	Yakutsk	62.29	3	P	P	00 13 34.8	-0.9
ARSB	Arslanbob	62.34	318	P	P	00 13 35.5	-1.2
ARSB				IAmb	IAmb	00 13 37.7	
	comp=Z,5.3nm,1.0s						
KBL	Kabul	62.36	310	P	P	00 13 35.7	-1.3
KBL				IAmb	IAmb	00 13 37.8	
	comp=Z,4.0nm,0.7s						
GAR	Garm	63.16	315	P	P	00 13 41.9	-0.3
GAR				IAmb	IAmb	00 13 42.9	
	comp=Z,6.2nm,0.8s						
BTK	Batken	63.25	316	P	P	00 13 41.9	-0.8
ZAA0	Zalesovo Array	63.26	335	P	P	00 13 41.7	-0.5
ZALV	Zalesovo Beam	63.26	335	P	P	00 13 41.0	-1.3
	comp=Z,1.5nm,0.4s,baz=133,slow=5.2,SNR=7.8						
CHGR	Chuyangaron	63.84	314	P	P	00 13 44.9	-1.8
CHGR				IAmb	IAmb	00 13 47.2	
	comp=Z,4.2nm,0.9s						
KURK	Kurchatov	64.04	329	P	P	00 13 46.1	-1.4
BRVK	Borovoye	69.64	328	P	P	00 14 23.2	+0.1
BRVK				IAmb	IAmb	00 14 23.9	
	comp=Z,2.6nm,0.6s						
ABKAR	Akbulak array	73.95	322	P	P	00 14 47.5	-1.6
KIRV	Kirov	82.56	329	LR	LR	00 55 39.0	
	comp=Z,34nm,18.9s,baz=334,slow=38						
COLD	Coldfoot	88.41	23	P	P	00 16 04.7	-0.6
COLD				IAmb	IAmb	00 16 19.8	
	comp=Z,3.9nm,1.2s						
ILAR	Eielson Array	89.63	25	P	P	00 16 10.4	-0.7
	comp=Z,0.5nm,0.6s,baz=268,slow=4.8,SNR=6.3						
ILAR				LR	LR	01 08 23.9	
	comp=Z,19nm,18.1s,baz=89,slow=44						
ARCES	ARCESS Array B	93.47	340	P	P	00 16 27.1	-1.8
	comp=Z,2.8nm,0.8s,baz=43,slow=4.1,SNR=3.7						
VYHS	Vyhne	100.64	319	*e*PDIFF	Pdif	00 17 04.0	+2.3
TORD	Torodi Ar. Bea	122.04	285	PKP	PKiKP	00 22 09.1	0.0
	comp=Z,0.4nm,0.6s,baz=45,slow=1.3,SNR=2.7						

*ISCJB **13** 00:11:28.1±0.2, 60°.81S±0°.04×41°.94W±0°.10, h10^{km}, mb4.6/19, MS4.3/11, Error ellipse: s-maj=7.5km s-min=5.0km az=151.5*

*IDC **13** 00:11:28.2±0.4, 60°.79S×41°.89W, h0^{km}, mb4.5/15, mb1 4.6/17, mb1mx4.6/24, mbtmp4.5/17, ML4.2/2, MS4.1/11, Ms1 4.1/11, ms1mx4.0/16, Error ellipse: s-maj=20.6km s-min=12.6km az=66.0*

*NEIC **13** 00:11:30.5±1.4, 60°.79S±0°.08×41°.88W±0°.08, h15^{km}±2^{km}, mb4.9/46*

*GCMT **13** 00:11:34.5±0.3, 61°.13S±0°.02×42°.20W±0°.05, h24^{km}±1^{km}, MW5.0/83, Moment Tensor Solution. s31,c35; s83,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.58±.23; $M_{\theta\theta}$2.85±.15; $M_{\phi\phi}$-1.27±.16; $M_{r\theta}$-0.12±.21; $M_{\theta\phi}$2.77±.17; $M_{\phi r}$1.51±.26; Best double couple: $M_0$3.96900×10^{16} NP1:ϕ_s204.00000°,δ71.00000°,λ-150.00000°. NP2: ϕ_s103.00000°,δ62.00000°,λ-22.00000°. Principal axes: T 4.3000, Plg6.0000°, Azm332.0000°; N -0.6620, Plg55.0000°, Azm234.0000°; P -3.6390, Plg35.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 00:11:29.7±0.3**, 60°.85S**±0°.06×**42°.00W**±0°.06**, h10**^{km}**, n138,** $\sigma 1^{s}01$/141**, mb4.8**/37**, MS4.3**/11**, 2D, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.21	27	Pn	Pn	00 13 13.9	-1.2
PMSA	Palmer Station	10.80	239	Pn	Pn	00 14 05.8	+1.6
	1.1nm,0.3s,baz=76,slow=12,SNR=5.6						
PMSA				Sn	Sn	00 16 00.4	-4.6
	0.6nm,0.3s,baz=24,slow=6.9,SNR=1.8						
PMSA				LR	LR	00 17 54.4	
	comp=Z,1μm,19.8s,baz=122,slow=36						
PMSA	Palmer Station	10.80	239		Pn	00 14 05.4	+1.2
EFI	East Falkland	12.78	309		Pn	00 14 32.0	+0.8
USHA	Ushuaia	15.24	281	Pn	P	00 15 10.0	+0.4
	0.9nm,0.3s,baz=127,slow=9.8,SNR=6.3						
USHA				LR	LR	00 19 42.2	
	comp=Z,2μm,20.8s,baz=124,slow=32						
VNA3	Neumayer Olymp	16.49	142	P	Pn	00 15 18.3	-2.5
VNA1	Neumayer--Stat	16.71	140	P	Pn	00 15 21.6	-1.9
VNA2	Neumayer--Watz	17.07	141	P	Pn	00 15 25.7	-2.4
	baz=296,slow=15						
SNAA	Sanae	18.69	141	P	Pn	00 15 48.8	+0.6
SNAA	Sanae	18.69	141	P	Pn	00 15 49.1	+0.9
	1.0nm,0.3s,baz=295,slow=9.9,SNR=29						
SNAA				S	Sn	00 19 03.5	-13
	0.7nm,0.3s,baz=301,slow=18,SNR=6.8						
SNAA	Sanae	18.69	141	P	P	00 15 47.8	-0.1
GO09	Cerro Castillo	19.29	286	P	P	00 15 54.8	+0.3
GO09				IAmb	IAmb	00 15 55.4	
	comp=Z,74nm,1.1s						
TRQA	Tornquist	26.04	322	*e*P	P	00 17 03.2	+0.3
TRQA	Tornquist	26.04	322	*e*P	P	00 17 03.2	+0.3
TRQA	Tornquist	26.04	322	P	P	00 17 02.5	-0.4
PLCA	Paso Flores	26.67	306	P	P	00 17 07.5	-1.1
GO06	Curarrehue	28.02	306	P	P	00 17 20.8	0.0
GO06				IAmb	IAmb	00 17 28.9	
	comp=Z,15nm,1.0s						
QSPA	South Pole Qui	29.39	180	P	P	00 17 34.8	+1.9
	comp=Z,7.8nm,0.8s,baz=185,slow=3.2,SNR=22						
QSPA				PcP	PcP	00 20 38.3	0.0
	comp=Z,4.1nm,0.7s,baz=168,slow=2.6,SNR=3.9						
QSPA	South Pole Qui	29.39	180	P	P	00 17 33.5	+0.7
PLTB	Pedras Altas	30.08	340	*e*P	P	00 17 38.8	-0.2
PLTB	Pedras Altas	30.08	340	*e*P	P	00 17 38.8	-0.2
SYO	Syowa Base	32.95	139	⇓*i*pP	P	00 18 03.4	-0.5
SYO	Syowa Base	32.95	139	⇓*i*pP	P	00 18 03.4	-0.5
PEL	Peldehue	33.40	313	P	P	00 18 07.6	-0.6
ROC1	El Roble	33.67	313	P	P	00 18 10.9	+0.1
CFA	Coronel Fontan	33.96	318	P	P	00 18 11.6	-1.5
	comp=Z,3.7nm,0.8s,baz=149,slow=8.0,SNR=5.9						
CFA				PcP	PcP	00 20 51.0	-0.1
	comp=Z,1.1nm,0.4s,baz=234,slow=2.9,SNR=4.2						
CPUP	Villa Florida	36.05	336	P	P	00 18 31.1	0.0
	comp=Z,4.2nm,1.0s,baz=170,slow=8.3,SNR=8.0						
CPUP				LR	LR	00 32 14.8	
	comp=Z,146nm,20.4s,baz=159,slow=35						
CPUP	Villa Florida	36.05	336	P	P	00 18 31.8	+0.6
GO04	Tololo Observa	36.14	315	P	P	00 18 31.6	-0.6
GO04				IAmb	IAmb	00 18 46.6	
	comp=Z,25nm,1.1s						
SPB	Sao Paulo	37.42	352	P	P	00 18 41.2	-1.5
SPB				IAmb	IAmb	00 18 46.8	
	comp=Z,21nm,1.1s						
GO03	Copiap	38.31	317	P	P	00 18 50.0	-0.5
GO03				IAmb	IAmb	00 19 03.2	
	comp=Z,19nm,1.0s						
GO02	Mina Guanaco	40.36	320	P	P	00 19 07.8	0.0
GO02				IAmb	IAmb	00 19 21.5	
	comp=Z,14nm,0.7s						
MAW	Mawson	40.78	145	P	P	00 19 11.5	+1.2
	comp=Z,14nm,0.9s,baz=233,slow=10,SNR=21						
MAW				LR	LR	00 34 00.0	
	comp=Z,200nm,21.6s,baz=240,slow=33						
MAW	Mawson	40.78	145	P	P	00 19 11.6	+1.2
VNDA	Vanda	41.10	188	P	P	00 19 14.3	+1.3
	comp=Z,2.3nm,1.0s,baz=184,slow=4.9,SNR=5.5						
VNDA				LR	LR	00 37 13.1	
	comp=Z,197nm,20.0s,baz=142,slow=38						
VNDA	Vanda	41.10	188	P	P	00 19 14.7	+1.7
LVC	Limon Verde	42.54	322	P	P	00 19 26.9	+1.2
	comp=Z,2.1nm,0.3s,baz=6.5,slow=8.3,SNR=7.6						
LVC	Limon Verde	42.54	322	P	P	00 19 25.6	-0.2
IPMB	Ipameri, GO	43.04	351	*e*P	P	00 19 29.2	-0.3
IPMB	Ipameri, GO	43.04	351	*e*P	P	00 19 29.2	-0.3
PB04	IPOC Station P	43.18	320	P	P	00 19 30.6	-0.1
PB04				IAmb	IAmb	00 19 46.7	
	comp=Z,15nm,0.8s						
BDFB	Brasilia	45.35	352	P	P	00 19 48.6	+0.5
	comp=Z,2.8nm,0.9s,baz=234,slow=8.2,SNR=4.5						
BDFB				LR	LR	00 36 28.6	
	comp=Z,128nm,19.8s,baz=123,slow=33						
GO01	Chusmiza	45.40	323	P	P	00 19 48.6	-0.2
GO01				IAmb	IAmb	00 20 03.2	
	comp=Z,17nm,1.1s						
PB11	IPOC Station P	45.45	322	P	P	00 19 48.4	-0.5
PB11				IAmb	IAmb	00 20 02.8	
	comp=Z,22nm,1.1s						
ARAG	Araguaiana, MT	45.63	347	*e*P	P	00 19 50.3	+0.2
ARAG	Araguaiana, MT	45.63	347	*e*P	P	00 19 50.3	+0.2
MNMC	Minye Minye	46.03	323	P	P	00 19 53.5	-0.1
MNMC				IAmb	IAmb	00 20 08.1	
	comp=Z,18nm,0.9s						
SIV	San Ignacio	46.86	334	P	P	00 19 59.9	0.0
	comp=Z,4.5nm,0.8s,baz=163,slow=7.8,SNR=24						
LPAZ	La Paz	48.30	325	P	P	00 20 11.9	+0.2
	comp=Z,2.4nm,0.7s,baz=111,slow=7.1,SNR=10						
LPAZ				PcP	PcP	00 21 39.0	+0.5
	comp=Z,1.7nm,0.7s,baz=87,slow=25,SNR=1.8						
LPAZ				LR	LR	00 43 20.9	
	comp=Z,165nm,18.3s,baz=178,slow=40						
LPAZ	La Paz	48.30	325	*e*P	P	00 20 11.6	-0.2
LPAZ	La Paz	48.30	325	*e*P	P	00 20 11.6	-0.2
SUR	Sutherland	49.15	84	P	P	00 20 18.1	+0.4
SUR				IAmb	IAmb	00 20 19.5	
	comp=Z,16nm,0.8s						
CLDB	Colider	50.91	342	*e*P	P	00 20 30.7	-0.2
CLDB	Colider	50.91	342	*e*P	P	00 20 30.7	-0.2
CASY	Casey	51.57	166	P	P	00 20 37.3	+2.1
CASY				IAmb	IAmb	00 20 38.0	
	comp=Z,20nm,1.0s						
SHEL	Horse Pasture	51.82	46	P	P	00 20 37.5	-0.3
SAML	Samuel	54.14	334	*e*P	P	00 20 55.0	+0.2
SAML	Samuel	54.14	334	*e*P	P	00 20 55.0	+0.2
SAML	Samuel	54.14	334	P	P	00 20 55.0	+0.2
SAML				IAmb	IAmb	00 20 56.3	
	comp=Z,13nm,0.8s						
BOSA	Boshof	54.42	86	P	P	00 20 57.0	+0.1
	comp=Z,16nm,0.9s,baz=205,slow=6.5,SNR=26						
BOSA				LR	LR	00 39 17.1	
	comp=Z,350nm,20.6s,baz=205,slow=31						
BOSA	Boshof	54.42	86	P	P	00 20 56.5	-0.5
BOSA				IAmb	IAmb	00 20 57.4	
	comp=Z,14nm,0.7s						
LBTB	Lobatse	57.59	83	P	P	00 21 19.6	-0.1
TSUM	Tsumeb	58.71	72	P	P	00 21 28.0	+0.5
OTAV	Otavalo	67.03	320	*e*P	P	00 22 25.1	+1.8
OTAV	Otavalo	67.03	320	*e*P	P	00 22 25.1	+1.8
OTAV	Otavalo	67.03	320	P	P	00 22 24.5	+1.2
OTAV				IAmb	IAmb	00 22 43.4	
	comp=Z,14nm,1.0s						
LSZ	Lusaka	67.14	80	P	P	00 22 23.6	-0.1
LIC	Lamto	72.84	39	*e*P	P	00 22 59.0	+0.5
	comp=Z,47nm,0.9s						
LIC	Lamto	72.84	39	P	P	00 22 59.0	+0.5
KIC	Kosan Boka	73.06	39	*e*P	P	00 23 00.2	+0.4
	comp=Z,32nm,1.1s						
KIC	Kosan Boka	73.06	39	P	P	00 23 00.2	+0.4
SDV	Santo Domingo	73.09	330	P	P	00 22 59.8	-0.4
TIC	Toumodi	73.24	39	*e*P	P	00 23 01.3	+0.5
	comp=Z,7.3nm,0.3s						
DBIC	Dimbokro	73.31	39	P	P	00 23 01.2	0.0
	comp=Z,6.5nm,0.7s,baz=159,slow=7.2,SNR=7.1						
DBIC	Dimbokro	73.31	39	P	P	00 23 01.3	0.0
DBIC				IAmb	IAmb	00 23 02.3	
	comp=Z,15nm,1.0s						
TOSP	Speyside	73.40	341	P	P	00 23 02.6	+1.0
PLWZ	Palliser	73.51	208	P	P	00 23 03.7	+1.4
CMWZ	Cape Campbell	73.58	207	P	P	00 23 03.2	+0.7
MSWZ	Moikau Station	73.66	208	P	P	00 23 04.1	+1.1
BHW	Baring Head	73.75	208	P	P	00 23 02.2	-1.3
TUWZ	Tuamarina	73.94	207	P	P	00 23 05.4	+0.7
QRZ	Quartz Range	74.83	206	P	P	00 23 10.8	+0.9
RER	Riviere de l'E	75.44	107	P	P	00 23 13.6	-0.3
URZ	Urewera	76.20	211	P	P	00 23 17.6	-0.2
URZ				IAmb	IAmb	00 23 27.8	
	comp=Z,6.2nm,0.8s						
MXZ	Matakaoa Point	76.55	212	P	P	00 23 19.4	-0.4
OUZ	Omahuta	79.95	209	P	P	00 23 38.3	-0.3
TOA0	Torodi Ar. Sit	81.50	43	P	P	00 23 48.3	+1.2
TORD	Torodi Ar. Bea	81.50	43	P	P	00 23 47.9	+0.8
	comp=Z,12nm,0.9s,baz=203,slow=6.2,SNR=52						
KMBO	Kilima Mbogo	83.78	81	P	P	00 24 01.9	+2.5
	comp=Z,0.8nm,0.3s,baz=169,slow=13,SNR=5.8						
KMBO				LR	LR	00 57 20.1	
	comp=Z,223nm,20.9s,baz=236,slow=33						
NWAO	Narrogin (SRO)	85.03	163	P	P	00 24 04.7	-0.5
NWAO				IAmb	IAmb	00 24 18.5	
	comp=Z,13nm,1.1s						
NWAO	Narrogin (SRO)	85.03	163	P	P	00 24 04.7	-0.5
NWAO				IAmb	IAmb	00 24 18.5	
	comp=Z,11nm,1.1s						
GRTK	Grand Turk	85.39	333	P	P	00 24 08.0	+1.2
CCIG	Comitan	86.65	312	P	P	00 24 12.7	-0.8
CCIG				IAmb	IAmb	00 24 19.9	
	comp=Z,14nm,1.0s						
BBOO	Buckleboo	86.67	178	P	P	00 24 12.4	-0.9
BBOO				IAmb	IAmb	00 24 13.1	
	comp=Z,9.6nm,1.1s						
STKA	Stephens Creek	87.57	183	P	P	00 24 17.4	-0.3
	comp=Z,2.9nm,0.8s,baz=176,slow=7.8,SNR=5.7						
STKA				LR	LR	01 02 18.8	
	comp=Z,118nm,19.1s,baz=204,slow=35						
FORT	Forrest	88.35	171	P	P	00 24 21.5	+0.1
ARMA	Armidale	88.39	192	P	P	00 24 21.8	0.0
ARMA				IAmb	IAmb	00 24 22.6	
	comp=Z,5.2nm,0.8s						
MORW	Morawa	88.63	161	P	P	00 24 22.9	0.0
MORW				IAmb	IAmb	00 24 38.1	
	comp=Z,4.2nm,0.8s						
H08S1	Diego Carcia H	94.92	115	T	T	02 11 07.1	
	baz=204,slow=76,SNR=30						
H08S2	Diego Garcia H	94.93	115	T	T	02 11 07.6	
	baz=204,slow=76,SNR=13						
H08S3	Diego Garcia H	94.94	115	T	T	02 11 08.4	
	baz=204,slow=76,SNR=26						
ASAR	Alice Springs	95.73	176	P	P	00 24 54.5	-1.3
	comp=Z,2.0nm,0.7s,baz=176,slow=3.7,SNR=20						
WRA	Warramunga Arr	99.44	177	P	Pdif	00 25 10.7	-1.8
	comp=Z,0.5nm,0.8s,baz=187,slow=4.2,SNR=3.6						
WRA				LR	LR	01 09 48.0	
	comp=Z,101nm,19.3s,baz=110,slow=35						
TXAR	Lajitas Array	102.83	308	P	Pdif	00 25 27.5	+0.2
	comp=Z,0.1nm,0.4s,baz=28,slow=27,SNR=2.9						
BRTR	Keskin Array B	117.47	57	PKP	PKPdf	00 30 13.1	-1.8
	comp=Z,0.6nm,0.8s,baz=219,slow=5.7,SNR=2.8						
GERES	GERESS Array B	118.18	38	PKP	PKPdf	00 30 13.9	-2.0
	comp=Z,2.0nm,1.2s,baz=201,slow=2.3,SNR=6.1						
KBZ	Khabaz	124.68	61	PKP	PKPdf	00 30 27.7	-0.6
	comp=Z,1.9nm,0.7s,baz=232,slow=3.1,SNR=5.9						
AKASG	Malin Array Be	124.94	47	PKP	PKPdf	00 30 27.5	-1.2
	comp=Z,2.8nm,0.8s,baz=248,slow=1.6,SNR=11						
HRA	Herat	126.14	83		PKPdf	00 30 31.7	-0.1
GEYT	Alibeck	126.99	77	PKP	PKPdf	00 30 32.8	-0.4
	comp=Z,2.6nm,1.0s,baz=321,slow=5.9,SNR=3.7						
NOA	NORSAR Array B	128.24	30	PKP	PKPdf	00 30 34.0	-0.7
	comp=Z,1.0nm,0.9s,baz=284,slow=5.5,SNR=1.7						
CMAR	Chiang Mai Arr	129.44	129	PKP	PKPdf	00 30 38.0	-0.3
	comp=Z,2.4nm,0.8s,baz=207,slow=6.5,SNR=8.5						
NIL	Nilore	130.93	93		PKPdf	00 30 40.3	-0.4
FINES	FINESS Array B	132.59	37	PKP	PKPdf	00 30 41.8	-1.1
	comp=Z,5.7nm,0.9s,baz=205,slow=8.4,SNR=4.5						
YKA	Yellowknife Ar	134.77	321	PKP	PKPdf	00 30 46.3	-0.6
	comp=Z,0.7nm,0.6s,baz=136,slow=2.2,SNR=10						
AAK	Ala-Archa	138.56	86		PKiKP	00 30 57.2	+0.2
ARCES	ARCESS Array B	138.62	29	PKhKP	PKPpre	00 30 42.8	
	comp=Z,3.7nm,0.9s,baz=56,slow=0.4,SNR=5.7						
CD2	Chengdu	142.52	127	PKP	PKPdf	00 31 02.2	-0.1
BRVK	Borovoye	143.83	71		PKiKP	00 31 06.4	-0.8
MAKZ	Makanchi	145.25	88		PKPbc	00 31 05.3	-0.9
MK31	Makanchi Array	145.39	88		PKPbc	00 31 05.5	-1.2
MKAR	Makanchi Array	145.39	88	PKPbc	PKPbc	00 31 06.3	-0.4
	comp=Z,20nm,1.0s,baz=240,slow=4.1,SNR=62						
WHN	Wuhan	145.88	142	PKPbc	PKPdf	00 31 07.7	-0.3
WMQ	Urumqi	145.89	97	*e*PKPbc	PKPab	00 31 09.1	+0.2
WMQ				AMB	AMB		
	comp=Z,210nm,4.7s						
KURK	Kurchatov	146.26	80		PKPdf	00 31 08.5	+0.5
LZH	Lanzhou	147.09	123	*e*PKPbc	PKPbc	00 31 12.5	+0.2
LZH				pPKP	sPKPab	00 31 16.8	0.0
LZH				LR	LR		
	comp=Z,130nm,18.5s						
LZH				LR	LR		
	comp=Z,130nm,18.2s						
LZH				LR	LR		
	comp=Z,170nm,20.3s						
XAN	Xi'an	147.26	132	PKPbc	PKPbc	00 31 12.3	-0.4
XAN				pPKP	sPKPab	00 31 19.7	+2.3
XAN	Xi'an	147.26	132		PKPbc	00 31 12.2	-0.4
ILAR	Eielson Array	147.32	310	PKPbc	PKPbc	00 31 11.7	-0.1
	comp=Z,10nm,0.8s,baz=155,slow=2.6,SNR=68						
MCK	McKinley	147.60	307		PKPbc	00 31 13.0	+0.4
CCB	Clear Creek Bu	147.61	309		PKPbc	00 31 12.5	0.0
GTA	Gaotai	148.16	115	*e*PKPbc	PKPbc	00 31 15.2	+0.1
GTA				LR	LR		
	comp=Z,140nm,20.0s						
GTA				LR	LR		
	comp=Z,170nm,19.4s						
GTA				LR	LR		
	comp=Z,200nm,20.0s						
PPLA	Purkeypile	148.48	305		PKPbc	00 31 15.3	+0.1
NJ2	Nanjing	148.57	148	*e*PKPbc	PKPdf	00 31 14.1	+1.6
BPAW	Bear Paw Mtn.	148.57	307		PKPbc	00 31 15.2	0.0
BPAW					sPKPab	00 31 23.1	+1.2
ZALV	Zalesovo Beam	151.25	80	PKP	PKPdf	00 31 13.8	-2.2
	comp=Z,0.4nm,0.3s,baz=228,slow=3.8,SNR=3.7						
ZALV				PKPbc	PKPbc	00 31 21.2	-0.8
	comp=Z,6.3nm,0.7s,baz=245,slow=3.5,SNR=25						
HHC	Hu-ho-hao-te	154.25	129	*e*PKPbc	PKPdf	00 31 18.3	-2.7
SONM	Songino Array	157.71	111	PKP	PKPdf	00 31 24.4	-1.0
	comp=Z,0.3nm,0.6s,baz=352,slow=2.9,SNR=2.2						
SONM				PKPab	PKPab	00 31 57.9	0.0
	comp=Z,2.2nm,0.8s,baz=208,slow=5.5,SNR=10						

PGC 13 00:47:15.0±9.2**, 50°.65N×139°.01W, h10**^{km}**, MLSn4.0**/4**, Mw4.6**/4**, 571km Wsw of Sandspit, Bc West Of Vancouver Island, West of Vancouver Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIB	Dawson Inlet,	4.78	55	Pn	Pn	00 48 26.2	-0.8
DIB				Sn	Sn	00 49 18.1	-4.3
BNB	Barry Inlet	4.92	64	Pn	Pn	00 48 28.0	-0.9
MOBC	Moresby Island	5.02	57	Pn	Pn	00 48 29.9	-0.5
MOBC				Sn	Sn	00 49 25.6	-2.8
HG3B	Hotspring	5.09	65	Sn	Sn	00 49 27.3	-2.7
PLBC	Pleasant Camp	8.96	9	Pn	Pn	00 49 26.3	+2.0
PLBC				Sn	Sn	00 51 03.2	-1.9
PNL	Peninsula	9.04	359	Pn	Pn	00 49 27.3	+1.9
PCA	Pinnacle	9.49	356	Pn	Pn	00 49 32.3	+0.6
YUK7	Dusty Glacier	9.92	2	Pn	Pn	00 49 40.3	+2.7
GRNC	Granite Creek	10.22	352	Pn	Pn	00 49 42.0	+0.1
HYT	Haines Junctio	10.23	4	Pn	Pn	00 49 44.5	+2.6
WHY	Whitehorse	10.30	11	Pn	Pn	00 49 45.8	+3.0
YUK6	Outpost Mounta	10.32	2	Pn	Pn	00 49 45.9	+2.7
CTGM	Chitina Glacie	10.42	354	Pn	Pn	00 49 45.0	+0.5
KIAG	Kiagna River	10.47	351	Pn	Pn	00 49 45.0	-0.1
YUK5	Granite Creek	10.53	3	Pn	Pn	00 49 48.6	+2.7
BALM	Baldy	10.58	351	Pn	Pn	00 49 46.2	-0.3
YUK4	Talbot Arm	10.72	1	Pn	Pn	00 49 52.9	+4.3
PTPK	Patty Peak	10.74	351	Pn	Pn	00 49 50.2	+1.4
YUK3	Moose Creek	11.18	356	Pn	Pn	00 49 57.6	+2.7
YUK2	White River	11.21	356	Pn	Pn	00 49 57.6	+2.4
DAWY	Dawson	13.45	359	Pn	Pn	00 50 28.4	+2.6

*ISCJB **13** 00:55:53.9±0.6, 12°.2N±0°.1×44°.0W±0°.1, h14^{km}, mb4.0/11, MS3.5/6, Error ellipse: s-maj=18.5km s-min=12.9km az=152.5*

*IDC **13** 00:55:53.7±0.8, 12°.18N×43°.96W, h0^{km}, mb3.9/10, mb1 4.1/11, mb1mx3.9/34, mbtmp4.0/11, ML4.6/1, MS3.5/7, Ms1 3.5/7, ms1mx3.2/30, Error ellipse: s-maj=24.5km s-min=19.0km az=169.0*

ISC 13 00:55:55.8±0.7**, 12°.2N**±0°.1×**44°.0W**±0°.1**, h14**^{km}**, n17,** $\sigma 0^{s}64$/12**, mb4.0**/11**, MS3.5**/6**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	Montagnes des	11.06	231	Pn	Pn	00 58 33.3	-0.4
	4.3nm,0.3s,baz=42,slow=13,SNR=140						
MDP				Sn	Sn	01 00 24.4	-13
	0.1nm,0.3s,baz=92,slow=8.4,SNR=1.0						
MDP				LR	LR	01 02 09.8	
	comp=Z,186nm,21.3s,baz=4.5,slow=34						
H05S1	Guadeloupe/Mar	16.57	280	T	T	01 16 44.7	
	SNR=3.8						
SJG	San Juan	22.20	288	LR	LR	01 07 39.4	
	comp=Z,81nm,21.4s,baz=111,slow=32						
BDFB	Brasilia	27.90	188	LR	LR	01 12 38.9	
	comp=Z,96nm,18.5s,baz=314,slow=36						
LPAZ	La Paz	37.00	221	P	P	01 03 06.5	+0.6
	1.6nm,0.7s,baz=24,slow=6.7,SNR=7.4						
LPAZ				LR	LR	01 18 07.2	
	comp=Z,75nm,19.7s,baz=69,slow=36						
DBIC	Dimbokro	38.95	94	P	P	01 03 21.9	+0.2
	2.6nm,0.8s,baz=270,slow=6.1,SNR=2.0						
TORD	Torodi Ar. Bea	44.53	84	P	P	01 04 06.7	-0.8
	2.3nm,0.8s,baz=285,slow=8.0,SNR=11						
TORD				LR	LR	01 20 05.3	
	comp=Z,62nm,21.2s,baz=310,slow=33						
ESDC	Sonseca Array	44.68	45	P	P	01 04 08.2	-0.3
	0.8nm,0.7s,baz=254,slow=7.3,SNR=6.9						
BORG	Borgarnes	54.83	12	P	P	01 05 26.3	+1.1
	103nm,1.2s,baz=179,slow=6.8,SNR=3.2						
ULM	Lac du Bonnet	56.79	323	P	P	01 05 38.8	-0.8
	1.9nm,0.9s,baz=118,slow=7.8,SNR=3.9						
TXAR	Lajitas Array	57.80	297	P	P	01 05 47.5	+0.3
	0.2nm,0.7s,baz=126,slow=7.9,SNR=3.6						
RES	Resolute Bay	68.57	347	LR	LR	01 34 18.7	
	comp=Z,102nm,20.8s,baz=202,slow=34						
AKASG	Malin Array Be	70.06	40	LR	LR	01 36 13.9	
	comp=Z,42nm,19.9s,baz=305,slow=35						
YKA	Yellowknife Ar	70.38	332	P	P	01 07 08.4	-0.6
	0.7nm,0.8s,baz=101,slow=6.4,SNR=6.1						
BRTR	Keskin Array B	72.85	52	P	P	01 07 24.9	+0.2
	1.1nm,0.8s,baz=244,slow=4.7,SNR=5.4						
BOSA	Boshof	78.16	123	P	P	01 07 55.3	+0.1
	2.7nm,0.9s,baz=343,slow=9.0,SNR=2.1						
ILAR	Eielson Array	84.53	335	P	P	01 08 28.6	+0.4
	1.1nm,0.8s,baz=64,slow=3.9,SNR=7.7						

*BJI **13** 01:16:44.9±0.0, 8°.09S×107°.84E, h118^{km}, mb4.6/24, mB5.1/11*

*ISCJB **13** 01:16:50.2±0.2, 7°.39S±0°.04×108°.48E±0°.03, h136^{km}±2^{km}, mb4.8/30, Error ellipse: s-maj=6.8km s-min=3.3km az=28.5*

*DJA **13** 01:16:50.3±0.2, 8°S±3°×10°8E±°, h131^{km}±2^{km}, M5.0/31, mB5.5/16, mb5.1/29, MLv5.0/31, Mw(mB)4.9/16*

*NEIC **13** 01:16:51.6±2.2, 7°.27S±0°.09×108°.56E±0°.08, h136^{km}±4^{km}, mb4.5/36*

*IDC **13** 01:16:51.4±0.5, 7°.20S×108°.61E, h134^{km}±4^{km}, mb4.3/18, mb1 4.4/20, mb1mx4.2/37, mbtmp4.7/20, MS3.2/4, Ms1 3.2/4, ms1mx2.9/41, Error ellipse: s-maj=14.5km s-min=7.9km az=43.0*

ISC 13 01:16:50.7±0.5**, 7°.43S**±0°.05×**108°.44E**±0°.05**, h130**^{km}±4^{km}**, n155,** $\sigma 1^{s}59$/172**, mb4.5**/41**, 3D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	0.35	179	P	Pn	01 17 08.4	-0.7
CMJI				S	Sn	01 17 21.0	-2.0
KPJI	Karang Pucung	0.49	79	P	Pn	01 17 10.0	+0.3
KPJI				S	Sn	01 17 24.8	+0.7
CISI	Cisompet, Garu	0.64	258	P	Pn	01 17 10.7	0.0
CISI				S	Sn	01 17 25.2	-0.6
CISI	Cisompet, Garu	0.64	258		Pn	01 17 10.4	-0.3
CISI				Sn	Sn	01 17 25.4	-0.4
LEM	Lembang	1.01	306	P	Pn	01 17 15.3	+1.3
	499nm,0.3s,baz=127,slow=6.3,SNR=72						
LEM				S	Sn	01 17 33.7	+2.2
	491nm,0.3s,baz=178,slow=14,SNR=33						
LEM	Lembang	1.01	306	P	Pn	01 17 15.6	+1.6
LEM				S	Sn	01 17 33.7	+2.2
CNJI	Cibinong	1.31	275	P	Pn	01 17 17.0	+0.3
CNJI				S	Sn	01 17 36.0	-0.5
YOGI	Yogyakarta	1.88	102	P	Pn	01 17 23.0	-0.2
DBJI	Dramaga	1.89	297	P	Pn	01 17 25.1	+1.7
SKJI	Sukabumi	1.92	282	P	Pn	01 17 24.6	+0.9
SMRI	Semarang	2.02	79	P	Pn	01 17 26.1	+1.2
SMRI	Semarang	2.02	79		Pn	01 17 26.0	+1.0
UGM	Wanagama	2.12	103	P	Pn	01 17 26.3	+0.1
UGM	Wanagama	2.12	103		Pn	01 17 25.8	-0.4
TNG	Tangerang	2.18	305	P	Pn	01 17 28.5	+1.6
WOJI	Wonogiri, Jawa	2.49	100	P	Pn	01 17 31.1	+0.3
SBJI	Serang	2.64	299	P	Pn	01 17 34.2	+1.5
PCJI	Pacitan	2.81	106	P	Pn	01 17 34.6	-0.3
CGJI	Cibinong	2.85	286	P	Pn	01 17 36.0	+0.6
NGJI	Ngawi	2.99	89	P	Pn	01 17 38.8	+1.5
PWJI	Pagerwojo	3.38	100	P	Pn	01 17 42.3	0.0

TBJI	Tambak Boyo	3.43	80	P		Pn	01 17 44.5	+1.5	
BLSI	Bandar Lampung	3.78	303	P		Pn	01 17 49.7	+2.1	
GRJI	Gresik	4.04	83	P		Pn	01 17 52.2	+1.2	
KASI	Kota Agung	4.35	296	P		Pn	01 17 56.4	+1.2	
KLSI		4.59	306	P		Pn	01 18 00.1	+1.8	
TPI	Tanjungpandan	4.71	350	P		Pn	01 18 01.2	+1.3	
LWLI	Liwa	4.97	299	P		Pn	01 18 04.4	+0.8	
GMJI	Gumukmas	5.03	100	P		Pn	01 18 03.8	-0.4	
	234nm,0.7s,5μm1.0nm								
MDSI	Maura Dua	5.15	304	P		Pn	01 18 07.3	+1.4	
	298nm,0.8s,2μm0.9nm								
KMMI	Kalianget	5.49	86	P		Pn	01 18 11.7	+1.2	
	201nm,1.0s,3μm0.8nm								
JAGI	Jajag, Banyuwa	5.75	101	P		Pn	01 18 13.9	0.0	
	311nm,0.5s,8μm1.6nm								
JAGI	Jajag, Banyuwa	5.75	101			Pn	01 18 14.9	+1.0	
PMBI	Palembang	5.77	321	P		Pn	01 18 17.7	+3.4	
	1μm,1.0s,21μm5.1nm								
PMBI	Palembang	5.77	321			Pn	01 18 17.1	+2.8	
LHSI	Lahat	6.06	306	P		Pn	01 18 20.1	+2.0	
	133nm,0.8s,4μm0.6nm								
MNAI	Manna	6.25	299	P		Pn	01 18 21.0	+0.3	
	560nm,0.5s,10μm2.9nm								
MNAI	Manna	6.25	299			Pn	01 18 21.5	+0.8	
SRBI	Singaraja	6.74	96	P		Pn	01 18 27.9	+0.7	
	203nm,0.9s,4μm1.0nm								
IGBI	Denpasar	6.78	102	P		Pn	01 18 27.7	-0.1	
	150nm,0.6s,5μm0.9nm								
DNP	Denpasar	6.81	101	P		Pn	01 18 41.7	+13	
TWSI	Taliwang, Sumb	8.46	99	P		Pn	01 18 49.1	-1.3	
	94nm,0.5s,2μm								
KRJI	Kerinci	8.74	307	P		Pn	01 18 53.9	-0.5	
	486nm,0.9s,23μm								
TPRI	Tanjung Pinang	9.16	335	P		Pn	01 19 05.4	+5.5	
PLAI	Plampang	9.34	99	P		Pn	01 19 00.6	-1.7	
	153nm,0.6s,2μm								
SDSI	Sungai Dareh	9.51	312	P		Pn	01 19 03.8	-0.8	
	36nm,0.4s								
PPSI	Pulau Pagai	9.59	298	P		Pn	01 19 04.9	-0.8	
	195nm,0.5s								
MYKOM	Kota Tinggi	10.24	333			Pn	01 19 15.8	+1.4	
PDSI	Padang	10.26	309	P		Pn	01 19 12.1	-2.5	
	45nm,0.5s								
SBUM	Sibu	10.51	21			Pn	01 19 16.8	-1.2	
BKNI	Bangkinang	10.67	316	Pn		Pn	01 19 19.9	-0.2	
SISI	Saibi	11.12	303	P		Pn	01 19 21.6	-4.5	
	83nm,1.0s								
BKSI	Bulukumba	11.79	80	P		Pn	01 19 37.3	+2.3	
	23nm,0.9s								
PBSI	Pulau Batu	12.50	305	P		Pn	01 19 40.8	-3.5	
	111nm,1.4s								
MMRI	Maumere	13.71	96	P		Pn	01 19 56.3	-3.6	
	123nm,0.7s,4μm								
MMRI	Maumere	13.71	96			Pn	01 19 56.5	-3.4	
RPSI	Rantau Prapat	13.83	316			Pn	01 20 00.8	-0.6	
GSI	Gunungsitoli	13.88	308	P		Pn	01 19 58.1	-4.0	
	142nm,0.5s								
GSI	Gunungsitoli	13.88	308			Pn	01 19 58.1	-4.0	
IPM	Ipoh	13.95	328			Pn	01 20 03.8	+0.8	
KULM	Kulim	14.83	328			Pn	01 20 13.9	-0.2	
BATI	Baumata	15.29	102	P		Pn	01 20 18.4	-1.5	
	15nm,0.3s,baz=14,slow=2.6,SNR=11								
TPTI		15.46	313	P		Pn	01 20 18.6	-3.4	
	4.0nm,0.7s,186nm								
SOEI	Soe	15.82	100	P		Pn	01 20 22.7	-3.8	
	111nm,0.6s,1μm								
MLSI	Meulaboh, Aceh	16.71	314	P		Pn	01 20 33.1	-4.2	
	55nm,0.5s,4μm								
TRTT	Trang	17.49	330	P		Pn	01 20 47.3	+0.5	
	20nm,0.9s,2μm								
PSA00	Pilbara Seismi	17.86	143	P		Pn	01 20 52.4	+1.2	
PSA00				IAmb		IAmb	01 20 57.9		
	comp=Z,17nm,0.8s								
DLV	T Lat	19.24	0	P		Pn	01 21 07.3	-0.4	
DLV				IAmb		IAmb	01 21 13.8		
	comp=Z,30nm,1.0s								
FITZ	Fitzroy Crossi	19.82	124	P		P	01 21 12.4	+1.0	
	comp=Z,0.9nm,0.3s,baz=311,slow=6.5,SNR=39								
FITZ	Fitzroy Crossi	19.82	124	P		P	01 21 12.7	+1.3	
FITZ				IAmb		IAmb	01 21 16.2		
	comp=Z,21nm,0.8s								
KNRA	Kununurra	21.51	114	P		P	01 21 30.2	+0.6	
MTN	Manton Dam	22.97	105	P		P	01 21 43.6	-0.6	
MTN				IAmb		IAmb	01 21 56.2		
	comp=Z,22nm,0.7s								
CHAI	Chaiyaphum	24.04	345	P		P	01 21 54.1	+0.1	
	comp=Z,47μm,0.7s,comp=Z,854μm								
UTHA	Uthaitani	24.52	339	P		P	01 22 01.3	+3.1	
	comp=Z,12μm,1.3s								
PBKT	Sadao Pong	24.96	343	P		P	01 22 01.9	-0.4	
	comp=Z,7.5nm,1.1s								
PBKT	Sadao Pong	24.96	343	P		P	01 22 02.0	-0.4	
PBKT				IAmb		IAmb	01 22 02.6		
	comp=Z,13nm,1.0s								
UTTA	Uttaradit	26.20	343	P		P	01 22 14.5	+1.1	
	comp=Z,13μm,0.8s								
NWAO	Narrogin (SRO)	26.65	163	P		P	01 22 17.5	0.0	
PHRA	Phrae	27.00	343	P		P	01 22 20.8	+0.1	
	comp=Z,1.9nm,1.3s,comp=Z,862nm								
CM31	Chiang Mai Arr	27.38	340	P		P	01 22 23.3	-0.8	
CM31				IAmb		IAmb	01 22 24.8		
	comp=Z,8.5nm,0.9s								
CMAR	Chiang Mai Arr	27.38	340	P		P	01 22 23.1	-1.0	
	comp=Z,4.7nm,0.8s,baz=176,slow=8.3,SNR=26								
CMAR				ScP		ScP	01 29 09.8	+1.2	
	comp=Z,6.4nm,0.9s,baz=194,slow=3.5,SNR=23								
CMMT	Chiang Mai	27.70	340	P		P	01 22 26.8	-0.2	
	comp=Z,3.5nm,0.8s								
CHTO	Chiang Mai	27.71	340	P		P	01 22 26.6	-0.4	
PAYA	Payao	27.93	343	P		P	01 22 29.2	+0.3	
	comp=Z,21μm,0.8s								
WRA	Warramunga Arr	28.01	119	P		P	01 22 30.3	+0.5	
	comp=Z,3.7nm,0.3s,baz=307,slow=9.3,SNR=108								
WRA				PcP		PcP	01 25 41.5	-0.1	
	comp=Z,1.8nm,0.6s,baz=295,slow=2.1,SNR=5.0								
WRA				S		S	01 27 03.4	-1.4	
	comp=Z,2.3nm,1.0s,baz=287,slow=18,SNR=6.0								
WRAB	Tennant Creek	28.02	119	P		P	01 22 30.1	+0.3	
WRAB				IAmb		IAmb	01 22 48.6		
	comp=Z,9.8nm,0.6s								
WR0	Warramunga Arr	28.20	119	P		P	01 22 31.9	+0.5	
WR0				IAmb		IAmb	01 22 36.0		
	comp=Z,6.6nm,0.7s								
ASAR	Alice Springs	29.28	126	P		P	01 22 41.5	+0.5	
	comp=Z,6.0nm,0.7s,baz=304,slow=8.8,SNR=92								
ASAR				PcP		PcP	01 25 45.4	+0.6	
	comp=Z,2.5nm,0.4s,baz=305,slow=1.8,SNR=9.9								
ASAR				S		S	01 27 22.9	-1.8	
	comp=Z,2.0nm,0.8s,baz=298,slow=17,SNR=6.9								
ASAR				ScP		ScP	01 29 14.8	+0.2	
	comp=Z,0.9nm,0.6s,baz=328,slow=3.3,SNR=4.1								
AS31	Alice Springs	29.28	126	P		P	01 22 41.3	+0.3	
FORT	Forrest	29.61	144	P		P	01 22 44.2	+0.4	
JAY	Jayapura	32.50	83	LR		LR	01 40 28.9		
	comp=Z,17nm,18.9s,baz=350,slow=44								
COEN	Coen	34.71	104	P		P	01 23 28.4	-0.2	
COEN				IAmb		IAmb	01 23 29.2		
	comp=Z,6.1nm,0.7s								
BBOO	Buckleboo	35.98	138	P		P	01 23 39.4	+0.2	
BBOO				IAmb		IAmb	01 23 40.5		
	comp=Z,11nm,0.7s								
SHL	Shillong	36.54	334	P		P	01 23 42.2	-1.9	
PMG	Port Moresby	38.34	96	LR		LR	01 42 29.7		
	comp=Z,29nm,18.1s,baz=110,slow=40								
CD2	Chengdu	38.38	354	P		P	01 24 00.1	+0.6	
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CTA	Charters Tower	38.72	113	P		P	01 24 03.5	+1.1	
	comp=Z,7.4nm,0.8s,baz=282,slow=11,SNR=13								
CTA				PcP		PcP	01 26 12.1	+0.3	
	comp=Z,2.7nm,0.5s,baz=280,slow=6.3,SNR=3.7								
STKA	Stephens Creek	39.30	133	P		P	01 24 08.5	+1.4	
	comp=Z,47nm,0.5s,baz=309,slow=8.4,SNR=199								
STKA				PcP		PcP	01 26 13.9	+0.5	
	comp=Z,3.1nm,0.5s,baz=298,slow=4.3,SNR=2.6								
STKA				S		S	01 29 57.5	-1.0	
	comp=Z,2.2nm,0.8s,baz=179,slow=19,SNR=4.9								
STKA				LR		LR	01 43 52.2		
	comp=Z,36nm,18.0s,baz=11,slow=41								
STKA	Stephens Creek	39.30	133	P		P	01 24 08.3	+1.2	
NJ2	Nanjing	40.49	14	eP		P	01 24 18.5	+1.6	
NJ2				pmax		pmax			
	comp=Z,11nm,1.0s								
LZH	Lanzhou	43.50	355	⇓P		P	01 24 41.5	0.0	
LZH				pP		pP	01 25 11.2	+0.3	
LZH				sP		sP	01 25 26.3	+0.8	
LZH				PP		PcP	01 26 27.5	+0.3	
LZH				pmax		pmax			
	comp=Z,21nm,1.2s								
GTA	Gaotai	47.28	351	eP		P	01 25 13.3	+2.1	
GTA				pP		pP	01 25 35.1	-5.9	
GTA				S		S	01 31 57.5	+2.7	
GTA				SS		SS	01 35 23.7	-0.5	
GTA				pmax		pmax			
	comp=Z,3.0nm,1.1s								
GTA				pmax		pmax			
	comp=Z,120nm,6.7s								
GTA				LR		LR			
	comp=Z,120nm,18.7s								
GTA				LR		LR			
	comp=Z,190nm,16.5s								
GTA				LR		LR			
	comp=Z,210nm,17.5s								
HHC	Hu-ho-hao-te	48.12	3	eP		P	01 25 21.1	+3.5	
HHC				pmax		pmax			
	comp=Z,3.0nm,0.9s								
NIL	Nilore	52.76	323	P		P	01 25 50.1	-2.4	
NIL				IAmb		IAmb	01 25 50.7		
	comp=Z,6.5nm,0.8s								
WMQ	Urumqi	54.36	342	eP		P	01 26 04.9	+0.8	
SONM	Songino Array	55.05	358	P		P	01 26 08.3	-0.8	
	comp=Z,1.3nm,0.4s,baz=178,slow=9.1,SNR=9.5								
SONM				ScP		ScP	01 30 52.9	-2.8	
	comp=Z,0.6nm,0.7s,baz=162,slow=5.6,SNR=2.9								
GAR	Garm	58.17	326	P		P	01 26 28.9	-2.4	
GAR				IAmb		IAmb	01 26 47.7		
	comp=Z,12nm,1.0s								
CASY	Casey	58.78	179	P		P	01 26 35.8	+0.9	
MK31	Makanchi Array	58.78	339	P		P	01 26 33.1	-2.1	
MKAR	Makanchi Array	58.78	339	P		P	01 26 33.3	-1.9	
	comp=Z,1.6nm,0.5s,baz=150,slow=8.4,SNR=22								
UOSS	Minazif	60.17	304	P		P	01 26 44.3	-0.9	
UOSS				IAmb		IAmb	01 26 55.9		
	comp=Z,3.6nm,0.7s								
OPO	Ambohidratompo	60.46	253	P		P	01 26 49.4	+1.9	
	comp=Z,6.7nm,0.6s,baz=80,slow=7.7,SNR=9.1								
ZALV	Zalesovo Beam	64.31	345	P		P	01 27 09.8	-2.4	
	comp=Z,0.7nm,0.3s,baz=157,slow=4.8,SNR=4.0								
MAW	Mawson	67.38	197	P		P	01 27 33.7	+2.0	
	comp=Z,16nm,0.6s,baz=57,slow=6.1,SNR=49								
MAW	Mawson	67.38	197	P		P	01 27 33.1	+1.4	
MAW				IAmb		IAmb	01 27 34.6		
	comp=Z,3.9nm,0.8s								
BKZ	Black Stump Fm	68.35	129	P		P	01 27 38.7	+0.3	
RAYN	Ar Rayn	68.71	299	P		P	01 27 40.1	-0.7	
ABKAR	Akbulak array	70.52	329	P		P	01 27 49.1	-2.2	
KMBO	Kilima Mbogo	71.20	271	P		P	01 27 58.0	+1.4	
	comp=Z,3.8nm,0.8s,baz=50,slow=7.6,SNR=7.7								
KMBO				LR		LR	01 57 24.7		
	comp=Z,22nm,18.0s,baz=113,slow=34								
KMBO	Kilima Mbogo	71.20	271	P		P	01 27 57.1	+0.5	
VNDA	Vanda	75.29	170	P		P	01 28 20.4	+1.4	
	comp=Z,3.3nm,0.6s,baz=321,slow=6.8,SNR=21								
VNDA	Vanda	75.29	170	P		P	01 28 20.4	+1.4	
VNDA				IAmb		IAmb	01 28 21.7		
	comp=Z,6.7nm,0.9s								
SYO	Syowa Base	75.60	200⇓	eP		P	01 28 21.2	+0.3	
SYO	Syowa Base	75.60	200⇓	ePcP		PcP	01 28 33.2	0.0	
MBAR	Mbarara	77.73	271	P		P	01 28 36.2	+2.0	
MBAR				IAmb		IAmb	01 28 36.8		
	comp=Z,7.9nm,0.8s								
KBZ	Khabaz	77.93	318	P		P	01 28 34.0	-0.5	
	comp=Z,1.2nm,0.7s,baz=260,slow=4.2,SNR=4.2								
LSZ	Lusaka	78.72	256	P		P	01 28 40.9	+1.4	
LBTB	Lobatse	80.44	246	P		P	01 28 50.5	+1.7	
LBTB				IAmb		IAmb	01 28 50.7		
	comp=Z,5.6nm,0.8s								
BOSA	Boshof	80.53	242	P		P	01 28 50.4	+1.2	
	comp=Z,4.7nm,0.5s,baz=108,slow=4.0,SNR=25								
BOSA	Boshof	80.53	242	IAmb		IAmb	01 28 51.0		
	comp=Z,6.0nm,0.6s								
QSPA	South Pole Qui	82.56	180	P		P	01 29 00.4	+1.3	
	comp=Z,16nm,0.7s,baz=306,slow=1.6,SNR=56								
QSPA	South Pole Qui	82.56	180	P		P	01 29 00.4	+1.3	
QSPA						PcP	01 29 00.6	-3.2	
BR131	Keskin Array S	83.18	311	P		P	01 29 02.0	-0.8	
BRTR	Keskin Array B	83.18	311	P		P	01 29 01.9	-0.8	
	comp=Z,2.3nm,0.8s,baz=147,slow=6.2,SNR=10.0								
SNAA	Sanae	89.55	197	P		P	01 29 35.3	+2.2	
SNAA	Sanae	89.55	197	P		P	01 29 35.2	+2.0	
	comp=Z,19nm,0.7s,baz=143,slow=5.1,SNR=144								
SNAA	Sanae	89.55	197			PcP	01 29 35.0	+0.6	
VNA2	Neumayer--Watz	91.19	197	P		P	01 29 43.0	+2.3	
VNA1	Neumayer--Stat	91.58	197	P		P	01 29 44.9	+2.4	
VNA3	Neumayer Olymp	91.70	197	P		P	01 29 45.2	+2.0	
ARCES	ARCESS Array B	94.43	340	P		P	01 29 53.7	-2.0	
	comp=Z,4.1nm,0.9s,baz=42,slow=7.2,SNR=4.0								
TORD	Torodi Ar. Bea	107.90	281	PKiKP		PKiKP	01 35 03.0	-1.0	
	comp=Z,0.3nm,0.4s,baz=48,slow=1.1,SNR=4.2								
YKA	Yellowknife Ar	116.76	21	PKP		PKPdf	01 35 19.2	-0.2	
	comp=Z,0.3nm,0.4s,baz=323,slow=1.7,SNR=4.9								
NVAR	Mina Array Bea	127.82	46	PKP		PKiKP	01 35 42.4	+0.1	
	comp=Z,0.6nm,0.7s,baz=248,slow=1.6,SNR=5.9								
NVAR				SKPab		SKPab	01 38 48.5		
	comp=Z,0.8nm,0.7s,baz=268,slow=4.1,SNR=6.3								
ELK	Elko	128.93	42	SKPbc		SKPbc	01 38 53.0		
	comp=Z,1.0nm,0.6s,baz=330,slow=6.1,SNR=6.4								
PFO	Pinyon Flats O	131.07	51	SKPbc		SKPbc	01 39 00.5	-0.2	
	comp=Z,1.3nm,0.7s,baz=303,slow=5.2,SNR=4.5								
PDAR	Pinedale Array	131.48	37	PKP		PKiKP	01 35 49.6	0.0	
	comp=Z,0.2nm,0.5s,baz=243,slow=1.0,SNR=3.1								
PDAR				SKPbc		SKPbc	01 39 01.5	-0.5	
	comp=Z,2.8nm,0.6s,baz=220,slow=1.1,SNR=29								
SCHQ	Schefferville	132.57	356	SKPbc		SKPbc	01 39 05.0	-0.2	
	comp=Z,5.3nm,0.8s,baz=30,slow=6.6,SNR=6.2								
ULM	Lac du Bonnet	132.74	21	SKPbc		SKPbc	01 39 04.8	-1.0	
	comp=Z,4.3nm,0.6s,baz=339,slow=4.0,SNR=8.6								
TXAR	Lajitas Array	142.76	50	PKP		PKPdf	01 36 06.6	-3.0	
	comp=Z,0.4nm,0.5s,baz=274,slow=1.1,SNR=6.9								
TXAR				SKPbc		SKPbc	01 39 35.8	+0.1	
	comp=Z,1.0nm,0.5s,baz=282,slow=0.5,SNR=8.3								
CPUP	Villa Florida	143.71	202	PKP		PKPdf	01 36 10.4	-0.8	
	comp=Z,12nm,0.6s,baz=144,slow=2.5,SNR=28								
CPUP	Villa Florida	143.71	202			PKPbc	01 36 10.0	+1.0	
BDFB	Brasilia	147.30	225	PKPbc		PKPbc	01 36 20.4	+0.2	
	comp=Z,9.0nm,0.5s,baz=122,slow=4.5,SNR=12								
BDFB	Brasilia	147.30	225			PKPab	01 36 21.9	-0.4	
LPAZ	La Paz	156.20	188	PKP		PKPdf	01 36 31.9	+0.2	
	comp=Z,0.8nm,0.5s,baz=160,slow=1.9,SNR=3.7								
LPAZ				PKPab		PKPab	01 37 01.4	+1.6	
	comp=Z,5.4nm,0.7s,baz=154,slow=3.5,SNR=19								

*ISCJB **13** 01:35:40.7±0.6, 12°.68S±0°.09×168°.01E±0°.09, h550km, mb4.0/11, Error ellipse: s-maj=12.2km s-min=10.9km az=32.8*
*NEIC **13** 01:35:42.5±2.1, 12°.7S±0°.1×168°.0E±0°.1, h566km±11km, mb4.2/10*
*IDC **13** 01:35:43.2±1.5, 12°.70S×167°.92E, h573km±19km, mb3.4/11, mb1 3.6/14, mb1mx3.3/39, mbtmp4.4/14, Error ellipse: s-maj=18.0km s-min=13.5km az=143.0*
ISC 13 01:35:41.5±0.7, 12°.6S±0°.1×167°.98E±0°.09, h550km, n26, σ1°33/26, mb4.0/14, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	Honiara	8.50	291	P		P		01 37 45.2	+0.9
	17nm,0.3s,baz=122,slow=1.4,SNR=8.2								
HNR	Honiara	8.50	291	P		P		01 37 45.8	+1.5
DZM	Mont Dzumac	9.50	189	P		P		01 37 55.2	+0.9
	1.3nm,0.3s,baz=305,slow=15,SNR=14								
MSVF	Nonsavu	10.96	119	P		P		01 38 09.4	-0.1
KRVT	Keravat (AS076	17.80	296	P		P		01 39 18.4	+0.6
	2.9nm,0.3s,baz=18,slow=6.6,SNR=5.4								
EIDS	Eidsvold	20.36	229	P		P		01 39 41.5	+0.7
EIDS				IAmb		IAmb		01 39 42.4	
	comp=Z,7.6nm,0.8s								
CTA	Charters Tower	22.10	248	P		P		01 39 56.9	+0.2
	comp=Z,2.5nm,0.5s,baz=89,slow=8.9,SNR=5.0								
URZ	Urewera	26.79	164	P		P		01 40 35.9	-1.9
	comp=Z,4.8nm,0.5s,baz=275,slow=5.9,SNR=5.1								
URZ	Urewera	26.79	164	IAmb		IAmb		01 40 39.2	
	comp=Z,5.7nm,0.6s								
BKZ	Black Stump Fm	27.48	166	P		P		01 40 43.6	-0.5
BKZ				IAmb		IAmb		01 40 45.3	
	comp=Z,12nm,0.8s								
STKA	Stephens Creek	30.89	227	P		P		01 41 14.5	+0.9
	comp=Z,3.6nm,0.3s,baz=40,slow=8.9,SNR=15								
STKA	Stephens Creek	30.89	227	P		P		01 41 14.7	+1.1
STKA				IAmb		IAmb		01 41 15.6	
	comp=Z,1.4nm,0.9s								
WB2	Warramunga Arr	33.04	253	P		P		01 41 31.5	-0.6
WB2				IAmb		IAmb		01 41 32.8	
	comp=Z,4.6nm,0.8s								
WRA	Warramunga Arr	33.05	253	P		P		01 41 31.4	-0.8
	comp=Z,2.6nm,0.4s,baz=82,slow=8.3,SNR=37								
WRA				S		S		01 46 10.5	-2.1
	comp=Z,0.7nm,0.8s,baz=79,slow=14,SNR=4.7								
AS31	Alice Springs	34.10	246	P		P		01 41 41.0	+0.1
ASAR	Alice Springs	34.10	246	P		P		01 41 41.2	+0.2
	comp=Z,8.1nm,0.3s,baz=71,slow=10,SNR=211								
ASAR				S		S		01 46 25.1	-3.3
	comp=Z,0.7nm,0.7s,baz=78,slow=14,SNR=9.8								
FORT	Forrest	40.98	237	P		P		01 42 36.9	-0.1
CMAR	Chiang Mai Arr	74.74	293	P		P		01 46 23.9	-2.2
	comp=Z,0.7nm,0.3s,baz=45,slow=2.2,SNR=8.0								
QSPA	South Pole Qui	77.38	180	P		P		01 46 40.3	+0.4
SONM	Songino Array	81.23	323	P		P		01 47 01.6	+1.1
	comp=Z,0.8nm,0.6s,baz=134,slow=6.4,SNR=4.7								
MAW	Mawson	84.07	202	P		P		01 47 15.3	+1.1
	comp=Z,1.3nm,0.6s,baz=143,slow=5.1,SNR=2.8								
MAW	Mawson	84.07	202	IAmb		IAmb		01 47 20.0	
	comp=Z,0.6nm,0.9s								
IL31		84.33	18	P		P		01 47 15.5	+0.1
IL31				IAmb		IAmb		01 47 17.1	
	comp=Z,2.7nm,0.7s								
ILAR	Eielson Array	84.33	18	P		P		01 47 15.6	+0.1
	comp=Z,2.0nm,0.7s,baz=241,slow=5.5,SNR=17								
YKA	Yellowknife Ar	95.38	27	P		P		01 48 04.6	-2.3
	comp=Z,0.2nm,0.5s,baz=255,slow=4.3,SNR=4.7								
MKAR	Makanchi Array	96.17	316	P		P		01 48 12.1	+1.2
	comp=Z,0.8nm,0.8s,baz=96,slow=7.4,SNR=7.2								

*BJI **13** 01:54:09.5±0.0, 17°.80S×176°.80W, h346km, mb4.6/16, mB5.1/9*
*ISCJB **13** 01:54:12.8±0.2, 17°.72S±0°.05×177°.04W±0°.04, h372km, mb4.4/26, Error ellipse: s-maj=8.2km s-min=3.8km az=148.0*
*NEIC **13** 01:54:12.9±1.4, 17°.7S±0°.1×177°.0W±0°.1, h361km±5km, mb4.5/120*
*IDC **13** 01:54:14.1±1.9, 17°.67S×177°.04W, h371km±18km, mb4.0/17, mb1 4.3/18, mb1mx4.2/26, mbtmp4.7/18, Error ellipse: s-maj=13.9km s-min=9.1km az=138.0*
ISC 13 01:54:13.8±0.4, 17°.69S±0°.07×176°.97W±0°.07, h372km, n284, σ0°.971/242, mb4.5/75, 16C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.75	269				Pn	01 55 32.1	+0.2
AFI	Afiamalu	6.25	54	P			Pn	01 55 42.0	-6.4
	330nm,0.3s,baz=201,slow=1.4,SNR=346								
AFI				S			S	01 56 51.5	-14
	baz=1.9,slow=21,SNR=0.8								
AFI	Afiamalu	6.25	54				Pn	01 55 41.8	-6.7
NIUE	Niue	6.83	103	P			Pn	01 55 49.4	-5.4
	baz=6.5								
NIUE	Niue	6.83	103				Pn	01 55 49.7	-5.2
FUNA	Funafuti	9.84	337				Pn	01 56 28.6	-1.4
RAO	Raoul Island	11.54	184	S			S	01 58 45.9	-12
	97nm,0.3s,baz=107,slow=23,SNR=2.3								
DZM	Mont Dzumac	16.20	252	P			P	01 57 40.2	-0.4
	0.0nm,0.3s,baz=112,slow=23,SNR=35								
DZM	Mont Dzumac	16.20	252	P			P	01 57 40.2	-0.4
OUZ	Omahuta	19.38	204	P			P	01 58 14.7	+0.7
URZ	Urewera	21.14	193	P			P	01 58 31.3	+0.8
	10nm,0.3s,baz=268,slow=4.8,SNR=12								
URZ				S			S	02 02 02.2	+2.2
	15nm,0.8s,baz=130,slow=23,SNR=3.1								
URZ	Urewera	21.14	193	IAmb		IAmb		01 58 36.0	
	comp=Z,14nm,0.3s								
TARA	Tarawa	21.38	331	P			P	01 58 32.8	-0.2
TUWZ	Tuamarina

comp=Z,1.7nm,0.8s,baz=25,slow=6.2,SNR=5.2
VNDA Vanda 60.78 185 P P 02 03 47.6 +0.3
BLDU Ballidu 61.11 244 P P 02 03 49.3 -1.0
baz=61,SNR=13
MORW Morawa 61.82 246 P P 02 03 54.7 -0.3
baz=62,SNR=3.6
MORW Morawa 61.82 246 P P 02 03 55.1 +0.1
MORW IAmb IAmb 02 03 57.1
comp=Z,10nm,0.9s
JAGI Jajag, Banyuwa 67.42 268 P P 02 04 29.7 -1.3
MJAR Matsushiro Arr 68.56 322 P P 02 04 37.1 -0.5
comp=Z,1.4nm,0.5s,baz=145,slow=6.6,SNR=4.5
QSPA South Pole Qui 72.36 180 P P 02 05 00.2 +0.1
QSPA IAmb IAmb 02 05 01.0
comp=Z,16nm,0.9s
PETK Petropavlovsk- 73.83 344 P P 02 05 06.8 -1.6
comp=Z,1.4nm,0.9s,baz=126,slow=7.5,SNR=5.7
SCZ2 Santa Cruz Isl 74.97 46 P P 02 05 14.7 -0.7
baz=236
SAO San Andreas Ge 75.32 43 IAmb IAmb 02 05 19.1
comp=Z,9.1nm,0.9s
KSRS Korea Array 75.46 318 P P 02 05 19.1 +1.1
comp=Z,1.4nm,0.6s,baz=122,slow=6.0,SNR=2.7
CIS Catalina Islan 75.49 47 P P 02 05 16.5 -1.9
baz=237
KCPM Cahto Peak 75.72 40 IAmb IAmb 02 05 21.2
comp=Z,8.2nm,1.0s
VES Vestal, Richgr 76.37 45 P P 02 05 23.4 +0.2
baz=236
MURC Murrieta 76.46 48 P P 02 05 24.2 +0.4
baz=238
BFSC Mount Baldy Ra 76.47 47 P P 02 05 24.0 0.0
baz=237
O02D Mt. Diablo Mer 76.50 40 P P 02 05 25.5 +1.6
baz=232,SNR=5.5
EDW2 Edwards Air Fo 76.58 46 P P 02 05 24.4 -0.1
baz=237,SNR=9.0
MONP2 Monument Peak 76.64 49 P P 02 05 25.2 +0.1
baz=238,SNR=7.0
ISA Isabella, Lake 76.68 46 P P 02 05 25.2 +0.1
baz=236,SNR=5.1
ISA Isabella, Lake 76.68 46 IAmb IAmb 02 05 26.9
comp=Z,8.4nm,1.1s
IKP In-Ko-Pah, Jac 76.73 49 P P 02 05 25.9 +0.5
baz=239
PFO Pinyon Flats O 76.98 48 P P 02 05 27.2 +0.3
baz=238
PFO Pinyon Flats O 76.98 48 P P 02 05 27.6 +0.7
XPFO Pion Flat 76.99 48 P P 02 05 27.7 +0.8
N02D Trinity Center 77.04 39 P P 02 05 27.9 +1.0
baz=232
SWSC Sam W. Stewart 77.11 49 P P 02 05 27.9 +0.5
baz=239
O03E Paynes Creek 77.18 40 P P 02 05 28.4 +0.7
baz=233
M02C Callahan 77.20 39 P P 02 05 28.7 +0.9
baz=232
MDPB Devils Postpil 77.37 44 IAmb IAmb 02 05 30.6
comp=Z,7.8nm,1.0s
CWC Cottonwood Cre 77.37 45 P P 02 05 29.0 0.0
baz=236
YBH Yreka Blue Hor 77.50 38 P P 02 05 30.7 +1.3
BELC Belle Mtn. Jos 77.51 48 P P 02 05 29.9 +0.1
baz=238,SNR=5.3
MLAC Mammoth, Mammo 77.53 44 P P 02 05 30.2 +0.3
baz=236
K02D Willamette Mer 77.53 37 P P 02 05 30.5 +0.9
baz=231
MPMC Manual Prospec 77.57 46 P P 02 05 30.3 +0.2
baz=237,SNR=9.8
TIN Tinemaha, Big 77.61 44 P P 02 05 31.2 +1.0
baz=236
WAKR Walker 77.63 43 IAmb IAmb 02 05 32.2
comp=Z,8.0nm,1.0s
GSC Goldstone, Bar 77.63 47 P P 02 05 30.4 +0.1
baz=238,SNR=5.8
GSC Goldstone, Bar 77.63 47 IAmb IAmb 02 05 31.9
comp=Z,8.2nm,1.1s
HEC Hector,Ludlow 77.71 47 P P 02 05 30.8 +0.1
baz=238,SNR=12
BC3 Big Chuckawall 77.72 49 P P 02 05 31.6 +0.7
baz=239
PNTR Pine Nut 77.86 42 IAmb IAmb 02 05 33.4
comp=Z,10nm,0.9s
GLA Glamis 77.87 49 P P 02 05 33.2 +1.6
baz=239
GLA Glamis 77.87 49 IAmb IAmb 02 05 33.8
comp=Z,8.9nm,1.1s
YERR Yerington 78.03 42 IAmb IAmb 02 05 34.1
comp=Z,10nm,1.1s
L04D Klamath Falls 78.03 38 P P 02 05 33.3 +0.9
baz=232
M04C Macdoel 78.05 39 P P 02 05 33.0 +0.5
baz=233
GRAC Grapevine Rang 78.16 45 P P 02 05 34.0 +0.9
baz=237,SNR=10
GMRC Granite Mounta 78.16 48 P P 02 05 33.6 +0.3
baz=238
IRM Iron Mountain 78.20 48 P P 02 05 33.9 +0.5
baz=239,SNR=6.6
RYN Ryan 78.29 43 P P 02 05 33.8 -0.1
RYN IAmb IAmb 02 05 35.6
comp=Z,10nm,1.2s
TUQ Turquoise Moun 78.31 47 P P 02 05 34.7 +0.6
baz=238,SNR=6.9
NVAR Mina Array Bea 78.32 43 P P 02 05 35.0 +0.8
comp=Z,7.2nm,0.9s,baz=226,slow=9.5,SNR=34
PAHR Pah Rah Range 78.34 42 IAmb IAmb 02 05 35.8
comp=Z,8.2nm,1.1s
NV11 Mina Array Sit 78.42 43 IAmb IAmb 02 05 36.2
comp=Z,8.8nm,1.0s
Y12C Blythe 78.44 49 P P 02 05 35.3 +0.6
baz=239
J04D Umpqua Nationa 78.77 38 P P 02 05 37.2 +0.7
baz=232
KVN Kaiserville 78.80 43 IAmb IAmb 02 05 38.1
comp=Z,9.4nm,1.0s
NJ2 Nanjing 78.86 309 eP P 02 05 38.3 +1.4
NJ2 pmax pmax
comp=Z,15nm,0.6s
TPNV Topopah Spring 78.89 45 P P 02 05 37.8 +0.6
baz=238,SNR=6.3
TPNV Topopah Spring 78.89 45 IAmb IAmb 02 05 38.9
comp=Z,5.4nm,0.8s
J05D Fort Rock, OR 79.30 38 P P 02 05 40.2 +1.0
baz=233
Y14A Wickenburg 79.63 49 IAmb IAmb 02 05 43.5
comp=Z,6.7nm,1.0s
PINE Pine Mountain 79.78 38 P P 02 05 43.1 +1.3
PINE IAmb IAmb 02 05 44.0
comp=Z,13nm,1.1s
I05D Terrebonne, OR 79.87 37 P P 02 05 43.0 +0.8
baz=233
R11A Troy Canyon, C 80.07 44 P P 02 05 44.0 +0.5
baz=238
WVOR Wild Horse Val 80.36 40 IAmb IAmb 02 05 46.6
comp=Z,9.3nm,1.1s
TUC Tucson 80.48 52 P P 02 05 46.0 +0.3
baz=242
X16A Lo Mia Camp, P 80.99 50 IAmb IAmb 02 05 50.9
comp=Z,9.2nm,1.0s
KNB Kanab 81.28 47 P P 02 05 50.2 +0.3
U15A North Rim 81.36 48 IAmb IAmb 02 05 52.8
comp=Z,11nm,1.1s
ELK Elko 81.56 43 IAmb IAmb 02 05 53.0
comp=Z,6.0nm,1.1s
WUAZ Wupatki 81.57 49 P P 02 05 53.1 +1.7
baz=241
WUAZ Wupatki 81.57 49 IAmb IAmb 02 05 53.6
comp=Z,8.0nm,1.1s
WHN Wuhan 81.59 306 P P 02 05 43.9 -7.4
G08A Pilot Rock 81.80 37 IAmb IAmb 02 05 54.0
comp=Z,15nm,1.1s
B05A Bryant 81.85 34 P P 02 05 52.9 +0.6
baz=232
E07A Sunnyside 82.03 36 IAmb IAmb 02 05 55.1
comp=Z,11nm,0.9s
HAWA Hanford 82.12 36 P P 02 05 54.8 +1.0
GHO Glory Hole Cre 82.28 13 P P 02 05 54.1 -0.2
E08A Dider Farm, El 82.44 36 IAmb IAmb 02 05 58.4
comp=Z,6.4nm,0.9s
MFID Camas Ranch 82.62 40 IAmb IAmb 02 05 58.3
comp=Z,7.9nm,1.1s
SCM Sheep Creek Mo 82.69 14 P P 02 05 55.9 -0.5
121A Cookes Peak, D 82.85 53 P P 02 05 59.1 +1.1
baz=244
121A Cookes Peak, D 82.85 53 IAmb IAmb 02 06 00.6
comp=Z,6.8nm,1.1s
DUG Dugway, Tooele 82.87 44 P P 02 05 58.6 +0.7
baz=240
B08A Colville Reser 83.38 35 IAmb IAmb 02 06 01.0
comp=Z,8.9nm,1.1s
PLID Pearl Lake 83.42 39 P P 02 06 00.6 -0.1
PLID IAmb IAmb 02 06 02.0
comp=Z,6.6nm,0.9s
KTH Kantishna Hill 83.48 11 IAmb IAmb 02 06 00.4
comp=Z,14nm,1.0s
DHY Denali Highway 83.77 13 IAmb IAmb 02 06 02.1
comp=Z,17nm,1.2s
JLU Jordanelle 83.97 44 P P 02 06 03.9 +0.3
MNTX Cornudas Mount 84.33 54 P P 02 06 06.1 +0.7
baz=245
MNTX Cornudas Mount 84.33 54 IAmb IAmb 02 06 07.0
comp=Z,8.0nm,1.1s
MAW Mawson 84.53 199 P P 02 06 05.1 -0.5
comp=Z,3.8nm,0.9s,baz=88,slow=4.8,SNR=4.3
MAW Mawson 84.53 199 IAmb IAmb 02 06 05.9
comp=Z,1.1nm,1.0s
NEW Newport 84.53 35 P P 02 06 06.2 +0.2
baz=236
TX32 Lajitas Array 84.72 57 IAmb IAmb 02 06 10.2
comp=Z,13nm,1.1s
TXAR Lajitas Array 84.72 57 P P 02 06 08.5 +1.1
comp=Z,7.1nm,1.0s,baz=227,slow=5.0,SNR=44
MLY Manley 84.86 11 IAmb IAmb 02 06 07.5
comp=Z,12nm,1.0s
ANMO Albuquerque 84.89 51 P P 02 06 08.2 0.0
baz=244
ANMO Albuquerque 84.89 51 P P 02 06 08.5 +0.3
HDA Harding Lake 85.04 13 P P 02 06 08.2 +0.2
baz=208
TCOL CIGO, UAF Yank 85.27 12 P P 02 06 08.9 -0.2
baz=208
ILAR Eielson Array 85.37 12 P P 02 06 09.3 -0.3
comp=Z,5.3nm,0.4s,baz=232,slow=5.2,SNR=87
POKR Poker Flat Res 85.57 12 P P 02 06 10.3 -0.3
baz=208
DLMT Dillon 85.61 40 IAmb IAmb 02 06 13.3
comp=Z,12nm,1.1s
REDW Red Top Meadow 85.71 42 P P 02 06 12.5 +0.4
S22A 4UR Ranch, Cre 85.84 48 P P 02 06 13.7 +0.8
baz=244
PDAR Pinedale Array 86.25 43 P P 02 06 14.5 -0.3
comp=Z,0.8nm,0.7s,baz=222,slow=2.0,SNR=5.4
BILL Bilibino 86.36 354 P P 02 06 14.4 +0.1
BILL IAmb IAmb 02 06 16.2
comp=Z,7.0nm,0.9s
H17A Grant Village 86.38 41 P P 02 06 17.3 +1.9
baz=241
H17A Grant Village 86.38 41 IAmb IAmb 02 06 18.3
comp=Z,5.7nm,1.1s
DAWY Dawson 86.50 16 IAmb IAmb 02 06 16.6
comp=Z,9.8nm,1.0s
EGAK Eagle 86.65 15 IAmb IAmb 02 06 17.1
comp=Z,13nm,1.1s
SDCO Great Sand Dun 86.78 49 P P 02 06 17.9 +0.4
baz=245
XAN Xi'an 87.22 307 P P 02 06 21.0 +1.7
XAN pmax pmax
comp=Z,7.0nm,1.3s
MSTX Muleshoe 87.26 53 P P 02 06 19.8 +0.2
baz=246
RLMT Red Lodge 87.55 41 P P 02 06 21.6 +0.7
baz=242
N23A Red Feather La 87.82 46 P P 02 06 21.9 -0.3
baz=244
HHC Hu-ho-hao-te 88.10 314 eP P 02 06 23.7 +0.3
HHC pmax pmax
comp=Z,3.0nm,1.0s
EPYK Eagle Plains 89.03 15 P P 02 06 27.3 +0.3
baz=218
ABTX Abilene, Hawle 89.17 55 P P 02 06 28.7 +0.2
baz=248
ABTX Abilene, Hawle 89.17 55 IAmb IAmb 02 06 29.9
comp=Z,8.4nm,1.1s
SYO Syowa Base 89.67 192 eP P 02 06 27.6 -2.4
SYO Syowa Base 89.67 192 ePcP P 02 06 30.2 +0.2
CMAR Chiang Mai Arr 90.10 289 P P 02 06 34.3 +1.3
comp=Z,1.2nm,0.3s,baz=95,slow=2.4,SNR=4.3
CD2 Chengdu 90.11 302 eP P 02 06 32.5 -0.4
LAO LASA Array 90.15 41 P P 02 06 33.7 +0.9
baz=244
RSSD Black Hills 90.46 44 P P 02 06 34.0 -0.4
baz=246
RSSD Black Hills 90.46 44 P P 02 06 34.3 -0.1
RSSD IAmb IAmb 02 06 36.2
comp=Z,4.7nm,0.9s
SNAA Sanae 90.78 178 P P 02 06 34.1 -1.2
SNAA Sanae 90.78 178 P P 02 06 34.1 -1.2
SNAA IAmb IAmb 02 06 35.1
comp=Z,3.4nm,0.8s
VNA3 Neumayer Olymp 90.86 176 P P 02 06 35.2 -0.4
VNA2 Neumayer--Watz 91.32 177 P P 02 06 37.4 -0.4
baz=194,slow=3.8
VNA1 Neumayer--Stat 91.54 176 P P 02 06 38.8 +0.1
LZH Lanzhou 91.85 307 ⇓P P 02 06 42.5 +1.5
LZH pP pP 02 08 02.3 -4.8
LZH sP sP 02 08 39.2 -6.2
LZH pmax pmax
comp=Z,20nm,1.4s
DGMT Dagmar 92.15 40 P P 02 06 42.2 +0.3
baz=246
YKA Yellowknife Ar 93.56 24 P P 02 06 47.1 -0.8
comp=Z,0.6nm,0.9s,baz=244,slow=4.4,SNR=3.6
SONM Songino Array 94.28 319 P P 02 06 52.9 +1.1
comp=Z,0.4nm,0.5s,baz=122,slow=3.0,SNR=2.4
C36M Paulatuk 94.49 16 P P 02 06 52.5 +0.4
baz=230
X40A Basin Creek Fa 95.15 56 P P 02 06 55.4 -0.5
baz=252
ECSD EROS Data Cent 95.30 46 P P 02 06 56.2 -0.1
baz=250
LRAL Lakeview Retre 99.41 58 P Pdif 02 07 14.6 -0.5
baz=255
ZALV Zalesovo Beam 108.91 322 PKiKP PKiKP 02 11 57.9 -1.4
comp=Z,0.6nm,0.5s,baz=48,slow=2.1,SNR=1.7
MKAR Makanchi Array 109.97 314 PKiKP PKiKP 02 12 01.0 -0.6
comp=Z,0.3nm,0.4s,baz=230,slow=1.3,SNR=6.2
KURBB Kurchatov Arra 112.63 318 PKiKP PKiKP 02 12 05.3 -1.1
comp=Z,0.3nm,0.6s,baz=91,slow=2.3,SNR=4.6
ARU Arti 123.42 327 PKP PKPdf 02 12 27.1 +0.1
comp=Z,1.5nm,0.3s,baz=88,slow=3.0,SNR=4.3
ARCES ARCESS Array B 126.34 350 PKP PKPdf 02 12 32.1 -0.1
comp=Z,5.4nm,1.0s,baz=27,slow=0.3,SNR=10
GEYT Alibeck 128.05 305 PKP PKiKP 02 12 36.9 -0.2
comp=Z,1.1nm,0.6s,baz=163,slow=1.5,SNR=2.5
SORM Soroca 143.27 331 ⇑P PKPbc 02 13 02.1 -0.1
LEOM Leova 144.52 330 ⇑P PKPdf 02 13 06.8 +0.3
OJC Ojcow 144.87 341 PKPdf 02 13 06.9 -0.1
BUR08 Bucovina Ar. S 145.03 334 PKPbc 02 13 08.0 +0.2
BURAR Bucovina Array 145.05 334 ⇑P PKPab 02 13 09.1 +0.8
KOLS Kolonicke sedl 145.14 338 ePKP PKPab 02 13 08.7 +0.2
BIZ Bicaz 145.18 332 ⇑P PKPab 02 13 09.0 +0.3
GHRR 145.22 330 ⇓P PKPab 02 13 09.7 +0.8
KSP Ksiaz 145.27 345 ePKP PKPab 02 13 09.1 +0.2
KSP ePKP PKPab 02 13 09.1 +0.2
CFR Carcaliu 145.49 328 ⇓P PKPab 02 13 09.7 -0.2
CLL Collm 145.53 349 ⇓iPKPbc PKPbc 02 13 09.1 +0.1
comp=Z,36nm,1.1s
CLL Collm 145.53 349 PKPbc 02 13 08.7 -0.3
CHVC Chvalec 145.56 345 ePKP PKPab 02 13 09.8 -0.3
BR131 Keskin Array S 145.59 316 PKPbc 02 13 09.7 -0.1
BRTR Keskin Array B 145.59 316 PKPbc PKPbc 02 13 09.8 0.0
comp=Z,2.9nm,0.5s,baz=128,slow=4.2,SNR=40
VRI Vrincioaia 145.69 330 ⇑P PKPbc 02 13 10.1 +0.4
OKC Ostrava-Krasne 145.69 343 ePKP PKPab 02 13 10.6 0.0
TRPA Tarpa 145.71 337 ⇑P PKPbc 02 13 09.9 +0.2
TRPA Tarpa 145.71 337 ePKiKP PKPbc 02 13 10.0 +0.4
DPC Dobruska-Polom 145.72 345 ePKP PKPab 02 13 10.6 -0.1
ARCR ARCALIA 145.83 334 ⇓P PKPbc 02 13 10.5 +0.5
KRLC Kraliky 145.85 344 ePKP PKPbc 02 13 10.4 +0.3
MORC Moravsky Berou 145.92 343 ePKP PKPab 02 13 11.0 -0.5
HARR Harsova 145.94 328 ⇑P PKPab 02 13 11.4 -0.3
PVCC Panska Ves 145.96 347 ePKP PKPab 02 13 11.0 -0.6
DOPR Dopca 146.24 331 ⇑P PKPab 02 13 12.1 -0.8
MLR Muntele Rosu 146.34 330 ⇑P PKPbc 02 13 12.6 +0.9
MLR Muntele Rosu 146.34 330 PKPbc 02 13 11.8 +0.1
PRU Pruhonice 146.47 347 ePKP PKPbc 02 13 12.3 +0.5
GOPC GO Pecny, Ondr 146.49 346 ePKP PKPbc 02 13 11.3 -0.6
VRAC Vranov 146.60 344 ⇑P PKPbc 02 13 12.4 +0.2
VRAC Vranov 146.60 344 ePKP PKPbc 02 13 12.7 +0.5
VYHS Vyhne 146.68 341 ePKP PKPbc 02 13 13.1 +0.7
JAVC Velka Javorina 146.71 342 ePKP PKPab 02 13 14.4 -0.3
PSZ Piszkesteto 146.84 339 PKPbc 02 13 13.5 +0.5
KRUC Moravsky 146.88 344 ePKP PKPbc 02 13 13.4 +0.5
ARR Arges 147.04 332 ⇑P PKiKP 02 13 15.0 -0.7
BSTI Sart Tilman 147.12 357 PKiKP PKPbc 02 13 14.2 +0.7
MMAI Mount Meron Ar 147.17 304 PKPbc PKPbc 02 13 15.2 +0.8
comp=Z,2.9nm,0.5s,baz=67,slow=6.4,SNR=18
MBAR Mbarara 147.22 239 PKPbc 02 13 15.3 +0.1
MODS Modra-Piesok 147.26 342 ePKP PKPbc 02 13 14.3 +0.3
KHC Kasperske Hory 147.49 347 ePKP PKPbc 02 13 15.0 +0.4
SIRR Siria 147.59 336 ⇑P PKPbc 02 13 15.1 +0.1
DOU Dourbes 147.65 358 PKiKP PKPbc 02 13 15.4 +0.5
GEC2 GERESS Array S 147.74 347 PKPbc 02 13 15.6 +0.3
GERES GERESS Array B 147.74 347 PKPbc PKPbc 02 13 15.5 +0.1
comp=Z,4.3nm,1.0s,baz=60,slow=3.2,SNR=20
WLF Walferdange 148.00 356 PKiKP PKiKP 02 13 16.9 -0.5
WLF Walferdange 148.00 356 PKiKP 02 13 16.7 -0.7
CONA Conrad Observa 148.06 344 ePKiKP PKiKP 02 13 17.2 -0.5
comp=Z,14nm,1.3s,SNR=5.5
SOP Sopron 148.09 343 PKiKP PKPbc 02 13 16.1 -0.1
MPLH Magyarpolny 148.26 341 ePKiKP PKPbc 02 13 17.0 +0.4
MOA Molln 148.54 345 ePKiKP PKPbc 02 13 17.8 +0.5
comp=Z,11nm,1.6s,SNR=5.0
MORH Mrgy, Hungar 148.74 339 ePKiKP PKPbc 02 13 18.0 +0.2
ARSA Arzberg 148.78 343 ePKiKP PKPbc 02 13 18.2 +0.3
comp=Z,3.6nm,1.1s
BFO Black Forest 149.13 353 PKPbc 02 13 19.3 +0.5
SOKA Soboth 149.43 344 ePKiKP PKPbc 02 13 19.7 +0.1
comp=Z,13nm,1.7s
KBA Koelnbreinsper 149.48 346 ePKiKP PKPbc 02 13 19.7 -0.2
comp=Z,1.6nm,0.4s
WATA Walderalm 149.61 348 ePKiKP PKPbc 02 13 20.6 +0.4
comp=Z,12nm,0.9s
RETA Reutte 149.61 350 ePKiKP PKPbc 02 13 20.4 +0.4
comp=Z,8.2nm,1.1s
WTTA Wattenberg 149.67 348 ePKiKP PKiKP 02 13 20.8 -0.4
comp=Z,7.5nm,0.5s
MOTA Moosalm 149.69 349 ePKiKP PKPbc 02 13 20.4 0.0
comp=Z,12nm,1.0s
VTS Vitosha 149.78 330 ⇑P PKPbc 02 13 20.9 +0.2
SQTA Sankt Quirin 149.79 349 ePKiKP PKPbc 02 13 20.9 +0.4
comp=Z,11nm,1.0s
MYKA Terra Mystica 149.83 345 ePKiKP PKPbc 02 13 20.3 -0.3
comp=Z,2.4nm,0.4s
DAVA Damuels 149.95 351 ePKiKP PKiKP 02 13 21.7 0.0
comp=Z,10nm,1.0s,SNR=6.2
ABTA Abfaltersbach 149.98 347 ePKiKP PKPbc 02 13 20.9 -0.1
comp=Z,14nm,1.1s,SNR=6.7
FETA Feichten 150.07 349 ePKiKP PKiKP 02 13 21.8 -0.2
comp=Z,9.6nm,1.0s,SNR=5.2
STAL STALIGIAL 150.40 346 PKPbc 02 13 21.7 -0.2
BLY Banja Luka 150.52 339 ⇑P PKPbc 02 13 22.2 0.0
FUORN Ofenpass-Fuorn 150.53 350 PKiKP 02 13 23.0 -0.1
FNA Florina 152.08 329 PKPbc 02 13 25.8 -0.2
ESDC Sonseca Array 157.27 14 PKPab PKPab 02 13 59.2 0.0
comp=Z,1.2nm,0.9s,baz=357,slow=7.4,SNR=4.9
TORD Torodi Ar. Bea 175.31 164 PKPab PKPab 02 15 18.3 -0.8
comp=Z,1.7nm,1.0s,baz=172,slow=3.8,SNR=5.9

NDI ***13*** *01:55:37.6±3.0, 32.°50N×69.°39E, h15km±230km, ML4.1, mb4.2(NEIC)*
IDC ***13*** *01:55:39.1±0.8, 32.°40N×69.°92E, h0km, mb4.0/16, mb1 4.1/20, mb1mx3.9/56, mbtmp4.0/20, ML3.8/4, MS3.4/6, Ms1 3.4/6, ms1mx3.0/53, Error ellipse: s-maj=18.0km s-min=17.1km az=116.0*
MOS ***13*** *01:55:42.3±1.1, 32.°45N×69.°78E, h31km, mb4.4/8, Error ellipse: s-maj=13.1km s-min=6.0km az=80.7*
ISCJB ***13*** *01:55:42.0±0.5, 32.°39N±0.°05×69.°90E±0.°05, h33km, mb4.0/17, MS3.3/5, Error ellipse: s-maj=7.1km s-min=4.8km az=32.9*
NEIC ***13*** *01:55:45.9±1.8, 32.°46N±0.°02×69.°98E±0.°08, h47km±7km, mb4.2/10*
NNC ***13*** *01:55:46.4±6.4, 33.°08N×69.°19E, h0km, mb4.3, Error ellipse: s-maj=60.5km s-min=35.3km az=36.0*
ISC 13 01:55:44.6±0.5, 32.°33N±0.°06×69.°99E±0.°05, h35km, n90, σ2=22/93, mb4.0/17, MS3.4/5, 12C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	Kabul	2.34	340	P	Pn	01 56 22.0	+1.2
KBL	Kabul	2.34	340		Pn	01 56 22.0	+1.2
NIL	Nilore	3.04	63	P	Pn	01 56 32.3	+2.1
NIL	Nilore	3.04	63		Pn	01 56 32.3	+2.1
DHRM	DHARAMSHALA	5.34	89	eP	Pn	01 57 03.0	+1.0
DHRM				eS	Sn	01 58 07.3	+4.8
DHRM				IAML		01 58 11.7	
	comp=N,264nm,0.8s						
DHRM				IAML		01 58 43.3	
	comp=E,598nm,0.5s						
SMLA	Simla	6.23	99	eP	Pn	01 57 16.1	+2.1
SMLA				eS	Sn	01 58 27.4	+3.4
SMLA				IAML		01 58 30.3	
	comp=E,132nm,0.4s						
SMLA				IAML		01 58 33.3	
	comp=N,164nm,0.2s						
CHGR	Chuyangaron	6.35	354		Pn	01 57 15.3	-0.4
GAR	Garm	6.66	2		Pn	01 57 19.9	-0.1
HRA	Herat	6.80	290	Pn	Pn	01 57 24.5	+2.5
KUDL	Kundal	7.00	125	eP	Pn	01 57 20.8	-3.8
KUDL				eS	Sn	01 58 37.3	-5.6
BTK	Batken	7.74	5	P	Pn	01 57 35.3	+0.5
BTK	Batken	7.74	5		Pn	01 57 35.4	+0.5
JOSI	Joshimath	8.36	100	eP	Pn	01 57 44.9	+1.4
JOSI				ex	x	01 59 23.7	
ARSB	Arslanbob	9.29	14		Pn	01 57 55.6	-0.5
NRN	Naryn	10.28	26	P	Pn	01 58 10.3	+0.5
NRN	Naryn	10.28	26		Pn	01 58 10.3	+0.5
KK31	Karatay Array	10.76	2	P	Pn	01 58 14.3	-1.8
KK31				eS	Sn	02 00 11.0	-4.3
KK31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KK31				smax	smax		
	comp=N,2.0nm,0.5s						
KK31	Karatay Array	10.76	2		Pn	01 58 14.7	-1.5
KK31	Karatay Array	10.76	2	⇓P	Pn	01 58 14.4	-1.7
	comp=N,2.1nm,0.3s,baz=184,slow=14,SNR=30						
KK31				⇑S	Sn	02 00 10.8	-4.5
	comp=N,4.6nm,0.6s,baz=192,slow=23,SNR=3.9						
KKAR	Karatay Array	10.76	2	P	Pn	01 58 14.7	-1.5
KKAR	Karatay Array	10.76	2		Pn	01 58 14.7	-1.5
AAK	Ala-Archa	10.89	18	ceP	Pn	01 58 16.6	-1.4
AAK				pmax	pmax		
	comp=Z,11nm,0.8s						
AAK	Ala-Archa	10.89	18	Pn	Pn	01 58 17.1	-1.0
	comp=Z,2.8nm,0.3s,baz=157,slow=5.2,SNR=19						
AAK				Sn	Sn	02 00 16.6	-2.1
	comp=Z,0.1nm,0.3s,baz=336,slow=18,SNR=1.7						
AAK	Ala-Archa	10.89	18		Pn	01 58 17.6	-0.5
AAK	Ala-Archa	10.89	18	⇑P	Pn	01 58 17.1	-1.0
	comp=Z,8.6nm,0.6s						
AAK				S	Sn	02 00 15.9	-2.8
	comp=Z,18nm,1.4s						
BHPL	Bhopal	11.19	142	eP	Pn	01 58 21.6	-0.5
BHPL				eS	Sn	02 00 23.7	-2.2
BHPL				IAML		02 00 50.1	
	comp=N,28nm,0.6s						
BHPL				IAML		02 01 43.7	
	comp=E,26nm,0.3s						
GEYT	Alibeck	11.21	303	Pn	Pn	01 58 18.3	-4.0
	comp=E,0.7nm,0.3s,baz=124,slow=13,SNR=15						
GYA0B	ALIBECK ARRAY	11.21	303		Pn	01 58 23.6	+1.3
TKM2	Tokmak 2	11.46	21	*i* P	Pn	01 58 25.8	-0.1
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TKM2	Tokmak 2	11.46	21	⇓P	Pn	01 58 25.9	-0.1
	comp=Z,8.2nm,0.6s						
PDGK	Podgornoye	13.29	32	P	Pn	01 58 53.1	+2.4
PDGK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
PDGK	Podgornoye	13.29	32	⇑P	Pn	01 58 53.2	+2.4
	comp=Z,5.4nm,0.8s						
KKN	Kakani	13.99	105	eP	Pn	01 58 57.4	-3.1
	comp=Z,45nm,0.6s						
PKIN	Phulchoki	14.17	106	eP	Pn	01 58 59.7	-3.3
	comp=Z,6nm,0.6s						
PKI	Pulchoki	14.18	106	eP	Pn	01 59 00.0	-3.2
	comp=Z,37nm,0.7s						
GUN	Gumba	14.44	104	eP	Pn	01 59 04.4	-2.3
	comp=Z,31nm,0.4s						
JIRN	Jiri	14.79	104	eP	Pn	01 59 08.0	-3.5
	comp=Z,44nm,0.5s						
TAPN	Taplejung	16.15	103	eP	Pn	01 59 26.5	-2.7
	comp=Z,16nm,0.5s						

MAKZ	**Makanchi**	**17.13**	**29**	P		**Pn**	**01 59 39.8**	**-1.3**
MAKZ				pmax		pmax			
	comp=Z,10.0nm,1.1s								
MAKZ	**Makanchi**	**17.13**	**29**	Pn		**Pn**	**01 59 39.8**	**-1.3**
MAKZ				IAmb		IAmb	01 59 47.8		
	comp=Z,10nm,1.1s								
MAKZ	**Makanchi**	**17.13**	**29**	⇑P		**Pn**	**01 59 40.1**	**-1.0**
	comp=Z,12nm,1.1s								
MK31	**Makanchi Array**	**17.25**	**30**	*e*P		**Pn**	**01 59 42.6**	**0.0**
MK31				pmax		pmax			
	comp=Z,3.0nm,0.6s								
MK31	**Makanchi Array**	**17.25**	**30**			**Pn**	**01 59 40.7**	**-1.9**
MK31	**Makanchi Array**	**17.25**	**30**	⇑P		**Pn**	**01 59 42.5**	**0.0**
	comp=Z,2.7nm,0.6s,baz=207,slow=11,SNR=23								
MKAR	**Makanchi Array**	**17.25**	**30**	*ce*P		**Pn**	**01 59 42.7**	**+0.1**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.6s								
MKAR	**Makanchi Array**	**17.25**	**30**	P		**Pn**	**01 59 41.6**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=209,slow=11,SNR=14								
MKAR				LR		LR	02 07 07.2		
	comp=Z,130nm,19.2s,baz=196,slow=40								
AB31	**Akbulak array**	**18.51**	**339**	*e*P		**P**	**01 59 55.5**	**-2.2**
AB31				pmax		pmax			
	comp=Z,2.0nm,0.6s								
AB31	**Akbulak array**	**18.51**	**339**	P		**P**	**01 59 55.5**	**-2.2**
	comp=Z,3.5nm,0.8s,baz=152,slow=12,SNR=34								
AB31				S		Sn	02 03 08.1	-16	
	comp=Z,0.6nm,0.6s,baz=145,slow=27,SNR=6.3								
ABKAR	**Akbulak array**	**18.51**	**339**	P		**P**	**01 59 56.2**	**-1.5**
KURBB	**Kurchatov Arra**	**19.34**	**17**	P		**P**	**02 00 04.1**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=209,slow=11,SNR=6.3								
KURK	**Kurchatov**	**19.45**	**17**	*i* P		**Pn**	**02 00 08.7**	**-0.6**
KURK	**Kurchatov**	**19.45**	**17**	P		**P**	**02 00 05.4**	**-2.5**
KURK				IAmb		IAmb	02 00 12.9		
	comp=Z,4.3nm,1.0s								
AKTO	**Aktyubinsk**	**20.15**	**337**	P		**P**	**02 00 14.2**	**-1.4**
	comp=Z,2.6nm,0.5s,baz=169,slow=11,SNR=12								
SHL	**Shillong**	**20.29**	**104**	P		**P**	**02 00 18.0**	**+0.4**
SHL				pmax		pmax			
	comp=Z,18nm,1.1s								
SHL	**Shillong**	**20.29**	**104**	*ex*		**P**	**02 00 17.0**	**-0.5**
SHL	**Shillong**	**20.29**	**104**	P		**P**	**02 00 18.0**	**+0.4**
SHL				IAmb		IAmb	02 00 18.9		
	comp=Z,18nm,1.1s								
BVAR	**Borovoye Array**	**20.68**	**1**	P		**P**	**02 00 19.9**	**-1.5**
	comp=Z,2.2nm,0.5s,baz=159,slow=10,SNR=8.4								
BRVK	**Borovoye**	**20.72**	**0***ce*P			**P**	**02 00 21.1**	**-0.6**
BRVK				pmax		pmax			
	comp=Z,8.0nm,0.7s								
BRVK	**Borovoye**	**20.72**	**0**	P		**P**	**02 00 20.5**	**-1.2**
BRVK				IAmb		IAmb	02 00 29.3		
	comp=Z,8.5nm,0.7s								
GNI	**Garni**	**21.76**	**298**	P		**P**	**02 00 36.8**	**+3.5**
GNI				pmax		pmax			
	comp=Z,28nm,1.3s								
GNI	**Garni**	**21.76**	**298**	P		**P**	**02 00 36.8**	**+3.5**
	comp=Z,6.2nm,0.7s,baz=31,slow=13,SNR=2.8								
GNI	**Garni**	**21.76**	**298**	IAmb		IAmb	02 00 49.8		
	comp=Z,28nm,1.3s								
ZALV	**Zalesovo Beam**	**24.07**	**22**	*i* P		**P**	**02 01 00.9**	**+4.5**
ZALV				pmax		pmax			
	comp=Z,2.0nm,0.5s								
ZALV	**Zalesovo Beam**	**24.07**	**22**	P		**P**	**02 00 55.5**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=227,slow=9.7,SNR=2.0								
ZALV				LR		LR	02 11 17.0		
	comp=Z,61nm,19.6s,baz=92,slow=39								
ARU	**Arti**	**25.37**	**345***c*	*i* P		**P**	**02 01 13.7**	**+5.5**
ARU							02 01 47.3		
ARU				SS			02 06 35.7		
ARU				pmax		pmax			
	comp=Z,8.0nm,0.7s								
ARU	**Arti**	**25.37**	**345**	P		**P**	**02 01 12.4**	**+4.2**
	comp=Z,2.4nm,0.6s,baz=165,slow=6.7,SNR=10								
MMAI	**Mount Meron Ar**	**29.05**	**281**	LR		LR	02 14 16.6		
	comp=Z,32nm,20.8s,baz=255,slow=39								
SONM	**Songino Array**	**31.53**	**50**	P		**P**	**02 02 04.0**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=258,slow=10,SNR=2.3								
AKASG	**Malin Array Be**	**35.07**	**314***ce*P			**P**	**02 02 31.7**	**-2.3**
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.5s								
AKASG	**Malin Array Be**	**35.07**	**314**	P		**P**	**02 02 33.4**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=95,slow=7.4,SNR=7.7								
MLR	**Muntele Rosu**	**36.26**	**304**	P		**P**	**02 02 43.0**	**-1.5**
MLR				pmax		pmax			
	comp=Z,10.0nm,1.1s								
MLR	**Muntele Rosu**	**36.26**	**304**	P		**P**	**02 02 43.0**	**-1.5**
	comp=Z,2.2nm,0.8s,baz=227,slow=17,SNR=3.1								
MLR	**Muntele Rosu**	**36.26**	**304**	IAmb		IAmb	02 02 49.7		
	comp=Z,9.7nm,1.1s								
FINES	**FINESS Array B**	**40.55**	**329**	P		**P**	**02 03 19.2**	**-1.0**
	comp=Z,2.0nm,0.8s,baz=126,slow=9.3,SNR=1.3								
GERES	**GERESS Array B**	**44.77**	**309**	P		**P**	**02 03 54.0**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=106,slow=8.5,SNR=5.2								
GERES				PP		**PP**	**02 05 43.1**	**+3.7**	
	comp=Z,0.1nm,0.3s,baz=90,slow=9.7,SNR=5.6								
HFS	**Hagfors**	**45.90**	**325**	P		**P**	**02 04 02.5**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=112,slow=11,SNR=5.1								
NB2	**NORSAR Subarra**	**47.27**	**325**	P		**P**	**02 04 12.6**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=102,slow=7.9								
NOA	**NORSAR Array B**	**47.27**	**325**	P		**P**	**02 04 12.8**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=104,slow=7.8,SNR=5.1								
NOA				LR		LR	02 26 52.8		
	comp=Z,37nm,18.4s,baz=295,slow=40								
KLR	**Kul'dur**	**48.35**	**51**	LR		LR	02 27 53.6		
	comp=Z,53nm,19.2s,baz=296,slow=40								
KEST	**Kesra**	**49.68**	**292**	P		**P**	**02 04 32.8**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=0.6,slow=4.1,SNR=6.3								
JNU	**Nakatsue**	**50.57**	**72**	LR		LR	02 29 32.6		
	comp=Z,71nm,19.6s,baz=167,slow=40								
BILL	**Bilibino**	**62.72**	**25**	*i* P		P	02 06 12.2	+6.6	
BILL				pmax		pmax			
	comp=Z,20nm,1.3s								
TORD	**Torodi Ar. Bea**	**64.83**	**270**	P		**P**	**02 06 19.1**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=48,slow=5.6,SNR=16								
BOSA	**Boshof**	**74.03**	**220**	P		**P**	**02 07 17.2**	**+0.3**
BOSA				pmax		pmax			
	comp=Z,24nm,1.6s								
BOSA	**Boshof**	**74.03**	**220**	P		**P**	**02 07 17.1**	**+0.3**
	comp=Z,2.7nm,0.6s,baz=20,slow=4.4,SNR=7.2								
WRA	**Warramunga Arr**	**80.54**	**121***ce*P			**P**	**02 07 54.7**	**+1.2**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.5s								
WRA	**Warramunga Arr**	**80.54**	**121**	P		**P**	**02 07 53.9**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=324,slow=5.1,SNR=5.9								
ASAR	**Alice Springs**	**82.59**	**124**	P		**P**	**02 08 04.7**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=309,slow=5.2,SNR=4.8								
KDAK	**Kodiak Island**	**83.37**	**21***ce*P			**P**	**02 08 10.8**	**+3.0**
YKA	**Yellowknife Ar**	**85.44**	**2**	P		**P**	**02 08 18.3**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=349,slow=5.1,SNR=9.6								

ISK ***13*** *02:19:47.4,37.°69N×42.°58E, h2km, ML3.0/16*
DDA ***13*** *02:19:47.8, 37.°70N×42.°57E, h15km±2km, ML2.6*
ISN ***13*** *02:19:47.9±0.7, 37.°76N×42.°52E, h14km±4km, ML2.9*
ISCJB ***13*** *02:19:48.0±0.5, 37.°69N±0.°02×42.°60E±0.°02, h0km±4km, Error ellipse: s-maj=3.5km s-min=2.7km az=142.1*

ISC 13 02:19:48.4±1.0, 37.71N±0.°02×42.58E±0.°02, h9km±8km, n37, σ1s05/63, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIRT	**Sirnak**	**0.24**	**207**	PG	**Pg**	**02 19 53.2**	**-0.1**
SIRT				SG	**Sg**	**02 19 56.8**	**+0.2**
SIRN	**Sirnak**	**0.25**	**211**	*i* PA	**Pg**	**02 19 53.4**	**-0.2**
SIRN				*i* S	**Sg**	**02 19 57.6**	**+0.6**
SIRN				IAML		02 19 59.0	
	comp=N,6μm,0.5s						
SIRN				IAML		02 20 00.0	
	comp=E,7μm,0.5s						
SRTM	**Siirt_Merkez**	**0.59**	**298**	*i* PA	**Pg**	**02 19 59.8**	**0.0**
SRTM				*i* S	**Sg**	**02 20 08.2**	**+0.6**
SRTM				IAML		02 20 12.0	
	comp=N,1μm,0.5s						
SRTM				IAML		02 20 13.0	
	comp=E,1μm,0.4s						
GEVA	**Gevas**	**0.71**	**32**	*i* PA	**Pg**	**02 20 01.7**	**-0.4**
GEVA				*i* S	**Sg**	**02 20 11.1**	**-0.2**
GEVA				IAML		02 20 14.0	
	comp=N,229nm,0.2s						
GEVA				IAML		02 20 15.0	
	comp=E,482nm,0.3s						
BLIS	**Bitlis-Merkez**	**0.79**	**333**	*i* PA	**Pg**	**02 20 03.5**	**-0.1**
BLIS				*i* S	**Sg**	**02 20 13.9**	**0.0**
BLIS				IAML		02 20 16.0	
	comp=N,298nm,0.7s						
BLIS				IAML		02 20 20.0	
	comp=E,156nm,0.7s						
HAKT	**HAKKARI**	**0.91**	**100**	*i* PA	**Pg**	**02 20 05.3**	**-0.6**
HAKT				*i* S	**Sb**	**02 20 18.6**	**-0.2**
HAKT				IAML		02 20 22.0	
	comp=E,174nm,0.6s						
HAKT				IAML		02 20 23.0	
	comp=N,115nm,0.5s						
GURO	**Guroymak-BITLI**	**0.94**	**333**	PG	**Pg**	**02 20 06.1**	**-0.4**
GURO				SG	**Sn**	**02 20 20.4**	**-1.1**
CUKT	**Cukurca**	**0.94**	**119**	*i* PA	**Pg**	**02 20 05.5**	**-1.0**
CUKT				*i* S	**Sg**	**02 20 18.2**	**-0.5**
CUKT				IAML		02 20 24.0	
	comp=E,403nm,0.8s						
CUKT				IAML		02 20 28.0	
	comp=N,320nm,0.8s						
CUKT	**Cukurca**	**0.94**	**119**	PG	**Pg**	**02 20 05.5**	**-1.0**
CUKT				SG	**Sb**	**02 20 19.9**	**+0.3**
VANB	**Van**	**1.09**	**36**	PG	**Pb**	**02 20 09.1**	**-0.3**
VANB				SG	**Sn**	**02 20 24.3**	**-0.8**
SVAN	**Silvan-Diyarba**	**1.18**	**292**	*i* PA	**Pg**	**02 20 10.9**	**-0.1**
SVAN				*i* S	**Sn**	**02 20 26.9**	**-0.3**
SVAN				IAML		02 20 29.0	
	comp=E,159nm,0.5s						
SVAN				IAML		02 20 30.0	
	comp=N,150nm,0.6s						
SVAN	**Silvan-Diyarba**	**1.18**	**292**	PN	**Pn**	**02 20 10.7**	**-0.3**
SVAN				SN	**Sn**	**02 20 28.4**	**+1.2**
MUSM	**Mu-Merkez**	**1.31**	**321**	*i* PA	**Pg**	**02 20 13.3**	**-0.3**
MUSM				*i* S	**Sg**	**02 20 30.6**	**0.0**
MUSM				IAML		02 20 33.0	
	comp=N,132nm,0.4s						
MUSM				IAML		02 20 33.0	
	comp=E,118nm,0.6s						
YOVA	**Hakkari_Yksek**	**1.36**	**95**	*i* P	**Pb**	**02 20 13.6**	**-0.6**
YOVA				*i* S	**Sg**	**02 20 33.4**	**+1.1**
YOVA				IAML		02 20 41.0	
	comp=N,72nm,0.5s						
YOVA				IAML		02 20 42.0	
	comp=E,86nm,0.4s						
MSL	**Mosul**	**1.38**	**162**	*e*Pg	**Pb**	**02 20 14.0**	**-0.3**
MSL				AML	AML	02 20 16.3	
	comp=Z,1μm,0.5s						
MSL				*e*Sg	**Sg**	**02 20 33.0**	**+0.3**
MLAZ	**Malazgirt-MUS**	**1.43**	**359**	PN	**Pg**	**02 20 15.7**	**-0.1**
MARD	**Mardin**	**1.48**	**255**	*i* PA	**Pg**	**02 20 16.4**	**-0.5**
MARD				*i* S	**Sg**	**02 20 36.4**	**+0.2**
MARD				IAML		02 20 39.0	
	comp=N,511nm,0.7s						
MARD				IAML		02 20 44.0	
	comp=E,304nm,0.6s						
BNGL	**BINGOL**	**1.67**	**318**	*i* P	**Pg**	**02 20 20.2**	**-0.2**
BNGL				*i* S	**Sg**	**02 20 43.3**	**+1.2**
VRTB	**Varto-Mus**	**1.69**	**329**	*i* PA	**Pg**	**02 20 21.4**	**+0.6**
VRTB				*i* S	**Sg**	**02 20 45.9**	**+3.1**
VRTB				IAML		02 20 52.0	
	comp=N,141nm,1.3s						
VRTB				IAML		02 20 55.0	
	comp=E,144nm,0.8s						
VRTB	**Varto-Mus**	**1.69**	**329**	PN	**Pb**	**02 20 19.8**	**0.0**
TUTA	**Tutak**	**1.70**	**6**	*i* P	**Pb**	**02 20 20.1**	**+0.3**
TUTA				*i* S	**Sg**	**02 20 44.5**	**+1.5**
TUTA				IAML		02 20 52.0	
	comp=N,46nm,0.6s						
TUTA				IAML		02 21 06.0	
	comp=E,0.2nm,0.9s						
MAZI	**Mazidag**	**1.71**	**262**	PN	**Pb**	**02 20 19.7**	**-0.4**
CLDR	**Caldiran**	**1.77**	**36**	PN	**Pb**	**02 20 20.9**	**-0.3**
HANI	**Diyarbakir_Han**	**1.86**	**293**	*i* P	**Pb**	**02 20 21.7**	**-0.8**
HANI				*i* S	**Sg**	**02 20 46.8**	**-1.3**
HANI				IAML		02 20 52.0	
	comp=N,93nm,0.6s						
HANI				IAML		02 21 02.0	
	comp=E,74nm,0.6s						
AGRB	**Hanur-Agry**	**1.89**	**10**	PN	**Pb**	**02 20 22.3**	**-0.8**
DYBB	**Diyarbakir**	**1.94**	**278**	PN	**Pn**	**02 20 22.4**	**+0.8**
DIYA	**Diyarbakir**	**1.96**	**277**	*i* PA	**Pn**	**02 20 22.8**	**+1.0**
DIYA				*i* S	**Sb**	**02 20 48.0**	**-0.7**
DIYA				IAML		02 21 00.0	
	comp=N,118nm,0.5s						
DIYA				IAML		02 21 02.0	
	comp=E,83nm,0.7s						
BNGB	**Bingl**	**1.96**	**311**	PN	**Pb**	**02 20 23.5**	**-0.9**
KARO	**Karliova-Bingo**	**1.99**	**323**	PN	**Pb**	**02 20 24.4**	**-0.5**
ECAT	**Cat-ERZURUM**	**2.27**	**327**	*i* P	**Pb**	**02 20 30.3**	**+0.7**
ECAT				*i* S	**Sg**	**02 21 00.8**	**-0.5**
ECAT				IAML		02 21 05.0	
	comp=E,14nm,0.7s						
ECAT				IAML		02 21 06.0	
	comp=N,8.5nm,0.4s						
KOPR	**Koprukoy-ERZUR**	**2.34**	**346**	PN	**Pb**	**02 20 28.8**	**-2.1**
YEDI	**Yedisu-Bingol**	**2.35**	**318**	PN	**Pb**	**02 20 28.9**	**-2.0**
SVRC	**Sivrice-ELAZIĞ**	**2.67**	**285**	PN	**Pn**	**02 20 31.9**	**+0.2**
IKRK	**Kirkuk**	**2.71**	**148**	*e*Pn	**Pn**	**02 20 33.1**	**+1.4**
IKRK				*e*Sn	**Sb**	**02 21 07.0**	**-3.4**
BHD	**Baghdad**	**4.67**	**161**	*e*Pn	**Pn**	**02 21 01.0**	**+2.0**
BHD				*e*Sn	**Sn**	**02 21 54.0**	**+0.7**
IBDR	**Badra**	**5.35**	**148**	*e*Pn	**Pn**	**02 21 10.0**	**+1.7**
IBDR				AML	AML	02 21 27.3	
	comp=Z,7.4nm,0.1s						
IBDR				*e*Sn	**Sn**	**02 22 10.5**	**+0.5**
NSR	**Nassriya**	**7.31**	**155**	*e*Pn	**Pn**	**02 21 37.5**	**+2.3**
NSR				*e*Sn	**Sn**	**02 22 58.0**	**-0.3**

IDC ***13*** *02:19:59.8±0.6, 18.°97N×144.°86E, h0km, mb4.3/19, mb1 4.4/19, mb1mx4.3/44, mbtmp4.3/19, MS3.2/9, Ms1 3.2/9, ms1mx3.0/34, Error ellipse: s-maj=21.8km s-min=13.4km az=90.0*
NEIC ***13*** *02:20:02.1±1.1, 19.°0N±0.°1×144.°8E±0.°1, h13km±4km, mb4.6/32*
ISCJB ***13*** *02:20:03.3±0.4, 18.°95N±0.°05×144.°78E±0.°10, h33km, mb4.2/19, MS3.1/7, Error ellipse: s-maj=13.1km s-min=7.8km az=177.3*

ISC 13 02:20:05.3±0.6, 18.°96N±0.°09×144.°8E±0.°1, h35km, n63, σ0s73/51, mb4.5/34, MS3.1/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.34**	**179**	LR	LR	02 23 03.7	
	comp=Z,138nm,18.8s,baz=102,slow=34						
JCJ	**Chichijima**	**8.45**	**344**	LR	LR	02 24 54.6	
	comp=Z,111nm,21.6s,baz=242,slow=35						
H11S3	**WAKE ISLAND Hy**	**20.74**	**88**	T	T	02 46 11.2	
	baz=275,slow=74,SNR=746						
H11S1	**WAKE ISLAND Hy**	**20.75**	**88**	T	T	02 46 13.0	
	baz=275,slow=74,SNR=245						
H11S2	**WAKE ISLAND Hy**	**20.75**	**88**	T	T	02 46 13.5	
	baz=275,slow=74,SNR=205						
H11N1	**WAKE ISLAND Hy**	**20.86**	**84**	T	T	02 46 29.2	
	baz=272,slow=75,SNR=32						
H11N2	**WAKE ISLAND Hy**	**20.88**	**84**	T	T	02 46 29.7	
	baz=272,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**20.88**	**84**	T	T	02 46 21.5	
	baz=272,slow=75,SNR=21						
JAY	**Jayapura**	**21.72**	**191**	LR	LR	02 32 52.8	
	comp=Z,76nm,18.3s,baz=236,slow=36						
KSRS	**Korea Array**	**23.61**	**325**	P	**P**	**02 25 12.2**	**-0.8**
	6.0nm,0.7s,baz=145,slow=10.0,SNR=13						
KSRS				LR	LR	02 32 48.5	
	comp=Z,46nm,20.1s,baz=124,slow=32						
SIJI	**Sorong**	**23.77**	**215**	P	**P**	**02 25 14.1**	**-0.6**
	5.4nm,0.4s,baz=8.6,slow=13,SNR=3.9						
KRVT	**Keravat (AS076**	**24.19**	**162**	LR	LR	02 33 34.7	
	comp=Z,50nm,20.9s,baz=111,slow=34						
ASAJ	**Asahikawa**	**25.15**	**356**	LR	LR	02 34 19.8	
	comp=Z,75nm,21.2s,baz=306,slow=34						
USRK	**Ussuriysk Ar.**	**27.36**	**340**	P	**P**	**02 25 46.5**	**-0.6**
	1.4nm,0.6s,baz=172,slow=11,SNR=2.4						
HNR	**Honiara**	**31.92**	**151**	LR	LR	02 40 18.9	
	comp=Z,38nm,18.1s,baz=27,slow=38						
KLR	**Kul'dur**	**31.98**	**344**	P	**P**	**02 26 27.2**	**-0.7**
	2.4nm,0.8s,baz=128,slow=11,SNR=5.9						
WRAB	**Tennant Creek**	**39.99**	**195**	P	**P**	**02 27 36.3**	**-0.5**
WB2	**Warramunga Arr**	**39.99**	**195**	P	**P**	**02 27 36.2**	**-0.6**
WB2				IAmb	IAmb	02 27 46.0	
	comp=Z,8.9nm,0.9s						
WRA	**Warramunga Arr**	**40.00**	**195**	P	**P**	**02 27 35.9**	**-1.0**
	comp=Z,4.5nm,0.8s,baz=14,slow=9.3,SNR=24						
WRA				PcP	**PcP**	**02 29 42.1**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=358,slow=3.3,SNR=6.6						
WRA				LR	LR	02 43 48.0	
	comp=Z,36nm,20.5s,baz=280,slow=36						
SONM	**Songino Array**	**42.41**	**322**	P	**P**	**02 27 56.4**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=120,slow=8.5,SNR=7.0						
CMAR	**Chiang Mai Arr**	**43.34**	**277**	P	**P**	**02 28 04.0**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=73,slow=6.0,SNR=1.5						
CMAR				PcP	**PcP**	**02 29 54.0**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=110,slow=1.6,SNR=5.1						
CMAR				LR	LR	02 44 30.8	
	comp=Z,42nm,21.4s,baz=18,slow=34						
AS31	**Alice Springs**	**43.68**	**195**	P	**P**	**02 28 06.9**	**0.0**
ASAR	**Alice Springs**	**43.68**	**195**	P	**P**	**02 28 06.2**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=7.7,slow=7.1,SNR=37						
ASAR				PcP	**PcP**	**02 29 54.4**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=7.9,slow=3.5,SNR=6.4						
LSA	**Lhasa**	**49.66**	**293**	P	**P**	**02 28 54.9**	**+0.4**
STKA	**Stephens Creek**	**50.64**	**184**	P	**P**	**02 29 01.1**	**+0.1**
	comp=Z,5.5nm,0.8s,baz=331,slow=9.5,SNR=11						
STKA	**Stephens Creek**	**50.64**	**184**	P	**P**	**02 29 01.4**	**+0.3**
BILL	**Bilibino**	**50.91**	**10**	P	**P**	**02 29 03.2**	**+0.5**
BILL				IAmb	IAmb	02 29 04.7	
	comp=Z,12nm,1.1s						
FORT	**Forrest**	**52.01**	**198**	P	**P**	**02 29 11.6**	**+0.3**
FORT				IAmb	IAmb	02 29 12.4	
	comp=Z,14nm,0.8s						
BBOO	**Buckleboo**	**52.15**	**189**	P	**P**	**02 29 12.9**	**+0.5**
BBOO				IAmb	IAmb	02 29 14.5	
	comp=Z,10nm,0.9s						
WMQ	**Urumqi**	**53.49**	**311**	P	**P**	**02 29 23.7**	**+1.3**
ZAA0	**Zalesovo Array**	**57.29**	**323**	P	**P**	**02 29 49.3**	**-0.1**
ZAA0				IAmb	IAmb	02 29 50.3	
	comp=Z,7.3nm,1.0s						
ZALV	**Zalesovo Beam**	**57.29**	**323**	P	**P**	**02 29 49.5**	**+0.1**
	comp=Z,5.4nm,0.8s,baz=97,slow=6.7,SNR=15						
MK31	**Makanchi Array**	**57.67**	**314**	P	**P**	**02 29 53.0**	**+0.7**
MK31				IAmb	IAmb	02 29 54.0	
	comp=Z,5.1nm,0.9s						
MKAR	**Makanchi Array**	**57.67**	**314**	P	**P**	**02 29 52.9**	**+0.6**
	comp=Z,4.1nm,0.8s,baz=95,slow=9.3,SNR=36						
MAKZ	**Makanchi**	**57.88**	**314**	P	**P**	**02 29 53.9**	**+0.1**
MAKZ				IAmb	IAmb	02 29 55.5	
	comp=Z,8.3nm,0.9s						
KURK	**Kurchatov**	**60.51**	**318**	P	**P**	**02 30 12.0**	**+0.2**
KURK				IAmb	IAmb	02 30 13.1	
	comp=Z,12nm,1.0s						
KTH	**Kantishna Hill**	**61.79**	**27**	P	**P**	**02 30 20.7**	**+0.3**
AAK	**Ala-Archa**	**63.04**	**309**	P	**P**	**02 30 29.9**	**+0.6**
ILAR	**Eielson Array**	**63.79**	**26**	P	**P**	**02 30 32.7**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=258,slow=4.9,SNR=11						
ARSB	**Arslanbob**	**64.22**	**307**	P	**P**	**02 30 37.0**	**0.0**
ARSB				IAmb	IAmb	02 30 38.5	
	comp=Z,2.7nm,0.8s						
NIL	**Nilore**	**64.66**	**299**	P	**P**	**02 30 40.1**	**+0.2**
BRVK	**Borovoye**	**65.79**	**320**	P	**P**	**02 30 46.7**	**-0.1**
KK31	**Karatay Array**	**65.94**	**309**	P	**P**	**02 30 48.6**	**+0.6**
KKAR	**Karatay Array**	**65.94**	**309**	P	**P**	**02 30 48.2**	**+0.1**
CHGR	**Chuyangaron**	**67.38**	**305**	P	**P**	**02 30 57.5**	**+0.1**
KBL	**Kabul**	**68.00**	**300**	P	**P**	**02 31 01.5**	**-0.1**
KBL				IAmb	IAmb	02 31 04.1	
	comp=Z,7.3nm,0.9s						
INK	**Inuvik**	**69.47**	**23**	P	**P**	**02 31 09.1**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=266,slow=7.0,SNR=3.3						
INK	**Inuvik**	**69.47**	**23**	IAmb	IAmb	02 31 20.7	
	comp=Z,3.9nm,1.1s						
ARU	**Arti**	**72.36**	**324**	P	**P**	**02 31 27.4**	**0.0**
ARU				IAmb	IAmb	02 31 35.9	
	comp=Z,5.2nm,1.1s						
ABKAR	**Akbulak array**	**72.57**	**317**	P	**P**	**02 31 28.7**	**-0.2**
ABKAR				IAmb	IAmb	02 31 30.9	
	comp=Z,5.7nm,1.1s						
HRA	**Herat**	**73.56**	**301**	P	**P**	**02 31 35.9**	**+0.5**
GEYT	**Alibeck**	**76.05**	**306**	P	**P**	**02 31 50.2**	**+0.8**
	comp=Z,4.8nm,0.9s,baz=72,slow=1.9,SNR=8.1						
GYA0B	**ALIBECK ARRAY**	**76.05**	**306**	P	**P**	**02 31 50.0**	**+0.5**
YKA	**Yellowknife Ar**	**78.16**	**28**	P	**P**	**02 32 00.7**	**0.0**
	comp=Z,1.2nm,0.8s,baz=291,slow=5.4,SNR=10.0						
BEKR	**Beckworth**	**81.68**	**51**	IAmb	IAmb	02 32 28.9	
	comp=Z,5.2nm,1.1s						
NVAR	**Mina Array Bea**	**83.65**	**52**	P	**P**	**02 32 31.1**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=261,slow=7.1,SNR=12						
ELK	**Elko**	**85.09**	**49**	P	**P**	**02 32 39.0**	**+0.8**
ELK				IAmb	IAmb	02 32 46.9

Error ellipse: s-maj=108.1km s-min=82.4km az=164.0

ISC 13 03:18:01.1±1.2, 36°.6N±0°.1×71°.2E±0°.1, h100km, n16, σ2§51/18, mb3.8/6, 3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.50**	**356**	⇓Pn	**Pn**	**03 19 33.5**	**-0.5**
	6.3nm,0.2s,baz=180,slow=12,SNR=198						
KK31				⇓Sn	**Sn**	**03 20 42.1**	**-4.6**
	3.9nm,0.4s,baz=190,slow=26,SNR=5.8						
AAK	**Ala-Archa**	**6.54**	**22**	P	**Pn**	**03 19 34.0**	**-0.7**
	3.6nm,0.3s,baz=172,slow=6.0,SNR=43						
AAK				S	**Sn**	**03 20 45.4**	**-2.5**
	0.7nm,0.3s,baz=123,slow=22,SNR=7.6						
AAK	**Ala-Archa**	**6.54**	**22**	⇓Pn	**Pn**	**03 19 39.0**	**+4.2**
	6.0nm,0.5s						
AAK				Sn	**Sn**	**03 20 51.9**	**+4.0**
	6.0nm,0.6s						
GEYT	**Alibeck**	**10.48**	**281**	P	**Pn**	**03 20 26.4**	**-1.9**
	2.4nm,0.3s,baz=107,slow=11,SNR=10						
MKAR	**Makanchi Array**	**13.12**	**36**	P	**Pn**	**03 21 01.3**	**-2.1**
	0.1nm,0.3s,baz=210,slow=8.3,SNR=1.5						
AB31	**Akbulak array**	**15.05**	**331**	Pn	Pn	03 21 20.9	-7.3
	0.9nm,0.4s,baz=138,slow=13,SNR=62						
BVAR	**Borovoye Array**	**16.42**	**358**	P	**Pn**	**03 21 44.0**	**-1.2**
	0.2nm,0.3s,baz=176,slow=16,SNR=3.8						
AKTO	**Aktyubinsk**	**16.75**	**330**	P	**Pn**	**03 21 49.6**	**+0.3**
	0.4nm,0.3s,baz=156,slow=8.2,SNR=7.2						
ZALV	**Zalesovo Beam**	**19.75**	**24**	P	**P**	**03 22 21.2**	**-1.6**
	0.4nm,0.3s,baz=225,slow=11,SNR=4.6						
AKASG	**Malin Array Be**	**32.98**	**309**	P	**P**	**03 24 28.2**	**+2.1**
	0.6nm,0.4s,baz=80,slow=7.2,SNR=4.1						
FINES	**FINESS Array B**	**37.46**	**326**	P	**P**	**03 25 06.5**	**+2.1**
	9.7nm,1.1s,baz=130,slow=11,SNR=4.5						
ARCES	**ARCESS Array B**	**41.09**	**337**	P	**P**	**03 25 36.4**	**+1.9**
	2.6nm,0.9s,baz=111,slow=9.7,SNR=1.3						
NB2	**NORSAR Subarra**	**44.37**	**323**	P	**P**	**03 26 02.6**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.37**	**323**	P	**P**	**03 26 02.9**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=98,slow=7.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**65.85**	**269**	P	**P**	**03 28 35.9**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=45,slow=5.5,SNR=13						
WRA	**Warramunga Arr**	**81.94**	**122**	P	**P**	**03 30 08.2**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=330,slow=4.8,SNR=1.3						

IDC 13 03:18:26.8±0.8, 32°.57N×89°.09E, h0km, mb3.7/10, mb1 3.9/13, mb1mx3.7/53, mbtmp3.7/13, ML3.3/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/43, Error ellipse: s-maj=27.3km s-min=16.7km az=57.0

BJI 13 03:18:28.0±0.0, 32°.73N×89°.19E, h6km, mb4.0/2, Ms3.5/2, Ms7 3.4/1

ISC 13 03:18:31.8±0.8, 32°.5N±0°.1×88°.9E±0°.1, h35km, n17, σ1§36/16, mb3.7/9, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**11.18**	**49**	*e*P	**Pn**	**03 21 12.1**	**+2.9**
GTA				pP		03 21 15.9	
GTA				sP		03 21 18.9	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WMQ	**Urumqi**	**11.31**	**355**	*e*P	**Pn**	**03 21 10.4**	**-0.6**
MKAR	**Makanchi Array**	**15.12**	**342**	Pn	**Pn**	**03 22 00.6**	**-2.2**
	0.1nm,0.3s,baz=151,slow=14,SNR=3.6						
CMAR	**Chiang Mai Arr**	**16.67**	**145**	Pn	**Pn**	**03 22 21.9**	**-0.9**
	baz=321,slow=9.8,SNR=3.7						
CMAR				LR	LR	03 29 20.9	
	comp=Z,27nm,20.9s,baz=335,slow=39						
KURBB	**Kurchatov Arra**	**19.64**	**340**	P	**P**	**03 22 56.7**	**-0.6**
	0.1nm,0.3s,baz=151,slow=12,SNR=9.1						
SONM	**Songino Array**	**20.23**	**36**	P	**P**	**03 23 02.3**	**-1.6**
	1.6nm,0.7s,baz=223,slow=11,SNR=11						
ZALV	**Zalesovo Beam**	**21.61**	**353**	P	**P**	**03 23 17.5**	**-1.0**
	3.9nm,0.7s,baz=175,slow=12,SNR=11						
BVAR	**Borovoye Array**	**24.45**	**332**	P	**P**	**03 23 48.1**	**+0.9**
	1.4nm,0.6s,baz=143,slow=10,SNR=6.4						
KSRS	**Korea Array**	**32.17**	**70**	LR	LR	03 38 34.7	
	comp=Z,41nm,18.1s,baz=324,slow=38						
MJAR	**Matsushiro Arr**	**40.45**	**70**	P	**P**	**03 26 05.4**	**-1.6**
	1.6nm,0.6s,baz=293,slow=7.8,SNR=2.5						
GERES	**GERESS Array B**	**57.03**	**310**	P	**P**	**03 28 15.6**	**+1.4**
	0.4nm,0.5s,baz=78,slow=6.2,SNR=6.6						
WRA	**Warramunga Arr**	**67.90**	**134**	P	**P**	**03 29 27.0**	**0.0**
	0.4nm,0.5s,baz=324,slow=6.3,SNR=13						
ASAR	**Alice Springs**	**70.48**	**137**	P	**P**	**03 29 43.4**	**+0.4**
	0.4nm,0.6s,baz=324,slow=6.2,SNR=4.3						
ILAR	**Eielson Array**	**77.74**	**22**	P	**P**	**03 30 02.0**	**+0.1**
	0.3nm,0.8s,baz=312,slow=6.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**80.74**	**280**	P	**P**	**03 30 42.7**	**+0.7**
	0.6nm,0.8s,baz=52,slow=5.7,SNR=2.7						
YKA	**Yellowknife Ar**	**83.43**	**11**	P	**P**	**03 30 54.9**	**-0.3**
	0.2nm,0.5s,baz=330,slow=5.5,SNR=3.5						
CPUP	**Villa Florida**	**150.04**	**273**	PKPbc	**PKPbc**	**03 38 19.0**	**0.0**
	1.7nm,0.9s,baz=91,slow=2.0,SNR=3.4						

DJA 13 03:30:00.2±0.6, 9°S±6°×117°9E±°, h84km±7km, M3.6/7, mb3.7/1, MLv3.5/7, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.29**	**278**	P	Pn	03 30 23.8	+0.8
PLAI				S	Sn	03 30 41.0	+0.8
WSI	**Waingapu**	**1.38**	**119**	P	Pn	03 30 24.4	+0.2
TWSI	**Taliwang, Sumb**	**2.18**	**277**	P	Pn	03 30 35.2	+0.6
BKSI	**Bulukumba**	**3.80**	**16**	P	Pn	03 30 56.3	-0.2
JAGI	**Jajag, Banyuwa**	**4.89**	**276**	P	Pn	03 31 10.0	-1.3
GMJI	**Gumukmas**	**5.61**	**277**	P	Pn	03 31 21.6	+0.5

ATH 13 03:34:19.6, 42°.16N×20°.45E, h7km±1km, ML3.3/7, Error ellipse: s-maj=2.2km s-min=1.2km az=185.0

TIR 13 03:34:20.7, 41°.02N×20°.50E, h12km, Md3.9/7

PRU 13 03:34:21.4±0.0, 41°.71N×20°.45E, h0km

SKO 13 03:34:22.0, 41°.96N×20°.46E, h18km, M2.7

IDC 13 03:34:21.9±1.0, 42°.03N×20°.36E, h0km, mb3.8/4, mb1 3.8/13, mb1mx3.6/49, mbtmp3.7/13, ML3.2/9, Error ellipse: s-maj=15.3km s-min=11.0km az=29.0

ISCJB 13 03:34:22.0±0.2, 42°.047N±0°.010×20°.37E±0°.01, h7km±1km, mb3.5/3, Error ellipse: s-maj=1.9km s-min=1.5km az=141.1

PDG 13 03:34:22.3±0.5, 42°.04N×20°.39E, h10km, MD3.8/9, ML3.8/10, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0

LDG 13 03:34:22.2±0.2, 42°.01N×20°.49E, h2km, Ml3.3/22, Error ellipse: s-maj=4.9km s-min=3.2km az=24.0

BEO 13 03:34:23.0±0.2, 41°.99N×20°.40E, h7km±2km, ML3.3/18

ISC 13 03:34:22.4±1.0, 42°.03N±0°.01×20°.38E±0°.02, h7km±7km, n260, σ2§14/363, mb3.8/3, 34C-24D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.35**	**173**	P	**Pg**	**03 34 28.4**	**-0.8**
PHP	**Peshkopia**	**0.35**	**173**	*i* Pg	**Pg**	**03 34 28.4**	**-0.8**
PHP				*i* SG	**Sg**	**03 34 33.0**	**-0.7**
BCI	**Bajram Curri**	**0.41**	**325**	*i* PG	**Pg**	**03 34 30.3**	**-0.1**
BCI				*i* SG	**Sb**	**03 34 37.8**	**-0.8**
PVY	**Plav**	**0.65**	**331**	⇓*i* Pg	**Pg**	**03 34 34.5**	**-0.4**
PVY				*e*Sg	**Sb**	**03 34 44.7**	**-0.7**
TIR	**Tirane**	**0.78**	**210**	P	**Pg**	**03 34 37.6**	**+0.2**
TIR	**Tirane**	**0.78**	**210**	*i* Pg	**Pg**	**03 34 37.2**	**-0.3**
TIR	**Tirane**	**0.78**	**210**	*e*Pg	**Pg**	**03 34 37.1**	**-0.3**
TIR				*e*Sg	**Sg**	**03 34 48.0**	**+0.4**
TIR	**Tirane**	**0.78**	**210**	*i* PG	**Pg**	**03 34 37.1**	**-0.3**
TIR				*i* SG	**Sg**	**03 34 42.2**	**-5.4**
TIR	**Tirane**	**0.78**	**210**	P	**Pg**	**03 34 37.2**	**-0.3**
TIR				S	**Sb**	**03 34 50.2**	**+1.1**
TIR				AML	AML	03 34 52.2	
	comp=N,8081μm,0.2s						
TIR				AML	AML	03 34 52.7	
	comp=E,7628μm,0.3s						
TIR	**Tirane**	**0.78**	**210**	⇑P	**Pg**	**03 34 36.8**	**-0.6**
TIR				⇑S	**Sg**	**03 34 47.5**	**-0.1**
TIR				AML	AML	03 34 52.9	
SKO	**Skopje**	**0.79**	**94**	⇑*i* Pg	**Pg**	**03 34 36.5**	**-1.1**
SKO				*i* Sg	**Sb**	**03 34 48.3**	**-1.0**
SKO				*e*Lg	Lg	03 34 49.5	
	comp=N,214nm,0.3s						
SKO				*e*Lg	Lg	03 34 50.0	
	comp=E,143nm,0.3s						
SKO	**Skopje**	**0.79**	**94**	*e*Pg	**Pg**	**03 34 36.5**	**-1.1**
SKO				*e*Sg	**Sb**	**03 34 48.2**	**-1.1**
ULC	**Ulcinj**	**0.85**	**266**	*i* Pg	**Pg**	**03 34 38.2**	**-0.6**
ULC	**Ulcinj**	**0.85**	**266**	⇑*i* Pg	**Pg**	**03 34 38.5**	**-0.3**
ULC				*e*Sg	**Sb**	**03 34 52.1**	**+1.0**
DRME	**Dracevica, Mon**	**0.91**	**280**	*e*Pn	**Pg**	**03 34 38.9**	**-0.9**
DRME	**Dracevica, Mon**	**0.91**	**280**	⇓*i* Pg	**Pg**	**03 34 39.2**	**-0.6**
DRME				*i* Sg	**Sb**	**03 34 54.1**	**+1.4**
BEY	**Berane**	**0.92**	**337**	*i* Pg	**Pg**	**03 34 39.2**	**-0.8**
IVA	**Berane**	**0.92**	**337**	⇑*i* Pg	**Pg**	**03 34 39.1**	**-1.0**
IVA				*i* Sg	**Sb**	**03 34 53.7**	**+0.6**
PDG	**Podgorica**	**0.93**	**296**	*i* Pg	**Pg**	**03 34 38.8**	**-1.5**
PDG				*i* Sg	**Sb**	**03 34 53.8**	**+0.4**
PDG	**Podgorica**	**0.93**	**296**	*e*Pg	**Pg**	**03 34 39.1**	**-1.2**
PDG				*e*Sg	**Sb**	**03 34 54.0**	**+0.7**
PDG	**Podgorica**	**0.93**	**296**	*e*Pn	**Pg**	**03 34 38.7**	**-1.5**
PDG	**Podgorica**	**0.93**	**296**	⇓P	**Pg**	**03 34 38.9**	**-1.5**
PDG				⇑S	**Sg**	**03 34 52.6**	**+0.3**
PDG				AML	AML	03 34 55.7	
TTG	**Podgorica**	**0.93**	**296**	⇓*i* Pg	**Pg**	**03 34 39.2**	**-1.1**
TTG				*e*Sg	**Sb**	**03 34 54.6**	**+1.3**
KOME	**Kolasin**	**1.04**	**322**	⇑*i* Pg	**Pg**	**03 34 41.6**	**-0.8**
KOME				*i* Sg	**Sn**	**03 34 58.1**	**-0.3**
BUM	**Brajici-Budva**	**1.14**	**284**	⇓*i* Pg	**Pg**	**03 34 43.5**	**-0.8**
BUM				*i* Sg	**Sn**	**03 35 01.8**	**+1.1**
CEME	**Cevo**	**1.21**	**296**	⇑*i* Pg	**Pg**	**03 34 44.0**	**-1.5**
CEME				*i* Sg	**Sn**	**03 35 03.5**	**+1.2**
SJES	**Sjenica**	**1.27**	**346**	*e*Pg	**Pn**	**03 34 46.2**	**-0.4**
SJES				*e*Sg	**Sn**	**03 35 05.4**	**+1.4**
NKME	**Niksic**	**1.29**	**305**	⇓*i* Pg	**Pn**	**03 34 45.8**	**-1.1**
NKME				*i* Sg	**Sn**	**03 35 06.5**	**+2.1**
NKY	**Niksic**	**1.29**	**308**	⇓*i* Pg	**Pn**	**03 34 46.5**	**-0.5**
NKY				*i* Sg	**Sn**	**03 35 06.8**	**+2.2**
SELS	**Selova**	**1.31**	**24**	*e*Pg	**Pn**	**03 34 46.7**	**-0.4**
SELS				*e*Sg	**Sn**	**03 35 06.7**	**+1.9**
BARS	**Barje**	**1.32**	**53**	*e*Pg	**Pb**	**03 34 47.2**	**-0.3**
STIP	**Stip**	**1.39**	**103**	⇑*i* Pg	**Pg**	**03 34 49.6**	**+0.6**
STIP				*i* Sg	**Sg**	**03 35 10.9**	**+4.0**
STIP				*e*Lg	Lg	03 35 14.7	
	comp=N,106nm,0.3s						
FNA	**Florina**	**1.45**	**149**	P	**Pn**	**03 34 48.0**	**-1.1**
FNA	**Florina**	**1.45**	**149**	*i* Pg	**Pn**	**03 34 47.6**	**-1.4**
FNA				*i* Sg	**Sg**	**03 35 10.6**	**+1.6**
FNA	**Florina**	**1.45**	**149**	*i* PN	**Pn**	**03 34 47.6**	**-1.4**
FNA				*i* SN	**Sb**	**03 35 07.3**	**-1.0**
FNA	**Florina**	**1.45**	**149**	P	**Pn**	**03 34 47.9**	**-1.1**
FNA				S	**Sg**	**03 35 09.5**	**+0.6**
FNA				AML	AML	03 35 12.2	
	comp=N,3197μm,0.5s						
FNA				AML	AML	03 35 16.0	
	comp=E,4148μm,0.3s						
HCY	**Herceg Novi**	**1.47**	**287**	*e*Pn	**Pn**	**03 34 48.9**	**-0.3**
HCY	**Herceg Novi**	**1.47**	**287**	⇓*i* Pg	**Pn**	**03 34 48.9**	**-0.3**
HCY				*e*Sg	**Sg**	**03 35 11.9**	**+2.4**
PLE	**Pljevlja**	**1.49**	**331**	⇓*i* Pg	**Pn**	**03 34 49.5**	**-0.2**
PLE				*i* Sg	**Sg**	**03 35 11.6**	**+1.2**
IVAS	**Ivanjica**	**1.56**	**354**	*e*Pg	**Pn**	**03 34 50.3**	**-0.2**
IVAS				*e*Sn	**Sg**	**03 35 13.7**	**+1.2**
BRY	**Bratogost**	**1.62**	**303**	*e*Pn	**Pn**	**03 34 51.7**	**+0.2**
BRY	**Bratogost**	**1.62**	**303**	⇓*i* Pn	**Pn**	**03 34 51.4**	**-0.1**
BRY				*i* Sn	**Sg**	**03 35 14.7**	**+0.2**
TREB	**Trebinje**	**1.66**	**295**	*e*Pn	**Pn**	**03 34 52.4**	**+0.5**
TREB				*e*Sg	**Sg**	**03 35 16.4**	**+0.7**
TREB	**Trebinje**	**1.66**	**295**	*e*Pn	**Pn**	**03 34 52.3**	**+0.4**
NEST	**Nestorio**	**1.69**	**162**	P	**Pb**	**03 34 53.4**	**-0.4**
NEST	**Nestorio**	**1.69**	**162**	P	**Pb**	**03 34 53.1**	**-0.8**
NEST				S	**Sg**	**03 35 17.9**	**+1.2**
NEST				AML	AML	03 35 23.9	
	comp=N,1048μm,0.4s						
NEST				AML	AML	03 35 25.1	
	comp=E,1030μm,0.3s						
VLO	**Vlora**	**1.70**	**204**	*i* PN	**Pg**	**03 34 54.4**	**-0.5**
VLO				*i* SN	**Sg**	**03 35 17.1**	**+0.3**
TPE	**Tepelena**	**1.75**	**189**	P	**Pg**	**03 34 57.6**	**+1.6**
TPE	**Tepelena**	**1.75**	**189**	*i* PN	**Pb**	**03 34 55.1**	**+0.2**
TPE				*i* SN	**Sg**	**03 35 18.8**	**0.0**
RUDO	**Rudo**	**1.76**	**335**	*e*Pn	**Pn**	**03 34 53.1**	**-0.1**
VAY	**Valandovo**	**1.78**	**113**	*i* Pg	**Pn**	**03 34 53.5**	**-0.1**
VAY				*i* Sg	**Sb**	**03 35 17.6**	**-0.3**
VAY				*e*Lg	Lg	03 35 24.6	
	comp=N,561nm,0.8s						
VAY				*e*Lg	Lg	03 35 25.5	
	comp=Z,321nm,0.8s						
VAY	**Valandovo**	**1.78**	**113**	*e*Pg	**Pn**	**03 34 53.5**	**-0.1**
VAY				*e*Sg	**Sg**	**03 35 19.0**	**-0.7**
GRG	**Griva**	**1.85**	**125**	P	**Pn**	**03 34 55.1**	**+0.5**
GRG	**Griva**	**1.85**	**125**	⇑*i* Pg	**Pn**	**03 34 54.9**	**+0.3**
GRG				*i* Sg	**Sb**	**03 35 20.0**	**0.0**
GRG	**Griva**	**1.85**	**125**	P	**Pn**	**03 34 54.7**	**+0.1**
GRG				S	**Sg**	**03 35 20.3**	**-1.7**
GRG				AML	AML	03 35 26.9	
	comp=E,676μm,0.7s						
GRG				AML	AML	03 35 27.2	
	comp=N,811μm,0.6s						
GRUS	**Gruza**	**1.88**	**7**	*e*Pn	**Pn**	**03 34 54.7**	**-0.2**
BOVS	**Bovan**	**1.88**	**31**	*e*Pn	**Pn**	**03 34 55.4**	**+0.5**
PENT	**Pentalofos**	**1.92**	**162**	P	**Pg**	**03 34 58.4**	**-0.7**
PENT	**Pentalofos**	**1.92**	**162**	P	**Pn**	**03 34 56.0**	**+0.5**
PENT				S	**Sg**	**03 35 22.8**	**-1.2**
PENT				AML	AML	03 35 35.8	
	comp=E,958μm,0.9s						
PENT				AML	AML	03 35 36.7	
	comp=N,724μm,0.5s						
BBLS	**Lazići**	**1.97**	**339**	*e*Pn	**Pn**	**03 34 56.8**	**+0.5**
BBLS				*e*Sn	**Sb**	**03 35 22.7**	**-0.8**
BBLS	**Lazići**	**1.97**	**339**	*e*Pn	**Pn**	**03 34 56.7**	**+0.5**
KZN	**Kozani**	**2.01**	**148**	P	**Pb**	**03 34 58.2**	**-1.1**
KZN	**Kozani**	**2.01**	**148**	P	**Pn**	**03 34 57.5**	**+0.7**
KZN				S	**Sg**	**03 35 25.3**	**-1.8**
KZN				AML	AML	03 35 33.3	
	comp=N,708μm,0.4s						
KZN				AML	AML	03 35 33.9	
	comp=E,941μm,0.5s						
KKB	**Krupnik**	**2.02**	**94**	*i* Pg	**Pn**	**03 34 57.7**	**+0.8**
KNT	**Kendrikon**	**2.08**	**114**	P	**Pn**	**03 34 57.9**	**+0.3**
KNT	**Kendrikon**	**2.08**	**114**	⇑*i* Pg	**Pn**	**03 34 57.6**	**0.0**
KNT	**Kendrikon**	**2.08**	**114**	P	**Pn**	**03 34 57.6**	**0.0**
ZAPS	**Zavoj**	**2.08**	**52**	*e*Pn	**Pn**	**03 34 57.8**	**+0.2**
ZAPS				*e*Sn	**Sn**	**03 35 23.9**	**+0.2**
DIVS	**Divibare**	**2.09**	**352**	*e*Pn	**Pn**	**03 34 57.8**	**-0.1**
DIVS				*e*Sn	**Sn**	**03 35 24.3**	**+0.1**
DIVS	**Divibare**	**2.09**	**352**	*e*Pn	**Pn**	**03 34 57.8**	**-0.1**
STON	**Ston**	**2.16**	**294**	*e*Pn	**Pb**	**03 35 00.9**	**-0.9**
STON				Sn	**Sg**	**03 35 34.0**	**+2.3**
STON	**Ston**	**2.16**	**294**	*e*Pn	**Pb**	**03 35 01.2**	**-0.5**
STON	**Ston**	**2.16**	**294**	*e*Pn	**Pb**	**03 35 01.3**	**-0.5**
SRN	**Sarande**	**2.17**	**188**	P	**Pg**	**03 35 05.6**	**+1.7**
SRN	**Sarande**	**2.17**	**188**	*i* PN	**Pb**	**03 35 00.9**	**-1.0**
SRN				*i* SN	**Sb**	**03 35 29.6**	**+0.7**
TRUS	**Trudelj**	**2.19**	**0**	*e*Pn	**Pn**	**03 35 00.3**	**+1.0**
TRUS				*e*Sn	**Sn**	**03 35 27.2**	**+0.6**
VTS	**Vitosha**	**2.19**	**73**	P	**Pb**	**03 35 02.0**	**-0.5**
VTS	**Vitosha**	**2.19**	**73**	⇑*i* Pn	**Pn**	**03 34 59.3**	**-0.1**
VTS	**Vitosha**	**2.19**	**73**	*e*Pn	**Pn**	**03 34 59.2**	**-0.1**
VTS				*e*Sn	**Sn**	**03 35 27.2**	**+0.3**
VTS	**Vitosha**	**2.19**	**73**	⇑P	**Pn**	**03 34 59.3**	**-0.1**
VTS				⇑S	**Sb**	**03 35 29.6**	**-0.3**
VTS				AML	AML	03 35 42.5	
KPRO	**Kipourio**	**2.20**	**160**	P	**Pb**	**03 35 02.5**	**0.0**
KPRO	**Kipourio**	**2.20**	**160**	P	**Pn**	**03 35 00.3**	**+0.9**
ZAGS	**Zajecar**	**2.24**	**37**	*e*Pn	**Pb**	**03 35 01.6**	**-1.6**
KASA	**Kassiopi**	**2.31**	**189**	P	**Pb**	**03 35 02.5**	**-1.7**
HAPS	**Han Pijesak,BI**	**2.31**	**333**	*e*Pn	**Pn**	**03 35 02.3**	**+1.4**
HAPS	**Han Pijesak,BI**	**2.31**	**333**	*e*Pn	**Pn**	**03 35 00.6**	**-0.3**
SVIS	**Svilajnac**	**2.32**	**15**	*e*Pn	**Pn**	**03 35 02.2**	**+1.3**
BLKB	**Belogradchik**	**2.32**	**46**	⇓S	**Sb**	**03 35 32.8**	**-0.6**
BLKB				AML	AML	03 35 39.0	
KEK	**Kerkira**	**2.35**	**191**	P	**Pn**	**03 35 02.9**	**+1.4**
KEK				S	**Sb**	**03 35 34.1**	**-0.3**
KEK				AML	AML	03 35 44.1	
	comp=E,629μm,0.4s						
KEK				AML	AML	03 35 48.8	
	comp=N,471μm,0.5s						
THE	**Thessaloniki**	**2.39**	**125**	*i* Pn	**Pn**	**03 35 02.1**	**+0.1**
JAN	**Janina**	**2.40**	**171**	P	**Pg**	**03 35 08.2**	**-0.1**
JAN	**Janina**	**2.40**	**171**	P	**Pb**	**03 35 04.4**	**-1.4**
SCTE	**Santa Cesarea**	**2.43**	**217**	P	**Pn**	**03 35 02.9**	**+0.4**
HORT	**Hortiatis**	**2.50**	**124**	P	**Pg**	**03 35 10.6**	**+0.4**
HORT	**Hortiatis**	**2.50**	**124**	P	**Pn**	**03 35 03.7**	**+0.2**
LIT	**Litokhoron**	**2.50**	**140**	P	**Pn**	**03 35 04.6**	**+1.2**
LIT	**Litokhoron**	**2.50**	**140**	*i* Pn	**Pn**	**03 35 01.8**	**-1.6**
LIT	**Litokhoron**	**2.50**	**140**	P	**Pn**	**03 35 04.0**	**+0.6**
MMB	**Musomiste**	**2.54**	**99**	*i* Pn	**Pn**	**03 35 04.5**	**+0.5**
SOH	**Sokhos**	**2.54**	**117**	P	**Pn**	**03 35 05.1**	**+1.1**
SOH	**Sokhos**	**2.54**	**117**	*i* Pn	**Pn**	**03 35 04.1**	**+0.2**
SOH	**Sokhos**	**2.54**	**117**	P	**Pn**	**03 35 04.2**	**+0.2**
KUBS	**Kucevo**	**2.56**	**21**	*e*Pn	**Pb**	**03 35 06.8**	**-1.9**
CGL1	**Ceglie Messapi**	**2.58**	**239**	*e*Pn	**Pn**	**03 35 05.4**	**+0.8**
TEKS	**Tekeris**	**2.60**	**346**	*e*Pn	**Pn**	**03 35 06.0**	**+1.2**
TEKS	**Tekeris**	**2.60**	**346**	*e*Pn	**Pn**	**03 35 04.5**	**-0.3**
THL	**Klokotos Trika**	**2.75**	**153**	P	**Pn**	**03 35 08.5**	**+1.6**
THL	**Klokotos Trika**	**2.75**	**153**	P	**Pn**	**03 35 07.5**	**+0.6**
TAR1	**Taranto**	**2.78**	**238**	*e*Pn	**Pn**	**03 35 07.9**	**+0.7**
MAKA	**Makarska**	**2.78**	**298**	*e*Pn	**Pn**	**03 35 09.5**	**+2.2**
MAKA				Sn	**Sb**	**03 35 47.4**	**+0.8**
BAI	**Bari**	**2.79**	**252**	⇑*i* Pn	**Pn**	**03 35 08.1**	**+0.8**
NOCI	**Noci**	**2.79**	**245**	P	**Pn**	**03 35 07.9**	**+0.5**
RICI	**Ricice**	**2.81**	**303**	iPn	**Pn**	**03 35 10.3**	**+2.6**
RICI				Sn	**Sb**	**03 35 48.2**	**+0.8**
MASS	**Massafra**	**2.81**	**241**	*e*Pn	**Pn**	**03 35 08.3**	**+0.6**
MASS				(Sn)	**Sn**	**03 35 43.4**	**+1.6**
PLG	**Polygyros**	**2.84**	**125**	P	**Pn**	**03 35 09.5**	**+1.4**
PLG	**Polygyros**	**2.84**	**125**	P	**Pn**	**03 35 08.6**	**+0.5**
MDVR	**Moldovita**	**2.92**	**19**	⇓P	**Pn**	**03 35 09.0**	**-0.2**
MDVR				⇑S	**Sn**	**03 35 47.4**	**+2.9**
MDVR				AML	AML	03 36 01.8	
PUNG	**Punghina**	**2.92**	**39**	⇓P	**Pn**	**03 35 09.5**	**+0.3**
PUNG				⇑S	**Sn**	**03 35 46.7**	**+2.2**
PUNG				AML	AML	03 36 03.9	
SG1	**Sgolgore (BA)**	**3.03**	**248**	*e*Pn	**Pn**	**03 35 11.8**	**+1.1**
DJES	**Djerdap**	**3.06**	**30**	*e*Pn	**Pn**	**03 35 13.5**	**+2.3**
MATE	**Matera**	**3.09**	**245**	⇑P	**Pn**	**03 35 11.5**	**-0.1**
MATE				⇑S	**Sn**	**03 35 48.3**	**-0.5**
MATE				AML	AML	03 36 27.1	
HVAR	**Hvar**	**3.12**	**293**	*e*Pn	**Pn**	**03 35 13.6**	**+1.6**
HVAR				Sn	**Sn**	**03 35 49.6**	**+0.1**
FRGS	**Fruska Gora**	**3.16**	**353**	*e*Pn	**Pn**	**03 35 12.2**	**-0.3**
FRGS	**Fruska Gora**	**3.16**	**353**	*e*Pn	**Pn**	**03 35 11.8**	**-0.7**
TSLK	**Tsoukalades, L**	**3.21**	**176**	P	**Pn**	**03 35 14.4**	**+1.3**
PAIG	**Paliouri**	**3.26**	**129**	P	**Pn**	**03 35 14.7**	**+0.8**
PAIG	**Paliouri**	**3.26**	**129**	P	**Pn**	**03 35 14.2**	**+0.3**
KAVA	**Kavala**	**3.27**	**107**	P	**Pn**	**03 35 15.2**	**+1.2**
KAVA	**Kavala**	**3.27**	**107**	P	**Pn**	**03 35 14.4**	**+0.4**
EVR	**Evrytania**	**3.29**	**160**	P	**Pg**	**03 35 27.0**	**+1.5**
EVR	**Evrytania**	**3.29**	**160**	P	**Pn**	**03 35 16.4**	**+2.0**
MAKR	**Makrakomi, Fth**	**3.29**	**156**	P	**Pn**	**03 35 16.1**	**+1.7**
SRE	**Strehaia**	**3.34**	**37**	⇓P	**Pn**	**03 35 16.4**	**+1.4**
SRE				AML	AML	03 36 28.1	
AGG	**Agios Georgios**	**3.35**	**153**	P	**Pn**	**03 35 17.5**	**+2.4**
AGG	**Agios Georgios**	**3.35**	**153**	P	**Pn**	**03 35 15.5**	**+0.3**
MGRS	**Mrkonjic Grad

	comp=N,0.8nm,0.2s							
MODS	**Modra-Piesok**	**6.71**	**342**	*e*PN		**Pn**	**03 36 01.7**	**+0.4**
MODS				*e*SN		**Sn**	**03 37 18.1**	**+0.1**
SMOL	**Smolenice**	**6.81**	**343**	*e*PN		**Pn**	**03 36 04.4**	**+1.7**
KOLS	**Kolonicke sedl**	**7.03**	**10**	*e*PN		**Pn**	**03 36 07.2**	**+1.5**
KBA	**Koelnbreinsper**	**7.12**	**318**	*e*Pn		**Pn**	**03 36 10.0**	**+2.8**
	comp=N,11nm,0.3s,SNR=17							
KBA				Sn		**Sn**	**03 37 33.5**	**+5.1**
	comp=N,1.8nm,0.4s							
MOA	**Mollin**	**7.26**	**325**	*e*Pn		**Pn**	**03 36 10.9**	**+2.1**
	comp=N,3.9nm,0.3s							
MOA				Sn		**Sn**	**03 37 33.7**	**+2.3**
	comp=N,4.8nm,0.5s							
ABTA	**Abfaltersbach**	**7.35**	**313**	*e*Pn		**Pn**	**03 36 11.9**	**+1.8**
	comp=N,39nm,0.5s,SNR=26							
ABTA				Sn		**Sn**	**03 37 36.2**	**+2.4**
	comp=N,18nm,0.7s							
VRAC	**Vranov**	**7.75**	**341**	Pn		**Pn**	**03 36 16.9**	**+1.4**
	comp=N,0.2nm,0.3s,baz=170,slow=12,SNR=2.3							
WTTA	**Wattenberg**	**8.14**	**313**	*e*Pn		**Pn**	**03 36 23.4**	**+2.3**
	comp=N,27nm,0.4s,SNR=20							
WTTA				Sn		**Sn**	**03 37 55.8**	**+2.5**
	comp=N,11nm,0.5s							
WATA	**Walderalm**	**8.22**	**313**	*e*Pn		**Pn**	**03 36 24.6**	**+2.5**
	comp=N,36nm,0.6s,SNR=14							
WATA				*e*Sn		**Sn**	**03 37 58.0**	**+2.9**
	comp=N,7.6nm,0.5s							
GERES	**GERESS Array B**	**8.28**	**328**	Pn		**Pn**	**03 36 24.1**	**+1.3**
	comp=N,0.5nm,0.3s,baz=156,slow=14,SNR=14							
GERES				Sn		**Sn**	**03 37 56.8**	**+0.2**
	baz=138,slow=24,SNR=2.2							
SQTA	**Sankt Quirin**	**8.35**	**312**	*e*Pn		**Pn**	**03 36 26.8**	**+2.9**
	comp=N,27nm,0.5s,SNR=12							
SQTA				Sn		**Sn**	**03 38 01.6**	**+3.2**
	comp=N,4.0nm,0.4s							
KRLC	**Kraliky**	**8.43**	**344**	*e*PN		**Pn**	**03 36 28.0**	**+3.1**
PGF	**Pioggiola**	**8.46**	**277**	*e*Pn		**Pn**	**03 36 26.9**	**+1.6**
PGF				*e*Sn		**Sn**	**03 37 57.7**	**-3.4**
	comp=N,0.1nm,0.2s							
MOTA	**Moosalm**	**8.48**	**312**	*e*Pn		**Pn**	**03 36 28.4**	**+2.7**
	comp=N,13nm,0.3s,SNR=13							
MOTA				*e*Sn		**Sn**	**03 38 03.0**	**+1.4**
	comp=N,11nm,0.6s							
FETA	**Feichten**	**8.51**	**309**	*e*Pn		**Pn**	**03 36 28.1**	**+1.9**
	comp=N,8.8nm,0.5s							
FETA				Sn		**Sn**	**03 38 05.5**	**+3.1**
	comp=N,5.0nm,0.6s							
KHC	**Kasperske Hory**	**8.55**	**328**	*e*PN		**Pn**	**03 36 28.2**	**+1.6**
KHC				*ex*		x	03 37 07.5	
KHC				*e*SN		**Sn**	**03 38 06.2**	**+2.9**
RETA	**Reutte**	**8.75**	**312**	*e*Pn		**Pn**	**03 36 31.7**	**+2.3**
	comp=N,5.7nm,0.3s							
RETA				*e*Sn		**Sn**	**03 38 11.4**	**+3.1**
	comp=N,4.2nm,0.4s							
DAVOX	**Davos/Dischmat**	**8.89**	**306**	Pn		**Pn**	**03 36 32.9**	**+1.5**
	comp=N,2.7nm,0.3s,baz=93,slow=9.0,SNR=33							
DAVOX				Sn		**Sn**	**03 38 12.8**	**+1.0**
	comp=N,0.4nm,0.3s,baz=221,slow=18,SNR=2.4							
DAVA	**Damuels**	**9.14**	**309**	*e*Pn		**Pn**	**03 36 37.2**	**+2.4**
DAVA				Sn		**Sn**	**03 38 21.7**	**+3.7**
	comp=N,3.9nm,0.4s							
SBF	**Sospel**	**9.67**	**285**	*e*Pn		**Pn**	**03 36 42.5**	**+0.5**
SBF				*e*Sn		**Sn**	**03 38 25.5**	**-5.3**
	comp=N,1.0nm,0.3s							
FRF	**La Foret Royal**	**10.21**	**283**	*e*Pn		**Pn**	**03 36 50.1**	**+0.8**
FRF				*e*Sn		**Sn**	**03 38 37.7**	**-6.4**
	comp=N,0.4nm,0.3s							
MBDF	**Montbardon**	**10.27**	**290**	*e*Pn		**Pn**	**03 36 50.6**	**+0.3**
MBDF				*e*Sn		**Sn**	**03 38 39.9**	**-5.8**
	comp=N,0.9nm,0.3s							
BRTR	**Keskin Array B**	**10.30**	**99**	Pn		**Pn**	**03 36 52.0**	**+1.3**
	comp=N,0.1nm,0.3s,baz=274,slow=12,SNR=5.8							
LMR	**La Mourre**	**10.30**	**282**	*e*Pn		**Pn**	**03 36 51.3**	**+0.8**
LMR				*e*Sn		**Sn**	**03 38 40.0**	**-6.2**
	comp=N,0.3nm,0.2s							
LPG	**La Plagne**	**10.45**	**294**	*e*Pn		**Pn**	**03 36 53.3**	**+0.5**
LPG				*e*Sn		**Sn**	**03 38 44.2**	**-6.1**
	comp=N,2.2nm,0.4s							
LPL	**La Plagne**	**10.47**	**294**	*e*Pn		**Pn**	**03 36 53.1**	**+0.1**
LPL				*e*Sn		**Sn**	**03 38 44.1**	**-6.5**
	comp=N,1.5nm,0.3s							
KEST	**Kesra**	**10.65**	**237**	Pn		**Pn**	**03 36 57.5**	**+2.1**
	comp=N,0.0nm,0.3s,baz=59,slow=18,SNR=2.2							
ORIF	**Oris-en-Rattie**	**10.93**	**290**	*e*Pn		**Pn**	**03 36 59.5**	**+0.3**
ORIF				*e*Sn		**Sn**	**03 38 55.6**	**-6.1**
	comp=N,0.7nm,0.3s							
SMRF	**Simiane la Rot**	**11.02**	**285**	*e*Pn		**Pn**	**03 37 00.1**	**-0.3**
SMRF				*e*Sn		**Sn**	**03 38 58.8**	**-5.1**
	comp=N,0.5nm,0.5s							
HINF	**Hinteralfeld**	**11.20**	**306**	*e*Pn		**Pn**	**03 37 02.9**	**+0.1**
HINF				*e*Sn		**Sn**	**03 39 00.2**	**-8.0**
	comp=N,2.1nm,0.4s							
CABF	**La Chapelle**	**11.22**	**299**	*e*Pn		**Pn**	**03 37 03.1**	**0.0**
CABF				*e*Sn		**Sn**	**03 39 01.7**	**-7.0**
	comp=N,0.8nm,0.3s							
CDF	**Champ du Feu**	**11.23**	**309**	*e*Pn		**Pn**	**03 37 02.4**	**-0.8**
CDF				*e*Sn		Sn	03 38 59.4	-10
	comp=N,0.5nm,0.3s							
HAU	**Haudompre**	**11.59**	**306**	*e*Pn		**Pn**	**03 37 07.8**	**-0.3**
HAU				*e*Sn		**Sn**	**03 39 09.5**	**-8.2**
	comp=N,1.6nm,0.3s							
VIVF	**Saint-Julien-l**	**11.77**	**289**	*e*Pn		**Pn**	**03 37 11.4**	**+0.8**
VIVF				*e*Sn		**Sn**	**03 39 16.0**	**-6.1**
	comp=N,0.5nm,0.3s							
LASF	**Ste Croix**	**12.27**	**285**	*e*P		Pn	03 37 23.6	+6.2
SMF	**Signal de Mont**	**12.71**	**297**	*e*Pn		**Pn**	**03 37 22.2**	**-1.2**
SMF				*e*Sn		**Sn**	**03 39 36.6**	**-8.5**
	comp=N,0.9nm,0.3s							
LOR	**Lormes**	**12.87**	**300**	*e*Pn		**Pn**	**03 37 25.5**	**-0.2**
	baz=117							
LOR				*e*Sn		**Sn**	**03 39 40.8**	**-8.3**
	comp=N,1.6nm,0.4s							
SSF	**Saint Saulge**	**13.04**	**298**	*e*Pn		**Pn**	**03 37 27.7**	**-0.3**
SSF				*e*Sn		**Sn**	**03 39 45.1**	**-8.1**
	comp=N,0.4nm,0.4s							
AVF	**Avril sur Loir**	**13.07**	**297**	*e*Pn		**Pn**	**03 37 28.4**	**+0.1**
AVF				*e*Sn		Sn	03 39 44.9	-9.0
	comp=N,0.3nm,0.3s							
BGF	**Bois d'Agland**	**13.35**	**296**	*e*Pn		**Pn**	**03 37 31.8**	**-0.4**
BGF				*e*Sn		**Sn**	**03 39 52.7**	**-8.0**
	comp=N,15nm,0.3s							
TCF	**Toulx Ste Croi**	**13.72**	**294**	*e*Pn		**Pn**	**03 37 36.7**	**-0.6**
BAIF	**Baives**	**13.79**	**311**	*e*P		**Pn**	**03 37 41.6**	**+3.5**
MFF	**Saint Martin d**	**15.38**	**294**	*e*Pn		**Pn**	**03 37 59.4**	**-0.3**
HFS	**Hagfors**	**18.59**	**349**	P		**Pn**	**03 38 40.4**	**+0.4**
	comp=N,0.1nm,0.3s,baz=185,slow=15,SNR=3.0							
FINES	**FINESS Array B**	**19.75**	**8**	P		**P**	**03 38 52.4**	**-0.1**
	comp=N,0.1nm,0.3s,baz=187,slow=8.1,SNR=2.8							
NOA	**NORSAR Array B**	**19.84**	**347**	P		**Pn**	**03 38 54.6**	**-0.5**
	comp=N,0.0nm,0.3s,baz=154,slow=9.7,SNR=2.8							
EKA	**Eskdalemuir Ar**	**20.34**	**319**	P		**P**	**03 38 58.5**	**-0.4**
	comp=N,4.2nm,0.8s,baz=114,slow=10,SNR=6.4							
TORD	**Torodi Ar. Bea**	**33.04**	**215**	P		**P**	**03 40 59.6**	**+1.1**
	comp=N,0.8nm,0.5s,baz=21,slow=9.2,SNR=9.5							
ZALV	**Zalesovo Beam**	**43.28**	**51**	P		**P**	**03 42 24.6**	**+0.3**
	comp=N,0.6nm,0.3s,baz=309,slow=7.3,SNR=2.0							
YKA	**Yellowknife Ar**	**69.75**	**340**	P		**P**	**03 45 32.3**	**-0.3**
	comp=N,0.1nm,0.5s,baz=34,slow=5.5,SNR=4.2							

***IDC* 13 04:12:49.6±3.5, 7.34°S×68.54°E, *h*0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/65, mbtmp3.5/3, MS3.3/2, Ms1 3.3/2, ms1mx2.9/36, Error ellipse: s-maj=90.6km s-min=39.9km az=60.0, Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N3	**Diego Garcia H**	**2.63**	**68**	Pn	Pn	04 13 26.9	-6.2
H08N3				T	T	04 16 33.1	
	baz=248,slow=74,SNR=658						
H08N2	**Diego Garcia H**	**2.65**	**68**	Pn	Pn	04 13 27.1	-6.2
H08N2				T	T	04 16 34.9	
	baz=248,slow=74,SNR=160						
H08N1	**Diego Garcia H**	**2.65**	**68**	Pn	Pn	04 13 27.2	-6.2
H08N1				T	T	04 16 33.6	
	baz=248,slow=74,SNR=175						
H08S1	**Diego Garcia H**	**3.91**	**95**	Pn	Pn	04 13 51.0	+0.1
H08S3	**Diego Garcia H**	**3.92**	**94**	Pn	Pn	04 13 52.0	+1.0
H08S2	**Diego Garcia H**	**3.93**	**95**	Pn	Pn	04 13 52.1	+1.0
KMBO	**Kilima Mbogo**	**31.79**	**280**	LR	LR	04 29 56.3	
	comp=Z,48nm,18.1s,baz=205,slow=32						
BOSA	**Boshof**	**45.94**	**237**	LR	LR	04 37 53.1	
	comp=Z,43nm,21.3s,baz=24,slow=33						
H01W3	**Cape Leeuwin H**	**49.99**	**130**	T	T	05 15 36.8	
	baz=293						
H01W2	**Cape Leeuwin H**	**50.00**	**130**	T	T	05 15 35.3	
	baz=293						
H01W1	**Cape Leeuwin H**	**50.01**	**130**	T	T	05 15 43.1	
	baz=293						
SONM	**Songino Array**	**64.29**	**27**	P	P	04 23 27.1	+0.1
	0.5nm,1.0s,baz=191,slow=6.8,SNR=3.1						
ASAR	**Alice Springs**	**64.55**	**113**	P	P	04 23 29.7	+0.5
	0.1nm,0.3s,baz=276,slow=6.0,SNR=3.9						
WRA	**Warramunga Arr**	**64.81**	**109**	P	P	04 23 30.1	-0.8
	0.8nm,1.0s,baz=282,slow=6.0,SNR=4.7						

IDC **13** *04:15:33.9±0.7, 32.°61N×89.°18E, h0km, mb4.1/15, mb1 4.3/18, mb1mx4.0/68, mbtmp4.1/18, ML3.5/3, MS3.5/8, Ms1 3.5/8, ms1mx3.2/48, Error ellipse: s-maj=24.2km s-min=15.2km az=52.0*

ISCJB **13** *04:15:34.8±0.3, 32.°80N±0.°03×89.°30E±0.°05, h10km, mb4.1/14, MS3.5/5, Error ellipse: s-maj=6.0km s-min=4.2km az=171.8*

BJI **13** *04:15:35.8±0.0, 32.°74N×89.°22E, h8km, mb4.3/16, mB4.3/5, ML4.5/1, Ms3.9/14, Ms7 3.8/15*

NEIC **13** *04:15:36.7±2.2, 32.°80N±0.°09×89.°3E±0.°1, h10km±2km, mb4.3/23*

DMN **13** *04:15:59.3±26.0, 31.°43N×88.°30E, h60km, Error ellipse: s-maj=662.2km s-min=22.9km az=22.0*

ISC 13 04:15:37.8±0.5, 32.°77N±0.°06×89.°12E±0.°05, h10km, n66, σ1°93/62, mb4.2/19, MS3.5/5, 2C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.52**	**150**		**Pn**	**04 16 34.6**	**+1.6**
TAPN	**Taplejung**	**5.54**	**193**	*e*P	**Pn**	**04 17 01.7**	**+1.2**
GUN	**Gumba**	**5.59**	**211**	*e*P	**Pn**	**04 17 02.2**	**+0.9**
	36nm,0.5s						
JIRN	**Jiri**	**5.69**	**207**	*e*P	**Pn**	**04 17 03.1**	**+0.4**
	31nm,0.4s						
KKN	**Kakani**	**5.97**	**215**	*e*P	**Pn**	**04 17 07.1**	**+0.7**
ODAN	**Odare**	**6.08**	**195**	*e*P	**Pn**	**04 17 08.6**	**+0.7**
	62nm,0.5s						
PKI	**Pulchoki**	**6.09**	**213**	*e*P	**Pn**	**04 17 08.1**	**-0.1**
	57nm,0.5s						
PKIN	**Phulchoki**	**6.09**	**213**	*e*P	**Pn**	**04 17 08.1**	**-0.1**
	32nm,0.4s						
RAMN	**Ramite**	**6.20**	**201**	*e*P	**Pn**	**04 17 09.1**	**-0.5**
	58nm,0.5s						
DMN	**Daman**	**6.20**	**215**	*e*P	**Pn**	**04 17 10.2**	**+0.5**
	44nm,0.6s						
SHL	**Shillong**	**7.57**	**161**	Pn	**Pn**	**04 17 28.9**	**+0.5**
GTA	**Gaotai**	**10.89**	**50**	⇑P	**Pn**	**04 18 13.5**	**-0.4**
GTA				pP		04 18 18.0	
GTA				sP		04 18 20.8	
GTA				S	**Sn**	**04 20 18.6**	**+2.7**
GTA				sS		04 20 25.0	
GTA				SS	**SnSn**	**04 20 29.8**	**+2.1**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				LR	LR		
	comp=E,600nm,15.2s						
GTA				LR	LR		
	comp=Z,460nm,12.1s						
WMQ	**Urumqi**	**11.09**	**355**	*e*P	**Pn**	**04 18 15.3**	**-1.2**
WMQ				pP		04 18 18.1	
WMQ				sP		04 18 22.1	
WMQ				LR	LR		
	comp=E,200nm,4.5s						
WMQ				LR	LR		
	comp=Z,240nm,4.1s						
NIL	**Nilore**	**13.32**	**278**		Pn	04 18 44.8	-2.2
KMI	**Kunming**	**14.14**	**119**	P	Pn	04 18 55.0	-3.4
KMI				S	**Sn**	**04 21 28.8**	**-6.7**
KMI				LR	LR		
	comp=E,270nm,8.4s						
KMI				LR	LR		
	comp=Z,230nm,7.4s						
MK31	**Makanchi Array**	**14.95**	**342**		**Pn**	**04 19 08.0**	**-1.2**
MKAR	**Makanchi Array**	**14.95**	**342**	Pn	Pn	04 19 07.0	-2.2
	0.2nm,0.3s,baz=150,slow=13,SNR=8.1						
MKAR				LR	LR	04 25 55.9	
	comp=Z,162nm,19.8s,baz=156,slow=41						
MAKZ	**Makanchi**	**15.05**	**341**		**Pn**	**04 19 09.2**	**-1.2**
MAKZ				IAmb	IAmb	04 19 18.0	
	comp=Z,4.7nm,0.8s						
AAK	**Ala-Archa**	**15.18**	**315**	Pn	**Pn**	**04 19 14.1**	**+1.7**
AAK				IAmb	IAmb	04 19 24.2	
	comp=Z,6.9nm,0.8s						
BTK	**Batken**	**16.42**	**301**	Pn	**Pn**	**04 19 26.7**	**-1.6**
BTK				IAmb	IAmb	04 19 36.9	
	comp=Z,35nm,0.9s						
GAR	**Garm**	**16.45**	**298**		**Pn**	**04 19 28.1**	**-0.7**
CHTO	**Chiang Mai**	**16.46**	**145**	Pn	**Pn**	**04 19 26.7**	**-2.1**
GYA	**Guiyang**	**16.49**	**108**	⇑*i*P	**Pn**	**04 19 27.4**	**-2.0**
GYA				PP	**pP**	**04 19 38.0**	**+1.7**
GYA				S	**Sn**	**04 22 34.1**	**+1.5**
GYA				SS	**SnSn**	**04 22 50.3**	**+4.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GYA				pmax	pmax		
	comp=Z,70nm,3.7s						
GYA				LR	LR		
	comp=Z,300nm,11.5s						
GYA				LR	LR		
	comp=Z,150nm,7.0s						
CM31	**Chiang Mai Ar**	**16.76**	**146**	Pn	**Pn**	**04 19 30.0**	**-2.7**
CM31				IAmb	IAmb	04 19 50.6	
	comp=Z,9.9nm,0.4s						
CMAR	**Chiang Mai Arr**	**16.76**	**146**	Pn	**Pn**	**04 19 29.2**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=327,slow=9.7,SNR=3.0						
CMAR				LR	LR	04 26 22.5	
	comp=Z,68nm,21.3s,baz=338,slow=39						
KBL	**Kabul**	**16.81**	**282**	Pn	**Pn**	**04 19 34.0**	**+0.5**
CHGR	**Chuyangaron**	**17.23**	**296**		**Pn**	**04 19 39.6**	**+1.0**
CHGR				IAmb	IAmb	04 19 51.1	
	comp=Z,40nm,1.4s						
ENH	**Enshi**	**17.54**	**93**	P	**P**	**04 19 46.4**	**+2.8**
ENH				IAmb	IAmb	04 19 47.6	
	comp=Z,46nm,1.2s						
KK31	**Karatay Array**	**17.91**	**311**	P	**Pn**	**04 19 47.8**	**+0.9**
KKAR	**Karatay Array**	**17.91**	**311**	P	**Pn**	**04 19 47.3**	**+0.4**
KURBB	**Kurchatov Arra**	**19.48**	**339**	P	**P**	**04 20 03.5**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=151,slow=12,SNR=29						
KURK	**Kurchatov**	**19.54**	**340**	P	**P**	**04 20 04.5**	**-0.8**
KURK				IAmb	IAmb	04 20 05.9	
	comp=Z,8.2nm,0.9s						
SONM	**Songino Array**	**19.93**	**36**	P	**P**	**04 20 09.6**	**-0.3**
	comp=Z,5.0nm,0.9s,baz=227,slow=12,SNR=24						
SONM				LR	LR	04 28 44.5	
	comp=Z,200nm,21.8s,baz=162,slow=40						
ULN	**Ulaanbaatar**	**20.28**	**37**	P	**P**	**04 20 11.1**	**-2.6**
ZAA0	**Zalesovo Array**	**21.39**	**353**	P	**P**	**04 20 24.3**	**-1.1**
ZAA0				IAmb	IAmb	04 20 25.5	
	comp=Z,14nm,0.9s						
ZALV	**Zalesovo Beam**	**21.39**	**353**	P	**P**	**04 20 24.7**	**-0.7**
	comp=Z,8.3nm,0.7s,baz=170,slow=12,SNR=33						
ZALV				LR	LR	04 29 40.4	
	comp=Z,176nm,19.9s,baz=188,slow=39						
WHN	**Wuhan**	**21.58**	**89**	P	**P**	**04 20 31.8**	**+4.2**
TLY	**Talaya**	**21.67**	**25**	LR	LR	04 29 31.1	
	comp=Z,84nm,20.3s,baz=220,slow=38						
HRA	**Herat**	**22.43**	**282**	P	**P**	**04 20 40.0**	**+3.0**
HRA				IAmb	IAmb	04 20 41.9	
	comp=Z,26nm,1.7s						
BVAR	**Borovoye Array**	**24.32**	**332**	P	**P**	**04 20 54.7**	**-0.7**
	comp=Z,1.9nm,0.4s,baz=145,slow=11,SNR=13						
BRVK	**Borovoye**	**24.39**	**332**	P	**P**	**04 20 55.3**	**-0.8**
BRVK				IAmb	IAmb	04 21 00.8	
	comp=Z,11nm,0.9s						
GEYT	**Alibeck**	**25.74**	**290**	LR	LR	04 33 07.7	
	comp=Z,50nm,21.8s,baz=5.0,slow=41						
ABKAR	**Akbulak array**	**27.26**	**316**	P	**P**	**04 21 21.7**	**-0.3**
ABKAR				IAmb	IAmb	04 21 31.4	
	comp=Z,4.0nm,0.8s						
KLR	**Kul'dur**	**35.60**	**50**	P	**P**	**04 22 33.9**	**-1.5**
	comp=Z,1.9nm,0.9s,baz=279,slow=8.3,SNR=3.5						
AKASG	**Malin Array Be**	**46.81**	**311**	P	**P**	**04 24 06.1**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=80,slow=6.9,SNR=4.2						
FINES	**FINESS Array B**	**49.01**	**325**	P	**P**	**04 24 22.5**	**-1.9**
	comp=Z,13nm,1.1s,baz=131,slow=7.8,SNR=2.9						
MLR	**Muntele Rosu**	**49.44**	**304**	P	**P**	**04 24 28.2**	**+0.2**
	comp=Z,8.6nm,1.0s,baz=90,slow=2.9,SNR=4.8						
MLR				LR	LR	04 48 35.4	
	comp=Z,104nm,18.6s,baz=295,slow=40						
MLR	**Muntele Rosu**	**49.44**	**304**	P	**P**	**04 24 27.5**	**-0.5**
ARCES	**ARCESS Array B**	**50.51**	**336**	P	**P**	**04 24 35.3**	**-0.4**
	comp=Z,5.2nm,0.8s,baz=71,slow=5.3,SNR=4.5						
VYHS	**Vyhne**	**53.75**	**309**	*e*P	**P**	**04 25 00.7**	**+0.5**
GEC2	**GERESS Array S**	**57.01**	**310**	P	**P**	**04 25 23.1**	**-0.7**
GEC2				IAmb	IAmb	04 25 23.4	
	comp=Z,3.7nm,1.1s						
GERES	**GERESS Array B**	**57.01**	**310**	P	**P**	**04 25 23.0**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=81,slow=4.5,SNR=14						
GERES	**GERESS Array B**	**57.01**	**310**	P	**P**	**04 25 23.0**	**-0.7**
DAVOX	**Davos/Dischmat**	**60.04**	**309**	LR	LR	04 56 41.3	
	comp=Z,125nm,19.1s,baz=74,slow=41						
WRA	**Warramunga Arr**	**67.93**	**134**	P	P	04 26 34.0	-3.0
	comp=Z,3.2nm,0.9s,baz=324,slow=6.5,SNR=16						
ASAR	**Alice Springs**	**70.53**	**137**	P	P	04 26 49.9	-3.1
	comp=Z,1.0nm,0.7s,baz=323,slow=6.3,SNR=7.6						
CCB	**Clear Creek Bu**	**73.25**	**22**	P	**P**	**04 27 07.7**	**-1.1**
PRP	**Porcupine Dome**	**73.35**	**21**		**PcP**	**04 27 28.6**	**+2.8**
ILAR	**Eielson Array**	**73.45**	**22**	P	**P**	**04 27 08.1**	**-1.9**
	comp=Z,1.1nm,0.9s,baz=272,slow=4.2,SNR=6.5						
INK	**Inuvik**	**74.36**	**15**	P	**P**	**04 27 13.2**	**-1.9**
	comp=Z,2.1nm,0.9s,baz=319,slow=3.5,SNR=5.7						
LSZ	**Lusaka**	**75.28**	**241**	P	**P**	**04 27 22.8**	**+1.3**
LSZ				IAmb	IAmb	04 27 23.9	
	comp=Z,5.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**80.87**	**280**	P	P	04 27 49.6	-2.9
	comp=Z,0.7nm,0.7s,baz=81,slow=3.4,SNR=4.7						
YKA	**Yellowknife Ar**	**83.17**	**11**	P	P	04 28 01.3	-2.4
	comp=Z,0.3nm,0.5s,baz=333,slow=5.2,SNR=6.4						
BOSA	**Boshof**	**86.00**	**232**	P	**P**	**04 28 20.0**	**+1.3**
CPUP	**Villa Florida**	**150.20**	**274**	PKPbc	**PKPdf**	**04 35 26.6**	**+2.4**
	comp=Z,6.0nm,1.0s,baz=57,slow=2.0,SNR=5.9						
CPUP	**Villa Florida**	**150.20**	**274**		**PKPdf**	**04 35 26.9**	**+2.7**

KRSC **13** *04:20:59.5±1.1, 52.°26N×159.°12E, h100km±11km, ML3.9*

ISCJB **13** *04:21:01.4±0.6, 52.°33N±0.°05×159.°00E±0.°09, h104km±3km, mb3.5/8, Error ellipse: s-maj=10.9km s-min=5.3km az=42.1*

IDC **13** *04:21:03.9±2.6, 52.°41N×158.°56E, h114km±9km, mb3.4/8, mb1 3.6/8, mb1mx3.2/65, mbtmp3.7/8, Error ellipse: s-maj=51.9km s-min=22.2km az=8.0*

ISC 13 04:21:01.7±0.9, 52.°29N±0.°06×159.°08E±0.°06, h98km±6km, n36, σ1°18/54, mb3.5/8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.38**	**293**	*e*P	**Pn**	**04 21 16.6**	**+0.2**
RUS				*e*S	**Sn**	**04 21 26.9**	**-0.6**
MTVR	**Mutnovka**	**0.58**	**290**	*e*P	**Pn**	**04 21 18.4**	**+0.3**
MTVR				*e*S	**Sn**	**04 21 30.1**	**-0.3**
GRL	**Gorelyy**	**0.67**	**293**	*e*P	**Pn**	**04 21 19.1**	**+0.3**
ASAK	**Asacha**	**0.73**	**278**	*e*P	**Pn**	**04 21 20.1**	**+0.8**
ASAK				*e*S	**Sn**	**04 21 33.0**	**+0.5**
DALK	**Dalny**	**0.77**	**345**	*e*P	**Pn**	**04 21 19.7**	**+0.1**
DALK				*e*S	**Sn**	**04 21 32.2**	**-0.7**
PET	**Petropavlovsk**	**0.78**	**341**	*e*P	**Pn**	**04 21 19.7**	**0.0**
PET				*e*S	**Sn**	**04 21 32.4**	**-0.7**
KRMR	**Karymshinskiy**	**0.80**	**313**	*e*P	**Pn**	**04 21 19.7**	**-0.1**
KRMR				*e*S	**Sn**	**04 21 32.4**	**-1.0**
NLC	**Nalytchevo**	**0.90**	**10**	*e*P	**Pn**	**04 21 20.9**	**+0.1**
NLC				*e*S	**Sn**	**04 21 34.7**	**-0.5**
UGLR	**Uglovaya**	**0.94**	**350**	*e*P	**Pn**	**04 21 22.0**	**+0.6**
SMAR	**Somma**	**0.99**	**350**	*e*P	**Pn**	**04 21 22.2**	**+0.1**
SMAR				*e*S	**Sn**	**04 21 36.9**	**-0.5**
SPN	**Mys Shipunski**	**0.99**	**35**	*i* P	**Pn**	**04 21 22.5**	**+0.6**
SPN				*e*S	**Sn**	**04 21 36.7**	**-0.3**
AVH	**Avacha**	**1.00**	**348**	*e*P	**Pn**	**04 21 22.6**	**+0.6**
AVH				*e*S	**Sn**	**04 21 37.7**	**+0.4**
KRER	**Koryakskii**	**1.04**	**349**	*e*P	**Pn**	**04 21 22.5**	**-0.1**
KRER				*e*S	**Sn**	**04 21 38.0**	**-0.3**
KOK	**Koryaka**	**1.04**	**345**	*e*P	**Pn**	**04 21 23.1**	**+0.6**
KRX	**Arik**	**1.10**	**346**	*e*P	**Pn**	**04 21 23.1**	**-0.2**
PETK	**Petropavlovsk-**	**1.18**	**315**	P	**Pn**	**04 21 24.0**	**+0.1**
	4.7nm,0.3s,baz=113,slow=16,SNR=35						
PETK				S	**Sn**	**04 21 40.3**	**-0.4**
	9.3nm,0.3s,baz=248,slow

baz=314,slow=76,SNR=170
ZALV Zalesovo Beam 41.59 313 P P 04 31 58.6 -0.2
0.6nm,0.3s,baz=90,slow=7.4,SNR=4.1
MKAR Makanchi Array 43.69 302 P P 04 32 16.0 0.0
0.3nm,0.6s,baz=104,slow=6.1,SNR=3.4
NVAR Mina Array Bea 75.67 53 P P 04 35 58.1 +1.3
0.4nm,0.5s,baz=296,slow=5.1,SNR=4.2
TXAR Lajitas Array 90.80 52 P P 04 37 15.7 +0.8
0.3nm,0.6s,baz=293,slow=2.5,SNR=4.7

ISCJB ***13*** *04:24:54.4±0.4, 40.97N±0.03×141.91E±0.06, h68km±2km, mb4.1/18, Error ellipse: s-maj=7.4km s-min=4.5km az=20.0*
JMA ***13*** *04:24:54.6±0.1, 40.98N×142.02E, h56km±2km, M4.0*
JMA Felt III J1.
NEIC ***13*** *04:24:56.0±0.8, 41.0N±0.1×141.9E±0.1, h67km±10km, mb4.4/15*
IDC ***13*** *04:24:58.4±3.1, 41.06N×141.87E, h85km±20km, mb3.9/18, mb1 4.0/21,mb1mx3.9/55,mbtmp4.2/21,MS3.1/5, Ms1 3.1/5,ms1mx2.8/49, Error ellipse: s-maj=30.4km s-min=13.1km az=149.0*
ISC 13 04:24:55.2±0.8, 40.96N±0.04×141.92E±0.05, h60km±6km, n74, σ0892/75, mb4.3/26, 1C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.42**	**277**	⇓P		**Pn**	**04 25 06.2**	**-0.2**
JARK				*e*S		**Sn**	**04 25 14.3**	**-0.2**
JAHD	**Aomorihigashid**	**0.54**	**305**	⇓P		**Pn**	**04 25 07.2**	**-0.4**
JAHD				*e*S		**Sn**	**04 25 16.7**	**+0.1**
JANG	**Nango**	**0.66**	**208**	⇓P		**Pn**	**04 25 08.7**	**-0.3**
JANG				S		**Sn**	**04 25 18.8**	**-0.3**
JTM	**Tenmabayashi**	**0.67**	**256**	⇓P		**Pn**	**04 25 09.1**	**0.0**
JTM				S		**Sn**	**04 25 19.6**	**+0.3**
JKEN	**Kujiedanarisaw**	**0.77**	**192**	⇑P		**Pn**	**04 25 10.0**	**-0.3**
JKEN				*e*S		**Sn**	**04 25 21.0**	**-0.3**
JOT	**Ohata**	**0.79**	**303**	⇓P		**Pn**	**04 25 10.0**	**-0.5**
JKB	**Kayabe**	**1.15**	**324**	⇓P		**Pn**	**04 25 14.7**	**-0.4**
JKB				*e*S		**Sn**	**04 25 29.2**	**-0.8**
JAH	**Hinai**	**1.25**	**232**	P		**Pn**	**04 25 17.2**	**+0.7**
JAH				*e*S		**Sn**	**04 25 34.0**	**+1.6**
JSR	**Shiriuchi**	**1.27**	**297**	⇓P		**Pn**	**04 25 16.9**	**+0.1**
ERM	**Erimo**	**1.41**	**41**			**Pn**	**04 25 18.7**	**+0.1**
JEM	**Erimo**	**1.41**	**41**	P		**Pn**	**04 25 18.2**	**-0.4**
JNBK	**Urakawa-nobuka**	**1.46**	**25**	P		**Pn**	**04 25 19.1**	**-0.2**
JIW	**Iwasaki**	**1.50**	**257**	P		**Pn**	**04 25 20.3**	**+0.4**
JOM	**Ohasama**	**1.56**	**198**	P		**Pn**	**04 25 21.1**	**+0.4**
JOM				*e*S		**Sn**	**04 25 40.2**	**+0.3**
JYM2	**Yakumo 2**	**1.64**	**315**	⇓P		**Pn**	**04 25 21.9**	**+0.1**
JNB	**Noboribetsu**	**1.65**	**337**	P		**Pn**	**04 25 20.7**	**-1.2**
ASAJ	**Asahikawa**	**3.20**	**9**	P		**Pn**	**04 25 43.4**	**+0.4**
ASAJ	13nm,0.3s,baz=216,slow=9.0,SNR=36			S		**Sn**	**04 26 22.4**	**+2.6**
ASAJ	14nm,0.3s,baz=243,slow=32,SNR=9.4			LR		LR	04 27 25.7	
JKA	comp=Z,166nm,19.3s,baz=298,slow=47 **Kamikawa-asahi**	**3.20**	**9**			**Pn**	**04 25 43.4**	**+0.4**
JKA						**Sn**	**04 26 22.4**	**+2.6**
USA0B	**Ussuriysk Arra**	**8.02**	**297**			**Pn**	**04 26 49.5**	**+0.6**
USRK	**Ussuriysk Ar.**	**8.02**	**297**	P		**Pn**	**04 26 49.6**	**+0.7**
USRK	baz=98,slow=14,SNR=15			LR		LR	04 29 45.9	
KLR	comp=Z,134nm,19.9s,baz=69,slow=36 **Kul'dur**	**10.95**	**322**	LR		LR	04 31 18.2	
KSRS	comp=Z,77nm,21.4s,baz=42,slow=35 **Korea Array**	**11.41**	**257**	P		**Pn**	**04 27 39.8**	**+4.5**
KSRS	0.5nm,0.3s,baz=67,slow=15,SNR=4.1			LR		LR	04 31 12.9	
SONM	comp=Z,88nm,18.8s,baz=90,slow=33 **Songino Array**	**26.13**	**297**	P		**P**	**04 30 23.3**	**-0.3**
H11N2	1.9nm,0.6s,baz=86,slow=8.1,SNR=11 **WAKE ISLAND Hy**	**30.02**	**127**	T		T	05 02 27.1	
H11N1	baz=320,slow=75,SNR=9.4 **WAKE ISLAND Hy**	**30.03**	**127**	T		T	05 02 23.8	
H11N3	baz=320,slow=75,SNR=11 **WAKE ISLAND Hy**	**30.03**	**127**	T		T	05 02 36.4	
H11S1	baz=320,slow=75,SNR=11 **WAKE ISLAND Hy**	**30.84**	**129**	T		T	05 03 33.8	
H11S3	baz=322,slow=76,SNR=13 **WAKE ISLAND Hy**	**30.85**	**129**	T		T	05 03 37.2	
H11S2	baz=322,slow=76,SNR=14 **WAKE ISLAND Hy**	**30.86**	**129**	T		T	05 03 37.2	
WMQ	baz=322,slow=76,SNR=6.6 **Urumqi**	**39.56**	**293**			**S**	**04 38 15.9**	**-2.6**
ZAA0	**Zalesovo Array**	**39.66**	**309**	P		**P**	**04 32 20.5**	**-0.5**
ZAA0	comp=Z,4.2nm,0.6s			IAmb		IAmb	04 32 21.2	
ZALV	**Zalesovo Beam**	**39.66**	**309**	P		**P**	**04 32 20.7**	**-0.3**
MK31	comp=Z,3.2nm,0.5s,baz=92,slow=7.8,SNR=12 **Makanchi Array**	**42.48**	**299**	P		**P**	**04 32 43.9**	**-0.4**
MKAR	**Makanchi Array**	**42.48**	**299**	P		**P**	**04 32 43.9**	**-0.3**
MAKZ	comp=Z,2.0nm,0.5s,baz=84,slow=10,SNR=28 **Makanchi**	**42.68**	**299**	P		**P**	**04 32 45.7**	**-0.2**
MAKZ	comp=Z,3.3nm,0.8s			IAmb		IAmb	04 32 49.9	
CHTO	**Chiang Mai**	**42.76**	**252**	P		**P**	**04 32 46.9**	**+0.1**
CHTO	comp=Z,3.8nm,0.6s			IAmb		IAmb	04 32 48.4	
CMAR	**Chiang Mai Arr**	**42.99**	**252**	P		**P**	**04 32 49.7**	**+1.0**
KURK	comp=Z,1.1nm,0.3s,baz=41,slow=6.6,SNR=5.0 **Kurchatov**	**43.92**	**305**	P		**P**	**04 32 55.2**	**-0.5**
KURK	comp=Z,5.6nm,0.8s			IAmb		IAmb	04 32 58.9	
MDM	**Murphy Dome**	**45.42**	**34**			**S**	**04 39 45.4**	**+1.3**
IL31		**46.00**	**34**	P		**P**	**04 33 11.4**	**-0.7**
ILAR	**Eielson Array**	**46.00**	**34**	P		**P**	**04 33 12.2**	**0.0**
TAPN	comp=Z,1.0nm,0.7s,baz=266,slow=6.3,SNR=8.5 **Taplejung**	**46.18**	**271**	*e*P		**P**	**04 33 15.1**	**+0.7**
JIRN	comp=Z,5.8nm,0.4s **Jiri**	**47.17**	**272**	*e*P		**P**	**04 33 22.8**	**+0.6**
RAMN	comp=Z,11nm,0.3s **Ramite**	**47.23**	**271**	*e*P		**P**	**04 33 22.8**	**+0.2**
GUN	comp=Z,21nm,0.6s **Gumba**	**47.28**	**272**	*e*P		**P**	**04 33 23.1**	**+0.1**
KKN	comp=Z,54nm,0.6s **Kakani**	**47.80**	**273**	*e*P		**P**	**04 33 27.2**	**+0.3**
PKI	comp=Z,31nm,0.7s **Pulchoki**	**47.81**	**272**	*e*P		**P**	**04 33 27.9**	**+0.8**
PKIN	**Phulchoki**	**47.82**	**272**	*e*P		**P**	**04 33 27.5**	**+0.4**
ARSB	comp=Z,7.5nm,0.4s **Arslanbob**	**50.62**	**295**	P		**P**	**04 33 48.3**	**+0.2**
ARSB	comp=Z,6.9nm,0.9s			IAmb		IAmb	04 33 51.0	
INK	**Inuvik**	**50.73**	**29**	P		**P**	**04 33 48.9**	**+0.4**
INK	comp=Z,1.8nm,0.5s,baz=281,slow=6.0,SNR=7.5 **Inuvik**	**50.73**	**29**	IAmb		IAmb	04 33 49.5	
KK31	comp=Z,2.0nm,0.8s **Karatay Array**	**51.58**	**298**	P		**P**	**04 33 54.4**	**-0.8**
KKAR	**Karatay Array**	**51.58**	**298**	P		**P**	**04 33 54.2**	**-1.0**
KKAR	comp=Z,1.9nm,0.9s			IAmb		IAmb	04 33 55.5	
NIL	**Nilore**	**53.85**	**286**	P		**P**	**04 34 12.8**	**+0.7**
CHGR	**Chuyangaron**	**54.41**	**293**	P		**P**	**04 34 15.6**	**-0.7**
ABKAR	**Akbulak array**	**55.77**	**308**	P		**P**	**04 34 25.4**	**-0.3**
AKTO	**Aktyubinsk**	**56.40**	**310**	P		**P**	**04 34 30.0**	**-0.1**
KBL	comp=Z,2.4nm,0.7s,baz=73,slow=13,SNR=6.8 **Kabul**	**56.45**	**289**	P		**P**	**04 34 30.2**	**-0.8**
KBL	comp=Z,4.0nm,0.8s			IAmb		IAmb	04 34 31.3	
KIRV	**Kirov**	**57.39**	**322**	P		**P**	**04 34 37.4**	**+0.4**
BBB	comp=Z,12nm,0.7s,baz=352,slow=3.0,SNR=4.0 **Bella Bella**	**59.01**	**46**	LR		LR	05 00 34.6	
YKA	comp=Z,28nm,18.2s,baz=151,slow=36 **Yellowknife Ar**	**60.24**	**31**	P		**P**	**04 34 56.4**	**-0.3**
ARCES	comp=Z,0.3nm,0.6s,baz=300,slow=6.3,SNR=3.9 **ARCESS Array B**	**60.48**	**339**	P		**P**	**04 34 57.8**	**-0.5**
GEYT	comp=Z,4.5nm,1.0s,baz=66,slow=9.4,SNR=5.2 **Alibeck**	**62.33**	**297**	P		**P**	**04 35 11.4**	**0.0**
FINES	comp=Z,1.8nm,0.7s,baz=357,slow=3.0,SNR=3.6 **FINESS Array B**	**65.54**	**332**	P		**P**	**04 35 31.5**	**-0.4**
KBZ	comp=Z,13nm,0.7s,baz=50,slow=7.0,SNR=37 **Khabaz**	**66.57**	**310**	P		**P**	**04 35 52.6**	**+0.5**
NB2	comp=Z,3.7nm,0.8s,baz=32,slow=8.1,SNR=7.0 **NORSAR Subarra**	**70.73**	**337**	P		**P**	**04 36 03.9**	**-0.6**
NOA	comp=Z,1.1nm,0.5s,baz=35,slow=6.2 **NORSAR Array B**	**70.73**	**337**	P		**P**	**04 36 03.9**	**-0.6**
AKASG	comp=Z,3.9nm,0.8s,baz=38,slow=6.1,SNR=10 **Malin Array Be**	**71.45**	**322**	P		**P**	**04 36 08.3**	**-0.6**
PDAR	comp=Z,1.8nm,0.5s,baz=44,slow=6.0,SNR=12 **Pinedale Array**	**74.65**	**46**	P		**P**	**04 36 28.4**	**0.0**
BRTR	comp=Z,0.4nm,0.7s,baz=253,slow=1.5,SNR=4.9 **Keskin Array B**	**76.56**	**311**	P		**P**	**04 36 39.0**	**-0.2**
CLL	comp=Z,0.9nm,0.8s,baz=67,slow=5.5,SNR=3.9 **Collm**	**77.90**	**330**	*e*P		**P**	**04 36 46.0**	**-0.3**
KHC	**Kasperske Hory**	**79.41**	**328**	*e*P		**P**	**04 36 54.5**	**-0.2**
GERES	**GERESS Array B**	**79.59**	**328**	P		**P**	**04 36 55.5**	**-0.2**
FUORN	comp=Z,0.7nm,0.5s,baz=38,slow=5.9,SNR=6.9 **Ofenpass-Fuorn**	**82.76**	**329**	P		**P**	**04 37 12.5**	**-0.3**
FUORN	comp=Z,4.9nm,0.6s			IAmb		IAmb	04 37 13.7	

BJI ***13*** *04:28:44.7±0.0, 1.57S×121.73E, h52km, mb5.1/68, mB5.5/48, Ms4.7/44, Ms7 4.4/46*
GCMT ***13*** *04:28:48.7±0.2, 0.85S±0.01×121.28E±0.02, h15km, MW5.0/104, Moment Tensor Solution. s62,c76; s104,c145; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-3.37±.14; Mθθ 3.10±.10; Mϕϕ 0.27±.10; Mrθ-2.36±.31; Mθϕ 0.37±.07; Mϕr 2.67±.37; Best double couple: Mo4.66900×1016 NP1:ϕs117.00000°, δ69.00000°, λ-68.00000°. NP2:ϕs249.00000°, δ30.00000°, λ-134.00000°. Principal axes: T 3.9490, Plg21.0000°, Azm190.0000°; N 1.4440, Plg20.0000°, Azm288.0000°; P -5.3890, Plg60.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***13*** *04:28:48.0±0.1, 1.1S±1.2×121.1E±1.1, h10km, M5.0/65, mB5.5/37, mb5.1/65, MLv5.4/24, Mw(mB)5.0/37, Mwp5.1/6*
IDC ***13*** *04:28:48.0±3.0, 0.84S±121.33E, h17km±18km, mb4.7/24, mb1 4.8/28,mb1mx4.6/55,mbtmp4.9/28, ML4.8/4, MS4.2/22, Ms1 4.2/22,ms1mx4.0/45, Error ellipse: s-maj=15.0km s-min=9.8km az=67.0*
MOS ***13*** *04:28:48.3±0.8, 0.85S×121.41E, h34km, mb5.3/47, Error ellipse: s-maj=10.2km s-min=5.7km az=111.7*
ISCJB ***13*** *04:28:49.5±0.1, 0.97S±0.02×121.39E±0.02, h45km, mb5.2/95, MS4.3/29, Error ellipse: s-maj=2.9km s-min=2.4km az=1.3*
NEIC ***13*** *04:28:51.7±1.8, 0.95S±0.06×121.37E±0.05, h48km±5km, mb5.1/80*
KLM ***13*** *04:28:54.0, 0.98S×121.61E, h56km, mb5.2*
ISC 13 04:28:51.5±0.2, 0.98S±0.03×121.38E±0.04, h45km, n351, σ1973/362, mb5.1/116, MS4.2/30, 8C-14D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.27**	**77**	P		Pn	04 28 54.2	-5.7
APSI				S		**Sn**	**04 28 58.4**	**-7.4**
LUWI	**Luwuk**	**1.39**	**93**	P		**Pn**	**04 29 14.7**	**+0.3**
LUWI	**Luwuk**	**1.39**	**93**			**Pn**	**04 29 15.2**	**+0.8**
MRSI	**Marisa**	**1.55**	**21**	P		**Pn**	**04 29 14.0**	**-2.6**
MRSI				S		**Sn**	**04 29 35.3**	**-0.2**
MPSI	**Mapaga**	**1.98**	**311**	P		**Pn**	**04 29 18.8**	**-3.7**
TTSI	**Tana Toraja**	**2.58**	**217**	P		**Pn**	**04 29 30.0**	**-0.8**
KMSI	**Cibinong**	**3.02**	**59**	P		**Pn**	**04 29 38.3**	**+1.5**
KDI	**Kendari**	**3.21**	**157**	P		**Pn**	**04 29 38.9**	**-0.5**
SPSI	**Sidrap Palu**	**3.38**	**208**	P		**Pn**	**04 29 41.3**	**-0.5**
SPSI				S		**Sn**	**04 30 22.4**	**+1.8**
BNSI	**Bone**	**3.63**	**201**	P		**Pn**	**04 29 44.9**	**-0.4**
SMKI	**Samarinda**	**4.21**	**277**	P		**Pn**	**04 29 52.0**	**-1.1**
KAPI	**Kappang**	**4.33**	**202**	Pn		**Pn**	**04 29 54.2**	**-0.6**
KAPI	224nm,0.3s,baz=12,slow=6.2,SNR=316			LR		LR	04 31 24.4	
BKB	comp=Z,2µm,21.2s,baz=114,slow=35 **Balikpapan**	**4.50**	**266**	Pn		**Pn**	**04 29 56.8**	**-0.3**
BKSI	**Bulukumba**	**4.50**	**196**	P		**Pn**	**04 29 56.7**	**-0.4**
BBSI	**Bau Bau**	**4.64**	**165**	P		**Pn**	**04 29 59.3**	**+0.2**
SANI	**Sanana**	**4.73**	**103**	P		**Pn**	**04 29 59.0**	**-1.3**
LBMI	**Labuha**	**6.13**	**87**	P		Pn	04 30 32.5	+13
NLAI	**Namlea**	**6.14**	**112**	P		**Pn**	**04 30 20.8**	**+1.1**
TNTI	274nm,0.6s,4µm1.3nm **Ternate**	**6.23**	**74**	P		**Pn**	**04 30 20.2**	**-0.7**
TNTI	392nm,0.9s,3µm1.2nm **Ternate**	**6.23**	**74**			**Pn**	**04 30 21.4**	**+0.5**
AAI	**Ambon**	**7.32**	**112**	P		**Pn**	**04 30 35.9**	**0.0**
SPMM	404nm,1.0s,5µm1.4nm **Sapulut**	**7.48**	**319**	P		**Pn**	**04 30 40.0**	**+1.8**
MMRI	**Maumere**	**7.66**	**174**	P		**Pn**	**04 30 40.8**	**+0.3**
MMRI	196nm,1.8s,4µm3µm0.9nm **Maumere**	**7.66**	**174**			**Pn**	**04 30 40.4**	**-0.2**
MSAI	**Masohi**	**7.90**	**107**	P		**Pn**	**04 30 42.6**	**-1.2**
SKMP	83nm,1.0s,944nm0.3nm **Bagumbayan, Su**	**8.09**	**23**	P		**Pn**	**04 30 47.4**	**+1.0**
DDMP	**Don Marcelino,**	**8.25**	**32**	P		**Pn**	**04 30 49.0**	**+0.3**
PLAI	**Plampang**	**8.59**	**205**	P		**Pn**	**04 30 52.8**	**-0.5**
CTBH	93nm,1.5s,844nm3µm **Cotabato--PC H**	**8.63**	**19**	P		**Pn**	**04 30 54.2**	**+0.3**
CTBH				S		**Sn**	**04 32 30.3**	**+0.4**
KKM	**Kota Kinabalu**	**8.67**	**324**			**Pn**	**04 30 55.7**	**+1.2**
KCP	**Kidapawan**	**8.75**	**25**	⇓P		**Pn**	**04 30 59.2**	**+3.6**
TWSI	**Taliwang, Sumb**	**8.92**	**210**	P		**Pn**	**04 30 56.4**	**-1.4**
PAGZ	48nm,1.1s,471nm **Pagadian**	**8.99**	**13**	P		**Pn**	**04 30 59.3**	**+0.5**
DMPH	**Davao City--Mi**	**9.00**	**27**	P		**Pn**	**04 31 01.1**	**+2.2**
DAV	**Davao City (W)**	**9.02**	**28**	LR		LR	04 34 55.2	
DAV	comp=Z,2µm,18.0s,baz=206,slow=41 **Davao City (W)**	**9.02**	**28**	⇑*e*P		**Pn**	**04 31 02.1**	**+2.8**
SOEI	**Soe**	**9.18**	**162**	P		**Pn**	**04 31 01.8**	**+0.2**
SOEI	241nm,1.1s,3µm4µm **Soe**	**9.18**	**162**			**Pn**	**04 31 02.8**	**+1.3**
BNDI	**Bandanaira**	**9.21**	**113**	P		**Pn**	**04 31 01.6**	**-0.2**
SRBI	225nm,0.8s,7µm2µm **Singaraja**	**9.36**	**221**	P		**Pn**	**04 31 03.5**	**-0.4**
BATI	62nm,1.0s **Baumata**	**9.45**	**166**	Pn		**Pn**	**04 31 07.3**	**+2.2**
BATI	14nm,0.3s,baz=19,slow=2.3,SNR=18			LR		LR	04 35 28.9	
JAGI	comp=Z,11µm,18.8s,baz=342,slow=42 **Jajag, Banyuwa**	**10.36**	**224**	P		**Pn**	**04 31 17.9**	**+0.3**
JAGI	175nm,1.3s,2µm **Jajag, Banyuwa**	**10.36**	**224**			**Pn**	**04 31 18.4**	**+0.8**
GMJI	**Gumukmas**	**10.73**	**227**	P		**Pn**	**04 31 22.5**	**-0.1**
FAKI	47nm,1.1s **Fak Fak**	**11.03**	**100**	P		**Pn**	**04 31 25.8**	**-0.9**
FAKI	144nm,1.0s,1µm **Fak Fak**	**11.03**	**100**			**Pn**	**04 31 25.9**	**-0.9**
KSM	**Kuching**	**11.34**	**282**	P		Pn	04 31 39.0	+8.0
KSM	**Kuching**	**11.34**	**282**			**Pn**	**04 31 31.4**	**+0.4**
CUYO	**Cuyo Island**	**11.75**	**358**	P		**Pn**	**04 31 37.7**	**+1.1**
NGJI	**Ngawi**	**11.75**	**237**	P		**Pn**	**04 31 36.4**	**-0.2**
PWJI	62nm,1.1s **Pagerwojo**	**11.84**	**233**	P		**Pn**	**04 31 37.6**	**-0.2**
SAUI	37nm,1.4s **Saumlaki**	**12.09**	**125**	Pn		**Pn**	**04 31 40.2**	**-1.0**
ENPP	**El Nido**	**12.26**	**351**	P		**Pn**	**04 31 40.5**	**-3.0**
PCJI	**Pacitan**	**12.44**	**234**	P		**Pn**	**04 31 45.8**	**-0.2**
WOJI	61nm,0.9s **Wonogiri, Jawa**	**12.45**	**237**	P		**Pn**	**04 31 46.0**	**-0.2**
SMRI	46nm,1.5s **Semarang**	**12.47**	**241**	Pn		**Pn**	**04 31 47.1**	**+0.7**
RCP	**Roxas**	**12.53**	**6**	⇑P		**Pn**	**04 31 49.9**	**+2.7**
UGM	**Wanagama**	**12.83**	**237**	P		**Pn**	**04 31 51.1**	**-0.3**
OTRP	80nm,1.3s **Odiongan**	**13.27**	**3**	P		**P**	**04 32 06.6**	**+0.6**
SJMP	**San Jose**	**13.35**	**359**	P		**P**	**04 32 04.4**	**-2.6**
KPJI	**Karang Pucung**	**13.93**	**243**	P		**P**	**04 32 16.1**	**+2.7**
LUBP	**Lubang**	**14.66**	**356**	P		**Pn**	**04 32 16.8**	**+0.7**
BAKI	**Biak**	**14.72**	**91**	P		**P**	**04 32 25.8**	**+3.5**
PVCP	**Virac**	**14.73**	**11**	P		**P**	**04 32 25.2**	**+2.9**
SRPI	**Serui, Papua**	**14.88**	**94**	P		P	04 32 33.7	+10
LEM	**Lembang**	**14.91**	**247**	LR		LR	04 39 15.4	
CISI	comp=Z,1µm,18.3s,baz=44,slow=42 **Cisompet, Garu**	**15.02**	**244**	P		**Pn**	**04 32 20.9**	**-0.1**
CISI	39nm,0.8s,5µm **Cisompet, Garu**	**15.02**	**244**	Pn		**Pn**	**04 32 21.4**	**+0.4**
MTN	**Manton Dam**	**15.24**	**141**	P		**P**	**04 32 26.6**	**-1.4**
MTN	baz=15,SNR=5.5 **Manton Dam**	**15.24**	**141**	P		**P**	**04 32 26.3**	**-1.8**
PPBI	**Pangkal Pinang**	**15.29**	**265**	P		P	04 32 38.9	+10
DBJI	**Dramaga**	**15.61**	**249**	P		P	04 32 43.7	+12
KNRA	**Kununurra**	**16.32**	**154**	P		**Pn**	**04 32 35.7**	**-1.9**
KNRA	baz=16,SNR=4.8 **Kununurra**	**16.32**	**154**			**Pn**	**04 32 37.2**	**-0.4**
BALP	**Baler**	**16.61**	**1**	P		**P**	**04 32 43.0**	**-0.2**
CGJI	**Cibinong**	**16.62**	**250**	P		**Pn**	**04 32 42.1**	**+0.7**
SMPP	126nm,1.4s,2µm **San Manuel, Pa**	**17.03**	**358**	P		**Pn**	**04 32 42.7**	**-3.8**
KLSI		**17.03**	**257**	P		**Pn**	**04 32 46.7**	**+0.1**
SMPI	28nm,1.7s **Sarmi**	**17.35**	**94**	P		**Pn**	**04 32 50.0**	**-0.5**
KASI	181nm,1.5s,4µm **Kota Agung**	**17.45**	**255**	P		**P**	**04 32 57.5**	**+5.0**
FITZ	**Fitzroy Crossi**	**17.52**	**166**	P		**Pn**	**04 32 51.4**	**-1.2**
FITZ	baz=18,SNR=10.0 **Fitzroy Crossi**	**17.52**	**166**	P		**Pn**	**04 32 50.0**	**-2.6**
FITZ	0.1nm,0.3s,baz=359,slow=14,SNR=10.0			LR		LR	04 41 09.4	
FITZ	comp=Z,2µm,18.8s,baz=354,slow=42 **Fitzroy Crossi**	**17.52**	**166**	Pn		**Pn**	**04 32 50.8**	**-1.8**
MDSI	**Maura Dua**	**17.53**	**258**	P		**P**	**04 32 54.7**	**+1.3**
LWLI	43nm,1.2s,844nm **Liwa**	**17.76**	**257**	P		P	04 33 07.5	+11
ABRA	**Dolores**	**18.52**	**358**	P		**Pn**	**04 33 07.1**	**+2.4**
APYP	**Conner**	**18.72**	**360**	P		**P**	**04 33 06.4**	**0.0**
JAY	**Jayapura**	**19.37**	**95**	P		**Pn**	**04 33 14.7**	**-0.4**
JAY	0.4nm,0.3s,baz=240,slow=3.9,SNR=3.7			LR		LR	04 42 36.6	
JAY	comp=Z,390nm,21.3s,baz=17,slow=43 **Jayapura**	**19.37**	**95**	P		**Pn**	**04 33 14.8**	**-0.4**
KRJI	26nm,1.2s,542nm **Kerinci**	**19.94**	**267**	P		Pn	04 33 29.6	+7.6
SDSI	**Sungai Dareh**	**19.95**	**270**	P		**P**	**04 33 20.6**	**+0.6**
BKNI	56nm,1.1s,8µm **Bangkinang**	**20.38**	**274**	P		Pn	04 33 37.9	+11
BKNI	**Bangkinang**	**20.38**	**274**	P		**P**	**04 33 24.1**	**-0.6**
BKNI				IAmb		IAmb	04 33 38.1	
PSA00	comp=Z,165nm,1.1s **Pilbara Seismi**	**20.53**	**184**	P		**P**	**04 33 26.7**	**+0.6**
IPM	**Ipoh**	**21.05**	**285**	P		**P**	**04 33 32.3**	**+0.4**
KULM	**Kulim**	**21.62**	**287**	P		P	04 33 46.0	+8.0
KULM	**Kulim**	**21.62**	**287**	P		**P**	**04 33 39.1**	**+1.1**
SKLT	**Songkhla**	**22.24**	**292**	P		P	04 33 52.3	+7.7
SISI	**Saibi**	**22.29**	**269**	P		**P**	**04 33 45.9**	**+0.7**
UBPT	comp=Z,106nm,1.4s,comp=Z,2µm **Khong Chiam**	**22.55**	**316**	IAmb		IAmb	04 33 56.4	
WRAB	comp=Z,121nm,1.2s **Tennant Creek**	**22.72**	**147**	*c* iP		**P**	**04 33 49.4**	**-0.3**
WRAB	comp=Z,106nm,1.1s			pmax		pmax		
WRAB	**Tennant Creek**	**22.72**	**147**	P		**P**	**04 33 49.5**	**-0.2**
WRAB	comp=Z,92nm,0.9s			IAmb		IAmb	04 34 00.2	
WRA	**Warramunga Arr**	**22.72**	**147**	*i* P		**P**	**04 33 49.2**	**-0.5**
WRA	comp=Z,46nm,1.0s			pmax		pmax		
WRA	**Warramunga Ar**	**22.72**	**147**	P		**P**	**04 33 49.3**	**-0.5**
WRA	comp=Z,44nm,0.9s,baz=320,slow=11,SNR=50			S		**S**	**04 37 56.6**	**+1.3**
WRA	comp=Z,6.6nm,1.3s,baz=324,slow=16,SNR=7.6			ScP		**ScP**	**04 41 18.9**	**+3.8**
WRA	comp=Z,0.9nm,1.0s,baz=328,slow=2.9,SNR=5.1			LR		LR	04 44 37.8	
RPSI	comp=Z,586nm,18.4s,baz=320,slow=42 **Rantau Prapat**	**22.75**	**279**	P		**P**	**04 33 50.9**	**+0.8**
RPSI	comp=Z,58nm,1.0s			IAmb		IAmb	04 34 01.6	
PSI	**Prapat**	**22.76**	**280**	P		**P**	**04 33 50.9**	**+0.5**
PSI	comp=Z,59nm,1.0s			pmax		pmax		
PSI	**Prapat**	**22.76**	**280**	P		**P**	**04 33 50.8**	**+0.4**
PSI	comp=Z,4.0nm,0.4s,baz=105,slow=7.7,SNR=16			LR		LR	04 43 39.1	
QIZ	comp=Z,703nm,19.8s,baz=104,slow=39 **Qiongzhong**	**22.88**	**331**	P		**P**	**04 33 50.6**	**-0.8**
QIZ				pP		**pP**	**04 34 03.8**	**+1.7**
QIZ				S		**S**	**04 38 01.1**	**+3.0**
QIZ				sS		**sS**	**04 38 21.3**	**+3.9**
QIZ	comp=Z,910nm,22.0s			LR		LR		
QIZ	**Qiongzhong**	**22.88**	**331**	IAmb		IAmb	04 33 59.0	
TRTT	comp=Z,95nm,1.2s **Trang**	**23.34**	**292**	P		**P**	**04 33 58.2**	**+2.2**
TWG	comp=Z,67nm,1.6s,comp=Z,3µm **Pinlang**	**23.65**	**359**	P		**P**	**04 33 59.9**	**+1.0**
GSI	**Gunungsitoli**	**23.91**	**275**	P		**P**	**04 34 02.5**	**+1.0**
GSI	comp=Z,147nm,1.3s **Gunungsitoli**	**23.91**	**275**	P		**P**	**04 34 01.9**	**+0.4**
TPUB	**Ta-pu**	**24.14**	**358**	P		**P**	**04 34 03.5**	**+0.1**
YULB	**Yu-li**	**24.22**	**360**	IAmb		IAmb	04 34 08.4	
TPTI	comp=Z,45nm,0.8s **Tapi**	**24.55**	**280**	P		**P**	**04 34 08.4**	**+1.1**
SURT	comp=Z,12nm,1.1s **Suratani**	**24.57**	**294**	P		P	04 34 16.3	+8.8
PATY	**Pattaya**	**24.60**	**305**	P		**P**	**04 34 11.9**	**+4.2**
SSLB	comp=Z,35µm,0.9s **Suanglung**	**24.62**	**359**	IAmb		IAmb	04 34 19.8	
WRKA	comp=Z,61nm,0.9s **Warakurna**	**24.84**	**165**	P		**P**	**04 34 10.2**	**+0.4**
COEN	baz=25,SNR=23 **Coen**	**25.12**	**122**	P		**P**	**04 34 13.2**	**+0.8**
COEN	baz=25,SNR=6.3 **Coen**	**25.12**	**122**	P		**P**	**04 34 13.3**	**+0.8**
LHMI	**Lhok Sumawe**	**25.17**	**284**	P		**P**	**04 34 13.9**

comp=Z,13nm,0.8s,baz=136,slow=6.7,SNR=59
CMAR LR LR 04 48 37.0
comp=Z,461nm,18.8s,baz=137,slow=41
CMMT Chiang Mai 29.54 313 P P 04 34 52.5 +0.4
comp=Z,37nm,1.1s,comp=Z,355nm
CHTO Chiang Mai 29.55 313 P P 04 34 52.6 +0.5
CHTO pmax pmax
comp=Z,84nm,1.1s
CHTO Chiang Mai 29.55 313 P P 04 34 52.6 +0.5
BLDU Ballidu 29.81 188 P P 04 34 54.1 -0.2
baz=30,SNR=5.7
MHMT Maesarieng 29.91 311 P P 04 34 56.1 +0.8
comp=Z,164nm,1.0s,comp=Z,1µm
FORT Forrest 30.31 169 P P 04 34 59.0 +0.3
KLBR Kellerberrin 30.64 186 P P 04 35 01.9 +0.2
baz=31,SNR=4.3
GYA Guiyang 30.75 334⇓*iP P 04 35 03.1 +0.3*
GYA pP pP 04 35 12.0 -2.6
GYA PP **PnPn 04 36 07.1 +3.0**
GYA S **S 04 39 59.5 -3.5**
GYA sS sS 04 40 26.9 +3.9
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,110nm,3.7s
GYA LR LR
comp=Z,330nm,16.8s
GYA LR LR
comp=Z,140nm,9.6s
GYA LR LR
comp=Z,350nm,15.9s
KRVT Keravat (AS076 30.79 97 P P 04 35 05.3 +2.2
comp=Z,24nm,0.4s,baz=93,slow=10,SNR=3.9
KMI Kunming 31.61 326 P P 04 35 12.0 +1.5
KMI pP sP 04 35 25.8 -1.6
KMI PP **PP 04 36 19.5 -3.0**
KMI S **S 04 40 15.0 -1.7**
KMI pmax pmax
comp=Z,19nm,0.8s
KMI pmax pmax
comp=Z,160nm,3.7s
KMI LR LR
comp=Z,350nm,18.7s
KMI LR LR
comp=Z,380nm,23.0s
KMI LR LR
comp=Z,600nm,24.5s
NWAO Narrogin (SRO) 32.02 187 P P 04 35 14.8 +1.0
baz=32,SNR=4.6
NWAO Narrogin (SRO) 32.02 187 P P 04 35 14.0 +0.2
NWAO pmax pmax
comp=Z,19nm,1.0s
NWAO Narrogin (SRO) 32.02 187 P P 04 35 14.0 +0.2
WHN Wuhan 32.05 349 P P 04 35 15.0 +1.0
WHN S **S 04 40 26.9 +3.9**
WHN LR LR
comp=Z,2µm,16.9s
WHN LR LR
comp=Z,850nm,11.3s
WHN LR LR
comp=Z,2µm,20.7s
NJ2 Nanjing 32.93 356⇓P P 04 35 22.6 +0.9
NJ2 pmax pmax
comp=Z,28nm,0.7s
RKGY Rocky Gully 33.71 187 P P 04 35 30.0 +1.5
baz=34,SNR=10.0
JCJ Chichijima 34.35 34 P P 04 35 32.8 -1.4
comp=Z,173nm,0.6s,baz=201,slow=6.3,SNR=6.6
BBOO Buckleboo 34.55 158 P P 04 35 36.1 +0.3
baz=35,SNR=9.6
BBOO Buckleboo 34.55 158 P P 04 35 36.1 +0.3
BBOO IAmb IAmb 04 35 44.8
comp=Z,25nm,0.9s
JNU Nakatsue 35.08 14 P P 04 35 38.6 -1.8
comp=Z,13nm,0.8s,baz=73,slow=8.2,SNR=4.6
CD2 Chengdu 35.87 334⇓*iP P 04 35 46.6 -0.6*
CD2 pP sP 04 36 03.9 -0.4
CD2 S **S 04 41 22.5 +0.3**
CD2 sS sS 04 41 45.3 +3.0
CD2 ScS **ScS 04 45 58.9 -3.1**
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,300nm,5.4s
CD2 LR LR
comp=Z,610nm,15.5s
CD2 LR LR
comp=Z,530nm,12.0s
CD2 LR LR
comp=Z,680nm,21.8s
STKA Stephens Creek 36.18 150 P P 04 35 50.5 +0.6
comp=Z,14nm,0.9s,baz=321,slow=9.0,SNR=17
STKA LR LR 04 52 40.4
comp=Z,291nm,18.6s,baz=314,slow=39
STKA Stephens Creek 36.18 150 P P 04 35 50.5 +0.6
HTT Hallett 36.24 155 P P 04 35 51.3 +0.9
baz=36,SNR=9.0
XAN Xi'an 36.75 343 P P 04 35 54.3 -0.4
XAN pP pP 04 36 06.4 -0.3
XAN PP **PnPn 04 37 28.1 +8.7**
XAN S **S 04 41 40.3 +4.8**
XAN pmax pmax
comp=Z,23nm,1.3s
XAN pmax pmax
comp=Z,72nm,3.5s
XAN LR LR
comp=Z,440nm,16.5s
XAN LR LR
comp=Z,310nm,15.3s
XAN LR LR
comp=Z,520nm,16.5s
CMSA Cobar Meteorol 38.11 145 P P 04 36 07.5 +1.2
baz=38,SNR=11
KSRS Korea Array 38.71 8 P P 04 36 11.0 -0.2
KSRS Korea Array 38.71 8 P P 04 36 10.9 -0.2
comp=Z,9.9nm,1.0s,baz=186,slow=11,SNR=13
KSRS LR LR 04 53 03.2
comp=Z,320nm,18.8s,baz=188,slow=38
SHL Shillong 38.85 315 P P 04 36 11.8 -1.0
SHL pmax pmax
comp=Z,43nm,1.0s
SHL Shillong 38.85 315 *eP* **P 04 36 12.0 -0.8**
SHL Shillong 38.85 315 P **P 04 36 11.8 -1.0**
SHL IAmb IAmb 04 36 19.8
comp=Z,43nm,1.0s
INU Inuyama 38.98 21 P P 04 36 13.0 -0.4
INU IAmb IAmb 04 36 13.4
comp=Z,46nm,1.0s
HNR Honiara 39.27 104 P P 04 36 15.8 -0.5
HNR pmax pmax
comp=Z,228nm,1.0s
HNR Honiara 39.27 104 P P 04 36 15.8 -0.5
TIY Taiyuan 39.38 349 *eP* **P 04 36 16.9 +0.1**
LZH Lanzhou 40.33 338 *eP* **P 04 36 25.5 +0.6**
LZH pP pP 04 36 39.4 +2.5
LZH sP sP 04 36 45.1 +3.1
LZH PP **PnPn 04 38 02.6 +0.2**
LZH sS sS 04 42 51.6 +1.4
LZH pmax pmax
comp=Z,26nm,1.3s
LZH pmax pmax
comp=Z,140nm,6.2s
LZH LR LR
comp=Z,430nm,15.2s
LZH LR LR
comp=Z,370nm,15.2s
LZH LR LR
comp=Z,500nm,17.4s
MAJO Matsushiro 40.47 21 P P 04 36 24.4 -1.5
MAJO pmax pmax
comp=Z,54nm,1.1s
MAJO Matsushiro 40.47 21 P P 04 36 24.4 -1.5
MAJO IAmb IAmb 04 36 25.1
comp=Z,54nm,1.1s
MAT Matsushiro 40.47 21 P P 04 36 23.7 -2.2
MJAR Matsushiro Arr 40.47 21 P P 04 36 24.0 -1.9
MJAR Matsushiro Arr 40.47 21 P P 04 36 24.0 -1.9
comp=Z,36nm,0.9s,baz=195,slow=8.6,SNR=49
MJAR LR LR 04 54 56.3
comp=Z,153nm,18.4s,baz=210,slow=39
MJB9 Matsu-Tunnel 40.47 21 P P 04 36 24.4 -1.5
MJB9 IAmb IAmb 04 36 25.1
comp=Z,54nm,1.1s
BJT Baijiatuau 41.08 354 P P 04 36 30.2 -0.6
BJT pmax pmax
comp=Z,33nm,1.2s
BJT Baijiatuau 41.08 354 P P 04 36 30.2 -0.6
BJT IAmb IAmb 04 36 31.7
comp=Z,33nm,1.2s
BJI Beijing 41.10 354 P P 04 36 30.3 -0.6
BJI pmax pmax
comp=Z,19nm,1.3s
LSA Lhasa 41.99 319 P P 04 36 38.6 -0.4
LSA pmax pmax
comp=Z,26nm,0.7s
LSA Lhasa 41.99 319 P P 04 36 38.6 -0.4
LSA IAmb IAmb 04 36 48.1
comp=Z,26nm,0.7s
HHC Hu-ho-hao-te 42.58 349 P P 04 36 44.3 +1.1
HHC pP pP 04 36 56.5 +1.1
HHC sP sP 04 37 03.3 +2.6
HHC ScS ScS 04 46 37.8 -3.2
HHC pmax pmax
comp=Z,4.0nm,1.2s
SNY Shenyang 42.65 2⇓P **P 04 36 42.3 -1.3**
SNY S **S 04 43 08.5 +4.9**
SNY pmax pmax
comp=Z,31nm,1.0s
SNY pmax pmax
comp=Z,510nm,5.3s
SNY LR LR
comp=Z,620nm,17.1s
SNY LR LR
comp=Z,940nm,23.5s
CAN Canberra 42.76 146 P P 04 36 45.4 +0.7
CAN pmax pmax
comp=Z,44nm,1.0s
CAN Canberra 42.76 146 P P 04 36 45.4 +0.7
CAN IAmb IAmb 04 36 55.8
comp=Z,44nm,1.0s
ODAN Odare 42.86 313 *eP* **P 04 36 46.0 +0.1**
comp=Z,162nm,1.2s
TAPN Taplejung 42.91 314 *eP* **P 04 36 46.0 -0.4**
comp=Z,158nm,1.1s
RAMN Ramite 43.50 312 *eP* **P 04 36 51.7 +0.7**
comp=Z,295nm,1.0s
JIRN Jiri 44.20 313 *eP* **P 04 36 56.7 -0.1**
comp=Z,96nm,0.5s
GUN Gumba 44.56 313 *eP* **P 04 36 59.5 -0.2**
comp=Z,99nm,0.5s
PKI Pulchoki 44.72 312 *eP* **P 04 37 00.0 -0.9**
comp=Z,121nm,1.1s
CN2 Changchun 44.73 4 *eP* **P 04 37 01.8 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
PKIN Phulchoki 44.73 312 *eP* **P 04 37 00.3 -0.7**
GTA Gaotai 44.79 336⇓P **P 04 37 01.4 +0.3**
GTA pP pP 04 37 13.8 +0.6
GTA sP sP 04 37 19.3 +1.0
GTA PcP **PcP 04 38 42.8 +0.2**
GTA S **S 04 43 35.5 +0.2**
GTA SS **ScS 04 46 51.4 -3.6**
GTA pmax pmax
comp=Z,20nm,1.4s
GTA pmax pmax
comp=Z,180nm,8.1s
GTA LR LR
comp=Z,350nm,18.4s
GTA LR LR
comp=Z,250nm,17.5s
GTA LR LR
comp=Z,390nm,18.4s
KKN Kakani 44.94 312 *eP* **P 04 37 02.1 -0.4**
comp=Z,168nm,1.1s
DMN Daman 44.97 312 *eP* **P 04 37 02.4 -0.4**
comp=Z,146nm,1.1s
USA0B Ussuriysk Arra 45.96 11*diP* **P 04 37 07.9 -2.2**
USRK Ussuriysk Ar. 45.96 11 P **P 04 37 08.5 -1.6**
comp=Z,16nm,0.9s,baz=193,slow=8.1,SNR=18
USRK LR LR 04 56 59.7
comp=Z,250nm,19.0s,baz=170,slow=37
MDJ Mudanjiang 45.98 8 P P 04 37 09.4 -0.8
MDJ pP pP 04 37 23.8 +1.4
MDJ sP sP 04 37 29.3 +1.8
MDJ PcP **PcP 04 38 43.8 -2.6**
MDJ PP **PP 04 38 59.8 +1.1**
MDJ ScP **ScP 04 42 30.6 -5.4**
MDJ PcS **PcS 04 42 37.3 -3.3**
MDJ S **S 04 43 53.3 +1.3**
MDJ sS sS 04 44 11.8 -0.8
MDJ ScS **ScS 04 46 58.4 -3.7**
MDJ pmax pmax
comp=Z,45nm,0.9s
MDJ pmax pmax
comp=Z,550nm,3.7s
MDJ LR LR
comp=Z,1µm,4.5s
MDJ LR LR
comp=Z,300nm,4.3s
MDJ LR LR
comp=Z,920nm,24.2s
MDJ Mudanjiang 45.98 8 P P 04 37 09.5 -0.7
TEY Ternei 47.77 15⇓*eP P 04 37 30.4 +6.3*
TEY pmax pmax
comp=Z,30nm,1.4s
ASAJ Asahikawa 48.73 20 P P 04 37 30.8 -0.8
comp=Z,23nm,0.9s,baz=228,slow=13,SNR=6.3
HIA Hailar 50.06 359 P P 04 37 41.2 -0.5
HIA pmax pmax
comp=Z,34nm,1.0s
HIA Hailar 50.06 359 P P 04 37 41.2 -0.5
ULN Ulaanbaatar 50.22 347*deP* **P 04 37 42.8 -0.3**
ULN pmax pmax
comp=Z,71nm,1.7s
ULN Ulaanbaatar 50.22 347 P P 04 37 43.3 +0.2
SONM Songino Array 50.34 347 P P 04 37 43.3 -0.7
comp=Z,15nm,0.9s,baz=162,slow=7.0,SNR=54
SONM LR LR 05 01 04.8
comp=Z,527nm,18.6s,baz=172,slow=39
KLR Kul'dur 50.80 9 *iP* **P 04 37 46.3 -1.0**
KLR pmax pmax
comp=Z,21nm,1.3s
YSS Yuzh-Sakhalins 51.28 19 *eP* **P 04 37 54.3 +3.4**
YSS MLR MLR
comp=Z,200nm,14.0s
GRNR Gornyy 53.12 12⇓*iP P 04 38 03.1 -1.4*
GRNR *eS* **S 04 45 31.3 -0.5**
GRNR pmax pmax
comp=Z,20nm,1.3s
GRNR smax smax
comp=N,8.0nm,1.0s
ZAK Zakamensk 53.45 346 *eP* P 04 38 01.8 -5.3
ZAK pmax pmax
comp=Z,12nm,1.1s
WMQ Urumqi 53.80 330 P P 04 38 10.8 +1.0
WMQ pP pP 04 38 22.3 +0.2
WMQ sP sP 04 38 29.1 +1.9
WMQ ScP **ScP 04 43 03.3 -6.4**
WMQ pmax pmax
comp=Z,9.0nm,1.7s
WMQ pmax pmax
comp=Z,200nm,4.5s
WMQ LR LR
comp=Z,740nm,27.7s
WMQ LR LR
comp=Z,1µm,29.1s
WMQ LR LR
comp=Z,350nm,25.9s
TLY Talaya 54.57 347 *eP* **P 04 38 15.8 +0.7**
TLY pmax pmax
comp=Z,64nm,1.1s
TLY MLR MLR
comp=Z,902nm,20.0s
TLY Talaya 54.57 347 P P 04 38 15.7 +0.5
comp=Z,12nm,0.8s,baz=210,slow=8.0,SNR=4.7
TLY LR LR 05 03 50.9
comp=Z,245nm,18.7s,baz=136,slow=39
TLY Talaya 54.57 347 IAmb IAmb 04 38 24.4
comp=Z,26nm,1.1s
MOY Mondy 55.22 345 *eP* **P 04 38 20.3 +0.4**
MOY pmax pmax
comp=Z,58nm,2.3s
KSH Kashi 57.84 319 P P 04 38 39.5 +0.6
KSH PcP **PcP 04 39 30.8 -0.2**
KSH PP **PP 04 40 49.4 +1.9**
KSH S **S 04 46 30.3 -5.1**
KSH ScS **ScS 04 48 17.8 -7.2**
KSH pmax pmax
comp=Z,34nm,0.7s
KSH pmax pmax
comp=Z,880nm,4.8s
KSH LR LR
comp=Z,430nm,5.8s
KSH LR LR
comp=Z,470nm,5.3s
KSH LR LR
comp=Z,470nm,9.8s
PDGK Podgornoye 57.89 325 P P 04 38 39.4 +0.3
PDGK pmax pmax
comp=Z,27nm,0.9s
MSVF Nonsavu 58.08 110 P P 04 38 41.4 +0.6
MSVF pmax pmax
comp=Z,49nm,1.0s
MSVF Nonsavu 58.08 110 P P 04 38 41.4 +0.6
KDJ Kajisay 58.54 323 P P 04 38 43.9 +0.1
KDJ pmax pmax
comp=Z,29nm,1.0s
KDJ Kajisay 58.54 323 P P 04 38 43.9 +0.1
MK31 Makanchi Array 58.61 330 P P 04 38 43.6 -0.3
MK31 pmax pmax
comp=Z,39nm,1.0s
MK31 Makanchi Array 58.61 330 P P 04 38 43.6 -0.3
MKAR Makanchi Array 58.61 330 P P 04 38 43.6 -0.4
comp=Z,20nm,0.9s,baz=129,slow=7.5,SNR=101
MKAR LR LR 05 06 22.4
comp=Z,166nm,18.7s,baz=106,slow=39
MAKZ Makanchi 58.78 329 P P 04 38 44.7 -0.4
MAKZ pmax pmax
comp=Z,18nm,0.7s
MAKZ Makanchi 58.78 329 P P 04 38 44.7 -0.4
MAKZ IAmb IAmb 04 38 51.9
comp=Z,18nm,0.7s
NRN Naryn 58.87 321 IAmb IAmb 04 38 57.6
comp=Z,14nm,0.9s
BOD Bodaibo 58.91 355 *eP* **P 04 38 44.3 -1.5**
BOD pmax pmax
comp=Z,38nm,2.0s
KZA Kyzart 59.70 322 P P 04 38 52.9 +0.8
SNR=9.6
TKM2 Tokmak 2 59.95 323 *i* P **P 04 38 53.1 -0.5**
TKM2 pmax pmax
comp=Z,41nm,1.1s
TKM2 Tokmak 2 59.95 323 P P 04 38 53.5 -0.1
SNR=10
KBK Karagaybulak 60.20 322 P P 04 38 55.8 +0.5
SNR=7.4
UCH Uchtor 60.24 321 P P 04 38 56.1 +0.3
SNR=11
AAK Ala-Archa 60.47 322*ceP* **P 04 38 57.1 0.0**
AAK pmax pmax
comp=Z,33nm,1.7s
AAK Ala-Archa 60.47 322 P P 04 38 57.0 0.0
SNR=11
AAK Ala-Archa 60.47 322 P P 04 38 57.4 +0.3
AML Almayashu 60.70 321 P P 04 38 59.0 +0.1
SNR=13
USP Ospenovka 60.81 322 P P 04 38 59.1 -0.2
SNR=10
RPZ Rata Peaks 61.26 141 P P 04 39 03.1 +0.9
BTK Batken 61.53 318 IAmb IAmb 04 39 09.6
comp=Z,18nm,1.1s
PETK Petropavlovsk- 61.82 24 P P 04 39 05.9 +0.2
comp=Z,32nm,0.9s,baz=232,slow=4.9,SNR=5.2
CHGR Chuyangaron 62.03 316 P P 04 39 07.0 -0.6
ZALV Zalesovo Beam 62.54 337 *i* P **P 04 39 09.5 -1.1**
ZALV pmax pmax
comp=Z,24nm,1.0s
ZALV Zalesovo Beam 62.54 337 P P 04 39 08.9 -1.7
comp=Z,24nm,1.0s,baz=123,slow=5.5,SNR=49
KURK Kurchatov 63.02 331*ceP* **P 04 39 13.0 -0.8**
KURK pmax pmax
comp=Z,57nm,1.3s
KURK Kurchatov 63.02 331 P P 04 39 13.0 -0.8
YAK Yakutsk 63.16 4 *eP* **P 04 39 14.1 -0.4**
YAK pmax pmax
comp=Z,30nm,1.2s
YAK pmax pmax
comp=N,17nm,1.3s
YAK Yakutsk 63.16 4 P **P 04 39 13.5 -1.0**
comp=N,11nm,0.4s,baz=102,slow=2.3,SNR=4.3
TAS Tashkent 63.16 318 P **P 04 39 14.7 -0.3**
TAS pmax pmax
comp=Z,95nm,1.1s
TAS Tashkent 63.16 318 P P 04 39 14.7 -0.3
KK31 Karatay Array 63.22 320 P P 04 39 15.5 +0.2
KK31 pmax pmax
comp=Z,12nm,0.9s
KK31 Karatay Array 63.22 320 P P 04 39 15.4 +0.2
KK31 IAmb IAmb 04 39 24.2
comp=Z,12nm,0.9s
KKAR Karatay Array 63.22 320 P P 04 39 15.5 +0.2
KKAR pmax pmax
comp=Z,12nm,0.9s
KKAR Karatay Array 63.22 320 P P 04 39 15.4 +0.2
KKAR IAmb IAmb 04 39 24.2
comp=Z,12nm,0.9s
MA2 Magadan 64.61 16 *i* P **P 04 39 23.3 -0.8**
MA2 pmax pmax
comp=Z,14nm,0.8s
HRA Herat 65.50 309 P P 04 39 29.8 -0.9
SEY Seymchan 67.85 15 *i* P **P 04 39 44.2 -0.6**
UOSS Minazif 68.04 297 P P 04 39 47.0 +0.3
UOSS IAmb IAmb 04 39 57.5
comp=Z,12nm,0.9s
BRVK Borovoye 68.56 330*ceP* **P 04 39 48.4 -1.1**
BRVK pmax pmax
comp=Z,53nm,1.3s
BRVK Borovoye 68.56 330 P P 04 39 48.5 -0.9
GEYT Alibeck 69.80 311 P P 04 39 56.4 -1.1
comp=Z,7.8nm,0.9s,baz=151,slow=6.6,SNR=10
GYA0B ALIBECK ARRAY 69.80 311 IAmb IAmb 04 40 05.4
comp=Z,25nm,1.1s
AB31 Akbulak array 72.52 323 *i* P **P 04 40 12.4 -1.2**
AB31 pmax pmax
comp=Z,23nm,1.2s
ABKAR Akbulak array 72.52 323 P P 04 40 12.8 -0.8
ABKAR IAmb IAmb 04 40 13.7
comp=Z,18nm,1.1s
TIXI Tiksi 72.66 2*ceP* **P 04 40 12.1 -2.0**
TIXI pmax pmax
comp=Z,13nm,0.8s
TIXI Tiksi 72.66 2 P P 04 40 11.8 -2.2
TIXI IAmb IAmb 04 40 21.2
comp=Z,20nm,1.0s
AKTO Aktyubinsk 74.12 324 P P 04 40 22.3 -0.8
comp=Z,10.0nm,0.9s,baz=115,slow=5.6,SNR=22
AKTO LR LR 05 15 01.5
comp=Z,138nm,20.1s,baz=108,slow=38
SVE Sverdlovsk 75.26 330 *eP* **P 04 40 28.6 -0.9**
SVE pmax pmax
comp=Z,61nm,1.0s
BILL Bilibino 75.47 16 *i* P **P 04 40 29.6 -1.0**
BILL *i* 04 40 36.2
BILL *i* 04 40 40.9
BILL pmax pmax
comp=Z,12nm,1.2s
BILL Bilibino 75.47 16 P P 04 40 29.7 -0.9
ARU Arti 76.13 329*diP* **P 04 40 32.0 -2.5**
ARU S **S 04 50 13.0 -2.0**
ARU pmax pmax
comp=Z,17nm,0.9s
ARU Arti 76.13 329 P P 04 40 32.8 -1.8
comp=Z,2.8nm,0.2s,baz=179,slow=23,SNR=10
ARU Arti 76.13 329 P P 04 40 32.4 -2.1
ARU IAmb IAmb 04 40 41.8
comp=Z,38nm,1.0s
RAYN Ar Rayn 77.46 294 P P 04 40 41.8 -1.0
RAYN pmax pmax
comp=Z,11nm,1.2s
RAYN Ar Rayn 77.46 294 P P 04 40 41.8 -1.0
MAW Mawson 77.54 200 P P 04 40 43.6 +1.4
baz=78,SNR=6.2
MAW Mawson 77.54 200 P P 04 40 43.0 +0.8
MAW pmax pmax
comp=Z,2.0nm,1.1s
MAW Mawson 77.54 200 P P 04 40 43.5 +1.3
comp=Z,4.2nm,1.0s,baz=64,slow=8.6,SNR=5.3
MAW LR LR 05 09 50.1
comp=Z,110nm,21.9s,baz=52,slow=32
MAW Mawson 77.54 200 P P 04 40 43.0 +0.8
VNDA Vanda 79.52 172 P P 04 40 53.9 +0.9
comp=Z,2.4nm,0.8s,baz=302,slow=3.6,SNR=10
TBLG Delisi 80.70 312 P P 04 40 59.9 -0.2
TBLG pmax pmax
comp=Z,17nm,0.9s
TBLG Delisi 80.70 312 P P 04 40 59.9 -0.2
TBLG IAmb IAmb 04 41 15.7

	comp=Z,17nm,0.9s							
AKH	**Akhalkalaki**	**81.57**	**312**	P	**P**	04 41 04.5	**-0.4**	
AKH				pmax	pmax			
	comp=Z,24nm,1.2s							
AKH	**Akhalkalaki**	**81.57**	**312**	P	**P**	04 41 04.5	**-0.4**	
AKH				IAmb	IAmb	04 41 13.5		
	comp=Z,24nm,1.2s							
KIV	**Kislovodsk**	**82.54**	**314**	*e*P	**P**	04 41 05.9	**-4.0**	
KIV				pmax	pmax			
	comp=Z,21nm,1.1s							
KIV				MLR	MLR			
	comp=Z,192nm,19.0s							
PRGR	**Permogore**	**84.11**	**332**	*e*P	**P**	04 41 16.0	**-1.4**	
PRGR				pmax	pmax			
	comp=Z,17nm,1.0s							
KMBO	**Kilima Mbogo**	**84.11**	**269**	P	**P**	04 41 17.9	**-0.9**	
KMBO				pmax	pmax			
	comp=Z,3.0nm,1.0s							
KMBO	**Kilima Mbogo**	**84.11**	**269**	P	**P**	04 41 17.9	**-0.9**	
RDOG	**Red Dog Mine**	**85.58**	**21**	P	**P**	04 41 24.3	**-0.4**	
RDOG				IAmb	IAmb	04 41 34.6		
	comp=Z,25nm,1.1s							
SYO	**Syowa Base**	**86.15**	**201**⇓	*e*X	**P**	04 41 23.0	**-4.5**	
OBN	**Obninsk**	**87.82**	**325**	*i* P	**P**	04 41 34.2	**-1.6**	
OBN				*i*		04 41 40.8		
OBN				pmax	pmax			
	comp=Z,10.0nm,1.1s							
BRTR	**Keskin Array B**	**88.88**	**310**	P	**P**	04 41 40.3	**-1.1**	
	comp=Z,2.4nm,1.1s,baz=101,slow=7.5,SNR=2.8							
QSPA	**South Pole Qui**	**88.97**	**180**	P	**P**	04 41 42.3	**+1.0**	
MLY	**Manley**	**89.98**	**25**	P	**P**	04 41 45.9	**-0.1**	
MLY				IAmb	IAmb	04 41 55.7		
	comp=Z,7.5nm,1.0s							
APA	**Apatity**	**90.12**	**337**⇓	*i* P	P	04 41 54.0	+7.6	
APA				pmax	pmax			
	comp=Z,9.0nm,1.2s							
APA				MLR	MLR			
	comp=Z,2μm,30.0s							
CCB	**Clear Creek Bu**	**91.22**	**26**	IAmb	IAmb	04 41 54.1		
	comp=Z,7.7nm,1.1s							
HDA	**Harding Lake**	**91.60**	**26**	P	**P**	04 41 52.5	**-0.9**	
	baz=271							
EPYK	**Eagle Plains**	**95.66**	**23**	P	**P**	04 42 11.3	**-0.8**	
	baz=281							
C36M	**Paulatuk**	**99.39**	**19**	P	**Pdif**	04 42 28.1	**-0.6**	
	baz=293							
YKA	**Yellowknife Ar**	**105.94**	**24**	PP	**PP**	04 47 24.6	**+3.4**	
	comp=Z,1.0nm,1.0s,baz=297,slow=7.5,SNR=4.1							
M04C	**Macdoel**	**110.37**	**45**	P	**PKiKP**	04 47 19.8	**+0.5**	
	baz=288							
SNCC	**San Nicolas Is**	**114.62**	**54**	P	PKPdf	04 47 25.6	-1.8	
	baz=286							
MPMC	**Manual Prospec**	**115.39**	**50**	P	**PKPdf**	04 47 30.1	**+1.0**	
	baz=289							
GMRC	**Granite Mounta**	**117.21**	**51**	P	**PKiKP**	04 47 33.4	**+0.8**	
	baz=290							
DUG	**Dugway, Tooele**	**117.32**	**44**	P	**PKiKP**	04 47 34.0	**+1.4**	
	baz=294							
PDAR	**Pinedale Array**	**118.38**	**41**	PKP	**PKiKP**	04 47 35.4	**+0.6**	
	comp=Z,0.5nm,0.9s,baz=132,slow=1.3,SNR=2.9							
TORD	**Torodi Ar. Bea**	**119.09**	**284**	PKP	**PKPdf**	04 47 35.4	**-1.1**	
	comp=Z,0.6nm,0.6s,baz=350,slow=1.8,SNR=4.3							
TORD				PKKPbc	**PKKPbc**	04 57 50.7	**+0.5**	
	comp=Z,1.8nm,0.5s,baz=293,slow=5.6,SNR=18							
O20A	**White River Ci**	**120.49**	**43**	P	**PKPdf**	04 47 37.5	**-1.3**	
	baz=298							
RSSD	**Black Hills**	**121.14**	**37**	P	**PKPdf**	04 47 39.3	**-0.7**	
	baz=304							
W18A	**Petrified Fore**	**121.61**	**49**	P	**PKPdf**	04 47 41.2	**+0.1**	
	baz=294							
MVCO	**Mesa Verde**	**121.64**	**46**	P	**PKiKP**	04 47 42.0	**+0.7**	
	baz=296							
TUC	**Tucson**	**121.89**	**52**	P	**PKiKP**	04 47 42.5	**+0.8**	
	baz=292							
ISCO	**Idaho Springs**	**122.42**	**42**	P	**PKPdf**	04 47 41.5	**-1.2**	
	baz=300							
S22A	**4UR Ranch, Cre**	**122.58**	**45**	P	**PKiKP**	04 47 43.8	**+0.6**	
	baz=298							
SDCO	**Great Sand Dun**	**123.51**	**44**	P	**PKiKP**	04 47 45.3	**+0.3**	
	baz=299							
ANMO	**Albuquerque**	**124.12**	**47**	P	**PKiKP**	04 47 46.3	**0.0**	
	baz=297							
ANMO	**Albuquerque**	**124.12**	**47**	PKP	**PKiKP**	04 47 46.8	**+0.6**	
	comp=Z,1.2nm,0.8s,baz=195,slow=1.0,SNR=4.0							
121A	**Cookes Peak, D**	**124.14**	**51**	P	**PKiKP**	04 47 46.8	**+0.5**	
	baz=294							
ECSD	**EROS Data Cent**	**125.65**	**33**	P	**PKiKP**	04 47 49.6	**+0.8**	
	baz=311							
MNTX	**Cornudas Mount**	**126.34**	**50**	P	**PKPdf**	04 47 50.0	**-0.1**	
	baz=295							
TXAR	**Lajitas Array**	**128.69**	**52**	PKP	**PKiKP**	04 47 55.4	**+0.1**	
	comp=Z,0.5nm,0.8s,baz=242,slow=2.7,SNR=5.7							
GO02	**Mina Guanaco**	**151.93**	**158**		**PKiKP**	04 48 44.2	**+1.0**	
CPUP	**Villa Florida**	**152.83**	**183**	PKPbc	**PKiKP**	04 48 45.6	**+1.0**	
	comp=Z,5.4nm,0.9s,baz=173,slow=0.9,SNR=10.0							
LPAZ	**La Paz**	**160.44**	**152**	PKP	**PKPdf**	04 48 49.7	**+1.6**	
	comp=Z,2.9nm,0.9s,baz=80,slow=6.7,SNR=11							
BDFB	**Brasilia**	**160.44**	**212**	PKP	**PKPdf**	04 48 48.6	**+1.1**	
	comp=Z,1.1nm,0.4s,baz=150,slow=2.3,SNR=3.0							
ROSC	**El Rosal**	**163.86**	**76**	PKP	**PKPdf**	04 48 52.4	**+1.0**	
	comp=Z,3.0nm,0.4s,baz=111,slow=19,SNR=3.9							
ROSC				PKPbc	**pPKPdf**	04 49 05.5	**+0.3**	
	comp=Z,27nm,0.8s,baz=285,slow=5.0,SNR=15							
SDV	**Santo Domingo**	**165.69**	**56**	PKP	**PKPdf**	04 48 52.6	**-0.1**	
	comp=Z,3.0nm,0.8s,baz=293,slow=4.7,SNR=4.5							
SDV	**Santo Domingo**	**165.69**	**56**		**PKPdf**	04 48 52.8	**+0.2**	
SAML	**Samuel**	**169.14**	**155**	PKIKP	**PKPdf**	04 48 56.1	**+1.2**	
SAML	**Samuel**	**169.14**	**155**		**PKPdf**	04 48 56.1	**+1.2**	

SNET ***13*** *04:40:28.9±0.8, 13˚.39N×89˚.60W, h61km±6km, ML3.9*
ISCJB ***13*** *04:40:29.3±1.0, 13˚.4N±0˚.1×89˚.54W±0˚.07, h70km±10km, Error ellipse: s-maj=24.4km s-min=5.2km az=23.4*
UCR ***13*** *04:40:29.1±1.1, 13˚.37N×89˚.59W, h59km±9km, MD3.6, ML3.9*
GCG ***13*** *04:40:30.2±0.6, 13˚.50N×89˚.62W, h19km±5km, MD4.0*
ISC 13 04:40:30.0±1.5**, 13˚.42N**±0˚.1×**89˚.56W**±0.05**, h61**km±10km**, n55, σ0°58/64, 4C-25D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.41**	**350**⇑	*e*P	**Pn**	04 40 40.9	**-0.6**
CEVE	**Cerro Verde**	**0.41**	**350**⇑	*e*P	**Pn**	04 40 40.9	**-0.6**
BOQS	**Boqueron**	**0.41**	**41**	⇓*i*P	**Pn**	04 40 41.4	**-0.1**
BOQS				*e*S	**Sn**	04 40 51.0	**+1.2**
SNET	**Serv Nac Est T**	**0.41**	**50**	⇓*i*P	**Pn**	04 40 41.1	**-0.2**
SNET				*e*S	**Sn**	04 40 50.2	**+0.7**
SNET				IAML		04 40 53.2	
	comp=Z,7μm,0.2s						
SNET	**Serv Nac Est T**	**0.41**	**50**	⇓*i*P	**Pn**	04 40 41.1	**-0.2**
SNET				*e*S	**Sn**	04 40 50.2	**+0.7**
SNET				IAML		04 40 53.2	
	comp=Z,7μm,0.2s						
SBLS	**San Blas**	**0.42**	**351**⇑	*e*P	**Pn**	04 40 41.0	**-0.6**
SBLS	**San Blas**	**0.42**	**351**⇑	*e*P	**Pn**	04 40 41.0	**-0.6**
UEES	**Universidad Ev**	**0.42**	**47**	*e*P	**Pn**	04 40 41.2	**-0.2**
UEES	**Universidad Ev**	**0.42**	**47**	*e*P	**Pn**	04 40 41.2	**-0.2**
UTEC	**Universidad Te**	**0.44**	**51**	*e*P	**Pn**	04 40 41.4	**-0.2**
UTEC	**Universidad Te**	**0.44**	**51**	*e*P	**Pn**	04 40 41.4	**-0.2**
SNJE	**San Jose**	**0.44**	**354**	⇓*i*P	**Pn**	04 40 41.4	**-0.4**
SNJE	**San Jose**	**0.44**	**354**	⇓*i*P	**Pn**	04 40 41.4	**-0.4**
OPAM	**Oficina de Pla**	**0.45**	**50**	*e*P	**Pn**	04 40 41.5	**-0.2**
OPAM				IAML		04 40 52.5	
	comp=Z,8μm,0.3s						
OPAM	**Oficina de Pla**	**0.45**	**50**	*e*P	**Pn**	04 40 41.5	**-0.2**
OPAM				IAML		04 40 52.5	
	comp=Z,8μm,0.3s						
UESS	**Universidad de**	**0.45**	**49**	*e*P	**Pn**	04 40 41.6	**-0.1**
UESS	**Universidad de**	**0.45**	**49**	*e*P	**Pn**	04 40 41.6	**-0.1**
RTR	**El Retiro**	**0.48**	**349**	⇓*i*P	**Pn**	04 40 41.9	**-0.3**
RTR	**El Retiro**	**0.48**	**349**	⇓*i*P	**Pn**	04 40 41.9	**-0.3**
UDBS	**Universidad Do**	**0.48**	**53**	*e*P	**Pn**	04 40 42.0	**-0.1**
UDBS	**Universidad Do**	**0.48**	**53**	*e*P	**Pn**	04 40 42.0	**-0.1**
AEIL	**Aeropuerto Ilo**	**0.51**	**57**	⇓*e*P	**Pn**	04 40 42.5	**+0.3**
AEIL				IAML		04 40 43.1	
	comp=Z,16μm,0.4s						
LFRS	**El Faro**	**0.52**	**68**	⇓*i*P	**Pn**	04 40 42.3	**-0.1**
LFU	**La Fuente**	**0.54**	**53**	⇓*i*P	**Pn**	04 40 42.5	**-0.1**
LFU	**La Fuente**	**0.54**	**53**	⇓*i*P	**Pn**	04 40 42.5	**-0.1**
UNIC	**Universidad Ca**	**0.55**	**1**	⇓*e*P	**Pn**	04 40 42.2	**-0.6**
UNIC	**Universidad Ca**	**0.55**	**1**	⇓*e*P	**Pn**	04 40 42.2	**-0.6**
LBRS	**Las Brisas**	**0.59**	**58**	⇓*i*P	**Pn**	04 40 43.0	**-0.1**
PAVA	**Las Pavas**	**0.67**	**64**	⇓*i*P	**Pn**	04 40 44.0	**0.0**
PAVA	**Las Pavas**	**0.67**	**64**	⇓*i*P	**Pn**	04 40 44.0	**0.0**
UESV	**Universidad de**	**0.78**	**74**	*e*P	**Pn**	04 40 45.0	**-0.3**
UESV	**Universidad de**	**0.78**	**74**	*e*P	**Pn**	04 40 45.0	**-0.3**
LLGN	**La Laguna**	**0.94**	**39**	*i* P	**Pn**	04 40 47.1	**-0.4**
LLGN				IAML		04 41 03.6	
	comp=Z,2μm,0.6s						
LLGN	**La Laguna**	**0.94**	**39**	*i* P	**Pn**	04 40 47.1	**-0.4**
LLGN				IAML		04 41 03.6	
	comp=Z,2μm,0.6s						
ALJI	**Alcalda de J**	**0.96**	**96**	*e*P	**Pn**	04 40 47.0	**-0.6**
ALJI				IAML		04 41 02.8	
	comp=Z,2μm,0.3s						
COEB	**Comit de Eme**	**1.00**	**86**	⇓*i*P	**Pn**	04 40 47.9	**-0.3**
COEB				*e*S	**Sn**	04 41 02.1	**+0.4**
COEB				IAML		04 41 09.2	
	comp=Z,2μm,0.4s						
TECA	**Tecapa**	**1.03**	**86**	⇓*i*P	**Pn**	04 40 48.4	**-0.3**
TECA	**Tecapa**	**1.03**	**86**	⇓*i*P	**Pn**	04 40 48.4	**-0.3**
VICT	**Victoria**	**1.04**	**59**	⇓*i*P	**Pn**	04 40 48.5	**-0.3**
VICT	**Victoria**	**1.04**	**59**	⇓*i*P	**Pn**	04 40 48.5	**-0.3**
IXG	**Ixpaco**	**1.14**	**311**⇓	*e*P	**Pn**	04 40 49.6	**-0.6**
IXG	**Ixpaco**	**1.14**	**311**⇓	*e*P	**Pn**	04 40 49.6	**-0.6**
LCY	**Lacayo**	**1.23**	**90**	*e*P	**Pn**	04 40 51.4	**+0.2**
LCY	**Lacayo**	**1.23**	**90**	*e*P	**Pn**	04 40 51.4	**+0.2**
JUCU	**Jucuarįn**	**1.28**	**97**	*e*P	**Pn**	04 40 51.1	**-0.8**
JUCU				IAML		04 41 13.2	
	comp=Z,1μm,0.2s						
NBG	**Las Nubes**	**1.39**	**326**	*e*P	**Pn**	04 40 53.7	**+0.1**
NBG				*e*S	**Sn**	04 41 09.2	**-1.9**
NBG	**Las Nubes**	**1.39**	**326**	*e*P	**Pn**	04 40 53.7	**+0.1**
NBG				*e*S	**Sn**	04 41 09.2	**-1.9**
FAGO	**Alcalda de S**	**1.43**	**79**	*e*P	**Pn**	04 40 53.0	**-0.9**
FUG	**Fuego 3**	**1.61**	**309**	*e*P	**Pn**	04 40 57.0	**+0.5**
FUG				*e*S	**Sn**	04 41 17.3	**+1.0**
FUG	**Fuego 3**	**1.61**	**309**	*e*P	**Pn**	04 40 57.0	**+0.5**
FUG				*e*S	**Sn**	04 41 17.3	**+1.0**
LCND	**La Caada**	**1.62**	**94**	⇓*i*P	**Pn**	04 40 56.1	**-0.3**
LCND	**La Caada**	**1.62**	**94**	⇓*i*P	**Pn**	04 40 56.1	**-0.3**
MRL	**Marmol**	**1.65**	**356**	*e*P	**Pn**	04 40 57.7	**+0.7**
MRL	**Marmol**	**1.65**	**356**	*e*P	**Pn**	04 40 57.7	**+0.7**
STG3	**Santiaguito 3,**	**2.34**	**303**	*e*P	**Pn**	04 41 06.6	**+0.3**
STG3				*e*S	**Sn**	04 41 34.2	**+0.2**

MOS ***13*** *04:45:09.6±1.1, 13˚.35N×88˚.89W, h62km, mb5.5/32, Error ellipse: s-maj=10.0km s-min=5.5km az=115.0*
SNET ***13*** *04:45:09.5±1.2, 13˚.00N×89˚.27W, h42km±13km, ML5.7, MW5.5*
IDC ***13*** *04:45:10.0±0.4, 13˚.38N×88˚.80W, h50km±2km, mb4.9/38, mb1 5.0/41, mb1mx4.9/45, mbtmp5.1/41, MS4.7/24, Ms1 4.7/24, ms1mx4.6/28, Error ellipse: s-maj=13.8km s-min=6.7km az=47.0*
ISCJB ***13*** *04:45:10.2±0.2, 13˚.12N±0˚.02×89˚.13W±0˚.02, h74km±1km, mb5.0/87, Error ellipse: s-maj=3.1km s-min=1.7km az=43.6*
UCR ***13*** *04:45:10.0±2.2, 13˚.04N×89˚.24W, h48km±17km, MD4.6, ML5.5, mb5.6(NEIC)*
GCMT ***13*** *04:45:10.5±0.1, 12˚.90N±0˚.01×89˚.50W±0˚.01, h57km, MW5.5/140, Moment Tensor Solution. s140,c244; s133,c243; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr1.89±.02; Mθθ-1.45±.02; Mϕϕ-0.44±.02; Mrθ0.14±.02; Mrϕ1.14±.02; Mθr-0.33±.02; Best double couple: M=2.07700×10^17 NP1:ϕs130.00000°,δ50.00000°, λ99.00000°. NP2:ϕs296.00000°,δ41.00000°,λ79.00000°. Principal axes: T 1.9370, Plg82.0000°, Azm92.0000°; N 0.2720, Plg7.0000°, Azm304.0000°; P -2.2160, Plg4.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***13*** *04:45:11.5±1.9, 13˚.13N±0˚.06×89˚.09W±0˚.06, h68km±3km, mb5.3/414, Mwb5.6, Md5.9(SNET), Mwc5.5(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr2.42; Mθθ-1.36; Mϕϕ-1.06; Mrθ0.13; Mθϕ2.01; Mϕr-0.18; Fault plane solution: M=2.92000×10^17 NP1: ϕs311.19000°,δ42.82000°,λ87.61000°. NP2: ϕs134.44000°,δ47.23000°,λ92.21000°. Principal axes: T 2.4315, Plg87.0000°, Azm79.0000°; N 0.8035, Plg2.0000°, Azm313.0000°; P -3.2350, Plg2.0000°, Azm223.0000°;*
NEIC ***13*** *04:45:12, 12˚.86N×89˚.38W, h56km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr1.88; Mθθ-1.39; Mϕϕ-0.50; Mrθ0.01; Mθϕ1.21; Mϕr-0.34; Fault plane solution: M=2.11000×10^17 NP1:ϕs134.00000°, δ49.00000°,λ103.00000°. NP2:ϕs295.00000°,δ43.00000°, λ76.00000°. Principal axes: T 1.9374, Plg80.0000°, Azm109.0000°; N 0.3031, Plg10.0000°, Azm306.0000°; P -2.2405, Plg3.0000°, Azm215.0000°;*
GCG ***13*** *04:45:22.9±0.6, 13˚.88N×89˚.84W, h56km±16km, MD5.0*
ISC 13 04:45:09.2±0.3**, 13˚.06N**±0˚.03×**89˚.19W**±0˚.03**, h53**km±2km**, h53**km**:pP-P, n1294,** σ**1**⇑**45**/1243**, mb5.3**/256**, MS5.0**/38**, 10C-67D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIES	**Las Flores**	**0.41**	**19**	⇓*i*P	**Pn**	04 45 20.5	**+0.8**
AIES				*e*S	**Sn**	04 45 29.1	**+1.8**
AIES				IAML		04 45 29.1	
	comp=Z,605μm,0.4s						
AIES	**Las Flores**	**0.41**	**19**	⇓*i*P	**Pn**	04 45 20.5	**+0.8**
AIES				*e*S	**Sn**	04 45 29.1	**+1.8**
AIES				IAML		04 45 29.1	
	comp=Z,605μm,0.4s						
LFRS	**El Faro**	**0.58**	**13**	⇓*i*P	**Pn**	04 45 22.5	**+0.7**
SNET	**Serv Nac Est T**	**0.63**	**357**	⇓*i*P	**Pn**	04 45 23.1	**+0.7**
SNET				*e*S	**Sn**	04 45 32.9	**+1.1**
SNET				IAML		04 45 34.5	
	comp=Z,387μm,0.3s						
SNET	**Serv Nac Est T**	**0.63**	**357**	⇓*i*P	**Pn**	04 45 23.1	**+0.7**
SNET				*e*S	**Sn**	04 45 32.9	**+1.1**
SNET				IAML		04 45 34.5	
	comp=Z,387μm,0.3s						
SNET	**Serv Nac Est T**	**0.63**	**357**	Pn	**Pn**	04 45 22.7	**+0.4**
AEIL	**Aeropuerto Ilo**	**0.64**	**7**	⇓*i*P	**Pn**	04 45 23.5	**+1.0**
AEIL				⇓*e*S	**Sn**	04 45 34.5	**+2.4**
AEIL				IAML		04 45 36.7	
	comp=Z,433μm,0.3s						
UTEC	**Universidad Te**	**0.64**	**359**	⇓*i*P	**Pn**	04 45 23.2	**+0.8**
UTEC				*e*S	**Sn**	04 45 33.9	**+1.9**
UTEC				IAML		04 45 38.8	
	comp=Z,289μm,0.4s						
UTEC	**Universidad Te**	**0.64**	**359**	⇓*i*P	**Pn**	04 45 23.2	**+0.8**
UTEC				*e*S	**Sn**	04 45 33.9	**+1.9**
UTEC				IAML		04 45 38.8	
	comp=Z,289μm,0.4s						
OPAM	**Oficina de Pla**	**0.65**	**360**	⇓*i*P	**Pn**	04 45 23.5	**+0.9**
OPAM				⇓*e*S	**Sn**	04 45 34.1	**+1.8**
OPAM				IAML		04 45 35.6	
	comp=Z,391μm,0.3s						
OPAM	**Oficina de Pla**	**0.65**	**360**	⇓*i*P	**Pn**	04 45 23.5	**+0.9**
OPAM				⇓*e*S	**Sn**	04 45 34.1	**+1.8**
OPAM				IAML		04 45 35.6	
	comp=Z,391μm,0.3s						
UDBS	**Universidad Do**	**0.66**	**3**	⇓*i*P	**Pn**	04 45 23.6	**+1.0**
UDBS				*e*S	**Sn**	04 45 34.5	**+2.1**
UDBS				IAML		04 45 36.8	
	comp=Z,303μm,0.4s						
UDBS	**Universidad Do**	**0.66**	**3**	⇓*i*P	**Pn**	04 45 23.6	**+1.0**
UDBS				*e*S	**Sn**	04 45 34.5	**+2.1**
UDBS				IAML		04 45 36.8	
	comp=Z,303μm,0.4s						
UEES	**Universidad Ev**	**0.66**	**356**	⇓*i*P	**Pn**	04 45 23.5	**+0.8**
UEES	**Universidad Ev**	**0.66**	**356**	⇓*i*P	**Pn**	04 45 23.5	**+0.8**
UESS	**Universidad de**	**0.66**	**359**	⇓*i*P	**Pn**	04 45 23.6	**+0.9**
UESS				*e*S	**Sn**	04 45 34.5	**+2.0**
UESS				IAML		04 45 37.5	
	comp=Z,300μm,0.5s						
UESS	**Universidad de**	**0.66**	**359**	⇓*i*P	**Pn**	04 45 23.6	**+0.9**
UESS				*e*S	**Sn**	04 45 34.5	**+2.0**
UESS				IAML		04 45 37.5	
	comp=Z,300μm,0.5s						
ALJI	**Alcalda de J**	**0.66**	**66**	⇓*i*P	**Pn**	04 45 23.7	**+1.1**
ALJI				⇓*e*S	**Sn**	04 45 34.5	**+2.1**
BOQS	**Boqueron**	**0.68**	**353**	⇓*i*P	**Pn**	04 45 24.0	**+0.8**
LBRS	**Las Brisas**	**0.69**	**12**	⇓*i*P	**Pn**	04 45 24.3	**+1.1**
LFU	**La Fuente**	**0.69**	**6**	⇓*i*P	**Pn**	04 45 24.3	**+1.1**
LFU	**La Fuente**	**0.69**	**6**	⇓*i*P	**Pn**	04 45 24.3	**+1.1**
PAVA	**Las Pavas**	**0.70**	**21**	⇓*i*P	**Pn**	04 45 24.3	**+1.0**
PAVA				*e*S	**Sn**	04 45 36.5	**+3.1**
PAVA				IAML		04 45 43.8	
	comp=Z,162μm,0.5s						
PAVA	**Las Pavas**	**0.70**	**21**	⇓*i*P	**Pn**	04 45 24.3	**+1.0**
PAVA				*e*S	**Sn**	04 45 36.5	**+3.1**
PAVA				IAML		04 45 43.8	
	comp=Z,162μm,0.5s						
UESV	**Universidad de**	**0.70**	**34**	⇓*i*P	**Pn**	04 45 24.1	**+0.9**
UESV				*e*S	**Sn**	04 45 35.5	**+2.2**
UESV				IAML		04 45 38.0	
	comp=Z,221μm,0.4s						
UESV	**Universidad de**	**0.70**	**34**	⇓*i*P	**Pn**	04 45 24.1	**+0.9**
UESV				*e*S	**Sn**	04 45 35.5	**+2.2**
UESV				IAML		04 45 38.0	
	comp=Z,221μm,0.4s						
COEB	**Comit de Eme**	**0.78**	**56**	⇓*i*P	**Pn**	04 45 25.3	**+1.0**
COEB				*e*S	**Sn**	04 45 37.8	**+2.6**
COEB				IAML		04 45 41.4	
	comp=Z,84μm,0.5s						
TECA	**Tecapa**	**0.80**	**57**	⇓*i*P	**Pn**	04 45 25.6	**+1.0**
TECA	**Tecapa**	**0.80**	**57**	⇓*i*P	**Pn**	04 45 25.6	**+1.0**
ACAJ	**Puerto de Acaj**	**0.81**	**310**⇑	*e*P	**Pn**	04 45 24.6	**0.0**
ACAJ				*e*S	**Sn**	04 45 35.8	**+0.1**
ACAJ				IAML		04 45 40.5	
	comp=Z,58μm,0.6s						
CEVE	**Cerro Verde**	**0.88**	**331**	⇓*i*P	**Pn**	04 45 26.1	**+0.5**
CEVE				⇓*e*S	**Sn**	04 45 38.7	**+1.1**
CEVE	**Cerro Verde**	**0.88**	**331**	⇓*i*P	**Pn**	04 45 26.1	**+0.5**
CEVE				⇓*e*S	**Sn**	04 45 38.7	**+1.1**
SBLS	**San Blas**	**0.88**	**332**	⇓*i*P	**Pn**	04 45 26.3	**+0.5**
SBLS	**San Blas**	**0.88**	**332**	⇓*i*P	**Pn**	04 45 26.3	**+0.5**
SNJE	**San Jose**	**0.90**	**334**	⇓*i*P	**Pn**	04 45 26.5	**+0.5**
SNJE	**San Jose**	**0.90**	**334**	⇓*i*P	**Pn**	04 45 26.5	**+0.5**
JUCU	**Jucuarįn**	**0.94**	**78**	⇓*i*P	**Pn**	04 45 27.0	**+0.7**
JUCU				IAML		04 45 47.4	
	comp=Z,146μm,0.3s						
RTR	**El Retiro**	**0.94**	**332**	⇓*i*P	**Pn**	04 45 27.3	**+0.8**
RTR	**El Retiro**	**0.94**	**332**	⇓*i*P	**Pn**	04 45 27.3	**+0.8**
LCY	**Lacayo**	**0.95**	**67**	⇓*i*P	**Pn**	04 45 27.9	**+1.4**
LCY	**Lacayo**	**0.95**	**67**	⇓*i*P	**Pn**	04 45 27.9	**+1.4**
VSM	**San Miguel**	**0.97**	**67**	*e*P	**Pn**	04 45 28.4	**+1.5**
VSM	**San Miguel**	**0.97**	**67**	⇓*i*P	**Pn**	04 45 28.4	**+1.5**
UNIC	**Universidad Ca**	**0.98**	**339**	⇓*i*P	**Pn**	04 45 27.8	**+0.9**
UNIC				*e*S	**Sn**	04 45 41.7	**+1.8**
UNIC	**Universidad Ca**	**0.98**	**339**	⇓*i*P	**Pn**	04 45 27.8	**+0.9**
UNIC				*e*S	**Sn**	04 45 41.7	**+1.8**
VICT	**Victoria**	**1.05**	**31**	⇓*i*P	**Pn**	04 45 29.4	**+1.6**
VICT				*e*S	**Sn**	04 45 44.9	**+3.4**
VICT	**Victoria**	**1.05**	**31**	⇓*i*P	**Pn**	04 45 29.4	**+1.6**
VICT				*e*S	**Sn**	04 45 44.9	**+3.4**
LLGN	**La Laguna**	**1.13**	**12**	⇓*i*P	**Pn**	04 45 30.2	**+1.3**
LLGN				*e*S	**Sn**	04 45 46.3	**+2.9**
LLGN	**La Laguna**	**1.13**	**12**	⇓*i*P	**Pn**	04 45 30.2	**+1.3**
LLGN				*e*S	**Sn**	04 45 46.3	**+2.9**
FAGO	**Alcalda de S**	**1.23**	**59**	⇓*i*P	**Pn**	04 45 31.7	**+1.5**
FAGO				*e*S	**Sn**	04 45 49.8	**+3.9**
LCND	**La Caada**	**1.29**	**79**	⇓*i*P	**Pn**	04 45 32.6	**+1.6**
LCND				*e*S	**Sn**	04 45 49.7	**+2.5**
LCND				IAML		04 45 57.4	
	comp=Z,151μm,0.3s						
LCND	**La Caada**	**1.29**	**79**	⇓*i*P	**Pn**	04 45 32.6	**+1.6**
LCND				*e*S	**Sn**	04 45 49.7	**+2.5**
LCND				IAML		04 45 57.4	
	comp=Z,151μm,0.3s						
CNCH	**Conchagua**	**1.34**	**80**	⇓*i*P	**Pn**	04 45 33.2	**+1.4**
CNCH	**Conchagua**	**1.34**	**80**	⇓*i*P	**Pn**	04 45 33.2	**+1.4**
IXG	**Ixpaco**	**1.65**	**313**

ARGC Ariguani, Magd 14.99 101 eP P 04 48 43.0 +0.6
ARGC Ariguani, Magd 14.99 101 eP P 04 48 43.0 +0.6
HELC Santa Helena 15.09 116 eP P 04 48 42.3 -1.7
HELC Santa Helena 15.09 116 eP P 04 48 42.3 -1.7
PLMC San Jos del P 15.10 121 eP P 04 48 41.9 -1.8
PLMC San Jos del P 15.10 121 eP P 04 48 41.9 -1.8
SMLC San Martn de 15.44 104 eP P 04 48 45.8 -1.6
SMLC San Martn de 15.44 104 eP P 04 48 45.8 -1.6
YOTC Yotoco, Valle 15.57 124 eP Pn 04 48 46.9 +1.3
YOTC Yotoco, Valle 15.57 124 eP Pn 04 48 46.9 +1.3
GUY2C Guyana, Caldas 15.71 118 eP Pn 04 48 47.8 +0.1
GUY2C Guyana, Caldas 15.71 118 eP Pn 04 48 47.8 +0.1
CODC Agustn Codazz 15.74 100 eP P 04 48 50.0 -0.7
CODC Agustn Codazz 15.74 100 eP P 04 48 50.0 -0.7
RREF El Recreo 15.89 119 eP P 04 48 53.4 +0.4
RREF El Recreo 15.89 119 eP P 04 48 53.4 +0.4
PTBC PUERTO BERRIO, 15.89 113 eP Pn 04 48 49.5 -0.1
PTBC PUERTO BERRIO, 15.89 113 eP Pn 04 48 49.5 -0.1
ZAIG Zacatecas 15.97 309 Pn P 04 48 52.9 -0.6
NORC Norcasia 15.97 116 eP Pn 04 48 50.2 -0.4
NORC Norcasia 15.97 116 eP Pn 04 48 50.2 -0.4
ANIL Santa Ana 16.06 121 eP P 04 48 57.0 +2.4
ANIL Santa Ana 16.06 121 eP P 04 48 57.0 +2.4
TOLC Tolima 16.08 120 eP P 04 48 57.1 +2.4
TOLC Tolima 16.08 120 eP P 04 48 57.1 +2.4
BBAC Balboa, Cauca 16.12 132 eP P 04 48 55.3 +0.1
BBAC Balboa, Cauca 16.12 132 eP P 04 48 55.3 +0.1
060A Indiantown 16.18 29 P Pn 04 48 53.5 +0.3
baz=212
060A Indiantown 16.18 29 Pn Pn 04 48 53.7 +0.5
OCAC Ocana 16.32 105 eP Pn 04 48 54.3 -0.8
OCAC Ocana 16.32 105 eP Pn 04 48 54.3 -0.8
BRRC Barranca, Sant 16.34 110 eP P 04 48 56.9 -0.5
BRRC Barranca, Sant 16.34 110 eP P 04 48 56.9 -0.5
ORTC Ortega, Tolima 16.51 122 eP P 04 49 01.0 +1.7
ORTC Ortega, Tolima 16.51 122 eP P 04 49 01.0 +1.7
SOTA Rioblanco 16.52 130 eP P 04 49 02.4 +2.5
SOTA Rioblanco 16.52 130 eP P 04 49 02.4 +2.5
PCON Cinco Dias 16.55 129 eP P 04 49 01.7 +1.4
PCON Cinco Dias 16.55 129 eP P 04 49 01.7 +1.4
OTAV Otavalo 16.60 139 eP Pn 04 48 59.3 +0.4
OTAV Otavalo 16.60 139 eP Pn 04 48 59.3 +0.4
OTAV Otavalo 16.60 139 PKiKP Pn 04 48 59.1 +0.2
OTAV pmax pmax
comp=Z,42nm,1.1s
OTAV Otavalo 16.60 139 Pn 04 48 59.1 +0.2
GCUF Volcan Galeras 16.61 134 eP P 04 49 02.5 +1.6
GCUF Volcan Galeras 16.61 134 eP P 04 49 02.5 +1.6
SPBC San Pablo de B 16.63 115 eP Pn 04 48 51.1 -7.9
SPBC San Pablo de B 16.63 115 eP Pn 04 48 51.1 -7.9
DWPF Disney Wildern 16.64 25 P Pn 04 48 59.0 +0.2
baz=207
DWPF Disney Wildern 16.64 25 P 04 49 00.9 +0.4
CRUC La Cruz 16.65 132 eP P 04 49 03.4 +2.2
CRUC La Cruz 16.65 132 eP P 04 49 03.4 +2.2
ROSC El Rosal 16.80 118 eP P 04 49 04.9 +2.1
ROSC El Rosal 16.80 118 eP P 04 49 04.9 +2.1
ROSC El Rosal 16.80 118 Pn Pn 04 49 02.0 +0.6
ROSC IAmb IAmb 04 49 15.7
comp=Z,33nm,0.9s
URIC Uribia, Colomb 16.86 93 eP P 04 49 02.6 -0.5
URIC Uribia, Colomb 16.86 93 eP P 04 49 02.6 -0.5
PRAC Prado 16.91 122 eP Pn 04 49 02.5 0.0
PRAC Prado 16.91 122 eP Pn 04 49 02.5 0.0
BARC Barichara 17.03 111 eP P 04 49 06.7 +1.4
BARC Barichara 17.03 111 eP P 04 49 06.7 +1.4
BETC Betania 17.07 126 eP P 04 49 09.0 +3.5
BETC Betania 17.07 126 eP P 04 49 09.0 +3.5
PAMC Pamplona, Colo 17.19 108 eP Pn 04 49 06.3 -0.1
PAMC Pamplona, Colo 17.19 108 eP Pn 04 49 06.3 -0.1
656A Willston 17.37 20 P P 04 49 08.5 -0.2
baz=202,SNR=9.5
656A Willston 17.37 20 P 04 49 08.9 +0.3
RUSC La Rusia 17.40 113 eP P 04 49 10.3 +0.7
RUSC La Rusia 17.40 113 eP P 04 49 10.3 +0.7
CHIC Chingaza 17.41 117 eP P 04 49 11.1 +1.5
CHIC Chingaza 17.41 117 eP P 04 49 11.1 +1.5
FLOC Florencia 17.60 129 eP P 04 49 14.1 +2.8
FLOC Florencia 17.60 129 eP P 04 49 14.1 +2.8
553A Crawfordville 17.61 14 P P 04 49 12.9 +1.6
baz=195,SNR=9.5
VILC Villavicencio, 17.70 119 eP P 04 49 14.8 +2.2
VILC Villavicencio, 17.70 119 eP P 04 49 14.8 +2.2
HKT Hockley 17.90 341 P P 04 49 16.5 +2.1
HKT pmax pmax
comp=Z,81nm,1.1s
HKT Hockley 17.90 341 P P 04 49 16.5 +2.1
833A Chaparral WMA, 17.92 330 P P 04 49 16.3 +1.5
baz=146,SNR=46
833A Chaparral WMA, 17.92 330 P P 04 49 16.6 +1.9
833A IAmb IAmb 04 49 20.3
comp=Z,206nm,0.9s
BRAL Brewton 18.13 6 P Pn 04 49 20.2 +2.9
baz=186,SNR=9.2
453A Whigham 18.27 13 P Pn 04 49 21.9 +2.9
baz=195,SNR=15
TAMC Tame, Arauca 18.36 109 eP P 04 49 19.9 +0.2
TAMC Tame, Arauca 18.36 109 eP P 04 49 19.9 +0.2
MACC Macarena, Meta 18.66 124 eP Pn 04 49 25.6 +1.8
MACC Macarena, Meta 18.66 124 eP Pn 04 49 25.6 +1.8
SDV Santo Domingo 18.68 101 eP P 04 49 23.5 +0.1
SDV Santo Domingo 18.68 101 eP P 04 49 23.5 +0.1
SDV Santo Domingo 18.68 101 P P 04 49 23.5 +0.1
comp=Z,13nm,0.3s,baz=274,slow=5.3,SNR=103
SDV PcP PcP 04 53 51.1 +0.8
comp=Z,0.7nm,0.3s,baz=112,slow=3.3,SNR=5.0
SDV pPcP 04 54 06.6
comp=Z,0.3nm,0.3s,baz=160,slow=1.4,SNR=2.1
SDV Santo Domingo 18.68 101 P P 04 49 23.6 +0.2
SDV IAmb IAmb 04 49 25.3
comp=Z,154nm,0.8s
352A Blakely 18.75 11 P Pn 04 49 26.9 +2.1
baz=193,SNR=16
352A Blakely 18.75 11 IAmb IAmb 04 49 43.2
comp=Z,300nm,1.1s
353A Camilla 18.77 13 P Pn 04 49 27.1 +2.1
baz=195,SNR=29
456A Hilliard 18.79 19 P Pn 04 49 26.5 +1.2
baz=202
SC01 Santiago de lo 18.82 68 P Pn 04 49 26.6 +0.9
SC01 IAmb IAmb 04 49 29.6
comp=Z,226nm,0.8s
457A Yulee 18.85 21 P Pn 04 49 27.4 +1.5
baz=203
BANI BANI 18.89 71 P Pn 04 49 26.8 +0.2
PTGC Puerto Gaitan, 19.01 116 eP P 04 49 26.3 -0.5
PTGC Puerto Gaitan, 19.01 116 eP P 04 49 26.3 -0.5
TIGA Tifton 19.01 15 P Pn 04 49 29.4 +1.6
baz=197,SNR=55
250A Grady 19.02 8 P Pn 04 49 29.0 +1.0
baz=188,SNR=9.2
VBMS Vicksburg 19.11 357 P Pn 04 49 31.1 +2.0
baz=176,SNR=48
PTLC Puerto Leguiza 19.17 131 eP Pn 04 49 33.7 +3.8
PTLC Puerto Leguiza 19.17 131 eP Pn 04 49 33.7 +3.8
435B Jarrell 19.27 338 P Pn 04 49 30.8 -0.2
baz=154,SNR=25
435B Jarrell 19.27 338 P Pn 04 49 30.9 0.0
435B IAmb IAmb 04 49 48.0
comp=Z,291nm,0.9s
NATX Nacogdoches 19.28 346 P Pn 04 49 31.5 +0.4
baz=164,SNR=26
NATX Nacogdoches 19.28 346 IAmb IAmb 04 49 51.0
comp=Z,275nm,0.8s
252A Lumpkin 19.29 12 P Pn 04 49 31.5 +0.3
baz=193,SNR=38
356A Blackshear 19.31 19 P Pn 04 49 31.7 +0.3
baz=201,SNR=15
GUVC San Jose del G 19.43 121 eP Pn 04 49 34.7 +1.6
GUVC San Jose del G 19.43 121 eP Pn 04 49 34.7 +1.6
253A Americus 19.48 13 P Pn 04 49 33.7 +0.3
baz=195,SNR=13
254A Abbeville 19.57 15 P Pn 04 49 35.0 +0.5
baz=197,SNR=44
357A Townsend 19.61 20 P Pn 04 49 35.1 +0.1
baz=203
255A Hazlehurst 19.77 17 P Pn 04 49 37.0 +0.1
baz=200,SNR=20
JCT Junction City 19.92 332 P Pn 04 49 37.9 -0.8
baz=148,SNR=56
JCT Junction City 19.92 332 IAmb IAmb 04 49 39.4
comp=Z,116nm,0.8s
152A Waverly Hall 19.95 11 P Pn 04 49 38.8 -0.1
baz=193,SNR=38
LRAL Lakeview Retre 19.99 5 P Pn 04 49 39.7 +0.3
baz=186,SNR=50
256A Glennville 19.99 18 P Pn 04 49 40.0 +0.5
baz=201,SNR=38
153A Fort Valley 20.11 13 P Pn 04 49 40.5 -0.4
baz=195,SNR=21
154A Monroe 20.25 15 P Pn 04 49 42.1 -0.4
baz=197,SNR=55
257A Skidaway Islan 20.27 20 P Pn 04 49 41.9 -0.8
baz=203,SNR=6.9
WHTX Lake Whitney, 20.32 339 P P 04 49 42.2 +1.3
baz=156,SNR=74
Z50A Ashland 20.33 8 P Pn 04 49 43.2 -0.2
baz=189,SNR=46
Z50A Ashland 20.33 8 P Pn 04 49 43.0 -0.4
Z50A IAmb IAmb 04 49 48.5
comp=Z,107nm,0.8s
Z41A Richland Creek 20.38 351 P Pn 04 49 43.8 -0.2
baz=170,SNR=58
Z41A Richland Creek 20.38 351 P Pn 04 49 44.1 0.0
155A Kite 20.43 16 P Pn 04 49 44.4 -0.2
baz=199,SNR=109
Z51A Franklin 20.50 10 P Pn 04 49 44.7 -0.8
baz=191,SNR=28
Z52A Williamson 20.51 11 P P 04 49 44.4 +1.4
baz=193,SNR=58
HPIG 20.71 314 P Pn 04 49 47.0 -1.3
156A Sylvania 20.74 19 P Pn 04 49 47.4 -0.9
baz=201,SNR=16
Z53A Monticello 20.78 13 P Pn 04 49 47.7 -1.1
baz=195,SNR=29
WLAR White Oak Lake 20.85 351 P Pn 04 49 48.2 -1.4
Y49A Blount Mountai 20.86 7 P Pn 04 49 48.7 -1.1
baz=187,SNR=44
Z54A Sparta 20.91 15 P Pn 04 49 49.1 -1.3
baz=197,SNR=21
157A Early Branch 20.92 20 P Pn 04 49 50.0 -0.5
baz=203,SNR=30
GOGA Godfrey 20.93 14 P Pn 04 49 49.4 -1.2
baz=196,SNR=37
TXAR Lajitas Array 21.05 323 P P 04 49 51.2 +2.2
comp=Z,52nm,0.6s,baz=147,slow=10,SNR=304
TXAR PcP PcP 04 53 55.7 +1.5
comp=Z,15nm,0.8s,baz=157,slow=4.1,SNR=9.3
TXAR pPcP 04 54 10.9
comp=Z,16nm,0.9s,baz=151,slow=5.4,SNR=7.3
TXAR ScP ScP 04 57 30.2 +3.5
comp=Z,2.2nm,0.8s,baz=141,slow=6.1,SNR=4.6
TXAR LR LR 04 59 46.7
comp=Z,553nm,19.8s,baz=0.0,slow=42
TXAR PKiKP PKiKP 05 01 41.6 -0.2
comp=Z,0.3nm,0.6s,baz=81,slow=4.0,SNR=7.3
TXAR pPKiKP pPKiKP 05 01 56.8 -1.0
comp=Z,1.2nm,0.8s,baz=119,slow=1.6,SNR=5.6
Z55A Blythe 21.08 17 P P 04 49 51.0 +1.8
baz=199,SNR=18
Y51A Rockmart 21.09 10 P P 04 49 50.9 +1.6
baz=191,SNR=87
Y52A Lilburn 21.23 12 P P 04 49 52.3 +1.5
baz=194,SNR=34
Y52A Lilburn 21.23 12 IAmb IAmb 04 50 07.8
comp=Z,179nm,0.9s
158A Hollywood 21.25 21 P P 04 49 52.6 +1.6
baz=205,SNR=17
Y53A Monroe 21.33 13 P P 04 49 53.2 +1.5
baz=195,SNR=33
OXF Oxford 21.36 360 P P 04 49 53.9 +1.7
baz=179,SNR=23
X48A Hartselle 21.39 5 P P 04 49 53.7 +1.3
baz=186,SNR=38
Z56A Williston 21.40 18 P P 04 49 54.3 +1.7
baz=201,SNR=48
X43A Marvell 21.42 356 P P 04 49 55.0 +2.2
baz=175,SNR=9.8
CSU Charleston Sou 21.52 21 P P 04 49 56.3 +2.5
Y54A Tignall 21.54 15 P P 04 49 55.4 +1.3
baz=197,SNR=37
Z57A Bowman 21.59 20 P P 04 49 56.1 +1.6
baz=203,SNR=38
NHSC New Hope 21.59 21 P P 04 49 56.1 +1.6
baz=204,SNR=32
X40A Basin Creek Fa 21.59 352 P P 04 49 56.2 +1.6
baz=170,SNR=36
X40A Basin Creek Fa 21.59 352 IAmb IAmb 04 50 12.3
comp=Z,96nm,0.9s
ABTX Abilene, Hawle 21.70 336 P P 04 49 56.2 +0.4
baz=151,SNR=43
ABTX Abilene, Hawle 21.70 336 IAmb IAmb 04 49 59.7
comp=Z,146nm,0.8s
MIAR Mount Ida 21.76 350 P P 04 49 57.3 +0.9
baz=168,SNR=145
X51A Calhoun 21.77 10 P P 04 49 57.6 +1.1
baz=191,SNR=17
X51A Calhoun 21.77 10 IAmb IAmb 04 50 16.9
comp=Z,127nm,0.9s
UALR University of 21.81 353 IAmb IAmb 04 50 15.3
comp=Z,204nm,0.8s
CRPR Cabo Rojo, PR 21.83 74 P P 04 49 57.8 +0.5
Y55A Saluda 21.83 17 P P 04 49 58.3 +1.1
baz=199,SNR=36
Y56A Pelion 21.86 18 P P 04 49 58.9 +1.5
baz=201,SNR=17
MLPR Magueyes Islan 21.89 74 P P 04 49 59.3 +1.4
MLPR IAmb IAmb 04 50 17.6
comp=Z,131nm,1.1s
AGPR Aguadilla, PR 21.91 73 P P 04 49 59.2 +1.0
AGPR IAmb IAmb 04 50 14.8
comp=Z,226nm,1.1s
Z58A St. Stephen 21.93 21 P P 04 49 59.8 +1.6
baz=205,SNR=14
X52A Dahlonega 21.98 12 P P 04 50 00.2 +1.3
baz=194,SNR=26
HODGE Hodges 22.00 15 IAmb IAmb 04 50 18.0
comp=Z,83nm,0.7s
X53A Estanollee 22.01 13 P P 04 50 00.1 +1.0
baz=195,SNR=25
Z59A Georgetown, SC 22.04 23 P P 04 50 00.9 +1.5
baz=206,SNR=9.0
W49A Belvidere 22.13 6 P P 04 50 01.5 +1.1
baz=187,SNR=22
W41B Gary Mavity, V 22.19 353 P P 04 50 02.9 +1.9
baz=172,SNR=35
W41B Gary Mavity, V 22.19 353 IAmb IAmb 04 50 21.3
comp=Z,148nm,1.1s
SWET Sewanee 22.26 7 IAmb IAmb 04 50 20.9
comp=Z,144nm,0.8s
X54A Belton 22.27 15 P P 04 50 03.0 +1.0
baz=198,SNR=26
OBIP Obispado Ponce 22.31 74 P P 04 50 01.9 -0.5
OBIP IAmb IAmb 04 50 19.5
comp=Z,80nm,0.9s
WHAR Wooly Hollow 22.31 353 P P 04 50 03.7 +1.4
WHAR IAmb IAmb 04 50 07.1
comp=Z,164nm,0.8s
W50A Signal Mountai 22.32 8 P P 04 50 02.9 +0.3
baz=190,SNR=9.8
W50A Signal Mountai 22.32 8 IAmb IAmb 04 50 13.0
comp=Z,66nm,0.8s
JSC Jenkinsville 22.33 18 IAmb IAmb 04 50 20.1
comp=Z,136nm,1.1s
Y57A Sumter 22.35 20 P P 04 50 04.0 +1.3
baz=203,SNR=15
W51A Cleveland 22.37 10 P P 04 50 03.2 +0.2
baz=191,SNR=30
X55A Gracelyn & Ava 22.40 17 P P 04 50 04.2 +1.0
baz=199,SNR=37
W39A Magazine 22.43 350 P P 04 50 05.1 +1.5
baz=168,SNR=44
W39A Magazine 22.43 350 IAmb IAmb 04 50 23.9
comp=Z,96nm,0.8s
W52A Murphy 22.45 11 P P 04 50 05.2 +1.3
baz=193,SNR=14
Y58A Scranton 22.49 21 P P 04 50 05.3 +1.0
baz=205,SNR=22
X56A White Oak 22.59 18 P P 04 50 06.6 +1.3
baz=201,SNR=46
PAULI Pauline 22.68 16 IAmb IAmb 04 50 25.7
comp=Z,113nm,1.0s
W53A Cullowhee 22.68 13 P P 04 50 07.3 +0.9
baz=195,SNR=14
V48A Smith Brothers 22.69 5 P P 04 50 06.6 +0.3
baz=186,SNR=36
ATAH Atahualpa 22.75 151 P P 04 50 10.4 +2.8
comp=Z,54nm,1.0s,baz=325,slow=7.0,SNR=16
ATAH PcP PcP 04 54 00.9 +2.7
comp=Z,17nm,0.7s,baz=340,slow=2.6,SNR=5.2
ATAH LR LR 04 58 01.5
comp=Z,3µm,21.6s,baz=334,slow=34
SJG San Juan 22.75 74 eP P 04 50 04.1 -3.1
SJG San Juan 22.75 74 eP P 04 50 04.1 -3.1
SJG San Juan 22.75 74 P P 04 50 06.2 -1.0
SJG 04 53 58.1
SJG pmax pmax
comp=Z,45nm,0.9s
SJG San Juan 22.75 74 P P 04 50 04.7 -2.4
comp=Z,15nm,0.5s,baz=299,slow=10,SNR=6.9
SJG PcP PcP 04 53 58.6 +1.0
comp=Z,37nm,1.0s,baz=296,slow=0.4,SNR=7.2
SJG pPcP 04 54 13.7
comp=Z,57nm,1.1s,baz=71,slow=4.4,SNR=5.1
SJG ScP ScP 04 57 32.1 +1.1
comp=Z,16nm,0.7s,baz=348,slow=5.1,SNR=4.5
SJG San Juan 22.75 74 P P 04 50 06.2 -1.0
SJG PcP 04 53 58.1 +0.4
HALT Halls 22.76 360 IAmb IAmb 04 50 26.8
comp=Z,206nm,1.1s
LPIG La Paz 22.80 302 P P 04 50 10.1 +2.5
comp=Z,37nm,0.5s,baz=82,slow=2.3,SNR=7.2
V49A McMinnville 22.81 7 P P 04 50 07.6 0.0
baz=188,SNR=34
V50A Pikevile 22.82 9 P P 04 50 07.7 0.0
baz=190,SNR=24
W54A Cherokee Point 22.83 15 P P 04 50 09.1 +1.2
baz=198,SNR=28
Y59A Loris 22.86 23 P P 04 50 08.8 +0.7
baz=206,SNR=11
X57A Johnson Farm, 22.86 20 P P 04 50 08.9 +0.8
baz=203,SNR=12
BIRD Birdtown, Kers 22.91 19 IAmb IAmb 04 50 23.0
comp=Z,101nm,1.1s
LCAR Lake Charles 22.98 356 IAmb IAmb 04 50 12.8
comp=Z,164nm,0.9s
WVT Waverly 23.01 3 P P 04 50 09.7 +0.1
WVT pmax pmax
comp=Z,110nm,1.1s
WVT Waverly 23.01 3 P P 04 50 09.7 +0.1
WVT IAmb IAmb 04 50 25.3
comp=Z,110nm,1.1s
TKL Tuckaleechee C 23.03 11 P P 04 50 10.2 +0.3
comp=Z,72nm,0.9s,baz=176,slow=7.2,SNR=33
TKL LR LR 04 59 31.0
comp=Z,3µm,21.7s,baz=200,slow=38
HUMP Col San Antoni 23.04 74 P P 04 50 11.3 +1.2
HUMP PcP 04 53 58.6 +0.4
V51A Loudon 23.07 10 P P 04 50 10.7 +0.4
baz=192,SNR=18
V51A Loudon 23.07 10 IAmb IAmb 04 50 28.4
comp=Z,148nm,1.1s
CLTN Cedars of Leba 23.08 6 IAmb IAmb 04 50 26.7
comp=Z,116nm,1.2s
KMSC Kings Mountain 23.11 17 P P 04 50 11.4 +0.8
baz=200,SNR=25
Y60A Bolivia 23.12 24 P P 04 50 10.9 +0.2
baz=208
UTMT University of 23.19 1 P P 04 50 12.3 +0.9
X58A Rowland 23.20 21 P P 04 50 12.0 +0.6
baz=205,SNR=15
X58A Rowland 23.20 21 IAmb IAmb 04 50 28.4
comp=Z,212nm,0.9s
V53A Saluda 23.24 13 P P 04 50 12.6 +0.6
baz=196,SNR=36
V53A Saluda 23.24 13 IAmb IAmb 04 50 32.2
comp=Z,166nm,1.1s
V52A Sevierville 23.24 12 P P 04 50 11.7 -0.2
baz=194,SNR=11
V52A Sevierville 23.24 12 IAmb IAmb 04 50 28.2
comp=Z,88nm,0.9s
PVMO Portageville 23.26 359 P P 04 50 13.6 +1.4
WMOK Wichita Mounta 23.27 340 P P 04 50 11.5 -0.8
baz=156,SNR=59
MTP Monte Pirata 23.31 75 IAmb IAmb 04 50 27.2
comp=Z,74nm,0.7s
W56A Indian Trail 23.32 18 P P 04 50 12.9 +0.2
baz=201,SNR=19
U40A Yellville 23.43 353 P P 04 50 14.5 +0.7
baz=171,SNR=102
U40A Yellville 23.43 353 IAmb IAmb 04 50 29.4
comp=Z,162nm,0.9s
X59A McDuffie Farm, 23.48 22 P P 04 50 14.0 -0.1
baz=206,SNR=10
HHAR Hobbs 23.52 350 IAmb IAmb 04 50 30.3
comp=Z,122nm,0.9s
TUL1 Leonard 23.52 346 P P 04 50 14.6 0.0
baz=164,SNR=28
TUL1 Leonard 23.52 346 P P 04 50 14.6 0.0
W57A Gilead 23.52 19 P P 04 50 14.7 +0.1
baz=203,SNR=16
W57A Gilead 23.52 19 IAmb IAmb 04 50 30.5
comp=Z,93nm,1.1s
V54A Nebo 23.55 15 P P 04 50 15.3 +0.4
baz=198,SNR=40
U49A Red Boiling Sp 23.56 7 P P 04 50 14.6 -0.3
baz=188,SNR=59
U50A Jamestown 23.59 9 P P 04 50 15.2 -0.1
baz=190,SNR=18
W58A Raeford 23.65 21 P P 04 50 16.1 +0.3
baz=205,SNR=36
U51A La Follette 23.68 10 P P 04 50 15.8 -0.3
baz=192,SNR=24
X60A Albert Glenn T 23.72 24 P P 04 50 16.4 0.0
baz=208,SNR=12
MNTX Cornudas Mount 23.78 324 P P 04 50 17.5 +0.4
baz=138,SNR=39
V55A Taylorsville 23.81 16 P P 04 50 17.5 +0.2
baz=199,SNR=20
V55A Taylorsville 23.81 16 IAmb IAmb 04 50 35.5
comp=Z,175nm,1.0s
U52A Thorn Hill 23.82 12 P P 04 50 17.0 -0.4
baz=194,SNR=14
T47A Sharon Grove 23.91 4 P P 04 50 18.0 -0.1
baz=185,SNR=40
STVI Saint Thomas 23.91 74 IAmb IAmb 04 50 31.5
comp=Z,117nm,0.7s
TZTN Tazewell 23.93 11 P P 04 50 18.4 0.0
baz=194,SNR=14
U53A Fall Branch 23.96 13 P P 04 50 18.8 +0.2
baz=196,SNR=51
V56A Mocksville 23.97 18 P P 04 50 19.1 +0.3
baz=201,SNR=27
CDVI St. Croix 24.00 76 P P 04 50 17.9 -1.2
CDVI PcP 04 54 01.5 +1.3
W59A Clinton 24.07 22 P P 04 50 19.5 -0.1
baz=206
MGMO Mountain Grove 24.16 354 IAmb IAmb 04 50 25.6
comp=Z,152nm,0.9s
T49A Edmonton 24.17 7 P P 04 50 20.0 -0.6
baz=188,SNR=25
T49A Edmonton 24.17 7 IAmb IAmb 04 50 38.0
comp=Z,192nm,0.9s
T50A Nancy 24.18 9 P P 04 50 20.1 -0.5
baz=190,SNR=16
MSTX Muleshoe 24.21 332 P P 04 50 20.8 -0.3
baz=146,SNR=105
PCRV Puerto La Cruz 24.22 94 P P 04 50 20.0 -1.3
comp=Z,49nm,0.6s,baz=337,slow=2.3,SNR=28
PCRV LR LR 05 01 42.5
comp=Z,1µm,20.4s,slow=42
W60A Pink Hill 24.24 23 P P 04 50 21.3 +0.1
baz=208,SNR=8.8
V57A Coltrane Farms 24.27 19 P P 04 50 21.8 +0.3
baz=203,SNR=20
PLCV Puerto La Cruz 24.27 94 P P 04 50 19.9 -1.7
T51A Gray 24.27 10 P P 04 50 21.5 0.0
baz=192,SNR=15
U54A Nelsons Funny 24.29 15 P P 04 50 21.8 +0.1
baz=198,SNR=35
CNNC Cliffs of the 24.34 23 P P 04 50 22.2 +0.2
baz=207,SNR=7.9
V58A Windy Hill, Pi 24.39 20 P P 04 50 22.7 +0.1
baz=204,SNR=28
U55A TA2, Sparta 24.47 16 P P 04 50 23.5 +0.2
baz=199,SNR=25
AMTX Amarillo 24.50 335 P P 04 50 24.1 +0.4
baz=149
AMTX Amarillo 24.50 335 P P 04 50 23.9 +0.2
AMTX PcP 04 54 02.0 +0.8
U56A King 24.51 17 P P 04 50 24.0 +0.3
baz=201,SNR=9.3
U56A King 24.51 17 IAmb IAmb 04 50 41.9
comp=Z,132nm,1.0s
S44A Carbondale 24.54 360 P P 04 50 24.3 +0.4
baz=180,SNR=22
T53A Wise 24.56 13 P P 04 50 24.1 -0.1
baz=196

T52A	Hallie baz=194	24.59	12	P		P	04 50 24.6	+0.2	
W61A	Ground Anchor baz=209,SNR=6.1	24.63	25	P		P	04 50 25.7	+0.9	
V59A	Middlesex baz=206,SNR=7.3	24.67	22	P		P	04 50 25.3	+0.2	
U32A	Winter Ranch, comp=Z,83nm,0.8s	24.84	341	IAmb		IAmb	04 50 44.1		
USIN	University of comp=Z,169nm,0.9s	24.84	3	IAmb		IAmb	04 50 45.7		
T54A	Tazewell baz=198,SNR=11	24.86	15	P		P	04 50 26.8	-0.1	
S49A	Springfield baz=189,SNR=13	24.87	7	P		P	04 50 26.0	-0.9	
S50A	Richmond baz=191	24.89	9	P		P	04 50 27.0	-0.2	
U57A	Blanch baz=203,SNR=18	24.91	19	P		P	04 50 27.1	-0.1	
CCM	Cathedral Cave baz=175	24.96	356	P		P	04 50 27.9	+0.1	
CCM CCM	Cathedral Cave comp=Z,421nm,1.1s	24.96	356	P pmax		P pmax	04 50 27.9	+0.1	
CCM	Cathedral Cave	24.96	356	P		P	04 50 27.9	+0.1	
S51A	Beattyville baz=193,SNR=7.5	24.99	11	P		P	04 50 28.1	+0.1	
S51A	Beattyville comp=Z,91nm,0.9s	24.99	11	IAmb		IAmb	04 50 45.3		
V60A	Jim Taylor Roa baz=208,SNR=17	25.04	23	P		P	04 50 28.8	+0.4	
T55A	Pulaski baz=199,SNR=7.7	25.11	16	P		P	04 50 29.2	0.0	
S52A	Salyersville baz=194	25.12	11	P		P	04 50 28.9	-0.3	
U58A	Oxford baz=205,SNR=7.4	25.13	21	P		P	04 50 28.8	-0.5	
WCI	Wyandotte Cave baz=186	25.20	5	P		P	04 50 29.5	-0.4	
WCI WCI	Wyandotte Cave comp=Z,233nm,0.8s	25.20	5	P pmax		P pmax	04 50 29.9	0.0	
WCI	Wyandotte Cave	25.20	5	P		P	04 50 29.9	0.0	
T56A	Rocky Mt baz=201,SNR=7.0	25.24	17	P		P	04 50 30.7	+0.4	
BLA	Blacksburg baz=200,SNR=7.6	25.30	17	P		P	04 50 30.9	0.0	
V61A	Roper baz=210,SNR=7.2	25.33	25	P		P	04 50 31.0	-0.1	
U59A	Littleton baz=206,SNR=9.5	25.36	22	P		P	04 50 31.4	+0.1	
U59A	Littleton comp=Z,154nm,1.1s	25.36	22	IAmb		IAmb	04 50 49.5		
R49A	Shelbyville baz=189,SNR=9.5	25.39	7	P		P	04 50 30.9	-0.7	
V62A	Hyde County Ai baz=211	25.39	26	P		P	04 50 30.6	-1.0	
T57A	Hurt baz=203,SNR=13	25.45	19	P		P	04 50 32.4	+0.2	
T57A	Hurt comp=Z,131nm,0.9s	25.45	19	IAmb		IAmb	04 50 50.5		
R50A	Paris baz=191,SNR=10	25.49	9	P		P	04 50 33.0	+0.4	
OLIL	Olney comp=Z,120nm,0.9s	25.59	2	IAmb		IAmb	04 50 51.3		
S54A	Dingess, Beckl baz=198	25.62	15	P		P	04 50 33.5	-0.3	
R51A	Hillsboro baz=192	25.63	10	P		P	04 50 33.8	0.0	
T58A	Grand View Acr baz=204	25.64	20	P		P	04 50 33.7	-0.1	
U60A	Pendleton baz=208,SNR=8.3	25.70	23	P		P	04 50 34.3	-0.2	
HSIG		25.71	312	P		P	04 50 36.3	+1.6	
121A	Cookes Peak, D baz=134,SNR=18	25.80	322	P		P	04 50 37.4	+1.7	
121A	Cookes Peak, D comp=Z,116nm,1.1s	25.80	322	IAmb		IAmb	04 50 53.6		
S55A	Lewisburg baz=200,SNR=5.5	25.81	16	P		P	04 50 35.5	0.0	
R52A	Catlettsburg baz=195	25.84	12	P		P	04 50 35.3	-0.4	
U61A	Possum Corner baz=209	25.85	24	P		P	04 50 36.2	+0.4	
Q48A	North Vernon baz=188	25.95	6	P		P	04 50 36.6	-0.1	
319A	Douglas comp=Z,67nm,0.9s	25.96	318	IAmb		IAmb	04 50 57.8		
S56A	Natural Bridge baz=202,SNR=8.6	25.98	18	P		P	04 50 37.3	+0.2	
R53A	Hurricane baz=196	25.98	13	P		P	04 50 36.7	-0.3	
R53A	Hurricane comp=Z,92nm,1.1s	25.98	13	IAmb		IAmb	04 50 54.6		
T59A	Double "B" Far baz=206,SNR=14	26.00	22	P		P	04 50 37.2	+0.1	
R54A	Victor baz=198	26.07	15	P		P	04 50 37.1	-0.7	
Q50A	Georgetown baz=191	26.10	9	P		P	04 50 37.7	-0.4	
Q49A	Aurora baz=189,SNR=13	26.12	8	P		P	04 50 37.6	-0.7	
S57A	Dark Hollow, R baz=203	26.24	19	P		P	04 50 39.5	+0.1	
Q51A	Peebles baz=193,SNR=18	26.38	10	P		P	04 50 40.4	-0.2	
Q51A Q51A	Peebles comp=Z,145nm,1.1s	26.38	10	P IAmb		P IAmb	04 50 40.4 04 50 57.2	-0.2	
R55A	Marlinton baz=200,SNR=6.4	26.39	16	P		P	04 50 40.9	+0.1	
R55A	Marlinton comp=Z,154nm,1.1s	26.39	16	IAmb		IAmb	04 50 57.5		
S58A	Poland Farm, P baz=205	26.40	20	P		P	04 50 41.0	+0.2	
T60A	Surry baz=208,SNR=5.4	26.45	23	P		P	04 50 41.2	0.0	
P43A	Skaggs, Pawnee comp=Z,178nm,1.1s	26.48	359	IAmb		IAmb	04 50 58.0		
P48A	Milroy baz=188,SNR=7.9	26.51	7	P		P	04 50 40.7	-1.0	
P46A	Rosedale baz=184	26.52	3	P		P	04 50 41.9	+0.1	
Q52A	Bidwell baz=195	26.52	12	P		P	04 50 41.6	-0.3	
Q53A	Leroy baz=197	26.58	13	P		P	04 50 41.9	-0.6	
P49A	Miami Univ. Ec baz=190	26.67	8	P		P	04 50 42.2	-1.0	
R56A	Bull Pasture M baz=201	26.71	17	P		P	04 50 43.8	+0.2	
KSU1	Kansas State U baz=164,SNR=25	26.76	347	P		P	04 50 44.1	+0.1	
R58B	Mineral baz=205,SNR=7.2	26.78	20	P		P	04 50 44.4	+0.2	
R58B	Mineral comp=Z,147nm,1.1s	26.78	20	IAmb		IAmb	04 51 02.5		
S59A	Mechanicsville baz=206	26.80	21	P		P	04 50 44.3	0.0	
ANMO	Albuquerque baz=140	26.82	327	P		P	04 50 45.8	+1.0	
ANMO ANMO	Albuquerque comp=Z,41nm,2.0s	26.82	327	eP pmax		P pmax	04 50 44.9	+0.1	
ANMO	Albuquerque comp=Z,12nm,0.7s,baz=156,slow=12,SNR=36	26.82	327	P		P	04 50 45.9	+1.1	
ANMO	comp=Z,25nm,0.9s,baz=162,slow=6.6,SNR=8.0			PcP pPcP		PcP	04 54 08.0 04 54 22.4	+1.4	
ANMO	comp=Z,24nm,1.0s,baz=156,slow=3.9,SNR=5.2 Albuquerque	26.82	327	P		P	04 50 46.2	+1.4	
Q54A	Coxs Mills baz=198,SNR=13	26.86	15	P		P	04 50 45.2	+0.2	
Q54A	Coxs Mills comp=Z,175nm,1.1s	26.86	15	IAmb		IAmb	04 51 01.4		
R57A	Stanardsville baz=203,SNR=14	26.87	19	P		P	04 50 44.0	-1.0	
P50A	Jamestown baz=192	26.87	9	P		P	04 50 44.4	-0.6	
P51A	Williamsport baz=193	26.87	11	P		P	04 50 44.6	-0.4	
S60A	Water View baz=208	26.98	22	P		P	04 50 45.9	0.0	
O44A	Mansfield comp=Z,91nm,0.8s	27.00	1	IAmb		IAmb	04 51 02.6		
R58A	Rapidan baz=204,SNR=6.4	27.04	20	P		P	04 50 46.6	+0.1	
Q55A	Buckhannon baz=200	27.07	16	P		P	04 50 47.0	+0.1	
CBN	Corbin Frederi baz=206,SNR=6.2	27.16	21	P		P	04 50 47.6	0.0	
P52A	Corning baz=195	27.20	12	P		P	04 50 47.6	-0.3	
P53A	Whipple baz=197,SNR=11	27.21	13	P		P	04 50 48.0	-0.1	
P53A	Whipple comp=Z,71nm,1.0s	27.21	13	IAmb		IAmb	04 51 06.7		
R59A	King George, V baz=206,SNR=7.2	27.25	21	P		P	04 50 47.8	-0.6	
SFIN	Lafayette baz=184	27.28	3	P		P	04 50 48.0	-0.6	
CBKS	Cedar Bluff baz=157,SNR=15	27.31	342	P		P	04 50 49.0	0.0	
CBKS	Cedar Bluff comp=Z,55nm,0.8s	27.31	342	IAmb		IAmb	04 50 51.5		
O48A	Farmland baz=188	27.33	7	P		P	04 50 48.1	-1.0	
S61A	Accomac baz=210	27.33	24	P		P	04 50 48.5	-0.6	
Q56A	Snyder Ridge, baz=201	27.36	17	P		P	04 50 49.7	+0.3	
Q56A	Snyder Ridge, comp=Z,79nm,1.0s	27.36	17	IAmb		IAmb	04 51 06.4		
O49A	Covington baz=190	27.36	8	P		P	04 50 48.6	-0.8	
HDIL	Hopedale baz=180,SNR=9.3	27.39	360	P		P	04 50 49.2	-0.4	
O50A	Cable baz=192,SNR=12	27.43	9	P		P	04 50 49.4	-0.6	
R60A	Leonardtown, M baz=207	27.50	22	P		P	04 50 49.8	-0.8	
P54A	Burton baz=198,SNR=12	27.54	15	P		P	04 50 51.0	0.0	
TUC	Tucson baz=129	27.54	318	P		P	04 50 52.6	+1.3	
TUC TUC	Tucson comp=Z,55nm,1.0s	27.54	318	P pmax		P pmax	04 50 52.5	+1.3	
TUC	Tucson	27.54	318	P		P	04 50 52.5	+1.2	
T25A	Trinidad baz=146,SNR=96	27.58	333	P		P	04 50 52.9	+1.2	
T25A	Trinidad comp=Z,114nm,0.8s	27.58	333	IAmb		IAmb	04 50 55.0		
Q57A	Strasburg baz=203	27.58	18	P		P	04 50 51.8	+0.4	
N41A	Harden Midland	27.58	357	P		P	04 50 51.4	0.0	
O51A	Pataskala baz=194	27.60	11	P		P	04 50 51.3	-0.3	
P55A	Reedsville baz=200	27.62	16	P		P	04 50 52.0	+0.3	
ACSO	Alum Creek Sta baz=193	27.62	10	P		P	04 50 51.8	+0.1	
O52A	Adamsville baz=195	27.72	12	P		P	04 50 52.3	-0.3	
O52A	Adamsville comp=Z,65nm,0.9s	27.72	12	IAmb		IAmb	04 51 07.9		
Q58A	Fox Den Farm, baz=204,SNR=6.0	27.73	20	P		P	04 50 52.5	-0.2	
NNA	Nana	27.73	153	*i* P		P	04 50 55.7	+2.7	
NNA	Nana comp=Z,10nm,0.7s,baz=263,slow=8.7,SNR=3.0	27.73	153	P PcP		P PcP	04 50 55.0 04 54 10.2	+2.0 +1.3	
NNA	comp=Z,12nm,0.6s,baz=292,slow=4.6,SNR=5.6								
NNA	Nana comp=Z,13nm,0.9s	27.73	153	IAmb		IAmb	04 50 59.4		
MCWV	Mont Chateau baz=200	27.75	16	P		P	04 50 53.0	+0.1	
N47A	Urbana baz=187	27.89	6	P		P	04 50 52.8	-1.3	
N47A	Urbana comp=Z,63nm,0.9s	27.89	6	IAmb		IAmb	04 51 10.1		
P56A	Dayton Farm, R baz=202	27.89	17	P		P	04 50 54.5	+0.4	
N48A	Decatur baz=188	27.94	7	P		P	04 50 53.4	-1.1	
O53A	New Philadelph baz=197,SNR=8.9	27.98	13	P		P	04 50 54.4	-0.5	
Q59A	Harwood baz=207	28.01	21	P		P	04 50 55.0	-0.1	
N49A	Columbus Grove baz=190	28.11	8	P		P	04 50 55.1	-0.9	
O54A	Avella baz=198,SNR=6.7	28.11	14	P		P	04 50 55.9	-0.2	
O54A	Avella comp=Z,96nm,1.1s	28.11	14	IAmb		IAmb	04 51 12.0		
N50A	Nevada baz=192	28.11	10	P		P	04 50 55.1	-1.0	
P57A	Homestead Farm baz=203,SNR=14	28.12	19	P		P	04 50 56.6	+0.5	
P57A	Homestead Farm comp=Z,121nm,1.1s	28.12	19	IAmb		IAmb	04 51 12.6		
M44A	Midewin, Midew	28.24	2	P		P	04 50 59.3	+2.1	
M44A M44A	comp=Z,59nm,1.1s			IAmb		IAmb	04 51 13.7		
P58A	Pank, Wackersv baz=205,SNR=6.3	28.35	20	P		P	04 50 58.1	-0.1	
M47A	Cromwell baz=187	28.37	6	P		P	04 50 57.2	-1.2	
N51A	Ashland baz=194	28.39	11	P		P	04 50 58.0	-0.6	
N51A	Ashland comp=Z,82nm,1.1s	28.39	11	IAmb		IAmb	04 51 14.0		
O55A	Ligonier baz=200	28.41	16	P		P	04 50 57.9	-0.9	
Q60A	Greensboro baz=208	28.42	22	P		P	04 50 57.8	-1.0	
N52A	McGinn's Farm, baz=195,SNR=6.0	28.42	12	P		P	04 50 58.1	-0.7	
KSCO	Kaye Shedlock' baz=153,SNR=11	28.46	338	P		P	04 50 59.8	+0.4	
KSCO	Kaye Shedlock' comp=Z,100nm,1.1s	28.46	338	IAmb		IAmb	04 51 15.3		
SDCO	Great Sand Dun baz=145,SNR=34	28.57	332	P		P	04 51 01.7	+1.1	
N53A	Lisbon baz=197	28.60	13	P		P	04 51 00.2	-0.2	
N53A	Lisbon comp=Z,86nm,1.1s	28.60	13	IAmb		IAmb	04 51 16.2		
O56A	Blue Knob Stat baz=202	28.67	17	P		P	04 51 01.4	+0.2	
O56A	Blue Knob Stat comp=Z,87nm,1.1s	28.67	17	IAmb		IAmb	04 51 17.7		
M49A	Liberty Center baz=190	28.68	8	P		P	04 51 01.9	+0.8	
214A	Organ Pipe Nat baz=126,SNR=45	28.70	315	P		P	04 51 03.2	+1.7	
214A	Organ Pipe Nat comp=Z,108nm,1.1s	28.70	315	IAmb		IAmb	04 51 18.7		
M50A	Fremont baz=192,SNR=7.7	28.75	10	P		P	04 51 00.8	-0.9	
M50A	Fremont comp=Z,125nm,0.9s	28.75	10	IAmb		IAmb	04 51 17.1		
P59A	Jarrettsville baz=206,SNR=6.8	28.75	21	P		P	04 51 01.9	+0.1	
W18A	Petrified Fore baz=135,SNR=12	28.76	323	P		P	04 51 03.6	+1.4	
W18A	Petrified Fore	28.76	323	P		P	04 51 03.7	+1.4	
W18A						PcP	04 54 12.5	+1.2	
M51A	Elyria baz=194	28.83	11	P		P	04 51 01.9	-0.6	
L42A	Oliver, Polo comp=Z,141nm,1.0s	28.84	359	IAmb		IAmb	04 51 18.1		
O57A	Amberson baz=204	28.90	19	P		P	04 51 03.4	+0.2	
N54A	Moraine State baz=199,SNR=5.1	28.95	14	P		P	04 51 03.4	-0.1	
N54A	Moraine State comp=Z,135nm,1.1s	28.95	14	IAmb		IAmb	04 51 19.5		
SCIA	State Center baz=172	28.96	354	P		P	04 51 03.4	-0.2	
L46A	Eue Claire baz=186	28.96	4	P		P	04 51 03.1	-0.5	
L46A	Eue Claire comp=Z,96nm,1.1s	28.96	4	IAmb		IAmb	04 51 06.3		
L47A	Sherwood baz=188	29.02	6	P		P	04 51 03.6	-0.5	
N55A	Marion Center baz=201	29.03	16	P		P	04 51 03.5	-0.9	
L44A	Lake County Fo baz=182	29.04	2	P		P	04 51 04.4	+0.1	
L44A	Lake County Fo comp=Z,80nm,0.9s	29.04	2	IAmb		IAmb	04 51 05.9		
O58A	Lewisberry baz=205	29.05	20	P		P	04 51 04.0	-0.4	
L48A	N Adams baz=189	29.08	7	P		P	04 51 03.9	-0.8	
MVL	Millersville	29.12	21	IAmb		IAmb	04 51 21.3		
S22A	4UR Ranch, Cre baz=143,SNR=94	29.19	330	P		P	04 51 07.3	+1.2	
S22A	4UR Ranch, Cre comp=Z,56nm,0.8s	29.19	330	IAmb		IAmb	04 51 09.8		
PAGS	Pennsylvania G comp=Z,60nm,1.0s	29.20	20	IAmb		IAmb	04 51 21.6		
P60A	Greenville baz=208	29.21	22	P		P	04 51 05.6	-0.2	
P60A P60A	Greenville comp=Z,56nm,1.1s	29.21	22	P IAmb		P IAmb	04 51 06.2 04 51 21.6	+0.4	
SSPA	Standing Stone baz=203	29.21	18	P		P	04 51 05.2	-0.6	
SSPA	Standing Stone	29.21	18	P		P	04 51 05.6	-0.2	
BGNE	Belgrade baz=162,SNR=37	29.31	346	P		P	04 51 07.1	+0.3	
L49A	Milan baz=191	29.33	8	P		P	04 51 07.0	+0.1	
N56A	West Decatur baz=202	29.35	17	P		P	04 51 06.8	-0.3	
L50A	Kingsville baz=193	29.41	10	P		P	04 51 06.9	-0.7	
N57A	Milroy baz=203	29.42	18	P		P	04 51 07.4	-0.3	
Q24A	Divide baz=147,SNR=12	29.42	334	P		P	04 51 08.7	+0.5	
O59A	Robesonia baz=206,SNR=6.3	29.46	20	P		P	04 51 08.1	0.0	
M54A	Oil Creek Stat baz=199	29.54	15	P		P	04 51 08.3	-0.5	
M54A	Oil Creek Stat comp=Z,62nm,1.0s	29.54	15	IAmb		IAmb	04 51 24.7		
K43A	Burlington comp=Z,63nm,0.9s	29.55	1	IAmb		IAmb	04 51 24.5		
MVCO	Mesa Verde baz=139,SNR=30	29.61	328	P		P	04 51 11.1	+1.4	
K46A	Dorr baz=187	29.67	5	P		P	04 51 10.3	+0.4	
K47A	Vermontville baz=188	29.73	6	P		P	04 51 09.5	-1.0	
O60A	Telford baz=208	29.74	22	P		P	04 51 10.4	-0.1	
N58A	Sunbury baz=205	29.76	19	P		P	04 51 10.4	-0.3	
N58A	Sunbury	29.76	19	P		P	04 51 10.3	-0.4	
JFWS	Jewell Farm baz=178,SNR=17	29.77	358	P		P	04 51 10.7	-0.1	
113A	Mohawk Valley, comp=Z,91nm,1.1s	29.82	315	IAmb		IAmb	04 51 28.2		
L53A	Girard baz=198	29.82	13	P		P	04 51 10.7	-0.5	
O61A	Allentown baz=210	29.86	23	P		P	04 51 11.3	-0.3	
K48A	Perry baz=190	29.96	7	P		P	04 51 11.3	-1.2	
OGNE	Ogallala baz=154	29.97	340	P		P	04 51 13.3	+0.6	
WUAZ	Wupatki baz=133,SNR=17	30.01	322	P		P	04 51 14.4	+1.2	
Y14A	Wickenburg comp=Z,51nm,1.1s	30.01	318	IAmb		IAmb	04 51 30.4		
K49A	Clarkson baz=191,SNR=5.6	30.03	8	P		P	04 51 11.9	-1.2	
N59A	State Game Lan baz=207,SNR=8.1	30.14	21	P		P	04 51 14.6	+0.4	
N59A	State Game Lan comp=Z,42nm,0.9s	30.14	21	IAmb		IAmb	04 51 31.8		
K50A	Casco baz=193	30.15	10	P		P	04 51 14.2	0.0	
K50A	Casco comp=Z,86nm,1.1s	30.15	10	IAmb		IAmb	04 51 30.8		
J47A	Sunmer baz=188	30.31	6	P		P	04 51 14.4	-1.2	
J47A	Sunmer comp=Z,30nm,0.8s	30.31	6	IAmb		IAmb	04 51 31.4		
L54A	Sinclairville baz=199	30.31	15	P		P	04 51 15.4	-0.2	
ISCO	Idaho Springs baz=147,SNR=69	30.32	334	P		P	04 51 16.7	+0.6	
N60A	Cedar Hill Far baz=208	30.34	21	P		P	04 51 15.8	0.0	
J46A	Howard City baz=187	30.34	5	P		P	04 51 16.0	+0.2	
SMCO	Snowmass comp=Z,56nm,0.8s	30.40	332	IAmb		IAmb	04 51 20.0		
L55A	Hinsdale baz=201	30.49	16	P		P	04 51 17.0	-0.2	
J48A	Bridge Port baz=190	30.49	8	P		P	04 51 16.1	-1.1	
K52A	Tillsonburg baz=196	30.51	12	P		P	04 51 16.3	-1.1	
N61A	South Mountain baz=209	30.52	23	P		P	04 51 17.8	+0.3	
PV18	Skein Mesa, Pa	30.61	329	P		P	04 51 19.9	+1.4	
PV18						PcP	04 54 16.7	+0.6	
J49A	Marlette baz=192	30.64	9	P		P	04 51 17.4	-1.1	
L56A	Greenwood baz=202	30.69	17	P		P	04 51 18.5	-0.4	
L56A L56A	Greenwood comp=Z,95nm,1.1s	30.69	17	P IAmb		P IAmb	04 51 18.5 04 51 34.9	-0.4	
GLA	Glamis baz=124,SNR=6.5	30.72	315	P		P	04 51 20.8	+1.5	
I40A	Norwalk comp=Z,85nm,0.9s	30.75	358	IAmb		IAmb	04 51 36.4		
L57A	Andrews Acres baz=204	30.77	18	P		P	04 51 19.5	-0.2	
M59A	Waymart baz=207,SNR=7.0	30.81	20	P		P	04 51 20.0	0.0	
PV23	Carpenter Ridg	30.82	329	P		P	04 51 21.9	+1.5	
PV23						PcP	04 54 18.5	+1.8	
K54A	Basiliko Farm, baz=200	30.82	15	P		P	04 51 20.1	0.0	
PAL	Palisades baz=210	30.89	23	P		P	04 51 21.0	+0.3	
PAL	Palisades comp=Z,51nm,0.9s	30.89	23	IAmb		IAmb	04 51 38.5		
M60A	Port Jervis baz=208	30.91	22	P		P	04 51 20.6	-0.3	
Y12C	Blythe baz=126,SNR=6.4	30.91	316	P		P	04 51 22.6	+1.7	
Y12C Y12C	Blythe comp=Z,59nm,0.9s	30.91	316	P IAmb		P IAmb	04 51 22.9 04 51 37.9	+1.9	
J52A	Paris baz=196	31.00	12	P		P	04 51 21.1	-0.6	
K55A	Perry baz=201	31.09	16	P		P	04 51 22.5	0.0	
I47A	Gladwin baz=189	31.12	7	P		P	04 51 21.6	-1.1	
L58A	Harry Jones Me baz=206,SNR=5.8	31.13	19	P		P	04 51 22.5	-0.3	
U15A	North Rim comp=Z,53nm,1.1s	31.17	322	IAmb		IAmb	04 51 41.8		
M61A	Granite Spring baz=210,SNR=7.2	31.21	23	P		P	04 51 23.0	-0.5	
BINY	Binghamton baz=205,SNR=5.9	31.22	19	P		P	04 51 23.4	-0.2	
ECSD	EROS Data Cent baz=166,SNR=27	31.23	350	P		P	04 51 22.8	-0.9	
K56A	Middlesex baz=202	31.27	17	P		P	04 51 23.8	-0.3	
W13A	Hualapai Mount	31.30	319	P		P	04 51 26.4	+1.7	
W13A W13A	comp=Z,61nm,1.1s			IAmb		IAmb PcP	04 51 43.3 04 54 18.6	+0.6	
SWSC	Sam W. Stewart baz=123,SNR=30	31.34	314	P		P	04 51 26.9	+2.1	
N23A	Red Feather La baz=147,SNR=37	31.38	335	P		P	04 51 26.1	+0.8	
N23A	Red Feather La comp=Z,47nm,0.8s	31.38	335	IAmb		IAmb	04 51 28.1		
IKP	In-Ko-Pah, Jac baz=122,SNR=52	31.40	313	P		P	04 51 27.8	+2.4	
I51A	Listowel baz=195	31.43	11	P		P	04 51 27.6	+2.1	
BC3	Big Chuckawall baz=124,SNR=84	31.49	315	P		P	04 51 28.4	+2.2	
L59A	Walton baz=207	31.52	20	P		P	04 51 26.5	+0.2	
L59A	Walton comp=Z,65nm,1.1s	31.52	20	IAmb		IAmb	04 51 44.5		
IRM	Iron Mountain baz=125,SNR=37	31.57	316	P		P	04 51 28.7	+1.9	
H45A	Beulah baz=186	31.57	4	P		P	04 51 28.9	+2.2	

NEE2 **Needles Airpor** 31.57 318 P P 04 51 28.6 +1.8
baz=127
L60A **Shokan** 31.63 22 P P 04 51 27.5 +0.3
baz=208,SNR=5.4
MONP2 **Monument Peak** 31.75 313 P P 04 51 30.7 +2.0
baz=122,SNR=106
O20A **White River Ci** 31.75 332 P P 04 51 29.9 +1.3
baz=143,SNR=102
BAR **Barrett** 31.82 312 IAmb IAmb 04 51 45.8
comp=Z,48nm,1.1s
K58A **Earlville** 31.84 19 P P 04 51 29.1 0.0
baz=206
K58A **Earlville** 31.84 19 IAmb IAmb 04 51 45.9
comp=Z,76nm,1.1s
KNB **Kanab** 31.88 323 P P 04 51 30.7 +1.0
KNB pmax pmax
comp=Z,69nm,1.1s
KNB **Kanab** 31.88 323 P P 04 51 30.7 +1.0
GLMI **Grayling** 31.90 6 P P 04 51 28.6 -1.0
baz=188
H48A **Harrisville** 31.93 8 P P 04 51 29.4 -0.4
baz=191
J56A **Wolcott** 31.94 17 P P 04 51 29.9 0.0
baz=203
L61A **Hillsdale 1, H** 32.05 22 P P 04 51 30.8 -0.2
baz=210
BELC **Belle Mtn. Jos** 32.06 315 P P 04 51 33.3 +2.0
baz=124,SNR=38
K59A **Cooperstown** 32.11 20 P P 04 51 31.2 -0.3
baz=207
XPFO **Pion Flat** 32.16 314 P P 04 51 34.3 +2.1
XPFO IAmb IAmb 04 51 49.8
comp=Z,106nm,1.1s
XPFO PcP PcP 04 54 22.0 +1.8
PFO **Pinyon Flats O** 32.16 314 P P 04 51 34.4 +2.2
baz=123,SNR=31
PFO **Pinyon Flats O** 32.16 314 P P 04 51 34.2 +2.0
PFO pmax pmax
comp=Z,106nm,1.2s
PFO **Pinyon Flats O** 32.16 314 P P 04 51 34.4 +2.2
comp=Z,23nm,0.8s,baz=115,slow=6.9,SNR=54
PFO PcP PcP 04 54 22.0 +1.8
comp=Z,23nm,1.1s,baz=115,slow=1.7,SNR=7.0
PFO pPcP 04 54 36.8
comp=Z,28nm,0.9s,baz=94,slow=1.5,SNR=8.1
PFO ScP ScP 04 58 03.8 +4.3
comp=Z,6.6nm,1.0s,baz=91,slow=3.2,SNR=6.8
PFO **Pinyon Flats O** 32.16 314 P P 04 51 34.2 +2.0
PFO IAmb IAmb 04 51 49.8
comp=Z,106nm,1.1s
SPMN **Marine on St.** 32.21 355 P P 04 51 31.5 -0.7
baz=173,SNR=62
109C **Camp Elliot, M** 32.24 312 P P 04 51 34.4 +1.7
baz=121,SNR=11
109C **Camp Elliot, M** 32.24 312 P P 04 51 34.8 +2.1
GMRC **Granite Mounta** 32.27 317 P P 04 51 35.0 +1.8
baz=126,SNR=38
J57A **Williamstown** 32.31 18 P P 04 51 32.6 -0.6
baz=204
J57A **Williamstown** 32.31 18 IAmb IAmb 04 51 48.2
comp=Z,69nm,0.9s
SUSD **Miller** 32.38 347 P P 04 51 33.5 -0.3
baz=162,SNR=22
H52A **Wyevale** 32.47 12 P P 04 51 33.8 -0.7
baz=197
TRY **Troy** 32.48 22 IAmb IAmb 04 51 51.3
comp=Z,81nm,1.1s
J58A **Remsen** 32.49 19 P P 04 51 34.1 -0.7
baz=206
J58A **Remsen** 32.49 19 IAmb IAmb 04 51 50.9
comp=Z,42nm,0.8s
L63A **North Scituate** 32.53 25 P P 04 51 35.2 +0.1
baz=213
RWWY **Rawlins** 32.56 335 P P 04 51 37.3 +1.5
RWWY PcP 04 54 21.7 +0.4
K61A **Williamstown** 32.57 22 P P 04 51 35.9 +0.4
baz=210
QUA2 **Belchertown** 32.58 24 IAmb IAmb 04 51 53.2
comp=Z,52nm,1.0s
I55A **Frankford** 32.58 15 P P 04 51 34.7 -0.8
baz=201
L61B **Northampton** 32.60 23 P P 04 51 35.2 -0.5
baz=211
F42A **Maple Grove Fa** 32.61 1 IAmb IAmb 04 51 39.2
comp=Z,27nm,0.6s
F45A **CMU Biological** 32.67 5 P P 04 51 36.7 +0.4
baz=186
MURC **Murrieta** 32.67 313 P P 04 51 38.5 +2.0
baz=122,SNR=18
H53A **Bobcaygeon** 32.70 14 P P 04 51 35.8 -0.7
baz=199,SNR=5.5
SADO **Sadowa** 32.75 13 P P 04 51 35.9 -1.1
comp=Z,38nm,0.7s,baz=250,slow=6.7,SNR=31
HEC **Hector,Ludlow** 32.76 316 P P 04 51 39.4 +2.1
baz=125,SNR=6.7
TUQ **Turquoise Moun** 32.83 317 P P 04 51 39.6 +1.6
baz=126,SNR=27
BBRC **Big Bear Solar** 32.84 315 P P 04 51 40.7 +2.4
baz=123,SNR=19
J59A **Piesco** 32.84 20 P P 04 51 37.4 -0.4
baz=207
I58A **Old Forge** 32.89 19 P P 04 51 37.9 -0.4
baz=206
I57A **Carthage** 32.90 18 P P 04 51 38.0 -0.3
baz=205
K62A **Royalston** 32.96 23 P P 04 51 39.5 +0.7
baz=211
SHPR **Sheep Range** 32.98 320 IAmb IAmb 04 51 57.2
comp=Z,52nm,1.2s
J60A **Lant Hill Farm** 33.02 21 P P 04 51 38.8 -0.5
baz=209
HRV **Adam Dziewonsk** 33.09 24 P P 04 51 40.1 +0.1
baz=213
K22A **Casper** 33.09 336 P P 04 51 41.1 +0.9
baz=148,SNR=29
K22A **Casper** 33.09 336 IAmb IAmb 04 51 42.2
comp=Z,52nm,0.8s
F49A **Sandfield** 33.16 9 P P 04 51 38.7 -1.8
baz=193
G53A **Haliburton** 33.20 14 P P 04 51 39.9 -1.0
baz=199,SNR=5.3
K63A **Dunstable** 33.25 24 P P 04 51 40.8 -0.6
baz=212
E43A **Lone Tree Farm** 33.26 3 IAmb IAmb 04 51 42.2
comp=Z,59nm,1.0s
H56A **Elgin** 33.32 17 P P 04 51 40.9 -1.1
baz=203
SHOC **Shoshone, Teco** 33.33 318 P P 04 51 43.8 +1.6
baz=126,SNR=9.6
BFSC **Mount Baldy Ra** 33.34 314 P P 04 51 44.4 +2.0
baz=122,SNR=35
GSC **Goldstone, Bar** 33.34 316 P P 04 51 44.5 +2.0
baz=125,SNR=24
GSC **Goldstone, Bar** 33.34 316 P P 04 51 43.8 +1.4
GSC 04 54 24.4
GSC pmax pmax
comp=Z,56nm,1.0s
GSC **Goldstone, Bar** 33.34 316 P P 04 51 43.8 +1.4
GSC IAmb IAmb 04 51 59.4
comp=Z,56nm,1.0s
GSC PcP 04 54 24.4 +1.0
I59A **Olmsteadville** 33.34 20 P P 04 51 41.1 -1.1
baz=208
CIS **Catalina Islan** 33.44 312 P P 04 51 45.2 +2.0
baz=120,SNR=21
RSSD **Black Hills** 33.47 340 P P 04 51 44.8 +1.2
baz=153
RSSD **Black Hills** 33.47 340 P P 04 51 44.0 +0.4
RSSD pmax pmax
comp=Z,76nm,0.8s
RSSD **Black Hills** 33.47 340 P P 04 51 44.0 +0.4
FMP **Fort Macarthur** 33.52 313 P P 04 51 45.6 +1.8
baz=121
I60A **Shoreham** 33.59 21 P P 04 51 44.7 +0.4
baz=209
G54A **Lake Saint Pet** 33.59 14 P P 04 51 43.7 -0.6
baz=200
J62A **Henniker** 33.60 23 P P 04 51 44.4 0.0
baz=212
E47A **Iron Bridge** 33.66 7 P P 04 51 43.7 -1.2
baz=190
F52A **Sundridge** 33.69 12 P P 04 51 44.2 -1.0
baz=197
F51A **Arnstein** 33.69 12 P P 04 51 43.9 -1.3
baz=196
H58A **Gabriels** 33.79 19 P P 04 51 45.2 -1.0
baz=207
G55A **Calabogie** 33.80 16 P P 04 51 45.3 -0.8
baz=202
DECC **Green Verdugo** 33.82 314 P P 04 51 48.8 +2.3
baz=121,SNR=7.0
E48A **Lockeyer** 33.84 9 P P 04 51 45.9 -0.6
baz=192
SAML **Samuel** 33.84 129 P P 04 51 46.6 -0.3
SAML pmax pmax
comp=Z,81nm,0.9s
SAML **Samuel** 33.84 129 P P 04 51 46.6 -0.3
LONY **Lake Ozonia** 33.84 19 P P 04 51 45.7 -0.8
baz=206
LONY **Lake Ozonia** 33.84 19 P P 04 51 46.2 -0.4
LONY IAmb IAmb 04 52 01.6
comp=Z,55nm,1.1s
EDW2 **Edwards Air Fo** 33.92 315 P P 04 51 49.2 +1.8
baz=123,SNR=32
J63A **Strafford** 33.93 24 P P 04 51 47.4 +0.1
baz=213
TPNV **Topopah Spring** 33.95 319 P P 04 51 49.8 +2.1
baz=127,SNR=34
D46A **Sault St. Mari** 34.01 6 P P 04 51 48.4 +0.5
baz=189
E50A **Wahnapitae** 34.02 10 P P 04 51 48.6 +0.6
baz=195
FURC **Furnace Creek,** 34.05 318 P P 04 51 50.5 +2.1
baz=126,SNR=24
DUG **Dugway, Tooele** 34.09 327 P P 04 51 49.9 +1.0
baz=136,SNR=16
ALGO **Algonquin Park** 34.12 14 P P 04 51 47.9 -1.0
baz=200
G57A **Newington** 34.16 18 P P 04 51 48.2 -1.0
baz=205
H59A **Cadyville** 34.16 20 P P 04 51 48.3 -1.0
baz=208
SNCC **San Nicolas Is** 34.18 311 P P 04 51 51.4 +1.8
baz=119
MPMC **Manual Prospec** 34.23 317 P P 04 51 51.8 +1.5
baz=125,SNR=50
BLG **Laguna Peak, P** 34.27 313 P P 04 51 52.5 +2.1
baz=120,SNR=5.6
OSI **Osito Audit: C** 34.29 314 P P 04 51 52.2 +1.6
baz=121
E52A **Mattawa** 34.30 13 P P 04 51 49.6 -0.8
baz=198
I62A **Tamworth** 34.33 23 P P 04 51 50.5 -0.2
baz=212
I62A **Tamworth** 34.33 23 IAmb IAmb 04 52 07.3
comp=Z,70nm,1.0s
E51A **G1948 Merrick** 34.36 12 P P 04 51 50.3 -0.7
baz=197
R11A **Troy Canyon, C** 34.41 322 P P 04 51 53.4 +1.6
baz=130,SNR=17
DAC **Darwin (Calif)** 34.42 317 IAmb IAmb 04 52 11.1
comp=Z,54nm,1.1s
F55A **Otter Lake** 34.44 16 P P 04 51 50.8 -0.9
baz=202,SNR=5.1
BW06 **Boulder Array** 34.45 333 P P 04 51 52.1 -0.1
baz=143,SNR=22
BW06 **Boulder Array** 34.45 333 IAmb IAmb 04 51 56.4
comp=Z,22nm,0.8s
PDAR **Pinedale Array** 34.45 333 P P 04 51 52.3 +0.2
comp=Z,14nm,0.6s,baz=131,slow=9.2,SNR=77
PDAR PcP PcP 04 54 26.6 +0.1
comp=Z,18nm,0.6s,baz=98,slow=4.4,SNR=26
PDAR pPcP 04 54 41.4
comp=Z,11nm,0.6s,baz=148,slow=4.2,SNR=6.5
PDAR ScP ScP 04 58 09.2 +1.7
comp=Z,5.6nm,1.0s,baz=116,slow=6.8,SNR=7.5
PDAR PKiKP PKiKP 05 01 49.0 -0.8
comp=Z,0.7nm,0.6s,baz=116,slow=2.9,SNR=7.6
PDAR pPKiKP pPKiKP 05 02 03.9 -1.9
comp=Z,2.1nm,0.8s,baz=114,slow=2.9,SNR=8.5
PDAR LR LR 05 08 51.9
comp=Z,1μm,20.7s,baz=150,slow=41
G58A **Ormstown** 34.49 19 P P 04 51 51.0 -1.0
baz=207
D48A **Paudash Townsh** 34.57 9 P P 04 51 51.5 -1.3
baz=193
E53A **Dumoine, Ponti** 34.61 14 P P 04 51 52.2 -1.0
baz=200
SCZ2 **Santa Cruz Isl** 34.62 312 P P 04 51 55.4 +1.9
baz=120,SNR=5.4
ARVC **Arvin** 34.63 314 P P 04 51 55.8 +2.3
baz=122,SNR=25
H61A **Lyndonville** 34.67 22 P P 04 51 53.5 -0.2
baz=210
ISA **Isabella, Lake** 34.67 316 P P 04 51 56.1 +2.1
baz=123,SNR=12
ISA **Isabella, Lake** 34.67 316 P P 04 51 54.8 +0.9
ISA 04 54 28.9
ISA pmax pmax
comp=Z,89nm,1.1s
ISA **Isabella, Lake** 34.67 316 P P 04 51 54.8 +0.9
ISA PcP 04 54 28.9 +1.8
GRAC **Grapevine Rang** 34.69 318 P P 04 51 55.9 +1.8
baz=126,SNR=16
G59A **Clarenceville** 34.71 20 P P 04 51 54.5 +0.6
baz=208
I63A **Otisfield** 34.77 24 P P 04 51 54.1 -0.5
baz=213
I63A **Otisfield** 34.77 24 P P 04 51 53.2 -1.4
I63A IAmb IAmb 04 52 11.2
comp=Z,37nm,0.9s
E54A **Lac Daplat, Po** 34.78 15 P P 04 51 53.9 -0.7
baz=201
EYMN **Ely** 34.84 357 P P 04 51 53.6 -1.5
baz=176,SNR=9.0
CWC **Cottonwood Cre** 34.84 317 P P 04 51 57.3 +1.8
baz=124
F57A **Harrington** 34.89 18 P P 04 51 55.0 -0.6
baz=205
D50A **G1747 Best Tow** 34.90 11 P P 04 51 55.1 -0.6
baz=196
D51A **Lot 18 Range I** 34.91 12 P P 04 51 55.0 -0.8
baz=197
D52A **ZEK Kipawa Sen** 35.01 13 P P 04 51 56.5 0.0
baz=198
E55A **Montcerf-Lytto** 35.09 16 P P 04 51 57.1 -0.2
baz=202
VES **Vestal, Richgr** 35.19 315 P P 04 52 00.7 +2.4
baz=122,SNR=26
PKM **Mcpherson Peak** 35.20 313 P P 04 52 00.7 +2.1
baz=120,SNR=21
D53A **Lac Vacive, Po** 35.26 14 P P 04 51 58.7 0.0
baz=200
D53A **Lac Vacive, Po** 35.26 14 IAmb IAmb 04 52 13.9
comp=Z,70nm,0.9s
TIN **Tinemaha, Big** 35.29 318 P P 04 52 01.5 +2.2
baz=125,SNR=9.0
E56A **St. Veronique** 35.45 17 P P 04 52 00.1 -0.3
baz=204
H63A **New Sharon** 35.50 24 P P 04 52 00.5 -0.2
baz=213
F59A **Saint Guilaume** 35.52 20 P P 04 52 01.3 +0.3
baz=208
SMMC **Simmler** 35.54 314 P P 04 52 03.5 +2.1
baz=121,SNR=22
D54A **Lac Fusel, La** 35.58 15 P P 04 52 00.7 -0.8
baz=201,SNR=5.8
E57A **Chmin Saint G** 35.59 18 P P 04 52 00.9 -0.7
baz=206
MOOW **Moose Ponds** 35.76 333 IAmb IAmb 04 52 06.7
comp=Z,34nm,0.8s
MDND **Maddock** 35.76 348 P P 04 52 02.8 -0.2
baz=162,SNR=30
D55A **Sainte-Anne-du** 35.76 16 P P 04 52 02.5 -0.6
baz=203,SNR=6.0
G62A **West of Eustis** 35.77 23 P P 04 52 02.8 -0.4
baz=212
G62A **West of Eustis** 35.77 23 IAmb IAmb 04 52 20.5
comp=Z,56nm,1.0s
ELK **Elko** 35.79 325 P P 04 52 05.0 +1.3
comp=Z,17nm,0.8s,baz=137,slow=6.8,SNR=49
ELK PcP PcP 04 54 31.6 +1.0
comp=Z,18nm,0.9s,baz=97,slow=3.3,SNR=10
ELK pPcP 04 54 47.1
comp=Z,15nm,0.9s,baz=144,slow=3.1,SNR=5.4
ELK ScP ScP 04 58 15.1 +2.7
comp=Z,7.6nm,1.0s,baz=149,slow=1.3,SNR=8.2
ELK PKiKP PKiKP 05 01 52.2 +1.3
comp=Z,0.6nm,0.4s,baz=86,slow=3.5,SNR=5.4
ELK pPKiKP pPKiKP 05 02 06.7 -0.2
comp=Z,1.0nm,0.7s,baz=107,slow=4.1,SNR=4.5
H64A **Troy** 35.80 25 P P 04 52 03.4 -0.1
baz=214
E58A **La Victoria** 35.82 19 P P 04 52 02.5 -1.1
baz=207
LPAZ **La Paz** 35.83 144 P P 04 52 05.6 +1.0
LPAZ 04 54 32.3
LPAZ pmax pmax
comp=Z,26nm,1.0s
LPAZ **La Paz** 35.83 144 P P 04 52 05.8 +1.2
comp=Z,17nm,0.9s,baz=334,slow=8.7,SNR=25
LPAZ PcP PcP 04 54 32.7 +1.2
comp=Z,18nm,1.2s,baz=261,slow=2.3,SNR=4.4
LPAZ LR LR 05 07 07.7
comp=Z,2μm,20.6s,baz=311,slow=37
LPAZ **La Paz** 35.83 144 eP P 04 52 04.7 +0.1
LPAZ **La Paz** 35.83 144 eP P 04 52 04.7 +0.1
LPAZ **La Paz** 35.83 144 P P 04 52 05.6 +1.0
LPAZ IAmb IAmb 04 52 06.5
comp=Z,26nm,1.0s
LPAZ PcP 04 54 32.3 +0.9
F60A **Warwick** 35.91 21 P P 04 52 02.8 -1.4
baz=209
D56A **ZEC Mazanza, M** 35.99 17 P P 04 52 03.7 -1.3
baz=204
FLWY **Flagg Ranch** 36.00 333 IAmb IAmb 04 52 09.8
comp=Z,42nm,0.8s
G63A **Kingsbury** 36.04 24 P P 04 52 05.4 -0.1
baz=214
NV11 **Mina Array Sit** 36.04 320 P P 04 52 07.8 +2.1
NV11 PcP 04 54 32.6 +1.3
OMMB **Old Mammoth Mi** 36.11 318 IAmb IAmb 04 52 23.8
comp=Z,52nm,1.0s
NVAR **Mina Array Bea** 36.14 320 P P 04 52 08.7 +2.1
comp=Z,34nm,0.8s,baz=134,slow=7.1,SNR=132
NVAR pP pP 04 52 23.4 +3.0
comp=Z,120nm,1.0s,baz=136,slow=7.1,SNR=31
NVAR PcP PcP 04 54 32.9 +1.3
comp=Z,38nm,0.7s,baz=136,slow=4.0,SNR=22
NVAR pPcP 04 54 48.4
comp=Z,32nm,0.7s,baz=159,slow=2.7,SNR=13
NVAR ScP ScP 04 58 15.7 +2.0
comp=Z,3.7nm,0.8s,baz=125,slow=4.2,SNR=8.6
NVAR PKiKP PKiKP 05 01 52.8 +1.6
comp=Z,0.4nm,0.6s,baz=191,slow=4.5,SNR=3.6
NVAR pPKiKP pPKiKP 05 02 08.0 +0.8
comp=Z,0.9nm,0.7s,baz=170,slow=3.1,SNR=5.8
NVAR LR LR 05 08 44.5
comp=Z,3μm,21.3s,baz=135,slow=39
H17A **Grant Village** 36.20 334 P P 04 52 07.8 +0.7
baz=143,SNR=23
H17A **Grant Village** 36.20 334 IAmb IAmb 04 52 11.2
comp=Z,29nm,0.8s
D57A **Chemin Vers le** 36.21 18 P P 04 52 06.0 -1.0
baz=206
RLMT **Red Lodge** 36.24 336 P P 04 52 07.8 +0.3
baz=146,SNR=27
H65A **Eastbrook** 36.25 26 P P 04 52 07.4 +0.2
baz=216
PKME **Peaks-Kenny Pk** 36.29 24 P P 04 52 07.1 -0.5
baz=214
KVN **Kaiserville** 36.38 321 IAmb IAmb 04 52 26.6
comp=Z,77nm,1.0s
RYN **Ryan** 36.39 320 P P 04 52 09.9 +1.1
RYN IAmb IAmb 04 52 26.8
comp=Z,57nm,1.1s
E60A **Ste Agathe de** 36.43 21 P P 04 52 08.0 -0.8
baz=210
LAO **LASA Array** 36.46 340 P P 04 52 09.6 +0.5
baz=151,SNR=48
G64A **Maxfield** 36.49 24 P P 04 52 09.5 +0.2
baz=215
F62A **Pittston Farm,** 36.56 23 P P 04 52 09.8 0.0
baz=212
D58A **Chemin du LacG** 36.59 19 P P 04 52 09.6 -0.5
baz=207,SNR=5.3
H66A **Whiting** 36.72 26 P P 04 52 11.5 +0.2
baz=217
F63A **Nahmakanta, Br** 36.73 24 P P 04 52 11.1 -0.2
baz=214
YHL **Hebgen Lake** 36.82 334 P P 04 52 13.3 +0.8
LATQ **La Tuque** 36.88 19 P P 04 52 12.1 -0.5
baz=207
G65A **Princeton** 36.95 26 P P 04 52 13.2 0.0
baz=217,SNR=5.7
G65A **Princeton** 36.95 26 IAmb IAmb 04 52 30.8
comp=Z,87nm,1.1s
YERR **Yerington** 37.05 320 IAmb IAmb 04 52 33.2
comp=Z,80nm,1.1s
D60A **Saint Jean D'O** 37.08 21 P P 04 52 13.8 -0.4
baz=210
F64A **Sherman** 37.16 24 P P 04 52 15.1 +0.2
baz=215
F64A **Sherman** 37.16 24 P P 04 52 14.3 -0.7
F64A IAmb IAmb 04 52 32.1
comp=Z,36nm,1.1s
CMB **Columbia Colle** 37.25 317 P P 04 52 17.0 +1.0
CMB 04 54 35.6
CMB pmax pmax
comp=Z,58nm,1.1s
CMB **Columbia Colle** 37.25 317 P P 04 52 17.0 +1.0
CMB IAmb IAmb 04 52 32.6
comp=Z,58nm,1.1s
CMB PcP 04 54 35.6 +0.9
LSQQ **Lebel-sur-Quev** 37.29 13 P P 04 52 15.2 -0.8
baz=200
SAO **San Andreas Ge** 37.29 315 IAmb IAmb 04 52 33.9
comp=Z,26nm,0.8s
MNMC **Minye Minye** 37.36 148 IAmb IAmb 04 52 24.8
comp=Z,59nm,1.0s
ULM **Lac du Bonnet** 37.49 353 P P 04 52 16.1 -1.6
ULM 04 54 34.5
ULM pmax pmax
comp=Z,102nm,1.0s
ULM **Lac du Bonnet** 37.49 353 P P 04 52 16.4 -1.3
comp=Z,76nm,0.9s,baz=170,slow=8.8,SNR=86
ULM PcP PcP 04 54 34.5 -0.7
comp=Z,10nm,0.6s,baz=209,slow=1.8,SNR=3.3
ULM LR LR 05 09 38.9
comp=Z,2μm,20.8s,baz=168,slow=40
ULM **Lac du Bonnet** 37.49 353 P P 04 52 16.1 -1.6
VCNR **Virginia City** 37.49 320 IAmb IAmb 04 52 36.3
comp=Z,55nm,1.2s
PAHR **Pah Rah Range** 37.57 320 P P 04 52 20.7 +2.0
PAHR IAmb IAmb 04 52 36.7
comp=Z,48nm,1.0s
PAHR PcP 04 54 37.6 +1.8
D61A **St Aubert, Com** 37.59 21 P P 04 52 18.2 -0.3
baz=211
E63A **Oxbow** 37.59 24 P P 04 52 18.3 -0.3
baz=214
BOZ **Bozeman (W)** 37.61 334 P P 04 52 19.9 +0.9
baz=142,SNR=12
MATQ **Matagami** 37.81 12 P P 04 52 19.4 -1.1
baz=198,SNR=13
E64A **Bridgewater** 37.82 24 P P 04 52 20.7 +0.2
baz=215
DLMT **Dillon** 37.84 333 IAmb IAmb 04 52 25.0
comp=Z,36nm,0.8s
PB11 **IPOC Station P** 37.86 149 IAmb IAmb 04 52 36.1
comp=Z,31nm,0.8s
PB11 PcP 04 54 38.1 +1.1
AFDM **Forest Hills D** 38.14 318 P P 04 52 25.0 +1.5
AFDM PcP 04 54 38.8 +1.4
D63A **Stockholm** 38.22 23 P P 04 52 24.2 +0.3
baz=214
BEKR **Beckworth** 38.27 320 IAmb IAmb 04 52 42.5
comp=Z,75nm,1.1s
CHGQ **Chibougamau** 38.71 15 P P 04 52 26.9 -1.1
baz=203
ORV **Oroville** 38.82 319 P P 04 52 30.3 +1.2
ORV 04 54 41.1
ORV pmax pmax
comp=Z,21nm,1.2s
ORV **Oroville** 38.82 319 P P 04 52 30.3 +1.2
ORV PcP 04 54 41.1 +1.6
EGMT **Eagleton** 38.84 338 P P 04 52 29.9 +0.6
baz=147,SNR=53
GDXM **Geysers** 39.26 317 IAmb IAmb 04 52 50.7
comp=Z,49nm,1.1s
O03E **Paynes Creek** 39.42 320 P P 04 52 34.5 +0.2
baz=124,SNR=9.0
MOD **Modoc Plateau** 39.45 323 P P 04 52 35.1 +0.6
MOD PcP 04 54 43.4 +1.7
HOPS **Hopland Field** 39.55 317 IAmb IAmb 04 52 54.3
comp=Z,32nm,1.1s
MSO **Missoula** 39.57 333 P P 04 52 35.6 +0.2
baz=140,SNR=24
O02D **Mt. Diablo Mer** 39.99 319 P P 04 52 38.6 -0.4
baz=123,SNR=10
WDC **Whiskeytown Da** 40.05 319 P P 04 52 38.5 -0.8
WDC 04 54 43.7
WDC pmax pmax

comp=Z,20nm,1.0s
WDC Whiskeytown Da 40.05 319 P P 04 52 38.5 -0.8
WDC **PcP 04 54 43.7 +0.3**
KCPM Cahto Peak 40.24 318 P P 04 52 42.6 +1.5
M04C Macdoel 40.30 321 P P 04 52 41.7 +0.2
baz=126,SNR=15
N02D Trinity Center 40.38 320 P P 04 52 41.6 -0.5
baz=124
JTMT Jette 40.43 334 IAmb IAmb 04 52 58.0
comp=Z,41nm,1.1s
F10A Beach Ranch, E 40.47 330 IAmb IAmb 04 52 46.1
comp=Z,53nm,1.0s
KMRM Mail Ridge 40.61 318 P P 04 52 45.8 +1.8
LVC Limon Verde 40.64 151 P P 04 52 46.4 +1.7
LVC pmax pmax
comp=Z,35nm,1.2s
LVC Limon Verde 40.64 151 *e*P **P 04 52 47.3 +2.5**
LVC Limon Verde 40.64 151 *e*P **P 04 52 47.3 +2.5**
LVC Limon Verde 40.64 151 P **P 04 52 46.4 +1.7**
M02C Callahan 40.70 320 P **P 04 52 44.4 -0.4**
baz=124,SNR=6.4
K04D Chiloquin, OR 40.74 323 P **P 04 52 45.5 +0.3**
baz=126
CLDB Colider 40.79 124 *e*P **P 04 52 42.1 -3.7**
CLDB Colider 40.79 124 *e*P **P 04 52 42.1 -3.7**
YBH Yreka Blue Hor 40.80 321 P **P 04 52 45.4 -0.2**
comp=Z,6.0nm,0.6s,baz=93,slow=5.7,SNR=35
YBH PcP **PcP 04 54 46.1 +0.2**
comp=Z,12nm,0.8s,baz=96,slow=3.4,SNR=9.9
YBH pPcP 04 55 01.3
comp=Z,12nm,0.8s,baz=90,slow=7.5,SNR=6.5
YBH ScP **ScP 04 58 33.7 +2.5**
comp=Z,2.8nm,0.9s,baz=68,slow=3.9,SNR=4.1
YBH Yreka Blue Hor 40.80 321 P **P 04 52 45.4 -0.2**
L04D Klamath Falls 40.84 322 P **P 04 52 46.0 0.0**
baz=125,SNR=10
J05D Fort Rock, OR 40.84 324 P **P 04 52 46.1 +0.2**
baz=128
KHMM Horse Mountain 40.97 319 IAmb IAmb 04 53 05.1
comp=Z,90nm,1.1s
PINE Pine Mountain 40.98 324 IAmb IAmb 04 52 50.7
comp=Z,29nm,0.8s
JCC Jacoby Creek, 41.13 319 P **P 04 52 49.5 +1.3**
JCC IAmb IAmb 04 53 04.5
comp=Z,42nm,1.1s
JCC **PcP 04 54 48.9 +2.1**
J04D Umpqua Nationa 41.32 323 P **P 04 52 50.4 +0.4**
baz=127,SNR=6.3
KRMB Red Mountain 41.43 320 IAmb IAmb 04 53 10.3
comp=Z,42nm,1.2s
I05D Terrebonne, OR 41.55 325 P **P 04 52 52.2 +0.5**
baz=128,SNR=5.2
L02E Cave Junction 41.59 321 P **P 04 52 51.9 -0.2**
baz=124
I04A Tendick Farm, 41.83 323 P **P 04 52 53.7 -0.3**
baz=127,SNR=6.3
K02D Willamette Mer 41.93 321 P **P 04 52 54.5 -0.4**
baz=124
NEW Newport 42.07 332 P **P 04 52 55.9 0.0**
baz=137,SNR=19
NEW Newport 42.07 332 P **P 04 52 55.9 0.0**
comp=Z,9.8nm,0.6s,baz=143,slow=8.3,SNR=28
NEW PcP **PcP 04 54 49.5 -0.4**
comp=Z,30nm,0.7s,baz=96,slow=2.9,SNR=18
NEW pPcP 04 55 04.6
comp=Z,18nm,0.8s,baz=161,slow=2.6,SNR=4.4
NEW Newport 42.07 332 IAmb IAmb 04 52 59.9
comp=Z,12nm,0.7s
G05D Wamic, OR 42.10 326 P **P 04 52 57.4 +1.2**
baz=129,SNR=6.7
E07A Sunnyside 42.19 328 IAmb IAmb 04 53 00.9
comp=Z,30nm,0.7s
H04A Detroit Lake 42.24 325 IAmb IAmb 04 52 59.6
comp=Z,37nm,0.9s
C09A Chrisman Ranch 42.27 331 IAmb IAmb 04 53 01.6
comp=Z,34nm,0.6s
I03D Drain, OR 42.32 323 P **P 04 52 58.0 +0.1**
baz=126
J01E Myrtle Point 42.36 322 P **P 04 52 59.2 +1.0**
baz=124
H04D Lebanon 42.45 324 P **P 04 52 58.7 -0.2**
baz=127
GO02 Mina Guanaco 42.52 153 P **P 04 53 01.4 +1.3**
GO02 IAmb IAmb 04 53 02.9
comp=Z,58nm,1.1s
F05D White Salmon 42.59 327 P **P 04 53 00.7 +0.6**
baz=130,SNR=7.0
FFC Flin Flon 42.77 349 P **P 04 53 01.3 -0.1**
FFC pmax pmax
comp=Z,53nm,0.7s
FFC Flin Flon 42.77 349 P **P 04 53 01.3 -0.1**
FFC IAmb IAmb 04 53 02.3
comp=Z,53nm,0.7s
I02D Swisshome 42.85 323 P **P 04 53 03.0 +0.8**
baz=125
G03D McMinnville, O 43.17 325 P **P 04 53 05.3 +0.6**
baz=127
F04D Rainier, OR 43.56 326 P **P 04 53 08.8 +0.9**
baz=128
E04D Cinebar 43.61 327 P **P 04 53 08.0 -0.3**
baz=129
C06D Leavenworth 43.63 329 P **P 04 53 08.3 -0.2**
baz=132,SNR=6.9
B06A Marblemount 44.33 329 IAmb IAmb 04 53 15.5
comp=Z,75nm,0.8s
GO03 Copiap 44.40 156 P **P 04 53 15.9 +1.1**
B05A Bryant 44.46 329 P **P 04 53 14.1 -1.0**
baz=131,SNR=6.7
D03D Eldon 44.51 327 P **P 04 53 14.5 -0.9**
baz=129
DRLN Deer Lake 44.53 29 IAmb IAmb 04 53 15.4
comp=Z,57nm,0.8s
A04D Lummi Island 45.07 329 P **P 04 53 19.5 -0.4**
baz=130
SCHQ Schefferville 45.21 18 P **P 04 53 19.4 -1.6**
comp=Z,50nm,0.7s,baz=220,slow=6.5,SNR=76
SCHQ PcP **PcP 04 54 59.0 -1.3**
comp=Z,14nm,0.4s,baz=183,slow=0.8,SNR=8.7
SCHQ Schefferville 45.21 18 P **P 04 53 19.7 -1.2**
SCHQ IAmb IAmb 04 53 20.5
comp=Z,49nm,0.7s
SCHQ PcP **PcP 04 54 59.2 -1.1**
PP1B Ponte de Pedra 45.55 131 *e*P **P 04 53 22.4 -1.8**
PP1B *e*S S 04 59 53.2 -10
PP1B Ponte de Pedra 45.55 131 *e*P **P 04 53 22.4 -1.8**
PP1B *e*S S 04 59 53.2 -10
LLLB Lillooet 45.93 331 IAmb IAmb 04 53 28.0
comp=Z,30nm,1.1s
GO04 Tololo Observa 46.49 158 P **P 04 53 32.8 +1.3**
GO04 IAmb IAmb 04 53 33.8
comp=Z,66nm,1.1s
GO04 PcP **PcP 04 55 06.1 +0.7**
ARAG Araguaiana, MT 46.73 127 *e*P **P 04 53 30.9 -2.6**
ARAG *e*S S 05 00 08.7 -11
ARAG Araguaiana, MT 46.73 127 *e*P **P 04 53 30.9 -2.6**
ARAG *e*S S 05 00 08.7 -11
PEXB Peixe 47.65 120 *e*P **P 04 53 36.8 -3.8**
PEXB Peixe 47.65 120 *e*P **P 04 53 36.8 -3.8**
PEL Peldehue 49.22 159 IAmb IAmb 04 53 54.4
comp=Z,26nm,0.8s
BDFB Brasilia 49.72 124 P **P 04 53 56.2 -0.4**
BDFB 04 55 18.0
BDFB pmax pmax
comp=Z,78nm,1.2s
BDFB Brasilia 49.72 124 P **P 04 53 55.9 -0.8**
comp=Z,20nm,0.5s,baz=293,slow=6.8,SNR=32
BDFB PcP **PcP 04 55 18.5 +1.3**
comp=Z,13nm,0.6s,baz=210,slow=0.7,SNR=5.9
BDFB pPcP 04 55 34.4
comp=Z,18nm,0.8s,baz=360,slow=6.7,SNR=3.6
BDFB LR LR 05 16 29.0
comp=Z,719nm,20.7s,baz=301,slow=38
BDFB Brasilia 49.72 124 P **P 04 53 56.2 -0.4**
BDFB PcP **PcP 04 55 18.1 +0.8**
CPUP Villa Florida 49.93 142 P **P 04 53 57.8 -0.1**
comp=Z,46nm,1.1s,baz=330,slow=8.3,SNR=41
CPUP PcP **PcP 04 55 18.9 +1.3**
comp=Z,12nm,0.9s,baz=328,slow=5.3,SNR=3.4
CPUP LR LR 05 16 29.7
comp=Z,750nm,19.6s,baz=324,slow=38
CPUP Villa Florida 49.93 142 P **P 04 53 57.8 -0.1**
CPUP IAmb IAmb 04 53 58.5
comp=Z,58nm,1.1s
CPUP PcP **PcP 04 55 18.7 +1.1**
TRCB Terra Rica 50.52 135 *e*P **P 04 54 01.5 -1.0**
TRCB Terra Rica 50.52 135 *e*P **P 04 54 01.5 -1.0**

GO05 Huala 50.53 162 P **P 04 54 03.4 +1.0**
IPMB Ipameri, GO 50.85 126 *e*P **P 04 54 03.5 -1.6**
IPMB Ipameri, GO 50.85 126 *e*P **P 04 54 03.5 -1.6**
YKA Yellowknife Ar 52.59 345 P **P 04 54 16.6 -0.7**
comp=Z,83nm,0.6s,baz=142,slow=7.6,SNR=775
YKA pP **pP 04 54 31.3 -0.4**
comp=Z,42nm,0.8s,baz=142,slow=7.8,SNR=8.8
YKA LR LR 05 19 51.6
comp=Z,154nm,20.8s,baz=146,slow=40
YKA PKPPKP **P'P'df 05 24 40.8 -7.5**
comp=Z,0.7nm,0.9s,baz=3.5,slow=2.2,SNR=5.4
FRB Frobisher Bay 52.66 11 P **P 04 54 15.8 -1.9**
comp=Z,55nm,0.4s,baz=212,slow=7.5,SNR=185
FRTB Fartura 53.03 133 *e*P **P 04 54 20.0 -1.2**
FRTB Fartura 53.03 133 *e*P **P 04 54 20.0 -1.2**
ITAB Concordia 53.83 138 *e*P **P 04 54 26.7 -0.2**
ITAB *e*S **S 05 01 53.0 -5.1**
ITAB Concordia 53.83 138 *e*P **P 04 54 26.7 -0.2**
ITAB *e*S **S 05 01 53.0 -5.1**
RCLB Rio Claro- Sao 53.95 130 *e*P **P 04 54 27.9 -0.1**
RCLB Rio Claro- Sao 53.95 130 *e*P **P 04 54 27.9 -0.1**
DLBC Dease Lake 54.64 335 P **P 04 54 33.7 +1.2**
comp=Z,48nm,0.8s,baz=137,slow=4.8,SNR=12
VAO Valinhos 54.71 131 *e*P **P 04 54 33.1 -0.4**
VAO Valinhos 54.71 131 *e*P **P 04 54 33.1 -0.4**
GO06 Curarrehue 54.91 163 P **P 04 54 35.8 +1.1**
GO06 IAmb IAmb 04 54 36.5
comp=Z,32nm,1.1s
TAOE Nuku Hiva Isla 55.09 249 *e*LR LR 05 10 29.8
comp=Z,3µm,26.3s
TAOE Nuku Hiva Isla 55.09 249 *e*T T 05 53 23.3
comp=Z,101nm,0.3s
CNLB Canela 56.07 139 *e*P **P 04 54 42.8 -0.3**
CNLB Canela 56.07 139 *e*P **P 04 54 42.8 -0.3**
PLTB Pedras Altas 56.12 143 *e*P **P 04 54 43.8 +0.3**
PLTB Pedras Altas 56.12 143 *e*P **P 04 54 43.8 +0.3**
RCBR Riachuelo 56.16 106 P **P 04 54 44.5 +0.4**
RCBR pmax pmax
comp=Z,47nm,1.2s
RCBR Riachuelo 56.16 106 *e*P **P 04 54 40.6 -3.5**
RCBR Riachuelo 56.16 106 *e*P **P 04 54 40.6 -3.5**
RCBR Riachuelo 56.16 106 P **P 04 54 44.5 +0.4**
RCBR IAmb IAmb 04 54 46.1
comp=Z,46nm,1.1s
PLCA Paso Flores 56.24 163 P **P 04 54 44.5 +0.3**
PLCA 04 55 41.9
PLCA Paso Flores 56.24 163 P **P 04 54 44.5 +0.3**
PLCA PcP **PcP 04 55 41.9 +0.7**
SJMB Sao Joao De Ma 56.88 123 *e*P **P 04 54 47.7 -1.4**
SJMB Sao Joao De Ma 56.88 123 *e*P **P 04 54 47.7 -1.4**
TRQA Tornquist 56.88 154 P **P 04 54 49.3 +0.5**
TRQA pmax pmax
comp=Z,17nm,1.1s
TRQA Tornquist 56.88 154 P **P 04 54 49.3 +0.5**
BSFB Barra de Sao F 57.22 123 *e*P **P 04 54 50.0 -1.5**
BSFB Barra de Sao F 57.22 123 *e*P **P 04 54 50.0 -1.5**
SKAG Skagway 57.46 334 IAmb IAmb 04 54 55.3
comp=Z,26nm,1.0s
SFJD Kangerlussuaq 59.61 17 *i* P **P 04 55 05.6 -1.8**
SFJD Kangerlussuaq 59.61 17 P **P 04 55 05.7 -1.6**
comp=Z,18nm,0.5s,baz=242,slow=5.0,SNR=4.5
SFJD Kangerlussuaq 59.61 17 IAmb IAmb 04 55 06.4
comp=Z,33nm,0.8s
C36M Paulatuk 60.43 347 P **P 04 55 11.3 -1.6**
baz=140,SNR=13
CTGM Chitina Glacie 60.81 334 IAmb IAmb 04 55 16.9
comp=Z,26nm,1.0s
BARN Barnard Glacie 61.00 334 IAmb IAmb 04 55 18.5
comp=Z,14nm,0.7s
BALM Baldy 61.28 334 IAmb IAmb 04 55 20.2
comp=Z,17nm,0.8s
TGL Tana Glacier 61.36 333 IAmb IAmb 04 55 21.7
comp=Z,31nm,0.9s
RES Resolute Bay 61.70 358 P **P 04 55 20.0 -1.4**
comp=Z,35nm,0.4s,baz=174,slow=8.2,SNR=167
RES pP **pP 04 55 35.1 -0.9**
comp=Z,34nm,0.8s,baz=183,slow=6.6,SNR=8.5
MCARA McCarthy VSAT 61.73 334 P **P 04 55 22.2 +0.2**
MCARA IAmb IAmb 04 55 39.3
comp=Z,38nm,0.9s
VRDI Verde Repeater 61.85 334 IAmb IAmb 04 55 24.0
comp=Z,12nm,0.7s
EPYK Eagle Plains 61.92 340 P **P 04 55 22.6 -0.6**
baz=125,SNR=10
EPYK Eagle Plains 61.92 340 IAmb IAmb 04 55 23.7
comp=Z,18nm,0.8s
GLB Gilahina Butte 62.10 334 IAmb IAmb 04 55 25.7
comp=Z,28nm,0.9s
INK Inuvik 62.13 343 P **P 04 55 23.8 -0.6**
comp=Z,54nm,0.7s,baz=123,slow=7.9,SNR=137
MENT Mentasta 62.73 335 IAmb IAmb 04 55 29.5
comp=Z,13nm,0.4s
DOT Dot Lake 63.18 336 IAmb IAmb 04 55 32.3
comp=Z,18nm,0.7s
BYL Byron's Ledge 63.43 285 P **P 04 55 35.2 +1.1**
RIM Rim 63.45 285 P **P 04 55 35.5 +1.2**
HPAH Hawaii Prepara 63.79 286 P **P 04 55 37.5 +1.1**
SCM Sheep Creek Mo 63.79 333 IAmb IAmb 04 55 36.2
comp=Z,17nm,0.7s
KULLO Kullorsuaq 64.06 9 *i* P **P 04 55 35.7 -1.4**
KULLO Kullorsuaq 64.06 9 *i* P **P 04 55 35.7 -1.4**
KNK Knik Glacier 64.13 333 IAmb IAmb 04 55 38.5
comp=Z,23nm,0.8s
SML Sawmill 64.22 333 P **P 04 55 38.8 +0.3**
TULEG Thule 64.39 5 IAmb IAmb 04 55 38.9
comp=Z,28nm,0.8s
GHO Glory Hole Cre 64.47 333 IAmb IAmb 04 55 41.0
comp=Z,47nm,0.8s
PRP Porcupine Dome 64.58 337 IAmb IAmb 04 55 43.0
comp=Z,17nm,0.7s
RC01 Rabbit Creek A 64.59 332 IAmb IAmb 04 55 41.4
comp=Z,29nm,0.7s
HDA Harding Lake 64.66 336 P **P 04 55 40.3 -1.0**
baz=114,SNR=12
HDA Harding Lake 64.66 336 IAmb IAmb 04 55 41.4
comp=Z,23nm,0.7s
IL31 64.78 336 IAmb IAmb 04 55 57.3
comp=Z,38nm,1.0s
ILAR Eielson Array 64.78 336 P **P 04 55 41.0 -1.1**
comp=Z,16nm,0.8s,baz=164,slow=4.2,SNR=119
ILAR pP **pP 04 55 56.0 -0.8**
comp=Z,22nm,1.0s,baz=148,slow=3.4,SNR=12
ILAR LR LR 05 26 41.4
comp=Z,1µm,21.6s,baz=119,slow=38
KDAK Kodiak Island 64.95 328 *i* P **P 04 55 42.8 -0.5**
KDAK Kodiak Island 64.95 328 P **P 04 55 43.0 -0.2**
comp=Z,14nm,0.6s,baz=134,slow=1.6,SNR=17
KDAK Kodiak Island 64.95 328 IAmb IAmb 04 55 48.1
comp=Z,13nm,0.8s
POKR Poker Plat Res 65.14 337 P **P 04 55 43.5 -0.9**
baz=114,SNR=6.3
SUA Susitna One 65.18 332 IAmb IAmb 04 55 46.0
comp=Z,22nm,0.6s
MCK McKinley 65.20 335 IAmb IAmb 04 55 45.2
comp=Z,26nm,0.9s
COLA College 65.20 336 *e*P **P 04 55 43.6 -1.1**
COLA pmax pmax
comp=Z,18nm,0.9s
COLA College 65.20 336 P **P 04 55 44.1 -0.6**
COLA IAmb IAmb 04 55 44.7
comp=Z,31nm,0.8s
TCOL CIGO, UAF Yank 65.21 336 P **P 04 55 43.5 -1.3**
baz=113
TRF Thorofare Moun 65.66 334 IAmb IAmb 04 55 48.3
comp=Z,35nm,0.9s
SKT Skwentna 65.70 333 IAmb IAmb 04 55 48.4
comp=Z,27nm,0.7s
KIP Kipapa 65.83 288 *e*P **P 04 55 52.4 +2.8**
KIP pmax pmax
comp=Z,802nm,4.5s
KIP Kipapa 65.83 288 P **P 04 55 51.3 +1.7**
KTH Kantishna Hill 65.96 334 IAmb IAmb 04 55 49.7
comp=Z,25nm,0.7s
BPAW Bear Paw Mtn. 66.17 335 IAmb IAmb 04 55 51.1
comp=Z,42nm,0.7s
MLY Manley 66.40 336 IAmb IAmb 04 55 52.8
comp=Z,47nm,0.7s
SUMG Summit 66.43 15 *i* P **P 04 55 51.0 -2.0**
SUMG pmax pmax
comp=Z,210nm,1.2s
SUMG Summit 66.43 15 *i* P **P 04 55 51.0 -2.0**
comp=Z,208nm,1.2s
SUMG Summit 66.43 15 P **P 04 55 51.5 -1.5**
PPT Papeete 66.92 244 LR LR 05 17 09.0
comp=Z,946nm,19.9s,baz=10,slow=28
PPT2 Papeete2 66.93 244 *e*S **S 05 04 46.0 -0.3**

comp=Z,344nm,25.8s
PPT2 *e*LQ LQ 05 13 22.4
comp=Z,1µm,33.0s
PPT2 *e*LR LR 05 16 04.2
comp=Z,3µm,26.2s,baz=65
COLD Coldfoot 67.01 338 IAmb IAmb 04 56 12.2
comp=Z,29nm,1.2s
GO10 Punta Arenas 67.76 168 P **P 04 56 01.5 +0.3**
PMOZ Porto Moniz, M 67.99 60 *e*LR LR 05 17 00.0
comp=Z,640nm,22.0s
TBI Tubuai 69.16 239 *e*S **S 05 05 13.2 +0.5**
comp=Z,392nm,28.5s
TBI Tubuai 69.16 239 *e*LR LR 05 17 20.0
comp=Z,2µm,26.8s,baz=60
TBI Tubuai 69.16 239 *e*T T 06 11 00.5
comp=Z,19nm,0.3s
SCO Scoresbysund 70.24 19 P **P 04 56 15.2 -1.1**
SCO pmax pmax
comp=Z,9.0nm,0.7s
SCO Scoresbysund 70.24 19 *i* P **P 04 56 14.0 -2.4**
SCO Scoresbysund 70.24 19 P **P 04 56 15.2 -1.1**
DAG Danmarks Havn 72.95 13 *i* P **P 04 56 30.2 -2.4**
DAG pmax pmax
comp=Z,16nm,0.7s
DAG Danmarks Havn 72.95 13 *i* P **P 04 56 30.2 -2.4**
comp=Z,16nm,0.7s
PCAS Casmilo, Conde 74.64 52 *e*P **P 04 56 41.1 -2.1**
comp=Z,64nm,1.4s
MORF Marmelete 74.74 55 *e*P **P 04 56 44.0 +0.1**
MORF AMb AMB 04 56 52.2
comp=Z,49nm,1.7s
PMTG Montargil 74.93 53 *e*P **P 04 56 43.0 -1.9**
EVO Evora 75.14 53 *e*P **P 04 56 45.5 -0.6**
PBEJ Beja 75.30 54 *e*P **P 04 56 47.1 +0.1**
MTE Manteigas 75.34 51 *e*P **P 04 56 46.8 -0.5**
MTE Manteigas 75.34 51 *e*LR LR 05 20 26.1
comp=Z,752nm,20.0s
PCBR Castelo Branco 75.44 52 *e*P **P 04 56 47.3 -0.5**
comp=Z,25nm,1.6s
PVAQ Vaqueiros 75.47 54 *e*P **P 04 56 48.1 +0.1**
PMRV Marv??o 75.54 52 *e*P **P 04 56 47.6 -0.8**
PMRV Marv??o 75.54 52 *e*LR LR 05 20 31.4
comp=Z,835nm,22.0s
MVO Moncorvo 75.67 51 *e*P **P 04 56 48.7 -0.5**
comp=Z,31nm,1.8s
MVO Moncorvo 75.67 51 *e*LR LR 05 20 52.5
comp=Z,763nm,20.0s
PBRG Braganca 75.83 50 *e*LR LR 05 20 52.5
comp=Z,936nm,20.0s
PAB San Pablo 77.87 52 P **P 04 56 59.2 -2.5**
PAB San Pablo 77.87 52 P **P 04 56 59.1 -2.5**
ESDC Sonseca Array 78.15 52 P **P 04 57 00.4 -2.8**
comp=Z,4.2nm,0.6s,baz=292,slow=4.2,SNR=40
ESDC pP **pP 04 57 17.1 -1.2**
comp=Z,5.3nm,0.8s,baz=288,slow=5.8,SNR=9.9
ESDC LR LR 05 25 53.1
comp=Z,555nm,21.1s,baz=295,slow=32
ESBB Sonseca Array 78.15 52 P **P 04 57 01.9 -1.3**
KBS Kingsbay 79.41 11 *e*P **P 04 57 08.0 -1.2**
KBS pmax pmax
comp=Z,132nm,1.0s
KBS Kingsbay 79.41 11 P **P 04 57 09.4 +0.1**
KBS IAmb IAmb 04 57 11.9
comp=Z,32nm,0.9s
PMSA Palmer Station 79.91 169 P **P 04 57 13.0 +1.1**
SPA0 Spitsbergen Ar 80.46 12 *e*P **P 04 57 14.2 -0.7**
SPA0 Spitsbergen Ar 80.46 12 P **P 04 57 14.9 -0.1**
SPA0 IAmb IAmb 04 57 31.7
comp=Z,40nm,1.0s
HOPE Hope Point 80.54 152 P **P 04 57 16.4 +0.8**
HOPE pmax pmax
comp=Z,72nm,1.0s
HOPE Hope Point 80.54 152 P **P 04 57 16.4 +0.8**
TIC Toumodi 82.87 85 *e*PKP1 **P 04 57 25.9 -3.0**
comp=Z,12nm,0.4s
LIC Lamto 82.95 85 *e*PKP1 **P 04 57 26.3 -3.0**
comp=Z,102nm,1.2s
KONS Konsvik 82.97 23 *e*P **P 04 57 28.2 -0.1**
DBIC Dimbokro 83.03 85 P **P 04 57 29.0 -0.7**
DBIC pmax pmax
comp=Z,15nm,0.9s
DBIC Dimbokro 83.03 85 P **P 04 57 27.3 -2.3**
comp=Z,12nm,0.7s,baz=234,slow=3.8,SNR=6.8
DBIC LR LR 05 30 40.7
comp=Z,373nm,21.5s,baz=270,slow=33
DBIC Dimbokro 83.03 85 P **P 04 57 29.0 -0.7**
KIC Kosan Boka 83.20 85 *e*PKP1 **P 04 57 26.8 -3.8**
comp=Z,94nm,1.2s
STEI Steigen 83.34 22 *e*P **P 04 57 29.5 -0.7**
BILL Bilibino 83.34 338 *c i*P **P 04 57 29.2 -1.0**
BILL *i* 04 57 43.4
BILL *i* 05 00 40.5
BILL pmax pmax
comp=Z,34nm,1.0s
BILL Bilibino 83.34 338 P **P 04 57 29.6 -0.7**
BILL IAmb IAmb 04 57 46.9
comp=Z,29nm,0.7s
MOR8 Moi Rana 83.58 23 *e*P **P 04 57 31.7 +0.1**
WLF Walferdange 83.59 41 P **P 04 57 31.5 -0.4**
WLF pmax pmax
comp=Z,9.0nm,0.6s
WLF Walferdange 83.59 41 P **P 04 57 31.5 -0.4**
NB2 NORSAR Subarra 83.66 29 P **P 04 57 30.9 -1.2**
comp=Z,2.1nm,0.7s,baz=284,slow=5.1
NB2 NORSAR Subarra 83.66 29 P **P 04 57 30.9 -1.2**
baz=284,slow=5.1
NOA NORSAR Array B 83.66 29 P **P 04 57 29.8 -2.3**
comp=Z,1.6nm,1.0s,baz=308,slow=17,SNR=2.5
NOA pP **pP 04 57 46.0 -1.3**
comp=Z,3.2nm,0.7s,baz=288,slow=4.9,SNR=6.6
NOA LR LR 05 30 46.6
comp=Z,458nm,21.5s,baz=280,slow=33
TRO Tromso 84.02 20 *e*P **P 04 57 34.0 +0.4**
ECH Echery 84.56 42 P **P 04 57 35.0 -1.9**
ECH pmax pmax
comp=Z,7.0nm,0.9s
ECH Echery 84.56 42 P **P 04 57 35.0 -1.9**
SENIN Lac Senin/Sane 85.09 44 P **P 04 57 38.2 -1.6**
HFS Hagfors 85.09 29 P **P 04 57 37.2 -2.1**
comp=Z,5.6nm,0.6s,baz=272,slow=4.2,SNR=14
KTK1 Kautokeino 85.67 20 *e*P **P 04 57 41.9 -0.1**
ARCES ARCESS Array B 86.16 19 P **P 04 57 43.3 -1.2**
comp=Z,5.3nm,0.5s,baz=288,slow=4.8,SNR=40
ARCES LR LR 05 35 42.2
comp=Z,218nm,18.3s,baz=304,slow=35
ARE0 ARCESS Array S 86.16 19 *e*P **P 04 57 43.0 -1.4**
DAVA Damuels 86.57 42 P **P 04 57 44.1 -2.9**
comp=Z,9.3nm,0.8s
DAVOX Davos/Dischmat 86.70 43 P **P 04 57 45.5 -2.3**
comp=Z,5.5nm,0.7s,baz=267,slow=7.0,SNR=14
FUORN Ofenpass-Fuorn 87.00 43 P **P 04 57 48.5 -0.8**
FUORN IAmb IAmb 04 58 07.8
comp=Z,23nm,1.1s
RETA Reutte 87.09 42 *e*P **P 04 57 46.6 -2.9**
comp=Z,11nm,0.7s
FETA Feichten 87.20 42 P **P 04 57 48.2 -1.9**
comp=Z,5.6nm,0.6s
MOTA Moosalm 87.36 42 P **P 04 57 49.2 -1.7**
comp=Z,9.6nm,1.2s
CLL Collm 87.39 38 *e*P **P 04 57 48.0 -2.7**
CLL *e**PP **pP 04 58 04.0 -2.1**
CLL *e**SP **sP 04 58 11.0 -1.0**
CLL pmax pmax
comp=Z,11nm,0.9s
CLL Collm 87.39 38 *e*P **P 04 57 49.0 -1.7**
comp=Z,11nm,0.9s
CLL *e*pP **pP 04 58 04.0 -2.1**
CLL *e*sP **sP 04 58 11.0 -1.0**
CLL *e*sP PcP 04 58 17.0 +24
CLL *e*PP **PP 05 01 19.0 +3.6**
CLL *e*PPPP 05 04 24.0
CLL *e*S **S 05 08 29.0 +1.7**
CLL *e* 05 08 36.0
CLL *e*PPS PPS 05 09 56.0
SQTA Sankt Quirin 87.46 42 *e*P **P 04 57 49.7 -1.7**
comp=Z,7.8nm,0.8s
TORD Torodi Ar. Bea 87.94 77 PKPPKP 05 23 50.5
comp=Z,0.7nm,0.9s,baz=40,slow=3.7,SNR=3.8
TORD LR LR 05 38 45.2
comp=Z,139nm,18.1s,baz=305,slow=37
BRG Berggiesshubel 88.09 38 *e*P **P 04 57 52.9 -1.2**
comp=Z,10nm,1.0s
BRG *e*pP **pP 04 58 07.8 -1.6**
comp=Z,58nm,1.9s
BRG *e*PP **PP 05 01 15.2 -5.8**
comp=Z,42nm,1.9s

BRG				*e*PKKP		**PKKPbc**	**05 15 39.3**	**-0.9**	
	comp=Z,1.6nm,0.7s								
BRG	**Berggiesshubel**	**88.09**	**38**	*e*P		**P**	**04 57 52.9**	**-1.2**	
BRG				*e**PP		**pP**	**04 58 07.8**	**-1.6**	
BRG				*e*			05 01 15.2		
BRG				pmax	pmax				
	comp=Z,10.0nm,1.0s								
BRG				pmax	pmax				
	comp=Z,59nm,1.9s								
BRG				pmax	pmax				
	comp=Z,42nm,1.9s								
BRG				pmax	pmax				
	comp=Z,2.0nm,0.7s								
ZCCA	**Zocca**	**88.11**	**45**	P		**P**	**04 57 52.9**	**-1.6**	
TEOL	**Teolo**	**88.30**	**44**	IAmb		IAmb	04 58 13.9		
	comp=Z,27nm,1.1s								
KHC	**Kasperske Hory**	**88.41**	**40**	*e*P		**P**	**04 57 53.6**	**-2.1**	
KHC				pmax	pmax				
	comp=Z,13nm,0.9s								
KHC	**Kasperske Hory**	**88.41**	**40**	*e*P		**P**	**04 57 53.4**	**-2.3**	
KHC				*ex*		x	04 58 10.0		
KHC				AMS		AMS	05 31 40.0		
	comp=Z,1μm,23.0s								
KHC	**Kasperske Hory**	**88.41**	**40**	P		**P**	**04 57 54.3**	**-1.4**	
ABTA	**Abfaltersbach**	**88.45**	**42**	P		**P**	**04 57 52.9**	**-3.1**	
	comp=Z,10nm,0.9s								
GERES	**GERESS Array B**	**88.58**	**40**	P		**P**	**04 57 53.9**	**-2.7**	
	comp=Z,2.5nm,0.7s,baz=298,slow=2.9,SNR=14								
GERES				PKKPbc		**PKKPbc**	**05 15 39.1**	**0.0**	
	comp=Z,0.6nm,0.8s,baz=149,slow=2.6,SNR=4.9								
GERES				LR		LR	05 33 13.2		
	comp=Z,656nm,21.5s,baz=313,slow=33								
KBA	**Koelnbreinsper**	**88.89**	**42**	P		**P**	**04 57 56.5**	**-1.7**	
	comp=Z,8.8nm,1.0s								
MOA	**Molln**	**89.25**	**41**	P		**P**	**04 57 58.0**	**-1.7**	
	comp=Z,2.1nm,0.7s								
KEST	**Kesra**	**89.27**	**54**	P		**P**	**04 57 59.0**	**-1.1**	
	comp=Z,1.5nm,0.5s,baz=190,slow=2.5,SNR=6.7								
KEST				LR		LR	05 31 53.5		
	comp=Z,314nm,21.4s,baz=234,slow=32								
TAM	**Tamanrasset**	**89.28**	**67**	P		**P**	**04 58 00.2**	**-0.3**	
TAM				pmax	pmax				
	comp=Z,3.0nm,0.9s								
TAM	**Tamanrasset**	**89.28**	**67**	P		**P**	**04 58 00.2**	**-0.3**	
CHVC	**Chvalec**	**89.45**	**38**	*e*P		**P**	**04 58 00.1**	**-0.5**	
DPC	**Dobruska-Polom**	**89.69**	**38**	*e*P		**P**	**04 57 59.9**	**-1.8**	
DPC				*e*			04 58 16.5		
DPC	**Dobruska-Polom**	**89.69**	**38**	*e*P		**P**	**04 57 59.9**	**-1.8**	
DPC				*e*pP		**pP**	**04 58 16.5**	**-0.6**	
OBKA	**Obir**	**89.86**	**42**	P		**P**	**04 58 00.7**	**-1.9**	
	comp=Z,9.3nm,1.4s								
KRLC	**Kraliky**	**90.06**	**38**	*e*P		**P**	**04 58 02.2**	**-1.3**	
KRLC				*e*			04 58 18.7		
KRLC	**Kraliky**	**90.06**	**38**	*e*P		**P**	**04 58 02.2**	**-1.3**	
KRLC				*e*pP		**pP**	**04 58 18.7**	**-0.2**	
SOKA	**Soboth**	**90.12**	**42**	*e*P		**P**	**04 58 02.8**	**-1.1**	
FINES	**FINESS Array B**	**90.17**	**26**	P		**P**	**04 58 01.9**	**-1.8**	
	comp=Z,3.8nm,0.6s,baz=304,slow=2.6,SNR=11								
FINES				LR		LR	05 36 47.2		
	comp=Z,574nm,21.4s,baz=289,slow=34								
CONA	**Conrad Observa**	**90.23**	**41**	P		**P**	**04 58 03.1**	**-1.3**	
	comp=Z,11nm,1.8s								
SEY	**Seymchan**	**90.72**	**336**	P		**P**	**04 58 06.0**	**-0.2**	
	comp=Z,14nm,0.7s,baz=333,slow=0.5,SNR=24								
SEY				pP		**pP**	**04 58 21.0**	**-0.6**	
	comp=Z,11nm,0.8s,baz=57,slow=4.3,SNR=5.2								
SEY				PP		**PP**	**05 01 42.4**	**+0.8**	
	comp=Z,6.2nm,1.0s,baz=43,slow=10,SNR=3.6								
SOP	**Sopron**	**90.76**	**41**	*e*P		P	04 58 13.0	+6.3	
MODS	**Modra-Piesok**	**90.97**	**40**	*e*P		**P**	**04 58 05.5**	**-2.2**	
MODS	**Modra-Piesok**	**90.97**	**40**	*e*P		**P**	**04 58 05.5**	**-2.2**	
MPLH	**Magyarpolny**	**91.56**	**41**	*e*P		P	04 58 22.0	+12	
TIXI	**Tiksi**	**91.73**	**349**	*e*P		**P**	**04 58 08.6**	**-2.1**	
TIXI				pmax	pmax				
	comp=Z,20nm,0.8s								
TIXI	**Tiksi**	**91.73**	**349**	P		**P**	**04 58 09.2**	**-1.5**	
TIH	**Tihany**	**91.89**	**41**	*e*P		P	04 58 25.1	+13	
VYHS	**Vyhne**	**91.89**	**39**	*e*P		**P**	**04 58 11.6**	**-0.4**	
VYHS	**Vyhne**	**91.89**	**39**	*e*P		**P**	**04 58 11.6**	**-0.4**	
LANS	**Liptovska Anna**	**92.03**	**38**	*e*P		**P**	**04 58 14.1**	**+1.5**	
LANS	**Liptovska Anna**	**92.03**	**38**	*e*P		**P**	**04 58 14.1**	**+1.5**	
MORH	**Mrgy, Hungar**	**92.62**	**41**	*e*P		**P**	**04 58 12.1**	**-3.2**	
PSZ	**Piszkesteto**	**92.77**	**40**	*e*P		**P**	**04 58 20.1**	**+4.0**	
PETK	**Petropavlovsk-**	**92.95**	**326**	P		**P**	**04 58 17.3**	**+0.5**	
	comp=Z,12nm,0.7s,baz=94,slow=10,SNR=6.9								
PETK				pP		**pP**	**04 58 32.2**	**+0.1**	
	comp=Z,12nm,0.8s,baz=86,slow=12,SNR=4.6								
TRPA	**Tarpa**	**94.30**	**39**	*e*P		**P**	**04 58 21.1**	**-2.0**	
AKASG	**Malin Array Be**	**96.99**	**34**	P		**P**	**04 58 32.8**	**-2.4**	
	comp=Z,0.3nm,0.3s,baz=287,slow=4.0,SNR=4.7								
AKASG				PKKPbc		**PKKPbc**	**05 15 16.2**	**-1.2**	
	comp=Z,2.3nm,0.8s,baz=92,slow=2.6,SNR=7.3								
AKASG				LR		LR	05 40 55.0		
	comp=Z,268nm,20.1s,baz=300,slow=35								
OBN	**Obninsk**	**98.25**	**28**	*i* P		**P**	**04 58 38.6**	**-2.1**	
OBN				*i*			04 58 54.6		
OBN				*i*			04 59 03.2		
OBN				pmax	pmax				
	comp=Z,11nm,0.9s								
VNA3	**Neumayer Olymp**	**98.92**	**161**	P		Pdif	04 58 43.7	+0.4	
VNA3	**Neumayer Olymp**	**98.92**	**161**	PKKP		**PKKPbc**	**05 15 08.8**	**-4.3**	
YAK	**Yakutsk**	**99.19**	**343**	LR		LR	05 52 04.6		
	comp=Z,207nm,18.7s,baz=43,slow=41								
VNA1	**Neumayer--Stat**	**99.23**	**161**	P		**Pdif**	**04 58 46.1**	**+1.4**	
VNA1	**Neumayer--Stat**	**99.23**	**161**	PKKP		**PKKPbc**	**05 15 09.3**	**-2.8**	
VNA2	**Neumayer--Watz**	**99.57**	**161**	P		**Pdif**	**04 58 46.6**	**+0.4**	
	baz=305,slow=5.7								
VNA2	**Neumayer--Watz**	**99.57**	**161**	PKKP		**PKKPbc**	**05 15 07.5**	**-3.7**	
SNAA	**Sanae**	**101.15**	**161**	P		**Pdif**	**04 58 53.8**	**+0.5**	
SNAA	**Sanae**	**101.15**	**161**	PKKP		**PKKPbc**	**05 15 03.5**	**-3.3**	
SNAA	**Sanae**	**101.15**	**161**	P		**Pdif**	**04 58 53.8**	**+0.5**	
SNAA	**Sanae**	**101.15**	**161**			**Pdif**	**04 58 53.8**	**+0.5**	
BRTR	**Keskin Array B**	**105.34**	**42**	PKiKP		**PKiKP**	**05 03 26.2**	**-0.5**	
	comp=Z,0.9nm,0.7s,baz=317,slow=2.0,SNR=3.8								
BRTR				PKKPbc		**PKKPbc**	**05 14 53.5**	**+0.3**	
	comp=Z,1.2nm,0.7s,baz=158,slow=5.0,SNR=6.4								
DZM	**Mont Dzumac**	**107.94**	**251**	*e*LR		LR	05 35 15.0		
	comp=Z,722nm,25.8s								
KBZ	**Khabaz**	**108.60**	**35**	PKKPbc		PKKPbc	05 14 43.6	+0.5	
	comp=Z,3.2nm,1.0s,baz=24,slow=2.5,SNR=4.8								
BRVK	**Borovoye**	**111.83**	**13**	⇓*i* PKiKP		**PKiKP**	**05 03 37.8**	**-0.4**	
AB31	**Akbulak array**	**112.24**	**21**	*i* PKiKP		**PKiKP**	**05 03 38.7**	**-0.4**	
AB31				pmax	pmax				
	comp=Z,1.0nm,0.5s								
SYO	**Syowa Base**	**115.43**	**162**	⇑*e*Pdiff		**Pdif**	**04 59 56.4**	**-0.3**	
KURK	**Kurchatov**	**115.61**	**9**	*i* PKiKP		**PKiKP**	**05 03 44.9**	**-0.6**	
KURK	**Kurchatov**	**115.61**	**9**			**PKiKP**	**05 03 44.9**	**-0.6**	
KURBB	**Kurchatov Arra**	**115.69**	**9**	PKP		**PKiKP**	**05 03 44.9**	**-0.8**	
	comp=Z,8.0nm,0.6s,baz=350,slow=2.0,SNR=51								
ZAK	**Zakamensk**	**115.89**	**351**	*e*PKiKP		**PKiKP**	**05 03 42.5**	**-3.8**	
ZAK				pmax	pmax				
	comp=Z,5.0nm,0.2s								
BOSA	**Boshof**	**117.49**	**116**	PKP		**PKiKP**	**05 03 50.5**	**+0.5**	
	comp=Z,12nm,0.8s,baz=291,slow=1.4,SNR=16								
BOSA				PKKPbc		**PKKPbc**	**05 14 13.8**	**+1.0**	
	comp=Z,2.0nm,0.7s,baz=37,slow=2.2,SNR=4.3								
ULN	**Ulaanbaatar**	**117.65**	**348**	⇑*i* PKiKP		**PKiKP**	**05 03 50.2**	**+0.4**	
ULN				pmax	pmax				
	comp=Z,11nm,0.8s								
ULN	**Ulaanbaatar**	**117.65**	**348**			**PKiKP**	**05 03 50.0**	**+0.2**	
LBTB	**Lobatse**	**117.72**	**111**	PKiKP		**PKiKP**	**05 03 51.0**	**+0.5**	
LBTB	**Lobatse**	**117.72**	**111**	PKKPbc		PKKPbc	05 14 13.9	+2.0	
	comp=Z,3.2nm,0.8s,baz=106,slow=3.6,SNR=5.2								
LBTB	**Lobatse**	**117.72**	**111**			**PKiKP**	**05 03 51.0**	**+0.5**	
SONM	**Songino Array**	**117.81**	**348**	PKP		**PKPdf**	**05 03 49.6**	**-0.4**	
	comp=Z,12nm,0.6s,baz=345,slow=1.6,SNR=70								
SONM				pPKP		**pPKPdf**	**05 04 04.5**	**-1.4**	
	comp=Z,12nm,0.8s,baz=338,slow=1.2,SNR=18								
SONM				PP		**PP**	**05 05 02.1**	**-0.7**	
	comp=Z,4.7nm,1.0s,baz=4.4,slow=5.2,SNR=5.0								
SONM				PKKPbc		**PKKPbc**	**05 14 10.9**	**-1.7**	
	comp=Z,2.9nm,1.0s,baz=193,slow=4.2,SNR=9.4								
KS19	**Wonju Array Si**	**118.84**	**327**			**PKiKP**	**05 03 52.4**	**+0.2**	
KSRS	**Korea Array**	**118.85**	**327**	PKP		**PKPdf**	**05 03 52.1**	**0.0**	
	comp=Z,15nm,0.8s,baz=355,slow=1.1,SNR=31								
KSRS				pPKP		**pPKPdf**	**05 04 07.4**	**-0.7**	
	comp=Z,10nm,0.7s,baz=16,slow=1.5,SNR=11								
MBAR	**Mbarara**	**119.24**	**83**	PKiKP		**PKiKP**	**05 03 53.3**	**-0.5**	
MBAR	**Mbarara**	**119.24**	**83**			**PKPdf**	**05 03 53.3**	**-0.5**	
LSZ	**Lusaka**	**119.43**	**100**	PKKPbc		PKKPbc	05 14 08.0	+2.4	
	comp=Z,1.4nm,0.7s,baz=140,slow=6.9,SNR=4.5								
MAKZ	**Makanchi**	**119.89**	**7**	PKiKP		**PKPdf**	**05 03 49.6**	**-4.3**	
MAKZ				pmax	pmax				
	comp=Z,15nm,1.2s								
MAKZ	**Makanchi**	**119.89**	**7**			**PKPdf**	**05 03 52.5**	**-1.5**	
MK31	**Makanchi Array**	**119.94**	**7**	*e*PKiKP		**PKPdf**	**05 03 51.0**	**-3.0**	
MK31				pmax	pmax				
	comp=Z,8.0nm,0.8s								
MKAR	**Makanchi Array**	**119.94**	**7**	PKP		**PKPdf**	**05 03 52.7**	**-1.4**	
	comp=Z,6.2nm,0.6s,baz=321,slow=2.3,SNR=49								
MKAR				PKKPbc		**PKKPbc**	**05 14 03.1**	**-1.5**	
	comp=Z,0.7nm,0.7s,baz=167,slow=6.0,SNR=3.7								
GEYT	**Alibeck**	**120.74**	**30**	PKP		**PKPdf**	**05 03 54.9**	**-0.9**	
	comp=Z,5.1nm,0.5s,baz=302,slow=3.3,SNR=11								
GEYT				pPKP		**pPKPdf**	**05 04 10.9**	**-0.9**	
	comp=Z,6.5nm,0.7s,baz=292,slow=4.7,SNR=5.4								
KK31	**Karatay Array**	**121.10**	**17**	PKiKP		**PKPdf**	**05 03 52.0**	**-4.4**	
KK31				pmax	pmax				
	comp=Z,1.0nm,0.4s								
USP	**Ospenovka**	**122.00**	**14**	P		**PKPdf**	**05 03 57.9**	**-0.3**	
	SNR=17								
EKS2	**Erkin-Say**	**122.39**	**15**	P		**PKPdf**	**05 03 59.0**	**0.0**	
	SNR=6.6								
MAW	**Mawson**	**122.50**	**168**	PKiKP		**PKiKP**	**05 03 59.0**	**+0.6**	
MAW	**Mawson**	**122.50**	**168**	PKP		**PKiKP**	**05 03 59.0**	**+0.6**	
	comp=Z,11nm,0.7s,baz=215,slow=3.5,SNR=15								
TKM2	**Tokmak 2**	**122.58**	**13**	PKiKP		**PKPdf**	**05 03 58.4**	**-1.1**	
TKM2				pmax	pmax				
	comp=Z,8.0nm,0.5s								
TKM2	**Tokmak 2**	**122.58**	**13**	P		**PKPdf**	**05 03 59.1**	**-0.4**	
	SNR=15								
AAK	**Ala-Archa**	**122.59**	**14**	*i* PKiKP		**PKPdf**	**05 03 59.2**	**-0.3**	
	SNR=10								
AAK	**Ala-Archa**	**122.59**	**14**	*e*PKiKP		**PKiKP**	**05 03 59.7**	**+0.1**	
AAK	**Ala-Archa**	**122.59**	**14**	PKP		**PKPdf**	**05 03 59.5**	**+0.1**	
	comp=Z,5.4nm,0.5s,baz=143,slow=1.6,SNR=21								
AAK				PKKPbc		**PKKPbc**	**05 13 53.7**	**-1.0**	
	comp=Z,2.5nm,0.8s,baz=132,slow=0.6,SNR=4.9								
AAK	**Ala-Archa**	**122.59**	**14**	P		**PKPdf**	**05 03 59.4**	**-0.1**	
	SNR=8.5								
AAK	**Ala-Archa**	**122.59**	**14**			**PKPdf**	**05 03 59.3**	**-0.1**	
KBK	**Karagaybulak**	**122.68**	**14**	P		**PKPdf**	**05 03 59.5**	**-0.1**	
	SNR=7.9								
RAYN	**Ar Rayn**	**122.69**	**51**	PKiKP		**PKPdf**	**05 03 59.2**	**-0.8**	
RAYN	**Ar Rayn**	**122.69**	**51**			**PKPdf**	**05 03 59.2**	**-0.8**	
AML	**Almayashu**	**122.87**	**15**	P		**PKPdf**	**05 03 59.9**	**-0.4**	
	SNR=16								
PDGK	**Podgornoye**	**122.94**	**10**	PKiKP		**PKPdf**	**05 03 59.0**	**-1.1**	
PDGK				pmax	pmax				
	comp=Z,3.0nm,0.5s								
UCH	**Uchtor**	**122.98**	**14**	P		**PKiKP**	**05 04 00.9**	**+0.1**	
	SNR=15								
HHC	**Hu-ho-hao-te**	**123.03**	**341**	*e*PKP		**PKPdf**	**05 03 55.1**	**-5.2**	
BOOM	**Boomskoye usch**	**123.06**	**13**	PKiKP		**PKPdf**	**05 04 00.2**	**-0.2**	
BOOM	**Boomskoye usch**	**123.06**	**13**			**PKPdf**	**05 04 00.2**	**-0.2**	
KZA	**Kyzart**	**123.30**	**14**	P		**PKPdf**	**05 03 58.8**	**-2.4**	
	SNR=7.5								
WMQ	**Urumqi**	**123.33**	**3**	*e*PKP		**PKiKP**	**05 04 01.0**	**+0.1**	
WMQ				LR	LR				
	comp=Z,1μm,22.9s								
WMQ				LR	LR				
	comp=Z,2μm,25.9s								
WMQ				LR	LR				
	comp=Z,1μm,22.9s								
ULHL	**Ulahol**	**123.36**	**13**	P		**PKiKP**	**05 04 01.6**	**+0.3**	
	SNR=6.2								
PRZ	**Przheval'sk**	**123.57**	**11**	PKiKP		**PKPdf**	**05 04 01.5**	**+0.1**	
PRZ	**Przheval'sk**	**123.57**	**11**			**PKPdf**	**05 04 01.5**	**+0.1**	
KDJ	**Kajisay**	**123.67**	**12**	PKiKP		**PKPdf**	**05 04 01.4**	**-0.2**	
KDJ	**Kajisay**	**123.67**	**12**			**PKPdf**	**05 04 01.4**	**-0.2**	
BTO	**Baotou**	**123.72**	**342**	*e*PKP		**PKPdf**	**05 04 01.8**	**+0.2**	
NRN	**Naryn**	**124.08**	**13**	PKiKP		**PKPdf**	**05 04 02.3**	**-0.3**	
NRN	**Naryn**	**124.08**	**13**			**PKPdf**	**05 04 02.3**	**-0.3**	
PMG	**Port Moresby**	**124.70**	**268**	*e*PKiKP		**PKPdf**	**05 04 01.8**	**-2.2**	
GAR	**Garm**	**124.79**	**19**			**PKPdf**	**05 04 03.4**	**-0.3**	
TIA	**Tai'an**	**125.06**	**334**	PKP		**PKPdf**	**05 04 03.9**	**-0.3**	
TIA				LR	LR				
	comp=Z,460nm,16.4s								
TIA				LR	LR				
	comp=Z,810nm,19.2s								
KMBO	**Kilima Mbogo**	**125.67**	**82**	PKP		**PKiKP**	**05 04 07.7**	**+1.1**	
	comp=Z,1.3nm,0.3s,baz=60,slow=3.2,SNR=6.8								
KMBO	**Kilima Mbogo**	**125.67**	**82**			**PKiKP**	**05 04 06.7**	**+0.1**	
KSH	**Kashi**	**125.90**	**14**	PKP		**PKiKP**	**05 04 06.4**	**+0.1**	
KSH				PP		**PP**	**05 06 03.1**	**+5.3**	
KSH				PKS			05 07 37.6		
KSH				SKKS			05 12 47.3		
KSH				AMB	AMB				
	comp=Z,470nm,5.0s								
KSH				LR	LR				
	comp=Z,560nm,5.4s								
KSH				LR	LR				
	comp=Z,990nm,6.8s								
DAMY	**Dhamar**	**126.47**	**61**			**PKiKP**	**05 04 08.9**	**+0.7**	
GTA	**Gaotai**	**127.13**	**351**	*e*PKP		**PKPdf**	**05 04 08.3**	**+0.1**	
GTA				sPKP			05 04 23.1		
GTA				PP		**PP**	**05 06 09.4**	**+3.5**	
GTA				SKKS			05 13 01.3		
GTA				SS		**SS**	**05 23 11.8**	**+2.2**	
GTA				AMB	AMB				
	comp=Z,150nm,9.5s								
GTA				LR	LR				
	comp=Z,680nm,18.1s								
GTA				LR	LR				
	comp=Z,980nm,18.1s								
GTA				LR	LR				
	comp=Z,2μm,18.4s								
NJ2	**Nanjing**	**127.72**	**330**	⇓PKP		**PKPdf**	**05 04 09.6**	**+0.3**	
NJ2				PP		**PP**	**05 06 14.9**	**+4.8**	
NJ2				SS		SS	05 23 23.6	+6.1	
NJ2				AMB	AMB				
	comp=Z,380nm,10.3s								
NJ2				LR	LR				
	comp=Z,1μm,18.0s								
NJ2				LR	LR				
	comp=Z,870nm,14.2s								
NJ2				LR	LR				
	comp=Z,930nm,16.1s								
KBL	**Kabul**	**128.34**	**23**	PKiKP		**PKPdf**	**05 04 10.5**	**-0.3**	
KBL	**Kabul**	**128.34**	**23**			**PKPdf**	**05 04 10.5**	**-0.3**	
SHME	**Shamm**	**128.53**	**41**	*i* PKPdf		**PKPdf**	**05 04 09.9**	**-1.2**	
	SNR=5.5								
BANOM	**Banah**	**128.72**	**41**	*i* PKPdf		**PKPdf**	**05 04 10.2**	**-1.3**	
	SNR=6.2								
NAZ	**Nazwa, Dubai**	**128.96**	**42**	*i* PKPdf		**PKPdf**	**05 04 10.8**	**-1.1**	
	SNR=13								
ASUD	**Al Ashush, Dub**	**128.99**	**43**	*i* PKPdf		**PKPdf**	**05 04 11.4**	**-0.5**	
	SNR=13								
MSFE	**Esma-Masafi**	**129.03**	**41**	*i* PKPdf		**PKPdf**	**05 04 11.1**	**-0.9**	
	SNR=22								
COEN	**Coen**	**129.16**	**263**			**PKiKP**	**05 04 13.9**	**+0.7**	
UOSS	**Minazif**	**129.34**	**42**	*i* PKPdf		**PKPdf**	**05 04 10.9**	**-1.7**	
	SNR=7.3								
UOSS	**Minazif**	**129.34**	**42**	PKPdf		**PKPdf**	**05 04 11.4**	**-1.3**	
HATD	**Hatta, Dubai**	**129.38**	**42**	*i* PKPdf		**PKPdf**	**05 04 11.2**	**-1.5**	
	SNR=13								
ASHO	**Ashiyiah**	**129.43**	**42**	*i* PKPdf		**PKPdf**	**05 04 11.2**	**-1.6**	
	SNR=9.4								
LZH	**Lanzhou**	**129.59**	**346**	⇓PKP		**PKiKP**	**05 04 14.3**	**+0.5**	
LZH				PP		**PP**	**05 06 27.0**	**+4.8**	
LZH				SKKS			05 13 09.8		
LZH				AMB	AMB				
	comp=Z,250nm,9.2s								
LZH				LR	LR				
	comp=Z,2μm,17.3s								
LZH				LR	LR				
	comp=Z,1μm,18.0s								
LZH				LR	LR				
	comp=Z,2μm,20.1s								
ALNE	**Al Ain**	**129.66**	**43**	PKPdf		**PKPdf**	**05 04 12.5**	**-0.8**	
STKA	**Stephens Creek**	**129.95**	**239**	PKP		**PKiKP**	**05 04 14.8**	**+0.5**	
	comp=Z,12nm,0.9s,baz=59,slow=0.9,SNR=18								
XAN	**Xi'an**	**130.09**	**340**	PKP		**PKPdf**	**05 04 14.3**	**+0.4**	
XAN				AMB	AMB				
	comp=Z,290nm,6.4s								
XAN				LR	LR				
	comp=Z,750nm,14.9s								
XAN				LR	LR				
	comp=Z,880nm,15.1s								
XAN				LR	LR				
	comp=Z,1μm,13.5s								
XAN	**Xi'an**	**130.09**	**340**	PKiKP		**PKPdf**	**05 04 13.9**	**0.0**	
XAN	**Xi'an**	**130.09**	**340**			**PKPdf**	**05 04 13.9**	**0.0**	
NIL	**Nilore**	**130.63**	**19**	PKiKP		**PKPdf**	**05 04 14.5**	**-0.4**	
NIL	**Nilore**	**130.63**	**19**			**PKPdf**	**05 04 14.5**	**-0.4**	
WHN	**Wuhan**	**131.09**	**333**	PKP		**PKPdf**	**05 04 15.8**	**0.0**	
WHN				sPKP			05 04 31.3		
WHN				PP		**PP**	**05 06 33.9**	**+1.9**	
WHN				LR	LR				
	comp=Z,2μm,12.1s								
WHN				LR	LR				
	comp=Z,2μm,9.9s								
WHN				LR	LR				
	comp=Z,3μm,13.3s								
WSAR	**Wadi Sarin**	**132.11**	**41**	SKPab		**SKPbc**	**05 07 39.6**	**-0.4**	
	comp=Z,17nm,0.8s,baz=318,slow=3.4,SNR=22								
ENH	**Enshi**	**133.32**	**338**			**PKPdf**	**05 04 20.2**	**+0.1**	
CD2	**Chengdu**	**134.55**	**344**	PKP		**PKPdf**	**05 04 21.0**	**-1.4**	
LSA	**Lhasa**	**137.49**	**360**	*i* PKiKP		**PKPdf**	**05 04 28.9**	**+0.4**	
	SNR=8.1								
LSA	**Lhasa**	**137.49**	**360**	PKiKP		**PKPdf**	**05 04 28.7**	**+0.2**	
LSA	**Lhasa**	**137.49**	**360**			**PKPdf**	**05 04 28.6**	**+0.2**	
WR0	**Warramunga Arr**	**137.61**	**255**	PKPdf		**PKPdf**	**05 04 28.8**	**+0.6**	
OPO	**Ambohidratompo**	**137.75**	**103**	SKP		**SKPdf**	**05 08 01.8**	**+2.4**	
	comp=Z,6.8nm,0.7s,baz=247,slow=5.5,SNR=6.8								
ABPO	**Ambohimpanom**	**137.78**	**104**	PKiKP		**PKPdf**	**05 04 29.8**	**+1.0**	
ABPO	**Ambohimpanom**	**137.78**	**104**			**PKPdf**	**05 04 29.8**	**+1.0**	
WB2	**Warramunga Arr**	**137.78**	**255**	PKPdf		**PKPdf**	**05 04 29.3**	**+0.8**	
WRAB	**Tennant Creek**	**137.79**	**255**	PKiKP		**PKPdf**	**05 04 29.3**	**+0.7**	
WRAB	**Tennant Creek**	**137.79**	**255**	PKPdf		**PKPdf**	**05 04 29.3**	**+0.7**	
WRA	**Warramunga Arr**	**137.80**	**255**	PKhKP		PKPpre	05 04 18.9		
	comp=Z,5.5nm,0.8s,baz=83,slow=3.4,SNR=13								
WRA				PKP		**PKPdf**	**05 04 29.6**	**+1.0**	
	comp=Z,27nm,0.9s,baz=91,slow=1.5,SNR=22								
WRA				pPKP		pPKPdf	05 04 45.4	+0.9	
	comp=Z,17nm,0.9s,baz=95,slow=1.8,SNR=5.9								
WRA				SKP			05 08 01.2		
	comp=Z,3.5nm,0.8s,baz=88,slow=2.8,SNR=6.8								
WRA				PKKP		**PKKPdf**	**05 14 01.5**	**-0.3**	
	comp=Z,0.2nm,0.4s,baz=286,slow=1.2,SNR=5.4								
WRA				SKKPbc		SKKPbc	05 16 47.3	+2.5	
	comp=Z,0.7nm,0.7s,baz=292,slow=2.8,SNR=7.5								
GYA	**Guiyang**	**137.80**	**339**	⇓*i* PKP		**PKPdf**	**05 04 29.0**	**+0.4**	
GYA				sPKP			05 04 44.3		
GYA				SKKS			05 14 00.9		
GYA				AMB	AMB				
	comp=Z,90nm,5.0s								
GYA				LR	LR				
	comp=Z,150nm,20.2s								
GYA				LR	LR				
	comp=Z,200nm,21.6s								
FAKI	**Fak Fak**	**137.81**	**280**	PKP		**PKPdf**	**05 04 29.4**	**+0.6**	
FAKI	**Fak Fak**	**137.81**	**280**			**PKPdf**	**05 04 29.8**	**+1.0**	
AS31	**Alice Springs**	**137.90**	**249**	PKPdf		**PKPdf**	**05 04 29.5**	**+0.8**	
ASAR	**Alice Springs**	**137.91**	**249**	PKhKP		PKPpre	05 04 18.2		
	comp=Z,2.9nm,0.8s,baz=103,slow=3.4,SNR=20								
ASAR				PKP		**PKPdf**	**05 04 29.8**	**+1.0**	
	comp=Z,11nm,0.9s,baz=

KURK				⇓Sn	Sn	05 21 22.3	-0.5		
	3.3nm,1.1s								
KURK				⇓Lg	Lg	05 21 53.0			
	9.5nm,0.8s								
KURBB	**Kurchatov Arra**	**6.19**	**247**	⇑Pn	Pn	05 20 14.1	+0.3		
	3.6nm,0.6s								
KURBB				⇑Sn	Sn	05 21 25.3	+0.1		
	9.3nm,0.8s								
KURBB				⇓Lg	Lg	05 21 59.5			
	16nm,0.7s								
MK31	**Makanchi Array**	**7.42**	**209**	⇓Pn	Pn	05 20 32.5	+1.8		
	0.6nm,0.5s,baz=28,slow=12,SNR=26								
MK31				⇓Sn	Sn	05 21 57.1	+1.6		
	1.2nm,0.5s,baz=35,slow=26,SNR=5.4								
MK31				⇓Lg	Lg	05 22 38.0			
	3.8nm,0.8s,baz=31,slow=30,SNR=4.2								
MAKZ	**Makanchi**	**7.50**	**210**	⇑Pn	Pn	05 20 32.9	+1.1		
	1.3nm,0.5s								
MAKZ				⇓Sn	Sn	05 21 58.6	+1.2		
	1.3nm,0.6s								
MAKZ				⇓Lg	Lg	05 22 40.6			
	4.6nm,0.8s								

SOME ***13*** *05:25:51.0, 40.85N × 84.07E, h5km*
NNC ***13*** *05:26:07.0 ± 6.6, 42.17N × 84.40E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=48.9km s-min=30.2km az=144.0*

ISC 13 05:26:06.0 ± 3.3, 41.7N ± 0.2 × 84.6E ± 0.1, h10km, n12, σ2 9 2/17, 6C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.60**	**301**		*e*	P	**Pn**	**05 27 01.6**	**-0.4**
	2.9nm,0.1s								
KTMS					*e*	S	**Sb**	**05 27 50.8**	**-2.7**
	30nm,0.3s								
KTMS	**Ketmen**	**3.60**	**301**	Pg			**Pn**	**05 27 01.6**	**-0.4**
	2.9nm,0.1s								
KTMS				Lg		Lg	Lg	05 27 50.8	
	30nm,0.3s								
PDGK	**Podgornoye**	**4.12**	**296**	Pg			**Pn**	**05 27 08.9**	**-0.2**
	1.2nm,0.2s								
PDGK				Lg		Lg	Lg	05 28 03.6	
	7.0nm,0.5s								
PDGK	**Podgornoye**	**4.12**	**296**	⇓Pg			**Pb**	**05 27 18.7**	**+0.1**
	3.0nm,0.5s								
PDGK				⇑Lg		Lg	Lg	05 28 07.4	
UZB	**Uzynbulak**	**4.38**	**292**		*e*	P	**Pn**	**05 27 13.0**	**+0.3**
	5.9nm,0.2s								
UZB					*e*	S	**Sb**	**05 28 10.4**	**-5.5**
	11nm,0.5s								
UZB	**Uzynbulak**	**4.38**	**292**	Pg			**Pn**	**05 27 13.0**	**+0.3**
	5.9nm,0.2s								
UZB				Lg		Lg	Lg	05 28 10.4	
	11nm,0.5s								
DJR	**Jarkent**	**4.41**	**309**		*e*	P	**Pn**	**05 27 17.7**	**+4.6**
	1.4nm,0.2s								
DJR					*e*	S	**Sb**	**05 28 18.6**	**+1.7**
	12nm,0.3s								
DJR	**Jarkent**	**4.41**	**309**	Pg			**Pn**	**05 27 15.8**	**+2.7**
	1.6nm,0.2s								
DJR				Lg		Lg	Lg	05 28 15.0	
	9.7nm,0.3s								
SATY	**Saty**	**4.79**	**289**		*e*	P	**Pn**	**05 27 18.5**	**+0.3**
	8.4nm,0.1s								
SATY					*e*	S	**Sn**	**05 28 20.1**	**+6.3**
	9.7nm,0.2s								
MK31	**Makanchi Array**	**5.39**	**343**	⇓Pg			**Pb**	**05 27 37.5**	**-2.7**
	0.9nm,0.4s,baz=158,slow=15,SNR=17								
MK31				⇓Lg		Lg	Lg	05 28 40.9	
	4.9nm,0.5s,baz=158,slow=27,SNR=11								
MAKZ	**Makanchi**	**5.48**	**341**	⇑Pg			**Pb**	**05 27 40.8**	**-0.9**
	1.8nm,0.5s								
MAKZ				⇑Lg		Lg	Lg	05 28 43.9	
	5.6nm,0.6s								
TKM2	**Tokmak 2**	**6.78**	**284**	⇑Pn			**Pn**	**05 27 46.5**	**+0.8**
	5.1nm,1.2s								
TKM2				⇑Sn		Sn	**Sn**	**05 29 02.2**	**-0.9**
	4.9nm,1.2s								
TKM2				⇑Lg		Lg	Lg	05 29 36.9	
	3.4nm,0.6s								

BJI ***13*** *05:29:31.6 ± 0.0, 7.44S × 102.54E, h10km, mb4.9/50, mB5.3/33, Ms5.0/30, Ms7 4.7/31*
IDC ***13*** *05:29:35.9 ± 0.9, 6.91S × 102.50E, h0km, mb4.6/15, mb1 4.7/17, mb1mx4.3/46, mbtmp4.6/17, ML4.7/2, MS4.1/7, Ms1 4.0/7, ms1mx3.5/48, Error ellipse: s-maj=30.1km s-min=12.2km az=46.0*
ISCJB ***13*** *05:29:38.9 ± 0.3, 6.88S ± 0.03 × 102.66E ± 0.03, h33km, mb4.9/62, MS4.6/13, Error ellipse: s-maj=5.0km s-min=2.9km az=31.8*
MOS ***13*** *05:29:38.4 ± 0.8, 6.81S × 102.57E, h26km, mb5.0/27, Error ellipse: s-maj=12.8km s-min=6.8km az=114.9*
DJA ***13*** *05:29:38.2 ± 0.3, 7.3S × 10.2E ± 1, h41km ± 4km, M5.0/49, mB5.5/26, mb5.0/49, MLv5.1/27, Mw(mB)4.9/26, Mwp5.1/3*
KLM ***13*** *05:29:40.0, 6.56S × 102.78E, h10km, mb5.0*
NEIC ***13*** *05:29:41.1 ± 1.7, 6.74S ± 0.08 × 102.66E ± 0.08, h30km ± 4km, mb4.9/51*

ISC 13 05:29:40.9 ± 0.4, 6.90S ± 0.05 × 102.57E ± 0.05, h35km, n241, σ1 9 9 2/244, mb4.9/74, MS4.6/13, 4C-1D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**2.36**	**55**		P		**Pn**	**05 30 15.7**	**-1.5**
KASI					S		**Sn**	**05 30 42.1**	**-2.8**
LWLI	**Liwa**	**2.39**	**39**		P		**Pn**	**05 30 16.6**	**-1.1**
LWLI					S		**Sn**	**05 30 44.4**	**-1.4**
MNAI	**Manna**	**2.55**	**9**		P		**Pn**	**05 30 18.3**	**-1.6**
MNAI	**Manna**	**2.55**	**9**				**Pn**	**05 30 17.5**	**-2.4**
MDSI	**Maura Dua**	**2.88**	**34**		P		**Pn**	**05 30 23.5**	**-0.9**
MDSI					S		**Sn**	**05 30 57.3**	**-0.6**
BLSI	**Bandar Lampung**	**3.07**	**60**		P		**Pn**	**05 30 26.3**	**-0.7**
KLSI		**3.08**	**45**		P		**Pn**	**05 30 26.0**	**-1.1**
CGJI	**Cibinong**	**3.12**	**85**		P		**Pn**	**05 30 26.0**	**-1.6**
LHSI	**Lahat**	**3.20**	**17**		P		**Pn**	**05 30 27.8**	**-0.9**
KSI	**Kapahiang**	**3.23**	**0**		P		**Pn**	**05 30 26.7**	**-2.5**
SBJI	**Serang**	**3.63**	**78**		P		**Pn**	**05 30 33.5**	**-1.1**
MASI	**Maura Aman, Be**	**3.75**	**355**		P		**Pn**	**05 30 33.6**	**-2.7**
SKJI	**Sukabumi**	**3.96**	**92**		P		**Pn**	**05 30 38.2**	**-1.1**
DBJI	**Dramaga**	**4.17**	**86**		P		**Pn**	**05 30 41.7**	**-0.4**
PMBI	**Palembang**	**4.52**	**29**		P		**Pn**	**05 30 46.7**	**-0.2**
CNJI	**Cibinong**	**4.55**	**95**		P		**Pn**	**05 30 45.5**	**-1.8**
PPSI	**Pulau Pagai**	**4.83**	**328**		P		**Pn**	**05 30 49.0**	**-2.2**
KRJI	**Kerinci**	**4.90**	**347**		P		**Pn**	**05 30 50.2**	**-2.1**
LEM	**Lembang**	**5.02**	**89**		Pn		**Pn**	**05 30 54.8**	**+0.9**
	106nm,0.3s,baz=247,slow=5.1,SNR=62								
LEM					LR		LR	05 33 08.9	
	comp=Z,2μm,19.4s,baz=258,slow=42								
LEM	**Lembang**	**5.02**	**89**		P		**Pn**	**05 30 53.2**	**-0.7**
	315nm,0.8s,4μm2μm1.5nm								
CISI	**Cisompet, Garu**	**5.25**	**97**		P		**Pn**	**05 30 55.9**	**-1.1**
	665nm,0.6s,9μm2.4nm								
CISI	**Cisompet, Garu**	**5.25**	**97**				**Pn**	**05 30 55.2**	**-1.8**
CISI							**Sn**	**05 31 50.2**	**-6.2**
PPBI	**Pangkal Pinang**	**5.90**	**37**		P		**Pn**	**05 31 04.2**	**-1.7**
	52nm,1.0s,1.3nm								
CMJI	**Cimerak**	**5.90**	**99**		P		**Pn**	**05 31 04.1**	**-1.8**
	1μm,0.6s,18μm5.2nm								
SDSI	**Sungai Dareh**	**6.03**	**349**		P		**Pn**	**05 31 04.8**	**-3.0**
	54nm,0.6s,0.4nm								
PDSI	**Padang**	**6.31**	**340**		P		**Pn**	**05 31 08.4**	**-3.1**
	63nm,0.6s,1μm0.9nm								
KPJI	**Karang Pucung**	**6.33**	**94**		P		**Pn**	**05 31 11.1**	**-0.7**
	274nm,0.5s,4μm1.3nm								
RGRI	**Rengat**	**6.51**	**358**		P		**Pn**	**05 31 12.0**	**-2.3**
	78nm,0.5s,16μm4.5nm								
TPI	**Tanjungpandan**	**6.53**	**51**		P		**Pn**	**05 31 14.4**	**-0.2**
	29nm,0.8s,611nm0.4nm								
SISI	**Saibi**	**6.53**	**328**		P		**Pn**	**05 31 11.5**	**-3.1**
	109nm,0.7s,0.5nm								
DSRI	**Dabo**	**6.69**	**18**		P		**Pn**	**05 31 15.1**	**-1.6**
	316nm,1.1s,4μm1.6nm								
BKNI	**Bangkinang**	**7.34**	**348**		P		**Pn**	**05 31 21.5**	**-4.2**
	121nm,0.8s,2μm0.6nm								
BKNI	**Bangkinang**	**7.34**	**348**				**Pn**	**05 31 23.0**	**-2.7**
YOGI	**Yogyakarta**	**7.72**	**97**		P		**Pn**	**05 31 30.2**	**-0.7**
	139nm,0.6s,2μm0.9nm								
SMRI	**Semarang**	**7.82**	**92**		P		**Pn**	**05 31 32.1**	**-0.2**
	371nm,1.0s,6μm1.5nm								
SMRI	**Semarang**	**7.82**	**92**				**Pn**	**05 31 33.3**	**+1.0**
UGM	**Wanagama**	**7.96**	**98**		P		**Pn**	**05 31 33.1**	**-1.1**
	395nm,0.7s,4μm								
UGM	**Wanagama**	**7.96**	**98**				**Pn**	**05 31 33.2**	**-1.0**
PBSI	**Pulau Batu**	**8.03**	**328**		P		**Pn**	**05 31 31.8**	**-3.4**
	137nm,1.1s								
WOJI	**Wonogiri, Jawa**	**8.34**	**97**		P		**Pn**	**05 31 38.9**	**-0.6**
	125nm,1.1s,2μm								
PCJI	**Pacitan**	**8.63**	**99**		P		**Pn**	**05 31 41.9**	**-1.6**
	269nm,0.6s,4μm								
NGJI	**Ngawi**	**8.84**	**94**		P		**Pn**	**05 31 49.6**	**+3.3**
PWJI	**Pagerwojo**	**9.23**	**98**		P		**Pn**	**05 31 49.9**	**-1.7**
	250nm,1.1s,3μm18μm								
GSI	**Gunungsitoli**	**9.55**	**328**		P		**Pn**	**05 31 52.9**	**-3.1**
	64nm,0.7s								
GSI	**Gunungsitoli**	**9.55**	**328**		Pn		**Pn**	**05 31 55.2**	**-0.8**
GRJI	**Gresik**	**9.84**	**91**		P		**Pn**	**05 31 59.1**	**-1.0**
	222nm,0.6s,2μm								
RPSI	**Rantau Prapat**	**10.20**	**339**				**Pn**	**05 32 02.4**	**-2.6**
RPSI	**Rantau Prapat**	**10.20**	**339**				**Pn**	**05 32 01.0**	**-4.0**
PSI	**Prapat**	**10.30**	**339**		P		Pn	05 32 01.0	-5.4
PSI	**Prapat**	**10.30**	**339**		Pn		Pn	05 32 01.0	-5.5
	1.0nm,0.3s,baz=152,slow=12,SNR=10								
JRMM	**Jerantut**	**10.71**	**360**		P		**Pn**	**05 32 10.0**	**-2.0**
GMJI	**Gumukmas**	**10.87**	**98**		P		**Pn**	**05 32 12.6**	**-1.5**
	76nm,1.0s								
STKI	**Sintang**	**11.27**	**52**		P		**Pn**	**05 32 18.5**	**-1.1**
	41nm,0.5s								
KMMI	**Kalianget**	**11.32**	**91**		P		**Pn**	**05 32 18.3**	**-2.0**
	83nm,1.0s								
KCSI	**Kotacane, Aceh**	**11.40**	**335**		P		**Pn**	**05 32 18.6**	**-2.9**
	13nm,0.5s								
IPM	**Ipoh**	**11.41**	**352**				**Pn**	**05 32 24.0**	**+2.5**
JAGI	**Jajag, Banyuwa**	**11.59**	**98**		P		**Pn**	**05 32 21.4**	**-2.6**
	104nm,1.1s,1μm								
JAGI	**Jajag, Banyuwa**	**11.59**	**98**				**Pn**	**05 32 21.1**	**-2.9**
KULM	**Kulim**	**12.26**	**351**		P		**Pn**	**05 32 33.0**	**-0.1**
KULM	**Kulim**	**12.26**	**351**				**Pn**	**05 32 29.5**	**-3.6**
SRBI	**Singaraja**	**12.60**	**96**		P		**Pn**	**05 32 35.6**	**-2.1**
	53nm,0.6s								
IGBI	**Denpasar**	**12.61**	**100**		P		**Pn**	**05 32 35.2**	**-2.7**
	38nm,0.5s								
MLSI	**Meulaboh, Aceh**	**12.68**	**331**		P		**Pn**	**05 32 35.9**	**-3.0**
	134nm,0.7s								
SBUM	**Sibu**	**13.38**	**46**		P		**Pn**	**05 32 51.0**	**+2.5**
SBUM	**Sibu**	**13.38**	**46**				**Pn**	**05 32 49.3**	**+0.7**
TWSI	**Taliwang, Sumb**	**14.30**	**98**		P		**Pn**	**05 32 58.3**	**-2.8**
	34nm,0.6s,716nm								
PLAI	**Plampang**	**15.19**	**98**		P		**Pn**	**05 33 08.5**	**-4.5**
	88nm,1.3s,1μm								
BKB	**Balikpapan**	**15.35**	**69**		P		**Pn**	**05 33 14.8**	**-0.3**
	81nm,1.5s								
KAPI	**Kappang**	**17.20**	**85**		*ce*	P	**P**	**05 33 46.1**	**+6.2**
KAPI						pmax	pmax		
	comp=Z,13nm,1.0s								
KAPI	**Kappang**	**17.20**	**85**		P		**Pn**	**05 33 37.2**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=279,slow=13,SNR=4.6								
KAPI						LR	LR	05 41 40.3	
	comp=Z,690nm,19.4s,baz=118,slow=42								
KAPI	**Kappang**	**17.20**	**85**		P		**Pn**	**05 33 37.1**	**-1.4**
SPSI	**Sidrap Palu**	**17.37**	**81**		P		**Pn**	**05 33 38.0**	**-2.8**
	comp=Z,24nm,1.1s								
BKSI	**Bulukumba**	**17.53**	**86**		P		**Pn**	**05 33 40.4**	**-2.3**
	comp=Z,105nm,1.1s,comp=Z,980nm								
TTSI	**Tana Toraja**	**17.61**	**78**		P		**Pn**	**05 33 42.1**	**-1.6**
	comp=Z,42nm,1.4s								
BNSI	**Bone**	**17.63**	**83**		P		**Pn**	**05 33 39.9**	**-4.1**
	comp=Z,40nm,1.4s,comp=Z,943nm								
MPSI	**Mapaga**	**18.73**	**68**		P		**P**	**05 33 54.7**	**-2.1**
	comp=Z,61nm,1.1s,comp=Z,1μm								
KKM	**Kota Kinabalu**	**18.73**	**47**		P		**P**	**05 33 55.6**	**-1.3**
KKM						IAmb	IAmb	05 33 57.0	
	comp=Z,92nm,1.5s								
MMRI	**Maumere**	**19.57**	**96**		P		**P**	**05 34 03.7**	**-2.3**
	comp=Z,257nm,1.4s,comp=Z,3μm								
MMRI	**Maumere**	**19.57**	**96**		P		**P**	**05 34 05.7**	**-0.4**
PATY	**Pattaya**	**19.77**	**355**		P		**Pn**	**05 34 13.7**	**+3.9**
PHET	**Kaeng Krachan**	**19.89**	**352**		P		**Pn**	**05 34 10.4**	**-0.9**
	comp=Z,72μm,0.7s								
APSI	**Ampana**	**19.94**	**73**		P		**Pn**	**05 34 13.7**	**+1.8**
MRSI	**Marisa**	**20.67**	**70**		P		Pn	05 34 21.3	+0.8
LUWI	**Luwuk**	**20.97**	**75**		P		Pn	05 34 26.4	+2.4
BATI	**Baumata**	**21.12**	**100**		P		**P**	**05 34 23.1**	**+0.2**
	comp=Z,237nm,0.7s,baz=291,slow=3.6,SNR=26								
BATI						LR	LR	05 44 46.3	
	comp=Z,428nm,18.4s,baz=335,slow=43								
BATI	**Baumata**	**21.12**	**100**		P		**P**	**05 34 20.6**	**-2.3**
	comp=Z,194nm,0.8s,comp=Z,2μm								
SOEI	**Soe**	**21.66**	**99**		P		**P**	**05 34 26.1**	**-2.7**
	comp=Z,434nm,1.0s,comp=Z,4μm								
SOEI	**Soe**	**21.66**	**99**		P		**P**	**05 34 28.9**	**+0.1**
KHLT	**Khaolaem Dam**	**21.91**	**350**		P		**P**	**05 34 26.0**	**-5.3**
	comp=Z,42nm,1.1s,comp=Z,684nm								
UTHA	**Uthaitani**	**22.53**	**352**		P		**P**	**05 34 37.3**	**-0.6**
	comp=Z,66μm,0.8s,comp=Z,652μm								
CHAI	**Chaiyaphum**	**22.66**	**359**		P		**P**	**05 34 40.0**	**+0.7**
	comp=Z,56μm,0.8s,comp=Z,652μm								
UMPA	**Umpang Tak**	**23.25**	**351**		P		**P**	**05 34 44.7**	**-0.7**
	comp=Z,30μm,1.1s								
PBKT	**Sadao Pong**	**23.37**	**356**		P		**P**	**05 34 46.2**	**-0.3**
	comp=Z,18nm,1.2s,comp=Z,443nm								
PBKT	**Sadao Pong**	**23.37**	**356**		P		**P**	**05 34 45.6**	**-1.0**
SANI	**Sanana**	**23.84**	**79**		P		**P**	**05 34 48.0**	**-3.1**
	comp=Z,49nm,1.2s,comp=Z,717nm								
NLAI	**Namlea**	**24.70**	**83**		P		**P**	**05 34 56.9**	**-2.2**
	comp=Z,17nm,1.0s,comp=Z,2μm								
NONG	**Nongkai**	**24.81**	**1**		P		**P**	**05 35 00.7**	**+0.8**
	comp=Z,1.0nm,1.0s								
FITZ	**Fitzroy Crossi**	**25.09**	**118**		P		**P**	**05 35 02.9**	**+0.4**
	comp=Z,4.3nm,0.6s,baz=290,slow=6.5,SNR=28								
FITZ	**Fitzroy Crossi**	**25.09**	**118**		P		**P**	**05 35 03.0**	**+0.4**
PHRA	**Phrae**	**25.34**	**355**		P		**P**	**05 35 05.8**	**+1.1**
	comp=Z,6.0nm,1.4s								
CMAR	**Chiang Mai Arr**	**25.45**	**352**		P		**P**	**05 35 06.2**	**+0.5**
	comp=Z,16nm,0.6s,baz=180,slow=8.9,SNR=34								
CHTO	**Chiang Mai**	**25.80**	**352**		P		**P**	**05 35 09.4**	**+0.5**
CHTO						pmax	pmax		
	comp=Z,35nm,1.3s								
CHTO	**Chiang Mai**	**25.80**	**352**		P		**P**	**05 35 09.4**	**+0.5**
CHTO						IAmb	IAmb	05 35 11.4	
	comp=Z,35nm,1.3s								
TNTI	**Ternate**	**25.89**	**74**		P		**P**	**05 35 10.5**	**+0.6**
TNTI	**Ternate**	**25.89**	**74**		P		**P**	**05 35 08.9**	**-0.9**
KNRA	**Kununurra**	**27.10**	**111**		P		**P**	**05 35 19.8**	**-1.0**
KNRA						IAmb	IAmb	05 35 25.6	
	comp=Z,43nm,1.4s								
SLVN	**Son La**	**28.09**	**3**		P		**P**	**05 35 30.1**	**+0.6**
H01W3	**Cape Leeuwin H**	**29.82**	**161**		T		T	06 07 16.8	
	baz=338,slow=76,SNR=24								
H01W2	**Cape Leeuwin H**	**29.83**	**161**		T		T	06 07 18.7	
	baz=338,slow=76,SNR=31								
H01W1	**Cape Leeuwin H**	**29.84**	**161**		T		T	06 07 03.0	
	baz=338,slow=76,SNR=25								
H08S2	**Diego Garcia H**	**29.84**	**267**		T		T	06 07 03.8	
	baz=90,slow=74,SNR=96								
H08S3	**Diego Garcia H**	**29.85**	**267**		T		T	06 07 04.6	
	baz=90,slow=74,SNR=76								
H08S1	**Diego Carcia H**	**29.86**	**267**		T		T	06 07 05.5	
	baz=90,slow=74,SNR=54								
KMI	**Kunming**	**31.83**	**0**		P		**P**	**05 36 05.0**	**+2.2**
KMI						pP	pP	05 36 11.3	-0.5
KMI						sP	sP	05 36 13.1	-2.4
KMI						PP	**PP**	**05 37 10.6**	**-4.6**
KMI						S	**S**	**05 41 11.1**	**-0.2**
KMI						sS	sS	05 41 23.9	-1.8
KMI						pmax	pmax		
	comp=Z,21nm,1.1s								
KMI						pmax	pmax		
	comp=Z,180nm,3.7s								
KMI						LR	LR		
	comp=Z,590nm,15.0s								
KMI						LR	LR		
	comp=Z,1μm,18.2s								
KMI						LR	LR		
	comp=Z,710nm,15.6s								
KMI	**Kunming**	**31.83**	**0**		P		**P**	**05 36 03.9**	**+1.1**
KMI						pmax	pmax		
	comp=Z,16nm,0.7s								
KMI	**Kunming**	**31.83**	**0**		P		**P**	**05 36 03.9**	**+1.1**
KMI						IAmb	IAmb	05 36 13.2	
	comp=Z,16nm,0.7s								
WRA	**Warramunga Arr**	**33.43**	**116**		P		**P**	**05 36 17.0**	**+0.2**
WRA	**Warramunga Arr**	**33.43**	**116**		P		**P**	**05 36 16.9**	**+0.2**
	comp=Z,3.8nm,0.7s,baz=284,slow=12,SNR=50								
WRAB	**Tennant Creek**	**33.44**	**116**		*e*	P	**P**	**05 36 17.9**	**+1.0**
WRAB						pmax	pmax		
	comp=Z,11nm,0.8s								
WRAB	**Tennant Creek**	**33.44**	**116**		P		**P**	**05 36 17.7**	**+0.8**
WRAB						IAmb	IAmb	05 36 18.6	
	comp=Z,9.3nm,0.8s								
WB2	**Warramunga Arr**	**33.45**	**116**		P		**P**	**05 36 16.9**	**0.0**
WR0	**Warramunga Arr**	**33.62**	**116**		P		**P**	**05 36 18.7**	**+0.3**
WR0						IAmb	IAmb	05 36 28.4	
	comp=Z,26nm,1.4s								
SHL	**Shillong**	**33.90**	**343**		P		**P**	**05 36 20.5**	**-0.4**
SHL						pmax	pmax		
	comp=Z,16nm,0.6s								
SHL	**Shillong**	**33.90**	**343**		*e*	P	**P**	**05 36 20.0**	**-0.9**
SHL	**Shillong**	**33.90**	**343**		P		**P**	**05 36 20.5**	**-0.4**
SHL						IAmb	IAmb	05 36 23.9	
	comp=Z,16nm,0.6s								
ASAR	**Alice Springs**	**34.40**	**122**		P		**P**	**05 36 25.0**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=300,slow=8.4,SNR=17								
ASAR						PcP	**PcP**	**05 39 01.5**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=302,slow=2.1,SNR=8.5								
AS31	**Alice Springs**	**34.40**	**122**		P		**P**	**05 36 25.4**	**+0.3**
QZH	**Quanzhou**	**35.29**	**26**		*e*	P	**P**	**05 36 35.5**	**+2.8**
QZH						S	**S**	**05 42 06.8**	**+2.3**
QZH						LR	LR		
	comp=Z,730nm,14.7s								
QZH						LR	LR		
	comp=Z,560nm,15.2s								
QZH						LR	LR		
	comp=Z,780nm,11.8s								
ODAN	**Odare**	**36.64**	**337**		*e*	P	**P**	**05 36 45.4**	**+0.9**
	comp=Z,37nm,0.6s								
TAPN	**Taplejung**	**36.96**	**338**		*e*	P	**P**	**05 36 48.8**	**+1.5**
	comp=Z,68nm,0.8s								
RAMN	**Ramite**	**37.03**	**336**		*e*	P	**P**	**05 36 49.3**	**+1.4**
	comp=Z,37nm,0.6s								
ENH	**Enshi**	**37.55**	**10**		P		**P**	**05 36 51.5**	**-0.4**
ENH						IAmb	IAmb	05 37 00.2	
	comp=Z,15nm,0.8s								
CD2	**Chengdu**	**37.61**	**2**	⇑	*i*	P	**P**	**05 36 52.3**	**-0.2**
CD2						S	**S**	**05 42 43.5**	**+3.6**
CD2						sS	sS	05 42 54.3	-0.2
CD2						SS	**SS**	**05 45 28.5**	**+2.5**
CD2						pmax	pmax		
	comp=Z,30nm,0.9s								
CD2						pmax	pmax		
	comp=Z,370nm,7.3s								
CD2						LR	LR		
	comp=Z,1μm,12.9s								
CD2						LR	LR		
	comp=Z,3μm,17.6s								
CD2						LR	LR		
	comp=Z,2μm,13.9s								
JIRN	**Jiri**	**37.83**	**336**		*e*	P	**P**	**05 36 56.0**	**+1.2**
	comp=Z,102nm,0.8s								
LSA	**Lhasa**	**38.01**	**344**		P		**P**	**05 36 56.5**	**+0.2**
LSA						pmax	pmax		
	comp=Z,9.0nm,0.8s								
LSA	**Lhasa**	**38.01**	**344**		P		**P**	**05 36 56.5**	**+0.2**
LSA						IAmb	IAmb	05 37 01.0	
	comp=Z,9.3nm,0.8s								
GUN	**Gumba**	**38.18**	**336**		*e*	P	**P**	**05 36 58.9**	**+1.2**
	comp=Z,48nm,0.6s								
DMN	**Daman**	**38.24**	**335**		*e*	P	**P**	**05 36 59.1**	**+1.0**
	comp=Z,35nm,0.9s								
KKN	**Kakani**	**38.32**	**335**		*e*	P	**P**	**05 36 59.1**	**+0.4**
WHN	**Wuhan**	**38.91**	**16**		P		**P**	**05 37 02.9**	**-0.4**
COEN	**Coen**	**40.50**	**103**		P		**P**	**05 37 16.5**	**-0.4**
COEN						IAmb	IAmb	05 37 18.7	
	comp=Z,25nm,1.5s								
XAN	**Xi'an**	**41.16**	**8**		P		**P**	**05 37 21.9**	**-0.1**
XAN						pP	pP	05 37 30.3	-1.1
XAN						pmax	pmax		
	comp=Z,22nm,0.9s								
XAN	**Xi'an**	**41.16**	**8**		P		**P**	**05 37 21.5**	**-0.6**
XAN						pmax	pmax		
	comp=Z,19nm,0.9s								
XAN	**Xi'an**	**41.16**	**8**		P		**P**	**05 37 21.5**	**-0.6**
XAN						IAmb	IAmb	05 37 30.9	
	comp=Z,19nm,0.9s								
NJ2	**Nanjing**	**41.73**	**21**		*e*	P	**P**	**05 37 27.5**	**+0.8**
NJ2						pmax	pmax		
	comp=Z,16nm,0.7s								
LZH	**Lanzhou**	**42.

KSH PcP **PcP** **05 39 54.8 -5.6**
KSH PcS **PcS** **05 43 52.8 -6.0**
KSH S **S** **05 46 08.8 -4.0**
KSH pmax pmax
comp=Z,170nm,2.1s
KSH pmax pmax
comp=Z,570nm,5.1s
KSH LR LR
comp=Z,850nm,5.4s
KSH LR LR
comp=Z,790nm,6.4s
KSH LR LR
comp=Z,2μm,6.0s
JHJ **Hachijo jima 2** **53.23 39** LR LR 06 01 36.1
comp=Z,12μm,19.9s,baz=288,slow=36
NRN **Naryn** **53.91 335** P **P** **05 39 01.7 +0.3**
NRN pmax pmax
comp=Z,6.0nm,1.1s
NRN **Naryn** **53.91 335** P **P** **05 39 01.7 +0.3**
KDJ **Kajisay** **54.02 337** P **P** **05 39 03.3 +1.3**
KDJ pmax pmax
comp=Z,18nm,0.8s
KDJ **Kajisay** **54.02 337** P **P** **05 39 03.3 +1.3**
PDGK **Podgornoye** **54.20 339** P **P** **05 39 03.3 +0.1**
PDGK pmax pmax
comp=Z,10.0nm,0.8s
CN2 **Changchun** **54.55 20** *e*P **P** **05 39 05.4 -0.2**
CN2 pmax pmax
comp=Z,30nm,1.7s
GAR **Garm** **54.58 329** P **P** **05 39 04.8 -1.3**
GAR IAmb IAmb 05 39 06.8
comp=Z,21nm,1.5s
SONM **Songino Array** **54.60 3** P **P** **05 39 07.2 +1.1**
comp=Z,7.0nm,0.7s,baz=182,slow=8.9,SNR=38
ULN **Ulaanbaatar** **54.67 4** *e*P **P** **05 39 07.9 +1.3**
ULN pmax pmax
comp=Z,14nm,1.2s
ULN **Ulaanbaatar** **54.67 4** P **P** **05 39 06.7 +0.1**
ULN IAmb IAmb 05 39 11.9
comp=Z,14nm,1.2s
CHGR **Chuyangaron** **54.92 328** P **P** **05 39 06.7 -1.8**
CHGR IAmb IAmb 05 39 08.2
comp=Z,10nm,1.0s
UOSS **Minazif** **55.11 307** P **P** **05 39 10.2 +0.1**
UOSS IAmb IAmb 05 39 12.6
comp=Z,11nm,1.4s
UOSS **pP** **05 39 18.8 -0.4**
ARSB **Arslanbob** **55.12 333** P **P** **05 39 10.2 +0.2**
BTK **Batken** **55.14 331** P **P** **05 39 10.0 0.0**
BTK pmax pmax
comp=Z,9.0nm,1.1s
BTK **Batken** **55.14 331** P **P** **05 39 10.0 0.0**
BTK IAmb IAmb 05 39 11.2
comp=Z,9.2nm,1.1s
TKM2 **Tokmak 2** **55.32 336** *i* P **P** **05 39 11.5 +0.1**
TKM2 pmax pmax
comp=Z,8.0nm,0.7s
MK31 **Makanchi Array** **56.41 343** P **P** **05 39 18.8 -0.1**
MK31 pmax pmax
comp=Z,8.0nm,0.9s
MK31 **Makanchi Array** **56.41 343** P **P** **05 39 18.8 -0.1**
MK31 IAmb IAmb 05 39 20.3
comp=Z,8.4nm,0.8s
MKAR **Makanchi Array** **56.41 343** P **P** **05 39 19.3 +0.3**
comp=Z,12nm,0.9s,baz=147,slow=8.1,SNR=61
MAKZ **Makanchi** **56.52 343** P **P** **05 39 19.6 -0.1**
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
MAKZ **Makanchi** **56.52 343** P **P** **05 39 19.6 -0.1**
USRK **Ussuriysk Ar.** **57.38 25** P **P** **05 39 25.9 +0.1**
comp=Z,12nm,0.7s,baz=216,slow=5.8,SNR=8.6
KK31 **Karatay Array** **57.65 333** *i* P P 05 39 19.4 -8.4
KKAR **Karatay Array** **57.65 333** P **P** **05 39 27.6 -0.2**
KKAR pmax pmax
comp=Z,3.0nm,1.0s
KKAR **Karatay Array** **57.65 333** P **P** **05 39 27.6 -0.2**
GEYT **Alibeck** **60.83 321** P **P** **05 39 50.6 +0.7**
comp=Z,2.4nm,0.6s,baz=197,slow=7.7,SNR=4.2
KURK **Kurchatov** **61.00 343** *e*P **P** **05 39 50.9 +0.1**
KURK pmax pmax
comp=Z,11nm,0.9s
KURK **Kurchatov** **61.00 343** P **P** **05 39 50.7 -0.1**
KURK IAmb IAmb 05 39 59.9
comp=Z,12nm,0.9s
ZAA0 **Zalesovo Array** **62.44 348** P **P** **05 40 00.4 0.0**
ZALV **Zalesovo Beam** **62.44 348** P **P** **05 40 00.7 +0.3**
comp=Z,18nm,0.8s,baz=171,slow=3.8,SNR=45
RAYN **Ar Rayn** **63.37 300** P **P** **05 40 08.8 +1.5**
RAYN pmax pmax
comp=Z,22nm,1.4s
RAYN **Ar Rayn** **63.37 300** P **P** **05 40 08.8 +1.5**
RAYN IAmb IAmb 05 40 17.6
comp=Z,22nm,1.4s
BRVK **Borovoye** **65.70 339** *e*P **P** **05 40 21.6 -0.2**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK **Borovoye** **65.70 339** P **P** **05 40 21.5 -0.3**
BRVK IAmb IAmb 05 40 30.5
comp=Z,7.0nm,0.7s
MAW **Mawson** **66.24 196** LR LR 06 06 04.1
comp=Z,154nm,18.0s,baz=10,slow=33
ABKAR **Akbulak array** **67.14 331** P **P** **05 40 31.2 +0.1**
RPZ **Rata Peaks** **69.75 134** LR LR 06 09 02.0
comp=Z,120nm,19.7s,baz=264,slow=34
MAK **Makhachkala** **70.34 320** *e*P **P** **05 40 47.1 -4.1**
MAK *e*S **S** **05 49 57.5 -3.7**
MAK pmax pmax
comp=Z,189nm,1.1s
MAK MLR MLR
comp=Z,522nm,16.0s
YAK **Yakutsk** **71.86 13** P **P** **05 40 59.6 -0.3**
YAK pmax pmax
comp=Z,46nm,0.6s
YAK **Yakutsk** **71.86 13** P **P** **05 40 59.6 -0.3**
SVE **Sverdlovsk** **72.16 337** *e*P **P** **05 41 02.1 +0.2**
SVE pmax pmax
comp=Z,23nm,1.1s
ARU **Arti** **72.69 336** *d i*P **P** **05 41 06.0 +0.9**
ARU 05 43 43.6
ARU S **SKiKP** **05 50 33.0 -3.7**
ARU SS **SS** **05 55 09.9 +1.9**
ARU pmax pmax
comp=Z,26nm,1.4s
ARU **Arti** **72.69 336** P **P** **05 41 05.1 0.0**
ARU **pP** **05 41 13.8 -0.9**
BKZ **Black Stump Fm** **73.22 129** P **P** **05 41 09.7 +1.0**
BKZ IAmb IAmb 05 41 12.9
comp=Z,24nm,1.4s
EIL **Elat** **74.32 303** LR LR 06 12 38.8
comp=Z,59nm,19.9s,baz=98,slow=35
BOSA **Boshof** **75.60 242** LR LR 06 09 23.6
comp=Z,85nm,18.4s,baz=9.5,slow=32
BR131 **Keskin Array S** **78.50 313** P **P** **05 41 37.7 -1.2**
BR131 pmax pmax
comp=Z,4.0nm,0.9s
BR131 **Keskin Array S** **78.50 313** P **P** **05 41 37.6 -1.2**
BRTR **Keskin Array B** **78.50 313** *i* P **P** **05 41 38.0 -0.9**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR **Keskin Array B** **78.50 313** P **P** **05 41 37.8 -1.2**
comp=Z,3.1nm,0.9s,baz=109,slow=4.2,SNR=11
SUR **Sutherland** **79.39 238** P **P** **05 41 47.0 +2.9**
SUR IAmb IAmb 05 41 48.0
comp=Z,10nm,0.8s
PRGR **Permogore** **81.15 336** *e*P **P** **05 41 52.7 +0.1**
PRGR pmax pmax
comp=Z,14nm,0.8s
OBN **Obninsk** **82.28 328** *e*P **P** **05 41 58.9 +0.3**
OBN pmax pmax
comp=Z,8.0nm,0.8s
MLR **Muntele Rosu** **85.59 317** P **P** **05 42 17.2 +1.2**
MLR pmax pmax
comp=Z,19nm,1.3s
MLR **Muntele Rosu** **85.59 317** P **P** **05 42 17.2 +1.2**
MLR IAmb IAmb 05 42 26.3
comp=Z,18nm,1.3s
BILL **Bilibino** **86.86 20** ⇑ *i*P **P** **05 42 26.1 +4.5**
BILL pmax pmax
comp=Z,2.0nm,0.8s
SNAA **Sanae** **88.30 198** P **P** **05 42 32.1 +3.5**
SNAA **Sanae** **88.30 198** P **P** **05 42 30.8 +2.2**
SNAA pmax pmax
comp=Z,11nm,1.5s
SNAA **Sanae** **88.30 198** P **P** **05 42 30.8 +2.2**
SNAA IAmb IAmb 05 42 35.3
comp=Z,11nm,1.5s
VNA2 **Neumayer--Watz** **89.93 198** P **P** **05 42 40.2 +4.0**
VNA1 **Neumayer--Stat** **90.30 198** P **P** **05 42 41.4 +3.5**
VYHS **Vyhne** **90.97 319** *e*P **P** **05 42 42.5 +1.0**
VYHS **Vyhne** **90.97 319** *e*P **P** **05 42 42.5 +1.0**
TXAR **Lajitas Array** **146.70 45** PKPbc **PKPab** **05 49 21.3 +0.2**
comp=Z,3.2nm,0.9s,baz=284,slow=1.2,SNR=6.5
ABTX **Abilene, Hawle** **147.11 36** **PKPbc** **05 49 21.3 +0.3**
U40A **Yellville** **147.46 24** **PKPbc** **05 49 21.4 -0.3**
JCT **Junction City** **148.52 39** PKP2 **PKiKP** **05 49 25.8 -0.6**
JCT **Junction City** **148.52 39** **PKiKP** **05 49 25.8 -0.6**
WVT **Waverly** **149.39 17** PKP2 **PKPbc** **05 49 26.7 -0.1**
WVT **Waverly** **149.39 17** **PKPbc** **05 49 26.6 -0.1**
HKT **Hockley** **151.27 35** PKIKP **PKiKP** **05 49 33.7 +1.8**
HKT **Hockley** **151.27 35** **PKiKP** **05 49 33.7 +1.8**

KRSC ***13*** *05:29:39.9±2.4, 49˚.13N×157˚.17E, h32km±32km, ML4.5*
ISCJB ***13*** *05:29:44.1±0.5, 49˚.29N±0˚.05×156˚.2E±0˚.1, h54km, mb4.0/19, Error ellipse: s-maj=11.4km s-min=3.9km az=36.3*
NEIC ***13*** *05:29:46.8±1.5, 49˚.4N±0˚.1×156˚.1E±0˚.2, h59km±8km, mb4.4/11*
IDC ***13*** *05:29:47.8±2.8, 49˚.45N×156˚.00E, h66km±24km, mb3.6/13, mb1 3.9/17, mb1mx3.7/52, mbtmp4.0/17, Error ellipse: s-maj=29.6km s-min=14.1km az=155.0*

ISC 13 05:29:44.9±0.8, 49˚.19N±0˚.09×156˚.42E±0˚.09, h54km, n64, σ1§78/68, mb4.2/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.50**	**353**	P	**Pn**	**05 30 07.6**	**-1.8**
SKR				S	**Sn**	**05 30 27.7**	**-0.2**
ASAK	**Asacha**	**3.33**	**16**	P	**Pn**	**05 30 33.8**	**-0.7**
ASAK				S	**Sn**	**05 31 13.2**	**+0.4**
MTVR	**Mutnovka**	**3.48**	**18**	P	**Pn**	**05 30 35.3**	**-1.3**
MTVR				S	**Sn**	**05 31 15.8**	**-0.7**
RUS	**Russkaya**	**3.50**	**21**	P	**Pn**	**05 30 34.0**	**-2.8**
RUS				S	**Sn**	**05 31 14.1**	**-2.8**
GRL	**Gorelyy**	**3.52**	**17**	P	**Pn**	**05 30 36.0**	**-1.1**
GRL				S	**Sn**	**05 31 17.6**	**0.0**
APC	**Apacha**	**3.77**	**7**	P	**Pn**	**05 30 41.0**	**+0.7**
APC				S	**Sn**	**05 31 26.1**	**+2.8**
KRMR	**Karymshinskiy**	**3.80**	**16**	P	**Pn**	**05 30 40.6**	**-0.2**
KRMR				S	**Sn**	**05 31 26.1**	**+2.0**
PEA0B	**Petropavlovsk-**	**4.00**	**11**		**Pn**	**05 30 44.2**	**+0.6**
PETK	**Petropavlovsk-**	**4.00**	**11**	P	**Pn**	**05 30 43.5**	**-0.1**
	3.8nm,0.3s,baz=177,slow=13,SNR=18						
PET	**Petropavlovsk**	**4.08**	**19**		**Pn**	**05 30 46.2**	**+1.5**
PET					**Sn**	**05 31 37.4**	**+6.3**
DALK	**Dalny**	**4.11**	**20**	P	**Pn**	**05 30 44.0**	**-1.1**
UGLR	**Uglovaya**	**4.29**	**20**	P	**Pn**	**05 30 48.8**	**+1.1**
AVH	**Avacha**	**4.33**	**19**	P	**Pn**	**05 30 48.9**	**+0.8**
KOK	**Koryaka**	**4.33**	**18**	P	**Pn**	**05 30 48.3**	**+0.1**
KRER	**Koryakskii**	**4.37**	**19**	P	**Pn**	**05 30 48.9**	**+0.1**
SDLR	**Sedlovina**	**4.37**	**20**	P	**Pn**	**05 30 47.2**	**-1.6**
SDLR				S	**Sn**	**05 31 37.3**	**-1.2**
SPN	**Mys Shipunski**	**4.52**	**29**	P	**Pn**	**05 30 47.3**	**-3.4**
SPN				S	**Sn**	**05 31 37.9**	**-3.9**
KZV	**Kizimen**	**6.39**	**20**	P	**Pn**	**05 31 15.7**	**-0.7**
TUMR	**Tumrok**	**6.51**	**19**	P	**Pn**	**05 31 17.0**	**-1.1**
SRDR	**Sredinnyy**	**7.41**	**14**	P	**Pn**	**05 31 31.7**	**+1.4**
KBTR	**Krutoberegovo**	**8.03**	**26**	P	**Pn**	**05 31 36.4**	**-2.3**
JKA	**Kamikawa-asahi**	**10.77**	**247**		**Pn**	**05 32 16.0**	**-0.3**
ASAJ	**Asahikawa**	**10.77**	**247**	P	**Pn**	**05 32 16.0**	**-0.3**
	6.1nm,0.3s,baz=46,slow=19,SNR=13						
MA2	**Magadan**	**10.91**	**345**	P	**Pn**	**05 32 18.0**	**0.0**
	1.6nm,0.3s,baz=158,slow=9.6,SNR=5.2						
MA2	**Magadan**	**10.91**	**345**		**Pn**	**05 32 18.1**	**0.0**
ERM	**Erimo**	**11.73**	**237**	Pn	**Pn**	**05 32 29.7**	**+0.3**
USRK	**Ussuriysk Ar.**	**17.46**	**263**	P	**P**	**05 33 44.0**	**-0.9**
	baz=68,slow=12,SNR=4.4						
KSRS	**Korea Array**	**23.68**	**251**	P	**P**	**05 34 51.8**	**+0.5**
	2.7nm,0.8s,baz=58,slow=12,SNR=4.1						
ANM	**Nome**	**25.40**	**39**	P	**P**	**05 35 09.5**	**+2.8**
ANM				IAmb	IAmb	05 35 16.1	
	comp=Z,11nm,1.1s						
TIXI	**Tiksi**	**25.83**	**340**	P	**P**	**05 35 08.2**	**-2.4**
	comp=Z,3.7nm,0.6s,baz=143,slow=11,SNR=5.3						
TIXI	**Tiksi**	**25.83**	**340**	P	**P**	**05 35 07.9**	**-2.7**
TIXI				IAmb	IAmb	05 35 09.4	
	comp=Z,5.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**30.57**	**160**	T	T	06 08 20.1	
	baz=348,slow=74						
H11N1	**WAKE ISLAND Hy**	**30.59**	**160**	T	T	06 08 30.3	
	baz=348,slow=74						
H11N3	**WAKE ISLAND Hy**	**30.59**	**160**	T	T	06 08 39.7	
	baz=348						
SKT	**Skwentna**	**31.15**	**46**	P	**P**	**05 35 57.8**	**-0.3**
H11S1	**WAKE ISLAND Hy**	**31.71**	**161**	T	T	06 09 54.1	
	baz=346,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**31.73**	**161**	T	T	06 09 48.9	
	baz=346,slow=76,SNR=43						
H11S2	**WAKE ISLAND Hy**	**31.73**	**161**	T	T	06 09 52.5	
	baz=346,slow=76,SNR=28						
NEA	**Nenana**	**32.30**	**41**	P	**P**	**05 36 04.2**	**-4.0**
ILAR	**Eielson Array**	**33.25**	**41**	P	**P**	**05 36 19.3**	**+2.9**
	comp=Z,0.4nm,0.8s,baz=257,slow=7.9,SNR=4.0						
INK	**Inuvik**	**38.38**	**34**	P	**P**	**05 37 02.0**	**+1.7**
	comp=Z,1.1nm,0.5s,baz=274,slow=10,SNR=3.0						
INK	**Inuvik**	**38.38**	**34**	P	**P**	**05 37 02.1**	**+1.8**
INK				IAmb	IAmb	05 37 18.7	
	comp=Z,6.7nm,1.4s						
ZALV	**Zalesovo Beam**	**43.02**	**305**	P	**P**	**05 37 36.7**	**-1.9**
	comp=Z,0.8nm,0.5s,baz=72,slow=11,SNR=4.0						
YKA	**Yellowknife Ar**	**47.63**	**39**	P	**P**	**05 38 16.3**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=296,slow=7.6,SNR=5.9						
MK31	**Makanchi Array**	**47.81**	**297**	P	**P**	**05 38 15.5**	**-1.2**
MKAR	**Makanchi Array**	**47.81**	**297**	P	**P**	**05 38 15.3**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=65,slow=6.8,SNR=11						
KURK	**Kurchatov**	**47.88**	**303**	P	**P**	**05 38 16.1**	**-1.0**
KURK				IAmb	IAmb	05 38 16.5	
	comp=Z,4.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**55.09**	**257**	P	**P**	**05 39 12.6**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=28,slow=6.7,SNR=6.0						
ABKAR	**Akbulak array**	**58.56**	**310**	P	**P**	**05 39 34.5**	**-1.0**
ABKAR				IAmb	IAmb	05 39 36.3	
	comp=Z,7.5nm,1.3s						
PDAR	**Pinedale Array**	**61.52**	**57**	P	**P**	**05 39 58.0**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=319,slow=2.6,SNR=2.8						
AKASG	**Malin Array Be**	**70.72**	**328**	P	**P**	**05 40 52.6**	**-2.1**
	comp=Z,0.6nm,0.4s,baz=33,slow=6.2,SNR=4.6						
KBZ	**Khabaz**	**70.73**	**315**	P	**P**	**05 40 55.0**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=56,slow=6.5,SNR=4.9						
TX31	**Lajitas Ar. Si**	**74.38**	**63**	P	**P**	**05 41 19.4**	**+2.4**
TXAR	**Lajitas Array**	**74.38**	**63**	P	**P**	**05 41 18.6**	**+1.6**
	comp=Z,0.8nm,0.9s,baz=299,slow=4.2,SNR=6.8						
CLL	**Collm**	**75.12**	**337**	*e*P	**P**	**05 41 20.0**	**-0.7**
GERES	**GERESS Array B**	**77.19**	**336**	P	**P**	**05 41 32.9**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=32,slow=5.3,SNR=6.5						
UOSS	**Minazif**	**77.83**	**294**	P	**P**	**05 41 36.3**	**-0.2**
UOSS				IAmb	IAmb	05 41 36.9	
	comp=Z,11nm,1.1s						
SOKA	**Soboth**	**78.79**	**334**	*e*P	**P**	**05 41 42.3**	**+0.7**
	comp=Z,4.0nm,1.0s						
KBA	**Koelnbreinsper**	**78.90**	**335**	*e*P	**P**	**05 41 43.7**	**+1.3**
	comp=Z,6.2nm,0.6s						
WATA	**Walderalm**	**79.14**	**336**	*e*P	**P**	**05 41 44.5**	**+0.9**
	comp=Z,2.7nm,0.5s						
WTTA	**Wattenberg**	**79.19**	**336**	*e*P	**P**	**05 41 45.1**	**+1.2**
	comp=Z,7.0nm,1.0s						
MOTA	**Moosalm**	**79.25**	**337**	*e*P	**P**	**05 41 45.0**	**+0.8**
	comp=Z,3.7nm,0.7s						
ABTA	**Abfaltersbach**	**79.43**	**336**	*e*P	**P**	**05 41 45.6**	**+0.5**
	comp=Z,2.9nm,0.7s						
VTS	**Vitosha**	**79.76**	**327**	IAmb	IAmb	05 41 47.5	
	comp=Z,4.8nm,0.8s						
VTS				P	**P**	**05 41 47.6**	**+0.5**

BJI ***13*** *05:34:27.5±0.0, 49˚.41N×156˚.40E, h37km, mb5.0/64, mB5.2/41, Ms4.9/45, Ms7 4.7/44*
SKHL ***13*** *05:34:27.8±0.4, 48˚.96N×156˚.69E, h56km±2km, mb5.3/12, Ms4.5/5, msh5.4/2*
KRSC ***13*** *05:34:29.4±1.6, 49˚.26N×156˚.95E, h40km±25km, ML5.4*
ISCJB ***13*** *05:34:29.0±0.5, 49˚.19N±0˚.03×156˚.29E±0˚.04, h36km±3km, mb5.1/122, MS4.4/24, Error ellipse: s-maj=5.7km s-min=2.9km az=140.1*
MOS ***13*** *05:34:30.4±1.2, 49˚.27N×156˚.26E, h51km, mb5.2/43, MS3.9/7, Error ellipse: s-maj=6.9km s-min=3.6km az=83.8*
NEIC ***13*** *05:34:32.4±1.7, 49˚.30N±0˚.08×156˚.2E±0˚.1, h49km±5km, mb4.9/199*
IDC ***13*** *05:34:32.6±2.2, 49˚.29N×156˚.13E, h52km±20km, mb4.4/30, mb1 4.5/37, mb1mx4.5/51, mbtmp4.7/37, ML5.6/3, MS4.1/13, Ms1 4.1/13, ms1mx3.8/41, Error ellipse: s-maj=13.3km s-min=9.2km az=130.0*
GCMT ***13*** *05:34:33.4±0.4, 49˚.30N±0˚.03×156˚.57E±0˚.04, h30km±1km, MW4.9/71, Moment Tensor Solution. s23,c24; s71,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.71±.27; $M_{\theta\theta}$-0.61±.15; $M_{\phi\phi}$-2.10±.16; $M_{r\theta}$1.23±.21; $M_{r\phi}$-1.41±.09; $M_{\theta\phi}$0.69±.15; Best double couple: M_o3.16700×10^{16} NP1:ϕs44.00000°, δs58.00000°, λ105.00000°. NP2: ϕs197.00000°, δs35.00000°, λ68.00000°. Principal axes: T 3.1260, Plg72.0000°, Azm351.0000°; N 0.0850, Plg13.0000°, Azm216.0000°; P -3.2070, Plg12.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 05:34:29.5±0.7, 49˚.12N±0˚.04×156˚.35E±0˚.04, h33km±4km, n593, σ1§46/574, mb5.0/198, MS4.4/24, 50C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.57**	**355**	*e*P	**Pn**	**05 34 55.1**	**0.0**
SKR				*e*S	**Sn**	**05 35 14.7**	**+0.5**
SKR	**Severo-Kuril's**	**1.57**	**355**	*e*PN	**Pn**	**05 34 55.2**	**+0.2**
SKR				*e*S	**Sb**	**05 35 15.1**	**-2.3**
SKR				pmax	pmax		
	comp=Z,2μm,0.5s						
SKR				smax	smax		
	comp=E,9μm,0.7s						
SKR				smax	smax		
	comp=N,10μm,0.7s						
SKR	**Severo-Kuril's**	**1.57**	**355**	*e*P	**Pn**	**05 34 55.0**	**0.0**
SKR				AMB	AMB	05 34 56.5	
	comp=N,3μm,0.5s						
SKR				*e*S	**Sb**	**05 35 15.1**	**-2.3**
SKR				A	A	05 35 21.1	
	comp=N,6μm,0.7s						
SKR				A	A	05 35 21.1	
	comp=N,8μm,0.7s						
SKR				AMS	AMS	05 35 33.0	
	comp=N,10μm,12.0s						
ASAK	**Asacha**	**3.41**	**16**	*i* P	**Pn**	**05 35 20.9**	**+0.5**
ASAK	**Asacha**	**3.41**	**16**	PN	**Pn**	**05 35 20.9**	**+0.5**
RUS	**Russkaya**	**3.59**	**22**	*i* P	**Pn**	**05 35 22.3**	**-0.5**
RUS				*e*S	**Sn**	**05 36 01.3**	**-2.7**
RUS	**Russkaya**	**3.59**	**22**	PN	**Pn**	**05 35 22.3**	**-0.5**
RUS				S	**Sn**	**05 36 01.3**	**-2.7**
RUS	**Russkaya**	**3.59**	**22**	*e*P	**Pn**	**05 35 22.3**	**-0.5**
GRL	**Gorelyy**	**3.60**	**17**	*e*P	**Pn**	**05 35 23.8**	**+0.7**
GRL	**Gorelyy**	**3.60**	**17**	PN	**Pn**	**05 35 23.8**	**+0.7**
APC	**Apacha**	**3.84**	**7**	*e*P	**Pn**	**05 35 27.3**	**+1.0**
APC	**Apacha**	**3.84**	**7**	PN	**Pn**	**05 35 27.3**	**+1.0**
KRMR	**Karymshinskiy**	**3.88**	**16**	*e*P	**Pn**	**05 35 27.0**	**+0.2**
KRMR				*e*S	**Sn**	**05 36 11.9**	**+0.7**
KRMR	**Karymshinskiy**	**3.88**	**16**	PN	**Pn**	**05 35 27.0**	**+0.2**
KRMR				S	**Sn**	**05 36 11.9**	**+0.7**
PEA0B	**Petropavlovsk-**	**4.08**	**11**	*e*PN	**Pn**	**05 35 30.1**	**+0.5**
PEA0B	**Petropavlovsk-**	**4.08**	**11**		**Pn**	**05 35 30.8**	**+1.2**
PETK	**Petropavlovsk-**	**4.08**	**11**	PN	**Pn**	**05 35 31.0**	**+1.4**
PETK	**Petropavlovsk-**	**4.08**	**11**	P	**Pn**	**05 35 30.9**	**+1.4**
	comp=N,31nm,0.3s,baz=180,slow=12,SNR=87						
PET	**Petropavlovsk**	**4.17**	**20**	*i* P	**Pn**	**05 35 31.2**	**+0.5**
PET	**Petropavlovsk**	**4.17**	**20**	PN	**Pn**	**05 35 30.9**	**+0.2**
PET				S	**Sn**	**05 36 16.9**	**-1.4**
PET	**Petropavlovsk**	**4.17**	**20**	*e*P	**Pn**	**05 35 31.0**	**+0.2**
PET				AMB	AMB	05 35 35.0	
	comp=N,390nm,0.4s						
PET				*e*S	**Sn**	**05 36 18.7**	**+0.4**
PET				A	A	05 36 27.9	
	comp=N,2μm,0.8s						
PET				A	A	05 36 27.9	
	comp=N,2μm,0.8s						
PET				AMS	AMS	05 37 20.7	
	comp=N,3μm,12.0s						
PET	**Petropavlovsk**	**4.17**	**20**		**Pn**	**05 35 31.0**	**+0.2**
UGLR	**Uglovaya**	**4.38**	**20**	*i* P	**Pn**	**05 35 35.1**	**+1.4**
UGLR	**Uglovaya**	**4.38**	**20**	PN	**Pn**	**05 35 35.1**	**+1.4**
AVH	**Avacha**	**4.41**	**19**	*i* P	**Pn**	**05 35 36.1**	**+1.9**
AVH	**Avacha**	**4.41**	**19**	PN	**Pn**	**05 35 36.1**	**+1.9**
KOK	**Koryaka**	**4.42**	**18**	*i* P	**Pn**	**05 35 36.0**	**+1.8**
KOK	**Koryaka**	**4.42**	**18**	PN	**Pn**	**05 35 36.0**	**+1.8**
KOK	**Koryaka**	**4.42**	**18**	*e*P	**Pn**	**05 35 36.0**	**+1.8**
SMAR	**Somma**	**4.42**	**19**	*i* P	**Pn**	**05 35 35.7**	**+1.2**
SMAR	**Somma**	**4.42**	**19**	PN	**Pn**	**05 35 35.7**	**+1.2**
KRER	**Koryakskii**	**4.45**	**19**	*e*P	**Pn**	**05 35 35.2**	**+0.4**
KRER	**Koryakskii**	**4.45**	**19**	PN	**Pn**	**05 35 35.2**	**+0.4**
SDLR	**Sedlovina**	**4.46**	**20**	*i* P	**Pn**	**05 35 35.1**	**+0.3**
SDLR	**Sedlovina**	**4.46**	**20**	PN	**Pn**	**05 35 35.1**	**+0.3**
SPN	**Mys Shipunski**	**4.61**	**29**	*e*P	**Pn**	**05 35 35.9**	**-0.8**
SPN				*e*S	**Sn**	**05 36 24.9**	**-4.1**
SPN	**Mys Shipunski**	**4.61**	**29**	PN	**Pn**	**05 35 35.9**	**-0.8**
KZV	**Kizimen**	**6.47**	**21**	*e*P	**Pn**	**05 36 02.9**	**+0.4**
KZV	**Kizimen**	**6.47**	**21**	PN	**Pn**	**05 36 02.9**	**+0.4**
TUMR	**Tumrok**	**6.60**	**19**	*i* P	**Pn**	**05 36 05.6**	**+1.4**
TUMR	**Tumrok**	**6.60**	**19**	PN	**Pn**	**05 36 05.6**	**+1.4**
KUR	**Kuril'sk**	**6.97**	**239**	*e*PN	**Pn**	**05 36 11.6**	**+2.4**
KUR				pmax	pmax		
	comp=Z,503nm,0.4s						
KUR				pmax	pmax		
	comp=N,63nm,0.3s						
KUR				pmax	pmax		
	comp=E,60nm,0.3s						
KUR				pmax	pmax		
	comp=Z,877nm,1.4s						
KUR				pmax	pmax		
	comp=E,606nm,1.0s						
KUR				pmax	pmax		
	comp=N,1μm,1.7s						
KUR				MLR	MLR		
	comp=Z,2μm,13.0s						
KUR				MLR	MLR		
	comp=N,3μm,14.0s						
KUR	**Kuril'sk**	**6.97**	**239**	*e*P	**Pn**	**05 36 10.2**	**+1.0**
KUR				AMB	AMB	05 36 16.0	
	comp=N,40nm,0.4s						
KUR				*e*S	**Sn**	**05 37 27.8**	**+0.6**
KUR				A	A	05 37 44.7	
	comp=N,170nm,0.5s						
KUR				A	A	05 37 44.7	
	comp=N,300nm,0.5s						
KUR				AMS	AMS	05 38 51.9	
	comp=N,3μm,12.0s						
KBTR	**Krutoberegovo**	**8.11**	**26**	*i* P	**Pn**	**05 36 24.0**	**-0.8**
KBTR	**Krutoberegovo**	**8.11**	**26**	PN	**Pn**	**05 36 24.0**	**-0.8**
SHO	**Shikotan**	**8.41**	**235**	*e*PN	**Pn**	**05 36 26.9**	**-2.0**
SHO				*i*		05 38 09.4	
SHO				pmax	pmax		
	comp=E,74nm,0.3s						
SHO				pmax	pmax		
	comp=Z,88nm,0.3s						
SHO				pmax	pmax		
	comp=Z,217nm,1.3s						
SHO				pmax	pmax		
	comp=N,349nm,1.9s						
SHO				pmax	pmax		
	comp=E,207nm,1.0s						
SHO				MLR	MLR		
	comp=Z,1μm,16.0s						
SHO				MLR	MLR		
	comp=E,323nm,8.0s						
SHO				MLR	MLR		
	comp=N,1μm,15.0s						
SHO	**Shikotan**	**8.41**	**235**	*e*P	**Pn**	**05 36 27.4**	**-1.5**

YUK Yuzh-Kuril'sk 8.83 239 *e*PN **Pn 05 36 35.5 +0.8**
YUK pmax pmax
comp=E,107nm,0.3s
YUK pmax pmax
comp=Z,590nm,0.3s
YUK pmax pmax
comp=N,112nm,0.2s
YUK pmax pmax
comp=Z,1μm,1.1s
YUK pmax pmax
comp=N,842nm,1.3s
YUK pmax pmax
comp=E,613nm,1.2s
YUK MLR MLR
comp=E,2μm,15.0s
YUK MLR MLR
comp=Z,2μm,15.0s
YUK MLR MLR
comp=N,807nm,11.0s
YUK Yuzh-Kuril'sk 8.83 239 *e*P **Pn 05 36 35.6 +0.8**
YUK AMB AMB 05 36 40.7
comp=N,590nm,0.5s
YUK *e*S **Sn 05 38 10.7 -2.4**
YUK A A 05 38 34.0
comp=N,840nm,2.0s
YUK A A 05 38 34.0
comp=N,610nm,2.0s
YUK AMS AMS 05 39 51.0
comp=N,800nm,13.0s
YUK AMS AMS 05 39 51.0
comp=N,2μm,13.0s
YUK AMS AMS 05 39 51.0
comp=N,2μm,13.0s
GRPR Tuman 8.91 239 *e*PN **Pn 05 36 36.2 +0.4**
GRPR pmax pmax
comp=Z,527nm,0.4s
GRPR Tuman 8.91 239 *e*P **Pn 05 36 36.0 +0.2**
GRPR AMB AMB 05 36 44.0
comp=Z,500nm,0.6s
GRPR *e*S **Sn 05 38 12.0 -3.0**
TYV Tymovskoe 8.99 286 *e*PN **Pn 05 36 38.9 +1.9**
TYV *e*S **Sn 05 38 20.3 +3.3**
TYV pmax pmax
comp=Z,21nm,1.2s
TYV smax smax
comp=N,28nm,1.0s
TYV Tymovskoe 8.99 286 *e*P **Pn 05 36 38.9 +1.9**
TYV AMB AMB 05 36 40.7
comp=N,20nm,1.0s
TYV *e*S **Sn 05 38 20.3 +3.3**
TYV A A 05 38 22.2
comp=N,30nm,1.0s
NMR Nemuro--Hokkai 9.34 236 *d i*PN **Pn 05 36 39.8 -1.9**
NMR Nemuro--Hokkai 9.34 236 *i* P **Pn 05 36 39.0 -2.7**
YSS Yuzh-Sakhalins 9.37 262⇑ *i*PN Pn 05 36 46.9 +4.9
YSS pmax pmax
comp=Z,60nm,0.7s
YSS MLR MLR
comp=E,1μm,17.0s
YSS MLR MLR
comp=Z,1μm,17.0s
YSS Yuzh-Sakhalins 9.37 262 *i* P **Pn 05 36 45.0 +3.0**
YSS AMB AMB 05 36 48.8
comp=Z,60nm,0.7s
YSS AMS AMS 05 40 32.0
comp=Z,1μm,17.0s
YSS AMS AMS 05 40 32.0
comp=Z,1μm,17.0s
YSS Yuzh-Sakhalins 9.37 262 Pn 05 36 46.5 +4.5
UGL Uglegorsk 9.38 275⇓ *i*PN Pn 05 36 47.6 +5.4
UGL S **Sn 05 38 34.6 +8.3**
UGL pmax pmax
comp=Z,404nm,0.7s
UGL Uglegorsk 9.38 275 *i* P **Pn 05 36 45.0 +2.8**
UGL AMB AMB 05 36 55.0
comp=Z,400nm,0.7s
UGL AMS AMS 05 40 56.0
comp=Z,4μm,15.0s
UGL AMS AMS 05 40 56.0
comp=Z,5μm,15.0s
OKH Okha 9.49 303 *de*PN Pn 05 36 48.5 +4.8
OKH *e*S **Sn 05 38 35.9 +6.7**
OKH MLR MLR
comp=Z,1μm,15.0s
OKH Okha 9.49 303 *e*P **Pn 05 36 47.1 +3.4**
OKH AMS AMS 05 41 18.0
comp=Z,1μm,15.0s
NKL Nikolayevsk 10.64 298 *e*P **Pn 05 37 01.2 +1.8**
JKA Kamikawa-asahi 10.70 247 Pn 05 37 03.3 +3.0
ASAJ Asahikawa 10.70 247 P **Pn 05 37 03.3 +3.0**
comp=Z,47nm,0.3s,baz=73,slow=14,SNR=53
MA2 Magadan 10.96 345 *e*PN **Pn 05 37 04.5 +0.6**
MA2 pmax pmax
comp=Z,49nm,0.9s
MA2 Magadan 10.96 345 P **Pn 05 37 05.2 +1.3**
comp=Z,8.4nm,0.3s,baz=152,slow=11,SNR=27
MA2 LR LR 05 41 48.1
comp=Z,1μm,19.5s,baz=179,slow=40
MA2 Magadan 10.96 345 *e*P **Pn 05 37 04.5 +0.6**
MA2 Magadan 10.96 345 Pn 05 37 03.6 -0.2
ERM Erimo 11.65 237 *e*PN **Pn 05 37 16.7 +3.4**
ERM Erimo 11.65 237 Pn 05 37 15.0 +1.7
SMY Shemya 11.76 65 PN **Pn 05 37 13.8 -1.0**
SMY Shemya 11.76 65 Pn **Pn 05 37 13.8 -1.0**
GRNR Gornyy 12.94 285⇑ *i*PN Pn 05 37 36.0 +5.1
GRNR *e*S Sn 05 40 02.8 +9.2
GRNR pmax pmax
comp=Z,20nm,0.6s
GRNR smax smax
comp=E,5.0nm,0.5s
GRNR MLR MLR
comp=Z,2μm,13.0s
GRNR Gornyy 12.94 285 *e*rx Pn 05 37 36.0 +5.1
GRNR AMB AMB 05 37 43.6
comp=Z,20nm,0.5s
GRNR AMS AMS 05 43 24.8
comp=Z,1μm,17.0s
GRNR AMS AMS 05 43 24.8
comp=Z,1μm,17.0s
GRNR AMS AMS 05 43 24.8
comp=Z,2μm,13.0s
SEY Seymchan 14.02 352 P **Pn 05 37 47.3 +1.8**
comp=Z,1.0nm,0.3s,baz=174,slow=11,SNR=9.2
TEY Ternei 14.05 261⇑ *e*P **P 05 37 51.5 -2.0**
TEY pmax pmax
comp=Z,30nm,1.1s
TEY pmax pmax
comp=E,30nm,1.2s
TEY pmax pmax
comp=N,20nm,1.3s
TEY Ternei 14.05 261 *e*P **Pn 05 37 45.7 -0.4**
TEY AMB AMB 05 37 49.0
comp=N,40nm,1.0s
EKMR Ekimchan 15.20 294 *e*P **Pn 05 38 02.2 +0.6**
EKMR AMB AMB 05 38 09.0
comp=N,30nm,0.7s
EKMR AMB AMB 05 38 09.0
comp=N,40nm,0.7s
KLR Kul'dur 16.07 280 *e*P **P 05 38 16.0 +0.1**
KLR pmax pmax
comp=Z,44nm,1.2s
KLR Kul'dur 16.07 280 P **P 05 38 15.2 -0.7**
comp=Z,0.9nm,0.3s,baz=71,slow=12,SNR=27
USA0B Ussuriysk Arra 17.40 263 P **Pn 05 38 29.2 -0.4**
USA0B pmax pmax
comp=Z,25nm,0.8s
USA0B Ussuriysk Arra 17.40 263 Pn 05 38 29.2 -0.4
USRK Ussuriysk Ar. 17.40 263 P **Pn 05 38 29.5 -0.1**
baz=68,slow=10,SNR=42
USRK LR LR 05 45 18.4
comp=Z,432nm,19.3s,baz=41,slow=37
BMKR Bomnak 17.80 299 *e*P **P 05 38 35.0 0.0**
BMKR AMB AMB 05 38 36.0
comp=Z,30nm,0.4s
MJAR Matsushiro Arr 18.25 233 P **Pn 05 38 41.4 +1.3**
comp=Z,0.5nm,0.3s,baz=31,slow=9.7,SNR=15
MJB9 Matsu-Tunnel 18.25 233 P **P 05 38 39.2 -0.9**
MJB9 IAmb IAmb 05 38 47.8
comp=Z,42nm,0.6s
MAJO Matsushiro 18.25 233 P **P 05 38 38.8 -1.2**
MAJO pmax pmax
comp=Z,41nm,0.6s
MAJO Matsushiro 18.25 233 P **P 05 38 38.8 -1.2**
MAJO IAmb IAmb 05 38 47.9
comp=Z,41nm,0.6s
MAT Matsushiro 18.25 233 P **Pn 05 38 41.3 +1.3**

ZEA Zeya 18.65 295 *e*P **P 05 38 41.2 -3.1**
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA MLR MLR
comp=Z,2μm,13.0s
ZEA MLR MLR
comp=E,1μm,14.0s
ZEA Zeya 18.65 295 *e*rx **P 05 38 42.5 -1.8**
ZEA AMB AMB 05 38 44.8
comp=E,30nm,1.0s
ZEA AMS AMS 05 47 48.0
comp=E,1μm,14.0s
ZEA AMS AMS 05 47 48.0
comp=E,2μm,14.0s
MDJ Mudanjiang 18.80 266 P **P 05 38 45.3 -0.7**
MDJ pP pP 05 38 55.3 +1.3
MDJ PP **sP 05 38 58.1 +0.5**
MDJ sP pwP 05 39 01.0 +4.3
MDJ S **Sn 05 42 13.9 -2.0**
MDJ sS sS 05 42 24.6 -6.5
MDJ SS S 05 42 32.8 +15
MDJ PcP **PcP 05 43 12.0 0.0**
MDJ ScP **ScP 05 46 43.3 -1.7**
MDJ PcS **PcS 05 46 49.3 +0.5**
MDJ ScS **ScS 05 50 18.1 -8.1**
MDJ pmax pmax
comp=E,25nm,0.9s
MDJ pmax pmax
comp=E,280nm,3.3s
MDJ LR LR
comp=E,570nm,12.8s
MDJ LR LR
comp=E,980nm,15.7s
MDJ LR LR
comp=E,1μm,12.1s
MDJ Mudanjiang 18.80 266 P **P 05 38 45.4 -0.6**
MDJ IAmb IAmb 05 38 52.4
comp=Z,52nm,0.9s
KROS Kirovskiy 18.86 298 *e*P **P 05 38 46.5 -0.1**
KROS AMB AMB 05 38 48.0
comp=Z,20nm,0.6s
BILL Bilibino 19.61 11⇓ *e*P **P 05 38 53.6 -1.1**
BILL pmax pmax
comp=Z,33nm,1.0s
BILL Bilibino 19.61 11 P **P 05 38 53.2 -1.5**
YAK Yakutsk 19.67 321 *e*P **P 05 38 53.7 -1.7**
YAK *e*S **S 05 42 33.1 -2.1**
YAK pmax pmax
comp=Z,66nm,0.9s
YAK pmax pmax
comp=E,54nm,1.3s
YAK pmax pmax
comp=N,41nm,1.4s
YAK smax smax
comp=E,263nm,2.5s
YAK smax smax
comp=N,100nm,2.0s
YAK Yakutsk 19.67 321 P **P 05 38 54.2 -1.1**
comp=N,0.5nm,0.3s,baz=95,slow=5.7,SNR=9.6
YAK Yakutsk 19.67 321 P **P 05 38 53.9 -1.4**
YAK IAmb IAmb 05 38 55.3
comp=Z,94nm,1.1s
INU Inuyama 19.78 233 P **P 05 38 57.8 +1.0**
INU IAmb IAmb 05 38 59.6
comp=Z,35nm,0.7s
KSRS Korea Array 23.61 251 P **P 05 39 37.4 +0.1**
comp=Z,16nm,0.8s,baz=49,slow=9.6,SNR=22
KS19 Wonju Array Si 23.61 251 P **P 05 39 39.0 +1.6**
KS19 IAmb IAmb 05 39 39.5
comp=Z,36nm,1.1s
HIA Hailar 23.78 284 P **P 05 39 38.9 0.0**
HIA pmax pmax
comp=Z,16nm,0.5s
HIA Hailar 23.78 284 P **P 05 39 38.9 0.0**
HIA IAmb IAmb 05 39 39.5
comp=Z,16nm,0.5s
JNU Nakatsue 24.80 239 P **P 05 39 50.2 +1.8**
comp=Z,29nm,0.8s,baz=37,slow=9.9,SNR=8.0
JNU Nakatsue 24.80 239 P **P 05 39 50.1 +1.6**
JNU IAmb IAmb 05 39 56.5
comp=Z,39nm,0.9s
ANM Nome 25.48 38 IAmb IAmb 05 39 57.8
comp=Z,26nm,0.9s
TIXI Tiksi 25.88 340 *e*P **P 05 39 55.3 -2.4**
TIXI pmax pmax
comp=Z,33nm,0.6s
TIXI Tiksi 25.88 340 P **P 05 39 55.6 -2.2**
comp=Z,42nm,0.7s,baz=145,slow=9.8,SNR=46
TIXI Tiksi 25.88 340 P **P 05 39 55.4 -2.4**
TIXI IAmb IAmb 05 39 57.5
comp=Z,42nm,0.7s
BOD Bodaibo 26.27 305 *e*P **P 05 39 59.3 -2.2**
BOD pmax pmax
comp=Z,19nm,2.0s
BOD Bodaibo 26.27 305 *e*P **P 05 39 59.3 -2.2**
RDOG Red Dog Mine 27.66 32 P **P 05 40 14.4 +0.5**
RDOG IAmb IAmb 05 40 16.0
comp=Z,20nm,0.9s
H11N2 WAKE ISLAND Hy 30.52 160 T T 06 13 36.8
baz=342,slow=75,SNR=43
H11N1 WAKE ISLAND Hy 30.54 160 T T 06 13 30.0
baz=342,slow=75,SNR=26
H11N3 WAKE ISLAND Hy 30.54 160 T T 06 13 18.8
baz=342,slow=75,SNR=36
KTH Kantishna Hill 31.54 43 IAmb IAmb 05 40 58.9
comp=Z,21nm,1.2s
H11S1 WAKE ISLAND Hy 31.66 161 T T 06 14 51.0
baz=346,slow=76,SNR=434
H11S3 WAKE ISLAND Hy 31.67 161 T T 06 14 51.8
baz=346,slow=76,SNR=794
H11S2 WAKE ISLAND Hy 31.68 161 T T 06 14 42.2
baz=346,slow=76,SNR=329
MLY Manley 31.70 40 P **P 05 40 50.0 +0.3**
HHC Hu-ho-hao-te 32.34 272 *e*P **P 05 40 56.5 +0.9**
HHC pP sP 05 41 10.8 +3.3
HHC pmax pmax
comp=Z,7.0nm,0.9s
RND Reindeer 32.47 43 IAmb IAmb 05 41 05.2
comp=Z,12nm,1.1s
SONM Songino Array 32.66 287 P **P 05 40 56.8 -1.6**
comp=Z,1.4nm,0.5s,baz=74,slow=7.8,SNR=5.5
SONM LR LR 05 55 29.4
comp=Z,564nm,18.3s,baz=23,slow=39
KNK Knik Glacier 32.72 47 P **P 05 40 59.1 +0.5**
KNK IAmb IAmb 05 41 00.2
comp=Z,16nm,1.1s
NJ2 Nanjing 32.78 253 *e*P **P 05 41 00.4 +1.0**
NJ2 pmax pmax
comp=Z,13nm,1.0s
WRH Wood River Hil 32.81 41 P **P 05 41 01.6 +2.2**
WRH IAmb IAmb 05 41 09.4
comp=Z,12nm,1.0s
TLY Talaya 33.09 295 P **P 05 41 01.7 -0.3**
TLY Talaya 33.09 295 *e*P **P 05 41 01.6 -0.4**
TLY pmax pmax
comp=Z,37nm,1.1s
TLY Talaya 33.09 295 *e*P **P 05 41 01.6 -0.4**
TLY Talaya 33.09 295 P **P 05 41 01.3 -0.8**
TLY IAmb IAmb 05 41 02.8
comp=Z,32nm,1.0s
HDA Harding Lake 33.31 41 IAmb IAmb 05 41 10.5
comp=Z,17nm,1.5s
IL31 33.33 41 IAmb IAmb 05 41 12.8
comp=Z,11nm,1.1s
ILAR Eielson Array 33.33 41 P **P 05 41 03.7 -0.2**
comp=Z,1.6nm,0.8s,baz=249,slow=7.6,SNR=10
TIY Taiyuan 33.43 267 *e*P **P 05 41 06.3 +1.1**
TIY S **S 05 46 24.0 -0.3**
TIY pmax pmax
comp=Z,60nm,1.0s
TIY LR LR
comp=Z,780nm,11.9s
TIY LR LR
comp=Z,640nm,15.4s
TIY LR LR
comp=Z,960nm,15.8s
ZAK Zakamensk 33.71 293 *e*P P 05 41 02.8 -4.7
ZAK pmax pmax
comp=Z,15nm,0.9s
PRP Porcupine Dome 33.91 39 P **P 05 41 10.1 +0.9**
MOY Mondy 34.67 296 *e*P **P 05 41 15.3 -0.5**
CTGM Chitina Glacie 36.19 47 P **P 05 41 30.3 +1.4**
CTGM IAmb IAmb 05 41 31.8
comp=Z,8.7nm,0.8s
DAWY Dawson 36.62 42 P **P 05 41 33.8 +1.5**
WHN Wuhan 36.64 255 P **P 05 41 33.1 +0.4**

WHN S **S 05 47 13.0 -0.6**
WHN LR LR
comp=Z,1μm,20.8s
PCA Pinnacle 36.88 48 P **P 05 41 35.1 +0.5**
EPYK Eagle Plains 37.47 38 IAmb IAmb 05 41 41.8
comp=Z,17nm,1.0s
INK Inuvik 38.47 34 P **P 05 41 48.9 +1.1**
INK pmax pmax
comp=Z,12nm,0.8s
INK Inuvik 38.47 34 P **P 05 41 48.9 +1.1**
INK IAmb IAmb 05 41 50.6
comp=Z,12nm,0.8s
LZH Lanzhou 40.00 271⇑ P **P 05 42 02.5 +1.3**
LZH pP pwP 05 42 12.3 -1.0
LZH sP sP 05 42 17.1 +3.8
LZH sS sS 05 48 22.6 +3.2
LZH SS **SS 05 50 53.8 -8.3**
LZH pmax pmax
comp=Z,30nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.9s
LZH LR LR
comp=Z,2μm,13.6s
LZH LR LR
comp=Z,1μm,14.1s
LZH LR LR
comp=Z,2μm,15.2s
JIS Juneau Island 40.27 50 P **P 05 42 05.4 +2.4**
JIS IAmb IAmb 05 42 07.6
comp=Z,18nm,1.4s
GTA Gaotai 40.77 278 *e*P **P 05 42 07.5 0.0**
GTA pP sP 05 42 20.8 +1.3
GTA sP pwP 05 42 25.6 +6.0
GTA pmax pmax
comp=Z,13nm,1.3s
GTA pmax pmax
comp=Z,200nm,7.9s
GTA LR LR
comp=Z,670nm,17.1s
GTA LR LR
comp=Z,980nm,17.1s
GTA LR LR
comp=Z,2μm,18.1s
ZALV Zalesovo Beam 43.02 305 P **P 05 42 23.9 -1.6**
comp=Z,7.9nm,0.6s,baz=59,slow=6.7,SNR=9.2
ZALV PcP **PcP 05 44 15.7 +0.6**
comp=Z,5.4nm,0.8s,baz=66,slow=3.7,SNR=5.5
CD2 Chengdu 43.25 265 P **P 05 42 26.9 -0.8**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,2μm,12.2s
CD2 LR LR
comp=Z,1μm,12.6s
CD2 LR LR
comp=Z,2μm,11.2s
GYA Guiyang 44.35 258⇑ *i*P **P 05 42 37.1 +0.4**
GYA pP sP 05 42 48.3 -0.5
GYA PP **PcP 05 44 19.4 -0.9**
GYA S **S 05 49 06.8 -2.0**
GYA sS sS 05 49 26.0 +2.6
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=Z,770nm,13.7s
GYA LR LR
comp=Z,440nm,10.3s
GYA LR LR
comp=Z,320nm,13.4s
WMQ Urumqi 46.11 291 *e*P **P 05 42 50.8 +0.4**
WMQ pP sP 05 43 04.4 +1.9
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ pmax pmax
comp=Z,66nm,3.7s
WMQ LR LR
comp=Z,850nm,21.9s
WMQ LR LR
comp=Z,380nm,26.1s
WMQ LR LR
comp=Z,870nm,23.9s
YKW3 Yellowknife Ar 47.68 39 P **P 05 43 03.2 +0.9**
YKW3 IAmb IAmb 05 43 05.1
comp=Z,8.0nm,0.9s
YKA Yellowknife Ar 47.72 39 P **P 05 43 03.1 +0.5**
comp=Z,6.8nm,0.9s,baz=296,slow=7.7,SNR=35
MK31 Makanchi Array 47.80 297 IAmb IAmb 05 43 03.7
comp=Z,11nm,0.9s
MKAR Makanchi Array 47.80 297 P **P 05 43 02.1 -1.4**
comp=Z,10nm,0.7s,baz=61,slow=7.6,SNR=32
MKAR PcP **PcP 05 44 32.4 +0.5**
comp=Z,2.2nm,0.8s,baz=57,slow=5.3,SNR=2.8
KMI Kunming 47.81 260 P **P 05 43 04.5 +0.5**
KMI pP pP 05 43 13.9 +0.8
KMI sP pwP 05 43 18.1 +2.0
KMI PP **PP 05 44 54.4 -1.5**
KMI S **S 05 49 54.4 -4.4**
KMI sS sS 05 50 16.1 +2.2
KMI SS **SS 05 53 20.6 -6.6**
KMI pmax pmax
comp=Z,31nm,0.9s
KMI pmax pmax
comp=Z,150nm,3.8s
KMI LR LR
comp=Z,640nm,13.4s
KMI LR LR
comp=Z,550nm,11.9s
KMI LR LR
comp=Z,490nm,14.0s
KURK Kurchatov 47.88 303 P **P 05 43 03.1 -0.9**
KURK Kurchatov 47.88 303 *e*P **P 05 43 02.9 -1.1**
KURK pmax pmax
comp=Z,43nm,0.8s
KURK Kurchatov 47.88 303 *e*P **P 05 43 02.9 -1.1**
KURK Kurchatov 47.88 303 P **P 05 43 02.8 -1.2**
RES Resolute Bay 47.88 20 P **P 05 43 04.8 +1.1**
baz=304,slow=8.6
MAKZ Makanchi 47.97 297 P **P 05 43 03.4 -1.4**
MAKZ pmax pmax
comp=Z,7.0nm,0.7s
MAKZ Makanchi 47.97 297 P **P 05 43 03.4 -1.4**
MAKZ IAmb IAmb 05 43 04.6
comp=Z,6.9nm,0.7s
SLVN Son La 49.76 256 P **P 05 43 19.8 +0.9**
SLVN IAmb IAmb 05 43 21.4
comp=Z,23nm,1.2s
SPA0 Spitsbergen Ar 50.66 350 P **P 05 43 24.4 -0.5**
BRVK Borovoye 51.08 309 P **P 05 43 27.7 -0.7**
BRVK Borovoye 51.08 309 *e*P **P 05 43 27.2 -1.2**
BRVK pmax pmax
comp=Z,30nm,1.0s
BRVK Borovoye 51.08 309 *e*P **P 05 43 27.2 -1.2**
BRVK Borovoye 51.08 309 P **P 05 43 27.1 -1.2**
TULEG Thule 51.36 12 P **P 05 43 29.2 -1.0**
TULEG IAmb IAmb 05 43 30.7
comp=Z,8.6nm,1.0s
LSA Lhasa 52.31 274 P **P 05 43 40.1 +1.7**
LSA Lhasa 52.31 274 P **P 05 43 39.4 +1.0**
LSA Lhasa 52.31 274 P **P 05 43 39.1 +0.7**
LSA pmax pmax
comp=Z,11nm,0.6s
LSA Lhasa 52.31 274 *e*P **P 05 43 39.1 +0.7**
LSA Lhasa 52.31 274 P **P 05 43 39.1 +0.7**
LSA IAmb IAmb 05 43 41.5
comp=Z,11nm,0.6s
NONG Nongkai 52.65 253 P **P 05 43 42.5 +2.0**
comp=Z,1.7nm,0.9s
TARG Taragay, Kyrgy 53.30 294 P **P 05 43 46.1 +0.6**
KDJ Kajisay 53.44 295 P **P 05 43 46.1 -0.2**
KDJ pmax pmax
comp=Z,11nm,0.7s
KDJ Kajisay 53.44 295 P **P 05 43 46.1 -0.2**
KDJ IAmb IAmb 05 43 46.7
comp=Z,11nm,0.7s
SVE Sverdlovsk 53.57 317⇑ *i*P **P 05 43 46.3 -0.5**
SVE pmax pmax
comp=Z,40nm,0.8s
PAYA Payao 53.77 257 P **P 05 43 50.8 +2.0**
comp=Z,53μm,0.7s,comp=Z,517μm
BOOM Boomskoye usch 53.96 296 IAmb IAmb 05 43 51.9
comp=Z,15nm,1.1s
PHRA Phrae 54.18 256 P **P 05 43 53.6 +1.9**
comp=Z,8.4nm,1.0s,comp=Z,951nm

DAG Danmarks Havn 54.34 359 *i* P **P** 05 43 51.0 -1.2
DAG pmax pmax
comp=Z,10.0nm,0.9s
DAG Danmarks Havn 54.34 359 *i* P **P** 05 43 51.0 -1.2
comp=Z,10nm,0.9s
LAMP Lampang 54.54 257 P **P** 05 43 57.9 +3.5
comp=Z,65µm,0.6s
KULLO Kullorsuaq 54.55 10 *i* P **P** 05 43 53.0 -0.7
KULLO pmax pmax
comp=Z,36nm,1.0s
KULLO Kullorsuaq 54.55 10 *i* P **P** 05 43 53.0 -0.7
comp=Z,36nm,1.0s
SHL Shillong 54.59 269 P **P** 05 43 56.2 +1.3
SNR=11
SHL Shillong 54.59 269 P **P** 05 43 55.9 +1.0
SHL pmax pmax
comp=Z,34nm,0.8s
SHL Shillong 54.59 269 P **P** 05 43 55.9 +1.0
AAK Ala-Archa 54.73 297 *i* P **P** 05 43 55.2 -0.5
SNR=6.1
AAK Ala-Archa 54.73 297 P **P** 05 43 55.6 0.0
AAK Ala-Archa 54.73 297 P **P** 05 43 55.9 +0.3
AAK pmax pmax
comp=Z,5.0nm,0.7s
AAK Ala-Archa 54.73 297 *eP* **P** 05 43 55.9 +0.3
AAK Ala-Archa 54.73 297 P **P** 05 43 55.9 +0.3
AAK IAmb IAmb 05 43 56.0
comp=Z,5.4nm,0.7s
ARU Arti 54.73 318 *d i* P **P** 05 43 54.0 -1.3
ARU *PP **pwP** 05 44 05.4 -2.2
ARU S **S** 05 51 30.5 -2.6
ARU SS **SKiKP** 05 55 05.9 +5.7
ARU pmax pmax
comp=Z,76nm,1.1s
ARU Arti 54.73 318 *eP* **P** 05 43 54.0 -1.3
CMMT Chiang Mai 54.77 258 P **P** 05 43 57.5 +1.5
comp=Z,20nm,1.1s
CHTO Chiang Mai 54.77 258 P **P** 05 43 57.8 +1.8
CHTO Chiang Mai 54.77 258 P **P** 05 43 57.8 +1.8
CHTO pmax pmax
comp=Z,38nm,1.1s
CHTO Chiang Mai 54.77 258 P **P** 05 43 57.8 +1.8
CHAI Chaiyaphum 55.00 253 P **P** 05 43 59.0 +1.3
comp=Z,49µm,0.8s,comp=Z,585µm
CM31 Chiang Mai Arr 55.03 257 P **P** 05 44 00.0 +2.1
SNR=11
CMAR Chiang Mai Arr 55.03 257 P **P** 05 43 59.6 +1.7
comp=Z,16nm,0.9s,baz=31,slow=6.8,SNR=38
PBKT Sadao Pong 55.14 254 P **P** 05 44 01.2 +2.5
comp=Z,15nm,0.7s
KSH Kashi 55.75 293 P **P** 05 44 07.0 +3.9
KSH PcP **PcP** 05 45 05.8 +3.9
KSH ScP **ScP** 05 48 59.6 +1.3
KSH PcS **PcS** 05 49 04.3 +2.0
KSH S **S** 05 51 51.4 +3.8
KSH ScS **ScS** 05 53 49.4 -0.3
KSH pmax pmax
comp=Z,17nm,0.8s
KSH pmax pmax
comp=Z,690nm,6.0s
KSH LR LR
comp=Z,640nm,5.4s
KSH LR LR
comp=Z,1µm,6.0s
KSH LR LR
comp=Z,2µm,7.6s
MHMT Maesarieng 55.88 258 P **P** 05 44 07.2 +3.2
comp=Z,41nm,0.8s
MOD Modoc Plateau 56.05 63 IAmb IAmb 05 44 09.9
comp=Z,11nm,1.4s
TAPN Taplejung 56.13 274 *eP* **P** 05 44 06.6 +0.5
comp=Z,9.7nm,0.4s
ARCES ARCESS Array B 56.31 341 P **P** 05 44 05.9 -0.6
comp=Z,1.9nm,0.5s,baz=30,slow=7.8,SNR=8.9
ARCES LR LR 06 13 13.7
comp=Z,245nm,18.4s,baz=44,slow=41
ARSB Arslanbob 56.42 296 IAmb IAmb 05 44 10.5
comp=Z,9.9nm,1.1s
PRGR Permogore 56.54 328 *eP* **P** 05 44 04.3 -3.8
PRGR pmax pmax
comp=Z,21nm,1.3s
PLID Pearl Lake 56.55 58 IAmb IAmb 05 44 11.5
comp=Z,6.3nm,0.9s
ODAN Odare 56.67 274 *eP* **P** 05 44 10.9 +1.0
UMPA Umpang Tak 56.75 256 P **P** 05 44 14.4 +4.2
comp=Z,78µm,0.9s
UTHA Uthaitani 56.86 255 P **P** 05 44 13.5 +2.5
comp=Z,35µm,0.8s
JIRN Jiri 56.91 275 *eP* **P** 05 44 12.2 +0.4
comp=Z,74nm,0.8s
GUN Gumba 56.95 276 *eP* **P** 05 44 12.3 +0.3
comp=Z,33nm,0.4s
RAMN Ramite 57.12 274 *eP* **P** 05 44 13.4 +0.3
comp=Z,70nm,0.6s
KIRV Kirov 57.18 323 LR LR 06 09 50.3
comp=Z,196nm,21.1s,baz=1.9,slow=37
TMCR Tamitsa 57.24 333 *eP* **P** 05 44 11.7 -1.3
TMCR pmax pmax
comp=Z,21nm,0.8s
KKN Kakani 57.42 276 *eP* **P** 05 44 16.2 +1.0
comp=Z,43nm,0.6s
PKI Pulchoki 57.48 276 *eP* **P** 05 44 16.1 +0.4
comp=Z,18nm,0.6s
PKIN Phulchoki 57.49 276 *eP* **P** 05 44 16.1 +0.4
comp=Z,13nm,0.5s
FFC Flin Flon 57.52 42 P **P** 05 44 15.4 +0.2
FFC pmax pmax
comp=Z,7.0nm,1.0s
FFC Flin Flon 57.52 42 P **P** 05 44 15.4 +0.2
FFC IAmb IAmb 05 44 17.1
comp=Z,6.5nm,0.9s
DMN Daman 57.66 276 *eP* **P** 05 44 17.6 +0.7
comp=Z,53nm,0.8s
PAHR Pah Rah Range 57.97 65 P **P** 05 44 20.6 +1.8
KHLT Khaolaem Dam 57.97 255 P **P** 05 44 17.6 -1.3
comp=Z,21nm,0.9s
SRDT SRDT 57.97 254 P **P** 05 44 22.2 +3.3
comp=Z,12nm,0.8s,comp=Z,1µm
SUMG Summit 58.16 5 *i* P **P** 05 44 20.0 +0.1
SUMG pmax pmax
comp=Z,170nm,1.3s
SUMG Summit 58.16 5 *i* P **P** 05 44 20.0 +0.1
comp=Z,168nm,1.3s
SUMG Summit 58.16 5 P **P** 05 44 20.2 +0.3
HNR Honiara 58.39 176 LR LR 06 05 52.7
comp=Z,142nm,21.8s,baz=350,slow=32
BTK Batken 58.50 296 IAmb IAmb 05 44 22.8
comp=Z,9.3nm,0.8s
YERR Yerington 58.52 65 P **P** 05 44 24.1 +1.4
PHET Kaeng Krachan 58.74 252 P **P** 05 44 27.1 +2.9
comp=Z,61µm,0.7s
KVN Kaiserville 59.15 65 IAmb IAmb 05 44 34.9
comp=Z,6.4nm,1.1s
QLMT Earthquake Lak 59.23 56 P **P** 05 44 29.4 +1.8
NVAR Mina Array Bea 59.43 65 P **P** 05 44 30.8 +1.7
comp=Z,1.6nm,0.8s,baz=289,slow=7.7,SNR=12
NVAR LR LR 06 06 56.7
comp=Z,109nm,20.4s,baz=352,slow=33
NV11 Mina Array Sit 59.52 65 P **P** 05 44 30.2 +0.6
H17A Grant Village 59.98 56 IAmb IAmb 05 44 43.8
comp=Z,10nm,1.3s
TPAW Teton Pass 60.36 57 IAmb IAmb 05 44 38.8
comp=Z,6.4nm,1.1s
CHGR Chuyangaron 60.38 296 P **P** 05 44 34.8 -0.6
REDW Red Top Meadow 60.50 57 IAmb IAmb 05 44 47.3
comp=Z,8.4nm,1.1s
SCO Scoresbysund 60.70 359 P **P** 05 44 37.5 +0.5
SCO pmax pmax
comp=Z,3.0nm,0.7s
SCO Scoresbysund 60.70 359 *i* P **P** 05 44 37.0 +0.1
SCO Scoresbysund 60.70 359 P **P** 05 44 37.5 +0.5
NIL Nilore 61.21 289 P **P** 05 44 41.6 +0.6
NIL Nilore 61.21 289 P **P** 05 44 41.4 +0.4
NIL pmax pmax
comp=Z,45nm,0.9s
NIL Nilore 61.21 289 P **P** 05 44 41.4 +0.4
PDAR Pinedale Array 61.60 57 P **P** 05 44 45.2 +1.4
comp=Z,3.5nm,0.9s,baz=308,slow=3.3,SNR=17
TPNV Topopah Spring 61.63 65 P **P** 05 44 45.8 +1.8
TPNV pmax pmax
comp=Z,7.0nm,1.3s
TPNV Topopah Spring 61.63 65 P **P** 05 44 45.9 +1.8
TPNV IAmb IAmb 05 44 46.7
comp=Z,7.0nm,1.2s
FIA1 FINESS Array S 62.80 336 P **P** 05 44 50.4 -0.8
FINES FINESS Array B 62.80 336 P **P** 05 44 50.2 -0.9
comp=Z,2.6nm,0.3s,baz=31,slow=7.0,SNR=25
FINES LR LR 06 14 09.8
comp=Z,214nm,18.4s,baz=17,slow=38
KBL Kabul 63.19 293 P **P** 05 44 52.7 -1.8
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 63.19 293 P **P** 05 44 52.7 -1.8
KBL IAmb IAmb 05 44 58.6
comp=Z,8.3nm,0.8s
ULM Lac du Bonnet 63.30 43 P **P** 05 44 54.8 +0.1
comp=Z,3.8nm,0.9s,baz=330,slow=11,SNR=4.6
SRU San Rafael Swe 63.53 60 P **P** 05 44 58.8 +2.1
SRU pmax pmax
comp=Z,8.0nm,0.8s
SRU San Rafael Swe 63.53 60 P **P** 05 44 58.8 +2.1
RSSD Black Hills 63.64 52 P **P** 05 44 58.2 +0.8
RSSD pmax pmax
comp=Z,8.0nm,1.0s
RSSD Black Hills 63.64 52 P **P** 05 44 58.1 +0.8
RSSD IAmb IAmb 05 44 59.2
comp=Z,8.0nm,0.9s
U15A North Rim 64.33 63 IAmb IAmb 05 45 10.3
comp=Z,10nm,1.4s
OBN Obninsk 64.56 326 *i* P **P** 05 45 02.2 -0.6
OBN *i* 05 45 38.7
OBN pmax pmax
comp=Z,14nm,0.8s
OBN Obninsk 64.56 326 LR LR 06 14 40.2
comp=Z,50nm,19.2s,baz=194,slow=37
OBN Obninsk 64.56 326 *eP* **P** 05 45 02.3 -0.6
PV23 Carpenter Ridg 64.84 60 P **P** 05 45 07.9 +2.6
PV23 IAmb IAmb 05 45 08.7
comp=Z,5.1nm,0.7s
PV22 Blue Mesa, Par 64.91 60 IAmb IAmb 05 45 16.7
comp=Z,8.4nm,1.0s
PV04 Paradox Valley 64.94 60 P **P** 05 45 07.5 +1.6
PV04 IAmb IAmb 05 45 08.6
comp=Z,6.5nm,0.8s
PV20 West Nyswonger 64.94 60 IAmb IAmb 05 45 15.0
comp=Z,5.3nm,0.7s
PV17 East Wray Mesa 64.99 60 P **P** 05 45 08.2 +1.9
PV17 IAmb IAmb 05 45 08.8
comp=Z,14nm,0.7s
PV16 Nyswonger Mesa 64.99 60 IAmb IAmb 05 45 08.9
comp=Z,6.1nm,0.8s
PV11 David Mesa, Pa 65.02 60 IAmb IAmb 05 45 10.7
comp=Z,9.7nm,0.9s
PV18 Skein Mesa, Pa 65.04 60 IAmb IAmb 05 45 09.2
comp=Z,11nm,0.9s
PV05 Paradox Valley 65.05 60 IAmb IAmb 05 45 09.4
comp=Z,11nm,0.8s
PV07 Paradox Valley 65.05 60 IAmb IAmb 05 45 08.8
comp=Z,8.2nm,1.1s
PV03 Paradox Valley 65.07 60 IAmb IAmb 05 45 09.0
comp=Z,8.0nm,1.0s
PV13 Radium Mtn., P 65.15 60 IAmb IAmb 05 45 10.0
comp=Z,10nm,0.8s
SMCO Snowmass 65.48 58 P **P** 05 45 10.3 +0.6
VRH Novokhopyorsk 65.56 321 *eP* **P** 05 45 07.5 -1.9
VRH pmax pmax
comp=Z,40nm,0.7s
LPSR Galich'ya Gora 65.61 324 *eP* **P** 05 45 08.2 -1.6
LPSR pmax pmax
comp=Z,30nm,0.7s
NC405 NORSAR Array S 66.49 342 P **P** 05 45 14.9 -0.4
VSR Storozhevoye 66.59 322 *eP* **P** 05 45 13.1 -3.0
VSR pmax pmax
comp=Z,10.0nm,0.6s
NB2 NORSAR Subarra 66.66 342 P **P** 05 45 15.3 -1.2
comp=Z,18nm,1.2s,baz=29,slow=6.5
NOA NORSAR Array B 66.66 342 P **P** 05 45 15.2 -1.2
comp=Z,3.8nm,0.8s,baz=25,slow=6.4,SNR=14
NOA LR LR 06 19 06.5
comp=Z,201nm,19.5s,baz=25,slow=40
VORD Divnogorie 66.73 322 *eP* **P** 05 45 14.7 -2.3
VORD pmax pmax
comp=Z,10.0nm,0.7s
PSI Prapat 67.05 246 P **P** 05 45 20.2 +0.5
PSI pmax pmax
comp=Z,7.0nm,0.9s
PSI Prapat 67.05 246 P **P** 05 45 20.7 +1.0
comp=Z,4.3nm,0.6s,baz=310,slow=3.0,SNR=7.7
RPSI Rantau Prapat 67.14 246 P **P** 05 45 20.2 +0.1
RPSI IAmb IAmb 05 45 21.8
comp=Z,7.2nm,0.9s
GEYT Alibeck 67.23 302 P **P** 05 45 20.7 +0.3
comp=Z,12nm,0.5s,baz=46,slow=4.3,SNR=20
HRA Herat 67.36 297 IAmb IAmb 05 45 25.1
comp=Z,6.9nm,0.7s
ECSD EROS Data Cent 67.68 49 P **P** 05 45 23.6 +0.4
ECSD IAmb IAmb 05 45 24.4
comp=Z,7.3nm,0.9s
KONO Kongsberg 68.26 343 *eP* **P** 05 45 26.6 +0.1
KONO pmax pmax
comp=Z,30nm,1.4s
SPMN Marine on St. 68.40 45 IAmb IAmb 05 45 28.9
comp=Z,13nm,0.9s
ANMO Albuquerque 68.76 61 P **P** 05 45 32.3 +2.0
ANMO pmax pmax
comp=Z,5.0nm,1.3s
ANMO Albuquerque 68.76 61 P **P** 05 45 32.3 +2.0
CTA Charters Tower 69.48 190 P **P** 05 45 35.6 +1.1
comp=Z,0.8nm,0.3s,baz=16,slow=8.0,SNR=4.7
GOF Gofitskoye 69.66 316 *i* P **P** 05 45 35.5 0.0
GOF pmax pmax
comp=Z,50nm,0.6s
SCHQ Schefferville 70.26 25 P **P** 05 45 39.7 +0.7
comp=Z,7.7nm,0.9s,baz=298,slow=5.5,SNR=10
SCHQ Schefferville 70.26 25 P **P** 05 45 39.6 +0.6
SCHQ IAmb IAmb 05 45 45.0
comp=Z,37nm,1.4s
KIV Kislovodsk 70.67 315 P **P** 05 45 42.2 +0.4
KIV Kislovodsk 70.67 315 P **P** 05 45 42.1 +0.4
KIV Kislovodsk 70.67 315 *eP* **P** 05 45 41.4 -0.4
KIV pmax pmax
comp=Z,73nm,1.0s
KIV MLR MLR
comp=Z,312nm,18.0s
KIV Kislovodsk 70.67 315 ⇑P **P** 05 45 42.6 +0.8
KIV mb 05 45 45.4
KIV Kislovodsk 70.67 315 *eP* **P** 05 45 41.4 -0.4
KIV Kislovodsk 70.67 315 P **P** 05 45 41.7 0.0
KIV IAmb IAmb 05 45 45.8
comp=Z,18nm,0.7s
KBZ Khabaz 70.75 315 *eP* **P** 05 45 41.4 -0.7
KBZ Khabaz 70.75 315 P **P** 05 45 42.4 +0.3
comp=Z,14nm,0.6s,baz=74,slow=2.3,SNR=42
KBZ Khabaz 70.75 315 *eP* **P** 05 45 41.4 -0.7
AKASG Malin Array Be 70.75 328 P **P** 05 45 40.8 -1.3
comp=Z,5.3nm,0.4s,baz=33,slow=6.3,SNR=20
AKBB Malin Array Si 70.75 328 IAmb IAmb 05 45 50.1
comp=Z,5.5nm,0.6s
TBLG Delisi 71.41 313 IAmb IAmb 05 45 49.5
comp=Z,21nm,0.8s
DZM Mont Dzumac 71.44 170 *e* LR LR 06 06 58.5
comp=Z,236nm,24.4s
WR0 Warramunga Arr 71.46 202 P **P** 05 45 47.7 +1.1
WRAB Tennant Creek 71.48 202 *eP* **P** 05 45 45.0 -1.7
WRAB pmax pmax
comp=Z,8.0nm,0.8s
WB2 Warramunga Arr 71.49 202 P **P** 05 45 47.6 +0.9
WB2 IAmb IAmb 05 45 48.9
comp=Z,9.7nm,0.9s
WRA Warramunga Arr 71.50 202 P **P** 05 45 47.5 +0.7
comp=Z,7.7nm,0.8s,baz=19,slow=6.6,SNR=33
AKH Akhalkalaki 72.25 313 ⇑P **P** 05 45 52.5 +1.0
AKH Akhalkalaki 72.25 313 IAmb IAmb 05 45 55.6
comp=Z,12nm,0.6s
FITZ Fitzroy Crossi 72.28 211 P **P** 05 45 52.9 +1.4
comp=Z,2.5nm,0.7s,baz=16,slow=4.9,SNR=10
FITZ Fitzroy Crossi 72.28 211 P **P** 05 45 53.1 +1.7
KPL Plockton 72.86 350 *eP* **P** 05 45 54.5 0.0
D53A Lac Vacive, Po 73.33 35 P **P** 05 45 58.0 +0.4
D53A IAmb IAmb 05 46 00.9
comp=Z,30nm,1.5s
INVG Invergeldie, C 73.56 349 *eP* **P** 05 45 58.4 -0.3
EAB Aberfoyle 73.83 349 *eP* **P** 05 46 00.3 0.0
KWP Kalwaria Pacla 73.86 331 *eP* **P** 05 46 01.5 +0.8
KWP Kalwaria Pacla 73.86 331 *eP* **P** 05 46 01.5 +0.8
KWP *eP* **P** 05 46 01.5 +0.8
ESY Stoneypath 73.87 348 *eP* **P** 05 46 00.3 -0.2
LAWE Loch Awe, Argy 73.89 350 *eP* **P** 05 46 00.7 +0.1
LAWE IAmb IAmb 05 46 01.0
comp=Z,29nm,0.6s
PGBU Glenifferbraes 74.22 349 *eP* **P** 05 46 02.9 +0.3
PGBU IAmb IAmb 05 46 03.9
comp=Z,40nm,0.8s
OJC Ojcow 74.25 333 P **P** 05 46 03.1 +0.2
OJC pmax pmax
comp=Z,33nm,1.3s
OJC Ojcow 74.25 333 *eP* **P** 05 46 03.4 +0.5
OJC *eP* **P** 05 46 03.4 +0.5
OJC Ojcow 74.25 333 P **P** 05 46 03.1 +0.2
OJC IAmb IAmb 05 46 04.8
comp=Z,33nm,1.3s
EIDS Eidsvold 74.30 185 P **P** 05 46 05.7 +2.4
TXAR Lajitas Array 74.45 63 P **P** 05 46 05.7 +1.1
comp=Z,5.2nm,0.8s,baz=305,slow=4.4,SNR=29
STHS Stebnicka Huta 74.52 331 *eP* **P** 05 46 03.7 -0.8
STHS pmax pmax
comp=Z,18nm,1.0s
STHS Stebnicka Huta 74.52 331 *eP* **P** 05 46 03.7 -0.8
ESK Eskdalemuir 74.53 348 *eP* **P** 05 46 04.5 +0.1
KSP Ksiaz 74.71 335 *eP* **P** 05 46 06.2 +0.6
KSP Ksiaz 74.71 335 *eP* **P** 05 46 06.2 +0.6
KSP *eP* **P** 05 46 06.2 +0.6
BUR08 Bucovina Ar. S 74.75 328 P **P** 05 46 06.0 0.0
BUR08 IAmb IAmb 05 46 07.0
comp=Z,16nm,1.1s
BURAR Bucovina Array 74.77 328 ⇑P **P** 05 46 05.6 -0.4
BURAR mb 05 46 06.7
CHVC Chvalec 75.01 335 *eP* **P** 05 46 07.7 +0.4
BIZ Bicaz 75.03 327 ⇑P **P** 05 46 07.8 +0.3
CLGH Cloghs, Cushen 75.13 350 *eP* **P** 05 46 08.2 +0.3
PALK Pallekele 75.15 264 P **P** 05 46 10.0 +1.3
PALK Pallekele 75.15 264 P **P** 05 46 10.0 +1.3
PALK Pallekele 75.15 264 P **P** 05 46 09.9 +1.3
PALK pmax pmax
comp=Z,18nm,1.0s
PALK Pallekele 75.15 264 P **P** 05 46 09.9 +1.3
PALK IAmb IAmb 05 46 10.7
comp=Z,18nm,1.0s
DPC Dobruska-Polom 75.15 335 *eP* **P** 05 46 08.9 +0.8
DPC Dobruska-Polom 75.15 335 *eP* **P** 05 46 08.9 +0.8
CLL Collm 75.16 337 *i* P **P** 05 46 08.0 -0.1
CLL pmax pmax
comp=Z,34nm,1.2s
CLL MLR MLR
comp=Z,300nm,18.1s
CLL Collm 75.16 337 *i* P **P** 05 46 08.0 -0.1
comp=Z,34nm,1.2s
CLL *epP* **PcP** 05 46 22.0 +0.4
CLL LmV 06 25 00.0
comp=Z,300nm,18.1s
CLL Collm 75.16 337 IAmb IAmb 05 46 09.6
comp=Z,22nm,0.9s
GAL1 Galloway 75.17 349 *eP* **P** 05 46 08.1 0.0
GAL1 IAmb IAmb 05 46 09.1
comp=Z,32nm,0.8s
AS31 Alice Springs 75.18 201 P **P** 05 46 10.1 +1.7
ASAR Alice Springs 75.18 201 P **P** 05 46 10.0 +1.5
comp=Z,2.1nm,0.7s,baz=11,slow=5.7,SNR=23
TESR Tescani 75.20 327 ⇑P **P** 05 46 08.5 +0.1
TRPA Tarpa 75.22 330 ⇑P **P** 05 46 09.3 +0.8
TRPA mb 05 46 09.8
TRPA Tarpa 75.22 330 *eP* **P** 05 46 09.0 +0.5
KESW Keswick, Cumbr 75.23 348 *eP* **P** 05 46 08.8 +0.3
KRLC Kraliky 75.26 334 *eP* **P** 05 46 09.4 +0.6
KRLC Kraliky 75.26 334 *eP* **P** 05 46 09.4 +0.6
LANS Liptovska Anna 75.30 332 *eP* **P** 05 46 10.2 +1.2
LANS pmax pmax
comp=Z,19nm,1.2s
LANS Liptovska Anna 75.30 332 *eP* **P** 05 46 10.2 +1.2
MORC Moravsky Berou 75.31 334 ⇑P **P** 05 46 09.8 +0.7
MORC mb 05 46 11.2
MORC Moravsky Berou 75.31 334 *eP* **P** 05 46 09.4 +0.3
MORC Moravsky Berou 75.31 334 IAmb IAmb 05 46 10.5
comp=Z,26nm,1.1s
BRG Berggiesshubel 75.32 336 *eP* **P** 05 46 09.1 +0.1
comp=Z,16nm,1.2s
BRG Berggiesshubel 75.32 336 *eP* **P** 05 46 09.1 +0.1
BRG pmax pmax
comp=Z,16nm,1.2s
ARCR ARCALIA 75.52 328 ⇑P **P** 05 46 11.0 +0.7
TLCR 75.52 325 ⇑P **P** 05 46 10.8 +0.5
TLCR mb 05 46 12.5
KECS Kecovo 75.57 331 *eP* **P** 05 46 11.1 +0.5
KECS pmax pmax
comp=Z,8.0nm,1.2s
KECS Kecovo 75.57 331 *eP* **P** 05 46 11.1 +0.5
HPK Haverah Park 75.62 347 *eP* **P** 05 46 11.2 +0.5
HPK IAmb IAmb 05 46 12.1
comp=Z,47nm,0.6s
CFR Carcaliu 75.79 325 ⇓P **P** 05 46 11.9 +0.1
OZUR 75.87 327 ⇑P **P** 05 46 13.6 +1.2
TOPG Topolog 75.95 325 ⇑P **P** 05 46 12.7 -0.1
PRU Pruhonice 75.96 336 *eP* **P** 05 46 13.1 +0.3
PRU Pruhonice 75.96 336 *eP* **P** 05 46 13.1 +0.3
GOPC GO Pecny, Ondr 75.97 336 *eP* **P** 05 46 13.1 +0.3
GOPC GO Pecny, Ondr 75.97 336 *eP* **P** 05 46 13.1 +0.3
VRAC Vranov 76.01 334 ⇑P **P** 05 46 14.0 +1.0
VRAC mb 05 46 14.7
VRAC Vranov 76.01 334 *eP* **P** 05 46 13.7 +0.7
VYHS Vyhne 76.08 332 *eP* **P** 05 46 14.2 +0.8
VYHS pmax pmax
comp=Z,30nm,1.4s
VYHS Vyhne 76.08 332 *eP* **P** 05 46 14.2 +0.8
JAVC Velka Javorina 76.10 333 *eP* **P** 05 46 14.9 +1.3
CJR Cluj-Napoca 76.10 329 ⇑P **P** 05 46 14.1 +0.4
DOPR Dopca 76.12 327 ⇑P **P** 05 46 14.1 +0.4
LBWR Ladybower, Pea 76.18 347 *eP* **P** 05 46 14.4 +0.5
PSZ Piszkesteto 76.26 332 P **P** 05 46 15.5 +0.9
PSZ pmax pmax
comp=Z,3.0nm,0.7s
PSZ Piszkesteto 76.26 332 ⇑P **P** 05 46 15.1 +0.5
PSZ mb 05 46 17.1
PSZ Piszkesteto 76.26 332 *eP* **P** 05 46 15.1 +0.5
PSZ Piszkesteto 76.26 332 P **P** 05 46 15.4 +0.9
HARR Harsova 76.28 325 ⇓P **P** 05 46 14.8 +0.2
HARR mb 05 46 15.3
KRUC Moravsky 76.29 334 *eP* **P** 05 46 15.1 +0.5
TIRR Tirgusor 76.29 324 ⇑P **P** 05 46 15.0 +0.3
MLR Muntele Rosu 76.33 327 ⇑P **P** 05 46 16.0 +0.9
MLR Muntele Rosu 76.33 327 IAmb IAmb 05 46 17.0
comp=Z,26nm,1.0s
TREC Trest 76.33 335 *eP* P 05 46 09.1 -5.8
DRGR 76.33 329 ⇑P **P** 05 46 14.7 -0.4
PBCC Pribram 76.39 336 *eP* **P** 05 46 15.7 +0.5
ISR Istrita 76.43 326 ⇑P **P** 05 46 16.7 +1.1
SMOL Smolenice 76.48 333 *eP* **P** 05 46 17.1 +1.4
SMOL pmax pmax
comp=Z,13nm,0.8s
SMOL Smolenice 76.48 333 *eP* **P** 05 46 17.1 +1.4
MODS Modra-Piesok 76.65 333 *eP* **P** 05 46 16.6 -0.1
MODS pmax pmax
comp=Z,27nm,1.1s
MODS Modra-Piesok 76.65 333 *eP* **P** 05 46 16.6 -0.1
VOIR 76.70 327 ⇑P **P** 05 46 17.8 +0.7
CWF Charnwood Fore 76.76 346 *eP* **P** 05 46 16.6 -0.6
CWF IAmb IAmb 05 46 18.8
comp=Z,14nm,0.8s
ARR Arges 76.91 327 ⇑P **P** 05 46 19.4 +1.1
SULR 76.91 326 ⇑P **P** 05 46 18.6 +0.5
KHC Kasperske Hory 77.00 336 P **P** 05 46 19.4 +0.7
KHC pmax pmax
comp=Z,11nm,1.0s
KHC Kasperske Hory 77.00 336 *eP* **P** 05 46 19.4 +0.7
KHC *epP* **pwP** 05 46 31.3 -0.3
KHC *ex* x 05 46 51.5
KHC Kasperske Hory 77.00 336 P **P** 05 46 19.4 +0.7
KHC IAmb IAmb 05 46 20.4
comp=Z,11nm,1.0s
BANOM Banah 77.02 295 *i* P **P** 05 46 19.8 +0.6
SNR=37
BANOM Banah 77.02 295 P **P** 05 46 20.0 +0.8
SNR=15
SHME Shamm 77.03 295 *i* P **P** 05 46 19.3 +0.1
SNR=15
SIRR Siria 77.14 330 ⇑P **P** 05 46 19.7 +0.2
BATG Bathurst New B 77.18 28 P **P** 05 46 20.5 +0.8
BATG IAmb IAmb 05 46 21.3
comp=Z,15nm,0.9s
HLM1 Long Mynd 77.21 347 *eP* **P** 05 46 20.2 +0.4
GEC2 GERESS Array S 77.23 336 IAmb IAmb 05 46 20.8
comp=Z,8.4nm,0.7s
GERES GERESS Array B 77.23 336 P **P** 05 46 20.1 +0.1
comp=Z,5.4nm,0.5s,baz=36,slow=5.8,SNR=55
CSKK Cskako 77.26 332 *eP* **P** 05 46 21.0 +0.9
HGN Heimansgroeve 77.32 341 *eP* **P** 05 46 20.4 +0.1

	comp=Z,58nm,1.1s							
SGRR	**Singureni**	**77.41**	**326**	⇑P		**P**	**05 46 20.4**	**-0.6**
SGRR				mb			05 46 22.5	
MEM	**Membach**	**77.45**	**341**	P		**P**	**05 46 21.6**	**+0.5**
	comp=Z,40nm,1.0s							
CONA	**Conrad Observa**	**77.46**	**334**	*e*P		**P**	**05 46 22.3**	**+0.9**
	comp=Z,18nm,0.7s,SNR=10.0							
SOP	**Sopron**	**77.48**	**333**	*e*P		**P**	**05 46 22.1**	**+0.7**
MDH	**Madha**	**77.49**	**294**	*i* P		**P**	**05 46 21.4**	**-0.3**
	SNR=15							
MDH	**Madha**	**77.49**	**294**	P		**P**	**05 46 21.6**	**-0.2**
	SNR=6.0							
HUMR	**Humele**	**77.51**	**327**	⇑P		**P**	**05 46 20.9**	**-0.7**
MSFE	**Esma-Masafi**	**77.53**	**294**	*i* P		**P**	**05 46 22.4**	**+0.4**
	SNR=14							
GZR	**Gura Zlata**	**77.53**	**328**	⇑P		**P**	**05 46 21.7**	**-0.1**
BSTI	**Sart Tilman**	**77.57**	**341**	P		**P**	**05 46 22.4**	**+0.7**
WSAR	**Wadi Sarin**	**77.61**	**291**	P		**P**	**05 46 23.9**	**+1.4**
	SNR=5.9							
MPLH	**Magyarpolny**	**77.65**	**333**	*e*P		**P**	**05 46 23.0**	**+0.7**
UMQ	**Umm Al-Quwin**	**77.70**	**295**	P		**P**	**05 46 24.5**	**+1.6**
	SNR=5.3							
BIDO	**Bidbid**	**77.71**	**292**	P		**P**	**05 46 25.0**	**+2.0**
	SNR=5.6							
BZS	**Buzias**	**77.73**	**329**	⇑P		**P**	**05 46 22.5**	**-0.2**
MCH1	**Michaelchurch**	**77.73**	**347**	*e*P		**P**	**05 46 22.7**	**0.0**
MCH1				IAmb		IAmb	05 46 24.5	
	comp=Z,69nm,1.4s							
COPA	**Copaceanca**	**77.76**	**326**	⇑P		**P**	**05 46 22.4**	**-0.6**
RAZG	**Razgrad**	**77.77**	**325**	⇑P		**P**	**05 46 23.1**	**0.0**
BCLA	**Clavier**	**77.78**	**342**	P		**P**	**05 46 23.3**	**+0.4**
	comp=Z,33nm,0.0s							
TIH	**Tihany**	**77.79**	**332**	*e*P		**P**	**05 46 26.0**	**+3.0**
UOSS	**Minazif**	**77.81**	**294**	*i* P		**P**	**05 46 23.8**	**+0.3**
	SNR=43							
UOSS	**Minazif**	**77.81**	**294**	P		**P**	**05 46 24.0**	**+0.4**
UOSS	**Minazif**	**77.81**	**294**	P		**P**	**05 46 23.7**	**+0.1**
MONM	**Monmouth**	**77.86**	**347**	*e*P		**P**	**05 46 23.8**	**+0.4**
MONM				IAmb		IAmb	05 46 25.1	
	comp=Z,39nm,0.8s							
WBK	**Wadi Bani Khal**	**77.87**	**290**	P		**P**	**05 46 25.4**	**+1.5**
	SNR=6.3							
LBNH	**Lisbon**	**77.88**	**33**	P		**P**	**05 46 21.9**	**-1.8**
LBNH				pmax		pmax		
	comp=Z,6.0nm,0.9s							
LBNH	**Lisbon**	**77.88**	**33**	P		**P**	**05 46 21.9**	**-1.8**
SNF	**Seneffe**	**77.90**	**342**	P		**P**	**05 46 24.2**	**+0.6**
HATD	**Hatta, Dubai**	**77.94**	**294**	*i* P		**P**	**05 46 24.8**	**+0.5**
	SNR=58							
HATD	**Hatta, Dubai**	**77.94**	**294**	P		**P**	**05 46 25.1**	**+0.8**
	SNR=19							
MOA	**Molln**	**77.99**	**335**	*e*P		**P**	**05 46 25.1**	**+0.9**
	comp=Z,10nm,0.7s,SNR=5.0							
BMRD	**Maredsous**	**78.00**	**342**	P		**P**	**05 46 24.6**	**+0.4**
	comp=Z,36nm,1.0s							
SWN1	**Swindon**	**78.02**	**346**	*e*P		**P**	**05 46 25.2**	**+1.0**
SWN1				IAmb		IAmb	05 46 26.0	
	comp=Z,122nm,0.6s							
ASHO	**Ashiyiah**	**78.09**	**294**	*i* P		**P**	**05 46 25.7**	**+0.6**
	SNR=35							
ASHO	**Ashiyiah**	**78.09**	**294**	P		**P**	**05 46 25.8**	**+0.6**
	SNR=16							
SMDO	**Samad**	**78.10**	**291**	P		**P**	**05 46 26.3**	**+1.0**
	SNR=5.2							
NAZ	**Nazwa, Dubai**	**78.10**	**294**	*i* P		**P**	**05 46 25.8**	**+0.6**
	SNR=20							
NAZ	**Nazwa, Dubai**	**78.10**	**294**	P		**P**	**05 46 25.8**	**+0.6**
	SNR=9.3							
BR131	**Keskin Array S**	**78.11**	**318**	P		**P**	**05 46 25.8**	**+0.6**
	SNR=8.5							
BR131	**Keskin Array S**	**78.11**	**318**	*e*P		**P**	**05 46 25.2**	**0.0**
BRTR	**Keskin Array B**	**78.11**	**318**	P		**P**	**05 46 25.4**	**+0.3**
	comp=Z,22nm,0.9s,baz=62,slow=3.4,SNR=58							
BRTR				LR		LR	06 24 38.5	
	comp=Z,61nm,18.8s,baz=40,slow=39							
WOL	**Wolverton**	**78.12**	**346**	*e*P		**P**	**05 46 25.1**	**+0.2**
WOL				IAmb		IAmb	05 46 26.0	
	comp=Z,60nm,0.6s							
HOQ	**Hoqain**	**78.16**	**292**	P		**P**	**05 46 26.1**	**+0.6**
	SNR=8.2							
MORH	**Mrgy, Hungar**	**78.17**	**331**	*e*P		**P**	**05 46 24.7**	**-0.5**
MORH	**Mrgy, Hungar**	**78.17**	**331**	*e*P		**P**	**05 46 24.1**	**-1.1**
ARSA	**Arzberg**	**78.17**	**334**	*e*P		**P**	**05 46 26.1**	**+0.8**
	comp=Z,9.6nm,0.8s,SNR=5.7							
DOU	**Dourbes**	**78.23**	**342**	P		**P**	**05 46 25.7**	**+0.2**
FAQ	**Al Faqa, Dubai**	**78.33**	**294**	P		**P**	**05 46 26.5**	**+0.1**
ANTO	**Ankara**	**78.35**	**319**	P		**P**	**05 46 27.3**	**+0.8**
ANTO	**Ankara**	**78.35**	**319**	P		**P**	**05 46 27.6**	**+1.1**
ANTO				pmax		pmax		
	comp=Z,25nm,0.7s							
ANTO	**Ankara**	**78.35**	**319**	⇑P		**P**	**05 46 27.3**	**+0.8**
ANTO				mb			05 46 27.7	
ANTO	**Ankara**	**78.35**	**319**	P		**P**	**05 46 27.6**	**+1.1**
MDVR	**Moldovita**	**78.43**	**329**	⇑P		**P**	**05 46 26.5**	**-0.3**
PUNG	**Punghina**	**78.45**	**328**	⇑P		**P**	**05 46 26.2**	**-0.6**
BEHE	**Becsehely**	**78.51**	**333**	*e*P		P	05 46 19.0	-8.1
ASUD	**Al Ashush, Dub**	**78.57**	**294**	*i* P		**P**	**05 46 28.5**	**+0.7**
	SNR=19							
ASUD	**Al Ashush, Dub**	**78.57**	**294**	P		**P**	**05 46 28.7**	**+0.9**
	SNR=8.4							
JMDO	**Jabal Madar**	**78.58**	**291**	P		**P**	**05 46 29.0**	**+1.1**
	SNR=9.6							
PLVB	**Pleven**	**78.62**	**326**	⇑P		**P**	**05 46 27.4**	**-0.3**
KOGS	**Kog**	**78.69**	**333**	*i* P		**P**	**05 46 28.1**	**0.0**
FRGS	**Fruska Gora**	**78.73**	**330**	⇑*i*P		**P**	**05 46 27.8**	**-0.6**
ALNE	**Al Ain**	**78.75**	**294**	*i* P		**P**	**05 46 29.5**	**+0.7**
	SNR=22							
ARQ	**Araqi**	**78.82**	**293**	P		**P**	**05 46 30.1**	**+0.9**
	SNR=8.4							
AJN	**Ajban**	**78.83**	**295**	*i* P		**P**	**05 46 29.3**	**+0.2**
	SNR=7.6							
AJN	**Ajban**	**78.83**	**295**	P		**P**	**05 46 29.6**	**+0.4**
	SNR=7.6							
SOKA	**Soboth**	**78.83**	**334**	*e*P		**P**	**05 46 29.5**	**+0.5**
	comp=Z,35nm,0.9s,SNR=15							
PERS	**Pernice**	**78.85**	**334**	*i* P		**P**	**05 46 29.6**	**+0.6**
BSY	**Bisya**	**78.85**	**292**	P		**P**	**05 46 30.5**	**+1.1**
	SNR=11							
HTL	**Hartland**	**78.92**	**348**	*e*P		**P**	**05 46 29.4**	**+0.2**
KBA	**Koelnbreinsper**	**78.95**	**335**	*e*P		**P**	**05 46 30.6**	**+0.9**
	comp=Z,55nm,0.6s,SNR=41							
BFO	**Black Forest**	**79.07**	**339**	*i* P		**P**	**05 46 30.7**	**+0.6**
BFO	**Black Forest**	**79.07**	**339**	P		**P**	**05 46 30.8**	**+0.6**
BFO				IAmb		IAmb	05 46 31.4	
	comp=Z,17nm,0.8s							
OBKA	**Obir**	**79.13**	**334**	*e*P		**P**	**05 46 31.0**	**+0.4**
	comp=Z,18nm,0.6s,SNR=9.1							
WATA	**Walderalm**	**79.19**	**336**	*i* P		**P**	**05 46 31.9**	**+0.9**
	comp=Z,13nm,0.5s,SNR=14							
WTTA	**Wattenberg**	**79.23**	**336**	*e*P		**P**	**05 46 32.3**	**+1.0**
	comp=Z,54nm,1.1s,SNR=17							
RETA	**Reutte**	**79.26**	**337**	*e*P		**P**	**05 46 31.8**	**+0.6**
	comp=Z,19nm,0.8s,SNR=6.3							
MYKA	**Terra Mystica**	**79.27**	**335**	*e*P		**P**	**05 46 31.8**	**+0.4**
	comp=Z,9.5nm,0.5s,SNR=5.8							
MOSL	**Moslavina**	**79.29**	**332**	P		**P**	**05 46 31.0**	**-0.4**
MOTA	**Moosalm**	**79.30**	**337**	*e*P		**P**	**05 46 32.3**	**+0.7**
	comp=Z,30nm,0.8s,SNR=14							
SQTA	**Sankt Quirin**	**79.39**	**337**	*e*P		**P**	**05 46 32.9**	**+0.9**
	comp=Z,32nm,0.8s,SNR=14							
ECH	**Echery**	**79.45**	**340**	IAmb		IAmb	05 46 33.5	
	comp=Z,23nm,0.9s							
ABTA	**Abfaltersbach**	**79.48**	**336**	*e*P		**P**	**05 46 32.6**	**+0.1**
	comp=Z,16nm,0.7s,SNR=14							
CRES	**Cresnjev**	**79.48**	**333**	⇑*i*P		**P**	**05 46 32.4**	**-0.1**
LJU	**Ljubljana**	**79.56**	**334**	*e*P		**P**	**05 46 32.5**	**-0.4**
DIVS	**Divibare**	**79.61**	**330**	⇑*i*P		**P**	**05 46 32.9**	**-0.4**
DAVA	**Damuels**	**79.67**	**338**	*e*P		**P**	**05 46 34.1**	**+0.5**
	comp=Z,22nm,0.9s,SNR=8.8							
FETA	**Feichten**	**79.70**	**337**	*e*P		**P**	**05 46 34.5**	**+0.7**
	comp=Z,23nm,0.9s,SNR=10							
VTS	**Vitosha**	**79.80**	**327**	⇑P		**P**	**05 46 34.7**	**+0.3**
VTS				mb			05 46 35.6	
BOJS	**Bojanci**	**79.84**	**333**	*i* P		**P**	**05 46 34.4**	**+0.1**
CEY	**Cerknica**	**79.86**	**334**	*e*P		**P**	**05 46 34.3**	**-0.3**
STAL	**STALIGIAL**	**79.87**	**335**	P		**P**	**05 46 34.5**	**-0.1**
STAL				IAmb		IAmb	05 46 34.9	
	comp=Z,20nm,0.9s							
BLY	**Banja Luka**	**79.94**	**332**	*e*P		**P**	**05 46 34.5**	**-0.4**
BLY	**Banja Luka**	**79.94**	**332**	⇑P		**P**	**05 46 34.6**	**-0.4**
BLY				mb			05 46 35.1	
BLY	**Banja Luka**	**79.94**	**332**	IAmb		IAmb	05 46 35.4	
	comp=Z,8.4nm,0.7s							
HAPS	**Han Pijesak,BI**	**79.97**	**330**	*e*P		**P**	**05 46 34.5**	**-0.7**
BBLS	**Lazići**	**80.01**	**330**	⇑*i*P		**P**	**05 46 35.7**	**+0.3**
RIY	**Rijeka**	**80.23**	**334**	*e*P		**P**	**05 46 35.8**	**-0.6**
ALN	**Alexandroupoli**	**80.24**	**324**	IAmb		IAmb	05 46 37.7	
	comp=Z,20nm,0.9s							
RUDO	**Rudo**	**80.25**	**330**	*e*P		**P**	**05 46 35.9**	**-0.7**
MGRS	**Mrkonjic Grad**	**80.27**	**332**	*e*P		**P**	**05 46 36.8**	**+0.1**
UDBI	**Udbina**	**80.57**	**333**	P		**P**	**05 46 38.3**	**-0.1**
CLF	**Chambon-Foret**	**80.67**	**343**	P		**P**	**05 46 40.4**	**+1.6**
CLF				IAmb		IAmb	05 46 40.8	
	comp=Z,22nm,0.7s							
DQM	**DQM**	**80.75**	**290**	P		**P**	**05 46 40.4**	**+0.8**
NVLJ	**Novalja**	**80.81**	**333**	P		**P**	**05 46 38.8**	**-0.7**
KIJV	**Kijevo**	**80.85**	**332**	P		**P**	**05 46 39.4**	**-0.5**
MZR	**Muzera**	**80.90**	**295**	*i* P		**P**	**05 46 40.9**	**+0.4**
	SNR=10							
MZR	**Muzera**	**80.90**	**295**	P		**P**	**05 46 41.2**	**+0.8**
	SNR=9.4							
STIP	**Stip**	**80.98**	**327**	*i* P		**P**	**05 46 39.6**	**-1.0**
SKO	**Skopje**	**81.00**	**328**	*i* P		**P**	**05 46 40.8**	**+0.1**
RICI	**Ricice**	**81.08**	**331**	P		**P**	**05 46 40.4**	**-0.7**
BRY	**Bratogost**	**81.16**	**330**	⇑*i*P		**P**	**05 46 40.6**	**-1.1**
SENIN	**Lac Senin/Sane**	**81.16**	**339**	IAmb		IAmb	05 46 43.4	
	comp=Z,8.0nm,0.8s							
VAY	**Valandovo**	**81.17**	**327**	*i* P		**P**	**05 46 41.6**	**+0.1**
MORI	**Morici**	**81.19**	**332**	P		**P**	**05 46 41.0**	**-0.6**
DUGI	**Dugi Otok**	**81.27**	**333**	P		**P**	**05 46 40.9**	**-1.2**
MAKA	**Makarska**	**81.30**	**331**	P		**P**	**05 46 41.3**	**-0.9**
PDG	**Podgorica**	**81.34**	**329**	*e*P		**P**	**05 46 41.7**	**-0.8**
PDG	**Podgorica**	**81.34**	**329**	⇑P		**P**	**05 46 42.0**	**-0.5**
PDG				mb			05 46 43.6	
PDG	**Podgorica**	**81.34**	**329**	P		**P**	**05 46 42.4**	**0.0**
TREB	**Trebinje**	**81.39**	**330**	*e*P		**P**	**05 46 41.8**	**-0.9**
ZIRJ	**Zirje**	**81.40**	**332**	P		**P**	**05 46 42.0**	**-0.8**
STON	**Ston**	**81.46**	**331**	P		**P**	**05 46 42.0**	**-1.0**
STON	**Ston**	**81.46**	**331**	*e*P		**P**	**05 46 41.2**	**-1.8**
HCY	**Herceg Novi**	**81.58**	**330**	*e*P		**P**	**05 46 43.0**	**-0.8**
DRME	**Dracevica, Mon**	**81.58**	**329**	⇑*i*P		**P**	**05 46 42.8**	**-1.0**
STKA	**Stephens Creek**	**81.70**	**193**	P		**P**	**05 46 45.9**	**+1.7**
	comp=Z,3.6nm,0.8s,baz=330,slow=8.5,SNR=6.3							
PPT	**Papeete**	**81.86**	**129**	LR		LR	06 23 49.7	
	comp=Z,70nm,18.3s,baz=230,slow=36							
PPT2	**Papeete2**	**81.88**	**129**	*e*LR		LR	06 11 44.3	
	comp=Z,121nm,26.0s							
FNA	**Florina**	**82.07**	**327**	IAmb		IAmb	05 46 47.0	
	comp=Z,23nm,1.0s							
TIR	**Tirane**	**82.10**	**328**	P		**P**	**05 46 46.5**	**0.0**
TIR				pmax		pmax		
	comp=Z,57nm,0.8s							
TIR	**Tirane**	**82.10**	**328**	P		**P**	**05 46 46.5**	**0.0**
LIT	**Litokhoron**	**82.27**	**326**	P		**P**	**05 46 46.5**	**-0.9**
LIT				pmax		pmax		
	comp=Z,20nm,1.0s							
LIT	**Litokhoron**	**82.27**	**326**	P		**P**	**05 46 46.5**	**-0.9**
LIT				IAmb		IAmb	05 46 47.5	
	comp=Z,20nm,1.0s							
MSSA	**Maissana**	**82.52**	**337**	P		**P**	**05 46 48.7**	**-0.1**
MSSA				IAmb		IAmb	05 46 49.7	
	comp=Z,25nm,1.0s							
BNI	**Bardonecchia**	**82.54**	**339**	IAmb		IAmb	05 46 51.1	
	comp=Z,11nm,0.8s							
SSB	**Saint Sauveur**	**82.81**	**340**	IAmb		IAmb	05 46 52.1	
	comp=Z,15nm,0.9s							
NRCA	**Norcia**	**82.90**	**334**	P		**P**	**05 46 51.8**	**+1.1**
AQU	**L'Aquila**	**83.26**	**333**	*e*P		**P**	**05 46 53.2**	**+0.6**
FORT	**Forrest**	**83.45**	**204**	P		**P**	**05 46 54.4**	**+1.1**
FORT				IAmb		IAmb	05 46 55.9	
	comp=Z,20nm,0.9s							
BBOO	**Buckleboo**	**83.55**	**197**	P		**P**	**05 46 54.9**	**+1.1**
BBOO				IAmb		IAmb	05 46 55.5	
	comp=Z,5.7nm,0.8s							
WHFO	**Wadi Hawf**	**84.59**	**291**	P		**P**	**05 46 59.8**	**+0.1**
ITM	**Ithomi**	**85.05**	**325**	P		**P**	**05 47 00.7**	**-1.0**
TIP	**Tinagrande**	**85.09**	**330**	IAmb		IAmb	05 47 02.8	
	comp=Z,21nm,1.1s							
RAYN	**Ar Rayn**	**85.15**	**301**	*i* P		**P**	**05 47 02.9**	**+0.4**
	SNR=17							
RAYN	**Ar Rayn**	**85.15**	**301**	P		**P**	**05 47 03.1**	**+0.6**
RAYN				pmax		pmax		
	comp=Z,22nm,0.9s							
RAYN	**Ar Rayn**	**85.15**	**301**	P		**P**	**05 47 03.1**	**+0.6**
ABTO	**Aybut**	**85.31**	**291**	P		**P**	**05 47 03.6**	**+0.3**
TBI	**Tubuai**	**86.78**	**132**	*e*LR		LR	06 14 00.3	
	comp=Z,172nm,24.2s							
ESDC	**Sonseca Array**	**89.89**	**345**	P		**P**	**05 47 24.6**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=355,slow=4.1,SNR=9.8							
ESDC				LR		LR	06 36 04.3	
	comp=Z,96nm,18.1s,baz=0.0,slow=41							
KEST	**Kesra**	**90.57**	**334**	P		**P**	**05 47 29.8**	**+1.4**
	comp=Z,6.6nm,0.6s,baz=323,slow=2.5,SNR=14							
MAW	**Mawson**	**135.37**	**213**	PKIKP		**PKPdf**	**05 53 43.1**	**-1.3**
MAW	**Mawson**	**135.37**	**213**			**PKPdf**	**05 53 43.1**	**-1.3**
QSPA	**South Pole Qui**	**138.86**	**180**			PKPpre	05 53 41.7	
QSPA				PKPdf		**PKiKP**	**05 53 53.8**	**+0.6**
SYO	**Syowa Base**	**144.08**	**213**	⇑*i*P		**PKPab**	**05 53 57.6**	**-0.2**
CPUP	**Villa Florida**	**145.41**	**61**	PKPbc		**PKPab**	**05 54 04.4**	**+0.4**
	comp=Z,5.7nm,0.8s,baz=320,slow=3.8,SNR=13							
CPUP	**Villa Florida**	**145.41**	**61**			**PKPab**	**05 54 04.5**	**+0.5**
PLCA	**Paso Flores**	**146.22**	**94**	PKP2		**PKPab**	**05 54 07.0**	**+0.2**
PLCA	**Paso Flores**	**146.22**	**94**			**PKPab**	**05 54 07.0**	**+0.2**
TRQA	**Tornquist**	**150.42**	**83**	PKIKP		**PKiKP**	**05 54 17.7**	**-0.1**
TRQA	**Tornquist**	**150.42**	**83**			**PKiKP**	**05 54 17.7**	**-0.1**
SNAA	**Sanae**	**155.43**	**196**	pPKP		pPKPdf	05 54 26.9	-0.8
VNA2	**Neumayer--Watz**	**156.83**	**194**	pPKP		pPKPdf	05 54 30.7	+1.2
	baz=82,slow=1.9							
VNA3	**Neumayer Olymp**	**156.87**	**191**	pPKP		pPKPdf	05 54 30.9	+1.4

*IDC **13** 05:53:36.7±6.5,22.82S×178.71W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.7/30,mbtmp3.9/3,Error ellipse: s-maj=178.6km s-min=104.0km az=145.0*
*NEIC **13** 05:54:38.9±0.9,24.8S±0.1×179.7E±0.2,h534km±14km, mb4.1/12*

ISC 13 05:54:37.2±1.2,24.8S±0.2×179.8E±0.2,h501km,n21, σ1ş44/19,mb3.9/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.54**	**280**		**P**	**05 57 23.0**	**+1.4**
BKZ	**Black Stump Fm**	**14.62**	**190**		**P**	**05 57 43.1**	**-0.1**
LTZ	**Lake Taylor**	**19.01**	**197**	P	**P**	**05 58 28.7**	**+2.1**
LTZ				IAmb	IAmb	05 58 45.0	
	comp=Z,11nm,1.4s						
STKA	**Stephens Creek**	**34.23**	**249**	P	**P**	**06 00 40.7**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=90,slow=11,SNR=3.1						
STKA	**Stephens Creek**	**34.23**	**249**	P	**P**	**06 00 40.9**	**+0.3**
BBOO	**Buckleboo**	**38.93**	**248**	P	**P**	**06 01 18.5**	**-0.9**
BBOO				IAmb	IAmb	06 01 31.8	
	comp=Z,13nm,1.4s						
AS31	**Alice Springs**	**41.71**	**262**	P	**P**	**06 01 41.1**	**-0.8**
ASAR	**Alice Springs**	**41.71**	**262**	P	**P**	**06 01 40.9**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=93,slow=8.7,SNR=14						
ASAR	**Alice Springs**	**41.71**	**262**	P	**P**	**06 01 40.9**	**-1.0**
WR0	**Warramunga Arr**	**41.98**	**267**	P	**P**	**06 01 42.9**	**-1.1**
WR0				IAmb	IAmb	06 01 44.2	
	comp=Z,6.0nm,1.5s						
WB2	**Warramunga Arr**	**42.15**	**267**	P	**P**	**06 01 44.1**	**-1.3**
WB2				IAmb	IAmb	06 01 56.2	
	comp=Z,6.5nm,1.4s						
WRAB	**Tennant Creek**	**42.16**	**267**	P	**P**	**06 01 44.3**	**-1.1**
WRAB				IAmb	IAmb	06 01 47.8	
	comp=Z,6.9nm,1.4s						
WRA	**Warramunga Arr**	**42.16**	**267**	P	**P**	**06 01 44.2**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=100,slow=8.2,SNR=34						
WRA	**Warramunga Arr**	**42.16**	**267**	P	**P**	**06 01 44.2**	**-1.3**
FORT	**Forrest**	**45.83**	**250**	P	**P**	**06 02 12.5**	**-1.3**
FORT				IAmb	IAmb	06 02 17.3	
	comp=Z,8.9nm,1.0s						
RIM	**Rim**	**50.17**	**31**	P	**P**	**06 02 44.2**	**-2.3**
OBL	**Observatory Le**	**50.18**	**31**	P	**P**	**06 02 49.5**	**+2.9**
HATHI	**Halema'uma'u T**	**50.20**	**31**	P	**P**	**06 02 46.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**50.58**	**266**	P	**P**	**06 02 49.0**	**-0.4**
HFS	**Hagfors**	**143.36**	**348**	PKP	PKPab	06 13 09.2	-2.5
	comp=Z,1.1nm,0.4s,baz=57,slow=5.3,SNR=7.0						
HFS	**Hagfors**	**143.36**	**348**		PKPab	06 13 09.2	-2.5

*ISCJB **13** 05:57:38.8±0.6,24.13N±0.07×141.6E±0.1,h200km, mb3.6/6,Error ellipse: s-maj=17.7km s-min=9.6km az=8.1*
*IDC **13** 05:57:38.9±1.8,24.12N×141.47E,h182km±15km,mb3.5/6, mb1 3.6/7,mb1mx3.2/51,mbtmp3.9/7,MS3.5/1,Ms1 3.5/1, ms1mx2.8/24,Error ellipse: s-maj=33.7km s-min=18.2km az=95.0*
*NEIC **13** 05:57:39.9±1.4,24.08N±0.07×141.5E±0.2,h194km±8km, mb4.2/9*

ISC 13 05:57:40.6±0.8,24.15N±0.09×141.6E±0.2,h200km,n18, σ1ş07/18,mb4.1/11,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**2.98**	**11**	P	**Pn**	**05 58 30.0**	**0.0**
	6.7nm,0.3s,baz=105,slow=24,SNR=5.6						
JCJ				S	**Sn**	**05 59 06.3**	**-2.5**
	38nm,0.3s,baz=68,slow=23,SNR=19						
KSRS	**Korea Array**	**17.67**	**322**	P	**Pn**	**06 01 35.6**	**+0.9**
	0.1nm,0.3s,baz=142,slow=10,SNR=6.4						
PETK	**Petropavlovsk-**	**31.39**	**19**	LR	LR	06 18 27.8	
	comp=Z,86nm,18.9s,baz=251,slow=40						
CTAO	**Charters Tower**	**44.21**	**174**	P	**P**	**06 05 29.5**	**-0.5**
CTAO				IAmb	IAmb	06 05 35.7	
	comp=Z,14nm,0.7s						
WB2	**Warramunga Arr**	**44.39**	**190**	P	**P**	**06 05 30.9**	**-0.6**
WB2				IAmb	IAmb	06 05 47.2	
	comp=Z,10nm,1.5s						
WRA	**Warramunga Arr**	**44.39**	**190**	P	**P**	**06 05 30.7**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=6.9,slow=8.4,SNR=11						
FALS	**False Pass**	**50.59**	**38**	P	**P**	**06 06 19.1**	**+0.3**
MK31	**Makanchi Array**	**51.96**	**311**	P	**P**	**06 06 28.6**	**-0.6**
MKAR	**Makanchi Array**	**51.96**	**311**	P	**P**	**06 06 28.5**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=89,slow=8.9,SNR=11						
MAKZ	**Makanchi**	**52.18**	**311**	P	**P**	**06 06 30.7**	**0.0**
KURK	**Kurchatov**	**54.68**	**316**	P	**P**	**06 06 47.9**	**-0.9**
KURK				IAmb	IAmb	06 06 48.0	
	comp=Z,3.9nm,1.2s						
BOOM	**Boomskoye usch**	**56.46**	**306**	P	**P**	**06 07 02.4**	**+0.5**
BOOM				IAmb	IAmb	06 07 09.8	
	comp=Z,6.3nm,1.4s						
IL31		**60.56**	**28**	P	**P**	**06 07 30.9**	**+1.4**
IL31				IAmb	IAmb	06 07 31.1	
	comp=Z,5.5nm,1.4s						
ILAR	**Eielson Array**	**60.56**	**28**	P	**P**	**06 07 29.8**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=253,slow=5.6,SNR=5.2						
YKA	**Yellowknife Ar**	**74.99**	**28**	P	**P**	**06 09 00.3**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=293,slow=5.8,SNR=4.4						
ARCES	**ARCESS Array B**	**76.13**	**341**	P	**P**	**06 09 07.8**	**+1.8**
	comp=Z,4.2nm,1.0s,baz=46,slow=6.4,SNR=2.8						
FIA1	**FINESS Array S**	**80.33**	**334**	P	**P**	**06 09 28.4**	**-0.8**
FINES	**FINESS Array B**	**80.34**	**334**	P	**P**	**06 09 28.3**	**-0.9**
	comp=Z,1.1nm,1.1s,baz=82,slow=3.8,SNR=7.9						

*MOS **13** 06:45:38.6±0.7,49.82N×154.77E,h151km,mb4.2/2,Error ellipse: s-maj=22.7km s-min=4.9km az=67.7*
*KRSC **13** 06:45:38.9±1.4,49.55N×155.81E,h148km±11km,ML4.2*
*IDC **13** 06:45:42.3±4.4,49.97N×154.81E,h162km±29km, mb3.7/12,mb1 3.9/13,mb1mx3.4/54,mbtmp4.1/13,Error ellipse: s-maj=52.4km s-min=15.5km az=178.0*
*NEIC **13** 06:45:43.9±1.2,50.2N±0.1×154.7E±0.2,h166km±8km, mb4.2/21*

ISC 13 06:45:39.8±0.8,49.7N±0.1×155.21E±0.10,h150km,n109, σ1ş36/127,mb4.2/22,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.12**	**31**	P	**Pn**	**06 46 05.6**	**+0.1**
SKR				S	**Sn**	**06 46 25.1**	**-0.3**
SKR	**Severo-

comp=Z,10nm,1.2s
BPAW Bear Paw Mtn. 31.59 43 P P 06 51 51.8 +4.0
H11S1 WAKE ISLAND Hy 32.48 159 T T 07 26 34.6
baz=346,slow=76,SNR=39
H11S3 WAKE ISLAND Hy 32.49 159 T T 07 26 18.1
baz=346,slow=76,SNR=95
H11S2 WAKE ISLAND Hy 32.50 159 T T 07 26 13.3
baz=346,slow=76,SNR=21
RND Reindeer 32.55 44 P **P** **06 51 57.5 +1.3**
RND pmax pmax
comp=Z,5.0nm,1.0s
RND Reindeer 32.55 44 P **P** **06 51 57.5 +1.3**
RND IAmb IAmb 06 51 57.8
comp=Z,4.7nm,1.0s
DHY Denali Highway 33.23 44 P **P** **06 52 03.5 +1.3**
DHY IAmb IAmb 06 52 11.5
comp=Z,6.7nm,1.2s
HDA Harding Lake 33.35 42 P **P** **06 52 04.3 +1.2**
HDA IAmb IAmb 06 52 10.0
comp=Z,7.6nm,1.2s
IL31 33.37 41 P **P** **06 52 04.9 +1.7**
IL31 IAmb IAmb 06 52 07.4
comp=Z,5.0nm,1.2s
ILAR Eielson Array 33.37 41 P **P** **06 52 04.4 +1.2**
ILAR Eielson Array 33.37 41 P **P** **06 52 04.4 +1.2**
comp=Z,1.5nm,0.6s,baz=270,slow=6.0,SNR=6.4
ILAR Eielson Array 33.37 41 P **P** **06 52 04.4 +1.2**
RIDG Independent Ri 34.31 43 P **P** **06 52 13.0 +1.5**
MENT Mentasta 34.90 44 P **P** **06 52 14.9 -1.6**
VRDI Verde Repeater 35.27 47 P **P** **06 52 21.9 +2.1**
VRDI Verde Repeater 35.27 47 IAmb IAmb 06 50 56.9
comp=Z,13nm,0.8s
EGAK Eagle 35.81 41 P **P** **06 52 25.2 +1.0**
EGAK IAmb IAmb 06 52 26.0
comp=Z,4.3nm,0.8s
EPYK Eagle Plains 37.45 38 P **P** **06 52 40.7 +2.7**
EPYK IAmb IAmb 06 52 58.5
comp=Z,4.8nm,1.1s
INK Inuvik 38.40 35 P **P** **06 52 47.7 +1.8**
INK Inuvik 38.40 35 P **P** **06 52 47.7 +1.8**
comp=Z,2.6nm,0.5s,baz=282,slow=4.5,SNR=8.1
INK Inuvik 38.40 35 P **P** **06 52 47.7 +1.8**
INK IAmb IAmb 06 52 48.4
comp=Z,4.2nm,0.8s
MKAR Makanchi Array 46.86 296 P **P** **06 53 53.5 -1.0**
MKAR Makanchi Array 46.86 296 P **P** **06 53 53.5 -1.0**
comp=Z,0.7nm,0.7s,baz=65,slow=6.8,SNR=8.2
MKAR Makanchi Array 46.86 296 P **P** **06 53 53.5 -1.0**
KURK Kurchatov 46.92 302 P **P** **06 53 54.9 +0.1**
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 46.92 302 P **P** **06 53 54.9 +0.1**
KURBB Kurchatov Arra 47.02 302 P **P** **06 53 54.8 -0.8**
comp=Z,1.8nm,0.7s,baz=65,slow=7.9,SNR=8.5
YKA Yellowknife Ar 47.71 39 P **P** **06 54 02.4 +1.6**
YKA Yellowknife Ar 47.71 39 P **P** **06 54 02.4 +1.6**
comp=Z,1.7nm,0.7s,baz=300,slow=7.7,SNR=8.9
YKA Yellowknife Ar 47.71 39 P **P** **06 54 02.4 +1.6**
SPITS Spitsbergen Ar 49.93 350 P **P** **06 54 15.8 -1.7**
SPITS Spitsbergen Ar 49.93 350 P **P** **06 54 15.8 -1.7**
comp=Z,7.7nm,0.9s,baz=40,slow=11,SNR=5.2
BVAR Borovoye Array 50.08 308 P **P** **06 54 17.1 -1.9**
BVAR Borovoye Array 50.08 308 P **P** **06 54 17.1 -1.9**
comp=Z,1.0nm,0.4s,baz=72,slow=8.4,SNR=4.9
BVAR Borovoye Array 50.08 308 P **P** **06 54 17.1 -1.9**
ARCES ARCESS Array B 55.50 341 P **P** **06 54 56.7 -1.8**
ARCES ARCESS Array B 55.50 341 P **P** **06 54 56.7 -1.8**
comp=Z,4.4nm,0.9s,baz=17,slow=8.9,SNR=3.6
ARCES ARCESS Array B 55.50 341 P **P** **06 54 56.7 -1.8**
ABKAR Akbulak array 57.61 309 P **P** **06 55 13.4 -0.2**
BEKR Beckworth 57.71 65 P P 06 55 19.1 +4.4
BEKR IAmb IAmb 06 55 21.4
comp=Z,1.4nm,0.6s
NVAR Mina Array Bea 59.86 65 P **P** **06 55 30.6 +1.0**
comp=Z,0.5nm,0.7s,baz=316,slow=6.3,SNR=2.5
NVAR Mina Array Bea 59.86 65 P **P** **06 55 30.6 +1.0**
SCO Scoresbysund 60.09 359 P **P** **06 55 28.9 -1.4**
SCO Scoresbysund 60.09 359 P **P** **06 55 28.9 -1.4**
YNE Yellowstone No 60.14 55 P P 06 55 34.3 +2.8
FINES FINESS Array B 61.94 335 P **P** **06 55 41.8 -1.2**
FINES FINESS Array B 61.94 335 P **P** **06 55 41.7 -1.2**
comp=Z,8.7nm,1.1s,baz=40,slow=12,SNR=3.9
FINES FINESS Array B 61.94 335 P **P** **06 55 41.8 -1.2**
U15A North Rim 64.72 63 P **P** **06 56 02.1 0.0**
SCHQ Schefferville 70.02 24 P **P** **06 56 35.8 +1.1**
comp=Z,5.2nm,0.9s,baz=328,slow=9.5,SNR=5.1
SCHQ Schefferville 70.02 24 P **P** **06 56 35.8 +1.1**
TX32 Lajitas Array 74.84 63 P P 06 57 06.8 +3.0
TXAR Lajitas Array 74.84 63 P P 06 57 06.4 +2.6
TXAR Lajitas Array 74.84 63 P P 06 57 06.4 +2.6
comp=Z,0.7nm,0.8s,baz=293,slow=5.6,SNR=4.1
TXAR Lajitas Array 74.84 63 P P 06 57 06.4 +2.6
MGMO Mountain Grove 75.00 50 P **P** **06 57 05.5 +1.0**

IDC ***13*** *06:45:40.5±0.6,51˙91N×176˙62E,h0ᵏᵐ,mb4.4/25, mb1 4.5/26,mb1mx4.3/58,mbtmp4.5/26,ML4.1/1,MS3.4/7, Ms1 3.4/7,ms1mx3.1/37,Error ellipse: s-maj=16.4km s-min=12.8km az=166.0*
BJI ***13*** *06:45:43.6±0.0,52˙04N×176˙63E,h42ᵏᵐ,mb4.8/29, mB5.2/18,Ms4.9/6,Ms7 4.7/4*
ISCJB ***13*** *06:45:44.7±0.2,51˙84N±0˙05×176˙57E±0˙03,h40ᵏᵐ, mb4.6/51,Error ellipse: s-maj=7.3km s-min=2.6km az=1.1*
AEIC ***13*** *06:45:45.0±2.6,51˙9N±0˙1×176˙64E±0˙08,h25ᵏᵐ±3ᵏᵐ, ML4.2,mb4.6/85(NEIC)*
NEIC ***13*** *06:45:46.2±2.3,51˙9N±0˙1×176˙52E±0˙08,h37ᵏᵐ±5ᵏᵐ*
ISC 13 06:45:46.5±0.4,51˙82N±0˙08×176˙54E±0˙04,h40ᵏᵐ,n203, σ1ᵍ35/197,mb4.7/80,9C-4D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**1.75**	**302**		**Pn**	**06 46 13.5**	**-0.8**
SMY				Sn	**Sn**	**06 46 34.1**	**-1.3**
TASE	**Tanaga Southea**	**3.36**	**88**		**Pn**	**06 46 35.8**	**-0.7**
TAFP	**Tanaga Falls P**	**3.40**	**87**		**Pn**	**06 46 35.9**	**-1.0**
TAFP					**Sn**	**06 47 15.0**	**-0.9**
KIMD	**Kanaga Island**	**3.87**	**88**		**Pn**	**06 46 42.7**	**-0.6**
KIMD					**Sn**	**06 47 26.8**	**-0.6**
KICM	**Kanaga Island**	**3.88**	**86**		**Pn**	**06 46 42.7**	**-0.9**
KIKV	**Kanaga Island**	**3.90**	**87**		**Pn**	**06 46 43.4**	**-0.4**
KIWB	**Kanaga Island**	**3.91**	**87**		**Pn**	**06 46 43.2**	**-0.7**
ADK	**Adak**	**4.20**	**87**	P	**Pn**	**06 46 46.9**	**-1.0**
ADK						06 47 36.1	
ADK	**Adak**	**4.20**	**87**		**Pn**	**06 46 46.9**	**-1.0**
ADK				Sn	**Sn**	**06 47 36.1**	**+0.4**
GSTD	**Great Sitkin T**	**4.53**	**84**		**Pn**	**06 46 51.8**	**-0.7**
GSTD					**Sn**	**06 47 45.1**	**+1.1**
GSMY	**Great Sitkin M**	**4.59**	**84**		**Pn**	**06 46 53.0**	**-0.2**
KOKL	**Mount Kliuchef**	**5.73**	**81**		**Pn**	**06 47 08.2**	**-0.8**
ATKA	**Atka Island**	**5.73**	**83**		**Pn**	**06 47 08.5**	**-0.4**
ATKA	**Atka Island**	**5.73**	**83**		**Sn**	**06 48 13.8**	**+0.4**
NIKH	**Nikolski High**	**9.01**	**77**	Pn	**Pn**	**06 46 56.5**	**+2.8**
NIKH				Sn	**Sn**	**06 49 36.8**	**+3.0**
UNV	**Unalaska Valle**	**10.46**	**72**	Pn	**Pn**	**06 48 14.3**	**+0.7**
PEA0B	**Petropavlovsk-**	**11.57**	**284**	*eP*	**Pn**	**06 48 28.5**	**-0.3**
PETK	**Petropavlovsk-**	**11.57**	**284**	LR	LR	06 52 39.6	
	comp=Z,121nm,20.6s,baz=56,slow=36						
SDPT	**Sand Point**	**14.08**	**66**	Pn	**Pn**	**06 49 04.5**	**+1.4**
CNBA	**Chernabura Isl**	**14.56**	**69**	Pn	**Pn**	**06 49 09.5**	**+0.1**
ANM	**Nome**	**15.85**	**29**	P	**P**	**06 49 32.0**	**+2.4**
ANM				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ANM	**Nome**	**15.85**	**29**	P	**P**	**06 49 32.0**	**+2.4**
BILL	**Bilibino**	**17.02**	**347**	*i* P	**Pn**	**06 49 41.0**	**-0.1**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BILL	**Bilibino**	**17.02**	**347**	P	**Pn**	**06 49 41.6**	**+0.6**
OHAK	**Old Harbor**	**18.23**	**61**	P	**P**	**06 49 54.1**	**-1.8**
OHAK				IAmb	IAmb	06 50 10.7	
	comp=Z,51nm,1.4s						
KDAK	**Kodiak Island**	**18.66**	**59**	*i* P	**P**	**06 49 59.8**	**-0.8**
KDAK	**Kodiak Island**	**18.66**	**59**	P	**P**	**06 49 58.7**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=174,slow=2.2,SNR=16						
KDAK	**Kodiak Island**	**18.66**	**59**	P	**P**	**06 49 58.7**	**-1.9**
KDAK				IAmb	IAmb	06 50 09.5	
	comp=Z,58nm,1.4s						
RDOG	**Red Dog Mine**	**19.09**	**24**	P	**Pn**	**06 50 07.1**	**+0.7**
RDOG				IAmb	IAmb	06 50 08.1	
	comp=Z,22nm,0.8s						
CNPM	**China Poot**	**19.57**	**54**	P	**P**	**06 50 10.6**	**-0.1**
CNPM				IAmb	IAmb	06 50 13.8	
	comp=Z,32nm,1.2s						

PPLA Purkeypile 19.95 44 P **Pn** **06 50 16.7 -0.2**
PPLA IAmb IAmb 06 50 28.4
comp=Z,22nm,1.3s
SKT Skwentna 19.96 47 P **Pn** **06 50 17.0 +0.1**
SKT IAmb IAmb 06 50 26.1
comp=Z,22nm,1.1s
KUR Kuril'sk 20.02 262 *eP* Pn 06 50 17.1 -0.4
KUR pmax pmax
comp=Z,312nm,1.3s
SUA Susitna One 20.19 49 P Pn 06 50 18.6 -1.0
SEW Seward 20.55 53 P **P** **06 50 22.0 +0.7**
SEW IAmb IAmb 06 50 37.7
comp=Z,38nm,1.2s
PMR Palmer 20.98 49 P Pn 06 50 28.0 -0.6
PMR pmax pmax
comp=Z,4.0nm,0.6s
PMR Palmer 20.98 49 P Pn 06 50 28.0 -0.6
GHO Glory Hole Cre 21.11 48 P **P** **06 50 25.7 -1.7**
GHO IAmb IAmb 06 50 40.8
comp=Z,10nm,0.8s
KNK Knik Glacier 21.26 50 P **P** **06 50 31.0 +2.1**
KNK IAmb IAmb 06 50 32.3
comp=Z,24nm,1.1s
MLY Manley 21.32 39 P **P** **06 50 29.4 -0.1**
MLY IAmb IAmb 06 50 32.8
comp=Z,14nm,1.1s
SML Sawmill 21.39 49 P **P** **06 50 32.3 +1.9**
SML IAmb IAmb 06 50 33.1
comp=Z,28nm,0.8s
RND Reindeer 21.55 44 P **P** **06 50 33.4 +1.3**
RND pmax pmax
comp=Z,6.0nm,1.1s
RND Reindeer 21.55 44 P **P** **06 50 33.4 +1.3**
MCK McKinley 21.61 43 P **P** **06 50 34.1 +1.4**
MCK pmax pmax
comp=Z,6.0nm,0.8s
MCK McKinley 21.61 43 P **P** **06 50 34.1 +1.4**
SCM Sheep Creek Mo 21.87 49 P **P** **06 50 35.8 +0.4**
SCM pmax pmax
comp=Z,36nm,0.6s
SCM Sheep Creek Mo 21.87 49 P **P** **06 50 35.8 +0.4**
FID Port Fidalgo 22.10 52 P **P** **06 50 38.1 +0.1**
FID IAmb IAmb 06 50 42.7
comp=Z,41nm,1.2s
COLA College 22.41 41 *eP* **P** **06 50 41.2 0.0**
COLA pmax pmax
comp=Z,7.0nm,0.7s
ILAR Eielson Array 22.77 41 P **P** **06 50 43.2 -1.8**
comp=Z,2.3nm,0.7s,baz=258,slow=6.5,SNR=24
ILAR LR LR 06 59 31.6
comp=Z,90nm,18.5s,baz=272,slow=37
ASAJ Asahikawa 23.83 265 LR LR 06 59 44.8
comp=Z,50nm,21.6s,baz=30,slow=35
MCARA McCarthy VSAT 23.84 51 IAmb IAmb 06 50 57.4
comp=Z,24nm,0.9s
TGL Tana Glacier 23.89 52 P **P** **06 50 56.4 +0.3**
TGL IAmb IAmb 06 50 57.4
comp=Z,25nm,1.0s
BARN Barnard Glacie 24.48 51 IAmb IAmb 06 51 04.1
comp=Z,18nm,0.8s
CTGM Chitina Glacie 24.63 52 P **P** **06 51 03.0 +0.1**
CTGM IAmb IAmb 06 51 05.1
comp=Z,17nm,1.0s
EGAK Eagle 25.16 43 IAmb IAmb 06 51 08.0
comp=Z,23nm,1.1s
DAWY Dawson 25.80 45 IAmb IAmb 06 51 14.2
comp=Z,11nm,0.8s
EPYK Eagle Plains 27.25 40 P **P** **06 51 25.9 -0.5**
EPYK IAmb IAmb 06 51 45.0
comp=Z,12nm,1.3s
KLR Kul'dur 28.25 283 *eP* **P** **06 51 34.1 -1.4**
KLR pmax pmax
comp=Z,27nm,2.2s
KLR Kul'dur 28.25 283 P **P** **06 51 35.3 -0.2**
comp=Z,3.6nm,0.5s,baz=58,slow=5.8,SNR=9.8
INK Inuvik 28.79 36 LR LR 07 03 21.9
comp=Z,108nm,19.0s,baz=122,slow=37
H11N2 WAKE ISLAND Hy 32.91 197 T T 07 27 10.8
baz=11,slow=76,SNR=504
H11N3 WAKE ISLAND Hy 32.92 197 T T 07 27 15.1
baz=11,slow=76,SNR=310
H11N1 WAKE ISLAND Hy 32.93 197 T T 07 27 10.8
baz=11,slow=76,SNR=516
H11S1 WAKE ISLAND Hy 34.14 197 T T 07 28 52.1
baz=10,slow=76,SNR=276
H11S3 WAKE ISLAND Hy 34.15 197 T T 07 28 53.2
baz=10,slow=76,SNR=186
H11S2 WAKE ISLAND Hy 34.15 197 T T 07 28 44.9
baz=10,slow=76,SNR=122
YKA Yellowknife Ar 37.02 46 P **P** **06 52 51.7 -0.2**
comp=Z,2.2nm,0.8s,baz=286,slow=8.5,SNR=15
YKA PcP **PcP** **06 55 11.3 -0.5**
comp=Z,0.3nm,0.6s,baz=291,slow=3.3,SNR=5.0
JNU Nakatsue 37.77 258 LR LR 07 06 30.4
comp=Z,55nm,20.2s,baz=91,slow=33
MOD Modoc Plateau 43.03 77 P **P** **06 53 44.0 +1.8**
ULN Ulaanbaatar 43.44 293 *eP* **P** **06 53 43.9 -1.4**
ULN pmax pmax
comp=Z,6.0nm,1.2s
SONM Songino Array 43.83 294 P **P** **06 53 48.7 +0.3**
comp=Z,5.5nm,0.5s,baz=61,slow=8.0,SNR=20
SONM PcP **PcP** **06 55 34.6 +0.4**
comp=Z,0.6nm,0.6s,baz=71,slow=4.4,SNR=3.1
SONM LR LR 07 11 47.1
comp=Z,73nm,20.8s,baz=25,slow=36
HHC Hu-ho-hao-te 44.76 283 *eP* **P** **06 53 55.6 -0.3**
HHC pmax pmax
comp=Z,6.0nm,1.0s
PNTR Pine Nut 45.16 80 P **P** **06 54 01.5 +2.3**
PNTR IAmb IAmb 06 54 05.2
comp=Z,4.3nm,0.6s
NJ2 Nanjing 45.91 268 *eP* **P** **06 54 04.5 -0.4**
NJ2 pmax pmax
comp=Z,13nm,0.6s
PMPB Monarch Peak 46.23 84 P **P** **06 54 09.7 +2.2**
PMPB IAmb IAmb 06 54 10.3
comp=Z,13nm,1.2s
NVAR Mina Array Bea 46.36 80 P **P** **06 54 07.9 -0.8**
comp=Z,0.9nm,0.7s,baz=289,slow=7.7,SNR=7.4
YHH Holmes Hill 46.95 68 P **P** **06 54 12.6 -0.8**
AHID Auburn Hatcher 48.01 71 P **P** **06 54 22.6 +1.1**
R11A Troy Canyon, C 48.06 78 P **P** **06 54 21.8 -0.1**
TPNV Topopah Spring 48.55 80 P **P** **06 54 26.7 +1.0**
TPNV pmax pmax
comp=Z,4.0nm,0.9s
TPNV Topopah Spring 48.55 80 P **P** **06 54 26.7 +1.0**
TPNV IAmb IAmb 06 54 44.2
comp=Z,4.0nm,0.8s
PDAR Pinedale Array 48.91 70 P **P** **06 54 26.8 -1.7**
comp=Z,0.4nm,0.6s,baz=306,slow=2.9,SNR=6.2
SPA0 Spitsbergen Ar 49.70 355 P **P** **06 54 32.8 -0.9**
SPITS Spitsbergen Ar 49.70 355 P **P** **06 54 32.5 -1.2**
comp=Z,2.9nm,0.4s,baz=50,slow=7.8,SNR=23
WHN Wuhan 49.74 270 P **P** **06 54 35.5 +0.9**
RDMU Red Mountain 50.27 72 P **P** **06 54 41.3 +2.5**
PFO Pinyon Flats O 50.62 84 *eP* **P** **06 54 40.9 -0.6**
PFO pmax pmax
comp=Z,4.0nm,1.1s
ZALV Zalesovo Beam 51.58 311 PcP **PcP** **06 56 01.6 0.0**
comp=Z,2.5nm,0.7s,baz=28,slow=4.5,SNR=6.7
ZALV LR LR 07 17 12.9
comp=Z,40nm,18.2s,baz=104,slow=37
PV04 Paradox Valley 52.06 74 P **P** **06 54 54.6 +2.4**
PV04 IAmb IAmb 06 54 55.5
comp=Z,5.4nm,1.2s
PV17 East Wray Mesa 52.10 74 P **P** **06 54 51.9 -0.7**
PV13 Radium Mtn., P 52.26 74 P **P** **06 54 52.9 -0.9**
PV13 IAmb IAmb 06 55 02.7
comp=Z,12nm,1.4s
LZH Lanzhou 52.46 283 *eP* **P** **06 54 54.5 -0.7**
LZH pP pP 06 55 04.8 -1.5
LZH sP sP 06 55 09.6 -1.3
LZH pmax pmax
comp=Z,19nm,1.3s
LZH pmax pmax
comp=Z,72nm,7.2s
LZH LR LR
comp=Z,230nm,15.2s
LZH LR LR
comp=Z,230nm,15.4s
LZH LR LR
comp=Z,370nm,17.8s
GTA Gaotai 52.69 289 ||P **P** **06 54 57.3 +0.5**
GTA pP pP 06 55 05.3 -2.6
GTA sP sP 06 55 09.8 -2.6
GTA S **S** **07 02 19.0 -2.6**
GTA sS sS 07 02 38.5 -2.0
GTA SS **SS** **07 05 56.4 -3.5**
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,340nm,8.4s
GTA LR LR
comp=Z,100nm,15.9s
GTA LR LR
comp=Z,160nm,17.1s
SUMG Summit 53.52 12 P **P** **06 55 02.5 -0.3**
SUMG Summit 53.52 12 P **P** **06 55 02.5 -0.3**
CD2 Chengdu 56.04 278 P **P** **06 55 19.3 -1.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KURK Kurchatov 56.57 311 *eP* **P** **06 55 23.9 -0.7**
KURK pmax pmax
comp=Z,21nm,0.9s
KURK Kurchatov 56.57 311 P **P** **06 55 24.3 -0.3**
WMQ Urumqi 56.63 300 *eP* **P** **06 55 26.0 +0.8**
WMQ pP pwP 06 55 39.5 +1.0
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,160nm,4.3s
WMQ LR LR
comp=Z,660nm,28.9s
KURBB Kurchatov Arra 56.68 311 P **P** **06 55 24.8 -0.6**
comp=Z,12nm,0.8s,baz=45,slow=6.4,SNR=51
ARCES ARCESS Array B 57.11 348 P **P** **06 55 26.9 -1.3**
comp=Z,4.1nm,0.9s,baz=32,slow=8.6,SNR=6.5
ARE0 ARCESS Array S 57.11 348 P **P** **06 55 30.0 +1.9**
MK31 Makanchi Array 57.45 306 IAmb IAmb 06 55 30.5
comp=Z,4.8nm,0.6s
MKAR Makanchi Array 57.45 306 P **P** **06 55 29.8 -1.2**
comp=Z,5.2nm,0.5s,baz=53,slow=6.0,SNR=97
MAKZ Makanchi 57.59 306 P **P** **06 55 31.3 -0.6**
MAKZ pmax pmax
comp=Z,7.0nm,0.6s
MAKZ Makanchi 57.59 306 P **P** **06 55 31.3 -0.6**
MAKZ IAmb IAmb 06 55 31.5
comp=Z,7.2nm,0.6s
BVAR Borovoye Array 58.63 317 P **P** **06 55 38.7 -0.4**
comp=Z,14nm,0.6s,baz=56,slow=6.1,SNR=55
BRVK Borovoye 58.65 317 *eP* **P** **06 55 38.7 -0.5**
BRVK pmax pmax
comp=Z,14nm,0.6s
BRVK Borovoye 58.65 317 P **P** **06 55 38.9 -0.3**
PRGR Permogore 60.34 335 *eP* **P** **06 55 45.9 -4.8**
PRGR pmax pmax
comp=Z,14nm,1.0s
ARU Arti 60.65 326 *d iP* **P** **06 55 52.6 -0.3**
ARU 06 58 05.2
ARU S **S** **07 04 07.5 +1.5**
ARU SS **SS** **07 08 02.9 -1.0**
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 60.65 326 P **P** **06 55 53.0 +0.1**
comp=Z,1.6nm,0.3s,baz=339,slow=8.6,SNR=9.9
ARU Arti 60.65 326 P **P** **06 55 53.2 +0.4**
ARU IAmb IAmb 06 55 53.7
comp=Z,8.9nm,0.8s
SCHQ Schefferville 61.41 36 P **P** **06 55 57.2 -0.8**
TX31 Lajitas Ar. Si 61.43 78 P **P** **06 55 58.3 -0.4**
TX32 Lajitas Array 61.43 78 P **P** **06 55 58.4 -0.3**
TX32 IAmb IAmb 06 56 07.0
comp=Z,3.3nm,1.1s
TXAR Lajitas Array 61.43 78 P **P** **06 55 58.2 -0.5**
comp=Z,0.5nm,0.5s,baz=306,slow=5.5,SNR=13
TKM2 Tokmak 2 63.55 306 P **P** **06 56 12.8 0.0**
SNR=6.1
BOOM Boomskoye usch 63.69 306 IAmb IAmb 06 56 14.7
comp=Z,5.5nm,0.8s
USP Ospenovka 63.84 307 P **P** **06 56 14.8 +0.3**
SNR=8.8
AAK Ala-Archa 64.31 307 *eP* **P** **06 56 17.3 -0.4**
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK Ala-Archa 64.31 307 P **P** **06 56 17.9 +0.2**
comp=Z,4.4nm,0.5s,baz=83,slow=5.1,SNR=16
AAK Ala-Archa 64.31 307 P **P** **06 56 17.7 0.0**
SNR=5.9
AAK Ala-Archa 64.31 307 P **P** **06 56 17.9 +0.2**
AAK IAmb IAmb 06 56 18.2
comp=Z,5.7nm,0.7s
EKS2 Erkin-Say 64.64 307 P **P** **06 56 20.2 +0.3**
SNR=7.4
FINES FINESS Array B 64.65 345 *ceP* **P** **06 56 17.8 -1.6**
FINES pmax pmax
comp=Z,7.0nm,0.9s
FINES FINESS Array B 64.65 345 P **P** **06 56 18.2 -1.2**
comp=Z,6.6nm,0.8s,baz=33,slow=7.5,SNR=9.4
AML Almayashu 65.08 307 P **P** **06 56 23.7 +0.6**
SNR=7.4
AKTO Aktyubinsk 65.59 322 P **P** **06 56 25.7 0.0**
comp=Z,9.7nm,0.6s,baz=54,slow=7.4,SNR=32
ABKAR Akbulak array 65.78 320 P **P** **06 56 27.1 +0.2**
ABKAR IAmb IAmb 06 56 27.3
comp=Z,4.5nm,0.7s
WVNY West Valley, N 65.86 52 P **P** **06 56 26.6 -1.1**
KSH Kashi 65.87 304 P **P** **06 56 31.6 +3.7**
KSH PP **PP** **06 59 00.0 +7.4**
KSH S **S** **07 05 15.8 +3.9**
KSH ScS **ScS** **07 06 20.8 +0.2**
KSH SS **SS** **07 09 32.8 +6.5**
KSH pmax pmax
comp=Z,39nm,0.8s
KSH pmax pmax
comp=Z,330nm,10.3s
KSH LR LR
comp=Z,510nm,8.5s
KSH LR LR
comp=Z,640nm,5.8s
KSH LR LR
comp=Z,980nm,6.6s
KK31 Karatay Array 65.90 310 P **P** **06 56 28.0 +0.1**
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KK31 Karatay Array 65.90 310 P **P** **06 56 28.0 +0.1**
ARSB Arslanbob 66.03 307 IAmb IAmb 06 56 29.9
comp=Z,9.8nm,0.9s
M55A Ridgway 66.49 52 P **P** **06 56 30.8 -0.9**
NB201 NORSAR Array S 66.86 352 P **P** **06 56 32.9 -0.8**
NB2 NORSAR Subarra 66.88 352 P **P** **06 56 32.7 -1.1**
comp=Z,1.2nm,0.7s,baz=7.4,slow=6.2
NOA NORSAR Array B 66.88 352 P **P** **06 56 33.1 -0.7**
comp=Z,0.1nm,0.3s,baz=263,slow=4.1,SNR=5.6
E63A Oxbow 67.39 43 P **P** **06 56 35.4 -1.9**
SSPA Standing Stone 67.55 52 P **P** **06 56 37.2 -1.2**
SSPA IAmb IAmb 06 56 37.5
comp=Z,5.8nm,0.6s
BATG Bathurst New B 67.68 41 P **P** **06 56 37.9 -1.3**
CMAR Chiang Mai Arr 68.08 272 P **P** **06 56 42.5 +0.4**
comp=Z,2.2nm,0.4s,baz=23,slow=6.9,SNR=14
TAPN Taplejung 68.31 287 *eP* **P** **06 56 44.3 +0.6**
comp=Z,18nm,0.8s
OBN Obninsk 68.36 337 *i* P **P** **06 56 42.9 -0.3**
OBN *i* 06 56 48.7
OBN *i* 06 57 09.6
OBN pmax pmax
comp=Z,8.0nm,0.8s
N59A State Game Lan 68.37 51 P **P** **06 56 42.7 -0.9**
Z50A Ashland 68.92 63 P **P** **06 56 45.2 -1.9**
Z50A IAmb IAmb 06 56 49.9
comp=Z,16nm,1.5s
GUN Gumba 68.98 289 *eP* **P** **06 56 48.3 +0.3**
comp=Z,33nm,0.7s
JIRN Jiri 68.98 288 *eP* **P** **06 56 48.8 +0.8**
comp=Z,48nm,0.7s
EMMW East Machias 69.16 43 P **P** **06 56 47.0 -1.4**
RAMN Ramite 69.27 287 *eP* **P** **06 56 50.0 +0.4**
comp=Z,40nm,0.7s
KKN Kakani 69.42 289 *eP* **P** **06 56 51.0 +0.5**
PKI Pulchoki 69.51 289 *eP* **P** **06 56 51.3 +0.1**
comp=Z,23nm,0.9s
T57A Hurt 69.64 56 P **P** **06 56 50.3 -1.2**
T57A IAmb IAmb 06 57 02.9
comp=Z,15nm,1.3s
DMN Daman 69.66 289 *eP* **P** **06 56 52.5 +0.5**
HODGE Hodges 70.17 60 P **P** **06 56 54.0 -0.8**
HODGE IAmb IAmb 06 57 01.1
comp=Z,4.2nm,1.1s
NIL Nilore 71.73 301 P **P** **06 57 04.9 +0.6**
NIL pmax pmax
comp=Z,13nm,0.7s

NIL	**Nilore**	**71.73 301**	P	**P**	**06 57 04.9**	**+0.6**
KBL	**Kabul**	**73.23 305**	P	**P**	**06 57 13.1**	**-0.4**
KBL			pmax	pmax		
	comp=Z,23nm,0.7s					
KBL	**Kabul**	**73.23 305**	P	**P**	**06 57 13.1**	**-0.4**
AKASG	**Malin Array Be**	**74.16 339**	P	**P**	**06 57 17.6**	**-0.8**
	comp=Z,3.0nm,0.4s,baz=23,slow=6.2,SNR=14					
AKBB	**Malin Array Si**	**74.16 339**	P	**P**	**06 57 17.7**	**-0.7**
AKBB			pmax	pmax		
	comp=Z,5.0nm,0.6s					
AKBB	**Malin Array Si**	**74.16 339**	P	**P**	**06 57 17.7**	**-0.7**
AKBB			IAmb	IAmb	06 57 18.3	
	comp=Z,5.0nm,0.6s					
GEYT	**Alibeck**	**75.74 314**	P	**P**	**06 57 28.4**	**+0.7**
	comp=Z,4.5nm,0.7s,baz=342,slow=3.9,SNR=8.9					
CTA	**Charters Tower**	**76.35 209**	P	**P**	**06 57 31.8**	**+0.6**
	comp=Z,4.9nm,0.7s,baz=20,slow=8.5,SNR=9.2					
KIV	**Kislovodsk**	**76.60 328**	*e*P	**P**	**06 57 31.9**	**-0.7**
KIV			pmax	pmax		
	comp=Z,15nm,1.0s					
HRA	**Herat**	**76.73 309**	IAmb	IAmb	06 57 35.2	
	comp=Z,10nm,0.8s					
SORM	**Soroca**	**76.77 339**	⇑P	**P**	**06 57 33.0**	**-0.4**
KOLS	**Kolonicke sedl**	**77.25 343**	*e*P	**P**	**06 57 36.6**	**+0.5**
KOLS	**Kolonicke sedl**	**77.25 343**	*e*P	**P**	**06 57 36.5**	**+0.5**
LANS	**Liptovska Anna**	**77.52 345**	*e*P	**P**	**06 57 38.7**	**+1.1**
LANS			pmax	pmax		
	comp=Z,5.0nm,0.9s					
LANS	**Liptovska Anna**	**77.52 345**	*e*P	**P**	**06 57 38.7**	**+1.1**
BUR08	**Bucovina Ar. S**	**77.92 341**	P	**P**	**06 57 40.5**	**+0.5**
BUR08			IAmb	IAmb	06 57 40.9	
	comp=Z,5.7nm,0.8s					
BURAR	**Bucovina Array**	**77.94 341**	⇑P	**P**	**06 57 40.4**	**+0.4**
TRPA	**Tarpa**	**77.97 343**	⇑P	**P**	**06 57 41.1**	**+1.1**
TRPA			mb		06 57 41.4	
VYHS	**Vyhne**	**78.26 345**	*e*P	**P**	**06 57 41.4**	**-0.3**
VYHS	**Vyhne**	**78.26 345**	*e*P	**P**	**06 57 41.4**	**-0.3**
BIZ	**Bicaz**	**78.40 340**	⇓P	**P**	**06 57 43.2**	**+0.7**
MLR	**Muntele Rosu**	**79.81 339**	⇓P	**P**	**06 57 51.7**	**+1.3**
MLR			mb		06 57 52.4	
VOIR		**80.05 340**	⇑P	**P**	**06 57 52.4**	**+0.8**
WRAB	**Tennant Creek**	**80.39 220**	*e*P	**P**	**06 57 53.7**	**+0.2**
WRAB			pmax	pmax		
	comp=Z,6.0nm,1.0s					
WB2	**Warramunga Arr**	**80.40 220**	P	**P**	**06 57 54.0**	**+0.4**
WB2			IAmb	IAmb	06 57 54.7	
	comp=Z,6.0nm,0.8s					
WRA	**Warramunga Arr**	**80.41 220**	P	**P**	**06 57 53.5**	**0.0**
	comp=Z,5.6nm,0.8s,baz=35,slow=6.3,SNR=27					
GZR	**Gura Zlata**	**80.56 342**	⇑P	**P**	**06 57 54.6**	**+0.3**
BZS	**Buzias**	**80.56 342**	⇑P	**P**	**06 57 54.5**	**+0.2**
PLVB	**Pleven**	**82.10 340**	⇑P	**P**	**06 58 02.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**82.52 228**	P	**P**	**06 58 05.9**	**+1.2**
FITZ			IAmb	IAmb	06 58 06.6	
	comp=Z,6.5nm,0.8s					
BR131	**Keskin Array S**	**83.26 332**	P	**P**	**06 58 09.4**	**+0.7**
BR131			pmax	pmax		
	comp=Z,3.0nm,0.8s					
BR131	**Keskin Array S**	**83.26 332**	P	**P**	**06 58 09.4**	**+0.7**
BR131			IAmb	IAmb	06 58 10.1	
	comp=Z,3.2nm,0.8s					
BRTR	**Keskin Array B**	**83.26 332**	P	**P**	**06 58 08.6**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=63,slow=3.5,SNR=8.1					
AS31	**Alice Springs**	**83.93 219**	P	**P**	**06 58 13.0**	**+1.0**
ASAR	**Alice Springs**	**83.93 219**	P	**P**	**06 58 12.8**	**+0.8**
	comp=Z,3.8nm,0.6s,baz=20,slow=5.5,SNR=47					
STKA	**Stephens Creek**	**88.81 209**	P	**P**	**06 58 37.0**	**+1.3**
	comp=Z,1.6nm,0.6s,baz=348,slow=9.3,SNR=4.5					
MAW	**Mawson**	**145.06 218**	PKIKP	**PKPdf**	**07 05 17.9**	**+0.1**
MAW	**Mawson**	**145.06 218**		**PKPdf**	**07 05 17.9**	**+0.1**
LBTB	**Lobatse**	**145.28 309**	PKIKP	**PKPdf**	**07 05 20.0**	**+0.3**
LBTB	**Lobatse**	**145.28 309**		**PKPdf**	**07 05 20.0**	**+0.3**
EFI	**East Falkland**	**146.86 112**	PKP2	**PKPab**	**07 05 25.1**	**+0.4**
EFI	**East Falkland**	**146.86 112**		**PKPab**	**07 05 25.1**	**+0.4**
BOSA	**Boshof**	**148.45 306**	PKPbc	**PKPbc**	**07 05 28.6**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=19,slow=2.0,SNR=7.2					
SNAA	**Sanae**	**160.08 181**	PKP2	**PKPab**	**07 06 18.9**	**-1.0**
SNAA	**Sanae**	**160.08 181**		**PKPab**	**07 06 18.9**	**-1.0**

IDC ***13*** *06:48:58.0±3.0,29.81S×176.98W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/26, mbtmp3.9/3, Error ellipse: s-maj=73.5km s-min=30.6km az=45.0*

NEIC ***13*** *06:49:00.6±1.6, 29.87S±0.09×177.11W±0.08, h10km±2km, mb4.3/7*

ISC 13 06:49:01.9±1.5, 29.8S±0.1×177.0W±0.2, h24km, n16, σ1$32/18, mb4.2/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.98**	**305**	Pn	**Pn**	**06 49 19.6**	**-0.6**
	599nm,0.3s,baz=48,slow=8.0,SNR=24						
RAO				Sn	**Sn**	**06 49 34.0**	**+0.6**
	3µm,0.3s,baz=37,slow=21,SNR=35						
RAO	**Raoul Island**	**0.98**	**305**		**Pn**	**06 49 19.6**	**-0.6**
RAO				Sn	**Sn**	**06 49 33.6**	**+0.3**
BKZ	**Black Stump Fm**	**10.75**	**208**	Pn	**Pn**	**06 51 33.0**	**-1.3**
THZ	**Tophouse**	**14.44**	**212**	Pn	**Pn**	**06 52 24.0**	**-0.8**
OXZ	**Oxford**	**16.07**	**210**	Pn	**Pn**	**06 52 43.8**	**-2.4**
OXZ				IAmb	IAmb	06 52 53.8	
	comp=Z,27nm,1.5s						
ODZ	**Otahua Downs**	**18.05**	**209**	P	**P**	**06 53 11.2**	**-0.1**
ODZ				IAmb	IAmb	06 53 11.7	
	comp=Z,12nm,1.2s						
CTA	**Charters Tower**	**34.57**	**278**	P	**P**	**06 55 50.6**	**+1.7**
	comp=Z,0.9nm,0.4s,baz=106,slow=12,SNR=5.0						
STKA	**Stephens Creek**	**35.45**	**256**	P	**P**	**06 55 57.5**	**+1.1**
ASAR	**Alice Springs**	**44.01**	**266**	P	**P**	**06 57 07.5**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=103,slow=7.4,SNR=9.7						
WB2	**Warramunga Arr**	**44.94**	**271**	P	**P**	**06 57 14.0**	**-1.1**
WB2				IAmb	IAmb	06 57 14.7	
	comp=Z,7.9nm,1.4s						
WRA	**Warramunga Arr**	**44.95**	**271**	P	**P**	**06 57 14.1**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=109,slow=8.2,SNR=21						
FORT	**Forrest**	**47.03**	**254**	P	**P**	**06 57 31.5**	**0.0**
FORT				IAmb	IAmb	06 57 31.9	
	comp=Z,6.9nm,0.9s						
CASY	**Casey**	**56.05**	**208**	P	**P**	**06 58 39.0**	**+0.6**
QSPA	**South Pole Qui**	**60.28**	**180**	P	**P**	**06 59 10.4**	**+2.1**
QSPA				IAmb	IAmb	06 59 27.7	
	comp=Z,1.8nm,0.8s						
FIA1	**FINESS Array S**	**144.90**	**341**	PKPdf	**PKiKP**	**07 08 37.8**	**-2.1**
FINES	**FINESS Array B**	**144.90**	**341**	PKP	**PKPdf**	**07 08 35.6**	**-0.6**
	comp=Z,4.4nm,1.0s,baz=48,slow=2.8,SNR=4.8						

KRNET ***13*** *07:02:31.6±0.1, 41.75N×70.29E, mb2.4*

SOME ***13*** *07:02:36.8, 41.05N×70.93E, h5km*

NNC ***13*** *07:02:38.7±5.6, 41.16N±0.10×70.96E±0.05, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=44.4km s-min=18.2km az=15.0*

ISC 13 07:02:37.6±2.2, 41.19N±0.10×70.96E±0.05, h4km±12km, n15, σ1$93/25, 9C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.96**	**51**	⇑*i*P	**Pg**	**07 02 54.7**	**-1.4**
	baz=88						
ARK				⇑*i*S	**Sb**	**07 03 11.6**	**+1.5**
	baz=88						
BTK	**Batken**	**1.14**	**186**	⇓*i*P	Pn	07 03 02.2	+1.8
	baz=67						
BTK				⇓*i*S	Sn	07 03 24.4	+7.8
	baz=67						
IUG	**Iuzhnay**	**1.18**	**324**	*e*P	**Pb**	**07 03 00.8**	**+0.1**
	1.1nm,0.4s						
IUG				*e*S	**Sb**	**07 03 17.9**	**+1.5**
	14nm,0.6s						
IUG	**Iuzhnay**	**1.18**	**324**	P	**Pb**	**07 03 00.7**	**+0.1**
	1.1nm,0.4s						
IUG				S	**Sb**	**07 03 17.9**	**+1.5**
	14nm,0.6s						
ARSB	**Arslanbob**	**1.53**	**84**	⇑*e*P	**Pg**	**07 03 06.8**	**-0.1**
	baz=1.0						
ARSB				⇑*i*S	**Sg**	**07 03 32.4**	**+5.7**
	baz=1.0						
KK31	**Karatay Array**	**1.94**	**350**	⇑Pn	**Pb**	**07 03 14.7**	**+1.2**
	2.5nm,0.4s,baz=150,slow=13,SNR=44						
KK31				⇑Sn	**Sg**	**07 03 41.1**	**+1.3**
	12nm,0.6s,baz=157,slow=25,SNR=14						
BRLS	**Borolday**	**2.02**	**336**	*e*P	**Pb**	**07 03 14.9**	**0.0**
	0.4nm,0.1s						
BRLS				*e*S	**Sb**	**07 03 41.1**	**+0.8**
	1.9nm,0.5s						
AML	**Almayashu**	**2.25**	**65**	⇑*i*P	**Pn**	**07 03 13.7**	**-2.3**
	baz=80						
AML				⇑*i*S	**Sn**	**07 03 44.4**	**0.0**
	baz=80						
MRKS	**Merke**	**2.29**	**47**	*e*P	**Pg**	**07 03 21.4**	**-0.2**
	3.7nm,0.4s						
MRKS				*e*S	**Sg**	**07 03 52.4**	**+1.1**
	4.1nm,0.4s						
MRKS	**Merke**	**2.29**	**47**	Pg	**Pg**	**07 03 21.4**	**-0.2**
	3.6nm,0.6s						
MRKS				Lg	Lg	07 03 52.3	
	4.1nm,0.4s						
ARLS	**Aral**	**2.61**	**74**	⇓*i*P	**Pn**	**07 03 19.9**	**-0.8**
	baz=86						
ARLS				⇓*i*S	**Sn**	**07 03 55.4**	**+2.4**
	baz=86						
UCH	**Uchtor**	**2.85**	**68**	⇓*e*P	**Pn**	**07 03 22.2**	**-2.1**
	baz=80						
UCH				⇓*i*S	**Sn**	**07 03 59.0**	**-0.4**
	baz=80						
AAK	**Ala-Archa**	**3.00**	**60**	⇑Pg	**Pb**	**07 03 31.6**	**-0.2**
	5.7nm,1.4s						
AAK				⇓Lg	Lg	07 04 07.8	
	6.4nm,1.1s						
KST	**Kastek**	**4.15**	**62**	*e*P	**Pg**	**07 03 54.7**	**-2.4**
	0.9nm,0.2s						
KST				*e*S	**Sg**	**07 04 49.6**	**-1.4**
	1.7nm,0.4s						
KST	**Kastek**	**4.15**	**62**	Pg	**Pg**	**07 03 54.5**	**-2.7**
	2.1nm,0.5s						
KST				Lg	Lg	07 04 49.6	
	2.9nm,0.8s						

NEIC ***13*** *07:38:41.3±1.1, 53.82N±0.02×163.46W±0.04, h5km±5km*

ISCJB ***13*** *07:38:43.1±0.6, 53.83N±0.06×163.38W±0.06, h30km, mb3.2/3, Error ellipse: s-maj=8.4km s-min=4.8km az=165.6*

AEIC ***13*** *07:38:43.2±2.1, 53.82N±0.05×163.41W±0.05, h26km±6km, ML3.0*

IDC ***13*** *07:38:45.8±6.4, 53.58N×162.48W, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.3/47, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=117.5km s-min=43.4km az=103.0*

ISC 13 07:38:44.0±1.0, 53.82N±0.09×163.57W±0.04, h30km, n28, σ1$71/26, mb3.3/3, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLW	**Shishaldin Wes**	**1.00**	**341**		**Pn**	**07 39 00.8**	**-1.3**
SSBA	**Shishaldin**	**1.00**	**341**		**Pn**	**07 39 00.9**	**-1.3**
SSBA					**Sn**	**07 39 16.1**	**+0.8**
WEBT	**Westdahl Beart**	**1.04**	**318**		**Pn**	**07 39 02.2**	**-0.4**
FALS	**False Pass**	**1.04**	**5**		**Pn**	**07 39 00.5**	**-2.0**
FALS	**False Pass**	**1.04**	**5**		**Sn**	**07 39 15.3**	**-0.7**
AKSA	**Akutan Strait**	**1.30**	**285**		**Pb**	**07 39 06.8**	**-0.9**
BALA	**Baldy Mountain**	**1.45**	**18**		**Pn**	**07 39 07.8**	**-0.4**
AKLV	**Akutan Long Va**	**1.45**	**284**		**Pb**	**07 39 09.4**	**-1.0**
UNV	**Unalaska Valle**	**1.74**	**272**		**Pn**	**07 39 12.6**	**+0.4**
MTBL	**Makushin Table**	**1.85**	**276**		**Pn**	**07 39 14.1**	**+0.4**
MSW	**Makushin Switc**	**1.91**	**274**		**Pb**	**07 39 15.8**	**-2.4**
MSW					**Sb**	**07 39 42.4**	**+0.8**
MGOD	**Makushin Gods**	**1.96**	**270**		**Pn**	**07 39 16.4**	**+1.1**
SDPT	**Sand Point**	**2.36**	**48**		**Pn**	**07 39 18.4**	**-2.2**
SDPT					**Sn**	**07 39 47.3**	**-1.3**
CNBA	**Chernabura Isl**	**2.54**	**65**	Pn	**Pn**	**07 39 22.0**	**-1.0**
CHGN	**Chignik**	**3.87**	**48**		**Pn**	**07 39 40.6**	**-0.7**
OHAK	**Old Harbor**	**6.75**	**56**	Pn	**Pn**	**07 40 20.9**	**-0.1**
KDAK	**Kodiak Island**	**7.35**	**53**	Pn	**Pn**	**07 40 28.8**	**-0.3**
	0.4nm,0.3s,baz=203,slow=7.5,SNR=6.3						
KDAK					**Sn**	**07 41 48.1**	**-3.3**
	baz=343,slow=24,SNR=2.8						
KDAK	**Kodiak Island**	**7.35**	**53**		**Pn**	**07 40 28.5**	**-0.6**
SVW2	**Sparrevohn**	**8.46**	**27**		**Pn**	**07 40 48.7**	**+4.3**
YKA	**Yellowknife Ar**	**26.62**	**51**	P	**P**	**07 44 22.5**	**+3.1**
	0.5nm,0.6s,baz=269,slow=9.6,SNR=3.3						
NVAR	**Mina Array Bea**	**34.29**	**98**	P	**P**	**07 45 28.2**	**+0.6**
	0.1nm,0.3s,baz=307,slow=8.9,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**40.87**	**225**	T	T	08 30 17.2	
	baz=26,slow=76,SNR=98						
H11N3	**WAKE ISLAND Hy**	**40.88**	**225**	T	T	08 30 17.9	
	baz=26,slow=76,SNR=97						
H11N1	**WAKE ISLAND Hy**	**40.89**	**225**	T	T	08 30 18.7	
	baz=26,slow=76,SNR=88						
H11S1	**WAKE ISLAND Hy**	**42.05**	**225**	T	T	08 31 39.1	
	baz=25,slow=76,SNR=156						
H11S2	**WAKE ISLAND Hy**	**42.06**	**225**	T	T	08 31 40.2	
	baz=25,slow=76,SNR=181						
H11S3	**WAKE ISLAND Hy**	**42.06**	**225**	T	T	08 31 45.8	
	baz=25,slow=76,SNR=124						
TXAR	**Lajitas Array**	**49.30**	**95**	P	**P**	**07 47 30.8**	**+0.6**
	0.2nm,0.7s,baz=305,slow=5.4,SNR=3.0						

IDC ***13*** *07:49:54.5±0.8, 35.73N×119.69W, h0km, mb4.0/7, mb1 4.0/13, mb1mx3.8/52, mbtmp3.8/13, ML3.8/6, MS3.4/7, Ms1 3.4/7, ms1mx3.1/43, Error ellipse: s-maj=13.1km s-min=8.6km az=63.0*

ANF ***13*** *07:49:56.9±0.3, 35.76N×119.77W, h22km±3km, ML4.4/44, ML4.3/44, Error ellipse: s-maj=3.0km s-min=1.8km az=109.0*

NEIC ***13*** *07:49:57.9±2.5, 35.82N±0.03×119.85W±0.03, h19km±4km*

NCEDC ***13*** *07:49:57.6±0.2, 35.81N×119.82W, h22km, MW4.0*

ISC 13 07:49:55.4±1.1, 35.75N±0.02×119.84W±0.02, h5km±8km, n304, σ1$17/333, mb4.1/9, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBPM	**Bitterwater Pu**	**0.26**	**229**		Pg	07 50 04.7	+4.3
PTRM	**Twissleman Ran**	**0.32**	**252**		**Pn**	**07 50 05.3**	**-1.5**
THIS	**South End of C**	**0.32**	**265**		**Pn**	**07 50 05.2**	**-1.6**
PMRM	**Maxey Ranch**	**0.33**	**276**		**Pn**	**07 50 05.2**	**-1.6**
YEG	**Yeguas Mountai**	**0.33**	**198**		**Pn**	**07 50 06.0**	**-1.0**
PAGB	**Antelope Grade**	**0.34**	**266**		**Pn**	**07 50 05.3**	**-1.7**
TRAM	**Private Proper**	**0.36**	**258**		**Pn**	**07 50 05.9**	**-1.4**
PSNM	**Stone Corral**	**0.38**	**275**		**Pn**	**07 50 05.7**	**-1.8**
PSRM	**Scobie Ranch**	**0.38**	**286**		**Pn**	**07 50 05.8**	**-1.7**
PKLM	**Kerr Lake**	**0.41**	**273**		**Pn**	**07 50 06.5**	**-1.5**
GHC	**Gold Hill**	**0.43**	**281**		**Pn**	**07 50 06.3**	**-1.9**
PMCM	**McMillan Canyo**	**0.44**	**266**		**Pn**	**07 50 07.0**	**-1.4**
CARC	**Carrizo Plain**	**0.44**	**181**		**Pn**	**07 50 07.5**	**-1.0**
CARC					**Sb**	**07 50 15.2**	**+2.5**
CTM	**Castle Mountai**	**0.44**	**294**		**Pn**	**07 50 07.3**	**-1.2**
SMMC	**Simmler**	**0.46**	**197**	P	**Pn**	**07 50 07.6**	**-1.1**
	baz=18,SNR=1000						
SMMC				S	**Sb**	**07 50 13.9**	**+0.8**
	baz=18						
SMMC	**Simmler**	**0.46**	**197**		**Pn**	**07 50 07.6**	**-1.1**
SMMC					**Sb**	**07 50 15.5**	**+2.4**
PHAM	**Harlan Ranch**	**0.46**	**280**		**Pn**	**07 50 07.4**	**-1.4**
TCHL	**Shandon**	**0.46**	**262**		**Pn**	**07 50 07.7**	**-1.0**
TCHL					**Sb**	**07 50 15.5**	**+2.2**
TSCN	**Private Proper**	**0.47**	**244**		**Pn**	**07 50 07.8**	**-1.0**
TSCN					**Sb**	**07 50 15.8**	**+2.5**
PCMM	**Cholame Hills**	**0.47**	**277**		**Pn**	**07 50 07.5**	**-1.3**
PHFM	**Heflinger Ranc**	**0.48**	**286**		**Pn**	**07 50 07.2**	**-1.7**
CRGC	**Crocker Grade**	**0.52**	**170**		**Pn**	**07 50 08.7**	**-0.9**
PSTM	**Stockdale Moun**	**0.57**	**288**		**Pn**	**07 50 08.5**	**-1.8**
PVCM	**Vineyard Canyo**	**0.59**	**287**		**Pn**	**07 50 08.7**	**-1.8**
BCH	**Branch Mountai**	**0.60**	**200**		**Pn**	**07 50 09.6**	**-1.1**
PKD	**Bear Valley Ra**	**0.60**	**289**		**Pb**	**07 50 08.8**	**+0.3**
VES	**Vestal, Richgr**	**0.62**	**82**	P	**Pb**	**07 50 08.5**	**-0.2**
	baz=267,SNR=1000						
VES				S	**Sg**	**07 50 16.0**	**+0.8**
	baz=267						
VES	**Vestal, Richgr**	**0.62**	**82**		**Pb**	**07 50 08.5**	**-0.2**
VES					**Sg**	**07 50 16.6**	**+1.3**
PARM	**Anticline Ridg**	**0.64**	**320**		**Pb**	**07 50 09.8**	**+0.6**
PPO	**Portuguese Can**	**0.64**	**280**		**Pn**	**07 50 10.1**	**-1.1**
PHPM	**Hope Ranch**	**0.67**	**290**		**Pb**	**07 50 09.7**	**+0.2**
VOG	**Valley Oaks Go**	**0.68**	**33**	P	**Pg**	**07 50 09.1**	**+0.8**
	baz=214,SNR=406						
VOG				S	**Sg**	**07 50 17.0**	**-0.1**
	baz=214						
VOG	**Valley Oaks Go**	**0.68**	**33**		**Sg**	**07 50 16.6**	**-0.5**
PSMM	**Smith Mountain**	**0.69**	**297**		**Pn**	**07 50 10.5**	**-1.4**
TMB	**Temblor Range**	**0.71**	**160**		**Pn**	**07 50 10.9**	**-1.3**
BAKC	**Calstate**	**0.72**	**124**		**Pn**	**07 50 10.8**	**-1.4**
BAKC					**Sb**	**07 50 21.3**	**+0.6**
RCTC	**Rector, Farmer**	**0.73**	**41**		**Pg**	**07 50 09.9**	**+0.5**
RCTC					**Sg**	**07 50 18.5**	**-0.3**
PWMM	**Westland Maint**	**0.74**	**336**		**Pb**	**07 50 11.2**	**+0.4**
PTAM	**Tassajara Cree**	**0.80**	**243**		**Pn**	**07 50 12.8**	**-0.6**
PPTM	**Peach Tree Val**	**0.80**	**297**		**Pb**	**07 50 11.7**	**-0.1**
MRHM	**Rocky Hill**	**0.81**	**49**		**Pg**	**07 50 11.0**	**+0.2**
MAGC	**SCE Magundon P**	**0.84**	**117**		**Pb**	**07 50 12.3**	**-0.1**
MAGC					**Sb**	**07 50 23.8**	**-0.3**
EFD	**Emergency Oper**	**0.84**	**239**		**Pn**	**07 50 13.3**	**-0.6**
RAMR	**Ramage Ranch**	**0.85**	**262**		**Pn**	**07 50 13.3**	**-0.7**
RAMR					**Sn**	**07 50 25.2**	**-1.7**
PKM	**Mcpherson Peak**	**0.86**	**179**	P	**Pn**	**07 50 13.6**	**-0.8**
	baz=0.6,SNR=330						
PKM				S	**Sn**	**07 50 26.4**	**-1.1**
	baz=0.6						
PKM	**Mcpherson Peak**	**0.86**	**179**		**Pn**	**07 50 13.5**	**-0.8**
PKM	**Mcpherson Peak**	**0.86**	**179**		**Sn**	**07 50 26.6**	**-0.9**
PANM	**San Antonio Re**	**0.87**	**272**		**Pn**	**07 50 13.6**	**-0.8**
BCW	**Bitter Crk WRg**	**0.88**	**157**		**Pn**	**07 50 13.5**	**-1.0**
BCW	**Bitter Crk WRg**	**0.88**	**157**		**Sn**	**07 50 27.1**	**-0.7**
PSAM	**San Ardo**	**0.90**	**288**		**Pb**	**07 50 13.2**	**-0.2**
BLDC	**Black Mountain**	**0.90**	**256**		**Pn**	**07 50 13.9**	**-0.9**
BLDC	**Black Mountain**	**0.90**	**256**		**Pn**	**07 50 13.8**	**-0.9**
PMPB	**Monarch Peak**	**0.91**	**301**		**Pn**	**07 50 13.8**	**-1.1**
DPD	**Davis Peak**	**0.93**	**236**		**Pn**	**07 50 14.8**	**-0.3**
LSDC	**Los Osos Digit**	**0.94**	**241**		**Pn**	**07 50 14.9**	**-0.4**
WOFM	**Oak Flat**	**0.94**	**103**		**Pg**	**07 50 13.7**	**+0.3**
SPG2	**Springville 2**	**0.98**	**62**		**Pg**	**07 50 13.8**	**-0.3**
SPG2	**Springville 2**	**0.98**	**62**		**Sg**	**07 50 25.7**	**-1.1**
DCD	**Diablo Creek**	**0.98**	**237**		**Pn**	**07 50 15.3**	**-0.5**
DCD	**Diablo Creek**	**0.98**	**237**		**Sn**	**07 50 30.6**	**+0.5**
VPDC	**Valencia Peak**	**0.99**	**239**		**Pn**	**07 50 15.5**	**-0.4**
VPDC	**Valencia Peak**	**0.99**	**239**		**Sn**	**07 50 30.6**	**+0.3**
PHSB	**Hesperia Broad**	**0.99**	**274**		**Pn**	**07 50 15.0**	**-1.0**
PHRM	**Hernandez Vall**	**1.01**	**308**		**Pg**	**07 50 14.1**	**-0.6**
PCBM	**Cambria**	**1.02**	**257**		**Pn**	**07 50 15.6**	**-0.8**
FIGC	**Figueroa Mtn.**	**1.03**	**187**		**Pn**	**07 50 16.7**	**+0.1**
ABL	**Mount Abel**	**1.03**	**151**		**Pg**	**07 50 14.8**	**-0.3**
ARVC	**Arvin**	**1.03**	**127**	P	**Pb**	**07 50 15.2**	**-0.5**
	baz=311,SNR=241						
ARVC				S	**Sb**	**07 50 28.8**	**-0.8**
	baz=311						
ARVC	**Arvin**	**1.03**	**127**		**Pb**	**07 50 15.2**	**-0.5**
PMLM	**Mount Lospe**	**1.06**	**217**		**Pn**	**07 50 16.8**	**-0.2**
TEJ	**El Tejon**	**1.07**	**119**		**Pg**	**07 50 15.4**	**-0.5**
TEJ	**El Tejon**	**1.07**	**119**		**Sg**	**07 50 29.0**	**-0.8**
PHCM	**Hearst Castle**	**1.07**	**267**		**Pn**	**07 50 16.6**	**-0.8**
MPI	**Mount Pinos, F**	**1.09**	**149**		**Sb**	**07 50 30.5**	**-1.3**
ISA	**Isabella, Lake**	**1.11**	**94**	Pb	**Pg**	**07 50 16.8**	**+0.1**
	baz=278,SNR=1000						
ISA				S	**Sg**	**07 50 30.9**	**-0.3**
	baz=278						
ISA	**Isabella, Lake**	**1.11**	**94**		**Pg**	**07 50 16.9**	**+0.2**
ISA	**Isabella, Lake**	**1.11**	**94**		**Pb**	**07 50 17.1**	**0.0**
PCCM	**Crazy Canyon**	**1.13**	**288**		**Pg**	**07 50 16.4**	**-0.6**
HELL	**Mitchell Peak,**	**1.14**	**35**		**Pb**	**07 50 16.0**	**-1.6**
TJR	**Tejon Ranch**	**1.15**	**129**		**Pb**	**07 50 16.6**	**-1.2**
LRV	**Little Rabbit**	**1.17**	**305**		**Pb**	**07 50 17.0**	**-1.1**
BMSM	**Mercy Hot Spri**	**1.19**	**320**		**Pb**	**07 50 17.4**	**-1.1**
SYP	**Santa Ynez Pea**	**1.23**	**185**		**Pn**	**07 50 19.9**	**+0.5**
FRI	**Friant**	**1.24**	**5**		**Pn**	**07 50 17.7**	**-1.7**
PAPM	**Alder Peak**	**1.25**	**278**		**Pn**	**07 50 18.2**	**-1.5**
BBNM	**San Benito**	**1.26**	**307**		**Pn**	**07 50 18.2**	**-1.5**
BBGB	**Big Mountain B**	**1.28**	**311**		**Pn**	**07 50 18.9**	**-1.1**
THC	**Tehachapi Micr**	**1.28**	**131**		**Pn**	**07 50 18.5**	**-1.5**
BPIM	**Pinnacles**	**1.30**	**305**		**Pn**	**07 50 18.7**	**-1.6**
SBC	**Santa Barbara**	**1.31**	**176**	Pb	**Pg**	**07 50 20.9**	**+0.4**
	baz=357,SNR=41						
SBC	**Santa Barbara**	**1.31**	**176**		**Pg**	**07 50 21.0**	**+0.5**
BAVM	**Antelope Valle**	**1.31**	**313**		**Pn**	**07 50 18.9**	**-1.6**
GATR	**Gnd/Air Tx Cnt**	**1.32**	**205**		**Pg**	**07 50 20.5**	**0.0**
BSGM	**Shirttail Guic**	**1.32**	**300**		**Pn**	**07 50 18.9**	**-1.7**
BRMM	**Rolling Bench**	**1.34**	**324**		**P

POCCA	Poleta Canyon	2.04	37			Pn	07 50 31.6	+1.0
MLAC	Mammoth, Mammo	2.04	23	P		Pn	07 50 31.3	+0.7
	baz=203,SNR=475							
MLAC				Sb		Sb	07 50 58.2	-0.6
	baz=203							
MLAC	Mammoth, Mammo	2.04	23			Pn	07 50 31.4	+0.7
MCSM	Casa Diablo Ho	2.04	21			Pn	07 50 31.4	+0.7
MEMM	East Mammoth H	2.04	20			Pn	07 50 31.4	+0.7
MDRNC	Doe Ridge	2.05	23			Pn	07 50 31.5	+0.8
MDCM	Deadman Creek	2.05	18			Pn	07 50 31.3	+0.5
JLAB	Laurel Hill	2.07	313			Pn	07 50 29.2	-1.6
PASC	Pasadena Art C	2.08	139			Pn	07 50 30.5	-0.5
JTGM	Trout Gulch Ro	2.08	308			Pn	07 50 29.5	-1.5
MLHM	Little Hot Cre	2.09	23			Pn	07 50 32.4	+1.0
CASR	Casa Diablo Mo	2.09	29			Pb	07 50 32.9	-1.1
LMCR	Lookout Mounta	2.10	20			Pn	07 50 32.6	+1.1
ARN	Arnold Ranch	2.10	320			Pn	07 50 29.9	-1.4
MOBB	Monterey Bay O	2.10	297			Pn	07 50 30.2	-0.9
JHLM	Holstrom Ranch	2.10	311			Pn	07 50 29.8	-1.6
ORC	Owens River	2.10	26			Pn	07 50 32.3	+0.7
CCOB	Coe Ranch Numb	2.11	316			Pn	07 50 30.4	-1.0
MWC	Mount Wilson	2.11	136			Pn	07 50 31.2	-0.3
MCDM	Chidago Canyon	2.11	32			Pn	07 50 32.7	+1.1
AMC	Almaden	2.14	311			Pn	07 50 30.1	-1.8
JSTM	Santa Teresa H	2.15	313			Pn	07 50 30.3	-1.5
MHC	Mount Hamilton	2.15	318			Pn	07 50 30.7	-1.4
CMMM	Mount Mocho	2.16	322			Pn	07 50 31.1	-1.1
JUMM	Mount Umunhum	2.18	311			Pn	07 50 30.8	+1.6
MLNR	Milner Canyon	2.19	33			Pn	07 50 34.0	+1.3
MRCM	Red Rock Canyo	2.19	29			Pn	07 50 33.7	+1.0
BENR	Benton	2.21	27			Pn	07 50 33.7	+0.8
JJOM	Saint Joseph's	2.25	311			Pn	07 50 32.1	-1.3
CMLM	Mount Lewis	2.26	320			Pn	07 50 32.2	-1.2
MCUB	Copperopolis B	2.31	344			Pn	07 50 33.4	-0.7
CALM	Calaveras Res.	2.32	318			Pn	07 50 32.6	-1.6
JBNB	Ben Lomond Mou	2.32	307			Pn	07 50 32.6	-1.7
CMB	Columbia Colle	2.32	349			Pn	07 50 34.0	-0.3
CMB						Pb	07 50 34.2	-3.6
SSK	Sunset Peak	2.34	131			Pn	07 50 34.5	-0.1
BFSC	Mount Baldy Ra	2.34	130	P		Pn	07 50 34.4	-0.3
	baz=312,SNR=87							
BFSC				S		Sn	07 51 02.3	-1.5
	baz=312							
JSGM	Saratoga Golf	2.35	311			Pn	07 50 33.2	-1.4
GRAC	Grapevine Rang	2.35	57	P		Pn	07 50 35.4	+0.7
	baz=240,SNR=82							
GRAC				Sb		Sb	07 51 07.6	0.0
	baz=240							
LUL	Lundy Lake	2.35	13			Pn	07 50 36.1	+1.1
SBI	Santa Barbara	2.36	163			Pn	07 50 34.8	0.0
JHUM	Huhtala Lane,	2.38	308			Pn	07 50 33.6	-1.5
FMP	Fort Macarthur	2.40	148	Sb		Sg	07 51 11.3	-1.1
	baz=330							
FMP	Fort Macarthur	2.40	148			Pn	07 50 34.4	-1.0
CMJM	Mission San Jo	2.41	318			Pn	07 50 34.2	-1.3
WENL	Wente Vineyard	2.42	321			Pn	07 50 34.9	-0.7
JBMM	Black Mountain	2.43	311			Pn	07 50 34.5	-1.4
JPC	Peters Creek,	2.44	309			Pn	07 50 34.8	-1.2
CVLM	Vallecito	2.47	320			Pn	07 50 35.4	-0.9
JJRM	Joaquin Road	2.48	311			Pn	07 50 35.0	-1.5
RRX	Edison Barstow	2.48	110	P		Pn	07 50 35.9	-0.6
	baz=293,SNR=24							
JFP	Foothills Park	2.48	311			Pn	07 50 34.8	-1.7
CSP	Cedar Springs	2.50	125			Pn	07 50 36.3	-0.5
JSFB	Stanford Teles	2.50	312			Pn	07 50 35.3	-1.5
FURC	Furnace Creek,	2.51	73	Sb		Sb	07 51 13.0	+0.9
	baz=255							
GSC	Goldstone, Bar	2.51	99	P		Pn	07 50 36.7	-0.4
	baz=283,SNR=170							
GSC	Goldstone, Bar	2.51	99			Pn	07 50 36.6	-0.4
SNCC	San Nicolas Is	2.51	174	P		Pn	07 50 36.5	-0.4
	baz=355,SNR=9.8							
SNCC				S		Sn	07 51 05.6	-2.4
	baz=355							
SNCC	San Nicolas Is	2.51	174			Pn	07 50 36.5	-0.4
MNHB	New Hogan Dam	2.51	342			Pn	07 50 36.0	-0.9
CBSNC	Byron Hot Spri	2.52	325			Pn	07 50 36.0	-1.0
CNIC	Niles Canyon	2.52	318			Pn	07 50 35.8	-1.3
JRSC	Jasper Ridge	2.54	311			Pn	07 50 35.5	-1.7
BGH	Bear Gulch	2.56	309			Pn	07 50 36.6	-1.0
CMOB	Morgan Territo	2.59	323			Pn	07 50 37.1	-0.9
JHPM	Huddart Park	2.60	311			Pn	07 50 36.8	-1.4
CIS	Catalina Islan	2.62	153	P		Pn	07 50 37.5	-0.9
	baz=335,SNR=22							
CIS				S		Sn	07 51 08.0	-2.7
	baz=335							
CLCB	Lake Chabot	2.67	319			Pn	07 50 38.0	-1.1
JCHM	Cahill Ridge	2.70	312			Pn	07 50 38.0	-1.5
JCPM	Coyote Point	2.71	313			Pn	07 50 38.1	-1.5
LHV	Little Huntoon	2.71	23			Pn	07 50 40.7	+1.1
OXMT	Ox Mountain	2.71	311			Pn	07 50 37.9	-1.8
CRPB	Russellman Par	2.72	323			Pn	07 50 38.5	-1.3
CRHM	Round Hill Res	2.72	321			Pn	07 50 39.1	-0.7
BGC	Bolinger Road	2.73	320			Pn	07 50 38.0	-1.0
WAKR	Walker	2.77	7			Pn	07 50 41.8	+1.3
BBRC	Big Bear Solar	2.82	121	P		Pn	07 50 40.5	-0.9
	baz=304,SNR=27							
BBRC				S		Sn	07 51 14.0	-1.8
	baz=304							
SHOC	Shoshone, Teco	2.90	86	P		Pn	07 50 42.0	-0.2
	baz=269,SNR=46							
NVAR	Mina Array Bea	2.94	24	Pn		Pn	07 50 43.5	+0.6
	54nm,0.3s,baz=209,slow=16,SNR=790							
NVAR				Lg		Lg	07 51 25.8	
	158nm,0.3s,baz=203,slow=34,SNR=7.7							
NVAR				LR		LR	07 52 01.0	
	comp=Z,550nm,18.3s,baz=202,slow=43							
SCI2	San Clemente I	2.96	159	P		Pn	07 50 42.8	-0.3
	baz=340,SNR=11							
SCI2				S		Sn	07 51 18.3	-0.8
	baz=340							
NV11	Mina Array Sit	2.99	26			Pn	07 50 44.4	+0.7
HEC	Hector,Ludlow	3.01	107	P		Pn	07 50 43.1	-0.7
	baz=290,SNR=18							
RYN	Ryan	3.06	20	Pn		Pn	07 50 45.5	+0.9
MURC	Murrieta	3.06	134	P		Pn	07 50 43.5	-1.0
	baz=317,SNR=24							
TPNV	Topopah Spring	3.13	67	P		Pn	07 50 46.2	+0.6
	baz=249,SNR=144							
TPNV	Topopah Spring	3.13	67			Pn	07 50 46.2	+0.6
TUQ	Turquoise Moun	3.20	95	P		Pn	07 50 46.2	-0.4
	baz=278,SNR=64							
TUQ				S		Sn	07 51 23.4	-1.8
	baz=278							
YERR	Yerington	3.26	8			Pn	07 50 48.3	+0.9
RUBR	Rubicon Trail	3.30	356			Pn	07 50 48.7	+0.7
AFDM	Forest Hills D	3.31	344			Pn	07 50 47.8	-0.2
PNTR	Pine Nut	3.33	3			Pn	07 50 49.3	+0.9
MCCM	Marconi Confer	3.41	315			Pn	07 50 47.4	-1.8
PFO	Pinyon Flats O	3.51	127	P		Pn	07 50 50.0	-0.8
	baz=310,SNR=32							
PFO				S		Sn	07 51 30.7	-2.0
	baz=310							
PFO	Pinyon Flats O	3.51	127	Pn		Pn	07 50 50.2	-0.5
	3.7nm,0.3s,baz=304,slow=10.0,SNR=60							
PFO				Sn		Sn	07 51 31.3	-1.3
	24nm,0.3s,baz=295,slow=19,SNR=7.6							
PFO				LR		LR	07 52 19.5	
	comp=Z,188nm,20.2s,baz=12,slow=43							
PFO	Pinyon Flats O	3.51	127			Pn	07 50 49.9	-0.8
XPFO	Pion Flat	3.51	127			Pn	07 50 49.9	-0.9
VCNR	Virginia City	3.54	2			Pn	07 50 52.0	+0.8
GMRC	Granite Mounta	3.55	105	P		Pn	07 50 50.1	-1.3
	baz=288,SNR=21							
GMRC				S		Sn	07 51 30.8	-2.9
	baz=288							
KVN	Kaiserville	3.57	22			Pn	07 50 52.4	+0.7
BELC	Belle Mtn. Jos	3.61	118	P		Pn	07 50 51.1	-1.0
	baz=301,SNR=25							
SHPR	Sheep Range	3.86	77			Pn	07 50 56.6	+1.1
PAHR	Pah Rah Range	3.96	5			Pn	07 50 57.5	+0.5
MONP2	Monument Peak	4.01	134	P		Pn	07 50 57.5	-0.2
	baz=317,SNR=24							
ORV	Oroville	4.02	341			Pn	07 50 58.2	+0.6
HOPS	Hopland Field	4.14	322			Pn	07 50 57.8	-1.4
IRM	Iron Mountain	4.17	111	P		Pn	07 50 58.7	-1.0
	baz=295,SNR=23							
BC3	Big Chuckawall	4.17	119	P		Pn	07 50 58.4	-1.5
	baz=302,SNR=11							
BC3				S		Sn	07 51 46.9	-2.2
	baz=302							
R11A	Troy Canyon, C	4.27	51	P		Pn	07 51 01.8	+0.5
	baz=234,SNR=9.9							
SWSC	Sam W. Stewart	4.36	129	P		Pn	07 51 01.2	-1.1
	baz=312							
NEE2	Needles Airpor	4.38	101	P		Pn	07 51 01.6	-1.0
	baz=285,SNR=5.2							
O03E	Paynes Creek	4.79	342	P		Pn	07 51 08.6	+0.3
	baz=160,SNR=37							
Y12C	Blythe	4.81	113	P		Pn	07 51 07.2	-1.3
	baz=297							
W13A	Hualapai Mount	4.90	96			Pn	07 51 09.7	-0.3
GLA	Glamis	4.94	122	P		Pn	07 51 09.0	-1.4
	baz=305,SNR=12							
O02D	Mt. Diablo Mer	4.99	333	P		Pn	07 51 10.2	-0.9
	baz=151							
WDC	Whiskeytown Da	5.27	337			Pn	07 51 13.2	-1.6
KNB	Kanab	5.80	75			Pn	07 51 23.9	+1.7
ELK	Elko	6.16	35	Pn		Pn	07 51 28.5	+1.3
	3.2nm,0.3s,baz=229,slow=8.8,SNR=53							
ELK				Lg		Lg	07 53 05.8	
	17nm,0.3s,baz=309,slow=21,SNR=13							
ELK				LR		LR	07 54 04.9	
	comp=Z,372nm,18.5s,baz=216,slow=41							
YBH	Yreka Blue Hor	6.38	340	Pn		Pn	07 51 32.6	+2.5
	0.4nm,0.3s,baz=150,slow=9.6,SNR=22							
YBH				Lg		Lg	07 53 09.9	
	0.8nm,0.3s,baz=124,slow=8.0,SNR=4.6							
YBH				LR		LR	07 54 01.6	
	comp=Z,124nm,19.9s,baz=148,slow=38							
PDAR	Pinedale Array	10.60	46	Pn		Pn	07 52 30.6	+2.4
	0.1nm,0.3s,baz=222,slow=11,SNR=6.9							
N23A	Red Feather La	12.05	61			Pn	07 52 51.7	+3.6
NEW	Newport	12.66	8	Pn		Pn	07 53 01.8	+5.6
	0.2nm,0.3s,baz=188,slow=13,SNR=12							
NEW				LR		LR	07 58 11.3	
	comp=Z,247nm,19.5s,baz=202,slow=39							
TXAR	Lajitas Array	15.06	111	Pn		Pn	07 53 30.7	+1.8
	0.1nm,0.3s,baz=288,slow=16,SNR=4.1							
TXAR				LR		LR	07 59 46.8	
	comp=Z,77nm,19.4s,baz=0.0,slow=40							
ULM	Lac du Bonnet	22.60	43	P		P	07 54 56.0	-0.8
	1.5nm,0.5s,baz=241,slow=13,SNR=2.9							
ULM	Lac du Bonnet	22.60	43	IAmb		IAmb	07 55 01.3	
	comp=Z,12nm,1.5s							
YKA	Yellowknife Ar	26.96	5	P		P	07 55 37.4	-0.3
	comp=Z,0.5nm,0.6s,baz=184,slow=9.4,SNR=9.5							
ILAR	Eielson Array	33.27	339	P		P	07 56 33.7	+0.2
	comp=Z,0.8nm,0.7s,baz=162,slow=8.7,SNR=8.9							
WSPT	Westport, CT	36.47	67			pP	07 57 06.9	+4.1
VT1	Waterbury	36.62	62	P		P	07 57 01.2	-1.4
VT1				IAmb		IAmb	07 57 01.4	
	comp=Z,6.5nm,0.8s							
RDOG	Red Dog Mine	40.32	337	P		P	07 57 34.0	+0.6
RDOG				IAmb		IAmb	07 57 34.9	
	comp=Z,6.8nm,0.6s							
SEY	Seymchan	57.88	327	P		P	07 59 48.0	+0.1
	comp=Z,2.7nm,0.7s,baz=70,slow=11,SNR=4.3							
PETK	Petropavlovsk-	58.10	315	P		P	07 59 50.3	+0.7
	comp=Z,2.9nm,0.6s,baz=89,slow=12,SNR=3.0							
SONM	Songino Array	87.09	331	P		P	08 02 42.7	+0.4
	comp=Z,0.8nm,0.6s,baz=46,slow=4.3,SNR=5.6							
PLCA	Paso Flores	88.56	145	LR		LR	08 35 11.9	
	comp=Z,101nm,21.2s,baz=48,slow=31							
BVAR	Borovoye Array	91.14	354	P		P	08 03 01.6	+0.4
	comp=Z,0.2nm,0.3s,baz=27,slow=6.8,SNR=4.2							
WHN	Wuhan	96.69	315	P		P	08 03 27.8	+0.8

VLA ***13*** *07:59:59.0, 52°.29N×35°.42E, M2.4, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

IDC 13 08:00:08.4±3.8, 52°.56N×35°.09E, h0km, mb1 4.1/2, mb1mx3.2/35, mbtmp4.1/2, ML3.1/3, Error ellipse: s-maj=43.7km s-min=13.0km az=110.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	Malin Array Be	4.10	245	Pn	Pn	08 01 11.1	-1.2
	0.6nm,0.3s,baz=43,slow=5.0,SNR=3.2						
AKASG				Pg	Pb	08 01 19.2	-2.3
	1.2nm,0.3s,baz=58,slow=16,SNR=5.7						
AKASG				Sn	Sn	08 01 58.8	-2.1
	1.1nm,0.3s,baz=62,slow=22,SNR=3.3						
AKASG				Lg	Lg	08 02 12.6	
	1.7nm,0.3s,baz=66,slow=29,SNR=4.2						
FINES	FINESS Array B	10.16	335	Pn	Pn	08 02 31.4	-4.0
	0.2nm,0.3s,baz=150,slow=14,SNR=2.8						
FINES				Sn	Sn	08 04 20.2	-10
	0.1nm,0.3s,baz=153,slow=28,SNR=2.8						
I31KZ	AKTYUBINSK INF	14.44	89	*i*		09 27 10.0	
	baz=289,slow=295,SNR=1.1						
ARCES	ARCESS Array B	17.61	349	P	Pn	08 04 13.2	-1.7
	0.3nm,0.3s,baz=162,slow=11,SNR=7.9						

IDC 13 08:23:35.3±2.4, 57°.38S×147°.03E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.8/24, mbtmp3.8/4, MS3.5/7, Ms1 3.5/7, ms1mx3.2/17, Error ellipse: s-maj=204.0km s-min=28.0km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	20.35	58	LR	LR	08 34 14.3	
	comp=Z,65nm,19.0s,baz=299,slow=31						
VNDA	Vanda	20.87	171	P	P	08 28 18.5	+0.1
	2.3nm,1.1s,baz=335,slow=11,SNR=4.2						
VNDA				LR	LR	08 35 32.3	
	comp=Z,76nm,18.1s,baz=318,slow=34						
URZ	Urewera	27.46	59	LR	LR	08 39 23.8	
	comp=Z,255nm,18.6s,baz=31,slow=34						
H01W1	Cape Leeuwin H	31.50	301	T	T	09 03 36.6	
	baz=145,slow=75,SNR=44						
H01W2	Cape Leeuwin H	31.51	301	T	T	09 03 36.8	
	baz=145,slow=75,SNR=46						
H01W3	Cape Leeuwin H	31.52	301	T	T	09 03 40.9	
	baz=145,slow=75,SNR=45						
ASAR	Alice Springs	35.00	339	P	P	08 30 29.6	+0.3
	0.9nm,0.8s,baz=165,slow=9.9,SNR=8.2						
MAW	Mawson	37.10	219	LR	LR	08 45 16.9	
	comp=Z,71nm,18.3s,baz=61,slow=35						
DZM	Mont Dzumac	38.01	30	LR	LR	08 44 41.1	
	comp=Z,67nm,18.5s,baz=218,slow=33						
WRA	Warramunga Arr	38.55	341	P	P	08 30 59.0	-0.5
	1.5nm,0.8s,baz=167,slow=7.3,SNR=10						
FITZ	Fitzroy Crossi	42.34	329	P	P	08 31 30.7	-0.1
	1.4nm,0.8s,baz=197,slow=11,SNR=3.6						
HNR	Honiara	48.87	17	LR	LR	08 48 25.0	
	comp=Z,51nm,19.1s,baz=325,slow=30						
H08S2	Diego Garcia H	75.27	279	T	T	09 58 19.8	
	baz=148,slow=76,SNR=25						
H08S1	Diego Garcia H	75.28	279	T	T	09 58 17.4	
	baz=148,slow=76,SNR=28						
H08S3	Diego Garcia H	75.29	279	T	T	09 58 18.6	
	baz=148,slow=76,SNR=30						
BOSA	Boshof	81.39	229	LR	LR	09 06 28.8	
	comp=Z,30nm,19.0s,baz=134,slow=32						

ISCJB ***13*** *08:30:25.9±0.3, 58°.38N±0°.02×153°.86W±0°.05, h95km±3km, mb4.1/1, Error ellipse: s-maj=4.5km s-min=3.1km az=35.7*
NEIC ***13*** *08:30:27.3±1.0, 58°.40N±0°.03×153°.91W±0°.08, h84km±6km*
IDC ***13*** *08:30:27.0±2.2, 58°.57N×153°.86W, h62km±34km, mb3.7/1, mb1 3.5/3, mb1mx3.1/44, mbtmp3.5/3, ML3.3/2, MS3.5/1, Ms1 3.5/1, ms1mx2.5/29, Error ellipse: s-maj=37.8km s-min=17.7km az=100.0*
AEIC ***13*** *08:30:28.5±1.2, 58°.39N±0°.03×153°.92W±0°.08, h82km±5km, ML3.5*

ISC 13 08:30:27.8±0.8, 58°.41N±0°.03×153°.83W±0°.04, h84km±9km, n127, σ1=18/145, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHG	Katmai Hook Gl	0.38	283		Pn	08 30 40.3	-0.9
KAHG					Sn	08 30 50.4	-0.6
KARR	Katmai Rainbow	0.47	281		Pn	08 30 40.8	-0.9
KAHC	Katmai Hardscr	0.66	292		Pn	08 30 42.2	-1.3
KCG	Knife Ck. Glac	0.68	262		Pn	08 30 42.6	-1.1
KCG					Sn	08 30 53.9	-1.6
CAHL	Cahill	0.85	246		Pn	08 30 44.5	-1.0
ANCK	Angle Creek	0.90	257		Pn	08 30 45.3	-0.7
KDAK	Kodiak Island	0.92	133	P	Pn	08 30 46.1	+0.1
	132nm,0.3s,baz=319,slow=11,SNR=1154						
KDAK				S	Sn	08 30 59.5	-0.2
	185nm,0.3s,baz=38,slow=19,SNR=80						
KDAK				LR	LR	08 31 09.7	
	comp=Z,125nm,20.2s,baz=299,slow=41						
AUQ	Augustine Qik'	0.97	13		Pn	08 30 46.9	+0.1
AUQ					Sn	08 31 01.3	+0.3
AUH	Augustine H	0.98	12		Pn	08 30 47.0	0.0
AUP	Augustine Pinn	0.98	12		Pn	08 30 47.0	0.0
KJL	Kejulik	0.99	250		Pn	08 30 46.3	-0.7
AU22	Augustine Moun	0.99	14		Pn	08 30 47.1	+0.1
AU22					Sn	08 31 01.7	+0.4
AUL	Augustine Lava	1.00	12		Pn	08 30 47.1	0.0
AUL					Sn	08 31 03.0	+1.6
OHAK	Old Harbor	1.23	166		Pn	08 30 49.6	-0.2
OHAK	Old Harbor	1.23	166		Sn	08 31 05.2	-1.1
PLK2	Peulik 2	1.47	245		Pn	08 30 52.4	-0.5
PLK3	Peulik 3	1.48	242		Pn	08 30 52.6	-0.5
PLK3					Sn	08 31 11.0	-1.2
ILS	Iliamna Low So	1.60	14		Pn	08 30 54.7	0.0
PLK5	Peulik 5	1.66	257		Pn	08 30 54.9	-0.5
IVE	Iliamna Volcan	1.67	14		Pn	08 30 55.4	-0.1
IVE					Sn	08 31 16.1	-0.3
HOM	Homer	1.69	41		Pn	08 30 56.6	+0.9
HOM				Sn	Sn	08 31 18.0	+1.2
PLBL	Peulik Blue Cr	1.74	247		Pn	08 30 56.1	-0.3
CNPM	China Poot	1.75	49		Pn	08 30 56.9	+0.3
CNPM				Sn	Sn	08 31 18.4	+0.1
SII	Sitkinak Islan	1.87	186		Pn	08 30 57.5	-0.5
SII					Sn	08 31 18.4	-2.6
BRLK	Bradley Lake	2.04	47		Pn	08 30 60.0	-0.4
BRLK					Sn	08 31 23.6	-1.5
BRSE	Bradley Lake S	2.08	49		Pn	08 31 01.0	+0.1
RED	Redoubt Volcan	2.09	15		Pn	08 31 01.2	+0.1
RSO	Redoubt South	2.13	15		Pn	08 31 01.9	+0.2
RDWB	Redoubt West	2.15	13		Pn	08 31 02.0	+0.1
NCT	North Crescent	2.21	12		Pn	08 31 02.8	+0.1
RDJH	Redoubt Jeurge	2.25	13		Pn	08 31 03.4	+0.2
DFR	Drift River	2.27	14		Pn	08 31 03.6	+0.2
CAPN	Captain Cook N	2.73	29		Pn	08 31 10.9	+1.4
CHIR	Chirikof Islan	2.77	201	Pn	Pn	08 31 09.1	-1.0
CHIR					Sn	08 31 39.7	-2.9
SLKM	Skilak Lake	2.80	40		Pn	08 31 10.2	-0.3
SEW	Seward	2.82	51		Pn	08 31 09.7	-1.0
SEW	Seward	2.82	51		Sn	08 31 41.8	-1.9
SVW2	Sparrevohn	2.84	343		Pn	08 31 10.2	-0.8
SPCR	Spurr Chakacha	2.92	16		Pn	08 31 12.4	+0.3
SPWE	Spurr West	2.94	12		Pn	08 31 13.4	+0.9
SPBG	Spurr Blockage	2.95	14		Pn	08 31 13.0	+0.4
SPCP	Crater Peak Br	2.99	16		Pn	08 31 13.5	+0.3
SPNN	North Nagishla	3.02	10		Pn	08 31 14.1	+0.5
SPCG	Spurr Capps Gl	3.03	17		Pn	08 31 13.9	+0.2
CGLM	Capps Glacier	3.05	17		Pn	08 31 14.0	+0.1
CHGN	Chignik	3.26	232	Pn	Pn	08 31 15.7	-1.0
FIS	Fire Island	3.29	32		Pn	08 31 18.1	+1.0
RC01	Rabbit Creek A	3.39	36		Pn	08 31 18.6	+0.1
SUA	Susitna One	3.43	26		Pn	08 31 19.4	+0.2
PWL	Port Wells	3.72	46		Pn	08 31 22.5	-0.4
SKT	Skwentna	3.76	17		Pn	08 31 23.3	-0.2
PMR	Palmer	3.97	34		Pn	08 31 25.3	-0.9
MID	Middleton Isla	4.02	72	Pn	Pn	08 31 26.8	-0.1
KNK	Knik Glacier	4.05	40		Pn	08 31 27.1	-0.3
KNK				Sn	Sn	08 32 09.9	-3.7
GHO	Glory Hole Cre	4.17	34		Pn	08 31 29.0	-0.1
GLI	Glacier Island	4.22	51		Pn	08 31 28.6	-1.1
HIN	Hinchinbrook I	4.24	59		Pn	08 31 30.1	+0.1
FID	Port Fidalgo	4.41	55		Pn	08 31 30.9	-1.4
JPK	Jack Peak	4.52	51		Pn	08 31 33.8	-0.1
PPLA	Purkeypile	4.57	9		Pn	08 31 35.3	+0.7
EYAK	Cordova Ski Ar	4.65	59	Pn	Pn	08 31 35.1	-0.4
TTA	Tatalina	4.66	348		Pn	08 31 35.0	-0.7
SCM	Sheep Creek Mo	4.73	41		Pn	08 31 36.5	-0.2
CNBA	Chernabura Isl	4.80	224		Pn	08 31 36.2	-1.7
RAGM	Ragged Mountai	5.08	63	Pn	Pn	08 31 41.6	+0.1
GOAT	Goat Mountain	5.12	61		Pn	08 31 42.0	-0.1
WAT1	Susitna Watana	5.14	28		Pn	08 31 41.6	-0.6
WAT6	Susitna Watana	5.15	33		Pn	08 31 41.8	-0.8
WAT2	Susitna Watana	5.24	27		Pn	08 31 43.1	-0.6
HMT	Hamilton	5.26	64		Pn	08 31 43.9	0.0
PS12	TAPS Pump St12	5.34	51		Pn	08 31 44.6	-0.4
TRF	Thorofare Moun	5.34	17		Pn	08 31 44.8	-0.3
KTH	Kantishna Hill	5.35	14		Pn	08 31 44.6	-0.6
NICHA	Nichawak Mount	5.37	66		Pn	08 31 45.4	-0.1
SUCK	Suckling Hills	5.42	68		Pn	08 31 46.1	0.0
RND	Reindeer	5.57	24		Pn	08 31 47

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAOF	**Saorge**	**1.29**	**30**	P	**Pg**	**09 07 40.7**	**+0.6**
SAOF				S	**Sg**	**09 07 56.9**	**0.0**
SAOF				AML	AML		
	comp=N,112μm,0.3s						
SAOF				AML	AML		
	comp=E,98μm,0.6s						
IMI	**Imperia**	**1.38**	**41**	P	**Pg**	**09 07 41.5**	**-0.1**
IMI				S	**Sg**	**09 07 59.8**	**+0.2**
IMI	**Imperia**	**1.38**	**41**	P	**Pg**	**09 07 41.5**	**-0.1**
IMI				S	**Sn**	**09 07 59.1**	**+0.4**
IMI				AML	AML		
	comp=N,74μm,1.6s						
IMI				AML	AML		
	comp=E,56μm,0.9s						
MGRO	**Montegrosso**	**1.44**	**36**	P	**Pg**	**09 07 42.8**	**-0.1**
MGRO				S	**Sg**	**09 08 01.2**	**-0.4**
MGRO	**Montegrosso**	**1.44**	**36**	P	**Pg**	**09 07 42.6**	**-0.3**
MGRO				S	**Sg**	**09 08 01.2**	**-0.4**
MGRO				AML	AML		
	comp=E,75μm,0.4s						
MGRO				AML	AML		
	comp=N,100μm,0.5s						
STV	**Sant Anna di V**	**1.45**	**20**	P	**Pb**	**09 07 42.7**	**+0.3**
STV				S	**Sn**	**09 08 00.4**	**-0.3**
STV	**Sant Anna di V**	**1.45**	**20**	P	**Pb**	**09 07 42.6**	**+0.3**
STV				S	**Sn**	**09 07 59.6**	**-1.1**
STV				AML	AML		
	comp=E,104μm,1.5s						
STV				AML	AML		
	comp=N,65μm,0.9s						
ENR	**Entracque**	**1.46**	**22**	P	**Pg**	**09 07 43.0**	**-0.3**
RORO	**Rocca Rossa**	**1.61**	**39**	P	**Pb**	**09 07 45.2**	**+0.3**
RORO	**Rocca Rossa**	**1.61**	**39**	P	**Pb**	**09 07 45.0**	**0.0**
GBOS	**Grotte di Boss**	**1.62**	**32**	P	**Pb**	**09 07 45.7**	**+0.6**
GBOS	**Grotte di Boss**	**1.62**	**32**	P	**Pg**	**09 07 45.9**	**-0.4**
GBOS				S	**Sb**	**09 08 05.3**	**-0.2**
GBOS				AML	AML		
	comp=E,44μm,0.9s						
GBOS				AML	AML		
	comp=N,71μm,1.4s						
PZZ	**Stroppo**	**1.67**	**12**	P	**Pb**	**09 07 46.0**	**0.0**
PZZ				S	**Sn**	**09 08 06.1**	**+0.1**
PZZ	**Stroppo**	**1.67**	**12**	P	**Pb**	**09 07 46.1**	**+0.1**
PZZ				AML	AML		
	comp=E,127μm,0.3s						
PZZ				AML	AML		
	comp=N,202μm,1.3s						
SMPL	**Sampolo**	**2.10**	**111**	P	**Pg**	**09 07 55.4**	**-0.1**
SJAF	**Saint Jean de**	**2.81**	**263**	P	**Pn**	**09 07 59.0**	**-1.1**
	comp=N,0.7nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**2.81**	**263**	P	**Pn**	**09 07 58.9**	**-1.1**
	comp=N,2.6nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**3.32**	**252**	P	**Pn**	**09 08 07.2**	**+0.1**
	comp=N,4.0nm,0.2s,SNR=13						
CFON				S	**Sn**	**09 08 46.2**	**-0.4**
	comp=N,2.8nm,0.2s,SNR=4.0						
CLLI	**Llivia**	**3.47**	**265**	P	**Pn**	**09 08 09.2**	**-0.1**
	comp=N,6.7nm,0.2s,SNR=7.9						
CSOR	**Sort**	**4.10**	**265**	P	**Pn**	**09 08 19.1**	**+1.1**
	comp=N,5.3nm,0.2s,SNR=28						
EPOB	**Poblet**	**4.41**	**252**	P	**Pn**	**09 08 22.3**	**0.0**
	comp=N,1.4nm,0.2s,SNR=7.9						
ECHI	**Chisagues Biel**	**4.76**	**270**	P	**Pn**	**09 08 29.0**	**+2.0**
	comp=N,0.6nm,0.2s,SNR=4.0						

ASRS 13 09:21:01.5, 53°.59N×88°.04E, M2.9, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

KRAR 13 09:21:55.1±0.1, 53°.74N×90°.96E, M2.3, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

*ISK **13** 09:25:27.9, 37°.47N×36°.37E, h2km, ML2.3/11*
*ISCJB **13** 09:25:28.8±0.5, 37°.41N±0°.03×36°.35E±0°.03, h7km±4km, Error ellipse: s-maj=5.8km s-min=3.6km az=22.6*
*DDA **13** 09:25:28.6, 37°.40N×36°.37E, h7km±3km, ML2.5*

ISC 13 09:25:28.9±0.9, 37°.42N±0°.04×36°.36E±0°.03, h12km±7km, n18, σ0s62/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.16**	**356**	*i* P	**Pg**	**09 25 32.7**	**+0.1**
ANDN				*i* S	**Sg**	**09 25 35.8**	**+0.5**
KAMA	**Osmaniye**	**0.34**	**134**	*i* P	**Pg**	**09 25 35.6**	**-0.1**
KAMA				IAML		09 25 40.0	
	comp=N,540nm,0.2s						
KAMA				*i* S	**Sg**	**09 25 40.1**	**-0.2**
KOZT	**Kozan**	**0.43**	**278**	PG	**Pg**	**09 25 36.9**	**-0.4**
KOZT				SG	**Sb**	**09 25 44.4**	**-0.4**
KMRS	**Kahramanmaras**	**0.44**	**79**	PG	**Pg**	**09 25 37.1**	**-0.4**
KMRS				SG	**Sg**	**09 25 43.5**	**+0.1**
HCB	**Kahramanmara**	**0.44**	**100**	*i* P	**Pb**	**09 25 37.7**	**-1.0**
HCB				*i* S	**Sg**	**09 25 43.2**	**-0.3**
SAIM	**ADANA**	**0.60**	**338**	*i* P	**Pg**	**09 25 40.0**	**-0.5**
SAIM				*i* S	**Sb**	**09 25 49.1**	**-0.6**
SAIM				IAML		09 25 56.0	
	comp=N,236nm,0.2s						
CEYT	**Ceyhan**	**0.64**	**230**	PG	**Pb**	**09 25 42.3**	**+0.4**
GAZ	**Gaziantep**	**0.72**	**110**	PG	**Pb**	**09 25 43.3**	**-0.2**
GAZ				SG	**Sb**	**09 25 53.3**	**-0.1**
GZT	**Gaziantep**	**0.96**	**94**	*i* P	**Pb**	**09 25 47.2**	**-0.3**
GZT				*i* S	**Sn**	**09 26 01.7**	**-0.4**
GZT				IAML		09 26 02.0	
	comp=E,115nm,0.2s						
KARA	**Karaisali**	**1.05**	**262**	PG	**Pb**	**09 25 49.1**	**+0.1**
CMRD	**Camardi-Nigde**	**1.11**	**283**	PN	**Pg**	**09 25 49.5**	**-0.8**
DARE	**Darende-Malaty**	**1.45**	**37**	PN	**Pn**	**09 25 54.8**	**-0.3**
DARE				SN	**Sn**	**09 26 15.6**	**+1.5**
BNN	**Bunyan**	**1.48**	**344**	PN	**Pn**	**09 25 55.6**	**0.0**
AKCD	**Akcadag**	**1.51**	**54**	*i* S	**Sg**	**09 26 18.1**	**+0.5**
ATAB	**Bozova**	**1.54**	**88**	*i* P	**Pg**	**09 25 57.9**	**-0.6**
MALT	**Malatya**	**1.86**	**61**	PN	**Pn**	**09 26 01.4**	**+0.7**
URFA	**Urfa**	**1.96**	**89**	PN	**Pn**	**09 26 03.1**	**+1.1**
SVRC	**Sivrice-ELAZID**	**2.52**	**67**	PN	**Pn**	**09 26 10.7**	**+0.9**

IDC 13 09:41:58.6±4.9, 3°.66S×100°.23E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/40, mbtmp3.5/5, MS3.4/2, Ms1 3.5/2, ms1mx2.6/42, Error ellipse: s-maj=237.2km s-min=20.7km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.02**	**357**	LR	LR	09 54 57.8	
	comp=Z,40nm,18.0s,baz=215,slow=35						
H08S2	**Diego Garcia H**	**27.87**	**261**	T	T	10 17 28.5	
	baz=83,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**27.88**	**261**	T	T	10 17 22.9	
	baz=83,slow=75,SNR=9.5						
H08S1	**Diego Carcia H**	**27.89**	**261**	T	T	10 17 30.1	
	baz=83,slow=75,SNR=9.6						
WRA	**Warramunga Arr**	**36.98**	**119**	P	P	09 49 09.0	-1.1
	0.3nm,0.5s,baz=293,slow=8.5,SNR=12						
ASAR	**Alice Springs**	**38.12**	**125**	P	P	09 49 20.6	+0.9
	0.2nm,0.5s,baz=296,slow=7.9,SNR=7.8						
MKAR	**Makanchi Array**	**52.68**	**345**	P	P	09 51 14.8	0.0
	0.2nm,0.3s,baz=156,slow=7.9,SNR=7.2						
USRK	**Ussuriysk Ar.**	**55.51**	**27**	LR	LR	10 17 28.7	
	comp=Z,67nm,18.4s,baz=277,slow=38						
KURBB	**Kurchatov Arra**	**57.20**	**344**	P	P	09 51 47.4	+0.1
	0.4nm,0.9s,baz=163,slow=6.8,SNR=3.3						
ZALV	**Zalesovo Beam**	**58.83**	**349**	P	P	09 51 58.4	-0.3
	0.8nm,0.3s,baz=149,slow=6.1,SNR=4.5						
TXAR	**Lajitas Array**	**145.86**	**39**	PKPbc	PKPdf	10 01 39.9	-0.3
	0.3nm,0.7s,baz=284,slow=1.0,SNR=4.0						

*ISCJB **13** 09:47:55.2±0.3, 17°.88S±0°.03×69°.41W±0°.07, h155km±3km, mb3.8/6, Error ellipse: s-maj=10.2km s-min=4.7km az=5.6*
*NEIC **13** 09:47:56.1±2.6, 17°.87S±0°.05×69°.4W±0°.1, h147km±6km*
*IDC **13** 09:47:56.8±1.0, 17°.89S×69°.19W, h143km±10km, mb3.7/7, mb1 3.7/11, mb1mx3.6/33, mbtmp4.1/11, Error ellipse: s-maj=19.8km s-min=9.6km az=93.0*
*GUC **13** 09:47:56.8±0.6, 17°.93S×69°.49W, h140km±4km, ML3.9*

ISC 13 09:47:56.3±0.6, 17°.92S±0°.05×69°.42W±0°.07, h151km±6km, n61, σ1s60/81, mb4.3/16, 2C-6D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.43**	**192**	*i* P	**Pn**	**09 48 18.1**	**0.0**
PB16				*i* S	**Sn**	**09 48 34.3**	**-0.6**
MNMC	**Minye Minye**	**1.22**	**188**	⇓ *i* P	**Pn**	**09 48 24.2**	**+0.8**
MNMC				*i* S	**Sn**	**09 48 44.8**	**+0.5**
MNMC				IAML		09 48 47.7	
	comp=E,3μm,0.6s						
MNMC	**Minye Minye**	**1.22**	**188**	Pn	**Pn**	**09 48 24.3**	**+0.8**
MNMC				Sn	**Sn**	**09 48 44.5**	**+0.2**
GO01	**Chusmiza**	**1.76**	**173**	*e* P	**Pn**	**09 48 30.7**	**+1.5**
GO01				*i* S	**Sn**	**09 48 55.8**	**+1.3**
GO01				IAML		09 48 57.5	
	comp=N,834nm,0.4s						
GO01	**Chusmiza**	**1.76**	**173**		**Pn**	**09 48 30.8**	**+1.5**
GO01				Sn	**Sn**	**09 48 55.7**	**+1.2**
PSGC	**Pisagua**	**1.80**	**202**	⇓ *i* P	**Pn**	**09 48 29.5**	**+0.2**
PSGC				*i* S	**Sn**	**09 48 54.4**	**-0.4**
PSGC				IAML		09 48 55.3	
	comp=N,1μm,0.5s						
PB11	**IPOC Station P**	**1.85**	**187**	⇓ *i* P	**Pn**	**09 48 30.4**	**+0.5**
PB11				*i* S	**Sn**	**09 48 56.1**	**+0.3**
PB11				IAML		09 48 59.2	
	comp=N,964nm,0.3s						
PB11	**IPOC Station P**	**1.85**	**187**		**Pn**	**09 48 30.2**	**+0.3**
PB11				Sn	**Sn**	**09 48 55.9**	**+0.1**
LPAZ	**La Paz**	**2.03**	**37**	⇓ *i* P	**Pn**	**09 48 31.8**	**-0.8**
LPAZ	**La Paz**	**2.03**	**37**	P	**Pn**	**09 48 31.8**	**-0.8**
	comp=N,218nm,0.3s,baz=216,slow=2.6,SNR=6145						
LPAZ				S	**Sn**	**09 48 56.8**	**-3.4**
	comp=N,14nm,0.3s,baz=357,slow=18,SNR=3.4						
PB08	**IPOC Station P**	**2.23**	**174**	⇓ *i* P	**Pn**	**09 48 35.8**	**+1.3**
PB08				*i* S	**Sn**	**09 49 04.9**	**+0.9**
PB08				IAML		09 49 10.6	
	comp=E,554nm,0.5s						
TA01	**Diego Aracena**	**2.73**	**195**	⇑ *i* P	**Pn**	**09 48 40.5**	**+0.2**
TA01				*i* S	**Sn**	**09 49 12.5**	**-2.0**
TA01				IAML		09 49 26.3	
	comp=N,512nm,0.4s						
PB07	**IPOC Station P**	**3.82**	**187**	*e* P	**Pn**	**09 48 54.9**	**+0.6**
PB07				*i* S	**Sn**	**09 49 38.4**	**-1.1**
PB03	**IPOC Station P**	**4.12**	**184**	*e* P	**Pn**	**09 48 58.8**	**+0.5**
PB03				*i* S	**Sn**	**09 49 43.6**	**-3.0**
PB04	**IPOC Station P**	**4.45**	**189**		**Pn**	**09 49 03.1**	**+0.5**
PB04				Sn	**Sn**	**09 49 52.5**	**-1.8**
LVC	**Limon Verde**	**4.69**	**174**	P	**Pn**	**09 49 07.8**	**+1.8**
	comp=N,12nm,0.3s,baz=46,slow=11,SNR=74						
LVC				S	**Sn**	**09 49 60.0**	**-0.4**
	comp=N,22nm,0.3s,baz=135,slow=20,SNR=10						
LVC	**Limon Verde**	**4.69**	**174**		**Pn**	**09 49 07.9**	**+1.9**
LVC				Sn	**Sn**	**09 49 59.5**	**-0.8**
PB10	**IPOC Station P**	**5.67**	**191**		**Pn**	**09 49 18.4**	**-0.2**
PB10				Sn	**Sn**	**09 50 20.3**	**-2.8**
GO02	**Mina Guanaco**	**7.21**	**181**		**Pn**	**09 49 39.1**	**-0.4**
GO02				Sn	**Sn**	**09 50 58.9**	**-1.5**
SIV	**San Ignacio**	**8.21**	**78**	P	**Pn**	**09 49 49.1**	**-3.5**
	comp=N,6.0nm,0.3s,baz=270,slow=8.4,SNR=57						
SIV				S	Sn	09 51 15.4	-8.8
	comp=N,1.7nm,0.3s,baz=359,slow=21,SNR=10						
NNA	**Nana**	**9.28**	**308**	P	**Pn**	**09 50 05.6**	**-1.3**
	comp=N,5.9nm,0.3s,baz=157,slow=12,SNR=8.2						
NNA	**Nana**	**9.28**	**308**		**Pn**	**09 50 05.8**	**-1.1**
GO03	**Copiap**	**9.66**	**184**	Pn	**Pn**	**09 50 10.4**	**-1.5**
GO03				Sn	**Sn**	**09 51 55.6**	**-3.4**
SAML	**Samuel**	**10.78**	**35**		**Pn**	**09 50 24.3**	**-2.3**
GO04	**Tololo Observa**	**12.27**	**186**	Pn	**Pn**	**09 50 44.2**	**-2.0**
CFA	**Coronel Fontan**	**13.67**	**176**	P	**Pn**	**09 51 05.3**	**+1.3**
	comp=N,0.9nm,0.3s,baz=356,slow=12,SNR=4.8						
CPUP	**Villa Florida**	**13.98**	**129**	P	**Pn**	**09 51 08.3**	**+0.5**
	comp=N,0.2nm,0.3s,baz=315,slow=11,SNR=5.6						
CPUP	**Villa Florida**	**13.98**	**129**	Pn	**Pn**	**09 51 06.6**	**-1.3**
BDFB	**Brasilia**	**20.62**	**87**	P	**P**	**09 52 23.5**	**-0.5**
	comp=N,1.1nm,0.3s,baz=161,slow=23,SNR=3.6						
TRQA	**Tornquist**	**21.10**	**164**	P	**P**	**09 52 30.8**	**+1.9**
GO06	**Curarrehue**	**21.66**	**184**	P	**P**	**09 52 35.3**	**+0.3**
PLCA	**Paso Flores**	**22.76**	**182**	P	**P**	**09 52 46.4**	**+0.7**
CCIG	**Comitan**	**40.69**	**325**	P	**P**	**09 55 21.7**	**-0.7**
CCIG				IAmb	IAmb	09 55 21.8	
	comp=Z,8.9nm,1.1s						
TEIG	**Tepich**	**42.18**	**333**	P	**P**	**09 55 36.1**	**+1.8**
	comp=Z,7.1nm,0.8s,baz=139,slow=19,SNR=2.8						
TEIG	**Tepich**	**42.18**	**333**	P	**P**	**09 55 35.2**	**+0.9**
CMIG	**Matias Romero**	**42.88**	**323**	P	**P**	**09 55 42.0**	**+2.0**
	comp=Z,2.9nm,0.7s,baz=136,slow=7.9,SNR=3.5						
LRAL	**Lakeview Retre**	**53.38**	**342**	P	**P**	**09 57 00.3**	**+0.1**
WVT	**Waverly**	**56.51**	**342**	P	**P**	**09 57 22.5**	**-0.2**
LPAR	**Lepanto**	**56.79**	**340**	P	**P**	**09 57 24.1**	**-0.6**
MIAR	**Mount Ida**	**57.01**	**336**	P	**P**	**09 57 26.2**	**-0.1**
MIAR				IAmb	IAmb	09 57 28.2	
	comp=Z,3.0nm,0.7s						
W41B	**Gary Mavity, V**	**57.08**	**338**	P	**P**	**09 57 26.4**	**-0.3**
W41B				IAmb	IAmb	09 57 28.6	
	comp=Z,12nm,1.4s						
WHAR	**Wooly Hollow**	**57.19**	**338**	P	**P**	**09 57 28.3**	**+0.7**
TXAR	**Lajitas Array**	**57.44**	**324**	P	**P**	**09 57 31.8**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=149,slow=6.3,SNR=4.0						
PBMO	**Poplar Bluff**	**57.91**	**340**	P	**P**	**09 57 31.5**	**-1.0**
ABTX	**Abilene, Hawle**	**57.98**	**330**	P	**P**	**09 57 31.4**	**-1.8**
ABTX				IAmb	IAmb	09 57 35.8	
	comp=Z,2.6nm,0.6s						
U40A	**Yellville**	**58.35**	**338**	P	**P**	**09 57 36.5**	**+0.8**
U40A				IAmb	IAmb	09 57 37.0	
	comp=Z,7.2nm,0.9s						
HHAR	**Hobbs**	**58.68**	**337**	P	**P**	**09 57 37.1**	**-0.9**
HHAR				IAmb	IAmb	09 57 39.6	
	comp=Z,3.7nm,0.8s						
SSPA	**Standing Stone**	**58.78**	**352**	P	**P**	**09 57 37.6**	**-0.9**
SSPA				IAmb	IAmb	09 57 43.8	
	comp=Z,4.1nm,1.1s						
CCM	**Cathedral Cave**	**59.33**	**340**	P	**P**	**09 57 42.9**	**+0.5**
CCM				IAmb	IAmb	09 57 46.6	
	comp=Z,6.1nm,1.2s						
BGNE	**Belgrade**	**64.75**	**336**	P	**P**	**09 58 19.8**	**+1.3**
SNAA	**Sanae**	**65.81**	**161**	P	**P**	**09 58 27.7**	**+2.7**
ECSD	**EROS Data Cent**	**66.22**	**339**	P	**P**	**09 58 28.3**	**+0.4**
ECSD				IAmb	IAmb	09 58 35.3	
	comp=Z,6.5nm,1.4s						
SPMN	**Marine on St.**	**66.34**	**342**	P	**P**	**09 58 30.1**	**+1.5**
SPMN				IAmb	IAmb	09 58 39.3	
	comp=Z,2.4nm,0.6s						
EYMN	**Ely**	**68.48**	**344**	P	**P**	**09 58 42.5**	**+0.5**
ULM	**Lac du Bonnet**	**71.77**	**342**	P	**P**	**09 59 02.6**	**+0.6**
	comp=Z,2.1nm,0.4s,baz=145,slow=5.1,SNR=5.6						
ULM	**Lac du Bonnet**	**71.77**	**342**	P	**P**	**09 59 03.5**	**+1.5**
TORD	**Torodi Ar. Bea**	**76.64**	**71**	P	**P**	**09 59 31.0**	**0.0**
	comp=Z,1.1nm,0.7s,baz=253,slow=5.3,SNR=8.3						
YKA	**Yellowknife Ar**	**87.66**	**341**	P	**P**	**10 00 29.3**	**+2.1**
	comp=Z,0.7nm,0.6s,baz=134,slow=4.9,SNR=11						
KSH	**Kashi**	**143.12**	**47**	PKP	PKPbc	10 07 11.6	+1.5
KSH				SKS	**SKSdf**	**10 14 02.3**	**-6.3**
KSH				LR	LR		
	comp=N,730nm,5.6s						
KSH				LR	LR		
	comp=E,230nm,6.3s						
KSH				LR	LR		
	comp=Z,730nm,5.3s						
LZH	**Lanzhou**	**160.94**	**17**	⇓ PKP	**PKPdf**	**10 07 39.6**	**+0.5**
LZH				pPKP	pPKPdf	10 08 19.1	-1.6
LZH				PKP	**PKPab**	**10 08 25.3**	**+3.0**
LZH				sPKP		10 08 33.3	
CD2	**Chengdu**	**165.65**	**24**	PKP	**PKPdf**	**10 07 42.8**	**-0.7**

IDC 13 10:02:38.6±2.2, 7°.32S×129°.68E, h121km±26km, mb3.5/1, mb1 3.8/6, mb1mx3.3/55, mbtmp4.1/6, Error ellipse: s-maj=36.4km s-min=21.0km az=94.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.59**	**14**	P	Pn	10 04 12.7	-0.5
	2.7nm,0.3s,baz=180,slow=22,SNR=9.3						
SIJI				S	Sn	10 05 21.2	-5.8
	1.7nm,0.3s,baz=73,slow=19,SNR=3.3						
BATI	**Baumata**	**6.61**	**244**	P	Pn	10 04 15.1	+1.8
	13nm,0.3s,baz=67,slow=1.6,SNR=6.8						
BATI				S	Sn	10 05 25.2	-2.0
	26nm,0.3s,baz=264,slow=23,SNR=20						
FITZ	**Fitzroy Crossi**	**11.42**	**200**	P	Pn	10 05 16.7	-1.4
	1.7nm,0.3s,baz=35,slow=13,SNR=32						
FITZ				S	Sn	10 07 16.6	-7.2
	2.9nm,0.3s,baz=159,slow=20,SNR=8.3						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.34**	**161**	P	Pn	10 05 42.5	-0.8
	1.6nm,0.3s,baz=335,slow=13,SNR=49						
WRA				S	Sn	10 08 03.2	-7.3
	2.1nm,0.3s,baz=335,slow=23,SNR=13						
ASAR	**Alice Springs**	**16.76**	**166**	P	P	10 06 27.5	+1.1
	0.4nm,0.3s,baz=346,slow=10,SNR=38						
ASAR				S	Sn	10 09 25.1	-7.7
	0.3nm,0.3s,baz=343,slow=21,SNR=4.3						
MKAR	**Makanchi Array**	**68.31**	**327**	P	P	10 13 26.6	-0.1
	0.4nm,0.4s,baz=115,slow=8.1,SNR=9.5						

*NAO **13** 10:06:06.4±1.4, 67°.56N×33°.87E, ML2.8*
*HEL **13** 10:06:06.7±0.4, 67°.55N×33°.93E, h0km, ML2.3, Explosion*
ISC 13 10:06:05.0±1.9, 67°.61N±0°.05×34°.12E±0°.10, h0km, n24, σ1s42/42, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.43**	**270**	Pg	**Pg**	**10 06 13.3**	**+0.1**
	baz=97,slow=16						
APA0				Lg	Lg	10 06 18.2	
	baz=83,slow=37						
APA0				Rg	Rg	10 06 19.6	
	baz=81,slow=37						
APA0	**Apatity Array**	**0.43**	**270**	Pg	**Pg**	**10 06 13.3**	**+0.1**
	baz=97,slow=16						
APA0				Sg	**Sg**	**10 06 18.2**	**-0.5**
	baz=83,slow=37						
APA0				Rg	Rg	10 06 19.6	
	baz=81,slow=37						
VRF	**Varrio**	**1.73**	**277**	PG	**Pn**	**10 06 36.3**	**+0.1**
	baz=91						
VRF				MSG		10 06 56.5	
	comp=Z,34nm,0.2s						
VRF				SG	**Sn**	**10 06 57.5**	**-1.5**
KU6	**Riekki**	**2.31**	**228**	PG	**Pn**	**10 06 46.0**	**+1.8**
	baz=43						
KU6				MSG		10 07 12.3	
	comp=Z,14nm,0.2s						
KU6				SG	**Sb**	**10 07 16.5**	**0.0**
MSF	**Maaselka**	**2.64**	**232**	PG	**Pb**	**10 06 52.2**	**-0.9**
MSF				SG	**Sb**	**10 07 25.5**	**-0.5**
SGF	**Sodankyl**	**2.92**	**270**	PN	**Pn**	**10 06 53.5**	**+0.9**
SGF				SG	**Sb**	**10 07 32.5**	**-1.6**
RNF	**Rovaniemi**	**3.32**	**256**	PN	**Pn**	**10 06 58.7**	**+0.5**
	baz=68						
RNF				SN	**Sn**	**10 07 38.6**	**+0.3**
KEV	**Kevo**	**3.38**	**313**	Pn	**Pn**	**10 07 00.2**	**+1.4**
KEV				Sn	**Sn**	**10 07 38.9**	**-0.7**
KEV				Lg	Lg	10 07 47.8	
KEV	**Kevo**	**3.38**	**313**	PN	**Pn**	**10 07 00.0**	**+1.2**
KEV				SN	**Sn**	**10 07 38.8**	**-0.7**
KEV	**Kevo**	**3.38**	**313**	Pn	**Pn**	**10 07 00.2**	**+1.4**
KEV				Sn	**Sn**	**10 07 38.9**	**-0.7**
ARA0	**ARCESS Array S**	**3.70**	**305**	Pn	**Pn**	**10 07 03.8**	**+0.4**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**10 07 11.9**	**+0.7**
	baz=113,slow=16						
ARA0				Sn	**Sn**	**10 07 45.9**	**-1.8**
	baz=121,slow=28						
ARA0				Lg	Lg	10 07 57.2	
	baz=120,slow=37						
ARA0	**ARCESS Array S**	**3.70**	**305**	Pn	**Pn**	**10 07 03.8**	**+0.4**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**10 07 11.9**	**+0.7**
	baz=113,slow=16						
ARA0				Sn	**Sn**	**10 07 45.9**	**-1.8**
	baz=121,slow=28						
HEF	**Hetta**	**4.01**	**286**	Pn	**Pn**	**10 07 08.2**	**+0.6**
HEF				Sn	**Sn**	**10 07 53.5**	**-1.8**
HEF				Lg	Lg	10 08 08.8	
HEF	**Hetta**	**4.01**	**286**	PN	**Pn**	**10 07 08.6**	**+0.9**
HEF				SN	**Sn**	**10 07 53.9**	**-1.4**
HEF	**Hetta**	**4.01**	**286**	Pn	**Pn**	**10 07 08.2**	**+0.6**
HEF				Sn	**Sn**	**10 07 53.5**	**-1.8**
HEF				Sg	**Sb**	**10 08 08.8**	**+3.3**
TOF	**Tornio**	**4.16**	**253**	PG	**Pb**	**10 07 20.3**	**+1.3**
KTK1	**Kautokeino**	**4.28**	**294**	*e* P	**Pn**	**10 07 11.4**	**+0.2**
KTK1				*e* S	**Sn**	**10 07 60.0**	**-1.8**
KTK1				IAML		10 08 16.6	
	comp=Z,10nm,0.3s						
LANU	**Lannavaara**	**4.62**	**281**	SG	**Sb**	**10 08 25.6**	**+2.8**
KIF	**Kilpisjarvi**	**5.13**	**292**	Pn	**Pn**	**10 07 23.4**	**+0.4**
KIF				Sn	**Sn**	**10 08 20.4**	**-2.4**
KIF	**Kilpisjarvi**	**5.13**	**292**	Pn	**Pn**	**10 07 23.4**	**+0.4**
KIF				Sn	**Sn**	**10 08 20.4**	**-2.4**
FIA0	**FINESS Array S**	**7.09**	**213**	Lg	Lg	10 09 43.8	
	baz=20,slow=28						
FIA0	**FINESS Array S**	**7.09**	**213**	Sg	Sg	10 09 43.8	-8.6
	baz=20,slow=28						
SPA0	**Spitsbergen Ar**	**11.74**	**342**	Pn	**Pn**	**10 08 51.5**	**-1.9**
	baz=140,slow=16						
SPA0	**Spitsbergen Ar**	**11.74**	**342**	Pn	**Pn**	**10 08 51.5**	**-1.9**
	baz=140,slow=16						

*JMA **13** 10:09:46.9±0.7, 44°.59N×149°.24E, h30km, M4.4*
*ISCJB **13** 10:09:48.5±0.9, 44°.46N±0°.05×149°.06E±0°.08, h65km±8km, mb3.5/15, Error ellipse: s-maj=11.3km s-min=6.3km az=36.1*
*SKHL **13** 10:09:49.4±0.5, 44°.56N×149°.12E, h71km±3km, mb4.1/3*
*MOS **13** 10:09:49.4±0.8, 44°.53N×148°.99E, h70km, mb4.0/5, Error ellipse: s-ma

comp=E,39nm,0.2s
GRPR smax smax
comp=N,770nm,0.4s
GRPR smax smax
comp=E,515nm,0.2s
GRPR Tuman 2.52 262 *e*P **Pn 10 10 27.1 +1.0**
GRPR AMB AMB 10 10 29.0
comp=E,10.0nm,0.3s
GRPR AMB AMB 10 10 29.0
comp=E,40nm,0.3s
GRPR *e*S **Sn 10 10 55.5 -0.1**
GRPR A A 10 11 00.0
comp=E,350nm,0.5s
GRPR A A 10 11 00.0
comp=E,260nm,0.5s
NEM2 Nemuro 2 2.73 249 P **Pn 10 10 28.6 -0.2**
NEM2 *e*S **Sn 10 10 59.8 -0.7**
NMR Nemuro--Hokkai 2.73 249 *c i*PN **Pn 10 10 28.7 -0.3**
NMR *i* S **Sn 10 11 01.5 +0.8**
NMR Nemuro--Hokkai 2.73 249 *i* P **Pn 10 10 28.7 -0.3**
NMR *i* S **Sn 10 11 01.5 +0.8**
JRA Rausu 2.99 263 P **Pn 10 10 34.2 +1.7**
JNK Nakash 3.36 258 P **Pn 10 10 38.5 +1.0**
JNK *e*S **Sn 10 11 15.5 -0.6**
JAK Akkeshi 3.57 249 P **Pn 10 10 40.8 +0.3**
JAK *e*S **Sn 10 11 20.6 -0.9**
JTKR Abashiri--Toko 3.85 266 P **Pn 10 10 46.3 +2.0**
JAR Ashorobuto 4.10 256 P **Pn 10 10 49.4 +1.6**
JOB Onbets 4.19 251 P **Pn 10 10 50.2 +1.2**
JMP Maruseppu 4.24 267 P **Pn 10 10 51.8 +2.1**
JCH Churui 4.63 249 P **Pn 10 10 55.9 +0.9**
JCH *e*S **Sn 10 11 47.0 -0.4**
ASAJ Asahikawa 4.78 269 P **Pn 10 11 00.6 +3.6**
comp=E,1.7nm,0.3s,baz=65,slow=25,SNR=12
ASAJ S **Sn 10 11 56.5 +5.4**
comp=E,0.3nm,0.3s,baz=114,slow=20,SNR=1.9
ASAJ LR LR 10 13 05.7
comp=E,108nm,18.4s,baz=151,slow=42
JFR Furan 4.96 258 P **Pn 10 11 02.6 +3.0**
ERM Erimo 5.04 244 *de*PN **Pn 10 11 03.1 +2.5**
JNBK Urakawa-nobuka 5.18 248 P **Pn 10 11 03.0 +0.5**
YSS Yuzh-Sakhalins 5.21 302 *e*P **Pn 10 11 04.5 +1.5**
YSS *e*S **Sn 10 11 59.4 -2.4**
JBT2 Biratori 2 5.25 254 P **Pn 10 11 04.9 +1.4**
JKB Kayabe 6.50 250 P **Pn 10 11 21.3 +0.6**
JKB *e*S **Sn 10 12 29.4 -4.1**
JYM2 Yakumo 2 6.86 254 P **Pn 10 11 26.3 +0.7**
JANG Nango 6.98 238 P **Pn 10 11 25.9 -1.4**
JANG *e*S Sn 10 12 38.2 -7.2
JTM Tenmabayashi 7.02 242 P **Pn 10 11 28.0 +0.2**
JTM *e*S **Sn 10 12 40.2 -6.1**
JTH Tanohata 7.05 233 *e*S Sn 10 12 39.1 -8.0
OFUJ Ofunato 7.75 229 *e*S Sn 10 12 55.3 -9.1
JIO Ouri 8.38 228 *e*S Sn 10 13 10.2 -10
PETK Petropavlovsk- 10.35 30 P **Pn 10 12 14.0 +0.6**
comp=E,0.3nm,0.3s,baz=208,slow=17,SNR=3.8
KLR Kul'dur 12.91 298 LR LR 10 17 57.6
comp=E,54nm,18.7s,baz=92,slow=38
MA2 Magadan 15.24 3 ‖ *e*P **P 10 13 20.4 -3.4**
KSRS Korea Array 17.51 254 LR LR 10 19 50.3
comp=E,31nm,19.1s,baz=85,slow=34
SEY Seymchan 18.66 5 *e*P **Pn 10 14 02.5 +0.2**
SEY Seymchan 18.66 5 *e*P **Pn 10 14 02.5 +0.2**
YAK Yakutsk 21.04 334 P **P 10 14 25.8 -1.6**
YAK Yakutsk 21.04 334 *e*P **P 10 14 25.8 -1.6**
BILL Bilibino 25.34 15 *i* P **P 10 15 12.0 +2.0**
BILL *i* 10 15 49.6
BILL pmax pmax
comp=Z,3.0nm,1.3s
BILL Bilibino 25.34 15 *e*P **P 10 15 12.0 +2.0**
H11N2 WAKE ISLAND Hy 28.66 143 T T 10 46 38.5
baz=334,slow=76,SNR=92
H11N1 WAKE ISLAND Hy 28.68 143 T T 10 46 39.4
baz=334,slow=76,SNR=98
H11N3 WAKE ISLAND Hy 28.68 143 T T 10 46 37.3
baz=334,slow=76,SNR=111
SONM Songino Array 29.62 292 P **P 10 15 48.6 -0.1**
comp=Z,0.4nm,0.7s,baz=52,slow=5.7,SNR=2.7
H11S1 WAKE ISLAND Hy 29.67 145 T T 10 47 56.6
baz=334,slow=76,SNR=106
H11S3 WAKE ISLAND Hy 29.68 145 T T 10 47 51.7
baz=334,slow=76,SNR=68
H11S2 WAKE ISLAND Hy 29.69 145 T T 10 47 45.8
baz=334,slow=76,SNR=85
COLA College 39.66 37 ‖ *e*P **P 10 17 15.4 +0.5**
COLA pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 40.08 37 P **P 10 17 18.7 +0.3**
comp=Z,0.3nm,0.5s,baz=273,slow=8.5,SNR=5.7
INK Inuvik 45.09 31 P **P 10 17 59.0 +0.1**
INK Inuvik 45.09 31 P **P 10 17 59.0 +0.1**
comp=Z,0.9nm,0.5s,baz=290,slow=7.1,SNR=7.0
MKAR Makanchi Array 45.62 298 *i* P **P 10 18 03.9 +0.5**
MKAR Makanchi Array 45.62 298 P **P 10 18 02.7 -0.7**
comp=Z,0.4nm,0.5s,baz=77,slow=9.7,SNR=6.0
MKAR Makanchi Array 45.62 298 *e*P **P 10 18 03.9 +0.5**
KURK Kurchatov 46.41 304 P **P 10 18 09.3 -0.3**
KURK Kurchatov 46.41 304 *e*P **P 10 18 09.3 -0.3**
KURBB Kurchatov Arra 46.50 304 P **P 10 18 09.3 -1.0**
comp=Z,0.3nm,0.4s,baz=74,slow=8.1,SNR=3.6
YKA Yellowknife Ar 54.43 35 P **P 10 19 10.5 +0.6**
comp=Z,0.4nm,0.7s,baz=294,slow=6.6,SNR=4.7
WRA Warramunga Arr 65.45 195 *i* P **P 10 20 28.2 +2.2**
WRA Warramunga Arr 65.45 195 P **P 10 20 26.7 +0.7**
comp=Z,0.3nm,0.5s,baz=16,slow=6.9,SNR=4.6
NVAR Mina Array Bea 65.96 59 P **P 10 20 29.8 +0.3**
comp=Z,0.3nm,0.6s,baz=300,slow=7.2,SNR=3.4
PDAR Pinedale Array 68.34 51 P **P 10 20 44.9 +0.4**
comp=Z,0.3nm,0.8s,baz=300,slow=4.1,SNR=2.6
ASAR Alice Springs 69.17 195 P **P 10 20 51.0 +1.5**
comp=Z,0.4nm,0.7s,baz=13,slow=5.6,SNR=6.0
NB2 NORSAR Subarra 69.53 340 P **P 10 20 50.5 -0.9**
comp=Z,2.2nm,0.7s,baz=25,slow=6.5
NOA NORSAR Array B 69.53 340 *e*P **P 10 20 51.1 -0.3**
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 69.53 340 P **P 10 20 50.4 -0.9**
comp=Z,0.9nm,0.5s,baz=32,slow=6.7,SNR=7.9
AKASG Malin Array Be 71.94 325 P **P 10 21 04.5 -1.6**
comp=Z,0.4nm,0.4s,baz=38,slow=6.3,SNR=3.1
TXAR Lajitas Array 81.04 58 P **P 10 21 58.6 +0.5**
comp=Z,0.4nm,0.5s,baz=301,slow=4.1,SNR=12

*NEIC **13** 10:10:54.4±1.3,24°.2S±0°.1×179°.7E±0°.1, h486km±8km, mb4.3/23*
*IDC **13** 10:10:55.3±2.5,24°.19S×179°.85E, h496km±28km, mb3.4/9, mb1 3.6/11,mb1mx3.4/37,mbtmp4.3/11, Error ellipse: s-maj=31.6km s-min=17.7km az=157.0*
*ISCJB **13** 10:10:56.6±0.5,24°.13S±0°.04×179°.73E±0°.08, h526km, mb3.8/9, Error ellipse: s-maj=9.3km s-min=5.3km az=168.4*

ISC 13 10:10:57.4±0.6, 24°24S±0°07×179°77E±0°09, h526km, n65, σ1§55/73, mb4.0/18, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
GLKZ	**Green Lake**	**5.41**	**158**	P	**P**	**10 12 30.6**	**+1.2**
GLKZ				S	**S**	**10 13 43.0**	**-1.6**
MSVF	**Nonsavu**	**6.67**	**346**	P	**P**	10 12 35.2	-6.3
OUZ	**Omahuta**	**12.18**	**205**	P	**P**	**10 13 40.3**	**+2.6**
DZM	**Mont Dzumac**	**12.45**	**277**	P	**P**	**10 13 41.0**	**+0.2**
	0.8nm,0.3s,baz=203,slow=15,SNR=9.0						
DZM	**Mont Dzumac**	**12.45**	**277**	P	**P**	**10 13 36.3**	**-4.4**
WCZ	**Waipu Caves**	**12.56**	**207**	P	**P**	**10 13 44.4**	**+2.7**
KUZ	**Kuaotunu**	**12.94**	**195**	P	**P**	**10 13 47.7**	**+2.2**
MBAZ	**Motutapu North**	**13.17**	**197**	P	**P**	**10 13 50.3**	**+2.3**
ETAZ	**East Tamaki Re**	**13.34**	**197**	P	**P**	**10 13 52.2**	**+2.5**
MXZ	**Matakaoa Point**	**13.34**	**185**	P	**P**	**10 13 50.7**	**+1.0**
MXZ	**Matakaoa Point**	**13.34**	**185**	P	**P**	**10 13 48.1**	**-1.6**
AWAZ	**Awhitu Peninsu**	**13.52**	**198**	P	**P**	**10 13 53.0**	**+1.5**
HAZ	**Te Kaha**	**13.58**	**187**	P	**P**	**10 13 51.8**	**-0.4**
HAZ				S	**S**	**10 16 14.5**	**-1.7**
WMGZ	**Waiomatatini S**	**13.59**	**185**	P	**P**	**10 13 53.2**	**+1.0**
WMGZ				S	**S**	**10 16 18.8**	**+2.4**
RUGZ	**Raukumara Rang**	**13.80**	**187**	P	**P**	**10 13 54.7**	**+0.1**
RUGZ				S	**S**	**10 16 20.3**	**-0.4**
KMRZ	**Kaimai**	**13.95**	**193**	P	**P**	**10 13 57.0**	**+0.9**
URZ	**Urewera**	**14.16**	**189**	P	**P**	**10 13 56.8**	**-1.4**
	4.9nm,0.3s,baz=73,slow=1.2,SNR=44						
URZ				S	**S**	**10 16 26.8**	**-0.5**
	0.8nm,0.3s,baz=74,slow=21,SNR=7.2						
URZ	**Urewera**	**14.16**	**189**	P	**P**	**10 13 56.9**	**-1.4**
URZ				S	**S**	**10 16 26.2**	**-1.2**
URZ	**Urewera**	**14.16**	**189**	P	**P**	**10 13 54.4**	**-3.9**
MWZ	**Matawai**	**14.18**	**187**	P	**P**	**10 13 57.7**	**-0.8**
MWZ				S	**S**	**10 16 26.2**	**-1.7**
CNGZ	**Carnagh Statio**	**14.26**	**185**	P	**P**	**10 14 00.8**	**+1.5**
TLZ	**Tolley Road**	**14.50**	**193**	P	**P**	**10 14 05.0**	**+3.1**
RTZ	**Ruatahuna**	**14.53**	**189**	P	**P**	**10 14 01.6**	**-0.6**
HIZ	**Hauiti**	**14.83**	**195**	P	**P**	**10 14 06.6**	**+1.3**
BKZ	**Black Stump Fm**	**15.14**	**190**	P	**P**	**10 14 07.1**	**-1.4**
BKZ	**Black Stump Fm**	**15.14**	**190**	P	**P**	**10 14 07.2**	**-1.3**
BKZ				IAmb	IAmb	10 14 11.7	
	comp=Z,4.8nm,0.5s						
NGZ	**Ngauruhoe**	**15.30**	**192**	P	**P**	**10 14 09.7**	**-0.7**
BFZ	**Birch Farm**	**16.66**	**189**	P	**P**	**10 14 20.9**	**-3.0**
MSWZ	**Moikau Station**	**17.54**	**191**	P	**P**	**10 14 31.8**	**-0.3**
BHW	**Baring Head**	**17.60**	**192**	P	**P**	**10 14 33.0**	**+0.4**
QRZ	**Quartz Range**	**17.62**	**198**	P	**P**	**10 14 32.8**	**0.0**
TUWZ	**Tuamarina**	**17.82**	**194**	P	**P**	**10 14 34.4**	**-0.2**
THZ	**Tophouse**	**18.39**	**196**	P	**P**	**10 14 40.5**	**+0.7**
THZ				IAmb	IAmb	10 14 45.0	
	comp=Z,29nm,1.3s						
KHZ	**Kahutara**	**18.85**	**194**	P	**P**	**10 14 44.0**	**+0.1**
LTZ	**Lake Taylor**	**19.50**	**197**	P	**P**	**10 14 49.6**	**-0.4**
LTZ				IAmb	IAmb	10 15 01.1	
	comp=Z,14nm,1.3s						
OXZ	**Oxford**	**20.07**	**197**	P	**P**	**10 14 55.4**	**+0.3**
RPZ	**Rata Peaks**	**20.70**	**198**	P	**P**	**10 14 58.9**	**-1.9**
RPZ				IAmb	IAmb	10 15 05.2	
	comp=Z,9.3nm,1.1s						
WKZ	**Wanaka**	**22.33**	**200**	P	**P**	**10 15 17.0**	**+1.6**
WHZ	**Wether Hill Ro**	**23.62**	**201**	P	**P**	**10 15 28.6**	**+1.7**
EIDS	**Eidsvold**	**26.05**	**261**	P	**P**	**10 15 45.9**	**-2.9**
EIDS				IAmb	IAmb	10 15 50.4	
	comp=Z,14nm,1.4s						
CTA	**Charters Tower**	**31.27**	**271**	P	**P**	**10 16 35.2**	**+0.9**
	comp=Z,11nm,0.3s,baz=96,slow=10,SNR=51						
STKA	**Stephens Creek**	**34.40**	**249**	P	**P**	**10 17 01.7**	**+1.0**
	comp=Z,1.7nm,0.5s,baz=70,slow=12,SNR=6.6						
STKA	**Stephens Creek**	**34.40**	**249**	P	**P**	**10 17 00.5**	**-0.2**
COEN	**Coen**	**35.96**	**280**	P	**P**	**10 17 14.8**	**+0.9**
COEN				IAmb	IAmb	10 17 16.6	
	comp=Z,3.8nm,0.8s						
BBOO	**Buckleboo**	**39.12**	**247**	P	**P**	**10 17 39.5**	**+0.1**
BBOO				IAmb	IAmb	10 17 48.1	
	comp=Z,21nm,1.5s						
AS31	**Alice Springs**	**41.77**	**261**	P	**P**	**10 18 01.3**	**+0.5**
ASAR	**Alice Springs**	**41.77**	**261**	P	**P**	**10 18 01.1**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=93,slow=7.8,SNR=36						
ASAR				S	**S**	**10 23 39.6**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=92,slow=15,SNR=4.9						
WR0	**Warramunga Arr**	**41.98**	**267**	P	**P**	**10 18 02.4**	**-0.2**
WB2	**Warramunga Arr**	**42.16**	**267**	P	**P**	**10 18 03.8**	**-0.1**
WB2				IAmb	IAmb	10 18 04.0	
	comp=Z,4.3nm,0.5s						
WRAB	**Tennant Creek**	**42.16**	**267**	P	**P**	**10 18 03.7**	**-0.3**
WRAB				IAmb	IAmb	10 18 04.2	
	comp=Z,4.5nm,1.1s						
WRA	**Warramunga Arr**	**42.17**	**267**	P	**P**	**10 18 03.6**	**-0.4**
	comp=Z,2.6nm,0.4s,baz=93,slow=8.4,SNR=64						
WRA				ScP	**ScP**	**10 22 50.9**	**+4.1**
	comp=Z,0.3nm,0.5s,baz=96,slow=3.8,SNR=6.0						
FORT	**Forrest**	**45.99**	**250**	P	**P**	**10 18 33.2**	**-0.2**
FORT				IAmb	IAmb	10 18 38.4	
	comp=Z,15nm,1.2s						
MTN	**Manton Dam**	**47.27**	**275**	P	**P**	**10 18 42.8**	**-0.6**
MTN				IAmb	IAmb	10 18 52.8	
	comp=Z,28nm,1.4s						
KNRA	**Kununurra**	**48.47**	**270**	P	**P**	**10 18 52.6**	**+0.3**
KNRA				IAmb	IAmb	10 19 11.3	
	comp=Z,13nm,1.2s						
KHLU	**Kahalu`u**	**49.60**	**31**	P	**P**	**10 18 59.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**50.59**	**266**	P	**P**	**10 19 07.4**	**-0.5**
MAW	**Mawson**	**77.36**	**201**	P	**P**	**10 21 58.7**	**+1.3**
PETK	**Petropavlovsk-**	**79.38**	**347**	P	**P**	**10 22 08.7**	**+0.3**
	comp=Z,4.8nm,0.9s,baz=151,slow=3.3,SNR=3.2						
SNAA	**Sanae**	**84.33**	**179**	P	**P**	**10 22 34.3**	**+0.8**
SNAA				IAmb	IAmb	10 22 50.6	
	comp=Z,5.1nm,0.9s						
NVAR	**Mina Array Bea**	**85.14**	**44**	P	**P**	**10 22 38.3**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=217,slow=7.2,SNR=4.0						
TXAR	**Lajitas Array**	**90.79**	**58**	P	**P**	**10 23 05.7**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=218,slow=6.1,SNR=6.6						
ILAR	**Eielson Array**	**92.41**	**14**	P	**P**	**10 23 10.9**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=227,slow=6.1,SNR=2.9						
PDAR	**Pinedale Array**	**93.08**	**44**	P	**P**	**10 23 15.3**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=198,slow=5.7,SNR=2.8						
CLL	**Collm**	**151.12**	**343**	*i* PKPbc	**PKiKP**	**10 29 50.9**	**-0.2**
KHC	**Kasperske Hory**	**152.89**	**340**		**PKPbc**	**10 29 54.1**	**-0.7**

*PGC **13** 10:20:44.2±0.5, 47°.87N×128°.37W, h10km, MLSn3.2/36, Mw3.8/36, 229km Wsw of Tofino, Bc Off Coast Of Washington*
*ISCJB **13** 10:20:46.0±0.7, 48°.00N±0°.02×128°.07W±0°.05, h19km±6km, mb3.5/2, MS3.6/1, Error ellipse: s-maj=6.4km s-min=3.1km az=160.0*
*NEIC **13** 10:20:47.5±1.8, 48°.10N±0°.05×127°.92W±0°.08, h9km±6km, mb4.0/5, Mwr3.8(OTT)*
*IDC **13** 10:20:47.1±2.0, 48°.10N×127°.95W, h0km, mb3.5/3, mb1 3.7/9, mb1mx3.6/37, mbtmp3.5/9, ML3.3/6, MS3.1/3, Ms1 3.1/3, ms1mx2.7/38, Error ellipse: s-maj=33.1km s-min=11.1km az=72.0*

ISC 13 10:20:46.9±1.3, 48°04N±0°03×127°99W±0°06, h11km±9km, n141, σ1§14/168, mb4.0/3, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
NC27	**ODP1027**	**0.32**	**150**	P	**Pg**	**10 20 52.9**	**-0.3**
NC27				S	**Sg**	**10 20 58.0**	**+0.7**
NC27	**ODP1027**	**0.32**	**150**		**Pg**	**10 20 52.9**	**-0.3**
KEMF	**NEPTUNE Canada**	**0.75**	**263**	P	Pg	10 20 53.2	-8.1
KEMF				S	Sg	10 20 58.6	-12
NC89	**ODP889**	**0.99**	**50**	P	**Pg**	**10 21 05.5**	**-0.5**
NC89	**ODP889**	**0.99**	**50**		**Pg**	**10 21 05.5**	**-0.5**
ETB	**Estevan Point**	**1.65**	**35**	Pn	**Pn**	**10 21 15.9**	**+0.1**
ETB	**Estevan Point**	**1.65**	**35**	Pn	**Pn**	**10 21 15.9**	**+0.1**
TOFB	**Tofino**	**1.78**	**50**	Pn	**Pn**	**10 21 17.1**	**-0.4**
TOFB				Sn	**Sb**	**10 21 41.0**	**-0.8**
TOFB	**Tofino**	**1.78**	**50**	Pn	**Pn**	**10 21 17.1**	**-0.4**
TOFB				Sn	**Sb**	**10 21 41.0**	**-0.8**
B012	**Ucluelet**	**1.86**	**61**	Pn	**Pn**	**10 21 18.1**	**-0.6**
B012	**Ucluelet**	**1.86**	**61**	Pn	**Pn**	**10 21 18.1**	**-0.6**
OZB	**Mount Ozzard**	**1.90**	**60**	Pn	**Pn**	**10 21 18.9**	**-0.4**
OZB	**Mount Ozzard**	**1.90**	**60**	Pn	**Pn**	**10 21 18.9**	**-0.4**
EDB	**Eliza Dome**	**1.93**	**17**	Pn	**Pn**	**10 21 19.4**	**-0.3**
EDB				Sn	**Sn**	**10 21 43.2**	**-0.6**
EDB	**Eliza Dome**	**1.93**	**17**	Pn	**Pn**	**10 21 19.4**	**-0.3**
EDB				Sn	**Sn**	**10 21 43.2**	**-0.6**
BFSB	**Bamfield**	**2.06**	**66**	Pn	**Pn**	**10 21 21.2**	**-0.3**
BFSB				Sn	**Sn**	**10 21 47.3**	**+0.1**
B928	**Bamfield**	**2.06**	**66**	Pn	**Pn**	**10 21 21.1**	**-0.3**
B928				Sn	**Sb**	**10 21 48.5**	**-1.4**
B928	**Bamfield**	**2.06**	**66**	Pn	**Pn**	**10 21 21.1**	**-0.3**
B928					**Sb**	**10 21 48.5**	**-1.4**
BPBC	**Brooks Peninsu**	**2.13**	**4**	Pn	**Pn**	**10 21 21.1**	**-1.4**
BPBC	**Brooks Peninsu**	**2.13**	**4**	Pn	**Pn**	**10 21 21.1**	**-1.4**
GDR	**Gold River**	**2.17**	**36**	Pn	**Pn**	**10 21 23.2**	**+0.2**
GDR	**Gold River**	**2.17**	**36**	Pn	**Pn**	**10 21 23.2**	**+0.2**
BTB	**Buttle Lake**	**2.17**	**48**	Pn	**Pn**	**10 21 23.1**	**-0.1**
BTB				Sn	**Sn**	**10 21 50.9**	**+0.7**
BTB	**Buttle Lake**	**2.17**	**48**	Pn	**Pn**	**10 21 23.1**	**-0.1**
BTB				Sn	**Sn**	**10 21 50.9**	**+0.7**
OCP	**Olym-Cheeka Pk**	**2.27**	**82**	Pn	**Pn**	**10 21 24.5**	**+0.1**
OCP	**Olym-Cheeka Pk**	**2.27**	**82**	Pn	**Pn**	**10 21 24.5**	**+0.1**
WOSB	**Woss**	**2.32**	**23**	Pn	**Pn**	**10 21 25.4**	**+0.3**
WOSB	**Woss**	**2.32**	**23**	Pn	**Pn**	**10 21 25.4**	**+0.3**
MGB	**Mount Grey**	**2.40**	**65**	Pn	**Pn**	**10 21 25.7**	**-0.5**
MGB	**Mount Grey**	**2.40**	**65**	Pn	**Pn**	**10 21 25.7**	**-0.5**
SPLB	**Strathcona Par**	**2.41**	**39**	Pn	**Pn**	**10 21 27.1**	**+0.7**
SPLB				Sn	**Sn**	**10 21 57.2**	**+1.4**
B927	**Port Alberni**	**2.42**	**60**	Pn	**Pn**	**10 21 26.3**	**-0.1**
B927				Sn	**Sn**	**10 21 57.0**	**+1.1**
PACB	**Port Alice, BC**	**2.42**	**8**	Pn	**Pn**	**10 21 25.6**	**-0.8**
PACB				Sn	**Sn**	**10 21 54.9**	**-1.1**
PACB	**Port Alice, BC**	**2.42**	**8**	Pn	**Pn**	**10 21 25.6**	**-0.8**
PACB				Sn	**Sn**	**10 21 54.9**	**-1.1**
MAYB	**Maynard**	**2.43**	**13**	Pn	**Pn**	**10 21 26.4**	**-0.2**
MAYB				Sn	**Sn**	**10 21 55.7**	**-0.7**
MAYB	**Maynard**	**2.43**	**13**	Pn	**Pn**	**10 21 26.4**	**-0.2**
MAYB				Sn	**Sn**	**10 21 55.7**	**-0.7**
PFB	**Port Renfrew**	**2.43**	**76**	Pn	**Pn**	**10 21 25.8**	**-0.9**
PFB				Sn	**Sn**	**10 21 56.6**	**+0.3**
HOLB	**Holberg**	**2.61**	**358**	Pn	**Pn**	**10 21 27.7**	**-1.3**
HOLB				Sn	**Sn**	**10 21 58.2**	**-2.4**
TLCB	**Telegraph Cove**	**2.62**	**16**	Pn	**Pn**	**10 21 29.7**	**+0.5**
OBC	**Olympics--Boni**	**2.63**	**89**	Pn	**Pn**	**10 21 29.4**	**0.0**
YOUB	**Youbou, Lake C**	**2.63**	**69**	Pn	**Pn**	**10 21 29.2**	**-0.1**
CBB	**Campbell River**	**2.64**	**40**	Pn	**Pn**	**10 21 30.3**	**+0.8**
CBB				Sn	**Sn**	**10 22 02.7**	**+1.2**
NCRB	**Newcastle Ridg**	**2.69**	**28**	Pn	**Pn**	**10 21 31.1**	**+0.8**
NCRB				Sn	**Sn**	**10 22 03.5**	**+0.7**
B926	**Mesachie Lake**	**2.69**	**72**	Pn	**Pn**	**10 21 30.0**	**-0.1**
PHC	**Port Hardy**	**2.70**	**8**	Pn	**Pn**	**10 21 29.7**	**-0.4**
PHC				Sn	**Sn**	**10 22 02.1**	**-0.7**
GHNB	**Nanoose**	**2.79**	**62**	Pn	**Pn**	**10 21 32.1**	**+0.6**
LZB	**Mount Lazard**	**2.84**	**77**	Pn	**Pn**	**10 21 31.6**	**-0.7**
NLWA	**Neilton Lookou**	**2.86**	**102**			**10 21 32.0**	**-0.5**
NLWA				Sn	**Sn**	**10 22 08.0**	**+1.0**
TXB	**Texada**	**2.88**	**53**	Pn	**Pn**	**10 21 33.6**	**+0.9**
NLLB	**Nanaimo Lost L**	**2.91**	**64**	Pn	**Pn**	**10 21 33.5**	**+0.4**
SOKB	**Sooke**	**2.91**	**81**	Pn	**Pn**	**10 21 32.5**	**-0.6**
BPCB	**Bare Point**	**2.99**	**71**	Pn	**Pn**	**10 21 34.6**	**+0.5**
BPCB				Sn	**Sn**	**10 22 12.5**	**+2.6**
WISH	**Wishkah**	**3.00**	**106**	Pn	**Pn**	**10 21 34.2**	**-0.2**
WISH				Sn	**Sn**	**10 22 10.2**	**-0.2**
B009	**North Saanich**	**3.09**	**77**	Pn	**Pn**	**10 21 36.0**	**+0.4**
B010	**North Saanich**	**3.09**	**77**	Pn	**Pn**	**10 21 35.3**	**-0.3**
PGC	**Sidney**	**3.09**	**77**	Pn	**Pn**	**10 21 35.4**	**-0.2**
PA12	**PA12 Sannich**	**3.09**	**77**	Pn	**Pn**	**10 21 35.4**	**-0.3**
B011	**North Saanich**	**3.09**	**77**	Pn	**Pn**	**10 21 35.3**	**-0.3**
PA01	**PA01 North**	**3.09**	**77**	Pn	**Pn**	**10 21 35.6**	**0.0**
PA04	**PA04 Cage**	**3.10**	**77**	Pn	**Pn**	**10 21 35.5**	**-0.2**
PA03	**PA03 Flamable**	**3.10**	**77**	Pn	**Pn**	**10 21 35.6**	**-0.1**
GOBB	**Galiano Island**	**3.12**	**71**	Pn	**Pn**	**10 21 36.5**	**+0.6**
SHB	**Sechelt**	**3.14**	**59**	Pn	**Pn**	**10 21 37.3**	**+0.9**
VGZ	**Gonzales**	**3.14**	**81**	Pn	**Pn**	**10 21 36.0**	**-0.3**
VGZ				Sn	**Sn**	**10 22 15.1**	**+1.2**
SNB	**Saturna Island**	**3.30**	**75**	Pn	**Pn**	**10 21 39.0**	**+0.6**
HDW	**Hoodsport**	**3.35**	**95**	Pn	**Pn**	**10 21 39.3**	**0.0**
BLN	**Blyn Mountain**	**3.37**	**89**	Pn	**Pn**	**10 21 40.1**	**+0.5**
BIB	**Bowen Island**	**3.39**	**64**	Pn	**Pn**	**10 21 40.6**	**+0.9**
MCW	**Mount Constitu**	**3.50**	**78**	Pn	**Pn**	**10 21 41.8**	**+0.5**
GNW	**Green Mountain**	**3.52**	**96**	Pn	**Pn**	**10 21 41.7**	**+0.3**
GNW				Sn	**Sn**	**10 22 23.2**	**+0.2**
WPB	**Watts Point**	**3.55**	**61**	Pn	**Pn**	**10 21 43.1**	**+1.1**
HNBB	**Haney**	**3.80**	**69**	Pn	**Pn**	**10 21 46.0**	**+0.6**
VDB	**Vedder Mountai**	**4.04**	**74**	Pn	**Pn**	**10 21 49.1**	**+0.4**
JCW	**Jim Creek**	**4.07**	**86**	Pn	**Pn**	**10 21 49.9**	**+0.8**
MBW	**Mount Baker**	**4.13**	**77**	Pn	**Pn**	**10 21 51.0**	**+1.0**
D05A	**Enumclaw**	**4.15**	**100**	Pn	**Pn**	**10 21 50.8**	**+0.6**
D05A	**Enumclaw**	**4.15**	**100**	Pn	**Pn**	**10 21 50.8**	**+0.6**
D05A				Sn	**Sn**	**10 22 34.2**	**-4.5**
BBB	**Bella Bella**	**4.15**	**359**	Pn	**Pn**	**10 21 50.4**	**+0.3**
	8.8nm,0.3s,baz=197,slow=4.5,SNR=52						
BBB				Sn	**Sn**	**10 22 36.6**	**-2.1**
	9.0nm,0.3s,baz=21,slow=20,SNR=12						
BBB	**Bella Bella**	**4.15**	**359**	Pn	**Pn**	**10 21 50.1**	**-0.1**
BBB				Sn	**Sn**	**10 22 36.3**	**-2.4**
F04A	**Amboy**	**4.36**	**117**	Pn	**Pn**	**10 21 53.5**	**+0.5**
F04A				Sn	**Sn**	**10 22 42.8**	**-1.0**
B06A	**Marblemount**	**4.37**	**81**	Pn	**Pn**	**10 21 54.4**	**+1.1**
B06A	**Marblemount**	**4.37**	**81**			**10 21 52.8**	**-0.5**
B06A				Sn	**Sn**	**10 22 43.2**	**-0.9**
FMW	**Mount Fremont**	**4.43**	**102**	Pn	**Pn**	**10 21 54.6**	**+0.4**
HOPB	**Hope**	**4.56**	**70**	Pn	**Pn**	**10 21 56.2**	**+0.4**
GPW	**Glacier Peak**	**4.60**	**86**	Pn	**Pn**	**10 21 57.4**	**+0.8**
COR	**Corvallis**	**4.74**	**135**	Pn	**Pn**	**10 21 58.6**	**+0.3**
COR					**Sn**	**10 22 52.3**	**-0.9**
LLLB	**Lillooet**	**4.75**	**55**	Pn	**Pn**	**10 22 00.3**	**+1.8**
LLLB	**Lillooet**	**4.75**	**55**		**Pn**	**10 22 00.3**	**+1.8**
LTY	**Liberty**	**5.01**	**96**	Pn	**Pn**	**10 22 03.5**	**+1.4**
LTY				Sn	**Sn**	**10 23 01.6**	**+1.5**
LTY	**Liberty**	**5.01**	**96**			**10 22 03.6**	**+1.5**
H04A	**Detroit Lake**	**5.24**	**128**	Pn	**Pn**	**10 22 05.8**	**+0.6**
H04A					**Sn**	**10 23 04.2**	**-1.3**
E07A	**Sunnyside**	**5.73**	**102**	Pn	**Pn**	**10 22 12.7**	**+0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**0.75**	**164**	*e*P	**Pb**	**10 22 00.1**	**-0.1**
LKP				*e*S	**Sg**	**10 22 09.9**	**+0.6**
LKP				IAML		10 22 12.3	
	comp=N,2μm,0.4s						
LKP				IAML		10 22 12.4	
	comp=E,3μm,0.2s						
ZIRO	**ZIRO**	**1.65**	**252**	*e*P	**Pn**	**10 22 13.6**	**-0.6**
ZIRO				*e*S	**Sn**	**10 22 34.1**	**-1.5**
ZIRO				IAML		10 22 38.8	
	comp=N,3μm,0.7s						
ZIRO				IAML		10 22 39.1	
	comp=E,2μm,0.3s						
JORH	**JORHAT**	**1.78**	**223**	*e*S	**Sb**	**10 22 41.8**	**+1.6**
KOHI	**KOHIMA**	**2.68**	**210**	*e*P	**Pn**	**10 22 27.3**	**-1.2**
KOHI				*i* x	x	10 22 37.9	
KOHI				*e*S	**Sn**	**10 23 00.4**	**-0.7**
KOHI				IAML		10 23 03.0	
	comp=N,94nm,0.3s						
KOHI				IAML		10 23 16.9	
	comp=E,183nm,0.1s						
KOHI				IAML		10 23 17.3	
	comp=N,146nm,0.5s						
GUWA	**GUWAHATI**	**3.95**	**243**	*e*P	**Pg**	**10 22 59.9**	**-1.0**
GUWA				*ex*	x	10 23 29.2	
GUWA				*e*S	**Sb**	**10 23 46.1**	**+3.3**
GUWA				IAML		10 23 48.5	
	comp=N,126nm,0.3s						
GUWA				IAML		10 23 49.4	
	comp=E,133nm,0.4s						
SHL	**Shillong**	**4.15**	**234**	*e*P	**Sn**	**10 23 32.0**	**-5.4**
SHL				*i* SG	**Sb**	**10 23 54.0**	**+5.4**
AZL	**Aizawl**	**5.04**	**212**	*e*P	**Pn**	**10 23 01.2**	**+0.3**
AZL				*e*S	**Sn**	**10 23 56.2**	**-3.0**
SAIH	**SAIHA**	**6.03**	**204**	*e*P	**Pn**	**10 23 14.9**	**+0.4**
WMQ	**Urumqi**	**16.98**	**340**	*e*P	**Pn**	**10 25 43.8**	**+1.1**
WMQ				pP	pP	10 25 47.0	-0.5
WMQ				LR	LR		
	comp=N,210nm,5.5s						
WMQ				LR	LR		
	comp=E,220nm,6.3s						
WMQ				LR	LR		
	comp=Z,110nm,5.5s						

SOME **13** *10:36:22.0,40.°10N×78.°92E,h15km*
KRNET **13** *10:36:24.3±0.1,40.°29N×78.°92E,h20km,mb3.7*
BJI **13** *10:36:24.0±0.0,40.°25N×78.°95E,h7km,ML3.4/6*
NNC **13** *10:36:26.9±2.9,40.°36N×78.°88E,h0km,mb4.2,mpv3.9,*
Error ellipse: s-maj=21.2km s-min=15.5km az=162.0
ISC 13 10:36:26.2±1.0,**40.°39N**±0.°04×**78.°88E**±0.°03,**h10**km,**n59,**
σ2§58/86,22C-26D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.57**	**329**	⇓*e*P	**Pg**	**10 36 55.8**	**-0.6**
	baz=30						
TARG				⇓*i*S	**Sg**	**10 37 16.9**	**+0.2**
	baz=30						
PRZ	**Przheval'sk**	**2.13**	**350**	⇓*i*P	**Pb**	**10 37 03.8**	**-1.2**
	baz=50						
PRZ				⇓*i*S	**Sb**	**10 37 30.2**	**-1.3**
	baz=50						
KDJ	**Kajisay**	**2.16**	**324**	⇑*e*P	**Pb**	**10 37 05.3**	**-0.3**
	baz=25						
KDJ				⇑*i*S	**Sb**	**10 37 33.3**	**+0.8**
	baz=25						
KSH	**Kashi**	**2.40**	**250**	Pn	**Pg**	**10 37 13.4**	**+1.3**
KSH				Sn	Sg	10 37 52.9	+10
KSH				smax	smax		
	comp=N,460nm,0.7s						
KSH				smax	smax		
	comp=E,320nm,0.4s						
NRN	**Naryn**	**2.42**	**297**	⇑*e*P	**Pg**	**10 37 09.9**	**-2.7**
	baz=98						
NRN				⇑*e*S	**Sg**	**10 37 41.6**	**-2.4**
	baz=98						
ANVS	**Anan'yevo**	**2.56**	**340**	⇑*e*P	**Pb**	**10 37 10.2**	**-2.2**
	baz=40						
ANVS				⇑*i*S	**Sb**	**10 37 41.9**	**-2.1**
	baz=40						
SATY	**Saty**	**2.69**	**353**	*e*P	**Pg**	**10 37 17.0**	**-0.9**
	89nm,0.5s						
SATY				*e*S	**Sg**	**10 37 55.5**	**+2.7**
	191nm,0.7s						
ULHL	**Ulahol**	**2.72**	**314**	⇓*e*P	**Pb**	**10 37 13.4**	**-1.7**
	baz=15						
ULHL				⇓*e*S	**Sb**	**10 37 47.0**	**-1.6**
	baz=15						
UZB	**Uzynbulak**	**2.76**	**2**	*e*P	**Pg**	**10 37 16.8**	**-2.4**
	14nm,0.5s						
UZB				*e*S	**Sg**	**10 37 55.6**	**+0.7**
	72nm,0.9s						
UZB	**Uzynbulak**	**2.76**	**2**	Pg	**Pb**	**10 37 15.0**	**-0.8**
	14nm,0.5s						
UZB				Lg	Lg	10 37 52.6	
	68nm,0.6s						
ZHN	**Zhinishke**	**2.80**	**353**	*e*P	**Pg**	**10 37 18.1**	**-1.8**
	28nm,0.2s						
ZHN				*e*S	**Sg**	**10 37 57.9**	**+1.7**
	48nm,0.3s						
ZHN	**Zhinishke**	**2.80**	**353**	Pg	**Pg**	**10 37 18.1**	**-1.8**
	28nm,0.2s						
ZHN				Lg	Lg	10 37 57.9	
	48nm,0.3s						
SHLS	**Shalkode**	**2.81**	**9**	*e*P	**Pg**	**10 37 19.6**	**-0.4**
	47nm,0.5s						
SHLS				*e*S	**Sg**	**10 37 59.4**	**+3.1**
	169nm,0.5s						
SHLS	**Shalkode**	**2.81**	**9**	Pg	**Pb**	**10 37 16.6**	**+0.1**
	47nm,0.5s						
SHLS				Lg	Lg	10 37 55.5	
	169nm,0.5s						
PDGK	**Podgornoye**	**2.98**	**9**	Pg	**Pb**	**10 37 17.5**	**-2.0**
	18nm,0.4s						
PDGK				Lg	Lg	10 37 56.5	
	66nm,0.3s						
PDGK	**Podgornoye**	**2.98**	**9**	⇑Pn	**Pb**	**10 37 17.4**	**-2.0**
	19nm,0.4s						
PDGK				⇓Lg	Lg	10 38 04.7	
	120nm,0.6s						
TNSS	**Tian-Shan**	**3.02**	**332**	*e*P	**Pg**	**10 37 22.1**	**-2.0**
	51nm,0.5s						
TNSS				*e*S	**Sg**	**10 38 05.5**	**+2.3**
	85nm,0.7s						
BOOM	**Boomskoye usch**	**3.05**	**315**	⇓*e*P	**Pb**	**10 37 18.2**	**-2.5**
	baz=15						
BOOM				⇓*i*S	**Sb**	**10 37 55.3**	**-2.7**
	baz=15						
KPKS	**Kokpek**	**3.08**	**357**	*e*P	**Pg**	**10 37 22.4**	**-2.8**
	49nm,0.3s						
KPKS				*e*S	**Sg**	**10 38 05.3**	**+0.1**
	226nm,0.3s						
MDOK	**Medeo**	**3.10**	**334**	*e*P	**Pg**	**10 37 23.3**	**-2.2**
	36nm,0.4s						
MDOK				*e*S	**Sg**	**10 38 06.5**	**+0.9**
	195nm,0.7s						
MDOK	**Medeo**	**3.10**	**334**	⇑Pn	**Pb**	**10 37 19.4**	**-2.0**
	30nm,0.6s						
MDOK				Lg	Lg	10 38 06.9	
	232nm,0.8s						
MDOK	**Medeo**	**3.10**	**334**	Pg	**Pg**	**10 37 23.3**	**-2.2**
	36nm,0.4s						
MDOK				Lg	Lg	10 38 06.0	
	120nm,0.5s						
KOTS	**Kotyrbulak**	**3.14**	**336**	*e*P	**Pg**	**10 37 25.1**	**-1.2**
	44nm,0.3s						
KOTS				*e*S	**Sg**	**10 38 09.0**	**+2.0**
	153nm,0.5s						
KOTS	**Kotyrbulak**	**3.14**	**336**	Pg	**Pg**	**10 37 25.1**	**-1.2**
	44nm,0.3s						
KOTS				Lg	Lg	10 38 08.8	
	153nm,0.5s						
IZV	**Izvestkoviy**	**3.15**	**328**	*e*P	**Pg**	**10 37 24.6**	**-1.9**
	37nm,0.4s						
IZV				*e*S	**Sg**	**10 38 08.2**	**+0.9**
	93nm,0.7s						
IZV	**Izvestkoviy**	**3.15**	**328**	Pg	**Pg**	**10 37 24.6**	**-1.9**
	37nm,0.4s						
IZV				Lg	Lg	10 38 08.2	
	93nm,0.7s						
KZA	**Kyzart**	**3.22**	**303**	⇓*e*P	**Pb**	**10 37 20.7**	**-3.0**
	baz=4.0						
KZA				⇓*i*S	**Sb**	**10 38 00.7**	**-2.3**
	baz=4.0						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.25**	**19**	*e*P	**Pg**	**10 37 25.8**	**-2.7**
	0.8nm,0.1s						
KTMS				*e*S	**Sg**	**10 38 10.6**	**0.0**
	55nm,0.7s						
KTMS	**Ketmen**	**3.25**	**19**	Pg	**Pg**	**10 37 25.9**	**-2.6**
	1.3nm,0.1s						
KTMS				Lg	Lg	10 38 10.1	
	56nm,0.6s						
MTBS	**Maitube**	**3.30**	**327**	*e*P	**Pg**	**10 37 27.0**	**-2.4**
	16nm,0.4s						
MTBS				*e*S	**Sg**	**10 38 12.1**	**0.0**
	39nm,0.5s						
KST	**Kastek**	**3.44**	**322**	*e*P	**Pg**	**10 37 29.7**	**-2.3**
	24nm,0.3s						
KST				*e*S	**Sg**	**10 38 17.0**	**+0.4**
	88nm,0.5s						
KST	**Kastek**	**3.44**	**322**	Pg	**Pg**	**10 37 29.7**	**-2.3**
	24nm,0.3s						
KST				Lg	Lg	10 38 16.6	
	79nm,0.4s						
TKM2	**Tokmak 2**	**3.53**	**317**	⇓*e*P	**Pb**	**10 37 24.6**	**-4.3**
	baz=18						
TKM2				⇓*e*S	**Sn**	**10 38 06.7**	**+3.5**
	baz=18						
TKM2	**Tokmak 2**	**3.53**	**317**	⇓Pn	**Pb**	**10 37 25.7**	**-3.2**
	15nm,0.6s						
TKM2				⇑Lg	Lg	10 38 19.9	
	87nm,0.8s						
DGS	**Degeres**	**3.68**	**322**	*e*P	**Pg**	**10 37 33.6**	**-3.1**
	16nm,0.4s						
DGS				*e*S	**Sg**	**10 38 23.5**	**-0.8**
	70nm,0.5s						
DGS	**Degeres**	**3.68**	**322**	Pg	**Pg**	**10 37 33.1**	**-3.6**
	16nm,0.4s						
DGS				Lg	Lg	10 38 23.6	
	70nm,0.5s						
KTBS	**Karatobe**	**3.71**	**335**	*e*P	**Pg**	**10 37 34.9**	**-2.2**
	12nm,0.5s						
KTBS				*e*S	**Sg**	**10 38 26.5**	**+1.3**
	57nm,0.6s						
KTBS	**Karatobe**	**3.71**	**335**	Pg	**Pg**	**10 37 34.9**	**-2.2**
	9.2nm,0.5s						
KTBS				Lg	Lg	10 38 26.8	
	57nm,0.6s						
CHKK	**Chushkaly**	**3.74**	**339**	*e*P	**Pg**	**10 37 35.6**	**-2.2**
	16nm,0.4s						
CHKK				*e*S	**Sg**	**10 38 26.9**	**+0.6**
	56nm,0.4s						
CHKK	**Chushkaly**	**3.74**	**339**	Pg	**Pg**	**10 37 35.7**	**-2.2**
	16nm,0.4s						
CHKK				Lg	Lg	10 38 26.9	
	56nm,0.4s						
ARLS	**Aral**	**3.74**	**295**	⇑*e*P	**Pb**	**10 37 28.4**	**-4.1**
	baz=96						
ARLS				⇑*i*S	**Sb**	**10 38 12.7**	**-5.3**
	baz=96						
ARXS	**Arharly**	**3.90**	**349**	*e*P	**Pg**	**10 37 38.6**	**-2.4**
	15nm,0.8s						
ARXS				*e*S	**Sg**	**10 38 31.9**	**+0.3**
	66nm,0.5s						
KUU	**Kurty**	**3.98**	**333**	*e*P	**Pg**	**10 37 38.9**	**-3.6**
	16nm,0.6s						
KUU				*e*S	**Sg**	**10 38 32.6**	**-1.4**
	38nm,0.9s						
AAK	**Ala-Archa**	**3.99**	**306**	⇑*i*P	Pb	10 37 31.3	-5.3
	baz=7.0						
AAK				⇑*e*S	**Sn**	**10 38 18.5**	**+4.1**
	baz=7.0						
AAK	**Ala-Archa**	**3.99**	**306**	⇓Pg	**Pg**	**10 37 39.1**	**-3.5**
	18nm,0.7s						
AAK				⇓Lg	Lg	10 38 31.6	
	29nm,0.7s						
DJR	**Jarkent**	**4.00**	**9**	*e*P	**Pg**	**10 37 39.6**	**-3.2**
	1.2nm,0.3s						
DJR				*e*S	**Sg**	**10 38 34.2**	**-0.5**
	34nm,0.6s						
FRU1	**Bishkek**	**4.00**	**309**	⇑*i*P	Pb	10 37 31.4	-5.4
	baz=9.0						
FRU1				⇑*i*S	**Sn**	**10 38 18.4**	**+3.8**
	baz=9.0						
CHMS	**Chumysh**	**4.04**	**312**	⇑*i*P	Pb	10 37 31.7	-5.9
	baz=12						
CHMS				⇑*i*S	**Sn**	**10 38 18.9**	**+3.2**
	baz=12						
AML	**Almayashu**	**4.28**	**296**	⇓*i*P	Pb	10 37 36.1	-5.7
	baz=97						
AML				⇓*i*S	**Sn**	**10 38 26.2**	**+4.3**
	baz=97						
USP	**Ospenovka**	**4.36**	**313**	⇓*e*P	Pb	10 37 36.3	-6.6
	baz=13						
USP				⇓*e*S	**Sn**	**10 38 26.4**	**+3.0**
	baz=13						
SGDS	**Sogindy**	**4.41**	**315**	Pg	Pg	10 37 46.0	-4.6
	12nm,0.5s						
SGDS				Lg	Lg	10 38 45.0	
	22nm,0.5s						
EKS2	**Erkin-Say**	**4.45**	**302**	⇓*e*P	Pb	10 37 38.0	-6.6
	baz=3.0						
EKS2				⇓*e*S	**Sn**	**10 38 29.6**	**+3.8**
	baz=3.0						
ARSB	**Arslanbob**	**4.57**	**284**	⇓*i*P	Pb	10 37 40.1	-6.4
	baz=85						
ARSB				⇓*i*S	**Sb**	**10 38 33.9**	**-7.8**
	baz=85						
MRKS	**Merke**	**4.85**	**301**	*e*P	Pg	10 37 54.5	-4.6
	14nm,0.6s						
MRKS				*e*S	**Sg**	**10 39 00.2**	**-1.7**
	13nm,0.7s						
MRKS	**Merke**	**4.85**	**301**	Pg	Pg	10 37 54.5	-4.6
	14nm,0.6s						
MRKS				Lg	Lg	10 39 00.6	
	13nm,0.7s						
MAKZ	**Makanchi**	**6.80**	**18**	⇑Pn	**Pn**	**10 38 08.6**	**+2.6**
	3.6nm,0.9s						
MAKZ				⇑Lg	Lg	10 40 04.7	
	7.2nm,1.2s						
KK31	**Karatay Array**	**6.82**	**296**	⇓Pg	**Pg**	**10 38 33.0**	**-3.8**
	2.3nm,0.7s,baz=121,slow=15,SNR=11						
KK31				⇑Lg	Lg	10 40 06.5	
	2.8nm,0.6s,baz=128,slow=27,SNR=4.2						
MK31	**Makanchi Array**	**6.87**	**20**	⇑Pn	**Pn**	**10 38 10.1**	**+3.2**
	0.3nm,0.3s,baz=209,slow=13,SNR=18						
MK31				⇑Sn	**Sn**	**10 39 29.7**	**+4.5**
	1.5nm,0.5s						
MK31				⇓Lg	Lg	10 40 04.7	
	5.1nm,0.7s						
WMQ	**Urumqi**	**7.40**	**59**	*e*Pn	**Pn**	**10 38 15.3**	**+1.0**

ISCJB **13** *10:43:44.8±0.4, 16.°97N±0.°05×94.°76W±0.°03,h124km±5km,*
Error ellipse: s-maj=8.2km s-min=4.7km az=15.1
NEIC **13** *10:43:45.7±3.0, 16.°94N±0.°07×94.°73W±0.°05,*
h124km±12km
MEX **13** *10:43:47.5±1.4, 16.°92N×94.°77W,h118km±10km,MD4.1*
ISC 13 10:43:45.4±0.7,**16.°94N**±0.°05×**94.°74W**±0.°04,**h119**km±7km,
n37,σ1§90/59,mb4.3/3,Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.20**	**317**	*i* P	**Pn**	**10 44 02.9**	**+0.9**
CMIG				*i* S	**Sn**	**10 44 14.4**	**0.0**
CMIG	**Matias Romero**	**0.20**	**317**		**Pn**	**10 44 02.9**	**+0.9**
CMIG					**Sn**	**10 44 14.4**	**0.0**
HUIG	**Huatulco**	**1.76**	**228**	*e*P	**Pn**	**10 44 15.2**	**-0.6**
HUIG				*i* S	**Sn**	**10 44 39.1**	**+0.1**
HUIG	**Huatulco**	**1.76**	**228**		**Pn**	**10 44 15.2**	**-0.6**
HUIG					**Sn**	**10 44 39.1**	**+0.1**
VHO	**Vista Hermosa**	**1.91**	**274**	*i* P	**Pn**	**10 44 20.1**	**+2.3**
VHO				*i* S	**Sn**	**10 44 43.0**	**+0.4**
PCIG		**1.91**	**130**	*e*P	**Pn**	**10 44 19.1**	**+1.4**
PCIG				*e*S	**Sn**	**10 44 43.2**	**+0.7**
PCIG		**1.91**	**130**		**Pn**	**10 44 19.1**	**+1.4**
PCIG					**Sn**	**10 44 43.2**	**+0.7**
PANG	**Puerto Angel**	**2.09**	**233**	*i* P	**Pn**	**10 44 19.0**	**-1.0**
PANG	**Puerto Angel**	**2.09**	**233**		**Pn**	**10 44 19.0**	**-1.0**
CCIG	**Comitan**	**2.58**	**104**	Pn	**Pn**	**10 44 27.9**	**+1.5**
CCIG				Sn	**Sn**	**10 44 58.8**	**+0.8**
TPIG	**Tehuac#an**	**2.90**	**301**	*e*P	**Pn**	**10 44 32.5**	**+2.0**
TPIG				*i* S	**Sn**	**10 45 06.8**	**+1.7**
TPIG	**Tehuac#an**	**2.90**	**301**		**Pn**	**10 44 32.5**	**+2.0**
TPIG					**Sn**	**10 45 06.8**	**+1.7**
LVIG	**Laguna Verde**	**3.19**	**330**	*i* P	**Pn**	**10 44 33.6**	**-0.5**
LVIG				*i* S	**Sn**	**10 45 10.4**	**-1.4**
LVIG	**Laguna Verde**	**3.19**	**330**		**Pn**	**10 44 33.6**	**-0.5**
LVIG					**Sn**	**10 45 10.4**	**-1.4**
PNIG	**Pinotepa**	**3.29**	**261**	*e*P	**Pn**	**10 44 35.4**	**-0.1**
PNIG				*i* S	**Sn**	**10 45 14.6**	**+0.4**
PNIG	**Pinotepa**	**3.29**	**261**		**Pn**	**10 44 35.4**	**-0.1**
PNIG					**Sn**	**10 45 14.6**	**+0.4**
TLIG	**Tlapa**	**3.70**	**280**	*i* P	**Pn**	**10 44 42.2**	**+1.2**
TLIG				*i* S	**Sn**	**10 45 20.8**	**-3.4**
TLIG	**Tlapa**	**3.70**	**280**		**Pn**	**10 44 43.3**	**+2.2**
TLIG				Sn	**Sn**	**10 45 23.3**	**-0.9**
TLIG	**Tlapa**	**3.70**	**280**		**Pn**	**10 44 42.2**	**+1.2**
TLIG					**Sn**	**10 45 20.8**	**-3.4**
PPM	**Popocatepetl**	**4.25**	**300**	*i* P	**Pn**	**10 44 53.0**	**+4.2**
PPM				*i* S	**Sn**	**10 45 29.9**	**-8.1**
CAIG	**El Cayaco**	**5.29**	**272**	*i* P	**Pn**	**10 45 02.9**	**+0.7**
CAIG				*i* S	**Sn**	**10 46 00.1**	**-1.9**
CAIG	**El Cayaco**	**5.29**	**272**		**Pn**	**10 45 02.9**	**+0.7**
CAIG					**Sn**	**10 46 00.1**	**-1.9**
TEIG	**Tepich**	**6.95**	**61**	Pn	**Pn**	**10 45 23.6**	**-1.1**
TEIG				Sn	**Sn**	**10 46 39.5**	**-2.8**
ESPN	**Las Esperanzas**	**11.16**	**114**	Pn	**Pn**	**10 46 20.4**	**-1.1**
ESPN				Sn	**Sn**	**10 48 19.8**	**-4.6**
JTS	**Las Juntas de**	**11.59**	**124**	Pn	**Pn**	**10 46 28.4**	**+1.1**
MIAR	**Mount Ida**	**17.56**	**3**	P	**P**	**10 47 42.3**	**+0.3**
MIAR				IAmb	IAmb	10 48 09.6	
	comp=Z,22nm,1.6s						
LCAR	**Lake Charles**	**19.32**	**9**	P	**P**	**10 48 02.0**	**+0.9**
LCAR				IAmb	IAmb	10 48 59.5	
	comp=Z,26nm,2.0s						
U40A	**Yellville**	**19.41**	**5**	P	**Pn**	**10 48 04.1**	**-0.4**
U40A				IAmb	IAmb	10 48 40.5	
	comp=Z,19nm,1.7s						
WVT	**Waverly**	**20.07**	**16**	P	**P**	**10 48 10.3**	**+0.9**
PBMO	**Poplar Bluff**	**20.12**	**10**	P	**P**	**10 48 10.8**	**+0.9**
PBMO				IAmb	IAmb	10 48 23.3	
	comp=Z,19nm,1.6s						
V53A	**Saluda**	**21.46**	**27**	P	**P**	**10 48 23.8**	**-0.6**
T52A	**Hallie**	**22.61**	**25**	P	**P**	**10 48 35.5**	**-0.7**
U54A	**Nelsons Funny**	**22.61**	**28**	P	**P**	**10 48 35.8**	**-0.5**
U54A				IAmb	IAmb	10 49 22.5	
	comp=Z,14nm,1.0s						
SMCO	**Snowmass**	**24.59**	**337**	P	**P**	**10 48 54.0**	**-0.8**
SMCO				IAmb	IAmb	10 48 54.4	
	comp=Z,14nm,1.6s						
L40A	**Anamosa**	**25.22**	**6**	P	**P**	**10 49 01.0**	**+1.0**
L40A				IAmb	IAmb	10 49 43.1	
	comp=Z,27nm,1.4s						
AGMN	**Agassiz Nation**	**31.28**	**359**	P	**P**	**10 49 55.0**	**+1.1**
PLID	**Pearl Lake**	**33.24**	**332**	P	**P**	**10 50 12.5**	**+1.1**

IDC 13 10:46:23.1±1.5,**3.°38N×128.°82E,h0km,mb3.9/6,**
mb1 4.0/6,mb1mx3.6/40,mbtmp3.9/6,MS3.1/1,Ms1 3.1/1,
ms1mx2.2/34,Error ellipse: s-maj=92.4km
s-min=18.0km az=70.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.57**	**188**	P	P	10 51 15.6	+1.1
	0.5nm,0.3s,baz=16,slow=7.1,SNR=6.4						
WRA	**Warramunga Arr**	**23.80**	**167**	P	P	10 51 38.0	+0.2
	0.5nm,0.3s,baz=346,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**27.34**	**170**	P	P	10 52 09.1	-0.8
	0.4nm,0.3s,baz=351,slow=6.7,SNR=13						
PSI	**Prapat**		**29.86 270**	LR	LR	11 06 00.3	
	comp=Z,31nm,18.3s,baz=40,slow=39						
STKA	**Stephens Creek**	**37.11**	**162**	P	P	10 53 34.9	-0.6
	0.6nm,0.3s,baz=339,slow=7.1,SNR=5.2						
MKAR	**Makanchi Array**	**59.04**	**324**	P	P	10 56 25.5	+0.5
	0.3nm,0.3s,baz=113,slow=6.8,SNR=8.4						
KURBB	**Kurchatov Arra**	**63.17**	**327**	P	P	10 56 52.7	-0.2
	2.3nm,0.2s,baz=123,slow=5.5,SNR=3.6						

SOME **13** *11:22:25.3,40.°77N×71.°00E,h10km*
KRNET **13** *11:22:25.4±0.1,41.°42N×70.°86E,h17km,mb2.4*
NNC **13** *11:22:29.1±4.0,40.°86N×70.°75E,h0km,mb3.1,mpv3.0,*
Error ellipse: s-maj=31.3km s-min=14.1km az=16.0
ISCJB **13** *11:22:30.4±0.7,41.°17N±0.°04×71.°21E±0.°05,h10km,Error*
ellipse: s-maj=6.7km s-min=5.5km az=151.7
ISC 13 11:22:31.3±1.0,**41.°12N**±0.°05×**71.°21E**±0.°03,**h10**km,**n15,**
σ2§38/24,12C-4D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.89**	**39**	⇑*i*P	Pg	11 22 42.5	-5.9
	baz=67						
ARK				⇑*i*S	**Sg**	**11 22 55.3**	**-4.6**
	baz=67						
BTK	**Batken**	**1.10**	**196**	⇑*e*P	**Pn**	**11 22 50.5**	**-2.4**
	baz=81						
BTK				⇑*i*S	**Sn**	**11 23 08.7**	**+0.6**
	baz=81						
ARSB	**Arslanbob**	**1.35**	**81**	⇑*e*P	**Pn**	**11 22 54.8**	**-1.6**
	baz=93						
ARSB				⇑*i*S	**Sg**	**11 23 16.1**	**+1.3**
	baz=93						
IUG	**Iuzhnay**	**1.36**	**320**	*e*P	**Pn**	**11 22 55.1**	**-1.3**
	4.3nm,0.1s						
IUG				*e*S	**Sg**	**11 23 16.4**	**+1.4**
	43nm,0.3s						
IUG	**Iuzhnay**	**1.36**	**320**	P	**Pn**	**11 22 55.2**	**-1.3**
	4.3nm,0.1s						
IUG				S	**Sg**	**11 23 16.4**	**+1.4**
	42nm,0.2s						
KK31	**Karatay Array**	**2.05**	**346**	⇑Pn	**Pb**	**11 23 08.7**	**0.0**
	1.1nm,0.2s,baz=182,slow=17,SNR=50						
KK31				Lg	Lg	11 23 37.3	
	2.8nm,0.2s,baz=179,slow=31,SNR=13						
AML	**Almayashu**	**2.12**	**61**	⇑*i*P	**Pn**	**11 23 04.5**	**-2.7**
	baz=71						
AML				⇑*i*S	**Sn**	**11 23 32.6**	**-1.2**
	baz=71						
BRLS	**Borolday**	**2.17**	**332**	*e*P	**Pn**	**11 23 05.4**	**-2.1**
	0.5nm,0.1s						
BRLS				*e*S	**Sn**	**11 23 33.6**	**-0.9**
	7.1nm,0.2s						
BRLS	**Borolday**	**2.17**	**332**	Pg	**Pn**	**11 23 05.6**	**-1.9**
	5.0nm,0.3s						
BRLS				Lg	Lg	11 23 33.2	
	6.7nm,0.2s						
MRKS	**Merke**	**2.21**	**42**	*e*P	**Pg**	**11 23 13.5**	**-0.3**
	2.7nm,0.2s						
MRKS				*e*S	**Sg**	**11 23 48.0**	**+5.5**
	4.1nm,0.4s						
MRKS	**Merke**	**2.21**	**42**	Pg	**Pg**	**11 23 15.3**	**+1.5**
	2.5nm,0.2s						
MRKS				Lg	Lg	11 23 49.5	
	3.6nm,0.2s						
ARLS	**Aral**	**2.45**	**71**	⇓*i*P	**Pn**	**11 23 09.7**	**-1.9**
	baz=79						
ARLS				⇓*i*S	**Sn**	**11 23 41.9**	**+0.2**
	baz=79						
UCH	**Uchtor**	**2.71**	**65**	⇑*e*P	**Pn**	**11 23 12.8**	**-2.6**
	baz=72						
UCH				⇑*i*S	**Sn**	**11 23 47.4**	**-1.1**
	baz=72						
AAK	**Ala-Archa**	**2.88**	**57**	⇑Pg	**Pg**	**11 23 30.4**	**+3.8**

ASAR Alice Springs 21.23 139 P P 11 28 40.2 +1.9
0.3nm,0.6s,baz=318,slow=9.5,SNR=7.0
MKAR Makanchi Array 63.47 333 P P 11 34 33.7 +12
0.2nm,0.5s,baz=124,slow=8.4,SNR=2.0

NCEDC ***13*** *12:44:07.3±0.8, 37°.453N±0°.006×121°.77W±0°.01, h6km±1km, ML1.9*
NEIC 13 12:44:07.5±0.8, 37°.460N±0°.006×121°.78W±0°.01, h8km±1km, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJM	**Mission San Jo**	**0.10**	**309**		Pg	12 44 09.8	0.0
CMLM	**Mount Lewis**	**0.10**	**81**		Pg	12 44 09.9	-0.1
MHC	**Mount Hamilton**	**0.16**	**137**		Pg	12 44 10.7	-0.2
WENL	**Wente Vineyard**	**0.16**	**6**		Pg	12 44 11.2	+0.4
CVLM	**Vallecito**	**0.17**	**345**		Pg	12 44 11.6	+0.5
CNIC	**Niles Canyon**	**0.21**	**315**		Pg	12 44 12.0	+0.3
CCOB	**Coe Ranch Numb**	**0.22**	**157**		Pg	12 44 12.2	+0.3
ARN	**Arnold Ranch**	**0.23**	**119**		Pg	12 44 11.6	-0.5
CMMM	**Mount Mocho**	**0.23**	**91**		Pg	12 44 12.1	0.0
JSTM	**Santa Teresa H**	**0.25**	**183**		Pg	12 44 12.6	+0.1
JSGM	**Saratoga Golf**	**0.28**	**231**		Pg	12 44 13.6	+0.6
JJOM	**Saint Joseph's**	**0.30**	**212**		Pg	12 44 13.4	0.0
AMC	**Almaden**	**0.31**	**190**		Pg	12 44 13.5	0.0
JUMM	**Mount Umunhum**	**0.31**	**198**		Pg	12 44 13.7	0.0
JSFB	**Stanford Teles**	**0.32**	**260**		Pg	12 44 14.0	+0.2
JFP	**Foothills Park**	**0.34**	**253**		Pg	12 44 14.4	+0.2
CLCB	**Lake Chabot**	**0.36**	**321**		Pg	12 44 14.9	+0.4
JPC	**Peters Creek,**	**0.39**	**241**		Pg	12 44 15.4	+0.3
HSPM	**Sheep**	**0.40**	**149**		Pg	12 44 15.2	-0.1
JHPM	**Huddart Park**	**0.42**	**268**		Pg	12 44 15.8	+0.2
HLPM	**Lions Peak**	**0.43**	**164**		Pg	12 44 16.4	+0.4
JCHM	**Cahill Ridge**	**0.48**	**277**		Pg	12 44 16.6	-0.1
SAO	**San Andreas Ge**	**0.74**	**159**		Pg	12 44 22.0	+0.2
SAO				Sg	Sg	12 44 32.1	+0.7
MCCM	**Marconi Confer**	**1.11**	**308**	Pg	Pg	12 44 27.9	-0.9
MCCM				Sg	Sg	12 44 43.2	+0.1
CMB	**Columbia Colle**	**1.24**	**62**		Pn	12 44 30.3	-0.9
CMB				Sg	Sb	12 44 47.3	-0.2
PMPB	**Monarch Peak**	**1.47**	**147**		Pn	12 44 34.1	-0.3
PMPB					Sn	12 44 53.6	-0.2
AFDM	**Forest Hills D**	**1.62**	**23**		Pn	12 44 35.9	-0.4
AFDM					Sn	12 44 56.5	-0.8
RUBR	**Rubicon Trail**	**2.04**	**38**		Pn	12 44 41.5	-0.8
MDPB	**Devils Postpil**	**2.15**	**85**		Pn	12 44 43.6	-0.4
YERR	**Yerington**	**2.51**	**52**		Pn	12 44 50.0	+1.2

ISCJB ***13*** *12:47:37.6±0.3, 11°.09N±0°.03×85°.82W±0°.03, h81km±3km, mb3.9/4, Error ellipse: s-maj=7.1km s-min=3.1km az=43.8*
IDC ***13*** *12:47:38.3±1.0, 11°.22N×85°.60W, h81km±21km, mb3.6/4, mb1 4.1/6, mb1mx3.5/36, mbtmp4.2/6, MS2.7/1, Ms1 2.7/1, ms1mx2.4/27, Error ellipse: s-maj=35.2km s-min=19.6km az=42.0*
NEIC ***13*** *12:47:38.6±1.5, 11°.08N±0°.05×85°.80W±0°.07, h74km±11km, mb4.2/16, ML4.2(UCR)*
UCR ***13*** *12:47:38.3±2.5, 11°.09N×85°.86W, h67km±11km, ML4.1, mb4.2(NEIC)*
SNET ***13*** *12:47:41.3±1.0, 11°.28N×86°.16W, h7km±24km, ML4.1*
ISC 13 12:47:38.1±0.7, 11°.06N±0°.04×85°.85W±0°.05, h81km±6km, n93, σ1°27/115, mb4.2/13, 2C-20D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GB1A	**Borinquen Arri**	**0.51**	**119**	*eP*	**Pn**	**12 47 51.6**	**-0.5**
GB1A				*eS*	**Sn**	**12 48 01.9**	**-0.6**
BUEV	**Buena Vista**	**0.51**	**121**	*eP*	**Pn**	**12 47 51.5**	**-0.6**
BUEV				*eS*	**Sn**	**12 48 01.8**	**-0.8**
CUI	**Cuipilapa**	**0.78**	**121**	*eP*	**Pn**	**12 47 54.5**	**-0.3**
CUI				*eS*	**Sn**	**12 48 07.3**	**0.0**
PLVR	**Palo Verde**	**0.86**	**145**	*eP*	**Pn**	**12 47 55.1**	**-0.7**
PLVR				*eS*	**Sn**	**12 48 08.8**	**-0.2**
MASN	**Masaya**	**0.96**	**342**	*eP*	**Pn**	**12 47 56.3**	**-0.6**
MASN				*eS*	**Sn**	**12 48 09.6**	**-1.3**
ACON	**Acoyapa**	**1.12**	**36**	*eP*	**Pn**	**12 47 58.3**	**-0.4**
ACON	**Acoyapa**	**1.12**	**36**		**Pn**	**12 47 58.2**	**-0.4**
ACON				*Sn*	**Sn**	**12 48 13.2**	**-0.8**
MGAN	**Managua**	**1.15**	**340**	*eP*	**Pn**	**12 47 58.6**	**-0.3**
MGAN				*eS*	**Sn**	**12 48 13.2**	**-1.5**
JTS	**Las Juntas de**	**1.17**	**131**	P	**Pn**	**12 47 58.6**	**-0.7**
	1µm,0.3s,baz=24,slow=12,SNR=3038						
JTS				S	**Sn**	**12 48 14.5**	**-0.6**
	1µm,0.3s,baz=324,slow=24,SNR=15						
JTS	**Las Juntas de**	**1.17**	**131**	*eP*	**Pn**	**12 47 58.6**	**-0.7**
JTS				*eS*	**Sn**	**12 48 14.6**	**-0.6**
JTS	**Las Juntas de**	**1.17**	**131**		**Pn**	**12 47 58.5**	**-0.7**
JTS				*Sn*	**Sn**	**12 48 14.2**	**-1.0**
ARE1	**Arenal 1**	**1.26**	**118**	*eP*	**Pn**	**12 48 00.6**	**+0.2**
CEDE	**Laguna Cedeo**	**1.26**	**117**	*eP*	**Pn**	**12 48 00.6**	**+0.2**
MOMN	**Momotombo**	**1.50**	**333**	*eP*	**Pn**	**12 48 02.8**	**-0.7**
MOMN				*eS*	**Sn**	**12 48 19.1**	**-3.5**
MOMN	**Momotombo**	**1.50**	**333**	*eP*	**Pn**	**12 48 02.8**	**-0.7**
MOMN				*eS*	**Sn**	**12 48 19.1**	**-3.5**
CNGN	**Cerro Negro**	**1.65**	**330**	*eP*	**Pn**	**12 48 05.5**	**0.0**
SRA1	**San Ramn**	**1.66**	**126**	*eP*	**Pn**	**12 48 05.4**	**-0.2**
MATN	**Matagalpa**	**1.86**	**358**	*eP*	**Pn**	**12 48 08.1**	**-0.1**
ESPN	**Las Esperanzas**	**1.89**	**53**	*eP*	**Pn**	**12 48 08.7**	**+0.2**
ESPN				*eS*	**Sn**	**12 48 30.9**	**-0.7**
ESPN	**Las Esperanzas**	**1.89**	**53**	Pn	**Pn**	**12 48 08.7**	**+0.2**
ESPN				*Sn*	**Sn**	**12 48 31.4**	**-0.3**
HDC	**Heredia**	**2.01**	**122**	*eP*	**Pn**	**12 48 10.1**	**-0.2**
HDC	**Heredia**	**2.01**	**122**		**Pn**	**12 48 10.5**	**+0.3**
CRIN	**San Cristobal**	**2.01**	**324**	*eP*	**Pn**	**12 48 10.1**	**-0.1**
CRIN				*eS*	**Sn**	**12 48 34.3**	**-0.3**
CRIN				IAML		12 48 35.6	
	comp=E,5µm,0.4s						
ESTN	**Estel**	**2.09**	**346**	*eP*	**Pn**	**12 48 11.4**	**+0.2**
ESTN				*eS*	**Sn**	**12 48 35.7**	**-0.9**
ESTN	**Estel**	**2.09**	**346**	Pn	**Pn**	**12 48 11.6**	**+0.3**
ESTN				*Sn*	**Sn**	**12 48 37.2**	**+0.6**
LCR2	**La Lucha 2**	**2.24**	**126**	*eP*	**Pn**	**12 48 13.2**	**-0.2**
CVTR	**Volcan Turrial**	**2.30**	**117**	*eP*	**Pn**	**12 48 14.1**	**-0.3**
CNCH	**Conchagua**	**2.93**	**319**	*eP*	**Pn**	**12 48 22.9**	**+0.2**
CNCH	**Conchagua**	**2.93**	**319**	*eP*	**Pn**	**12 48 22.9**	**+0.2**
LCND	**La Caada**	**2.99**	**318**	*iP*	**Pn**	**12 48 23.6**	**+0.2**
LCND				IAML		12 48 28.2	
	comp=Z,811nm,0.4s						
LCND				*eS*	**Sn**	**12 48 57.0**	**-1.3**
LCND	**La Caada**	**2.99**	**318**	*iP*	**Pn**	**12 48 23.6**	**+0.2**
LCND				IAML		12 48 28.2	
	comp=Z,811nm,0.4s						
LCND				*eS*	**Sn**	**12 48 57.0**	**-1.3**
EDPN	**Palmar Norte**	**3.15**	**131**	*eP*	**Pn**	**12 48 25.7**	**+0.2**
JUCU	**Jucuarn**	**3.20**	**313**	*eP*	**Pn**	**12 48 26.0**	**-0.2**
JUCU				*eS*	**Sn**	**12 49 01.9**	**-1.5**
TGUH	**Tegucigalpa,Un**	**3.28**	**335**	*eP*	**Pn**	**12 48 28.5**	**+1.1**
TGUH	**Tegucigalpa,Un**	**3.28**	**335**	*iP*	**Pn**	**12 48 28.6**	**+1.1**
TGUH	**Tegucigalpa,Un**	**3.28**	**335**		**Pn**	**12 48 28.5**	**+1.0**
FAGO	**Alcalda de S**	**3.42**	**320**	*iP*	**Pn**	**12 48 29.6**	**+0.5**
FAGO				*eS*	**Sn**	**12 49 08.1**	**-0.6**
TECA	**Tecapa**	**3.54**	**313**	*eP*	**Pn**	**12 48 31.8**	**+0.8**
TECA	**Tecapa**	**3.54**	**313**	*eP*	**Pn**	**12 48 31.8**	**+0.8**
COEB	**Comit de Eme**	**3.57**	**313**	*eP*	**Pn**	**12 48 32.8**	**+1.5**
BRU2	**Volcan**	**3.84**	**126**	*eP*	**Pn**	**12 48 35.7**	**+0.7**
VICT	**Victoria**	**3.96**	**317**	*iP*	**Pn**	**12 48 37.4**	**+0.8**
VICT	**Victoria**	**3.96**	**317**	*iP*	**Pn**	**12 48 37.4**	**+0.8**
PAVA	**Las Pavas**	**4.00**	**311**	*eP*	**Pn**	**12 48 38.5**	**+1.4**
PAVA				IAML		12 48 43.2	
	comp=Z,385nm,0.3s						
PAVA	**Las Pavas**	**4.00**	**311**	*eP*	**Pn**	**12 48 38.5**	**+1.4**
PAVA				IAML		12 48 43.2	
	comp=Z,385nm,0.3s						
LFRS	**El Faro**	**4.04**	**309**	*eP*	**Pn**	**12 48 38.0**	**+0.3**
LFU	**La Fuente**	**4.16**	**310**	*eP*	**Pn**	**12 48 40.4**	**+1.2**
LFU	**La Fuente**	**4.16**	**310**	*eP*	**Pn**	**12 48 40.4**	**+1.2**
SNET	**Serv Nac Est T**	**4.21**	**309**		**Pn**	**12 48 41.5**	**+1.6**
BOQS	**Boqueron**	**4.28**	**309**	*eP*	**Pn**	**12 48 41.9**	**+0.9**
CEVE	**Cerro Verde**	**4.60**	**307**	*iP*	**Pn**	**12 48 47.8**	**+2.4**
CEVE	**Cerro Verde**	**4.60**	**307**	*iP*	**Pn**	**12 48 47.8**	**+2.4**
SBLS	**San Blas**	**4.60**	**307**	*eP*	**Pn**	**12 48 47.2**	**+1.7**
SBLS	**San Blas**	**4.60**	**307**	*eP*	**Pn**	**12 48 47.2**	**+1.7**
SNJE	**San Jose**	**4.61**	**308**	*eP*	**Pn**	**12 48 46.8**	**+1.3**
SNJE	**San Jose**	**4.61**	**308**	*eP*	**Pn**	**12 48 46.8**	**+1.3**
RTR	**El Retiro**	**4.66**	**308**	*eP*	**Pn**	**12 48 47.4**	**+1.3**
RTR	**El Retiro**	**4.66**	**308**	*eP*	**Pn**	**12 48 47.4**	**+1.3**
MTO3	**Montecristo**	**4.77**	**314**	*eP*	**Pn**	**12 48 49.0**	**+1.4**
MTO3	**Montecristo**	**4.77**	**314**	*eP*	**Pn**	**12 48 49.0**	**+1.4**
APG	**El Apazote**	**5.96**	**312**	P	**Pn**	**12 49 06.4**	**+2.4**
	comp=Z,3.5nm,0.3s,baz=123,slow=16,SNR=18						
APG				LR	LR	12 51 44.6	
	comp=Z,79nm,21.4s,baz=57,slow=41						
BCIP	**Isla Barro Col**	**6.21**	**107**	Pn	**Pn**	**12 49 07.3**	**+0.2**
CCIG	**Comitan**	**8.02**	**311**		**Pn**	**12 49 33.4**	**+1.4**
FSCY	**Frank Sound, G**	**9.36**	**28**	Pn	**Pn**	**12 49 51.9**	**+1.9**
CBCY	**The Bluff, Cay**	**10.43**	**34**	Pn	**Pn**	**12 50 04.6**	**-0.1**
CMIG	**Matias Romero**	**10.62**	**305**	P	**Pn**	**12 50 07.9**	**+0.6**
	comp=Z,6.9nm,0.3s,baz=172,slow=9.8,SNR=51						
CMIG				S	**Sn**	**12 52 02.8**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=351,slow=19,SNR=4.4						
TLIG	**Tlapa**	**13.91**	**299**		**Pn**	**12 50 53.8**	**+2.1**
SDV	**Santo Domingo**	**15.14**	**97**	Pn	**Pn**	**12 51 06.7**	**-1.1**
BANI	**BANI**	**16.65**	**62**	Pn	**Pn**	**12 51 25.7**	**-0.9**
833A	**Chaparral WMA,**	**21.35**	**325**	P	**P**	**12 52 18.9**	**+0.1**
Y49A	**Blount Mountai**	**22.69**	**359**	P	**P**	**12 52 33.7**	**+0.7**
Y49A				IAmb	IAmb	12 52 34.3	
	comp=Z,6.8nm,0.6s						
MIAR	**Mount Ida**	**24.41**	**344**	P	**P**	**12 52 50.0**	**+1.0**
MIAR				IAmb	IAmb	12 52 50.4	
	comp=Z,7.6nm,0.8s						
TXAR	**Lajitas Array**	**24.64**	**320**	P	**P**	**12 52 51.6**	**+0.4**
	comp=Z,11nm,0.6s,baz=138,slow=9.6,SNR=79						
TX32	**Lajitas Array**	**24.64**	**320**	P	**P**	**12 52 52.3**	**+1.1**
V53A	**Saluda**	**24.65**	**6**	P	**P**	**12 52 52.3**	**+1.1**
V53A				IAmb	IAmb	12 53 09.1	
	comp=Z,11nm,1.4s						
ABTX	**Abilene, Hawle**	**24.93**	**331**	P	**P**	**12 52 55.1**	**+1.3**
WMOK	**Wichita Mounta**	**26.35**	**335**	P	**P**	**12 53 08.2**	**+1.6**
X16A	**Lo Mia Camp, P**	**32.95**	**319**	P	**P**	**12 54 06.4**	**+1.2**
X16A				IAmb	IAmb	12 54 07.3	
	comp=Z,4.6nm,1.4s						
GO01	**Chusmiza**	**34.67**	**152**	P	**P**	**12 54 21.7**	**+1.1**
GO01				IAmb	IAmb	12 54 23.8	
	comp=Z,1.3nm,0.8s						
KNB	**Kanab**	**35.46**	**321**	P	**P**	**12 54 27.8**	**+0.9**
PDAR	**Pinedale Array**	**37.73**	**331**	P	**P**	**12 54 45.5**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=135,slow=9.0,SNR=3.1						
ELK	**Elko**	**39.30**	**324**	P	**P**	**12 54 59.5**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=174,slow=9.3,SNR=3.7						
NVAR	**Mina Array Bea**	**39.77**	**319**	P	**P**	**12 55 04.8**	**+1.4**
	comp=Z,2.6nm,0.6s,baz=129,slow=7.3,SNR=31						
KVN	**Kaiserville**	**40.00**	**320**	P	**P**	**12 55 05.6**	**+0.4**
KVN				IAmb	IAmb	12 55 06.5	
	comp=Z,2.2nm,0.7s						
YERR	**Yerington**	**40.69**	**319**	P	**P**	**12 55 11.7**	**+0.8**
YERR				IAmb	IAmb	12 55 12.4	
	comp=Z,2.7nm,0.7s						
BOZ	**Bozeman (W)**	**40.85**	**332**	P	**P**	**12 55 12.2**	**+0.1**
PNTR	**Pine Nut**	**40.98**	**319**	P	**P**	**12 55 14.2**	**+0.9**
PNTR				IAmb	IAmb	12 55 15.1	
	comp=Z,4.4nm,0.9s						
BEKR	**Beckworth**	**41.90**	**319**	IAmb	IAmb	12 55 22.7	
	comp=Z,3.0nm,1.0s						
KSH	**Kashi**	**126.91**	**18**	*e*PKP	**PKPdf**	**13 06 30.6**	**-2.5**
KSH				sPKP		13 07 08.4	
KSH				SKS	**SKSdf**	**13 13 31.5**	**-6.6**
KSH				LR	LR		
	comp=N,580nm,5.5s						
KSH				LR	LR		
	comp=E,840nm,7.1s						
KSH				LR	LR		
	comp=Z,510nm,4.6s						
LZH	**Lanzhou**	**132.22**	**349**	*e*PKP	**PKPdf**	**13 06 44.3**	**+0.9**
LZH				pPKP	pPKPdf	13 07 04.3	-2.0
LZH				sPKP		13 07 12.0	
CD2	**Chengdu**	**137.26**	**348**	PKP	**PKPdf**	**13 06 52.5**	**-0.3**
ASAR	**Alice Springs**	**140.18**	**246**	PKP	**PKPdf**	**13 06 58.0**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=101,slow=1.8,SNR=4.9						
WRA	**Warramunga Arr**	**140.37**	**252**	PKP	**PKPdf**	**13 06 59.3**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=104,slow=1.7,SNR=16						

ISCJB ***13*** *12:55:15.3±0.5, 41°.30S±0°.08×89°.9W±0°.1, h10km, mb3.9/6, MS4.2/20, Error ellipse: s-maj=10.6km az=24.2*
IDC ***13*** *12:55:15.6±1.0, 41°.37S×90°.08W, h0km, mb3.8/6, mb1 4.1/6, mb1mx4.0/21, mbtmp3.8/6, MS4.1/17, Ms1 4.1/17, ms1mx4.1/21, Error ellipse: s-maj=50.9km s-min=21.7km az=93.0*
NEIC ***13*** *12:55:16.2±1.1, 41°.4S±0°.1×90°.0W±0°.2, h10km±1km, mb4.5/14*
GCMT ***13*** *12:55:18.2±0.2, 41°.26S±0°.01×91°.02W±0°.02, h20km±1km, MW5.1/120, Moment Tensor Solution. s54,c69; s120,c174; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.72±.15; Mθθ 1.49±.15; Mϕϕ-0.77±.13; Mrθ-1.25±.24; Mrϕ-5.08±.12; Mθϕ-0.04±.23; Best double couple: M≈5.35400×10^16 NP1:ϕs≈84.00000°, δ88.00000°, λ-166.00000°. NP2:ϕs≈354.00000°, δ76.00000°, λ-2.00000°. Principal axes: T 5.7060, Plg9.0000°, Azm218.0000°; N -0.7050, Plg76.0000°, Azm91.0000°; P -5.0020, Plg11.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 12:55:16.9±0.6, 41°.3S±0°.1×89°.88W±0°.10, h10km, n46, σ1°33/29, mb4.3/10, MS4.2/20, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO06	**Curarrehue**	**14.13**	**89**	Pn	**Pn**	**12 58 36.8**	**-0.3**
GO04	**Tololo Observa**	**19.03**	**60**	P	**P**	**12 59 39.6**	**+0.3**
GO04				IAmb	IAmb	12 59 46.1	
	comp=Z,38nm,1.6s						
GO03	**Copiap**	**21.16**	**56**	P	**P**	**13 00 01.9**	**-0.4**
TRQA	**Tornquist**	**21.68**	**91**	P	**P**	**13 00 08.1**	**+0.4**
GO02	**Mina Guanaco**	**23.32**	**53**	P	**P**	**13 00 25.4**	**-0.1**
CPUP	**Villa Florida**	**30.69**	**71**	LR	LR	13 12 50.9	
	comp=Z,453nm,19.8s,baz=244,slow=34						
LPAZ	**La Paz**	**31.23**	**43**	P	**P**	**13 01 39.4**	**+2.1**
	comp=Z,3.0nm,0.9s,baz=201,slow=8.2,SNR=7.3						
LPAZ				LR	LR	13 11 41.4	
	comp=Z,452nm,18.2s,baz=220,slow=31						
LPAZ	**La Paz**	**31.23**	**43**	P	**P**	**13 01 37.5**	**+0.1**
LPAZ				IAmb	IAmb	13 01 43.4	
	comp=Z,11nm,1.4s						
NNA	**Nana**	**31.39**	**25**	LR	LR	13 10 55.8	
	comp=Z,358nm,20.4s,baz=182,slow=30						
ATAH	**Atahualpa**	**35.56**	**20**	LR	LR	13 13 15.7	
	comp=Z,826nm,20.9s,baz=217,slow=30						
SAML	**Samuel**	**39.97**	**44**	P	**P**	**13 02 52.3**	**+0.6**
OTAV	**Otavalo**	**42.66**	**17**	P	**P**	**13 03 13.4**	**-0.8**
OTAV				IAmb	IAmb	13 03 17.5	
	comp=Z,9.9nm,1.2s						
BDFB	**Brasilia**	**44.23**	**67**	LR	LR	13 21 25.6	
	comp=Z,481nm,19.2s,baz=257,slow=35						
BDFB	**Brasilia**	**44.23**	**67**	P	**P**	**13 03 27.8**	**+1.2**
BDFB				IAmb	IAmb	13 03 30.2	
	comp=Z,9.1nm,1.3s						
ROSC	**El Rosal**	**48.11**	**21**	LR	LR	13 22 15.3	
	comp=Z,237nm,18.5s,baz=210,slow=34						
ROSC	**El Rosal**	**48.11**	**21**	P	**P**	**13 03 57.1**	**-0.2**
VNA3	**Neumayer Olymp**	**48.40**	**155**	P	**P**	**13 04 01.0**	**+2.4**
QSPA	**South Pole Qui**	**48.90**	**180**	P	**P**	**13 04 02.0**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=137,slow=2.3,SNR=9.4						
QSPA	**South Pole Qui**	**48.90**	**180**	P	**P**	**13 04 01.4**	**-1.3**
QSPA				IAmb	IAmb	13 04 05.7	
	comp=Z,8.7nm,1.6s						
VNA1	**Neumayer--Stat**	**48.94**	**154**	P	**P**	**13 03 58.9**	**-3.8**
VNA2	**Neumayer--Watz**	**49.17**	**154**	P	**P**	**13 04 06.0**	**+1.5**
	baz=294,slow=9.2						
SNAA	**Sanae**	**50.47**	**156**	P	**P**	**13 04 14.7**	**+0.1**
SNAA	**Sanae**	**50.47**	**156**	P	**P**	**13 04 14.2**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=258,slow=8.6,SNR=4.8						
SNAA	**Sanae**	**50.47**	**156**	P	**P**	**13 04 13.6**	**-1.0**
SNAA				IAmb	IAmb	13 04 20.2	
	comp=Z,11nm,1.6s						
TBI	**Tubuai**	**52.43**	**271**	*e*LQ	LQ	13 17 08.0	
	comp=Z,333nm,30.8s						
TBI				eLR	LR	13 19 07.8	
	comp=Z,521nm,26.2s,baz=126						
SDV	**Santo Domingo**	**53.02**	**24**	LR	LR	13 25 01.9	
	comp=Z,347nm,21.3s,baz=230,slow=34						
SDV	**Santo Domingo**	**53.02**	**24**	P	**P**	**13 04 34.1**	**-0.2**
SDV				IAmb	IAmb	13 04 34.4	
	comp=Z,13nm,1.4s						
VNDA	**Vanda**	**53.78**	**195**	P	**P**	**13 04 40.3**	**+1.3**
	comp=Z,1.0nm,0.9s,baz=116,slow=6.6,SNR=3.6						
VNDA				LR	LR	13 23 36.5	
	comp=Z,176nm,19.1s,baz=110,slow=32						
VNDA	**Vanda**	**53.78**	**195**	P	**P**	**13 04 37.8**	**-1.1**
PPT2	**Papeete2**	**55.94**	**276**	*e*S	**S**	**13 12 43.6**	**+0.1**
	comp=Z,105nm,26.2s						
PPT2				*e*LQ	LQ	13 18 35.5	
	comp=Z,268nm,25.0s						
PPT2				*e*LR	LR	13 20 51.4	
	comp=Z,190nm,25.8s						
PPT	**Papeete**	**55.95**	**276**	LR	LR	13 22 06.0	
	comp=Z,70nm,20.3s,baz=125,slow=29						
ANWB	**Willy Bob**	**64.22**	**30**	P	**P**	**13 05 51.7**	**-0.3**
ZAIG	**Zacatecas**	**64.86**	**347**	P	**P**	**13 05 55.5**	**-0.9**
ZAIG				IAmb	IAmb	13 06 14.2	
	comp=Z,2.5nm,0.9s						
MAW	**Mawson**	**69.44**	**169**	LR	LR	13 34 42.5	
	comp=Z,130nm,20.0s,baz=230,slow=34						
TXAR	**Lajitas Array**	**71.46**	**347**	P	**P**	**13 06 37.1**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=168,slow=9.0,SNR=4.2						
NVAR	**Mina Array Bea**	**83.52**	**338**	LR	LR	13 37 06.3	
	comp=Z,58nm,18.5s,baz=91,slow=30						
DZM	**Mont Dzumac**	**85.37**	**245**	*e*S	**S**	**13 18 28.6**	**+2.6**
	comp=Z,54nm,32.1s						
DZM	**Mont Dzumac**	**85.37**	**245**	*e*LR	LR	13 34 27.9	
	comp=Z,452nm,26.7s						
PDAR	**Pinedale Array**	**85.58**	**346**	P	**P**	**13 07 55.9**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=134,slow=5.2,SNR=6.7						
BOSA	**Boshof**	**88.15**	**127**	LR	LR	13 41 52.0	
	comp=Z,70nm,18.9s,baz=212,slow=32						
MCMT	**McKenzie Canyo**	**88.22**	**344**	P	**P**	**13 08 06.6**	**-1.4**
DBIC	**Dimbokro**	**90.63**	**82**	LR	LR	13 48 21.3	
	comp=Z,63nm,18.7s,baz=214,slow=35						
STKA	**Stephens Creek**	**93.05**	**222**	LR	LR	13 44 04.4	
	comp=Z,91nm,18.6s,baz=200,slow=32						
SCHQ	**Schefferville**	**97.80**	**13**	LR	LR	13 52 14.8	
	comp=Z,114nm,19.0s,baz=102,slow=35						
HNR	**Honiara**	**98.58**	**249**	LR	LR	13 44 46.5	
	comp=Z,75nm,21.7s,baz=165,slow=30						
TORD	**Torodi Ar. Bea**	**99.72**	**81**	LR	LR	13 50 50.0	
	comp=Z,56nm,20.1s,baz=310,slow=33						

IDC ***13*** *13:10:25.3±3.9, 13°.93N×92°.10W, h0km, mb3.5/2, mb1 3.9/5, mb1mx3.6/30, mbtmp3.6/5, ML3.6/3, Error ellipse: s-maj=60.8km s-min=22.7km az=175.0*
UCR ***13*** *13:10:26.9±0.8, 13°.85N×91°.98W, h1km±192km, MD3.6*
GCG ***13*** *13:10:29.7±0.9, 14°.13N×91°.89W, h82km±16km, MD3.9*
MEX ***13*** *13:10:30.3±0.4, 14°.04N×92°.13W, h10km, MD3.8*
ISC 13 13:10:28.5±1.6, 13°.8N±0°.1×92°.12W±0°.05, h35km, n17, σ1°25/21, 1C-1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERG	**Entre ros, C**	**0.85**	**39**	*e*P	**Pn**	**13 10 43.3**	**-0.7**
ERG				*e*S	**Sn**	**13 10 53.6**	**-1.7**
STG3	**Santiaguito 3,**	**1.07**	**30**	*i*P	**Pn**	**13 10 45.5**	**-1.7**
FUG	**Fuego 3**	**1.41**	**62**	*e*P	**Pn**	**13 10 50.8**	**-1.1**
FUG	**Fuego 3**	**1.41**	**62**	*e*P	**Pn**	**13 10 50.8**	**-1.1**
IXG	**Ixpaco**	**1.68**	**76**	*e*P	**Pn**	**13 10 54.2**	**-1.4**
IXG	**Ixpaco**	**1.68**	**76**	*e*P	**Pn**	**13 10 54.2**	**-1.4**
NBG	**Las Nubes**	**1.90**	**65**	*e*P	**Pn**	**13 10 59.3**	**+0.6**
NBG	**Las Nubes**	**1.90**	**65**	*e*P	**Pn**	**13 10 59.3**	**+0.6**
APG	**El Apazote**	**2.02**	**53**	Pn	**Pn**	**13 10 59.9**	**-0.3**
	20nm,0.3s,baz=96,slow=23,SNR=47						
APG				*Sn*	**Sn**	**13 11 25.4**	**+1.1**
	20nm,0.3s,baz=355,slow=19,SNR=6.5						
PCIG		**2.19**	**331**	*e*P	**Pn**	**13 11 00.5**	**-1.9**
CCIG	**Comitan**	**2.49**	**360**	*e*P	**Pn**	**13 11 07.6**	**+0.9**
CMIG	**Matias Romero**	**4.24**	**321**	Pn	**Pn**	**13 11 29.8**	**-0.8**
	1.3nm,0.3s,baz=132,slow=8.8,SNR=13

MOD	**Modoc Plateau**	**4.31 88**	Pn	**Pn**	**13 27 51.0 +1.8**	
BEKR	**Beckworth**	**4.80 114**	Pn	**Pn**	**13 27 58.7 +2.8**	
AFDM	**Forest Hills D**	**4.91 126**	Pn	**Pn**	**13 27 58.9 +1.6**	
E04D	**Cinebar**	**5.27 27**	P	**Pn**	**13 28 06.7 +4.6**	
	baz=210,SNR=11					
NLWA	**Neilton Lookou**	**5.68 15**	Pn	**Pn**	**13 28 07.7 -0.1**	
YERR	**Yerington**	**5.99 117**	Pn	**Pn**	**13 28 15.8 +3.5**	
SAO	**San Andreas Ge**	**6.29 144**	Pn	**Pn**	**13 28 14.1 -2.0**	
KVN	**Kaiserville**	**6.73 113**	Pn	**Pn**	**13 28 25.3 +2.9**	

IDC ***13*** *13:30:54.3±11.0, 16.27N×120.54E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/47, mbtmp3.3/3, Error ellipse: s-maj=333.3km s-min=32.8km az=35.0*
ISCJB ***13*** *13:31:02.0±0.7, 16.83N±0.04×120.45E±0.07, h108km±6km, mb3.4/2, Error ellipse: s-maj=11.0km s-min=7.1km az=15.9*
MAN ***13*** *13:31:04.0, 16.86N×120.41E, h74km, mb4.3, ML3.1, MS2.8*

ISC 13 13:31:03.2±1.1,**16.83N**±0.05×**120.39E**±0.06,**h99**km±9km, **n11**,σ1§**76**/19,**1D**,**Luzon**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.64**	**226**	P		**Pn**	**Pn**	**13 31 19.7**	**-0.2**
BOLP				S			**Sn**	**13 31 33.8**	**+1.3**
SMPP	**San Manuel, Pa**	**0.72**	**158**	P		**Pn**	**Pn**	**13 31 18.2**	**-2.6**
SMPP				S			**Sn**	**13 31 34.2**	**+0.2**
ABRA	**Dolores**	**0.88**	**20**	P		**Pn**	**Pn**	**13 31 21.8**	**-0.4**
ABRA				S			**Sn**	**13 31 35.8**	**-0.7**
SCZP	**Santa Cruz**	**1.14**	**204**	P		**Pn**	**Pn**	**13 31 25.7**	**+0.6**
SCZP				S			**Sn**	**13 31 42.8**	**+1.2**
APYP	**Conner**	**1.31**	**38**	P		**Pn**	**Pn**	**13 31 26.4**	**-0.7**
APYP				S			**Sn**	**13 31 44.7**	**-0.5**
CAUP	**Cauayan**	**1.38**	**85**	P		**Pn**	**Pn**	**13 31 29.0**	**+1.2**
CAUP				S			**Sn**	**13 31 50.4**	**+3.8**
PCPH	**Palayan**	**1.43**	**152**	⇓P		**Pn**	**Pn**	**13 31 28.6**	**+0.1**
PCPH				S			**Sn**	**13 31 47.6**	**-0.1**
BALP	**Baler**	**1.57**	**133**	P		**Pn**	**Pn**	**13 31 31.0**	**+0.8**
BALP				S			**Sn**	**13 31 50.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**20.50**	**278**	P		**P**	**P**	**13 35 36.5**	**+3.1**
	0.6nm,0.6s,baz=100,slow=7.9,SNR=5.1								
WRA	**Warramunga Arr**	**39.02**	**159**	P		**P**	**P**	**13 38 17.9**	**-2.3**
	0.3nm,0.6s,baz=340,slow=9.0,SNR=5.4								
ASAR	**Alice Springs**	**42.35**	**161**	P		**P**	**P**	**13 38 45.9**	**-1.8**
	0.2nm,0.2s,baz=338,slow=7.2,SNR=18								

ISCJB ***13*** *13:32:44.9±0.6, 14.46N±0.06×145.3E±0.2, h100km, mb3.5/6, Error ellipse: s-maj=23.0km s-min=7.2km az=12.0*
NEIC ***13*** *13:32:45.7±2.1, 14.53N±0.09×145.2E±0.2, h99km±7km, mb4.2/9*
IDC ***13*** *13:32:45.9±1.6, 14.31N×145.55E, h82km±16km, mb3.2/6, mb1 3.5/6, mb1mx3.2/46, mbtmp3.6/6, Error ellipse: s-maj=40.7km s-min=21.5km az=107.0*

ISC 13 13:32:46.4±0.7,**14.44N**±0.07×**145.3E**±0.2,**h100**km,**n19**, σ2§**03**/21,**mb3.8**/11,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.95**	**207**	P		**Pn**	**Pn**	**13 33 05.9**	**-0.4**
	521nm,0.3s,baz=71,slow=1.5,SNR=170								
GUMO				S			**Sn**	**13 33 19.3**	**-1.9**
	901nm,0.3s,baz=163,slow=19,SNR=51								
GUMO				LR		LR		13 33 26.0	
	comp=Z,85nm,20.0s,baz=50,slow=41								
GUMO	**Guam**	**0.95**	**207**				**Pn**	**13 33 06.0**	**-0.3**
GUMO							**Sn**	**13 33 20.7**	**-0.5**
ANA2	**Anatahan**	**1.93**	**11**	Pn		**Pn**	**Pn**	**13 33 16.4**	**-1.8**
SARN	**Sarigan**	**2.30**	**11**	Pn		**Pn**	**Pn**	**13 33 22.0**	**-0.9**
MAJO	**Matsushiro**	**22.91**	**345**	P		**P**	**P**	**13 37 38.9**	**-3.0**
MJB9	**Matsu-Tunnel**	**22.92**	**345**	P		**P**	**P**	**13 37 39.1**	**-2.9**
PMG	**Port Moresby**	**23.76**	**175**	P		**P**	**P**	**13 37 45.6**	**-4.2**
PMG				IAmb		IAmb	IAmb	13 38 04.0	
	comp=Z,9.4nm,1.0s								
YHNB	**Yeheng**	**24.71**	**298**	P		**P**	**P**	**13 38 00.1**	**+1.6**
COEN	**Coen**	**28.29**	**184**	P		**P**	**P**	**13 38 31.1**	**+0.5**
COEN				IAmb		IAmb	IAmb	13 38 37.5	
	comp=Z,4.5nm,1.2s								
WR0	**Warramunga Arr**	**35.78**	**198**	P		**P**	**P**	**13 39 34.1**	**-2.1**
WR0				IAmb		IAmb	IAmb	13 39 44.8	
	comp=Z,1.5nm,0.9s								
WB2	**Warramunga Arr**	**35.82**	**198**	P		**P**	**P**	**13 39 36.9**	**+0.4**
WB2				IAmb		IAmb	IAmb	13 39 46.5	
	comp=Z,6.3nm,1.4s								
WRA	**Warramunga Arr**	**35.83**	**198**	P		**P**	**P**	**13 39 36.2**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=22,slow=9.3,SNR=6.1								
BJT	**Baijiatuau**	**36.05**	**321**	P		**P**	**Pn**	**13 39 37.1**	**-1.1**
BJT				IAmb		IAmb	IAmb	13 39 53.1	
	comp=Z,9.9nm,1.1s								
FITZ	**Fitzroy Crossi**	**37.70**	**212**	P		**P**	**P**	**13 39 51.4**	**-1.0**
ASAR	**Alice Springs**	**39.48**	**197**	P		**P**	**P**	**13 40 08.9**	**+1.6**
	comp=Z,0.1nm,0.5s,baz=16,slow=9.9,SNR=4.2								
MKAR	**Makanchi Array**	**61.19**	**316**	P		**P**	**P**	**13 42 54.1**	**+3.4**
	comp=Z,0.4nm,0.4s,baz=86,slow=7.5,SNR=8.4								
ILAR	**Eielson Array**	**67.62**	**25**	P		**P**	**P**	**13 43 32.7**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=248,slow=5.8,SNR=12								
YKA	**Yellowknife Ar**	**81.91**	**27**	P		**P**	**P**	**13 44 56.0**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=290,slow=5.5,SNR=4.4								
NVAR	**Mina Array Bea**	**86.06**	**51**	P		**P**	**P**	**13 45 18.8**	**+2.3**
	comp=Z,0.2nm,0.5s,baz=270,slow=6.0,SNR=3.5								

IDC ***13*** *13:38:33.9±0.8, 67.58N×142.13E, h0km, mb3.5/7, mb1 3.7/10, mb1mx3.5/50, mbtmp3.5/10, ML3.5/2, MS3.7/1, Ms1 3.7/1, ms1mx2.6/39, Error ellipse: s-maj=22.1km s-min=12.1km az=150.0*
YARS ***13*** *13:38:34.2, 67.70N×142.01E, h8km*
NERS ***13*** *13:38:36.4±0.0, 67.82N×143.03E, h21km*

ISC 13 13:38:34.3±0.6,**67.64N**±0.03×**142.09E**±0.03,**h10**km,**n24**, σ2§**97**/50,**mb3.4**/7,**Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.26**	**159**	*i* Pg			**Pb**	**13 38 58.5**	**+0.5**
	0.2nm,0.4s								
MOMR				*e*Sg			**Sn**	**13 39 15.8**	**+1.0**
	1.3nm,0.7s								
MOMR				*e*Sg			**Sn**	**13 39 15.8**	**+1.0**
	1.7nm,0.5s								
YBGR	**Belaya Gora**	**1.78**	**58**	*i* Pg			**Pn**	**13 39 05.9**	**+0.9**
	1.1nm,0.7s								
YBGR				*e*Sg			**Sb**	**13 39 29.5**	**+0.2**
	4.9nm,0.8s								
YBGR				*e*Sg			**Sb**	**13 39 29.5**	**+0.2**
	0.0nm,0.5s								
DEPR	**Deputatskiy**	**1.94**	**336**	*e*Pn			**Pn**	**13 39 07.4**	**+0.2**
DEPR				*e*Pg			**Pb**	**13 39 08.3**	**-1.3**
	0.1nm,0.2s								
DEPR				*e*Sn			**Sn**	**13 39 31.5**	**-0.1**
DEPR				*e*Sg			**Sb**	**13 39 33.1**	**-0.6**
	1.1nm,0.3s								
DEPR				*e*Sg			**Sb**	**13 39 33.1**	**-0.6**
	0.5nm,0.3s								
BTGS	**Batagay**	**2.85**	**274**	*e*Pn			**Pn**	**13 39 20.5**	**+0.8**
BTGS				*e*Pg			**Pb**	**13 39 25.6**	**+0.4**
	0.1nm,0.5s								
BTGS				*e*Sn			**Sn**	**13 39 54.8**	**+0.8**
BTGS				*e*Sg			**Sb**	**13 40 02.9**	**+2.9**
	1.8nm,1.1s								
BTGS				*e*Sg			**Sb**	**13 40 02.9**	**+2.9**
	0.4nm,0.3s								
UNR	**Ust'-Nera**	**3.12**	**171**	*e*Pn			**Pn**	**13 39 25.6**	**+2.2**
UNR				*e*Pg			**Pb**	**13 39 31.3**	**+1.6**
	0.0nm,0.9s								
UNR				*e*Sn			**Sn**	**13 40 03.0**	**+2.3**
UNR				*e*Sg			**Sg**	**13 40 13.2**	**-1.1**
	0.0nm,1.1s								
UNR				*e*Sg			**Sg**	**13 40 13.2**	**-1.1**
	0.1nm,1.1s								
SUUS	**Susuman**	**5.51**	**150**	*e*P			**Pn**	**13 39 57.6**	**+1.3**
SUUS				*e*Pg			**Pb**	**13 40 15.2**	**+4.8**
SUUS				*e*Sg			Sg	13 42 27.8	+57
SUUS				Sgmax				13 42 35.0	
	220nm,0.9s								
TIXI	**Tiksi**	**6.11**	**317**	*e*Pn			**Pn**	**13 40 05.6**	**+1.1**
TIXI				*e*Pg			**Pb**	**13 40 22.9**	**+2.3**
	0.0nm,0.2s								
TIXI				*e*Sn			**Sn**	**13 41 12.9**	**-1.4**
TIXI				*e*Sg			**Sb**	**13 41 41.0**	**+7.3**
	0.1nm,0.7s								
TIXI	**Tiksi**	**6.11**	**317**	Pn			**Pn**	**13 40 06.1**	**+1.6**
	1.8nm,0.3s,baz=0.0,slow=24,SNR=7.8								
TIXI				Sn			**Sn**	**13 41 12.7**	**-1.6**
	3.4nm,0.3s,baz=0.8,slow=23,SNR=5.1								
TIXI				Lg			Lg	13 41 40.6	
	5.0nm,0.3s,baz=7.8,slow=23,SNR=12								
SEY	**Seymchan**	**6.39**	**133**	*e*Sg			**Sg**	**13 41 52.4**	**-6.8**
SEY				Sgmax				13 42 09.9	
	60nm,0.8s								
SEY	**Seymchan**	**6.39**	**133**	Pn			**Pn**	**13 40 09.5**	**+1.2**
	0.4nm,0.3s,baz=299,slow=24,SNR=8.4								
SEY				Lg			Lg	13 41 53.6	
	0.9nm,0.3s,baz=193,slow=19,SNR=4.0								
SNGR	**Sinegor'e**	**6.62**	**144**	*e*Sg			**Sg**	**13 42 01.3**	**-5.1**
SNGR				Sgmax				13 42 15.5	
	30nm,0.6s								
YAK	**Yakutsk**	**7.71**	**229**	*e*Pn			**Pn**	**13 40 27.5**	**+1.1**
YAK				*e*Pg			Pb	13 40 54.2	+6.3
YAK				*e*Sn			**Sn**	**13 41 54.2**	**+0.5**
YAK				*e*Sg			**Sg**	**13 42 35.4**	**-5.1**
YAK	**Yakutsk**	**7.71**	**229**	Pn			**Pn**	**13 40 27.2**	**+0.8**
	0.0nm,0.3s,baz=173,slow=8.1,SNR=2.0								
YAK				Sn			**Sn**	**13 41 51.8**	**-1.9**
	0.2nm,0.3s,baz=193,slow=19,SNR=6.4								
YAK				Lg			Lg	13 42 40.1	
	0.1nm,0.3s,baz=195,slow=20,SNR=7.5								
TBGR	**Tabaga**	**7.89**	**228**	*e*Pn			**Pn**	**13 40 30.5**	**+1.6**
TBGR				*e*Pg			Pb	13 40 56.9	+5.9
	0.1nm,1.6s								
TBGR				*e*Sn			**Sn**	**13 41 58.5**	**+0.4**
TBGR				*e*Sg			**Sg**	**13 42 41.8**	**-5.4**
	0.4nm,1.3s								
TBGR				*e*Sg			**Sg**	**13 42 41.8**	**-5.4**
	0.2nm,1.2s								
TLAR	**Talaya**	**7.90**	**141**	*e*Sg			**Sg**	**13 42 39.6**	**-8.0**
TLAR				Sgmax				13 43 04.7	
	50nm,0.7s								
MA2	**Magadan**	**8.96**	**150**	*e*Sg			**Sg**	**13 43 15.7**	**-5.7**
MA2				Sgmax				13 43 44.3	
	60nm,1.0s								
SONM	**Songino Array**	**26.86**	**240**	P			**P**	**13 44 16.0**	**+1.1**
	0.3nm,0.6s,baz=17,slow=6.0,SNR=3.1								
ILAR	**Eielson Array**	**27.37**	**62**	P			**P**	**13 44 20.5**	**+1.4**
	0.6nm,0.7s,baz=304,slow=8.2,SNR=6.4								
MKAR	**Makanchi Array**	**36.53**	**266**	P			**P**	**13 45 40.7**	**+1.1**
	0.9nm,0.7s,baz=30,slow=6.9,SNR=7.6								
YKA	**Yellowknife Ar**	**38.98**	**46**	P			**P**	**13 46 00.9**	**+0.9**
	0.4nm,0.6s,baz=325,slow=7.9,SNR=5.0								
AKASG	**Malin Array Be**	**51.79**	**312**	LR			LR	14 10 57.9	
	comp=Z,74nm,19.4s,baz=280,slow=38								
PDAR	**Pinedale Array**	**57.56**	**56**	P			**P**	**13 48 25.4**	**+1.5**
	0.8nm,0.7s,baz=358,slow=3.0,SNR=7.1								
NVAR	**Mina Array Bea**	**58.55**	**65**	P			**P**	**13 48 31.8**	**+1.0**
	0.2nm,0.6s,baz=337,slow=4.3,SNR=3.0								
ASAR	**Alice Springs**	**91.23**	**188**	P			**P**	**13 51 39.5**	**+0.3**
	0.3nm,0.8s,baz=355,slow=4.5,SNR=4.4								

SJA ***13*** *13:40:42.8±0.5, 24.41S×67.16W, h198km±5km, ML3.0, MW3.3*
ISCJB ***13*** *13:40:44.9±1.1, 24.36S±0.05×67.26W±0.04, h174km±13km, Error ellipse: s-maj=8.8km s-min=5.7km az=14.1*
GUC ***13*** *13:40:46.3±0.7, 24.30S×67.65W, h200km±11km, ML3.7*

ISC 13 13:40:42.9±2.4,**24.40S**±0.06×**67.21W**±0.05, **h197**km±22km,**n21**,σ1§**43**/34,**4C-2D**,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.59**	**102**	*i* P			**Pn**	**13 41 17.9**	**+0.6**
SLA				*e*S			**Sn**	**13 41 43.1**	**-0.9**
SLA				IAML				13 41 44.4	
	comp=Z,37nm,0.8s								
HJA	**Humahuaca**	**2.03**	**55**	*i* P			**Pn**	**13 41 22.5**	**+0.6**
GO02	**Mina Guanaco**	**2.29**	**250**	⇑*i* P			**Pn**	**13 41 25.9**	**+1.4**
GO02				*i* S			**Sn**	**13 41 56.5**	**-0.4**
GO02				IAML				13 41 57.7	
	comp=N,335nm,0.1s								
LVC	**Limon Verde**	**2.36**	**318**	*e*P			**Pn**	**13 41 26.9**	**+1.5**
LVC				*i* S			**Sn**	**13 41 57.6**	**-0.9**
LVC	**Limon Verde**	**2.36**	**318**	*i* P			**Pn**	**13 41 26.6**	**+1.2**
LVC				*e*S			**Sn**	**13 41 58.9**	**+0.3**
LVC				IAML				13 42 00.8	
	comp=Z,37nm,0.2s								
PB15	**IPOC Station P**	**2.38**	**299**	⇑*e*P			**Pn**	**13 41 26.8**	**+1.3**
PB15				*i* S			**Sn**	**13 41 56.8**	**-1.8**
PB15	**IPOC Station P**	**2.38**	**299**	*i* P			**Pn**	**13 41 26.7**	**+1.3**
PB15				*e*S			**Sn**	**13 41 59.0**	**+0.4**
ASTB	**Santa Barbara**	**2.56**	**81**	*i* P			**Pn**	**13 41 27.7**	**+0.3**
ASTB				IAML				13 42 39.9	
	comp=Z,11nm,2.5s								
YJA	**Yavi**	**2.71**	**36**	*i* P			**Pn**	**13 41 30.4**	**+1.0**
YJA				*e*S			**Sn**	**13 42 05.5**	**-0.1**
PB06	**IPOC Station P**	**2.74**	**307**	⇑*i*P			**Pn**	**13 41 30.8**	**+1.3**
PB06				*i* S			**Sn**	**13 42 03.9**	**-1.9**
PB06				IAML				13 42 07.7	
	comp=E,305nm,0.1s								
PB06	**IPOC Station P**	**2.74**	**307**	*i* P			**Pn**	**13 41 30.7**	**+1.3**
PB06				IAML				13 42 09.2	
	comp=Z,124nm,0.5s								
PB05	**IPOC Station P**	**3.14**	**299**	*i* P			**Pn**	**13 41 35.3**	**+1.2**
PB05				IAML				13 42 17.5	
	comp=Z,32nm,0.1s								
PB10	**IPOC Station P**	**3.18**	**285**	*e*P			**Pn**	**13 41 35.7**	**+1.3**
PB10				*i* S			**Sn**	**13 42 12.9**	**-1.9**
PB10				IAML				13 42 17.4	
	comp=N,55nm,0.2s								
PB10	**IPOC Station P**	**3.18**	**285**	*i* P			**Pn**	**13 41 35.8**	**+1.3**
PB10				IAML				13 42 24.9	
	comp=Z,20nm,0.3s								
PB09	**IPOC Station P**	**3.19**	**324**	*e*P			**Pn**	**13 41 36.8**	**+2.0**
PB09				*i* S			**Sn**	**13 42 14.3**	**-1.1**
PB09				IAML				13 42 16.1	
	comp=N,71nm,0.1s								
PB09	**IPOC Station P**	**3.19**	**324**	*i* P			**Pn**	**13 41 36.4**	**+1.6**
PB09				IAML				13 42 20.6	
	comp=Z,44nm,0.4s								
PB03	**IPOC Station P**	**3.30**	**314**	⇑*i*P			**Pn**	**13 41 37.2**	**+1.1**
PB03				*i* S			**Sn**	**13 42 15.5**	**-2.3**
PB04	**IPOC Station P**	**3.39**	**307**	*e*P			**Pn**	**13 41 38.1**	**+0.9**
PB04				*i* S			**Sn**	**13 42 17.5**	**-2.2**
PB04				IAML				13 42 21.0	
	comp=N,149nm,0.3s								
PB04	**IPOC Station P**	**3.39**	**307**	*i* P			**Pn**	**13 41 38.3**	**+1.1**
PB07	**IPOC Station P**	**3.62**	**317**	⇓*i*P			**Pn**	**13 41 41.1**	**+1.0**
PB07				*i* S			**Sn**	**13 42 22.0**	**-2.8**
PB07				IAML				13 42 27.8	
	comp=E,95nm,0.6s								
GO03	**Copiap**	**4.19**	**220**	⇓*i*P			**Pn**	**13 41 47.5**	**+0.6**

NEIC ***13*** *13:44:10.6±1.9, 48.5N×0.1×140.3W±0.2, h17km±8km, mb4.0/22, Mwr4.5(OTT)*
PGC ***13*** *13:44:38.2±5.5, 50.75N×139.05W, h10km, MLSn3.9/4, Mw4.5/4, 568km Wsw of Sandspit, Bc West Of Vancouver Island*

ISC 13 13:44:08.5±1.8,**48.4N**±0.2×**140.4W**±0.2,**h10**km,**n61**, σ1§**08**/61,**West of Vancouver Island**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**6.90**	**50**	Pn			**Pn**	**13 45 51.4**	**+1.7**
DIB	**Dawson Inlet,**	**6.93**	**43**	Pn			**Pn**	**13 45 48.6**	**-1.4**
DIB				Sn			Sn	13 46 41.4	-27
HG3B	**Hotspring**	**7.06**	**51**	Pn			**Pn**	**13 45 54.0**	**+2.1**
HG3B	**Hotspring**	**7.06**	**51**	Pn			**Pn**	**13 45 54.0**	**+2.1**
MOBC	**Moresby Island**	**7.13**	**45**	Pn			**Pn**	**13 45 52.6**	**-0.3**
MOBC				Sn			Sn	13 46 47.9	-26
MOBC	**Moresby Island**	**7.13**	**45**	Pn			**Pn**	**13 45 52.3**	**-0.6**
CRAG	**Craig**	**8.36**	**30**	Pn			**Pn**	**13 46 08.5**	**-1.1**
RUBB	**Prince Rupert**	**8.66**	**43**	Pn			**Pn**	**13 46 14.3**	**+0.5**
RUBB	**Prince Rupert**	**8.66**	**43**	Pn			**Pn**	**13 46 14.3**	**+0.5**
SIT	**Sitka**	**9.17**	**18**	Pn			**Pn**	**13 46 17.0**	**-3.8**
WRAK	**Wrangell Islan**	**9.39**	**29**	Pn			**Pn**	**13 46 22.6**	**-1.1**
DHAK	**Deception Hill**	**10.76**	**6**	Pn			**Pn**	**13 46 41.5**	**-1.0**
PNL	**Peninsula**	**11.28**	**3**	Pn			**Pn**	**13 46 49.0**	**-0.5**
PLBC	**Pleasant Camp**	**11.30**	**11**	Pn			**Pn**	**13 46 48.6**	**-1.3**
PLBC				Sn			Sn	13 48 24.8	-31
PLBC	**Pleasant Camp**	**11.30**	**11**	Pn			**Pn**	**13 46 48.6**	**-1.3**
PLBC				Sn			Sn	13 48 24.8	-31
SAMH	**Samovar Hills**	**11.72**	**359**	Pn			**Pn**	**13 46 55.8**	**0.0**
SAMH	**Samovar Hills**	**11.72**	**359**	Pn			**Pn**	**13 46 55.8**	**0.0**
MESA	**MESA**	**11.81**	**356**	Pn			**Pn**	**13 46 56.9**	**-0.1**
MESA	**MESA**	**11.81**	**356**	Pn			**Pn**	**13 46 56.9**	**-0.1**
YUK7	**Dusty Glacier**	**12.20**	**5**	Pn			**Pn**	**13 47 02.8**	**+0.5**
YUK7	**Dusty Glacier**	**12.20**	**5**	Pn			**Pn**	**13 47 02.8**	**+0.5**
GRNC	**Granite Creek**	**12.35**	**357**	Pn			**Pn**	**13 47 04.5**	**0.0**
GRNC	**Granite Creek**	**12.35**	**357**	Pn			**Pn**	**13 47 04.5**	**0.0**
HYT	**Haines Junctio**	**12.53**	**7**	Pn			**Pn**	**13 47 06.5**	**-0.3**
KIAG	**Kiagna River**	**12.57**	**356**	Pn			**Pn**	**13 47 07.4**	**0.0**
KIAG	**Kiagna River**	**12.57**	**356**	Pn			**Pn**	**13 47 07.4**	**0.0**
CTGM	**Chitina Glacie**	**12.57**	**358**	Pn			**Pn**	**13 47 07.6**	**+0.2**
YUK6	**Outpost Mounta**	**12.59**	**5**	Pn			**Pn**	**13 47 07.9**	**+0.2**
YUK6	**Outpost Mounta**	**12.59**	**5**	Pn			**Pn**	**13 47 07.9**	**+0.2**
WHY	**Whitehorse**	**12.66**	**12**	Pn			**Pn**	**13 47 07.9**	**-0.7**
BALM	**Baldy**	**12.68**	**356**	Pn			**Pn**	**13 47 08.5**	**-0.3**
YUK5	**Granite Creek**	**12.81**	**6**	Pn			**Pn**	**13 47 11.1**	**+0.5**
YUK5	**Granite Creek**	**12.81**	**6**	Pn			**Pn**	**13 47 11.1**	**+0.5**
YUK4	**Talbot Arm**	**12.98**	**4**	Pn			**Pn**	**13 47 15.1**	**+2.0**
YUK4	**Talbot Arm**	**12.98**	**4**	Pn			**Pn**	**13 47 15.1**	**+2.0**
MCARA	**McCarthy VSAT**	**13.07**	**354**	Pn			**Pn**	**13 47 15.4**	**+1.4**
YUK3	**Moose Creek**	**13.38**	**360**	Pn			**Pn**	**13 47 19.9**	**+1.5**
YUK3	**Moose Creek**	**13.38**	**360**	Pn			**Pn**	**13 47 19.9**	**+1.5**
MOD	**Modoc Plateau**	**15.59**	**107**	Pn			**Pn**	**13 47 47.2**	**-1.1**
MOD				IAmb			IAmb	13 48 10.3	
	comp=Z,9.7nm,1.6s								
DAWY	**Dawson**	**15.68**	**2**	Pn			**Pn**	**13 47 50.8**	**+1.4**
DAWY	**Dawson**	**15.68**	**2**				**Pn**	**13 47 50.8**	**+1.4**
DAWY				IAmb			IAmb	13 48 00.4	
	comp=Z,19nm,1.8s								
RND	**Reindeer**	**15.71**	**346**	P			**P**	**13 47 53.4**	**-0.4**
PPLA	**Purkeypile**	**15.90**	**340**	P			**P**	**13 47 55.5**	**-0.5**
TRF	**Thorofare Moun**	**16.01**	**344**	P			**P**	**13 47 57.9**	**+0.7**
TRF				IAmb			IAmb	13 48 18.7	
	comp=Z,27nm,1.6s								
MCK	**McKinley**	**16.03**	**346**	P			**P**	**13 47 56.9**	**-0.4**
MCK				IAmb			IAmb	13 48 29.0	
	comp=Z,18nm,1.5s								
KTH	**Kantishna Hill**	**16.22**	**343**	P			**P**	**13 48 00.7**	**+1.3**
KTH				IAmb			IAmb	13 48 10.0	
	comp=Z,14nm,1.2s								
EGAK	**Eagle**	**16.39**	**359**	P			**P**	**13 48 01.2**	**0.0**
EGAK				IAmb			IAmb	13 48 39.9	
	comp=Z,31nm,1.9s								
BEKR	**Beckworth**	**16.70**	**113**				**Pn**	**13 48 02.5**	**-0.2**
BPAW	**Bear Paw Mtn.**	**16.73**	**344**	P			**P**	**13 48 05.1**	**+0.1**
IL31		**16.75**	**350**				**P**	**13 48 04.5**	**-0.7**
IL31				IAmb			IAmb	13 48 47.4	
	comp=Z,19nm,1.7s								
NEA	**Nenana**	**16.85**	**347**	P			**P**	**13 48 05.8**	**-0.5**
AFDM	**Forest Hills D**	**16.91**	**117**				**P**	**13 48 08.2**	**+1.0**
JTMT	**Jette**	**17.44**	**82**	Pn			**Pn**	**13 48 11.2**	**-0.7**
WALA	**Waterton Lakes**	**17.46**	**78**				**Pn**	**13 48 12.1**	**0.0**
WALA				IAmb			IAmb	13 49 02.8	
	comp=Z,24nm,1.7s								
MLY	**Manley**	**17.54**	**345**	Pn			**Pn**	**13 48 12.5**	**-0.3**
MLY				IAmb			IAmb	13 48 29.2	
	comp=Z,18nm,1.7s								
CMB	**Columbia Colle**	**17.86**	**118**				**P**	**13 48 17.9**	**+0.2**
KVN	**Kaiserville**	**18.59**	**112**	P			**Pn**	**13 48 26.6**	**+0.5**
PAGB	**Antelope Grade**	**19.55**	**123**	P			**Pn**	**13 48 36.6**	**-0.9**
PAGB				IAmb			IAmb	13 48 48.5	
	comp=Z,13nm,1.2s								
EGMT	**Eagleton**	**20.36**	**80**	P			**P**	**13 48 43.5**	**-1.6**
LKWY	**Lake**	**20.95**	**89**	P			**P**	**13 48 52.6**	**+1.0**
LKWY				IAmb			IAmb	13 49 17.5	
	comp=Z,6.6nm,1.3s								
REDW	**Red Top Meadow**	**21.11**	**93**	P			**P**	**13 48 53.4**	**0.0**
REDW

CTGM	**Chitina Glacie**	**10.42**	**353**	Pn		**Pn**	**14 01 41.0**	**-0.3**
CTGM	**Chitina Glacie**	**10.42**	**353**	Pn		**Pn**	**14 01 41.5**	**+0.1**
KIAG	**Kiagna River**	**10.47**	**351**	Pn		**Pn**	**14 01 41.5**	**-0.5**
KIAG	**Kiagna River**	**10.47**	**351**	Pn		**Pn**	**14 01 41.5**	**-0.5**
YUK4	**Talbot Arm**	**10.71**	**1**	Pn		**Pn**	**14 01 49.1**	**+3.7**
YUK4	**Talbot Arm**	**10.71**	**1**	Pn		**Pn**	**14 01 49.1**	**+3.7**
YUK3	**Moose Creek**	**11.18**	**356**	Pn		**Pn**	**14 01 53.7**	**+1.9**
YUK3	**Moose Creek**	**11.18**	**356**	Pn		**Pn**	**14 01 53.7**	**+1.9**
YUK1	**Sand Pete Hill**	**11.56**	**356**	Pn		**Pn**	**14 01 59.0**	**+2.0**
YUK1	**Sand Pete Hill**	**11.56**	**356**	Pn		**Pn**	**14 01 59.0**	**+2.0**
DAWY	**Dawson**	**13.44**	**359**	Pn		**Pn**	**14 02 24.6**	**+2.0**
DAWY	**Dawson**	**13.44**	**359**	Pn		**Pn**	**14 02 24.6**	**+2.0**
KMRM	**Mail Ridge**	**14.88**	**129**	Pn		**P**	**14 02 46.1**	**-2.0**
BPAW	**Bear Paw Mtn.**	**14.93**	**339**	P		**P**	**14 02 52.5**	**+4.0**
NEA	**Nenana**	**14.95**	**343**	Pn		Pn	14 02 36.7	-6.4
PRP	**Porcupine Dome**	**15.29**	**349**	Pn		**P**	**14 02 50.4**	**-2.2**
PRP				IAmb		IAmb	14 02 57.7	
	comp=Z,18nm,1.3s							
TTA	**Tatalina**	**15.40**	**329**	Pn		**Pn**	**14 02 45.4**	**-3.7**
TTA				IAmb		IAmb	14 02 59.2	
	comp=Z,8.4nm,1.5s							
MOD	**Modoc Plateau**	**15.51**	**117**	Pn		**Pn**	**14 02 50.9**	**+0.2**
MLY	**Manley**	**15.68**	**341**	Pn		**Pn**	**14 02 51.4**	**-1.4**
MLY				IAmb		IAmb	14 03 04.5	
	comp=Z,5.1nm,1.2s							
HOPS	**Hopland Field**	**16.14**	**130**	Pn		**Pn**	**14 02 59.7**	**+1.0**
HOPS				IAmb		IAmb	14 03 18.6	
	comp=Z,18nm,1.5s							
AKUT	**Akutan**	**16.74**	**292**	Pn		**Pn**	**14 03 02.1**	**-4.2**
INK	**Inuvik**	**17.89**	**6**	Pn		**Pn**	**14 03 14.4**	**-6.1**
BOZ	**Bozeman (W)**	**18.82**	**95**	P		**Pn**	**14 03 32.5**	**+0.3**
BOZ				IAmb		IAmb	14 03 44.0	
	comp=Z,5.3nm,1.4s							
EGMT	**Eagleton**	**19.10**	**87**	P		**P**	**14 03 34.7**	**0.0**
EGMT				IAmb		IAmb	14 03 40.2	
	comp=Z,3.4nm,1.0s							
MDPB	**Devils Postpil**	**19.19**	**125**	P		**P**	**14 03 36.2**	**+0.2**
YHB	**Horse Butte**	**19.48**	**97**	P		**Pn**	**14 03 39.6**	**-0.6**
YMR	**Madison River**	**19.66**	**97**	P		**Pn**	**14 03 42.2**	**-0.2**
DUG	**Dugway, Tooele**	**20.96**	**110**	P		**P**	**14 03 54.3**	**-0.9**
RDOG	**Red Dog Mine**	**21.05**	**335**	P		**P**	**14 03 56.4**	**+0.7**
RDOG				IAmb		IAmb	14 03 58.3	
	comp=Z,3.8nm,0.5s							
PSUT	**Pine Spring**	**21.43**	**115**	P		**P**	**14 04 00.7**	**+0.4**
NLU	**North Lily Min**	**21.56**	**109**	P		**P**	**14 04 02.7**	**+1.1**
GAMB	**Gambell**	**21.78**	**320**	P		**P**	**14 04 04.6**	**+1.1**
ATKA	**Atka Island**	**21.95**	**288**	P		**P**	**14 04 05.9**	**+0.5**
SHPR	**Sheep Range**	**22.13**	**121**	P		**P**	**14 04 09.6**	**+1.9**
SHPR				IAmb		IAmb	14 04 16.5	
	comp=Z,2.7nm,1.4s							

ISCJB ***13*** *14:13:23.8±0.8, 38°.84N±0°.04×55°.5E±0°.1, h33km, Error ellipse: s-maj=13.1km s-min=5.8km az=177.3*
NNC ***13*** *14:13:24.5±1.6, 38°.91N×55°.84E, h0km, mb3.8, Error ellipse: s-maj=21.4km s-min=6.2km az=60.0*
TEH ***13*** *14:13:28.0, 38°.16N×55°.80E, h9km, ML3.1*
ISC 13 14:13:26.5±1.2**, 38°.74N**±0°.08×**55°.64E**±0°.08**, h35**km**, n13, σ1§03/12, 3C-3D, Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMND	**Minoodasht**	**1.50**	**187**	*e*Pg	Pn	14 13 46.9	-3.9
IMND				IAMB	IAmb	14 14 08.9	
	comp=Z,0.0nm,0.5s						
GYA0B	**ALIBECK ARRAY**	**2.11**	**112**	⇑Pn	**Pn**	**14 13 60.0**	**+0.6**
GYA0B				⇓Lg	Lg	14 14 29.5	
ISFR	**Sfrayin**	**2.52**	**131**	IAMB	IAmb	14 14 55.0	
	comp=Z,1μm,0.5s						
ISFR				*e*Pn	**Pn**	**14 14 06.1**	**+0.9**
IGLO	**Ghaloghah**	**2.66**	**213**	*e*Pn	**Pn**	**14 14 08.6**	**+1.6**
IEMG	**Emamgholi**	**2.73**	**118**	IAMB	IAmb	14 14 55.8	
	comp=Z,1μm,0.6s						
IEMG				*e*Pn	**Pn**	**14 14 09.0**	**+1.0**
SBZV	**Sabzevar**	**2.83**	**146**	*e*Pn	**Pn**	**14 14 08.1**	**-1.2**
IKRD	**Kardeh**	**3.01**	**130**	*e*Pn	Pn	14 14 20.9	+9.0
IKRD				IAMB	IAmb	14 15 29.0	
	comp=Z,417nm,0.9s						
IPAY	**Payeh**	**3.52**	**130**	*e*Pn	**Pn**	**14 14 18.2**	**-0.6**
IPAY				IAMB	IAmb	14 15 22.8	
	comp=Z,347nm,0.5s						
IANJ	**Anjilo**	**3.55**	**203**	*e*Pn	**Pn**	**14 14 18.5**	**-0.8**
IMYA	**Miami**	**4.28**	**123**	IAMB	IAmb	14 15 58.7	
	comp=Z,419nm,1.0s						
JRKH	**Jarkhoshk**	**4.70**	**126**	*e*Pn	**Pn**	**14 14 35.8**	**+0.8**
AB31	**Akbulak array**	**10.95**	**15**	⇓P	**Pn**	**14 16 00.3**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=199,slow=14,SNR=6.7						
AB31				⇑S	**Sn**	**14 18 02.2**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=196,slow=25,SNR=5.8						
AKTO	**Aktyubinsk**	**11.81**	**7**	⇓P	**Pn**	**14 16 12.3**	**0.0**
	comp=Z,3.6nm,0.9s						
AKTO				⇑S	**Sn**	**14 18 21.6**	**-1.2**
	comp=Z,3.9nm,1.1s						

CNRM ***13*** *14:53:57.5, 35°.27N×6°.50W, h94km*
ISCJB ***13*** *14:54:01.5±0.4, 35°.46N±0°.02×6°.32W±0°.03, h74km±6km, Error ellipse: s-maj=4.3km s-min=2.7km az=39.1*
IGIL ***13*** *14:54:03.2, 35°.29N×6°.38W, h31km, ML2.9*
MDD ***13*** *14:54:03.4±0.8, 35°.38N×6°.35W, h62km±17km, mb4.1/25, Error ellipse: s-maj=8.3km s-min=4.1km az=18.0, PRXIMO*
INMG ***13*** *14:54:03.6±0.8, 35°.34N×6°.36W, h31km, ML2.7, Error ellipse: s-maj=3.1km s-min=1.8km az=20.0*
SFS ***13*** *14:54:03.0, 35°.40N×6°.30W, h36km, ML3.9, GOLFO DE CADIZ*
LDG ***13*** *14:54:04.6, 35°.43N×6°.32W, h30km*
ISC 13 14:54:00.7±1.3**, 35°.38N**±0°.04×**6°.32W**±0°.03**, h90**km±9km**, n117, σ2§07/209, 2C-9D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMIR	**Smir Dam**	**0.82**	**68**	P	**Pn**	**14 54 18.2**	**-0.3**
SMIR				S	**Sn**	**14 54 30.8**	**-1.0**
CHEFC	**Chefchaouen**	**0.85**	**108**	P	**Pn**	**14 54 17.5**	**-1.3**
CHEFC				S	**Sn**	**14 54 33.0**	**+0.6**
ECEU	**Ceuta**	**0.93**	**56**	P	**Pn**	**14 54 20.8**	**+1.2**
	6.4nm,0.1s,SNR=12						
ECEU				S	**Sn**	**14 54 31.1**	**-2.7**
	16nm,0.1s,SNR=6.0						
CEU	**Ceuta**	**0.93**	**56**	⇑*i*P	**Pn**	**14 54 21.5**	**+1.9**
CEU				*e*S	**Sn**	**14 54 35.6**	**+1.8**
CEU	**Ceuta**	**0.93**	**56**	⇑P	**Pn**	**14 54 21.5**	**+1.9**
CEU				S	**Sn**	**14 54 35.6**	**+1.8**
CNIL	**Conil**	**1.02**	**12**	*e*P	**Pn**	**14 54 21.5**	**+0.9**
CNIL	**Conil**	**1.02**	**12**	P	**Pn**	**14 54 21.5**	**+0.9**
ALJ	**Aljibe**	**1.27**	**25**	*e*P	**Pn**	**14 54 26.0**	**+2.3**
ALJ				*e*S	**Sn**	**14 54 40.8**	**-0.3**
ALJ	**Aljibe**	**1.27**	**25**	P	**Pn**	**14 54 26.0**	**+2.3**
ALJ				S	**Sn**	**14 54 40.8**	**-0.3**
SICH	**Sidi Chahed**	**1.51**	**147**	P	Pn	14 54 24.1	-2.5
SICH				S	**Sn**	**14 54 44.4**	**-1.9**
ESPR	**Espera**	**1.54**	**14**	P	**Pn**	**14 54 28.4**	**+1.5**
	1.5nm,0.1s,SNR=6.7						
ESPR				S	**Sn**	**14 54 43.7**	**-3.1**
	21nm,0.2s,SNR=5.4						
PVLZ	**Peæn de**	**1.67**	**96**	*e*P	**Pn**	**14 54 29.4**	**+0.9**
PVLZ				*e*S	**Sn**	**14 54 49.2**	**-0.4**
PVLZ	**Peæn de**	**1.67**	**96**	P	**Pn**	**14 54 29.4**	**+0.9**
PVLZ				S	**Sn**	**14 54 49.2**	**-0.4**
LIJA	**Lijar**	**1.70**	**26**	⇓*i*P	**Pn**	**14 54 31.4**	**+2.4**
LIJA				*e*S	**Sn**	**14 54 44.6**	**-6.0**
LIJA	**Lijar**	**1.70**	**26**	⇓P	**Pn**	**14 54 31.4**	**+2.4**
LIJA				S	**Sn**	**14 54 44.6**	**-6.0**
EMIJ	**Mijas**	**1.73**	**46**	P	**Pn**	**14 54 30.6**	**+1.2**
	2.4nm,0.2s,SNR=6.1						
EMIJ				S	**Sn**	**14 54 49.8**	**-1.4**
	11nm,0.2s,SNR=11						
ZHG	**ZHG**	**1.94**	**188**	P	Pn	14 54 30.3	-1.9
ZHG				S	**Sn**	**14 54 52.6**	**-3.6**
PALE	**Palemas**	**1.95**	**94**	P	**Pn**	**14 54 31.9**	**-0.4**
PALE				S	**Sn**	**14 54 54.7**	**-1.7**
EMAL	**Malaga-Limoner**	**2.06**	**47**	*e*S	**Sn**	**14 54 59.0**	**+0.1**
LCRM	**LCR**	**2.07**	**144**	P	**Pn**	**14 54 34.1**	**+0.1**
LCRM				S	**Sn**	**14 54 59.5**	**+0.1**
IFR	**Ifrane**	**2.10**	**152**	*e*P	**Pn**	**14 54 37.5**	**+3.1**
IFR				*e*S	**Sn**	**14 55 03.3**	**+3.2**
AKLM	**AKL**	**2.19**	**112**	P	**Pn**	**14 54 36.6**	**+1.0**
AKLM				S	**Sn**	**14 54 59.3**	**-2.9**
PBDV	**Barranco-do-Ve**	**2.27**	**326**	⇓*e*P	**Pn**	**14 54 37.3**	**+0.8**
PBDV				*e*S	**Sn**	**14 55 02.9**	**-1.0**
PBDV				A	A	14 55 08.8	
	18nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.27**	**326**	P	**Pn**	**14 54 37.3**	**+0.8**
PBDV				S	**Sn**	**14 55 02.9**	**-1.0**
	18nm,0.3s						
PVAQ	**Vaqueiros**	**2.32**	**331**	⇓*e*P	**Pn**	**14 54 38.2**	**+1.1**
PVAQ				*e*S	**Sn**	**14 55 04.4**	**-0.5**
PVAQ				A	A	14 55 06.2	
	33nm,0.3s						
PVAQ	**Vaqueiros**	**2.32**	**331**	P	**Pn**	**14 54 35.8**	**-1.3**
PVAQ				S	**Sn**	**14 55 03.5**	**-1.4**
PVAQ	**Vaqueiros**	**2.32**	**331**	P	**Pn**	**14 54 38.2**	**+1.1**
PVAQ				S	**Sn**	**14 55 04.4**	**-0.5**
	33nm,0.3s						
EGRO	**El Granado**	**2.35**	**337**	⇓P	**Pn**	**14 54 38.8**	**+1.3**
	16nm,0.1s,SNR=18						
EGRO				S	**Sn**	**14 55 04.8**	**-0.9**
	30nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.41**	**353**	⇓P	**Pn**	**14 54 39.5**	**+1.3**
	5.4nm,0.1s,SNR=18						
EMIN				S	**Sn**	**14 55 05.7**	**-1.3**
	14nm,0.1s,SNR=10						
EGOR	**Sierra Gorda,**	**2.49**	**45**	P	**Pn**	**14 54 40.4**	**+0.9**
	0.8nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**14 55 08.0**	**-1.2**
	13nm,0.2s,SNR=7.9						
HORN	**Hornachuelos**	**2.61**	**19**	P	**Pn**	**14 54 40.6**	**-0.4**
HORN				S	**Sn**	**14 55 10.2**	**-1.8**
ELGU	**Los Guajares,**	**2.64**	**55**	P	**Pn**	**14 54 42.5**	**+1.0**
	2.1nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**14 55 11.8**	**-1.0**
	12nm,0.2s,SNR=7.9						
PCVE	**Castro Verde**	**2.64**	**329**	*e*P	**Pn**	**14 54 42.7**	**+1.3**
PCVE				*e*S	**Sn**	**14 55 11.9**	**-0.8**
PCVE				A	A	14 55 15.2	
	16nm,0.2s						
PCVE	**Castro Verde**	**2.64**	**329**	P	**Pn**	**14 54 42.7**	**+1.3**
PCVE				S	**Sn**	**14 55 11.9**	**-0.8**
	16nm,0.2s						
PFVI	**Vila Bisbo**	**2.68**	**312**	*e*P	**Pn**	**14 54 42.6**	**+0.7**
PFVI				*e*S	**Sn**	**14 55 12.2**	**-1.4**
PFVI				A	A	14 55 16.8	
	16nm,0.3s						
PFVI	**Vila Bisbo**	**2.68**	**312**	P	**Pn**	**14 54 42.5**	**+0.7**
	6.0nm,0.2s,SNR=5.9						
PFVI				S	**Sn**	**14 55 12.1**	**-1.4**
	33nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**2.69**	**316**	*e*P	**Pn**	**14 54 42.8**	**+0.7**
MORF				*e*S	**Sn**	**14 55 12.0**	**-2.0**
MORF				AML	AML	14 55 16.8	
	comp=N,57nm,0.3s						
MORF	**Marmelete**	**2.69**	**316**	*e*P	**Pn**	**14 54 42.9**	**+0.7**
MORF				*e*S	**Sn**	**14 55 12.8**	**-1.2**
MORF				A	A	14 55 16.0	
	comp=N,19nm,0.2s						
MORF	**Marmelete**	**2.69**	**316**	P	**Pn**	**14 54 42.8**	**+0.7**
MORF				S	**Sn**	**14 55 12.0**	**-2.0**
	comp=N,57nm,0.3s						
EALB	**Alboran**	**2.73**	**77**	P	**Pn**	**14 54 43.4**	**+0.7**
	SNR=7.9						
EALB				S	**Sn**	**14 55 14.5**	**-0.4**
	comp=N,8.3nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**2.79**	**15**	P	**Pn**	**14 54 44.9**	**+1.5**
	comp=N,2.4nm,0.1s,SNR=12						
ECAB				S	**Sn**	**14 55 15.0**	**-1.3**
	comp=N,3.7nm,0.1s,SNR=8.1						
PBAR	**Barrancos**	**2.85**	**349**	*e*P	**Pn**	**14 54 45.8**	**+1.6**
PBAR				*e*S	**Sn**	**14 55 17.1**	**-0.6**
PBAR				A	A	14 55 19.9	
	comp=N,20nm,0.5s						
PBAR	**Barrancos**	**2.85**	**349**	P	**Pn**	**14 54 45.8**	**+1.6**
PBAR				S	**Sn**	**14 55 17.1**	**-0.6**
	comp=N,20nm,0.5s						
MESJ	**Messejana**	**2.90**	**329**	*e*P	**Pn**	**14 54 45.9**	**+1.1**
MESJ				*e*S	**Sn**	**14 55 16.9**	**-1.9**
MESJ				AML	AML	14 55 22.0	
	comp=N,42nm,0.5s						
MESJ	**Messejana**	**2.90**	**329**	P	**Pn**	**14 54 45.9**	**+1.1**
MESJ				S	**Sn**	**14 55 16.9**	**-1.9**
	comp=N,42nm,0.5s						
PTEO	**Sao Teotonio**	**2.91**	**319**	⇓*e*P	**Pn**	**14 54 46.0**	**+1.1**
PTEO				*e*S	**Sn**	**14 55 17.7**	**-1.3**
PTEO				A	A	14 55 19.7	
	comp=N,15nm,0.1s						
PTEO	**Sao Teotonio**	**2.91**	**319**	P	**Pn**	**14 54 46.0**	**+1.1**
PTEO				S	**Sn**	**14 55 17.7**	**-1.3**
	comp=N,7.4nm,0.1s						
MDT	**Midelt**	**2.92**	**150**	P	Pn	14 54 42.2	-3.1
MDT				S	**Sn**	**14 55 16.3**	**-3.3**
PBEJ	**Beja**	**2.92**	**335**	*e*P	**Pn**	**14 54 46.6**	**+1.4**
PBEJ				*e*S	**Sn**	**14 55 18.7**	**-0.7**
PBEJ				A	A	14 55 19.8	
	comp=N,11nm,0.2s						
PBEJ	**Beja**	**2.92**	**335**	P	**Pn**	**14 54 46.6**	**+1.4**
PBEJ				S	**Sn**	**14 55 18.7**	**-0.7**
	comp=N,5.4nm,0.2s						
EQUE	**Quentar**	**2.96**	**51**	P	**Pn**	**14 54 48.0**	**+2.3**
	comp=N,0.4nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**14 55 20.3**	**-0.2**
	comp=N,5.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.12**	**26**	⇓P	**Pn**	**14 54 49.9**	**+2.1**
	comp=N,9.9nm,0.2s,SNR=18						
EADA				S	**Sn**	**14 55 22.9**	**-1.3**
	comp=N,20nm,0.1s,SNR=6.0						
EBER	**Berja**	**3.17**	**60**	P	**Pn**	**14 54 50.4**	**+1.8**
	comp=N,0.2nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**14 55 26.3**	**+0.7**
	comp=N,6.2nm,0.3s,SNR=7.9						
JBK	**JBK**	**3.26**	**108**	P	**Pn**	**14 54 47.8**	**-2.1**
JBK				S	**Sn**	**14 55 26.4**	**-1.3**
PNCL	**Nicolau / Gran**	**3.26**	**328**	*e*P	**Pn**	**14 54 50.9**	**+1.3**
PNCL				*e*S	**Sn**	**14 55 26.3**	**-1.1**
PNCL				A	A	14 55 29.3	
	comp=N,14nm,0.3s						
PNCL	**Nicolau / Gran**	**3.26**	**328**	P	**Pn**	**14 54 50.9**	**+1.3**
PNCL				S	**Sn**	**14 55 26.3**	**-1.1**
	comp=N,14nm,0.3s						
EBAD	**Badajoz**	**3.42**	**351**	P	**Pn**	**14 54 53.6**	**+1.7**
	comp=N,13nm,0.1s,SNR=98						
EBAD				S	**Sn**	**14 55 30.0**	**-1.4**
	comp=N,11nm,0.1s,SNR=4.7						
EVO	**Evora**	**3.43**	**337**	*e*P	**Pn**	**14 54 53.8**	**+1.8**
EVO				*e*S	**Sn**	**14 55 30.6**	**-1.0**
EVO				A	A	14 55 33.3	
	comp=N,14nm,0.2s						
EVO	**Evora**	**3.43**	**337**	⇓*i*P	**Pn**	**14 54 53.7**	**+1.7**
EVO				*e*S	**Sn**	**14 55 30.4**	**-1.2**
EVO	**Evora**	**3.43**	**337**	P	**Pn**	**14 54 53.8**	**+1.8**
EVO				S	**Sn**	**14 55 30.4**	**-1.2**
EQES	**Quesada**	**3.56**	**46**	S	**Sn**	**14 55 34.5**	**-0.6**
	comp=N,7.1nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**3.63**	**344**	*e*P	**Pn**	**14 54 56.4**	**+1.7**
PESTR				*e*S	**Sn**	**14 55 35.6**	**-0.9**
PESTR				A	A	14 55 37.9	
	comp=N,5.1nm,0.5s						
PESTR	**Estremoz**	**3.63**	**344**	P	**Pn**	**14 54 52.9**	**-1.8**
PESTR				S	**Sn**	**14 55 35.7**	**-0.8**
TISM	**Timmit**	**3.65**	**182**	P	Pn	14 54 51.4	-3.5
TISM				S	Sn	14 55 29.8	-7.1
PMTG	**Montargil**	**3.99**	**338**	*e*P	**Pn**	**14 54 59.4**	**-0.1**
PMTG				*e*S	**Sn**	**14 55 42.9**	**-2.3**
PMTG				A	A	14 55 47.4	
	comp=N,7.3nm,0.2s						
PMTG	**Montargil**	**3.99**	**338**	P	**Pn**	**14 54 59.4**	**-0.1**
PMTG				S	**Sn**	**14 55 42.9**	**-2.3**
	comp=N,7.3nm,0.2s						
SESP	**Santiago Espad**	**4.09**	**47**	P	**Pn**	**14 55 00.8**	**-0.2**
SESP				S	**Sn**	**14 55 45.1**	**-2.7**
SESP	**Santiago Espad**	**4.09**	**47**	P	**Pn**	**14 55 03.6**	**+2.6**
	comp=N,0.9nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**14 55 46.6**	**-1.1**
	comp=N,13nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**4.13**	**348**	*e*P	**Pn**	**14 55 03.5**	**+1.9**
PMRV				*e*S	**Sn**	**14 55 47.7**	**-1.1**
PMRV				A	A	14 55 50.2	
	comp=N,9.6nm,0.4s						
PMRV	**Marv??o**	**4.13**	**348**	P	**Pn**	**14 55 03.5**	**+1.9**
PMRV				S	**Sn**	**14 55 47.7**	**-1.1**
	comp=N,9.6nm,0.4s						
PMAFR	**Mafra**	**4.29**	**327**	*e*P	**Pn**	**14 55 05.5**	**+1.9**
PMAFR				*e*S	**Sn**	**14 55 51.6**	**-0.8**
PMAFR				A	A	14 55 59.4	
	comp=N,20nm,0.6s						
PMAFR	**Mafra**	**4.29**	**327**	P	**Pn**	**14 55 05.5**	**+1.9**
	comp=N,6.3nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**14 55 51.0**	**-1.4**
	comp=N,15nm,0.2s,SNR=7.9						
OUK	**Oukaimeden**	**4.35**	**198**	P	Pn	14 55 01.5	-3.4
OUK				S	Sn	14 55 47.9	-6.7
PAB	**San Pablo**	**4.45**	**20**	P	**Pn**	**14 55 07.7**	**+1.8**
	comp=N,0.6nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**14 55 54.3**	**-2.2**
	comp=N,2.9nm,0.1s,SNR=7.9						
OUZM	**OUZ**	**4.47**	**185**	P	Pn	14 55 03.7	-2.6
OUZM				S	**Sn**	**14 55 53.9**	**-3.2**
PTOM	**Tomar**	**4.55**	**339**	*e*P	**Pn**	**14 55 09.1**	**+1.9**
PTOM	**Tomar**	**4.55**	**339**	P	**Pn**	**14 55 09.1**	**+1.9**
PCBR	**Castelo Branco**	**4.55**	**349**	*e*P	**Pn**	**14 55 09.3**	**+2.1**
PCBR				*e*S	**Sn**	**14 55 57.5**	**-1.3**
PCBR				A	A	14 55 59.3	
	comp=N,6.7nm,0.1s						
PCBR	**Castelo Branco**	**4.55**	**349**	P	**Pn**	**14 55 09.3**	**+2.1**
PCBR				S	**Sn**	**14 55 57.5**	**-1.3**
	comp=N,3.3nm,0.1s						
TZRR	**Tazzarine**	**4.62**	**172**	P	Pn	14 55 04.7	-3.6
TZRR				S	Sn	14 55 55.9	-4.9
ESDC	**Sonseca Array**	**4.68**	**23**	P	**Pn**	**14 55 11.0**	**+1.9**
	comp=N,1.0nm,0.1s,baz=208,slow=13,SNR=39						
ESDC				S	**Sn**	**14 55 59.7**	**-2.4**
	comp=N,2.3nm,0.2s,baz=205,slow=24,SNR=16						
EPLA	**Plasencia**	**4.69**	**2**	P	**Pn**	**14 55 11.6**	**+2.6**
	comp=N,10nm,0.1s,SNR=38						
EPLA				S	**Sn**	**14 56 00.5**	**-1.7**
	comp=N,5.7nm,0.1s,SNR=7.9						
PCAS	**Casmilo, Conde**	**4.98**	**340**	*e*P	**Pn**	**14 55 15.0**	**+2.0**
PCAS				*e*S	**Sn**	**14 56 07.2**	**-2.1**
PCAS	**Casmilo, Conde**	**4.98**	**340**	P	**Pn**	**14 55 15.0**	**+2.0**
PCAS				S	**Sn**	**14 56 07.2**	**-2.1**
ETOB	**Tobarra**	**5.02**	**48**	P	**Pn**	**14 55 15.9**	**+2.2**
	comp=N,1.3nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**14 56 08.2**	**-2.3**
	comp=N,3.1nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**5.11**	**349**	*e*P	**Pn**	**14 55 17.2**	**+2.4**
MTE				*e*S	**Sn**	**14 56 11.8**	**-0.7**
MTE	**Manteigas**	**5.11**	**349**	P	**Pn**	**14 55 17.2**	**+2.4**
MTE				S	**Sn**	**14 56 11.8**	**-0.7**
TTIG	**Tnine Tigouga,**	**5.13**	**201**	P	Pn	14 55 10.3	-5.0
TTIG				S	Sn	14 56 04.9	-8.4
ZGR	**Zagora**	**5.27**	**173**	P	Pn	14 55 13.3	-3.9
ZGR				S	Sn	14 56 11.5	-5.2
PVIS	**Viseu**	**5.47**	**347**	*e*P	**Pn**	**14 55 21.7**	**+1.9**
PVIS				*e*S	**Sn**	**14 56 19.9**	**-1.5**
PVIS	**Viseu**	**5.47**	**347**	P	**Pn**	**14 55 21.7**	**+1.9**
PVIS				S	**Sn**	**14 56 19.9**	**-1.5**
GUD	**Guadarrama**	**5.53**	**17**	P	**Pn**	**14 55 23.3**	**+2.7**
	comp=N,1.3nm,0.1s,SNR=13						
GUD				S	**Sn**	**14 56 20.5**	**-2.4**
	comp=N,5.2nm,0.4s,SNR=7.9						
MVO	**Moncorvo**	**5.81**	**355**	*e*P	**Pn**	**14 55 26.8**	**+2.5**
MVO				*e*S	**Sn**	**14 56 27.8**	**-1.7**
MVO				A	A	14 56 30.2	
	comp=N,5.2nm,0.2s						
MVO	**Moncorvo**	**5.81**	**355**	P	**Pn**	**14 55 26.5**	**+2.2**
	comp=N,8.6nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**14 56 26.9**	**-2.6**
	comp=N,12nm,0.2s,SNR=7.9						
ECHE	**Chera**	**5.99**	**44**	P	**Pn**	**14 55 28.4**	**+1.7**
	comp=N,0.6nm,0.1s,SNR=7.9						
ECHE				S	**Sn**	**14 56 31.1**	**-2.8**
	comp=N,40nm,5.3s,SNR=7.9						
PVRL	**Vila Real**	**5.99**	**350**	*e*P	**Pn**	**14 55 28.7**	**+1.9**
PVRL	**Vila Real**	**5.99**	**350**	P	**Pn**	**14 55 28.7**	**+1.9**
ETOR	**Torete**	**6.39**	**30**	P	**Pn**	**14 55 34.9**	**+2.6**
	comp=N,8.7nm,0.1s,SNR=8.4						
ETOR				S	**Sn**	**14 56 40.1**	**-3.7**
	comp=N,30nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**6.43**	**357**	*e*P	**Pn**	**14 55 35.0**	**+2.2**
PBRG				*e*S	**Sn**	**14 56 42.0**	**-2.7**
PBRG	**Braganca**	**6.43**	**357**	P	**Pn**	**14 55 35.0**	**+2.2**
PBRG				S	**Sn**	**14 56 42.0**	**-2.7**
PCAB	**Cabril**	**6.46**	**349**	*e*P	**Pn**	**14 55 35.6**	**+2.4**
PCAB	**Cabril**	**6.46**	**349**

JYNG			eS		Sn	15 04 21.5	+0.5
IRIF	**Iriomote-Funau**	**0.85 127**	S		Sn	15 04 27.0	+0.2
HATJ	**Hateruma jima**	**1.09 136**	eS		Sn	15 04 30.9	0.0
JKRS	**Kuro-shima**	**1.12 123**	P		Pn	15 04 14.5	+0.6
JKRS			S		Sn	15 04 31.9	+0.5
JIJ	**Ishigaki jima**	**1.16 114**	P		Pn	15 04 14.5	+0.1
JIJ			S		Sn	15 04 31.9	-0.4
JISG	**Ishigakijimahi**	**1.24 102**	P		Pn	15 04 15.4	+0.2
JISG			S		Sn	15 04 33.7	0.0
JTJ	**Tarama**	**1.58 97**	P		Pn	15 04 19.4	+0.3
JTJ			S		Sn	15 04 40.8	+0.2
JMJ2	**Miyako jima3**	**2.14 92**	P		Pn	15 04 26.8	+0.9
JMJ2			eS		Sn	15 04 53.7	+0.9

TAP 13 15:04:29.0, 24°.05N × 121°.60E, h16 km ± 1 km, ML1.2, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.03**	**349**	*eP*	Pg	15 04 32.3	+0.4
	baz=2.0						
TWD				*eS*	Sg	15 04 34.8	+1.1
	baz=2.0						
NACB	**Ninganchiao**	**0.13**	**357**	*eP*	Pb	15 04 33.9	+0.8
	baz=356						
NACB				*eS*	Sb	15 04 35.9	+0.1
	baz=356						
ETLH	**Xiulin Townshi**	**0.20**	**325**	*eS*	Sb	15 04 37.5	-0.4
	baz=325						
ESL	**Shilin**	**0.28**	**214**	*eP*	Pb	15 04 35.5	-0.2
	baz=212						
ESL				S	Sb	15 04 40.8	+0.6
	baz=212						
WHF	**Hehuan Shan**	**0.32**	**288**	*eS*	Sb	15 04 41.9	0.0
	baz=287						
CHGB	**Renai**	**0.39**	**272**	S	Sb	15 04 44.3	+0.6
	baz=272						
EGFH	**Guangfu**	**0.41**	**203**	*eP*	Pb	15 04 37.6	-0.3
	baz=203						
EGFH				*i* S	Sb	15 04 44.5	+0.6
	baz=203						
TWT	**Tachien**	**0.44**	**298**	*eP*	Pb	15 04 39.5	+0.9
	baz=296						
TWT				*eS*	Sg	15 04 44.1	+0.1
	baz=296						
TDCB	**Techi**	**0.46**	**297**	*eS*	Sg	15 04 44.2	-0.3
	baz=296						
VWDT	**VWDT**	**0.51**	**236**	*eP*	Pb	15 04 39.8	+0.1
	baz=235						
VWDT				S	Sb	15 04 47.2	+0.3
	baz=235						
DPDB	**Guoxing**	**0.62**	**269**	*eS*	Sb	15 04 50.7	+0.7
	baz=268						
SSLB	**Suanglung**	**0.65**	**247**	*eS*	Sb	15 04 51.1	+0.2
	baz=246						
WHYT	**Xinyi Township**	**0.77**	**243**	S	Sb	15 04 55.3	+0.9
	baz=243						

SJA 13 15:10:15.8 ± 0.7, 31°.93S × 69°.08W, h120 km ± 2 km, ML3.3, MW3.6,2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.23**	**306**	*iP*	Pn	15 10 33.6	+0.6
RTLS				IAML		15 10 46.0	
	comp=Z,1 μm,0.2s						
RTLS				*eS*	Sn	15 10 47.0	+1.3
RTCV	**Cerro Valdivia**	**0.47**	**81**	*iP*	Pn	15 10 34.3	+0.7
RTCV				*eS*	Sn	15 10 47.5	+0.5
ASAL	**Salagasta**	**0.69**	**162**	*iP*	Pn	15 10 36.1	+0.9
ASAL				*eS*	Sn	15 10 50.8	+0.9
CFA	**Coronel Fontan**	**0.79**	**66**	*iP*	Pn	15 10 36.7	+0.7
CFA				*eS*	Sn	15 10 52.0	+0.8
RTLL	**Cerro Villicun**	**0.80**	**41**	*iP*	Pn	15 10 36.8	+0.8
RTLL				*eS*	Sn	15 10 52.0	+0.8
RTLL				IAML		15 10 52.6	
	comp=Z,618nm,0.4s						
ARCO	**CERRO ARCO**	**0.91**	**172**	*iP*	Pn	15 10 38.2	+1.0
ARCO				*eS*	Sn	15 10 54.3	+0.9
ARCO				IAML		15 10 56.1	
	comp=Z,1 μm,0.5s						
AMOG	**MOGNA**	**1.11**	**27**	*iP*	Pn	15 10 40.3	+1.2
AMOG				*eS*	Sn	15 10 58.0	+1.3
AAGR	**Agrelo**	**1.17**	**169**	*iP*	Pn	15 10 40.6	+1.0
AVIZ	**Vizcacheras**	**1.61**	**163**	*iP*	Pn	15 10 45.7	+1.1
ACAN	**Cantantal**	**1.64**	**102**	*iP*	Pn	15 10 46.0	+1.1
ACDV	**Cuesta del Vie**	**1.76**	**359**	*iP*	Pn	15 10 48.0	+1.6
PEL	**Peldehue**	**1.81**	**228**	*iP*	Pn	15 10 47.9	+0.9
ROC1	**El Roble**	**1.94**	**237**	*iP*	Pn	15 10 49.5	+0.8
GO04	**Tololo Observa**	**2.29**	**320**	*iP*	Pn	15 10 54.2	+1.0
APLL	**PUNTA DE LOS L**	**2.67**	**56**	*iP*	Pn	15 10 58.8	+0.9
APLL				IAML		15 11 30.1	
	comp=Z,29nm,0.6s						
MRA	**San Martin**	**2.89**	**101**	*iP*	Pn	15 11 01.8	+1.0
MRA				IAML		15 11 02.1	
	comp=Z,113nm,0.3s						
ACLC	**CERRO LA CRUZ**	**3.10**	**37**	*iP*	Pn	15 11 04.7	+1.0
COIS	**El Sosneado**	**3.19**	**188**	*iP*	Pn	15 11 05.9	+1.2
VCA	**Vinchina**	**3.28**	**14**	*iP*	Pn	15 11 07.1	+1.2
VCA				IAML		15 11 47.7	
	comp=Z,100nm,0.4s						
TCA	**Tanti**	**3.87**	**82**	*iP*	Pn	15 11 14.3	+0.6
TCA				IAML		15 11 59.1	
	comp=Z,39nm,0.7s						
GO03	**Copiap**	**4.44**	**347**	*iP*	Pn	15 11 22.1	+0.8
CYA	**Choya**	**4.49**	**40**	*iP*	Pn	15 11 21.9	-0.1
CYA				IAML		15 12 12.4	
	comp=Z,18nm,0.5s						
TRQA	**Tornquist**	**8.44**	**138**	*iP*	Pn	15 12 16.0	+0.8

IDC 13 15:18:38.1 ± 2.8, 6°.44S × 128°.88E, h226 km ± 41 km, mb2.9/1, mb1 3.1/5, mb1mx2.9/36, mbtmp3.7/5, MS3.0/2, Ms1 3.0/2, ms1mx2.4/13, Error ellipse: s-maj=61.9km s-min=16.4km az=88.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.02**	**23**	P	Pn	15 20 07.7	+1.6
	1.4nm,0.3s,baz=241,slow=19,SNR=12						
SIJI				S	S	15 21 15.3	-0.8
	0.9nm,0.3s,baz=270,slow=20,SNR=10.0						
BATI	**Baumata**	**6.38**	**234**	S	S	15 21 19.9	-4.3
	4.1nm,0.3s,baz=294,slow=22,SNR=11						
FITZ	**Fitzroy Crossi**	**12.02**	**195**	P	Pn	15 21 21.6	-1.0
	0.2nm,0.3s,baz=29,slow=13,SNR=7.5						
FITZ				S	S	15 23 30.9	-4.6
	0.1nm,0.3s,baz=294,slow=20,SNR=2.5						
WRA	**Warramunga Arr**	**14.44**	**159**	P	Pn	15 21 50.9	-1.6
	0.1nm,0.3s,baz=339,slow=12,SNR=10						
WRA				S	S	15 24 27.3	-5.0
	0.0nm,0.3s,baz=340,slow=21,SNR=3.3						
ASAR	**Alice Springs**	**17.80**	**165**	P	P	15 22 31.0	+0.8
	0.4nm,0.3s,baz=344,slow=12,SNR=53						
ASAR				S	S	15 25 39.6	-3.5
	0.0nm,0.3s,baz=347,slow=25,SNR=4.1						
KRVT	**Keravat (AS076**	**23.14**	**86**	LR	LR	15 33 12.5	
	comp=Z,39nm,19.0s,baz=42,slow=38						
GUMO	**Guam**	**25.45**	**39**	LR	LR	15 35 35.8	
	comp=Z,36nm,19.1s,baz=86,slow=40						
MKAR	**Makanchi Array**	**67.15**	**327**	P	P	15 29 07.3	-0.4
	0.2nm,0.5s,baz=113,slow=8.0,SNR=2.2						

IDC ***13*** *15:22:05.9 ± 2.5, 7°.14S × 102°.27E, h0 km, mb3.6/7, mb1 3.8/8, mb1mx3.6/49, mbtmp3.7/8, ML4.1/1, Error ellipse: s-maj=76.6km s-min=20.1km az=45.0*
ISCJB ***13*** *15:22:09.9 ± 0.7, 6°.87S ± 0°.06 × 102°.57E ± 0°.08, h33 km, mb3.6/7, Error ellipse: s-maj=12.1km s-min=6.9km az=146.2*
NEIC ***13*** *15:22:12.0 ± 2.5, 6°.8S ± 0°.1 × 102°.6E ± 0°.1, h33 km ± 8 km, mb4.3/10*

ISC 13 15:22:12.2 ± 1.1, 6°.8S ± 0°.1 × 102°.6E ± 0°.1, h35 km, n27, σ1 9 19/23, mb4.0/11, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.49**	**9**	Pn	**Pn**	**15 22 49.7**	**-0.6**
MNAI				Sn	**Sn**	**15 23 19.0**	**-0.5**
LEM	**Lembang**	**5.03**	**90**	Pn	**Pn**	**15 23 26.4**	**+1.1**
	6.8nm,0.3s,baz=130,slow=23,SNR=4.4						
LEM				Sn	**Sn**	**15 24 22.8**	**+0.4**
	2.9nm,0.3s,baz=144,slow=19,SNR=1.8						

CISI	**Cisompet, Garu**	**5.27**	**98**		**Pn**	**15 23 27.7**	**-0.9**
UGM	**Wanagama**	**7.98**	**98**	Pn	**Pn**	**15 24 04.5**	**-1.3**
BATI	**Baumata**	**21.14**	**101**	P	**P**	**15 26 56.6**	**+2.2**
	12nm,0.6s,baz=291,slow=8.6,SNR=5.2						
CMAR	**Chiang Mai Arr**	**25.39**	**352**	P	**P**	**15 27 37.2**	**+0.8**
	0.6nm,0.5s,baz=186,slow=9.0,SNR=9.3						
CHTO	**Chiang Mai**	**25.74**	**352**	P	**P**	**15 27 38.8**	**-0.8**
KNRA	**Kununurra**	**27.14**	**111**	P	**P**	**15 27 52.0**	**-0.4**
H08S2	**Diego Garcia H**	**29.83**	**267**	T	T	15 59 58.3	
	baz=89,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**29.84**	**267**	T	T	15 59 58.3	
	baz=89,slow=75,SNR=17						
H08S1	**Diego Carcia H**	**29.85**	**267**	T	T	16 00 01.9	
	baz=89,slow=75,SNR=11						
H01W3	**Cape Leeuwin H**	**29.88**	**161**	T	T	15 59 39.5	
	baz=338						
H01W2	**Cape Leeuwin H**	**29.90**	**161**	T	T	15 59 39.8	
	baz=338						
H01W1	**Cape Leeuwin H**	**29.90**	**161**	T	T	15 59 40.8	
	baz=338						
WRA	**Warramunga Arr**	**33.47**	**116**	P	**P**	**15 28 46.4**	**-2.0**
	0.2nm,0.7s,baz=286,slow=8.3,SNR=2.6						
WRAB	**Tennant Creek**	**33.48**	**116**	P	**P**	**15 28 46.3**	**-2.1**
WRAB				IAmb	IAmb	15 29 04.1	
	comp=Z,5.4nm,1.5s						
WB2	**Warramunga Arr**	**33.48**	**116**	P	**P**	**15 28 49.9**	**+1.4**
WB2				IAmb	IAmb	15 28 50.7	
	comp=Z,4.3nm,1.2s						
WR0	**Warramunga Arr**	**33.66**	**116**	P	**P**	**15 28 50.7**	**+0.7**
WR0				IAmb	IAmb	15 28 58.3	
	comp=Z,4.3nm,1.4s						
ASAR	**Alice Springs**	**34.44**	**122**	P	**P**	**15 28 56.9**	**+0.1**
	comp=Z,0.2nm,0.9s,baz=294,slow=7.0,SNR=3.2						
STKA	**Stephens Creek**	**44.09**	**130**	P	**P**	**15 30 17.8**	**+0.6**
GUMO	**Guam**	**46.66**	**64**	P	**P**	**15 30 36.8**	**-1.0**
JNU	**Nakatsue**	**47.99**	**32**	P	**P**	**15 30 47.5**	**-0.4**
CAN	**Canberra**	**51.13**	**130**	P	**P**	**15 31 10.6**	**-1.2**
ARMA	**Armidale**	**51.58**	**124**	P	**P**	**15 31 14.2**	**-1.2**
ARMA				IAmb	IAmb	15 31 20.8	
	comp=Z,9.5nm,1.3s						
SONM	**Songino Array**	**54.54**	**3**	P	**P**	**15 31 37.6**	**+0.8**
	comp=Z,3.9nm,0.4s,baz=170,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**56.35**	**343**	P	**P**	**15 31 50.5**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=152,slow=6.4,SNR=4.7						
ZALV	**Zalesovo Beam**	**62.38**	**348**	P	**P**	**15 32 32.3**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=176,slow=5.6,SNR=3.5						

ISCJB ***13*** *15:26:50.4 ± 0.7, 30°.63S ± 0°.04 × 69°.97W ± 0°.05, h130 km ± 7 km, Error ellipse: s-maj=7.5km s-min=5.5km az=138.1*
SJA ***13*** *15:26:50.4 ± 0.6, 30°.66S × 69°.98W, h125 km ± 2 km, ML2.8, MW3.1*
GUC ***13*** *15:26:51.3 ± 0.7, 30°.61S × 69°.91W, h107 km ± 13 km, ML3.2*

ISC 13 15:26:50.9 ± 1.7, 30°.65S ± 0°.04 × 69°.98W ± 0°.05, h128 km ± 12 km, n22, σ0 9 42/32, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.85**	**303**	*eP*	**Pn**	**15 27 12.6**	**0.0**
GO04				*i* S	**Sn**	**15 27 28.6**	**-0.5**
GO04				IAML		15 27 30.6	
	comp=E,1 μm,0.4s						
GO04	**Tololo Observa**	**0.85**	**303**	*i* P	**Pn**	**15 27 12.7**	**0.0**
GO04				*eS*	**Sn**	**15 27 29.0**	**0.0**
ACDV	**Cuesta del Vie**	**0.88**	**58**	*i* P	**Pn**	**15 27 13.0**	**+0.2**
ACDV				IAML		15 27 29.2	
	comp=Z,97nm,0.5s						
ACDV				*eS*	**Sn**	**15 27 29.5**	**+0.1**
CO02	**Combarbal**	**1.04**	**237**	*iP*	**Pn**	**15 27 14.3**	**+0.2**
CO02				*i* S	**Sn**	**15 27 31.8**	**-0.1**
CO02				IAML		15 27 32.5	
	comp=E,2 μm,0.3s						
RTLS	**Leoncito**	**1.29**	**153**	*i* P	**Pn**	**15 27 17.4**	**+0.4**
RTLS				*eS*	**Sn**	**15 27 37.1**	**+0.3**
RTLS				IAML		15 27 38.0	
	comp=Z,136nm,0.2s						
AMOG	**MOGNA**	**1.31**	**103**	*i* P	**Pn**	**15 27 17.0**	**+0.1**
AMOG				*eS*	**Sn**	**15 27 36.5**	**-0.2**
AMOG				IAML		15 27 40.3	
	comp=Z,71nm,0.2s						
LSCH	**La Serena**	**1.32**	**304**	*eP*	**Pn**	**15 27 16.8**	**-0.1**
LSCH				*i* S	**Sn**	**15 27 36.2**	**-0.4**
LSCH				IAML		15 27 36.8	
	comp=E,114nm,0.3s						
RTLL	**Cerro Villicun**	**1.46**	**118**	*i* P	**Pn**	**15 27 18.0**	**-0.6**
RTLL				*eS*	**Sn**	**15 27 39.5**	**-0.1**
RTLL				IAML		15 27 40.4	
	comp=Z,62nm,0.3s						
RTCV	**Cerro Valdivia**	**1.73**	**135**	*i* P	**Pn**	**15 27 21.9**	**+0.3**
RTCV				*eS*	**Sn**	**15 27 44.8**	**-0.3**
RTCV				IAML		15 27 45.7	
	comp=Z,66nm,0.2s						
CFA	**Coronel Fontan**	**1.77**	**123**	*i* P	**Pn**	**15 27 22.1**	**0.0**
ASAL	**Salagasta**	**2.17**	**154**	*i* P	**Pn**	**15 27 27.8**	**+0.8**
ASAL				IAML		15 27 56.9	
	comp=Z,34nm,0.5s						
ARCO	**CERRO ARCO**	**2.37**	**158**	*i* P	**Pn**	**15 27 29.9**	**+0.4**
ARCO				IAML		15 28 02.0	
	comp=Z,77nm,0.7s						
VCA	**Vinchina**	**2.45**	**40**	*i* P	**Pn**	**15 27 31.4**	**+0.7**
VCA				IAML		15 28 06.9	
	comp=Z,66nm,0.3s						
ROC1	**El Roble**	**2.48**	**200**	*i* P	**Pn**	**15 27 31.1**	**0.0**
AAGR	**Agrelo**	**2.62**	**158**	*i* P	**Pn**	**15 27 33.0**	**+0.3**
AAGR				IAML		15 28 08.8	
	comp=Z,25nm,0.3s						
ACAN	**Cantantal**	**2.89**	**125**	*i* P	**Pn**	**15 27 36.4**	**+0.4**
ACAN				IAML		15 28 20.9	
	comp=Z,34nm,1.8s						
ACLC	**CERRO LA CRUZ**	**2.89**	**66**	*i* P	**Pn**	**15 27 36.8**	**+0.5**
APLL	**PUNTA DE LOS L**	**2.99**	**86**	*i* P	**Pn**	**15 27 37.4**	**-0.1**
GO03	**Copiap**	**3.05**	**356**	*eP*	**Pn**	**15 27 38.8**	**+0.6**
GO03				*i* S	**Sn**	**15 28 13.9**	**-0.8**
GO03				IAML		15 28 17.2	
	comp=N,70nm,0.2s						
GO03	**Copiap**	**3.05**	**356**	*i* P	**Pn**	**15 27 38.8**	**+0.6**
MRA	**San Martin**	**4.05**	**117**	*i* P	**Pn**	**15 27 51.0**	**-0.3**
MRA				IAML		15 28 40.1	
	comp=Z,8.3nm,0.5s						
TCA	**Tanti**	**4.67**	**100**	*i* P	**Pn**	**15 27 59.0**	**-0.8**
TCA				IAML		15 29 33.4	
	comp=Z,6.6nm,1.4s						

IDC 13 15:30:07.2 ± 6.0, 61°.57S × 154°.69E, h0 km, mb3.4/2, mb1 3.8/3, mb1mx3.6/23, mbtmp3.6/3, ML3.8/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/16, Error ellipse: s-maj=395.3km s-min=39.5km az=75.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**16.19**	**174**	Pn	Pn	15 33 55.8	+0.1
	0.4nm,0.3s,baz=344,slow=14,SNR=21						
VNDA				LR	LR	15 39 30.5	
	comp=Z,157nm,19.0s,baz=357,slow=35						
RPZ	**Rata Peaks**	**20.35**	**36**	LR	LR	15 41 24.4	
	comp=Z,112nm,18.4s,baz=221,slow=33						
STKA	**Stephens Creek**	**30.91**	**338**	LR	LR	15 45 48.9	
	comp=Z,49nm,20.3s,baz=199,slow=30						
MAW	**Mawson**	**36.37**	**220**	LR	LR	15 51 38.7	
	comp=Z,78nm,20.0s,baz=69,slow=36						
H01W1	**Cape Leeuwin H**	**36.97**	**297**	T	T	16 16 23.3	
	baz=148,slow=75,SNR=26						
H01W2	**Cape Leeuwin H**	**36.97**	**297**	T	T	16 16 23.6	
	baz=148,slow=75,SNR=35						
H01W3	**Cape Leeuwin H**	**36.98**	**297**	T	T	16 16 24.6	
	baz=148,slow=75,SNR=28						
ASAR	**Alice Springs**	**40.48**	**330**	P	P	15 37 47.9	+0.4
	0.5nm,0.8s,baz=163,slow=9.0,SNR=5.4						
WRA	**Warramunga Arr**	**43.96**	**332**	P	P	15 38 15.2	-0.7
	0.5nm,0.7s,baz=164,slow=6.9,SNR=5.6						
LEM	**Lembang**	**64.70**	**306**	LR	LR	16 03 10.5	
	comp=Z,34nm,20.6s,baz=240,slow=31						
H08S2	**Diego Garcia H**	**79.60**	**273**	T	T	17 10 03.5	
	baz=150,slow=76						
H08S1	**Diego Carcia H**	**79.61**	**273**	T	T	17 09 51.1	
	baz=150						
H08S3	**Diego Garcia H**	**79.62**	**273**	T	T	17 10 11.8	
	baz=150,slow=76						

IDC 13 15:47:57.8 ± 2.0, 1°.98S × 134°.03E, h0 km, mb3.6/2, mb1 4.0/5, mb1mx3.6/34, mbtmp3.8/5, ML3.9/3, Error ellipse: s-maj=37.8km s-min=17.5km az=47.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.98**	**292**	Pn	Pn	15 48 45.6	-0.8
	16nm,0.3s,baz=314,slow=23,SNR=191						
SIJI				Pg	Pb	15 48 53.0	+1.2
	60nm,0.3s,baz=258,slow=23,SNR=39						
SIJI				Sn	Sn	15 49 20.9	-1.9
	26nm,0.3s,baz=227,slow=23,SNR=7.9						
SIJI				Lg	Lg	15 49 32.1	
	14nm,0.3s,baz=224,slow=12,SNR=7.0						
WRA	**Warramunga Arr**	**17.86**	**179**	P	Pn	15 52 07.4	-0.5
	0.3nm,0.3s,baz=360,slow=12,SNR=19						
FITZ	**Fitzroy Crossi**	**18.01**	**207**	P	Pn	15 52 07.8	-2.0
	0.3nm,0.3s,baz=24,slow=12,SNR=9.7						
FITZ				S	Sn	15 55 14.7	-17
	0.1nm,0.3s,baz=152,slow=18,SNR=4.5						
ASAR	**Alice Springs**	**21.56**	**180**	P	P	15 52 50.4	+1.2
	2.4nm,0.7s,baz=5.0,slow=12,SNR=58						
MKAR	**Makanchi Array**	**66.41**	**324**	P	P	15 58 48.9	0.0
	0.3nm,0.4s,baz=111,slow=7.9,SNR=5.5						

IDC ***13*** *15:58:55.6 ± 8.5, 31°.47S × 179°.89E, h352 km ± 96 km, mb2.6/2, mb1 3.0/3, mb1mx2.8/37, mbtmp3.6/3, Error ellipse: s-maj=102.3km s-min=39.2km az=3.0*
WEL ***13*** *15:59:01.7 ± 0.9, 32°.S ± 7°.× 18°.0W ± 1°.8, h242 km ± 17 km, mB4.5/7, ML4.8/3, MLv4.8/14, Mw(mB)3.6/7, Error ellipse: s-maj=0.0km s-min=0.0km az=108.3*

ISC 13 15:58:56.5 ± 1.3, 31°.57S ± 0°.09 × 179°.9E ± 0°.2, h350 km, n53, σ1 9 86/74, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.97**	**40**	P	**Pn**	**15 59 55.7**	**+0.1**
GLKZ				S	S	16 00 29.9	-13
GRZ	**Great Barrier**	**5.96**	**217**	P	**Pn**	**16 01 31.3**	**+4.6**
MXZ	**Matakaoa Point**	**6.13**	**192**	P	**Pn**	**16 00 31.8**	**+3.2**
MXZ				S	S	**16 01 43.2**	**-0.1**
KUZ	**Kuaotunu**	**6.22**	**213**	P	Pn	16 00 36.4	+6.7
WMGZ	**Waiomatatini S**	**6.36**	**191**	P	**Pn**	**16 00 33.3**	**+2.0**
WMGZ				S	**S**	**16 01 49.4**	**+1.2**
WCZ	**Waipu Caves**	**6.36**	**225**	P	Pn	16 00 35.9	+4.6
HAZ	**Te Kaha**	**6.42**	**195**	P	**Pn**	**16 00 34.9**	**+3.0**
HAZ				S	**S**	**16 01 49.5**	**+0.1**
PKGZ	**Pakihiroa**	**6.48**	**193**	P	**Pn**	**16 00 36.4**	**+3.6**
PKGZ				S	**S**	**16 01 51.0**	**0.0**
PUZ	**Puketiti**	**6.63**	**191**	P	**Pn**	**16 00 37.2**	**+2.8**
PUZ				S	**S**	**16 01 53.0**	**-1.0**
RUGZ	**Raukumara Rang**	**6.64**	**195**	P	**Pn**	**16 00 37.4**	**+2.7**
RUGZ				S	**S**	**16 01 53.2**	**-1.3**
TWGZ	**Tauwhareparae**	**6.78**	**193**	P	**Pn**	**16 00 39.8**	**+3.5**
TWGZ				S	**S**	**16 01 58.9**	**+1.5**
OPRZ	**Ohinepanea**	**6.84**	**203**	P	Pn	16 00 42.3	+5.4
URZ	**Urewera**	**7.06**	**198**	P	**Pn**	**16 00 41.1**	**+1.7**
	4.8nm,0.3s,baz=335,slow=2.8,SNR=34						
URZ				S	**S**	**16 02 02.5**	**-0.7**
	5.4nm,0.3s,baz=36,slow=3.1,SNR=23						
URZ	**Urewera**	**7.06**	**198**	P	**Pn**	**16 00 39.2**	**-0.2**
URZ				S	**S**	**16 02 03.9**	**+0.7**
TOZ	**Tahuroa Road**	**7.14**	**209**	P	**Pn**	**16 00 44.8**	**+4.4**
RAGZ	**Rawiri**	**7.21**	**196**	P	**Pn**	**16 00 44.1**	**+2.9**
RAGZ				S	**S**	**16 02 06.3**	**-0.2**
RIGZ	**Rimuhau**	**7.34**	**193**	P	**Pn**	**16 00 43.6**	**+0.9**
RIGZ				S	**S**	**16 02 08.0**	**-1.2**
MUGZ	**Murupara**	**7.36**	**200**	P	**Pn**	**16 00 44.7**	**+1.8**
MUGZ				S	**S**	**16 02 08.6**	**-1.0**
RTZ	**Ruatahuna**	**7.43**	**198**	P	**Pn**	**16 00 45.0**	**+1.2**
RTZ				S	**S**	**16 02 09.4**	**-1.9**
KNZ	**Kokohu**	**7.66**	**193**	P	**Pn**	**16 00 48.6**	**+2.2**
KNZ				S	**S**	**16 02 12.6**	**-3.5**
MRHZ	**Matea Rd**	**7.79**	**201**	P	**Pn**	**16 00 50.5**	**+2.4**
MRHZ				S	**S**	**16 02 17.6**	**-1.5**
WHHZ	**Waihua**	**7.80**	**195**	P	**Pn**	**16 00 51.2**	**+3.0**
WHHZ				S	**S**	**16 02 18.2**	**-1.0**
NMHZ	**Naumai**	**7.93**	**198**	P	**P**	**16 00 52.5**	**+2.7**
NMHZ				S	**S**	**16 02 21.8**	**-0.2**
HIZ	**Hauiti**	**8.07**	**209**	P	**P**	**16 00 56.3**	**+2.0**
BKZ	**Black Stump Fm**	**8.08**	**199**	P	**Pn**	**16 00 52.1**	**+0.6**
BKZ				S	**S**	**16 02 23.5**	**-1.7**
MCHZ	**McNeill Hill**	**8.28**	**198**	P	**Pn**	**16 00 52.9**	**-0.9**
MCHZ				S	**S**	**16 02 28.4**	**-1.3**
WTVZ	**West Tongariro**	**8.31**	**204**	P	**P**	**16 00 55.9**	**-1.2**
KWHZ	**Kaweka Forest**	**8.34**	**199**	P	**Pn**	**16 00 55.6**	**+1.1**
KWHZ				S	**S**	**16 02 30.5**	**-0.4**
NGZ	**Ngauruhoe**	**8.37**	**204**	P	**P**	**16 00 57.2**	**-0.6**
CKHZ	**Cape Kidnapper**	**8.40**	**195**	P	**P**	**16 00 57.3**	**-0.6**
CKHZ				S	**S**	**16 02 35.5**	**-1.5**
FWVZ	**Far West T-bar**	**8.45**	**204**	P	**Pn**	**16 00 57.5**	**+1.4**
BHHZ	**Black Hill Sta**	**8.50**	**201**	P	**Pn**	**16 00 57.2**	**+0.7**
BHHZ				S	**S**	**16 02 31.1**	**-3.4**
PKVZ	**Pokaka**	**8.55**	**204**	P	**P**	**16 00 58.8**	**-1.0**
KRHZ	**Kereru**	**8.56**	**199**	P	**Pn**	**16 00 57.9**	**+0.8**
KRHZ				S	**S**	**16 02 31.9**	**-3.8**
KAHZ	**Kahuranaki**	**8.57**	**196**	P	**Pn**	**16 00 58.0**	**+0.7**
KAHZ				S	**S**	**16 02 34.8**	**-1.2**
VRZ	**Vera Road**	**8.63**	**208**	P	**P**	**16 01 01.1**	**+0.5**
PXZ	**Pawanui**	**8.80**	**195**	P	**Pn**	**16 01 00.2**	**+0.3**
PNHZ	**Pukenui**	**8.86**	**199**	P	**Pn**	**16

0.4nm,0.3s,baz=134,slow=14,SNR=8.5
JOW Sn **Sb** **16 04 50.1 -0.4**
1.6nm,0.3s,baz=160,slow=13,SNR=5.1
JOW Kunigami 3.41 50 Pb 16 04 05.6 -3.5
JOW **Sb 16 04 51.1 +0.7**
NACB Ninganchiao 3.46 263 Pn **Pn 16 04 02.5 +0.3**
TATO Taipei 3.52 276 Pn **Pn 16 04 05.0 +1.9**
YHNB Yeheng 3.62 271 Pn 16 04 06.4 +1.8
YULB Yu-li 3.91 252 Pn 16 04 08.8 +0.2
YULB Sn **Sn 16 04 56.4 +2.0**
SSLB Suanglung 4.11 259 Pn **Pn 16 04 11.6 +0.4**
TWG Pinlang 4.33 246 Pn 16 04 14.0 -0.3
TPUB Ta-pu 4.52 254 Pn 16 04 19.3 +2.3
SSE Sheshan 7.39 331 Pn Pn 16 04 59.6 +3.3
JNU Nakatsue 9.72 29 LR LR 16 08 51.4
comp=Z,40nm,20.6s,baz=180,slow=35
JNU Nakatsue 9.72 29 Pn **Pn 16 05 30.7 +2.3**
GUMO Guam 21.45 117 P **P 16 07 55.6 -1.4**
MKAR Makanchi Array 40.69 314 P **P 16 10 47.9 -1.1**
0.3nm,0.5s,baz=98,slow=7.1,SNR=2.8
COEN Coen 42.14 154 P **P 16 11 01.3 +0.2**
COEN IAmb IAmb 16 11 14.5
comp=Z,5.2nm,1.0s
FITZ Fitzroy Crossi 42.50 180 P **P 16 11 03.5 -0.4**
FITZ IAmb IAmb 16 11 06.6
comp=Z,5.8nm,1.4s
WRAB Tennant Creek 45.19 168 P **P 16 11 23.9 -1.6**
WRAB IAmb IAmb 16 11 29.8
comp=Z,3.2nm,1.0s
WRA Warramunga Arr 45.19 168 P **P 16 11 26.6 +1.0**
comp=Z,1.0nm,0.8s,baz=349,slow=9.0,SNR=5.0
WB2 Warramunga Arr 45.19 168 P **P**
WB2 IAmb IAmb 16 11 32.8
comp=Z,2.5nm,1.0s
ASAR Alice Springs 48.75 170 P **P 16 11 54.4 +1.0**
comp=Z,0.3nm,0.5s,baz=356,slow=7.2,SNR=6.6
STKA Stephens Creek 58.33 164 P **P 16 13 02.9 -0.6**
comp=Z,1.1nm,0.6s,baz=356,slow=14,SNR=2.0
STKA Stephens Creek 58.33 164 IAmb IAmb 16 13 03.4
comp=Z,1.2nm,1.2s
ILAR Eielson Array 67.04 28 P **P 16 14 03.5 +2.2**
comp=Z,0.3nm,0.8s,baz=281,slow=5.4,SNR=3.3
YKA Yellowknife Ar 81.03 24 P **P 16 15 24.8 +1.7**
comp=Z,0.2nm,0.4s,baz=300,slow=4.7,SNR=5.2

*MEX **13** 16:18:01.7±0.5,25°.89N×110°.22W,h5km,MD4.2*
*IDC **13** 16:18:02.0±1.2,25°.67N×109°.71W,h0km,mb3.4/1, mb1 3.9/6,mb1mx3.7/46,mbtmp3.5/6,ML3.7/5,MS3.4/13, Ms1 3.4/13,ms1mx3.3/25,Error ellipse: s-maj=31.1km s-min=16.2km az=95.0*
ISC 13 16:18:02.0±0.9,25°.93N±0°.05×110°.21W±0°.06,h10km,n23, σ2°98/18,MS3.3/5,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.82**	**183**	Pg	**Pn**	**16 18 30.2**	**-3.2**
	34nm,0.3s,baz=229,slow=1.5,SNR=11						
LPIG				Lg	Lg	16 18 45.4	
	84nm,0.3s,baz=7.6,slow=15,SNR=7.5						
LPIG	**La Paz**	**1.82**	**183**	*e*P	**Pn**	**16 18 29.9**	**-3.4**
GUYB	**Guaymas**	**2.05**	**343**	*e*P	**Pn**	**16 18 34.3**	**-2.2**
GUYB				*i* S	**Sn**	**16 18 58.5**	**-3.6**
SRIG	**Santa Rosalia**	**2.29**	**308**	*i* P	**Pn**	**16 18 36.8**	**-3.0**
SRIG				*i* S	**Sn**	**16 19 04.6**	**-3.4**
HSIG		**3.15**	**348**	*e*P	**Pn**	**16 18 50.9**	**-0.8**
HPIG		**4.19**	**75**	*e*P	**Pn**	**16 19 04.3**	**-1.8**
HPIG				*i* S	**Sn**	**16 19 53.6**	**-1.8**
CGIG		**4.84**	**24**	*e*P	**Pb**	**16 19 25.3**	**-1.6**
CGIG				*e*S	**Sg**	**16 20 35.2**	**-2.1**
TXAR	**Lajitas Array**	**6.72**	**58**	Pn	**Pn**	**16 19 39.2**	**-1.6**
	0.4nm,0.3s,baz=231,slow=13,SNR=16						
TXAR				Lg	Lg	16 21 32.0	
	3.3nm,0.3s,baz=243,slow=30,SNR=9.2						
TXAR				LR	LR	16 21 47.8	
	comp=Z,70nm,18.8s,baz=0.0,slow=35						
PFO	**Pinyon Flats O**	**9.38**	**326**	Pn	Pn	16 20 27.2	+10
	0.3nm,0.3s,baz=169,slow=10,SNR=3.5						
PFO				LR	LR	16 23 18.4	
	comp=Z,94nm,20.0s,baz=169,slow=32						
ANMO	**Albuquerque**	**9.55**	**19**	Lg	Lg	16 23 04.0	
	0.3nm,0.3s,baz=326,slow=20,SNR=4.9						
ANMO				LR	LR	16 23 41.5	
	comp=Z,268nm,18.2s,baz=198,slow=35						
NVAR	**Mina Array Bea**	**14.21**	**333**	Pn	**P**	**16 21 33.7**	**+2.7**
	0.1nm,0.3s,baz=158,slow=11,SNR=12						
NVAR				LR	LR	16 26 15.2	
	comp=Z,133nm,20.5s,baz=141,slow=34						
ELK	**Elko**	**15.36**	**345**	Pn	**P**	**16 21 46.9**	**+3.1**
	0.1nm,0.3s,baz=188,slow=10,SNR=8.3						
ELK				LR	LR	16 28 00.6	
	comp=Z,272nm,18.5s,baz=176,slow=38						
CMIG	**Matias Romero**	**16.74**	**119**	LR	LR	16 28 17.2	
	comp=Z,136nm,18.9s,baz=210,slow=38						
PDAR	**Pinedale Array**	**16.80**	**2**	P	**P**	**16 22 00.6**	**+0.8**
	0.1nm,0.3s,baz=175,slow=12,SNR=5.3						
PDAR				LR	LR	16 28 42.9	
	comp=Z,156nm,20.5s,baz=178,slow=38						
YBH	**Yreka Blue Hor**	**18.84**	**330**	LR	LR	16 29 07.6	
	comp=Z,110nm,20.0s,baz=315,slow=34						
TEIG	**Tepich**	**20.95**	**101**	LR	LR	16 30 15.5	
	comp=Z,98nm,21.0s,baz=52,slow=36						
APG	**El Apazote**	**21.42**	**117**	LR	LR	16 30 21.3	
	comp=Z,139nm,19.9s,baz=308,slow=35						
NEW	**Newport**	**22.95**	**348**	LR	LR	16 33 02.7	
	comp=Z,94nm,18.6s,baz=174,slow=39						
TKL	**Tuckaleechee C**	**24.63**	**60**	LR	LR	16 33 39.4	
	comp=Z,221nm,19.9s,baz=265,slow=38						
JTS	**Las Juntas de**	**28.52**	**118**	LR	LR	16 35 26.3	
	comp=Z,58nm,20.8s,baz=22,slow=37						
ILAR	**Eielson Array**	**45.38**	**339**	P	**P**	**16 26 23.1**	**+2.8**
	0.7nm,1.0s,baz=150,slow=6.9,SNR=3.7						
WRA	**Warramunga Arr**	**120.77**	**261**	PKP	**PKiKP**	**16 36 59.0**	**+3.9**
	0.3nm,0.8s,baz=68,slow=2.2,SNR=4.5						
ASAR	**Alice Springs**	**122.28**	**257**	PKP	**PKiKP**	**16 37 01.9**	**+3.9**
	0.2nm,0.6s,baz=89,slow=2.2,SNR=4.1						

IDC 13 16:20:35.8±3.2,32°.60S×178°.80W,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.5/31,mbtmp3.5/3,ML3.4/1,Error ellipse: s-maj=72.5km s-min=47.3km az=115.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.56**	**209**	Pn	Pn	16 22 12.7	-0.7
	0.8nm,0.3s,baz=275,slow=6.1,SNR=6.9						
URZ				Sn	Sn	16 23 23.2	-5.7
	0.8nm,0.3s,baz=234,slow=19,SNR=3.3						
ASAR	**Alice Springs**	**42.36**	**270**	P	P	16 28 32.1	+0.2
	0.2nm,0.4s,baz=107,slow=7.7,SNR=5.9						
WRA	**Warramunga Arr**	**43.55**	**275**	P	P	16 28 41.2	-0.3
	0.3nm,0.3s,baz=114,slow=8.0,SNR=7.4						
FINES	**FINESS Array B**	**146.95**	**338**	PKPbc	PKPbc	16 40 18.8	-0.7
	5.6nm,1.1s,baz=48,slow=2.1,SNR=4.1						

IDC 13 16:21:13.0±2.1,7°.58S×144°.14E,h0km,mb3.5/2, mb1 3.7/5,mb1mx3.5/29,mbtmp3.5/5,ML3.2/2,Error ellipse: s-maj=40.5km s-min=31.4km az=32.0,Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.50**	**121**	Pn	Pn	16 22 08.2	-0.5
	3.6nm,0.3s,baz=346,slow=9.9,SNR=14						
PMG				Sn	Sn	16 22 48.5	-2.3
	3.5nm,0.3s,baz=250,slow=16,SNR=5.6						
WRA	**Warramunga Arr**	**15.53**	**217**	Pn	Pn	16 24 52.1	-1.4
	0.1nm,0.3s,baz=33,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**18.77**	**210**	P	Pn	16 25 34.9	+0.6
	0.2nm,0.3s,baz=39,slow=9.8,SNR=35						
FITZ	**Fitzroy Crossi**	**20.82**	**238**	P	P	16 25 55.7	-0.6
	1.2nm,0.8s,baz=83,slow=8.1,SNR=2.0						
CMAR	**Chiang Mai Arr**	**51.55**	**301**	P	P	16 30 21.4	+0.1
	0.4nm,0.3s,baz=111,slow=6.7,SNR=5.0						

*ISCJB **13** 16:24:30.8±0.5,38°.78N±0°.04×55°.49E±0°.04,h10km,Error ellipse: s-maj=6.8km s-min=3.9km az=23.7*
*AZER **13** 16:24:41.0±0.7,38°.06N×55°.07E,h50km,ml3.6/3,Error ellipse: s-maj=34.7km s-min=4.9km az=11.0*
*TEH **13** 16:24:40.9,38°.01N×55°.98E,h8km,ML3.1*
ISC 13 16:24:33.5±0.8,38°.65N±0°.06×55°.55E±0°.05,h10km,n29, σ2°31/33,4C,Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMND	**Minoodasht**	**1.40**	**185**	*e*Pg	**Pn**	**16 24 58.3**	**-0.7**
IMND				IAMB	IAmb	16 25 19.1	
	comp=Z,0.0nm,0.5s						
IGLO	**Ghaloghah**	**2.54**	**213**	*e*Pn	**Pb**	**16 25 21.6**	**+2.2**
IGLO				IAMB	IAmb	16 26 06.4	
	comp=Z,0.0nm,0.7s						
IEMG	**Emamgholi**	**2.74**	**116**	*e*Pn	**Pn**	**16 25 20.6**	**+2.7**
IEMG				IAMB	IAmb	16 25 26.9	
	comp=Z,1μm,0.2s						
SBZV	**Sabzevar**	**2.79**	**143**	*e*Pn	**Pn**	**16 25 18.9**	**+0.4**
IKIA	**Kiasar**	**2.85**	**212**	*e*Pn	**Pb**	**16 25 24.6**	**-0.1**
IKRD	**Kardeh**	**3.00**	**128**	*e*Pn	**Pg**	**16 25 31.2**	**+0.1**
IANJ	**Anjilo**	**3.44**	**203**	*e*Pn	**Pn**	**16 25 31.1**	**+3.7**
IANJ				IAMB	IAmb	16 26 14.4	
	comp=Z,271nm,0.4s						
IPAY	**Payeh**	**3.51**	**128**	*e*Pn	**Pn**	**16 25 28.4**	**0.0**
ILAS	**Lasjerd**	**3.86**	**213**	IAMB	IAmb	16 26 47.5	
	comp=Z,170nm,0.4s						
IMYA	**Miami**	**4.29**	**121**	*e*Pn	**Pn**	**16 25 39.0**	**-0.1**
IMYA				IAMB	IAmb	16 27 09.4	
	comp=Z,209nm,0.7s						
JRKH	**Jarkhoshk**	**4.71**	**124**	*e*Pn	**Pn**	**16 25 44.4**	**-0.3**
TNSJ	**Nastanj**	**4.75**	**169**	*e*Pn	**Pn**	**16 25 45.5**	**+0.1**
TKDS	**Koohdasht(Taba**	**5.16**	**165**	*e*Pn	**Pn**	**16 25 51.7**	**+0.4**
ASTR	**Astara**	**5.29**	**271**	P	**Pn**	**16 25 53.6**	**+0.9**
ASTR				S	**Sn**	**16 26 51.2**	**-2.6**
ATGJ	**Altiaghaj**	**5.55**	**296**	S	**Sn**	**16 27 03.8**	**+3.5**
GLBA	**Clilabad**	**5.61**	**278**	P	**Pn**	**16 25 59.0**	**+2.0**
GLBA				S	**Sn**	**16 26 59.7**	**-1.8**
LRK	**Lerik**	**5.64**	**272**	P	**Pn**	**16 25 57.4**	**-0.2**
LRK				S	**Sn**	**16 26 57.5**	**-5.1**
ANAR	**Anarak**	**5.64**	**196**	*e*Pn	**Pn**	**16 26 00.2**	**+2.6**
SIZA	**Siyzn**	**5.66**	**297**	P	Pn	16 26 03.0	+5.2
TPRV	**Parvadeh(Tabas**	**5.69**	**170**	*e*Pn	**Pn**	**16 25 58.0**	**-0.1**
YRD	**Yardimli**	**5.72**	**275**	P	**Pn**	**16 25 59.2**	**+0.5**
YRD				S	**Sn**	**16 27 01.0**	**-3.5**
POL	**Pirkuli**	**5.77**	**294**	P	**Pn**	**16 26 03.7**	**+4.1**
POL				S	**Sn**	**16 27 08.7**	**+3.0**
BLQ	**Beylaqan**	**6.30**	**282**	S	**Sn**	**16 27 15.6**	**-2.9**
ZRD	**Zardab**	**6.30**	**287**	S	**Sn**	**16 27 18.1**	**-0.4**
QRD	**Qoradiz**	**6.46**	**280**	S	**Sn**	**16 27 20.7**	**-1.6**
AGDM	**Agdam**	**6.70**	**285**	S	**Sn**	**16 27 26.0**	**-2.4**
GANJ	**Ganja**	**7.39**	**289**	S	**Sn**	**16 27 44.8**	**-0.7**
AB31	**Akbulak array**	**11.06**	**15**	⇑P	**Pn**	**16 27 13.1**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=196,slow=14,SNR=6.8						
AB31				⇑S	**Sn**	**16 29 12.7**	**-2.7**
	comp=Z,1.9nm,0.8s,baz=196,slow=24,SNR=3.1						
AKTO	**Aktyubinsk**	**11.91**	**8**	⇑P	**Pn**	**16 27 20.6**	**-2.8**
	comp=Z,2.8nm,1.1s						
AKTO				⇑S	Sn	16 29 28.7	-7.6
	comp=Z,4.2nm,1.5s						

*ISCJB **13** 16:25:45.9±0.9,56°.79N±0°.04×152°.64W±0°.05,h17km±8km, mb3.7/9,MS3.7/1,Error ellipse: s-maj=6.7km s-min=3.5km az=155.6*
*IDC **13** 16:25:46.8±0.9,56°.94N×153°.13W,h0km,mb3.7/9, mb1 3.9/11,mb1mx3.7/45,mbtmp3.7/11,ML3.3/2,MS3.6/1, Ms1 3.5/1,ms1mx2.6/38,Error ellipse: s-maj=20.1km s-min=16.9km az=8.0*
*AEIC **13** 16:25:47.6±1.6,56°.84N±0°.04×152°.81W±0°.07,h1km±3km, ML3.6*
*NEIC **13** 16:25:48.2±1.1,56°.86N±0°.03×152°.87W±0°.07,h17km±5km*
ISC 13 16:25:49.0±1.1,56°.93N±0°.05×152°.86W±0°.04,h19km±3km, n83,σ1°13/86,mb3.7/9,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**0.37**	**321**		**Pg**	**16 25 56.6**	**-0.2**
OHAK					**Sb**	**16 26 03.2**	**+0.7**
SII	**Sitkinak Islan**	**0.82**	**243**		**Pb**	**16 26 03.3**	**-1.3**
SII					**Sg**	**16 26 15.6**	**-0.3**
KDAK	**Kodiak Island**	**0.86**	**10**	Pn	**Pn**	**16 26 06.3**	**+0.2**
	441nm,0.3s,baz=206,slow=9.0,SNR=3908						
KDAK				Sn	**Sn**	**16 26 18.8**	**+0.6**
	240nm,0.3s,baz=290,slow=23,SNR=28						
KDAK				LR	LR	16 26 19.7	
	comp=Z,123nm,19.9s,baz=281,slow=37						
CAHL	**Cahill**	**1.73**	**311**		**Pn**	**16 26 18.2**	**+0.1**
ACHA	**Angle Creek He**	**1.84**	**315**		**Pn**	**16 26 20.3**	**+0.6**
ACHA					**Sb**	**16 26 45.5**	**+0.7**
KJL	**Kejulik**	**1.84**	**309**		**Pn**	**16 26 20.2**	**+0.6**
CHIR	**Chirikof Islan**	**1.90**	**235**		**Pn**	**16 26 18.9**	**-1.4**
CHIR	**Chirikof Islan**	**1.90**	**235**		**Sn**	**16 26 43.4**	**-0.2**
ANCK	**Angle Creek**	**1.90**	**313**		**Pn**	**16 26 21.6**	**+1.2**
PLK3	**Peulik 3**	**2.00**	**294**		**Pn**	**16 26 21.6**	**-0.1**
PLK3					**Sb**	**16 26 49.5**	**+0.4**
PLK2	**Peulik 2**	**2.05**	**295**		**Pn**	**16 26 22.9**	**+0.4**
KAHC	**Katmai Hardscr**	**2.07**	**327**		**Pn**	**16 26 24.0**	**+1.3**
PLK1	**Peulik 1**	**2.21**	**295**		**Pn**	**16 26 25.6**	**+1.0**
AUJK	**Augustine Jueg**	**2.44**	**353**		**Pn**	**16 26 29.3**	**+1.5**
AUP	**Augustine Pinn**	**2.45**	**353**		**Pn**	**16 26 28.8**	**+0.8**
CNPM	**China Poot**	**2.74**	**18**		**Pn**	**16 26 32.7**	**+0.8**
HOM	**Homer**	**2.81**	**13**		**Pn**	**16 26 34.4**	**+1.6**
ANNE	**Aniakchak Nort**	**2.85**	**272**		**Pn**	**16 26 32.5**	**-0.9**
BRLK	**Bradley Lake**	**3.02**	**19**		**Pn**	**16 26 35.9**	**0.0**
BRSE	**Bradley Lake S**	**3.03**	**21**		**Pn**	**16 26 35.9**	**0.0**
IVE	**Iliamna Volcan**	**3.09**	**359**		**Pn**	**16 26 38.1**	**+1.3**
CHGN	**Chignik**	**3.13**	**261**		**Pn**	**16 26 36.0**	**-1.2**
ILW	**Iliamna West**	**3.14**	**357**		**Pn**	**16 26 37.8**	**+0.3**
RED	**Redoubt Volcan**	**3.50**	**1**		**Pn**	**16 26 43.0**	**+0.7**
RSO	**Redoubt South**	**3.54**	**1**		**Pn**	**16 26 44.1**	**+1.1**
VNHG	**Veniaminof 1**	**3.56**	**261**		**Pn**	**16 26 42.0**	**-1.2**
RDWB	**Redoubt West**	**3.56**	**0**		**Pn**	**16 26 43.9**	**+0.6**
NCT	**North Crescent**	**3.64**	**359**		**Pn**	**16 26 44.9**	**+0.5**
SEW	**Seward**	**3.65**	**28**		**Pn**	**16 26 43.8**	**-0.5**
DFR	**Drift River**	**3.67**	**1**		**Pn**	**16 26 45.6**	**+0.8**
VNSS	**Veniaminof 8**	**3.71**	**262**		**Pn**	**16 26 44.0**	**-1.4**
SLKM	**Skilak Lake**	**3.84**	**20**		**Pn**	**16 26 46.9**	**-0.1**
CNBA	**Chernabura Isl**	**4.34**	**244**		**Pn**	**16 26 52.1**	**-1.7**
SPCP	**Crater Peak Br**	**4.36**	**5**		**Pn**	**16 26 54.9**	**+0.6**
SVW2	**Sparrevohn**	**4.41**	**343**		**Pn**	**16 26 55.8**	**+1.0**
RC01	**Rabbit Creek A**	**4.47**	**20**		**Pn**	**16 26 56.0**	**+0.3**
SDPT	**Sand Point**	**4.54**	**253**		**Pn**	**16 26 55.5**	**-1.1**
PWL	**Port Wells**	**4.58**	**29**		**Pn**	**16 26 56.9**	**-0.3**
SUA	**Susitna One**	**4.67**	**13**		**Pn**	**16 26 58.9**	**+0.4**
HIN	**Hinchinbrook I**	**4.80**	**41**		**Pn**	**16 26 59.6**	**-0.7**
GLI	**Glacier Island**	**4.96**	**35**		**Pn**	**16 27 03.1**	**+0.7**
KNK	**Knik Glacier**	**5.03**	**25**		**Pn**	**16 27 07.0**	**+3.7**
PMR	**Palmer**	**5.05**	**21**	Pn	**Pn**	**16 27 05.2**	**+1.6**
FID	**Port Fidalgo**	**5.06**	**38**		**Pn**	**16 27 03.2**	**-0.6**
SKT	**Skwentna**	**5.11**	**7**		**Pn**	**16 27 05.1**	**+0.7**
EYAK	**Cordova Ski Ar**	**5.18**	**43**	Pn	**Pn**	**16 27 04.7**	**-0.7**
GHO	**Glory Hole Cre**	**5.25**	**21**	Pn	**Pn**	**16 27 06.5**	**0.0**
RAGM	**Ragged Mountai**	**5.50**	**48**	Pn	**Pn**	**16 27 09.7**	**-0.1**
SCM	**Sheep Creek Mo**	**5.67**	**28**		Pn	16 27 04.8	-7.4
SUCK	**Suckling Hills**	**5.71**	**53**	Pn	**Pn**	**16 27 12.4**	**-0.3**
GRIN	**Grindle Hills**	**6.01**	**52**		**Pn**	**16 27 16.4**	**-0.4**
TT01	**Tatalina**	**6.20**	**346**		**Pn**	**16 27 19.9**	**+0.5**
WAX	**Waxell Ridge**	**6.29**	**52**		**Pn**	**16 27 20.0**	**-0.7**
WAT1	**Susitna Watana**	**6.30**	**18**		**Pn**	**16 27 20.8**	**0.0**
TGL	**Tana Glacier**	**6.46**	**49**	Pn	**Pn**	**16 27 24.4**	**+1.3**
GLB	**Gilahina Butte**	**6.48**	**42**		Pn	16 27 17.3	-6.0
TRF	**Thorofare Moun**	**6.66**	**10**	Pn	**Pn**	**16 27 27.9**	**+2.0**
YAH	**Yahtse**	**6.74**	**55**	Pn	**Pn**	**16 27 27.0**	**0.0**
KIAG	**Kiagna River**	**6.75**	**49**		**Pn**	**16 27 26.2**	**-0.8**
RND	**Reindeer**	**6.79**	**15**	Pn	**Pn**	**16 27 27.9**	**+0.4**
BALM	**Baldy**	**6.81**	**49**		**Pn**	**16 27 28.0**	**-0.1**
PTPK	**Patty Peak**	**6.85**	**47**		**Pn**	**16 27 26.9**	**-1.5**
GRNC	**Granite Creek**	**6.91**	**52**		**Pn**	**16 27 28.6**	**-0.5**
BARN	**Barnard Glacie**	**7.11**	**50**	Pn	**Pn**	**16 27 33.2**	**+1.1**
CTGM	**Chitina Glacie**	**7.20**	**51**	Pn	**Pn**	**16 27 34.0**	**+0.8**
PNL	**Peninsula**	**7.60**	**63**		**Pn**	**16 27 37.5**	**-1.2**
YUK2	**White River**	**7.83**	**47**		**Pn**	**16 27 41.6**	**-0.2**
HDA	**Harding Lake**	**8.04**	**19**		**Pn**	**16 27 45.1**	**+0.6**
YUK1	**Sand Pete Hill**	**8.16**	**45**		**Pn**	**16 27 45.7**	**-0.6**
IL31		**8.38**	**18**		**Pn**	**16 27 48.3**	**-0.9**
ILAR	**Eielson Array**	**8.38**	**18**	Pn	**Pn**	**16 27 49.5**	**+0.3**
	0.3nm,0.3s,baz=204,slow=13,SNR=17						
ILAR				Sn	**Sn**	**16 29 19.4**	**-3.9**
	0.5nm,0.3s,baz=210,slow=20,SNR=3.9						
INK	**Inuvik**	**14.37**	**30**	Pn	**P**	**16 29 14.9**	**-3.0**
	0.1nm,0.3s,baz=259,slow=10.0,SNR=2.5						
YKA	**Yellowknife Ar**	**19.85**	**58**	P	**Pn**	**16 30 19.6**	**-0.4**
	0.1nm,0.3s,baz=270,slow=10.0,SNR=8.6						
PETK	**Petropavlovsk-**	**28.09**	**283**	P	**P**	**16 31 38.7**	**-0.4**
	2.3nm,0.8s,baz=64,slow=13,SNR=2.3						
NVAR	**Mina Array Bea**	**29.28**	**114**	P	**P**	**16 31 51.9**	**+1.8**
	0.2nm,0.3s,baz=330,slow=11,SNR=3.9						
PDAR	**Pinedale Array**	**30.73**	**99**	P	**P**	**16 32 04.8**	**+1.9**
	0.7nm,0.6s,baz=301,slow=4.9,SNR=8.0						
TXAR	**Lajitas Array**	**43.91**	**108**	P	**P**	**16 33 56.6**	**+2.2**
	0.6nm,0.6s,baz=317,slow=5.5,SNR=3.7						
SONM	**Songino Array**	**56.69**	**308**	P	**P**	**16 35 31.6**	**+0.7**
	0.8nm,0.6s,baz=45,slow=6.8,SNR=7.0						
ZALV	**Zalesovo Beam**	**59.91**	**325**	P	**P**	**16 35 53.2**	**+0.1**
	0.3nm,0.3s,baz=39,slow=9.3,SNR=2.5						
MKAR	**Makanchi Array**	**66.89**	**322**	P	**P**	**16 36 39.4**	**-0.1**
	0.3nm,0.5s,baz=31,slow=7.2,SNR=4.6						
KBZ	**Khabaz**	**78.83**	**348**	LR	LR	17 17 41.9	
	comp=Z,32nm,18.4s,baz=9.5,slow=40						
BRTR	**Keskin Array B**	**83.55**	**355**	P	**P**	**16 38 16.1**	**+0.5**
	0.2nm,0.4s,baz=5.7,slow=5.2,SNR=2.5						
CMAR	**Chiang Mai Arr**	**84.22**	**295**	P	**P**	**16 38 18.9**	**-0.2**
	0.7nm,0.6s,baz=7.7,slow=5.6,SNR=8.5						

*NORS **13** 16:33:11.4±0.0,44°.78N×41°.92E,h3km,MPVA3.8,FELT I=II-III MSK at Stavropol')*
*MOS **13** 16:33:12.6±0.0,45°.09N×41°.81E,h10km,ML2.9/5, MPVA3.8*
ISC 13 16:33:08.5±1.7,45°.14N±0°.06×42°.05E±0°.03,h5km±11km, n39,σ1°46/57,9C-1D,Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVNR	**Nevinnomyssk**	**0.53**	**187**	*e*Pg	**Pg**	**16 33 18.5**	**-0.2**
	162nm,0.1s						
NVNR				*e*Sg	**Sg**	**16 33 25.3**	**-0.2**
	1μm,0.2s						
NVNR				*i* AML	AML	16 33 27.7	
	989nm,0.2s						
GOF	**Gofitskoye**	**0.71**	**96**	*e*Pg	**Pn**	**16 33 23.6**	**-1.5**
	133nm,0.1s						
GOF				*i* Sg	**Sn**	**16 33 35.2**	**-1.3**
	234nm,0.2s						
GOF				*i* AML	AML	16 33 40.9	
	506nm,0.5s						
KIV	**Kislovodsk**	**1.27**	**159**	PG	**Pn**	**16 33 32.4**	**-0.6**
PYA1	**Pyatigorsk**	**1.31**	**145**	*e*Pg	**Pn**	**16 33 33.0**	**-0.5**
PYA1				*e*Sg	**Sg**	**16 33 51.5**	**+0.9**
SHA1	**Shidzhatmaz**	**1.47**	**163**	*c i*PG	**Pn**	**16 33 35.1**	**-0.8**
SHA1				pmax	pmax		
	comp=Z,38nm,0.2s						
SHA1	**Shidzhatmaz**	**1.47**	**163**	*i* Pg	**Pn**	**16 33 35.9**	**0.0**
	comp=Z,38nm,0.2s						
SHA1				*e*Sg	**Sg**	**16 33 54.7**	**-0.8**
	comp=Z,442nm,0.3s						
SHA1				*i* AML	AML	16 33 58.1	
	comp=Z,283nm,0.4s						
KBZ	**Khabaz**	**1.54**	**157**	*c i*PG	**Pb**	**16 33 36.8**	**-0.6**
KBTC	**Kuba-Taba**	**1.64**	**143**	PG	**Pg**	**16 33 39.6**	**-0.3**
KBTC	**Kuba-Taba**	**1.64**	**143**	*i* Pg	**Pg**	**16 33 39.7**	**-0.3**
	comp=Z,67nm,0.5s						
KBTC				*e*Sg	**Sg**	**16 34 02.9**	**+1.7**
	comp=Z,261nm,0.2s						
ARXR	**Arkhyz**	**1.67**	**200**	*i* PG	Pn	16 33 30.9	-7.7
ARXR	**Arkhyz**	**1.67**	**200**	*e*Pg	**Pn**	**16 33 38.6**	**0.0**
	comp=Z,38nm,0.5s						
ARXR				*e*Sg	**Sn**	**16 33 59.8**	**-0.7**
	comp=Z,224nm,0.4s						
RPOR	**Krasnaya Polya**	**1.93**	**222**	*e*PG	**Pn**	**16 33 38.6**	**-3.4**
RPOR	**Krasnaya Polya**	**1.93**	**222**	*e*Pg	**Pn**	**16 33 42.8**	**+0.8**
	comp=Z,28nm,0.2s						
RPOR				*e*Sg	**Sn**	**16 34 05.8**	**-0.9**
	comp=Z,72nm,0.3s						
RPOR				*i* AML	AML	16 34 09.1	
	comp=Z,62nm,0.3s						
NEY	**Neytrino**	**1.95**	**165**	*e*PG	**Pn**	**16 33 42.9**	**+0.4**
NEY	**Neytrino**	**1.95**	**165**	*e*Pg	**Pb**	**16 33 43.6**	**-1.0**
	comp=Z,33nm,0.3s						
NEY				*e*Sg	**Sn**	**16 34 08.1**	**+0.7**
	comp=Z,222nm,0.4s						
PRTR	**Priterechna

ML3.8,mb4.1/13(NEIC)
NEIC ***13*** *16:45:28.6±1.6,56.85N±0.03×152.85W±0.03,h15km±5km*
ISC 13 16:45:29.8±0.5,56.96N±0.04×152.85W±0.04,h21km,
n145,σ1§29/152,mb4.0/24,Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**0.36**	**319**		**Pb**	**16 45 37.4**	**0.0**
OHAK					**Sb**	**16 45 43.6**	**+1.1**
SII	**Sitkinak Islan**	**0.83**	**242**		**Pb**	**16 45 43.8**	**-1.8**
SII	**Sitkinak Islan**	**0.83**	**242**		**Sb**	**16 45 55.0**	**-1.4**
KDAK	**Kodiak Island**	**0.84**	**10**	LR	LR	16 45 39.7	
	comp=Z,60nm,19.9s,baz=292,slow=15						
KDAK				Pn	**Pn**	**16 45 46.6**	**+0.2**
	804nm,0.3s,baz=170,slow=6.6,SNR=8044						
KDAK				Sn	**Sn**	**16 45 59.0**	**+0.9**
	495nm,0.3s,baz=282,slow=24,SNR=31						
CAHL	**Cahill**	**1.72**	**311**		**Pn**	**16 45 58.5**	**0.0**
KAHG	**Katmai Hook Gl**	**1.79**	**330**		**Pn**	**16 46 00.4**	**+0.9**
KJL	**Kejulik**	**1.83**	**308**		**Pn**	**16 46 00.5**	**+0.4**
ANCK	**Angle Creek**	**1.89**	**312**		**Pn**	**16 46 02.0**	**+1.1**
CHIR	**Chirikof Islan**	**1.91**	**235**		**Pn**	**16 45 59.1**	**-2.0**
CHIR	**Chirikof Islan**	**1.91**	**235**		**Sn**	**16 46 25.0**	**+0.4**
PLK3	**Peulik 3**	**1.99**	**293**		**Pn**	**16 46 02.4**	**+0.1**
PLK3					**Sb**	**16 46 30.5**	**+0.8**
PLK2	**Peulik 2**	**2.05**	**295**		**Pn**	**16 46 03.5**	**+0.5**
PLK1	**Peulik 1**	**2.20**	**294**		**Pn**	**16 46 04.9**	**-0.2**
AUJK	**Augustine Jueg**	**2.42**	**353**		**Pn**	**16 46 09.5**	**+1.3**
AUP	**Augustine Pinn**	**2.43**	**353**		**Pn**	**16 46 09.8**	**+1.4**
CNPM	**China Poot**	**2.71**	**18**		**Pn**	**16 46 13.0**	**+0.8**
CNPM	**China Poot**	**2.71**	**18**		**Sb**	**16 46 48.9**	**-1.6**
HOM	**Homer**	**2.78**	**13**	Pn	**Pn**	**16 46 14.7**	**+1.6**
HOM	**Homer**	**2.78**	**13**		**Sb**	**16 46 50.0**	**-2.4**
ANNE	**Aniakchak Nort**	**2.85**	**271**		**Pn**	**16 46 13.1**	**-1.0**
BRLK	**Bradley Lake**	**3.00**	**19**		**Pn**	**16 46 16.2**	**0.0**
BRSE	**Bradley Lake S**	**3.01**	**21**		**Pn**	**16 46 16.4**	**+0.2**
ILS	**Iliamna Low So**	**3.01**	**358**		**Pn**	**16 46 17.5**	**+1.1**
IVE	**Iliamna Volcan**	**3.07**	**358**		**Pn**	**16 46 18.2**	**+1.1**
ILW	**Iliamna West**	**3.12**	**357**		**Pn**	**16 46 18.5**	**+0.6**
CHGN	**Chignik**	**3.14**	**260**	Pn	**Pn**	**16 46 16.6**	**-1.4**
RED	**Redoubt Volcan**	**3.47**	**1**		**Pn**	**16 46 23.6**	**+0.9**
RSO	**Redoubt South**	**3.52**	**1**		**Pn**	**16 46 24.7**	**+1.3**
RDWB	**Redoubt West**	**3.54**	**0**		**Pn**	**16 46 24.5**	**+0.8**
VNHG	**Veniaminof 1**	**3.57**	**261**		**Pn**	**16 46 22.8**	**-1.1**
SEW	**Seward**	**3.63**	**28**		**Pn**	**16 46 24.2**	**-0.4**
VNNF	**Veniaminof 3**	**3.63**	**262**		**Pn**	**16 46 24.0**	**-0.9**
RDJH	**Redoubt Jeurge**	**3.65**	**0**		**Pn**	**16 46 25.7**	**+0.6**
SLKM	**Skilak Lake**	**3.82**	**20**		**Pn**	**16 46 27.4**	**0.0**
MID	**Middleton Isla**	**4.25**	**52**	Pn	**Pn**	**16 46 33.8**	**+0.6**
SPCR	**Spurr Chakacha**	**4.27**	**4**		**Pn**	**16 46 34.9**	**+1.3**
CNBA	**Chernabura Isl**	**4.35**	**243**	Pn	**Pn**	**16 46 32.7**	**-2.0**
SPCG	**Spurr Capps Gl**	**4.37**	**5**		**Pn**	**16 46 36.1**	**+1.0**
SVW2	**Sparrevohn**	**4.39**	**342**		**Pn**	**16 46 35.9**	**+0.7**
SPNN	**North Nagishla**	**4.42**	**1**		**Pn**	**16 46 36.7**	**+0.9**
RC01	**Rabbit Creek A**	**4.45**	**20**		**Pn**	**16 46 36.4**	**+0.4**
SDPT	**Sand Point**	**4.56**	**252**	Pn	**Pn**	**16 46 36.5**	**-1.0**
PWL	**Port Wells**	**4.56**	**29**		**Pn**	**16 46 37.5**	**-0.1**
SUA	**Susitna One**	**4.65**	**13**		**Pn**	**16 46 39.1**	**+0.3**
HIN	**Hinchinbrook I**	**4.78**	**41**		**Pn**	**16 46 40.3**	**-0.3**
GLI	**Glacier Island**	**4.94**	**35**		**Pn**	**16 46 42.2**	**-0.5**
KNK	**Knik Glacier**	**5.01**	**25**		**Pn**	**16 46 43.2**	**-0.5**
FID	**Port Fidalgo**	**5.04**	**38**		**Pn**	**16 46 42.8**	**-1.4**
EYAK	**Cordova Ski Ar**	**5.16**	**43**		**Pn**	**16 46 45.6**	**-0.2**
JPK	**Jack Peak**	**5.23**	**36**		**Pn**	**16 46 46.3**	**-0.4**
GHO	**Glory Hole Cre**	**5.23**	**21**		**Pn**	**16 46 46.6**	**-0.2**
SML	**Sawmill**	**5.39**	**24**	Pn	**Pn**	**16 46 49.6**	**+0.7**
RAGM	**Ragged Mountai**	**5.48**	**48**		**Pn**	**16 46 49.6**	**-0.6**
GOAT	**Goat Mountain**	**5.57**	**46**		**Pn**	**16 46 51.2**	**-0.3**
SCM	**Sheep Creek Mo**	**5.65**	**28**		**Pn**	**16 46 52.9**	**+0.4**
PPLA	**Purkeypile**	**5.97**	**3**		**Pn**	**16 46 57.2**	**+0.2**
GRIN	**Grindle Hills**	**5.99**	**52**		**Pn**	**16 46 56.8**	**-0.4**
TT01	**Tatalina**	**6.18**	**346**		**Pn**	**16 46 60.0**	**+0.2**
WAT6	**Susitna Watana**	**6.20**	**22**		**Pn**	**16 46 60.0**	**-0.2**
KULT	**Kultieth River**	**6.24**	**54**		**Pn**	**16 47 00.3**	**-0.3**
WAX	**Waxell Ridge**	**6.28**	**52**	Pn	**Pn**	**16 47 00.9**	**-0.2**
FALS	**False Pass**	**6.30**	**255**	Pn	**Pn**	**16 47 01.1**	**-0.3**
CRQM	**Cirque**	**6.32**	**49**		**Pn**	**16 47 01.4**	**-0.4**
WAT2	**Susitna Watana**	**6.39**	**18**		**Pn**	**16 47 02.7**	**-0.1**
TGL	**Tana Glacier**	**6.44**	**50**	Pn	**Pn**	**16 47 03.6**	**+0.2**
GLB	**Gilahina Butte**	**6.46**	**42**		**Pn**	**16 47 03.3**	**-0.4**
VRDI	**Verde Repeater**	**6.46**	**45**		**Pn**	**16 47 03.6**	**-0.2**
MESA	**MESA**	**6.55**	**56**		**Pn**	**16 47 04.4**	**-0.7**
TRF	**Thorofare Moun**	**6.64**	**10**		**Pn**	**16 47 08.2**	**+2.1**
KTH	**Kantishna Hill**	**6.69**	**7**	Pn	**Pn**	**16 47 07.7**	**+0.9**
DHY	**Denali Highway**	**6.72**	**22**		**Pn**	**16 47 08.1**	**+0.8**
MCARA	**McCarthy VSAT**	**6.72**	**45**		**Pn**	**16 47 07.2**	**0.0**
YAH	**Yahtse**	**6.72**	**55**		**Pn**	**16 47 06.9**	**-0.5**
KIAG	**Kiagna River**	**6.72**	**49**		**Pn**	**16 47 08.0**	**-0.6**
RND	**Reindeer**	**6.77**	**15**		**Pn**	**16 47 08.7**	**+0.8**
BALM	**Baldy**	**6.79**	**49**		**Pn**	**16 47 08.3**	**0.0**
PTPK	**Patty Peak**	**6.83**	**47**		**Pn**	**16 47 08.6**	**-0.2**
GRNC	**Granite Creek**	**6.89**	**52**		**Pn**	**16 47 09.5**	**-0.2**
MCK	**McKinley**	**7.07**	**14**		**Pn**	**16 47 13.4**	**+1.5**
SAMH	**Samovar Hills**	**7.07**	**58**		**Pn**	**16 47 12.0**	**-0.1**
PAX	**Paxson**	**7.08**	**28**		**Pn**	**16 47 13.1**	**+1.0**
BARN	**Barnard Glacie**	**7.09**	**50**		**Pn**	**16 47 12.6**	**+0.2**
CTGM	**Chitina Glacie**	**7.18**	**51**	Pn	**Pn**	**16 47 13.8**	**+0.1**
BPAW	**Bear Paw Mtn.**	**7.23**	**7**	Pn	**Pn**	**16 47 17.9**	**+3.8**
BCPM	**Bancas Point**	**7.55**	**61**		**Pn**	**16 47 18.2**	**-0.4**
PNL	**Peninsula**	**7.59**	**63**		**Pn**	**16 47 18.6**	**-0.5**
YUK2	**White River**	**7.81**	**47**		**Pn**	**16 47 22.0**	**-0.1**
WRH	**Wood River Hil**	**7.89**	**15**	Pn	**Pn**	**16 47 25.0**	**+1.8**
YUK3	**Moose Creek**	**7.96**	**47**		**Pn**	**16 47 24.4**	**0.0**
HDA	**Harding Lake**	**8.02**	**19**	P	**Pn**	**16 47 25.9**	**+1.0**
	baz=204						
HDA				S	**Sn**	**16 48 52.3**	**-2.5**
	baz=204						
HDA	**Harding Lake**	**8.02**	**19**	Pn	**Pn**	**16 47 26.4**	**+1.5**
DHAK	**Deception Hill**	**8.06**	**69**	Pn	**Pn**	**16 47 25.4**	**-0.1**
CCB	**Clear Creek Bu**	**8.10**	**16**	Pn	**Pn**	**16 47 28.5**	**+2.5**
YUK1	**Sand Pete Hill**	**8.14**	**45**		**Pn**	**16 47 26.8**	**0.0**
MLY	**Manley**	**8.17**	**6**	Pn	**Pn**	**16 47 28.1**	**+1.1**
TCOL	**CIGO, UAF Yank**	**8.30**	**15**	P	**Pn**	**16 47 32.1**	**+3.3**
	baz=199						
TCOL				S	**Sn**	**16 48 58.7**	**-3.1**
	baz=199						
IL31		**8.36**	**18**	Pn	**Pn**	**16 47 30.0**	**+0.4**
ILAR	**Eielson Array**	**8.36**	**18**	Pn	**Pn**	**16 47 29.8**	**+0.1**
	0.5nm,0.3s,baz=204,slow=14,SNR=22						
ILAR				Sn	**Sn**	**16 48 58.8**	**-4.5**
	1.2nm,0.3s,baz=200,slow=19,SNR=4.2						
ILAR				LR	LR	16 50 25.0	
	comp=Z,53nm,19.3s,baz=224,slow=36						
UNV	**Unalaska Valle**	**8.37**	**254**	Pn	**Pn**	**16 47 29.0**	**-0.7**
YUK7	**Dusty Glacier**	**8.44**	**59**		**Pn**	**16 47 30.6**	**-0.4**
YUK4	**Talbot Arm**	**8.52**	**53**		**Pn**	**16 47 33.1**	**+1.1**
POKR	**Poker Flat Res**	**8.60**	**16**	P	**Pn**	**16 47 34.9**	**+2.0**
	baz=200						
POKR				S	**Sn**	**16 49 04.8**	**-4.3**
	baz=200						
PLBC	**Pleasant Camp**	**9.06**	**67**		**Pn**	**16 47 39.3**	**+0.2**
IM03		**9.07**	**358**		**Pn**	**16 47 39.5**	**+0.2**
SPIA	**Saint Paul Isl**	**9.48**	**279**	Pn	**Pn**	**16 47 43.4**	**-1.5**
SKAG	**Skagway**	**9.58**	**68**	Pn	**Pn**	**16 47 46.9**	**+0.6**
EGAK	**Eagle**	**9.68**	**31**	Pn	**Pn**	**16 47 50.0**	**+2.4**
BESE	**Bessie Mountai**	**9.75**	**73**	Pn	**Pn**	**16 47 48.6**	**-0.1**
ANM	**Nome**	**9.77**	**327**	Pn	**Pn**	**16 47 51.4**	**+2.5**
JIS	**Juneau Island**	**10.00**	**75**	Pn	**Pn**	**16 47 51.3**	**-0.7**
CRAG	**Craig**	**11.08**	**89**		**Pn**	**16 48 04.1**	**-2.8**
ADK	**Adak**	**14.73**	**260**	Pn	**Pn**	**16 48 54.8**	**-2.0**
YKA	**Yellowknife Ar**	**19.83**	**58**	P	**Pn**	**16 49 59.8**	**-0.6**
	0.2nm,0.3s,baz=271,slow=10,SNR=20						
BILL	**Bilibino**	**21.42**	**318**	P	**P**	**16 50 15.2**	**-0.7**
BILL				IAmb	IAmb	16 50 20.8	
	comp=Z,9.3nm,1.0s						
F04A	**Amboy**	**21.75**	**107**	P	**P**	**16 50 17.6**	**-2.1**
B08A	**Colville Reser**	**21.88**	**99**	P	**P**	**16 50 21.8**	**+0.7**
B08A				IAmb	IAmb	16 50 24.4	
	comp=Z,7.9nm,0.9s						
NEW	**Newport**	**23.14**	**97**	P	**P**	**16 50 36.9**	**+2.5**
	comp=Z,3.5nm,0.8s,baz=316,slow=9.8,SNR=5.5						
G06A	**Carlson Farm,**	**23.15**	**107**	P	**P**	**16 50 33.3**	**-1.3**
HUMO	**Hull Mountain**	**23.81**	**114**	P	**P**	**16 50 41.4**	**+0.4**
HUMO				IAmb	IAmb	16 50 46.3	
	comp=Z,4.7nm,0.9s						
WALA	**Waterton Lakes**	**24.44**	**92**	P	**P**	**16 50 47.3**	**+0.4**
WALA				IAmb	IAmb	16 50 55.3	
	comp=Z,5.1nm,1.1s						
YBH	**Yreka Blue Hor**	**24.58**	**115**	P	**P**	**16 50 51.5**	**+3.3**
	comp=Z,2.2nm,0.7s,baz=322,slow=2.6,SNR=7.5						
YBH	**Yreka Blue Hor**	**24.58**	**115**	P	**P**	**16 50 49.6**	**+1.3**
WVOR	**Wild Horse Val**	**26.13**	**109**	P	**P**	**16 51 03.2**	**+0.9**
HRY	**Holter Researc**	**26.95**	**95**	P	**P**	**16 51 09.6**	**0.0**
PETK	**Petropavlovsk-**	**28.09**	**283**	P	**P**	**16 51 20.0**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=79,slow=11,SNR=3.8						
NVAR	**Mina Array Bea**	**29.28**	**114**	P	**P**	**16 51 32.8**	**+2.2**
	comp=Z,1.2nm,0.7s,baz=307,slow=8.9,SNR=11						
R11A	**Troy Canyon, C**	**30.72**	**111**	P	**P**	**16 51 43.0**	**-0.3**
R11A				IAmb	IAmb	16 51 46.0	
	comp=Z,1.7nm,0.8s						
PDAR	**Pinedale Array**	**30.73**	**99**	P	**P**	**16 51 45.2**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=311,slow=4.8,SNR=16						
RSSD	**Black Hills**	**32.84**	**92**	P	**P**	**16 52 04.2**	**+2.3**
KLR	**Kul'dur**	**43.76**	**293**	P	**P**	**16 53 32.7**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=69,slow=8.7,SNR=3.8						
TXAR	**Lajitas Array**	**43.91**	**108**	P	**P**	**16 53 37.0**	**+2.0**
	comp=Z,1.2nm,0.6s,baz=316,slow=5.9,SNR=7.4						
KSRS	**Korea Array**	**53.98**	**285**	P	**P**	**16 54 53.6**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=43,slow=7.1,SNR=2.7						
SONM	**Songino Array**	**56.68**	**308**	P	**P**	**16 55 12.0**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=41,slow=7.9,SNR=7.4						
ZALV	**Zalesovo Beam**	**59.89**	**325**	P	**P**	**16 55 33.0**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=38,slow=7.3,SNR=2.4						
NOA	**NORSAR Array B**	**61.68**	**9**	P	**P**	**16 55 46.4**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=350,slow=6.9,SNR=2.8						
FINES	**FINESS Array B**	**61.94**	**1**	P	**P**	**16 55 47.9**	**+0.6**
	comp=Z,3.4nm,1.0s,baz=19,slow=8.8,SNR=2.8						
MKAR	**Makanchi Array**	**66.88**	**322**	P	**P**	**16 56 19.6**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=44,slow=6.9,SNR=4.8						
ABKAR	**Akbulak array**	**70.72**	**338**	P	**P**	**16 56 43.0**	**-0.7**
ABKAR				IAmb	IAmb	16 56 55.5	
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**72.69**	**359**	P	**P**	**16 56 55.7**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=4.6,slow=5.7,SNR=3.3						
AAK	**Ala-Archa**	**73.10**	**325**	P	**P**	**16 56 59.6**	**+1.2**
AAK				IAmb	IAmb	16 57 05.3	
	comp=Z,1.7nm,0.9s						
GERES	**GERESS Array B**	**73.97**	**9**	P	**P**	**16 57 04.0**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=342,slow=6.2,SNR=3.3						
VYHS	**Vyhne**	**74.69**	**6**	eP	**P**	**16 57 07.9**	**+0.5**
BUR08	**Buovina Ar. S**	**75.75**	**1**	P	**P**	**16 57 12.7**	**-0.9**
BRTR	**Keskin Array B**	**83.53**	**355**	P	**P**	**16 57 56.3**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=20,slow=4.7,SNR=2.6						
CMAR	**Chiang Mai Arr**	**84.21**	**295**	P	**P**	**16 57 58.9**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=11,slow=5.6,SNR=13						

DJA 13 16:48:46.6±0.5,3°S±5°×14°0E±°,h52km±15km,M4.0/6,
mb4.7/2,MLv3.7/6,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.74**	**29**	P	Pn	16 49 02.0	+1.1
GENI				S	Sn	16 49 13.3	+2.0
JAY	**Jayapura**	**1.15**	**51**	P	Pn	16 49 06.3	-0.1
JAY				S	Sn	16 49 21.5	+0.4
WAMI	**Wamena**	**1.27**	**240**	P	Pn	16 49 07.1	-0.9
SMPI	**Sarmi**	**1.66**	**318**	P	Pn	16 49 13.1	-0.2
BAKI	**Biak**	**4.22**	**299**	P	Pn	16 49 49.2	+0.7
MMPI	**Merauke**	**5.22**	**174**	P	Pn	16 50 03.1	+0.9
	104nm,1.0s,1.3nm						
RKPI	**Ransiki, Papua**	**5.88**	**287**	P	Pn	16 50 10.7	-0.6

TAP ***13*** *16:54:07.0,24.88N×122.39E,h17km±1km,ML2.6,D*
ISCJB ***13*** *16:54:07.4±0.6,24.89N±0.04×122.42E±0.03,h19km±7km,*
Error ellipse: s-maj=6.4km s-min=3.8km az=24.6
JMA ***13*** *16:54:07.3±0.1,24.84N×122.38E,h4km±3km,M2.5*
ISC 13 16:54:07.0±1.1,24.87N±0.04×122.41E±0.03,h17km±9km,
n33,σ0§36/51,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.40**	**290**	P	**Pg**	**16 54 15.4**	**+0.1**
	baz=288						
TWB1				eS	**Sb**	**16 54 21.5**	**0.0**
	baz=288						
EOS1	**EOS1**	**0.41**	**218**	P	**Pb**	**16 54 16.1**	**+0.4**
	baz=215						
EOS1				eS	**Sb**	**16 54 22.9**	**+1.3**
	baz=215						
TIPB	**Shuangxi**	**0.54**	**281**	eP	**Pb**	**16 54 18.1**	**+0.2**
	baz=279						
TIPB				eS	**Sb**	**16 54 25.8**	**+0.4**
	baz=279						
TWC	**Suao**	**0.57**	**243**	eP	**Pg**	**16 54 18.1**	**-0.3**
	baz=240						
TWC				eS	**Sb**	**16 54 27.0**	**+0.7**
	baz=240						
NWF	**Wu-fen Shan**	**0.60**	**289**	eP	**Pb**	**16 54 19.4**	**+0.3**
	baz=288						
NWF				eS	**Sb**	**16 54 27.6**	**+0.3**
	baz=288						
WFSB	**Wu-fen Shan**	**0.60**	**289**	eP	**Pb**	**16 54 19.3**	**+0.2**
	baz=288						
WFSB				eS	**Sb**	**16 54 27.5**	**+0.2**
	baz=288						
JYNG	**Yonaqunijimaku**	**0.65**	**131**	P	**Pg**	**16 54 19.9**	**+0.2**
JYNG				eS	**Sb**	**16 54 28.7**	**+0.2**
YOJ	**Yonaguni jima**	**0.69**	**127**	P	**Pg**	**16 54 20.5**	**0.0**
YOJ				eS	**Sg**	**16 54 29.7**	**+0.1**
YOJ	**Yonaguni jima**	**0.69**	**127**	eP	**Pg**	**16 54 20.5**	**0.0**
	baz=126						
YOJ				eS	**Sg**	**16 54 29.3**	**-0.3**
	baz=126						
TWE	**Neicheng**	**0.69**	**257**	eP	**Pb**	**16 54 20.6**	**+0.1**
	baz=255						
TWE				eS	**Sg**	**16 54 29.5**	**-0.3**
	baz=255						
NANB	**Nanao**	**0.74**	**234**	P	**Pb**	**16 54 21.4**	**0.0**
	baz=232						
NANB				eS	**Sn**	**16 54 32.5**	**-1.1**
	baz=232						
TWA	**Mucha**	**0.76**	**278**	eP	**Pg**	**16 54 21.8**	**0.0**
	baz=277						
ENTT	**Nioudou**	**0.80**	**253**	eP	**Pg**	**16 54 22.6**	**0.0**
	baz=251						
ENTT				eS	**Sg**	**16 54 33.8**	**+0.6**
	baz=251						
YM08	**YM08**	**0.81**	**293**	eP	**Pb**	**16 54 22.4**	**-0.1**
	baz=292						
NHDH	**Xindian Distri**	**0.81**	**277**	eP	**Pg**	**16 54 23.0**	**+0.3**
	baz=275						
NHDH				eS	**Sb**	**16 54 33.0**	**-0.1**
	baz=275						
YM01	**YM01**	**0.81**	**290**	eP	**Pg**	**16 54 22.7**	**-0.1**
	baz=289						
YM01				eS	**Sg**	**16 54 33.3**	**-0.2**
	baz=289						
YM11	**YM11**	**0.81**	**291**	eP	**Pn**	**16 54 23.6**	**-0.1**
	baz=290						
YM05	**YM05**	**0.82**	**291**	P	**Pg**	**16 54 23.1**	**+0.2**
	baz=290						
NWLT	**Wulai**	**0.83**	**264**	eP	**Pg**	**16 54 23.3**	**+0.1**
	baz=262						
NDT	**Datong Townshi**	**0.86**	**252**	eP	**Pg**	**16 54 23.7**	**0.0**
	baz=250						
YHNB	**Yeheng**	**0.96**	**258**	P	**Pb**	**16 54 25.3**	**+0.1**
	baz=256						
YHNB				eS	**Sg**	**16 54 38.1**	**-0.2**
	baz=256						
NSK	**Sanguang**	**0.97**	**259**	eP	**Pg**	**16 54 25.9**	**-0.1**
	baz=257						
NACB	**Ninganchiao**	**1.02**	**227**	P	**Pn**	**16 54 26.4**	**0.0**
	baz=225						
NACB				eS	**Sg**	**16 54 39.5**	**-0.6**
	baz=225						
NNSH	**Datong**	**1.03**	**245**	eP	**Pn**	**16 54 26.6**	**-0.1**
	baz=243						
NNS	**Nan Shan**	**1.03**	**246**	eP	**Pb**	**16 54 26.5**	**0.0**
	baz=244						
NNS				eS	**Sn**	**16 54 40.9**	**0.0**
	baz=244						
ETLH	**Xiulin Townshi**	**1.07**	**232**	eP	**Pn**	**16 54 27.2**	**-0.1**
	baz=230						
ETLH				eS	**Sn**	**16 54 41.7**	**-0.1**
	baz=230						
WHF	**Hehuan Shan**	**1.27**	**235**	eP	**Pn**	**16 54 30.0**	**-0.3**
	baz=234						
LIOB	**Emei**	**1.28**	**260**	eP	**Pn**	**16 54 30.1**	**-0.1**
	baz=259						
TDCB	**Techi**	**1.29**	**242**	eP	**Pb**	**16 54 30.9**	**0.0**
	baz=240						
NSTT	**Nanjuang**	**1.30**	**260**	eP	**Pb**	**16 54 31.0**	**0.0**
	baz=258						
IRIF	**Iriomote-Funau**	**1.32**	**114**	P	**Pg**	**16 54 32.1**	**-0.3**
CHGB	**Renai**	**1.39**	**234**	eP	**Pg**	**16 54 33.1**	**-0.6**
	baz=233						
VWDT	**VWDT**	**1.60**	**226**	eP	**Pn**	**16 54 35.2**	**+0.7**
	baz=225						

IDC ***13*** *16:58:49.6±0.7,9.03N×70.98W,h0km,mb3.6/5,mb1 4.0/7,*
mb1mx3.7/31,mbtmp3.8/7,ML3.2/2,MS2.9/2,Ms1 3.0/2,
ms1mx2.7/20,Error ellipse: s-maj=22.9km s-min=7.1km
az=25.0
ISCJB ***13*** *16:58:50.4±0.5,8.88N±0.05×70.92W±0.04,h8km,mb3.6/5,*
MS2.8/1,Error ellipse: s-maj=8.2km s-min=4.8km
az=155.1
ISC 13 16:58:50.9±0.6,8.87N±0.05×70.96W±0.05,h8km,n62,
σ1§49/61,mb3.8/5,Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDV	**Santo Domingo**	**0.33**	**88**	eP	**Pg**	**16 58 56.4**	**-1.1**
SDV	**Santo Domingo**	**0.33**	**88**	eP	**Pg**	**16 58 56.4**	**-1.1**
SDV	**Santo Domingo**	**0.33**	**88**	Pg	**Pg**	**16 58 56.4**	**-1.1**
	108nm,0.3s,baz=272,slow=10,SNR=256						
SDV				Lg	Lg	16 59 02.5	
	671nm,0.3s,baz=31,slow=19,SNR=92						
PAMC	**Pamplona, Colo**	**2.30**	**229**	eP	**Pn**	**16 59 30.9**	**+1.3**
PAMC	**Pamplona, Colo**	**2.30**	**229**	eP	**Pn**	**16 59 30.9**	**+1.3**
OCAC	**Ocana**	**2.41**	**255**	eP	**Pb**	**16 59 34.0**	**-0.8**
OCAC	**Ocana**	**2.41**	**255**	eP	**Pb**	**16 59 34.0**	**-0.8**
TAMC	**Tame, Arauca**	**2.56**	**199**	eP	**Pn**	**16 59 34.6**	**+1.9**
TAMC	**Tame, Arauca**	**2.56**	**199**	eP	**Pn**	**16 59 34.6**	**+1.9**
CODC	**Agustn Codazz**	**2.67**	**294**	eP	**Pn**	**16 59 35.6**	**+1.4**
CODC	**Agustn Codazz**	**2.67**	**294**	eP	**Pn**	**16 59 35.6**	**+1.4**
URIC	**Uribia, Colomb**	**2.99**	**340**	eP	**Pb**	**16 59 44.2**	**-0.2**
URIC	**Uribia, Colomb**	**2.99**	**340**	eP	**Pb**	**16 59 44.2**	**-0.2**
SMLC	**San Martn de**	**3.07**	**269**	eP	**Pn**	**16 59 41.3**	**+1.5**
SMLC	**San Martn de**	**3.07**	**269**	eP	**Pn**	**16 59 41.3**	**+1.5**
BRRC	**Barranca, Sant**	**3.24**	**237**	eP	**Pn**	**16 59 44.9**	**+2.8**
BRRC	**Barranca, Sant**	**3.24**	**237**	eP	**Pn**	**16 59 44.9**	**+2.8**
ARGC	**Ariguani, Magd**	**3.38**	**287**	eP	**Pn**	**16 59 45.5**	**+1.4**
ARGC	**Ariguani, Magd**	**3.38**	**287**	eP	**Pn**	**16 59 45.5**	**+1.4**
RUSC	**La Rusia**	**3.63**	**216**	eP	**Pn**	**16 59 49.0**	**+1.1**
RUSC	**La Rusia**	**3.63**	**216**	eP	**Pn**	**16 59 49.0**	**+1.1**
ZARC	**Zaragoza, Cauc**	**4.09**	**251**	eP	**Sn**	**17 00 41.1**	**-0.9**
ZARC	**Zaragoza, Cauc**	**4.09**	**251**	eP	**Sn**	**17 00 41.1**	**-0.9**
PTBC	**PUERTO BERRIO,**	**4.17**	**236**	eP	**Pn**	**16 59 54.6**	**-0.3**
PTBC	**PUERTO BERRIO,**	**4.17**	**236**	eP	**Pn**	**16 59 54.6**	**-0.3**
SJCC	**San Jacinto, C**	**4.28**	**284**	eP	**Pn**	**16 59 58.7**	**+2.2**
SJCC	**San Jacinto, C**	**4.28**	**284**	eP	**Pn**	**16 59 58.7**	**+2.2**
SPBC	**San Pablo de B**	**4.44**	**224**	eP	**Pn**	**16 59 59.9**	**+1.1**
SPBC	**San Pablo de B**	**4.44**	**224**	eP	**Pn**	**16 59 59.9**	**+1.1**
UREC	**San Jos de Ur**	**4.66**	**257**	eP	**Pn**	**17 00 04.1**	**+2.5**
UREC	**San Jos de Ur**	**4.66**	**257**	eP	**Pn**	**17 00 04.1**	**+2.5**
PTGC	**Puerto Gaitan,**	**4.79**	**194**	eP	**Pn**	**17 00 05.5**	**+2.1**
PTGC	**Puerto Gaitan,**	**4.79**	**194**	eP	**Pn**	**17 00 05.5**	**+2.1**
**CHIC

KNZ	Kokohu	3.77	205	P	Pn	17 15 53.4	-1.0
MHGZ	Mahia Peninsul	3.81	201	P	Pn	17 15 54.5	-0.6
WIAZ	Waiheke Island	3.86	251	P	Pn	17 15 55.6	-0.2
RAHZ	Arahi	3.90	211	P	Pn	17 15 56.9	+0.6
MKAZ	Moumakai	3.94	246	P	Pn	17 15 56.9	+0.1
MTHZ	Maungataniwha	3.95	214	P	Pn	17 15 57.0	-0.1
TOZ	Tahuroa Road	3.97	237	P	Pn	17 15 57.3	0.0
MBAZ	Motutapu North	4.04	252	P	Pn	17 15 58.2	0.0
ETAZ	East Tamaki Re	4.07	249	P	Pn	17 16 00.0	+1.5
MRHZ	Matea Rd	4.14	218	P	Pn	17 15 59.3	-0.4
NMHZ	Naumai	4.17	212	P	Pn	17 16 00.5	+0.5
ARHZ	Aropaoanui	4.23	210	P	Pn	17 16 00.3	-0.5
AWAZ	Awhitu Peninsu	4.32	249	P	Pn	17 16 02.4	+0.4
WCZ	Waipu Caves	4.35	264	P	Pn	17 16 01.8	-0.6
PPT	Papeete	32.65	65	LR	LR	17 30 22.3	
	comp=Z,15nm,20.4s,baz=28,slow=29						
ASAR	Alice Springs	41.20	274	P	P	17 22 39.0	+2.1
	0.6nm,0.5s,baz=116,slow=7.7,SNR=23						
WRA	Warramunga Arr	42.66	279	P	P	17 22 50.3	+1.5
	1.3nm,0.6s,baz=121,slow=7.7,SNR=23						
FINES	FINESS Array B	149.21	335	PKPbc	PKPbc	17 34 35.7	-2.8
	6.0nm,1.1s,baz=86,slow=2.0,SNR=2.4						

IDC ***13*** *18:30:33.2±2.1, 3.°17N×129.°00E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/39, mbtmp3.4/4, Error ellipse: s-maj=106.5km s-min=24.6km az=72.0*
ISCJB ***13*** *18:30:55.2±1.4, 3.°0N±0.°1×128.°6E±0.°1, h200km, mb3.3/4, Error ellipse: s-maj=19.5km s-min=13.1km az=23.2*
DJA ***13*** *18:30:59.2±0.4, 3.°N±4.°×12.°8E±.°, h218km±4km, M4.0/10, mB5.1/2, mb4.0/7, MLv4.0/10, Mw(mB)4.4/2*

ISC 13 18:30:56.5±1.5, 2.°9N±0.°2×128.°5E±0.°1, h200km, n12, σ1ş85/12, mb3.4/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.36	209	P		Pn	Pn	18 31 40.9	+2.0
SWI	Sorong	4.59	143	P		Pn	Pn	18 32 08.2	+2.5
KMSI	Cibinong	5.07	244	P		Pn	Pn	18 32 13.0	+1.1
SANI	Sanana	5.49	208	P		Pn	Pn	18 32 17.2	0.0
	106nm,0.6s,3μm0.6nm								
NLAI	Namlea	6.21	193	P		Pn	Pn	18 32 27.9	+1.3
	7.9nm,0.5s,3μm0.1nm								
FAKI	Fak Fak	6.83	147	P		Pn	Pn	18 32 36.6	+2.0
	31nm,1.2s,0.1nm								
LUWI	Luwuk	6.93	236	P		Pn	Pn	18 32 38.3	+2.4
APSI	Ampana	7.82	242	P		Pn	Pn	18 32 48.4	+0.9
	13nm,0.6s,0.1nm								
FITZ	Fitzroy Crossi	21.01	188	P		P	P	18 35 23.3	-1.4
	0.5nm,0.5s,baz=22,slow=11,SNR=4.0								
WRA	Warramunga Arr	23.36	166	P		P	P	18 35 45.8	-1.4
	0.4nm,0.3s,baz=346,slow=10,SNR=14								
ASAR	Alice Springs	26.87	169	P		P	P	18 36 17.1	-1.8
	0.3nm,0.4s,baz=349,slow=7.2,SNR=23								
MKAR	Makanchi Array	59.30	325	P		P	P	18 40 37.2	-0.1
	0.4nm,0.5s,baz=113,slow=8.9,SNR=5.2								

SJA ***13*** *19:54:13.3±0.9, 23.°63S×66.°80W, h234km±8km, ML3.0, MW3.2*
ISCJB ***13*** *19:54:16.2±1.1, 23.°67S±0.°06×66.°93W±0.°05, h201km±13km, Error ellipse: s-maj=11.6km s-min=6.0km az=31.1*
GUC ***13*** *19:54:17.0±0.5, 23.°47S×67.°35W, h240km±6km, ML3.7*

ISC 13 19:54:15.2±2.4, 23.°67S±0.°07×66.°89W±0.°06, h211km±20km, n23, σ1ş02/32, 3C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HJA	Humahuaca	1.44	72	*i* P		Pn	Pn	19 54 49.5	-0.3
SLA	San Lorenzo	1.64	130	*i* P		Pn	Pn	19 54 52.0	+0.7
SLA				*e* S		Sn	Pn	19 55 20.3	+0.8
AZAP	Zapla	1.76	109	*i* P		Pn	Pn	19 54 52.2	-0.2
YJA	Yavi	1.95	41	*i* P		Pn	Pn	19 54 54.9	+0.3
LVC	Limon Verde	2.14	299	*e* P		Pn	Pn	19 54 57.5	+1.1
LVC				*i* S		Sn	Pn	19 55 28.5	+0.1
LVC	Limon Verde	2.14	299	*i* P		Pn	Pn	19 54 57.4	+1.1
LVC				*e* S		Sn	Pn	19 55 29.1	+0.7
LVC				IAML				19 55 31.2	
	comp=Z,14nm,0.1s								
PB15	IPOC Station P	2.42	280	⇑*i* P		Pn	Pn	19 55 00.0	+0.9
PB15				*i* S		Sn	Pn	19 55 33.2	-0.2
PB15	IPOC Station P	2.42	280	*i* P		Pn	Pn	19 55 00.1	+0.9
FSA	Cafayete	2.57	161	*i* P		Pn	Pn	19 55 00.8	+0.1
PB06	IPOC Station P	2.65	291	⇑*i* P		Pn	Pn	19 55 02.5	+0.9
PB06				*i* S		Sn	Pn	19 55 37.0	-0.8
PB06				IAML				19 55 39.3	
	comp=N,182nm,0.2s								
PB06	IPOC Station P	2.65	291	*i* P		Pn	Pn	19 55 02.6	+0.9
PB09	IPOC Station P	2.86	310	IAML				19 55 44.4	
	comp=Z,26nm,0.1s								
PB03	IPOC Station P	3.10	301	⇑*i* P		Pn	Pn	19 55 07.4	+0.6
PB03				*i* S		Sn	Pn	19 55 45.5	-1.6
PB03				IAML				19 55 47.1	
	comp=E,133nm,0.1s								
PB03	IPOC Station P	3.10	301	*i* P		Pn	Pn	19 55 07.3	+0.6
PB05	IPOC Station P	3.15	284	⇓*i* P		Pn	Pn	19 55 07.8	+0.5
PB05				*i* S		Sn	Pn	19 55 45.9	-2.3
PB05				IAML				19 55 50.9	
	comp=E,86nm,0.2s								
PB05	IPOC Station P	3.15	284	*i* P		Pn	Pn	19 55 07.8	+0.5
PB04	IPOC Station P	3.29	293	*i* P		Pn	Pn	19 55 09.6	+0.7
PB04				IAML				19 55 55.1	
	comp=Z,93nm,0.4s								
PB14	IPOC Station P	3.35	253	*i* P		Pn	Pn	19 55 10.3	+0.4
PB10	IPOC Station P	3.37	272	*i* P		Pn	Pn	19 55 10.5	+0.8
PB07	IPOC Station P	3.38	304	*e* P		Pn	Pn	19 55 10.5	+0.4
PB07				*i* S		Sn	Pn	19 55 50.8	-2.3
PB07				IAML				19 55 53.2	
	comp=E,106nm,0.4s								
PB07	IPOC Station P	3.38	304	*i* P		Pn	Pn	19 55 10.0	-0.1
PB08	IPOC Station P	4.09	329	*e* P		Pn	Pn	19 55 20.2	+1.2
PB08				*i* S		Sn	Pn	19 56 08.5	-0.6
GO01	Chusmiza	4.52	331	*e* P		Pn	Pn	19 55 26.0	+1.6
GO01				*i* S		Sn	Pn	19 56 17.8	-1.1

KRNET ***13*** *20:24:17.7±0.1, 39.°66N×73.°91E, mb3.5*
SOME ***13*** *20:24:17.6, 39.°63N×73.°88E, h5km*
NNC ***13*** *20:24:21.6±1.8, 39.°83N×73.°90E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=14.2km s-min=7.2km az=177.0*

ISC 13 20:24:20.4±1.3, 39.°80N±0.°06×73.°83E±0.°02, h10km, n58, σ2ş25/96, 30C-18D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARSB	Arslanbob	1.66	337	⇑*i* P			Pb	20 24 51.0	-0.1
	baz=37								
ARSB				⇑*i* S			Sg	20 25 15.8	+2.1
	baz=37								
ARLS	Aral	2.09	10	⇑*e* P			Pb	20 24 57.4	-1.2
	baz=8.0								
ARLS				⇑*i* S			Sg	20 25 27.0	-0.7
	baz=8.0								
NRN	Naryn	2.32	45	⇑*i* P			Pb	20 25 00.2	-2.4
	baz=41								
NRN				⇑*i* S			Sb	20 25 30.8	-0.6
	baz=41								
AML	Almayashu	2.33	357	⇑*i* P			Pb	20 25 01.5	-1.3
	baz=56								
AML				⇑*i* S			Sb	20 25 33.5	+1.7
	baz=56								
AML	Almayashu	2.33	357	P			Pg	20 25 03.7	-1.4
	SNR=28								
BTK	Batken	2.33	277	⇑*i* P			Pb	20 25 00.4	-2.2
	baz=80								
BTK				⇑*i* S			Sb	20 25 31.6	+0.1
	baz=80								
ARK	Arkit	2.45	325	⇓*i* P			Pb	20 25 02.5	-2.1
	baz=26								
ARK				⇓*i* S			Sb	20 25 35.6	+0.7
	baz=26								
UCH	Uchtor	2.48	12	⇑*e* P			Pb	20 25 03.4	-2.0
	baz=10.0								
UCH				⇑*i* S			Sb	20 25 36.4	+0.3
	baz=10.0								
UCH	Uchtor	2.48	12	P			Pb	20 25 04.0	-1.4
	SNR=44								
KZA	Kyzart	2.52	25	⇓*i* P			Pb	20 25 03.7	-2.3
	baz=22								
KZA				⇓*i* S			Sb	20 25 36.9	-0.2
	baz=22								
KZA	Kyzart	2.52	25	P			Pb	20 25 04.4	-1.5
	SNR=26								
EKS2	Erkin-Say	2.86	359	⇑*i* P			Pb	20 25 08.9	-2.7
	baz=58								
EKS2				⇑*i* S			Sb	20 25 45.9	-0.8
	baz=58								
EKS2	Erkin-Say	2.86	359	P			Pg	20 25 13.2	-2.0
	SNR=16								
AAK	Ala-Archa	2.88	10	⇑*i* P			Pn	20 25 08.6	+2.1
	baz=8.0								
AAK				⇑*i* S			Sb	20 25 46.2	-1.1
	baz=8.0								
AAK	Ala-Archa	2.88	10	P			Pb	20 25 10.8	-1.2
	SNR=25								
AAK	Ala-Archa	2.88	10	⇑Pg			Pb	20 25 10.3	-1.7
	6.3nm,0.3s								
AAK				⇑Lg			Lg	20 25 52.1	
	34nm,0.6s								
KBK	Karagaybulak	2.98	16	⇓*e* P			Pn	20 25 10.1	+2.2
	baz=14								
KBK				⇓*e* S			Sb	20 25 48.3	-1.8
	baz=14								
KBK	Karagaybulak	2.98	16	P			Pb	20 25 11.4	-2.2
	SNR=24								
MRKS	Merke	2.98	351	*e* P			Pg	20 25 16.2	-1.2
	21nm,0.3s								
MRKS				*e* S			Sg	20 25 56.6	+0.5
	35nm,0.4s								
ULHL	Ulahol	3.05	36	⇑*e* P			Pn	20 25 10.7	+1.8
	baz=34								
ULHL				⇑*i* S			Sb	20 25 49.1	-3.1
	baz=34								
ULHL	Ulahol	3.05	36	P			Pb	20 25 15.4	+0.5
	SNR=6.2								
FRU1	Bishkek	3.07	11	⇓*e* P			Pn	20 25 11.5	+2.5
	baz=9.0								
FRU1				⇓*e* S			Sb	20 25 50.5	-2.1
	baz=9.0								
BOOM	Boomskoye usch	3.12	30	⇓*e* P			Pn	20 25 11.1	+1.2
	baz=28								
BOOM				⇓*i* S			Sb	20 25 50.7	-3.7
	baz=28								
CHMS	Chumysh	3.27	12	⇑*e* P			Pn	20 25 14.1	+2.3
	baz=10.0								
CHMS				⇑*i* S			Sb	20 25 55.3	-3.1
	baz=10.0								
TKM2	Tokmak 2	3.39	22	⇑*e* P			Pn	20 25 15.7	+2.1
	baz=21								
TKM2				⇑*i* S			Sn	20 25 57.7	+3.7
	baz=21								
TKM2	Tokmak 2	3.39	22	⇑Pg			Pb	20 25 20.4	-0.3
	4.6nm,0.4s								
TKM2				⇑Lg			Lg	20 26 07.8	
	12nm,0.6s								
KDJ	Kajisay	3.44	46	⇑*e* P			Pn	20 25 15.9	+1.6
	baz=44								
KDJ				⇑*i* S			Sn	20 25 58.0	+2.8
	baz=44								
USP	Ospenovka	3.50	8	⇓*e* P			Pn	20 25 17.6	+2.6
	baz=7.0								
USP				⇓*i* S			Sb	20 26 01.0	-4.1
	baz=7.0								
USP	Ospenovka	3.50	8	P			Pb	20 25 24.4	+1.9
	SNR=12								
KST	Kastek	3.61	26	*e* P			Pg	20 25 27.8	-1.9
	7.1nm,0.4s								
KST				*e* S			Sg	20 26 16.4	-0.1
	28nm,0.6s								
DZA	Taraz	3.62	329	*e* P			Pg	20 25 27.8	-1.9
	31nm,0.2s								
DZA				*e* S			Sg	20 26 15.6	-1.0
	85nm,0.4s								
SGDS	Sogindy	3.70	9	Pg			Pg	20 25 29.8	-1.4
	6.4nm,0.6s								
SGDS				Lg			Lg	20 26 19.0	
	38nm,1.0s								
IUG	Iuzhnay	3.71	310	*e* P			Pg	20 25 29.0	-2.5
	7.9nm,0.5s								
IUG				*e* S			Sg	20 26 18.2	-1.5
	53nm,0.5s								
DGS	Degeres	3.73	22	*e* P			Pg	20 25 30.3	-1.7
	8.9nm,0.5s								
DGS				*e* S			Sg	20 26 20.2	-0.2
	40nm,0.7s								
DGS	Degeres	3.73	22	Pg			Pg	20 25 30.3	-1.7
	8.9nm,0.5s								
DGS				Lg			Lg	20 26 20.2	
	40nm,0.8s								
IZV	Izvestkoviy	3.85	32	*e* P			Pg	20 25 31.7	-2.5
	14nm,0.6s								
IZV				*e* S			Sg	20 26 23.2	-0.9
	34nm,0.5s								
IZV	Izvestkoviy	3.85	32	Pg			Pg	20 25 31.9	-2.3
	7.7nm,0.7s								
IZV				Lg			Lg	20 26 23.2	
	34nm,0.5s								
TNSS	Tian-Shan	3.99	35	*e* P			Pg	20 25 34.6	-2.4
	11nm,0.5s								
TNSS				*e* S			Sg	20 26 27.6	-1.0
	29nm,0.7s								
TNSS	Tian-Shan	3.99	35	Pg			Pg	20 25 35.0	-1.9
	8.2nm,0.6s								
TNSS				Lg			Lg	20 26 27.6	
	29nm,0.7s								
CHM	Chimkent	4.07	310	*e* P			Pg	20 25 36.2	-2.2
	36nm,0.2s								
CHM				*e* S			Sg	20 26 30.6	-0.4
	194nm,0.4s								
KK31	Karatay Array	4.14	324	⇓Pn			Pb	20 25 26.1	+2.4
	0.9nm,0.3s,baz=125,slow=12,SNR=27								
KK31				⇓Pg			Pb	20 25 34.7	+1.4
	2.6nm,0.4s,baz=142,slow=17,SNR=11								
KK31				Sn			Sn	20 26 17.8	+5.7
	2.6nm,0.3s,baz=124,slow=17,SNR=5.2								
KK31				⇑Lg			Lg	20 26 30.3	
	12nm,0.5s,baz=136,slow=30,SNR=6.1								
MDOK	Medeo	4.14	35	*e* P			Pg	20 25 36.7	-3.0
	8.7nm,0.8s								
MDOK				*e* S			Sg	20 26 31.6	-1.7
	26nm,1.1s								
MDOK	Medeo	4.14	35	Pg			Pg	20 25 36.0	-3.7
	12nm,0.8s								
MDOK				Lg			Lg	20 26 31.5	
	49nm,1.0s								
ANVS	Anan'yevo	4.15	43	⇓*e* P			Pn	20 25 25.7	+1.7
	baz=41								
ANVS				⇓*e* S			Sn	20 26 14.5	+1.8
	baz=41								
KOTS	Kotyrbulak	4.22	35	*e* P			Pg	20 25 38.7	-2.6
	24nm,0.7s								
KOTS				*e* S			Sg	20 26 34.9	-1.2
	103nm,0.6s								
KOTS	Kotyrbulak	4.22	35	Pg			Pg	20 25 38.7	-2.6
	20nm,0.6s								
KOTS				Lg			Lg	20 26 34.9	
	96nm,0.6s								
BRLS	Borolday	4.41	318	*e* P			Pg	20 25 41.3	-3.6
	0.3nm,0.1s								
BRLS				*e* S			Sg	20 26 38.6	-3.4
	3.3nm,0.5s								
BRLS	Borolday	4.41	318	Pg			Pg	20 25 41.3	-3.6
	0.3nm,0.1s								
BRLS				Lg			Lg	20 26 38.6	
	3.3nm,0.5s								
CHKK	Chushkaly	4.69	29	*e* P			Pg	20 25 47.1	-3.1
	1.6nm,0.1s								
CHKK				*e* S			Sg	20 26 48.7	-2.1
	21nm,0.8s								
CHKK	Chushkaly	4.69	29	Pg			Pg	20 25 47.1	-3.1
	1.6nm,0.1s								
CHKK				Lg			Lg	20 26 48.7	
	21nm,0.8s								
SATY	Saty	4.74	45	*e* P			Pg	20 25 48.6	-2.6
	14nm,0.8s								
SATY				*e* S			Sg	20 26 51.3	-1.1
	29nm,1.6s								
UZB	Uzynbulak	5.13	48	*e* P			Pg	20 25 55.2	-3.6
	5.0nm,0.8s								
UZB				*e* S			Sg	20 27 02.2	-3.1
	7.2nm,0.9s								
UZB	Uzynbulak	5.13	48	Pg			Pg	20 25 55.2	-3.6
	5.0nm,0.8s								
UZB				Lg			Lg	20 27 02.2	
	5.8nm,0.8s								
BTLS	Baital	5.24	2	*e* P			Pg	20 25 59.5	-1.3
	1.5nm,0.7s								
BTLS				*e* S			Sg	20 27 09.9	+1.3
	7.0nm,0.6s								
BTLS	Baital	5.24	2	Pg			Pg	20 25 58.3	-2.4
	1.5nm,0.7s								
BTLS				Lg			Lg	20 27 07.9	
	6.6nm,0.3s								
SHLS	Shalkode	5.40	50	*e* P			Pg	20 26 04.3	+0.5
	8.3nm,0.6s								
SHLS				*e* S			Sg	20 27 17.4	+3.7
	13nm,0.7s								
SHLS	Shalkode	5.40	50	Pg			Pg	20 26 04.3	+0.5
	8.3nm,0.6s								
SHLS				Lg			Lg	20 27 17.4	
	13nm,0.7s								
PDGK	Podgornoye	5.52	48	⇓Pn			Pn	20 25 45.0	+2.2
	2.0nm,0.7s								
PDGK				⇓Pg			Pb	20 26 00.1	+3.2
	4.5nm,0.7s								
PDGK				⇑Lg			Lg	20 27 12.8	
	16nm,0.9s								

IDC 13 20:32:00.9±2.6, 50.°00N×114.°41W, h0km, mb1 3.5/2, mb1mx3.1/33, mbtmp3.1/2, ML3.1/2, Error ellipse: s-maj=52.4km s-min=14.1km az=116.0, British Columbia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEW	Newport	2.49	227			Pn	Pn	20 32 44.3	+1.6
	1.6nm,0.3s,baz=42,slow=15,SNR=15								
NEW						Sn	Sn	20 33 15.4	+1.7
	3.2nm,0.3s,baz=10,slow=15,SNR=9.0								
I56US	NEWPORT INFRAS	2.49	227	*i*				20 51 20.0	
	baz=44,slow=325,SNR=0.5								
I10CA	LAC DU BONNET	11.81	82	*i*				21 46 30.0	
	baz=273,slow=281,SNR=2.3								
YKA	Yellowknife Ar	12.53	360	Pn		Pn	Pn	20 34 56.2	-4.0
	0.1nm,0.3s,baz=182,slow=13,SNR=5.5								

IDC ***13*** *20:35:42.5±7.4, 6.°28S×130.°33E, h106km±71km, mb3.3/4, mb1 3.7/8, mb1mx3.4/33, mbtmp4.0/8, ML4.3/3, Error ellipse: s-maj=58.5km s-min=19.1km az=49.0*
DJA ***13*** *20:35:42.7±0.3, 6.°S±3.°×13.°0E±.°, h161km±9km, M4.2/11, mB4.9/4, mb4.1/7, MLv4.2/11, Mw(mB)4.2/4*
ISCJB ***13*** *20:35:43.5±0.3, 6.°33S±0.°03×130.°30E±0.°05, h150km, Error ellipse: s-maj=7.8km s-min=4.5km az=162.8*
NEIC ***13*** *20:35:43.5±2.4, 6.°25S±0.°06×130.°4E±0.°1, h134km±10km, mb4.9/13*

ISC 13 20:35:44.4±0.6, 6.°36S±0.°05×130.°38E±0.°06, h150km, n48, σ2ş41/48, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.86	151	P		Pn	Pn	20 36 19.1	+1.2
SAUI	Saumlaki	1.86	151				Pn	20 36 19.2	+1.4
BNDI	Bandanaira	1.88	345	P		Pn	Pn	20 36 14.8	-3.4
MSAI	Masohi	3.32	334	P		Pn	Pn	20 36 33.2	-2.7
AAI	Ambon	3.43	320	P		Pn	Pn	20 36 34.7	-2.6
FAKI	Fak Fak	3.89	29	P		Pn	Pn	20 36 39.1	-4.1
FAKI	Fak Fak	3.89	29				Pn	20 36 39.8	-3.4
KMPI	Kaimana, Papua	4.26	51	P		Pn	Pn	20 36 43.9	-4.1
SWI	Sorong	5.53	9	P		Pn	Pn	20 37 00.4	-4.4
SANI	Sanana	6.12	314	P		Pn	Pn	20 37 10.0	-2.8
	7.0nm,0.7s,0.0nm								
RKPI	Ransiki, Papua	6.12	38	P			Pn	20 37 08.4	-4.4
	43nm,0.4s,2μm1.0nm								
MTN	Manton Dam	6.49	174				Pn	20 37 18.4	+0.7
SOEI	Soe	6.93	240	P		Pn	Pn	20 37 24.3	+0.6
	14nm,0.6s,0.2nm								
SOEI	Soe	6.93	240				Pn	20 37 23.8	+0.1
SOEI							Sn	20 38 36.3	-5.2
BATI	Baumata	7.67	240	P			Pn	20 37 33.2	-0.3
	baz=90,slow=2.5								
BATI				S			Sn	20 38 57.3	-1.8
	2.0nm,0.3s,baz=150,slow=23,SNR=7.5								
TNTI	Ternate	7.69	337	Pn		Pn	Pn	20 37 30.8	-3.0
LUWI	Luwuk	9.25	305	Pn		Pn	Pn	20 37 52.2	-2.2
KNRA	Kununurra	9.40	190				Pn	20 37 55.5	-1.0
KNRA							Sn	20 39 35.6	-5.1
FITZ	Fitzroy Crossi	12.56	201	P			Pn	20 38 36.1	-1.8
	0.9nm,0.3s,baz=20,slow=9.3,SNR=23								
FITZ				S			Sn	20 40 47.0	-10
	0.8nm,0.3s,baz=62,slow=23,SNR=4.6								
WRA	Warramunga Arr	14.04	164	P			Pn	20 38 56.4	-0.5
	1.6nm,0.3s,baz=340,slow=14,SNR=33								
WRA				S			Sn	20 41 23.8	-8.9
	1.2nm,0.3s,baz=353,slow=22,SNR=7.3								
WB2	Warramunga Arr	14.05	164	P			Pn	20 38 56.1	-0.8
WR0	Warramunga Arr	14.12	164	P			Pn	20 38 57.2	-0.6
COEN	Coen	14.68	122				P	20 39 07.0	-0.2
AS31	Alice Springs	17.54	169	P			P	20 39 39.7	+0.9
ASAR	Alice Springs	17.54	169	P			Pn	20 39 41.4	+1.5
	1.1nm,0.3s,baz=350,slow=9.7,SNR=59								
ASAR				S			S	20 42 49.2	-4.5
	0.2nm,0.3s,baz=359,slow=29,SNR=5.4								
PSA00	Pilbara Seismi	18.24	213	P			P	20 39 47.9	+1.6
PSA00						IAmb	IAmb	20 39 48.8	
	comp=Z,44nm,1.8s								
UGM	Wanagama	19.77	264	P			P	20 40 02.6	-0.4
CISI	Cisompet, Garu	22.43	266	P			P	20 40 33.0	+1.9
CISI						IAmb	IAmb	20 40 38.1	
	comp=Z,63nm,1.3s								
STKA	Stephens Creek	27.47	159	P			P	20 41 20.0	+3.5
	comp=Z,0.3nm,0.3s,baz=320,slow=16,SNR=2.2								
TWG	Pinlang	30.39	343	P			P	20 41 44.0	+1.6
YULB	Yu-li	30.87	344	P			P	20 41 46.9	+0.2
YULB						IAmb	IAmb	20 41 50.3	
	comp=Z,96nm,1.8s								
TPUB	Ta-pu	30.98	342	P			P	20 41 47.9	+0.2
TPUB						IAmb	IAmb	20 42 00.5	
	comp=Z,46nm,1.3s								
NACB	Ninganchiao	31.53	345	P			P	20 41 53.3	+0.8
NACB						IAmb	IAmb	20 41 54.9	
	comp=Z,53nm,1.3s								
GSI	Gunungsitoli	33.62	282	P			P	20 42 11.9	+1.0
GSI						IAmb	IAmb	20 42 21.3	
	comp=Z,32nm,1.0s								
CMAR	Chiang Mai Arr	39.62	309

BATI	**Baumata**	**7.49**	**240**	P		**Pn**	**20 48 40.4**	**+0.9**
	7.4nm,0.3s,baz=85,slow=2.1,SNR=16							
BATI				S		**Sn**	**20 50 01.2**	**-2.0**
	6.3nm,0.3s,baz=341,slow=8.3,SNR=7.7							
LUWI	**Luwuk**	**9.17**	**306**	Pn		**Pn**	**20 48 59.1**	**-2.9**
KNRA	**Kununurra**	**9.28**	**189**			**Pn**	**20 49 05.3**	**+2.0**
KNRA						**Sn**	**20 50 43.1**	**-3.2**
FITZ	**Fitzroy Crossi**	**12.41**	**201**	P		**Pn**	**20 49 45.5**	**+0.8**
	0.8nm,0.3s,baz=19,slow=10,SNR=36							
FITZ	**Fitzroy Crossi**	**12.41**				**Pn**	**20 49 44.8**	**+0.2**
WRA	**Warramunga Arr**	**13.99**	**164**	P		**Pn**	**20 50 06.7**	**+1.8**
	1.1nm,0.3s,baz=348,slow=13,SNR=9.3							
WRA				S		**Sn**	**20 52 33.0**	**-7.0**
	1.6nm,0.3s,baz=330,slow=23,SNR=10							
WB2	**Warramunga Arr**	**14.00**	**164**	Pn		**Pn**	**20 50 05.5**	**+0.5**
WR0	**Warramunga Arr**	**14.07**	**163**	Pn		**Pn**	**20 50 05.6**	**-0.3**
COEN	**Coen**	**14.76**	**121**	Pn		**P**	**20 50 17.4**	**+0.7**
JAGI	**Jajag, Banyuwa**	**16.07**	**262**			**P**	**20 50 31.4**	**+0.1**
JAGI				IAmb		IAmb	20 50 42.8	
	comp=Z,29nm,1.3s							
AS31	**Alice Springs**	**17.48**	**169**	P		**Pn**	**20 50 50.2**	**+2.5**
AS31						**S**	**20 53 58.6**	**-2.8**
ASAR	**Alice Springs**	**17.48**	**169**	P		**Pn**	**20 50 50.4**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=349,slow=12,SNR=12							
ASAR				S		**S**	**20 53 56.7**	**-4.7**
	comp=Z,0.4nm,0.3s,baz=348,slow=25,SNR=7.6							
PSA00	**Pilbara Seismi**	**18.08**	**213**			**Pn**	**20 50 56.0**	**+1.1**
PSA00				IAmb		IAmb	20 51 13.6	
	comp=Z,29nm,1.4s							
KRVT	**Keravat (AS076**	**21.81**	**85**	LR		LR	21 01 18.3	
	comp=Z,35nm,18.2s,baz=66,slow=39							
CISI	**Cisompet, Garu**	**12.21**	**266**	P		**P**	**20 51 39.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**39.56**	**309**	P		**P**	**20 54 10.3**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=130,slow=7.0,SNR=4.6							
ODAN	**Odare**	**53.07**	**311**	*eP*		**P**	**20 55 57.0**	**+1.4**
TAPN	**Taplejung**	**53.09**	**311**	*eP*		**P**	**20 55 56.0**	**+0.1**
	comp=Z,3.0nm,0.3s							
RAMN	**Ramite**	**53.72**	**310**	*eP*		**P**	**20 56 01.0**	**+0.6**
	comp=Z,9.7nm,0.4s							
JIRN	**Jiri**	**54.40**	**311**	*eP*		**P**	**20 56 05.6**	**+0.2**
GUN	**Gumba**	**54.76**	**311**	*eP*		**P**	**20 56 08.3**	**+0.2**
	comp=Z,5.4nm,0.4s							
SONM	**Songino Array**	**57.99**	**341**	P		**P**	**20 56 31.4**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=155,slow=8.1,SNR=3.7							
MKAR	**Makanchi Array**	**67.89**	**327**	P		**P**	**20 57 36.5**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=117,slow=7.9,SNR=16							
KURBB	**Kurchatov Arra**	**72.16**	**328**	P		**P**	**20 58 02.2**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=129,slow=4.8,SNR=3.2							

*IDC **13** 21:00:44.2±1.6,2°.21S×121°.50E,h0km,mb3.0/3,*
mb1 3.5/5,mb1mx3.3/44,mbtmp3.4/5,ML3.9/2,MS2.7/3,
Ms1 2.7/3,ms1mx2.5/16,Error ellipse: s-maj=36.2km
s-min=28.8km az=61.0
*ISCJB **13** 21:00:45.6±0.4,2°.35S±0°.05×121°.06E±0°.05,h53km,Error*
ellipse: s-maj=7.7km s-min=6.5km az=42.8
*NEIC **13** 21:00:46.7±2.0,2°.36S±0°.06×121°.13E±0°.07,h35km±3km,*
mb4.4/11

ISC 13 21:00:48.2±0.6,2°.33S±0°.06×121°.15E±0°.07,h53km,n32,
σ2s13/31,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**2.07**	**52**	Pn	**Pn**	**21 01 21.8**	**+1.3**
KAPI	**Kappang**	**3.00**	**208**	Pn	**Pn**	**21 01 35.1**	**+1.8**
	3.9nm,0.3s,baz=16,slow=6.9,SNR=13						
KAPI				Sn	**Sn**	**21 02 13.5**	**+5.4**
	6.4nm,0.3s,baz=277,slow=21,SNR=8.2						
KAPI				Lg	Lg	21 02 24.0	
	6.8nm,0.3s,baz=184,slow=23,SNR=7.3						
KAPI	**Kappang**	**3.00**	**208**		**Pn**	**21 01 35.2**	**+1.9**
KAPI					**Sn**	**21 02 05.9**	**-2.2**
TNTI	**Ternate**	**6.94**	**64**	Pn	**Pn**	**21 02 26.9**	**-0.4**
SOEI	**Soe**	**8.00**	**157**	Pn	**Pn**	**21 02 40.3**	**-1.6**
BATI	**Baumata**	**8.21**	**162**	LR	LR	21 06 20.4	
	comp=Z,78nm,18.4s,baz=260,slow=41						
JAGI	**Jajag, Banyuwa**	**9.25**	**229**	Pn	**Pn**	**21 02 58.1**	**-0.9**
KKM	**Kota Kinabalu**	**9.67**	**329**	Pn	**Pn**	**21 03 03.8**	**-1.0**
SBUM	**Sibu**	**10.11**	**298**	Pn	**Pn**	**21 03 07.5**	**-3.3**
DAV	**Davao City (W)**	**10.34**	**25**	LR	LR	21 07 09.2	
	comp=Z,35nm,20.8s,baz=162,slow=38						
DAV	**Davao City (W)**	**10.34**	**25**	Pn	**Pn**	**21 03 13.0**	**-0.9**
FAKI	**Fak Fak**	**11.11**	**93**	Pn	**Pn**	**21 03 23.4**	**-1.0**
SMRI	**Semarang**	**11.65**	**246**	Pn	**Pn**	**21 03 30.8**	**-1.0**
UGM	**Wanagama**	**11.94**	**242**	Pn	**Pn**	**21 03 33.2**	**-2.6**
CISI	**Cisompet, Garu**	**14.26**	**248**	Pn	**Pn**	**21 04 04.7**	**-2.7**
FITZ	**Fitzroy Crossi**	**16.27**	**165**	LR	LR	21 11 44.2	
	comp=Z,24nm,18.1s,baz=354,slow=40						
PSAA1	**Pilbara Seismi**	**19.17**	**184**	P	**P**	**21 05 05.7**	**-1.7**
PSAD3	**Pilbara Seismi**	**19.24**	**184**	P	**P**	**21 05 08.7**	**+0.5**
PSAD3				IAmb	IAmb	21 05 22.5	
	comp=Z,6.3nm,1.0s						
JAY	**Jayapura**	**19.54**	**91**	P	**P**	**21 05 08.2**	**-3.5**
	comp=Z,1.1nm,0.3s,baz=285,slow=20,SNR=7.0						
WRA	**Warramunga Arr**	**21.73**	**145**	P	**P**	**21 05 36.2**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=318,slow=11,SNR=4.8						
WB2	**Warramunga Arr**	**21.74**	**146**	P	**P**	**21 05 35.7**	**+0.4**
KULM	**Kulim**	**21.83**	**290**	P	**P**	**21 05 36.3**	**0.0**
KULM				IAmb	IAmb	21 05 38.6	
	comp=Z,3.2nm,0.9s						
ASAR	**Alice Springs**	**24.54**	**151**	P	**P**	**21 06 07.1**	**+4.0**
	comp=Z,0.2nm,0.5s,baz=336,slow=10,SNR=3.1						
NWAO	**Narrogin (SRO)**	**30.65**	**186**	P	**P**	**21 06 58.9**	**+1.2**
NWAO				IAmb	IAmb	21 07 03.5	
	comp=Z,7.0nm,0.9s						
NWAO	**Narrogin (SRO)**	**30.65**	**186**	P	**P**	**21 06 57.6**	**0.0**
NWAO				IAmb	IAmb	21 07 03.5	
	comp=Z,9.4nm,1.0s						
BJT	**Baijiatuau**	**42.39**	**354**	P	**P**	**21 08 38.7**	**+1.2**
BJT				IAmb	IAmb	21 08 50.8	
	comp=Z,5.8nm,0.5s						
USA0B	**Ussuriysk Arra**	**47.33**	**11**	P	**P**	**21 09 17.6**	**+1.0**
DZM	**Mont Dzumac**	**48.16**	**118**	P	**P**	**21 09 23.9**	**+0.3**
DZM				IAmb	IAmb	21 09 28.9	
	comp=Z,7.0nm,1.0s						
MKAR	**Makanchi Array**	**59.66**	**330**	P	**P**	**21 10 51.0**	**+4.0**
	comp=Z,0.3nm,0.7s,baz=117,slow=5.0,SNR=1.6						
LTZ	**Lake Taylor**	**60.72**	**139**	P	**P**	**21 10 54.6**	**+0.2**
KHZ	**Kahutara**	**61.40**	**138**	P	**P**	**21 10 59.3**	**+0.4**
KHZ				IAmb	IAmb	21 11 02.6	
	comp=Z,4.7nm,1.1s						
BHW	**Baring Head**	**61.88**	**137**	P	**P**	**21 11 02.5**	**+0.4**

*IDC **13** 21:04:58.7±1.4,5°.43N×126°.63E,h0km,mb3.4/5,*
mb1 3.6/5,mb1mx3.3/50,mbtmp3.4/5,MS2.7/2,Ms1 2.8/2,
ms1mx2.3/38,Error ellipse: s-maj=99.6km s-min=17.7km
az=72.0

ISC 13 21:05:17.6±1.0,4°.83N±0°.09×124°.8E±0°.3,h150km,n11,
σ2s95/10,mb3.3/6,1D,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**2.18**	**7**	⇓P	**Pn**	**21 05 55.2**	**+0.2**
KCP				S	**Sn**	**21 06 23.3**	**-0.5**
DMPH	**Davao City--Mi**	**2.34**	**17**	P	**Pn**	**21 06 00.5**	**+3.6**
CGP	**Cagayan de Oro**	**3.60**	**358**	P	Pn	21 06 26.1	+13
CGP				S	**Sn**	**21 06 51.7**	**-3.9**
FITZ	**Fitzroy Crossi**	**22.80**	**178**	P	**P**	**21 10 10.2**	**+2.6**
	0.9nm,0.6s,baz=0.0,slow=7.1,SNR=2.5						
WRA	**Warramunga Arr**	**26.34**	**159**	P	**P**	**21 10 36.7**	**-3.1**
	1.1nm,1.0s,baz=344,slow=10,SNR=12						
KRVT	**Keravat (AS076**	**28.65**	**108**	LR	LR	21 20 59.8	
	comp=Z,23nm,18.8s,baz=348,slow=35						
CMAR	**Chiang Mai Arr**	**28.68**	**300**	LR	LR	21 23 43.2	
	comp=Z,7.3nm,18.4s,baz=335,slow=38						
ASAR	**Alice Springs**	**29.68**	**163**	P	**P**	**21 11 06.5**	**-3.0**
	0.2nm,0.6s,baz=342,slow=6.5,SNR=5.2						
SONM	**Songino Array**	**45.67**	**343**	P	**P**	**21 13 22.2**	**-1.3**
	0.2nm,0.3s,baz=147,slow=6.3,SNR=3.4						
MKAR	**Makanchi Array**	**55.58**	**326**	P	**P**	**21 14 39.4**	**+1.8**
	0.3nm,0.6s,baz=122,slow=9.1,SNR=5.4						
KURBB	**Kurchatov Arra**	**59.80**	**328**	P	**P**	**21 15 08.5**	**+1.6**
	1.9nm,0.2s,baz=118,slow=8.1,SNR=4.6						

*SOME **13** 21:18:10.8,48°.85N×83°.68E,h5km*
*NNC **13** 21:18:16.8±4.3,48°.44N×84°.16E,h0km,mb2.8,mpv2.4,*
Error ellipse: s-maj=39.5km s-min=24.7km az=73.0

ISC 13 21:18:16.0±2.2,48°.6N±0°.1×84°.3E±0°.1,h10km,n6,σ0s89/6,
6C-1D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**1.23**	**161**	*eP*	**Pn**	**21 18 39.3**	**0.0**
	37nm,0.2s						
ZSN				*eS*	**Sb**	**21 18 55.0**	**-0.3**
	59nm,0.3s						
MK31	**Makanchi Array**	**2.26**	**217**	⇑Pn	**Pn**	**21 18 54.8**	**+1.3**
	0.1nm,0.2s,baz=32,slow=13,SNR=66						
MK31				⇑Lg	Lg	21 19 20.7	
	3.0nm,0.3s,baz=41,slow=29,SNR=11						
MAKZ	**Makanchi**	**2.38**	**221**	⇓Pn	**Pn**	**21 18 54.9**	**-0.2**
	3.8nm,1.1s						
MAKZ				⇑Lg	Lg	21 19 25.7	
	2.6nm,0.5s						
KURK	**Kurchatov**	**4.23**	**302**	⇑Lg	Lg	21 20 30.1	
	3.4nm,0.3s						
KURBB	**Kurchatov Arra**	**4.24**	**300**	⇑Pn	**Pn**	**21 19 20.7**	**+0.1**
	1.2nm,0.3s						
KURBB				⇑Lg	Lg	21 20 30.8	
	15nm,0.7s						
KAPS	**Kapalarasan**	**4.73**	**227**	*eP*	Pn	21 19 36.3	+8.8
	1.3nm,1.0s						
KAPS				*eS*	**Sb**	**21 20 35.4**	**-0.7**
	1.5nm,0.4s						

*JMA **13** 21:30:53.5±0.3,23°.96N×122°.50E,h18km±4km,M2.2*
*TAP **13** 21:30:54.2,23°.99N×122°.37E,h7km,ML2.8,D*

ISC 13 21:30:52.4±1.1,23°.94N±0°.02×122°.50E±0°.02,h9km±9km,
n63,σ0s54/122,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.65**	**39**	P	**Pg**	**21 31 05.7**	**+0.7**
JYNG				*eS*	**Sg**	**21 31 13.8**	**+0.2**
EOS1	**EOS1**	**0.69**	**331**	*eP*	**Pb**	**21 31 07.0**	**+0.4**
	baz=338						
EOS1				*eS*	**Sb**	**21 31 16.6**	**+0.3**
	baz=338						
YOJ	**Yonaguni jima**	**0.70**	**42**	P	**Pg**	**21 31 06.6**	**+0.7**
YOJ				S	**Sg**	**21 31 15.1**	**+0.1**
TWD	**Chiawan**	**0.83**	**280**	*eP*	**Pb**	**21 31 09.0**	**-0.1**
	baz=277						
TWD				*eS*	**Sb**	**21 31 20.4**	**-0.1**
	baz=277						
NANB	**Nanao**	**0.84**	**305**	P	**Pb**	**21 31 09.2**	**+0.1**
	baz=307						
NANB				*eS*	**Sb**	**21 31 20.1**	**-0.3**
	baz=307						
ENA	**Nanau**	**0.84**	**305**	*eP*	**Pb**	**21 31 09.4**	**+0.2**
	baz=307						
ENA				*eS*	**Sb**	**21 31 20.3**	**-0.4**
	baz=307						
NACB	**Ninganchiao**	**0.86**	**286**	P	**Pb**	**21 31 09.6**	**+0.1**
	baz=284						
NACB				*eS*	**Sg**	**21 31 20.4**	**+0.3**
	baz=284						
TWC	**Suao**	**0.89**	**318**	*eP*	**Pg**	**21 31 09.7**	**+0.2**
	baz=322						
TWC				*eS*	**Sg**	**21 31 21.0**	**-0.1**
	baz=322						
ETLH	**Xiulin Townshi**	**0.96**	**286**	*eP*	**Pg**	**21 31 11.2**	**+0.3**
	baz=284						
ETLH				*eS*	**Sg**	**21 31 23.8**	**+0.3**
	baz=284						
ESL	**Shilin**	**0.98**	**263**	*eP*	**Pg**	**21 31 11.4**	**+0.1**
	baz=257						
ESL				*eS*	**Sg**	**21 31 24.4**	**+0.3**
	baz=257						
EGFH	**Guangfu**	**1.02**	**255**	*eP*	Pn	**21 31 13.0**	**+0.1**
	baz=249						
EGFH				*eS*	**Sb**	**21 31 25.7**	**0.0**
	baz=249						
ILA	**Ilan**	**1.07**	**320**	*eP*	**Pb**	**21 31 13.2**	**+0.1**
	baz=323						
ILA				*eS*	**Sg**	**21 31 26.5**	**-0.3**
	baz=323						
HGSD	**Ruisui**	**1.08**	**246**	*eP*	**Pb**	**21 31 13.8**	**+0.5**
	baz=240						
HGSD				*eS*	**Sg**	**21 31 26.9**	**-0.3**
	baz=240						
TWE	**Neicheng**	**1.08**	**316**	*eP*	**Pb**	**21 31 13.6**	**+0.2**
	baz=318						
TWE				*eS*	**Sb**	**21 31 27.6**	**0.0**
	baz=318						
NTC	**Toucheng**	**1.09**	**326**	*eP*	Pn	**21 31 14.0**	**+0.1**
	baz=330						
NTC				*eS*	**Sb**	**21 31 27.9**	**+0.1**
	baz=330						
ENTT	**Nioudou**	**1.10**	**309**	*eP*	**Pb**	**21 31 13.8**	**+0.2**
	baz=311						
ENTT				*eS*	**Sb**	**21 31 27.9**	**-0.1**
	baz=311						
NDT	**Datong Townshi**	**1.11**	**306**	*eP*	**Pg**	**21 31 13.7**	**-0.1**
	baz=307						
NDT				*eS*	**Sb**	**21 31 28.5**	**0.0**
	baz=307						
NNSH	**Datong**	**1.13**	**296**	*eP*	**Pg**	**21 31 14.1**	**0.0**
	baz=295						
NNSH				*eS*	**Sg**	**21 31 28.4**	**-0.4**
	baz=295						
NNS	**Nan Shan**	**1.14**	**296**	*eP*	**Pg**	**21 31 14.3**	**-0.1**
	baz=296						
NNS				*eS*	**Sb**	**21 31 29.4**	**0.0**
	baz=296						
WHF	**Hehuan Shan**	**1.14**	**280**	*eP*	**Pg**	**21 31 14.1**	**-0.3**
	baz=278						
WHF				*eS*	**Sg**	**21 31 28.9**	**-0.5**
	baz=278						
TWB1	**Santiao Chiao**	**1.16**	**337**	*eP*	**Pg**	**21 31 14.5**	**-0.2**
	baz=341						
TWB1				*eS*	**Sg**	**21 31 28.7**	**-1.1**
	baz=341						
IRIF	**Iriomote-Funau**	**1.19**	**71**	P	**Pg**	**21 31 15.2**	**-0.1**
IRIF				*eS*	**Sg**	**21 31 30.3**	**-0.5**
TIPB	**Shuangxi**	**1.19**	**329**	*eP*	**Pb**	**21 31 15.4**	**+0.2**
	baz=332						
TIPB				*eS*	**Sb**	**21 31 30.8**	**-0.1**
	baz=332						
HATJ	**Hateruma jima**	**1.20**	**84**	P	**Pb**	**21 31 15.4**	**0.0**
HATJ				*eS*	**Sg**	**21 31 31.2**	**+0.1**
CHGB	**Renai**	**1.22**	**276**	*eP*	**Pg**	**21 31 15.4**	**-0.4**
	baz=273						
CHGB				*eS*	**Sg**	**21 31 30.7**	**-0.9**
	baz=273						
YULB	**Yu-li**	**1.23**	**244**	*eP*	**Pb**	**21 31 15.4**	**-0.4**
	baz=238						
YULB				*eS*	**Sg**	**21 31 30.9**	**-1.1**
	baz=238						
NWLT	**Wulai**	**1.23**	**313**	*eP*	**Pb**	**21 31 16.0**	**+0.1**
	baz=314						
NWLT				*eS*	**Sg**	**21 31 31.8**	**-0.3**
	baz=314						
TWT	**Tachien**	**1.25**	**285**	*eP*	**Pg**	**21 31 16.3**	**0.0**
	baz=282						
TWT				*eS*	**Sg**	**21 31 32.3**	**-0.3**
	baz=282						
TWF1	**Yuli**	**1.25**	**242**	*eP*	Pn	**21 31 15.8**	**-0.2**
	baz=236						
TWF1				*eS*	**Sg**	**21 31 32.1**	**-0.5**
	baz=236						
YHNB	**Yeheng**	**1.25**	**306**	P	**Pb**	**21 31 16.3**	**0.0**
	baz=306						
YHNB				*eS*	**Sg**	**21 31 32.1**	**-0.7**
	baz=306						
VWDT	**VWDT**	**1.25**	**262**	*eP*	Pn	**21 31 16.3**	**+0.2**
	baz=258						
VWDT				*eS*	**Sb**	**21 31 32.1**	**-0.5**
	baz=258						
TDCB	**Techi**	**1.26**	**284**	*eP*	**Pb**	**21 31 16.2**	**-0.3**
	baz=283						
TDCB				*eS*	**Sg**	**21 31 32.4**	**-0.6**
	baz=283						
NSK	**Sanguang**	**1.27**	**305**	*eP*	Pn	**21 31 16.4**	**-0.1**
	baz=306						
NWF	**Wu-fen Shan**	**1.30**	**330**	*eP*	**Pg**	**21 31 17.6**	**+0.2**
	baz=333						
NWF				*eS*	**Sg**	**21 31 34.1**	**-0.2**
	baz=333						
FULB	**Fuli**	**1.33**	**236**	*eP*	Pn	**21 31 17.4**	**+0.1**
	baz=231						
FULB				*eS*	**Sb**	**21 31 34.1**	**-0.6**
	baz=231						
NHDH	**Xindian Distri**	**1.35**	**319**	*eP*	Pn	**21 31 17.3**	**-0.1**
	baz=321						
NHDH				*eS*	**Sg**	**21 31 35.5**	**-0.3**
	baz=321						
JKRS	**Kuro-shima**	**1.41**	**78**	P	**Pb**	**21 31 19.4**	**+0.4**
SSLB	**Suanglung**	**1.42**	**264**	*eP*	**Pb**	**21 31 19.4**	**+0.3**
	baz=260						
SSLB				*eS*	**Sg**	**21 31 38.9**	**+0.8**
	baz=260						
DPDB	**Guoxing**	**1.44**	**274**	*eP*	Pn	**21 31 19.1**	**+0.4**
	baz=271						
DPDB				*eS*	**Sg**	**21 31 38.5**	**-0.3**
	baz=271						
WHP	**Taichung City**	**1.46**	**284**	*eP*	**Pb**	**21 31 20.1**	**+0.4**
	baz=282						
WHP				*eS*	**Sn**	**21 31 37.7**	**-0.6**
	baz=282						
YM01	**YM01**	**1.47**	**325**	*eP*	Pn	**21 31 19.1**	**0.0**
	baz=327						
YM01				*eS*	**Sn**	**21 31 38.2**	**-0.3**
	baz=327						
YM10	**YM10**	**1.48**	**325**	*eP*	Pn	**21 31 19.5**	**+0.2**
	baz=327						
YM10				*eS*	**Sb**	**21 31 39.1**	**0.0**
	baz=327						
YM11	**YM11**	**1.48**	**326**	*eP*	**Pb**	**21 31 20.3**	**+0.1**
	baz=328						
YM05	**YM05**	**1.48**	**325**	*eP*	Pn	**21 31 19.2**	**-0.2**
	baz=327						
YM05				*eS*	**Sn**	**21 31 38.8**	**-0.1**
	baz=327						
LIOB	**Emei**	**1.52**	**298**	*eP*	**Pb**	**21 31 20.9**	**+0.1**
	baz=297						
LIOB				*eS*	**Sn**	**21 31 39.5**	**-0.3**
	baz=297						
WHYT	**Xinyi Township**	**1.52**	**261**	*eP*	**Pb**	**21 31 21.0**	**+0.1**
	baz=257						
WHYT				*eS*	**Sg**	**21 31 41.4**	**-0.1**
	baz=257						
ELDTW	**Lidau**	**1.55**	**241**	*eP*	Pn	**21 31 19.8**	**-0.5**
	baz=236						
ELDTW				*eS*	**Sn**	**21 31 38.7**	**-1.9**
	baz=236						
JIJ	**Ishigaki jima**	**1.56**	**74**	S	**Sn**	**21 31 39.9**	**-0.8**
ALS	**Alishan**	**1.61**	**255**	*eP*	Pn	**21 31 22.1**	**+0.8**
	baz=251						
ALS				*eS*	**Sn**	**21 31 41.5**	**-0.8**
	baz=251						
WJS	**Zhushan**	**1.62**	**266**	*eP*	**Pb**	**21 31 22.7**	**+0.1**
	baz=263						
WJS				*eS*	**Sb**	**21 31 43.8**	**+0.6**
	baz=263						
TWQ1	**Liyutan**	**1.63**	**285**	*eP*	Pn	**21 31 22.1**	**+0.8**
	baz=283						
TWQ1				*eS*	**Sn**	**21 31 42.7**	**+0.4**
	baz=283						
CHN5	**Tsauling**	**1.70**	**259**	*eP*	Pb	**21 31 23.8**	**-0.2**
	baz=255						
CHN5				*eS*	**Sn**	**21 31 44.7**	**+0.4**
	baz=255						
JISG	**Ishigakijimahi**	**1.77**	**68**	P	Pn	**21 31 22.9**	**-0.4**
JISG				*eS*	**Sn**	**21 31 44.8**	**-1.2**
WDLH	**Douliu**	**1.81**	**262**	*eP*	Pn	**21 31 24.1**	**+0.3**
	baz=259						
WDLH				*eS*	**Sb**	**21 31 48.2**	**-0.3**
	baz=259						
TPUB	**Ta-pu**	**1.83**	**250**	*eP*	Pb	**21 31 25.6**	**-0.5**
	baz=246						
TPUB				*eS*	**Sn**	**21 31 48.3**	**+1.0**
	baz=246						
CHN4	**Tsaushan**	**1.84**	**252**	*eP*	Pn	**21 31 25.4**	**+1.1**
	baz=248						
CHN4				*eS*	**Sn**	**21 31 48.4**	**+0.7**
	baz=248						
WTP	**Ta-pu**	**1.86**	**249**	*eP*	Pb	**21 31 26.2**	**-0.5**
	baz=245						
WTP				*eS*	**Sn**	**21 31 48.8**	**+0.5**
	baz=245						
SLGT	**Liugui**	**1.94**	**241**	*eP*	Pb	**21 31 27.3**	**-0.7**
	baz=237						
SLGT				*eS*	**Sn**	**21 31 51.7**	**+1.5**
	baz=237						
RLNB	**Erlin**	**1.96**	**269**	*eP*	Pb	**21 31 27.4**	**-0.9**
	baz=266						
RLNB				*eS*	**Sn**	**21 31 50.8**	**+0.3**
	baz=266						
CHN1	**Nanshi**	**1.96**	**248**	*eP*	Pb	**21 31 27.7**	**-0.6**
	baz=244						
CHN1				*eS*	**Sn**	**21 31 51.9**	**+1.3**
	baz=244						
TWK	**Hsinying**	**1.96**	**250**	*eP*	Pb	**21 31 27.7**	**-0.6**
	baz=247						
TWK				*eS*	**Sn**	**21 31 51.3**	**+0.5**
	baz=247						
SNST	**Tainan City**	**1.97**	**249**	*eP*	Pb	**21 31 28.1**	**-0.3**
	baz=245						
SNST				*eS*	**Sn**	**21 31 51.7**	**+0.8**
	baz=245						
MASBT	**Mashibuluo**	**2.17**	**233**	*eP*	Pn	**21 31 30.3**	**+1.6**
	baz=229						
MASBT				*eS*	**Sn**	**21 31 56.7**	**+1.0**
	baz=229						

*IDC **13** 21:55:39.9±0.8,6°.73N×72°.91W,h165km±13km,mb3.0/1,*
mb1 3.3/3,mb1mx2.9/34,mbtmp3.6/3,Error ellipse:
s-maj=60.5km s-min=7.6km az=132.0
*ISCJB **13** 21:55:40.2±0.6,6°.82N±0°.03×73°.10W±0°.03,h151km±5km,*
mb3.2/1,Error ellipse: s-maj=5.9km s-min=4.0km az=33.7
*RSNC **13** 21:55:41.6±1.3,6°.80N×73°.12W,h146km±5km,ML3.2,*
Mw3.4

ISC 13 21:55:39.8±1.0,6°.82N±0°.04×73°.09W±0°.04,h156km±6km,
n28,σ0s96/52,3C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**203**	⇑*iP*	**Pn**	**21 56 01.6**	**+0.4**
BARC				*eS*	**Sn**	**21 56 16.3**	**-1.2**
BARC				*i*		21 56 19.0	
	comp=Z,572nm,0.5s						
PAMC	**Pamplona, Colo**	**0.65**	**37**	⇑*iP*	**Pn**	**21 56 04.3**	**+1.2**
PAMC				*eS*	**Sn**	**21 56 21.1**	**+0.1**
PAMC				*i*		21 56 23.7	
	comp=Z,265nm,0.6s						
BRRC	**Barranca, Sant**	**0.68**	**295**	⇑*iP*	**Pn**	**21 56 03.5**	**+0.7**
BRRC				*eS*	**Sn**	**21 56 20.3**	**0.0**
BRRC				*i*		21 56 23.6	
	comp=Z,271nm,0.3s						
RUSC	**La Rusia**	**0.92**	**180**	⇓*iP*	**Pn**	**21 56 05.4**	**+0.4**
RUSC				*eS*	**Sn**	**21 56 23.7**	**-0.6**
RUSC				*i

HELC				*e*S		**Sn**	**21 56 53.5**	**-0.3**
HELC				*i*			21 57 00.1	
	comp=Z,99nm,0.3s							
SOCV	**Socops**	**2.65**	**56**	*e*P		**Pn**	**21 56 23.6**	**+0.6**
VILC	**Villavicencio,**	**2.75**	**193**	*e*P		**Pn**	**21 56 24.6**	**+0.2**
VILC				*e*S		**Sn**	**21 56 58.1**	**-0.9**
VILC				*i*			21 57 09.1	
	comp=Z,68nm,0.4s							
GUY2C	**Guyana, Caldas**	**2.76**	**235**	*e*P		**Pn**	**21 56 26.2**	**+1.4**
GUY2C				*e*S		**Sn**	**21 57 00.9**	**+1.2**
GUY2C				*i*			21 57 06.1	
	comp=Z,70nm,0.4s							
PTGC	**Puerto Gaitan,**	**2.77**	**160**	*e*P		**Pn**	**21 56 24.3**	**-0.2**
PTGC				*e*S		**Sn**	**21 56 57.3**	**-1.8**
PTGC				*i*			21 57 05.4	
	comp=Z,48nm,0.5s							
RREF	**El Recreo**	**2.94**	**230**	*e*P		**Pn**	**21 56 28.1**	**+0.9**
RREF				*e*S		**Sn**	**21 57 05.1**	**+1.2**
RREF				*i*			21 57 13.8	
	comp=Z,74nm,0.4s							
TOLC	**Tolima**	**3.14**	**225**	*e*P		**Pn**	**21 56 30.9**	**+1.5**
TOLC				*e*S		**Sn**	**21 57 08.7**	**+0.8**
TOLC				*i*			21 57 13.6	
	comp=Z,34nm,0.3s							
SDV	**Santo Domingo**	**3.19**	**50**	*e*P		**Pn**	**21 56 30.8**	**+0.9**
SDV				*i*			21 57 13.5	
	comp=Z,28nm,1.8s							
SDV	**Santo Domingo**	**3.19**	**50**	P		**Pn**	**21 56 30.6**	**+0.7**
	comp=Z,4.8nm,0.3s,baz=236,slow=3.8,SNR=14							
SDV				S		**Sn**	**21 57 08.0**	**-0.8**
	comp=Z,7.3nm,0.3s,baz=38,slow=21,SNR=19							
ANIL	**Santa Ana**	**3.26**	**225**	*e*P		**Pn**	**21 56 32.5**	**+1.5**
ANIL				*e*S		**Sn**	**21 57 10.3**	**-0.4**
ANIL				*i*			21 57 17.4	
	comp=Z,121nm,0.3s							
PRAC	**Prado**	**3.56**	**210**	*e*P		**Pn**	**21 56 34.8**	**+0.2**
PRAC				*e*S		**Sn**	**21 57 16.6**	**-0.6**
PRAC				*i*			21 57 19.4	
	comp=Z,67nm,0.7s							
ORTC	**Ortega, Tolima**	**3.60**	**217**	*e*P		**Pn**	**21 56 35.8**	**+0.8**
ORTC				*e*S		**Sn**	**21 57 17.4**	**-0.6**
ORTC				*i*			21 57 24.7	
	comp=Z,45nm,0.5s							
YKA	**Yellowknife Ar**	**63.28**	**340**	P		**P**	**22 05 51.5**	**0.0**
	comp=Z,0.2nm,0.5s,baz=133,slow=7.2,SNR=5.5							
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc		**PKPbc**	**22 15 12.6**	**-1.1**
	comp=Z,0.3nm,0.9s,baz=100,slow=4.3,SNR=2.9							

PDG **13** *22:05:18.7±0.5,44.˚25N×15.˚46E,h12km±1km, ML3.6/10, Error ellipse: s-maj=0.8km s-min=0.9km az=0.0*
ISCJB **13** *22:05:19.0±0.3,44.˚33N±0.˚01×15.˚48E±0.˚02,h19km±3km, Error ellipse: s-maj=2.5km s-min=1.7km az=44.1*
RHSSO **13** *22:05:19.4±0.4,44.˚30N×15.˚57E,h9km±2km, ML3.3/1*
PRU **13** *22:05:19.3±0.0,44.˚36N×15.˚51E,h0km*
BGR **13** *22:05:20.8±0.6,44.˚36N×15.˚74E,h10km, ML3.5/6, Error ellipse: s-maj=6.7km s-min=5.6km az=145.0*
BEO **13** *22:05:20.4±0.3,44.˚31N×15.˚69E,h0km, ML3.2/13*
ROM **13** *22:05:21.0,44.˚29N×15.˚63E,h18km, ML3.3*
LDG **13** *22:05:23.1,44.˚43N×15.˚59E,h40km*

ISC 13 22:05:18.8±0.9, 44˚30N±0.˚02×15˚53E±0.˚02, h17km±7km, n182,σ2°32'/300, 11C-17D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
UDBI	**Udbina**	**0.29**	**36**	*i* Pg		**Pg**	**22 05 24.9**	**-0.1**
UDBI				Sg		**Sg**	**22 05 29.0**	**-0.4**
MORI	**Morici**	**0.45**	**163**	*i* Pg		**Pb**	**22 05 27.7**	**-0.6**
MORI				Sg		**Sb**	**22 05 34.7**	**+0.1**
DUGI	**Dugi Otok**	**0.46**	**228**	*i* Pg		**Pn**	**22 05 29.1**	**-1.5**
DUGI				Sg		**Sb**	**22 05 37.0**	**+2.1**
NVLJ	**Novalja**	**0.54**	**300**	*i* Pg		**Pb**	**22 05 30.5**	**+0.7**
NVLJ				Sg		**Sn**	**22 05 39.8**	**-0.6**
ZIRJ	**Zirje**	**0.65**	**173**	*i* Pg		**Pb**	**22 05 31.4**	**-0.2**
ZIRJ				Sg		**Sb**	**22 05 41.3**	**+1.0**
KIJV	**Kijevo**	**0.69**	**115**	*i* Pg		**Pg**	**22 05 31.0**	**-1.4**
KIJV				Sg		**Sg**	**22 05 41.5**	**-0.2**
MGRS	**Mrkonjic Grad**	**1.12**	**83**	⇑*i* Pg		**Pb**	**22 05 38.5**	**-1.3**
MGRS				*e*Sg		**Sb**	**22 05 53.8**	**-0.3**
BOJS	**Bojanci**	**1.22**	**351**	*i* Pg		**Pb**	**22 05 42.5**	**+1.1**
BOJS				*i* Sg		**Sn**	**22 05 59.1**	**+1.9**
BLY	**Banja Luka**	**1.27**	**69**	*e*Pg		**Pn**	**22 05 41.4**	**-0.3**
BLY				*e*Sg		**Sb**	**22 05 57.0**	**-1.2**
BLY	**Banja Luka**	**1.27**	**69**	⇑*i* Pg		**Pn**	**22 05 41.4**	**-0.3**
BLY				*e*Sg		**Sb**	**22 05 58.5**	**+0.3**
BLY	**Banja Luka**	**1.27**	**69**	⇑P		**Pn**	**22 05 41.5**	**-0.3**
BLY				⇓S		**Sb**	**22 05 56.7**	**-1.5**
BLY				AML		AML	22 06 00.3	
RIY	**Rijeka**	**1.27**	**324**	iPg		**Pg**	**22 05 44.2**	**+0.9**
RIY				Sg		**Sg**	**22 06 02.5**	**+2.6**
RIY	**Rijeka**	**1.27**	**324**	*e*Pg		**Pg**	**22 05 43.5**	**+0.2**
RIY				*e*Sg		**Sg**	**22 06 03.0**	**+3.1**
RIY	**Rijeka**	**1.27**	**324**	*e*Pg		**Pg**	**22 05 43.3**	**0.0**
RIY				*e*Sg		**Sg**	**22 06 00.4**	**+0.5**
HVAR	**Hvar**	**1.30**	**149**	*e*Pn		**Pb**	**22 05 42.8**	**0.0**
OZLJ	**Ozalj**	**1.32**	**358**	*i* Pn		**Pb**	**22 05 44.0**	**+0.9**
RICI	**Ricice**	**1.41**	**124**	iPg		**Pg**	**22 05 43.5**	**-2.4**
RICI				Sg		**Sg**	**22 06 04.6**	**+0.3**
BRJN	**Brijuni**	**1.41**	**296**	*e*Pn		**Pg**	**22 05 45.7**	**-0.3**
MAKA	**Makarska**	**1.48**	**133**	*e*Pn		**Pn**	**22 05 44.7**	**+0.1**
CRES	**Cresnjev**	**1.53**	**358**	⇓*i* Pn		**Pn**	**22 05 47.0**	**+1.6**
CRES				*e*Sn		**Sn**	**22 06 06.8**	**+1.9**
ZAG	**Zagreb**	**1.56**	**12**	iPn		**Pn**	**22 05 47.4**	**+1.6**
ZAG	**Zagreb**	**1.56**	**12**	⇓*i* Pn		**Pn**	**22 05 47.3**	**+1.5**
ZAG				*e*Sn		**Sn**	**22 06 07.8**	**+2.1**
MOSL	**Moslavina**	**1.58**	**33**	*i* Pn		**Pn**	**22 05 46.5**	**+0.5**
MOSL				Sn		**Sn**	**22 06 06.3**	**+0.2**
PTJ	**Puntijarka**	**1.64**	**11**	iPn		**Pn**	**22 05 48.1**	**+1.1**
CEY	**Cerknica**	**1.64**	**332**	⇓*i* Pn		**Pb**	**22 05 48.7**	**+0.1**
CEY				*e*Sn		**Sb**	**22 06 10.0**	**+1.0**
LJU	**Ljubljana**	**1.89**	**338**	*e*Pn		**Pb**	**22 05 52.3**	**-0.5**
LJU				*e*Sn		**Sn**	**22 06 15.7**	**+2.1**
DOB	**Doboj**	**1.89**	**76**	*e*Pn		**Pn**	**22 05 51.8**	**+1.5**
DOB				*e*Sg		**Sn**	**22 06 16.9**	**+3.2**
DOB	**Doboj**	**1.89**	**76**	⇓*i* Pn		**Pn**	**22 05 51.5**	**+1.2**
DOB				*e*Sn		**Sn**	**22 06 14.4**	**+0.7**
KALN	**Kalnik**	**1.95**	**19**	*i* Pn		**Pn**	**22 05 52.0**	**+0.8**
STON	**Ston**	**2.12**	**131**	*e*Pn		**Pn**	**22 05 55.3**	**+1.8**
STON				Sn		**Sn**	**22 06 21.2**	**+1.7**
STON	**Ston**	**2.12**	**131**	*e*Pg		**Pb**	**22 05 55.8**	**-1.0**
STON				*e*Sg		**Sb**	**22 06 24.3**	**+1.4**
STON	**Ston**	**2.12**	**131**	⇓*i* Pn		**Pn**	**22 05 54.9**	**+1.4**
STON				*e*Sn		**Sn**	**22 06 20.4**	**+1.0**
OBKA	**Obir**	**2.32**	**343**	*e*Pn		**Pn**	**22 05 58.4**	**+2.1**
OBKA				*e*Sn		**Sb**	**22 06 29.6**	**+1.0**
OBKA	**Obir**	**2.32**	**343**	Pn		**Pn**	**22 05 58.9**	**+2.6**
	18nm,0.1s,SNR=129							
OBKA				*e*Sn		**Sb**	**22 06 28.4**	**-0.2**
	196nm,0.4s							
BEHE	**Becsehely**	**2.34**	**22**	*e*Pn		**Pn**	**22 05 57.6**	**+1.1**
BEHE				*e*Sn		**Sn**	**22 06 26.9**	**+2.0**
BEHE	**Becsehely**	**2.34**	**22**	*e*Pn		**Pn**	**22 05 58.1**	**+1.5**
BEHE				Sn		**Sn**	**22 06 26.0**	**+1.1**
SOKA	**Soboth**	**2.41**	**352**	*e*Pn		**Pn**	**22 05 59.6**	**+2.1**
	34nm,0.2s,SNR=146							
SOKA				Sn		**Sn**	**22 06 28.7**	**+2.1**
	28nm,0.4s							
HAPS	**Han Pijesak,BI**	**2.47**	**94**	*e*Pn		**Pn**	**22 05 59.0**	**+0.6**
HAPS	**Han Pijesak,BI**	**2.47**	**94**	*e*Pn		**Pn**	**22 05 59.0**	**+0.6**
HAPS				*e*Sn		**Sn**	**22 06 29.2**	**+1.0**
AQU	**L'Aquila**	**2.49**	**219**	*e*Pn		**Pb**	**22 06 00.2**	**-2.8**
AQU				*e*Sn		**Sb**	**22 06 30.6**	**-2.8**
TREB	**Trebinje**	**2.59**	**127**	*e*Pn		**Pn**	**22 06 02.4**	**+2.5**
TREB				*e*Sn		**Sb**	**22 06 35.2**	**-1.1**
TREB	**Trebinje**	**2.59**	**127**	*e*Pn		**Pn**	**22 06 01.4**	**+1.5**
TREB				*e*Sn		**Sn**	**22 06 33.1**	**+2.1**
BRY	**Bratogost**	**2.59**	**121**	*e*Pn		**Pn**	**22 06 01.8**	**+1.7**
BRY				*e*Sn		**Sn**	**22 06 32.9**	**+1.6**
BRY	**Bratogost**	**2.59**	**121**	⇓*i* Pn		**Pn**	**22 06 02.3**	**+2.2**
BRY				*e*Sn		**Sb**	**22 06 35.5**	**-1.0**
MYKA	**Terra Mystica**	**2.69**	**331**	*e*Pn		**Pn**	**22 06 04.4**	**+3.1**
	5.6nm,0.2s							
MYKA				*e*Sn		**Sn**	**22 06 35.8**	**+2.3**
	27nm,0.3s							
BBLS	**Lazići**	**2.83**	**97**	*e*Pn		**Pn**	**22 06 06.4**	**+3.2**
BBLS				*e*Sn		**Sn**	**22 06 38.8**	**+1.9**
BBLS	**Lazići**	**2.83**	**97**	*e*Pn		**Pn**	**22 06 04.5**	**+1.3**
BBLS				*e*Sn		**Sn**	**22 06 38.6**	**+1.7**
HCY	**Herceg Novi**	**2.84**	**130**	*e*Pn		**Pn**	**22 06 04.8**	**+1.4**
HCY	**Herceg Novi**	**2.84**	**130**	⇑*i* Pn		**Pn**	**22 06 05.1**	**+1.7**
HCY				*e*Sn		**Sn**	**22 06 41.3**	**+4.1**
RUDO	**Rudo**	**2.85**	**102**	*e*Pn		**Pn**	**22 06 05.4**	**+1.8**
TEKS	**Tekeris**	**2.88**	**84**	*e*Pn		**Pn**	**22 06 04.8**	**+0.9**
TEKS				*e*Sn		**Sn**	**22 06 39.6**	**+1.5**
MORH	**Mrgy, Hungar**	**2.92**	**48**	*e*Pn		**Pn**	**22 06 05.2**	**+0.8**
MORH				*e*Sn		**Sn**	**22 06 40.7**	**+1.7**
MORH	**Mrgy, Hungar**	**2.92**	**48**	*e*Pn		**Pb**	**22 06 09.1**	**-1.3**
MORH				Sn		**Sn**	**22 06 44.0**	**+5.0**
NKME	**Niksic**	**2.92**	**120**	⇓*i* Pn		**Pn**	**22 06 06.6**	**+2.1**
NKME				*e*Sn		**Sn**	**22 06 43.0**	**+3.8**
NKY	**Niksic**	**2.92**	**119**	⇑*i* Pn		**Pn**	**22 06 07.7**	**+2.1**
NKY				*e*Sn		**Sb**	**22 06 44.2**	**-1.8**
ARSA	**Arzberg**	**2.95**	**360**	*e*Pn		**Pn**	**22 06 06.8**	**+1.8**
ARSA				*e*Sn		**Sn**	**22 06 42.7**	**+2.7**
ARSA	**Arzberg**	**2.95**	**360**	*e*Pn		**Pn**	**22 06 06.7**	**+1.8**
	16nm,0.2s,SNR=46							
ARSA				*e*Sn		**Sn**	**22 06 42.6**	**+2.6**
	12nm,0.5s							
PLE	**Pljevlja**	**2.96**	**108**	⇓*i* Pn		**Pn**	**22 06 07.7**	**+2.6**
PLE				*e*Sn		**Sn**	**22 06 44.9**	**+4.7**
CEME	**Cevo**	**3.02**	**124**	⇓*i* Pn		**Pn**	**22 06 08.6**	**+2.6**
CEME				*e*Sn		**Sn**	**22 06 45.9**	**+4.1**
TIH	**Tihany**	**3.09**	**32**	*e*Pn		**Pn**	**22 06 07.1**	**+0.4**
TIH				Sn		**Sn**	**22 06 41.1**	**-2.1**
BUM	**Brajici-Budva**	**3.16**	**128**	⇑*i* Pn		**Pn**	**22 06 10.2**	**+2.3**
BUM				*e*Sn		**Sn**	**22 06 49.1**	**+3.9**
FRGS	**Fruska Gora**	**3.17**	**73**	*e*Pn		**Pn**	**22 06 11.0**	**+3.1**
FRGS	**Fruska Gora**	**3.17**	**73**	*e*Pn		**Pn**	**22 06 09.3**	**+1.4**
FRGS				*e*Sn		**Sn**	**22 06 46.4**	**+1.1**
KBA	**Koelnbreinsper**	**3.18**	**332**	*e*Pn		**Pn**	**22 06 10.7**	**+2.5**
KBA	**Koelnbreinsper**	**3.18**	**332**	*e*Pn		**Pn**	**22 06 11.4**	**+3.3**
	2.7nm,0.2s,SNR=9.6							
MPLH	**Magyarpolny**	**3.20**	**25**	*e*Pn		**Pn**	**22 06 09.1**	**+0.8**
MPLH				Sn		**Sn**	**22 06 46.0**	**0.0**
DIVS	**Divibare**	**3.21**	**92**	*e*Pn		**Pn**	**22 06 10.2**	**+1.6**
DIVS	**Divibare**	**3.21**	**92**	*e*Pn		**Pn**	**22 06 09.9**	**+1.3**
DIVS				*e*Sn		**Sn**	**22 06 47.5**	**+1.0**
KOME	**Kolasin**	**3.24**	**115**	⇓*i* Pn		**Pn**	**22 06 11.5**	**+2.6**
KOME				*e*Sn		**Sn**	**22 06 51.5**	**+4.4**
ABTA	**Abfaltersbach**	**3.24**	**320**	*e*Pn		**Pn**	**22 06 11.0**	**+2.0**
	SNR=12							
ABTA				*e*Sn		**Sb**	**22 06 51.9**	**-3.2**
	79nm,0.7s							
PDG	**Podgorica**	**3.29**	**123**	*e*Pn		**Pn**	**22 06 12.9**	**+3.3**
PDG				*e*Sn		**Sn**	**22 06 51.3**	**+3.0**
PDG	**Podgorica**	**3.29**	**123**	*e*Pn		**Pn**	**22 06 11.3**	**+1.7**
PDG				*e*Sn		**Sn**	**22 06 49.8**	**+1.5**
PDG	**Podgorica**	**3.29**	**123**	⇓P		**Pn**	**22 06 08.9**	**-0.7**
PDG				AML		AML	22 07 06.6	
TTG	**Podgorica**	**3.29**	**123**	⇓*i* Pn		**Pn**	**22 06 11.6**	**+2.0**
TTG				*e*Sn		**Sn**	**22 06 53.4**	**+5.1**
SJES	**Sjenica**	**3.38**	**106**	*e*Pn		**Pn**	**22 06 13.4**	**+2.5**
DRME	**Dracevica, Mon**	**3.40**	**127**	*e*Pn		**Pn**	**22 06 12.3**	**+1.2**
DRME				*e*Sn		**Sn**	**22 06 52.3**	**+1.3**
DRME	**Dracevica, Mon**	**3.40**	**127**	⇑*i* Pn		**Pn**	**22 06 13.0**	**+1.9**
DRME				*e*Sn		**Sn**	**22 06 54.7**	**+3.7**
IVAS	**Ivanjica**	**3.42**	**101**	*e*Pn		**Pn**	**22 06 12.7**	**+1.4**
SOP	**Sopron**	**3.46**	**12**	*e*Pn		**Pn**	**22 06 13.7**	**+1.8**
SOP				*e*Sn		**Sn**	**22 06 52.3**	**-0.2**
SOP	**Sopron**	**3.46**	**12**	*e*Pn		**Pn**	**22 06 14.0**	**+2.1**
SOP				Sn		**Sn**	**22 06 53.0**	**+0.6**
IVA	**Berane**	**3.48**	**113**	⇓*i* Pn		**Pn**	**22 06 14.7**	**+2.5**
IVA				*e*Sn		**Sn**	**22 06 56.9**	**+4.0**
TRUS	**Trudelj**	**3.50**	**89**	*e*Pn		**Pn**	**22 06 14.8**	**+2.3**
SG1	**Sgolgore (BA)**	**3.56**	**166**	*e*Pn		**Pn**	**22 06 14.0**	**+0.8**
SG1				Sn		**Sn**	**22 06 54.4**	**-0.5**
ULC	**Ulcinj**	**3.58**	**129**	⇓*i* Pn		**Pn**	**22 06 15.7**	**+2.1**
ULC				*e*Sn		**Sn**	**22 06 59.0**	**+3.5**
CSKK	**Cskako**	**3.61**	**31**	*e*Pn		**Pn**	**22 06 15.0**	**+1.1**
CSKK				Sn		**Sn**	**22 06 55.0**	**-1.2**
CONA	**Conrad Observa**	**3.64**	**4**	*e*Pn		**Pn**	**22 06 16.3**	**+1.9**
	13nm,0.2s,SNR=70							
CONA				*e*Sn		**Sn**	**22 06 58.2**	**+1.2**
	11nm,0.3s							
PVY	**Plav**	**3.65**	**116**	⇓*i* Pn		**Pn**	**22 06 16.8**	**+2.2**
PVY				*e*Sn		**Sn**	**22 07 01.0**	**+3.8**
MOA	**Molln**	**3.66**	**347**	*e*Pn		**Pn**	**22 06 17.0**	**+2.3**
MOA				*e*Sn		**Sn**	**22 07 00.4**	**+3.0**
MOA	**Molln**	**3.66**	**347**	*i* Pn		**Pn**	**22 06 17.6**	**+2.9**
	19nm,0.3s,SNR=79							
MOA				*i* Sn		**Sn**	**22 06 59.9**	**+2.5**
	92nm,0.5s							
MATE	**Matera**	**3.75**	**166**	⇑P		**Pn**	**22 06 15.5**	**-0.3**
MATE				AML		AML	22 07 29.3	
GRUS	**Gruza**	**3.76**	**94**	*e*Pn		**Pn**	**22 06 17.5**	**+1.5**
RJOB	**Jochberg**	**3.93**	**332**	*e*Pn		**Pn**	**22 06 21.9**	**+3.5**
SRO	**Srobarova**	**4.01**	**28**	*e*PN		**Pn**	**22 06 20.8**	**+1.3**
SRO				*e*SN		**Sn**	**22 07 06.0**	**-0.1**
SRO				*e*LG		Lg	22 07 08.7	
WTTA	**Wattenberg**	**4.03**	**319**	*e*Pn		**Pn**	**22 06 23.6**	**+3.8**
WTTA	**Wattenberg**	**4.03**	**319**	*i* Pn		**Pn**	**22 06 23.6**	**+3.8**
	3.5nm,0.2s,SNR=9.1							
ZST	**Bratislava**	**4.05**	**15**	*e*PN		**Pn**	**22 06 20.3**	**+0.3**
WATA	**Walderalm**	**4.11**	**319**	*i* Pn		**Pn**	**22 06 24.4**	**+3.5**
	4.4nm,0.2s,SNR=6.8							
WATA				*i* Sn		**Sn**	**22 07 14.7**	**+6.1**
	7.5nm,0.2s							
SELS	**Selova**	**4.19**	**103**	*e*Pn		**Pn**	**22 06 23.9**	**+2.0**
SQTA	**Sankt Quirin**	**4.21**	**316**	*i* Pn		**Pn**	**22 06 25.6**	**+3.4**
	3.8nm,0.2s,SNR=14							
MODS	**Modra-Piesok**	**4.25**	**16**	*e*PN		**Pn**	**22 06 22.8**	**0.0**
MODS				*e*SN		**Sn**	**22 07 09.9**	**-2.1**
FETA	**Feichten**	**4.33**	**311**	*i* Pn		**Pn**	**22 06 27.0**	**+3.1**
	0.4nm,0.1s,SNR=4.8							
MOTA	**Moosalm**	**4.34**	**316**	*i* Pn		**Pn**	**22 06 27.3**	**+3.1**
	1.2nm,0.1s,SNR=9.6							
MOTA				*e*Sn		**Sn**	**22 07 19.9**	**+5.5**
	6.4nm,0.4s							
SMOL	**Smolenice**	**4.42**	**17**	*e*PN		**Pn**	**22 06 26.0**	**+1.0**
SMOL				*e*SN		**Sn**	**22 07 15.8**	**-0.3**
SMOL				*e*LG		Lg	22 07 18.6	
MDVR	**Moldovita**	**4.45**	**82**	⇑P		**Pn**	**22 06 24.7**	**-0.7**
BOVS	**Bovan**	**4.51**	**96**	*e*Pn		**Pn**	**22 06 27.5**	**+1.3**
BZS	**Buzias**	**4.52**	**71**	⇓P		**Pn**	**22 06 26.8**	**+0.4**
BZS				AML		AML	22 07 44.7	
RETA	**Reutte**	**4.61**	**315**	*e*Pn		**Pn**	**22 06 30.4**	**+2.7**
	1.4nm,0.1s							
GEC2	**GERESS Array S**	**4.72**	**345**	*e*Pn		**Pn**	**22 06 31.5**	**+2.2**
GEC2				*e*Sn		**Sn**	**22 07 24.6**	**+0.9**
PSZ	**Piszkesteto**	**4.72**	**38**	*e*Pn		**Pn**	**22 06 29.2**	**-0.1**
PSZ				*e*Sn		**Sn**	**22 07 21.7**	**-2.0**
PSZ	**Piszkesteto**	**4.72**	**38**	⇑P		**Pn**	**22 06 28.8**	**-0.6**
PSZ				AML		AML	22 07 44.8	
PSZ	**Piszkesteto**	**4.72**	**38**	*e*Pn		**Pn**	**22 06 29.1**	**-0.2**
PSZ				Sn		**Sn**	**22 07 20.0**	**-3.7**
PSZ	**Piszkesteto**	**4.72**	**38**	*e*Pn		**Pn**	**22 06 32.0**	**+2.7**
PSZ				Sn		**Sn**	**22 07 20.1**	**-3.7**
VYHS	**Vyhne**	**4.78**	**27**	*e*PN		**Pn**	**22 06 30.8**	**+0.8**
VYHS				*e*SN		**Sn**	**22 07 24.3**	**-0.7**
JAVC	**Velka Javorina**	**4.80**	**17**	*e*Pn		**Pn**	**22 06 32.2**	**+1.9**
JAVC	**Velka Javorina**	**4.80**	**17**	*e*PN		**Pn**	**22 06 32.1**	**+1.9**
BARS	**Barje**	**4.80**	**106**	*e*Pn		**Pn**	**22 06 32.5**	**+2.2**
KRUC	**Moravsky**	**4.80**	**7**	*e*Pn		**Pn**	**22 06 31.8**	**+1.5**
KRUC				*e*Sn		**Sn**	**22 07 24.7**	**-0.8**
KRUC	**Moravsky**	**4.80**	**7**	*e*PN		**Pn**	**22 06 31.6**	**+1.3**
KRUC				*e*SN		**Sn**	**22 07 23.7**	**-1.8**
ZAGS	**Zajecar**	**4.86**	**93**	*e*Pn		**Pn**	**22 06 31.5**	**+0.5**
DAVA	**Damuels**	**4.95**	**309**	*e*Pn		**Pn**	**22 06 37.0**	**+4.4**
DAVA	**Damuels**	**4.95**	**309**	*e*Pn		**Pn**	**22 06 36.9**	**+4.3**
	2.0nm,0.2s							
KHC	**Kasperske Hory**	**5.02**	**345**	*e*Pn		**Pn**	**22 06 35.5**	**+2.2**
KHC				*e*Sn		**Sn**	**22 07 31.4**	**+0.5**
KHC	**Kasperske Hory**	**5.02**	**345**	*e*PN		**Pn**	**22 06 35.3**	**+2.0**
KHC				*e*SN		**Sn**	**22 07 31.1**	**+0.2**
VRAC	**Vranov**	**5.07**	**8**	*i* Pn		**Pn**	**22 06 35.5**	**+1.6**
VRAC				*e*Sn		**Sn**	**22 07 30.6**	**-1.4**
VRAC	**Vranov**	**5.07**	**8**	*e*PN		**Pn**	**22 06 35.4**	**+1.5**
PGF	**Pioggiola**	**5.07**	**252**	*e*Pn		**Pn**	**22 06 36.5**	**+2.4**
PGF				*e*Sn		**Sn**	**22 07 31.6**	**-0.6**
	1.3nm,0.3s,SNR=1.0							
WET	**Wettzell**	**5.18**	**340**	*e*Pn		**Pn**	**22 06 37.5**	**+2.0**
ZAPS	**Zavoj**	**5.24**	**99**	*e*Pn		**Pn**	**22 06 38.8**	**+2.4**
GZR	**Gura Zlata**	**5.27**	**75**	*e*Pn		**Pn**	**22 06 37.6**	**+0.8**
GZR	**Gura Zlata**	**5.27**	**75**	⇑P		**Pn**	**22 06 36.3**	**-0.5**
GZR				AML		AML	22 08 28.0	
KECS	**Kecovo**	**5.41**	**38**	*e*PN		**Pn**	**22 06 40.0**	**+1.3**
PBCC	**Pribram**	**5.49**	**350**	*e*Pn		**Pn**	**22 06 41.9**	**+2.1**
PBCC				*e*SN		**Sn**	**22 07 42.5**	**0.0**
STIP	**Stip**	**5.53**	**116**	*e*Pn		**Pn**	**22 06 42.8**	**+2.5**
LANS	**Liptovska Anna**	**5.56**	**28**	*e*PN		**Pn**	**22 06 42.8**	**+2.1**
GOPC	**GO Pecny, Ondr**	**5.64**	**355**	*e*PN		**Pn**	**22 06 43.5**	**+1.6**
GOPC				*e*SN		**Sn**	**22 07 45.1**	**-1.1**
MORC	**Moravsky Berou**	**5.65**	**13**	*e*Pn		**Pn**	**22 06 44.2**	**+2.2**
MORC				*e*Sn		**Sn**	**22 07 45.5**	**-1.0**
MORC	**Moravsky Berou**	**5.65**	**13**	*e*PN		**Pn**	**22 06 44.1**	**+2.1**
MORC				*e*SN		**Sn**	**22 07 44.7**	**-1.8**
PRU	**Pruhonice**	**5.73**	**354**	*e*Pn		**Pn**	**22 06 45.1**	**+2.0**
PRU				*e*Sn		**Sn**	**22 07 46.7**	**-1.7**
PRU	**Pruhonice**	**5.73**	**354**	*e*PN		**Pn**	**22 06 45.0**	**+1.9**
PRU				*e*SN		**Sn**	**22 07 46.8**	**-1.7**
OKC	**Ostrava-Krasne**	**5.82**	**17**	*e*Pn		**Pn**	**22 06 46.1**	**+1.8**
OKC	**Ostrava-Krasne**	**5.82**	**17**	*e*PN		**Pn**	**22 06 45.9**	**+1.6**
OKC				*e*SN		**Sn**	**22 07 50.0**	**-0.7**
KRLC	**Kraliky**	**5.84**	**8**	*e*PN		**Pn**	**22 06 46.8**	**+2.1**
KRLC				*e*SN		**Sn**	**22 07 50.0**	**-1.2**
SBF	**Sospel**	**5.85**	**269**	*e*Pn		**Pn**	**22 06 45.8**	**+1.1**
	SNR=1.0							
SBF				*e*Sn		**Sn**	**22 07 49.4**	**-2.0**
	8.8nm,0.3s							
ROTZ	**Rotzenmuhle**	**5.92**	**339**	*e*Pn		**Pn**	**22 06 47.0**	**+1.3**
ROTZ				*e*Sn		**Sn**	**22 07 52.4**	**-0.8**
DPC	**Dobruska-Polom**	**6.08**	**5**	*e*PN		**Pn**	**22 06 50.1**	**+2.2**
GRF	**Grafenberg Arr**	**6.15**	**333**	*e*Pn		**Pn**	**22 06 51.6**	**+2.8**
MANZ	**Manzenberg**	**6.15**	**339**	*e*Pn		**Pn**	**22 06 50.7**	**+1.8**
TRPA	**Tarpa**	**6.19**	**49**	*e*Pn		**Pn**	**22 06 50.1**	**+0.7**
PVCC	**Panska Ves**	**6.27**	**354**	*e*Pn		**Pn**	**22 06 52.7**	**+2.3**
PVCC	**Panska Ves**	**6.27**	**354

DGZ					Sg	Sb	23 06 06.4	+7.7
BRCR	**Berchikul'**	**5.92**	**312**		Pg	Pb	23 04 53.3	+4.8
ELT	**Eltsovka**	**6.14**	**287**		Pg	Pg	23 04 59.1	-3.6

KRNET 13 23:04:33.5±0.1, 42°33'N×76°57'E, h35km, mb1.5, 8C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOOM	**Boomskoye usch** baz=89	**0.49**	**289**	⇑*iP*	Pn	23 04 46.4	+2.2
BOOM	baz=89			⇑*iS*	Sn	23 04 55.4	+3.8
KDJ	**Kajisay** baz=14	**0.50**	**114**	⇑*iP*	Pn	23 04 46.2	+1.9
KDJ	baz=14			⇑*iS*	Sn	23 04 55.8	+4.0
ANVS	**Anan'yevo** baz=61	**0.93**	**61**	⇓*iP*	Pn	23 04 51.5	+1.3
ANVS	baz=61			⇓*iS*	Sn	23 05 04.6	+2.2
NRN	**Naryn** baz=6.0	**0.99**	**205**	⇑*iP*	Pn	23 04 52.8	+1.5
NRN	baz=6.0			⇑*iS*	Sn	23 05 06.6	+2.4
ARLS	**Aral** baz=55	**1.74**	**255**	⇑*iP*	Pn	23 05 02.5	+1.2
ARLS	baz=55			⇑*iS*	Sn	23 05 22.8	+0.5

*ISCJB **13** 23:05:17.7±0.6, 43°.34N±0°.05×77°.96E±0°.04, h8km±5km, Error ellipse: s-maj=8.5km s-min=4.4km az=176.4*
*NNC **13** 23:05:17.5±0.7, 43°.35N×77°.95E, h0km, mb1.7, mpv2.0, Error ellipse: s-maj=15.3km s-min=2.5km az=173.0*
*SOME **13** 23:05:17.8, 43°.33N×77°.97E, h5km*
ISC 13 23:05:18.1±1.1, 43°.35N±0°.05×77°.97E±0°.03, h9km±10km, n10, σ0s50/20, 8C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURS	**Kuram** 0.4nm,0.1s	**0.20**	**46**	*eP*	**Pg**	**23 05 22.1**	**-0.1**
KURS	0.7nm,0.1s			*eS*	**Sg**	**23 05 25.1**	**0.0**
ZHN	**Zhinishke** 1.0nm,0.1s	**0.38**	**118**	⇑*eP*	**Pg**	**23 05 25.2**	**-0.4**
ZHN	4.1nm,0.1s			⇑*iS*	**Sg**	**23 05 31.1**	**+0.4**
SATY	**Saty** 1.0nm,0.1s	**0.43**	**132**	⇓*iP*	**Pg**	**23 05 26.2**	**-0.3**
SATY	17nm,0.1s			⇑*iS*	**Sg**	**23 05 32.5**	**+0.3**
SATY	**Saty** 1.0nm,0.1s	**0.43**	**132**	P	**Pg**	**23 05 26.2**	**-0.3**
SATY	17nm,0.1s			S	**Sg**	**23 05 32.5**	**+0.3**
KPKS	**Kokpek** 1.9nm,0.1s	**0.53**	**77**	⇑*iP*	**Pg**	**23 05 28.2**	**-0.2**
KPKS	3.9nm,0.2s			⇑*iS*	**Sg**	**23 05 35.9**	**+0.5**
MDOK	**Medeo** 3.1nm,1.0s	**0.70**	**255**	⇓P	**Pg**	**23 05 31.2**	**-0.4**
MDOK	6.5nm,1.5s			⇑S	**Sg**	**23 05 40.8**	**0.0**
UZB	**Uzynbulak** 0.2nm,0.1s	**0.79**	**104**	*eP*	**Pg**	**23 05 32.8**	**-0.5**
UZB	1.0nm,0.1s			*eS*	**Sg**	**23 05 43.8**	**+0.1**
PDGK	**Podgornoye** 0.1nm,0.2s	**1.11**	**91**	P	**Pg**	**23 05 38.2**	**-1.1**
PDGK	0.2nm,0.2s			S	**Sg**	**23 05 53.3**	**-0.4**
PDGK	**Podgornoye** 2.5nm,1.4s	**1.11**	**91**	⇓P	**Pg**	**23 05 39.1**	**-0.2**
PDGK	2.5nm,1.3s			⇑S	**Sb**	**23 05 54.2**	**+0.2**
TKM2	**Tokmak 2** 3.4nm,1.2s	**1.79**	**257**	⇓P	**Pn**	**23 05 50.1**	**+0.7**
TKM2	1.6nm,0.9s			⇑S	**Sn**	**23 06 11.7**	**-0.7**

*ISCJB **13** 23:24:49.3±0.4, 67°.74N±0°.02×20°.42E±0°.07, h0km, Error ellipse: s-maj=3.6km s-min=3.0km az=2.6*
*HEL **13** 23:24:50.9±0.1, 67°.84N×20°.17E, h0km, ML2.3, Explosion*
*NAO **13** 23:24:51.6±0.8, 67°.85N×20°.49E, ML2.5*
*IDC **13** 23:24:51.2±1.1, 67°.84N×20°.55E, h0km, mb1 3.1/3, mb1mx3.0/35, mbtmp3.0/3, ML2.2/3, Error ellipse: s-maj=17.1km s-min=7.4km az=121.0*
*BER **13** 23:24:53.1±4.2, 67°.84N×20°.38E, h0km, ML2.1, Suspected explosion*
ISC 13 23:24:50.1±0.7, 67°.78N±0°.03×20°.22E±0°.03, h0km, n40, σ1s47/70, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.72**	**67**	PG	**Pg**	**23 25 04.1**	**+0.1**
LANU				SG	**Sg**	**23 25 13.4**	**+0.1**
KIF	**Kilpisjarvi**	**1.25**	**10**	Pg	**Pg**	**23 25 13.3**	**-0.8**
KIF				Lg	Lg	23 25 29.1	
KIF	**Kilpisjarvi** baz=191	**1.25**	**10**	PG	**Pg**	**23 25 13.1**	**-1.0**
KIF	comp=Z,42nm,0.2s			MSG		23 25 28.0	
KIF				SB	**Sg**	**23 25 29.3**	**-1.0**
KIF	**Kilpisjarvi**	**1.25**	**10**	*eP*	**Pg**	**23 25 13.7**	**-0.5**
KIF				Sg	**Sg**	**23 25 29.1**	**-1.3**
HEF	**Hetta**	**1.44**	**62**	Pg	**Pn**	**23 25 17.2**	**-0.2**
HEF				Lg	Lg	23 25 35.1	
HEF	**Hetta** baz=249	**1.44**	**62**	PG	**Pn**	**23 25 16.7**	**-0.7**
HEF	comp=Z,22nm,0.2s			MSG		23 25 33.7	
HEF				SG	**Sg**	**23 25 35.1**	**-1.2**
HEF	**Hetta**	**1.44**	**62**	*eP*	**Pn**	**23 25 16.8**	**-0.7**
HEF				Sg	**Sg**	**23 25 35.1**	**-1.2**
ERTU	**Ertsjaerv**	**1.45**	**147**	PG	**Pb**	**23 25 18.4**	**+0.4**
ERTU				SN	**Sn**	**23 25 38.8**	**+1.6**
KTK1	**Kautokeino**	**1.67**	**41**	*eP*	**Pn**	**23 25 20.4**	**-0.3**
KTK1				*eS*	**Sn**	**23 25 42.0**	**-0.7**
KTK1	comp=Z,24nm,0.7s			IAML		23 25 46.8	
STEI	**Steigen**	**1.89**	**277**	*eP*	**Pb**	**23 25 25.6**	**+0.1**
STEI				*eS*	**Sg**	**23 25 51.3**	**+0.4**
STEI	comp=Z,38nm,0.6s			IAML		23 25 57.4	
KALU	**Kalix** baz=330	**2.29**	**146**	PB	**Pb**	**23 25 31.6**	**-0.7**
KALU				SG	**Sb**	**23 26 02.3**	**+1.2**
TOF	**Tornio**	**2.35**	**135**	PG	**Pb**	**23 25 32.8**	**-0.5**
TOF	comp=Z,15nm,0.2s			MSG		23 26 02.2	
TOF				SG	**Sb**	**23 26 04.3**	**+1.6**
SGF	**Sodankyl** baz=284	**2.44**	**95**	PB	**Pn**	**23 25 33.0**	**+1.8**
SGF				SB	**Sb**	**23 26 04.1**	**-1.3**
RNF	**Rovaniemi**	**2.54**	**115**	PB	**Pb**	**23 25 35.4**	**-1.2**
RNF				SG	**Sb**	**23 26 08.9**	**+0.5**
ARA0	**ARCESS Array S** baz=233,slow=14	**2.62**	**45**	Pn	**Pn**	**23 25 34.2**	**+0.5**
ARA0	baz=228,slow=28			Sn	**Sn**	**23 26 06.6**	**+0.5**
ARA0	baz=228,slow=28			Lg	Lg	23 26 08.9	
ARA0	**ARCESS Array S** baz=233,slow=14	**2.62**	**45**	Pn	**Pn**	**23 25 34.2**	**+0.5**
ARA0	baz=228,slow=28			Sn	**Sn**	**23 26 06.6**	**+0.5**
ARA0	baz=228,slow=28			Sg	**Sb**	**23 26 08.9**	**-1.6**
ARCES	**ARCESS Array B** comp=Z,1.2nm,0.3s,baz=229,slow=15,SNR=44	**2.62**	**45**	Pn	**Pn**	**23 25 34.2**	**+0.6**
ARCES	comp=Z,2.0nm,0.3s,baz=228,slow=24,SNR=3.5			Lg	Lg	23 26 07.7	
KEV	**Kevo**	**3.17**	**48**	Pn	**Pn**	**23 25 41.5**	**+0.3**
KEV				Sn	**Sn**	**23 26 19.7**	**0.0**
KEV	**Kevo**	**3.17**	**48**	PB	**Pn**	**23 25 42.3**	**+1.1**
KEV				SN	**Sn**	**23 26 20.2**	**+0.6**
KEV	comp=Z,7.7nm,0.2s			MSG		23 26 23.1	
KEV	**Kevo**	**3.17**	**48**	Pn	**Pn**	**23 25 41.5**	**+0.3**
KEV				Sn	**Sn**	**23 26 19.7**	**0.0**
BURU	**Burvik**	**3.24**	**171**	PB	**Pb**	**23 25 45.8**	**-2.7**
OUL	**Oulu** baz=320	**3.54**	**137**	PG	**Pg**	**23 25 57.4**	**-0.4**
VRF	**Varrio**	**3.57**	**86**	PG	**Pb**	**23 25 55.2**	**+1.1**
UMAU	**Umeaa**	**3.92**	**177**	PN	**Pn**	**23 25 54.9**	**+3.5**
MSF	**Maaselka** baz=308	**3.96**	**114**	PN	**Pn**	**23 25 54.2**	**+2.2**
KU6	**Riekki** baz=295	**4.20**	**110**	PN	**Pn**	**23 25 57.2**	**+1.9**
KU6				SG	**Sg**	**23 27 04.2**	**-0.6**
APA0	**Apatity Array** baz=268,slow=11	**4.87**	**86**	Pn	**Pn**	**23 26 04.8**	**+0.3**
APA0	baz=292,slow=28			Sn	**Sn**	**23 26 59.7**	**-1.8**
APA0	baz=273,slow=28			Lg	Lg	23 27 19.1	
APA0	**Apatity Array** baz=268,slow=11	**4.87**	**86**	Pn	**Pn**	**23 26 04.8**	**+0.3**
APA0	baz=292,slow=28			Sn	**Sn**	**23 26 59.7**	**-1.8**
APA0	baz=273,slow=28			Sg	**Sb**	**23 27 19.1**	**+3.8**
FIA0	**FINESS Array S** baz=344,slow=14	**6.84**	**156**	Pn	**Pn**	**23 26 33.4**	**+1.9**
FIA0	baz=345,slow=22			Sn	**Sn**	**23 27 51.5**	**+1.6**
FIA0	baz=339,slow=37			Lg	Lg	23 28 26.0	
FIA0	**FINESS Array S** baz=344,slow=14	**6.84**	**156**	Pn	**Pn**	**23 26 33.4**	**+1.9**
FIA0	baz=345,slow=22			Sn	**Sn**	**23 27 51.5**	**+1.6**
FIA0	baz=339,slow=37			Sg	**Sg**	**23 28 26.0**	**-3.4**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=340,slow=12,SNR=3.4	**6.84**	**156**	Pn	**Pn**	**23 26 33.4**	**+1.9**
FINES	comp=Z,0.1nm,0.3s,baz=344,slow=25,SNR=2.8			Sn	**Sn**	**23 27 49.8**	**-0.1**
FINES	comp=Z,0.4nm,0.3s,baz=340,slow=27,SNR=5.9			Lg	Lg	23 28 24.9	
NB2	**NORSAR Subarra**	**7.80**	**214**	Pn	**Pn**	**23 26 46.5**	**+1.8**
NB2	**NORSAR Subarra**	**7.80**	**214**	Pn	**Pn**	**23 26 46.5**	**+1.8**
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=24,slow=9.8,SNR=3.4	**7.80**	**214**	Pn	**Pn**	**23 26 45.3**	**+0.6**
NOA	comp=Z,0.0nm,0.3s,baz=21,slow=19,SNR=2.6			Sn	**Sn**	**23 28 12.6**	**-1.0**
NOA	comp=Z,0.0nm,0.3s,baz=53,slow=15,SNR=5.0			Lg	Lg	23 28 58.4	
NRA0	**NORESS Array S** baz=28,slow=14	**8.01**	**212**	Pn	**Pn**	**23 26 49.7**	**+2.2**
NRA0	**NORESS Array S** baz=28,slow=14	**8.01**	**212**	Pn	**Pn**	**23 26 49.7**	**+2.2**
HFS	**Hagfors** baz=25,slow=14	**8.19**	**204**	Pn	**Pn**	**23 26 51.3**	**+1.2**
HFS	baz=29,slow=28			Sn	**Sn**	**23 28 22.5**	**-0.6**
HFS	baz=38,slow=22			Lg	Lg	23 29 08.6	
HFS	**Hagfors** baz=25,slow=14	**8.19**	**204**	Pn	**Pn**	**23 26 51.3**	**+1.2**
HFS	baz=29,slow=28			Sn	**Sn**	**23 28 22.5**	**-0.6**
HFS	baz=38,slow=22			Sg	**Sg**	**23 29 08.6**	**-4.1**
SPA0	**Spitsbergen Ar** baz=173,slow=16	**10.52**	**356**	Pn	**Pn**	**23 27 22.1**	**+0.2**
SPA0	**Spitsbergen Ar** baz=173,slow=16	**10.52**	**356**	Pn	**Pn**	**23 27 22.1**	**+0.2**

*TIR **13** 23:28:14.6, 42°.13N×20°.66E, h4km, Md3.2/6*
*ISCJB **13** 23:28:15.7±0.3, 42°.13N±0°.01×20°.62E±0°.02, h1km±2km, mb3.5/2, Error ellipse: s-maj=2.4km s-min=1.9km az=29.2*
*SKO **13** 23:28:15.6, 42°.16N×20°.59E, h15km, M2.2, ML2.8*
*IDC **13** 23:28:15.6±22.0, 41°.69N×20°.80E, h0km, mb3.7/2, mb1 3.5/3, mb1mx3.2/30, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=460.3km s-min=25.5km az=27.0*
*PDG **13** 23:28:16.4±0.2, 42°.11N×20°.57E, h9km, MD3.2/1, ML3.1/9, Error ellipse: s-maj=0.4km s-min=0.3km az=90.0*
*LDG **13** 23:28:16.6±0.1, 42°.09N×20°.61E, h5km, Ml2.7/8, Error ellipse: s-maj=4.3km s-min=2.9km az=2.0*
*THE **13** 23:28:17.1, 42°.08N×20°.60E, h1km±4km, ML2.7/2, Error ellipse: s-maj=6.0km s-min=1.1km az=310.0*
*BEO **13** 23:28:17.2±0.3, 42°.08N×20°.65E, h0km, ML2.6/15*
*SIK **13** 23:28:17.5, 42°.11N×20°.64E, h11km, M2.6*
ISC 13 23:28:16.3±1.0, 42°.13N±0°.02×20°.57E±0°.02, h6km±8km, n124, σ2s31/189, 19C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.44**	**303**	*i* PG	**Pg**	**23 28 25.0**	**+0.2**
BCI				*i* SG	**Sb**	**23 28 32.7**	**-0.7**
PHP	**Peshkopia**	**0.45**	**192**	P	**Pg**	**23 28 24.2**	**-0.8**
PHP				S	**Sg**	**23 28 30.6**	**-0.4**
PHP	**Peshkopia**	**0.45**	**192**	*i* PG	**Pg**	**23 28 24.3**	**-0.8**
PHP				*i* SG	**Sg**	**23 28 30.1**	**-0.8**
PVY	**Plav**	**0.65**	**316**	⇑*i*Pg	**Pg**	**23 28 28.5**	**-0.3**
PVY				*e*Sg	**Sb**	**23 28 39.7**	**+0.2**
SKO	**Skopje**	**0.67**	**103**	⇑*i*Pg	**Pg**	**23 28 28.7**	**-0.4**
SKO				*i* Sg	**Sg**	**23 28 38.8**	**+0.9**
SKO	**Skopje**	**0.67**	**103**	*e*Pg	**Pg**	**23 28 28.6**	**-0.5**
SKO				*e*Sg	**Sg**	**23 28 35.6**	**-2.2**
BEY	**Berane**	**0.90**	**326**	*i* Pg	**Pg**	**23 28 33.2**	**-0.3**
IVA	**Berane**	**0.90**	**326**	⇑*i*Pg	**Pg**	**23 28 33.8**	**+0.3**
IVA				*e*Sg	**Sb**	**23 28 47.8**	**+1.3**
TIR	**Tirane**	**0.94**	**214**	P	**Pg**	**23 28 34.2**	**-0.1**
TIR	**Tirane**	**0.94**	**214**	*i* Pg	**Pg**	**23 28 34.6**	**+0.3**
TIR	**Tirane**	**0.94**	**214**	*e*Pg	**Pg**	**23 28 34.3**	**-0.1**
TIR	**Tirane**	**0.94**	**214**	*i* PG	**Pg**	**23 28 34.4**	**+0.1**
TIR				*i* SG	**Sb**	**23 28 48.8**	**+1.1**
TIR	**Tirane**	**0.94**	**214**	⇑P	**Pg**	**23 28 34.4**	**+0.1**
TIR				⇑S	**Sb**	**23 28 47.4**	**-0.3**
TIR				AML	AML	23 28 55.9	
ULC	**Ulcinj**	**1.00**	**261**	*i* Pg	**Pg**	**23 28 35.5**	**0.0**
ULC	**Ulcinj**	**1.00**	**261**	⇑*i*Pg	**Pg**	**23 28 35.2**	**-0.2**
ULC				*e*Sg	**Sb**	**23 28 50.7**	**+1.2**
PDG	**Podgorica**	**1.02**	**288**	⇑*i*Pg	**Pg**	**23 28 35.1**	**-0.7**
PDG	**Podgorica**	**1.02**	**288**	*e*Pg	**Pg**	**23 28 35.1**	**-0.7**
PDG				*e*Sg	**Sn**	**23 28 52.0**	**+0.2**
PDG	**Podgorica**	**1.02**	**288**	*e*Pn	**Pg**	**23 28 35.0**	**-0.8**
PDG	**Podgorica**	**1.02**	**288**	⇑P	**Pg**	**23 28 35.1**	**-0.7**
PDG				⇓S	**Sg**	**23 28 49.3**	**+0.2**
PDG				AML	AML	23 28 58.6	
TTG	**Podgorica**	**1.02**	**288**	⇑*i*Pg	**Pg**	**23 28 35.1**	**-0.7**
TTG				*e*Sg	**Sn**	**23 28 51.6**	**-0.2**
DRME	**Dracevica, Mon**	**1.03**	**274**	*e*Pn	**Pg**	**23 28 35.3**	**-0.7**
DRME	**Dracevica, Mon**	**1.03**	**274**	⇓*i*Pg	**Pg**	**23 28 35.5**	**-0.5**
DRME				*e*Sg	**Sn**	**23 28 51.7**	**-0.4**
KOME	**Kolasin**	**1.06**	**313**	⇓*i*Pg	**Pg**	**23 28 36.2**	**-0.5**
KOME				*e*Sg	**Sn**	**23 28 53.2**	**+0.2**
BARS	**Barje**	**1.15**	**53**	*e*Pg	**Pb**	**23 28 38.5**	**-0.1**
BARS				*e*Sg	**Sb**	**23 28 53.7**	**-0.1**
BARS	**Barje**	**1.15**	**53**	*e*Pn	**Sb**	**23 28 53.9**	**+0.1**
SELS	**Selova**	**1.16**	**20**	*e*Pg	**Pb**	**23 28 39.0**	**+0.2**
SELS				*e*Sg	**Sn**	**23 28 55.2**	**-0.2**
SJES	**Sjenica**	**1.21**	**339**	*e*Pg	**Pn**	**23 28 40.0**	**+0.1**
SJES				*e*Sg	**Sn**	**23 28 58.7**	**+1.9**
BUM	**Brajici-Budva**	**1.25**	**278**	⇑*i*Pg	**Pg**	**23 28 39.8**	**-0.6**
BUM				*e*Sg	**Sn**	**23 28 59.6**	**+1.9**
STIP	**Stip**	**1.28**	**109**	*i* Pg	**Pn**	**23 28 42.1**	**+1.4**
STIP				*i* Sg	**Sn**	**23 29 02.6**	**+4.3**
CEME	**Cevo**	**1.29**	**289**	⇓*i*Pg	**Pg**	**23 28 39.9**	**-1.2**
CEME				*e*Sg	**Sn**	**23 29 00.6**	**+2.0**
NKY	**Niksic**	**1.35**	**301**	⇑*i*Pg	**Pn**	**23 28 41.7**	**-0.1**
NKY				*e*Sg	**Sn**	**23 29 02.8**	**+2.7**
NKME	**Niksic**	**1.35**	**299**	⇑*i*Pg	**Pn**	**23 28 41.7**	**-0.1**
NKME				*e*Sg	**Sn**	**23 29 03.5**	**+3.4**
BOSS	**Bosilegrad**	**1.47**	**75**	*e*Pg	**Pn**	**23 28 43.5**	**+0.2**
BOSS				*e*Sg	**Sb**	**23 29 02.8**	**-0.1**
FNA	**Florina**	**1.48**	**155**	P	**Pn**	**23 28 42.3**	**-1.2**
FNA	418nm,0.5s			S	**Sg**	**23 29 03.6**	**-0.1**
FNA	**Florina**	**1.48**	**155**	*i* PN	**Pn**	**23 28 42.9**	**-0.6**
FNA				*i* SN	**Sg**	**23 29 04.3**	**+0.7**
IVAS	**Ivanjica**	**1.48**	**348**	*e*Pg	**Pn**	**23 28 43.9**	**+0.4**
IVAS				*e*Sg	**Sg**	**23 29 05.6**	**+1.8**
PLE	**Pljevlja**	**1.48**	**325**	⇑*i*Pg	**Pg**	**23 28 44.7**	**0.0**
PLE				*e*Sg	**Sg**	**23 29 06.8**	**+2.9**
HCY	**Herceg Novi**	**1.57**	**282**	*e*Pn	**Pn**	**23 28 45.2**	**+0.5**
HCY	**Herceg Novi**	**1.57**	**282**	⇓*i*Pn	**Pn**	**23 28 45.4**	**+0.7**
HCY				*e*Sn	**Sg**	**23 29 09.0**	**+2.2**
BRY	**Bratogost**	**1.69**	**298**	*e*Pn	**Pb**	**23 28 47.4**	**-0.4**
BRY	**Bratogost**	**1.69**	**298**	⇑*i*Pn	**Pb**	**23 28 47.6**	**-0.2**
BRY				*e*Sn	**Sg**	**23 29 11.7**	**+1.2**
VAY	**Valandovo**	**1.70**	**118**	⇑*i*Pn	**Pn**	**23 28 47.2**	**+0.7**
VAY				*e*Lg	Lg	23 29 10.7	
VAY	comp=E,49nm,0.6s			*i* Sg	**Sg**	**23 29 11.3**	**+0.3**
VAY				*e*Lg	Lg	23 29 12.5	
BOVS	**Bovan**	**1.72**	**29**	*e*Pg	**Pn**	**23 28 46.9**	**+0.1**
BOVS				*e*Sg	**Sg**	**23 29 12.3**	**+0.7**
RUDO	**Rudo**	**1.73**	**330**	*e*Pn	**Pn**	**23 28 47.4**	**+0.5**
TREB	**Trebinje**	**1.74**	**290**	*e*Pg	**Pg**	**23 28 50.1**	**+0.4**
TREB				*e*Sg	**Sg**	**23 29 15.5**	**+3.2**
TREB	**Trebinje**	**1.74**	**290**	*e*Pn	**Pb**	**23 28 48.3**	**-0.4**
NEST	**Nestorio**	**1.75**	**168**	P	**Pn**	**23 28 47.7**	**+0.4**
NEST	comp=N,108nm,0.5s			S	**Sn**	**23 29 10.2**	**+0.2**
GRUS	**Gruza**	**1.76**	**3**	*e*Pg	**Pn**	**23 28 47.8**	**+0.4**
GRUS				*e*Sg	**Sg**	**23 29 14.1**	**+1.2**
GRG	**Griva**	**1.81**	**130**	P	**Pn**	**23 28 48.4**	**+0.4**
TPE	**Tepelena**	**1.88**	**193**	*i* PN	**Pb**	**23 28 51.2**	**+0.2**
TPE				*i* SN	**Sg**	**23 29 18.2**	**+1.6**
ZAPS	**Zavoj**	**1.91**	**52**	*e*Pn	**Pb**	**23 28 50.7**	**-0.8**
BBLS	**Lazići**	**1.94**	**334**	*e*Pn	**Pb**	**23 28 51.9**	**-0.1**
BBLS				*e*Sn	**Sg**	**23 29 18.7**	**+0.3**
BBLS	**Lazići**	**1.94**	**334**	*e*Pn	**Pb**	**23 28 51.4**	**-0.6**
KNT	**Kendrikon**	**2.00**	**118**	P	**Pn**	**23 28 50.6**	**0.0**
DIVS	**Divibare**	**2.01**	**348**	*e*Pn	**Pb**	**23 28 53.7**	**+0.3**
DIVS	**Divibare**	**2.01**	**348**	*e*Pn	**Pn**	**23 28 50.3**	**-0.6**
VTS	**Vitosha**	**2.04**	**75**	P	**Pn**	**23 28 51.8**	**+0.5**
VTS				S	**Sn**	**23 29 16.8**	**-0.3**
VTS	**Vitosha**	**2.04**	**75**	*e*Pg	**Pn**	**23 28 52.1**	**+0.8**
VTS				*e*Sg	**Sb**	**23 29 18.4**	**-1.0**
ZAGS	**Zajecar**	**2.08**	**35**	*e*Pn	**Pb**	**23 28 53.6**	**-0.8**
KTI	**Kastanea**	**2.09**	**146**	P	**Pn**	**23 28 52.7**	**+0.7**
TRUS	**Trudelj**	**2.10**	**357**	*e*Pn	**Pb**	**23 28 55.2**	**+0.5**
TRUS				*e*Sn	**Sb**	**23 29 21.7**	**+0.6**
STON	**Ston**	**2.25**	**290**	*i* Pn	**Pb**	**23 28 56.7**	**-0.6**
STON				Sn	**Sg**	**23 29 27.5**	**-1.0**
STON	**Ston**	**2.25**	**290**	*e*Pn	**Pb**	**23 28 57.3**	**0.0**
STON	**Ston**	**2.25**	**290**	*e*Pn	**Pb**	**23 28 56.7**	**-0.6**
HAPS	**Han Pijesak,BI**	**2.29**	**329**	*e*Pn	**Pn**	**23 28 55.0**	**+0.3**
SRN	**Sarande**	**2.29**	**191**	*i* PN	**Pb**	**23 28 57.0**	**-1.0**
KUBS	**Kucevo**	**2.42**	**19**	*e*Pn	**Pn**	**23 28 57.3**	**+0.9**
LIT	**Litokhoron**	**2.49**	**144**	P	**Pn**	**23 28 58.1**	**+0.7**
TEKS	**Tekeris**	**2.54**	**343**	*e*Pn	**Pn**	**23 28 56.6**	**-1.4**
NVR	**Nevrokopi**	**2.58**	**106**	P	**Pn**	**23 28 59.4**	**+0.7**
MAKA	**Makarska**	**2.86**	**295**	*e*Pn	**Pn**	**23 29 05.2**	**+2.7**
MAKA				Sn	**Sb**	**23 29 41.8**	**-1.2**
RICI	**Ricice**	**2.87**	**300**	ePn	**Pn**	**23 29 05.9**	**+3.3**
FRGS	**Fruska Gora**	**3.08**	**350**	*e*Pn	**Pn**	**23 29 07.5**	**+2.0**
FRGS	**Fruska Gora**	**3.08**	**350**	*e*Pn	**Pn**	**23 29 05.2**	**-0.3**
HVAR	**Hvar**	**3.21**	**290**	*e*Pn	**Pn**	**23 29 09.6**	**+2.3**
HVAR				Sn	**Sb**	**23 29 50.1**	**-3.1**
MATE	**Matera**	**3.26**	**244**	⇓P	**Pn**	**23 29 08.0**	**+0.1**
MATE				AML	AML	23 29 58.9	
AGG	**Agios Georgios**	**3.38**	**156**	P	**Pn**	**23 29 10.5**	**+0.8**
MGRS	**Mrkonjic Grad**	**3.42**	**313**	*e*Pn	**Pb**	**23 29 14.8**	**-2.5**
THAS	**Thassos island**	**3.48**	**115**	P	**Pn**	**23 29 10.8**	**-0.1**
EVGI	**Lefkada island**	**3.50**	**179**	P	**Pn**	**23 29 11.9**	**+0.6**
BZS	**Buzias**	**3.57**	**12**	⇓P	**Pn**	**23 29 12.8**	**+0.6**
BZS				AML	AML	23 30 22.5	
KIJV	**Kijevo**	**3.58**	**303**	*e*Pn	**Pn**	**23 29 16.3**	**+3.9**
KIJV				Sn	**Sb**	**23 30 02.3**	**-1.4**
BLY	**Banja Luka**	**3.60**	**318**	*e*Pn	**Pb**	**23 29 19.1**	**-1.2**
BLY	**Banja Luka**	**3.60**	**318**	⇑P	**Pn**	**23 29 12.3**	**-0.3**
BLY				AML	AML	23 30 29.7	
GZR	**Gura Zlata**	**3.63**	**25**	⇑P	**Pn**	**23 29 14.3**	**+1.1**
GZR				AML	AML	23 30 21.7	
ZIRJ	**Zirje**	**3.93**	**295**	*e*Pn	**Pn**	**23 29 19.6**	**+2.6**
ZIRJ				Sn	**Sn**	**23 30 07.2**	**+3.7**
MORI	**Morici**	**3.96**	**298**	*i* Pn	**Pn**	**23 29 20.8**	**+3.2**
MORI				Sn	**Sn**	**23 30 09.8**	**+5.4**
TIP	**Timpagrande**	**4.13**	**226**	⇑P	**Pn**	**23 29 21.1**	**+1.1**
TIP				AML	AML	23 30 06.9	
UDBI	**Udbina**	**4.25**	**306**	*i* Pn	**Pn**	**23 29 26.3**	**+4.7**
MORH	**Mrgy, Hungar**	**4.31**	**342**	*e*Pn	**Pn**	**23 29 22.6**	**+0.2**
MORH	**Mrgy, Hungar**	**4.31**	**342**	*e*Pn	**Sn**	**23 29 23.0**	**+0.6**
MORH				Sn	**Sn**	**23 30 10.1**	**-2.9**
MOSL	**Moslavina**	**4.44**	**323**	*e*Pn	**Pn**	**23 29 24.8**	**+0.6**
MOSL				Sn	**Sn**	**23 30 15.1**	**-1.1**
DUGI	**Dugi Otok**	**4.45**	**297**	*e*Pn	**Pn**	**23 29 26.7**	**+2.4**
DUGI				Sn	**Sn**	**23 30 19.3**	**+3.0**
VOIR		**4.63**	**43**	⇑P	**Pn**	**23 29 28.6**	**+1.7**
NVLJ	**Novalja**	**4.81**	**302**	*i* Pn	**Pn**	**23 29 31.8**	**+2.5**
NVLJ				Sn	**Sn**	**23 30 28.4**	**+3.1**
KALN	**Kalnik**	**4.98**	**325**	*e*Pn	**Pn**	**23 29 32.0**	**+0.4**
OZLJ	**Ozalj**	**5.07**	**315**	*e*Pn	**Pn**	**23 29 36.9**	**+4.0**
BEHE	**Becsehely**	**5.12**	**329**	*e*Pn	**Pn**	**23 29 30.1**	**-3.5**
BEHE				Sn	**Sn**	**23 30 33.1**	**+0.1**
TIH	**Tihany**	**5.14**	**339**	*e*Pn	**Pn**	**23 29 35.0**	**+1.3**
TIH				Sn	**Sn**	**23 30 32.1**	**-1.3**
CRES	**Cresnjev**	**5.22**	**317**	*e*Pn	**Pn**	**23 29 38.5**	**+3.6**
AQU	**L'Aquila**	**5.32**	**275**	*e*Pn	**Pn**	**23 29 39.8**	**+3.4**
MPLH	**Magyarpolny**	**5.48**	**338**	*e*Pn	**Pn**	**23 29 40.1**	**+1.6**
MPLH				Sn	**Sn**	**23 30 44.4**	**+2.1**
VISS	**Visnje**	**5.53**	**314**	⇓*i

RKY	**Sarkoy-Tekirda**	**0.46**	**325**	PG	Pg	23 32 38.9	+0.1
LPK	**Lapseki**	**0.59**	**276**	PG	Pb	23 32 42.2	+0.2
KCTX	**Karacabey (Bur**	**0.64**	**94**	PG	Pg	23 32 42.1	0.0
ERIK	**Erikli-Kesan**	**0.85**	**295**	PG	Pb	23 32 46.8	+0.3
EZN	**Ezine**	**1.04**	**243**	PG	Pn	23 32 50.2	+0.1
ARMT	**Armutlu**	**1.05**	**75**	PG	Pn	23 32 50.5	+0.2
SLVT	**Silivri**	**1.05**	**29**	PG	Pn	23 32 50.2	-0.1
CTKS	**Kestanelik-??a**	**1.19**	**38**	PN	Pg	23 32 52.5	0.0
BOZC	**Bozcaada**	**1.23**	**248**	PN	Pb	23 32 52.9	+0.1
GADA	**Gvkgeada**	**1.25**	**265**	PN	Pn	23 32 53.1	+0.1
ALN	**Alexandroupoli**	**1.27**	**298**	PN	Pb	23 32 53.7	+0.1

*ISCJB **13** 23:33:34.4±0.3, 44°.33N±0'.01×15°.54E±0'.02, h10km±2km, Error ellipse: s-maj=2.5km s-min=2.2km az=42.5*
*RHSSO **13** 23:33:36.0±0.3, 44°.31N×15°.57E, h7km±2km, ML3.0/1*
*LDG **13** 23:33:36.5±0.1, 44°.30N×15°.77E, h20km, Ml2.7/21, Error ellipse: s-maj=3.7km s-min=2.3km az=173.0*
*PRU **13** 23:33:37.7±0.0, 44°.46N×15°.68E, h0km*
*BEO **13** 23:33:41.0±0.8, 44°.21N×16°.07E, h0km, ML2.8/9*

ISC 13 23:33:35.0±0.9, **44°.32N**±0'.02×**15°.57E**±0'.02, **h12**km±6km, **n111**, σ1=**98**/188, **5C-8D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDBI	**Udbina**	**0.25**	**34**	*i* Pg	**Pb**	**23 33 41.0**	**-0.5**
UDBI				Sg	**Sb**	**23 33 45.3**	**+1.4**
MORI	**Morici**	**0.47**	**167**	*i* Pg	**Pg**	**23 33 43.8**	**-0.4**
MORI				Sg	**Sg**	**23 33 50.9**	**+0.5**
DUGI	**Dugi Otok**	**0.49**	**228**	*i* Pg	**Pb**	**23 33 45.0**	**-0.6**
DUGI				Sg	**Sb**	**23 33 52.8**	**-0.1**
NVLJ	**Novalja**	**0.55**	**296**	*i* Pg	**Pb**	**23 33 46.7**	**+0.1**
NVLJ				Sg	**Sb**	**23 33 55.6**	**+1.1**
ZIRJ	**Zirje**	**0.67**	**175**	*e*Pg	**Pg**	**23 33 47.4**	**-0.6**
ZIRJ				Sg	**Sg**	**23 33 57.1**	**+0.2**
KIJV	**Kijevo**	**0.68**	**117**	*e*Pg	**Pg**	**23 33 47.3**	**-0.9**
KIJV				Sg	**Sg**	**23 33 57.2**	**0.0**
MGRS	**Mrkonjic Grad**	**1.09**	**85**	*e*Pg	**Pg**	**23 33 55.4**	**-0.7**
MGRS				*e*Sg	**Sg**	**23 34 10.1**	**-0.2**
BLY	**Banja Luka**	**1.23**	**69**	*e*Pg	**Pn**	**23 33 57.7**	**-0.4**
BLY				*e*Sg	**Sb**	**23 34 13.0**	**-1.1**
BLY	**Banja Luka**	**1.23**	**69**	*e*Pg	**Pn**	**23 33 57.9**	**-0.2**
BLY				*e*Sg	**Sn**	**23 34 15.2**	**+0.6**
BLY	**Banja Luka**	**1.23**	**69**	⇑P	**Pn**	**23 33 58.1**	**0.0**
BLY				⇓S	**Sb**	**23 34 12.9**	**-1.2**
BLY				AML	AML	23 34 16.6	
RIY	**Rijeka**	**1.27**	**323**	iPn	**Pn**	**23 34 00.6**	**+2.0**
RIY				Sg	**Sn**	**23 34 19.1**	**+3.7**
RIY	**Rijeka**	**1.27**	**323**	*e*Pg	**Pg**	**23 33 59.4**	**0.0**
RIY				*e*Sg	**Sn**	**23 34 17.2**	**+1.8**
OZLJ	**Ozalj**	**1.29**	**357**	*i* Pn	**Pg**	**23 34 00.2**	**+0.3**
OZLJ				Sn	**Sn**	**23 34 17.7**	**+1.6**
HVAR	**Hvar**	**1.31**	**151**	*e*Pg	**Pn**	**23 33 58.4**	**-0.8**
RICI	**Ricice**	**1.40**	**126**	iPn	**Pn**	**23 34 00.2**	**-0.2**
BRJN	**Brijuni**	**1.42**	**295**	*i* Pn	**Pg**	**23 34 02.3**	**0.0**
BRJN				Sn	**Sg**	**23 34 21.5**	**+0.6**
MAKA	**Makarska**	**1.48**	**134**	*e*Pn	**Pn**	**23 34 00.8**	**-0.6**
CRES	**Cresnjev**	**1.51**	**357**	⇓*i*Pg	**Pb**	**23 34 02.9**	**0.0**
CRES				*e*Sg	**Sg**	**23 34 23.7**	**+0.2**
ZAG	**Zagreb**	**1.53**	**11**	⇓*i*Pg	**Pb**	**23 34 03.7**	**+0.3**
ZAG				*e*Sg	**Sg**	**23 34 25.5**	**+1.1**
MOSL	**Moslavina**	**1.54**	**33**	*i* Pn	**Pn**	**23 34 02.8**	**+0.4**
MOSL				Sn	**Sn**	**23 34 22.3**	**0.0**
CEY	**Cerknica**	**1.63**	**331**	⇓*i*Pn	**Pb**	**23 34 05.3**	**+0.2**
CEY				*e*Sn	**Sg**	**23 34 26.8**	**-0.7**
DOB	**Doboj**	**1.86**	**76**	*e*Pn	**Pn**	**23 34 07.8**	**+1.1**
DOB				*e*Sn	**Sb**	**23 34 32.1**	**0.0**
LJU	**Ljubljana**	**1.87**	**337**	⇓*i*Pn	**Pb**	**23 34 09.1**	**-0.1**
LJU				*e*Sn	**Sb**	**23 34 32.5**	**0.0**
STON	**Ston**	**2.12**	**132**	*e*Pg	**Pb**	**23 34 13.1**	**-0.3**
STON				*e*Sg	**Sn**	**23 34 37.6**	**+1.1**
STON	**Ston**	**2.12**	**132**	⇓*i*Pn	**Pn**	**23 34 11.8**	**+1.5**
STON				*e*Sn	**Sn**	**23 34 38.4**	**+1.9**
OBKA	**Obir**	**2.30**	**342**	Pn	**Pb**	**23 34 15.7**	**-0.8**
	12nm,0.2s,SNR=55						
OBKA				Sn	**Sb**	**23 34 43.3**	**-1.7**
	101nm,0.4s						
BEHE	**Becsehely**	**2.31**	**21**	*e*Pn	**Pn**	**23 34 13.9**	**+1.0**
BEHE				*e*Sn	**Sn**	**23 34 43.0**	**+1.8**
BEHE	**Becsehely**	**2.31**	**21**	*e*Pn	**Pn**	**23 34 14.0**	**+1.1**
BEHE				Sn	**Sn**	**23 34 43.1**	**+1.8**
SOKA	**Soboth**	**2.39**	**351**	Pn	**Pn**	**23 34 15.8**	**+1.8**
	21nm,0.3s,SNR=72						
SOKA				Sn	**Sn**	**23 34 44.9**	**+1.7**
	14nm,0.5s						
HAPS	**Han Pijesak,Bl**	**2.44**	**94**	*e*Pn	**Pn**	**23 34 15.7**	**+0.9**
HAPS				*e*Sn	**Sn**	**23 34 47.0**	**+2.3**
AQU	**L'Aquila**	**2.52**	**220**	*e*Pn	**Pn**	**23 34 16.8**	**+0.9**
AQU				*e*Sn	**Sn**	**23 34 48.1**	**+1.5**
TREB	**Trebinje**	**2.58**	**127**	*e*Pg	**Pb**	**23 34 20.3**	**-1.0**
TREB				*e*Sg	**Sb**	**23 34 52.4**	**-0.6**
TREB	**Trebinje**	**2.58**	**127**	*e*Pn	**Pn**	**23 34 18.5**	**+1.9**
TREB				*e*Sn	**Sn**	**23 34 49.6**	**+1.6**
BRY	**Bratogost**	**2.58**	**122**	*e*Pn	**Pn**	**23 34 18.4**	**+1.6**
BBLS	**Lazići**	**2.80**	**98**	*e*Pn	**Pn**	**23 34 22.4**	**+2.7**
BBLS	**Lazići**	**2.80**	**98**	*e*Pn	**Pn**	**23 34 21.7**	**+2.0**
BBLS				*e*Sn	**Sn**	**23 34 54.9**	**+1.4**
HCY	**Herceg Novi**	**2.84**	**130**	*e*Pn	**Pn**	**23 34 22.0**	**+1.8**
MORH	**Mrgy, Hungar**	**2.88**	**48**	*e*Pn	**Pn**	**23 34 22.2**	**+1.5**
MORH				*e*Sn	**Sn**	**23 34 56.8**	**+1.5**
MORH	**Mrgy, Hungar**	**2.88**	**48**	*e*Pn	**Pg**	**23 34 30.0**	**-0.2**
MORH				Sn	**Sn**	**23 34 57.0**	**+1.8**
MORH				*e*Sg	**Sg**	**23 35 08.1**	**+0.5**
ARSA	**Arzberg**	**2.93**	**359**	Pn	**Pn**	**23 34 23.0**	**+1.6**
	7.6nm,0.2s,SNR=17						
ARSA				*e*Sn	**Sn**	**23 34 56.8**	**+0.3**
	5.0nm,0.4s						
TIH	**Tihany**	**3.05**	**32**	*e*Pn	**Pn**	**23 34 23.0**	**0.0**
TIH				Sn	**Sn**	**23 34 59.0**	**-0.4**
FRGS	**Fruska Gora**	**3.14**	**73**	*e*Pn	**Pb**	**23 34 28.0**	**-2.7**
FRGS	**Fruska Gora**	**3.14**	**73**	*e*Pn	**Pn**	**23 34 25.8**	**+1.5**
FRGS				*e*Sn	**Sn**	**23 35 03.4**	**+1.8**
MPLH	**Magyarpolny**	**3.17**	**25**	*e*Pn	**Pn**	**23 34 26.1**	**+1.4**
MPLH				Sn	**Sn**	**23 35 01.1**	**-1.2**
KBA	**Koelnbreinsper**	**3.17**	**331**	*i* Pn	**Pn**	**23 34 27.7**	**+2.8**
	0.8nm,0.2s						
KBA				*i* Sn	**Sn**	**23 35 06.0**	**+3.4**
	4.1nm,0.3s						
DIVS	**Divibare**	**3.19**	**92**	*e*Pn	**Pn**	**23 34 26.7**	**+1.6**
DIVS	**Divibare**	**3.19**	**92**	*e*Pn	**Pn**	**23 34 26.4**	**+1.3**
DIVS				*e*Sn	**Sn**	**23 35 04.1**	**+1.1**
ABTA	**Abfaltersbach**	**3.24**	**320**	*i* Pn	**Pn**	**23 34 27.6**	**+1.9**
	0.5nm,0.1s						
PDG	**Podgorica**	**3.29**	**124**	*e*Pg	**Pb**	**23 34 33.4**	**+0.1**
PDG				*e*Sg	**Sb**	**23 35 14.0**	**+0.8**
PDG	**Podgorica**	**3.29**	**124**	⇑P	**Pb**	**23 34 35.1**	**+1.9**
PDG				AML	AML	23 35 22.9	
SJES	**Sjenica**	**3.36**	**107**	*e*Sn	**Pn**	**23 34 29.8**	**+2.3**
SJES	**Sjenica**	**3.36**	**107**	*e*Pn	**Sn**	**23 35 05.8**	**-1.5**
IVAS	**Ivanjica**	**3.39**	**101**	*e*Pn	**Pn**	**23 34 29.8**	**+1.9**
DRME	**Dracevica, Mon**	**3.40**	**128**	*e*Pn	**Pn**	**23 34 29.3**	**+1.5**
DRME				*e*Sn	**Sn**	**23 35 09.2**	**+1.2**
SOP	**Sopron**	**3.43**	**11**	*e*Pn	**Pn**	**23 34 28.0**	**-0.3**
TRUS	**Trudelj**	**3.48**	**90**	*e*Pn	**Pn**	**23 34 31.0**	**+2.1**
CONA	**Conrad Observa**	**3.61**	**3**	*e*Pn	**Pn**	**23 34 32.6**	**+1.7**
	8.0nm,0.3s,SNR=39						
CONA				*i* Sn	**Sn**	**23 35 14.0**	**+0.5**
	7.1nm,0.4s						
MOA	**Molln**	**3.64**	**346**	*e*Pn	**Pn**	**23 34 33.9**	**+2.7**
	9.2nm,0.3s,SNR=32						
MOA				*e*Sn	**Sn**	**23 35 16.3**	**+2.2**
	40nm,0.6s						
GRUS	**Gruza**	**3.73**	**95**	*e*Pn	**Pn**	**23 34 35.4**	**+3.0**
MATE	**Matera**	**3.77**	**167**	⇑P	**Pg**	**23 34 45.7**	**-1.4**
MATE				AML	AML	23 35 48.6	
SRO	**Srobarova**	**3.98**	**28**	*e*PN	**Pn**	**23 34 36.9**	**+1.1**
WTTA	**Wattenberg**	**4.03**	**318**	*e*Pn	**Pn**	**23 34 39.8**	**+3.1**
	1.4nm,0.2s,SNR=5.7						
WTTA				*e*Sn	**Sn**	**23 35 28.6**	**+4.8**
	2.5nm,0.3s						
WATA	**Walderalm**	**4.11**	**319**	*e*Pn	**Pn**	**23 34 40.9**	**+3.2**
	1.5nm,0.2s,SNR=4.8						
WATA				*e*Sn	**Sn**	**23 35 30.3**	**+4.5**
	4.7nm,0.4s						
SELS	**Selova**	**4.17**	**103**	*e*Pn	**Pn**	**23 34 41.2**	**+2.7**
SQTA	**Sankt Quirin**	**4.21**	**315**	*i* Pn	**Pn**	**23 34 42.0**	**+3.0**
	1.1nm,0.2s						
MODS	**Modra-Piesok**	**4.22**	**16**	*e*PN	**Pn**	**23 34 38.9**	**-0.3**
MODS				*e*SN	**Sn**	**23 35 25.9**	**-2.5**
FETA	**Feichten**	**4.33**	**310**	*i* Pn	**Pn**	**23 34 43.3**	**+2.5**
	0.5nm,0.3s						
MOTA	**Moosalm**	**4.34**	**316**	*e*Pn	**Pn**	**23 34 43.8**	**+2.8**
	0.6nm,0.2s						
MOTA				Sn	**Sn**	**23 35 36.9**	**+5.3**
	1.4nm,0.2s						
SMOL	**Smolenice**	**4.39**	**16**	*e*PN	**Pn**	**23 34 42.9**	**+1.5**
SMOL				*e*SN	**Sn**	**23 35 31.4**	**-1.0**
BZS	**Buzias**	**4.48**	**71**	⇑P	**Pn**	**23 34 46.2**	**+3.5**
PSZ	**Piszkesteto**	**4.69**	**38**	*e*Pn	**Pn**	**23 34 45.1**	**-0.6**
PSZ				Sn	**Sn**	**23 35 37.1**	**-2.9**
VYHS	**Vyhne**	**4.75**	**27**	*e*PN	**Pn**	**23 34 47.1**	**+0.7**
VYHS				*e*SN	**Sn**	**23 35 40.6**	**-0.7**
JAVC	**Velka Javorina**	**4.76**	**17**	*e*PN	**Pn**	**23 34 48.3**	**+1.6**
KRUC	**Moravsky**	**4.78**	**7**	*e*PN	**Pn**	**23 34 48.0**	**+1.2**
KRUC				*e*SN	**Sn**	**23 35 40.3**	**-1.7**
DAVA	**Damuels**	**4.96**	**309**	*i* Pn	**Pn**	**23 34 53.1**	**+3.7**
	0.9nm,0.2s						
DAVA				*e*Sn	**Sn**	**23 35 51.9**	**+5.1**
	2.1nm,0.3s						
KHC	**Kasperske Hory**	**5.00**	**345**	*e*PN	**Pn**	**23 34 51.4**	**+1.5**
KHC				*ex*	x	23 34 57.5	
KHC				*e*SN	**Sn**	**23 35 47.2**	**-0.4**
VRAC	**Vranov**	**5.04**	**8**	⇓P	**Pn**	**23 34 51.7**	**+1.4**
VRAC	**Vranov**	**5.04**	**8**	*e*PN	**Pn**	**23 34 51.7**	**+1.4**
VRAC				*e*SN	**Sn**	**23 35 46.5**	**-2.0**
PGF	**Pioggiola**	**5.10**	**252**	*e*Pn	**Pn**	**23 34 51.7**	**+0.4**
PGF				*e*Sn	**Sn**	**23 35 48.7**	**-1.5**
	0.7nm,0.3s						
ZAPS	**Zavoj**	**5.22**	**99**	*e*Pn	**Pn**	**23 34 55.0**	**+2.1**
GZR	**Gura Zlata**	**5.24**	**76**	⇓P	**Pn**	**23 34 56.6**	**+3.4**
PBCC	**Pribram**	**5.47**	**349**	*e*PN	**Pn**	**23 34 57.6**	**+1.3**
PBCC				*e*SN	**Sn**	**23 35 58.7**	**-0.5**
LANS	**Liptovska Anna**	**5.52**	**28**	*e*PN	**Pn**	**23 34 59.6**	**+2.5**
GOPC	**GO Pecny, Ondr**	**5.62**	**355**	*e*PN	**Pn**	**23 34 59.8**	**+1.4**
GOPC				*e*SN	**Sn**	**23 36 02.2**	**-0.6**
MORC	**Moravsky Berou**	**5.62**	**13**	⇑P	**Pn**	**23 34 59.7**	**+1.3**
MORC	**Moravsky Berou**	**5.62**	**13**	*e*PN	**Pn**	**23 35 00.3**	**+1.9**
MORC				*e*SN	**Sn**	**23 36 02.0**	**-0.9**
PRU	**Pruhonice**	**5.71**	**353**	*e*PN	**Pn**	**23 35 01.3**	**+1.7**
PRU				*e*SN	**Sn**	**23 36 03.8**	**-1.2**
KRLC	**Kraliky**	**5.81**	**8**	*e*PN	**Pn**	**23 35 02.5**	**+1.8**
KRLC				*e*SN	**Sn**	**23 36 06.6**	**-1.1**
SBF	**Sospel**	**5.88**	**268**	*e*Pn	**Pn**	**23 35 02.3**	**+0.4**
SBF				*e*Sn	**Sn**	**23 36 06.5**	**-2.7**
	2.0nm,0.3s						
CHVC	**Chvalec**	**6.28**	**3**	*e*PN	**Pn**	**23 35 09.2**	**+1.8**
MBDF	**Montbardon**	**6.30**	**277**	*e*Pn	**Pn**	**23 35 07.7**	**-0.2**
MBDF				*e*Sn	**Sn**	**23 36 17.0**	**-2.8**
	0.8nm,0.3s						
LPG	**La Plagne**	**6.37**	**284**	*e*Pn	**Pn**	**23 35 09.4**	**+0.5**
LPG	**La Plagne**	**6.37**	**284**	*e*P	Pn	23 35 13.8	+4.9
LPG				*e*Sn	**Sn**	**23 36 18.5**	**-3.2**
	1.7nm,0.4s						
LPL	**La Plagne**	**6.39**	**284**	*e*Pn	**Pn**	**23 35 09.6**	**+0.5**
LPL	**La Plagne**	**6.39**	**284**	*e*P	Pn	23 35 14.1	+5.0
LPL				*e*Sn	**Sn**	**23 36 19.4**	**-2.6**
	2.2nm,0.4s						
FRF	**La Foret Royal**	**6.49**	**266**	*e*Pn	**Pn**	**23 35 10.5**	**+0.2**
FRF				*e*Sn	**Sn**	**23 36 20.3**	**-3.8**
	0.3nm,0.2s						
LMR	**La Mourre**	**6.63**	**265**	*e*Pn	**Pn**	**23 35 12.3**	**+0.1**
LMR				*e*Sn	**Sn**	**23 36 24.5**	**-3.1**
	0.7nm,0.3s						
ORIF	**Oris-en-Rattie**	**6.94**	**278**	*e*Pn	**Pn**	**23 35 16.8**	**+0.2**
ORIF	**Oris-en-Rattie**	**6.94**	**278**	*e*P	Pn	23 35 21.9	+5.3
ORIF				*e*Sn	**Sn**	**23 36 32.7**	**-2.8**
	2.0nm,0.4s						
HINF	**Hinteralfeld**	**7.00**	**303**	*e*Pn	**Pn**	**23 35 17.9**	**+0.6**
HINF				*e*Sn	**Sn**	**23 36 34.1**	**-2.6**
	0.9nm,0.3s						
CDF	**Champ du Feu**	**7.04**	**308**	*e*Pn	**Pn**	**23 35 18.5**	**+0.5**
CDF				*e*Sn	**Sn**	**23 36 34.6**	**-3.4**
	0.7nm,0.4s						
CABF	**La Chapelle**	**7.05**	**292**	*e*Pn	**Pn**	**23 35 18.8**	**+0.8**
SMRF	**Simiane la Rot**	**7.20**	**271**	*e*Pn	**Pn**	**23 35 20.3**	**+0.2**
SMRF				*e*Sn	**Sn**	**23 36 38.0**	**-3.7**
	0.3nm,0.2s						
CLL	**Collm**	**7.20**	**347**	*e*Pn	**Pn**	**23 35 24.0**	**+4.0**
CLL				*e*Sn	**Sn**	**23 36 39.0**	**-2.6**
CLL				*e*Sg	**Sg**	**23 37 21.0**	**-4.9**
	comp=Z,7.0nm,0.9s						
HAU	**Haudompre**	**7.38**	**303**	*e*Pn	**Pn**	**23 35 22.9**	**+0.3**
HAU				*e*Sn	**Sn**	**23 36 42.4**	**-3.9**
	comp=Z,0.9nm,0.2s						
VIVF	**Saint-Julien-l**	**7.80**	**278**	*e*Pn	**Pn**	**23 35 28.0**	**-0.3**
VIVF				*e*Sn	**Sn**	**23 36 52.7**	**-3.8**
	comp=Z,0.4nm,0.3s						
LASF	**Ste Croix**	**8.42**	**272**	*e*Pn	**Pn**	**23 35 36.6**	**-0.2**
LASF				*e*Sn	**Sn**	**23 37 07.8**	**-3.9**
	comp=Z,0.2nm,0.3s						
SMF	**Signal de Mont**	**8.56**	**290**	*e*Pn	**Pn**	**23 35 38.1**	**-0.6**
SMF				*e*Sn	**Sn**	**23 37 11.1**	**-4.1**
	comp=Z,0.9nm,0.3s						
LOR	**Lormes**	**8.70**	**294**	*e*Pn	**Pn**	**23 35 41.1**	**+0.5**
	baz=112						
LOR				*e*Sn	**Sn**	**23 37 14.4**	**-4.1**
	comp=Z,1.0nm,0.3s						
SSF	**Saint Saulge**	**8.88**	**292**	*e*Pn	**Pn**	**23 35 42.4**	**-0.6**
SSF				*e*Sn	**Sn**	**23 37 18.6**	**-4.3**
	comp=Z,0.3nm,0.3s						
AVF	**Avril sur Loir**	**8.92**	**290**	*e*Pn	**Pn**	**23 35 44.1**	**+0.5**
AVF				*e*Sn	**Sn**	**23 37 20.4**	**-3.6**
	comp=Z,0.2nm,0.2s						

*TIR **13** 23:40:46.8, 42°.14N×20°.71E, h2km, Md3.0/7*
*ISCJB **13** 23:40:48.9±0.3, 42°.15N±0'.01×20°.59E±0'.02, h5km±2km, Error ellipse: s-maj=2.0km s-min=1.8km az=41.0*
*SKO **13** 23:40:48.4, 42°.14N×20°.60E, h15km, M2.5, ML2.9*
*PRU **13** 23:40:48.4±0.0, 42°.03N×20°.54E, h0km*
*IDC **13** 23:40:49.6±2.5, 42°.20N×20°.59E, h0km, mb3.8/4, mb1 3.9/7, mb1mx3.6/35, mbtmp3.7/7, ML3.3/3, Error ellipse: s-maj=37.9km s-min=14.7km az=179.0*
*RHSSO **13** 23:40:49.7±0.6, 42°.15N×20°.65E, h5km, 3km, ML3.3/1*
*THE **13** 23:40:50.8, 42°.05N×20°.64E, h1km±4km, ML3.0/2, Error ellipse: s-maj=5.7km s-min=1.2km az=314.0*
*BEO **13** 23:40:50.0±0.3, 42°.08N×20°.64E, h12km±2km, ML2.9/18*
*LDG **13** 23:40:50.2±0.1, 42°.12N×20°.59E, h5km, Ml3.2/15, Error ellipse: s-maj=3.2km s-min=2.3km az=27.0*
*SIK **13** 23:40:50.4, 42°.09N×20°.66E, h18km, M2.9*

ISC 13 23:40:49.6±1.0, **42°.12N**±0'.02×**20°.59E**±0'.02, **h10**km±8km, **n164**, σ2=**36**/251, **21C-12D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.45**	**194**	P	**Pg**	**23 40 57.2**	**-1.2**
PHP				S	**Sg**	**23 41 03.5**	**-0.8**
PHP	**Peshkopia**	**0.45**	**194**	*i* PG	**Pg**	**23 40 57.1**	**-1.2**
PHP				*i* SG	**Sg**	**23 41 03.9**	**-0.4**
BCI	**Bajram Curri**	**0.46**	**303**	*i* PG	**Pg**	**23 40 58.0**	**-0.5**
BCI				*i* SG	**Sb**	**23 41 06.7**	**0.0**
SKO	**Skopje**	**0.65**	**103**	⇑*i*Pg	**Pg**	**23 41 01.7**	**-0.5**
SKO				*i* Sg	**Sb**	**23 41 11.6**	**-0.6**
SKO	**Skopje**	**0.65**	**103**	*e*Pg	**Pg**	**23 41 01.7**	**-0.5**
SKO				*e*Sg	**Sg**	**23 41 09.5**	**-1.2**
BEY	**Berane**	**0.91**	**326**	⇓*i*Pg	**Pg**	**23 41 03.6**	**-0.8**
TIR	**Tirane**	**0.94**	**215**	P	**Pg**	**23 41 07.3**	**-0.4**
TIR	**Tirane**	**0.94**	**215**	⇑*i*Pg	**Pg**	**23 41 07.3**	**-0.4**
TIR	**Tirane**	**0.94**	**215**	*e*Pg	**Pg**	**23 41 07.4**	**-0.3**
TIR	**Tirane**	**0.94**	**215**	*i* PG	**Pg**	**23 41 07.8**	**+0.1**
TIR				*i* SG	**Sn**	**23 41 22.1**	**-0.3**
ULC	**Ulcinj**	**1.01**	**262**	⇑*i*Pg	**Pg**	**23 41 08.5**	**-0.6**
PDG	**Podgorica**	**1.04**	**288**	⇑*i*Pg	**Pg**	**23 41 08.1**	**-1.5**
PDG				*i* Sg	**Sb**	**23 41 24.0**	**+0.7**
PDG	**Podgorica**	**1.04**	**288**	*e*Pg	**Pg**	**23 41 08.6**	**-0.9**
PDG				*e*Sg	**Sn**	**23 41 25.2**	**+0.4**
PDG	**Podgorica**	**1.04**	**288**	⇑*i*Pg	**Pg**	**23 41 08.0**	**-1.5**
PDG				*e*Sg	**Sb**	**23 41 24.1**	**+0.8**
PDG	**Podgorica**	**1.04**	**288**	⇓P	**Pg**	**23 41 08.7**	**-0.9**
PDG				AML	AML	23 41 33.6	
DRME	**Dracevica, Mon**	**1.05**	**274**	⇓*i*Pg	**Pg**	**23 41 08.3**	**-1.4**
DRME				*e*Sg	**Sb**	**23 41 24.3**	**+0.7**
BARS	**Barje**	**1.14**	**52**	*e*Pg	**Pn**	**23 41 11.9**	**+0.2**
BARS				*e*Sg	**Sn**	**23 41 27.1**	**-0.4**
SELS	**Selova**	**1.17**	**19**	*e*Pg	**Pg**	**23 41 11.9**	**-0.1**
SELS				*e*Sg	**Sn**	**23 41 28.2**	**+0.1**
SJES	**Sjenica**	**1.23**	**339**	*e*Pg	**Pb**	**23 41 12.9**	**-0.1**
SJES				*e*Sg	**Sn**	**23 41 30.0**	**+0.3**
STIP	**Stip**	**1.27**	**109**	*i* Pg	**Pg**	**23 41 15.0**	**+1.1**
STIP				*i* Sg	**Sn**	**23 41 35.8**	**+5.4**
BOSS	**Bosilegrad**	**1.45**	**74**	*e*Pg	**Pb**	**23 41 16.4**	**-0.3**
BOSS				*e*Sg	**Sg**	**23 41 35.6**	**-0.7**
FNA	**Florina**	**1.46**	**156**	P	**Pn**	**23 41 15.0**	**-1.1**
FNA				S	**Sn**	**23 41 35.6**	**+0.3**
	700nm,0.5s						
FNA	**Florina**	**1.46**	**156**	*e*Pg	**Pn**	**23 41 15.8**	**-0.3**
FNA				*i* Sg	**Sg**	**23 41 37.8**	**+1.3**
FNA	**Florina**	**1.46**	**156**	*i* PN	**Pn**	**23 41 15.9**	**-0.2**
FNA				*i* SN	**Sg**	**23 41 36.9**	**+0.4**
IVAS	**Ivanjica**	**1.49**	**348**	*e*Pg	**Pn**	**23 41 16.7**	**+0.2**
IVAS				*e*Sg	**Sg**	**23 41 39.8**	**+2.2**
HCY	**Herceg Novi**	**1.59**	**283**	*e*Pn	**Pn**	**23 41 18.1**	**+0.3**
HCY				*e*Sn	**Sb**	**23 41 40.1**	**+0.9**
VAY	**Valandovo**	**1.68**	**118**	*i* Pn	**Pn**	**23 41 19.5**	**+0.4**
VAY				*i* Sg	**Sg**	**23 41 44.2**	**+0.5**
VAY				*e*Lg	Lg	23 41 45.5	
	comp=N,93nm,0.6s						
VAY				*e*Lg	Lg	23 41 49.2	
	comp=E,97nm,0.5s						
BRY	**Bratogost**	**1.71**	**298**	*e*Pn	**Pn**	**23 41 20.5**	**+1.0**
BOVS	**Bovan**	**1.72**	**28**	*e*Pg	**Pb**	**23 41 21.7**	**+0.4**
BOVS				*e*Sg	**Sg**	**23 41 45.5**	**+0.5**
NEST	**Nestorio**	**1.74**	**168**	P	**Pn**	**23 41 20.5**	**+0.6**
RUDO	**Rudo**	**1.75**	**330**	*e*Pn	**Pn**	**23 41 20.3**	**+0.3**
RUDO				*e*Sn	**Sn**	**23 41 43.4**	**+1.1**
TREB	**Trebinje**	**1.76**	**291**	*e*Pg	**Pb**	**23 41 22.5**	**+0.5**
TREB				*e*Sg	**Sg**	**23 41 46.6**	**+0.4**
TREB	**Trebinje**	**1.76**	**291**	*e*Pn	**Pn**	**23 41 21.0**	**+0.8**
TREB				*e*Sn	**Sb**	**23 41 44.2**	**0.0**
GRUS	**Gruza**	**1.77**	**3**	*e*Pn	**Pn**	**23 41 20.6**	**+0.3**
GRG	**Griva**	**1.79**	**130**	P	**Pn**	**23 41 21.4**	**+0.8**
VLO	**Vlora**	**1.84**	**207**	*i* PN	**Pb**	**23 41 23.1**	**-0.3**
VLO				*i* SN	**Sg**	**23 41 52.5**	**+3.7**
TPE	**Tepelena**	**1.87**	**194**	*i* PN	**Pb**	**23 41 24.7**	**+0.8**
TPE				*i* SN	**Sg**	**23 41 52.7**	**+2.9**
ZAPS	**Zavoj**	**1.90**	**52**	*e*Pn	**Pn**	**23 41 22.2**	**+0.1**
ZAPS				*e*Sn	**Sn**	**23 41 46.1**	**0.0**
BBLS	**Lazići**	**1.95**	**334**	*e*Pn	**Pn**	**23 41 24.2**	**+1.4**
BBLS	**Lazići**	**1.95**	**334**	*e*Pn	**Pn**	**23 41 23.8**	**+1.0**
BBLS				*e*Sn	**Sn**	**23 41 47.9**	**+0.5**
PENT	**Pentalofos**	**1.97**	**168**	P	**Pn**	**23 41 24.3**	**+1.2**
KNT	**Kendrikon**	**1.98**	**118**	P	**Pn**	**23 41 23.8**	**+0.6**
KZN	**Kozani**	**2.02**

CSKK				Sn		Sn	23 43 15.0	+0.2
BRJN	**Brijuni**	**5.70**	**302**	*i* Pn		**Pn**	**23 42 16.4**	**+2.2**
CEY	**Cerknica**	**5.73**	**311**	*e*Pn		**Pn**	**23 42 15.0**	**+0.2**
VRI	**Vrincioaia**	**5.80**	**48**	⇑P		**Pn**	**23 42 17.0**	**+1.3**
PSZ	**Piszkesteto**	**5.82**	**355**	⇑P		**Pn**	**23 42 17.0**	**+1.0**
PSZ	**Piszkesteto**	**5.82**	**355**	*e*Pn		**Pn**	**23 42 15.1**	**-0.9**
PSZ				Sn		Sn	23 43 23.0	+0.2
SOKA	**Soboth**	**6.05**	**321**	*i* Pn		**Pn**	**23 42 20.3**	**+1.1**
	comp=E,1.0nm,0.2s							
OBKA	**Obir**	**6.17**	**317**	*e*Pn		**Pn**	**23 42 23.5**	**+2.8**
	comp=E,1.1nm,0.2s							
OBKA				*e*Sn		**Sn**	**23 43 35.8**	**+4.4**
	comp=E,5.8nm,0.5s							
TRPA	**Tarpa**	**6.17**	**12**	⇓P		**Pn**	**23 42 21.9**	**+1.2**
ARSA	**Arzberg**	**6.27**	**327**	*e*Pn		**Pn**	**23 42 23.4**	**+1.2**
	comp=E,1.4nm,0.2s							
ARSA				*e*Sn		**Sn**	**23 43 33.1**	**-0.8**
	comp=E,2.3nm,0.4s							
BURAR	**Bucovina Array**	**6.40**	**29**	⇑P		**Pn**	**23 42 26.2**	**+2.2**
VYHS	**Vyhne**	**6.49**	**350**	*e*PN		**Pn**	**23 42 27.0**	**+1.8**
VYHS				*e*SN		**Sn**	**23 43 37.1**	**-2.2**
MODS	**Modra-Piesok**	**6.68**	**341**	*e*PN		**Pn**	**23 42 28.0**	**+0.3**
MODS				*e*SN		**Sn**	**23 43 42.5**	**-1.3**
TLCR		**6.71**	**60**	⇓P		**Pn**	**23 42 30.6**	**+2.5**
MYKA	**Terra Mystica**	**6.71**	**315**	*e*Pn		**Pn**	**23 42 31.7**	**+3.4**
	comp=E,1.0nm,0.2s							
SMOL	**Smolenice**	**6.77**	**342**	*e*PN		**Pn**	**23 42 31.0**	**+2.0**
SMOL				*e*SN		**Sn**	**23 43 43.0**	**-3.1**
KBA	**Koelnbreinsper**	**7.16**	**316**	*e*Pn		**Pn**	**23 42 37.9**	**+3.3**
	comp=E,1.1nm,0.2s							
MOA	**Molln**	**7.27**	**324**	*e*Pn		**Pn**	**23 42 38.2**	**+2.3**
	comp=E,0.7nm,0.2s							
MOA				*e*Sn		**Sn**	**23 43 57.8**	**-0.8**
	comp=E,2.0nm,0.3s							
ABTA	**Abfaltersbach**	**7.40**	**311**	*i* Pn		**Pn**	**23 42 40.0**	**+2.2**
	comp=E,0.7nm,0.1s,SNR=5.8							
ABTA				Sn		**Sn**	**23 44 04.0**	**+2.2**
	comp=E,3.6nm,0.4s							
WTTA	**Wattenberg**	**8.19**	**312**	*e*Pn		**Pn**	**23 42 51.8**	**+3.2**
	comp=E,1.4nm,0.2s							
WTTA				*e*Sn		**Sn**	**23 44 24.0**	**+2.7**
	comp=E,4.8nm,0.5s							
WATA	**Walderalm**	**8.27**	**312**	*e*Pn		**Pn**	**23 42 53.5**	**+3.8**
	comp=E,1.3nm,0.2s							
GERES	**GERESS Array B**	**8.28**	**327**	Pn		**Pn**	**23 42 51.4**	**+1.6**
	comp=E,0.1nm,0.3s,baz=150,slow=14,SNR=6.4							
GERES				Sn		**Sn**	**23 44 20.8**	**-2.6**
	comp=E,0.1nm,0.3s,baz=144,slow=27,SNR=2.6							
SQTA	**Sankt Quirin**	**8.40**	**311**	*i* Pn		**Pn**	**23 42 55.4**	**+3.9**
	comp=E,1.3nm,0.2s							
SQTA				*e*Sn		**Sn**	**23 44 28.7**	**+2.2**
	comp=E,2.7nm,0.4s							
MOTA	**Moosalm**	**8.53**	**311**	*i* Sn		**Sn**	**23 44 33.6**	**+3.8**
	comp=E,4.2nm,0.4s							
KHC	**Kasperske Hory**	**8.56**	**327**	*e*PN		**Pn**	**23 42 54.8**	**+1.3**
KHC				*e*SN		**Sn**	**23 44 27.2**	**-2.9**
FETA	**Feichten**	**8.57**	**308**	*e*Pn		**Pn**	**23 42 58.6**	**+4.7**
	comp=E,0.5nm,0.3s							
FETA				*e*Sn		**Sn**	**23 44 30.7**	**-0.1**
	comp=E,1.9nm,0.5s							
PGF	**Pioggiola**	**8.60**	**277**	*e*Pn		**Pn**	**23 42 52.3**	**-1.9**
RETA	**Reutte**	**8.81**	**311**	*i* Pn		**Pn**	**23 43 00.8**	**+3.8**
	comp=E,0.3nm,0.2s							
RETA				*e*Sn		**Sn**	**23 44 40.9**	**+4.6**
	comp=E,1.6nm,0.3s							
DAVOX	**Davos/Dischmat**	**8.96**	**305**	Pn		**Pn**	**23 43 01.8**	**+2.6**
	comp=E,0.9nm,0.3s,baz=148,slow=19,SNR=8.9							
DAVOX				Sn		**Sn**	**23 44 43.0**	**+2.6**
	comp=E,0.4nm,0.3s,baz=170,slow=17,SNR=3.6							
DAVA	**Damuels**	**9.21**	**308**	*e*Pn		**Pn**	**23 43 06.1**	**+3.6**
	comp=E,0.6nm,0.2s							
SBF	**Sospel**	**9.80**	**285**	*e*Pn		**Pn**	**23 43 09.5**	**-1.1**
SBF	**Sospel**	**9.80**	**285**	*e*P		**Pn**	**23 43 14.5**	**+3.9**
SBF				*e*Sn		**Sn**	**23 44 52.9**	**-7.7**
	comp=E,0.6nm,0.2s							
FRF	**La Foret Royal**	**10.34**	**283**	*e*Pn		**Pn**	**23 43 17.5**	**-0.5**
FRF	**La Foret Royal**	**10.34**	**283**	*e*P		Pn	23 43 22.9	+4.9
FRF				*e*Sn		**Sn**	**23 45 06.1**	**-7.8**
	comp=E,1.4nm,0.5s							
MBDF	**Montbardon**	**10.38**	**289**	*e*Pn		**Pn**	**23 43 18.0**	**-0.7**
MBDF	**Montbardon**	**10.38**	**289**	*e*P		**Pn**	**23 43 22.9**	**+4.2**
MBDF				*e*Sn		**Sn**	**23 45 07.7**	**-7.5**
	comp=E,0.9nm,0.5s							
LMR	**La Mourre**	**10.43**	**281**	*e*P		**Pn**	**23 43 22.8**	**+3.6**
LPG	**La Plagne**	**10.56**	**293**	*e*Pn		**Pn**	**23 43 20.1**	**-1.1**
LPG				*e*Sn		**Sn**	**23 45 13.2**	**-6.4**
	comp=E,2.4nm,0.5s							
LPL	**La Plagne**	**10.57**	**293**	*e*Pn		**Pn**	**23 43 20.3**	**-1.0**
LPL				*e*Sn		**Sn**	**23 45 12.7**	**-7.2**
	comp=E,1.8nm,0.4s							
ORIF	**Oris-en-Rattie**	**11.04**	**290**	*e*Pn		**Pn**	**23 43 26.6**	**-1.0**
ORIF				*e*Sn		**Sn**	**23 45 24.1**	**-7.1**
	comp=E,1.3nm,0.4s							
SMRF	**Simiane la Rot**	**11.14**	**285**	*e*P		**Pn**	**23 43 32.7**	**+3.7**
SMRF				*e*Sn		**Sn**	**23 45 25.6**	**-8.1**
	comp=E,0.3nm,0.3s							
HINF	**Hinteralfeld**	**11.27**	**305**	*e*Pn		**Pn**	**23 43 29.3**	**-1.4**
HINF				*e*Sn		**Sn**	**23 45 29.4**	**-7.3**
	comp=E,1.6nm,0.5s							
CABF	**La Chapelle**	**11.31**	**298**	*e*P		**Pn**	**23 43 35.0**	**+3.8**
CABF				*e*Sn		**Sn**	**23 45 30.6**	**-7.1**
	comp=E,0.3nm,0.3s							
HAU	**Haudompre**	**11.66**	**305**	*e*P		**Pn**	**23 43 40.5**	**+4.5**
HAU				*e*Sn		**Sn**	**23 45 39.4**	**-6.7**
	comp=E,1.1nm,0.2s							
VIVF	**Saint-Julien-l**	**11.88**	**289**	*e*Pn		**Pn**	**23 43 38.2**	**-0.9**
VIVF	**Saint-Julien-l**	**11.88**	**289**	*e*P		Pn	23 43 44.3	+5.2
LOR	**Lormes**	**12.96**	**299**	*e*Pn		**Pn**	**23 43 52.0**	**-1.8**
LOR				*e*Sn		**Sn**	**23 46 09.8**	**-8.2**
	comp=E,1.3nm,0.3s							
SSF	**Saint Saulge**	**13.13**	**298**	*e*Pn		**Pn**	**23 43 53.9**	**-2.2**
SSF				*e*Sn		Sn	23 46 13.1	-9.1
	comp=E,1.1nm,0.5s							
GIVF	**Givet**	**13.52**	**312**	*e*Pn		**Pn**	**23 44 00.5**	**-0.9**
EKA	**Eskdalemuir Ar**	**20.37**	**319**	P		**P**	**23 45 26.2**	**+0.1**
	comp=E,2.4nm,0.8s,baz=118,slow=9.2,SNR=4.4							
ARCES	**ARCESS Array B**	**27.60**	**4**	P		**P**	**23 46 36.3**	**-0.4**
	comp=E,6.1nm,1.1s,baz=182,slow=11,SNR=3.1							
ZALV	**Zalesovo Beam**	**43.10**	**51**	P		**P**	**23 48 50.9**	**+1.2**
	comp=E,0.7nm,0.5s,baz=280,slow=9.2,SNR=5.1							
MKAR	**Makanchi Array**	**43.30**	**62**	P		**P**	**23 48 52.4**	**+1.0**
	comp=E,0.3nm,0.5s,baz=294,slow=7.7,SNR=4.3							

*IDC **13** 23:54:46.6±4.0,59.˚32S×24.˚38W,h0km,mb4.3/1, mb1 4.1/2,mb1mx3.7/19,mbtmp4.1/2,ML3.8/1,MS3.2/1, Ms1 3.1/1,ms1mx2.6/16,Error ellipse: s-maj=185.5km s-min=47.3km az=81.0*

ISC 13 23:54:45.0±1.7,**60.0°S**±0.˚2×**26.0°W**±0.˚5,**h16**km,**n9, σ1s91/12,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.89**	**153**	P	**P**	**23 57 55.8**	**-2.1**
VNA1				S	**Sn**	**00 00 12.6**	**+2.5**
VNA3	**Neumayer Olymp**	**13.04**	**156**	P	**P**	**23 57 57.7**	**-1.9**
VNA3				S	**Sn**	**00 00 12.0**	**-1.8**
VNA2	**Neumayer--Watz** baz=310,slow=15	**13.29**	**153**	P	**P**	**23 58 01.2**	**-1.2**
VNA2				S	**Sn**	**00 00 19.7**	**-0.1**
SNAA	**Sanae**	**14.88**	**151**	P	**P**	**23 58 22.0**	**+2.0**
SNAA				S	**Sn**	**00 00 58.6**	**0.0**
SNAA	**Sanae** 0.4nm,0.3s,baz=313,slow=15,SNR=36	**14.88**	**151**	Pn	**P**	**23 58 21.8**	**+1.8**
MAW	**Mawson** comp=Z,32nm,18.1s,baz=64,slow=36	**36.61**	**140**	LR	LR	00 16 30.6	
TORD	**Torodi Ar. Bea** 1.4nm,0.5s,baz=202,slow=5.7,SNR=15	**76.25**	**28**	P	**P**	**00 06 31.1**	**-1.4**
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=129,slow=2.4,SNR=3.4	**139.50**	**314**	PKP	**PKiKP**	**00 14 14.3**	**+2.1**
SONM	**Songino Array** 0.2nm,0.5s,baz=228,slow=3.1,SNR=4.0	**150.12**	**92**	PKPbc	**PKiKP**	**00 14 35.4**	**+0.6**

*IDC **14** 00:12:03.9±1.1,14.˚02N×56.˚90E,h0km,mb3.8/8, mb1 3.9/9,mb1mx3.6/41,mbtmp3.8/9,ML2.9/1,MS3.1/5, Ms1 3.1/5,ms1mx2.8/36,Error ellipse: s-maj=32.4km s-min=24.3km az=40.0*

*ISCJB **14** 00:12:04.8±0.7,14.˚30N±0.˚07×56.˚89E±0.˚08,h10km, mb3.8/8,MS3.0/4,Error ellipse: s-maj=13.1km s-min=7.7km az=140.9*

*NEIC **14** 00:12:05.2±2.0,14.˚07N±0.˚09×56.˚9E±0.˚1,h10km±1km, mb4.3/9*

*OMAN **14** 00:12:07.2±1.2,14.˚14N×56.˚73E,h30km,Error ellipse: s-maj=20.2km s-min=8.5km az=121.0*

ISC 14 00:12:06.4±1.0,**14.˚32N**±0.˚10×**56.˚92E**±0.˚09,**h10**km,**n38, σ1s32/29,mb4.0/13,MS2.9/4,Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra** SNR=11	**3.56**	**234**	P	Pn	00 12 54.1	-7.8
SOCY	**Socotra**	**3.56**	**234**		Pn	00 12 54.1	-7.8
SOCY					Sn	00 13 28.2	-16
DMTO	**DMTO** SNR=36	**3.87**	**331**	P	**Pn**	**00 13 07.0**	**+0.9**
DMTO				S	**Sn**	**00 13 50.7**	**-1.0**
SHAO	**Shalim** SNR=27	**3.89**	**341**	P	**Pn**	**00 13 06.7**	**+0.5**
SHAO				S	**Sn**	**00 13 50.0**	**-2.0**
RBK	**Rabkut** SNR=7.4	**4.11**	**321**	P	**Pn**	**00 13 10.1**	**+0.7**
RBK				S	**Sn**	**00 13 57.2**	**-0.3**
WHFO	**Wadi Hawf** SNR=19	**4.69**	**320**	P	**Pn**	**00 13 19.1**	**+1.7**
WBK	**Wadi Bani Khal** SNR=11	**8.47**	**13**	P	**Pn**	**00 14 11.4**	**+2.1**
WSAR	**Wadi Sarin** 0.1nm,0.3s,baz=107,slow=14,SNR=3.9	**9.02**	**10**	Pn	**Pn**	**00 14 18.2**	**+1.4**
WSAR				Sn	**Sn**	**00 15 55.4**	**-3.1**
	0.1nm,0.3s,baz=22,slow=9.3,SNR=2.2						
WSAR				LR	LR	00 17 37.4	
	comp=Z,196nm,20.1s,baz=202,slow=36						
UOSS	**Minazif**	**10.59**	**356**	Pn	**Pn**	**00 14 39.6**	**+1.3**
RAYN	**Ar Rayn**	**14.15**	**312**		**Pn**	**00 15 26.8**	**-0.3**
HRA	**Herat**	**20.55**	**13**	P	Pn	00 16 52.6	+4.9
H08N2	**Diego Garcia H** baz=325,slow=75,SNR=90	**24.82**	**145**	T	T	00 42 53.5	
H08N3	**Diego Garcia H** baz=325,slow=75,SNR=65	**24.83**	**145**	T	T	00 42 54.3	
H08N1	**Diego Garcia H** baz=325,slow=75,SNR=77	**24.84**	**145**	T	T	00 42 55.1	
EIL	**Elat** comp=Z,20nm,20.0s,baz=126,slow=36	**25.39**	**311**	LR	LR	00 27 16.4	
TARG	**Taragay, Kyrgy**	**32.77**	**30**	P	**P**	**00 18 39.6**	**-0.5**
TARG				IAmb	IAmb	00 18 46.0	
	comp=Z,2.3nm,0.8s						
KDJ	**Kajisay**	**32.78**	**28**	P	**P**	**00 18 40.5**	**+0.4**
KDJ				IAmb	IAmb	00 18 50.1	
	comp=Z,9.4nm,1.1s						
MKAR	**Makanchi Array** comp=Z,0.7nm,1.0s,baz=228,slow=12,SNR=1.8	**38.70**	**28**	P	**P**	**00 19 32.9**	**+2.3**
VTS	**Vitosha**	**40.43**	**321**	P	**P**	**00 19 45.9**	**+0.7**
CMAR	**Chiang Mai Arr** comp=Z,10nm,21.2s,baz=204,slow=34	**40.46**	**78**	LR	LR	00 34 41.2	
MLR	**Muntele Rosu**	**40.60**	**326**	P	**P**	**00 19 46.8**	**+0.3**
MLR				IAmb	IAmb	00 20 01.3	
	comp=Z,2.6nm,0.8s						
FNA	**Florina**	**40.64**	**317**	P	**P**	**00 19 47.5**	**+0.6**
FNA				IAmb	IAmb	00 20 04.3	
	comp=Z,4.5nm,1.1s						
AKASG	**Malin Array Be** comp=Z,0.8nm,0.6s,baz=143,slow=7.2,SNR=3.1	**42.65**	**334**	P	**P**	**00 20 03.8**	**+0.7**
ZALV	**Zalesovo Beam** comp=Z,46nm,18.6s,baz=52,slow=41	**45.20**	**23**	LR	LR	00 42 55.7	
FIA1	**FINESS Array S**	**52.02**	**342**	P	**P**	**00 21 16.6**	**+0.8**
FINES	**FINESS Array B** comp=Z,2.7nm,0.6s,baz=138,slow=8.7,SNR=23	**52.02**	**342**	P	**P**	**00 21 16.8**	**+0.9**
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.6s,baz=77,slow=6.0,SNR=7.6	**53.55**	**276**	P	**P**	**00 21 27.7**	**-0.3**
KONO	**Kongsberg**	**56.95**	**334**	P	**P**	**00 21 52.1**	**+0.3**
ARCES	**ARCESS Array B** comp=Z,3.0nm,0.9s,baz=134,slow=6.4,SNR=5.0	**58.60**	**348**	P	**P**	**00 22 04.9**	**+1.7**
ARE0	**ARCESS Array S**	**58.60**	**348**	P	**P**	**00 22 04.0**	**+0.8**
ESBB	**Sonseca Array**	**58.65**	**308**	P	**P**	**00 22 03.4**	**-0.7**
ESBB				IAmb	IAmb	00 22 21.8	
	comp=Z,3.8nm,1.1s						
ESDC	**Sonseca Array** comp=Z,0.4nm,0.5s,baz=88,slow=6.0,SNR=8.9	**58.65**	**308**	P	**P**	**00 22 03.5**	**-0.6**
KSRS	**Korea Array** comp=Z,15nm,19.3s,baz=10.0,slow=37	**66.42**	**55**	LR	LR	00 53 32.5	
H01W3	**Cape Leeuwin H** baz=302,slow=76,SNR=17	**73.05**	**134**	T	T	01 43 03.8	
H01W2	**Cape Leeuwin H** baz=302,slow=76,SNR=20	**73.05**	**134**	T	T	01 43 04.4	
H01W1	**Cape Leeuwin H** baz=302,slow=76,SNR=16	**73.06**	**134**	T	T	01 43 04.7	
WRA	**Warramunga Arr** comp=Z,0.5nm,0.7s,baz=296,slow=4.2,SNR=5.3	**83.38**	**112**	P	**P**	**00 24 33.0**	**-1.5**
ASAR	**Alice Springs** comp=Z,0.8nm,0.9s,baz=289,slow=4.7,SNR=6.0	**84.14**	**116**	P	**P**	**00 24 36.7**	**-1.6**

*NCEDC **14** 00:16:28.1±1.9,37.˚25N±0.˚03×122.˚17W±0.˚06,h12km±3km, Md2.9*

NEIC 14 00:16:27.2±2.0,**37.˚21N**±0.˚04×**122.˚28W**±0.˚06,**h17**km±3km, **Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JPSM		**0.05**	**259**		Pg	00 16 32.2	+1.9
JPSM					Sg	00 16 35.2	+2.8
JPC	**Peters Creek,**	**0.08**	**42**		Pg	00 16 31.9	+1.3
JHUM	**Huhtala Lane,**	**0.09**	**86**		Pg	00 16 30.3	-0.3
BGH	**Bear Gulch**	**0.14**	**341**		Pb	00 16 35.6	+4.2
JJRM	**Joaquin Road**	**0.15**	**26**		Pg	00 16 31.0	-0.3
JFP	**Foothills Park**	**0.17**	**26**		Pg	00 16 31.0	-0.6
JFP					Sg	00 16 33.2	-1.4
JRSC	**Jasper Ridge**	**0.20**	**10**		Pg	00 16 32.0	0.0
JRSC					Sg	00 16 34.6	-0.6
JSGM	**Saratoga Golf**	**0.20**	**68**		Pb	00 16 33.0	+0.6
JHPM	**Huddart Park**	**0.23**	**356**		Pb	00 16 33.1	+0.1
JUMM	**Mount Umunhum**	**0.31**	**99**		Pg	00 16 33.1	-0.8
OXMT	**Ox Mountain**	**0.31**	**339**		Pb	00 16 34.7	+0.4
OXMT					Sb	00 16 39.5	+0.4
SCCB	**Santa Clara Co**	**0.34**	**77**		Pg	00 16 33.6	-0.8
AMC	**Almaden**	**0.35**	**98**		Pg	00 16 33.6	-0.9
JTGM	**Trout Gulch Ro**	**0.37**	**119**		Pg	00 16 35.0	+0.1
JHLM	**Holstrom Ranch**	**0.37**	**105**		Pg	00 16 34.3	-0.7
JCPM	**Coyote Point**	**0.38**	**355**		Pb	00 16 35.4	-0.1
CYD1	**Coyote D'meter**	**0.38**	**23**		Pg	00 16 34.6	-0.5
JSTM	**Santa Teresa H**	**0.39**	**90**		Pg	00 16 34.3	-0.8
SAC	**San Andreas**	**0.39**	**344**		Pb	00 16 35.8	+0.2
JLAB	**Laurel Hill**	**0.44**	**97**		Pg	00 16 35.4	-0.8
CMJM	**Mission San Jo**	**0.45**	**46**		Pg	00 16 35.6	-0.7
JMGM	**Milagra Ridge**	**0.45**	**340**		Pb	00 16 37.0	+0.2
CALM	**Calaveras Res.**	**0.46**	**58**		Pg	00 16 35.5	-0.9
JELB	**Ellicott, Sant**	**0.46**	**128**		Pb	00 16 36.7	-0.1
C055	**Cottonwood Ave**	**0.47**	**17**		Pg	00 16 36.6	0.0
CNIC	**Niles Canyon**	**0.47**	**32**		Pg	00 16 36.3	-0.4
JSBM	**San Bruno Moun**	**0.48**	**349**		Pb	00 16 37.1	0.0
CCOB	**Coe Ranch Numb**	**0.49**	**84**		Pg	00 16 36.7	-0.3
CADM	**Anderson Res.**	**0.53**	**95**		Pg	00 16 36.8	-0.9
MOBB	**Monterey Bay O**	**0.53**	**170**		Pn	00 16 39.8	0.0
MHC	**Mount Hamilton**	**0.53**	**75**		Pg	00 16 37.1	-0.7
HLPM	**Lions Peak**	**0.55**	**108**		Pg	00 16 37.3	-0.8
CVLM	**Vallecito**	**0.55**	**40**		Pg	00 16 37.9	-0.2
CLCB	**Lake Chabot**	**0.56**	**18**		Pg	00 16 38.2	0.0
HCOM	**Corn Cob Canyo**	**0.56**	**125**		Pb	00 16 38.5	-0.1
CMLM	**Mount Lewis**	**0.57**	**62**		Pg	00 16 37.8	-0.8
CMCM	**Mills College**	**0.58**	**8**		Pg	00 16 38.8	+0.1
WENL	**Wente Vineyard**	**0.59**	**45**		Pg	00 16 38.4	-0.5
CYBM	**Yerba Buena Is**	**0.60**	**354**		Pb	00 16 39.5	+0.2
JPRM	**Presidio of Sa**	**0.60**	**345**		Pb	00 16 40.0	+0.7
ARN	**Arnold Ranch**	**0.61**	**77**		Pg	00 16 38.5	-0.9
HERM	**Elkhorn Road**	**0.61**	**132**		Pb	00 16 39.6	+0.1
HSPM	**Sheep**	**0.62**	**98**		Pg	00 16 38.7	-0.8
BGC	**Bolinger Road**	**0.63**	**16**		Pg	00 16 39.7	0.0
HTUM	**Tustin Road**	**0.64**	**126**		Pg	00 16 39.5	-0.3
ANZ	**Anzar Road**	**0.64**	**120**		Pg	00 16 39.2	-0.6
BRK	**Berkeley--Havi**	**0.66**	**1**		Pb	00 16 40.5	+0.2
BRK					Sg	00 16 48.7	-0.4
CDC	**Canada Road**	**0.66**	**106**		Pg	00 16 39.5	-0.7
BL67	**Building 67, L**	**0.67**	**2**		Pb	00 16 40.7	+0.3
BKS	**Berkeley--Byer**	**0.67**	**3**		Pb	00 16 40.5	+0.1
VAK	**Adit at Lawren**	**0.67**	**2**		Pb	00 16 40.7	+0.3
HMOM	**Monterey**	**0.67**	**154**		Pb	00 16 41.1	+0.6
CMMM	**Mount Mocho**	**0.68**	**68**		Pg	00 16 39.7	-0.8
CVPM	**Vollmer Peak**	**0.68**	**4**		Pb	00 16 40.8	+0.3
GHS	**Gilroy Hot Spr**	**0.68**	**99**		Pg	00 16 39.8	-0.7
OCR	**O'Connell Ranc**	**0.69**	**115**		Pg	00 16 40.2	-0.4
CRHM	**Round Hill Res**	**0.69**	**19**		Pb	00 16 41.3	+0.6
RFSB	**Richmond Field**	**0.71**	**357**		Pb	00 16 40.6	-0.4
CMOB	**Morgan Territo**	**0.71**	**32**		Pb	00 16 41.5	+0.3
BRIB	**Briones**	**0.72**	**8**		Pg	00 16 41.6	+0.3
HFEM	**San Felipe**	**0.74**	**107**		Pb	00 16 40.9	-0.8
CPMM	**Point Molate**	**0.74**	**352**		Pg	00 16 42.0	+0.2
CSPM	**San Pablo Ridg**	**0.75**	**358**		Pn	00 16 42.4	-0.5
FARB	**Farallon Islan**	**0.75**	**311**		Pn	00 16 42.6	-0.4
CRPB	**Russellman Par**	**0.76**	**23**		Pg	00 16 42.1	0.0
CPIM	**Pinole Ridge**	**0.78**	**4**		Pg	00 16 42.7	+0.2
FRP	**Fremont Peak**	**0.78**	**125**		Pb	00 16 41.6	-0.7
CBSNC	**Byron Hot Spri**	**0.79**	**40**		Pg	00 16 42.7	0.0
HERB	**Hercules**	**0.80**	**1**		Pg	00 16 43.2	+0.3
SAO	**San Andreas Ge**	**0.80**	**123**		Pb	00 16 42.0	-0.6
SAO	**San Andreas Ge**	**0.80**	**123**		Pb	00 16 42.5	-0.2
BDM	**Black Diamond**	**0.81**	**24**		Pg	00 16 43.3	+0.3
BSRM	**Salinas Radio**	**0.82**	**131**		Pb	00 16 42.7	-0.2
HPCM	**Pacheco Lake**	**0.82**	**100**		Pb	00 16 42.2	-0.7
PACP	**Pacheco Peak**	**0.82**	**104**		Pb	00 16 42.3	-0.7
BPCNC	**Pine Canyon**	**0.82**	**140**		Pg	00 16 43.5	+0.3
BVYM	**Vineyard**	**0.83**	**123**		Pb	00 16 42.7	-0.6
SLD	**San Luis Dam**	**0.86**	**99**		Pb	00 16 43.0	-0.6
BSLM	**Silva Ranch**	**0.86**	**120**		Pg	00 16 44.0	0.0
SFJWR	**San Luis Fatjo**	**0.90**	**100**		Pb	00 16 43.7	-0.6
BCGM	**Cienega Road**	**0.90**	**123**		Pb	00 16 44.3	-0.1
NLHM	**Lake Herman**	**0.92**	**7**		Pg	00 16 45.0	0.0
NOLM	**Olema**	**0.92**	**334**		Pg	00 16 45.0	-0.1
SCZ	**Santa Cruz**	**0.93**	**131**		Pb	00 16 44.5	-0.4
BHRM	**Hodges Ranch**	**0.95**	**120**		Pg	00 16 45.6	+0.1
BJOM	**Mount Johnson**	**0.97**	**126**		Pb	00 16 45.5	0.0
BJCM	**Johnson Can.**	**0.97**	**133**		Pb	00 16 45.4	-0.2
BLRM	**Lewis Ranch**	**0.97**	**124**		Pg	00 16 46.3	+0.2
NPRM	**Point Reyes**	**0.98**	**324**		Pg	00 16 46.5	+0.3
HAST	**Hastings Reser**	**1.01**	**144**		Pb	00 16 46.5	-0.1
BEHM	**Elkhorn Ranch**	**1.04**	**121**		Pn	00 16 46.9	-0.1
MCCM	**Marconi Confer**	**1.05**	**333**		Pb	00 16 46.9	0.0
MCCM	**Marconi Confer**	**1.05**	**333**		Pg	00 16 47.7	+0.2
BPOM	**Post Ranch**	**1.06**	**157**		Pn	00 16 47.3	+0.0
BCWM	**Chews Ridge**	**1.07**	**147**		Pg	00 16 47.7	+0.2
BSMM	**Soledad Missio**	**1.07**	**140**		Pn	00 16 47.6	+0.1
BEMM	**Emmet**	**1.10**	**120**		Pb	00 16 47.4	-0.3
CVS	**Carmenet Viney**	**1.14**	**353**		Pn	00 16 47.8	-0.6
BSGM	**Shirttail Gulc**	**1.15**	**134**		Pn	00 16 48.3	-0.1
BPIM	**Pinnacles**	**1.15**	**128**		Pn	00 16 47.9	-0.6
BAVM	**Antelope Valle**	**1.15**	**119**		Pn	00 16 48.2	-0.4
BAPM	**Anderson Peak**	**1.15**	**153**		Pb	00 16 49.1	+0.4
BBGB	**Big Mountain B**	**1.18**	**122**		Pb	00 16 49.1	-0.1
BBNM	**San Benito**	**1.19**	**125**		Pg	00 16 49.8	-0.4
NTYM	**Taylor**	**1.22**	**346**		Pn	00 16 49.5	+0.1
BRMM	**Rolling Bench**	**1.23**	**107**		Pg	00 16 50.4	-0.4
NAPC	**Atlas Peak**	**1.23**	**1**		Pb	00 16 50.1	+0.1
BMSM	**Mercy Hot Spri**	**1.31**	**114**		Pb	00 16 51.4	-0.1
MAC	**Mark West Spri**	**1.38**	**346**		Pn	00 16 51.2	-0.5
PCCM	**Crazy Canyon**	**1.44**	**141**		Pn	00 16 52.6	+0.2
NBPM	**Berryessa Peak**	**1.46**	**3**		Pn	00 16 53.2	+0.4
NMCNC	**Mill Creek, So**	**1.47**	**340**		Pn	00 16 52.6	-0.2
FTR	**Fort Ross**	**1.48**	**332**		Pn	00 16 53

EGS		**1.05**	**336**	*eP*		**Pg**	**00 54 25.0**	**0.0**
	baz=337								
EGS				*eS*		**Sb**	**00 54 39.6**	**+0.3**
	baz=337								
EHY	**Hungye**	**1.06**	**250**	*eP*		**Pg**	**00 54 25.0**	**-0.1**
	baz=248								
EHY				*eS*		**Sb**	**00 54 39.7**	**+0.2**
	baz=248								
TWE	**Neicheng**	**1.07**	**321**	*eP*		**Pg**	**00 54 25.3**	**-0.1**
	baz=322								
WHF	**Hehuan Shan**	**1.07**	**284**	*eP*		**Pg**	**00 54 25.1**	**-0.3**
	baz=284								
WHF				*eS*		**Sg**	**00 54 39.1**	**-0.3**
	baz=284								
ENTT	**Nioudou**	**1.08**	**315**	P		**Pg**	**00 54 25.6**	**+0.2**
	baz=315								
ENTT				*eS*		**Sg**	**00 54 39.5**	**+0.2**
	baz=315								
NNSH	**Datong**	**1.08**	**301**	P		**Pg**	**00 54 25.2**	**-0.3**
	baz=300								
NNSH				*eS*		**Sg**	**00 54 39.4**	**-0.2**
	baz=300								
NDT	**Datong Townshi**	**1.09**	**312**	*eP*		**Pg**	**00 54 25.3**	**-0.2**
	baz=312								
NDT				*eS*		**Sg**	**00 54 39.0**	**-0.7**
	baz=312								
NNS	**Nan Shan**	**1.09**	**301**	*eP*		**Pg**	**00 54 25.3**	**-0.4**
	baz=301								
NNS				*eS*		**Sg**	**00 54 39.9**	**-0.1**
	baz=301								
NTC	**Toucheng**	**1.10**	**332**	*eP*		**Pg**	**00 54 25.8**	**-0.1**
	baz=332								
NTC				*eS*		**Sb**	**00 54 41.1**	**+0.3**
	baz=332								
YULB	**Yu-li**	**1.12**	**245**	*eP*		**Pg**	**00 54 25.9**	**-0.4**
	baz=243								
YULB				*eS*		**Sg**	**00 54 40.2**	**-0.7**
	baz=243								
TWF1	**Yuli**	**1.14**	**243**	*eP*		**Pg**	**00 54 26.3**	**-0.4**
	baz=241								
TWF1				*eS*		**Sg**	**00 54 41.6**	**+0.1**
	baz=241								
VWDT	**VWDT**	**1.16**	**264**	*eP*		**Pg**	**00 54 26.3**	**-0.7**
	baz=263								
VWDT				*eS*		**Sg**	**00 54 41.8**	**-0.3**
	baz=263								
TWT	**Tachien**	**1.18**	**289**	P		**Pg**	**00 54 27.2**	**-0.2**
	baz=288								
TWT				*eS*		**Sb**	**00 54 43.3**	**0.0**
	baz=288								
TWB1	**Santiao Chiao**	**1.19**	**341**	*eP*		**Pg**	**00 54 27.2**	**-0.3**
	baz=343								
TWB1				*eS*		**Sb**	**00 54 43.8**	**+0.6**
	baz=343								
TDCB	**Techi**	**1.20**	**288**	*eP*		**Pg**	**00 54 27.2**	**-0.5**
	baz=288								
TDCB				*eS*		**Sg**	**00 54 42.9**	**-0.4**
	baz=288								
TIPB	**Shuangxi**	**1.21**	**334**	*eP*		**Pg**	**00 54 27.9**	**0.0**
	baz=335								
TIPB				*eS*		**Sg**	**00 54 43.5**	**-0.1**
	baz=335								
NWLT	**Wulai**	**1.21**	**318**	*eP*		**Pg**	**00 54 27.6**	**-0.5**
	baz=318								
NWLT				*eS*		**Sg**	**00 54 43.8**	**0.0**
	baz=318								
FULB	**Fuli**	**1.22**	**237**	*eP*		**Pg**	**00 54 26.9**	**-1.3**
	baz=235								
FULB				*eS*		**Sn**	**00 54 45.1**	**-0.1**
	baz=235								
YHNB	**Yeheng**	**1.22**	**310**	*eP*		**Pg**	**00 54 27.5**	**-0.7**
	baz=310								
YHNB				*eS*		**Sg**	**00 54 44.2**	**0.0**
	baz=310								
NSK	**Sanguang**	**1.24**	**310**	*eP*		**Pg**	**00 54 27.7**	**-0.9**
	baz=310								
NSK				*eS*		**Sg**	**00 54 44.1**	**-0.5**
	baz=310								
HATJ	**Hateruma jima**	**1.29**	**82**	S		**Sn**	**00 54 47.2**	**+0.3**
IRIF	**Iriomote-Funau**	**1.29**	**69**	P		**Pg**	**00 54 30.7**	**+1.1**
IRIF				*eS*		**Sn**	**00 54 48.3**	**+1.4**
NWF	**Wu-fen Shan**	**1.31**	**335**	*eP*		**Pn**	**00 54 29.2**	**-0.5**
	baz=335								
WFSB	**Wu-fen Shan**	**1.31**	**335**	*eP*		**Pn**	**00 54 28.3**	**-1.3**
	baz=335								
WFSB				*eS*		**Sn**	**00 54 47.5**	**0.0**
	baz=335								
TWA	**Mucha**	**1.33**	**326**	P		**Pn**	**00 54 29.6**	**-0.2**
	baz=326								
SSLB	**Suanglung**	**1.33**	**266**	*eP*		**Pn**	**00 54 29.9**	**0.0**
	baz=265								
SSLB				*eS*		**Sg**	**00 54 47.6**	**0.0**
	baz=265								
DPDB	**Guoxing**	**1.36**	**277**	P		**Pn**	**00 54 29.7**	**-0.6**
	baz=276								
DPDB				*eS*		**Sn**	**00 54 52.2**	**+3.5**
	baz=276								
TATO	**Taipei**	**1.37**	**323**	*eP*		**Pn**	**00 54 30.3**	**-0.1**
	baz=323								
TATO				*eS*		**Sb**	**00 54 48.4**	**-0.3**
	baz=323								
SMLT	**Sun Moon Lake**	**1.38**	**270**	*eP*		**Pn**	**00 54 30.8**	**+0.2**
	baz=269								
SMLT				*eS*		**Sb**	**00 54 48.3**	**-0.5**
	baz=269								
WHP	**Taichung City**	**1.39**	**287**	*eP*		**Pg**	**00 54 31.5**	**+0.1**
	baz=286								
WHP				*eS*		**Sn**	**00 54 50.2**	**+0.8**
	baz=286								
TYC	**Yuchr**	**1.42**	**271**	*eP*		**Pn**	**00 54 31.2**	**+0.3**
	baz=270								
TYC				*eS*		**Sg**	**00 54 53.6**	**+3.3**
	baz=270								
WHYT	**Xinyi Township**	**1.43**	**263**	*eP*		**Pb**	**00 54 31.9**	**0.0**
	baz=262								
ELDTW	**Lidau**	**1.45**	**242**	*eP*		**Pn**	**00 54 30.4**	**-1.1**
	baz=240								
YM01	**YM01**	**1.47**	**329**	*eP*		**Pb**	**00 54 32.7**	**+0.2**
	baz=329								
YM01				*eS*		**Sg**	**00 54 52.3**	**+0.2**
	baz=329								
LIOB	**Emei**	**1.48**	**301**	*eP*		**Pn**	**00 54 32.3**	**+0.5**
	baz=301								
LIOB				*eS*		**Sg**	**00 54 52.4**	**+0.1**
	baz=301								
NSTT	**Nanjuang**	**1.48**	**301**	*eP*		**Pn**	**00 54 32.3**	**+0.4**
	baz=300								
NSTT				*eS*		**Sn**	**00 54 50.8**	**-0.8**
	baz=300								
YM10	**YM10**	**1.48**	**329**	*eP*		**Pn**	**00 54 32.0**	**0.0**
	baz=329								
YM10				*eS*		**Sn**	**00 54 51.8**	**+0.1**
	baz=329								
JKRS	**Kuro-shima**	**1.51**	**76**	P		**Pg**	**00 54 34.8**	**+1.1**
JKRS				S		**Sg**	**00 54 53.5**	**+0.2**
JIJ	**Ishigaki jima**	**1.66**	**73**	P		**Pn**	**00 54 34.8**	**+0.5**
JIJ				*eS*		**Sn**	**00 54 55.0**	**-1.0**
TPUB	**Ta-pu**	**1.73**	**251**	*eP*		**Pn**	**00 54 35.3**	**0.0**
	baz=249								
TPUB				*eS*		**Sb**	**00 54 58.5**	**-0.3**
	baz=249								
CHN4	**Tsaushan**	**1.74**	**253**	*eP*		**Pb**	**00 54 37.1**	**0.0**
	baz=251								
CHN4				*eS*		**Sb**	**00 54 60.0**	**+0.7**
	baz=251								
SLGT	**Liugui**	**1.84**	**242**	*eS*		**Sg**	**00 55 03.4**	**-0.5**
	baz=240								
CHN1	**Nanshi**	**1.85**	**248**	*eS*		**Sb**	**00 55 01.9**	**-0.6**
	baz=247								
TWK	**Hsinying**	**1.86**	**251**	*eS*		**Sb**	**00 55 02.9**	**+0.2**
	baz=250								
SNST	**Tainan City**	**1.87**	**250**	*eS*		**Sb**	**00 55 02.9**	**0.0**
	baz=248								
JISG	**Ishigakijimahi**	**1.88**	**68**	P		**Pn**	**00 54 35.0**	**-2.3**
JISG				*eS*		**Sn**	**00 54 59.9**	**-1.4**
MASBT	**Mashibuluo**	**2.06**	**233**	*eP*		**Pn**	**00 54 40.6**	**+0.8**
	baz=231								
MASBT				*eS*		**Sb**	**00 55 08.1**	**-0.3**
	baz=231								

PRU 14 01:39:56.3±0.0,50.34N×18.86E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.61**	**101**	*eP*g	Pg	01 40 07.6	-0.5
OJC				*eP*g	Pg	01 40 07.6	-0.5
OJC				*eS*g	Sg	01 40 15.5	-0.5
OJC				*eS*g	Sg	01 40 15.5	-0.5
MORC	**Moravsky Berou**	**1.02**	**237**	*eP*G	Pg	01 40 16.0	+0.2
MORC				*eS*G	Sg	01 40 28.2	-0.8
LANS	**Liptovska Anna**	**1.25**	**161**	*eP*G	Pg	01 40 18.8	-1.5
LANS				*eS*G	Sg	01 40 35.3	-1.3
NIE	**Niedzica**	**1.31**	**134**	*eP*g	Pg	01 40 20.9	-0.5
NIE				*eP*g	Pg	01 40 20.9	-0.5
NIE				*eS*g	Sb	01 40 38.8	-0.4
NIE				*eS*g	Sb	01 40 38.8	-0.4
KRLC	**Kraliky**	**1.36**	**260**	*eP*G	Pg	01 40 21.1	-1.3
KRLC				*eS*G	Sg	01 40 39.3	-0.7
DPC	**Dobruska-Polom**	**1.63**	**271**	*eS*G	Sg	01 40 48.5	0.0
CHVC	**Chvalec**	**1.81**	**279**	*eS*G	Sb	01 40 53.6	+0.1
VYHS	**Vyhne**	**1.85**	**180**	*eP*N	Pn	01 40 29.3	0.0
VYHS				*eS*N	Sn	01 40 51.5	-1.8
KHC	**Kasperske Hory**	**3.63**	**253**	*eS*G	Sg	01 41 50.8	-2.2

IGQ **14** *01:41:12.2±0.7,3°S±3°×8°1W±°, h3km, Mjma5.1, ML5.8, MLv5.4*

MOS **14** *01:41:13.1±0.9,2°.86S×80°.61W, h39km, mb5.0/22, Error ellipse: s-maj=13.1km s-min=6.2km az=108.7*

VAO **14** *01:41:13.6±0.5,2°.99S×80°.31W, h10km, mb5.1*

IDC **14** *01:41:15.4±1.6,2°.80S×80°.57W, h46km±16km, mb4.4/23, mb1 4.6/29, mb1mx4.5/36, mbtmp4.7/29, ML3.4/4, MS4.0/16, Ms1 4.0/16, ms1mx3.9/26, Error ellipse: s-maj=18.2km s-min=8.9km az=63.0*

ISCJB **14** *01:41:16.0±0.4,2°.81S±0°.02×80°.54W±0°.03, h68km±3km, mb4.6/38, Error ellipse: s-maj=5.6km s-min=2.7km az=159.0*

NEIC **14** *01:41:16.5±1.4,2°.83S±0°.06×80°.59W±0°.09, h56km±5km, mb5.0/292*

GCMT **14** *01:41:17.5±0.3,2°.86S±0°.01×80°.93W±0°.02, h20km±1km, MW4.9/88, Moment Tensor Solution. s15,c17; s88,c115; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.04±.10; Mθθ1.68±.08; Mϕϕ-1.64±.09; Mrθ1.34±.21; Mrϕ-1.22±.07; Mθϕ0.28±.20; Best double couple: M0 2.45500×10^16 NP1:ϕ63.00000°, δ87.00000°, λ4.00000°. NP2: ϕ155.00000°, δ58.00000°, λ4.00000°. Principal axes: T 2.6280, Plg25.0000°, Azm14.0000°; N -0.3490, Plg58.0000°, Azm238.0000°; P -2.2810, Plg19.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 01:41:15.1±0.8,2°.87S±0°.05×80°.70W±0°.06, h44km±7km, n765,σ1°11/669, mb5.0/156, MS4.0/14, 7C-2D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORR	**Playas El Morr**	**0.42**	**58**	P	**Pn**	**01 41 23.6**	**-1.5**
MORR				S	**Sn**	**01 41 32.4**	**+0.2**
SALI	**Salinas**	**0.74**	**337**	P	**Pn**	**01 41 26.2**	**-3.1**
COHC	**Cochancay**	**1.50**	**74**	P	**Pn**	**01 41 38.5**	**-1.0**
GONZ	**Gonzanam**	**1.88**	**136**	P	**Pn**	**01 41 44.9**	**-0.2**
BOSC	**San Juan Bosco**	**2.22**	**97**	P	**Pn**	**01 41 51.2**	**+1.6**
ARIO	**Riobamba**	**2.33**	**59**	P	**Pn**	**01 41 51.1**	**-0.3**
ZUMB	**Zumba**	**2.51**	**142**	P	**Pn**	**01 41 54.4**	**+0.7**
ZUMB				S	**Sn**	**01 42 24.3**	**+1.1**
BMAS	**Trigal station**	**2.60**	**59**	P	**Pn**	**01 41 54.6**	**-0.5**
BPAT	**Tungurahua Vol**	**2.64**	**59**	P	**Pn**	**01 41 55.5**	**-0.1**
JAMA	**Jama**	**2.64**	**11**	P	**Pn**	**01 41 54.6**	**-0.7**
SAGO	**Sagoatoa**	**2.65**	**50**	P	**Pn**	**01 41 56.0**	**0.0**
BULB	**Ulba Tungurahu**	**2.69**	**58**	P	**Pn**	**01 41 56.4**	**0.0**
BRUN	**Tungurahua Vol**	**2.70**	**58**	P	**Pn**	**01 41 56.4**	**0.0**
PIS1	**Pisayambo**	**2.93**	**52**	P	**Pn**	**01 42 00.8**	**+1.1**
MAG1	**Magdalena**	**2.93**	**18**	P	**Pn**	**01 41 58.4**	**-0.9**
PISA	**Pisayambo**	**2.93**	**52**	P	**Pn**	**01 42 00.8**	**+1.1**
BNAS	**Cotopaxi Volca**	**3.11**	**45**	P	**Pn**	**01 42 03.8**	**+1.6**
BREF	**Cotopaxi Volca**	**3.14**	**46**	P	**Pn**	**01 42 04.3**	**+1.6**
BTAM	**Cotopaxi Volca**	**3.17**	**47**	P	**Pn**	**01 42 04.6**	**+1.5**
BVC2	**Cotopaxi Volca**	**3.17**	**46**	P	**Pn**	**01 42 04.7**	**+1.6**
VC1	**Cotopaxi 1**	**3.19**	**46**	P	**Pn**	**01 42 05.0**	**+1.7**
NINA	**Atacazo Ninahu**	**3.22**	**40**	P	**Pn**	**01 42 04.1**	**+0.3**
ANTG	**Antisana-Guama**	**3.39**	**46**	P	**Pn**	**01 42 07.2**	**+1.1**
ANTM	**Antisana-La Mi**	**3.39**	**47**	P	**Pn**	**01 42 07.1**	**+1.0**
TERV	**Terraza Guagua**	**3.40**	**38**	P	**Pn**	**01 42 06.4**	**+0.2**
GGPC	**Guagua Pichinc**	**3.40**	**38**	P	**Pn**	**01 42 06.3**	**+0.1**
ANTS	**Antisana-Sarah**	**3.46**	**47**	P	**Pn**	**01 42 08.2**	**+1.2**
YANA	**Yana**	**3.46**	**38**	P	**Pn**	**01 42 07.3**	**+0.2**
ANTI	**Antisana**	**3.49**	**47**	P	**Pn**	**01 42 09.1**	**+1.5**
PULU	**Pululahua**	**3.62**	**37**	P	**Pn**	**01 42 09.1**	**+0.1**
OTAV	**Otavalo**	**3.82**	**36**	P	**Pn**	**01 42 11.2**	**-0.6**
OTAV	**Otavalo**	**3.82**	**36**	*eP*	**Pn**	**01 42 11.6**	**-0.3**
OTAV	**Otavalo**	**3.82**	**36**	*eP*	**Pn**	**01 42 11.6**	**-0.3**
OTAV	**Otavalo**	**3.82**	**36**		**Pn**	**01 42 11.2**	**-0.6**
CUSE	**Cuicocha Este**	**3.90**	**36**	P	**Pn**	**01 42 13.1**	**0.0**
CUSW	**Cuicocha Oeste**	**3.92**	**37**	P	**Pn**	**01 42 13.6**	**+0.4**
CUIC	**Cuicocha-Domo**	**3.92**	**37**	P	**Pn**	**01 42 13.6**	**+0.3**
COTA	**Cotacachi**	**3.96**	**37**	P	**Pn**	**01 42 14.2**	**+0.2**
CAYA	**Cayambe**	**3.98**	**43**	P	**Pn**	**01 42 15.3**	**+1.1**
IMBA	**Imbabura, San**	**4.00**	**39**	P	**Pn**	**01 42 16.2**	**+1.8**
URCU	**Urcuqui**	**4.09**	**37**	P	**Pn**	**01 42 16.6**	**+1.0**
YAHU	**Yahuarcocha**	**4.15**	**39**	P	**Pn**	**01 42 17.4**	**+0.9**
CASC	**Dorado de Casc**	**4.49**	**48**	P	**Pn**	**01 42 21.7**	**+0.9**
TULM	**Tulcn-Chalpat**	**4.60**	**39**	P	**Pn**	**01 42 23.3**	**+0.7**
ATAH	**Atahualpa**	**4.82**	**152**	P	**Pn**	**01 42 26.8**	**+1.2**
	15nm,0.3s,baz=324,slow=10,SNR=57						
ATAH				S	**Sn**	**01 43 21.4**	**+1.0**
	43nm,0.3s,baz=153,slow=20,SNR=5.9						
CRUC	**La Cruz**	**5.79**	**40**	*eP*	**Pn**	**01 42 38.8**	**-0.1**
CRUC	La Cruz	5.79	40	*eP*	**Pn**	**01 42 38.8**	**-0.1**
BBAC	**Balboa, Cauca**	**5.96**	**35**	*eP*	**Pn**	**01 42 40.1**	**-0.9**
BBAC	**Balboa, Cauca**	**5.96**	**35**	*eP*	**Pn**	**01 42 40.1**	**-0.9**
SOTA	**Rioblanco**	**6.44**	**39**	*eP*	**Pn**	**01 42 47.7**	**-0.2**
SOTA	**Rioblanco**	**6.44**	**39**	*eP*	**Pn**	**01 42 47.7**	**-0.2**
PTLC	**Puerto Leguiza**	**6.63**	**63**	*eP*	**Pn**	**01 42 47.9**	**-2.2**
PTLC	**Puerto Leguiza**	**6.63**	**63**	*eP*	**Pn**	**01 42 47.9**	**-2.2**
FLOC	**Florencia**	**6.71**	**49**	*eP*	**Pn**	**01 42 50.6**	**-0.6**
FLOC	**Florencia**	**6.71**	**49**	*eP*	**Pn**	**01 42 50.6**	**-0.6**
PCON	**Cinco Dias**	**6.72**	**40**	*eP*	**Pn**	**01 42 52.1**	**+0.3**
PCON	**Cinco Dias**	**6.72**	**40**	*eP*	**Pn**	**01 42 52.1**	**+0.3**
MALC	**Bahia Malaga**	**7.62**	**26**	*eP*	**Pn**	**01 43 05.3**	**+1.6**
MALC	**Bahia Malaga**	**7.62**	**26**	*eP*	**Pn**	**01 43 05.3**	**+1.6**
YOTC	**Yotoco, Valle**	**8.08**	**33**	*eP*	**Pn**	**01 43 06.3**	**-3.8**
YOTC	**Yotoco, Valle**	**8.08**	**33**	*eP*	**Pn**	**01 43 06.3**	**-3.8**
MACC	**Macarena, Meta**	**8.47**	**54**	*eP*	**Pn**	**01 43 13.8**	**-1.5**
MACC	**Macarena, Meta**	**8.47**	**54**	*eP*	**Pn**	**01 43 13.8**	**-1.5**
ORTC	**Ortega, Tolima**	**8.66**	**39**	*eP*	**Pn**	**01 43 15.0**	**-3.0**
ORTC	**Ortega, Tolima**	**8.66**	**39**	*eP*	**Pn**	**01 43 15.0**	**-3.0**
PRAC	**Prado**	**8.75**	**42**	*eP*	**Pn**	**01 43 16.0**	**-3.2**
PRAC	**Prado**	**8.75**	**42**	*eP*	**Pn**	**01 43 16.0**	**-3.2**
PLMC	**San Jos del P**	**8.89**	**30**	*eP*	Pn	01 43 15.6	-5.6
PLMC	**San Jos del P**	**8.89**	**30**	*eP*	Pn	01 43 15.6	-5.6
RREF	**El Recreo**	**9.39**	**35**	*eP*	**Pn**	**01 43 26.8**	**-1.7**
RREF	**El Recreo**	**9.39**	**35**	*eP*	**Pn**	**01 43 26.8**	**-1.7**
GUY2C	**Guyana, Caldas**	**9.64**	**34**	*eP*	**Pn**	**01 43 27.1**	**-4.8**
GUY2C	**Guyana, Caldas**	**9.64**	**34**	*eP*	**Pn**	**01 43 27.1**	**-4.8**
PAYG	**Puerto Ayora**	**9.83**	**283**		**Pn**	**01 43 34.7**	**+0.7**
NNA	**Nana**	**9.83**	**157**	*i* P	**Pn**	**01 43 33.9**	**-0.1**
NNA	**Nana**	**9.83**	**157**	P	**Pn**	**01 43 33.0**	**-1.0**
	24nm,0.3s,baz=312,slow=11,SNR=34						
NNA				S	Sn	01 45 13.0	-10
	3.3nm,0.3s,baz=339,slow=14,SNR=2.6						
NNA				LR	LR	01 47 58.8	
	comp=Z,939nm,18.2s,baz=312,slow=41						
NNA	**Nana**	**9.83**	**157**		**Pn**	**01 43 33.3**	**-0.7**
VILC	**Villavicencio,**	**9.85**	**45**	*eP*	**Pn**	**01 43 34.0**	**-0.4**
VILC	**Villavicencio,**	**9.85**	**45**	*eP*	**Pn**	**01 43 34.0**	**-0.4**
CBOC	**Ciudad Bolivar**	**9.86**	**28**	*eP*	**Pn**	**01 43 30.5**	**-4.0**
CBOC	**Ciudad Bolivar**	**9.86**	**28**	*eP*	**Pn**	**01 43 30.5**	**-4.0**
ROSC	**El Rosal**	**9.96**	**40**	P	**Pn**	**01 43 33.4**	**-2.7**
	2.4nm,0.3s,baz=100,slow=10,SNR=5.1						
ROSC				LR	LR	01 47 55.9	
	comp=Z,3μm,20.2s,baz=220,slow=41						
ROSC	**El Rosal**	**9.96**	**40**		**Pn**	**01 43 34.7**	**-1.4**
CHIC	**Chingaza**	**10.20**	**43**	*eP*	**Pn**	**01 43 37.1**	**-2.3**
CHIC	**Chingaza**	**10.20**	**43**	*eP*	**Pn**	**01 43 37.1**	**-2.3**
NORC	**Norcasia**	**10.20**	**35**	*eP*	Pn	01 43 33.6	-5.5
NORC	**Norcasia**	**10.20**	**35**	*eP*	Pn	01 43 33.6	-5.5
HELC	**Santa Helena**	**10.38**	**30**	*eP*	Pn	01 43 48.6	+6.8
HELC	**Santa Helena**	**10.38**	**30**	*eP*	Pn	01 43 48.6	+6.8
SPBC	**San Pablo de B**	**10.74**	**38**	*eP*	**Pn**	**01 43 42.5**	**-4.1**
SPBC	**San Pablo de B**	**10.74**	**38**	*eP*	**Pn**	**01 43 42.5**	**-4.1**
PTBC	**PUERTO BERRIO,**	**11.23**	**34**	*eP*	**Pn**	**01 43 52.6**	**-0.6**
PTBC	**PUERTO BERRIO,**	**11.23**	**34**	*eP*	**Pn**	**01 43 52.6**	**-0.6**
RUSC	**La Rusia**	**11.56**	**41**	*eP*	**Pn**	**01 43 59.6**	**+1.5**
RUSC	**La Rusia**	**11.56**	**41**	*eP*	**Pn**	**01 43 59.6**	**+1.5**
UREC	**San Jos de Ur**	**11.74**	**26**	*eP*	**Pn**	**01 44 00.2**	**0.0**
UREC	**San Jos de Ur**	**11.74**	**26**	*eP*	**Pn**	**01 44 00.2**	**0.0**
ZARC	**Zaragoza, Cauc**	**11.83**	**29**	*eP*	**Pn**	**01 44 02.3**	**+1.0**
ZARC	**Zaragoza, Cauc**	**11.83**	**29**	*eP*	**Pn**	**01 44 02.3**	**+1.0**
BCIP	**Isla Barro Col**	**11.99**	**4**	*eP*	**Pn**	**01 44 05.1**	**+1.5**
BCIP	**Isla Barro Col**	**11.99**	**4**	*eP*	**Pn**	**01 44 05.1**	**+1.5**
BCIP	**Isla Barro Col**	**11.99**	**4**	P	**Pn**	**01 44 03.1**	**-0.4**
BCIP	**Isla Barro Col**	**11.99**	**4**		**Pn**	**01 44 03.1**	**-0.4**
HDC	**Heredia**	**13.23**	**345**	Pn	**Pn**	**01 44 20.3**	**-0.4**
OCAC	**Ocana**	**13.26**	**34**	*eP*	**Pn**	**01 44 20.5**	**-0.6**
OCAC	**Ocana**	**13.26**	**34**	*eP*	**Pn**	**01 44 20.5**	**-0.6**
SMLC	**San Martn de**	**13.34**	**30**	*eP*	**Pn**	**01 44 22.0**	**0.0**
SMLC	**San Martn de**	**13.34**	**30**	*eP*	**Pn**	**01 44 22.0**	**0.0**
JTS	**Las Juntas de**	**13.74**	**342**	*ce*P	**Pn**	**01 44 29.0**	**+1.5**
JTS	**Las Juntas de**	**13.74**	**342**	P	**Pn**	**01 44 27.2**	**-0.3**
	0.4nm,0.3s,baz=214,slow=6.1,SNR=22						
JTS				LR	LR	01 48 47.6	
	comp=Z,1μm,21.4s,baz=225,slow=33						
JTS	**Las Juntas de**	**13.74**	**342**		**Pn**	**01 44 28.3**	**+0.7**
SJCC	**San Jacinto, C**	**13.82**	**23**	*eP*	**Pn**	**01 44 28.8**	**+0.1**
SJCC	**San Jacinto, C**	**13.82**	**23**	*eP*	**Pn**	**01 44 28.8**	**+0.1**
ESPN	**Las Esperanzas**	**15.39**	**347**		**Pn**	**01 44 49.8**	**+0.4**
ESPN				IAmb	IAmb	01 44 57.4	
	comp=Z,83nm,1.1s						
SDV	**Santo Domingo**	**15.40**	**41**	P	**Pn**	**01 44 46.4**	**-3.3**
	comp=Z,0.4nm,0.3s,baz=218,slow=12,SNR=3.7						
SDV				LR	LR	01 51 29.5	
	comp=Z,778nm,21.4s,baz=224,slow=40						
SDV	**Santo Domingo**	**15.40**	**41**	*eP*	**Pn**	**01 44 48.7**	**-1.0**
SDV	**Santo Domingo**	**15.40**	**41**	*eP*	**Pn**	**01 44 48.7**	**-1.0**
SDV	**Santo Domingo**	**15.40**	**41**		**Pn**	**01 44 48.8**	**-1.0**
ACON	**Acoyapa**	**15.40**	**343**		**Pn**	**01 44 50.0**	**+0.4**
ACON				IAmb	IAmb	01 44 56.5	
	comp=Z,80nm,1.0s						
ESTN	**Estel**	**16.84**	**341**	Pn	**Pn**	**01 45 08.5**	**+0.6**
ESTN				IAmb	IAmb	01 45 13.1	
	comp=Z,118nm,0.9s						
TGUH	**Tegucigalpa,Un**	**18.04**	**339**		**P**	**01 45 23.8**	**+1.0**
TGUH				IAmb	IAmb	01 45 28.9	
	comp=Z,111nm,1.1s						
LPAZ	**La Paz**	**18.18**	**138**	P	**P**	**01 45 23.5**	**-1.4**
LPAZ				pmax	pmax		
	comp=Z,34nm,0.7s						
LPAZ	**La Paz**	**18.18**	**138**	P	**P**	**01 45 23.0**	**-1.9**
	comp=Z,2.5nm,0.3s,baz=335,slow=11,SNR=65						
LPAZ				LR	LR	01 53 46.8	
	comp=Z,1μm,21.9s,baz=301,slow=41						
LPAZ	**La Paz**	**18.18**	**138**	*eP*	**P**	**01 45 22.8**	**-2.2**
LPAZ	**La Paz**	**18.18**	**138**	*eP*	**P**	**01 45 22.8**	**-2.2**
LPAZ	**La Paz**	**18.18**	**138**		**P**	**01 45 23.5**	**-1.4**
SAML	**Samuel**	**18.43**	**110**	P	**P**	**01 45 25.2**	**-1.9**
SAML				pmax	pmax		
	comp=Z,210nm,1.0s						
SAML	**Samuel**	**18.43**	**110**	*eP*	**P**	**01 45 24.3**	**-2.8**
SAML	**Samuel**	**18.43**	**110**	*eP*	**P**	**01 45 24.3**	**-2.8**
SAML	**Samuel**	**18.43**	**110**	P	**P**	**01 45 25.2**	**-1.9**
MNMC	**Minye Minye**	**19.47**	**147**	P	**P**	**01 45 38.9**	**+0.2**
MNMC				IAmb	IAmb	01 45 42.5	
	comp=Z,51nm,0.8s						
PB11	**IPOC Station P**	**19.95**	**148**	P	**P**	**01 45 43.7**	**-0.2**
PB11				IAmb	IAmb	01 45 47.7	
	comp=Z,82nm,0.8s						
GO01	**Chusmiza**	**20.13**	**147**	P	**P**	**01 45 46.9**	**+0.9**
APG	**El Apazote**	**20.22**	**332**	P	**P**	**01 45 47.4**	**+0.6**
	comp=Z,35nm,0.9s,baz=166,slow=6.5,SNR=14						
PCRV	**Puerto La Cruz**	**20.59**	**51**	P	**P**	**01 45 50.7**	**0.0**
	comp=Z,16nm,0.5s,baz=208,slow=14,SNR=8.6						
PLCV	**Puerto La Cruz**	**20.61**	**51**	P	**P**	**01 45 50.7**	**-0.2**

IPMB Ipameri, GO 35.20 118 eP P 01 48 04.7 -0.8
IPMB Ipameri, GO 35.20 118 eP P 01 48 04.7 -0.8
155A Kite 35.34 357 P P 01 48 06.4 +0.1
baz=177
157A Early Branch 35.36 360 P P 01 48 07.3 +0.8
baz=179
154A Montrose 35.36 356 P P 01 48 06.8 +0.3
baz=176
152A Waverly Hall 35.55 354 P P 01 48 08.0 -0.2
baz=173,SNR=5.8
152A Waverly Hall 35.55 354 IAmb IAmb 01 48 08.7
comp=Z,32nm,1.1s
CSU Charleston Sou 35.67 1 P P 01 48 08.8 -0.3
HKT Hockley 35.70 337 P P 01 48 10.7 +1.3
HKT pmax pmax
comp=Z,5.0nm,1.1s
HKT Hockley 35.70 337 P P 01 48 10.7 +1.3
NHSC New Hope 35.79 1 P P 01 48 10.6 +0.4
baz=181,SNR=7.9
Z55A Blythe 35.92 358 P P 01 48 11.5 +0.2
baz=177
Z59A Georgetown, SC 35.94 2 P P 01 48 11.7 +0.3
baz=182
Z54A Sparta 35.97 357 P P 01 48 11.3 -0.4
baz=176,SNR=6.7
Z57A Bowman 35.97 360 P P 01 48 11.7 -0.1
baz=180
Z56A Williston 36.01 359 P P 01 48 12.2 +0.2
baz=179
Z58A St. Stephen 36.02 1 P P 01 48 12.4 +0.3
baz=181,SNR=9.4
Z52A Williamson 36.04 355 P P 01 48 12.3 0.0
baz=174,SNR=8.1
Z53A Monticello 36.06 356 P P 01 48 12.2 -0.2
baz=175,SNR=6.1
BB19B Bebedouro 36.16 123 eP P 01 48 12.8 -0.8
BB19B Bebedouro 36.16 123 eP P 01 48 12.8 -0.8
GOGA Godfrey 36.18 356 P P 01 48 13.2 -0.3
baz=175,SNR=6.6
GOGA Godfrey 36.18 356 IAmb IAmb 01 48 14.0
comp=Z,20nm,1.0s
LRAL Lakeview Retre 36.20 351 P P 01 48 13.6 -0.2
baz=169,SNR=13
LRAL Lakeview Retre 36.20 351 P P 01 48 13.1 -0.6
Z51A Franklin 36.24 354 P P 01 48 14.1 +0.1
baz=172
Z50A Ashland 36.27 353 P P 01 48 13.9 -0.4
baz=171,SNR=7.2
Z50A Ashland 36.27 353 IAmb IAmb 01 48 14.4
comp=Z,14nm,0.8s
ITAB Concordia 36.52 134 eP P 01 48 16.0 -0.5
ITAB Concordia 36.52 134 eP P 01 48 16.0 -0.5
Y54A Tignall 36.58 357 P P 01 48 16.7 -0.3
baz=176,SNR=7.0
Y58A Scranton 36.59 1 P P 01 48 16.9 -0.1
baz=182
Y55A Saluda 36.63 358 P P 01 48 17.3 -0.1
baz=178,SNR=8.6
Y53A Monroe 36.63 356 P P 01 48 17.2 -0.1
baz=175,SNR=7.7
Y57A Sumter 36.69 0 P P 01 48 17.5 -0.3
baz=180
Y59A Loris 36.70 3 P P 01 48 18.1 +0.1
baz=183,SNR=9.7
Y59A Loris 36.70 3 P P 01 48 17.9 -0.1
Y60A Bolivia 36.75 3 P P 01 48 18.5 +0.1
baz=184,SNR=8.9
Y51A Rockmart 36.80 354 P P 01 48 18.5 -0.3
baz=173,SNR=8.1
NATX Nacogdoches 36.91 340 P P 01 48 20.8 +1.0
baz=156
NATX Nacogdoches 36.91 340 IAmb IAmb 01 48 21.6
comp=Z,32nm,1.1s
Y49A Blount Mountai 36.93 352 P P 01 48 19.2 -0.7
baz=170
HODGE Hodges 36.93 358 IAmb IAmb 01 48 20.6
comp=Z,28nm,1.1s
JSC Jenkinsville 36.96 359 IAmb IAmb 01 48 20.9
comp=Z,22nm,1.1s
PMNB Patos De Minas 36.98 117 eP P 01 48 20.0 -0.6
PMNB Patos De Minas 36.98 117 eP P 01 48 20.0 -0.6
435B Jarrell 37.14 336 P P 01 48 23.1 +1.4
baz=151
435B Jarrell 37.14 336 IAmb IAmb 01 48 23.9
comp=Z,23nm,0.8s
X55A Gracelyn & Ava 37.15 359 P P 01 48 21.5 -0.3
baz=178,SNR=12
X56A White Oak 37.17 360 P P 01 48 21.8 -0.1
baz=179,SNR=13
X53A Estanollee 37.26 356 P P 01 48 22.3 -0.4
baz=176
X59A McDuffie Farm, 37.30 3 P P 01 48 23.1 +0.1
baz=183
BIRD Birdtown, Kers 37.32 0 IAmb IAmb 01 48 23.7
comp=Z,24nm,1.1s
X60A Albert Glenn T 37.34 4 P P 01 48 23.2 -0.1
baz=184
X52A Dahlonega 37.40 356 P P 01 48 23.5 -0.4
baz=175,SNR=5.1
GO06 Curarrehue 37.49 168 P P 01 48 24.8 0.0
GO06 IAmb IAmb 01 48 25.5
comp=Z,11nm,0.8s
FPAL Fort Paine 37.50 353 IAmb IAmb 01 48 25.0
comp=Z,18nm,1.1s
PAULI Pauline 37.51 358 IAmb IAmb 01 48 25.6
comp=Z,22nm,0.9s
RCLB Rio Claro- Sao 37.58 124 eP P 01 48 24.9 -0.9
RCLB Rio Claro- Sao 37.58 124 eP P 01 48 24.9 -0.9
X48A Hartselle 37.60 351 P P 01 48 25.0 -0.6
baz=170,SNR=7.0
Z41A Richland Creek 37.71 343 P P 01 48 27.6 +1.0
baz=160
Z41A Richland Creek 37.71 343 P P 01 48 27.3 +0.8
Z41A IAmb IAmb 01 48 28.1
comp=Z,30nm,1.1s
W58A Raeford 37.72 2 P P 01 48 26.2 -0.4
baz=182,SNR=5.3
BG3 Lake Jocassee 37.72 357 IAmb IAmb 01 48 27.6
comp=Z,23nm,1.2s
W54A Cherokee Point 37.78 358 P P 01 48 27.2 +0.1
baz=177,SNR=6.8
W56A Indian Trail 37.81 0 P P 01 48 26.7 -0.6
baz=180,SNR=9.9
KMSC Kings Mountain 37.82 359 P P 01 48 27.1 -0.3
baz=179,SNR=15
W57A Gilead 37.83 1 P P 01 48 26.7 -0.8
baz=181,SNR=9.8
JCT Junction City 37.85 333 P P 01 48 29.2 +1.3
baz=148,SNR=18
W52A Murphy 37.89 356 P P 01 48 28.0 -0.1
baz=175,SNR=5.3
W52A Murphy 37.89 356 IAmb IAmb 01 48 28.1
comp=Z,15nm,0.9s
W53A Cullowhee 37.91 357 P P 01 48 28.4 0.0
baz=176,SNR=12
W61A Ground Anchor 38.01 5 P P 01 48 29.5 +0.5
baz=186,SNR=5.3
W51A Cleveland 38.02 355 P P 01 48 29.2 0.0
baz=173,SNR=5.6
OXF Oxford 38.08 348 IAmb IAmb 01 48 29.7
comp=Z,24nm,0.8s
W50A Signal Mountai 38.12 354 P P 01 48 29.6 -0.4
baz=172,SNR=5.5
W49A Belvidere 38.15 353 P P 01 48 29.4 -0.8
baz=171
WHTX Lake Whitney, 38.15 337 P P 01 48 31.2 +0.9
baz=152,SNR=13
SPB Sao Paulo 38.19 126 eP P 01 48 29.4 -1.3
SPB Sao Paulo 38.19 126 eP P 01 48 29.4 -1.3
SPB Sao Paulo 38.19 126 IAmb IAmb 01 48 30.6
comp=Z,20nm,0.8s
SWET Sewanee 38.20 353 IAmb IAmb 01 48 30.8
comp=Z,16nm,1.0s
CPCT Cooper Cave 38.29 355 P P 01 48 31.4 0.0
CPCT IAmb IAmb 01 48 31.5
comp=Z,18nm,0.9s
VAO Valinhos 38.31 124 eP P 01 48 30.6 -1.3
VAO Valinhos 38.31 124 eP P 01 48 30.6 -1.3
V53A Saluda 38.39 357 P P 01 48 32.0 -0.4
baz=176,SNR=6.3
V53A Saluda 38.39 357 IAmb IAmb 01 48 32.3
comp=Z,16nm,0.9s
PLTB Pedras Altas 38.42 141 eP P 01 48 33.0 +0.4
PLTB Pedras Altas 38.42 141 eP P 01 48 33.0 +0.4
TKL Tuckaleechee C 38.44 356 P P 01 48 31.7 -0.9
comp=Z,20nm,1.1s,baz=145,slow=8.1,SNR=7.7
V54A Nebo 38.46 358 P P 01 48 32.9 0.0
baz=178,SNR=10
V56A Mocksville 38.48 0 P P 01 48 32.7 -0.3
baz=180,SNR=7.7
V58A Windy Hill, Pi 38.49 2 P P 01 48 32.5 -0.5
baz=182,SNR=9.4
V58A Windy Hill, Pi 38.49 2 IAmb IAmb 01 48 33.5
comp=Z,27nm,0.8s
V59A Middlesex 38.50 3 P P 01 48 32.9 -0.3
baz=184,SNR=10
V55A Taylorsville 38.52 359 P P 01 48 33.3 -0.1
baz=179,SNR=9.4
V55A Taylorsville 38.52 359 IAmb IAmb 01 48 33.6
comp=Z,18nm,0.9s
V50A Pikevile 38.56 354 P P 01 48 33.2 -0.5
baz=173,SNR=6.8
V57A Coltrane Farms 38.57 1 P P 01 48 33.3 -0.4
baz=181,SNR=10
V60A Jim Taylor Roa 38.57 4 P P 01 48 33.8 +0.1
baz=185,SNR=7.9
V52A Sevierville 38.61 356 P P 01 48 33.7 -0.4
baz=175,SNR=11
V52A Sevierville 38.61 356 IAmb IAmb 01 48 35.3
comp=Z,27nm,0.9s
V51A Loudon 38.62 355 P P 01 48 34.0 -0.2
baz=174,SNR=6.7
V51A Loudon 38.62 355 IAmb IAmb 01 48 35.6
comp=Z,19nm,0.9s
V61A Roper 38.65 5 P P 01 48 34.7 +0.3
baz=186
V61A Roper 38.65 5 IAmb IAmb 01 48 44.7
comp=Z,24nm,1.0s
CNLB Canela 38.66 136 eP P 01 48 34.6 -0.2
CNLB Canela 38.66 136 eP P 01 48 34.6 -0.2
V49A McMinnville 38.74 353 P P 01 48 34.1 -1.1
baz=172,SNR=6.0
PLCA Paso Flores 38.79 168 P P 01 48 36.0 +0.4
comp=Z,7.0nm,0.8s,baz=4.3,slow=9.3,SNR=19
PLCA PcP PcP 01 50 46.8 +0.4
comp=Z,2.4nm,0.8s,baz=353,slow=7.6,SNR=3.5
PLCA LR LR 02 02 18.3
comp=Z,342nm,20.7s,baz=32,slow=32
PLCA Paso Flores 38.79 168 eP P 01 48 36.4 +0.7
PLCA Paso Flores 38.79 168 eP P 01 48 36.4 +0.7
PLCA Paso Flores 38.79 168 P P 01 48 35.8 +0.1
V48A Smith Brothers 38.84 352 P P 01 48 35.3 -0.7
baz=170
TX32 Lajitas Array 38.86 327 P P 01 48 37.5 +1.1
TX32 PcP 01 50 48.1 +1.2
TXAR Lajitas Array 38.86 327 P P 01 48 37.1 +0.7
comp=Z,2.0nm,0.7s,baz=146,slow=10.0,SNR=26
TXAR PcP PcP 01 50 47.8 +0.8
comp=Z,2.2nm,0.7s,baz=159,slow=6.4,SNR=10
TXAR LR LR 02 03 04.4
comp=Z,71nm,20.1s,baz=0.0,slow=34
TX31 Lajitas Ar. Si 38.86 327 P P 01 48 37.3 +0.9
TX31 PcP 01 50 48.1 +1.2
TRQA Tornquist 38.99 156 eP P 01 48 37.2 -0.1
TRQA Tornquist 38.99 156 eP P 01 48 37.2 -0.1
UALR University of 39.01 345 IAmb IAmb 01 48 39.3
comp=Z,18nm,1.0s
U56A King 39.02 0 P P 01 48 37.5 0.0
baz=180,SNR=11
U53A Fall Branch 39.07 358 P P 01 48 37.4 -0.6
baz=177,SNR=10
U58A Oxford 39.11 3 P P 01 48 37.8 -0.5
baz=183,SNR=6.1
U59A Littleton 39.12 4 P P 01 48 38.5 +0.3
baz=184,SNR=7.1
U59A Littleton 39.12 4 IAmb IAmb 01 48 39.1
comp=Z,37nm,1.1s
U57A Blanch 39.12 2 P P 01 48 37.8 -0.5
baz=182,SNR=16
MIAR Mount Ida 39.14 343 P P 01 48 38.9 +0.3
baz=159,SNR=5.7
U52A Thorn Hill 39.14 357 P P 01 48 37.8 -0.7
baz=176,SNR=8.7
U55A TA2, Sparta 39.17 360 P P 01 48 38.6 -0.3
baz=175,SNR=15
U61A Possum Corner 39.20 5 P P 01 48 39.5 +0.5
baz=186
U54A Nelsons Funny 39.20 359 P P 01 48 38.7 -0.4
baz=178,SNR=8.0
U54A Nelsons Funny 39.20 359 IAmb IAmb 01 48 39.7
comp=Z,32nm,0.9s
U50A Jamestown 39.27 355 P P 01 48 39.0 -0.6
baz=173,SNR=6.6
TZTN Tazewell 39.30 356 P P 01 48 39.2 -0.7
baz=175,SNR=7.2
W41B Gary Mavity, V 39.37 345 P P 01 48 40.3 -0.1
baz=162,SNR=6.6
WVT Waverly 39.37 351 P P 01 48 38.9 -1.5
baz=169
WVT Waverly 39.37 351 P P 01 48 38.8 -1.6
WVT pmax pmax
comp=Z,10.0nm,0.6s
WVT Waverly 39.37 351 P P 01 48 38.8 -1.6
U49A Red Boiling Sp 39.47 354 P P 01 48 40.3 -1.0
baz=172
WHAR Wooly Hollow 39.49 345 IAmb IAmb 01 48 41.9
comp=Z,16nm,0.8s
ABTX Abilene, Hawle 39.60 335 P P 01 48 43.6 +1.1
baz=149,SNR=8.2
ABTX Abilene, Hawle 39.60 335 P P 01 48 43.5 +1.0
ABTX IAmb IAmb 01 48 44.5
comp=Z,24nm,0.8s
T58A Grand View Acr 39.66 3 P P 01 48 42.3 -0.5
baz=183,SNR=6.6
T53A Wise 39.69 358 P P 01 48 42.5 -0.7
baz=177,SNR=8.4
T57A Hurt 39.69 2 P P 01 48 42.6 -0.5
baz=182,SNR=16
T56A Rocky Mt 39.70 1 P P 01 48 43.1 -0.1
baz=181,SNR=9.8
T54A Tazewell 39.74 359 P P 01 48 42.8 -0.8
baz=178,SNR=7.8
T59A Double "B" Far 39.75 4 P P 01 48 43.4 -0.1
baz=185,SNR=8.7
T59A Double "B" Far 39.75 4 IAmb IAmb 01 48 44.2
comp=Z,38nm,1.1s
T51A Gray 39.75 356 P P 01 48 43.2 -0.4
baz=175,SNR=6.3
T55A Pulaski 39.78 360 P P 01 48 43.8 -0.2
baz=180,SNR=7.5
W39A Magazine 39.81 343 P P 01 48 45.0 +0.9
baz=159,SNR=11
W39A Magazine 39.81 343 IAmb IAmb 01 48 45.5
comp=Z,30nm,0.9s
T52A Hallie 39.83 357 P P 01 48 43.6 -0.7
baz=176,SNR=8.9
T50A Nancy 39.87 355 P P 01 48 43.7 -0.9
baz=173
BLA Blacksburg 39.88 0 P P 01 48 44.5 -0.2
baz=180,SNR=6.2
BLA Blacksburg 39.88 0 P P 01 48 44.5 -0.2
BLA pmax pmax
comp=Z,26nm,0.9s
BLA Blacksburg 39.88 0 P P 01 48 44.5 -0.2
BLA IAmb IAmb 01 48 45.0
comp=Z,26nm,0.8s
T49A Edmonton 40.02 354 P P 01 48 44.9 -1.0
baz=172
T47A Sharon Grove 40.10 352 P P 01 48 45.4 -1.1
baz=170
S58A Poland Farm, P 40.35 3 P P 01 48 48.2 -0.4
baz=184
S56A Natural Bridge 40.36 1 P P 01 48 48.4 -0.3
baz=182,SNR=5.7
S51A Beattyville 40.39 356 P P 01 48 48.3 -0.6
baz=175,SNR=6.6
S51A Beattyville 40.39 356 IAmb IAmb 01 48 49.0
comp=Z,44nm,1.1s
ESAR Angra dos Reis 40.42 123 eP P 01 48 49.2 -0.1
ESAR Angra dos Reis 40.42 123 eP P 01 48 49.2 -0.1
S55A Lewisburg 40.44 0 P P 01 48 49.1 -0.2
baz=180,SNR=8.1
S57A Dark Hollow, R 40.46 2 P P 01 48 49.1 -0.4
baz=182,SNR=5.3
S54A Dingess, Beckl 40.47 359 P P 01 48 49.3 -0.3
baz=179,SNR=6.8
S54A Dingess, Beckl 40.47 359 IAmb IAmb 01 48 49.5
comp=Z,29nm,0.8s
PBMO Poplar Bluff 40.48 348 P P 01 48 48.8 -0.8
S50A Richmond 40.49 355 P P 01 48 49.1 -0.6
baz=174,SNR=8.8
S60A Water View 40.55 5 P P 01 48 50.6 +0.4
baz=186
S59A Mechanicsville 40.55 4 P P 01 48 50.0 -0.2
baz=185
X34A Smith Ranch, M 40.61 338 IAmb IAmb 01 48 52.6
comp=Z,31nm,0.8s
U40A Yellville 40.64 345 P P 01 48 51.3 +0.3
baz=161,SNR=24
U40A Yellville 40.64 345 IAmb IAmb 01 48 52.3
comp=Z,41nm,0.9s
S49A Springfield 40.67 354 P P 01 48 50.0 -1.2
baz=173,SNR=6.8
R58B Mineral 40.71 3 P P 01 48 51.3 -0.2
baz=184,SNR=10
R58B Mineral 40.71 3 IAmb IAmb 01 48 51.9
comp=Z,22nm,0.8s
R54A Victor 40.85 360 P P 01 48 52.2 -0.5
baz=179,SNR=16
R55A Marlinton 40.95 1 P P 01 48 53.5 -0.1
baz=181,SNR=14
R55A Marlinton 40.95 1 P P 01 48 53.5 -0.1
R55A IAmb IAmb 01 48 54.5
comp=Z,47nm,1.0s
CBN Corbin Frederi 40.98 4 P P 01 48 53.9 +0.1
baz=185
CBN Corbin Frederi 40.98 4 IAmb IAmb 01 48 54.1
comp=Z,32nm,1.0s
R53A Hurricane 41.01 358 P P 01 48 53.5 -0.5
baz=178,SNR=5.9
R53A Hurricane 41.01 358 IAmb IAmb 01 48 54.1
comp=Z,34nm,0.8s
R52A Catlettsburg 41.04 358 P P 01 48 53.3 -0.9
baz=177
R51A Hillsboro 41.05 357 P P 01 48 53.8 -0.5
baz=176,SNR=14
TUL1 Leonard 41.08 341 P P 01 48 55.1 +0.5
baz=157,SNR=16
R50A Paris 41.08 356 P P 01 48 53.7 -0.9
baz=174,SNR=6.0
R50A Paris 41.08 356 IAmb IAmb 01 48 54.7
comp=Z,23nm,0.9s
WMOK Wichita Mounta 41.09 337 P P 01 48 55.0 +0.3
baz=152,SNR=13
R60A Leonardtown, M 41.11 5 P P 01 48 55.4 +0.6
baz=186
S44A Carbondale 41.13 350 P P 01 48 54.4 -0.6
baz=167,SNR=6.1
USIN University of 41.14 352 IAmb IAmb 01 48 54.8
comp=Z,25nm,0.8s
R49A Shelbyville 41.16 355 P P 01 48 54.4 -0.9
baz=173,SNR=5.1
WCI Wyandotte Cave 41.22 353 P P 01 48 54.6 -1.1
baz=171
WCI Wyandotte Cave 41.22 353 P P 01 48 54.6 -1.1
WCI pmax pmax
comp=Z,27nm,1.1s
WCI Wyandotte Cave 41.22 353 P P 01 48 54.6 -1.1
WCI IAmb IAmb 01 48 55.4
comp=Z,27nm,1.1s
MGMO Mountain Grove 41.25 346 IAmb IAmb 01 48 56.5
comp=Z,22nm,0.9s
Q53A Leroy 41.53 359 P P 01 48 57.8 -0.5
baz=179,SNR=18
MNTX Cornudas Mount 41.62 328 P P 01 48 59.7 +0.5
baz=141,SNR=24
Q54A Coxs Mills 41.65 360 P P 01 48 58.4 -0.8
baz=180,SNR=7.5
Q54A Coxs Mills 41.65 360 IAmb IAmb 01 48 59.0
comp=Z,30nm,0.8s
Q52A Bidwell 41.65 358 P P 01 48 58.6 -0.7
baz=178,SNR=8.7
Q55A Buckhannon 41.66 1 P P 01 48 59.6 +0.2
baz=181,SNR=21
Q59A Harwood 41.70 5 P P 01 49 00.3 +0.8
baz=186
Q58A Fox Den Farm, 41.70 4 P P 01 48 59.5 -0.2
baz=184,SNR=6.8
Q56A Snyder Ridge, 41.73 2 P P 01 49 00.2 +0.3
baz=182,SNR=5.5
Q56A Snyder Ridge, 41.73 2 P P 01 49 00.2 +0.3
SJMB Sao Joao De Ma 41.74 115 eP P 01 48 59.8 -0.6
SJMB Sao Joao De Ma 41.74 115 eP P 01 48 59.8 -0.6
Q51A Peebles 41.76 357 P P 01 48 59.4 -0.7
baz=176,SNR=7.9
Q51A Peebles 41.76 357 IAmb IAmb 01 49 00.2
comp=Z,47nm,0.9s
Q49A Aurora 41.85 355 P P 01 48 59.4 -1.4
baz=174
Q48A North Vernon 41.85 354 P P 01 48 59.6 -1.3
baz=172,SNR=6.3
CCM Cathedral Cave 41.88 347 P P 01 49 00.6 -0.5
baz=164
CCM Cathedral Cave 41.88 347 P P 01 49 00.2 -0.9
CCM pmax pmax
comp=Z,8.0nm,0.8s
CCM Cathedral Cave 41.88 347 P P 01 49 00.2 -0.9
OLIL Olney 41.96 351 IAmb IAmb 01 49 01.0
comp=Z,24nm,0.8s
BSFB Barra de Sao F 42.08 115 eP P 01 49 02.4 -0.7
BSFB Barra de Sao F 42.08 115 eP P 01 49 02.4 -0.7
MSTX Muleshoe 42.14 332 P P 01 49 04.2 +0.8
baz=146,SNR=25
P53A Whipple 42.15 359 P P 01 49 02.7 -0.7
baz=179,SNR=6.7
P53A Whipple 42.15 359 IAmb IAmb 01 49 03.6
comp=Z,30nm,0.9s
P55A Reedsville 42.18 1 P P 01 49 04.4 +0.8
baz=181
P51A Williamsport 42.20 357 P P 01 49 02.8 -0.9
baz=176,SNR=5.3
P51A Williamsport 42.20 357 IAmb IAmb 01 49 03.4
comp=Z,26nm,0.9s
P56A Dayton Farm, R 42.20 2 P P 01 49 04.0 +0.2
baz=183,SNR=14
SDMD Soldier's Deli 42.22 4 P P 01 49 03.8 -0.1
P54A Burton 42.27 0 P P 01 49 03.7 -0.6
baz=180
P58A Pank, Wackersv 42.27 4 P P 01 49 04.0 -0.2
baz=185
P52A Corning 42.32 358 P P 01 49 04.1 -0.6
baz=178,SNR=8.4
P48A Milroy 42.35 355 P P 01 49 03.0 -2.0
baz=173,SNR=5.8
P48A Milroy 42.35 355 IAmb IAmb 01 49 03.5
comp=Z,33nm,1.1s
P49A Miami Univ. Ec 42.36 355 P P 01 49 03.4 -1.6
baz=174
P50A Jamestown 42.37 356 P P 01 49 04.0 -1.1
baz=175,SNR=8.0
AMTX Amarillo 42.41 334 P P 01 49 06.4 +0.8
baz=148
AMTX Amarillo 42.41 334 IAmb IAmb 01 49 07.3
comp=Z,42nm,1.1s
P59A Jarrettsville 42.45 5 P P 01 49 06.0 +0.2
baz=186
U32A Winter Ranch, 42.62 338 IAmb IAmb 01 49 09.0
comp=Z,39nm,0.8s
P60A Greenville 42.73 6 P P 01 49 07.9 0.0
baz=187
O52A Adamsville 42.79 359 P P 01 49 07.5 -1.0
baz=178,SNR=7.7
O51A Pataskala 42.84 358 P P 01 49 07.9 -1.1
baz=177,SNR=9.8
O54A Avella 42.84 0 P P 01 49 08.0 -1.0
baz=180
MVL Millersville 42.85 5 P P 01 49 08.9 -0.1
MVL IAmb IAmb 01 49 09.6
comp=Z,20nm,0.9s
O55A Ligonier 42.89 2 P P 01 49 08.7 -0.6
baz=182,SNR=6.2
O50A Cable 42.89 357 P P 01 49 08.4 -1.0
baz=176,SNR=7.2
O53A New Philadelph 42.91 359 P P 01 49 08.9 -0.6
baz=179,SNR=5.4
O58A Lewisberry 42.92 4 P P 01 49 09.8 +0.1
baz=185,SNR=6.7
ACSO Alum Creek Sta 42.95 357 P P 01 49 09.1 -0.7
baz=176,SNR=8.1
O57A Amberson 42.96 3 P P 01 49 09.8 -0.1
baz=184
O56A Blue Knob Stat 42.97 2 P P 01 49 09.9 -0.1
baz=183
PAGS Pennsylvania G 43.04 4 IAmb IAmb 01 49 11.5
comp=Z,46nm,1.2s
P43A Skaggs, Pawnee 43.08 350 IAmb IAmb 01 49 10.1
comp=Z,18nm,0.7s
O48A Farmland 43.11 355 P P 01 49 09.6 -1.5
baz=173,SNR=9.2
O59A Robesonia 43.17 5 P P 01 49 11.9 +0.3
baz=186
O60A Telford 43.25 6 P P 01 49 12.7 +0.4

baz=188
SSPA **Standing Stone** 43.37 3 P P 01 49 12.9 -0.3
baz=184
SSPA **Standing Stone** 43.37 3 P P 01 49 12.9 -0.3
SSPA IAmb IAmb 01 49 13.4
comp=Z,24nm,1.1s
O44A **Mansfield** 43.40 351 IAmb IAmb 01 49 13.0
comp=Z,17nm,0.8s
N53A **Lisbon** 43.47 360 P P 01 49 13.1 -0.8
baz=180
N55A **Marion Center** 43.47 2 P P 01 49 13.6 -0.4
baz=182,SNR=6.7
N52A **McGinn's Farm,** 43.48 359 P P 01 49 13.1 -1.1
baz=178
N50A **Nevada** 43.49 357 P P 01 49 13.1 -1.1
baz=176,SNR=7.1
121A **Cookes Peak, D** 43.57 326 P P 01 49 17.1 +1.9
baz=139,SNR=12
121A **Cookes Peak, D** 43.57 326 IAmb IAmb 01 49 18.1
comp=Z,22nm,1.0s
319A **Douglas** 43.58 324 IAmb IAmb 01 49 17.8
comp=Z,39nm,1.1s
N51A **Ashland** 43.61 358 P P 01 49 14.0 -1.1
baz=177,SNR=7.6
N54A **Moraine State** 43.63 1 P P 01 49 14.9 -0.4
baz=181,SNR=6.2
N54A **Moraine State** 43.63 1 IAmb IAmb 01 49 15.1
comp=Z,31nm,0.8s
N56A **West Decatur** 43.63 3 P P 01 49 14.9 -0.5
baz=183
N58A **Sunbury** 43.65 4 P P 01 49 15.4 0.0
baz=186
N49A **Columbus Grove** 43.70 356 P P 01 49 14.3 -1.6
baz=175
N48A **Decatur** 43.70 355 P P 01 49 14.4 -1.5
baz=174
N47A **Urbana** 43.78 355 P P 01 49 14.3 -2.2
baz=173
N61A **South Mountain** 43.81 7 P P 01 49 17.2 +0.6
baz=189
N59A **State Game Lan** 43.81 5 P P 01 49 17.0 +0.2
baz=187,SNR=5.1
N60A **Cedar Hill Far** 43.83 6 P P 01 49 17.1 +0.2
baz=188
HDIL **Hopedale** 43.93 351 P P 01 49 16.3 -1.4
baz=168
HDIL **Hopedale** 43.93 351 P P 01 49 16.4 -1.4
HDIL IAmb IAmb 01 49 17.0
comp=Z,30nm,0.7s
M51A **Elyria** 44.01 358 P P 01 49 17.4 -1.0
baz=178
M50A **Fremont** 44.12 357 P P 01 49 18.3 -0.8
baz=176,SNR=9.9
M57A **Sunshine Farm,** 44.12 4 P P 01 49 19.3 +0.1
baz=185,SNR=6.8
M57A **Sunshine Farm,** 44.12 4 IAmb IAmb 01 49 19.7
comp=Z,29nm,0.8s
M55A **Ridgway** 44.16 2 P P 01 49 18.8 -0.8
baz=183
M54A **Oil Creek Stat** 44.18 1 P P 01 49 19.5 -0.2
baz=181
M54A **Oil Creek Stat** 44.18 1 IAmb IAmb 01 49 19.7
comp=Z,38nm,0.8s
BNM **Barren Site** 44.18 329 P P 01 49 21.3 +1.2
M58A **Price's Panora** 44.20 5 P P 01 49 20.1 +0.2
baz=186,SNR=5.6
M56A **Emporium** 44.20 3 P P 01 49 19.2 -0.7
baz=183
M56A **Emporium** 44.20 3 IAmb IAmb 01 49 20.1
comp=Z,28nm,0.8s
M49A **Liberty Center** 44.24 356 P P 01 49 19.2 -1.0
baz=175,SNR=5.6
KSU1 **Kansas State U** 44.27 342 P P 01 49 21.2 +0.7
baz=157,SNR=9.0
M60A **Port Jervis** 44.33 7 P P 01 49 20.9 0.0
baz=188
N41A **Harden Midland** 44.35 349 IAmb IAmb 01 49 20.9
comp=Z,24nm,0.9s
KSPA **Keystone Colle** 44.45 5 IAmb IAmb 01 49 23.8
comp=Z,48nm,1.2s
M59A **Waymart** 44.46 6 P P 01 49 21.9 -0.1
baz=187
ANMO **Albuquerque** 44.72 330 P P 01 49 25.8 +1.4
baz=142
ANMO **Albuquerque** 44.72 330 *c i* P P 01 49 25.6 +1.2
ANMO pmax pmax
comp=Z,34nm,0.9s
ANMO **Albuquerque** 44.72 330 P P 01 49 25.4 +1.0
ANMO IAmb IAmb 01 49 26.7
comp=Z,36nm,0.8s
L48A **N Adams** 44.73 356 P P 01 49 22.6 -1.6
baz=175
L50A **Kingsville** 44.74 358 P P 01 49 22.9 -1.3
baz=177,SNR=5.9
L57A **Andrews Acres** 44.80 4 P P 01 49 24.3 -0.3
baz=185,SNR=8.1
L47A **Sherwood** 44.82 355 P P 01 49 23.4 -1.5
baz=174,SNR=5.6
L49A **Milan** 44.86 357 P P 01 49 24.2 -0.8
baz=176,SNR=10.0
L56A **Greenwood** 44.89 3 P P 01 49 24.9 -0.5
baz=184
L56A **Greenwood** 44.89 3 IAmb IAmb 01 49 25.1
comp=Z,17nm,0.7s
L55A **Hinsdale** 44.89 2 P P 01 49 24.9 -0.5
baz=183,SNR=6.4
L58A **Harry Jones Me** 44.92 5 P P 01 49 25.7 +0.1
baz=187
L60A **Shokan** 45.03 7 P P 01 49 26.8 +0.3
baz=189
CBKS **Cedar Bluff** 45.05 339 P P 01 49 27.9 +1.2
baz=153
CBKS **Cedar Bluff** 45.05 339 IAmb IAmb 01 49 28.2
comp=Z,23nm,1.1s
BINY **Binghamton** 45.06 5 P P 01 49 26.8 0.0
baz=186,SNR=7.3
TUC **Tucson** 45.15 323 P P 01 49 28.9 +1.2
baz=135
TUC **Tucson** 45.15 323 P P 01 49 28.5 +0.8
TUC pmax pmax
comp=Z,9.0nm,1.0s
TUC **Tucson** 45.15 323 P P 01 49 28.5 +0.8
K54A **Basiliko Farm,** 45.31 2 P P 01 49 28.2 -0.5
baz=183,SNR=5.4
L61A **Hillsdale 1, H** 45.32 7 P P 01 49 29.2 +0.4
baz=190
L42A **Oliver, Polo** 45.40 351 IAmb IAmb 01 49 29.6
comp=Z,30nm,0.9s
K55A **Perry** 45.45 3 P P 01 49 28.6 -1.2
baz=184
K50A **Casco** 45.47 358 P P 01 49 28.7 -1.2
baz=177,SNR=5.4
K47A **Vermontville** 45.50 356 P P 01 49 28.7 -1.4
baz=174,SNR=8.1
T25A **Trinidad** 45.51 333 P P 01 49 32.2 +1.6
baz=146,SNR=19
T25A **Trinidad** 45.51 333 IAmb IAmb 01 49 32.7
comp=Z,18nm,0.7s
K49A **Clarkson** 45.51 357 P P 01 49 29.2 -1.1
baz=176,SNR=6.3
K57A **Scipio Center** 45.55 4 P P 01 49 29.7 -0.9
baz=186
K48A **Perry** 45.57 356 P P 01 49 29.4 -1.3
baz=175,SNR=6.8
K46A **Dorr** 45.58 355 P P 01 49 29.0 -1.8
baz=173
L61B **Northampton** 45.69 8 P P 01 49 31.5 -0.2
baz=191
J54A **Appleton** 45.97 2 P P 01 49 32.9 -1.0
baz=183
SCIA **State Center** 46.00 347 P P 01 49 33.9 -0.2
baz=162
J48A **Bridge Port** 46.04 357 P P 01 49 33.4 -1.0
baz=176,SNR=5.5
J47A **Sunmer** 46.05 356 P P 01 49 33.8 -0.6
baz=174,SNR=12
J49A **Marlette** 46.07 358 P P 01 49 33.4 -1.3
baz=176,SNR=5.4
214A **Organ Pipe Nat** 46.14 321 P P 01 49 37.0 +1.5
baz=133,SNR=14
214A **Organ Pipe Nat** 46.14 321 IAmb IAmb 01 49 37.9
comp=Z,17nm,1.0s
J46A **Howard City** 46.22 355 P P 01 49 34.3 -1.6
baz=173,SNR=8.5
X18A **Snowflake** 46.26 326 IAmb IAmb 01 49 39.0
comp=Z,20nm,0.8s
J60A **Lant Hill Farm** 46.37 7 P P 01 49 37.2 +0.1
baz=190
JFWS **Jewell Farm** 46.38 350 P P 01 49 36.0 -1.2
baz=167,SNR=9.2
J59A **Piesco** 46.46 6 P P 01 49 37.0 -0.8
baz=188
ACCN **Adirondack Com** 46.48 7 P P 01 49 38.2 +0.3
ACCN IAmb IAmb 01 49 38.9
comp=Z,24nm,1.1s
SDCO **Great Sand Dun** 46.50 333 P P 01 49 39.8 +1.3
baz=145,SNR=23
SDCO **Great Sand Dun** 46.50 333 IAmb IAmb 01 49 40.7
comp=Z,18nm,0.8s
W18A **Petrified Fore** 46.58 327 P P 01 49 40.5 +1.5
baz=138,SNR=5.4
I49A **Point Hope** 46.64 358 P P 01 49 37.7 -1.4
baz=177
I46A **Reed City** 46.80 355 P P 01 49 38.7 -1.7
baz=173,SNR=7.2
I47A **Gladwin** 46.80 356 P P 01 49 39.1 -1.3
baz=175,SNR=10
BGNE **Belgrade** 46.85 342 IAmb IAmb 01 49 43.5
comp=Z,20nm,0.8s
I48A **Sherman Twp** 46.92 357 P P 01 49 40.7 -0.6
baz=176,SNR=7.5
I60A **Shoreham** 46.98 7 P P 01 49 42.0 +0.2
baz=190
X16A **Lo Mia Camp, P** 47.03 325 IAmb IAmb 01 49 45.1
comp=Z,16nm,1.1s
S22A **4UR Ranch, Cre** 47.12 332 P P 01 49 44.7 +1.3
baz=143,SNR=9.9
I61A **Oroboro, Fairl** 47.21 8 P P 01 49 44.1 +0.5
baz=191
H53A **Bobcaygeon** 47.27 2 P P 01 49 42.7 -1.3
baz=183
H52A **Wyevale** 47.31 1 P P 01 49 42.9 -1.5
baz=181
H55A **Tweed** 47.31 3 P P 01 49 43.3 -1.1
baz=185
Q24A **Divide** 47.34 334 P P 01 49 46.0 +0.9
baz=146,SNR=6.0
H57A **Richville** 47.36 5 P P 01 49 43.9 -0.8
baz=187
H47A **Mio** 47.36 357 P P 01 49 43.4 -1.4
baz=175,SNR=5.7
H46A **Fife Lake** 47.37 356 P P 01 49 43.0 -1.8
baz=174
H56A **Elgin** 47.42 4 P P 01 49 44.3 -0.9
baz=186
SADO **Sadowa** 47.45 2 P P 01 49 43.6 -1.8
comp=Z,14nm,0.9s,baz=151,slow=1.5,SNR=5.7
MVCO **Mesa Verde** 47.52 330 P P 01 49 47.5 +1.1
baz=141,SNR=7.0
MVCO **Mesa Verde** 47.52 330 IAmb IAmb 01 49 47.9
comp=Z,10nm,0.8s
WUAZ **Wupatki** 47.78 326 P P 01 49 50.1 +1.7
baz=136,SNR=25
G53A **Haliburton** 47.82 2 P P 01 49 46.7 -1.5
baz=183
G47A **Hillman** 47.91 357 P P 01 49 48.9 -0.1
baz=176,SNR=5.2
G57A **Newington** 48.03 5 P P 01 49 49.3 -0.6
baz=188
G55A **Calabogie** 48.04 4 P P 01 49 48.9 -1.1
baz=185
G54A **Lake Saint Pet** 48.11 2 P P 01 49 49.4 -1.1
baz=183
GLA **Glamis** 48.14 321 P P 01 49 52.3 +1.3
baz=131
ISCO **Idaho Springs** 48.23 334 P P 01 49 53.2 +1.2
baz=146,SNR=11
ISCO **Idaho Springs** 48.23 334 P P 01 49 52.7 +0.7
ISCO pmax pmax
comp=Z,11nm,1.1s
ISCO **Idaho Springs** 48.23 334 P P 01 49 52.7 +0.7
F48A **Evville** 48.52 358 P P 01 49 51.8 -1.9
baz=177,SNR=6.1
ECSD **EROS Data Cent** 48.55 345 P P 01 49 53.7 -0.3
baz=158,SNR=16
ECSD **EROS Data Cent** 48.55 345 P P 01 49 53.6 -0.3
ECSD IAmb IAmb 01 49 54.1
comp=Z,19nm,0.8s
G61A **St-Isidore-de-** 48.63 9 P P 01 49 55.3 +0.7
baz=192
G62A **West of Eustis** 48.73 10 P P 01 49 56.1 +0.8
baz=193,SNR=5.3
G63A **Kingsbury** 48.78 10 P P 01 49 56.5 +0.7
baz=195
BC3 **Big Chuckawall** 48.93 321 P P 01 49 58.7 +1.5
baz=131,SNR=8.8
PKME **Peaks-Kenny Pk** 48.99 11 P P 01 49 57.9 +0.7
baz=195
MONP2 **Monument Peak** 49.06 319 P P 01 49 59.6 +1.3
baz=130
IRM **Iron Mountain** 49.07 322 P P 01 49 59.8 +1.6
baz=132,SNR=12
SPMN **Marine on St.** 49.09 349 P P 01 49 57.0 -1.0
baz=164,SNR=6.1
E48A **Lockeyer** 49.16 359 P P 01 49 56.7 -1.8
baz=178,SNR=6.3
E47A **Iron Bridge** 49.17 358 P P 01 49 57.0 -1.6
baz=176,SNR=5.1
E51A **G1948 Merrick** 49.20 1 P P 01 49 57.2 -1.7
baz=181,SNR=5.1
N23A **Red Feather La** 49.28 335 P P 01 50 00.0 +0.1
baz=146
E57A **Chemin Saint G** 49.41 6 P P 01 49 59.4 -1.2
baz=188,SNR=5.5
E56A **St. Veronique** 49.46 5 P P 01 49 59.8 -1.0
baz=187
E58A **La Victoria** 49.47 7 P P 01 50 00.4 -0.5
baz=190
BELC **Belle Mtn. Jos** 49.50 321 P P 01 50 02.5 +1.0
baz=131
XPFO **Pion Flat** 49.54 320 P P 01 50 02.7 +0.9
PFO **Pinyon Flats O** 49.54 320 P P 01 50 03.4 +1.5
baz=130
PFO **Pinyon Flats O** 49.54 320 P P 01 50 02.7 +0.8
PFO pmax pmax
comp=Z,6.0nm,1.0s
PFO **Pinyon Flats O** 49.54 320 P P 01 50 02.7 +0.8
O20A **White River Ci** 49.69 332 P P 01 50 04.2 +1.2
baz=143,SNR=9.8
O20A **White River Ci** 49.69 332 IAmb IAmb 01 50 06.8
comp=Z,14nm,0.9s
GMRC **Granite Mounta** 49.80 322 P P 01 50 05.3 +1.4
baz=132
D53A **Lac Vacive, Po** 49.81 3 P P 01 50 02.2 -1.3
baz=184
D48A **Paudash Townsh** 49.84 359 P P 01 50 01.7 -2.1
baz=178
D55A **Sainte-Anne-du** 49.89 5 P P 01 50 02.8 -1.3
baz=187
D56A **ZEC Mazanza, M** 49.98 5 P P 01 50 03.7 -1.2
baz=188
SRU **San Rafael Swe** 50.00 330 P P 01 50 06.3 +1.0
SRU pmax pmax
comp=Z,11nm,1.0s
SRU **San Rafael Swe** 50.00 330 P P 01 50 06.3 +1.0
D58A **Chemin du LacG** 50.23 7 P P 01 50 05.9 -0.9
baz=190
HEC **Hector,Ludlow** 50.25 321 P P 01 50 08.7 +1.5
baz=131
E63A **Oxbow** 50.27 11 P P 01 50 07.5 +0.5
baz=196
TUQ **Turquoise Moun** 50.39 322 P P 01 50 09.8 +1.4
baz=132,SNR=8.1
RWWY **Rawlins** 50.48 334 IAmb IAmb 01 50 11.0
comp=Z,28nm,1.1s
LATQ **La Tuque** 50.52 7 P P 01 50 08.2 -0.7
baz=190
LATQ **La Tuque** 50.52 7 P P 01 50 08.6 -0.3
BFSC **Mount Baldy Ra** 50.71 320 P P 01 50 11.9 +1.2
baz=129
D61A **St Aubert, Com** 50.71 9 P P 01 50 10.9 +0.5
baz=193
GSC **Goldstone, Bar** 50.85 322 P P 01 50 13.4 +1.7
baz=131,SNR=13
GSC **Goldstone, Bar** 50.85 322 IAmb IAmb 01 50 14.3
comp=Z,18nm,1.1s
SHOC **Shoshone, Teco** 50.91 323 P P 01 50 13.7 +1.6
baz=132
K22A **Casper** 50.98 336 P P 01 50 13.3 +0.7
baz=146
RSSD **Black Hills** 51.25 339 P P 01 50 15.9 +1.2
baz=150
RSSD **Black Hills** 51.25 339 P P 01 50 15.1 +0.3
RSSD pmax pmax
comp=Z,23nm,0.9s
RSSD **Black Hills** 51.25 339 P P 01 50 15.1 +0.3
RSSD IAmb IAmb 01 50 16.7
comp=Z,23nm,0.9s
EDW2 **Edwards Air Fo** 51.33 320 P P 01 50 16.4 +1.1
baz=129,SNR=7.5
EYMN **Ely** 51.48 351 P P 01 50 15.3 -0.8
baz=166
EYMN **Ely** 51.48 351 IAmb IAmb 01 50 16.1
comp=Z,20nm,0.9s
LRMC **Laurel Mtn Rad** 51.51 321 P P 01 50 18.1 +1.3
baz=130,SNR=6.4
TPNV **Topopah Spring** 51.60 324 P P 01 50 19.2 +1.8
baz=132,SNR=8.5
TPNV **Topopah Spring** 51.60 324 IAmb IAmb 01 50 20.1
comp=Z,11nm,1.0s
FURC **Furnace Creek,** 51.65 323 P P 01 50 19.2 +1.7
baz=131,SNR=6.0
MPMC **Manual Prospec** 51.76 322 P P 01 50 19.6 +0.9
baz=130,SNR=9.9
LSQQ **Lebel-sur-Quev** 51.82 3 P P 01 50 16.8 -1.9
baz=185
DUG **Dugway, Tooele** 51.98 329 P P 01 50 21.3 +1.2
baz=138,SNR=13
DUG **Dugway, Tooele** 51.98 329 P P 01 50 21.3 +1.2
DUG pmax pmax
comp=Z,6.0nm,0.8s
DUG **Dugway, Tooele** 51.98 329 P P 01 50 21.4 +1.2
R11A **Troy Canyon, C** 52.16 325 P P 01 50 23.2 +1.6
baz=134,SNR=21
CWC **Cottonwood Cre** 52.37 322 P P 01 50 24.3 +1.1
baz=130
BW06 **Boulder Array** 52.38 333 P P 01 50 23.6 +0.4
baz=142,SNR=11
BW06 **Boulder Array** 52.38 333 IAmb IAmb 01 50 24.4
comp=Z,13nm,0.9s
PD31 **Pinedale Array** 52.38 333 IAmb IAmb 01 50 24.4
comp=Z,13nm,1.0s
PDAR **Pinedale Array** 52.38 333 P P 01 50 23.3 +0.1
comp=Z,9.9nm,0.8s,baz=129,slow=8.4,SNR=70
PDAR PcP PcP 01 51 33.3 -0.4
comp=Z,0.8nm,0.6s,baz=134,slow=6.4,SNR=3.1
PDAR LR LR 02 13 02.9
comp=Z,187nm,18.5s,baz=130,slow=36
MATQ **Matagami** 52.49 3 P P 01 50 21.4 -2.1
baz=184
PKM **Mcpherson Peak** 52.51 319 P P 01 50 25.4 +1.2
baz=128
CHGQ **Chibougamau** 52.85 5 P P 01 50 24.4 -1.9
baz=188
SMMC **Simmler** 52.88 319 P P 01 50 28.3 +1.5
baz=128
AHID **Auburn Hatcher** 53.08 332 IAmb IAmb 01 50 30.6
comp=Z,15nm,1.1s
MDND **Maddock** 53.15 344 P P 01 50 29.5 +0.9
baz=156,SNR=6.8
REDW **Red Top Meadow** 53.43 333 IAmb IAmb 01 50 32.1
comp=Z,22nm,1.1s
SNOW **Snow King Moun** 53.46 333 P P 01 50 31.9 +0.7
SNOW IAmb IAmb 01 50 37.6
comp=Z,14nm,1.1s
TPAW **Teton Pass** 53.57 333 IAmb IAmb 01 50 37.7
comp=Z,18nm,1.1s
ELK **Elko** 53.65 328 IAmb IAmb 01 50 34.8
comp=Z,16nm,1.1s
OMMB **Old Mammoth Mi** 53.69 322 IAmb IAmb 01 50 35.3
comp=Z,19nm,1.0s
NV11 **Mina Array Sit** 53.71 324 IAmb IAmb 01 50 35.5
comp=Z,16nm,1.0s
NVAR **Mina Array Bea** 53.80 324 P P 01 50 35.0 +1.3
comp=Z,9.9nm,0.8s,baz=137,slow=6.9,SNR=65
NVAR LR LR 02 13 12.8
comp=Z,108nm,18.3s,baz=112,slow=36
FLWY **Flagg Ranch** 53.92 334 IAmb IAmb 01 50 36.6
comp=Z,29nm,1.1s
H17A **Grant Village** 54.12 334 P P 01 50 37.3 +1.3
baz=142
RLMT **Red Lodge** 54.14 335 P P 01 50 36.4 +0.3
baz=144,SNR=12
RLMT **Red Lodge** 54.14 335 IAmb IAmb 01 50 36.9
comp=Z,10nm,0.8s
LKWY **Lake** 54.17 334 IAmb IAmb 01 50 39.1
comp=Z,17nm,0.9s
LAO **LASA Array** 54.24 339 P P 01 50 36.9 +0.2
baz=148,SNR=6.2
LAO **LASA Array** 54.24 339 P P 01 50 36.9 +0.2
LAO IAmb IAmb 01 50 37.3
comp=Z,10nm,0.8s
ULM **Lac du Bonnet** 54.50 348 *c i* P P 01 50 37.7 -0.6
ULM **Lac du Bonnet** 54.50 348 P P 01 50 37.9 -0.4
comp=Z,65nm,0.6s,baz=158,slow=7.6,SNR=126
ULM LR LR 02 14 04.5
comp=Z,82nm,21.7s,baz=134,slow=36
YHL **Hebgen Lake** 54.74 334 P P 01 50 41.8 +1.2
PNTR **Pine Nut** 54.99 323 IAmb IAmb 01 50 44.9
comp=Z,1nm,0.9s
DGMT **Dagmar** 55.08 341 P P 01 50 43.8 +1.2
baz=151
VCNR **Virginia City** 55.16 324 IAmb IAmb 01 50 45.9
comp=Z,12nm,1.0s
BOZ **Bozeman (W)** 55.52 334 P P 01 50 46.9 +0.9
baz=142,SNR=23
DLMT **Dillon** 55.77 333 IAmb IAmb 01 50 49.7
comp=Z,12nm,1.1s
OHCM **Honcut** 56.29 322 P P 01 50 52.0 +0.7
EGMT **Eagleton** 56.69 337 P P 01 50 54.9 +0.7
baz=144,SNR=5.8
EGMT **Eagleton** 56.69 337 IAmb IAmb 01 50 55.2
comp=Z,14nm,0.7s
PLID **Pearl Lake** 57.16 331 P P 01 50 57.3 -0.5
PLID IAmb IAmb 01 50 58.9
comp=Z,13nm,0.8s
MSO **Missoula** 57.49 333 P P 01 51 00.9 +0.9
baz=140,SNR=18
BMO **Blue Mountains** 57.64 330 IAmb IAmb 01 51 01.9
comp=Z,12nm,1.1s
LGMM **Garner Mountai** 57.91 324 P P 01 51 04.0 +0.9
M04C **Macdoel** 58.03 325 P P 01 51 04.6 +0.8
baz=129,SNR=17
M02C **Callahan** 58.38 324 P P 01 51 06.3 +0.1
baz=128
YBH **Yreka Blue Hor** 58.50 324 P P 01 51 07.0 -0.1
YBH pmax pmax
comp=Z,13nm,0.8s
YBH **Yreka Blue Hor** 58.50 324 P P 01 51 07.0 -0.1
L04D **Klamath Falls** 58.57 325 P P 01 51 08.1 +0.5
baz=129,SNR=9.1
SCHQ **Schefferville** 58.64 9 P P 01 51 06.5 -1.1
comp=Z,7.3nm,0.9s,baz=224,slow=7.1,SNR=5.3
SCHQ LR LR 02 18 45.0
comp=Z,78nm,18.0s,baz=122,slow=38
SCHQ **Schefferville** 58.64 9 P P 01 51 06.3 -1.3
SCHQ IAmb IAmb 01 51 08.3
comp=Z,6.5nm,0.8s
J05D **Fort Rock, OR** 58.65 326 P P 01 51 09.3 +1.2
baz=130,SNR=19
PINE **Pine Mountain** 58.82 327 P P 01 51 10.8 +1.5
J04D **Umpqua Nationa** 59.11 326 P P 01 51 12.6 +1.2
baz=130,SNR=12
L02E **Cave Junction** 59.29 324 P P 01 51 13.0 +0.5
baz=128
I05D **Terrebonne, OR** 59.39 327 P P 01 51 14.6 +1.4
baz=131,SNR=8.0
G06A **Carlson Farm,** 59.61 328 IAmb IAmb 01 51 16.9
comp=Z,11nm,1.0s
I04A **Tendick Farm,** 59.63 326 P P 01 51 15.0 +0.2
baz=130
K02D **Willamette Mer** 59.66 324 P P 01 51 16.2 +1.2
baz=128,SNR=10
E08A **Dider Farm, El** 59.66 330 IAmb IAmb 01 51 17.4
comp=Z,11nm,1.0s
F07A **Phinny Hill Vi** 59.69 329 IAmb IAmb 01 51 17.6
comp=Z,13nm,0.8s
HAWA **Hanford** 59.83 330 IAmb IAmb 01 51 19.5
comp=Z,6.9nm,0.8s
G05D **Wamic, OR** 59.97 328 P P 01 51 19.0 +1.9
baz=131
NEW **Newport** 60.00 333 P P 01 51 17.9 +0.6
baz=137,SNR=12
NEW **Newport** 60.00 333 IAmb IAmb 01 51 18.3
comp=Z,10nm,0.8s
FFC **Flin Flon** 60.04 346 P P 01 51 17.1 -0.3
FFC pmax pmax
comp=Z,9.0nm,1.0s
FFC **Flin Flon** 60.04 346 P P 01 51 17.1 -0.3
FFC IAmb IAmb 01 51 17.8
comp=Z,9.3nm,0.9s
I03D **Drain, OR** 60.10 325 P P 01 51 19.0 +1.1
baz=129
J01E **Myrtle Point** 60.10 325 P P 01 51 19.3 +1.4

	baz=128							
E07A	**Sunnyside**	**60.11**	**330**	P	**P**	**01 51 18.9**	**+0.9**
F05D	**White Salmon**	**60.48**	**328**	P	**P**	**01 51 22.2**	**+1.7**
	baz=132							
I02D	**Swisshome**	**60.63**	**326**	P	**P**	**01 51 23.3**	**+1.7**
	baz=128							
LTY	**Liberty**	**60.99**	**330**	IAmb	IAmb	01 51 25.4		
	comp=Z,7.2nm,0.8s							
E04D	**Cinebar**	**61.50**	**328**	P	**P**	**01 51 28.2**	**+0.8**
	baz=131							
B06A	**Marblemount**	**62.25**	**331**	IAmb	IAmb	01 51 33.4		
	comp=Z,10nm,0.7s							
B05A	**Bryant**	**62.38**	**330**	P	**P**	**01 51 33.6**	**+0.3**
	baz=132							
D03D	**Eldon**	**62.40**	**329**	P	**P**	**01 51 34.6**	**+1.1**
	baz=131							
NLWA	**Neilton Lookou**	**62.72**	**328**	IAmb	IAmb	01 51 37.6		
	comp=Z,9.9nm,0.7s							
PMSA	**Palmer Station**	**62.94**	**172**	*e*P	**P**	**01 51 38.6**	**+1.9**
PMSA	**Palmer Station**	**62.94**	**172**	*e*P	**P**	**01 51 38.6**	**+1.9**
PPT2	**Papeete2**	**69.01**	**252**	*e*S	**S**	**02 01 15.6**	**-3.4**
	comp=Z,191nm,26.2s							
PPT2				*e*LR	LR	02 13 15.6		
	comp=Z,108nm,28.2s							
YKA	**Yellowknife Ar**	**70.07**	**344**	P	**P**	**01 52 21.7**	**-0.6**
	comp=Z,3.4nm,0.7s,baz=137,slow=5.9,SNR=37							
YKA				PP	**PP**	**01 54 55.2**	**-2.6**	
	comp=Z,0.5nm,0.8s,baz=141,slow=7.9,SNR=3.9							
DBIC	**Dimbokro**	**76.29**	**82**	P	**P**	**01 52 59.9**	**-0.2**
DBIC				pmax	pmax			
	comp=Z,10.0nm,1.0s							
DBIC	**Dimbokro**	**76.29**	**82**	P	**P**	**01 52 59.9**	**-0.2**
	comp=Z,3.9nm,0.8s,baz=260,slow=5.3,SNR=4.2							
INK	**Inuvik**	**79.74**	**342**	P	**P**	**01 53 18.3**	**+0.3**
INK				pmax	pmax			
	comp=Z,11nm,1.0s							
INK	**Inuvik**	**79.74**	**342**	P	**P**	**01 53 17.8**	**-0.2**
	comp=Z,8.1nm,0.9s,baz=108,slow=5.2,SNR=11							
INK	**Inuvik**	**79.74**	**342**	P	**P**	**01 53 18.3**	**+0.3**
SUMG	**Summit**	**79.90**	**12**	*i* P	**P**	**01 53 19.5**	**+0.1**
SUMG				pmax	pmax			
	comp=Z,70nm,0.9s							
SUMG	**Summit**	**79.90**	**12**	*i* P	**P**	**01 53 19.5**	**+0.1**
	comp=Z,70nm,0.9s							
SUMG	**Summit**	**79.90**	**12**	P	**P**	**01 53 19.5**	**+0.1**
DOT	**Dot Lake**	**81.07**	**336**	P	**P**	**01 53 25.4**	**+0.1**
DOT				IAmb	IAmb	01 53 26.5		
	comp=Z,14nm,1.0s							
VNA3	**Neumayer Olymp**	**81.25**	**162**	P	**P**	**01 53 26.4**	**+0.2**
VNA1	**Neumayer--Stat**	**81.53**	**161**	P	**P**	**01 53 27.0**	**-0.6**
ESDC	**Sonseca Array**	**81.65**	**49**	P	**P**	**01 53 29.1**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=276,slow=5.7,SNR=11							
VNA2	**Neumayer--Watz**	**81.88**	**161**	P	**P**	**01 53 29.2**	**-0.3**
	baz=303,slow=6.2							
HDA	**Harding Lake**	**82.54**	**336**	P	**P**	**01 53 32.8**	**-0.2**
	baz=113							
ILAR	**Eielson Array**	**82.65**	**337**	P	**P**	**01 53 33.0**	**-0.7**
ILAR	**Eielson Array**	**82.65**	**337**	P	**P**	**01 53 33.0**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=161,slow=4.5,SNR=12							
ILAR				PP	**PP**	**01 56 46.3**	**+2.6**	
	comp=Z,1.5nm,1.0s,baz=102,slow=6.5,SNR=7.3							
ILAR				LR	LR	02 31 50.3		
	comp=Z,102nm,19.7s,baz=117,slow=37							
COLA	**College**	**83.08**	**337**	*i* P	**P**	**01 53 38.0**	**+2.2**
COLA				pmax	pmax			
	comp=Z,4.0nm,1.1s							
TORD	**Torodi Ar. Bea**	**83.25**	**76**	P	**P**	**01 53 36.9**	**-0.9**
	comp=Z,1.6nm,1.1s,baz=280,slow=5.4,SNR=6.5							
TORD				LR	LR	02 30 56.6		
	comp=Z,70nm,18.2s,baz=310,slow=36							
SNAA	**Sanae**	**83.47**	**162**	P	**P**	**01 53 37.7**	**-0.2**
SNAA	**Sanae**	**83.47**	**162**	P	**P**	**01 53 37.3**	**-0.6**
SNAA				pmax	pmax			
	comp=Z,6.0nm,0.9s							
SNAA	**Sanae**	**83.47**	**162**	P	**P**	**01 53 37.3**	**-0.6**
BPAW	**Bear Paw Mtn.**	**84.07**	**335**	IAmb	IAmb	01 53 44.2		
	comp=Z,18nm,1.0s							
DAG	**Danmarks Havn**	**86.59**	**12**	*i* P	**P**	**01 53 53.0**	**-0.3**
DAG				pmax	pmax			
	comp=Z,7.0nm,0.8s							
DAG	**Danmarks Havn**	**86.59**	**12**	*i* P	**P**	**01 53 53.0**	**-0.3**
	comp=Z,6.6nm,0.8s							
QSPA	**South Pole Qui**	**87.20**	**180**	P	**P**	**01 53 57.2**	**+0.6**
QSPA				IAmb	IAmb	01 53 57.6		
	comp=Z,8.5nm,0.8s							
BMRD	**Maredsous**	**89.28**	**40**	P	**P**	**01 54 06.7**	**0.0**
RDOG	**Red Dog Mine**	**89.73**	**338**	P	**P**	**01 54 08.8**	**+0.4**
WLF	**Walferdange**	**90.12**	**40**	PcP	**PcP**	**01 54 12.3**	**+0.5**
VNDA	**Vanda**	**92.96**	**191**	LR	LR	02 28 34.5		
	comp=Z,56nm,21.6s,baz=116,slow=30							
NOA	**NORSAR Array B**	**93.42**	**29**	LR	LR	02 38 33.7		
	comp=Z,37nm,18.1s,baz=250,slow=37							
CLL	**Collm**	**94.54**	**39**	*i* P	**P**	**01 54 32.2**	**+1.2**
CLL	**Collm**	**94.54**	**39**	*i* P	**P**	**01 54 32.2**	**+1.2**
TSUM	**Tsumeb**	**96.87**	**110**	P	**P**	**01 54 43.5**	**+1.0**
TSUM				IAmb	IAmb	01 54 44.3		
	comp=Z,4.2nm,0.9s							
SYO	**Syowa Base**	**97.77**	**162**	*e*P	**P**	**01 54 43.2**	**-2.0**
VYHS	**Vyhne**	**98.46**	**42**	*e*P	Pdif	01 54 49.7	+0.8	
VYHS	**Vyhne**	**98.46**	**42**	*e*PDIFF	Pdif	01 54 49.7	+0.8	
LVZ	**Lovozero**	**102.00**	**20**	*e*P	**Pdif**	**01 55 05.3**	**+1.1**
MA2	**Magadan**	**111.07**	**335**	*i* PKIKP	**PKiKP**	**01 59 43.7**	**+0.1**
ZALV	**Zalesovo Beam**	**127.72**	**11**	PKP	**PKPdf**	**02 00 14.8**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=299,slow=3.1,SNR=6.1							
KURK	**Kurchatov**	**129.23**	**17**	*i* PKIKP	**PKPdf**	**02 00 18.3**	**-0.4**
MKAR	**Makanchi Array**	**133.81**	**16**	PKP	**PKPdf**	**02 00 25.3**	**-2.2**
	comp=Z,0.4nm,0.7s,baz=297,slow=4.1,SNR=3.4							
SONM	**Songino Array**	**134.79**	**353**	PKP	**PKPdf**	**02 00 29.1**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=340,slow=1.9,SNR=4.9							
SONM				PP	**PP**	**02 03 03.3**	**+0.9**	
	comp=Z,0.7nm,0.9s,baz=3.8,slow=4.5,SNR=4.4							
ASAR	**Alice Springs**	**137.22**	**230**	PKIKP	**PKPdf**	**02 00 34.0**	**-0.6**
ASAR	**Alice Springs**	**137.22**	**230**	PKP	**PKPdf**	**02 00 34.0**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=126,slow=4.9,SNR=4.9							
KSH	**Kashi**	**137.81**	**27**	PKP	**PKPdf**	**02 00 35.3**	**0.0**
KSH				PP	**PP**	**02 03 27.3**	**+5.5**
KSH				PKS	**PKSdf**	**02 04 10.3**	**-1.3**
KSH				SS	SS	02 21 31.5	+3.5	
KSH				AMB	AMB			
	comp=Z,330nm,4.9s							
KSH				LR	LR			
	comp=Z,370nm,7.0s							
WMQ	**Urumqi**	**137.94**	**13**	*e*PKP	**PKPdf**	**02 00 34.9**	**-0.5**
WRA	**Warramunga Arr**	**138.81**	**235**	PKP	**PKPdf**	**02 00 37.4**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=113,slow=2.8,SNR=4.5							
HHC	**Hu-ho-hao-te**	**140.60**	**345**	*e*PKP	**PKPdf**	**02 00 40.0**	**-0.4**
GTA	**Gaotai**	**143.63**	**359**	*i* PKP	PKPbc	02 00 43.4	+0.2	
GTA				pPKP	PKiKP	02 00 54.0	+4.8	
GTA				sPKP		02 00 58.1		
GTA				LR	LR			
	comp=Z,98nm,20.3s							
GTA				LR	LR			
	comp=Z,100nm,19.0s							
GTA				LR	LR			
	comp=Z,160nm,18.4s							
NJ2	**Nanjing**	**145.64**	**330**	*e*PKPbc	**PKPdf**	**02 00 48.8**	**-0.5**
LZH	**Lanzhou**	**146.68**	**353**	*e*PKPbc	**PKPbc**	**02 00 53.6**	**+0.7**
LZH				pPKP	pPKPdf	02 01 05.0	0.0	
LZH				sPKP		02 01 09.3		
LZH				LR	LR			
	comp=Z,140nm,17.9s							
LZH				LR	LR			
	comp=Z,140nm,18.1s							
LZH				LR	LR			
	comp=Z,170nm,20.0s							
FITZ	**Fitzroy Crossi**	**146.72**	**230**	PKPbc	**PKPdf**	**02 00 52.5**	**+1.0**
XAN	**Xi'an**	**147.72**	**345**	PKPbc	**PKPbc**	**02 00 55.4**	**-0.3**
WHN	**Wuhan**	**149.01**	**334**	PKPbc	**PKPdf**	**02 00 56.6**	**+1.6**
CD2	**Chengdu**	**151.79**	**352**	PKPbc	**PKPdf**	**02 00 57.5**	**-1.9**
CMAR	**Chiang Mai Arr**	**164.50**	**1**	PKPab	**PKPab**	**02 02 08.5**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=343,slow=5.9,SNR=7.3							

MAN **14** *01:47:50.8,5.°83N×126.°21E,h67km, MS4.1*
ISCJB **14** *01:47:51.4±0.4,5.°99N±0.°03×126.°17E±0.°05,h103km±3km, mb4.3/27, Error ellipse: s-maj=7.8km s-min=4.3km az=164.8*
NEIC **14** *01:47:52.9±0.8,6.°05N±0.°06×126.°2E±0.°1,h106km±6km, mb4.4/24*
DJA **14** *01:47:52.3±0.4,6.°N±4.°×12.°6E±.°,h104km±4km,M4.8/17, mB5.2/5,mb4.8/17,MLv5.0/4,Mw(mB)4.6/5*
BJI **14** *01:47:52.5±0.0,5.°90N×125.°99E,h111km,mb4.7/22, mB5.0/15*
IDC **14** *01:47:53.3±0.8,6.°05N×126.°05E,h106km±5km, mb4.0/21, mb1 4.2/24,mb1mx4.1/38,mbtmp4.4/24,MS3.0/2, Ms1 3.0/2,ms1mx2.6/30,Error ellipse: s-maj=19.3km s-min=8.7km az=76.0*

ISC 14 01:47:52.4±0.7, 5.°93N±0.°04×126.°13E±0.°05, h98km±5km, n93, σ1°67/119, mb4.3/32, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.45**	**292**	P		**Pn**		**01 48 06.0**	**-1.7**
DDMP				S		**Sn**		**01 48 17.7**	**-1.3**
MATI	**Mati**	**1.01**	**7**	P		**Pn**		**01 48 10.8**	**-2.1**
MATI				S		**Sn**		**01 48 26.1**	**-2.1**
GSPH	**General Santos**	**1.18**	**277**	⇑P		**Pn**		**01 48 13.2**	**-1.7**
GSPH				S		**Sn**		**01 48 31.0**	**-0.9**
DAV	**Davao City (W)**	**1.25**	**334**	P		**Pn**		**01 48 16.3**	**+0.6**
	181nm,0.3s,baz=218,slow=1.4,SNR=15								
DAV				S		**Sn**		**01 48 32.2**	**-1.0**
	278nm,0.3s,baz=105,slow=18,SNR=34								
DAV				LR		LR		01 48 38.1	
	comp=Z,114nm,21.7s,baz=192,slow=40								
DAV	**Davao City (W)**	**1.25**	**334**	⇓*e*P		**Pn**		**01 48 14.3**	**-1.3**
KCP	**Kidapawan**	**1.49**	**316**	⇓P		**Pn**		**01 48 19.0**	**+0.5**
KCP				S		**Sn**		**01 48 39.0**	**+0.7**
SKMP	**Bagumbayan, Su**	**1.68**	**290**	P		**Pn**		**01 48 20.0**	**-0.8**
SKMP				S		**Sn**		**01 48 42.2**	**-0.3**
BUKP	**Musuan**	**2.20**	**331**	P		**Pn**		**01 48 28.1**	**+0.5**
BUKP				S		**Sn**		**01 48 56.2**	**+1.6**
CTBH	**Cotabato--PC H**	**2.27**	**304**	⇑P		**Pn**		**01 48 29.3**	**+0.9**
CTBH				S		**Sn**		**01 48 56.8**	**+0.8**
CGP	**Cagayan de Oro**	**2.88**	**330**	⇓P		**Pn**		**01 48 38.5**	**+1.9**
CGP				S		**Sn**		**01 49 13.3**	**+2.7**
BUTP	**Butuan**	**3.06**	**351**	P		**Pn**		**01 48 40.4**	**+1.5**
BUTP				S		**Sn**		**01 49 19.8**	**+5.0**
PAGZ	**Pagadian**	**3.33**	**305**	P		**Pn**		**01 48 42.8**	**+0.2**
PAGZ				S		**Sn**		**01 49 15.8**	**-5.4**
TNTI	**Ternate**	**5.27**	**166**	P		**Pn**		**01 49 09.9**	**+1.0**
	190nm,0.8s,0.7nm								
TNTI	**Ternate**	**5.27**	**166**			**Pn**		**01 49 10.6**	**+1.7**
LUWI	**Luwuk**	**7.70**	**206**	P		**Pn**		**01 49 44.6**	**+2.7**
	114nm,0.6s,4μm1.0nm								
LUWI	**Luwuk**	**7.70**	**206**	Pn		**Pn**		**01 49 43.4**	**+1.5**
SANI	**Sanana**	**7.93**	**181**	P		**Pn**		**01 49 43.9**	**-1.2**
SIJI	**Sorong**	**8.48**	**143**	P		**Pn**		**01 49 54.1**	**+1.5**
	2.6nm,0.3s,baz=8.8,slow=13,SNR=4.0								
SIJI				S		**Sn**		**01 51 24.5**	**-2.2**
	0.7nm,0.3s,baz=239,slow=19,SNR=1.8								
SPSI	**Sidrap Palu**	**11.71**	**213**	P		**Pn**		**01 50 39.1**	**+2.8**
	27nm,0.7s								
KAPI	**Kappang**	**12.60**	**210**	P		**Pn**		**01 50 50.5**	**+2.3**
	24nm,0.3s,baz=24,slow=9.4,SNR=19								
BKSI	**Bulukumba**	**12.69**	**208**	P		**Pn**		**01 50 50.9**	**+1.5**
	11nm,0.8s,872nm								
SBUM	**Sibu**	**14.30**	**257**	Pn		**Pn**		**01 51 11.8**	**+1.4**
SOEI	**Soe**	**15.70**	**187**	P		**Pn**		**01 51 29.5**	**+1.2**
	46nm,0.8s								
SOEI	**Soe**	**15.70**	**187**			**Pn**		**01 51 29.5**	**+1.2**
SOEI				IAmb		IAmb		01 51 46.1	
	comp=Z,34nm,0.8s								
BATI	**Baumata**	**16.22**	**189**	P		**P**		**01 51 36.7**	**+0.7**
	comp=Z,7.2nm,0.3s,baz=192,slow=2.0,SNR=11								
BATI				S		**S**		**01 54 39.2**	**-1.9**
	comp=Z,4.1nm,0.3s,baz=124,slow=3.6,SNR=1.9								
PLAI	**Plampang**	**16.86**	**210**	P		**Pn**		**01 51 42.7**	**+0.1**
	comp=Z,31nm,1.0s								
TWSI	**Taliwang, Sumb**	**17.25**	**212**	P		**P**		**01 51 47.0**	**-0.3**
	comp=Z,20nm,0.7s,comp=Z,528nm								
MTN	**Manton Dam**	**19.31**	**165**	P		**P**		**01 52 10.7**	**+0.8**
MTN				IAmb		IAmb		01 52 12.8	
	comp=Z,34nm,1.0s								
KNRA	**Kununurra**	**21.63**	**173**	P		**P**		**01 52 36.1**	**+1.3**
LEM	**Lembang**	**22.40**	**236**	P		**P**		**01 52 44.2**	**+0.9**
	comp=Z,36nm,0.5s,baz=330,slow=20,SNR=7.8								
FITZ	**Fitzroy Crossi**	**23.88**	**181**	P		**P**		**01 52 57.5**	**+0.4**
	comp=Z,6.0nm,0.5s,baz=6.1,slow=8.0,SNR=31								
FITZ				PcP		**PcP**		**01 56 38.2**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=31,slow=5.9,SNR=4.2								
FITZ	**Fitzroy Crossi**	**23.88**	**181**	P		**P**		**01 52 58.0**	**+0.8**
FITZ				IAmb		IAmb		01 53 02.8	
	comp=Z,7.5nm,0.7s								
IPM	**Ipoh**	**25.04**	**268**	P		**P**		**01 53 08.2**	**+0.4**
IPM				IAmb		IAmb		01 53 19.1	
	comp=Z,12nm,1.0s								
NJ2	**Nanjing**	**26.86**	**346**	*e*P		**P**		**01 53 24.0**	**0.0**
NJ2				pmax		pmax			
	comp=Z,16nm,0.6s								
WRA	**Warramunga Arr**	**26.95**	**163**	P		**P**		**01 53 25.2**	**+0.3**
	comp=Z,5.4nm,0.6s,baz=345,slow=10,SNR=31								
WRA				ScP		**ScP**		**02 00 15.6**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=344,slow=3.1,SNR=4.5								
WB2	**Warramunga Arr**	**26.96**	**163**	P		**P**		**01 53 25.4**	**+0.4**
WB2				IAmb		IAmb		01 53 29.2	
	comp=Z,7.1nm,0.6s								
PSI	**Prapat**	**27.30**	**265**	P		**P**		**01 53 28.9**	**+0.6**
	comp=Z,1.7nm,0.4s,baz=114,slow=6.4,SNR=4.0								
PSI				PcP		**PcP**		**01 56 45.2**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=73,slow=7.7,SNR=3.7								
RPSI	**Rantau Prapat**	**27.32**	**264**	P		**P**		**01 53 28.9**	**+0.6**
RPSI						**PcP**		**01 56 45.2**	**-0.4**
SISI	**Saibi**	**27.95**	**256**	P		**P**		**01 53 33.8**	**-0.1**
PSA00	**Pibara Seismi**	**28.02**	**193**	P		**P**		**01 53 35.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**29.29**	**298**	P		**P**		**01 53 44.7**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=114,slow=9.0,SNR=4.4								
CMAR				PcP		**PcP**		**01 56 51.2**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=144,slow=0.9,SNR=5.8								
KMI	**Kunming**	**29.43**	**313**	P		**P**		**01 53 48.8**	**+1.6**
KMI				pmax		pmax			
	comp=Z,15nm,0.6s								
KMI				pmax		pmax			
	comp=Z,150nm,4.9s								
AS31	**Alice Springs**	**30.38**	**166**	P		**P**		**01 53 56.3**	**+0.9**
ASAR	**Alice Springs**	**30.38**	**166**	P		**P**		**01 53 56.2**	**+0.8**
	comp=Z,5.3nm,0.6s,baz=345,slow=7.2,SNR=72								
ASAR				PcP		**PcP**		**01 56 53.6**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=342,slow=2.4,SNR=4.7								
ASAR				ScP		**ScP**		**02 00 24.3**	**-2.6**
	comp=Z,0.6nm,0.7s,baz=341,slow=3.3,SNR=4.0								
KSRS	**Korea Array**	**31.42**	**3**	LR		LR		02 07 06.7	
	comp=Z,9.6nm,19.5s,baz=20,slow=37								
CD2	**Chengdu**	**32.53**	**323**	P		**P**		**01 54 13.3**	**-1.0**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
MORW	**Morawa**	**36.13**	**195**	P		**P**		**01 54 45.6**	**+0.4**
LZH	**Lanzhou**	**36.32**	**329**	*e*P		**P**		**01 54 46.5**	**-0.5**
LZH				pP		pwP		01 55 12.3	+1.0
LZH				sP		sP		01 55 25.6	+5.7
LZH				pmax		pmax			
	comp=Z,22nm,1.1s								
LZH				pmax		pmax			
	comp=Z,69nm,5.2s								
LZH				LR		LR			
	comp=Z,220nm,13.0s								
LZH				LR		LR			
	comp=Z,240nm,13.2s								
LZH				LR		LR			
	comp=Z,360nm,16.4s								
HHC	**Hu-ho-hao-te**	**37.13**	**342**	*e*P		**P**		**01 54 55.1**	**+1.3**
HHC				pmax		pmax			
	comp=Z,4.0nm,1.1s								
CN2	**Changchun**	**37.72**	**359**	*e*P		**P**		**01 54 59.3**	**+0.8**
USRK	**Ussuriysk Ar.**	**38.46**	**7**	P		**P**		**01 55 05.8**	**+1.0**
	comp=Z,2.8nm,0.7s,baz=176,slow=9.6,SNR=5.4								
NWAO	**Narrogin (SRO)**	**39.56**	**192**	P		**P**		**01 55 14.8**	**+0.7**
NWAO	**Narrogin (SRO)**	**39.56**	**192**	P		**P**		**01 55 14.6**	**+0.6**
NWAO				IAmb		IAmb		01 55 15.6	
	comp=Z,9.4nm,0.6s								
BBOO	**Buckleboo**	**39.67**	**167**	P		**P**		**01 55 15.6**	**+0.6**
STKA	**Stephens Creek**	**40.39**	**160**	P		**P**		**01 55 22.4**	**+1.4**
	comp=Z,15nm,0.7s,baz=333,slow=8.8,SNR=42								
STKA	**Stephens Creek**	**40.39**	**160**	P		**P**		**01 55 21.9**	**+0.9**
STKA				IAmb		IAmb		01 55 23.2	
	comp=Z,3.0nm,0.7s								
GTA	**Gaotai**	**40.91**	**328**	*e*P		P		01 55 32.0	+6.6
GTA				pP		sP		01 55 59.1	+0.5
GTA				sP		pwP		01 56 11.3	+21
GTA				PcP		**PcP**		**01 57 25.4**	**+1.2**
GTA				S		**S**		**02 01 37.0**	**+7.0**
GTA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
GTA				pmax		pmax			
	comp=Z,81nm,5.9s								
GTA				LR		LR			
	comp=N,78nm,15.6s								
GTA				LR		LR			
	comp=E,140nm,16.2s								
GTA				LR		LR			
	comp=Z,150nm,15.6s								
TAPN	**Taplejung**	**42.26**	**305**	*e*P		**P**		**01 55 36.9**	**+0.2**
	comp=Z,7.0nm,0.5s								
ODAN	**Odare**	**42.33**	**304**	*e*P		**P**		**01 55 37.9**	**+0.6**
	comp=Z,9.8nm,0.6s								
RAMN	**Ramite**	**43.02**	**304**	*e*P		**P**		**01 55 43.2**	**+0.4**
	comp=Z,11nm,0.7s								
JIRN	**Jiri**	**43.62**	**304**	*e*P		**P**		**01 55 47.9**	**+0.1**
	comp=Z,16nm,0.5s								
GUN	**Gumba**	**43.97**	**305**	*e*P		**P**		**01 55 50.6**	**0.0**
	comp=Z,16nm,0.5s								
SONM	**Songino Array**	**45.03**	**341**	P		**P**		**01 55 57.3**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=157,slow=7.3,SNR=5.7								
SONM				PcP		**PcP**		**01 57 37.9**	**0.0**
	comp=Z,0.7nm,0.7s,baz=140,slow=4.0,SNR=4.4								
WMQ	**Urumqi**	**50.59**	**324**	*e*P		**P**		**01 56 41.6**	**+0.2**
WMQ				LR		LR			
	comp=Z,280nm,28.9s								
WMQ				LR		LR			
	comp=Z,310nm,29.2s								
MKAR	**Makanchi Array**	**55.42**	**325**	P		**P**		**01 57 15.7**	**-1.1**
	comp=Z,1.3nm,0.4s,baz=119,slow=7.5,SNR=28								
MKAR				PcP		**PcP**		**01 58 15.2**	**-0.8**
	comp=Z,2.8nm,0.6s,baz=120,slow=3.9,SNR=12								
KSH	**Kashi**	**56.08**	**314**	P		**P**		**01 57 24.5**	**+2.8**
KSH				PP		**PP**		**01 59 32.3**	**+4.6**
KSH				PcS		**PcS**		**02 02 19.4**	**0.0**
KSH				S		**S**		**02 05 03.1**	**-0.1**
KSH				ScS		**ScS**		**02 06 58.1**	**-3.8**
KSH				LR		LR			
	comp=Z,380nm,5.2s								
KSH				LR		LR			
	comp=Z,340nm,5.0s								
KSH				LR		LR			
	comp=Z,500nm,6.2s								
NIL	**Nilore**	**56.12**	**307**	P		**P**		**01 57 21.4**	**-0.6**
KBL	**Kabul**	**59.73**	**307**	P		**P**		**01 57 46.7**	**-0.8**
KBL				IAmb		IAmb		01 57 48.0	
	comp=Z,2.7nm,0.6s								
BTK	**Batken**	**59.98**	**313**	P		**P**		**01 57 48.2**	**-0.7**
BTK				IAmb		IAmb		01 57 49.1	
	comp=Z,2.9nm,0.9s								
GAR	**Garm**	**60.01**	**312**	P		**P**		**01 57 48.5**	**-0.7**
KK31	**Karatay Array**	**61.23**	**316**	P		**P**		**01 57 56.4**	**-0.8**
KKAR	**Karatay Array**	**61.23**	**316**	P		**P**		**01 57 56.4**	**-0.8**
GEYT	**Alibeck**	**69.06**	**308**	P		**P**		**01 58 47.9**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=142,slow=7.5,SNR=6.1								
GYA0B	**ALIBECK ARRAY**	**69.06**	**308**	P		**P**		**01 58 47.5**	**-0.5**
ABKAR	**Akbulak array**	**70.08**	**320**	P		**P**		**01 58 53.1**	**-0.9**
CASY	**Casey**	**72.92**	**187**	P		**P**		**01 59 11.6**	**+0.9**
CASY				IAmb		IAmb		01 59 12.9	
	comp=Z,6.7nm,0.7s								
RAYN	**Ar Rayn**	**79.08**	**293**	P		**P**		**01 59 45.4**	**-1.3**
RAYN				IAmb		IAmb		01 59 46.8	
	comp=Z,4.8nm,0.8s								
KBZ	**Khabaz**	**81.04**	**313**	P		**P**		**01 59 54.1**	**-2.6**
	comp=Z,2.4nm,0.9s,baz=153,slow=2.3,SNR=3.9								
ILAR	**Eielson Array**	**83.38**	**26**	P		**P**		**02 00 07.6**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=236,slow=4.9,SNR=12								
MAW	**Mawson**	**85.60**	**200**	P		**P**		**02 00 20.0**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=22,slow=5.4,SNR=2.1								
VNDA	**Vanda**	**85.67**	**173**	P		**P**		**02 00 20.2**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=336,slow=7.4,SNR=5.5								
BR131	**Keskin Array S**	**88.17**	**310**	P		**P**		**02 00 31.1**	**-1.7**
BR131				IAmb		IAmb		02 00 32.6	
	comp=Z,2.1nm,0.8s								
BRTR	**Keskin Array B**	**88.17**	**310**	P		**P**		**02 00 30.5**	**-2.4**
	comp=Z,2.1nm,0.8s,baz=99,slow=4.1,SNR=11								
BRTR				LR		LR		02 48 03.8	
	comp=Z,23nm,18.1s,baz=256,slow=41	

comp=Z,0.3nm,0.5s,baz=258,slow=5.5,SNR=4.4
INK Inuvik 74.36 22 P P 02 27 44.6 -0.1
comp=Z,0.8nm,0.6s,baz=252,slow=4.7,SNR=3.0
INK Inuvik 74.36 22 IAmb IAmb 02 27 58.5
comp=Z,1.2nm,0.7s
FINES FINESS Array B 91.08 335 P P **02 29 11.6 +0.3**
comp=Z,5.3nm,1.0s,baz=84,slow=4.3,SNR=2.8
VNDA Vanda 91.52 176 P P **02 29 13.9 +1.0**
comp=Z,0.7nm,0.3s,baz=294,slow=4.5,SNR=11
LPAZ La Paz 148.12 99 PKPbc **PKiKP 02 35 54.8 -0.7**
comp=Z,0.7nm,0.5s,baz=262,slow=6.5,SNR=4.7

*NCEDC **14** 02:27:42.4±1.2, 37.63N±0.02×118.89W±0.02, h5km±2km, Md2.8*
NEIC 14 02:27:42.4±1.2, 37.62N±0.02×118.91W±0.02, h9km±1km, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEMM	**East Mammoth H**	**0.05**	**330**		**Pg**	02 27 44.1	-0.5
MLAC	**Mammoth, Mammo**	**0.06**	**81**		**Pg**	02 27 43.9	-0.7
MLAC					Sg	02 27 47.9	+1.8
MCVM	**Convict Lake**	**0.07**	**116**		**Pg**	02 27 44.0	-0.8
MMLB	**Mammoth Lakes**	**0.07**	**304**		**Pg**	02 27 44.6	-0.2
OMMB	**Old Mammoth Mi**	**0.07**	**264**	Pg	**Pg**	02 27 44.0	-0.9
MLIM	**Lincoln Peak**	**0.09**	**280**		**Pg**	02 27 45.1	+0.1
MDYM	**Dry Creek**	**0.09**	**294**		**Pg**	02 27 45.0	0.0
MLHM	**Little Hot Cre**	**0.09**	**52**		**Pg**	02 27 44.6	-0.4
MMPM	**Mammoth Pass**	**0.10**	**264**		**Pg**	02 27 45.0	-0.1
MMSM	**Mammoth Summit**	**0.10**	**276**		**Pg**	02 27 45.2	0.0
LMCR	**Lookout Mounta**	**0.11**	**344**		**Pg**	02 27 45.3	+0.1
MRDM	**Red Cones**	**0.12**	**259**		**Pg**	02 27 45.5	+0.1
MINS	**Minaret Summit**	**0.13**	**285**		**Pg**	02 27 45.5	-0.1
MINS					Sg	02 27 47.5	-0.2
MDPB	**Devils Postpil**	**0.14**	**275**	Pg	**Pg**	02 27 45.1	-0.5
MDCM	**Deadman Creek**	**0.14**	**310**		**Pg**	02 27 45.6	-0.1
RCCR	**Rock Creek Can**	**0.20**	**132**		**Pg**	02 27 46.4	-0.3
MGNR	**McGee Canyon**	**0.26**	**41**		**Pg**	02 27 47.7	0.0
WMD		**0.28**	**130**		**Pg**	02 27 47.8	-0.1
BENR	**Benton**	**0.28**	**70**		**Pg**	02 27 47.8	-0.3
CASR	**Casa Diablo Mo**	**0.29**	**99**		**Pg**	02 27 48.1	-0.1
SCHCA	**Scheelite**	**0.31**	**146**		**Pg**	02 27 48.5	-0.2
MRCM	**Red Rock Canyo**	**0.32**	**80**		**Pg**	02 27 48.7	-0.2
MCDM	**Chidago Canyon**	**0.38**	**101**		**Pg**	02 27 50.0	+0.1
MTUM	**Tungsten Hills**	**0.38**	**134**		**Pg**	02 27 49.9	-0.1
ANTCA	**Antelope Range**	**0.40**	**42**		**Pg**	02 27 50.3	-0.1
MFBM	**Five Bridges**	**0.43**	**117**		**Pg**	02 27 51.1	+0.3
KCC	**Kaiser Creek**	**0.44**	**228**		**Pg**	02 27 51.1	+0.1
MLNR	**Milner Canyon**	**0.45**	**93**		**Pg**	02 27 51.2	0.0
LUL	**Lundy Lake**	**0.48**	**333**		**Pg**	02 27 51.9	0.0
POCCA	**Poleta Canyon**	**0.56**	**117**		**Pg**	02 27 53.1	-0.2
BONR	**Boundary Peak**	**0.58**	**55**		**Pg**	02 27 53.6	-0.2
MMIM	**Miami Mountain**	**0.69**	**253**		**Pg**	02 27 55.9	0.0
LHV	**Little Huntoon**	**0.71**	**27**		**Pg**	02 27 56.0	0.0
TIN	**Tinemaha, Big**	**0.78**	**136**		**Pg**	02 27 57.4	-0.1
FRI	**Friant**	**0.90**	**226**		**Pg**	02 27 59.3	-0.4
MHDM	**Hidden Dam**	**0.93**	**238**		**Pg**	02 28 00.2	-0.1
HELL	**Mitchell Peak,**	**0.94**	**186**		**Pg**	02 28 00.1	-0.4
WAKR	**Walker**	**0.98**	**335**		**Pg**	02 28 01.1	-0.1
NV11	**Mina Array Sit**	**1.00**	**36**		**Pg**	02 28 01.5	-0.2
RYN	**Ryan**	**1.05**	**17**		**Pg**	02 28 02.5	-0.1
RYN					Sg	02 28 15.6	-0.7
MYLM	**Yosemite Lake**	**1.23**	**259**		**Pn**	02 28 05.5	-0.2
CMB	**Columbia Colle**	**1.24**	**290**		**Pn**	02 28 05.4	-0.6
CMB	**Columbia Colle**	**1.24**	**290**	Sg	**Sb**	02 28 21.7	-0.6
BFC	**Buffalo Canyon**	**1.39**	**337**		**Pb**	02 28 08.6	0.0
MCUB	**Cepperopolis B**	**1.40**	**285**		**Pn**	02 28 08.4	+0.2
GNO	**Genoa**	**1.50**	**331**		**Pb**	02 28 12.3	-0.2
KVN	**Kaiserville**	**1.56**	**24**		**Pb**	02 28 11.8	+0.2
PWMM	**Westland Maint**	**1.58**	**222**		**Pg**	02 28 12.3	-0.4
MNHB	**New Hogan Dam**	**1.60**	**290**		**Pb**	02 28 12.5	+0.5
DAC	**Darwin (Calif)**	**1.71**	**141**	Pn	**Pn**	02 28 13.3	+0.8
BRMM	**Rolling Bench**	**1.72**	**243**		**Pb**	02 28 14.6	+0.4
BMSM	**Mercy Hot Spri**	**1.79**	**238**		**Pb**	02 28 15.6	+0.2
ASMM	**Slate Mountain**	**1.84**	**311**		**Pb**	02 28 16.2	-0.2
VPEM	**Volcano Peak E**	**1.88**	**152**		**Pb**	02 28 17.3	+0.2
SFJWR	**San Luis Fatjo**	**1.89**	**253**		**Pb**	02 28 16.8	-0.4
WASM	**Alta Sierra Ca**	**1.90**	**171**		**Pb**	02 28 17.3	-0.1
AASM	**Arroyo Seco**	**1.92**	**296**		**Pb**	02 28 17.4	-0.1
SLD	**San Luis Dam**	**1.92**	**254**		**Pb**	02 28 17.5	-0.1
BAVM	**Antelope Valle**	**1.96**	**241**		**Pb**	02 28 17.9	-0.4
HPCM	**Pacheco Lake**	**1.97**	**254**		**Pb**	02 28 18.1	-0.4
PHRM	**Hernandez Vall**	**1.97**	**231**		**Pb**	02 28 18.2	-0.3
ISA	**Isabella, Lake**	**1.98**	**170**		**Pb**	02 28 18.7	0.0
BEMM	**Emmet**	**1.99**	**232**		**Pb**	02 28 18.3	-0.6
BBGB	**Big Mountain B**	**2.00**	**239**		**Pb**	02 28 19.0	0.0
BEHM	**Elkhorn Ranch**	**2.05**	**243**		**Pb**	02 28 19.8	0.0
BBNM	**San Benito**	**2.06**	**238**		**Pb**	02 28 20.1	+0.2
PMPB	**Monarch Peak**	**2.07**	**228**	Pn	**Pb**	02 28 19.3	-0.8
AFDM	**Forest Hills D**	**2.10**	**310**		**Pb**	02 28 19.9	-0.7
PAHR	**Pah Rah Range**	**2.12**	**350**	Pn	**Pb**	02 28 20.3	-0.8
BPIM	**Pinnacles**	**2.13**	**239**		**Pb**	02 28 20.4	-0.8
CDC	**Canada Road**	**2.14**	**255**		**Pb**	02 28 21.0	-0.3
HSPM	**Sheep**	**2.14**	**257**		**Pb**	02 28 21.6	+0.2
BCGM	**Cienega Road**	**2.15**	**246**		**Pb**	02 28 21.2	-0.3
PAGB	**Antelope Grade**	**2.17**	**210**	Pn	**Pn**	02 28 20.3	+1.5
SAO	**San Andreas Ge**	**2.20**	**248**	Pn	**Pb**	02 28 21.5	-0.9
TPNV	**Topopah Spring**	**2.22**	**107**	Pn	**Pn**	02 28 19.4	-0.3
BSGM	**Shirttail Gulc**	**2.23**	**238**		**Pb**	02 28 21.8	-1.1
FRP	**Fremont Peak**	**2.24**	**248**		**Pb**	02 28 21.8	-1.3
SCZ	**Santa Cruz**	**2.24**	**244**		**Pb**	02 28 21.4	-1.7
BJCM	**Johnson Can.**	**2.26**	**242**		**Pb**	02 28 21.8	-1.5
BSRM	**Salinas Radio**	**2.29**	**246**		**Pb**	02 28 22.3	-1.7
BSMM	**Soledad Missio**	**2.37**	**239**		**Pb**	02 28 23.8	-1.4
PCCM	**Crazy Canyon**	**2.37**	**230**		**Pb**	02 28 24.0	-1.3
HAST	**Hastings Reser**	**2.45**	**241**		**Pb**	02 28 24.6	-2.0
BEKR	**Beckworth**	**2.51**	**334**		**Pb**	02 28 28.9	+1.0
R11A	**Troy Canyon, C**	**2.72**	**74**		**Pb**	02 28 31.7	+0.3

IDC 14 02:42:41.4±4.1, 28.56S×177.51W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/18, mbtmp3.7/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/23, Error ellipse: s-maj=82.5km s-min=24.3km az=96.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.78**	**207**	Pn	**Pn**	02 43 00.3	+0.7
	422nm,0.3s,baz=84,slow=7.2,SNR=8.0						
RAO					Sn	02 43 11.7	-0.3
	386nm,0.3s,baz=98,slow=24,SNR=8.5						
DZM	**Mont Dzumac**	**15.88**	**290**	LR	LR	02 51 40.7	
	comp=Z,95nm,19.6s,baz=9.5,slow=34						
ASAR	**Alice Springs**	**43.67**	**265**	P	P	02 50 47.3	-0.9
	0.2nm,0.5s,baz=102,slow=6.6,SNR=2.2						
WRA	**Warramunga Arr**	**44.49**	**270**	P	P	02 50 55.1	+0.3
	1.1nm,0.4s,baz=110,slow=7.3,SNR=12						
FINES	**FINESS Array B**	**143.56**	**341**	PKP	PKPbc	03 02 16.0	+1.2
	2.4nm,0.7s,baz=67,slow=4.0,SNR=8.2						

*ISCJB **14** 03:01:58.4±0.5, 2.31N±0.04×99.11E±0.05, h150km, mb3.7/5, Error ellipse: s-maj=8.0km s-min=5.7km az=151.2*
*IDC **14** 03:01:58.5±1.2, 2.18N×99.04E, h144km±4km, mb3.5/5, mb1 3.7/6, mb1mx3.3/40, mbtmp3.9/6, Error ellipse: s-maj=51.2km s-min=15.3km az=57.0*
*DJA **14** 03:01:59.2±0.4, 2°N±2°×97°E±°, h144km±4km, M4.1/11, mb4.6/1, MLv3.9/11*
ISC 14 03:01:59.2±0.8, 2.29N±0.05×99.10E±0.07, h150km, n19, σ1s13/23, mb3.8/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.54**	**341**	P	**Pn**	**03 02 21.1**	**+0.1**
	75nm,0.3s,baz=153,slow=7.5,SNR=143						
PSI				S	**Sn**	**03 02 36.6**	**-0.9**
	30nm,0.3s,baz=46,slow=20,SNR=55						
TSI	**Tuntungan**	**1.31**	**336**	P	Pn	03 02 20.6	-6.3
KCSI	**Kotacane, Aceh**	**1.81**	**313**	P	**Pn**	**03 02 32.6**	**+0.4**
KCSI				S	**Sn**	**03 02 56.8**	**-0.6**
GSI	**Gunungsitoli**	**1.81**	**237**	P	**Pn**	**03 02 33.4**	**+1.2**
TPTI		**2.15**	**297**	P	**Pn**	**03 02 36.7**	**+0.6**
PBSI	**Pulau Batu**	**2.47**	**199**	P	**Pn**	**03 02 41.0**	**+1.0**
PBSI				S	**Sn**	**03 03 11.7**	**+0.2**
SNSI	**Sinabang, Aceh**	**2.77**	**272**	P	**Pn**	**03 02 45.1**	**+1.3**
SNSI				S	**Sn**	**03 03 16.8**	**-1.3**
MLSI	**Meulaboh, Aceh**	**3.33**	**306**	P	**Pn**	**03 02 51.1**	**+0.3**
MLSI				S	**Sn**	**03 03 29.1**	**-1.7**
PDSI	**Padang**	**3.46**	**157**	P	**Pn**	**03 02 53.4**	**+0.9**
SISI	**Saibi**	**3.59**	**180**	P	**Pn**	**03 02 52.9**	**-1.3**
PPSI	**Pulau Pagai**	**5.10**	**170**	P	**Pn**	**03 03 11.2**	**-2.8**
TRTT	**Trang**	**5.54**	**6**	P	**Pn**	**03 03 19.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**16.07**	**359**	P	**P**	**03 05 37.9**	**+0.5**
	0.9nm,0.3s,baz=191,slow=12,SNR=11						
KAPI	**Kappang**	**21.87**	**109**	P	**P**	**03 06 41.5**	**+1.2**
	3.5nm,0.4s,baz=346,slow=8.3,SNR=3.3						
WRA	**Warramunga Arr**	**41.03**	**124**	P	**P**	**03 09 27.6**	**-0.6**
	2.8nm,0.5s,baz=301,slow=9.1,SNR=45						
WRA				PcP	**PcP**	**03 11 24.8**	**-0.5**
	0.2nm,0.4s,baz=326,slow=2.2,SNR=5.2						
ASAR	**Alice Springs**	**42.57**	**129**	P	**P**	**03 09 39.7**	**-0.9**
	0.8nm,0.3s,baz=302,slow=8.0,SNR=21						
SONM	**Songino Array**	**45.80**	**7**	P	**P**	**03 10 06.4**	**+0.3**
	0.3nm,0.6s,baz=201,slow=7.7,SNR=2.1						
MKAR	**Makanchi Array**	**46.68**	**344**	P	**P**	**03 10 13.5**	**+0.7**
	0.4nm,0.3s,baz=152,slow=9.3,SNR=14						
BDFB	**Brasilia**	**144.99**	**246**	PKP	PKPbc	03 21 18.6	-0.9
	2.0nm,0.8s,baz=176,slow=5.3,SNR=3.2						

IDC 14 03:09:48.5±2.5, 0.97S×127.67E, h0km, mb3.2/2, mb1 3.2/3, mb1mx3.1/25, mbtmp3.0/3, ML2.8/1, Error ellipse: s-maj=217.0km s-min=26.6km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.95**	**161**	P	P	03 14 22.4	+0.1
	0.0nm,0.3s,baz=340,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**23.36**	**165**	P	P	03 14 58.7	-0.1
	0.1nm,0.5s,baz=346,slow=10,SNR=7.5						
MKAR	**Makanchi Array**	**61.95**	**326**	P	P	03 20 10.2	0.0
	0.2nm,0.3s,baz=125,slow=8.4,SNR=5.3						

*IDC **14** 03:42:27.3±2.8, 4.99S×145.72E, h75km±27km, mb3.3/4, mb1 3.6/8, mb1mx3.3/33, mbtmp3.7/8, MS3.0/2, Ms1 3.0/2, ms1mx2.4/26, Error ellipse: s-maj=28.8km s-min=18.5km az=62.0*
ISC 14 03:42:24.1±1.4, 4.93S±0.1×145.96E±0.2, h35km, n9, σ2s21/9, mb3.7/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.66**	**165**	P	**Pn**	**03 43 33.5**	**+1.4**
	7.3nm,0.3s,baz=352,slow=7.1,SNR=20						
PMG				S	**Sn**	**03 44 27.3**	**+2.2**
	20nm,0.3s,baz=338,slow=24,SNR=9.6						
JAY	**Jayapura**	**5.70**	**294**	P	**Pn**	**03 43 49.1**	**+2.7**
	0.7nm,0.3s,baz=90,slow=11,SNR=3.6						
JAY				LR	LR	03 45 40.1	
	comp=Z,47nm,20.3s,baz=128,slow=35						
CTA	**Charters Tower**	**15.12**	**179**	P	**Pn**	**03 45 55.5**	**+0.2**
	0.1nm,0.3s,baz=30,slow=20,SNR=1.5						
WRA	**Warramunga Arr**	**18.74**	**216**	P	**P**	**03 46 38.0**	**-2.1**
	0.2nm,0.3s,baz=31,slow=11,SNR=10						
ASAR	**Alice Springs**	**21.97**	**211**	P	**P**	**03 47 13.4**	**-1.7**
	0.5nm,0.5s,baz=42,slow=8.0,SNR=12						
FITZ	**Fitzroy Crossi**	**23.77**	**235**	P	**P**	**03 47 31.6**	**-2.0**
	1.7nm,0.5s,baz=42,slow=11,SNR=11						
STKA	**Stephens Creek**	**27.16**	**188**	P	**P**	**03 48 02.6**	**-1.7**
	0.8nm,0.4s,baz=7.3,slow=11,SNR=4.4						
AFI	**Afiamalu**	**42.64**	**105**	LR	LR	04 07 42.4	
	comp=Z,57nm,19.0s,baz=233,slow=35						
ILAR	**Eielson Array**	**84.89**	**23**	P	**P**	**03 54 54.2**	**-0.9**
	0.3nm,0.6s,baz=249,slow=4.9,SNR=7.0						

IDC 14 03:54:45.3±4.1, 22.50S×148.12E, h0km, mb1 3.3/4, mb1mx3.3/37, mbtmp3.2/4, ML3.2/4, Error ellipse: s-maj=39.5km s-min=22.5km az=85.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.96**	**324**	Pn	Pn	03 55 34.6	+1.0
	4.1nm,0.3s,baz=132,slow=16,SNR=44						
CTA				Pg	Pb	03 55 40.6	+1.5
	5.9nm,0.3s,baz=138,slow=16,SNR=23						
CTA				Lg	Lg	03 56 18.9	
	12nm,0.3s,baz=223,slow=21,SNR=14						
STKA	**Stephens Creek**	**10.99**	**210**	Pn	Pn	03 57 23.6	-0.4
	0.2nm,0.3s,baz=48,slow=16,SNR=3.0						
WRA	**Warramunga Arr**	**13.10**	**279**	Pn	Pn	03 57 51.2	-1.7
	0.1nm,0.3s,baz=102,slow=11,SNR=3.1						
WRA				Lg	Lg	04 01 41.8	
	0.1nm,0.3s,baz=104,slow=29,SNR=7.5						
I07AU	**WARRAMUNGA INI**	**3.11**	**279**	*i*		05 15 15.0	
	baz=104,slow=308,SNR=6.2						
ASAR	**Alice Springs**	**13.14**	**262**	Pn	Pn	03 57 51.9	-1.4
	0.1nm,0.3s,baz=91,slow=13,SNR=4.8						
ASAR				Sn	Sn	04 00 21.5	+1.2
	0.0nm,0.3s,baz=83,slow=23,SNR=3.9						
ASAR				Lg	Lg	04 01 44.3	
	baz=81,slow=28,SNR=4.3						

IDC 14 04:01:45.6±3.1, 7.23S×129.67E, h121km±44km, mb3.0/1, mb1 3.0/5, mb1mx2.9/42, mbtmp3.3/5, Error ellipse: s-maj=78.6km s-min=23.4km az=90.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.51**	**14**	P	Pn	04 03 19.1	0.0
	1.0nm,0.3s,baz=194,slow=18,SNR=1.3						
SIJI				S	Sn	04 04 22.7	-9.4
	1.4nm,0.3s,baz=221,slow=19,SNR=2.0						
FITZ	**Fitzroy Crossi**	**11.50**	**200**	P	Pn	04 04 26.9	+0.7
	0.1nm,0.3s,baz=30,slow=12,SNR=1.3						
FITZ				S	Sn	04 06 25.9	-6.9
	0.1nm,0.3s,baz=338,slow=19,SNR=4.2						
WRA	**Warramunga Arr**	**13.43**	**161**	P	Pn	04 04 49.5	-2.0
	0.1nm,0.3s,baz=334,slow=12,SNR=1.8						
WRA				S	Sn	04 07 11.9	-7.7
	0.2nm,0.3s,baz=335,slow=22,SNR=4.6						
ASAR	**Alice Springs**	**16.84**	**166**	P	P	04 05 35.5	+1.0
	baz=330,slow=9.2,SNR=1.2						
MKAR	**Makanchi Array**	**68.23**	**327**	P	P	04 12 33.3	0.0
	0.2nm,0.6s,baz=134,slow=6.2,SNR=1.7						

*NIED **14** 04:06:00, 35.60N×140.80E, h47km, Mw5.6 Best double couple: M0 2.51000×10^17 NP1:ϕs224.00000°, δ22.00000°, λ117.00000°. NP2:ϕs16.00000°, δ70.00000°, λ80.00000°.*
*BJI **14** 04:06:10.1±0.0, 35.53N×140.95E, h42km, mb5.3/79, mB5.4/64, Ms5.3/83, Ms7 5.2/79*
*MOS **14** 04:06:14.4±0.9, 35.82N×140.48E, h38km, mb5.7/96, MS4.9/33, Error ellipse: s-maj=6.2km s-min=3.6km az=110.3*
*JMA **14** 04:06:15.0±0.2, 35.64N×140.73E, h49km±2km, M5.5 Broadband fault plane solution: P waves. NP1: ϕs12.00000°, δ66.00000°, λ93.00000°. NP2:ϕs185.00000°, δ24.00000°, λ83.00000°. Principal axes: T Plg69.0000°, Azm288.0000°; N Plg3.0000°, Azm191.0000°; P Plg21.0000°, Azm100.0000°;*
JMA Felt IV J1.
*NEIC **14** 04:06:15.3±1.7, 35.65N±0.05×140.66E±0.08, h42km±1km, mb5.4/400, Ms_20 5.0/140, Mwb5.5, Mwc5.6(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr1.65; Mθθ-0.31; Mϕϕ-1.33; Mrθ0.61; Mθϕ-0.35; Mϕr1.63; Fault plane solution: M0 2.34000×10^17 NP1:ϕs19.58000°, δ69.25000°, λ91.43000°. NP2:ϕs195.56000°, δ20.79000°, λ86.24000°. Principal axes: T 2.4339, Plg66.0000°, Azm292.0000°; N -0.2095, Plg1.0000°, Azm199.0000°; P -2.2244, Plg24.0000°, Azm108.0000°;*
*ISCJB **14** 04:06:15.8±0.2, 35.57N±0.02×140.53E±0.02, h57km±1km, mb5.4/190, MS5.1/79 Error ellipse: s-maj=2.8km s-min=2.3km az=138.4*
*IDC **14** 04:06:17.4±1.6, 35.53N×140.55E, h64km±13km, mb4.9/35, mb1 5.0/38, mb1mx4.9/42, mbtmp5.1/38, MS4.8/38, Ms1 4.8/38, ms1mx4.8/43, Error ellipse: s-maj=11.7km s-min=8.3km az=105.0*
*GCMT **14** 04:06:17.3±0.1, 35.60N±0.01×140.79E±0.01, h41km, MW5.6/146, Moment Tensor Solution. s131,c236; s146,c285; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr2.46±.04; Mθθ-0.22±.03; Mϕϕ-2.24±.03; Mrθ0.35±.03; Mθϕ-1.03±.02; Mϕr1.46±.03; Best double couple: M0 2.97400×10^17 NP1:ϕs18.00000°, δ60.00000°, λ85.00000°. NP2:ϕs208.00000°, δ30.00000°, λ99.00000°. Principal axes: T 2.8780, Plg74.0000°, Azm274.0000°; N 0.1910, Plg5.0000°, Azm20.0000°; P -3.0710, Plg15.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **14** 04:06:18, 35.56N×140.87E, h45km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr2.42; Mθθ-0.14; Mϕϕ-2.29; Mrθ0.41; Mθϕ-1.22; Mϕr1.40; Fault plane solution: M0 3.03000×10^17 NP1:ϕs20.00000°, δ60.00000°, λ85.00000°. NP2:ϕs210.00000°, δ31.00000°, λ99.00000°. Principal axes: T 2.8095, Plg75.0000°, Azm276.0000°; N 0.3991, Plg4.0000°, Azm22.0000°; P -3.2086, Plg14.0000°, Azm113.0000°;*
ISC 14 04:06:14.6±0.3, 35.64N±0.03×140.68E±0.03, h40km±2km, h40km:pP-P, n1318, σ1s56/1285, mb5.4/359, MS5.0/139, 138C-63D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.16**	**65**	⇑P	**Pn**	**04 06 22.7**	**+0.8**
CHOJ				S	**Sn**	**04 06 28.4**	**+1.2**
JSMT	**Sammumatsuo**	**0.19**	**272**	⇓P	**Pn**	**04 06 23.6**	**+1.6**
JSMT				S	**Sn**	**04 06 30.9**	**+3.5**
JIHU	**Itakohorinouch**	**0.35**	**339**	⇓P	**Pn**	**04 06 25.2**	**+1.7**
JIHU				S	**Sn**	**04 06 33.4**	**+3.7**
I30JP	**ISUMI INFRASON**	**0.44**	**223**	P	**Pn**	**04 06 26.6**	**+1.9**
	baz=56,slow=15,SNR=3.9						
I30JP				S	**Sn**	**04 06 35.0**	**+3.4**
	baz=70,slow=372						
JCN	**Nagara**	**0.45**	**241**	⇓P	**Pn**	**04 06 26.5**	**+1.9**
JCN				S	**Sn**	**04 06 35.4**	**+3.7**
JKUC	**kamogawauchiur**	**0.62**	**220**	⇓P	**Pn**	**04 06 27.9**	**+0.9**
BSO4	**Boso 4**	**0.70**	**204**	⇓P	**Pn**	**04 06 29.3**	**+1.3**
JHYU	**Hitachinakayam**	**0.71**	**354**	⇓P	**Pn**	**04 06 29.0**	**+0.8**
JYT	**Yasato**	**0.71**	**326**	⇓P	**Pn**	**04 06 28.7**	**+0.5**
JYT				S	**Sn**	**04 06 39.1**	**+1.1**
TOK	**Tokyo**	**0.75**	**274**	P	**Pn**	**04 06 30.8**	**+2.0**
BSO3	**Boso 3**	**0.84**	**190**	P	**Pn**	**04 06 31.0**	**+1.2**
JHO	**Hitachi**	**0.98**	**355**	⇓P	**Pn**	**04 06 32.6**	**+0.7**
BSO1	**Boso 1**	**1.01**	**166**	⇓P	**Pn**	**04 06 32.8**	**+1.0**
JSGW	**Sagamiharawaka**	**1.20**	**269**	⇓P	**Pn**	**04 06 36.3**	**+1.4**
JAG	**Ashikaga**	**1.27**	**309**	⇓P	**Pn**	**04 06 36.4**	**+0.5**
JOD2	**Odawara 2**	**1.35**	**255**	⇓P	**Pn**	**04 06 37.9**	**+0.9**
JIM2	**Oshima 3**	**1.37**	**229**	P	**Pn**	**04 06 37.2**	**-0.1**
JIM2				S	**Sn**	**04 06 54.4**	**+0.1**
AJI	**Ajiro2**	**1.43**	**246**	⇓P	**Pn**	**04 06 38.7**	**+0.7**
JFFD	**Fukushimafurud**	**1.46**	**356**	⇓P	**Pn**	**04 06 39.9**	**+1.4**
JSB	**Shiboa**	**1.47**	**335**	⇓P	**Pn**	**04 06 39.6**	**+1.0**
JRY	**Ryogami san**	**1.50**	**285**	⇓P	**Pn**	**04 06 40.6**	**+1.6**
JHTM	**Izuhatsuma**	**1.53**	**244**	⇓P	**Pn**	**04 06 39.9**	**+0.5**
JKT	**Katashina**	**1.62**	**315**	⇓P	**Pn**	**04 06 41.8**	**+1.0**
JFNN	**Fujinakano**	**1.69**	**255**	⇓P	**Pn**	**04 06 42.7**	**+1.1**
JIZS	**Izushimoda**	**1.74**	**239**	⇓P	**Pn**	**04 06 42.9**	**+0.6**
JYN	**Shimob**	**1.75**	**266**	⇓P	**Pn**	**04 06 43.7**	**+1.2**
JGK	**Kuni**	**1.90**	**300**	P	**Pn**	**04 06 46.4**	**+1.9**
JFT	**Otama**	**1.90**	**352**	⇓P	**Pn**	**04 06 46.2**	**+1.6**
JFY	**Yanaizu**	**1.94**	**336**	⇓P	**Pn**	**04 06 46.5**	**+1.4**
JNT	**Takato**	**2.08**	**277**	⇓P	**Pn**	**04 06 49.5**	**+2.3**
JMST	**Minamisoumatoc**	**2.09**	**4**	⇑P	**Pn**	**04 06 48.2**	**+1.0**
JHK	**Hiroka**	**2.10**	**321**	⇓P	**Pn**	**04 06 49.2**	**+2.0**
SHZ3	**Shizuoka 3**	**2.10**	**255**	P	**Pn**	**04 06 49.2**	**+1.9**
MJAR	**Matsushiro Arr**	**2.20**	**295**	P	**Pn**	**04 06 50.5**	**+1.9**
	37nm,0.3s,baz=96,slow=12,SNR=786						
MJAR				LR	LR	04 07 51.7	
	comp=Z,49μm,20.0s,baz=120,slow=45						
MAJO	**Matsushiro**	**2.20**	**295**	*d* iP	**Pn**	**04 06 50.9**	**+2.2**
MAJO	**Matsushiro**	**2.20**	**295**		**Pn**	**04 06 51.1**	**+2.5**
MAT	**Matsushiro**	**2.20**	**295**	P	**Pn**	**04 06 50.9**	**+2.2**
MAT				S	**Sn**	**04 07 16.1**	**+1.4**
MAT	**Matsushiro**	**2.20**	**295**	P	**Pn**	**04 06 50.9**	**+2.2**
MJB9	**Matsu-Tunnel**	**2.20**	**295**		**Pn**	**04 06 51.2**	**+2.4**
JMM	**Marumori**	**2.23**	**2**	⇑P	**Pn**	**04 06 50.5**	**+1.4**
JNG	**Nsakai**	**2.23**	**291**	⇓P	**Pn**	**04 06 51.3**	**+2.1**
JSG	**Sagara**	**2.26**	**246**	P	**Pn**	**04 06 51.8**	**+2.3**
JNY	**Yasuok**	**2.32**	**264**

comp=N,111nm,0.4s
SHO pmax pmax
comp=E,85nm,0.4s
SHO MLR MLR
comp=Z,7µm,18.0s
SHO MLR MLR
comp=N,3µm,16.0s
SHO MLR MLR
comp=E,6µm,16.0s
TEY Ternei 9.89 343⇑ eP Pn 04 08 36.3 +2.1
TEY pmax pmax
comp=N,30nm,1.5s
TEY pmax pmax
comp=E,30nm,1.5s
TEY pmax pmax
comp=Z,50nm,1.4s
TEY pmax pmax
comp=N,170nm,1.0s
TEY pmax pmax
comp=E,110nm,1.0s
TEY MLR MLR
comp=N,300nm,16.0s
TEY MLR MLR
comp=Z,300nm,19.0s
VLA Vladivostok 10.11 320⇑ eP Pn 04 08 37.9 +0.8
KSRS Korea Array 10.43 284 P Pn 04 08 46.1 +4.6
comp=Z,2.5nm,0.3s,baz=101,slow=14,SNR=66
KSRS LR LR 04 12 49.3
comp=Z,15µm,20.4s,baz=122,slow=38
KS19 Wonju Array Si 10.47 284 Pn 04 08 44.3 +2.1
TJN Taejon 10.81 278 ceP Pn 04 08 51.4 +4.5
USA0B Ussuriysk Arra 10.84 325 ceP Pn 04 08 49.2 +2.0
USA0B Ussuriysk Arra 10.84 325 Pn 04 08 48.6 +1.4
USRK Ussuriysk Ar. 10.84 325 P Pn 04 08 50.1 +2.9
baz=138,slow=12,SNR=50
USRK LR LR 04 12 52.1
comp=Z,9µm,18.2s,baz=136,slow=36
KUR Kuril'sk 11.04 27 eP Pn 04 08 49.3 -0.5
KUR pmax pmax
comp=Z,377nm,0.5s
KUR pmax pmax
comp=E,34nm,0.2s
KUR pmax pmax
comp=N,80nm,0.3s
KUR MLR MLR
comp=Z,11µm,22.0s
YSS Yuzh-Sakhalins 11.41 7 eP Pn 04 08 54.4 -0.6
YSS eS Sn 04 10 56.5 -4.6
YSS pmax pmax
comp=Z,160nm,0.7s
YSS MLR MLR
comp=Z,6µm,14.0s
YSS MLR MLR
comp=E,4µm,15.0s
YSS Yuzh-Sakhalins 11.41 7 Pn 04 08 55.4 +0.4
INCN Inchon 11.45 283 P Pn 04 08 55.0 -0.6
INCN Inchon 11.45 283 Pn 04 08 55.0 -0.6
MDJ Mudanjiang 12.34 320 P Pn 04 09 13.3 +5.7
MDJ PP **P 04 09 20.9 +1.9**
MDJ S **Sn 04 11 26.8 +3.1**
MDJ SS **SnSn 04 11 40.3 +4.3**
MDJ pmax pmax
comp=E,43nm,1.0s
MDJ LR LR
comp=E,7µm,22.1s
MDJ LR LR
comp=E,4µm,23.0s
MDJ LR LR
comp=E,12µm,21.0s
MDJ Mudanjiang 12.34 320 Pn 04 09 07.3 -0.3
UGL Uglegorsk 13.47 4 eP Pn 04 09 19.9 -3.2
UGL S Sn 04 11 41.7 -10
UGL MLR MLR
comp=Z,7µm,19.0s
UGL MLR MLR
comp=N,7µm,15.0s
UGL MLR MLR
comp=E,9µm,17.0s
JOW Kunigami 13.76 234 Pn Pn 04 09 28.3 +1.2
CN2 Changchun 14.27 309 eP Pn 04 09 34.3 +0.4
CN2 eSP P 04 09 46.0 +5.5
CN2 eS **Sn 04 12 13.4 +2.6**
CN2 pmax pmax
comp=E,60nm,1.2s
CN2 pmax pmax
comp=E,2µm,9.0s
CN2 LR LR
comp=E,4µm,18.0s
CN2 LR LR
comp=E,5µm,18.0s
CN2 LR LR
comp=E,6µm,18.0s
SNY Shenyang 14.70 300 ⇑P Pn 04 09 38.6 -1.2
SNY pmax pmax
comp=E,45nm,1.3s
SNY pmax pmax
comp=E,930nm,8.9s
SNY LR LR
comp=E,4µm,16.4s
SNY LR LR
comp=E,6µm,18.9s
SNY LR LR
comp=E,10µm,25.6s
KLR Kul'dur 15.09 337⇑ eP Pn 04 09 41.9 -2.9
KLR Kul'dur 15.09 337 P Pn 04 09 42.3 -2.6
comp=E,1.0nm,0.3s,baz=144,slow=10,SNR=16
KLR LR LR 04 15 17.1
comp=E,7µm,20.9s,baz=152,slow=36
TYV Tymovskoe 15.29 5 eP Pn 04 09 44.6 -2.9
TYV eS **Sn 04 12 30.6 -4.9**
TYV pmax pmax
comp=Z,1µm,4.1s
TYV pmax pmax
comp=Z,56nm,1.6s
TYV smax smax
comp=N,36nm,1.3s
TYV MLR MLR
comp=Z,5µm,18.0s
GRNR Gornyy 15.44 350⇑ iP Pn 04 09 46.1 -3.4
GRNR eS **Sn 04 12 33.6 -5.6**
GRNR pmax pmax
comp=Z,60nm,0.8s
GRNR smax smax
comp=E,7.0nm,0.7s
GRNR MLR MLR
comp=Z,3µm,20.0s
DL2 Dalian 15.52 288⇑ iP P 04 09 53.3 -1.1
DL2 S **Sn 04 12 48.4 +7.2**
DL2 pmax pmax
comp=Z,220nm,1.5s
DL2 pmax pmax
comp=Z,4µm,9.8s
DL2 LR LR
comp=Z,3µm,15.5s
DL2 LR LR
comp=Z,8µm,21.6s
DL2 LR LR
comp=Z,11µm,23.3s
OKH Okha 17.98 4 di P P 04 10 23.9 +2.4
OKH *i* S **Sn 04 13 35.9 -4.8**
OKH pmax pmax
comp=Z,300nm,7.1s
OKH smax smax
comp=E,700nm,8.1s
OKH MLR MLR
comp=Z,3µm,19.0s
NJ2 Nanjing 18.48 265 eP P 04 10 26.8 -0.3
NJ2 pP **pP 04 10 34.4 -2.6**
NJ2 sP **sP 04 10 39.3 -2.8**
NJ2 PP **PnPn 04 10 41.8 +2.1**
NJ2 S **S 04 13 58.1 +2.2**
NJ2 SS **SnSn 04 14 17.3 +10**
NJ2 pmax pmax
comp=Z,34nm,1.0s
NJ2 pmax pmax
comp=Z,1µm,5.9s
NJ2 LR LR
comp=Z,5µm,17.8s
NJ2 LR LR
comp=Z,6µm,20.0s
NJ2 LR LR
comp=Z,7µm,19.8s
SKR Severo-Kuril's 18.73 32 eP Pn 04 10 32.1 +1.7
SKR pmax pmax
comp=Z,290nm,1.3s
SKR MLR MLR
comp=Z,3µm,22.0s
YOJ Yonaguni jima 18.89 239 P Pn 04 10 33.4 +0.8
YOJ pmax pmax
comp=Z,113nm,1.0s
YOJ Yonaguni jima 18.89 239 P Pn 04 10 33.4 +0.8
TIA Tai'an 19.08 279 P P 04 10 32.5 -1.3
TIA S **S 04 14 09.9 +1.7**
TIA pmax pmax
comp=Z,2µm,6.9s
TIA LR LR
comp=Z,4µm,19.0s
TIA LR LR
comp=Z,5µm,22.2s
TIA LR LR
comp=Z,8µm,26.0s
SARN Sarigan 19.40 165 P Pn 04 10 38.3 -0.5
SARN IAmb IAmb 04 10 44.7
comp=Z,173nm,1.2s
ANA2 Anatahan 19.73 166 P Pn 04 10 41.9 -0.8
ANA2 IAmb IAmb 04 10 46.4
comp=Z,174nm,1.0s
BJI Beijing 19.83 290 P P 04 10 39.6 -2.3
BJI S **Sn 04 14 24.3 -1.2**
BJI LR LR
comp=Z,2µm,18.5s
BJI LR LR
comp=Z,3µm,26.0s
BJI LR LR
comp=Z,5µm,28.2s
BJT Baijiatuau 19.83 290 P P 04 10 40.5 -1.4
BJT pmax pmax
comp=Z,118nm,1.1s
BJT Baijiatuau 19.83 290 P P 04 10 40.5 -1.4
YHNB Yeheng 19.92 242 P Pn 04 10 44.1 -0.8
NACB Ninganchiao 20.07 241 P P 04 10 43.8 -0.8
ZEA Zeya 20.40 337 eP P 04 10 44.8 -3.2
ZEA *e* 04 11 04.0
ZEA pmax pmax
comp=N,100nm,1.2s
ZEA pmax pmax
comp=E,58nm,1.2s
ZEA pmax pmax
comp=Z,260nm,1.2s
ZEA MLR MLR
comp=Z,4µm,18.0s
ZEA MLR MLR
comp=E,2µm,16.0s
ZEA MLR MLR
comp=N,3µm,18.0s
HIA Hailar 20.51 318 P P 04 10 47.6 -1.6
HIA pmax pmax
comp=Z,67nm,1.1s
HIA MLR MLR
comp=Z,5µm,21.0s
HIA Hailar 20.51 318 P P 04 10 47.6 -1.6
HIA Hailar 20.51 318 IAms_20 IAms_20 04 18 13.0
comp=Z,5µm,21.0s
SSLB Suanglung 20.76 241 P P 04 10 50.8 -1.4
YULB Yu-li 20.77 239 P P 04 10 52.0 -0.3
PEA0B Petropavlovsk- 21.19 29 P P 04 10 57.1 +0.6
PEA0B pmax pmax
comp=Z,205nm,1.2s
PEA0B MLR MLR
comp=Z,2µm,22.0s
PEA0B Petropavlovsk- 21.19 29 P P 04 10 57.1 +0.6
PEA0B IAmb IAmb 04 11 12.7
comp=Z,205nm,1.1s
PETK Petropavlovsk- 21.19 29 P P 04 10 58.5 +2.0
comp=Z,98nm,1.0s,baz=208,slow=5.9,SNR=32
PETK LR LR 04 20 08.1
comp=Z,704nm,19.0s,baz=218,slow=39
TPUB Ta-pu 21.30 240 P P 04 10 56.5 -1.5
TWG Pinlang 21.30 238 P P 04 10 58.6 +0.6
TWG IAmb IAmb 04 11 17.3
comp=Z,164nm,0.7s
TWG IAMs_20 IAMs_20 04 18 37.4
comp=Z,6µm,22.0s
PET Petropavlovsk 21.52 31 eP P 04 11 01.3 +1.3
PET eS **S 04 14 53.3 -2.9**
PET pmax pmax
comp=Z,148nm,1.3s
PET pmax pmax
comp=Z,100nm,9.5s
PET MLR MLR
comp=Z,4µm,17.0s
PET MLR MLR
comp=Z,4µm,16.0s
PET Petropavlovsk 21.52 31 P P 04 11 00.4 +0.5
PET IAmb IAmb 04 11 18.2
comp=Z,110nm,0.9s
PET IAMs_20 IAMs_20 04 18 51.3
comp=Z,4µm,19.0s
QZH Quanzhou 21.80 247 eP P 04 11 11.3 +8.0
QZH S Sn 04 15 09.4 -3.7
QZH LR LR
comp=N,3µm,16.3s
QZH LR LR
comp=E,2µm,13.7s
QZH LR LR
comp=Z,4µm,18.5s
GUMO Guam 22.27 169 P P 04 11 08.2 -0.2
GUMO pmax pmax
comp=Z,419nm,1.1s
GUMO Guam 22.27 169 P P 04 11 09.9 +1.5
comp=Z,80nm,0.7s,baz=352,slow=19,SNR=2.1
GUMO Guam 22.27 169 P P 04 11 08.2 -0.2
WHN Wuhan 22.61 265⇓ iP P 04 11 10.4 -1.5
WHN pP **sP 04 11 26.4 -0.6**
WHN S **S 04 15 12.9 -4.0**
WHN pmax pmax
comp=Z,140nm,0.9s
WHN pmax pmax
comp=Z,1µm,6.2s
WHN LR LR
comp=Z,4µm,8.2s
WHN LR LR
comp=Z,9µm,11.5s
WHN LR LR
comp=Z,14µm,14.9s
TIY Taiyuan 22.72 284 eP P 04 11 13.9 +0.8
TIY S **S 04 15 14.1 -4.9**
TIY pmax pmax
comp=Z,71nm,0.6s
TIY pmax pmax
comp=Z,380nm,4.5s
TIY LR LR
comp=Z,2µm,12.9s
TIY LR LR
comp=Z,4µm,16.7s
TIY LR LR
comp=Z,7µm,23.4s
HHC Hu-ho-hao-te 23.40 292 eP P 04 11 19.8 -0.2
BTO Baotou 24.56 291 eP P 04 11 30.3 -0.5
MA2 Magadan 24.84 12 deP P 04 11 34.6 +1.6
MA2 pmax pmax
comp=Z,232nm,1.3s
MA2 Magadan 24.84 12 LR LR 04 22 55.3
comp=Z,2µm,18.2s,baz=195,slow=40
MA2 Magadan 24.84 12 P P **04 11 33.5 +0.5**
MA2 IAmb IAmb 04 11 42.4
comp=Z,111nm,0.8s
CIT Chita 25.31 319 eP P 04 11 35.2 -2.2
CIT *e* 04 11 45.9
CIT *e* 04 11 52.3
CIT *e* 04 12 28.3
XAN Xi'an 26.06 276 P P 04 11 43.0 -1.3
XAN S **S 04 16 16.0 +3.1**
XAN pmax pmax
comp=Z,66nm,1.5s
XAN pmax pmax
comp=Z,840nm,6.1s
XAN LR LR
comp=Z,4µm,18.2s
XAN LR LR
comp=Z,4µm,20.2s
XAN LR LR
comp=Z,6µm,22.1s
XAN Xi'an 26.06 276 P P 04 11 43.1 -1.3
XAN pmax pmax
comp=Z,62nm,0.6s
XAN MLR MLR
comp=Z,6µm,22.0s
XAN Xi'an 26.06 276 P P 04 11 43.1 -1.3
XAN IAmb IAmb 04 11 45.4
comp=Z,62nm,0.6s
XAN Xi'an 26.06 276 IAMs_20 IAMs_20 04 22 11.9
comp=Z,7µm,22.0s
ENH Enshi 26.65 267 P P 04 11 48.1 -1.6
ENH IAMs_20 IAMs_20 04 23 04.4
comp=Z,5µm,20.0s
HKPS Hong Kong Po S 26.67 247 IAMs_20 IAMs_20 04 23 01.5
comp=Z,4µm,21.0s
YAK Yakutsk 27.31 349 eP P 04 11 55.3 0.0
YAK eS **S 04 16 31.0 -0.9**
YAK eSS **SnSn 04 17 40.5 -2.3**
YAK pmax pmax
comp=Z,124nm,1.0s
YAK pmax pmax
comp=N,89nm,1.0s
YAK pmax pmax
comp=E,39nm,1.1s
YAK smax smax
comp=E,363nm,2.6s
YAK smax smax
comp=N,334nm,2.3s
YAK MLR MLR
comp=Z,3µm,19.0s
YAK MLR MLR
comp=N,3µm,19.0s
YAK Yakutsk 27.31 349 P P 04 11 55.3 0.0
comp=N,32nm,0.5s,baz=181,slow=4.6,SNR=21
YAK LR LR 04 22 43.8
comp=N,3µm,21.6s,baz=160,slow=36
YAK Yakutsk 27.31 349 P P 04 11 55.0 -0.3
YAK IAMs_20 IAMs_20 04 22 22.0
comp=Z,3µm,22.0s
ULN Ulaanbaatar 27.68 307 P P 04 11 58.8 -0.1
ULN P **P 04 11 58.8 -0.1**
ULN Ulaanbaatar 27.68 307 c iP P 04 11 58.4 -0.6
ULN pmax pmax
comp=Z,78nm,1.7s
ULN Ulaanbaatar 27.68 307 P P 04 11 58.6 -0.4
ULN Ulaanbaatar 27.68 307 IAMs_20 IAMs_20 04 22 37.2
comp=Z,4µm,22.0s
H11N2 WAKE ISLAND Hy 27.98 118 T T 04 41 17.4
baz=310,slow=74,SNR=105
H11N1 WAKE ISLAND Hy 27.99 118 T T 04 41 20.8
baz=310,slow=74,SNR=85
H11N3 WAKE ISLAND Hy 28.00 118 T T 04 41 18.8
baz=310,slow=74,SNR=96
SONM Songino Array 28.11 306 P P 04 12 02.2 -0.5
comp=Z,18nm,0.7s,baz=105,slow=8.7,SNR=62
SONM ScP **ScP 04 18 52.6 -1.3**
comp=Z,3.6nm,1.1s,baz=86,slow=1.9,SNR=5.9
SONM LR LR 04 23 34.4
comp=Z,4µm,19.6s,baz=106,slow=37
SEY Seymchan 28.27 11⇓ eP P 04 12 05.9 +2.0
SEY Seymchan 28.27 11 P P 04 12 04.9 +1.1
comp=Z,36nm,1.0s,baz=200,slow=7.0,SNR=16
BOD Bodaibo 28.42 330 eP P 04 12 05.1 -0.1
BOD pmax pmax
comp=Z,119nm,1.4s
H11S1 WAKE ISLAND Hy 28.64 120 T T 04 41 55.9
baz=312,slow=75,SNR=302
H11S3 WAKE ISLAND Hy 28.64 120 T T 04 41 55.8
baz=312,slow=75,SNR=223
H11S2 WAKE ISLAND Hy 28.65 120 T T 04 41 58.6
baz=312,slow=75,SNR=245
LZH Lanzhou 29.75 282 ⇑P P 04 12 17.0 -0.5
LZH pP pP 04 12 28.5 +0.1
LZH PcP **PcP 04 15 20.8 +0.2**
LZH sS sS 04 17 25.5 -3.9
LZH SS ScP 04 18 46.5 -13
LZH pmax pmax
comp=Z,130nm,1.3s
LZH pmax pmax
comp=Z,590nm,5.2s
LZH LR LR
comp=Z,3µm,14.6s
LZH LR LR
comp=Z,5µm,14.7s
LZH LR LR
comp=Z,7µm,17.0s
GYA Guiyang 30.42 262⇑ iP P 04 12 21.6 -1.9
GYA pP pP 04 12 33.3 -1.1
GYA PP **PP 04 13 28.5 -4.0**
GYA S **S 04 17 19.8 -2.0**
GYA sS sS 04 17 41.1 +1.1
GYA SS **ScP 04 19 04.1 +2.4**
GYA pmax pmax
comp=Z,70nm,1.1s
GYA pmax pmax
comp=Z,230nm,6.6s
GYA LR LR
comp=Z,2µm,13.2s
GYA LR LR
comp=Z,2µm,13.7s
GYA LR LR
comp=Z,3µm,16.9s
IRK Irkutsk 30.62 314 eP P 04 12 24.6 -0.2
IRK pmax pmax
comp=Z,68nm,2.9s
ZAK Zakamensk 30.70 310 eP P 04 12 21.2 -4.4
ZAK pmax pmax
comp=Z,18nm,0.9s
TLY Talaya 30.82 313 P P 04 12 26.8 +0.1
TLY P **P 04 12 26.8 +0.1**
TLY Talaya 30.82 313 c iP P 04 12 26.7 +0.1
TLY *e* 04 12 46.3
TLY *e* 04 13 47.6
TLY eS **S 04 17 28.3 +0.9**
TLY pmax pmax
comp=Z,57nm,0.9s
TLY MLR MLR
comp=Z,4µm,14.0s
TLY Talaya 30.82 313 P **P 04 12 26.3 -0.3**
comp=Z,16nm,0.8s,baz=133,slow=2.3,SNR=6.8
TLY Talaya 30.82 313 P **P 04 12 26.2 -0.5**
TLY IAMs_20 IAMs_20 04 25 04.3
comp=Z,3µm,20.0s
CD2 Chengdu 31.11 272⇑ iP P 04 12 27.8 -1.6
CD2 sP sP 04 12 48.6 +3.5
CD2 PP **PP 04 13 32.8 -7.2**
CD2 S **S 04 17 28.5 -3.8**
CD2 sS sS 04 17 46.8 -3.8
CD2 pmax pmax
comp=Z,60nm,1.1s
CD2 pmax pmax
comp=Z,350nm,11.4s
CD2 LR LR
comp=Z,8µm,16.9s
CD2 LR LR
comp=Z,11µm,19.6s
CD2 LR LR
comp=Z,13µm,19.6s
QIZ Qiongzhong 31.82 247 P P 04 12 36.1 +0.4
QIZ S **S 04 17 46.0 +2.4**
QIZ LR LR
comp=Z,2µm,24.9s
QIZ LR LR
comp=Z,2µm,19.0s
QIZ LR LR
comp=Z,2µm,20.8s
QIZ Qiongzhong 31.82 247 IAMs_20 IAMs_20 04 25 26.6
comp=Z,3µm,22.0s
MOY Mondy 32.41 312 eP P 04 12 40.5 -0.2
GTA Gaotai 32.44 289 ⇑P P 04 12 40.1 -1.0
GTA pP pP 04 12 50.5 -1.6
GTA sP sP 04 12 54.8 -2.1
GTA PP **PnPn 04 13 49.8 +1.0**
GTA PcP **PcP 04 15 27.1 -0.5**
GTA S **S 04 17 49.3 -3.7**
GTA sS sS 04 18 07.8 -3.5
GTA ScP **ScP 04 19 07.5 -0.7**
GTA SS **SnSn 04 19 47.8 -0.3**
GTA ScS **ScS 04 23 05.8 -1.9**
GTA pmax pmax
comp=Z,28nm,0.8s
GTA pmax pmax
comp=Z,360nm,8.4s
GTA LR LR
comp=Z,2µm,19.7s
GTA LR LR
comp=Z,3µm,19.0s
GTA LR LR
comp=Z,4µm,23.5s
KMI Kunming 34.18 263 P P 04 12 55.1 -1.4
KMI pP pP 04 13 08.3 +0.7
KMI sP sP 04 13 12.8 +0.5
KMI PP **PnPn 04 14 12.1 +0.9**
KMI S **S 04 18 14.3 -6.3**

KMI sS sS 04 18 38.0 -0.9
KMI SS **SnSn** **04 20 31.3 +0.4**
KMI pmax pmax
comp=Z,50nm,0.9s
KMI pmax pmax
comp=Z,350nm,4.4s
KMI LR LR
comp=Z,2µm,17.8s
KMI LR LR
comp=Z,3µm,15.3s
KMI LR LR
comp=Z,3µm,13.9s
KMI Kunming 34.18 263 IAmb IAmb 04 13 03.3
comp=Z,42nm,1.0s
KMI Kunming 34.18 263 IAMs_20 IAMs_20 04 28 18.2
comp=Z,3µm,18.0s
SLVN So La 35.11 256 P **P** **04 13 03.9 -0.5**
SLVN IAMs_20 IAMs_20 04 27 29.9
comp=Z,3µm,22.0s
BILL Bilibino 35.53 16*c i*P **P** **04 13 07.8 +0.4**
BILL *e*PP **pP** **04 13 18.0 -0.5**
BILL *e*SP **sP** **04 13 24.0 +0.8**
BILL *e* 04 14 23.6
BILL *e*PPP PPP 04 14 53.5
BILL *e* 04 15 36.6
BILL *e*S **S** **04 18 42.1 +2.1**
BILL pmax pmax
comp=Z,68nm,1.2s
BILL MLR MLR
comp=Z,2µm,18.0s
BILL Bilibino 35.53 16 P **P** **04 13 08.1 +0.6**
BILL IAmb IAmb 04 13 10.0
comp=Z,65nm,1.1s
BILL IAMs_20 IAMs_20 04 27 19.6
comp=Z,3µm,22.0s
TIXI Tiksi 36.61 354*ce*P **P** **04 13 16.9 +0.3**
TIXI pmax pmax
comp=Z,29nm,0.8s
TIXI MLR MLR
comp=Z,2µm,17.0s
TIXI Tiksi 36.61 354 P **P** **04 13 16.4 -0.2**
comp=Z,34nm,0.8s,baz=180,slow=24,SNR=16
TIXI PcP **PcP** **04 15 39.3 +0.5**
comp=Z,4.1nm,0.4s,baz=149,slow=5.3,SNR=3.1
TIXI Tiksi 36.61 354 P **P** **04 13 16.8 +0.3**
TIXI IAmb IAmb 04 13 21.2
comp=Z,50nm,1.0s
TIXI Tiksi 36.61 354 IAMs_20 IAMs_20 04 29 52.5
comp=Z,2µm,18.0s
TNTI Ternate 36.83 203 P **P** **04 13 17.4 -1.6**
comp=Z,41nm,1.3s
TNTI Ternate 36.83 203 P **P** **04 13 17.8 -1.2**
TNTI IAmb IAmb 04 13 26.3
comp=Z,58nm,1.1s
SWI Sorong 37.36 196 P **P** **04 13 22.5 -1.0**
comp=Z,74nm,0.8s
SIJI Sorong 37.37 196 P **P** **04 13 22.1 -1.5**
comp=Z,51nm,0.7s,baz=35,slow=4.1,SNR=11
RKPI Ransiki, Papua 37.45 191 P **P** **04 13 24.2 -0.1**
comp=Z,146nm,0.8s,comp=Z,12µm
DLV T Lat 37.45 239 P **P** **04 13 22.6 -2.0**
DLV IAmb IAmb 04 13 24.8
comp=Z,52nm,1.1s
SMPI Sarmi 37.48 183 P **P** **04 13 25.4 +0.9**
NONG Nongkai 37.51 252 P **P** **04 13 24.6 -0.2**
comp=Z,2.1nm,0.9s,comp=Z,91nm
JAY Jayapura 37.95 180 P **P** **04 13 29.4 +0.9**
comp=Z,44nm,1.0s,comp=Z,525nm
GENI Genyem 38.03 181 P **P** **04 13 27.0 -2.2**
comp=Z,276nm,1.2s,comp=Z,4µm
MRSI Marisa 39.09 211 P **P** **04 13 36.0 -2.1**
comp=Z,94nm,1.2s,comp=Z,1µm
FAKI Fak Fak 39.16 193 P **P** **04 13 37.2 -1.4**
comp=Z,82nm,1.1s,comp=Z,912nm
FAKI Fak Fak 39.16 193 P **P** **04 13 37.5 -1.1**
FAKI IAmb IAmb 04 13 40.4
comp=Z,69nm,1.0s
FAKI IAMs_20 IAMs_20 04 29 00.4
comp=Z,2µm,20.0s
PAYA Payao 39.35 257 P **P** **04 13 42.4 +2.0**
comp=Z,33µm,0.6s,comp=Z,967µm
PHRA Phrae 39.54 255 P **P** **04 13 41.3 -0.6**
comp=Z,5.4nm,1.3s
CHAI Chaiyaphum 39.67 250 P **P** **04 13 42.3 -0.7**
comp=Z,94µm,0.9s,comp=Z,832µm
SANI Sanana 39.93 203 P **P** **04 13 42.5 -2.6**
comp=Z,99nm,0.6s,comp=Z,1µm
LAMP Lampang 40.00 256 P P 04 13 50.9 +5.2
CMMT Chiang Mai 40.38 257 P **P** **04 13 48.4 -0.5**
comp=Z,11nm,1.0s,comp=Z,334nm
CHTO Chiang Mai 40.38 257 P **P** **04 13 48.1 -0.8**
CHTO pmax pmax
comp=Z,15nm,0.8s
CHTO MLR MLR
comp=Z,2µm,19.0s
CHTO Chiang Mai 40.38 257 P **P** **04 13 48.1 -0.8**
CHTO Chiang Mai 40.38 257 IAMs_20 IAMs_20 04 31 34.7
comp=Z,2µm,19.0s
CM31 Chiang Mai Arr 40.58 256 P **P** **04 13 49.4 -1.1**
CMAR Chiang Mai Arr 40.58 256 P **P** **04 13 49.6 -0.9**
comp=Z,3.9nm,0.7s,baz=48,slow=7.6,SNR=16
CMAR PcP **PcP** **04 15 51.5 -0.7**
comp=Z,4.1nm,0.7s,baz=22,slow=3.3,SNR=5.5
CMAR LR LR 04 32 19.3
comp=Z,3µm,18.3s,baz=62,slow=39
NLAI Namlea 40.71 201 P **P** **04 13 51.2 -0.3**
comp=Z,39nm,0.7s
AAI Ambon 40.83 199 P **P** **04 13 52.0 -0.5**
comp=Z,117nm,0.9s
WMQ Urumqi 40.96 298 *e*P **P** **04 13 54.8 +1.3**
WMQ sP sP 04 14 08.1 -1.3
WMQ PP **PP** **04 15 28.9 +0.6**
WMQ PcP **PcP** **04 15 53.9 +0.7**
WMQ PcS **PcS** **04 19 45.6 +1.5**
WMQ S **S** **04 20 04.8 +2.1**
WMQ ScS **ScS** **04 23 50.5 -4.4**
WMQ pmax pmax
comp=Z,67nm,1.7s
WMQ pmax pmax
comp=Z,310nm,3.6s
WMQ LR LR
comp=Z,1µm,19.3s
WMQ LR LR
comp=Z,3µm,22.9s
WMQ LR LR
comp=Z,3µm,21.9s
WMQ Urumqi 40.96 298 IAmb IAmb 04 13 56.3
comp=Z,95nm,1.0s
WMQ Urumqi 40.96 298 IAMs_20 IAMs_20 04 31 27.6
comp=Z,2µm,21.0s
BNDI Bandanaira 41.21 196 P **P** **04 13 55.4 -0.2**
comp=Z,261nm,1.1s,comp=Z,4µm
MHMT Maesarieng 41.54 257 P **P** **04 13 58.5 +0.1**
comp=Z,44nm,1.2s,comp=Z,1µm
LSA Lhasa 41.76 276 P **P** **04 14 01.0 +0.3**
LSA S S 04 20 04.3 -11
LSA LR LR
comp=Z,4µm,21.4s
LSA LR LR
comp=Z,8µm,23.9s
LSA LR LR
comp=Z,12µm,24.6s
LSA Lhasa 41.76 276 P **P** **04 14 01.3 +0.7**
LSA Lhasa 41.76 276 P **P** **04 14 00.9 +0.3**
LSA pmax pmax
comp=Z,99nm,1.1s
LSA MLR MLR
comp=Z,2µm,20.0s
LSA Lhasa 41.76 276 P **P** **04 14 00.9 +0.2**
LSA IAmb IAmb 04 14 19.5
comp=Z,98nm,1.1s
LSA IAMs_20 IAMs_20 04 33 06.1
comp=Z,2µm,20.0s
UTHA Uthaitani 41.84 252 P **P** **04 14 01.0 +0.1**
comp=Z,37µm,1.2s,comp=Z,472µm
UMPA Umpang Tak 41.92 254 P **P** **04 14 02.7 +1.2**
comp=Z,25µm,0.6s
SBUM Sibu 42.26 225 P **P** **04 14 03.0 -1.3**
SBUM Sibu 42.26 225 P **P** **04 14 02.8 -1.5**
ZAA0 Zalesovo Array 42.43 314 P **P** **04 14 04.9 -0.3**
ZAA0 IAmb IAmb 04 14 06.8
comp=Z,65nm,0.9s
ZALV Zalesovo Beam 42.43 314 P **P** **04 14 05.5 +0.2**
comp=Z,54nm,0.8s,baz=89,slow=6.3,SNR=162
ZALV PcP **PcP** **04 15 57.6 -0.1**
comp=Z,12nm,0.9s,baz=49,slow=2.0,SNR=3.4
ZALV LR LR 04 31 57.3
comp=Z,1µm,20.4s,baz=89,slow=36
ZSN Zaisan 42.56 304⇑*iP* **P** **04 14 07.4 +0.9**
comp=Z,315nm,2.5s
ZSN *e*S **S** **04 20 25.7 -0.5**
ZSN Zaisan 42.56 304*c i*P **P** **04 14 07.3 +0.9**
ZSN *e*S **S** **04 20 25.6 -0.5**
ZSN pmax pmax
comp=Z,315nm,2.5s
SHL Shillong 42.81 270 P **P** **04 14 08.1 -0.8**
SNR=11
SHL Shillong 42.81 270 P **P** **04 14 08.1 -0.8**
SHL pmax pmax
comp=Z,32nm,0.8s
SHL MLR MLR
comp=Z,4µm,19.0s
SHL Shillong 42.81 270 *e*P **P** **04 14 08.1 -0.8**
SHL IAmb IAmb 04 14 16.9
comp=Z,106nm,0.1s
SHL Shillong 42.81 270 P **P** **04 14 08.1 -0.8**
SRDT SRDT 42.81 251 P **P** **04 14 08.9 +0.1**
comp=Z,22nm,1.1s,comp=Z,825nm
KHLT Khaolaem Dam 42.95 252 P P 04 14 05.1 -4.8
AZL Aizawl 42.97 268 *e*P **P** **04 14 09.5 -0.6**
ANM Nome 43.10 31 IAmb IAmb 04 14 14.4
comp=Z,79nm,1.2s
PHET Kaeng Krachan 43.30 249 P **P** **04 14 13.0 +0.2**
comp=Z,89µm,1.1s
SPSI Sidrap Palu 44.00 211 P **P** **04 14 14.4 -3.9**
comp=Z,24nm,1.1s
KSM Kuching 44.16 227 P **P** **04 14 18.9 -0.7**
BNSI Bone 44.26 210 P **P** **04 14 20.2 -0.2**
comp=Z,57nm,0.8s,comp=Z,800nm
SAUI Saumlaki 44.28 193 P **P** **04 14 21.0 +0.5**
MK31 Makanchi Array 44.37 303 P **P** **04 14 21.7 +0.6**
MK31 pmax pmax
comp=Z,74nm,1.0s
MK31 Makanchi Array 44.37 303 P **P** **04 14 21.6 +0.6**
MK31 IAmb IAmb 04 14 31.2
comp=Z,74nm,1.0s
MKAR Makanchi Array 44.37 303*ce*P **P** **04 14 21.6 +0.5**
MKAR pmax pmax
comp=Z,34nm,0.7s
MKAR Makanchi Array 44.37 303 P **P** **04 14 21.6 +0.5**
comp=Z,33nm,0.7s,baz=90,slow=9.9,SNR=206
MKAR PcP **PcP** **04 16 04.2 -0.3**
comp=Z,7.1nm,0.8s,baz=96,slow=5.8,SNR=1.9
MKAR LR LR 04 33 28.7
comp=Z,3µm,19.6s,baz=86,slow=37
MAKZ Makanchi 44.59 303 P **P** **04 14 22.9 +0.1**
MAKZ pmax pmax
comp=Z,93nm,1.1s
MAKZ Makanchi 44.59 303 P **P** **04 14 22.9 +0.1**
MAKZ IAmb IAmb 04 14 36.1
comp=Z,65nm,0.9s
KAPI Kappang 44.96 210 P **P** **04 14 24.9 -1.1**
KAPI pmax pmax
comp=Z,75nm,1.1s
KAPI Kappang 44.96 210 P **P** **04 14 23.8 -2.2**
comp=Z,11nm,0.4s,baz=32,slow=8.9,SNR=13
KAPI Kappang 44.96 210 P **P** **04 14 24.9 -1.1**
KAPI IAmb IAmb 04 14 33.2
comp=Z,75nm,1.1s
RDOG Red Dog Mine 45.02 26 IAmb IAmb 04 14 29.3
comp=Z,106nm,1.2s
BKSI Bulukumba 45.09 210 P **P** **04 14 24.0 -3.0**
comp=Z,37nm,0.9s
PMG Port Moresby 45.21 171*ce*P **P** **04 14 27.8 -0.1**
PMG pmax pmax
comp=Z,71nm,1.0s
PMG Port Moresby 45.21 171 P **P** **04 14 27.9 0.0**
PMG IAmb IAmb 04 14 44.9
comp=Z,64nm,1.1s
TAPN Taplejung 45.46 275 *e*P **P** **04 14 30.3 0.0**
comp=Z,66nm,0.7s
ODAN Odare 45.92 274 *e*P **P** **04 14 33.7 -0.2**
comp=Z,74nm,0.6s
SKLT Songkhla 46.33 242 P **P** **04 14 37.4 +0.6**
comp=Z,12nm,0.8s
KURK Kurchatov 46.34 309 P **P** **04 14 37.0 +0.4**
KURK P **P** **04 14 37.0 +0.4**
KURK Kurchatov 46.34 309*c i*P **P** **04 14 36.6 +0.1**
KURK pmax pmax
comp=Z,171nm,0.9s
KURK Kurchatov 46.34 309 P **P** **04 14 36.8 +0.2**
KURK Kurchatov 46.34 309 IAMs_20 IAMs_20 04 34 23.4
comp=Z,1µm,19.0s
KURBB Kurchatov Arra 46.41 309 P **P** **04 14 37.2 +0.1**
comp=Z,118nm,1.0s,baz=83,slow=8.3,SNR=292
SURT Suratani 46.46 246 P **P** **04 14 40.5 +2.6**
comp=Z,42nm,1.1s,comp=Z,721nm
RAMN Ramite 46.52 275 *e*P **P** **04 14 38.6 0.0**
comp=Z,346nm,0.9s
TRTT Trang 46.55 244 P **P** **04 14 38.6 0.0**
comp=Z,23nm,1.0s
JIRN Jiri 46.57 276 *e*P **P** **04 14 39.4 +0.3**
comp=Z,589nm,1.1s
GUN Gumba 46.72 277 *e*P **P** **04 14 40.3 +0.1**
comp=Z,365nm,1.2s
PDGK Podgornoye 46.92 299 P **P** **04 14 41.6 +0.2**
PDGK pmax pmax
comp=Z,226nm,1.3s
SHLS Shalkode 46.98 299⇑*iP* **P** **04 14 39.1 -2.7**
comp=Z,208nm,3.0s
SHLS Shalkode 46.98 299*c iP* **P** **04 14 39.1 -2.7**
SHLS pmax pmax
comp=Z,208nm,3.0s
SVW2 Sparrevohn 46.99 37 IAmb IAmb 04 14 45.3
comp=Z,59nm,1.2s
PKI Pulchoki 47.23 276 *e*P **P** **04 14 43.8 -0.5**
comp=Z,157nm,1.1s
PKIN Phulchoki 47.24 276 *e*P **P** **04 14 43.9 -0.3**
comp=Z,52nm,0.6s
KKN Kakani 47.25 277 *e*P **P** **04 14 44.3 +0.1**
comp=Z,100nm,0.7s
UZB Uzynbulak 47.29 299⇑*iP* **P** **04 14 44.5 +0.1**
comp=Z,120nm,2.8s
UZB Uzynbulak 47.29 299*c iP* **P** **04 14 44.4 +0.1**
UZB pmax pmax
comp=Z,120nm,2.8s
JRMM Jerantut 47.34 237 P **P** **04 14 44.0 -0.7**
TDK Taldyqorghan 47.34 301 *e*P **P** **04 14 44.5 0.0**
TDK *e*LR LR 04 34 35.8
comp=Z,3µm,23.5s
TDK Taldyqorghan 47.34 301 *e*P **P** **04 14 44.4 0.0**
TDK MLR MLR
comp=Z,3µm,24.0s
MMRI Maumere 47.34 205 P **P** **04 14 44.1 -0.6**
KPKS Kokpek 47.46 299⇑*iP* **P** **04 14 45.6 +0.1**
comp=Z,189nm,3.3s
KPKS *e*LR LR 04 34 49.0
KPKS Kokpek 47.46 299*c iP* **P** **04 14 45.6 +0.1**
KPKS pmax pmax
comp=Z,189nm,3.3s
DMN Daman 47.47 277 *e*P **P** **04 14 45.8 -0.2**
comp=Z,71nm,0.7s
KULM Kulim 47.61 240 P **P** **04 14 46.2 -0.6**
KULM IAMs_20 IAMs_20 04 37 57.5
comp=Z,971nm,19.0s
SOEI Soe 47.73 202 P **P** **04 14 46.7 -1.1**
comp=Z,275nm,0.9s,comp=Z,3µm
SATY Saty 47.75 299⇑*iP* **P** **04 14 48.2 +0.3**
comp=Z,178nm,3.1s
SATY *e*S **S** **04 21 39.2 -2.3**
comp=Z,125nm,5.5s
SATY Saty 47.75 299*c iP* **P** **04 14 48.1 +0.3**
SATY *e*S **S** **04 21 39.2 -2.3**
SATY pmax pmax
comp=Z,178nm,3.1s
SATY smax smax
comp=N,125nm,5.5s
IPM Ipoh 47.91 239 P **P** **04 14 50.0 +0.8**
IPM Ipoh 47.91 239 IAmb IAmb 04 15 01.0
comp=Z,26nm,0.7s
IPM IAMs_20 IAMs_20 04 37 52.7
comp=Z,1µm,18.0s
MYKOM Kota Tinggi 47.96 234 P **P** **04 14 49.0 -0.5**
DGPR DIGLIPUR 48.33 255 *e*P **P** **04 14 52.7 +0.3**
DGPR IAMs_20 IAMs_20 04 35 35.4
comp=Z,2µm,24.6s
BATI Baumata 48.34 203 LR LR 04 34 39.0
comp=Z,972nm,21.9s,baz=39,slow=35
BATI Baumata 48.34 203 P **P** **04 14 50.0 -2.5**
comp=Z,162nm,0.9s,comp=Z,2µm
HNR Honiara 48.37 154 IAMs_20 IAMs_20 04 34 02.7
comp=Z,1µm,22.0s
BOK Bokaro 48.48 272 *e*P **P** **04 14 53.3 -0.2**
BOK IAmb IAmb 04 14 56.9
comp=Z,28nm,0.7s
BOK IAMs_20 IAMs_20 04 36 57.4
comp=Z,2µm,20.6s
TARG Taragay, Kyrgy 48.50 297 IAMs_20 IAMs_20 04 37 26.3
comp=Z,2µm,21.0s
KDAK Kodiak Island 48.54 41 *i*P **P** **04 14 54.6 +1.1**
KDAK Kodiak Island 48.54 41 P **P** **04 14 54.8 +1.3**
comp=Z,42nm,1.1s,baz=274,slow=5.5,SNR=11
KDAK Kodiak Island 48.54 41 P **P** **04 14 54.8 +1.3**
KDAK Kodiak Island 48.54 41 IAMs_20 IAMs_20 04 35 22.0
comp=Z,2µm,22.0s
PPLA Purkeypile 48.65 34 IAmb IAmb 04 15 10.0
comp=Z,66nm,1.1s
MDOK Medeo 48.69 299 *i*P **P** **04 14 56.0 +0.9**
MDOK *e*S **S** **04 21 55.1 +0.2**
MDOK *e*LR LR 04 34 27.0
comp=Z,1µm,25.0s
MDOK Medeo 48.69 299 *i*P **P** **04 14 56.0 +0.9**
MDOK *e*S **S** **04 21 55.1 +0.2**
MDOK MLR MLR
comp=Z,1µm,25.0s
AAA Alma-Ata 48.78 299 *e*LR LR 04 34 37.3
comp=Z,2µm,26.5s
AAA Alma-Ata 48.78 299 *e*P **P** **04 14 52.8 -2.9**
AAA pmax pmax
comp=Z,700nm,4.4s
AAA MLR MLR
comp=Z,2µm,19.0s
TNSS Tian-Shan 48.80 299⇑*iP* **P** **04 14 57.3 +1.0**
TNSS Tian-Shan 48.80 299⇑*iP* **P** **04 14 57.2 +1.0**
SKT Skwentna 48.95 35 IAmb IAmb 04 15 05.9
comp=Z,28nm,1.2s
MTN Manton Dam 49.05 192 P **P** **04 14 57.0 -0.9**
PLAI Plampang 49.22 211 P **P** **04 14 56.4 -2.8**
comp=Z,56nm,0.9s,comp=Z,761nm
KTH Kantishna Hill 49.24 33 IAmb IAmb 04 15 02.9
comp=Z,68nm,1.2s
SUA Susitna One 49.33 36 IAmb IAmb 04 15 10.0
comp=Z,36nm,0.9s
MLY Manley 49.35 31 IAmb IAmb 04 15 03.3
comp=Z,70nm,1.2s
COEN Coen 49.38 177 P **P** **04 15 00.8 +0.5**
PBA Port Blair 49.38 253 IAMs_20 IAMs_20 04 38 59.1
comp=Z,2µm,19.0s
ULHL Ulahol 49.50 298 P **P** **04 15 04.8 +3.5**
SNR=5.2
TWSI Taliwang, Sumb 49.52 212 P **P** **04 14 59.7 -1.7**
TRF Thorofare Moun 49.52 33 IAmb IAmb 04 15 19.9
comp=Z,28nm,1.1s
TKM2 Tokmak 2 49.78 299 *i*P **P** **04 15 04.6 +1.0**
TKM2 pmax pmax
comp=Z,127nm,1.4s
TKM2 Tokmak 2 49.78 299 P **P** **04 15 04.7 +1.2**
SNR=76
TOLK Toolik Lake Re 49.98 27 P **P** **04 15 06.3 +1.9**
baz=266
TOLK Toolik Lake Re 49.98 27 IAmb IAmb 04 15 08.4
comp=Z,42nm,1.1s
SEW Seward 50.02 38 IAmb IAmb 04 15 14.0
comp=Z,54nm,1.0s
PMR Palmer 50.10 36 IAmb IAmb 04 15 17.0
comp=Z,39nm,1.1s
MCK McKinley 50.12 33 IAmb IAmb 04 15 19.4
comp=Z,47nm,1.1s
RND Reindeer 50.17 34 IAmb IAmb 04 15 08.4
comp=Z,49nm,1.0s
GHO Glory Hole Cre 50.19 36 IAmb IAmb 04 15 26.6
comp=Z,63nm,1.1s
BRZS Berezniki 50.21 309⇑*iP* **P** **04 15 06.4 -0.1**
comp=Z,62nm,0.8s
BRZS Berezniki 50.21 309*c iP* **P** **04 15 06.3 -0.1**
BRZS pmax pmax
comp=Z,62nm,0.9s
BWNR Bhubaneshwar 50.21 268 *ex* **P** **04 15 05.8 -1.0**
KZA Kyzart 50.25 298 P **P** **04 15 09.0 +1.7**
SNR=36
KBK Karagaybulak 50.31 299 P **P** **04 15 08.6 +1.0**
SNR=46
SGDS Sogindy 50.34 300⇑*iP* **P** **04 15 07.8 +0.3**
comp=Z,150nm,3.3s
SGDS *e*S **S** **04 22 19.6 +1.9**
SGDS *e*LR LR 04 36 24.6
comp=Z,1µm,20.6s
BTLS Baital 50.35 302 *e*P **P** **04 15 07.6 +0.1**
BTLS Baital 50.35 302 *e*P **P** **04 15 07.6 +0.1**
CHMS Chumysh 50.37 300 P **P** **04 15 08.3 +0.6**
SNR=12
MDM Murphy Dome 50.41 31 IAMs_20 IAMs_20 04 30 06.6
comp=Z,1µm,22.0s
KNK Knik Glacier 50.43 36 IAmb IAmb 04 15 19.4
comp=Z,43nm,1.0s
KSH Kashi 50.45 295 P **P** **04 15 12.3 +3.8**
KSH ScP **ScP** **04 20 21.9 +2.8**
KSH PcS **PcS** **04 20 24.8 +1.1**
KSH S **S** **04 22 23.3 +3.9**
KSH sS sS 04 22 40.0 +1.6
KSH SS **SS** **04 25 56.1 +2.8**
KSH pmax pmax
comp=Z,260nm,1.8s
KSH pmax pmax
comp=Z,1µm,7.1s
KSH LR LR
comp=Z,1µm,14.1s
KSH LR LR
comp=Z,3µm,16.3s
USP Ospenovka 50.47 300 P **P** **04 15 09.2 +0.6**
SNR=21
WRH Wood River Hil 50.48 32 P **P** **04 15 09.3 +1.1**
WRH IAmb IAmb 04 15 19.4
comp=Z,33nm,1.0s
JAGI Jajag, Banyuwa 50.50 215 P **P** **04 15 04.8 -4.1**
comp=Z,25nm,1.1s
JAGI Jajag, Banyuwa 50.50 215 P **P** **04 15 08.3 -0.6**
JAGI IAmb IAmb 04 15 26.9
comp=Z,29nm,1.1s
TCOL CIGO, UAF Yank 50.57 32 P **P** **04 15 10.8 +1.9**
baz=271
PSI Prapat 50.57 239 LR LR 04 39 23.8
comp=Z,630nm,18.1s,baz=24,slow=39
COLA College 50.58 32*c i*P **P** **04 15 10.5 +1.6**
COLA *i**PP **sP** **04 15 24.8 -0.2**
COLA pmax pmax
comp=Z,29nm,1.0s
COLA College 50.58 32 P **P** **04 15 10.6 +1.6**
COLA IAmb IAmb 04 15 26.4
comp=Z,57nm,0.9s
AAK Ala-Archa 50.64 299 *i*P **P** **04 15 10.7 +0.6**
SNR=25
AAK Ala-Archa 50.64 299 P **P** **04 15 10.6 +0.6**
AAK P **P** **04 15 10.6 +0.6**
AAK Ala-Archa 50.64 299*de*P **P** **04 15 09.3 -0.7**
AAK pmax pmax
comp=Z,25nm,0.9s
AAK Ala-Archa 50.64 299 P P 04 14 57.9 -12
SNR=5.3
AAK Ala-Archa 50.64 299 P **P** **04 15 10.5 +0.5**
RPSI Rantau Prapat 50.65 239 IAMs_20 IAMs_20 04 39 39.2
comp=Z,1µm,18.0s
GMJI Gumukmas 50.66 216 P **P** **04 15 08.5 -1.6**
comp=Z,30nm,1.1s
UCH Uchtor 50.74 299 P **P** **04 15 12.2 +1.1**
SNR=27
POKR Poker Plat Res 50.75 31 P **P** **04 15 12.4 +2.2**
baz=271
SCM Sheep Creek Mo 50.94 36 IAmb IAmb 04 15 31.6
comp=Z,54nm,0.9s
HDA Harding Lake 50.98 32 P **P** **04 15 12.9 +0.9**
baz=272
HDA Harding Lake 50.98 32 IAmb IAmb 04 15 14.2
comp=Z,74nm,1.2s
IL31 50.99 32 IAmb IAmb 04 15 23.3
comp=Z,40nm,0.9s
ILAR Eielson Array 50.99 32 P **P** **04 15 13.0 +0.9**
ILAR Eielson Array 50.99 32 P **P** **04 15 12.9 +0.9**
comp=Z,30nm,1.0s,baz=270,slow=5.9,SNR=135
ILAR LR LR 04 38 04.0
comp=Z,370nm,21.4s,baz=269,slow=37
GLI Glacier Island 51.13 37 IAmb IAmb 04 15 26.1
comp=Z,69nm,1.2s
BRVK Borovoye 51.14 313 P **P** **04 15 14.0 +0.6**
BRVK Borovoye 51.14 313*c iP* **P** **04 15 13.4 0.0**
BRVK *i**PP **pP** **04 15 26.8 +2.0**
BRVK pmax pmax
comp=Z,65nm,0.9s

BRVK Borovoye 51.14 313 P P 04 15 13.8 +0.4
BRVK IAmb IAmb 04 15 15.3
comp=Z,54nm,0.9s
BRVK Borovoye 51.14 313 IAMs_20 IAMs_20 04 37 44.3
comp=Z,1μm,18.0s
EKS2 Erkin-Say 51.15 299 P P 04 15 14.3 +0.6
SNR=14
PWJI Pagerwojo 51.24 218 P P 04 15 11.4 -3.1
comp=Z,86nm,0.9s
AML Almayashu 51.35 299 P P 04 15 16.8 +1.2
SNR=68
FID Port Fidalgo 51.44 37 IAmb IAmb 04 15 36.4
comp=Z,50nm,1.1s
SDSI Sungai Dareh 51.59 234 P P 04 15 15.4 -1.7
comp=Z,34nm,0.9s,comp=Z,6μm
UGM Wanagama 51.80 219 P P 04 15 16.1 -2.6
comp=Z,167nm,1.2s
UGM Wanagama 51.80 219 P P 04 15 16.8 -1.9
KPJI Karang Pucung 52.15 221 P P 04 15 19.1 -2.2
comp=Z,69nm,1.1s
KNRA Kununurra 52.27 195 P P 04 15 22.1 +0.1
DOT Dot Lake 52.30 33 IAmb IAmb 04 15 38.7
comp=Z,24nm,0.8s
SCRK Sand Creek 52.30 33 P P 04 15 23.4 +1.4
KLSI 52.40 228 P P 04 15 21.6 -1.6
comp=Z,33nm,1.2s,comp=Z,538nm
LEM Lembang 52.45 223 LR LR 04 39 02.2
comp=Z,493nm,20.0s,baz=38,slow=38
LEM Lembang 52.45 223 P P 04 15 21.5 -2.2
comp=Z,71nm,1.0s,comp=Z,1μm
LHSI Lahat 52.46 229 P P 04 15 22.1 -1.5
comp=Z,86nm,1.1s
MENT Mentasta 52.52 34 IAmb IAmb 04 15 41.8
comp=Z,46nm,0.9s
MDSI Maura Dua 52.57 228 P P 04 15 21.9 -2.5
comp=Z,57nm,0.9s,comp=Z,932nm
GSI Gunungsitoli 52.58 239 P P 04 15 23.7 -0.8
comp=Z,105nm,0.5s
GSI Gunungsitoli 52.58 239 P P 04 15 23.1 -1.5
GLB Gilahina Butte 52.65 36 P P 04 15 26.6 +2.0
GLB IAmb IAmb 04 15 44.5
comp=Z,30nm,1.1s
DHRM DHARAMSHALA 52.66 286 *eP* P 04 15 25.1 -0.2
DHRM IAMs_20 IAMs_20 04 39 08.0
comp=Z,3μm,14.9s
MASI Maura Aman, Be 52.73 231 P P 04 15 23.5 -2.2
comp=Z,123nm,0.9s
DZA Taraz 52.81 300 *eP* P 04 15 25.5 -0.6
DZA Taraz 52.81 300 *eP* P 04 15 25.4 -0.6
VRDI Verde Repeater 52.85 36 IAmb IAmb 04 15 29.3
comp=Z,54nm,1.1s
VRDI IAMs_20 IAMs_20 04 36 36.9
comp=Z,1μm,21.0s
CISI Cisompet, Garu 52.95 222 IAmb IAmb 04 15 39.9
comp=Z,38nm,0.6s
TGL Tana Glacier 53.22 37 IAmb IAmb 04 15 32.5
comp=Z,64nm,1.2s
KK31 Karatay Array 53.32 301 P P 04 15 30.1 +0.3
KK31 pmax pmax
comp=Z,135nm,1.2s
KK31 Karatay Array 53.32 301 P P 04 15 30.1 +0.3
KKAR Karatay Array 53.32 301 P P 04 15 30.1 +0.3
KKAR Karatay Array 53.32 301 P P 04 15 30.1 +0.3
NDI New Delhi 53.37 282 *eP* P 04 15 28.0 -2.2
BALM Baldy 53.41 36 IAmb IAmb 04 15 33.2
comp=Z,28nm,0.9s
EGAK Eagle 53.44 31 IAmb IAmb 04 15 47.0
comp=Z,32nm,1.1s
JBG Jabagly 53.50 300*c iP* P 04 15 33.3 +2.1
JBG pmax pmax
comp=Z,95nm,2.3s
BARN Barnard Glacie 53.74 36 IAmb IAmb 04 15 35.8
comp=Z,21nm,0.8s
CTGM Chitina Glacie 53.91 36 IAmb IAmb 04 15 37.0
comp=Z,21nm,0.8s
IUG luzhnay 53.95 300⇑*iP* P 04 15 35.3 +0.8
IUG luzhnay 53.95 300*c iP* P 04 15 35.3 +0.8
NIL Nilore 54.50 289 P P 04 15 39.2 +0.7
NIL Nilore 54.50 289 P P 04 15 38.7 +0.2
NIL pmax pmax
comp=Z,71nm,0.9s
NIL Nilore 54.50 289 P P 04 15 38.7 +0.2
EPYK Eagle Plains 55.03 29 P P 04 15 44.0 +2.2
baz=280
FITZ Fitzroy Crossi 55.31 197 LR LR 04 38 25.4
comp=Z,350nm,21.8s,baz=37,slow=35
FITZ Fitzroy Crossi 55.31 197 P P 04 15 44.4 +0.1
WB9 Warramunga Arr 55.45 187 IAMs_20 IAMs_20 04 38 15.0
comp=Z,1μm,22.0s
WB8 Warramunga Arr 55.47 187 IAMs_20 IAMs_20 04 36 13.6
comp=Z,903nm,22.0s
WB5 Warramunga Arr 55.53 187 IAMs_20 IAMs_20 04 38 18.1
comp=Z,1μm,22.0s
WRAB Tennant Creek 55.59 187*c iP* P 04 15 45.6 -0.7
WRAB pmax pmax
comp=Z,86nm,1.3s
WRAB Tennant Creek 55.59 187 P P 04 15 45.3 -1.0
WRAB Tennant Creek 55.59 187 IAMs_20 IAMs_20 04 38 30.8
comp=Z,1μm,22.0s
WR0 Warramunga Arr 55.59 187 IAMs_20 IAMs_20 04 38 20.0
comp=Z,1μm,22.0s
WB2 Warramunga Arr 55.60 187 P P 04 15 45.5 -0.8
WR1 Warramunga Arr 55.60 187 IAMs_20 IAMs_20 04 38 31.1
comp=Z,1μm,22.0s
WRA Warramunga Arr 55.60 187 P P 04 15 45.5 -0.8
comp=Z,48nm,1.1s,baz=1.6,slow=7.5,SNR=129
WRA S S 04 23 25.3 -4.1
comp=Z,5.9nm,1.3s,baz=5.9,slow=14,SNR=7.3
WRA LR LR 04 37 02.6
comp=Z,595nm,21.3s,baz=10.0,slow=33
WR2 Warramunga Arr 55.60 187 IAMs_20 IAMs_20 04 38 32.2
comp=Z,1μm,22.0s
WC3 Warramunga Arr 55.61 187 IAMs_20 IAMs_20 04 38 31.5
comp=Z,1μm,22.0s
WB1 Warramunga Ar. 55.62 187 IAMs_20 IAMs_20 04 38 31.6
comp=Z,1μm,22.0s
CTA Charters Tower 55.67 174 LR LR 04 39 33.1
comp=Z,269nm,21.4s,baz=357,slow=36
CHGR Chuyangaron 55.74 296 P P 04 15 47.0 -0.5
SVE Sverdlovsk 55.81 319*d iP* P 04 15 48.4 +0.9
SVE *eS* S 04 23 33.5 +1.9
SVE pmax pmax
comp=Z,99nm,0.9s
SVE MLR MLR
comp=Z,2μm,16.0s
INK Inuvik 55.90 27 P P 04 15 49.5 +1.6
comp=Z,24nm,0.9s,baz=280,slow=7.5,SNR=31
INK Inuvik 55.90 27 IAmb IAmb 04 15 50.8
comp=Z,46nm,1.1s
ARU Arti 57.02 319*c iP* P 04 15 56.5 +0.4
ARU *PP pP 04 16 09.1 +1.3
ARU 04 18 02.6
ARU S S 04 23 49.4 +1.8
ARU SS SS 04 27 34.5 -1.5
ARU pmax pmax
comp=Z,123nm,0.9s
ARU MLR MLR
comp=Z,2μm,18.0s
ARU Arti 57.02 319 P P 04 15 56.4 +0.2
SKAG Skagway 57.16 37 IAmb IAmb 04 16 02.5
comp=Z,34nm,1.1s
KBL Kabul 57.37 292 P P 04 15 59.5 +0.3
KBL Kabul 57.37 292 P P 04 15 58.9 -0.3
KBL pmax pmax
comp=Z,40nm,0.9s
KBL Kabul 57.37 292 P P 04 15 58.9 -0.3
KBL IAmb IAmb 04 16 15.2
comp=Z,40nm,0.9s
HYB Hyderabad 57.58 269 *i* P P 04 16 01.0 +0.3
HYB Hyderabad 57.58 269 *eP* P 04 16 00.2 -0.5
HYB IAmb IAmb 04 16 05.1
comp=Z,43nm,0.8s
HYB IAMs_20 IAMs_20 04 42 34.9
comp=Z,2μm,19.2s
AB31 Akbulak array 58.39 311 *i* P P 04 16 06.0 +0.1
AB31 pmax pmax
comp=Z,34nm,0.7s
ABKAR Akbulak array 58.39 311 P P 04 16 06.2 +0.3
C36M Paulatuk 58.95 24 P P 04 16 10.7 +1.4
baz=289
AS31 Alice Springs 59.33 187 P P 04 16 12.4 -0.2
ASAR Alice Springs 59.33 187 P P 04 16 12.5 -0.1
comp=Z,11nm,0.8s,baz=14,slow=11,SNR=73
ASAR S S 04 24 14.9 -3.4
comp=Z,0.2nm,0.5s,baz=359,slow=11,SNR=3.0
ASAR LR LR 04 39 18.2
comp=Z,466nm,21.5s,baz=21,slow=34
ASAR PKPPKP P'P'df 04 45 43.2 +5.7
comp=Z,0.6nm,0.8s,baz=172,slow=3.8,SNR=4.4
PSA00 Pilbara Seismi 60.22 202 P P 04 16 18.4 -0.3
POO Poona 60.84 273 *ex* P 04 16 21.5 -1.7
POO *eP* P 04 16 23.6 +0.4
PALK Pallekele 61.49 258 P P 04 16 27.8 +0.1
PALK pmax pmax
comp=Z,40nm,1.1s
PALK MLR MLR
comp=Z,1μm,22.0s
PALK Pallekele 61.49 258 P P 04 16 27.8 +0.1
PALK IAmb IAmb 04 16 44.3
comp=Z,40nm,1.1s
PALK Pallekele 61.49 258 IAMs_20 IAMs_20 04 43 21.0
comp=Z,1μm,22.0s
PRGR Permogore 61.62 327 *eP* P 04 16 27.4 -0.4
PRGR pmax pmax
comp=Z,99nm,1.4s
SPA0 Spitsbergen Ar 61.78 349 *eP* P 04 16 29.6 +1.0
KBS Kingsbay 61.93 350⇑*eP* P 04 16 31.0 +1.3
KBS pmax pmax
comp=Z,283nm,1.0s
KBS Kingsbay 61.93 350 P P 04 16 30.9 +1.2
DZM Mont Dzumac 62.37 153 *eP* P 04 16 35.5 +2.1
comp=Z,140nm,1.2s
DZM Mont Dzumac 62.37 153 P P 04 16 35.0 +1.6
HRA Herat 62.54 294 P P 04 16 35.0 +0.2
HRA IAmb IAmb 04 16 49.5
comp=Z,29nm,0.8s
HRA IAMs_20 IAMs_20 04 46 28.1
comp=Z,960nm,20.0s
TMCR Tamitsa 63.69 332 *eP* P 04 16 41.4 -0.1
TMCR pmax pmax
comp=Z,118nm,1.4s
APA Apatity 63.72 336⇑*iP* P 04 16 41.1 -0.6
APA pmax pmax
comp=Z,33nm,0.9s
APA MLR MLR
comp=Z,4μm,16.0s
ASHT Ashkhabad 63.80 299 IAMs_20 IAMs_20 04 46 01.8
comp=Z,1μm,19.0s
MSVF Nonsavu 63.80 140⇑*eP* P 04 16 46.7 +3.7
MSVF pmax pmax
comp=Z,19nm,1.1s
MSVF Nonsavu 63.80 140 P P 04 16 44.3 +1.3
GEYT Alibeck 64.00 299 P P 04 16 44.3 +0.2
comp=Z,16nm,1.0s,baz=49,slow=2.7,SNR=28
GEYT PP PP 04 19 04.1 -0.8
comp=Z,3.5nm,0.9s,baz=58,slow=5.4,SNR=2.5
GEYT LR LR 04 46 29.1
comp=Z,1μm,20.2s,baz=65,slow=38
GYA0B ALIBECK ARRAY 64.00 299 IAmb IAmb 04 17 03.0
comp=Z,27nm,0.8s
GYA0B IAMs_20 IAMs_20 04 46 17.4
comp=Z,1μm,21.0s
HAMF Hammerfest 64.94 341 *eP* P 04 16 49.9 +0.3
ARCES ARCESS Array B 65.10 339 P P 04 16 51.4 +0.6
comp=Z,28nm,0.9s,baz=46,slow=8.7,SNR=21
ARCES LR LR 04 48 28.2
comp=Z,2μm,20.7s,baz=61,slow=39
ARE0 ARCESS Array S 65.10 339 *eP* P 04 16 51.6 +0.9
YKA Yellowknife Ar 65.31 30 P P 04 16 52.9 +0.7
comp=Z,12nm,1.0s,baz=296,slow=6.4,SNR=71
YKA PKPPKP P'P'df 04 45 28.2 -11
comp=Z,2.5nm,1.2s,baz=110,slow=2.6,SNR=4.9
KTK1 Kautokeino 66.06 340 *eP* P 04 16 58.0 +1.1
ARMA Armidale 66.51 170 P P 04 17 01.2 +0.9
TULEG Thule 66.56 7 P P 04 17 00.4 +0.4
TRO Tromso 66.84 341 *eP* P 04 17 02.1 +0.3
DAG Danmarks Havn 67.11 355 *i* P P 04 17 03.8 +0.3
DAG pmax pmax
comp=Z,30nm,0.9s
DAG Danmarks Havn 67.11 355 *i* P P 04 17 03.8 +0.3
comp=Z,30nm,0.9s
FORT Forrest 67.12 192 P P 04 17 04.2 +0.1
STKA Stephens Creek 67.16 179 P P 04 17 04.5 +0.2
STKA pmax pmax
comp=Z,3.0nm,0.8s
STKA Stephens Creek 67.16 179 P P 04 17 04.1 -0.2
comp=Z,8.0nm,0.8s,baz=344,slow=7.6,SNR=18
STKA LR LR 04 46 54.9
comp=Z,499nm,21.0s,baz=0.7,slow=36
STKA Stephens Creek 67.16 179 P P 04 17 04.5 +0.2
MOS Moscow 68.02 324 *eP* P 04 17 06.1 -3.5
MOS *e*PP pP 04 17 22.0 +0.6
MOS *e* 04 17 32.8
MOS *e* 04 19 41.3
MOS *eS* S 04 26 03.5 -2.2
MOS pmax pmax
comp=Z,132nm,1.4s
MOS MLR MLR
comp=Z,1μm,15.0s
NLWA Neilton Lookou 68.10 47 IAmb IAmb 04 17 27.8
comp=Z,42nm,0.9s
VRH Novokhopyorsk 68.22 318 *eP* P 04 17 10.3 -0.6
VRH *e*PP pP 04 17 17.2 -5.5
VRH pmax pmax
comp=Z,220nm,1.7s
VRH MLR MLR
comp=Z,2μm,16.0s
BBOO Buckleboo 68.23 184 P P 04 17 11.2 +0.2
BBOO IAmb IAmb 04 17 25.5
comp=Z,33nm,1.1s
MORW Morawa 68.42 203 P P 04 17 12.2 -0.1
MORW IAmb IAmb 04 17 26.8
comp=Z,35nm,1.1s
D03D Eldon 68.49 46 P P 04 17 15.2 +2.6
baz=300,SNR=19
B05A Bryant 68.71 45 P P 04 17 16.0 +2.0
baz=300,SNR=11
D04E Lakebay 68.85 47 P P 04 17 18.5 +3.6
baz=300
MAK Makhachkala 68.86 308 *eP* P 04 17 14.4 -0.6
MAK *eS* S 04 26 17.0 +0.9
MAK pmax pmax
comp=Z,140nm,1.7s
MAK MLR MLR
comp=Z,1μm,18.0s
OBN Obninsk 68.86 323*c iP* P 04 17 14.9 +0.1
OBN *e* 04 17 22.0
OBN *i* *PP pP 04 17 28.3 +1.6
OBN 04 17 39.0
OBN *eS* S 04 26 21.5 +5.8
OBN *e* 04 27 03.8
OBN pmax pmax
comp=Z,143nm,1.7s
OBN MLR MLR
comp=Z,978nm,14.0s
OBN Obninsk 68.86 323 ⇑P P 04 17 15.0 +0.3
OBN mb 04 17 30.7
OBN Obninsk 68.86 323 P P 04 17 15.1 +0.3
B06A Marblemount 68.93 45 IAmb IAmb 04 17 18.2
comp=Z,35nm,1.1s
STEI Steigen 68.99 341 *eP* P 04 17 16.1 +0.7
LPSR Galich'ya Gora 69.00 320 *eP* P 04 17 15.5 -0.2
LPSR *e*PP pP 04 17 22.5 -5.1
LPSR pmax pmax
comp=Z,190nm,1.9s
LPSR MLR MLR
comp=Z,2μm,13.0s
LHI Lord Howe Isla 69.00 163 P P 04 17 16.5 +0.7
LHI IAmb IAmb 04 17 31.5
comp=Z,59nm,1.1s
PUL Pulkovo 69.09 329⇓*eP* P 04 17 17.0 +0.9
PUL pmax pmax
comp=Z,59nm,0.7s
E04D Cinebar 69.28 47 P P 04 17 20.2 +2.6
baz=300,SNR=10
D05A Enumclaw 69.31 46 IAmb IAmb 04 17 21.6
comp=Z,39nm,1.1s
VORR Voronezh 69.33 319 P P 04 17 16.0 -1.8
VORR pmax pmax
comp=Z,300nm,2.0s
KULLO Kullorsuaq 69.42 5 *i* P P 04 17 18.4 +0.4
KULLO pmax pmax
comp=Z,140nm,1.2s
KULLO Kullorsuaq 69.42 5 *i* P P 04 17 18.4 +0.4
comp=Z,135nm,1.2s
AKT Akhty 69.44 307 *eP* P 04 17 19.0 +0.2
AKT *e* 04 17 42.6
AKT pmax pmax
comp=Z,99nm,1.0s
VSR Storozhevoye 69.59 319 *eP* P 04 17 19.0 -0.4
VSR *e*PP pP 04 17 26.4 -4.9
VSR pmax pmax
comp=Z,200nm,1.9s
VSR MLR MLR
comp=Z,1μm,13.0s
VORD Divnogorie 69.66 319 *eP* P 04 17 19.5 -0.3
VORD *e*PP pP 04 17 26.6 -5.1
VORD pmax pmax
comp=Z,40nm,0.9s
F04A Amboy 69.69 48 IAmb IAmb 04 17 36.9
comp=Z,29nm,0.8s
FIA1 FINESS Array S 69.77 332 P P 04 17 20.7 +0.4
FINES FINESS Array B 69.77 332 P P 04 17 20.6 +0.3
comp=Z,31nm,0.8s,baz=73,slow=6.4,SNR=41
FINES LR LR 04 50 09.4
comp=Z,899nm,18.0s,baz=49,slow=38
GROC Groznyy 69.82 309 *eP* P 04 17 22.0 +1.0
GROC *e* 04 17 43.9
GROC pmax pmax
comp=Z,36nm,1.0s
COR Corvallis 69.83 49 P P 04 17 22.6 +1.6
COR pmax pmax
comp=Z,33nm,0.9s
COR Corvallis 69.83 49 P P 04 17 22.6 +1.6
COR IAmb IAmb 04 17 34.8
comp=Z,32nm,0.9s
J01E Myrtle Point 70.16 51 P P 04 17 26.0 +3.0
baz=300
H04D Lebanon 70.21 49 P P 04 17 26.2 +2.8
baz=301,SNR=5.6
B08A Colville Reser 70.25 44 IAmb IAmb 04 17 28.0
comp=Z,27nm,1.1s
I03D Drain, OR 70.25 50 P P 04 17 26.3 +2.6
baz=301
F05D White Salmon 70.29 47 P P 04 17 26.8 +3.0
baz=301
MOR8 Moi Rana 70.47 340 *eP* P 04 17 24.1 -0.4
H04A Detroit Lake 70.47 49 IAmb IAmb 04 17 41.6
comp=Z,23nm,0.9s
K02D Willamette Mer 70.56 51 P P 04 17 28.0 +2.3
baz=301,SNR=6.6
GOF Gofitskoye 70.58 312⇑*iP* P 04 17 26.2 +0.6
GOF pmax pmax
comp=Z,82nm,0.8s
WSAR Wadi Sarin 70.66 285 P P 04 17 27.4 +1.0
SNR=5.8
G05D Wamic, OR 70.71 48 P P 04 17 28.7 +2.3
baz=301
WBK Wadi Bani Khal 70.72 284 P P 04 17 27.6 +0.7
SNR=9.4
WBK P P 04 17 27.6 +0.7
SNR=9.4
I04A Tendick Farm, 70.79 50 P P 04 17 28.7 +1.8
baz=301,SNR=8.5
L02E Cave Junction 70.88 52 P P 04 17 30.0 +2.4
baz=301
E07A Sunnyside 70.89 46 IAmb IAmb 04 17 30.7
comp=Z,39nm,1.2s
BIDO Bidbid 70.91 286 P P 04 17 29.5 +1.5
SNR=14
BANOM Banah 71.09 289 *i* P P 04 17 29.6 +0.5
SNR=14
BANOM Banah 71.09 289 P P 04 17 29.8 +0.7
SNR=9.4
BANOM P P 04 17 29.8 +0.7
SNR=9.4
C09A Chrisman Ranch 71.14 44 IAmb IAmb 04 17 31.8
comp=Z,32nm,1.0s
SHME Shamm 71.15 289 *i* P P 04 17 29.6 +0.1
SNR=7.4
I05D Terrebonne, OR 71.17 49 P P 04 17 31.2 +2.0
baz=302
F07A Phinny Hill Vi 71.20 47 IAmb IAmb 04 17 32.5
comp=Z,34nm,1.1s
SMDO Samad 71.21 285 P P 04 17 30.9 +1.0
SNR=14
SMDO P P 04 17 30.9 +1.0
SNR=14
TBLG Delisi 71.25 308 P P 04 17 29.9 +0.2
TBLG pmax pmax
comp=Z,49nm,0.9s
TBLG Delisi 71.25 308 P P 04 17 29.9 +0.2
TBLG IAmb IAmb 04 17 31.1
comp=Z,49nm,0.9s
J04D Umpqua Nationa 71.26 50 P P 04 17 32.2 +2.1
baz=302,SNR=8.5
VSU Vasula 71.36 330*c iP* P 04 17 30.2 +0.2
VSU pmax pmax
comp=Z,246nm,1.3s
VSU Vasula 71.36 330 *eP* P 04 17 30.8 +0.8
KBZ Khabaz 71.36 311*c iP* P 04 17 30.8 +0.5
KBZ Khabaz 71.36 311 P P 04 17 31.1 +0.7
comp=Z,44nm,0.9s,baz=64,slow=4.7,SNR=68
KBZ LR LR 04 52 37.4
comp=Z,904nm,20.2s,baz=58,slow=39
KIV Kislovodsk 71.38 311 *i* P P 04 17 31.1 +0.5
SNR=30
KIV Kislovodsk 71.38 311 P P 04 17 31.8 +1.2
KIV P P 04 17 31.8 +1.2
KIV Kislovodsk 71.38 311 *eP* P 04 17 30.5 -0.1
KIV *e* 04 17 50.1
KIV *eS* S 04 26 45.2 -0.6
KIV pmax pmax
comp=Z,406nm,1.0s
KIV pmax pmax
comp=Z,501nm,4.3s
KIV MLR MLR
comp=Z,2μm,18.0s
KIV Kislovodsk 71.38 311 ⇓P P 04 17 31.4 +0.8
KIV mb 04 17 32.9
KIV Kislovodsk 71.38 311 P P 04 17 31.4 +0.8
KIV IAMs_20 IAMs_20 04 50 47.6
comp=Z,818nm,21.0s
MDH Madha 71.42 288 *i* P P 04 17 30.8 -0.3
SNR=5.2
MDH Madha 71.42 288 P P 04 17 31.8 +0.7
SNR=5.4
MDH P P 04 17 31.8 +0.7
SNR=5.4
KHMM Horse Mountain 71.46 53 IAmb IAmb 04 17 36.7
comp=Z,29nm,1.0s
MSFE Esma-Masafi 71.49 288 *i* P P 04 17 31.8 +0.3
SNR=16
HOQ Hoqain 71.52 286 P P 04 17 32.2 +0.6
SNR=15
JMDO Jabal Madar 71.53 285 P P 04 17 32.3 +0.6
SNR=10
NEW Newport 71.55 44 P P 04 17 32.8 +1.4
baz=303,SNR=23
NEW Newport 71.55 44 IAmb IAmb 04 17 34.2
comp=Z,28nm,1.1s
NWAO Narrogin (SRO) 71.66 201 P P 04 17 32.1 +0.1
NWAO pmax pmax
comp=Z,44nm,1.2s
NWAO Narrogin (SRO) 71.66 201 P P 04 17 32.1 +0.1
NWAO IAmb IAmb 04 17 47.3
comp=Z,44nm,1.1s
UOSS Minazif 71.67 288 *i* P P 04 17 32.4 -0.2
SNR=16
UOSS Minazif 71.67 288 P P 04 17 33.0 +0.4
UOSS P P 04 17 33.0 +0.4
UOSS Minazif 71.67 288 P P 04 17 32.5 -0.1
UOSS IAmb IAmb 04 17 33.9
comp=Z,48nm,1.1s
UOSS Minazif 71.67 288 IAMs_20 IAMs_20 04 38 16.3
comp=Z,481nm,18.0s
L04D Klamath Falls 71.67 51 P P 04 17 34.7 +2.2
baz=302,SNR=16
PINE Pine Mountain 71.70 49 IAmb IAmb 04 17 46.0
comp=Z,44nm,0.9s
NEY Neytrino 71.72 310*de*P P 04 17 34.3 +1.5
NEY pmax pmax
comp=Z,13nm,1.2s
M02C Callahan 71.76 52 P P 04 17 35.5 +2.6
baz=302,SNR=8.1
J05D Fort Rock, OR 71.78 50 P P 04 17 35.4 +2.2
baz=302,SNR=14
HATD Hatta, Dubai 71.79 288 *i* P P 04 17 33.5 +0.2
SNR=21
HATD Hatta, Dubai 71.79 288 P P 04 17 34.2 +0.9
SNR=20
HATD P P 04 17 34.2 +0.9
SNR=20
K04D Chiloquin, OR 71.81 50 P P 04 17 35.5 +2.3
baz=302
ASHO Ashiyiah 71.92 288 *i* P P 04 17 34.4 +0.3
SNR=22
ASHO Ashiyiah 71.92 288 P P 04 17 34.6 +0.4

SNR=17
BSY Bisya 72.04 285 P P 04 17 35.6 +0.7
SNR=18
GNI Garni 72.07 307 *i* P **P 04 17 36.5 +1.6**
SNR=12
GNI Garni 72.07 307 *c i* P **P 04 17 35.9 +1.0**
GNI pmax pmax
comp=Z,371nm,1.7s
GNI Garni 72.07 307 P P 04 17 35.8 +0.8
NAZ Nazwa, Dubai 72.07 288 *i* P **P 04 17 35.0 0.0**
SNR=6.4
NAZ Nazwa, Dubai 72.07 288 P P 04 17 36.0 +1.0
SNR=8.8
NAZ P **P 04 17 36.0 +1.0**
SNR=8.8
N02D Trinity Center 72.07 52 P **P 04 17 37.3 +2.5**
baz=302,SNR=11
SUMG Summit 72.08 360 P P 04 17 35.4 +0.7
SUMG pmax pmax
comp=Z,40nm,1.0s
SUMG Summit 72.08 360 *i* P **P 04 17 35.0 +0.3**
SUMG Summit 72.08 360 P P 04 17 35.4 +0.7
SUMG IAmb IAmb 04 17 50.4
comp=Z,40nm,1.0s
M04C Macdoel 72.20 51 P P 04 17 37.7 +2.0
AKH Akhalkalaki 72.21 308 ⇑ **P 04 17 33.6 -2.1**
AKH ⇑P **P 04 17 37.1 +1.3**
AKH Akhalkalaki 72.21 308 IAmb IAmb 04 17 37.7
comp=Z,38nm,0.8s
ARQ Araqi 72.26 286 P P 04 17 37.0 +0.9
SNR=12
NSS Namsos 72.38 339 *e*P **P 04 17 36.8 +0.7**
WDC Whiskeytown Da 72.38 53 P P 04 17 38.0 +1.4
WDC pmax pmax
comp=Z,27nm,1.1s
WDC Whiskeytown Da 72.38 53 P P 04 17 38.0 +1.4
O02D Mt. Diablo Mer 72.44 53 P P 04 17 39.3 +2.3
baz=302,SNR=11
ALNE Al Ain 72.49 287 *i* P **P 04 17 37.5 0.0**
SNR=7.3
ASUD Al Ashush, Dub 72.52 288 *i* P **P 04 17 38.0 +0.4**
SNR=13
ASUD Al Ashush, Dub 72.52 288 P P 04 17 38.4 +0.8
SNR=7.9
AJN Ajban 72.81 288 *i* P **P 04 17 39.0 -0.3**
SNR=5.5
WALA Waterton Lakes 72.87 42 IAmb IAmb 04 17 42.3
comp=Z,29nm,1.1s
O03E Paynes Creek 73.01 52 P P 04 17 41.9 +1.5
baz=302,SNR=14
GDXM Geysers 73.16 54 P P 04 17 42.9 +1.6
GDXM **sP 04 18 00.3 +2.4**
IZAR Zarasai 73.27 327 *e*P **P 04 17 42.7 +1.2**
MICGM Minsk 73.32 326 *e* **P 04 17 42.0 +0.2**
MNK Minsk 73.32 326 *e*P **P 04 17 42.0 +0.2**
JTMT Jette 73.42 43 IAmb IAmb 04 17 46.2
comp=Z,44nm,0.9s
ISAL Salakas 73.43 327 *e*P **P 04 17 43.5 +1.0**
ISAL *e*pP **PcP 04 17 57.1 -1.5**
SCO Scoresbysund 73.44 354 *i* P **P 04 17 43.9 +1.6**
SCO pmax pmax
comp=Z,20nm,0.9s
SCO Scoresbysund 73.44 354 *i* P **P 04 17 43.9 +1.6**
comp=Z,20nm,0.9s
IIGN Ignalina 73.53 327 *e*P **P 04 17 44.0 +1.0**
IIGN IAmb IAmb 04 17 45.5
comp=Z,51nm,1.4s
IIGN *e*pP **PcP 04 17 57.6 -1.3**
NACGM Naroch 73.56 327 *e* **P 04 17 43.0 -0.3**
SLIT Slitere, Latvi 73.70 330 *e*P **P 04 17 44.2 +0.2**
TBLU Trondheim 73.84 339 *e*P **P 04 17 44.7 0.0**
ANN Anapa 74.07 314 *e*P **P 04 17 45.3 -1.1**
ANN *e**PP **PcP 04 18 00.1 -1.3**
ANN *e*S **S 04 27 16.3 +0.1**
ANN pmax pmax
comp=Z,164nm,1.0s
ANN MLR MLR
comp=Z,1μm,21.0s
MSO Missoula 74.14 43 P P 04 17 48.3 +1.3
baz=305,SNR=16
BEKR Beckworth 74.17 52 IAmb IAmb 04 18 04.7
comp=Z,31nm,0.9s
PABE Paberze 74.41 328 *e*P **P 04 17 47.9 -0.3**
PABE IAmb IAmb 04 17 50.4
comp=Z,202nm,1.4s
PBUR Paburg 74.93 329 *e*P **P 04 17 51.4 +0.2**
NC405 NORSAR Array S 75.03 337 P P 04 17 52.2 +0.5
AKASG Malin Array Be 75.04 322 *c e*P **P 04 17 51.9 0.0**
AKASG pmax pmax
comp=Z,28nm,0.7s
AKASG Malin Array Be 75.04 322 P P 04 17 51.9 0.0
comp=Z,27nm,0.7s,baz=46,slow=6.1,SNR=107
AKASG LR LR 04 53 50.9
comp=Z,3μm,18.9s,baz=50,slow=38
AKBB Malin Array Si 75.04 322 *c i* P **P 04 17 51.8 -0.1**
AKBB Malin Array Si 75.04 322 P P 04 17 51.8 -0.1
DOMB Dombas 75.13 339 *e*P **P 04 17 53.1 +0.8**
MOL Molde 75.16 340 *e*P **P 04 17 53.8 +1.4**
FFC Flin Flon 75.20 32 P P 04 17 53.8 +1.0
FFC pmax pmax
comp=Z,66nm,1.1s
FFC Flin Flon 75.20 32 P P 04 17 53.8 +1.0
FFC IAmb IAmb 04 17 55.0
comp=Z,66nm,1.1s
NB2 NORSAR Subarra 75.24 337 P P 04 17 53.2 +0.2
comp=Z,190nm,1.7s,baz=41,slow=5.9
NB2 NORSAR Subarra 75.24 337 P P 04 17 53.2 +0.2
baz=41,slow=5.9
NOA NORSAR Array B 75.24 337 P P 04 17 53.4 +0.4
comp=Z,26nm,0.7s,baz=40,slow=5.8,SNR=78
NOA PP **PP 04 20 41.6 +0.4**
comp=Z,4.5nm,0.8s,baz=44,slow=8.7,SNR=3.6
NOA LR LR 04 53 40.3
comp=Z,2μm,20.5s,baz=45,slow=38
NC602 NORSAR Array S 75.37 337 *e*P **P 04 17 53.9 +0.2**
NC602 NORSAR Array S 75.37 337 IAmb IAmb 04 18 08.2
comp=Z,57nm,1.1s
YERR Yerington 75.38 52 IAmb IAmb 04 18 13.5
comp=Z,36nm,1.1s
NAO01 NORSAR Array S 75.50 337 P P 04 17 54.8 +0.4
NAO01 **P 04 17 55.0 +0.6**
EGMT Eagleton 75.71 41 P P 04 17 57.4 +1.5
baz=308,SNR=25
DLMT Dillon 75.75 44 IAmb IAmb 04 18 14.5
comp=Z,43nm,1.0s
SIM Simferopol' 75.91 315 *c i* P **P 04 17 57.4 +0.4**
SIM *e* 04 18 11.0
SIM *e* 04 20 42.0
SIM pmax pmax
comp=Z,50nm,0.8s
SIM MLR MLR
comp=E,400nm,17.0s
BOZ Bozeman (W) 76.16 44 P P 04 18 00.2 +1.6
baz=307,SNR=30
OSL Oslo 76.25 337 *e*P **P 04 17 59.9 +1.3**
NVAR Mina Array Bea 76.30 53 P P 04 18 01.5 +1.8
comp=E,8.6nm,0.7s,baz=298,slow=5.7,SNR=49
NVAR LR LR 04 48 04.0
comp=E,344nm,18.8s,baz=293,slow=33
MLAC Mammoth, Mammo 76.41 53 P P 04 18 03.1 +2.8
baz=305
DMTO DMTO 76.52 282 P P 04 18 01.1 +0.2
SNR=5.2
DMTO P **P 04 18 01.1 +0.2**
SNR=5.2
PAGB Antelope Grade 76.54 56 IAmb IAmb 04 18 17.8
comp=Z,28nm,0.8s
KONO Kongsberg 76.83 337 ⇓ *e*P **P 04 18 02.8 +0.8**
KONO pmax pmax
comp=Z,151nm,2.5s
KONO Kongsberg 76.83 337 *e*P **P 04 18 02.7 +0.8**
ELK Elko 76.91 49 P **P 04 18 04.7 +1.6**
ELK pmax pmax
comp=Z,16nm,1.1s
ELK Elko 76.91 49 P **P 04 18 04.7 +1.6**
SMMC Simmler 76.95 56 P P 04 18 08.2 +5.0
baz=304
SORM Soroca 77.09 321 ⇑P **P 04 18 03.6 0.0**
TIN Tinemaha, Big 77.13 54 P **P 04 18 07.3 +3.0**
baz=305
DIKM Dikmen 77.19 312 ⇑P **P 04 18 05.6 +1.2**
DIKM mb 04 18 20.2
RBK Rabkut 77.22 282 P **P 04 18 04.9 0.0**
SNR=5.8
RBK P **P 04 18 04.9 0.0**
SNR=5.8
VES Vestal, Richgr 77.26 55 P **P 04 18 06.1 +1.3**
baz=305
PKM Mcpherson Peak 77.31 56 P **P 04 18 08.3 +2.9**
baz=305
SFJD Kangerlussuaq 77.33 5 *i* P **P 04 18 06.0 +1.4**
SFJD Kangerlussuaq 77.33 5 *i* P **P 04 18 06.0 +1.4**
WHFO Wadi Hawf 77.34 283 P **P 04 18 04.9 -0.7**
SNR=5.6
WHFO P **P 04 18 04.9 -0.7**
SNR=5.6
H17A Grant Village 77.48 44 P **P 04 18 10.1 +3.8**
baz=308,SNR=24
KIS Kishinev 77.57 319 *e*P **P 04 18 06.0 -0.4**
KIS Kishinev 77.57 319 *e*PcP **PcP 04 18 16.0 -0.5**
KIS Kishinev 77.57 319 *e*PP PP 04 21 20.0 +19
KIS Kishinev 77.57 319 *e*PS **PnS 04 28 40.0 +1.9**
KIS *e*SS SS 04 33 30.0 +36
KIS *e*L L 04 47 06.0
KIS LRM MLR 04 55 00.0
comp=Z,3μm,18.0s
KIS Kishinev 77.57 319 *e*P **P 04 18 06.0 -0.4**
KIS *e* 04 18 16.0
KIS *e*S **S 04 27 56.0 +1.2**
KIS *e*PS **PnS 04 28 40.0 +1.9**
KIS MLR MLR
comp=Z,3μm,18.0s
KIS MLR MLR
comp=N,2μm,16.0s
CWC Cottonwood Cre 77.58 54 P **P 04 18 08.5 +1.6**
baz=305
FLWY Flagg Ranch 77.60 44 IAmb IAmb 04 18 25.5
comp=Z,31nm,1.1s
MILM Milestii Mici 77.62 319 ⇑P **P 04 18 06.5 -0.1**
GRAC Grapevine Rang 77.73 53 P **P 04 18 10.6 +3.0**
baz=306
RLMT Red Lodge 77.77 43 P **P 04 18 09.5 +1.7**
baz=309,SNR=19
RLMT Red Lodge 77.77 43 IAmb IAmb 04 18 11.0
comp=Z,35nm,1.1s
ISA Isabella, Lake 77.77 55 P **P 04 18 09.4 +1.6**
baz=305
ISA Isabella, Lake 77.77 55 P **P 04 18 08.7 +0.9**
ISA pmax pmax
comp=Z,8.0nm,1.0s
ISA Isabella, Lake 77.77 55 P **P 04 18 08.7 +0.9**
TPAW Teton Pass 77.82 45 IAmb IAmb 04 18 29.3
comp=Z,23nm,1.1s
ARVC Arvin 77.84 56 P **P 04 18 10.6 +2.5**
baz=305
ABTO Aybut 78.03 283 P **P 04 18 09.3 -0.2**
SNR=8.2
ABTO P **P 04 18 09.3 -0.2**
SNR=8.2
R11A Troy Canyon, C 78.09 51 P **P 04 18 11.4 +1.8**
baz=306,SNR=18
IAS Iasi 78.11 320 ⇑P **P 04 18 09.8 +0.5**
LVV L'vov 78.16 324 *e*P **P 04 18 08.1 -1.5**
LVV *e* 04 18 23.8
LVV *e* 04 21 08.2
LVV *e* 04 23 00.2
LVV *e*S **S 04 27 55.5 -5.5**
LVV *e* 04 28 49.3
LVV *e* 04 36 25.1
LVV MLR MLR
comp=N,800nm,20.0s
LVV MLR MLR
comp=E,500nm,20.0s
LVV MLR MLR
comp=Z,800nm,19.0s
MPMC Manual Prospec 78.19 54 P **P 04 18 11.8 +1.5**
baz=306,SNR=14
OSI Osito Audit: C 78.20 56 IAMs_20 IAMs_20 04 45 48.8
comp=Z,1μm,19.0s
LEOM Leova 78.21 319 ⇑P **P 04 18 10.5 +0.6**
BEL Belsk 78.29 327 *e*P **P 04 18 11.3 +1.0**
BEL Belsk 78.29 327 *e*P **P 04 18 11.2 +1.0**
BEL *e*P **P 04 18 11.2 +1.0**
DGMT Dagmar 78.30 38 P **P 04 18 11.7 +1.2**
baz=311,SNR=9.5
DGMT Dagmar 78.30 38 P **P 04 18 11.5 +1.0**
DGMT IAmb IAmb 04 18 12.8
comp=Z,65nm,1.1s
FURC Furnace Creek, 78.37 53 P **P 04 18 12.8 +1.9**
baz=306,SNR=10
BSD Bornholm Skovb 78.39 332 ⇑ *i* P **P 04 18 10.9 +0.2**
BSD pmax pmax
comp=Z,75nm,1.0s
BSD Bornholm Skovb 78.39 332 ⇑ *i* P **P 04 18 10.9 +0.2**
comp=Z,75nm,1.0s
LRMC Laurel Mtn Rad 78.40 55 P **P 04 18 13.5 +2.1**
baz=306
LAO LASA Array 78.42 40 P **P 04 18 12.7 +1.5**
baz=310,SNR=20
LAO LASA Array 78.42 40 IAmb IAmb 04 18 28.0
comp=Z,26nm,0.9s
ILGA Ilgaz 78.48 312 P **P 04 18 12.7 +0.9**
ILGA IAmb IAmb 04 18 13.9
comp=Z,52nm,0.8s
ILGA IAMs_20 IAMs_20 04 58 43.6
comp=Z,596nm,19.0s
TPNV Topopah Spring 78.49 53 P **P 04 18 13.6 +1.7**
baz=306,SNR=16
EDW2 Edwards Air Fo 78.54 55 P **P 04 18 13.9 +1.8**
baz=306,SNR=14
HWUT Hardware Ranch 78.61 47 P **P 04 18 13.7 +1.2**
HWUT IAmb IAmb 04 18 15.8
comp=Z,36nm,1.1s
GAZ Gaziantep 78.61 308 P **P 04 18 13.3 +0.8**
GAZ IAmb IAmb 04 18 29.0
comp=Z,47nm,0.9s
BIR Birlad 78.67 319 ⇑P **P 04 18 13.8 +1.3**
DUG Dugway, Tooele 78.72 48 P **P 04 18 15.0 +1.9**
baz=307,SNR=25
TLCR 78.72 318 ⇓P **P 04 18 13.3 +0.5**
TLCR mb 04 18 27.7
GKP Gorka Klasztor 78.81 329 *e*P **P 04 18 13.6 +0.5**
GKP Gorka Klasztor 78.81 329 *e*P **P 04 18 13.6 +0.5**
GKP *e*P **P 04 18 13.6 +0.5**
COP Copenhagen 78.90 333 *i* P **P 04 18 14.3 +0.8**
COP pmax pmax
comp=Z,49nm,0.9s
COP Copenhagen 78.90 333 *i* P **P 04 18 14.3 +0.8**
comp=Z,49nm,0.9s
KWP Kalwaria Pacla 78.92 324 P **P 04 18 14.7 +0.9**
KWP pmax pmax
comp=Z,865nm,1.0s
KWP Kalwaria Pacla 78.92 324 *e*P **P 04 18 14.9 +1.1**
KWP *e*P **P 04 18 14.9 +1.1**
KWP Kalwaria Pacla 78.92 324 P **P 04 18 14.7 +0.9**
GHRR 78.92 319 ⇓P **P 04 18 15.5 +1.6**
JURR Jurilovca 78.96 318 ⇓P **P 04 18 14.7 +0.6**
JURR mb 04 18 29.2
TESR Tescani 79.03 320 ⇓P **P 04 18 14.9 +0.4**
BUR08 Bucovina Ar. S 79.03 322 P **P 04 18 15.1 +0.5**
BUR08 IAmb IAmb 04 18 29.7
comp=Z,34nm,1.0s
BIZ Bicaz 79.03 321 ⇑P **P 04 18 15.3 +0.9**
BURAR Bucovina Array 79.04 322 ⇓P **P 04 18 15.4 +0.7**
BURAR mb 04 18 30.5
BW06 Boulder Array 79.07 45 P **P 04 18 16.2 +1.1**
baz=309,SNR=11
PDAR Pinedale Array 79.07 45 P **P 04 18 16.1 +1.0**
comp=Z,4.3nm,0.6s,baz=273,slow=1.7,SNR=41
PDAR LR LR 04 48 20.0
comp=Z,305nm,21.9s,baz=319,slow=32
SHOC Shoshone, Teco 79.08 54 P **P 04 18 17.4 +2.4**
baz=306
GSC Goldstone, Bar 79.09 54 P **P 04 18 17.3 +2.2**
baz=306
CFR Carcaliu 79.10 318 ⇑P **P 04 18 14.7 -0.1**
BFSC Mount Baldy Ra 79.14 56 P **P 04 18 17.5 +2.0**
baz=306,SNR=6.9
TOPG Topolog 79.16 318 ⇑P **P 04 18 15.6 +0.5**
PETR Petresti 79.23 319 ⇓P **P 04 18 17.6 +2.1**
ODBI Odobesti 79.30 319 ⇑P **P 04 18 17.7 +1.7**
ODBI mb 04 18 32.6
BR131 Keskin Array S 79.33 311 P **P 04 18 17.3 +0.9**
SNR=15
BR131 Keskin Array S 79.33 311 *c i* P **P 04 18 16.4 0.0**
BR131 Keskin Array S 79.33 311 P **P 04 18 16.7 +0.3**
BR131 IAmb IAmb 04 18 20.4
comp=Z,30nm,0.9s
BRTR Keskin Array B 79.33 311 P **P 04 18 16.8 +0.3**
comp=Z,21nm,0.8s,baz=110,slow=4.2,SNR=64
BRTR LR LR 04 57 48.9
comp=Z,368nm,19.7s,baz=50,slow=39
VRI Vrincioaia 79.41 319 ⇓P **P 04 18 17.8 +1.2**
TIRR Tirgusor 79.41 318 P **P 04 18 16.0 -0.6**
TIRR pmax pmax
comp=Z,58nm,0.9s
TIRR Tirgusor 79.41 318 P **P 04 18 16.0 -0.6**
TIRR IAmb IAmb 04 18 31.4
comp=Z,58nm,0.9s
RGN Rugen 79.43 332 P **P 04 18 17.3 +0.8**
PLOR Plostina 79.46 320 ⇑P **P 04 18 17.5 +0.6**
MUD Monsted U'grnd 79.47 335 *i* P **P 04 18 17.0 +0.4**
MUD pmax pmax
comp=Z,82nm,1.2s
MUD Monsted U'grnd 79.47 335 *i* P **P 04 18 17.0 +0.4**
comp=Z,82nm,1.2s
TUQ Turquoise Moun 79.59 54 P **P 04 18 19.8 +1.9**
baz=306,SNR=8.7
GRER 79.59 319 ⇓P **P 04 18 20.1 +2.5**
KOLS Kolonicke sedl 79.60 324 *e*P **P 04 18 18.4 +0.8**
KOLS pmax pmax
comp=Z,27nm,1.2s
KOLS Kolonicke sedl 79.60 324 *e*P **P 04 18 18.4 +0.8**
HEC Hector,Ludlow 79.68 55 P **P 04 18 20.8 +2.5**
baz=306,SNR=8.8
OZUR 79.75 320 ⇓P **P 04 18 19.6 +1.1**
ANTO Ankara 79.76 312 P **P 04 18 19.0 +0.4**
ANTO pmax pmax
comp=Z,35nm,0.8s
ANTO Ankara 79.76 312 P **P 04 18 19.1 +0.4**
ANTO IAmb IAmb 04 18 20.1
comp=Z,35nm,0.8s
STHS Stebnicka Huta 79.76 325 *e*P **P 04 18 19.4 +1.0**
STHS pmax pmax
comp=Z,38nm,0.9s
STHS Stebnicka Huta 79.76 325 *e*P **P 04 18 19.4 +1.0**
BR231 Keskin MP Arra 79.79 312 IAmb IAmb 04 18 20.3
comp=Z,34nm,0.9s
UZH Uzhgorod 79.80 324 *d i* P **P 04 18 19.6 +1.0**
UZH *e* 04 18 23.1
UZH *i* 04 18 33.7
MURC Murrieta 79.82 56 P **P 04 18 21.2 +2.2**
baz=306,SNR=6.1
ARCR ARCALIA 79.83 322 ⇑P **P 04 18 20.7 +1.9**
BMR Baia Mare 79.86 322 ⇑P **P 04 18 20.2 +1.3**
OJC Ojcow 79.87 326 P **P 04 18 19.1 +0.2**
OJC pmax pmax
comp=Z,52nm,1.0s
OJC Ojcow 79.87 326 *e*P **P 04 18 19.8 +0.8**
OJC *e*P **P 04 18 19.8 +0.8**
OJC Ojcow 79.87 326 P **P 04 18 19.1 +0.2**
OJC IAmb IAmb 04 18 20.4
comp=Z,52nm,1.0s
TCRU Three Creeks R 79.91 50 P **P 04 18 20.7 +1.0**
ICOR Ion Corvin 79.97 318 ⇓P **P 04 18 21.0 +1.4**
ISR Istrita 79.99 319 ⇓P **P 04 18 21.3 +1.5**
TRPA Tarpa 80.02 323 *e*P **P 04 18 20.1 +0.3**
DOPR Dopca 80.04 320 ⇓P **P 04 18 21.2 +1.2**
MLR Muntele Rosu 80.07 320 P **P 04 18 20.9 +0.6**
MLR pmax pmax
comp=Z,24nm,1.1s
MLR MLR MLR
comp=Z,2μm,19.0s
MLR Muntele Rosu 80.07 320 ⇓P **P 04 18 21.0 +0.6**
MLR Muntele Rosu 80.07 320 P **P 04 18 20.9 +0.6**
GMRC Granite Mounta 80.15 54 P **P 04 18 22.7 +1.8**
baz=307,SNR=7.0
NIE Niedzica 80.20 325 *e*P **P 04 18 22.0 +1.2**
NIE Niedzica 80.20 325 *e*P **P 04 18 22.0 +1.2**
NIE *e*P **P 04 18 22.0 +1.2**
109C Camp Elliot, M 80.30 57 P **P 04 18 23.8 +2.2**
baz=306
109C Camp Elliot, M 80.30 57 P **P 04 18 22.6 +1.0**
109C IAmb IAmb 04 18 38.5
comp=Z,33nm,0.9s
SECR 80.30 319 ⇑P **P 04 18 22.7 +1.3**
SECR mb 04 18 37.2
PFO Pinyon Flats O 80.31 56 P **P 04 18 23.6 +1.7**
baz=306,SNR=15
PFO Pinyon Flats O 80.31 56 *c i* P **P 04 18 22.9 +1.1**
PFO pmax pmax
comp=Z,62nm,1.3s
PFO Pinyon Flats O 80.31 56 P **P 04 18 23.6 +1.7**
PFO IAmb IAmb 04 18 30.3
comp=Z,33nm,1.1s
PFO IAMs_20 IAMs_20 04 46 19.7
comp=Z,1μm,22.0s
XPFO Pion Flat 80.31 56 P **P 04 18 23.6 +1.7**
SOCY Socotra 80.35 278 P **P 04 18 21.0 -1.3**
SNR=5.2
SOCY Socotra 80.35 278 P **P 04 18 20.8 -1.5**
SOCY IAmb IAmb 04 18 21.5
comp=Z,68nm,1.0s
SOCY IAMs_20 IAMs_20 04 55 18.9
comp=Z,836nm,20.0s
BELC Belle Mtn. Jos 80.39 55 P **P 04 18 23.8 +1.5**
baz=307,SNR=8.3
CJR Cluj-Napoca 80.46 322 ⇑P **P 04 18 23.5 +1.2**
VOIR 80.57 320 ⇑P **P 04 18 23.2 +0.3**
RAYN Ar Rayn 80.64 292 *i* P **P 04 18 24.0 +0.3**
SNR=42
RAYN Ar Rayn 80.64 292 P **P 04 18 23.6 0.0**
RAYN pmax pmax
comp=Z,55nm,0.9s
RAYN Ar Rayn 80.64 292 P **P 04 18 23.6 0.0**
RAYN IAmb IAmb 04 18 24.7
comp=Z,55nm,0.8s
RAYN IAMs_20 IAMs_20 04 59 10.4
comp=Z,696nm,19.0s
MTUR Matau 80.71 320 ⇓P **P 04 18 25.4 +1.7**
MTUR mb 04 18 42.6
BAR Barrett 80.72 56 IAmb IAmb 04 18 40.3
comp=Z,37nm,0.9s
MONP2 Monument Peak 80.76 56 P **P 04 18 26.1 +1.7**
baz=307,SNR=12
KECS Kecovo 80.77 324 *e*P **P 04 18 25.0 +1.2**
KECS pmax pmax
comp=Z,14nm,1.2s
KECS Kecovo 80.77 324 *e*P **P 04 18 25.0 +1.2**
LANS Liptovska Anna 80.78 325 *e*P **P 04 18 25.6 +1.7**
LANS pmax pmax
comp=Z,25nm,1.2s
LANS Liptovska Anna 80.78 325 *e*P **P 04 18 25.6 +1.7**
ARR Arges 80.84 320 ⇓P **P 04 18 25.3 +1.0**
DRGR 80.86 322 ⇑P **P 04 18 25.0 +0.6**
IRM Iron Mountain 80.86 55 P **P 04 18 26.4 +1.7**
baz=307,SNR=14
K22A Casper 80.87 44 P **P 04 18 25.9 +1.2**
baz=311,SNR=7.2
OKC Ostrava-Krasne 80.89 326 *e*P **P 04 18 25.4 +1.0**
OKC *e**PP **PcP 04 18 31.9 +1.0**
OKC MLR MLR
comp=Z,2μm,18.4s
OKC Ostrava-Krasne 80.89 326 *e*P **P 04 18 25.4 +1.0**
OKC *e*PCP **PcP 04 18 31.9 +1.0**
OKC AMS AMS 04 58 00.0
comp=Z,2μm,18.4s
URZ Urewera 80.89 152 IAMs_20 IAMs_20 04 49 18.0
comp=Z,781nm,22.0s
BC3 Big Chuckawall 80.96 55 P **P 04 18 27.1 +1.8**
baz=307,SNR=13
KSP Ksiaz 80.97 328 *e*P **P 04 18 25.7 +0.8**
KSP Ksiaz 80.97 328 *e*P **P 04 18 25.7 +0.8**
KSP *e*P **P 04 18 25.7 +0.8**
MDND Maddock 80.98 36 P **P 04 18 26.1 +1.1**
baz=314,SNR=6.8
ULM Lac du Bonnet 81.00 33 ⇑ *e*P **P 04 18 25.1 +0.1**
ULM Lac du Bonnet 81.00 33 P **P 04 18 25.4 +0.4**
comp=Z,16nm,1.0s,baz=309,slow=5.6,SNR=17
ULM LR LR 04 57 37.8
comp=Z,176nm,19.8s,baz=332,slow=38
ULM Lac du Bonnet 81.00 33 IAmb IAmb 04 18 26.6
comp=Z,29nm,1.1s
RWWY Rawlins 81.10 45 IAmb IAmb 04 18 43.8
comp=Z,28nm,1.1s
IKP In-Ko-Pah, Jac 81.12 56 P **P 04 18 28.0 +1.9**
baz=307,SNR=14
SWSC Sam W. Stewart 81.15 56 P **P 04 18 27.7 +1.5**
baz=307,SNR=9.0
MORC Moravsky Berou 81.20 327 P **P 04 18 26.6 +0.4**
MORC pmax pmax
comp=Z,38nm,1.1s
MORC Moravsky Berou 81.20 327 ⇓P **P 04 18 26.7 +0.6**
MORC mb 04 18 28.4
MORC Moravsky Berou 81.20 327 *e*P **P 04 18 26.8 +0.6**

MORC *e*PP **PP** **04 21 34.0 +2.8**
MORC Moravsky Berou 81.20 327 P **P** **04 18 26.6 +0.4**
MORC IAmb IAmb 04 18 42.1
comp=Z,38nm,1.1s
CHVC Chvalec 81.27 328 *e*P **P** **04 18 27.3 +0.8**
RSSD Black Hills 81.27 41 P **P** **04 18 27.6 +0.8**
baz=312
RSSD Black Hills 81.27 41 P **P** **04 18 27.7 +0.8**
RSSD pmax pmax
comp=Z,9.0nm,0.8s
RSSD Black Hills 81.27 41 P **P** **04 18 27.7 +0.8**
DPC Dobruska-Polom 81.32 328 *e*P **P** **04 18 27.8 +1.0**
DPC *e**PP **PcP** **04 18 34.9 +2.0**
DPC Dobruska-Polom 81.32 328 *e*P **P** **04 18 27.8 +1.0**
DPC *e*PCP **PcP** **04 18 34.9 +2.0**
KRLC Kraliky 81.32 327 *e*P **P** **04 18 27.5 +0.7**
KRLC *e**PP **PcP** **04 18 34.5 +1.6**
KRLC Kraliky 81.32 327 *e*P **P** **04 18 27.5 +0.7**
KRLC *e*PCP **PcP** **04 18 34.5 +1.6**
UPC Upice 81.34 328 *e*P **P** **04 18 27.7 +0.8**
UPC MLR MLR
comp=Z,2µm,15.8s
UPC Upice 81.34 328 *e*P **P** **04 18 27.7 +0.8**
UPC AMS AMS 04 58 50.0
comp=Z,2µm,15.8s
COPA Copaceanca 81.36 319 ⇓P **P** **04 18 27.1 +0.1**
YLV Yalova 81.36 314 ⇑P **P** **04 18 28.9 +1.7**
YLV mb 04 18 39.1
PSZ Piszkesteto 81.45 324 P **P** **04 18 27.8 +0.2**
PSZ pmax pmax
comp=Z,36nm,1.0s
PSZ Piszkesteto 81.45 324 ⇑P **P** **04 18 28.4 +0.9**
PSZ mb 04 18 30.1
PSZ Piszkesteto 81.45 324 *e*P **P** **04 18 28.1 +0.5**
PSZ Piszkesteto 81.45 324 P **P** **04 18 27.8 +0.2**
PSZ IAmb IAmb 04 18 36.5
comp=Z,36nm,1.0s
BKZ Black Stump Fm 81.45 153 P **P** **04 18 28.9 +1.5**
BKZ IAMs_20 IAMs_20 04 52 01.7
comp=Z,1µm,21.0s
O20A White River Ci 81.50 46 P **P** **04 18 29.8 +1.7**
baz=310,SNR=11
O20A White River Ci 81.50 46 IAmb IAmb 04 18 48.8
comp=Z,32nm,1.1s
Y12C Blythe 81.52 55 P **P** **04 18 30.2 +2.1**
baz=307
VYHS Vyhne 81.54 325 *e*P **P** **04 18 29.0 +1.1**
VYHS pmax pmax
comp=Z,52nm,1.2s
VYHS Vyhne 81.54 325 *e*P **P** **04 18 29.0 +1.1**
SZH Strazhica 81.55 318 P **P** **04 18 28.3 +0.2**
BSZH Besenyszg 81.70 324 *e*P P 04 18 39.1 +10
JMB Yambol 81.72 317 P **P** **04 18 30.1 +1.1**
GLA Glamis 81.74 55 P **P** **04 18 31.5 +2.2**
baz=307,SNR=6.4
GLA Glamis 81.74 55 IAmb IAmb 04 18 38.0
comp=Z,26nm,0.8s
SIRR Siria 81.74 322 ⇑P **P** **04 18 29.6 +0.5**
GZR Gura Zlata 81.78 321 ⇑P **P** **04 18 30.0 +0.6**
ELND Elena 81.80 318 ⇑P **P** **04 18 29.9 +0.5**
JAVC Velka Javorina 81.81 326 *e*P **P** **04 18 31.2 +1.8**
JAVC *e*PP **PP** **04 21 39.0 +2.8**
VLAD Vladila 81.88 319 ⇑P **P** **04 18 29.6 -0.2**
PVCC Panska Ves 81.95 329 *e*P **P** **04 18 31.0 +1.0**
PVCC MLR MLR
comp=Z,1µm,17.8s
PVCC Panska Ves 81.95 329 *e*P **P** **04 18 31.0 +1.0**
PVCC AMS AMS 04 57 40.0
comp=Z,1µm,17.8s
BRG Berggiesshubel 81.95 329 ⇑*i*P **P** **04 18 30.5 +0.5**
comp=Z,36nm,1.0s
BRG *i* 04 18 37.2
comp=Z,21nm,0.9s
BRG *e*PP **PP** **04 21 30.5 -6.7**
comp=Z,14nm,1.2s
BRG Berggiesshubel 81.95 329 ⇑*i*P **P** **04 18 30.5 +0.5**
BRG *i* 04 18 37.2
BRG pmax pmax
comp=Z,37nm,1.0s
BRG pmax pmax
comp=Z,21nm,0.9s
BRG pmax pmax
comp=Z,14nm,1.2s
VRAC Vranov 81.97 327 ⇑P **P** **04 18 31.2 +1.0**
VRAC mb 04 18 50.8
VRAC Vranov 81.97 327 *e*P **P** **04 18 31.0 +0.8**
VRAC *e*PP **PP** **04 21 39.3 +1.9**
CLL Collm 82.01 330 ⇑*i*P **P** **04 18 30.6 +0.2**
CLL *i* 04 18 37.5
CLL pmax pmax
comp=Z,93nm,1.3s
CLL MLR MLR
comp=Z,1µm,18.3s
CLL Collm 82.01 330 ⇑*i*P **P** **04 18 30.6 +0.2**
comp=Z,93nm,1.3s
CLL *i* PcP **PcP** **04 18 37.5 +1.7**
CLL *i* pP **pP** **04 18 43.6 +1.2**
CLL *i* PP **PP** **04 21 35.9 -1.8**
CLL *e*SS SS 04 34 00.0 +0.3
CLL *e*SSS SSS 04 37 42.0
CLL *e*SSSS 04 39 54.0
CLL LmH 04 57 00.0
comp=N,900nm,21.0s
CLL LmH 04 57 00.0
comp=E,500nm,20.1s
CLL LmH 04 57 00.0
comp=Z,1µm,18.7s
CLL LmV 05 01 00.0
comp=Z,1µm,18.3s
CLL Collm 82.01 330 P **P** **04 18 30.5 +0.2**
EDRB Edirne 82.03 316 P **P** **04 18 31.5 +0.8**
NNZ Nelson 82.16 156 IAMs_20 IAMs_20 04 51 01.4
comp=Z,482nm,19.0s
SMOL Smolenice 82.17 326 *e*P **P** **04 18 32.7 +1.4**
SMOL pmax pmax
comp=Z,29nm,0.9s
SMOL Smolenice 82.17 326 *e*P **P** **04 18 32.7 +1.4**
PLVB Pleven 82.18 319 ⇑P **P** **04 18 31.6 +0.2**
BZS Buzias 82.22 322 ⇑P **P** **04 18 31.9 +0.3**
KRUC Moravsky 82.24 327 *e*P **P** **04 18 32.3 +0.7**
KRUC *e*PP **PP** **04 21 41.5 +1.9**
SRO Srobarova 82.27 325 *e*P **P** **04 18 33.1 +1.4**
SRO pmax pmax
comp=Z,76nm,1.3s
SRO Srobarova 82.27 325 *e*P **P** **04 18 33.1 +1.4**
GOPC GO Pecny, Ondr 82.31 328 *e*P **P** **04 18 32.3 +0.3**
GOPC *e**PP **PcP** **04 18 39.3 +2.1**
GOPC *e* 04 18 45.8
GOPC GO Pecny, Ondr 82.31 328 *e*P **P** **04 18 32.3 +0.3**
GOPC *e*PCP **PcP** **04 18 39.3 +2.1**
GOPC *e*pP **pP** **04 18 45.8 +1.7**
N23A Red Feather La 82.34 45 P **P** **04 18 34.6 +1.9**
baz=311,SNR=20
N23A Red Feather La 82.34 45 IAmb IAmb 04 18 51.2
comp=Z,55nm,1.1s
MODS Modra-Piesok 82.34 326 *e*P **P** **04 18 32.7 +0.5**
MODS pmax pmax
comp=Z,67nm,1.5s
MODS Modra-Piesok 82.34 326 *e*P **P** **04 18 32.6 +0.4**
PRU Pruhonice 82.36 328 *e*P **P** **04 18 32.9 +0.7**
PRU *e* 04 18 39.8
PRU MLR MLR
comp=Z,2µm,14.1s
PRU Pruhonice 82.36 328 *e*P **P** **04 18 32.9 +0.7**
PRU *e*PCP **PcP** **04 18 39.8 +2.4**
PRU AMS AMS 04 59 30.0
comp=Z,2µm,14.1s
BAIL Bailesti 82.43 320 ⇑P **P** **04 18 34.0 +1.4**
CSS Mathiatis 82.45 308 P **P** **04 18 32.5 -0.5**
CSS Mathiatis 82.45 308 P **P** **04 18 33.2 +0.2**
CSS IAmb IAmb 04 18 50.1
comp=Z,35nm,0.9s
CSS IAMs_20 IAMs_20 05 02 19.1
comp=Z,484nm,21.0s
TREC Trest 82.47 327 *e*P **P** **04 18 33.6 +0.8**
TREC *e**PP **PcP** **04 18 40.3 +2.4**
TREC Trest 82.47 327 *e*P **P** **04 18 33.6 +0.8**
TREC *e*PCP **PcP** **04 18 40.3 +2.4**
WUAZ Wupatki 82.49 52 P **P** **04 18 35.2 +1.8**
baz=309,SNR=13
THZ Tophouse 82.49 156 P **P** **04 18 32.9 +0.1**
THZ IAmb IAmb 04 18 52.0
comp=Z,33nm,1.1s
DIM Dimitrovgrad 82.58 317 P **P** **04 18 35.2 +1.7**
CSKK Cskako 82.62 325 *e*P **P** **04 18 34.0 +0.4**
MPEP Malo Peshtene 82.67 319 P **P** **04 18 34.8 +0.8**
SNZO South Karori 82.69 155 IAMs_20 IAMs_20 04 51 09.9
comp=Z,628nm,22.0s
D32A Dogwood Acres, 82.72 36 IAmb IAmb 04 18 35.1
comp=Z,22nm,0.8s
MDVR Moldovita 82.75 321 ⇑P **P** **04 18 34.7 +0.2**
PBCC Pribram 82.82 328 *e*P **P** **04 18 35.0 +0.4**
PBCC *e*pP **PcP** **04 18 41.2 +1.8**
KAC Achnashellach 82.89 342 *e*P **P** **04 18 35.8 +0.9**
KDZ Kurdzhali 82.91 317 P **P** **04 18 36.7 +1.5**
PLD Plovdiv 83.00 318 P **P** **04 18 36.7 +1.0**
ALN Alexandroupoli 83.06 316 P **P** **04 18 36.4 +0.4**
ALN Alexandroupoli 83.06 316 P **P** **04 18 36.1 +0.1**
ALN pmax pmax
comp=Z,19nm,1.0s
ALN Alexandroupoli 83.06 316 P **P** **04 18 36.1 +0.1**
MPLH Magyarpolny 83.10 325 *e*P **P** **04 18 36.1 0.0**
KPL Plockton 83.12 342 *e*P **P** **04 18 37.0 +1.1**
TIH Tihany 83.13 325 *e*P **P** **04 18 36.0 -0.2**
SOP Sopron 83.18 326 *e*P **P** **04 18 37.0 +0.6**
RDO Rodhopi 83.18 316 P **P** **04 18 37.3 +0.7**
MVCO Mesa Verde 83.22 49 P **P** **04 18 39.2 +2.0**
baz=310,SNR=22
MVCO Mesa Verde 83.22 49 IAmb IAmb 04 18 54.0
comp=Z,21nm,1.0s
ISCO Idaho Springs 83.25 45 P **P** **04 18 39.3 +1.8**
baz=311,SNR=11
MORH Mrgy, Hungar 83.26 324 ⇑*i*P **P** **04 18 36.9 0.0**
MORH Mrgy, Hungar 83.26 324 *e*P **P** **04 18 37.0 +0.1**
RZN Rozhen 83.27 317 P **P** **04 18 38.3 +1.0**
KHZ Kahutara 83.29 156 IAMs_20 IAMs_20 04 52 54.1
comp=Z,715nm,21.0s
CONA Conrad Observa 83.31 326 *i* PcP **P** **04 18 38.6 +1.3**
comp=Z,68nm,1.4s,SNR=21
CONA *e*PP **PP** **04 21 49.0 +0.5**
comp=Z,9,1nm,1.2s
KHC Kasperske Hory 83.42 328*c* *i*P **P** **04 18 38.1 +0.3**
KHC pmax pmax
comp=Z,85nm,1.1s
KHC Kasperske Hory 83.42 328 *e*P **P** **04 18 38.4 +0.6**
KHC *e*PCP **PcP** **04 18 45.5 +3.4**
KHC *e*pP **pP** **04 18 51.6 +1.7**
KHC AMS AMS 05 00 00.0
comp=Z,2µm,16.5s
KHC Kasperske Hory 83.42 328 P **P** **04 18 37.9 +0.1**
VTS Vitosha 83.44 319 P **P** **04 18 39.4 +1.3**
VTS Vitosha 83.44 319 P **P** **04 18 39.3 +1.1**
VTS Vitosha 83.44 319 ⇑P **P** **04 18 39.4 +1.3**
VTS mb 04 18 40.8
VTS Vitosha 83.44 319 IAmb IAmb 04 18 40.1
comp=Z,48nm,1.0s
FRGS Fruska Gora 83.44 322 ⇑*i*P **P** **04 18 38.1 +0.1**
INVG Invergeldie, C 83.52 341 *e*P **P** **04 18 38.5 +0.4**
GEC2 GERESS Array S 83.58 328 P **P** **04 18 38.7 0.0**
GERES GERESS Array B 83.58 328 P **P** **04 18 38.9 +0.2**
comp=Z,5.9nm,0.7s,baz=36,slow=5.0,SNR=44
GERES comp=Z,1.1nm,0.7s,baz=38,slow=6.8,SNR=3.4 PP **PP** **04 21 51.7 +1.0**
GERES LR LR 05 00 10.3
comp=Z,1µm,18.3s,baz=48,slow=39
EZN Ezine 83.61 315 P **P** **04 18 39.2 +0.4**
GADA Gvkgeada 83.61 316 P **P** **04 18 39.0 +0.1**
OXZ Oxford 83.62 158 IAMs_20 IAMs_20 04 46 49.0
comp=Z,840nm,20.0s
SUSD Miller 83.70 38 P **P** **04 18 40.1 +0.9**
baz=315
SUSD Miller 83.70 38 IAmb IAmb 04 18 41.7
comp=Z,40nm,0.9s
214A Organ Pipe Nat 83.76 55 P **P** **04 18 41.7 +1.9**
baz=308,SNR=18
214A Organ Pipe Nat 83.76 55 IAmb IAmb 04 18 59.9
comp=Z,32nm,1.1s
W18A Petrified Fore 83.78 51 P **P** **04 18 42.3 +2.2**
baz=310
KAVA Kavala 83.85 317 P **P** **04 18 40.8 +0.7**
EAU Auchinoon 83.88 341 *e*P **P** **04 18 40.7 +0.8**
MMB Musomiste 83.88 318 P **P** **04 18 41.1 +0.8**
S22A 4UR Ranch, Cre 83.88 47 P **P** **04 18 42.8 +2.1**
baz=311,SNR=38
S22A 4UR Ranch, Cre 83.88 47 IAmb IAmb 04 18 50.2
comp=Z,29nm,1.1s
BEHE Becsehely 83.97 325 *e*P **P** **04 18 41.1 +0.5**
BEHE Becsehely 83.97 325 *e*P **P** **04 18 41.0 +0.5**
ARSA Arzberg 83.97 326 *i* PcP **P** **04 18 41.3 +0.7**
comp=Z,39nm,1.4s,SNR=16
ARSA *e*PP **PP** **04 21 56.8 +2.9**
comp=Z,11nm,1.2s
NVR Nevrokopi 83.97 317 P **P** **04 18 41.4 +0.7**
GRA1 Grafenberg Arr 83.98 330 P **P** **04 18 41.2 +0.6**
GRF Grafenberg Arr 83.98 330 P **P** **04 18 41.2 +0.6**
GRF pmax pmax
comp=Z,71nm,1.0s
THAS Thassos island 84.00 317 P **P** **04 18 40.5 -0.3**
X18A Snowflake 84.02 52 IAmb IAmb 04 18 44.4
comp=Z,24nm,1.1s
TEKS Tekeris 84.02 322 *e*P **P** **04 18 39.8 -1.1**
PRK Paraskevi 84.03 315 P **P** **04 18 42.2 +1.2**
KKB Krupnik 84.04 318 P **P** **04 18 42.1 +1.0**
KSL Kastellorizon 84.07 311 P **P** **04 18 41.0 -0.3**
Q24A Divide 84.07 46 P **P** **04 18 43.9 +2.2**
baz=312,SNR=6.5
Q24A Divide 84.07 46 IAmb IAmb 04 18 45.1
comp=Z,30nm,1.1s
MOA Molln 84.09 327 *i* PcP **P** **04 18 42.0 +0.8**
comp=Z,45nm,1.3s,SNR=16
MOA *i* PP **PP** **04 21 57.3 +2.5**
comp=Z,15nm,1.3s
DIVS Divibare 84.11 321 ⇑*i*P **P** **04 18 41.6 +0.2**
MQZ McQueen's Vall 84.16 157 IAMs_20 IAMs_20 04 50 44.2
comp=Z,842nm,19.0s
PGBU Glenifferbraes 84.18 341 *e*P **P** **04 18 42.5 +1.0**
PGBU IAmb IAmb 04 18 44.2
comp=Z,96nm,1.1s
YER Yerkesik 84.23 312 P **P** **04 18 42.9 +0.8**
KOGS Kog 84.23 325 *i*P **P** **04 18 41.7 -0.2**
SIGR SIGRI 84.29 315 P **P** **04 18 41.0 -1.3**
OGNE Ogallala 84.50 43 P **P** **04 18 44.7 +1.2**
baz=313,SNR=7.4
OGNE Ogallala 84.50 43 IAmb IAmb 04 18 52.5
comp=Z,16nm,0.8s
PPT Papeete 84.55 116 LR LR 04 49 30.4
comp=Z,1µm,21.0s,baz=306,slow=31
PPT2 Papeete2 84.56 116 *e*S **S** **04 29 05.6 -2.6**
comp=Z,2µm,35.0s
PPT2 Papeete2 84.56 116 *e*LQ LQ 04 41 40.2
comp=Z,708nm,27.2s
PPT2 *e*LR LR 04 45 24.6
comp=Z,2µm,22.5s,baz=312
PPT2 Papeete2 84.56 116 *e*T T 05 51 23.2
comp=Z,6.4nm,0.3s
BBLS Lazići 84.57 322 ⇑*i*P **P** **04 18 44.5 +0.7**
PAE Paea 84.60 116 *e*T T 05 51 25.6
comp=Z,1.2nm,0.3s
PERS Pernice 84.61 326 *i* P **P** **04 18 44.3 +0.4**
SOKA Soboth 84.62 326 *i* PcP **P** **04 18 44.3 +0.4**
comp=Z,96nm,1.3s,SNR=50
KNT Kendrikon 84.63 318 P **P** **04 18 44.1 +0.1**
EYMN Ely 84.63 32 P **P** **04 18 44.7 +0.7**
baz=320,SNR=6.9
EYMN Ely 84.63 32 IAmb IAmb 04 18 46.5
comp=Z,33nm,1.1s
HAPS Han Pijesak,Bl 84.64 322 *e*P **P** **04 18 43.8 -0.4**
STIP Stip 84.65 319 *e*P **P** **04 18 43.8 -0.3**
SDCO Great Sand Dun 84.67 47 P **P** **04 18 46.5 +1.8**
baz=312,SNR=53
SDCO Great Sand Dun 84.67 47 IAmb IAmb 04 18 54.9
comp=Z,24nm,1.1s
VAY Valandovo 84.70 318 ⇑*i*P **P** **04 18 44.9 +0.5**
CHOS Chios island 84.72 314 P **P** **04 18 43.7 -1.0**
RUDO Rudo 84.76 321 ⇑*i*P **P** **04 18 44.4 -0.3**
SKO Skopje 84.85 319 ⇑*i*P **P** **04 18 46.4 +1.2**
PLG Polygyros 84.87 317 P **P** **04 18 44.8 -0.5**
TUC Tucson 84.88 54 P **P** **04 18 47.4 +1.8**
baz=309
TUC Tucson 84.88 54 P **P** **04 18 47.0 +1.4**
TUC pmax pmax
comp=Z,23nm,1.2s
TUC Tucson 84.88 54 P **P** **04 18 47.0 +1.4**
TUC IAmb IAmb 04 18 48.4
comp=Z,23nm,1.1s
HORT Hortiatis 84.91 317 P **P** **04 18 45.7 +0.2**
PLE Pljevlja 84.96 321 ⇑*i*P **P** **04 18 46.0 +0.2**
OBKA Obir 84.97 326 *i* PcP **P** **04 18 45.8 +0.1**
comp=Z,12nm,0.8s,SNR=5.9
OBKA *e*PP **PP** **04 22 02.0 -0.1**
comp=Z,25nm,1.7s
HPK Haverah Park 85.01 339 *e*P **P** **04 18 46.5 +0.8**
HPK IAmb IAmb 04 18 47.3
comp=Z,44nm,0.9s
IVA Berane 85.03 321 ⇑*i*P **P** **04 18 46.9 +0.8**
BLY Banja Luka 85.03 323 ⇑*i*P **P** **04 18 46.4 +0.4**
BLY Banja Luka 85.03 323 ⇑P **P** **04 18 46.8 +0.8**
BLY mb 04 18 48.0
BLY Banja Luka 85.03 323 IAmb IAmb 04 18 50.6
comp=Z,17nm,0.9s
GRG Griva 85.04 318 P **P** **04 18 46.3 +0.1**
PAIG Paliouri 85.04 317 P **P** **04 18 46.1 0.0**
CRES Cresnjev 85.06 325 ⇑*i*P **P** **04 18 46.1 0.0**
KBA Koelnbreinsper 85.08 327 *i* PcP **P** **04 18 46.6 +0.2**
comp=Z,19nm,0.8s,SNR=9.0
KBA *i* PP **PP** **04 22 02.4 -0.7**
comp=Z,31nm,1.6s
GAL1 Galloway 85.08 341 *e*P **P** **04 18 46.6 +0.7**
GAL1 IAmb IAmb 04 18 47.5
comp=Z,75nm,1.0s
HGN Heimansgroeve 85.19 333 *e*P **P** **04 18 46.6 0.0**
comp=Z,168nm,1.6s
PVY Plav 85.19 320 ⇑*i*P **P** **04 18 47.0 0.0**
KOME Kolasin 85.24 321 ⇑*i*P **P** **04 18 47.1 -0.1**
BEBN Eben Emael 85.26 333 P **P** **04 18 47.1 +0.2**
CLGH Cloghs, Cushen 85.26 342 *e*P **P** **04 18 47.8 +1.0**
BTNL Ternell 85.26 333 P **P** **04 18 44.9 -2.2**
MEM Membach 85.29 333 ⇑P **P** **04 18 47.1 0.0**
comp=Z,31nm,1.2s
MYKA Terra Mystica 85.29 326 *i* P **P** **04 18 47.0 -0.3**
comp=Z,28nm,0.8s,SNR=12
MGRS Mrkonjic Grad 85.32 323 ⇑*i*P **P** **04 18 48.4 +0.9**
LJU Ljubljana 85.33 326 ⇑*i*P **P** **04 18 47.3 -0.2**
ECSD EROS Data Cent 85.38 38 P **P** **04 18 48.5 +0.7**
baz=317,SNR=19
ECSD EROS Data Cent 85.38 38 IAmb IAmb 04 18 49.6
comp=Z,43nm,1.1s
BSTI Sart Tilman 85.47 333 P **P** **04 18 48.8 +0.8**
BSTI pP **pP** **04 18 58.4 -1.8**
BSTI sP **sP** **04 19 02.7 -2.0**
BHOU Houvegnez 85.50 333 P **P** **04 18 48.2 0.0**
LBWR Ladybower, Pea 85.52 339 *e*P **P** **04 18 48.6 +0.3**
LBWR IAmb IAmb 04 18 49.9
comp=Z,224nm,1.3s
STU Stuttgart 85.53 330 P **P** **04 18 48.8 +0.4**
STU Stuttgart 85.53 330 P **P** **04 18 48.8 +0.4**
NKY Niksic 85.53 321 ⇑*i*P **P** **04 18 49.1 +0.4**
PHP Peshkopia 85.58 320 P **P** **04 18 48.8 -0.1**
LIT Litokhoron 85.59 317 P **P** **04 18 48.1 -0.8**
NKME Niksic 85.59 321 ⇑*i*P **P** **04 18 48.7 -0.2**
CEY Cerknica 85.60 326 ⇑*i*P **P** **04 18 48.6 -0.3**
WATA Walderalm 85.66 328 *i* PcP **P** **04 18 49.2 0.0**
comp=Z,13nm,0.8s,SNR=6.3
PDG Podgorica 85.67 321 ⇑*i*P **P** **04 18 49.5 +0.3**
PDG Podgorica 85.67 321 ⇑P **P** **04 18 49.5 +0.3**
PDG mb 04 18 51.5
TTG Podgorica 85.67 321 ⇑*i*P **P** **04 18 49.6 +0.3**
WTTA Wattenberg 85.69 328 *e*PcP **P** **04 18 49.7 +0.2**
comp=Z,7.8nm,0.7s
WTTA *e*PP **PP** **04 22 09.7 +1.8**
comp=Z,16nm,1.4s
BRY Bratogost 85.70 321 ⇑*i*P **P** **04 18 49.1 -0.4**
BRY Bratogost 85.70 321 ⇑*i*P **P** **04 18 49.2 -0.3**
ABTA Abfaltersbach 85.70 327 *i* P **P** **04 18 48.8 -0.6**
comp=Z,19nm,0.9s,SNR=11
XOR Xorichti 85.70 316 P **P** **04 18 46.8 -2.7**
BCLA Clavier 85.70 333 P **P** **04 18 48.7 -0.5**
comp=Z,44nm,1.6s
FNA Florina 85.72 318 P **P** **04 18 48.9 -0.7**
T25A Trinidad 85.72 47 P **P** **04 18 51.9 +2.0**
baz=312,SNR=29
UCC Uccle 85.73 334 P **P** **04 18 49.8 +0.5**
UCC pmax pmax
comp=Z,31nm,1.1s
UCC Uccle 85.73 334 P **P** **04 18 49.4 0.0**
comp=Z,33nm,1.6s
UCC Uccle 85.73 334 P **P** **04 18 49.8 +0.5**
UCC IAmb IAmb 04 18 50.0
comp=Z,31nm,1.1s
CEME Cevo 85.76 321 ⇑*i*P **P** **04 18 49.7 -0.1**
KZN Kozani 85.84 318 P **P** **04 18 50.2 0.0**
MOTA Moosalm 85.85 328 *i* PcP **P** **04 18 50.4 +0.1**
comp=Z,29nm,1.3s,SNR=10
DRME Dracevica, Mon 85.88 321 ⇑*i*P **P** **04 18 50.5 +0.2**
DRME Dracevica, Mon 85.88 321 ⇑*i*P **P** **04 18 50.5 +0.2**
RETA Reutte 85.89 329 *i* PcP **P** **04 18 50.7 +0.4**
comp=Z,40nm,1.0s,SNR=18
RETA *i* PP **PP** **04 22 08.9 -0.6**
comp=Z,7.5nm,1.7s
RIY Rijeka 85.89 325 ⇑*i*P **P** **04 18 49.9 -0.3**
SQTA Sankt Quirin 85.90 328 *i* PcP **P** **04 18 50.5 +0.1**
comp=Z,20nm,1.1s,SNR=7.2
SQTA *e*PP **PP** **04 22 11.4 +1.7**
comp=Z,8.9nm,1.0s
TRI Trieste 85.93 326 IAmb IAmb 04 18 57.6
comp=Z,20nm,0.8s
SKDS Skadanscina 85.94 326 *e*P **P** **04 18 49.8 -0.7**
ANMO Albuquerque 85.94 49 P **P** **04 18 52.9 +2.0**
baz=311
ANMO Albuquerque 85.94 49*c* *e*P **P** **04 18 52.8 +1.8**
ANMO pmax pmax
comp=Z,33nm,1.3s
ANMO Albuquerque 85.94 49 P **P** **04 18 52.4 +1.4**
ANMO IAmb IAmb 04 19 09.6
comp=Z,28nm,1.1s
CWF Charnwood Fore 85.97 338 *e*P **P** **04 18 50.4 -0.1**
CWF IAmb IAmb 04 18 51.7
comp=Z,215nm,1.6s
STAL STALIGIAL 85.99 327 IAmb IAmb 04 18 50.3
comp=Z,28nm,0.8s
BMRD Maredsous 86.00 333 P **P** **04 18 50.9 +0.3**
comp=Z,56nm,1.3s
SNF Seneffe 86.00 334 P **P** **04 18 51.0 +0.3**
comp=Z,63nm,1.5s
SNF x x 04 18 56.8
SNF pP **pP** **04 19 00.7 -2.1**
SNF sP **sP** **04 19 05.4 -1.9**
WLF Walferdange 86.00 332 P **P** **04 18 51.3 +0.5**
WLF pP **pP** **04 19 01.1 -1.8**
WLF Walferdange 86.00 332 IAmb IAmb 04 18 52.1
comp=Z,40nm,1.1s
HCY Herceg Novi 86.05 321 *e*P P 04 18 56.7 +5.6
HCY Herceg Novi 86.05 321 ⇑*i*P **P** **04 18 50.9 -0.2**
SPMN Marine on St. 86.11 35 P **P** **04 18 52.1 +0.8**
baz=319,SNR=5.3
SPMN Marine on St. 86.11 35 IAmb IAmb 04 18 58.6
comp=Z,20nm,1.0s
STON Ston 86.15 322 ⇑*i*P **P** **04 18 50.6 -0.9**
DOU Dourbes 86.23 333 P **P** **04 18 51.9 +0.1**
BFO Black Forest 86.23 330 *i* P **P** **04 18 52.1 +0.2**
BFO Black Forest 86.23 330 P **P** **04 18 51.4 -0.5**
FETA Feichten 86.27 328 *i* PcP **P** **04 18 52.5 +0.2**
comp=Z,19nm,1.0s,SNR=9.5
BGNE Belgrade 86.27 40 P **P** **04 18 52.9 +0.7**
baz=316,SNR=11
LKR Lokris 86.30 316 P **P** **04 18 52.2 -0.2**
FOEL Foel Wylfa 86.41 339 *e*P **P** **04 18 53.5 +0.9**
FOEL IAmb IAmb 04 18 53.9
comp=Z,75nm,0.8s
TAOE Nuku Hiva Isla 86.41 103 *e*LR LR 04 46 21.5
comp=Z,3µm,24.9s,baz=317
DAVA Damuels 86.42 329 *i* PcP **P** **04 18 53.1 +0.1**
comp=Z,69nm,1.4s,SNR=15
AGG Agios Georgios 86.42 317 P **P** **04 18 51.5 -1.6**
AGG Agios Georgios 86.42 317 P **P** **04 18 52.3 -0.8**
AGG pmax pmax
comp=Z,12nm,0.9s
AGG Agios Georgios 86.42 317 P **P** **04 18 52.3 -0.8**
319A Douglas 86.46 54 IAmb IAmb 04 19 11.2
comp=Z,20nm,1.1s
YLL Llanberis 86.46 340 *e*P **P** **04 18 53.6 +0.8**
D41A Chassel 86.58 31 IAmb IAmb 04 19 04.7
comp=Z,24nm,1.1s
CTI Castel Tesino 86.62 327 IAmb IAmb 04 18 53.7
comp=Z,16nm,1.0s
DAMY Dhamar 86.64 285 P **P** **04 18 56.4 +1.6**
DAMY IAmb IAmb 04 19 11.1
comp=Z,28nm,1.1s
DAMY IAMs_20 IAMs_20 05 03 59.0
comp=Z,987nm,20.0s
121A Cookes Peak, D 86.68 52 P **P** **04 18 56.7 +2.0**
baz=311,SNR=8.1
121A Cookes Peak, D 86.68 52 IAmb IAmb 04 19 13.2
comp=Z,14nm,0.9s

FUORN	**Ofenpass-Fuorn**	**86.78**	**328**	IAmb	IAmb	04 18 56.0		
	comp=Z,36nm,0.9s							
ECH	**Echery**	**86.79**	**331**	P	**P**	**04 18 54.6**	**-0.1**	
ECH				pmax	pmax			
	comp=Z,31nm,0.9s							
ECH	**Echery**	**86.79**	**331**	P	**P**	**04 18 54.6**	**-0.1**	
ECH				IAmb	IAmb	04 18 55.8		
	comp=Z,31nm,0.9s							
SCHQ	**Schefferville**	**86.84**	**16**	P	**P**	**04 18 55.9**	**+1.2**	
	comp=Z,21nm,0.9s,baz=344,slow=4.5,SNR=8.5							
SCHQ				LR	LR	04 59 29.2		
	comp=Z,446nm,21.3s,baz=330,slow=37							
SCHQ	**Schefferville**	**86.84**	**16**	P	**P**	**04 18 55.2**	**+0.5**	
HSIG		**86.84**	**56**	IAMs_20	IAMs_20	04 51 34.6		
	comp=Z,873nm,21.0s							
SRIG	**Santa Rosalia**	**87.02**	**58**	IAMs_20	IAMs_20	04 48 41.5		
	comp=Z,722nm,22.0s							
STRD	**Stroud**	**87.07**	**338**	*e*P	**P**	**04 18 56.3**	**+0.4**	
MCH1	**Michaelchurch**	**87.13**	**338**	*e*P	**P**	**04 18 56.2**	**+0.1**	
MCH1				IAmb	IAmb	04 18 57.1		
	comp=Z,71nm,0.9s							
TEOL	**Teolo**	**87.14**	**327**	IAmb	IAmb	04 18 56.9		
	comp=Z,28nm,1.0s							
SWN1	**Swindon**	**87.19**	**338**	*e*P	**P**	**04 18 57.0**	**+0.5**	
SWN1				IAmb	IAmb	04 18 58.8		
	comp=Z,189nm,1.1s							
CBKS	**Cedar Bluff**	**87.25**	**43**	P	**P**	**04 18 57.8**	**+0.7**	
	baz=315,SNR=11							
G40A	**Rib Lake**	**87.26**	**33**	IAmb	IAmb	04 18 58.3		
	comp=Z,27nm,1.1s							
TUE	**Stuetta**	**87.28**	**329**	P	**P**	**04 18 56.9**	**-0.4**	
TUE				IAmb	IAmb	04 18 59.7		
	comp=Z,20nm,1.0s							
DRO	**Drossia**	**87.52**	**316**	P	**P**	**04 18 58.5**	**+0.1**	
F42A	**Maple Grove Fa**	**87.78**	**32**	IAmb	IAmb	04 19 16.9		
	comp=Z,11nm,0.8s							
SENIN	**Lac Senin/Sane**	**88.22**	**330**	P	**P**	**04 19 02.0**	**+0.1**	
MATE	**Matera**	**88.28**	**321**	⇓P	**P**	**04 19 01.9**	**0.0**	
MATE				mb		04 19 03.1		
TBI	**Tubuai**	**88.33**	**120**	*e*S	**S**	**04 29 41.3**	**-3.2**	
	comp=Z,608nm,37.0s							
TBI	**Tubuai**	**88.33**	**120**	*e*LQ	LQ	04 42 50.7		
	comp=Z,436nm,28.0s							
TBI				*e*LR	LR	04 46 42.2		
	comp=Z,2µm,21.8s,baz=307							
TBI	**Tubuai**	**88.33**	**120**	*e*T	T	05 56 03.9		
	comp=Z,11nm,0.3s							
SCIA	**State Center**	**88.41**	**37**	P	**P**	**04 19 04.1**	**+1.6**	
	baz=319							
MATQ	**Matagarni**	**88.45**	**24**	P	**P**	**04 19 03.2**	**+0.7**	
	baz=330,SNR=12							
D46A	**Sault St. Mari**	**88.56**	**29**	P	**P**	**04 19 04.1**	**+1.0**	
	baz=325							
AQU	**L'Aquila**	**88.65**	**324**	⇑*i*P	**P**	**04 19 04.1**	**+0.4**	
VLC	**Villacollemand**	**88.65**	**327**	IAmb	IAmb	04 19 15.9		
	comp=Z,22nm,1.0s							
KSU1	**Kansas State U**	**88.75**	**41**	P	**P**	**04 19 04.9**	**+0.7**	
	baz=317,SNR=11							
OSSC	**Osservatorio P**	**88.76**	**326**	P	**P**	**04 19 03.7**	**-0.5**	
OSSC				IAmb	IAmb	04 19 04.8		
	comp=Z,18nm,0.8s							
MNTX	**Cornudas Mount**	**88.76**	**51**	P	**P**	**04 19 05.4**	**+1.0**	
	baz=312,SNR=5.6							
MSEY	**Mahe Island**	**88.80**	**263**	IAMs_20	IAMs_20	04 56 50.5		
	comp=Z,738nm,22.0s							
CLF	**Chambon-Foret**	**88.80**	**334**	IAmb	IAmb	04 19 22.8		
	comp=Z,20nm,1.1s							
MSTX	**Muleshoe**	**88.85**	**48**	P	**P**	**04 19 06.6**	**+1.7**	
	baz=313							
AMTX	**Amarillo**	**88.88**	**47**	P	**P**	**04 19 06.9**	**+1.9**	
	baz=314							
F45A	**CMU Biological**	**88.95**	**30**	P	**P**	**04 19 06.5**	**+1.6**	
	baz=324							
JFWS	**Jewell Farm**	**89.06**	**35**	P	**P**	**04 19 06.2**	**+0.7**	
	baz=321							
PAOL	**Paolisi**	**89.08**	**322**	IAmb	IAmb	04 19 08.8		
	comp=Z,12nm,0.9s							
D48A	**Paudash Townsh**	**89.18**	**27**	P	**P**	**04 19 06.7**	**+0.6**	
	baz=327							
E47A	**Iron Bridge**	**89.22**	**29**	P	**P**	**04 19 07.2**	**+1.0**	
	baz=326,SNR=8.2							
LSQQ	**Lebel-sur-Quev**	**89.27**	**24**	P	**P**	**04 19 07.3**	**+0.8**	
	baz=330							
TIP	**Timpagrande**	**89.33**	**320**	⇓P	**P**	**04 19 06.8**	**-0.2**	
TIP				mb		04 19 23.2		
TIP	**Timpagrande**	**89.33**	**320**	P	**P**	**04 19 07.1**	**+0.1**	
CHGQ	**Chibougamau**	**89.35**	**22**	P	**P**	**04 19 07.4**	**+0.6**	
	baz=332,SNR=22							
CASP	**Castiglione de**	**89.50**	**326**	IAMs_20	IAMs_20	04 56 36.5		
	comp=Z,769nm,20.0s							
BNI	**Bardonecchia**	**89.54**	**329**	IAmb	IAmb	04 19 16.8		
	comp=Z,15nm,1.0s							
E48A	**Lockeyer**	**89.62**	**28**	P	**P**	**04 19 09.0**	**+0.9**	
	baz=326							
ATD	**Arta Tunnel**	**89.64**	**284**	IAMs_20	IAMs_20	05 06 12.5		
	comp=Z,496nm,20.0s							
D50A	**G1974 Best Tow**	**89.91**	**26**	P	**P**	**04 19 10.0**	**+0.6**	
	baz=328,SNR=8.0							
F48A	**Evansville**	**89.99**	**29**	P	**P**	**04 19 10.7**	**+0.9**	
	baz=326,SNR=5.1							
H46A	**Fife Lake**	**90.00**	**31**	P	**P**	**04 19 11.5**	**+1.6**	
	baz=324,SNR=6.3							
GLMI	**Grayling**	**90.02**	**30**	P	**P**	**04 19 11.8**	**+1.8**	
	baz=325,SNR=6.7							
G47A	**Hillman**	**90.04**	**30**	P	**P**	**04 19 11.6**	**+1.5**	
	baz=325							
D51A	**Lot 18 Range I**	**90.14**	**26**	P	**P**	**04 19 11.0**	**+0.4**	
	baz=328,SNR=5.9							
E50A	**Wahnapitae**	**90.21**	**27**	P	**P**	**04 19 11.9**	**+1.1**	
	baz=328							
SSB	**Saint Sauveur**	**90.22**	**331**	P	**P**	**04 19 11.2**	**+0.2**	
SSB				pmax	pmax			
	comp=Z,14nm,1.0s							
SSB	**Saint Sauveur**	**90.22**	**331**	P	**P**	**04 19 11.2**	**+0.2**	
SSB				IAmb	IAmb	04 19 11.8		
	comp=Z,14nm,1.0s							
F49A	**Sandfield**	**90.27**	**28**	P	**P**	**04 19 12.3**	**+1.2**	
	baz=326,SNR=5.4							
H47A	**Mio**	**90.37**	**30**	P	**P**	**04 19 13.3**	**+1.7**	
	baz=325,SNR=6.6							
I46A	**Reed City**	**90.39**	**31**	P	**P**	**04 19 13.5**	**+1.8**	
	baz=324,SNR=5.6							
E51A	**G1948 Merrick**	**90.58**	**26**	P	**P**	**04 19 13.1**	**+0.6**	
	baz=328							
D52A	**ZEK Kipawa Sen**	**90.58**	**26**	P	**P**	**04 19 13.3**	**+0.7**	
	baz=329							
WMOK	**Wichita Mounta**	**90.68**	**45**	P	**P**	**04 19 14.6**	**+1.3**	
	baz=316,SNR=18							
WMOK	**Wichita Mounta**	**90.68**	**45**	IAmb	IAmb	04 19 31.9		
	comp=Z,16nm,1.1s							
I47A	**Gladwin**	**90.72**	**31**	P	**P**	**04 19 15.4**	**+2.2**	
	baz=325,SNR=5.8							
D53A	**Lac Vacive, Po**	**90.74**	**25**	P	**P**	**04 19 14.2**	**+0.9**	
	baz=330							
J46A	**Howard City**	**90.78**	**32**	P	**P**	**04 19 15.2**	**+1.6**	
	baz=324							
F51A	**Arnstein**	**90.94**	**27**	P	**P**	**04 19 15.2**	**+0.9**	
	baz=328							
D54A	**Lac Fusel, La**	**91.04**	**24**	P	**P**	**04 19 15.3**	**+0.6**	
	baz=330,SNR=7.7							
E52A	**Mattawa**	**91.09**	**26**	P	**P**	**04 19 15.5**	**+0.6**	
	baz=329							
J47A	**Sunmer**	**91.22**	**31**	P	**P**	**04 19 17.3**	**+1.6**	
	baz=325,SNR=5.5							
F52A	**Sundridge**	**91.27**	**27**	P	**P**	**04 19 17.3**	**+1.6**	
	baz=328,SNR=6.1							
HDIL	**Hopedale**	**91.35**	**36**	P	**P**	**04 19 17.3**	**+1.1**	
	baz=322							
E53A	**Dumoine, Ponti**	**91.36**	**25**	P	**P**	**04 19 16.9**	**+0.7**	
	baz=330							
TX32	**Lajitas Array**	**91.44**	**52**	IAmb	IAmb	04 19 35.2		
	comp=Z,14nm,0.9s							
TXAR	**Lajitas Array**	**91.44**	**52**	P	**P**	**04 19 18.3**	**+1.3**	
	comp=Z,9.1nm,1.0s,baz=290,slow=3.7,SNR=49							
TXAR				LR	LR	04 55 24.6		
	comp=Z,311nm,20.8s,baz=0.0,slow=32							
TUL1	**Leonard**	**91.52**	**43**	P	**P**	**04 19 18.6**	**+1.4**	
	baz=317,SNR=15							
TUL1	**Leonard**	**91.52**	**43**	P	**P**	**04 19 18.1**	**+0.9**	
D55A	**Sainte-Anne-du**	**91.55**	**24**	P	**P**	**04 19 18.2**	**+1.1**	
	baz=331,SNR=6.4							
ALGO	**Algonquin Park**	**91.59**	**26**	P	**P**	**04 19 17.3**	**0.0**	
	baz=329,SNR=5.6							
J48A	**Bridge Port**	**91.61**	**31**	P	**P**	**04 19 19.2**	**+1.8**	
	baz=325,SNR=5.6							
ABTX	**Abilene, Hawle**	**91.67**	**47**	P	**P**	**04 19 19.8**	**+1.8**	
	baz=315,SNR=14							
HPIG		**91.74**	**55**	IAmb	IAmb	04 19 20.8		
	comp=Z,11nm,1.0s							
D56A	**ZEC Mazanza, M**	**91.75**	**23**	P	**P**	**04 19 19.2**	**+1.2**	
	baz=332							
P43A	**Skaggs, Pawnee**	**91.95**	**36**	IAmb	IAmb	04 19 20.4		
	comp=Z,15nm,1.0s							
H52A	**Wyevale**	**92.04**	**28**	P	**P**	**04 19 20.4**	**+1.1**	
	baz=328							
G54A	**Lake Saint Pet**	**92.06**	**26**	P	**P**	**04 19 20.6**	**+1.1**	
	baz=329,SNR=5.3							
D57A	**Chemin Vers le**	**92.06**	**23**	P	**P**	**04 19 20.8**	**+1.3**	
	baz=332,SNR=10							
LATQ	**La Tuque**	**92.08**	**22**	P	**P**	**04 19 20.5**	**+1.0**	
	baz=333							
L47A	**Sherwood**	**92.08**	**32**	P	**P**	**04 19 20.9**	**+1.3**	
	baz=324							
G53A	**Haliburton**	**92.10**	**27**	P	**P**	**04 19 20.5**	**+0.9**	
	baz=329							
E56A	**St. Veronique**	**92.11**	**24**	P	**P**	**04 19 20.6**	**+1.0**	
	baz=332,SNR=5.3							
HHAR	**Hobbs**	**92.25**	**41**	IAmb	IAmb	04 19 22.2		
	comp=Z,24nm,1.1s							
D58A	**Chemin du LacG**	**92.31**	**22**	P	**P**	**04 19 21.7**	**+1.1**	
	baz=333							
CCM	**Cathedral Cave**	**92.32**	**38**	P	**P**	**04 19 21.7**	**+0.9**	
	baz=320							
CCM	**Cathedral Cave**	**92.32**	**38**	P	**P**	**04 19 21.6**	**+0.8**	
CCM				pmax	pmax			
	comp=Z,13nm,1.0s							
CCM	**Cathedral Cave**	**92.32**	**38**	P	**P**	**04 19 21.6**	**+0.8**	
CCM				IAmb	IAmb	04 19 38.5		
	comp=Z,13nm,0.9s							
L48A	**N Adams**	**92.44**	**32**	P	**P**	**04 19 22.5**	**+1.2**	
	baz=325,SNR=6.5							
MGMO	**Mountain Grove**	**92.48**	**40**	IAmb	IAmb	04 19 32.6		
	comp=Z,12nm,0.9s							
E57A	**Chin Saint G**	**92.51**	**23**	P	**P**	**04 19 22.8**	**+1.2**	
	baz=332,SNR=7.6							
SFIN	**Lafayette**	**92.52**	**34**	IAmb	IAmb	04 19 29.1		
	comp=Z,13nm,0.9s							
G55A	**Calabogie**	**92.67**	**25**	P	**P**	**04 19 22.8**	**+0.5**	
	baz=330							
M48A	**Edgerton**	**92.69**	**32**	P	**P**	**04 19 23.6**	**+1.2**	
	baz=325							
M48A	**Edgerton**	**92.69**	**32**	IAmb	IAmb	04 19 23.9		
	comp=Z,19nm,1.1s							
N47A	**Urbana**	**92.75**	**33**	P	**P**	**04 19 23.5**	**+0.8**	
	baz=324,SNR=5.8							
U40A	**Yellville**	**92.78**	**41**	P	**P**	**04 19 23.5**	**+0.5**	
	baz=319,SNR=31							
E58A	**La Victoria**	**92.83**	**23**	P	**P**	**04 19 23.8**	**+0.8**	
	baz=333							
WDD	**Wied Dalam**	**93.00**	**319**	IAMs_20	IAMs_20	05 06 46.6		
	comp=Z,765nm,20.0s							
D61A	**St Aubert, Com**	**93.01**	**21**	P	**P**	**04 19 24.9**	**+1.2**	
	baz=335							
M49A	**Liberty Center**	**93.02**	**32**	P	**P**	**04 19 25.0**	**+1.1**	
	baz=325							
D60A	**Saint Jean D'O**	**93.06**	**21**	P	**P**	**04 19 25.1**	**+1.1**	
	baz=335,SNR=6.7							
N48A	**Decatur**	**93.06**	**33**	P	**P**	**04 19 25.1**	**+0.9**	
	baz=324,SNR=5.9							
P46A	**Rosedale**	**93.07**	**35**	P	**P**	**04 19 26.0**	**+1.7**	
	baz=323							
JCT	**Junction City**	**93.08**	**49**	P	**P**	**04 19 25.4**	**+0.9**	
	baz=315,SNR=7.2							
JCT	**Junction City**	**93.08**	**49**	IAmb	IAmb	04 19 41.1		
	comp=Z,16nm,0.9s							
H55A	**Tweed**	**93.11**	**26**	P	**P**	**04 19 25.5**	**+1.2**	
	baz=330							
W39A	**Magazine**	**93.15**	**42**	P	**P**	**04 19 26.0**	**+1.3**	
	baz=318,SNR=6.0							
OLIL	**Olney**	**93.35**	**36**	P	**P**	**04 19 26.6**	**+1.1**	
OLIL				IAmb	IAmb	04 19 30.0		
	comp=Z,20nm,1.1s							
N49A	**Columbus Grove**	**93.38**	**32**	P	**P**	**04 19 27.0**	**+1.3**	
	baz=325							
N49A	**Columbus Grove**	**93.38**	**32**	IAmb	IAmb	04 19 37.2		
	comp=Z,15nm,1.0s							
G57A	**Newington**	**93.39**	**24**	P	**P**	**04 19 26.6**	**+1.0**	
	baz=332							
E60A	**Ste Agathe de**	**93.39**	**22**	P	**P**	**04 19 26.6**	**+1.0**	
	baz=332							
WHTX	**Lake Whitney,**	**93.42**	**46**	P	**P**	**04 19 27.7**	**+1.7**	
	baz=316,SNR=12							
O48A	**Farmland**	**93.50**	**33**	P	**P**	**04 19 26.9**	**+0.7**	
	baz=324							
S44A	**Carbondale**	**93.60**	**37**	P	**P**	**04 19 27.7**	**+1.0**	
	baz=321,SNR=7.3							
SIUC	**Southern Illin**	**93.60**	**37**	IAmb	IAmb	04 19 28.7		
	comp=Z,23nm,1.1s							
G58A	**Ormstown**	**93.66**	**24**	P	**P**	**04 19 27.6**	**+0.8**	
	baz=332							
PBMO	**Poplar Bluff**	**93.72**	**39**	IAmb	IAmb	04 19 29.3		
	comp=Z,25nm,1.1s							
D63A	**Stockholm**	**93.74**	**19**	P	**P**	**04 19 28.8**	**+1.7**	
	baz=337							
MIAR	**Mount Ida**	**93.75**	**42**	P	**P**	**04 19 29.1**	**+1.6**	
	baz=319,SNR=27							
F61A	**St Evariste**	**93.89**	**22**	P	**P**	**04 19 29.9**	**+2.0**	
	baz=335,SNR=6.4							
W41B	**Gary Mavity, V**	**93.99**	**41**	P	**P**	**04 19 29.6**	**+1.0**	
	baz=320							
X40A	**Basin Creek Fa**	**94.20**	**42**	P	**P**	**04 19 31.1**	**+1.6**	
	baz=319,SNR=7.6							
435B	**Jarrell**	**94.21**	**47**	IAmb	IAmb	04 19 33.1		
	comp=Z,11nm,0.9s							
F62A	**Pittston Farm,**	**94.26**	**21**	P	**P**	**04 19 31.1**	**+1.5**	
	baz=335							
O50A	**Cable**	**94.27**	**32**	P	**P**	**04 19 30.8**	**+1.0**	
	baz=325,SNR=6.9							
P49A	**Miami Univ. Ec**	**94.28**	**34**	P	**P**	**04 19 30.6**	**+0.8**	
	baz=324							
Q48A	**North Vernon**	**94.31**	**35**	P	**P**	**04 19 30.9**	**+1.0**	
	baz=324							
ACSO	**Alum Creek Sta**	**94.47**	**32**	P	**P**	**04 19 31.8**	**+1.1**	
	baz=326							
ACSO	**Alum Creek Sta**	**94.47**	**32**	IAmb	IAmb	04 19 48.4		
	comp=Z,18nm,1.0s							
WCI	**Wyandotte Cave**	**94.61**	**35**	P	**P**	**04 19 32.4**	**+1.1**	
	baz=323							
WCI	**Wyandotte Cave**	**94.61**	**35**	P	**P**	**04 19 32.4**	**+1.1**	
WCI				pmax	pmax			
	comp=Z,14nm,1.0s							
WCI	**Wyandotte Cave**	**94.61**	**35**	P	**P**	**04 19 32.4**	**+1.1**	
WCI				IAmb	IAmb	04 19 33.3		
	comp=Z,14nm,1.0s							
P50A	**Jamestown**	**94.63**	**33**	P	**P**	**04 19 33.0**	**+1.6**	
	baz=325,SNR=5.3							
Q49A	**Aurora**	**94.63**	**34**	P	**P**	**04 19 32.9**	**+1.5**	
	baz=324							
O51A	**Pataskala**	**94.70**	**32**	P	**P**	**04 19 32.8**	**+1.0**	
	baz=326							
J58A	**Remsen**	**94.82**	**25**	P	**P**	**04 19 33.2**	**+1.0**	
	baz=331							
J58A	**Remsen**	**94.82**	**25**	IAmb	IAmb	04 19 46.3		
	comp=Z,15nm,1.1s							
833A	**Chaparral WMA,**	**94.85**	**50**	P	**P**	**04 19 34.6**	**+2.0**	
	baz=315							
833A	**Chaparral WMA,**	**94.85**	**50**	IAmb	IAmb	04 19 43.1		
	comp=Z,12nm,1.0s							
H61A	**Lyndonville**	**94.90**	**23**	P	**P**	**04 19 34.6**	**+2.1**	
	baz=334							
P51A	**Williamsport**	**95.06**	**32**	IAmb	IAmb	04 19 36.0		
	comp=Z,11nm,0.8s							
I60A	**Shoreham**	**95.07**	**24**	P	**P**	**04 19 34.6**	**+1.3**	
	baz=333							
H62A	**Milan**	**95.10**	**22**	P	**P**	**04 19 35.2**	**+1.8**	
	baz=334							
N54A	**Moraine State**	**95.11**	**30**	P	**P**	**04 19 34.5**	**+0.9**	
	baz=328							
T47A	**Sharon Grove**	**95.21**	**37**	P	**P**	**04 19 34.9**	**+0.8**	
	baz=323							
O53A	**New Philadelph**	**95.21**	**31**	P	**P**	**04 19 34.8**	**+0.7**	
	baz=327							
Q51A	**Peebles**	**95.31**	**33**	P	**P**	**04 19 35.5**	**+1.0**	
	baz=325,SNR=6.5							
M56A	**Emporium**	**95.38**	**28**	P	**P**	**04 19 36.2**	**+1.4**	
	baz=329							
M56A	**Emporium**	**95.38**	**28**	IAmb	IAmb	04 19 36.8		
	comp=Z,26nm,1.1s							
S49A	**Springfield**	**95.43**	**35**	P	**P**	**04 19 36.5**	**+1.4**	
	baz=324,SNR=5.7							
R50A	**Paris**	**95.47**	**34**	P	**P**	**04 19 36.2**	**+1.0**	
	baz=325							
R50A	**Paris**	**95.47**	**34**	IAmb	IAmb	04 19 37.1		
	comp=Z,15nm,0.9s							
WVT	**Waverly**	**95.53**	**38**	P	**P**	**04 19 36.3**	**+0.8**	
	baz=322							
WVT	**Waverly**	**95.53**	**38**	P	**P**	**04 19 36.5**	**+0.9**	
WVT				pmax	pmax			
	comp=Z,5.0nm,1.0s							
WVT	**Waverly**	**95.53**	**38**	P	**P**	**04 19 36.5**	**+0.9**	
O54A	**Avella**	**95.61**	**30**	P	**P**	**04 19 37.0**	**+1.1**	
	baz=328							
KEST	**Kesra**	**95.77**	**322**	P	**P**	**04 19 36.8**	**0.0**	
	comp=Z,7.9nm,1.1s,baz=127,slow=5.9,SNR=5.5							
KEST				LR	LR	05 06 37.9		
	comp=Z,848nm,20.2s,baz=349,slow=38							
KEST	**Kesra**	**95.77**	**322**	P	**P**	**04 19 36.6**	**-0.2**	
KEST				IAmb	IAmb	04 19 44.3		
	comp=Z,8.2nm,0.9s							
L58A	**Harry Jones Me**	**95.77**	**26**	P	**P**	**04 19 37.7**	**+1.1**	
	baz=331							
P53A	**Whipple**	**95.77**	**31**	P	**P**	**04 19 37.9**	**+1.3**	
	baz=327							
T49A	**Edmonton**	**95.87**	**35**	P	**P**	**04 19 37.6**	**+0.5**	
	baz=324							
T49A	**Edmonton**	**95.87**	**35**	IAmb	IAmb	04 19 39.0		
	comp=Z,10nm,0.9s							
M57A	**Sunshine Farm,**	**95.91**	**28**	P	**P**	**04 19 38.4**	**+1.2**	
	baz=330							
M57A	**Sunshine Farm,**	**95.91**	**28**	IAmb	IAmb	04 19 40.0		
	comp=Z,17nm,1.1s							
S50A	**Richmond**	**95.93**	**34**	P	**P**	**04 19 37.9**	**+0.5**	
	baz=325,SNR=6.2							
L59A	**Walton**	**95.93**	**26**	P	**P**	**04 19 37.3**	**-0.1**	
	baz=332							
P54A	**Burton**	**96.06**	**31**	P	**P**	**04 19 39.1**	**+1.1**	
	baz=328							
M58A	**Price's Panora**	**96.13**	**27**	P	**P**	**04 19 39.3**	**+1.0**	
	baz=330							
U49A	**Red Boiling Sp**	**96.22**	**36**	P	**P**	**04 19 39.7**	**+0.9**	
	baz=324,SNR=7.0							
Q53A	**Leroy**	**96.24**	**32**	P	**P**	**04 19 39.6**	**+0.8**	
	baz=327							
N57A	**Milroy**	**96.25**	**28**	P	**P**	**04 19 39.6**	**+0.8**	
	baz=330							
T50A	**Nancy**	**96.26**	**35**	P	**P**	**04 19 39.8**	**+0.9**	
	baz=324,SNR=5.4							
V48A	**Smith Brothers**	**96.34**	**37**	P	**P**	**04 19 39.8**	**+0.5**	
	baz=323							
M59A	**Waymart**	**96.36**	**26**	P	**P**	**04 19 39.8**	**+0.5**	
	baz=331							
Q54A	**Coxs Mills**	**96.43**	**31**	P	**P**	**04 19 40.7**	**+1.1**	
	baz=327							
Q54A	**Coxs Mills**	**96.43**	**31**	IAmb	IAmb	04 19 42.6		
	comp=Z,17nm,1.1s							
T51A	**Gray**	**96.72**	**35**	P	**P**	**04 19 41.8**	**+0.8**	
	baz=325							
U50A	**Jamestown**	**96.75**	**35**	P	**P**	**04 19 42.4**	**+1.3**	
	baz=324,SNR=5.2							
V49A	**McMinnville**	**96.77**	**37**	P	**P**	**04 19 41.3**	**+0.1**	
	baz=324							
N59A	**State Game Lan**	**96.78**	**27**	P	**P**	**04 19 42.1**	**+0.9**	
	baz=331							
P56A	**Dayton Farm, R**	**96.81**	**30**	P	**P**	**04 19 42.3**	**+0.9**	
	baz=329							
T52A	**Hallie**	**97.04**	**34**	P	Pdif	04 19 44.1	+1.6	
	baz=326							
W49A	**Belvidere**	**97.11**	**37**	P	Pdif	04 19 43.5	+0.7	
	baz=323							
U51A	**La Follette**	**97.17**	**35**	P	Pdif	04 19 43.9	+0.8	
	baz=325							
SWET	**Sewanee**	**97.19**	**37**	IAmb	IAmb	04 19 44.5		
	comp=Z,7.9nm,1.0s							
R55A	**Marlinton**	**97.32**	**31**	P	Pdif	04 19 44.0	+0.1	
	baz=328							
U52A	**Thorn Hill**	**97.46**	**34**	P	Pdif	04 19 45.6	+1.2	
	baz=325							
V51A	**Loudon**	**97.48**	**35**	P	Pdif	04 19 45.4	+0.9	
	baz=325							
V52A	**Sevierville**	**97.80**	**35**	P	Pdif	04 19 46.8	+0.8	
	baz=325							
U53A	**Fall Branch**	**97.84**	**34**	P	Pdif	04 19 46.9	+0.8	
	baz=326							
T55A	**Pulaski**	**98.01**	**32**	P	Pdif	04 19 47.8	+0.8	
	baz=327							
ESDC	**Sonseca Array**	**98.28**	**333**	P	**P**	**04 19 47.7**	**-0.3**	
	comp=Z,2.1nm,1.0s,baz=47,slow=3.1,SNR=8.6							
ESDC				PP	**PP**	**04 23 46.8**	**-0.2**	
	comp=Z,1.9nm,0.9s,baz=26,slow=6.0,SNR=4.2							
ESDC				LR	LR	05 10 26.7		
	comp=Z,611nm,18.3s,baz=15,slow=39							
V53A	**Saluda**	**98.31**	**34**	P	Pdif	04 19 49.0	+0.7	
	baz=326							
W53A	**Cullowhee**	**98.55**	**35**	P	Pdif	04 19 50.7	+1.2	
	baz=325							
X52A	**Dahlonega**	**98.67**	**36**	Pdiff	Pdif	04 19 50.6	+0.8	
	baz=325							
T57A	**Hurt**	**98.77**	**31**	Pdiff	Pdif	04 19 50.6	+0.4	
	baz=328							
BG3	**Lake Jocassee**	**98.81**	**35**	IAmb	IAmb	04 19 52.5		
	comp=Z,8.8nm,1.0s							
X53A	**Estanollee**	**99.03**	**36**	Pdiff	**Pdif**	**04 19 52.6**	**+1.2**	
	baz=325							
U57A	**Blanch**	**99.22**	**32**	Pdiff	**Pdif**	**04 19 53.0**	**+0.8**	
	baz=328							
KMSC	**Kings Mountain**	**99.42**	**34**	Pdiff	**Pdif**	**04 19 54.5**	**+1.4**	
	baz=327							
X54A	**Belton**	**99.43**	**35**	Pdiff	**Pdif**	**04 19 54.6**	**+1.4**	
	baz=326							
Y54A	**Tignall**	**99.85**	**35**	Pdiff	**Pdif**	**04 19 56.3**	**+1.2**	
	baz=326							
Y56A	**Pelion**	**100.55**	**35**	Pdiff	**Pdif**	**04 19 55.6**	**-2.6**	
	baz=326							
KMBO	**Kilima Mbogo**	**101.56**	**277**	IAMs_20	IAMs_20	05 09 28.1		
	comp=Z,485nm,20.0s							
ABPO	**Ambohimpanom**	**103.55**	**256**	IAMs_20	IAMs_20	05 07 07.7		
	comp=Z,567nm,20.0s							
MBAR	**Mbarara**	**106.49**	**281**	IAMs_20	IAMs_20	05 12 54.4		
	comp=Z,551nm,22.0s							
TOA0	**Torodi Ar. Sit**	**117.88**	**314**		**PKPdf**	**04 24 57.3**	**-0.1**	
TORD	**Torodi Ar. Bea**	**117.88**	**314**	PKP	**PKPdf**	**04 24 56.8**	**-0.6**	
	comp=Z,

GO01	**Chusmiza**	**149.28**	**67**		**PKPdf**	**04 25 56.1**	**+0.4**
GO01				PKPbc	**PKiKP**	**04 26 01.7**	**+0.5**
PB04	**IPOC Station P**	**150.09**	**72**		**PKPbc**	**04 26 02.0**	**+0.4**
RCBR	**Riachuelo**	**150.17**	**353**	PKP2	**PKiKP**	**04 26 02.6**	**-0.1**
RCBR	**Riachuelo**	**150.17**	**353**		**PKiKP**	**04 26 02.6**	**-0.1**
LVC	**Limon Verde**	**151.20**	**71**	PKIKP	**PKiKP**	**04 26 05.5**	**+0.5**
LVC	**Limon Verde**	**151.20**	**71**		**PKiKP**	**04 26 05.5**	**+0.5**
GO09	**Cerro Castillo**	**151.69**	**134**		**PKiKP**	**04 26 05.5**	**+0.8**
GO02	**Mina Guanaco**	**151.98**	**77**		**PKiKP**	**04 26 06.7**	**+0.2**
GO03	**Copiap**	**152.56**	**82**		**PKiKP**	**04 26 07.8**	**+0.6**
GO04	**Tololo Observa**	**153.08**	**87**		**PKiKP**	**04 26 09.3**	**+0.8**
ROC1	**El Roble**	**153.74**	**93**		**PKiKP**	**04 26 10.8**	**+1.0**
PEL	**Peldehue**	**154.05**	**94**		**PKiKP**	**04 26 11.1**	**+0.9**
BDFB	**Brasilia**	**158.62**	**24**	PKIKP	**PKPdf**	**04 26 08.5**	**-0.1**
BDFB						04 26 45.0	
BDFB	**Brasilia**	**158.62**	**24**	PKPab	**PKPab**	**04 26 43.8**	**+0.1**
	comp=Z,7.6nm,0.8s,baz=332,slow=6.0,SNR=7.9						
BDFB				PP	**PP**	**04 30 22.1**	**-0.9**
	comp=Z,8.4nm,1.1s,baz=3.0,slow=12,SNR=5.2						
CPUP	**Villa Florida**	**162.01**	**64**	PKP	**PKPdf**	**04 26 12.1**	**+0.3**
	comp=Z,4.6nm,1.1s,baz=45,slow=2.9,SNR=5.1						
CPUP				PKPab	**PKPab**	**04 26 58.3**	**0.0**
	comp=Z,4.9nm,1.1s,baz=310,slow=11,SNR=3.3						
CPUP	**Villa Florida**	**162.01**	**64**		**PKPdf**	**04 26 12.6**	**+0.8**
CPUP				PKPab	**PKPab**	**04 26 58.2**	**0.0**

IDC 14 04:33:00.4±2.8, 4°02.S×134°66.E, h0km, mb3.5/1, mb1 3.6/5, mb1mx3.4/32, mbtmp3.5/5, ML3.2/4, Error ellipse: s-maj=93.9km s-min=25.4km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.61**	**313**	Pn	Pn	04 34 11.5	0.0
	2.0nm,0.3s,baz=163,slow=19,SNR=5.9						
WRA	**Warramunga Arr**	**15.83**	**181**	Pn	Pn	04 36 43.9	-1.0
	0.1nm,0.3s,baz=359,slow=13,SNR=4.1						
WRA				Sn	Sn	04 39 32.5	-8.7
	0.1nm,0.3s,baz=8.9,slow=22,SNR=3.3						
FITZ	**Fitzroy Crossi**	**16.55**	**212**	Pn	Pn	04 36 53.8	-0.2
	0.0nm,0.3s,baz=31,slow=18,SNR=1.8						
FITZ				Sn	Sn	04 39 51.5	-7.1
	0.1nm,0.3s,baz=193,slow=8.0,SNR=3.5						
ASAR	**Alice Springs**	**19.55**	**182**	P	P	04 37 30.4	+0.5
	0.2nm,0.3s,baz=7.6,slow=11,SNR=22						
MKAR	**Makanchi Array**	**68.41**	**324**	P	P	04 44 04.2	0.0
	0.3nm,0.6s,baz=110,slow=8.6,SNR=4.0						

IDC 14 04:38:11.6±8.5, 7.76S×128.46E, h184km±92km, mb2.9/1, mb1 3.2/5, mb1mx3.0/33, mbtmp3.7/5, Error ellipse: s-maj=90.2km s-min=25.0km az=39.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.33**	**242**	P	Pn	04 39 30.6	+0.7
	5.7nm,0.3s,baz=36,slow=18,SNR=2.8						
BATI				S	Sn	04 40 32.1	+0.4
	15nm,0.3s,baz=34,slow=22,SNR=10						
FITZ	**Fitzroy Crossi**	**10.64**	**195**	P	Pn	04 40 38.7	-0.7
	0.5nm,0.3s,baz=24,slow=11,SNR=4.3						
FITZ				S	Sn	04 42 32.0	-5.9
	0.6nm,0.3s,baz=81,slow=17,SNR=4.8						
WRA	**Warramunga Arr**	**13.39**	**155**	P	Pn	04 41 13.3	-1.3
	0.2nm,0.3s,baz=329,slow=15,SNR=3.6						
WRA				S	Sn	04 43 34.5	-9.2
	0.4nm,0.3s,baz=326,slow=24,SNR=3.7						
ASAR	**Alice Springs**	**16.66**	**162**	P	Pn	04 41 55.3	+0.6
	0.2nm,0.3s,baz=335,slow=9.6,SNR=8.8						
ASAR				S	S	04 44 55.0	-3.3
	0.2nm,0.3s,baz=320,slow=17,SNR=7.5						
MKAR	**Makanchi Array**	**68.03**	**328**	P	P	04 48 51.0	-0.1
	0.3nm,0.7s,baz=128,slow=6.6,SNR=1.6						

IDC **14** *05:23:12.0±2.3, 19°.93S×177°.30W, h291km±25km, mb4.0/9, mb1 4.1/11, mb1mx3.7/41, mbtmp4.6/11, Error ellipse: s-maj=16.2km s-min=14.0km az=95.0*
ISCJB **14** *05:23:14.0±0.3, 19°.64S±0°.05-177°.09W±0°.05, h350km, mb4.2/13, Error ellipse: s-maj=7.4km s-min=6.0km az=146.0*
NEIC **14** *05:23:14.9±1.9, 19°.7S±0°.1×177°.03W±0°.09, h348km±9km, mb4.3/35*

ISC 14 05:23:14.9±0.5, 19°.59S±0°.08×177°.01W±0°.07, h350km, n63, σ1s49/66, mb4.3/25, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.04**	**291**		**Pn**	**05 24 35.7**	**+0.7**
NIUE	**Niue**	**6.70**	**87**	Pn	**Pn**	**05 24 54.8**	**+1.0**
NIUE				S	**S**	**05 26 13.8**	**-0.4**
AFI	**Afiamalu**	**7.54**	**42**	P	**Pn**	**05 25 03.9**	**+0.1**
	6.6nm,0.3s,baz=5.6,slow=3.2,SNR=9.2						
AFI				S	**S**	**05 26 28.4**	**-4.1**
	3.3nm,0.3s,baz=53,slow=20,SNR=3.9						
AFI	**Afiamalu**	**7.54**	**42**		**Pn**	**05 25 03.5**	**-0.3**
AFI				S	**S**	**05 26 29.7**	**-2.8**
DZM	**Mont Dzumac**	**15.67**	**258**	P	**Pn**	**05 26 38.2**	**-1.5**
	5.7nm,0.3s,baz=79,slow=19,SNR=121						
DZM	**Mont Dzumac**	**15.67**	**258**	P	**Pn**	**05 26 38.2**	**-1.5**
OUZ	**Omahuta**	**17.65**	**206**	P	**P**	**05 27 01.6**	**+3.6**
OUZ				IAmb	IAmb	05 27 16.7	
	comp=Z,21nm,1.5s						
MXZ	**Matakaoa Point**	**18.37**	**192**	P	**P**	**05 27 03.9**	**-1.7**
MXZ				IAmb	IAmb	05 27 15.8	
	comp=Z,28nm,0.9s						
URZ	**Urewera**	**19.30**	**194**	P	**P**	**05 27 13.3**	**-2.2**
	comp=Z,3.0nm,0.3s,baz=8.7,slow=13,SNR=17						
URZ				S	**S**	**05 30 30.2**	**-4.0**
	comp=Z,1.2nm,0.3s,baz=255,slow=22,SNR=7.2						
URZ	**Urewera**	**19.30**	**194**	P	**P**	**05 27 12.2**	**-3.2**
URZ				IAmb	IAmb	05 27 15.2	
	comp=Z,13nm,0.9s						
BKZ	**Black Stump Fm**	**20.31**	**195**	P	**P**	**05 27 22.8**	**-2.9**
BKZ				IAmb	IAmb	05 27 30.7	
	comp=Z,12nm,1.3s						
BFZ	**Birch Farm**	**21.81**	**194**	P	**P**	**05 27 38.3**	**-0.9**
BFZ				IAmb	IAmb	05 27 46.2	
	comp=Z,28nm,1.4s						
MSWZ	**Moikau Station**	**22.74**	**195**	P	**P**	**05 27 47.0**	**-0.7**
BHW	**Baring Head**	**22.83**	**196**	P	**P**	**05 27 47.8**	**-0.6**
PLWZ	**Palliser**	**22.88**	**195**	P	**P**	**05 27 48.8**	**-0.2**
QRZ	**Quartz Range**	**22.98**	**201**	P	**P**	**05 27 49.5**	**-0.4**
NNZ	**Nelson**	**23.07**	**199**	P	**P**	**05 27 49.4**	**-1.2**
BSWZ	**Blackbirch Sta**	**23.38**	**197**	P	**P**	**05 27 53.8**	**+0.3**
THZ	**Tophouse**	**23.71**	**199**	P	**P**	**05 27 55.6**	**-0.9**
THZ				IAmb	IAmb	05 27 58.2	
	comp=Z,21nm,1.2s						
KHZ	**Kahutara**	**24.13**	**197**	P	**P**	**05 27 58.6**	**-1.5**
KHZ				IAmb	IAmb	05 28 00.2	
	comp=Z,25nm,1.3s						
LTZ	**Lake Taylor**	**24.84**	**199**	P	**P**	**05 28 06.3**	**-0.3**
LTZ				IAmb	IAmb	05 28 10.4	
	comp=Z,17nm,0.7s						
OXZ	**Oxford**	**25.40**	**199**	P	**P**	**05 28 12.5**	**+0.9**
OXZ				IAmb	IAmb	05 28 12.8	
	comp=Z,13nm,0.6s						
RPZ	**Rata Peaks**	**26.06**	**200**	P	**P**	**05 28 15.1**	**-2.4**
	comp=Z,3.1nm,0.4s,baz=30,slow=8.1,SNR=2.8						
RPZ	**Rata Peaks**	**26.06**	**200**	P	**P**	**05 28 17.6**	**+0.1**
RPZ				IAmb	IAmb	05 28 22.7	
	comp=Z,23nm,1.4s						
WHZ	**Wether Hill Ro**	**29.03**	**202**	P	**P**	**05 28 43.8**	**+0.2**
ARMA	**Armidale**	**30.31**	**243**	P	**P**	**05 28 55.5**	**+0.2**
ARMA				IAmb	IAmb	05 28 56.4	
	comp=Z,6.5nm,0.7s						
CAN	**Canberra**	**33.80**	**235**	P	**P**	**05 29 26.0**	**+0.7**
CAN				IAmb	IAmb	05 29 26.3	
	comp=Z,26nm,1.5s						
CTA	**Charters Tower**	**34.52**	**263**	P	**P**	**05 29 31.4**	**-0.2**
	comp=Z,17nm,0.6s,baz=94,slow=10,SNR=42						
TAU	**Tasmania Unive**	**37.93**	**224**	P	**P**	**05 29 59.8**	**0.0**
STKA	**Stephens Creek**	**39.03**	**243**	P	**P**	**05 30 08.2**	**-0.9**
	comp=Z,5.4nm,0.4s,baz=86,slow=11,SNR=29						
STKA	**Stephens Creek**	**39.03**	**243**	P	**P**	**05 30 08.9**	**-0.2**
BBOO	**Buckleboo**	**43.79**	**243**	P	**P**	**05 30 46.7**	**-0.7**
BBOO				IAmb	IAmb	05 30 47.3	
	comp=Z,19nm,0.8s						
WR0	**Warramunga Arr**	**45.47**	**261**	P	**P**	**05 31 00.7**	**0.0**
AS31	**Alice Springs**	**45.64**	**256**	P	**P**	**05 31 01.7**	**-0.4**
ASAR	**Alice Springs**	**45.64**	**256**	P	**P**	**05 31 01.5**	**-0.6**
	comp=Z,12nm,0.5s,baz=95,slow=8.3,SNR=348						
ASAR				PcP	**PcP**	**05 32 34.8**	**+1.1**
	comp=Z,1.0nm,0.4s,baz=104,slow=4.0,SNR=5.9						
ASAR				S	**S**	**05 37 14.8**	**-3.2**
	comp=Z,0.6nm,0.9s,baz=90,slow=14,SNR=5.4						
WB2	**Warramunga Arr**	**45.65**	**261**	P	**P**	**05 31 01.3**	**-0.8**
WB2				IAmb	IAmb	05 31 01.9	
	comp=Z,8.2nm,0.5s						
WRA	**Warramunga Arr**	**45.66**	**261**	P	**P**	**05 31 01.2**	**-0.9**
	comp=Z,5.6nm,0.3s,baz=97,slow=7.0,SNR=113						
MTN	**Manton Dam**	**50.10**	**269**	P	**P**	**05 31 35.9**	**0.0**
FORT	**Forrest**	**50.52**	**246**	P	**P**	**05 31 38.0**	**-0.8**
KNRA	**Kununurra**	**51.66**	**265**	P	**P**	**05 31 47.4**	**0.0**
KNRA				IAmb	IAmb	05 31 48.0	
	comp=Z,13nm,0.8s						
FITZ	**Fitzroy Crossi**	**54.08**	**261**	P	**P**	**05 32 04.9**	**0.0**
	comp=Z,3.9nm,0.8s,baz=122,slow=4.9,SNR=9.2						
FITZ	**Fitzroy Crossi**	**54.08**	**261**	P	**P**	**05 32 05.5**	**+0.6**
PSA00	**Pilbara Seismi**	**58.79**	**256**	P	**P**	**05 32 37.5**	**-0.4**
SBA	**Scott Base**	**58.84**	**184**	P	**P**	05 32 40.5	+3.3
NWAO	**Narrogin (SRO)**	**59.62**	**243**	P	**P**	**05 32 43.1**	**-0.2**
NWAO				IAmb	IAmb	05 32 44.4	
	comp=Z,21nm,1.4s						
NWAO	**Narrogin (SRO)**	**59.62**	**243**	P	**P**	**05 32 43.2**	**0.0**
NWAO				IAmb	IAmb	05 32 44.4	
	comp=Z,17nm,1.4s						
MORW	**Morawa**	**61.04**	**247**	P	**P**	**05 32 52.5**	**-0.4**
MORW				IAmb	IAmb	05 32 53.3	
	comp=Z,7.6nm,1.1s						
KKM	**Kota Kinabalu**	**70.44**	**284**	P	**P**	**05 33 54.6**	**+1.9**
QSPA	**South Pole Qui**	**70.48**	**180**	P	**P**	**05 33 53.9**	**+1.8**
QSPA				IAmb	IAmb	05 33 54.8	
	comp=Z,5.3nm,0.8s						
SBUM	**Sibu**	**72.78**	**279**	P	**P**	**05 34 06.2**	**-0.2**
CN2	**Changchun**	**82.16**	**322**	*e*P	**P**	**05 34 58.8**	**+1.6**
WHN	**Wuhan**	**82.66**	**306**	P	P	05 35 07.4	+7.3
TXAR	**Lajitas Array**	**85.78**	**57**	P	P	05 35 21.8	+5.9
	comp=Z,0.2nm,0.7s,baz=214,slow=6.4,SNR=2.7						
SNAA	**Sanae**	**88.89**	**178**	P	**P**	**05 35 30.5**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=195,slow=16,SNR=7.5						
SNAA	**Sanae**	**88.89**	**178**	P	**P**	**05 35 30.3**	**+0.5**
VNA3	**Neumayer Olymp**	**88.98**	**176**	P	**P**	**05 35 31.3**	**+1.1**
HHC	**Hu-ho-hao-te**	**89.39**	**314**	*e*P	**P**	**05 35 33.5**	**+0.8**
HHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HHC				AMB	AMB		
	comp=Z,10.0nm,5.5s						
VNA2	**Neumayer--Watz**	**89.44**	**177**	P	**P**	**05 35 33.6**	**+1.3**
	baz=197,slow=3.4						
CMAR	**Chiang Mai Arr**	**90.69**	**289**	P	P	05 35 42.8	+3.7
	comp=Z,1.1nm,0.4s,baz=107,slow=3.0,SNR=5.3						
CD2	**Chengdu**	**91.09**	**302**	P	**P**	**05 35 39.8**	**-0.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LZH	**Lanzhou**	**92.96**	**307**	⇑P	**P**	**05 35 49.3**	**-0.1**
LZH				pP	pP	05 37 13.0	+2.0
LZH				sP	sP	05 37 49.3	+2.2
LZH				PP	**PP**	**05 39 40.5**	**+2.6**
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
KSH	**Kashi**	**115.13**	**305**	*e*PKP	**PKiKP**	**05 41 15.6**	**+0.4**

ISCJB **14** *05:49:09.2±0.9, 43°.28N±0°.06×147°.13E±0°.07, h63km±6km, mb4.0/9, Error ellipse: s-maj=11.2km s-min=5.9km az=140.2*
SKHL **14** *05:49:10.3±0.4, 43°.35N×147°.13E, h71km±4km, mb4.3/3*
JMA **14** *05:49:10.8±0.2, 43°.24N×147°.03E, h59km±4km, M3.8*
MOS **14** *05:49:10.1±1.0, 43°.51N×147°.14E, h68km, mb4.4/4, Error ellipse: s-maj=17.7km s-min=11.7km az=28.2*
IDC **14** *05:49:11.6±5.6, 43°.64N×147°.28E, h63km±48km, mb3.7/5, mb1 3.8/6, mb1mx3.3/39, mbtmp3.9/6, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/43, Error ellipse: s-maj=108.1km s-min=35.4km az=6.0*
NEIC **14** *05:49:13.0±1.1, 43°.5N±0°.1×147°.1E±0°.1, h72km±11km, mb4.3/8*

ISC 14 05:49:09.6±1.6, 43°.31N±0°.07×147°.19E±0°.07, h50km±13km, n53, σ1s11/68, mb4.1/10, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.06**	**274**	P	**Pn**	**05 49 28.3**	**+0.2**
NEM2				*e*S	**Sn**	**05 49 41.1**	**-0.6**
NMR	**Nemuro--Hokkai**	**1.07**	**274**	*i*PN	**Pn**	**05 49 28.3**	**+0.1**
NMR				*e*S	**Sn**	**05 49 41.4**	**-0.6**
NMR	**Nemuro--Hokkai**	**1.07**	**274**	*i* P	**Pn**	**05 49 28.3**	**+0.1**
NMR				*e*S	**Sn**	**05 49 41.4**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**1.21**	**308**	*i*PN	**Pn**	**05 49 30.2**	**+0.1**
YUK				*i* S	**Sn**	**05 49 45.5**	**+0.1**
YUK				pmax	pmax		
	comp=Z,414nm,0.2s						
YUK				pmax	pmax		
	comp=N,76nm,0.1s						
YUK				pmax	pmax		
	comp=E,77nm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.2s						
YUK				smax	smax		
	comp=E,1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.21**	**308**	*i* P	**Pn**	**05 49 30.0**	**-0.1**
YUK				AMB	AMB	05 49 31.0	
	comp=E,110nm,0.3s						
YUK				*i* S	**Sn**	**05 49 44.7**	**-0.7**
YUK				A	A	05 49 46.0	
	comp=E,900nm,0.3s						
YUK				A	A	05 49 46.0	
	comp=E,600nm,0.3s						
GRPR	**Tuman**	**1.24**	**304**	*e*PN	**Pn**	**05 49 30.5**	**0.0**
GRPR				*e*S	**Sn**	**05 49 45.7**	**-0.4**
GRPR				pmax	pmax		
	comp=Z,237nm,0.2s						
GRPR				pmax	pmax		
	comp=N,108nm,0.1s						
GRPR				smax	smax		
	comp=N,795nm,0.2s						
GRPR				smax	smax		
	comp=E,2μm,0.2s						
GRPR	**Tuman**	**1.24**	**304**	*e*P	**Pn**	**05 49 30.5**	**0.0**
GRPR				AMB	AMB	05 49 35.0	
	comp=E,120nm,0.3s						
GRPR				*e*S	**Sn**	**05 49 45.7**	**-0.4**
GRPR				A	A	05 49 48.0	
	comp=E,400nm,0.4s						
GRPR				A	A	05 49 48.0	
	comp=E,900nm,0.4s						
GLVR	**Golovnino**	**1.29**	**290**	PN	**Pn**	**05 49 31.2**	**0.0**
GLVR				*e*S	**Sn**	**05 49 47.8**	**+0.5**
GLVR				smax	smax		
	comp=N,2μm,0.3s						
GLVR				smax	smax		
	comp=E,3μm,0.4s						
GLVR	**Golovnino**	**1.29**	**290**	*e*P	**Pn**	**05 49 31.2**	**0.0**
GLVR				*e*S	**Sn**	**05 49 47.2**	**-0.1**
GLVR				A	A	05 49 49.0	
	comp=E,550nm,0.4s						
GLVR				A	A	05 49 49.0	
	comp=E,760nm,0.4s						
JKHN	**Kushirohamanak**	**1.50**	**262**	P	**Pn**	**05 49 34.7**	**+0.6**
JKHN				*e*S	**Sn**	**05 49 52.4**	**-0.1**
JRA	**Rausu**	**1.63**	**294**	P	**Pn**	**05 49 36.6**	**+0.8**
JRA				*e*S	**Sn**	**05 49 56.3**	**+0.7**
JNSB	**Nemuroshibetsu**	**1.66**	**287**	*e*S	**Sn**	**05 49 56.4**	**+0.1**
JNK	**Nakash**	**1.82**	**280**	P	**Pn**	**05 49 38.8**	**+0.3**
JNK				*e*S	**Sn**	**05 49 59.2**	**-1.2**
JAK	**Akkeshi**	**1.85**	**261**	P	**Pn**	**05 49 38.9**	**+0.1**
JAK				*e*S	**Sn**	**05 49 59.8**	**-1.2**
KUR	**Kuril'sk**	**1.99**	**14**	*e*PN	**Pn**	**05 49 40.8**	**+0.1**
KUR				*e*S	**Sn**	**05 50 05.7**	**+1.3**
KUR				pmax	pmax		
	comp=Z,103nm,0.2s						
KUR				pmax	pmax		
	comp=E,93nm,0.1s						
KUR				pmax	pmax		
	comp=N,79nm,0.2s						
KUR				smax	smax		
	comp=N,222nm,0.2s						
KUR				smax	smax		
	comp=E,266nm,0.2s						
KUR	**Kuril'sk**	**1.99**	**14**	*e*P	**Pn**	**05 49 40.9**	**+0.2**
KUR				AMB	AMB	05 49 44.0	
	comp=E,100nm,0.4s						
KUR				*e*S	**Sn**	**05 50 03.7**	**-0.7**
KUR				A	A	05 50 07.0	
	comp=E,360nm,0.3s						
KUR				A	A	05 50 07.0	
	comp=E,270nm,0.3s						
JTKR	**Abashiri--Toko**	**2.47**	**287**	P	**Pn**	**05 49 48.5**	**+1.1**
JOB	**Onbets**	**2.49**	**262**	P	**Pn**	**05 49 48.1**	**+0.5**
JOB				*e*S	**Sn**	**05 50 15.1**	**-1.6**
JAR	**Ashorobuto**	**2.50**	**271**	P	**Pn**	**05 49 48.5**	**+0.8**
JAR				*e*S	**Sn**	**05 50 16.1**	**-0.8**
JCH	**Churui**	**2.89**	**257**	P	**Pn**	**05 49 53.3**	**+0.2**
JCH				*e*S	**Sn**	**05 50 24.8**	**-1.9**
ERM	**Erimo**	**3.24**	**248**	PN	**Pn**	**05 50 01.7**	**+3.8**
ERM						05 50 35.0	
ERM	**Erimo**	**3.24**	**248**	Pn	**Pn**	**05 50 01.7**	**+3.8**
ERM				Sn	**Sn**	**05 50 35.0**	**-0.2**
JNBK	**Urakawa-nobuka**	**3.42**	**254**	P	**Pn**	**05 50 00.5**	**+0.1**
JNBK				*e*S	**Sn**	**05 50 37.2**	**-2.5**
JKA	**Kamikawa-asahi**	**3.42**	**285**		**Pn**	**05 50 02.0**	**+1.6**
JKA					**Sn**	**05 50 42.4**	**+2.7**
ASAJ	**Asahikawa**	**3.43**	**285**	P	**Pn**	**05 50 02.0**	**+1.5**
	comp=E,2.3nm,0.3s,baz=101,slow=10,SNR=8.2						
ASAJ				S	**Sn**	**05 50 42.4**	**+2.6**
	comp=E,0.8nm,0.3s,baz=342,slow=20,SNR=1.7						
JBT2	**Biratori 2**	**3.58**	**263**	P	**Pn**	**05 50 02.9**	**+0.4**
ULN	**Ulaanbaatar**	**28.23**	**293**	P	**P**	**05 54 58.0**	**+0.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.4s						
ULN	**Ulaanbaatar**	**28.23**	**293**	*e*P	**P**	**05 54 58.0**	**+0.3**
ULN	**Ulaanbaatar**	**28.23**	**293**	P	**P**	**05 54 58.0**	**+0.3**
ULN				IAmb	IAmb	05 54 58.7	
	comp=Z,6.7nm,1.4s						
SONM	**Songino Array**	**28.67**	**293**	P	**P**	**05 55 01.7**	**0.0**
	comp=Z,2.8nm,0.6s,baz=84,slow=8.5,SNR=17						
H11N2	**WAKE ISLAND Hy**	**28.75**	**139**	T	T	06 25 52.1	
	baz=330,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**28.76**	**139**	T	T	06 25 55.1	
	baz=330,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy**	**28.77**	**139**	T	T	06 25 53.7	
	baz=330,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hy**	**29.71**	**140**	T	T	06 27 01.9	
	baz=331,slow=76,SNR=53						
H11S3	**WAKE ISLAND Hy**	**29.71**	**140**	T	T	06 27 06.0	
	baz=331,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy**	**29.72**	**140**	T	T	06 27 07.2	
	baz=331,slow=76,SNR=34						
TGY	**Tagaytay City**	**36.80**	**226**	LR	LR	06 12 00.1	
	comp=Z,51nm,18.1s,baz=119,slow=37						
HDA	**Harding Lake**	**41.82**	**36**	P	**P**	**05 56 54.5**	**+0.5**
HDA				IAmb	IAmb	05 56 55.4	
	comp=Z,8.9nm,1.4s						
MK31	**Makanchi Array**	**44.82**	**298**	P	**P**	**05 57 18.1**	**-0.3**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MK31	**Makanchi Array**	**44.82**	**298**	P	**P**	**05 57 18.1**	**-0.3**
MKAR	**Makanchi Array**	**44.82**	**298**	P	**P**	**05 57 17.9**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=79,slow=7.8,SNR=8.9						
MAKZ	**Makanchi**	**45.01**	**298**	P	**P**	**05 57 20.9**	**+0.9**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MAKZ	**Makanchi**	**45.01**	**298**	P	**P**	**05 57 20.9**	**+0.9**
MAKZ				IAmb	IAmb	05 57 32.8	
	comp=Z,4.1nm,1.1s						
KURK	**Kurchatov**	**45.80**	**304**	P	**P**	**05 57 26.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KURK	**Kurchatov**	**45.80**	**304**	*e*P	**P**	**05 57 26.0**	**-0.1**
KURK	**Kurchatov**	**45.80**	**304**	P	**P**	**05 57 26.0**	**-0.1**
KURK				IAmb	IAmb	05 57 26.7	
	comp=Z,2.7nm,0.5s						
ABKAR	**Akbulak array**	**57.36**	**309**	P	**P**	**05 58 51.9**	**-0.5**
FIA1	**FINESS Array S**	**65.28**	**333**	P	**P**	**05 59 45.7**	**0.0**
FINES	**FINESS Array B**	**65.28**	**333**	P	**P**	**05 59 44.5**	**-1.2**
	comp=Z,2.2nm,0.7s,baz=42,slow=5.9,SNR=7.4						
NB2	**NORSAR Subarra**	**70.03**	**339**	P	**P**	**06 00 14.6**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**70.03**	**339**	P	**P**	**06 00 14.8**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=32,slow=6.6,SNR=6.8						
TX31	**Lajitas Ar. Si**	**82.87**	**56**	P	**P**	**06 01 29.6**	**+0.6**
TXAR	**Lajitas Array**	**82.87**	**56**	P	**P**	**06 01 28.3**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=301,slow=3.4,SNR=3.8						

TAP 14 05:54:53.8, 24°.31N×121°.44E, h9km±2km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETLH	**Xiulin Townshi**	**0.11**	**161**	P	Pg	05 54 57.5	+1.1
	baz=161						
ETLH				S	Sg	05 54 59.2	+0.9
	baz=161						
NNSH	**Datong**	**0.13**	**335**	*i* P	Pg	05 54 57.8	+0.9
	baz=335						
NNSH				*e*S	Sg	05 54 59.6	+0.5
	baz=335						
NNS	**Nan Shan**	**0.15**	**334**	P	Pg	05 54 58.1	+1.0
	baz=336						
NNS				S	Sg	05 55 00.3	+0.8
	baz=336						
NACB	**Ninganchiao**	**0.19**	**134**	P	Pg	05 54 59.1	+1.3
	baz=134						
NACB				S	Sg	05 55 01.8	+1.3
	baz=134						
NACB	**Ninganchiao**	**0.19**	**134**	P	Sg	05 55 01.9	+1.4
WHF	**Hehuan Shan**	**0.23**	**225**	*e*P	Pg	05 55 00.3	+1.6
	baz=

NRN	**Naryn**	**1.68**	**6**	⇓*iP*	**Pn**	**06 06 43.5**	**+0.9**
	baz=6.0								
NRN				⇓*iS*	**Sg**	**06 07 07.7**	**+1.8**
	baz=6.0								
KZA	**Kyzart**	**2.34**	**351**	⇓*eP*	**Pn**	**06 06 53.2**	**+1.4**
	baz=52								
KZA				⇓*eS*	**Sb**	**06 07 24.0**	**-0.6**
	baz=52								
KZA	**Kyzart**	**2.34**	**351**	P	**Pn**	**06 06 53.7**	**+1.8**
	SNR=7.3								
ARLS	**Aral**	**2.36**	**333**	⇑*iP*	**Pn**	**06 06 52.6**	**+0.8**
	baz=36								
ARLS				⇑*iS*	**Sn**	**06 07 23.7**	**+2.3**
	baz=36								
TARG	**Taragay, Kyrgy**	**2.50**	**38**	⇑*iP*	**Pn**	**06 06 55.4**	**+1.4**
	baz=36								
TARG				⇑*iS*	**Sb**	**06 07 27.7**	**-1.5**
	baz=36								
ULHL	**Ulahol**	**2.50**	**8**	⇑*eP*	**Pn**	**06 06 55.2**	**+1.3**
	baz=9.0								
ULHL				⇑*iS*	**Sb**	**06 07 27.7**	**-1.4**
	baz=9.0								
ULHL	**Ulahol**	**2.50**	**8**	P	**Pb**	**06 06 58.4**	**+0.7**
	SNR=18								
KDJ	**Kajisay**	**2.60**	**24**	⇑*iP*	**Pn**	**06 06 56.7**	**+1.6**
	baz=24								
KDJ				⇑*iS*	**Sb**	**06 07 29.6**	**-2.1**
	baz=24								
ARSB	**Arslanbob**	**2.63**	**307**	⇑*eP*	**Pn**	**06 06 55.6**	**+0.1**
	baz=10.0								
ARSB				⇑*iS*	**Sn**	**06 07 28.5**	**+0.5**
	baz=10.0								
UCH	**Uchtor**	**2.63**	**339**	P	Pn	06 06 50.6	-5.3
	SNR=7.9								
BOOM	**Boomskoye usch**	**2.73**	**3**	⇑*eP*	**Pn**	**06 06 58.3**	**+1.4**
	baz=4.0								
BOOM				⇑*iS*	**Sn**	**06 07 33.0**	**+2.5**
	baz=4.0								
AML	**Almayashu**	**2.83**	**327**	⇓*eP*	**Pn**	**06 06 59.5**	**+0.9**
	baz=30								
AML				⇓*iS*	**Sn**	**06 07 35.3**	**+1.9**
	baz=30								
AML	**Almayashu**	**2.83**	**327**	P	**Pn**	**06 06 59.7**	**+1.2**
	SNR=18								
KBK	**Karagaybulak**	**2.95**	**348**	⇓*iP*	**Pn**	**06 07 01.7**	**+1.7**
	baz=50								
KBK				⇓*iS*	**Sn**	**06 07 38.4**	**+2.3**
	baz=50								
KBK	**Karagaybulak**	**2.95**	**348**	P	**Pn**	**06 07 02.7**	**+2.7**
	SNR=28								
AAK	**Ala-Archa**	**3.02**	**342**	Pn	**Pn**	**06 07 03.6**	**+2.7**
	25nm,0.3s,baz=155,slow=14,SNR=166								
AAK				Sn	**Sn**	**06 07 41.5**	**+3.7**
	7.0nm,0.3s,baz=22,slow=17,SNR=12								
AAK				LR	LR	06 08 38.3	
	comp=Z,138nm,21.5s,baz=134,slow=44								
AAK	**Ala-Archa**	**3.02**	**342**	⇓*eP*	**Pn**	**06 07 02.2**	**+1.2**
	baz=44								
AAK				⇓*iS*	**Sn**	**06 07 40.1**	**+2.3**
	baz=44								
AAK	**Ala-Archa**	**3.02**	**342**	P	Pn	06 06 56.2	-4.7
	SNR=5.3								
AAK	**Ala-Archa**	**3.02**	**342**	⇓Pn	**Pn**	**06 07 01.7**	**+0.7**
	92nm,0.5s								
AAK				⇓Lg	Lg	06 07 44.9	
	215nm,0.9s								
TKM2	**Tokmak 2**	**3.15**	**358**	⇓*eP*	**Pn**	**06 07 04.1**	**+1.3**
	baz=59								
TKM2				⇓*iS*	**Sn**	**06 07 43.2**	**+2.1**
	baz=59								
TKM2	**Tokmak 2**	**3.15**	**358**	P	**Pn**	**06 07 05.7**	**+2.9**
	SNR=19								
TKM2	**Tokmak 2**	**3.15**	**358**	⇓Pn	**Pn**	**06 07 05.1**	**+2.3**
	23nm,0.6s								
TKM2				⇑Lg	Lg	06 07 50.8	
	50nm,0.7s								
FRU1	**Bishkek**	**3.16**	**345**	⇑*eP*	**Pn**	**06 07 04.2**	**+1.5**
	baz=46								
FRU1				⇑*iS*	**Sn**	**06 07 43.3**	**+2.3**
	baz=46								
EKS2	**Erkin-Say**	**3.26**	**333**	⇓*iP*	**Pn**	**06 07 05.2**	**+1.1**
	baz=35								
EKS2				⇓*iS*	**Sn**	**06 07 45.3**	**+1.8**
	baz=35								
KST	**Kastek**	**3.28**	**3**	*eP*	**Pb**	**06 07 11.1**	**+0.1**
	22nm,0.5s								
KST				*eS*	**Sg**	**06 07 57.5**	**+0.2**
	40nm,0.7s								
KST	**Kastek**	**3.28**	**3**	Pg	**Pb**	**06 07 08.8**	**-2.1**
	41nm,0.3s								
KST				Lg	Lg	06 07 55.1	
	40nm,0.7s								
CHMS	**Chumysh**	**3.32**	**347**	⇑*eP*	**Pn**	**06 07 06.1**	**+1.2**
	baz=48								
CHMS				⇑*iS*	**Sn**	**06 07 47.0**	**+2.1**
	baz=48								
CHMS	**Chumysh**	**3.32**	**347**	P	**Pn**	**06 07 07.5**	**+2.6**
	SNR=8.0								
IZV	**Izvestkoviy**	**3.33**	**11**	*eP*	**Pb**	**06 07 12.2**	**+0.4**
	43nm,0.5s								
IZV				*eS*	**Sg**	**06 08 00.6**	**+1.6**
	75nm,0.8s								
IZV	**Izvestkoviy**	**3.33**	**11**	Pg	**Pb**	**06 07 09.7**	**-2.1**
	43nm,0.5s								
IZV				Lg	Lg	06 07 56.0	
	75nm,0.8s								
ANVS	**Anan'yevo**	**3.34**	**25**	⇓*eP*	**Pn**	**06 07 06.5**	**+1.2**
	baz=24								
ANVS				⇓*iS*	**Sn**	**06 07 47.6**	**+2.0**
	baz=24								
PRZ	**Przheval'sk**	**3.37**	**35**	⇑*iP*	**Pn**	**06 07 07.3**	**+1.6**
	baz=35								
PRZ				⇑*iS*	**Sn**	**06 07 47.9**	**+1.5**
	baz=35								
TNSS	**Tian-Shan**	**3.39**	**15**	*eP*	**Pb**	**06 07 12.7**	**-0.3**
	21nm,0.5s								
TNSS				*eS*	**Sg**	**06 08 00.6**	**-0.3**
	44nm,0.7s								
TNSS	**Tian-Shan**	**3.39**	**15**	Pg	**Pb**	**06 07 11.2**	**-1.8**
	35nm,0.6s								
TNSS				Lg	Lg	06 07 58.5	
	44nm,0.7s								
MTBS	**Maitube**	**3.40**	**8**	*eP*	**Pb**	**06 07 14.6**	**+1.7**
	9.7nm,0.4s								
MTBS				*eS*	**Sg**	**06 08 03.6**	**+2.5**
	30nm,0.6s								
MTBS	**Maitube**	**3.40**	**8**	Pg	**Pb**	**06 07 10.7**	**-2.3**
	21nm,0.5s								
MTBS				Lg	Lg	06 07 58.2	
	31nm,0.5s								
DGS	**Degeres**	**3.47**	**0**	*eP*	**Pb**	**06 07 15.4**	**+1.2**
	24nm,0.6s								
DGS				*eS*	**Sg**	**06 08 05.7**	**+2.2**
	46nm,0.9s								
DGS	**Degeres**	**3.47**	**0**	Pg	**Pn**	**06 07 10.4**	**+3.3**
	34nm,0.8s								
DGS				Lg	Lg	06 07 57.5	
	46nm,0.9s								
ARK	**Arkit**	**3.52**	**306**	⇓*eP*	**Pn**	**06 07 08.0**	**+0.2**
	baz=9.0								
ARK				⇓*iS*	**Sn**	**06 07 50.0**	**-0.1**
	baz=9.0								
MDOK	**Medeo**	**3.53**	**16**	*eP*	**Pb**	**06 07 15.2**	**0.0**
	18nm,0.7s								
MDOK				*eS*	**Sg**	**06 08 04.8**	**-0.6**
	42nm,1.0s								
MDOK	**Medeo**	**3.53**	**16**	⇑Pn	**Pn**	**06 07 09.1**	**+1.2**
	27nm,0.8s								
MDOK				⇓Lg	Lg	06 08 05.4	
	77nm,0.9s								
MDOK	**Medeo**	**3.53**	**16**	Pg	**Pb**	**06 07 13.8**	**-1.4**
	17nm,0.5s								
MDOK				Lg	Lg	06 08 03.1	
	42nm,1.0s								
MRKS	**Merke**	**3.54**	**328**	*eP*	**Pb**	**06 07 16.4**	**+1.1**
	30nm,0.6s								
MRKS				*eS*	**Sg**	**06 08 07.8**	**+2.2**
	31nm,0.6s								
MRKS	**Merke**	**3.54**	**328**	Pg	**Pn**	**06 07 09.8**	**+1.9**
	54nm,0.8s								
MRKS				Lg	Lg	06 07 56.6	
	37nm,0.6s								
KNDC	**Almaty**	**3.57**	**14**	⇓Pg	**Pb**	**06 07 17.5**	**+1.7**
KNDC				⇓Lg	Lg	06 08 04.7	
KOTS	**Kotyrbulak**	**3.61**	**16**	*eP*	**Pb**	**06 07 16.6**	**0.0**
	43nm,0.9s								
KOTS				*eS*	**Sg**	**06 08 08.3**	**+0.3**
	52nm,0.8s								
KOTS	**Kotyrbulak**	**3.61**	**16**	Pg	**Pb**	**06 07 15.5**	**-1.1**
	47nm,0.7s								
KOTS				Lg	Lg	06 08 06.1	
	52nm,0.8s								
USP	**Ospenovka**	**3.62**	**345**	⇑*eP*	**Pn**	**06 07 10.4**	**+1.3**
	baz=47								
USP				⇑*iS*	**Sn**	**06 07 54.3**	**+1.9**
	baz=47								
USP	**Ospenovka**	**3.62**	**345**	P	**Pn**	**06 07 11.2**	**+2.1**
	SNR=21								
SGDS	**Sogindy**	**3.78**	**347**	Pg	**Pb**	**06 07 17.3**	**-2.1**
	41nm,0.8s								
SGDS				Lg	Lg	06 08 09.3	
	40nm,0.7s								
BTK	**Batken**	**3.81**	**276**	⇑*eP*	**Pn**	**06 07 10.7**	**-1.0**
	baz=78								
BTK				⇑*iS*	**Sn**	**06 07 54.0**	**-3.1**
	baz=78								
SATY	**Saty**	**3.85**	**30**	*eP*	**Pb**	**06 07 19.9**	**-0.7**
	39nm,1.0s								
SATY				*eS*	**Sg**	**06 08 13.6**	**-1.9**
	67nm,0.9s								
SATY	**Saty**	**3.85**	**30**	Pg	**Pb**	**06 07 20.0**	**-0.6**
	39nm,1.0s								
SATY				Lg	Lg	06 08 14.4	
	37nm,0.8s								
ZHN	**Zhinishke**	**3.95**	**30**	*eP*	**Pb**	**06 07 22.1**	**-0.2**
	14nm,0.3s								
ZHN				*eS*	**Sg**	**06 08 17.6**	**-1.3**
	7.8nm,0.5s								
ZHN	**Zhinishke**	**3.95**	**30**	Pg	**Pb**	**06 07 22.1**	**-0.2**
	14nm,0.3s								
ZHN				Lg	Lg	06 08 17.6	
	7.8nm,0.5s								
KTBS	**Karatobe**	**4.00**	**10**	*eP*	**Pb**	**06 07 22.3**	**-0.9**
	25nm,0.5s								
KTBS				*eS*	**Sg**	**06 08 17.5**	**-3.1**
	46nm,0.7s								
KTBS	**Karatobe**	**4.00**	**10**	Pg	**Pb**	**06 07 22.3**	**-0.9**
	25nm,0.5s								
KTBS				Lg	Lg	06 08 17.5	
	46nm,0.7s								
KURS	**Kuram**	**4.13**	**25**	Pg	**Pb**	**06 07 25.2**	**-0.3**
	25nm,1.3s								
KURS				Lg	Lg	06 08 23.0	
	22nm,0.8s								
KUU	**Kurty**	**4.15**	**6**	*eP*	**Pb**	**06 07 25.8**	**+0.1**
	25nm,0.6s								
KUU				*eS*	**Sg**	**06 08 23.9**	**-1.3**
	52nm,0.8s								
KUU	**Kurty**	**4.15**	**6**	Pg	**Pb**	**06 07 25.8**	**+0.1**
	25nm,0.6s								
KUU				Lg	Lg	06 08 23.9	
	52nm,0.8s								
UZB	**Uzynbulak**	**4.17**	**35**	*eP*	**Pb**	**06 07 25.7**	**-0.5**
	17nm,0.8s								
UZB				*eS*	**Sg**	**06 08 23.6**	**-2.5**
	35nm,0.8s								
UZB	**Uzynbulak**	**4.17**	**35**	Pg	**Pb**	**06 07 25.7**	**-0.5**
	17nm,0.8s								
UZB				Lg	Lg	06 08 23.6	
	35nm,0.8s								
KPKS	**Kokpek**	**4.30**	**30**	*eP*	**Pb**	**06 07 28.1**	**-0.2**
	33nm,0.9s								
KPKS				*eS*	**Sg**	**06 08 27.8**	**-2.2**
	67nm,0.7s								
SHLS	**Shalkode**	**4.38**	**38**	Pg	**Pg**	**06 07 33.8**	**-2.2**
	29nm,0.7s								
SHLS				Lg	Lg	06 08 37.8	
	58nm,1.1s								
PDGK	**Podgornoye**	**4.53**	**37**	Pg	**Pb**	**06 07 32.5**	**+0.2**
	6.6nm,0.6s								
PDGK				Lg	Lg	06 08 35.3	
	16nm,0.9s								
PDGK	**Podgornoye**	**4.53**	**37**	⇑Pn	**Pn**	**06 07 23.3**	**+1.7**
	11nm,0.7s								
PDGK				⇑Lg	Lg	06 08 39.0	
	60nm,1.1s								
DZA	**Taraz**	**4.57**	**315**	Pg	Pn	06 07 29.1	+7.1
	104nm,0.1s								
DZA				Lg	Lg	06 08 29.4	
	169nm,0.1s								
IUG	**Iuzhnay**	**4.95**	**301**	*eP*	Pn	06 07 34.3	+7.0
	4.0nm,0.6s								
IUG				*eS*	**Sb**	**06 08 38.3**	**-0.9**
	88nm,1.1s								
IUG	**Iuzhnay**	**4.95**	**301**	Pg	Pn	06 07 34.3	+7.0
	4.0nm,0.6s								
IUG				Lg	Lg	06 08 38.3	
	88nm,1.1s								
KK31	**Karatay Array**	**5.16**	**312**	Pn	**Pn**	**06 07 30.7**	**+0.4**
	1.3nm,0.5s,baz=121,slow=13,SNR=8.7								
KK31				Pg	**Pb**	**06 07 45.8**	**+2.8**
	5.1nm,0.6s,baz=137,slow=15,SNR=11								
KK31				⇑Lg	Lg	06 08 51.7	
	7.1nm,0.5s,baz=122,slow=18,SNR=4.7								
BTLS	**Baital**	**5.42**	**347**	*eP*	**Pb**	**06 07 49.4**	**+2.1**
	4.0nm,0.7s								
BTLS				*eS*	**Sg**	**06 09 04.4**	**-1.6**
	14nm,0.7s								
BTLS	**Baital**	**5.42**	**347**	Pg	**Pb**	**06 07 49.4**	**+2.1**
	4.0nm,0.7s								
BTLS				Lg	Lg	06 09 04.4	
	14nm,0.7s								
DJR	**Jarkent**	**5.46**	**32**	*eP*	**Pb**	**06 07 51.2**	**+3.1**
	2.2nm,0.4s								
DJR				*eS*	**Sg**	**06 09 06.9**	**-0.4**
	12nm,0.6s								
DJR	**Jarkent**	**5.46**	**32**	Pg	**Pb**	**06 07 51.2**	**+3.1**
	2.2nm,0.4s								
DJR				Lg	Lg	06 09 06.9	
	12nm,0.6s								
BRLS	**Boroldaу**	**5.52**	**308**	*eP*	**Pb**	**06 07 46.5**	**-2.5**
	0.8nm,0.3s								
BRLS				*eS*	**Sb**	**06 08 59.4**	**+3.8**
	1.5nm,0.4s								
BRLS	**Boroldaу**	**5.52**	**308**	Pg	**Pb**	**06 07 46.5**	**-2.5**
	0.8nm,0.3s								
BRLS				Lg	Lg	06 08 59.4	
	1.5nm,0.4s								
KAPS	**Kapalarasan**	**6.12**	**25**	Pg	Pb	06 08 04.3	+5.0
	6.0nm,0.6s								
KAPS				Lg	Lg	06 09 29.8	
	12nm,0.9s								
CHCP	**Chirah Chowk**	**6.42**	**199**	P	**Pn**	**06 07 45.7**	**-1.8**
CEP	**Cherat**	**6.69**	**209**	P	**Pn**	**06 07 48.5**	**-2.8**
CEP				S	Sn	06 08 57.0	-11
MKAR	**Makanchi Array**	**8.48**	**32**	Pn	**Pn**	**06 08 17.7**	**+1.9**
	0.1nm,0.3s,baz=226,slow=9.4,SNR=3.4								
WMQ	**Urumqi**	**9.79**	**62**	*eP*	**Pn**	**06 08 35.0**	**+1.3**
BVAR	**Borovoye Array**	**13.76**	**346**	Pn	**Pn**	**06 09 27.1**	**-0.9**
	0.1nm,0.3s,baz=167,slow=13,SNR=3.6								
AB31	**Akbulak array**	**14.71**	**315**	⇓P	**Pn**	**06 09 40.6**	**-0.4**
	0.7nm,0.6s,baz=128,slow=12,SNR=3.9								
ZALV	**Zalesovo Beam**	**15.46**	**20**	Pn	**Pn**	**06 09 51.6**	**+0.7**
	baz=207,slow=16,SNR=1.9								
NOA	**NORSAR Array B**	**44.13**	**321**	LR	LR	06 34 46.8	
	comp=Z,48nm,19.2s,baz=265,slow=39								
TORD	**Torodi Ar. Bea**	**69.50**	**270**	P	P	06 17 16.5	-5.7
	0.5nm,0.6s,baz=59,slow=6.3,SNR=2.9								
YKA	**Yellowknife Ar**	**77.75**	**5**	P	**P**	**06 18 07.2**	**-2.7**
	0.1nm,0.4s,baz=348,slow=5.3,SNR=2.7								
ASAR	**Alice Springs**	**83.19**	**128**	P	P	06 18 33.2	-6.4
	0.3nm,0.8s,baz=335,slow=4.1,SNR=3.7								

SOME **14** *06:28:16.2,39.42N×75.88E,h15km*
IDC **14** *06:28:20.0□1.4,39.41N×75.80E,h0km,mb3.6/4,*
mb1 3.8/8,mb1mx3.5/43,mbtmp3.6/8,ML3.6/3,Error
ellipse: s-maj=28.7km s-min=22.0km az=88.0
KRNET **14** *06:28:22.2□0.1,39.59N×75.77E,mb4.3*
NNC **14** *06:28:23.9□0.8,39.61N×75.83E,h0km,mb4.5,mpv4.2,*
Error ellipse: s-maj=6.0km s-min=4.3km az=160.0
BJI **14** *06:28:24.2□0.0,39.64N×75.68E,h10km,mb3.6/1,ML3.6/5*
ISC 14 06:28:22.1□1.2,39.61N□0.03×75.65E□0.02,h1km□8km,
n95,σ2s40/137,mb3.8/4,27C-29D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**0.27**	**109**	Pg	**Pn**	**06 28 33.0**	**-0.3**
KSH				Sg	**Sb**	**06 28 41.1**	**+6.1**
KSH				smax	smax		
	comp=N,6μm,0.4s						
KSH				smax	smax		
	comp=E,7μm,0.4s						
NRN	**Naryn**	**1.85**	**8**	⇓*eP*	**Pb**	**06 28 56.9**	**0.0**
	baz=5.0						
NRN				⇓*iS*	**Sg**	**06 29 21.8**	**+0.4**
	baz=5.0						
ARLS	**Aral**	**2.47**	**336**	⇑*iP*	**Pb**	**06 29 06.9**	**-0.5**
	baz=35						
ARLS				⇑*iS*	**Sb**	**06 29 39.4**	**+1.1**
	baz=35						
KZA	**Kyzart**	**2.49**	**353**	⇓*eP*	**Pb**	**06 29 06.9**	**-0.9**
	baz=51						
KZA				⇓*iS*	**Sb**	**06 29 39.5**	**+0.3**
	baz=51						
KZA	**Kyzart**	**2.49**	**353**	P	**Pb**	**06 29 07.0**	**-0.9**
	SNR=732						
ARSB	**Arslanbob**	**2.66**	**311**	⇓*iP*	**Pb**	**06 29 10.2**	**-0.4**
	baz=10.0						
ARSB				⇓*iS*	**Sb**	**06 29 44.0**	**+0.1**
	baz=10.0						
ULHL	**Ulahol**	**2.68**	**10**	⇓*eP*	**Pn**	**06 29 09.3**	**+2.7**
	baz=7.0						
ULHL				⇓*eS*	**Sb**	**06 29 42.9**	**-1.5**
	baz=7.0						
ULHL	**Ulahol**	**2.68**	**10**	P	**Pb**	**06 29 11.7**	**+0.8**
	SNR=53						
TARG	**Taragay, Kyrgy**	**2.68**	**37**	⇓*eP*	**Pn**	**06 29 09.5**	**+2.7**
	baz=35						
TARG				⇓*iS*	**Sb**	**06 29 42.3**	**-2.5**
	baz=35						
UCH	**Uchtor**	**2.76**	**342**	⇓*iP*	**Pb**	**06 29 11.8**	**-0.7**
	baz=41						
UCH				⇓*iS*	**Sb**	**06 29 47.6**	**+0.7**
	baz=41						
UCH	**Uchtor**	**2.76**	**342**	P	**Pn**	**06 29 10.9**	**+3.0**
	SNR=81						
KDJ	**Kajisay**	**2.78**	**24**	⇑*eP*	**Pn**	**06 29 10.4**	**+2.5**
	baz=23						
KDJ				⇑*iS*	**Sb**	**06 29 45.2**	**-2.1**
	baz=23						
BOOM	**Boomskoye usch**	**2.89**	**4**	⇑*eP*	**Pn**	**06 29 12.5**	**+3.0**
	baz=3.0						
BOOM				⇑*iS*	**Sb**	**06 29 48.5**	**-2.0**
	baz=3.0						
AML	**Almayashu**	**2.92**	**330**	⇓*iP*	**Pb**	**06 29 14.1**	**-1.2**
	baz=29						
AML				⇓*iS*	**Sb**	**06 29 51.9**	**+0.2**
	baz=29						
AML	**Almayashu**	**2.92**	**330**	P	**Pn**	**06 29 13.1**	**+2.9**
	SNR=24						
KBK	**Karagaybulak**	**3.09**	**350**	⇓*iP*	**Pn**	**06 29 15.4**	**+3.1**
	baz=49						
KBK				⇓*iS*	**Sb**	**06 29 53.5**	**-2.9**
	baz=49						
KBK	**Karagaybulak**	**3.09**	**350**	P	**Pn**	**06 29 15.8**	**+3.5**
	SNR=97						
AAK	**Ala-Archa**	**3.15**	**344**	Pn	**Pb**	**06 29 17.0**	**-2.0**
	33nm,0.3s,baz=154,slow=14,SNR=602						
AAK				Sn	**Sb**	**06 29 55.8**	**-2.2**
	8.9nm,0.3s,baz=329,slow=19,SNR=13						
AAK	**Ala-Archa**	**3.15**	**344**	⇑*eP*	**Pn**	**06 29 17.0**	**-2.0**
	baz=43						
AAK				⇑*iS*	**Sb**	**06 29 56.0**	**-2.0**
	baz=43						
AAK	**Ala-Archa**	**3.15**	**344**	P	**Pn**	**06 29 16.3**	**+3.2**
	SNR=246						
AAK	**Ala-Archa**	**3.15**	**344**	⇑Pn	**Pn**	**06 29 15.4**	**+2.4**
	178nm,0.6s						
AAK				⇑Sn	**Sb**	**06 29 56.4**	**-1.6**
	452nm,0.8s						
FRU1	**Bishkek**	**3.29**	**347**	⇓*eP*	**Pn**	**06 29 18.3**	**+3.4**
	baz=45						
FRU1				⇓*iS*	**Sb**	**06 29 59.0**	**-3.0**
	baz=45						
TKM2	**Tokmak 2**	**3.31**	**359**	⇑*eP*	**Pn**	**06 29 18.3**	**+3.0**
	baz=58						
TKM2				⇑*iS*	**Sn**	**06 29 58.8**	**+3.3**
	baz=58						
TKM2	**Tokmak 2**	**3.31**	**359**	P	**Pb**	**06 29 19.3**	**-2.5**
	SNR=7.7						
TKM2	**Tokmak 2**	**3.31**	**359**	⇓Pn	**Pn**	**06 29 17.8**	**+2.5**
	115nm,1.1s						
TKM2				⇓Lg	Lg	06 30 09.3	
	95nm,0.7s						
EKS2	**Erkin-Say**	**3.36**	**336**	⇑*eP*	**Pn**	**06 29 20.1**	**+4.2**
	baz=35						
EKS2				⇑*iS*	**Sb**	**06 30 01.9**	**-2.2**
	baz=35						
EKS2	**Erkin-Say**	**3.36**	**336**	P	**Pn**	**06 29 19.4**	**+3.5**
	SNR=18						
KST	**Kastek**	**3.44**	**4**	*eP*	**Pb**	**06 29 23.4**	**-0.6**
	43nm,0.6s						
KST				*eS*	**Sg**	**06 30 11.4**	**-1.3**
	107nm,0.8s						
KST	**Kastek**	**3.44**	**4**	Pg	**Pb**	**06 29 25.3**	**+1.3**
	82nm,1.0s						
KST				Lg	Lg	06 30 11.9	
	107nm,0.8s						
CHMS	**Chumysh**	**3.46**	**349**	⇑*eP*	**Pn**	**06 29 20.4**	**+3.3**
	baz=48						
CHMS				⇑*iS*	**Sn**	**06 30 02.2**	**+3.4**
	baz=48						
CHMS	**Chumysh**	**3.46**	**349**	P	**Pn**	**06 29 20.6**	**+3.5**
	SNR=64						
IZV	**Izvestkoviy**	**3.50**	**12**	*eP*	**Pb**	**06 29 24.7**	**-0.3**
	99nm,0.9s						
IZV				*eS*	**Sg**	**06 30 14.2**	**-0.4**
	92nm,0.7s						
IZV	**Izvestkoviy**	**3.50**	**12**	Pg	**Pb**	**06 29 27.2**	**+2.2**
	99nm,0.9s						
IZV				Lg	Lg	06 30 15.2	
	92nm,0.7s						
ANVS	**Anan'yevo**	**3.52**	**25**	⇑*iP*	**Pn**	**06 29 21.3**	**+3.1**
	baz=23						
ANVS				⇑*iS*	**Sn**	**06 30 02.4**	**+1.8**
	baz=23						
PRZ	**Przheval'sk**	**3.55**	**35**	⇑*eP*	**Pn**	**06 29 21.3**	**+2.8**
	baz=34						
PRZ				⇑*iS*	**Sn**	**06 30 02.8**	**+1.5**
	baz=34						
ARK	**Arkit**	**3.56**	**309**	⇑*iP*	**Pn**	**06 29 23.3**	**+4.8**
	baz=8.0						
ARK				⇑*iS*	**Sb**	**06 30 07.0**	**-2.6**
	baz=8.0						
TNSS	**Tian-Shan**	**3.57**	**16**	*eP*	**Pb**	**06 29 24.5**	**-1.7**
	38nm,0.6s						
TNSS				*eS*	**Sb**	**06 30 13.0**	**+2.8**
	79nm,0.9s						
TNSS	**Tian-Shan**	**3.57**	**16**	Pg	**Pb**	**06 29 26.8**	**+0.6**
	63nm,0.5s						
TNSS				Lg	Lg	06 30 14.6	
	79nm,0.9s						
MTBS	**Maitube**	**3.57**	**9**	*eP*	**Pb**	**06 29 26.0**	**-0.1**
	18nm,0.6s						
MTBS				*eS*	**Sg**	**06 30 16.2**	**-0.5**
	57nm,0.5s						
MTBS	**Maitube**	**3.57**	**9**	Pg	**Pb**	**06 29 28.5**	**+2.4**
	40nm,0.5s						
MTBS				Lg	Lg	06 30 17.5	
	57nm,0.5s						
MRKS	**Merke**	**3.63**	**331

AAA	**Alma-Ata**	**3.73**	**14**	Pg	**Pb**	**06 29 30.6**	**+1.9**
	21nm,0.1s						
AAA				Lg	Lg	06 30 21.0	
	54nm,0.4s						
KNDC	**Almaty**	**3.74**	**15**	⇓Pg	**Pb**	**06 29 32.4**	**+3.4**
	98nm,0.8s						
KNDC				⇑Lg	Lg	06 30 20.8	
	243nm,0.8s						
BTK	**Batken**	**3.75**	**278**	⇑*iP*	**Pb**	**06 29 27.4**	**-1.7**
	baz=79						
BTK				⇑*iS*	**Sb**	**06 30 12.5**	**-2.5**
	baz=79						
USP	**Ospenovka**	**3.76**	**347**	⇓*eP*	**Pn**	**06 29 24.4**	**+3.1**
	baz=46						
USP				⇓*iS*	**Sn**	**06 30 09.2**	**+3.0**
	baz=46						
USP	**Ospenovka**	**3.76**	**347**	P	**Pn**	**06 29 24.6**	**+3.3**
	SNR=40						
KOTS	**Kotyrbulak**	**3.79**	**16**	*eP*	**Pb**	**06 29 29.8**	**-0.1**
	72nm,0.8s						
KOTS				*eS*	**Sg**	**06 30 22.1**	**-1.7**
	243nm,0.5s						
KOTS	**Kotyrbulak**	**3.79**	**16**	Pg	**Pb**	**06 29 32.4**	**+2.5**
	100nm,0.7s						
KOTS				Lg	Lg	06 30 24.0	
	243nm,0.5s						
SGDS	**Sogindy**	**3.92**	**349**	Pg	**Pb**	**06 29 35.1**	**+3.1**
	82nm,0.7s						
SGDS				Lg	Lg	06 30 28.6	
	75nm,1.2s						
SATY	**Saty**	**4.03**	**30**	*eP*	**Pb**	**06 29 33.5**	**-0.5**
	76nm,0.9s						
SATY				*eS*	**Sg**	**06 30 29.3**	**-2.1**
	157nm,1.0s						
SATY	**Saty**	**4.03**	**30**	Pg	**Pb**	**06 29 35.5**	**+1.6**
	87nm,1.0s						
SATY				Lg	Lg	06 30 29.3	
	157nm,1.0s						
ZHN	**Zhinishke**	**4.13**	**30**	*eP*	**Pb**	**06 29 36.0**	**+0.3**
	19nm,0.8s						
ZHN				*eS*	**Sg**	**06 30 33.4**	**-1.4**
	14nm,0.3s						
ZHN	**Zhinishke**	**4.13**	**30**	Pg	**Pb**	**06 29 38.0**	**+2.3**
	27nm,0.3s						
ZHN				Lg	Lg	06 30 33.4	
	14nm,0.3s						
KTBS	**Karatobe**	**4.18**	**10**	*eP*	**Pb**	**06 29 36.6**	**+0.2**
	36nm,0.7s						
KTBS				*eS*	**Sg**	**06 30 34.5**	**-1.7**
	89nm,0.8s						
KTBS	**Karatobe**	**4.18**	**10**	Pg	**Pb**	**06 29 39.4**	**+3.0**
	36nm,0.7s						
KTBS				Lg	Lg	06 30 36.2	
	89nm,0.8s						
KUU	**Kurty**	**4.32**	**7**	*eP*	**Pb**	**06 29 40.6**	**+1.8**
	34nm,0.5s						
KUU				*eS*	**Sg**	**06 30 41.6**	**+0.9**
	98nm,0.8s						
KUU	**Kurty**	**4.32**	**7**	Pg	**Pb**	**06 29 42.2**	**+3.5**
	34nm,0.5s						
KUU				Lg	Lg	06 30 41.1	
	98nm,0.8s						
KURS	**Kuram**	**4.32**	**25**	*eP*	**Pb**	**06 29 39.7**	**+0.9**
	54nm,1.4s						
KURS				*eS*	**Sg**	**06 30 39.1**	**-1.6**
	60nm,0.9s						
KURS	**Kuram**	**4.32**	**25**	Pg	**Pb**	**06 29 41.2**	**+2.4**
	54nm,1.4s						
KURS				Lg	Lg	06 30 39.1	
	60nm,0.9s						
UZB	**Uzynbulak**	**4.36**	**35**	*eP*	**Pb**	**06 29 36.5**	**-3.1**
	16nm,0.8s						
UZB				*eS*	**Sb**	**06 30 35.0**	**+2.4**
	71nm,1.2s						
UZB	**Uzynbulak**	**4.36**	**35**	Pg	**Pb**	**06 29 40.0**	**+0.5**
	38nm,1.0s						
UZB				Lg	Lg	06 30 37.0	
	71nm,1.2s						
KPKS	**Kokpek**	**4.48**	**30**	*eP*	**Pb**	**06 29 40.8**	**-0.8**
	34nm,0.9s						
KPKS				*eS*	**Sg**	**06 30 42.5**	**-3.5**
	120nm,0.7s						
PDGK	**Podgornoye**	**4.71**	**37**	Pg	**Pb**	**06 29 47.4**	**+1.9**
	16nm,1.3s						
PDGK				Lg	Lg	06 30 49.9	
	31nm,0.9s						
PDGK	**Podgornoye**	**4.71**	**37**	⇓Pn	**Pn**	**06 29 36.6**	**+2.2**
	25nm,0.7s						
PDGK				⇓Lg	Lg	06 30 51.6	
	143nm,1.1s						
IUG	**Iuzhnay**	**4.96**	**303**	*eP*	**Pb**	**06 29 53.8**	**+4.1**
	3.7nm,0.6s						
IUG				*eS*	**Sg**	**06 31 03.2**	**+2.0**
	48nm,0.9s						
IUG	**Iuzhnay**	**4.96**	**303**	Pg	**Pg**	**06 29 55.2**	**-1.8**
	3.7nm,0.6s						
IUG				Lg	Lg	06 31 03.2	
	48nm,0.9s						
KK31	**Karatay Array**	**5.21**	**314**	⇓Pn	**Pn**	**06 29 43.1**	**+1.9**
	3.0nm,0.7s,baz=124,slow=12,SNR=19						
KK31				⇓Pg	Pb	06 29 59.4	+5.4
	14nm,0.8s,baz=129,slow=16,SNR=15						
KK31				⇓Lg	Lg	06 31 10.9	
	23nm,0.7s,baz=133,slow=29,SNR=3.6						
BRLS	**Boroldav**	**5.55**	**310**	*eP*	**Pb**	**06 30 04.3**	**+4.4**
	0.4nm,0.6s						
BRLS				*eS*	**Sg**	**06 31 21.7**	**+1.3**
	2.9nm,0.8s						
BRLS	**Boroldav**	**5.55**	**310**	Pg	**Pg**	**06 30 05.9**	**-2.5**
	0.3nm,0.1s						
BRLS				Lg	Lg	06 31 21.7	
	2.9nm,0.8s						
BTLS	**Baital**	**5.56**	**348**	*eP*	Pb	06 30 05.3	+5.4
	4.4nm,0.7s						
BTLS				*eS*	**Sg**	**06 31 23.1**	**+2.5**
	25nm,1.0s						
BTLS	**Baital**	**5.56**	**348**	Pg	**Pg**	**06 30 06.7**	**-1.9**
	5.4nm,0.8s						
BTLS				Lg	Lg	06 31 23.1	
	25nm,1.0s						
DJR	**Jarkent**	**5.64**	**32**	*eP*	**Pb**	**06 30 00.0**	**-1.4**
	2.9nm,0.4s						
DJR				*eS*	**Sb**	**06 31 14.7**	**+5.1**
	25nm,0.8s						
DJR	**Jarkent**	**5.64**	**32**	Pg	**Pb**	**06 30 05.9**	**+4.5**
	5.4nm,0.5s						
DJR				Lg	Lg	06 31 21.5	
	25nm,0.8s						
TDK	**Taldyqorghan**	**5.77**	**20**	*eP*	**Pb**	**06 30 07.1**	**+3.6**
	30nm,0.1s						
TDK				*eS*	**Sg**	**06 31 26.5**	**-0.8**
	106nm,0.5s						
TDK	**Taldyqorghan**	**5.77**	**20**	Pg	Pb	06 30 08.8	+5.4
	70nm,0.3s						
TDK				Lg	Lg	06 31 26.5	
	106nm,0.5s						
CHCP	**Chirah Chowk**	**6.24**	**199**	⇑P	**Pn**	**06 29 59.4**	**+4.1**
KAPS	**Kapalarasan**	**6.30**	**25**	Pg	Pb	06 30 17.7	+5.0
	13nm,0.7s						
KAPS				Lg	Lg	06 31 41.7	
	27nm,1.0s						
CEP	**Cherat**	**6.50**	**209**	P	**Pn**	**06 30 01.9**	**+2.8**
CEP				S	**Sn**	**06 31 15.0**	**+1.0**
MKAR	**Makanchi Array**	**8.67**	**32**	Pn	**Pn**	**06 30 28.6**	**0.0**
	0.2nm,0.3s,baz=204,slow=15,SNR=7.0						
MKAR				Lg	Lg	06 32 53.0	
	0.1nm,0.3s,baz=212,slow=13,SNR=3.7						
WMQ	**Urumqi**	**9.94**	**61**	*eP*	**Pn**	**06 30 50.8**	**+4.6**
KURBB	**Kurchatov Arra**	**11.20**	**9**	Lg	Lg	06 34 22.1	
	0.1nm,0.3s,baz=5.1,slow=30,SNR=4.9						
BVAR	**Borovoye Array**	**13.90**	**347**	Pn	**Pn**	**06 31 39.4**	**-0.7**
	0.2nm,0.3s,baz=153,slow=13,SNR=2.5						
AB31	**Akbulak array**	**14.77**	**316**	P	**P**	**06 31 56.8**	**-1.5**
	1.4nm,0.7s,baz=128,slow=12,SNR=7.3						
ZALV	**Zalesovo Beam**	**15.64**	**20**	Pn	**Pn**	**06 32 01.9**	**-1.6**
	baz=220,slow=10,SNR=2.3						
GERES	**GERESS Array B**	**44.22**	**303**	P	**P**	**06 36 32.6**	**-0.3**
	0.6nm,0.6s,baz=64,slow=8.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**69.42**	**270**	P	**P**	**06 39 30.3**	**-1.8**
	1.1nm,0.9s,baz=49,slow=6.7,SNR=4.2						
YKA	**Yellowknife Ar**	**77.91**	**5**	P	**P**	**06 40 20.2**	**-1.0**
	0.2nm,0.5s,baz=348,slow=5.5,SNR=2.7						
ASAR	**Alice Springs**	**83.15**	**128**	P	**P**	**06 40 47.4**	**-2.6**
	0.6nm,0.8s,baz=340,slow=5.1,SNR=4.5						

*IDC **14** 06:33:16.9±1.2,39°.24N×75°.69E,h0km,mb3.5/4,*
mb1 3.7/7,mb1mx3.4/42,mbtmp3.6/7,ML3.4/3,MS3.4/1,

Ms1 3.4/1,ms1mx2.6/37,Error ellipse: s-maj=32.2km
s-min=21.4km az=80.0
*NNC **14** 06:33:20.2±1.9,39°.64N×75°.90E,h0km,mb4.4,mpv4.0,*
Error ellipse: s-maj=14.4km s-min=11.0km az=153.0
*SOME **14** 06:33:20.7,39°.68N×75°.88E,h5km*
*KRNET **14** 06:33:21.1±0.1,39°.49N×75°.65E,h28km,mb4.1*
*BJI **14** 06:33:22.6±0.0,39°.64N×75°.68E,h10km,mb3.5/1,ML3.7/7,*
Ms3.4/1,Ms7 3.3/2

ISC 14 06:33:24.6±1.3,39°.81N±0°.04×75°.78E±0°.03,h1km±11km,
n78,σ1§79/112,mb3.4/4,32C-22D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.33**	**153**	Pg	**Pg**		**06 33 31.4**	**+0.4**
KSH				Sg	**Sb**		**06 33 39.1**	**-0.2**
KSH				smax	smax			
	comp=N,5μm,0.6s							
KSH				smax	smax			
	comp=E,5μm,0.4s							
NRN	**Naryn**	**1.63**	**6**	⇑*iP*	**Pn**		**06 33 55.0**	**+0.2**
	baz=7.0							
NRN				⇑*iS*	**Sg**		**06 34 19.2**	**+2.2**
	baz=7.0							
KZA	**Kyzart**	**2.30**	**350**	⇑*iP*	**Pn**		**06 34 04.1**	**+0.1**
	baz=53							
KZA				⇑*iS*	**Sb**		**06 34 35.2**	**-1.0**
	baz=53							
KZA	**Kyzart**	**2.30**	**350**	P	**Pn**		**06 34 05.3**	**+1.3**
	SNR=39							
ARLS	**Aral**	**2.33**	**332**	⇑*eP*	**Pn**		**06 34 03.1**	**-1.1**
	baz=38							
ARLS				⇑*iS*	**Sn**		**06 34 33.7**	**+0.2**
	baz=38							
ULHL	**Ulahol**	**2.46**	**8**	⇓*eP*	**Pn**		**06 34 06.8**	**+0.8**
	baz=9.0							
ULHL				⇓*iS*	**Sb**		**06 34 40.1**	**-0.5**
	baz=9.0							
ULHL	**Ulahol**	**2.46**	**8**	P	**Pb**		**06 34 10.1**	**+0.4**
	SNR=37							
TARG	**Taragay, Kyrgy**	**2.46**	**38**	⇓*iP*	**Pn**		**06 34 07.3**	**+1.1**
	baz=36							
TARG				⇓*iS*	**Sg**		**06 34 41.5**	**-2.1**
	baz=36							
KDJ	**Kajisay**	**2.55**	**24**	⇓*iP*	**Pn**		**06 34 08.3**	**+1.0**
	baz=24							
KDJ				⇓*iS*	**Sb**		**06 34 43.3**	**+0.1**
	baz=24							
UCH	**Uchtor**	**2.59**	**339**	⇑*eP*	**Pn**		**06 34 07.3**	**-0.9**
	baz=43							
UCH				⇑*iS*	**Sn**		**06 34 41.2**	**+0.6**
	baz=43							
UCH	**Uchtor**	**2.59**	**339**	P	**Pn**		**06 34 09.2**	**+1.1**
	SNR=58							
ARSB	**Arslanbob**	**2.61**	**306**	⇑*iP*	**Pn**		**06 34 06.3**	**-1.8**
	baz=13							
ARSB				⇑*iS*	**Sn**		**06 34 39.0**	**-1.5**
	baz=13							
BOOM	**Boomskoye usch**	**2.68**	**3**	⇑*eP*	**Pn**		**06 34 10.1**	**+1.1**
	baz=4.0							
BOOM				⇑*iS*	**Sb**		**06 34 45.8**	**-1.1**
	baz=4.0							
AML	**Almayashu**	**2.80**	**326**	⇓*eP*	**Pn**		**06 34 09.1**	**-1.8**
	baz=31							
AML				⇓*iS*	**Sn**		**06 34 44.4**	**-1.2**
	baz=31							
AML	**Almayashu**	**2.80**	**326**	P	**Pn**		**06 34 11.6**	**+0.6**
	SNR=16							
KBK	**Karagaybulak**	**2.91**	**348**	⇑*iP*	**Pn**		**06 34 12.0**	**-0.2**
	baz=51							
KBK				⇑*iS*	**Sn**		**06 34 49.1**	**+1.2**
	baz=51							
KBK	**Karagaybulak**	**2.91**	**348**	P	**Pn**		**06 34 14.2**	**+2.0**
	SNR=30							
AAK	**Ala-Archa**	**2.98**	**342**	Pn	**Pn**		**06 34 15.3**	**+2.1**
	27nm,0.3s,baz=146,slow=8.2,SNR=97							
AAK				Sn	**Sn**		**06 34 53.0**	**+3.3**
	18nm,0.3s,baz=26,slow=18,SNR=13							
AAK	**Ala-Archa**	**2.98**	**342**	⇑*iP*	**Pn**		**06 34 12.8**	**-0.4**
	baz=45							
AAK				⇑*iS*	**Sn**		**06 34 50.4**	**+0.7**
	baz=45							
AAK	**Ala-Archa**	**2.98**	**342**	P	**Pn**		**06 34 15.0**	**+1.8**
	SNR=77							
AAK	**Ala-Archa**	**2.98**	**342**	⇓Pn	**Pn**		**06 34 13.5**	**+0.2**
	100nm,0.5s							
AAK				Lg	Lg		06 34 58.7	
	301nm,0.8s							
TKM2	**Tokmak 2**	**3.11**	**358**	⇑*eP*	**Pn**		**06 34 15.4**	**+0.4**
	baz=59							
TKM2				⇑*iS*	**Sn**		**06 34 55.2**	**+2.3**
	baz=59							
TKM2	**Tokmak 2**	**3.11**	**358**	P	**Pn**		**06 34 17.4**	**+2.4**
	SNR=21							
TKM2	**Tokmak 2**	**3.11**	**358**	⇑Pn	**Pn**		**06 34 16.8**	**+1.8**
	48nm,0.8s							
TKM2				⇑Lg	Lg		06 35 03.2	
	72nm,0.5s							
FRU1	**Bishkek**	**3.12**	**344**	⇓*iP*	**Pn**		**06 34 14.7**	**-0.3**
	baz=47							
FRU1				⇓*iS*	**Sn**		**06 34 53.7**	**+0.8**
	baz=47							
EKS2	**Erkin-Say**	**3.22**	**333**	⇓*eP*	**Pn**		**06 34 15.4**	**-1.1**
	baz=37							
EKS2				⇓*iS*	**Sn**		**06 34 54.6**	**-0.9**
	baz=37							
KST	**Kastek**	**3.23**	**2**	*eP*	**Pb**		**06 34 23.0**	**+0.1**
	33nm,0.6s							
KST				*eS*	**Sg**		**06 35 07.3**	**-1.2**
	92nm,0.5s							
KST	**Kastek**	**3.23**	**2**	Pg	**Pn**		**06 34 19.2**	**+2.6**
	41nm,0.7s							
KST				Lg	Lg		06 35 07.3	
	92nm,0.5s							
CHMS	**Chumysh**	**3.28**	**347**	⇑*iP*	**Pn**		**06 34 16.9**	**-0.2**
	baz=49							
CHMS				⇑*iS*	**Sn**		**06 34 57.9**	**+1.1**
	baz=49							
CHMS	**Chumysh**	**3.28**	**347**	P	**Pn**		**06 34 18.9**	**+1.8**
	SNR=31							
IZV	**Izvestkoviy**	**3.28**	**11**	*eP*	**Pb**		**06 34 25.4**	**+1.6**
	75nm,0.5s							
IZV				*eS*	**Sg**		**06 35 12.0**	**+1.9**
	131nm,0.6s							
IZV	**Izvestkoviy**	**3.28**	**11**	Pg	**Pb**		**06 34 22.0**	**-1.8**
	75nm,0.5s							
IZV				Lg	Lg		06 35 12.0	
	131nm,0.6s							
ANVS	**Anan'yevo**	**3.29**	**25**	⇓*iP*	**Pn**		**06 34 18.8**	**+1.3**
	baz=24							
ANVS				⇓*iS*	**Sb**		**06 35 00.4**	**-4.2**
	baz=24							
PRZ	**Przheval'sk**	**3.32**	**36**	⇑*iP*	**Pn**		**06 34 19.6**	**+1.7**
	baz=34							
PRZ				⇑*eS*	**Sb**		**06 35 02.0**	**-3.5**
	baz=34							
TNSS	**Tian-Shan**	**3.34**	**15**	*eP*	**Pb**		**06 34 26.1**	**+1.2**
	48nm,0.4s							
TNSS				*eS*	**Sg**		**06 35 12.9**	**+1.0**
	80nm,0.5s							
TNSS	**Tian-Shan**	**3.34**	**15**	Pg	**Pb**		**06 34 22.9**	**-2.0**
	48nm,0.4s							
TNSS				Lg	Lg		06 35 13.8	
	80nm,0.5s							
MTBS	**Maitube**	**3.35**	**8**	*eP*	**Pb**		**06 34 25.9**	**+1.0**
	28nm,0.5s							
MTBS				*eS*	**Sg**		**06 35 13.2**	**+0.9**
	58nm,0.4s							
MTBS	**Maitube**	**3.35**	**8**	Pg	**Pb**		**06 34 23.2**	**-1.7**
	28nm,0.5s							
MTBS				Lg	Lg		06 35 14.0	
	58nm,0.4s							
DGS	**Degeres**	**3.43**	**360**	*eP*	**Pb**		**06 34 27.0**	**+0.9**
	32nm,0.5s							
DGS				*eS*	**Sg**		**06 35 15.4**	**+0.7**
	69nm,0.8s							
DGS	**Degeres**	**3.43**	**360**	Pg	**Pb**		**06 34 26.2**	**0.0**
	32nm,0.5s							
DGS				Lg	Lg		06 35 19.4	
	69nm,0.8s							
MDOK	**Medeo**	**3.48**	**16**	*eP*	**Pb**		**06 34 28.0**	**+0.8**
	27nm,0.7s							
MDOK				*eS*	**Sg**		**06 35 16.4**	**-0.1**
	92nm,0.7s							
MDOK	**Medeo**	**3.48**	**16**	⇓Pg	**Pb**		**06 34 26.6**	**-0.5**
	47nm,0.7s							
MDOK				⇑Lg	Lg		06 35 16.0	
	89nm,0.6s							
MDOK	**Medeo**	**3.48**	**16**	Pg	**Pb**		**06 34 24.3**	**-2.8**
MDOK				Lg	Lg		06 35 16.0	
MRKS	**Merke**	**3.50**	**328**	*eP*	**Pb**		**06 34 28.2**	**+0.7**
	32nm,0.6s							
MRKS				*eS*	**Sg**		**06 35 16.6**	**-0.6**
	35nm,0.6s							
MRKS	**Merke**	**3.50**	**328**	Pg	**Pn**		**06 34 24.6**	**+4.3**
	32nm,0.6s							
MRKS				Lg	Lg		06 35 16.6	
	35nm,0.6s							
ARK	**Arkit**	**3.51**	**306**	⇑*iP*	**Pn**		**06 34 18.5**	**-1.9**
	baz=10.0							
ARK				⇑*iS*	**Sn**		**06 34 59.6**	**-3.0**
	baz=10.0							
KNDC	**Almaty**	**3.52**	**14**	⇑Pg	**Pb**		**06 34 27.9**	**+0.2**
	86nm,1.0s							
KNDC				⇓Lg	Lg		06 35 15.6	
	228nm,0.7s							
KOTS	**Kotyrbulak**	**3.56**	**16**	*eP*	**Pb**		**06 34 30.0**	**+1.5**
	72nm,0.7s							
KOTS				*eS*	**Sg**		**06 35 20.2**	**+1.1**
	365nm,0.5s							
KOTS	**Kotyrbulak**	**3.56**	**16**	Pg	**Pb**		**06 34 26.7**	**-1.8**
	72nm,0.7s							
KOTS				Lg	Lg		06 35 20.2	
	365nm,0.5s							
USP	**Ospenovka**	**3.58**	**345**	⇓*eP*	**Pn**		**06 34 21.3**	**0.0**
	baz=47							
USP				⇓*iS*	**Sn**		**06 35 04.9**	**+0.6**
	baz=47							
USP	**Ospenovka**	**3.58**	**345**	P	**Pn**		**06 34 23.5**	**+2.2**
	SNR=9.6							
SGDS	**Sogindy**	**3.74**	**347**	Pg	**Pb**		**06 34 29.1**	**-2.3**
	48nm,0.9s							
SGDS				Lg	Lg		06 35 24.5	
	54nm,0.7s							
SATY	**Saty**	**3.80**	**31**	*eP*	**Pb**		**06 34 33.7**	**+1.2**
	63nm,0.8s							
SATY				*eS*	**Sg**		**06 35 26.1**	**-0.5**
	117nm,1.1s							
SATY	**Saty**	**3.80**	**31**	Pg	**Pb**		**06 34 30.7**	**-1.9**
SATY				Lg	Lg		06 35 27.2	
ZHN	**Zhinishke**	**3.90**	**30**	*eP*	**Pb**		**06 34 35.8**	**+1.5**
	24nm,0.5s							
ZHN				*eS*	**Sg**		**06 35 30.7**	**+0.7**
	31nm,0.4s							
ZHN	**Zhinishke**	**3.90**	**30**	Pg	**Pb**		**06 34 33.2**	**-1.1**
	24nm,0.5s							
ZHN				Lg	Lg		06 35 31.2	
	31nm,0.4s							
KURS	**Kuram**	**4.09**	**25**	*eP*	**Pb**		**06 34 38.4**	**+0.9**
	38nm,1.0s							
KURS				*eS*	**Sg**		**06 35 34.8**	**-1.1**
	56nm,0.9s							
KURS	**Kuram**	**4.09**	**25**	Pg	**Pb**		**06 34 34.0**	**-3.4**
	19nm,1.1s							
KURS				Lg	Lg		06 35 33.0	
	56nm,0.9s							
KUU	**Kurty**	**4.10**	**6**	*eP*	**Pb**		**06 34 39.4**	**+1.8**
	25nm,0.8s							
KUU				*eS*	**Sg**		**06 35 36.4**	**+0.1**
	100nm,0.9s							
KUU	**Kurty**	**4.10**	**6**	Pg	**Pb**		**06 34 38.5**	**+0.9**
	25nm,0.8s							
KUU				Lg	Lg		06 35 40.2	
	100nm,0.9s							
UZB	**Uzynbulak**	**4.13**	**35**	*eP*	**Pb**		**06 34 39.0**	**+0.9**
	15nm,0.5s							
UZB				*eS*	**Sg**		**06 35 35.1**	**-2.1**
	65nm,1.1s							
UZB	**Uzynbulak**	**4.13**	**35**	Pg	**Pb**		**06 34 35.9**	**-2.3**
	13nm,0.7s							
UZB				Lg	Lg		06 35 36.2	
	65nm,1.1s							
KPKS	**Kokpek**	**4.25**	**30**	*eP*	**Pb**		**06 34 41.4**	**+1.2**
	36nm,0.5s							
KPKS				*eS*	**Sg**		**06 35 39.3**	**-1.9**
	155nm,0.6s							
SHLS	**Shalkode**	**4.34**	**38**	*eP*	**Pg**		**06 34 46.9**	**-0.8**
	36nm,0.7s							
SHLS				*eS*	**Sg**		**06 35 49.2**	**+5.2**
	88nm,1.1s							
SHLS	**Shalkode**	**4.34**	**38**	Pg	**Pb**		**06 34 41.3**	**-0.4**
	36nm,0.7s							
SHLS				Lg	Lg		06 35 45.4	
	88nm,1.1s							
PDGK	**Podgornoye**	**4.48**	**37**	Pg	**Pb**		**06 34 40.0**	**-4.2**
	6.8nm,0.4s							
PDGK				Lg	Lg		06 35 43.4	
	39nm,0.6s							
PDGK	**Podgornoye**	**4.48**	**37**	⇓Pn	**Pn**		**06 34 32.0**	**-1.8**
	31nm,1.0s							
PDGK				⇓Lg	Lg		06 35 46.8	
	85nm,1.0s							
KK31	**Karatay Array**	**5.14**	**311**	⇓Pn	**Pn**		**06 34 40.7**	**-2.1**
	0.5nm,0.3s,baz=130,slow=12,SNR=9.7							
KK31				⇑Pg	Pb		**06 34 58.5**	**+3.2**
	7.1nm,0.7s,baz=125,slow=17,SNR=12							
KK31				⇑Lg	Lg		06 36 07.8	
	11nm,0.7s,baz=123,slow=29,SNR=3.5							
BRLS	**Boroldav**	**5.50**	**308**	*eP*	**Pb**		**06 35 04.2**	**+2.7**
	0.7nm,0.2s							
BRLS				*eS*	**Sg**		**06 36 18.1**	**-3.2**
	1.6nm,0.7s							
MK31	**Makanchi Array**	**8.44**	**32**	⇑Pn	**Pn**		**06 35 27.5**	**-0.5**
	1.3nm,0.6s,baz=205,slow=14,SNR=6.5							
MK31				⇑Lg	Lg		06 37 52.7	
	8.8nm,1.2s							
MKAR	**Makanchi Array**	**8.44**	**32**	Pn	**Pn**		**06 35 30.3**	**+2.3**
	0.2nm,0.3s,baz=201,slow=14,SNR=4.6							
WMQ	**Urumqi**	**9.76**	**62**	*eP*	**Pn**		**06 35 49.8**	**+3.7**
ZALV	**Zalesovo Beam**	**15.41**	**20**	Pn	**Pn**		**06 37 04.5**	**+1.4**
	0.2nm,0.3s,baz=213,slow=13,SNR=2.8							
PSI	**Prapat**	**42.41**	**144**	LR	LR		06 59 56.8	
	comp=Z,51nm,19.9s,baz=140,slow=38							
TORD	**Torodi Ar. Bea**	**69.52**	**270**	P	P		06 44 28.5	-6.7
	0.2nm,0.6s,baz=48,slow=5.0,SNR=4.9							
YKA	**Yellowknife Ar**	**77.70**	**5**	P	P		06 45 16.5	-6.0
	0.1nm,0.5s,baz=348,slow=5.5,SNR=3.0							
WRA	**Warramunga Arr**	**80.69**	**126**	P	P		06 45 29.9	-10
	0.4nm,0.9s,baz=305,slow=6.4,SNR=3.2							
ASAR	**Alice Springs**	**83.20**	**128**	P	P		06 45 43.7	-8.9
	0.2nm,0.7s,baz=316,slow=5.0,SNR=3.2							

DJA 14 06:33:41.0±2.0,11°S±19°×117°E±°,h10km,M4.4/8,
mb4.6/3,mB5.0/1,MLv4.3/8,Mw(mB)4.3/1,South of
Sumbawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.57**	**7**	P		Pn	06 34 22.0	-0.8
PLAI				S		Sn	06 34 49.7	-4.4
TWSI	**Taliwang, Sumb**	**2.71**	**347**	P		Pn	06 34 24.3	-0.4

	baz=53								
KZA	**Kyzart**	**2.31**	**355**		P		**Pb**	**06 46 52.6**	**-1.3**
	SNR=7.8								
ARSB	**Arslanbob**	**2.49**	**309**	⇑	*iP*		**Pb**	**06 46 54.9**	**-1.8**
	baz=10.0								
ARSB				⇑	*iS*		**Sb**	**06 47 28.2**	**+0.8**
	baz=10.0								
ULHL	**Ulahol**	**2.53**	**12**	⇑	*eP*		**Pn**	**06 46 54.8**	**+1.6**
	baz=10.0								
ULHL				⇑	*iS*		**Sb**	**06 47 28.4**	**-0.3**
	baz=10.0								
ULHL	**Ulahol**	**2.53**	**12**		P		**Pb**	**06 46 57.9**	**+0.5**
	SNR=18								
UCH	**Uchtor**	**2.57**	**343**	⇓	*eP*		**Pb**	**06 46 56.0**	**-2.3**
	baz=42								
UCH				⇓	*iS*		**Sb**	**06 47 30.9**	**+0.8**
	baz=42								
UCH	**Uchtor**	**2.57**	**343**		P		**Pb**	**06 46 56.5**	**-1.8**
	SNR=32								
TARG	**Taragay, Kyrgy**	**2.61**	**41**	⇑	*eP*		**Pn**	**06 46 55.5**	**+1.1**
	baz=38								
TARG				⇑	*iS*		**Sb**	**06 47 29.4**	**-1.7**
	baz=38								
KDJ	**Kajisay**	**2.66**	**27**	⇑	*iP*		**Pn**	**06 46 56.6**	**+1.6**
	baz=25								
KDJ				⇑	*iS*		**Sb**	**06 47 31.3**	**-1.3**
	baz=25								
BOOM	**Boomskoye usch**	**2.73**	**6**	⇓	*iP*		**Pb**	**06 46 58.0**	**-2.9**
	baz=5.0								
BOOM				⇓	*iS*		**Sb**	**06 47 33.2**	**-1.3**
	baz=5.0								
AML	**Almayashu**	**2.74**	**330**	⇑	*iP*		**Pb**	**06 46 58.6**	**-2.5**
	baz=30								
AML				⇑	*iS*		**Sb**	**06 47 35.2**	**+0.3**
	baz=30								
AML	**Almayashu**	**2.74**	**330**		P		**Pg**	**06 47 03.2**	**-1.1**
	SNR=14								
KBK	**Karagaybulak**	**2.91**	**351**		P		**Pb**	**06 47 01.6**	**-2.4**
	SNR=7.5								
AAK	**Ala-Archa**	**2.97**	**345**	⇓	*iP*		**Pb**	**06 47 01.8**	**-3.1**
	baz=44								
AAK				⇓	*iS*		**Sb**	**06 47 39.6**	**-1.7**
	baz=44								
AAK	**Ala-Archa**	**2.97**	**345**		P		**Pb**	**06 47 02.1**	**-2.8**
	SNR=24								
AAK	**Ala-Archa**	**2.97**	**345**	⇑	Pn		**Pb**	**06 47 02.2**	**-2.7**
	14nm,0.4s								
AAK				⇓	Lg		Lg	06 47 45.7	
	50nm,1.2s								
TKM2	**Tokmak 2**	**3.14**	**1**		P		**Pb**	**06 47 04.7**	**-3.3**
	SNR=5.6								
TKM2	**Tokmak 2**	**3.14**	**1**	⇑	Pn		**Pb**	**06 47 04.4**	**-3.5**
	6.6nm,0.7s								
TKM2				⇓	Lg		Lg	06 47 50.7	
	14nm,0.6s								
KST	**Kastek**	**3.28**	**5**		*eP*		**Pb**	**06 47 09.6**	**-0.7**
	5.0nm,0.6s								
KST					*eS*		**Sg**	**06 47 56.1**	**-1.1**
	18nm,0.4s								
KST	**Kastek**	**3.28**	**5**		Pg		**Pb**	**06 47 10.2**	**0.0**
	8.2nm,0.5s								
KST					Lg		Lg	06 47 57.2	
	18nm,0.4s								
IZV	**Izvestkoviy**	**3.36**	**14**		*eP*		**Pb**	**06 47 12.4**	**+0.8**
	8.7nm,0.4s								
IZV					*eS*		**Sg**	**06 48 01.1**	**+1.4**
	19nm,0.6s								
IZV	**Izvestkoviy**	**3.36**	**14**		Pg		**Pb**	**06 47 12.4**	**+0.8**
	8.7nm,0.4s								
IZV					Lg		Lg	06 48 01.1	
	19nm,0.6s								
ANVS	**Anan'yevo**	**3.41**	**27**	⇑	*iP*		**Pn**	**06 47 06.6**	**+1.3**
	baz=25								
ANVS				⇑	*iS*		**Sn**	**06 47 48.7**	**+2.9**
	baz=25								
MTBS	**Maitube**	**3.42**	**11**		*eP*		**Pb**	**06 47 12.9**	**+0.3**
	3.7nm,0.2s								
MTBS				⇑	*iS*		**Sg**	**06 48 01.8**	**+0.2**
	8.9nm,0.3s								
MTBS	**Maitube**	**3.42**	**11**		Pg		**Pb**	**06 47 12.9**	**+0.3**
	3.7nm,0.2s								
MTBS					Lg		Lg	06 48 01.8	
	8.9nm,0.3s								
TNSS	**Tian-Shan**	**3.43**	**18**		*eP*		**Pb**	**06 47 12.4**	**-0.6**
	7.4nm,0.5s								
TNSS					*eS*		**Sg**	**06 48 01.1**	**-0.9**
	10nm,0.5s								
TNSS	**Tian-Shan**	**3.43**	**18**		Pg		**Pb**	**06 47 12.4**	**-0.6**
	7.4nm,0.5s								
TNSS					Lg		Lg	06 48 01.1	
	10nm,0.5s								
MRKS	**Merke**	**3.44**	**330**		*eP*		**Pb**	**06 47 14.6**	**+1.6**
	4.9nm,0.6s								
MRKS					*eS*		**Sg**	**06 48 04.6**	**+2.2**
	4.5nm,0.4s								
MRKS	**Merke**	**3.44**	**330**		Pg		**Pb**	**06 47 14.6**	**+1.6**
	4.9nm,0.6s								
MRKS					Lg		Lg	06 48 04.6	
	4.5nm,0.4s								
DGS	**Degeres**	**3.47**	**3**		*eP*		**Pb**	**06 47 13.9**	**+0.4**
	5.4nm,0.6s								
DGS					*eS*		**Sg**	**06 48 03.2**	**-0.1**
	17nm,0.5s								
DGS	**Degeres**	**3.47**	**3**		Pg		**Pb**	**06 47 13.9**	**+0.4**
	5.4nm,0.6s								
DGS					Lg		Lg	06 48 03.2	
	17nm,0.5s								
MDOK	**Medeo**	**3.57**	**18**		*eP*		**Pb**	**06 47 14.4**	**-0.8**
	3.5nm,0.4s								
MDOK					*eS*		**Sg**	**06 48 04.3**	**-2.3**
	15nm,0.6s								
MDOK	**Medeo**	**3.57**	**18**		Pg		**Pb**	**06 47 17.2**	**+2.0**
	3.3nm,0.4s								
MDOK					Lg		Lg	06 48 02.5	
	19nm,0.9s								
MDOK	**Medeo**	**3.57**	**18**		Pg		**Pb**	**06 47 14.4**	**-0.8**
	3.5nm,0.4s								
MDOK					Lg		Lg	06 48 04.3	
	15nm,0.6s								
USP	**Ospenovka**	**3.58**	**348**		P		**Pn**	**06 47 10.2**	**+2.8**
	SNR=15								
KOTS	**Kotyrbulak**	**3.65**	**18**		*eP*		**Pb**	**06 47 16.3**	**-0.3**
	13nm,0.5s								
KOTS					*eS*		**Sg**	**06 48 07.5**	**-1.7**
	41nm,0.6s								
KOTS	**Kotyrbulak**	**3.65**	**18**		Pg		**Pb**	**06 47 16.3**	**-0.3**
	13nm,0.5s								
KOTS					Lg		Lg	06 48 07.5	
	41nm,0.6s								
SGDS	**Sogindy**	**3.74**	**350**		Pg		**Pb**	**06 47 19.4**	**+1.4**
	9.0nm,0.4s								
SGDS					Lg		Lg	06 48 13.2	
	9.5nm,0.7s								
SATY	**Saty**	**3.93**	**32**		*eP*		**Pb**	**06 47 20.4**	**-0.9**
	7.2nm,0.4s								
SATY					*eS*		**Sg**	**06 48 14.7**	**-3.3**
	9.3nm,0.5s								
SATY	**Saty**	**3.93**	**32**		Pg		**Pb**	**06 47 20.4**	**-0.9**
	7.2nm,0.4s								
SATY					Lg		Lg	06 48 14.7	
	9.3nm,0.5s								
KTBS	**Karatobe**	**4.03**	**12**		*eP*		**Pb**	**06 47 23.5**	**+0.6**
KTBS					*eS*		**Sg**	**06 48 20.0**	**-1.2**
KTBS	**Karatobe**	**4.03**	**12**		Pg		**Pb**	**06 47 23.5**	**+0.6**
KTBS					Lg		Lg	06 48 20.0	
KUU	**Kurty**	**4.16**	**8**		*eP*		**Pb**	**06 47 25.8**	**+0.7**
	3.6nm,0.5s								
KUU					*eS*		**Sg**	**06 48 24.3**	**-1.1**
	13nm,0.7s								
KUU	**Kurty**	**4.16**	**8**		Pg		**Pb**	**06 47 25.8**	**+0.7**
	3.6nm,0.5s								
KUU					Lg		Lg	06 48 24.3	
	13nm,0.7s								
UZB	**Uzynbulak**	**4.27**	**37**		*eP*		**Pb**	**06 47 25.5**	**-1.6**
	2.6nm,0.5s								
UZB					*eS*		**Sb**	**06 48 23.6**	**+4.9**
	7.8nm,1.2s								
UZB	**Uzynbulak**	**4.27**	**37**		Pg		**Pb**	**06 47 25.5**	**-1.6**
	2.6nm,0.5s								
UZB					Lg		Lg	06 48 23.6	
	7.8nm,1.2s								
KPKS	**Kokpek**	**4.38**	**32**		*eP*		**Pb**	**06 47 26.1**	**-2.9**
	3.4nm,0.3s								
KPKS					*eS*		**Sb**	**06 48 24.4**	**+2.6**
	22nm,0.6s								
SHLS	**Shalkode**	**4.49**	**40**		*eP*		**Pg**	**06 47 35.1**	**-2.7**
	4.0nm,0.3s								
SHLS					*eS*		**Sg**	**06 48 39.8**	**+3.9**
	10nm,0.8s								
SHLS	**Shalkode**	**4.49**	**40**		Pg		**Pg**	**06 47 35.1**	**-2.7**
	4.0nm,0.3s								
SHLS					Lg		Lg	06 48 39.8	
	10nm,0.8s								
PDGK	**Podgornoye**	**4.63**	**39**		Pg		**Pb**	**06 47 32.2**	**-1.0**
	1.4nm,0.3s								
PDGK					Lg		Lg	06 48 35.2	
	2.9nm,0.9s								
PDGK	**Podgornoye**	**4.63**	**39**	⇑	Pg		**Pb**	**06 47 35.1**	**+1.9**
	2.3nm,0.6s								
PDGK				⇓	Lg		Lg	06 48 37.0	
	8.3nm,0.8s								
KK31	**Karatay Array**	**5.03**	**313**		Pg		**Pg**	**06 47 45.7**	**-2.5**
	1.4nm,0.8s,baz=129,slow=18,SNR=4.6								
KK31				⇓	Lg		Lg	06 48 54.3	
	2.2nm,0.7s,baz=315,slow=38,SNR=3.8								

*ISCJB **14** 07:06:50.5±0.5,42°.89N±0°.03×77°.27E±0°.04,h1km±9km, Error ellipse: s-maj=5.5km s-min=4.0km az=36.9*
*KRNET **14** 07:06:50.8±0.1,42°.90N×77°.27E,h10km,mb1.9*
*NNC **14** 07:06:50.6±0.4,42°.91N×77°.30E,h0km,mpv2.6,Error ellipse: s-maj=3.5km s-min=1.3km az=17.0*
*SOME **14** 07:06:51.2,42°.92N×77°.27E,h5km*

ISC 14 07:06:50.8±1.2,42°.90N±0°.03×77°.27E±0°.03,h9km±17km, n16,σ0s22/31,8C-2D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**0.27**	**301**		*eP*		**Pg**	**07 06 56.4**	**0.0**
	7.7nm,0.0s								
TNSS					*eS*		**Sg**	**07 07 00.3**	**+0.1**
	7.3nm,0.1s								
TNSS	**Tian-Shan**	**0.27**	**301**		*eP*		**Pg**	**07 06 56.4**	**0.0**
	baz=1.0								
TNSS					*eS*		**Sg**	**07 07 00.2**	**+0.1**
	baz=1.0								
TNSS	**Tian-Shan**	**0.27**	**301**		P		**Pg**	**07 06 56.4**	**0.0**
	7.7nm,0.0s								
TNSS					S		**Sg**	**07 07 00.3**	**+0.1**
	7.3nm,0.1s								
MDOK	**Medeo**	**0.31**	**329**		*eP*		**Pg**	**07 06 56.8**	**-0.2**
	3.0nm,0.1s								
MDOK					*eS*		**Sg**	**07 07 00.8**	**-0.3**
	8.5nm,0.3s								
MDOK	**Medeo**	**0.31**	**329**		*eP*		**Pg**	**07 06 56.8**	**-0.2**
	baz=29								
MDOK					*eS*		**Sg**	**07 07 00.9**	**-0.3**
	baz=29								
MDOK	**Medeo**	**0.31**	**329**		Pg		**Pg**	**07 06 56.8**	**-0.2**
	3.0nm,0.1s								
MDOK					Lg		Lg	07 07 00.8	
	8.5nm,0.3s								
ANVS	**Anan'yevo**	**0.31**	**111**	⇑	*iP*		**Pg**	**07 06 57.1**	**0.0**
	baz=10.0								
ANVS				⇑	*iS*		**Sg**	**07 07 01.7**	**+0.4**
	baz=10.0								
KOTS	**Kotyrbulak**	**0.35**	**341**		*eP*		**Pg**	**07 06 57.9**	**0.0**
	1.3nm,0.1s								
KOTS					*eS*		**Sg**	**07 07 02.7**	**+0.1**
	28nm,0.3s								
KOTS	**Kotyrbulak**	**0.35**	**341**		*eP*		**Pg**	**07 06 57.9**	**0.0**
	baz=41								
KOTS					*eS*		**Sg**	**07 07 02.7**	**+0.1**
	baz=41								
KOTS	**Kotyrbulak**	**0.35**	**341**		P		**Pg**	**07 06 57.9**	**0.0**
	1.3nm,0.1s								
KOTS					S		**Sg**	**07 07 02.7**	**+0.1**
	28nm,0.3s								
KDJ	**Kajisay**	**0.77**	**185**	⇑	*iP*		**Pg**	**07 07 05.3**	**-0.3**
	baz=84								
KDJ				⇑	*iS*		**Sg**	**07 07 15.9**	**+0.2**
	baz=84								
SATY	**Saty**	**0.85**	**79**		*eP*		**Pg**	**07 07 06.9**	**-0.2**
	1.8nm,0.2s								
SATY					*eS*		**Sg**	**07 07 18.2**	**0.0**
	3.7nm,0.1s								
SATY	**Saty**	**0.85**	**79**		P		**Pg**	**07 07 06.9**	**-0.2**
	1.8nm,0.2s								
SATY					S		**Sg**	**07 07 18.2**	**0.0**
	3.7nm,0.1s								
ULHL	**Ulahol**	**1.00**	**230**	⇓	*iP*		**Pg**	**07 07 10.0**	**0.0**
	baz=30								
ULHL				⇓	*iS*		**Sg**	**07 07 23.2**	**+0.2**
	baz=30								
BOOM	**Boomskoye usch**	**1.06**	**248**	⇑	*iP*		**Pg**	**07 07 10.7**	**-0.5**
	baz=48								
BOOM				⇑	*iS*		**Sb**	**07 07 25.9**	**+0.4**
	baz=48								
TARG	**Taragay, Kyrgy**	**1.23**	**161**	⇑	*iP*		**Pg**	**07 07 14.2**	**-0.3**
	baz=61								
TARG				⇑	*iS*		**Sg**	**07 07 30.4**	**-0.1**
	baz=61								

*IDC **14** 07:28:39.8±0.7,15°.78N×146°.30E,h0km,mb3.9/12, mb1 4.1/13,mb1mx3.8/59,mbtmp3.9/13,ML4.1/1,MS3.1/3, Ms1 3.1/3,ms1mx2.6/34,Error ellipse: s-maj=25.5km s-min=14.7km az=96.0*
*NEIC **14** 07:28:50±2.5,15°.59N±0°.05×146°.2E±0°.1,h75km±6km, mb4.6/15*

ISC 14 07:28:45.7±0.6,15°.57N±0°.06×146°.5E±0°.1,h35km,n41, σ1s59/37,mb4.3/19,MS2.9/3,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**1.05**	**317**				Pn	07 29 07.3	+3.3
ANA2							**Sn**	**07 29 20.7**	**+3.2**
SARN	**Sarigan**	**1.30**	**330**				Pn	07 29 09.9	+2.5
SARN						Sn	**Sn**	**07 29 26.3**	**+2.6**
GUMO	**Guam**	**2.50**	**218**			Pn	**Pn**	**07 29 24.8**	**+0.9**
	37nm,0.3s,baz=118,slow=4.2,SNR=12								
GUMO						Sn	**Sn**	**07 29 52.8**	**-0.5**
	94nm,0.3s,baz=330,slow=8.1,SNR=16								
GUMO	**Guam**	**2.50**	**218**				**Pn**	**07 29 25.3**	**+1.4**
GUMO						Sn	**Sn**	**07 29 53.2**	**-0.1**
H11S3	**WAKE ISLAND Hy**	**19.55**	**79**		T		T	07 53 57.3	
	baz=266,slow=74								
H11S1	**WAKE ISLAND Hy**	**19.57**	**79**		T		T	07 54 04.3	
	baz=266								
H11S2	**WAKE ISLAND Hy**	**19.57**	**79**		T		T	07 54 02.0	
	baz=266,slow=74								
H11N1	**WAKE ISLAND Hy**	**19.89**	**75**		T		T	07 54 27.3	
	baz=263,slow=74,SNR=10								
H11N2	**WAKE ISLAND Hy**	**19.90**	**75**		T		T	07 54 28.7	
	baz=263,slow=74,SNR=14								
H11N3	**WAKE ISLAND Hy**	**19.91**	**75**		T		T	07 54 29.4	
	baz=263,slow=74,SNR=16								
KRVT	**Keravat (AS076**	**20.50**	**164**		LR		LR	07 39 43.1	
	comp=Z,49nm,21.5s,baz=341,slow=32								
PMG	**Port Moresby**	**24.83**	**178**		P		**P**	**07 34 05.3**	**+0.5**
	8.5nm,0.5s,baz=310,slow=14,SNR=3.6								
PMG	**Port Moresby**	**24.83**	**178**		P		**P**	**07 34 04.9**	**+0.1**
PMG					IAmb		IAmb	07 34 06.6	
	comp=Z,13nm,0.9s								
BATI	**Baumata**	**34.15**	**223**		LR		LR	07 49 48.0	
	comp=Z,58nm,18.5s,baz=280,slow=37								
WRAB	**Tennant Creek**	**37.24**	**199**		P		**P**	**07 35 55.9**	**+1.8**
WRAB					IAmb		IAmb	07 35 58.3	
	comp=Z,7.9nm,0.5s								
WB2	**Warramunga Arr**	**37.25**	**199**				**P**	**07 35 54.2**	**0.0**
WRA	**Warramunga Arr**	**37.25**	**199**		P		**P**	**07 35 53.5**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=24,slow=9.5,SNR=16								
WRA					PcP		**PcP**	**07 38 13.5**	**0.0**
	comp=Z,0.4nm,0.8s,baz=15,slow=3.4,SNR=6.8								
FITZ	**Fitzroy Crossi**	**39.25**	**212**		P		**P**	**07 36 11.6**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=2.3,slow=8.3,SNR=2.8								
FITZ	**Fitzroy Crossi**	**39.25**	**212**		P		**P**	**07 36 11.6**	**+0.5**
FITZ					IAmb		IAmb	07 36 31.0	
	comp=Z,6.4nm,1.4s								
ASAR	**Alice Springs**	**40.88**	**198**		P		**P**	**07 36 24.4**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=18,slow=12,SNR=12								
ASAR					PcP		**PcP**	**07 38 26.1**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=26,slow=2.9,SNR=3.7								
ASAR					LR		LR	07 57 08.5	
	comp=Z,16nm,18.1s,baz=177,slow=42								
CMAR	**Chiang Mai Arr**	**45.44**	**281**		P		**P**	**07 36 59.8**	**-1.8**
	comp=Z,1.0nm,0.4s,baz=85,slow=6.3,SNR=7.1								
STKA	**Stephens Creek**	**47.41**	**186**		P		**P**	**07 37 18.1**	**+1.3**
BBOO	**Buckleboo**	**49.13**	**192**		P		**P**	**07 37 31.9**	**+1.9**
BBOO					IAmb		IAmb	07 37 33.0	
	comp=Z,17nm,1.5s								
FORT	**Forrest**	**49.37**	**201**				**P**	**07 37 32.7**	**+0.9**
FORT					IAmb		IAmb	07 37 40.7	
	comp=Z,13nm,0.9s								
ZALV	**Zalesovo Beam**	**60.94**	**323**		P		**P**	**07 38 52.2**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=115,slow=6.5,SNR=2.7								
MK31	**Makanchi Array**	**61.16**	**315**		P		**P**	**07 38 55.4**	**-1.4**
MK31					IAmb		IAmb	07 39 07.1	
	comp=Z,2.9nm,1.1s								
MKAR	**Makanchi Array**	**61.16**	**315**		P		**P**	**07 38 55.0**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=90,slow=8.7,SNR=8.0								
SNZO	**South Karori**	**62.34**	**156**				**P**	**07 39 05.7**	**+1.1**
KURK	**Kurchatov**	**64.09**	**319**		P		**P**	**07 39 14.1**	**-2.1**
KURK					IAmb		IAmb	07 39 14.5	
	comp=Z,2.8nm,0.7s								
KURBB	**Kurchatov Arra**	**64.14**	**319**		P		**P**	**07 39 14.4**	**-2.1**
	comp=Z,4.7nm,0.7s,baz=98,slow=6.9,SNR=6.8								
DHY	**Denali Highway**	**65.49**	**27**		P		**P**	**07 39 27.2**	**+1.9**
DHY					IAmb		IAmb	07 39 32.0	
	comp=Z,5.3nm,0.9s								
ILAR	**Eielson Array**	**66.12**	**25**		P		**P**	**07 39 28.4**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=249,slow=6.0,SNR=11								
MCARA	**McCarthy VSAT**	**67.13**	**30**		P		**P**	**07 39 35.5**	**-0.2**
BALM	**Baldy**	**67.40**	**30**		P		**P**	**07 39 38.8**	**+1.3**
BALM					IAmb		IAmb	07 39 39.5	
	comp=Z,24nm,1.4s								
CTGM	**Chitina Glacie**	**67.88**	**30**		P		**P**	**07 39 40.8**	**+0.2**
BVAR	**Borovoye Array**	**69.35**	**321**		P		**P**	**07 39 46.7**	**-3.0**
	comp=Z,1.7nm,0.5s,baz=93,slow=8.4,SNR=10								
ABKAR	**Akbulak array**	**76.12**	**318**		P		**P**	**07 40 27.6**	**-2.4**
YKA	**Yellowknife Ar**	**80.40**	**28**		P		**P**	**07 40 51.5**	**-1.9**
	comp=Z,0.2nm,0.5s,baz=287,slow=5.5,SNR=3.4								
NVAR	**Mina Array Bea**	**84.48**	**52**		P		**P**	**07 41 15.5**	**0.0**
	comp=Z,0.2nm,0.6s,baz=289,slow=5.5,SNR=3.2								
SNAA	**Sanae**	**121.02**	**191**		PKPdf		**PKiKP**	**07 47 35.2**	**+1.1**
LPAZ	**La Paz**	**146.75**	**96**		PKPbc		**PKPbc**	**07 48 26.5**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=27,slow=2.3,SNR=3.5								

*AEIC **14** 07:34:49±2.4,59°.35N±0°.02×136°.36W±0°.05,h4km±5km, ML2.1,ML2.5(OTT)*
*NEIC **14** 07:34:49.2±2.4,59°.37N±0°.03×136°.41W±0°.05,h1km±4km*
*PGC **14** 07:34:49.7,59°.42N×136°.30W,h15km,ML2.5/9,70km Wnw of Haines, Ak Southeastern Alaska*

ISC 14 07:34:48.9±0.9,59°.50N±0°.03×136°.19W±0°.03,h15km±6km, n35,σ1s38/52,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.10**	**246**			P	**Pg**	**07 34 52.3**	**+0.1**
PLBC						S	**Sg**	**07 34 53.9**	**-0.4**
SKAG	**Skagway**	**0.44**	**94**				**Pb**	**07 34 59.0**	**+0.7**
DHAK	**Deception Hill**	**1.11**	**249**				**Pg**	**07 35 09.2**	**-1.2**
DHAK							**Sn**	**07 35 25.2**	**+0.2**
BESE	**Bessie Mountai**	**1.15**	**142**		P		**Pb**	**07 35 10.5**	**0.0**
BESE					S		**Sg**	**07 35 25.3**	**-0.8**
BESE	**Bessie Mountai**	**1.15**	**142**				**Pb**	**07 35 10.6**	**0.0**
BESE							**Sb**	**07 35 25.7**	**+0.4**
YUK7	**Dusty Glacier**	**1.43**	**318**		Pn		**Pg**	**07 35 15.6**	**-0.7**
YUK7					Sg		**Sg**	**07 35 34.7**	**-0.3**
YUK7	**Dusty Glacier**	**1.43**	**318**		Pn		**Pg**	**07 35 15.6**	**-0.7**
YUK7					Sg		**Sg**	**07 35 34.7**	**-0.3**
HYT	**Haines Junctio**	**1.49**	**334**		Pn		**Pb**	**07 35 16.4**	**+0.1**
HYT					Sg		**Sg**	**07 35 38.0**	**+1.1**
HYT	**Haines Junctio**	**1.49**	**334**		Pn		**Pb**	**07 35 16.4**	**+0.1**
HYT					Sg		**Sg**	**07 35 38.0**	**+1.1**
JIS	**Juneau Island**	**1.54**	**142**		Pn		**Pg**	**07 35 17.5**	**-1.1**
PNL	**Peninsula**	**1.64**	**277**		Pn		**Pb**	**07 35 18.3**	**-0.5**
PNL					Sg		**Sn**	**07 35 38.0**	**0.0**
PNL	**Peninsula**	**1.64**	**277**		Pn		**Pb**	**07 35 18.3**	**-0.5**
PNL							**Sn**	**07 35 38.0**	**0.0**
BCPM	**Bancas Point**	**1.80**	**286**				**Pb**	**07 35 21.2**	**-0.4**
YUK6	**Outpost Mounta**	**1.81**	**324**		Pn		**Pb**	**07 35 21.9**	**0.0**
YUK6					Sg		**Sg**	**07 35 45.8**	**-1.4**
YUK6	**Outpost Mounta**	**1.81**	**324**		Pn		**Pb**	**07 35 21.9**	**0.0**
YUK6							**Sg**	**07 35 45.8**	**-1.4**
YUK5	**Granite Creek**	**1.84**	**334**		Pn		**Pb**	**07 35 22.7**	**+0.4**
YUK5					Sg		**Sg**	**07 35 47.7**	**-0.4**
YUK5	**Granite Creek**	**1.84**	**334**		Pn		**Pb**	**07 35 22.7**	**+0.4**
YUK5							**Sg**	**07 35 47.7**	**-0.4**
YUK4	**Talbot Arm**	**2.22**	**328**		Pn		**Pb**	**07 35 28.7**	**-0.1**
YUK4					Sg		**Sg**	**07 36 01.4**	**+1.2**
YUK4	**Talbot Arm**	**2.22**	**328**		Pn		**Pb**	**07 35 28.7**	**-0.1**
YUK4					Sg		**Sg**	**07 36 01.4**	**+1.2**
CTGM	**Chitina Glacie**	**2.96**	**302**		Pg		**Pb**	**07 35 41.3**	**0.0**
CTGM					Sg		**Sb**	**07 36 17.9**	**+0.6**
CTGM	**Chitina Glacie**	**2.96**	**302**		Pg		**Pb**	**07 35 42.6**	**+1.3**
YUK3	**Moose Creek**	**3.11**	**319**		Pn		**Pn**	**07 35 39.3**	**+1.8**
YUK3	**Moose Creek**	**3.11**	**319**		Pn		**Pn**	**07 35 39.3**	**+1.8**
BARN	**Barnard Glacie**	**3.14**	**302**				**Pg**	**07 35 46.5**	**-2.6**
YUK2	**White River**	**3.24**	**317**		Pn		**Pn**	**07 35 41.9**	**+2.6**
YUK2	**White River**	**3.24**	**317**		Pn		**Pn**	**07 35 41.9**	**+2.6**
DLBC	**Dease Lake**	**3.37**	**106**		Sg		**Sg**	**07 36 35.4**	**-1.6**

baz=4.0
BOOM ⇑*i*S **Sn** **07 48 31.4 +2.5**
baz=4.0
KBK **Karagaybulak** **3.12 352** ⇓*i*P **Pn** **07 47 59.0 +3.0**
baz=51
KBK ⇓*i*S **Sn** **07 48 36.7 +3.2**
baz=51
KBK **Karagaybulak** **3.12 352** P **Pn** **07 47 59.1 +3.0**
SNR=73
AAK **Ala-Archa** **3.18 346** Pn **Pb** **07 48 00.5 -2.6**
33nm,0.3s,baz=144,slow=14,SNR=555
AAK Sn **Sn** **07 48 38.8 +4.1**
13nm,0.3s,baz=326,slow=19,SNR=13
AAK **Ala-Archa** **3.18 346** ⇓*i*P **Pn** **07 47 59.5 +2.8**
baz=45
AAK ⇓*i*S **Sn** **07 48 37.4 +2.7**
baz=45
AAK **Ala-Archa** **3.18 346** P **Pb** **07 48 00.1 -3.1**
SNR=218
AAK **Ala-Archa** **3.18 346** ⇓Pn **Pn** **07 47 58.6 +1.9**
135nm,0.5s
AAK ⇑Sn **Sn** **07 48 36.2 +1.5**
359nm,0.9s
TKM2 **Tokmak 2** **3.35 0** P **Pn** **07 48 02.2 +3.0**
SNR=35
TKM2 **Tokmak 2** **3.35 0** ⇓Pn **Pn** **07 48 01.6 +2.4**
84nm,1.2s
TKM2 ⇑Lg Lg 07 48 50.4
68nm,0.6s
EKS2 **Erkin-Say** **3.38 337** P **Pn** **07 48 02.6 +3.2**
SNR=15
CHMS **Chumysh** **3.49 350** P **Pn** **07 48 04.0 +3.1**
SNR=49
KST **Kastek** **3.49 5** *e*P **Pb** **07 48 07.5 -1.0**
42nm,0.5s
KST *e*S **Sg** **07 48 55.9 -2.7**
99nm,0.8s
KST **Kastek** **3.49 5** Pg **Pb** **07 48 07.5 -1.0**
42nm,0.5s
KST Lg Lg 07 48 55.9
126nm,0.9s
ARK **Arkit** **3.53 310** ⇑*i*P **Pn** **07 48 04.0 +2.5**
baz=10.0
ARK ⇑*i*S **Sn** **07 48 46.7 +3.3**
baz=10.0
IZV **Izvestkoviy** **3.56 13** *e*P **Pb** **07 48 07.7 -2.0**
IZV *e*S **Sb** **07 48 56.3 +3.3**
IZV **Izvestkoviy** **3.56 13** Pg **Pb** **07 48 07.7 -2.0**
IZV Pg **Pg** **07 48 10.5 -4.2**
91nm,0.4s
IZV Lg Lg 07 48 56.3
IZV Lg Lg 07 48 57.8
126nm,0.5s
ANVS **Anan'yevo** **3.59 26** ⇑*e*P **Pn** **07 48 04.0 +1.6**
baz=24
ANVS ⇑*e*S **Sn** **07 48 46.5 +1.6**
baz=24
PRZ **Przheval'sk** **3.62 35** ⇑*i*P **Pn** **07 48 04.8 +1.9**
baz=34
PRZ ⇑*e*S **Sn** **07 48 47.9 +2.1**
baz=34
MTBS **Maitube** **3.62 10** *e*P **Pb** **07 48 10.0 -0.7**
MTBS *e*S **Sg** **07 48 59.5 -3.4**
MTBS **Maitube** **3.62 10** Pg **Pb** **07 48 10.0 -0.7**
MTBS Lg Lg 07 48 59.5
TNSS **Tian-Shan** **3.62 16** *e*P **Pb** **07 48 08.9 -2.0**
52nm,0.4s
TNSS *e*S **Sb** **07 48 57.9 +2.8**
91nm,0.6s
TNSS **Tian-Shan** **3.62 16** Pg **Pb** **07 48 08.9 -2.0**
52nm,0.4s
TNSS Lg Lg 07 48 57.9
91nm,0.6s
TNSS **Tian-Shan** **3.62 16** Pg **Pb** **07 48 11.7 +0.8**
TNSS Lg Lg 07 48 59.3
MRKS **Merke** **3.63 332** *e*P **Pb** **07 48 10.6 -0.3**
38nm,0.6s
MRKS *e*S **Sg** **07 49 00.9 -2.3**
28nm,0.8s
MRKS **Merke** **3.63 332** Pg **Pn** **07 48 06.1 +3.1**
16nm,0.5s
MRKS Lg Lg 07 48 53.2
38nm,0.8s
DGS **Degeres** **3.68 2** *e*P **Pb** **07 48 10.5 -1.1**
44nm,0.6s
DGS *e*S **Sb** **07 49 00.7 +4.3**
97nm,0.7s
DGS **Degeres** **3.68 2** Pg **Pb** **07 48 10.7 -1.0**
44nm,0.6s
DGS Pg **Pg** **07 48 12.8 -4.2**
65nm,0.5s
DGS Lg Lg 07 49 00.7
97nm,0.7s
DGS Lg Lg 07 49 01.2
84nm,0.6s
MDOK **Medeo** **3.77 17** *e*P **Pb** **07 48 11.1 -2.1**
19nm,0.6s
MDOK *e*S **Sb** **07 49 01.9 +2.9**
88nm,0.9s
MDOK **Medeo** **3.77 17** ⇑Pn **Pn** **07 48 05.2 +0.4**
58nm,0.7s
MDOK ⇑Lg Lg 07 49 01.9
212nm,1.1s
MDOK **Medeo** **3.77 17** Pg **Pb** **07 48 11.1 -2.1**
19nm,0.6s
MDOK Lg Lg 07 49 01.9
88nm,0.9s
AAA **Alma-Ata** **3.78 15** *e*P **Pb** **07 48 12.4 -1.1**
24nm,0.3s
AAA *e*S **Sb** **07 49 03.5 +4.2**
55nm,0.3s
AAA **Alma-Ata** **3.78 15** Pg **Pb** **07 48 12.4 -1.1**
24nm,0.3s
AAA Lg Lg 07 49 03.5
55nm,0.3s
USP **Ospenovka** **3.79 348** P **Pn** **07 48 07.8 +2.9**
SNR=22
KNDC **Almaty** **3.80 16** ⇑Pg **Pb** **07 48 14.0 +0.3**
38nm,0.5s
KNDC ⇓Lg Lg 07 49 03.4
241nm,0.7s
KOTS **Kotyrbulak** **3.85 17** *e*P **Pb** **07 48 13.4 -1.2**
86nm,0.9s
KOTS *e*S **Sb** **07 49 05.7 +4.4**
288nm,0.9s
KOTS **Kotyrbulak** **3.85 17** Pg **Pb** **07 48 13.4 -1.2**
86nm,0.9s
KOTS Pg **Pg** **07 48 15.5 -4.8**
KOTS Lg Lg 07 49 05.7
288nm,0.9s
KOTS Lg Lg 07 49 05.8
SGDS **Sogindy** **3.95 350** Pg **Pb** **07 48 15.6 -0.7**
62nm,0.6s
SGDS Lg Lg 07 49 09.7
66nm,1.0s
SATY **Saty** **4.10 31** *e*P **Pb** **07 48 17.5 -1.3**
80nm,0.6s
SATY *e*S **Sb** **07 49 12.4 +3.9**
133nm,0.9s
SATY **Saty** **4.10 31** Pg **Pb** **07 48 17.5 -1.3**
80nm,0.6s
SATY Lg Lg 07 49 12.4
133nm,0.9s
ZHN **Zhinishke** **4.20 30** *e*P **Pb** **07 48 19.5 -1.1**
22nm,0.5s
ZHN *e*S **Sb** **07 49 15.8 +4.4**
28nm,0.5s
ZHN **Zhinishke** **4.20 30** Pg **Pb** **07 48 19.5 -1.1**
22nm,0.5s
ZHN Lg Lg 07 49 15.8
28nm,0.5s
KTBS **Karatobe** **4.23 11** *e*P **Pb** **07 48 20.0 -1.0**
38nm,0.7s
KTBS *e*S **Sb** **07 49 17.1 +5.0**
135nm,0.6s
KTBS **Karatobe** **4.23 11** Pg **Pb** **07 48 20.0 -1.0**
38nm,0.7s
KTBS Pg Pg 07 48 22.0 -5.6
37nm,0.6s
KTBS Lg Lg 07 49 17.0
135nm,0.5s
KTBS Lg Lg 07 49 17.1
135nm,0.6s
KUU **Kurty** **4.37 7** *e*P **Pb** **07 48 21.8 -1.5**
33nm,0.8s
KUU *e*S **Sb** **07 49 20.1 +4.1**
98nm,0.7s
KUU **Kurty** **4.37 7** Pg **Pb** **07 48 21.8 -1.5**
33nm,0.8s
KUU Lg Lg 07 49 20.1
98nm,0.7s
KURS **Kuram** **4.38 26** *e*P **Pb** **07 48 22.8 -0.8**
27nm,0.6s
KURS *e*S **Sb** **07 49 21.4 +4.8**
62nm,0.8s
KURS **Kuram** **4.38 26** Pg **Pb** **07 48 22.8 -0.8**
27nm,0.6s
KURS Lg Lg 07 49 21.4
62nm,0.8s
UZB **Uzynbulak** **4.43 35** *e*P **Pb** **07 48 21.9 -2.5**
18nm,0.4s
UZB *e*S **Sb** **07 49 20.0 +2.0**
72nm,0.9s
UZB **Uzynbulak** **4.43 35** Pg **Pb** **07 48 21.9 -2.5**
18nm,0.4s
UZB Lg Lg 07 49 20.0
72nm,0.9s
KPKS **Kokpek** **4.55 30** *e*P **Pb** **07 48 26.5 0.0**
60nm,0.6s
KPKS *e*S **Sg** **07 49 28.4 -4.2**
179nm,0.7s
SHLS **Shalkode** **4.64 38** *e*P **Pg** **07 48 33.5 -1.8**
54nm,0.8s
SHLS *e*S **Sg** **07 49 40.4 +5.0**
111nm,0.7s
SHLS **Shalkode** **4.64 38** Pg **Pg** **07 48 33.5 -1.8**
54nm,0.8s
SHLS Lg Lg 07 49 40.4
111nm,0.7s
PDGK **Podgornoye** **4.78 37** Pg **Pb** **07 48 29.3 -1.2**
12nm,0.5s
PDGK Lg Lg 07 49 33.1
41nm,0.8s
PDGK **Podgornoye** **4.78 37** ⇓Pn **Pn** **07 48 19.4 +0.7**
25nm,0.6s
PDGK ⇑Lg Lg 07 49 32.9
134nm,1.1s
IUG **Iuzhnay** **4.92 303** *e*P **Pb** **07 48 35.2 +2.4**
1.9nm,0.4s
IUG *e*S **Sg** **07 49 43.0 -1.6**
28nm,0.8s
KK31 **Karatay Array** **5.19 315** ⇑Pn **Pn** **07 48 26.2 +1.9**
1.5nm,0.6s,baz=120,slow=13,SNR=9.3
KK31 ⇓Pg **Pg** **07 48 42.0 -4.0**
9.1nm,0.8s,baz=124,slow=17,SNR=9.6
KK31 ⇓Lg Lg 07 49 52.7
4.8nm,0.5s,baz=127,slow=28,SNR=3.6
BRLS **Boroldaу** **5.53 311** *e*P **Pb** **07 48 47.0 +3.9**
0.5nm,0.4s
BRLS *e*S **Sg** **07 50 03.1 -0.9**
1.3nm,1.2s
BRLS **Boroldaу** **5.53 311** Pg **Pb** **07 48 47.9 +4.7**
0.4nm,0.3s
BRLS Lg Lg 07 50 05.0
18nm,1.3s
BTLS **Baital** **5.59 349** Pg **Pb** **07 48 45.4 +1.3**
28nm,0.3s
BTLS Lg Lg 07 50 00.9
18nm,0.9s
DJR **Jarkent** **5.71 32** *e*P **Pb** **07 48 50.0 +3.6**
7.1nm,0.5s
DJR *e*S **Sg** **07 50 08.2 -1.7**
25nm,1.1s
DJR **Jarkent** **5.71 32** Pg **Pb** **07 48 50.0 +3.6**
7.1nm,0.5s
DJR Lg Lg 07 50 08.2
25nm,1.1s
KAPS **Kapalarasan** **6.37 25** Pg Pb 07 49 01.9 +4.4
7.1nm,0.8s
KAPS Lg Lg 07 50 29.4
21nm,1.1s
MK31 **Makanchi Array** **8.74 32** ⇑Pn **Pn** **07 49 13.5 +0.6**
1.3nm,0.5s,baz=200,slow=14,SNR=9.6
MK31 ⇑Lg Lg 07 51 38.6
9.4nm,1.2s,baz=211,slow=29,SNR=3.5
MKAR **Makanchi Array** **8.74 32** Pn **Pn** **07 49 15.5 +2.6**
0.4nm,0.3s,baz=204,slow=14,SNR=7.5
MKAR Lg Lg 07 51 33.0
0.1nm,0.3s,baz=211,slow=28,SNR=3.1
WMQ **Urumqi** **10.02 61** *e*P **Pn** **07 49 33.8 +3.3**
KURBB **Kurchatov Arra** **11.26 10** Pn **Pn** **07 49 48.4 +1.1**
baz=194,slow=12,SNR=2.4
KURBB Lg Lg 07 52 58.2
baz=208,slow=26,SNR=4.5
BVAR **Borovoye Array** **13.93 347** Pn **Pn** **07 50 23.7 -0.1**
0.1nm,0.3s,baz=156,slow=14,SNR=2.9
BVAR Lg Lg 07 54 32.7
0.1nm,0.3s,baz=156,slow=25,SNR=5.2
ZALV **Zalesovo Beam** **15.70 21** Pn **Pn** **07 50 48.5 +0.8**
baz=195,slow=11,SNR=3.9
TORD **Torodi Ar. Bea** **69.35 270** P **P** **07 58 13.9 -0.7**
0.9nm,1.0s,baz=44,slow=5.0,SNR=3.5
YKA **Yellowknife Ar** **77.96 5** P **P** **07 59 03.5 -0.9**
0.2nm,0.5s,baz=347,slow=5.7,SNR=4.8
ASAR **Alice Springs** **83.18 128** P **P** **07 59 30.6 -2.3**
0.5nm,0.9s,baz=325,slow=5.4,SNR=5.3

*ISCJB **14** 08:14:15.0±0.3,36.95N±0.02×54.71E±0.03,h15km, Error ellipse: s-maj=4.1km s-min=2.3km az=36.4*
*TEH **14** 08:14:14.7,36.77N×54.79E,h10km, ML3.4*
*THR **14** 08:14:16.7,36.69N×54.94E,h14km, ML3.2*
*AZER **14** 08:14:19.6±1.4,36.97N×54.75E,h44km±158km, ml3.9/5, Error ellipse: s-maj=20.1km s-min=13.0km az=141.0*
ISC 14 08:14:15.3±0.8,36.82N±0.05×54.75E±0.04,h15km,n72,
σ1§65/84,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMND	**Minoodasht**	**0.68**	**50**	*e*Pg	**Pg**	**08 14 27.1**	**-1.5**
IMND				*e*Sg	**Sg**	**08 14 36.9**	**-0.8**
IGLO	**Ghaloghah**	**0.80**	**247**	*e*Pg	**Pg**	**08 14 30.1**	**-0.8**
IGLO				IAMB	IAmb	08 14 51.7	
	comp=Z,0.0nm,0.3s						
IKIA	**Kiasar**	**1.05**	**235**	*e*Pg	**Pg**	**08 14 35.0**	**-0.7**
IANJ	**Anjilo**	**1.51**	**207**	*e*Pn	**Pn**	**08 14 41.6**	**-0.4**
IANJ				IAMB	IAmb	08 15 04.7	
	comp=Z,6μm,0.2s						
ISHM	**Shahmirzad**	**1.55**	**230**	*e*Pn	**Pb**	**08 14 43.7**	**-0.2**
ISHM				IAMB	IAmb	08 15 13.2	
	comp=Z,8μm,0.4s						
IALA	**Alasht**	**1.73**	**245**	*e*Pn	**Pg**	**08 14 47.5**	**-1.0**
IFIR	**Firoozkooh**	**2.00**	**234**	*e*Pn	**Pb**	**08 14 51.5**	**+0.1**
IPRN	**Peran**	**2.02**	**254**	*e*Pn	**Pb**	**08 14 51.7**	**-0.1**
ILAS	**Lasjerd**	**2.04**	**226**	*e*Pn	**Pb**	**08 14 52.3**	**+0.1**
ILAS				IAMB	IAmb	08 15 27.9	
	comp=Z,3μm,0.5s						
BJRD	**Bojnurd**	**2.30**	**67**	*e*Pn	**Pn**	**08 14 55.2**	**+2.5**
BJRD	**Bojnurd**	**2.30**	**67**	*e*Sg	**Sb**	**08 15 26.4**	**+1.7**
BJRD	**Bojnurd**	**2.30**	**67**	*e*Pn	**Pn**	**08 14 55.2**	**+2.5**
SBZV	**Sabzevar**	**2.34**	**100**	*e*Pn	**Pn**	**08 14 55.3**	**+1.8**
IDMV	**Damavand**	**2.52**	**241**	*e*Pn	**Pb**	**08 14 59.3**	**-1.1**
IDMV				IAMB	IAmb	08 15 13.4	
	comp=Z,0.0nm,0.4s						
DAMV	**Damavand**	**2.54**	**243**	*e*Pn	**Pb**	**08 15 00.7**	**0.0**
DAMV	**Damavand**	**2.54**	**243**	*e*AML	AML	08 15 41.2	
	comp=E,128nm,0.6s						
DAMV	**Damavand**	**2.54**	**243**	*e*Pn	**Pb**	**08 15 00.7**	**0.0**
ISFR	**Sfrayin**	**2.62**	**84**	*e*Pn	**Pn**	**08 14 59.6**	**+2.4**
ISFR				IAMB	IAmb	08 15 40.0	
	comp=Z,1μm,0.6s						
IVRN	**Varamin**	**3.06**	**234**	*e*Pn	**Pb**	**08 15 06.0**	**-3.4**
CHTH	**Charan**	**3.06**	**254**	*e*Pn	**Pb**	**08 15 08.6**	**-1.0**
CHTH	**Charan**	**3.06**	**254**	*e*Pn	**Pb**	**08 15 08.6**	**-1.0**
IEMG	**Emamgholi**	**3.18**	**78**	*e*Pn	**Pn**	**08 15 08.2**	**+3.2**
IEMG				IAMB	IAmb	08 16 08.3	
	comp=Z,404nm,0.3s						
TNSJ	**Nastanj**	**3.23**	**151**	IAMB	IAmb	08 15 56.4	
	comp=Z,0.0nm,0.6s						
TNSJ				*e*Pn	**Pn**	**08 15 07.3**	**+1.7**
QALM	**Alamut, Qazvin**	**3.32**	**264**	*e*Pn	**Pb**	**08 15 10.6**	**-3.4**
IMHD	**Mahdasht**	**3.49**	**252**	*e*Pn	**Pb**	**08 15 13.3**	**-3.5**
IQOM	**Qom**	**3.58**	**238**	*e*Pn	**Pn**	**08 15 13.2**	**+2.7**
GHVR	**GHOM**	**3.66**	**231**	*e*Pn	**Pb**	**08 15 16.3**	**-3.3**
GHVR	**GHOM**	**3.66**	**231**	*e*Pn	**Pb**	**08 15 16.3**	**-3.3**
GHVR	**GHOM**	**3.66**	**231**	*e*AML	AML	08 16 18.4	
	comp=E,38nm,0.5s						
TABS	**Tabas**	**3.71**	**148**	*e*Pn	**Pn**	**08 15 13.3**	**+1.1**
TABS	**Tabas**	**3.71**	**148**	*e*Pn	**Pn**	**08 15 13.3**	**+1.1**
ANAR	**Anarak**	**3.72**	**193**	*e*Pn	**Pn**	**08 15 12.9**	**+0.6**
ANAR				IAMB	IAmb	08 16 15.0	
	comp=Z,0.0nm,0.7s						
TKDS	**Koohdasht(Taba**	**3.75**	**148**	*e*Pn	**Pn**	**08 15 13.6**	**+1.0**
TKDS				IAMB	IAmb	08 16 24.2	
	comp=Z,0.0nm,0.5s						
TPRV	**Parvadeh(Tabas**	**4.11**	**157**	*e*Pn	**Pn**	**08 15 18.2**	**+0.6**
TPRV				IAMB	IAmb	08 16 29.9	
	comp=Z,0.0nm,1.0s						
IRAZ	**Razeghan**	**4.15**	**251**	*e*Pn	**Pn**	**08 15 21.6**	**+3.3**
IMYA	**Miami**	**4.34**	**95**	*e*Pn	**Pn**	**08 15 22.5**	**+1.7**
IMYA				IAMB	IAmb	08 16 58.4	
	comp=Z,174nm,0.9s						
IZEF	**Zefreh**	**4.39**	**208**	*e*Pn	**Pn**	**08 15 23.0**	**+1.3**
YZKH	**Yazd**	**4.42**	**182**	*e*Pn	**Pn**	**08 15 23.9**	**+1.9**
YZKH	**Yazd**	**4.42**	**182**	*e*Pn	**Pn**	**08 15 23.9**	**+1.9**
ICHK	**Chekchek**	**4.58**	**184**	*e*Pn	**Pn**	**08 15 25.6**	**+1.4**
JRKH	**Jarkhoshk**	**4.61**	**100**	*e*Pn	**Pn**	**08 15 26.6**	**+2.1**
AFRZ	**Afriz**	**4.87**	**133**	*e*Pn	**Pn**	**08 15 29.5**	**+1.4**
ASTR	**Astara**	**5.03**	**292**	P	**Pn**	**08 15 31.5**	**+1.3**
ASTR				S	**Sn**	**08 16 29.1**	**+1.0**
GALA	**Gala**	**5.07**	**316**	P	**Pn**	**08 15 31.6**	**+0.8**
GALA				S	**Sn**	**08 16 29.4**	**+0.4**
LKRN	**Lenkeran, Azer**	**5.09**	**294**	P	**Pn**	**08 15 31.8**	**+0.8**
LKRN				S	**Sn**	**08 16 29.0**	**-0.4**
ITEG	**Tejag**	**5.12**	**139**	*e*Pn	**Pn**	**08 15 32.9**	**+1.4**
LRK	**Lerik**	**5.39**	**292**	P	**Pn**	**08 15 36.1**	**+0.8**
ALIB	**Äli-Bayra**	**5.49**	**307**	S	**Sn**	**08 16 38.5**	**-0.8**
SHRT	**Shahrakht**	**5.54**	**123**	*e*Pn	**Pn**	**08 15 38.2**	**+1.0**
SHRT	**Shahrakht**	**5.54**	**123**	*e*Pn	**Pn**	**08 15 38.2**	**+1.0**
YRD	**Yardimli**	**5.55**	**294**	P	**Pn**	**08 15 39.1**	**+1.6**
YRD				S	**Sn**	**08 16 41.3**	**0.0**
GLBA	**Clilabad**	**5.57**	**298**	S	**Sn**	**08 16 42.1**	**+0.9**
ISRB	**Sarab**	**5.73**	**282**	*e*Pn	**Pn**	**08 15 43.2**	**+3.2**
GBS	**Qobustan**	**5.86**	**311**	P	**Pn**	**08 15 43.6**	**+2.0**
GBS				S	**Sn**	**08 16 49.8**	**+1.2**
ATGJ	**Altiaghaj**	**6.07**	**313**	S	**Sn**	**08 16 54.0**	**+0.3**
PQL	**Pirkuli**	**6.23**	**311**	S	**Sn**	**08 16 56.3**	**-1.4**
SIZA	**Siyzn**	**6.23**	**315**	P	**Pn**	**08 15 48.3**	**+1.6**
SIZA				S	**Sn**	**08 16 56.0**	**-1.6**
BLQ	**Beylaqan**	**6.35**	**299**	P	**Pn**	**08 15 50.2**	**+1.9**
BLQ				S	**Sn**	**08 17 00.5**	**-0.1**
QRD	**Qoradiz**	**6.42**	**296**	S	**Sn**	**08 17 03.3**	**+1.1**
IML	**Ismayilli**	**6.48**	**310**	P	**Pn**	**08 15 51.8**	**+1.7**
IML				S	**Sn**	**08 17 04.6**	**+0.8**
QUBA	**Quba, Azerbaij**	**6.64**	**315**	S	**Sn**	**08 17 07.1**	**-0.7**
XNQ	**Khinaliq**	**6.73**	**312**	P	**Pn**	**08 15 55.1**	**+1.4**
XNQ				S	**Sn**	**08 17 09.6**	**-0.6**
QBL	**Gabala**	**6.78**	**309**	S	**Sn**	**08 17 10.5**	**-0.7**
AGDM	**Agdam**	**6.83**	**301**	S	**Sn**	**08 17 12.4**	**0.0**
BRDA	**Brd**	**6.85**	**302**	S	**Sn**	**08 17 12.9**	**0.0**
QSAR	**Qusar**	**6.88**	**315**	S	**Sn**	**08 17 13.2**	**-0.3**
ORD	**Ordubad**	**7.23**	**290**	P	**Pn**	**08 16 02.8**	**+2.3**
ORD				S	**Sn**	**08 17 22.6**	**+0.2**
SEKA	**Sheki**	**7.33**	**309**	P	**Pn**	**08 16 02.8**	**+1.0**
SEKA				S	**Sn**	**08 17 23.0**	**-1.7**
IMRD	**Marand**	**7.41**	**287**	*e*Pn	**Pn**	**08 16 06.5**	**+3.5**
GANJ	**Ganja**	**7.61**	**303**	S	**Sn**	**08 17 30.0**	**-1.6**
ZKTA	**Zakatala**	**7.93**	**310**	P	**Pn**	**08 16 11.1**	**+1.2**
ZKTA				S	**Sn**	**08 17 39.0**	**-0.4**
GDB	**GEDABAY**	**8.03**	**302**	P	**Pn**	**08 16 12.2**	**+0.7**
GDB				S	**Sn**	**08 17 41.1**	**-1.0**

*ISCJB **14** 08:23:48.1±0.7,26.43S±0.04×27.73E±0.04,h3km±6km, Error ellipse: s-maj=6.8km s-min=5.4km az=2.2*
*PRE **14** 08:23:48.0±1.4,26.42S×27.74E,h2km,ML2.6*
ISC 14 08:23:48.1±1.2,26.40S±0.04×27.73E±0.04,h4km±10km,
n14,σ0§90/22,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.12**	**294**	*e*P	**Pg**	**08 23 50.6**	**+0.1**
KLOF				*e*S	**Sg**	**08 23 52.1**	**-0.1**
KLOF				AML	AML	08 23 53.6	
	comp=Z,4μm,0.5s						
WDLM	**Western Deep L**	**0.28**	**265**	*e*P	**Pg**	**08 23 54.5**	**+1.0**
WDLM				*e*S	**Sg**	**08 23 57.2**	**0.0**
WDLM				AML	AML	08 23 57.9	
	comp=Z,2μm,0.3s						
ERPM	**east rand prop**	**0.46**	**83**	*e*P	**Pb**	**08 23 58.1**	**-0.8**
ERPM				*e*S	**Sg**	**08 24 03.3**	**+0.3**
ERPM				AML	AML	08 24 09.4	
	comp=Z,490nm,0.8s						
PRYS	**Parys**	**0.62**	**212**	*e*P	**Pg**	**08 24 00.2**	**+0.1**
PRYS				*e*S	**Sg**	**08 24 07.8**	**-0.4**
PRYS				AML	AML	08 24 15.0	
	comp=Z,237nm,0.5s						
KSR	**Koster**	**0.93**	**306**	*e*P	**Pg**	**08 24 05.8**	**-0.1**
KSR				*e*S	**Sb**	**08 24 20.2**	**+0.6**
KSR				AML	AML	08 24 24.9	
	comp=Z,101nm,0.8s						
LBTB	**Lobatse**	**2.37**	**305**	*i* P	**Pb**	**08 24 30.5**	**-0.9**
LBTB	**Lobatse**	**2.37**	**305**	*e*P	**Pn**	**08 24 27.9**	**0.0**
LBTB				*e*S	**Sn**	**08 24 58.9**	**+1.5**
LBTB				AML	AML	08 25 01.1	
	comp=Z,36nm,0.3s						
LBTB	**Lobatse**	**2.37**	**305**	*i* P	**Pb**	**08 24 30.5**	**-0.9**
BOSA	**Boshof**	**3.12**	**224**	*i* P	**Pn**	**08 24 38.9**	**+0.7**
BOSA				*i* S	**Sb**	**08 25 22.8**	**+0.2**
BOSA	**Boshof**	**3.12**	**224**	*e*P	**Pn**	**08 24 38.2**	**+0.1**
BOSA				*e*S	**Sn**	**08 25 16.7**	**+0.8**
BOSA				AML	AML	08 25 29.8	
	comp=Z,19nm,0.7s						
BOSA	**Boshof**	**3.12**	**224**	*i* P	**Pn**	**08 24 38.9**	**+0.7**
BOSA				*i* S	**Sb**	**08 25 22.8**	**+0.2**
MATP	**Matopo**	**5.99**	**7**	*i* P	Pn	08 25 10.5	-7.2
MATP				*i* S	Sn	08 26 16.1	-11
MATP	**Matopo**	**5.99**	**7**	*i* P	Pn	08 25 10.5	-7.2
MATP				*i* S	Sn	08 26 16.1	-11
UPI	**Upington**	**6.08**	**250**	*e*P	**Pn**	**08 25 19.7**	**+0.8**
UPI				*e*S	**Sn**	**08 26 26.6**	**-2.5**
UPI				AML	AML	08 27 02.9	
	comp=Z,7.3nm,0.5s						

*ISCJB **14** 08:30:32.3±0.6,42.39N±0.03×44.76E±0.06,h5km±7km, Error ellipse: s-maj=8.0km s-min=3.5km az=160.0*
*NORS **14** 08:30:32.4±0.0,42.48N×44.52E,h1km,MPVA3.6*
*TIF **14** 08:30:32.0,42.38N×44.74E,h14km±1km*
ISC 14 08:30:32.9±1.1,42.40N±0.03×44.68E±0.05,h15km±7km,
n14,σ1§17/27,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUDG	**Gudauri**	**0.16**	**294**	P	**Pg**	**08 30 36.7**	**-0.4**
GUDG				S	**Sg**	**08 30 41.4**	**+1.5**
LACR	**Lac**	**0.51**	**327**	*i* Pg	**Pg**	**08 30 42.0**	**-1.1**
LACR				*e*Sg	**Sb**	**08 30 50.1**	**-0.9**
TBLG	**Delisi**	**0.67**	**176**	P	**Pg**	**08 30 45.1**	**-1.0**
TBLG				S	**Sg**	**08 30 55.2**	**+0.3**
BTNK	**Botanikuri**	**0.72**	**173**	P	**Pg**	**08 30 45.9**	**-1.1**
BTNK				S	**Sg**	**08 30 56.4**	**-0.1**
KORR	**Kora**	**0.82**	**327**	*e*Pg	**Pn**	**08 30 49.0**	**-1.0**
KORR				*e*Sg	**Sn**	**08 31 01.4**	**-0.4**
ARNR	**Ardon**	**0.83**	**340**	*e*Pg	**Pn**	**08 30 49.4**	**-0.7**
ARNR				*e*Sg	**Sn**	**08 31 02.4**	**+0.2**
ONI	**Oni**	**0.92**	**282**	P	**Pn**	**08 30 51.5**	**0.0**
DIGR	**Digorskoe uzhe**	**0.95**	**302**	*e*Pg	**Pn**	**08 30 51.2**	**-0.7**
DIGR				*e*Sg	**Sn**	**08 31 04.9**	**-0.4**
BTKR	**Batakoyurt**	**0.97**	**354**	*e*Pg	**Pn**	**08 30 52.8**	**+0.6**
BTKR				*e*Sg	**Sn**	**08 31 07.5**	**+1.8**
KZRT	**Kazreti**	**1.03**	**192**	P	**Pg**	**08 30 51.3**	**-1.6**
KZRT				S	**Sg**	**08 31 05.8**	**-0.6**
STDR	**Stavd-Durt**	**1.07**	**335**	*e*Pg	**Pn**	**08 30 53.4**	**+0.1**
STDR				*e*Sg	**Sn**	**08 31 09.1**	**+1.2**
TKB	**Tkibuli**	**1.25**	**268**	P	**Pn**	**08 30 56.9**	**+1.0**
TKB				S	**Sn**	**08 31 15.1**	**+2.6**
AKH	**Akhalkalaki**	**1.33**	**222**	P	**Pn**	**08 30 57.1**	**0.0**
AKH				S	**Sn**	**08 31 16.2**	**+1.6**
DDFL	**Dedoflistskaro**	**1.44**	**131**	P	**Pn**	**08 30 58.7**	**+0.1**
DDFL				S	**Sg**	**08 31 21.3**	**+2.0**

*IDC **14** 08:44:11.7±0.8,23.19S×174.75W,h0km,mb4.5/13, mb1 4.7/13,mb1mx4.4/38,mbtmp4.5/13,MS3.1/3, Ms1 3.1/3,ms1mx2.7/35,Error ellipse: s-maj=28.7km s-min=18.4km az=152.0*
*ISCJB **14** 08:44:12.4±0.4,23.08S±0.07×174.88W±0.09,h10km, mb4.4/13,MS3.1/3,Error ellipse: s-maj=13.1km s-min=7.6km az=35.3*
*NEIC **14** 08:44:13.0±3.0,22.99S±0.09×174.76W±0.1,h10km±3km, mb4.5/27*
ISC 14 08:44:12.6±0.5,23.01S±0.08×174.5W±0.1,h10km,n60,

σ1**99**/55, **mb4.6**/27, **MS3.0**/3, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.81**	**49**	Pn	**Pn**	**08 45 36.2**	**-2.6**
RAO	**Raoul Island**	**6.93**	**205**	Pn	**Pn**	**08 45 51.7**	**-2.5**
MSVF	**Nonsavu**	**8.72**	**306**		Pn	08 46 23.5	+4.6
AFI	**Afiamalu**	**9.41**	**17**	Pn	**Pn**	**08 46 25.4**	**-3.1**
	1.7nm,0.3s,baz=233,slow=19,SNR=3.1						
AFI				Sn	Sn	08 47 59.7	-15
	2.3nm,0.3s,baz=307,slow=20,SNR=2.0						
AFI	**Afiamalu**	**9.41**	**17**	Pn	**Pn**	**08 46 27.1**	**-1.4**
AFI				Sn	**Sn**	**08 48 08.1**	**-6.4**
RAR	**Rarotonga**	**13.79**	**85**	Pn	Pn	08 47 24.7	-3.5
	10nm,0.3s,baz=270,slow=15,SNR=22						
RAR				Sn	Sn	08 49 43.3	-18
	1.8nm,0.3s,baz=114,slow=18,SNR=6.3						
RAR	**Rarotonga**	**13.79**	**85**		Pn	08 47 24.4	-3.8
URZ	**Urewera**	**16.81**	**203**	Pn	**P**	**08 48 09.6**	**-0.6**
	0.5nm,0.3s,baz=14,slow=12,SNR=4.3						
URZ				Sn	Sn	08 50 56.7	-18
	0.4nm,0.3s,baz=78,slow=19,SNR=4.6						
URZ	**Urewera**	**16.81**	**203**	Pn	**Pn**	**08 48 04.6**	**-3.5**
DZM	**Mont Dzumac**	**17.61**	**269**	P	**P**	**08 48 21.6**	**+2.2**
	0.5nm,0.3s,baz=87,slow=19,SNR=9.6						
DZM	**Mont Dzumac**	**17.61**	**269**	P	**P**	**08 48 22.1**	**+2.7**
PLWZ	**Palliser**	**20.40**	**202**	P	**P**	**08 48 50.7**	**+0.9**
KHZ	**Kahutara**	**21.76**	**204**	P	**P**	**08 49 04.3**	**-0.1**
KHZ				IAmb	IAmb	08 49 12.8	
	comp=Z,10nm,0.9s						
LTZ	**Lake Taylor**	**22.57**	**206**	P	**P**	**08 49 12.6**	**-0.6**
PPT	**Papeete**	**24.00**	**82**	LR	LR	08 57 10.3	
	comp=Z,42nm,18.9s,baz=253,slow=32						
FOZ	**Fox Glacier**	**24.22**	**209**	P	**P**	**08 49 29.4**	**-0.1**
FOZ				IAmb	IAmb	08 49 40.9	
	comp=Z,20nm,1.1s						
WHZ	**Wether Hill Ro**	**26.90**	**208**	P	**P**	**08 49 54.2**	**+0.4**
WHZ				IAmb	IAmb	08 49 56.1	
	comp=Z,19nm,1.2s						
DCZ	**Deep Cove**	**26.92**	**209**	P	**P**	**08 49 55.4**	**+1.5**
DCZ				IAmb	IAmb	08 50 11.0	
	comp=Z,18nm,1.0s						
PMG	**Port Moresby**	**39.07**	**284**	P	**P**	**08 51 40.2**	**+0.1**
	comp=Z,31nm,0.9s,baz=123,slow=4.5,SNR=9.2						
STKA	**Stephens Creek**	**39.71**	**247**	P	**P**	**08 51 43.2**	**-2.2**
	comp=Z,1.2nm,0.5s,baz=81,slow=9.5,SNR=7.9						
STKA	**Stephens Creek**	**39.71**	**247**	P	**P**	**08 51 43.9**	**-1.5**
COEN	**Coen**	**41.00**	**275**	P	**P**	**08 51 56.5**	**+0.3**
BBOO	**Buckleboo**	**44.41**	**246**	P	**P**	**08 52 21.4**	**-2.3**
BBOO				IAmb	IAmb	08 52 23.6	
	comp=Z,9.3nm,1.1s						
AS31	**Alice Springs**	**47.14**	**258**	P	**P**	**08 52 44.4**	**-1.1**
AS31				IAmb	IAmb	08 52 49.6	
	comp=Z,1.9nm,0.9s						
ASAR	**Alice Springs**	**47.14**	**258**	P	**P**	**08 52 43.5**	**-2.0**
	comp=Z,5.2nm,0.8s,baz=93,slow=7.9,SNR=19						
WR0	**Warramunga Arr**	**47.31**	**264**	P	**P**	**08 52 44.3**	**-2.5**
WR0				IAmb	IAmb	08 52 48.1	
	comp=Z,5.2nm,0.7s						
WB2	**Warramunga Arr**	**47.48**	**264**	P	**P**	**08 52 46.0**	**-2.2**
WRA	**Warramunga AY**	**47.50**	**264**	P	**P**	**08 52 45.9**	**-2.4**
	comp=Z,9.9nm,0.6s,baz=102,slow=8.3,SNR=125						
FORT	**Forrest**	**51.32**	**248**	P	**P**	**08 53 15.4**	**-2.0**
MTN	**Manton Dam**	**52.44**	**271**	P	**P**	**08 53 26.8**	**+1.0**
MTN				IAmb	IAmb	08 53 30.2	
	comp=Z,13nm,1.3s						
KNRA	**Kununurra**	**53.74**	**267**	P	**P**	**08 53 34.0**	**-1.5**
VNDA	**Vanda**	**55.74**	**186**	LR	LR	09 13 05.7	
	comp=Z,12nm,21.2s,baz=278,slow=31						
FITZ	**Fitzroy Crossi**	**55.92**	**263**	P	**P**	**08 53 50.5**	**-0.7**
FITZ				IAmb	IAmb	08 53 54.5	
	comp=Z,7.2nm,1.0s						
MORW	**Morawa**	**61.89**	**248**	P	**P**	**08 54 32.3**	**-0.3**
MORW				IAmb	IAmb	08 54 35.4	
	comp=Z,3.4nm,0.7s						
QSPA	**South Pole Qui**	**67.08**	**180**	P	**P**	**08 55 06.5**	**+0.4**
	comp=Z,2.2nm,1.1s,baz=325,slow=2.9,SNR=4.4						
QSPA	**South Pole Qui**	**67.08**	**180**	P	**P**	**08 55 06.1**	**0.0**
QSPA				IAmb	IAmb	08 55 08.6	
	comp=Z,4.1nm,1.3s						
MJAR	**Matsushiro Arr**	**74.15**	**322**	P	**P**	**08 55 50.2**	**+0.9**
	comp=Z,3.2nm,0.7s,baz=145,slow=6.0,SNR=7.2						
SMY	**Shemya**	**76.06**	**353**	P	**P**	**08 55 58.5**	**-1.4**
PETK	**Petropavlovsk-**	**79.55**	**343**	P	**P**	**08 56 20.3**	**+0.9**
	comp=Z,8.7nm,1.2s,baz=126,slow=14,SNR=4.2						
YERR	**Yerington**	**80.47**	**41**	P	**P**	**08 56 27.9**	**+2.9**
YERR				IAmb	IAmb	08 56 28.3	
	comp=Z,2.5nm,0.8s						
NVAR	**Mina Array Bea**	**80.69**	**41**	P	**P**	**08 56 28.7**	**+2.4**
	comp=Z,2.5nm,0.7s,baz=223,slow=8.5,SNR=24						
HUMO	**Hull Mountain**	**80.75**	**36**	P	**P**	**08 56 29.4**	**+3.1**
HUMO				IAmb	IAmb	08 56 32.7	
	comp=Z,4.6nm,1.3s						
KSRS	**Korea Array**	**80.91**	**317**	LR	LR	09 30 43.3	
	comp=Z,12nm,18.5s,baz=130,slow=34						
TPNV	**Topopah Spring**	**81.05**	**44**	P	**P**	**08 56 31.1**	**+2.9**
TPNV				IAmb	IAmb	08 56 31.4	
	comp=Z,2.6nm,0.8s						
KVN	**Kaiserville**	**81.20**	**41**	P	**P**	**08 56 31.6**	**+2.7**
USRK	**Ussuriysk Ar.**	**82.86**	**324**	P	**P**	**08 56 39.7**	**+2.5**
	comp=Z,5.2nm,0.8s,baz=110,slow=3.4,SNR=3.6						
TX32	**Lajitas Array**	**85.73**	**56**	P	**P**	**08 56 54.6**	**+2.3**
TX32				IAmb	IAmb	08 56 59.4	
	comp=Z,4.0nm,1.1s						
TXAR	**Lajitas Array**	**85.73**	**56**	P	**P**	**08 56 54.3**	**+2.0**
	comp=Z,1.9nm,0.9s,baz=212,slow=8.5,SNR=18						
PDAR	**Pinedale Array**	**88.61**	**42**	P	**P**	**08 57 07.5**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=248,slow=2.7,SNR=4.9						
WRH	**Wood River Hil**	**89.58**	**11**	P	**P**	**08 57 11.3**	**+1.5**
HDA	**Harding Lake**	**89.73**	**12**	P	**P**	**08 57 11.8**	**+1.2**
ILAR	**Eielson Array**	**90.07**	**11**	P	**P**	**08 57 13.2**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=215,slow=5.5,SNR=13						
CMAR	**Chiang Mai Arr**	**93.98**	**288**	P	**P**	**08 57 33.0**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=146,slow=3.2,SNR=4.4						
ARCES	**ARCESS Array B**	**131.93**	**351**	PKP	**PKPdf**	**09 03 25.3**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=29,slow=2.8,SNR=5.5						
TSUM	**Tsumeb**	**136.41**	**197**	PKPdf	**PKiKP**	**09 03 37.7**	**+0.3**
AKASG	**Malin Array Be**	**146.75**	**332**	PKPbc	**PKPbc**	**09 03 54.5**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=41,slow=3.7,SNR=6.1						
BR131	**Keskin Array S**	**150.91**	**312**		**PKiKP**	**09 04 06.6**	**0.0**
BRTR	**Keskin Array B**	**150.91**	**312**	PKPbc	**PKPbc**	**09 04 06.2**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=129,slow=2.0,SNR=6.3						
BRG	**Berggiesshubel**	**151.41**	**349**	*e*PKP	**PKiKP**	**09 04 07.9**	**+0.9**
	comp=Z,5.8nm,1.0s						
CSS	**Mathiatis**	**152.97**	**302**	PKPab	**PKPab**	**09 04 22.9**	**+1.0**

*ISCJB **14** 08:47:43.8±0.2,24°.40N±0°.01×122°.02E±0°.01,h23km±2km, Error ellipse: s-maj=2.5km s-min=1.9km az=140.4*
*TAP **14** 08:47:43.9,24°.43N×121°.94E,h25km,ML3.2,B*
*JMA **14** 08:47:43.0±0.1,24°.36N×121°.93E,h49km±3km,M2.7*
ISC 14 08:47:44.1±0.9,**24°.41N**±0°.02×**121°.98E**±0°.02,**h29**km±5km, **n97**,σ1**93**/166,**1C-1D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.19**	**45**	||P	**Pb**	**08 47 50.3**	**+0.3**
	baz=54						
EOS1				S	**Sb**	**08 47 55.7**	**+1.6**
	baz=54						
NANB	**Nanao**	**0.21**	**274**	*i* P	**Pb**	**08 47 49.8**	**-0.5**
	baz=270						
NANB				*i* S	**Sb**	**08 47 54.0**	**-0.4**
	baz=270						
ENA	**Nanau**	**0.22**	**274**	P	**Pb**	**08 47 49.4**	**-1.0**
	baz=270						
ENA				*i* S	**Sb**	**08 47 54.4**	**-0.2**
	baz=270						
TWC	**Suao**	**0.23**	**329**	⇑*i* P	**Pb**	**08 47 50.0**	**-0.6**
	baz=338						
TWC				*i* S	**Sb**	**08 47 54.4**	**-0.4**
	baz=338						
ILA	**Ilan**	**0.41**	**329**	*e*S	**Sb**	**08 47 59.9**	**+0.8**
	baz=333						
TWE	**Neicheng**	**0.42**	**317**	P	**Pb**	**08 47 52.6**	**-0.5**
	baz=321						
TWE				S	**Sb**	**08 47 59.3**	**-0.1**
	baz=321						
NACB	**Ninganchiao**	**0.42**	**236**	P	**Pb**	**08 47 52.6**	**-0.7**
	baz=231						
NACB				S	**Sn**	**08 48 00.3**	**-0.7**
	baz=231						
EGS		**0.43**	**354**	*e*P	**Pb**	**08 47 53.7**	**+0.3**
ENTT	**Nioudou**	**0.44**	**301**	P	**Pb**	**08 47 52.9**	**-0.6**
	baz=302						
ENTT				*e*S	**Sb**	**08 47 59.5**	**-0.5**
	baz=302						
NTC	**Toucheng**	**0.46**	**343**	*e*P	**Pb**	**08 47 53.9**	**+0.1**
	baz=346						
NTC				*e*S	**Sb**	**08 48 00.5**	**0.0**
	baz=346						
NDT	**Datong Townshi**	**0.46**	**294**	*i* P	**Pb**	**08 47 53.4**	**-0.5**
	baz=294						
NDT				*i* S	**Sb**	**08 48 00.5**	**-0.1**
	baz=294						
TWD	**Chiawan**	**0.48**	**227**	P	**Pb**	**08 47 54.0**	**-0.2**
	baz=221						
TWD				S	**Sb**	**08 48 01.5**	**+0.6**
	baz=221						
ETLH	**Xiulin Townshi**	**0.50**	**246**	P	**Pb**	**08 47 53.7**	**-0.8**
	baz=242						
ETLH				S	**Sb**	**08 48 01.7**	**+0.1**
	baz=242						
NNSH	**Datong**	**0.54**	**272**	P	**Pb**	**08 47 54.5**	**-0.8**
	baz=270						
NNSH				*e*S	**Sb**	**08 48 02.3**	**-0.5**
	baz=270						
HWA	**Hwalien**	**0.55**	**218**	*e*P	**Pb**	**08 47 54.5**	**-0.8**
	baz=213						
HWA				*e*S	**Sn**	**08 48 05.3**	**+1.2**
	baz=213						
NNS	**Nan Shan**	**0.55**	**273**	*i* P	**Pb**	**08 47 54.6**	**-0.8**
	baz=271						
NNS				S	**Sb**	**08 48 02.6**	**-0.5**
	baz=271						
NWLT	**Wulai**	**0.56**	**310**	P	**Pb**	**08 47 55.0**	**-0.5**
	baz=311						
NWLT				S	**Sb**	**08 48 02.9**	**-0.5**
	baz=311						
TIPB	**Shuangxi**	**0.57**	**346**	P	**Pb**	**08 47 55.1**	**-0.6**
	baz=349						
TIPB				S	**Sb**	**08 48 03.7**	**0.0**
	baz=349						
TWB1	**Santiao Chiao**	**0.59**	**1**	*e*P	**Pb**	**08 47 56.0**	**0.0**
	baz=5.0						
TWB1				*e*S	**Sb**	**08 48 04.8**	**+0.7**
	baz=5.0						
YHNB	**Yeheng**	**0.60**	**295**	P	**Pb**	**08 47 55.6**	**-0.6**
	baz=295						
YHNB				S	**Sb**	**08 48 04.2**	**-0.3**
	baz=295						
ENLB	**Shoufeng**	**0.61**	**214**	P	**Pb**	**08 47 55.5**	**-0.8**
	baz=210						
ENLB				*i* S	**Sn**	**08 48 06.4**	**+0.7**
	baz=210						
NSK	**Sanguang**	**0.62**	**295**	P	**Pb**	**08 47 55.6**	**-0.9**
	baz=295						
NSK				*i* S	**Sb**	**08 48 04.6**	**-0.4**
	baz=295						
TWA	**Mucha**	**0.67**	**328**	*e*P	**Pb**	**08 47 57.1**	**-0.1**
	baz=330						
NWF	**Wu-fen Shan**	**0.68**	**345**	*e*P	**Pb**	**08 47 55.0**	**-2.5**
	baz=347						
NWF				*e*S	**Sn**	**08 48 07.9**	**+0.4**
	baz=347						
WFSB	**Wu-fen Shan**	**0.68**	**345**	*e*S	**Sn**	**08 48 07.7**	**+0.3**
	baz=347						
NHDH	**Xindian Distri**	**0.69**	**323**	S	**Sb**	**08 48 07.2**	**+0.5**
	baz=324						
WHF	**Hehuan Shan**	**0.70**	**248**	P	**Pb**	**08 47 57.3**	**-0.8**
	baz=245						
WHF				S	**Sb**	**08 48 07.7**	**+0.1**
	baz=245						
TAP1	**Taipei**	**0.75**	**327**	S	**Sn**	**08 48 09.6**	**+0.6**
	baz=327						
TWT	**Tachien**	**0.75**	**258**	P	**Pb**	**08 47 58.5**	**-0.1**
	baz=256						
TWT				S	**Sb**	**08 48 08.8**	**+0.1**
	baz=256						
TAP	**Taipei**	**0.76**	**326**	*e*S	**Sn**	**08 48 09.6**	**+0.3**
	baz=327						
TDCB	**Techi**	**0.76**	**258**	P	**Pb**	**08 47 58.4**	**-0.5**
	baz=256						
TDCB				S	**Sb**	**08 48 08.4**	**-0.6**
	baz=256						
ESL	**Shilin**	**0.78**	**220**	P	**Pb**	**08 47 58.0**	**-1.0**
	baz=216						
ESL				*e*S	**Sb**	**08 48 09.0**	**-0.3**
	baz=216						
WLTB	**Daxi**	**0.79**	**304**	*e*S	**Sn**	**08 48 11.4**	**+1.2**
	baz=304						
CHGB	**Renai**	**0.81**	**245**	P	**Pb**	**08 47 59.3**	**-0.5**
	baz=242						
CHGB				S	**Sb**	**08 48 11.0**	**+0.4**
	baz=242						
YM01	**YM01**	**0.82**	**333**	*e*P	**Pb**	**08 48 00.1**	**+0.3**
	baz=334						
YM05	**YM05**	**0.84**	**333**	P	**Pb**	**08 47 59.5**	**-0.6**
	baz=335						
YM05				*e*S	**Sb**	**08 48 11.2**	**+0.1**
	baz=335						
YM04	**YM04**	**0.84**	**332**	*e*P	**Pb**	**08 47 60.0**	**-0.2**
	baz=333						
YM04				*e*S	**Sn**	**08 48 12.0**	**+0.6**
	baz=333						
YM08	**YM08**	**0.85**	**336**	*e*S	**Sb**	**08 48 11.4**	**+0.1**
	baz=337						
TWS1	**Kuangyinshan**	**0.85**	**324**	*e*S	**Sn**	**08 48 12.8**	**+1.2**
	baz=325						
OWD	**Renai**	**0.86**	**238**	*e*S	**Sb**	**08 48 11.9**	**+0.1**
	baz=236						
JYNG	**Yonaguni jima**	**0.88**	**87**	P	**Pb**	**08 47 59.9**	**-0.9**
JYNG				S	**Sb**	**08 48 12.3**	**0.0**
NTST	**Danshui**	**0.89**	**327**	*e*S	**Sn**	**08 48 14.1**	**+1.6**
	baz=328						
EGFH	**Guangfu**	**0.90**	**214**	*e*S	**Sb**	**08 48 12.8**	**+0.2**
	baz=211						
LIOB	**Emei**	**0.91**	**285**	P	**Pb**	**08 48 00.8**	**-0.4**
	baz=284						
LIOB				S	**Sn**	**08 48 13.9**	**+0.9**
	baz=284						
NCU	**National Centr**	**0.91**	**308**	*e*S	**Sn**	**08 48 15.0**	**+2.0**
	baz=308						
NCUH	**Zhongli**	**0.91**	**308**	*e*S	**Sn**	**08 48 14.0**	**+1.0**
	baz=308						
NSTT	**Nanjuang**	**0.92**	**284**	P	**Pb**	**08 48 01.0**	**-0.4**
	baz=283						
NSTT				*i* S	**Sn**	**08 48 13.9**	**+0.7**
	baz=283						
YOJ	**Yonaguni jima**	**0.94**	**87**	P	**Pb**	**08 48 01.1**	**-0.7**
YOJ				S	**Sn**	**08 48 14.5**	**+0.6**
YOJ	**Yonaguni jima**	**0.94**	**87**	*e*P	**Pb**	**08 48 01.5**	**-0.4**
	baz=87						
YOJ				S	**Sn**	**08 48 14.8**	**+0.9**
	baz=87						
WHP	**Taichung City**	**0.95**	**262**	P	**Pb**	**08 48 01.6**	**-0.4**
	baz=260						
WHP				S	**Sb**	**08 48 14.5**	**+0.2**
	baz=260						
SBCB	**Hsinchu**	**0.98**	**293**	*e*P	**Pb**	**08 48 01.2**	**-1.2**
	baz=292						
SBCB				*e*S	**Sn**	**08 48 17.1**	**+2.3**
	baz=292						
HSN	**Hsinchu**	**1.00**	**293**	*e*S	**Sn**	**08 48 16.7**	**+1.5**
	baz=295						
VWDT	**VWDT**	**1.01**	**230**	P	**Pb**	**08 48 02.0**	**-0.9**
	baz=227						
VWDT				*e*S	**Sb**	**08 48 15.7**	**-0.1**
	baz=227						
DPDB	**Guoxing**	**1.03**	**249**	*e*P	**Pb**	**08 48 03.0**	**-0.3**
	baz=247						
DPDB				*e*S	**Sb**	**08 48 16.6**	**0.0**
	baz=247						
HGSD	**Ruisui**	**1.05**	**209**	P	**Pb**	**08 48 02.9**	**-0.7**
	baz=206						
HGSD				*e*S	**Sn**	**08 48 18.4**	**+1.9**
	baz=206						
EHY	**Hungye**	**1.08**	**214**	*e*P	**Pn**	**08 48 01.7**	**-1.6**
	baz=211						
EHY				*e*S	**Sb**	**08 48 17.1**	**-0.9**
	baz=211						
NMLH	**Miaoli**	**1.09**	**277**	*e*S	**Sn**	**08 48 19.9**	**+2.4**
	baz=276						
NSY	**Sanyi**	**1.11**	**270**	*e*P	**Pb**	**08 48 04.8**	**+0.2**
	baz=269						
NSY				*e*S	**Sn**	**08 48 21.1**	**+3.1**
	baz=269						
SSLB	**Suanglung**	**1.12**	**237**	P	**Pn**	**08 48 03.8**	**-0.1**
	baz=234						
SSLB				*e*S	**Sn**	**08 48 19.3**	**+0.9**
	baz=234						
TYC	**Yuchr**	**1.14**	**244**	P	**Pn**	**08 48 03.7**	**-0.4**
	baz=242						
TYC				*e*S	**Sn**	**08 48 19.9**	**+1.2**
	baz=242						
PTSB	**Yuanli**	**1.16**	**272**	*e*S	**Sn**	**08 48 21.9**	**+2.6**
	baz=271						
YULB	**Yu-li**	**1.19**	**212**	*e*P	**Pn**	**08 48 03.9**	**-0.9**
	baz=209						
YULB				*e*S	**Sb**	**08 48 20.6**	**-0.5**
	baz=209						
TCU	**Taichung**	**1.22**	**258**	*e*S	**Sn**	**08 48 23.0**	**+2.4**
	baz=256						
WDJ	**Dajia District**	**1.22**	**267**	*e*S	**Sn**	**08 48 23.3**	**+2.5**
	baz=266						
TWF1	**Yuli**	**1.23**	**211**	P	**Pn**	**08 48 05.0**	**-0.3**
	baz=208						
TWF1				*e*S	**Sb**	**08 48 21.2**	**-0.9**
	baz=208						
WHYT	**Xinyi Township**	**1.25**	**235**	P	**Pn**	**08 48 05.7**	**+0.1**
	baz=233						
WHYT				*e*S	**Sn**	**08 48 23.7**	**+2.1**
	baz=233						
WJS	**Zhushan**	**1.28**	**243**	*e*P	**Pn**	**08 48 06.1**	**0.0**
	baz=241						
WJS				*e*S	**Sb**	**08 48 24.4**	**+0.7**
	baz=241						
WNT	**Mingjian**	**1.30**	**246**	P	**Pn**	**08 48 06.4**	**+0.2**
	baz=244						
WNT				*e*S	**Sb**	**08 48 25.4**	**+1.3**
	baz=244						
YUS	**Yu-Shan**	**1.31**	**226**	P	**Pn**	**08 48 06.6**	**-0.3**
	baz=224						
YUS				*e*S	**Sb**	**08 48 25.0**	**-0.1**
	baz=224						
FULB	**Fuli**	**1.36**	**208**	P	**Pn**	**08 48 07.2**	**0.0**
	baz=205						
FULB				*e*S	**Sb**	**08 48 26.0**	**0.0**
	baz=205						
CHKT	**Chengkung**	**1.42**	**203**	*e*P	**Pn**	**08 48 07.5**	**-0.4**
	baz=201						
CHKT				*e*S	**Sn**	**08 48 24.1**	**-1.6**
	baz=201						
CHN5	**Tsauling**	**1.44**	**236**	P	**Pn**	**08 48 09.2**	**+0.9**
	baz=234						
CHN5				*e*S	**Sb**	**08 48 29.6**	**+1.3**
	baz=234						
WDLH	**Douliu**	**1.50**	**242**	*e*P	**Pn**	**08 48 10.2**	**+1.2**
	baz=240						
WDLH				*e*S	**Sb**	**08 48 30.5**	**+0.6**
	baz=240						
ELDTW	**Lidau**	**1.50**	**216**	P	**Pn**	**08 48 08.8**	**-0.4**
	baz=214						
ELDTW				*e*S	**Sn**	**08 48 28.7**	**+0.8**
	baz=214						
RLNB	**Erlin**	**1.57**	**251**	*e*S	**Sb**	**08 48 32.7**	**+0.9**
	baz=249						
IRIF	**Iriomote-Funau**	**1.60**	**92**	P	**Pn**	**08 48 10.3**	**-0.1**
IRIF				*e*S	**Sn**	**08 48 30.1**	**0.0**
CHN4	**Tsaushan**	**1.65**	**230**	P	**Pb**	**08 48 12.8**	**-1.0**
	baz=229						
CHN4				*e*S	**Sb**	**08 48 35.4**	**+1.2**
	baz=229						
TPUB	**Ta-pu**	**1.66**	**228**	P	**Pn**	**08 48 12.7**	**+1.5**
	baz=226						
TPUB				*e*S	**Sb**	**08 48 34.2**	**-0.2**
	baz=226						
STYT	**Tauyuan**	**1.67**	**222**	*e*S	**Sb**	**08 48 35.7**	**+0.7**
	baz=220						
CHY	**Chiayi**	**1.69**	**238**	*e*S	**Sn**	**08 48 34.1**	**+1.9**
	baz=236						
WTP	**Ta-pu**	**1.71**	**227**	P	**Pn**	**08 48 13.5**	**+1.6**
	baz=225						
WTP				*e*S	**Sb**	**08 48 36.5**	**+0.6**
	baz=225						
TWK	**Hsinying**	**1.78**	**230**	P	**Pn**	**08 48 14.1**	**+1.2**
	baz=228						
TWK				*e*S	**Sb**	**08 48 38.5**	**+0.5**
	baz=228						
TWGBT	**Beinan**	**1.79**	**208**	*e*S	**Sn**	**08 48 33.1**	**-1.7**
	baz=206						
SNST	**Tainan City**	**1.80**	**229**	*e*P	**Pn**	**08 48 10.9**	**-2.3**
	baz=227						
SNST				*e*S	**Sb**	**08 48 37.7**	**-0.9**
	baz=227						
CHN1	**Nanshi**	**1.81**	**228**	*e*P	**Pn**	**08 48 14.2**	**+1.0**
	baz=226						
CHN1				*e*S	**Sb**	**08 48 38.9**	**+0.2**
	baz=226						
JKRS	**Kuro-shima**	**1.86**	**95**	P	**Pn**	**08 48 14.5**	**+0.5**
JKRS				*e*S	**Sn**	**08 48 37.5**	**+1.0**
SLGT	**Liugui**	**1.87**	**221**	P	**Pn**	**08 48 15.4**	**+1.3**
	baz=219						
SLGT				*e*S	**Sb**	**08 48 39.1**	**-1.3**
	baz=219						
JIJ	**Ishigaki jima**	**1.98**	**91**	P	**Pn**	**08 48 15.4**	**-0.2**
JIJ				*e*S	**Sn**	**08 48 38.4**	**-0.9**
SSD	**Sandimen**	**2.07**	**217**	*e*P	**Pn**	**08 48 18.5**	**+1.7**
	baz=215						
SSD				*e*S	**Sn**	**08 48 44.1**	**+2.4**
	baz=215						
JISG	**Ishigakijimahi**	**2.13**	**85**	P	**Pn**	**08 48 17.8**	**+0.1**
JISG				S	**Sn**	**08 48 43.4**	**+0.2**
MASBT	**Mashibuluo**	**2.18**	**215**	*e*P	**Pn**	**08 48 19.5**	**+1.2**
	baz=213						
MASBT				*e*S	**Sn**	**08 48 45.7**	**+1.4**
	baz=213						
VWUC	**VWUC**	**2.37**	**285**	*e*S	**Sn**	**08 48 47.0**	**-2.1**
	baz=283						
PHUB	**P'eng-hu**	**2.38**	**248**	*e*P	**Pn**	**08 48 19.5**	**-1.5**
	baz=247						
PHUB				S	**Sn**	**08 48 49.1**	**-0.2**
	baz=247						
JTJ	**Tarama**	**2.49**	**84**	P	**Pn**	**08 48 23.5**	**+0.8**
JTJ				S	**Sn**	**08 48 53.2**	**+1.1**
PTMZ	**Houxiangcun**	**2.67**	**284**	*e*S	**Sn**	**08 48 54.8**	**-1.8**
	baz=283						
XPSS	**Dashigiu**	**2.98**	**328**	*e*P	**Pn**	**08 48 27.9**	**-1.5**
	baz=327						
XPSS				*e*S	**Sn**	**08 49 02.5**	**-1.7**
	baz=327						
AXDP	**Jialang**	**3.68**	**278**	*e*P	**Pn**	**08 48 38.0**	**-1.0**
	baz=277						

*IDC **14** 08:59:10.3±1.9,34°.83N×138°.22E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.3/57,mbtmp3.5/3, Error ellipse: s-maj=60.2km s-min=21.5km az=87.0*
*ISCJB **14** 08:59:12.3±0.7,35°.62N±0°.04×140°.07E±0°.06,h78km±5km, mb3.5/3,Error ellipse: s-maj=9.0km s-min=6.1km az=146.8*
*JMA **14** 08:59:12.9±0.2,35°.70N×140°.07E,h70km±2km,M2.7*
ISC 14 08:59:13.3±1.0,**35°.63N**±0°.05×**140°.06E**±0°.06,**h74**km±7km, **n16**,σ0**92**/27,**mb3.7**/3,**

0.4nm,0.5s,baz=360,slow=7.5,SNR=7.3

IDC ***14*** *09:07:44.5±1.2, 12°.53N×145°.24E, h0km, mb3.3/5, mb1 3.6/5, mb1mx3.4/42, mbtmp3.3/5, MS2.8/1, Ms1 3.0/1, ms1mx2.4/20, Error ellipse: s-maj=46.7km s-min=18.1km az=85.0*

ISCJB ***14*** *09:07:48.3±0.9, 12°.48N±0°.08×145°.2E±0°.3, h38km, mb3.4/5, MS2.8/1, Error ellipse: s-maj=37.0km s-min=10.0km az=173.1*

ISC 14 09:07:50.1±1.1, 12°.5N±0°.1×145°.2E±0°.3, h38km, n13, σ0s75/7, mb3.5/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.08**	**344**	Pn	**Pn**	**09 08 08.3**	**-0.4**
	111nm,0.3s,baz=158,slow=11,SNR=40						
GUMO				Sn	**Sn**	**09 08 22.7**	**+0.2**
	203nm,0.3s,baz=356,slow=23,SNR=7.2						
H11S3	**WAKE ISLAND Hy**	**21.55**	**71**	T	T	09 35 54.0	
	baz=257						
H11S1	**WAKE ISLAND Hy**	**21.57**	**71**	T	T	09 35 36.4	
	baz=257						
H11S2	**WAKE ISLAND Hy**	**21.57**	**71**	T	T	09 35 49.7	
	baz=257						
H11N1	**WAKE ISLAND Hy**	**22.04**	**68**	T	T	09 36 19.6	
	baz=253						
H11N2	**WAKE ISLAND Hy**	**22.05**	**68**	T	T	09 36 21.9	
	baz=253						
H11N3	**WAKE ISLAND Hy**	**22.06**	**68**	T	T	09 36 07.1	
	baz=253						
WRA	**Warramunga Arr**	**33.99**	**198**	P	**P**	**09 14 30.6**	**+0.2**
	0.6nm,1.0s,baz=20,slow=9.7,SNR=3.3						
ASAR	**Alice Springs**	**37.63**	**197**	P	**P**	**09 15 01.2**	**-0.4**
	0.1nm,0.5s,baz=22,slow=10.0,SNR=1.4						
CMAR	**Chiang Mai Arr**	**44.84**	**284**	LR	LR	09 36 29.3	
	comp=Z,10nm,18.0s,baz=130,slow=38						
MKAR	**Makanchi Array**	**62.44**	**316**	P	**P**	**09 18 09.7**	**+0.2**
	0.4nm,0.8s,baz=96,slow=9.1,SNR=2.0						
ILAR	**Eielson Array**	**69.39**	**25**	P	**P**	**09 18 53.0**	**-0.8**
	0.2nm,0.5s,baz=250,slow=5.4,SNR=2.9						
YKA	**Yellowknife Ar**	**83.65**	**27**	P	**P**	**09 20 15.5**	**+1.0**
	0.2nm,0.5s,baz=283,slow=5.0,SNR=2.2						

IDC ***14*** *09:42:21.6±0.8, 32°.99N×93°.88E, h0km, mb3.7/11, mb1 3.8/13, mb1mx3.7/41, mbtmp3.7/13, ML3.3/1, MS3.4/7, Ms1 3.4/7, ms1mx3.1/36, Error ellipse: s-maj=34.9km s-min=17.2km az=56.0*

BJI ***14*** *09:42:24.8±0.0, 33°.14N×93°.98E, h12km, ML3.8/5*

ISCJB ***14*** *09:42:25.0±0.5, 33°.18N±0°.06×93°.98E±0°.09, h33km, mb3.7/10, MS3.4/3, Error ellipse: s-maj=12.5km s-min=6.0km az=29.1*

ISC 14 09:42:27.8±0.7, 33°.21N±0°.08×93°.90E±0°.09, h35km, n31, σ1s25/26, mb3.8/10, MS3.3/3, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**7.81**	**36**	*e*Pn	**Pn**	**09 44 18.6**	**-0.5**
SHL	**Shillong**	**7.82**	**194**	*e*P	**Pn**	**09 44 18.5**	**-0.8**
TAPN	**Taplejung**	**7.92**	**224**	*e*P	**Pn**	**09 44 22.7**	**+1.9**
	15nm,0.4s						
ODAN	**Odare**	**8.48**	**223**	*e*P	**Pn**	**09 44 29.2**	**+0.8**
	22nm,0.5s						
JIRN	**Jiri**	**8.66**	**232**	*e*P	**Pn**	**09 44 32.7**	**+1.8**
	20nm,0.5s						
GUN	**Gumba**	**8.70**	**235**	*e*P	**Pn**	**09 44 32.6**	**+1.0**
	31nm,0.5s						
RAMN	**Ramite**	**8.88**	**227**	*e*P	**Pn**	**09 44 33.3**	**-0.7**
	14nm,0.5s						
KKN	**Kakani**	**9.19**	**236**	*e*P	**Pn**	**09 44 38.3**	**+0.1**
	14nm,0.3s						
PKI	**Pulchoki**	**9.24**	**235**	*e*P	**Pn**	**09 44 38.8**	**-0.1**
	40nm,0.4s						
PKIN	**Phulchoki**	**9.24**	**235**	*e*P	**Pn**	**09 44 39.1**	**+0.2**
	27nm,0.4s						
DMN	**Daman**	**9.43**	**236**	*e*P	**Pn**	**09 44 41.8**	**+0.4**
	12nm,0.5s						
WMQ	**Urumqi**	**11.65**	**337**	*e*P	**Pn**	**09 45 10.5**	**-1.1**
MKAR	**Makanchi Array**	**16.20**	**330**	Pn	**Pn**	**09 46 11.6**	**-1.0**
	baz=138,slow=12,SNR=2.5						
MKAR				LR	LR	09 53 46.0	
	comp=Z,50nm,19.3s,baz=160,slow=42						
SONM	**Songino Array**	**17.39**	**29**	P	**Pn**	**09 46 26.7**	**-1.0**
	0.1nm,0.3s,baz=214,slow=12,SNR=7.2						
SONM				LR	LR	09 53 49.1	
	comp=Z,129nm,20.6s,baz=1.0,slow=39						
WHN	**Wuhan**	**17.57**	**93**	P	**P**	**09 46 34.1**	**+3.4**
AAK	**Ala-Archa**	**17.94**	**307**	LR	LR	09 54 29.5	
	comp=Z,181nm,19.1s,baz=85,slow=40						
TLY	**Talaya**	**19.77**	**18**	LR	LR	09 55 06.7	
	comp=Z,73nm,19.2s,baz=205,slow=38						
KURBB	**Kurchatov Arra**	**20.75**	**332**	P	**P**	**09 47 05.4**	**+0.1**
	1.8nm,0.4s,baz=138,slow=11,SNR=13						
ZALV	**Zalesovo Beam**	**21.71**	**345**	P	**P**	**09 47 17.4**	**+1.8**
	0.4nm,0.2s,baz=157,slow=7.8,SNR=3.8						
KSRS	**Korea Array**	**27.98**	**72**	LR	LR	10 00 00.4	
	comp=Z,36nm,18.3s,baz=85,slow=38						
GEYT	**Alibeck**	**29.37**	**289**	LR	LR	10 02 29.3	
	comp=Z,77nm,20.4s,baz=330,slow=41						
AKASG	**Malin Array Be**	**49.55**	**311**	P	**P**	**09 51 14.8**	**-0.2**
	0.7nm,0.5s,baz=72,slow=6.8,SNR=2.4						
FINES	**FINESS Array B**	**50.94**	**325**	P	**P**	**09 51 25.7**	**+0.3**
	1.5nm,0.8s,baz=96,slow=9.9,SNR=4.4						
ARCES	**ARCESS Array B**	**51.77**	**335**	LR	LR	10 14 15.8	
	comp=Z,128nm,18.1s,baz=345,slow=37						
NOA	**NORSAR Array B**	**58.12**	**325**	P	**P**	**09 52 17.2**	**-0.4**
	0.8nm,0.7s,baz=78,slow=6.9,SNR=3.9						
GERES	**GERESS Array B**	**59.77**	**311**	P	**P**	**09 52 29.4**	**+0.1**
	0.4nm,0.6s,baz=67,slow=7.6,SNR=3.0						
WRA	**Warramunga Arr**	**65.45**	**138**	P	**P**	**09 53 05.7**	**-1.6**
	0.5nm,0.6s,baz=335,slow=6.5,SNR=7.3						
ASAR	**Alice Springs**	**68.21**	**141**	P	**P**	**09 53 23.1**	**-1.8**
	1.1nm,0.7s,baz=326,slow=5.4,SNR=17						
ILAR	**Eielson Array**	**71.50**	**23**	P	**P**	**09 53 45.5**	**+0.9**
	0.6nm,0.6s,baz=298,slow=5.1,SNR=11						
YKA	**Yellowknife Ar**	**81.91**	**13**	P	**P**	**09 54 44.0**	**+0.7**
	0.2nm,0.5s,baz=325,slow=5.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**84.74**	**282**	P	**P**	**09 54 58.3**	**-0.5**
	0.4nm,0.5s,baz=51,slow=4.1,SNR=4.4						

IDC ***14*** *10:00:25.4±1.6, 18°.24S×176°.99W, h338km±15km, mb3.7/13, mb1 3.9/15, mb1mx3.7/32, mbtmp4.4/15, Error ellipse: s-maj=16.6km s-min=9.6km az=128.0*

NEIC ***14*** *10:00:29.8±1.9, 18°.2S±0°.1×176°.94W±0°.08, h380km±6km, mb4.3/87*

ISC 14 10:00:27.4±0.4, 18°.21S±0°.08×176°.82W±0°.06, h361km, n152, σ1s36/155, mb4.3/51, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.91**	**275**		**Pn**	**10 01 49.1**	**+2.5**
MSVF					**S**	**10 02 53.9**	**+3.2**
AFI	**Afiamalu**	**6.47**	**49**	P	**Pn**	**10 02 01.7**	**-2.3**
	27nm,0.3s,baz=60,slow=0.9,SNR=33						
AFI				S	S	10 03 13.4	-9.2
	baz=62,slow=22,SNR=1.0						
AFI	**Afiamalu**	**6.47**	**49**		**Pn**	**10 02 01.9**	**-2.2**
AFI				S	**S**	**10 03 18.6**	**-4.0**
NIUE	**Niue**	**6.59**	**99**		**Pn**	**10 02 04.9**	**-0.5**
DZM	**Mont Dzumac**	**16.18**	**253**	P	**P**	**10 03 52.9**	**-1.5**
	1.1nm,0.3s,baz=90,slow=18,SNR=18						
DZM	**Mont Dzumac**	**16.18**	**253**	P	**P**	**10 03 54.3**	**-0.1**
DZM				IAmb	IAmb	10 04 07.0	
	comp=Z,9.7nm,0.8s						
RAR	**Rarotonga**	**16.33**	**103**	P	**Pn**	**10 04 01.8**	**+2.5**
RAR				IAmb	IAmb	10 04 18.0	
	comp=Z,28nm,1.2s						
OUZ	**Omahuta**	**18.96**	**205**	P	**P**	**10 04 24.2**	**+0.4**
OUZ				IAmb	IAmb	10 04 40.5	
	comp=Z,14nm,1.3s						
URZ	**Urewera**	**20.66**	**194**	P	**P**	**10 04 37.6**	**-3.0**
	comp=Z,3.8nm,0.4s,baz=281,slow=2.8,SNR=7.7						
URZ				S	**S**	**10 08 09.8**	**+2.4**
	comp=Z,6.4nm,0.9s,baz=165,slow=4.5,SNR=3.5						
URZ	**Urewera**	**20.66**	**194**	P	**P**	**10 04 37.4**	**-3.1**
URZ				IAmb	IAmb	10 04 45.4	
	comp=Z,12nm,1.1s						
BKZ	**Black Stump Fm**	**21.67**	**194**	P	**P**	**10 04 46.7**	**-3.0**
BKZ				IAmb	IAmb	10 04 57.2	
	comp=Z,12nm,1.3s						
RPZ	**Rata Peaks**	**27.40**	**199**	P	**P**	**10 05 39.9**	**-1.2**
	comp=Z,3.5nm,0.6s,baz=6.3,slow=9.2,SNR=2.9						
RPZ	**Rata Peaks**	**27.40**	**199**	P	**P**	**10 05 41.3**	**+0.3**
RPZ				IAmb	IAmb	10 05 53.4	
	comp=Z,14nm,1.3s						
ARMA	**Armidale**	**31.11**	**241**	P	**P**	**10 06 13.3**	**-0.6**
ARMA				IAmb	IAmb	10 06 14.8	
	comp=Z,26nm,1.2s						
CAN	**Canberra**	**34.73**	**234**	P	**P**	**10 06 44.8**	**-0.1**
CAN				IAmb	IAmb	10 06 46.0	
	comp=Z,22nm,1.3s						
COEN	**Coen**	**38.62**	**270**	P	**P**	**10 07 16.9**	**-0.6**
TAU	**Tasmania Unive**	**39.04**	**223**	P	**P**	**10 07 18.5**	**-2.1**
STKA	**Stephens Creek**	**39.81**	**242**	P	**P**	**10 07 26.6**	**-0.5**
	comp=Z,3.9nm,0.4s,baz=91,slow=9.9,SNR=14						
STKA	**Stephens Creek**	**39.81**	**242**	P	**P**	**10 07 26.3**	**-0.8**
WAKE	**Wake Island**	**40.64**	**336**		P	10 07 27.6	-6.2
BBOO	**Buckleboo**	**44.59**	**242**	P	**P**	**10 08 04.5**	**-0.7**
BBOO				IAmb	IAmb	10 08 05.4	
	comp=Z,18nm,1.2s						
WRA	**Warramunga Arr**	**46.06**	**260**	P	**P**	**10 08 15.2**	**-1.7**
	comp=Z,1.1nm,0.3s,baz=93,slow=7.8,SNR=5.7						
AS31	**Alice Springs**	**46.16**	**254**	P	**P**	**10 08 16.8**	**-0.8**
AS31				IAmb	IAmb	10 08 17.6	
	comp=Z,5.9nm,0.5s						
ASAR	**Alice Springs**	**46.16**	**254**	P	**P**	**10 08 16.6**	**-1.1**
	comp=Z,14nm,0.5s,baz=90,slow=8.4,SNR=246						
ASAR				ScP	**ScP**	**10 13 05.5**	**+0.5**
	comp=Z,0.8nm,1.0s,baz=95,slow=4.2,SNR=4.4						
ASAR				S	**S**	**10 14 33.5**	**-2.6**
	comp=Z,0.4nm,0.7s,baz=89,slow=16,SNR=4.8						
MTN	**Manton Dam**	**50.30**	**268**	P	**P**	**10 08 47.9**	**-1.1**
FORT	**Forrest**	**51.24**	**245**	P	**P**	**10 08 54.4**	**-1.3**
FORT				IAmb	IAmb	10 09 03.0	
	comp=Z,23nm,1.1s						
KNRA	**Kununurra**	**51.96**	**264**	P	**P**	**10 09 00.3**	**-0.9**
KNRA				IAmb	IAmb	10 09 17.3	
	comp=Z,19nm,1.2s						
FITZ	**Fitzroy Crossi**	**54.47**	**260**	P	**P**	**10 09 18.9**	**-0.4**
PSA00	**Pilbara Seismi**	**59.29**	**255**	P	**P**	**10 09 51.7**	**-1.0**
PSA00				IAmb	IAmb	10 10 05.2	
	comp=Z,19nm,1.2s						
UGM	**Wanagama**	**71.14**	**268**	P	**P**	**10 11 07.8**	**-0.5**
QSPA	**South Pole Qui**	**71.84**	**180**	P	**P**	**10 11 11.9**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=36,slow=1.2,SNR=8.9						
QSPA	**South Pole Qui**	**71.84**	**180**	P	**P**	**10 11 12.5**	**+0.9**
PETK	**Petropavlovsk-**	**74.37**	**344**	P	**P**	**10 11 26.2**	**0.0**
	comp=Z,2.6nm,0.7s,baz=156,slow=11,SNR=4.2						
SAO	**San Andreas Ge**	**75.61**	**43**	P	**P**	**10 11 36.0**	**+2.5**
SAO				IAmb	IAmb	10 11 36.3	
	comp=Z,5.5nm,0.8s						
CHGN	**Chignik**	**75.83**	**10**	P	**P**	**10 11 34.8**	**+0.5**
KMRM	**Mail Ridge**	**76.29**	**39**	P	**P**	**10 11 40.0**	**+2.7**
MWC	**Mount Wilson**	**76.44**	**47**	P	**P**	**10 11 40.4**	**+1.9**
MWC				IAmb	IAmb	10 11 40.8	
	comp=Z,3.9nm,0.7s						
YBH	**Yreka Blue Hor**	**77.82**	**38**	P	**P**	**10 11 48.2**	**+2.5**
WAKR	**Walker**	**77.92**	**43**	P	**P**	**10 11 48.6**	**+2.1**
BEKR	**Beckworth**	**78.12**	**41**	P	**P**	**10 11 49.3**	**+1.7**
BEKR				IAmb	IAmb	10 11 50.1	
	comp=Z,5.3nm,1.2s						
PNTR	**Pine Nut**	**78.15**	**42**	P	**P**	**10 11 50.0**	**+2.2**
PNTR				IAmb	IAmb	10 11 50.6	
	comp=Z,6.9nm,0.8s						
VCNR	**Virginia City**	**78.23**	**42**	P	**P**	**10 11 49.8**	**+1.6**
VCNR				IAmb	IAmb	10 11 50.9	
	comp=Z,4.3nm,0.9s						
YERR	**Yerington**	**78.32**	**42**	P	**P**	**10 11 50.7**	**+2.0**
YERR				IAmb	IAmb	10 11 51.2	
	comp=Z,5.3nm,0.7s						
KDAK	**Kodiak Island**	**78.35**	**13**	P	**P**	**10 11 48.0**	**-0.1**
RYN	**Ryan**	**78.57**	**43**	P	**P**	**10 11 52.4**	**+2.3**
NVAR	**Mina Array Bea**	**78.61**	**43**	P	**P**	**10 11 51.6**	**+1.3**
	comp=Z,3.6nm,0.7s,baz=224,slow=9.0,SNR=37						
PAHR	**Pah Rah Range**	**78.64**	**42**	P	**P**	**10 11 52.2**	**+1.8**
NV11	**Mina Array Sit**	**78.70**	**43**	P	**P**	**10 11 52.8**	**+2.1**
NV11				IAmb	IAmb	10 11 53.4	
	comp=Z,6.7nm,1.1s						
KVN	**Kaiserville**	**79.08**	**43**	P	**P**	**10 11 54.6**	**+1.7**
KVN				IAmb	IAmb	10 11 55.2	
	comp=Z,3.9nm,0.8s						
TPNV	**Topopah Spring**	**79.15**	**45**	P	**P**	**10 11 55.3**	**+2.1**
MOD	**Modoc Plateau**	**79.35**	**39**	P	**P**	**10 11 55.8**	**+1.6**
PINE	**Pine Mountain**	**80.10**	**37**	P	**P**	**10 12 00.5**	**+2.3**
PINE				IAmb	IAmb	10 12 00.7	
	comp=Z,4.5nm,0.8s						
WVOR	**Wild Horse Val**	**80.67**	**40**	P	**P**	**10 12 03.6**	**+2.5**
TUC	**Tucson**	**80.70**	**52**	P	**P**	**10 12 04.3**	**+2.9**
TUC				IAmb	IAmb	10 12 04.5	
	comp=Z,2.7nm,0.7s						
X16A	**Lo Mia Camp, P**	**81.22**	**50**	P	**P**	**10 12 06.7**	**+2.4**
X16A				IAmb	IAmb	10 12 07.6	
	comp=Z,4.0nm,0.8s						
319A	**Douglas**	**81.39**	**53**	P	**P**	**10 12 08.1**	**+3.0**
319A				IAmb	IAmb	10 12 09.2	
	comp=Z,5.9nm,0.9s						
U15A	**North Rim**	**81.61**	**47**	P	**P**	**10 12 08.2**	**+1.9**
U15A				IAmb	IAmb	10 12 09.2	
	comp=Z,5.6nm,1.1s						
SZCU	**Shurtz Canyon**	**81.64**	**46**	P	**P**	**10 12 06.3**	**-0.1**
ELK	**Elko**	**81.85**	**42**	P	**P**	**10 12 08.4**	**+1.0**
WHN	**Wuhan**	**82.01**	**306**	P	**P**	**10 12 06.8**	**-1.3**
SUA	**Susitna One**	**82.10**	**12**	P	**P**	**10 12 08.8**	**+0.7**
SUA				IAmb	IAmb	10 12 09.4	
	comp=Z,9.7nm,1.1s						
G08A	**Pilot Rock**	**82.13**	**37**	P	**P**	**10 12 09.6**	**+1.0**
G08A				IAmb	IAmb	10 12 10.8	
	comp=Z,4.1nm,0.8s						
LTY	**Liberty**	**82.35**	**35**	P	**P**	**10 12 10.5**	**+0.9**
LTY				IAmb	IAmb	10 12 11.7	
	comp=Z,5.1nm,1.3s						
MTPU	**Mount Pierson**	**82.48**	**46**	P	**P**	**10 12 10.8**	**-0.1**
KNK	**Knik Glacier**	**82.53**	**13**	P	**P**	**10 12 10.9**	**+0.8**
PMR	**Palmer**	**82.55**	**13**	P	**P**	**10 12 10.7**	**+0.6**
PMR				IAmb	IAmb	10 12 19.1	
	comp=Z,8.9nm,1.3s						
MSU	**Marysvale**	**82.72**	**46**	P	**P**	**10 12 12.4**	**+0.4**
GHO	**Glory Hole Cre**	**82.76**	**13**	P	**P**	**10 12 12.2**	**+0.8**
E08A	**Dider Farm, El**	**82.78**	**36**	P	**P**	**10 12 12.6**	**+0.9**
BMO	**Blue Mountains**	**82.84**	**38**	P	**P**	**10 12 12.8**	**+0.6**
MFID	**Camas Ranch**	**82.93**	**40**	P	**P**	**10 12 13.9**	**+1.1**
ANM	**Nome**	**82.99**	**5**	P	**P**	**10 12 13.3**	**+0.9**
121A	**Cookes Peak, D**	**83.05**	**53**	P	**P**	**10 12 13.9**	**+0.2**
121A				IAmb	IAmb	10 12 17.2	
	comp=Z,4.6nm,0.8s						
PPLA	**Purkeypile**	**83.13**	**11**	P	**P**	**10 12 13.4**	**0.0**
PPLA				IAmb	IAmb	10 12 30.9	
	comp=Z,9.0nm,1.3s						
SCM	**Sheep Creek Mo**	**83.16**	**14**	P	**P**	**10 12 14.4**	**+1.0**
CRQM	**Cirque**	**83.24**	**16**	P	**P**	**10 12 14.8**	**+0.8**
NLU	**North Lily Min**	**83.51**	**44**	P	**P**	**10 12 15.6**	**-0.4**
F10A	**Beach Ranch, E**	**83.52**	**37**	P	**P**	**10 12 16.4**	**+0.7**
F10A				IAmb	IAmb	10 12 17.7	
	comp=Z,6.4nm,0.9s						
VRDI	**Verde Repeater**	**83.56**	**16**	P	**P**	**10 12 16.2**	**+0.6**
VRDI				IAmb	IAmb	10 12 17.8	
	comp=Z,12nm,1.2s						
GLB	**Gilahina Butte**	**83.65**	**15**	P	**P**	**10 12 15.8**	**0.0**
BALM	**Baldy**	**83.68**	**16**	P	**P**	**10 12 16.7**	**+0.6**
B08A	**Colville Reser**	**83.73**	**34**	P	**P**	**10 12 17.1**	**+0.5**
B08A				IAmb	IAmb	10 12 18.2	
	comp=Z,5.1nm,1.0s						
PLID	**Pearl Lake**	**83.74**	**38**	P	**P**	**10 12 17.3**	**+0.3**
BARN	**Barnard Glacie**	**83.89**	**16**	P	**P**	**10 12 18.4**	**+1.2**
CTGM	**Chitina Glacie**	**83.89**	**17**	P	**P**	**10 12 18.4**	**+1.1**
KTH	**Kantishna Hill**	**83.97**	**11**	P	**P**	**10 12 17.9**	**+0.4**
KTH				IAmb	IAmb	10 12 30.2	
	comp=Z,10nm,1.4s						
TRF	**Thorofare Moun**	**83.99**	**12**	P	**P**	**10 12 18.0**	**+0.3**
SRU	**San Rafael Swe**	**84.14**	**46**	P	**P**	**10 12 20.6**	**+1.6**
DHY	**Denali Highway**	**84.25**	**13**	P	**P**	**10 12 19.8**	**+0.8**
DHY				IAmb	IAmb	10 12 35.2	
	comp=Z,15nm,1.5s						
LENM	**Lemitar**	**84.38**	**51**	P	**P**	**10 12 21.4**	**+1.0**
MCK	**McKinley**	**84.51**	**12**	P	**P**	**10 12 20.2**	**+0.1**
MNTX	**Cornudas Mount**	**84.52**	**54**	P	**P**	**10 12 23.4**	**+2.5**
MNTX				IAmb	IAmb	10 12 24.2	
	comp=Z,3.2nm,0.9s						
BNM	**Barren Site**	**84.63**	**52**	P	**P**	**10 12 22.0**	**+0.3**
BWN	**Browne**	**84.81**	**12**	P	**P**	**10 12 21.9**	**+0.5**
TX31	**Lajitas Ar. Si**	**84.89**	**57**	P	**P**	**10 12 25.2**	**+2.4**
TX31				IAmb	IAmb	10 12 26.7	
	comp=Z,5.8nm,0.9s						
TX32	**Lajitas Array**	**84.89**	**57**	P	**P**	**10 12 24.1**	**+1.2**
TX32				IAmb	IAmb	10 12 26.7	
	comp=Z,5.9nm,0.9s						
TXAR	**Lajitas Array**	**84.89**	**57**	P	**P**	**10 12 25.2**	**+2.3**
	comp=Z,4.3nm,0.8s,baz=221,slow=6.2,SNR=42						
MCMT	**McKenzie Canyo**	**85.50**	**40**	P	**P**	**10 12 25.4**	**-0.3**
HDA	**Harding Lake**	**85.52**	**13**	P	**P**	**10 12 25.1**	**+0.1**
CCB	**Clear Creek Bu**	**85.56**	**12**	P	**P**	**10 12 25.1**	**0.0**
COLA	**College**	**85.75**	**12**	P	**P**	**10 12 25.8**	**-0.3**
IL31		**85.85**	**12**	P	**P**	**10 12 27.2**	**+0.7**
ILAR	**Eielson Array**	**85.85**	**12**	P	**P**	**10 12 26.9**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=225,slow=5.8,SNR=39						
S22A	**4UR Ranch, Cre**	**86.08**	**48**	P	**P**	**10 12 28.9**	**+0.2**
S22A				IAmb	IAmb	10 12 31.3	
	comp=Z,3.8nm,1.1s						
YHL	**Hebgen Lake**	**86.53**	**40**	P	**P**	**10 12 32.4**	**+1.7**
PDAR	**Pinedale Array**	**86.54**	**43**	P	**P**	**10 12 31.2**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=186,slow=3.0,SNR=5.6						
DAWY	**Dawson**	**86.97**	**16**	P	**P**	**10 12 31.9**	**-0.1**
DAWY				IAmb	IAmb	10 12 34.9	
	comp=Z,5.8nm,1.1s						
HRY	**Holter Researc**	**87.07**	**39**	P	**P**	**10 12 33.7**	**+0.7**
HHC	**Hu-ho-hao-te**	**88.57**	**314**	*e*P	**P**	**10 12 40.4**	**+0.2**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
HHC				AMB	AMB		
	comp=Z,8.0nm,5.3s						
TOLK	**Toolik Lake Re**	**88.83**	**10**	P	**P**	**10 12 41.6**	**+0.9**
PLCA	**Paso Flores**	**90.03**	**133**	P	**P**	**10 12 47.1**	**0.0**
	comp=Z,0.8nm,0.9s,baz=213,slow=3.9,SNR=3.2						
PLCA	**Paso Flores**	**90.03**	**133**	P	**P**	**10 12 47.6**	**+0.5**
CD2	**Chengdu**	**90.50**	**302**	*e*P	**P**	**10 12 48.9**	**-0.5**
LZH	**Lanzhou**	**92.28**	**307**	⇓P	**P**	**10 12 58.3**	**+0.7**
LZH				pP	pP	10 14 19.3	-2.0
LZH				sP	sP	10 14 53.9	-4.5
LZH				PP	**PP**	**10 16 46.5**	**+2.4**
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
YKA	**Yellowknife Ar**	**93.98**	**24**	P	**P**	**10 13 05.0**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=244,slow=4.5,SNR=15						
MKAR	**Makanchi Array**	**110.43**	**314**	PKiKP	**PKiKP**	**10 18 16.3**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=122,slow=1.9,SNR=2.9						
KSH	**Kashi**	**114.48**	**306**	*e*PKP	PKPdf	10 18 25.0	-0.2
BVAR	**Borovoye Array**	**118.03**	**321**	PKP	**PKPdf**	**10 18 30.8**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=104,slow=0.6,SNR=2.7						
SPITS	**Spitsbergen Ar**	**119.66**	**357**	PKP	**PKPdf**	**10 18 33.9**	**-0.1**
	comp=Z,2.1nm,1.1s,baz=31,slow=4.2,SNR=3.1						
ARCES	**ARCESS Array B**	**126.87**	**350**	PKP	**PKPdf**	**10 18 47.9**	**-0.1**
	comp=Z,3.8nm,1.0s,baz=36,slow=2.3,SNR=8.6						
HFS	**Hagfors**	**137.45**	**352**	PKhKP	PKPpre	10 18 58.1	
	comp=Z,1.4nm,0.8s,baz=11,slow=1.5,SNR=4.2						
OJC	**Ojcow**	**145.40**	**341**		**PKPdf**	**10 19 20.9**	**-1.8**
KOLS	**Kolonicke sedl**	**145.68**	**338**	*e*PKP	**PKPab**	**10 19 25.0**	**-0.2**
BRTR	**Keskin Array B**	**146.06**	**316**	PKPbc	**PKPbc**	**10 19 25.7**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=100,slow=3.0,SNR=2.9						
CLL	**Collm**	**146.07**	**349**	⇑*i*PKPbc	**PKPbc**	**10 19 25.8**	**+0.5**
	comp=Z,11nm,0.6s						
UPC	**Upice**	**146.15**	**345**	*e*PKP	**PKPbc**	**10 19 26.5**	**+0.8**
DPC	**Dobruska-Polom**	**146.26**	**345**	*e*PKP	**PKPab**	**10 19 27.0**	**-0.5**
BRG	**Berggiesshubel**	**146.30**	**348**	*i* PKP	**PKPbc**	**10 19 26.0**	**0.0**
	comp=Z,6.8nm,0.7s						
KRLC	**Kraliky**	**146.39**	**344**	*e*PKP	**PKPbc**	**10 19 27.0**	**+0.7**
PRU	**Pruhonice**	**147.01**	**346**	*e*PKP	**PKPbc**	**10 19 28.8**	**+0.8**
GOPC	**GO Pecny, Ondr**	**147.03**	**346**	*e*PKP	**PKPbc**	**10 19 28.3**	**+0.2**
VYHS	**Vyhne**	**147.22**	**341**	*e*PKP	**PKPbc**	**10 19 29.8**	**+1.2**
VYHS				*e*		10 19 32.4	
MEM	**Membach**	**147.60**	**357**	PKPdf	**PKPbc**	**10 19 30.2**	**+0.7**
BSTI	**Sart Tilman**	**147.65**	**357**	PKPdf	**PKPbc**	**10 19 30.8**	**+1.1**
MODS	**Modra-Piesok**	**147.80**	**342**	*e*PKP	**PKPbc**	**10 19 30.5**	**+0.3**
KHC	**Kasperske Hory**	**148.03**	**347**	*e*PKP	**PKPbc**	**10 19 31.4**	**+0.6**
KHC	**Kasperske

	comp=N,88nm,0.4s							
PB10	**IPOC Station P**	**2.91**	**212**	*i* P	**Pn**	**10 02 53.4**	**-0.1**
YJA	**Yavi**	**3.33**	**110** ⇑	*i* P	**Pn**	**10 02 58.8**	**-0.7**
PB14	**IPOC Station P**	**3.84**	**201**	*i* P	**Pn**	**10 03 06.2**	**+0.1**
HJA	**Humahuaca**	**3.87**	**124**	*i* P	**Pn**	**10 03 06.3**	**-0.4**
AZAP	**Zapla**	**4.74**	**133** ⇓	*i* P	**Pn**	**10 03 16.9**	**-1.3**
AZAP				IAML		10 03 17.6	
	comp=Z,7.8nm,0.4s						
LPAZ	**La Paz**	**4.78**	**9**	*i* P	**Pn**	**10 03 19.7**	**+0.5**
SLA	**San Lorenzo**	**4.81**	**140**	*i* P	**Pn**	**10 03 18.7**	**-0.4**
SLA				IAML		10 03 19.6	
	comp=Z,7.2nm,0.6s						
AGUA	**GUANDACOL**	**8.42**	**178**	*i* P	**Pn**	**10 04 05.6**	**-2.6**
ACCO	**Cerro Coronel**	**9.51**	**181**	*i* P	Pn	10 04 13.8	-9.4

IDC ***14*** *10:11:14.4±1.0,22˚.30N×93˚.48E,h0km,mb3.4/5, mb1 3.6/6,mb1mx3.3/54,mbtmp3.4/6,ML3.9/1,Error ellipse: s-maj=24.1km s-min=12.3km az=23.0*

ISCJB ***14*** *10:11:16.8±0.7,22˚.3N±0˚.1×93˚.4E±0˚.1,h35km,mb3.2/5, Error ellipse: s-maj=23.8km s-min=7.9km az=36.0*

ISC 14 10:11:19.1±1.1,22˚.3N±0˚.2×93˚.4E±0˚.2,h35km,n16, σ0s40/16,mb3.2/5,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**1.69**	**285**	Pg	**Pn**	**10 11 46.6**	**+0.5**
	0.5nm,0.3s,baz=108,slow=20,SNR=6.7						
BRDH				Lg	Lg	10 12 09.5	
	2.9nm,0.3s,baz=127,slow=24,SNR=28						
CMAR	**Chiang Mai Arr**	**6.42**	**125**	Pn	**Pn**	**10 12 50.3**	**-0.9**
	0.7nm,0.3s,baz=302,slow=13,SNR=3.6						
CMAR				Lg	Lg	10 14 26.7	
	baz=301,slow=34,SNR=2.6						
ODAN	**Odare**	**7.14**	**311**	*e*P	**Pn**	**10 13 01.7**	**+0.3**
	28nm,0.3s						
TAPN	**Taplejung**	**7.25**	**316**	*e*P	**Pn**	**10 13 03.0**	**+0.1**
	18nm,0.3s						
RAMN	**Ramite**	**7.76**	**308**	*e*P	**Pn**	**10 13 09.9**	**0.0**
	49nm,0.3s						
JIRN	**Jiri**	**8.48**	**311**	*e*P	**Pn**	**10 13 19.5**	**-0.3**
	32nm,0.3s						
GUN	**Gumba**	**8.85**	**311**	*e*P	**Pn**	**10 13 24.7**	**-0.1**
	10nm,0.2s						
PKI	**Pulchoki**	**8.98**	**308**	*e*P	**Pn**	**10 13 26.3**	**-0.4**
	9.4nm,0.3s						
PKIN	**Phulchoki**	**9.00**	**308**	*e*P	**Pn**	**10 13 26.6**	**-0.2**
	11nm,0.2s						
KKN	**Kakani**	**9.20**	**308**	*e*P	**Pn**	**10 13 29.7**	**+0.1**
	11nm,0.3s						
DMN	**Daman**	**9.23**	**307**	*e*P	**Pn**	**10 13 29.8**	**-0.2**
	4.1nm,0.2s						
MKAR	**Makanchi Array**	**26.09**	**342**	P	**P**	**10 16 49.6**	**+0.1**
	0.4nm,0.8s,baz=166,slow=11,SNR=2.7						
SONM	**Songino Array**	**27.57**	**19**	P	**P**	**10 17 03.0**	**0.0**
	0.3nm,0.5s,baz=224,slow=8.0,SNR=2.8						
KURBB	**Kurchatov Arra**	**30.62**	**341**	P	**P**	**10 17 29.4**	**-0.4**
	0.1nm,0.4s,baz=164,slow=7.3,SNR=2.7						
WRA	**Warramunga Arr**	**57.94**	**133**	P	**P**	**10 21 08.7**	**+0.5**
	0.3nm,0.5s,baz=323,slow=7.5,SNR=3.0						
ASAR	**Alice Springs**	**60.29**	**137**	P	**P**	**10 21 24.9**	**+0.4**
	0.4nm,0.7s,baz=321,slow=7.0,SNR=8.2						

KRSC 14 11:11:19.6±1.3,51˚.02N×158˚.05E,h44km±23km,ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.90**	**301**	P	Pn	11 11 37.4	+1.6
PAU				S	Sn	11 11 49.3	+1.6
SKR	**Severo-Kuril's**	**1.27**	**255**	P	Pn	11 11 42.1	+1.2
SKR				S	Sn	11 11 57.8	+1.1
ASAK	**Asacha**	**1.37**	**356**	P	Pn	11 11 44.4	+2.0
ASAK				S	Sn	11 12 00.9	+1.5
RUS	**Russkaya**	**1.45**	**11**	P	Pn	11 11 44.6	+1.3
RUS				S	Sn	11 12 02.1	+1.0
MTVR	**Mutnovka**	**1.47**	**3**	P	Pn	11 11 45.8	+2.0
MTVR				S	Sn	11 12 04.0	+2.1
GRL	**Gorelyy**	**1.54**	**1**	P	Pn	11 11 46.9	+2.2
GRL				S	Sn	11 12 05.5	+2.0
KRMR	**Karymshinskiy**	**1.82**	**2**	P	Pn	11 11 50.8	+2.4
KRMR				S	Sn	11 12 13.0	+2.8
APC	**Apacha**	**1.99**	**344**	P	Pn	11 11 53.3	+2.6
APC				S	Sn	11 12 16.9	+2.5
DALK	**Dalny**	**2.06**	**12**	P	Pn	11 11 54.0	+2.3
DALK				S	Sn	11 12 17.9	+1.7
UGLR	**Uglovaya**	**2.25**	**12**	P	Pn	11 11 57.8	+3.4
UGLR				S	Sn	11 12 24.7	+3.8
AVH	**Avacha**	**2.29**	**10**	P	Pn	11 11 58.5	+3.5
AVH				S	Sn	11 12 26.5	+4.5
SMAR	**Somma**	**2.30**	**11**	P	Pn	11 11 58.6	+3.4
NLC	**Nalytchevo**	**2.30**	**20**	S	Sn	11 12 22.2	+0.2
KOK	**Koryaka**	**2.31**	**9**	P	Pn	11 11 58.8	+3.6
KOK				S	Sn	11 12 26.3	+3.9
SDLR	**Sedlovina**	**2.32**	**12**	P	Pn	11 11 57.6	+2.2
KRER	**Koryakskii**	**2.33**	**10**	P	Pn	11 11 58.9	+3.3
KRER				S	Sn	11 12 26.5	+3.4
KRX	**Arik**	**2.38**	**9**	P	Pn	11 12 00.0	+3.8
KRX				S	Sn	11 12 29.1	+5.0
SPN	**Mys Shipunski**	**2.41**	**30**	P	Pn	11 11 59.2	+2.6
SPN				S	Sn	11 12 26.7	+1.8
KZV	**Kizimen**	**4.32**	**17**	P	Pn	11 12 27.2	+4.3
KBTR	**Krutoberegovo**	**5.92**	**27**	P	Pn	11 12 48.2	+3.5

NIED ***14*** *11:31:00,22˚.70N×121˚.50E,h8km,Mw4.0 Best double couple: M₀1.00000×10¹⁵ NP1:κ₀s174.00000°,δ44.00000°, λ-7.00000°. NP2:κ₀s268.00000°,δ85.00000°, λ-134.00000°.*

IDC ***14*** *11:31:08.0±1.1,22˚.76N×121˚.71E,h0km,mb3.7/7, mb1 3.8/8,mb1mx3.6/41,mbtmp3.7/8,ML3.4/1,MS3.4/8, Ms1 3.4/8,ms1mx3.0/43,Error ellipse: s-maj=41.4km s-min=18.5km az=68.0*

JMA ***14*** *11:31:08.0±0.2,22˚.72N×121˚.48E,h3km±5km,M3.8*

ISCJB ***14*** *11:31:09.1±0.3,22˚.75N±0˚.01×121˚.51E±0˚.01,h8km±2km, mb3.5/7,MS3.5/6,Error ellipse: s-maj=2.2km s-min=1.9km az=154.8*

TAP ***14*** *11:31:10.8,22˚.81N×121˚.38E,h9km,ML4.0,C*

NEIC ***14*** *11:31:10.4±1.6,22˚.78N±0˚.03×121˚.46E±0˚.04,h10km±1km, mb4.0/4,ML4.4(TAP)*

ISC 14 11:31:09.6±1.0,22˚.76N±0˚.02×121˚.48E±0˚.02,h7km±7km, n169,σ0s82/242,mb3.5/8,MS3.4/6,13C-17D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.31**	**269** ⇑	*i* P	**Pg**	**11 31 16.1**	**+0.5**
	baz=255						
TTN				*i* S	**Sg**	**11 31 20.3**	**+0.6**
	baz=255						
CHKT	**Chengkung**	**0.35**	**343** ⇑	*i* P	**Pg**	**11 31 17.6**	**+1.1**
	baz=9.0						
CHKT				S	**Sg**	**11 31 22.2**	**+1.0**
	baz=9.0						
TWGBT	**Beinan**	**0.37**	**279**	⇑P	**Pg**	**11 31 16.7**	**-0.2**
	baz=281						
TWGBT				S	**Sg**	**11 31 20.8**	**-1.0**
	baz=281						
TWG	**Pinlang**	**0.38**	**279** ⇑	*i* P	**Pg**	**11 31 16.7**	**-0.3**
	baz=281						
TWG				*e*S	**Sg**	**11 31 20.8**	**-1.3**
	baz=281						
TWG	**Pinlang**	**0.38**	**279**		**Pg**	**11 31 16.8**	**-0.3**
TWG				Sg	**Sg**	**11 31 21.8**	**-0.3**
FULB	**Fuli**	**0.47**	**339** ⇓	P	**Pg**	**11 31 19.4**	**+0.6**
	baz=7.0						
FULB				S	**Sg**	**11 31 25.9**	**+1.1**
	baz=7.0						
ECL	**Taimali**	**0.51**	**252** ⇑	*i* P	**Pg**	**11 31 19.9**	**+0.4**
	baz=239						
ECL				S	**Sg**	**11 31 26.3**	**+0.1**
	baz=239						
ELDTW	**Lidau**	**0.60**	**315** ⇓	P	**Pg**	**11 31 20.9**	**-0.3**
	baz=321						
ELDTW				S	**Sg**	**11 31 28.5**	**-0.7**
	baz=321						
TWF1	**Yuli**	**0.61**	**344** ⇓	P	**Pg**	**11 31 22.0**	**+0.6**
	baz=11						
TWF1				S	**Sg**	**11 31 30.2**	**+0.7**
	baz=11						
YULB	**Yu-li**	**0.65**	**345** ⇓	P	**Pg**	**11 31 22.5**	**+0.3**
	baz=9.0						
YULB				*e*S	**Sg**	**11 31 30.8**	**+0.1**
	baz=9.0						
YULB	**Yu-li**	**0.65**	**345**		**Pg**	**11 31 22.6**	**+0.4**
YULB				Sg	**Sg**	**11 31 30.6**	**0.0**
TAW	**Tawu**	**0.67**	**233**	*e*P	**Pg**	**11 31 22.7**	**+0.1**
	baz=224						
TAW				*e*S	**Sg**	**11 31 31.4**	**+0.1**
	baz=224						
EAST	**Anshuo**	**0.69**	**237** ⇑	*i* P	**Pb**	**11 31 23.4**	**-0.6**
	baz=228						
EAST				*e*S	**Sb**	**11 31 32.8**	**-1.0**
	baz=228						
LAY	**Lan-yu**	**0.72**	**175** ⇓	P	**Pb**	**11 31 24.4**	**-0.1**
	baz=166						
LAY				*e*S	**Sb**	**11 31 34.9**	**+0.3**
	baz=166						
HGSD	**Ruisui**	**0.73**	**356** ⇑	P	**Pg**	**11 31 24.1**	**+0.4**
	baz=20						
HGSD				*e*S	**Sg**	**11 31 34.0**	**+0.8**
	baz=20						
EHY	**Hungye**	**0.76**	**349**	P	**Pg**	**11 31 24.2**	**+0.1**
	baz=340						
EHY				S	**Sg**	**11 31 34.7**	**+0.7**
	baz=340						
STYT	**Tauyuan**	**0.78**	**301** ⇓	*i* P	**Pg**	**11 31 24.1**	**-0.5**
	baz=303						
STYT				S	**Sg**	**11 31 33.6**	**-1.1**
	baz=303						
SSD	**Sandimen**	**0.78**	**269** ⇑	*i* P	**Pg**	**11 31 23.9**	**-0.8**
	baz=265						
SSD				S	**Sg**	**11 31 32.4**	**-2.5**
	baz=265						
MASBT	**Mashibuluo**	**0.80**	**259** ⇑	P	**Pg**	**11 31 24.5**	**-0.4**
	baz=254						
MASBT				*e*S	**Sg**	**11 31 33.9**	**-1.4**
	baz=254						
SLGT	**Liugui**	**0.80**	**287**	*e*P	**Pg**	**11 31 24.6**	**-0.5**
	baz=286						
SLGT				*e*S	**Sg**	**11 31 33.9**	**-1.6**
	baz=286						
YUS	**Yu-Shan**	**0.87**	**326** ⇓	*i* P	**Pg**	**11 31 26.2**	**-0.3**
	baz=332						
YUS				S	**Sg**	**11 31 36.5**	**-1.4**
	baz=332						
SCZT	**Fangliau**	**0.88**	**244** ⇑	*i* P	**Pg**	**11 31 26.6**	**0.0**
	baz=238						
SCZT				*e*S	**Sb**	**11 31 38.1**	**-1.2**
	baz=238						
SGST	**Jiashian**	**0.89**	**291** ⇓	P	**Pg**	**11 31 25.6**	**-1.1**
	baz=291						
SGST				S	**Sg**	**11 31 37.1**	**-1.0**
	baz=291						
EGFH	**Guangfu**	**0.91**	**357**	*e*P	**Pg**	**11 31 27.1**	**+0.1**
	baz=344						
SGLT	**Jiouru**	**0.91**	**268**	*e*P	**Pb**	**11 31 27.3**	**-0.4**
	baz=264						
WTP	**Ta-pu**	**0.93**	**301** ⇓	*i* P	**Pg**	**11 31 27.4**	**-0.2**
	baz=303						
WTP				S	**Sg**	**11 31 39.8**	**+0.2**
	baz=303						
TPUB	**Ta-pu**	**0.95**	**305** ⇓	P	**Pg**	**11 31 27.7**	**-0.1**
	baz=306						
TPUB				S	**Sg**	**11 31 39.9**	**-0.3**
	baz=306						
TPUB	**Ta-pu**	**0.95**	**305**		**Pg**	**11 31 27.8**	**-0.1**
TPUB				Sg	**Sb**	**11 31 40.8**	**-0.4**
ALS	**Alishan**	**0.97**	**320** ⇓	*i* P	**Pg**	**11 31 28.1**	**-0.2**
	baz=324						
ALS				S	**Sg**	**11 31 40.2**	**-0.7**
	baz=324						
CHN1	**Nanshi**	**0.97**	**296** ⇓	P	**Pb**	**11 31 28.6**	**-0.2**
	baz=305						
CHN1				*e*S	**Sb**	**11 31 41.4**	**-0.5**
	baz=305						
TWM1	**Shoushan**	**0.98**	**274**	*e*P	**Pb**	**11 31 29.0**	**+0.1**
	baz=271						
CHN4	**Tsaushan**	**1.01**	**306** ⇓	*i* P	**Pg**	**11 31 28.8**	**-0.1**
	baz=308						
CHN4				*e*S	**Sb**	**11 31 42.8**	**0.0**
	baz=308						
TSEB	**Hengchuen, Pin**	**1.01**	**212**	*e*P	**Pn**	**11 31 29.8**	**-0.3**
	baz=209						
SNST	**Tainan City**	**1.01**	**297**	*e*P	**Pg**	**11 31 29.2**	**+0.1**
	baz=298						
SNST				*e*S	**Sb**	**11 31 42.7**	**-0.3**
	baz=298						
HEN	**Hengchun**	**1.02**	**223**	*e*P	**Pb**	**11 31 29.3**	**-0.2**
	baz=206						
TWKBT	**Hengchun**	**1.02**	**217**	*e*P	**Pg**	**11 31 29.1**	**-0.2**
	baz=210						
TWKBT				*e*S	**Sg**	**11 31 41.4**	**-1.2**
	baz=210						
TWK1	**Hengchun**	**1.02**	**218**	*e*P	**Pg**	**11 31 28.9**	**-0.4**
	baz=212						
VWDT	**VWDT**	**1.04**	**343** ⇑	P	**Pg**	**11 31 29.1**	**-0.4**
	baz=6.0						
VWDT				*e*S	**Sg**	**11 31 41.4**	**-1.6**
	baz=6.0						
TWK	**Hsinying**	**1.04**	**299** ⇓	P	**Pg**	**11 31 29.5**	**-0.2**
	baz=300						
TWK				*e*S	**Sb**	**11 31 43.6**	**-0.3**
	baz=300						
ESL	**Shilin**	**1.05**	**358**	*e*P	**Pg**	**11 31 28.6**	**-1.2**
	baz=8.0						
ESL				*e*S	**Sg**	**11 31 43.4**	**-0.1**
	baz=8.0						
SNJT	**Kaohsiung City**	**1.06**	**270**	*e*P	**Pn**	**11 31 31.9**	**+1.1**
	baz=266						
SNJT				*e*S	**Sn**	**11 31 48.2**	**+2.4**
	baz=266						
CHN3	**Shinhua**	**1.07**	**287**	*e*P	**Pn**	**11 31 31.3**	**+0.2**
	baz=286						
CHN3				*e*S	**Sn**	**11 31 46.8**	**+0.6**
	baz=286						
WHYT	**Xinyi Township**	**1.09**	**328**	P	**Pg**	**11 31 30.6**	**0.0**
	baz=333						
WHYT				*e*S	**Sg**	**11 31 43.9**	**-1.0**
	baz=333						
WLCH	**Liuqiu**	**1.10**	**248**	*e*P	**Pn**	**11 31 33.2**	**+1.9**
	baz=237						
KAU	**Kaohsiung**	**1.10**	**260**	*e*P	**Pn**	**11 31 32.8**	**+1.4**
	baz=243						
CHN5	**Tsauling**	**1.11**	**319** ⇓	P	**Pg**	**11 31 30.8**	**-0.2**
	baz=322						
CHN5				S	**Sg**	**11 31 45.5**	**0.0**
	baz=322						
TWP	**Hsiaoliuchiu**	**1.11**	**248**	*e*P	**Pn**	**11 31 32.7**	**+1.2**
	baz=224						
WSSB	**Gushan**	**1.13**	**264** ⇑	P	**Pn**	**11 31 33.0**	**+1.1**
	baz=257						
WSSB				S	**Sn**	**11 31 49.8**	**+2.1**
	baz=257						
SSLB	**Suanglung**	**1.13**	**335** ⇓	P	**Pg**	**11 31 30.7**	**-0.6**
	baz=340						
SSLB				*e*S	**Sg**	**11 31 43.8**	**-2.3**
	baz=340						
SSLB	**Suanglung**	**1.13**	**335**		**Pg**	**11 31 30.8**	**-0.5**
SSLB				Sg	**Sg**	**11 31 45.7**	**-0.3**
ENLB	**Shoufeng**	**1.14**	**6**	*e*P	**Pg**	**11 31 30.0**	**-1.6**
	baz=28						
ENLB				*e*S	**Sg**	**11 31 45.5**	**-0.9**
	baz=28						
CHN2	**Minshiung**	**1.20**	**310**	P	**Pn**	**11 31 33.2**	**+0.4**
	baz=312						
CHN2				*e*S	**Sn**	**11 31 49.5**	**+0.1**
	baz=312						
HWA	**Hwalien**	**1.22**	**5**	*e*P	**Pn**	**11 31 32.3**	**-0.7**
	baz=31						
CHY	**Chiayi**	**1.22**	**307**	*e*P	**Pb**	**11 31 33.0**	**0.0**
	baz=309						
CHY				*e*S	**Sn**	**11 31 49.8**	**+0.1**
	baz=309						
SMLT	**Sun Moon Lake**	**1.24**	**335**	P	**Pb**	**11 31 33.0**	**-0.4**
	baz=340						
SMLT				*e*S	**Sb**	**11 31 49.3**	**-0.3**
	baz=340						
WGK	**Gukeng**	**1.25**	**318**	*e*P	**Pn**	**11 31 33.5**	**0.0**
	baz=324						
WGK				*e*S	**Sn**	**11 31 50.5**	**0.0**
	baz=324						
SCLT	**Jiali**	**1.25**	**289**	*e*P	**Pb**	**11 31 33.5**	**-0.1**
	baz=289						
SCLT				*e*S	**Sn**	**11 31 51.5**	**+0.8**
	baz=289						
WJS	**Zhushan**	**1.26**	**327**	*e*P	**Pg**	**11 31 34.1**	**+0.2**
	baz=347						
WJS				*e*S	**Sg**	**11 31 50.6**	**+0.4**
	baz=347						
WDLH	**Douliu**	**1.27**	**317**	*e*P	**Pg**	**11 31 34.1**	**+0.1**
	baz=323						
WDLH				*e*S	**Sn**	**11 31 51.7**	**+0.8**
	baz=323						
TYC	**Yuchr**	**1.27**	**333**	P	**Pn**	**11 31 34.1**	**+0.2**
	baz=345						
TYC				S	**Sg**	**11 31 50.9**	**+0.3**
	baz=345						
WLGB	**Puzi**	**1.30**	**304** ⇓	P	**Pg**	**11 31 34.5**	**0.0**
	baz=305						
WLGB				*e*S	**Sn**	**11 31 52.6**	**+0.8**
	baz=305						
CHN8	**Yiju**	**1.30**	**297**	*e*P	**Pn**	**11 31 34.2**	**0.0**
	baz=298						
CHN8				*e*S	**Sn**	**11 31 52.6**	**+0.7**
	baz=298						
TWD	**Chiawan**	**1.32**	**5**	*e*P	**Pn**	**11 31 33.0**	**-1.4**
	baz=359						
TWD				*e*S	**Sb**	**11 31 50.6**	**-1.1**
	baz=359						
CHGB	**Renai**	**1.32**	**348** ⇑	P	**Pn**	**11 31 34.1**	**-0.6**
	baz=11						
WNT	**Mingjian**	**1.33**	**327**	*e*P	**Pg**	**11 31 35.5**	**+0.3**
	baz=334						
WNT				*e*S	**Sg**	**11 31 52.7**	**+0.2**
	baz=334						
DPDB	**Guoxing**	**1.36**	**338**	*e*P	**Pn**	**11 31 35.4**	**+0.2**
	baz=357						
DPDB				*e*S	**Sb**	**11 31 52.4**	**-0.8**
	baz=357						
WHF	**Hehuan Shan**	**1.39**	**352**	*e*P	**Pn**	**11 31 35.0**	**-0.9**
	baz=14						
NACB	**Ninganchiao**	**1.41**	**4**	*e*P	**Pn**	**11 31 34.3**	**-1.4**
	baz=28						
NACB				*e*S	**Sn**	**11 31 51.7**	**-2.9**
	baz=28						
NACB	**Ninganchiao**	**1.41**	**4**		**Pn**	**11 31 34.7**	**-1.0**
NACB				Sn	**Sn**	**11 31 54.3**	**-0.2**
ETLH	**Xiulin Townshi**	**1.44**	**0**	*e*P	**Pn**	**11 31 34.9**	**-1.3**
	baz=7.0						
WSF	**Szhu**	**1.45**	**307**	*e*P	**Pn**	**11 31 36.5**	**+0.3**
	baz=312						
WSF				S	**Sb**	**11 31 55.7**	**+0.2**
	baz=312						
TDCB	**Techi**	**1.52**	**349**	*e*P	**Pn**	**11 31 37.2**	**-0.1**
	baz=358						
TDCB				*e*S	**Sn**	**11 31 56.1**	**-1.2**
	baz=358						
RLNB	**Erlin**	**1.52**	**318**	*e*P	**Pn**	**11 31 36.9**	**-0.3**
	baz=306						
WTCT	**Ta-ch'eng**	**1.56**	**315**	*e*P	**Pn**	**11 31 37.8**	**+0.1**
	baz=305						
WTCT				*e*S	**Sg**	**11 31 59.4**	**-0.3**
	baz=305						
WCHH	**Zhanghua**	**1.56**	**327**	*e*P	**Pb**	**11 31 38.9**	**+0.1**
	baz=331						
TCU	**Taichung**	**1.56**	**332**	*e*P	**Pn**	**11 31 38.4**	**+0.6**
	baz=341						
TCU				*e*S	**Sg**	**11 31 59.9**	**0.0**
	baz=341						
WHP	**Taichung City**	**1.59**	**342**	*e*P	**Pb**	**11 31 39.5**	**+0.1**
	baz=358						
NNSH	**Datong**	**1.66**	**357**	*e*P	**Pn**	**11 31 38.8**	**-0.5**
	baz=20						
NNS	**Nan Shan**	**1.68**	**357**	*e*P	**Pn**	**11 31 39.5**	**0.0**
	baz=23						
NNS				*e*S	**Sn**	**11 31 59.9**	**-1.4**
	baz=23						
ENA	**Nanau**	**1.68**	**8**	*e*P	**Pn**	**11 31 38.4**	**-1.0**
	baz=360						
NANB	**Nanao**	**1.68**	**8**	*e*P	**Pn**	**11 31 38.2**	**-1.2**
	baz=4.0						
NANB				*e*S	**Sn**	**11 32 00.9**	**-0.3**
	baz=4.0						
TWQ1	**Liyutan**	**1.71**	**338**	*e*P	**Pb**	**11 31 41.5**	**+0.1**
TWQ1				*e*S	**Sb**	**11 32 04.1**	**+1.0**
WDGT	**Dungji**	**1.75**	**287**	*e*P	**Pn**	**11 31 38.9**	**-1.5**
	baz=284						
WDJ	**Dajia District**	**1.76**	**334**	*e*P	**Pb**	**11 31 42.3**	**+0.1**
	baz=344						
WDJ				*e*S	**Sb**	**11 32 05.5**	**+1.0**
	baz=344						
NSY	**Sanyi**	**1.77**	**338**	*e*P	**Pn**	**11 31 41.8**	**+1.1**
NSY				*e*S	**Sb**	**11 32 06.2**	**+1.2**
PTSB	**Yuanli**	**1.82**	**337**	*e*P	**Pn**	**11 31 42.4**	**+1.0**
	baz=360						
PTSB				*e*S	**Sb**	**11 32 07.1**	**+0.8**
	baz=360						
NDT	**Datong Townshi**	**1.83**	**1**	*e*P	**Pn**	**11 31 42.2**	**+0.7**
	baz=23						
TWC	**Suao**	**1.87**	**10**	*e*P	**Pn**	**11 31 42.1**	**+0.1**
	baz=3.0						
ENTT	**Nioudou**	**1.87**	**2**	*e*P	**Pn**	**11 31 41.9**	**-0.2**
	baz=10.0						
EOS1	**EOS1**	**1.88**	**18**	*e*P	**Pn**	**11 31 41.6**	**-0.5**
	baz=38						
EOS1				*e*S	**Sn**	**11 32 05.2**	**-0.8**
	baz=38						
NMLH	**Miaoli**	**1.88**	**340**	*e*P	**Pb**	**11 31 43.6**	**-0.7**
	baz=347						
YHNB	**Yeheng**	**1.90**	**357**	*e*P	**Pn**	**11 31 43.1**	**+0.5**
	baz=19						
YHNB	**Yeheng**	**1.90**	**357**		**Pn**	**11 31 43.0**	**+0.5**
YHNB				Sn	**Sn**	**11 32 08.2**	**+1.3**
PHUB	**P'eng-hu**	**1.91**	**293**	*e*P	**Pn**	**11 31 41.0**	**-1.5**
	baz=291						
NSK	**Sanguang**	**1.91**	**357**	*e*P	**Pn**	**11 31 42.9**	**+0.3**
	baz=19						
NSTT	**Nanjuang**	**1.91**	**347**	*e*P	**Pn**	**11 31 43.7**	**+1.1**
	baz=13						
NSTT				*e*S	**Sb**	**11 32 08.4**	**-0.5**
	baz=13						
LIOB	**Emei**	**1.92**	**347**	*e*P	**Pn**	**11 31 44.0**	**+1.2**
	baz=356						
PNG	**Penghu**	**1.94**	**295**	*e*P	**Pn**	**11 31 42.4**	**-0.6**
	baz=296						
PNG				*e*S	**Sn**	**11 32 05.8**	**-1.9**
	baz=296						
TWE	**Neicheng**	**1.96**	**5**	*e*P	**Pn**	**11 31 43.4**	**+0.1**
	baz=14						
NWLT	**Wulai**	**2.01**	**1**	*e*P	**Pn**	**11 31 44.2**	**+0.3**
	baz=24						
SBCB	**Hsinchu**	**2.07**	**347**	*e*P	**Pn**	**11 31 44.7**	**-0.1**
	baz=356						
WLTB	**Daxi**	**2.09**	**354**	*e*P	**Pn**	**11 31 46.5**	**+1.5**
	baz=17						
NTC	**Toucheng**	**2.11**	**9**	*e*P	**Pn**	**11 31 46.0**	**+0.7**
	baz=31						
JYNG	**Yonagunijimaku**	**2.15**	**38**	P	**Pn**	**11 31 46.3**	**+0.4**
JYNG				*e*S	**Sn**	**11 32 12.5**	**-0.4**
YOJ	**Yonaguni jima**	**2.20**	**39**	P	**Pn**	**11 31 46.8**	**+0.3**
YOJ				*e*S	**Sn**	**11 32 12.8**	**-1.2**
YOJ	**Yonaguni jima**	**2.20**	**39**	*e*P	**Pn**	**11 31 46.8**	**+0.3**
	baz=54						
YOJ				*e*S	**Sn**	**11 32 13.9**	**-0.2**
	baz=54						
YOJ	**Yonaguni jima**	**2.20**	**39**	Pn	**Pn**	**11 31 47.1**	**+0.5**
YOJ				Sn	**Sn**	**11 32 15.0**	**+1.0**
TATO	**Taipei**	**2.21**	**0**	*e*P	**Pn**	**11 31 47.2**	**+0.6**
	baz=22						
TATO	**Taipei**	**2.21**	**

IRIF				*e*S		**Sn**	**11 32 23.2 -0.5**
JKRS	**Kuro-shima**	**2.75**	**57**	P		**Pn**	**11 31 54.9 +0.8**
JKRS				S		**Sn**	**11 32 29.5 +1.9**
VWUC	**VWUC** baz=323	**2.90**	**320**	*e*P		**Pn**	**11 31 55.7 -0.4**
JIJ	**Ishigaki jima**	**2.92**	**56**	P		**Pn**	**11 31 56.7 +0.3**
JIJ				*e*S		**Sn**	**11 32 32.0 +0.2**
PTMZ	**Houxiangcun** baz=317	**3.13**	**317**	*e*P		**Pn**	**11 31 58.9 -0.5**
PTTC	**Pingtan** baz=336	**3.14**	**331**	*e*P		**Pn**	**11 31 59.3 -0.2**
JISG	**Ishigakijimahi**	**3.17**	**54**	P		**Pn**	**11 32 00.1 +0.2**
JISG				*e*S		**Sn**	**11 32 37.4 -0.5**
KNM	**Kinmen** baz=297	**3.24**	**301**	*e*P		**Pn**	**11 32 01.8 +0.9**
KNMB	**Chin-men Tao** baz=299	**3.30**	**301**	*e*P		**Pn**	**11 32 00.5 -1.2**
KNMB	**Chin-men Tao**	**3.30**	**301**	Pn		**Pn**	**11 32 01.6 -0.1**
JTJ	**Tarama**	**3.50**	**57**	P		**Pn**	**11 32 05.6 +1.2**
JTJ				*e*S		**Sn**	**11 32 46.5 +0.5**
ZPLA	**Ao Xicun** baz=286	**3.62**	**289**	*e*P		**Pn**	**11 32 05.2 -0.9**
MATB	**Ma-tsu** baz=347	**3.65**	**338**	*e*P		**Pn**	**11 32 06.2 -0.3**
AXDP	**Jialang** baz=302	**3.85**	**304**	*e*P		**Pn**	**11 32 09.1 -0.3**
ZZJH	**Jiuhuzhen** baz=293	**3.92**	**296**	*e*P		**Pn**	**11 32 09.9 -0.3**
JIRB	**Irabujima**	**3.96**	**58**	P		**Pn**	**11 32 11.5 +0.7**
JIRB				S		**Sn**	**11 32 56.5 -1.0**
MHZQ	**Yeshan** baz=332	**4.00**	**327**	*e*P		**Pn**	**11 32 11.4 +0.1**
JMJ2	**Miyako jima3**	**4.04**	**60**	P		**Pn**	**11 32 13.0 +1.1**
JMJ2				*e*S		**Sn**	**11 32 59.4 0.0**
JMJ	**Miyako jima 2** baz=59	**4.05**	**59**	*e*P		**Pn**	**11 32 12.9 +1.0**
JIKM	**Ikemajima**	**4.07**	**57**	P		**Pn**	**11 32 14.0 +1.8**
JIKM				*e*S		**Sn**	**11 33 00.2 +0.1**
LYJJ	**Jianjiangzhen** baz=349	**4.08**	**338**	*e*P		**Pn**	**11 32 12.5 0.0**
XPSS	**Dashiqiu** baz=355	**4.31**	**345**	*e*P		**Pn**	**11 32 15.5 -0.1**
HKPS	**Hong Kong Po S**	**6.80**	**267**	Pn		**Pn**	**11 32 49.9 0.0**
JOW	**Kunigami**	**7.38**	**55**	Pn		**Pn**	**11 32 59.3 +1.4**
JNU	**Nakatsue** comp=Z,68nm,18.8s,baz=214,slow=40	**13.24**	**37**	LR		LR	11 39 56.8
KSRS	**Korea Array** 0.1nm,0.3s,baz=193,slow=11,SNR=2.7	**15.66**	**19**	Pn		**Pn**	**11 34 49.8 -1.0**
KSRS				LR		LR	11 41 31.5
XAN	**Xi'an** comp=Z,25nm,21.6s,baz=190,slow=40	**15.74**	**318**	Pn		**Pn**	**11 34 52.4 +0.5**
XAN				IAmb		IAmb	11 34 57.9
CMAR	**Chiang Mai Arr** comp=Z,0.6nm,0.3s,baz=69,slow=9.1,SNR=6.4	**21.52**	**263**	P		**P**	**11 36 01.3 +1.9**
ASAJ	**Asahikawa** comp=Z,47nm,19.6s,baz=174,slow=37	**27.50**	**34**	LR		LR	11 47 51.0
KLR	**Kul'dur** comp=Z,79nm,18.3s,baz=217,slow=38	**27.64**	**15**	LR		LR	11 48 37.5
SONM	**Songino Array** comp=Z,0.6nm,0.7s,baz=155,slow=8.6,SNR=6.3	**27.78**	**338**	P		**P**	**11 36 59.7 +0.4**
SONM				LR		LR	11 49 06.8
JAY	**Jayapura** comp=Z,35nm,20.0s,baz=2.5,slow=32	**31.35**	**141**	LR		LR	11 47 42.7
MKAR	**Makanchi Array** comp=Z,1.3nm,0.9s,baz=117,slow=9.7,SNR=3.3	**39.55**	**317**	P		**P**	**11 38 41.8 +0.5**
ZAA0	**Zalesovo Array**	**41.59**	**328**	P		**P**	**11 38 58.8 +0.8**
ZAA0	comp=Z,2.8nm,0.8s			IAmb		IAmb	11 39 02.5
ZALV	**Zalesovo Beam** comp=Z,2.2nm,0.5s,baz=126,slow=8.1,SNR=11	**41.59**	**328**	P		**P**	**11 38 58.6 +0.7**
H11N1	**WAKE ISLAND Hy 42.31** baz=283,slow=75,SNR=148		**85**	T		T	12 24 15.2
H11N2	**WAKE ISLAND Hy 42.32** baz=283,slow=75,SNR=207		**85**	T		T	12 24 15.2
H11N3	**WAKE ISLAND Hy 42.33** baz=283,slow=75,SNR=337		**85**	T		T	12 24 16.4
H11S3	**WAKE ISLAND Hy 42.40** baz=284,slow=75,SNR=338		**87**	T		T	12 24 20.9
H11S1	**WAKE ISLAND Hy 42.41** baz=284,slow=75,SNR=244		**87**	T		T	12 24 22.5
H11S2	**WAKE ISLAND Hy 42.42** baz=284,slow=75,SNR=224		**87**	T		T	12 24 22.6
WRA	**Warramunga Arr** comp=Z,0.6nm,0.8s,baz=343,slow=8.8,SNR=3.5	**44.26**	**163**	P		**P**	**11 39 18.3 -1.7**
WR0	**Warramunga Arr**	**44.33**	**162**	P		**P**	**11 39 20.2 -0.3**
AS31	**Alice Springs**	**47.70**	**165**	P		**P**	**11 39 47.3 +0.2**
ASAR	**Alice Springs** comp=Z,0.4nm,0.9s,baz=347,slow=7.6,SNR=3.9	**47.70**	**165**	P		**P**	**11 39 46.9 -0.2**
SPITS	**Spitsbergen Ar** comp=Z,96nm,18.2s,baz=210,slow=40	**70.93**	**348**	LR		LR	12 18 09.2
NOA	**NORSAR Array B** comp=Z,0.4nm,0.7s,baz=63,slow=5.0,SNR=2.6	**79.60**	**332**	P		**P**	**11 43 16.9 -0.5**
NOA	comp=Z,61nm,18.1s,baz=300,slow=38			LR		LR	12 22 00.3

TAP 14 11:38:50.6, 22.86N×121.24E, h40km, ML2.1, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTN	**Taitung** baz=215	**0.13**	**219**	P		Pn	11 38 57.7 +0.3
TWGBT	**Beinan** baz=255	**0.15**	**255**	P		Pn	11 38 56.5 -1.0
TWGBT				S		Sn	11 39 03.0 +0.6
CHKT	**Chengkung** baz=27	**0.27**	**26**	P		Pn	11 38 58.8 +0.2
FULB	**Fuli** baz=8.0	**0.34**	**9**	P		Pn	11 38 59.8 +0.3
ECL	**Taimali** baz=224	**0.37**	**225**	*i* P		Pn	11 38 59.9 +0.2
ELDTW	**Lidau** baz=329	**0.39**	**329**	*i* P		Pn	11 39 01.0 +1.0
ELDTW				*i* S		Sn	11 39 07.8 +1.2
TWF1	**Yuli** baz=7.0	**0.50**	**6**	P		Pn	11 39 02.4 +1.0
TWF1				S		Sn	11 39 09.7 +0.7
STYT	**Tauyuan** baz=305	**0.54**	**305**	P		Pn	11 39 01.8 -0.1
YULB	**Yu-li** baz=6.0	**0.54**	**6**	*e*P		Pn	11 39 02.4 +0.4
YULB				*e*S		Sn	11 39 11.2 +1.3
SLGT	**Liugui** baz=284	**0.56**	**284**	*e*P		Pn	11 39 02.5 +0.3
EAST	**Anshuo** baz=216	**0.59**	**217**	*e*P		Pn	11 39 03.5 +0.9
EAST				S		Sn	11 39 12.2 +1.1
MASBT	**Mashibuluo** baz=246	**0.61**	**247**	P		Pn	11 39 03.3 +0.5
MASBT				S		Sn	11 39 12.8 +1.3
SGST	**Jiashian** baz=290	**0.64**	**291**	*e*P		Pn	11 39 03.6 +0.3
EHY	**Hungye** baz=7.0	**0.65**	**7**	*e*P		Pn	11 39 03.7 +0.3
EHY				S		Sn	11 39 13.9 +1.3
HGSD	**Ruisui** baz=15	**0.66**	**15**	*e*P		Pn	11 39 04.1 +0.6
HGSD				*e*S		Sn	11 39 14.6 +1.9
YUS	**Yu-Shan** baz=337	**0.68**	**338**	*e*P		Pn	11 39 04.8 +0.5
YUS				S		Sn	11 39 14.4 +0.4
WTP	**Ta-pu** baz=304	**0.69**	**304**	P		Pn	11 39 04.8 +0.8
SGLT	**Jiouru** baz=259	**0.70**	**259**	*e*S		Sn	11 39 15.8 +2.1
CHN1	**Nanshi** baz=296	**0.73**	**297**	*e*P		Pn	11 39 05.7 +1.2
SCZT	**Fangliau** baz=229	**0.75**	**230**	*e*P		Pn	11 39 04.9 +0.3
SCZT				*e*S		Sn	11 39 16.2 +1.4
CHN4	**Tsaushan** baz=309	**0.77**	**310**	*e*P		Pn	11 39 05.2 +0.2
CHN4	baz=309			S		Sn	11 39 16.0 +0.6
SNST	**Tainan City** baz=298	**0.77**	**298**	*e*P		Pn	11 39 05.9 +0.8
SNST	baz=298			*e*S		Sn	11 39 16.6 +1.1
TWK	**Hsinying** baz=300	**0.80**	**301**	P		Pn	11 39 06.3 +0.8
TWK	baz=300			S		Sn	11 39 17.1 +0.8
EGFH	**Guangfu** baz=12	**0.83**	**12**	*e*P		Pn	11 39 06.4 +0.6
EGFH	baz=12			*e*S		Sn	11 39 18.1 +1.2
VWDT	**VWDT** baz=354	**0.90**	**354**	*e*S		Sn	11 39 20.2 +1.7
CHN5	**Tsauling** baz=325	**0.90**	**325**	*e*P		Pn	11 39 07.9 +1.0
CHN5	baz=325			S		Sn	11 39 18.9 +0.2
SMLT	**Sun Moon Lake** baz=343	**1.07**	**343**	*e*S		Sn	11 39 23.2 +0.3

TAP 14 11:38:57.0, 22.77N×121.42E, h15km, ML2.1, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTN	**Taitung** baz=265	**0.25**	**266**	P		Pb	11 39 03.0 -0.2
TTN	baz=265			*i* S		Sb	11 39 07.2 -0.2
TTN	**Taitung** baz=215	**0.25**	**266**	*i* S		Pb	11 39 03.0 -0.2
TWGBT	**Beinan** baz=278	**0.31**	**279**	P		Pb	11 39 04.3 0.0
TWGBT	baz=278			S		Sb	11 39 10.1 +0.8
CHKT	**Chengkung** baz=353	**0.33**	**352**	P		Pb	11 39 04.6 0.0
CHKT	baz=353			*i* S		Sb	11 39 09.8 +0.1
CHKT	**Chengkung** baz=27	**0.33**	**352**	S		Pb	11 39 04.6 0.0
FULB	**Fuli** baz=345	**0.44**	**345**	P		Pb	11 39 06.5 0.0
FULB	baz=345			S		Sb	11 39 13.4 +0.5
FULB	**Fuli** baz=8.0	**0.44**	**345**	S		Pb	11 39 06.5 +0.1
ECL	**Taimali** baz=247	**0.46**	**248**	*i* P		Pb	11 39 06.7 -0.1
ECL	baz=247			*i* S		Sb	11 39 13.8 +0.4
ECL	**Taimali** baz=224	**0.46**	**248**	*i* S		Pb	11 39 06.8 0.0
TWF1	**Yuli** baz=349	**0.59**	**349**	P		Pb	11 39 08.9 -0.1
TWF1	baz=349			*i* S		Sb	11 39 17.7 +0.5
YULB	**Yu-li** baz=349	**0.63**	**350**	P		Pb	11 39 09.7 0.0
YULB	baz=349			*e*S		Sb	11 39 19.7 +1.3
EAST	**Anshuo** baz=233	**0.65**	**234**	P		Pb	11 39 10.1 0.0
EAST	baz=233			*e*S		Sb	11 39 19.7 +0.7
STYT	**Tauyuan** baz=302	**0.72**	**303**	P		Pb	11 39 11.4 +0.1
STYT	baz=302			*e*S		Sg	11 39 20.8 +0.2
STYT	**Tauyuan** baz=305	**0.72**	**303**	S		Pb	11 39 11.0 -0.3
EHY	**Hungye** baz=353	**0.74**	**353**	P		Pb	11 39 11.6 +0.1
EHY	baz=353			*e*S		Sb	11 39 22.4 +1.0
LAY	**Lan-yu** baz=169	**0.74**	**170**	P		Pb	11 39 12.0 +0.4
LAY	baz=169			S		Sb	11 39 22.3 +0.8
MASBT	**Mashibuluo** baz=257	**0.74**	**258**	P		Pg	11 39 11.3 -0.1
MASBT	baz=257			S		Sb	11 39 21.9 +0.3
SLGT	**Liugui** baz=287	**0.74**	**287**	*e*P		Pb	11 39 12.1 +0.5
SLGT	baz=287			S		Sb	11 39 22.7 +1.0
SLGT	**Liugui** baz=284	**0.74**	**287**	*e*S		Pb	11 39 12.2 +0.6
SGST	**Jiashian** baz=292	**0.83**	**292**	P		Pg	11 39 12.9 -0.1
SGST	baz=292			S		Sb	11 39 24.4 +0.4
SGST	**Jiashian** baz=290	**0.83**	**292**	*e*S		Pb	11 39 13.1 0.0
YUS	**Yu-Shan** baz=328	**0.83**	**329**	P		Pg	11 39 13.1 -0.2
YUS	baz=328			*i* S		Sg	11 39 24.4 +0.1
SCZT	**Fangliau** baz=241	**0.84**	**242**	P		Pg	11 39 13.2 0.0
SCZT	baz=241			*e*S		Sn	11 39 25.4 -0.9
SGLT	**Jiouru** baz=266	**0.85**	**267**	*e*P		Pb	11 39 12.9 -0.6
SGLT	baz=266			*e*S		Sn	11 39 26.1 -0.7
WTP	**Ta-pu** baz=302	**0.88**	**303**	P		Pg	11 39 14.3 +0.3
WTP	baz=302			S		Sb	11 39 26.3 +0.8
WTP	**Ta-pu** baz=304	**0.88**	**303**	S		Pb	11 39 14.3 +0.3
EGFH	**Guangfu**	**0.89**	**1**	*e*S		Sn	11 39 27.1 -0.6
TPUB	**Ta-pu** baz=308	**0.90**	**306**	S		Pn	11 39 14.9 -0.1
TPUB	**Ta-pu** baz=306	**0.90**	**306**	P		Pg	11 39 14.5 +0.1
TPUB	baz=306			S		Sn	11 39 27.6 -0.3
CHN1	**Nanshi** baz=296	**0.92**	**297**	P		Pn	11 39 15.6 +0.3
CHN1	baz=296			*e*S		Sn	11 39 28.4 0.0
CHN1	**Nanshi** baz=296	**0.92**	**297**	S		Pb	11 39 15.6 +1.0
TWM1	**Shoushan** baz=273	**0.92**	**273**	*e*S		Sn	11 39 27.7 -0.7
CHN4	**Tsaushan** baz=307	**0.95**	**307**	P		Pb	11 39 15.3 +0.1
CHN4	baz=307			S		Sn	11 39 29.2 0.0
SNST	**Tainan City** baz=297	**0.96**	**298**	*e*P		Pn	11 39 15.9 0.0
SNST	baz=297			*e*S		Sn	11 39 29.6 +0.3
TWK	**Hsinying** baz=300	**0.99**	**300**	*e*P		Pn	11 39 16.4 +0.1
TWK	baz=300			*e*S		Sg	11 39 29.3 +0.3
SNJT	**Kaohsiung City** baz=268	**1.00**	**269**	*e*S		Sn	11 39 29.9 -0.4
VWDT	**VWDT** baz=345	**1.01**	**346**	*e*P		Pn	11 39 16.7 +0.1
VWDT	baz=345			*e*S		Sn	11 39 30.8 +0.2
ESL	**Shilin** baz=1.0	**1.04**	**1**	*e*P		Pg	11 39 17.4 +0.3
ESL	baz=1.0			*e*S		Sg	11 39 30.8 +0.2
WHYT	**Xinyi Township** baz=330	**1.06**	**331**	*e*P		Pn	11 39 17.3 -0.1
WHYT	baz=330			*e*S		Sg	11 39 31.1 -0.1
CHN5	**Tsauling** baz=320	**1.07**	**321**	*e*P		Pn	11 39 17.5 0.0

NEIC ***14*** *12:19:22.3±1.4, 10.83S±0.09×164.4E±0.1, h10km±1km, mb4.3/10*
ISCJB ***14*** *12:19:23.5±0.6, 10.91S±0.06×164.36E±0.07, h29km, mb3.8/7, MS3.2/6, Error ellipse: s-maj=10.1km s-min=8.6km az=141.5*
IDC ***14*** *12:19:29.0±3.3, 10.92S×164.36E, h58km±29km, mb3.5/7, mb1 3.9/10, mb1mx3.7/32, mbtmp4.0/10, ML4.1/3, MS3.3/7, Ms1 3.3/7, ms1mx3.1/22, Error ellipse: s-maj=24.1km s-min=18.2km az=58.0*

ISC 14 12:19:25.5±0.8, 10.86S±0.08×164.42E±0.09, h29km, n35, σ18.61/29, mb4.0/11, MS3.3/6, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 27nm,0.3s,baz=139,slow=6.2,SNR=6.3	**4.62**	**288**	P		**Pn**	**12 20 35.6 +2.1**
HNR	15nm,0.3s,baz=206,slow=22,SNR=1.4			S		**Sn**	**12 21 28.6 +2.3**
HNR	**Honiara**	**4.62**	**288**			**Pn**	**12 20 33.9 +0.4**
HNR				Sn		**Sn**	**12 21 25.4 -0.9**
DZM	**Mont Dzumac** 5.5nm,0.3s	**11.31**	**170**	*e*Pn		**Pn**	**12 22 08.6 +3.2**
DZM	1.4nm,0.3s			*e*Sn		**Sn**	**12 24 06.5 -4.5**
DZM	comp=Z,44nm,21.2s			*e*LR		LR	12 24 43.7
DZM	**Mont Dzumac** 1.4nm,0.3s,baz=325,slow=11,SNR=33	**11.31**	**170**	P		**Pn**	**12 22 07.9 +2.5**
DZM	0.4nm,0.3s,baz=84,slow=23,SNR=2.0			S		**Sn**	**12 24 10.5 -0.5**
DZM	**Mont Dzumac**	**11.31**	**170**			**Pn**	**12 22 07.0 +1.6**
DZM				Sn		**Sn**	**12 24 11.7 +0.7**
KRVT	**Keravat (AS076** comp=Z,170nm,21.9s,baz=101,slow=37	**13.90**	**297**	LR		LR	12 27 59.8
PMG	**Port Moresby** comp=Z,173nm,18.2s,baz=100,slow=37	**17.05**	**273**	LR		LR	12 29 56.7
MANU	**Manus Island**	**19.06**	**296**	P		**P**	**12 23 44.9 -0.9**
MANU	comp=Z,20nm,1.0s			IAmb		IAmb	12 23 49.0
CTA	**Charters Tower** comp=Z,0.2nm,0.3s,baz=75,slow=9.5,SNR=9.7	**19.74**	**240**	P		**Pn**	**12 23 53.6 -1.3**
COEN	**Coen**	**20.97**	**259**	P		**P**	**12 24 05.7 -0.9**
COEN	comp=Z,6.9nm,0.9s			IAmb		IAmb	12 24 10.0
AFI	**Afiamalu** comp=Z,116nm,21.6s,baz=262,slow=33	**23.45**	**100**	LR		LR	12 32 27.4
H11S2	**WAKE ISLAND Hy 29.25** baz=184,slow=76,SNR=23		**4**	T		T	12 55 45.4
H11S3	**WAKE ISLAND Hy 29.26** baz=184,slow=76,SNR=20		**4**	T		T	12 55 34.5
H11S1	**WAKE ISLAND Hy 29.27** baz=184,slow=76,SNR=21		**4**	T		T	12 55 35.8
STKA	**Stephens Creek** comp=Z,1.8nm,0.8s,baz=31,slow=12,SNR=3.6	**29.69**	**222**	P		**P**	**12 25 30.7 +1.6**
STKA	comp=Z,78nm,18.7s,baz=24,slow=34			LR		LR	12 36 28.3
STKA	**Stephens Creek**	**29.69**	**222**	P		**P**	**12 25 28.2 -0.9**
WR0	**Warramunga Arr**	**30.14**	**249**	P		**P**	**12 25 32.9 -0.3**
WB2	**Warramunga Arr**	**30.31**	**249**	P		**P**	**12 25 33.7 -1.1**
WRA	**Warramunga Arr** comp=Z,1.0nm,0.3s,baz=80,slow=9.2,SNR=20	**30.32**	**249**	P		**P**	**12 25 34.3 -0.5**
WRA	comp=Z,68nm,18.6s,baz=65,slow=36			LR		LR	12 37 47.6
H11N1	**WAKE ISLAND Hy 30.48** baz=184,slow=76,SNR=21		**5**	T		T	12 57 16.3
H11N3	**WAKE ISLAND Hy 30.49** baz=184,slow=76,SNR=15		**5**	T		T	12 57 20.8
H11N2	**WAKE ISLAND Hy 30.50** baz=184,slow=76,SNR=18		**5**	T		T	12 57 24.2
ASAR	**Alice Springs** comp=Z,0.3nm,0.6s,baz=64,slow=9.4,SNR=6.8	**31.71**	**242**	P		**P**	**12 25 45.9 -1.2**
ASAR	comp=Z,41nm,18.9s,baz=67,slow=35			LR		LR	12 38 00.2
BBOO	**Buckleboo**	**34.01**	**226**	P		**P**	**12 26 07.2 +0.2**
KNRA	**Kununurra**	**35.00**	**258**	P		**P**	**12 26 15.0 -0.7**
KNRA	comp=Z,9.8nm,0.9s			IAmb		IAmb	12 26 16.0
FITZ	**Fitzroy Crossi**	**38.17**	**255**	P		**P**	**12 26 41.6 -1.1**
FITZ	comp=Z,3.1nm,0.8s			IAmb		IAmb	12 26 43.5
PPT2	**Papeete2** comp=Z,36nm,21.8s	**45.01**	**104**	*e*LR		LR	12 40 51.2
CMAR	**Chiang Mai Arr** comp=Z,7.4nm,21.6s,baz=295,slow=34	**70.84**	**294**	LR		LR	12 59 59.2
SONM	**Songino Array** comp=Z,0.2nm,0.2s,baz=139,slow=7.3,SNR=4.4	**77.75**	**324**	P		**P**	**12 31 19.6 -0.4**
WRH	**Wood River Hil**	**83.17**	**19**	P		**P**	**12 31 46.4 -2.2**
WRH	comp=Z,2.2nm,1.1s			IAmb		IAmb	12 31 59.6
HDA	**Harding Lake**	**83.50**	**19**	P		**P**	**12 31 50.0 -0.3**
IL31		**83.76**	**19**	P		**P**	**12 31 50.8 -0.7**
IL31	comp=Z,3.5nm,1.0s			IAmb		IAmb	12 31 53.7
ILAR	**Eielson Array** comp=Z,1.8nm,0.9s,baz=231,slow=5.6,SNR=13	**83.76**	**19**	P		**P**	**12 31 51.8 +0.2**
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.7s,baz=249,slow=6.6,SNR=2.6	**86.91**	**50**	P		**P**	**12 32 08.7 +0.5**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.5s,baz=86,slow=7.0,SNR=2.9	**92.50**	**317**	P		**P**	**12 32 34.3 +0.3**

ISCJB ***14*** *12:23:24.5±0.3, 24.82N±0.01×122.23E±0.01, h3km±2km, Error ellipse: s-maj=2.5km s-min=2.0km az=21.0*
TAP ***14*** *12:23:25.2, 24.81N×122.12E, h6km, ML3.5, D*
JMA ***14*** *12:23:25.1±0.1, 24.77N×122.22E, h11km±5km, M2.5*

ISC 14 12:23:24.7±0.9, 24.81N±0.02×122.22E±0.02, h11km±7km, n101, σ0.87/195, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS	baz=280	**0.26**	**279**	*e*P		**Pg**	**12 23 29.6 -0.5**
EGS	baz=280			*e*S		**Sg**	**12 23 32.6 -1.1**
EOS1	**EOS1** baz=178	**0.27**	**198**	*e*P		**Pg**	**12 23 31.4 +1.3**
EOS1	baz=178			*e*S		**Sg**	**12 23 36.7 +3.0**
TWB1	**Santiao Chiao** baz=330	**0.29**	**314**	*e*P		**Pg**	**12 23 30.3 -0.3**
TWB1	baz=330			*e*S		**Sg**	**12 23 33.5 -1.0**
NTC	**Toucheng** baz=279	**0.35**	**278**	*e*P		**Pg**	**12 23 31.8 +0.1**
NTC	baz=279			*e*S		**Sg**	**12 23 36.6 +0.1**
TWC	**Suao** baz=229	**0.39**	**240**	*e*P		**Pg**	**12 23 32.4 0.0**
TWC	baz=229			S		**Sg**	**12 23 37.4 -0.1**
TIPB	**Shuangxi** baz=300	**0.39**	**295**	P		**Pg**	**12 23 32.4 0.0**
TIPB	baz=300			S		**Sg**	**12 23 37.9 +0.2**
ILA	**Ilan** baz=261	**0.43**	**265**	*e*P		**Pb**	**12 23 33.6 -0.7**
ILA	baz=261			*e*S		**Sb**	**12 23 39.2 -1.6**
NWF	**Wu-fen Shan** baz=310	**0.48**	**304**	P		**Pb**	**12 23 34.9 -0.3**
NWF	baz=310			S		**Sg**	**12 23 40.0 -0.4**
WFSB	**Wu-fen Shan** baz=310	**0.48**	**304**	*e*P		**Pg**	**12 23 34.6 +0.6**
WFSB	baz=310			*e*S		**Sg**	**12 23 40.1 -0.2**
TWE	**Neicheng** baz=256	**0.51**	**261**	*e*P		**Pg**	**12 23 34.8 +0.2**
TWE	baz=256			S		**Sb**	**12 23 41.7 -1.3**
NANB	**Nanao** baz=221	**0.57**	**229**	*e*P		**Pg**	**12 23 35.9 +0.2**
NANB	baz=221			*e*S		**Sb**	**12 23 44.1 -0.7**
ENA	**Nanau** baz=221	**0.57**	**229**	*e*P		**Pg**	**12 23 35.8 -0.1**
ENA	baz=221			*e*S		**Sb**	**12 23 44.0 -1.0**
TWA	**Mucha** baz=289	**0.60**	**287**	*e*P		**Pb**	**12 23 36.9 -0.4**
TWA	baz=289			S		**Sb**	**12 23 44.9 -0.8**
ENTT	**Nioudou** baz=250	**0.61**	**255**	*e*P		**Pb**	**12 23 37.5 0.0**
ENTT	baz=250			*e*S		**Sb**	**12 23 44.7 -1.5**
NHDH	**Xindian Distri** baz=285	**0.65**	**284**	*e*P		**Pb**	**12 23 37.7 -0.3**
NHDH	baz=285			*e*S		**Sb**	**12 23 46.1 -0.9**
NWLT	**Wulai** baz=266	**0.65**	**268**	*e*P		**Pb**	**12 23 37.8 -0.3**
NWLT	baz=266			*e*S		**Sg**	**12 23 45.5 -0.3**

NDT	**Datong Townshi**	**0.67**	**253**	*eP*	**Pb**	**12 23 38.4**	**0.0**
	baz=249						
NDT				*eS*	**Sb**	**12 23 46.4**	**-1.4**
	baz=249						
TAP1	**Taipei**	**0.67**	**290**	*eP*	**Pb**	**12 23 38.6**	**+0.1**
	baz=292						
TAP1				*eS*	**Sb**	**12 23 47.5**	**-0.3**
	baz=292						
YM01	**YM01**	**0.68**	**300**	P	**Pg**	**12 23 38.0**	**+0.2**
	baz=303						
YM01				S	**Sg**	**12 23 46.8**	**0.0**
	baz=303						
YM08	**YM08**	**0.69**	**304**	P	**Pg**	**12 23 37.8**	**-0.2**
	baz=307						
YM08				*eS*	**Sg**	**12 23 47.2**	**+0.2**
	baz=307						
YM11	**YM11**	**0.69**	**302**	*eP*	**Pg**	**12 23 38.1**	**+0.1**
	baz=305						
YM11				*eS*	**Sb**	**12 23 48.3**	**0.0**
	baz=305						
TAP	**Taipei**	**0.69**	**290**	*eP*	**Pb**	**12 23 38.5**	**-0.2**
	baz=292						
TAP				*eS*	**Sb**	**12 23 47.5**	**-0.7**
	baz=292						
YM10	**YM10**	**0.69**	**301**	P	**Pg**	**12 23 38.3**	**+0.2**
	baz=304						
YM10				*eS*	**Sb**	**12 23 48.5**	**+0.1**
	baz=304						
YM05	**YM05**	**0.69**	**301**	*eP*	**Pg**	**12 23 37.8**	**-0.3**
	baz=304						
YM05				*eS*	**Sb**	**12 23 48.3**	**-0.1**
	baz=304						
YM04	**YM04**	**0.71**	**300**	*eP*	**Pg**	**12 23 38.5**	**+0.1**
	baz=302						
TWY	**Chenhua**	**0.73**	**310**	P	**Pg**	**12 23 38.8**	**0.0**
	baz=314						
TWY				S	**Sg**	**12 23 48.4**	**0.0**
	baz=314						
ANP	**Anpu**	**0.74**	**301**	*eP*	**Pg**	**12 23 39.2**	**+0.3**
	baz=304						
JYNG	**Yonagunijimaku**	**0.75**	**118**	P	**Pg**	**12 23 38.9**	**-0.3**
JYNG				S	**Sg**	**12 23 49.6**	**+0.6**
YHNB	**Yeheng**	**0.78**	**260**	P	**Pb**	**12 23 40.0**	**-0.3**
	baz=258						
YHNB				*eS*	**Sg**	**12 23 49.5**	**-0.4**
	baz=258						
NTST	**Danshui**	**0.78**	**297**	*eP*	**Pb**	**12 23 40.7**	**+0.3**
	baz=300						
TWS1	**Kuangyinshan**	**0.78**	**292**	*eP*	**Pb**	**12 23 40.2**	**-0.1**
	baz=294						
TWS1				*eS*	**Sb**	**12 23 50.9**	**-0.1**
	baz=294						
NSK	**Sanguang**	**0.79**	**261**	P	**Pb**	**12 23 40.3**	**-0.2**
	baz=258						
NSK				*eS*	**Sg**	**12 23 49.4**	**-0.9**
	baz=258						
YOJ	**Yonaguni jima**	**0.80**	**115**	P	**Pg**	**12 23 40.1**	**0.0**
YOJ				*eS*	**Sg**	**12 23 50.1**	**-0.5**
NACB	**Ninganchiao**	**0.85**	**222**	P	**Pb**	**12 23 41.2**	**-0.2**
	baz=216						
NACB				S	**Sb**	**12 23 52.6**	**-0.2**
	baz=216						
NNSH	**Datong**	**0.85**	**244**	*eP*	**Pb**	**12 23 41.1**	**-0.4**
	baz=240						
NNSH				*eS*	**Sb**	**12 23 52.5**	**-0.4**
	baz=240						
NNS	**Nan Shan**	**0.85**	**245**	*eP*	**Pb**	**12 23 41.4**	**-0.2**
	baz=240						
NNS				*eS*	**Sb**	**12 23 52.5**	**-0.5**
	baz=240						
WLTB	**Daxi**	**0.88**	**273**	*eP*	**Pb**	**12 23 42.1**	**+0.1**
	baz=272						
WLTB				*eS*	**Sb**	**12 23 54.0**	**+0.2**
	baz=272						
ETLH	**Xiulin Townshi**	**0.90**	**229**	*eP*	**Pb**	**12 23 42.0**	**-0.3**
	baz=223						
ETLH				S	**Sb**	**12 23 54.5**	**+0.1**
	baz=223						
TWD	**Chiawan**	**0.92**	**218**	*eP*	**Pg**	**12 23 42.4**	**0.0**
	baz=212						
TWD				*eS*	**Sb**	**12 23 55.4**	**+0.5**
	baz=212						
NCU	**National Centr**	**0.95**	**280**	*eP*	**Pb**	**12 23 43.1**	**-0.1**
	baz=280						
NCU				*eS*	**Sb**	**12 23 56.2**	**+0.4**
	baz=280						
NCUH	**Zhongli**	**0.95**	**280**	*eP*	**Pb**	**12 23 43.2**	**0.0**
	baz=280						
NCUH				*eS*	**Sb**	**12 23 56.1**	**+0.3**
	baz=280						
HWA	**Hwalien**	**0.99**	**214**	*eP*	**Pn**	**12 23 44.9**	**+0.3**
	baz=208						
HWA				*eS*	**Sn**	**12 23 58.7**	**+0.1**
	baz=208						
ENLB	**Shoufeng**	**1.06**	**212**	*eP*	**Pn**	**12 23 45.7**	**+0.2**
	baz=207						
ENLB				*eS*	**Sn**	**12 24 01.1**	**+0.9**
	baz=207						
WHF	**Hehuan Shan**	**1.09**	**233**	*eP*	**Pb**	**12 23 46.0**	**+0.2**
	baz=229						
WHF				*eS*	**Sb**	**12 23 60.0**	**-0.2**
	baz=229						
TWT	**Tachien**	**1.09**	**240**	*eP*	**Pn**	**12 23 46.6**	**+0.4**
	baz=237						
TWT				*eS*	**Sn**	**12 24 00.8**	**-0.6**
	baz=237						
LIOB	**Emei**	**1.10**	**262**	*eP*	**Pn**	**12 23 46.5**	**+0.4**
	baz=260						
LIOB				*eS*	**Sn**	**12 24 01.5**	**+0.1**
	baz=260						
TDCB	**Techi**	**1.11**	**241**	*eP*	**Pn**	**12 23 46.5**	**+0.1**
	baz=237						
TDCB				*eS*	**Sb**	**12 24 00.8**	**+0.2**
	baz=237						
NSTT	**Nanjuang**	**1.12**	**261**	*eP*	**Pn**	**12 23 46.7**	**+0.3**
	baz=259						
NSTT				S	**Sb**	**12 24 00.9**	**+0.2**
	baz=259						
SBCB	**Hsinchu**	**1.12**	**270**	*eP*	**Pb**	**12 23 46.0**	**0.0**
	baz=268						
SBCB				*eS*	**Sn**	**12 24 01.7**	**0.0**
	baz=268						
CHGB	**Renai**	**1.21**	**232**	*eP*	**Pn**	**12 23 48.0**	**+0.2**
	baz=228						
CHGB				*eS*	**Sb**	**12 24 03.5**	**+0.1**
	baz=228						
ESL	**Shilin**	**1.22**	**216**	*eP*	**Pb**	**12 23 47.6**	**-0.1**
	baz=211						
ESL				*eS*	**Sn**	**12 24 04.8**	**+0.6**
	baz=211						
WHP	**Taichung City**	**1.27**	**246**	*eP*	**Pg**	**12 23 49.1**	**0.0**
	baz=243						
WHP				*eS*	**Sn**	**12 24 06.2**	**+0.6**
	baz=243						
NMLH	**Miaoli**	**1.32**	**259**	*eP*	**Pg**	**12 23 50.4**	**+0.3**
	baz=257						
NMLH				*eS*	**Sn**	**12 24 07.6**	**+0.7**
	baz=257						
EGFH	**Guangfu**	**1.34**	**213**	*eP*	**Pg**	**12 23 50.7**	**+0.2**
	baz=208						
EGFH				*eS*	**Sn**	**12 24 09.1**	**+1.9**
	baz=208						
NSY	**Sanyi**	**1.38**	**254**	*eP*	**Pb**	**12 23 50.3**	**-0.2**
	baz=252						
NSY				*eS*	**Sg**	**12 24 09.3**	**+0.1**
	baz=252						
TWQ1	**Liyutan**	**1.39**	**251**	*eP*	**Pg**	**12 23 51.6**	**+0.2**
	baz=249						
TWQ1				*eS*	**Sg**	**12 24 09.0**	**-0.5**
	baz=249						
DPDB	**Guoxing**	**1.41**	**237**	*eP*	**Pg**	**12 23 51.3**	**-0.4**
	baz=234						
DPDB				*eS*	**Sg**	**12 24 10.6**	**+0.7**
	baz=234						
PTSB	**Yuanli**	**1.42**	**256**	*eP*	**Pg**	**12 23 51.9**	**-0.1**
	baz=254						
PTSB				*eS*	**Sg**	**12 24 10.6**	**+0.2**
	baz=254						
VWDT	**VWDT**	**1.44**	**223**	*eP*	**Pg**	**12 23 51.8**	**-0.4**
	baz=220						
VWDT				*eS*	**Sg**	**12 24 10.2**	**-0.7**
	baz=220						
IRIF	**Iriomote-Funau**	**1.46**	**108**	P	**Pn**	**12 23 51.0**	**0.0**
IRIF				*eS*	**Sn**	**12 24 09.6**	**-0.4**
HGSD	**Ruisui**	**1.49**	**209**	*eP*	**Pb**	**12 23 52.8**	**+0.4**
	baz=205						
HGSD				*eS*	**Sg**	**12 24 13.2**	**+0.5**
	baz=205						
WDJ	**Dajia District**	**1.51**	**253**	*eP*	**Pb**	**12 23 52.8**	**+0.1**
	baz=251						
WDJ				*eS*	**Sg**	**12 24 12.6**	**-0.6**
	baz=251						
SMLT	**Sun Moon Lake**	**1.51**	**233**	*eP*	**Pg**	**12 23 53.1**	**-0.6**
	baz=229						
SMLT				*eS*	**Sg**	**12 24 12.6**	**-0.8**
	baz=229						
EHY	**Hungye**	**1.53**	**212**	*eP*	**Pn**	**12 23 52.5**	**+0.5**
	baz=208						
EHY				*eS*	**Sg**	**12 24 12.9**	**-1.0**
	baz=208						
TYC	**Yuchr**	**1.53**	**234**	*eP*	**Pg**	**12 23 53.5**	**-0.5**
	baz=231						
TYC				*eS*	**Sg**	**12 24 13.2**	**-0.8**
	baz=231						
SSLB	**Suanglung**	**1.53**	**229**	*eP*	**Pg**	**12 23 53.5**	**-0.6**
	baz=226						
SSLB				*eS*	**Sg**	**12 24 12.9**	**-1.1**
	baz=226						
TCU	**Taichung**	**1.55**	**245**	*eP*	**Pg**	**12 23 53.8**	**-0.6**
	baz=243						
TCU				*eS*	**Sg**	**12 24 13.6**	**-1.0**
	baz=243						
HATJ	**Hateruma jima**	**1.63**	**117**	P	**Pn**	**12 23 50.8**	**-2.5**
YULB	**Yu-li**	**1.64**	**211**	*eP*	**Pb**	**12 23 54.5**	**-0.4**
	baz=207						
YULB				*eS*	**Sg**	**12 24 16.4**	**-1.0**
	baz=207						
WHYT	**Xinyi Township**	**1.66**	**229**	*eP*	**Pb**	**12 23 55.2**	**-0.2**
	baz=226						
WHYT				*eS*	**Sg**	**12 24 17.1**	**-1.2**
	baz=226						
TWF1	**Yuli**	**1.67**	**210**	*eP*	**Pb**	**12 23 55.1**	**-0.4**
	baz=207						
TWF1				*eS*	**Sg**	**12 24 17.4**	**-1.2**
	baz=207						
WJS	**Zhushan**	**1.67**	**235**	*eP*	**Pg**	**12 23 56.1**	**-0.7**
	baz=232						
WJS				*eS*	**Sg**	**12 24 17.9**	**-0.7**
	baz=232						
WNT	**Mingjian**	**1.68**	**237**	*eP*	**Pb**	**12 23 55.3**	**-0.2**
	baz=234						
WNT				*eS*	**Sb**	**12 24 16.2**	**-0.4**
	baz=234						
JKRS	**Kuro-shima**	**1.73**	**109**	P	**Pn**	**12 23 55.6**	**+0.9**
JKRS				*eS*	**Sn**	**12 24 17.5**	**+0.7**
YUS	**Yu-Shan**	**1.75**	**222**	*eP*	**Pb**	**12 23 56.8**	**-0.3**
	baz=218						
YUS				*eS*	**Sb**	**12 24 19.1**	**-0.1**
	baz=218						
FULB	**Fuli**	**1.81**	**208**	*eP*	**Pn**	**12 23 57.0**	**+1.1**
	baz=205						
FULB				*eS*	**Sb**	**12 24 21.2**	**+0.7**
	baz=205						
JIJ	**Ishigaki jima**	**1.81**	**104**	P	**Pn**	**12 23 56.1**	**+0.3**
JIJ				*eS*	**Sn**	**12 24 19.7**	**+0.9**
CHN5	**Tsauling**	**1.85**	**230**	*eP*	**Pb**	**12 23 58.4**	**-0.2**
	baz=227						
CHN5				*eS*	**Sb**	**12 24 20.9**	**-0.9**
	baz=227						
CHKT	**Chengkung**	**1.87**	**205**	*eP*	**Pn**	**12 23 56.7**	**+0.1**
	baz=201						
CHKT				*eS*	**Sb**	**12 24 22.5**	**+0.3**
	baz=201						
WGK	**Gukeng**	**1.88**	**234**	*eP*	**Pb**	**12 23 59.0**	**0.0**
	baz=231						
WGK				*eS*	**Sb**	**12 24 22.1**	**-0.4**
	baz=231						
WDLH	**Douliu**	**1.89**	**234**	*eP*	**Pb**	**12 23 59.2**	**-0.1**
	baz=232						
WDLH				*eS*	**Sb**	**12 24 22.9**	**-0.1**
	baz=232						
RLNB	**Erlin**	**1.92**	**242**	*eS*	**Sb**	**12 24 22.5**	**-1.3**
	baz=240						
ELDTW	**Lidau**	**1.95**	**215**	*eP*	**Pb**	**12 24 00.4**	**+0.1**
	baz=211						
ELDTW				*eS*	**Sb**	**12 24 24.3**	**-0.4**
	baz=211						
CHN4	**Tsaushan**	**2.07**	**226**	*eP*	**Pb**	**12 24 01.1**	**-1.3**
	baz=223						
CHN4				*eS*	**Sb**	**12 24 27.5**	**-0.6**
	baz=223						
TPUB	**Ta-pu**	**2.08**	**224**	*eP*	**Pb**	**12 24 01.6**	**-1.0**
	baz=222						
TPUB				*eS*	**Sb**	**12 24 27.7**	**-0.8**
	baz=222						
CHY	**Chiayi**	**2.09**	**232**	*eP*	**Pn**	**12 24 01.0**	**+1.3**
	baz=229						
CHY				*eS*	**Sb**	**12 24 27.2**	**-1.5**
	baz=229						
STYT	**Tauyuan**	**2.11**	**220**	*eP*	**Pb**	**12 24 01.7**	**-1.3**
	baz=216						
STYT				*eS*	**Sb**	**12 24 28.7**	**-0.6**
	baz=216						
WTP	**Ta-pu**	**2.13**	**224**	*eP*	**Pb**	**12 24 02.7**	**-0.7**
	baz=221						
WTP				*eS*	**Sb**	**12 24 29.3**	**-0.7**
	baz=221						
SNST	**Tainan City**	**2.23**	**225**	*eP*	**Pb**	**12 24 04.2**	**-0.8**
	baz=223						
SNST				*eS*	**Sb**	**12 24 31.9**	**-0.7**
	baz=223						
CHN1	**Nanshi**	**2.23**	**224**	*eP*	**Pn**	**12 24 03.5**	**+1.8**
	baz=221						
CHN1				*eS*	**Sb**	**12 24 30.8**	**-2.0**
	baz=221						
TWGBT	**Beinan**	**2.23**	**208**	*eP*	**Pn**	**12 24 02.5**	**+0.8**
	baz=205						
TWGBT				*eS*	**Sn**	**12 24 31.1**	**+1.7**
	baz=205						
SGST	**Jiashian**	**2.27**	**221**	*eP*	**Pn**	**12 24 04.1**	**+1.8**
	baz=219						
SGST				*eS*	**Sn**	**12 24 31.8**	**+1.5**
	baz=219						
SLGT	**Liugui**	**2.31**	**219**	*eP*	**Pb**	**12 24 04.9**	**-1.4**
	baz=216						
SLGT				*eS*	**Sb**	**12 24 33.9**	**-1.0**
	baz=216						
PTTC	**Pingtan**	**2.32**	**288**	*eP*	**Pb**	**12 24 05.9**	**-0.7**
	baz=287						
PTTC				*eS*	**Sn**	**12 24 32.5**	**+1.1**
	baz=287						
CHN8	**Yiju**	**2.34**	**232**	*eS*	**Sb**	**12 24 34.6**	**-1.2**
	baz=229						
MATB	**Ma-tsu**	**2.45**	**304**	*eP*	**Pn**	**12 24 03.0**	**-1.7**
	baz=303						
MATB				*eS*	**Sn**	**12 24 36.9**	**+2.2**
	baz=303						
ECL	**Naimali**	**2.48**	**208**	*eP*	**Pn**	**12 24 07.1**	**+2.0**
	baz=205						
ECL				*eS*	**Sn**	**12 24 37.7**	**+2.2**
	baz=205						
SSD	**Sandimen**	**2.51**	**216**	*eP*	**Pb**	**12 24 08.0**	**-1.9**
	baz=213						
SSD				*eS*	**Sb**	**12 24 38.6**	**-2.2**
	baz=213						
VWUC	**VWUC**	**2.52**	**275**	*eP*	**Pb**	**12 24 08.0**	**-2.0**
	baz=274						
MASBT	**Mashibuluo**	**2.62**	**214**	*eP*	**Pb**	**12 24 09.8**	**-1.9**
	baz=211						
MASBT				*eS*	**Sn**	**12 24 40.9**	**+2.0**
	baz=211						
XPSS	**Dashiqiu**	**2.79**	**320**	*eP*	**Pn**	**12 24 11.8**	**+2.4**
	baz=320						
XPSS				*eS*	**Sn**	**12 24 44.8**	**+1.7**
	baz=320						

*IDC **14** 12:28:52.5±3.2, 1.97N×128.29E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse: s-maj=264.7km s-min=26.1km az=68.0*
*DJA **14** 12:28:57.8±1.4, 2.7N±7.2×12.9E±.1, h11km±11km, M3.7/6, MLv3.7/6*

ISC 14 12:28:54.0±1.5, 2.1N±0.1×128.5E±0.1, h10km, n8, σ0°80/5, mb3.3/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.73**	**221**	P	**Pg**	**12 29 27.3**	**+0.2**
SWI	**Sorong**	**4.03**	**137**	P	**Pn**	**12 29 56.2**	**+0.5**
WRA	**Warramunga Arr**	**22.63**	**166**	P	**P**	**12 33 54.5**	**-0.8**
	0.5nm,0.4s,baz=345,slow=9.9,SNR=2.5						
ASAR	**Alice Springs**	**26.13**	**169**	P	**P**	**12 34 27.9**	**-0.6**
	0.2nm,0.5s,baz=347,slow=7.9,SNR=6.0						
H11N1	**WAKE ISLAND Hy**	**41.41**	**62**	T	T	13 20 47.5	
	baz=250						
H11N2	**WAKE ISLAND Hy**	**41.42**	**62**	T	T	13 20 46.4	
	baz=250						
H11N3	**WAKE ISLAND Hy**	**41.43**	**62**	T	T	13 20 46.8	
	baz=250						
MKAR	**Makanchi Array**	**59.90**	**325**	P	**P**	**12 39 00.3**	**+0.1**
	0.2nm,0.3s,baz=114,slow=7.9,SNR=7.5						

MEX 14 12:29:44.0±0.5, 15.31N×93.14W, h98km±9km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.40**	**349**	*eP*	Pn	12 29 57.7	-1.3
PCIG				*eS*	Sn	12 30 08.7	-1.4
PCIG		**0.40**	**349**	*eP*	Pn	12 29 57.7	-1.3
PCIG				*i S*	Sn	12 30 08.3	-1.8
CCIG	**Comitan**	**1.36**	**45**	*eP*	Pn	12 30 06.9	-1.8
CCIG				*i S*	Sn	12 30 24.2	-3.2
CCIG	**Comitan**	**1.36**	**45**	*eP*	Pn	12 30 06.9	-1.8
CCIG				*eS*	Sn	12 30 23.4	-3.9
CMIG	**Matias Romero**	**2.44**	**317**	*eP*	Pn	12 30 23.8	+1.5

*VIE **14** 12:54:11.9±0.3, 47.06N×9.48E, h8km±3km, ml1.6/3, Error ellipse: s-maj=2.2km s-min=1.1km az=110.0 3 km E of Sargans*

ZUR 14 12:54:11.9, 47.07N×9.49E, h8km, MLh1.2/9, 4C, Error ellipse: s-maj=1.8km s-min=0.8km az=151.0, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLONS	**Plons/SG**	**0.08**	**257**	⇑Pg	Pg	12 54 14.3	+0.3
PLONS					Sg	12 54 15.8	+0.3
SBUB	**Buchserberg Ma**	**0.09**	**334**	⇑Pg	Pg	12 54 14.3	+0.1
SBUB					Sg	12 54 15.8	0.0
SBUA2	**Buchs, Altendo**	**0.09**	**352**	⇑Pg	Pg	12 54 14.3	+0.1
SBUA2					Sg	12 54 15.8	+0.1
SBUH	**Buchs, Hochsch**	**0.11**	**354**	⇑Pg	Pg	12 54 14.6	+0.2
SBUH					Sg	12 54 16.6	+0.5
LIENZ	**Kamor/St.Gall**	**0.23**	**0**	Pg	Pg	12 54 16.6	+0.1
LIENZ					Sg	12 54 20.5	+0.8
DAVA	**Damuels**	**0.34**	**50**	Sg	Sg	12 54 24.0	+0.7
DAVA	**Damuels**	**0.34**	**50**	*eP*g	Pg	12 54 18.9	+0.2
	3.0nm,0.1s						
DAVA				*e*Sg	Sg	12 54 24.0	+0.7
	12nm,0.2s						
PANIX	**Pigniu (Panix)**	**0.35**	**227**	Pg	Pg	12 54 19.0	+0.1
PANIX					Sg	12 54 23.9	+0.3
DAVOX	**Davos/Dischmat**	**0.39**	**137**	Pg	Pg	12 54 19.8	+0.2
RETA	**Reutte**	**0.96**	**64**	Pg	Pn	12 54 31.4	-0.4
	0.3nm,0.1s						
RETA				*e*Sg	Sb	12 54 44.4	+0.6
	0.9nm,0.1s						
MOTA	**Moosalm**	**1.13**	**75**	Pg	Pn	12 54 34.3	0.0
	0.8nm,0.1s						
MOTA				*e*Sg	Sn	12 54 50.2	+0.1
	2.4nm,0.1s						
SQTA	**Sankt Quirin**	**1.18**	**82**	Pg	Pn	12 54 35.3	+0.4
	1.0nm,0.2s						

ROM 14 12:56:08.9±0.0, 43.455N±0.001×12.429E±0.003, h5km, Md0.9/2, Error ellipse: s-maj=0.2km s-min=0.0km az=59.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATPI	**Pietralunga -**	**0.02**	**257**	P	Pg	12 56 09.9	0.0
ATPI				S	Sg	12 56 10.7	+0.1
ATPI				END			
ATVO	**AVT- Monte Val**	**0.07**	**193**	P	Pg	12 56 10.8	+0.2
ATVO				S	Sg	12 56 12.2	+0.5
ATVO				AML	AML		
	comp=E,67μm,0.4s						
ATVO				AML	AML		
	comp=N,33μm,1.4s						
ATVO				END			
BADI	**Badiali**	**0.14**	**292**	P	Pg	12 56 12.2	+0.4
BADI				S	Sg	12 56 14.7	+0.9

*ISCJB **14** 12:59:11.1±0.6, 17.3S±0.1×178.8W±0.1, h539km, mb4.3/4, Error ellipse: s-maj=15.0km s-min=11.6km az=138.3*
*IDC **14** 12:59:11.3±1.7, 17.38S×178.71W, h531km±25km, mb3.6/4, mb1 3.7/6, mb1mx3.1/30, mbtmp4.5/6, Error ellipse: s-maj=32.2km s-min=28.3km az=173.0*
*NEIC **14** 12:59:13.8±1.7, 17.2S±0.1×178.8W±0.1, h559km±8km, mb4.1/14*

ISC 14 12:59:12.8±0.7, 17.2S±0.1×178.8W±0.1, h539km, n29, σ1§41/30, mb4.1/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.04**	**260**	P	**P**	**13 00 30.7**	**+3.4**
AFI	**Afiamalu**	**7.53**	**65**	P	**P**	**13 01 03.8**	**-2.0**
	5.5nm,0.3s,baz=239,slow=5.9,SNR=12						
AFI	**Afiamalu**	**7.53**	**65**	P	**P**	**13 01 04.8**	**-0.9**
NIUE	**Niue**	**8.65**	**104**	P	**P**	**13 01 19.8**	**+3.0**
FUNA	**Funafuti**	**8.85**	**347**	P	**P**	**13 01 20.8**	**+1.9**
DZM	**Mont Dzumac**	**14.70**	**248**	P	**P**	**13 02 18.6**	**-0.9**
	0.7nm,0.3s,baz=79,slow=15,SNR=13						
DZM	**Mont Dzumac**	**14.70**	**248**	P	**P**	**13 02 21.3**	**+1.8**
OUZ	**Omahuta**	**19.17**	**199**	P	**P**	**13 03 03.6**	**+1.8**
OUZ				IAmb	IAmb	13 03 05.8	
	comp=Z,6.1nm,1.1s						
URZ	**Urewera**	**21.27**	**189**	P	**P**	**13 03 18.3**	**-2.4**
	comp=Z,1.9nm,0.3s,baz=4.8,slow=12,SNR=8.0						
ARMA	**Armidale**	**29.96**	**239**	P	**P**	**13 04 37.4**	**-0.3**
ARMA				IAmb	IAmb	13 04 39.6	
	comp=Z,4.4nm,1.0s						
MLZ	**Mavora Lakes**	**30.12**	**199**	P	**P**	**13 04 37.9**	**-0.9**
CAN	**Canberra**	**33.83**	**231**	P	**P**	**13 05 11.1**	**+0.5**
COEN	**Coen**	**36.72**	**270**	P	**P**	**13 05 35.3**	**+0.5**
COEN				IAmb	IAmb	13 05 36.2	
	comp=Z,5.8nm,0.8s						
STKA	**Stephens Creek**	**38.63**	**240**	P	**P**	**13 05 49.2**	**-1.0**
	comp=Z,2.3nm,0.5s,baz=86,slow=9.6,SNR=7.1						
STKA	**Stephens Creek**	**38.63**	**240**	P	**P**	**13 05 49.9**	**-0.2**
BBOO	**Buckleboo**	**43.41**	**240**	P	**P**	**13 06 27.1**	**-1.0**
BBOO				IAmb	IAmb	13 06 35.2	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**44.19**	**259**	P	**P**	**13 06 33.2**	**-1.2**
WB2	**Warramunga Arr**	**44.37**	**259**	P	**P**	**13 06 34.8**	**-0.9**
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**13 06 34.8**	**-1.1**
	comp=Z,1.7nm,0.3s,baz=95,slow=7.8,SNR=100						
AS31	**Alice Springs**	**44.61**	**254**	P	**P**	**13 06 37.1**	**-0.5**
ASAR	**Alice Springs**	**44.61**	**254**	P	**P**	**13 06 37.2**	**-0.3**
	comp=Z,16nm,0.4s,baz=89,slow=7.9,SNR=379						
ASAR				ScP	**ScP**	**13 11 09.5**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=111,slow=4.3,SNR=3.7						
MTN	**Manton Dam**	**48.44**	**268**	P	**P**	**13 07 06.2**	**-0.4**
FAKI	**Fak Fak**	**50.07**	**281**	P	**P**	**13 07 18.6**	**0.0**
FAKI				IAmb	IAmb	13 07 18.8	
	comp=Z,7.4nm,1.0s						
KNRA	**Kununurra**	**50.18**	**264**	P	**P**	**13 07 19.0**	**-0.4**
KNRA				IAmb	IAmb	13 07 19.8	
	comp=Z,9.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.77**	**260**	P	**P**	**13 07 38.1**	**0.0**
PSA00	**Pilbara Seismi**	**57.71**	**255**	P	**P**	**13 08 11.6**	**-1.0**
PSA00				IAmb	IAmb	13 08 13.3	
	comp=Z,6.6nm,0.8s						
MORW	**Morawa**	**60.41**	**246**	P	**P**	**13 08 29.1**	**-1.4**
MORW				IAmb	IAmb	13 08 36.6	
	comp=Z,5.0nm,0.9s						
QSPA	**South Pole Qui**	**72.84**	**180**	P	**P**	**13 09 46.0**	**-0.7**
MENT	**Mentasta**	**84.48**	**15**	P	**P**	**13 10 47.6**	**-0.9**

NNC 14 13:17:03.3±3.2, 41.37N×84.21E, h1km±13km, mb3.7, mpv3.3, 6C-1D, Error ellipse: s-maj=23.4km s-min=10.7km az=151.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**3.53**	**307**	Pg	Pn	13 17 52

	76nm,1.2s						
UZB	**Uzynbulak**	**4.24 297**	Pg	Pn	13 18 08.0	-1.2	
	1.6nm,0.1s						
UZB			Lg	Lg	13 19 21.4		
	33nm,0.9s						
DJR	**Jarkent**	**4.40 314**	Pg	Pn	13 18 09.8	-1.4	
	1.5nm,0.5s						
DJR			Lg	Lg	13 19 24.6		
	12nm,0.6s						
KAPS	**Kapalarasan**	**5.28 320**	Pg	Pn	13 18 26.2	+2.9	
	4.5nm,0.5s						
KAPS			Lg	Lg	13 19 53.0		
	8.9nm,0.8s						
MK31	**Makanchi Array**	**5.60 346**	⇑Pn	Pn	13 18 27.8	0.0	
	1.1nm,0.6s,baz=149,slow=14,SNR=6.8						
MK31			⇑Pg	Pb	13 18 45.4	+3.6	
	3.2nm,0.7s,baz=168,slow=18,SNR=4.4						
MK31			⇑Lg	Lg	13 20 01.7		
	9.1nm,0.7s,baz=158,slow=28,SNR=4.2						
MDOK	**Medeo**	**5.61 291**	Lg	Lg	13 20 02.3		
	15nm,0.8s						
ZSN	**Zaisan**	**6.10 4**	Pg	Pn	13 18 25.3	-9.3	
	3.5nm,0.5s						
ZSN			Lg	Lg	13 19 51.1		
	13nm,0.7s						
AAK	**Ala-Archa**	**7.35 283**	⇑Lg	Lg	13 20 57.9		
	13nm,1.4s						

*NEIC **14** 13:35:52.6±2.2,23.3S±0.1×179.7W±0.1,h507km±8km, mb4.3/23*
*ISCJB **14** 13:35:53.1±0.5,23.41S±0.07×179.68W±0.09,h532km, mb3.9/9,Error ellipse: s-maj=11.7km s-min=8.3km az=38.8*
*IDC **14** 13:35:53.4±1.8,23.41S×179.86W,h498km±20km,mb3.4/9, mb1 3.6/11,mb1mx3.3/35,mbtmp4.3/11,Error ellipse: s-maj=19.5km s-min=16.3km az=152.0*
ISC 14 13:35:55.2±0.7,23.4S±0.1×179.81W±0.10,h532km,n37, σ1s54/37,mb4.3/21,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.02**	**340**	P	P	13 37 28.4	-5.0
AFI	**Afiamalu**	**12.15**	**40**	P	**P**	**13 38 33.5**	**-2.0**
	2.3nm,0.3s,baz=48,slow=4.5,SNR=4.0						
AFI				S	S	13 40 39.5	-7.9
	1.0nm,0.3s,baz=42,slow=21,SNR=4.4						
DZM	**Mont Dzumac**	**12.76**	**273**	P	**P**	**13 38 44.0**	**+2.2**
	0.1nm,0.3s,baz=112,slow=18,SNR=3.1						
URZ	**Urewera**	**15.01**	**189**	P	**P**	**13 39 02.9**	**-2.0**
	2.8nm,0.3s,baz=345,slow=0.6,SNR=23						
URZ	**Urewera**	**15.01**	**189**	P	**P**	**13 39 03.0**	**-1.9**
URZ				IAmb	IAmb	13 39 04.6	
	comp=Z,8.3nm,1.0s						
BFZ	**Birch Farm**	**17.52**	**190**	P	**P**	**13 39 25.9**	**-3.5**
SNZO	**South Karori**	**18.41**	**193**	P	**P**	**13 39 35.5**	**-2.0**
RPZ	**Rata Peaks**	**21.59**	**198**	P	**P**	**13 40 05.0**	**-1.4**
	comp=Z,5.8nm,0.4s,baz=2.9,slow=2.7,SNR=8.6						
ARMA	**Armidale**	**26.35**	**249**	P	**P**	**13 40 49.5**	**+0.5**
ARMA				IAmb	IAmb	13 40 50.5	
	comp=Z,13nm,1.3s						
CAN	**Canberra**	**29.53**	**239**	P	**P**	**13 41 17.5**	**+0.8**
CAN				IAmb	IAmb	13 41 24.9	
	comp=Z,34nm,1.4s						
STKA	**Stephens Creek**	**35.06**	**248**	P	**P**	**13 42 04.3**	**+0.6**
	comp=Z,4.9nm,0.6s,baz=104,slow=11,SNR=17						
STKA	**Stephens Creek**	**35.06**	**248**	P	**P**	**13 42 04.0**	**+0.4**
COEN	**Coen**	**36.22**	**278**	P	**P**	**13 42 14.1**	**+0.6**
BBOO	**Buckleboo**	**39.79**	**246**	P	**P**	**13 42 42.0**	**-0.4**
BBOO				IAmb	IAmb	13 42 42.5	
	comp=Z,7.3nm,1.0s						
AS31	**Alice Springs**	**42.28**	**260**	P	**P**	**13 43 02.6**	**+0.3**
AS31				IAmb	IAmb	13 43 03.7	
	comp=Z,2.6nm,0.4s						
ASAR	**Alice Springs**	**42.28**	**260**	P	**P**	**13 43 02.6**	**+0.3**
	comp=Z,5.8nm,0.6s,baz=96,slow=7.4,SNR=83						
ASAR				pP	**pP**	**13 44 34.9**	**-1.9**
	comp=Z,0.9nm,0.7s,baz=92,slow=7.7,SNR=5.0						
ASAR				ScP	**ScP**	**13 47 46.7**	**+2.8**
	comp=Z,0.8nm,0.8s,baz=102,slow=4.8,SNR=6.5						
WR0	**Warramunga Arr**	**42.43**	**266**	P	**P**	**13 43 03.2**	**-0.3**
WR0				IAmb	IAmb	13 43 04.0	
	comp=Z,5.0nm,0.8s						
WB2	**Warramunga Arr**	**42.60**	**266**	P	**P**	**13 43 04.8**	**-0.1**
WRAB	**Tennant Creek**	**42.61**	**266**		P	13 42 58.3	-6.6
WRAB				IAmb	IAmb	13 43 05.4	
	comp=Z,6.8nm,0.9s						
WRA	**Warramunga Arr**	**42.61**	**266**	P	**P**	**13 43 04.8**	**-0.2**
	comp=Z,6.9nm,0.5s,baz=91,slow=8.5,SNR=257						
WRA				ScP	**ScP**	**13 47 48.5**	**+3.2**
	comp=Z,0.6nm,1.0s,baz=91,slow=4.3,SNR=4.5						
JAY	**Jayapura**	**43.50**	**293**	P	**P**	**13 43 11.0**	**-0.9**
	comp=Z,9.1nm,0.8s,baz=36,slow=7.1,SNR=4.4						
FORT	**Forrest**	**46.64**	**249**	P	**P**	**13 43 35.3**	**-0.5**
MTN	**Manton Dam**	**47.60**	**274**	P	**P**	**13 43 42.4**	**-0.8**
MTN				IAmb	IAmb	13 43 46.3	
	comp=Z,30nm,1.4s						
KNRA	**Kununurra**	**48.87**	**269**	P	**P**	**13 43 53.2**	**+0.6**
KNRA				IAmb	IAmb	13 43 53.8	
	comp=Z,17nm,1.2s						
FITZ	**Fitzroy Crossi**	**51.04**	**265**	P	**P**	**13 44 09.4**	**+0.9**
VNDA	**Vanda**	**54.85**	**185**	P	**P**	**13 44 36.5**	**+1.7**
	comp=Z,1.0nm,0.7s,baz=44,slow=5.0,SNR=4.5						
VNDA	**Vanda**	**54.85**	**185**	P	**P**	**13 44 36.8**	**+2.0**
NWAO	**Narrogin (SRO)**	**55.59**	**245**	P	**P**	**13 44 40.4**	**-0.3**
NWAO				IAmb	IAmb	13 44 47.8	
	comp=Z,30nm,1.4s						
MORW	**Morawa**	**57.20**	**250**	P	**P**	**13 44 51.5**	**-0.3**
MORW				IAmb	IAmb	13 44 52.5	
	comp=Z,7.5nm,0.8s						
CASY	**Casey**	**60.60**	**206**	P	**P**	**13 45 13.2**	**-0.8**
JAGI	**Jajag, Banyuwa**	**64.73**	**272**	P	**P**	**13 45 40.6**	**-1.0**
JAGI				IAmb	IAmb	13 45 46.3	
	comp=Z,26nm,1.5s						
QSPA	**South Pole Qui**	**66.65**	**180**	P	**P**	**13 45 53.1**	**+0.3**
QSPA				IAmb	IAmb	13 45 55.0	
	comp=Z,7.6nm,1.4s						
JNU	**Nakatsue**	**73.30**	**318**	P	**P**	**13 46 30.6**	**-2.1**
NVAR	**Mina Array Bea**	**84.30**	**44**	P	**P**	**13 47 32.9**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=207,slow=6.2,SNR=3.6						
SVW2	**Sparrevohn**	**86.49**	**12**		pP	13 49 26.9	-10
TXAR	**Lajitas Array**	**90.04**	**58**	P	**P**	**13 48 00.7**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=209,slow=6.7,SNR=3.7						
PDAR	**Pinedale Array**	**92.24**	**44**	P	**P**	**13 48 09.4**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=201,slow=4.8,SNR=2.8						

NNC 14 13:36:18.8±4.2,42.37N×84.92E,h0km,mb3.7,mpv3.2, 1C-1D,Error ellipse: s-maj=33.7km s-min=20.2km az=154.0,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**3.52**	**289**	Pg	Pb	13 37 22.8	+0.7
	0.5nm,0.1s						
KTMS				Lg	Lg	13 38 10.4	
	18nm,0.5s						
PDGK	**Podgornoye**	**4.11**	**285**	Pg	Pb	13 37 31.2	-0.9
	0.6nm,0.3s						
PDGK				Lg	Lg	13 38 24.3	
	9.7nm,0.8s						
PDGK	**Podgornoye**	**4.11**	**285**	⇓Pg	Pb	13 37 34.8	+2.7
	5.2nm,0.9s						
PDGK				⇑Lg	Lg	13 38 28.4	
	28nm,0.8s						
DJR	**Jarkent**	**4.22**	**299**	Pg	Pg	13 37 38.5	-1.3
	1.3nm,0.3s						
DJR				Lg	Lg	13 38 37.4	
	6.2nm,0.9s						
UZB	**Uzynbulak**	**4.41**	**282**	Pg	Pb	13 37 39.1	+1.8
	2.5nm,0.3s						
UZB				Lg	Lg	13 38 38.2	
	13nm,0.7s						
KAPS	**Kapalarasan**	**4.97**	**308**	Pg	Pg	13 37 50.6	-3.4
	1.4nm,0.3s						
KAPS				Lg	Lg	13 38 58.0	
	1.9nm,0.5s						
ZSN	**Zaisan**	**5.08**	**360**	Pg	Pb	13 37 50.7	+2.1
	2.0nm,0.3s						
ZSN				Lg	Lg	13 38 57.8	
	4.3nm,0.5s						

*ISCJB **14** 13:54:59.8±0.3,24.50N±0.02×122.74E±0.01,h89km±3km, Error ellipse: s-maj=3.0km s-min=2.2km az=176.1*

*JMA **14** 13:54:59.8±0.1,24.46N×122.72E,h92km±2km,M3.2*
*TAP **14** 13:55:00.2,24.49N×122.73E,h85km,ML3.7,B*
ISC 14 13:54:59.7±1.3,24.51N±0.03×122.74E±0.02,h93km±6km, n119,σ0s83/220,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.19**	**106**	P	**Pn**	**13 55 13.2**	**+0.2**
JYNG				S	**Sn**	**13 55 22.7**	**-0.2**
YOJ	**Yonaguni jima**	**0.25**	**100**	P	**Pn**	**13 55 13.4**	**+0.2**
YOJ				S	**Sn**	**13 55 23.3**	**0.0**
YOJ	**Yonaguni jima**	**0.25**	**100**	P	**Pn**	**13 55 12.8**	**-0.4**
	baz=95						
YOJ				S	**Sn**	**13 55 22.6**	**-0.6**
	baz=95						
EOS1	**EOS1**	**0.56**	**275**	P	**Pn**	**13 55 15.5**	**+0.3**
	baz=275						
EOS1				eS	**Sn**	**13 55 26.8**	**0.0**
	baz=275						
TWC	**Suao**	**0.82**	**277**	P	**Pn**	**13 55 17.7**	**0.0**
	baz=278						
TWC				S	**Sn**	**13 55 30.6**	**-0.5**
	baz=278						
TWB1	**Santiao Chiao**	**0.85**	**306**	eP	**Pn**	**13 55 18.3**	**+0.3**
	baz=307						
NTC	**Toucheng**	**0.90**	**293**	P	**Pn**	**13 55 19.0**	**+0.5**
	baz=293						
NTC				S	**Sn**	**13 55 32.4**	**-0.2**
	baz=293						
NANB	**Nanao**	**0.91**	**265**	P	**Pn**	**13 55 19.0**	**+0.4**
	baz=265						
NANB				S	**Sn**	**13 55 33.2**	**+0.4**
	baz=265						
IRIF	**Iriomote-Funau**	**0.92**	**100**	P	**Pn**	**13 55 18.9**	**+0.3**
IRIF				S	**Sn**	**13 55 32.9**	**0.0**
ENA	**Nanau**	**0.92**	**265**	P	**Pn**	**13 55 19.2**	**+0.5**
	baz=265						
ENA				S	**Sn**	**13 55 32.8**	**-0.1**
	baz=265						
ILA	**Ilan**	**0.94**	**286**	eP	**Pn**	**13 55 18.9**	**0.0**
	baz=286						
ILA				eS	**Sn**	**13 55 33.3**	**0.0**
	baz=286						
TIPB	**Shuangxi**	**0.95**	**299**	P	**Pn**	**13 55 19.5**	**+0.3**
	baz=300						
TIPB				S	**Sn**	**13 55 33.7**	**0.0**
	baz=300						
TWE	**Neicheng**	**1.00**	**283**	P	**Pn**	**13 55 20.1**	**+0.5**
	baz=283						
TWE				S	**Sn**	**13 55 34.8**	**+0.3**
	baz=283						
NWF	**Wu-fen Shan**	**1.04**	**303**	P	**Pn**	**13 55 20.9**	**+0.7**
	baz=303						
NWF				S	**Sn**	**13 55 35.2**	**-0.3**
	baz=303						
WFSB	**Wu-fen Shan**	**1.04**	**303**	eP	**Pn**	**13 55 20.8**	**+0.8**
	baz=303						
WFSB				eS	**Sn**	**13 55 35.2**	**-0.2**
	baz=303						
HATJ	**Hateruma jima**	**1.07**	**114**	P	**Pn**	**13 55 21.1**	**+0.8**
HATJ				S	**Sn**	**13 55 36.3**	**+0.4**
ENTT	**Nioudou**	**1.08**	**277**	P	**Pn**	**13 55 21.3**	**+0.8**
	baz=277						
ENTT				eS	**Sn**	**13 55 35.7**	**-0.5**
	baz=277						
NACB	**Ninganchiao**	**1.10**	**253**	P	**Pn**	**13 55 20.6**	**-0.1**
	baz=252						
NACB				S	**Sn**	**13 55 35.6**	**-0.9**
	baz=252						
NDT	**Datong Townshi**	**1.12**	**275**	P	**Pn**	**13 55 21.8**	**+0.8**
	baz=275						
NDT				eS	**Sn**	**13 55 37.1**	**0.0**
	baz=275						
TWD	**Chiawan**	**1.13**	**248**	P	**Pn**	**13 55 21.0**	**0.0**
	baz=248						
TWD				S	**Sn**	**13 55 36.5**	**-0.6**
	baz=248						
TWA	**Mucha**	**1.16**	**294**	eP	**Pn**	**13 55 21.9**	**+0.5**
	baz=294						
TWA				S	**Sn**	**13 55 37.2**	**-0.5**
	baz=294						
NWLT	**Wulai**	**1.16**	**284**	P	**Pn**	**13 55 22.2**	**+0.7**
	baz=284						
NWLT				S	**Sn**	**13 55 37.4**	**-0.5**
	baz=284						
HWA	**Hwalien**	**1.16**	**243**	eP	**Pn**	**13 55 21.8**	**+0.3**
	baz=243						
HWA				eS	**Sn**	**13 55 38.0**	**+0.2**
	baz=243						
JKRS	**Kuro-shima**	**1.19**	**103**	P	**Pn**	**13 55 22.4**	**+0.7**
JKRS				S	**Sn**	**13 55 39.0**	**+0.7**
ETLH	**Xiulin Townshi**	**1.19**	**256**	eP	**Pn**	**13 55 21.9**	**0.0**
	baz=255						
ETLH				S	**Sn**	**13 55 38.2**	**-0.4**
	baz=255						
NHDH	**Xindian Distri**	**1.20**	**293**	eP	**Pn**	**13 55 22.2**	**+0.4**
	baz=293						
NHDH				eS	**Sn**	**13 55 37.9**	**-0.7**
	baz=293						
ENLB	**Shoufeng**	**1.20**	**240**	eP	**Pn**	**13 55 21.6**	**-0.3**
	baz=240						
ENLB				eS	**Sn**	**13 55 38.1**	**-0.6**
	baz=240						
NNSH	**Datong**	**1.24**	**267**	P	**Pn**	**13 55 22.9**	**+0.3**
	baz=266						
NNSH				S	**Sn**	**13 55 40.0**	**+0.2**
	baz=266						
YM01	**YM01**	**1.24**	**301**	P	**Pn**	**13 55 23.0**	**+0.6**
	baz=301						
YM01				S	**Sn**	**13 55 39.3**	**-0.4**
	baz=301						
TAP	**Taipei**	**1.24**	**296**	eP	**Pn**	**13 55 22.9**	**+0.5**
	baz=296						
TAP				eS	**Sn**	**13 55 39.2**	**-0.4**
	baz=296						
NNS	**Nan Shan**	**1.25**	**267**	P	**Pn**	**13 55 22.9**	**+0.3**
	baz=267						
NNS				S	**Sn**	**13 55 39.9**	**-0.1**
	baz=267						
YM08	**YM08**	**1.25**	**303**	eP	**Pn**	**13 55 22.9**	**+0.4**
	baz=303						
YM08				eS	**Sn**	**13 55 39.5**	**-0.3**
	baz=303						
YM05	**YM05**	**1.25**	**302**	P	**Pn**	**13 55 23.2**	**+0.5**
	baz=302						
YM05				S	**Sn**	**13 55 39.5**	**-0.4**
	baz=302						
YM10	**YM10**	**1.25**	**301**	P	**Pn**	**13 55 23.1**	**+0.5**
	baz=301						
YM10				S	**Sn**	**13 55 39.3**	**-0.7**
	baz=301						
YHNB	**Yeheng**	**1.26**	**278**	P	**Pn**	**13 55 23.4**	**+0.8**
	baz=278						
YHNB				S	**Sn**	**13 55 39.7**	**-0.3**
	baz=278						
NSK	**Sanguang**	**1.27**	**278**	P	**Pn**	**13 55 23.5**	**+0.7**
	baz=278						
NSK				S	**Sn**	**13 55 40.2**	**-0.1**
	baz=278						
YM04	**YM04**	**1.27**	**301**	eP	**Pn**	**13 55 23.3**	**+0.5**
	baz=301						
YM04				eS	**Sn**	**13 55 39.9**	**-0.3**
	baz=301						
JIJ	**Ishigaki jima**	**1.28**	**96**	P	**Pn**	**13 55 23.1**	**+0.2**
JIJ				S	**Sn**	**13 55 39.7**	**-0.7**
TWY	**Chenhua**	**1.29**	**307**	eP	**Pn**	**13 55 23.6**	**+0.6**
	baz=307						
TWY				eS	**Sn**	**13 55 41.1**	**+0.6**
	baz=307						
ANP	**Anpu**	**1.30**	**302**	eP	**Pn**	**13 55 23.1**	**-0.1**
	baz=302						
TWS1	**Kuangyinshan**	**1.34**	**297**	eP	**Pn**	**13 55 24.3**	**+0.6**
	baz=296						
TWS1				eS	**Sn**	**13 55 41.9**	**+0.1**
	baz=296						
NTST	**Danshui**	**1.35**	**299**	eP	**Pn**	**13 55 24.1**	**+0.4**
	baz=299						
NTST				eS	**Sn**	**13 55 41.5**	**-0.3**
	baz=299						
ESL	**Shilin**	**1.38**	**240**	eP	**Pn**	**13 55 24.0**	**-0.1**
	baz=240						
ESL				eS	**Sn**	**13 55 41.5**	**-1.0**
	baz=240						
WHF	**Hehuan Shan**	**1.40**	**255**	eP	**Pn**	**13 55 24.8**	**+0.1**
	baz=255						
WHF				eS	**Sn**	**13 55 42.8**	**-0.8**
	baz=255						
WLTB	**Daxi**	**1.40**	**285**	eP	**Pn**	**13 55 25.6**	**+1.3**
	baz=284						
WLTB				eS	**Sn**	**13 55 43.5**	**+0.5**
	baz=284						
JISG	**Ishigakijimahi**	**1.43**	**86**	P	**Pn**	**13 55 24.9**	**+0.2**
JISG				S	**Sn**	**13 55 43.1**	**-0.5**
TWT	**Tachien**	**1.45**	**260**	eP	**Pn**	**13 55 26.2**	**+1.0**
	baz=260						
TWT				eS	**Sn**	**13 55 44.9**	**+0.5**
	baz=260						
EGFH	**Guangfu**	**1.46**	**236**	eP	**Pn**	**13 55 24.9**	**-0.2**
	baz=235						
EGFH				S	**Sn**	**13 55 43.5**	**-0.8**
	baz=235						
TDCB	**Techi**	**1.47**	**261**	eP	**Pn**	**13 55 26.3**	**+1.0**
	baz=260						
TDCB				eS	**Sn**	**13 55 44.5**	**-0.1**
	baz=260						
NCU	**National Centr**	**1.49**	**288**	eP	**Pn**	**13 55 26.8**	**+1.4**
	baz=288						
NCU				eS	**Sn**	**13 55 45.8**	**+0.8**
	baz=288						
NCUH	**Zhongli**	**1.49**	**288**	eP	**Pn**	**13 55 26.3**	**+0.9**
	baz=288						
NCUH				eS	**Sn**	**13 55 45.7**	**+0.7**
	baz=288						
CHGB	**Renai**	**1.50**	**253**	eP	**Pn**	**13 55 26.3**	**+0.5**
	baz=253						
CHGB				eS	**Sn**	**13 55 45.6**	**+0.1**
	baz=253						
HGSD	**Ruisui**	**1.57**	**230**	eP	**Pn**	**13 55 27.0**	**+0.5**
	baz=230						
HGSD				eS	**Sn**	**13 55 46.4**	**-0.4**
	baz=230						
LIOB	**Emei**	**1.58**	**275**	eP	**Pn**	**13 55 27.5**	**+0.9**
	baz=275						
LIOB				eS	**Sn**	**13 55 47.6**	**+0.6**
	baz=275						
NSTT	**Nanjuang**	**1.59**	**275**	eP	**Pn**	**13 55 27.4**	**+0.7**
	baz=274						
NSTT				eS	**Sn**	**13 55 47.5**	**+0.2**
	baz=274						
NHW	**Xinwu Township**	**1.62**	**288**	eS	**Sn**	**13 55 48.9**	**+0.9**
	baz=288						
SBCB	**Hsinchu**	**1.62**	**281**	eP	**Pn**	**13 55 28.2**	**+1.0**
	baz=280						
SBCB				eS	**Sn**	**13 55 48.4**	**+0.4**
	baz=280						
EHY	**Hungye**	**1.64**	**233**	eP	**Pn**	**13 55 27.4**	**+0.1**
	baz=232						
EHY				eS	**Sn**	**13 55 46.7**	**-1.6**
	baz=232						
HSN	**Hsinchu**	**1.64**	**281**	eS	**Sn**	**13 55 47.8**	**-0.5**
	baz=282						
VWDT	**VWDT**	**1.64**	**243**	eP	**Pn**	**13 55 27.9**	**+0.5**
	baz=243						
VWDT				eS	**Sn**	**13 55 48.1**	**-0.3**
	baz=243						
WHP	**Taichung City**	**1.65**	**263**	eP	**Pn**	**13 55 29.2**	**+1.6**
	baz=262						
WHP				S	**Sn**	**13 55 49.7**	**+0.8**
	baz=262						
DPDB	**Guoxing**	**1.72**	**255**	eP	**Pn**	**13 55 29.6**	**+1.1**
	baz=254						
DPDB				eS	**Sn**	**13 55 51.2**	**+0.9**
	baz=254						
YULB	**Yu-li**	**1.73**	**230**	eP	**Pn**	**13 55 28.6**	**+0.2**
	baz=230						
YULB				eS	**Sn**	**13 55 49.4**	**-1.0**
	baz=230						
TWF1	**Yuli**	**1.75**	**229**	eP	**Pn**	**13 55 28.6**	**-0.2**
	baz=228						
TWF1				eS	**Sn**	**13 55 50.1**	**-0.9**
	baz=228						
NMLH	**Miaoli**	**1.78**	**271**	eP	**Pn**	**13 55 29.8**	**+0.7**
	baz=271						
NMLH				eS	**Sn**	**13 55 51.7**	**+0.2**
	baz=271						
SSLB	**Suanglung**	**1.78**	**247**	eP	**Pn**	**13 55 29.5**	**+0.2**
	baz=246						
SSLB				eS	**Sn**	**13 55 51.0**	**-0.7**
	baz=246						
JTJ	**Tarama**	**1.79**	**85**	P	**Pn**	**13 55 29.8**	**+0.6**
JTJ				eS	**Sn**	**13 55 51.4**	**-0.3**
TWQ1	**Liyutan**	**1.80**	**265**	eP	**Pn**	**13 55 31.0**	**+1.5**
	baz=265						
TWQ1				eS	**Sn**	**13 55 51.5**	**-0.6**
	baz=265						
NSY	**Sanyi**	**1.81**	**268**	eP	**Pn**	**13 55 30.7**	**+1.2**
	baz=267						
NSY				eS	**Sn**	**13 55 52.6**	**+0.3**
	baz=267						
TYC	**Yuchr**	**1.82**	**251**	eP	**Pn**	**13 55 30.7**	**+1.0**
	baz=250						
TYC				eS	**Sn**	**13 55 53.0**	**+0.5**
	baz=250						
FULB	**Fuli**	**1.86**	**226**	eP	**Pn**	**13 55 30.1**	**-0.1**
	baz=225						
FULB				eS	**Sn**	**13 55 52.8**	**-0.6**
	baz=225						
PTSB	**Yuanli**	**1.86**	**269**	eS	**Sn**	**13 55 53.0**	**-0.4**
	baz=268						
CHKT	**Chengkung**	**1.88**	**222**	eP	**Pn**	**13 55 30.6**	**+0.1**
	baz=221						
CHKT				eS	**Sn**	**13 55 52.5**	**-1.4**
	baz=221						
WHYT	**Xinyi Township**	**1.91**	**245**	eP	**Pn**	**13 55 31.8**	**+1.0**
	baz=245						
WHYT				eS	**Sn**	**13 55 55.4**	**+0.8**
	baz=245						
TCU	**Taichung**	**1.92**	**260**	eP	**Pn**	**13 55 32.5**	**+1.5**
	baz=259						
TCU				eS	**Sn**	**13 55 56.3**	**+1.6**
	baz=259						
WDJ	**Dajia District**	**1.92**	**266**	eP	**Pn**	**13 55 32.8**	**+1.8**
	baz=265						
WDJ				eS	**Sn**	**13 55 55.2**	**+0.4**
	baz=265						
YUS	**Yu-Shan**	**1.93**	**239**	eP	**Pn**	**13 55 32.2**	**+0.7**
	baz=238						
WJS	**Zhushan**	**1.96**	**250**	eP	**Pn**	**13 55 32.9**	**+1.4**
	baz=249						
WJS				eS	**Sn**	**13 55 56.9**	**+1.1**
	baz=249						
WNT	**Mingjian**	**1.98**	**252**	eP	**Pn**	**13 55 33.1**	**+1.3**
	baz=251						
WNT				eS	**Sn**	**13 55 57.1**	**+0.9**
	baz=251						
ALS	**Alishan**	**2.03**	**241**	eP	**Pn**	**13 55 33.6**	**+0.9**
	baz=240						
ALS				eS	**Sn**	**13 55 57.9**	**0.0**
	baz=240						
WCHH	**Zhanghua**	**2.04**	**258**	eP	**Pn**	**13 55 34.0**	**+1.5**
	baz=258						
WCHH				eS	**Sn**	**13 55 57.8**	**+0.3**
	baz=258						
ELDTW	**Lidau**	**2.05**	**231**	eP	**Pn**	**13 55 33.0**	**+0.2**
	baz=230						
ELDTW				eS	**Sn**	**13 55 56.9**	**-1.2**
	baz=230						
CHN5	**Tsauling**	**2.09**	**245**	eP	**Pn**	**13 55 34.9**	**+1.6**
	baz=244						
CHN5				eS	**Sn**	**13 55 59.6**	**+0.6**
	baz=244						
WGK	**Gukeng**	**2.15**	**248**	eS	**Sn**	**13 56 01.0**	**+0.8**
	baz=247						
WDLH	**Douliu**	**2.17**	**249**	eP	**Pn**	**13 55 34.7**	**+0.4**
	baz=248						
WDLH				eS	**Sn**	**13 56 01.3**	**+0.6**
	baz=248						
RLNB	**Erlin**	**2.26**	**255**	eP	**Pn**	**13 55 35.8**	**+0.4**
	baz=254						
RLNB				eS	**Sn**	**13 56 03.3**	**+0.6**
	baz=254						
TWGBT	**Beinan**	**2.27**	**223**	eP	**Pn**	**13 55 36.0**	**+0.4**
	baz=222						
TWGBT				eS	**Sn**	**13 56 02.5**	**-0.4**
	baz=222						
TWG	**Pinlang**	**2.27**	**223**	eP	**Pn**	**13 55 35.9**	**+0.3**
	baz=222						
TWG				eS	**Sn**	**13 56 02.4**	**-0.7**
	baz=222						
TPUB	**Ta-pu**	**2.28**	**239**	eP	**Pn**	**13 55 37.1**	**+1.5**
	baz=238						
TPUB				eS	**Sn**	**13 56 04.2**	**+1.0**
	baz=238						
CHN4	**Tsa

	baz=239									
CHN2	**Minshiung**	**2.29**	**245**	*eS*		**Sn**	**13 56 04.4**	**+1.0**		
	baz=245									
WTP	**Ta-pu**	**2.32**	**238**	*eP*		**Pn**	**13 55 37.7**	**+1.5**		
WTP	baz=237				*eS*	**Sn**	**13 56 04.9**	**+0.7**		
	baz=237									
WTCT	**Ta-ch'eng**	**2.34**	**255**	*eS*		**Sn**	**13 56 05.1**	**+0.5**		
	baz=254									
JMJ	**Miyako jima 2**	**2.34**	**82**	*eP*		**Pn**	**13 55 37.0**	**+0.5**		
JMJ	baz=82				*eS*	**Sn**	**13 56 05.6**	**+1.0**		
	baz=82									
CHY	**Chiayi**	**2.35**	**245**	*eS*		**Sn**	**13 56 05.4**	**+0.6**		
	baz=244									
CHN1	**Nanshi**	**2.42**	**238**	*eP*		**Pn**	**13 55 39.2**	**+1.7**		
CHN1	baz=237				*eS*	**Sn**	**13 56 07.4**	**+0.9**		
	baz=237									
SNST	**Tainan City**	**2.42**	**239**	*eP*		**Pn**	**13 55 38.8**	**+1.3**		
	baz=238									
SNST					*eS*	**Sn**	**13 56 07.5**	**+0.9**		
	baz=238									
SGST	**Jiashian**	**2.43**	**235**	*eP*		**Pn**	**13 55 39.2**	**+1.4**		
	baz=234									
SGST					*eS*	**Sn**	**13 56 07.6**	**+0.7**		
	baz=234									
SLGT	**Liugui**	**2.44**	**232**	*eP*		**Pn**	**13 55 39.4**	**+1.6**		
	baz=231									
SLGT					*eS*	**Sn**	**13 56 07.7**	**+0.7**		
	baz=231									
WLGB	**Puzi**	**2.46**	**246**	*eS*		**Sn**	**13 56 08.1**	**+0.7**		
	baz=245									
WSF	**Szhu**	**2.46**	**250**	*eS*		**Sn**	**13 56 08.2**	**+0.7**		
	baz=249									
ECL	**Taimali**	**2.51**	**221**	*eP*		**Pn**	**13 55 38.9**	**+0.1**		
	baz=220									
ECL					*eS*	**Sn**	**13 56 07.5**	**-1.2**		
	baz=220									
CHN8	**Yiju**	**2.59**	**244**	*eS*		**Sn**	**13 56 10.7**	**+0.2**		
	baz=243									
SSD	**Sandimen**	**2.61**	**228**	*eP*		**Pn**	**13 55 41.6**	**+1.5**		
	baz=227									
SSD					*eS*	**Sn**	**13 56 10.9**	**-0.2**		
	baz=227									
LAY	**Lan-yu**	**2.69**	**204**	*eP*		**Pn**	**13 55 40.4**	**-0.7**		
	baz=203									
LAY					*eS*	**Sn**	**13 56 10.1**	**-2.9**		
	baz=203									
MASBT	**Mashibuluo**	**2.70**	**226**	*eP*		**Pn**	**13 55 41.7**	**+0.4**		
	baz=225									
MASBT					*eS*	**Sn**	**13 56 13.5**	**+0.2**		
	baz=225									
EAST	**Anshuo**	**2.74**	**220**	*eP*		**Pn**	**13 55 41.5**	**-0.3**		
	baz=219									
EAST					*eS*	**Sn**	**13 56 12.4**	**-1.8**		
	baz=219									
PTTC	**Pingtan**	**2.87**	**291**	*eP*		**Pn**	**13 55 43.4**	**-0.2**		
	baz=290									
PTTC					*eS*	**Sn**	**13 56 16.0**	**-1.4**		
	baz=290									
SCZT	**Fangliau**	**2.88**	**223**	*eP*		**Pn**	**13 55 45.2**	**+1.5**		
	baz=222									
SCZT					*eS*	**Sn**	**13 56 18.2**	**+0.6**		
	baz=222									
MATB	**Ma-tsu**	**3.02**	**304**	*eP*		**Pn**	**13 55 45.6**	**+0.1**		
	baz=302									
MATB					*eS*	**Sn**	**13 56 19.9**	**-0.8**		
	baz=302									
VWUC	**VWUC**	**3.03**	**280**	*eP*		**Pn**	**13 55 46.0**	**+0.3**		
	baz=279									
VWUC					*eS*	**Sn**	**13 56 18.6**	**-2.6**		
	baz=279									
PHUB	**P'eng-hu**	**3.06**	**252**	*eS*		**Sn**	**13 56 20.2**	**-1.7**		
	baz=251									
HEN	**Hengchun**	**3.10**	**217**	*eS*		**Sn**	**13 56 23.2**	**+0.5**		
	baz=216									
TWKBT	**Hengchun**	**3.11**	**215**	*eS*		**Sn**	**13 56 23.1**	**0.0**		
	baz=214									
PTMZ	**Houxiangcun**	**3.34**	**280**	*eP*		**Pn**	**13 55 50.0**	**+0.2**		
	baz=279									
PTMZ					*eS*	**Sn**	**13 56 26.2**	**-2.3**		
	baz=279									
XPSS	**Dashiqiu**	**3.34**	**317**	*eP*		**Pn**	**13 55 49.4**	**-0.4**		
	baz=316									
LYJJ	**Jianjiangzhen**	**3.38**	**308**	*eP*		**Pn**	**13 55 50.2**	**-0.1**		
	baz=307									
LYJJ					*eS*	**Sn**	**13 56 28.6**	**-0.9**		
	baz=307									
KNMB	**Chin-men Tao**	**3.97**	**270**	*eP*		**Pn**	**13 55 57.7**	**-0.6**		
	baz=269									
AXDP	**Jialang**	**4.36**	**276**	*eP*		**Pn**	**13 56 03.8**	**+0.2**		
	baz=275									
AXDP					*eS*	**Sn**	**13 56 50.6**	**-2.7**		
	baz=275									

IDC ***14*** *14:19:28.9±0.5, 41°.50S×86°.88W, h0km, mb4.7/17, mb1 4.8/18, mb1mx4.7/26, mbtmp4.7/18, ML3.7/1, MS4.6/19, Ms1 4.5/19, ms1mx4.5/22, Error ellipse: s-maj=20.9km s-min=13.7km az=102.0*

ISCJB ***14*** *14:19:29.5±0.2, 41°.48S±0°.04×86°.63W±0°.05, h10km, mb4.7/17, MS4.6/20, Error ellipse: s-maj=6.4km s-min=4.9km az=28.1*

NEIC ***14*** *14:19:29.9±3.0, 41°.37S±0°.10×87°.0W±0°.1, h10km±1km, mb5.1/26*

BJI ***14*** *14:19:30.0±0.0, 41°.40S×87°.10W, h10km, mB5.1/3, Ms5.2/6, Ms7 4.9/5*

GCMT ***14*** *14:19:30.9±0.1, 41°.47S±0°.01×87°.04W±0°.01, h15km, MW5.4/140, Moment Tension Solution. s110,c180; s140,c247; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr-0.10±.02; Mθθ 0.23±.02; Mφφ-0.13±.02; Mrθ 0.29±.05; Mθφ-1.31±.01; Mφr-0.29±.05; Best double couple: Mo1.37700×10^17 NP1:φs177.00000°, δ81.00000°, λ11.00000°. NP2:φs85.00000°, δ79.00000°, λ170.00000°. Principal axes: T 1.4800, Plg15.0000°, Azm41.0000°; N -0.2050, Plg75.0000°, Azm215.0000°; P -1.2750, Plg1.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 14:19:29.9±0.3, 41°.48S±0°.06×87°.06W±0°.06, h10km, n278, σ1s92/274, mb4.9/23, MS4.6/20, 1D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
COYC	**Coyhaique**	**11.62**	**116**		*eP*		**Pn**	**14 22 18.6**	**+2.8**
GO06	**Curarrehue**	**12.02**	**86**		*eP*		**Pn**	**14 22 19.1**	**-2.3**
GO06	**Curarrehue**	**12.02**	**86**				**Pn**	**14 22 17.5**	**-3.8**
GO08	**Villa O'Higgin**	**12.41**	**129**		*eP*		Pn	14 22 16.7	-10
PLCA	**Paso Flores**	**12.48**	**92**	Pn			**Pn**	**14 22 29.3**	**+1.7**
	1.0nm,0.3s,baz=306,slow=10,SNR=15								
PLCA					LR		LR	14 26 07.3	
	comp=Z,2μm,19.6s,baz=285,slow=32								
PLCA	**Paso Flores**	**12.48**	**92**	Pn			**Pn**	**14 22 28.9**	**+1.3**
GO05	**Huala**	**13.53**	**66**				Pn	14 22 35.1	-6.7
GO09	**Cerro Castillo**	**14.09**	**139**				**Pn**	**14 22 47.9**	**-1.5**
ROC1	**El Roble**	**15.32**	**62**				**Pn**	**14 23 01.5**	**-5.0**
ROCH	**El Roble**	**15.33**	**62**		*eP*		**Pn**	**14 23 02.1**	**-4.4**
CLCH	**Cerro Calan**	**15.39**	**64**		*eP*		**Pn**	**14 23 03.1**	**-4.1**
PEL	**Peldehue**	**15.44**	**63**		*eP*		**Pn**	**14 23 03.8**	**-4.0**
PEL	**Peldehue**	**15.44**	**63**				**Pn**	**14 23 04.3**	**-3.6**
FCH	**Farellones**	**15.60**	**64**		*eP*		**Pn**	**14 23 06.2**	**-3.9**
GO04	**Tololo Observa**	**17.32**	**55**				**Pn**	**14 23 28.1**	**-3.9**
GO04					IAmb		IAmb	14 23 43.9	
	comp=Z,184nm,1.1s								
USHA	**Ushuaia**	**18.17**	**144**		P		**P**	**14 23 42.8**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=276,slow=13,SNR=10								
USHA					LR		LR	14 29 25.2	
	comp=Z,4μm,19.4s,baz=304,slow=33								
TRQA	**Tornquist**	**19.56**	**88**		*eP*		**Pn**	**14 23 58.6**	**-0.6**
TRQA	**Tornquist**	**19.56**	**88**		*eP*		**Pn**	**14 23 58.6**	**-0.6**
TRQA	**Tornquist**	**19.56**	**88**				**Pn**	**14 23 58.7**	**-0.5**
TRQA					IAmb		IAmb	14 24 01.9	
	comp=Z,198nm,1.0s								
GO02	**Mina Guanaco**	**21.79**	**47**		P		**P**	**14 24 22.6**	**+0.2**
PB10	**IPOC Station P**	**22.62**	**43**		P		**P**	**14 24 29.7**	**-1.2**
LPA	**La Plata**	**23.74**	**83**		*eP*		**P**	**14 24 38.4**	**-3.9**
LPA					PP		**PnPn**	**14 25 09.3**	**-0.4**
LPA					PPP		PPP	14 27 03.7	
LPA					PCP		**PcP**	**14 28 27.2**	**+1.2**
LPA					S		**S**	**14 28 57.0**	**-0.5**
LPA					SS		**SnSn**	**14 29 41.4**	**+6.1**
LPA					SSS		SSS	14 31 23.4	
LPA					SCS		**ScS**	**14 35 46.8**	**-4.1**
LPA					PKIKP		**PKiKP**	**14 36 10.1**	**+0.9**
PB04	**IPOC Station P**	**23.80**	**42**		P		**P**	**14 24 42.5**	**-0.6**
LVC	**Limon Verde**	**24.21**	**45**		P		**P**	**14 24 46.7**	**-0.5**
	comp=Z,86nm,0.9s,baz=212,slow=8.8,SNR=55								
LVC					LR		LR	14 31 52.4	
	comp=Z,2μm,19.8s,baz=242,slow=31								
LVC	**Limon Verde**	**24.21**	**45**		*eP*		**P**	**14 24 46.7**	**-0.5**
LVC	**Limon Verde**	**24.21**	**45**		*eP*		**P**	**14 24 46.7**	**-0.5**
LVC	**Limon Verde**	**24.21**	**45**		P		**P**	**14 24 46.8**	**-0.5**
PB11	**IPOC Station P**	**26.23**	**40**		P		**P**	**14 25 04.5**	**-0.7**
PB11					IAmb		IAmb	14 25 09.0	
	comp=Z,63nm,1.1s								
GO01	**Chusmiza**	**26.53**	**40**		P		**P**	**14 25 08.1**	**-0.3**
MNMC	**Minye Minye**	**26.80**	**39**		P		**P**	**14 25 08.8**	**-1.7**
MNMC					IAmb		IAmb	14 25 16.5	
	comp=Z,38nm,0.9s								
PMSA	**Palmer Station**	**26.80**	**158**		LR		LR	14 33 14.9	
	comp=Z,296nm,19.0s,baz=325,slow=31								
PMSA	**Palmer Station**	**26.80**	**158**		*eP*		**P**	**14 25 10.0**	**+0.2**
PMSA	**Palmer Station**	**26.80**	**158**		*eP*		**P**	**14 25 10.0**	**+0.2**
ITQB	**Itaqui**	**27.28**	**74**		*eP*		**P**	**14 25 13.2**	**-1.2**
ITQB	**Itaqui**	**27.28**	**74**		*eP*		**P**	**14 25 13.2**	**-1.2**
PLTB	**Pedras Altas**	**28.40**	**81**		*eP*		**P**	**14 25 23.0**	**-1.6**
PLTB	**Pedras Altas**	**28.40**	**81**		*eP*		**P**	**14 25 23.0**	**-1.6**
CPUP	**Villa Florida**	**28.76**	**68**		P		**P**	**14 25 25.9**	**-1.7**
	comp=Z,21nm,1.0s,baz=252,slow=8.3,SNR=30								
CPUP					LR		LR	14 36 03.0	
	comp=Z,2μm,19.5s,baz=238,slow=35								
CPUP	**Villa Florida**	**28.76**	**68**		*eP*		**P**	**14 25 26.2**	**-1.5**
CPUP	**Villa Florida**	**28.76**	**68**		*eP*		**P**	**14 25 26.2**	**-1.5**
CPUP	**Villa Florida**	**28.76**	**68**		P		**P**	**14 25 26.1**	**-1.7**
CPUP					IAmb		IAmb	14 25 27.3	
	comp=Z,51nm,1.2s								
LPAZ	**La Paz**	**29.94**	**39**		P		**P**	**14 25 38.8**	**-0.2**
	comp=Z,6.6nm,0.7s,baz=197,slow=9.1,SNR=17								
LPAZ					LR		LR	14 35 23.3	
	comp=Z,787nm,19.5s,baz=193,slow=32								
LPAZ	**La Paz**	**29.94**	**39**		*eP*		**P**	**14 25 39.0**	**0.0**
LPAZ	**La Paz**	**29.94**	**39**		*eP*		**P**	**14 25 39.0**	**0.0**
LPAZ	**La Paz**	**29.94**	**39**		P		**P**	**14 25 37.7**	**-1.3**
LPAZ					IAmb		IAmb	14 25 49.1	
	comp=Z,18nm,0.9s								
NNA	**Nana**	**30.71**	**20**		P		**P**	**14 25 44.0**	**-1.1**
	comp=Z,6.8nm,0.5s,baz=205,slow=9.7,SNR=3.9								
NNA					LR		LR	14 34 57.1	
	comp=Z,1μm,19.1s,baz=196,slow=30								
CNLB	**Canela**	**31.69**	**79**		*eP*		**P**	**14 25 53.1**	**-0.6**
CNLB	**Canela**	**31.69**	**79**		*eP*		**P**	**14 25 53.1**	**-0.6**
ITAB	**Concordia**	**31.91**	**75**		*eP*		**P**	**14 25 54.4**	**-1.2**
ITAB	**Concordia**	**31.91**	**75**		*eP*		**P**	**14 25 54.4**	**-1.2**
PTGB	**Pitanga**	**33.47**	**71**		*eP*		**P**	**14 26 08.1**	**-1.3**
PTGB	**Pitanga**	**33.47**	**71**		*eP*		**P**	**14 26 08.1**	**-1.3**
AQDB	**Aquidauana**	**33.79**	**61**		*eP*		**P**	**14 26 11.0**	**-1.1**
AQDB	**Aquidauana**	**33.79**	**61**		*eP*		**P**	**14 26 11.0**	**-1.1**
TRCB	**Terra Rica**	**34.30**	**68**		*eP*		**P**	**14 26 15.6**	**-0.9**
TRCB	**Terra Rica**	**34.30**	**68**		*eP*		**P**	**14 26 15.6**	**-0.9**
ATAH	**Atahualpa**	**35.06**	**15**		P		**P**	**14 26 24.8**	**+1.3**
	comp=Z,30nm,1.1s,baz=196,slow=5.6,SNR=12								
PCMB	**Pacaembu**	**36.03**	**68**		*eP*		**P**	**14 26 30.2**	**-1.2**
PCMB	**Pacaembu**	**36.03**	**68**		*eP*		**P**	**14 26 30.2**	**-1.2**
FRTB	**Fartura**	**36.11**	**72**		*eP*		**P**	**14 26 31.4**	**-0.7**
FRTB	**Fartura**	**36.11**	**72**		*eP*		**P**	**14 26 31.4**	**-0.7**
PP1B	**Ponte de Pedra**	**36.40**	**59**		*eP*		**P**	**14 26 34.1**	**-0.6**
PP1B	**Ponte de Pedra**	**36.40**	**59**		*eP*		**P**	**14 26 34.1**	**-0.6**
SPB	**Sao Paulo**	**37.48**	**74**		*eP*		**P**	**14 26 42.8**	**-1.0**
SPB	**Sao Paulo**	**37.48**	**74**		*eP*		**P**	**14 26 42.8**	**-1.0**
ITRB	**Iturama**	**37.93**	**66**		*eP*		**P**	**14 26 46.4**	**-1.2**
ITRB	**Iturama**	**37.93**	**66**		*eP*		**P**	**14 26 46.4**	**-1.2**
RCLB	**Rio Claro- Sao**	**38.14**	**72**		*eP*		**P**	**14 26 48.7**	**-0.8**
RCLB	**Rio Claro- Sao**	**38.14**	**72**		*eP*		**P**	**14 26 48.7**	**-0.8**
VAO	**Valinhos**	**38.19**	**74**		*eP*		**P**	**14 26 49.1**	**-0.8**
VAO	**Valinhos**	**38.19**	**74**		*eP*		**P**	**14 26 49.1**	**-0.8**
BB19B	**Bebedouro**	**38.30**	**70**		*eP*		**P**	**14 26 49.3**	**-1.5**
BB19B	**Bebedouro**	**38.30**	**70**		*eP*		**P**	**14 26 49.3**	**-1.5**
SAML	**Samuel**	**38.67**	**40**		*eP*		**P**	**14 26 52.3**	**-1.5**
SAML	**Samuel**	**38.67**	**40**		*eP*		**P**	**14 26 52.3**	**-1.5**
SAML	**Samuel**	**38.67**	**40**		P		**P**	**14 26 50.1**	**-3.7**
SAML					IAmb		IAmb	14 26 53.6	
	comp=Z,45nm,1.3s								
ARAG	**Araguaiana, MT**	**39.78**	**60**		*eP*		**P**	**14 27 01.8**	**-1.3**
ARAG	**Araguaiana, MT**	**39.78**	**60**		*eP*		**P**	**14 27 01.8**	**-1.3**
ESAR	**Angra dos Reis**	**40.01**	**76**		*eP*		**P**	**14 27 04.7**	**-0.3**
ESAR	**Angra dos Reis**	**40.01**	**76**		*eP*		**P**	**14 27 04.7**	**-0.3**
IPMB	**Ipameri, GO**	**40.59**	**67**		*eP*		**P**	**14 27 08.3**	**-1.6**
IPMB	**Ipameri, GO**	**40.59**	**67**		*eP*		**P**	**14 27 08.3**	**-1.6**
PMNB	**Patos De Minas**	**41.44**	**69**		*eP*		**P**	**14 27 16.2**	**-0.8**
PMNB	**Patos De Minas**	**41.44**	**69**		*eP*		**P**	**14 27 16.2**	**-0.8**
OTAV	**Otavalo**	**42.25**	**13**		*eP*		**P**	**14 27 24.3**	**+0.3**
OTAV	**Otavalo**	**42.25**	**13**		*eP*		**P**	**14 27 24.3**	**+0.3**
OTAV	**Otavalo**	**42.25**	**13**		P		P	14 27 19.1	-4.9
BDFB	**Brasilia**	**42.35**	**64**		P		**P**	**14 27 23.2**	**-1.2**
	comp=Z,40nm,0.8s,baz=231,slow=7.3,SNR=49								
BDFB					LR		LR	14 44 09.6	
	comp=Z,1μm,21.2s,baz=225,slow=35								
BDFB	**Brasilia**	**42.35**	**64**		P		**P**	**14 27 23.2**	**-1.2**
BDFB					IAmb		IAmb	14 27 24.3	
	comp=Z,52nm,0.9s								
PEXB	**Peixe**	**44.72**	**60**		*eP*		**P**	**14 27 42.4**	**-1.1**
PEXB	**Peixe**	**44.72**	**60**		*eP*		**P**	**14 27 42.4**	**-1.1**
SJMB	**Sao Joao De Ma**	**45.08**	**74**		*eP*		**P**	**14 27 46.2**	**-0.1**
SJMB	**Sao Joao De Ma**	**45.08**	**74**		*eP*		**P**	**14 27 46.2**	**-0.1**
BSFB	**Barra de Sao F**	**45.24**	**74**		*eP*		**P**	**14 27 47.2**	**-0.3**
BSFB	**Barra de Sao F**	**45.24**	**74**		*eP*		**P**	**14 27 47.2**	**-0.3**
VNA3	**Neumayer Olymp**	**47.36**	**155**		P		**P**	**14 28 03.5**	**-0.1**
ROSC	**El Rosal**	**47.55**	**17**		P		**P**	**14 28 07.8**	**+1.7**
	comp=Z,9.1nm,0.5s,baz=133,slow=4.8,SNR=9.3								
ROSC					LR		LR	14 45 23.8	
	comp=Z,2μm,21.9s,baz=181,slow=33								
VNA1	**Neumayer--Stat**	**47.87**	**154**		P		**P**	**14 28 08.2**	**+0.6**
VNA2	**Neumayer--Watz**	**48.13**	**154**		P		**P**	**14 28 09.0**	**-0.5**
	baz=261,slow=8.4								
QSPA	**South Pole Qui**	**48.76**	**180**		P		**P**	**14 28 14.6**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=54,slow=0.8,SNR=13								
QSPA	**South Pole Qui**	**48.76**	**180**		P		**P**	**14 28 15.4**	**+0.7**
SNAA	**Sanae**	**49.47**	**156**		P		**P**	**14 28 19.1**	**-0.8**
SNAA	**Sanae**	**49.47**	**156**		P		**P**	**14 28 19.4**	**-0.5**
SNAA					IAmb		IAmb	14 28 30.6	
	comp=Z,27nm,1.4s								
SDV	**Santo Domingo**	**52.34**	**21**		*eP*		**P**	**14 28 40.3**	**-2.0**
SDV	**Santo Domingo**	**52.34**	**21**		*eP*		**P**	**14 28 40.3**	**-2.0**
SBA	**Scott Base**	**53.09**	**195**		P		**P**	**14 28 47.5**	**+0.6**
SBA					IAmb		IAmb	14 28 48.5	
	comp=Z,17nm,1.1s								
VNDA	**Vanda**	**54.18**	**194**		P		**P**	**14 28 55.7**	**+0.8**
	comp=Z,2.9nm,0.9s,baz=112,slow=6.0,SNR=7.7								
VNDA					LR		LR	14 47 34.9	
	comp=Z,470nm,21.1s,baz=121,slow=31								
VNDA	**Vanda**	**54.18**	**194**		P		**P**	**14 28 56.1**	**+1.3**
TBI	**Tubuai**	**54.55**	**269**		*eS*		**S**	**14 36 33.0**	**-4.7**
	comp=Z,72nm,35.5s								
TBI					*eLQ*		LQ	14 42 21.4	
	comp=Z,780nm,29.8s								
TBI					*eLR*		LR	14 44 35.5	
	comp=Z,638nm,27.0s,baz=130								
PPT2	**Papeete2**	**58.06**	**274**		*eS*		**S**	**14 37 19.8**	**-4.8**
	comp=Z,312nm,27.5s								
PPT2					*eLQ*		LQ	14 43 49.4	
	comp=Z,1μm,33.0s								
PPT2					*eLR*		LR	14 46 19.3	
	comp=Z,893nm,27.8s,baz=135								
PPT	**Papeete**	**58.08**	**274**		LR		LR	14 47 47.9	
	comp=Z,243nm,21.9s,baz=122,slow=29								
OBIP	**Obispado Ponce**	**62.18**	**22**		P		**P**	**14 29 49.4**	**-2.1**
SJG	**San Juan**	**62.38**	**23**		P		**P**	**14 29 50.3**	**-2.5**
SJG					IAmb		IAmb	14 29 50.7	
	comp=Z,19nm,0.8s								
SYO	**Syowa Base**	**63.01**	**161**	‖	*eP*		**P**	**14 29 54.5**	**-1.9**
MAW	**Mawson**	**68.88**	**168**		P		**P**	**14 30 33.6**	**-0.7**
	comp=Z,6.7nm,0.7s,baz=191,slow=8.5,SNR=13								
MAW					LR		LR	14 58 27.0	
	comp=Z,372nm,19.6s,baz=218,slow=34								
MAW	**Mawson**	**68.88**	**168**		P		**P**	**14 30 30.0**	**-4.3**
TX31	**Lajitas Ar. Si**	**72.11**	**345**		P		**P**	**14 30 54.0**	**-0.5**
TX32	**Lajitas Array**	**72.11**	**345**		P		**P**	**14 30 54.8**	**+0.3**
TXAR	**Lajitas Array**	**72.11**	**345**		P		**P**	**14 30 54.7**	**+0.2**
	comp=Z,5.7nm,1.0s,baz=171,slow=8.6,SNR=14								
JCT	**Junction City**	**72.56**	**348**		P		**P**	**14 31 00.6**	**+3.5**
	baz=170								
357A	**Townsend**	**72.72**	**5**		P		**P**	**14 31 00.3**	**+2.4**
	baz=184								
254A	**Abbeville**	**73.14**	**3**		P		**P**	**14 31 03.5**	**+3.1**
	baz=183								
NATX	**Nacogdoches**	**73.21**	**353**		P		**P**	**14 31 01.6**	**+0.7**
	baz=174								
256A	**Glennville**	**73.25**	**5**		P		**P**	**14 31 03.3**	**+2.3**
	baz=184								
257A	**Skidaway Islan**	**73.30**	**5**		P		**P**	**14 31 03.6**	**+2.3**
	baz=184								
152A	**Waverly Hall**	**73.81**	**2**		P		**P**	**14 31 07.5**	**+3.1**
	baz=182								
LRAL	**Lakeview Retre**	**74.15**	**0**		P		**P**	**14 31 05.8**	**-0.5**
	baz=180								
Z52A	**Williamson**	**74.34**	**2**		P		**P**	**14 31 07.6**	**+0.1**
	baz=182								
GOGA	**Godfrey**	**74.60**	**3**		P		**P**	**14 31 08.2**	**-0.7**
	baz=183								
MNTX	**Cornudas Mount**	**74.75**	**344**		P		**P**	**14 31 10.9**	**+1.0**
	baz=166								
Y52A	**Lilburn**	**75.03**	**3**		P		**P**	**14 31 13.5**	**+2.1**
	baz=182								
Y51A	**Rockmart**	**75.03**	**2**		P		**P**	**14 31 11.6**	**+0.1**
	baz=181								
Y53A	**Monroe**	**75.03**	**3**		P		**P**	**14 31 10.5**	**-1.0**
	baz=182								
Y54A	**Tignall**	**75.08**	**4**		P		**P**	**14 31 11.4**	**-0.3**
	baz=183								
Y55A	**Saluda**	**75.20**	**4**		P		**P**	**14 31 11.2**	**-1.2**
	baz=184								
X48A	**Hartselle**	**75.56**	**0**		P		**P**	**14 31 13.1**	**-1.3**
	baz=180								
X53A	**Estanollee**	**75.69**	**3**		P		**P**	**14 31 14.7**	**-0.5**
	baz=183								
X55A	**Gracelyn & Ava**	**75.74**	**5**		P		**P**	**14 31 14.5**	**-1.0**
	baz=184								
X52A	**Dahlonega**	**75.77**	**3**		P		**P**	**14 31 14.5**	**-1.2**
	baz=182								
X54A	**Belton**	**75.78**	**4**		P		**P**	**14 31 14.5**	**-1.2**
	baz=183								
X56A	**White Oak**	**75.81**	**5**		P		**P**	**14 31 15.3**	**-0.5**
	baz=184								
W49A	**Belvidere**	**76.23**	**1**		P		**P**	**14 31 17.6**	**-0.7**
	baz=180								
W50A	**Signal Mountai**	**76.33**	**1**		P		**P**	**14 31 19.2**	**+0.3**
	baz=181								
W53A	**Cullowhee**	**76.36**	**3**		P		**P**	**14 31 18.1**	**-1.1**
	baz=183								
W41B	**Gary Mavity, V**	**76.43**	**356**		P		**P**	**14 31 20.3**	**+1.0**
	baz=176								
KMSC	**Kings Mountain**	**76.43**	**5**		P		**P**	**14 31 19.5**	**+0.1**
	baz=184								
MSTX	**Muleshoe**	**76.46**	**347**		P		**P**	**14 31 19.9**	**+0.2**
	baz=168								
W39A	**Magazine**	**76.55**	**354**		P		**P**	**14 31 21.3**	**+1.2**
	baz=175								
214A	**Organ Pipe Nat**	**76.84**	**338**		P		**P**	**14 31 23.6**	**+1.8**
	baz=160								
V48A	**Smith Brothers**	**76.85**	**0**		P		**P**	**14 31 23.9**	**+2.2**
	baz=180								
V53A	**Saluda**	**76.88**	**4**		P		**P**	**14 31 22.3**	**+0.3**
	baz=183								
V49A	**McMinnville**	**76.88**	**1**		P		**P**	**14 31 23.4**	**+1.5**
	baz=181								
V52A	**Sevierville**	**77.01**	**3**		P		**P**	**14 31 24.2**	**+1.5**
	baz=182								
V54A	**Nebo**	**77.03**	**4**		P		**P**	**14 31 24.2**	**+1.4**
	baz=184								
V55A	**Taylorsville**	**77.14**	**5**		P		**P**	**14 31 22.0**	**-1.4**
	baz=184								
AMTX	**Amarillo**	**77.17**	**348**		P		**P**	**14 31 25.0**	**+1.3**
	baz=169								
WVT	**Waverly**	**77.24**	**359**		P		**P**	**14 31 25.5**	**+1.6**
	baz=179								
V59A	**Middlesex**	**77.30**	**7**		P		**P**	**14 31 23.2**

ISCO	**Idaho Springs**	**82.64**	**346**	P		**P**	**14 31 55.6**	**+2.1**
	baz=166							
N59A	**State Game Lan**	**82.65**	**9**	P		**P**	**14 31 55.8**	**+2.6**
	baz=188							
N60A	**Cedar Hill Far**	**82.68**	**9**	P		**P**	**14 31 55.1**	**+1.8**
	baz=189							
M55A	**Ridgway**	**82.91**	**6**	P		**P**	**14 31 57.4**	**+2.9**
	baz=186							
Q16A	**Castle Valley**	**82.98**	**341**	P		**P**	**14 31 51.7**	**-3.4**
L47A	**Sherwood**	**83.09**	**1**	P		**P**	**14 31 57.3**	**+1.9**
	baz=181							
O20A	**White River Ci**	**83.48**	**344**	P		**P**	**14 31 59.3**	**+1.6**
	baz=164							
R11A	**Troy Canyon, C**	**83.61**	**338**	P		**P**	**14 32 00.2**	**+1.8**
	baz=159							
N23A	**Red Feather La**	**83.76**	**346**	P		**P**	**14 32 01.4**	**+2.1**
	baz=166							
MLAC	**Mammoth, Mammo**	**83.92**	**335**	P		**P**	**14 32 00.2**	**+0.2**
	baz=156							
JFWS	**Jewell Farm**	**84.06**	**358**	P		P	14 32 05.4	+5.0
	baz=177							
K57A	**Scipio Center**	**84.37**	**8**	P		**P**	**14 32 05.4**	**+3.5**
	baz=188							
NVAR	**Mina Array Bea**	**84.48**	**336**	P		**P**	**14 32 04.5**	**+1.6**
	comp=Z,2.4nm,0.9s,baz=178,slow=5.6,SNR=11							
K58A	**Earlville**	**84.49**	**8**	P		**P**	**14 32 05.6**	**+3.1**
	baz=188							
DUG	**Dugway, Tooele**	**84.59**	**340**	P		**P**	**14 32 05.6**	**+2.3**
	baz=161							
J57A	**Williamstown**	**85.09**	**8**	P		**P**	**14 32 08.6**	**+3.1**
	baz=188							
ECSD	**EROS Data Cent**	**85.27**	**353**	P		**P**	**14 32 08.0**	**+1.6**
	baz=173							
K22A	**Casper**	**85.57**	**346**	P		**P**	**14 32 09.8**	**+1.6**
	baz=165							
SADO	**Sadowa**	**86.16**	**6**	P		**P**	**14 32 12.2**	**+1.5**
	comp=Z,7.5nm,0.8s,baz=124,slow=2.9,SNR=3.7							
BW06	**Boulder Array**	**86.28**	**344**	P		**P**	**14 32 12.4**	**+0.6**
	baz=163							
PDAR	**Pinedale Array**	**86.28**	**344**	P		**P**	**14 32 13.3**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=152,slow=5.4,SNR=11							
PDAR				LR		LR	15 04 36.8	
	comp=Z,112nm,21.2s,baz=163,slow=31							
H58A	**Gabriels**	**86.29**	**9**	P		**P**	**14 32 13.0**	**+1.5**
	baz=190							
BOSA	**Boshof**	**86.36**	**125**	P		**P**	**14 32 13.6**	**+0.9**
	comp=Z,4.6nm,0.9s,baz=220,slow=3.7,SNR=6.9							
BOSA				LR		LR	15 04 27.9	
	comp=Z,452nm,20.9s,baz=212,slow=31							
BOSA	**Boshof**	**86.36**	**125**	P		**P**	**14 32 10.8**	**-1.8**
BOSA				IAmb		IAmb	14 32 16.1	
	comp=Z,14nm,1.3s							
RSSD	**Black Hills**	**86.57**	**348**	P		**P**	**14 32 14.9**	**+1.7**
	baz=167							
G60A	**Masonville**	**87.20**	**10**	P		**P**	**14 32 18.0**	**+2.1**
	baz=191							
DZM	**Mont Dzumac**	**87.21**	**243**	*e*S		**S**	**14 42 49.4**	**-7.5**
	comp=Z,110nm,26.4s							
DZM	**Mont Dzumac**	**87.21**	**243**	*e*LQ		LQ	14 56 07.2	
	comp=Z,1µm,32.5s							
DZM				*e*LR		LR	14 59 49.0	
	comp=Z,1µm,28.7s							
F60A	**Warwick**	**88.10**	**10**	P		**P**	**14 32 22.5**	**+2.3**
	baz=191							
E56A	**St. Veronique**	**88.29**	**8**	P		**P**	**14 32 22.1**	**+1.1**
	baz=189							
D52A	**ZEK Kipawa Sen**	**88.41**	**6**	P		**P**	**14 32 23.8**	**+2.2**
	baz=186							
RLMT	**Red Lodge**	**88.48**	**344**	P		**P**	**14 32 24.9**	**+2.6**
	baz=163							
DBIC	**Dimbokro**	**88.56**	**80**	P		**P**	**14 32 24.4**	**+1.3**
	comp=Z,4.4nm,0.9s,baz=198,slow=9.9,SNR=3.4							
DBIC				LR		LR	15 06 57.6	
	comp=Z,155nm,20.1s,baz=214,slow=32							
DBIC	**Dimbokro**	**88.56**	**80**	IAmb		IAmb	14 32 25.6	
	comp=Z,14nm,1.2s							
D53A	**Lac Vacive, Po**	**88.57**	**6**	P		**P**	**14 32 24.1**	**+1.8**
	baz=187							
E61A	**Lac Etchemin**	**88.77**	**11**	P		**P**	**14 32 27.6**	**+4.2**
	baz=192							
D57A	**Chemin Vers le**	**88.89**	**9**	P		**P**	**14 32 26.2**	**+2.3**
	baz=190							
D58A	**Chemin du LacG**	**89.09**	**10**	P		**P**	**14 32 28.3**	**+3.4**
	baz=190							
J05D	**Fort Rock, OR**	**89.82**	**336**	P		**P**	**14 32 30.7**	**+2.2**
	baz=155							
I04A	**Tendick Farm,**	**90.64**	**335**	P		**P**	**14 32 36.7**	**+4.5**
	baz=154							
I05D	**Terrebonne, OR**	**90.81**	**336**	P		**P**	**14 32 35.5**	**+2.5**
	baz=155							
ULM	**Lac du Bonnet**	**91.68**	**354**	LR		LR	15 06 29.6	
	comp=Z,258nm,21.1s,baz=166,slow=31							
STKA	**Stephens Creek**	**94.33**	**220**	LR		LR	15 06 58.6	
	comp=Z,396nm,20.6s,baz=180,slow=30							
SCHQ	**Schefferville**	**97.49**	**12**	LR		LR	15 16 14.4	
	comp=Z,191nm,18.2s,baz=112,slow=35							
TORD	**Torodi Ar. Bea**	**97.66**	**79**	P		**P**	**14 33 05.0**	**-0.1**
	comp=Z,2.2nm,1.2s,baz=212,slow=5.3,SNR=4.9							
TORD				LR		LR	15 14 40.1	
	comp=Z,122nm,18.9s,baz=320,slow=34							
ASAR	**Alice Springs**	**104.88**	**218**	Pdiff		**Pdif**	**14 33 39.5**	**+2.2**
	comp=Z,0.3nm,0.8s,baz=134,slow=5.4,SNR=3.8							
TOLK	**Toolik Lake Re**	**119.14**	**338**	P		**PKiKP**	**14 38 22.0**	**+4.0**
	baz=130							
GERES	**GERESS Array B**	**126.02**	**53**	PKhKP		PKPpre	14 38 29.2	
	comp=Z,1.6nm,0.9s,baz=242,slow=2.9,SNR=3.5							
VYHS	**Vyhne**	**129.02**	**55**	*e*PDIFF		**Pdif**	**14 35 27.2**	**+3.4**
VYHS	**Vyhne**	**129.02**	**55**	*e*PKP		**PKPdf**	**14 38 37.9**	**+0.5**
BRTR	**Keskin Array B**	**135.72**	**72**	PKP		**PKPdf**	**14 38 51.1**	**+0.6**
	comp=Z,1.3nm,1.0s,baz=146,slow=0.5,SNR=2.4							
KBZ	**Khabaz**	**143.55**	**69**	PKP		**PKPdf**	**14 39 05.5**	**+1.1**
	comp=Z,3.9nm,0.9s,baz=239,slow=3.5,SNR=5.4							
MJAR	**Matsushiro Arr**	**144.79**	**277**	PKP		PKPbc	14 39 06.6	+0.7
	comp=Z,4.3nm,0.7s,baz=102,slow=5.5,SNR=16							
MAJO	**Matsushiro**	**144.79**	**277**	PKPdf		**PKPdf**	**14 39 07.5**	**+0.6**
MJB9	**Matsu-Tunnel**	**144.79**	**277**	PKPdf		**PKPdf**	**14 39 07.5**	**+0.6**
USRK	**Ussuriysk Ar.**	**151.42**	**289**	PKPbc		**PKPbc**	**14 39 24.0**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=63,slow=3.2,SNR=4.9							
KSRS	**Korea Array**	**152.81**	**273**	PKPbc		**PKPbc**	**14 39 26.5**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=93,slow=2.5,SNR=3.0							
MDJ	**Mudanjiang**	**153.18**	**289**	P		**PKiKP**	**14 39 29.5**	**+1.9**
MDJ				pmax		pmax		
	comp=Z,19nm,1.3s							
MDJ				pmax		pmax		
	comp=Z,190nm,3.7s							
CN2	**Changchun**	**156.06**	**287**	*e*PKP		**PKPdf**	**14 39 21.3**	**-2.7**
CMAR	**Chiang Mai Arr**	**156.49**	**194**	PKP		**PKPdf**	**14 39 28.4**	**+3.0**
	comp=Z,0.3nm,0.3s,baz=222,slow=1.9,SNR=4.6							
CMAR				PKPab		**pPKPab**	**14 39 56.4**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=206,slow=4.3,SNR=4.5							
NJ2	**Nanjing**	**157.28**	**254**	*e*PKP		**PKPdf**	**14 39 25.8**	**-0.2**
WHN	**Wuhan**	**159.58**	**245**	PKP		**PKPdf**	**14 39 32.3**	**+3.5**
KMI	**Kunming**	**161.77**	**210**	PKP		**PKPdf**	**14 39 30.8**	**-0.9**
HHC	**Hu-ho-hao-te**	**165.95**	**274**	*e*PKP		**PKPdf**	**14 39 36.8**	**+1.9**
CD2	**Chengdu**	**166.32**	**223**	PKP		**PKPdf**	**14 39 35.0**	**-0.4**
ZALV	**Zalesovo Beam**	**166.39**	**21**	PKP		**PKPdf**	**14 39 33.1**	**-1.5**
	comp=Z,1.2nm,0.8s,baz=236,slow=2.6,SNR=4.6							
ZALV				PKPab		**PKPab**	**14 40 35.3**	**-0.9**
	comp=Z,1.2nm,0.9s,baz=347,slow=3.3,SNR=2.4							
SONM	**Songino Array**	**168.51**	**308**	PKPab		**PKPab**	**14 40 46.2**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=61,slow=6.9,SNR=2.7							
LZH	**Lanzhou**	**169.93**	**241**	*e*PKP		**PKPdf**	**14 39 37.1**	**-0.8**
LZH				pPKP		pPKPdf	14 39 39.5	-0.3
LZH				sPKP			14 39 41.8	
LZH				PKPab		**pPKPab**	**14 40 54.6**	**0.0**
LZH				LR		LR		
	comp=Z,140nm,18.2s							
LZH				LR		LR		
	comp=Z,150nm,18.0s							
LZH				LR		LR		
	comp=Z,180nm,20.1s							
MKAR	**Makanchi Array**	**170.69**	**52**	PKPab		**PKPab**	**14 40 56.1**	**+0.5**
	comp=Z,1.1nm,1.0s,baz=354,slow=11,SNR=3.7							
GTA	**Gaotai**	**174.36**	**251**	*e*PKP		**PKPdf**	**14 39 43.3**	**+3.6**
GTA				LR		LR		
	comp=Z,130nm,19.4s							
GTA				LR		LR		
	comp=Z,150nm,19.7s							
GTA				LR		LR		
	comp=Z,210nm,22.5s							
WMQ	**Urumqi**	**175.48**	**57**	*e*PKP		**PKPdf**	**14 39 40.0**	**+0.2**
WMQ				LR		LR		
	comp=Z,140nm,7.7s							
WMQ				LR		LR		
	comp=Z,130nm,7.7s							
WMQ				LR		LR		
	comp=Z,140nm,6.7s							

ISCJB **14** *14:32:34.8±0.5, 32°.21S±0°.04×117°.12E±0°.05, h11km, mb3.2/1, Error ellipse: s-maj=6.4km s-min=4.9km az=154.4*
AUST **14** *14:32:35.6±0.5, 32°.25S×117°.03E, h13km±5km, Error ellipse: s-maj=4.7km s-min=3.4km az=34.0*
IDC **14** *14:32:41.4±6.3, 31°.88S×117°.82E, h0km, mb3.5/1, mb1 3.4/4, mb1mx3.3/22, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=147.6km s-min=50.8km az=172.0*
ISC 14 14:32:34.2±0.9, **32°.33S**±0°.04×**117°.01E**±0°.05, **h11**km, **n13,** σ**1**ᵎ**18**/**18, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**0.62**	**163**	P	**Pn**	**14 32 49.8**	**+0.7**
	baz=0.7,SNR=95						
NWAO				S	**Sn**	**14 32 58.6**	**-0.5**
	baz=0.7						
MUN	**Mundaring**	**0.77**	**297**	P	**Pb**	**14 32 49.7**	**+0.1**
	baz=0.7,SNR=187						
MUN				S	**Sg**	**14 32 58.9**	**-0.1**
	baz=0.7						
KLBR	**Kellerberrin**	**0.97**	**41**	P	**Pn**	**14 32 54.1**	**+0.4**
	baz=0.9,SNR=67						
KLBR				S	**Sg**	**14 33 06.1**	**+0.7**
	baz=0.9						
BLDU	**Ballidu**	**1.73**	**351**	P	**Pn**	**14 33 05.1**	**+0.9**
	baz=1.7,SNR=45						
BLDU				S	**Sn**	**14 33 26.4**	**+0.2**
	baz=1.7						
RKGY	**Rocky Gully**	**2.27**	**181**	P	**Pb**	**14 33 15.9**	**+0.6**
	baz=2.4,SNR=18						
MORW	**Morawa**	**3.36**	**345**	P	**Pn**	**14 33 27.9**	**+1.3**
	baz=3.3,SNR=6.4						
MORW				S	**Sn**	**14 34 06.4**	**-0.1**
	baz=3.3						
KMBL	**Kambalda**	**4.25**	**78**	P	**Pn**	**14 33 40.7**	**+1.7**
	baz=4.2						
KMBL				S	**Sn**	**14 34 27.7**	**-0.8**
	baz=4.2						
MEEK	**Meekatharra**	**5.84**	**14**	P	**Pn**	**14 34 01.5**	**+0.8**
	baz=5.8						
FORT	**Forrest**	**9.55**	**84**	P	**Pn**	**14 34 52.0**	**+0.3**
	baz=9.5						
FITZ	**Fitzroy Crossi**	**16.16**	**31**	Pn	**Pn**	**14 36 20.4**	**-1.0**
	0.1nm,0.3s,baz=235,slow=8.1,SNR=6.4						
FITZ				Sn	Sn	14 39 05.5	-15
	0.1nm,0.3s,baz=322,slow=18,SNR=3.7						
ASAR	**Alice Springs**	**17.22**	**64**	Pn	**Pn**	**14 36 31.6**	**-3.2**
	0.1nm,0.3s,baz=235,slow=11,SNR=9.4						
ASAR				Sn	Sn	14 39 31.3	-15
	0.1nm,0.3s,baz=247,slow=21,SNR=4.0						
WRA	**Warramunga Arr**	**19.82**	**56**	P	**P**	**14 37 05.8**	**+0.8**
	0.1nm,0.3s,baz=229,slow=11,SNR=6.8						
SONM	**Songino Array**	**80.37**	**353**	P	P	14 44 52.5	+7.1
	0.1nm,0.3s,baz=159,slow=4.3,SNR=3.5						

ISCJB **14** *14:38:46.8±0.5, 30°.50N±0°.03×50°.38E±0°.04, h10km, mb3.8/4, Error ellipse: s-maj=6.3km s-min=3.6km az=145.0*
IDC **14** *14:38:47.6±2.3, 30°.86N×50°.29E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.4/28, mbtmp3.8/4, Error ellipse: s-maj=67.3km s-min=26.8km az=152.0*
THR **14** *14:38:50.2, 30°.83N×50°.71E, h14km, ML3.5*
NEIC **14** *14:38:50.8±2.8, 30°.63N±0°.07×50°.48E±0°.09, h40km±11km*
TEH **14** *14:38:50.4, 30°.71N×50°.44E, h16km, ML3.8*
DSN **14** *14:38:55.4±0.9, 30°.47N×50°.92E, h10km, ML4.3/4, Error ellipse: s-maj=26.2km s-min=6.5km az=51.0*
ISC 14 14:38:48.2±0.7, **30°.66N**±0°.05×**50°.45E**±0°.04, **h10**km, **n50,** σ**2**ᵎ**22**/**54, mb4.0/6, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLNJ	**Kolanjah**	**1.04**	**70**	IAMB	IAmb	14 39 27.1	
	comp=Z,0.0nm,0.3s						
KLNJ				*e*Pg	**Pg**	**14 39 09.1**	**+0.9**
IBRJ	**Brojen**	**1.42**	**29**	*e*Pg	**Pg**	**14 39 17.2**	**+1.7**
IBRJ				IAMB	IAmb	14 39 38.5	
	comp=Z,13µm,0.4s						
IKAZ	**Kazeroun**	**1.49**	**126**	*e*Pg	**Pg**	**14 39 19.9**	**+3.1**
IKAZ				IAMB	IAmb	14 39 43.6	
	comp=Z,11µm,0.5s						
JHBN	**Jahan bin**	**1.57**	**7**	*e*Pg	**Pb**	**14 39 18.9**	**+1.3**
JHBN				IAMB	IAmb	14 39 44.4	
	comp=Z,0.0nm,0.3s						
SHGR	**Shooshtar-Gavs**	**2.02**	**316**	*e*Pn	**Pg**	**14 39 27.7**	**+0.8**
SHGR	**Shooshtar-Gavs**	**2.02**	**316**	*e*Sg	**Sg**	**14 39 55.4**	**+2.3**
SHGR	**Shooshtar-Gavs**	**2.02**	**316**	*e*AML	AML	14 40 00.2	
	comp=E,338nm,0.8s						
SHGR				*e*Pg	**Pg**	**14 39 27.7**	**+0.8**
IPIR	**Pirpir**	**2.05**	**10**	*e*Pn	**Pb**	**14 39 26.0**	**+0.3**
IPIR				IAMB	IAmb	14 39 56.0	
	comp=Z,8µm,0.3s						
IGAR	**Gharneh**	**2.20**	**38**	*e*Pn	**Pb**	**14 39 28.4**	**+0.1**
IGAR				IAMB	IAmb	14 40 02.5	
	comp=Z,7µm,0.4s						
IZEF	**Zefreh**	**2.74**	**35**	*e*Pn	**Pn**	**14 39 35.5**	**+3.0**
IKLH	**Kolahrood**	**2.81**	**20**	*e*Pn	**Pn**	**14 39 35.9**	**+2.4**
IKLH				IAMB	IAmb	14 40 20.7	
	comp=Z,2µm,0.4s						
KHMZ	**Khomeyn**	**3.10**	**352**	*e*Pn	**Pn**	**14 39 39.2**	**+1.8**
KHMZ	**Khomeyn**	**3.10**	**352**	*e*Pn	**Pn**	**14 39 39.1**	**+1.8**
KRSH	**Karshahi**	**3.59**	**23**	*e*Pn	**Pn**	**14 39 47.2**	**+3.1**
KRSH				IAMB	IAmb	14 40 34.9	
	comp=Z,0.0nm,0.3s						
IKFM	**Kafar-mosalman**	**3.61**	**323**	*e*Pn	**Pn**	**14 39 47.0**	**+2.8**
IKFM				IAMB	IAmb	14 40 59.0	
	comp=Z,0.0nm,0.5s						
IMEH	**Mehriz**	**3.64**	**77**	*e*Pn	**Pn**	**14 39 48.2**	**+3.3**
IDOB	**Doab**	**3.67**	**329**	*e*Pn	**Pn**	**14 39 48.0**	**+2.8**
ICHK	**Chekchek**	**3.73**	**64**	*e*Pn	**Pn**	**14 39 49.4**	**+3.4**
ANAR	**Anarak**	**3.75**	**47**	*e*Pn	**Pn**	**14 39 49.4**	**+3.1**
GHVR	**GHOM**	**3.87**	**10**	*e*Pn	**Pn**	**14 39 48.6**	**+0.7**
GHVR	**GHOM**	**3.87**	**10**	*e*Pn	**Pn**	**14 39 48.6**	**+0.7**
IKOM	**Komasi**	**4.30**	**325**	*e*Pn	**Pn**	**14 39 56.8**	**+3.0**
IVRN	**Varamin**	**4.45**	**14**	*e*Pn	**Pn**	**14 39 58.2**	**+2.4**
IDMV	**Damavand**	**5.08**	**15**	*e*Pn	**Pn**	**14 40 06.9**	**+2.3**
DAMV	**Damavand**	**5.12**	**14**	*e*Pn	**Pn**	**14 40 05.8**	**+0.7**
DAMV	**Damavand**	**5.12**	**14**	*e*Pn	**Pn**	**14 40 05.8**	**+0.7**
KHGB	**Koh Gabri**	**5.20**	**92**	*e*Pn	**Pn**	**14 40 09.3**	**+3.0**
IDHR	**Dehrash**	**5.29**	**321**	*e*Pn	**Pn**	**14 40 10.4**	**+2.9**
IDHR				*e*Pn	**Pn**	**14 40 09.7**	**+2.2**
IFIR	**Firoozkooh**	**5.33**	**21**	*e*Pn	**Pn**	**14 40 10.6**	**+2.6**
IANJ	**Anjilo**	**5.60**	**30**	*e*Pn	**Pn**	**14 40 14.3**	**+2.5**
IALA	**Alasht**	**5.75**	**19**	*e*Pn	**Pn**	**14 40 17.1**	**+3.2**
TPRV	**Parvadeh(Tabas**	**5.80**	**64**	*e*Pn	**Pn**	**14 40 17.4**	**+3.0**
TNSJ	**Nastanj**	**6.16**	**56**	*e*Pn	**Pn**	**14 40 22.4**	**+3.0**
TKDS	**Koohdasht(Taba**	**6.37**	**61**	*e*Pn	**Pn**	**14 40 25.1**	**+2.8**
IGLO	**Ghalooghah**	**6.47**	**25**	*e*Pn	**Pn**	**14 40 26.4**	**+2.7**
BANOM	**Banah**	**6.99**	**131**	P	**Pn**	**14 40 32.3**	**+1.7**
BANOM				S	**Sn**	**14 41 48.0**	**-2.3**
NAZ	**Nazwa, Dubai**	**7.29**	**140**	S	**Sn**	**14 41 56.7**	**-1.0**
MDH	**Madha**	**7.43**	**135**	P	**Pn**	**14 40 38.0**	**+1.3**
UOSS	**Minazif**	**7.64**	**137**	Pn	**Pn**	**14 40 39.4**	**-0.1**
UOSS					**Sn**	**14 42 03.9**	**-2.4**
ASHO	**Ashiyiah**	**7.75**	**139**	*i* P	**Pn**	**14 40 42.6**	**+1.3**
	SNR=12						
ASHO				S	**Sn**	**14 42 07.2**	**-1.9**
RAYN	**Ar Rayn**	**8.37**	**213**		**Pn**	**14 40 49.5**	**-0.2**
KARS	**Kars**	**11.61**	**331**	Pn	**Pn**	**14 41 35.0**	**+0.9**
BRVK	**Borovoye**	**26.64**	**27**	P	**P**	**14 44 23.9**	**-2.9**
MAKZ	**Makanchi**	**29.15**	**47**	P	**P**	**14 44 47.5**	**-1.9**
MK31	**Makanchi Array**	**29.35**	**48**	P	**P**	**14 44 48.7**	**-2.5**
MK31				IAmb	IAmb	14 44 49.1	
	comp=Z,4.9nm,1.1s						
MKAR	**Makanchi Array**	**29.35**	**48**	P	**P**	**14 44 51.7**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=245,slow=8.4,SNR=2.6						
OJC	**Ojcow**	**30.11**	**319**	P	**P**	**14 44 55.1**	**-2.8**
OJC				IAmb	IAmb	14 45 12.9	
	comp=Z,2.9nm,0.9s						
ZALV	**Zalesovo Beam**	**33.93**	**37**	P	**P**	**14 45 31.8**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=242,slow=11,SNR=3.2						
FINES	**FINESS Array B**	**34.70**	**340**	P	**P**	**14 45 36.6**	**-1.2**
	comp=Z,2.6nm,1.0s,baz=145,slow=11,SNR=3.1						
TORD	**Torodi Ar. Bea**	**48.09**	**260**	P	**P**	**14 47 28.4**	**0.0**
	comp=Z,0.6nm,0.6s,baz=69,slow=7.8,SNR=3.1						

ISCJB **14** *14:57:10.4±1.6, 14°.0N±0°.1×92°.1W±0°.1, h54km, Error ellipse: s-maj=21.0km s-min=5.4km az=43.9*
MEX **14** *14:57:12.7±0.7, 14°.23N×91°.83W, h70km±16km, MD4.1*
GCG **14** *14:57:14.1±0.3, 14°.44N×91°.77W, h66km±24km, MD4.0*
UCR **14** *14:57:16.2±1.3, 14°.23N×91°.63W, h28km±16km, MD3.7, ML3.6*
SNET **14** *14:57:17.2±1.6, 14°.39N×91°.38W, h10km, ML3.6*
ISC 14 14:57:12.3±2.0, **14°.1N**±0°.1×**92°.02W**±0°.10, **h54**km, **n21,** σ**0**ᵎ**81**/**24, 2D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.55**	**52**	ǁ*i*P	**Pn**	**14 57 24.1**	**-0.3**
STG3	**Santiaguito 3,**	**0.75**	**35**	ǁ*i*P	**Pn**	**14 57 25.7**	**-1.3**
THIG		**0.84**	**343**	*e*P	**Pn**	**14 57 27.3**	**-0.7**
THIG				*e*S	**Sn**	**14 57 39.2**	**-0.3**
FUG	**Fuego 3**	**1.19**	**73**	*e*P	**Pn**	**14 57 31.6**	**-1.2**
FUG	**Fuego 3**	**1.19**	**73**	*e*P	**Pn**	**14 57 31.6**	**-1.2**
IXG	**Ixpaco**	**1.53**	**87**	*e*P	**Pn**	**14 57 37.1**	**-0.4**
IXG	**Ixpaco**	**1.53**	**87**	*e*P	**Pn**	**14 57 37.1**	**-0.4**
NBG	**Las Nubes**	**1.69**	**73**	*e*P	**Pn**	**14 57 39.5**	**-0.2**
NBG	**Las Nubes**	**1.69**	**73**	*e*P	**Pn**	**14 57 39.5**	**-0.2**
PCIG		**1.97**	**324**	*e*P	**Pn**	**14 57 43.3**	**-0.1**
PCIG				*e*S	**Sn**	**14 58 06.2**	**-0.7**
CCIG	**Comitan**	**2.17**	**357**	*e*P	**Pn**	**14 57 46.5**	**+0.2**
CCIG				*e*S	**Sn**	**14 58 14.7**	**+2.6**
RTR	**El Retiro**	**2.31**	**95**	*e*P	**Pn**	**14 57 48.0**	**-0.1**
RTR	**El Retiro**	**2.31**	**95**	*e*P	**Pn**	**14 57 48.0**	**-0.1**
CEVE	**Cerro Verde**	**2.34**	**96**	*e*P	**Pn**	**14 57 48.6**	**0.0**
CEVE				IAML		14 58 25.2	
	comp=Z,2µm,0.3s						
CEVE	**Cerro Verde**	**2.34**	**96**	*e*P	**Pn**	**14 57 48.6**	**0.0**
CEVE				IAML		14 58 25.2	
	comp=Z,2µm,0.3s						
SBLS	**San Blas**	**2.34**	**96**	*e*P	**Pn**	**14 57 48.3**	**-0.3**
SBLS	**San Blas**	**2.34**	**96**	*e*P	**Pn**	**14 57 48.3**	**-0.3**
SNJE	**San Jose**	**2.35**	**95**	*e*P	**Pn**	**14 57 48.5**	**-0.2**
SNJE	**San Jose**	**2.35**	**95**	*e*P	**Pn**	**14 57 48.5**	**-0.2**
BOQS	**Boqueron**	**2.68**	**97**	*e*P	**Pn**	**14 57 53.2**	**-0.1**
LFRS	**El Faro**	**2.91**	**99**	*e*P	**Pn**	**14 57 56.6**	**+0.3**

ISCJB **14** *14:57:20.6±1.2, 60°.26N±0°.05×60°.27E±0°.08, h0km±8km, mb3.6/3, MS3.9/1, Error ellipse: s-maj=8.0km s-min=6.0km az=158.0*
IDC **14** *14:57:24.1±0.8, 60°.19N×60°.03E, h0km, mb3.6/3, mb1 3.7/13, mb1mx3.5/42, mbtmp3.7/13, ML3.7/7, MS3.8/1, Ms1 3.8/1, ms1mx2.6/50, Error ellipse: s-maj=13.4km s-min=8.8km az=32.0*
MIRAS **14** *14:57:24.6±0.0, 60°.20N×59°.98E, h1km, ML3.6/4*
NNC **14** *14:57:33.0±4.7, 59°.50N×60°.74E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=40.3km s-min=24.3km az=163.0*
ISC 14 14:57:22.1±1.4, **60°.19N**±0°.06×**60°.14E**±0°.05, **h3**km±9km, **n29,** σ**2**ᵎ**54**/**47, mb3.6/3, 5C-3D, Ural Mountains region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVUR	**Severouralsk**	**0.08**	**275**	⇑*i*P	**Pg**	**14 57 23.7**	**+0.1**
	15840µm,1.0s						
SVUR				*i* S	**Sg**	**14 57 24.7**	**-0.1**
SVUR	**Severouralsk**	**0.08**	**275**	*i* P	**Pg**	**14 57 23.8**	**+0.1**
SVUR				*i* S	**Sg**	**14 57 24.6**	**-0.1**
	15839µm,1.1s						
PR7R	**Sarany**	**1.79**	**204**	*e*P	**Pb**	**14 57 55.1**	**-0.4**
	2475µm,0.7s						
PR7R				*e*S	**Sb**	**14 58 18.4**	**+0.1**
PR7R	**Sarany**	**1.79**	**204**	*i* P	**Pb**	**14 57 55.1**	**-0.4**
PR7R				*e*S	**Sb**	**14 58 18.4**	**+0.1**
	495µm,0.7s						
PR3R	**Kungur**	**3.20**	**212**	⇑*e*P	**Pb**	**14 58 17.4**	**-2.1**
	744µm,0.4s						
PR3R				*e*S	**Sb**	**14 58 56.1**	**-2.8**
PR3R	**Kungur**	**3.20**	**212**	*i* P	**Pb**	**14 58 17.2**	**-2.3**
PR3R				*e*S	**Sb**	**14 58 56.1**	**-2.8**
	744µm,0.5s						
PR4R	**Vlasy**	**3.24**	**227**	*e*P	**Pn**	**14 58 16.1**	**+2.2**
	751µm,0.5s						
PR4R				*e*S	**Sn**	**14 58 55.1**	**+

T Plg68.0000°, Azm206.0000°; N Plg16.0000°, Azm343.0000°; P Plg14.0000°, Azm77.0000°;
JMA Felt III J1.
NEIC ***14*** *15:13:53.5±2.0, 34°.59N±0°.09×135°.86E±0°.09, h22km±6km, mb4.5/8*

ISC 14 15:13:52.1±0.8,**34°.70N**±0°.03×**135°.76E**±0°.03,**h17**km±5km, **n35**,σ1§**23**/46,**3C-8D**,**Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHE	**Heguri**	**0.07**	**233**	⇑P	**Pg**	**15 13 55.6**	**+0.2**
JHE				S	**Sg**	**15 13 57.8**	**+0.2**
JWY	**Kouya**	**0.50**	**196**	⇓P	**Pb**	**15 14 02.9**	**+0.4**
JWY				S	**Sb**	**15 14 10.0**	**+0.5**
TSUJ	**Tsu 2**	**0.55**	**89**	⇓P	**Pg**	**15 14 02.6**	**-0.4**
TSUJ				S	**Sg**	**15 14 10.1**	**-0.3**
JKN2	**Miekihoku**	**0.63**	**137**	⇓P	**Pb**	**15 14 04.8**	**+0.2**
JKN2				S	**Sb**	**15 14 13.4**	**+0.3**
JWT	**Wachi**	**0.65**	**334**	⇓P	**Pg**	**15 14 04.5**	**-0.5**
JWT				S	**Sg**	**15 14 12.4**	**-1.3**
JAJ2	**Tsuna**	**0.77**	**249**	⇓P	**Pb**	**15 14 07.0**	**-0.1**
JAJ2				S	**Sg**	**15 14 17.6**	**+0.2**
JKS	**Kasai**	**0.80**	**291**	⇓P	**Pb**	**15 14 07.3**	**-0.3**
JKS				S	**Sb**	**15 14 17.8**	**-0.4**
JIE	**Ise**	**0.84**	**111**	⇓P	**Pb**	**15 14 07.7**	**-0.6**
JTNC	**Tanabenakahech**	**0.89**	**188**	⇑P	**Pn**	**15 14 09.6**	**-0.3**
JWM	**Minabe**	**0.91**	**202**	⇑P	**Pn**	**15 14 10.1**	**-0.1**
JKY	**Yasaka**	**1.07**	**330**	⇓P	**Pb**	**15 14 12.0**	**-0.3**
JKY				S	**Sb**	**15 14 25.6**	**-0.4**
INU	**Inuyama**	**1.22**	**58**	P	**Pn**	**15 14 14.6**	**+0.1**
INU				Sn	**Sg**	**15 14 31.8**	**+0.1**
MAJO	**Matsushiro**	**2.72**	**47**	P	**Pn**	**15 14 36.4**	**+1.4**
MAT	**Matsushiro**	**2.72**	**47**	P	**Pn**	**15 14 36.4**	**+1.4**
MAT				*e*S	**Sn**	**15 15 09.3**	**+1.8**
MJAR	**Matsushiro Arr**	**2.72**	**47**	Pn	**Pn**	**15 14 36.9**	**+1.8**
	0.7nm,0.3s,baz=246,slow=13,SNR=75						
MJAR				Sn	**Sn**	**15 15 10.4**	**+2.9**
	0.9nm,0.3s,baz=222,slow=14,SNR=4.4						
MJAR				Lg	Lg	15 15 16.1	
	1.0nm,0.3s,baz=212,slow=21,SNR=5.2						
MJB9	**Matsu-Tunnel**	**2.72**	**47**		**Pn**	**15 14 36.4**	**+1.4**
JNU	**Nakatsue**	**4.35**	**250**	Pn	**Pn**	**15 14 59.6**	**+2.0**
	1.9nm,0.3s,baz=358,slow=8.7,SNR=34						
JNU				Lg	Lg	15 16 13.2	
	0.2nm,0.3s,baz=225,slow=13,SNR=2.7						
KSRS	**Korea Array**	**6.91**	**296**	Pn	**Pn**	**15 15 34.7**	**+2.1**
	0.2nm,0.3s,baz=116,slow=15,SNR=3.8						
KSRS				LR	LR	15 17 33.4	
	comp=Z,13nm,21.2s,baz=185,slow=32						
KLR	**Kul'dur**	**14.82**	**350**	Pn	**P**	**15 17 25.6**	**-1.0**
	0.1nm,0.3s,baz=128,slow=9.6,SNR=6.6						
ENH	**Enshi**	**22.57**	**266**	P	**P**	**15 18 49.8**	**-1.9**
SONM	**Songino Array**	**25.50**	**310**	P	**P**	**15 19 22.7**	**+3.0**
	0.5nm,0.6s,baz=114,slow=9.6,SNR=3.6						
TIXI	**Tiksi**	**37.20**	**356**	P	**P**	**15 20 59.6**	**-2.4**
ZALV	**Zalesovo Beam**	**40.18**	**315**	P	**P**	**15 21 28.3**	**+1.0**
	0.3nm,0.4s,baz=88,slow=5.5,SNR=2.4						
SPIA	**Saint Paul Isl**	**42.35**	**41**	P	**P**	**15 21 44.1**	**-0.9**
KNRA	**Kununurra**	**50.53**	**189**	P	**P**	**15 22 49.1**	**-0.6**
KNRA				IAmb	IAmb	15 22 58.4	
	comp=Z,18nm,1.2s						
FITZ	**Fitzroy Crossi**	**53.38**	**192**	P	**P**	**15 23 10.8**	**0.0**
FITZ				IAmb	IAmb	15 23 28.5	
	comp=Z,6.5nm,1.4s						
ILAR	**Eielson Array**	**53.90**	**31**	P	**P**	**15 23 15.4**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=279,slow=6.1,SNR=3.8						
WRAB	**Tennant Creek**	**54.34**	**182**	P	**P**	**15 23 17.6**	**-0.3**
WRAB				IAmb	IAmb	15 23 26.0	
	comp=Z,5.1nm,1.4s						
WB2	**Warramunga Arr**	**54.35**	**182**	P	**P**	**15 23 15.8**	**-2.1**
WRA	**Warramunga Arr**	**54.35**	**182**	P	**P**	**15 23 18.4**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=357,slow=8.0,SNR=2.4						
WR0	**Warramunga Arr**	**54.37**	**181**	P	**P**	**15 23 18.3**	**+0.2**
WR0				IAmb	IAmb	15 23 19.5	
	comp=Z,2.4nm,0.9s						
PSA00	**Pilbara Seismi**	**57.97**	**198**	P	**P**	**15 23 42.8**	**-0.9**
ASAR	**Alice Springs**	**58.07**	**182**	P	**P**	**15 23 44.9**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=10,slow=14,SNR=7.0						
YKA	**Yellowknife Ar**	**68.08**	**28**	P	**P**	**15 24 51.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=304,slow=5.9,SNR=4.4						
TXAR	**Lajitas Array**	**95.15**	**49**	P	**P**	**15 27 13.7**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=306,slow=4.2,SNR=4.1						

IDC ***14*** *15:15:27.0±7.1, 18°.64S×168°.62E, h126km±105km, mb3.6/3, mb1 3.9/3, mb1mx3.3/38, mbtmp4.0/3, ML3.1/1, Error ellipse: s-maj=173.8km s-min=47.2km az=139.0*
NEIC ***14*** *15:15:27.4±2.8, 19°.17S±0°.07×169°.12E±0°.1, h168km±10km, mb4.5/14*

ISC 14 15:15:24.3±0.9,**19°.1S**±0°.1×**169°.2E**±0°.1,**h147**km,**n20**, σ2§**38**/20,**mb4.4/8**,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.92**	**220**	P	**Pn**	**15 16 26.3**	**+2.8**
	1.2nm,0.3s,baz=79,slow=13,SNR=97						
DZM				S	**Sn**	**15 17 13.0**	**+3.5**
	1.1nm,0.3s,baz=302,slow=22,SNR=6.7						
DZM	**Mont Dzumac**	**3.92**	**220**	Sn	**Sn**	**15 17 11.8**	**+2.2**
LHI	**Lord Howe Isla**	**15.38**	**214**	Pn	**Pn**	**15 18 48.5**	**-5.0**
LHI				IAmb	IAmb	15 19 05.4	
	comp=Z,28nm,1.0s						
AFI	**Afiamalu**	**18.97**	**77**	P	**Pn**	**15 19 37.9**	**+1.1**
AFI				IAmb	IAmb	15 19 38.6	
	comp=Z,9.8nm,0.8s						
ARMA	**Armidale**	**19.50**	**231**	P	**P**	**15 19 37.4**	**-2.9**
ARMA				IAmb	IAmb	15 19 50.6	
	comp=Z,17nm,1.4s						
CAN	**Canberra**	**24.08**	**224**	P	**P**	**15 20 27.1**	**+0.8**
CAN				IAmb	IAmb	15 20 34.5	
	comp=Z,37nm,1.5s						
CRLZ	**Canterbury Las**	**24.58**	**174**	P	**P**	**15 20 32.0**	**+1.4**
CRLZ				IAmb	IAmb	15 20 33.0	
	comp=Z,10nm,0.7s						
DCZ	**Deep Cove**	**26.35**	**183**	P	**P**	**15 20 42.5**	**-4.1**
DCZ				IAmb	IAmb	15 21 01.1	
	comp=Z,22nm,1.2s						
STKA	**Stephens Creek**	**27.88**	**237**	P	**P**	**15 21 02.0**	**+1.6**
BBOO	**Buckleboo**	**32.62**	**239**	P	**P**	**15 21 40.9**	**-1.2**
WR0	**Warramunga Arr**	**32.63**	**263**	P	**P**	**15 21 40.4**	**-2.0**
WR0				IAmb	IAmb	15 21 49.3	
	comp=Z,4.7nm,1.2s						
WB2	**Warramunga Arr**	**32.81**	**263**	P	**P**	**15 21 43.0**	**-1.0**
WRAB	**Tennant Creek**	**32.81**	**263**		P	15 21 38.6	-5.4
WRA	**Warramunga Arr**	**32.82**	**263**	P	**P**	**15 21 44.3**	**+0.2**
	comp=Z,4.9nm,0.9s,baz=95,slow=7.7,SNR=5.4						
AS31	**Alice Springs**	**33.11**	**256**	P	**P**	**15 21 47.8**	**+1.1**
ASAR	**Alice Springs**	**33.11**	**256**	P	**P**	**15 21 47.9**	**+1.2**
	comp=Z,1.6nm,0.5s,baz=82,slow=8.6,SNR=75						
MTN	**Manton Dam**	**37.05**	**274**	P	**P**	**15 22 19.1**	**-1.3**
PSA00	**Pilbara Seismi**	**46.18**	**258**	P	**P**	**15 23 35.0**	**+0.4**
PSA00				IAmb	IAmb	15 23 52.8	
	comp=Z,25nm,1.5s						
TAOE	**Nuku Hiva Isla**	**50.06**	**86**	P	**P**	**15 24 04.7**	**+0.1**
SONM	**Songino Array**	**87.07**	**323**	P	**P**	**15 27 55.3**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=134,slow=6.2,SNR=2.1						

TIR ***14*** *15:16:25.5, 41°.97N×20°.57E, h5km, Md2.7/4*
RHSSO ***14*** *15:16:26.9±0.7, 41°.95N×20°.58E, h5km±3km, ML2.8/8*
PDG ***14*** *15:16:27.3±0.3, 41°.95N×20°.46E, h12km, MD3.0/1, ML2.9/9, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
BEO ***14*** *15:16:28.7±0.2, 41°.97N×20°.52E, h13km±2km, ML2.4/18*

ISC 14 15:16:27.2±1.1,**41°.98N**±0°.02×**20°.51E**±0°.02,**h1**km±9km, **n86**,σ0§**96**/144,**15C-17D**,**Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.30**	**190**	P	**Pg**	**15 16 32.5**	**-0.5**
PHP				S	**Sg**	**15 16 36.9**	**+0.1**
PHP	**Peshkopia**	**0.30**	**190**	*i* PG	**Pg**	**15 16 32.5**	**-0.5**
PHP				*i* SG	**Sg**	**15 16 36.9**	**+0.1**
BCI	**Bajram Curri**	**0.51**	**320**	*i* PG	**Pg**	**15 16 37.2**	**+0.2**
BCI				*i* SG	**Sg**	**15 16 44.7**	**+1.1**
SKO	**Skopje**	**0.69**	**90**	⇑*i* Pg	**Pg**	**15 16 40.8**	**+0.2**
SKO				*i* Sg	**Sb**	**15 16 51.4**	**-0.7**
SKO	**Skopje**	**0.69**	**90**	*e*Pg	**Pg**	**15 16 40.5**	**0.0**
SKO				*e*Sg	**Sb**	**15 16 51.3**	**-0.8**
PVY	**Plav**	**0.74**	**327**	⇓*i* Pg	**Pg**	**15 16 41.1**	**-0.3**
PVY				*e*Sg	**Sb**	**15 16 52.8**	**-0.8**
TIR	**Tirane**	**0.80**	**218**	P	**Pg**	**15 16 42.2**	**-0.3**
TIR				S	**Sg**	**15 16 53.5**	**+0.7**
TIR	**Tirane**	**0.80**	**218**	*e*Pg	**Pb**	**15 16 43.6**	**-0.2**
TIR				*e*Sg	**Sb**	**15 16 55.2**	**+0.2**
TIR	**Tirane**	**0.80**	**218**	*i* PG	**Pg**	**15 16 41.5**	**-0.9**
TIR				*i* SG	**Sb**	**15 16 55.0**	**-0.1**
TIR	**Tirane**	**0.80**	**218**	P	**Pg**	**15 16 42.4**	**0.0**
TIR	**Tirane**	**0.80**	**218**	⇑S	**Sb**	**15 16 54.7**	**-0.3**
TIR				AML	AML	15 16 57.9	
ULC	**Ulcinj**	**0.94**	**269**	⇓*i* Pg	**Pg**	**15 16 44.4**	**-0.9**
ULC				*e*Sg	**Sb**	**15 16 58.8**	**-0.6**
IVA	**Berane**	**1.00**	**333**	⇑*i* Pg	**Pg**	**15 16 46.4**	**-0.1**
IVA				*e*Sg	**Sb**	**15 17 02.2**	**+1.1**
DRME	**Dracevica, Mon**	**1.01**	**282**	⇓*i* Pg	**Pg**	**15 16 45.5**	**-1.1**
DRME				*e*Sg	**Sb**	**15 17 01.1**	**-0.1**
DRME	**Dracevica, Mon**	**1.01**	**282**	⇓*i* Pg	**Pg**	**15 16 45.9**	**-0.7**
DRME				*e*Sg	**Sb**	**15 17 01.3**	**+0.1**
PDG	**Podgorica**	**1.03**	**296**	*e*Pg	**Pg**	**15 16 46.4**	**-0.6**
PDG				*e*Sg	**Sg**	**15 17 00.9**	**+0.4**
PDG	**Podgorica**	**1.03**	**296**	*e*Pg	**Pg**	**15 16 46.5**	**-0.6**
PDG				*e*Sg	**Sg**	**15 17 01.6**	**+1.1**
PDG	**Podgorica**	**1.03**	**296**	⇑P	**Pg**	**15 16 46.6**	**-0.5**
PDG				⇑S	**Sb**	**15 17 01.7**	**-0.3**
PDG				AML	AML	15 17 05.3	
TTG	**Podgorica**	**1.03**	**296**	⇓*i* Pg	**Pg**	**15 16 45.9**	**-1.2**
TTG				*e*Sg	**Sb**	**15 17 02.6**	**+0.6**
KOME	**Kolasin**	**1.14**	**320**	⇓*i* Pg	**Pg**	**15 16 48.4**	**-0.7**
KOME				*e*Sg	**Sn**	**15 17 06.4**	**-0.3**
BUM	**Brajici-Budva**	**1.24**	**285**	⇓*i* Pg	**Pg**	**15 16 50.1**	**-1.0**
BUM				*e*Sg	**Sn**	**15 17 09.2**	**0.0**
BARS	**Barje**	**1.28**	**49**	*e*Pg	**Pb**	**15 16 52.1**	**0.0**
BARS				*e*Sg	**Sn**	**15 17 10.5**	**+0.5**
STIP	**Stip**	**1.28**	**102**	*i* Pn	**Pn**	**15 16 53.9**	**+1.6**
CEME	**Cevo**	**1.31**	**296**	⇓*i* Pg	**Pg**	**15 16 53.8**	**-1.6**
CEME				*e*Sg	**Sn**	**15 17 11.7**	**+0.9**
SELS	**Selova**	**1.32**	**20**	*e*Pg	**Pg**	**15 16 52.3**	**-0.2**
SELS				*e*Sg	**Sn**	**15 17 11.3**	**+0.3**
SJES	**Sjenica**	**1.34**	**343**	*e*Pg	**Pg**	**15 16 52.9**	**-0.1**
SJES				*e*Sg	**Sn**	**15 17 12.2**	**+0.5**
FNA	**Florina**	**1.36**	**151**	P	**Pn**	**15 16 51.8**	**-1.6**
FNA				S	**Sn**	**15 17 12.8**	**+0.8**
FNA	**Florina**	**1.36**	**151**	*i* PN	**Pn**	**15 16 51.7**	**-1.7**
NKME	**Niksic**	**1.40**	**305**	⇑*i* Pg	**Pn**	**15 16 52.5**	**-1.4**
NKME				*e*Sg	**Sn**	**15 17 14.3**	**+1.4**
NKY	**Niksic**	**1.40**	**307**	⇓*i* Pg	**Pn**	**15 16 52.6**	**-1.4**
NKY				*e*Sg	**Sn**	**15 17 14.7**	**+1.6**
BOSS	**Bosilegrad**	**1.55**	**70**	*e*Pg	**Pb**	**15 16 56.5**	**-0.2**
BOSS				*e*Sg	**Sg**	**15 17 18.0**	**+0.9**
HCY	**Herceg Novi**	**1.57**	**288**	⇓*i* Pn	**Pn**	**15 16 55.4**	**-0.7**
HCY				*e*Sn	**Sn**	**15 17 16.9**	**-0.2**
HCY	**Herceg Novi**	**1.57**	**288**	⇑*i* Pg	**Pn**	**15 16 55.5**	**-0.7**
HCY				*e*Sg	**Sg**	**15 17 16.9**	**+0.9**
PLE	**Pljevlja**	**1.58**	**329**	⇓*i* Pn	**Pn**	**15 16 56.4**	**-0.1**
PLE				*e*Sn	**Sg**	**15 17 19.5**	**+1.4**
NEST	**Nestorio**	**1.61**	**165**	P	**Pb**	**15 16 57.4**	**-0.5**
IVAS	**Ivanjica**	**1.62**	**351**	*e*Pg	**Pb**	**15 16 58.0**	**+0.1**
IVAS				*e*Sg	**Sg**	**15 17 19.9**	**+0.7**
VAY	**Valandovo**	**1.68**	**112**	*i* Pn	**Pn**	**15 16 58.1**	**+0.5**
VAY	**Valandovo**	**1.68**	**112**	*e*Pg	**Pn**	**15 16 57.4**	**-0.3**
VAY				*e*Sg	**Sg**	**15 17 22.4**	**+1.3**
BRY	**Bratogost**	**1.73**	**303**	⇓*i* Pn	**Pn**	**15 16 58.4**	**0.0**
BRY				*e*Sn	**Sn**	**15 17 21.3**	**+0.1**
BRY	**Bratogost**	**1.73**	**303**	⇓*i* Pn	**Pn**	**15 16 58.5**	**0.0**
BRY				*e*Sn	**Sg**	**15 17 23.0**	**+0.3**
GRG	**Griva**	**1.75**	**125**	P	**Pb**	**15 16 59.4**	**-0.7**
TREB	**Trebinje**	**1.76**	**295**	*e*Pn	**Pn**	**15 16 59.4**	**+0.5**
TREB				*e*Sg	**Sg**	**15 17 23.8**	**-0.1**
TREB	**Trebinje**	**1.76**	**295**	*e*Pn	**Pn**	**15 16 59.0**	**+0.1**
TREB				*e*Sn	**Sn**	**15 17 22.5**	**+0.6**
RUDO	**Rudo**	**1.84**	**333**	⇓*i* Pn	**Pn**	**15 16 59.8**	**-0.1**
RUDO				*e*Sn	**Sn**	**15 17 23.6**	**-0.2**
PENT	**Pentalofos**	**1.84**	**165**	P	**Pb**	**15 17 01.6**	**-0.2**
BOVS	**Bovan**	**1.87**	**28**	*e*Pn	**Pb**	**15 17 01.5**	**-0.7**
GRUS	**Gruza**	**1.91**	**4**	*e*Pn	**Pn**	**15 17 00.7**	**-0.2**
KNT	**Kendrikon**	**1.97**	**114**	P	**Pn**	**15 17 02.0**	**+0.3**
KTI	**Kastanea**	**2.00**	**142**	P	**Pn**	**15 17 03.1**	**+0.9**
ZAPS	**Zavoj**	**2.03**	**50**	*e*Pn	**Pn**	**15 17 03.8**	**+1.2**
ZAPS				*e*Sn	**Sn**	**15 17 27.6**	**-1.0**
BBLS	**Lazić**	**2.05**	**337**	*e*Pn	**Pn**	**15 17 03.3**	**+0.4**
BBLS				*e*Sn	**Sn**	**15 17 28.7**	**-0.5**
BBLS	**Lazić**	**2.05**	**337**	*e*Pn	**Pn**	**15 17 03.1**	**+0.2**
BBLS				*e*Sn	**Sn**	**15 17 28.7**	**-0.5**
VTS	**Vitosha**	**2.12**	**72**	P	**Pn**	**15 17 05.1**	**+1.2**
VTS	**Vitosha**	**2.12**	**72**	*e*Pg	**Pb**	**15 17 05.3**	**-1.2**
VTS				*e*Sn	**Sn**	**15 17 29.0**	**-1.9**
VTS	**Vitosha**	**2.12**	**72**	⇑P	**Pb**	**15 17 05.3**	**-1.2**
VTS				⇓S	**Sb**	**15 17 30.8**	**-0.3**
VTS				AML	AML	15 17 42.1	
KPRO	**Kipourio**	**2.12**	**162**	P	**Pn**	**15 17 04.8**	**+0.9**
DIVS	**Divibare**	**2.15**	**350**	*e*Pn	**Pn**	**15 17 03.7**	**-0.6**
DIVS				*e*Sn	**Sn**	**15 17 30.1**	**-1.5**
DIVS	**Divibare**	**2.15**	**350**	⇓*i* Pn	**Pn**	**15 17 03.6**	**-0.7**
DIVS				*e*Sn	**Sn**	**15 17 31.4**	**-0.2**
ZAGS	**Zajecar**	**2.23**	**34**	*e*Pn	**Pn**	**15 17 05.3**	**+0.1**
ZAGS				*e*Sn	**Sn**	**15 17 31.5**	**-1.8**
TRUS	**Trudelj**	**2.24**	**358**	*e*Pn	**Pn**	**15 17 05.4**	**-0.1**
TRUS				*e*Sn	**Sn**	**15 17 33.4**	**-0.4**
STON	**Ston**	**2.26**	**294**	*e*Pn	**Pb**	**15 17 07.7**	**-1.2**
STON				Sn	**Sb**	**15 17 37.7**	**+0.4**
STON	**Ston**	**2.26**	**294**	*e*Pg	**Pg**	**15 17 11.6**	**+1.0**
STON	**Ston**	**2.26**	**294**	*e*Pn	**Pn**	**15 17 06.4**	**+0.7**
STON				*e*Sn	**Sn**	**15 17 34.7**	**+0.5**
BLKB	**Belogradchik**	**2.29**	**43**	⇑S	**Sn**	**15 17 35.9**	**+0.9**
BLKB				AML	AML	15 17 44.2	
HAPS	**Han Pijesak,Bl**	**2.40**	**332**	*e*Pn	**Pn**	**15 17 07.6**	**+0.1**
HAPS				*e*Sn	**Sn**	**15 17 37.0**	**-0.7**
HAPS	**Han Pijesak,Bl**	**2.40**	**332**	*e*Pn	**Pn**	**15 17 06.8**	**-0.9**
HAPS				*e*Sn	**Sn**	**15 17 37.7**	**0.0**
LIT	**Litokhoron**	**2.40**	**141**	P	**Pn**	**15 17 08.4**	**+0.8**
MAKA	**Makarska**	**2.89**	**298**	*e*Pn	**Pn**	**15 17 16.2**	**+1.9**
MAKA				Sn	**Sb**	**15 17 54.3**	**-1.0**
MDVR	**Moldovita**	**2.94**	**17**	⇑P	**Pn**	**15 17 14.4**	**-0.6**
MDVR				⇑S	**Sn**	**15 17 51.9**	**+1.0**
MDVR				AML	AML	15 18 05.7	
MATE	**Matera**	**3.16**	**246**	⇑P	**Pn**	**15 17 18.2**	**+0.2**
MATE				⇓S	**Sn**	**15 17 57.0**	**+0.7**
FRGS	**Fruska Gora**	**3.22**	**351**	*e*Pn	**Pn**	**15 17 18.1**	**-0.8**
FRGS				*e*Sn	**Sn**	**15 17 57.4**	**-0.4**
HVAR	**Hvar**	**3.23**	**293**	*e*Pn	**Pn**	**15 17 20.1**	**+1.1**
XOR	**Xorichti**	**3.31**	**141**	P	**Pn**	**15 17 20.7**	**+0.5**
KIJV	**Kijevo**	**3.63**	**305**	*i* Pn	**Pn**	**15 17 27.1**	**+2.6**
KIJV				Sn	**Sb**	**15 18 13.0**	**-2.8**
BZS	**Buzias**	**3.72**	**12**	⇑P	**Pn**	**15 17 26.1**	**+0.3**
BZS				⇑S	**Sn**	**15 18 11.7**	**+1.5**
GZR	**Gura Zlata**	**3.79**	**25**	⇑P	**Pn**	**15 17 27.4**	**+0.7**
GZR				AML	AML	15 18 39.0	
ZIRJ	**Zirje**	**3.95**	**297**	*i* Pn	**Pn**	**15 17 30.7**	**+1.8**
ZIRJ				Sn	**Sn**	**15 18 19.0**	**+3.1**
MORI	**Morici**	**4.00**	**300**	*e*Pn	**Pn**	**15 17 30.8**	**+1.2**
UDBI	**Udbina**	**4.30**	**308**	*i* Pn	**Pn**	**15 17 36.4**	**+2.6**
MORH	**Mrgy, Hungar**	**4.44**	**343**	*e*Pn	**Pn**	**15 17 35.1**	**-0.6**
MORH	**Mrgy, Hungar**	**4.44**	**343**	*e*Pn	**Pn**	**15 17 35.0**	**-0.6**
DUGI	**Dugi Otok**	**4.48**	**299**	*i* Pn	**Pn**	**15 17 37.2**	**+1.0**
MOSL	**Moslavina**	**4.54**	**324**	*e*Pn	**Pn**	**15 17 39.1**	**+2.1**
NVLJ	**Novalja**	**4.86**	**304**	*e*Pn	**Pn**	**15 17 42.3**	**+0.9**
CRES	**Cresnjev**	**5.30**	**318**	*e*Pn	**Pn**	**15 17 47.5**	**0.0**
CEY	**Cerknica**	**5.78**	**313**	*e*Pn	**Pn**	**15 17 53.8**	**-0.3**
CEY				*e*Sn	**Sn**	**15 18 59.5**	**-1.6**

ISCJB ***14*** *15:20:18.7±0.6, 6°.79S±0°.08×155°.35E±0°.08, h33km, mb4.2/14, Error ellipse: s-maj=13.1km s-min=7.8km az=135.7*
NEIC ***14*** *15:20:20.6±1.5, 6°.7S±0°.1×155°.36E±0°.09, h37km±7km, mb4.0/9*
IDC ***14*** *15:20:20.9±1.3, 6°.77S×155°.26E, h36km±7km, mb3.8/13, mb1 4.0/13, mb1mx3.8/39, mbtmp4.0/13, MS2.8/2, Ms1 2.8/2, ms1mx2.6/36, Error ellipse: s-maj=30.2km s-min=16.8km az=122.0*

ISC 14 15:20:20.9±0.6,**6°.74S**±0°.09×**155°.37E**±0°.09,**h35**km,**n32**, σ1§**43**/32,**mb4.0**/16,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**4.11**	**306**	Pn	**Pn**	**15 21 23.4**	**+2.1**
	4.9nm,0.3s,baz=200,slow=2.9,SNR=9.8						
KRVT				Lg	Lg	15 22 22.8	
	17nm,0.3s,baz=115,slow=12,SNR=4.1						
KRVT				LR	LR	15 23 04.1	
	comp=Z,123nm,20.8s,baz=111,slow=40						
HNR	**Honiara**	**5.26**	**121**	LR	LR	15 23 26.7	
	comp=Z,91nm,19.7s,baz=284,slow=35						
PMG	**Port Moresby**	**8.55**	**251**	Pn	Pn	15 22 26.1	+3.9
	3.2nm,0.3s,baz=48,slow=11,SNR=12						
PMG				Sn	**Sn**	**15 23 58.3**	**+0.8**
	1.1nm,0.3s,baz=72,slow=22,SNR=5.9						
PMG	**Port Moresby**	**8.55**	**251**		**Pn**	**15 22 24.6**	**+2.4**
PATS	**Pohnpei**	**13.80**	**12**	Pn	**Pn**	**15 23 33.1**	**-1.2**
COEN	**Coen**	**13.97**	**238**	Pn	**Pn**	**15 23 35.8**	**-0.7**
DZM	**Mont Dzumac**	**18.62**	**146**	P	**Pn**	**15 24 39.8**	**+3.7**
	0.4nm,0.3s,baz=296,slow=10,SNR=5.8						
DZM	**Mont Dzumac**	**18.62**	**146**		**Pn**	**15 24 37.6**	**+1.5**
DZM				IAmb	IAmb	15 24 52.0	
	comp=Z,13nm,1.5s						
WR0	**Warramunga Arr**	**24.11**	**235**	P	**P**	**15 25 33.4**	**-0.2**
WR0				IAmb	IAmb	15 25 50.7	
	comp=Z,3.1nm,1.0s						
WRAB	**Tennant Creek**	**24.25**	**235**	P	**P**	**15 25 34.4**	**-0.5**
WRAB				IAmb	IAmb	15 25 35.6	
	comp=Z,6.8nm,1.4s						
WRA	**Warramunga Arr**	**24.27**	**235**	P	**P**	**15 25 34.8**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=58,slow=9.3,SNR=4.6						
SIJI	**Sorong**	**24.74**	**283**	P	**P**	**15 25 39.2**	**-0.2**
	comp=Z,7.8nm,0.7s,baz=90,slow=22,SNR=4.3						
AS31	**Alice Springs**	**26.62**	**228**	P	**P**	**15 25 54.1**	**-2.3**
ASAR	**Alice Springs**	**26.62**	**228**	P	**P**	**15 25 55.4**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=58,slow=9.6,SNR=30						
ASAR				pP	**pP**	**15 26 06.1**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=59,slow=8.9,SNR=6.6						
ASAR				PcP	**PcP**	**15 29 20.1**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=66,slow=2.1,SNR=4.9						
H11S3	**WAKE ISLAND Hy**	**27.45**	**24**	T	T	15 54 19.4	
	baz=204,slow=74,SNR=26						
H11S2	**WAKE ISLAND Hy**	**27.45**	**24**	T	T	15 54 19.5	
	baz=204,slow=74,SNR=27						
H11S1	**WAKE ISLAND Hy**	**27.47**	**24**	T	T	15 54 19.4	
	baz=204,slow=74,SNR=14						
KNRA	**Kununurra**	**27.54**	**249**	P	**P**	**15 26 04.9**	**+0.2**
STKA	**Stephens Creek**	**28.12**	**205**	P	**P**	**15 26 09.2**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=338,slow=6.6,SNR=3.0						
FITZ	**Fitzroy Crossi**	**31.09**	**246**	P	**P**	**15 26 34.2**	**-2.0**
	comp=Z,1.1nm,0.5s,baz=87,slow=7.7,SNR=7.3						
FITZ				pP	**pP**	**15 26 44.3**	**-1.9**
	comp=Z,1.8nm,0.8s,baz=57,slow=8.6,SNR=2.1						
FITZ	**Fitzroy Crossi**	**31.09**	**246**	IAmb	IAmb	15 26 50.5	
	comp=Z,5.2nm,1.4s						
BBOO	**Buckleboo**	**31.55**	**212**	P	**P**	**15 26 38.1**	**-2.0**
UTTA	**Uttaradit**	**59.33**	**295**	P

	baz=14								
TWP					*e*S		**Sn**	15 43 20.0	**+1.1**
	baz=14								
WLCH	**Liuqiu**	**0.77**	**20**	*e*P			**Pn**	15 43 07.3	**-0.3**
	baz=14								
WLCH					*e*S		**Sn**	15 43 20.7	**+1.6**
	baz=14								
TSEB	**Hengchuen, Pin**	**0.80**	**70**	P			**Pn**	15 43 05.9	**-2.0**
	baz=66								
TSEB					S		**Sn**	15 43 19.0	**-0.6**
	baz=66								
SCZT	**Fangliau**	**0.89**	**33**	P			**Pn**	15 43 08.0	**-1.0**
	baz=34								
SCZT					S		**Sn**	15 43 21.9	**+0.3**
	baz=34								
KAU	**Kaohsiung**	**0.96**	**12**	S			**Sn**	15 43 24.5	**+1.3**
	baz=4.0								
WSSB	**Gushan**	**1.02**	**9**	P			**Pn**	15 43 09.4	**-1.3**
	baz=10.0								
WSSB					*e*S		**Sn**	15 43 26.0	**+1.3**
	baz=10.0								
EAST	**Anshuo**	**1.03**	**43**	P			**Pn**	15 43 10.5	**-0.3**
	baz=33								
EAST					S		**Sn**	15 43 26.4	**+1.7**
	baz=33								
TAW	**Tawu**	**1.04**	**45**	*e*P			**Pn**	15 43 10.3	**-0.5**
	baz=52								
TAW					S		**Sn**	15 43 25.4	**+0.5**
	baz=52								
MASBT	**Mashibuluo**	**1.10**	**27**	*e*P			**Pn**	15 43 10.7	**-0.9**
	baz=35								
MASBT					*e*S		**Sn**	15 43 26.4	**+0.1**
	baz=35								
SNJT	**Kaohsiung City**	**1.15**	**11**	*e*P			**Pn**	15 43 11.7	**-0.5**
	baz=5.0								
SNJT					*e*S		**Sn**	15 43 27.5	**+0.2**
	baz=5.0								
SGLT	**Jiouru**	**1.16**	**18**	*e*P			**Pn**	15 43 12.7	**+0.4**
	baz=20								
SGLT					*e*S		**Sn**	15 43 29.6	**+2.1**
	baz=20								
SSD	**Sandimen**	**1.22**	**24**	P			**Pn**	15 43 12.3	**-0.9**
	baz=25								
SSD					*e*S		**Sn**	15 43 28.2	**-0.9**
	baz=25								
SLGT	**Liugui**	**1.46**	**20**	*e*P			**Pn**	15 43 15.1	**-1.2**
	baz=21								
SLGT					*e*S		**Sn**	15 43 34.8	**+0.2**
	baz=21								
TWG	**Pinlang**	**1.50**	**37**	P			**Pn**	15 43 16.6	**-0.2**
	baz=47								
TWGBT	**Beinan**	**1.50**	**37**	*e*P			**Pn**	15 43 16.6	**-0.2**
	baz=47								
SGST	**Jiashian**	**1.52**	**17**	P			**Pn**	15 43 15.9	**-1.2**
	baz=18								
SGST					*e*S		**Sn**	15 43 36.6	**+0.5**
	baz=18								
SCLT	**Jiali**	**1.55**	**3**	*e*P			**Pn**	15 43 16.9	**-0.6**
	baz=5.0								
SCLT					S		**Sn**	15 43 37.3	**+0.6**
	baz=5.0								
CHN1	**Nanshi**	**1.60**	**14**	*e*P			**Pn**	15 43 16.9	**-1.4**
	baz=15								
CHN1					*e*S		**Sn**	15 43 38.3	**+0.1**
	baz=15								
SNST	**Tainan City**	**1.63**	**13**	*e*P			**Pn**	15 43 17.9	**-0.7**
	baz=14								
SNST					*e*S		**Sn**	15 43 38.7	**-0.1**
	baz=14								
STYT	**Tauyuan**	**1.65**	**22**	P			**Pn**	15 43 18.4	**-0.5**
	baz=14								
STYT					*e*S		**Sn**	15 43 39.5	**+0.3**
	baz=14								
WTP	**Ta-pu**	**1.68**	**16**	*e*P			**Pn**	15 43 18.4	**-0.9**
	baz=17								
WTP					*e*S		**Sn**	15 43 40.2	**+0.1**
	baz=17								
CHN8	**Yiju**	**1.72**	**4**	*e*S			**Sn**	15 43 41.2	**+0.4**
	baz=357								
TPUB	**Ta-pu**	**1.74**	**16**	*e*P			**Pn**	15 43 19.3	**-0.8**
	baz=17								
TPUB					*e*S		**Sn**	15 43 41.2	**-0.2**
	baz=17								
ELDTW	**Lidau**	**1.77**	**29**	*e*P			**Pn**	15 43 20.6	**0.0**
	baz=29								
CHN4	**Tsaushan**	**1.78**	**15**	*e*P			**Pn**	15 43 19.9	**-0.7**
	baz=16								
CHN4					*e*S		**Sn**	15 43 41.9	**-0.4**
	baz=16								
CHKT	**Chengkung**	**1.88**	**38**	*e*P			**Pn**	15 43 21.1	**-0.8**
	baz=50								
CHKT					*e*S		**Sn**	15 43 45.0	**+0.3**
	baz=50								
FULB	**Fuli**	**1.92**	**35**	*e*P			**Pn**	15 43 22.1	**-0.4**
	baz=48								
FULB					*e*S		**Sn**	15 43 47.1	**+1.4**
	baz=48								
PHUB	**P'eng-hu**	**1.94**	**346**	*e*S			**Sn**	15 43 45.0	**-1.2**
	baz=347								
WSF	**Szhu**	**2.01**	**3**	*e*P			**Pn**	15 43 22.5	**-1.2**
	baz=5.0								
WSF					*e*S		**Sn**	15 43 47.5	**-0.3**
	baz=5.0								
YUS	**Yu-Shan**	**2.02**	**23**	*e*P			**Pn**	15 43 24.2	**-0.1**
	baz=16								
CHN5	**Tsauling**	**2.04**	**15**	*e*P			**Pn**	15 43 23.2	**-0.9**
	baz=16								
CHN5					*e*S		**Sn**	15 43 48.8	**+0.1**
	baz=16								
YULB	**Yu-li**	**2.08**	**32**	*e*P			**Pn**	15 43 25.0	**+0.4**
	baz=24								
YULB					*e*S		**Sn**	15 43 49.6	**0.0**
	baz=24								
WDLH	**Douliu**	**2.10**	**11**	*e*P			**Pn**	15 43 23.5	**-1.4**
	baz=12								
WDLH					*e*S		**Sn**	15 43 49.5	**-0.4**
	baz=12								
WHYT	**Xinyi Township**	**2.18**	**19**	*e*P			**Pn**	15 43 25.4	**-0.6**
	baz=19								
WHYT					*e*S		**Sn**	15 43 51.7	**-0.3**
	baz=19								
EHY	**Hungye**	**2.19**	**31**	*e*P			**Pn**	15 43 26.8	**+0.7**
	baz=40								
EHY					*e*S		**Sn**	15 43 52.1	**-0.1**
	baz=40								
HGSD	**Ruisui**	**2.23**	**33**	*e*P			**Pn**	15 43 27.7	**+1.0**
	baz=25								
WTCT	**Ta-ch'eng**	**2.24**	**4**	*e*S			**Sn**	15 43 54.1	**+0.8**
	baz=358								
WJS	**Zhushan**	**2.26**	**15**	*e*P			**Pn**	15 43 26.7	**-0.4**
	baz=15								
WJS					*e*S		**Sn**	15 43 54.0	**-0.1**
	baz=15								
RLNB	**Erlin**	**2.27**	**6**	*e*P			**Pn**	15 43 26.7	**-0.5**
	baz=3.0								
RLNB					*e*S		**Sn**	15 43 53.5	**-0.6**
	baz=3.0								
SSLB	**Suanglung**	**2.29**	**20**	*e*P			**Pn**	15 43 26.4	**-1.2**
	baz=21								
SSLB					*e*S		**Sn**	15 43 54.1	**-0.7**
	baz=21								
WNT	**Mingjian**	**2.31**	**13**	*e*P			**Pn**	15 43 27.3	**-0.5**
	baz=23								
WNT					*e*S		**Sn**	15 43 55.5	**+0.4**
	baz=23								
VWDT	**VWDT**	**2.33**	**24**	*e*P			**Pn**	15 43 27.4	**-0.6**
	baz=17								
EGFH	**Guangfu**	**2.38**	**31**	*e*P			**Pn**	15 43 28.2	**-0.4**
	baz=42								
EGFH					*e*S		**Sn**	15 43 55.9	**-0.9**
	baz=42								
WCHH	**Zhanghua**	**2.48**	**10**	*e*P			**Pn**	15 43 28.9	**-1.1**
	baz=11								
WCHH					*e*S		**Sn**	15 43 59.3	**0.0**
	baz=11								
ESL	**Shilin**	**2.50**	**29**	*e*P			**Pn**	15 43 29.4	**-1.0**
	baz=41								
ESL					*e*S		**Sn**	15 43 58.8	**-1.0**
	baz=41								
DPDB	**Guoxing**	**2.52**	**18**	*e*P			**Pn**	15 43 29.8	**-0.9**
	baz=27								
DPDB					*e*S		**Sn**	15 44 00.9	**+0.7**
	baz=27								
TCU	**Taichung**	**2.57**	**12**	*e*P			**Pn**	15 43 31.3	**+0.1**
	baz=20								
TCU					*e*S		**Sn**	15 44 01.6	**+0.2**
	baz=20								
CHGB	**Renai**	**2.62**	**22**	*e*P			**Pn**	15 43 32.6	**+0.4**
	baz=15								
CHGB					*e*S		**Sn**	15 44 02.3	**-0.7**
	baz=15								
WHF	**Hehuan Shan**	**2.73**	**23**	*e*P			**Pn**	15 43 34.0	**+0.1**
	baz=15								
WHF					*e*S		**Sn**	15 44 06.2	**+0.3**
	baz=15								
WHP	**Taichung City**	**2.75**	**16**	*e*P			**Pn**	15 43 34.6	**+0.8**
	baz=24								
WHP					*e*S		**Sn**	15 44 08.5	**+2.4**
	baz=24								
WDJ	**Dajia District**	**2.76**	**10**	*e*S			**Sn**	15 44 07.0	**+0.9**
	baz=21								
TWQ1	**Liyutan**	**2.78**	**13**	*e*P			**Pn**	15 43 34.4	**+0.2**
	baz=14								
TWQ1					*e*S		**Sn**	15 44 07.1	**+0.4**
	baz=14								
TDCB	**Techi**	**2.79**	**20**	*e*P			**Pn**	15 43 34.9	**+0.5**
	baz=21								
TWT	**Tachien**	**2.80**	**21**	*e*P			**Pn**	15 43 34.1	**-0.5**
	baz=21								
TWD	**Chiawan**	**2.81**	**29**	*e*P			**Pn**	15 43 33.3	**-1.2**
	baz=39								
TWD					*e*S		**Sn**	15 44 06.2	**-1.0**
	baz=39								
NSY	**Sanyi**	**2.85**	**12**	*e*S			**Sn**	15 44 09.3	**+1.1**
	baz=13								
ETLH	**Xiulin Townshi**	**2.87**	**26**	*e*P			**Pn**	15 43 35.8	**+0.3**
	baz=27								
ETLH					*e*S		**Sn**	15 44 09.6	**+0.7**
	baz=27								
NACB	**Ninganchiao**	**2.89**	**28**	*e*P			**Pn**	15 43 34.7	**-1.0**
	baz=39								
NNSH	**Datong**	**3.03**	**23**	P			**Pn**	15 43 38.9	**+1.2**
	baz=23								
NNSH					*e*S		**Sn**	15 44 12.3	**-0.7**
	baz=23								
NNS	**Nan Shan**	**3.04**	**23**	*e*P			**Pn**	15 43 38.1	**+0.4**
	baz=23								
NNS					*e*S		**Sn**	15 44 13.1	**0.0**
	baz=23								
NSTT	**Nanjuang**	**3.11**	**15**	*e*P			**Pn**	15 43 38.1	**-0.4**
	baz=16								
NSTT					*e*S		**Sn**	15 44 13.5	**-1.0**
	baz=16								
LIOB	**Emei**	**3.12**	**16**	*e*P			**Pn**	15 43 38.3	**-0.5**
	baz=16								
LIOB					*e*S		**Sn**	15 44 13.7	**-1.4**
	baz=16								
ENA	**Nanau**	**3.18**	**28**	*e*P			**Pn**	15 43 38.6	**-0.9**
	baz=37								
ENA					*e*S		**Sn**	15 44 14.1	**-2.2**
	baz=37								
NANB	**Nanao**	**3.18**	**28**	*e*P			**Pn**	15 43 37.9	**-1.7**
	baz=38								
NDT	**Datong Townshi**	**3.24**	**23**	*e*P			**Pn**	15 43 40.8	**+0.4**
	baz=24								
NDT					*e*S		**Sn**	15 44 17.7	**-0.1**
	baz=24								
NSK	**Sanguang**	**3.25**	**21**	*e*P			**Pn**	15 43 40.1	**-0.5**
	baz=21								
YHNB	**Yeheng**	**3.25**	**21**	*e*P			**Pn**	15 43 40.2	**-0.4**
	baz=21								
YHNB					*e*S		**Sn**	15 44 17.2	**-1.1**
	baz=21								
ENTT	**Nioudou**	**3.29**	**24**	*e*P			**Pn**	15 43 42.2	**+1.1**
	baz=16								
WLTB	**Daxi**	**3.38**	**18**	*e*P			**Pn**	15 43 42.5	**+0.1**
	baz=19								
NWLT	**Wulai**	**3.40**	**22**	*e*P			**Pn**	15 43 42.1	**-0.5**
	baz=12								
NWLT					*e*S		**Sn**	15 44 20.8	**-0.9**
	baz=12								
VWUC	**VWUC**	**3.40**	**350**	*e*S			**Sn**	15 44 20.5	**-1.3**
	baz=351								
TWE	**Neicheng**	**3.41**	**25**	*e*P			**Pn**	15 43 44.7	**+2.1**
	baz=36								
TIPB	**Shuangxi**	**3.69**	**25**	*e*P			**Pn**	15 43 47.2	**+0.6**
	baz=34								
YM04	**YM04**	**3.75**	**20**	*e*P			**Pn**	15 43 47.4	**-0.1**
	baz=21								
YM10	**YM10**	**3.76**	**21**	*e*P			**Pn**	15 43 46.5	**-1.1**
	baz=21								
YM05	**YM05**	**3.77**	**21**	*e*P			**Pn**	15 43 47.0	**-0.8**
	baz=21								
YM05					*e*S		**Sn**	15 44 28.9	**-2.1**
	baz=21								
CMAR	**Chiang Mai Arr**	**20.12**	**265**	P			Pn	15 47 23.6	+0.8
	0.1nm,0.3s,baz=66,slow=9.0,SNR=2.8								
MKAR	**Makanchi Array**	**39.53**	**319**	P			P	15 50 28.9	+13
	0.4nm,0.6s,baz=104,slow=12,SNR=2.9								
WRA	**Warramunga Arr**	**43.60**	**160**	P			**P**	**15 50 50.5**	**+1.0**
	0.6nm,0.8s,baz=342,slow=8.9,SNR=6.0								
ASAR	**Alice Springs**	**46.98**	**163**	P			P	15 51 17.8	+1.5
	0.5nm,0.7s,baz=342,slow=7.0,SNR=12								
ILAR	**Eielson Array**	**71.94**	**27**	P			P	15 54 21.9	+14
	0.3nm,0.6s,baz=281,slow=4.7,SNR=5.7								

IDC 14 15:53:56.0±11.0, 15°24'S×165°33'E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/34, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=205.7km s-min=33.5km az=54.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.88**	**171**	Pn	Pn	15 55 38.1	-0.1
	0.5nm,0.3s,baz=104,slow=12,SNR=8.7						
DZM				Sn	Sn	15 56 58.6	+1.2
	0.2nm,0.3s,baz=96,slow=19,SNR=2.1						
STKA	**Stephens Creek**	**27.24**	**228**	P	P	15 59 42.1	+0.2
	0.8nm,0.5s,baz=35,slow=9.9,SNR=4.6						
WRA	**Warramunga Arr**	**29.88**	**256**	P	P	16 00 05.6	0.0
	0.2nm,0.5s,baz=87,slow=9.3,SNR=3.1						
ASAR	**Alice Springs**	**30.74**	**249**	P	P	16 00 13.2	0.0
	0.4nm,0.4s,baz=79,slow=9.1,SNR=19						
FITZ	**Fitzroy Crossi**	**38.08**	**260**	P	P	16 01 16.6	-0.2
	1.2nm,0.9s,baz=96,slow=10,SNR=3.0						

*ISCJB **14** 16:02:46.0±0.6, 16°.77S±0°.05×172°.37W±0°.07, h24km, mb3.7/6, MS3.3/3, Error ellipse: s-maj=10.6km s-min=7.7km az=165.0*
*NEIC **14** 16:02:46.2±2.2, 16°.73S±0°.06×172°.5W±0°.1, h10km±3km, mb4.2/6*
*IDC **14** 16:02:48.4±0.9, 16°.77S×172°.78W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.8/40, mbtmp3.7/6, MS3.4/3, Ms1 3.4/3, ms1mx2.9/40, Error ellipse: s-maj=42.2km s-min=22.1km az=137.0*
ISC 14 16:02:49.6±0.7, 16°.77S±0°.06×172°.46W±0°.10, h24km, n20, σ2§64/19, mb3.9/9, MS3.3/3, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.92**	**13**	Pn	**Pn**	**16 03 32.8**	**-1.9**
	6.5nm,0.3s,baz=201,slow=2.9,SNR=30						
AFI				Sn	**Sn**	**16 04 05.3**	**-3.7**
	17nm,0.3s,baz=331,slow=22,SNR=8.1						
AFI	**Afiamalu**	**2.92**	**13**		**Pn**	**16 03 32.8**	**-1.9**
AFI					**Sn**	**16 04 06.0**	**-3.0**
NIUE	**Niue**	**3.33**	**134**		**Pn**	**16 03 38.4**	**-1.8**
NIUE				Sn	**Sn**	**16 04 14.7**	**-4.4**
DZM	**Mont Dzumac**	**20.58**	**252**	LR	LR	16 14 07.1	
	comp=Z,80nm,18.1s,baz=34,slow=34						
URZ	**Urewera**	**23.29**	**201**	P	**P**	**16 07 57.7**	**+2.1**
	2.7nm,0.4s,baz=309,slow=6.5,SNR=3.3						
URZ	**Urewera**	**23.29**	**201**	IAmb	IAmb	16 08 03.3	
	comp=Z,24nm,1.5s						
HNR	**Honiara**	**27.82**	**282**	LR	LR	16 18 08.8	
	comp=Z,99nm,19.2s,baz=174,slow=33						
RPZ	**Rata Peaks**	**30.28**	**204**	LR	LR	16 19 26.7	
	comp=Z,67nm,21.4s,baz=342,slow=33						
ARMA	**Armidale**	**35.44**	**241**	P	**P**	**16 09 42.3**	**-2.0**
COEN	**Coen**	**42.81**	**267**	P	**P**	**16 10 44.2**	**-1.8**
COEN				IAmb	IAmb	16 10 48.7	
	comp=Z,7.8nm,1.2s						
STKA	**Stephens Creek**	**44.16**	**241**	P	**P**	**16 10 56.4**	**-0.3**
WR0	**Warramunga Arr**	**50.24**	**258**	P	**P**	**16 11 42.4**	**-1.9**
WR0				IAmb	IAmb	16 11 59.0	
	comp=Z,5.8nm,1.4s						
WRA	**Warramunga Arr**	**50.43**	**258**	P	**P**	**16 11 44.8**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=94,slow=7.7,SNR=4.4						
AS31	**Alice Springs**	**50.56**	**253**	P	**P**	**16 11 45.5**	**-1.3**
AS31				IAmb	IAmb	16 12 03.1	
	comp=Z,1.1nm,1.2s						
ASAR	**Alice Springs**	**50.56**	**253**	P	**P**	**16 11 46.5**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=89,slow=8.8,SNR=13						
NVAR	**Mina Array Bea**	**74.74**	**41**	P	**P**	**16 14 31.7**	**+3.7**
	comp=Z,1.1nm,0.9s,baz=233,slow=8.9,SNR=5.5						
PDAR	**Pinedale Array**	**82.68**	**41**	P	**P**	**16 15 14.9**	**+3.4**
	comp=Z,0.4nm,0.7s,baz=316,slow=4.1,SNR=3.6						
ILAR	**Eielson Array**	**83.61**	**11**	P	**P**	**16 15 18.7**	**+3.1**
	comp=Z,0.3nm,0.7s,baz=227,slow=5.7,SNR=7.5						
BRTR	**Keskin Array B**	**147.78**	**320**	PKPbc	**PKPab**	**16 22 36.3**	**+0.9**
	comp=Z,4.0nm,1.2s,baz=75,slow=5.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**173.30**	**122**	PKPab	**PKPab**	**16 24 28.4**	**+2.3**
	comp=Z,0.4nm,0.8s,baz=257,slow=6.1,SNR=4.0						

IDC 14 16:36:49.4±8.1, 1°90S×136°18E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/28, mbtmp3.4/3, ML3.1/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/32, Error ellipse: s-maj=125.3km s-min=97.8km az=136.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**17.64**	**29**	LR	LR	16 47 38.1	
	comp=Z,17nm,19.9s,baz=104,slow=37						
WRA	**Warramunga Arr**	**18.02**	**186**	P	Pn	16 41 00.6	-0.9
	0.1nm,0.3s,baz=8.2,slow=12,SNR=6.3						
ASAR	**Alice Springs**	**21.75**	**186**	P	P	16 41 41.5	-1.2
	0.6nm,0.7s,baz=16,slow=10,SNR=12						
STKA	**Stephens Creek**	**30.25**	**171**	P	P	16 43 03.6	+1.4
	1.3nm,0.8s,baz=330,slow=16,SNR=3.5						

*ISCJB **14** 16:42:57.6±0.6, 60°.30S±0°.07×45°.4W±0°.2, h10km, mb4.0/3, MS2.9/3, Error ellipse: s-maj=14.0km s-min=9.6km az=156.9*
*IDC **14** 16:42:58.3±1.0, 60°.30S×45°.37W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.7/22, mbtmp4.0/5, ML3.5/1, MS2.9/4, Ms1 3.0/4, ms1mx2.8/18, Error ellipse: s-maj=39.3km s-min=24.8km az=77.0*
*NEIC **14** 16:42:59.3±1.4, 60°.34S±0°.06×45°.4W±0°.2, h10km±1km, mb4.3/9*
ISC 14 16:42:59.4±0.7, 60°.31S±0°.09×45°.4W±0°.1, h10km, n21, σ1§04/18, mb4.2/7, MS2.9/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**7.71**	**42**	Pn	**Pn**	**16 44 52.0**	**+0.4**
PMSA	**Palmer Station**	**9.70**	**235**	Pn	**Pn**	**16 45 19.3**	**+0.6**
	0.4nm,0.3s,baz=46,slow=10,SNR=5.4						
PMSA				LR	LR	16 49 42.4	
	comp=Z,60nm,18.5s,baz=87,slow=42						
PMSA	**Palmer Station**	**9.70**	**235**		**Pn**	**16 45 18.6**	**-0.1**
VNA3	**Neumayer Olymp**	**17.93**	**142**	P	**P**	**16 47 09.9**	**+0.9**
VNA2	**Neumayer--Watz**	**18.55**	**141**	P	**P**	**16 47 15.8**	**+0.1**
	baz=287,slow=15						
SNAA	**Sanae**	**20.15**	**142**	P	Pn	16 47 35.2	0.0
SNAA	**Sanae**	**20.15**	**142**	P	Pn	16 47 34.6	-0.6
	2.7nm,0.8s,baz=283,slow=12,SNR=10						
SNAA				LR	LR	16 53 38.6	
	comp=Z,21nm,21.6s,baz=182,slow=32						
SNAA	**Sanae**	**20.15**	**142**	P	**P**	**16 47 32.3**	**-1.1**
TRQA	**Tornquist**	**24.63**	**327**	P	**P**	**16 48 19.8**	**0.0**
TRQA				IAmb	IAmb	16 48 26.0	
	comp=Z,5.7nm,1.3s						
QSPA	**South Pole Qui**	**29.93**	**180**	P	**P**	**16 49 08.0**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=180,slow=1.3,SNR=12						
QSPA	**South Pole Qui**	**29.93**	**180**	P	**P**	**16 49 07.7**	**+0.5**
QSPA				IAmb	IAmb	16 49 09.4	
	comp=Z,11nm,1.4s						
CPUP	**Villa Florida**	**34.95**	**341**	P	**P**	**16 49 51.3**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=140,slow=7.4,SNR=3.8						
CPUP				LR	LR	17 07 04.7	
	comp=Z,21nm,18.4s,baz=56,slow=41						
GO02	**Mina Guanaco**	**38.91**	**324**	P	**P**	**16 50 25.6**	**+0.3**
GO02				IAmb	IAmb	16 50 32.1	
	comp=Z,5.5nm,1.1s						
VNDA	**Vanda**	**41.39**	**189**	LR	LR	17 09 56.9	
	comp=Z,29nm,18.4s,baz=316,slow=39						
GO01	**Chusmiza**	**44.00**	**327**	P	**P**	**16 51 04.5**	**-2.8**
GO01				IAmb	IAmb	16 51 11.0	
	comp=Z,6.0nm,1.4s						
MNMC	**Minye Minye**	**44.62**	**326**	P	**P**	**16 51 13.9**	**+1.8**
MNMC				IAmb	IAmb	16 51 20.0	
	comp=Z,5.6nm,0.7s						
ASAR	**Alice Springs**	**96.33**	**179**	P	**P**	**16 56 26.9**	**-1.2**
	comp=Z,0.4nm,0.9s,baz=168,slow=4.7,SNR=4.5						
ILAR	**Eielson Array**	**145.71**	**312**	PKPbc	**PKPab**	**17 02 37.5**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=156,slow=4.0,SNR=9.0						
MKAR	**Makanchi Array**	**147.05**	**90**	PKPbc	**PKPbc**	**17 02 41.0**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=235,slow=2.9,SNR=11						
KURBB	**Kurchatov Arra**	**147.72**	**82**	PKPbc	**PKPbc**	**17 02 43.0**	**0.0**
	comp=Z,0.3nm,0.4s,baz=232,slow=3.0,SNR=4.1						
KURK	**Kurchatov**	**147.82**	**82**		**PKPbc**	**17 02 43.0**	**-0.2**

*NNC **14** 17:15:25.4±7.1, 38°.86N×72°.77E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=56.9km s-min=40.9km az=167.0*
ISC 14 17:15:21.3±3.7, 38°.4N±0°.2×72°.9E±0°.1, h35km, n8, σ1§86/10, 2C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.82**	**9**	P	**Pn**	**17 16 19.7**	**+1.7**
	SNR=11						
UCH	**Uchtor**	**4.06**	**18**	P	**Pn**	**17 16 22.9**	**+1.5**
	SNR=9.7						
KZA	**Kyzart**	**4.14**	**25**	P	**Pn**	**17 16 23.0**	**+0.6**
	SNR=17						
EKS2	**Erkin-Say**	**4.35**	**9**	P	**Pn**	**17 16 27.2**	**+2.2**
	SNR=13						
AAK	**Ala-Archa**	**4.45**	**16**	↑P	**Pn**	**17 16 27.7**	**+1.3**
	3.7nm,0.8s						
AAK				↑S	**Sn**	**17 17 16.6**	**-0.5**
	4.2nm,0.7s						
ULHL	**Ulahol**	**4.66**	**33**	P	**Pn**	**17 16 30.2**	**+0.8**
	SNR=8.5						
KK31	**Karatay Array**	**5.06**	**340**	↓P	**Pn**	**17 16 37.3**	**+2.5**
	0.9nm,0.2s,baz=178,slow=14,SNR=37						
KK31				S	**Sn**	**17 17 30.7**	**-1.2**
	4.1nm,0.5s,baz=147,slow=22,SNR=7.3						
AB31	**Akbulak array**	**14.32**	**324**	P	**Pn**	**17 18 39.5**	**-1.9**
	0.2nm,0.5s,baz=129,slow

MATP	**Matopo**	**6.02**	**9**	*i* P	**Pn**	**17 29 27.9**	**+2.4**
MATP				*i* S	**Sn**	**17 30 31.8**	**-2.5**
MATP	**Matopo**	**6.02**	**9**	*i* P	**Pn**	**17 29 27.9**	**+2.4**
MATP				*i* S	**Sn**	**17 30 31.8**	**-2.5**

*IDC **14** 17:33:55.8±1.9, 40.94N×73.80E, h0km, mb3.7/6, mb1 3.7/10, mb1mx3.4/57, mbtmp3.5/10, ML2.9/4, Error ellipse: s-maj=32.3km s-min=19.3km az=139.0*
*KNET **14** 17:34:01.0±0.5, 41.22N×73.75E, h11km±4km, ml3.4, Error ellipse: s-maj=4.0km s-min=2.9km az=83.0*
*KRNET **14** 17:34:00.7±0.1, 41.17N×73.80E, h21km, mb3.8*
*NNC **14** 17:34:00.4±0.6, 41.17N×73.67E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=5.2km s-min=2.7km az=170.0*
*SOME **14** 17:34:00.0, 41.20N×73.67E, h5km*
ISC 14 17:33:58.9±1.1, 41.17N±0.03×73.72E±0.02, h8km±8km, n103, σ1§52/155, mb3.8/6, 32C-37D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**0.96**	**359**	⇓*i*P	**Pn**	**17 34 18.8**	**-0.2**
	baz=55						
AML				⇓*i*S	**Sn**	**17 34 32.3**	**-0.8**
	baz=55						
AML	**Almayashu**	**0.96**	**359**	⇓P	**Pn**	**17 34 18.7**	**-0.4**
	169nm,0.2s,SNR=339						
AML				⇓S	**Sn**	**17 34 32.6**	**-0.5**
	1μm,0.3s						
UCH	**Uchtor**	**1.21**	**29**	⇑*i*P	**Pn**	**17 34 23.1**	**+0.5**
	baz=26						
UCH				⇑*i*S	**Sn**	**17 34 39.0**	**-0.4**
	baz=26						
UCH	**Uchtor**	**1.21**	**29**	P	**Pn**	**17 34 23.2**	**+0.7**
	122nm,0.3s,SNR=242						
UCH				⇓S	**Sn**	**17 34 40.6**	**+1.2**
	854nm,0.4s						
ARK	**Arkit**	**1.46**	**296**	⇓*i*P	**Pg**	**17 34 28.3**	**+1.4**
	baz=95						
ARK				⇓*i*S	**Sg**	**17 34 49.1**	**+3.3**
	baz=95						
KZA	**Kyzart**	**1.46**	**51**	⇑*i*P	**Pg**	**17 34 26.8**	**-0.2**
	baz=50						
KZA				⇑*i*S	**Sg**	**17 34 45.7**	**-0.3**
	baz=50						
KZA	**Kyzart**	**1.46**	**51**	⇓P	**Pg**	**17 34 27.4**	**+0.4**
	66nm,0.2s,SNR=143						
KZA				⇑S	**Sg**	**17 34 48.1**	**+2.1**
	222nm,0.3s						
EKS2	**Erkin-Say**	**1.49**	**2**	⇓*e*P	**Pg**	**17 34 28.3**	**+0.8**
	baz=59						
EKS2				⇓*i*S	**Sg**	**17 34 48.3**	**+1.5**
	baz=59						
EKS2	**Erkin-Say**	**1.49**	**2**	⇓P	**Pg**	**17 34 28.1**	**+0.7**
	34nm,0.2s,SNR=134						
EKS2				⇑S	**Sg**	**17 34 48.4**	**+1.6**
	250nm,0.3s						
AAK	**Ala-Archa**	**1.57**	**21**	Pn	**Pg**	**17 34 29.8**	**+0.6**
	32nm,0.3s,baz=187,slow=5.6,SNR=282						
AAK				Lg	Lg	17 34 52.0	
	122nm,0.3s,baz=49,slow=19,SNR=37						
AAK				LR	LR	17 35 19.8	
	comp=Z,171nm,19.2s,baz=163,slow=47						
AAK	**Ala-Archa**	**1.57**	**21**	⇑*i*P	**Pg**	**17 34 29.3**	**+0.2**
	baz=19						
AAK				⇑*i*S	**Sg**	**17 34 50.0**	**+0.4**
	baz=19						
AAK	**Ala-Archa**	**1.57**	**21**	⇓P	**Pg**	**17 34 29.7**	**+0.6**
	80nm,0.3s,SNR=89						
AAK				⇓S	**Sg**	**17 34 51.9**	**+2.3**
	539nm,0.4s						
AAK	**Ala-Archa**	**1.57**	**21**	⇓P	**Pg**	**17 34 29.7**	**+0.6**
	56nm,0.5s						
AAK				⇑S	**Sg**	**17 34 51.6**	**+2.0**
	192nm,0.4s						
MRKS	**Merke**	**1.61**	**347**	*e*P	**Pg**	**17 34 30.5**	**+0.6**
	187nm,0.3s						
MRKS				*e*S	**Sg**	**17 34 52.6**	**+1.8**
	1μm,0.4s						
MRKS	**Merke**	**1.61**	**347**	P	**Pg**	**17 34 30.5**	**+0.6**
	187nm,0.3s						
MRKS				S	**Sg**	**17 34 52.6**	**+1.8**
	1μm,0.4s						
NRN	**Naryn**	**1.74**	**81**	⇓*i*P	**Pb**	**17 34 31.1**	**-0.2**
	baz=80						
NRN				⇓*i*S	**Sb**	**17 34 53.3**	**-0.1**
	baz=80						
KBK	**Karagaybulak**	**1.74**	**31**	⇓*i*P	**Pg**	**17 34 32.1**	**-0.3**
	baz=30						
KBK				⇓*i*S	**Sg**	**17 34 55.0**	**0.0**
	baz=30						
KBK	**Karagaybulak**	**1.74**	**31**	⇓P	**Pg**	**17 34 33.0**	**+0.6**
	60nm,0.2s,SNR=120						
KBK				⇓S	**Sg**	**17 34 57.0**	**+1.9**
	598nm,0.3s						
FRU1	**Bishkek**	**1.77**	**22**	⇑*i*P	**Pg**	**17 34 32.6**	**-0.3**
	baz=20						
FRU1				⇑*i*S	**Sg**	**17 34 55.9**	**0.0**
	baz=20						
CHMS	**Chumysh**	**1.98**	**23**	⇑*e*P	**Pg**	**17 34 36.4**	**-0.5**
	baz=21						
CHMS				⇑*i*S	**Sg**	**17 35 02.2**	**-0.4**
	baz=21						
CHMS	**Chumysh**	**1.98**	**23**	⇑P	**Pg**	**17 34 37.1**	**+0.2**
	96nm,0.3s,SNR=70						
BOOM	**Boomskoye usch**	**2.12**	**51**	⇓*i*P	**Pg**	**17 34 38.4**	**-1.2**
	baz=50						
BOOM				⇓*i*S	**Sg**	**17 35 05.2**	**-1.8**
	baz=50						
USP	**Ospenovka**	**2.17**	**15**	⇑*i*P	**Pb**	**17 34 39.1**	**+0.6**
	baz=14						
USP				⇑*i*S	**Sb**	**17 35 06.8**	**+1.2**
	baz=14						
USP	**Ospenovka**	**2.17**	**15**	⇑P	**Pg**	**17 34 39.3**	**-1.2**
	94nm,0.3s,SNR=117						
ULHL	**Ulahol**	**2.17**	**60**	⇓*i*P	**Pb**	**17 34 38.4**	**-0.2**
	baz=59						
ULHL				⇓*i*S	**Sb**	**17 35 05.7**	**-0.1**
	baz=59						
ULHL	**Ulahol**	**2.17**	**60**	⇓P	**Pb**	**17 34 38.9**	**+0.3**
	25nm,0.2s,SNR=113						
TKM2	**Tokmak 2**	**2.24**	**38**	⇑*e*P	**Pb**	**17 34 39.8**	**+0.1**
	baz=37						
TKM2				⇑*i*S	**Sb**	**17 35 07.9**	**+0.2**
	baz=37						
TKM2	**Tokmak 2**	**2.24**	**38**	⇑P	**Pg**	**17 34 40.5**	**-1.4**
	90nm,0.3s,SNR=71						
TKM2	**Tokmak 2**	**2.24**	**38**	⇑Pg	**Pg**	**17 34 41.6**	**-0.2**
	60nm,0.5s						
TKM2				⇑Lg	Lg	17 35 12.0	
	286nm,0.6s						
SGDS	**Sogindy**	**2.38**	**16**	Pg	**Pg**	**17 34 44.1**	**-0.4**
	72nm,0.3s						
SGDS				Lg	Lg	17 35 15.5	
	138nm,0.5s						
KSH	**Kashi**	**2.39**	**133**	Pn	**Pb**	**17 34 42.3**	**+0.1**
KSH				Sn	**Sg**	**17 35 16.0**	**+0.3**
KSH				smax	smax		
	comp=N,400nm,0.7s						
KSH				smax	smax		
	comp=E,290nm,0.6s						
BTK	**Batken**	**2.47**	**244**	⇓*i*P	**Pb**	**17 34 43.7**	**+0.1**
	baz=45						
BTK				⇓*i*S	**Sb**	**17 35 15.3**	**+1.1**
	baz=45						
DZA	**Taraz**	**2.47**	**315**	*e*P	**Pg**	**17 34 45.8**	**-0.5**
	comp=E,122nm,0.1s						
DZA				*e*S	**Sg**	**17 35 18.9**	**+0.6**
	comp=E,708nm,0.4s						
DZA	**Taraz**	**2.47**	**315**	Pg	**Pg**	**17 34 45.8**	**-0.5**
	comp=E,122nm,0.1s						
DZA				Lg	Lg	17 35 18.9	
	comp=E,708nm,0.4s						
KST	**Kastek**	**2.51**	**41**	*e*P	**Pg**	**17 34 46.7**	**-0.3**
	comp=E,52nm,0.4s						
KST				*e*S	**Sg**	**17 35 20.5**	**+1.0**
	comp=E,275nm,0.5s						
KST	**Kastek**	**2.51**	**41**	Pg	**Pg**	**17 34 46.7**	**-0.3**
	comp=E,52nm,0.4s						
KST				Lg	Lg	17 35 20.5	
	comp=E,275nm,0.5s						
DGS	**Degeres**	**2.57**	**36**	*e*P	**Pg**	**17 34 47.8**	**-0.4**
	comp=E,71nm,0.6s						
DGS				*e*S	**Sg**	**17 35 22.0**	**+0.5**
	comp=E,267nm,0.4s						
DGS	**Degeres**	**2.57**	**36**	Pg	**Pg**	**17 34 47.8**	**-0.4**
	comp=E,71nm,0.6s						
DGS				Lg	Lg	17 35 22.0	
	comp=E,267nm,0.4s						
KDJ	**Kajisay**	**2.77**	**69**	⇑*e*P	**Pb**	**17 34 46.8**	**-1.9**
	baz=68						
KDJ				⇑*i*S	**Sb**	**17 35 19.9**	**-2.9**
	baz=68						
MTBS	**Maitube**	**2.81**	**45**	⇓*i*P	**Pg**	**17 34 52.3**	**-0.5**
	comp=E,72nm,0.3s						
MTBS				*e*S	**Sg**	**17 35 29.8**	**+0.7**
	comp=E,332nm,0.4s						
MTBS	**Maitube**	**2.81**	**45**	Pg	**Pg**	**17 34 52.3**	**-0.5**
	comp=E,72nm,0.3s						
MTBS				Lg	Lg	17 35 29.8	
	comp=E,332nm,0.4s						
IZV	**Izvestkoviy**	**2.85**	**48**	*e*P	**Pg**	**17 34 52.9**	**-0.6**
	comp=E,75nm,0.5s						
IZV				*e*S	**Sg**	**17 35 31.4**	**+0.9**
	comp=E,468nm,0.6s						
IZV	**Izvestkoviy**	**2.85**	**48**	Pg	**Pg**	**17 34 52.9**	**-0.6**
	comp=E,75nm,0.5s						
IZV				Lg	Lg	17 35 31.4	
	comp=E,468nm,0.6s						
IUG	**Iuzhnay**	**2.93**	**291**	*e*P	**Pg**	**17 34 53.8**	**-1.2**
	comp=E,9.0nm,0.3s						
IUG				*e*S	**Sg**	**17 35 32.4**	**-0.6**
	comp=E,724nm,0.6s						
IUG	**Iuzhnay**	**2.93**	**291**	Pg	**Pg**	**17 34 53.8**	**-1.2**
	comp=E,9.0nm,0.3s						
IUG				Lg	Lg	17 35 32.4	
	comp=E,724nm,0.6s						
TNSS	**Tian-Shan**	**3.04**	**51**	*e*P	**Pg**	**17 34 56.7**	**-0.5**
	comp=E,65nm,0.6s						
TNSS				*e*S	**Sg**	**17 35 37.4**	**+0.8**
	comp=E,271nm,0.7s						
TNSS	**Tian-Shan**	**3.04**	**51**	Pg	**Pg**	**17 34 56.7**	**-0.5**
	comp=E,65nm,0.6s						
TNSS				Lg	Lg	17 35 37.4	
	comp=E,271nm,0.7s						
KK31	**Karatay Array**	**3.07**	**310**	⇑Pn	**Pb**	**17 34 50.9**	**-2.8**
	comp=E,1.5nm,0.4s						
KK31				⇓Pg	**Pg**	**17 34 55.5**	**-2.2**
	comp=E,6.5nm,0.3s,baz=130,slow=15,SNR=71						
KK31				Lg	Lg	17 35 35.8	
	comp=E,228nm,0.7s,baz=134,slow=28,SNR=16						
AAA	**Alma-Ata**	**3.13**	**48**	*e*P	**Pg**	**17 34 58.6**	**-0.3**
	comp=E,79nm,0.4s						
AAA				*e*S	**Sg**	**17 35 40.6**	**+1.2**
	comp=E,357nm,0.7s						
AAA	**Alma-Ata**	**3.13**	**48**	Pg	**Pg**	**17 34 58.6**	**-0.3**
	comp=E,79nm,0.4s						
AAA				Lg	Lg	17 35 40.6	
	comp=E,357nm,0.7s						
KNDC	**Almaty**	**3.16**	**49**	⇑Pg	**Pg**	**17 34 59.0**	**-0.5**
	comp=E,55nm,0.5s						
KNDC				⇑Lg	Lg	17 35 41.7	
	comp=E,843nm,0.9s						
MDOK	**Medeo**	**3.18**	**50**	*e*P	**Pg**	**17 34 58.6**	**-1.1**
	comp=E,36nm,0.3s						
MDOK				*e*S	**Sg**	**17 35 40.9**	**0.0**
	comp=E,234nm,0.7s						
MDOK	**Medeo**	**3.18**	**50**	⇓Pg	**Pg**	**17 35 01.0**	**+1.2**
	comp=E,41nm,0.8s						
MDOK				⇓Lg	Lg	17 35 42.0	
	comp=E,312nm,0.8s						
MDOK	**Medeo**	**3.18**	**50**	Pg	**Pg**	**17 34 58.6**	**-1.1**
	comp=E,36nm,0.3s						
MDOK				Lg	Lg	17 35 40.9	
	comp=E,233nm,0.7s						
KOTS	**Kotyrbulak**	**3.26**	**50**	*e*P	**Pg**	**17 35 00.7**	**-0.7**
	comp=E,74nm,0.6s						
KOTS				*e*S	**Sg**	**17 35 44.2**	**+0.7**
	comp=E,353nm,0.5s						
KOTS	**Kotyrbulak**	**3.26**	**50**	Pg	**Pg**	**17 35 00.6**	**-0.7**
	comp=E,74nm,0.6s						
KOTS				Lg	Lg	17 35 44.2	
	comp=E,353nm,0.5s						
TAS	**Tashkent**	**3.34**	**274**	⇓*e*P	**Pb**	**17 34 56.1**	**-2.4**
	baz=74						
TAS				⇓*e*S	**Sb**	**17 35 36.3**	**-3.0**
	baz=74						
KUU	**Kurty**	**3.34**	**35**	*e*P	**Pg**	**17 35 01.4**	**-1.5**
	comp=E,18nm,0.5s						
KUU				*e*S	**Sg**	**17 35 45.6**	**-0.5**
	comp=E,208nm,0.5s						
KUU	**Kurty**	**3.34**	**35**	Pg	**Pg**	**17 35 01.4**	**-1.5**
	comp=E,18nm,0.5s						
KUU				Lg	Lg	17 35 45.6	
	comp=E,208nm,0.5s						
KTBS	**Karatobe**	**3.35**	**40**	*e*P	**Pg**	**17 35 01.8**	**-1.4**
	comp=E,26nm,0.3s						
KTBS				*e*S	**Sg**	**17 35 46.4**	**-0.3**
	comp=E,214nm,0.4s						
KTBS	**Karatobe**	**3.35**	**40**	Pg	**Pg**	**17 35 01.8**	**-1.4**
	comp=E,26nm,0.3s						
KTBS				Lg	Lg	17 35 46.4	
	comp=E,214nm,0.4s						
ANVS	**Anan'yevo**	**3.36**	**60**	⇑*e*P	**Pn**	**17 34 54.8**	**+3.0**
	baz=59						
ANVS				⇑*i*S	**Sn**	**17 35 34.1**	**+2.2**
	baz=59						
BRLS	**Boroldaу**	**3.43**	**304**	*e*P	**Pg**	**17 35 02.9**	**-1.8**
	comp=E,0.8nm,0.3s						
BRLS				*e*S	**Sg**	**17 35 48.0**	**-1.2**
	comp=E,32nm,0.6s						
BRLS	**Boroldaу**	**3.43**	**304**	Pg	**Pg**	**17 35 02.9**	**-1.8**
	comp=E,0.8nm,0.3s						
BRLS				Lg	Lg	17 35 47.9	
	comp=E,32nm,0.6s						
CHKK	**Chushkaly**	**3.61**	**41**	*e*P	**Pg**	**17 35 06.4**	**-1.6**
	comp=E,9.7nm,0.5s						
CHKK				*e*S	**Sg**	**17 35 54.2**	**-0.6**
	comp=E,151nm,0.4s						
CHKK	**Chushkaly**	**3.61**	**41**	Pg	**Pg**	**17 35 06.4**	**-1.6**
	comp=E,9.7nm,0.5s						
CHKK				Lg	Lg	17 35 54.2	
	comp=E,151nm,0.4s						
PRZ	**Przheval'sk**	**3.74**	**68**	⇓*i*P	**Pn**	**17 35 00.5**	**+3.5**
	baz=68						
PRZ				⇓*i*S	**Sn**	**17 35 43.1**	**+1.8**
	baz=68						
BTLS	**Baital**	**3.87**	**3**	*e*P	**Pg**	**17 35 11.3**	**-1.8**
	comp=E,1.5nm,0.3s						
BTLS				*e*S	**Sg**	**17 36 02.6**	**-0.7**
	comp=E,7.4nm,0.5s						
BTLS	**Baital**	**3.87**	**3**	Pg	**Pg**	**17 35 11.3**	**-1.8**
	comp=E,1.5nm,0.3s						
BTLS				Lg	Lg	17 36 02.6	
	comp=E,7.4nm,0.5s						
SATY	**Saty**	**3.96**	**60**	*e*P	**Pg**	**17 35 12.8**	**-2.1**
	comp=E,45nm,0.6s						
SATY				*e*S	**Sg**	**17 36 05.0**	**-1.3**
	comp=E,119nm,0.5s						
SATY	**Saty**	**3.96**	**60**	Pg	**Pg**	**17 35 12.8**	**-2.1**
	comp=E,45nm,0.6s						
SATY				Lg	Lg	17 36 05.0	
	comp=E,119nm,0.5s						
KURS	**Kuram**	**4.03**	**54**	*e*P	**Pg**	**17 35 14.6**	**-1.5**
	comp=E,12nm,0.7s						
KURS				*e*S	**Sg**	**17 36 08.3**	**0.0**
	comp=E,31nm,0.7s						
KURS	**Kuram**	**4.03**	**54**	Pg	**Pg**	**17 35 14.6**	**-1.5**
	comp=E,12nm,0.7s						
KURS				Lg	Lg	17 36 08.3	
	comp=E,31nm,0.7s						
ZHN	**Zhinishke**	**4.03**	**59**	*e*P	**Pg**	**17 35 14.1**	**-2.1**
	comp=E,6.5nm,0.3s						
ZHN				*e*S	**Sg**	**17 36 07.0**	**-1.5**
	comp=E,24nm,0.3s						
ZHN	**Zhinishke**	**4.03**	**59**	Pg	**Pg**	**17 35 14.1**	**-2.1**
	comp=E,6.5nm,0.3s						
ZHN				Lg	Lg	17 36 07.0	
	comp=E,24nm,0.3s						
ARXS	**Arharly**	**4.29**	**44**	*e*P	**Pg**	**17 35 18.5**	**-2.6**
	comp=E,23nm,0.5s						
ARXS				*e*S	**Sg**	**17 36 14.9**	**-1.8**
	comp=E,113nm,0.5s						
ARXS	**Arharly**	**4.29**	**44**	Pg	**Pg**	**17 35 18.5**	**-2.6**
	comp=E,23nm,0.5s						
ARXS				Lg	Lg	17 36 14.9	
	comp=E,113nm,0.5s						
KPKS	**Kokpek**	**4.34**	**56**	*e*P	**Pg**	**17 35 20.2**	**-1.8**
	comp=E,20nm,0.3s						
KPKS				*e*S	**Sg**	**17 36 17.8**	**-0.4**
	comp=E,158nm,0.6s						
UZB	**Uzynbulak**	**4.41**	**62**	*e*P	**Pg**	**17 35 20.7**	**-2.7**
	comp=E,17nm,0.5s						
UZB				*e*S	**Sg**	**17 36 19.0**	**-1.5**
	comp=E,84nm,0.4s						
UZB	**Uzynbulak**	**4.41**	**62**	Pg	**Pg**	**17 35 20.7**	**-2.7**
	comp=E,17nm,0.5s						
UZB				Lg	Lg	17 36 19.0	
	comp=E,84nm,0.4s						
PDGK	**Podgornoye**	**4.80**	**61**	Pg	**Pg**	**17 35 27.5**	**-3.3**
	comp=E,2.9nm,0.4s						
PDGK				Lg	Lg	17 36 30.3	
	comp=E,27nm,0.8s						
PDGK	**Podgornoye**	**4.80**	**61**	⇓Pg	**Pg**	**17 35 30.2**	**-0.6**
	comp=E,12nm,0.8s						
PDGK				⇑Lg	Lg	17 36 34.1	
	comp=E,54nm,0.6s						
TDK	**Taldyqorghan**	**5.14**	**40**	*e*P	**Pg**	**17 35 34.3**	**-3.0**
	comp=E,20nm,0.2s						
TDK				*e*S	**Sg**	**17 36 42.2**	**-1.8**
	comp=E,113nm,0.6s						
TDK	**Taldyqorghan**	**5.14**	**40**	Pg	**Pg**	**17 35 34.3**	**-3.0**
	comp=E,20nm,0.2s						
TDK				Lg	Lg	17 36 42.2	
	comp=E,113nm,0.6s						
DJR	**Jarkent**	**5.47**	**53**	*e*P	**Pg**	**17 35 42.2**	**-1.5**
	comp=E,3.2nm,0.5s						
DJR				*e*S	**Sg**	**17 36 55.6**	**+1.0**
	comp=E,58nm,0.6s						
DJR	**Jarkent**	**5.47**	**53**	Pg	**Pg**	**17 35 42.2**	**-1.5**
	comp=E,3.2nm,0.5s						
DJR				Lg	Lg	17 36 55.6	
	comp=E,58nm,0.6s						
KAPS	**Kapalarasan**	**5.82**	**43**	*e*P	**Pg**	**17 35 46.5**	**-3.9**
	comp=E,3.8nm,0.4s						
KAPS				*e*S	**Sg**	**17 37 03.1**	**-2.6**
	comp=E,32nm,0.6s						
KAPS	**Kapalarasan**	**5.82**	**43**	Pg	**Pg**	**17 35 46.5**	**-3.9**
	comp=E,3.8nm,0.4s						
KAPS				Lg	Lg	17 37 03.1	
	comp=E,32nm,0.6s						
MK31	**Makanchi Array**	**8.35**	**45**	⇑Lg	Lg	17 38 27.8	
	comp=E,4.9nm,0.7s,baz=227,slow=27,SNR=4.5						
MKAR	**Makanchi Array**	**8.35**	**45**	Pn	Pn	17 36 06.3	+6.1
	comp=E,0.1nm,0.3s,baz=227,slow=14,SNR=4.3						
MKAR				Lg	Lg	17 38 18.2	
	comp=E,0.3nm,0.3s,baz=232,slow=27,SNR=2.7						
KURBB	**Kurchatov Arra**	**10.03**	**18**	Pn	**Pn**	**17 36 24.1**	**+1.0**
	comp=E,0.0nm,0.3s,baz=209,slow=12,SNR=4.0						
KURBB				Lg	Lg	17 39 14.1	
	comp=E,0.1nm,0.3s,baz=202,slow=29,SNR=6.4						
KURBB	**Kurchatov Arra**	**10.03**	**18**	⇓Lg	Lg	17 39 22.2	
	comp=E,37nm,0.8s						
BVAR	**Borovoye Array**	**12.07**	**350**	Pn	**Pn**	**17 36 51.1**	**0.0**
	comp=E,0.1nm,0.3s,baz=154,slow=10,SNR=3.1						
BVAR				Sn	**Sn**	**17 39 03.0**	**-2.8**
	comp=E,0.1nm,0.3s,baz=161,slow=22,SNR=3.6						
BVAR				Lg	Lg	17 40 19.9	
	comp=E,0.5nm,0.3s,baz=157,slow=26,SNR=8.6						
AB31	**Akbulak array**	**12.62**	**314**	⇑Pn	**Pn**	**17 37 00.2**	**+1.6**
	comp=E,0.8nm,0.5s,baz=118,slow=12,SNR=31						
AKTO	**Aktyubinsk**	**14.32**	**316**	Pn	**Pn**	**17 37 20.4**	**-1.3**
	comp=E,0.2nm,0.3s,baz=124,slow=11,SNR=3.1						
ZALV	**Zalesovo Beam**	**14.79**	**26**	Pn	**Pn**	**17 37 30.1**	**+1.9**
	comp=E,0.1nm,0.3s,baz=214,slow=11,SNR=2.9						
ZALV				Lg	Lg	17 41 51.3	
	comp=E,0.4nm,0.3s,baz=211,slow=28,SNR=6.0						
FINES	**FINESS Array B**	**34.96**	**322**	P	**P**	**17 40 50.9**	**-0.2**
	comp=E,1.4nm,0.6s,baz=115,slow=11,SNR=6.7						
ARCES	**ARCESS Array B**	**37.73**	**335**	P	**P**	**17 41 14.2**	**-0.4**
	comp=E,4.0nm,1.0s,baz=99,slow=11,SNR=3.6						
VYHS	**Vyhne**	**38.87**	**300**	*e*P	**P**	**17 41 28.3**	**+3.8**
TIXI	**Tiksi**	**40.65**	**24**	P	**P**	**17 41 38.7**	**-0.3**
	comp=E,0.9nm,0.6s,baz=273,slow=4.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**67.96**	**268**	P	**P**	**17 44 56.4**	**-2.2**
	comp=E,0.6nm,0.8s,baz=59,slow=5.4,SNR=3.8						
ILAR	**Eielson Array**	**69.70**	**17**	P	**P**	**17 45 08.4**	**-0.3**
	comp=E,0.4nm,0.8s,baz=321,slow=6.9,SNR=4.8						
YKA	**Yellowknife Ar**	**76.47**	**4**	P	**P**	**17 45 49.1**	**+0.4**
	comp=E,0.1nm,0.5s,baz=357,slow=5.1,SNR=3.5						

*ISCJB **14** 17:38:50.3±0.4, 17.92S±0.08×178.57W±0.07, h579km, mb3.7/9, Error ellipse: s-maj=11.3km s-min=7.6km az=151.7*
*IDC **14** 17:38:52.0±1.9, 17.78S×178.55W, h582km±23km, mb3.3/9, mb1 3.5/11, mb1mx3.2/30, mbtmp4.2/11, Error ellipse: s-maj=52.5km s-min=13.0km az=153.0*
*NEIC **14** 17:38:52.7±1.7, 17.95S±0.1×178.51W±0.09, h598km±5km, mb4.5/28*
ISC 14 17:38:51.6±0.5, 17.95S±0.1×178.49W±0.08, h579km, n44, σ1§05/46, mb4.4/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.30**	**272**	P	**P**	**17 40 14.7**	**+3.8**
AFI	**Afiamalu**	**7.57**	**59**	P	**P**	**17 40 46.1**	**-0.2**
	1.6nm,0.3s,baz=207,slow=11,SNR=3.7						
AFI	**Afiamalu**	**7.57**	**59**	P	**P**	**17 40 46.6**	**+0.3**
NIUE	**Niue**	**8.21**	**100**	P	**P**	**17 40 53.0**	**+0.8**
DZM	**Mont Dzumac**	**14.76**	**251**	P	**P**	**17 41 59.2**	**+0.9**
	0.2nm,0.3s,baz=95,slow=16,SNR=6.9						
DZM	**Mont Dzumac**	**14.76**	**251**	P	**P**	**17 41 58.9**	**+0.6**
CMWZ	**Cape Campbell**	**24.59**	**193**	P	**P**	**17 43 28.3**	**+1.3**
THZ	**Tophouse**	**24.91**	**195**	P	**P**	**17 43 28.6**	**-1.3**
THZ				IAmb	IAmb	17 43 47.7	
	comp=Z,15nm,1.2s						
KHZ	**Kahutara**	**25.38**	**194**	P	**P**	**17 43 34.3**	**+0.3**
FOZ	**Fox Glacier**	**27.42**	**199**	P	**P**	**17 43 50.2**	**-1.6**
ARMA	**Armidale**	**29.89**	**240**	P	**P**	**17 44 12.2**	**-1.5**
CAN	**Canberra**	**33.66**	**232**	P	**P**	**17 44 45.2**	**-0.3**
CAN				IAmb	IAmb	17 45 13.3	
	comp=Z,28nm,1.5s						
PMG	**Port Moresby**	**34.38**	**280**	P	**P**	**17 44 52.8**	**+1.1**
PMG				IAmb	IAmb	17 44 54.1	
	comp=Z,13nm,0.9s						
COEN	**Coen**	**37.03**	**270**	P	**P**	**17 45 14.7**	**+1.1**
COEN				IAmb	IAmb	17 45 15.4	
	comp=Z,9.9nm,0.8s						
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**17 45 26.4**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=84,slow=9.5,SNR=6.8						
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**17 45 26.3**	**+0.3**
BBOO	**Buckleboo**	**43.35**	**241**	P	**P**	**17 46 03.5**	**-0.2**
BBOO				IAmb	IAmb	17 46 25.9	
	comp=Z,36nm,1.5s						
HUH	**Hualalai**	**43.46**	**32**	P	**P**	**17 46 04.5**	**-0.5**
WR0	**Warramunga Arr**	**44.37

NVAR	**Mina Array Bea**	**79.46**	**44**	P		**P**	**17 49 59.2**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=222,slow=7.7,SNR=6.9							
ILAR	**Eielson Array**	**85.88**	**13**	P		**P**	**17 50 29.1**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=220,slow=5.2,SNR=7.6							
TXAR	**Lajitas Array**	**86.05**	**58**	P		**P**	**17 50 33.1**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=212,slow=7.5,SNR=8.1							
PDAR	**Pinedale Array**	**87.39**	**43**	P		**P**	**17 50 38.3**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=211,slow=3.2,SNR=5.7							
YKA	**Yellowknife Ar**	**94.34**	**25**	P		**P**	**17 51 08.6**	**-0.9**
	comp=Z,0.1nm,0.5s,baz=238,slow=4.4,SNR=3.3							

*ISCJB **14** 18:34:00.9±0.8,38°.50N±0°.04×141°.92E±0°.08, h63km±5km, mb3.5/4, Error ellipse: s-maj=11.4km s-min=5.5km az=17.3*

*NIED **14** 18:34:00,38°.50N×141°.90E, h53km, Mw3.7 Best double couple: M◎3.50000×10^14 NP1:φ208.00000°, δ39.00000°, λ89.00000°. NP2:φ29.00000°, δ51.00000°, λ91.00000°.*

*IDC **14** 18:34:02.7±3.1, 38°.60N×142°.05E, h72km±26km, mb3.2/4, mb1 3.3/8, mb1mx3.1/37, mbtmp3.5/8, Error ellipse: s-maj=38.7km s-min=21.2km az=82.0*

*JMA **14** 18:34:02.4, 38°.52N×141°.85E, h55km±1km, M3.7*

JMA Felt II J1.

ISC 14 18:34:01.5±1.3, 38°.51N±0°.05×142°.00E±0°.09, h53km±9km, n28, σ1°.63/37, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.47**	**244**	P	**Pn**	**18 34 12.6**	**0.0**
JIKH				S	**Sn**	**18 34 19.7**	**-0.8**
JKMT	**Kesennumamotoy**	**0.51**	**306**	P	**Pn**	**18 34 13.2**	**+0.2**
JKMT				S	**Sn**	**18 34 20.7**	**-0.7**
JIO	**Ouri**	**0.52**	**264**	P	**Pn**	**18 34 12.9**	**-0.2**
JIO				S	**Sn**	**18 34 20.3**	**-1.2**
OFUJ	**Ofunato**	**0.62**	**335**	P	**Pn**	**18 34 15.0**	**+0.6**
OFUJ				S	**Sn**	**18 34 24.0**	**+0.2**
JMK	**Ichinoseki**	**0.75**	**306**	P	**Pn**	**18 34 16.1**	**+0.1**
JMK				S	**Sn**	**18 34 26.0**	**-0.6**
JOU	**Okura**	**1.06**	**262**	P	**Pn**	**18 34 19.6**	**-0.5**
JOU				S	**Sn**	**18 34 32.4**	**-1.5**
JOM	**Ohasama**	**1.11**	**330**	P	**Pn**	**18 34 21.2**	**+0.5**
JOM				S	**Sn**	**18 34 35.2**	**+0.2**
JMM	**Marumori**	**1.15**	**236**	P	**Pn**	**18 34 20.7**	**-0.6**
JMM				S	**Sn**	**18 34 34.3**	**-1.7**
JYK	**Kaneyama**	**1.35**	**288**	P	**Pn**	**18 34 23.8**	**-0.2**
JYK				eS	**Sn**	**18 34 39.3**	**-1.5**
JRG	**Rokugo**	**1.38**	**310**	P	**Pn**	**18 34 24.5**	**0.0**
JFK	**Kawauchi**	**1.45**	**218**	P	**Pn**	**18 34 25.4**	**0.0**
JFK				S	**Sn**	**18 34 42.2**	**-1.2**
JYS	**Shirataka**	**1.55**	**260**	P	**Pn**	**18 34 26.5**	**-0.2**
JYS				S	**Sn**	**18 34 45.0**	**-0.7**
JFT	**Otama**	**1.65**	**233**	P	**Pn**	**18 34 28.1**	**0.0**
JFT				eS	**Sn**	**18 34 47.1**	**-1.1**
MJAR	**Matsushiro Arr**	**3.60**	**238**	P	**Pn**	**18 34 56.3**	**+1.5**
	0.7nm,0.3s,baz=44,slow=13,SNR=58						
MJAR				S	**Sn**	**18 35 42.7**	**+6.6**
	0.3nm,0.3s,baz=38,slow=30,SNR=2.6						
MAT	**Matsushiro**	**3.60**	**238**	P	**Pn**	**18 34 56.6**	**+1.8**
MAT				eS	**Sn**	**18 35 33.2**	**-2.9**
ASAJ	**Asahikawa**	**5.62**	**4**	P	**Pn**	**18 35 22.4**	**0.0**
	0.7nm,0.3s,baz=180,slow=19,SNR=4.6						
ASAJ				S	**Sn**	**18 36 24.1**	**-1.4**
	0.5nm,0.3s,baz=90,slow=20,SNR=1.8						
USRK	**Ussuriysk Ar.**	**9.43**	**310**	P	**Pn**	**18 36 15.3**	**+0.8**
	baz=114,slow=13,SNR=5.1						
KSRS	**Korea Array**	**11.16**	**269**	P	**Pn**	**18 36 41.6**	**+3.3**
	0.2nm,0.3s,baz=79,slow=14,SNR=3.6						
H11N2	**WAKE ISLAND Hy 28.54**	**124**		T	T	19 10 09.2	
	baz=316,slow=76,SNR=299						
H11N1	**WAKE ISLAND Hy 28.55**	**124**		T	T	19 10 09.9	
	baz=316,slow=76,SNR=348						
H11N3	**WAKE ISLAND Hy 28.56**	**124**		T	T	19 10 10.6	
	baz=316,slow=76,SNR=307						
H11S1	**WAKE ISLAND Hy 29.31**	**126**		T	T	19 11 06.5	
	baz=318,slow=76,SNR=165						
H11S3	**WAKE ISLAND Hy 29.31**	**126**		T	T	19 11 06.6	
	baz=318,slow=76,SNR=166						
H11S2	**WAKE ISLAND Hy 29.33**	**126**		T	T	19 11 07.7	
	baz=318,slow=76,SNR=171						
ZALV	**Zalesovo Beam**	**41.28**	**311**	P	**P**	**18 41 40.8**	**-0.5**
	0.6nm,0.4s,baz=80,slow=8.2,SNR=3.9						
MKAR	**Makanchi Array**	**43.74**	**301**	P	**P**	**18 42 00.1**	**-1.4**
	1.5nm,1.1s,baz=75,slow=7.6,SNR=3.4						
WRA	**Warramunga Arr**	**58.59**	**188**	P	**P**	**18 43 52.4**	**-0.5**
	0.3nm,0.6s,baz=6.0,slow=7.4,SNR=5.9						
ASAR	**Alice Springs**	**62.32**	**188**	P	**P**	**18 44 18.3**	**+0.1**
	0.2nm,0.7s,baz=358,slow=5.6,SNR=3.9						

*PRE **14** 19:05:08.5±2.2, 28°.12S×26°.85E, h2km, ML2.7*

*EAF **14** 19:05:14.0±0.7, 27°.96S×26°.68E, h16km±30km, MD3.7*

*BUL **14** 19:05:15.2±1.1, 27°.94S×26°.63E, h10km±13km, MD3.9*

ISC 14 19:05:09.6±1.6, 28°.1S±0°.1×26°.83E±0°.09, h13km±11km, n14, σ2°.52/26, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**1.25**	**22**	*e*P	**Pb**	**19 05 33.4**	**+0.3**
PRYS				*e*S	**Sg**	**19 05 49.4**	**-0.4**
PRYS				AML	AML	19 05 52.3	
	comp=Z,278nm,0.2s						
BOSA	**Boshof**	**1.48**	**249**	*i* P	**Pg**	**19 05 38.3**	**+0.2**
BOSA				*i* S	**Sn**	**19 05 56.7**	**+1.3**
BOSA	**Boshof**	**1.48**	**249**	*e*P	**Pg**	**19 05 37.2**	**-0.8**
BOSA				*e*S	**Sg**	**19 05 55.8**	**-1.6**
BOSA				AML	AML	19 05 59.0	
	comp=Z,29nm,0.2s						
BOSA	**Boshof**	**1.48**	**249**	*i* P	**Pg**	**19 05 38.3**	**+0.2**
BOSA				*i* S	**Sn**	**19 05 56.7**	**+1.3**
WDLM	**Western Deep L**	**1.73**	**18**	*e*P	**Pb**	**19 05 41.2**	**-0.2**
WDLM				*e*S	**Sn**	**19 06 03.0**	**+1.3**
WDLM				AML	AML	19 06 07.2	
	comp=Z,123nm,0.2s						
KLOF	**Kloof**	**1.86**	**22**	*e*P	**Pn**	**19 05 42.5**	**+1.1**
KLOF				*e*S	**Sn**	**19 06 06.3**	**+1.4**
KLOF				AML	AML	19 06 10.8	
	comp=Z,214nm,0.2s						
ERPM	**east rand prop**	**2.14**	**36**	*e*P	**Pb**	**19 05 48.5**	**+0.1**
ERPM				*e*S	**Sb**	**19 06 15.0**	**0.0**
ERPM				AML	AML	19 06 27.4	
	comp=Z,54nm,0.4s						
KSR	**Koster**	**2.22**	**2**	*e*P	**Pn**	**19 05 47.7**	**+1.4**
KSR				*e*S	**Sn**	**19 06 16.8**	**+3.0**
KSR				AML	AML	19 06 18.7	
	comp=Z,80nm,0.2s						
LBTB	**Lobatse**	**3.25**	**340**	*i* P	**Pn**	**19 06 02.0**	**+1.7**
LBTB	**Lobatse**	**3.25**	**340**	*e*P	**Pn**	**19 06 03.0**	**+2.6**
LBTB				*e*S	**Sn**	**19 06 41.8**	**+2.8**
LBTB				AML	AML	19 06 54.9	
	comp=Z,50nm,0.3s						
LBTB	**Lobatse**	**3.25**	**340**	*i* P	**Pn**	**19 06 02.0**	**+1.7**
UPI	**Upington**	**4.93**	**265**	*e*P	**Pn**	**19 06 25.2**	**+1.8**
UPI				*e*S	**Sn**	**19 07 19.0**	**-1.4**
UPI				AML	AML	19 07 43.7	
	comp=Z,11nm,0.5s						
MATP	**Matopo**	**7.77**	**12**	*i* P	**Pn**	**19 07 04.6**	**+2.0**
MATP				*i* S	**Sn**	**19 08 24.2**	**-6.5**
MATP	**Matopo**	**7.77**	**12**	*i* P	**Pn**	**19 07 04.6**	**+2.0**
MATP				*i* S	**Sn**	**19 08 24.2**	**-6.5**

*ISCJB **14** 20:12:29.6±0.4, 43°.13N±0°.06×140°.03E±0°.06, h197km±4km, mb3.3/10, Error ellipse: s-maj=10.5km s-min=7.0km az=155.1*

*IDC **14** 20:12:30.3±1.6, 43°.11N×139°.93E, h186km±14km, mb3.2/10, mb1 3.2/13, mb1mx3.1/54, mbtmp3.6/13, Error ellipse: s-maj=20.6km s-min=15.0km az=4.0*

*JMA **14** 20:12:31.1±0.2, 43°.16N×140°.03E, h188km±2km, M3.0*

ISC 14 20:12:30.8±0.7, 43°.13N±0°.07×140°.04E±0°.06, h193km±7km, n28, σ0°.88/38, mb3.4/10, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**0.39**	**54**	P	**Pn**	**20 12 56.4**	**-0.2**
JSH	**Shimam**	**0.48**	**180**	P	**Pn**	**20 12 56.9**	**-0.1**
JSH				*e*S	**Sn**	**20 13 16.6**	**-0.6**
JNB	**Noboribetsu**	**0.98**	**131**	P	**Pn**	**20 12 59.7**	**0.0**
JNB				*e*S	**Sn**	**20 13 22.1**	**+0.1**
JYM2	**Yakumo 2**	**1.04**	**166**	P	**Pn**	**20 13 00.2**	**+0.1**
JYM2				*e*S	**Sn**	**20 13 23.0**	**+0.3**
JEW	**Eniwo**	**1.07**	**105**	P	**Pn**	**20 13 00.5**	**+0.2**
JOSM	**Okushiri–Mats**	**1.12**	**202**	P	**Pn**	**20 13 01.0**	**+0.3**
JOSM				*e*S	**Sn**	**20 13 23.8**	**0.0**
JHR	**Hokuryu**	**1.37**	**63**	P	**Pn**	**20 13 03.0**	**+0.3**
JKB	**Kayabe**	**1.44**	**149**	P	**Pn**	**20 13 03.4**	**+0.1**
JKB				*e*S	**Sn**	**20 13 29.1**	**+0.7**
JFR	**Furan**	**1.87**	**88**	P	**Pn**	**20 13 07.4**	**0.0**
JOT	**Ohata**	**1.90**	**156**	P	**Pn**	**20 13 07.5**	**-0.2**
ASAJ	**Asahikawa**	**2.10**	**61**	P	**Pn**	**20 13 09.6**	**-0.2**
	2.7nm,0.3s,baz=243,slow=12,SNR=4.6						
ASAJ				S	**Sn**	**20 13 39.8**	**-0.4**
	1.5nm,0.3s,baz=230,slow=18,SNR=7.0						
JKK2	**Kamakawa 2**	**2.11**	**68**	P	**Pn**	**20 13 10.2**	**+0.3**
JKK2				*e*S	**Sn**	**20 13 40.5**	**+0.2**
JNBK	**Urakawa-nobuka**	**2.17**	**112**	P	**Pn**	**20 13 10.1**	**-0.4**
JNBK				*e*S	**Sn**	**20 13 41.1**	**-0.3**
JCH	**Churui**	**2.50**	**101**	P	**Pn**	**20 13 12.7**	**-1.4**
JCH				*e*S	**Sn**	**20 13 44.8**	**-3.1**
JWK2	**Keihoku**	**2.56**	**31**	P	**Pn**	**20 13 15.5**	**+0.6**
JAR	**Ashorobuto**	**2.73**	**85**	P	**Pn**	**20 13 16.5**	**-0.3**
JAR				*e*S	**Sn**	**20 13 51.7**	**-1.1**
USRK	**Ussuriysk Ar.**	**5.94**	**283**	P	**Pn**	**20 13 56.2**	**-0.9**
	baz=93,slow=14,SNR=3.1						
KLR	**Kul'dur**	**8.38**	**320**	P	**Pn**	**20 14 27.8**	**-1.1**
	0.1nm,0.3s,baz=144,slow=14,SNR=5.6						
SONM	**Songino Array**	**23.94**	**293**	P	**P**	**20 17 26.3**	**-0.9**
	0.7nm,0.4s,baz=85,slow=8.7,SNR=12						
ZALV	**Zalesovo Beam**	**37.23**	**307**	P	**P**	**20 19 22.4**	**-0.9**
	1.1nm,0.3s,baz=87,slow=8.0,SNR=8.5						
MKAR	**Makanchi Array**	**40.24**	**296**	P	**P**	**20 19 48.1**	**-0.4**
	0.3nm,0.5s,baz=84,slow=11,SNR=4.7						
ILAR	**Eielson Array**	**45.03**	**35**	P	**P**	**20 20 28.8**	**+2.1**
	0.2nm,0.7s,baz=278,slow=8.4,SNR=4.1						
YKA	**Yellowknife Ar**	**59.12**	**31**	P	**P**	**20 22 10.2**	**-0.3**
	0.2nm,0.4s,baz=304,slow=6.5,SNR=5.2						
FINES	**FINESS Array B**	**62.97**	**330**	P	**P**	**20 22 35.4**	**-1.0**
	1.5nm,0.8s,baz=64,slow=8.7,SNR=6.6						
ASAR	**Alice Springs**	**66.70**	**186**	P	**P**	**20 23 01.0**	**+0.1**
	0.3nm,0.6s,baz=358,slow=5.9,SNR=4.2						
HFS	**Hagfors**	**68.13**	**334**	P	**P**	**20 23 09.6**	**+0.1**
	2.2nm,0.8s,baz=56,slow=5.9,SNR=4.5						
AKASG	**Malin Array Be**	**68.89**	**320**	P	**P**	**20 23 15.7**	**+1.4**
	0.3nm,0.4s,baz=41,slow=6.6,SNR=2.7						
NVAR	**Mina Array Bea**	**72.22**	**54**	P	**P**	**20 23 35.1**	**+0.2**
	0.5nm,0.8s,baz=306,slow=6.1,SNR=4.3						

*IDC **14** 20:57:54.8±8.8, 52°.81N×174°.93W, h154km±78km, mb3.4/7, mb1 3.7/9, mb1mx3.3/42, mbtmp3.9/9, Error ellipse: s-maj=36.1km s-min=26.5km az=46.0*

*ISCJB **14** 20:58:00.2±0.3, 52°.9N±0°.1×174°.69W±0°.09, h215km±5km, mb3.5/7, Error ellipse: s-maj=19.1km s-min=5.9km az=157.5*

*AEIC **14** 20:58:01.9±2.6, 52°.4N±0°.2×174°.5W±0°.1, h221km±6km*

*NEIC **14** 20:58:01.1±1.3, 52°.7N±0°.3×174°.6W±0°.2, h213km±10km, mb4.3/27*

ISC 14 20:58:00.9±0.7, 52°.8N±0°.2×174°.61W±0°.07, h212km±8km, n64, σ0°.82/71, mb3.5/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWE	**Korovin West**	**0.47**	**152**		**Pn**	**20 58 29.9**	**+0.5**
KOKL	**Mount Kliuchef**	**0.53**	**152**		**Pn**	**20 58 30.1**	**+0.5**
KOSE	**Korovin Southe**	**0.56**	**142**		**Pn**	**20 58 29.9**	**+0.2**
KOFP	**Korovin Flat P**	**0.60**	**148**		**Pn**	**20 58 30.4**	**+0.5**
ATKA	**Atka Island**	**0.64**	**156**		**Pn**	**20 58 29.6**	**-0.4**
ATKA				S	**S**	**20 58 52.6**	**+0.1**
GSTR	**Great Sitkin T**	**1.13**	**233**		**Pn**	**20 58 32.7**	**-0.1**
GSTR					**S**	**20 58 58.0**	**+0.6**
GSIG	**Igitkin Island**	**1.14**	**226**		**Pn**	**20 58 32.5**	**-0.4**
GSMY	**Great Sitkin M**	**1.16**	**231**		**Pn**	**20 58 32.8**	**-0.2**
GSTD	**Great Sitkin T**	**1.19**	**233**		**Pn**	**20 58 33.1**	**-0.3**
GSTD					**S**	**20 58 57.9**	**-0.4**
ADAG	**Mount Adagdak**	**1.46**	**237**		**Pn**	**20 58 35.7**	**+0.3**
ADK	**Adak**	**1.56**	**235**		**Pn**	**20 58 36.1**	**0.0**
ADK	**Adak**	**1.56**	**235**	S	**S**	**20 59 02.8**	**-0.5**
KIRH	**Kanaga Island**	**1.76**	**241**		**Pn**	**20 58 38.2**	**+0.2**
KINC	**Kanaga Island**	**1.77**	**242**		**Pn**	**20 58 38.2**	**+0.2**
KICM	**Kanaga Island**	**1.81**	**242**		**Pn**	**20 58 38.9**	**+0.4**
KIKV	**Kanaga Island**	**1.81**	**241**		**Pn**	**20 58 38.7**	**+0.1**
KIWB	**Kanaga Island**	**1.82**	**240**		**Pn**	**20 58 38.6**	**+0.1**
KIWB				S	**S**	**20 59 08.1**	**+0.5**
KIMD	**Kanaga Island**	**1.91**	**239**		**Pn**	**20 58 39.3**	**-0.1**
TAPA	**Tanaga Point A**	**2.19**	**245**		**Pn**	**20 58 42.3**	**0.0**
TAFP	**Tanaga Falls P**	**2.25**	**248**		**Pn**	**20 58 43.2**	**+0.3**
TAFP					**S**	**20 59 14.7**	**-0.6**
TASE	**Tanaga Southea**	**2.31**	**247**		**Pn**	**20 58 43.8**	**+0.2**
UNV	**Unalaska Valle**	**4.97**	**74**	Pn	**Pn**	**20 59 15.5**	**+0.3**
UNV				S	**S**	**21 00 13.9**	**+0.4**
OHAK	**Old Harbor**	**13.00**	**62**	Pn	**Pn**	**21 00 56.9**	**-0.8**
KDAK	**Kodiak Island**	**13.48**	**59**	P	**Pn**	**21 01 01.3**	**-2.4**
	2.3nm,0.3s,baz=285,slow=12,SNR=27						
KDAK				S	**S**	**21 03 30.5**	**-2.4**
	0.2nm,0.3s,baz=234,slow=19,SNR=5.2						
KDAK	**Kodiak Island**	**13.48**	**59**	P	**Pn**	**21 01 02.6**	**-1.2**
CNPM	**China Poot**	**14.61**	**53**		**Pn**	**21 01 17.5**	**-0.2**
BRLK	**Bradley Lake**	**14.86**	**53**		**Pn**	**21 01 20.0**	**-0.6**
SKT	**Skwentna**	**15.39**	**44**	P	**P**	**21 01 27.4**	**+0.3**
SKT				IAmb	IAmb	21 01 30.7	
	comp=Z,11nm,0.8s						
SUA	**Susitna One**	**15.52**	**47**		**Pn**	**21 01 29.5**	**+0.8**
PPLA	**Purkeypile**	**15.56**	**41**	P	**Pn**	**21 01 30.7**	**+1.5**
SEW	**Seward**	**15.64**	**52**		**P**	**21 01 29.6**	**-0.2**
RC01	**Rabbit Creek A**	**15.83**	**49**		**Pn**	**21 01 33.4**	**+1.1**
KTH	**Kantishna Hill**	**16.39**	**40**	P	**Pn**	**21 01 39.9**	**+0.9**
KTH				IAmb	IAmb	21 01 40.7	
	comp=Z,7.6nm,0.7s						
GHO	**Glory Hole Cre**	**16.44**	**47**		**P**	**21 01 39.1**	**+0.4**
GHO				IAmb	IAmb	21 01 41.7	
	comp=Z,17nm,1.2s						
KNK	**Knik Glacier**	**16.52**	**48**	P	**P**	**21 01 40.2**	**+0.7**
TRF	**Thorofare Moun**	**16.58**	**40**		**P**	**21 01 41.6**	**+1.3**
TRF				IAmb	IAmb	21 01 46.4	
	comp=Z,6.2nm,0.8s						
BPAW	**Bear Paw Mtn.**	**16.64**	**38**		**Pn**	**21 01 42.7**	**+0.6**
BPAW				IAmb	IAmb	21 01 47.8	
	comp=Z,7.0nm,0.6s						
RND	**Reindeer**	**17.14**	**42**	P	**P**	**21 01 47.0**	**+0.8**
SCM	**Sheep Creek Mo**	**17.17**	**47**	P	**P**	**21 01 46.9**	**+0.3**
MLY	**Manley**	**17.24**	**35**	P	**P**	**21 01 49.2**	**+1.8**
MLY				IAmb	IAmb	21 01 52.6	
	comp=Z,6.6nm,0.8s						
MCK	**McKinley**	**17.25**	**41**	P	**P**	**21 01 48.3**	**+0.8**
MCK				IAmb	IAmb	21 01 50.7	
	comp=Z,8.1nm,0.7s						
DHY	**Denali Highway**	**17.60**	**44**	P	**P**	**21 01 52.4**	**+0.9**
DHY				IAmb	IAmb	21 01 54.3	
	comp=Z,11nm,0.7s						
MDM	**Murphy Dome**	**18.11**	**37**	P	**P**	**21 01 57.9**	**+1.1**
MDM				IAmb	IAmb	21 01 58.9	
	comp=Z,5.8nm,0.5s						
CCB	**Clear Creek Bu**	**18.12**	**39**	P	**P**	**21 01 56.4**	**-0.4**
HDA	**Harding Lake**	**18.34**	**40**	P	**P**	**21 01 58.9**	**-0.3**
PAX	**Paxson**	**18.37**	**45**	P	**P**	**21 02 01.5**	**+1.7**
IL31		**18.52**	**39**	P	**P**	**21 02 00.9**	**-0.3**
IL31				IAmb	IAmb	21 02 06.3	
	comp=Z,13nm,1.4s						
ILAR	**Eielson Array**	**18.52**	**39**	P	**P**	**21 01 59.9**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=240,slow=10,SNR=19						
GLB	**Gilahina Butte**	**18.67**	**50**	P	**P**	**21 02 04.8**	**+1.9**
GLB				IAmb	IAmb	21 02 18.4	
	comp=Z,19nm,1.4s						
RIDG	**Independent Ri**	**18.91**	**43**	P	**P**	**21 02 05.7**	**+0.2**
RIDG				IAmb	IAmb	21 02 08.2	
	comp=Z,9.4nm,1.1s						
TGL	**Tana Glacier**	**18.99**	**53**	P	**Pn**	**21 02 09.4**	**-0.3**
DOT	**Dot Lake**	**19.20**	**44**	P	**P**	**21 02 09.1**	**+0.5**
DOT				IAmb	IAmb	21 02 12.7	
	comp=Z,8.4nm,0.7s						
SCRK	**Sand Creek**	**19.35**	**43**	P	**P**	**21 02 10.2**	**-0.1**
SCRK				IAmb	IAmb	21 02 11.2	
	comp=Z,5.8nm,0.7s						
EGAK	**Eagle**	**20.78**	**42**	P	**P**	**21 02 25.2**	**-0.2**
EGAK				IAmb	IAmb	21 02 29.2	
	comp=Z,7.1nm,1.0s						
DAWY	**Dawson**	**21.30**	**44**	P	**P**	**21 02 31.7**	**+0.8**
INK	**Inuvik**	**24.81**	**36**	P	**P**	**21 03 03.4**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=224,slow=5.4,SNR=6.2						
INK	**Inuvik**	**24.81**	**36**	P	**P**	**21 03 03.4**	**+0.2**
YKA	**Yellowknife Ar**	**32.37**	**49**	P	**P**	**21 04 10.8**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=284,slow=8.4,SNR=12						
MCMT	**McKenzie Canyo**	**40.30**	**76**	P	**P**	**21 05 17.6**	**-0.1**
NVAR	**Mina Array Bea**	**40.85**	**87**	P	**P**	**21 05 23.3**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=319,slow=9.5,SNR=4.0						
PDAR	**Pinedale Array**	**43.44**	**76**	P	**P**	**21 05 43.1**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=301,slow=4.0,SNR=13						
ARCES	**ARCESS Array B**	**57.11**	**352**	P	**P**	**21 07 24.6**	**0.0**
	comp=Z,4.4nm,0.9s,baz=29,slow=7.5,SNR=2.7						
AKASG	**Malin Array Be**	**74.94**	**345**	P	**P**	**21 09 17.0**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=15,slow=5.9,SNR=3.1						
ASAR	**Alice Springs**	**88.30**	**226**	P	**P**	**21 10 28.4**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=26,slow=6.7,SNR=3.7						

WEL 14 21:19:05.1, 39°S±1°×17°E±°, h33km±3km, ML3.9/22, MLv3.6/34, Error ellipse: s-maj=0.0km s-min=0.0km az=83.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	**Cape Kidnapper**	**0.20**	**176**	P	**Pb**	**21 19 12.1**	**+0.3**
CKHZ				S	Sb	21 19 18.1	+1.9
ARHZ	**Aropaoanui**	**0.20**	**345**	P	Pn	21 19 11.3	+0.2
ARHZ				S	Sb	21 19 16.6	+0.3
MCHZ	**McNeill Hill**	**0.28**	**273**	P	Pb	21 19 12.6	-0.1
MCHZ				S	Sb	21 19 19.0	+1.2
KAHZ	**Kahuranaki**	**0.36**	**203**	P	Pn	21 19 14.7	+0.5
WHHZ	**Waihua**	**0.40**	**19**	P	Pn	21 19 14.5	-0.1
WHHZ				S	Sn	21 19 22.2	+1.3
NMHZ	**Naumai**	**0.41**	**331**	P	Pb	21 19 14.4	-0.1
NMHZ				S	Sn	21 19 21.8	+0.6
KWHZ	**Kaweka Forest**	**0.50**	**274**	P	Pb	21 19 15.6	-0.1
KWHZ				S	Sn	21 19 24.2	+0.8
BKZ	**Black Stump Fm**	**0.53**	**303**	P	Pb	21 19 15.9	-0.3
RAHZ	**Arahi**	**0.54**	**2**	P	Pn	21 19 16.7	+0.2
KRHZ	**Kereru**	**0.56**	**251**	P	Pn	21 19 16.9	+0.1
PXZ	**Pawanui**	**0.59**	**195**	P	Pn	21 19 17.3	+0.2
MTHZ	**Maungataniwha**	**0.63**	**344**	P	Pn	21 19 17.5	-0.2
KNZ	**Kokohu**	**0.65**	**48**	P	Pn	21 19 18.2	+0.1
SNGZ	**Shannon Statio**	**0.71**	**18**	P	Pb	21 19 19.5	+0.4
MHGZ	**Mahia Peninsul**	**0.72**	**65**	P	Pb	21 19 19.5	+0.1
WPHZ	**Waipukurau**	**0.77**	**218**	P	Pb	21 19 20.3	+0.1
BHHZ	**Black Hill Sta**	**0.77**	**267**	P	Pn	21 19 19.9	+0.1
MRHZ	**Matea Rd**	**0.80**	**321**	P	Pb	21 19 20.4	-0.2
PNHZ	**Pukenui**	**0.81**	**235**	P	Pn	21 19 20.3	+0.2
PRGZ	**Paritu Road**	**0.83**	**50**	P	Pn	21 19 20.8	+0.3
RTZ	**Ruatahuna**	**0.84**	**356**	P	Pb	21 19 21.1	-0.3
PRHZ	**Porangahau**	**0.87**	**202**	P	Pn	21 19 21.1	+0.1
RIGZ	**Rimuhau**	**0.93**	**36**	P	Pn	21 19 22.1	+0.3
HATZ	**Hinemaiaia**	**0.94**	**307**	P	Pb	21 19 23.1	0.0
RAGZ	**Rawiri**	**1.00**	**16**	P	Pn	21 19 23.2	+0.4
MUGZ	**Murupara**	**1.01**	**347**	P	Pb	21 19 23.6	-0.4
MOVZ	**Moawhango**	**1.01**	**272**	P	Pb	21 19 24.0	-0.2
TSZ	**Takapari Road**	**1.04**	**234**	P	Pn	21 19 23.5	+0.1
RITZ	**Rihia Road**	**1.05**	**297**	P	Pb	21 19 25.3	+0.5
ALRZ	**Allen Road**	**1.05**	**328**	P	Pb	21 19 25.0	+0.1
DVHZ	**Dannevirke**	**1.09**	**219**	P	Pn	21 19 23.1	-0.1
PRRZ	**Plateau Road**	**1.09**	**331**	P	Pb	21 19 25.2	-0.3
ANWZ	**Angora Road**	**1.10**	**204**	P	Pn	21 19 24.1	0.0
TUVZ	**Tukino**	**1.11**	**279**	P	Pb	21 19 25.9	+0.1
WHVZ	**Whangaehu Hut**	**1.16**	**278**	P	Pb	21 19 26.6	-0.1
KRVZ	**Karewarewa**	**1.16**	**288**	P	Pb	21 19 26.3	-0.5
RATZ	**Rangitukua**	**1.16**	**300**	P	Pb	21 19 26.8	+0.1
KATZ	**Kakaramea**	**1.17**	**294**	P	Pb	21 19 26.3	-0.5
NGZ	**Ngauruhoe**	**1.17**	**284**	P	Pb	21 19 26.5	-0.4
WPRZ	**Whakapapataran**	**1.17**	**323**	P	Pb	21 19 26.6	-0.2
MWZ	**Matawai**	**1.18**	**18**	P	Pn	21 19 25.4	+0.1
TRVZ	**Turoa**	**1.

PSAB2				IAmb	IAmb	21 34 14.1	
	comp=Z,5.6nm,1.0s						
PSAC1	**Pilbara Seismi**	**19.15**	**214**	P	**Pn**	**21 33 59.1**	**-0.1**
PSAC1				IAmb	IAmb	21 34 06.4	
	comp=Z,14nm,1.1s						
PSAA2	**Pilbara Seismi**	**19.15**	**214**	P	**Pn**	**21 33 59.5**	**+0.2**
PSAA2				IAmb	IAmb	21 34 14.8	
	comp=Z,16nm,1.3s						
PSA00	**Pilbara Seismi**	**19.16**	**214**	P	**Pn**	**21 33 59.0**	**-0.4**
PSA00				IAmb	IAmb	21 34 08.3	
	comp=Z,10nm,1.1s						
PSAA3	**Pilbara Seismi**	**19.16**	**214**	P	**Pn**	**21 33 59.9**	**+0.5**
PSAA3				IAmb	IAmb	21 34 09.1	
	comp=Z,14nm,1.1s						
PSAA1	**Pilbara Seismi**	**19.17**	**214**	P	**Pn**	**21 33 59.7**	**+0.2**
PSAA1				IAmb	IAmb	21 34 07.1	
	comp=Z,18nm,1.2s						
PSAB1	**Pilbara Seismi**	**19.17**	**214**	P	**Pn**	**21 33 59.9**	**+0.3**
PSAB3	**Pilbara Seismi**	**19.17**	**214**	P	**Pn**	**21 33 59.9**	**+0.3**
PSAB3				IAmb	IAmb	21 34 09.0	
	comp=Z,8.3nm,1.1s						
MKAR	**Makanchi Array**	**67.84**	**326**	P	P	21 40 34.1	+4.0
	comp=Z,0.4nm,0.6s,baz=110,slow=8.3,SNR=4.1						

JMA 14 21:31:03.2, 38.64N×141.90E, h48km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.37**	**297**	P	Pn	21 31 13.0	+0.1
JKMT				S	Sn	21 31 19.7	-0.1
JIO	**Ouri**	**0.47**	**247**	P	Pn	21 31 14.0	+0.1
JIO				S	Sn	21 31 21.3	-0.3
JIKH	**Ishinomakikobu**	**0.47**	**226**	P	Pn	21 31 13.9	-0.1
JIKH				S	Sn	21 31 21.4	-0.3
OFUJ	**Ofunato**	**0.47**	**338**	P	Pn	21 31 14.1	+0.1
OFUJ				S	Sn	21 31 21.6	-0.2
JMK	**Ichinoseki**	**0.62**	**301**	P	Pn	21 31 16.0	+0.2
JMK				S	Sn	21 31 25.0	+0.2
JOM	**Ohasama**	**0.96**	**331**	P	Pn	21 31 20.5	+0.2
JOU	**Okura**	**1.01**	**255**	P	Pn	21 31 21.1	+0.1
JMM	**Marumori**	**1.17**	**229**	P	Pn	21 31 22.7	-0.4
JMM				S	Sn	21 31 37.0	-0.9
JYK	**Kaneyama**	**1.24**	**283**	P	Pn	21 31 24.4	+0.3
JRG	**Rokugo**	**1.24**	**308**	P	Pn	21 31 24.5	+0.3
MAT	**Matsushiro**	**3.60**	**236**	P	Pn	21 31 58.5	+2.0
MAT				*e*S	Sn	21 32 39.7	+1.9

*NCEDC **14** 21:41:08.4±1.5, 36.85N±0.06×121.58W±0.07, h5km±4km, Md2.8*

NEIC 14 21:41:07.9±1.5, 36.78N±0.04×121.68W±0.07, h11km±5km, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HERM	**Elkhorn Road**	**0.03**	**302**		Pg	21 41 11.5	+1.5
HTUM	**Tustin Road**	**0.05**	**29**		Pg	21 41 10.1	0.0
HCOM	**Corn Cob Canyo**	**0.11**	**346**		Pg	21 41 11.3	+0.5
HBTM	**San Juan Bauti**	**0.12**	**55**		Pg	21 41 09.4	-1.6
ANZ	**Anzar Road**	**0.12**	**33**		Pg	21 41 09.6	-1.4
BSRM	**Salinas Radio**	**0.17**	**132**		Pg	21 41 12.2	+0.5
SAO	**San Andreas Ge**	**0.18**	**95**	Pg	Pg	21 41 11.2	-0.8
JELB	**Ellicott, Sant**	**0.19**	**320**		Sg	21 41 16.6	+1.7
BVYM	**Vineyard**	**0.21**	**98**		Pg	21 41 11.9	-0.6
HLPM	**Lions Peak**	**0.26**	**8**		Pg	21 41 12.9	-0.4
BCGM	**Cienega Road**	**0.28**	**105**		Pg	21 41 13.1	-0.5
SCZ	**Santa Cruz**	**0.28**	**130**		Pg	21 41 13.8	+0.1
SCZ					Sg	21 41 17.8	+0.2
HCAM	**Canada Road**	**0.29**	**32**		Pg	21 41 12.9	-0.9
JTGM	**Trout Gulch Ro**	**0.30**	**327**		Pb	21 41 14.7	-0.6
HLTM	**Lone Tree Road**	**0.31**	**70**		Pg	21 41 13.7	-0.6
BJCM	**Johnson Can.**	**0.33**	**136**		Pg	21 41 14.9	+0.4
BJOM	**Mount Johnson**	**0.33**	**117**		Pg	21 41 14.4	-0.1
BHRM	**Hodges Ranch**	**0.33**	**99**		Pg	21 41 14.8	+0.2
BLRM	**Lewis Ranch**	**0.34**	**109**		Pg	21 41 15.2	+0.5
JHLM	**Holstrom Ranch**	**0.35**	**339**		Pg	21 41 15.0	0.0
HSPM	**Sheep**	**0.36**	**21**		Pg	21 41 14.6	-0.6
GHS	**Gilroy Hot Spr**	**0.36**	**30**		Pg	21 41 14.4	-0.8
JLAB	**Laurel Hill**	**0.38**	**353**		Pg	21 41 15.4	0.0
CADM	**Anderson Res.**	**0.39**	**6**		Pg	21 41 15.3	-0.3
PACP	**Pacheco Peak**	**0.39**	**54**		Pg	21 41 14.8	-0.8
AMC	**Almaden**	**0.40**	**340**		Pg	21 41 16.2	+0.3
MOBB	**Monterey Bay O**	**0.41**	**257**		Pn	21 41 18.8	-0.7
BEHM	**Elkhorn Ranch**	**0.42**	**106**		Pg	21 41 16.6	+0.4
JUMM	**Mount Umunhum**	**0.42**	**335**		Pg	21 41 16.4	+0.1
HPCM	**Pacheco Lake**	**0.42**	**49**		Pg	21 41 15.4	-0.9
HPCM					Sg	21 41 20.5	-1.5
JSTM	**Santa Teresa H**	**0.44**	**347**		Pg	21 41 16.7	+0.1
BSMM	**Soledad Missio**	**0.44**	**153**		Pb	21 41 17.8	0.0
SLN	**San Luis Dam**	**0.47**	**51**		Pg	21 41 16.3	-0.8
CCOB	**Coe Ranch Numb**	**0.48**	**0**		Pg	21 41 17.8	+0.5
BEMM	**Emmet**	**0.48**	**104**		Pg	21 41 17.6	+0.2
SFJWR	**San Luis Fatjo**	**0.48**	**56**		Pg	21 41 16.6	-0.9
JJOM	**Saint Joseph's**	**0.49**	**330**		Pg	21 41 17.9	+0.4
BSGM	**Shirttail Gulc**	**0.50**	**137**		Pg	21 41 17.8	+0.1
BPIM	**Pinnacles**	**0.50**	**125**		Pg	21 41 17.4	-0.3
JBNB	**Ben Lomond Mou**	**0.52**	**312**		Pg	21 41 18.4	+0.4
BAVM	**Antelope Valle**	**0.54**	**104**		Pg	21 41 18.4	+0.1
BBGB	**Big Mountain B**	**0.55**	**111**		Pg	21 41 19.1	+0.4
BBNM	**San Benito**	**0.55**	**119**		Pg	21 41 18.8	+0.1
BPOM	**Post Ranch**	**0.56**	**188**		Pb	21 41 20.6	+0.9
MHC	**Mount Hamilton**	**0.56**	**3**		Pg	21 41 18.9	0.0
ARN	**Arnold Ranch**	**0.58**	**11**		Pg	21 41 18.9	-0.3
JSGM	**Saratoga Golf**	**0.58**	**329**		Pb	21 41 20.2	0.0
JHUM	**Huhtala Lane,**	**0.59**	**318**		Pb	21 41 21.2	+1.0
BAPM	**Anderson Peak**	**0.60**	**178**		Pb	21 41 21.2	+0.7
LRV	**Little Rabbit**	**0.64**	**124**		Pg	21 41 20.3	0.0
JPSM		**0.68**	**308**		Pb	21 41 22.0	+0.2
BRMM	**Rolling Bench**	**0.69**	**85**		Pg	21 41 21.4	+0.1
CMMM	**Mount Mocho**	**0.69**	**12**		Pg	21 41 21.1	-0.3
CMLM	**Mount Lewis**	**0.70**	**2**		Pg	21 41 21.5	0.0
JFP	**Foothills Park**	**0.71**	**325**		Pb	21 41 22.8	+0.5
BMSM	**Mercy Hot Spri**	**0.72**	**100**		Pg	21 41 21.9	0.0
CMJM	**Mission San Jo**	**0.76**	**348**		Pg	21 41 22.8	+0.3
JRSC	**Jasper Ridge**	**0.77**	**324**		Pg	21 41 22.7	-0.1
BGH	**Bear Gulch**	**0.77**	**317**		Pb	21 41 23.4	0.0
PCCM	**Crazy Canyon**	**0.80**	**149**		Pb	21 41 24.1	+0.2
JHPM	**Huddart Park**	**0.83**	**323**		Pb	21 41 24.8	+0.4
WENL	**Wente Vineyard**	**0.84**	**356**		Pb	21 41 24.6	0.0
CVLM	**Vallecito**	**0.85**	**351**		Pb	21 41 25.0	+0.2
CNIC	**Niles Canyon**	**0.86**	**344**		Pg	21 41 24.5	0.0
PMPB	**Monarch Peak**	**0.90**	**128**	Pg	Pg	21 41 25.2	-0.1
PAPM	**Alder Peak**	**0.90**	**164**		Pn	21 41 26.4	-0.3
JCHM	**Cahill Ridge**	**0.93**	**323**		Pg	21 41 25.6	-0.2
JCPM	**Coyote Point**	**0.96**	**328**		Pb	21 41 26.4	0.0
PSAM	**San Ardo**	**0.98**	**140**		Pb	21 41 27.0	0.0
CLCB	**Lake Chabot**	**1.00**	**342**		Pg	21 41 27.2	-0.1
PPTM	**Peach Tree Val**	**1.02**	**131**		Pg	21 41 27.4	-0.2
CMOB	**Morgan Territo**	**1.03**	**354**		Pn	21 41 29.1	+0.7
CBSNC	**Byron Hot Spri**	**1.04**	**1**		Pn	21 41 29.0	+0.6
JSBM	**San Bruno Moun**	**1.07**	**327**		Pb	21 41 27.0	-1.4
PHSB	**Hesperia Broad**	**1.08**	**152**		Pg	21 41 28.7	0.0
BGC	**Bolinger Road**	**1.08**	**343**		Pn	21 41 29.1	+0.1
PSMM	**Smith Mountain**	**1.12**	**129**		Pg	21 41 29.6	0.0
CRPB	**Russellman Par**	**1.15**	**351**		Pb	21 41 29.6	-0.2
PHCM	**Hearst Castle**	**1.17**	**159**		Pb	21 41 29.9	-0.3
PHPM	**Hope Ranch**	**1.18**	**132**		Pb	21 41 29.6	-0.7
PANM	**San Antonio Re**	**1.18**	**148**		Pg	21 41 30.8	+0.3
BDM	**Black Diamond**	**1.18**	**353**		Pb	21 41 28.5	-1.9
BKS	**Berkeley--Byer**	**1.18**	**338**		Pb	21 41 29.2	-1.1
CVPM	**Vollmer Peak**	**1.19**	**339**		Pb	21 41 29.5	-1.0
VAK	**Adit at Lawren**	**1.19**	**337**		Pg	21 41 31.0	+0.2
PARM	**Anticline Ridg**	**1.20**	**116**		Pg	21 41 30.9	0.0
PKD	**Bear Valley Ra**	**1.24**	**132**		Pn	21 41 31.1	-0.1
PPO	**Portuguese Can**	**1.25**	**137**		Pn	21 41 30.5	-0.8
PVCM	**Vineyard Canyo**	**1.26**	**133**		Pn	21 41 30.8	-0.7
CPIM	**Pinole Ridge**	**1.28**	**341**		Pn	21 41 31.0	-0.8
RAMR	**Ramage Ranch**	**1.31**	**150**		Pn	21 41 32.0	-0.2
PWKM	**Work Ranch**	**1.35**	**135**		Pn	21 41 32.5	-0.2
PCBM	**Cambria**	**1.35**	**158**		Pg	21 41 33.9	-0.1
CTM	**Castle Mountai**	**1.37**	**128**		Pb	21 41 33.5	-0.1
PCMM	**Cholame Hills**	**1.41**	**133**		Pn	21 41 33.4	-0.2
MCUB	**Copperopolis B**	**1.46**	**35**		Pn	21 41 32.5	-1.7
MHDM	**Hidden Dam**	**1.47**	**76**		Pn	21 41 32.8	-1.5
PAGB	**Antelope Grade**	**1.56**	**132**	Pn	Pn	21 41 35.4	-0.1
CMB	**Columbia Colle**	**1.62**	**39**	Pn	Pn	21 41 35.5	-0.9
MCCM	**Marconi Confer**	**1.67**	**325**	Pn	Pn	21 41 37.8	+0.7
GDXM	**Geysers**	**2.21**	**337**	Pn	Pn	21 41 45.0	+0.3
AFDM	**Forest Hills D**	**2.23**	**14**		Pn	21 41 44.5	-0.4
MDPB	**Devils Postpil**	**2.24**	**67**	Pn	Pn	21 41 44.9	-0.3
OMMB	**Old Mammoth Mi**	**2.29**	**68**		Pn	21 41 45.5	-0.4
HOPS	**Hopland Field**	**2.47**	**334**	Pn	Pn	21 41 48.3	+0.2
WAKR	**Walker**	**2.47**	**45**		Pn	21 41 48.1	-0.2
RUBR	**Rubicon Trail**	**2.57**	**27**		Pn	21 41 49.7	0.0
ORV	**Oroville**	**2.77**	**3**		Pn	21 41 52.7	+0.4
ISA	**Isabella, Lake**	**2.82**	**112**		Pn	21 41 53.4	+0.4
PNTR	**Pine Nut**	**2.83**	**35**		Pn	21 41 53.6	+0.3
YERR	**Yerington**	**2.92**	**40**	Pn	Pn	21 41 54.1	-0.5
VCNR	**Virginia City**	**2.98**	**32**	Pn	Pn	21 41 54.2	-1.0
RYN	**Ryan**	**3.11**	**53**		Pn	21 41 56.5	-0.5
OSI	**Osito Audit: C**	**3.23**	**131**	Pn	Pn	21 41 58.8	+0.2
NV11	**Mina Array Sit**	**3.25**	**58**	Pn	Pn	21 41 59.2	+0.3
BEKR	**Beckworth**	**3.25**	**18**	Pn	Pn	21 42 00.2	+1.2
DAC	**Darwin (Calif)**	**3.33**	**97**	Pn	Pn	21 41 59.4	-0.6
DAC					Pb	21 42 08.9	+1.9
RCWM	**Renegade Canyo**	**3.35**	**103**		Pb	21 42 06.8	-0.7
PAHR	**Pah Rah Range**	**3.43**	**31**	Pn	Pn	21 42 02.9	+1.4
KVN	**Kaiserville**	**3.62**	**50**		Pn	21 42 04.6	+0.4
KMRM	**Mail Ridge**	**3.79**	**336**	Pn	Pn	21 42 05.8	-0.5
WDC	**Whiskeytown Da**	**3.85**	**350**	Pn	Pn	21 42 07.7	+0.6
MWC	**Mount Wilson**	**3.90**	**130**	Pn	Pn	21 42 07.3	-0.7
SNCC	**San Nicolas Is**	**3.94**	**153**	Pn	Pn	21 42 09.5	+1.2
TPNV	**Topopah Spring**	**4.35**	**86**		Pn	21 42 14.7	+0.6

PGC 14 22:14:18.1±12.0, 50.03N×130.06W, h10km, MLSn3.0/10, Mw3.7/10, Mw3.7/10, 201km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.48**	**84**	P	Pn	22 14 42.1	-2.6
BPBC				S	Sn	22 14 57.6	-6.6
PACB	**Port Alice, BC**	**1.70**	**75**	Pn	Pn	22 14 45.4	-2.3
PACB				Sn	Sn	22 15 04.1	-5.4
PHC	**Port Hardy**	**1.81**	**67**	Pn	Pn	22 14 47.2	-2.1
PHC				Sn	Sn	22 15 09.3	-3.1
MAYB	**Maynard**	**1.89**	**77**	Pn	Pn	22 14 48.8	-1.7
TLCB	**Telegraph Cove**	**2.13**	**75**	Pn	Pn	22 14 52.5	-1.2
WOSB	**Woss**	**2.25**	**85**	Pn	Pn	22 14 54.2	-1.2
BBB	**Bella Bella**	**2.49**	**29**	Pn	Pn	22 14 57.0	-1.5
BBB				Sn	Sn	22 15 25.3	-3.6
NCRB	**Newcastle Ridg**	**2.60**	**80**	Pn	Pn	22 14 59.3	-0.9
CBB	**Campbell River**	**3.02**	**88**	Pn	Pn	22 15 04.6	-1.4
CBB				Sn	Sn	22 15 40.3	-1.9
UBRB	**Upper Baezaeko**	**4.71**	**50**	Pn	Pn	22 15 29.0	-0.2
UBRB				Sn	Sn	22 16 23.9	-0.1
FSB	**Fort Saint Jam**	**5.68**	**36**	Pn	Pn	22 15 42.8	+0.3
FSB				Sn	Sn	22 16 45.7	-2.0

*ISCJB **14** 22:29:18.5±0.9, 25.46S±0.07×179.7E±0.2, h493km, mb3.3/2, Error ellipse: s-maj=21.0km s-min=7.7km az=166.8*
*IDC **14** 22:29:18.8±6.1, 25.50S×179.80E, h494km±57km, mb2.9/2, mb1 3.2/4, mb1mx2.9/41, mbtmp4.0/4, Error ellipse: s-maj=75.8km s-min=44.1km az=35.0*
*NEIC **14** 22:29:20.8±1.4, 25.65S±0.1×179.70E±0.10, h518km±9km, mb4.5/17*

ISC 14 22:29:18.7±1.1, 25.59S±0.08×179.8E±0.2, h493km, n30, σ1§53/30, mb4.4/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.98**	**348**	P	**P**	**22 31 17.2**	**+2.2**
MXZ	**Matakaoa Point**	**12.00**	**186**	P	**P**	**22 32 00.6**	**+3.5**
DZM	**Mont Dzumac**	**12.68**	**283**	P	**P**	**22 32 05.9**	**+1.2**
	0.1nm,0.3s,baz=90,slow=18,SNR=2.7						
URZ	**Urewera**	**12.83**	**189**	P	**P**	**22 32 06.3**	**+0.5**
	1.6nm,0.3s,baz=8.2,slow=9.3,SNR=12						
URZ				S	**S**	**22 34 22.6**	**-1.2**
	0.6nm,0.3s,baz=86,slow=17,SNR=10						
URZ	**Urewera**	**12.83**	**189**	P	**P**	**22 32 08.0**	**+2.1**
BKZ	**Black Stump Fm**	**13.81**	**191**	P	**P**	**22 32 18.4**	**+2.0**
BFZ	**Birch Farm**	**15.33**	**190**	P	**P**	**22 32 32.9**	**+0.6**
BFZ				IAmb	IAmb	22 32 48.5	
	comp=Z,21nm,1.2s						
BHW	**Baring Head**	**16.29**	**193**	P	**P**	**22 32 43.2**	**+0.9**
QRZ	**Quartz Range**	**16.34**	**200**	P	**P**	**22 32 45.2**	**+2.3**
QRZ				IAmb	IAmb	22 32 52.6	
	comp=Z,12nm,1.0s						
PLWZ	**Palliser**	**16.37**	**192**	P	**P**	**22 32 44.5**	**+1.2**
NNZ	**Nelson**	**16.46**	**197**	P	**P**	**22 32 45.4**	**+1.2**
NNZ				IAmb	IAmb	22 33 03.4	
	comp=Z,11nm,1.1s						
TUWZ	**Tuamarina**	**16.52**	**196**	P	**P**	**22 32 45.7**	**+1.0**
THZ	**Tophouse**	**17.10**	**198**	P	**P**	**22 32 52.4**	**+1.6**
THZ				IAmb	IAmb	22 33 10.1	
	comp=Z,12nm,1.1s						
KHZ	**Kahutara**	**17.55**	**195**	P	**P**	**22 32 56.0**	**+1.0**
LTZ	**Lake Taylor**	**18.22**	**198**	P	**P**	**22 33 03.1**	**+1.8**
LTZ				IAmb	IAmb	22 33 07.9	
	comp=Z,11nm,1.1s						
OXZ	**Oxford**	**18.79**	**198**	P	**P**	**22 33 07.0**	**+0.6**
OXZ				IAmb	IAmb	22 33 22.4	
	comp=Z,8.3nm,0.9s						
MQZ	**McQueen's Vall**	**18.98**	**196**	P	**P**	**22 33 09.9**	**+1.7**
MCQ	**Macquarie Isla**	**32.72**	**203**	P	**P**	**22 35 09.0**	**-0.4**
COEN	**Coen**	**36.20**	**282**	P	**P**	**22 35 39.3**	**0.0**
AS31	**Alice Springs**	**41.57**	**263**	P	**P**	**22 36 23.6**	**+0.8**
ASAR	**Alice Springs**	**41.58**	**263**	P	**P**	**22 36 23.3**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=92,slow=7.6,SNR=15						
WRA	**Warramunga Arr**	**42.11**	**268**	P	**P**	**22 36 26.9**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=104,slow=7.8,SNR=8.0						
KNRA	**Kununurra**	**48.49**	**271**	P	**P**	**22 37 16.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**50.51**	**267**	P	**P**	**22 37 30.8**	**-0.2**
INU	**Inuyama**	**72.86**	**325**	P	**P**	**22 39 57.1**	**+0.2**
INU				IAmb	IAmb	22 39 58.1	
	comp=Z,11nm,0.9s						
NACB	**Ninganchiao**	**74.93**	**307**	P	**P**	**22 40 07.5**	**-1.4**
GSI	**Gunungsitoli**	**83.51**	**275**	P	**P**	**22 40 51.7**	**-3.1**
GSI				IAmb	IAmb	22 41 06.8	
	comp=Z,13nm,1.1s						
SVW2	**Sparrevohn**	**88.67**	**12**		pP	22 43 07.4	-0.2
KNK	**Knik Glacier**	**90.42**	**15**	P	**P**	**22 41 25.4**	**-1.1**
KNK				IAmb	IAmb	22 41 26.2	
	comp=Z,10nm,1.2s						
NOA	**NORSAR Array B**	**143.71**	**351**	PKP	**PKPdf**	**22 47 56.2**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=27,slow=4.0,SNR=3.3						

*ISCJB **14** 22:33:39.6±0.3, 19.37N±0.03×103.63W±0.03, h101km±2km, mb3.6/11, Error ellipse: s-maj=5.5km s-min=3.1km az=41.6*
*IDC **14** 22:33:40.1±0.8, 19.49N×103.54W, h108km±5km, mb3.5/12, mb1 3.8/18, mb1mx3.7/50, mbtmp4.1/18, Error ellipse: s-maj=17.4km s-min=11.2km az=43.0*
*MEX **14** 22:33:40.1±0.8, 19.45N×103.71W, h105km±3km, MD4.1*
*NEIC **14** 22:33:41.3±2.7, 19.42N±0.04×103.64W±0.07, h93km±6km*

ISC 14 22:33:39.5±0.5, 19.38N±0.04×103.72W±0.04, h102km±4km, h103km:pP-P, n212, σ1§72/231, mb4.2/15, 1D, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		**0.15**	**49**	*i* P	**Pn**	**22 33 53.6**	**-0.6**
EZ5V				*e*S	**Sn**	**22 34 04.4**	**-0.8**
EZ5V		**0.15**	**49**		**Pn**	**22 33 53.6**	**-0.6**
R15V		**0.33**	**230**	*e*P	**Pn**	**22 33 54.2**	**-0.4**
R15V				*e*S	**Sn**	**22 34 05.7**	**-0.1**
R15V		**0.33**	**230**		**Pn**	**22 33 54.2**	**-0.4**
MMIG	**Aquila**	**1.14**	**162**	*i* P	**Pn**	**22 34 01.7**	**0.0**
MMIG				*e*S	**Sn**	**22 34 18.0**	**-0.4**
MMIG	**Aquila**	**1.14**	**162**		**Pn**	**22 34 01.7**	**0.0**
MMIG					**Sn**	**22 34 18.0**	**-0.4**
CJM	**Chamela**	**1.25**	**276**	*i* P	**Pn**	**22 34 02.5**	**-0.5**
CJM				*e*S	**Sn**	**22 34 19.8**	**-0.9**
ANIG	**Ahuacatlan**	**1.83**	**336**	*e*P	**Pn**	**22 34 08.6**	**-1.5**
ANIG				*e*S	**Sn**	**22 34 31.0**	**-2.3**
ANIG	**Ahuacatlan**	**1.83**	**336**		**Pn**	**22 34 08.6**	**-1.5**
ANIG					**Sn**	**22 34 31.0**	**-2.3**
MOIG	**Morelia**	**2.41**	**83**	*e*P	**Pn**	**22 34 17.6**	**-0.1**
MOIG				*e*S	**Sn**	**22 34 45.2**	**-1.7**
MOIG	**Morelia**	**2.41**	**83**		**Pn**	**22 34 17.6**	**-0.1**
MOIG	**Morelia**	**2.41**	**83**		**Pn**	**22 34 17.6**	**-0.1**
MOIG					**Sn**	**22 34 45.2**	**-1.7**
IGIG	**Irapuato, Guan**	**2.63**	**58**	*i* P	**Pn**	**22 34 20.5**	**-0.1**
IGIG				*i* S	**Sn**	**22 34 50.9**	**-1.3**
ZIIG	**Zihuatanejo**	**2.77**	**129**	*e*P	**Pn**	**22 34 22.3**	**0.0**
ZIIG				*i* S	**Sn**	**22 34 55.0**	**-0.3**
ZIIG	**Zihuatanejo**	**2.77**	**129**		**Pn**	**22 34 22.3**	**0.0**
ZIIG					**Sn**	**22 34 55.0**	**-0.3**
ARIG	**Puente Sto Nin**	**3.38**	**108**	*e*P	**Pn**	**22 34 30.5**	**+0.1**
ARIG				*i* S	**Sn**	**22 35 09.3**	**-0.4**
ARIG	**Puente Sto Nin**	**3.38**	**108**		**Pn**	**22 34 30.5**	**+0.1**
ARIG					**Sn**	**22 35 09.3**	**-0.4**
ZAIG	**Zacatecas**	**3.54**	**18**	*i* P	**Pn**	**22 34 32.5**	**-0.3**
ZAIG				*i* S	**Sn**	**22 35 12.1**	**-1.9**
ZAIG	**Zacatecas**	**3.54**	**18**		**Pn**	**22 34 32.3**	**-0.5**
ZAIG	**Zacatecas**	**3.54**	**18**		**Pn**	**22 34 32.5**	**-0.3**
ZAIG					**Sn**	**22 35 12.1**	**-1.9**
ATVM	**ATLACOMULCO**	**3.68**	**83**	*i* P	**Pn**	**22 34 35.8**	**+1.1**
ATVM	**ATLACOMULCO**	**3.68**	**83**		**Pn**	**22 34 35.8**	**+1.1**
TOVM	**TOLUCA**	**3.82**	**91**	*e*P	**Pn**	**22 34 37.6**	**+1.0**
TOVM	**TOLUCA**	**3.82**	**91**		**Pn**	**22 34 37.6**	**+1.0**
CAIG	**El Cayaco**	**4.02**	**125**	*i* P	**Pn**	**22 34 39.3**	**+0.3**
CAIG				*i* S	**Sn**	**22 35 19.4**	**-5.8**
CAIG	**El Cayaco**	**4.02**	**125**		**Pn**	**22 34 39.3**	**+0.3**
CAIG					**Sn**	**22 35 19.4**	**-5.8**
MEIG	**Mezcala**	**4.15**	**110**	*i* P	**Pn**	**22 34 41.5**	**+0.6**
MEIG				*i* S	Sn	22 35 44.4	+16
MEIG	**Mezcala**	**4.15**	**110**		**Pn**	**22 34 41.5**	**+0.6**
MEIG					Sn	22 35 44.4	+16
AZVM	**Cuida Lopez Ma**	**4.19**	**86**	*e*P	**Pn**	**22 34 43.0**	**+1.4**
AZVM	**Cuida Lopez Ma**	**4.19**	**86**		**Pn**	**22 34 43.0**	**+1.4**
PBVM	**Pinon**	**4.38**	**88**	*i* P	**Pn**	**22 34 44.7**	**+0.9**
PBVM	**Pinon**	**4.38**	**88**		**Pn**	**22 34 44.7**	**+0.9**
ZUVM	**ZUMPANGO**	**4.40**	**83**	*i* P	**Pn**	**22 34 45.7**	**+1.3**
ZUVM	**ZUMPANGO**	**4.40**	**83**		**Pn**	**22 34 45.7**	**+1.3**
DEIG	**Demacu**	**4.50**	**77**	*i* P	**Pn**	**22 34 46.6**	**+0.8**
DEIG				*i* S	**Sn**	**22 35 42.4**	**+5.2**
PPM	**Popocatepetl**	**4.82**	**93**	*i* P	**Pn**	**22 34 51.7**	**+1.3**
PPM				*i* S	Sn	22 36 07.3	+22
LPIG	**La Paz**	**7.72**	**309**	P	**Pn**	**22 35 32.2**	**+3.0**
	8.7nm,0.3s,baz=114,slow=4.3,SNR=4.0						
HPIG		**7.73**	**347**		**Pn**	**22 35 31.3**	**+1.8**
CMIG	**Matias Romero**	**8.70**	**104**	P	**Pn**	**22 35 43.2**	**+0.7**
	12nm,0.3s,baz=284,slow=11,SNR=140						
CMIG				S	**Sn**	**22 37 18.8**	**-0.2**
	3.5nm,0.3s,baz=0.0,slow=20,SNR=3.8						
833A	**Chaparral WMA,**	**9.74**	**23**	P	**Pn**	**22 35 58.4**	**+1.8**
	baz=204						
833A	**Chaparral WMA,**	**9.74**	**23**		**Pn**	**22 35 58.0**	**+1.3**
TX31	**Lajitas Ar. Si**	**9.91**	**0**		**Pn**	**22 36 00.6**	**+1.5**
TX32	**Lajitas Array**	**9.91**	**0**		**Pn**	**22 36 00.7**	**+1.6**
TXAR	**Lajitas Array**	**9.91**	**0**	P	**Pn**	**22 36 00.0**	**+1.0**
	1.2nm,0.3s,baz=176,slow=15,SNR=66						
CCIG	**Comitan**	**11.45**	**104**		**Pn**	**22 36 19.9**	**-0.2**
JCT	**Junction City**	**11.61**	**17**	P	**Pn**	**22 36 25.3**	**+3.4**
	baz=198,SNR=5.9						
JCT	**Junction City**	**11.61**	**17**

	comp=Z,4.6nm,0.7s							
PV12	**Saucer Basin,**	**19.38**	**348**	P	**Pn**	**22 38 00.0**	**+0.4**
PV12				IAmb	IAmb	22 38 03.4	
	comp=Z,4.6nm,0.7s							
PV16	**Nyswonger Mesa**	**19.40**	**348**	P	**Pn**	**22 38 00.6**	**+0.8**
PV16				IAmb	IAmb	22 38 03.3	
	comp=Z,5.0nm,0.9s							
PV19	**Morning Glory**	**19.41**	**347**	P	**Pn**	**22 38 01.6**	**+1.6**
PV19				IAmb	IAmb	22 38 04.0	
	comp=Z,10nm,1.2s							
U40A	**Yellville**	**19.42**	**27**	P	**P**	**22 37 56.3**	**-1.5**
	baz=212							
U40A	**Yellville**	**19.42**	**27**	IAmb	IAmb	22 38 00.3	
	comp=Z,18nm,0.9s							
PV20	**West Nyswonger**	**19.44**	**348**	P	**Pn**	**22 38 01.6**	**+1.3**
PV20				IAmb	IAmb	22 38 20.9	
	comp=Z,6.2nm,1.0s							
PV07	**Paradox Valley**	**19.47**	**348**	P	**Pn**	**22 38 02.6**	**+1.9**
PV07				IAmb	IAmb	22 38 03.5	
	comp=Z,7.4nm,1.4s							
PV04	**Paradox Valley**	**19.47**	**348**	P	**Pn**	**22 38 01.4**	**+0.7**
PV14	**Lion Creek, Pa**	**19.48**	**347**	P	**Pn**	**22 38 01.5**	**+0.7**
PV14				IAmb	IAmb	22 38 04.7	
	comp=Z,8.1nm,1.0s							
PV23	**Carpenter Ridg**	**19.55**	**348**	P	**Pn**	**22 38 02.9**	**+1.2**
PV23				IAmb	IAmb	22 38 05.8	
	comp=Z,5.5nm,0.9s							
PV22	**Blue Mesa, Par**	**19.59**	**348**	P	**Pn**	**22 38 01.9**	**-0.2**
PV09	**Paradox Valley**	**19.62**	**347**	P	**Pn**	**22 38 02.6**	**0.0**
PV21	**Cone Mtn., Par**	**19.65**	**348**	P	**Pn**	**22 38 02.7**	**-0.1**
CBKS	**Cedar Bluff**	**19.67**	**9**	P	**Pn**	**22 38 02.9**	**+0.1**
CBKS				IAmb	IAmb	22 38 15.8	
	comp=Z,30nm,1.4s							
OXF	**Oxford**	**19.71**	**37**	P	**P**	**22 38 00.4**	**-0.5**
	baz=223							
SHPR	**Sheep Range**	**19.80**	**332**	P	**Pn**	**22 38 05.8**	**+1.3**
MTPU	**Mount Pierson**	**20.00**	**340**	P	Pn	22 38 07.0	-0.1
MTPU					pP	22 38 28.8	+4.6
250A	**Grady**	**20.08**	**48**	P	Pn	22 38 07.7	0.0
	baz=235							
250A	**Grady**	**20.08**	**48**	P	Pn	22 38 06.5	-1.2
LRAL	**Lakeview Retre**	**20.21**	**44**	P	Pn	22 38 08.0	-1.1
LRAL				IAmb	IAmb	22 38 11.9	
	comp=Z,5.7nm,0.9s							
JTS	**Las Juntas de**	**20.25**	**114**	P	**P**	**22 38 07.4**	**+0.5**
	comp=Z,12nm,0.6s,baz=321,slow=8.0,SNR=9.7							
JTS	**Las Juntas de**	**20.25**	**114**	P	Pn	22 38 08.7	-1.1
MGMO	**Mountain Grove**	**20.35**	**27**	P	**P**	**22 38 06.5**	**-1.2**
MGMO				IAmb	IAmb	22 38 08.4	
	comp=Z,9.0nm,0.9s							
MGMO					**pP**	**22 38 28.6**	**+1.0**
MSU	**Marysvale**	**20.43**	**341**	P	Pn	22 38 12.4	+0.5
DAC	**Darwin (Calif)**	**20.79**	**327**	P	Pn	22 38 15.4	-0.6
TMUT	**Trail Mountain**	**20.88**	**344**	P	Pn	22 38 17.8	+0.6
X48A	**Hartselle**	**21.08**	**41**	P	**P**	**22 38 19.5**	**+3.9**
	baz=228							
X48A	**Hartselle**	**21.08**	**41**	P	**P**	**22 38 16.9**	**+1.2**
Y49A	**Blount Mountai**	**21.10**	**43**	P	**P**	**22 38 16.0**	**+0.1**
	baz=231							
CCM	**Cathedral Cave**	**21.55**	**28**	P	**P**	**22 38 25.5**	**+5.0**
	baz=213							
CCM	**Cathedral Cave**	**21.55**	**28**	P	**P**	**22 38 23.1**	**+2.6**
Z51A	**Franklin**	**21.60**	**46**	P	**P**	**22 38 26.0**	**+4.8**
	baz=234							
WVT	**Waverly**	**21.77**	**37**	P	**P**	**22 38 27.3**	**+4.4**
	baz=224							
WVT	**Waverly**	**21.77**	**37**	P	**P**	**22 38 25.3**	**+2.4**
WVT				IAmb	IAmb	22 38 28.2	
	comp=Z,15nm,0.9s							
W49A	**Belvidere**	**22.00**	**41**	P	**P**	**22 38 23.7**	**-1.8**
	baz=229							
V48A	**Smith Brothers**	**22.08**	**39**	P	**P**	**22 38 31.2**	**+4.9**
	baz=226							
V48A	**Smith Brothers**	**22.08**	**39**	P	**P**	**22 38 25.2**	**-1.0**
V48A				IAmb	IAmb	22 38 32.4	
	comp=Z,20nm,1.1s							
DUG	**Dugway, Tooele**	**22.17**	**341**	P	**P**	**22 38 30.8**	**+3.5**
CTU	**Camp Tracy**	**22.33**	**344**	P	**P**	**22 38 33.4**	**+4.4**
RWWY	**Rawlins**	**22.43**	**353**	P	**P**	**22 38 32.0**	**+1.8**
MDPB	**Devils Postpil**	**22.59**	**327**		**PcP**	**22 42 23.9**	**+2.4**
456A	**Hilliard**	**22.63**	**56**	P	**P**	**22 38 33.0**	**+1.0**
W50A	**Signal Mountai**	**22.65**	**42**	P	**P**	**22 38 33.7**	**+1.4**
W50A				IAmb	IAmb	22 38 40.3	
	comp=Z,12nm,1.1s							
T47A	**Sharon Grove**	**22.79**	**36**	P	**P**	**22 38 31.1**	**-2.4**
	baz=224							
NVAR	**Mina Array Bea**	**22.82**	**329**	P	**P**	**22 38 34.6**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=155,slow=10,SNR=4.6							
NVAR				pP	**pP**	**22 38 56.6**	**+2.0**
	comp=Z,2.7nm,0.8s,baz=155,slow=11,SNR=12							
V50A	**Pikevile**	**23.09**	**42**	P	**P**	**22 38 34.2**	**-2.2**
	baz=230							
X52A	**Dahlonega**	**23.21**	**45**	P	**P**	**22 38 35.5**	**-2.2**
	baz=234							
ELK	**Elko**	**23.47**	**338**	P	**P**	**22 38 40.4**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=201,slow=8.6,SNR=2.3							
ELK				pP	**pP**	**22 39 03.1**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=174,slow=10.0,SNR=3.9							
PDAR	**Pinedale Array**	**23.83**	**349**	P	**P**	**22 38 43.6**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=146,slow=11,SNR=6.0							
PDAR				pP	**pP**	**22 39 07.2**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=166,slow=10,SNR=5.0							
TKL	**Tuckaleechee C**	**23.92**	**43**	P	**P**	**22 38 41.9**	**-2.2**
	comp=Z,8.7nm,1.0s,baz=210,slow=9.9,SNR=5.4							
W53A	**Cullowhee**	**24.03**	**45**	P	**P**	**22 38 44.0**	**-1.2**
	baz=234							
T50A	**Nancy**	**24.12**	**39**	P	**P**	**22 38 43.7**	**-2.1**
	baz=228							
S49A	**Springfield**	**24.38**	**37**	P	**P**	**22 38 46.8**	**-1.3**
	baz=226							
V53A	**Saluda**	**24.56**	**44**	P	**P**	**22 38 49.2**	**-0.7**
	baz=234							
T51A	**Gray**	**24.63**	**41**	P	**P**	**22 38 49.5**	**-0.9**
	baz=230							
R49A	**Shelbyville**	**24.80**	**37**	P	**P**	**22 38 54.0**	**+2.0**
R50A	**Paris**	**25.27**	**38**	P	**P**	**22 38 58.0**	**+1.7**
R50A				IAmb	IAmb	22 39 08.3	
	comp=Z,6.9nm,1.2s							
SJCC	**San Jacinto, C**	**29.14**	**105**	*e*P	**P**	**22 39 31.8**	**+0.6**
SJCC	**San Jacinto, C**	**29.14**	**105**	*e*P	**P**	**22 39 31.8**	**+0.6**
UREC	**San Jos de Ur**	**29.68**	**109**	*e*P	**P**	**22 39 37.5**	**+1.5**
UREC	**San Jos de Ur**	**29.68**	**109**	*e*P	**P**	**22 39 37.5**	**+1.5**
SMLC	**San Martn de**	**30.57**	**106**	*e*P	**P**	**22 39 44.4**	**+0.6**
SMLC	**San Martn de**	**30.57**	**106**	*e*P	**P**	**22 39 44.4**	**+0.6**
GUY2C	**Guyana, Caldas**	**31.00**	**113**	*e*P	**P**	**22 39 49.7**	**+1.6**
GUY2C				*e*P	**P**	**22 39 49.7**	**+1.6**
GUY2C	**Guyana, Caldas**	**31.00**	**113**	*e*P	**P**	**22 39 49.7**	**+1.6**
GUY2C				*e*P	**P**	**22 39 49.7**	**+1.6**
BBAC	**Balboa, Cauca**	**31.12**	**120**	*e*P	**P**	**22 39 51.5**	**+2.6**
BBAC	**Balboa, Cauca**	**31.12**	**120**	*e*P	**P**	**22 39 51.5**	**+2.6**
RREF	**El Recreo**	**31.17**	**114**	*e*P	**P**	**22 39 52.4**	**+2.6**
RREF	**El Recreo**	**31.17**	**114**	*e*P	**P**	**22 39 52.4**	**+2.6**
PTBC	**PUERTO BERRIO,**	**31.18**	**110**	*e*P	**P**	**22 39 49.7**	**+0.5**
PTBC	**PUERTO BERRIO,**	**31.18**	**110**	*e*P	**P**	**22 39 49.7**	**+0.5**
OTAV	**Otavalo**	**31.24**	**125**	*e*P	**P**	**22 39 52.6**	**+2.4**
OTAV	**Otavalo**	**31.24**	**125**	*e*P	**P**	**22 39 52.6**	**+2.4**
OTAV	**Otavalo**	**31.24**	**125**	P	**P**	**22 39 53.9**	**+3.8**
NORC	**Norcasia**	**31.27**	**112**	*e*P	**P**	**22 39 51.5**	**+1.5**
NORC	**Norcasia**	**31.27**	**112**	*e*P	**P**	**22 39 51.5**	**+1.5**
ULM	**Lac du Bonnet**	**31.43**	**10**	P	**P**	**22 39 50.5**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=172,slow=14,SNR=2.3							
ULM				pP	**pP**	**22 40 12.9**	**-1.5**
	comp=Z,4.2nm,0.9s,baz=202,slow=11,SNR=4.8							
ULM	**Lac du Bonnet**	**31.43**	**10**	IAmb	IAmb	22 40 01.4	
	comp=Z,5.9nm,1.3s							
PCON	**Cinco Dias**	**31.64**	**119**	*e*P	**P**	**22 39 55.5**	**+1.7**
PCON	**Cinco Dias**	**31.64**	**119**	*e*P	**P**	**22 39 55.5**	**+1.7**
BARC	**Barichara**	**32.29**	**109**	*e*P	**P**	**22 39 58.6**	**-0.5**
BARC	**Barichara**	**32.29**	**109**	*e*P	**P**	**22 39 58.6**	**-0.5**
RUSC	**La Rusia**	**32.69**	**110**	*e*P	**P**	**22 40 04.0**	**+1.1**
RUSC	**La Rusia**	**32.69**	**110**	*e*P	**P**	**22 40 04.0**	**+1.1**
CHIC	**Chingaza**	**32.70**	**113**	*e*P	**P**	**22 40 02.2**	**-0.8**
CHIC	**Chingaza**	**32.70**	**113**	*e*P	**P**	**22 40 02.2**	**-0.8**
SDV	**Santo Domingo**	**33.67**	**103**	*e*P	**P**	**22 40 11.4**	**+0.2**
SDV	**Santo Domingo**	**33.67**	**103**	*e*P	**P**	**22 40 11.4**	**+0.2**
SDV	**Santo Domingo**	**33.67**	**103**	P	**P**	**22 40 12.0**	**+0.8**
ELOV	**Elorza**	**35.45**	**106**	*e*P	**P**	**22 40 27.4**	**+1.1**
ELOV	**Elorza**	**35.45**	**106**	*e*P	**P**	**22 40 27.4**	**+1.1**
YKA	**Yellowknife Ar**	**43.73**	**353**	P	**P**	**22 41 33.9**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=166,slow=7.3,SNR=4.0							
YKA				pP	**pP**	**22 41 57.3**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=160,slow=8.4,SNR=7.6							
SCHQ	**Schefferville**	**45.10**	**29**	P	**P**	**22 41 43.3**	**-2.0**
	comp=Z,2.3nm,0.7s,baz=198,slow=20,SNR=2.0							
SCHQ				pP	**pP**	**22 42 08.2**	**-1.7**
	comp=Z,5.7nm,0.8s,baz=204,slow=6.4,SNR=3.1							
SCHQ				S	**S**	**22 48 12.7**	**-4.1**
	comp=Z,7.6nm,0.8s,baz=232,slow=19,SNR=5.9							
SCHQ	**Schefferville**	**45.10**	**29**	IAmb	IAmb	22 41 44.8	
	comp=Z,11nm,1.3s							
INK	**Inuvik**	**52.35**	**347**	P	**P**	**22 42 40.2**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=141,slow=4.8,SNR=6.6							
INK				pP	**pP**	**22 43 05.3**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=120,slow=6.2,SNR=5.2							
INK	**Inuvik**	**52.35**	**347**	IAmb	IAmb	22 42 43.0	
	comp=Z,4.9nm,1.4s							
ILAR	**Eielson Array**	**53.62**	**339**	P	**P**	**22 42 48.2**	**-1.8**
	comp=Z,0.6nm,1.0s,baz=156,slow=5.4,SNR=3.9							
ILAR				pP	**pP**	**22 43 14.9**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=143,slow=6.5,SNR=8.8							
PLCA	**Paso Flores**	**67.29**	**153**	P	**P**	**22 44 22.5**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=331,slow=5.9,SNR=4.6							
PLCA	**Paso Flores**	**67.29**	**153**	P	**P**	**22 44 24.3**	**+1.0**
PLCA				IAmb	IAmb	22 44 26.5	
	comp=Z,5.7nm,1.1s							
PETK	**Petropavlovsk-**	**79.73**	**323**	P	**P**	**22 45 36.3**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=96,slow=8.8,SNR=3.5							
LZH	**Lanzhou**	**118.97**	**335**	⇓PKP	**PKiKP**	**22 52 17.5**	**+0.6**
LZH				pPKP	pPKPdf	22 52 45.9	+0.7
LZH				sPKP		22 52 58.6	
CD2	**Chengdu**	**123.45**	**332**	Pdif	**Pdif**	**22 49 00.0**	**+2.0**
WRA	**Warramunga Arr**	**125.57**	**259**	PKP	**PKPdf**	**22 52 29.8**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=92,slow=2.1,SNR=6.2							
WRA				pPKP	**pPKPdf**	**22 52 57.5**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=88,slow=2.2,SNR=3.6							
ASAR	**Alice Springs**	**126.52**	**254**	PKP	**PKPdf**	**22 52 31.7**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=85,slow=2.4,SNR=6.8							
ASAR				pPKP	**pPKPdf**	**22 52 59.5**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=84,slow=2.8,SNR=3.8							

WEL 14 22:43:09.2±1.1, 34°S±17′×17°W±3′3, h33km, mB4.7/7, ML4.4/15, MLv4.3/19, Mw(mB)3.9/7, Error ellipse: s-maj=0.0km s-min=0.0km az=116.9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.32**	**209**	P	Pn	22 44 13.5	+0.9
WMGZ	**Waiomatatini S**	**4.51**	**206**	P	Pn	22 44 15.9	+0.7
WMGZ				S	Sn	22 45 07.8	+1.5
PKGZ	**Pakihiroa**	**4.70**	**209**	S	Sn	22 45 11.9	+0.7
HAZ	**Te Kaha**	**4.71**	**212**	P	Pn	22 44 17.3	-0.6
PUZ	**Puketiti**	**4.79**	**206**	P	Pn	22 44 19.4	+0.4
PUZ				S	Sn	22 45 13.7	+0.3
RUGZ	**Raukumara Rang**	**4.93**	**211**	P	Pn	22 44 20.7	-0.3
RUGZ				S	Sn	22 45 18.2	+1.2
TWGZ	**Tauwhareparae**	**4.99**	**208**	P	Pn	22 44 22.2	+0.5
TWGZ				S	Sn	22 45 18.7	+0.5
CNGZ	**Carnagh Statio**	**5.17**	**204**	P	Pn	22 44 23.6	-0.7
MWZ	**Matawai**	**5.30**	**210**	P	Pn	22 44 25.2	-0.9
MWZ				S	Sn	22 45 26.2	+0.2
URZ	**Urewera**	**5.42**	**214**	P	Pn	22 44 27.9	+0.2
URZ				S	Sn	22 45 29.4	+0.5
RAGZ	**Rawiri**	**5.49**	**210**	P	Pn	22 44 28.6	0.0
RAGZ				S	Sn	22 45 31.3	+0.6
RIGZ	**Rimuhau**	**5.53**	**206**	P	Pn	22 44 29.8	+0.6
RIGZ				S	Sn	22 45 32.1	+0.5
PRGZ	**Paritu Road**	**5.68**	**205**	P	Pn	22 44 30.4	-0.8
PRGZ				S	Sn	22 45 36.5	+1.2
MUGZ	**Murupara**	**5.76**	**214**	P	Pn	22 44 32.5	+0.1
RAHZ	**Arahi**	**5.98**	**210**	P	Pn	22 44 36.0	+0.6
MTHZ	**Maungataniwha**	**6.03**	**212**	P	Pn	22 44 35.8	-0.3
NMHZ	**Naumai**	**6.25**	**211**	P	Pn	22 44 39.9	+0.8
KWHZ	**Kaweka Forest**	**6.69**	**211**	P	Pn	22 44 46.2	+1.1
KAHZ	**Kahuranaki**	**6.81**	**207**	P	Pn	22 44 45.3	-1.5
FWVZ	**Far West T-bar**	**6.96**	**217**	P	Pn	22 44 48.6	-0.4

NEIC 14 22:49:16.6±0.8, 22°.1S±0°.2×172°.0W±0°.2, h15km±5km, mb4.6/12
ISCJB 14 22:49:17.6±0.8, 22°.0S±0°.1×172°.1W±0°.2, h33km, mb4.1/3, Error ellipse: s-maj=28.7km s-min=9.6km az=43.5
IDC 14 22:49:45.4±64.0, 22°.73S×176°.20W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/33, mbtmp4.2/3, Error ellipse: s-maj=1180.0km s-min=169.8km az=87.0

ISC 14 22:49:19.1±1.1, 22°.1S±0°.2×172°.0W±0°.2, h35km, n20, σ1§19/20, mb4.6/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.55**	**34**	Pn	**Pn**	**22 50 11.4**	**-0.3**
KNTN	**Kanton**	**19.17**	**1**	P	**Pn**	**22 53 40.7**	**0.0**
KNTN				IAmb	IAmb	22 53 42.1	
	comp=Z,38nm,0.9s						
DZM	**Mont Dzumac**	**19.97**	**266**	P	**P**	**22 53 48.4**	**-0.1**
DZM				IAmb	IAmb	22 53 49.8	
	comp=Z,17nm,0.9s						
PLWZ	**Palliser**	**22.21**	**206**	P	**P**	**22 54 12.1**	**-0.5**
CAN	**Canberra**	**36.43**	**240**	P	**P**	**22 56 21.3**	**+0.7**
CAN				IAmb	IAmb	22 56 28.5	
	comp=Z,8.1nm,1.0s						
STKA	**Stephens Creek**	**42.22**	**246**	P	**P**	**22 57 08.2**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=90,slow=10,SNR=7.0						
STKA	**Stephens Creek**	**42.22**	**246**	P	**P**	**22 57 09.3**	**+0.4**
BYL	**Byron's Ledge**	**44.35**	**23**	P	**P**	**22 57 25.9**	**-0.3**
BBOO	**Buckleboo**	**46.91**	**245**	P	**P**	**22 57 47.0**	**+0.6**
BBOO				IAmb	IAmb	22 58 00.2	
	comp=Z,8.3nm,1.1s						
AS31	**Alice Springs**	**49.61**	**257**	P	**P**	**22 58 07.5**	**+0.1**
ASAR	**Alice Springs**	**49.61**	**257**	P	**P**	**22 58 08.2**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=89,slow=8.0,SNR=21						
ASAR	**Alice Springs**	**49.61**	**257**	P	**P**	**22 58 08.2**	**+0.8**
WR0	**Warramunga Arr**	**49.73**	**262**	P	**P**	**22 58 04.4**	**-3.8**
WRA	**Warramunga Arr**	**49.92**	**262**	P	**P**	**22 58 11.0**	**+1.3**
	comp=Z,1.3nm,0.3s,baz=102,slow=8.4,SNR=28						
WRA	**Warramunga Arr**	**49.92**	**262**	P	**P**	**22 58 11.0**	**+1.3**
KNRA	**Kununurra**	**56.12**	**266**	P	**P**	**22 58 55.9**	**+0.5**
KNRA				IAmb	IAmb	22 59 02.9	
	comp=Z,7.9nm,1.1s						
FITZ	**Fitzroy Crossi**	**58.34**	**262**	P	**P**	**22 59 12.2**	**+1.0**
AHID	**Auburn Hatcher**	**85.44**	**40**	P	**P**	**23 01 53.8**	**+0.5**
SCM	**Sheep Creek Mo**	**85.91**	**11**	P	**P**	**23 01 56.0**	**+0.9**
SCM				IAmb	IAmb	23 01 57.7	
	comp=Z,11nm,1.1s						
RIDG	**Independent Ri**	**88.12**	**12**	P	**P**	**23 02 05.2**	**-0.5**

ISCJB 14 22:52:35.6±0.9, 36°.87N±0°.06×71°.4E±0°.1, h150km, Error ellipse: s-maj=15.4km s-min=5.9km az=153.1
NNC 14 22:52:41.4±2.1, 37°.28N×71°.33E, h145km±35km, mb3.1, mpv3.8, Error ellipse: s-maj=20.5km s-min=12.1km az=35.0

ISC 14 22:52:34.4±1.1, 36°.83N±0°.08×71°.3E±0°.1, h150km, n16, σ2§47/21, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.60**	**18**	P	**Pn**	**22 53 57.6**	**+1.6**
	SNR=21						
THN	**Thein Dam**	**5.68**	**139**	*e*P	Pn	22 54 04.0	+7.2
THN				*e*S	**Sn**	**22 55 04.0**	**+2.8**
UCH	**Uchtor**	**5.92**	**24**	P	**Pn**	**22 54 01.8**	**+1.4**
	SNR=6.1						
KZA	**Kyzart**	**6.05**	**29**	P	**Pn**	**22 54 03.1**	**+1.0**
	SNR=11						
EKS2	**Erkin-Say**	**6.12**	**17**	P	**Pn**	**22 54 04.4**	**+1.7**
	SNR=6.4						
DHRM	**DHARAMSHALA**	**6.14**	**137**	*e*P	**Pn**	**22 54 05.1**	**+2.0**
DHRM				*e*S	**Sn**	**22 55 09.8**	**-2.6**
DHRM				IAML		22 55 13.2	
	comp=E,48nm,0.2s						
DHRM				IAML		22 55 13.4	
	comp=N,79nm,0.5s						
AAK	**Ala-Archa**	**6.29**	**22**	P	**Pn**	**22 54 06.9**	**+1.9**
	SNR=7.7						
AAK	**Ala-Archa**	**6.29**	**22**	⇑P	**Pn**	**22 54 06.3**	**+1.4**
	comp=N,2.6nm,0.4s						
AAK				⇑S	**Sn**	**22 55 13.3**	**-2.6**
	comp=N,7.3nm,0.6s						
KK31	**Karatay Array**	**6.30**	**354**	⇑P	**Pn**	**22 54 06.1**	**+1.1**
	comp=N,7.6nm,0.5s,baz=182,slow=13,SNR=102						
KK31				S	**Sn**	**22 55 12.8**	**-3.1**
	comp=N,3.8nm,0.5s,baz=176,slow=20,SNR=6.5						
CHMS	**Chumysh**	**6.69**	**22**	P	**Pn**	**22 54 11.8**	**+1.5**
	SNR=6.0						
USP	**Ospenovka**	**6.87**	**20**	P	**Pn**	**22 54 13.9**	**+1.3**
	SNR=6.1						
TKM2	**Tokmak 2**	**6.91**	**27**	⇓P	**Pn**	**22 54 14.8**	**+1.5**
	comp=N,8.0nm,1.1s						
SMLA	**Simla**	**7.47**	**138**	*e*P	**Pn**	**22 54 22.5**	**+1.9**
SMLA				*e*S	**Sn**	**22 55 39.2**	**-4.9**
SMLA				IAML		22 55 44.9	
	comp=E,31nm,0.4s						
SMLA				IAML		22 55 45.0	
	comp=N,34nm,0.2s						
KUDL	**Kundal**	**9.69**	**152**	*e*P	**Pn**	**22 54 48.1**	**-2.2**
KUDL				*e*S	Sn	22 56 26.8	-11
AB31	**Akbulak array**	**14.93**	**330**	P	**P**	**22 55 59.5**	**0.0**
	comp=N,0.5nm,0.3s,baz=130,slow=10,SNR=47						
AB31				⇓S	**Sn**	**22 58 40.6**	**-2.8**
	comp=N,0.8nm,0.6s,baz=158,slow=22,SNR=4.1						
AKTO	**Aktyubinsk**	**16.63**	**329**	⇑P	**Pn**	**22 56 22.1**	**+3.5**
	comp=N,2.3nm,0.5s						

ISCJB 14 23:19:29.8±0.5, 18°.04N±0°.09×46°.83W±0°.08, h10km, mb4.0/7, MS3.9/24, Error ellipse: s-maj=12.7km s-min=11.1km az=170.6
IDC 14 23:19:31.0±1.0, 18°.13N×46°.71W, h0km, mb3.9/7, mb1 4.2/8, mb1mx3.8/39, mbtmp4.0/8, ML4.0/1, MS3.9/26, Ms1 3.9/26, ms1mx3.8/37, Error ellipse: s-maj=27.1km s-min=24.3km az=133.0
NEIC 14 23:19:31.6±2.8, 18°.0N±0°.1×46°.9W±0°.1, h10km±1km, mb4.6/10
GCMT 14 23:19:32.6±0.3, 18°.09N±0°.03×46°.58W±0°.02, h15km±1km, MW4.9/87, Moment Tensor Solution. s22,c23; s87,c114; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr~2.16±.15; Mθθ 0.07±.10; Mφφ 2.09±.11; Mrθ -1.54±.25; Mrφ 0.21±.05; Mθφ~0.48±.18; Best double couple: M=2.60000×10¹⁶ NP1:φs 33.00000°, δ 60.00000°, λ -62.00000°. NP2: φs 166.00000°, δ 40.00000°, λ -130.00000°. Principal axes: T 2.2320, Plg 11.0000°, Azm 103.0000°; N 0.7390, Plg 24.0000°, Azm 198.0000°; P -2.9680, Plg 63.0000°, Azm 352.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 14 23:19:31.7±0.7, 18°.1N±0°.1×46°.8W±0°.1, h10km, n46, σ1§46/19, mb4.2/12, MS4.0/24, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**14.13**	**205**	Pn	**Pn**	**23 22 51.3**	**-0.8**
	0.8nm,0.3s,baz=10,slow=16,SNR=7.7						
MDP				Sn	Sn	23 25 15.8	-13
	0.2nm,0.3s,baz=291,slow=23,SNR=3.8						
MDP				LR	LR	23 27 13.2	
	comp=Z,186nm,19.4s,baz=28,slow=33						
MCLT	**Moule a Chique**	**14.30**	**254**	Pn	Pn	23 22 48.3	-6.1
TOSP	**Speyside**	**14.92**	**245**	Pn	**Pn**	**23 23 02.1**	**-0.7**
STVI	**Saint Thomas**	**17.26**	**274**	Pn	**Pn**	**23 23 30.6**	**-2.5**
SJG	**San Juan**	**18.41**	**273**	LR	LR	23 29 38.5	
	comp=Z,625nm,20.9s,baz=84,slow=33						
SDV	**Santo Domingo**	**24.91**	**252**	P	**P**	**23 24 58.7**	**+3.4**
	1.1nm,0.3s,baz=57,slow=4.1,SNR=4.3						
ROSC	**El Rosal**	**29.97**	**247**	LR	LR	23 40 02.9	
	comp=Z,181nm,19.7s,baz=76,slow=41						
I63A	**Otisfield**	**32.70**	**327**	P	**P**	**23 26 03.8**	**-0.5**
I63A				IAmb	IAmb	23 26 04.8	
	comp=Z,8.6nm,1.0s						
H62A	**Milan**	**33.36**	**328**	P	**P**	**23 26 07.5**	**-2.7**
H62A				IAmb	IAmb	23 26 14.8	
	comp=Z,6.8nm,1.0s						
BDFB	**Brasilia**	**33.55**	**182**	LR	LR	23 39 12.8	
	comp=Z,83nm,18.2s,baz=303,slow=35						
LPAZ	**La Paz**	**40.12**	**213**	LR	LR	23 43 11.6	
	comp=Z,90nm,19.8s,baz=28,slow=35						
H10N3	**ASCENSION HYDR**	**40.99**	**126**	T	T	00 10 38.5	
	baz=309,slow=75,SNR=27						
H10N2	**ASCENSION HYDR**	**40.99**	**126**	T	T	00 10 38.8	
	baz=309,slow=75,SNR=25						
H10N1	**ASCENSION HYDR**	**41.01**	**126**	T	T	00 10 43.8	
	baz=309,slow=75,SNR=25						

DDMP				S		Sn	23 20 15.7	+1.2
GSPH	**General Santos**	**1.32**	**293**	⇓P		**Pn**	**23 20 09.0**	**-0.4**
MATI	**Mati**	**1.37**	**3**	P		**Pn**	**23 20 09.1**	**-0.8**
MATI				S		**Sn**	**23 20 28.2**	**+0.2**
DMPH	**Davao City--Mi**	**1.64**	**336**	⇑P		**Pn**	**23 20 14.6**	**+1.3**
KCP	**Kidapawan**	**1.79**	**323**	⇓P		**Pn**	**23 20 16.1**	**+0.8**
KCP				S		**Sn**	**23 20 36.7**	**-1.0**
SKMP	**Bagumbayan, Su**	**1.87**	**300**	P		**Pn**	**23 20 17.0**	**+0.7**
SKMP				S		**Sn**	**23 20 40.4**	**+0.9**
BUKP	**Musuan**	**2.54**	**334**	P		**Pn**	**23 20 25.0**	**-0.2**
BUKP				S		**Sn**	**23 20 55.0**	**-0.5**
BUTP	**Butuan**	**3.42**	**351**	P		**Pn**	**23 20 37.2**	**+0.3**
BUTP				S		**Sn**	**23 21 16.7**	**+0.2**
PAGZ	**Pagadian**	**3.58**	**309**	P		**Pn**	**23 20 38.9**	**-0.2**
PAGZ				S		**Sn**	**23 21 18.9**	**-1.5**
WRA	**Warramunga Arr**	**26.60**	**163**	P		**P**	**23 25 17.6**	**+1.7**
	0.4nm,0.8s,baz=338,slow=11,SNR=3.5							
ASAR	**Alice Springs**	**30.02**	**166**	P		**P**	**23 25 45.6**	**-0.8**
	0.2nm,0.5s,baz=341,slow=7.2,SNR=4.3							
MKAR	**Makanchi Array**	**55.74**	**325**	P		P	23 29 09.8	-3.5
	0.3nm,0.4s,baz=128,slow=6.9,SNR=8.8							

*ISCJB **14** 23:20:07.9±0.6,34°.58N±0°.04×140°.38E±0°.05,h78km±5km, mb3.6/3,Error ellipse: s-maj=7.5km s-min=5.9km az=7.3*
*JMA **14** 23:20:08.1±0.2,34°.56N×140°.37E,h71km×2km,M3.3 Broadband fault plane solution: P waves. NP1: φs167.00000°,δ50.00000°,λ90.00000°. NP2: φs347.00000°,δ40.00000°,λ90.00000°. Principal axes: T Plg85.0000°, Azm77.0000°; N Plg0.0000°, Azm167.0000°; P Plg5.0000°, Azm257.0000°;*
*IDC **14** 23:20:10.5±4.1,34°.22N×139°.77E,h61km±46km,mb3.3/3, mb1 3.6/4,mb1mx3.2/29,mbtmp3.6/4,ML3.0/1 Error ellipse: s-maj=68.7km s-min=28.8km az=62.0*

ISC 14 23:20:09.1±1.0,34°.58N±0°.04×140°.36E±0°.05,h69km±8km, n20,σ0°69/32,mb3.6/3,5C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.25**	**29**	⇑P	**Pn**	**23 20 19.4**	**-0.1**
BSO3				X		23 20 27.6	
BSO4	**Boso 4**	**0.41**	**357**	⇑P	**Pn**	**23 20 20.9**	**0.0**
BSO4				X		23 20 29.1	
BSO1	**Boso 1**	**0.52**	**82**	⇓P	**Pn**	**23 20 21.0**	**-0.3**
BSO1				*e*X		23 20 30.9	
KTR	**Katsuura**	**0.57**	**356**	⇑P	**Pn**	**23 20 22.1**	**-0.4**
KTR				S	**Sn**	**23 20 32.7**	**+0.4**
JKUC	**kamogawauchiur**	**0.59**	**347**	⇑P	**Pn**	**23 20 22.4**	**-0.3**
JKUC				S	**Sn**	**23 20 33.2**	**+0.4**
TATJ	**Tateyama 2**	**0.59**	**320**	⇑P	**Pn**	**23 20 22.9**	**+0.2**
TATJ				S	**Sn**	**23 20 34.3**	**+1.5**
JIM2	**Oshima 3**	**0.78**	**280**	P	**Pn**	**23 20 24.2**	**-0.6**
JIM2				S	**Sn**	**23 20 35.5**	**-1.0**
JTHY	**Toshimahigashi**	**0.89**	**267**	P	**Pn**	**23 20 26.2**	**+0.1**
JTHY				S	**Sn**	**23 20 39.3**	**+0.6**
JMKN	**Mikurajimanish**	**0.94**	**223**	⇓P	**Pn**	**23 20 26.7**	**0.0**
JMKN				S	**Sn**	**23 20 40.5**	**+0.7**
JSMT	**Sammumatsuo**	**1.06**	**4**	P	**Pn**	**23 20 28.1**	**-0.2**
JSMT				S	**Sn**	**23 20 42.8**	**+0.2**
KTJ3	**Kamata3**	**1.12**	**289**	⇓P	**Pn**	**23 20 28.2**	**-0.8**
JIZS	**Izushimoda**	**1.23**	**277**	P	**Pn**	**23 20 30.2**	**-0.2**
JIZS				S	**Sn**	**23 20 46.4**	**0.0**
JOD2	**Odawara 2**	**1.25**	**303**	⇓P	**Pn**	**23 20 30.0**	**-0.7**
JOD2				S	**Sn**	**23 20 46.1**	**-0.8**
JFNN	**Fujinakano**	**1.51**	**294**	P	**Pn**	**23 20 34.3**	**+0.2**
JHJ2	**Mitsune**	**1.53**	**197**	P	**Pn**	**23 20 34.7**	**+0.3**
JHJ2				S	**Sn**	**23 20 54.3**	**+0.8**
MJAR	**Matsushiro Arr**	**2.63**	**319**	P	**Pn**	**23 20 49.9**	**+0.7**
	2.9nm,0.3s,baz=140,slow=14,SNR=298						
MJAR				S	**Sn**	**23 21 21.7**	**+1.7**
	1.9nm,0.3s,baz=156,slow=19,SNR=12						
MAT	**Matsushiro**	**2.63**	**319**	P	**Pn**	**23 20 50.0**	**+0.8**
MAT				S	**Sn**	**23 21 19.8**	**-0.3**
MKAR	**Makanchi Array**	**44.74**	**304**	P	**P**	**23 28 15.8**	**+0.4**
	0.7nm,0.7s,baz=88,slow=10,SNR=5.1						
WRA	**Warramunga Arr**	**54.52**	**187**	P	**P**	**23 29 28.9**	**-1.0**
	0.8nm,0.7s,baz=0.4,slow=7.4,SNR=7.9						
ASAR	**Alice Springs**	**58.25**	**187**	P	**P**	**23 29 56.1**	**-0.3**
	0.2nm,0.5s,baz=1.5,slow=6.0,SNR=5.1						

IDC 14 23:32:43.1±3.9,0°.73S×99°.52E,h0km,mb3.5/5,mb1 3.6/5, mb1mx3.4/26,mbtmp3.5/5,Error ellipse: s-maj=163.4km s-min=22.6km az=57.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.05**	**122**	P	P	23 40 12.3	+0.2
	0.2nm,0.3s,baz=304,slow=9.2,SNR=3.0						
ASAR	**Alice Springs**	**40.39**	**127**	P	P	23 40 22.7	-0.5
	0.4nm,0.9s,baz=292,slow=7.9,SNR=4.2						
SONM	**Songino Array**	**48.73**	**6**	P	P	23 41 30.2	+0.5
	0.2nm,0.4s,baz=201,slow=7.7,SNR=3.3						
MKAR	**Makanchi Array**	**49.68**	**345**	P	P	23 41 37.4	+0.6
	0.6nm,0.8s,baz=164,slow=8.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**55.84**	**350**	P	P	23 42 20.9	-1.2
	1.1nm,0.7s,baz=169,slow=7.0,SNR=5.1						

*ISCJB **14** 23:41:20.4±0.6,18°.04N±0°.09×46°.70W±0°.09,h10km, mb3.7/6,MS3.3/6,Error ellipse: s-maj=12.8km s-min=11.9km az=144.4*
*IDC **14** 23:41:21.0±1.0,18°.09N×46°.64W,h0km,mb3.8/6, mb1 4.1/7,mb1mx3.7/39,mbtmp3.9/7,ML3.6/1,MS3.3/8, Ms1 3.3/8,ms1mx3.2/30,Error ellipse: s-maj=28.2km s-min=26.5km az=60.0*
*NEIC **14** 23:41:22.1±0.6,18°.0N±0°.1×46°.7W±0°.1,h10km±5km, mb4.6/7*

ISC 14 23:41:22.3±0.8,18°.1N±0°.1×46°.7W±0°.1,h10km,n25, σ0°50/15,mb4.1/11,MS3.3/6,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**13.32**	**250**	Pn	**Pn**	**23 44 31.0**	**-0.5**
MDP	**Montagnes des**	**14.12**	**205**	Pn	**Pn**	**23 44 42.5**	**-0.1**
	0.3nm,0.3s,baz=9.3,slow=16,SNR=4.6						
MDP				LR	LR	23 48 37.9	
	comp=Z,109nm,18.2s,baz=69,slow=31						
ABVI	**Anegada Island**	**16.76**	**275**	Pn	**Pn**	**23 45 17.2**	**-0.1**
SJG	**San Juan**	**18.50**	**273**	LR	LR	23 51 29.6	
	comp=Z,96nm,20.4s,baz=84,slow=33						
SDV	**Santo Domingo**	**24.97**	**252**	LR	LR	23 57 47.1	
	comp=Z,26nm,20.3s,baz=52,slow=39						
ROSC	**El Rosal**	**30.03**	**247**	LR	LR	00 00 41.9	
	comp=Z,50nm,19.2s,baz=356,slow=39						
DRLN	**Deer Lake**	**32.34**	**347**	P	**P**	**23 47 51.8**	**+0.1**
DRLN				IAmb	IAmb	23 47 54.8	
	comp=Z,27nm,1.1s						
KSCT	**Kent School, K**	**32.87**	**322**	P	**P**	**23 47 56.9**	**+0.5**
KSCT				IAmb	IAmb	23 48 02.0	
	comp=Z,10nm,1.1s						
ODNJ	**Ogdensburg**	**33.16**	**320**	P	**P**	**23 47 58.9**	**-0.1**
ODNJ				IAmb	IAmb	23 48 10.0	
	comp=Z,12nm,1.2s						
R50A	**Paris**	**38.47**	**309**	P	**P**	**23 48 44.4**	**-0.2**
D53A	**Lac Vacive, Po**	**38.55**	**326**	P	**P**	**23 48 44.1**	**-1.0**
D53A				IAmb	IAmb	23 48 51.0	
	comp=Z,5.0nm,1.1s						
H10N3	**ASCENSION HYDR**	**40.89**	**126**	T	T	00 32 28.3	
	baz=309,slow=75,SNR=25						
H10N2	**ASCENSION HYDR**	**40.89**	**126**	T	T	00 32 25.9	
	baz=309,slow=75,SNR=21						
H10N1	**ASCENSION HYDR**	**40.91**	**126**	T	T	00 32 27.2	
	baz=309,slow=75,SNR=20						
H10S3	**ASCENSION HYDR**	**41.47**	**128**	T	T	00 33 15.3	
	baz=272,slow=74,SNR=20						
H10S2	**ASCENSION HYDR**	**41.49**	**128**	T	T	00 33 08.7	
	baz=308,slow=74,SNR=22						
DBIC	**Dimbokro**	**42.30**	**100**	LR	LR	00 02 50.7	
	comp=Z,48nm,20.9s,baz=336,slow=30						
CPUP	**Villa Florida**	**45.31**	**193**	P	**P**	**23 49 41.0**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=352,slow=11,SNR=4.0						
TOA0	**Torodi Ar. Sit**	**46.76**	**89**	P	**P**	**23 49 51.9**	**-0.3**
TOA0				IAmb	IAmb	23 49 53.4	
	comp=Z,4.6nm,1.1s						
TORD	**Torodi Ar. Bea**	**46.76**	**89**	P	**P**	**23 49 52.1**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=288,slow=7.3,SNR=10						
TORD				LR	LR	00 07 13.6	
	comp=Z,93nm,18.0s,baz=340,slow=33						
TXAR	**Lajitas Array**	**52.93**	**293**	LR	LR	00 14 45.1	
	comp=Z,18nm,18.0s,baz=0.0,slow=38						
PDAR	**Pinedale Array**	**58.14**	**310**	P	**P**	**23 51 17.4**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=96,slow=8.3,SNR=2.9						
PDAR				LR	LR	00 15 18.7	
	comp=Z,56nm,19.3s,baz=40,slow=35						
AKASG	**Malin Array Be**	**67.36**	**42**	P	**P**	**23 52 17.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=280,slow=7.2,SNR=3.6						
INK	**Inuvik**	**72.22**	**337**	P	**P**	**23 52 46.9**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=111,slow=8.6,SNR=2.7						
ILAR	**Eielson Array**	**78.11**	**334**	P	**P**	**23 53 21.9**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=68,slow=5.5,SNR=9.2						

*ISCJB **15** 00:04:02.3±1.9,14°.3N±0°.1×92°.32W±0°.08,h54km,Error ellipse: s-maj=18.6km s-min=6.7km az=28.8*
*MEX **15** 00:04:03.9±0.4,14°.29N×92°.32W,h20km±113km,MD3.7*
*GCG **15** 00:04:05.6±0.3,14°.14N×91°.98W,h20km,MD3.2*

ISC 15 00:04:02.4±2.7,14°.3N±0°.2×92°.33W±0°.10,h54km,n6, σ1°10/10,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.59**	**6**	*i* P	**Pn**	**00 04 14.9**	**-0.1**
THIG				*e*S	**Sn**	**00 04 22.5**	**-1.6**
STG3	**Santiaguito 3,**	**0.84**	**62**	*e*P	**Pn**	**00 04 19.1**	**+0.9**
STG3				*e*S	**Sn**	**00 04 29.7**	**-0.1**
FUG	**Fuego 3**	**1.45**	**85**	*e*S	**Sn**	**00 04 44.7**	**+0.2**
PCIG		**1.62**	**328**	*e*P	**Pn**	**00 04 29.3**	**+0.7**
PCIG				*e*S	**Sn**	**00 04 47.7**	**-0.7**
IXG	**Ixpaco**	**1.84**	**94**	*e*S	**Sn**	**00 04 52.1**	**-1.9**
CCIG	**Comitan**	**1.96**	**6**	*e*P	**Pn**	**00 04 34.1**	**+0.7**
CCIG				*e*S	**Sn**	**00 04 57.1**	**+0.1**

*IDC **15** 00:07:31.6±1.0,55°.64S×27°.07W,h0km,mb3.8/4, mb1 3.9/4,mb1mx3.7/17,mbtmp3.8/4,Error ellipse: s-maj=43.9km s-min=27.3km az=78.0*
*ISCJB **15** 00:07:42.1±0.4,55°.78S±0°.07×27°.2W±0°.2,h100km, mb3.7/4,Error ellipse: s-maj=16.4km s-min=7.5km az=150.6*
*NEIC **15** 00:07:42.2±0.7,55°.79S±0°.1×27°.2W±0°.2,h84km±6km, mb4.3/19*

ISC 15 00:07:43.8±0.5,55°.79S±0°.10×27°.3W±0°.1,h100km,n34, σ1°12/30,mb4.1/13,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.48**	**282**	Pn	**Pn**	**00 09 01.6**	**-1.3**
VNA1	**Neumayer--Stat**	**17.07**	**158**	P	**P**	**00 11 34.9**	**-1.1**
VNA3	**Neumayer Olymp**	**17.27**	**161**	P	**P**	**00 11 35.9**	**-2.3**
VNA2	**Neumayer--Watz**	**17.46**	**158**	P	**P**	**00 11 38.5**	**-1.9**
	baz=320,slow=14						
SNAA	**Sanae**	**19.01**	**156**	P	**P**	**00 11 54.6**	**-2.7**
SNAA	**Sanae**	**19.01**	**156**	P	**P**	**00 11 55.3**	**-2.0**
QSPA	**South Pole Qui**	**34.46**	**180**	P	**P**	**00 14 22.1**	**+0.5**
QSPA				IAmb	IAmb	00 14 23.4	
	comp=Z,2.0nm,0.7s						
CPUP	**Villa Florida**	**36.58**	**311**	P	**P**	**00 14 40.7**	**+0.9**
CPUP				IAmb	IAmb	00 14 46.6	
	comp=Z,2.8nm,1.1s						
MAW	**Mawson**	**40.41**	**144**	P	**P**	**00 15 11.0**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=242,slow=11,SNR=1.1						
GO02	**Mina Guanaco**	**43.30**	**297**	P	**P**	**00 15 36.0**	**+0.2**
GO02				IAmb	IAmb	00 15 49.8	
	comp=Z,5.3nm,1.1s						
LVC	**Limon Verde**	**45.10**	**300**	P	**P**	**00 15 50.0**	**-0.2**
LVC				IAmb	IAmb	00 15 51.4	
	comp=Z,2.5nm,0.8s						
VNDA	**Vanda**	**46.83**	**183**	P	**P**	**00 16 04.0**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=181,slow=6.4,SNR=8.4						
VNDA	**Vanda**	**46.83**	**183**	P	**P**	**00 16 04.4**	**+1.7**
GO01	**Chusmiza**	**47.74**	**302**	P	**P**	**00 16 11.2**	**+0.2**
GO01				IAmb	IAmb	00 16 25.1	
	comp=Z,2.5nm,1.1s						
H10N1	**ASCENSION HYDR**	**48.89**	**17**	T	T	01 09 06.6	
	baz=191						
H10N3	**ASCENSION HYDR**	**48.89**	**17**	T	T	01 09 02.7	
	baz=191						
H10N2	**ASCENSION HYDR**	**48.91**	**17**	T	T	01 09 03.8	
	baz=191						
LPAZ	**La Paz**	**50.16**	**305**	P	**P**	**00 16 29.8**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=162,slow=3.2,SNR=2.2						
LPAZ	**La Paz**	**50.16**	**305**	IAmb	IAmb	00 16 44.3	
	comp=Z,1.9nm,1.1s						
RCBR	**Riachuelo**	**50.29**	**349**	P	**P**	**00 16 29.7**	**-0.3**
CASY	**Casey**	**54.18**	**160**	P	**P**	**00 16 58.8**	**+0.7**
SAML	**Samuel**	**54.56**	**315**	P	**P**	**00 17 01.8**	**+0.3**
DBIC	**Dimbokro**	**64.96**	**25**	P	**P**	**00 18 13.3**	**+0.7**
DBIC				IAmb	IAmb	00 18 24.7	
	comp=Z,6.9nm,1.1s						
TOA0	**Torodi Ar. Sit**	**72.87**	**30**	P	**P**	**00 19 01.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**72.87**	**30**	P	**P**	**00 19 01.4**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=203,slow=6.6,SNR=10						
DCZ	**Deep Cove**	**78.38**	**190**	P	**P**	**00 19 34.2**	**+1.5**
PDPR	**Patillas Dam,**	**80.45**	**323**	P	**P**	**00 19 43.8**	**-0.5**
THZ	**Tophouse**	**81.31**	**195**	P	**P**	**00 19 49.7**	**+0.9**
THZ				IAmb	IAmb	00 19 52.1	
	comp=Z,8.4nm,1.1s						
BHW	**Baring Head**	**81.35**	**197**	P	**P**	**00 19 49.6**	**+0.7**
CCIG	**Comitan**	**89.94**	**300**	P	**P**	**00 20 31.4**	**-0.4**
CCIG				IAmb	IAmb	00 20 37.1	
	comp=Z,2.7nm,1.0s						
BBOO	**Buckleboo**	**90.62**	**166**	P	**P**	**00 20 34.7**	**0.0**
BBOO				IAmb	IAmb	00 20 43.7	
	comp=Z,3.3nm,0.8s						
BBSR	**BB Station**	**93.43**	**329**	P	**P**	**00 20 47.3**	**0.0**
ILAR	**Eielson Array**	**149.88**	**312**	PKPbc	**PKiKP**	**00 27 21.1**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=129,slow=1.3,SNR=4.0						
SONM	**Songino Array**	**150.79**	**86**	PKPbc	**PKiKP**	**00 27 23.5**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=236,slow=1.9,SNR=3.7						

IDC 15 00:29:27.0±9.8,1°.63N×96°.51E,h0km,mb3.5/3,mb1 3.7/4, mb1mx3.3/34,mbtmp3.5/4,ML4.3/1,Error ellipse: s-maj=197.5km s-min=121.2km az=144.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.89**	**8**	Pn	Pn	00 33 24.9	-0.1
	0.4nm,0.3s,baz=196,slow=12,SNR=4.4						
H08S2	**Diego Garcia H**	**25.66**	**249**	T	T	01 01 52.6	
	baz=69,slow=76,SNR=49						
H08S3	**Diego Garcia H**	**25.67**	**249**	T	T	01 01 54.7	
	baz=69,slow=76,SNR=51						
H08S1	**Diego Carcia H**	**25.68**	**249**	T	T	01 01 57.1	
	baz=69,slow=76,SNR=40						
MKAR	**Makanchi Array**	**46.67**	**347**	P	P	00 37 57.5	+0.2
	0.4nm,0.6s,baz=171,slow=9.0,SNR=4.4						
SONM	**Songino Array**	**46.82**	**9**	P	P	00 37 58.6	-0.1
	0.2nm,0.7s,baz=173,slow=5.8,SNR=2.4						
ZALV	**Zalesovo Beam**	**53.03**	**351**	P	P	00 38 45.1	-0.5
	0.3nm,0.3s,baz=164,slow=5.8,SNR=3.6						

IDC 15 00:50:08.4±5.1,10°.34S×166°.51E,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.6/25,mbtmp3.8/4,ML3.3/1,Error ellipse: s-maj=102.0km s-min=46.3km az=76.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.67**	**180**	Pn	Pn	00 52 56.2	-0.2
	0.2nm,0.3s,baz=336,slow=20,SNR=4.5						
WRA	**Warramunga Arr**	**32.43**	**249**	P	P	00 56 40.9	+0.4
	0.9nm,0.9s,baz=79,slow=9.4,SNR=4.7						
ASAR	**Alice Springs**	**33.78**	**243**	P	P	00 56 51.9	-0.4
	0.5nm,1.0s,baz=76,slow=9.6,SNR=4.5						
CMAR	**Chiang Mai Arr**	**72.52**	**293**	P	P	01 01 37.8	0.0
	0.6nm,0.2s,baz=107,slow=6.0,SNR=2.3						

*NEIC **15** 01:14:21.2±1.5,23°.0S±0°.1×179°.1W±0°.2,h518km±7km, mb4.3/22*
*ISCJB **15** 01:14:23.2±0.7,23°.14S±0°.06×179°.6W±0°.1,h500km, mb4.8/28,Error ellipse: s-maj=16.2km s-min=6.0km az=155.6*
*BJI **15** 01:14:23.5±0.0,22°.90S×178°.90W,h540km,mb4.9/30, mB5.2/12*
*IDC **15** 01:14:24.8±3.8,23°.46S×179°.67W,h490km±41km, mb4.1/14,mb1 4.2/15,mb1mx3.8/36,mbtmp5.0/15,Error ellipse: s-maj=27.0km s-min=11.2km az=63.0*

ISC 15 01:14:23.5±0.5,23°.39S±0°.07×179°.62W±0°.09,h500km, n192,σ2°.07/199,mb4.5/35,58C-5D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.93**	**273**	P	**P**	**01 17 13.1**	**+1.0**
	0.1nm,0.3s,baz=84,slow=18,SNR=2.7						
DZM	**Mont Dzumac**	**12.93**	**273**	P	P	01 17 17.3	+5.3
OUZ	**Omahuta**	**13.19**	**205**	P	**P**	**01 17 19.0**	**+4.6**
ETAZ	**East Tamaki Re**	**14.32**	**198**	P	P	01 17 34.0	+7.6
MKAZ	**Moumakai**	**14.39**	**197**	P	**P**	**01 17 31.2**	**+4.0**
KBAZ	**Karaka Road Bo**	**14.46**	**198**	P	**P**	**01 17 32.3**	**+4.5**
WMGZ	**Waiomatatini S**	**14.48**	**186**	P	**P**	**01 17 32.2**	**+4.1**
HAZ	**Te Kaha**	**14.50**	**188**	P	**P**	**01 17 30.9**	**+2.7**
RUGZ	**Raukumara Rang**	**14.72**	**188**	P	**P**	**01 17 33.9**	**+3.2**
PUZ	**Puketiti**	**14.75**	**187**	P	**P**	**01 17 34.5**	**+3.6**
FUNA	**Funafuti**	**14.82**	**355**	P	P	01 17 25.9	-6.1
TOZ	**Tahuroa Road**	**14.90**	**195**	P	**P**	**01 17 36.4**	**+4.0**
URZ	**Urewera**	**15.09**	**190**	P	**P**	**01 17 34.8**	**+0.4**
	5.4nm,0.3s,baz=6.1,slow=16,SNR=14						
URZ				S	**S**	**01 20 03.8**	**-8.1**
	1.1nm,0.3s,baz=54,slow=19,SNR=3.8						
URZ	**Urewera**	**15.09**	**190**	P	**P**	**01 17 35.1**	**+0.7**
URZ	**Urewera**	**15.09**	**190**	P	**P**	**01 17 37.0**	**+2.6**
MWZ	**Matawai**	**15.10**	**189**	P	**P**	**01 17 36.9**	**+2.3**
TKGZ	**Te Karaka**	**15.16**	**188**	P	**P**	**01 17 39.1**	**+3.9**
RIGZ	**Rimuhau**	**15.44**	**188**	P	**P**	**01 17 40.6**	**+2.5**
PRGZ	**Paritu Road**	**15.63**	**187**	P	**P**	**01 17 44.1**	**+3.9**
BKZ	**Black Stump Fm**	**16.07**	**191**	P	**P**	**01 17 47.3**	**+2.5**
BKZ				IAmb	IAmb	01 17 48.9	
	comp=Z,9.3nm,0.9s						
TUVZ	**Tukino**	**16.34**	**193**	P	**P**	**01 17 49.8**	**+2.2**
BHHZ	**Black Hill Sta**	**16.47**	**192**	P	**P**	**01 17 49.0**	**+0.1**
TUWZ	**Tuamarina**	**18.78**	**195**	P	**P**	**01 18 11.8**	**+1.0**
RPZ	**Rata Peaks**	**21.69**	**199**	P	**P**	**01 18 38.2**	**+1.0**
	comp=Z,18nm,0.5s,baz=320,slow=1.7,SNR=17						
WHZ	**Wether Hill No**	**24.61**	**201**	P	**P**	**01 19 05.3**	**+2.0**
CTA	**Charters Tower**	**31.83**	**269**	P	**P**	**01 20 09.1**	**+2.3**
	comp=Z,25nm,0.3s,baz=96,slow=11,SNR=90						
KRVT	**Keravat (AS076**	**33.30**	**300**	P	**P**	**01 20 20.8**	**+1.5**
	comp=Z,20nm,0.5s,baz=273,slow=17,SNR=4.4						
PMG	**Port Moresby**	**34.66**	**288**	P	**P**	**01 20 32.7**	**+2.0**
	comp=Z,48nm,0.8s,baz=105,slow=5.0,SNR=16						
STKA	**Stephens Creek**	**35.24**	**247**	P	**P**	**01 20 37.3**	**+1.8**
	comp=Z,4.6nm,0.4s,baz=94,slow=10,SNR=17						
STKA	**Stephens Creek**	**35.24**	**247**	P	**P**	**01 20 36.8**	**+1.4**
COEN	**Coen**	**36.38**	**278**	P	**P**	**01 20 44.9**	**-0.2**
COEN				IAmb	IAmb	01 20 49.1	
	comp=Z,9.0nm,1.0s						
AS31	**Alice Springs**	**42.46**	**260**	P	**P**	**01 21 35.4**	**+1.2**
AS31				IAmb	IAmb	01 21 36.8	
	comp=Z,4.3nm,0.5s						
ASAR	**Alice Springs**	**42.47**	**260**	P	**P**	**01 21 35.1**	**+0.9**
	comp=Z,5.6nm,0.3s,baz=97,slow=7.4,SNR=200						
ASAR				S	**S**	**01 27 14.8**	**-4.9**
	comp=Z,1.9nm,0.7s,baz=98,slow=14,SNR=9.9						
WR0	**Warramunga Arr**	**42.60**	**265**	P	**P**	**01 21 36.1**	**+0.8**
WR0				IAmb	IAmb	01 21 39.8	
	comp=Z,7.8nm,0.6s						
WRA	**Warramunga Arr**	**42.79**	**265**	P	**P**	**01 21 37.3**	**+0.5**
	comp=Z,9.1nm,0.3s,baz=91,slow=8.5,SNR=287						
WRA				S	**S**	**01 27 17.6**	**-6.8**
	comp=Z,2.5nm,0.9s,baz=98,slow=13,SNR=8.2						
JAY	**Jayapura**	**43.64**	**292**	P	**P**	**01 21 45.1**	**+1.6**
	comp=Z,32nm,0.9s,baz=205,slow=6.9,SNR=8.0						
SMPI	**Sarmi**	**45.61**	**292**	P	**P**	**01 22 02.0**	**+3.3**
	comp=Z,43nm,0.9s						
FORT	**Forrest**	**46.82**	**249**	P	**P**	**01 22 08.5**	**+0.8**
KNRA	**Kununurra**	**49.04**	**269**	P	**P**	**01 22 25.2**	**+0.7**
SAUI	**Saumlaki**	**49.42**	**280**	P	**P**	**01 22 28.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**51.22**	**265**	P	**P**	**01 22 40.6**	**+0.1**
FITZ				IAmb	IAmb	01 22 42.8	
	comp=Z,16nm,1.1s						
SWI	**Sorong**	**52.61**	**288**	P	**P**	**01 22 51.5**	**+0.9**
	comp=Z,138nm,0.8s,comp=Z,2μm						
MSAI	**Masohi**	**53.52**	**284**	P	**P**	**01 22 59.1**	**+2.0**
	comp=Z,15nm,0.6s						
VNDA	**Vanda**	**54.92**	**185**	P	**P**	**01 23 07.4**	**+1.4**
	comp=Z,2.5nm,0.6s,baz=0.2,slow=6.5,SNR=14						
VNDA	**Vanda**	**54.92**	**185**	P	**P**	**01 23 06.9**	**+0.9**
SOEI	**Soe**	**55.15**	**274**	P	**P**	**01 23 11.2**	**+2.4**
	comp=Z,130nm,0.9s,comp=Z,1μm						
TNTI	**Ternate**	**56.81**	**287**	P	**P**	**01 23 19.9**	**-0.2**
MORW	**Morawa**	**57.38**	**250**	P	**P**	**01 23 24.3**	**+0.4**
MORW				IAmb	IAmb	01 23 25.7	
	comp=Z,12nm,0.9s						
MMRI	**Maumere**	**57.42**	**275**	P	**P**	**01 23 24.7**	**+0.3**
PLAI	**Plampang**	**61.44**

BIR	Birlad	148.31	323	⇑P	PKiKP	01 33 14.0	-0.2
PRAR	RASCA	148.38	326	⇑P	PKPbc	01 33 13.1	-0.1
VARL	Varlezi	148.41	322	⇑P	PKPbc	01 33 12.1	-1.1
JURR	Jurilovca	148.45	319	⇑P	PKiKP	01 33 14.2	-0.3
KWP	Kalwaria Pacla	148.49	332	*e*PKP	PKPbc	01 33 12.6	-0.7
KWP				*e*PKP	PKPbc	01 33 12.6	-0.7
KWP	Kalwaria Pacla	148.49	332	PKPbc	PKPdf	01 33 10.2	+1.1
GHRR		148.56	323	⇓P	PKiKP	01 33 14.8	0.0
CFR	Carcaliu	148.66	321	⇓P	PKPbc	01 33 14.2	+0.4
TOPG	Topolog	148.69	320	⇑P	PKiKP	01 33 15.1	+0.1
TESR	Tescani	148.70	324	⇓P	PKPbc	01 33 13.7	-0.2
BIZ	Bicaz	148.72	325	⇑P	PKiKP	01 33 15.0	0.0
BURAR	Bucovina Array	148.74	327	⇑P	PKPbc	01 33 14.6	+0.4
TIRR	Tirgusor	148.90	319	⇑P	PKPbc	01 33 14.9	+0.4
ODBI	Odobesti	148.94	322	⇑P	PKiKP	01 33 16.0	+0.5
MFTR	Murfatlar	149.05	319	⇑P	PKiKP	01 33 16.2	+0.4
VRI	Vrincioaia	149.06	323	⇑P	PKPbc	01 33 14.1	-0.7
HARR	Harsova	149.06	320	⇑P	PKiKP	01 33 16.0	+0.3
PLOR	Plostina	149.11	323	⇑P	PKPbc	01 33 15.1	+0.1
CSS	Mathiatis	149.14	299	PKPbc	PKPdf	01 33 12.0	+1.4
MANR	Mangalia	149.14	318	⇓P	PKiKP	01 33 16.5	+0.5
CVDA	Cernavoda	149.19	319	⇑P	PKiKP	01 33 15.9	-0.1
KOLS	Kolonicke sedl	149.19	331	*e*PKP	PKPbc	01 33 15.1	0.0
OZUR		149.43	324	⇑P	PKiKP	01 33 16.6	0.0
ARCR	ARCALIA	149.53	327	⇑P	PKiKP	01 33 16.5	-0.2
BMR	Baia Mare	149.54	328	⇑P	PKPbc	01 33 15.9	0.0
ISR	Istrita	149.61	322	⇑P	PKiKP	01 33 17.2	+0.2
NIE	Niedzica	149.66	334	*e*PKP	PKPbc	01 33 15.8	-0.3
NIE				*e*PKP	PKPbc	01 33 15.8	-0.3
TRPA	Tarpa	149.67	330	⇑P	PKPbc	01 33 16.1	0.0
TRPA	Tarpa	149.67	330	*e*PKiKP	PKPbc	01 33 16.0	-0.2
DOPA	Dopca	149.72	324	⇑P	PKiKP	01 33 17.7	+0.5
SECR		149.93	322	⇑P	PKiKP	01 33 17.8	+0.2
KSP	Ksiaz	149.93	340	*e*PKP	PKPbc	01 33 15.9	-0.8
KSP				*e*PKP	PKPbc	01 33 15.9	-0.8
OKC	Ostrava-Krasne	150.15	337⇑	*e*PKP	PKPbc	01 33 15.4	-1.9
CJR	Cluj-Napoca	150.16	327	⇑P	PKPbc	01 33 17.5	0.0
LANS	Liptovska Anna	150.20	334	*e*PKP	PKPbc	01 33 17.9	+0.4
OSTC	Ostas	150.20	339⇑	*e*PKP	PKPbc	01 33 17.5	+0.1
CHVC	Chvalec	150.23	340⇑	*e*PKP	PKPbc	01 33 16.1	-1.4
VOIR		150.24	324	⇑P	PKPbc	01 33 18.1	+0.4
UPC	Upice	150.31	340⇑	*e*PKP	PKPbc	01 33 16.8	-0.9
DPC	Dobruska-Polom	150.35	339⇑	*e*PKP	PKPbc	01 33 16.9	-0.9
MTUR	Matau	150.37	323	⇑P	PKiKP	01 33 19.8	+1.2
MORC	Moravsky Berou	150.42	337	⇑P	PKPbc	01 33 17.5	-0.5
MORC	Moravsky Berou	150.42	337	*e*PKP	PKPbc	01 33 17.0	-1.0
KRLC	Kraliky	150.43	338⇑	*e*PKP	PKPbc	01 33 17.0	-1.0
ISP	Isparta	150.49	306	⇑P	PKiKP	01 33 20.7	+1.6
LTVH	Ltavrtes, Hu	150.50	330	*e*PKiKP	PKPbc	01 33 18.1	-0.1
ARR	Arges	150.51	324	⇑P	PKiKP	01 33 19.9	+1.0
RAZG	Razgrad	150.54	319	⇑P	PKiKP	01 33 19.4	+0.5
DRGR		150.54	328	⇑P	PKiKP	01 33 18.5	+0.1
BRG	Berggiesshubel	150.61	342	*i* PKP	PKPbc	01 33 16.9	-1.4
	comp=Z,20nm,0.9s						
PVCC	Panska Ves	150.74	341⇑	*e*PKP	PKPbc	01 33 17.8	-0.8
LOT	Lotru	150.92	325	⇑P	PKPbc	01 33 18.7	-0.7
COPA	Copaceanca	150.96	321	⇑P	PKPbc	01 33 19.7	+0.3
VYHS	Vyhne	150.98	334	*e*PKP	PKPbc	01 33 19.1	-0.2
DEV	Deva	151.08	326	⇑P	PKPbc	01 33 19.5	0.0
JAVC	Velka Javorina	151.13	336	*e*PKP	PKiKP	01 33 20.1	+0.1
PRA	Prague	151.18	341⇑	*e*PKP	PKPbc	01 33 18.6	-1.0
GOPC	GO Pecny, Ondr	151.21	340⇑	*e*PKP	PKPbc	01 33 18.6	-1.2
PRU	Pruhonice	151.22	341⇑	*e*PKP	PKPbc	01 33 18.3	-1.4
ELND	Elena	151.28	319	⇑P	PKiKP	01 33 20.6	+0.1
KRNC	Moravsky	151.47	338	*e*PKP	PKPbc	01 33 19.3	-0.9
SIRR	Siria	151.43	328	⇑P	PKiKP	01 33 20.8	+0.1
GZR	Gura Zlata	151.48	326	⇑P	PKPbc	01 33 19.9	-0.7
VLAD	Vladila	151.51	322	⇑P	PKiKP	01 33 20.9	0.0
SMOL	Smolenice	151.51	336	*e*PKP	PKPbc	01 33 20.9	+0.2
TREC	Trest	151.53	339⇑	*e*PKP	PKPbc	01 33 19.3	-1.2
NKC	Novy Kostel	151.59	344⇑	*e*PKP	PKPbc	01 33 19.7	-0.9
PBCC	Pribram	151.66	341⇑	*e*PKP	PKPbc	01 33 19.6	-1.1
MODS	Modra-Piesok	151.68	336	*e*PKP	PKPbc	01 33 20.1	-0.8
PLVB	Pleven	151.75	321	⇓P	PKiKP	01 33 22.1	+0.7
BZS	Buzias	151.91	327	⇑P	PKPbc	01 33 21.1	-0.3
CSKK	Cskako	152.12	333	*e*PKiKP	PKPbc	01 33 20.1	-1.8
KHC	Kasperske Hory	152.27	341⇑	*e*PKP	PKPbc	01 33 20.9	-1.3
KHC				*ex*	x	01 33 37.3	
BANR	Banloc	152.32	327	⇑P	PKiKP	01 33 23.4	+0.9
MDVR	Moldovita	152.45	326	⇑P	PKPbc	01 33 22.6	-0.1
SOP	Sopron	152.52	336	*e*PKiKP	PKPbc	01 33 22.1	-0.7
BSTI	Sart Tilman	152.55	353	PKiKP	PKPdf	01 33 17.4	+2.2
TIH	Tihany	152.64	333	*e*PKiKPc	PKPdf	01 33 19.1	-2.4
MORH	Mrgy, Hungar	152.86	332	*e*P	PKPbc	01 33 22.7	-0.8
MORH	Mrgy, Hungar	152.86	332	*e*PKiKP	PKPbc	01 33 23.0	-0.4
FRGS	Fruska Gora	153.12	329	*e*P	PKPbc	01 33 23.3	-0.8
DIVS	Divibare	153.80	327	*e*P	PKPbc	01 33 25.6	-0.1
STIP	Stip	154.21	320	*e*PKP	PKPbc	01 33 25.8	-0.7
HAPS	Han Pijesak,Bl	154.33	328	*e*P	PKiKP	01 33 26.1	-0.8
RUDO	Rudo	154.46	327	*e*P	PKiKP	01 33 26.5	-0.5
CRES	Cresnjev	154.49	335	*e*P	PKiKP	01 33 25.9	-1.1
VNDS	Vrh nad Dolski	154.54	336	*i* PKPbc	PKiKP	01 33 26.2	-0.9
BLY	Banja Luka	154.65	331	*e*P	PKPbc	01 33 27.7	+0.4
LJU	Ljubljana	154.66	337	*e*P	PKiKP	01 33 26.0	-1.3
CRNS	Crni Vrh	154.72	337	*i* PKPbc	PKiKP	01 33 26.3	-1.2
BOJS	Bojanci	154.84	335	*i* PKPbc	PKiKP	01 33 27.4	-0.3
DAVOX	Davos/Dischmat	155.44	344	PKPab	PKPab	01 33 49.8	+1.5
	comp=Z,6.2nm,0.8s,baz=17,slow=11,SNR=4.0						
FUORN	Ofenpass-Fuorn	155.49	343	PKPdf	PKPdf	01 33 15.9	-3.9
CTI	Castel Tesino	155.62	344	PKPdf	PKPdf	01 33 15.9	-3.8
TEOL	Teolo	156.23	340	PKPdf	PKPdf	01 33 16.8	-3.7
NRCA	Norcia	157.91	334	PKPdf	PKPdf	01 33 19.9	-2.8
INTR	Introdacqua	158.27	332	PKPdf	PKPdf	01 33 19.3	-3.9
ESDC	Sonseca Array	163.35	12	PKPab	PKPab	01 34 25.1	+2.4
	comp=Z,1.0nm,0.8s,baz=355,slow=3.7,SNR=4.5						
KEST	Kesra	165.44	330	PKPab	PKPab	01 34 34.6	+2.4
	comp=Z,4.1nm,1.0s,baz=297,slow=4.5,SNR=4.7						
TORD	Torodi Ar. Bea	169.74	187	PKPab	PKPab	01 34 51.3	-0.1
	comp=Z,0.8nm,0.7s,baz=186,slow=4.3,SNR=4.2						

ISCJB ***15*** *01:14:32.3±0.2, 20°54S±0°.05×178°.27W±0°.04, h550km, mb4.5/35, Error ellipse: s-maj=7.1km s-min=3.9km az=146.6*

IDC ***15*** *01:14:34.3±1.4, 20°.50S×178°.22W, h566km±15km, mb4.0/26, mb1 4.2/27, mb1mx4.0/37, mbtmp4.9/27, Error ellipse: s-maj=11.7km s-min=8.2km az=151.0*

NEIC ***15*** *01:14:35.6±1.8, 20°.5S±0°.1×178°.2W±0°.1, h578km±6km, mb4.5/146*

ISC 15 01:14:32.4±0.3, 20°.35S±0°.07×178°.09W±0°.07, h550km, n386, σ1°64/397, mb4.5/93, 7C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.49	305	P	P	01 15 59.6	+1.3
NIUE	Niue	7.79	82	P	P	01 16 28.0	-0.1
NIUE				S		01 18 11.8	+8.9
AFI	Afiamalu	8.80	44	P	P	01 16 36.1	-2.3
	25nm,0.3s,baz=236,slow=11,SNR=48						
AFI				S	S	01 18 13.7	-7.9
	14nm,0.3s,baz=198,slow=20,SNR=9.8						
AFI	Afiamalu	8.80	44	P	P	01 16 35.4	-2.9
OUZ	Omahuta	16.53	205	P	P	01 17 56.9	+0.2
MXZ	Matakaoa Point	17.43	190	P	P	01 18 04.3	-0.6
WMGZ	Waiomatatini S	17.67	189	S	P	01 18 07.1	0.0
HAZ	Te Kaha	17.71	191	S	P	01 18 06.8	-0.7
TOZ	Tahuroa Road	18.19	196	S	P	01 18 12.8	+0.9
MWZ	Matawai	18.32	191	S	P	01 18 12.3	-0.8
URZ	Urewera	18.32	192	P	P	01 18 10.9	-2.2
	9.3nm,0.3s,baz=9.1,slow=3.4,SNR=17						
URZ	Urewera	18.32	192	P	P	01 18 10.5	-2.6
URZ	Urewera	18.32	192	S	P	01 18 11.2	-1.9
BFZ	Birch Farm	20.83	192	P	P	01 18 33.8	-2.0
BHW	Baring Head	21.83	194	P	P	01 18 42.9	-1.9
QRZ	Quartz Range	21.92	199	P	P	01 18 44.9	-0.7
TUMZ	Tuamarina	22.07	196	P	P	01 18 45.7	-1.6
THZ	Tophouse	22.67	198	P	P	01 18 51.6	-0.8
RPZ	Rata Peaks	25.00	199	P	P	01 19 10.5	-2.5
	11nm,0.5s,baz=303,slow=3.3,SNR=6.0						
RPZ	Rata Peaks	25.00	199	P	P	01 19 10.5	-2.5
RPZ	Rata Peaks	25.00	199	IAmb	IAmb	01 19 14.5	
	comp=Z,12nm,0.5s						
WHZ	Wether Hill Ro	27.94	201	P	P	01 19 38.8	0.0
CTA	Charters Tower	33.42	264	P	P	01 20 25.8	-0.4
	comp=Z,31nm,0.6s,baz=88,slow=11,SNR=22						
CTA	Charters Tower	33.42	264	P	P	01 20 25.8	-0.4
PMG	Port Moresby	35.23	283	P	P	01 20 40.8	-0.6
	comp=Z,24nm,0.6s,baz=97,slow=7.8,SNR=5.8						
STKA	Stephens Creek	37.78	244	P	P	01 21 02.5	+0.3
	comp=Z,2.7nm,0.4s,baz=87,slow=12,SNR=6.4						
STKA				PcP	PcP	01 23 05.1	+0.6
	comp=Z,2.2nm,0.6s,baz=80,slow=6.1,SNR=2.7						
STKA	Stephens Creek	37.78	244	P	P	01 21 02.5	+0.3
STKA	Stephens Creek	37.78	244		PcP	01 23 05.1	+0.6
STKA	Stephens Creek	37.78	244	IAmb	IAmb	01 21 03.2	
	comp=Z,0.8nm,0.6s						
JAY	Jayapura	43.92	288	P	P	01 21 51.5	+0.3
	comp=Z,60nm,0.7s,baz=158,slow=3.0,SNR=20						
JAY	Jayapura	43.92	288	P	P	01 21 51.5	+0.3
WR0	Warramunga Arr	44.35	262	P	P	01 21 53.5	-1.0
WR0				IAmb	IAmb	01 21 55.5	
	comp=Z,16nm,1.1s						
AS31	Alice Springs	44.47	257	P	P	01 21 54.2	-1.2
AS31				IAmb	IAmb	01 21 56.0	
	comp=Z,8.6nm,0.6s						
ASAR	Alice Springs	44.47	257	P	P	01 21 55.5	+0.2
	comp=Z,29nm,0.6s,baz=96,slow=7.6,SNR=54						
ASAR				PcP	PcP	01 23 27.4	+0.4
	comp=Z,4.0nm,0.5s,baz=101,slow=4.2,SNR=6.9						
ASAR				S	S	01 27 47.9	-3.0
	comp=Z,5.8nm,0.9s,baz=95,slow=16,SNR=14						
ASAR	Alice Springs	44.47	257	P	P	01 21 55.5	+0.2
ASAR					PcP	01 23 27.4	+0.4
ASAR					S	01 27 47.9	-3.0
WRAB	Tennant Creek	44.53	262	P	P	01 21 55.1	-0.7
WRAB				IAmb	IAmb	01 21 56.0	
	comp=Z,30nm,1.1s						
WRA	Warramunga Arr	44.54	262	P	P	01 21 55.3	-0.6
	comp=Z,14nm,0.6s,baz=96,slow=8.5,SNR=38						
WRA				S	S	01 27 48.1	-3.9
	comp=Z,1.3nm,0.9s,baz=106,slow=12,SNR=3.5						
WRA	Warramunga Arr	44.54	262	P	P	01 21 55.3	-0.6
WRA					S	01 27 48.1	-3.9
MTN	Manton Dam	49.08	270	P	P	01 22 29.6	-0.6
SAUI	Saumlaki	50.40	277	P	P	01 22 40.1	+0.2
KNRA	Kununurra	50.59	266	P	P	01 22 40.2	-1.0
FITZ	Fitzroy Crossi	52.97	262	P	P	01 22 58.3	0.0
	baz=92,slow=3.5						
FITZ	Fitzroy Crossi	52.97	262	P	P	01 22 58.3	0.0
FITZ	Fitzroy Crossi	52.97	262	IAmb	IAmb	01 22 59.3	
	comp=Z,6.8nm,0.6s						
TNTI	Ternate	57.34	285	P	P	01 23 29.0	+0.1
TNTI				IAmb	IAmb	01 23 30.3	
	comp=Z,42nm,1.0s						
PSA00	Pilbara Seismi	57.62	257	P	P	01 23 30.1	-0.6
PSA00				IAmb	IAmb	01 23 31.0	
	comp=Z,25nm,0.8s						
VNDA	Vanda	58.05	185	P	P	01 23 33.8	+1.2
	comp=Z,2.4nm,0.7s,baz=22,slow=7.5,SNR=8.8						
VNDA	Vanda	58.05	185	P	P	01 23 33.2	+0.6
MMRI	Maumere	58.67	272	P	P	01 23 37.5	-0.4
MMRI				IAmb	IAmb	01 23 38.4	
	comp=Z,41nm,0.9s						
JAGI	Jajag, Banyuwa	66.30	270	P	P	01 24 26.9	-0.3
JAGI				IAmb	IAmb	01 24 27.5	
	comp=Z,22nm,1.0s						
QSPA	South Pole Qui	69.71	180	P	P	01 24 47.8	+0.7
	comp=Z,6.3nm,0.7s,baz=129,slow=1.2,SNR=9.8						
QSPA	South Pole Qui	69.71	180	P	P	01 24 47.5	+0.3
MJAR	Matsushiro Arr	70.04	324	P	P	01 24 49.9	+0.5
	comp=Z,7.6nm,0.6s,baz=141,slow=5.9,SNR=30						
MJAR	Matsushiro Arr	70.04	324	P	P	01 24 49.9	+0.5
KSM	Kuching	73.31	278	P	P	01 25 09.7	+0.8
KSM				IAmb	IAmb	01 25 10.3	
	comp=Z,15nm,0.7s						
PETK	Petropavlovsk-	76.11	345	P	P	01 25 24.6	+0.9
	comp=Z,14nm,0.6s,baz=145,slow=3.6,SNR=17						
PETK	Petropavlovsk-	76.11	345	P	P	01 25 24.6	+0.9
KSRS	Korea Array	76.72	319	P	P	01 25 28.9	+1.5
	comp=Z,5.2nm,0.7s,baz=128,slow=5.9,SNR=20						
KSRS	Korea Array	76.72	319	P	P	01 25 28.9	+1.5
SCI2	San Clemente I	77.73	48	P	P	01 25 35.4	+2.4
	baz=234						
PKM	Mcpherson Peak	77.95	46	P	P	01 25 37.7	+3.3
	baz=233						
SAO	San Andreas Ge	77.98	43	P	P	01 25 35.5	+1.2
SAO				IAmb	IAmb	01 25 37.2	
	comp=Z,12nm,0.8s						
HOPS	Hopland Field	78.31	41	P	P	01 25 37.1	+1.1
HOPS				IAmb	IAmb	01 25 39.0	
	comp=Z,19nm,0.9s						
PASC	Pasadena Art C	78.65	47		P	01 25 39.4	+1.5
PASC	Pasadena Art C	78.65	47	P	P	01 25 39.0	+1.1
PASC				IAmb	IAmb	01 25 40.3	
	comp=Z,9.3nm,0.7s						
KMRM	Mail Ridge	78.69	39	P	P	01 25 40.3	+2.2
MWC	Mount Wilson	78.76	47	P	P	01 25 40.0	+1.2
USRK	Ussuriysk Ar.	78.80	326	P	P	01 25 40.5	+2.0
	comp=Z,14nm,0.7s,baz=118,slow=3.4,SNR=41						
USRK	Ussuriysk Ar.	78.80	326	P	P	01 25 40.5	+2.0
VES	Vestal, Richgr	78.98	45	P	P	01 25 41.6	+2.0
	baz=234						
MURC	Murrieta	79.02	48	P	P	01 25 42.0	+2.1
	baz=235						
BFSC	Mount Baldy Ra	79.05	47	P	P	01 25 41.6	+1.4
	baz=235						
MONP2	Monument Peak	79.17	49	P	P	01 25 43.1	+2.1
	baz=236,SNR=6.6						
EDW2	Edwards Air Fo	79.17	47	P	P	01 25 42.9	+2.2
	baz=234,SNR=11						
O02D	Mt. Diablo Mer	79.22	40	P	P	01 25 43.5	+2.6
	baz=231,SNR=10						
IKP	In-Ko-Pah, Jac	79.27	49	P	P	01 25 43.7	+2.4
	baz=236						
ISA	Isabella, Lake	79.29	46	P	P	01 25 43.3	+2.0
	baz=234						
ISA	Isabella, Lake	79.29	46	P	P	01 25 42.3	+0.9
CMB	Columbia Colle	79.41	43	P	P	01 25 42.8	+0.9
PFO	Pinyon Flats O	79.54	48	P	P	01 25 44.8	+2.0
	baz=236						
PFO	Pinyon Flats O	79.54	48	P	P	01 25 44.2	+1.4
	comp=Z,1.6nm,0.6s,baz=280,slow=2.7,SNR=4.0						
PFO	Pinyon Flats O	79.54	48	P	P	01 25 44.2	+1.4
PFO	Pinyon Flats O	79.54	48	IAmb	IAmb	01 25 45.6	
	comp=Z,5.7nm,1.1s						
AFDM	Forest Hills D	79.58	42	P	P	01 25 43.7	+0.9
WDC	Whiskeytown Da	79.61	40	P	P	01 25 44.6	+1.3
ORV	Oroville	79.62	41	P	P	01 25 44.2	+1.3
LRMC	Laurel Mtn Rad	79.72	46	P	P	01 25 45.4	+1.7
	baz=235						
N02D	Trinity Center	79.76	39	P	P	01 25 46.2	+2.5
	baz=230,SNR=9.5						
O03E	Paynes Creek	79.88	40	P	P	01 25 46.0	+1.6
	baz=231,SNR=8.2						
M02C	Callahan	79.93	39	P	P	01 25 47.4	+2.8
	baz=230,SNR=10						
CWC	Cottonwood Cre	79.99	45	P	P	01 25 47.6	+2.5
	baz=234						
MDPB	Devils Postpil	80.02	44	P	P	01 25 47.1	+1.7
OMMB	Old Mammoth Mi	80.06	44	P	P	01 25 47.3	+1.6
BELC	Belle Mtn. Jos	80.07	48	P	P	01 25 47.8	+2.2
	baz=236,SNR=5.2						
MPMC	Manual Prospec	80.17	46	P	P	01 25 48.3	+2.1
	baz=235,SNR=6.3						
GSC	Goldstone, Bar	80.22	47	P	P	01 25 48.2	+1.9
	baz=235						
GSC	Goldstone, Bar	80.22	47	P	P	01 25 47.3	+1.1
YBH	Yreka Blue Hor	80.22	39	P	P	01 25 48.5	+2.3
	comp=Z,14nm,0.7s,baz=197,slow=1.9,SNR=48						
YBH	Yreka Blue Hor	80.22	39	P	P	01 25 48.1	+2.0
YBH				IAmb	IAmb	01 25 49.4	
	comp=Z,15nm,0.8s						
TIN	Tinemaha, Big	80.24	45	P	P	01 25 49.0	+2.6
	baz=234,SNR=6.5						
HEC	Hector,Ludlow	80.28	47	P	P	01 25 48.6	+2.0
	baz=236						
WAKR	Walker	80.29	43	P	P	01 25 48.2	+1.5
WAKR				IAmb	IAmb	01 25 49.8	
	comp=Z,14nm,1.0s						
MDJ	Mudanjiang	80.35	325	P	P	01 25 48.0	+1.4
MDJ				IAmb	IAmb	01 25 49.3	
	comp=Z,19nm,0.8s						
GLA	Glamis	80.39	50	P	P	01 25 50.3	+3.1
	baz=237						
GLA	Glamis	80.39	50	P	P	01 25 49.0	+1.8
BEKR	Beckworth	80.51	41	P	P	01 25 48.9	+1.1
PNTR	Pine Nut	80.53	42	P	P	01 25 50.0	+2.0
PNTR				IAmb	IAmb	01 25 50.9	
	comp=Z,25nm,0.8s						
VCNR	Virginia City	80.62	42	P	P	01 25 50.8	+2.4
HUMO	Hull Mountain	80.63	38	IAmb	IAmb	01 25 51.6	
	comp=Z,12nm,1.1s						
YERR	Yerington	80.69	43	P	P	01 25 50.9	+2.1
YERR				IAmb	IAmb	01 25 51.5	
	comp=Z,12nm,0.8s						
GMRC	Granite Mounta	80.73	48	P	P	01 25 50.9	+1.9
	baz=236						
IRM	Iron Mountain	80.75	48	P	P	01 25 51.1	+2.1
	baz=236,SNR=6.0						
L04D	Klamath Falls	80.76	38	P	P	01 25 51.0	+2.0
	baz=231,SNR=8.1						
M04C	Macdoel	80.77	39	P	P	01 25 51.1	+2.1
	baz=231,SNR=6.3						
GRAC	Grapevine Rang	80.78	45	P	P	01 25 51.5	+2.4
	baz=235,SNR=9.7						
FURC	Furnace Creek,	80.82	46	P	P	01 25 51.0	+1.8
	baz=235						
RYN	Ryan	80.95	43	P	P	01 25 52.1	+2.1
NVAR	Mina Array Bea	80.97	43	P	P	01 25 52.0	+1.7
	comp=Z,6.8nm,0.8s,baz=224,slow=9.3,SNR=57						
NVAR	Mina Array Bea	80.97	43	P	P	01 25 52.0	+1.7
Y12C	Blythe	80.97	49	P	P	01 25 52.6	+2.6
	baz=237						
Y12C	Blythe	80.97	49	P	P	01 25 52.7	+2.6
Y12C				IAmb	IAmb	01 25 53.2	
	comp=Z,9.0nm,0.8s						
113A	Mohawk Valley,	81.00	50	P	P	01 25 52.5	+2.2
PAHR	Pah Rah Range	81.02	42	P	P	01 25 52.2	+1.8
PAHR				IAmb	IAmb	01 25 53.2	
	comp=Z,10nm,1.0s						
I03D	Drain, OR	81.09	37	P	P	01 25 52.7	+2.2
	baz=230						
214A	Organ Pipe Nat	81.28	51	P	P	01 25 54.0	+2.2
	baz=238						
KVN	Kaiserville	81.46	43	P	P	01 25 54.4	+1.6
KVN				IAmb	IAmb	01 25 55.2	
	comp=Z,11nm,0.8s						
TPNV	Topopah Spring	81.50	46	P	P	01 25 55.0	+2.1
	baz=235,SNR=11						
TPNV	Topopah Spring	81.50	46	P	P	01 25 55.0	+2.1
J04D	Umpqua Nationa	81.51	38	P	P	01 25 55.3	+2.4
	baz=231,SNR=14						
I04A	Tendick Farm,	81.68	37	P	P	01 25 55.2	+1.7
	baz=230,SNR=7.2						
MOD	Modoc Plateau	81.76	40	P	P	01 25 55.9	+1.8
MOD				IAmb	IAmb	01 25 56.9	
	comp=Z,12nm,0.8s						
H04D	Lebanon	81.95	36	P	P	01 25 57.1	+2.3
	baz=230						
SHPR	Sheep Range	81.99	46	P	P	01 25 57.8	+2.3
J05D	Fort Rock, OR	82.04	38	P	P	01 25 57.9	+2.4
	baz=231,SNR=27						
W13A	Hualapai Mount	82.13	48	P	P	01 25 58.2	+2.0
Y14A	Wickenburg	82.15	50	P	P	01 25 57.4	+1.2
WHN	Wuhan	82.29	306	⇑P	P	01 25 58.3	+1.4
WHN				pmax	pmax		
	comp=Z,52nm,1.0s						
H04A	Detroit Lake	82.36	37	IAmb	IAmb	01 25 58.9	
	comp=Z,11nm,0.6s						
PINE	Pine Mountain	82.52	38	P	P	01 26 00.3	+2.3
I05D	Terrebonne, OR	82.62	37	P	P	01 26 00.4	+2.1
	baz=231,SNR=6.6						
R11A	Troy Canyon, C	82.70	45	P	P	01 26 00.3	+1.2
	baz=236,SNR=6.6						
BMN	Battle Mountai	82.80	42	P	P	01 26 01.2	+1.8
BMN				IAmb	IAmb	01 26 02.1	
	comp=Z,15nm,0.9s						
TUC	Tucson	82.95	52	P	P	01 26 03.1	+2.8
	baz=239						
TUC	Tucson	82.95	52	P	P	01 26 02.1	+1.8
TUC				IAmb	IAmb	01 26 03.8	
	comp=Z,10nm,0.9s						
F04A	Amboy	83.01	35	P	P	01 26 02.1	+2.0
F04A				IAmb	IAmb	01 26 02.2	
	comp=Z,13nm,0.6s						
IPM	Ipoh	83.03

BNM	Barren Site	86.89	52	P	P	01 26 21.1	+1.6
TCUT	Toone Canyon	86.89	44	P	P	01 26 21.4	+1.9
TX31	Lajitas Ar. Si	87.04	57	P	P	01 26 21.3	+1.1
TX32	Lajitas Array	87.04	57	P	P	01 26 22.3	+2.1
TX32	Lajitas Array	87.04	57	IAmb	IAmb	01 26 23.2	
	comp=Z,8.0nm,0.9s						
TXAR	Lajitas Array	87.05	57	P	P	01 26 22.3	+2.1
	comp=Z,5.4nm,0.8s,baz=218,slow=6.9,SNR=40						
TXAR	Lajitas Array	87.05	57	P	P	01 26 22.3	+2.1
PV09	Paradox Valley	87.13	47	P	P	01 26 22.4	+1.7
PV14	Lion Creek, Pa	87.14	47	P	P	01 26 22.5	+1.9
PV14				IAmb	IAmb	01 26 22.8	
	comp=Z,6.8nm,1.0s						
PV23	Carpenter Ridg	87.19	47	IAmb	IAmb	01 26 23.6	
	comp=Z,6.4nm,0.8s						
NEW	Newport	87.30	36	P	P	01 26 22.1	+1.2
	baz=234						
NEW	Newport	87.30	36	P	P	01 26 21.8	+0.9
	comp=Z,2.2nm,0.7s,baz=230,slow=4.5,SNR=6.8						
NEW	Newport	87.30	36	P	P	01 26 21.8	+0.9
NEW	Newport	87.30	36	IAmb	IAmb	01 26 22.4	
	comp=Z,2.2nm,0.7s						
ANMO	Albuquerque	87.38	51	P	P	01 26 23.5	+1.7
	baz=241						
ANMO	Albuquerque	87.38	51	P	P	01 26 22.3	+0.6
	comp=Z,3.1nm,0.8s,baz=239,slow=5.2,SNR=12						
ANMO	Albuquerque	87.38	51	P	P	01 26 22.9	+1.2
DOT	Dot Lake	87.84	14	IAmb	IAmb	01 26 26.0	
	comp=Z,6.6nm,0.8s						
HDA	Harding Lake	87.86	13	P	P	01 26 23.4	+0.4
	baz=209						
MCMT	McKenzie Canyo	87.89	40	P	P	01 26 26.2	+2.1
XAN	Xi'an	87.98	307	P	P	01 26 25.8	+1.4
XAN				pmax	pmax		
	comp=Z,26nm,0.9s						
XAN	Xi'an	87.98	307	P	P	01 26 25.8	+1.4
TCOL	CIGO, UAF Yank	88.08	12	P	P	01 26 24.2	+0.2
	baz=208						
COLA	College	88.08	12	P	P	01 26 24.3	+0.2
SCRK	Sand Creek	88.14	14	IAmb	IAmb	01 26 26.4	
	comp=Z,8.7nm,1.2s						
ILAR	Eielson Array	88.19	13	P	P	01 26 24.6	0.0
	comp=Z,5.5nm,0.6s,baz=219,slow=5.5,SNR=77						
ILAR				PKiKP	PKiKP	01 31 21.1	-1.0
	comp=Z,0.2nm,0.5s,baz=247,slow=3.1,SNR=4.3						
ILAR	Eielson Array	88.19	13	P	P	01 26 24.6	0.0
VNA3	Neumayer Olymp	88.29	176	P	P	01 26 25.0	-0.3
DLMT	Dillon	88.33	40	IAmb	IAmb	01 26 28.6	
	comp=Z,7.3nm,0.9s						
SRDT	SRDT	88.34	286	P	P	01 26 22.8	-3.6
	comp=Z,7.3nm,0.8s,comp=Z,928nm						
REDW	Red Top Meadow	88.38	42	IAmb	IAmb	01 26 28.4	
	comp=Z,8.4nm,0.9s						
POKR	Poker Plat Res	88.38	12	P	P	01 26 25.5	0.0
	baz=209						
S22A	4UR Ranch, Cre	88.38	49	P	P	01 26 28.0	+1.5
	baz=241						
S22A	4UR Ranch, Cre	88.38	49	P	P	01 26 28.1	+1.6
FXWY	Fox Creek	88.41	42	P	P	01 26 28.4	+1.9
UTHA	Uthaitani	88.49	287	P	P	01 26 24.3	-2.8
	comp=Z,28µm,0.8s,comp=Z,652µm						
SNOW	Snow King Moun	88.49	42	P	P	01 26 28.7	+1.8
HIA	Hailar	88.53	325	P	P	01 26 27.2	+0.6
HIA				IAmb	IAmb	01 26 28.1	
	comp=Z,6.3nm,0.6s						
MOOW	Moose Ponds	88.64	42	P	P	01 26 29.3	+1.8
VNA2	Neumayer--Watz	88.73	177	P	P	01 26 27.3	+0.1
QLMT	Earthquake Lak	88.76	41	P	P	01 26 30.6	+2.6
FLWY	Flagg Ranch	88.84	42	P	P	01 26 30.8	+2.4
FLWY				IAmb	IAmb	01 26 31.4	
	comp=Z,9.5nm,0.8s						
YHB	Horse Butte	88.86	41	P	P	01 26 31.1	+2.6
PHRA	Phrae	88.87	290	P	P	01 26 26.7	-2.1
	comp=Z,1.2nm,1.0s						
BILL	Bilibino	88.88	354	P	P	01 26 29.8	+2.1
BILL				IAmb	IAmb	01 26 40.0	
	comp=Z,4.3nm,0.9s						
BW06	Boulder Array	88.91	43	P	P	01 26 29.6	+0.8
	baz=240						
BW06	Boulder Array	88.91	43	IAmb	IAmb	01 26 30.6	
	comp=Z,7.0nm,0.7s						
PD31	Pinedale Array	88.91	43	IAmb	IAmb	01 26 30.6	
	comp=Z,6.2nm,0.7s						
PDAR	Pinedale Array	88.91	43	P	P	01 26 29.9	+1.1
	comp=Z,4.8nm,0.6s,baz=210,slow=3.3,SNR=52						
PDAR	Pinedale Array	88.91	43	P	P	01 26 29.9	+1.1
YHL	Hebgen Lake	88.92	41	P	P	01 26 31.6	+2.7
SMCO	Snowmass	88.94	47	P	P	01 26 31.2	+2.0
VNA1	Neumayer--Stat	88.96	177	P	P	01 26 28.4	+0.1
KHLT	Khaolaem Dam	88.98	286	P	P	01 26 27.6	-1.8
	comp=Z,16nm,1.2s						
H17A	Grant Village	89.07	41	P	P	01 26 32.7	+3.2
	baz=239						
H17A	Grant Village	89.07	41	P	P	01 26 32.7	+3.2
H17A				IAmb	IAmb	01 26 33.3	
	comp=Z,7.8nm,0.8s						
YHH	Holmes Hill	89.09	41	P	P	01 26 32.1	+2.4
PRP	Porcupine Dome	89.12	13	IAmb	IAmb	01 26 31.5	
	comp=Z,6.0nm,0.9s						
KMI	Kunming	89.21	297	P	P	01 26 29.5	-1.1
KMI				pmax	pmax		
	comp=Z,11nm,1.7s						
KMI	Kunming	89.21	297	P	P	01 26 29.2	-1.4
UMPA	Umpang Tak	89.25	287	P	P	01 26 32.9	+2.2
SDCO	Great Sand Dun	89.32	49	P	P	01 26 33.3	+2.4
	baz=242						
LAMP	Lampang	89.41	290	P	P	01 26 34.0	+2.7
MSTX	Muleshoe	89.69	54	P	P	01 26 33.5	+1.1
	baz=244						
YNE	Yellowstone No	89.72	41	P	P	01 26 34.9	+2.3
T25A	Trinidad	89.83	50	P	P	01 26 35.0	+1.8
	baz=243						
CM31	Chiang Mai Arr	89.99	290	P	P	01 26 35.6	+1.6
CMAR	Chiang Mai Arr	89.99	290	P	P	01 26 35.8	+1.8
	comp=Z,9.5nm,0.9s,baz=119,slow=2.8,SNR=27						
CMAR	Chiang Mai Arr	89.99	290	P	P	01 26 35.8	+1.8
CHTO	Chiang Mai	90.12	290	P	P	01 26 35.1	+0.5
RLMT	Red Lodge	90.24	41	P	P	01 26 37.1	+2.2
	baz=240						
RLMT	Red Lodge	90.24	41	P	P	01 26 37.4	+2.5
RLMT				IAmb	IAmb	01 26 37.6	
	comp=Z,6.9nm,1.1s						
N23A	Red Feather La	90.42	46	P	P	01 26 37.9	+2.1
	baz=242						
JCT	Junction City	90.57	58	P	P	01 26 38.3	+1.8
	baz=245						
K22A	Casper	90.83	44	P	P	01 26 38.7	+1.1
	baz=242						
ABTX	Abilene, Hawle	91.54	56	P	P	01 26 42.2	+1.2
	baz=245						
EPYK	Eagle Plains	91.87	15	P	P	01 26 42.5	+0.9
	baz=218						
RSSD	Black Hills	93.11	44	P	P	01 26 49.0	+0.9
	baz=243						
INK	Inuvik	94.15	15	P	P	01 26 52.0	0.0
	comp=Z,3.1nm,0.9s,baz=205,slow=4.7,SNR=8.6						
SONM	Songino Array	95.59	319	P	P	01 26 59.4	+0.2
	comp=Z,0.8nm,0.5s,baz=128,slow=3.2,SNR=5.7						
SONM	Songino Array	95.59	319	P	P	01 26 59.4	+0.2
YKA	Yellowknife Ar	96.41	25	P	P	01 27 02.4	+0.1
	comp=Z,0.6nm,0.6s,baz=241,slow=4.4,SNR=11						
YKA	Yellowknife Ar	96.41	25	P	P	01 27 02.4	+0.1
RES	Resolute Bay	107.68	16	PKiKP	PKiKP	01 31 54.7	-1.7
	comp=Z,1.1nm,0.8s,baz=159,slow=8.6,SNR=2.4						
SADO	Sadowa	110.28	49	Pdiff	Pdif	01 28 04.5	0.0
	comp=Z,11nm,1.1s,baz=284,slow=9.4,SNR=2.7						
SADO	Sadowa	110.28	49		Pdif	01 28 04.5	0.0
ZALV	Zalesovo Beam	110.33	321	PKiKP	PKiKP	01 32 00.8	-1.1
	comp=Z,1.7nm,0.5s,baz=134,slow=0.8,SNR=9.8						
ZALV	Zalesovo Beam	110.33	321		PKiKP	01 32 00.8	-1.1
MKAR	Makanchi Array	111.04	313	Pdiff	Pdif	01 28 10.0	+2.2
	comp=Z,1.0nm,0.9s,baz=88,slow=5.2,SNR=5.1						
MKAR				PKiKP	PKiKP	01 32 01.9	-1.6
	comp=Z,2.0nm,0.6s,baz=210,slow=1.2,SNR=18						
MKAR	Makanchi Array	111.04	313		PKiKP	01 32 01.9	-1.6
BRVK	Borovoye	118.98	320		PKiKP	01 32 17.6	-1.0
KBL	Kabul	119.75	299		PKPdf	01 32 18.9	-2.0
SPITS	Spitsbergen Ar	121.71	357	PKP	PKiKP	01 32 22.2	-1.2
	comp=Z,6.4nm,0.8s,baz=66,slow=6.5,SNR=6.7						
SFJD	Kangerlussuaq	122.84	22	PKP	PKiKP	01 32 24.5	-1.3
	comp=Z,3.6nm,0.4s,baz=277,slow=3.6,SNR=5.9						
SFJD	Kangerlussuaq	122.84	22		PKiKP	01 32 24.5	-1.3
ARU	Arti	125.04	325		PKiKP	01 32 30.4	-0.1
BOSA	Boshof	126.35	206	PKP	PKiKP	01 32 32.9	-1.3
	comp=Z,1.2nm,0.6s,baz=167,slow=18,SNR=5.7						
BOSA	Boshof	126.35	206		PKiKP	01 32 32.9	-1.3
GEYT	Alibeck	128.64	303	PKP	PKiKP	01 32 37.9	-0.5
	comp=Z,2.9nm,0.6s,baz=340,slow=1.7,SNR=6.4						
GEYT	Alibeck	128.64	303		PKiKP	01 32 37.9	-0.5
ARCES	ARCESS Array B	128.76	350	PKP	PKiKP	01 32 36.3	-1.3
	comp=Z,3.7nm,0.6s,baz=22,slow=1.5,SNR=20						
ARCES	ARCESS Array B	128.76	350		PKiKP	01 32 36.3	-1.3
FINES	FINESS Array B	135.61	344	PKhKP	PKPpre	01 32 37.5	
	comp=Z,4.4nm,1.0s,baz=270,slow=7.6,SNR=7.0						
FINES				PKP	PKiKP	01 32 50.7	-0.9
	comp=Z,4.4nm,0.8s,baz=49,slow=3.8,SNR=8.9						
FINES				SKPbc	SKPbc	01 35 30.2	+0.4
	comp=Z,2.3nm,0.7s,baz=40,slow=4.5,SNR=3.4						
FINES	FINESS Array B	135.61	344		PKPpre	01 32 37.5	
FINES	FINESS Array B	135.61	344		PKiKP	01 32 50.7	-0.9
FINES					SKPbc	01 35 30.2	+0.4
NOA	NORSAR Array B	138.83	353	PKhKP	PKPpre	01 32 45.9	
	comp=Z,1.5nm,0.7s,baz=15,slow=4.0,SNR=7.3						
NOA				PKP	PKiKP	01 32 57.0	-1.3
	comp=Z,1.2nm,0.7s,baz=18,slow=4.1,SNR=3.2						
AKASG	Malin Array Be	142.85	331	PKiKP	PKPdf	01 33 00.8	-2.6
	comp=Z,15nm,0.5s,baz=42,slow=4.4,SNR=144						
AKASG				SKPbc	SKiKP	01 35 51.0	+0.1
	comp=Z,1.9nm,0.6s,baz=42,slow=2.4,SNR=8.5						
MBAR	Mbarara	144.93	237		PKPab	01 33 09.2	-0.6
BRTR	Keskin Array B	146.68	312	PKPbc	PKPbc	01 33 12.2	-0.9
	comp=Z,6.7nm,0.6s,baz=139,slow=4.8,SNR=44						
BRTR	Keskin Array B	146.68	312		PKPbc	01 33 12.2	-0.9
OJC	Ojcow	146.99	339	*e*PKP	PKiKP	01 33 14.1	-1.3
OJC				*e*PKP	PKiKP	01 33 14.1	-1.3
OJC	Ojcow	146.99	339		PKiKP	01 33 13.6	-1.8
KOLS	Kolonicke sedl	147.14	335	*e*	PKPab	01 33 18.5	+1.1
MMAI	Mount Meron Ar	147.67	300	PKPbc	PKPbc	01 33 14.1	-1.8
	comp=Z,19nm,0.6s,baz=76,slow=7.3,SNR=56						
OKC	Ostrava-Krasne	147.87	340	*e*PKPAB	PKPab	01 33 21.9	+1.6
CLL	Collm	147.90	347	⇓*i*PKPbc	PKiKP	01 33 16.4	-0.7
	comp=Z,45nm,0.9s						
CLL				*i*		01 33 19.2	
	comp=Z,20nm,0.9s						
CLL				*e*PP	PP	01 36 48.0	-0.5
CLL	Collm	147.90	347		PKiKP	01 33 16.4	-0.7
DPC	Dobruska-Polom	147.96	343	*e*PKPAB	PKPab	01 33 21.8	+1.1
LANS	Liptovska Anna	148.01	338	*e*	PKPab	01 33 23.2	+2.2
MLR	Muntele Rosu	148.06	327	PKPbc	PKiKP	01 33 16.6	-1.3
	comp=Z,7.2nm,0.6s,baz=344,slow=5.9,SNR=31						
MLR	Muntele Rosu	148.06	327	⇑P	PKiKP	01 33 16.5	-1.3
MLR	Muntele Rosu	148.06	327		PKiKP	01 33 16.0	-1.8
BRG	Berggiesshubel	148.10	346	*i*	PKPab	01 33 20.4	-0.8
	comp=Z,19nm,1.0s						
PVCC	Panska Ves	148.27	345	*e*PKPAB	PKPab	01 33 22.9	+1.0
PRA	Prague	148.72	344	*e*PKPAB	PKPab	01 33 24.9	+1.1
EIL	Elat	148.75	294	PKP	PKPdf	01 33 14.5	+0.5
	comp=Z,9.0nm,0.7s,baz=156,slow=3.5,SNR=6.7						
EIL				PKPbc	PKiKP	01 33 19.6	0.0
	comp=Z,10nm,0.8s,baz=21,slow=2.6,SNR=9.5						
EIL	Elat	148.75	294		PKPdf	01 33 14.5	+0.5
EIL					PKiKP	01 33 19.6	0.0
PRU	Pruhonice	148.77	344	*e*PKPAB	PKPab	01 33 24.6	+0.6
GOPC	GO Pecny, Ondr	148.78	344	*e*PKPAB	PKPab	01 33 24.7	+0.7
VYHS	Vyhne	148.79	338	*e*	PKPab	01 33 25.8	+1.6
VRAC	Vranov	148.81	341	PKPbc	PKiKP	01 33 18.7	-0.5
	comp=Z,5.4nm,0.8s,baz=14,slow=7.4,SNR=6.2						
VRAC	Vranov	148.81	341	⇑P	PKiKP	01 33 18.7	-0.5
VRAC	Vranov	148.81	341	*e*PKP	PKiKP	01 33 18.8	-0.3
VRAC	Vranov	148.81	341		PKiKP	01 33 18.7	-0.5
PSZ	Piszkesteto	148.89	336	⇑P	PKiKP	01 33 19.2	-0.2
PSZ	Piszkesteto	148.89	336	*e*PKiKP	PKiKP	01 33 19.1	-0.3
PSZ	Piszkesteto	148.89	336		PKiKP	01 33 19.2	-0.2
NKC	Novy Kostel	149.03	347	*e*PKPAB	PKPab	01 33 25.9	+0.8
TREC	Trest	149.15	343	*ex*	PKPab	01 33 26.5	+0.9
PBCC	Pribram	149.19	345	*e*PKPAB	PKPab	01 33 26.4	+0.7
SMOL	Smolenice	149.25	340	*e*	PKPab	01 33 28.0	+2.0
MEM	Membach	149.63	355	x	PKPbc	01 33 20.8	+0.7
BSTI	Sart Tilman	149.69	355	x	PKPab	01 33 20.9	-6.9
GRA1	Grafenberg Arr	149.80	348		PKiKP	01 33 21.1	-0.1
KHC	Kasperske Hory	149.80	345	*e*PKPAB	PKPab	01 33 29.2	+0.8
SNF	Seneffe	149.85	357	x	PKPbc	01 33 21.3	+0.7
BMRD	Maredsous	150.03	356	x	PKPbc	01 33 21.7	+0.7
GEC2	GERESS Array S	150.04	344		PKiKP	01 33 22.0	+0.2
GERES	GERESS Array B	150.04	344	PKP	PKPdf	01 33 15.8	+0.2
	comp=Z,1.1nm,0.8s,baz=29,slow=3.0,SNR=6.7						
GERES				PKPbc	PKiKP	01 33 21.4	-0.4
	comp=Z,7.4nm,0.7s,baz=28,slow=2.4,SNR=37						
GERES				PKPab	PKPab	01 33 30.1	+0.7
	comp=Z,1.6nm,0.6s,baz=16,slow=4.8,SNR=5.9						
GERES	GERESS Array B	150.04	344		PKPdf	01 33 15.8	+0.2
GERES					PKiKP	01 33 21.4	-0.4
GERES					PKPab	01 33 30.1	+0.7
DOU	Dourbes	150.25	357	x	PKPbc	01 33 22.1	+0.6
CONA	Conrad Observa	150.26	341	*e*PKiKP	PKiKP	01 33 22.4	+0.1
	comp=Z,13nm,0.6s,SNR=17						
MPLH	Magyarpolny	150.38	338	*e*PKiKPc	PKPbc	01 33 22.0	+0.1
WLF	Walferdange	150.56	354	x	PKPbc	01 33 23.5	+1.3
ELL	Elmali	150.63	310		PKiKP	01 33 22.6	-0.9
MOA	Molln	150.80	343	*e*PKiKP	PKiKP	01 33 23.0	-0.3
	comp=Z,5.2nm,0.5s,SNR=9.9						
ARSA	Arzberg	150.97	341	*e*PKiKP	PKiKP	01 33 23.6	-0.1
	comp=Z,4.3nm,0.7s						
VTS	Vitosha	151.46	326	⇑P	PKiKP	01 33 25.4	+0.4
VTS	Vitosha	151.46	326		PKiKP	01 33 25.0	0.0
SOKA	Soboth	151.64	341	*i* PKPbc	PKiKP	01 33 24.4	-0.7
	comp=Z,3.2nm,0.5s						
SOKA				*e*PKPab	PKPab	01 33 37.4	+1.2
	comp=Z,6.6nm,1.0s						
KBA	Koelnbreinsper	151.76	343	*e*PKiKP	PKiKP	01 33 25.6	+0.1
	comp=Z,3.8nm,0.5s						
OBKA	Obir	151.94	341	*e*PKPbc	PKiKP	01 33 25.3	-0.5
	comp=Z,4.2nm,0.8s,SNR=5.3						
WATA	Walderalm	151.96	346	*e*PKiKP	PKiKP	01 33 25.8	-0.1
	comp=Z,3.1nm,0.5s,SNR=7.8						
WATA				*i* PKPab	PKPab	01 33 38.4	+0.8
	comp=Z,5.6nm,0.8s						
RETA	Reutte	151.99	347	*e*PKiKP	PKiKP	01 33 26.0	+0.2
	comp=Z,3.1nm,0.6s						
RETA				*e*PKPab	PKPab	01 33 38.4	+0.8
	comp=Z,5.2nm,1.1s						
WTTA	Wattenberg	152.01	346	*e*PKiKP	PKiKP	01 33 26.0	0.0
	comp=Z,10nm,0.5s,SNR=12						
WTTA				*i* PKPab	PKPab	01 33 39.0	+1.1
	comp=Z,8.0nm,0.6s						
MOTA	Moosalm	152.06	347	*e*PKiKP	PKiKP	01 33 26.0	-0.1
	comp=Z,6.7nm,0.8s,SNR=6.1						
MOTA				*e*PKPab	PKPab	01 33 38.7	+0.7
	comp=Z,5.1nm,0.8s						
MYKA	Terra Mystica	152.09	343	*e*PKPbc	PKiKP	01 33 25.3	-0.7
	comp=Z,6.5nm,0.5s,SNR=5.2						
MYKA				*e*PKPab	PKPab	01 33 38.2	+0.2
	comp=Z,5.1nm,0.7s						
SQTA	Sankt Quirin	152.15	346	*e*PKPdf	PKPdf	01 33 19.0	+0.1
	comp=Z,2.9nm,0.7s						
SQTA				*e*PKiKP	PKiKP	01 33 26.4	+0.1
	comp=Z,3.5nm,0.6s,SNR=6.3						
ABTA	Abfaltersbach	152.28	344	*e*PKPdf	PKPdf	01 33 18.6	-0.4
	comp=Z,6.5nm,0.8s,SNR=6.9						
ABTA				*e*PKPbc	PKiKP	01 33 26.0	-0.5
	comp=Z,13nm,0.6s,SNR=5.3						
ABTA				*e*PKPab	PKPab	01 33 39.2	+0.3
	comp=Z,9.4nm,1.0s						
DAVA	Damuels	152.36	348	*e*PKiKP	PKiKP	01 33 27.0	+0.3
	comp=Z,6.4nm,1.2s						
DAVA				*e*PKPab	PKPab	01 33 39.9	+0.6
	comp=Z,3.2nm,0.6s						
FETA	Feichten	152.44	347	*e*PKPdf	PKPdf	01 33 19.7	+0.4
	comp=Z,2.9nm,0.7s						
FETA				*e*PKiKP	PKiKP	01 33 27.0	+0.1
	comp=Z,6.9nm,0.7s,SNR=6.3						
CEY	Cerknica	152.66	341	*e*P	PKPbc	01 33 27.3	+0.2
STAL	STALIGIAL	152.68	344		PKiKP	01 33 27.0	-0.3
DAVOS	Davos/Dischmat	152.85	348	PKP	PKPdf	01 33 19.9	-0.1
	comp=Z,2.7nm,0.8s,baz=0.0,slow=4.0,SNR=2.8						
DAVOX				PKPbc	PKiKP	01 33 28.1	+0.3
	comp=Z,8.3nm,0.6s,baz=323,slow=5.1,SNR=8.7						
DAVOX	Davos/Dischmat	152.85	348		PKPdf	01 33 19.9	-0.1
DAVOX					PKiKP	01 33 28.1	+0.3
FUORN	Ofenpass-Fuorn	152.92	347		PKPab	01 33 43.9	+2.0
CTI	Castel Tesino	153.15	345		PKPab	01 33 42.8	+0.2
BRY	Bratogost	153.53	332	*e*P	PKPbc	01 33 28.6	-0.6
FNA	Florina	153.74	325		PKiKP	01 33 29.5	-0.2
TEOL	Teolo	153.79	344		PKPab	01 33 46.1	+0.8
NRCA	Norcia	155.69	340		PKPab	01 33 54.2	+0.6
INTR	Introdacqua	156.14	337		PKPab	01 33 55.5	-0.1
ESDC	Sonseca Array	160.09	13	PKPab	PKPab	01 34 13.7	+0.9
	comp=Z,1.3nm,0.7s,baz=349,slow=5.2,SNR=7.7						
ESDC	Sonseca Array	160.09	13		PKPab	01 34 13.7	+0.9
KEST	Kesra	163.34	338	PKPab	PKPab	01 34 27.9	+0.7
	comp=Z,2.6nm,0.7s,baz=297,slow=6.6,SNR=4.9						
MDT	Midelt	166.29	24	PKPab	PKPab	01 34 42.1	+1.8
	comp=Z,0.8nm,0.6s,baz=4.3,slow=6.7,SNR=4.3						
MDT	Midelt	166.29	24		PKPab	01 34 42.1	+1.8
TORD	Torodi Ar. Bea	172.83	178	PKP	PKPdf	01 33 38.0	-1.5
	comp=Z,2.9nm,0.9s,baz=232,slow=0.1,SNR=14						
TORD	Torodi Ar. Bea	172.83	178		PKPdf	01 33 38.0	-1.5

SNET ***15*** *01:22:37.6±0.8, 13°.36N×90°.47W, h17km±172km, ML3.2*
UCR ***15*** *01:22:37.5±2.0, 13°.60N×90°.63W, h37km±150km, MD3.3, ML3.3*
GCG ***15*** *01:22:41.0±0.3, 13°.85N×90°.74W, h47km±19km, MD3.6*

ISC 15 01:22:36.0±3.0, 13°.5N±0°.2×90°.69W±0°.08, h32km±16km, n19, σ0°.59/27, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.73	19	*e*P		Pb	01 22 50.4	-0.1
IXG	Ixpaco	0.73	19	*e*P		Pb	01 22 50.4	-0.1
FUG	Fuego 3	0.98	351	*e*P		Pn	01 22 54.0	+0.2
FUG	Fuego 3	0.98	351	*e*P		Pn	01 22 54.0	+0.2
CEVE	Cerro Verde	1.09	71	*e*P		Pn	01 22 55.3	-0.1
CEVE				*e*S		Sn	01 23 09.1	-0.4
CEVE				IAML			01 23 11.1	
	comp=Z,661nm,0.2s							
CEVE	Cerro Verde	1.09	71	*e*P		Pn	01 22 55.3	-0.1
CEVE				*e*S		Sn	01 23 09.1	-0.4
CEVE				IAML			01 23 11.1	
	comp=Z,661nm,0.2s							
RTR	El Retiro	1.10	67	*e*P		Pn	01 22 55.5	+0.2
RTR				*e*S		Sn	01 23 09.9	+0.4
RTR	El Retiro	1.10	67	*e*P		Pn	01 22 55.5	+0.2
RTR				*e*S		Sn	01 23 09.9	+0.4
SBLS	San Blas	1.10	70	*e*P		Pn	01 22 55.3	-0.1
SBLS				*e*S		Sn	01 23 09.0	-0.6
SBLS	San Blas	1.10	70	*e*P		Pn	01 22 55.3	-0.1
SBLS				*e*S		Sn	01 23 09.0	-0.6
SNJE	San Jose	1.12	69	*e*P		Pn	01 22 55.7	0.0
SNJE	San Jose	1.12	69	*e*P		Pn	01 22 55.7	0.0
NBG	Las Nubes	1.16	17	*e*P		Pn	01 22 57.3	+1.1
NBG	Las Nubes	1.16	17	*e*P		Pn	01 22 57.3	+1.1
UNIC	Universidad Ca	1.22	65	*e*P		Pn	01 22 56.8	-0.1
UNIC	Universidad Ca	1.22	65	*e*P		Pn	01 22 56.8	-0.1
BOQS	Boqueron	1.39	79	*e*P		Pn	01 22 59.9	+0.4
STG3	Santiaguito 3,	1.50	325	*e*P		Pn	01 23 01.8	+0.9
STG3				*e*S		Sn	01 23 17.9	-1.5
LFRS	El Faro	1.59	84	*e*P		Pn	01 23 02.9	+0.9
LFRS				*e*S		Sn	01 23 21.6	0.0

IDC 15 01:27:25.9±1.4, 5°.81S×146°.75E, h0km, mb3.4/3, mb1 3.8/5, mb1mx3.6/33, mbtmp3.6/5, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/21, Error ellipse: s-maj=40.8km s-min=20.3km az=97.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.59	174	Pn		Pn	01 28 24.2	+1.3
	3.6nm,0.3s,baz=336,slow=18,SNR=5.4							
PMG				Pg		Pg	01 28 35.1	+0.2
	12nm,0.3s,baz=5.3,slow=7.3,SNR=17							
PMG				Sn		Sn	01 29 03.2	-3.0
	2.1nm

	baz=142								
TWG				S		Sb	02 08 05.7	-1.2	
	baz=142								
TWGBT	**Beinan**	0.47	142	⇓P		Pb	02 07 59.1	-1.0	
	baz=142								
TWGBT				S		Sg	02 08 05.7	+0.7	
	baz=142								
FULB	**Fuli**	0.48	89	⇓*i*P		Pb	02 08 00.1	-0.4	
	baz=79								
FULB				S		Sb	02 08 07.2	-0.4	
	baz=79								
TWM1	**Shoushan**	0.48	222	P		Pb	02 08 00.6	+0.1	
	baz=209								
TWF1	**Yuli**	0.51	71	⇓*i*P		Pb	02 08 00.0	-0.9	
	baz=71								
TWF1				S		Sg	02 08 06.5	+0.1	
	baz=71								
WHYT	**Xinyi Township**	0.51	8	⇑*i*P		Pg	02 07 59.8	0.0	
	baz=10.0								
WHYT				*e*S		Sb	02 08 07.0	-1.5	
	baz=10.0								
WLGB	**Puzi**	0.52	304	*e*P		Pb	02 08 00.2	-0.9	
	baz=305								
WLGB				S		Sb	02 08 09.2	+0.5	
	baz=305								
TAI1	**Yung-k'ang**	0.52	254	*e*P		Pb	02 08 01.4	+0.3	
	baz=266								
YULB	**Yu-li**	0.52	67	⇓P		Pg	02 08 00.0	0.0	
	baz=66								
YULB				S		Sg	02 08 06.5	-0.4	
	baz=66								
SGLT	**Jiouru**	0.53	209	*e*P		Pb	02 08 01.4	+0.1	
	baz=202								
WGK	**Gukeng**	0.53	339	P		Pb	02 08 00.9	-0.4	
	baz=341								
WGK				S		Sb	02 08 09.5	+0.5	
	baz=341								
SCLT	**Jiali**	0.53	269	*e*P		Pb	02 08 01.1	-0.2	
	baz=269								
SCLT				*e*S		Sb	02 08 09.7	+0.7	
	baz=269								
CHN8	**Yiju**	0.54	287	*e*P		Pb	02 08 00.7	-0.7	
	baz=289								
CHN8				*e*S		Sb	02 08 09.7	+0.5	
	baz=289								
WDLH	**Douliu**	0.54	337	*e*P		Pb	02 08 01.3	-0.2	
	baz=338								
WDLH				*e*S		Sb	02 08 09.9	+0.6	
	baz=338								
CHKT	**Chengkung**	0.55	99	⇓*i*P		Pb	02 08 01.6	0.0	
	baz=99								
CHKT				S		Sb	02 08 10.9	+1.2	
	baz=99								
TTN	**Taitung**	0.55	141	P		Pb	02 08 01.5	-0.2	
	baz=141								
TTN				S		Sb	02 08 10.1	+0.4	
	baz=141								
MASBT	**Mashibuluo**	0.59	193	⇑*i*P		Pg	02 08 01.1	-0.1	
	baz=189								
MASBT				*e*S		Sb	02 08 09.7	-1.0	
	baz=189								
SNJT	**Kaohsiung City**	0.59	223	*e*P		Pn	02 08 03.5	-0.9	
	baz=221								
SNJT				*e*S		Sn	02 08 13.9	-0.2	
	baz=221								
EHY	**Hungye**	0.60	58	P		Pb	02 08 01.4	-1.0	
	baz=68								
EHY				*e*S		Sg	02 08 08.8	-0.3	
	baz=68								
ECL	**Taimali**	0.61	164	⇑*i*P		Pb	02 08 01.8	-0.9	
	baz=156								
ECL				S		Sg	02 08 09.8	+0.2	
	baz=156								
SSLB	**Suanglung**	0.62	16	⇑P		Pg	02 08 01.4	-0.4	
	baz=23								
SSLB				*e*S		Sg	02 08 09.8	-0.1	
	baz=23								
WJS	**Zhushan**	0.63	356	⇑*e*P		Pb	02 08 02.7	-0.3	
	baz=342								
WJS				*e*S		Sb	02 08 13.4	+1.5	
	baz=342								
HGSD	**Ruisui**	0.67	63	⇓P		Pb	02 08 03.4	-0.3	
	baz=69								
HGSD				S		Sb	02 08 12.8	-0.3	
	baz=69								
WSF	**Szhu**	0.68	312	*e*P		Pg	02 08 02.5	-0.3	
	baz=313								
WSF				S		Sb	02 08 13.7	+0.5	
	baz=313								
WNT	**Mingjian**	0.69	353	P		Pb	02 08 03.9	-0.1	
	baz=356								
WNT				*e*S		Sb	02 08 14.6	+0.9	
	baz=356								
SMLT	**Sun Moon Lake**	0.70	10	⇑*i*P		Pb	02 08 03.5	-0.7	
	baz=17								
SMLT				S		Sb	02 08 14.4	+0.4	
	baz=17								
WSSB	**Gushan**	0.72	221	*e*P		Pn	02 08 05.5	-0.7	
	baz=235								
WSSB				*e*S		Sn	02 08 18.1	+0.8	
	baz=235								
EGFH	**Guangfu**	0.77	51	*e*P		Pb	02 08 04.7	-0.6	
	baz=61								
EGFH				*e*S		Sb	02 08 14.9	-1.0	
	baz=61								
RLNB	**Erlin**	0.80	332	*e*P		Pb	02 08 05.2	-0.5	
	baz=333								
RLNB				S		Sb	02 08 17.2	+0.5	
	baz=333								
EAST	**Anshuo**	0.81	175	⇑*i*P		Pb	02 08 05.5	-0.5	
	baz=174								
EAST				*e*S		Sb	02 08 17.6	+0.6	
	baz=174								
WTCT	**Ta-ch'eng**	0.81	326	*e*P		Pb	02 08 05.5	-0.5	
	baz=317								
WTCT				S		Sb	02 08 17.8	+0.8	
	baz=317								
SCZT	**Fangliau**	0.82	190	⇑*i*P		Pg	02 08 05.5	-0.2	
	baz=190								
TAW	**Tawu**	0.83	172	*e*P		Pb	02 08 06.0	-0.4	
	baz=178								
OWD	**Renai**	0.85	26	*e*P		Pg	02 08 05.5	-0.6	
	baz=34								
DPDB	**Guoxing**	0.85	10	*e*P		Pb	02 08 06.3	-0.5	
	baz=11								
DPDB				*e*S		Sb	02 08 19.2	+0.8	
	baz=11								
ESL	**Shilin**	0.87	44	P		Pb	02 08 06.5	-0.5	
	baz=44								
ESL				*e*S		Sg	02 08 17.8	-0.1	
	baz=44								
WCHH	**Zhanghua**	0.91	348	*e*P		Pb	02 08 07.2	-0.5	
	baz=349								
WCHH				S		Sb	02 08 20.9	+1.0	
	baz=349								
WLCH	**Liuqiu**	0.91	204	*e*P		Pn	02 08 09.8	+1.0	
	baz=204								
CHGB	**Renai**	0.94	23	⇑*e*P		Pg	02 08 07.2	-0.8	
	baz=30								
CHGB				S		Sb	02 08 21.1	0.0	
	baz=30								
TCU	**Taichung**	0.96	355	*e*P		Pb	02 08 08.5	-0.1	
	baz=342								
TCU				*e*S		Sb	02 08 22.3	+0.9	
	baz=342								
WDGT	**Dungji**	1.02	274	⇓P		Pg	02 08 08.6	-0.9	
	baz=274								
WDGT				S		Sg	02 08 22.5	-0.3	
	baz=274								
ENLB	**Shoufeng**	1.04	47	*e*P		Pg	02 08 09.1	-0.7	
	baz=46								
ENLB				*e*S		Sb	02 08 23.7	-0.1	
	baz=46								
WHF	**Hehuan Shan**	1.05	25	⇑*e*P		Pg	02 08 09.3	-0.8	
	baz=32								
WHF				*e*S		Sb	02 08 24.6	+0.1	
	baz=32								
HWA	**Hwalien**	1.10	44	*e*P		Pg	02 08 10.2	-0.7	
	baz=43								
HWA				*e*S		Sb	02 08 26.0	+0.7	
	baz=43								
WHP	**Taichung City**	1.10	8	*e*P		Pb	02 08 11.0	0.0	
	baz=18								
WHP				*e*S		Sn	02 08 27.6	+0.9	
	baz=18								
TDCB	**Techi**	1.12	18	*e*P		Pg	02 08 10.2	-1.1	
	baz=18								
TDCB				*e*S		Sn	02 08 26.9	-0.5	
	baz=18								
PHUB	**P'eng-hu**	1.15	287	*e*P		Pg	02 08 10.6	-1.3	
	baz=287								
PHUB				S		Sg	02 08 26.0	-0.8	
	baz=287								
TWQ1	**Liyutan**	1.15	0	⇑P		Pn	02 08 12.0	-0.2	
	baz=348								
TWQ1				S		Sn	02 08 29.0	+1.0	
	baz=348								
WDJ	**Dajia District**	1.16	354	*e*P		Pn	02 08 12.3	+0.1	
	baz=343								
WDJ				*e*S		Sn	02 08 29.0	+0.8	
	baz=343								
TWD	**Chiawan**	1.17	40	P		Pb	02 08 11.7	-0.4	
	baz=39								
TWD				S		Sb	02 08 27.8	+0.4	
	baz=39								
HEN	**Hengchun**	1.18	182	*e*P		Pn	02 08 12.6	+0.2	
	baz=183								
PNG	**Penghu**	1.18	289	⇓P		Pg	02 08 11.0	-1.5	
	baz=290								
PNG				S		Sg	02 08 27.1	-0.7	
	baz=290								
ETLH	**Xiulin Townshi**	1.21	33	*e*P		Pg	02 08 12.1	-0.8	
	baz=31								
ETLH				*e*S		Sn	02 08 29.9	+0.4	
	baz=31								
NSY	**Sanyi**	1.22	360	*e*P		Pn	02 08 13.6	+0.5	
	baz=1.0								
NSY				*e*S		Sn	02 08 31.4	+1.7	
	baz=1.0								
NACB	**Ninganchiao**	1.24	37	*e*P		Pg	02 08 12.3	-1.2	
	baz=46								
NACB				*e*S		Sb	02 08 29.6	+0.2	
	baz=46								
TWK1	**Hengchun**	1.24	179	*e*P		Pn	02 08 13.7	+0.4	
	baz=180								
TWKBT	**Hengchun**	1.24	178	*e*P		Pn	02 08 13.5	+0.2	
	baz=180								
TSEB	**Hengchuen, Pin**	1.29	175	*e*P		Pb	02 08 14.7	+0.5	
	baz=184								
NMLH	**Miaoli**	1.34	1	*e*P		Pg	02 08 15.1	-0.5	
	baz=349								
NMLH				*e*S		Sn	02 08 35.0	+2.3	
	baz=349								
LAY	**Lan-yu**	1.35	148	*e*P		Pn	02 08 13.8	-1.1	
	baz=136								
NNSH	**Datong**	1.35	24	*e*P		Pn	02 08 14.4	-0.6	
	baz=16								
NNSH				*e*S		Sn	02 08 34.2	+1.0	
	baz=16								
NNS	**Nan Shan**	1.36	24	*e*P		Pn	02 08 14.6	-0.5	
	baz=15								
NNS				*e*S		Sn	02 08 33.7	+0.3	
	baz=15								
NSTT	**Nanjuang**	1.45	8	*e*P		Pn	02 08 16.4	+0.2	
	baz=352								
LIOB	**Emei**	1.47	9	*e*P		Pn	02 08 16.6	+0.2	
	baz=352								
ENA	**Nanau**	1.52	36	*e*P		Pg	02 08 18.2	-0.8	
	baz=49								
NANB	**Nanao**	1.52	36	*e*P		Pb	02 08 17.7	-0.6	
	baz=49								
NDT	**Datong Townshi**	1.56	26	*e*P		Pb	02 08 18.4	-0.5	
	baz=17								
NSK	**Sanguang**	1.57	20	*e*P		Pb	02 08 18.6	-0.5	
	baz=18								
NSK				*e*S		Sg	02 08 40.1	-0.4	
	baz=18								
YHNB	**Yeheng**	1.57	20	⇑P		Pb	02 08 18.8	-0.3	
	baz=19								
YHNB				*e*S		Sg	02 08 39.6	-0.9	
	baz=19								
ENTT	**Nioudou**	1.62	27	*e*P		Pb	02 08 19.6	-0.3	
	baz=17								
ENTT				*e*S		Sg	02 08 42.9	+1.1	
	baz=17								
WLTB	**Daxi**	1.71	15	*e*P		Pg	02 08 22.1	-0.6	
	baz=5.0								
NWLT	**Wulai**	1.72	23	*e*P		Pb	02 08 21.1	-0.4	
	baz=21								
TWC	**Suao**	1.72	35	*e*P		Pb	02 08 21.0	-0.6	
	baz=46								
TWE	**Neicheng**	1.73	28	*e*P		Pg	02 08 22.0	-1.0	
	baz=47								
EOS1	**EOS1**	1.84	42	*e*P		Pb	02 08 23.6	+0.1	
	baz=55								
NHDH	**Xindian Distri**	1.90	21	*e*P		Pb	02 08 24.6	0.0	
	baz=20								
TATO	**Taipei**	1.90	20	*e*P		Pb	02 08 24.6	0.0	
	baz=19								
TWA	**Mucha**	1.93	22	*e*P		Pb	02 08 24.9	-0.2	
	baz=21								
TAP1	**Taipei**	1.97	20	*e*P		Pb	02 08 25.4	-0.3	
	baz=5.0								
TIPB	**Shuangxi**	2.02	28	*e*P		Pb	02 08 26.1	-0.6	
	baz=46								
YM01	**YM01**	2.08	20	*e*P		Pb	02 08 26.3	-1.5	
	baz=7.0								
YM10	**YM10**	2.09	20	*e*P		Pn	02 08 24.8	-0.2	
	baz=19								
NWF	**Wu-fen Shan**	2.09	26	*e*P		Pb	02 08 27.8	-0.1	
	baz=9.0								
WFSB	**Wu-fen Shan**	2.09	26	*e*P		Pb	02 08 27.3	-0.5	
	baz=9.0								
YM05	**YM05**	2.10	20	*e*P		Pn	02 08 26.4	+1.2	
	baz=19								
JYNG	**Yonagunijimaku**	2.35	57	*e*S		Sb	02 09 00.0	-1.5	
YOJ	**Yonaguni jima**	2.41	58	*e*P		Pn	02 08 30.0	+0.6	
	baz=57								
KNM	**Kinmen**	2.47	300	*e*P		Pb	02 08 33.8	-0.5	
	baz=299								
PTTC	**Pingtan**	2.48	339	*e*P		Pn	02 08 31.9	+1.6	
	baz=339								
KNMB	**Chin-men Tao**	2.52	301	*e*P		Pn	02 08 30.7	-0.3	
	baz=301								
IRIF	**Iriomote-Funau**	2.94	67	P		Pn	02 08 37.5	+0.8	
IRIF				S		Sn	02 09 14.2	+2.1	
JKRS	**Kuro-shima**	3.15	70	P		Pn	02 08 41.4	+1.9	
JIJ	**Ishigaki jima**	3.30	69	S		Sn	02 09 21.0	-0.1	
MHZQ	**Yeshan**	3.30	332	*e*P		Pn	02 08 41.3	-0.4	
	baz=332								
LYJJ	**Jianjiangzhen**	3.47	345	*e*P		Pn	02 08 43.8	-0.2	
	baz=345								
JISG	**Ishigakijimahi**	3.53	66	P		Pn	02 08 45.0	+0.3	
JISG				*e*S		Sn	02 09 25.2	-1.4	
XPSS	**Dashiqiu**	3.76	352	*e*P		Pn	02 08 48.0	0.0	
	baz=353								
JTJ	**Tarama**	3.88	67	P		Pn	02 08 51.0	+1.4	

*ISCJB **15** 02:08:32.8±0.8, 6°.83S±0°.07×130°.5E±0°.2, h78km, mb3.9/3, Error ellipse: s-maj=30.0km s-min=8.8km az=171.4*
*IDC **15** 02:08:34.0±2.7, 6°.78S×130°.39E, h64km±34km, mb3.9/3, mb1 3.9/7, mb1mx3.6/29, mbtmp4.0/7, ML3.8/4, Error ellipse: s-maj=60.8km s-min=23.4km az=89.0*

ISC 15 02:08:33.0±0.9, 6°.86S±0°.06×130°.5E±0°.1, h78km, n7, σ4§00/11, mb4.1/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	5.99	7	P	**Pn**	**02 09 59.7**	**+0.6**
	5.2nm,0.3s,baz=211,slow=18,SNR=18						
SIJI				S	**Sn**	**02 10 59.9**	**-6.6**
	6.0nm,0.3s,baz=231,slow=22,SNR=8.6						
FITZ	**Fitzroy Crossi**	12.14	203	P	**Pn**	**02 11 23.9**	**+0.9**
	0.7nm,0.3s,baz=17,slow=9.0,SNR=8						
FITZ				S	**Sn**	**02 13 31.2**	**-5.5**
	0.5nm,0.3s,baz=42,slow=16,SNR=6.6						
WRA	**Warramunga Arr**	13.53	164	P	**Pn**	**02 11 43.8**	**+2.1**
	0.3nm,0.3s,baz=353,slow=13,SNR=6.2						
WRA				S	**Sn**	**02 14 05.9**	**-4.5**
	0.9nm,0.3s,baz=335,slow=21,SNR=16						
ASAR	**Alice Springs**	17.03	169	P	**P**	**02 12 30.6**	**+3.7**
	0.2nm,0.3s,baz=352,slow=13,SNR=11						
ASAR				S	**Sn**	**02 15 32.4**	**-2.8**
	0.2nm,0.3s,baz=354,slow=27,SNR=7.4						
CMAR	**Chiang Mai Arr**	40.03	309	P	**P**	**02 16 01.6**	**+0.9**
	0.8nm,0.3s,baz=138,slow=8.7,SNR=5.5						
MKAR	**Makanchi Array**	68.39	327	P	**P**	**02 19 28.5**	**+2.1**
	1.8nm,0.6s,baz=120,slow=8.1,SNR=25						
ZALV	**Zalesovo Beam**	71.68	334	P	**P**	**02 19 47.7**	**+1.4**
	0.5nm,0.4s,baz=134,slow=4.2,SNR=2.5						

*AZER **15** 02:09:30.0±0.6, 38°.52N×44°.48E, h3km±3km, ml3.1/17, Error ellipse: s-maj=4.1km s-min=3.7km az=317.0*

*NSSP **15** 02:09:30.8, 38°.42N×44°.48E, h5km, Ms3.1*
*DDA **15** 02:09:31.0, 38°.45N×44°.41E, h0km±1km, ML2.8*
*ISK **15** 02:09:31.5, 38°.47N×44°.34E, h3km, ML3.1/17*

ISC 15 02:09:32.6±1.2, 38°.44N±0°.02×44°.36E±0°.03, h5km±10km, n64, σ1§32/96, 6C, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVAN	**Van**	0.75	277	*i*P	**Pg**	**02 09 46.5**	**-0.6**
TVAN				IAML		02 10 13.0	
	comp=E,544nm,0.8s						
TVAN				IAML		02 10 14.0	
	comp=N,397nm,0.6s						
VANB	**Van**	0.78	282	PG	**Pg**	**02 09 46.5**	**-1.0**
VANB				SG	**Sg**	**02 09 57.5**	**-0.1**
CLDR	**Caldiran**	0.78	334	*i*P	**Pg**	**02 09 45.9**	**-1.8**
CLDR				*i*S	**Sg**	**02 09 57.9**	**0.0**
CLDR	**Caldiran**	0.78	334	PG	**Pg**	**02 09 45.8**	**-1.8**
CLDR				SG	**Sg**	**02 09 57.7**	**-0.2**
VMUR	**Van-Muradiye**	0.83	312	*i*P	**Pg**	**02 09 48.2**	**-0.3**
VMUR				*i*S	**Sb**	**02 10 00.2**	**-0.9**
VMUR				IAML		02 10 05.0	
	comp=E,340nm,0.6s						
VMUR				IAML		02 10 07.0	
	comp=N,284nm,0.4s						
HAKT	**HAKKARI**	1.02	211	*i*P	**Pb**	**02 09 51.4**	**-1.4**
HAKT				*i*S	**Sn**	**02 10 08.1**	**-0.5**
HAKT				IAML		02 10 16.0	
	comp=N,128nm,0.7s						
HAKT				IAML		02 10 19.0	
	comp=E,139nm,0.6s						
GEVA	**Gevas**	1.03	263	*i*P	**Pb**	**02 09 50.7**	**-2.3**
GEVA				*i*S	**Sn**	**02 10 09.0**	**+0.2**
GEVA				IAML		02 10 15.0	
	comp=E,310nm,0.5s						
GEVA				IAML		02 10 15.0	
	comp=N,206nm,0.5s						
NAX	**Nakhchivan**	1.15	50	P	**Pn**	**02 09 53.3**	**-2.2**
	SNR=12						
NAX				S	**Sb**	**02 10 09.4**	**-1.0**
DYDN	**Diyadin**	1.22	335	*i*P	**Pn**	**02 09 54.0**	**-2.5**
DYDN				*i*S	**Sb**	**02 10 10.9**	**-1.6**
DYDN				IAML		02 10 13.0	
	comp=E,290nm,0.6s						
DYDN				IAML		02 10 18.0	
	comp=N,280nm,0.7s						
CUKT	**Cukurca**	1.33	207	*i*P	**Pb**	**02 09 57.0**	**-1.1**
CUKT				*i*S	**Sg**	**02 10 17.1**	**+1.8**
CUKT				IAML		02 10 24.0	
	comp=E,356nm,0.6s						
CUKT				IAML		02 10 26.0	
	comp=N,358nm,0.7s						
CUKT	**Cukurca**	1.33	207	PN	**Pg**	**02 09 57.4**	**-0.6**
CUKT				SN	**Sg**	**02 10 17.2**	**+1.9**
ADCV	**BITLIS_Adilcev**	1.33	287	*i*P	**Pb**	**02 09 57.4**	**-0.8**
ADCV				*i*S	**Sg**	**02 10 19.2**	**+3.8**
ADCV				IAML		02 10 20.0	
	comp=N,389nm,1.2s						
ADCV				IAML		02 10 28.0	
	comp=E,83nm,0.6s						
HYR	**Heyderabad**	1.34	17	P	**Pn**	**02 09 56.3**	**-1.7**
	SNR=20						
HYR				S	**Sb**	**02 10 16.2**	**+0.5**
SBZ	**Shahbuz**	1.34	44	P	**Pn**	**02 09 56.0**	**-2.1**
	SNR=35						
SBZ				S	**Sn**	**02 10 15.0**	**-1.2**
ORD	**Ordubad**	1.37	69	P	**Pn**	**02 09 56.3**	**-2.1**
	SNR=85						
ORD				S	**Sn**	**02 10 16.1**	**-1.0**
IGDI	**IGDIR**	1.45	351	*i*P	**Pn**	**02 09 58.6**	**-0.9**
IGDI				*i*S	**Sg**	**02 10 19.8**	**+0.8**
TUTA	**Tutak**	1.54	309	*i*P	**Pg**	**02 10 01.8**	**-0.4**
TASB	**TASBURUN-IGDIR**	1.55	357	PN	**Pn**	**02 10 00.6**	**-0.3**
AGRB	**Hanur-Agry**	1.56	317	PN	**Pb**	**02 10 00.8**	**-1.2**
MLAZ	**Malazgirt-MUS**	1.58	297	PN	**Pn**	**02 10 00.6**	**-0.8**
NRKZ	**NAREK**	1.58	8	*i*P	**Pn**	**02 10 01.1**	**-0.2**
NRKZ				*i*S	**Sb**	**02 10 23.1**	**+0.5**
VNNZ	**Vanand**	1.71	346	⇑*i*P	**Pb**	**02 10 04.1**	**-0.6**
VNNZ				⇑*i*S	**Sg**	**02 10 28.4**	**+0.8**
METS	**Metsamor**	1.72	353	*i*P	**Pb**	**02 10 05.0**	**+0.2**
METS				*i*S	**Sg**	**02 10 30.1**	**+2.2**
GNI	**Garni**	1.73	10	⇑*i*P	**Pb**	**02 10 04.1**	**-1.0**
GNI				⇑*i*S	**Sg**	**02 10 28.4**	**0.0**
GNI	**Garni**	1.73	10	PN	**Pn**	**02 10 03.4**	**-0.2**
BLIS	**Bitlis-Merkez**	1.76	270	*i*P	**Pb**	**02 10 04.8**	**-0.7**
BLIS				*i*S	**Sg**	**02 10 30.9**	**+1.7**
BLIS				IAML		02 10 38.0	
	comp=E,50nm,0.6s						
BLIS				IAML		02 10 46.0	
	comp=N,55nm,1.3s						
SIRT	**Sirnak**	1.78	239	PN	**Pb**	**02 10 04.1**	**-1.7**
SIRN	**Sirnak**	1.80	239	*i*P	**Pg**	**02 10 06.7**	**-0.5**
SIRN				*i*S	**Sg**	**02 10 33.8**	**+3.3**
SIRN				IAML		02 10 37.0	
	comp=E,214nm,0.9s						
SIRN				IAML		02 10 45.0	
	comp=N,179nm,0.7s						
GURO	**Guroymak-BITLI**	1.83	274	PN	**Pb**	**02 10 04.9**	**-1.7**
ARUZ	**Aruch**	1.85	354	⇑*i*P	**Pb**	**02 10 06.9**	**-0.1**
ARUZ				⇑*i*S	**Sg**	**02 10 33.3**	**+1.1**
SRTM	**Siirt_Merkez**	1.97	258	*i*P	**Pb**	**02 10 08.7**	**-0.3**
SRTM				*i*S	**Sg**	**02 10 38.0**	**+2.1**
SRTM				IAML		02 10 43.0	
	comp=E,161nm,0.6s						
SRTM				IAML		02 10 47.0	
	comp=N,196nm,0.8s						
DIGO	**Kars**	2.12	339	*i*P	**Pg**	**02 10 13.0**	**-0.1**
DIGO				*i*S	**Sg**	**02 10 40.8**	**+0.2**
DIGO				IAML		02 10 46.0	
	comp=N,67nm,0.7s						
DIGO				IAML		02 10 52.0	
	comp=E,73nm,0.8s						
MUSM	**Mu-Merkez**	2.25	278	*i*P	**Pb**	**02 10 13.2**	**-0.5**
EAK	**Akyaka**	2.32	346	*i*P	**Pg**	**02 10 16.2**	**-0.8**
EAK				IAML		02 10 53.0	
	comp=E,67nm,1.1s						
EAK				IAML		02 10 59.0	
	comp=N,87nm,0.9s						
VRTB	**Varto-Mus**	2.38	289	*i*P	**Pg**	**02 10 16.9**	**-1.2**
VRTB	**Varto-Mus**	2.38	289	PN	**Pn**	**02 10 12.6**	**+0.2**
KARS	**Kars**	2.40	336	PN	**Pn**	**02 10 12.3**	**-0.4**
KOPR	**Koprukoy-ERZUR**	2.49	309	PN	**Pn**	**02 10 13.9**	**0.0**
SVAN	**Silvan-Diyarba**	2.50	264	*i*P	**Pb**	**02 10 16.4**	**-1.7**
SVAN				*i*S	**Sg**	**02 10 54.8**	**+1.9**
SVAN	**Silvan-Diyarba**	2.50	264	PN	**Pn**	**02 10 14.5**	**+0.5**
GDB	**GEDABAY**	2.52	25	P	**Pn**	**02 10 14.2**	**-0.2**
QRD	**Qoradiz**	2.53	65	P	**Pn**	**02 10 14.1**	**-0.2**
	SNR=5.0						
QRD				S	**Sn**	**02 10 46.5**	**+1.1**
BNGL	**BINGOL**	2.56	283

ISCJB ***15*** *02:52:20.9±2.1,11°.66N±0°.03×121°.24E±0°.05, h5km±15km, mb3.7/10, MS3.2/5, Error ellipse: s-maj=8.2km s-min=5.4km az=4.8*

IDC ***15*** *02:52:21.6±0.8, 11°.88N×121°.77E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.6/52, mbtmp3.7/11, ML4.3/1, MS3.2/6, Ms1 3.3/6, ms1mx2.9/41, Error ellipse: s-maj=37.8km s-min=14.9km az=67.0*

MAN ***15*** *02:52:22.7, 11°.66N×121°.20E, h25km, MS3.3*

ISC 15 02:52:22.5±1.3, 11°.69N±0°.03×121°.23E±0°.04, h9km±9km, n26, σ2s16/28, mb3.7/10, MS3.0/5, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.77**	**352**	P	**Pg**	**02 52 37.6**	**+0.2**
SJMP				S	**Sb**	**02 52 50.2**	**+1.4**
CUYO	**Cuyo Island**	**0.86**	**194**	P	**Pg**	**02 52 38.4**	**-0.7**
CUYO				S	**Sg**	**02 52 49.6**	**-0.7**
OTRP	**Odiongan**	**1.02**	**49**	P	**Pb**	**02 52 41.3**	**-1.0**
OTRP				S	**Sb**	**02 52 55.8**	**-0.1**
GUIM	**Jordan**	**1.70**	**128**	P	**Pn**	**02 52 50.7**	**-1.7**
GUIM				S	**Sn**	**02 53 13.3**	**-0.9**
ENPP	**El Nido**	**1.84**	**255**	P	**Pn**	**02 52 52.6**	**-1.6**
ENPP				S	**Sb**	**02 53 20.5**	**+1.1**
BOAC	**Boac**	**1.85**	**19**	P	**Pn**	**02 52 53.1**	**-1.3**
BOAC				S	**Sg**	**02 53 23.6**	**+1.4**
LUBP	**Lubang**	**2.25**	**335**	P	**Pn**	**02 52 58.9**	**-1.0**
LUBP				S	**Sn**	**02 53 20.6**	**-7.1**
TGY	**Tagaytay City** 78nm,0.3s,baz=164,slow=15,SNR=6.2	**2.41**	**353**	Pn	**Pn**	**02 53 00.8**	**-1.4**
LQP	**Lukban**	**2.42**	**7**	P	**Pn**	**02 53 02.3**	**-0.2**
GQP	**Guinayangan**	**2.50**	**28**	⇑P	**Pn**	**02 53 03.4**	**+0.1**
GQP				S	Sn	02 53 16.4	-18
PAGZ	**Pagadian**	**4.37**	**151**	P	**Pn**	**02 53 29.0**	**-0.1**
PAGZ				S	Sn	02 54 05.0	-15
KAPI	**Kappang** comp=Z,47nm,19.3s,baz=115,slow=37	**16.66**	**185**	LR	LR	03 02 49.1	
CMAR	**Chiang Mai Arr** 0.8nm,0.4s,baz=97,slow=8.1,SNR=6.9	**22.54**	**290**	P	**P**	**02 57 27.0**	**+4.0**
CMAR				LR	LR	03 07 23.9	
LEM	**Lembang** comp=Z,23nm,18.9s,baz=115,slow=39	**22.84**	**217**	LR	LR	03 07 05.6	
GUMO	**Guam** comp=Z,54nm,18.5s,baz=34,slow=38	**23.14**	**83**	LR	LR	03 06 43.8	
JAY	**Jayapura** comp=Z,44nm,21.4s,baz=262,slow=38	**23.96**	**125**	LR	LR	03 07 14.3	
USRK	**Ussuriysk Ar.** 2.0nm,0.8s,baz=185,slow=16,SNR=3.0	**33.69**	**14**	P	**P**	**02 59 01.9**	**-1.9**
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=333,slow=9.9,SNR=3.7	**33.98**	**158**	P	**P**	**02 59 06.8**	**+0.1**
ASAR	**Alice Springs** 0.6nm,0.6s,baz=344,slow=6.8,SNR=1.1	**37.26**	**161**	P	**P**	**02 59 34.6**	**-0.2**
SONM	**Songino Array** 0.3nm,0.5s,baz=161,slow=7.8,SNR=2.1	**38.12**	**344**	P	**P**	**02 59 41.7**	**-0.3**
STKA	**Stephens Creek** 1.1nm,0.6s,baz=348,slow=11,SNR=4.9	**47.51**	**156**	P	**P**	**03 00 59.5**	**+1.4**
MKAR	**Makanchi Array** 0.8nm,0.8s,baz=116,slow=8.2,SNR=3.9	**47.95**	**324**	P	**P**	**03 01 04.4**	**+2.9**
KURBB	**Kurchatov Arra** 0.4nm,0.3s,baz=124,slow=7.9,SNR=2.2	**52.14**	**327**	P	**P**	**03 01 33.9**	**+0.7**
BVAR	**Borovoye Array** 0.2nm,0.4s,baz=231,slow=46,SNR=2.5	**57.72**	**326**	P	**P**	**03 02 16.3**	**+2.8**
NOA	**NORSAR Array B** comp=Z,85nm,19.3s,baz=285,slow=37	**89.27**	**333**	LR	LR	03 47 58.2	
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=304,slow=3.9,SNR=3.2	**94.42**	**23**	P	**P**	**03 05 40.4**	**-2.3**

BJI ***15*** *03:07:05.9±0.0,54°.17N×160°.76E, h57km, mb4.9/57, mB5.2/41, Ms4.7/31, Ms7 4.5/33*

KRSC ***15*** *03:07:06.7±0.8, 53°.65N×160°.93E, h53km±15km, ML5.6, FELT [IV] at GMS Kronoki; [III] at GMS Semyachiki, Institute, Petropavlovsk.*

MOS ***15*** *03:07:09.7±1.0, 53°.78N×160°.49E, h71km, mb5.3/70, MS4.2/4, Error ellipse: s-maj=6.6km s-min=3.1km az=84.5*

MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.

ISCJB ***15*** *03:07:10.4±0.2, 53°.82N±0°.02×160°.44E±0°.03, h74km±1km, mb5.0/158, Error ellipse: s-maj=3.4km s-min=2.1km az=143.5*

GCMT ***15*** *03:07:11.9±0.3, 53°.72N±0°.02×161°.00E±0°.03, h54km±1km, MW5.0/96, Moment Tensor Solution. s58,c75; s96,c135; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.33±.17; $M_{\theta\theta}$-0.54±.14; $M_{\phi\phi}$-2.79±.13; $M_{r\theta}$0.72±.10; $M_{\theta\phi}$-2.30±.10; $M_{r\phi}$1.13±.09; Best double couple: M_o4.00900×10^{16} NP1:ϕ_s32.00000°, δ55.00000°, λ90.00000°. NP2: ϕ_s212.00000°, δ35.00000°, λ90.00000°. Principal axes: T 3.5610, Plg80.0000°, Azm304.0000°; N 0.8930, Plg0.0000°, Azm212.0000°; P -4.4570, Plg10.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***15*** *03:07:11.9±1.2, 53°.79N±0°.08×160°.5E±0°.1, h74km±4km, mb5.0/332*

IDC ***15*** *03:07:12.8±1.2, 53°.92N×160°.38E, h80km±10km, mb4.5/31, mb1 4.6/34, mb1mx4.6/41, mbtmp4.8/34, MS4.1/20, Ms1 4.1/20, ms1mx4.0/32, Error ellipse: s-maj=12.3km s-min=8.4km az=140.0*

ISC 15 03:07:09.4±0.5, 53°.74N±0°.03×160°.63E±0°.03, h56km±4km, n1036, σ1s33/997, mb5.0/281, MS4.3/33, 66C-12D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.74**	**210**	*e*P	**Pn**	**03 07 23.0**	**-0.9**
SPN				*e*S	**Sn**	**03 07 33.3**	**-1.2**
SPN	**Mys Shipunski**	**0.74**	**210**	PN	**Pn**	**03 07 23.0**	**-0.9**
SPN				S	**Sn**	**03 07 33.3**	**-1.2**
KII	**Karymskiy**	**0.76**	**293**	*e*P	**Pn**	**03 07 25.0**	**+0.8**
KII	**Karymskiy**	**0.76**	**293**	PN	**Pn**	**03 07 25.0**	**+0.8**
NLC	**Nalytchevo**	**0.96**	**234**	*e*P	**Pn**	**03 07 26.6**	**-0.1**
NLC				*e*S	**Sn**	**03 07 40.2**	**+0.7**
NLC	**Nalytchevo**	**0.96**	**234**	PN	**Pn**	**03 07 26.6**	**-0.1**
NLC				S	**Sn**	**03 07 40.2**	**+0.7**
SDLR	**Sedlovina**	**1.14**	**247**	*e*P	**Pn**	**03 07 30.0**	**+0.7**
SDLR	**Sedlovina**	**1.14**	**247**	PN	**Pn**	**03 07 30.0**	**+0.7**
SMAR	**Somma**	**1.19**	**247**	*e*P	**Pn**	**03 07 30.8**	**+0.7**
SMAR	**Somma**	**1.19**	**247**	PN	**Pn**	**03 07 30.8**	**+0.7**
UGLR	**Uglovaya**	**1.21**	**244**	*e*P	**Pn**	**03 07 31.1**	**+1.0**
UGLR	**Uglovaya**	**1.21**	**244**	PN	**Pn**	**03 07 31.1**	**+1.0**
KRER	**Koryakskii**	**1.21**	**249**	*e*P	**Pn**	**03 07 31.4**	**+1.2**
KRER	**Koryakskii**	**1.21**	**249**	PN	**Pn**	**03 07 31.4**	**+1.2**
AVH	**Avacha**	**1.23**	**248**	*e*P	**Pn**	**03 07 31.5**	**+1.1**
AVH				*e*S	**Sn**	**03 07 48.7**	**+2.7**
AVH	**Avacha**	**1.23**	**248**	PN	**Pn**	**03 07 31.5**	**+1.1**
AVH				S	**Sn**	**03 07 48.7**	**+2.7**
KRX	**Arik**	**1.24**	**253**	*e*P	**Pn**	**03 07 31.6**	**+0.9**
KRX	**Arik**	**1.24**	**253**	PN	**Pn**	**03 07 31.6**	**+0.9**
KOK	**Koryaka**	**1.27**	**250**	*e*P	**Pn**	**03 07 32.0**	**+1.0**
KOK	**Koryaka**	**1.27**	**250**	PN	**Pn**	**03 07 32.0**	**+1.0**
PET	**Petropavlovsk**	**1.39**	**239**	*e*PN	**Pn**	**03 07 33.0**	**+0.6**
PET				*e*S	**Sn**	**03 07 51.0**	**+1.3**
PET	comp=Z,2μm,1.1s			pmax	pmax		
PET	comp=Z,3μm,0.6s			pmax	pmax		
PET	comp=E,6μm,1.3s			smax	smax		
PET	comp=E,30μm,0.4s			smax	smax		
PET	comp=E,44μm,1.1s			smax	smax		
PET	comp=N,38μm,2.2s			smax	smax		
PET	comp=N,27μm,0.5s			smax	smax		
PET	**Petropavlovsk**	**1.39**	**239**		**Pn**	**03 07 32.8**	**+0.3**
KZV	**Kizimen**	**1.39**	**352**	*e*P	**Pn**	**03 07 33.0**	**+0.4**
KZV	**Kizimen**	**1.39**	**352**	PN	**Pn**	**03 07 33.0**	**+0.4**
TUMD	**Tumrok D**	**1.47**	**355**	*e*P	**Pn**	**03 07 33.7**	**+0.1**
TUMD				*e*S	**Sn**	**03 07 52.0**	**+0.2**
TUMR	**Tumrok**	**1.57**	**350**	*e*P	**Pn**	**03 07 36.0**	**+0.9**
TUMR				*e*S	**Sn**	**03 07 55.9**	**+1.6**
TUMR	**Tumrok**	**1.57**	**350**	PN	**Pn**	**03 07 36.0**	**+0.9**
TUMR				S	**Sn**	**03 07 55.9**	**+1.6**
KRMR	**Karymshinskiy**	**1.76**	**240**	*e*P	**Pn**	**03 07 38.6**	**+1.1**
KRMR				*e*S	**Sn**	**03 08 00.5**	**+1.8**
KRMR	**Karymshinskiy**	**1.76**	**240**	PN	**Pn**	**03 07 38.6**	**+1.1**
KRMR				S	**Sn**	**03 08 00.5**	**+1.8**
RUS	**Russkaya**	**1.83**	**225**	*e*P	**Pn**	**03 07 38.9**	**+0.4**
RUS				*e*S	**Sn**	**03 08 00.7**	**+0.2**
RUS	**Russkaya**	**1.83**	**225**	PN	**Pn**	**03 07 38.9**	**+0.4**
RUS				S	**Sn**	**03 08 00.7**	**+0.2**
PEA0B	**Petropavlovsk-**	**1.87**	**251**	PN	**Pn**	**03 07 40.3**	**+1.3**
PEA0B	**Petropavlovsk-**	**1.87**	**251**		**Pn**	**03 07 40.3**	**+1.3**
PETK	**Petropavlovsk-** comp=N,251nm,0.3s,baz=60,slow=18,SNR=564	**1.87**	**251**	P	**Pn**	**03 07 40.3**	**+1.3**
PETK				S	**Sn**	**03 08 04.7**	**+3.2**
PETK	comp=N,793nm,0.3s,baz=97,slow=23,SNR=23			LR	LR	03 08 35.0	
PETK	comp=N,6μm,20.9s,baz=86,slow=46						
MTVR	**Mutnovka**	**1.94**	**230**	*e*P	**Pn**	**03 07 41.0**	**+0.9**
MTVR	**Mutnovka**	**1.94**	**230**	PN	**Pn**	**03 07 41.0**	**+0.9**
GRL	**Gorelyy**	**1.95**	**233**	*e*P	**Pn**	**03 07 41.3**	**+1.1**
GRL	**Gorelyy**	**1.95**	**233**	PN	**Pn**	**03 07 41.3**	**+1.1**
KMNR	**Kamenistaya**	**2.03**	**354**	*e*P	**Pn**	**03 07 42.8**	**+1.5**
KMNR	**Kamenistaya**	**2.03**	**354**	PN	**Pn**	**03 07 42.8**	**+1.5**
BZMR	**Bezymyannaya**	**2.20**	**358**	*e*P	**Pn**	**03 07 45.5**	**+1.9**
BZMR	**Bezymyannaya**	**2.20**	**358**	PN	**Pn**	**03 07 45.5**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**2.20**	**1**	*e*P	**Pn**	**03 07 45.0**	**+1.3**
BZGR				*e*S	**Sn**	**03 08 14.3**	**+4.5**
BZGR	**Bezymyannyi-Gr**	**2.20**	**1**	PN	**Pn**	**03 07 45.0**	**+1.3**
BZGR				S	**Sn**	**03 08 14.3**	**+4.5**
KIRR	**Kirishev**	**2.22**	**356**	*e*P	**Pn**	**03 07 45.4**	**+1.4**
KIRR	**Kirishev**	**2.22**	**356**	PN	**Pn**	**03 07 45.4**	**+1.4**
BZWR	**Bezymyannyi-We**	**2.23**	**358**	*e*P	**Pn**	**03 07 45.6**	**+1.5**
BZWR	**Bezymyannyi-We**	**2.23**	**358**	PN	**Pn**	**03 07 45.6**	**+1.5**
APC	**Apacha**	**2.24**	**250**	*e*P	**Pn**	**03 07 46.4**	**+2.4**
APC				*e*S	**Sn**	**03 08 14.8**	**+4.4**
APC	**Apacha**	**2.24**	**250**	PN	**Pn**	**03 07 46.4**	**+2.4**
APC				S	**Sn**	**03 08 14.8**	**+4.4**
KPT	**Kopyto**	**2.24**	**354**	*e*P	**Pn**	**03 07 45.7**	**+1.5**
KPT	**Kopyto**	**2.24**	**354**	PN	**Pn**	**03 07 45.7**	**+1.5**
ZLN	**Zelenaya**	**2.28**	**2**	*e*P	**Pn**	**03 07 46.5**	**+1.8**
ZLN	**Zelenaya**	**2.28**	**2**	PN	**Pn**	**03 07 46.5**	**+1.8**
LGNR	**Loginova**	**2.34**	**1**	*e*P	**Pn**	**03 07 48.0**	**+2.2**
LGNR	**Loginova**	**2.34**	**1**	PN	**Pn**	**03 07 48.0**	**+2.2**
KOZ	**Kozyrevsk**	**2.36**	**350**	*e*P	**Pn**	**03 07 47.1**	**+1.4**
KOZ	**Kozyrevsk**	**2.36**	**350**	PN	**Pn**	**03 07 47.1**	**+1.4**
CIRR	**Tsirk**	**2.38**	**2**	*e*P	**Pn**	**03 07 47.9**	**+1.8**
CIRR	**Tsirk**	**2.38**	**2**	PN	**Pn**	**03 07 47.9**	**+1.8**
KRSR	**Krestovskiy**	**2.48**	**359**	*e*P	**Pn**	**03 07 48.7**	**+1.3**
KRSR	**Krestovskiy**	**2.48**	**359**	PN	**Pn**	**03 07 48.7**	**+1.3**
KLY	**Klyuchi**	**2.58**	**0**	*e*P	**Pn**	**03 07 50.1**	**+1.5**
KLY				*e*S	**Sn**	**03 08 20.9**	**+2.2**
KLY	**Klyuchi**	**2.58**	**0**	PN	**Pn**	**03 07 50.1**	**+1.5**
KLY				S	**Sn**	**03 08 20.9**	**+2.2**
SRDR	**Sredinnyy**	**2.63**	**349**	*e*P	**Pn**	**03 07 50.4**	**+0.9**
SRDR	**Sredinnyy**	**2.63**	**349**	PN	**Pn**	**03 07 50.4**	**+0.9**
KBTR	**Krutoberegovo**	**2.77**	**26**	*e*P	**Pn**	**03 07 51.6**	**+0.2**
KBTR				*e*S	**Sn**	**03 08 23.9**	**+0.3**
KBTR	**Krutoberegovo**	**2.77**	**26**	PN	**Pn**	**03 07 51.6**	**+0.2**
KBTR				S	**Sn**	**03 08 23.9**	**+0.3**
KBG	**Krutoberegovo**	**2.79**	**25**	*e*P	**Pn**	**03 07 52.4**	**+0.9**
KBG	**Krutoberegovo**	**2.79**	**25**	PN	**Pn**	**03 07 52.4**	**+0.9**
BDR	**Baidarnaya**	**2.85**	**6**	*e*P	**Pn**	**03 07 54.2**	**+1.7**
BDR	**Baidarnaya**	**2.85**	**6**	PN	**Pn**	**03 07 54.2**	**+1.7**
SMKR	**Semkarok**	**2.89**	**9**	*e*P	**Pn**	**03 07 54.5**	**+1.5**
SMKR	**Semkarok**	**2.89**	**9**	PN	**Pn**	**03 07 54.5**	**+1.5**
SRKR	**Sorokina**	**2.93**	**6**	*e*P	**Pn**	**03 07 55.1**	**+1.5**
SRKR	**Sorokina**	**2.93**	**6**	PN	**Pn**	**03 07 55.1**	**+1.5**
PAU	**Pauzhetka**	**3.26**	**227**	*e*P	**Pn**	**03 08 00.3**	**+2.3**
PAU	**Pauzhetka**	**3.26**	**227**	PN	**Pn**	**03 08 00.3**	**+2.3**
BKI	**Bering**	**3.44**	**63**	*e*P	**Pn**	**03 07 59.8**	**-0.7**
BKI				*e*S	**Sn**	**03 08 35.5**	**-4.5**
BKI	**Bering**	**3.44**	**63**	PN	**Pn**	**03 07 59.8**	**-0.7**
SKR	**Severo-Kuril's**	**4.13**	**224**	*e*P	**Pn**	**03 08 12.4**	**+2.4**
SKR				*e*S	**Sn**	**03 08 59.2**	**+2.2**
SKR	**Severo-Kuril's**	**4.13**	**224**	*e*PN	**Pn**	**03 08 13.2**	**+3.2**
SKR				*e*S	**Sn**	**03 08 58.4**	**+1.4**
SKR	comp=Z,202nm,0.9s			pmax	pmax		
SKR	comp=N,2μm,0.9s			smax	smax		
SKR	comp=E,2μm,0.6s			smax	smax		
PALN	**Palana**	**5.37**	**356**	*e*P	**Pn**	**03 08 29.4**	**+2.5**
PALN	**Palana**	**5.37**	**356**	PN	**Pn**	**03 08 29.4**	**+2.5**
OSSR	**Ossora**	**5.68**	**13**	*e*P	**Pn**	**03 08 33.8**	**+2.7**
OSSR	**Ossora**	**5.68**	**13**	PN	**Pn**	**03 08 33.8**	**+2.7**
MA2	**Magadan**	**7.97**	**321**	*ce*PN	**Pn**	**03 08 59.9**	**-2.6**
MA2	comp=E,61nm,1.0s			pmax	pmax		
MA2	**Magadan**	**7.97**	**321**		**Pn**	**03 09 05.1**	**+2.6**
SMY	**Shemya**	**8.15**	**92**	PN	**Pn**	**03 09 04.4**	**-0.5**
SMY	**Shemya**	**8.15**	**92**		**Pn**	**03 09 04.4**	**-0.5**
KMSK	**Kamenskaya**	**9.23**	**16**	*e*P	Pn	03 09 24.0	+4.4
KMSK	**Kamenskaya**	**9.23**	**16**	PN	Pn	03 09 24.0	+4.4
SEY	**Seymchan**	**10.17**	**338**	*i*PN	**Pn**	**03 09 30.1**	**-2.4**
SEY	**Seymchan** comp=Z,0.1nm,0.3s,baz=138,slow=16,SNR=3.8	**10.17**	**338**	P	**Pn**	**03 09 33.9**	**+1.3**
YSS	**Yuzh-Sakhalins**	**13.26**	**246**	*e*PN	P	03 10 30.9	+8.0
YSS	comp=N,2μm,15.0s			MLR	MLR		
YSS	comp=Z,3μm,15.0s			MLR	MLR		
YSS	comp=E,3μm,16.0s			MLR	MLR		
YUK	**Yuzh-Kuril'sk**	**13.71**	**231**	*e*P	**Pn**	**03 10 18.6**	**-2.3**
YUK				*e*S	**Sn**	**03 12 45.7**	**-5.7**
YUK	comp=Z,157nm,0.4s			pmax	pmax		
YUK	comp=N,122nm,0.5s			pmax	pmax		
YUK	comp=E,131nm,0.4s			pmax	pmax		
YUK	comp=Z,855nm,1.5s			pmax	pmax		
YUK	comp=N,2μm,2.4s			smax	smax		
YUK	comp=E,2μm,1.9s			smax	smax		
YUK	comp=Z,299nm,14.0s			MLR	MLR		
ADK	**Adak**	**13.84**	**89**	P	**Pn**	**03 10 22.0**	**-0.5**
ADK	**Adak**	**13.84**	**89**		**Pn**	**03 10 22.0**	**-0.5**
BILL	**Bilibino**	**14.59**	**8**	*e*P	**Pn**	**03 10 31.5**	**-0.9**
BILL				*e*S	**Sn**	**03 13 11.5**	**-1.1**
BILL	comp=Z,20nm,1.0s			pmax	pmax		
BILL	comp=Z,991nm,23.0s			MLR	MLR		
BILL	**Bilibino**	**14.59**	**8**		**Pn**	**03 10 34.1**	**+1.7**
GRNR	**Gornyy**	**15.10**	**268**	⇑*i*P	Pn	03 10 26.4	-13
GRNR	comp=Z,50nm,0.6s			pmax	pmax		
GRNR	comp=Z,630nm,18.0s			MLR	MLR		
ATKA	**Atka Island**	**15.22**	**86**	Pn	**Pn**	**03 10 40.1**	**-0.6**
ATKA				IAmb	IAmb	03 10 41.9	
JKA	**Kamikawa-asahi** comp=Z,132nm,1.2s	**15.23**	**238**		**Pn**	**03 10 41.8**	**+1.0**
ASAJ	**Asahikawa** comp=Z,3.1nm,0.3s,baz=66,slow=14,SNR=11	**15.23**	**238**	P	**Pn**	**03 10 41.8**	**+1.0**
ERM	**Erimo**	**16.53**	**232**	P	**Pn**	**03 10 58.1**	**+0.8**
ERM	comp=E,65nm,1.1s			pmax	pmax		
ERM	**Erimo**	**16.53**	**232**	Pn	**Pn**	**03 10 58.1**	**+0.8**
TEY	**Ternei**	**17.83**	**251**	⇑*e*P	**P**	**03 11 16.6**	**+3.1**
TEY	comp=Z,40nm,1.1s			pmax	pmax		
TEY	comp=N,50nm,0.9s			pmax	pmax		
TEY	comp=E,30nm,1.6s			pmax	pmax		
NIKH	**Nikolski High**	**18.17**	**80**	P	**Pn**	**03 11 17.4**	**0.0**
NIKH				IAmb	IAmb	03 11 31.3	
YAK	**Yakutsk** comp=Z,150nm,1.0s	**18.26**	**309**	P	**P**	**03 11 17.1**	**-1.0**
YAK	comp=Z,91nm,0.7s			pmax	pmax		
YAK	**Yakutsk** comp=Z,1.2nm,0.3s,baz=265,slow=1.3,SNR=28	**18.26**	**309**	P	**P**	**03 11 17.7**	**-0.4**
YAK	**Yakutsk**	**18.26**	**309**	P	**P**	**03 11 17.1**	**-1.0**
YAK	comp=Z,91nm,0.7s			IAmb	IAmb	03 11 18.6	
KLR	**Kul'dur**	**18.48**	**268**	*i*P	**P**	**03 11 18.1**	**-2.4**
KLR	comp=Z,20nm,0.9s			pmax	pmax		
KLR	**Kul'dur** comp=Z,1.2nm,0.3s,baz=68,slow=9.3,SNR=22	**18.48**	**268**	P	**P**	**03 11 22.1**	**+1.6**
KLR				PcP	**PcP**	**03 15 48.6**	**+0.2**
ZEA	**Zeya** comp=Z,0.3nm,0.3s,baz=72,slow=4.8,SNR=5.5	**19.65**	**284**	*e*P	**P**	**03 11 28.1**	**-5.2**
ZEA	comp=Z,46nm,1.4s			pmax	pmax		
ZEA	comp=Z,1μm,18.0s			MLR	MLR		
USA0B	**Ussuriysk Arra**	**20.96**	**255**	*i*P	**P**	**03 11 46.0**	**-1.5**
USRK	**Ussuriysk Ar.** comp=Z,5.3nm,0.6s,baz=50,slow=12,SNR=16	**20.96**	**255**	P	**P**	**03 11 48.4**	**+0.8**
USRK				LR	LR	03 20 50.2	
RDOG	**Red Dog Mine** comp=Z,391nm,18.7s,baz=49,slow=39	**22.32**	**36**	P	**P**	**03 12 02.2**	**+0.2**
RDOG	comp=Z,65nm,1.1s			IAmb	IAmb	03 12 05.2	
TIXI	**Tiksi**	**22.63**	**334**	P	**P**	**03 12 04.2**	**-1.0**
TIXI						03 15 56.2	
TIXI	comp=Z,18nm,1.0s			pmax	pmax		
TIXI	**Tiksi** comp=Z,4.2nm,0.4s,baz=0.0,slow=24,SNR=12	**22.63**	**334**	P	**P**	**03 12 04.6**	**-0.6**
TIXI				PcP	**PcP**	**03 15 56.1**	**+0.4**
TIXI	**Tiksi** comp=Z,5.5nm,0.6s,baz=0.0,slow=24,SNR=8.2	**22.63**	**334**		**P**	**03 12 04.2**	**-1.0**
MJB9	**Matsu-Tunnel**	**23.20**	**231**	P	**P**	**03 12 11.8**	**+0.4**
MJB9	comp=Z,64nm,0.8s			IAmb	IAmb	03 12 13.6	
MAJO	**Matsushiro** comp=Z,59nm,0.9s	**23.20**	**231**	*i*P	**P**	**03 12 11.8**	**+0.4**
MAJO				pmax	pmax		
MAJO	**Matsushiro**	**23.20**	**231**	P	**P**	**03 12 11.6**	**+0.3**
MAJO	comp=Z,65nm,0.8s			IAmb	IAmb	03 12 13.6	
MAT	**Matsushiro**	**23.20**	**231**	P	**P**	**03 12 12.0**	**+0.6**
MAT				S	**S**	**03 16 17.4**	**-1.5**
MJAR	**Matsushiro Arr** comp=Z,38nm,0.8s,baz=20,slow=11,SNR=51	**23.20**	**231**	P	**P**	**03 12 12.3**	**+0.9**
MJAR	comp=Z,181nm,18.9s,baz=55,slow=40			LR	LR	03 22 50.5	
SVW2	**Sparrevohn**	**24.29**	**55**	P	**P**	**03 12 20.8**	**-0.4**
INU	**Inuyama**	**24.73**	**232**	P	**P**	**03 12 24.9**	**-0.6**
INU	comp=Z,24nm,0.6s			IAmb	IAmb	03 12 30.2	
CN2	**Changchun**	**24.99**	**261**	*e*P	**P**	**03 12 25.8**	**-1.9**
CN2	comp=Z,20nm,0.9s			pmax	pmax		
HIA	**Hailar**	**25.58**	**277**	P	**P**	**03 12 32.4**	**-0.6**
HIA	comp=Z,53nm,1.1s			pmax	pmax		
HIA	**Hailar**	**25.58**	**277**	P	**P**	**03 12 32.4**	**-0.6**
HIA	comp=Z,53nm,1.1s			IAmb	IAmb	03 12 32.9	
PPLA	**Purkeypile**	**25.84**	**50**	P	**P**	**03 12 36.3**	**+0.9**
BOD	**Bodaibo**	**26.12**	**298**	*e*P	**P**	**03 12 36.5**	**-1.3**
BOD	comp=Z,45nm,1.1s			pmax	pmax		
KDAK	**Kodiak Island** comp=Z,6.7nm,0.8s,baz=333,slow=4.5,SNR=3.7	**26.21**	**62**	P	**P**	**03 12 39.2**	**+0.6**
COLD	**Coldfoot**	**26.85**	**41**	P	**P**	**03 12 45.3**	**+1.0**
BWN	**Browne**	**27.03**	**48**	P	**P**	**03 12 47.7**	**+1.8**
BWN	comp=Z,44nm,1.0s			IAmb	IAmb	03 12 57.7	
TOLK	**Toolik Lake Re** baz=262,SNR=7.9	**27.25**	**38**	P	**P**	**03 12 48.3**	**+0.3**
TOLK	**Toolik Lake Re**	**27.25**	**38**	P	**P**	**03 12 48.0**	**+0.1**
RND	**Reindeer**	**27.33**	**49**	P	**P**	**03 12 48.8**	**0.0**
RND	comp=Z,25nm,1.1s			pmax	pmax		
RND	**Reindeer**	**27.33**	**49**	P	**P**	**03 12 48.8**	**0.0**
WRH	**Wood River Hil** comp=Z,22nm,0.9s	**27.62**	**47**	IAmb	IAmb	03 13 02.1	
KNK	**Knik Glacier** comp=Z,33nm,1.0s	**27.69**	**53**	IAmb	IAmb	03 12 54.6	
SML	**Sawmill** comp=Z,45nm,1.0s	**27.71**	**53**	IAmb	IAmb	03 12 54.4	
TCOL	**CIGO, UAF Yank** baz=271	**27.71**	**46**	P	**P**	**03 12 53.2**	**+1.2**
COLA	**College**	**27.71**	**46**	*i*P	**P**	**03 12 51.6**	**-0.4**
COLA	comp=Z,13nm,1.0s			pmax	pmax		
COLA	**College**	**27.71**	**46**	P	**P**	**03 12 52.4**	**+0.3**
KSRS	**Korea Array** comp=Z,3.5nm,0.6s,baz=40,slow=9.5,SNR=14	**27.76**	**247**	P	**P**	**03 12 52.8**	**+0.1**
KSRS				PcP	**PcP**	**03 16 08.8**	**+1.0**
POKR	**Poker Plat Res** baz=271	**27.89**	**45**	P	**P**	**03 12 55.0**	**+1.4**
HDA	**Harding Lake** baz=273,SNR=6.0	**28.12**	**47**	P	**P**	**03 12 56.0**	**+0.3**
ILAR	**Eielson Array** comp=Z,9.6nm,0.9s,baz=264,slow=8.2,SNR=78	**28.13**	**46**	P	**P**	**03 12 56.2**	**+0.5**
ILAR				PcP	**PcP**	**03 16 07.5**	**-0.9**
ILAR	comp=Z,0.7nm,0.6s,baz=278,slow=3.2,SNR=4.9			LR	LR	03 25 00.1	
SCM	**Sheep Creek Mo** comp=Z,120nm,18.0s,baz=280,slow=38	**28.18**	**52**	IAmb	IAmb	03 12 58.9	
PRP	**Porcupine Dome** comp=Z,32nm,1.0s	**28.68**	**45**	IAmb	IAmb	03 13 11.7	
FYU	**Fort Yukon** comp=Z,22nm,0.9s	**28.78**	**42**	IAmb	IAmb	03 13 03.7	
JNU	**Saskatsue** comp=Z,39nm,1.0s	**29.51**	**238**	P	**P**	**03 13 09.5**	**+1.1**
CRQM	**Cirque** comp=Z,14nm,0.8s,baz=5.1,slow=12,SNR=7.8	**30.35**	**54**	IAmb	IAmb	03 13 19.3	
EGAK	**Eagle** comp=Z,44nm,1.0s	**30.58**	**46**	IAmb	IAmb	03 13 27.3	
EPYK	**Eagle Plains** comp=Z,17nm,0.8s baz=278,SNR=10	**32.20**	**42**	P	**P**	**03 13 33.0**	**+1.4**
EPYK	**Eagle Plains**	**32.20**	**42**	IAmb	IAmb	03 13 33.7	
BJI	**Beijing** comp

YKA PcP **PcP** **03 16 50.6 +0.4**
comp=Z,1.7nm,0.7s,baz=308,slow=3.4,SNR=4.9
LZH Lanzhou 42.67 269 *e*P **P** **03 15 00.4 -0.2**
LZH pP pP 03 15 16.3 +1.3
LZH sP sP 03 15 21.6 +0.2
LZH PP **PP** **03 16 45.6 +5.4**
LZH pmax pmax
comp=Z,14nm,1.4s
LZH pmax pmax
comp=Z,55nm,4.8s
LZH LR LR
comp=Z,570nm,16.3s
LZH LR LR
comp=Z,400nm,14.1s
LZH LR LR
comp=Z,500nm,17.4s
ZAA0 Zalesovo Array 42.70 302 P **P** **03 14 59.0 -1.5**
ZALV Zalesovo Beam 42.70 302 P **P** **03 14 58.5 -1.9**
comp=Z,2.3nm,0.5s,baz=53,slow=6.9,SNR=10.0
ZALV PcP **PcP** **03 16 51.1 -0.1**
comp=Z,2.2nm,0.7s,baz=58,slow=5.4,SNR=3.8
ZALV LR LR 03 34 11.8
comp=Z,553nm,18.3s,baz=59,slow=38
GTA Gaotai 42.85 276 ⇑P **P** **03 15 01.3 -0.8**
GTA pP pP 03 15 13.9 -2.5
GTA sP sP 03 15 19.0 -3.9
GTA PcP **PcP** **03 16 52.8 +0.7**
GTA ScP **ScP** **03 20 40.5 +2.4**
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA pmax pmax
comp=Z,100nm,7.3s
GTA LR LR
comp=Z,230nm,17.8s
GTA LR LR
comp=Z,230nm,19.0s
GTA LR LR
comp=Z,540nm,15.6s
TULEG Thule 46.24 14 P **P** **03 15 27.6 -0.8**
TULEG IAmb IAmb 03 15 29.4
comp=Z,28nm,1.0s
CD2 Chengdu 46.35 264 *e*P **P** **03 15 29.0 -0.9**
CD2 S **S** **03 22 12.4 -0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,270nm,4.7s
CD2 LR LR
comp=Z,340nm,11.3s
CD2 LR LR
comp=Z,650nm,15.2s
SPA0 Spitsbergen Ar 46.55 350 P **P** **03 15 30.8 0.0**
SPA0 IAmb IAmb 03 15 38.7
comp=Z,31nm,1.1s
B05A Bryant 46.69 64 P **P** **03 15 34.1 +1.8**
baz=307
B06A Marblemount 46.86 63 P **P** **03 15 34.8 +1.2**
B06A IAmb IAmb 03 15 35.6
comp=Z,10nm,0.8s
WMQ Urumqi 47.06 289 P **P** **03 15 34.9 -0.4**
WMQ pP pP 03 15 50.6 +0.7
WMQ sP sP 03 15 57.3 +1.0
WMQ pmax pmax
comp=Z,25nm,1.1s
WMQ pmax pmax
comp=Z,140nm,3.6s
WMQ LR LR
comp=Z,450nm,23.7s
WMQ LR LR
comp=Z,2μm,29.3s
WMQ LR LR
comp=Z,750nm,21.3s
E04D Cinebar 47.48 66 P **P** **03 15 39.3 +0.8**
baz=308
KURK Kurchatov 47.66 302 *i*P **P** **03 15 37.1 -2.7**
KURK pmax pmax
comp=Z,13nm,0.9s
KURK Kurchatov 47.66 302 P **P** **03 15 38.1 -1.7**
KURK IAmb IAmb 03 15 39.6
comp=Z,20nm,0.7s
GYA Guiyang 47.95 257 *e*P **P** **03 15 45.6 +3.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 48.16 295 P **P** **03 15 41.7 -2.1**
MK31 pmax pmax
comp=Z,6.0nm,1.1s
MK31 Makanchi Array 48.16 295 P **P** **03 15 41.7 -2.1**
MKAR Makanchi Array 48.16 295 *i*P **P** **03 15 41.2 -2.6**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 48.16 295 P **P** **03 15 41.3 -2.5**
comp=Z,2.6nm,0.5s,baz=57,slow=7.1,SNR=42
MKAR LR LR 03 37 09.7
comp=Z,178nm,19.2s,baz=38,slow=38
H04D Lebanon 48.67 68 P **P** **03 15 49.6 +2.0**
baz=310
I03D Drain, OR 48.86 69 P **P** **03 15 51.2 +2.1**
baz=310
J01E Myrtle Point 48.88 70 P **P** **03 15 51.6 +2.3**
baz=310
G05D Wamic, OR 48.99 66 P **P** **03 15 52.0 +1.8**
baz=310
NEW Newport 49.30 61 P **P** **03 15 53.9 +1.4**
baz=309,SNR=5.4
I04A Tendick Farm, 49.32 68 P **P** **03 15 54.5 +1.8**
baz=310
KULLO Kullorsuaq 49.48 12 *i*P **P** **03 15 53.8 +0.3**
KULLO pmax pmax
comp=Z,71nm,0.9s
KULLO Kullorsuaq 49.48 12 *i*P **P** **03 15 53.8 +0.3**
comp=Z,71nm,0.9s
I05D Terrebonne, OR 49.56 67 P **P** **03 15 56.2 +1.7**
baz=310
L02E Cave Junction 49.72 71 P **P** **03 15 57.4 +1.7**
baz=311
DAG Danmarks Havn 49.75 360 *i*P **P** **03 15 54.7 -0.8**
DAG pmax pmax
comp=Z,11nm,0.9s
DAG Danmarks Havn 49.75 360 *i*P **P** **03 15 54.7 -0.8**
comp=Z,11nm,0.9s
J04D Umpqua Nationa 49.84 69 P **P** **03 15 58.9 +2.0**
baz=311,SNR=6.8
BRVK Borovoye 50.27 308 *i*P **P** **03 15 57.5 -2.2**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 50.27 308 P **P** **03 15 58.0 -1.7**
BRVK IAmb IAmb 03 16 03.2
comp=Z,8.0nm,0.7s
J05D Fort Rock, OR 50.30 68 P **P** **03 16 02.1 +1.9**
baz=311,SNR=8.4
L04D Klamath Falls 50.41 70 P **P** **03 16 03.0 +1.9**
baz=312,SNR=7.4
WALA Waterton Lakes 50.44 58 IAmb IAmb 03 16 22.0
comp=Z,15nm,0.7s
YBH Yreka Blue Hor 50.50 71 P **P** **03 16 03.2 +1.5**
YBH pmax pmax
comp=Z,6.0nm,0.9s
YBH Yreka Blue Hor 50.50 71 P **P** **03 16 03.2 +1.5**
M02C Callahan 50.65 71 P **P** **03 16 05.6 +2.8**
baz=312
M04C Macdoel 50.95 70 P **P** **03 16 07.4 +2.1**
baz=312
N02D Trinity Center 51.01 71 P **P** **03 16 08.0 +2.4**
baz=312
JTMT Jette 51.10 60 IAmb IAmb 03 16 09.0
comp=Z,20nm,1.0s
KMI Kunming 51.25 260 P **P** **03 16 06.8 -0.9**
KMI pP pP 03 16 21.3 -1.1
KMI pmax pmax
comp=Z,8.0nm,1.0s
KMI LR LR
comp=Z,320nm,18.2s
KMI LR LR
comp=Z,270nm,19.0s
KMI LR LR
comp=Z,300nm,27.8s
WDC Whiskeytown Da 51.36 72 P **P** **03 16 09.7 +1.6**
WDC pmax pmax
comp=Z,6.0nm,1.0s
WDC Whiskeytown Da 51.36 72 P **P** **03 16 09.7 +1.6**
O02D Mt. Diablo Mer 51.49 72 P **P** **03 16 11.9 +2.7**
baz=313
MOD Modoc Plateau 51.73 69 IAmb IAmb 03 16 25.9
comp=Z,8.9nm,0.8s
MSO Missoula 51.88 60 P **P** **03 16 13.5 +1.5**
baz=311,SNR=8.0

O03E Paynes Creek 51.97 71 P **P** **03 16 14.5 +1.7**
baz=313,SNR=6.6
SVE Sverdlovsk 52.02 317 *e*P **P** **03 16 11.4 -1.4**
SVE pmax pmax
comp=Z,11nm,1.0s
FFC Flin Flon 52.34 47 P **P** **03 16 15.8 +0.6**
FFC pmax pmax
comp=Z,15nm,1.0s
FFC Flin Flon 52.34 47 P **P** **03 16 15.8 +0.6**
FFC IAmb IAmb 03 16 17.1
comp=Z,15nm,1.0s
ARCES ARCESS Array B 52.77 342 P **P** **03 16 17.5 -0.6**
comp=Z,14nm,0.9s,baz=37,slow=8.6,SNR=24
APA Apatity 52.77 337 ⇑*i*P P 03 16 35.0 +17
APA pmax pmax
comp=Z,6.0nm,0.8s
APA MLR MLR
comp=Z,1μm,12.0s
ARU Arti 53.14 317 *c i*P **P** **03 16 19.2 -1.8**
ARU *PP **pP** **03 16 34.4 -1.4**
ARU S **S** **03 23 47.2 +0.1**
ARU SS **SS** **03 27 23.5 -2.8**
ARU pmax pmax
comp=Z,16nm,0.7s
ARU Arti 53.14 317 P **P** **03 16 19.4 -1.6**
ARU IAmb IAmb 03 16 20.2
comp=Z,15nm,0.7s
EGMT Eagleton 53.21 57 P **P** **03 16 22.8 +1.0**
baz=312
EGMT Eagleton 53.21 57 IAmb IAmb 03 16 24.0
comp=Z,18nm,1.1s
SUMG Summit 53.27 7 *i*P **P** **03 16 22.4 +0.1**
SUMG pmax pmax
comp=Z,200nm,1.0s
SUMG Summit 53.27 7 *i*P **P** **03 16 22.4 +0.1**
comp=Z,198nm,1.0s
SUMG Summit 53.27 7 P **P** **03 16 22.4 +0.1**
SLVN Son La 53.50 256 P **P** **03 16 24.3 0.0**
SLVN IAmb IAmb 03 16 26.7
comp=Z,11nm,1.0s
PAHR Pah Rah Range 53.73 70 IAmb IAmb 03 16 28.6
comp=Z,9.2nm,0.9s
RUBR Rubicon Trail 53.75 72 IAmb IAmb 03 16 41.2
comp=Z,13nm,1.1s
VCNR Virginia City 53.86 71 IAmb IAmb 03 16 48.0
comp=Z,10.0nm,0.8s
PNTR Pine Nut 54.03 71 IAmb IAmb 03 16 31.7
comp=Z,16nm,0.7s
PRGR Permogore 54.06 328 *e*P **P** **03 16 26.7 -1.0**
PRGR pmax pmax
comp=Z,25nm,0.9s
YERR Yerington 54.31 71 P **P** **03 16 31.6 +1.5**
YERR IAmb IAmb 03 16 33.6
comp=Z,12nm,1.1s
BOOM Boomskoye usch 54.40 295 P **P** **03 16 29.4 -1.3**
BOOM pmax pmax
comp=Z,6.0nm,0.9s
BOOM Boomskoye usch 54.40 295 P **P** **03 16 29.4 -1.3**
WAKR Walker 54.53 72 IAmb IAmb 03 16 34.9
comp=Z,10nm,0.7s
KVN Kaiserville 54.90 70 IAmb IAmb 03 16 37.4
comp=Z,12nm,0.7s
RYN Ryan 54.96 71 IAmb IAmb 03 16 37.7
comp=Z,8.7nm,0.7s
AAK Ala-Archa 55.08 296 *i*P **P** **03 16 33.8 -1.7**
SNR=6.7
AAK Ala-Archa 55.08 296 *i*P **P** **03 16 32.9 -2.7**
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 55.08 296 P **P** **03 16 34.1 -1.5**
NVAR Mina Array Bea 55.22 71 P **P** **03 16 38.7 +1.9**
comp=Z,9.2nm,0.8s,baz=301,slow=7.4,SNR=72
NVAR LR LR 03 37 47.8
comp=Z,117nm,19.0s,baz=296,slow=33
H17A Grant Village 55.26 61 P **P** **03 16 40.6 +3.6**
baz=314,SNR=7.4
H17A Grant Village 55.26 61 IAmb IAmb 03 16 41.0
comp=Z,11nm,0.8s
ELK Elko 55.31 67 IAmb IAmb 03 16 40.4
comp=Z,7.0nm,0.7s
FLWY Flagg Ranch 55.41 61 IAmb IAmb 03 16 51.8
comp=Z,13nm,0.9s
RLMT Red Lodge 55.43 59 P **P** **03 16 40.4 +2.3**
baz=314,SNR=14
DGMT Dagmar 55.61 53 P **P** **03 16 40.5 +1.3**
baz=314
DGMT Dagmar 55.61 53 P **P** **03 16 40.1 +0.9**
DGMT IAmb IAmb 03 16 41.6
comp=Z,19nm,1.1s
REDW Red Top Meadow 55.83 62 IAmb IAmb 03 16 44.2
comp=Z,11nm,1.1s
LAO LASA Array 55.87 56 P **P** **03 16 43.4 +2.3**
baz=314
AHID Auburn Hatcher 56.12 62 IAmb IAmb 03 16 46.3
comp=Z,15nm,1.0s
TIN Tinemaha, Big 56.23 72 P **P** **03 16 46.6 +2.7**
baz=315
KSH Kashi 56.45 292 P **P** **03 16 48.3 +2.9**
KSH sP sP 03 17 11.1 +4.5
KSH PcP **PcP** **03 17 44.3 +2.6**
KSH PP **PP** **03 18 56.4 +5.2**
KSH ScP **ScP** **03 21 36.3 +0.3**
KSH S **S** **03 24 34.1 +1.8**
KSH sS sS 03 25 01.1 +3.5
KSH pmax pmax
comp=Z,51nm,1.4s
KSH pmax pmax
comp=Z,700nm,6.1s
KSH LR LR
comp=Z,290nm,6.1s
KSH LR LR
comp=Z,740nm,6.1s
SMMC Simmler 56.46 75 P **P** **03 16 48.4 +2.9**
baz=316
VES Vestal, Richgr 56.60 74 P **P** **03 16 47.8 +1.4**
baz=316
HWUT Hardware Ranch 56.69 64 P **P** **03 16 48.2 +1.1**
HWUT IAmb IAmb 03 16 50.2
comp=Z,15nm,0.8s
CWC Cottonwood Cre 56.75 72 P **P** **03 16 49.8 +2.2**
baz=316
GRAC Grapevine Rang 56.76 71 P **P** **03 16 50.1 +2.6**
baz=316
R11A Troy Canyon, C 56.80 69 P **P** **03 16 49.9 +2.0**
baz=315,SNR=11
ARSB Arslanbob 56.80 296 P **P** **03 16 47.9 0.0**
KK31 Karatay Array 56.85 299 P **P** **03 16 45.9 -2.1**
KK31 pmax pmax
comp=Z,5.0nm,0.7s
KK31 Karatay Array 56.85 299 P **P** **03 16 45.9 -2.1**
KK31 IAmb IAmb 03 16 49.6
comp=Z,5.4nm,0.7s
KKAR Karatay Array 56.85 299 P **P** **03 16 46.1 -2.0**
KKAR pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 56.85 299 P **P** **03 16 46.1 -2.0**
KKAR IAmb IAmb 03 16 49.6
comp=Z,5.4nm,0.7s
PKM Mcpherson Peak 56.87 75 P **P** **03 16 51.2 +2.7**
baz=316
SKNT Sakolnakorn 56.91 253 P **P** **03 16 51.2 +2.5**
comp=Z,32nm,1.3s
BW06 Boulder Array 56.93 61 P **P** **03 16 50.9 +2.0**
baz=315,SNR=20
BW06 Boulder Array 56.93 61 IAmb IAmb 03 16 52.0
comp=Z,22nm,1.1s
PD31 Pinedale Array 56.93 61 IAmb IAmb 03 16 52.0
comp=Z,20nm,1.1s
PDAR Pinedale Array 56.93 61 P **P** **03 16 50.0 +1.1**
comp=Z,13nm,0.9s,baz=316,slow=2.8,SNR=72
PDAR LR LR 03 40 51.9
comp=Z,93nm,20.8s,baz=343,slow=35
DUG Dugway, Tooele 57.01 66 P **P** **03 16 52.1 +2.7**
baz=315,SNR=17
DUG Dugway, Tooele 57.01 66 IAmb IAmb 03 16 53.0
comp=Z,16nm,0.9s
ISA Isabella, Lake 57.08 73 P **P** **03 16 51.4 +1.6**
baz=316
SFJD Kangerlussuaq 57.31 14 *i*P **P** **03 16 50.0 -0.8**
SFJD Kangerlussuaq 57.31 14 *i*P **P** **03 16 50.0 -0.8**
MPMC Manual Prospec 57.36 72 P **P** **03 16 53.8 +1.9**
baz=316,SNR=7.9
FURC Furnace Creek, 57.42 72 P **P** **03 16 54.4 +2.4**
baz=316,SNR=17
TPNV Topopah Spring 57.42 71 P **P** **03 16 54.0 +1.7**
baz=316,SNR=12

TPNV Topopah Spring 57.42 71 IAmb IAmb 03 16 55.7
comp=Z,6.9nm,0.8s
UBPT Khong Chiam 57.44 250 P **P** **03 16 54.7 +2.2**
comp=Z,14nm,1.0s
NLU North Lily Min 57.58 65 P **P** **03 16 54.9 +1.4**
AB31 Akbulak array 57.62 310 *i*P **P** **03 16 51.3 -2.0**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
ABKAR Akbulak array 57.62 310 P **P** **03 16 51.9 -1.5**
ABKAR IAmb IAmb 03 16 52.5
comp=Z,6.3nm,0.8s
AKTO Aktyubinsk 57.62 312 P **P** **03 16 51.3 -2.0**
AKTO pmax pmax
comp=Z,19nm,1.5s
LRMC Laurel Mtn Rad 57.66 73 P **P** **03 16 55.8 +1.8**
baz=316,SNR=7.7
EDW2 Edwards Air Fo 57.91 74 P **P** **03 16 57.2 +1.5**
baz=316,SNR=11
ULM Lac du Bonnet 58.14 47 P **P** **03 16 57.5 +0.6**
comp=Z,11nm,0.5s,baz=317,slow=6.9,SNR=26
ULM LR LR 03 43 11.8
comp=Z,227nm,19.7s,baz=303,slow=37
ULM Lac du Bonnet 58.14 47 IAmb IAmb 03 16 58.8
comp=Z,18nm,0.9s
SHOC Shoshone, Teco 58.16 72 P **P** **03 16 59.8 +2.5**
baz=316
MDND Maddock 58.22 51 P **P** **03 16 59.1 +1.6**
baz=317,SNR=8.4
UTTA Uttaradit 58.26 256 P **P** **03 17 00.2 +2.0**
comp=Z,24μm,0.7s
GSC Goldstone, Bar 58.28 72 P **P** **03 17 00.2 +1.9**
baz=316,SNR=7.4
GSC Goldstone, Bar 58.28 72 IAmb IAmb 03 17 00.9
comp=Z,7.2nm,0.8s
CMMT Chiang Mai 58.35 258 P **P** **03 16 59.3 +0.5**
comp=Z,7.8nm,0.7s
CHTO Chiang Mai 58.35 258 P **P** **03 16 59.0 +0.2**
CHTO pmax pmax
comp=Z,10.0nm,0.7s
CHTO Chiang Mai 58.35 258 P **P** **03 16 59.0 +0.2**
CHTO IAmb IAmb 03 17 01.0
comp=Z,9.8nm,0.7s
MWC Mount Wilson 58.35 74 IAmb IAmb 03 17 03.0
comp=Z,11nm,1.1s
TAPN Taplejung 58.48 274 *e*P **P** **03 16 59.0 -1.0**
comp=Z,14nm,0.6s
MSU Marysvale 58.55 67 P **P** **03 17 01.3 +1.0**
MSU 03 17 52.0
MSU Marysvale 58.55 67 P **P** **03 17 01.3 +1.0**
MSU **PcP** **03 17 52.0 +1.8**
BFSC Mount Baldy Ra 58.57 74 P **P** **03 17 02.3 +1.9**
baz=317
K22A Casper 58.58 60 P **P** **03 17 02.3 +1.9**
baz=316,SNR=6.8
K22A Casper 58.58 60 IAmb IAmb 03 17 03.4
comp=Z,11nm,0.8s
CM31 Chiang Mai Arr 58.63 258 P **P** **03 17 01.3 +0.5**
CM31 IAmb IAmb 03 17 03.3
comp=Z,10.0nm,0.6s
CMAR Chiang Mai Arr 58.63 258 P **P** **03 17 01.4 +0.6**
comp=Z,5.5nm,0.5s,baz=26,slow=7.4,SNR=22
CMAR LR LR 03 44 30.5
comp=Z,151nm,19.2s,baz=16,slow=38
P17A Butcher Ranch, 58.64 65 P **P** **03 17 02.4 +1.5**
TUQ Turquoise Moun 58.69 72 P **P** **03 17 03.1 +2.0**
baz=316
CIS Catalina Islan 58.74 75 P **P** **03 17 03.0 +1.6**
baz=317
RSSD Black Hills 58.78 57 P **P** **03 17 02.8 +1.0**
baz=316
RSSD Black Hills 58.78 57 P **P** **03 17 02.6 +0.8**
RSSD pmax pmax
comp=Z,40nm,0.7s
RSSD Black Hills 58.78 57 P **P** **03 17 02.6 +0.8**
BTK Batken 58.86 296 P **P** **03 17 01.1 -1.1**
BTK pmax pmax
comp=Z,6.0nm,0.8s
BTK Batken 58.86 296 P **P** **03 17 01.1 -1.1**
BTK IAmb IAmb 03 17 05.7
comp=Z,6.4nm,0.8s
HEC Hector,Ludlow 58.89 73 P **P** **03 17 04.1 +1.5**
baz=317,SNR=5.8
GUN Gumba 59.15 276 *e*P **P** **03 17 04.2 -0.5**
comp=Z,4.6nm,0.4s
JIRN Jiri 59.15 276 *e*P **P** **03 17 03.9 -0.9**
comp=Z,3.8nm,0.3s
MURC Murrieta 59.30 74 P **P** **03 17 07.2 +1.9**
baz=317
GMRC Granite Mounta 59.31 72 P **P** **03 17 07.1 +1.6**
baz=317,SNR=9.3
RAMN Ramite 59.43 275 *e*P **P** **03 17 05.2 -1.4**
comp=Z,13nm,0.5s
O20A White River Ci 59.50 63 P **P** **03 17 08.8 +1.9**
baz=317,SNR=10
O20A White River Ci 59.50 63 IAmb IAmb 03 17 09.3
comp=Z,16nm,0.9s
KKN Kakani 59.59 276 *e*P **P** **03 17 06.8 -0.8**
comp=Z,16nm,0.5s
FIA1 FINESS Array S 59.65 337 P **P** **03 17 06.9 -0.4**
FINES FINESS Array B 59.65 337 P **P** **03 17 06.5 -0.8**
comp=Z,29nm,0.7s,baz=31,slow=7.7,SNR=85
PKI Pulchoki 59.68 276 *e*P **P** **03 17 06.4 -1.9**
PKIN Phulchoki 59.68 276 *e*P **P** **03 17 07.2 -1.1**
BELC Belle Mtn. Jos 59.69 73 P **P** **03 17 08.4 +0.3**
baz=317
PFO Pinyon Flats O 59.71 74 P **P** **03 17 09.8 +1.6**
baz=317
DMN Daman 59.83 276 *e*P **P** **03 17 07.8 -1.5**
GAR Garm 59.89 296 IAmb IAmb 03 17 11.9
comp=Z,12nm,0.6s
IRM Iron Mountain 60.05 72 P **P** **03 17 12.3 +1.8**
baz=317,SNR=7.3
N23A Red Feather La 60.15 61 P **P** **03 17 13.4 +2.0**
baz=317,SNR=12
N23A Red Feather La 60.15 61 P **P** **03 17 12.8 +1.5**
UMPA Umpang Tak 60.46 257 P **P** **03 17 17.5 +4.1**
comp=Z,31μm,0.9s
UTHA Uthaitani 60.63 256 P **P** **03 17 16.8 +2.2**
comp=Z,25μm,0.8s,comp=Z,270μm
Y12C Blythe 60.70 72 P **P** **03 17 16.8 +1.9**
baz=318
Y12C Blythe 60.70 72 P **P** **03 17 16.0 +1.1**
Y12C IAmb IAmb 03 17 17.5
comp=Z,6.8nm,0.8s
SMCO Snowmass 60.87 63 IAmb IAmb 03 17 19.5
comp=Z,15nm,1.0s
SUSD Miller 61.02 54 P **P** **03 17 18.1 +1.1**
baz=318
GLA Glamis 61.05 73 P **P** **03 17 19.4 +2.1**
baz=318
ISCO Idaho Springs 61.12 61 P **P** **03 17 20.6 +2.5**
baz=318,SNR=16
ISCO Idaho Springs 61.12 61 IAmb IAmb 03 17 21.2
comp=Z,16nm,0.9s
WUAZ Wupatki 61.17 69 P **P** **03 17 20.6 +2.4**
baz=318,SNR=7.1
WUAZ Wupatki 61.17 69 IAmb IAmb 03 17 21.9
comp=Z,14nm,1.1s
MOS Moscow 61.28 327 *e*P **P** **03 17 16.7 -1.8**
MOS pmax pmax
comp=Z,34nm,1.0s
Y14A Wickenburg 61.42 71 IAmb IAmb 03 17 23.1
comp=Z,6.7nm,0.9s
MVCO Mesa Verde 61.50 65 P **P** **03 17 22.7 +2.2**
baz=318,SNR=7.6
MVCO Mesa Verde 61.50 65 IAmb IAmb 03 17 23.0
comp=Z,7.5nm,0.8s
KHLT Khaolaem Dam 61.74 256 P **P** **03 17 19.5 -2.5**
comp=Z,26nm,1.3s
BORG Borgarnes 61.83 1 *i*P **P** **03 17 21.7 -0.3**
PATY Pattaya 61.94 253 P **P** **03 17 26.5 +3.1**
comp=Z,45μm,0.6s
X16A Lo Mia Camp, P 61.94 69 IAmb IAmb 03 17 26.6
comp=Z,7.7nm,1.0s
Q24A Divide 61.98 62 P **P** **03 17 24.9 +1.1**
baz=318
Q24A Divide 61.98 62 IAmb IAmb 03 17 26.9
comp=Z,12nm,0.9s
S22A 4UR Ranch, Cre 62.00 64 P **P** **03 17 26.5 +2.6**
baz=318,SNR=19
S22A 4UR Ranch, Cre 62.00 64 IAmb IAmb 03 17 27.1
comp=Z,13nm,1.0s
VSU Vasula 62.10 335 *ce*P **P** **03 17 23.7 -0.2**
VSU pmax pmax
comp=Z,73nm,1.3s
VSU Vasula 62.10 335 *e*P **P** **03 17 23.2 -0.7**
VSU IAmb IAmb 03 17 26.0

comp=Z,96nm,0.9s
OGNE Ogallala 62.11 58 P P 03 17 27.4 +2.9
baz=318
OBN Obninsk 62.14 327⇑ *e*P P 03 17 21.8 -2.4
OBN *e* 03 17 52.6
OBN *e* 03 18 03.4
OBN *e* 03 19 37.5
OBN *e*S S 03 25 48.5 +3.6
OBN *e*SS SS 03 29 41.9 -5.6
OBN pmax pmax
comp=Z,58nm,1.7s
OBN MLR MLR
comp=Z,420nm,21.0s
NIL Nilore 62.20 290 P P 03 17 24.6 -0.5
NIL pmax pmax
comp=Z,15nm,0.8s
NIL Nilore 62.20 290 P P 03 17 24.6 -0.5
NIL IAmb IAmb 03 17 27.4
comp=Z,15nm,0.8s
PHET Kaeng Krachan 62.65 254 P P 03 17 30.3 +2.1
comp=Z,114jum,0.8s
ECSD EROS Data Cent 62.67 53 P P 03 17 29.0 +1.0
baz=320,SNR=13
ECSD EROS Data Cent 62.67 53 P P 03 17 28.2 +0.2
ECSD IAmb IAmb 03 17 29.6
comp=Z,20nm,0.9s
X18A Snowflake 62.69 68 IAmb IAmb 03 17 31.6
comp=Z,9.9nm,0.8s
SDCO Great Sand Dun 62.70 63 P P 03 17 30.7 +2.1
baz=318,SNR=12
SDCO Great Sand Dun 62.70 63 IAmb IAmb 03 17 31.5
comp=Z,8.0nm,0.9s
NB2 NORSAR Subarra 63.01 344 P P 03 17 29.1 -0.9
comp=Z,12nm,0.8s,baz=20,slow=6.9
NOA NORSAR Array B 63.01 344 P P 03 17 29.3 -0.7
comp=Z,16nm,0.7s,baz=20,slow=6.6,SNR=48
SPMN Marine on St. 63.29 49 P P 03 17 33.1 +1.0
baz=321,SNR=5.9
LPSR Galich'ya Gora 63.44 325 *e*P P 03 17 32.3 -0.6
LPSR pmax pmax
comp=Z,40nm,0.8s
VRH Novokhopyorsk 63.60 322 *e*P P 03 17 31.2 -2.8
VRH pmax pmax
comp=Z,20nm,0.8s
BGNE Belgrade 63.70 55 P P 03 17 36.0 +1.1
baz=320,SNR=11
T25A Trinidad 63.73 63 P P 03 17 37.2 +1.8
baz=319,SNR=6.1
T25A Trinidad 63.73 63 IAmb IAmb 03 17 37.8
comp=Z,14nm,1.1s
KBL Kabul 63.87 293 P P 03 17 35.3 -1.0
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 63.87 293 P P 03 17 35.3 -1.0
TUC Tucson 63.87 71 P P 03 17 38.1 +1.9
baz=319
TUC Tucson 63.87 71 P P 03 17 36.8 +0.6
TUC pmax pmax
comp=Z,4.0nm,1.1s
TUC Tucson 63.87 71 P P 03 17 36.9 +0.6
SLIT Slitere, Latvi 63.93 337 *e*P P 03 17 35.7 -0.4
SLIT IAmb IAmb 03 17 41.4
comp=Z,262nm,1.0s
ANMO Albuquerque 64.28 66 P P 03 17 40.9 +1.9
baz=319
ANMO Albuquerque 64.28 66 *ce*P P 03 17 38.7 -0.3
ANMO pmax pmax
comp=Z,10.0nm,1.3s
ANMO Albuquerque 64.28 66 P P 03 17 40.4 +1.4
VSR Storozhevoye 64.50 324 *e*P P 03 17 37.8 -2.1
VSR pmax pmax
comp=Z,20nm,0.8s
IZAR Zarasai 64.62 333 *e*P P 03 17 40.0 -0.6
IZAR IAmb IAmb 03 17 42.8
comp=Z,25nm,1.5s
SBUM Sibu 64.65 236 P P 03 17 42.5 +1.1
ISAL Salakas 64.81 333 *e*P P 03 17 41.5 -0.4
CBKS Cedar Bluff 64.88 58 P P 03 17 43.1 +0.5
baz=320
CBKS Cedar Bluff 64.88 58 IAmb IAmb 03 17 43.9
comp=Z,20nm,0.9s
SCHQ Schefferville 64.92 28 P P 03 17 42.3 -0.4
comp=Z,17nm,0.7s,baz=341,slow=7.2,SNR=18
SCHQ LR LR 03 49 02.4
comp=Z,140nm,18.8s,baz=94,slow=39
SCHQ Schefferville 64.92 28 P P 03 17 42.7 0.0
IIGN Ignalina 64.98 333 *e*P P 03 17 42.2 -0.7
IIGN IAmb IAmb 03 17 45.0
comp=Z,20nm,0.8s
I40A Norwalk 65.31 49 IAmb IAmb 03 17 46.5
comp=Z,25nm,0.9s
121A Cookes Peak, D 65.37 68 P P 03 17 48.5 +2.4
baz=319
319A Douglas 65.42 70 IAmb IAmb 03 17 50.2
comp=Z,22nm,1.1s
PABE Paberze 65.43 335 *e*P P 03 17 45.6 -0.3
PABE IAmb IAmb 03 17 47.8
comp=Z,76nm,0.9s
PBUR Paburg 65.47 336 *e*P P 03 17 46.4 +0.3
SCIA State Center 65.67 52 P P 03 17 48.8 +1.1
baz=321,SNR=6.2
MATQ Matagami 65.81 37 P P 03 17 48.2 -0.2
baz=326
KSU1 Kansas State U 66.22 56 P P 03 17 51.2 0.0
baz=321
SURT Suratani 66.33 252 P P 03 17 53.8 +1.6
comp=Z,43nm,0.9s,comp=Z,549nm
E47A Iron Bridge 66.38 43 P P 03 17 52.0 -0.1
baz=325
KSM Kuching 66.44 237 P P 03 17 54.2 +1.3
KSM IAmb IAmb 03 17 55.8
comp=Z,29nm,1.0s
LSQQ Lebel-sur-Quev 66.63 37 P P 03 17 53.7 0.0
baz=327
TRTT Trang 66.75 250 P P 03 17 56.3 +1.5
comp=Z,48nm,1.2s,comp=Z,600nm
CHGQ Chibougamau 66.83 35 P P 03 17 54.7 -0.3
baz=328
AMTX Amarillo 66.88 62 P P 03 17 56.9 +1.3
baz=320
MSTX Muleshoe 67.00 64 P P 03 17 58.0 +1.6
baz=320,SNR=15
MSTX Muleshoe 67.00 64 IAmb IAmb 03 17 58.8
comp=Z,35nm,1.1s
GEYT Alibeck 67.00 303 P P 03 17 54.8 -1.5
comp=Z,4.5nm,0.6s,baz=34,slow=3.7,SNR=8.8
GEYT LR LR 03 49 51.8
comp=Z,512nm,18.1s,baz=35,slow=38
GYA0B ALIBECK ARRAY 67.00 303 P P 03 17 55.8 -0.5
H46A Fife Lake 67.14 45 P P 03 17 57.6 +0.6
baz=324
L42A Oliver, Polo 67.23 50 IAmb IAmb 03 17 58.0
comp=Z,18nm,0.7s
MNTX Cornudas Mount 67.33 67 P P 03 18 00.3 +1.9
baz=320,SNR=22
MNTX Cornudas Mount 67.33 67 IAmb IAmb 03 18 01.1
comp=Z,13nm,0.9s
HRA Herat 67.63 298 P P 03 17 59.6 -0.9
PBA Port Blair 67.63 259 P P 03 18 00.4 0.0
BSD Bornholm Skovb 67.88 340 *i* P P 03 18 01.5 0.0
BSD pmax pmax
comp=Z,10.0nm,0.4s
BSD Bornholm Skovb 67.88 340 *i* P P 03 18 01.5 0.0
comp=Z,10nm,0.4s
AKASG Malin Array Be 68.22 329 P P 03 18 02.2 -1.5
comp=Z,15nm,0.6s,baz=29,slow=6.4,SNR=45
AKASG LR LR 03 50 22.3
comp=Z,256nm,20.7s,baz=340,slow=38
AKBB Malin Array Si 68.22 329 P P 03 18 02.7 -1.0
AKBB pmax pmax
comp=Z,23nm,0.9s
AKBB Malin Array Si 68.22 329 P P 03 18 02.7 -1.0
AKBB IAmb IAmb 03 18 04.3
comp=Z,23nm,0.8s
MCD Coleburn Disti 68.26 351 *e*P P 03 18 03.9 +0.1
KULM Kulim 68.31 248 P P 03 18 05.1 +0.4
KULM IAmb IAmb 03 18 07.9
comp=Z,19nm,0.9s
D54A Lac Fusel, La 68.35 38 P P 03 18 04.1 -0.5
baz=328
J47A Sunmer 68.36 46 P P 03 18 05.5 +0.8
baz=325
K46A Dorr 68.40 47 P P 03 18 05.3 +0.3
baz=324
WMOK Wichita Mounta 68.50 60 P P 03 18 06.6 +0.8
baz=321,SNR=26
WMOK Wichita Mounta 68.50 60 IAmb IAmb 03 18 08.0
comp=Z,29nm,0.9s
HDIL Hopedale 68.55 50 P P 03 18 06.0 +0.1
baz=323,SNR=8.1
K47A Vermontville 68.75 46 P P 03 18 07.4 +0.3
baz=325
IPM Ipoh 68.77 247 P P 03 18 08.0 +0.3
IPM IAmb IAmb 03 18 10.5
comp=Z,17nm,0.7s
D55A Sainte-Anne-du 68.90 37 P P 03 18 07.8 -0.2
baz=328
K48A Perry 69.01 45 P P 03 18 09.4 +0.7
baz=325
COEN Coen 69.06 198 P P 03 18 10.0 +0.8
COEN IAmb IAmb 03 18 10.9
comp=Z,12nm,0.9s
AKT Akhty 69.07 312 *e*P P 03 18 07.9 -1.4
AKT *e**PP pP 03 18 22.7 -1.9
AKT *e* 03 18 30.0
AKT pmax pmax
comp=Z,14nm,0.8s
GKP Gorka Klasztor 69.10 337 *e*P P 03 18 09.4 +0.3
GKP Gorka Klasztor 69.10 337 *e*P P 03 18 09.4 +0.3
GKP *e*P P 03 18 09.4 +0.3
X34A Smith Ranch, M 69.10 60 IAmb IAmb 03 18 25.9
comp=Z,16nm,1.0s
TUL1 Leonard 69.11 58 P P 03 18 10.3 +0.8
baz=322,SNR=8.0
TUL1 Leonard 69.11 58 P P 03 18 09.8 +0.4
TUL1 IAmb IAmb 03 18 12.2
comp=Z,30nm,1.1s
D56A ZEC Mazanza, M 69.13 37 P P 03 18 09.0 -0.5
baz=329
W35A Tecumseh 69.16 59 P P 03 18 10.0 +0.2
P43A Skaggs, Pawnee 69.18 51 IAmb IAmb 03 18 10.9
comp=Z,24nm,0.8s
KIV Kislovodsk 69.18 317 P P 03 18 09.9 0.0
KIV Kislovodsk 69.18 317 *e*P P 03 18 09.6 -0.3
KIV pmax pmax
comp=Z,48nm,0.9s
KIV MLR MLR
comp=Z,678nm,17.0s
KIV Kislovodsk 69.18 317 ⇑P P 03 18 09.9 0.0
KIV mb 03 18 13.2
KIV Kislovodsk 69.18 317 P P 03 18 10.7 +0.8
KIV IAmb IAmb 03 18 13.6
comp=Z,13nm,0.7s
L47A Sherwood 69.22 47 P P 03 18 10.2 +0.1
baz=325
H52A Wyevale 69.23 42 P P 03 18 09.6 -0.5
baz=327
KBZ Khabaz 69.28 317 P P 03 18 09.6 -0.8
comp=Z,8.7nm,0.7s,baz=140,slow=1.6,SNR=15
KBZ LR LR 03 53 14.6
comp=Z,366nm,19.7s,baz=13,slow=40
K49A Clarkson 69.31 45 P P 03 18 11.4 +0.8
baz=325
E56A St. Veronique 69.46 37 P P 03 18 11.3 -0.2
baz=329
D57A Chemin Vers le 69.47 37 P P 03 18 11.6 +0.1
baz=329,SNR=6.3
INVG Invergeldie, C 69.47 351 *e*P P 03 18 11.0 -0.4
MYKOM Kota Tinggi 69.50 243 P P 03 18 12.3 +0.3
BEL Belsk 69.56 335 *e*P P 03 18 13.2 +1.3
BEL Belsk 69.56 335 *e*P P 03 18 13.2 +1.3
BEL *e*P P 03 18 13.2 +1.3
L48A N Adams 69.58 46 P P 03 18 12.7 +0.4
baz=325
CCM Cathedral Cave 69.64 53 P P 03 18 13.0 +0.3
baz=323
CCM Cathedral Cave 69.64 53 P P 03 18 13.2 +0.5
CCM pmax pmax
comp=Z,27nm,1.1s
CCM Cathedral Cave 69.64 53 P P 03 18 13.2 +0.5
CCM IAmb IAmb 03 18 13.9
comp=Z,27nm,1.1s
SFIN Lafayette 69.69 49 P P 03 18 13.2 +0.2
baz=324
ABTX Abilene, Hawle 69.70 62 P P 03 18 14.4 +1.2
baz=322,SNR=12
ABTX Abilene, Hawle 69.70 62 IAmb IAmb 03 18 15.0
comp=Z,22nm,0.9s
L49A Milan 69.73 46 P P 03 18 14.2 +1.0
baz=325
EAB Aberfoyle 69.74 351 *e*P P 03 18 13.0 0.0
LAWE Loch Awe, Argy 69.76 352 *e*P P 03 18 13.1 -0.1
ESY Stoneypath 69.84 350 *e*P P 03 18 13.7 +0.1
MGMO Mountain Grove 69.86 54 IAmb IAmb 03 18 14.8
comp=Z,16nm,0.7s
E57A Chemin Saint G 69.89 37 P P 03 18 14.0 -0.2
baz=329,SNR=5.1
N47A Urbana 69.90 48 P P 03 18 14.2 -0.1
baz=325
TX32 Lajitas Array 70.09 68 IAmb IAmb 03 18 18.1
comp=Z,18nm,0.7s
TXAR Lajitas Array 70.09 68 P P 03 18 16.9 +1.1
comp=Z,14nm,0.6s,baz=298,slow=4.6,SNR=143
PGBU Glenifferbraes 70.12 351 *e*P P 03 18 15.5 +0.2
PGBU IAmb IAmb 03 18 17.2
comp=Z,64nm,1.0s
TBLG Delisi 70.16 314 P P 03 18 15.8 -0.1
TBLG pmax pmax
comp=Z,14nm,0.8s
TBLG Delisi 70.16 314 P P 03 18 15.8 -0.1
TBLG IAmb IAmb 03 18 16.7
comp=Z,14nm,0.8s
D59A Saint-Raymond 70.19 35 P P 03 18 16.3 +0.4
baz=330
N48A Decatur 70.21 47 P P 03 18 16.2 0.0
baz=325,SNR=6.5
U40A Yellville 70.21 55 P P 03 18 16.2 -0.1
baz=323,SNR=15
E58A La Victoria 70.23 36 P P 03 18 15.9 -0.3
baz=330
P46A Rosedale 70.25 49 P P 03 18 16.4 0.0
baz=324,SNR=6.4
LHMI Lhok Sumawe 70.42 251 P P 03 18 19.1 +1.4
ESK Eskdalemuir 70.49 350 *e*P P 03 18 16.9 -0.7
ANN Anapa 70.53 321 *e*P P 03 18 13.5 -4.5
ANN *e**PP pP 03 18 30.2 -3.1
ANN *e*S S 03 27 21.0 -5.8
ANN *e*SS SS 03 31 50.2 -7.5
ANN pmax pmax
comp=Z,61nm,1.3s
N49A Columbus Grove 70.53 47 P P 03 18 18.2 +0.1
baz=325
N49A Columbus Grove 70.53 47 P P 03 18 18.2 +0.1
N49A IAmb IAmb 03 18 19.1
comp=Z,22nm,0.9s
LVV L'vov 70.53 332 *e*P P 03 18 18.6 +0.7
D61A St Aubert, Com 70.58 34 P P 03 18 18.3 +0.1
baz=331,SNR=7.1
D60A Saint Jean D'O 70.58 35 P P 03 18 18.1 -0.1
baz=331
O48A Farmland 70.65 48 P P 03 18 18.8 0.0
baz=325,SNR=5.9
W39A Magazine 70.68 57 P P 03 18 19.8 +0.7
baz=323
W39A Magazine 70.68 57 IAmb IAmb 03 18 20.5
comp=Z,14nm,0.9s
G57A Newington 70.71 38 P P 03 18 18.7 -0.4
baz=329
SORM Soroca 70.75 328 ⇑P P 03 18 18.1 -1.2
HPIG 70.84 71 P P 03 18 21.3 +0.8
F59A Saint Guilaume 70.86 36 P P 03 18 20.6 +0.6
baz=330
S44A Carbondale 70.87 52 P P 03 18 20.4 +0.2
baz=324,SNR=7.5
E60A Ste Agathe de 70.88 35 P P 03 18 20.0 -0.1
baz=330
MTN Manton Dam 70.94 211 P P 03 18 21.4 +0.7
MTN IAmb IAmb 03 18 22.5
comp=Z,32nm,1.1s
AKH Akhalkalaki 70.95 315 ⇑P P 03 18 20.7 -0.2
O49A Covington 71.06 47 P P 03 18 21.6 +0.3
baz=326
KWP Kalwaria Pacla 71.06 333 P P 03 18 21.6 +0.4
KWP Kalwaria Pacla 71.06 333 *e*P P 03 18 22.4 +1.1
KWP *e*P P 03 18 22.4 +1.1
KWP Kalwaria Pacla 71.06 333 P P 03 18 21.6 +0.4
N50A Nevada 71.09 46 P P 03 18 22.1 +0.5
baz=326
E61A Lac Etchemin 71.15 35 P P 03 18 21.7 -0.1
baz=331
P48A Milroy 71.18 48 P P 03 18 21.7 -0.4
baz=325,SNR=6.1
P48A Milroy 71.18 48 P P 03 18 22.1 0.0
P48A IAmb IAmb 03 18 22.7
comp=Z,23nm,0.8s
KESW Keswick, Cumbr 71.20 350 *e*P P 03 18 22.1 +0.2
KESW IAmb IAmb 03 18 23.7
comp=Z,64nm,0.9s
JCT Junction City 71.29 64 P P 03 18 24.1 +1.1
baz=322,SNR=9.5
JCT Junction City 71.29 64 IAmb IAmb 03 18 25.2
comp=Z,22nm,1.0s
OJC Ojcow 71.29 335 P P 03 18 22.7 +0.1
OJC pmax pmax
comp=Z,20nm,1.0s
OJC Ojcow 71.29 335 *e*P P 03 18 23.4 +0.8
OJC *e*P P 03 18 23.4 +0.8
OJC Ojcow 71.29 335 P P 03 18 22.7 +0.1
OJC IAmb IAmb 03 18 24.0
comp=Z,20nm,1.0s
MIAR Mount Ida 71.30 57 P P 03 18 23.7 +0.8
baz=323,SNR=9.0
MIAR Mount Ida 71.30 57 IAmb IAmb 03 18 24.4
comp=Z,21nm,0.9s
N51A Ashland 71.30 45 P P 03 18 23.1 +0.3
baz=326
PSI Prapat 71.32 248 P P 03 18 23.9 +0.5
PSI pmax pmax
comp=Z,15nm,0.9s
WHAR Wooly Hollow 71.34 56 IAmb IAmb 03 18 24.3
comp=Z,23nm,0.9s
WHTX Lake Whitney, 71.34 61 P P 03 18 24.1 +1.0
baz=322
WHTX Lake Whitney, 71.34 61 P P 03 18 23.6 +0.4
WHTX IAmb IAmb 03 18 24.7
comp=Z,17nm,0.9s
F61A St Evariste 71.38 35 P P 03 18 23.9 +0.8
baz=331
AFI Afiamalu 71.40 152 P P 03 18 24.4 +0.8
AFI pmax pmax
comp=Z,41nm,1.0s
AFI Afiamalu 71.40 152 P P 03 18 24.4 +0.8
O50A Cable 71.41 47 P P 03 18 23.8 +0.4
baz=326
RPSI Rantau Prapat 71.41 248 P P 03 18 23.9 +0.2
RPSI IAmb IAmb 03 18 26.0
comp=Z,15nm,0.9s
P49A Miami Univ. Ec 71.43 48 P P 03 18 23.7 +0.1
baz=326
W41B Gary Mavity, V 71.45 56 P P 03 18 24.1 +0.4
baz=323,SNR=13
GNI Garni 71.47 313 P P 03 18 24.4 +0.4
GNI Garni 71.47 313 *i* P P 03 18 22.4 -1.6
GNI pmax pmax
comp=Z,49nm,1.1s
Q48A North Vernon 71.48 49 P P 03 18 24.1 +0.2
baz=325
K55A Perry 71.55 42 P P 03 18 24.2 -0.1
baz=328
KSP Ksiaz 71.57 337 *e*P P 03 18 24.7 +0.5
KSP Ksiaz 71.57 337 *e*P P 03 18 24.7 +0.5
KSP *e*P P 03 18 24.7 +0.5
M53A WI Miller and 71.58 44 P P 03 18 25.2 +0.7
baz=327
ACSO Alum Creek Sta 71.61 46 P P 03 18 25.2 +0.5
baz=326,SNR=5.6
ACSO Alum Creek Sta 71.61 46 IAmb IAmb 03 18 25.8
comp=Z,29nm,0.9s
KIS Kishinev 71.61 327 *e*P P 03 18 24.0 -0.5
KIS Kishinev 71.61 327 *e*P P 03 18 24.0 -0.5
STHS Stebnicka Huta 71.65 333 *e*P P 03 18 25.2 +0.4
STHS pmax pmax
comp=Z,23nm,0.9s
STHS Stebnicka Huta 71.65 333 *e*P P 03 18 25.2 +0.4
N52A McGinn's Farm, 71.68 45 P P 03 18 25.7 +0.6
baz=326
MILM Milestii Mici 71.69 327 ⇑P P 03 18 23.7 -1.3
X40A Basin Creek Fa 71.71 57 P P 03 18 26.4 +1.0
baz=323,SNR=5.2
X40A Basin Creek Fa 71.71 57 IAmb IAmb 03 18 27.4
comp=Z,16nm,1.1s
P50A Jamestown 71.77 47 P P 03 18 26.2 +0.6
baz=326
F62A Pittston Farm, 71.79 35 P P 03 18 26.0 +0.4
baz=331
G61A St-Isidore-de- 71.79 36 P P 03 18 26.6 +0.9
baz=325
WCI Wyandotte Cave 71.80 50 P P 03 18 26.4 +0.6
baz=325
WCI Wyandotte Cave 71.80 50 P P 03 18 26.1 +0.3
WCI pmax pmax
comp=Z,22nm,0.8s
WCI Wyandotte Cave 71.80 50 P P 03 18 26.1 +0.3
WCI IAmb IAmb 03 18 27.1
comp=Z,22nm,0.8s
KOLS Kolonicke sedl 71.82 333 *e*P P 03 18 26.3 +0.5
KOLS pmax pmax
comp=Z,13nm,1.1s
KOLS Kolonicke sedl 71.82 333 *e*P P 03 18 26.3 +0.5
IAS Iasi 71.84 328 ⇑P P 03 18 25.9 +0.1
O51A Pataskala 71.84 46 P P 03 18 26.3 +0.2
baz=326,SNR=5.4
CLL Collm 71.86 339 P P 03 18 26.0 0.0
CLL pmax pmax
comp=Z,41nm,1.1s
CLL Collm 71.86 339 *i* P P 03 18 25.9 0.0
comp=Z,64nm,1.2s
CLL Collm 71.86 339 P P 03 18 26.0 0.0
CHVC Chvalec 71.86 337 *e*P P 03 18 26.4 +0.4
NIE Niedzica 71.90 334 *e*P P 03 18 27.5 +1.2
NIE Niedzica 71.90 334 *e*P P 03 18 27.5 +1.2
NIE *e*P P 03 18 27.5 +1.2
UPC Upice 71.95 337 *e*P P 03 18 27.4 +0.9
UPC Upice 71.95 337 *e*P P 03 18 27.4 +0.9
DPC Dobruska-Polom 72.02 337 *e*P P 03 18 27.9 +0.9
DPC Dobruska-Polom 72.02 337 *e*P P 03 18 27.9 +0.9
E64A Bridgewater 72.04 33 P P 03 18 26.7 -0.4
baz=332
N53A Lisbon 72.04 45 P P 03 18 27.6 +0.4
baz=327
LPAR Lepanto 72.06 54 P P 03 18 28.0 +0.6
OKC Ostrava-Krasne 72.06 336 *e*P P 03 18 27.5 +0.3
OKC Ostrava-Krasne 72.06 336 *e*P P 03 18 27.5 +0.3
BRG Berggiesshubel 72.07 339 *e*P P 03 18 27.7 +0.5
comp=Z,24nm,1.2s
BRG Berggiesshubel 72.07 339 *e*P P 03 18 27.7 +0.5
BRG pmax pmax
comp=Z,24nm,1.2s
J58A Remsen 72.09 39 P P 03 18 27.1 -0.4
baz=329
UZH Uzhgorod 72.09 332 *e*P P 03 18 27.9 +0.5
UZH *e* 03 18 49.7
BUR08 Bucovina Ar. S 72.15 330 P P 03 18 27.2 -0.7
BUR08 IAmb IAmb 03 18 29.1
comp=Z,21nm,0.9s
KRLC Kraliky 72.17 336 *e*P P 03 18 28.3 +0.4
KRLC Kraliky 72.17 336 *e*P P 03 18 28.3 +0.4
KRLC *ex* x 03 18 37.6
BURAR Bucovina Array 72.17 330 ⇑P P 03 18 27.1 -0.9
BURAR mb 03 18 29.6
G62A West of Eustis 72.19 35 P P 03 18 28.5 +0.4
baz=331
G62A West of Eustis 72.19 35 P P 03 18 28.0 -0.1
G62A IAmb IAmb 03 18 30.8
comp=Z,22nm,1.1s
O52A Adamsville 72.20 46 P P 03 18 28.5 +0.3
baz=327,SNR=5.9
435B Jarrell 72.22 62 P P 03 18 29.7 +1.2
baz=323
435B Jarrell 72.22 62 IAmb IAmb 03 18 30.9
comp=Z,11nm,0.7s
BKNI Bangkinang 72.23 245 P P 03 18 28.9 +0.2
F63A Nahmakanta, Br 72.25 34 P P 03 18 29.1 +0.7
baz=332
L56A Greenwood 72.25 42 P P 03 18 28.6 0.0
baz=328
R49A Shelbyville 72.25 49 P P 03 18 29.4 +0.9
baz=326
R49A Shelbyville 72.25 49 IAmb IAmb 03 18 29.9
comp=Z,18nm,1.0s
PVCC Panska Ves 72.25 338 *e*P P 03 18 29.4 +1.1
PVCC Panska Ves 72.25 338 *e*P P 03 18 29.4 +1.1
N54A Moraine State 72.26 44 P P 03 18 28.9 +0.4
baz=327
N54A Moraine State 72.26 44 IAmb IAmb 03 18 29.2
comp=Z,17nm,0.9s
MORC Moravsky Berou 72.26 336 P P 03 18 29.0 +0.5

MORC pmax pmax
comp=Z,20nm,0.9s
MORC Moravsky Berou 72.26 336 ⇑P **P 03 18 28.5 0.0**
MORC mb 03 18 30.8
MORC Moravsky Berou 72.26 336 *e*P **P 03 18 28.7 +0.2**
MORC Moravsky Berou 72.26 336 P **P 03 18 29.0 +0.5**
MORC IAmb IAmb 03 18 30.7
comp=Z,20nm,0.9s
H61A Lyndonville 72.30 37 P **P 03 18 29.4 +0.7**
baz=330
Q50A Georgetown 72.33 48 P **P 03 18 29.8 +0.9**
baz=326,SNR=6.1
M55A Ridgway 72.33 43 P **P 03 18 29.1 +0.1**
baz=328
O53A New Philadelph 72.35 45 P **P 03 18 29.4 +0.3**
baz=327
F64A Sherman 72.36 34 P **P 03 18 29.0 0.0**
baz=332
LANS Liptovska Anna 72.36 334 *e*P **P 03 18 30.6 +1.5**
LANS pmax pmax
comp=Z,16nm,0.9s
LANS Liptovska Anna 72.36 334 *e*P **P 03 18 30.6 +1.5**
T47A Sharon Grove 72.44 51 P **P 03 18 30.6 +0.9**
baz=325,SNR=12
Q51A Peebles 72.45 47 P **P 03 18 30.2 +0.5**
baz=326
Q51A Peebles 72.45 47 IAmb IAmb 03 18 30.9
comp=Z,16nm,0.8s
P52A Corning 72.47 46 P **P 03 18 29.8 -0.1**
baz=327
TRPA Tarpa 72.47 332 ⇑P **P 03 18 29.8 +0.2**
TRPA mb 03 18 31.4
TRPA Tarpa 72.47 332 *e*P **P 03 18 30.0 +0.4**
BIZ Bicaz 72.51 329 ⇑P **P 03 18 29.6 -0.3**
H62A Milan 72.54 36 P **P 03 18 30.8 +0.6**
baz=331,SNR=6.5
M56A Emporium 72.56 42 P **P 03 18 30.4 0.0**
baz=328
S49A Springfield 72.61 49 P **P 03 18 31.5 +0.8**
baz=326,SNR=7.3
BMR Baia Mare 72.62 331 ⇑P **P 03 18 30.6 +0.1**
R50A Paris 72.64 48 P **P 03 18 31.6 +0.7**
baz=326,SNR=5.1
R50A Paris 72.64 48 IAmb IAmb 03 18 32.2
comp=Z,21nm,0.9s
BIR Birlad 72.64 328 ⇑P **P 03 18 30.5 -0.2**
BIR mb 03 18 31.5
X43A Marvell 72.65 55 P **P 03 18 32.4 +1.5**
baz=324
PRA Prague 72.72 338 *e*P **P 03 18 31.9 +0.8**
PRA Prague 72.72 338 *e*P **P 03 18 31.9 +0.8**
TESR Tescani 72.73 329 ⇑P **P 03 18 30.1 -1.1**
O54A Avella 72.75 45 P **P 03 18 31.9 +0.4**
baz=327
PRU Pruhonice 72.77 338 *e*P **P 03 18 32.1 +0.7**
PRU *e* 03 18 54.2
PRU Pruhonice 72.77 338 *e*P **P 03 18 32.1 +0.7**
PRU *ep*P **sP 03 18 54.2 +1.4**
GOPC GO Pecny, Ondr 72.78 338 *e*P **P 03 18 31.9 +0.4**
GOPC *e* 03 18 42.3
GOPC GO Pecny, Ondr 72.78 338 *e*P **P 03 18 31.9 +0.4**
GOPC *ex* x 03 18 42.3
WVT Waverly 72.80 52 P **P 03 18 32.7 +0.9**
baz=325
WVT Waverly 72.80 52 P **P 03 18 32.1 +0.3**
WVT pmax pmax
comp=Z,23nm,0.8s
WVT Waverly 72.80 52 P **P 03 18 32.1 +0.3**
WVT IAmb IAmb 03 18 33.5
comp=Z,23nm,0.8s
N55A Marion Center 72.83 43 P **P 03 18 32.2 +0.2**
baz=328
H63A New Sharon 72.85 35 P **P 03 18 33.1 +1.1**
baz=331
GHRR 72.89 328 ⇑P **P 03 18 32.3 +0.1**
ARCR ARCALIA 72.90 330 ⇑P **P 03 18 32.9 +0.6**
VRAC Vranov 72.93 336 ⇑P **P 03 18 33.1 +0.7**
VRAC mb 03 18 34.4
VRAC Vranov 72.93 336 *e*P **P 03 18 32.8 +0.4**
R51A Hillsboro 72.95 48 P **P 03 18 33.6 +0.9**
baz=326,SNR=6.7
NATX Nacogdoches 72.97 60 P **P 03 18 34.5 +1.6**
baz=323
N56A West Decatur 72.99 43 P **P 03 18 33.0 +0.1**
baz=328
NKC Novy Kostel 72.99 339 *e*P **P 03 18 32.7 -0.1**
NKC Novy Kostel 72.99 339 *e*P **P 03 18 32.7 -0.1**
T49A Edmonton 73.06 50 P **P 03 18 34.0 +0.6**
baz=326
JAVC Velka Javorina 73.08 335 *e*P **P 03 18 34.7 +1.3**
M57A Sunshine Farm, 73.10 42 P **P 03 18 33.5 0.0**
baz=328
S50A Richmond 73.10 49 P **P 03 18 34.4 +0.8**
baz=326
VYHS Vyhne 73.13 335 *e*P **P 03 18 34.3 +0.6**
VYHS pmax pmax
comp=Z,20nm,1.2s
VYHS Vyhne 73.13 335 *e*P **P 03 18 34.2 +0.6**
PBCC Pribram 73.17 338 *e*P **P 03 18 33.5 -0.3**
O55A Ligonier 73.18 44 P **P 03 18 34.3 +0.2**
baz=328
I63A Otisfield 73.20 36 P **P 03 18 32.3 -1.7**
baz=331
P54A Burton 73.20 45 P **P 03 18 34.6 +0.5**
baz=327,SNR=5.3
TREC Trest 73.20 337 *e*P **P 03 18 34.2 +0.2**
TREC Trest 73.20 337 *e*P **P 03 18 34.2 +0.2**
G65A Princeton 73.20 33 P **P 03 18 34.3 +0.3**
baz=333
KRUC Moravsky 73.21 336 *e*P **P 03 18 34.3 +0.3**
HLM1 Long Mynd 73.22 350 *e*P **P 03 18 32.9 -1.1**
PETR Petresti 73.25 328 ⇑P **P 03 18 35.0 +0.7**
ODBI Odobesti 73.27 328 ⇑P **P 03 18 34.3 -0.1**
ODBI mb 03 18 37.7
VRI Vrincioaia 73.28 328 ⇑P **P 03 18 34.1 -0.5**
GSI Gunungsitoli 73.31 249 P **P 03 18 39.8 +4.8**
GSI Gunungsitoli 73.31 249 P **P 03 18 35.3 +0.3**
GSI IAmb IAmb 03 18 40.5
comp=Z,22nm,0.7s
PLOR Plostina 73.32 328 ⇑P **P 03 18 34.4 -0.4**
R52A Catlettsburg 73.33 47 P **P 03 18 35.5 +0.6**
baz=327
OXF Oxford 73.36 54 P **P 03 18 36.0 +0.8**
baz=325
OZUR 73.36 329 ⇑P **P 03 18 35.2 +0.2**
Q53A Leroy 73.38 46 P **P 03 18 35.7 +0.5**
baz=327,SNR=5.5
PSZ Piszkesteto 73.39 334 P **P 03 18 35.4 +0.2**
PSZ pmax pmax
comp=Z,18nm,1.0s
PSZ Piszkesteto 73.39 334 ⇑P **P 03 18 36.0 +0.8**
PSZ mb 03 18 37.8
PSZ Piszkesteto 73.39 334 *e*P **P 03 18 36.0 +0.8**
PSZ Piszkesteto 73.39 334 P **P 03 18 35.4 +0.2**
PSZ IAmb IAmb 03 18 37.7
comp=Z,18nm,1.0s
SSPA Standing Stone 73.39 43 P **P 03 18 35.3 0.0**
baz=328
MCWV Mont Chateau 73.42 44 P **P 03 18 36.0 +0.6**
baz=328
N57A Milroy 73.43 42 P **P 03 18 35.5 0.0**
baz=328
O56A Blue Knob Stat 73.43 43 P **P 03 18 35.8 +0.2**
baz=328
U49A Red Boiling Sp 73.44 50 P **P 03 18 36.1 +0.5**
baz=326
T50A Nancy 73.45 49 P **P 03 18 36.4 +0.7**
baz=326
CFR Carcaliu 73.45 327 ⇑P **P 03 18 34.7 -0.8**
CJR Cluj-Napoca 73.46 331 ⇑P **P 03 18 35.5 -0.2**
SMOL Smolenice 73.47 335 *e*P **P 03 18 37.2 +1.6**
SMOL pmax pmax
comp=Z,14nm,0.8s
SMOL Smolenice 73.47 335 *e*P **P 03 18 37.2 +1.6**
CLTN Cedars of Leba 73.53 51 IAmb IAmb 03 18 37.7
comp=Z,12nm,0.8s
P55A Reedsville 73.55 45 P **P 03 18 37.1 +0.8**
baz=328,SNR=6.3
JURR Jurilovca 73.57 326 ⇑P **P 03 18 35.5 -0.7**
JURR mb 03 18 37.7
V48A Smith Brothers 73.59 52 P **P 03 18 37.3 +0.8**
baz=325,SNR=7.4
DOPR Dopca 73.60 329 ⇑P **P 03 18 37.2 +0.8**
MODS Modra-Piesok 73.63 335 *e*P **P 03 18 37.3 +0.7**
MODS pmax pmax
comp=Z,20nm,1.0s
MODS Modra-Piesok 73.63 335 *e*P **P 03 18 37.3 +0.7**
R53A Hurricane 73.64 47 P **P 03 18 37.6 +0.9**
baz=327
TOPG Topolog 73.64 327 ⇑P **P 03 18 36.1 -0.5**
DRGR 73.64 331 ⇑P **P 03 18 36.5 -0.2**
S52A Salyersville 73.69 48 P **P 03 18 37.7 +0.7**
baz=326
HGN Heimansgroeve 73.72 344 *e*P **P 03 18 37.6 +0.6**
comp=Z,94nm,1.2s
MDB Medias 73.75 330 ⇓P **P 03 18 37.9 +0.6**
GRA1 Grafenberg Arr 73.76 340 P **P 03 18 37.6 +0.3**
GRF Grafenberg Arr 73.76 340 P **P 03 18 37.6 +0.3**
GRF pmax pmax
comp=Z,44nm,0.9s
KHC Kasperske Hory 73.79 338 *i*P **P 03 18 35.8 -1.7**
KHC pmax pmax
comp=Z,62nm,1.1s
KHC Kasperske Hory 73.79 338 *e*P **P 03 18 37.8 +0.4**
KHC *es*P sP 03 19 08.5 +10
KHC Kasperske Hory 73.79 338 P **P 03 18 37.9 +0.4**
MEM Membach 73.85 343 P **P 03 18 37.9 +0.1**
comp=Z,64nm,1.0s
MLR Muntele Rosu 73.86 329 P **P 03 18 37.9 -0.2**
MLR pmax pmax
comp=Z,31nm,0.7s
MLR Muntele Rosu 73.86 329 ⇑P **P 03 18 38.6 +0.5**
MLR mb 03 18 40.2
MLR Muntele Rosu 73.86 329 P **P 03 18 37.9 -0.2**
Q55A Buckhannon 73.88 45 P **P 03 18 39.0 +0.8**
baz=328
SRO Srobarova 73.89 335 *e*P **P 03 18 39.2 +1.2**
SRO pmax pmax
comp=Z,28nm,1.1s
SRO Srobarova 73.89 335 *e*P **P 03 18 39.2 +1.2**
U50A Jamestown 73.94 50 P **P 03 18 39.6 +1.0**
baz=326
HARR Harsova 73.95 327 ⇑P **P 03 18 38.3 -0.1**
HARR mb 03 18 40.4
BSTI Sart Tilman 73.95 344 P **P 03 18 39.1 +0.7**
P56A Dayton Farm, R 73.96 44 P **P 03 18 39.6 +1.0**
baz=328,SNR=7.1
V49A McMinnville 73.99 51 P **P 03 18 39.5 +0.6**
baz=326
PWJI Pagerwojo 73.99 231 P **P 03 18 38.6 -0.4**
comp=Z,61nm,1.0s
TIRR Tirgusor 74.00 327 P **P 03 18 38.2 -0.5**
TIRR pmax pmax
comp=Z,43nm,0.8s
TIRR Tirgusor 74.00 327 ⇑P **P 03 18 38.2 -0.5**
TIRR Tirgusor 74.00 327 ⇑P **P 03 18 38.2 -0.5**
TIRR Tirgusor 74.00 327 P **P 03 18 38.2 -0.5**
ISR Istrita 74.01 328 ⇑P **P 03 18 39.3 +0.5**
GEC2 GERESS Array S 74.03 338 P **P 03 18 39.3 +0.3**
GEC2 IAmb IAmb 03 18 40.4
comp=Z,16nm,0.9s
GERES GERESS Array B 74.03 338 P **P 03 18 39.2 +0.2**
comp=Z,7.9nm,0.7s,baz=35,slow=5.1,SNR=41
GERES LR LR 03 57 30.2
comp=Z,134nm,19.9s,baz=34,slow=41
R54A Victor 74.17 46 P **P 03 18 40.7 +0.8**
baz=327
VOIR 74.18 329 ⇑P **P 03 18 40.2 +0.3**
T52A Hallie 74.20 48 P **P 03 18 41.5 +1.4**
baz=327,SNR=5.6
T52A Hallie 74.20 48 P **P 03 18 40.9 +0.8**
MFTR Murfatlar 74.24 326 ⇑P **P 03 18 39.7 -0.4**
MFTR mb 03 18 46.0
CSKK Cskako 74.32 334 *e*P **P 03 18 41.0 +0.4**
KNRA Kununurra 74.34 212 P **P 03 18 41.7 +0.8**
KNRA IAmb IAmb 03 18 55.0
comp=Z,16nm,0.9s
BMRD Maredsous 74.36 344 P **P 03 18 40.7 0.0**
comp=Z,32nm,1.4s
W49A Belvidere 74.36 52 P **P 03 18 41.7 +0.7**
baz=326,SNR=5.2
MTUR Matau 74.37 329 ⇑P **P 03 18 41.3 +0.3**
MTUR mb 03 18 43.9
ARR Arges 74.37 329 ⇓P **P 03 18 41.4 +0.4**
CONA Conrad Observa 74.39 336 *e*P **P 03 18 42.1 +1.0**
comp=Z,27nm,1.3s,SNR=10
DEV Deva 74.42 331 ⇑P **P 03 18 40.7 -0.4**
SIRR Siria 74.42 332 ⇑P **P 03 18 41.2 0.0**
TZTN Tazewell 74.42 49 P **P 03 18 42.5 +1.1**
baz=326
V50A Pikevile 74.44 50 P **P 03 18 42.1 +0.6**
baz=326,SNR=5.2
SOP Sopron 74.45 336 *e*P **P 03 18 42.1 +0.7**
R55A Marlinton 74.46 45 P **P 03 18 42.7 +1.1**
baz=328
R55A Marlinton 74.46 45 IAmb IAmb 03 18 43.1
comp=Z,22nm,0.9s
ICOR Ion Corvin 74.50 327 ⇑P **P 03 18 40.7 -1.0**
T53A Wise 74.50 48 P **P 03 18 42.8 +0.9**
baz=327
KLSI 74.54 239 P **P 03 18 42.5 +0.3**
comp=Z,9.8nm,1.2s,comp=Z,4µm
X48A Hartselle 74.54 52 P **P 03 18 42.3 +0.3**
baz=325
DOU Dourbes 74.58 344 P **P 03 18 42.1 +0.1**
comp=Z,17nm,0.9s
P58A Pank, Wackersv 74.60 43 P **P 03 18 42.6 +0.3**
baz=329
PAL Palisades 74.63 40 P **P 03 18 42.7 +0.3**
baz=330
MDSI Maura Dua 74.65 240 P **P 03 18 42.1 -0.7**
comp=Z,16nm,1.0s
SISI Saibi 74.66 246 P **P 03 18 44.8 +1.9**
comp=Z,20nm,1.3s
V51A Loudon 74.67 50 P **P 03 18 43.6 +0.8**
baz=326
MPLH Magyarpolny 74.69 335 *e*P **P 03 18 43.0 +0.4**
W50A Signal Mountai 74.73 51 P **P 03 18 43.9 +0.7**
baz=326
KPJI Karang Pucung 74.74 234 P **P 03 18 43.8 +0.5**
comp=Z,30nm,0.9s
MOA Molln 74.84 337 *e*P **P 03 18 44.4 +0.8**
comp=Z,9.9nm,0.8s,SNR=5.6
T54A Tazewell 74.86 47 P **P 03 18 44.8 +0.8**
baz=327
CPCT Cooper Cave 74.89 50 IAmb IAmb 03 18 45.3
comp=Z,18nm,0.9s
GZR Gura Zlata 74.90 331 ⇑P **P 03 18 43.7 -0.3**
Q58A Fox Den Farm, 74.92 43 P **P 03 18 44.6 +0.4**
baz=329,SNR=6.2
V52A Sevierville 74.98 49 P **P 03 18 45.4 +0.8**
baz=327
V52A Sevierville 74.98 49 P **P 03 18 45.1 +0.5**
V52A IAmb IAmb 03 18 46.0
comp=Z,16nm,0.9s
U53A Fall Branch 75.00 48 P **P 03 18 45.7 +0.9**
baz=327
W51A Cleveland 75.02 50 P **P 03 18 45.1 +0.3**
baz=326
BZS Buzias 75.03 332 ⇓P **P 03 18 44.3 -0.4**
STU Stuttgart 75.04 341 P **P 03 18 45.0 +0.3**
STU pmax pmax
comp=Z,30nm,1.1s
STU Stuttgart 75.04 341 P **P 03 18 45.0 +0.3**
STU IAmb IAmb 03 18 46.1
comp=Z,30nm,1.1s
ARSA Arzberg 75.11 336 *e*P **P 03 18 46.0 +0.9**
comp=Z,17nm,1.1s,SNR=8.3
R57A Stanardsville 75.12 44 P **P 03 18 46.0 +0.7**
baz=328
FPAL Fort Paine 75.14 51 IAmb IAmb 03 18 46.7
comp=Z,22nm,0.9s
S56A Natural Bridge 75.20 45 P **P 03 18 46.5 +0.7**
baz=328
BLA Blacksburg 75.23 46 P **P 03 18 46.8 +0.7**
baz=328
MORH Mrgy, Hungar 75.29 334 ⇓*i*P **P 03 18 45.7 -0.4**
MORH Mrgy, Hungar 75.29 334 *e*P **P 03 18 45.1 -1.1**
COPA Copaceanca 75.31 328 ⇑P **P 03 18 46.0 -0.3**
Y49A Blount Mountai 75.33 52 P **P 03 18 46.8 +0.2**
baz=326
R58A Rapidan 75.33 44 P **P 03 18 47.2 +0.7**
baz=329
S57A Dark Hollow, R 75.39 45 P **P 03 18 47.7 +0.8**
baz=328
RAZG Razgrad 75.41 327 ⇑P **P 03 18 46.3 -0.7**
W52A Murphy 75.45 50 P **P 03 18 48.0 +0.7**
baz=326
X51A Calhoun 75.47 51 P **P 03 18 47.9 +0.6**
baz=326
BEHE Becsehely 75.53 335 ⇓*i*P **P 03 18 48.8 +1.2**
BEHE Becsehely 75.53 335 *e*P **P 03 18 49.0 +1.5**
U55A TA2, Sparta 75.56 47 P **P 03 18 48.7 +0.7**
baz=328
BFO Black Forest 75.63 341 P **P 03 18 48.5 +0.4**
BFO pmax pmax
comp=Z,5.0nm,0.9s
BFO Black Forest 75.63 341 P **P 03 18 48.5 +0.4**
DZM Mont Dzumac 75.66 174 *e*LR LR 03 42 10.6
comp=Z,258nm,31.2s
R58B Mineral 75.67 44 P **P 03 18 49.3 +0.8**
baz=329
VLAD Vladila 75.68 329 ⇑P **P 03 18 46.9 -1.5**
ZIMR 75.69 328 ⇑P **P 03 18 48.4 0.0**
LRAL Lakeview Retre 75.72 53 P **P 03 18 48.6 -0.3**
baz=326
SOKA Soboth 75.76 336 *e*P **P 03 18 49.8 +0.8**
comp=Z,20nm,0.9s,SNR=13
MDVR Moldovita 75.77 331 ⇑P **P 03 18 48.3 -0.7**
V54A Nebo 75.77 48 P **P 03 18 49.9 +0.7**
baz=327
KBA Koelnbreinsper 75.78 338 *e*P **P 03 18 50.3 +1.1**
comp=Z,68nm,0.9s,SNR=22
ZAIG Zacatecas 75.84 71 P **P 03 18 50.9 +0.8**
GROS Grobnik 75.85 336 *i*P **P 03 18 49.5 0.0**
X52A Dahlonega 75.88 50 P **P 03 18 50.3 +0.5**
baz=327
Y51A Rockmart 75.92 51 P **P 03 18 50.3 +0.3**
baz=326,SNR=9.2
WATA Walderalm 75.92 339 *e*P **P 03 18 50.3 +0.3**
comp=Z,24nm,1.0s,SNR=10
RETA Reutte 75.95 339 *e*P **P 03 18 50.4 +0.3**
comp=Z,24nm,1.0s,SNR=5.0
FRGS Fruska Gora 75.95 333 ⇓*i*P **P 03 18 49.6 -0.4**
ECH Echery 75.96 342 P **P 03 18 50.0 0.0**
ECH pmax pmax
comp=Z,31nm,1.1s
ECH Echery 75.96 342 P **P 03 18 50.0 0.0**
ECH IAmb IAmb 03 18 51.3
comp=Z,31nm,1.1s
WTTA Wattenberg 75.98 339 *e*P **P 03 18 50.8 +0.4**
comp=Z,14nm,1.0s,SNR=14
MOTA Moosalm 76.01 339 *e*P **P 03 18 50.6 +0.1**
comp=Z,51nm,1.5s,SNR=10
OBKA Obir 76.03 337 *e*P **P 03 18 51.4 +0.9**
comp=Z,49nm,1.2s,SNR=17
Z50A Ashland 76.05 52 P **P 03 18 51.2 +0.4**
baz=326,SNR=10
Z50A Ashland 76.05 52 P **P 03 18 50.6 -0.2**
S59A Mechanicsville 76.08 44 P **P 03 18 51.2 +0.4**
baz=329,SNR=5.5
SQTA Sankt Quirin 76.11 339 *e*P **P 03 18 51.8 +0.7**
comp=Z,46nm,0.9s,SNR=12
MYKA Terra Mystica 76.13 337 *e*P **P 03 18 51.8 +0.7**
comp=Z,36nm,1.6s,SNR=9.7
PLVB Pleven 76.17 329 ⇓P **P 03 18 50.8 -0.4**
ELND Elena 76.19 328 ⇑P **P 03 18 50.5 -0.9**
X53A Estanollee 76.23 50 P **P 03 18 52.7 +1.0**
baz=327
W54A Cherokee Point 76.24 49 P **P 03 18 52.5 +0.6**
baz=327
ABTA Abfaltersbach 76.28 338 *e*P **P 03 18 52.5 +0.6**
comp=Z,44nm,1.0s,SNR=15
BR131 Keskin Array S 76.32 321 P **P 03 18 51.8 -0.6**
BR131 pmax pmax
comp=Z,10.0nm,1.2s
BR131 Keskin Array S 76.32 321 P **P 03 18 51.8 -0.6**
BRTR Keskin Array B 76.32 321 P **P 03 18 51.5 -0.9**
comp=Z,2.4nm,0.7s,baz=21,slow=3.8,SNR=20
BRTR LR LR 03 55 12.1
comp=Z,150nm,20.9s,baz=24,slow=38
DAVA Damuels 76.32 340 *e*P **P 03 18 52.9 +0.7**
comp=Z,26nm,1.1s,SNR=5.8
ZAG Zagreb 76.33 335 *e*P **P 03 18 53.3 +1.2**
Z51A Franklin 76.35 52 P **P 03 18 52.7 +0.3**
baz=326,SNR=5.5
V56A Mocksville 76.38 47 P **P 03 18 53.4 +0.8**
baz=328
FETA Feichten 76.40 339 *e*P **P 03 18 53.3 +0.6**
comp=Z,28nm,0.8s,SNR=9.6
Y52A Lilburn 76.41 51 P **P 03 18 53.6 +0.8**
baz=327
Y52A Lilburn 76.41 51 IAmb IAmb 03 18 54.3
comp=Z,20nm,0.9s
CRES Cresnjev 76.46 336 *i*P **P 03 18 52.8 -0.1**
CRES Cresnjev 76.46 336 ⇓*i*P **P 03 18 53.4 +0.5**
LJU Ljubljana 76.48 336 ⇓*i*P **P 03 18 53.1 +0.1**
ANTO Ankara 76.51 321 P **P 03 18 53.4 0.0**
ANTO pmax pmax
comp=Z,12nm,1.0s
ANTO Ankara 76.51 321 P **P 03 18 53.4 0.0**
ANTO IAmb IAmb 03 18 55.6
comp=Z,12nm,0.9s
BR231 Keskin MP Arra 76.54 321 P **P 03 18 53.4 -0.2**
X54A Belton 76.61 49 P **P 03 18 54.7 +0.8**
baz=327
Y53A Monroe 76.64 50 P **P 03 18 54.8 +0.7**
baz=327
T59A Double "B" Far 76.65 44 P **P 03 18 54.8 +0.8**
baz=329
STAL STALIGIAL 76.69 338 P **P 03 18 53.8 -0.4**
STAL IAmb IAmb 03 18 54.8
comp=Z,22nm,1.1s
U58A Oxford 76.72 45 P **P 03 18 55.4 +0.9**
baz=329
WR0 Warramunga Arr 76.77 205 P **P 03 18 54.9 +0.1**
CEY Cerknica 76.79 336 *e*P **P 03 18 54.9 +0.1**
WRAB Tennant Creek 76.80 205 *ce*P **P 03 18 54.2 -0.7**
WRAB pmax pmax
comp=Z,24nm,1.3s
WRAB Tennant Creek 76.80 205 P **P 03 18 55.6 +0.7**
WRAB IAmb IAmb 03 18 56.5
comp=Z,24nm,1.1s
WRA Warramunga Arr 76.81 205 *i*P **P 03 18 55.5 +0.5**
WRA pmax pmax
comp=Z,12nm,1.0s
WRA Warramunga Arr 76.81 205 P **P 03 18 55.1 +0.2**
comp=Z,12nm,1.0s,baz=18,slow=5.7,SNR=35
Z52A Williamson 76.81 51 P **P 03 18 55.8 +0.7**
baz=327,SNR=5.1
EDRB Edirne 76.88 326 P **P 03 18 54.7 -0.6**
DIVS Divibare 76.88 332 ⇓*i*P **P 03 18 54.6 -0.8**
FUORN Ofenpass-Fuorn 76.88 340 P **P 03 18 56.0 +0.4**
V58A Windy Hill, Pi 76.99 46 P **P 03 18 57.1 +1.1**
baz=328
BLY Banja Luka 77.03 334 *e*P **P 03 18 53.3 -2.8**
BLY Banja Luka 77.03 334 ⇑P **P 03 18 55.5 -0.6**
BLY mb 03 19 09.3
BLY Banja Luka 77.03 334 P **P 03 18 56.0 -0.1**
Y54A Tignall 77.04 50 P **P 03 18 57.1 +0.8**
baz=327,SNR=9.3
152A Waverly Hall 77.10 52 P **P 03 18 57.0 +0.3**
baz=327
152A Waverly Hall 77.10 52 P **P 03 18 57.1 +0.4**
152A IAmb IAmb 03 18 59.6
comp=Z,17nm,1.1s
Z53A Monticello 77.12 51 P **P 03 18 57.3 +0.5**
baz=327
CTI Castel Tesino 77.13 338 P **P 03 18 56.7 -0.1**
CTI pmax pmax
comp=Z,30nm,0.9s
CTI Castel Tesino 77.13 338 P **P 03 18 56.7 -0.1**
GAZ Gaziantep 77.13 317 P **P 03 18 57.1 +0.2**
GAZ IAmb IAmb 03 18 58.7
comp=Z,12nm,1.0s
W57A Gilead 77.15 47 P **P 03 18 57.4 +0.5**
baz=328
HAPS Han Pijesak,Bl 77.18 333 *e*P **P 03 18 55.8 -1.3**
TUE Stuetta 77.21 340 P **P 03 18 57.7 +0.3**
X56A White Oak 77.25 48 P **P 03 18 58.1 +0.6**
baz=328
BBLS Lazići 77.26 332 ⇓*i*P **P 03 18 55.1 -2.4**
VTS Vitosha 77.29 329 P **P 03 18 57.5 -0.3**
VTS Vitosha 77.29 329 P **P 03 18 57.2 -0.6**
VTS pmax pmax
comp=Z,17nm,0.7s
VTS Vitosha 77.29 329 ⇑P **P 03 18 57.3 -0.5**
VTS mb 03 18 58.8
VTS Vitosha 77.29 329 P **P 03 18 57.2 -0.6**
VTS IAmb IAmb 03 18 58.8
comp=Z,17nm,0.7s
MGRS Mrkonjic Grad 77.37 334 *e*P **P 03 18 59.0 +1.0**
V59A Middlesex 77.39 46 P **P 03 18 59.0 +0.8**
baz=329
RUDO Rudo 77.50 332 *e*P **P 03 18 57.2 -1.5**
Z54A Sparta 77.50 50 P **P 03 18 59.6 +0.7**
baz=327,SNR=5.5

W58A	Raeford	77.59	47	P	P	03 18 59.9	+0.5
	baz=328						
FITZ	Fitzroy Crossi	77.62	214	P	P	03 19 00.2	+0.7
FITZ				IAmb	IAmb	03 19 01.6	
	comp=Z,19nm,1.0s						
SENIN	Lac Senin/Sane	77.72	341	P	P	03 19 00.8	+0.6
SENIN				IAmb	IAmb	03 19 04.6	
	comp=Z,12nm,0.9s						
TEOL	Teolo	77.78	338	P	P	03 19 00.1	-0.1
SALO	Salr	77.78	339	P	P	03 19 00.4	+0.1
V60A	Jim Taylor Roa	77.80	45	P	P	03 19 01.3	+0.8
	baz=329						
154A	Montrose	77.90	51	P	P	03 19 02.7	+1.6
	baz=327						
RDO	Rodhopi	77.90	327	P	P	03 19 00.9	-0.1
X58A	Rowland	77.94	47	P	P	03 19 01.7	+0.4
	baz=328						
X58A	Rowland	77.94	47	P	P	03 19 01.8	+0.4
ALN	Alexandroupoli	77.96	326	P	P	03 19 01.0	-0.3
ALN	Alexandroupoli	77.96	326	P	P	03 19 01.4	+0.1
ALN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ALN	Alexandroupoli	77.96	326	P	P	03 19 01.4	+0.1
ALN				IAmb	IAmb	03 19 02.3	
	comp=Z,10nm,0.8s						
352A	Blakely	77.99	53	P	P	03 19 02.3	+0.6
	baz=327						
352A	Blakely	77.99	53	P	P	03 19 02.0	+0.3
PALK	Pallekele	78.22	266	P	P	03 19 02.2	-0.9
PALK	Pallekele	78.22	266	P	P	03 19 03.2	0.0
PALK				pmax	pmax		
	comp=Z,25nm,1.1s						
PALK	Pallekele	78.22	266	P	P	03 19 03.2	0.0
PALK				IAmb	IAmb	03 19 04.4	
	comp=Z,25nm,1.1s						
NVR	Nevrokopi	78.25	328	P	P	03 19 02.9	-0.1
BRY	Bratogost	78.39	333	*e*P	P	03 19 02.8	-1.1
HATD	Hatta, Dubai	78.42	296	P	P	03 19 01.8	-2.3
STIP	Stip	78.45	330	⇑*i*P	P	03 19 02.8	-1.3
NAZ	Nazwa, Dubai	78.54	297	P	P	03 19 03.5	-1.2
ASHO	Ashiyiah	78.57	296	P	P	03 19 02.3	-2.7
TREB	Trebinje	78.61	333	*e*P	P	03 19 02.8	-2.1
PDG	Podgorica	78.63	332	*e*P	P	03 19 04.0	-1.0
PDG	Podgorica	78.63	332	⇑P	P	03 19 04.3	-0.6
PDG	Podgorica	78.63	332	P	P	03 19 04.5	-0.5
PRMA	PARMA	78.64	339	P	P	03 19 05.6	+0.6
STON	Ston	78.64	333	*e*P	P	03 19 03.1	-1.9
VAY	Valandovo	78.68	329	⇑*i*P	P	03 19 05.4	+0.1
KNT	Kendrikon	78.72	329	P	P	03 19 06.2	+0.6
HCY	Herceg Novi	78.82	332	*e*P	P	03 19 05.0	-1.1
DRME	Dracevica, Mon	78.87	332	*e*P	P	03 19 05.9	-0.4
ZCCA	Zocca	78.89	338	P	P	03 19 07.8	+1.3
GRG	Griva	79.06	329	P	P	03 19 07.8	+0.4
BNI	Bardonecchia	79.09	342	P	P	03 19 08.1	+0.4
BNI				pmax	pmax		
	comp=Z,33nm,1.1s						
BNI	Bardonecchia	79.09	342	P	P	03 19 08.1	+0.4
BNI				IAmb	IAmb	03 19 10.2	
	comp=Z,33nm,1.1s						
ISP	Isparta	79.15	322	P	P	03 19 07.2	-0.9
ISP				pmax	pmax		
	comp=Z,15nm,0.8s						
ISP	Isparta	79.15	322	P	P	03 19 07.2	-0.9
ISP				IAmb	IAmb	03 19 09.6	
	comp=Z,15nm,0.8s						
SSB	Saint Sauveur	79.26	343	IAmb	IAmb	03 19 10.2	
	comp=Z,26nm,1.1s						
PLG	Polygyros	79.27	328	P	P	03 19 07.3	-1.3
PRK	Paraskevi	79.37	326	P	P	03 19 08.7	-0.4
TIR	Tirane	79.45	331	P	P	03 19 09.3	-0.2
TIR				pmax	pmax		
	comp=Z,36nm,0.7s						
TIR	Tirane	79.45	331	⇑P	P	03 19 09.4	-0.1
TIR				mb		03 19 11.9	
TIR	Tirane	79.45	331	P	P	03 19 09.3	-0.2
FNA	Florina	79.53	330	P	P	03 19 09.3	-0.7
FNA	Florina	79.53	330	IAmb	IAmb	03 19 11.2	
	comp=Z,19nm,1.1s						
SIGR	SIGRI	79.54	326	P	P	03 19 08.7	-1.3
MURB	Monte Urbino	79.57	337	P	P	03 19 11.2	+1.0
PAIG	Paliouri	79.60	328	P	P	03 19 10.1	-0.2
TAOE	Nuku Hiva Isla	79.78	120	*e*LR	LR	03 44 00.2	
	comp=Z,190nm,31.1s						
LIT	Litokhoron	79.82	329	IAmb	IAmb	03 19 11.6	
	comp=Z,11nm,0.8s						
NRCA	Norcia	79.84	336	P	P	03 19 12.2	+0.5
NEST	Nestorio	79.97	330	P	P	03 19 11.6	-0.9
CHOS	Chios island	80.22	325	P	P	03 19 12.8	-1.0
AQU	L'Aquila	80.22	336	P	P	03 19 14.1	+0.3
AQU				pmax	pmax		
	comp=Z,29nm,0.8s						
AQU	L'Aquila	80.22	336	*e*P	P	03 19 14.2	+0.4
AQU	L'Aquila	80.22	336	P	P	03 19 14.1	+0.3
AOS	Alonnisos	80.23	327	P	P	03 19 12.7	-1.0
XOR	Xorichti	80.27	328	P	P	03 19 12.6	-1.4
KPRO	Kipourio	80.29	329	P	P	03 19 13.6	-0.6
NEO	Neokhori	80.31	328	P	P	03 19 12.8	-1.4
AS31	Alice Springs	80.48	205	P	P	03 19 15.9	+0.8
ASAR	Alice Springs	80.48	205	P	P	03 19 16.3	+1.1
	comp=Z,12nm,0.9s,baz=13,slow=5.2,SNR=91						
YER	Yerkesik	80.57	323	P	P	03 19 12.5	-3.2
CSS	Mathiatis	80.60	319	P	P	03 19 13.8	-2.1
CSS	Mathiatis	80.60	319	P	P	03 19 15.3	-0.5
CSS				IAmb	IAmb	03 19 16.6	
	comp=Z,16nm,0.7s						
JAN	Janina	80.72	330	P	P	03 19 16.6	+0.1
MRKA	Markates	80.74	327	P	P	03 19 15.4	-1.2
SRN	Sarande	80.77	330	P	P	03 19 15.2	-1.4
AGG	Agios Georgios	80.85	328	P	P	03 19 14.4	-2.8
EREA	Eretria	80.89	327	P	P	03 19 13.6	-3.8
MATE	Matera	80.98	333	⇑P	P	03 19 18.5	+0.8
MATE				mb		03 19 18.8	
ACER	Acerenza	81.06	334	P	P	03 19 18.1	-0.2
EVR	Evrytania	81.11	329	P	P	03 19 16.6	-2.0
PAOL	Paolisi	81.18	335	IAmb	IAmb	03 19 19.7	
	comp=Z,19nm,1.0s						
PTL	Penteli	81.25	327	P	P	03 19 17.7	-1.6
VILL	Villia	81.33	327	P	P	03 19 17.5	-2.2
ATHU	Athens Univers	81.35	327	P	P	03 19 18.0	-1.8
VLY	Voula,Athens	81.45	327	P	P	03 19 18.5	-1.8
KALE	Kalithea	81.49	328	P	P	03 19 18.8	-1.8
EFP	Efpalio	81.53	328	P	P	03 19 20.1	-0.6
LKD2	Lefkada island	81.58	329	P	P	03 19 20.5	-0.5
THAL	Thalero	81.65	328	P	P	03 19 19.2	-2.1
EVGI	Lefkada island	81.73	329	P	P	03 19 21.4	-0.4
KLV	Kalavryta, Ach	81.80	328	P	P	03 19 20.8	-1.4
DID	Didima	81.95	327	P	P	03 19 19.9	-3.1
IOSP	Ios island	81.98	325	P	P	03 19 20.5	-2.6
DRO	Drossia	82.03	328	P	P	03 19 22.8	-0.6
VLS	Valsamata	82.16	329	P	P	03 19 22.6	-1.5
TLIG	Tlapa	82.24	71	P	P	03 19 26.6	+1.7
TIP	Timpagrande	82.34	332	P	P	03 19 24.4	-0.7
TIP	Timpagrande	82.34	332	⇑P	P	03 19 25.6	+0.5
TIP				mb		03 19 27.4	
TIP	Timpagrande	82.34	332	P	P	03 19 25.3	+0.3
VLX	Vlachokerasia	82.35	328	P	P	03 19 23.2	-2.0
AMT	Artemida-Makis	82.41	328	P	P	03 19 22.2	-3.2
ITM	Ithomi	82.67	328	P	P	03 19 24.8	-1.9
PPT	Papeete	82.85	133	LR	LR	03 47 22.7	
	comp=Z,105nm,21.4s,baz=356,slow=29						
PSAB3	Pilbara Seismi	82.86	218	P	P	03 19 27.7	+0.1
PSAB3				IAmb	IAmb	03 19 28.8	
	comp=Z,15nm,0.8s						
PPT2	Papeete2	82.87	133	*e*LR	LR	03 45 34.4	
	comp=Z,399nm,29.5s,baz=322						
DYR	Agios Nikonas	82.92	327	P	P	03 19 26.5	-1.5
PYL	PYLOS	82.98	328	P	P	03 19 26.2	-2.1
KTHR	Kythira	83.16	327	P	P	03 19 27.9	-1.4
LAST	Lasithi	83.33	324	P	P	03 19 26.5	-3.8
ANKY	Antikythira Is	83.42	326	P	P	03 19 28.6	-2.0
VAM	Vamos	83.54	325	P	P	03 19 29.7	-1.5
IMMV	Iera Moni Meta	83.57	326	P	P	03 19 29.7	-1.7
POLO	Lamas de Olo	84.73	351	*e*P	P	03 19 38.3	+1.0
PVRL	Vila Real	84.83	351	*e*P	P	03 19 38.6	+0.9
	comp=Z,59nm,1.3s						
MVO	Moncorvo	84.87	351	*e*P	P	03 19 38.8	+0.8
	comp=Z,32nm,1.4s						
RAYN	Ar Rayn	84.97	303	*i* P	P	03 19 37.6	-1.1
	SNR=8.5						
RAYN	Ar Rayn	84.97	303	P	P	03 19 37.6	-1.1
RAYN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
RAYN	Ar Rayn	84.97	303	P	P	03 19 37.6	-1.1
	comp=Z,7.3nm,0.8s				IAmb	IAmb	03 19 38.2
PVIS	Viseu	85.40	351	*e*P	P	03 19 41.7	+1.1
	comp=Z,50nm,1.4s						
MTE	Manteigas	85.68	351	*e*P	P	03 19 43.5	+1.5
	comp=Z,42nm,1.4s						
MTE	Manteigas	85.68	351	IAmb	IAmb	03 19 44.8	
	comp=Z,22nm,1.1s						
ESBB	Sonseca Array	86.01	348	IAmb	IAmb	03 19 46.4	
	comp=Z,14nm,0.9s						
ESDC	Sonseca Array	86.01	348	P	P	03 19 44.0	+0.4
	comp=Z,8.9nm,0.8s,baz=4.7,slow=5.0,SNR=42						
PCAS	Casmilo, Conde	86.11	352	*e*P	P	03 19 44.4	+0.3
	comp=Z,35nm,1.2s						
PAB	San Pablo	86.18	348	P	P	03 19 45.2	+0.6
PAB				pmax	pmax		
	comp=Z,15nm,1.1s						
PAB	San Pablo	86.18	348	P	P	03 19 45.2	+0.6
PAB				IAmb	IAmb	03 19 47.3	
	comp=Z,15nm,1.1s						
PCBR	Castelo Branco	86.23	351	*e*P	P	03 19 45.3	+0.7
	comp=Z,27nm,1.4s						
CCIG	Comitan	86.84	67	P	P	03 19 49.1	+0.9
CCIG				IAmb	IAmb	03 19 51.0	
	comp=Z,12nm,0.7s						
STKA	Stephens Creek	86.85	196	P	P	03 19 48.7	+1.2
STKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
STKA	Stephens Creek	86.85	196	P	P	03 19 48.8	+1.2
	comp=Z,6.7nm,0.9s,baz=341,slow=8.6,SNR=17						
STKA				LR	LR	03 56 03.8	
	comp=Z,54nm,21.6s,baz=23,slow=34						
STKA	Stephens Creek	86.85	196	P	P	03 19 48.6	+1.2
KEST	Kesra	87.48	337	P	P	03 19 51.1	+0.2
	comp=Z,11nm,0.5s,baz=316,slow=1.5,SNR=58						
KEST				LR	LR	04 04 36.0	
	comp=Z,179nm,19.0s,baz=264,slow=40						
KEST	Kesra	87.48	337	P	P	03 19 51.0	+0.1
TBI	Tubuai	88.02	135	*e*LR	LR	03 47 56.9	
	comp=Z,253nm,24.2s,baz=334						
TORD	Torodi Ar. Bea	110.98	338	Pdiff	Pdif	03 21 35.9	-1.5
	comp=Z,0.6nm,1.2s,baz=24,slow=3.3,SNR=2.8						
TORD				PKiKP	PKiKP	03 25 35.9	-0.6
	comp=Z,0.8nm,0.6s,baz=8.5,slow=1.5,SNR=7.8						
TORD				PP	PP	03 26 09.8	-4.6
	comp=Z,1.8nm,0.8s,baz=6.4,slow=4.5,SNR=7.6						
DBIC	Dimbokro	118.58	344	PKP	PKPdf	03 25 50.3	-0.8
	comp=Z,2.8nm,0.6s,baz=22,slow=4.1,SNR=5.7						
LPAZ	La Paz	126.89	65	PKP	PKPdf	03 26 07.7	0.0
	comp=Z,1.4nm,0.6s,baz=5.8,slow=7.1,SNR=6.4						
LPAZ	La Paz	126.89	65		PKiKP	03 26 07.9	-0.2
VNDA	Vanda	131.00	180	PKP	PKiKP	03 26 14.2	+0.4
	comp=Z,2.2nm,0.7s,baz=311,slow=3.7,SNR=8.7						
BDFB	Brasilia	135.87	42	PKP	PKiKP	03 26 25.4	-0.3
	comp=Z,1.4nm,0.7s,baz=190,slow=5.6,SNR=5.5						
BOSA	Boshof	139.02	290	PKP	PKPdf	03 26 29.4	-0.2
	comp=Z,3.8nm,0.9s,baz=324,slow=3.3,SNR=4.6						
QSPA	South Pole Qui	143.49	180	PKPdf	PKPbc	03 26 34.0	+0.2
PLCA	Paso Flores	143.69	90	PKIKP	PKPdf	03 26 36.2	-1.3
PLCA	Paso Flores	143.69	90	PKP	PKPbc	03 26 35.9	+0.7
	comp=Z,5.2nm,0.9s,baz=332,slow=6.3,SNR=11						
PLCA	Paso Flores	143.69	90		PKPbc	03 26 36.2	+1.0
TRQA	Tornquist	147.03	79	PKP2	PKPbc	03 26 45.8	+0.4
TRQA	Tornquist	147.03	79	PKPbc	PKPbc	03 26 45.8	+0.4
SYO	Syowa Base	149.41	217	⇑*i*PKPdf	PKPbc	03 26 50.0	-0.5
SYO	Syowa Base	149.41	217	⇓*i*PKPbc	PKPbc	03 26 51.2	+0.7
SYO	Syowa Base	149.41	217	⇑*i*PKiKP	PKPab	03 26 54.8	-0.8
SNAA	Sanae	160.62	196	PKPab	PKPab	03 27 43.4	0.0
SNAA	Sanae	160.62	196	PKPdf	PKPdf	03 27 02.8	+1.5
SNAA	Sanae	160.62	196	PKIKP	PKPdf	03 27 03.3	+2.0
SNAA	Sanae	160.62	196	PKPdf	PKPdf	03 27 03.3	+2.0
SNAA					PKPab	03 27 43.5	0.0
VNA3	Neumayer Olymp	161.92	190	PKPab	PKPab	03 27 48.6	-0.5
VNA3	Neumayer Olymp	161.92	190	PKPdf	PKPdf	03 27 03.6	+0.9
VNA2	Neumayer--Watz	161.95	193	PKPab	PKPab	03 27 49.3	+0.1
	baz=166,slow=3.6						
VNA2	Neumayer--Watz	161.95	193	PKPdf	PKPdf	03 27 01.9	-0.8
	baz=166,slow=3.0						

ISCJB ***15*** *03:21:42.7±0.6, 16.72S±0.06×172.20W±0.10, h24km, mb3.9/7, MS3.4/7, Error ellipse: s-maj=13.9km s-min=8.1km az=11.1*

NEIC ***15*** *03:21:42.8±2.9, 16.69S±0.04×172.1W±0.1, h10km±2km, mb4.2/6*

IDC ***15*** *03:21:42.9±0.8, 16.76S×172.76W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.0/28, mbtmp4.0/7, MS3.5/5, Ms1 3.5/5, ms1mx3.2/33, Error ellipse: s-maj=41.0km s-min=19.3km az=139.0*

ISC 15 03:21:45.3±0.6, 16.74S±0.07×172.3W±0.1, h24km, n25, σ2.22/18, mb4.0/8, MS3.4/7, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.85	10	Pn	Pn	03 22 27.2	-2.3
	25nm,0.3s,baz=209,slow=3.1,SNR=20						
AFI				Sn	Sn	03 23 00.5	-2.5
	49nm,0.3s,baz=152,slow=23,SNR=8.4						
NIUE	Niue	3.22	137		Pn	03 22 32.3	-2.2
MSVF	Nonsavu	9.30	262		Pn	03 24 00.1	+2.0
DZM	Mont Dzumac	20.76	252	*e*LR	LR	03 31 38.7	
	comp=Z,242nm,23.9s						
DZM	Mont Dzumac	20.76	252	LR	LR	03 32 39.9	
	comp=Z,178nm,20.2s,baz=182,slow=32						
PPT2	Papeete2	21.70	96	*e*LR	LR	03 31 35.8	
	comp=Z,182nm,26.0s						
PPT	Papeete	21.70	96	LR	LR	03 33 02.3	
	comp=Z,55nm,21.4s,baz=218,slow=31						
TBI	Tubuai	22.40	111	*e*LR	LR	03 31 53.2	
	comp=Z,199nm,30.8s						
URZ	Urewera	23.38	201	P	P	03 26 51.7	-0.5
	4.4nm,0.6s,baz=63,slow=2.3,SNR=4.3						
URZ				LR	LR	03 34 17.4	
	comp=Z,44nm,20.3s,baz=8.0,slow=32						
URZ	Urewera	23.38	201	IAmb	IAmb	03 27 06.2	
	comp=Z,19nm,1.1s						
STKA	Stephens Creek	44.33	241	P	P	03 29 52.3	-1.4
	comp=Z,1.7nm,0.7s,baz=33,slow=7.5,SNR=5.0						
WRA	Warramunga Arr	50.61	258	P	P	03 30 39.6	-3.1
	comp=Z,0.8nm,1.0s,baz=96,slow=7.1,SNR=5.1						
AS31	Alice Springs	50.74	253	P	P	03 30 43.9	+0.1
AS31				IAmb	IAmb	03 30 51.4	
	comp=Z,1.1nm,0.8s						
ASAR	Alice Springs	50.74	253	P	P	03 30 40.6	-3.1
	comp=Z,3.3nm,1.0s,baz=88,slow=9.5,SNR=18						
SOEI	Soe	61.95	268	P	P	03 32 05.1	+1.2
VNDA	Vanda	62.16	186	P	P	03 32 02.7	-1.4
DAV	Davao City (W)	65.84	286	LR	LR	03 56 40.6	
	comp=Z,163nm,20.8s,baz=340,slow=32						
QSPA	South Pole Qui	73.31	180	P	P	03 33 15.2	+0.5
NVAR	Mina Array Bea	74.60	41	P	P	03 33 26.3	+3.5
	comp=Z,1.2nm,0.9s,baz=230,slow=9.9,SNR=10.0						
PDAR	Pinedale Array	82.54	41	P	P	03 34 09.7	+3.1
	comp=Z,1.5nm,1.0s,baz=266,slow=4.5,SNR=6.8						
ILAR	Eielson Array	83.55	11	P	P	03 34 12.4	+1.5
	comp=Z,1.0nm,0.8s,baz=225,slow=6.4,SNR=8.6						
LPAZ	La Paz	98.34	110	LR	LR	04 14 07.1	
	comp=Z,21nm,18.2s,baz=327,slow=32						
KMBO	Kilima Mbogo	145.89	241	PKPbc	PKPab	03 41 24.3	-0.2
	comp=Z,0.8nm,0.3s,baz=37,slow=20,SNR=5.4						
BRTR	Keskin Array B	147.88	321	PKPab	PKiKP	03 41 30.5	-0.3
	comp=Z,2.0nm,0.9s,baz=64,slow=2.9,SNR=8.3						
TORD	Torodi Ar. Bea	173.16	121	PKPab	PKPab	03 43 22.9	+1.8
	comp=Z,1.2nm,0.8s,baz=251,slow=4.0,SNR=5.5						

JMA 15 03:26:21.1±0.2, 36.81N×144.25E, h50km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	Ishinomakikobu	2.67	305	P	Pn	03 27 02.5	+0.9
JIKH				*e*S	Sn	03 27 33.4	+0.6
JFK	Kawauchi	2.76	283	P	Pn	03 27 03.9	+1.1
JFK				*e*S	Sn	03 27 36.0	+1.1
ONAJ	Iwakimizuishiy	2.78	277	*e*S	Sn	03 27 36.7	+1.2
JIO	Ouri	2.83	306	P	Pn	03 27 05.3	+1.5
JIO				*e*S	Sn	03 27 38.1	+1.5
JMST	Minamisoumatoc	2.83	290	P	Pn	03 27 05.0	+1.2
JMST				*e*S	Sn	03 27 37.8	+1.1
JFT	Otama	3.21	284	P	Pn	03 27 11.1	+2.1
JFT				S	Sn	03 27 48.4	+2.5
JMK	Ichinoseki	3.21	313	P	Pn	03 27 10.7	+1.7
JMK				*e*S	Sn	03 27 47.8	+1.8
JOM	Ohasama	3.54	320	S	Sn	03 27 55.0	+1.0
JRY	Ryogami san	4.39	261	P	Pn	03 27 26.0	+0.8
JRY				*e*S	Sn	03 28 15.5	+0.5
JOD2	Odawara 2	4.46	251	P	Pn	03 27 27.4	+1.2
JOD2				*e*S	Sn	03 28 17.4	+0.6
MAT	Matsushiro	4.87	269	P	Pn	03 27 34.2	+2.5
MAT				*e*S	Sn	03 28 30.5	+3.7
JCH	Churui	5.84	354	P	Pn	03 27 44.3	-0.7

WEL 15 03:28:49.8±0.3, 44.S±2.×17.3E±., h5km, ML3.9/6, MLv3.5/24, Error ellipse: s-maj=0.0km s-min=0.0km az=66.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRLZ	Canterbury Lab	0.01	345	P	Pg	03 28 50.9	+0.1
CRLZ				S	Sg	03 28 51.5	+0.2
MQZ	McQueen's Vall	0.12	171	P	Pg	03 28 52.7	+0.4
MQZ				S	Sg	03 28 54.7	+0.7
OKCZ	Okains Bay	0.34	114	P	Pg	03 28 57.1	+0.6
OKCZ				S	Sg	03 29 02.3	+1.3
AKCZ	Akaroa Harbour	0.35	144	P	Pg	03 28 57.1	+0.5
AKCZ				S	Sg	03 29 02.1	+0.8
AMCZ	Amberley	0.41	2	P	Pg	03 28 58.6	+0.9
OXZ	Oxford	0.50	301	P	Pg	03 28 59.6	+0.2
GVZ	Greta Valley S	0.69	26	P	Pg	03 29 03.9	-0.4
LTZ	Lake Taylor	0.85	342	P	Pg	03 29 06.4	+0.4
RPZ	Rata Peaks	1.15	263	P	Pg	03 29 11.0	-0.8
INZ	Inchbonnie	1.22	314	P	Pg	03 29 11.8	-1.4
KHZ	Kahutara	1.35	30	P	Pn	03 29 13.3	-2.0
WVZ	Waitaha Valley	1.47	290	P	Pn	03 29 15.9	-1.1
THZ	Tophouse	1.83	6	P	Pn	03 29 20.4	-1.6
LBZ	Lake Benmore	1.94	245	P	Pn	03 29 23.3	-0.1
DSZ	Denniston Nort	1.94	341	P	Pn	03 29 22.2	-1.3
ODZ	Otahua Downs	2.04	224	P	Pn	03 29 23.2	-1.6
FOZ	Fox Glacier	2.04	271	P	Pn	03 29 25.0	+0.2
BSWZ	Blackbirch Sta	2.08	27	P	Pn	03 29 23.9	-1.5
NNZ	Nelson	2.43	13	P	Pn	03 29 29.1	-1.1
TCW	Tory Channel	2.67	28	P	Pn	03 29 31.8	-1.6
HHSZ	Highcliff Hill	2.71	211	P	Pn	03 29 32.7	-1.4
QRZ	Quartz Range	2.76	358	P	Pn	03 29 33.3	-1.4
PLWZ	Palliser	2.80	45	P	Pn	03 29 32.7	-2.6
JCZ	Jackson Bay	2.82	259	P	Pn	03 29 35.4	-0.3
WKZ	Wanaka	2.88	243	P	Pn	03 29 35.7	-0.7
CAW	Cannon Point	3.07	37	P	Pn	03 29 36.3	-2.6
TUZ	Tuapeka	3.19	221	P	Pn	03 29 40.0	-0.6
KIW	Kapiti Island	3.21	33	P	Pn	03 29 39.3	-1.6
MTW	Mount Morrison	3.23	42	P	Pn	03 29 38.5	-2.6
OGWZ	Otaki Gorge	3.35	35	P	Pn	03 29 41.2	-1.6
MRZ	Mangatainoka R	3.66	38	P	Pn	03 29 45.1	-1.9
MLZ	Mavora Lakes	3.69	240	P	Pn	03 29 47.6	+0.1
SYZ	Scrubby Hill	3.85	219	P	Pn	03 29 48.9	-0.8
BFZ	Birch Farm	3.96	44	P	Pn	03 29 48.4	-2.8
KHEZ	Kahui Hut	4.41	14	P	Pn	03 29 58.9	+1.4
APZ	The Paps	4.61	224	P	Pn	03 29 59.8	-0.4
TRVZ	Turoa	4.81	28	P	Pn	03 30 02.8	-0.4
TUVZ	Tukino	4.88	29	P	Pn	03 30 03.7	-0.3

IDC ***15*** *03:47:11.2±0.7, 2.88S×128.15E, h0km, mb4.2/9, mb1 4.5/13, mb1mx4.2/42, mbtmp4.3/13, ML4.3/4, MS3.6/9, Ms1 3.6/9, ms1mx3.3/35, Error ellipse: s-maj=22.4km s-min=15.2km az=60.0*

DJA ***15*** *03:47:14.7±0.4, 3.S±2.×12.8E±., h13km±3km, M4.7/26, mB5.2/6, mb4.7/26, MLv4.7/15, Mw(mB)4.6/6*

ISCJB ***15*** *03:47:15.1±0.2, 2.85S±0.03×128.17E±0.03, h38km, mb4.3/15, MS3.6/6, Error ellipse: s-maj=3.9km s-min=3.6km az=16.0*

NEIC ***15*** *03:47:16.6±1.3, 2.82S±0.07×128.19E±0.06, h36km±3km, mb4.4/24*

ISC 15 03:47:17.1±0.4, 2.83S±0.04×128.13E±0.04, h38km, n96, σ1.89/95, mb4.3/21, MS3.5/6, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	Ambon	0.85	176	P	Pn	03 47 31.8	-0.8
MSAI	Masohi	0.95	123	P	Pn	03 47 34.0	+0.1
MSAI				S	Sn	03 47 52.6	+6.4
NLAI	Namlea	1.11	248	P	Pn	03 47 35.9	-0.2
NLAI				S	Sn	03 47 53.3	+3.2
LBMI	Labuha	2.27	344	P	Pn	03 47 52.4	+0.4
LBMI				S	Sn	03 48 17.2	-1.5
SANI	Sanana	2.28	290	P	Pn	03 47 48.8	-3.4
SANI				S	Sn	03 48 15.6	-3.4
BNDI	Bandanaira	2.44	134	P	Pn	03 47 56.0	+1.6
TNTI	Ternate	3.66	348	P	Pn	03 48 11.3	+0.1
TNTI	Ternate	3.66	348		Pn	03 48 11.2	0.0
SWI	Sorong	3.69	58	P	Pn	03 48 10.8	-0.7
SWI				S	Sn

WRA	**Warramunga Arr**	**18.06**	**161**	P	**Pn**	**03 51 22.8**	**-2.4**	
	comp=Z,2.4nm,0.3s,baz=338,slow=12,SNR=98							
WRA				S	**Sn**	**03 54 41.3**	**-4.5**	
	comp=Z,0.3nm,0.3s,baz=350,slow=23,SNR=3.4							
WR0	**Warramunga Arr**	**18.14**	**160**	P	**Pn**	**03 51 24.1**	**-2.1**	
KSM	**Kuching**	**18.32**	**283**	P	**Pn**	**03 51 29.2**	**+0.7**	
KSM				IAmb	IAmb	03 51 31.2		
	comp=Z,20nm,1.0s							
COEN	**Coen**	**18.52**	**128**	P	**P**	**03 51 28.9**	**-1.5**	
KPJI	**Karang Pucung**	**19.64**	**256**	P	**Pn**	**03 51 44.3**	**0.0**	
	comp=Z,60nm,1.0s							
PSA00	**Pilbara Seismi**	**20.30**	**203**	P	**P**	**03 51 48.4**	**-1.4**	
PSA00				IAmb	IAmb	03 51 49.5		
	comp=Z,24nm,0.9s							
CISI	**Cisompet, Garu**	**20.77**	**256**	P	**P**	**03 51 52.2**	**-2.8**	
LEM	**Lembang**	**20.82**	**258**	LR	LR	04 01 06.8		
	comp=Z,322nm,19.1s,baz=71,slow=40							
AS31	**Alice Springs**	**21.45**	**165**	P	**P**	**03 52 01.0**	**-1.3**	
AS31				IAmb	IAmb	03 52 02.6		
	comp=Z,17nm,0.8s							
ASAR	**Alice Springs**	**21.45**	**165**	P	**P**	**03 52 01.4**	**-1.0**	
	comp=Z,41nm,0.7s,baz=346,slow=11,SNR=317							
ASAR				S	**S**	**03 55 53.8**	**-4.6**	
	comp=Z,7.0nm,0.8s,baz=348,slow=20,SNR=12							
ASAR				ScP	**ScP**	**03 59 41.0**	**+1.9**	
	comp=Z,0.2nm,0.6s,baz=349,slow=1.9,SNR=4.2							
PPBI	**Pangkal Pinang**	**21.98**	**271**	P	**P**	**03 52 11.0**	**+2.9**	
	comp=Z,10nm,1.1s							
KLSI		**23.42**	**265**	P	**P**	**03 52 24.7**	**+1.6**	
	comp=Z,9.6nm,2.6s							
KRVT	**Keravat (AS076**	**23.89**	**94**	LR	LR	04 01 52.7		
	comp=Z,154nm,19.7s,baz=208,slow=37							
MDSI	**Maura Dua**	**23.96**	**265**	P	**P**	**03 52 29.7**	**+1.6**	
CTA	**Charters Towe**	**24.64**	**135**	P	**P**	**03 52 35.0**	**+0.6**	
	comp=Z,4.0nm,0.7s,baz=324,slow=13,SNR=4.2							
RPSI	**Rantau Prapat**	**29.71**	**280**	P	**P**	**03 53 20.1**	**+0.2**	
RPSI				IAmb	IAmb	03 53 21.4		
	comp=Z,7.9nm,1.1s							
RPSI	**Rantau Prapat**	**29.71**	**280**	P	**P**	**03 53 20.1**	**+0.2**	
PSI	**Prapat**	**29.73**	**281**	P	**P**	**03 53 20.1**	**-0.1**	
	comp=Z,2.0nm,0.4s,baz=81,slow=7.0,SNR=4.6							
STKA	**Stephens Creek**	**31.55**	**158**	P	**P**	**03 53 35.0**	**-0.9**	
	comp=Z,2.5nm,0.6s,baz=336,slow=9.6,SNR=10							
STKA				LR	LR	04 07 32.9		
	comp=Z,107nm,19.9s,baz=15,slow=39							
STKA	**Stephens Creek**	**31.55**	**158**	P	**P**	**03 53 35.1**	**-0.9**	
HNR	**Honiara**	**32.29**	**103**	LR	LR	04 06 01.6		
	comp=Z,42nm,21.5s,baz=320,slow=35							
CMAR	**Chiang Mai Arr**	**35.69**	**307**	P	**P**	**03 54 13.2**	**+1.1**	
	comp=Z,1.4nm,0.3s,baz=148,slow=8.6,SNR=3.9							
KSRS	**Korea Array**	**40.08**	**360**	LR	LR	04 10 10.1		
	comp=Z,48nm,19.1s,baz=337,slow=34							
LZH	**Lanzhou**	**44.87**	**332**	*e*P	**P**	**03 55 30.3**	**+2.2**	
LZH				pP	pwP	03 55 41.3	-0.1	
LZH				sP	sP	03 55 47.3	+5.1	
LZH				PP	**PP**	**03 57 13.5**	**0.0**	
LZH				pmax	pmax			
	comp=Z,18nm,1.2s							
SHL	**Shillong**	**45.05**	**311**	P	**P**	**03 55 30.2**	**+0.5**	
SHL				IAmb	IAmb	03 55 32.6		
	comp=Z,5.8nm,0.8s							
HHC	**Hu-ho-hao-te**	**46.03**	**343**	P	**P**	**03 55 39.3**	**+2.2**	
HHC				pmax	pmax			
	comp=Z,5.0nm,0.7s							
HHC				AMB	AMB			
	comp=Z,8.0nm,5.7s							
GTA	**Gaotai**	**49.45**	**331**	*e*P	P	03 56 16.4	+13	
GTA				pP	sP	03 56 20.1	+2.4	
GTA				sP	pwP	03 56 23.0	+5.8	
GTA				pmax	pmax			
	comp=Z,4.0nm,0.7s							
ULN	**Ulaanbaatar**	**53.75**	**343**	P	**P**	**03 56 35.1**	**-0.6**	
ULN				IAmb	IAmb	03 56 36.1		
	comp=Z,2.6nm,0.8s							
SONM	**Songino Array**	**53.92**	**342**	P	**P**	**03 56 36.7**	**-0.2**	
	comp=Z,0.8nm,0.8s,baz=145,slow=3.6,SNR=4.6							
WMQ	**Urumqi**	**58.91**	**327**	*e*P	**P**	**03 57 13.6**	**+1.1**	
WMQ				pmax	pmax			
	comp=Z,10.0nm,0.8s							
WMQ				pmax	pmax			
	comp=Z,110nm,5.7s							
WMQ				LR	LR			
	comp=N,140nm,29.0s							
WMQ				LR	LR			
	comp=E,930nm,28.8s							
WMQ				LR	LR			
	comp=Z,120nm,21.9s							
KSH	**Kashi**	**63.71**	**317**	P	**P**	**03 57 48.4**	**+3.3**	
KSH				PP	**PP**	**04 00 11.8**	**+6.1**	
KSH				PcS		04 02 25.8		
KSH				S	**S**	**04 06 19.4**	**+2.1**	
KSH				sS	sS	04 06 41.8	+6.1	
KSH				pmax	pmax			
	comp=Z,460nm,6.1s							
KSH				LR	LR			
	comp=N,290nm,8.0s							
KSH				LR	LR			
	comp=E,530nm,7.8s							
MKAR	**Makanchi Array**	**63.74**	**327**	P	**P**	**03 57 45.2**	**+0.1**	
	comp=E,0.8nm,0.6s,baz=118,slow=8.5,SNR=6.9							
GAR	**Garm**	**67.43**	**314**	P	**P**	**03 58 08.8**	**-0.3**	
KURK	**Kurchatov**	**68.01**	**329**	P	**P**	**03 58 12.3**	**-0.1**	
CHGR	**Chuyangaron**	**68.12**	**314**	P	**P**	**03 58 13.4**	**-0.2**	
KK31	**Karatay Array**	**69.00**	**319**	P	**P**	**03 58 18.6**	**-0.2**	
KKAR	**Karatay Array**	**69.00**	**319**	P	**P**	**03 58 18.5**	**-0.3**	
BRVK	**Borovoye**	**73.64**	**328**	P	**P**	**03 58 46.2**	**-0.4**	
TIXI	**Tiksi**	**74.34**	**0**	P	**P**	**03 58 50.6**	**+0.3**	
TIXI				IAmb	IAmb	03 58 51.2		
	comp=Z,3.0nm,0.7s							
VNDA	**Vanda**	**76.79**	**173**	P	**P**	**03 59 02.6**	**-1.7**	
	comp=Z,2.2nm,0.9s,baz=299,slow=5.8,SNR=6.8							
VNDA	**Vanda**	**76.79**	**173**	P	**P**	**03 59 03.5**	**-0.8**	
VNDA				IAmb	IAmb	03 59 03.5		
	comp=Z,2.2nm,0.9s							
ABKAR	**Akbulak array**	**78.11**	**322**	P	**P**	**03 59 10.8**	**-1.3**	
ABKAR				IAmb	IAmb	03 59 12.5		
	comp=Z,1.7nm,0.7s							
QSPA	**South Pole Qui**	**87.12**	**180**	P	**P**	**03 59 57.6**	**-1.4**	
ILAR	**Eielson Array**	**90.39**	**25**	P	**P**	**04 00 13.7**	**-0.6**	
	comp=Z,0.4nm,0.7s,baz=236,slow=5.0,SNR=8.5							
TORD	**Torodi Ar. Bea**	**126.08**	**284**	PKP	**PKPdf**	**04 06 16.2**	**-0.1**	
	comp=Z,0.7nm,0.7s,baz=89,slow=2.4,SNR=4.0							
PLCA	**Paso Flores**	**133.41**	**160**	PKP	**PKPdf**	**04 06 29.5**	**-0.2**	
	comp=Z,1.2nm,0.7s,baz=132,slow=3.8,SNR=4.1							
CPUP	**Villa Florida**	**150.53**	**170**	PKPbc	**PKPbc**	**04 07 05.8**	**+0.2**	
	comp=Z,3.5nm,0.8s,baz=184,slow=3.6,SNR=9.8							
CPUP	**Villa Florida**	**150.53**	**170**		**PKiKP**	**04 07 06.0**	**-0.3**	

*ISCJB **15** 03:57:33.0±0.6,36.63N±0.03×15.18E±0.03,h15km±4km, mb3.7/7,Error ellipse: s-maj=5.1km s-min=3.8km az=12.1*

*IDC **15** 03:57:33.1±1.1,36.66N×15.14E,h0km,mb3.7/7, mb1 3.7/12,mb1mx3.6/39,mbtmp3.6/12,ML3.3/5,Error ellipse: s-maj=18.8km s-min=11.6km az=41.0*

*NEIC **15** 03:57:33.5±1.4,36.66N±0.09×15.04E±0.06,h10km±8km*

*MED_RC **15** 03:57:33.0±1.2,36.67N×14.94E,h18km±3km, MW4.1/9, Moment Tensor Solution.Mantle waves: s9,c9; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}1.20±.50; $M_{\theta\theta}$-0.90±.35; $M_{\phi\phi}$-0.30±.30; $M_{r\theta}$0.27±.40; $M_{r\phi}$-1.24±.22; $M_{\theta\phi}$-1.08±.52; Best double couple: $M_0$1.99000×10^{15} NP1:ϕs200.00000°,δ63.00000°,λ49.00000°. NP2: ϕs83.00000°,δ47.00000°,λ143.00000°. Principal axes: T 2.0200, Plg53.0000°, Azm61.0000°; N -0.0700, Plg36.0000°, Azm221.0000°; P -1.9500, Plg9.0000°, Azm318.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*ROM **15** 03:57:34.0±0.3,36.67N±0.02×15.03E±0.02,h10km±1km, ML4.1/9,Mw3.9 Error ellipse: s-maj=2.0km s-min=1.5km az=139.0,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}7.55; $M_{\theta\theta}$-2.35; $M_{\phi\phi}$-5.20; $M_{r\theta}$1.56; $M_{\theta\phi}$-3.87; $M_{r\phi}$2.59; Fault plane solution: $M_0$8.29985×10^{14} NP1:ϕs216.00000°,δ34.00000°,λ92.00000°. NP2: ϕs33.00000°,δ56.00000°,λ88.00000°.*

*THE **15** 03:57:37.8,36.84N×15.51E,h0km±12km,ML4.0/4 Error ellipse: s-maj=18.7km s-min=1.3km az=233.0*

ISC 15 03:57:34.4±0.8,36.69N±0.03×15.04E±0.03,h14km±5km, n107,σ1s81/129,mb3.8/7,13C-6D,Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HPAC	**Pachino**	**0.05**	**87**	*e*P		**Pg**		**03 57 36.3**	**-0.7**
HPAC				S		**Sg**		**03 57 37.9**	**-0.8**
HAVL	**Avola**	**0.27**	**14**	P		**Pg**		**03 57 40.0**	**-0.1**
HAVL				S		**Sg**		**03 57 44.8**	**+0.7**
HAVL				AML	AML				
	comp=E,21950μm,0.8s								
HAVL				AML	AML				
	comp=N,84000μm,0.4s								
HMDC	**Modica**	**0.34**	**322**	P		**Pg**		**03 57 40.1**	**-1.2**
HMDC				S		**Sg**		**03 57 45.1**	**-0.8**
HMDC				AML	AML				
	comp=E,45150μm,0.5s								
HMDC				AML	AML				
	comp=N,59450μm,1.0s								
HMDC				AML	AML				
	comp=E,45150μm,0.5s								
HMDC				AML	AML				
	comp=N,59450μm,1.0s								
MEU	**Monte Lauro**	**0.42**	**347**	P		**Pg**		**03 57 42.2**	**-0.5**
MEU				S		**Sb**		**03 57 50.0**	**+0.1**
MEU				AML	AML				
	comp=E,29550μm,0.7s								
MEU				AML	AML				
	comp=N,51050μm,0.4s								
MEU				AML	AML				
	comp=E,29500μm,0.7s								
MEU				AML	AML				
	comp=N,51050μm,0.4s								
SSY	**Sortino**	**0.46**	**3**	P		**Pg**		**03 57 43.5**	**0.0**
SSY				S		**Sb**		**03 57 52.1**	**+1.0**
HVZN	**Vizzini**	**0.55**	**331**	P		**Pg**		**03 57 44.4**	**-0.9**
HVZN				S		**Sg**		**03 57 53.0**	**+0.4**
HVZN				AML	AML				
	comp=N,94750μm,0.9s								
HVZN				AML	AML				
	comp=E,75900μm,0.7s								
HVZN				AML	AML				
	comp=E,75900μm,0.7s								
AGST	**Augusta-Monte**	**0.58**	**15**	P		**Pg**		**03 57 45.7**	**-0.1**
AGST				S		**Sb**		**03 57 54.9**	**+0.4**
AGST				AML	AML				
	comp=N,21700μm,0.5s								
AGST				AML	AML				
	comp=E,20600μm,0.8s								
AGST				AML	AML				
	comp=E,20600μm,0.8s								
AGST				AML	AML				
	comp=N,21700μm,0.5s								
HAGA	**Augusta**	**0.60**	**9**	P		**Pg**		**03 57 45.8**	**-0.3**
HAGA				S		**Sb**		**03 57 55.3**	**+0.3**
HAGA				AML	AML				
	comp=E,36950μm,0.3s								
HAGA				AML	AML				
	comp=N,23500μm,0.3s								
HAGA				AML	AML				
	comp=E,36950μm,0.3s								
HBSP	**Bosco Santo Pi**	**0.62**	**315**	P		**Pg**		**03 57 45.3**	**-1.2**
HBSP				S		**Sg**		**03 57 54.9**	**+0.2**
HBSP				AML	AML				
	comp=E,22100μm,0.7s								
HBSP				AML	AML				
	comp=N,29150μm,1.4s								
HBSP				AML	AML				
	comp=E,34300μm,1.3s								
HBSP				AML	AML				
	comp=N,29200μm,1.4s								
HBSP				AML	AML				
	comp=N,29200μm,1.4s								
HLNI	**Lentini**	**0.67**	**348**	P		**Pg**		**03 57 46.3**	**-1.1**
HLNI				S		**Sg**		**03 57 56.7**	**+0.5**
HLNI				AML	AML				
	comp=E,10650μm,0.3s								
HLNI				AML	AML				
	comp=N,13200μm,1.2s								
RAFF	**Raffo Rosso**	**0.76**	**314**	P		**Pg**		**03 57 48.5**	**-0.7**
RAFF				AML	AML				
	comp=N,17000μm,1.3s								
RAFF				AML	AML				
	comp=E,16700μm,1.0s								
RAFF	**Raffo Rosso**	**0.76**	**314**			**Pg**		**03 57 48.8**	**-0.3**
ESML	**S. M. di Licod**	**0.93**	**352**	P		**Pg**		**03 57 52.7**	**+0.3**
VAE	**Valguarnera**	**0.93**	**327**	Pn		**Pn**		**03 57 53.3**	**+0.1**
	comp=E,78nm,0.3s,baz=132,slow=14,SNR=94								
VAE				Pg		**Pg**		**03 57 54.8**	**+2.4**
	comp=E,78nm,0.3s,baz=154,slow=8.3,SNR=12								
VAE				Lg		Lg		03 58 06.8	
	comp=E,204nm,0.3s,baz=4.1,slow=14,SNR=24								
WDD	**Wied Dalam**	**0.95**	**206**	P		**Pb**		**03 57 51.9**	**-0.8**
WDD				AML	AML				
	comp=N,2695μm,1.1s								
WDD				AML	AML				
	comp=E,2765μm,0.7s								
WDD	**Wied Dalam**	**0.95**	**206**			**Pb**		**03 57 51.2**	**-1.4**
CLTA	**Licata**	**0.98**	**298**	P		**Pb**		**03 57 52.8**	**-0.5**
CAGR	**Agira**	**1.02**	**335**	P		**Pg**		**03 57 54.3**	**+0.1**
GALF	**Gagliano Caste**	**1.08**	**340**	P		**Pg**		**03 57 55.4**	**+0.1**
RESU	**Resuttano**	**1.24**	**321**	P		**Pg**		**03 57 58.2**	**0.0**
FAVR	**Favara**	**1.24**	**298**	P		**Pb**		**03 57 57.7**	**0.0**
MNO	**Monte Soro**	**1.27**	**347**	P		**Pg**		**03 57 58.9**	**+0.1**
AIO	**Antillo**	**1.28**	**7**	P		**Pb**		**03 57 58.4**	**0.0**
NOV	**Novara**	**1.33**	**3**	P		**Pb**		**03 57 59.4**	**+0.1**
MUCR	**Ucria**	**1.35**	**354**	P		**Pb**		**03 58 00.0**	**+0.4**
PETRA	**Petralia Sopra**	**1.36**	**327**	P		**Pb**		**03 57 59.6**	**-0.1**
MCSR	**Castroreale**	**1.38**	**7**	P		**Pb**		**03 58 00.2**	**+0.2**
MCPD	**Capo d'Orlando**	**1.45**	**350**	P		**Pb**		**03 58 01.1**	**0.0**
MPNC	**Port Mandanici**	**1.47**	**10**	P		**Pn**		**03 58 00.8**	**+0.3**
MPNC				S		**Sg**		**03 58 22.2**	**+0.5**
MPAZ	**Palizzi**	**1.47**	**31**	P		**Pn**		**03 58 00.1**	**-0.5**
ATN	**Antennamare**	**1.50**	**13**	P		**Pn**		**03 58 01.3**	**+0.3**
GIB	**Gibilmanna**	**1.53**	**328**	P		**Pb**		**03 58 02.1**	**-0.4**
SOI	**Samo**	**1.59**	**30**	P		**Pn**		**03 58 02.1**	**-0.1**
GMB	**Gambarie**	**1.60**	**23**	P		**Pn**		**03 58 02.3**	**-0.1**
MSRU	**Castanea**	**1.61**	**13**	P		**Pn**		**03 58 02.8**	**+0.4**
MSRU				S		**Sg**		**03 58 25.6**	**-0.6**
MSCL	**Scilla**	**1.65**	**21**	P		**Pn**		**03 58 02.9**	**-0.1**
VPL	**Vulcano Piano**	**1.68**	**358**	P		**Pn**		**03 58 04.0**	**+0.6**
CLTB	**Caltabellotta**	**1.71**	**302**	P		**Pn**		**03 58 04.1**	**+0.2**
CLTB	**Caltabellotta**	**1.71**	**302**			**Pn**		**03 58 03.1**	**-0.7**
LLI	**Lipari**	**1.75**	**358**	P		**Pb**		**03 58 06.3**	**0.0**
CORL	**Corleone**	**1.83**	**311**	P		**Pn**		**03 58 06.4**	**+0.9**
CORL	**Corleone**	**1.83**	**311**			**Pn**		**03 58 06.1**	**+0.5**
CORL						**Pb**		**03 58 07.8**	**0.0**
SOLUN	**Solunto**	**1.84**	**320**	P		**Pn**		**03 58 06.2**	**+0.6**
TIP	**Timpagrande**	**2.83**	**28**	P		**Pn**		**03 58 19.9**	**+0.6**
TIP	**Timpagrande**	**2.83**	**28**			**Pn**		**03 58 19.8**	**+0.6**
ACER	**Acerenza**	**4.15**	**9**			**Pn**		**03 58 39.0**	**+1.7**
MATE	**Matera**	**4.16**	**18**	⇓P		**Pn**		**03 58 37.5**	**+0.1**
MATE				⇓S		**Sn**		**03 59 21.1**	**-4.7**
MATE				AML	AML			03 59 43.5	
SCTE	**Santa Cesarea**	**4.31**	**38**			**Pn**		**03 58 37.9**	**-1.7**
PAOL	**Paolisi**	**4.35**	**355**	Pn		**Pn**		**03 58 39.9**	**-0.2**
VLS	**Valsamata**	**4.66**	**70**	P		**Pn**		**03 58 43.3**	**-1.0**
VLS				S		**Sn**		**03 59 35.4**	**-2.8**
	comp=E,258nm,0.4s								
KEST	**Kesra**	**4.71**	**260**	Pn		**Pn**		**03 58 45.1**	**0.0**
	comp=E,0.2nm,0.3s,baz=77,slow=8.2,SNR=17								
KEST				Sn		**Sn**		**03 59 37.5**	**-2.1**
	comp=E,0.5nm,0.3s,baz=248,slow=19,SNR=2.6								
KEST	**Kesra**	**4.71**	**260**	Pn		**Pn**		**03 58 44.0**	**-1.1**
FSK	**Fiskardo**	**4.72**	**66**	P		**Pn**		**03 58 44.5**	**-0.7**
FSK				S		**Sn**		**03 59 37.3**	**-2.5**
	comp=E,295nm,0.3s								
KFL	**Anninata**	**4.79**	**71**	P		**Pn**		**03 58 45.3**	**-0.8**
EVGI	**Lefkada island**	**4.85**	**65**	P		**Pn**		**03 58 46.4**	**-0.6**
EVGI				S		**Sn**		**03 59 40.6**	**-2.4**
LKD2	**Lefkada island**	**4.92**	**63**	P		**Pn**		**03 58 47.2**	**-0.7**
LKD2				S		**Sn**		**03 59 42.3**	**-2.3**
	comp=E,308nm,0.3s								
TSLK	**Tsoukalades, L**	**4.93**	**63**	P		**Pn**		**03 58 47.4**	**-0.7**
TSLK				S		**Sn**		**03 59 42.5**	**-2.4**
	comp=E,428nm,0.5s								
SGRT	**San Giovanni R**	**5.08**	**6**			**Pn**		**03 58 50.5**	**+0.2**
INTR	**Introdacqua**	**5.38**	**351**			**Pn**		**03 58 54.2**	**-0.2**
AMT	**Artemida-Makis**	**5.39**	**79**	P		**Pn**		**03 58 54.8**	**+0.4**
DRO	**Drossia**	**5.46**	**75**	P		**Pn**		**03 58 55.8**	**+0.4**
PVO	**Paravola**	**5.49**	**68**	P		**Pn**		**03 58 56.1**	**+0.3**
ITM	**Ithomi**	**5.54**	**83**	P		**Pn**		**03 58 56.8**	**+0.4**
ITM	**Ithomi**	**5.54**	**83**			**Pn**		**03 58 56.8**	**+0.4**
EFP	**Efpalio**	**5.72**	**70**	P		**Pn**		**03 58 58.8**	**-0.1**
AQU	**L'Aquila**	**5.79**	**348**	Pn		**Pn**		**03 58 59.6**	**-0.4**
EVR	**Evrytania**	**5.80**	**65**	P		**Pn**		**03 59 00.8**	**+0.7**
KLV	**Kalavryta, Ach**	**5.82**	**74**	P		**Pn**		**03 59 00.6**	**+0.3**
TIR	**Tirane**	**5.97**	**37**	Pn		**Pn**		**03 59 01.5**	**-0.9**
AGG	**Agios Georgios**	**6.22**	**66**	P		**Pn**		**03 59 06.4**	**+0.6**
AGG	**Agios Georgios**	**6.22**	**66**			**Pn**		**03 59 06.2**	**+0.4**
FNA	**Florina**	**6.42**	**49**			**Pn**		**03 59 08.2**	**-0.3**
PDG	**Podgorica**	**6.59**	**28**	⇓P		**Pn**		**03 59 09.0**	**-1.8**
PDG				⇑S		**Sn**		**04 00 18.9**	**-6.8**
LIT	**Litokhoron**	**6.76**	**58**			**Pn**		**03 59 12.3**	**-1.0**
BLY	**Banja Luka**	**8.21**	**11**	⇓P		**Pn**		**03 59 34.5**	**+1.4**
BLY				⇑S		**Sn**		**04 01 00.4**	**-5.2**
SANT	**Santorini**	**8.39**	**89**	Pn		**Pn**		**03 59 36.6**	**+1.0**
APE	**Apeiranthos**	**8.41**	**84**	⇑P		**Pn**		**03 59 36.9**	**+1.0**
APE				⇑S		**Sn**		**04 01 08.2**	**-2.5**
VTS	**Vitosha**	**8.65**	**44**	⇑P		**Pn**		**03 59 39.6**	**+0.3**
VTS				⇑S		**Sn**		**04 01 09.8**	**-7.0**
VTS	**Vitosha**	**8.65**	**44**			**Pn**		**03 59 37.9**	**-1.4**
BLKB	**Belogradchik**	**9.05**	**38**	⇑S		**Sn**		**04 01 20.1**	**-6.3**
KARP	**Karpathos**	**9.87**	**93**	Pn		**Pn**		**03 59 55.5**	**-0.4**
BZS	**Buzias**	**10.20**	**27**	⇓P		**Pn**		**04 00 00.9**	**+0.6**
BZS				⇑S		Sn		04 01 44.9	-9.4
GZR	**Gura Zlata**	**10.46**	**31**	⇑P		**Pn**		**04 00 04.2**	**+0.2**
GZR				⇑S		**Sn**		**04 01 53.5**	**-7.6**
DAVOX	**Davos/Dischmat**	**10.79**	**341**	Pn		**Pn**		**04 00 11.1**	**+2.5**
	comp=E,0.1nm,0.3s,baz=0.0,slow=19,SNR=2.6								
FETA	**Feichten**	**10.81**	**344**	*e*Pn		Pn		04 00 20.5	+12
	comp=E,10nm,1.5s								
WTTA	**Wattenberg**	**10.86**	**348**	Pn		Pn		04 00 19.4	+10
	comp=E,4.5nm,1.1s								
SQTA	**Sankt Quirin**	**10.90**	**346**	Pn		Pn		04 00 17.8	+7.8
	comp=E,6.9nm,1.2s								
MOTA	**Moosalm**	**11.04**	**346**	Pn		Pn		04 00 19.3	+7.4
	comp=E,8.0nm,1.5s								
MOA	**Molln**	**11.16**	**357**	Pn		**Pn**		**04 00 16.2**	**+2.6**
	comp=E,6.6nm,1.3s								
RETA	**Reutte**	**11.24**	**345**	*e*Pn		**Pn**		**04 00 19.2**	**+4.5**
	comp=E,9.2nm,1.7s								
ARR	**Arges**	**11.29**	**37**	⇓P		**Pn**		**04 00 15.2**	**-0.1**
VOIR		**11.54**	**38**	⇑P		**Pn**		**04 00 18.7**	**0.0**
MLR	**Muntele Rosu**	**12.03**	**40**	Pn		**Pn**		**04 00 27.7**	**+2.2**
	comp=E,0.2nm,0.3s,baz=199,slow=9.2,SNR=5.5								
MLR	**Muntele Rosu**	**12.03**	**40**	⇑P		**Pn**		**04 00 24.0**	**-1.4**
VYHS	**Vyhne**	**12.12**	**12**	*e*PN		**Pn**		**04 00 22.9**	**-3.7**
GERES	**GERESS Array B**	**12.19**	**356**	Pn		**Pn**		**04 00 29.5**	**+2.0**
	comp=E,0.1nm,0.3s,baz=164,slow=11,SNR=2.1								
PLOR	**Plostina**	**12.63**	**40**	⇑P		**Pn**		**04 00 33.9**	**+0.2**
BRTR	**Keskin Array B**	**14.93**	**73**	Pn		**Pn**		**04 01 07.2**	**+2.0**
	comp=E,0.0nm,0.3s,baz=286,slow=16,SNR=2.8								
MMAI	**Mount Meron Ar**	**17.11**	**96**	P		**P**		**04 01 36.6**	**+1.7**
	comp=E,0.6nm,0.3s,baz=279,slow=12,SNR=6.6								
MMAI				S		Sn		04 04 32.1	-11
	comp=E,1.3nm,0.3s,baz=301,slow=25,SNR=6.1								
AKASG	**Malin Array Be**	**17.31**	**32**	P		**P**		**04 01 38.8**	**+1.9**
	comp=E,0.2nm,0.3s,baz=220,slow=10,SNR=7.3								
EKA	**Eskdalemuir Ar**	**22.40**	**332**	P		**P**		**04 02 33.6**	**+1.3**
	comp=E,1.6nm,0.7s,baz=140,slow=11,SNR=2.9								
FINES	**FINESS Array B**	**25.73**	**12**	P		**P**		**04 03 03.4**	**-0.8**
	comp=E,1.9nm,0.8s,baz=186,slow=11,SNR=5.5								
TORD	**Torodi Ar. Bea**	**26.33**	**210**	P		**P**		**04 03 11.6**	**+1.6**
	comp=E,0.5nm,0.9s,baz=12,slow=7.9,SNR=2.9								
ARCES	**ARCESS Array B**	**33.39**	**7**	P		**P**		**04 04 11.4**	**-0.7**
	comp=E,1.8nm,0.8s,baz=173,slow=8.0,SNR=1.9								
MKAR	**Makanchi Array**	**49.77**	**56**	P		**P**		**04 06 27.3**	**+0.9**
	comp=E,0.6nm,0.6s,baz=279,slow=6.4,SNR=6.6								
ZALV	**Zalesovo Beam**	**49.90**	**46**	P		**P**		**04 06 28.0**	**+0.7**
	comp=E,0.4nm,0.3s,baz=243,slow=9.5,SNR=2.8								
SONM	**Songino Array**	**64.73**	**48**	P		**P**		**04 08 13.4**	**+1.1**
	comp=E,0.7nm,0.9s,baz=306,slow=5.2,SNR=4.2								

*IDC **15** 04:21:48.1±41.0,34.90N×71.86E,h0km,mb4.0/2, mb1 3.9/3,mb1mx3.4/32,mbtmp3.9/3,ML2.5/1,Error ellipse: s-maj=742.1km s-min=53.9km az=159.0*

*NNC **15** 04:22:06.9±2.9,36.86N×70.45E,h0km,mb3.7,mpv3.5, Error ellipse: s-maj=31.3km s-min=17.4km az=145.0*

ISC 15 04:22:04.4±2.6,36.6N±0.2×70.7E±0.2,h10km,n6,σ2s06/8, 2C-2D,Hindu Kush region

| Code | Station Name | Δ° | A

LSZ	Lusaka	40.87	105	P		P	04 46 39.9	+0.7
BOSA	Boshof	41.78	126	P		P	04 46 45.9	-0.6
	comp=Z,3.1nm,0.9s,baz=294,slow=5.7,SNR=4.6							
BOSA				LR		LR	05 00 25.8	
	comp=Z,82nm,19.8s,baz=228,slow=31							
BOSA	Boshof	41.78	126	IAmb		IAmb	04 46 46.9	
	comp=Z,4.4nm,1.0s							
MBAR	Mbarara	43.73	84	P		P	04 47 04.2	+1.7
MBAR				IAmb		IAmb	04 47 04.8	
	comp=Z,2.9nm,0.8s							
CPUP	Villa Florida	46.65	240	LR		LR	05 03 49.0	
	comp=Z,47nm,19.6s,baz=107,slow=32							
KEST	Kesra	47.21	25	P		P	04 47 31.5	+1.8
	comp=Z,4.2nm,0.8s,baz=274,slow=3.8,SNR=5.4							
KMBO	Kilima Mbogo	50.09	86	LR		LR	05 07 16.9	
	comp=Z,52nm,18.8s,baz=235,slow=34							
GERES	GERESS Array B	60.15	20	P		P	04 49 03.8	-0.5
	comp=Z,0.7nm,0.8s,baz=270,slow=1.3,SNR=4.2							
ROSC	El Rosal	62.64	279	LR		LR	05 14 42.0	
	comp=Z,67nm,19.4s,baz=62,slow=34							
BRTR	Keskin Array B	63.08	39	P		P	04 49 24.9	+0.6
	comp=Z,1.0nm,0.9s,baz=240,slow=4.4,SNR=3.6							
SNAA	Sanae	64.97	177	P		P	04 49 36.3	+0.2
	comp=Z,1.1nm,1.1s,baz=266,slow=16,SNR=3.0							
SNAA	Sanae	64.97	177	IAmb		IAmb	04 49 51.5	
	comp=Z,2.7nm,1.0s							
ATAH	Atahualpa	65.19	265	LR		LR	05 19 30.5	
	comp=Z,57nm,19.8s,baz=106,slow=37							
AKASG	Malin Array Be	67.81	27	P		P	04 49 54.8	+0.2
	comp=Z,1.8nm,0.6s,baz=226,slow=6.4,SNR=10							
JTS	Las Juntas de	73.99	283	LR		LR	05 24 44.3	
	comp=Z,32nm,18.4s,baz=160,slow=37							
TXAR	Lajitas Array	94.22	299	P		P	04 52 16.7	+0.4
	comp=Z,0.9nm,1.0s,baz=96,slow=5.5,SNR=4.9							
ASAR	Alice Springs	135.38	134	PKP		PKPdf	04 58 15.4	-2.0
	comp=Z,0.3nm,0.8s,baz=232,slow=1.1,SNR=3.2							

ISCJB ***15*** *04:48:35.8±0.5, 58°05S±0.07×24°.0W±0°.2, h10km, mb4.1/10, MS3.3/3, Error ellipse: s-maj=13.0km s-min=8.4km az=148.8*
IDC ***15*** *04:48:36.2±0.6, 58°.02S×23°.94W, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.1/22, mbtmp4.2/12, ML5.0/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/20, Error ellipse: s-maj=19.7km s-min=18.1km az=169.0*
NEIC ***15*** *04:48:39.8±1.2, 58°.1S±0°.1×24°.0W±0°.2, h25km±4km, mb4.4/12*

ISC 15 04:48:37.3±0.5, 58°.18S×0°.08×23°.9W±0°.1, h10km, n39, σ1§56/36, mb4.2/11, MS3.4/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.13	158	P			Pn	04 51 59.9	+2.6
VNA1				S			Sn	04 54 29.8	-4.0
VNA3	Neumayer Olymp	14.38	161	P			Pn	04 52 02.5	+1.9
VNA3				S			Sn	04 54 35.2	-4.6
VNA2	Neumayer--Watz	14.53	158	P			Pn	04 52 04.5	+1.9
	baz=324,slow=12								
VNA2				S			Sn	04 54 37.2	-6.3
	baz=329,slow=23								
SNAA	Sanae	16.05	156	P			Pn	04 52 24.9	+2.2
SNAA				S			Sn	04 55 09.9	-11
SNAA	Sanae	16.05	156	Pn			Pn	04 52 25.0	+2.2
	5.7nm,0.3s,baz=318,slow=14,SNR=104								
SNAA				Sn			Sn	04 55 09.7	-11
	0.4nm,0.3s,baz=337,slow=21,SNR=4.9								
SNAA	Sanae	16.05	156				Pn	04 52 24.8	+2.0
SNAA				IAmb			IAmb	04 52 29.4	
	comp=Z,46nm,1.1s								
PMSA	Palmer Station	19.99	234	P			Pn	04 53 11.6	+0.3
	comp=Z,34nm,0.8s,baz=76,slow=7.0,SNR=22								
PMSA	Palmer Station	19.99	234	P			P	04 53 10.8	+1.3
PMSA				IAmb			IAmb	04 53 13.8	
	comp=Z,26nm,0.8s								
EFI	East Falkland	20.53	274	P			P	04 53 16.2	+0.7
USHA	Ushuaia	24.48	259	P			P	04 53 56.2	0.0
	comp=Z,9.5nm,0.6s,baz=127,slow=10,SNR=7.9								
QSPA	South Pole Qui	32.06	180	P			P	04 55 05.8	+1.8
	comp=Z,0.6nm,0.7s,baz=239,slow=12,SNR=3.0								
PLCA	Paso Flores	34.16	280	P			P	04 55 21.4	-1.1
	comp=Z,2.5nm,0.6s,baz=173,slow=5.4,SNR=10								
PLCA				LR			LR	05 09 41.8	
	comp=Z,68nm,18.0s,baz=142,slow=37								
PLCA	Paso Flores	34.16	280	P			P	04 55 21.2	-1.3
PLCA				IAmb			IAmb	04 55 24.9	
	comp=Z,3.5nm,0.8s								
CPUP	Villa Florida	39.58	309	P			P	04 56 07.5	-1.0
	comp=Z,2.7nm,0.7s,baz=146,slow=6.9,SNR=11								
CPUP	Villa Florida	39.58	309	IAmb			IAmb	04 56 08.3	
	comp=Z,3.8nm,0.8s								
BOSA	Boshof	44.85	70	P			P	04 56 51.4	-0.2
	comp=Z,1.7nm,0.9s,baz=236,slow=15,SNR=2.8								
BDFB	Brasilia	46.14	327	P			P	04 57 01.0	-0.9
	comp=Z,1.7nm,0.7s,baz=142,slow=12,SNR=2.9								
BDFB				LR			LR	05 13 02.6	
	comp=Z,44nm,20.8s,baz=64,slow=32								
BDFB	Brasilia	46.14	327	IAmb			IAmb	04 57 09.7	
	comp=Z,3.7nm,1.0s								
LVC	Limon Verde	47.93	298	LR			LR	05 16 28.5	
	comp=Z,25nm,21.8s,baz=142,slow=35								
LPAZ	La Paz	53.08	303	P			P	04 57 54.9	-0.5
	comp=Z,1.4nm,0.4s,baz=146,slow=5.2,SNR=4.8								
LPAZ	La Paz	53.08	303	IAmb			IAmb	04 57 58.8	
	comp=Z,2.0nm,0.6s								
SAML	Samuel	57.59	312	P			P	04 58 26.4	-0.8
DBIC	Dimbokro	66.44	21	P			P	04 59 26.5	0.0
	comp=Z,1.7nm,0.7s,baz=78,slow=14,SNR=2.7								
TOA0	Torodi Ar. Sit	74.11	26	P			P	05 00 13.7	+0.2
TOA0				IAmb			IAmb	05 00 26.1	
	comp=Z,3.5nm,0.7s								
TORD	Torodi Ar. Bea	74.11	26	P			P	05 00 13.5	0.0
	comp=Z,1.7nm,0.7s,baz=204,slow=5.8,SNR=12								
ASAR	Alice Springs	96.38	160	P			P	05 02 07.0	+0.6
	comp=Z,0.4nm,0.9s,baz=204,slow=2.0,SNR=2.5								
N23A	Red Feather La	119.86	300				PKiKP	05 07 27.8	+0.5
PDAR	Pinedale Array	123.00	299	PKP			PKPdf	05 07 32.6	-0.6
	comp=Z,0.2nm,0.5s,baz=133,slow=6.6,SNR=3.8								
NVAR	Mina Array Bea	123.87	289	PKP			PKiKP	05 07 36.4	+1.1
	comp=Z,0.2nm,0.6s,baz=137,slow=3.1,SNR=2.6								
FINES	FINESS Array B	125.45	27	PKP			PKPdf	05 07 36.7	-0.2
	comp=Z,2.7nm,0.8s,baz=270,slow=1.9,SNR=4.2								
ARCES	ARCESS Array B	132.27	21	PKP			PKPdf	05 07 49.1	-0.7
	comp=Z,4.4nm,0.9s,baz=224,slow=2.5,SNR=4.7								
YKA	Yellowknife Ar	138.97	315	PKP			PKPdf	05 08 02.7	+0.4
	comp=Z,1.2nm,0.7s,baz=128,slow=2.3,SNR=21								
SONM	Songino Array	149.02	88	PKPbc			PKPbc	05 08 24.7	+0.1
	comp=Z,1.2nm,0.7s,baz=230,slow=3.0,SNR=7.4								
SCRK	Sand Creek	151.46	307				PKiKP	05 08 31.2	+0.7
IL31		152.88	308				PKiKP	05 08 33.5	+0.4
ILAR	Eielson Array	152.88	308	PKPbc			PKiKP	05 08 33.4	+0.2
	comp=Z,2.1nm,0.6s,baz=137,slow=3.6,SNR=28								
BPAW	Bear Paw Mtn.	154.48	306				PKPbc	05 08 36.6	+0.1
TOLK	Toolik Lake Re	154.49	316				PKiKP	05 08 36.7	+0.3
MLY	Manley	154.54	308				PKPab	05 08 51.4	-0.1

ISCJB ***15*** *05:08:49.9±0.4, 2°.69S±0°.05×140°.53E±0°.03, h24km, Error ellipse: s-maj=7.6km s-min=4.8km az=173.0*
DJA ***15*** *05:08:49.6±0.8, 2°.5±6°×14°.0E±°, h10km, M3.9/4, MLv3.9/4*
NEIC ***15*** *05:08:53.0±0.8, 2°.64S±0°.09×140°.50E±0°.07, h36km±7km, mb4.4/14*

ISC 15 05:08:51.3±0.6, 2°.51S±0°.08×140°.50E±0°.04, h24km, n25, σ0§97/29, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	Jayapura	0.21	92	P			Pb	05 08 57.1	+0.1
JAY				S			Sb	05 09 01.3	+0.4
GENI	Genyem	0.34	255	P			Pb	05 08 59.1	+0.2
GENI				S			Sb	05 09 05.0	+1.0
SMPI	Sarmi	1.86	286	P			Pn	05 09 20.2	-1.5
WAMI	Wamena	2.25	232	P			Pn	05 09 29.0	+2.0
WAMI				S			Sb	05 09 59.3	+0.6
MANU	Manus Island	6.88	86	Pn			Pn	05 10 31.4	+0.6
MANU				Sn			Sn	05 11 49.9	+1.5
FAKI	Fak Fak	8.25	267	Pn			Pn	05 10 48.8	-0.8
PMG	Port Moresby	9.53	136	Pn			Pn	05 11 05.9	-1.3
COEN	Coen	11.68	167	Pn			Pn	05 11 36.0	-0.6
TNTI	Ternate	13.53	284	Pn			Pn	05 12 03.5	+1.7
MTN	Manton Dam	13.84	222	Pn			Pn	05 12 06.4	+0.3
KNRA	Kununurra	17.46	221				Pn	05 12 53.9	+0.5
KNRA				IAmb			IAmb	05 12 54.1	
	comp=Z,5.7nm,0.8s								
SOEI	Soe	17.66	245	P			P	05 12 56.6	-0.3
SOEI				IAmb			IAmb	05 13 09.3	
	comp=Z,15nm,0.8s								
LUWI	Luwuk	17.78	274	P			Pn	05 12 56.8	-0.6
LUWI				IAmb			IAmb	05 12 59.6	
	comp=Z,20nm,0.4s								
WRAB	Tennant Creek	18.33	199	P			P	05 13 03.0	-1.1
KAPI	Kappang	20.85	263	P			P	05 13 31.8	+0.1
KAPI				IAmb			IAmb	05 13 33.6	
	comp=Z,19nm,1.1s								
FITZ	Fitzroy Crossi	21.27	222	P			P	05 13 35.7	-0.4
FITZ				IAmb			IAmb	05 13 44.8	
	comp=Z,4.2nm,0.8s								
AS31	Alice Springs	21.98	196	P			P	05 13 42.8	-0.9
NNZ	Nelson	48.59	147	P			P	05 17 32.5	-0.4
NNZ				IAmb			IAmb	05 17 37.5	
	comp=Z,35nm,1.2s								
MXZ	Matakaoa Point	49.19	140	P			P	05 17 36.9	-0.7
PPT	Papeete	70.11	108	P			P	05 20 01.9	-0.4
MAKZ	Makanchi	70.93	322	P			P	05 20 07.8	+1.1
SBA	Scott Base	76.57	174	P			P	05 20 37.9	-1.3
SBA				IAmb			IAmb	05 20 38.8	
	comp=Z,17nm,1.2s								
BRLK	Bradley Lake	81.55	28	P			P	05 21 08.2	+1.3
CRQM	Cirque	85.54	29	P			P	05 21 27.6	+0.1
SKAG	Skagway	89.17	31	P			P	05 21 45.4	+0.6

ISCJB ***15*** *05:24:27.7±0.6, 27°.75N±0°.03×106°.11W±0°.05, h10km, Error ellipse: s-maj=6.5km s-min=4.6km az=168.8*
NEIC ***15*** *05:24:29.3±2.0, 27°.72N±0°.04×106°.07W±0°.07, h14km±7km, Md4.3(MEX)*
MEX ***15*** *05:24:32.8±15.0, 27°.70N×105°.70W, h3km, MD4.3*

ISC 15 05:24:27.4±1.0, 27.70N±0°.04×105.96W±0°.05, h10km, n17, σ1§44/24, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HPIG		0.81	161	*i* P			Pn	05 24 46.5	+1.5
	baz=55,slow=14								
HPIG				*e*S			Sn	05 24 57.0	-0.2
HPIG		0.81	161				Pn	05 24 46.8	+1.8
HPIG				Sg			Sn	05 24 57.3	+0.2
HPIG		0.81	161				Pn	05 24 46.5	+1.5
HPIG							Sn	05 24 57.0	-0.2
TX31	Lajitas Ar. Si	2.59	51				Pb	05 25 11.9	-2.1
TX31				Sn			Sb	05 25 45.7	-0.4
TX32	Lajitas Array	2.59	51				Pn	05 25 10.9	+1.4
TX32				Sn			Sb	05 25 45.3	-0.8
CGIG		3.19	327	*e*P			Pb	05 25 22.8	-1.4
CGIG				*i* S			Sb	05 26 02.8	-0.4
CGIG		3.19	327				Pb	05 25 22.8	-1.4
CGIG							Sb	05 26 02.8	-0.4
MNTX	Cornudas Mount	4.02	7				Pn	05 25 31.7	+2.2
HSIG		4.58	288	Pn			Pn	05 25 37.7	+0.9
319A	Douglas	4.67	323	Pn			Pn	05 25 39.9	+1.8
GDL2	Guadalupe Moun	4.70	17	Pn			Pn	05 25 39.7	+1.3
GDL2				Sn			Sn	05 26 33.8	+0.7
121A	Cookes Peak, D	5.07	342	Pn			Pn	05 25 46.1	+2.5
SRIG	Santa Rosalia	5.59	268	Pn			Pn	05 25 50.4	-0.2
CPRX	Cap Rock	5.61	18	Pn			Pn	05 25 52.4	+1.3
JCT	Junction City	6.06	61	Pn			Pn	05 25 59.3	+2.1
Y12C	Blythe	9.52	311				Pn	05 26 53.2	+8.7
GSC	Goldstone, Bar	11.95	312				Pn	05 27 17.5	-0.4

IDC ***15*** *05:30:12.8±1.7, 34°.75N×24°.76E, h0km, mb3.6/2, mb1 3.4/5, mb1mx3.2/37, mbtmp3.3/5, ML3.8/2, Error ellipse: s-maj=45.8km s-min=26.1km az=134.0*
ISCJB ***15*** *05:30:17.9±0.7, 34°.72N±0°.06×24°.48E±0°.03, h39km±6km, mb3.3/2, Error ellipse: s-maj=9.4km s-min=4.2km az=179.1*
ISK ***15*** *05:30:17.7, 34°.79N×24°.51E, h26km, ML3.2/15*
ATH ***15*** *05:30:18.1, 34°.82N×24°.43E, h37km±1km, ML3.1/9, Error ellipse: s-maj=2.1km s-min=0.9km az=178.0*
THE ***15*** *05:30:19.4, 34°.82N×24°.45E, h14km, ML3.3/6, Error ellipse: s-maj=1.0km s-min=0.4km az=173.0*

ISC 15 05:30:18.2±0.9, 34°.82N±0°.05×24°.53E±0°.03, h27km±9km, n90, σ1§51/110, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIVA	Sivas	0.30	49	P			Pn	05 30 26.6	-0.2
SIVA				S			Sn	05 30 32.5	+0.1
	21μm,0.3s								
SIVA	Sivas	0.30	49	P			Pn	05 30 26.8	0.0
SIVA				S			Sn	05 30 33.8	+1.4
SIVA				AML			AML	05 30 35.7	
	comp=E,47801μm,0.4s								
SIVA				AML			AML	05 30 36.7	
	comp=N,36876μm,0.2s								
TMBK	Timbaki Herakl	0.32	37	P			Pn	05 30 26.9	-0.1
TMBK				S			Sn	05 30 32.5	-0.3
	comp=N,8μm,0.4s								
GVDS	Gavdos	0.36	274	P			Pb	05 30 26.3	-0.1
GVDS				S			Sb	05 30 31.2	-0.8
	comp=N,7μm,0.4s								
GVDS	Gavdos	0.36	274	PG			Pb	05 30 26.4	0.0
GVDS				SG			Sb	05 30 33.1	+1.1
GVD	Gavdhos	0.37	273	P			Pb	05 30 26.1	-0.4
GVD				S			Sb	05 30 30.4	-1.6
	comp=N,8μm,0.3s								
GVD	Gavdhos	0.37	273	P			Pb	05 30 26.1	-0.4
GVD				S			Sb	05 30 32.2	+0.1
GVD				AML			AML	05 30 33.7	
	comp=N,14098μm,0.4s								
GVD				AML			AML	05 30 36.2	
	comp=E,18016μm,0.3s								
GVD	Gavdhos	0.37	273	PG			Pb	05 30 26.0	-0.4
IDI	Anoyia	0.55	32	P			Pn	05 30 30.5	+0.1
IDI				S			Sn	05 30 40.0	+1.3
IDI				AML			AML	05 30 41.6	
	comp=E,2060μm,0.2s								
IDI				AML			AML	05 30 44.7	
	comp=N,2091μm,0.4s								
IDI	Anoyia	0.55	32	PG			Pn	05 30 30.3	-0.1
IDI				SG			Sn	05 30 39.2	+0.5
VAM	Vamos	0.65	335	P			Pb	05 30 31.1	+0.1
VAM	Vamos	0.65	335	P			Pb	05 30 31.1	+0.1
VAM				AML			AML	05 30 46.0	
	comp=E,2909μm,0.6s								
VAM				AML			AML	05 30 48.0	
	comp=N,2294μm,0.3s								
KSTL	Kastelli Herak	0.65	42	P			Pn	05 30 34.8	+3.1
KSTL				S			Sn	05 30 46.9	+5.8
IACM	Heraklion	0.66	42	P			Pn	05 30 32.6	+0.9
IACM				AML			AML	05 30 48.8	
	comp=N,8112μm,0.5s								
IACM				AML			AML	05 30 51.8	
	comp=E,12094μm,0.5s								
HRKL	Herakleio	0.68	43	PG			Pn	05 30 32.7	+0.7
HRKL				SG			Sn	05 30 42.8	+1.1
IMMV	Iera Moni Meta	0.78	325	P			Pb	05 30 33.5	+0.2
IMMV				S			Sb	05 30 45.1	+0.8
	comp=E,2μm,0.6s								
IMMV	Iera Moni Meta	0.78	325	P			Pb	05 30 32.9	-0.4
IMMV				S			Sb	05 30 43.5	-0.1
IMMV				AML			AML	05 30 51.4	
	comp=N,3427μm,0.5s								
IMMV				AML			AML	05 30 53.3	
	comp=E,4901μm,0.4s								
IMMV	Iera Moni Meta	0.78	325	PG			Pb	05 30 33.5	+0.2
IMMV				SG			Sn	05 30 44.9	+0.6
CHAN	Chania	0.81	330	P			Pn	05 30 34.3	+0.5
KNDR	Palaiochora Ch	0.81	301	P			Pb	05 30 34.2	+0.5
KNDR				S			Sn	05 30 46.2	+1.3
	comp=E,455nm,0.8s								
KNDR	Palaiochora Ch	0.81	301	PG			Pb	05 30 34.1	+0.4
LAST	Lasithi	0.85	66	P			Pn	05 30 35.5	+1.1
LAST	Lasithi	0.85	66	P			Pn	05 30 35.6	+1.2
LAST				AML			AML	05 30 52.6	
	comp=N,1327μm,0.7s								
LAST				AML			AML	05 30 54.5	
	comp=E,1344μm,0.8s								
NPS	Neapolis	0.99	63	P			Pn	05 30 38.4	+2.0
NPS	Neapolis	0.99	63	P			Pn	05 30 38.3	+2.0
NPS				S			Sn	05 30 53.0	+3.6
NPS				AML			AML	05 30 54.4	
	comp=N,739μm,0.5s								
NPS				AML			AML	05 30 57.6	
	comp=E,1008μm,0.4s								
FRMA	Ierapetra Chan	1.01	79	P			Pn	05 30 40.0	+3.5
ZKR	Zakros	1.41	77	P			Pb	05 30 44.9	+0.9
ZKR	Zakros	1.41	77	P			Pb	05 30 44.4	+0.5
ZKR	Zakros	1.41	77	PN			Pb	05 30 43.4	-0.6
ANKY	Antikythira Is	1.45	316	P			Pn	05 30 44.0	+1.3
ANKY	Antikythira Is	1.45	316	P			Pn	05 30 42.5	-0.2
ANKY				AML			AML	05 31 13.0	
	comp=N,566μm,0.7s								
ANKY				AML			AML	05 31 15.7	
	comp=E,614μm,0.6s								
THR6	Thira Island,	1.69	24	P			Pb	05 30 48.0	-0.6
SANT	Santorini	1.72	26	P			Pb	05 30 48.0	-1.2
SANT	Santorini	1.72	26	P			Pb	05 30 48.0	-1.2
SANT	Santorini	1.72	26	PN			Pn	05 30 47.5	+1.1
THR5	Thira Island,	1.73	22	P			Pb	05 30 48.3	-1.0
THR3	Thira Island,	1.74	24	P			Pb	05 30 48.3	-1.1
THR8	Santorini-Mono	1.76	26	P			Pb	05 30 48.6	-1.3
THT2	Imerovigli	1.77	24	PN			Pn	05 30 47.8	+0.8
ANAF	Anafi Island	1.84	33	P			Pn	05 30 49.5	+1.6
ANAF	Anafi Island	1.84	33	P			Pn	05 30 49.6	+1.6
KTHA	Kythira Island	1.87	321	P			Pn	05 30 49.9	+1.5
KTHA	Kythira Island	1.87	321	P			Pn	05 30 48.5	+0.1
KTHA	Kythira Island	1.87	321	PN			Pn	05 30 48.9	+0.5
MHLO	Agia Marina, M	1.87	357	P			Pn	05 30 49.6	+1.2
MHLO	Agia Marina, M	1.87	357	P			Pn	05 30 49.6	+1.2
KTHR	Kythira	1.90	320	P			Pn	05 30 50.4	+1.5
MHLA	Plaka, Milos I	1.92	357	P			Pn	05 30 50.3	+1.1
IOSP	Ios island	2.00	18	P			Pn	05 30 51.4	+1.2
IOSP	Ios island	2.00	18	P			Pn	05 30 51.4	+1.2
KARP	Karpathos	2.27	71	P			Pb	05 30 56.6	-2.0
KARP	Karpathos	2.27	71	PN			Pn	05 30 55.3	+1.3
AMGA	Amorgos Island	2.29	28	P			Pn	05 30 56.1	+1.9
AMGA	Amorgos Island	2.29	28	P			Pn	05 30 55.7	+1.5
VLI	Veliai	2.30	326	P			Pn	05 30 55.8	+1.5
VLI	Veliai	2.30	326	P			Pn	05 30 54.5	+0.2
SERI	Serifos	2.34	359	P			Pn	05 30 56.1	+1.2
APE	Apeiranthos	2.39	20	P			Pn	05 30 56.9	+1.3
APE	Apeiranthos	2.39	20	PN			Pn	05 30 56.5	+0.9
KOSK	Kos Island	2.77	45	PN			Pn	05 31 02.4	+1.6
KRND	KRANIDI	2.79	337	P			Pn	05 31 02.2	+1.1
DID	Didima	2.88	339	P			Pn	05 31 03.1	+0.8
VLY	Voula,Athens	3.08	349	P			Pn	05 31 06.4	+1.3
DAT	Datca	3.12	52	*i* P			Pn	05 31 08.0	+2.2
DAT	Datca	3.12	52	PN			Pn	05 31 06.9	+1.1
BODT	Bodrum	3.18	44	PN			Pn	05 31 07.8	+1.4
PTL	Penteli	3.27	351	P			Pn	05 31 08.7	+1.0
CHOS	Chios island	3.77	19	PN			Pn	05 31 16.4	+1.9
YER	Yerkesik	3.88	52	PN			Pn	05 31 17.0	+1.7
TURN	Turunc	3.89	57	*i* P			Pn	05 31 13.9	-2.3
TURN	Turunc	3.89	57	PN			Pn	05 31 13.7	-2.5
AYDN	Tasoluk	3.92	43	*i* P			Pn	05 31 19.9	+3.2
FETY	Fethiye	4.12	63	*i* P			Pn	05 31 20.7	+1.3
FETY				*i* S			Sn	05 32 04.8	-2.0
FETY	Fethiye	4.12	63	PN			Pn	05 31 20.8	+1.4
AYDB	Zeytinkoy-Aydi	4.13	40	PN			Pn	05 31 21.6	+2.0
AKAS	Kas	4.37	70	*i* P			Pn	05 31 23.8	+0.9
AKAS				*i* S			Sn	05 32 11.4	-1.6
AKAS	Kas	4.37	70	PN			Pn	05 31 24.1	+1.2
AGG	Agios Georgios	4.55	338	PN			Pn	05 31 26.8	+1.5
GLHS	Gihisar (BURDU	4.65	58	PN			Pn	05 31 28.1	+1.3
GOLH	Golhisar	4.74	58	*i* P			Pn	05 31 29.5	+1.6
GOLH				*i* S			Sn	05 32 23.2	+1.2
ELL	Elmali	4.78	65	PN			Pn	05 31 30.2	+1.7
AKUM	Antalya-Kumluc	4.97	71	*i* P			Pn	05 31 32.6	+1.6
AKUM				*i* S			Sn	05 32 25.9	-1.6
KORT	Korkueli	5.20	64	*i* P			Pn	05 31 37.4	+3.0
KHAL	Karahalli	5.34	47	*i* P			Pn	05 31 38.1	+1.9
BRTR	Keskin Array B	8.75	53	Pn			Pn	05 32 22.2	-0.9
	comp=E,0.0nm,0.3s,baz=252,slow=16,SNR=1.0								
VYHS	Vyhne	14.30	344	*e*PN			Pn	05 33 37.3	-1.6
GERES	GERESS Array B	16.15	333	Pn			Pn	05 34 05.4	+2.2
	comp=E,0.1nm,0.3s,baz=148,slow=11,SNR=4.5								
AKASG	Malin Array Be	16.24	11	Pn			Pn	05 34 05.0	+0.8
	comp=E,0.9nm,0.3s,baz=197,slow=9.9,SNR=6.1								
TORD	Torodi Ar. Bea	29.88	229	P			P	05 36 22.0	-1.5
	comp=E,0.2nm,0.5s,baz=27,slow=11,SNR=4.0								
MKAR	Makanchi Array	44.39	56	P			P	05 38 24.7	-1.6
	comp=E,0.8nm,0.8s,baz=269,slow=7.4,SNR=4.1								

NNC ***15*** *05:39:31.9±0.7, 42°.80N×79°.01E, h0km, mb3.2

KOTS	**Kotyrbulak**	**1.49**	**291**	*e*P		**Pb**	**05 39 59.1**	**+0.2**
	6.4nm,0.2s							
KOTS				*e*S		**Sg**	**05 40 18.3**	**-0.6**
	30nm,0.3s							
KOTS	**Kotyrbulak**	**1.49**	**291**	*e*P		**Pb**	**05 39 59.1**	**+0.2**
	baz=89							
KOTS				*e*S		**Sg**	**05 40 18.3**	**-0.6**
	baz=89							
KOTS	**Kotyrbulak**	**1.49**	**291**	P		**Pb**	**05 39 59.1**	**+0.2**
	6.4nm,0.2s							
KOTS				S		**Sg**	**05 40 18.3**	**-0.6**
	30nm,0.3s							
TNSS	**Tian-Shan**	**1.56**	**282**	*e*P		**Pb**	**05 40 00.6**	**+0.5**
	1.8nm,0.2s							
TNSS				*e*S		**Sg**	**05 40 20.9**	**-0.2**
	4.1nm,0.2s							
TNSS	**Tian-Shan**	**1.56**	**282**	*e*P		**Pb**	**05 40 00.6**	**+0.5**
	baz=81							
TNSS				*e*S		**Sg**	**05 40 20.9**	**-0.2**
	baz=81							
DJR	**Jarkent**	**1.70**	**19**	*e*P		**Pb**	**05 40 02.6**	**+0.3**
	1.5nm,0.2s							
DJR				*e*S		**Sg**	**05 40 24.4**	**-1.2**
	27nm,0.2s							
DJR	**Jarkent**	**1.70**	**19**	P		**Pb**	**05 40 02.6**	**+0.3**
	1.5nm,0.2s							
DJR				S		**Sg**	**05 40 24.4**	**-1.2**
	30nm,0.2s							
ARXS	**Arharly**	**1.72**	**330**	*e*P		**Pb**	**05 40 02.9**	**+0.1**
	4.1nm,0.6s							
ARXS				*e*S		**Sg**	**05 40 24.8**	**-1.5**
	10nm,0.4s							
ARXS	**Arharly**	**1.72**	**330**	P		**Pb**	**05 40 02.9**	**+0.1**
	6.3nm,0.4s							
ARXS				S		**Sg**	**05 40 24.8**	**-1.5**
	10nm,0.6s							
IZV	**Izvestkoviy**	**1.80**	**281**	*e*P		**Pb**	**05 40 04.6**	**+0.5**
	4.1nm,0.1s							
IZV				*e*S		**Sb**	**05 40 27.7**	**+0.9**
	8.4nm,0.5s							
IZV	**Izvestkoviy**	**1.80**	**281**	*e*P		**Pb**	**05 40 04.6**	**+0.5**
	baz=80							
IZV				*e*S		**Sb**	**05 40 27.7**	**+0.9**
	baz=80							
IZV	**Izvestkoviy**	**1.80**	**281**	P		**Pb**	**05 40 04.6**	**+0.5**
	3.6nm,0.2s							
IZV				S		**Sb**	**05 40 27.7**	**+0.9**
	9.4nm,0.2s							
CHKK	**Chushkaly**	**1.87**	**308**	*e*P		**Pb**	**05 40 05.5**	**+0.3**
	2.1nm,0.1s							
CHKK				*e*S		**Sb**	**05 40 29.2**	**+0.6**
	21nm,0.3s							
CHKK	**Chushkaly**	**1.87**	**308**	*e*P		**Pb**	**05 40 05.5**	**+0.3**
	baz=8.0							
CHKK				*e*S		**Sb**	**05 40 29.2**	**+0.6**
	baz=8.0							
KTBS	**Karatobe**	**1.98**	**301**	*e*P		**Pb**	**05 40 07.5**	**+0.4**
	16nm,0.5s							
KTBS				*e*S		**Sg**	**05 40 32.7**	**-1.7**
	22nm,0.4s							
KTBS	**Karatobe**	**1.98**	**301**	P		**Pb**	**05 40 07.5**	**+0.4**
	1.8nm,0.2s							
KTBS				S		**Sg**	**05 40 32.7**	**-1.7**
	17nm,0.3s							
ULHL	**Ulahol**	**2.11**	**258**	⇑*i*P		**Pb**	**05 40 09.8**	**+0.3**
	baz=57							
ULHL				⇑*i*S		**Sb**	**05 40 36.4**	**+0.5**
	baz=57							
BOOM	**Boomskoye usch**	**2.29**	**265**	⇑*i*P		**Pb**	**05 40 12.0**	**-0.5**
	baz=64							
BOOM				⇑*i*S		**Sb**	**05 40 39.9**	**-1.0**
	baz=64							
DGS	**Degeres**	**2.44**	**283**	*e*P		**Pb**	**05 40 15.7**	**+0.7**
	2.1nm,0.6s							
DGS				*e*S		**Sg**	**05 40 47.3**	**-2.1**
	8.8nm,0.5s							
DGS	**Degeres**	**2.44**	**283**	Pg		**Pb**	**05 40 15.7**	**+0.7**
	1.9nm,0.6s							
DGS				Lg		Lg	05 40 47.3	
	9.0nm,0.5s							
KAPS	**Kapalarasan**	**2.57**	**5**	*e*P		**Pb**	**05 40 17.2**	**0.0**
	2.8nm,0.3s							
KAPS				*e*S		**Sb**	**05 40 49.6**	**+0.7**
	5.2nm,0.2s							
KAPS	**Kapalarasan**	**2.57**	**5**	Pg		**Pb**	**05 40 17.2**	**0.0**
	1.8nm,0.2s							
KAPS				Lg		Lg	05 40 49.6	
	6.2nm,0.2s							
NRN	**Naryn**	**2.60**	**241**	⇓*i*P		**Pb**	**05 40 16.3**	**-1.5**
	baz=40							
NRN				⇓*i*S		**Sb**	**05 40 49.0**	**-0.9**
	baz=40							
KZA	**Kyzart**	**2.87**	**258**	⇑*e*P		**Pb**	**05 40 20.7**	**-1.8**
	baz=57							
KZA				⇑*i*S		**Sb**	**05 40 56.0**	**-1.9**
	baz=57							

BJI ***15*** *05:42:30.7±0.0,5.°26N×126.°84E,h104km,mb4.6/13, mB5.0/8*
NEIC ***15*** *05:42:33.3±1.5,5.°73N±0.°07×126.°9E±0.°1,h90km±8km, mb4.4/24*
DJA ***15*** *05:42:36.2±0.8,6.°N±5.°×12.°6E±.°,h180km±5km,M4.5/7, mB4.9/6,mb4.7/6,MLv4.6/7,Mw(mB)4.1/6*
MAN ***15*** *05:42:38.5,5.°55N×126.°17E,h84km,MS3.5*
ISCJB ***15*** *05:42:40.5±0.5,5.°89N±0.°04×126.°18E±0.°06,h133km±3km, mb3.9/18,Error ellipse: s-maj=10.7km s-min=5.8km az=174.6*
IDC ***15*** *05:42:42.3±0.8,5.°85N×126.°11E,h128km±6km,mb3.7/15, mb1 3.9/17,mb1mx3.6/44,mbtmp4.1/17,Error ellipse: s-maj=29.8km s-min=9.7km az=71.0*

ISC 15 05:42:40.7±0.8,5.74N±0.05×126.19E±0.07,h118km±6km, n67,σ≥28/70,mb4.2/25,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DDMP	**Don Marcelino,**	**0.60**	**307**	P		**Pn**	**05 42 55.9**	**-3.2**
DDMP				S		**Sn**	**05 43 09.8**	**-3.1**
MATI	**Mati**	**1.20**	**3**	P		**Pn**	**05 43 02.7**	**-1.9**
MATI				S		**Sn**	**05 43 22.4**	**-0.3**
DAV	**Davao City (W)**	**1.46**	**335**	P		**Pn**	**05 43 07.7**	**+0.2**
	120nm,0.3s,baz=262,slow=9.1,SNR=6.7							
DAV				S		**Sn**	**05 43 28.2**	**+0.4**
	213nm,0.3s,baz=269,slow=18,SNR=11							
DAV				LR		LR	05 43 47.5	
	comp=Z,113nm,19.8s,baz=53,slow=49							
DAV	**Davao City (W)**	**1.46**	**335**			**Pn**	**05 43 05.5**	**-2.0**
DAV				Sn		**Sn**	**05 43 27.0**	**-0.9**
KCP	**Kidapawan**	**1.67**	**319**	⇑P		**Pn**	**05 43 10.0**	**-0.1**
KCP				S		**Sn**	**05 43 31.7**	**-0.8**
SKMP	**Bagumbayan, Su**	**1.81**	**295**	P		**Pn**	**05 43 10.5**	**-1.3**
SKMP				S		**Sn**	**05 43 32.1**	**-3.4**
BUKP	**Musuan**	**2.40**	**332**	P		**Pn**	**05 43 18.8**	**-0.5**
BUKP				S		**Sn**	**05 43 49.9**	**+1.1**
CGP	**Cagayan de Oro**	**3.08**	**331**	⇓P		**Pn**	**05 43 30.5**	**+2.4**
CGP				S		**Sn**	**05 44 11.6**	**+7.1**
BUTP	**Butuan**	**3.26**	**350**	P		**Pn**	**05 43 31.1**	**+0.7**
BUTP				S		**Sn**	**05 44 10.9**	**+2.2**
TNTI	**Ternate**	**5.07**	**167**	P		**Pn**	**05 43 54.8**	**+0.1**
	62nm,1.1s,2μm0.3nm							
TNTI	**Ternate**	**5.07**	**167**	Pn		Pn	05 43 46.5	-8.2
KMSI	**Cibinong**	**5.59**	**203**	P		Pn	05 44 11.1	+9.5
MRSI	**Marisa**	**6.74**	**219**	P		**Pn**	**05 44 19.1**	**+2.0**
	184nm,0.7s,2μm1.1nm							
LUWI	**Luwuk**	**7.55**	**207**	P		Pn	05 44 35.4	+7.2
LUWI	**Luwuk**	**7.55**	**207**			Pn	05 44 21.8	-6.5
LUWI						**Sn**	**05 45 57.3**	**+5.0**
SANI	**Sanana**	**7.74**	**182**	P		**Pn**	**05 44 28.7**	**-2.1**
APSI	**Ampana**	**8.02**	**215**	P		Pn	05 44 42.6	+8.1
SIJI	**Sorong**	**8.29**	**142**	P		**Pn**	**05 44 42.2**	**+3.9**
	2.2nm,0.3s,baz=344,slow=18,SNR=3.0							
NLAI	**Namlea**	**8.97**	**174**	P		**Pn**	**05 44 46.5**	**-0.8**
	62nm,0.6s,3μm							
SBUM	**Sibu**	**14.31**	**257**			**Pn**	**05 45 59.9**	**+1.7**
BATI	**Baumata**	**16.04**	**189**	P		**P**	**05 46 22.1**	**+1.2**
	1.6nm,0.3s,baz=297,slow=18,SNR=2.1							
KSM	**Kuching**	**16.41**	**256**	P		**P**	**05 46 26.2**	**+1.3**
MTN	**Manton Dam**	**19.11**	**165**	P		P	05 46 46.5	-8.1
MTN					IAmb	IAmb	05 46 58.2	
	comp=Z,6.0nm,0.3s							
FITZ	**Fitzroy Crossi**	**23.69**	**181**	P		**P**	**05 47 43.5**	**+1.6**
	comp=Z,1.6nm,0.5s,baz=11,slow=9.8,SNR=9.3							
FITZ	**Fitzroy Crossi**	**23.69**	**181**		IAmb	IAmb	05 47 45.6	
	comp=Z,12nm,1.4s							
BKNI	**Bangkinang**	**25.68**	**259**	P		P	05 47 52.8	-7.3

WRA	**Warramunga Arr**	**26.75**	**163**	P		**P**	**05 48 10.5**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=341,slow=10,SNR=14							
NJ2	**Nanjing**	**27.06**	**346**	*e*P		**P**	**05 48 10.8**	**-1.4**
NJ2					pmax	pmax		
	comp=Z,11nm,0.5s							
RPSI	**Rantau Prapat**	**27.36**	**265**	P		**P**	**05 48 15.4**	**+0.2**
PSAC2	**Pilbara Seismi**	**27.83**	**193**	P		**P**	**05 48 13.0**	**-6.2**
PSAC2					IAmb	IAmb	05 48 20.8	
	comp=Z,20nm,1.4s							
CMAR	**Chiang Mai Arr**	**29.43**	**298**	P		**P**	**05 48 34.6**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=103,slow=6.8,SNR=3.6							
ASAR	**Alice Springs**	**30.18**	**166**	P		**P**	**05 48 41.6**	**+1.5**
	comp=Z,1.5nm,0.6s,baz=345,slow=7.4,SNR=18							
XAN	**Xi'an**	**32.39**	**333**	P		**P**	**05 48 56.2**	**-3.3**
XAN					IAmb	IAmb	05 48 56.7	
	comp=Z,4.3nm,0.5s							
SIMRM	**Sittwe**	**35.37**	**297**	P		**P**	**05 49 22.4**	**-2.9**
LZH	**Lanzhou**	**36.51**	**329**	*e*P		**P**	**05 49 36.1**	**+1.0**
LZH					pP	pP	05 49 57.3	-3.4
LZH					sP	pwP	05 50 08.1	+4.9
LZH					PP	**PnPn**	**05 51 06.4**	**+4.7**
LZH					pmax	pmax		
	comp=Z,12nm,1.2s							
LZH					pmax	pmax		
	comp=Z,110nm,5.4s							
LZH					LR	LR		
	comp=Z,220nm,13.0s							
LZH					LR	LR		
	comp=Z,240nm,13.2s							
LZH					LR	LR		
	comp=Z,360nm,16.4s							
HHC	**Hu-ho-hao-te**	**37.33**	**342**	P		**P**	**05 49 40.3**	**-1.6**
HHC					pmax	pmax		
	comp=Z,6.0nm,0.7s							
SHL	**Shillong**	**38.28**	**305**	P		**P**	**05 49 49.6**	**-0.5**
USRK	**Ussuriysk Ar.**	**38.64**	**7**	P		**P**	**05 49 52.7**	**0.0**
	comp=Z,1.2nm,0.6s,baz=195,slow=9.0,SNR=2.6							
STKA	**Stephens Creek**	**40.19**	**160**	P		**P**	**05 50 07.6**	**+1.9**
	comp=Z,1.9nm,0.6s,baz=337,slow=13,SNR=6.3							
STKA	**Stephens Creek**	**40.19**	**160**		IAmb	IAmb	05 50 14.1	
	comp=Z,0.5nm,0.8s							
SONM	**Songjinu Array**	**45.23**	**341**	P		**P**	**05 50 45.6**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=161,slow=9.6,SNR=6.6							
SONM					PcP	**PcP**	**05 52 25.2**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=149,slow=3.3,SNR=4.9							
WMQ	**Urumqi**	**50.78**	**324**	*e*P		**P**	**05 51 28.8**	**-0.3**
MKAR	**Makanchi Array**	**55.61**	**325**	P		**P**	**05 52 03.8**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=122,slow=7.6,SNR=22							
MKAR					PcP	**PcP**	**05 53 02.2**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=124,slow=5.2,SNR=5.4							
KSH	**Kashi**	**56.26**	**314**	P		**P**	**05 52 11.0**	**+1.8**
KSH					PcP	**PcP**	**05 53 04.4**	**-1.1**
KSH					PP	**PP**	**05 54 20.4**	**+4.6**
KSH					S	**S**	**05 59 54.3**	**+4.0**
KSH					ScS	**ScS**	**06 01 45.8**	**-1.5**
KSH					LR	LR		
	comp=Z,590nm,8.6s							
KSH					LR	LR		
	comp=Z,480nm,8.0s							
KSH					LR	LR		
	comp=Z,890nm,7.0s							
NIL	**Nilore**	**56.29**	**307**	P		**P**	**05 52 08.6**	**-0.9**
KDJ	**Kajisay**	**56.50**	**318**	P		**P**	**05 52 09.1**	**-1.9**
KDJ					IAmb	IAmb	05 52 11.4	
	comp=Z,4.4nm,0.7s							
AAK	**Ala-Archa**	**58.52**	**317**	P		**P**	**05 52 22.8**	**-2.3**
AAK					IAmb	IAmb	05 52 26.7	
	comp=Z,2.1nm,1.1s							
ZALV	**Zalesovo Beam**	**58.57**	**333**	P		**P**	**05 52 23.1**	**-1.9**
	comp=Z,1.0nm,0.4s,baz=157,slow=4.7,SNR=4.0							
KURK	**Kurchatov**	**59.77**	**327**	P		**P**	**05 52 31.7**	**-1.6**
KBL	**Kabul**	**59.89**	**307**	P		**P**	**05 52 33.8**	**-0.9**
GAR	**Garm**	**60.18**	**312**	P		**P**	**05 52 35.0**	**-1.6**
KK31	**Karatay Array**	**61.41**	**316**	P		**P**	**05 52 43.6**	**-1.1**
KK31					IAmb	IAmb	05 52 44.5	
	comp=Z,3.0nm,0.8s							
KKAR	**Karatay Array**	**61.41**	**316**	P		**P**	**05 52 43.4**	**-1.2**
KKAR					IAmb	IAmb	05 52 44.4	
	comp=Z,3.0nm,0.8s							
BRVK	**Borovoye**	**65.43**	**327**	P		**P**	**05 53 09.2**	**-1.7**
BRVK					IAmb	IAmb	05 53 10.7	
	comp=Z,3.5nm,0.7s							
NIUE	**Niue**	**67.54**	**113**	P		P	05 53 16.2	-8.7
ABKAR	**Akbulak array**	**70.27**	**320**	P		**P**	**05 53 39.4**	**-1.9**
ABKAR					IAmb	IAmb	05 53 41.0	
	comp=Z,1.9nm,0.6s							
ARU	**Arti**	**72.96**	**327**	P		**P**	**05 53 55.2**	**-2.1**
HON	**Honolulu**	**74.73**	**70**	P		P	05 54 00.8	-7.5
ILAR	**Eielson Array**	**83.53**	**26**	P		**P**	**05 54 55.9**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=247,slow=5.2,SNR=9.0							
MENT	**Mentasta**	**84.97**	**27**	P		P	05 54 57.2	-5.5
VNDA	**Vanda**	**85.48**	**173**	P		**P**	**05 55 06.3**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=354,slow=9.2,SNR=2.3							
BALM	**Baldy**	**85.73**	**29**	P		P	05 55 01.7	-4.9
BRTR	**Keskin Array B**	**88.33**	**310**	P		**P**	**05 55 17.5**	**-2.2**
	comp=Z,0.8nm,1.1s,baz=117,slow=5.0,SNR=3.9							
ARCES	**ARCESS Array B**	**88.39**	**340**	P		**P**	**05 55 18.2**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=83,slow=4.2,SNR=4.5							
FINES	**FINESS Array B**	**89.82**	**332**	P		**P**	**05 55 24.9**	**-1.0**
	comp=Z,2.0nm,0.8s,baz=146,slow=2.7,SNR=6.5							
YKA	**Yellowknife Ar**	**97.90**	**24**	P		Pdif	05 56 03.3	+0.3
	comp=Z,0.3nm,0.8s,baz=298,slow=4.0,SNR=4.2							
TORD	**Torodi Ar. Bea**	**121.77**	**289**	PKP		**PKPdf**	**06 01 21.9**	**0.0**
	comp=Z,1.5nm,0.7s,baz=45,slow=2.0,SNR=8.4							

ISCJB ***15*** *05:45:50.2±0.5,61.°53S±0.°05×155.°4E±0.°3,h10km, mb4.0/8,MS4.0/14,Error ellipse: s-maj=18.2km s-min=7.5km az=171.0*
IDC ***15*** *05:45:50.4±0.9,61.°58S×155.°64E,h0km,mb4.1/9, mb1 4.2/10,mb1mx4.1/23,mbtmp4.1/10,ML4.0/1,MS4.1/13, Ms1 4.1/13,ms1mx4.0/18,Error ellipse: s-maj=36.0km s-min=17.2km az=82.0*
NEIC ***15*** *05:45:51.3±1.8,61.°64S±0.°10×155.°5E±0.°1,h10km±1km, mb4.4/16*
GCMT ***15*** *05:45:57.3±0.3,61.°54S±0.°02×154.°20E±0.°04,h12km, MW4.9/76,Moment Tensor Solution. s10,c11; s76,c103; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.04±.10; Mθθ1.62±.07; Mϕϕ-1.67±.10; Mrθ-1.53±.26; Mrϕ-1.77±.08; Mθϕ0.67±.30; Best double couple: M₀2.85100×10¹⁶ NP1:φs342.00000°,δ71.00000°,λ20.00000°. NP2: φs245.00000°,δ71.00000°,λ160.00000°. Principal axes: T 3.2610, Plg27.0000°, Azm204.0000°; N -0.8240, Plg63.0000°, Azm23.0000°; P -2.4410, Plg0.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 05:45:51.7±0.6,61.64S±0.07×155.4E±0.1,h10km,n54, σ≥59/36,mb4.2/10,MS4.0/14,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNDA	**Vanda**	**16.09**	**175**	Pn		**Pn**	**05 49 36.2**	**-1.3**
	0.5nm,0.3s,baz=352,slow=12,SNR=18							
VNDA					Sn	**Sn**	**05 52 30.4**	**-5.2**
	0.1nm,0.3s,baz=87,slow=18,SNR=2.1							
VNDA					LR	LR	05 55 21.6	
	comp=Z,1μm,18.5s,baz=356,slow=35							
VNDA	**Vanda**	**16.09**	**175**			**Pn**	**05 49 36.9**	**-0.6**
SBA	**Scott Base**	**16.68**	**172**			**Pn**	**05 49 46.8**	**+1.7**
SBA					IAmb	IAmb	05 49 59.3	
	comp=Z,21nm,1.1s							
TAU	**Tasmania Unive**	**19.38**	**342**	P		**P**	**05 50 15.2**	**-2.1**
TAU					IAmb	IAmb	05 50 18.4	
	comp=Z,47nm,1.4s							
CASY	**Casey**	**19.88**	**237**	P		**P**	**05 50 22.8**	**+0.2**
CASY					IAmb	IAmb	05 50 41.4	
	comp=Z,29nm,1.4s							
RPZ	**Rata Peaks**	**20.20**	**34**	P		**P**	**05 50 26.4**	**+0.1**
	comp=Z,4.1nm,0.7s,baz=130,slow=16,SNR=2.4							
RPZ					LR	LR	05 57 07.0	
	comp=Z,997nm,19.3s,baz=182,slow=34							
RPZ	**Rata Peaks**	**20.20**	**34**	P		**P**	**05 50 26.6**	**+0.3**
RPZ					IAmb	IAmb	05 50 41.0	
	comp=Z,34nm,1.4s							
CAN	**Canberra**	**26.66**	**348**	P		**P**	**05 51 30.4**	**-0.1**
CAN					IAmb	IAmb	05 51 46.2	
	comp=Z,18nm,1.5s							
URZ	**Urewera**	**26.99**	**40**	LR		LR	06 00 25.1	
	comp=Z,255nm,21.6s,baz=204,slow=32							
QSPA	**South Pole Qui**	**28.45**	**180**	P		**P**	**05 51 47.1**	**+0.8**
	comp=Z,2.3nm,0.9s,baz=274,slow=0.9,SNR=5.1							
QSPA	**South Pole Qui**	**28.45**	**180**	P		**P**	**05 51 46.6**	**+0.3**
QSPA					IAmb	IAmb	05 52 05.8	
	comp=Z,5.2nm,1.1s							
STKA	**Stephens Creek**	**31.11**	**337**	P		**P**	**05 52 11.5**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=162,slow=16,SNR=3.1							
STKA					LR	LR	06 03 17.7	
	comp=Z,186nm,18.4s,baz=158,slow=34							
STKA	**Stephens Creek**	**31.11**	**337**	P		**P**	**05 52 09.5**	**-0.5**
FORT	**Forrest**	**35.68**	**317**	P		**P**	**05 52 49.4**	**-0.3**
MAW	**Mawson**	**36.54**	**220**	P		**P**	**05 52 59.0**	**+2.2**
	comp=Z,2.8nm,0.9s,baz=90,slow=12,SNR=5.7							
MAW					LR	LR	06 08 01.7	
	comp=Z,687nm,18.4s,baz=85,slow=36							
MAW	**Mawson**	**36.54**	**220**	P		**P**	**05 52 53.9**	**-2.9**
RAO	**Raoul Island**	**36.87**	**41**	LR		LR	06 06 46.5	
	comp=Z,429nm,19.8s,baz=200,slow=34							
H01W1	**Cape Leeuwin H**	**37.32**	**297**	T		T	06 32 21.6	
	baz=148,slow=76,SNR=213							
H01W2	**Cape Leeuwin H**	**37.32**	**297**	T		T	06 32 21.8	
	baz=148,slow=76,SNR=170							
H01W3	**Cape Leeuwin H**	**37.33**	**297**	T		T	06 32 22.8	
	baz=148,slow=76,SNR=217							
NWAO	**Narrogin (SRO)**	**37.73**	**302**	P		**P**	**05 53 07.2**	**-0.1**
DZM	**Mont Dzumac**	**40.27**	**16**	*e*LR		LR	06 04 24.8	
	comp=Z,709nm,25.2s							
DZM	**Mont Dzumac**	**40.27**	**16**	LR		LR	06 06 53.1	
	comp=Z,405nm,18.9s,baz=212,slow=31							
ASAR	**Alice Springs**	**40.72**	**329**	P		**P**	**05 53 32.7**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=165,slow=8.3,SNR=19							
ASAR					LR	LR	06 07 54.9	
	comp=Z,248nm,19.8s,baz=155,slow=32							
AS31	**Alice Springs**	**40.72**	**329**	P		**P**	**05 53 31.4**	**-1.0**
WRA	**Warramunga Arr**	**44.20**	**331**	P		**P**	**05 53 59.3**	**-1.3**
	comp=Z,1.8nm,0.9s,baz=161,slow=6.7,SNR=8.5							
WRA					LR	LR	06 09 58.9	
	comp=Z,236nm,21.2s,baz=115,slow=33							
SNAA	**Sanae**	**46.11**	**189**	P		**P**	**05 54 18.2**	**+2.8**
VNA3	**Neumayer Olymp**	**46.99**	**187**	P		**P**	**05 54 24.9**	**+2.7**
VNA2	**Neumayer--Watz**	**47.17**	**188**	P		**P**	**05 54 26.2**	**+2.6**
	baz=153,slow=8.4							
VNA1	**Neumayer--Stat**	**47.49**	**187**	P		**P**	**05 54 26.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**48.29**	**321**	P		**P**	**05 54 32.5**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=135,slow=5.7,SNR=4.0							
FITZ	**Fitzroy Crossi**	**48.29**	**321**	P		**P**	**05 54 32.9**	**+0.1**
MTN	**Manton Dam**	**51.80**	**329**	P		**P**	**05 54 58.9**	**-0.5**
MTN					IAmb	IAmb	05 55 02.7	
	comp=Z,8.6nm,1.2s							
TBI	**Tubuai**	**53.33**	**70**	*e*LR		LR	06 10 12.9	
	comp=Z,111nm,32.5s							
TBI	**Tubuai**	**53.33**	**70**	*e*T		T	06 52 50.9	
	comp=Z,53nm,0.3s							
PAE	**Paea**	**58.26**	**67**	*e*T		T	06 59 00.1	
	comp=Z,2.3nm,0.4s							
TVO	**Taravao**	**58.29**	**67**	*e*T		T	06 59 03.0	
	comp=Z,2.2nm,0.4s							
PPT2	**Papeete2**	**58.32**	**67**	*e*LR		LR	06 12 59.6	
	comp=Z,158nm,27.0s							
PPT2	**Papeete2**	**58.32**	**67**	*e*T		T	06 59 04.2	
	comp=Z,2.9nm,0.3s							
PPT	**Papeete**	**58.34**	**67**	LR		LR	06 15 08.4	
	comp=Z,65nm,18.1s,baz=214,slow=30							
PLCA	**Paso Flores**	**71.39**	**145**	P		**P**	**05 57 11.8**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=223,slow=19,SNR=2.0							
PLCA					LR	LR	06 23 14.9	
	comp=Z,101nm,18.2s,baz=228,slow=31							
PLCA	**Paso Flores**	**71.39**	**145**	P		**P**	**05 57 12.1**	**+0.5**
PLCA					IAmb	IAmb	05 57 12.9	
	comp=Z,3.7nm,1.4s							
H08S2	**Diego Garcia H**	**79.96**	**273**	T		T	07 25 39.8	
	baz=151,slow=76,SNR=22							
H08S1	**Diego Carcia H**	**79.97**	**273**	T		T	07 25 40.5	
	baz=151,slow=76,SNR=13							
H08S3	**Diego Garcia H**	**79.98**	**273**	T		T	07 25 42.9	
	baz=151,slow=76,SNR=23							
BOSA	**Boshof**	**81.50**	**223**	P		**P**	**05 58 10.3**	**+1.2**
	comp=Z,2.3nm,1.0s,baz=194,slow=12,SNR=2.9							
BOSA	**Boshof**	**81.50**	**223**	P		**P**	**05 58 09.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**91.51**	**308**	LR		LR	06 38 28.1	
	comp=Z,46nm,19.1s,baz=183,slow=34							
MJAR	**Matsshiro Arr**	**98.84**	**346**	LR		LR	06 42 14.9	
	comp=Z,30nm,19.7s,baz=340,slow=34							
ILAR	**Eielson Array**	**133.20**	**30**	PKP		**PKPdf**	**06 05 06.1**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=235,slow=3.2,SNR=2.4							
YKA	**Yellowknife Ar**	**141.09**	**48**	PKP		**PKPdf**	**06 05 19.0**	**-1.4**
	comp=Z,0.1nm,0.7s,baz=219,slow=2.0,SNR=2.5							
AKASG	**Malin Array Be**	**149.03**	**274**	PKPbc		**PKPbc**	**06 05 38.0**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=105,slow=2.4,SNR=3.0							
AKASG	**Malin Array Be**	**149.03**	**274**			**PKPbc**	**06 05 38.0**	**-0.6**
ESDC	**Sonseca Array**	**154.64**

RDJH	**Redoubt Jeurge**	**0.71**	**23**			Pn		06 19 45.7	-0.8
RDJH						Sn		06 20 01.8	-0.8
DFR	**Drift River**	**0.73**	**27**			Pn		06 19 45.7	-1.0
DFR						Sn		06 20 02.1	-0.8
HOM	**Homer**	**0.92**	**108**		Sn	Sn		06 20 05.3	+0.1
CNPM	**China Poot**	**1.16**	**110**		Pn	Pn		06 19 50.0	-0.4
CNPM						Sn		06 20 08.2	-1.0
CNPM						Sn		06 20 08.4	-0.9
BRLK	**Bradley Lake**	**1.27**	**97**			Pn		06 19 50.9	-0.5
BRLK						Pn		06 19 51.2	-0.2
BRLK						Sn		06 20 10.0	-1.2
BRLK					Sn	Sn		06 20 10.3	-0.9
BRSE	**Bradley Lake S**	**1.34**	**98**			Pn		06 19 51.5	-0.7
BRSE						Sn		06 20 11.8	-0.7
CKL	**Chakachamna La**	**1.35**	**22**			Pn		06 19 51.9	-0.5
CAPN	**Captain Cook N**	**1.38**	**52**			Pn		06 19 53.3	+0.8
SPCR	**Spurr Chakacha**	**1.38**	**24**			Pn		06 19 52.0	-0.6
SPWE	**Spurr West**	**1.39**	**16**			Pn		06 19 52.4	-0.4
SPBG	**Spurr Blockage**	**1.41**	**20**			Pn		06 19 52.5	-0.4
SPBG						Sn		06 20 13.9	-0.1
SPCP	**Crater Peak Br**	**1.46**	**24**			Pn		06 19 53.1	-0.4
SPCP						Sn		06 20 14.9	-0.1
SPNN	**North Nagishla**	**1.46**	**13**			Pn		06 19 52.9	-0.8
SPNN						Sn		06 20 14.3	-0.9
SPCG	**Spurr Capps Gl**	**1.51**	**26**			Pn		06 19 53.4	-0.6
CGLM	**Capps Glacier**	**1.52**	**26**			Pn		06 19 53.6	-0.6
KAHC	**Katmai Hardscr**	**1.55**	**214**			Pn		06 19 53.6	-1.0
KAHG	**Katmai Hook Gl**	**1.58**	**203**			Pn		06 19 54.5	-0.3
SVW2	**Sparrevohn**	**1.59**	**318**			Pn		06 19 53.0	-1.9
KARR	**Katmai Rainbow**	**1.61**	**206**			Pn		06 19 54.5	-0.6
SLKM	**Skilak Lake**	**1.67**	**69**			Pn		06 19 55.1	-0.6
SLKM						Sn		06 20 17.1	-1.9
SEW	**Seward**	**1.97**	**84**			Pn		06 19 58.2	-1.0
SEW					Sn	Sn		06 20 23.4	-1.8
SUA	**Susitna One**	**2.00**	**39**			Pn		06 19 59.2	-0.5
SUA						Sn		06 20 25.5	-0.5
SUA						Sn		06 20 25.7	-0.2
RC01	**Rabbit Creek A**	**2.13**	**56**			Pn		06 20 00.1	-1.1
RC01						Pn		06 20 00.2	-1.0
RC01						Sn		06 20 27.3	-1.4
CAHL	**Cahill**	**2.15**	**209**			Pn		06 20 01.2	-0.2
KDAK	**Kodiak Island**	**2.21**	**169**			Pn		06 20 00.6	-1.5
SKT	**Skwentna**	**2.23**	**23**			Pn		06 20 02.1	-0.3
PMR	**Palmer**	**2.66**	**50**			Pn		06 20 05.7	-1.9
PWL	**Port Wells**	**2.66**	**68**			Pn		06 20 05.9	-1.9
OHAK	**Old Harbor**	**2.73**	**179**			Pn		06 20 06.4	-2.3
KNK	**Knik Glacier**	**2.83**	**57**			Pn		06 20 08.0	-1.9
KNK	**Knik Glacier**	**2.83**	**57**			Sn		06 20 42.1	-2.2
GHO	**Glory Hole Cre**	**2.84**	**48**			Pn		06 20 08.2	-2.0
GHO					Sn	Sn		06 20 43.3	-1.5
SML	**Sawmill**	**3.09**	**51**			Pn		06 20 11.6	-1.7
TT01	**Tatalina**	**3.23**	**338**			Pn		06 20 13.5	-1.7
GLI	**Glacier Island**	**3.25**	**71**			Pn		06 20 14.5	-0.8
TTA	**Tatalina**	**3.25**	**338**			Pn		06 20 13.8	-1.7
HIN	**Hinchinbrook I**	**3.46**	**80**			Pn		06 20 17.4	-0.8
FID	**Port Fidalgo**	**3.52**	**74**			Pn		06 20 16.6	-2.3
JPK	**Jack Peak**	**3.53**	**69**			Pn		06 20 18.3	-0.8
WAT1	**Susitna Watana**	**3.71**	**37**			Pn		06 20 20.1	-1.3
WAT6	**Susitna Watana**	**3.79**	**43**			Pn		06 20 20.8	-1.8
WAT2	**Susitna Watana**	**3.80**	**35**			Pn		06 20 21.5	-1.1
KTH	**Kantishna Hill**	**3.80**	**17**			Pn		06 20 22.1	-0.5
KTH						Sn		06 21 05.2	-1.8
TRF	**Thorofare Moun**	**3.81**	**21**			Pn		06 20 21.8	-1.0
EYAK	**Cordova Ski Ar**	**3.84**	**78**			Pn		06 20 21.9	-1.2
RND	**Reindeer**	**4.08**	**30**			Pn		06 20 25.3	-1.1
DHY	**Denali Highway**	**4.25**	**40**			Pn		06 20 27.2	-1.5
DHY						Sn		06 21 16.7	-1.1
BPAW	**Bear Paw Mtn.**	**4.32**	**14**			Pn		06 20 28.5	-0.9
PS12	**TAPS Pump St12**	**4.32**	**66**			Pn		06 20 28.1	-1.4
MCK	**McKinley**	**4.34**	**27**			Pn		06 20 28.9	-0.8
MCK						Sn		06 21 19.3	-0.4
GOAT	**Goat Mountain**	**4.35**	**78**			Pn		06 20 28.7	-1.2
RAGM	**Ragged Mountai**	**4.37**	**80**		Pn	Pn		06 20 29.7	-0.3
GLB	**Gilahina Butte**	**4.93**	**68**			Pn		06 20 37.1	-0.5
VRDI	**Verde Repeater**	**5.05**	**71**			Pn		06 20 38.8	-0.6
NEA	**Nenana**	**5.06**	**21**			Pn		06 20 38.1	-1.1
CRQM	**Cirque**	**5.14**	**76**		Pn	Pn		06 20 40.1	-0.4
WRH	**Wood River Hil**	**5.17**	**26**			Pn		06 20 39.2	-1.5
MLY	**Manley**	**5.25**	**12**		Pn	Pn		06 20 41.6	-0.2
WAX	**Waxell Ridge**	**5.27**	**80**		Pn	Pn		06 20 41.7	-0.5
MCARA	**McCarthy VSAT**	**5.29**	**70**		Pn	Pn		06 20 42.0	-0.3
TGL	**Tana Glacier**	**5.30**	**77**		Pn	Pn		06 20 42.1	-0.4
TGL					Sn	Sn		06 21 41.0	-1.6
CCB	**Clear Creek Bu**	**5.38**	**26**			Pn		06 20 41.9	-1.6
HDA	**Harding Lake**	**5.39**	**31**		Pn	Pn		06 20 42.2	-1.5
PS08	**TAPS Pump Stn8**	**5.53**	**43**			Pn		06 20 43.9	-1.6
RIDG	**Independent Ri**	**5.55**	**43**		Pn	Pn		06 20 44.9	-0.8
MDM	**Murphy Dome**	**5.57**	**23**		Pn	Pn		06 20 44.8	-1.2
TCOL	**CIGO, UAF Yank**	**5.57**	**25**			Pn		06 20 44.6	-1.4
COLA	**College**	**5.57**	**25**			Pn		06 20 44.8	-1.2
IL31		**5.70**	**29**			Pn		06 20 46.4	-1.4
SCRK	**Sand Creek**	**5.99**	**44**			Pn		06 20 50.1	-1.7
CTGM	**Chitina Glacie**	**6.04**	**75**		Pn	Pn		06 20 53.2	+0.7
PRP	**Porcupine Dome**	**6.65**	**29**		Pn	Pn		06 20 59.6	-1.0
PRP					Sn	Sn		06 22 12.3	-2.7
COLD	**Coldfoot**	**7.45**	**10**		Pn	Pn		06 21 09.7	-1.4
EGAK	**Eagle**	**7.46**	**44**		Pn	Pn		06 21 09.9	-1.4

NEIC ***15*** *06:30:18.5±2.1,21.˙68S±0.˙09×177.˙9W±0.˙1, h398km±5km, mb4.4/95*

IDC ***15*** *06:30:19.7±3.0,21.˙68S×178.˙01W, h413km±30km, mb3.8/19, mb1 4.0/21, mb1mx3.9/40, mbtmp4.6/21, Error ellipse: s-maj=15.3km s-min=13.0km az=60.0*

ISC 15 06:30:19.1±0.3,21.˙65S±0.˙07×177.˙82W±0.˙07, h412km, n243,σ1$46/251, mb4.4/60, 26C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.51**	**314**		**P**	**06 31 44.1**	**-2.8**
NIUE	**Niue**	**7.83**	**72**	P	**P**	**06 32 12.6**	**0.0**
NIUE					**S**	**06 33 40.2**	**-5.0**
AFI	**Afiamalu**	**9.61**	**38**		**P**	**06 32 30.0**	**-2.4**
AFI					S	06 34 11.5	-11
DZM	**Mont Dzumac**	**14.62**	**265**	P	**P**	**06 33 27.2**	**-0.1**
	0.8nm,0.3s,baz=82,slow=19,SNR=9.5						
DZM	**Mont Dzumac**	**14.62**	**265**	P	**P**	**06 33 27.4**	**+0.1**
URZ	**Urewera**	**17.12**	**194**	P	**P**	**06 33 51.6**	**-2.1**
	1.2nm,0.3s,baz=260,slow=2.9,SNR=7.9						
URZ	**Urewera**	**17.12**	**194**	P	**P**	**06 33 51.6**	**-2.1**
URZ					**S**	**06 36 50.6**	**-0.7**
HIZ	**Hauiti**	**17.95**	**199**	P	**P**	**06 34 04.1**	**+1.6**
HIZ				IAmb	IAmb	06 34 18.4	
	comp=Z,28nm,1.3s						
QRZ	**Quartz Range**	**20.79**	**201**	P	**P**	**06 34 28.5**	**-1.4**
QRZ				IAmb	IAmb	06 34 39.5	
	comp=Z,32nm,1.5s						
RPZ	**Rata Peaks**	**23.87**	**200**	P	**P**	**06 34 56.2**	**-1.5**
	comp=Z,3.7nm,0.6s,baz=0,slow=19,SNR=2.8						
RPZ	**Rata Peaks**	**23.87**	**200**	IAmb	IAmb	06 35 10.5	
	comp=Z,20nm,1.2s						
CAN	**Canberra**	**32.02**	**238**	P	**P**	**06 36 09.2**	**-0.5**
CTA	**Charters Tower**	**33.56**	**266**	P	**P**	**06 36 22.2**	**-0.8**
	comp=Z,7.9nm,0.6s,baz=93,slow=12,SNR=10						
PMG	**Port Moresby**	**35.78**	**284**	P	**P**	**06 36 40.4**	**-1.3**
	comp=Z,13nm,0.7s,baz=73,slow=8.3,SNR=4.9						
PMG	**Port Moresby**	**35.78**	**284**	P	**P**	**06 36 41.5**	**-0.3**
PMG				IAmb	IAmb	06 36 41.5	
	comp=Z,14nm,0.7s						
STKA	**Stephens Creek**	**37.45**	**246**	P	**P**	**06 36 54.6**	**-0.8**
	comp=Z,15nm,0.7s,baz=90,slow=10.0,SNR=41						
STKA	**Stephens Creek**	**37.45**	**246**	P	**P**	**06 36 55.2**	**-0.3**
COEN	**Coen**	**37.84**	**275**	P	**P**	**06 36 58.6**	**-0.2**
BBOO	**Buckleboo**	**42.20**	**245**	P	**P**	**06 37 32.7**	**-1.3**
AS31	**Alice Springs**	**44.43**	**258**	P	**P**	**06 37 50.9**	**-0.8**
ASAR	**Alice Springs**	**44.43**	**258**	P	**P**	**06 37 50.6**	**-1.1**
	comp=Z,15nm,0.7s,baz=98,slow=7.9,SNR=186						
ASAR				PcP	**PcP**	**06 39 26.6**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=113,slow=3.7,SNR=4.8						
WR0	**Warramunga Arr**	**44.43**	**263**	P	**P**	**06 37 50.2**	**-1.5**
WRA	**Warramunga Arr**	**44.62**	**263**	P	**P**	**06 37 51.5**	**-1.7**
	comp=Z,9.6nm,0.8s,baz=97,slow=7.9,SNR=71						
KNRA	**Kununurra**	**50.76**	**267**	P	**P**	**06 38 39.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**53.05**	**263**	P	**P**	**06 38 55.8**	**-0.5**
	comp=Z,6.6nm,0.9s,baz=91,slow=12,SNR=9.2						
FITZ	**Fitzroy Crossi**	**53.05**	**263**	P	**P**	**06 38 56.0**	**-0.3**
FITZ				IAmb	IAmb	06 38 57.1	
	comp=Z,22nm,1.4s						
SOEI	**Soe**	**56.71**	**272**	P	**P**	**06 39 23.6**	**+1.2**
SBA	**Scott Base**	**56.74**	**184**	P	**P**	**06 39 24.3**	**+2.9**
VNDA	**Vanda**	**56.78**	**185**	P	**P**	**06 39 23.1**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=13,slow=7.5,SNR=5.8						
VNDA	**Vanda**	**56.78**	**185**	P	**P**	**06 39 23.9**	**+2.1**
PSA00	**Pilbara Seismi**	**57.58**	**258**	P	**P**	**06 39 27.2**	**-1.0**
PSA00				IAmb	IAmb	06 39 27.6	
	comp=Z,23nm,0.9s						
MORW	**Morawa**	**59.56**	**248**	P	**P**	**06 39 40.9**	**-0.7**
MORW				IAmb	IAmb	06 39 41.4	
	comp=Z,10nm,0.8s						
QSPA	**South Pole Qui**	**68.42**	**180**	P	**P**	**06 40 39.0**	**+1.1**
	comp=Z,7.5nm,0.9s,baz=31,slow=0.8,SNR=32						
QSPA	**South Pole Qui**	**68.42**	**180**	P	**P**	**06 40 39.1**	**+1.1**
QSPA				IAmb	IAmb	06 40 40.4	
	comp=Z,10.0nm,1.1s						
MJAR	**Matsushiro Arr**	**71.23**	**324**	P	**P**	**06 40 55.0**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=144,slow=5.6,SNR=11						
PETK	**Petropavlovsk-**	**77.42**	**345**	P	**P**	**06 41 30.4**	**+0.4**
	comp=Z,7.1nm,0.8s,baz=133,slow=8.1,SNR=4.3						
KSRS	**Korea Array**	**77.86**	**319**	P	**P**	**06 41 34.3**	**+1.6**
	comp=Z,2.0nm,0.7s,baz=130,slow=6.8,SNR=5.8						
HOPS	**Hopland Field**	**79.13**	**40**	P	**P**	**06 41 41.6**	**+2.1**
KMRM	**Mail Ridge**	**79.53**	**39**	P	**P**	**06 41 45.0**	**+3.2**
VES	**Vestal, Richgr**	**79.72**	**45**	P	**P**	**06 41 44.5**	**+1.7**
	baz=234						
JCC	**Jacoby Creek,**	**79.73**	**38**	P	**P**	**06 41 45.8**	**+3.1**
BFSC	**Mount Baldy Ra**	**79.74**	**47**	P	**P**	**06 41 44.9**	**+1.9**
	baz=235						
MONP2	**Monument Peak**	**79.84**	**49**	P	**P**	**06 41 45.9**	**+2.2**
	baz=236						
EDW2	**Edwards Air Fo**	**79.89**	**46**	P	**P**	**06 41 45.8**	**+2.1**
	baz=235						
KHMM	**Horse Mountain**	**79.94**	**39**	P	**P**	**06 41 47.0**	**+3.1**
KHMM				IAmb	IAmb	06 41 47.2	
	comp=Z,9.7nm,0.8s						
ISA	**Isabella, Lake**	**80.02**	**45**	P	**P**	**06 41 46.6**	**+2.2**
	baz=234						
O02D	**Mt. Diablo Mer**	**80.05**	**40**	P	**P**	**06 41 47.2**	**+2.8**
	baz=231,SNR=5.0						
CMB	**Columbia Colle**	**80.19**	**42**	P	**P**	**06 41 47.5**	**+2.2**
KRMB	**Red Mountain**	**80.26**	**38**	P	**P**	**06 41 48.3**	**+2.7**
AFDM	**Forest Hills D**	**80.38**	**41**	P	**P**	**06 41 48.1**	**+1.9**
ORV	**Oroville**	**80.43**	**41**	P	**P**	**06 41 47.8**	**+1.3**
ORV				IAmb	IAmb	06 41 48.9	
	comp=Z,4.4nm,0.9s						
WDC	**Whiskeytown Da**	**80.45**	**39**	P	**P**	**06 41 48.4**	**+1.9**
WDC				IAmb	IAmb	06 41 49.4	
	comp=Z,7.9nm,0.9s						
N02D	**Trinity Center**	**80.60**	**39**	P	**P**	**06 41 49.9**	**+2.6**
	baz=231						
CWC	**Cottonwood Cre**	**80.73**	**45**	P	**P**	**06 41 50.5**	**+2.2**
	baz=235						
M02C	**Callahan**	**80.78**	**39**	P	**P**	**06 41 51.0**	**+2.7**
	baz=231,SNR=6.0						
MPMC	**Manual Prospec**	**80.90**	**45**	P	**P**	**06 41 51.2**	**+2.0**
	baz=235						
GSC	**Goldstone, Bar**	**80.92**	**46**	P	**P**	**06 41 51.2**	**+2.0**
	baz=236						
GSC	**Goldstone, Bar**	**80.92**	**46**	P	**P**	**06 41 51.0**	**+1.8**
RUBR	**Rubicon Trail**	**80.95**	**42**	P	**P**	**06 41 49.0**	**-0.4**
RUBR				IAmb	IAmb	06 41 53.3	
	comp=Z,10.0nm,1.2s						
HEC	**Hector,Ludlow**	**80.98**	**47**	P	**P**	**06 41 51.5**	**+2.0**
	baz=236						
WAKR	**Walker**	**81.07**	**43**	P	**P**	**06 41 51.5**	**+1.5**
WAKR				IAmb	IAmb	06 41 52.9	
	comp=Z,5.4nm,0.9s						
YBH	**Yreka Blue Hor**	**81.08**	**38**	P	**P**	**06 41 52.0**	**+2.2**
YBH				IAmb	IAmb	06 41 52.9	
	comp=Z,7.7nm,0.7s						
J01E	**Myrtle Point**	**81.31**	**37**	P	**P**	**06 41 53.5**	**+2.6**
	baz=230						
PNTR	**Pine Nut**	**81.32**	**42**	P	**P**	**06 41 52.9**	**+1.6**
VCNR	**Virginia City**	**81.41**	**42**	P	**P**	**06 41 53.4**	**+1.6**
VCNR				IAmb	IAmb	06 41 54.5	
	comp=Z,4.9nm,0.9s						
GMRC	**Granite Mounta**	**81.41**	**47**	P	**P**	**06 41 53.8**	**+2.0**
	baz=236						
IRM	**Iron Mountain**	**81.42**	**48**	P	**P**	**06 41 54.5**	**+2.8**
	baz=237						
YERR	**Yerington**	**81.48**	**42**	P	**P**	**06 41 53.5**	**+1.4**
YERR					**PcP**	**06 41 54.1**	**-2.7**
YERR				IAmb	IAmb	06 41 54.6	
	comp=Z,6.1nm,0.7s						
HUMO	**Hull Mountain**	**81.50**	**38**	P	**P**	**06 41 53.0**	**+1.1**
HUMO				IAmb	IAmb	06 41 55.2	
	comp=Z,13nm,1.3s						
GRAC	**Grapevine Rang**	**81.52**	**45**	P	**P**	**06 41 54.2**	**+2.0**
	baz=235						
TUQ	**Turquoise Moun**	**81.60**	**47**	P	**P**	**06 41 55.3**	**+2.6**
	baz=236						
M04C	**Macdoel**	**81.62**	**39**	P	**P**	**06 41 54.9**	**+2.1**
	baz=231						
L04D	**Klamath Falls**	**81.62**	**38**	P	**P**	**06 41 54.8**	**+2.1**
	baz=231,SNR=5.3						
Y12C	**Blythe**	**81.63**	**49**	P	**P**	**06 41 55.1**	**+2.3**
	baz=237						
NVAR	**Mina Array Bea**	**81.74**	**43**	P	**P**	**06 41 55.4**	**+1.9**
	comp=Z,4.6nm,0.9s,baz=225,slow=8.4,SNR=32						
PAHR	**Pah Rah Range**	**81.82**	**42**	P	**P**	**06 41 55.9**	**+2.1**
PAHR				IAmb	IAmb	06 41 56.4	
	comp=Z,6.6nm,1.0s						
NV11	**Mina Array Sit**	**81.84**	**43**	P	**P**	**06 41 55.3**	**+1.4**
NV11				IAmb	IAmb	06 41 56.6	
	comp=Z,6.0nm,1.0s						
I03D	**Drain, OR**	**81.97**	**37**	P	**P**	**06 41 56.5**	**+2.2**
	baz=230						
TPNV	**Topopah Spring**	**82.22**	**45**	P	**P**	**06 41 57.9**	**+1.9**
	baz=236						
TPNV	**Topopah Spring**	**82.22**	**45**	P	**P**	**06 41 57.5**	**+1.5**
TPNV				IAmb	IAmb	06 41 58.3	
	comp=Z,5.1nm,0.9s						
KVN	**Kaiserville**	**82.23**	**43**	P	**P**	**06 41 57.2**	**+1.2**
KVN				IAmb	IAmb	06 41 58.0	
	comp=Z,5.1nm,0.7s						
J04D	**Umpqua Nationa**	**82.38**	**38**	P	**P**	**06 41 59.0**	**+2.3**
	baz=231,SNR=7.8						
I04A	**Tendick Farm,**	**82.56**	**37**	P	**P**	**06 41 59.1**	**+1.7**
	baz=231						
MOD	**Modoc Plateau**	**82.59**	**39**	P	**P**	**06 41 59.3**	**+1.5**
MOD				IAmb	IAmb	06 42 00.3	
	comp=Z,10nm,1.2s						
Y14A	**Wickenburg**	**82.80**	**49**	P	**P**	**06 42 00.4**	**+1.5**
W13A	**Hualapai Mount**	**82.81**	**48**	P	**P**	**06 42 00.4**	**+1.3**
H04D	**Lebanon**	**82.84**	**36**	P	**P**	**06 42 00.9**	**+2.2**
	baz=230						
J05D	**Fort Rock, OR**	**82.90**	**38**	P	**P**	**06 42 01.7**	**+2.4**
	baz=232						
H04A	**Detroit Lake**	**83.25**	**36**	P	**P**	**06 42 02.0**	**+1.2**
H04A				IAmb	IAmb	06 42 07.6	
	comp=Z,4.4nm,0.7s						
PINE	**Pine Mountain**	**83.39**	**38**	P	**P**	**06 42 03.5**	**+1.8**
R11A	**Troy Canyon, C**	**83.45**	**44**	P	**P**	**06 42 03.6**	**+1.4**
	baz=236						
I05D	**Terrebonne, OR**	**83.50**	**37**	P	**P**	**06 42 04.2**	**+2.1**
	baz=231,SNR=5.3						
TUC	**Tucson**	**83.55**	**52**	P	**P**	**06 42 05.6**	**+2.9**
	baz=240						
TUC	**Tucson**	**83.55**	**52**	P	**P**	**06 42 04.9**	**+2.1**
TUC				IAmb	IAmb	06 42 06.2	
	comp=Z,7.1nm,1.1s						
WVOR	**Wild Horse Val**	**83.90**	**40**	P	**P**	**06 42 04.8**	**+0.5**
WVOR				IAmb	IAmb	06 42 07.0	
	comp=Z,7.2nm,1.2s						
F04A	**Amboy**	**83.92**	**35**	P	**P**	**06 42 04.8**	**+0.7**
X16A	**Lo Mia Camp, P**	**84.16**	**50**	P	**P**	**06 42 06.9**	**+1.1**
X16A				IAmb	IAmb	06 42 09.7	
	comp=Z,4.1nm,0.8s						
319A	**Douglas**	**84.20**	**53**	P	**P**	**06 42 06.9**	**+0.9**
319A				IAmb	IAmb	06 42 10.0	
	comp=Z,11nm,1.1s						
LCMT	**Little Creek M**	**84.27**	**47**	P	**P**	**06 42 06.6**	**+0.3**
SVW2	**Sparrevohn**	**84.39**	**11**	P	**P**	**06 42 05.8**	**-0.3**
CCUT	**Cedar City**	**84.48**	**46**	P	**P**	**06 42 08.6**	**+1.2**
U15A	**North Rim**	**84.61**	**48**	P	**P**	**06 42 10.1**	**+0.9**
U15A				IAmb	IAmb	06 42 11.2	
	comp=Z,7.8nm,0.8s						
PSUT	**Pine Spring**	**84.68**	**45**	P	**P**	**06 42 09.2**	**+0.8**
RPSI	**Rantau Prapat**	**84.72**	**275**	P	**P**	**06 42 08.2**	**-0.6**
PSI	**Prapat**	**84.76**	**275**	P	**P**	**06 42 08.2**	**-1.0**
	comp=Z,2.0nm,0.2s,baz=270,slow=5.7,SNR=4.1						
ELK	**Elko**	**85.01**	**43**	P	**P**	**06 42 10.0**	**+0.1**
ELK				IAmb	IAmb	06 42 12.2	
	comp=Z,4.9nm,1.2s						
X18A	**Snowflake**	**85.27**	**50**	P	**P**	**06 42 12.7**	**+1.3**
G08A	**Pilot Rock**	**85.42**	**37**	P	**P**	**06 42 12.6**	**+0.9**
G08A				IAmb	IAmb	06 42 14.2	
	comp=Z,6.5nm,1.0s						
MTPU	**Mount Pierson**	**85.53**	**46**	P	**P**	**06 42 13.7**	**+1.0**
SYO	**Syowa Base**	**85.65**	**193**	*e*P	**P**	**06 42 10.2**	**-2.1**
E07A	**Sunnyside**	**85.70**	**36**	P	**P**	**06 42 13.8**	**+0.9**
E07A				IAmb	IAmb	06 42 15.6	
	comp=Z,7.1nm,1.0s						
HAWA	**Hanford**	**85.77**	**36**	P	**P**	**06 42 14.0**	**+0.8**
HAWA				IAmb	IAmb	06 42 15.9	
	comp=Z,5.5nm,0.9s						
121A	**Cookes Peak, D**	**85.87**	**53**	P	**P**	**06 42 17.2**	**+2.9**
	baz=241						
BMO	**Blue Mountains**	**86.11**	**38**	P	**P**	**06 42 16.3**	**+1.3**
SCM	**Sheep Creek Mo**	**86.70**	**14**	P	**P**	**06 42 17.6**	**+0.2**
F10A	**Beach Ranch, E**	**86.81**	**37**	P	**P**	**06 42 19.2**	**+0.9**
ENH	**Enshi**	**86.82**	**304**	P	**P**	**06 42 16.8**	**-1.9**
ENH				IAmb	IAmb	06 42 21.2	
	comp=Z,5.9nm,0.7s						
TMUT	**Trail Mountain**	**86.84**	**46**	P	**P**	**06 42 20.2**	**+1.3**
SNAA	**Sanae**	**86.86**	**178**	P	**P**	**06 42 17.9**	**-0.3**
VNA3	**Neumayer Olymp**	**86.99**	**176**	P	**P**	**06 42 18.6**	**-0.2**
PLID	**Pearl Lake**	**87.00**	**39**	P	**P**	**06 42 20.0**	**+0.6**
B08A	**Colville Reser**	**87.08**	**35**	P	**P**	**06 42 19.5**	**0.0**
B08A				IAmb	IAmb	06 42 21.2	
	comp=Z,7.1nm,0.8s						
SRU	**San Rafael Swe**	**87.20**	**46**	P	**P**	**06 42 21.2**	**+0.8**
LENM	**Lemitar**	**87.25**	**52**	P	**P**	**06 42 20.7**	**0.0**
MNTX	**Cornudas Mount**	**87.28**	**54**	P	**P**	**06 42 23.1**	**+2.3**
	baz=243						
MNTX	**Cornudas Mount**	**87.28**	**54**	P	**P**	**06 42 22.6**	**+1.8**
MNTX				IAmb	IAmb	06 42 23.7	
	comp=Z,5.8nm,0.9s						
C09A	**Chrisman Ranch**	**87.31**	**36**	P	**P**	**06 42 21.8**	**+1.3**
C09A				IAmb	IAmb	06 42 22.7	
	comp=Z,5.5nm,0.8s						
VNA2	**Neumayer--Watz**	**87.43**	**177**	P	**P**	**06 42 21.2**	**+0.3**
	baz=163,slow=4.2						
TX31	**Lajitas Ar. Si**	**87.53**	**57**	P	**P**	**06 42 23.7**	**+1.6**
TX32	**Lajitas Array**	**87.53**	**57**	P	**P**	**06 42 24.0**	**+1.8**
TX32				IAmb	IAmb	06 42 25.4	
	comp=Z,3.6nm,0.9s						
TXAR	**Lajitas Array**	**87.53**	**57**	P	**P**	**06 42 24.3**	**+2.2**
	comp=Z,2.3nm,0.7s,baz=217,slow=6.8,SNR=25						
TRF	**Thorofare Moun**	**87.53**	**12**	P	**P**	**06 42 21.2**	**-0.2**
VNA1	**Neumayer--Stat**	**87.66**	**177**	P	**P**	**06 42 21.4**	**-0.4**
ANMO	**Albuquerque**	**87.99**	**51**	P	**P**	**06 42 26.0**	**+1.7**
	baz=242						
ANMO	**Albuquerque**	**87.99**	**51**	P	**P**	**06 42 25.2**	**+0.9**
MCK	**McKinley**	**88.06**	**12**	P	**P**	**06 42 24.1**	**+0.5**
MCK				IAmb	IAmb	06 42 24.7	
	comp=Z,8.5nm,0.9s						
NEW	**Newport**	**88.20**	**36**	P	**P**	**06 42 26.3**	**+1.6**
	baz=234						
GDL2	**Guadalupe Moun**	**88.28**	**54**	P	**P**	**06 42 27.8**	**+2.2**
CLNB	**Carlsbad**	**88.67**	**55**	P	**P**	**06 42 28.0**	**+0.6**
MCMT	**McKenzie Canyo**	**88.72**	**40**	P	**P**	**06 42 28.3**	**+0.8**
NEA	**Nenana**	**88.78**	**12**	P	**P**	**06 42 26.5**	**-0.5**
MLY	**Manley**	**88.89**	**11**	P	**P**	**06 42 27.4**	**-0.1**
WRH	**Wood River Hil**	**88.89**	**12**	P	**P**	**06 42 27.3**	**-0.2**
S22A	**4UR Ranch, Cre**	**89.05**	**49**	P	**P**	**06 42 30.9**	**+1.6**
	baz=242						
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STHS	Stebnicka Huta	148.43 336		*e*PKP		PKPdf	06 49 14.4	+0.6
TRPA	Tarpa	148.94 333	⇑P			PKPbc	06 49 18.7	-0.4
UPC	Upice	149.22 343	⇑	*e*PKP		PKiKP	06 49 20.3	-0.4
CLL	Collm	149.22 347		*e*PKPdf		PKPdf	06 49 17.0	+2.0
CLL				*i* PKPbc		PKPbc	06 49 19.7	0.0
CLL				*i* PKiKP		PKiKP	06 49 22.1	+1.4
	comp=Z,10.0nm,0.8s							
CLL	Collm	149.22 347		PKPdf		PKPdf	06 49 14.7	-0.3
CLL						PKPbc	06 49 20.0	+0.3
DOPR	Dopca	149.23 328	⇑P			PKiKP	06 49 20.8	-0.1
DPC	Dobruska-Polom	149.27 342	⇑	*e*PKP		PKPbc	06 49 20.4	+0.4
DPC				*ex*		x	06 49 22.7	
MLR	Muntele Rosu	149.28 326		PKPbc		PKPbc	06 49 19.5	-0.8
	comp=Z,5.2nm,0.8s,baz=322,slow=3.2,SNR=7.9							
MLR	Muntele Rosu	149.28 326	⇓P			PKPbc	06 49 19.2	-1.0
MLR	Muntele Rosu	149.28 326		PKPdf		PKPdf	06 49 16.5	+1.1
MLR						PKPbc	06 49 20.2	0.0
LANS	Liptovska Anna	149.31 338		*e*PKP		PKiKP	06 49 21.3	+0.3
KRLC	Kraliky	149.38 341	⇑	*e*PKP		PKPbc	06 49 20.5	+0.3
BRG	Berggiesshubel	149.41 345		*i* PKP		PKPbc	06 49 20.3	+0.1
	comp=Z,5.9nm,0.7s							
MORC	Moravsky Berou	149.41 340	⇓P			PKPbc	06 49 19.7	-0.6
PVCC	Panska Ves	149.58 344	⇑	*e*PKP		PKiKP	06 49 21.3	-0.2
VOIR		149.77 327	⇑P			PKPbc	06 49 21.2	-0.2
DRGR		149.90 331	⇑P			PKPbc	06 49 21.6	0.0
ARR	Arges	150.03 327	⇑P			PKiKP	06 49 22.7	+0.1
PRA	Prague	150.03 344	⇑	*e*PKP		PKiKP	06 49 22.2	-0.2
PRU	Pruhonice	150.08 344	⇑	*e*PKP		PKPbc	06 49 22.2	+0.4
VYHS	Vyhne	150.09 338		*e*PKP		PKPbc	06 49 22.2	+0.3
GOPC	GO Pecny, Ondr	150.09 344	⇑	*e*PKP		PKPbc	06 49 21.9	0.0
NKC	Novy Kostel	150.35 347	⇑	*e*PKP		PKiKP	06 49 23.1	0.0
PBCC	Pribram	150.50 344	⇑	*e*PKP		PKiKP	06 49 23.3	-0.1
MODS	Modra-Piesok	150.72 339		*e*PKP		PKPbc	06 49 23.2	-0.2
SIRR	Siria	150.77 332	⇑P			PKiKP	06 49 24.0	-0.1
GZR	Gura Zlata	150.92 329	⇑P			PKPbc	06 49 24.0	0.0
KHC	Kasperske Hory	151.12 344	⇑	*e*PKP		PKPbc	06 49 24.5	+0.2
KHC				*ex*		x	06 49 26.9	
SRE	Strehaia	151.24 328	⇑P			PKiKP	06 49 25.1	0.0
BZS	Buzias	151.28 331	⇑P			PKPbc	06 49 24.8	0.0
GEC2	GERESS Array S	151.35 344		PKPdf		PKPdf	06 49 20.8	+2.3
GEC2						PKPbc	06 49 25.0	0.0
GERES	GERESS Array B	151.35 344		PKPbc		PKPbc	06 49 24.9	-0.1
	comp=Z,3.7nm,0.8s,baz=31,slow=2.5,SNR=18							
PLVB	Pleven	151.40 324	⇑P			PKPbc	06 49 24.8	-0.3
CONA	Conrad Observa	151.57 340		*e*PKiKP		PKiKP	06 49 26.0	+0.2
	comp=Z,5.5nm,0.7s							
MDVR	Moldovita	151.87 330	⇑P			PKPbc	06 49 25.7	-0.5
MOA	Molln	152.11 342		*e*PKiKP		PKPbc	06 49 26.7	+0.1
	comp=Z,2.1nm,0.7s							
WATA	Walderalm	153.27 346		*e*PKPbc		PKPbc	06 49 29.0	-0.3
	comp=Z,3.7nm,1.0s							
WTTA	Wattenberg	153.33 346		PKiKP		PKPbc	06 49 29.4	-0.1
	comp=Z,3.2nm,0.5s							
MOTA	Moosalm	153.37 346		*e*PKPbc		PKPbc	06 49 29.2	-0.3
	comp=Z,3.5nm,0.9s							
SQTA	Sankt Quirin	153.47 346		*e*PKiKP		PKPbc	06 49 29.7	0.0
	comp=Z,3.9nm,0.8s							
ABTA	Abfaltersbach	153.60 344		*e*PKPbc		PKPbc	06 49 29.5	-0.4
	comp=Z,2.5nm,0.6s							
DAVOX	Davos/Dischmat	154.16 348		PKPbc		PKiKP	06 49 31.5	+0.2
	comp=Z,3.8nm,0.6s,baz=260,slow=6.1,SNR=10							
ESDC	Sonseca Array	161.28 15		PKPab		PKPab	06 50 19.5	+1.6
	comp=Z,0.2nm,0.5s,baz=337,slow=3.4,SNR=4.9							
TORD	Torodi Ar. Bea	171.53 177		PKP		PKPdf	06 49 39.1	-0.9
	comp=Z,1.5nm,0.9s,baz=222,slow=0.3,SNR=6.0							
TORD				PKPab		PKPab	06 51 03.8	+0.4
	comp=Z,2.1nm,1.0s,baz=167,slow=4.1,SNR=6.4							

ISCJB ***15*** *06:45:18.6±0.3, 16°.34N±0°.03×145°.60E±0°.04, h532km±4km, mb4.5/39, Error ellipse: s-maj=5.7km s-min=4.7km az=160.8*

IDC ***15*** *06:45:18.5±0.6, 16°.35N×145°.63E, h521km±6km, mb3.7/29, mb1 3.8/31, mb1mx3.7/55, mbtmp4.6/31, Error ellipse: s-maj=11.6km s-min=6.1km az=84.0*

NEIC ***15*** *06:45:19.4±1.3, 16°.37N±0°.09×145°.7E±0°.1, h532km±6km, mb4.4/100*

ISC 15 06:45:19.3±0.5, 16°.34N±0°.05×145°.68E±0°.07, h531km±6km, n179, d098/194, mb4.4/85, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANA2	Anatahan	0.04	80	P	P	06 46 22.2	-0.2
ANA2				S	S	06 47 14.7	+1.1
SARN	Sarigan	0.38	15	P	P	06 46 22.1	-0.5
GUMO	Guam	2.84	196	P	P	06 46 30.8	-1.1
	52nm,0.3s,baz=355,slow=1.8,SNR=13						
GUMO				S	S	06 47 27.2	-3.5
	234nm,0.3s,baz=338,slow=23,SNR=23						
GUMO	Guam	2.84	196	P	P	06 46 31.5	-0.4
GUMO				S	S	06 47 28.3	-2.4
JCJ	Chichijima	11.19	344	P	P	06 47 49.3	0.0
	13nm,0.3s,baz=282,slow=22,SNR=4.9						
PATS	Pohnpei	15.56	126	P	P	06 48 36.4	+1.3
MANU	Manus Island	18.34	175	P	P	06 49 01.7	+0.3
JOW	Kunigami	19.24	306	P	P	06 49 09.7	+0.2
	0.3nm,0.3s,baz=153,slow=12,SNR=4.3						
JOW	Kunigami	19.24	306	P	P	06 49 09.1	-0.3
INU	Inuyama	20.46	339	P	P	06 49 20.0	-0.3
MJAR	Matsushiro Arr	21.19	343	P	P	06 49 26.2	-0.9
	2.8nm,0.6s,baz=154,slow=9.6,SNR=8.9						
MAJO	Matsushiro	21.19	343	P	P	06 49 26.8	-0.3
MAT	Matsushiro	21.19	343	P	P	06 49 26.9	-0.2
MJB9	Matsu-Tunnel	21.20	343	P	P	06 49 26.5	-0.6
JNU	Nakatsue	21.40	324	P	P	06 49 28.3	-0.7
	9.8nm,0.8s,baz=78,slow=3.7,SNR=6.5						
JNU	Nakatsue	21.40	324	P	P	06 49 28.5	-0.6
YOJ	Yonaguni jima	22.71	295	P	P	06 49 38.7	-2.1
FAKI	Fak Fak	23.28	216	P	P	06 49 45.6	-0.5
FAKI				IAmb	IAmb	06 49 56.2	
	comp=Z,19nm,1.0s						
YULB	Yu-li	23.96	291	P	P	06 49 51.7	-0.2
YHNB	Yeheng	24.20	294	P	P	06 49 54.6	+0.5
TPUB	Ta-pu	24.54	290	P	P	06 49 56.9	-0.3
PMG	Port Moresby	25.62	177	P	P	06 50 06.7	-0.1
	comp=Z,15nm,0.5s,baz=25,slow=6.9,SNR=6.0						
PMG	Port Moresby	25.62	177	P	P	06 50 06.1	-0.7
KSRS	Korea Array	25.24	327	P	P	06 50 11.2	-0.8
	comp=Z,3.2nm,0.7s,baz=141,slow=9.2,SNR=14						
COEN	Coen	30.20	185	P	P	06 50 47.3	+0.5
COEN				IAmb	IAmb	06 50 48.1	
	comp=Z,8.8nm,0.9s						
KKM	Kota Kinabalu	30.61	254	P	P	06 50 51.1	+0.6
WHN	Wuhan	31.90	302	P	P	06 51 02.3	+1.1
WHN				pmax	pmax		
	comp=Z,26nm,0.5s						
MTN	Manton Dam	32.36	207	P	P	06 51 05.5	+0.2
MTN				IAmb	IAmb	06 51 06.0	
	comp=Z,16nm,0.9s						
KAPI	Kappang	33.28	233	P	P	06 51 13.3	+0.2
KAPI				IAmb	IAmb	06 51 21.0	
	comp=Z,21nm,1.1s						
KLR	Kul'dur	34.72	344	P	P	06 51 23.9	-0.8
	comp=Z,1.8nm,0.7s,baz=133,slow=9.2,SNR=6.3						
KLR				PcP	PcP	06 53 42.8	-0.7
	comp=Z,1.6nm,0.5s,baz=337,slow=3.6,SNR=4.7						
SBUM	Sibu	35.69	251	P	P	06 51 32.7	-0.6
ENH	Enshi	35.85	299	P	P	06 51 35.2	+0.7
KNRA	Kununurra	35.92	209	P	P	06 51 35.7	+0.6
KNRA				IAmb	IAmb	06 51 47.8	
	comp=Z,18nm,1.4s						
CTA	Charters Tower	36.20	179	P	P	06 51 37.7	+0.3
	comp=Z,3.2nm,0.4s,baz=357,slow=7.8,SNR=8.1						
XAN	Xi'an	37.39	305	P	P	06 51 47.3	+0.2
XAN				pmax	pmax		
	comp=Z,16nm,0.6s						
XAN	Xi'an	37.39	305	P	P	06 51 46.7	-0.4
XAN				IAmb	IAmb	06 51 47.9	
	comp=Z,13nm,0.6s						
WR0	Warramunga Arr	37.69	197	P	P	06 51 50.1	+0.4
WR0				IAmb	IAmb	06 51 50.7	
	comp=Z,11nm,1.2s						
WRAB	Tennant Creek	37.72	198	P	P	06 51 50.3	+0.4
WRAB				IAmb	IAmb	06 51 50.9	
	comp=Z,7.9nm,0.7s						
WRA	Warramunga Arr	37.73	198	P	P	06 51 50.2	+0.2
	comp=Z,5.1nm,0.5s,baz=18,slow=8.1,SNR=79						
WRA				PcP	PcP	06 53 53.1	-0.1
	comp=Z,2.2nm,0.7s,baz=13,slow=3.1,SNR=9.8						
WRA				ScP	ScP	06 56 49.3	-1.0
	comp=Z,1.4nm,1.1s,baz=15,slow=3.7,SNR=5.2						
WRA				S	S	06 57 00.9	-1.8
	comp=Z,1.8nm,1.0s,baz=16,slow=15,SNR=5.6						
KSM	Kuching	37.83	251	P	P	06 51 50.7	-0.2
KSM				IAmb	IAmb	06 51 51.1	
	comp=Z,14nm,0.7s						
HHC	Hu-ho-hao-te	38.26	317	P	P	06 51 52.5	-1.7
HHC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HHC				AMB	AMB		
	comp=Z,9.0nm,6.6s						
UBPT	Khong Chiam	38.66	274	P	P	06 51 59.1	+1.5
UBPT				IAmb	IAmb	06 52 07.8	
	comp=Z,23nm,1.3s						
FITZ	Fitzroy Crossi	39.50	211	P	P	06 52 04.8	+0.5
FITZ				IAmb	IAmb	06 52 22.7	
	comp=Z,13nm,1.5s						
AS31	Alice Springs	41.39	196	P	P	06 52 19.6	+0.2
ASAR	Alice Springs	41.39	196	P	P	06 52 19.4	0.0
	comp=Z,2.5nm,0.5s,baz=18,slow=7.2,SNR=50						
ASAR				PcP	PcP	06 54 05.2	+0.2
	comp=Z,1.8nm,0.7s,baz=22,slow=3.4,SNR=12						
ASAR				ScP	ScP	06 57 03.9	-0.7
	comp=Z,0.2nm,0.3s,baz=20,slow=4.2,SNR=4.8						
ASAR				S	S	06 57 55.6	-0.4
	comp=Z,2.0nm,0.9s,baz=19,slow=18,SNR=14						
CHAI	Chaiyaphum	41.91	276	P	P	06 52 23.9	+0.2
LZH	Lanzhou	41.98	306	⇓P	P	06 52 25.0	+0.9
LZH				pP	pP	06 53 51.6	-6.4
LZH				PP	PcP	06 54 07.8	+0.7
LZH				sP	sP	06 54 57.0	-0.3
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
UTTA	Uttaradit	43.09	279	P	P	06 52 33.4	+0.6
DZM	Mont Dzumac	43.25	151	P	P	06 52 35.5	+1.4
	comp=Z,15nm,0.5s,baz=269,slow=2.7,SNR=53						
PAYA	Payao	43.61	281	P	P	06 52 37.8	+0.8
	comp=Z,36µm,0.8s,comp=Z,116nm						
UTHA	Uthaitani	44.38	276	P	P	06 52 43.9	+0.9
	comp=Z,32µm,0.7s,comp=Z,315µmcomp=Z,103nm						
CMMT	Chiang Mai	44.52	280	P	P	06 52 44.3	+0.3
	comp=Z,7.0nm,0.7s,comp=Z,0.0nm						
CHTO	Chiang Mai	44.52	280	P	P	06 52 44.1	+0.1
CHTO				IAmb	IAmb	06 52 44.9	
	comp=Z,9.3nm,0.7s						
CMAR	Chiang Mai Arr	44.55	280	P	P	06 52 45.1	+0.8
	comp=Z,22nm,0.9s,baz=76,slow=6.3,SNR=46						
ULN	Ulaanbaatar	44.62	323	P	P	06 52 44.9	+0.4
ULN				IAmb	IAmb	06 52 45.8	
	comp=Z,7.4nm,0.7s						
UMPA	Umpang Tak	44.86	277	P	P	06 52 48.7	+2.0
	comp=Z,30µm,0.7s,comp=Z,374nm						
SONM	Songino Array	44.98	323	P	P	06 52 47.7	+0.4
	comp=Z,5.2nm,0.4s,baz=140,slow=7.0,SNR=43						
SONM				PcP	PcP	06 54 16.0	-1.2
	comp=Z,0.7nm,0.6s,baz=117,slow=5.1,SNR=4.0						
SONM				ScP	ScP	06 57 17.1	-2.0
	comp=Z,0.5nm,0.4s,baz=163,slow=3.4,SNR=4.4						
PSA00	Pilbara Seismi	45.39	215	P	P	06 52 50.6	0.0
PSA00				IAmb	IAmb	06 53 09.5	
	comp=Z,14nm,1.4s						
KULM	Kulim	45.46	261	P	P	06 52 52.6	+1.3
KULM				IAmb	IAmb	06 52 59.5	
	comp=Z,12nm,1.3s						
GTA	Gaotai	45.99	309	*e*P	P	06 52 55.5	+0.4
GTA				PcP	PcP	06 54 21.5	+0.6
GTA				pP	pwP	06 54 35.3	-1.9
GTA				sP	sP	06 55 30.6	+0.4
GTA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
SEY	Seymchan	46.78	4	P	P	06 53 01.0	+0.5
	comp=Z,1.2nm,0.6s,baz=146,slow=9.4,SNR=9.3						
PSI	Prapat	47.88	259	P	P	06 53 10.3	+0.6
	comp=Z,3.7nm,0.5s,baz=83,slow=7.7,SNR=8.4						
RPSI	Rantau Prapat	47.92	259	P	P	06 53 09.6	-0.2
RPSI				IAmb	IAmb	06 53 12.1	
	comp=Z,5.5nm,0.7s						
RPSI	Rantau Prapat	47.92	259	P	P	06 53 10.3	+0.5
STKA	Stephens Creek	48.09	185	P	P	06 53 10.8	0.0
	comp=Z,2.0nm,0.5s,baz=350,slow=7.6,SNR=7.4						
STKA	Stephens Creek	48.09	185	P	P	06 53 11.0	+0.2
TLY	Talaya	48.49	326	P	P	06 53 13.5	-0.1
GSI	Gunungsitoli	49.66	258	P	P	06 53 22.7	-0.1
BBOO	Buckleboo	49.73	191	P	P	06 53 23.2	+0.3
FORT	Forrest	49.81	200	P	P	06 53 24.6	+1.1
FORT				IAmb	IAmb	06 53 28.9	
	comp=Z,11nm,0.8s						
SIMRM	Sittwe	50.12	283	P	P	06 53 26.2	+0.2
SHL	Shillong	50.78	290	P	P	06 53 30.7	-0.4
CAN	Canberra	51.47	177	P	P	06 53 37.1	+1.5
CAN				IAmb	IAmb	06 53 45.5	
	comp=Z,16nm,1.3s						
LSA	Lhasa	51.49	295	P	P	06 53 37.6	+1.1
MORW	Morawa	53.45	213	P	P	06 53 49.6	-0.3
TAPN	Taplejung	54.50	292	*e*P	P	06 53 57.8	0.0
	comp=Z,10.0nm,0.4s						
ODAN	Odare	54.79	292	*e*P	P	06 53 59.8	0.0
	comp=Z,10.0nm,0.4s						
RAMN	Ramite	55.50	292	*e*P	P	06 54 04.5	-0.2
JIRN	Jiri	55.84	293	*e*P	P	06 54 07.3	+0.1
	comp=Z,72nm,0.7s						
WMQ	Urumqi	55.85	312	*e*P	P	06 54 07.3	+0.7
GUN	Gumba	56.11	293	*e*P	P	06 54 09.1	+0.1
	comp=Z,14nm,0.4s						
PKI	Pulchoki	56.53	292	*e*P	P	06 54 11.5	-0.5
	comp=Z,12nm,0.3s						
PKIN	Phulchoki	56.55	292	*e*P	P	06 54 11.5	-0.5
	comp=Z,12nm,0.4s						
KKN	Kakani	56.64	293	*e*P	P	06 54 12.2	-0.4
DMN	Daman	56.80	293	*e*P	P	06 54 13.5	-0.2
	comp=Z,9.4nm,0.3s						
OUZ	Omahuta	57.71	153	P	P	06 54 22.0	+2.7
OUZ				IAmb	IAmb	06 54 31.8	
	comp=Z,21nm,1.4s						
TAU	Tasmania Unive	58.97	179	P	P	06 54 28.6	+0.9
ZAA0	Zalesovo Array	59.88	323	P	P	06 54 32.9	-0.8
ZALV	Zalesovo Beam	59.88	323	P	P	06 54 33.1	-0.5
	comp=Z,3.6nm,0.4s,baz=95,slow=6.7,SNR=16						
MK31	Makanchi Array	60.09	315	P	P	06 54 35.6	+0.3
MK31				IAmb	IAmb	06 54 36.0	
	comp=Z,9.5nm,0.5s						
MKAR	Makanchi Array	60.09	315	P	P	06 54 35.6	+0.3
	comp=Z,9.7nm,0.4s,baz=91,slow=8.3,SNR=81						
MKAR				PcP	PcP	06 55 13.9	-0.6
	comp=Z,2.3nm,0.7s,baz=106,slow=4.7,SNR=3.7						
MAKZ	Makanchi	60.31	315	P	P	06 54 37.2	+0.5
MXZ	Matakaoa Point	61.78	151	P	P	06 54 46.6	+0.2
URZ	Urewera	61.80	152	P	P	06 54 46.7	+0.3
URZ				IAmb	IAmb	06 54 46.9	
	comp=Z,9.3nm,0.6s						
QRZ	Quartz Range	62.09	157	P	P	06 54 50.0	+1.6
QRZ				IAmb	IAmb	06 54 50.1	
	comp=Z,21nm,0.7s						
BKZ	Black Stump Fm	62.28	153	P	P	06 54 50.4	+0.7
BKZ				IAmb	IAmb	06 54 53.1	
	comp=Z,12nm,1.2s						
PRZ	Przheval'sk	62.45	310	P	P	06 54 51.9	+0.8
PRZ				IAmb	IAmb	06 54 53.1	
	comp=Z,31nm,1.1s						
TARG	Taragay, Kyrgy	62.87	309	P	P	06 54 53.8	-0.3
PPLA	Purkeypile	63.00	27	P	P	06 54 55.1	+1.0
PPLA				IAmb	IAmb	06 54 57.3	
	comp=Z,14nm,1.3s						
KURK	Kurchatov	63.02	319	P	P	06 54 54.1	-0.2
KURK				IAmb	IAmb	06 54 54.9	
	comp=Z,20nm,0.8s						
KURBB	Kurchatov Arra	63.06	319	P	P	06 54 54.3	-0.2
	comp=Z,26nm,0.7s,baz=98,slow=6.7,SNR=87						
KDJ	Kajisay	63.34	309	P	P	06 54 56.7	-0.1
KDJ				IAmb	IAmb	06 54 58.2	
	comp=Z,9.1nm,1.0s						
SNZO	South Karori	63.34	156	P	P	06 54 56.3	-0.1
BHW	Baring Head	63.49	156	P	P	06 54 57.1	-0.2
SEW	Seward	63.50	30	P	P	06 54 57.6	+0.4
SEW				IAmb	IAmb	06 55 10.1	
	comp=Z,11nm,1.0s						
RC01	Rabbit Creek A	63.61	29	P	P	06 54 58.5	+0.6
RC01				IAmb	IAmb	06 55 05.5	
	comp=Z,35nm,1.4s						
MSWZ	Moikau Station	63.65	156	P	P	06 54 58.4	0.0
PLWZ	Palliser	63.78	156	P	P	06 54 59.2	-0.1
PMR	Palmer	64.02	29	P	P	06 55 00.3	-0.1
PMR				IAmb	IAmb	06 55 14.8	
	comp=Z,9.5nm,1.3s						
NRN	Naryn	64.21	308	P	P	06 55 01.2	-1.3
KSH	Kashi	64.23	306	P	P	06 55 05.3	+2.9
KSH				PP	PP	06 57 37.5	+5.0
KSH				ScP		06 58 48.4	
KSH				S	S	07 03 00.5	+1.8
KSH				pmax	pmax		
	comp=Z,21nm,0.8s						
AAK	Ala-Archa	65.34	310	P	P	06 55 09.5	+0.1
IL31		65.77	26	P	P	06 55 10.7	-0.7
ILAR	Eielson Array	65.77	26	P	P	06 55 10.3	-1.2
	comp=Z,2.2nm,0.5s,baz=250,slow=5.9,SNR=53						
ARSB	Arslanbob	66.48	308	P	P	06 55 16.3	-0.3
ARSB				IAmb	IAmb	06 55 17.2	
	comp=Z,9.0nm,0.6s						
NIL	Nilore	66.67	300	P	P	06 55 18.3	+0.6
KK31	Karatay Array	68.26	310	P	P	06 55 26.9	-0.4
KK31				IAmb	IAmb	06 55 28.0	
	comp=Z,11nm,0.9s						
KKAR	Karatay Array	68.26	310	P	P	06 55 26.8	-0.5
KKAR				IAmb	IAmb	06 55 28.0	
	comp=Z,11nm,0.9s						
BVAR	Borovoye Array	68.28	321	P	P	06 55 26.9	-0.2
	comp=Z,15nm,0.7s,baz=102,slow=7.3,SNR=55						
BRVK	Borovoye	68.34	321	P	P	06 55 27.2	-0.4
BRVK				IAmb	IAmb	06 55 28.2	
	comp=Z,13nm,0.8s						
GAR	Garm	68.64	306	P	P	06 55 29.7	-0.1
GAR				IAmb	IAmb	06 55 30.0	
	comp=Z,13nm,0.7s						
CHGR	Chuyangaron	69.56	306	P	P	06 55 35.3	0.0
CHGR				IAmb	IAmb	06 55 36.0	
	comp=Z,18nm,0.8s						
INK	Inuvik	71.55	23	P	P	06 55 46.4	+0.1
	comp=Z,3.8nm,0.9s,baz=278,slow=6.4,SNR=12						
INK	Inuvik	71.55	23	P	P	06 55 46.0	-0.3
ARU	Arti	74.97	325	P	P	06 56 04.7	-1.3
	comp=Z,2.9nm,0.6s,baz=42,slow=3.2,SNR=16						
ARU	Arti	74.97	325	P	P	06 56 05.9	-0.1
ARU				IAmb	IAmb	06 56 06.6	
	comp=Z,10nm,0.8s						
ABKAR	Akbulak array	75.05	317	P	P	06 56 06.0	-0.7
HRA	Herat	75.64	302	P	P	06 56 10.1	-0.5
HRA				IAmb	IAmb	06 56 11.3	
	comp=Z,5.9nm,0.6s						
AKTO	Aktyubinsk	76.11	319	P	P	06 56 10.9	-1.7
	comp=Z,1.5nm,0.6s,baz=68,slow=13,SNR=6.4						
GEYT	Alibeck	78.26	306	P	P	06 56 24.2	-0.3
	comp=Z,3.6nm,0.6s,baz=114,slow=1.8,SNR=6.8						
NLWA	Neilton Lookou	78.47	44	P	P	06 56 27.4	+1.9
NLWA				IAmb	IAmb	06 56 45.7	
	comp=Z,20nm,1.2s						
YKA	Yellowknife Ar	80.08	28	P	P	06 56 33.5	-0.1
	comp=Z,2.0nm,0.6s,baz=286,slow=5.2,SNR=12						
B08A	Colville Reser	81.23	42	P	P	06 56 40.6	+0.7
PINE	Pine Mountain	81.27	47	P	P	06 56 41.7	+1.2
PINE				IAmb	IAmb	06 56 43.1	
	comp=Z,10nm,0.9s						
MOD	Modoc Plateau	82.20	49	P	P	06 56 45.7	+0.4
BEKR	Beckworth	82.68	51	P	P	06 56 47.7	-0.1
UOSS	Minazif	82.80	294	P	P	06 56 48.3	-0.1
UOSS				IAmb	IAmb	06 56 49.1	
	comp=Z,14nm,1.1s						
WVOR	Wild Horse Val	83.25	48	P	P	06 56 50.4	-0.1
PAHR	Pah Rah Range	83.45	51	P	P	06 56 51.8	+0.2
BMO	Blue Mountains	83.51	45	P	P	06 56 51.5	-0.2
BMO				IAmb	IAmb	06 56 53.3	
	comp=Z,7.3nm,1.1s						
PLID	Pearl Lake	84.33	45	P	P	06 56 55.0	-0.9
RYN	Ryan	84.39	52	P	P	06 56 55.1	-1.2
KVN	Kaiserville	84.59	51	P	P	06 56 57.5	+0.3
NVAR	Mina Array Bea	84.61	52	P	P	06 56 57.9	+0.5
	comp=Z,0.9nm,0.5s,baz=258,slow=6.3,SNR=13						
ARCES	ARCESS Array B	84.72	342	P	P	06 56 56.2	-0.8
	comp=Z,4.0nm,0.7s,baz=36,slow=4.6,SNR=25						
MFID	Camas Ranch	84.95	46	P	P	06 56 59.1	+0.3
MFID				IAmb	IAmb	06 57 00.6	
	comp=Z,11nm,0.8s						
ELK	Elko	86.19	49	P	P	06 57 04.8	-0.1
ELK				IAmb	IAmb	06 57 06.8	
	comp=Z,9.2nm,1.1s						
TPNV	Topopah Spring	86.60	53	P	P	06 57 07.9	+1.0
GSC	Goldstone, Bar	86.67	54	P	P	06 57 07.2	0.0
R11A	Troy Canyon, C	86.67	51	P	P	06 57 07.7	+0.5
R11A				IAmb	IAmb	06 57 09.3	
	comp=Z,6.5nm,1.4s						
QLMT	Earthquake Lak	87.48	44	P	P	06 57 11.6	+0.6
SHPR	Sheep Range	87.57	53	P	P	06 57 12.3	+0.9
KBZ	Khabaz	87.79	315	P	P	06 57 11.7	-0.3
	comp=Z,0.8nm,0.5s,baz=297,slow=18,SNR=3.0						
PSUT	Pine Spring	87.90	51	P	P

ellipse: s-maj=39.3km s-min=36.3km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.83**	**244**	P	P	07 14 52.8	-0.5
	1.5nm,0.5s,baz=98,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**43.54**	**257**	P	P	07 15 46.9	+0.1
	2.2nm,0.6s,baz=97,slow=7.8,SNR=39						
ASAR				PcP	PcP	07 17 20.6	-0.3
	0.4nm,0.6s,baz=91,slow=4.5,SNR=5.3						
WRA	**Warramunga Arr**	**43.62**	**262**	P	P	07 15 47.3	-0.1
	0.5nm,0.3s,baz=98,slow=7.8,SNR=19						
VNDA	**Vanda**	**57.60**	**185**	P	P	07 17 27.9	+0.2
	0.5nm,0.5s,baz=7.8,slow=7.7,SNR=2.3						
MAW	**Mawson**	**81.03**	**200**	P	P	07 19 47.2	-0.2
	0.4nm,0.4s,baz=108,slow=9.6,SNR=1.8						
NVAR	**Mina Array Bea**	**81.85**	**44**	P	P	07 19 52.3	-0.1
	0.1nm,0.3s,baz=215,slow=6.1,SNR=2.2						

*IDC **15** 07:22:43.1±2.9,39°.07N×106°.66W,h0km, mb2.9/1, mb1 3.3/3,mb1mx3.2/40,mbtmp2.8/3,ML3.1/2,Error ellipse: s-maj=36.5km s-min=20.7km az=91.0*
*ISCJB **15** 07:22:48.9±0.4,38°.90N±0°.04×107°.63W±0°.04,h7km, mb2.6/1,Error ellipse: s-maj=5.4km s-min=4.5km az=174.7*
*NEIC **15** 07:22:49.4±1.4,38°.92N±0°.05×107°.61W±0°.05,h1km±7km, ML2.6/64*

ISC 15 07:22:47.6±0.9,38°.87N±0°.04×107°.54W±0°.03,h7km,n36, σ1s86/37,Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCO	**Snowmass**	**0.54**	**55**		**Pg**	**07 22 58.0**	**-0.1**
PV07	**Paradox Valley**	**0.97**	**244**		**Pg**	**07 23 05.2**	**-0.9**
PV07				IAML		07 23 30.7	
	comp=E,125nm,1.7s						
PV07				IAML		07 23 42.1	
	comp=N,129nm,1.4s						
PV22	**Blue Mesa, Par**	**1.03**	**252**		**Pg**	**07 23 06.5**	**-0.8**
PV22				Sg	**Sg**	**07 23 20.9**	**+0.1**
PV22				IAML		07 23 24.6	
	comp=N,266nm,0.8s						
PV22				IAML		07 23 38.7	
	comp=E,224nm,0.9s						
PV12	**Saucer Basin,**	**1.13**	**241**		**Pg**	**07 23 08.8**	**-0.5**
S22A	**4UR Ranch, Cre**	**1.25**	**153**		**Pn**	**07 23 12.6**	**+0.9**
O20A	**White River Ci**	**1.38**	**337**		**Pn**	**07 23 12.7**	**-0.7**
O20A				IAML		07 23 40.0	
	comp=N,86nm,0.7s						
O20A				IAML		07 23 41.4	
	comp=E,103nm,0.8s						
ISCO	**Idaho Springs**	**1.76**	**57**		**Pn**	**07 23 20.7**	**+2.0**
MVCO	**Mesa Verde**	**1.82**	**205**		**Pg**	**07 23 22.3**	**-0.1**
MVCO				IAML		07 23 55.8	
	comp=E,74nm,0.9s						
MVCO				IAML		07 24 22.4	
	comp=E,56nm,1.9s						
Q24A	**Divide**	**1.87**	**86**		**Pb**	**07 23 23.1**	**+0.9**
Q24A				IAML		07 23 58.4	
	comp=N,44nm,0.8s						
SDCO	**Great Sand Dun**	**1.96**	**124**		**Pg**	**07 23 24.9**	**-0.2**
RDMU	**Red Mountain**	**2.31**	**318**		**Pn**	**07 23 28.5**	**+2.2**
SRU	**San Rafael Swe**	**2.34**	**277**		**Pn**	**07 23 28.6**	**+1.9**
N23A	**Red Feather La**	**2.37**	**31**		**Pn**	**07 23 29.9**	**+2.8**
N23A				IAML		07 24 05.7	
	comp=N,34nm,0.7s						
N23A				IAML		07 24 14.0	
	comp=E,27nm,2.0s						
P17A	**Butcher Ranch,**	**2.56**	**285**		**Pn**	**07 23 31.3**	**+1.7**
Q16A	**Castle Valley**	**2.83**	**272**		**Pn**	**07 23 35.6**	**+2.2**
TMUT	**Trail Mountain**	**2.89**	**280**		**Pn**	**07 23 36.5**	**+2.2**
T25A	**Trinidad**	**3.01**	**124**		**Pb**	**07 23 40.1**	**-1.6**
T25A				IAML		07 24 34.2	
	comp=N,19nm,0.8s						
T25A				IAML		07 24 34.2	
	comp=E,18nm,1.1s						
MPU	**Maple Canyon**	**3.37**	**291**		**Pn**	**07 23 42.3**	**+1.5**
JLU	**Jordanelle**	**3.48**	**301**		**Pn**	**07 23 44.2**	**+1.9**
NLU	**North Lily Min**	**3.68**	**289**		**Pn**	**07 23 46.3**	**+1.2**
CTU	**Camp Tracy**	**3.72**	**301**	Pn	**Pn**	**07 23 47.1**	**+1.5**
TCUT	**Toone Canyon**	**3.73**	**308**		**Pn**	**07 23 47.6**	**+1.9**
MTPU	**Mount Pierson**	**3.74**	**259**	Pn	**Pn**	**07 23 48.5**	**+2.5**
ANMO	**Albuquerque**	**4.01**	**167**		**Pn**	**07 23 52.7**	**+3.2**
ANMO				IAML		07 24 59.4	
	comp=E,7.7nm,4.5s						
ANMO				IAML		07 25 22.9	
	comp=E,8.0nm,4.5s						
PKCU	**Pink Cliffs**	**4.02**	**251**	Pn	**Pn**	**07 23 53.7**	**+3.8**
HWUT	**Hardware Ranch**	**4.12**	**313**		**Pn**	**07 23 52.5**	**+1.4**
BW06	**Boulder Array**	**4.19**	**339**		**Pn**	**07 23 53.6**	**+1.5**
BW06				IAML		07 25 16.1	
	comp=N,11nm,0.9s						
PD31	**Pinedale Array**	**4.19**	**339**		**Pn**	**07 23 53.6**	**+1.5**
PDAR	**Pinedale Array**	**4.19**	**339**	Pn	**Pn**	**07 23 53.2**	**+1.1**
PDAR				Pg	**Pb**	**07 24 02.8**	**+1.1**
	comp=N,0.3nm,0.3s,baz=144,slow=14,SNR=14						
PDAR				Pg	Pg	07 24 56.9	
	comp=N,1.4nm,0.3s,baz=150,slow=15,SNR=32						
PDAR				Lg	Lg	07 24 56.9	
	comp=N,0.4nm,0.3s,baz=158,slow=30,SNR=2.7						
DUG	**Dugway, Tooele**	**4.29**	**290**		**Pn**	**07 23 54.4**	**+1.0**
DUG				IAML		07 25 25.4	
	comp=N,10nm,2.5s						
DUG				IAML		07 26 19.4	
	comp=N,8.7nm,4.6s						
SPUT	**South Promonto**	**4.49**	**304**		**Pn**	**07 23 56.7**	**+0.6**
CCUT	**Cedar City**	**4.77**	**256**	Pn	**Pn**	**07 24 01.3**	**+1.2**
REDW	**Red Top Meadow**	**5.14**	**332**		**Pn**	**07 24 06.9**	**+1.7**
FXWY	**Fox Creek**	**5.44**	**332**	Pn	**Pn**	**07 24 09.7**	**+0.4**
NVAR	**Mina Array Bea**	**8.44**	**270**	Pn	Pn	07 24 60.0	+10
	comp=N,0.0nm,0.3s,baz=83,slow=15,SNR=2.3						
YKA	**Yellowknife Ar**	**24.05**	**352**	P	**P**	**07 27 58.7**	**-4.3**
	comp=N,0.2nm,0.8s,baz=176,slow=7.5,SNR=4.3						

NNC 15 07:25:06.7±0.5,49°.99N×78°.67E,h0km,mb3.6,mpv3.1, 13C-8D,Error ellipse: s-maj=4.3km s-min=2.5km az=62.0,Suspected Mining explosion.,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.60**	**351**	↑P	Pg	07 25 18.4	+0.2
KUR07				↓S	Sg	07 25 27.2	+1.1
KUR06	**Kurchatov Arra**	**0.62**	**351**	↑P	Pg	07 25 18.8	+0.2
KUR06				↑S	Sg	07 25 28.0	+1.4
KUR14	**Kurchatov Arra**	**0.63**	**355**	↑P	Pg	07 25 18.5	-0.2
KUR14				↑S	Sg	07 25 27.3	+0.4
KUR15	**Kurchatov Arra**	**0.64**	**354**	↓P	Pg	07 25 18.9	+0.1
KUR15				↓S	Sg	07 25 27.9	+0.8
KURBB	**Kurchatov Arra**	**0.64**	**352**	↑P	Pg	07 25 19.1	+0.2
	9.7nm,0.3s						
KURBB				↓S	Sb	07 25 29.3	-0.9
	48nm,0.5s						
KUR16	**Kurchatov Arra**	**0.65**	**350**	↑P	Pg	07 25 19.3	+0.2
KUR16				↓S	Sg	07 25 28.3	+0.8
KUR17	**Kurchatov Arra**	**0.66**	**349**	↑P	Pg	07 25 19.7	+0.5
KUR17				↑S	Sg	07 25 29.0	+1.2
KUR05	**Kurchatov Arra**	**0.66**	**353**	↓P	Pg	07 25 19.4	0.0
KUR05				↓S	Sg	07 25 28.4	+0.5
KUR04	**Kurchatov Arra**	**0.68**	**353**	↑P	Pg	07 25 19.8	+0.1
KUR04				↑S	Sg	07 25 29.7	+1.2
KURK	**Kurchatov**	**0.73**	**357**	↑P	Pg	07 25 20.4	-0.2
	3.3nm,0.3s						
KURK				↓S	Sg	07 25 30.8	+0.8
	13nm,0.5s						
SEM	**Semipalatinsk**	**1.10**	**67**	P	Pb	07 25 28.6	-0.1
	8.1nm,0.3s						
SEM				S	Sb	07 25 43.0	-0.6
	27nm,0.3s						
BRZS	**Berezniki**	**3.87**	**272**	Pg	Pg	07 26 18.9	-1.9
	4.1nm,0.3s						
BRZS				Lg	Lg	07 27 09.9	
	4.2nm,0.5s						
MAKZ	**Makanchi**	**3.87**	**144**	↑Lg	Lg	07 27 06.9	
	2.2nm,0.5s						
KAPS	**Kapalarasan**	**4.73**	**174**	Pg	Pb	07 26 32.8	+2.4
	0.8nm,0.3s						
KAPS				Lg	Lg	07 27 34.0	
	3.7nm,0.6s						
ZSN	**Zaisan**	**4.82**	**119**	Pg	Pg	07 26 36.5	-2.6
	2.8nm,0.2s						
ZSN				Lg	Lg	07 27 39.5	
	3.8nm,0.5s						

ARXS	**Arharly**	**5.81**	**186**	Pg	Pg	07 26 54.6	-3.3
	1.0nm,0.4s						
ARXS				Lg	Lg	07 28 10.7	
	4.8nm,0.7s						

*ISCJB **15** 07:29:00.9±0.5,6°.84N±0°.03×73°.12W±0°.03,h155km±5km, mb3.1/2,Error ellipse: s-maj=5.6km s-min=4.1km az=17.8*
*IDC **15** 07:29:00.5±2.5,7°.29N×73°.60W,h108km±63km,mb2.8/2, mb1 3.4/4,mb1mx3.0/37,mbtmp3.5/4,MS3.1/1,Ms1 3.1/1, ms1mx2.5/13,Error ellipse: s-maj=88.1km s-min=8.6km az=132.0*
*RSNC **15** 07:29:02.8±1.0,6°.81N×73°.15W,h146km±4km,ML3.3, Mw3.4*

ISC 15 07:29:00.9±1.0,6°.84N±0°.03×73°.11W±0°.04,h157km±6km, n31,σ1s04/52,2C-4D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**196**	↓*i*P	**Pn**	**07 29 22.8**	**+0.3**
BARC				*e*S	**Sn**	**07 29 37.7**	**-1.2**
BARC				*i*		07 29 39.0	
	comp=Z,980nm,0.2s						
PAMC	**Pamplona, Colo**	**0.65**	**39**	↓*e*P	**Pn**	**07 29 25.5**	**+1.1**
PAMC				*e*S	**Sn**	**07 29 42.6**	**+0.3**
PAMC				*i*		07 29 45.0	
	comp=Z,167nm,0.5s						
BRRC	**Barranca, Sant**	**0.65**	**294**	↓*i*P	**Pn**	**07 29 24.6**	**+0.7**
BRRC				*e*S	**Sn**	**07 29 41.3**	**-0.1**
BRRC				*i*		07 29 45.0	
	comp=Z,254nm,0.1s						
RUSC	**La Rusia**	**0.94**	**178**	↑*i*P	**Pn**	**07 29 26.5**	**+0.1**
RUSC				*e*S	**Sn**	**07 29 44.8**	**-1.1**
RUSC				*i*		07 29 46.5	
	comp=Z,178nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	*e*P	**Pn**	**07 29 29.4**	**-0.3**
PTBC				*e*S	**Sn**	**07 29 50.3**	**-1.4**
PTBC				*i*		07 29 53.6	
	comp=Z,212nm,0.2s						
TAMC	**Tame, Arauca**	**1.37**	**107**	↓*i*P	**Pn**	**07 29 31.1**	**+1.4**
TAMC				*e*S	**Sn**	**07 29 52.6**	**+0.8**
TAMC				*i*		07 30 02.2	
	comp=Z,114nm,1.1s						
OCAC	**Ocana**	**1.41**	**352**	*e*P	**Pn**	**07 29 30.8**	**+0.5**
OCAC				*e*S	**Sn**	**07 29 52.5**	**-0.3**
OCAC				*i*		07 29 55.9	
	comp=Z,273nm,0.2s						
SPBC	**San Pablo de B**	**1.52**	**219**	*e*P	**Pn**	**07 29 31.7**	**+0.5**
SPBC				*e*S	**Sn**	**07 29 53.5**	**-1.1**
SPBC				*i*		07 30 00.7	
	comp=Z,239nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.85**	**291**	*e*P	**Pn**	**07 29 35.1**	**+0.4**
ZARC				*e*S	**Sn**	**07 30 00.9**	**+0.1**
ZARC				*i*		07 30 07.3	
	comp=Z,206nm,0.2s						
NORC	**Norcasia**	**2.16**	**234**	*e*P	**Pn**	**07 29 38.9**	**+0.6**
NORC				*e*S	**Sn**	**07 30 07.0**	**-0.2**
NORC				*i*		07 30 11.8	
	comp=Z,233nm,0.5s						
SMLC	**San Martn de**	**2.17**	**334**	*e*P	**Pn**	**07 29 39.0**	**+0.6**
SMLC				*e*S	**Sn**	**07 30 07.2**	**-0.3**
SMLC				*i*		07 30 09.4	
	comp=Z,199nm,0.4s						
CHIC	**Chingaza**	**2.28**	**196**	*e*P	**Pn**	**07 29 40.8**	**+0.7**
CHIC				*e*S	**Sn**	**07 30 09.8**	**-0.6**
CHIC				*i*		07 30 17.0	
	comp=Z,87nm,0.4s						
ROSC	**El Rosal**	**2.32**	**211**	*e*P	**Pn**	**07 29 42.7**	**+2.1**
ROSC				*e*S	**Sn**	**07 30 12.9**	**+1.7**
ROSC				*i*		07 30 24.1	
	comp=Z,151nm,0.4s						
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**07 29 42.1**	**+1.6**
	comp=Z,28nm,0.3s,baz=270,slow=23,SNR=222						
ROSC				S	**Sn**	**07 30 12.0**	**+0.8**
	comp=Z,66nm,0.3s,baz=137,slow=21,SNR=21						
HELC	**Santa Helena**	**2.49**	**255**	*e*P	**Pn**	**07 29 43.3**	**+0.8**
HELC				*e*S	**Sn**	**07 30 15.2**	**+0.5**
HELC				*i*		07 30 21.6	
	comp=Z,97nm,0.3s						
UREC	**San Jos de Ur**	**2.57**	**291**	*e*P	**Pn**	**07 29 43.6**	**+0.4**
UREC				*i*		07 30 26.9	
	comp=Z,81nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*e*P	**Pn**	**07 29 46.9**	**+1.0**
GUY2C				*e*S	**Sn**	**07 30 21.1**	**+0.4**
GUY2C				*i*		07 30 27.4	
	comp=Z,112nm,0.6s						
VILC	**Villavicencio,**	**2.77**	**192**	*e*P	**Pn**	**07 29 46.1**	**+0.3**
VILC				*e*S	**Sn**	**07 30 20.6**	**0.0**
VILC				*i*		07 30 24.5	
	comp=Z,130nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.79**	**160**	↑*i*P	**Pn**	**07 29 45.9**	**-0.2**
PTGC				*e*S	**Sn**	**07 30 19.1**	**-1.8**
PTGC				*i*		07 30 24.2	
	comp=Z,48nm,0.4s						
CBOC	**Ciudad Bolivar**	**3.04**	**252**	*e*P	**Pn**	**07 29 50.6**	**+1.4**
CBOC				*i*		07 30 45.5	
	comp=Z,29nm,0.4s						
DBBC	**Dabeiba**	**3.08**	**274**	*e*P	**Pn**	**07 29 50.5**	**+0.9**
DBBC				*i*		07 30 35.2	
	comp=Z,84nm,0.4s						
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**07 29 51.8**	**+0.7**
	comp=Z,17nm,0.3s,baz=248,slow=0.4,SNR=9.8						
SDV				S	**Sn**	**07 30 30.4**	**+0.3**
	comp=Z,6.6nm,0.3s,baz=52,slow=21,SNR=8.0						
ARGC	**Ariguani, Magd**	**3.21**	**340**	*e*P	**Pn**	**07 29 53.0**	**+1.9**
ARGC				*i*		07 30 34.1	
	comp=Z,24nm,1.4s						
ANIL	**Santa Ana**	**3.26**	**225**	*e*P	**Pn**	**07 29 54.1**	**+2.0**
ANIL				*i*		07 30 37.4	
	comp=Z,196nm,0.3s						
PRAC	**Prado**	**3.57**	**210**	*e*P	**Pn**	**07 29 56.3**	**+0.4**
PRAC				*e*S	**Sn**	**07 30 38.6**	**0.0**
PRAC				*i*		07 30 43.1	
	comp=Z,118nm,0.3s						
ORTC	**Ortega, Tolima**	**3.60**	**216**	*e*P	**Pn**	**07 29 57.0**	**+0.8**
ORTC				*e*S	**Sn**	**07 30 40.2**	**+0.9**
ORTC				*i*		07 30 47.3	
	comp=Z,62nm,0.4s						
SJCC	**San Jacinto, C**	**3.67**	**326**	*e*P	**Pn**	**07 29 57.1**	**+0.1**
SJCC				*e*S	**Sn**	**07 30 38.4**	**-2.4**
SJCC				*i*		07 30 52.3	
	comp=Z,32nm,1.1s						
MACC	**Macarena, Meta**	**4.72**	**189**	*e*P	**Pn**	**07 30 09.7**	**-1.1**
MACC				*i*		07 31 03.5	
	comp=Z,15nm,1.0s						
MDP	**Montagnes des**	**20.43**	**94**	LR	LR	07 42 35.0	
	comp=Z,45nm,18.3s,baz=308,slow=39						
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**07 35 49.3**	**-1.7**
	comp=Z,0.1nm,0.4s,baz=123,slow=9.8,SNR=1.6						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**07 39 13.4**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=133,slow=6.5,SNR=9.9						

*IDC **15** 07:32:09.8±1.4,12°.71N×59°.19W,h0km,mb3.8/6, mb1 4.2/9,mb1mx3.8/52,mbtmp4.0/9,ML4.3/3,Error ellipse: s-maj=37.9km s-min=21.8km az=72.0*
*TRN **15** 07:32:17.8,12°.61N×59°.74W,h58km,MD3.8*
*ISCJB **15** 07:32:18.0±0.5,12°.61N±0°.02×59°.73W±0°.04,h67km±5km, mb3.7/6,Error ellipse: s-maj=6.7km s-min=3.6km az=12.6*

ISC 15 07:32:19.4±1.0,12°.60N±0°.03×59°.75W±0°.06,h58km±9km, n56,σ1s11/77,mb3.8/6,5C,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCHC	**Barbados, Cave**	**0.55**	**12**	*e*P	**Pn**	**07 32 31.2**	**-0.5**
BCHC				*e*S	**Sn**	**07 32 40.3**	**-0.3**
BBGH	**Gun Hill**	**0.57**	**19**	*e*P	**Pn**	**07 32 30.8**	**-1.3**
BBGH				*e*S	**Sn**	**07 32 41.6**	**+0.4**
TOSP	**Speyside**	**1.50**	**211**	*e*P	**Pn**	**07 32 43.2**	**-0.9**
TOSP				*e*S	**Sn**	**07 33 02.7**	**0.0**
SVCV	**St. Vincent, C**	**1.52**	**296**	↑*i*P	**Pn**	**07 32 43.9**	**-0.4**
SVCV				*e*S	**Sn**	**07 33 03.4**	**+0.3**
SVV	**Soufriere Volc**	**1.60**	**297**	↑*i*P	**Pn**	**07 32 46.1**	**+0.7**
SVV				*e*S	**Sn**	**07 33 04.9**	**-0.2**
MCLT	**Moule a Chique**	**1.60**	**314**	*e*P	**Pn**	**07 32 45.1**	**-0.4**
MCLT				*e*S	**Sn**	**07 33 05.5**	**+0.4**
SVB	**Belmont**	**1.61**	**295**	↑*i*P	**Pn**	**07 32 45.0**	**-0.6**
SVB				*e*S	**Sn**	**07 33 05.1**	**-0.3**
SLPA	**Patience**	**1.69**	**318**	*e*P	**Pn**	**07 32 47.0**	**+0.3**
SLPA				*e*S	**Sn**	**07 33 07.4**	**+0.1**
SLDE	**Delcer**	**1.75**	**313**	*e*P	**Pn**	**07 32 47.8**	**+0.3**
SLDE				*e*S	**Sn**	**07 33 08.5**	**-0.2**
SLB	**Belfond**	**1.76**	**314**	↑*i*P	**Pn**	**07 32 48.3**	**+0.7**
SLB				*e*S	**Sn**	**07 33 08.8**	**-0.2**
GRSS	**Sisters**	**1.85**	**261**	*e*P	**Pn**	**07 32 49.5**	**+0.8**
GRSS				*e*S	**Sn**	**07 33 10.7**	**-0.3**
SLBI	**Saint Lucia, B**	**1.85**	**320**	↑*i*P	**Pn**	**07 32 47.8**	**-1.1**
SLBI				*e*S	**Sn**	**07 33 10.7**	**-0.5**
GRHS	**Sauteurs**	**1.89**	**259**	*e*P	**Pn**	**07 32 49.8**	**+0.5**
GRHS				*e*S	**Sn**	**07 33 12.1**	**+0.1**
GRGR	**Grenville**	**1.92**	**256**	*e*P	**Pn**	**07 32 49.5**	**-0.2**
GRGR				*e*S	**Sn**	**07 33 13.9**	**+1.0**
MPOM	**Morne Pois Mar**	**2.13**	**330**	*e*P	**Pn**	**07 32 51.7**	**-1.0**
MVM	**Montagne Vaucl**	**2.24**	**330**	*e*P	**Pn**	**07 32 53.4**	**-0.9**
LPMF	**Morne Lapointe**	**2.29**	**329**	*e*P	**Pn**	**07 32 54.2**	**-0.7**
BIM	**Bigot**	**2.30**	**326**	*e*P	**Pn**	**07 32 54.5**	**-0.5**
TRMF	**Trois Ilets**	**2.31**	**327**	*e*P	**Pn**	**07 32 54.6**	**-0.5**
ZAM	**Aeronautique**	**2.33**	**328**	*e*P	**Pn**	**07 32 54.8**	**-0.5**
TBH	**Brigand Hill**	**2.47**	**212**	*e*P	**Pn**	**07 32 57.1**	**-0.2**
TBH				*e*S	**Sn**	**07 33 25.8**	**-0.4**
FDF	**Fort de France**	**2.52**	**327**	*e*P	**Pn**	**07 32 57.4**	**-0.7**
FDF				*e*S	**Sn**	**07 33 27.4**	**-0.2**
TRN	**Trinidad (W)**	**2.53**	**220**	*e*P	**Pn**	**07 32 58.5**	**+0.5**
TRN				*e*S	**Sn**	**07 33 27.0**	**-0.7**
PML	**Morne Lenard**	**2.58**	**327**	*e*P	**Pn**	**07 32 58.9**	**0.0**
GBMF	**Grand Be**	**2.58**	**328**	*e*P	**Pn**	**07 32 58.8**	**-0.1**
BAMF	**Morne Balai**	**2.59**	**328**	*e*P	**Pn**	**07 32 58.8**	**-0.2**
CXM	**Morne La Croix**	**2.60**	**328**	*e*P	**Pn**	**07 32 59.5**	**+0.3**
SVN	**Savane Anatole**	**2.62**	**328**	*e*P	**Pn**	**07 32 59.2**	**-0.2**
PCM	**Pelee Case Pet**	**2.62**	**327**	*e*P	**Pn**	**07 32 58.5**	**-0.9**
PCM	**Pelee Case Pet**	**2.62**	**327**	*e*P	**Pn**	**07 32 59.4**	**-0.1**
GUIV	**Guiria**	**3.10**	**232**	*e*P	**Pn**	**07 33 06.9**	**+0.9**
GUIV				*e*S	**Sn**	**07 33 42.0**	**+0.1**
DWS	**Wesley**	**3.32**	**333**	*e*P	**Pn**	**07 33 08.5**	**-0.4**
DWS				*e*S	**Sn**	**07 33 46.1**	**-1.1**
BBL	**Barbe's Block**	**3.36**	**330**	*e*P	**Pn**	**07 33 09.2**	**-0.3**
BBL				*e*S	**Sn**	**07 33 46.3**	**-1.8**
MDPO	**Dominica; Chan**	**3.39**	**331**	*e*P	**Pn**	**07 33 09.9**	**+0.1**
MDPO				*e*S	**Sn**	**07 33 47.4**	**-1.5**
TDBA	**Terre de Bas,**	**3.71**	**331**	*e*P	**Pn**	**07 33 15.0**	**+0.7**
CBE	**Ff, Capester**	**3.89**	**333**	*e*P	**Pn**	**07 33 16.7**	**-0.1**
DEG	**La Desirade**	**3.91**	**341**	*e*P	**Pn**	**07 33 16.2**	**-0.8**
ABD	**La Joyeuse, An**	**4.21**	**337**	*e*P	**Pn**	**07 33 20.9**	**-0.2**
MLYT	**Lee's Yard**	**4.73**	**330**	*e*P	**Pn**	**07 33 28.4**	**+0.1**
MLYT	**Lee's Yard**	**4.73**	**330**	*e*S	**Sn**	**07 34 19.0**	**-2.9**
BPA	**Boggy Peak**	**4.87**	**335**	*e*P	**Pn**	**07 33 30.8**	**+0.6**
ORIV	**Oritupano**	**5.02**	**226**	*e*P	**Pn**	**07 33 32.1**	**-0.2**
ORIV	**Oritupano**	**5.02**	**226**	*e*S	**Sn**	**07 34 27.0**	**-2.0**
PCRV	**Puerto La Cruz**	**5.36**	**244**	Pn	**Pn**	**07 33 38.2**	**+1.3**
	7.2nm,0.3s,baz=71,slow=3.6,SNR=34						
PCRV				Sn	**Sn**	**07 34 35.7**	**-1.8**
	4.7nm,0.3s,baz=251,slow=18,SNR=4.1						
SKOC	**St. Kitts, UWI**	**5.49**	**329**	*e*P	**Pn**	**07 33 40.1**	**+1.5**
SKI	**Saint Kitts**	**5.53**	**329**	*e*P	**Pn**	**07 33 39.8**	**+0.6**
SJG	**San Juan**	**8.26**	**312**	Pn	**Pn**	**07 34 16.1**	**-0.5**
	9.7nm,0.3s,baz=136,slow=17,SNR=32						
BAUV	**El Baul**	**8.92**	**247**	*e*P	**Pn**	**07 34 26.5**	**+0.8**
BAUV	**El Baul**	**8.92**	**247**	*e*S	**Sn**	**07 35 58.6**	**-6.2**
MDP	**Montagnes des**	**10.23**	**136**	Pn	Pn	07 34 33.7	-10
	1.2nm,0.3s,baz=326,slow=16,SNR=19						
MDP				Sn	Sn	07 36 19.0	-18
	6.6nm,0.3s,baz=311,slow=16,SNR=5.7						
ATAH	**Atahualpa**	**26.98**	**224**	P	**P**	**07 37 59.0**	**+2.6**
	5.5nm,0.6s,baz=18,slow=8.2,SNR=4.1						
TXAR	**Lajitas Array**	**43.98**	**299**	P	**P**	**07 40 21.1**	**-0.3**
	0.2nm,0.6s,baz=108,slow=8.8,SNR=3.2						
PDAR	**Pinedale Array**	**52.37**	**315**	P	**P**	**07 41 26.2**	**+0.1**
	0.7nm,0.7s,baz=116,slow=10,SNR=7.6						
PLCA	**Paso Flores**	**54.00**	**190**	P	**P**	**07 41 37.0**	**-0.7**
	1.5nm,0.9s,baz=11,slow=15,SNR=3.6						
NVAR	**Mina Array Bea**	**57.72**	**308**	P	**P**	**07 42 05.5**	**+0.8**
	0.5nm,0.6s,baz=100,slow=7.6,SNR=5.8						
YKA	**Yellowknife Ar**	**63.07**	**335**	P	**P**	**07 42 40.3**	**-0.2**
	0.4nm,0.7s,baz=104,slow=7.5,SNR=8.5						

*ISCJB **15** 07:35:38.4±0.4,23°.09N±0°.03×94°.25E±0°.04,h97km±4km, mb3.9/11,Error ellipse: s-maj=6.8km s-min=4.7km az=161.3*
*NDI **15** 07:35:38.8±1.8,23°.13N×94°.20E,h15km±20km,ML3.7, mb4.1(NEIC)*
*NEIC **15** 07:35:40.0±1.9,23°.10N±0°.06×94°.28E±0°.07,h96km±9km, mb4.1/9*
*IDC **15** 07:35:41.6±2.0,22°.87N×94°.11E,h109km±21km,mb3.7/11, mb1 3.7/12,mb1mx3.3/53,mbtmp3.9/12,Error ellipse: s-maj=28.1km s-min=10.6km az=42.0*

ISC 15 07:35:39.4±0.9,23°.10N±0°.04×94°.16E±0°.05,h89km±9km, n41,σ1s79/53,mb4.0/16,Myanmar-India border region

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

GAR				IAmb	IAmb	07 41 05.0		
	comp=Z,8.3nm,0.7s							
YOJ	**Yonaguni jima**	**26.41**	**81**	P	**P**	**07 41 07.1**	**-0.8**	
KURBB	**Kurchatov Arra**	**30.05**	**340**	P	**P**	**07 41 41.6**	**+1.6**	
	comp=Z,1.0nm,0.6s,baz=151,slow=9.0,SNR=5.7							
KURK	**Kurchatov**	**30.11**	**340**	P	**P**	**07 41 41.1**	**+0.6**	
KURK				IAmb	IAmb	07 41 49.9		
	comp=Z,4.7nm,1.4s							
ZALV	**Zalesovo Beam**	**31.60**	**349**	P	**P**	**07 41 55.1**	**+1.5**	
	comp=Z,0.7nm,0.3s,baz=156,slow=11,SNR=3.0							
AKTO	**Aktyubinsk**	**39.16**	**323**	P	**P**	**07 43 00.3**	**+1.9**	
	comp=Z,0.9nm,0.4s,baz=135,slow=10.0,SNR=2.5							
SOEI	**Soe**	**43.98**	**135**	P	**P**	**07 43 37.4**	**-1.0**	
RAYN	**Ar Rayn**	**44.52**	**281**	P	**P**	**07 43 41.8**	**-0.7**	
AKASG	**Malin Array Be**	**56.69**	**316**	P	**P**	**07 45 12.6**	**-1.0**	
	comp=Z,0.2nm,0.3s,baz=78,slow=5.9,SNR=3.2							
WRA	**Warramunga Arr**	**58.02**	**134**	P	**P**	**07 45 22.2**	**-1.2**	
	comp=Z,0.5nm,0.6s,baz=325,slow=7.3,SNR=12							
FINES	**FINESS Array B**	**59.52**	**329**	P	**P**	**07 45 34.2**	**+1.0**	
	comp=Z,1.2nm,0.7s,baz=87,slow=6.0,SNR=2.9							
KMBO	**Kilima Mbogo**	**60.33**	**255**	P	**P**	**07 45 38.0**	**-1.8**	
KMBO				IAmb	IAmb	07 45 43.6		
	comp=Z,1.4nm,0.8s							
ASAR	**Alice Springs**	**60.43**	**138**	P	**P**	**07 45 39.4**	**-0.6**	
	comp=Z,0.9nm,0.5s,baz=318,slow=6.6,SNR=24							
ARCES	**ARCESS Array B**	**61.11**	**338**	P	**P**	**07 45 45.4**	**+1.4**	
	comp=Z,1.6nm,0.8s,baz=106,slow=6.7,SNR=1.8							
HFS	**Hagfors**	**65.54**	**327**	P	**P**	**07 46 13.8**	**+0.5**	
	comp=Z,1.5nm,0.5s,baz=101,slow=14,SNR=3.8							
TXAR	**Lajitas Array**	**125.11**	**19**	PKP	**PKiKP**	**07 54 30.6**	**0.0**	
	comp=Z,0.1nm,0.5s,baz=33,slow=3.5,SNR=1.5							

IDC 15 07:53:04.3±3.5, 61.77S×154.45E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.9/22, mbtmp3.8/4, ML3.8/1, MS3.6/8, Ms1 3.7/8, ms1mx3.4/19, Error ellipse: s-maj=249.6km s-min=24.7km az=76.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNDA	**Vanda**	**16.01**	**174**	Pn		Pn	07 56 49.7	-0.8
	0.4nm,0.3s,baz=342,slow=12,SNR=14							
VNDA				LR		LR	08 02 33.7	
	comp=Z,366nm,18.1s,baz=352,slow=36							
RPZ	**Rata Peaks**	**20.57**	**36**	LR		LR	08 04 20.3	
	comp=Z,251nm,19.2s,baz=198,slow=33							
URZ	**Urewera**	**27.39**	**41**	LR		LR	08 09 51.5	
	comp=Z,160nm,18.3s,baz=204,slow=37							
QSPA	**South Pole Qui**	**28.32**	**180**	P		P	07 58 59.7	+0.2
	0.7nm,0.9s,baz=21,slow=6.7,SNR=2.2							
QSPA				LR		LR	08 09 50.3	
	comp=Z,154nm,20.6s,baz=14,slow=36							
MAW	**Mawson**	**36.15**	**220**	LR		LR	08 14 54.9	
	comp=Z,184nm,19.1s,baz=63,slow=36							
H01W1	**Cape Leeuwin H**	**36.95**	**298**	T		T	08 39 29.0	
	baz=148,slow=75,SNR=56							
H01W2	**Cape Leeuwin H**	**36.96**	**298**	T		T	08 39 31.2	
	baz=148,slow=75,SNR=59							
H01W3	**Cape Leeuwin H**	**36.97**	**298**	T		T	08 39 32.3	
	baz=148,slow=75,SNR=56							
ASAR	**Alice Springs**	**40.59**	**330**	P		P	08 00 45.6	+0.1
	1.5nm,0.8s,baz=165,slow=8.6,SNR=17							
ASAR				PcP		PcP	08 02 47.8	+0.1
	0.5nm,1.0s,baz=151,slow=2.1,SNR=3.6							
WRA	**Warramunga Arr**	**44.08**	**332**	P		P	08 01 13.3	-0.7
	1.2nm,0.8s,baz=161,slow=6.9,SNR=9.2							
WRA				LR		LR	08 17 23.8	
	comp=Z,52nm,19.7s,baz=50,slow=33							
FITZ	**Fitzroy Crossi**	**48.09**	**322**	LR		LR	08 20 57.8	
	comp=Z,49nm,18.0s,baz=166,slow=35							
H08S2	**Diego Garcia H**	**79.50**	**273**	T		T	09 32 55.1	
	baz=152,slow=76,SNR=9.1							
H08S1	**Diego Garcia H**	**79.51**	**273**	T		T	09 32 54.0	
	baz=152,slow=76,SNR=7.2							
H08S3	**Diego Garcia H**	**79.52**	**273**	T		T	09 32 56.2	
	baz=152,slow=76,SNR=9.9							
CMAR	**Chiang Mai Arr**	**91.22**	**309**	LR		LR	08 45 34.4	
	comp=Z,7.6nm,19.2s,baz=350,slow=34							

SJA 15 08:00:51.8±0.7, 31.01S×72.30W, h30km, ML4.8, MW4.7
IDC 15 08:00:54.9±0.6, 30.81S×71.42W, h0km, mb4.5/12, mb1 4.5/17, mb1mx4.4/25, mbtmp4.4/17, ML4.0/5, MS3.5/6, Ms1 3.5/6, ms1mx3.2/24, Error ellipse: s-maj=20.9km s-min=14.1km az=89.0
GUC 15 08:01:01.4±0.7, 30.77S×71.39W, h35km±4km, ML4.5
NEIC 15 08:01:02.4±1.7, 30.80S±0.05×71.4W±0.1, h50km±2km
BJI 15 08:01:02.0±0.0, 30.80S×71.60W, h40km, mB5.1/1
ISCJB 15 08:01:03.1±0.4, 30.71S±0.02×71.31W±0.04, h66km±3km, mb4.4/14, Error ellipse: s-maj=5.8km s-min=3.5km az=177.7
VAO 15 08:01:04.7±0.7, 30.95S×71.52W, h98km, mb4.5

ISC 15 08:00:58.5±0.5, 30.79S±0.03×71.55W±0.05, h20km±4km, n209, σ1°60/217, mb4.8/35, MS3.6/3, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO02	**Combarbal**	**0.62**	**131**	*eP*		**Pn**	**08 01 13.7**	**+1.4**
CO02				*i* S		**Sn**	**08 01 22.5**	**+0.7**
CO02				IAML			08 01 23.3	
	comp=N,121μm,0.3s							
GO04	**Tololo Observa**	**0.89**	**47**	*eP*		**Pn**	**08 01 17.4**	**+1.3**
GO04				*i* S		**Sn**	**08 01 29.6**	**+1.1**
GO04				IAML			08 01 30.7	
	comp=N,87μm,0.2s							
GO04	**Tololo Observa**	**0.89**	**47**			**Pn**	**08 01 17.8**	**+1.7**
GO04				Sn		**Sn**	**08 01 29.7**	**+1.1**
LSCH	**La Serena**	**0.92**	**17**	*eP*		**Pn**	**08 01 18.3**	**+2.1**
LSCH				*i* S		**Sn**	**08 01 30.5**	**+1.7**
LSCH				IAML			08 01 35.6	
	comp=N,11μm,0.2s							
ROCH	**El Roble**	**2.22**	**168**	*i* S		**Sb**	**08 02 07.5**	**+2.2**
ROCH				IAML			08 02 12.3	
	comp=E,3μm,0.7s							
ROC1	**El Roble**	**2.23**	**168**			**Pb**	**08 01 38.9**	**+0.8**
VA01	**Torpederas**	**2.23**	**182**	*i* S		**Sb**	**08 02 07.4**	**+2.2**
VA01				IAML			08 02 11.6	
	comp=E,2μm,0.3s							
PEL	**Peldehue**	**2.46**	**163**	*i* S		**Sb**	**08 02 12.6**	**+0.7**
PEL				IAML			08 02 24.4	
	comp=E,3μm,0.4s							
PEL	**Peldehue**	**2.46**	**163**			**Pb**	**08 01 40.6**	**-1.4**
AMOG	**MOGNA**	**2.63**	**94**	*i* P		**Pb**	**08 01 44.2**	**-0.7**
AMOG				IAML			08 02 39.6	
	comp=Z,1μm,0.5s							
RTLL	**Cerro Villicun**	**2.69**	**102**	*i* P		**Pb**	**08 01 44.1**	**-1.9**
RTLL				IAML			08 02 38.7	
	comp=Z,1μm,0.5s							
CLCH	**Cerro Calan**	**2.73**	**162**	*i* S		**Sb**	**08 02 19.5**	**-0.4**
FCH	**Farellones**	**2.75**	**157**	*eP*		**Pb**	**08 01 45.0**	**-2.0**
FCH				*i* S		**Sb**	**08 02 20.5**	**+0.1**
RTCV	**Cerro Valdivia**	**2.79**	**113**	*i* P		**Pb**	**08 01 46.1**	**-1.5**
RTCV				*eS*		**Sb**	**08 02 24.3**	**+2.9**
RTCV				IAML			08 02 36.6	
	comp=Z,932nm,0.9s							
UTNM	**Universidad Te**	**3.11**	**133**	*i* P		**Pb**	**08 01 50.8**	**-2.4**
LMEL	**Las Melosas**	**3.25**	**160**	*eP*		**Pb**	**08 01 52.5**	**-3.2**
LMEL				*i* S		**Sb**	**08 02 32.5**	**-2.4**
GO03	**Copiap**	**3.39**	**20**			**Pn**	**08 01 53.7**	**+3.4**
GO03	**Copiap**	**3.39**	**20**	*i* P		**Pn**	**08 01 52.9**	**+2.6**
GO03				*eS*		**Sb**	**08 02 36.8**	**-1.8**
VCA	**Vinchina**	**3.56**	**56**	*i* P		**Pb**	**08 01 58.0**	**-2.8**
VCA				*eS*		**Sb**	**08 02 45.7**	**+2.1**
VCA				IAML			08 02 52.9	
	comp=Z,4μm,0.6s							
ACAN	**Cantantal**	**4.00**	**113**	*i* P		**Pn**	**08 02 01.4**	**+2.6**
ACLC	**CERRO LA CRUZ**	**4.21**	**72**	*i* P		**Pn**	**08 02 05.2**	**+3.5**
GO05	**Huala**	**4.22**	**184**			**Pn**	**08 02 02.3**	**+0.6**
GO05				Sn		**Sn**	**08 02 48.9**	**-1.4**
APLL	**PUNTA DE LOS L**	**4.35**	**86**	*i* P		**Pn**	**08 02 06.1**	**+2.7**
MRA	**San Martin**	**5.23**	**110**	||*i*P		**Pn**	**08 02 17.8**	**+2.1**
MRA				IAML			08 03 59.5	
	comp=Z,457nm,0.8s							
GO02	**Mina Guanaco**	**5.87**	**18**			**Pn**	**08 02 25.6**	**+0.9**
TCA	**Tanti**	**5.99**	**97**	*i* P		**Pn**	**08 02 27.3**	**+1.2**
AHML	**Horco Molle**	**6.76**	**55**	*i* P		**Pn**	**08 02 38.1**	**+1.5**
FSA	**Cafayete**	**6.76**	**48**	*i* P		**Pn**	**08 02 40.0**	**+3.2**
PB15	**IPOC Station P**	**7.78**	**14**	*i* P		**Pn**	**08 02 51.6**	**+0.9**
PB05	**IPOC Station P**	**8.00**	**9**	*i* P		**Pn**	**08 02 53.7**	**0.0**
PB06	**IPOC Station P**	**8.24**	**13**	||*i*P		**Pn**	**08 02 56.4**	**-0.8**
LVC	**Limon Verde**	**8.48**	**17**	Pn		**Pn**	**08 02 59.3**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=166,slow=12,SNR=11							
LVC				Sn		**Sn**	**08 04 32.4**	**-3.5**
	comp=Z,4.6nm,0.3s,baz=153,slow=17,SNR=3.8							
LVC				LR		LR	08 06 33.6	
	comp=Z,204nm,20.9s,baz=216,slow=40							
LVC	**Limon Verde**	**8.48**	**17**			**Pn**	**08 03 00.0**	**-0.5**
PB04	**IPOC Station P**	**8.52**	**9**			**Pn**	**08 03 05.1**	**+4.2**
AZAP	**Zapla**	**8.71**	**43**	*i* P		**Pn**	**08 03 05.8**	**+2.3**
GO06	**Curarrehue**	**8.77**	**180**			**Pn**	**08 03 04.7**	**+0.5**
PB09	**IPOC Station P**	**9.19**	**14**	*i* P		**Pn**	**08 03 09.1**	**-1.0**
HJA	**Humahuaca**	**9.32**	**37**	||*i*P		**Pn**	**08 03 15.6**	**+3.5**
PLCA	**Paso Flores**	**9.95**	**176**	Pn		**Pn**	**08 03 19.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=349,slow=8.5,SNR=7.5							
PLCA				LR		LR	08 07 33.3	
	comp=Z,194nm,20.7s,baz=9.5,slow=40							
PLCA	**Paso Flores**	**9.95**	**176**	*eP*		**Pn**	**08 03 22.5**	**+2.1**
PLCA	**Paso Flores**	**9.95**	**176**	*eP*		**Pn**	**08 03 22.5**	**+2.1**
PLCA	**Paso Flores**	**9.95**	**176**			**Pn**	**08 03 22.0**	**+1.6**
PLCA	**Paso Flores**	**9.95**	**176**	||*iP*		**Pn**	**08 03 22.2**	**+1.8**
TRQA	**Tornquist**	**10.72**	**135**			**Pn**	**08 03 31.8**	**+0.9**
PB11	**IPOC Station P**	**11.12**	**9**			**Pn**	**08 03 40.1**	**+3.6**
GO01	**Chusmiza**	**11.28**	**11**			**Pn**	**08 03 38.9**	**-0.1**
MNMC	**Minye Minye**	**11.74**	**9**			**Pn**	**08 03 44.6**	**-0.6**
CPUP	**Villa Florida**	**13.26**	**74**	Pn		**Pn**	**08 04 03.4**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=240,slow=12,SNR=7.5							
CPUP				Sn		**Sn**	**08 06 29.8**	**-2.7**
	comp=Z,0.6nm,0.3s,baz=195,slow=16,SNR=1.5							
CPUP				LR		LR	08 09 41.4	
	comp=Z,230nm,19.8s,baz=246,slow=40							
CPUP	**Villa Florida**	**13.26**	**74**			**Pn**	**08 04 03.2**	**-2.4**
LPAZ	**La Paz**	**14.77**	**13**	Pn		**Pn**	**08 04 26.7**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=183,slow=8.6,SNR=14							
LPAZ	**La Paz**	**14.77**	**13**	*eP*		**Pn**	**08 04 29.9**	**+3.0**
LPAZ	**La Paz**	**14.77**	**13**	*eP*		**Pn**	**08 04 29.9**	**+3.0**
LPAZ	**La Paz**	**14.77**	**13**			**Pn**	**08 04 29.6**	**+2.7**
ITAB	**Concordia**	**17.35**	**83**	*eP*		**Pn**	**08 04 58.9**	**-0.5**
ITAB	**Concordia**	**17.35**	**83**	*eP*		**Pn**	**08 04 58.9**	**-0.5**
SIV	**San Ignacio**	**17.57**	**35**	P		**Pn**	**08 05 02.5**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=222,slow=8.4,SNR=54							
CNLB	**Canela**	**17.98**	**91**	*eP*		**Pn**	**08 05 06.5**	**-0.8**
CNLB	**Canela**	**17.98**	**91**	*eP*		**Pn**	**08 05 06.5**	**-0.8**
PTGB	**Pitanga**	**18.27**	**75**	*eP*		**P**	**08 05 11.7**	**+0.7**
PTGB	**Pitanga**	**18.27**	**75**	*eP*		**P**	**08 05 11.7**	**+0.7**
TRCB	**Terra Rica**	**18.65**	**69**	*eP*		**Pn**	**08 05 16.5**	**+1.0**
TRCB	**Terra Rica**	**18.65**	**69**	*eP*		**Pn**	**08 05 16.5**	**+1.0**
PP1B	**Ponte de Pedra**	**20.05**	**53**	*eP*		**P**	**08 05 30.7**	**+0.2**
PP1B	**Ponte de Pedra**	**20.05**	**53**	*eP*		**P**	**08 05 30.7**	**+0.2**
PCMB	**Pacaembu**	**20.34**	**68**	*eP*		**P**	**08 05 34.0**	**+0.4**
PCMB	**Pacaembu**	**20.34**	**68**	*eP*		**P**	**08 05 34.0**	**+0.4**
FRTB	**Fartura**	**20.91**	**75**	*eP*		**P**	**08 05 39.4**	**-0.5**
FRTB	**Fartura**	**20.91**	**75**	*eP*		**P**	**08 05 39.4**	**-0.5**
ITRB	**Iturama**	**22.08**	**65**	*eP*		**P**	**08 05 51.7**	**-0.6**
ITRB	**Iturama**	**22.08**	**65**	*eP*		**P**	**08 05 51.7**	**-0.6**
SPB	**Sao Paulo**	**22.59**	**77**	*eP*		**P**	**08 05 57.0**	**-0.8**
SPB	**Sao Paulo**	**22.59**	**77**	*eP*		**P**	**08 05 57.0**	**-0.8**
SPB	**Sao Paulo**	**22.59**	**77**	P		**P**	**08 05 56.9**	**-0.9**
SPB				IAmb		IAmb	08 06 15.8	
	comp=Z,22nm,0.9s							
BB19B	**Bebedouro**	**22.82**	**70**	*eP*		**P**	**08 05 59.6**	**-0.6**
BB19B	**Bebedouro**	**22.82**	**70**	*eP*		**P**	**08 05 59.6**	**-0.6**
RCLB	**Rio Claro- Sao**	**23.00**	**75**	*eP*		**P**	**08 06 00.6**	**-1.6**
RCLB	**Rio Claro- Sao**	**23.00**	**75**	*eP*		**P**	**08 06 00.6**	**-1.6**
SAML	**Samuel**	**23.09**	**21**	*eP*		**P**	**08 06 03.5**	**+0.4**
SAML	**Samuel**	**23.09**	**21**	*eP*		**P**	**08 06 03.5**	**+0.4**
SAML	**Samuel**	**23.09**	**21**	P		**P**	**08 06 03.7**	**+0.6**
VAO	**Valinhos**	**23.22**	**76**	*eP*		**P**	**08 06 03.3**	**-1.2**
VAO	**Valinhos**	**23.22**	**76**	*eP*		**P**	**08 06 03.3**	**-1.2**
ARAG	**Araguaiana, MT**	**23.48**	**55**	*eP*		**P**	**08 06 06.8**	**-0.2**
ARAG	**Araguaiana, MT**	**23.48**	**55**	*eP*		**P**	**08 06 06.8**	**-0.2**
USHA	**Ushuaia**	**24.13**	**176**	P		**P**	**08 06 12.8**	**0.0**
	comp=Z,18nm,0.8s,baz=360,slow=11,SNR=6.3							
USHA				LR		LR	08 14 52.3	
	comp=Z,180nm,18.7s,baz=10,slow=35							
CLDB	**Colider**	**24.63**	**40**	*eP*		**P**	**08 06 16.2**	**-1.5**
CLDB	**Colider**	**24.63**	**40**	*eP*		**P**	**08 06 16.2**	**-1.5**
IPMB	**Ipameri, GO**	**24.72**	**64**	*eP*		**P**	**08 06 17.6**	**-1.0**
IPMB	**Ipameri, GO**	**24.72**	**64**	*eP*		**P**	**08 06 17.6**	**-1.0**
PMNB	**Patos De Minas**	**25.81**	**68**	*eP*		**P**	**08 06 27.2**	**-1.3**
PMNB	**Patos De Minas**	**25.81**	**68**	*eP*		**P**	**08 06 27.2**	**-1.3**
BDFB	**Brasilia**	**26.29**	**60**	P		**P**	**08 06 31.5**	**-1.3**
	comp=Z,21nm,0.9s,baz=240,slow=8.1,SNR=25							
BDFB				LR		LR	08 17 48.7	
	comp=Z,148nm,18.5s,baz=160,slow=39							
BDFB	**Brasilia**	**26.29**	**60**	P		**P**	**08 06 31.8**	**-1.1**
BDFB				IAmb		IAmb	08 06 34.3	
	comp=Z,18nm,0.8s							
PEXB	**Peixe**	**28.42**	**54**	*eP*		**P**	**08 06 51.6**	**-0.3**
PEXB	**Peixe**	**28.42**	**54**	*eP*		**P**	**08 06 51.6**	**-0.3**
SJMB	**Sao Joao De Ma**	**29.99**	**73**	*eP*		**P**	**08 07 05.5**	**-0.3**
SJMB	**Sao Joao De Ma**	**29.99**	**73**	*eP*		**P**	**08 07 05.5**	**-0.3**
BSFB	**Barra de Sao F**	**30.20**	**74**	*eP*		**P**	**08 07 06.7**	**-1.0**
BSFB	**Barra de Sao F**	**30.20**	**74**	*eP*		**P**	**08 07 06.7**	**-1.0**
BBAC	**Balboa, Cauca**	**33.08**	**350**	*eP*		**P**	**08 07 35.5**	**+2.3**
BBAC	**Balboa, Cauca**	**33.08**	**350**	*eP*		**P**	**08 07 35.5**	**+2.3**
PRAC	**Prado**	**34.46**	**354**	*eP*		**P**	**08 07 48.2**	**+3.2**
PRAC	**Prado**	**34.46**	**354**	*eP*		**P**	**08 07 48.2**	**+3.2**
PAYG	**Puerto Ayora**	**34.83**	**326**	P		**P**	**08 07 45.1**	**-3.2**
CHIC	**Chingaza**	**35.28**	**356**	*eP*		**P**	**08 07 52.7**	**+0.2**
CHIC	**Chingaza**	**35.28**	**356**	*eP*		**P**	**08 07 52.7**	**+0.2**
RUSC	**La Rusia**	**36.51**	**357**	*eP*		**P**	**08 08 05.1**	**+2.0**
RUSC	**La Rusia**	**36.51**	**357**	*eP*		**P**	**08 08 05.1**	**+2.0**
CBOC	**Ciudad Bolivar**	**36.70**	**353**	*eP*		**P**	**08 08 07.6**	**+3.2**
CBOC	**Ciudad Bolivar**	**36.70**	**353**	*eP*		**P**	**08 08 07.6**	**+3.2**
HELC	**Santa Helena**	**36.97**	**353**	*eP*		**P**	**08 08 08.8**	**+1.9**
HELC	**Santa Helena**	**36.97**	**353**	*eP*		**P**	**08 08 08.8**	**+1.9**
SMLC	**San Martn de**	**39.44**	**356**	*eP*		**P**	**08 08 26.0**	**-1.3**
SMLC	**San Martn de**	**39.44**	**356**	*eP*		**P**	**08 08 26.0**	**-1.3**
MLPR	**Magueyes Islan**	**48.67**	**6**	P		**P**	**08 09 41.6**	**+0.3**
OBIP	**Obispado Ponce**	**48.78**	**6**	P		**P**	**08 09 43.0**	**+0.8**
TRIS	**Tristan da Cun**	**48.87**	**114**	P		**P**	**08 09 45.5**	**+2.8**
SJG	**San Juan**	**48.90**	**7**	P		**P**	**08 09 42.4**	**-0.7**
VNA3	**Neumayer Olymp**	**52.18**	**159**	P		**P**	**08 10 07.4**	**+0.1**
VNA1	**Neumayer--Stat**	**52.47**	**158**	P		**P**	**08 10 10.5**	**+1.1**
VNA2	**Neumayer--Watz**	**52.81**	**158**	P		**P**	**08 10 12.2**	**+0.2**
	baz=296,slow=8.4							
SNAA	**Sanae**	**54.40**	**159**	P		**P**	**08 10 23.7**	**0.0**
SNAA	**Sanae**	**54.40**	**159**	P		**P**	**08 10 23.1**	**-0.6**
	comp=Z,7.1nm,0.8s,baz=273,slow=7.5,SNR=20							
SNAA	**Sanae**	**54.40**	**159**	P		**P**	**08 10 23.3**	**-0.4**
SNAA						**P**	**08 10 23.7**	**0.0**
SNAA				IAmb		IAmb	08 10 24.7	
	comp=Z,8.1nm,0.9s							
QSPA	**South Pole Qui**	**59.44**	**180**	P		**P**	**08 10 59.3**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=180,slow=0.7,SNR=20							
QSPA	**South Pole Qui**	**59.44**	**180**	P		**P**	**08 11 00.3**	**+0.8**
QSPA				IAmb		IAmb	08 11 01.2	
	comp=Z,5.3nm,1.0s							
833A	**Chaparral WMA,**	**64.51**	**333**	P		**P**	**08 11 36.2**	**+2.3**
JCT	**Junction City**	**66.59**	**334**	P		**P**	**08 11 47.8**	**+0.5**
JCT				IAmb		IAmb	08 11 49.7	
	comp=Z,6.8nm,0.9s							
WHTX	**Lake Whitney,**	**67.10**	**336**	P		**P**	**08 11 50.2**	**-0.2**
WHTX				IAmb		IAmb	08 11 52.6	
	comp=Z,8.4nm,0.9s							
TX32	**Lajitas Array**	**67.16**	**330**	P		**P**	**08 11 51.4**	**+0.4**
TXAR	**Lajitas Array**	**67.16**	**330**	P		**P**	**08 11 51.7**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=151,slow=7.8,SNR=15							
TX31	**Lajitas Ar. Si**	**67.16**	**330**	P		**P**	**08 11 51.5**	**+0.4**
V48A	**Smith Brothers**	**67.72**	**347**	P		**P**	**08 11 54.2**	**-0.1**
V48A				IAmb		IAmb	08 11 56.3	
	comp=Z,13nm,1.0s							
SYO	**Syowa Base**	**68.69**	**159**	||*ePcP*		**PcP**	**08 12 23.4**	**-1.4**
W39A	**Magazine**	**68.89**	**341**	P		**P**	**08 12 03.1**	**+1.5**
PARMO	**Parma**	**69.24**	**344**	P		**P**	**08 12 05.2**	**+1.4**
PBMO	**Poplar Bluff**	**69.51**	**344**	P		**P**	**08 12 06.0**	**+0.6**
PBMO				IAmb		IAmb	08 12 07.2	
	comp=Z,8.3nm,0.8s							
U40A	**Yellville**	**69.72**	**342**	P		**P**	**08 12 07.2**	**+0.4**
U40A				IAmb		IAmb	08 12 08.3	
	comp=Z,7.2nm,0.9s							
MNTX	**Cornudas Mount**	**69.94**	**330**	P		**P**	**08 12 08.9**	**+0.6**
MNTX				IAmb		IAmb	08 12 10.1	
	comp=Z,5.4nm,0.9s							
HHAR	**Hobbs**	**69.95**	**341**	P		**P**	**08 12 08.8**	**+0.5**
HHAR				IAmb		IAmb	08 12 09.7	
	comp=Z,12nm,0.9s							
USIN	**University of**	**70.04**	**346**	P		**P**	**08 12 09.4**	**+0.7**
SIUC	**Southern Illin**	**70.13**	**345**	P		**P**	**08 12 09.5**	**+0.2**
SIUC				IAmb		IAmb	08 12 10.7	
	comp=Z,12nm,1.0s							
TUL1	**Leonard**	**70.15**	**339**	P		**P**	**08 12 09.9**	**+0.4**
TUL1				IAmb		IAmb	08 12 11.3	
	comp=Z,14nm,0.9s							
MGMO	**Mountain Grove**	**70.32**	**343**	P		**P**	**08 12 10.4**	**-0.1**
MGMO				IAmb		IAmb	08 12 12.1	
	comp=Z,11nm,1.1s							
MSTX	**Muleshoe**	**70.84**	**333**	P		**P**	**08 12 14.9**	**+1.0**
MSTX				IAmb		IAmb	08 12 16.6	
	comp=Z,9.7nm,1.0s							
CCM	**Cathedral Cave**	**70.92**	**344**	P		**P**	**08 12 14.6**	**+0.5**
CCM				IAmb		IAmb	08 12 15.6	
	comp=Z,10nm,0.8s							
LIC	**Lamto**	**73.38**	**72**	*eP*		**P**	**08 12 28.7**	**-0.7**
	comp=Z,20nm,0.5s							
LIC	**Lamto**	**73.38**	**72**	P		**P**	**08 12 28.7**	**-0.7**
TIC	**Toumodi**	**73.62**	**72**	*eP*		**P**	**08 12 30.1**	**-0.8**
TIC	**Toumodi**	**73.62**	**72**	P		**P**	**08 12 30.1**	**-0.8**
KIC	**Kosan Boka**	**73.69**	**72**	*eP*		**P**	**08 12 30.7**	**-0.5**
	comp=Z,31nm,0.8s							
KIC	**Kosan Boka**	**73.69**	**72**	P		**P**	**08 12 30.7**	**-0.5**
DBIC	**Dimbokro**	**73.77**	**72**	P		**P**	**08 12 31.1**	**-0.6**
	comp=Z,16nm,0.6s,baz=210,slow=6.1,SNR=30							
DBIC	**Dimbokro**	**73.77**	**72**	P		**P**	**08 12 31.0**	**-0.6**
T25A	**Trinidad**	**74.25**	**333**	P		**P**	**08 12 36.1**	**+1.9**
T25A				IAmb		IAmb	08 12 37.6	
	comp=Z,7.6nm,1.0s							
L40A	**Anamosa**	**74.73**	**345**	P		**P**	**08 12 36.8**	**+0.2**
X16A	**Lo Mia Camp, P**	**74.98**	**327**	P		**P**	**08 12 39.8**	**+1.3**
X16A				IAmb		IAmb	08 12 41.5	
	comp=Z,5.1nm,1.0s							
MAW	**Mawson**	**76.13**	**164**	P		**P**	**08 12 44.1**	**-0.4**
	comp=Z,5.9nm,0.9s,baz=230,slow=6.2,SNR=7.3							
MAW	**Mawson**	**76.13**	**164**	IAmb		IAmb	08 12 45.6	
	comp=Z,1.6nm,1.1s							
W13A	**Hualapai Mount**	**76.70**	**325**	P		**P**	**08 12 50.8**	**+2.5**
W13A				IAmb		IAmb	08 13 06.2	
	comp=Z,7.2nm,1.5s							
U15A	**North Rim**	**77.02**	**327**	P		**P**	**08 12 52.6**	**+2.5**
SMCO	**Snowmass**	**77.02**	**332**	P		**P**	**08 12 52.7**	**+2.4**
SMCO				IAmb		IAmb	08 12 53.9	
	comp=Z,6.9nm,1.0s							
ECSD	**EROS Data Cent**	**77.64**	**342**	P		**P**	**08 12 52.6**	**-0.5**
KNB	**Kanab**	**77.74**	**327**	P		**P**	**08 12 56.0**	**+

comp=Z,17nm,1.2s
LGNH Logne 20.12 78 P **P** 08 13 43.4 **0.0**
X51A Calhoun 20.76 20 P **P** 08 13 50.3 **+0.2**
X51A IAmb IAmb 08 14 08.5
comp=Z,35nm,1.4s
OTAV Otavalo 20.90 134 P **P** 08 13 52.0 **-0.3**
OTAV IAmb IAmb 08 14 10.6
comp=Z,7.3nm,1.5s
DR12 Loma Pena Alta 23.19 78 P **P** 08 14 15.7 **-0.4**
ICMP Isla Caja de M 25.84 80 P **P** 08 14 39.3 **-0.9**
Q24A Divide 25.87 339 P **P** 08 14 40.5 **-0.2**
Q24A IAmb IAmb 08 14 47.0
comp=Z,5.1nm,1.0s
WUAZ Wupatki 25.91 325 P **P** 08 14 41.5 **+0.7**
WUAZ IAmb IAmb 08 14 43.6
comp=Z,4.9nm,1.1s
PV09 Paradox Valley 27.08 332 P **P** 08 14 51.7 **+0.1**
L46A Eue Claire 27.42 11 P **P** 08 14 53.5 **-0.7**
PKCU Pink Cliffs 27.83 326 P **P** 08 14 58.4 **+0.1**
ISA Isabella, Lake 30.36 317 P **P** 08 15 20.5 **0.0**
ISA IAmb IAmb 08 15 27.2
comp=Z,3.8nm,1.5s
DLMT Dillon 34.19 336 P **P** 08 15 52.4 **-1.6**
G06A Carlson Farm, 37.77 328 P **P** 08 16 24.5 **0.0**
SKAG Skagway 53.83 335 P **P** 08 18 31.1 **+0.5**
ILULI Ilulissat 60.11 16 P **P** 08 19 15.8 **+0.9**

IDC 15 08:11:26.4±4.7, 45°88'N×146°16'E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/38, mbtmp3.5/4, Error ellipse: s-maj=118.9km s-min=46.4km az=6.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**40.21**	**38**	P	P	08 19 04.7	+0.6
	0.2nm,0.5s,baz=263,slow=7.2,SNR=4.1						
YKA	**Yellowknife Ar**	**54.43**	**34**	P	P	08 20 53.7	-1.2
	0.1nm,0.5s,baz=302,slow=7.3,SNR=3.7						
FINES	**FINESS Array B**	**62.66**	**332**	P	P	08 21 52.2	-0.1
	2.5nm,0.9s,baz=46,slow=9.9,SNR=3.1						
TXAR	**Lajitas Array**	**82.04**	**56**	P	P	08 23 49.0	+0.3
	0.1nm,0.4s,baz=285,slow=4.2,SNR=5.9						

PAS 15 08:13:48.4±0.7, 32°74'N±0°03×116°75'W±0°03, h19km±4km, ML2.0, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAR	**Barrett**	**0.09**	**133**		Pg	08 13 51.8	-0.3
BAR				Sg	Sg	08 13 54.1	+0.5
SDRC	**San Diego Road**	**0.17**	**269**		Pg	08 13 52.7	-0.2
SDRC					Sg	08 13 55.9	-0.2
EML	**El Monte Cty P**	**0.17**	**331**		Pg	08 13 52.8	-0.3
EML					Sg	08 13 55.9	-0.3
OLP	**Otay Lakes Par**	**0.20**	**230**		Pg	08 13 53.3	-0.2
OLP					Sg	08 13 56.7	-0.2
DPP	**Dos Picos Cty**	**0.31**	**328**		Pg	08 13 54.7	-0.4
DPP					Sg	08 13 59.3	-0.5
MONP2	**Monument Peak**	**0.31**	**61**		Pg	08 13 54.9	-0.5
MONP2					Sg	08 13 59.4	-0.7
109C	**Camp Elliot, M**	**0.34**	**296**		Pg	08 13 55.1	-0.5
109C				Sg	Sg	08 14 00.1	-0.5
CPE	**Camp Elliot**	**0.34**	**296**		Sg	08 14 00.1	-0.5
HWB	**Hans Werner Br**	**0.34**	**328**		Pg	08 13 55.2	-0.4
HWB					Sg	08 14 00.2	-0.4
TJX	**Tijuana**	**0.35**	**229**		Pg	08 13 55.8	0.0
TJX					Sb	08 14 01.2	+0.1
CBKC	**Canebrake**	**0.45**	**69**		Pg	08 13 57.3	-0.3
IKP	**In-Ko-Pah, Jac**	**0.54**	**99**		Pb	08 13 58.6	-0.7
IKP					Sg	08 14 06.0	-0.7
RMX	**La Rumorosa**	**0.58**	**103**		Sg	08 14 08.4	+0.6
GORC	**Green Oak Ranc**	**0.58**	**316**		Pb	08 13 59.0	-0.9
GORC					Sb	08 14 06.7	-0.9
BORC	**Borrego Spring**	**0.60**	**28**		Pb	08 13 59.5	-0.6
BORC					Sb	08 14 07.3	-0.8
PLM	**Palomar**	**0.62**	**351**		Pb	08 13 59.8	-0.9
CRR	**Carrizo Plain**	**0.67**	**77**		Pb	08 14 01.2	-0.3
FRD	**Ford Ranch, An**	**0.76**	**9**		Pb	08 14 02.5	-0.6
FRD					Sb	08 14 12.6	-0.6
FRD	**Ford Ranch, An**	**0.76**	**9**		Pb	08 14 02.4	-0.7
FRD					Sb	08 14 12.6	-0.6
SNDA	**J Saunders Pla**	**0.82**	**8**		Pb	08 14 03.6	-0.5
SWSC	**Sam W. Stewart**	**0.82**	**75**		Pb	08 14 03.9	-0.2
CRY	**Cary Ranch**	**0.82**	**1**		Pb	08 14 03.7	-0.5
CRY					Sb	08 14 14.5	-0.5
DNR	**Dunn Ranch,Anz**	**0.83**	**7**		Pb	08 14 03.8	-0.5
WESC	**Westside Schoo**	**0.85**	**88**		Pg	08 14 04.9	-0.2
ERRC	**Elmore Ranch**	**0.86**	**64**		Pg	08 14 05.1	-0.1
COK2	**Cook Ranch 2**	**0.86**	**82**		Pg	08 14 05.1	-0.2
PFO	**Pinyon Flats O**	**0.90**	**15**		Pb	08 14 04.8	-0.7
PFO				Sg	Sb	08 14 16.6	-0.6
PFO	**Pinyon Flats O**	**0.90**	**15**		Pb	08 14 05.0	-0.5
XPFO	**Pion Flat**	**0.90**	**16**		Pb	08 14 04.9	-0.7
XPFO				Sg	Sb	08 14 16.6	-0.6
XPFO	**Pion Flat**	**0.90**	**16**		Sb	08 14 16.7	-0.5
BACC	**Bachelor Mtn.**	**0.91**	**344**		Pb	08 14 04.2	-1.3
BACC					Sb	08 14 16.2	-1.0
DGR	**Domenigoni Val**	**0.94**	**346**		Pb	08 14 04.7	-1.4
DGR					Sb	08 14 16.9	-1.1
POB	**Polly Butte**	**0.96**	**351**		Pb	08 14 05.3	-1.1
HAY	**Hayfield**	**1.31**	**42**		Pb	08 14 12.7	+0.2
BELC	**Belle Mtn. Jos**	**1.41**	**26**		Pn	08 14 11.9	-1.3
CFSC	**Central Fire S**	**1.44**	**342**		Pb	08 14 15.1	-0.5
GLA	**Glamis**	**1.64**	**79**	Pn	Pn	08 14 15.6	-0.7
GLA				Sn	Sn	08 14 36.4	-0.6
SPX	**San Pedro Mart**	**2.02**	**147**		Pn	08 14 22.7	+1.0

*ISCJB **15** 08:15:37.8±0.4, 17°41N±0°07×97°10W±0°05, h77km±5km, Error ellipse: s-maj=12.8km s-min=5.0km az=32.0*
*MEX **15** 08:15:39.9±0.5, 17°40N×97°11W, h75km±4km, MD4.0*
ISC 15 08:15:38.5±0.8, 17°39N±0°06×97°12W±0°04, h72km±8km, n27, σ0°76/39, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.48**	**130**	*eP*	**Pn**	**08 15 51.8**	**+0.2**
VHO				*eS*	**Sn**	**08 16 01.4**	**+0.2**
OXBJ	**Oaxaca**	**0.49**	**130**	*i* P	**Pn**	**08 15 51.9**	**+0.2**
OXBJ				*i* S	**Sn**	**08 16 01.2**	**-0.1**
OXBJ	**Oaxaca**	**0.49**	**130**		**Pn**	**08 15 51.9**	**+0.2**
OXBJ					**Sn**	**08 16 01.2**	**-0.1**
TLIG	**Tlapa**	**1.40**	**277**	*eP*	**Pn**	**08 16 02.6**	**+0.3**
TLIG				*eS*	**Sn**	**08 16 20.5**	**+0.3**
TLIG	**Tlapa**	**1.40**	**277**		**Pn**	**08 16 02.6**	**+0.3**
TLIG				Sn	**Sn**	**08 16 20.1**	**-0.1**
TLIG	**Tlapa**	**1.40**	**277**		**Pn**	**08 16 02.6**	**+0.3**
TLIG					**Sn**	**08 16 20.5**	**+0.3**
HUIG	**Huatulco**	**1.88**	**149**	*eP*	**Pn**	**08 16 08.6**	**+0.1**
HUIG				*eS*	**Sn**	**08 16 31.0**	**-0.4**
HUIG	**Huatulco**	**1.88**	**149**		**Pn**	**08 16 08.6**	**+0.1**
HUIG					**Sn**	**08 16 31.0**	**-0.4**
CMIG	**Matias Romero**	**2.15**	**97**	*eP*	**Pn**	**08 16 12.8**	**+0.6**
CMIG				*eS*	**Sn**	**08 16 37.4**	**-0.6**
CMIG	**Matias Romero**	**2.15**	**97**		**Pn**	**08 16 12.8**	**+0.6**
CMIG					**Sn**	**08 16 37.4**	**-0.6**
PPM	**Popocatepetl**	**2.21**	**320**	*i* P	**Pn**	**08 16 15.3**	**+1.9**
PPM				*i* S	**Sn**	**08 16 38.1**	**-1.9**
YAIG	**Yautepec**	**2.37**	**309**	*eP*	**Pn**	**08 16 16.1**	**+0.8**
YAIG				*i* S	**Sn**	**08 16 42.3**	**-1.1**
YAIG	**Yautepec**	**2.37**	**309**		**Pn**	**08 16 16.1**	**+0.8**
YAIG					**Sn**	**08 16 42.3**	**-1.1**
FSCY	**Frank Sound, G**	**15.25**	**80**	Pn	**Pn**	**08 19 09.8**	**+0.2**
ABTX	**Abilene, Hawle**	**15.35**	**352**	Pn	**Pn**	**08 19 11.5**	**+0.6**
CPRX	**Cap Rock**	**16.73**	**340**	Pn	**Pn**	**08 19 28.3**	**0.0**
SRIG	**Santa Rosalia**	**17.12**	**308**	P	**Pn**	**08 19 32.0**	**-1.0**
X43A	**Marvell**	**17.95**	**17**	P	**P**	**08 19 42.0**	**-0.9**
PV03	**Paradox Valley**	**23.20**	**336**	P	**P**	**08 20 38.5**	**-0.9**
PV12	**Saucer Basin,**	**23.23**	**336**	P	**P**	**08 20 39.7**	**0.0**
PV20	**West Nyswonger**	**23.32**	**336**	P	**P**	**08 20 38.9**	**-1.6**
PV20				IAmb	IAmb	08 20 39.9	
	comp=Z,7.4nm,1.3s						
PV09	**Paradox Valley**	**23.52**	**336**	P	**P**	**08 20 42.9**	**+0.4**
NLU	**North Lily Min**	**25.96**	**333**	P	**P**	**08 21 05.0**	**+0.5**
CRPR	**Cabo Rojo, PR**	**28.58**	**84**	P	**P**	**08 21 28.3**	**+0.4**
I49A	**Point Hope**	**29.10**	**22**	P	**P**	**08 21 32.3**	**+0.1**
LRM	**Limekiln Ridge**	**31.10**	**339**		pP	08 22 15.4	+7.3
SAML	**Samuel**	**42.53**	**125**	P	**P**	**08 23 27.8**	**+0.5**
SAML				IAmb	IAmb	08 23 34.5	
	comp=Z,3.3nm,1.3s						

*DSN **15** 08:27:54.7±2.3, 26°59N×60°07E, h10km, ML3.8/6, Error ellipse: s-maj=41.3km s-min=14.4km az=6.0*
*OMAN **15** 08:27:55.4±0.5, 26°84N×60°20E, h36km±159km, ml3.5/14, Error ellipse: s-maj=24.6km s-min=4.1km az=44.0*
ISC 15 08:27:42.2±3.9, 26°8N±0°1×60°2E±0°1, h10km, n21, σ1§85/29, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**3.56**	**257**	*i* P	**Pg**	**08 28 48.7**	**-1.6**
	SNR=21						
BANOM				S	**Sb**	**08 29 30.5**	**+2.0**
BANOM	**Banah**	**3.56**	**257**	P	**Pg**	**08 28 48.7**	**-1.6**
	SNR=23						
BANOM				S	**Sb**	**08 29 30.6**	**+2.1**
SHME	**Shamm**	**3.67**	**260**	*i* P	**Pg**	**08 28 51.0**	**-1.5**
	SNR=15						
BIDO	**Bidbid**	**3.71**	**210**	P	**Pg**	**08 28 50.9**	**-2.3**
BIDO				S	**Sb**	**08 29 36.3**	**+3.5**
MDH	**Madha**	**3.76**	**248**	*i* P	**Pb**	**08 28 50.6**	**+1.9**
	SNR=14						
MDH	**Madha**	**3.76**	**248**	P	**Pb**	**08 28 50.7**	**+2.0**
	SNR=14						
MDH				S	**Sb**	**08 29 33.5**	**-0.8**
WSAR	**Wadi Sarin**	**3.76**	**202**	P	**Pg**	**08 28 51.7**	**-2.7**
	SNR=208						
MSFE	**Esma-Masafi**	**3.85**	**250**	P	**Pb**	**08 28 52.4**	**+2.1**
UOSS	**Minazif**	**3.99**	**244**	*i* P	**Pb**	**08 28 53.5**	**+0.9**
	SNR=9.4						
HOQ	**Hoqain**	**4.08**	**220**	P	**Pb**	**08 28 55.3**	**+1.2**
	SNR=23						
HOQ				S	**Sb**	**08 29 42.9**	**-0.6**
	SNR=6.4						
HATD	**Hatta, Dubai**	**4.10**	**243**	P	**Pb**	**08 28 54.0**	**-0.5**
HATD	**Hatta, Dubai**	**4.10**	**243**	S	**Sb**	**08 29 41.1**	**-3.1**
	SNR=7.8						
SMDO	**Samad**	**4.15**	**208**	P	**Pb**	**08 28 57.8**	**+2.4**
	SNR=26						
ASHO	**Ashiyiah**	**4.23**	**242**	*i* P	**Pb**	**08 28 57.6**	**+0.8**
	SNR=24						
ASHO	**Ashiyiah**	**4.23**	**242**	P	**Pb**	**08 28 57.7**	**+1.0**
	SNR=23						
WBK	**Wadi Bani Khal**	**4.27**	**195**	P	**Pb**	**08 28 57.8**	**+0.4**
	SNR=160						
WBK				S	**Sb**	**08 29 49.6**	**+0.7**
ARQ	**Araqi**	**4.74**	**225**	P	**Pb**	**08 29 07.6**	**+2.3**
	SNR=30						
JMDO	**Jabal Madar**	**4.75**	**204**	P	**Pb**	**08 29 06.8**	**+1.2**
ALNE	**Al Ain**	**4.80**	**237**	P	**Pb**	**08 29 06.4**	**-0.1**
BSY	**Bisya**	**4.81**	**215**	P	**Pb**	**08 29 08.3**	**+1.6**
BSY				S	**Sb**	**08 30 06.6**	**+1.9**
ASUD	**Al Ashush, Dub**	**4.84**	**245**	P	**Pb**	**08 29 08.5**	**+1.4**
	SNR=45						
ASUD				S	**Sb**	**08 30 05.2**	**-0.3**

RSPR 15 08:31:03.6, 19°10N×64°70W, h28km±8km, MD3.0/7, 10C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.50**	**137**	*eP*	Pb	08 31 12.9	-1.1
ABV	**Anegada**	**0.50**	**137**	*eP*	Pb	08 31 12.9	-1.1
ABV				*eS*	Sb	08 31 20.2	-0.8
ABVI	**Anegada Island**	**0.50**	**137**		Pb	08 31 12.9	-1.1
VGBI	**Virgin Gorda,**	**0.67**	**155**	*eP*	Pb	08 31 15.0	-1.7
VGBI	**Virgin Gorda,**	**0.67**	**155**	*eS*	Sb	08 31 23.8	-1.8
TBVI	**Tortola**	**0.68**	**174**	*eP*	Pb	08 31 15.2	-1.8
TBVI	**Tortola**	**0.68**	**174**	*eP*	Pb	08 31 15.2	-1.8
TBVI				*eS*	Sb	08 31 24.4	-1.7
STVI	**Saint Thomas**	**0.78**	**198**	*eP*	Pb	08 31 16.7	-1.9
STVI	**Saint Thomas**	**0.78**	**198**	*eP*	Pb	08 31 16.7	-1.9
STVI				*eS*	Sb	08 31 27.2	-1.7
STVI	**Saint Thomas**	**0.78**	**198**	*eP*	Pb	08 31 16.7	-1.9
STVI				*eS*	Sb	08 31 27.2	-1.7
STVI	**Saint Thomas**	**0.78**	**198**		Pb	08 31 16.6	-2.0
MTP	**Monte Pirata**	**1.29**	**219**		Pn	08 31 24.1	-1.6
MTP					Pb	08 31 24.9	-2.2
MTP				Sn	Sn	08 31 40.4	-1.7
MTP					Sb	08 31 40.5	-2.8
CDVI	**St. Croix**	**1.34**	**183**	*eP*	Pn	08 31 25.1	-1.4
CDVI	**St. Croix**	**1.34**	**183**	*eP*	Pn	08 31 25.1	-1.4
CDVI				*eS*	Sn	08 31 41.1	-2.4
CDVI	**St. Croix**	**1.34**	**183**	Pn	Pn	08 31 26.2	-0.3
CBYP	**Canovanas**	**1.37**	**233**	Pn	Pn	08 31 25.1	-1.9
CBYP					Pb	08 31 25.4	-3.3
CBYP				Sn	Sn	08 31 42.3	-2.0
HUMP	**Col San Antoni**	**1.45**	**229**	*eP*	Pn	08 31 26.5	-1.5
HUMP	**Col San Antoni**	**1.45**	**229**	*eP*	Pn	08 31 26.5	-1.5
HUMP				*eS*	Sn	08 31 43.2	-2.9
HUMP	**Col San Antoni**	**1.45**	**229**	Pn	Pn	08 31 26.9	-1.1
HUMP				Sn	Sn	08 31 45.8	-0.3
GCPR	**Guaynabo City**	**1.53**	**239**	Pn	Pn	08 31 28.4	-0.7
AOPR	**Arecibo Observ**	**2.09**	**249**	Pn	Pn	08 31 37.2	+0.4
AOPR					Pb	08 31 38.2	-2.7
OBIP	**Obispado Ponce**	**2.09**	**240**	Pn	Pn	08 31 36.6	-0.3
OBIP				Sn	Sn	08 32 00.7	-1.4

IDC 15 08:33:05.6±13.0, 15°26S×165°76E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/23, mbtmp4.0/4, ML4.2/1, Error ellipse: s-maj=228.3km s-min=35.9km az=56.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.80**	**175**	Pn	Pn	08 34 47.6	+0.7
	5.0nm,0.3s,baz=147,slow=14,SNR=61						
DZM				Sn	Sn	08 36 03.3	-1.8
	0.6nm,0.3s,baz=150,slow=20,SNR=2.2						
STKA	**Stephens Creek**	**27.54**	**229**	P	P	08 38 54.2	-0.1
	1.9nm,0.5s,baz=50,slow=9.4,SNR=10						
WRA	**Warramunga Arr**	**30.28**	**257**	P	P	08 39 18.9	+0.2
	0.3nm,0.6s,baz=84,slow=8.4,SNR=3.4						
ASAR	**Alice Springs**	**31.12**	**249**	P	P	08 39 26.1	-0.1
	0.6nm,0.4s,baz=75,slow=9.3,SNR=23						

*ISCJB **15** 08:34:46.1±0.1, 52°27N±0°03×170°97W±0°02, h42km, mb4.5/51, MS4.0/32, Error ellipse: s-maj=4.1km s-min=1.9km az=172.7*
*AEIC **15** 08:34:46.7±1.2, 52°3N±0°1×171°0W±0°1, h26km±4km, ML4.5, mb4.7/249(NEIC)*
*MOS **15** 08:34:46.1±1.0, 52°19N×170°95W, h48km, mb4.7/15, Error ellipse: s-maj=12.2km s-min=8.2km az=100.3*
*IDC **15** 08:34:46.8±2.0, 52°22N×170°98W, h41km±16km, mb4.0/25, mb1 4.2/28, mb1mx4.2/48, mbtmp4.3/28, ML3.9/3, MS3.8/28, Ms1 3.8/28, ms1mx3.8/38, Error ellipse: s-maj=18.1km s-min=10.3km az=176.0*
*BJI **15** 08:34:47.9±0.0, 52°65N×171°44W, h45km, mb4.8/28, mB5.1/14, Ms4.8/7, Ms7 4.5/7*
ISC 15 08:34:47.4±0.4, 52°17N±0°07×170°93W±0°03, h42km, n495, σ1§03/496, mb4.6/131, MS3.9/32, 7C-10D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.50**	**57**		**Pn**	**08 35 10.4**	**-1.4**
NIKH				Sn	**Sn**	**08 35 29.1**	**-1.2**
OKSP	**Okmok Steeple**	**1.94**	**55**		**Pn**	**08 35 17.1**	**-0.8**
OKSP					**Sn**	**08 35 40.1**	**-1.0**
KONE	**Korovin Northe**	**1.97**	**278**		**Pn**	**08 35 17.7**	**-0.5**
ATKA	**Atka Island**	**2.01**	**272**		**Pn**	**08 35 17.9**	**-0.9**
ATKA				Sn	**Sn**	**08 35 42.1**	**-0.5**
KOKL	**Mount Kliuchef**	**2.02**	**276**		**Pn**	**08 35 19.3**	**+0.4**
OKER	**Okmok East Rim**	**2.17**	**52**		**Pn**	**08 35 21.9**	**+0.8**
OKFG	**Magazine Ridge**	**2.22**	**55**		**Pn**	**08 35 21.7**	**+0.1**
MREP	**Makushin Rep't**	**3.02**	**55**		**Pn**	**08 35 33.1**	**+0.4**
MCIR	**Makushin Cirqu**	**3.02**	**52**		**Pn**	**08 35 32.3**	**-0.5**
MSW	**Makushin Switc**	**3.06**	**53**		**Pn**	**08 35 33.5**	**+0.3**
MSW					**Sn**	**08 36 09.9**	**+1.4**
GSIG	**Igitkin Island**	**3.09**	**269**		**Pn**	**08 35 33.5**	**-0.1**
MNAT	**Makushin Natee**	**3.09**	**54**		**Pn**	**08 35 34.1**	**+0.5**
GSTR	**Great Sitkin T**	**3.16**	**271**		**Pn**	**08 35 35.4**	**+0.8**
UNV	**Unalaska Valle**	**3.16**	**56**		**Pn**	**08 35 34.5**	**-0.1**
UNV				Sn	**Sn**	**08 36 14.1**	**+3.1**
GSTD	**Great Sitkin T**	**3.21**	**270**		**Pn**	**08 35 35.2**	**-0.2**
GSTD					**Sn**	**08 36 15.2**	**+2.8**
ADAG	**Mount Adagdak**	**3.50**	**269**		**Pn**	**08 35 39.1**	**-0.2**
AKRB	**Akutan Reef Bi**	**3.53**	**54**		**Pn**	**08 35 40.3**	**+0.7**
AKRB					**Sn**	**08 36 22.9**	**+2.8**

AKMO	**Akutan Morgan**	**3.54**	**55**		**Pn**	**08 35 40.5**	**+0.7**
ADK	**Adak**	**3.56**	**268**		**Pn**	**08 35 40.3**	**+0.1**
ADK				Sn	**Sn**	**08 36 21.1**	**+0.1**
AKBBA	**Akutan Broad B**	**3.58**	**55**		**Pn**	**08 35 41.8**	**+1.4**
AKUT	**Akutan**	**3.68**	**56**		**Pn**	**08 35 44.0**	**+2.3**
KIRH	**Kanaga Island**	**3.81**	**268**		**Pn**	**08 35 44.4**	**+0.8**
KIWB	**Kanaga Island**	**3.85**	**268**		**Pn**	**08 35 45.2**	**+1.0**
KIKV	**Kanaga Island**	**3.86**	**268**		**Pn**	**08 35 44.9**	**+0.6**
KIMD	**Kanaga Island**	**3.92**	**267**		**Pn**	**08 35 45.1**	**+0.1**
TAPA	**Tanaga Point A**	**4.27**	**268**		**Pn**	**08 35 50.1**	**+0.2**
TAFP	**Tanaga Falls P**	**4.36**	**269**		**Pn**	**08 35 51.8**	**+0.7**
TAFP					**Sn**	**08 36 42.3**	**+1.6**
SPIA	**Saint Paul Isl**	**5.04**	**4**		**Pn**	**08 35 59.1**	**-1.2**
FALS	**False Pass**	**5.23**	**56**		**Pn**	**08 36 02.2**	**-0.7**
SDPT	**Sand Point**	**6.97**	**59**		**Pn**	**08 36 29.0**	**+2.1**
CNBA	**Chernabura Isl**	**7.27**	**64**	Pn	**Pn**	**08 36 31.9**	**+1.0**
CHGN	**Chignik**	**8.42**	**56**	Pn	**Pn**	**08 36 46.5**	**-0.1**
SMY	**Shemya**	**9.16**	**279**	Pn	**Pn**	**08 36 57.1**	**+0.3**
CHIR	**Chirikof Islan**	**9.73**	**62**	Pn	**Pn**	**08 37 05.3**	**+0.7**
OHAK	**Old Harbor**	**11.38**	**57**	Pn	**Pn**	**08 37 25.4**	**-1.8**
KDAK	**Kodiak Island**	**11.93**	**55**	*i* P	**Pn**	**08 37 35.4**	**+0.7**
KDAK	**Kodiak Island**	**11.93**	**55**	P	**Pn**	**08 37 33.2**	**-1.4**
	1.7nm,0.3s,baz=252,slow=8.9,SNR=15						
KDAK				S	**Sn**	**08 39 38.8**	**-7.4**
	0.2nm,0.3s,baz=312,slow=15,SNR=2.2						
KDAK	**Kodiak Island**	**11.93**	**55**	Pn	**Pn**	**08 37 32.7**	**-2.0**
RSO	**Redoubt South**	**13.03**	**43**		**Pn**	**08 37 48.5**	**-1.4**
CNPM	**China Poot**	**13.26**	**49**	Pn	**Pn**	**08 37 52.9**	**+0.1**
TTA	**Tatalina**	**13.39**	**31**		**Pn**	**08 37 57.8**	**+3.1**
BRLK	**Bradley Lake**	**13.52**	**48**	Pn	**Pn**	**08 37 54.2**	**-2.2**
SEW	**Seward**	**14.32**	**48**	Pn	**Pn**	**08 38 05.3**	**-1.8**
SUA	**Susitna One**	**14.39**	**42**		**Pn**	**08 38 09.7**	**+1.4**
RC01	**Rabbit Creek A**	**14.63**	**44**		**Pn**	**08 38 10.7**	**-0.7**
PPLA	**Purkeypile**	**14.66**	**36**		**Pn**	**08 38 10.9**	**-1.0**
GHO	**Glory Hole Cre**	**15.30**	**42**	Pn	**Pn**	**08 38 19.1**	**-1.2**
KTH	**Kantishna Hill**	**15.52**	**35**	P	**P**	**08 38 26.3**	**-0.5**
SML	**Sawmill**	**15.56**	**43**		**Pn**	**08 38 22.8**	**-0.8**
TRF	**Thorofare Moun**	**15.68**	**36**	P	**Pn**	**08 38 26.8**	**+1.5**
GLI	**Glacier Island**	**15.70**	**47**	Pn	**Pn**	**08 38 23.6**	**-1.7**
GLI				IAmb	IAmb	08 38 25.4	
	comp=Z,86nm,1.4s						
HIN	**Hinchinbrook I**	**15.79**	**49**	Pn	**Pn**	**08 38 25.1**	**-1.4**
BPAW	**Bear Paw Mtn.**	**15.84**	**33**	P	**P**	**08 38 30.1**	**-0.2**
FID	**Port Fidalgo**	**15.93**	**48**	Pn	**Pn**	**08 38 25.6**	**-2.6**
FID				IAmb	IAmb	08 38 31.7	
	comp=Z,108nm,1.5s						
SCM	**Sheep Creek Mo**	**16.00**	**44**		**Pn**	**08 38 28.8**	**-0.4**
SCM				IAmb	IAmb	08 38 34.5	
	comp=Z,29nm,0.8s						
RND	**Reindeer**	**16.18**	**37**	Pn	**Pn**	**08 38 30.6**	**-1.0**
BWN	**Browne**	**16.41**	**35**		**Pn**	**08 38 34.9**	**+0.6**
BWN				IAmb	IAmb	08 38 48.4	
	comp=Z,100nm,1.4s						
RDOG	**Red Dog Mine**	**16.41**	**11**	Pn	**Pn**	**08 38 32.0**	**-2.3**
MLY	**Manley**	**16.53**	**31**	Pn	**Pn**	**08 38 34.6**	**-1.3**
DHY	**Denali Highway**	**16.57**	**40**	Pn	**Pn**	**08 38 34.8**	**-1.7**
NEA	**Nenana**	**16.79**	**34**		**Pn**	**08 38 37.2**	**-1.9**
WRH	**Wood River Hil**	**17.07**	**35**		**Pn**	**08 38 42.3**	**-0.3**
WRH				IAmb	IAmb	08 38 54.3	
	comp=Z,47nm,1.2s						
CCB	**Clear Creek Bu**	**17.27**	**35**	P	**Pn**	**08 38 45.1**	**0.0**
PAX	**Paxson**	**17.29**	**41**	P	**Pn**	**08 38 45.8**	**+0.3**
COLA	**College**	**17.39**	**34**	*eP*	**P**	**08 38 49.7**	**+2.3**
HDA	**Harding Lake**	**17.44**	**36**	P	**P**	**08 38 49.1**	**+1.0**
	baz=237,SNR=6.4						
HDA	**Harding Lake**	**17.44**	**36**	P	**P**	**08 38 47.7**	**-0.4**
IL31		**17.67**	**35**	P	**P**	**08 38 50.1**	**-0.3**
ILAR	**Eielson Array**	**17.67**	**35**	P	**Pn**	**08 38 48.7**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=230,slow=9.6,SNR=17						
ILAR				LR	LR	08 46 30.7	
	comp=Z,336nm,19.5s,baz=250,slow=40						
ILAR				ScP	**ScP**	**08 46 56.8**	**-1.0**
	comp=Z,0.0nm,0.3s,baz=251,slow=2.8,SNR=4.3						
POKR	**Poker Plat Res**	**17.68**	**34**	P	**P**	**08 38 55.1**	**+4.5**
	baz=234						
COLD	**Coldfoot**	**18.21**	**26**	P	**P**	**08 38 56.1**	**-0.4**
BARN	**Barnard Glacie**	**18.26**	**49**	P	**Pn**	**08 38 58.0**	**+0.5**
SCRK	**Sand Creek**	**18.34**	**39**	P	**P**	**08 38 56.3**	**-1.8**
PRP	**Porcupine Dome**	**18.56**	**34**	P	**P**	**08 38 59.3**	**-1.2**
**

NEW Newport 33.99 75 P P 08 41 27.1 +0.3
NEW IAmb IAmb 08 41 45.8
comp=Z,9.1nm,1.0s
E09A Wood Farm, Sta 34.21 78 P P 08 41 29.0 +0.4
E09A IAmb IAmb 08 41 46.9
comp=Z,14nm,1.2s
WALA Waterton Lakes 35.52 72 P P 08 41 39.5 -0.6
WALA IAmb IAmb 08 41 56.9
comp=Z,8.7nm,0.9s
KLR Kul'dur 35.62 289⇓ eP P 08 41 39.1 -1.6
KLR pmax pmax
comp=Z,24nm,2.2s
JTMT Jette 35.92 74 P P 08 41 44.2 +0.7
JTMT IAmb IAmb 08 41 55.1
comp=Z,11nm,1.4s
WVOR Wild Horse Val 36.05 84 P P 08 41 45.7 +1.0
WVOR IAmb IAmb 08 41 59.3
comp=Z,6.2nm,0.9s
BEKR Beckworth 36.48 89 P P 08 41 48.8 +0.3
MSO Missoula 36.57 75 P P 08 41 50.1 +1.1
baz=300
MSO Missoula 36.57 75 P P 08 41 49.7 +0.6
MSO IAmb IAmb 08 41 50.7
comp=Z,10nm,1.3s
H11N2 WAKE ISLAND Hy 36.70 216 T T 09 21 01.9
baz=22,slow=76
H11N3 WAKE ISLAND Hy 36.71 216 T T 09 20 54.5
baz=22,slow=76
H11N1 WAKE ISLAND Hy 36.72 216 T T 09 21 03.1
baz=22,slow=76
PAHR Pah Rah Range 37.18 89 P P 08 41 55.5 +1.1
PAHR IAmb IAmb 08 41 56.5
comp=Z,20nm,1.5s
MFID Camas Ranch 37.22 81 P P 08 41 55.1 +0.4
VCNR Virginia City 37.26 89 P P 08 41 56.4 +1.2
VCNR IAmb IAmb 08 41 57.7
comp=Z,10nm,1.2s
PNTR Pine Nut 37.42 90 P P 08 41 58.2 +1.7
PNTR IAmb IAmb 08 42 13.8
comp=Z,9.2nm,0.7s
YERR Yerington 37.70 89 P P 08 41 59.8 +1.0
WAKR Walker 37.88 90 P P 08 42 01.7 +1.4
H11S1 WAKE ISLAND Hy 37.90 216 T T 09 22 37.1
baz=22,slow=76,SNR=393
H11S2 WAKE ISLAND Hy 37.91 216 T T 09 22 37.6
baz=22,slow=76,SNR=313
H11S3 WAKE ISLAND Hy 37.92 216 T T 09 22 35.9
baz=22,slow=76,SNR=144
USRK Ussuriysk Ar. 37.99 281 P P 08 42 00.8 -0.2
comp=Z,4.3nm,1.0s,baz=95,slow=7.2,SNR=4.9
USRK LR LR 08 56 46.7
comp=Z,133nm,20.4s,baz=57,slow=35
MCMT McKenzie Canyo 38.26 77 P P 08 42 03.9 +0.3
RYN Ryan 38.37 89 P P 08 42 05.4 +1.0
KVN Kaiserville 38.37 89 P P 08 42 04.9 +0.4
BOZ Bozeman (W) 38.58 75 P P 08 42 06.8 +0.7
BOZ IAmb IAmb 08 42 25.2
comp=Z,11nm,0.8s
NVAR Mina Array Bea 38.62 89 P P 08 42 06.5 -0.1
comp=Z,2.5nm,0.8s,baz=299,slow=7.5,SNR=22
NVAR PcP **PcP 08 44 18.0 -0.1**
comp=Z,0.3nm,0.5s,baz=297,slow=4.0,SNR=3.0
NVAR LR LR 08 54 55.5
comp=Z,146nm,19.0s,baz=308,slow=31
MDPB Devils Postpil 38.64 91 P P 08 42 08.2 +1.3
OMMB Old Mammoth Mi 38.70 91 P P 08 42 08.3 +0.8
OMMB IAmb IAmb 08 42 09.9
comp=Z,10nm,1.3s
NV11 Mina Array Sit 38.71 89 P P 08 42 07.9 +0.6
MJAR Matsushiro Arr 38.73 267 P P 08 42 06.8 -0.5
comp=Z,3.2nm,0.8s,baz=38,slow=6.6,SNR=7.0
MJAR LR LR 08 55 51.7
comp=Z,102nm,22.0s,baz=60,slow=33
MAJO Matsushiro 38.73 267⇑ eP P 08 42 07.9 +0.6
MAJO pmax pmax
comp=Z,32nm,1.8s
MAT Matsushiro 38.73 267 P P 08 42 07.8 +0.5
MLAC Mammoth, Mammo 38.80 91 P P 08 42 09.9 +1.8
baz=309
ELK Elko 39.11 84 P P 08 42 11.4 +0.7
QLMT Earthquake Lak 39.11 76 P P 08 42 11.7 +1.1
PAGB Antelope Grade 39.15 94 P P 08 42 11.9 +1.1
PAGB IAmb IAmb 08 42 12.8
comp=Z,8.4nm,0.9s
YHL Hebgen Lake 39.25 76 P P 08 42 12.6 +0.7
YHB Horse Butte 39.29 76 P P 08 42 12.9 +0.8
YMR Madison River 39.48 76 P P 08 42 14.5 +0.8
YHH Holmes Hill 39.48 76 P P 08 42 13.8 0.0
TIN Tinemaha, Big 39.53 91 P P 08 42 16.0 +1.9
baz=310
YNR Norris Junctio 39.62 76 P P 08 42 15.8 +0.9
FFC Flin Flon 39.65 58 *i* P **P 08 42 16.6 +1.9**
VES Vestal, Richgr 39.79 93 P P 08 42 17.1 +1.0
baz=311
YPP Pitchstone Pla 39.79 77 P P 08 42 16.0 -0.4
H17A Grant Village 39.86 76 P P 08 42 16.7 -0.2
YNE Yellowstone No 39.86 75 P P 08 42 17.8 +0.9
YMP Mirror Lake Pl 39.92 76 P P 08 42 18.7 +1.2
CWC Cottonwood Cre 40.02 92 P P 08 42 19.3 +1.0
baz=310
RLMT Red Lodge 40.24 75 P P 08 42 20.5 +0.5
baz=303
RLMT Red Lodge 40.24 75 P P 08 42 19.9 -0.2
RLMT IAmb IAmb 08 42 24.4
comp=Z,17nm,1.1s
REDW Red Top Meadow 40.27 78 P P 08 42 21.2 +0.9
REDW IAmb IAmb 08 42 38.7
comp=Z,12nm,1.4s
ISA Isabella, Lake 40.28 93 P P 08 42 20.8 +0.5
baz=311
ISA Isabella, Lake 40.28 93 P P 08 42 20.5 +0.2
R11A Troy Canyon, C 40.35 87 P P 08 42 21.8 +0.9
baz=309,SNR=6.3
R11A Troy Canyon, C 40.35 87 P P 08 42 20.8 -0.1
R11A IAmb IAmb 08 42 22.6
comp=Z,14nm,1.5s
BGU Big Grassy Mou 40.35 82 P P 08 42 21.6 +0.7
DAC Darwin (Calif) 40.42 92 P P 08 42 23.7 +2.1
AHID Auburn Hatcher 40.46 79 P P 08 42 22.7 +0.8
MPMC Manual Prospec 40.63 92 P P 08 42 24.3 +1.0
baz=311
FURC Furnace Creek, 40.75 91 P P 08 42 25.4 +1.4
baz=310,SNR=7.5
OSI Osito Audit: C 40.82 94 P P 08 42 25.9 +1.2
OSI IAmb IAmb 08 42 30.1
comp=Z,17nm,1.4s
TPNV Topopah Spring 40.82 90 P P 08 42 26.0 +1.2
baz=310,SNR=9.8
TPNV Topopah Spring 40.82 90 P P 08 42 25.7 +0.9
TPNV IAmb IAmb 08 42 26.7
comp=Z,7.2nm,0.8s
DUG Dugway, Tooele 40.92 83 P P 08 42 26.7 +1.1
baz=307,SNR=6.5
DUG Dugway, Tooele 40.92 83 P P 08 42 26.8 +1.2
DUG IAmb IAmb 08 42 27.6
comp=Z,11nm,1.2s
EDW2 Edwards Air Fo 41.09 93 P P 08 42 28.0 +1.0
baz=312
LAO LASA Array 41.19 71 P P 08 42 28.0 +0.4
LAO IAmb IAmb 08 42 44.4
comp=Z,7.1nm,0.8s
TCUT Toone Canyon 41.23 81 P P 08 42 29.3 +1.1
CTU Camp Tracy 41.27 82 P P 08 42 27.8 -0.8
PSUT Pine Spring 41.30 86 P P 08 42 28.9 +0.1
BOD Bodaibo 41.37 309 *e*P P **08 42 28.5 -0.4**
BOD pmax pmax
comp=Z,8.0nm,1.0s
BW06 Boulder Array 41.38 78 P P 08 42 30.0 +0.5
baz=305,SNR=6.0
BW06 Boulder Array 41.38 78 P P 08 42 30.0 +0.5
BW06 IAmb IAmb 08 42 47.5
comp=Z,8.9nm,1.0s
PD31 Pinedale Array 41.39 78 P P 08 42 29.9 +0.4
PDAR Pinedale Array 41.39 78 P P 08 42 29.9 +0.4
comp=Z,2.4nm,0.5s,baz=307,slow=3.6,SNR=28
PDAR LR LR 08 58 33.9
comp=Z,153nm,18.1s,baz=336,slow=34
DGMT Dagmar 41.42 68 P P 08 42 29.3 -0.2
DGMT IAmb IAmb 08 42 31.3
comp=Z,9.1nm,0.7s
SHOC Shoshone, Teco 41.48 91 P P 08 42 31.2 +1.1
baz=311,SNR=5.3
JLU Jordanelle 41.51 82 P P 08 42 31.6 +1.1
NLU North Lily Min 41.52 83 P P 08 42 31.5 +0.9
GSC Goldstone, Bar 41.54 92 P P 08 42 31.6 +0.9
baz=312,SNR=11
GSC Goldstone, Bar 41.54 92 P P 08 42 31.7 +1.0
GSC IAmb IAmb 08 42 32.4
comp=Z,10nm,0.8s
BFSC Mount Baldy Ra 41.73 94 P P 08 42 33.2 +0.9
baz=312
MPU Maple Canyon 41.75 83 P P 08 42 33.5 +1.0
FCC Fort Churchill 41.81 50 P P 08 42 33.4 +1.0
FCC IAmb IAmb 08 42 40.1
comp=Z,14nm,1.2s
TUQ Turquoise Moun 42.00 91 P P 08 42 35.4 +0.9
baz=311
CCUT Cedar City 42.22 87 P P 08 42 37.4 +1.0
MSU Marysvale 42.34 85 P P 08 42 38.2 +0.9
SZCU Shurtz Canyon 42.36 86 P P 08 42 38.2 +0.8
MURC Murrieta 42.44 94 P P 08 42 38.4 +0.5
baz=313
TMUT Trail Mountain 42.45 83 P P 08 42 39.2 +0.9
HIA Hailar 42.47 295 P P 08 42 37.8 -0.2
GMRC Granite Mounta 42.59 92 P P 08 42 39.9 +0.6
baz=312,SNR=6.3
P17A Butcher Ranch, 42.63 83 P P 08 42 40.6 +1.0
LCMT Little Creek M 42.63 87 P P 08 42 40.4 +0.7
RDMU Red Mountain 42.67 81 P P 08 42 40.7 +0.7
Q16A Castle Valley 42.70 84 P P 08 42 41.3 +1.0
PFO Pinyon Flats O 42.88 94 P P 08 42 42.1 +0.4
baz=313
PFO Pinyon Flats O 42.88 94 *i* P **P 08 42 43.3 +1.6**
PFO Pinyon Flats O 42.88 94 LR LR 08 56 33.8
comp=Z,116nm,19.1s,baz=306,slow=30
PFO Pinyon Flats O 42.88 94 P P 08 42 42.4 +0.7
KNB Kanab 42.89 87 P P 08 42 42.7 +0.9
TPFO Pinon Flats 42.89 94 P P 08 42 42.2 +0.5
baz=313
109C Camp Elliot, M 42.98 95 P P 08 42 43.4 +1.1
109C IAmb IAmb 08 42 43.5
comp=Z,6.8nm,0.7s
SRU San Rafael Swe 42.98 83 P P 08 42 43.1 +0.6
K22A Casper 43.27 76 P P 08 42 44.9 +0.1
baz=306
K22A Casper 43.27 76 P P 08 42 46.0 +1.3
K22A IAmb IAmb 08 42 46.5
comp=Z,18nm,1.4s
IRM Iron Mountain 43.33 92 P P 08 42 45.8 +0.6
baz=312
MONP2 Monument Peak 43.39 94 P P 08 42 46.8 +0.9
baz=313
W13A Hualapai Mount 43.48 90 P P 08 42 47.0 +0.4
U15A North Rim 43.59 87 P P 08 42 48.1 +0.6
U15A IAmb IAmb 08 42 53.4
comp=Z,7.9nm,1.0s
O20A White River Ci 43.74 80 P P 08 42 48.9 +0.2
baz=308,SNR=6.6
O20A White River Ci 43.74 80 P P 08 42 48.5 -0.1
O20A IAmb IAmb 08 43 03.8
comp=Z,15nm,0.9s
IKP In-Ko-Pah, Jac 43.75 94 P P 08 42 49.2 +0.6
baz=314
RSSD Black Hills 43.90 73 P P 08 42 50.0 +0.2
baz=306
RSSD Black Hills 43.90 73 P P 08 42 49.6 -0.2
RSSD IAmb IAmb 08 42 52.4
comp=Z,4.9nm,0.6s
Y12C Blythe 43.98 92 P P 08 42 50.9 +0.6
baz=313,SNR=6.9
Y12C Blythe 43.98 92 P P 08 42 50.4 0.0
Y12C IAmb IAmb 08 42 51.8
comp=Z,8.1nm,0.8s
GLA Glamis 44.27 93 P P 08 42 52.7 0.0
baz=313
MDND Maddock 44.35 66 P P 08 42 53.2 +0.1
baz=304
MDND Maddock 44.35 66 P P 08 42 54.0 +0.8
KSRS Korea Array 44.47 276 P P 08 42 53.9 -0.3
comp=Z,6.6nm,0.9s,baz=52,slow=7.6,SNR=19
KSRS LR LR 08 59 00.8
comp=Z,61nm,21.6s,baz=41,slow=33
N23A Red Feather La 44.67 78 P P 08 42 57.4 +1.3
baz=308
WUAZ Wupatki 44.75 88 P P 08 42 57.6 +0.9
baz=311,SNR=6.3
WUAZ Wupatki 44.75 88 P P 08 42 57.8 +1.1
WUAZ IAmb IAmb 08 42 58.0
comp=Z,6.3nm,0.8s
Y14A Wickenburg 44.79 90 P P 08 42 56.7 -0.2
ULM Lac du Bonnet 45.09 61 P P 08 42 57.9 -1.2
comp=Z,2.4nm,0.5s,baz=298,slow=8.6,SNR=8.9
ULM LR LR 09 02 30.0
comp=Z,139nm,18.2s,baz=230,slow=37
ULM Lac du Bonnet 45.09 61 P P 08 42 59.1 +0.1
ULM IAmb IAmb 08 43 00.8
comp=Z,24nm,1.4s
113A Mohawk Valley, 45.11 92 P P 08 42 59.9 +0.5
113A IAmb IAmb 08 43 11.9
comp=Z,6.0nm,1.1s
MVCO Mesa Verde 45.42 84 P P 08 43 02.3 +0.3
baz=310
MVCO Mesa Verde 45.42 84 P P 08 43 02.6 +0.6
MVCO IAmb IAmb 08 43 19.5
comp=Z,16nm,1.4s
X16A Lo Mia Camp, P 45.43 89 P P 08 43 02.9 +0.7
TJN Taejon 45.51 275⇓ eP P 08 43 02.5 0.0
ISCO Idaho Springs 45.54 79 P P 08 43 03.7 +0.6
W18A Petrified Fore 46.02 87 P P 08 43 07.7 +0.9
W18A IAmb IAmb 08 43 09.2
comp=Z,12nm,0.9s
S22A 4UR Ranch, Cre 46.09 82 P P 08 43 09.1 +1.6
baz=310
S22A 4UR Ranch, Cre 46.09 82 P P 08 43 08.4 +0.9
AGMN Agassiz Nation 46.18 63 P P 08 43 08.1 +0.4
214A Organ Pipe Nat 46.26 92 P P 08 43 07.9 -0.6
214A IAmb IAmb 08 43 09.8
comp=Z,17nm,1.4s
X18A Snowflake 46.28 87 P P 08 43 09.1 +0.3
SUSD Miller 46.67 69 P P 08 43 11.7 +0.1
SDCO Great Sand Dun 46.90 81 P P 08 43 14.6 +0.8
baz=310
SDCO Great Sand Dun 46.90 81 IAmb IAmb 08 43 15.1
comp=Z,5.6nm,1.2s
SDCO P P **08 43 15.1 +1.3**
TUC Tucson 47.26 90 P P 08 43 17.1 +0.7
baz=314
TUC Tucson 47.26 90 P P 08 43 17.4 +1.0
TUC IAmb IAmb 08 43 17.4
comp=Z,5.4nm,0.9s
T25A Trinidad 47.96 81 P P 08 43 23.3 +1.4
baz=311,SNR=5.8
T25A Trinidad 47.96 81 P P 08 43 23.0 +1.1
ANMO Albuquerque 48.15 84 P P 08 43 24.5 +1.1
baz=312
ANMO Albuquerque 48.15 84⇑ eP P 08 43 23.2 -0.2
ANMO pmax pmax
comp=Z,7.0nm,2.5s
ANMO Albuquerque 48.15 84 P P 08 43 24.6 +1.2
ANMO IAmb IAmb 08 43 24.8
comp=Z,7.3nm,1.4s
LENM Lemitar 48.35 86 P P 08 43 26.5 +1.6
ECSD EROS Data Cent 48.44 69 P P 08 43 24.7 -0.6
baz=308,SNR=7.8
ECSD EROS Data Cent 48.44 69 IAmb IAmb 08 43 25.0
comp=Z,7.2nm,0.8s
ECSD P P **08 43 25.1 -0.3**
BNM Barren Site 48.57 85 P P 08 43 28.3 +1.5
EYMN Ely 48.77 61 P P 08 43 27.3 -0.4
121A Cookes Peak, D 48.95 88 P P 08 43 30.1 +0.5
baz=314
121A Cookes Peak, D 48.95 88 P P 08 43 30.7 +1.1
121A IAmb IAmb 08 43 46.7
comp=Z,6.1nm,0.8s
KBS Kingsbay 49.16 359 P P 08 43 32.1 +1.7
TLY Talaya 49.68 306 *de*P **P 08 43 34.8 +0.1**
TLY pmax pmax
comp=Z,6.0nm,0.8s
SPMN Marine on St. 49.69 65 P P 08 43 35.3 +0.5
baz=308
SPMN Marine on St. 49.69 65 P P 08 43 36.2 +1.4
SPMN IAmb IAmb 08 43 36.3
comp=Z,5.5nm,0.8s
CBKS Cedar Bluff 49.69 76 P P 08 43 35.7 +0.7
SPA0 Spitsbergen Ar 49.84 358 *e*P **P 08 43 35.4 -0.2**
SPA0 Spitsbergen Ar 49.84 358 P P 08 43 35.7 +0.1
SPITS Spitsbergen Ar 49.84 358 LR LR 09 03 09.2
comp=Z,100nm,19.0s,baz=200,slow=34
DAG Danmarks Havn 50.13 8 *i* P **P 08 43 36.9 -0.8**
DAG Danmarks Havn 50.13 8 *i* P **P 08 43 36.9 -0.8**
ULN Ulaanbaatar 50.20 300⇑ eP P 08 43 38.6 -0.3
ULN pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 50.58 300 P P 08 43 40.9 -0.8
comp=Z,1.2nm,0.8s,baz=54,slow=6.9,SNR=6.9
SONM ScP **ScP 08 48 50.3 -1.0**
comp=Z,1.1nm,0.8s,baz=49,slow=3.1,SNR=6.0
SONM LR LR 09 06 43.7
comp=Z,161nm,18.6s,baz=44,slow=38
D41A Chassel 50.89 61 P P 08 43 44.5 +0.7
MNTX Cornudas Mount 51.01 87 P P 08 43 45.4 +0.4
baz=314,SNR=5.9
MNTX Cornudas Mount 51.01 87 P P 08 43 46.0 +1.0
MOY Mondy 51.01 307 *e*P **P 08 43 45.1 +0.3**
HSPB Hornsund (broa 51.04 358 *e*P **P 08 43 44.4 -0.2**
MSTX Muleshoe 51.05 83 P P 08 43 45.6 +0.2
baz=313
G40A Rib Lake 51.11 64 P P 08 43 46.8 +1.2
G40A IAmb IAmb 08 43 58.3
comp=Z,17nm,1.3s
COWI Conover 51.17 62 P P 08 43 46.0 0.0
SUMG Summit 51.26 17 *i* P **P 08 43 47.0 +0.3**
SUMG Summit 51.26 17 *i* P **P 08 43 47.0 +0.3**
SUMG Summit 51.26 17 P P 08 43 47.4 +0.7
SUMG IAmb IAmb 08 44 00.5
comp=Z,8.2nm,1.0s
KSU1 Kansas State U 51.37 74 P P 08 43 47.0 -0.6
baz=311
HHC Hu-ho-hao-te 52.09 290 P P 08 43 54.1 +1.0
HHC pmax pmax
comp=Z,6.0nm,0.8s
E43A Lone Tree Farm 52.16 61 P P 08 43 53.8 +0.4
L40A Anamosa 52.57 67 P P 08 43 56.3 -0.2
JFWS Jewell Farm 52.58 66 P P 08 43 58.2 +1.7
WMOK Wichita Mounta 52.96 79 P P 08 44 00.0 +0.5
baz=313
WMOK Wichita Mounta 52.96 79 P P 08 44 00.4 +0.9
WMOK IAmb IAmb 08 44 11.8
comp=Z,5.6nm,0.9s
SFJD Kangerlussuaq 52.97 25 LR LR 09 09 35.4
comp=Z,100nm,18.4s,baz=320,slow=40
E46A Sault Ste Mari 53.60 59 P P 08 44 04.4 +0.4
E46A IAmb IAmb 08 44 16.6
comp=Z,12nm,1.0s
NJ2 Nanjing 53.62 277 *e*P **P 08 44 03.8 -0.5**
NJ2 pmax pmax
comp=Z,18nm,0.5s
TX31 Lajitas Ar. Si 53.71 88 P P 08 44 05.5 +0.3
TX32 Lajitas Array 53.71 88 P P 08 44 05.7 +0.5
TX32 IAmb IAmb 08 44 06.2
comp=Z,16nm,1.4s
TXAR Lajitas Array 53.71 88 P P 08 44 04.9 -0.3
comp=Z,4.2nm,0.7s,baz=298,slow=5.2,SNR=52
TXAR LR LR 09 04 17.2
comp=Z,44nm,19.6s,baz=0.0,slow=33
ABTX Abilene, Hawle 53.88 82 P P 08 44 06.7 +0.4
baz=314
HDIL Hopedale 54.66 68 P P 08 44 11.7 -0.1
HHAR Hobbs 54.82 74 P P 08 44 12.3 -0.8
HHAR IAmb IAmb 08 44 30.4
comp=Z,4.8nm,0.9s
P43A Skaggs, Pawnee 55.14 69 P P 08 44 14.9 -0.3
CCM Cathedral Cave 55.21 71 P P 08 44 15.4 -0.3
CCM IAmb IAmb 08 44 15.9
comp=Z,3.5nm,0.7s
JCT Junction City 55.28 84 P P 08 44 16.0 -0.4
baz=315
JCT Junction City 55.28 84 P P 08 44 16.8 +0.4
JCT IAmb IAmb 08 44 30.4
comp=Z,10.0nm,1.2s
U40A Yellville 55.41 74 P P 08 44 16.0 -1.3
baz=313
U40A Yellville 55.41 74 P P 08 44 16.1 -1.2
U40A IAmb IAmb 08 44 16.2
comp=Z,6.7nm,0.6s
SCO Scoresbysund 55.63 12 P P 08 44 18.6 +0.3
W39A Magazine 55.65 75 P P 08 44 18.5 -0.5
baz=314
W39A Magazine 55.65 75 P P 08 44 19.1 +0.1
W39A IAmb IAmb 08 44 24.1
comp=Z,3.9nm,0.7s
WHTX Lake Whitney, 55.65 81 P P 08 44 19.5 +0.4
baz=315
WHTX Lake Whitney, 55.65 81 IAmb IAmb 08 44 20.1
comp=Z,9.3nm,0.9s
WHTX P P **08 44 20.2 +1.1**
VLDQ Val d'Or 55.97 54 P P 08 44 19.6 -1.5
VLDQ IAmb IAmb 08 44 34.2
comp=Z,6.6nm,0.9s
MIAR Mount Ida 56.22 76 P P 08 44 22.9 -0.2
baz=314
MIAR Mount Ida 56.22 76 P P 08 44 23.3 +0.2
SCHQ Schefferville 56.24 42 LR LR 09 10 31.5
comp=Z,108nm,18.1s,baz=84,slow=38
SCHQ Schefferville 56.24 42 P P 08 44 23.5 +0.6
SCHQ IAmb IAmb 08 44 35.5
comp=Z,7.6nm,0.9s
WHAR Wooly Hollow 56.48 74 P P 08 44 24.0 -0.9
D53A Lac Vacive, Po 56.54 55 P P 08 44 25.7 +0.5
D53A IAmb IAmb 08 44 35.0
comp=Z,13nm,1.1s
OLIL Olney 56.56 68 P P 08 44 25.2 -0.2
X40A Basin Creek Fa 56.70 75 P P 08 44 26.9 +0.4
ZALV Zalesovo Beam 56.92 317 P P 08 44 27.9 +0.2
comp=Z,0.5nm,0.4s,baz=58,slow=5.4,SNR=3.8
ZALV LR LR 09 10 22.1
comp=Z,106nm,19.7s,baz=40,slow=38
HAMF Hammerfest 57.05 354 *eP* **P 08 44 28.1 -0.3**
WHN Wuhan 57.42 279 P P 08 44 31.8 +0.2
WCI Wyandotte Cave 57.94 68 P P 08 44 36.2 +1.0
WCI IAmb IAmb 08 44 38.5
comp=Z,7.3nm,0.6s
ARCES ARCESS Array B 58.02 353 P P 08 44 33.4 -1.9
comp=Z,2.2nm,0.7s,baz=16,slow=6.6,SNR=22
ARCES LR LR 09 11 09.4
comp=Z,109nm,18.0s,baz=332,slow=38
ARE0 ARCESS Array S 58.02 353 *eP* **P 08 44 34.7 -0.6**
XAN Xi'an 58.23 286 P P 08 44 36.4 -1.0
XAN pmax pmax
comp=Z,6.0nm,1.1s
PLVO Plevna 58.25 56 P P 08 44 37.7 +0.4
TRO Tromso 58.30 356 *eP* **P 08 44 36.6 -0.6**
T47A Sharon Grove 58.33 69 P P 08 44 37.5 -0.5
baz=314,SNR=5.5
WVT Waverly 58.51 70 P P 08 44 39.1 -0.1
baz=314
WVT Waverly 58.51 70 P P 08 44 39.7 +0.5
J54A Appleton 58.66 59 P P 08 44 41.2 +1.1
KTK1 Kautokeino 58.69 354 *eP* **P 08 44 39.6 -0.3**
LVZ Lovozero 58.74 349⇓ eP P 08 44 40.4 0.0
LVZ Lovozero 58.74 349 P P 08 44 41.1 +0.7
S49A Springfield 58.82 67 P P 08 44 40.0 -1.3
baz=314
T49A Edmonton 59.16 68 P P 08 44 43.5 -0.2
baz=315
T49A Edmonton 59.16 68 P P 08 44 43.7 0.0
T49A IAmb IAmb 08 44 51.5
comp=Z,12nm,1.2s
PLAL Pickwick Lake 59.17 72 P P 08 44 43.6 -0.2
M54A Oil Creek Stat 59.34 61 P P 08 44 45.5 +0.5
V48A Smith Brothers 59.37 70 P P 08 44 44.5 -0.7
baz=315
R51A Hillsboro 59.43 66 P P 08 44 45.7 +0.2
baz=315,SNR=5.9
N54A Moraine State 59.55 61 P P 08 44 46.5 +0.1
N54A IAmb IAmb 08 44 46.5
comp=Z,9.1nm,1.0s
GTA Gaotai 59.71 296 *eP* **P 08 44 47.3 -0.3**
GTA pP pP 08 44 57.9 -1.5
GTA sP sP 08 45 01.9 -2.2
GTA S **S 08 52 53.6 -1.8**
GTA sS sS 08 53 16.0 +0.7
GTA SS **SS 08 56 49.9 -1.0**
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,100nm,7.9s
GTA LR LR
comp=Z,200nm,18.7s
GTA LR LR
comp=Z,200nm,20.0s
GTA LR LR
comp=Z,370nm,20.0s
LZH Lanzhou 59.77 291 *eP* **P 08 44 48.3 +0.2**
LZH pP pP 08 45 01.0 +1.1

LZH sP sP 08 45 09.4 +4.8
LZH pmax pmax
comp=Z,16nm,1.3s
LZH pmax pmax
comp=Z,65nm,4.9s
LZH LR LR
comp=Z,230nm,15.2s
LZH LR LR
comp=Z,230nm,15.4s
LZH LR LR
comp=Z,370nm,17.8s
P53A Whipple 59.82 64 P **P** **08 44 48.4 +0.1**
M55A Ridgway 59.85 60 P **P** **08 44 49.0 +0.5**
O54A Avella 59.89 62 P **P** **08 44 49.1 +0.4**
J57A Williamstown 59.95 57 P **P** **08 44 49.8 +0.8**
L56A Greenwood 60.03 59 P **P** **08 44 50.1 +0.5**
STEI Steigen 60.14 357 *eP* **P** **08 44 49.3 -0.6**
X48A Hartselle 60.14 71 P **P** **08 44 49.5 -1.0**
baz=315
M56A Emporium 60.16 60 P **P** **08 44 51.2 +0.6**
MCWV Mont Chateau 60.55 62 P **P** **08 44 53.6 +0.4**
T52A Hallie 60.60 66 P **P** **08 44 53.6 0.0**
W50A Signal Mountai 60.62 70 P **P** **08 44 54.2 +0.4**
TZTN Tazewell 60.68 67 P **P** **08 44 54.3 +0.1**
V51A Loudon 60.75 68 P **P** **08 44 54.5 -0.1**
V51A IAmb IAmb 08 45 06.2
comp=Z,8,9nm,1.3s
CPCT Cooper Cave 60.90 69 P **P** **08 44 55.0 -0.6**
SSPA Standing Stone 60.91 60 P **P** **08 44 56.3 +0.7**
S54A Dingess, Beckl 61.05 65 P **P** **08 44 57.1 +0.4**
BORG Borgarnes 61.07 14 LR LR 09 12 50.4
comp=Z,57nm,19.5s,baz=61,slow=37
V52A Sevierville 61.15 68 P **P** **08 44 57.1 -0.2**
TKL Tuckaleechee C 61.18 68 P **P** **08 44 58.3 +0.7**
F62A Pittston Farm, 61.18 51 P **P** **08 44 57.6 +0.2**
L59A Walton 61.31 57 P **P** **08 44 59.1 +0.7**
R55A Marlinton 61.37 64 P **P** **08 45 01.0 +2.1**
G62A West of Eustis 61.40 52 P **P** **08 44 59.7 +0.8**
E63A Oxbow 61.54 50 P **P** **08 44 59.5 -0.3**
KONS Konsvik 61.62 358 *eP* **P** **08 44 59.8 -0.2**
Z50A Ashland 61.65 72 P **P** **08 44 59.9 -0.9**
baz=316
Z50A Ashland 61.65 72 P **P** **08 45 00.1 -0.6**
V53A Saluda 61.72 68 P **P** **08 45 01.4 +0.1**
V53A IAmb IAmb 08 45 14.2
comp=Z,7.7nm,1.1s
F63A Nahmakanta, Br 61.74 51 P **P** **08 45 01.0 -0.2**
N59A State Game Lan 61.84 59 P **P** **08 45 02.6 +0.6**
X52A Dahlonega 61.86 69 P **P** **08 45 01.7 -0.5**
baz=316
KURK Kurchatov 61.88 318 *ceP* **P** **08 45 02.3 +0.3**
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 61.88 318 P **P** **08 45 02.0 0.0**
KURK IAmb IAmb 08 45 03.1
comp=Z,5.1nm,0.9s
MOR8 Moi Rana 61.92 358 *eP* **P** **08 45 00.5 -1.6**
F64A Sherman 61.98 51 P **P** **08 45 02.9 +0.1**
KURBB Kurchatov Arra 61.99 317 P **P** **08 45 01.5 -1.2**
comp=Z,3.3nm,0.8s,baz=45,slow=7.0,SNR=19
BATG Bathurst New B 62.01 48 P **P** **08 45 03.5 +0.5**
250A Grady 62.36 73 P **P** **08 45 04.9 -0.6**
baz=316
V55A Taylorsville 62.49 66 P **P** **08 45 06.3 -0.1**
T57A Hurt 62.77 64 P **P** **08 45 08.6 +0.4**
WMQ Urumqi 62.89 307 *eP* **P** **08 45 11.3 +2.3**
WMQ pmax pmax
comp=Z,18nm,0.6s
WMQ LR LR
comp=Z,630nm,29.0s
WMQ LR LR
comp=Z,1μm,29.0s
WMQ LR LR
comp=Z,130nm,24.5s
KMSC Kings Mountain 62.94 67 P **P** **08 45 09.4 0.0**
GOGA Godfrey 62.97 70 P **P** **08 45 09.6 +0.1**
GOGA IAmb IAmb 08 45 15.6
comp=Z,10nm,1.2s
Z53A Monticello 63.00 70 P **P** **08 45 08.5 -1.2**
baz=317
HODGE Hodges 63.07 68 P **P** **08 45 10.1 -0.1**
Y54A Tignall 63.09 69 P **P** **08 45 09.8 -0.6**
baz=317
MK31 Makanchi Array 63.24 313 P **P** **08 45 10.4 -0.8**
MK31 IAmb IAmb 08 45 14.8
comp=Z,7.2nm,1.2s
MKAR Makanchi Array 63.24 313 *i* P **P** **08 45 10.3 -0.9**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 63.24 313 P **P** **08 45 10.0 -1.2**
comp=Z,0.6nm,0.3s,baz=54,slow=6.1,SNR=6.7
MKAR LR LR 09 15 20.6
comp=Z,116nm,18.3s,baz=3.5,slow=38
GGN Saint George 63.25 50 P **P** **08 45 11.4 +0.2**
EMMW East Machias 63.26 51 P **P** **08 45 11.7 +0.4**
BRVK Borovoye 63.32 324 ⇓ *i*P **P** **08 45 12.0 +0.4**
BRVK pmax pmax
comp=Z,11nm,2.5s
BRVK Borovoye 63.32 324 P **P** **08 45 11.3 -0.3**
BRVK IAmb IAmb 08 45 13.2
comp=Z,3.3nm,0.8s
352A Blakely 63.51 72 P **P** **08 45 12.7 -0.5**
JSC Jenkinsville 63.60 68 P **P** **08 45 13.8 0.0**
NSS Namsos 63.62 359 *eP* **P** **08 45 13.1 -0.3**
LMN Caledonia Moun 63.65 49 P **P** **08 45 14.0 +0.1**
W57A Gilead 63.69 66 P **P** **08 45 14.5 +0.2**
T59A Double "B" Far 63.73 63 P **P** **08 45 15.5 +1.0**
154A Montrose 63.75 70 P **P** **08 45 14.0 -0.8**
BIRD Birdtown, Kers 63.79 67 P **P** **08 45 15.3 +0.3**
Z56A Williston 64.23 68 P **P** **08 45 18.5 +0.6**
ARU Arti 64.36 332 *d i*P **P** **08 45 18.3 0.0**
ARU *PP **pP** **08 45 30.3 0.0**
ARU 08 47 37.2
ARU S **S** **08 53 55.4 +2.3**
ARU SS **SS** **08 58 01.5 -0.9**
ARU pmax pmax
comp=Z,7.0nm,0.8s
ARU Arti 64.36 332 LR LR 09 16 00.2
comp=Z,120nm,19.6s,baz=8.0,slow=38
ARU Arti 64.36 332 P **P** **08 45 18.5 +0.2**
ARU IAmb IAmb 08 45 19.3
comp=Z,6.6nm,0.8s
Y58A Scranton 64.78 67 P **P** **08 45 22.3 +0.9**
HAL Halifax 65.13 49 P **P** **08 45 23.9 +0.4**
RGRS Roger Stewart 65.21 68 P **P** **08 45 24.9 +0.6**
FINES FINESS Array B 65.93 351 P **P** **08 45 26.8 -1.7**
comp=Z,3.3nm,0.8s,baz=11,slow=8.6,SNR=7.4
FINES LR LR 09 15 33.1
comp=Z,110nm,19.3s,baz=314,slow=37
DOMB Dombas 66.14 0 *eP* **P** **08 45 29.2 -0.7**
TAOE Nuku Hiva Isla 66.27 146 *eT* T 09 57 43.0
comp=Z,30nm,0.2s
NC204 NORSAR Array S 66.90 359 P **P** **08 45 34.5 -0.2**
NC303 NORSAR Array S 66.94 359 P **P** **08 45 34.8 -0.2**
NC405 NORSAR Array S 67.05 359 P **P** **08 45 35.4 -0.3**
NB201 NORSAR Array S 67.12 359 P **P** **08 45 36.2 +0.1**
NB2 NORSAR Subarra 67.13 359 P **P** **08 45 35.7 -0.5**
comp=Z,0.7nm,0.5s,baz=1.9,slow=6.5
NB2 NORSAR Subarra 67.13 359 P **P** **08 45 35.7 -0.5**
baz=1.9,slow=6.5
NOA NORSAR Array B 67.13 359 P **P** **08 45 35.5 -0.8**
comp=Z,1.2nm,0.6s,baz=1.0,slow=6.3,SNR=5.0
NOA LR LR 09 13 24.3
comp=Z,58nm,20.5s,baz=0.0,slow=35
SKAR Skarslia 67.50 0 *eP* **P** **08 45 38.0 -0.6**
KONO Kongsberg 68.54 360 *eP* **P** **08 45 44.5 -0.5**
KDJ Kajisay 69.16 312 P **P** **08 45 49.6 +0.2**
KDJ IAmb IAmb 08 45 50.8
comp=Z,9.4nm,1.4s
TARG Taragay, Kyrgy 69.19 312 P **P** **08 45 51.0 +1.1**
TARG IAmb IAmb 08 45 53.7
comp=Z,2.7nm,0.6s
BOOM Boomskoye usch 69.44 313 P **P** **08 45 51.8 +0.7**
BOOM IAmb IAmb 08 45 54.6
comp=Z,4.9nm,0.7s
AKTO Aktyubinsk 69.70 329 LR LR 09 18 39.2
comp=Z,69nm,19.9s,baz=356,slow=38
AAK Ala-Archa 69.96 314 ⇓ *eP* **P** **08 45 54.7 +0.3**
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 69.96 314 P **P** **08 45 54.6 +0.3**
AAK IAmb IAmb 08 45 55.4
comp=Z,5.3nm,0.9s
ABKAR Akbulak array 70.09 327 P **P** **08 45 54.7 -0.1**
ABKAR IAmb IAmb 08 45 56.8
comp=Z,3.2nm,0.8s
OBN Obninsk 70.68 344 *eP* **P** **08 45 59.1 +0.9**
OBN *e* 08 46 10.4
OBN *e* 08 46 19.8
OBN *e* 08 48 34.4
OBN pmax pmax
comp=Z,3.0nm,1.0s
OBN MLR MLR
comp=Z,193nm,16.0s
KSH Kashi 71.80 311 P **P** **08 46 09.1 +3.6**
KSH pP sP 08 46 22.4 +0.1
KSH S **S** **08 55 26.4 +3.7**
KSH sS sS 08 55 48.4 +5.3
KSH pmax pmax
comp=Z,16nm,0.7s
KSH LR LR
comp=Z,510nm,7.3s
KSH LR LR
comp=Z,290nm,6.9s
KSH LR LR
comp=Z,820nm,7.4s
PPT Papeete 71.89 159 LR LR 09 11 38.5
comp=Z,64nm,20.8s,baz=262,slow=31
PPT2 Papeete2 71.91 159 *e*LR LR 09 07 52.5
comp=Z,107nm,27.0s,baz=344
PPT2 Papeete2 71.91 159 *eT* T 10 04 47.7
comp=Z,3.0nm,0.3s
FAKI Fak Fak 72.73 241 P **P** **08 46 11.2 +0.1**
PAYA Payao 74.47 282 P **P** **08 46 22.8 +1.4**
UTTA Uttaradit 75.29 280 P **P** **08 46 26.5 +0.4**
comp=Z,28μm,0.8s,comp=Z,82nm
CHGR Chuyangaron 75.55 316 P **P** **08 46 27.7 +0.3**
CMAR Chiang Mai Arr 75.72 282 *i* P **P** **08 46 29.2 +0.6**
CMAR pmax pmax
comp=Z,7.0nm,0.7s
CMAR Chiang Mai Arr 75.72 282 P **P** **08 46 27.4 -1.2**
comp=Z,7.1nm,0.7s,baz=27,slow=6.5,SNR=27
AKASG Malin Array Be 76.10 347 P **P** **08 46 28.6 -1.6**
comp=Z,0.4nm,0.3s,baz=15,slow=5.5,SNR=3.7
AKASG LR LR 09 24 23.9
comp=Z,52nm,18.2s,baz=335,slow=39
MHMT Maesarieng 76.55 282 P **P** **08 46 34.8 +1.5**
TBI Tubuai 77.50 160 *e*LR LR 09 10 16.0
comp=Z,102nm,27.0s
TBI Tubuai 77.50 160 *eT* T 10 11 46.7
comp=Z,6.3nm,0.2s
KHC Kasperske Hory 79.01 357 ⇓ *eP* **P** **08 46 46.4 -0.2**
KHC Kasperske Hory 79.01 357 *eP* **P** **08 46 47.1 +0.5**
KHC *ep*P **pP** **08 46 59.0 +0.1**
GEC2 GERESS Array S 79.29 357 P **P** **08 46 49.2 +1.1**
GEC2 IAmb IAmb 08 46 51.4
comp=Z,6.3nm,1.4s
GERES GERESS Array B 79.29 357 P **P** **08 46 47.3 -0.9**
comp=Z,1.4nm,0.7s,baz=10,slow=6.0,SNR=7.7
VYHS Vyhne 79.37 353 *eP* **P** **08 46 49.2 +0.7**
VYHS Vyhne 79.37 353 *eP* **P** **08 46 49.2 +0.7**
BUR08 Bucovina Ar. S 79.62 349 P **P** **08 46 49.6 -0.3**
ECH Echery 79.98 1 P **P** **08 46 52.5 +0.6**
ECH IAmb IAmb 08 47 09.1
comp=Z,16nm,1.5s
KBZ Khabaz 80.11 336 LR LR 09 29 36.3
comp=Z,73nm,18.2s,baz=355,slow=41
GEYT Alibeck 80.62 323 LR LR 09 25 46.0
comp=Z,81nm,18.5s,baz=340,slow=38
MOTA Moosalm 80.85 359 P **P** **08 46 58.1 +1.4**
comp=Z,4.0nm,0.7s
WTTA Wattenberg 80.93 358 P **P** **08 46 57.2 0.0**
comp=Z,4.1nm,0.9s
SQTA Sankt Quirin 80.98 359 *eP* **P** **08 46 58.6 +1.3**
comp=Z,5.5nm,1.1s
KBA Koelnbreinsper 81.07 357 *eP* **P** **08 46 58.7 +0.9**
comp=Z,6.6nm,0.8s
FETA Feichten 81.18 359 P **P** **08 46 59.4 +0.9**
comp=Z,7.1nm,1.2s
FUORN Ofenpass-Fuorn 81.59 359 P **P** **08 47 01.4 +0.6**
FUORN IAmb IAmb 08 47 02.4
comp=Z,15nm,1.4s
OBKA Obir 81.59 356 P **P** **08 47 01.4 +0.8**
comp=Z,4.7nm,0.9s
MTN Manton Dam 81.67 237 P **P** **08 47 00.6 -0.5**
MTN IAmb IAmb 08 47 00.9
comp=Z,8.4nm,0.7s
BNI Bardonecchia 83.14 2 P **P** **08 47 09.5 +0.7**
BLY Banja Luka 83.21 354 P **P** **08 47 10.2 +1.3**
BLY IAmb IAmb 08 47 11.2
comp=Z,3.5nm,0.7s
MSSA Maissana 83.90 360 P **P** **08 47 12.4 -0.1**
VLC Villacollemand 84.05 359 P **P** **08 47 14.3 +1.0**
OBIP Obispado Ponce 84.41 68 P **P** **08 47 16.2 +0.8**
SJG San Juan 84.61 67 P **P** **08 47 17.1 +0.7**
BRTR Keskin Array B 86.02 341 P **P** **08 47 23.2 -0.1**
comp=Z,0.4nm,0.5s,baz=1.1,slow=2.5,SNR=3.5
BRTR LR LR 09 32 01.2
comp=Z,48nm,18.8s,baz=352,slow=40
WR0 Warramunga Arr 86.05 230 P **P** **08 47 22.2 -1.2**
WR0 IAmb IAmb 08 47 22.2
comp=Z,2.8nm,0.7s
WRAB Tennant Creek 86.11 230 ⇑ *eP* **P** **08 47 21.9 -1.8**
WRAB pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 86.13 230 P **P** **08 47 22.1 -1.7**
comp=Z,2.4nm,0.7s,baz=34,slow=6.3,SNR=22
SGRT San Giovanni R 86.28 355 P **P** **08 47 25.4 +0.9**
SGRT IAmb IAmb 08 47 41.2
comp=Z,7.8nm,1.0s
ESDC Sonseca Array 87.83 10 P **P** **08 47 30.9 -1.2**
comp=Z,1.2nm,0.7s,baz=349,slow=4.4,SNR=6.4
RPSI Rantau Prapat 87.98 272 P **P** **08 47 32.8 -0.2**
AS31 Alice Springs 89.53 229 P **P** **08 47 39.7 -0.3**
AS31 IAmb IAmb 08 47 40.0
comp=Z,1.7nm,0.6s
ASAR Alice Springs 89.53 229 P **P** **08 47 39.3 -0.7**
comp=Z,5.2nm,0.6s,baz=28,slow=4.9,SNR=135
GSI Gunungsitoli 89.90 272 P **P** **08 47 43.5 +1.4**
MQZ McQueen's Vall 96.54 192 P **P** **08 48 13.0 +1.3**
TORD Torodi Ar. Bea 114.65 8 PKP **PKiKP** **08 53 22.0 -1.2**
comp=Z,0.3nm,0.4s,baz=339,slow=4.0,SNR=3.9
TORD PKKPbc **PKKPbc** **09 03 57.9 -1.1**
comp=Z,0.8nm,0.6s,baz=176,slow=1.7,SNR=5.7
TORD PKKP **PKKPdf** **09 04 19.9 -0.9**
comp=Z,1.0nm,0.7s,baz=173,slow=5.8,SNR=4.3
CPUP Villa Florida 124.67 89 PKP **PKPdf** **08 53 40.6 -1.4**
comp=Z,1.1nm,0.6s,baz=272,slow=1.5,SNR=4.0
CPUP Villa Florida 124.67 89 **PKPdf** **08 53 41.5 -0.5**
PLCA Paso Flores 126.61 111 PKP **PKPdf** **08 53 44.8 -0.6**
comp=Z,1.5nm,0.8s,baz=334,slow=3.7,SNR=6.0
PLCA Paso Flores 126.61 111 **PKPdf** **08 53 45.2 -0.2**
MAW Mawson 150.12 218 PKPbc **PKPbc** **08 54 31.1 -0.8**
comp=Z,2.6nm,0.8s,baz=29,slow=0.4,SNR=5.8
MAW Mawson 150.12 218 **PKPbc** **08 54 30.6 -1.3**
BOSA Boshof 153.56 327 PKPbc **PKPbc** **08 54 40.6 -0.6**
comp=Z,1.6nm,0.5s,baz=25,slow=4.0,SNR=5.7

*IDC **15** 08:42:31.4±4.0, 8.°30S×159.°35E, h74km±46km, mb3.5/5, mb1 3.7/5, mb1mx3.4/30, mbtmp3.8/5, Error ellipse: s-maj=53.7km s-min=25.4km az=130.0*
*ISCJB **15** 08:42:32.2±1.0, 8.°5S±0.°1×159.°5E±0.°1, h103km, mb3.5/5, Error ellipse: s-maj=22.6km s-min=12.9km az=147.3*

ISC 15 08:42:33.5±1.2, 8.°5S±0.°1×159.°6E±0.°2, h103km, n12, σ1§07/7, mb3.3/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.97**	**160**	P		**Pn**	**08 42 52.6**	**-1.2**
	150nm,0.3s,baz=182,slow=6.1,SNR=39							
HNR				S		**Sn**	**08 43 10.2**	**+1.1**
	721nm,0.3s,baz=90,slow=17,SNR=56							
HNR				LR		LR	08 43 26.5	
	comp=Z,96nm,20.2s,baz=261,slow=43							
WRA	**Warramunga Arr**	**26.96**	**242**	P		**P**	**08 48 05.4**	**-0.3**
	0.5nm,0.5s,baz=67,slow=9.2,SNR=6.3							
H11S2	**WAKE ISLAND Hy**	**27.73**	**15**	T		T	09 16 44.0	
	baz=195,slow=76,SNR=116							
H11S3	**WAKE ISLAND Hy**	**27.73**	**15**	T		T	09 16 44.0	
	baz=195,slow=76,SNR=90							
H11S1	**WAKE ISLAND Hy**	**27.75**	**15**	T		T	09 16 44.0	
	baz=195,slow=76,SNR=69							
STKA	**Stephens Creek**	**28.65**	**213**	P		**P**	**08 48 21.6**	**+1.0**
	1.5nm,0.5s,baz=46,slow=14,SNR=5.3							
ASAR	**Alice Springs**	**28.86**	**236**	P		**P**	**08 48 21.7**	**-0.8**
	0.8nm,0.5s,baz=64,slow=10,SNR=8.2							
H11N1	**WAKE ISLAND Hy**	**28.95**	**14**	T		T	09 18 26.1	
	baz=196							
H11N3	**WAKE ISLAND Hy**	**28.96**	**14**	T		T	09 18 17.5	
	baz=196							
H11N2	**WAKE ISLAND Hy**	**28.97**	**14**	T		T	09 18 27.5	
	baz=196							
SONM	**Songino Array**	**73.12**	**326**	P		**P**	**08 53 53.0**	**+0.1**
	0.2nm,0.4s,baz=134,slow=4.2,SNR=3.8							
ILAR	**Eielson Array**	**83.15**	**20**	P		**P**	**08 54 48.0**	**+0.3**
	0.3nm,0.7s,baz=251,slow=5.4,SNR=4.8							

NCEDC 15 08:44:36.5±2.8, 36.°846N±0.°007×121.°58W±0.°01, h5km±2km, Md2.9, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HBTM	**San Juan Bauti**	**0.02**	**78**				Pg	08 44 37.5	-0.1
ANZ	**Anzar Road**	**0.04**	**343**				Pg	08 44 37.7	0.0
HTUM	**Tustin Road**	**0.06**	**251**				Pg	08 44 38.2	+0.3
OCR	**O'Connell Ranc**	**0.09**	**38**				Pg	08 44 39.0	+0.6
HCOM	**Corn Cob Canyo**	**0.11**	**292**				Pg	08 44 39.4	+0.5
HERM	**Elkhorn Road**	**0.12**	**246**				Pg	08 44 39.6	+0.6
SAO	**San Andreas Ge**	**0.13**	**128**			Pg	Pg	08 44 39.2	0.0
BVYM	**Vineyard**	**0.16**	**126**				Pg	08 44 39.9	+0.1
BSRM	**Salinas Radio**	**0.18**	**166**				Pg	08 44 40.2	+0.1
CDC	**Canada Road**	**0.19**	**22**				Pg	08 44 41.0	+0.7
HCAM	**Canada Road**	**0.19**	**22**				Pg	08 44 41.0	+0.7
BSLM	**Silva Ranch**	**0.20**	**111**				Pg	08 44 41.5	+1.1
HFEM	**San Felipe**	**0.20**	**46**				Pg	08 44 41.2	+0.8
HLPM	**Lions Peak**	**0.20**	**347**				Pg	08 44 41.0	+0.6
JELB	**Ellicott, Sant**	**0.22**	**292**				Pg	08 44 41.3	+0.5
HLTM	**Lone Tree Road**	**0.22**	**80**				Pg	08 44 41.7	+0.9
BCGM	**Cienega Road**	**0.23**	**126**				Pg	08 44 41.2	+0.1
JPLM	**Pleasant Valle**	**0.24**	**303**				Pg	08 44 41.9	+0.6
GHS	**Gilroy Hot Spr**	**0.27**	**23**				Pg	08 44 42.5	+0.7
HSPM	**Sheep**	**0.27**	**10**				Pg	08 44 42.7	+0.8
BPCNC	**Pine Canyon**	**0.28**	**188**				Pg	08 44 42.3	+0.4
BHRM	**Hodges Ranch**	**0.28**	**115**				Pg	08 44 42.9	+1.0
PACP	**Pacheco Peak**	**0.28**	**55**				Pg	08 44 42.9	+0.8
SCZ	**Santa Cruz**	**0.28**	**151**				Pg	08 44 41.9	-0.1
BJOM	**Mount Johnson**	**0.30**	**136**				Pg	08 44 42.5	+0.1
BLRM	**Lewis Ranch**	**0.30**	**126**				Pg	08 44 42.6	+0.2
JTGM	**Trout Gulch Ro**	**0.30**	**307**				Pg	08 44 42.8	+0.4
CADM	**Anderson Res.**	**0.32**	**353**				Pg	08 44 43.3	+0.6
HPCM	**Pacheco Lake**	**0.32**	**48**				Pg	08 44 43.5	+0.8
BJCM	**Johnson Can.**	**0.33**	**153**				Pg	08 44 42.9	-0.1
JLAB	**Laurel Hill**	**0.33**	**338**				Pg	08 44 43.5	+0.5
JHLM	**Holstrom Ranch**	**0.33**	**322**				Pg	08 44 43.1	+0.1
SLD	**San Luis Dam**	**0.36**	**51**				Pg	08 44 44.3	+0.7
HMOM	**Monterey**	**0.37**	**228**				Pg	08 44 44.0	+0.4
BEHM	**Elkhorn Ranch**	**0.37**	**119**				Pg	08 44 44.6	+0.9
AMC	**Almaden**	**0.38**	**325**				Pg	08 44 43.8	-0.1
SFJWR	**San Luis Fatjo**	**0.38**	**58**				Pg	08 44 44.6	+0.7
JSTM	**Santa Teresa H**	**0.40**	**334**				Pg	08 44 44.5	+0.3
JUMM	**Mount Umunhum**	**0.41**	**321**				Pg	08 44 44.3	-0.1
CCOB	**Coe Ranch Numb**	**0.42**	**349**				Pb	08 44 45.9	-0.5
BEMM	**Emmet**	**0.43**	**115**				Pg	08 44 45.5	+0.8
HAST	**Hastings Reser**	**0.46**	**177**				Pg	08 44 45.4	+0.1
HAST							Sg	08 44 51.8	+0.5
BSMM	**Soledad Missio**	**0.48**	**165**				Pg	08 44 45.9	+0.2
BAVM	**Antelope Valle**	**0.48**	**114**				Pg	08 44 46.5	+0.7
JJOM	**Saint Joseph's**	**0.48**	**318**				Pg	08 44 45.6	-0.2
BPIM	**Pinnacles**	**0.48**	**137**				Pg	08 44 45.5	-0.3
SCCB	**Santa Clara Co**	**0.50**	**333**				Pg	08 44 46.9	+0.8
MHC	**Mount Hamilton**	**0.50**	**354**				Pb	08 44 47.0	-0.8
BSGM	**Shirttail Gulc**	**0.50**	**149**				Pg	08 44 45.8	-0.4
ARN	**Arnold Ranch**	**0.50**	**4**				Pg	08 44 47.0	+0.8
BBGB	**Big Mountain B**	**0.51**	**122**				Pg	08 44 47.1	+0.8
BBNM	**San Benito**	**0.52**	**130**				Pg	08 44 46.7	+0.1
BCNM	**Chews Ridge**	**0.54**	**179**				Pg	08 44 47.0	+0.1
JBNB	**Ben Lomond Mou**	**0.54**	**301**				Pg	08 44 46.4	-0.5
JSGM	**Saratoga Golf**	**0.58**	**319**				Pb	08 44 48.7	-0.4
JHUM	**Huhtala Lane,**	**0.60**	**308**				Pg	08 44 47.8	-0.3
BRMM	**Rolling Bench**	**0.60**	**91**				Pb	08 44 49.4	-0.1
CMMM	**Mount Mocho**	**0.61**	**6**				Pb	08 44 49.1	-0.6
LRV	**Little Rabbit**	**0.61**	**133**				Pg	08 44 48.3	0.0
CALM	**Calaveras Res.**	**0.63**	**344**				Pb	08 44 49.5	-0.5
CMLM	**Mount Lewis**	**0.63**	**355**				Pb	08 44 49.6	-0.5
BPOM	**Post Ranch**	**0.64**	**194**				Pg	08 44 48.6	-0.1
BMSM	**Mercy Hot Spri**	**0.66**	**106**				Pb	08 44 49.9	-0.6
JBMM	**Black Mountain**	**0.66**	**316**				Pg	08 44 49.0	-0.2
JPC	**Peters Creek,**	**0.66**	**310**				Pg	08 44 49.1	-0.1
BAPM	**Anderson Peak**	**0.67**	**185**				Pg	08 44 49.3	-0.1
JJRM	**Joaquin Road**	**0.70**	**315**				Pg	08 44 49.8	-0.3
JFP	**Foothills Park**	**0.71**	**317**				Pg	08 44 50.0	-0.1
JPSM		**0.71**	**300**				Pg	08 44 49.7	-0.5
CMJC	**Mission San Jo**	**0.71**	**341**				Pg	08 44 50.7	+0.4
JSFB	**Stanford Teles**	**0.73**	**319**				Pg	08 44 50.5	-0.2
JRSC	**Jasper Ridge**	**0.77**	**317**				Pg	08 44 50.8	-0.5
PHRM	**Hernandez Vall**	**0.77**	**128**				Pg	08 44 51.2	0.0
BGH	**Bear Gulch**	**0.79**	**309**				Pg	08 44 51.2	-0.4
WENL	**Wente Vineyard**	**0.79**	**350**				Pb	08 44 52.6	0.0
CVLM	**Vallecito**	**0.81**	**345**				Pb	08 44 53.0	+0.1
CNIC	**Niles Canyon**	**0.82**	**338**				Pg	08 44 52.6	+0.4
PCCM	**Crazy Canyon**	**0.82**	**156**				Pg	08 44 52.2	-0.1
JHPM	**Huddart Park**	**0.83**	**316**				Pg	08 44 52.3	-0.2
PMPB	**Monarch Peak**	**0.89**	**135**				Pg	08 44 53.3	-0.2
JCHM	**Cahill Ridge**	**0.93**	**317**				Pg	08 44 53.7	-0.6
OXMT	**Ox Mountain**	**0.94**	**314**				Pg	08 44 53.5	-1.0
PAPM	**Alder Peak**	**0.95**	**169**				Pg	08 44 54.4	-0.3
JCPM	**Coyote Point**	**0.95**	**321**				Pg	08 44 54.3	-0.4
CBSNC	**Byron Hot Spri**	**0.97**	**357**				Pn	08 44 56.9	+0.2
CLCB	**Lake Chabot**	**0.97**	**337**				Pg	08 44 54.8	-0.3
CMOB	**Morgan Territo**	**0.98**	**349**				Pn	08 44 56.9	0.0
PSAM	**San Ardo**	**0.99**	**146**				Pg	08 44 54.9	-0.6
SAC	**San Andreas**	**1.00**	**318**				Pg	08 44 54.8	-0.8
PPTM	**Peach Tree Val**	**1.01**	**137**				Pg	08 44 55.1	-0.7
BGC	**Bolinger Road**	**1.04**	**338**				Pg	08 44 56.0	-0.6
JSBM	**San Bruno Moun**	**1.06**	**322**				Pg	08 44 55.3	-1.5
CRHM	**Round Hill Res**	**1.06**	**342**				Pg	08 44 56.6	-0.3
JMGM	**Milagra Ridge**	**1.07**	**318**				Pg	08 44 55.7	-1.2
MYLM	**Yosemite Lake**	**1.07**	**60**				Pg	08 44 56.3	-0.7
CRPB	**Russellman Par**	**1.10**	**346**				Pg	08 44 56.6	-0.9
PHSB	**Hesperia Broad**	**1.10**	**157**				Pg	08 44 56.8	-0.9
PSMM	**Smith Mountain**	**1.11**	**134**				Pg	08 44 57.4	-0.3
BDM	**Black Diamond**	**1.13**	**348**				Pg	08 44 56.8	-1.4
CYBM	**Yerba Buena Is**	**1.15**	**327**				Pg	08 44 57.7	-0.9
BKS	**Berkeley--Byer**	**1.16**	**333**				Pg	08 44 57.0	-1.6
CVPM	**Vollmer Peak**	**1.16**	**334**				Pg	08 44 57.5	-1.2
PARM	**Anticline Ridg**	**1.16**	**121**				Pg	08 44 58.7	-0.1
VAK	**Adit at Lawren**	**1.16**	**333**				Pg	08 44 57.3	-1.5
BRK	**Berkeley--Havi**	**1.16**	**332**				Pg	08 44 58.5	-0.2
BRIB	**Briones**	**1.17**	**337**				Pg	08 44 57.5	-1.3
PHPM	**Hope Ranch**	**1.17**	**138**				Pg	08 44 57.5	-1.3
PWMM	**Westland Maint**	**1.17**	**110**				Pb	08 44 59.3	+0.1
JPRM	**Presidio of Sa**	**1.19**	**323**				Pg	08 44 58.0	-1.2
PHCM	**Hearst Castle**	**1.21**	**163**				Pg	08 44 58.5	-1.2
PKD	**Bear Valley Ra**	**1.23**	**137**				Pg	08 44 58.4	-1.6
PPO	**Portuguese Can**	**1.25**	**141**				Pg	08 44 59.5	-0.9
PVCM	**Vineyard Canyo**	**1.25**	**137**				Pg	08 44 58.8	-1.6
CPIM	**Pinole Ridge**	**1.25**	**336**				Pg	08 44 59.1	-1.4
CSPM	**San Pablo Ridg**	**1.25**	**332**				Pg	08 44 58.8	-1.7
PSTM	**Stockdale Moun**	**1.26**	**136**				Pg	08 44 58.8	-1.8
**RAM

PBPM	**Bitterwater Pu**	**1.75**	**136**			Pn	08 45 06.7	-0.8
NTYM	**Taylor**	**1.77**	**331**			Pn	08 45 06.0	-1.7
NSHM	**Saint Helena R**	**1.86**	**334**			Pn	08 45 07.0	-2.0
KCC	**Kaiser Creek**	**1.87**	**75**			Pn	08 45 08.5	-0.6
NBPM	**Berryessa Peak**	**1.88**	**345**			Pn	08 45 08.3	-1.0
MAC	**Mark West Spri**	**1.93**	**332**			Pn	08 45 08.0	-2.0
SMMC	**Simmler**	**1.99**	**140**			Pn	08 45 09.4	-1.5
NMCNC	**Mill Creek, So**	**2.04**	**329**			Pn	08 45 08.9	-2.5
HELL	**Mitchell Peak,**	**2.06**	**94**			Pn	08 45 10.4	-1.3
MRHM	**Rocky Hill**	**2.08**	**105**			Pb	08 45 13.4	-1.3
FTR	**Fort Ross**	**2.09**	**324**			Pn	08 45 10.3	-1.9
ASMM	**Slate Mountain**	**2.10**	**19**			Pn	08 45 13.0	+0.7
MDPB	**Devils Postpil**	**2.14**	**68**			Pn	08 45 13.5	+0.4
MDPB					Sn	Sn	08 45 40.7	+0.6
MRDM	**Red Cones**	**2.15**	**69**			Pn	08 45 13.7	+0.5
GBGM	**Boggs Mountain**	**2.15**	**336**			Pn	08 45 12.5	-0.5
AFDM	**Forest Hills D**	**2.15**	**13**			Pn	08 45 12.1	-0.9
MINS	**Minaret Summit**	**2.16**	**67**			Pn	08 45 13.7	+0.3
MMPM	**Mammoth Pass**	**2.17**	**69**			Pn	08 45 14.5	+0.9
OMMB	**Old Mammoth Mi**	**2.19**	**69**			Pn	08 45 14.2	+0.3
MDCM	**Deadman Creek**	**2.20**	**66**			Pn	08 45 14.8	+0.9
MDYM	**Dry Creek**	**2.20**	**68**			Pn	08 45 15.1	+1.1
MEMM	**East Mammoth H**	**2.26**	**68**			Pb	08 45 16.6	-1.2
LMCR	**Lookout Mounta**	**2.27**	**66**			Pn	08 45 15.0	0.0
MCVM	**Convict Lake**	**2.32**	**70**			Pn	08 45 16.3	+0.8
GWKM	**Walker Ridge**	**2.32**	**342**			Pn	08 45 16.6	+1.2
MLAC	**Mammoth, Mammo**	**2.32**	**69**			Pb	08 45 18.9	-0.1
MDRNC	**Doe Ridge**	**2.33**	**69**			Pn	08 45 17.1	+1.4
MLHM	**Little Hot Cre**	**2.35**	**68**			Pb	08 45 19.0	-0.5
SCHCA	**Scheelite**	**2.37**	**77**			Pb	08 45 19.3	-0.4
RCCR	**Rock Creek Can**	**2.37**	**73**			Pn	08 45 17.3	+1.0
WAKR	**Walker**	**2.37**	**45**			Pn	08 45 17.2	+1.0
EMB	**Emerald Bay**	**2.42**	**28**			Pn	08 45 17.9	+1.0
HOPS	**Hopland Field**	**2.45**	**332**		Pn	Pn	08 45 15.3	-1.8
ORC	**Owens River**	**2.46**	**70**			Pb	08 45 19.7	-1.6
MTUM	**Tungsten Hills**	**2.46**	**77**			Pn	08 45 18.8	+1.4
RUBR	**Rubicon Trail**	**2.47**	**27**			Pn	08 45 17.0	-0.6
GNO	**Genoa**	**2.49**	**33**			Pb	08 45 19.9	-1.8
BENR	**Benton**	**2.55**	**69**			Pn	08 45 20.6	+1.9
TAHR	**Tahoe**	**2.56**	**25**			Pn	08 45 19.9	+1.1
BFC	**Buffalo Canyon**	**2.57**	**37**			Pn	08 45 20.2	+1.3
MCDM	**Chidago Canyon**	**2.60**	**73**			Pb	08 45 22.5	-1.1
POCCA	**Poleta Canyon**	**2.69**	**78**			Pn	08 45 22.1	+1.6
MLNR	**Milner Canyon**	**2.69**	**73**			Pb	08 45 23.7	-1.4
DONR	**Donner Summit**	**2.69**	**21**			Pn	08 45 22.0	+1.4
ORV	**Oroville**	**2.71**	**1**			Pn	08 45 20.2	-0.4
PNTR	**Pine Nut**	**2.73**	**34**			Pn	08 45 21.1	-0.1
ISA	**Isabella, Lake**	**2.77**	**114**			Pn	08 45 20.3	-1.3
YERR	**Yerington**	**2.82**	**40**			Pn	08 45 22.2	-0.3
VCNR	**Virginia City**	**2.88**	**31**			Pn	08 45 24.1	+0.9
RYN	**Ryan**	**3.00**	**53**			Pn	08 45 25.7	+0.8
NV11	**Mina Array Sit**	**3.14**	**59**			Pb	08 45 32.6	-0.3

*ISCJB **15** 08:54:00.6±0.5, 61°.75S±0°.07×154°.1E±0°.3, h10km, mb4.0/6, MS4.0/18, Error ellipse: s-maj=22.4km s-min=9.1km az=170.7*
*IDC **15** 08:54:01.2±1.1, 61°.67S×154°.05E, h0km, mb4.1/6, mb1 4.2/6, mb1mx4.1/21, mbtmp4.1/6, MS4.0/17, Ms1 4.0/17, ms1mx4.0/18, Error ellipse: s-maj=50.6km s-min=18.9km az=79.0*
*NEIC **15** 08:54:02.6±2.0, 61°.71S±0°.09×154°.1E±0°.3, h10km±1km, mb4.1/12*
*GCMT **15** 08:54:04.7±0.4, 61°.61S±0°.02×154°.54E±0°.05, h12km, MW4.9/73, Moment Tensor Solution. s10,c11; s73,c94; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.24±.11; Mθθ 1.68±.07; Mφφ -1.43±.10; Mrθ-0.44±.24; Mrφ-1.45±.08; Mθφ1.04±.31; Best double couple: Mo2.41300×10^16 NP1:φs155.00000°, δ86.00000°, λ-28.00000°. NP2: φs247.00000°, δ62.00000°, λ-176.00000°. Principal axes: T 2.4920, Plg17.0000°, Azm205.0000°; N -0.1510, Plg61.0000°, Azm329.0000°; P -2.3340, Plg22.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 08:54:02.8±0.6, 61°.76S±0°.09×154°.3E±0°.2, h10km, n48, σ1§52/27, mb4.1/9, MS4.0/18, 1C-2D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**16.03**	**174**	Pn	**Pn**	**08 57 44.8**	**-3.0**
	0.6nm,0.3s,baz=346,slow=12,SNR=20						
VNDA				Sn	Sn	09 00 35.2	-10
	0.1nm,0.3s,baz=7.1,slow=16,SNR=1.9						
VNDA				LR	LR	09 03 29.2	
	comp=Z,1μm,18.4s,baz=356,slow=35						
VNDA	**Vanda**	**16.03**	**174**		**Pn**	**08 57 45.4**	**-2.4**
VNDA				IAmb	IAmb	08 58 04.0	
	comp=Z,5.7nm,0.9s						
SBA	**Scott Base**	**16.66**	**171**	Pn	**Pn**	**08 57 55.8**	**0.0**
SBA				IAmb	IAmb	08 58 04.7	
	comp=Z,30nm,1.2s						
RPZ	**Rata Peaks**	**20.62**	**37**	LR	LR	09 05 16.4	
	comp=Z,870nm,19.1s,baz=184,slow=33						
BKZ	**Black Stump Fm**	**26.42**	**41**	P	**P**	**08 59 39.3**	**0.0**
BKZ				IAmb	IAmb	08 59 40.4	
	comp=Z,9.0nm,1.3s						
URZ	**Urewera**	**27.44**	**42**	LR	LR	09 10 47.4	
	comp=Z,419nm,19.3s,baz=206,slow=37						
QSPA	**South Pole Qui**	**28.33**	**180**	P	**P**	**08 59 57.3**	**+0.8**
	comp=Z,4.8nm,1.1s,baz=342,slow=5.7,SNR=6.2						
QSPA				LR	LR	09 10 46.2	
	comp=Z,477nm,21.7s,baz=13,slow=35						
QSPA	**South Pole Qui**	**28.33**	**180**	P	**P**	**08 59 55.5**	**-0.9**
STKA	**Stephens Creek**	**31.01**	**339**	P	**P**	**09 00 20.0**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=129,slow=8.4,SNR=5.9						
STKA				LR	LR	09 11 27.1	
	comp=Z,190nm,18.2s,baz=109,slow=34						
STKA	**Stephens Creek**	**31.01**	**339**	P	**P**	**09 00 21.1**	**+0.9**
MAW	**Mawson**	**36.09**	**221**	P	**P**	**09 01 03.7**	**-0.3**
	comp=Z,2.1nm,1.0s,baz=102,slow=20,SNR=2.4						
MAW				LR	LR	09 16 10.1	
	comp=Z,625nm,18.4s,baz=80,slow=37						
MAW	**Mawson**	**36.09**	**221**	P	**P**	**09 01 03.9**	**-0.2**
MAW				IAmb	IAmb	09 01 21.3	
	comp=Z,1.9nm,1.4s						
H01W1	**Cape Leeuwin H**	**36.87**	**298**	T	T	09 40 27.5	
	baz=148,slow=75,SNR=179						
H01W2	**Cape Leeuwin H**	**36.88**	**298**	T	T	09 40 27.8	
	baz=148,slow=75,SNR=196						
H01W3	**Cape Leeuwin H**	**36.89**	**298**	T	T	09 40 28.8	
	baz=148,slow=75,SNR=149						
ASAR	**Alice Springs**	**40.54**	**331**	P	**P**	**09 01 40.5**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=164,slow=8.8,SNR=23						
ASAR				PcP	**PcP**	**09 03 43.3**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=144,slow=3.3,SNR=3.9						
AS31	**Alice Springs**	**40.54**	**331**	P	**P**	**09 01 41.0**	**-1.0**
DZM	**Mont Dzumac**	**40.55**	**18**	eLR	LR	09 12 56.3	
	comp=Z,625nm,25.4s						
DZM	**Mont Dzumac**	**40.55**	**18**	P	**P**	**09 01 40.7**	**-1.4**
WR0	**Warramunga Arr**	**43.97**	**333**	P	**P**	**09 02 09.7**	**-0.3**
WR0				IAmb	IAmb	09 02 10.3	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**44.03**	**333**	P	**P**	**09 02 08.8**	**-1.6**
	comp=Z,1.6nm,0.6s,baz=161,slow=7.1,SNR=27						
WRA				PcP	**PcP**	**09 03 54.6**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=169,slow=3.1,SNR=4.5						
WRA				LR	LR	09 18 19.0	
	comp=Z,148nm,20.8s,baz=170,slow=33						
WRAB	**Tennant Creek**	**44.04**	**333**	P	**P**	**09 02 09.8**	**-0.7**
WRAB				IAmb	IAmb	09 02 10.7	
	comp=Z,3.9nm,0.8s						
MTN	**Manton Dam**	**51.62**	**331**	P	**P**	**09 03 09.3**	**+0.2**
TBI	**Tubuai**	**53.89**	**71**	eT	T	10 01 02.6	
	comp=Z,53nm,0.4s						
PAE	**Paea**	**58.82**	**68**	eT	T	10 07 11.5	
	comp=Z,2.5nm,0.4s						
TVO	**Taravao**	**58.86**	**68**	eT	T	10 07 14.5	
	comp=Z,2.1nm,0.4s						
PPT2	**Papeete2**	**58.88**	**68**	eLQ	LQ	09 18 35.2	
	comp=Z,230nm,26.5s						
PPT2				eLR	LR	09 21 06.7	
	comp=Z,122nm,26.5s						
PPT2	**Papeete2**	**58.88**	**68**	eT	T	10 07 17.0	
	comp=Z,2.6nm,0.3s						
PPT	**Papeete**	**58.90**	**68**	LR	LR	09 23 29.7	
	comp=Z,50nm,20.2s,baz=214,slow=30						
PLCA	**Paso Flores**	**71.62**	**146**	P	**P**	**09 05 24.8**	**+0.7**
	comp=Z,1.7nm,1.0s,baz=319,slow=2.4,SNR=3.8						
PLCA				LR	LR	09 31 13.4	
	comp=Z,80nm,18.9s,baz=255,slow=31						
PLCA	**Paso Flores**	**71.62**	**146**	P	**P**	**09 05 26.2**	**+2.1**
H08S2	**Diego Garcia H**	**79.41**	**274**	T	T	10 33 50.3	
	baz=151,slow=76,SNR=26						
H08S1	**Diego Garcia H**	**79.42**	**274**	T	T	10 33 52.2	
	baz=151,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**79.43**	**274**	T	T	10 33 50.2	
	baz=151,slow=76,SNR=22						
BOSA	**Boshof**		**81.03**	**224**	LR	LR	09 40 47.2
	comp=Z,102nm,18.3s,baz=210,slow=35						
CPUP	**Villa Florida**		**88.60**	**152**	LR	LR	09 43 24.1
	comp=Z,64nm,19.3s,baz=214,slow=33						
LVC	**Limon Verde**		**89.10**	**141**	LR	LR	09 40 39.8
	comp=Z,42nm,20.5s,baz=196,slow=31						
CMAR	**Chiang Mai Arr**		**91.14**	**309**	LR	LR	09 48 57.4
	comp=Z,40nm,18.1s,baz=184,slow=36						
LPAZ	**La Paz**		**95.29**	**139**	LR	LR	09 41 13.3
	comp=Z,34nm,18.4s,baz=220,slow=30						
NNA	**Nana**		**96.36**	**130**	LR	LR	09 41 38.1
	comp=Z,96nm,20.0s,baz=200,slow=30						
SIV	**San Ignacio**		**97.61**	**146**	LR	LR	09 48 55.7
	comp=Z,46nm,18.2s,baz=105,slow=34						
MJAR	**Matsushiro Arr**		**98.82**	**347**	LR	LR	09 49 30.9
	comp=Z,22nm,20.6s,baz=240,slow=34						
YKA	**Yellowknife Ar**		**141.58**	**48**	PKP	**PKPdf**	**09 13 33.0**	**+0.6**
	comp=Z,0.2nm,0.8s,baz=228,slow=1.9,SNR=3.7						
YKA	**Yellowknife Ar**		**141.58**	**48**		**PKPdf**	**09 13 33.0**	**+0.6**
MLR	**Muntele Rosu**		**146.37**	**265**	∥P	**PKiKP**	**09 13 50.4**	**+4.5**
VOIR			**146.75**	**264**	∥P	**PKiKP**	**09 13 47.8**	**+1.2**
GZR	**Gura Zlata**		**147.80**	**262**	∥P	**PKPab**	**09 13 50.0**	**+0.7**
AKASG	**Malin Array Be**		**148.48**	**275**	PKPbc	**PKPbc**	**09 13 48.6**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=131,slow=1.7,SNR=3.4							

*KOLA **15** 08:59:24.8, 67°.78N×19°.99E, h0km*
*ISCJB **15** 08:59:25.9±0.2, 67°.16N±0°.02×20°.67E±0°.05, h0km, mb3.8/8, Error ellipse: s-maj=3.1km s-min=2.5km az=141.0*
*IDC **15** 08:59:27.2±0.5, 67°.16N×20°.76E, h0km, mb3.6/9, mb1 3.8/16, mb1mx3.6/46, mbtmp3.7/16, ML3.4/7, Error ellipse: s-maj=10.5km s-min=5.3km az=110.0*
*NAO **15** 08:59:27.3±0.6, 67°.13N×20°.82E, ML3.7*
*HEL **15** 08:59:28.0±0.0, 67°.19N×20°.68E, h1km, ML3.1, ML2.9(UPP), Confirmed Induced event*
*BER **15** 08:59:29.6±3.5, 67°.13N×20°.80E, h1km, ML2.9, ML3.1(HEL), Confirmed Induced event*

ISC 15 08:59:26.5±0.5, 67°.17N±0°.02×20°.74E±0°.02, h0km, n68, σ1§64/110, mb3.7/8, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**236**	*i* P	**Pg**	**08 59 29.3**	**+1.2**
DUNU				*i* S	**Sg**	**08 59 30.6**	**+1.4**
MASU	**Masugnsbyn**	**0.57**	**59**	*i* P	**Pb**	**08 59 38.6**	**-0.8**
MASU				*i* S	**Sb**	**08 59 46.4**	**-1.6**
RATU	**Laukkuluspa**	**0.79**	**327**	*i* P	**Pg**	**08 59 41.7**	**0.0**
KUA	**Kurravaara**	**0.81**	**349**	*i* P	**Pg**	**08 59 42.1**	**+0.1**
ERTU	**Ertsjaerv**	**0.84**	**137**	*i* P	**Pg**	**08 59 43.5**	**+0.9**
PAJU	**Pajala**	**0.94**	**98**	*e*P	**Pg**	**08 59 45.3**	**+0.8**
LANU	**Lannavaara**	**1.00**	**28**	*e*P	**Pg**	**08 59 46.0**	**+0.2**
HEF	**Hetta**	**1.67**	**40**	Pg	**Pn**	**08 59 57.5**	**+0.6**
HEF				Lg	Lg	09 00 19.4	
HEF	**Hetta**	**1.67**	**40**	*e*P	**Pn**	**08 59 57.5**	**+0.6**
HEF				*e*S	**Sn**	**09 00 18.9**	**-0.1**
HEF				MSG		09 00 24.1	
	comp=Z,104nm,0.2s						
HEF	**Hetta**	**1.67**	**40**	*e*P	**Pn**	**08 59 57.6**	**+0.6**
HEF				*e*S	**Sn**	**09 00 19.2**	**+0.1**
KALU	**Kalix**	**1.68**	**140**	*e*P	**Pn**	**08 59 58.1**	**+1.0**
KALU				*e*S	**Sb**	**09 00 20.9**	**+1.0**
TOF	**Tornio**	**1.80**	**126**	*e*P	**Pb**	**09 00 00.6**	**+0.3**
TOF				*e*SG	**Sg**	**09 00 24.8**	**+0.6**
TOF				MSG		09 00 27.2	
	comp=Z,257nm,0.3s						
KIF	**Kilpisjarvi**	**1.84**	**1**	Pn	**Pb**	**09 00 01.1**	**0.0**
KIF				Sn	**Sg**	**09 00 27.4**	**+1.7**
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*P	**Pb**	**09 00 00.8**	**-0.3**
KIF				MSG		09 00 28.1	
	comp=Z,462nm,0.3s						
KIF	**Kilpisjarvi**	**1.84**	**1**	*e*P	**Pb**	**09 00 01.0**	**-0.1**
KIF				*e*S	**Sn**	**09 00 22.5**	**-0.9**
KTK1	**Kautokeino**	**2.08**	**26**	Pn	**Pb**	**09 00 05.1**	**0.0**
KTK1				Sn	**Sg**	**09 00 32.1**	**-1.0**
KTK1	**Kautokeino**	**2.08**	**26**	*e*P	**Pb**	**09 00 04.7**	**-0.3**
KTK1				*e*S	**Sn**	**09 00 29.6**	**+0.5**
KTK1				IAML		09 00 34.2	
	comp=Z,258nm,0.4s						
RNF	**Rovaniemi**	**2.15**	**103**	*e*P	**Pb**	**09 00 05.5**	**-0.9**
STEI	**Steigen**	**2.25**	**292**	*e*P	**Pn**	**09 00 05.8**	**+0.9**
STEI				*e*S	**Sn**	**09 00 32.6**	**-0.7**
STEI				IAML		09 00 41.3	
	comp=Z,86nm,0.4s						
SGF	**Sodankyl**	**2.26**	**80**	*e*P	**Pn**	**09 00 06.6**	**+1.5**
BURU	**Burvik**	**2.61**	**174**	*e*P	**Pn**	**09 00 11.6**	**+1.7**
MOR8	**Moi Rana**	**2.70**	**251**	Pn	**Pn**	**09 00 10.3**	**-0.8**
MOR8				Sn	**Sn**	**09 00 46.3**	**+1.8**
MOR8	**Moi Rana**	**2.70**	**251**	*e*P	**Pn**	**09 00 10.6**	**-0.5**
MOR8				*e*S	**Sn**	**09 00 39.5**	**-5.0**
MOR8				IAML		09 00 49.7	
	comp=Z,128nm,0.4s						
SVAU	**Svanoeiden**	**2.73**	**191**	*e*P	**Pn**	**09 00 13.3**	**+1.8**
LOF	**Lofoten**	**2.92**	**293**	Pn	**Pn**	**09 00 14.4**	**+0.3**
LOF				Pg	**Pb**	**09 00 20.6**	**+1.2**
LOF				Lg	Lg	09 01 00.6	
LOF	**Lofoten**	**2.92**	**293**	*e*P	**Pn**	**09 00 15.1**	**+1.0**
LOF				*e*S	**Sn**	**09 00 51.2**	**+1.4**
ARA0	**ARCESS Array S**	**2.96**	**34**	Pn	**Pn**	**09 00 15.9**	**+1.1**
	baz=211,slow=16						
ARA0				Sn	**Sn**	**09 00 53.4**	**+2.5**
	baz=215,slow=22						
ARA0	**ARCESS Array S**	**2.96**	**34**	Pn	**Pn**	**09 00 15.9**	**+1.1**
	baz=211,slow=16						
ARA0				Sn	**Sn**	**09 00 53.4**	**+2.5**
	baz=215,slow=22						
ARCES	**ARCESS Array B**	**2.96**	**34**	Pn	**Pn**	**09 00 15.9**	**+1.2**
	comp=Z,14nm,0.3s,baz=214,slow=13,SNR=567						
ARCES				Pg	**Pb**	**09 00 19.0**	**-1.1**
	comp=Z,14nm,0.3s,baz=211,slow=15,SNR=26						
ARCES				Sn	**Sn**	**09 00 52.4**	**+1.4**
	comp=Z,11nm,0.3s,baz=218,slow=20,SNR=4.7						
ARCES				Lg	Lg	09 00 56.5	
	comp=Z,24nm,0.3s,baz=218,slow=33,SNR=16						
OUL	**Oulu**	**2.96**	**133**	*e*P	**Pn**	**09 00 16.6**	**+1.9**
KONS	**Konsvik**	**3.09**	**261**	*e*P	**Pn**	**09 00 17.6**	**+1.1**
KONS				*e*S	**Sn**	**09 00 53.9**	**-0.1**
KONS				IAML		09 01 06.7	
	comp=Z,72nm,0.4s						
STOK	**Stokkvaagen**	**3.18**	**258**	Pn	**Pn**	**09 00 19.6**	**+1.9**
STOK	**Stokkvaagen**	**3.18**	**258**	*e*P	**Pn**	**09 00 19.4**	**+1.7**
UMAU	**Umeaa**	**3.30**	**181**	*e*P	**Pn**	**09 00 20.9**	**+1.5**
KEV	**Kevo**	**3.48**	**39**	Pn	**Pn**	**09 00 22.9**	**+1.2**
KEV				Pg	**Pg**	**09 01 31.4**	**-1.7**
KEV				Sn	**Sn**	**09 01 03.2**	**-0.4**
KEV				Lg	Lg	09 01 18.0	
KEV	**Kevo**	**3.48**	**39**	*e*P	**Pn**	**09 00 22.7**	**+1.0**
KEV				*e*S	**Sn**	**09 01 03.4**	**-0.2**
HAMF	**Hammerfest**	**3.65**	**16**	*e*P	**Pn**	**09 00 26.1**	**+2.0**
HAMF				IAML		09 01 26.4	
	comp=Z,70nm,0.4s						
VAF	**Ylistaro**	**4.22**	**168**	*e*SG	**Sg**	**09 01 39.1**	**-2.9**
VAF				MSG		09 01 41.8	
	comp=Z,34nm,0.4s						
NSS	**Namsos**	**4.47**	**238**	*e*P	**Pn**	**09 00 36.9**	**+1.5**
NSS				*e*S	**Sn**	**09 01 26.6**	**-1.5**
NSS				IAML		09 01 55.3	
	comp=Z,68nm,0.5s						
NOD	**Norderasen**	**4.48**	**216**	*e*P	**Pn**	**09 00 36.5**	**+0.9**
NOD				*e*S	**Sn**	**09 01 28.4**	**0.0**
APA0	**Apatity Array**	**4.75**	**79**	Pn	**Pn**	**09 00 39.0**	**-0.2**
	baz=270,slow=11						
APA0				Pg	**Pb**	**09 00 51.6**	**+1.1**
APA0				Sn	**Sn**	**09 01 33.9**	**-1.1**
	baz=276,slow=22						
APA0				Lg	Lg	09 01 51.2	
	baz=276,slow=22						
APA0	**Apatity Array**	**4.75**	**79**	P	**Pn**	**09 00 39.1**	**-0.2**
APA0				S	**Sn**	**09 01 35.0**	**+0.1**
APA0	**Apatity Array**	**4.75**	**79**	Pn	**Pn**	**09 00 39.0**	**-0.2**
	baz=270,slow=11						
APA0				Pg	**Pb**	**09 00 51.6**	**+1.1**
APA0				Sn	**Sn**	**09 01 33.9**	**-1.1**
	baz=276,slow=22						

FIA0	**FINESS Array S**	**6.20**	**156**		Pn	**Pn**	**09 01 01.0**	**+1.9**
	baz=343,slow=14							
FIA0					Sn	**Sn**	**09 02 09.5**	**-1.1**
	baz=343,slow=28							
FIA0					Lg	Lg	09 02 40.1	
	baz=339,slow=37							
FIA0	**FINESS Array S**	**6.20**	**156**		Pn	**Pn**	**09 01 01.0**	**+1.9**
	baz=343,slow=14							
FIA0					Sn	**Sn**	**09 02 09.5**	**-1.1**
	baz=343,slow=28							
FINES	**FINESS Array B**	**6.20**	**156**		Pn	**Pn**	**09 01 00.8**	**+1.7**
	comp=Z,1.1nm,0.3s,baz=346,slow=14,SNR=41							
FINES					Sn	**Sn**	**09 02 09.7**	**-0.8**
	comp=Z,2.5nm,0.3s,baz=343,slow=23,SNR=14							
FINES					Lg	Lg	09 02 40.9	
	comp=Z,4.7nm,0.3s,baz=347,slow=30,SNR=11							
NB2	**NORSAR Subarra**	**7.42**	**219**		Pn	**Pn**	**09 01 16.9**	**+0.8**
	baz=28,slow=14							
NB2					Sn	**Sn**	**09 02 38.2**	**-2.6**
	baz=30,slow=28							
NB2					Lg	Lg	09 03 17.0	
	baz=31,slow=37							
NB2	**NORSAR Subarra**	**7.42**	**219**		Pn	**Pn**	**09 01 16.9**	**+0.8**
	baz=28,slow=14							
NB2					Sn	**Sn**	**09 02 38.2**	**-2.6**
	baz=30,slow=28							
NOA	**NORSAR Array B**	**7.42**	**219**		Pn	**Pn**	**09 01 16.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=29,slow=11,SNR=23							
NOA					Sn	**Sn**	**09 02 35.9**	**-5.0**
	comp=Z,0.2nm,0.3s,baz=39,slow=6.0,SNR=8.5							
NOA					Lg	Lg	09 03 16.5	
	comp=Z,0.3nm,0.3s,baz=23,slow=18,SNR=5.1							
NRA0	**NORESS Array S**	**7.61**	**216**		Pn	**Pn**	**09 01 19.4**	**+0.8**
	baz=22,slow=14							
NRA0					Sn	**Sn**	**09 02 41.8**	**-3.6**
	baz=39,slow=28							
NRA0					Lg	Lg	09 03 25.4	
	baz=22,slow=37							
NRA0	**NORESS Array S**	**7.61**	**216**		Pn	**Pn**	**09 01 19.4**	**+0.8**
	baz=22,slow=14							
NRA0					Sn	**Sn**	**09 02 41.8**	**-3.6**
	baz=39,slow=28							
HFS	**Hagfors**	**7.72**	**207**		Pn	**Pn**	**09 01 19.9**	**-0.1**
	baz=21,slow=12							
HFS					Sn	**Sn**	**09 02 43.2**	**-4.8**
	baz=37,slow=22							
HFS					Lg	Lg	09 03 24.3	
	baz=30,slow=28							
HFS	**Hagfors**	**7.72**	**207**		Pn	**Pn**	**09 01 19.7**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=23,slow=13,SNR=24							
HFS					Sn	**Sn**	**09 02 42.8**	**-5.3**
	comp=Z,2.9nm,0.3s,baz=26,slow=21,SNR=12							
HFS					Lg	Lg	09 03 24.3	
	comp=Z,1.7nm,0.3s,baz=27,slow=29,SNR=3.7							
HFS	**Hagfors**	**7.72**	**207**		Pn	**Pn**	**09 01 19.9**	**-0.1**
	baz=21,slow=12							
HFS					Sn	**Sn**	**09 02 43.2**	**-4.8**
	baz=37,slow=22							
HFS					Sg	Sb	09 03 24.3	+11
	baz=30,slow=28							
SPA0	**Spitsbergen Ar**	**11.14**	**355**		Pn	**Pn**	**09 02 06.7**	**-0.1**
	baz=158,slow=12							
SPA0	**Spitsbergen Ar**	**11.14**	**355**		Pn	**Pn**	**09 02 06.7**	**-0.1**
	baz=158,slow=12							
SPITS	**Spitsbergen Ar**	**11.14**	**355**		Pn	**Pn**	**09 02 06.4**	**-0.3**
	baz=153,slow=15,SNR=21							
AKASG	**Malin Array Be**	**17.06**	**161**		P	**Pn**	**09 03 27.6**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=347,slow=12,SNR=14							
AKASG					Lg	Lg	09 08 20.4	
	comp=Z,0.2nm,0.3s,baz=354,slow=29,SNR=3.4							
GERES	**GERESS Array B**	**18.73**	**195**		P	**P**	**09 03 46.0**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=358,slow=21,SNR=2.8							
GERES					S	**Sn**	**09 07 18.6**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=17,slow=14,SNR=2.0							
ARU	**Arti**	**20.48**	**103**		P	**P**	**09 04 05.8**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=317,slow=9.8,SNR=6.9							
AKTO	**Aktyubinsk**	**24.98**	**114**		P	**P**	**09 04 51.9**	**+0.4**
	comp=Z,3.1nm,0.5s,baz=325,slow=9.6,SNR=11							
KVAR	**Kislovodsk Arr**	**26.07**	**142**		P	**P**	**09 05 00.5**	**-1.0**
	comp=Z,4.3nm,0.7s,baz=315,slow=20,SNR=2

NIKH	Nikolski High	36.21	51	P	P	09 28 31.7	-1.3
ZAA0	Zalesovo Array	41.03	311	P	P	09 29 13.7	+0.3
ZAA0				IAmb	IAmb	09 29 14.2	
	comp=Z,2.7nm,0.8s						
ZALV	Zalesovo Beam	41.03	311	P	P	09 29 13.1	-0.3
	comp=Z,1.9nm,0.5s,baz=85,slow=8.5,SNR=9.3						
RDOG	Red Dog Mine	41.63	28	P	P	09 29 17.6	-0.6
RDOG				IAmb	IAmb	09 29 27.8	
	comp=E,6.1nm,1.4s						
MK31	Makanchi Array	43.55	301	P	P	09 29 34.1	+0.1
MK31				IAmb	IAmb	09 29 50.8	
	comp=E,6.5nm,1.2s						
MKAR	Makanchi Array	43.55	301	P	P	09 29 33.9	-0.1
	comp=Z,2.6nm,0.7s,baz=80,slow=10,SNR=14						
KURK	Kurchatov	45.17	307	P	P	09 29 46.8	0.0
KURK				IAmb	IAmb	09 29 47.2	
	comp=Z,6.6nm,1.1s						
SCRK	Sand Creek	48.99	34	P	P	09 30 18.2	+1.6
INK	Inuvik	52.51	28	P	P	09 30 44.0	+1.2
	comp=Z,0.6nm,0.9s,baz=315,slow=2.9,SNR=3.5						
KNRA	Kunumurra	55.69	195	P	P	09 31 06.9	+0.4
ABKAR	Akbulak array	57.11	309	P	P	09 31 16.2	-0.1
ABKAR				IAmb	IAmb	09 31 16.6	
	comp=Z,1.9nm,0.6s						
WRAB	Tennant Creek	58.97	188	P	P	09 31 29.3	-0.2
WRAB				IAmb	IAmb	09 31 37.5	
	comp=Z,4.0nm,1.4s						
WR0	Warramunga Arr	58.97	188	P	P	09 31 29.6	-0.1
WR0				IAmb	IAmb	09 31 33.6	
	comp=Z,2.9nm,1.2s						
WRA	Warramunga Arr	58.98	188	P	P	09 31 29.3	-0.4
	comp=Z,0.5nm,0.4s,baz=5.4,slow=7.3,SNR=15						
RES	Resolute Bay	60.67	15	P	P	09 31 40.9	+0.2
RES				IAmb	IAmb	09 31 47.4	
	comp=Z,2.9nm,1.1s						
ASAR	Alice Springs	62.70	188	P	P	09 31 54.7	-0.3
	comp=Z,0.4nm,0.8s,baz=8.9,slow=6.6,SNR=6.0						
GEYT	Alibeck	63.35	298	LR	LR	10 02 07.3	
	comp=Z,69nm,18.7s,baz=270,slow=38						
FINES	FINESS Array B	67.38	332	P	P	09 32 24.5	-0.4
	comp=Z,0.2nm,0.9s,baz=36,slow=12,SNR=6.2						
MSO	Missoula	71.05	45	P	P	09 32 47.7	-0.3
VCNR	Virginia City	72.14	54	P	P	09 32 56.0	+1.2
AKASG	Malin Array Be	73.11	322	P	P	09 32 59.4	-0.7
	comp=Z,0.2nm,0.2s,baz=104,slow=14,SNR=4.2						
PASC	Pasadena Art C	76.14	57	P	P	09 33 17.8	-0.2
BRTR	Keskin Array B	77.96	312	P	P	09 33 28.1	-0.1
	comp=Z,0.4nm,0.5s,baz=69,slow=1.7,SNR=3.8						
GERES	GERESS Array B	81.37	328	P	P	09 33 46.2	-0.3
	comp=Z,0.4nm,0.6s,baz=47,slow=11,SNR=3.0						

*NCEDC **15** 09:22:44.4±2.1,36°.85N±0°.04×121°.58W±0°.05, h6km±4km, Md3.0*

NEIC 15 09:22:44.5±2.1,36°.82N±0°.05×121°.54W±0°.06, h11km±3km, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANZ	Anzar Road	0.08	331		Pg	09 22 45.6	-1.4
FRP	Fremont Peak	0.08	146		Pg	09 22 46.8	-0.2
SAO	San Andreas Ge	0.09	125	Pg	Pg	09 22 46.9	-0.3
OCR	O'Connell Ranc	0.10	16		Pg	09 22 46.9	-0.4
BVYM	Vineyard	0.12	123		Pg	09 22 47.8	+0.1
HERM	Elkhorn Road	0.13	262		Pg	09 22 47.7	-0.3
HCOM	Corn Cob Canyo	0.15	298		Pg	09 22 47.3	-0.7
BSRM	Salinas Radio	0.15	172		Pg	09 22 48.1	+0.1
BSLM	Silva Ranch	0.16	105		Pb	09 22 49.3	-0.2
BCGM	Cienega Road	0.19	124		Pg	09 22 49.0	+0.3
HFEM	San Felipe	0.20	35		Pg	09 22 49.0	+0.2
CDC	Canada Road	0.21	13		Pg	09 22 48.9	-0.2
HLPM	Lions Peak	0.23	342		Pg	09 22 48.9	-0.5
BHRM	Hodges Ranch	0.24	112		Pb	09 22 50.7	-0.1
SCZ	Santa Cruz	0.25	153		Pg	09 22 49.8	+0.1
BPCNC	Pine Canyon	0.25	195		Pg	09 22 50.1	+0.4
JELB	Ellicott, Sant	0.25	296		Pg	09 22 49.2	-0.5
BJOM	Mount Johnson	0.27	135		Pg	09 22 50.4	+0.4
BLRM	Lewis Ranch	0.27	125		Pg	09 22 50.5	+0.5
PACP	Pacheco Peak	0.28	47		Pg	09 22 50.7	+0.5
JPLM	Pleasant Valle	0.28	305		Pg	09 22 49.8	-0.5
GHS	Gilroy Hot Spr	0.29	16		Pg	09 22 50.4	0.0
BJCM	Johnson Can.	0.30	156		Pg	09 22 50.7	+0.2
HSPM	Sheep	0.30	4		Pg	09 22 50.6	0.0
HPCM	Pacheco Lake	0.32	42		Pg	09 22 51.4	+0.4
BEHM	Elkhorn Ranch	0.33	117		Pb	09 22 52.5	0.0
JTGM	Trout Gulch Ro	0.34	308		Pg	09 22 50.7	-0.6
CADM	Anderson Res.	0.35	349		Pg	09 22 51.2	-0.4
SLD	San Luis Dam	0.36	45		Pg	09 22 52.2	+0.4
JLAB	Laurel Hill	0.37	336		Pg	09 22 51.3	-0.5
HMOM	Monterey	0.37	234		Pg	09 22 51.9	0.0
JHLM	Holstrom Ranch	0.37	322		Pg	09 22 51.0	-1.0
SFJWR	San Luis Fatjo	0.38	52		Pg	09 22 52.5	+0.5
AMC	Almaden	0.42	325		Pg	09 22 51.7	-1.1
HAST	Hastings Reser	0.43	181		Pg	09 22 53.2	+0.3
JSTM	Santa Teresa H	0.44	333		Pg	09 22 52.4	-0.7
BSMM	Soledad Missio	0.44	168		Pg	09 22 53.7	+0.5
BPIM	Pinnacles	0.45	137		Pg	09 22 53.3	+0.1
JUMM	Mount Umunhum	0.45	320		Pg	09 22 52.2	-1.1
BAVM	Antelope Valle	0.45	112		Pg	09 22 54.4	0.0
CCOB	Coe Ranch Numb	0.45	347		Pg	09 22 53.8	+0.4
BSGM	Shirttail Gulc	0.47	150		Pg	09 22 53.7	+0.1
BBNM	San Benito	0.49	129		Pb	09 22 54.6	-0.4
BCWM	Chews Ridge	0.51	182		Pg	09 22 54.9	+0.3
MOBB	Monterey Bay O	0.52	256		Pg	09 22 54.8	+0.3
JJOM	Saint Joseph's	0.52	318		Pg	09 22 53.4	-1.2
MHC	Mount Hamilton	0.53	351		Pg	09 22 54.9	0.0
ARN	Arnold Ranch	0.53	1		Pg	09 22 54.9	0.0
SCCB	Santa Clara Co	0.53	331		Pg	09 22 54.7	-0.2
LRV	Little Rabbit	0.58	133		Pb	09 22 56.2	-0.4
BRMM	Rolling Bench	0.58	88		Pb	09 22 57.2	+0.6
JBNB	Ben Lomond Mou	0.58	302		Pg	09 22 54.3	-1.5
BPOM	Post Ranch	0.61	197		Pg	09 22 56.5	0.0
JSGM	Saratoga Golf	0.62	319		Pg	09 22 55.8	-0.7
BMSM	Mercy Hot Spri	0.62	105		Pb	09 22 57.7	+0.3
CMMM	Mount Mocho	0.64	4		Pg	09 22 57.0	+0.1
JHUM	Huhtala Lane,	0.64	308		Pg	09 22 55.6	-1.3
BAPM	Anderson Peak	0.65	187		Pg	09 22 57.2	+0.1
CMLM	Mount Lewis	0.66	353		Pg	09 22 57.5	+0.1
CALM	Calaveras Res.	0.67	342		Pg	09 22 57.2	-0.2
JBMM	Black Mountain	0.70	316		Pg	09 22 56.9	-1.1
LRC	Lone Oak Road	0.70	145		Pg	09 22 57.9	-0.1
JPC	Peters Creek,	0.70	310		Pg	09 22 56.9	-1.2
PHRM	Hernandez Vall	0.73	127		Pb	09 22 59.0	-0.2
JJRM	Joaquin Road	0.74	315		Pg	09 22 58.0	-0.9
CMJM	Mission San Jo	0.75	340		Pg	09 22 58.5	-0.5
JFP	Foothills Park	0.75	317		Pg	09 22 57.9	-1.1
JSFB	Stanford Teles	0.77	319		Pg	09 22 58.6	-0.8
PCCM	Crazy Canyon	0.79	157		Pb	09 23 00.1	-0.1
JRSC	Jasper Ridge	0.81	317		Pg	09 22 58.7	-1.4
WENL	Wente Vineyard	0.82	348		Pg	09 23 00.5	+0.1
BGH	Bear Gulch	0.82	310		Pg	09 22 59.0	-1.4
CVLM	Vallecito	0.84	344		Pb	09 23 00.9	-0.2
PMPB	Monarch Peak	0.85	135		Pg	09 23 00.8	-0.1
CNC	Niles Canyon	0.86	337		Pg	09 23 00.4	-0.7
JHPM	Huddart Park	0.87	316		Pg	09 23 00.3	-1.4
PAPM	Alder Peak	0.92	171		Pg	09 23 02.2	+0.1
PSAM	San Ardo	0.95	146		Pg	09 23 02.9	0.0
JCHM	Cahill Ridge	0.96	317		Pg	09 23 01.5	-1.6
PPTM	Peach Tree Val	0.97	137		Pg	09 23 03.0	-0.2
OXMT	Ox Mountain	0.98	314		Pg	09 23 01.4	-1.9
JCPM	Coyote Point	0.99	321		Pg	09 23 02.0	-1.5
CBSNC	Byron Hot Spri	1.00	356		Pg	09 23 03.8	0.0
CLCB	Lake Chabot	1.01	336		Pg	09 23 02.6	-1.3
CMOB	Morgan Territo	1.01	348		Pg	09 23 03.1	-0.9
MYLM	Yosemite Lake	1.06	57		Pb	09 23 04.1	-0.7
PHSB	Hesperia Broad	1.07	158		Pb	09 23 04.6	-0.3
PSMM	Smith Mountain	1.07	134		Pn	09 23 05.3	-0.1
BGC	Bolinger Road	1.08	338		Pb	09 23 03.8	-1.4
CMCM	Mills College	1.09	333		Pb	09 23 03.5	-1.7
JSBM	San Bruno Moun	1.10	322		Pb	09 23 03.2	-2.3
CRHM	Round Hill Res	1.10	341		Pn	09 23 06.0	+0.2
JMGM	Milagra Ridge	1.10	318		Pb	09 23 03.6	-2.0
PARM	Anticline Ridg	1.12	120		Pb	09 23 05.2	-0.7
PHPM	Hope Ranch	1.13	138		Pb	09 23 05.4	-0.6
CRPB	Russellman Par	1.13	345		Pb	09 23 04.5	-1.5
PWMM	Westland Maint	1.14	109		Pg	09 23 06.5	+0.1
PANM	San Antonio Re	1.16	153		Pb	09 23 05.8	-0.6
BDM	Black Diamond	1.16	347		Pb	09 23 05.1	-1.5
PHCM	Hearst Castle	1.18	164		Pb	09 23 06.5	-0.4
PKD	Bear Valley Ra	1.19	137		Pb	09 23 06.3	-0.7
BKS	Berkeley--Byer	1.19	333		Pn	09 23 05.0	-2.1
CVPM	Vollmer Peak	1.19	333		Pn	09 23 05.1	-2.1
BL67	Building 67, L	1.20	332		Pn	09 23 05.2	-2.0
VAK	Adit at Lawren	1.20	332		Pn	09 23 05.2	-2.0
BRK	Berkeley--Havi	1.20	332		Pn	09 23 06.3	-0.8
BRIB	Briones	1.20	336		Pn	09 23 05.4	-1.8
PPO	Portuguese Can	1.21	141		Pn	09 23 07.1	-0.2
PVCM	Vineyard Canyo	1.21	137		Pn	09 23 06.8	-0.6
PSTM	Stockdale Moun	1.22	136		Pn	09 23 06.7	-0.8
JPRM	Presidio of Sa	1.23	323		Pn	09 23 04.8	-2.7
CPIM	Pinole Ridge	1.29	336		Pn	09 23 06.7	-1.6
RAMR	Ramage Ranch	1.30	155		Pn	09 23 08.0	-0.5
CTM	Castle Mountai	1.31	132		Pb	09 23 09.4	+0.2
CPMM	Point Molate	1.32	329		Pn	09 23 07.1	-1.8
HMR	Hamilton Ranch	1.35	351		Pn	09 23 08.8	-0.4
PCBM	Cambria	1.35	163		Pb	09 23 09.6	-0.2
PCMM	Cholame Hills	1.36	137		Pn	09 23 09.3	-0.2
MCUB	Copperopolis B	1.37	32		Pn	09 23 08.6	-0.9
GHC	Gold Hill	1.38	135		Pn	09 23 09.1	-0.5
BLDC	Black Mountain	1.38	158		Pn	09 23 09.3	-0.3
BLDC	Black Mountain	1.38	158		Pn	09 23 09.3	-0.4
PKEM	Kettleman Hill	1.38	123		Pg	09 23 11.5	+0.5
NLHM	Lake Herman	1.39	340		Pn	09 23 08.4	-1.4
PSRM	Scobie Ranch	1.40	133		Pn	09 23 09.6	-0.3
PKLM	Kerr Lake	1.43	137		Pn	09 23 10.2	-0.1
ARDC	Alexander Ranc	1.43	161		Pn	09 23 09.6	-0.7
PMCM	McMillan Canyo	1.45	139		Pn	09 23 10.9	+0.3
MNHB	New Hogan Dam	1.45	23		Pn	09 23 09.2	-1.4
FARB	Farallon Islan	1.46	308		Pn	09 23 08.8	-1.9
TCHL	Shandon	1.46	140		Pn	09 23 11.0	+0.3
FRI	Friant	1.48	83		Pn	09 23 10.6	-0.5
PAGB	Antelope Grade	1.51	136		Pn	09 23 10.2	-1.2
THIS	South End of C	1.52	135		Pn	09 23 12.0	+0.4
CMB	Columbia Colle	1.52	37		Pn	09 23 11.2	-0.5
CMB	Columbia Colle	1.52	37	Sn	Sn	09 23 30.6	-0.9
CMB	Columbia Colle	1.52	37	Pn	Pn	09 23 11.1	-0.6
TRAM	Private Proper	1.53	138		Pn	09 23 12.0	+0.2
NOLM	Olema	1.57	321		Pn	09 23 10.3	-2.0
PTAM	Tassajara Cree	1.57	154		Pn	09 23 12.8	+0.5
PTRM	Twissleman Ran	1.58	137		Pn	09 23 12.4	0.0
TSCN	Private Proper	1.60	142		Pn	09 23 12.6	-0.1
LSDC	Los Osos Digit	1.62	159		Pg	09 23 15.4	-0.2
AASM	Arroyo Seco	1.65	12		Pn	09 23 12.1	-1.2
VPDC	Valencia Peak	1.67	161		Pn	09 23 13.3	-0.3
NADM	Allendale	1.67	348		Pn	09 23 13.0	-0.6
CVS	Carmenet Viney	1.69	335		Pn	09 23 11.8	-2.2
DPD	Davis Peak	1.70	158		Pn	09 23 13.4	-0.6
MCCM	Marconi Confer	1.70	322		Pn	09 23 11.5	-2.5
PBPM	Bitterwater Pu	1.71	136		Pn	09 23 14.5	+0.2
NAPC	Atlas Peak	1.71	341		Pn	09 23 13.1	-1.2
KCC	Kaiser Creek	1.85	73		Pn	09 23 16.5	+0.3
NSHM	Saint Helena R	1.90	334		Pn	09 23 14.7	-2.1
NBPM	Berryessa Peak	1.92	345		Pn	09 23 16.1	-0.9
NDHM	Dunnigan Hills	1.97	352		Pn	09 23 17.6	-0.1
MAC	Mark West Spri	1.97	332		Pn	09 23 15.8	-1.9
BCH	Branch Mountai	2.01	144		Pn	09 23 18.4	-0.1
HELL	Mitchell Peak,	2.03	93		Pn	09 23 18.3	-0.4
CARC	Carrizo Plain	2.04	137		Pn	09 23 18.9	+0.1
MRHM	Rocky Hill	2.05	104		Pb	09 23 21.1	-0.6
NMCNC	Mill Creek, So	2.08	329		Pn	09 23 16.7	-2.5
ASMM	Slate Mountain	2.12	19		Pn	09 23 19.8	0.0
MDPB	Devils Postpil	2.13	67		Pn	09 23 21.3	+1.1
MRDM	Red Cones	2.13	68		Pn	09 23 21.4	+1.1
MINS	Minaret Summit	2.15	66		Pn	09 23 22.1	+1.5
MMPM	Mammoth Pass	2.16	68		Pn	09 23 21.8	+1.2
AFDM	Forest Hills D	2.17	12		Pn	09 23 19.9	-0.7
MLIM	Lincoln Peak	2.18	67		Pb	09 23 22.7	-1.4
OMMB	Old Mammoth Mi	2.18	68		Pb	09 23 22.0	-1.1
MDCM	Dandman Creek	2.19	65		Pn	09 23 22.2	+1.3
MDYM	Dry Creek	2.19	67		Pb	09 23 22.9	-1.4
MMLB	Mammoth Lakes	2.21	67		Pb	09 23 24.5	-0.1
GHCM	House Creek	2.21	324		Pn	09 23 19.4	-1.8
GDXM	Geysers	2.22	334		Pb	09 23 24.9	+0.3
MLCM	Laurel Creek C	2.24	69		Pb	09 23 23.6	-1.5
MEMM	East Mammoth H	2.24	67		Pn	09 23 23.1	+1.4
LMCR	Lookout Mounta	2.26	66		Pb	09 23 24.1	-1.3
MCSM	Casa Diablo Ho	2.27	68		Pb	09 23 24.3	-1.2
MCBM	Casa Benchmark	2.27	68		Pb	09 23 25.2	-0.4
GRTM	Round Top Moun	2.30	338		Pb	09 23 24.8	-1.2
MCVM	Convict Lake	2.30	70		Pn	09 23 24.3	+1.7
MLAC	Mammoth, Mammo	2.31	69		Pb	09 23 25.5	-0.8
MDRNC	Doe Ridge	2.31	68		Pb	09 23 25.5	-0.8
MLHM	Little Hot Cre	2.34	68		Pn	09 23 24.2	+1.1
RCCR	Rock Creek Can	2.35	73		Pb	09 23 25.2	-1.8
EMB	Emerald Bay	2.44	27		Pn	09 23 25.7	+1.3
MTUM	Tungsten Hills	2.44	76		Pb	09 23 26.6	-1.9
ORC	Owens River	2.44	70		Pb	09 23 27.2	-1.4
HOPS	Hopland Field	2.49	331	Pn	Pn	09 23 22.5	-2.3
RUBR	Rubicon Trail	2.49	26		Pn	09 23 26.4	+1.3
GNO	Genoa	2.50	32		Pn	09 23 28.3	-1.2
GHLM	Highland Sprin	2.51	333		Pn	09 23 23.4	-1.9
BENR	Benton	2.53	68		Pn	09 23 27.7	+1.9
MFBM	Five Bridges	2.56	75		Pb	09 23 28.8	-1.7
MRCM	Red Rock Canyo	2.57	70		Pb	09 23 29.3	-1.4
TAHR	Tahoe	2.57	25		Pn	09 23 28.0	+1.8
MCDM	Chidago Canyon	2.58	73		Pb	09 23 30.3	-0.5
POCCA	Poleta Canyon	2.67	77		Pb	09 23 30.0	-2.3
MLNR	Milner Canyon	2.67	72		Pb	09 23 31.6	-0.8
ORV	Oroville	2.73	1		Pn	09 23 28.9	+0.7
ISA	Isabella, Lake	2.74	114		Pn	09 23 28.0	-0.3
NV11	Mina Array Sit	3.14	58		Pb	09 23 39.6	-0.7
OSI	Osito Audit: C	3.18	133		Pn	09 23 35.2	+0.8
DAC	Darwin (Calif)	3.23	98		Pb	09 23 42.7	+0.8
PAHR	Pah Rah Range	3.35	30	Pn	Pn	09 23 38.9	+2.1
PAHR					Pg	09 23 46.3	-2.3
KVN	Kaiserville	3.52	50	Pn	Pn	09 23 41.1	+1.9
KVN					Pb	09 23 48.7	+1.8
WDC	Whiskeytown Da	3.84	349	Pn	Pn	09 23 41.9	-1.5
MWC	Mount Wilson	3.84	131	Pn	Pn	09 23 44.3	+0.6
GSC	Goldstone, Bar	4.13	110		Pn	09 23 50.3	+2.9
TPNV	Topopah Spring	4.25	87		Pn	09 23 52.3	+3.1

*SJA **15** 09:37:45.1±0.6,34°.61S×70°.74W, h19km±28km, ML3.4, MW3.8*
*GUC **15** 09:37:49.7±0.7,34°.07S×70°.28W, h20km±10km, ML3.0*
*IDC **15** 09:37:50.4±1.0,34°.05S×70°.32W, h0km, mb3.6/5, mb1 3.9/8, mb1mx3.8/20, mbtmp3.6/8, ML3.5/3, MS2.9/1, Ms1 2.9/1, ms1mx2.6/19, Error ellipse: s-maj=33.7km s-min=19.3km az=97.0*

ISC 15 09:37:51.2±1.3,34°.00S±0°.05×70°.34W±0°.04, h10km±8km, n26, σ1s51/33, mb3.8/5, 1C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	Las Melosas	0.19	37	⇓*i*P	Pg	09 37 55.1	-0.1
LMEL				*i* S	Sg	09 37 59.1	+1.3
ANTU	Antumapu	0.49	330	⇓*i*P	Pg	09 38 01.8	+1.0
ANTU				*i* S	Sb	09 38 09.8	+0.4
CLCH	Cerro Calan	0.62	345	⇓*i*P	Pg	09 38 03.2	0.0
CLCH				*i* S	Sg	09 38 13.0	+1.6
CLCH				IAML		09 38 14.2	
	comp=N,2μm,0.5s						
RCDM	Rinconada Maip	0.64	322	*e*P	Pg	09 38 03.8	+0.2
RCDM				*i* S	Sg	09 38 13.7	+1.8
FCH	Farellones	0.67	4	⇓*i*P	Pg	09 38 04.0	-0.2
FCH				*i* S	Sb	09 38 14.7	0.0
FCH				IAML		09 38 22.4	
	comp=E,1μm,0.1s						
PEL	Peldehue	0.90	341	*e*P	Pg	09 38 07.5	-1.1
PEL				*i* S	Sg	09 38 21.4	+1.2
PEL				IAML		09 38 21.8	
	comp=N,779nm,0.4s						
ROCH	El Roble	1.17	331	⇓*i*P	Pn	09 38 12.0	-1.9
ROCH				*i* S	Sb	09 38 28.9	0.0
ROCH				IAML		09 38 36.4	
	comp=N,742nm,0.4s						
GO05	Huala	1.66	232	⇑*i*P	Pn	09 38 18.0	-2.4
GO05				*i* S	Sn	09 38 39.6	-2.2
RTCV	Cerro Valdivia	2.61	36	*i* P	Pb	09 38 38.8	+0.6
RTLL	Cerro Villicun	3.09	31	*i* P	Pb	09 38 45.8	-0.5
RTLL				*e*S	Sg	09 39 30.5	0.0
RTLL				IAML		09 39 36.5	
	comp=Z,41nm,0.5s						
ACAN	Cantantal	3.15	58	*i* P	Pb	09 38 45.1	-2.3
ACAN				*e*S	Sg	09 39 30.5	-2.0
AMOG	MOGNA	3.43	28	*i* P	Pb	09 38 51.0	-1.1
GO04	Tololo Observa	3.83	354	*i* P	Pb	09 38 55.0	-4.2
GO04				*e*S	Sb	09 39 46.9	+1.2
APLL	PUNTA DE LOS L	4.83	43	*i* P	Pb	09 39 09.9	-6.1
APLL				IAML		09 40 41.7	
	comp=Z,13nm,0.5s						
ACLC	CERRO LA CRUZ	5.39	33	*i* P	Pn	09 39 18.0	+6.0
VCA	Vinchina	5.55	20	*i* P	Pn	09 39 20.3	+6.2
VCA				IAML		09 39 41.9	
	comp=Z,18nm,0.5s						
PLCA	Paso Flores	6.72	181	Pn	Pn	09 39 31.2	+1.1
	comp=Z,0.2nm,0.3s,baz=6.1,slow=13,SNR=8.6						
PLCA				Lg	Lg	09 41 23.4	
	comp=Z,0.1nm,0.3s,baz=320,slow=15,SNR=2.6						
PLCA				LR	LR	09 42 11.1	
	comp=Z,96nm,18.1s,baz=59,slow=39						
FSA	Cafayete	8.72	27	*i* P	Pn	09 40 02.2	+4.5
CPUP	Villa Florida	13.60	59	Pn	Pn	09 41 03.8	-0.4
	comp=Z,0.1nm,0.3s,baz=211,slow=13,SNR=3.7						
CPUP				Lg	Lg	09 45 02.4	
	comp=Z,0.1nm,0.3s,baz=144,slow=19,SNR=2.4						
LPAZ	La Paz	17.75	7	P	P	09 42 01.5	+1.5
	comp=Z,0.1nm,0.3s,baz=277,slow=0.2,SNR=3.5						
VNDA	Vanda	64.38	191	P	P	09 48 26.9	+0.1
	comp=Z,0.8nm,0.8s,baz=146,slow=3.6,SNR=2.8						
TXAR	Lajitas Array	70.44	329	P	P	09 49 07.2	+1.3
	comp=Z,0.3nm,0.6s,baz=155,slow=8.0,SNR=5.4						
TORD	Torodi Ar. Bea	82.89	69	P	P	09 50 17.7	+1.3
	comp=Z,0.5nm,0.7s,baz=271,slow=3.6,SNR=2.3						
PDAR	Pinedale Array	84.41	332	P	P	09 50 25.7	+1.8
	comp=Z,0.3nm,0.5s,baz=132,slow=5.4,SNR=3.3						
NVAR	Mina Array Bea	84.70	324	P	P	09 50 25.9	+0.4
	comp=Z,0.2nm,0.5s,baz=138,slow=4.2,SNR=3.6						
WRA	Warramunga Arr	121.43	207	PKP	PKPdf	09 56 44.5	-0.9
	comp=Z,0.5nm,0.9s,baz=166,slow=1.5,SNR=4.9						

*NEIC **15** 09:55:29.0±0.8, 19°.1N±0°.1×64°.70W±0°.04, h35km±18km*
*RSPR **15** 09:55:30.7, 19°.07N×64°.73W, h19km±5km, MD2.8/3*

ISC 15 09:55:28.9±2.1,19°.1N±0°.1×64°.76W±0°.06, h26km±16km, n28, σ0s56/41, 14C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	Anegada Island	0.54	130		Pb	09 55 39.3	-0.5
ABVI					Sb	09 55 46.8	-0.3
ABV	Anegada	0.54	130	⇑*e*P	Pb	09 55 39.8	0.0
ABV	Anegada	0.54	130	⇑*e*P	Pb	09 55 39.8	0.0
ABV				*e*S	Sb	09 55 47.5	+0.3
TBVI	Tortola	0.67	168	⇑*e*P	Pb	09 55 41.8	-0.3
TBVI	Tortola	0.67	168	⇑*e*P	Pb	09 55 41.8	-0.3
TBVI				*e*S	Sb	09 55 50.8	-0.2
TBVI	Tortola	0.67	168		Pb	09 55 41.8	-0.3
TBVI					Sb	09 55 50.8	-0.2
STVI	Saint Thomas	0.75	194	⇑*e*P	Pb	09 55 43.1	-0.2
STVI	Saint Thomas	0.75	194	⇑*e*P	Pb	09 55 43.2	-0.1
STVI				*e*S	Sb	09 55 53.6	+0.5
STVI	Saint Thomas	0.75	194	⇑*e*P	Pb	09 55 43.1	-0.2
STVI				*e*S	Sb	09 55 53.3	+0.2
STVI	Saint Thomas	0.75	194		Pb	09 55 43.2	-0.2
STVI					Sb	09 55 53.6	+0.5
MTP	Monte Pirata	1.23	218	⇑*e*P	Pn	09 55 50.6	+0.1
MTP	Monte Pirata	1.23	218	⇑*e*P

	0.1nm,0.3s,baz=336,slow=20,SNR=5.0							
ASAR	**Alice Springs**	**17.65**	**164**	P	Pn	10 13 11.6	-1.3	
	0.5nm,0.3s,baz=346,slow=12,SNR=42							
ASAR				S	S	10 16 21.1	+0.5	
	0.0nm,0.3s,baz=345,slow=24,SNR=3.6							
MKAR	**Makanchi Array**	**67.25**	**327**	P	P	10 19 48.6	-0.4	
	0.2nm,0.4s,baz=120,slow=8.5,SNR=1.6							

*IDC **15** 10:17:40.4±0.7, 10°00′N×125°.98E, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.9/41, mbtmp3.9/13, ML4.3/1, MS2.3/1, Ms1 2.5/1, ms1mx2.2/27, Error ellipse: s-maj=46.2km s-min=14.2km az=79.0*

*NEIC **15** 10:17:43.9±1.3, 9°.98N±0°.09×125°.9E±0°.2, h21km±5km, mb4.4/14*

*ISCJB **15** 10:17:48.0±0.9, 10°.01N±0°.03×126°.16E±0°.07, h70km±8km, mb3.8/12, Error ellipse: s-maj=12.0km s-min=5.0km az=171.0*

*MAN **15** 10:17:47.4, 9°.95N×126°.17E, h44km, MS3.0*

ISC 15 10:17:48.7±1.4, 10°.04N±0°.04×126°.13E±0°.10, h59km±14km, n47, σ1§18/45, mb4.2/20, 1C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.18**	**205**	P	**Pn**	**10 18 06.8**	**-2.3**
MSLP	**Maasin**	**1.25**	**274**	P	**Pn**	**10 18 08.7**	**-1.3**
MSLP				S	**Sn**	**10 18 26.4**	**+0.3**
BESP	**Borongan**	**1.69**	**336**	P	**Pn**	**10 18 16.1**	**+0.1**
BESP				S	**Sn**	**10 18 39.1**	**+2.5**
OCLP	**Ormoc**	**1.80**	**304**	P	**Pn**	**10 18 18.1**	**+0.6**
CGP	**Cagayan de Oro**	**2.12**	**222**	⇓P	**Pn**	**10 18 21.6**	**-0.2**
CGP				S	**Sn**	**10 18 47.7**	**+0.7**
LLP	**Lapu-Lapu**	**2.15**	**278**	⇓P	Pn	10 18 23.0	+0.8
LLP				S	Sn	10 18 51.1	+3.5
BUKP	**Musuan**	**2.39**	**206**	P	**Pn**	**10 18 25.9**	**+0.3**
BUKP				S	**Sn**	**10 18 55.9**	**+2.1**
DAV	**Davao City (W)**	**3.00**	**190**	Pn	Pn	10 18 27.1	-6.8
	46nm,0.3s,baz=87,slow=10,SNR=1.7						
DAV				Sn	**Sn**	**10 19 09.2**	**+0.6**
	22nm,0.3s,baz=146,slow=32,SNR=1.2						
MATI	**Mati**	**3.08**	**178**	P	Pn	10 18 22.6	-12
MATI				S	Sn	10 19 20.4	+10
KCP	**Kidapawan**	**3.18**	**199**	⇑P	Pn	10 18 22.1	-14
KCP				S	**Sn**	**10 19 14.5**	**+1.3**
PAGZ	**Pagadian**	**3.48**	**231**	P	**Pn**	**10 18 39.9**	**-0.5**
PAGZ				S	Sn	10 19 07.2	-13
GUIM	**Jordan**	**3.53**	**280**	P	**Pn**	**10 18 40.8**	**-0.3**
GUIM				S	**Sn**	**10 19 23.8**	**+2.2**
RCP	**Roxas**	**3.65**	**295**	⇓P	Pn	10 18 44.2	+1.5
PVCP	**Virac**	**4.03**	**332**	P	Pn	10 18 51.3	+3.4
PVCP				S	**Sn**	**10 19 31.2**	**-2.7**
KNRA	**Kununurra**	**25.68**	**174**	P	**P**	**10 23 12.5**	**-0.9**
KNRA				IAmb	IAmb	10 23 16.9	
	comp=Z,10nm,1.2s						
KSRS	**Korea Array**	**27.34**	**3**	P	**P**	**10 23 28.5**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=185,slow=10,SNR=3.8						
CMAR	**Chiang Mai Arr**	**27.61**	**291**	LR	LR	10 36 00.5	
	comp=Z,5.7nm,18.5s,baz=350,slow=40						
FITZ	**Fitzroy Crossi**	**27.96**	**181**	P	**P**	**10 23 33.7**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=10,slow=11,SNR=4.4						
FITZ	**Fitzroy Crossi**	**27.96**	**181**	P	**P**	**10 23 34.4**	**+0.5**
WRAB	**Tennant Creek**	**30.87**	**165**	P	**P**	**10 23 58.0**	**-1.6**
WRAB				IAmb	IAmb	10 24 10.2	
	comp=Z,6.5nm,1.4s						
WRA	**Warramunga Arr**	**30.87**	**165**	P	**P**	**10 23 57.8**	**-1.8**
	comp=Z,0.4nm,0.5s,baz=345,slow=9.4,SNR=4.4						
WR0	**Warramunga Arr**	**30.94**	**164**	P	**P**	**10 23 59.5**	**-0.7**
WR0				IAmb	IAmb	10 24 17.8	
	comp=Z,7.6nm,1.4s						
AS31	**Alice Springs**	**34.35**	**167**	P	**P**	**10 24 29.1**	**-1.0**
ASAR	**Alice Springs**	**34.35**	**167**	P	**P**	**10 24 28.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=350,slow=7.1,SNR=15						
H11N1	**WAKE ISLAND Hy**	**40.46**	**71**	T	T	11 08 37.3	
	baz=264,slow=74,SNR=84						
H11N2	**WAKE ISLAND Hy**	**40.47**	**71**	T	T	11 08 41.7	
	baz=264,slow=74,SNR=50						
H11N3	**WAKE ISLAND Hy**	**40.48**	**71**	T	T	11 08 42.2	
	baz=264,slow=74,SNR=69						
FORT	**Forrest**	**40.63**	**177**	P	**P**	**10 25 23.2**	**+0.2**
FORT				IAmb	IAmb	10 25 25.2	
	comp=Z,13nm,0.8s						
SONM	**Songino Array**	**41.18**	**340**	P	**P**	**10 25 27.2**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=150,slow=9.7,SNR=3.0						
BBOO	**Buckleboo**	**43.65**	**168**	P	**P**	**10 25 47.7**	**+0.1**
BBOO				IAmb	IAmb	10 25 55.4	
	comp=Z,6.0nm,0.9s						
STKA	**Stephens Creek**	**44.23**	**161**	P	**P**	**10 25 51.9**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=354,slow=9.5,SNR=6.6						
STKA	**Stephens Creek**	**44.23**	**161**	P	**P**	**10 25 52.0**	**-0.2**
DZM	**Mont Dzumac**	**50.81**	**129**	P	**P**	**10 26 45.1**	**+1.5**
DZM				IAmb	IAmb	10 26 53.0	
	comp=Z,7.3nm,1.1s						
MKAR	**Makanchi Array**	**52.12**	**323**	P	**P**	**10 26 52.4**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=120,slow=8.9,SNR=6.7						
ZALV	**Zalesovo Beam**	**54.76**	**331**	P	**P**	**10 27 10.8**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=126,slow=7.3,SNR=2.5						
KURK	**Kurchatov**	**56.18**	**326**	P	**P**	**10 27 21.7**	**-0.7**
KURK				IAmb	IAmb	10 27 32.3	
	comp=Z,6.1nm,1.5s						
BKZ	**Black Stump Fm**	**67.70**	**140**	P	**P**	**10 28 40.9**	**+0.9**
NEA	**Nenana**	**78.77**	**26**	P	**P**	**10 29 46.2**	**+1.4**
IL31		**79.71**	**26**	P	**P**	**10 29 50.2**	**+0.4**
ILAR	**Eielson Array**	**79.71**	**26**	P	**P**	**10 29 49.8**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=246,slow=4.6,SNR=9.9						
ARCES	**ARCESS Array B**	**84.36**	**340**	P	**P**	**10 30 13.8**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=79,slow=6.3,SNR=6.6						
INK	**Inuvik**	**84.55**	**22**	P	**P**	**10 30 16.2**	**+1.1**
INK				IAmb	IAmb	10 30 33.1	
	comp=Z,3.6nm,1.3s						
FIA1	**FINESS Array S**	**86.02**	**332**	P	**P**	**10 30 21.9**	**-0.7**
FINES	**FINESS Array B**	**86.03**	**332**	P	**P**	**10 30 22.0**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=87,slow=4.3,SNR=18						
YKA	**Yellowknife Ar**	**94.02**	**24**	P	**P**	**10 31 01.0**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=301,slow=4.5,SNR=11						
ESTN	**Estel**	**140.38**	**55**	PKPdf	**PKPdf**	**10 37 10.7**	**-1.6**
TRQA	**Tornquist**	**151.17**	**167**	PKPbc	**PKiKP**	**10 37 36.4**	**+0.1**

*KRNET **15** 10:31:21.2±0.1, 39°.43N×75°.41E, mb3.2*

*NNC **15** 10:31:23.5±4.2, 39°.50N×76°.11E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=30.2km s-min=22.5km az=176.0*

ISC 15 10:31:22.8±3.9, 39°.5N±0°.1×75°.48E±0°.05, h5km±25km, n18, σ1§99/31, 17C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.94**	**12**	⇑*i*P	**Pb**	**10 31 58.9**	**0.0**
	baz=12						
NRN				⇑*i*S	**Sg**	**10 32 26.7**	**+1.4**
	baz=12						
ARLS	**Aral**	**2.49**	**340**	⇑*i*P	**Pb**	**10 32 06.7**	**-1.4**
	baz=42						
ARLS				⇑*i*S	**Sb**	**10 32 39.4**	**+0.3**
	baz=42						
KZA	**Kyzart**	**2.55**	**356**	⇑*i*P	**Pb**	**10 32 07.7**	**-1.6**
	baz=57						
KZA				⇑*i*S	**Sb**	**10 32 41.5**	**+0.4**
	baz=57						
ARSB	**Arslanbob**	**2.61**	**314**	⇑*i*P	**Pn**	**10 32 07.5**	**+1.7**
	baz=16						
ARSB				⇑*i*S	**Sb**	**10 32 41.8**	**-0.9**
	baz=16						
ULHL	**Ulahol**	**2.77**	**12**	⇓*i*P	**Pb**	**10 32 10.9**	**-2.1**
	baz=12						
ULHL				⇓*i*S	**Sb**	**10 32 47.1**	**-0.3**
	baz=12						
UCH	**Uchtor**	**2.79**	**345**	⇑*i*P	**Pn**	**10 32 10.9**	**+2.4**
	baz=47						
UCH				⇑*i*S	**Sb**	**10 32 47.1**	**-1.0**
	baz=47						
TARG	**Taragay, Kyrgy**	**2.82**	**38**	⇓*i*P	**Pb**	**10 32 11.6**	**-2.3**
	baz=38						
TARG				⇓*i*S	**Sb**	**10 32 48.4**	**-0.5**
	baz=38						
KDJ	**Kajisay**	**2.90**	**26**	⇑*i*P	**Pb**	**10 32 12.6**	**-2.5**
	baz=26						
KDJ				⇑*i*S	**Sb**	**10 32 50.2**	**-0.8**
	baz=26						
AML	**Almayashu**	**2.93**	**333**	⇑*i*P	**Pn**	**10 32 12.3**	**+1.9**
	baz=35						
AML				⇑*i*S	**Sb**	**10 32 49.8**	**-2.2**
	baz=35						
BOOM	**Boomskoye usch**	**2.98**	**7**	⇓*i*P	**Pb**	**10 32 13.9**	**-2.5**
	baz=7.0						
BOOM				⇓*i*S	**Sb**	**10 32 52.1**	**-1.1**
	baz=7.0						
AAK	**Ala-Archa**	**3.19**	**347**	⇑*i*P	**Pn**	**10 32 16.0**	**+2.2**
	baz=48						
AAK				⇑*i*S	**Sb**	**10 32 56.4**	**-2.9**
	baz=48						
AAK	**Ala-Archa**	**3.19**	**347**	⇑Pn	**Pb**	**10 32 19.1**	**-1.0**
	11nm,0.5s						
AAK				⇓Sn	**Sb**	**10 32 59.2**	**-0.1**
	27nm,0.8s						
MRKS	**Merke**	**3.63**	**333**	Pg	**Pb**	**10 32 24.5**	**-3.1**
	4.4nm,0.7s						
MRKS				Lg	Lg	10 33 12.4	
	3.0nm,0.6s						
ANVS	**Anan'yevo**	**3.65**	**26**	⇓*i*P	**Pn**	**10 32 23.0**	**+2.9**
	baz=26						
ANVS				⇓*i*S	**Sb**	**10 33 08.1**	**-4.3**
	baz=26						
TNSS	**Tian-Shan**	**3.67**	**17**	Pg	**Pb**	**10 32 27.6**	**-0.8**
	5.6nm,0.5s						
TNSS				Lg	Lg	10 33 18.0	
	10nm,0.5s						
DGS	**Degeres**	**3.72**	**3**	Pg	**Pb**	**10 32 30.0**	**+1.0**
	5.0nm,0.5s						
DGS				Lg	Lg	10 33 22.7	
	8.2nm,0.7s						
SATY	**Saty**	**4.16**	**31**	Pg	**Pb**	**10 32 35.7**	**-0.8**
	5.8nm,0.8s						
SATY				Lg	Lg	10 33 32.0	
	7.9nm,0.5s						
UZB	**Uzynbulak**	**4.49**	**35**	Pg	**Pb**	**10 32 40.6**	**-1.7**
	1.3nm,0.2s						
UZB				Lg	Lg	10 33 40.8	
	3.2nm,0.7s						

IDC 15 10:32:49.6±39.0, 57°.95S×148°.75E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.8/12, mbtmp3.7/3, MS3.5/2, Ms1 3.5/2, ms1mx2.9/15, Error ellipse: s-maj=673.0km s-min=235.3km az=147.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**19.90**	**54**	LR	LR	10 43 53.6	
	comp=Z,134nm,21.0s,baz=150,slow=33						
STKA	**Stephens Creek**	**26.53**	**346**	P		10 38 29.5	+0.8
	2.6nm,1.0s,baz=172,slow=7.1,SNR=4.4						
H01W1	**Cape Leeuwin H**	**32.59**	**300**	T	T	11 11 45.5	
	baz=142,slow=75,SNR=12						
H01W2	**Cape Leeuwin H**	**32.59**	**300**	T	T	11 11 47.9	
	baz=142,slow=75,SNR=15						
H01W3	**Cape Leeuwin H**	**32.61**	**300**	T	T	11 11 46.8	
	baz=142,slow=75,SNR=13						
ASAR	**Alice Springs**	**35.88**	**336**	P	P	10 39 50.0	-1.1
	0.5nm,0.8s,baz=165,slow=8.6,SNR=6.9						
MAW	**Mawson**	**37.24**	**219**	LR	LR	10 53 47.8	
	comp=Z,80nm,19.4s,baz=58,slow=34						
WRA	**Warramunga Arr**	**39.41**	**338**	P	P	10 40 21.2	+0.3
	1.1nm,0.8s,baz=164,slow=7.7,SNR=8.3						

*IDC **15** 11:17:18.5±1.1, 13°.11N×51°.34E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.5/36, mbtmp3.7/7, MS3.3/3, Ms1 3.3/3, ms1mx2.8/39, Error ellipse: s-maj=37.9km s-min=24.3km az=4.0*

*NEIC **15** 11:17:20.1±1.3, 13°.04N±0°.09×51°.41E±0°.08, h10km±1km, mb4.3/2*

*OMAN **15** 11:17:24.2±2.5, 13°.72N×50°.82E, h43km±437km, ml3.4/3, Error ellipse: s-maj=56.3km s-min=36.8km az=108.0*

ISC 15 11:17:19.8±0.8, 13°.15N±0°.08×51°.44E±0°.09, h10km, n21, σ1§65/19, mb3.9/9, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**2.66**	**111**		**Pn**	**11 18 00.9**	**-2.0**
ABTO	**Aybut**	**4.54**	**23**	P	**Pn**	**11 18 28.0**	**-0.7**
	SNR=26						
ABTO				S	**Sn**	**11 19 17.7**	**-4.0**
RBK	**Rabkut**	**5.08**	**31**	P	**Pn**	**11 18 36.8**	**+0.7**
	SNR=7.3						
RBK				S	**Sn**	**11 19 34.3**	**-0.6**
WHFO	**Wadi Hawf**	**5.24**	**25**	P	**Pn**	**11 18 38.0**	**-0.4**
	SNR=33						
WHFO				S	**Sn**	**11 19 35.3**	**-3.6**
DMTO	**DMTO**	**5.66**	**36**	P	**Pn**	**11 18 44.7**	**+0.7**
	SNR=7.9						
DMTO				S	**Sn**	**11 19 50.1**	**+1.1**
ATD	**Arta Tunnel**	**8.55**	**260**	Pn	**Pn**	**11 19 23.4**	**-0.4**
WSAR	**Wadi Sarin**	**12.13**	**33**	LR	LR	11 24 49.3	
	comp=Z,67nm,18.9s,baz=234,slow=37						
GEYT	**Alibeck**	**25.38**	**12**	LR	LR	11 34 40.8	
	comp=Z,89nm,19.7s,baz=345,slow=41						
H08N2	**Diego Garcia H**	**27.42**	**134**	T	T	11 52 14.4	
	baz=313,slow=76,SNR=3.7						
H08N3	**Diego Garcia H**	**27.43**	**134**	T	T	11 52 19.7	
	baz=313,slow=76,SNR=5.5						
H08N1	**Diego Garcia H**	**27.44**	**134**	T	T	11 52 05.7	
	baz=313,slow=76,SNR=3.7						
MK31	**Makanchi Array**	**42.37**	**32**	P	**P**	**11 25 15.9**	**+1.7**
MK31				IAmb	IAmb	11 25 34.0	
	comp=Z,7.0nm,1.3s						
MKAR	**Makanchi Array**	**42.37**	**32**	P	**P**	**11 25 15.7**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=226,slow=9.1,SNR=4.9						
CMAR	**Chiang Mai Arr**	**45.91**	**77**	P	**P**	**11 25 44.5**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=280,slow=11,SNR=2.8						
TOA0	**Torodi Ar. Sit**	**48.38**	**276**	P	**P**	**11 26 02.2**	**-0.1**
TOA0				IAmb	IAmb	11 26 07.7	
	comp=Z,6.0nm,1.5s						
TORD	**Torodi Ar. Bea**	**48.38**	**276**	P	**P**	**11 26 01.9**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=86,slow=7.9,SNR=7.7						
ZALV	**Zalesovo Beam**	**48.46**	**26**	P	**P**	**11 26 02.4**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=232,slow=9.0,SNR=3.4						
BOSA	**Boshof**	**48.64**	**211**	LR	LR	11 48 07.1	
	comp=Z,51nm,18.3s,baz=31,slow=38						
ESDC	**Sonseca Array**	**55.21**	**309**	P	**P**	**11 26 53.0**	**-0.1**
	comp=Z,0.1nm,0.2s,baz=106,slow=8.2,SNR=4.2						
WRA	**Warramunga Arr**	**87.90**	**111**	P	**P**	**11 30 11.0**	**+0.6**
	comp=Z,0.3nm,0.9s,baz=300,slow=3.4,SNR=3.2						
ASAR	**Alice Springs**	**88.46**	**115**	P	**P**	**11 30 13.3**	**+0.4**
	comp=Z,0.1nm,0.6s,baz=287,slow=5.3,SNR=4.8						

TRN 15 11:39:38.8, 11°.12N×59°.58W, h52km, MD3.8, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRGR	**Grenville**	**2.27**	**297**	*e*P	Pn	11 40 14.4	+0.4
GRGR				*e*S	Sn	11 40 40.0	-0.8
GRHS	**Sauteurs**	**2.30**	**299**	*e*S	Sn	11 40 40.9	-0.6
SVCV	**St. Vincent, C**	**2.63**	**325**	*e*P	Pn	11 40 19.1	+0.1
SVCV				*e*S	Sn	11 40 49.3	-0.5
GUIV	**Guiria**	**2.64**	**260**	*e*P	Pn	11 40 19.2	+0.2
GUIV				*e*S	Sn	11 40 49.7	-0.2
SVB	**Belmont**	**2.70**	**323**	*e*P	Pn	11 40 19.8	0.0
SVB				*e*S	Sn	11 40 50.6	-0.7
SVV	**Soufriere Volc**	**2.71**	**324**	*e*P	Pn	11 40 21.2	+1.2
SVV				*e*S	Sn	11 40 51.3	-0.3
MCLT	**Moule a Chique**	**2.90**	**333**	*e*P	Pn	11 40 22.5	-0.1
MCLT				*e*S	Sn	11 40 54.9	-1.4
SLB	**Belfond**	**3.05**	**332**	*e*P	Pn	11 40 25.9	+1.2
SLB				*e*S	Sn	11 40 58.7	-1.3
SLBI	**Saint Lucia, B**	**3.19**	**335**	*e*P	Pn	11 40 27.8	+1.2
SLBI				*e*S	Sn	11 41 03.1	-0.3
MPOM	**Morne Pois Mar**	**3.54**	**339**	*e*P	Pn	11 40 31.4	+0.2
BIM	**Bigot**	**3.68**	**337**	*e*P	Pn	11 40 34.4	+1.1
TRMF	**Trois Ilets**	**3.69**	**337**	*e*P	Pn	11 40 33.6	+0.2
LPMF	**Morne Lapointe**	**3.69**	**339**	*e*P	Pn	11 40 34.0	+0.5
ZAM	**Aeronautique**	**3.72**	**338**	*e*P	Pn	11 40 34.2	+0.5
BAUV	**El Baul**	**8.61**	**256**	*e*P	Pn	11 41 41.4	+0.5
BAUV	**El Baul**	**8.61**	**256**	*e*S	Sn	11 43 09.6	-7.2

*ISCJB **15** 11:40:13.7±0.4, 13°.17N±0°.06×51°.39E±0°.06, h10km, mb4.0/12, MS3.5/9, Error ellipse: s-maj=9.0km s-min=7.0km az=143.2*

*IDC **15** 11:40:13.8±0.9, 13°.06N×51°.32E, h0km, mb4.0/12, mb1 4.2/13, mb1mx3.8/49, mbtmp4.0/13, ML3.9/1, MS3.5/11, Ms1 3.5/11, ms1mx3.3/40, Error ellipse: s-maj=24.6km s-min=18.7km az=179.0*

*NEIC **15** 11:40:15.6±2.2, 13°.09N±0°.06×51°.50E±0°.06, h10km±1km, mb4.3/12*

*OMAN **15** 11:40:19.6±0.4, 13°.29N×51°.60E, h38km±21km, ml3.7/3, Error ellipse: s-maj=8.2km s-min=3.3km az=240.0*

ISC 15 11:40:15.4±0.6, 13°.13N±0°.06×51°.48E±0°.07, h10km, n51, σ1§73/43, mb4.2/18, MS3.6/9, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**2.62**	**111**	P	**Pn**	**11 40 56.0**	**-1.9**
	SNR=13						
SOCY				S	**Sn**	**11 41 26.1**	**-3.7**
SOCY	**Socotra**	**2.62**	**111**		**Pn**	**11 40 56.0**	**-1.9**
SOCY				Sn	**Sn**	**11 41 26.0**	**-3.7**
ABTO	**Aybut**	**4.55**	**22**	P	**Pn**	**11 41 23.3**	**-1.2**
	SNR=18						
ABTO				S	**Sn**	**11 42 13.0**	**-4.6**
RBK	**Rabkut**	**5.08**	**31**	P	**Pn**	**11 41 32.0**	**+0.2**
	SNR=16						
WHFO	**Wadi Hawf**	**5.25**	**25**	P	**Pn**	**11 41 33.1**	**-1.0**
	SNR=12						
WHFO				S	**Sn**	**11 42 30.4**	**-4.3**
DMTO	**DMTO**	**5.66**	**36**	P	**Pn**	**11 41 39.5**	**-0.1**
	SNR=39						
SHAO	**Shalim**	**6.29**	**39**	P	Pn	**11 41 49.3**	**+0.8**
DAMY	**Dhamar**	**7.04**	**283**	Pn	**Pn**	**11 42 00.2**	**+1.4**
ATD	**Arta Tunnel**	**8.59**	**260**	Pn	**Pn**	**11 42 18.3**	**-1.7**
	1.6nm,0.3s,baz=282,slow=15,SNR=5.4						
ATD				LR	LR	11 44 33.5	
	comp=Z,164nm,18.4s,baz=46,slow=31						
ATD	**Arta Tunnel**	**8.59**	**260**		**Pn**	**11 42 19.2**	**-0.7**
DQM	**DQM**	**8.91**	**40**	P	**Pn**	**11 42 25.6**	**+1.2**
RAYN	**Ar Rayn**	**11.79**	**332**	Pn	**Pn**	**11 43 02.6**	**-1.3**
WSAR	**Wadi Sarin**	**12.13**	**33**	LR	LR	11 47 44.7	
	comp=Z,263nm,18.5s,baz=240,slow=37						
UOSS	**Minazif**	**12.57**	**20**	Pn	**Pn**	**11 43 15.0**	**+0.5**
BANOM	**Banah**	**13.51**	**19**	P	**Pn**	**11 43 27.0**	**-0.4**
	SNR=6.9						
EIL	**Elat**	**22.49**	**320**	LR	LR	11 53 19.2	
	comp=Z,62nm,18.6s,baz=122,slow=35						
MMAI	**Mount Meron Ar**	**24.65**	**326**	LR	LR	11 55 24.7	
	comp=Z,38nm,18.2s,baz=0.0,slow=37						
GEYT	**Alibeck**	**25.40**	**12**	P	**P**	**11 45 43.8**	**+0.7**
	2.3nm,0.7s,baz=190,slow=7.5,SNR=4.9						
GEYT				LR	LR	11 57 02.4	
	comp=Z,166nm,18.6s,baz=210,slow=40						
H08N2	**Diego Garcia H**	**27.37**	**134**	T	T	12 14 20.1	
	baz=313,slow=76,SNR=7.3						
H08N3	**Diego Garcia H**	**27.38**	**134**	T	T	12 14 12.8	
	baz=313,slow=76,SNR=7.0						
H08N1	**Diego Garcia H**	**27.40**	**134**	T	T	12 14 20.1	
	baz=313,slow=76,SNR=6.3						
GNI	**Garni**	**27.57**	**349**	LR	LR	11 59 17.5	
	comp=Z,164nm,18.8s,baz=176,slow=41						
BRTR	**Keskin Array B**	**30.82**	**333**	LR	LR	12 00 09.9	
	comp=Z,53nm,18.3s,baz=38,slow=39						
KBZ	**Khabaz**	**31.38**	**348**	LR	LR	12 01 32.3	
	comp=Z,156nm,21.5s,baz=155,slow=41						
KK31	**Karatay Array**	**34.09**	**25**	P	**P**	**11 47 02.5**	**+2.3**
KKAR	**Karatay Array**	**34.09**	**25**	P	**P**	**11 47 02.8**	**+2.6**
ABKAR	**Akbulak array**	**36.70**	**9**	P	**P**	**11 47 23.0**	**+0.5**
ABKAR				IAmb	IAmb	11 47 32.4	
	comp=Z,4.9nm,1.1s						
MLR	**Muntele Rosu**	**38.86**	**331**	LR	LR	12 04 30.3	
	comp=Z,114nm,19.2s,baz=331,slow=38						
AKASG	**Malin Array Be**	**41.63**	**339**	P	**P**	**11 48 03.5**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=147,slow=6.5,SNR=3.8						
MK31	**Makanchi Array**	**42.37**	**31**	P	**P**	**11 48 11.0**	**+1.1**
MK31				IAmb	IAmb	11 48 17.8	
	comp=Z,5.4nm,1.2s						
MKAR	**Makanchi Array**	**42.37**	**31**	P	**P**	**11 48 10.9**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=219,slow=9.2,SNR=16						
BVAR	**Borovoye Array**	**42.56**	**17**	P	**P**	**11 48 12.0**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=201,slow=7.8,SNR=6.0						
LBTB	**Lobatse**	**45.55**	**214**	P	**P**	**11 48 35.9**	**+0.2**
LBTB				IAmb	IAmb	11 48 48.9	
	comp=Z,4.3nm,1.1s						
CMAR	**Chiang Mai Arr**	**45.88**	**77**	P	**P**	**11 48 40.2**	**+1.7**
	comp=Z,0.7nm,0.4s,baz=279,slow=7.6,SNR=5.8						
TOA0	**Torodi Ar. Sit**	**48.42**	**276**	P	**P**	**11 48 56.5**	**-1.8**
TOA0				IAmb	IAmb	11 48 57.8	
	comp=Z,4.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**48.42**	**276**	P	**P**	**11 48 57.0**	**-1.4**
	comp=Z,5.0nm,0.8s,baz=86,slow=7.7,SNR=28						
ZAA0	**Zalesovo Array**	**48.46**	**26**	P	**P**	**11 48 58.4**	**+0.3**
ZAA0				IAmb	IAmb	11 48 58.5	
	comp=Z,1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**48.46**	**26**	P	**P**	**11 48 58.0**	**0.0**
	comp=Z,1.8nm,0.6s,baz=234,slow=8.0,SNR=8.6						
BOSA	**Boshof**	**48.63**	**211**	LR	LR	12 10 27.3	
	comp=Z,35nm,19.3s,baz=31,slow=37						
FINES	**FINESS Array B**	**51.63**	**345**	P	**P**	**11 49 21.5**	**-0.5**
	comp=Z,3.2nm,0.9s,baz=186,slow=7.7,SNR=3.7						
MDT	**Midelt**	**54.59**	**301**	LR	LR	12 14 17.6	
	comp=Z,101nm,20.1s,baz=358,slow=38						
ESBB	**Sonseca Array**	**55.25**	**309**	P	**P**	**11 49 48.3**	**-0.8**
ESBB				IAmb	IAmb	11 49 50.0	

JAR Ashorobuto 1.98 13 P **Pn** **11 43 58.4 -0.7**
JAR *e*S **Sn** **11 44 22.0 -0.7**
JAK Akkeshi 1.98 34 ⇑P **Pn** **11 43 58.8 -0.3**
JAK *e*S **Sn** **11 44 21.8 -0.9**
JSR Shiriuchi 2.08 275 P **Pn** **11 43 59.7 -0.7**
JYM2 Yakumo 2 2.23 291 P **Pn** **11 44 01.5 -1.0**
JAH Hinai 2.26 239 P **Pn** **11 44 02.6 -0.3**
NMR Nemuro--Hokkai 2.76 42*d* *i*P **Pn** **11 44 09.1 -0.6**
NMR *i*S **Sn** **11 44 39.1 -2.6**
JKA Kamikawa-asahi 2.78 351 **Pn** **11 44 10.4 +0.3**
JKA **Sn** **11 44 45.3 +2.9**
ASAJ Asahikawa 2.78 351 P **Pn** **11 44 10.4 +0.3**
10nm,0.3s,baz=196,slow=15,SNR=55
ASAJ S **Sn** **11 44 45.3 +2.9**
23nm,0.3s,baz=213,slow=21,SNR=4.9
GLVR Golovnino 2.94 35 *e*P **Pn** **11 44 12.6 +0.4**
GLVR *i*S **Sn** **11 44 45.4 -0.8**
GLVR pmax pmax
comp=Z,627nm,0.4s
GLVR pmax pmax
comp=N,213nm,0.2s
GLVR pmax pmax
comp=E,170nm,0.2s
GLVR pmax pmax
comp=Z,2μm,1.5s
GLVR smax smax
comp=N,3μm,0.3s
GLVR smax smax
comp=E,4μm,0.3s
GLVR smax smax
comp=N,5μm,1.4s
GLVR smax smax
comp=E,4μm,1.5s
GRPR Tuman 3.25 35 *e*P **Pn** **11 44 16.5 0.0**
GRPR *i*S **Sn** **11 44 51.7 -2.2**
GRPR pmax pmax
comp=Z,523nm,0.3s
GRPR pmax pmax
comp=E,55nm,0.4s
GRPR pmax pmax
comp=N,101nm,0.3s
GRPR pmax pmax
comp=Z,536nm,1.4s
GRPR smax smax
comp=E,2μm,0.2s
GRPR smax smax
comp=N,2μm,0.4s
YUK Yuzh-Kuril'sk 3.32 36*d* *i*P **Pn** **11 44 17.6 +0.1**
YUK *i*S **Sn** **11 44 54.0 -1.7**
YUK pmax pmax
comp=Z,449nm,0.3s
YUK pmax pmax
comp=Z,779nm,1.2s
YUK smax smax
comp=N,1μm,0.3s
YUK smax smax
comp=E,2μm,0.5s
YUK smax smax
comp=N,2μm,1.3s
YUK smax smax
comp=E,2μm,0.9s
YUK MLR MLR
comp=Z,210nm,12.0s
KUR Kuril'sk 5.17 40⇑ *i*P **Pn** **11 44 43.8 +1.0**
KUR *i*S **Sn** **11 45 41.0 0.0**
KUR pmax pmax
comp=Z,189nm,0.5s
KUR pmax pmax
comp=N,39nm,0.3s
KUR pmax pmax
comp=E,49nm,0.3s
KUR pmax pmax
comp=Z,529nm,1.6s
KUR smax smax
comp=N,288nm,0.2s
KUR smax smax
comp=E,298nm,0.2s
KUR smax smax
comp=N,1μm,1.7s
KUR smax smax
comp=E,754nm,1.6s
YSS Yuzh-Sakhalins 5.60 357 *e*P **Pn** **11 44 44.1 -4.6**
YSS MLR MLR
comp=Z,2μm,17.0s
MJAR Matsushiro Arr 6.18 220 P **Pn** **11 44 56.1 -0.7**
comp=Z,0.4nm,0.3s,baz=30,slow=14,SNR=21
MJB9 Matsu-Tunnel 6.18 220 **Pn** **11 44 57.8 +1.1**
MAJO Matsushiro 6.18 220⇑ *i*P **Pn** **11 44 57.5 +0.8**
MAJO Matsushiro 6.18 220 **Pn** **11 44 57.6 +0.9**
INU Inuyama 7.71 221 **Pn** **11 45 19.0 +1.2**
VLA Vladivostok 8.56 286⇓ *e*P **Pn** **11 45 26.5 -2.8**
USRK Ussuriysk Ar. 8.70 293 P **Pn** **11 45 33.3 +2.0**
baz=88,slow=13,SNR=6.5
USRK LR LR 11 48 40.8
comp=Z,206nm,19.7s,baz=55,slow=36
KLR Kul'dur 11.24 318⇓ *e*P **Pn** **11 46 05.6 -0.4**
KLR pmax pmax
comp=Z,39nm,4.0s
KLR Kul'dur 11.24 318 P **Pn** **11 46 07.5 +1.5**
comp=Z,0.1nm,0.3s,baz=132,slow=16,SNR=2.3
KLR LR LR 11 50 40.3
comp=Z,238nm,19.0s,baz=125,slow=38
KSRS Korea Array 12.42 257 P **Pn** **11 46 23.1 +0.9**
comp=Z,0.2nm,0.3s,baz=66,slow=14,SNR=3.4
KSRS LR LR 11 51 01.8
comp=Z,100nm,18.3s,baz=57,slow=37
JNU Nakatsue 12.78 234 LR LR 11 51 16.6
comp=Z,182nm,19.1s,baz=24,slow=37
PETK Petropavlovsk- 15.30 35 LR LR 11 53 15.9
comp=Z,96nm,18.1s,baz=245,slow=38
ZEA Zeya 16.35 325 *e*P **Pn** **11 47 13.9 -0.5**
ZEA pmax pmax
comp=Z,18nm,1.4s
MA2 Magadan 18.84 12 P **P** **11 47 42.8 -1.5**
MA2 pmax pmax
comp=Z,75nm,1.5s
MA2 Magadan 18.84 12 P **P** **11 47 42.8 -1.5**
MA2 IAmb IAmb 11 47 42.9
comp=Z,75nm,1.5s
NJ2 Nanjing 21.54 252 *e*P **P** **11 48 14.9 +1.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
YAK Yakutsk 22.23 343 *e*P **P** **11 48 14.2 -6.7**
YAK *e**PP pP 11 48 22.2 -8.7
YAK *e*S **S** **11 52 13.2 -10**
YAK *e**SS Sn 11 52 30.0 -6.1
YAK *e*SS **SnSn** **11 52 57.7 +5.8**
YAK pmax pmax
comp=Z,19nm,1.2s
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,265nm,4.4s
YAK pmax pmax
comp=N,350nm,4.0s
YAK pmax pmax
comp=E,415nm,4.0s
YAK smax smax
comp=N,343nm,2.8s
YAK smax smax
comp=E,244nm,2.7s
YAK Yakutsk 22.23 343 P **P** **11 48 17.7 -3.2**
YAK IAmb IAmb 11 48 19.5
comp=Z,17nm,0.8s
SEY Seymchan 22.28 11 P **P** **11 48 17.8 -3.7**
comp=Z,3.6nm,0.5s,baz=185,slow=10,SNR=14
HHC Hu-ho-hao-te 23.76 279 P **P** **11 48 35.5 -1.2**
HHC pmax pmax
comp=Z,4.0nm,0.8s
YOJ Yonaguni jima 23.80 231 P **P** **11 48 34.7 -2.3**
YOJ pmax pmax
comp=Z,325nm,1.4s
YOJ Yonaguni jima 23.80 231 P **P** **11 48 34.6 -2.3**
ULN Ulaanbaatar 26.34 297⇓ *e*P **P** **11 49 00.3 0.0**
ULN pmax pmax
comp=Z,8.0nm,2.1s
SONM Songino Array 26.79 296 P **P** **11 49 03.8 -0.4**
comp=Z,1.0nm,0.6s,baz=85,slow=8.9,SNR=6.2
SONM LR LR 11 59 57.4
comp=Z,123nm,18.2s,baz=67,slow=37
GUMO Guam 27.71 176 LR LR 12 01 03.1
comp=Z,32nm,19.2s,baz=124,slow=38
TLY Talaya 28.76 305 LR LR 12 01 50.6
comp=Z,93nm,20.6s,baz=100,slow=38

BILL Bilibino 29.49 17 *e*P **P** **11 49 28.1 +0.2**
BILL *e* 11 50 24.0
BILL pmax pmax
comp=Z,1.0nm,1.1s
H11N2 WAKE ISLAND Hy 29.53 130 T T 12 20 48.7
baz=323,slow=76,SNR=330
H11N1 WAKE ISLAND Hy 29.54 130 T T 12 20 49.5
baz=323,slow=76,SNR=376
H11N3 WAKE ISLAND Hy 29.55 130 T T 12 20 49.8
baz=323,slow=76,SNR=352
H11S1 WAKE ISLAND Hy 30.39 132 T T 12 21 54.3
baz=325,slow=76,SNR=494
H11S3 WAKE ISLAND Hy 30.39 132 T T 12 21 53.3
baz=325,slow=76,SNR=406
H11S2 WAKE ISLAND Hy 30.40 132 T T 12 21 50.4
baz=325,slow=76,SNR=460
LZH Lanzhou 30.94 273 *e*P **P** **11 49 40.8 -0.5**
LZH pP pP 11 49 52.1 +0.1
LZH sP sP 11 49 57.8 +1.1
LZH PP **PnPn** **11 50 40.0 -2.9**
LZH pmax pmax
comp=Z,12nm,1.1s
LZH pmax pmax
comp=Z,58nm,4.9s
LZH LR LR
comp=Z,430nm,13.2s
LZH LR LR
comp=Z,430nm,13.3s
LZH LR LR
comp=Z,580nm,16.5s
GTA Gaotai 32.83 281 *e*P P 11 50 04.3 +6.5
GTA pP sP 11 50 10.0 -3.2
GTA sP pP 11 50 12.9 +4.4
GTA pmax pmax
comp=Z,2.0nm,0.7s
ZAA0 Zalesovo Array 40.14 309 P **P** **11 50 59.6 -0.1**
ZAA0 IAmb IAmb 11 51 15.3
comp=Z,5.0nm,0.9s
ZALV Zalesovo Beam 40.14 309 P **P** **11 50 59.3 -0.4**
comp=Z,1.7nm,0.4s,baz=90,slow=8.4,SNR=6.5
ZALV pP **sP** **11 51 12.5 -2.8**
comp=Z,4.5nm,0.8s,baz=84,slow=7.3,SNR=6.4
ZALV LR LR 12 07 48.4
comp=Z,97nm,19.1s,baz=18,slow=36
WMQ Urumqi 40.27 293 *e*P **P** **11 51 02.3 +1.2**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,220nm,5.3s
WMQ LR LR
comp=Z,510nm,28.8s
WMQ LR LR
comp=Z,810nm,29.5s
PPLA Purkeypile 42.87 37 P **P** **11 51 24.6 +2.5**
MK31 Makanchi Array 43.12 299 P **P** **11 51 24.0 -0.2**
MK31 pmax pmax
comp=Z,9.0nm,1.2s
MK31 Makanchi Array 43.12 299 P **P** **11 51 24.0 -0.2**
MK31 IAmb IAmb 11 51 42.8
comp=Z,8.6nm,1.1s
MKAR Makanchi Array 43.12 299 *i*P **P** **11 51 23.1 -1.1**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 43.12 299 P **P** **11 51 23.8 -0.5**
comp=Z,1.2nm,0.8s,baz=82,slow=9.6,SNR=4.4
BPAW Bear Paw Mtn. 43.38 36 P **P** **11 51 28.9 +2.8**
KTH Kantishna Hill 43.43 36 P **P** **11 51 28.2 +1.7**
KTH IAmb IAmb 11 51 40.9
comp=Z,9.8nm,1.0s
MLY Manley 43.48 34 P **P** **11 51 29.0 +2.0**
MLY IAmb IAmb 11 51 31.4
comp=Z,7.0nm,1.0s
SUA Susitna One 43.61 40 P **P** **11 51 30.6 +2.4**
TRF Thorofare Moun 43.71 37 P **P** **11 51 31.1 +2.1**
TOLK Toolik Lake Re 44.01 29 P **P** **11 51 33.2 +2.0**
CMAR Chiang Mai Arr 44.02 252 LR LR 12 08 55.1
comp=Z,28nm,20.7s,baz=204,slow=35
MCK McKinley 44.30 36 P **P** **11 51 34.8 +1.2**
MCK pmax pmax
comp=Z,7.0nm,1.0s
MCK McKinley 44.30 36 P **P** **11 51 34.8 +1.2**
MCK IAmb IAmb 11 51 36.6
comp=Z,7.3nm,1.0s
PMR Palmer 44.37 39 P **P** **11 51 37.5 +3.5**
PMR pmax pmax
comp=Z,27nm,1.5s
PMR Palmer 44.37 39 P **P** **11 51 37.5 +3.5**
GHO Glory Hole Cre 44.45 39 P **P** **11 51 36.9 +2.0**
GHO IAmb IAmb 11 51 47.3
comp=Z,16nm,1.2s
KURK Kurchatov 44.46 305⇓ *i*P **P** **11 51 34.6 -0.3**
KURK pmax pmax
comp=Z,7.0nm,1.1s
KURK Kurchatov 44.46 305 P **P** **11 51 34.2 -0.7**
KURK IAmb IAmb 11 51 43.8
comp=Z,5.3nm,0.9s
WRH Wood River Hil 44.63 35 P **P** **11 51 38.7 +2.6**
KNK Knik Glacier 44.71 39 P **P** **11 51 41.2 +4.3**
COLA College 44.72 35⇓ *i*P **P** **11 51 39.5 +2.8**
COLA pmax pmax
comp=Z,11nm,0.9s
SML Sawmill 44.73 39 P **P** **11 51 38.2 +1.2**
CCB Clear Creek Bu 44.75 35 P **P** **11 51 38.1 +1.1**
DHY Denali Highway 45.05 37 P **P** **11 51 41.0 +1.3**
DHY IAmb IAmb 11 51 43.1
comp=Z,4.4nm,1.0s
HDA Harding Lake 45.13 35 P **P** **11 51 40.7 +0.6**
HDA IAmb IAmb 11 51 41.6
comp=Z,12nm,1.4s
IL31 45.13 35 P **P** **11 51 41.3 +1.3**
IL31 IAmb IAmb 11 51 44.5
comp=Z,6.6nm,0.9s
ILAR Eielson Array 45.13 35 P **P** **11 51 40.9 +0.8**
comp=Z,3.4nm,0.9s,baz=259,slow=6.2,SNR=27
ILAR pP **pP** **11 51 53.4 +2.0**
comp=Z,3.3nm,1.0s,baz=254,slow=4.8,SNR=7.3
PRP Porcupine Dome 45.65 34 P **P** **11 51 46.5 +2.1**
PRP IAmb IAmb 11 51 48.7
comp=Z,7.9nm,0.8s
FYU Fort Yukon 45.70 32 P **P** **11 51 46.3 +1.8**
FYU IAmb IAmb 11 52 04.0
comp=Z,15nm,1.3s
KRVT Keravat (AS076 46.16 168 LR LR 12 08 02.9
comp=Z,49nm,20.0s,baz=342,slow=32
SCRK Sand Creek 46.47 36 P **P** **11 51 51.2 +0.5**
SCRK IAmb IAmb 11 52 05.9
comp=Z,4.3nm,0.8s
SUCK Suckling Hills 47.19 41 P **P** **11 51 58.6 +2.3**
TGL Tana Glacier 47.51 40 P **P** **11 52 02.1 +3.2**
EGAK Eagle 47.57 34 P **P** **11 52 00.5 +1.3**
EGAK IAmb IAmb 11 52 04.2
comp=Z,8.4nm,1.4s
BARN Barnard Glacie 48.01 39 P **P** **11 52 05.0 +2.0**
DAWY Dawson 48.45 35 P **P** **11 52 09.4 +3.3**
DAWY IAmb IAmb 11 52 15.2
comp=Z,4.0nm,1.2s
BVAR Borovoye Array 48.76 310 P **P** **11 52 08.7 +0.2**
comp=Z,1.3nm,0.4s,baz=76,slow=8.1,SNR=3.7
EPYK Eagle Plains 49.11 32 P **P** **11 52 12.8 +1.7**
INK Inuvik 49.92 29 P **P** **11 52 18.0 +0.8**
INK pmax pmax
comp=Z,7.0nm,0.8s
INK Inuvik 49.92 29 P **P** **11 52 18.0 +0.8**
INK IAmb IAmb 11 52 20.6
comp=Z,6.9nm,0.8s
KSH Kashi 50.00 291 *e*P **P** **11 52 21.6 +3.3**
KSH PP **PP** **11 54 16.8 +3.5**
KSH ScP **ScP** **11 57 31.3 +1.1**
ARU Arti 54.08 317*c* *i*P **P** **11 52 48.2 -0.1**
ARU S **S** **12 00 21.1 -0.4**
ARU SS **SS** **12 04 01.0 -1.8**
ARU pmax pmax
comp=Z,6.0nm,1.2s
ARU Arti 54.08 317 P **P** **11 52 48.8 +0.5**
comp=Z,0.6nm,0.3s,baz=95,slow=11,SNR=2.7
ARU LR LR 12 16 11.9
comp=Z,111nm,21.8s,baz=46,slow=36
ARU Arti 54.08 317 P **P** **11 52 48.1 -0.1**
ARU IAmb IAmb 11 53 01.6
comp=Z,5.6nm,1.1s
ABKAR Akbulak array 56.26 309 P **P** **11 53 05.9 +1.8**
SPITS Spitsbergen Ar 56.55 349 LR LR 12 19 28.5
comp=Z,100nm,18.7s,baz=290,slow=38
KNRA Kunumurra 58.30 196 P **P** **11 53 18.9 +0.2**
YKA Yellowknife Ar 59.40 32 P **P** **11 53 26.2 +0.3**
comp=Z,0.7nm,0.8s,baz=305,slow=6.7,SNR=13
YKA pP **pP** **11 53 39.3 +1.8**
comp=Z,0.8nm,0.7s,baz=303,slow=6.7,SNR=6.9
ARCES ARCESS Array B 60.44 339 LR LR 12 23 57.7
comp=Z,153nm,18.9s,baz=192,slow=40
WRA Warramunga Arr 61.54 189 P **P** **11 53 40.3 -0.7**
comp=Z,1.4nm,0.7s,baz=8.5,slow=6.7,SNR=13
ASAR Alice Springs 65.27 189 P **P** **11 54 05.5 -0.1**
comp=Z,1.3nm,0.8s,baz=9.9,slow=7.5,SNR=14
ASAR pP **pwP** **11 54 19.0 -0.5**
comp=Z,1.6nm,0.8s,baz=11,slow=6.1,SNR=7.0
FINES FINESS Array B 65.63 332 *i*P **P** **11 54 07.1 -0.4**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 65.63 332 P **P** **11 54 07.4 -0.1**
comp=Z,2.2nm,0.6s,baz=48,slow=6.4,SNR=13
NEY Neytrino 69.53 310⇓ *e*P **P** **11 54 32.4 -0.3**
NEY pmax pmax
comp=Z,4.0nm,1.2s
YERR Yerington 70.42 55 P **P** **11 54 39.9 +1.7**
YERR IAmb IAmb 11 54 40.6
comp=Z,4.6nm,1.0s
HFS Hagfors 70.71 336 P **P** **11 54 39.7 +0.3**
comp=Z,1.1nm,0.4s,baz=40,slow=7.7,SNR=2.7
NB2 NORSAR Subarra 70.72 337 P **P** **11 54 39.2 -0.3**
comp=Z,1.4nm,0.8s,baz=37,slow=6.2
NOA NORSAR Array B 70.72 337 P **P** **11 54 40.1 +0.6**
comp=Z,1.2nm,1.0s,baz=29,slow=4.6,SNR=2.4
NOA LR LR 12 29 14.7
comp=Z,116nm,18.8s,baz=300,slow=39
KVN Kaiserville 71.08 54 P **P** **11 54 43.1 +0.8**
KVN pmax pmax
comp=Z,3.0nm,0.8s
KVN Kaiserville 71.08 54 P **P** **11 54 43.1 +0.8**
KVN IAmb IAmb 11 54 44.5
comp=Z,3.2nm,0.8s
NVAR Mina Array Bea 71.34 55 P **P** **11 54 45.1 +1.3**
comp=Z,1.5nm,0.8s,baz=294,slow=6.2,SNR=14
NVAR pP **sP** **11 54 58.5 -1.6**
comp=Z,1.1nm,0.7s,baz=297,slow=6.9,SNR=7.1
AKASG Malin Array Be 71.71 322 P **P** **11 54 46.1 +0.5**
comp=Z,0.5nm,0.5s,baz=44,slow=6.7,SNR=3.4
TPNV Topopah Spring 73.54 55 P **P** **11 54 58.8 +1.9**
TPNV pmax pmax
comp=Z,4.0nm,1.1s
TPNV Topopah Spring 73.54 55 P **P** **11 54 58.8 +1.9**
BW06 Boulder Array 73.69 47 P **P** **11 54 58.6 +0.8**
BW06 IAmb IAmb 11 55 01.5
comp=Z,5.9nm,1.5s
PD31 Pinedale Array 73.69 47 P **P** **11 54 58.4 +0.6**
PDAR Pinedale Array 73.69 47 P **P** **11 54 58.5 +0.6**
comp=Z,0.6nm,0.5s,baz=255,slow=0.4,SNR=7.0
PDAR pP **pP** **11 55 11.4 +1.9**
comp=Z,0.7nm,0.7s,baz=311,slow=1.0,SNR=4.6
SDCO Great Sand Dun 79.38 49 P **P** **11 55 31.2 +1.0**
GERES GERESS Array B 79.74 329 LR LR 12 38 05.2
comp=Z,94nm,19.1s,baz=301,slow=41
PPT Papeete 85.40 118 LR LR 12 24 53.2
comp=Z,25nm,21.3s,baz=356,slow=29
PPT2 Papeete2 85.42 118 *e*LR LR 12 22 58.0
comp=Z,48nm,22.0s
PPT2 Papeete2 85.42 118 *e*T T 13 30 29.4
comp=Z,1.9nm,0.3s
TXAR Lajitas Array 86.42 54 P **P** **11 56 07.5 +0.9**
comp=Z,0.8nm,0.7s,baz=300,slow=3.8,SNR=12
TXAR pP **pwP** **11 56 20.5 +2.1**
comp=Z,0.7nm,0.7s,baz=305,slow=4.4,SNR=5.6
TBI Tubuai 89.61 122 *e*T T 13 35 43.3
comp=Z,6.5nm,0.3s
QSPA South Pole Qui 131.10 180 PKPdf **PKiKP** **12 02 34.7 -0.5**
SNAA Sanae 145.28 198 PKIKP **PKPbc** **12 02 59.3 -0.7**
SNAA Sanae 145.28 198 **PKPbc** **12 02 59.2 -0.7**

NNC 15 11:57:35.0±1.8, 38.13N×71.94E, h0km, mb4.0, mpv3.5, 1C-3D, Error ellipse: s-maj=17.6km s-min=11.6km az=145.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.21**	**18**	P	Pn	11 58 41.1	+0.2
	SNR=23						
UCH	**Uchtor**	**4.54**	**25**	P	Pn	11 58 45.1	-0.4
	SNR=9.9						
EKS2	**Erkin-Say**	**4.74**	**17**	P	Pn	11 58 48.2	+0.4
	SNR=9.1						
AAK	**Ala-Archa**	**4.91**	**23**	P	Pn	11 58 50.4	+0.2
	SNR=16						
AAK	**Ala-Archa**	**4.91**	**23**	P	Pn	11 58 50.2	0.0
	7.2nm,0.5s						
AAK				⇓S	Sn	11 59 49.1	+1.4
	5.4nm,0.9s						
KK31	**Karatay Array**	**5.08**	**348**	P	Pn	11 58 52.9	+0.4
	2.0nm,0.3s,baz=167,slow=12,SNR=44						
KK31				⇓S	Sn	11 59 52.4	+0.5
	1.2nm,0.4s,baz=171,slow=22,SNR=5.7						
CHMS	**Chumysh**	**5.31**	**23**	P	Pn	11 58 55.5	-0.1
	SNR=8.6						
TKM2	**Tokmak 2**	**5.54**	**29**	⇑P	Pn	11 58 58.5	-0.4
	2.8nm,0.7s						
TKM2				⇓S	Sn	12 00 04.3	+1.0
	1.6nm,0.7s						

*ISCJB **15** 12:07:09.5±0.6, 22.44N±0.02×122.06E±0.02, h15km±4km, Error ellipse: s-maj=3.9km s-min=2.2km az=154.8*
*JMA **15** 12:07:09.5±0.2, 22.48N×122.00E, h14km, M3.6*
*TAP **15** 12:07:10.1, 22.38N×122.01E, h35km, ML3.8, D*
ISC 15 12:07:04.4±1.2, 22.40N±0.03×122.21E±0.02, h7km±9km, n99, σ1.9s09/186, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.71**	**240**	P	**Pb**	**12 07 20.6**	**+1.4**
	baz=231						
LAY				S	**Sg**	**12 07 28.0**	**+0.7**
	baz=231						
TTN	**Taitung**	**1.05**	**290**	P	**Pb**	**12 07 25.4**	**+0.5**
	baz=305						
TTN				S	**Sg**	**12 07 37.3**	**-0.8**
	baz=305						
CHKT	**Chengkung**	**1.05**	**312**	P	**Pn**	**12 07 25.9**	**+0.4**
	baz=329						
CHKT				*e*S	**Sg**	**12 07 36.7**	**-1.4**
	baz=329						
TWGBT	**Beinan**	**1.13**	**292**	P	**Pn**	**12 07 27.5**	**+0.8**
	baz=305						
TWGBT				S	**Sg**	**12 07 39.2**	**-1.4**
	baz=305						
TWG	**Pinlang**	**1.13**	**292**	*i* P	**Pn**	**12 07 27.4**	**+0.6**
	baz=305						
TWG				*i* S	**Sg**	**12 07 39.3**	**-1.7**
	baz=305						
FULB	**Fuli**	**1.16**	**313**	*e*P	**Pn**	**12 07 27.8**	**+0.5**
	baz=330						
FULB				*e*S	**Sg**	**12 07 40.8**	**-1.1**
	baz=330						
ECL	**Taimali**	**1.18**	**280**	*i* P	**Pb**	**12 07 27.9**	**+0.8**
	baz=298						
ECL				S	**Sg**	**12 07 40.6**	**-1.7**
	baz=298						
TAW	**Tawu**	**1.22**	**268**	P	**Pg**	**12 07 28.3**	**+0.5**
	baz=260						
TAW				S	**Sg**	**12 07 41.9**	**-1.7**
	baz=260						
EAST	**Anshuo**	**1.26**	**270**	*i* P	**Pb**	**12 07 29.1**	**+0.5**
	baz=263						
EAST				S	**Sg**	**12 07 42.9**	**-2.1**
	baz=263						
TWF1	**Yuli**	**1.27**	**319**	P	**Pn**	**12 07 29.5**	**+0.9**
	baz=334						
TWF1				S	**Sg**	**12 07 45.0**	**-0.3**
	baz=334						
YULB	**Yu-li**	**1.30**	**320**	*e*P	**Pg**	**12 07 30.2**	**+0.9**
	baz=334						
YULB				*e*S	**Sb**	**12 07 45.4**	**-0.8**
	baz=334						
HGSD	**Ruisui**	**1.31**	**326**	P	**Pg**	**12 07 30.4**	**+0.8**
	baz=341						
HGSD				*e*S	**Sb**	**12 07 44.3**	**-2.1**
	baz=341						
TSEB	**Hengchuen, Pin**	**1.31**	**248**	*e*P	**Pn**	**12 07 30.2**	**+1.0**
	baz=259						
TSEB				S	**Sb**	**12 07 46.1**	**-0.4**
	baz=259						
ELDTW	**Lidau**	**1.35**	**306**	P	**Pn**	**12 07 30.3**	**+0.4**
	baz=322						

ELDTW				S		Sb	12 07 44.6	-3.2
	baz=322							
TWKBT	**Hengchun**	**1.37**	**251**	P		**Pn**	**12 07 30.2**	**+0.2**
	baz=259							
TWKBT				*e*S		**Sb**	**12 07 45.5**	**-2.7**
	baz=259							
EHY	**Hungye**	**1.38**	**324**	P		**Pg**	**12 07 31.8**	**+1.0**
	baz=338							
EHY				S		**Sb**	**12 07 47.8**	**-0.5**
	baz=338							
TWK1	**Hengchun**	**1.38**	**251**	P		**Pn**	**12 07 30.8**	**+0.6**
	baz=259							
TWK1				S		**Sb**	**12 07 46.1**	**-2.4**
	baz=259							
HEN	**Hengchun**	**1.42**	**254**	S		**Sb**	**12 07 46.6**	**-3.0**
	baz=260							
EGFH	**Guangfu**	**1.46**	**330**	*e*P		**Pg**	**12 07 32.6**	**+0.3**
	baz=345							
EGFH				*e*S		**Sb**	**12 07 50.0**	**-0.7**
	baz=345							
SCZT	**Fangliau**	**1.47**	**269**	P		**Pn**	**12 07 32.6**	**+1.2**
	baz=261							
SCZT				*e*S		**Sn**	**12 07 48.5**	**-2.5**
	baz=261							
MASBT	**Mashibuluo**	**1.48**	**279**	P		**Pb**	**12 07 32.7**	**+0.5**
	baz=289							
MASBT				*e*S		**Sn**	**12 07 49.9**	**-1.2**
	baz=289							
SSD	**Sandimen**	**1.50**	**284**	P		**Pn**	**12 07 32.7**	**+0.9**
	baz=288							
STYT	**Tauyuan**	**1.54**	**300**	P		**Pb**	**12 07 33.7**	**+0.2**
	baz=306							
STYT				*e*S		**Sn**	**12 07 50.9**	**-1.9**
	baz=306							
SLGT	**Liugui**	**1.56**	**293**	P		**Pb**	**12 07 34.4**	**+0.7**
	baz=298							
ESL	**Shilin**	**1.58**	**333**	P		**Pb**	**12 07 34.5**	**+0.5**
	baz=346							
ESL				S		**Sn**	**12 07 52.6**	**-1.1**
	baz=346							
YUS	**Yu-Shan**	**1.59**	**313**	*e*P		**Pg**	**12 07 35.2**	**+0.3**
	baz=321							
YUS				*e*S		**Sn**	**12 07 52.1**	**-2.5**
	baz=321							
ENLB	**Shoufeng**	**1.60**	**340**	*e*P		**Pg**	**12 07 35.4**	**+0.3**
	baz=347							
ENLB				*e*S		**Sn**	**12 07 53.3**	**-0.9**
	baz=347							
SGLT	**Jiouru**	**1.62**	**282**	*e*P		**Pg**	**12 07 36.8**	**+1.2**
	baz=286							
SGLT				*e*S		**Sn**	**12 07 55.0**	**+0.3**
	baz=286							
SGST	**Jiashian**	**1.65**	**295**	P		**Pb**	**12 07 35.9**	**+0.7**
	baz=303							
SGST				*e*S		**Sn**	**12 07 54.7**	**-0.7**
	baz=303							
VWDT	**VWDT**	**1.67**	**324**	*e*P		**Pg**	**12 07 36.7**	**+0.2**
	baz=337							
VWDT				*e*S		**Sn**	**12 07 55.9**	**0.0**
	baz=337							
WLCH	**Liuqiu**	**1.70**	**269**	*e*P		**Pb**	**12 07 36.9**	**+1.0**
	baz=260							
WLCH				*e*S		**Sn**	**12 07 57.1**	**+0.6**
	baz=260							
WTP	**Ta-pu**	**1.70**	**300**	P		**Pg**	**12 07 37.3**	**+0.3**
	baz=314							
WTP				*e*S		**Sn**	**12 07 57.2**	**+0.6**
	baz=314							
TWM1	**Shoushan**	**1.71**	**285**	P		**Pg**	**12 07 37.8**	**+0.6**
	baz=290							
TWM1				*e*S		**Sn**	**12 07 57.6**	**+0.8**
	baz=290							
TWP	**Hsiaoliuchiu**	**1.71**	**269**	*e*P		**Pb**	**12 07 36.6**	**+0.4**
	baz=259							
TPUB	**Ta-pu**	**1.71**	**302**	*e*P		**Pg**	**12 07 37.4**	**+0.1**
	baz=317							
TPUB				*e*S		**Sn**	**12 07 56.9**	**-0.1**
	baz=317							
CHN1	**Nanshi**	**1.74**	**297**	*i* P		**Pg**	**12 07 38.6**	**+0.8**
	baz=305							
CHN1				S		**Sb**	**12 07 59.1**	**+0.3**
	baz=305							
TWD	**Chiawan**	**1.77**	**341**	*e*P		**Pb**	**12 07 37.6**	**+0.4**
	baz=348							
TWD				S		**Sn**	**12 07 57.2**	**-1.0**
	baz=348							
CHN4	**Tsaushan**	**1.77**	**303**	*e*P		**Pg**	**12 07 38.3**	**0.0**
	baz=316							
CHN4				*e*S		**Sn**	**12 07 59.1**	**+0.8**
	baz=316							
SNJT	**Kaohsiung City**	**1.77**	**282**	*e*P		**Pg**	**12 07 38.7**	**+0.3**
	baz=286							
SNST	**Tainan City**	**1.78**	**298**	P		**Pg**	**12 07 39.2**	**+0.6**
	baz=304							
SNST				*e*S		**Sb**	**12 08 00.7**	**+0.7**
	baz=304							
WHYT	**Xinyi Township**	**1.80**	**316**	*e*P		**Pg**	**12 07 39.5**	**+0.6**
	baz=331							
WHYT				*e*S		**Sn**	**12 07 59.8**	**+0.7**
	baz=331							
SSLB	**Suanglung**	**1.80**	**320**	*e*P		**Pb**	**12 07 38.3**	**+0.5**
	baz=334							
SSLB				*e*S		**Sn**	**12 07 58.1**	**-1.1**
	baz=334							
TWK	**Hsinying**	**1.81**	**299**	P		**Pg**	**12 07 39.4**	**+0.2**
	baz=291							
TWK				*e*S		**Sb**	**12 08 00.7**	**-0.2**
	baz=291							
WSSB	**Gushan**	**1.82**	**278**	*e*P		**Pg**	**12 07 40.9**	**+1.6**
	baz=282							
WSSB				*e*S		**Sn**	**12 08 00.7**	**+1.1**
	baz=282							
CHN3	**Shinhua**	**1.83**	**292**	*e*P		**Pb**	**12 07 39.4**	**+1.0**
	baz=298							
CHN3				*e*S		**Sb**	**12 08 02.1**	**+0.6**
	baz=298							
CHN5	**Tsauling**	**1.85**	**311**	*e*P		**Pg**	**12 07 40.2**	**+0.3**
	baz=325							
CHN5				*e*S		**Sb**	**12 08 01.7**	**-0.4**
	baz=325							
NACB	**Ninganchiao**	**1.86**	**342**	*e*P		**Pb**	**12 07 39.2**	**+0.4**
	baz=356							
NACB				*e*S		**Sn**	**12 07 59.1**	**-1.3**
	baz=356							
SMLT	**Sun Moon Lake**	**1.91**	**321**	*e*P		**Pb**	**12 07 40.7**	**+1.0**
	baz=333							
SMLT				*e*S		**Sn**	**12 08 01.9**	**0.0**
	baz=333							
CHGB	**Renai**	**1.91**	**330**	*e*P		**Pb**	**12 07 39.9**	**+0.1**
	baz=344							
CHGB				*e*S		**Sn**	**12 08 01.5**	**-0.6**
	baz=344							
ETLH	**Xiulin Townshi**	**1.92**	**340**	P		**Pb**	**12 07 40.0**	**+0.1**
	baz=353							
ETLH				*e*S		**Sn**	**12 08 02.4**	**+0.2**
	baz=353							
WHF	**Hehuan Shan**	**1.94**	**334**	*e*P		**Pb**	**12 07 40.4**	**-0.1**
	baz=350							
WHF				S		**Sn**	**12 08 02.4**	**-0.9**
	baz=350							
TYC	**Yuchr**	**1.95**	**321**	P		**Pb**	**12 07 41.4**	**+1.1**
	baz=332							
TYC				*e*S		**Sn**	**12 08 03.4**	**+0.7**
	baz=332							
CHN2	**Minshiung**	**1.96**	**306**	*e*P		**Pg**	**12 07 42.8**	**+0.8**
	baz=312							
CHN2				*e*S		**Sb**	**12 08 05.2**	**0.0**
	baz=312							
WJS	**Zhushan**	**1.97**	**316**	*e*P		**Pg**	**12 07 42.3**	**+0.1**
	baz=323							
WJS				*e*S		**Sb**	**12 08 06.4**	**+0.9**
	baz=323							
CHY	**Chiayi**	**1.98**	**304**	*e*P		**Pb**	**12 07 41.8**	**+1.0**
	baz=295							
CHY				*e*S		**Sb**	**12 08 05.5**	**-0.2**
	baz=295							
WGK	**Gukeng**	**1.99**	**310**	P		**Pg**	**12 07 42.6**	**+0.1**
	baz=317							
WGK				S		**Sb**	**12 08 06.9**	**+0.9**
	baz=317							
WDLH	**Douliu**	**2.01**	**310**	*e*P		**Pg**	**12 07 42.8**	**-0.1**
	baz=316							
WDLH				*e*S		**Sb**	**12 08 06.9**	**+0.4**
	baz=316							
DPDB	**Guoxing**	**2.01**	**324**	*e*P		**Pb**	**12 07 42.4**	**+1.0**
	baz=338							
DPDB				*e*S		**Sn**	**12 08 05.7**	**+1.3**
	baz=338							
SCLT	**Jiali**	**2.02**	**293**	*e*S		**Sn**	**12 08 04.8**	**+0.4**
	baz=299							
WNT	**Mingjian**	**2.04**	**317**	P		**Pg**	**12 07 43.5**	**0.0**
	baz=323							
WNT				S		**Sb**	**12 08 07.9**	**+0.5**
	baz=323							
WLGB	**Puzi**	**2.06**	**302**	*e*P		**Pb**	**12 07 43.1**	**+0.9**
	baz=295							
WLGB				*e*S		**Sb**	**12 08 07.6**	**-0.6**
	baz=295							
NANB	**Nanao**	**2.06**	**348**	*e*P		**Pb**	**12 07 42.3**	**0.0**
	baz=353							
NANB				*e*S		**Sn**	**12 08 06.0**	**+0.4**
	baz=353							
ENA	**Nanau**	**2.07**	**348**	*e*P		**Pb**	**12 07 41.6**	**-0.7**
	baz=353							
ENA				*e*S		**Sn**	**12 08 06.5**	**+0.9**
	baz=353							
CHN8	**Yiju**	**2.07**	**297**	*e*P		**Pb**	**12 07 42.1**	**-0.3**
	baz=289							
CHN8				*e*S		**Sn**	**12 08 06.4**	**+0.6**
	baz=289							
TWT	**Tachien**	**2.08**	**333**	*e*P		**Pb**	**12 07 43.0**	**+0.3**
	baz=347							
TWT				*e*S		**Sn**	**12 08 06.2**	**0.0**
	baz=347							
TDCB	**Techi**	**2.09**	**333**	*e*P		**Pb**	**12 07 43.1**	**+0.4**
	baz=347							
TDCB				*e*S		**Sn**	**12 08 06.4**	**0.0**
	baz=347							
EOS1	**EOS1**	**2.14**	**358**	*e*P		**Pb**	**12 07 43.8**	**+0.2**
	baz=2.0							
EOS1				S		**Sn**	**12 08 08.8**	**+1.3**
	baz=2.0							
NNSH	**Datong**	**2.16**	**340**	*e*P		**Pb**	**12 07 43.3**	**-0.7**
	baz=345							
NNSH				*e*S		**Sn**	**12 08 07.7**	**-0.4**
	baz=345							
NNS	**Nan Shan**	**2.17**	**339**	*e*P		**Pb**	**12 07 44.3**	**+0.1**
	baz=345							
NNS				S		**Sn**	**12 08 08.4**	**-0.1**
	baz=345							
YOJ	**Yonaguni jima**	**2.18**	**20**	P		**Pg**	**12 07 47.8**	**+1.5**
YOJ				S		**Sg**	**12 08 13.7**	**-0.9**
WHP	**Taichung City**	**2.20**	**328**	*e*P		**Pg**	**12 07 46.6**	**-0.1**
	baz=340							
HATJ	**Hateruma jima**	**2.21**	**41**	*e*S		**Sg**	**12 08 15.2**	**-0.2**
TWC	**Suao**	**2.23**	**351**	*e*S		**Sb**	**12 08 11.5**	**-1.3**
	baz=356							
TCU	**Taichung**	**2.24**	**321**	*e*P		**Pg**	**12 07 47.4**	**0.0**
	baz=316							
TCU				*e*S		**Sb**	**12 08 12.6**	**-0.7**
	baz=316							
RLNB	**Erlin**	**2.26**	**311**	*e*S		**Sb**	**12 08 12.9**	**-0.9**
	baz=317							
WCHH	**Zhanghua**	**2.26**	**318**	*e*P		**Pb**	**12 07 46.4**	**+0.8**
	baz=324							
WCHH				*e*S		**Sb**	**12 08 13.6**	**-0.2**
	baz=324							
NDT	**Datong Townshi**	**2.29**	**344**	*e*P		**Pb**	**12 07 46.2**	**+0.2**
	baz=348							
ENTT	**Nioudou**	**2.31**	**345**	*e*P		**Pb**	**12 07 46.2**	**-0.2**
	baz=357							
ENTT				*e*S		**Sn**	**12 08 13.1**	**+1.4**
	baz=357							
TWQ1	**Liyutan**	**2.35**	**326**	P		**Pg**	**12 07 48.8**	**-0.7**
	baz=342							
TWQ1				S		**Sb**	**12 08 16.5**	**+0.1**
	baz=342							
TWE	**Neicheng**	**2.37**	**348**	*e*P		**Pb**	**12 07 47.4**	**0.0**
	baz=352							
TWE				*e*S		**Sb**	**12 08 15.1**	**-1.7**
	baz=352							
IRIF	**Iriomote-Funau**	**2.38**	**36**	P		**Pg**	**12 07 50.5**	**+0.4**
IRIF				*e*S		**Sg**	**12 08 19.9**	**-1.1**
YHNB	**Yeheng**	**2.39**	**341**	*e*P		**Pb**	**12 07 48.0**	**+0.1**
	baz=346							
YHNB				S		**Sn**	**12 08 15.0**	**+1.2**
	baz=346							
NSK	**Sanguang**	**2.40**	**341**	*e*P		**Pb**	**12 07 48.0**	**-0.1**
	baz=355							
NSK				*e*S		**Sn**	**12 08 14.8**	**+0.8**
	baz=355							
NSY	**Sanyi**	**2.41**	**327**	P		**Pg**	**12 07 50.2**	**-0.5**
	baz=341							
NSY				S		**Sb**	**12 08 18.1**	**-0.1**
	baz=341							
WDJ	**Dajia District**	**2.42**	**324**	*e*P		**Pb**	**12 07 49.7**	**+1.3**
	baz=319							
WDJ				S		**Sb**	**12 08 18.9**	**+0.5**
	baz=319							
NWLT	**Wulai**	**2.46**	**345**	*e*P		**Pb**	**12 07 49.3**	**+0.3**
	baz=349							
NWLT				*e*S		**Sn**	**12 08 16.0**	**+0.7**
	baz=349							
PTSB	**Yuanli**	**2.46**	**326**	*e*P		**Pb**	**12 07 49.9**	**+0.7**
	baz=332							
PTSB				*e*S		**Sb**	**12 08 19.4**	**-0.3**
	baz=332							
JKRS	**Kuro-shima**	**2.47**	**42**	P		**Pg**	**12 07 51.9**	**+0.2**
JKRS				*e*S		**Sb**	**12 08 21.0**	**+1.2**
NSTT	**Nanjuang**	**2.49**	**334**	P		**Pb**	**12 07 49.3**	**-0.1**
	baz=345							
NSTT				*e*S		**Sn**	**12 08 17.5**	**+1.5**
	baz=345							
LIOB	**Emei**	**2.49**	**334**	*e*P		**Pb**	**12 07 50.0**	**+0.4**
	baz=345							
LIOB				*e*S		**Sb**	**12 08 18.8**	**-1.8**
	baz=345							
NMLH	**Miaoli**	**2.50**	**329**	*e*P		**Pb**	**12 07 49.9**	**+0.2**
	baz=345							
NMLH				S		**Sb**	**12 08 19.6**	**-1.1**
	baz=345							
WDGT	**Dungji**	**2.50**	**291**	*e*P		**Pn**	**12 07 47.8**	**+2.1**
	baz=296							
WDGT				*e*S		**Sn**	**12 08 14.3**	**-2.2**
	baz=296							
JIJ	**Ishigaki jima**	**2.64**	**42**	P		**Pb**	**12 07 53.8**	**+1.7**
JIJ				*e*S		**Sb**	**12 08 24.2**	**-0.6**
PHUB	**P'eng-hu**	**2.67**	**295**	*e*P		**Pn**	**12 07 50.5**	**+2.6**
	baz=300							
PHUB				*e*S		**Sn**	**12 08 17.9**	**-2.7**
	baz=300							
PNG	**Penghu**	**2.71**	**296**	*e*P		**Pn**	**12 07 50.7**	**+2.3**
	baz=301							
PNG				*e*S		**Sn**	**12 08 18.9**	**-2.6**
	baz=301							
JISG	**Ishigakijimahi**	**2.91**	**41**	P		**Pb**	**12 07 57.3**	**+0.6**
JISG				*e*S		**Sb**	**12 08 31.9**	**-0.6**
JTJ	**Tarama**	**3.20**	**45**	P		**Pb**	**12 08 02.2**	**+0.6**
JTJ				S		**Sb**	**12 08 39.8**	**-0.9**
JIRB	**Irabujima**	**3.64**	**48**	P		**Pb**	**12 08 07.9**	**-1.2**
JIRB				*e*S		**Sb**	**12 08 50.1**	**-3.4**
JMJ2	**Miyako jima3**	**3.69**	**50**	S		**Sb**	**12 08 51.9**	**-3.1**

VAO ***15*** *12:55:11.9±0.4, 7.35S×76.65W, h10km, mb5.1*
ISCJB ***15*** *12:55:15.0±0.5, 7.28S±0.02×76.77W±0.03, h63km±4km, mb4.8/39, Error ellipse: s-maj=5.1km s-min=2.9km az=158.1*
MOS ***15*** *12:55:15.2±0.9, 7.27S×76.81W, h60km, mb5.3/20, Error ellipse: s-maj=18.3km s-min=6.3km az=111.8*
NEIC ***15*** *12:55:16.7±1.6, 7.28S±0.06×76.77W±0.07, h62km±4km, mb5.2/318, ML5.2(ARE)*
BJI ***15*** *12:55:17.2±0.0, 7.30S×76.70W, h62km, mB5.4/7, Ms5.5/6, Ms7 5.2/7*
IDC ***15*** *12:55:17.3±0.3, 7.32S×76.86W, h68km±3km, mb4.4/22, mb1 4.6/29, mb1mx4.5/48, mbtmp4.8/29, MS3.9/22, Ms1 3.9/22, ms1mx3.8/26, Error ellipse: s-maj=8.3km s-min=6.2km az=28.0*
GCMT ***15*** *12:55:20.7±0.2, 7.13S±0.02×76.77W±0.02, h79km±3km, MW5.1/84, Moment Tensor Solution. s54,c69; s84,c118; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.39±.18; Mθθ 4.41±.16; Mφφ -5.80±.20; Mrθ 1.77±.10; Mφθ 0.07±.15; Mrφ 1.90±.19; Best double couple: M0 5.79000×10^16 NP1: φs 41.00000°, δ82.00000°, λ150.00000°. NP2: φs 136.00000°, δ61.00000°, λ9.00000°. Principal axes: T 5.2960, Plg26.0000°, Azm355.0000°; N 0.9880, Plg59.0000°, Azm208.0000°; P -6.2840, Plg14.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 12:55:16.8±0.3, 7.29S±0.04×76.84W±0.05, h63km±2km, h63km:pP-P, n744, σ1°11/688, mb5.2/166, 13C-2D, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.55**	**276**	P		**Pn**	**12 55 42.8**	**+0.2**
	baz=110,slow=15							
ATAH				S		**Sn**	**12 56 02.8**	**+0.7**
	2μm,0.3s,baz=36,slow=19,SNR=18							
ATAH				LR		LR	12 56 29.9	
	comp=Z,6μm,18.8s,baz=24,slow=47							
NNA	**Nana**	**4.67**	**180**	*c i* P		**Pn**	**12 56 24.8**	**-0.1**
NNA	**Nana**	**4.67**	**180**	P		**Pn**	**12 56 25.2**	**+0.3**
	142nm,0.3s,baz=346,slow=11,SNR=192							
NNA				S		**Sn**	**12 57 17.7**	**-0.1**
	360nm,0.3s,baz=246,slow=20,SNR=18							
NNA				LR		LR	12 58 20.0	
	comp=Z,2μm,20.6s,baz=338,slow=39							
NNA	**Nana**	**4.67**	**180**			**Pn**	**12 56 24.9**	**0.0**
NNA				Sn		**Sn**	**12 57 15.8**	**-2.0**
OTAV	**Otavalo**	**7.65**	**348**	P		**Pn**	**12 57 06.0**	**-0.1**
OTAV	**Otavalo**	**7.65**	**348**	*e*P		**Pn**	**12 57 05.1**	**-1.0**
OTAV	**Otavalo**	**7.65**	**348**	*e*P		**Pn**	**12 57 05.1**	**-1.0**
OTAV	**Otavalo**	**7.65**	**348**			**Pn**	**12 57 06.0**	**-0.1**
PTLC	**Puerto Leguiza**	**7.69**	**15**	*e*P		Pn	12 57 00.8	-5.4
PTLC	**Puerto Leguiza**	**7.69**	**15**	*e*P		Pn	12 57 00.8	-5.4
CRUC	**La Cruz**	**8.80**	**359**	*e*P		**Pn**	**12 57 21.1**	**-0.7**
CRUC	**La Cruz**	**8.80**	**359**	*e*P		**Pn**	**12 57 21.1**	**-0.7**
FLOC	**Florencia**	**8.89**	**8**	*e*P		**Pn**	**12 57 21.2**	**-1.6**
FLOC	**Florencia**	**8.89**	**8**	*e*P		**Pn**	**12 57 21.2**	**-1.6**
BBAC	**Balboa, Cauca**	**9.26**	**357**	*e*P		**Pn**	**12 57 28.9**	**+0.9**
BBAC				*e*P		**Pn**	**12 57 29.3**	**+1.4**
BBAC	**Balboa, Cauca**	**9.26**	**357**	*e*P		**Pn**	**12 57 28.9**	**+0.9**
BBAC				*e*P		**Pn**	**12 57 29.3**	**+1.4**
SOTA	**Rioblanco**	**9.37**	**1**	*e*P		**Pn**	**12 57 28.8**	**-0.9**
SOTA	**Rioblanco**	**9.37**	**1**	*e*P		**Pn**	**12 57 28.8**	**-0.9**
PCON	**Cinco Dias**	**9.56**	**3**	*e*P		**Pn**	**12 57 31.4**	**-1.0**
PCON	**Cinco Dias**	**9.56**	**3**	*e*P		**Pn**	**12 57 31.4**	**-1.0**
POPC	**Popayan, Colom**	**9.77**	**1**	*e*P		**Pn**	**12 57 34.3**	**-0.6**
POPC	**Popayan, Colom**	**9.77**	**1**	*e*P		**Pn**	**12 57 34.3**	**-0.6**
MACC	**Macarena, Meta**	**9.84**	**18**	*e*P		**Pn**	**12 57 34.0**	**-1.6**
MACC	**Macarena, Meta**	**9.84**	**18**	*e*P		**Pn**	**12 57 34.0**	**-1.6**
BETC	**Betania**	**10.00**	**8**	*e*P		**Pn**	**12 57 38.6**	**+0.6**
BETC	**Betania**	**10.00**	**8**	*e*P		**Pn**	**12 57 38.6**	**+0.6**
GUVC	**San Jose del G**	**10.64**	**23**	*e*P		**Pn**	**12 57 45.2**	**-1.3**
GUVC	**San Jose del G**	**10.64**	**23**	*e*P		**Pn**	**12 57 45.2**	**-1.3**
PRAC	**Prado**	**11.10**	**10**	*e*P		**Pn**	**12 57 51.9**	**-1.0**
PRAC	**Prado**	**11.10**	**10**	*e*P		**Pn**	**12 57 51.9**	**-1.0**
YOTC	**Yotoco, Valle**	**11.21**	**3**	*e*P		**Pn**	**12 57 55.2**	**+0.7**
YOTC	**Yotoco, Valle**	**11.21**	**3**	*e*P		**Pn**	**12 57 55.2**	**+0.7**
ORTC	**Ortega, Tolima**	**11.24**	**8**	*e*P		**Pn**	**12 57 53.9**	**-0.9**
ORTC	**Ortega, Tolima**	**11.24**	**8**	*e*P		**Pn**	**12 57 53.9**	**-0.9**
VILC	**Villavicencio,**	**11.76**	**16**	*e*P		**Pn**	**12 58 01.3**	**-0.6**
VILC	**Villavicencio,**	**11.76**	**16**	*e*P		**Pn**	**12 58 01.3**	**-0.6**
CVER	**Cruz Verde, Cu**	**12.05**	**13**	*e*P		**Pn**	**12 58 07.2**	**+0.8**
CVER	**Cruz Verde, Cu**	**12.05**	**13**	*e*P		**Pn**	**12 58 07.2**	**+0.8**
PLMC	**San Jos del P**	**12.13**	**3**	*e*P		**Pn**	**12 58 07.8**	**+0.9**
PLMC	**San Jos del P**	**12.13**	**3**	*e*P		**Pn**	**12 58 07.8**	**+0.9**
RREF	**El Recreo**	**12.20**	**7**	*e*P		**Pn**	**12 58 11.5**	**+3.0**
RREF	**El Recreo**	**12.20**	**7**	*e*P		**Pn**	**12 58 11.5**	**+3.0**
CHIC	**Chingaza**	**12.24**	**15**	*e*P		**Pn**	**12 58 07.0**	**-1.9**
CHIC	**Chingaza**	**12.24**	**15**	*e*P		**Pn**	**12 58 07.0**	**-1.9**
ROSC	**El Rosal**	**12.31**	**12**	P		**Pn**	**12 58 11.7**	**+2.0**
	2.0nm,0.3s,baz=178,slow=6.9,SNR=8.1							
ROSC				S		**S**	**13 00 45.1**	**-5.2**
	4.1nm,0.3s,baz=126,slow=19,SNR=2.1							
ROSC				LR		LR	13 03 56.5	
	comp=Z,1μm,20.6s,baz=184,slow=42							
ROSC	**El Rosal**	**12.31**	**12**			**Pn**	**12 58 10.3**	**+0.5**
LPAZ	**La Paz**	**12.35**	**137**	P		**Pn**	**12 58 09.0**	**-1.5**
LPAZ	**La Paz**	**12.35**	**137**	P		**Pn**	**12 58 10.2**	**-0.4**
	1.0nm,0.3s,baz=331,slow=10,SNR=30							
LPAZ				S		**Sn**	**13 00 34.0**	**+7.1**
	2.3nm,0.3s,baz=80,slow=12,SNR=1.9							
LPAZ				LR		LR	13 03 48.3	
	comp=Z,754nm,20.9s,baz=316,slow=41							
LPAZ	**La Paz**	**12.35**	**137**	*e*P		Pn	12 58 05.9	-4.6
LPAZ	**La Paz**	**12.35**	**137**	*e*P		Pn	12 58 05.9	-4.6
LPAZ	**La Paz**	**12.35**	**137**			**Pn**	**12 58 09.0**	**-1.5**
GUY2C	**Guyana, Caldas**	**12.52**	**7**	*e*P		**Pn**	**12 58 13.5**	**+0.8**
GUY2C	**Guyana, Caldas**	**12.52**	**7**	*e*P		**Pn**	**12 58 13.5**	**+0.8**
NORC	**Norcasia**	**12.92**	**9**	*e*P		**Pn**	**12 58 16.1**	**-1.7**
NORC	**Norcasia**	**12.92**	**9**	*e*P		**Pn**	**12 58 16.1**	**-1.7**
CBOC	**Ciudad Bolivar**	**13.09**	**4**	*e*P		**Pn**	**12 58 20.5**	**+0.3**
CBOC	**Ciudad Bolivar**	**13.09**	**4**	*e*P		**Pn**	**12 58 20.5**	**+0.3**
HELC	**Santa Helena**	**13.46**	**6**	*e*P		**Pn**	**12 58 25.6**	**+0.3**
HELC	**Santa Helena**	**13.46**	**6**	*e*P		**Pn**	**12 58 25.6**	**+0.3**
RUSC	**La Rusia**	**13.62**	**16**	*e*P		**Pn**	**12 58 26.5**	**-1.1**
RUSC	**La Rusia**	**13.62**	**16**	*e*P		**Pn**	**12 58 26.5**	**-1.1**
SAML	**Samuel**	**13.62**	**98**	P		Pn	12 58 22.5	-4.7
SAML	**Samuel**	**13.62**	**98**	*e*P		Pn	12 58 22.8	-4.4
SAML	**Samuel**	**13.62**	**98**	*e*P		Pn	12 58 22.8	-4.4
SAML	**Samuel**	**13.62**	**98**			Pn	12 58 22.5	-4.8
MNMC	**Minye Minye**	**13.72**	**150**			**Pn**	**12 58 26.2**	**-2.5**
PTBC	**PUERTO BERRIO,**	**13.94**	**10**	*e*P		**Pn**	**12 58 29.6**	**-1.9**
PTBC	**PUERTO BERRIO,**	**13.94**	**10**	*e*P		**Pn**	**12 58 29.6**	**-1.9**
PB11	**IPOC Station P**	**14.22**	**151**			**Pn**	**12 58 33.6**	**-1.7**
GO01	**Chusmiza**	**14.37**	**150**			**Pn**	**12 58 37.2**	**-0.3**
BRRC	**Barranca, Sant**	**14.64**	**12**	*e*P		**Pn**	**12 58 42.1**	**+1.5**
BRRC	**Barranca, Sant**	**14.64**	**12**	*e*P		**Pn**	**12 58 42.1**	**+1.5**
ZARC	**Zaragoza, Cauc**	**14.82**	**8**	*e*P		**P**	**12 58 48.4**	**+1.1**
ZARC	**Zaragoza, Cauc**	**14.82**	**8**	*e*P		**P**	**12 58 48.4**	**+1.1**
UREC	**San Jos de Ur**	**15.00**	**5**	*e*P		**Pn**	**12 58 46.4**	**+1.1**
UREC	**San Jos de Ur**	**15.00**	**5**	*e*P		**Pn**	**12 58 46.4**	**+1.1**
OCAC	**Ocana**	**15.82**	**13**	*e*P		**Pn**	**12 58 54

SNET Serv Nac Est T 24.20 329 P P 13 00 29.8 +2.0
SNET IAmb IAmb 13 00 31.9
comp=Z,98nm,0.9s
AQDB Aquidauana 24.31 125 eP P 13 00 28.5 -0.2
AQDB Aquidauana 24.31 125 eP P 13 00 28.5 -0.2
ARAG Araguaiana, MT 25.89 111 eP P 13 00 42.9 -0.2
ARAG Araguaiana, MT 25.89 111 eP P 13 00 42.9 -0.2
APG El Apazote 25.94 329 P P 13 00 44.4 +0.6
comp=Z,20nm,1.1s,baz=161,slow=8.6,SNR=6.3
ROC1 El Roble 26.12 169 P P 13 00 44.7 -0.6
ROC1 pP **pP 13 01 01.2 +0.3**
PEL Peldehue 26.35 168 P P 13 00 48.1 +1.0
PEL pmax pmax
comp=Z,38nm,1.1s
PEL Peldehue 26.35 168 P P 13 00 48.1 +1.0
CPUP Villa Florida 26.52 138 P P 13 00 48.1 -0.6
CPUP pmax pmax
comp=Z,21nm,1.1s
CPUP Villa Florida 26.52 138 P P 13 00 48.4 -0.3
comp=Z,11nm,0.9s,baz=322,slow=9.6,SNR=26
CPUP LR LR 13 13 00.0
comp=Z,676nm,19.6s,baz=310,slow=40
CPUP Villa Florida 26.52 138 eP P 13 00 48.4 -0.3
CPUP Villa Florida 26.52 138 eP P 13 00 48.4 -0.3
CPUP Villa Florida 26.52 138 P P 13 00 48.1 -0.6
CRPR Cabo Rojo, PR 26.91 21 P P 13 00 52.0 -0.2
CRPR IAmb IAmb 13 00 55.1
comp=Z,86nm,1.2s
MPR Mayaguez 27.09 21 P P 13 00 54.4 +0.6
MPR IAmb IAmb 13 00 55.4
comp=Z,77nm,1.1s
GTBY Guantanamo Bay 27.10 4 P P 13 00 54.2 +0.4
MDP Montagnes des 27.11 64 P P 13 00 55.0 +0.9
comp=Z,33nm,1.0s,baz=240,slow=11,SNR=5.5
OBIP Obispado Ponce 27.12 22 P P 13 00 54.6 +0.5
OBIP IAmb IAmb 13 00 55.6
comp=Z,57nm,1.1s
PDPR Patillas Dam, 27.32 23 P P 13 00 55.4 -0.5
PDPR IAmb IAmb 13 00 57.0
comp=Z,66nm,1.0s
AOPR Arecibo Observ 27.35 21 P P 13 00 56.3 +0.1
AOPR IAmb IAmb 13 00 58.4
comp=Z,158nm,1.4s
SJG San Juan 27.36 23 P P 13 00 56.6 +0.4
SJG pmax pmax
comp=Z,73nm,0.9s
SJG San Juan 27.36 23 P P 13 00 56.5 +0.4
comp=Z,50nm,0.8s,baz=156,slow=8.2,SNR=11
SJG San Juan 27.36 23 P P 13 00 56.6 +0.4
SJG IAmb IAmb 13 00 57.4
comp=Z,73nm,0.8s
HUMP Col San Antoni 27.50 23 P P 13 00 57.6 +0.1
GCPR Guaynabo City 27.56 23 P P 13 00 58.6 +0.6
GCPR IAmb IAmb 13 00 59.5
comp=Z,42nm,0.8s
CBYP Canovanas 27.62 23 P P 13 00 58.3 -0.3
CBYP IAmb IAmb 13 01 05.0
comp=Z,81nm,1.4s
TRCB Terra Rica 27.93 126 eP P 13 01 01.0 -0.4
TRCB Terra Rica 27.93 126 eP P 13 01 01.0 -0.4
GO05 Huala 27.95 171 P P 13 01 01.3 -0.2
STVI Saint Thomas 28.05 25 P P 13 01 01.6 -0.8
STVI IAmb IAmb 13 01 01.9
comp=Z,35nm,0.8s
ITRB Iturama 28.50 118 eP P 13 01 06.2 -0.3
ITRB Iturama 28.50 118 eP P 13 01 06.2 -0.3
PCMB Pacaembu 28.50 123 eP P 13 01 06.1 -0.4
PCMB Pacaembu 28.50 123 eP P 13 01 06.1 -0.4
PEXB Peixe 28.53 102 eP P 13 01 06.1 -0.7
PEXB Peixe 28.53 102 eP P 13 01 06.1 -0.7
ITQB Itaqui 29.28 142 eP P 13 01 13.3 +0.1
ITQB Itaqui 29.28 142 eP P 13 01 13.3 +0.1
PTGB Pitanga 29.36 129 eP P 13 01 13.6 -0.6
PTGB Pitanga 29.36 129 eP P 13 01 13.6 -0.6
BDFB Brasilia 29.42 109 P P 13 01 14.7 0.0
BDFB pmax pmax
comp=Z,23nm,0.8s
BDFB Brasilia 29.42 109 P P 13 01 14.9 +0.1
comp=Z,15nm,0.7s,baz=275,slow=10.0,SNR=24
BDFB LR LR 13 13 58.4
comp=Z,670nm,19.9s,baz=289,slow=38
BDFB Brasilia 29.42 109 P P 13 01 14.7 0.0
TEIG Tepich 29.57 338 P P 13 01 16.2 +0.3
comp=Z,27nm,1.0s,baz=139,slow=6.9,SNR=7.9
TEIG Tepich 29.57 338 P P 13 01 16.4 +0.5
TEIG IAmb IAmb 13 01 17.3
comp=Z,81nm,1.4s
IPMB Ipameri, GO 29.84 114 eP P 13 01 17.8 -0.7
IPMB Ipameri, GO 29.84 114 eP P 13 01 17.8 -0.7
BB19B Bebedouro 30.60 120 eP P 13 01 24.6 -0.5
BB19B Bebedouro 30.60 120 eP P 13 01 24.6 -0.5
FRTB Fartura 30.68 124 eP P 13 01 24.9 -0.9
FRTB Fartura 30.68 124 eP P 13 01 24.9 -0.9
ITAB Concordia 30.71 133 eP P 13 01 25.4 -0.5
ITAB Concordia 30.71 133 eP P 13 01 25.4 -0.5
PMNB Patos De Minas 31.61 114 eP P 13 01 34.2 +0.1
PMNB Patos De Minas 31.61 114 eP P 13 01 34.2 +0.1
RCLB Rio Claro- Sao 31.98 121 eP P 13 01 36.7 -0.5
RCLB Rio Claro- Sao 31.98 121 eP P 13 01 36.7 -0.5
GO06 Curarrehue 32.51 172 P P 13 01 41.8 0.0
GO06 pP 13 01 56.8 -0.8
SPB Sao Paulo 32.55 123 eP P 13 01 40.4 -1.7
SPB Sao Paulo 32.55 123 eP P 13 01 40.4 -1.7
SPB Sao Paulo 32.55 123 P P 13 01 41.0 -1.1
PLTB Pedras Altas 32.59 141 eP P 13 01 42.5 +0.1
PLTB Pedras Altas 32.59 141 eP P 13 01 42.5 +0.1
VAO Valinhos 32.69 122 eP P 13 01 40.4 -3.1
VAO Valinhos 32.69 122 eP P 13 01 40.4 -3.1
TLIG Tlapa 32.72 319 P P 13 01 44.3 +0.5
061Z Ochoppi 33.19 353 P P 13 01 48.8 +1.2
baz=172
TRQA Tornquist 33.46 158 P P 13 01 49.8 -0.1
TRQA *PP **pP 13 02 04.4 -1.3**
TRQA pmax pmax
comp=Z,12nm,0.9s
TRQA Tornquist 33.46 158 eP P 13 01 50.6 +0.7
TRQA Tornquist 33.46 158 eP P 13 01 50.6 +0.7
TRQA Tornquist 33.46 158 P P 13 01 49.8 -0.1
TRQA pP **13 02 04.4 -1.3**
PLCA Paso Flores 33.77 171 P P 13 01 51.8 -0.9
PLCA *PP **pP 13 02 08.1 -0.4**
PLCA pmax pmax
comp=Z,29nm,1.3s
PLCA Paso Flores 33.77 171 P P 13 01 52.7 0.0
comp=Z,2.3nm,0.6s,baz=4.0,slow=11,SNR=17
PLCA pP **pP 13 02 08.4 -0.2**
comp=Z,24nm,1.2s,baz=22,slow=9.5,SNR=11
PLCA LR LR 13 14 42.8
comp=Z,68nm,19.9s,baz=36,slow=34
PLCA Paso Flores 33.77 171 eP P 13 01 53.6 +0.9
PLCA Paso Flores 33.77 171 eP P 13 01 53.6 +0.9
PLCA Paso Flores 33.77 171 P P 13 01 51.8 -0.9
PLCA pP **pP 13 02 08.1 -0.4**
PLCA IAmb IAmb 13 02 09.9
comp=Z,29nm,1.2s
ESAR Angra dos Reis 34.85 120 eP P 13 02 02.2 +0.1
ESAR Angra dos Reis 34.85 120 eP P 13 02 02.2 +0.1
MOIG Morelia 35.96 319 P P 13 02 13.1 +1.2
MOIG IAmb IAmb 13 02 14.3
comp=Z,30nm,0.6s
SJMB Sao Joao De Ma 36.47 112 eP P 13 02 15.3 -0.8
SJMB Sao Joao De Ma 36.47 112 eP P 13 02 15.3 -0.8
BSFB Barra de Sao F 36.81 112 eP P 13 02 18.0 -1.0
BSFB Barra de Sao F 36.81 112 eP P 13 02 18.0 -1.0
ZAIG Zacatecas 39.07 321 P P 13 02 39.8 +1.5
256A Glennville 39.35 353 P P 13 02 40.8 +0.8
baz=172
254A Abbeville 39.50 351 P P 13 02 41.7 +0.3
baz=170
NBLI Livramento-PB 39.56 93 eP P 13 02 42.3 0.0
NBLI Livramento-PB 39.56 93 eP P 13 02 42.3 0.0
252A Lumpkin 39.79 349 P P 13 02 43.7 -0.1
baz=168
156A Sylvania 39.97 354 P P 13 02 46.2 +0.9
baz=173
155A Kite 40.05 353 P P 13 02 46.4 +0.5
baz=171
250A Grady 40.07 348 P P 13 02 46.2 +0.1
baz=165,SNR=5.6
NHSC New Hope 40.30 356 P P 13 02 49.1 +1.1
baz=175
NHSC New Hope 40.30 356 P P 13 02 48.7 +0.8
152A Waverly Hall 40.44 350 P P 13 02 49.1 -0.1
baz=168
152A Waverly Hall 40.44 350 P P 13 02 49.1 -0.1
152A IAmb IAmb 13 02 49.8
comp=Z,35nm,1.1s
152A PcP **PcP 13 04 50.7 -0.4**
Z58A St. Stephen 40.50 356 P P 13 02 50.5 +0.9
baz=175
Z57A Bowman 40.53 355 P P 13 02 50.6 +0.7
baz=174
Z54A Sparta 40.70 352 P P 13 02 51.3 0.0
baz=171
Z53A Monticello 40.85 351 P P 13 02 52.2 -0.3
baz=170
Z52A Williamson 40.90 350 P P 13 02 53.0 +0.1
baz=168,SNR=5.6
GOGA Godfrey 40.96 352 P P 13 02 53.3 -0.1
baz=170
Z51A Franklin 41.15 349 P P 13 02 55.1 +0.1
baz=167
Y57A Sumter 41.22 356 P P 13 02 56.1 +0.6
baz=175,SNR=5.6
Y57A Sumter 41.22 356 IAmb IAmb 13 02 56.8
comp=Z,56nm,0.8s
Z50A Ashland 41.23 348 P P 13 02 55.6 -0.2
baz=166,SNR=7.6
Z50A Ashland 41.23 348 P P 13 02 55.5 -0.2
Z50A IAmb IAmb 13 02 56.5
comp=Z,84nm,1.3s
Z50A PcP **PcP 13 04 53.0 -0.6**
LRAL Lakeview Retre 41.25 347 P P 13 02 55.4 -0.4
baz=165,SNR=8.8
LRAL Lakeview Retre 41.25 347 P P 13 02 55.3 -0.5
LRAL IAmb IAmb 13 02 56.5
comp=Z,60nm,1.1s
LRAL PcP **PcP 13 04 53.6 -0.1**
Y55A Saluda 41.28 354 P P 13 02 56.0 0.0
baz=172
HKT Hockley 41.28 335 P P 13 02 56.8 +0.8
HKT pmax pmax
comp=Z,20nm,1.5s
HKT Hockley 41.28 335 P P 13 02 56.8 +0.8
Y54A Tignall 41.30 353 P P 13 02 56.3 0.0
baz=171,SNR=7.3
Y53A Monroe 41.42 352 P P 13 02 57.0 -0.2
baz=170
Y52A Lilburn 41.50 351 P P 13 02 57.6 -0.2
baz=169
Y52A Lilburn 41.50 351 IAmb IAmb 13 02 58.0
comp=Z,47nm,1.4s
833A Chaparral WMA, 41.56 329 P P 13 02 59.7 +1.2
baz=145
HODGE Hodges 41.61 353 IAmb IAmb 13 03 00.1
comp=Z,22nm,0.7s
X60A Albert Glenn T 41.65 359 P P 13 02 59.8 +0.8
baz=178
X59A McDuffie Farm, 41.67 358 P P 13 02 59.9 +0.7
baz=177
X58A Rowland 41.69 357 P P 13 03 00.0 +0.7
baz=176
Y51A Rockmart 41.70 350 P P 13 02 59.2 -0.3
baz=168
X56A White Oak 41.74 355 P P 13 03 00.1 +0.3
baz=174
X55A Gracelyn & Ava 41.78 354 P P 13 03 00.3 +0.2
baz=173
BIRD Birdtown, Kers 41.85 356 IAmb IAmb 13 03 01.9
comp=Z,45nm,1.1s
X54A Belton 41.94 353 P P 13 03 01.6 +0.2
baz=172
X53A Estanollee 42.01 352 P P 13 03 01.9 -0.1
baz=170
W60A Pink Hill 42.12 359 P P 13 03 03.8 +0.9
baz=179
W58A Raeford 42.14 357 P P 13 03 03.8 +0.7
baz=176,SNR=9.3
PAULI Pauline 42.15 354 IAmb IAmb 13 03 04.3
comp=Z,61nm,1.2s
W61A Ground Anchor 42.24 360 P P 13 03 05.2 +1.3
baz=180
CNNC Cliffs of the 42.31 359 P P 13 03 05.1 +0.6
baz=178
W57A Gilead 42.32 356 P P 13 03 04.9 +0.4
baz=175,SNR=5.7
W57A Gilead 42.32 356 IAmb IAmb 13 03 05.2
comp=Z,38nm,0.8s
W56A Indian Trail 42.34 355 P P 13 03 04.8 +0.1
baz=174
NATX Nacogdoches 42.40 337 P P 13 03 06.3 +1.1
baz=153,SNR=7.1
KMSC Kings Mountain 42.42 355 IAmb IAmb 13 03 06.6
comp=Z,54nm,1.1s
BG3 Lake Jocassee 42.45 353 IAmb IAmb 13 03 07.8
comp=Z,49nm,1.5s
W54A Cherokee Point 42.45 354 P P 13 03 06.0 +0.5
baz=172
X48A Hartselle 42.62 348 P P 13 03 06.3 -0.7
baz=165
W53A Cullowhee 42.65 352 P P 13 03 07.4 0.0
baz=171,SNR=8.2
W52A Murphy 42.68 351 P P 13 03 07.5 -0.1
baz=170
435B Jarrell 42.76 333 P P 13 03 09.2 +1.0
baz=149,SNR=6.8
435B Jarrell 42.76 333 IAmb IAmb 13 03 10.3
comp=Z,41nm,1.0s
V60A Jim Taylor Roa 42.83 359 P P 13 03 09.7 +1.1
baz=179,SNR=6.2
V60A Jim Taylor Roa 42.83 359 IAmb IAmb 13 03 09.9
comp=Z,58nm,0.8s
V59A Middlesex 42.84 358 P P 13 03 09.2 +0.5
baz=178,SNR=5.4
W51A Cleveland 42.88 350 P P 13 03 08.7 -0.4
baz=168
V58A Windy Hill, Pi 42.91 357 P P 13 03 09.4 +0.2
baz=177
V58A Windy Hill, Pi 42.91 357 P P 13 03 09.3 0.0
V58A IAmb IAmb 13 03 10.4
comp=Z,73nm,1.2s
V56A Mocksville 43.01 356 P P 13 03 10.6 +0.5
baz=175
W50A Signal Mountai 43.01 350 P P 13 03 09.6 -0.6
baz=168
V57A Coltrane Farms 43.04 357 P P 13 03 10.7 +0.4
baz=176
V53A Saluda 43.10 353 P P 13 03 10.7 -0.2
baz=171
V54A Nebo 43.11 354 P P 13 03 11.2 +0.3
baz=172
OXF Oxford 43.24 345 P P 13 03 11.3 -0.7
baz=162
OXF Oxford 43.24 345 IAmb IAmb 13 03 11.9
comp=Z,79nm,1.4s
PLAL Pickwick Lake 43.36 347 IAmb IAmb 13 03 12.9
comp=Z,55nm,1.4s
V52A Sevierville 43.37 352 P P 13 03 12.7 -0.3
baz=170,SNR=5.6
U61A Possum Corner 43.39 0 P P 13 03 14.1 +1.0
baz=180
U61A Possum Corner 43.39 0 P P 13 03 14.5 +1.4
U59A Littleton 43.42 359 P P 13 03 14.2 +0.8
baz=178,SNR=5.5
V50A Pikevile 43.43 350 P P 13 03 13.1 -0.5
baz=168
V51A Loudon 43.44 351 P P 13 03 13.3 -0.3
baz=169
U58A Oxford 43.48 358 P P 13 03 14.3 +0.4
baz=177,SNR=5.3
U60A Pendleton 43.53 360 P P 13 03 15.1 +0.8
baz=179
U56A King 43.53 356 P P 13 03 15.4 +1.1
baz=175,SNR=5.6
U56A King 43.53 356 IAmb IAmb 13 03 16.0
comp=Z,84nm,1.3s
U57A Blanch 43.55 357 P P 13 03 14.7 +0.3
baz=176
V49A McMinnville 43.67 349 P P 13 03 14.6 -0.9
baz=167
WHTX Lake Whitney, 43.74 334 P P 13 03 17.1 +1.0
baz=150,SNR=15
WHTX Lake Whitney, 43.74 334 IAmb IAmb 13 03 18.9
comp=Z,68nm,1.3s
U55A TA2, Sparta 43.74 355 P P 13 03 16.0 0.0
baz=174
U53A Fall Branch 43.76 353 P P 13 03 15.9 -0.3
baz=172
V48A Smith Brothers 43.82 348 P P 13 03 15.8 -0.8
baz=166,SNR=8.5
V48A Smith Brothers 43.82 348 IAmb IAmb 13 03 16.3
comp=Z,28nm,0.7s
MET Memphis--Engin 43.96 344 P P 13 03 16.5 -1.2
U51A La Follette 43.96 352 P P 13 03 16.9 -0.8
baz=170
T58A Grand View Acr 44.03 358 P P 13 03 18.5 +0.2
baz=178,SNR=5.8
T59A Double "B" Far 44.03 359 P P 13 03 19.2 +0.9
baz=179,SNR=9.9
TZTN Tazewell 44.05 352 P P 13 03 17.9 -0.6
baz=170
TZTN Tazewell 44.05 352 IAmb IAmb 13 03 20.6
comp=Z,71nm,1.5s
T57A Hurt 44.11 357 P P 13 03 19.2 +0.2
baz=176,SNR=11
U50A Jamestown 44.12 351 P P 13 03 18.4 -0.6
baz=168
T56A Rocky Mt 44.19 356 P P 13 03 20.3 +0.7
baz=175
UALR University of 44.33 342 IAmb IAmb 13 03 21.4
comp=Z,48nm,1.2s
T53A Wise 44.36 353 P P 13 03 20.7 -0.4
baz=172
BLA Blacksburg 44.40 356 P P 13 03 21.2 -0.1
baz=175
WVT Waverly 44.41 347 P P 13 03 19.4 -1.9
baz=164
WVT Waverly 44.41 347 P P 13 03 19.0 -2.3
WVT pmax pmax
comp=Z,15nm,0.9s
WVT Waverly 44.41 347 P P 13 03 19.0 -2.3
MIAR Mount Ida 44.52 340 P P 13 03 22.0 -0.3
baz=156
T51A Gray 44.52 352 P P 13 03 21.8 -0.4
baz=170
T52A Hallie 44.54 353 P P 13 03 21.9 -0.5
baz=171
T52A Hallie 44.54 353 IAmb IAmb 13 03 22.3
comp=Z,54nm,1.3s
TXAR Lajitas Array 44.64 326 P P 13 03 23.7 +0.3
comp=Z,3.3nm,0.7s,baz=146,slow=9.1,SNR=29
TXAR pP **pP 13 03 38.2 -1.6**
comp=Z,1.3nm,0.6s,baz=149,slow=9.8,SNR=4.8
TXAR LR LR 13 20 48.9
comp=Z,62nm,18.9s,baz=0.0,slow=34
TX31 Lajitas Ar. Si 44.64 326 P P 13 03 23.8 +0.3
W41B Gary Mavity, V 44.67 342 P P 13 03 23.0 -0.4
baz=158,SNR=6.4
W41B Gary Mavity, V 44.67 342 IAmb IAmb 13 03 24.1
comp=Z,42nm,1.2s
S58A Poland Farm, P 44.68 359 P P 13 03 23.8 +0.3
baz=178
S60A Water View 44.76 0 P P 13 03 25.5 +1.4
baz=180
WHAR Wooly Hollow 44.79 342 IAmb IAmb 13 03 25.1
comp=Z,52nm,1.2s
S59A Mechanicsville 44.82 359 P P 13 03 25.6 +1.0
baz=179,SNR=5.5
S57A Dark Hollow, R 44.86 358 P P 13 03 25.4 +0.5
baz=177,SNR=8.0
S57A Dark Hollow, R 44.86 358 IAmb IAmb 13 03 26.4
comp=Z,72nm,1.1s
T49A Edmonton 44.91 350 P P 13 03 24.4 -0.9
baz=168,SNR=5.4
S55A Lewisburg 44.96 356 P P 13 03 25.6 -0.2
baz=175
R58B Mineral 45.03 359 P P 13 03 27.1 +0.9
baz=178,SNR=7.5
T47A Sharon Grove 45.08 348 P P 13 03 25.4 -1.3
baz=166
T47A Sharon Grove 45.08 348 P P 13 03 25.4 -1.3
T47A PcP **PcP 13 05 06.5 0.0**
S51A Beattyville 45.14 352 P P 13 03 26.6 -0.6
baz=170
S51A Beattyville 45.14 352 IAmb IAmb 13 03 27.5
comp=Z,60nm,1.4s
W39A Magazine 45.18 340 P P 13 03 28.3 +0.8
baz=156,SNR=6.7
W39A Magazine 45.18 340 IAmb IAmb 13 03 29.3
comp=Z,26nm,0.9s
ABTX Abilene, Hawle 45.24 333 P P 13 03 28.9 +0.8
baz=147,SNR=16
ABTX Abilene, Hawle 45.24 333 P P 13 03 28.6 +0.5
ABTX pP **13 03 43.3 -1.2**
R59A King George, V 45.26 360 P P 13 03 29.3 +1.3
baz=180
CBN Corbin Frederi 45.26 359 P P 13 03 29.1 +1.0
baz=179,SNR=5.1
S50A Richmond 45.29 352 P P 13 03 27.6 -0.7
baz=169,SNR=5.5
R58A Rapidan 45.37 359 P P 13 03 29.9 +1.0
baz=178,SNR=7.5
R57A Stanardsville 45.38 358 P P 13 03 29.8 +0.8
baz=178
R55A Marlinton 45.44 356 P P 13 03 30.4 +0.8
baz=175
S49A Springfield 45.53 351 P P 13 03 29.1 -1.1
baz=168
PBMO Poplar Bluff 45.65 345 P P 13 03 30.3 -0.9
PBMO IAmb IAmb 13 03 31.2
comp=Z,65nm,1.4s
PBMO PcP **PcP 13 05 08.1 -0.4**
R51A Hillsboro 45.79 353 P P 13 03 31.7 -0.6
baz=171
R50A Paris 45.87 352 P P 13 03 32.3 -0.6
baz=170
Q59A Harwood 45.92 0 P P 13 03 34.6 +1.3
baz=180
U40A Yellville 45.95 342 P P 13 03 33.2 -0.4
baz=158,SNR=7.7
U40A Yellville 45.95 342 IAmb IAmb 13 03 35.3
comp=Z,55nm,1.5s
Q58A Fox Den Farm, 46.00 359 P P 13 03 34.6 +0.6
baz=179
Q57A Strasburg 46.11 358 P P 13 03 35.9 +1.1
baz=178,SNR=5.4
Q53A Leroy 46.12 355 P P 13 03 34.5 -0.4
baz=174,SNR=5.4
WCI Wyandotte Cave 46.13 350 P P 13 03 33.3 -1.7
baz=167
Q56A Snyder Ridge, 46.15 357 P P 13 03 35.6 +0.5
baz=177
Q56A Snyder Ridge, 46.15 357 IAmb IAmb 13 03 36.9
comp=Z,38nm,1.1s
Q55A Buckhannon 46.15 356 P P 13 03 36.0 +0.9
baz=175
X34A Smith Ranch, M 46.15 336 P P 13 03 36.4 +1.2
Q54A Coxs Mills 46.19 356 P P 13 03 34.5 -0.9
baz=174
HHAR Hobbs 46.22 341 P P 13 03 35.0 -0.7
HHAR IAmb IAmb 13 03 36.8
comp=Z,68nm,1.5s
HHAR PcP **PcP 13 05 10.2 -0.3**
S44A Carbondale 46.23 346 P P 13 03 34.7 -1.0
baz=163,SNR=5.3
SIUC Southern Illin 46.24 346 IAmb IAmb 13 03 35.6
comp=Z,55nm,1.3s
Q50A Georgetown 46.38 352 P P 13 03 36.1 -0.8
baz=170
TUL1 Leonard 46.52 339 P P 13 03 38.5 +0.4
baz=154,SNR=24
P58A Pank, Wackersv 46.55 360 P P 13 03 38.3 +0.1
baz=179
P56A Dayton Farm, R 46.59 358 P P 13 03 39.4 +0.8
baz=177
WMOK Wichita Mounta 46.66 335 P P 13 03 39.4 +0.1
baz=149,SNR=15
WMOK Wichita Mounta 46.66 335 P P 13 03 39.3 +0.1
WMOK 13 05 12.4
WMOK pmax pmax
comp=Z,35nm,1.4s
WMOK Wichita Mounta 46.66 335 P P 13 03 39.4 +0.1
WMOK IAmb IAmb 13 03 40.7
comp=Z,35nm,1.4s
WMOK PcP **PcP 13 05 12.4 +0.2**
OKCSW OKLAHOMA CITY 46.70 337 P P 13 03 39.5 +0.1
Q48A North Vernon 46.72 350 P P 13 03 38.4 -1.1
baz=168
P53A Whipple 46.73 355 P P 13 03 39.5 -0.2
baz=174
P54A Burton 46.78 356 P P 13 03 40.0 -0.1
baz=175
P52A Corning 46.94 354 P P 13 03 40.2 -1.1
baz=173
MVL Millersville 47.05 1 P P 13 03 42.2 +0.1
CCM Cathedral Cave 47.07 344 P P 13 03 41.1 -1.1
baz=160
CCM Cathedral Cave 47.07 344 P P 13 03 41.2 -1.1

CCM 13 05 13.6
CCM pmax pmax
comp=Z,10.0nm,0.9s
CCM Cathedral Cave 47.07 344 P P 13 03 41.2 -1.1
CCM PcP PcP **13 05 13.6 +0.1**
P50A Jamestown 47.10 353 P P 13 03 41.7 -0.9
baz=170
P49A Miami Univ. Ec 47.16 352 P P 13 03 41.6 -1.4
baz=169
O58A Lewisberry 47.18 360 P P 13 03 44.1 +1.0
baz=180
P48A Milroy 47.19 351 P P 13 03 41.7 -1.6
baz=168
O57A Amberson 47.27 359 P P 13 03 44.9 +1.1
baz=179
O56A Blue Knob Stat 47.35 358 P P 13 03 45.0 +0.5
baz=178
O59A Robesonia 47.37 1 P P 13 03 45.6 +1.0
baz=181
O60A Telford 47.39 1 P P 13 03 45.6 +0.9
baz=182
O52A Adamsville 47.39 355 P P 13 03 44.2 -0.6
baz=173
MNTX Cornudas Mount 47.40 326 P P 13 03 45.0 0.0
baz=140,SNR=30
MNTX Cornudas Mount 47.40 326 IAmb IAmb 13 03 46.3
comp=Z,62nm,1.4s
O50A Cable 47.61 353 P P 13 03 45.7 -0.8
baz=171
ACSO Alum Creek Sta 47.62 354 P P 13 03 45.9 -0.7
baz=172
ACSO Alum Creek Sta 47.62 354 IAmb IAmb 13 03 46.8
comp=Z,21nm,0.9s
SSPA Standing Stone 47.70 359 P P 13 03 47.9 +0.7
baz=178
SSPA Standing Stone 47.70 359 P P 13 03 48.3 +1.2
N57A Milroy 47.81 359 P P 13 03 48.5 +0.5
baz=179
MSTX Muleshoe 47.83 331 P P 13 03 48.6 +0.1
baz=144,SNR=14
MSTX Muleshoe 47.83 331 IAmb IAmb 13 03 50.8
comp=Z,65nm,1.4s
N55A Marion Center 47.87 358 P P 13 03 48.8 +0.3
baz=177
N58A Sunbury 47.89 0 P P 13 03 48.9 +0.3
baz=180
O48A Farmland 47.93 351 P P 13 03 47.7 -1.3
baz=169,SNR=6.7
N59A State Game Lan 47.98 1 P P 13 03 50.4 +1.1
baz=181
N56A West Decatur 47.99 359 P P 13 03 49.6 +0.2
baz=178
AMTX Amarillo 48.06 332 P P 13 03 50.3 +0.1
baz=146
AMTX Amarillo 48.06 332 IAmb IAmb 13 03 50.7
comp=Z,20nm,0.9s
N50A Nevada 48.17 354 P P 13 03 49.8 -1.0
baz=172
SFIN Lafayette 48.37 350 P P 13 03 51.2 -1.1
baz=166
M57A Sunshine Farm, 48.39 360 P P 13 03 53.4 +0.9
baz=180
O44A Mansfield 48.41 348 P P 13 03 50.8 -1.9
O44A IAmb IAmb 13 03 51.7
comp=Z,14nm,0.7s
M58A Price's Panora 48.42 0 P P 13 03 53.9 +1.1
baz=180
N49A Columbus Grove 48.45 353 P P 13 03 51.8 -1.2
baz=170
N48A Decatur 48.50 352 P P 13 03 52.5 -0.8
baz=169
M56A Emporium 48.55 359 P P 13 03 54.1 +0.4
baz=178
M55A Ridgway 48.55 358 P P 13 03 53.7 -0.1
baz=177
M55A Ridgway 48.55 358 IAmb IAmb 13 03 54.9
comp=Z,21nm,1.1s
N47A Urbana 48.62 351 P P 13 03 52.9 -1.3
baz=168,SNR=6.9
M54A Oil Creek Stat 48.63 357 P P 13 03 54.4 0.0
baz=176
M50A Fremont 48.79 354 P P 13 03 54.6 -1.0
baz=172
M49A Liberty Center 48.97 353 P P 13 03 56.1 -0.8
baz=170
L57A Andrews Acres 49.05 360 P P 13 03 58.1 +0.5
baz=180
M47A Cromwell 49.08 351 P P 13 03 56.8 -1.0
baz=168,SNR=7.6
L58A Harry Jones Me 49.10 1 P P 13 03 59.0 +1.0
baz=181
L56A Greenwood 49.19 359 P P 13 03 59.0 +0.3
baz=179
BINY Binghamton 49.26 1 P P 13 04 00.2 +1.1
baz=181
L55A Hinsdale 49.26 358 P P 13 03 59.3 +0.2
baz=178
121A Cookes Peak, D 49.36 325 P P 13 04 01.7 +1.4
baz=138,SNR=16
121A Cookes Peak, D 49.36 325 P P 13 04 01.4 +1.1
121A IAmb IAmb 13 04 02.8
comp=Z,26nm,0.9s
L47A Sherwood 49.62 352 P P 13 04 00.5 -1.4
baz=169
KSU1 Kansas State U 49.67 340 P P 13 04 02.2 -0.1
baz=154
K57A Scipio Center 49.78 0 P P 13 04 03.4 +0.3
baz=180
K58A Earlville 49.83 1 P P 13 04 04.2 +0.7
baz=181
K59A Cooperstown 49.86 2 P P 13 04 04.5 +0.8
baz=182
K47A Vermontville 50.27 352 P P 13 04 05.8 -1.1
baz=169
K48A Perry 50.29 353 P P 13 04 05.9 -1.1
baz=170
ANMO Albuquerque 50.46 328 P P 13 04 09.3 +0.7
baz=141
ANMO Albuquerque 50.46 328 *c iP* **P 13 04 09.2 +0.6**
ANMO pmax pmax
comp=Z,45nm,1.3s
ANMO Albuquerque 50.46 328 P P 13 04 08.8 +0.2
ANMO IAmb IAmb 13 04 10.4
comp=Z,29nm,0.9s
CBKS Cedar Bluff 50.56 337 P P 13 04 09.7 +0.6
baz=150,SNR=8.8
J48A Bridge Port 50.74 353 P P 13 04 09.1 -1.2
baz=171
J47A Sunmer 50.81 352 P P 13 04 09.7 -1.1
baz=170
TUC Tucson 50.96 323 P P 13 04 13.1 +0.7
baz=135
TUC Tucson 50.96 323 P P 13 04 12.8 +0.5
TUC pmax pmax
comp=Z,27nm,1.1s
TUC Tucson 50.96 323 P P 13 04 12.8 +0.5
TUC IAmb IAmb 13 04 14.0
comp=Z,27nm,1.1s
T25A Trinidad 51.17 332 P P 13 04 14.8 +0.8
baz=144,SNR=12
SCIA State Center 51.20 344 P P 13 04 13.1 -0.7
baz=159
JFWS Jewell Farm 51.44 347 P P 13 04 14.2 -1.3
baz=163
JFWS Jewell Farm 51.44 347 IAmb IAmb 13 04 15.0
comp=Z,33nm,0.9s
H57A Richville 51.53 1 P P 13 04 16.5 +0.3
baz=182
H56A Elgin 51.65 1 P P 13 04 17.5 +0.5
baz=181
214A Organ Pipe Nat 51.97 321 P P 13 04 21.1 +1.3
baz=132,SNR=11
X18A Snowflake 52.05 325 IAmb IAmb 13 04 22.7
comp=Z,52nm,1.4s
SDCO Great Sand Dun 52.18 331 P P 13 04 22.2 +0.7
baz=143,SNR=31
BGNE Belgrade 52.26 340 P P 13 04 21.8 0.0
baz=153,SNR=5.4
BGNE Belgrade 52.26 340 P P 13 04 21.3 -0.4
G55A Calabogie 52.30 0 P P 13 04 21.7 -0.3
baz=180
W18A Petrified Fore 52.36 326 P P 13 04 23.9 +1.1
baz=137,SNR=14
G54A Lake Saint Pet 52.46 359 P P 13 04 22.6 -0.5
baz=178
G61A St-Isidore-de- 52.55 5 P P 13 04 25.1 +1.3
baz=186
S22A 4UR Ranch, Cre 52.82 330 P P 13 04 26.9 +0.6
baz=142,SNR=12
S22A 4UR Ranch, Cre 52.82 330 IAmb IAmb 13 04 27.3
comp=Z,28nm,1.5s
X16A Lo Mia Camp, P 52.83 324 IAmb IAmb 13 04 28.5
comp=Z,47nm,1.2s
G65A Princeton 52.91 8 P P 13 04 27.8 +1.3
baz=191
Q24A Divide 52.99 332 P P 13 04 28.1 +0.5
baz=144,SNR=6.1
ALGO Algonquin Park 53.02 359 P P 13 04 26.6 -0.6
baz=178
113A Mohawk Valley, 53.11 321 P P 13 04 28.2 +0.1
113A IAmb IAmb 13 04 30.0
comp=Z,21nm,1.1s
113A **pP 13 04 44.7 -0.3**
MVCO Mesa Verde 53.26 328 P P 13 04 29.9 +0.5
baz=140,SNR=6.0
Y14A Wickenburg 53.43 322 P P 13 04 31.1 +0.5
Y14A **pP 13 04 46.7 -0.7**
E55A Montcerf-Lytto 53.51 1 P P 13 04 30.6 -0.2
baz=181
E57A Chemin Saint G 53.52 2 P P 13 04 30.9 0.0
baz=183
WUAZ Wupatki 53.57 325 P P 13 04 32.9 +1.1
baz=136,SNR=22
E56A St. Veronique 53.62 2 P P 13 04 31.7 +0.1
baz=182
E51A G18 Merrick 53.64 358 P P 13 04 31.1 -0.6
baz=177
E48A Lockeyer 53.74 355 P P 13 04 31.2 -1.4
baz=173
ECSD EROS Data Cent 53.85 342 P P 13 04 32.6 -0.9
baz=155,SNR=17
ISCO Idaho Springs 53.88 333 P P 13 04 34.7 +0.7
baz=144,SNR=5.3
SMCO Snowmass 54.02 331 P P 13 04 35.8 +0.6
SMCO IAmb IAmb 13 04 37.1
comp=Z,28nm,1.3s
D52A ZEK Kipawa Sen 54.05 359 P P 13 04 34.3 -0.4
baz=178
D55A Sainte-Anne-du 54.08 1 P P 13 04 34.9 -0.1
baz=182
D56A ZEC Mazanza, M 54.13 2 P P 13 04 35.4 0.0
baz=182
D57A Chemin Vers le 54.13 2 P P 13 04 35.8 +0.4
baz=184
D53A Lac Vacive, Po 54.13 359 P P 13 04 35.1 -0.3
baz=179
D54A Lac Fusel, La 54.20 0 P P 13 04 35.4 -0.5
baz=180
SPMN Marine on St. 54.21 346 P P 13 04 34.8 -1.2
baz=160,SNR=5.2
SPMN Marine on St. 54.21 346 IAmb IAmb 13 04 35.2
comp=Z,41nm,1.3s
PV05 Paradox Valley 54.22 329 P P 13 04 36.0 -0.5
PV03 Paradox Valley 54.23 329 IAmb IAmb 13 04 38.1
comp=Z,48nm,1.4s
Y12C Blythe 54.24 321 P P 13 04 37.5 +1.1
baz=132,SNR=8.6
Y12C Blythe 54.24 321 P P 13 04 37.3 +0.9
Y12C IAmb IAmb 13 04 38.5
comp=Z,35nm,1.3s
Y12C **pP 13 04 53.0 -0.2**
PV12 Saucer Basin, 54.25 329 IAmb IAmb 13 04 38.5
comp=Z,30nm,1.0s
PV18 Skein Mesa, Pa 54.25 329 P P 13 04 36.8 +0.1
PV18 IAmb IAmb 13 04 38.2
comp=Z,41nm,1.4s
PV18 **pP 13 04 51.4 -2.1**
D58A Chemin du LacG 54.26 3 P P 13 04 36.9 +0.6
baz=185
PV07 Paradox Valley 54.27 329 IAmb IAmb 13 04 38.6
comp=Z,29nm,1.2s
PV11 David Mesa, Pa 54.27 329 IAmb IAmb 13 04 38.5
comp=Z,38nm,1.2s
PV17 East Wray Mesa 54.30 329 IAmb IAmb 13 04 38.6
comp=Z,17nm,0.9s
PV16 Nyswonger Mesa 54.31 329 IAmb IAmb 13 04 38.7
comp=Z,43nm,1.3s
PV19 Morning Glory 54.34 329 IAmb IAmb 13 04 38.9
comp=Z,21nm,1.1s
PV20 West Nyswonger 54.35 329 P P 13 04 37.5 +0.1
PV20 IAmb IAmb 13 04 38.9
comp=Z,29nm,1.3s
PV04 Paradox Valley 54.36 329 IAmb IAmb 13 04 39.2
comp=Z,36nm,1.3s
PV14 Lion Creek, Pa 54.41 329 IAmb IAmb 13 04 39.4
comp=Z,23nm,1.1s
IKP In-Ko-Pah, Jac 54.53 319 P P 13 04 39.7 +1.0
baz=130
D61A St Aubert, Com 54.57 6 P P 13 04 39.8 +1.2
baz=188
W13A Hualapai Mount 54.75 323 IAmb IAmb 13 04 42.7
comp=Z,45nm,1.4s
BC3 Big Chuckawall 54.76 320 P P 13 04 41.5 +1.2
baz=131,SNR=8.2
MONP2 Monument Peak 54.89 319 P P 13 04 42.2 +0.8
baz=130
IRM Iron Mountain 54.89 321 P P 13 04 42.3 +1.1
baz=131,SNR=28
BATG Bathurst New B 55.16 9 P P 13 04 42.3 -0.5
BATG IAmb IAmb 13 04 44.6
comp=Z,28nm,0.9s
SUSD Miller 55.23 341 P P 13 04 42.8 -0.6
baz=153
BELC Belle Mtn. Jos 55.33 320 P P 13 04 45.7 +1.2
baz=130,SNR=6.9
109C Camp Elliot, M 55.33 319 IAmb IAmb 13 04 46.0
comp=Z,25nm,1.4s
XPFO Pion Flat 55.37 320 P P 13 04 45.3 +0.5
PFO Pinyon Flats O 55.37 320 P P 13 04 45.6 +0.8
baz=130,SNR=6.2
PFO Pinyon Flats O 55.37 320 *ce* **P P 13 04 45.3 +0.5**
PFO pmax pmax
comp=Z,20nm,1.2s
PFO Pinyon Flats O 55.37 320 P P 13 04 45.1 +0.4
O20A White River Ci 55.37 331 P P 13 04 45.2 +0.5
baz=141,SNR=11
O20A White River Ci 55.37 331 IAmb IAmb 13 04 46.3
comp=Z,31nm,1.1s
PKCU Pink Cliffs 55.48 326 P P 13 04 46.3 +0.6
PKCU **pP 13 05 04.5 +2.0**
GMRC Granite Mounta 55.63 321 P P 13 04 47.6 +1.1
baz=131,SNR=20
MURC Murrieta 55.84 319 P P 13 04 49.2 +1.2
baz=129
HEC Hector,Ludlow 56.08 321 P P 13 04 51.4 +1.6
baz=131,SNR=26
LSQQ Lebel-sur-Quev 56.11 360 P P 13 04 49.1 -0.5
baz=180
P17A Butcher Ranch, 56.12 329 P P 13 04 50.1 0.0
P17A **pP 13 05 05.4 -1.5**
TUQ Turquoise Moun 56.22 322 P P 13 04 51.9 +1.1
baz=131,SNR=6.6
SHPR Sheep Range 56.47 323 IAmb IAmb 13 04 54.8
comp=Z,30nm,1.4s
EYMN Ely 56.50 348 P P 13 04 51.3 -1.1
baz=162
CIS Catalina Islan 56.51 318 P P 13 04 53.4 +0.6
baz=128
BFSC Mount Baldy Ra 56.54 320 P P 13 04 54.0 +0.8
baz=129,SNR=6.8
K22A Casper 56.58 334 P P 13 04 53.8 +0.5
baz=144,SNR=11
K22A Casper 56.58 334 IAmb IAmb 13 04 54.6
comp=Z,52nm,1.4s
GSC Goldstone, Bar 56.67 321 P P 13 04 55.0 +1.0
baz=130,SNR=18
GSC Goldstone, Bar 56.67 321 IAmb IAmb 13 04 56.2
comp=Z,27nm,1.1s
SHOC Shoshone, Teco 56.74 322 P P 13 04 55.6 +1.2
baz=131,SNR=12
RSSD Black Hills 56.77 337 P P 13 04 55.3 +0.7
baz=147
RSSD Black Hills 56.77 337 P P 13 04 54.7 +0.1
RSSD pmax pmax
comp=Z,50nm,1.5s
RSSD Black Hills 56.77 337 P P 13 04 54.7 +0.1
RSSD IAmb IAmb 13 04 56.2
comp=Z,50nm,1.5s
MWC Mount Wilson 56.79 319 P P 13 04 55.8 +0.9
MWC pmax pmax
comp=Z,15nm,1.0s
MWC Mount Wilson 56.79 319 P P 13 04 55.8 +0.9
MWC IAmb IAmb 13 04 56.3
comp=Z,15nm,0.9s
MATQ Matagami 56.82 359 P P 13 04 53.6 -0.9
baz=179
PASC Pasadena Art C 56.84 319 IAmb IAmb 13 04 57.2
comp=Z,33nm,1.4s
DECC Green Verdugo 56.98 319 P P 13 04 57.2 +1.1
baz=128,SNR=6.5
CHGQ Chibougamau 57.00 2 P P 13 04 55.4 -0.5
baz=183
EDW2 Edwards Air Fo 57.16 320 P P 13 04 58.0 +0.6
baz=129,SNR=11
LRMC Laurel Mtn Rad 57.34 321 P P 13 04 59.7 +1.0
baz=130,SNR=8.8
TPNV Topopah Spring 57.41 323 P P 13 05 00.3 +1.0
baz=132,SNR=14
FURC Furnace Creek, 57.47 322 P P 13 05 00.5 +1.1
baz=131,SNR=14
MPMC Manual Prospec 57.59 321 P P 13 05 01.1 +0.5
baz=130,SNR=9.3
DUG Dugway, Tooele 57.73 328 P P 13 05 02.2 +0.8
baz=136,SNR=22
DAC Darwin (Calif) 57.79 321 P P 13 05 04.4 +2.4
DAC *PP pP **13 05 18.5 -0.5**
DAC pmax pmax
comp=Z,9.0nm,1.2s
DAC Darwin (Calif) 57.79 321 P P 13 05 04.4 +2.4
DAC **pP 13 05 18.5 -0.5**
ARVC Arvin 57.85 320 P P 13 05 03.2 +1.1
baz=128,SNR=6.9
ISA Isabella, Lake 57.95 320 P P 13 05 03.9 +0.9
baz=129,SNR=6.8
ISA Isabella, Lake 57.95 320 P P 13 05 03.6 +0.6
ISA *PP pP **13 05 19.8 -0.2**
ISA pmax pmax
comp=Z,27nm,1.5s
ISA Isabella, Lake 57.95 320 P P 13 05 03.6 +0.6
ISA IAmb IAmb 13 05 05.0
comp=Z,27nm,1.4s
ISA **pP 13 05 19.8 -0.2**
R11A Troy Canyon, C 57.96 325 P P 13 05 04.1 +1.0
baz=133,SNR=16
R11A Troy Canyon, C 57.96 325 IAmb IAmb 13 05 05.4
comp=Z,16nm,1.2s
BW06 Boulder Array 58.04 332 P P 13 05 03.4 -0.2
baz=141,SNR=9.2
BW06 Boulder Array 58.04 332 IAmb IAmb 13 05 04.4
comp=Z,28nm,1.5s
PDAR Pinedale Array 58.04 332 P P 13 05 03.2 -0.5
comp=Z,4.1nm,0.7s,baz=126,slow=8.7,SNR=40
PDAR pP **pP 13 05 22.7 +2.1**
comp=Z,3.6nm,0.8s,baz=138,slow=7.6,SNR=2.7
PDAR LR LR 13 33 00.0
comp=Z,54nm,18.9s,baz=150,slow=39
PMSA Palmer Station 58.10 174 *eP* **P 13 05 04.7 +1.3**
PMSA Palmer Station 58.10 174 *eP* **P 13 05 04.7 +1.3**
CWC Cottonwood Cre 58.20 321 P P 13 05 05.6 +0.8
baz=130
PKM Mcpherson Peak 58.34 319 P P 13 05 06.5 +0.7
baz=127,SNR=6.4
VES Vestal, Richgr 58.45 320 P P 13 05 07.4 +1.0
baz=129,SNR=9.2
TIN Tinemaha, Big 58.68 322 P P 13 05 09.4 +1.3
baz=130,SNR=5.8
SMMC Simmler 58.71 319 P P 13 05 09.6 +1.3
baz=128,SNR=5.9
AHID Auburn Hatcher 58.77 331 IAmb IAmb 13 05 08.9
comp=Z,15nm,0.8s
REDW Red Top Meadow 59.10 332 IAmb IAmb 13 05 11.5
comp=Z,18nm,1.2s
TPAW Teton Pass 59.25 332 IAmb IAmb 13 05 14.7
comp=Z,26nm,1.4s
ELK Elko 59.42 327 IAmb IAmb 13 05 14.8
comp=Z,20nm,1.2s
OMMB Old Mammoth Mi 59.51 322 IAmb IAmb 13 05 15.8
comp=Z,28nm,1.0s
NV11 Mina Array Sit 59.52 323 IAmb IAmb 13 05 15.9
comp=Z,15nm,1.1s
MDPB Devils Postpil 59.57 322 IAmb IAmb 13 05 16.1
comp=Z,23nm,1.1s
NVAR Mina Array Bea 59.61 323 P P 13 05 14.9 +0.3
comp=Z,7.4nm,0.8s,baz=140,slow=6.9,SNR=52
NVAR pP **pP 13 05 32.5 +0.8**
comp=Z,4.8nm,0.9s,baz=133,slow=7.5,SNR=6.7
NVAR LR LR 13 28 55.1
comp=Z,98nm,21.3s,baz=136,slow=34
ULM Lac du Bonnet 59.64 346 P P 13 05 13.3 -1.0
comp=Z,29nm,0.6s,baz=162,slow=7.3,SNR=64
ULM pP **pP 13 05 32.6 +1.3**
comp=Z,10nm,0.7s,baz=139,slow=6.6,SNR=4.0
ULM LR LR 13 32 51.0
comp=Z,78nm,18.6s,baz=126,slow=38
LAO LASA Array 59.76 337 IAmb IAmb 13 05 16.9
comp=Z,28nm,1.4s
BMN Battle Mountai 60.30 325 IAmb IAmb 13 05 20.8
comp=Z,19nm,1.1s
WAKR Walker 60.34 322 IAmb IAmb 13 05 21.8
comp=Z,16nm,1.0s
DGMT Dagmar 60.51 339 P P 13 05 21.2 +0.8
baz=148
DGMT Dagmar 60.51 339 IAmb IAmb 13 05 21.3
comp=Z,17nm,0.8s
YERR Yerington 60.53 323 IAmb IAmb 13 05 22.8
comp=Z,30nm,1.5s
PNTR Pine Nut 60.81 323 IAmb IAmb 13 05 25.0
comp=Z,26nm,1.2s
VCNR Virginia City 60.97 323 P P 13 05 24.7 +0.8
VCNR IAmb IAmb 13 05 25.9
comp=Z,21nm,1.1s
VCNR **pP 13 05 42.4 +1.3**
PAHR Pah Rah Range 61.08 323 P P 13 05 24.9 +0.4
PAHR IAmb IAmb 13 05 26.6
comp=Z,22nm,1.2s
RUBR Rubicon Trail 61.12 322 IAmb IAmb 13 05 28.9
comp=Z,32nm,1.5s
BOZ Bozeman (W) 61.17 333 P P 13 05 25.2 +0.2
baz=140,SNR=7.7
BOZ Bozeman (W) 61.17 333 IAmb IAmb 13 05 26.4
comp=Z,40nm,1.2s
MFID Camas Ranch 61.60 329 P P 13 05 28.3 +0.3
MFID **pP 13 05 44.6 -0.5**
BEKR Beckworth 61.76 323 IAmb IAmb 13 05 31.0
comp=Z,21nm,1.1s
EGMT Eagleton 62.25 336 P P 13 05 32.4 +0.3
baz=142
EGMT Eagleton 62.25 336 IAmb IAmb 13 05 33.2
comp=Z,51nm,1.4s
ORV Oroville 62.25 322 P P 13 05 32.9 +0.7
ORV pmax pmax
comp=Z,57nm,1.2s
ORV Oroville 62.25 322 P P 13 05 32.9 +0.7
WVOR Wild Horse Val 62.43 326 IAmb IAmb 13 05 34.8
comp=Z,23nm,1.1s
SCHQ Schefferville 62.46 7 P P 13 05 33.2 -0.1
comp=Z,14nm,1.0s,baz=121,slow=6.0,SNR=5.8
SCHQ LR LR 13 36 34.7
comp=Z,47nm,18.0s,baz=182,slow=40
SCHQ Schefferville 62.46 7 IAmb IAmb 13 05 33.8
comp=Z,32nm,1.1s
TAOE Nuku Hiva Isla 62.63 264 *e* LR LR 13 24 17.4
comp=Z,244nm,28.7s
O03E Paynes Creek 62.89 323 P P 13 05 36.4 -0.2
baz=128,SNR=5.7
MOD Modoc Plateau 63.02 325 IAmb IAmb 13 05 38.9
comp=Z,55nm,1.4s
MSO Missoula 63.15 332 P P 13 05 38.9 +0.6
baz=138,SNR=30
MSO Missoula 63.15 332 P P 13 05 38.4 +0.2
O02D Mt. Diablo Mer 63.42 322 P P 13 05 39.8 -0.3
baz=127
M04C Macdoel 63.83 324 P P 13 05 43.3 +0.4
baz=129,SNR=13
N02D Trinity Center 63.85 323 P P 13 05 41.8 -1.1
baz=128
JTMT Jette 63.99 333 IAmb IAmb 13 05 45.6
comp=Z,45nm,1.5s
F10A Beach Ranch, E 64.11 330 IAmb IAmb 13 05 46.3
comp=Z,64nm,1.4s
M02C Callahan 64.19 323 P P 13 05 44.5 -0.6
baz=128
K04D Chiloquin, OR 64.31 325 P P 13 05 46.9 +0.9
baz=129,SNR=7.1
L04D Klamath Falls 64.38 324 P P 13 05 46.2 -0.2
baz=128,SNR=12
J05D Fort Rock, OR 64.44 326 P P 13 05 47.4 +0.6
baz=130,SNR=10
PINE Pine Mountain 64.60 326 IAmb IAmb 13 05 51.0
comp=Z,18nm,0.8s
J04D Umpqua Nationa 64.90 325 P P 13 05 50.3 +0.4
baz=129,SNR=10

		comp=Z,15nm,1.0s							
L02E	**Cave Junction**	**65.10**	**323**	P		**P**	**13 05 51.3**	**+0.3**
	baz=127,SNR=6.5								
I05D	**Terrebonne, OR**	**65.17**	**326**	P		**P**	**13 05 52.4**	**+1.0**
	baz=130,SNR=11								
FFC	**Flin Flon**	**65.27**	**344**	*ce*P		**P**	**13 05 51.5**	**-0.3**
FFC	**Flin Flon**	**65.27**	**344**	P		**P**	**13 05 51.0**	**-0.8**
FFC				IAmb	IAmb		13 05 52.7		
	comp=Z,48nm,1.5s								
G06A	**Carlson Farm,**	**65.37**	**327**	IAmb	IAmb		13 05 54.4		
	comp=Z,24nm,1.2s								
I04A	**Tendick Farm,**	**65.42**	**325**	P		**P**	**13 05 52.5**	**-0.6**
	baz=129								
K02D	**Willamette Mer**	**65.47**	**324**	P		**P**	**13 05 54.0**	**+0.6**
	baz=127,SNR=14								
NEW	**Newport**	**65.68**	**332**	P		**P**	**13 05 54.7**	**+0.1**
	baz=135,SNR=13								
NEW	**Newport**	**65.68**	**332**	IAmb	IAmb		13 05 55.7		
	comp=Z,30nm,1.3s								
G05D	**Wamic, OR**	**65.74**	**327**	P		**P**	**13 05 56.2**	**+1.2**
	baz=130,SNR=6.0								
E07A	**Sunnyside**	**65.84**	**329**	IAmb	IAmb		13 05 57.5		
	comp=Z,32nm,1.1s								
H04A	**Detroit Lake**	**65.86**	**326**	IAmb	IAmb		13 05 56.9		
	comp=Z,32nm,1.2s								
I03D	**Drain, OR**	**65.89**	**325**	P		**P**	**13 05 56.3**	**+0.3**
	baz=128								
J01E	**Myrtle Point**	**65.90**	**324**	P		**P**	**13 05 57.2**	**+1.1**
	baz=127								
H04D	**Lebanon**	**66.06**	**326**	P		**P**	**13 05 57.0**	**-0.1**
	baz=129								
COR	**Corvallis**	**66.42**	**326**	P		**P**	**13 06 00.2**	**+0.8**
COR				pmax	pmax				
	comp=Z,32nm,1.1s								
COR	**Corvallis**	**66.42**	**326**	P		**P**	**13 06 00.1**	**+0.8**
COR				IAmb	IAmb		13 06 00.8		
	comp=Z,32nm,1.1s								
I02D	**Swisshome**	**66.43**	**325**	P		**P**	**13 06 00.4**	**+0.9**
	baz=128								
F04A	**Amboy**	**66.78**	**327**	IAmb	IAmb		13 06 02.9		
	comp=Z,55nm,1.5s								
B08A	**Colville Reser**	**66.80**	**331**	P		**P**	**13 06 01.7**	**-0.1**
B08A						**pP**	**13 06 18.3**	**-0.8**
D05A	**Enumclaw**	**67.36**	**328**	IAmb	IAmb		13 06 06.7		
	comp=Z,46nm,1.0s								
B05A	**Bryant**	**68.11**	**329**	P		**P**	**13 06 10.0**	**0.0**
	baz=131								
LLLB	**Lillooet**	**69.55**	**331**	IAmb	IAmb		13 06 21.3		
	comp=Z,38nm,1.4s								
FRB	**Frobisher Bay**	**71.12**	**4**	P		**P**	**13 06 28.0**	**-0.1**
	comp=Z,12nm,0.6s,baz=193,slow=6.4,SNR=9.7								
TBI	**Tubuai**	**71.21**	**248**	*e*LR		LR	13 28 18.3		
	comp=Z,142nm,32.2s								
PPT	**Papeete**	**71.42**	**254**	LR		LR	13 29 59.2		
	comp=Z,91nm,19.7s,baz=162,slow=29								
PPT2	**Papeete2**	**71.42**	**254**	*e*S		**S**	**13 15 45.2**	**+0.1**
	comp=Z,38nm,23.5s								
PPT2	**Papeete2**	**71.42**	**254**	*e*LR		LR	13 28 30.6		
	comp=Z,394nm,30.0s								
DBIC	**Dimbokro**	**73.13**	**81**	P		**P**	**13 06 41.9**	**+0.6**
DBIC				pmax	pmax				
	comp=Z,23nm,1.3s								
DBIC	**Dimbokro**	**73.13**	**81**	P		**P**	**13 06 41.9**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=206,slow=4.2,SNR=3.7								
DBIC				pP		**pP**	**13 06 59.7**	**+1.0**
	comp=Z,10.0nm,0.8s,baz=236,slow=6.1,SNR=6.7								
DBIC				LR		LR	13 37 12.1		
	comp=Z,182nm,20.8s,baz=244,slow=34								
YKA	**Yellowknife Ar**	**75.38**	**343**	P		**P**	**13 06 52.7**	**-0.6**
	comp=Z,3.4nm,0.6s,baz=140,slow=6.1,SNR=129								
VNA3	**Neumayer Olymp**	**75.89**	**162**	P		**P**	**13 06 55.7**	**-0.6**
VNA3	**Neumayer Olymp**	**75.89**	**162**	pP		pP	13 07 15.4	+1.5
VNA1	**Neumayer--Stat**	**76.14**	**161**	pP		pP	13 07 15.4	+0.2
VNA2	**Neumayer--Watz**	**76.49**	**162**	P		**P**	**13 06 59.9**	**+0.2**
	baz=309,slow=6.5								
VNA2	**Neumayer--Watz**	**76.49**	**162**	pP		pP	13 07 17.2	-0.1
	baz=298,slow=6.4								
SNAA	**Sanae**	**78.11**	**162**	P		**P**	**13 07 09.3**	**+0.5**
SNAA	**Sanae**	**78.11**	**162**	pP		pP	13 07 26.4	0.0
SNAA	**Sanae**	**78.11**	**162**	*de*P		**P**	**13 07 09.1**	**+0.3**
SNAA	**Sanae**	**78.11**	**162**	P		**P**	**13 07 08.8**	**+0.1**
SNAA				pP		**pP**	**13 07 25.9**	**-0.6**
TOA0	**Torodi Ar. Sit**	**80.59**	**75**	P		**P**	**13 07 23.6**	**+0.3**
TORD	**Torodi Ar. Bea**	**80.59**	**75**	P		**P**	**13 07 23.5**	**+0.3**
	comp=Z,4.5nm,1.1s,baz=294,slow=5.4,SNR=10								
TORD				pP		**pP**	**13 07 41.6**	**+0.7**
	comp=Z,3.8nm,0.8s,baz=264,slow=4.7,SNR=6.3								
TORD				LR		LR	13 41 42.9		
	comp=Z,74nm,20.4s,baz=295,slow=35								
RAR	**Rarotonga**	**80.84**	**250**	LR		LR	13 35 11.8		
	comp=Z,31nm,21.0s,baz=93,slow=30								
ESDC	**Sonseca Array**	**81.65**	**48**	P		**P**	**13 07 29.2**	**+0.7**
	comp=Z,2.8nm,1.1s,baz=262,slow=4.9,SNR=5.5								
ESDC				pP		**pP**	**13 07 47.0**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=264,slow=4.8,SNR=4.1								
RES	**Resolute Bay**	**82.58**	**355**	P		**P**	**13 07 32.4**	**-0.1**
	comp=Z,3.4nm,0.9s,baz=179,slow=7.2,SNR=5.1								
RES				pP		**pP**	**13 07 51.5**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=260,slow=1.8,SNR=3.0								
QSPA	**South Pole Qui**	**82.81**	**180**	LR		LR	13 41 15.8		
	comp=Z,40nm,18.4s,baz=169,slow=33								
QSPA	**South Pole Qui**	**82.81**	**180**	P		**P**	**13 07 33.7**	**-0.4**
QSPA				pP		**pP**	**13 07 52.4**	**+0.3**
SUMG	**Summit**	**83.45**	**11**	P		**P**	**13 07 37.3**	**-0.2**
SUMG				*PP		**pP**	**13 07 53.4**	**-2.0**
SUMG				pmax	pmax				
	comp=Z,62nm,1.3s								
SUMG	**Summit**	**83.45**	**11**	*i* P		**P**	**13 07 37.6**	**0.0**
	comp=Z,175nm,1.4s								
SUMG	**Summit**	**83.45**	**11**	P		**P**	**13 07 37.3**	**-0.2**
SUMG				IAmb	IAmb		13 07 39.2		
	comp=Z,62nm,1.3s								
SUMG						**pP**	**13 07 53.4**	**-2.0**
TULEG	**Thule**	**83.82**	**2**	P		**P**	**13 07 39.1**	**+0.2**
DAWY	**Dawson**	**84.96**	**337**	IAmb	IAmb		13 07 46.0		
	comp=Z,20nm,1.4s								
INK	**Inuvik**	**85.09**	**342**	P		**P**	**13 07 45.3**	**-0.1**
INK				pmax	pmax				
	comp=Z,25nm,1.4s								
INK	**Inuvik**	**85.09**	**342**	P		**P**	**13 07 45.4**	**-0.1**
	comp=Z,12nm,1.2s,baz=116,slow=4.1								
INK	**Inuvik**	**85.09**	**342**	IAmb	IAmb		13 07 46.6		
	comp=Z,25nm,1.4s								
EPYK	**Eagle Plains**	**85.11**	**340**	P		**P**	**13 07 45.8**	**+0.2**
	baz=120								
GLB	**Gilahina Butte**	**85.64**	**334**	IAmb	IAmb		13 07 49.2		
	comp=Z,17nm,1.1s								
EGAK	**Eagle**	**85.97**	**337**	IAmb	IAmb		13 07 51.1		
	comp=Z,29nm,1.1s								
SCRK	**Sand Creek**	**86.74**	**336**	IAmb	IAmb		13 07 54.9		
	comp=Z,22nm,1.2s								
PAX	**Paxson**	**86.96**	**335**	IAmb	IAmb		13 07 55.7		
	comp=Z,29nm,1.1s								
DHY	**Denali Highway**	**87.81**	**335**	IAmb	IAmb		13 08 00.1		
	comp=Z,17nm,1.2s								
PRP	**Porcupine Dome**	**87.95**	**337**	IAmb	IAmb		13 08 00.9		
	comp=Z,27nm,1.3s								
GHO	**Glory Hole Cre**	**88.04**	**333**	IAmb	IAmb		13 08 00.5		
	comp=Z,23nm,0.8s								
HDA	**Harding Lake**	**88.11**	**336**	P		**P**	**13 08 00.1**	**-0.1**
	baz=111								
HDA	**Harding Lake**	**88.11**	**336**	IAmb	IAmb		13 08 01.0		
	comp=Z,18nm,1.1s								
IL31		**88.21**	**336**	IAmb	IAmb		13 08 01.6		
	comp=Z,24nm,1.2s								
ILAR	**Eielson Array**	**88.21**	**336**	P		**P**	**13 08 00.3**	**-0.4**
	comp=Z,8.1nm,1.0s,baz=138,slow=3.3,SNR=50								
ILAR				pP		**pP**	**13 08 19.0**	**+0.3**
	comp=Z,4.7nm,0.8s,baz=143,slow=3.1,SNR=7.1								
ILAR				PP		**PP**	**13 11 28.1**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=109,slow=7.7,SNR=4.8								
ILAR				LR		LR	13 50 35.8		
	comp=Z,68nm,18.1s,baz=136,slow=38								
CCB	**Clear Creek Bu**	**88.54**	**336**	P		**P**	**13 08 01.9**	**-0.3**
CCB				IAmb	IAmb		13 08 03.2		
	comp=Z,15nm,1.1s								
CCB						**pP**	**13 08 20.3**	**+0.1**
POKR	**Poker Plat Res**	**88.55**	**336**	P		**P**	**13 08 02.8**	**+0.5**
	baz=111								
WRH	**Wood River Hil**	**88.59**	**336**	IAmb	IAmb		13 08 04.2		
	comp=Z,17nm,1.2s								
COLA	**College**	**88.63**	**336**	*ce*P		**P**	**13 08 02.4**	**-0.2**
COLA				pmax	pmax				
	comp=Z,36nm,1.2s								
COLA	**College**	**88.63**	**336**	P		**P**	**13 08 02.5**	**-0.2**
TCOL	**CIGO, UAF Yank**	**88.64**	**336**	P		**P**	**13 08 03.2**	**+0.5**
	baz=110								
MCK	**McKinley**	**88.69**	**335**	IAmb	IAmb		13 08 04.3		
	comp=Z,15nm,1.0s								
MDM	**Murphy Dome**	**88.81**	**336**	P		**P**	**13 08 03.6**	**0.0**
MDM						**pP**	**13 08 21.7**	**+0.1**
BWN	**Browne**	**89.06**	**335**	P		**P**	**13 08 04.4**	**-0.3**
BWN						**pP**	**13 08 23.0**	**+0.3**
TRF	**Thorofare Moun**	**89.18**	**334**	IAmb	IAmb		13 08 05.9		
	comp=Z,10nm,0.8s								
VNDA	**Vanda**	**89.37**	**191**	P		**P**	**13 08 07.1**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=113,slow=5.3,SNR=2.3								
VNDA				pP		**pP**	**13 08 24.4**	**+0.2**
	comp=Z,2.5nm,0.9s,baz=109,slow=3.4,SNR=7.1								
VNDA				LR		LR	13 40 11.0		
	comp=Z,17nm,21.6s,baz=138,slow=30								
KTH	**Kantishna Hill**	**89.48**	**334**	IAmb	IAmb		13 08 07.7		
	comp=Z,22nm,1.0s								
PPLA	**Purkeypile**	**89.83**	**334**	P		**P**	**13 08 08.0**	**-0.6**
MLY	**Manley**	**89.85**	**336**	IAmb	IAmb		13 08 08.7		
	comp=Z,14nm,1.0s								
DAG	**Danmarks Havn**	**90.13**	**11**	*i* P		**P**	**13 08 09.4**	**-0.1**
DAG				pmax	pmax				
	comp=Z,14nm,1.3s								
DAG	**Danmarks Havn**	**90.13**	**11**	*i* P		**P**	**13 08 09.4**	**-0.1**
	comp=Z,14nm,1.3s								
KEST	**Kesra**	**91.13**	**54**	LR		LR	13 49 17.5		
	comp=Z,63nm,18.3s,baz=260,slow=36								
SYO	**Syowa Base**	**92.38**	**161**	⇑*e*PcP		**P**	**13 08 19.6**	**-0.5**
SYO	**Syowa Base**	**92.38**	**161**	⇑*e*pP		pP	13 08 36.0	-2.2
NOA	**NORSAR Array B**	**95.38**	**29**	LR		LR	13 47 48.9		
	comp=Z,38nm,21.6s,baz=0.0,slow=33								
BOSA	**Boshof**	**97.05**	**120**	LR		LR	13 49 27.5		
	comp=Z,103nm,21.8s,baz=209,slow=34								
MAW	**Mawson**	**99.99**	**165**	LR		LR	13 56 20.5		
	comp=Z,64nm,18.1s,baz=240,slow=37								
AKASG	**Malin Array Be**	**105.78**	**39**	PKiKP		**PKiKP**	**13 13 31.1**	**-2.1**
	comp=Z,0.3nm,0.4s,baz=212,slow=3.0,SNR=4.4								
BILL	**Bilibino**	**106.59**	**340**	*e*P		**Pdif**	**13 09 24.0**	**0.0**
BILL				*e*			13 13 46.8		
BILL				pmax	pmax				
	comp=Z,2.0nm,1.4s								
OBN	**Obninsk**	**109.25**	**34**	*e*P		**Pdif**	**13 09 34.5**	**-1.5**
OBN				pmax	pmax				
	comp=Z,3.0nm,0.8s								
DZM	**Mont Dzumac**	**111.50**	**243**	*e*LR		LR	13 47 06.1		
	comp=Z,91nm,26.1s								
MA2	**Magadan**	**116.67**	**335**	⇑ *i*PKIKP		**PKPdf**	**13 13 52.2**	**-1.4**
AKTO	**Aktyubinsk**	**122.98**	**33**	PKP		**PKPdf**	**13 14 05.9**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=153,slow=0.2,SNR=4.4								
AKTO				pPKP		**pPKPdf**	**13 14 25.6**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=169,slow=1.5,SNR=2.9								
ABKAR	**Akbulak array**	**124.68**	**33**	PKPdf		**PKiKP**	**13 14 10.0**	**+0.4**
STKA	**Stephens Creek**	**126.50**	**221**	PKiKP		**PKPdf**	**13 14 13.3**	**-0.1**
STKA	**Stephens Creek**	**126.50**	**221**	PKP		**PKPdf**	**13 14 13.0**	**-0.4**
	comp=Z,2.6nm,0.6s,baz=72,slow=3.2,SNR=5.6								
STKA	**Stephens Creek**	**126.50**	**221**	PKPdf		**PKPdf**	**13 14 13.3**	**-0.1**
BRVK	**Borovoye**	**127.11**	**24**	PKiKP		**PKiKP**	**13 14 14.7**	**+0.3**
BRVK	**Borovoye**	**127.11**	**24**	PKPdf		**PKiKP**	**13 14 14.7**	**+0.3**
BVAR	**Borovoye Array**	**127.18**	**24**	PKP		**PKPdf**	**13 14 14.1**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=263,slow=2.9,SNR=8.8								
BVAR				pPKP		**pPKPdf**	**13 14 33.2**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=318,slow=2.0,SNR=4.2								
ZALV	**Zalesovo Beam**	**131.17**	**14**	PKP		**PKPdf**	**13 14 21.0**	**-0.5**
	comp=Z,3.7nm,0.8s,baz=281,slow=2.3,SNR=19								
ZALV				pPKP		**pPKPdf**	**13 14 40.1**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=298,slow=3.2,SNR=2.8								
UOSS	**Minazif**	**131.88**	**63**	PKPdf		**PKiKP**	**13 14 24.8**	**-0.1**
KURK	**Kurchatov**	**132.15**	**21**	PKiKP		**PKiKP**	**13 14 24.3**	**-0.3**
KURK	**Kurchatov**	**132.15**	**21**			**PKiKP**	**13 14 24.3**	**-0.3**
COEN	**Coen**	**135.02**	**242**	PKPdf		**PKPdf**	**13 14 30.2**	**+0.2**
TLY	**Talaya**	**135.75**	**360**	*e*PKiKP		**PKPdf**	**13 14 22.6**	**-7.7**
TLY				pmax	pmax				
	comp=Z,36nm,0.9s								
HIA	**Hailar**	**135.89**	**344**	⇓*e*PKiKP		**PKPdf**	**13 14 29.0**	**-1.7**
AAK	**Ala-Archa**	**136.67**	**31**	⇑*i*PKiKP		**PKPdf**	**13 14 32.1**	**-0.4**
AAK	**Ala-Archa**	**136.67**	**31**			**PKPdf**	**13 14 33.1**	**+0.6**
MK31	**Makanchi Array**	**136.76**	**21**	PKiKP		**PKPdf**	**13 14 31.3**	**-1.1**
MK31	**Makanchi Array**	**136.76**	**21**	PKPdf		**PKPdf**	**13 14 31.3**	**-1.1**
MKAR	**Makanchi Array**	**136.76**	**21**	*c i*PKiKP		**PKPdf**	**13 14 32.2**	**-0.2**
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
MKAR	**Makanchi Array**	**136.76**	**21**	PKP		**PKPdf**	**13 14 31.8**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=304,slow=1.9,SNR=6.1								
MKAR				pPKP		**pPKPdf**	**13 14 50.5**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=353,slow=4.9,SNR=3.1								
AS31	**Alice Springs**	**137.00**	**223**	PKPpre	PKPpre		13 14 22.5		
ASAR	**Alice Springs**	**137.00**	**223**	PKhKP	PKPpre		13 14 22.5		
	comp=Z,0.5nm,0.5s,baz=132,slow=3.3,SNR=17								
ASAR				PKP		**PKPdf**	**13 14 33.0**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=122,slow=2.0,SNR=19								
WRAB	**Tennant Creek**	**139.08**	**228**	*ce*PKiKP		**PKPdf**	**13 14 36.8**	**-0.6**
WRAB	**Tennant Creek**	**139.08**	**228**	PKPdf		**PKPdf**	**13 14 36.6**	**-0.8**
WRA	**Warramunga Arr**	**139.09**	**228**	PKhKP	PKPpre		13 14 28.3		
	comp=Z,1.8nm,0.9s,baz=122,slow=1.6,SNR=11								
WRA				PKP		**PKPdf**	**13 14 36.7**	**-0.7**
	comp=Z,3.4nm,0.5s,baz=123,slow=2.1,SNR=36								
WRA				pPKP	pPKPdf		13 14 55.6	-0.5	
	comp=Z,4.6nm,0.8s,baz=134,slow=1.4,SNR=7.4								
SONM	**Songino Array**	**139.50**	**357**	PKP		**PKPdf**	**13 14 35.7**	**-1.8**
	comp=Z,1.0nm,0.6s,baz=1.7,slow=2.0,SNR=7.6								
KSH	**Kashi**	**139.69**	**33**	PKP		**PKiKP**	**13 14 40.9**	**+0.4**
KSH				PKS		**PKSdf**	**13 18 15.1**	**+0.9**
KSH				SKS		**SKSdf**	**13 21 45.0**	**+1.7**
KSH				LR	LR				
	comp=Z,510nm,8.5s								
WMQ	**Urumqi**	**141.17**	**18**	*e*PKP		**PKPdf**	**13 14 39.3**	**-1.3**
KSRS	**Korea Array**	**142.49**	**327**	PKhKP	PKPpre		13 14 37.5		
	comp=Z,1.7nm,0.8s,baz=45,slow=1.6,SNR=4.7								
HHC	**Hu-ho-hao-te**	**145.75**	**349**	PKPbc		**PKPab**	**13 14 50.8**	**+1.2**
KNRA	**Kunumurra**	**145.88**	**228**			**PKPab**	**13 14 50.2**	**-0.4**
BTO	**Baotou**	**146.26**	**351**	*e*PKPbc		**PKPdf**	**13 14 49.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**146.40**	**221**	PKPbc		**PKPdf**	**13 14 50.3**	**0.0**
	comp=Z,13nm,0.7s,baz=181,slow=4.0,SNR=54								
FITZ				pPKPbc		**pPKPdf**	**13 15 09.9**	**+0.8**
	comp=Z,18nm,0.6s,baz=166,slow=4.0,SNR=10.0								
FITZ	**Fitzroy Crossi**	**146.40**	**221**			**PKPdf**	**13 14 50.4**	**0.0**
FITZ						**PKPab**	**13 14 52.3**	**-0.2**
PSAD2	**Pilbara Seismi**	**146.88**	**209**			**PKPbc**	**13 14 52.0**	**-1.0**
PSAD2						**PKPab**	**13 14 53.6**	**-0.8**
PSAC3	**Pilbara Seismi**	**146.94**	**209**			**PKPbc**	**13 14 53.3**	**+0.1**
PSAD3	**Pilbara Seismi**	**146.94**	**209**			**PKPbc**	**13 14 53.5**	**+0.3**
PSAB3	**Pilbara Seismi**	**146.95**	**209**	PKPbc		**PKPbc**	**13 14 53.5**	**+0.3**
PSAA3	**Pilbara Seismi**	**146.96**	**209**	PKPbc		**PKPbc**	**13 14 53.0**	**-0.2**
GTA	**Gaotai**	**147.88**	**5**	⇑PKPbc		**PKPbc**	**13 14 55.1**	**-0.3**
GTA				pPKP	pPKPdf		13 15 12.1	+0.9	
GTA				sPKP			13 15 18.9		
GTA				PP		**PP**	**13 18 28.3**	**+6.7**
GTA				SKKS			13 25 10.9		
GTA				SS		**SS**	**13 37 29.0**	**+7.7**
GTA				AMB	AMB				
	comp=Z,210nm,7.9s								
GTA				LR	LR				
	comp=Z,180nm,18.1s								
GTA				LR	LR				
	comp=Z,190nm,18.1s								
GTA				LR	LR				
	comp=Z,190nm,18.1s								
FAKI	**Fak Fak**	**149.25**	**252**	PKPbc		**PKiKP**	**13 15 00.1**	**-0.6**
LZH	**Lanzhou**	**151.33**	**359**	*e*PKPbc		**PKPdf**	**13 14 51.3**	**-6.7**
LZH				pPKP	pPKPdf		13 15 16.6	-0.2	
LZH				LR	LR				
	comp=Z,160nm,17.9s								
LZH				LR	LR				
	comp=Z,170nm,18.1s								
LZH				LR	LR				
	comp=Z,190nm,20.0s								
NJ2	**Nanjing**	**151.35**	**331**	*e*PKPbc		**PKPdf**	**13 14 57.4**	**-0.5**
XAN	**Xi'an**	**152.85**	**349**	P		**PKPbc**	**13 15 05.8**	**-1.6**
XAN				pP	PKPab		13 15 17.3	-1.1	
XAN				pmax	pmax				
	comp=Z,6.0nm,1.0s								
WHN	**Wuhan**	**154.60**	**337**	PKPbc		**PKPdf**	**13 15 06.8**	**+4.1**
CD2	**Chengdu**	**156.50**	**359**	PKP		**PKPdf**	**13 15 03.0**	**-2.3**
SHL	**Shillong**	**158.88**	**29**	PKP2		**PKPab**	**13 15 44.0**	**-0.6**
SHL	**Shillong**	**158.88**	**29**			**PKPab**	**13 15 44.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**168.17**	**20**	PKP		**PKPdf**	**13 15 16.7**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=259,slow=0.8,SNR=4.1								
CMAR				pPKP		**pPKPdf**	**13 15 37.1**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=5.0,slow=2.1,SNR=2.4								
CMAR				PKPab		**PKPab**	**13 16 24.6**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=330,slow=6.1,SNR=4.4								
CMAR				pPKPab		**pPKPab**	**13 16 43.8**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=327,slow=5.4,SNR=2.4								

*MOS **15** 13:28:21.9±1.0,46.°01N×143.°49E,h339km,mb3.7/13,*

Error ellipse: s-maj=9.7km s-min=7.1km az=89.1
*ISCJB **15** 13:28:21.7±0.2,45.°94N±0.°03×143.°54E±0.°05, h340km±2km,mb3.6/29,Error ellipse: s-maj=5.6km s-min=5.0km az=164.9*
*JMA **15** 13:28:22.2±0.3,45.°89N×143.°53E,h340km,M4.0*
*SKHL **15** 13:28:22.8±0.5,45.°85N×143.°57E,h335km±7km,mb5.2/6, msh4.9/4*
*NEIC **15** 13:28:22.6±1.4,45.°94N±0.°08×143.°5E±0.°1,h337km±7km, mb4.2/39*
*IDC **15** 13:28:22.7±0.6,46.°10N×143.°44E,h326km±8km,mb3.3/14, mb1 3.5/20,mb1mx3.3/51,mbtmp4.0/20,Error ellipse: s-maj=15.0km s-min=9.9km az=152.0*

ISC 15 13:28:22.4±0.5,45.°87N±0.°05×143.°54E±0.°05,h336km±5km, n132,σ1§26/150,mb4.0/44,10C-5D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**1.14**	**217**	P	**Pn**	**13 29 07.5**	**+0.3**
JSE				*e*S	**S**	**13 29 42.7**	**-0.3**
YSS	**Yuzh-Sakhalins**	**1.21**	**334**	⇑*e*PN	**Pn**	**13 29 07.4**	**0.0**
YSS				*e*S	**S**	**13 29 41.8**	**-1.6**
YSS				pmax	pmax		
	comp=Z,520nm,0.3s						
YSS				smax	smax		
	comp=E,310nm,0.7s						
YSS				smax	smax		
	comp=N,320nm,0.5s						
YSS	**Yuzh-Sakhalins**	**1.21**	**334**	*e*P	**Pn**	**13 29 07.4**	**0.0**
YSS				AMB	AMB	13 29 07.7	
	comp=N,520nm,0.3s						
YSS				*e*S	**S**	**13 29 42.4**	**-1.0**
YSS				A	A	13 29 42.7	
	comp=N,320nm,0.7s						
YSS				A	A	13 29 42.7	
	comp=N,310nm,0.7s						
YSS				A	A	13 29 47.4	
	comp=N,900nm,4.0s						
YSS				A	A	13 29 47.4	
	comp=N,2μm,4.0s						
YSS	**Yuzh-Sakhalins**	**1.21**	**334**		**Pn**	**13 29 07.6**	**+0.2**
JWK2	**Keihoku**	**1.28**	**245**	⇑P	**Pn**	**13 29 08.6**	**+0.8**
JWK2				*e*S	**S**	**13 29 44.5**	**+0.3**
KHLM	**Kholmsk**	**1.57**	**319**	*i* P	**Pn**	**13 29 09.1**	**-0.2**
KHLM				AMB	AMB	13 29 09.7	
	comp=N,530nm,0.5s						
KHLM				*e*S	**S**	**13 29 46.0**	**-0.9**
KHLM				A	A	13 29 46.3	
	comp=N,200nm,0.4s						
KHLM				A	A	13 29 46.3	
	comp=N,600nm,0.4s						
JRR	**Rishiri**	**1.73**	**246**	P	**Pn**	**13 29 09.9**	**-0.5**
JRBN	**Rebuntou**	**1.79**	**256**	P	**Pn**	**13 29 10.7**	**-0.1**
JMP	**Maruseppu**	**1.87**	**184**	P	**Pn**	**13 29 12.3**	**+0.8**
ASAJ	**Asahikawa**	**1.88**	**201**	P	**Pn**	**13 29 12.7**	**+1.1**
	comp=N,24nm,0.3s,baz=5.2,slow=4.7,SNR=218						
ASAJ				S	**S**	**13 29 52.3**	**+1.4**
	baz=60,slow=20,SNR=3.3						
JKA	**Kamikawa-asahi**	**1.88**	**201**		**Pn**	**13 29 12.7**	**+1.1**
JKA					**S**	**13 29 52.3**	**+1.4**
JTKR	**Abashiri--Toko**	**1.92**	**172**	P	**Pn**	**13 29 12.7**	**+0.9**
JTKR				*e*S	**S**	**13 29 52.4**	**+1.0**
JKK2	**

SEY	**Seymchan**	**17.82**	**13**	*e*P	**P**	**13 32 07.5**	**-0.2**
SEY	**Seymchan**	**17.82**	**13**	P	**P**	**13 32 07.3**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=201,slow=8.9,SNR=33						
YAK	**Yakutsk**	**18.06**	**339**	P	**P**	**13 32 09.9**	**-0.3**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
YAK	**Yakutsk**	**18.06**	**339**	P	**P**	**13 32 09.9**	**-0.3**
YAK				IAmb	IAmb	13 32 38.2	
	comp=Z,11nm,0.9s						
ULN	**Ulaanbaatar**	**24.88**	**288**	*e*P	**P**	**13 33 16.0**	**+0.4**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BILL	**Bilibino**	**25.14**	**20**	*e*P	**P**	**13 33 17.7**	**+0.2**
BILL				pmax	pmax		
	comp=Z,14nm,2.0s						
SONM	**Songino Array**	**25.32**	**288**	P	**P**	**13 33 19.5**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=78,slow=9.0,SNR=12						
ZALV	**Zalesovo Beam**	**37.67**	**304**	P	**P**	**13 35 05.1**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=74,slow=10,SNR=4.6						
MLY	**Manley**	**39.67**	**37**	P	**P**	**13 35 24.1**	**+1.6**
MLY				IAmb	IAmb	13 36 18.0	
	comp=Z,23nm,2.0s						
KDAK	**Kodiak Island**	**39.74**	**49**	*i* P	**P**	**13 35 23.3**	**+0.3**
KDAK	**Kodiak Island**	**39.74**	**49**	P	**P**	**13 35 22.7**	**-0.3**
TOLK	**Toolik Lake Re**	**39.99**	**32**	P	**P**	**13 35 23.8**	**-1.2**
TRF	**Thorofare Moun**	**40.00**	**40**	P	**P**	**13 35 24.8**	**-0.5**
TRF				IAmb	IAmb	13 36 26.4	
	comp=Z,43nm,1.9s						
SUA	**Susitna One**	**40.04**	**43**	P	**P**	**13 35 26.6**	**+1.0**
CNPM	**China Poot**	**40.11**	**46**	P	**P**	**13 35 25.6**	**-0.5**
BRLK	**Bradley Lake**	**40.24**	**45**	P	**P**	**13 35 25.8**	**-1.4**
RC01	**Rabbit Creek A**	**40.58**	**43**	P	**P**	**13 35 29.9**	**0.0**
RC01				IAmb	IAmb	13 36 50.4	
	comp=Z,47nm,1.5s						
PMR	**Palmer**	**40.79**	**42**	P	**P**	**13 35 31.3**	**-0.2**
PMR				pmax	pmax		
	comp=Z,78nm,1.9s						
PMR	**Palmer**	**40.79**	**42**	P	**P**	**13 35 31.3**	**-0.2**
WRH	**Wood River Hil**	**40.85**	**38**	P	**P**	**13 35 31.8**	**-0.2**
WRH				IAmb	IAmb	13 36 09.0	
	comp=Z,24nm,1.7s						
GHO	**Glory Hole Cre**	**40.86**	**42**	P	**P**	**13 35 31.8**	**-0.4**
GHO				IAmb	IAmb	13 36 19.1	
	comp=Z,41nm,1.4s						
COLA	**College**	**40.91**	**37**	*e*P	**P**	**13 35 31.6**	**-0.8**
COLA				pmax	pmax		
	comp=Z,7.0nm,1.5s						
CCB	**Clear Creek Bu**	**40.95**	**38**	P	**P**	**13 35 32.3**	**-0.5**
CCB				IAmb	IAmb	13 36 00.8	
	comp=Z,25nm,2.0s						
IL31		**41.33**	**37**	P	**P**	**13 35 35.8**	**0.0**
IL31				IAmb	IAmb	13 36 04.6	
	comp=Z,19nm,1.9s						
ILAR	**Eielson Array**	**41.33**	**37**	P	**P**	**13 35 34.9**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=250,slow=5.4,SNR=12						
MK31	**Makanchi Array**	**41.34**	**294**	P	**P**	**13 35 35.8**	**-0.5**
MK31				pmax	pmax		
	comp=Z,11nm,1.3s						
MK31	**Makanchi Array**	**41.34**	**294**	P	**P**	**13 35 35.8**	**-0.5**
MKAR	**Makanchi Array**	**41.34**	**294**	*ce*P	**P**	**13 35 36.0**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**41.34**	**294**	P	**P**	**13 35 35.9**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=80,slow=8.0,SNR=12						
HDA	**Harding Lake**	**41.35**	**38**	P	**P**	**13 35 35.8**	**-0.3**
HDA				IAmb	IAmb	13 36 55.3	
	comp=Z,43nm,2.0s						
DHY	**Denali Highway**	**41.36**	**40**	P	**P**	**13 35 35.3**	**-1.0**
PRP	**Porcupine Dome**	**41.80**	**36**	P	**P**	**13 35 39.4**	**-0.4**
PRP				IAmb	IAmb	13 36 27.1	
	comp=Z,20nm,1.8s						
KURK	**Kurchatov**	**42.22**	**301**	*i* P	**P**	**13 35 42.1**	**-1.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**42.22**	**301**	P	**P**	**13 35 42.0**	**-1.1**
SCRK	**Sand Creek**	**42.70**	**38**	P	**P**	**13 35 45.6**	**-1.4**
EGAK	**Eagle**	**43.75**	**37**	P	**P**	**13 35 54.3**	**-0.8**
EGAK				IAmb	IAmb	13 37 36.8	
	comp=Z,21nm,1.7s						
EPYK	**Eagle Plains**	**45.18**	**34**	P	**P**	**13 36 05.7**	**-0.6**
EPYK				IAmb	IAmb	13 37 51.0	
	comp=Z,20nm,1.6s						
CMAR	**Chiang Mai Arr**	**45.78**	**248**	P	**P**	**13 36 13.2**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=35,slow=8.5,SNR=5.1						
INK	**Inuvik**	**45.88**	**31**	P	**P**	**13 36 10.6**	**-1.1**
INK				pmax	pmax		
	comp=Z,18nm,1.9s						
INK	**Inuvik**	**45.88**	**31**	P	**P**	**13 36 10.8**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=269,slow=5.4,SNR=18						
INK	**Inuvik**	**45.88**	**31**	P	**P**	**13 36 10.6**	**-1.1**
INK				IAmb	IAmb	13 37 59.9	
	comp=Z,18nm,1.9s						
BRVK	**Borovoye**	**46.22**	**307**	*e*P	**P**	**13 36 14.3**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**46.22**	**307**	P	**P**	**13 36 13.9**	**-0.6**
KDJ	**Kajisay**	**46.64**	**290**	P	**P**	**13 36 18.5**	**+0.3**
KDJ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KDJ	**Kajisay**	**46.64**	**290**	P	**P**	**13 36 18.5**	**+0.3**
AAK	**Ala-Archa**	**48.15**	**292**	*e*P	**P**	**13 36 30.1**	**+0.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
AAK	**Ala-Archa**	**48.15**	**292**	P	**P**	**13 36 30.1**	**+0.4**
KK31	**Karatay Array**	**50.47**	**295**	P	**P**	**13 36 46.2**	**-0.7**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KK31	**Karatay Array**	**50.47**	**295**	P	**P**	**13 36 46.2**	**-0.7**
KKAR	**Karatay Array**	**50.47**	**295**	P	**P**	**13 36 46.2**	**-0.7**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**50.47**	**295**	P	**P**	**13 36 46.2**	**-0.7**
TARA	**Tarawa**	**51.29**	**141**	P	**P**	**13 36 52.1**	**-1.1**
GAR	**Garm**	**52.73**	**290**	P	**P**	**13 37 03.4**	**-0.3**
GAR				IAmb	IAmb	13 37 05.0	
	comp=Z,16nm,1.2s						
RES	**Resolute Bay**	**53.66**	**16**	P	**P**	**13 37 08.3**	**-1.3**
RES				pmax	pmax		
	comp=Z,14nm,1.8s						
RES	**Resolute Bay**	**53.66**	**16**	P	**P**	**13 37 08.3**	**-1.3**
RES				IAmb	IAmb	13 38 46.9	
	comp=Z,14nm,1.8s						
CHGR	**Chuyangaron**	**53.68**	**291**	P	**P**	**13 37 10.4**	**0.0**
ABKAR	**Akbulak array**	**53.73**	**306**	P	**P**	**13 37 09.7**	**-0.8**
ABKAR				IAmb	IAmb	13 37 10.6	
	comp=Z,3.4nm,0.5s						
YKA	**Yellowknife Ar**	**55.46**	**33**	P	**P**	**13 37 22.4**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=306,slow=6.9,SNR=34						
TULEG	**Thule**	**56.13**	**9**	P	**P**	**13 37 28.1**	**+1.0**
COEN	**Coen**	**59.55**	**180**	P	**P**	**13 37 51.8**	**+0.4**
COEN				IAmb	IAmb	13 39 53.8	
	comp=Z,23nm,1.6s						
GEYT	**Alibeck**	**61.18**	**296**	P	**P**	**13 38 02.6**	**+0.3**
	comp=Z,2.2nm,0.5s,baz=67,slow=5.0,SNR=6.9						
FINES	**FINESS Array B**	**61.79**	**331**	*i* P	**P**	**13 38 04.6**	**-1.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**61.79**	**331**	P	**P**	**13 38 04.9**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=42,slow=5.9,SNR=9.9						
OBN	**Obninsk**	**62.07**	**322**	*e*P	**P**	**13 38 08.4**	**+0.6**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PINE	**Pine Mountain**	**63.59**	**54**	P	**P**	**13 38 19.0**	**+0.7**
PINE				IAmb	IAmb	13 38 21.3	
	comp=Z,3.9nm,0.8s						
FFC	**Flin Flon**	**65.49**	**35**	*i* P	**P**	**13 38 31.4**	**+1.4**
KVN	**Kaiserville**	**68.30**	**56**	P	**P**	**13 38 48.9**	**+0.8**
KVN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KVN	**Kaiserville**	**68.30**	**56**	P	**P**	**13 38 48.9**	**+0.8**
KVN				IAmb	IAmb	13 38 50.3	
	comp=Z,3.6nm,0.7s						
NVAR	**Mina Array Bea**	**68.59**	**57**	P	**P**	**13 38 51.4**	**+1.5**
	comp=Z,1.3nm,0.6s,baz=299,slow=6.2,SNR=16						
ASAR	**Alice Springs**	**69.76**	**189**	P	**P**	**13 38 59.0**	**+2.2**
	comp=Z,0.3nm,0.5s,baz=3.0,slow=5.5,SNR=12						
PD31	**Pinedale Array**	**70.46**	**48**	P	**P**	**13 39 01.6**	**+0.5**
PD31				IAmb	IAmb	13 40 45.8	
	comp=Z,8.9nm,1.8s						
PDAR	**Pinedale Array**	**70.46**	**48**	P	**P**	**13 39 01.9**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=309,slow=1.6,SNR=14						
TPNV	**Topopah Spring**	**70.79**	**57**	P	**P**	**13 39 04.2**	**+1.0**
TPNV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TPNV	**Topopah Spring**	**70.79**	**57**	P	**P**	**13 39 04.2**	**+1.0**
TPNV				IAmb	IAmb	13 39 05.4	
	comp=Z,2.8nm,0.7s						
BRTR	**Keskin Array B**	**74.22**	**311**	*ce*P	**P**	**13 39 23.7**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**74.22**	**311**	P	**P**	**13 39 23.3**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=84,slow=2.7,SNR=3.5						
ANMO	**Albuquerque**	**77.78**	**52**	*e*P	**P**	**13 39 44.5**	**+1.3**
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.9s						
TXAR	**Lajitas Array**	**83.55**	**54**	P	**P**	**13 40 14.7**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=295,slow=4.7,SNR=7.5						
W50A	**Signal Mountai**	**88.05**	**38**	P	**P**	**13 40 33.5**	**-1.7**

IDC 15 14:00:53.7±6.8, 6°.58S×149°.02E, h94km±49km, mb3.1/2, mb1 3.3/4, mb1mx3.1/27, mbtmp3.5/4, Error ellipse: s-maj=96.7km s-min=51.2km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.36**	**213**	P	Pn	14 01 44.4	+0.2
	3.1nm,0.3s,baz=16,slow=5.8,SNR=12						
PMG				S	Sn	14 02 23.7	+0.4
	16nm,0.3s,baz=123,slow=20,SNR=16						
WRA	**Warramunga Arr**	**19.49**	**226**	P	P	14 05 12.8	-0.7
	0.1nm,0.3s,baz=51,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**22.36**	**219**	P	P	14 05 44.6	+0.4
	0.5nm,0.7s,baz=57,slow=9.2,SNR=15						
FITZ	**Fitzroy Crossi**	**25.51**	**241**	P	P	14 06 13.4	-0.3
	1.2nm,0.7s,baz=83,slow=8.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**147.18**	**284**	PKPbc	PKPbc	14 20 27.2	0.0
	0.4nm,0.8s,baz=88,slow=2.3,SNR=3.5						

*IDC **15** 14:01:26.2±1.3, 34°.79N×25°.74E, h0km, mb3.7/5, mb1 3.7/10, mb1mx3.5/44, mbtmp3.5/10, ML3.6/5, Error ellipse: s-maj=27.6km s-min=20.2km az=160.0*
*THE **15** 14:01:26.8, 34°.92N×25°.69E, h2km±1km, ML3.6/7, Error ellipse: s-maj=1.5km s-min=0.3km az=169.0*
*ISK **15** 14:01:26.1, 34°.95N×25°.68E, h19km, ML3.4/16*
*ISCJB **15** 14:01:27.4±0.5, 34°.94N±0°.03×25°.73E±0°.02, h17km±3km, mb3.5/5, Error ellipse: s-maj=5.9km s-min=2.8km az=173.5*
*ATH **15** 14:01:27.1, 34°.99N×25°.68E, h22km, ML3.5/13, Error ellipse: s-maj=1.7km s-min=0.8km az=172.0*
*DDA **15** 14:01:31.3, 35°.12N×25°.85E, h6km±5km, ML2.7*

ISC 15 14:01:27.8±0.9, 34°.95N±0°.04×25°.70E±0°.02, h16km±5km, n106, σ1§57/135, mb3.7/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.07**	**23**	P	**Pg**	**14 01 30.8**	**-0.2**
FRMA				S	**Sg**	**14 01 33.7**	**+0.6**
	6µm,0.4s						
LAST	**Lasithi**	**0.28**	**320**	P	**Pg**	**14 01 33.0**	**-0.9**
LAST				S	**Sg**	**14 01 37.7**	**-0.4**
LAST	**Lasithi**	**0.28**	**320**	P	**Pg**	**14 01 32.9**	**-1.0**
LAST				S	**Sg**	**14 01 37.8**	**-0.3**
LAST				AML	AML	14 01 38.3	
	comp=N,17577µm,0.5s						
LAST				AML	AML	14 01 40.6	
	comp=E,12724µm,0.5s						
NPS	**Neapolis**	**0.32**	**347**	P	**Pg**	**14 01 33.7**	**-0.9**
NPS				S	**Sg**	**14 01 39.2**	**0.0**
	comp=E,15µm,0.4s						
NPS	**Neapolis**	**0.32**	**347**	P	**Pg**	**14 01 33.7**	**-0.9**
NPS				S	**Sg**	**14 01 38.7**	**-0.5**
NPS				AML	AML	14 01 39.4	
	comp=E,31085µm,0.4s						
NPS				AML	AML	14 01 39.7	
	comp=N,27091µm,0.3s						
STIA	**Sitia Lasithi**	**0.41**	**52**	P	**Pg**	**14 01 35.4**	**-0.7**
STIA				S	**Sb**	**14 01 42.3**	**-0.3**
ZKR	**Zakros**	**0.46**	**69**	P	**Pg**	**14 01 36.0**	**-1.0**
ZKR				S	**Sb**	**14 01 43.6**	**-0.4**
	comp=N,10µm,0.4s						
ZKR	**Zakros**	**0.46**	**69**	P	**Pg**	**14 01 36.1**	**-1.0**
ZKR				S	**Sb**	**14 01 43.8**	**-0.2**
ZKR				AML	AML	14 01 44.6	
	comp=N,16011µm,0.6s						
ZKR				AML	AML	14 01 44.8	
	comp=E,22509µm,0.3s						
ZKR	**Zakros**	**0.46**	**69**	PG	**Pg**	**14 01 36.0**	**-1.0**
ZKR				SG	**Sg**	**14 01 43.3**	**+0.1**
HRKL	**Herakleio**	**0.61**	**307**	P	**Pg**	**14 01 39.0**	**-0.8**
HRKL				S	**Sb**	**14 01 48.5**	**+0.1**
	comp=E,5µm,0.8s						
HRKL	**Herakleio**	**0.61**	**307**	PG	**Pg**	**14 01 38.8**	**-1.0**
HRKL				SG	**Sg**	**14 01 47.3**	**-0.6**
KSTL	**Kastelli Herak**	**0.62**	**305**	P	Pg	14 01 34.8	-5.3
IACM	**Heraklion**	**0.63**	**305**	P	**Pg**	**14 01 39.1**	**-1.1**
IACM				S	**Sb**	**14 01 49.0**	**+0.1**
	comp=E,13µm,0.6s						
IACM	**Heraklion**	**0.63**	**305**	P	**Pg**	**14 01 39.0**	**-1.1**
IACM				S	**Sg**	**14 01 46.6**	**-1.9**
IACM				AML	AML	14 01 53.6	
	comp=E,31182µm,0.5s						
IACM				AML	AML	14 02 01.1	
	comp=N,32840µm,0.4s						
SIVA	**Sivas**	**0.73**	**276**	P	**Pg**	**14 01 40.6**	**-1.5**
SIVA				S	**Sb**	**14 01 52.2**	**+0.3**
	comp=N,6µm,0.5s						
SIVA	**Sivas**	**0.73**	**276**	P	**Pg**	**14 01 40.7**	**-1.4**
SIVA				S	**Sg**	**14 01 51.0**	**-0.9**
SIVA				AML	AML	14 01 54.0	
	comp=N,10917µm,0.7s						
SIVA				AML	AML	14 01 57.0	
	comp=E,19537µm,0.4s						
IDI	**Anoyia**	**0.74**	**297**	P	**Pg**	**14 01 40.4**	**-2.0**
IDI				S	**Sg**	**14 01 51.4**	**-0.9**
IDI				AML	AML	14 01 53.0	
	comp=N,3636µm,0.4s						
IDI				AML	AML	14 01 55.8	
	comp=E,3480µm,0.5s						
IDI	**Anoyia**	**0.74**	**297**	PG	**Pg**	**14 01 40.6**	**-1.8**
IDI				SG	**Sg**	**14 01 51.6**	**-0.6**
TMBK	**Timbaki Herakl**	**0.78**	**279**	P	**Pb**	**14 01 42.1**	**-0.8**
TMBK				S	**Sg**	**14 01 53.4**	**+0.2**
	comp=E,3µm,0.7s						
VAM	**Vamos**	**1.31**	**291**	P	**Pn**	**14 01 50.4**	**-1.0**
VAM	**Vamos**	**1.31**	**291**	P	**Pn**	**14 01 50.7**	**-0.7**
VAM				S	**Sg**	**14 02 09.4**	**-0.8**
VAM				AML	AML	14 02 16.4	
	comp=E,2261µm,0.4s						
VAM				AML	AML	14 02 18.0	
	comp=N,2912µm,0.8s						
GVD	**Gavdhos**	**1.33**	**266**	P	**Pn**	**14 01 50.4**	**-1.3**
GVD	**Gavdhos**	**1.33**	**266**	P	**Pb**	**14 01 52.5**	**+0.1**
GVD				S	**Sg**	**14 02 11.4**	**+0.7**
GVD				AML	AML	14 02 21.2	
	comp=E,3091µm,0.5s						
GVD				AML	AML	14 02 21.8	
	comp=N,2273µm,0.3s						
KARP	**Karpathos**	**1.34**	**63**	P	**Pb**	**14 01 52.4**	**-0.1**
KARP	**Karpathos**	**1.34**	**63**	PN	**Pn**	**14 01 51.2**	**-0.6**
ANAF	**Anafi Island**	**1.41**	**2**	P	**Pn**	**14 01 52.8**	**0.0**
ANAF	**Anafi Island**	**1.41**	**2**	P	**Pn**	**14 01 52.8**	**0.0**
ANAF				S	**Sb**	**14 02 11.4**	**0.0**
ANAF				AML	AML	14 02 16.7	
	comp=N,8755µm,0.3s						
ANAF				AML	AML	14 02 19.8	
	comp=E,6930µm,0.3s						
THR6	**Thira Island,**	**1.43**	**350**	P	**Pn**	**14 01 53.1**	**+0.1**
THR6	**Thira Island,**	**1.43**	**350**	P	**Pn**	**14 01 53.0**	**0.0**
SANT	**Santorini**	**1.43**	**352**	P	**Pn**	**14 01 53.0**	**-0.2**
SANT	**Santorini**	**1.43**	**352**	P	**Pn**	**14 01 53.0**	**-0.2**
SANT				AML	AML	14 02 16.5	
	comp=N,1683µm,0.3s						
SANT				AML	AML	14 02 16.8	
	comp=E,3470µm,0.3s						
SANT	**Santorini**	**1.43**	**352**	PN	**Pn**	**14 01 51.7**	**-1.5**
THR8	**Santorini-Mono**	**1.47**	**353**	P	**Pn**	**14 01 53.0**	**-0.5**
THR3	**Thira Island,**	**1.48**	**351**	P	**Pn**	**14 01 53.8**	**+0.1**
THR7	**Fira-Santorini**	**1.49**	**352**	P	**Pb**	**14 01 55.2**	**+0.1**
THR5	**Thira Island,**	**1.49**	**349**	P	**Pn**	**14 01 53.8**	**-0.1**
THR5	**Thira Island,**	**1.49**	**349**	P	**Pn**	**14 01 53.6**	**-0.3**
IMMV	**Iera Moni Meta**	**1.50**	**290**	P	**Pn**	**14 01 54.4**	**+0.4**
IMMV				S	**Sb**	**14 02 14.9**	**+1.0**
IMMV				AML	AML	14 02 17.1	
	comp=N,2108µm,0.4s						
IMMV				AML	AML	14 02 18.8	
	comp=E,2846µm,0.6s						
THT2	**Imerovigli**	**1.50**	**351**	PN	**Pn**	**14 01 52.2**	**-1.9**
IOSP	**Ios island**	**1.80**	**349**	P	**Pn**	**14 01 58.2**	**0.0**
IOSP	**Ios island**	**1.80**	**349**	P	**Pn**	**14 01 58.4**	**+0.2**
AMGA	**Amorgos Island**	**1.89**	**5**	P	**Pn**	**14 01 59.5**	**+0.1**
AMGA				S	**Sn**	**14 02 22.6**	**-0.2**
AMGA				AML	AML	14 02 31.1	
	comp=E,1015µm,0.5s						
AMGA				AML	AML	14 02 32.3	
	comp=N,745µm,0.5s						
NISR	**Nisiros**	**2.03**	**35**	P	**Pn**	**14 02 02.1**	**+0.9**
MHLO	**Agia Marina, M**	**2.03**	**329**	P	**Pn**	**14 02 01.2**	**-0.2**
MHLO	**Agia Marina, M**	**2.03**	**329**	P	**Pn**	**14 02 02.2**	**+0.9**
MHLA	**Plaka, Milos I**	**2.07**	**330**	P	**Pn**	**14 02 03.0**	**+1.1**
KOSK	**Kos Island**	**2.08**	**30**	PN	**Pn**	**14 02 00.8**	**-1.2**
APE	**Apeiranthos**	**2.12**	**356**	P	**Pn**	**14 02 03.2**	**+0.5**
APE				AML	AML	14 02 38.2	
	comp=E,454µm,0.5s						
APE				AML	AML	14 02 39.8	
	comp=N,280µm,0.6s						
APE	**Apeiranthos**	**2.12**	**356**	PN	**Pn**	**14 02 01.9**	**-0.7**
ANKY	**Antikythira Is**	**2.16**	**296**	P	**Pb**	**14 02 04.9**	**-1.7**
DAT	**Datca**	**2.34**	**40**	*i* PA	**Pn**	**14 02 06.5**	**+0.8**
DAT				*i* S	**Sn**	**14 02 34.0**	**-0.2**
DAT	**Datca**	**2.34**	**40**	PN	Pn	**14 02 05.1**	**-0.6**
SERI	**Serifos**	**2.42**	**336**	P	**Pn**	**14 02 07.1**	**+0.4**
BODT	**Bodrum**	**2.48**	**31**	PN	Pn	**14 02 06.7**	**-0.8**
KTHA	**Kythira Island**	**2.51**	**302**	P	**Pn**	**14 02 08.2**	**+0.2**
KTHA	**Kythira Island**	**2.51**	**302**	P	**Pn**	**14 02 07.8**	**-0.2**
VLI	**Veliai**	**2.86**	**309**	P	**Pn**	**14 02 14.0**	**+1.3**
MLSB	**Milas**	**2.88**	**35**	PN	Pn	**14 02 12.6**	**-0.5**
SMG	**Samos**	**2.90**	**18**	P	**Pn**	**14 02 14.7**	**+1.3**
GCAM	**G?zelcaml?**	**3.01**	**24**	*i* P	**Pb**	**14 02 21.8**	**+0.8**
GCAM	**G?zelcaml?**	**3.01**	**24**	PN	**Pn**	**14 02 14.7**	**-0.1**
YER	**Yerkesik**	**3.02**	**43**	PN	**Pn**	**14 02 14.9**	**-0.2**
TURN	**Turunc**	**3.04**	**50**	*i* P	**Pn**	**14 02 12.2**	**-3.0**
TURN				*i* S	**Sn**	**14 02 43.4**	**-7.9**
TURN				IAML		14 03 00.0	
	comp=Z,29nm,0.6s						
TURN				IAML		14 03 04.0	
	comp=N,41nm,0.5s						
TURN				IAML		14 03 04.0	
	comp=E,28nm,0.7s						
TURN	**Turunc**	**3.04**	**50**	PN	**Pn**	**14 02 10.9**	**-4.3**
FETY	**Fethiye**	**3.23**	**58**	*i* PA	**Pn**	**14 02 20.0**	**+2.2**
FETY				*i* S	**Sn**	**14 02 56.7**	**+0.8**
FETY				IAML		14 03 18.0	
	comp=N,15nm,0.8s						
FETY				IAML		14 03 22.0	
	comp=E,12nm,0.6s						
AYDN	**Tasoluk**	**3.23**	**32**	*i* P	**Pb**	**14 02 21.6**	**-3.2**
AYDN				IAML		14 03 11.0	
	comp=E,18nm,0.7s						
AYDN				IAML		14 03 26.0	
	comp=N,22nm,0.7s						
DID	**Didima**	**3.24**	**323**	P	**Pn**	**14 02 19.3**	**+1.4**
DGB	**zmir**	**3.24**	**17**	*i* P	**Pn**	**14 02 18.9**	**+0.9**
DGB				*i* S	**Sn**	**14 02 56.1**	**-0.1**
DGB				IAML		14 03 03.0	
	comp=N,26nm,0.8s						
DGB				IAML		14 03 03.0	
	comp=E,21nm,0.7s						
KARY	**Karystos**	**3.24**	**342**	P	**Pn**	**14 02 19.4**	**+1.5**
DYR	**Agios Nikonas**	**3.28**	**304**	P	**Pn**	**14 02 20.8**	**+2.3**
VLY	**Voula,Athens**	**3.28**	**333**	P	**Pn**	**14 02 18.1**	**-0.5**
ZEY	**zmir**	**3.35**	**11**	*i* P	**Pb**	**14 02 25.9**	**-0.8**
ATHU	**Athens Univers**	**3.38**	**333**	P	**Pn**	**14 02 21.9**	**+2.0**
KSL	**Kastellorizon**	**3.39**	**68**	P	**Pn**	**14 02 21.9**	**+1.9**
PTL	**Penteli**	**3.43**	**335**	P	**Pn**	**14 02 21.6**	**+1.0**
AKAS	**Kas**	**3.43**	**67**	*i* P	**Pn**	**14 02 22.3**	**+1.6**
AKAS				*i* S	**Sn**	**14 02 58.8**	**-2.3**
AKAS				IAML		14 03 31.0	
	comp=E,14nm,0.8s						
AKAS				IAML		14 03 41.0	
	comp=N,29nm,0.7s						
AKAS	**Kas**	**3.43**	**67**	PN	**Pn**	**14 02 20.5**	**-0.2**
CHOS	**Chios island**	**3.44**	**5**	P	**Pn**	**14 02 20.5**	**-0.3**
CHOS	**Chios island**	**3.44**	**5**	PN	**Pn**	**14 02 20.1**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**3.48**	**30**	PN	**Pn**	**14 02 20.3**	**-1.0**
URLA	**Izmir**	**3.48**	**12**	*i* P	**Pn**	**14 02 22.6**	**+1.3**
URLA				*i* S	**Sn**	**14 03 03.5**	**+1.3**
URLA				IAML		14 03 25.0	
	comp=E,13nm,0.9s						
URLA				IAML		14 03 44.0	
	comp=N,16nm,0.7s						
URLA	**Izmir**	**3.48**	**12**	PN	**Pn**	**14 02 20.8**	**-0.5**
TAVA	**DENIZLI_Tavas**	**3.62**	**45**	*i* P	**Pn**	**14 02 26.6**	**+3.4**
TAVA				IAML		14 03 15.0	
	comp=N,15nm,0.9s						
TAVA				IAML		14 03 30.0	
	comp=E,17nm,0.7s						
LOUT	**Loutraki**	**3.75**	**325**	P	**Pn**	**14 02 27.5**	**+2.6**
LTK	**Loutraki**	**3.78**	**325**	P	**Pn**	**14 02 27.0**	**+1.6**
GLHS	**Glhisar (BURDU**	**3.79**	**53**	PN	**Pn**	**14 02 25.4**	**-0.2**
VIL2	**Platees**	**3.80**	**330**	P	**Pn**	**14 02 26.7**	**+1.0**
ELL	**Elmali**	**3.86**	**61**	PN	**Pn**	**14 02 26.5**	**-0.1**
GOLH	**Golhisar**	**

GMJI	**Gumukmas**	**2.59**	**272**	P		**Pn**	14 20 19.2	**+0.5**
PWJI	**Pagerwojo**	**4.22**	**274**	P		**Pn**	14 20 40.8	**-0.5**
PCJI	**Pacitan**	**4.83**	**272**	P		**Pn**	14 20 49.7	**+0.1**
KAPI	**Kappang**	**4.96**	**48**	Pn		**Pn**	14 20 51.1	**-0.2**
	2.7nm,0.3s,baz=194,slow=7.9,SNR=8.7							
BKSI	**Bulukumba**	**5.04**	**53**	P		**Pn**	14 20 52.6	**0.0**
	27nm,0.6s,437nm0.1nm							
WOJI	**Wonogiri, Jawa**	**5.11**	**276**	P		**Pn**	14 20 53.2	**-0.2**
	15nm,1.7s,0.2nm							
BNSI	**Bone**	**5.63**	**46**	P		**Pn**	14 21 00.8	**+0.1**
WRA	**Warramunga Arr**	**21.11**	**125**	P		**P**	14 24 21.3	**-0.5**
	0.9nm,0.6s,baz=300,slow=12,SNR=12							
ASAR	**Alice Springs**	**22.89**	**134**	P		**P**	14 24 40.2	**-0.6**
	0.9nm,0.5s,baz=311,slow=9.5,SNR=26							
SONM	**Songino Array**	**56.61**	**352**	P		**P**	14 29 19.0	**-1.0**
	0.5nm,0.8s,baz=170,slow=7.1,SNR=2.7							

VAO ***15*** *14:27:38.8±0.5,24°.47S×68°.25W,h306km,mb4.1*
ISCJB ***15*** *14:27:41.9±0.2,24°.09S±0°.03×67°.14W±0°.03,h205km±4km, mb3.6/4,Error ellipse: s-maj=4.9km s-min=4.2km az=148.8*
IDC ***15*** *14:27:43.0±1.3,24°.03S×66°.94W,h180km±13km,mb3.6/4, mb1 3.7/10,mb1mx3.5/32,mbtmp4.1/10,MS2.5/2, Ms1 2.5/2,ms1mx2.3/19,Error ellipse: s-maj=20.2km s-min=17.0km az=4.0*
SJA ***15*** *14:27:42.1±0.7,24°.13S×67°.08W,h205km±5km,ML3.3, MW3.5*
NEIC ***15*** *14:27:42.3±2.1,24°.09S±0°.07×67°.0W±0°.1,h184km±5km, mb4.4/10,ML4.3(GUC)*
GUC ***15*** *14:27:44.6±0.6,24°.08S×67°.64W,h226km±11km,ML4.3*

ISC 15 14:27:43.1±0.6,24°.08S±0°.05×67°.12W±0°.04,h207km±6km, n114,σ1ᵍ62/133,mb4.2/8,10C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.61**	**114**	*i* P		**Pn**	**14 28 17.8**	**-0.8**
SLA				IAML			14 28 18.3	
	comp=Z,154nm,0.6s							
SLA				*e*S		**S**	**14 28 43.9**	**-2.0**
HJA	**Humahuaca**	**1.79**	**62**	*i* P		**Pn**	**14 28 19.8**	**-0.8**
HJA				IAML			14 28 20.2	
	comp=Z,153nm,0.3s							
LVC	**Limon Verde**	**2.20**	**311**	*e*P		**Pn**	**14 28 24.9**	**+0.3**
LVC				*i* S		**S**	**14 28 55.5**	**-0.9**
LVC	**Limon Verde**	**2.20**	**311**	P		**Pn**	**14 28 24.9**	**+0.3**
	comp=Z,11nm,0.3s,baz=159,slow=6.4,SNR=259							
LVC				S		**S**	**14 28 55.1**	**-1.2**
	comp=Z,64nm,0.3s,baz=0.7,slow=1.5,SNR=72							
LVC				LR		LR	14 28 55.2	
	comp=Z,52nm,18.1s,baz=52,slow=32							
LVC	**Limon Verde**	**2.20**	**311**	*e*P		**Pn**	**14 28 25.0**	**+0.3**
LVC	**Limon Verde**	**2.20**	**311**	*e*P		**Pn**	**14 28 25.0**	**+0.3**
LVC	**Limon Verde**	**2.20**	**311**			**S**	**14 28 55.1**	**-1.2**
LVC	**Limon Verde**	**2.20**	**311**	⇑*i* P		**Pn**	**14 28 24.9**	**+0.3**
LVC				*e*S		**S**	**14 28 55.9**	**-0.5**
LVC				IAML			14 28 58.4	
	comp=Z,205nm,0.2s							
PB15	**IPOC Station P**	**2.32**	**291**	⇑*i* P		**Pn**	**14 28 26.1**	**+0.4**
PB15				*i* S		**S**	**14 28 57.4**	**-1.0**
PB15	**IPOC Station P**	**2.32**	**291**	*i* P		**Pn**	**14 28 26.1**	**+0.4**
PB15				*e*S		**S**	**14 28 57.8**	**-0.6**
YJA	**Yavi**	**2.40**	**38**	*i* P		**Pn**	**14 28 26.8**	**-0.1**
YJA				IAML			14 28 28.9	
	comp=Z,38nm,0.4s							
YJA				*e*S		**S**	**14 29 00.4**	**0.0**
GO02	**Mina Guanaco**	**2.49**	**244**	⇑*i* P		**Pn**	**14 28 27.6**	**-0.1**
GO02				*i* S		**S**	**14 29 00.6**	**-1.3**
GO02				IAML			14 29 02.0	
	comp=N,1μm,0.3s							
GO02	**Mina Guanaco**	**2.49**	**244**			**Pn**	**14 28 27.6**	**-0.1**
PB06	**IPOC Station P**	**2.63**	**301**	⇑*i* P		**Pn**	**14 28 29.4**	**+0.3**
PB06				*i* S		**S**	**14 29 03.2**	**-1.3**
PB06				IAML			14 29 04.9	
	comp=N,2μm,0.5s							
PB06	**IPOC Station P**	**2.63**	**301**	*i* P		**Pn**	**14 28 29.1**	**0.0**
PB09	**IPOC Station P**	**2.99**	**319**	⇑*i* P		**Pn**	**14 28 33.9**	**+0.6**
PB09				*i* S		**S**	**14 29 11.1**	**-0.8**
PB09				IAML			14 29 13.4	
	comp=N,475nm,0.5s							
PB09	**IPOC Station P**	**2.99**	**319**	*i* P		**Pn**	**14 28 33.8**	**+0.6**
PB14	**IPOC Station P**	**3.04**	**259**	⇑*i* P		**Pn**	**14 28 33.6**	**-0.4**
PB14				*i* S		**S**	**14 29 10.7**	**-2.4**
PB14				IAML			14 29 11.9	
	comp=E,202nm,0.4s							
PB14	**IPOC Station P**	**3.04**	**259**	*i* P		**Pn**	**14 28 33.7**	**-0.2**
PB05	**IPOC Station P**	**3.08**	**293**	⇑*i* P		**Pn**	**14 28 34.0**	**-0.1**
PB05				*i* S		**S**	**14 29 11.2**	**-2.4**
PB05				IAML			14 29 15.4	
	comp=E,454nm,0.4s							
PB05	**IPOC Station P**	**3.08**	**293**	*i* P		**Pn**	**14 28 34.0**	**-0.1**
AHML	**Horco Molle**	**3.15**	**149**	*i* P		**Pn**	**14 28 33.9**	**-0.9**
AHML				IAML			14 28 34.3	
	comp=Z,34nm,0.5s							
PB03	**IPOC Station P**	**3.15**	**309**	⇑*i* P		**Pn**	**14 28 35.1**	**0.0**
PB03				*i* S		**S**	**14 29 13.3**	**-1.9**
PB10	**IPOC Station P**	**3.19**	**279**	⇑*i* P		**Pn**	**14 28 35.6**	**+0.2**
PB10				*i* S		**S**	**14 29 13.4**	**-2.3**
PB10				IAML			14 29 15.7	
	comp=E,399nm,0.4s							
PB10	**IPOC Station P**	**3.19**	**279**			**Pn**	**14 28 35.3**	**-0.1**
PB10	**IPOC Station P**	**3.19**	**279**	*i* P		**Pn**	**14 28 35.6**	**+0.2**
PB04	**IPOC Station P**	**3.28**	**301**	⇑*i* P		**Pn**	**14 28 36.5**	**-0.1**
PB04				*i* S		**S**	**14 29 15.5**	**-2.4**
PB04				IAML			14 29 20.6	
	comp=E,848nm,0.5s							
PB04	**IPOC Station P**	**3.28**	**301**			**Pn**	**14 28 36.3**	**-0.3**
PB04	**IPOC Station P**	**3.28**	**301**	*i* P		**Pn**	**14 28 37.0**	**+0.3**
PB07	**IPOC Station P**	**3.46**	**312**	⇑*i* P		**Pn**	**14 28 38.6**	**-0.1**
PB07				*i* S		**S**	**14 29 19.3**	**-2.6**
GO03	**Copiap**	**4.49**	**218**			**Pn**	**14 28 49.4**	**-1.9**
GO03	**Copiap**	**4.49**	**218**	⇓*i* P		**Pn**	**14 28 50.2**	**-1.1**
CYA	**Choya**	**4.51**	**165**	*i* P		**Pn**	**14 28 50.6**	**-0.9**
CYA				IAML			14 28 52.1	
	comp=Z,12nm,0.5s							
VCA	**Vinchina**	**4.74**	**192**	*i* P		**Pn**	**14 28 56.0**	**+1.4**
VCA				IAML			14 28 56.4	
	comp=Z,26nm,0.5s							
GO01	**Chusmiza**	**4.79**	**336**			**Pn**	**14 28 55.0**	**-0.6**
PB11	**IPOC Station P**	**4.90**	**331**			**Pn**	**14 28 55.4**	**-1.3**
MNMC	**Minye Minye**	**5.43**	**334**			**Pn**	**14 29 03.0**	**-0.6**
GO04	**Tololo Observa**	**6.90**	**208**			**Pn**	**14 29 19.8**	**-2.5**
GO04	**Tololo Observa**	**6.90**	**208**	*i* P		**Pn**	**14 29 21.1**	**-1.1**
AMOG	**MOGNA**	**6.94**	**190**	*i* P		**Pn**	**14 29 21.8**	**-0.9**
RTLL	**Cerro Villicun**	**7.32**	**189**	*i* P		**Pn**	**14 29 26.6**	**-1.0**
TCA	**Tanti**	**7.57**	**163**	*i* P		**Pn**	**14 29 29.3**	**-1.5**
LPAZ	**La Paz**	**7.81**	**353**	P		**Pn**	**14 29 35.4**	**+0.9**
	comp=Z,2.2nm,0.3s,baz=157,slow=3,SNR=46							
LPAZ				S		**S**	**14 31 00.1**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=168,slow=7.0,SNR=2.4							
LPAZ	**La Paz**	**7.81**	**353**	*e*P		**Pn**	**14 29 34.8**	**+0.3**
LPAZ	**La Paz**	**7.81**	**353**	*e*P		**Pn**	**14 29 34.8**	**+0.3**
LPAZ	**La Paz**	**7.81**	**353**			**Pn**	**14 29 34.6**	**+0.1**
LPAZ	**La Paz**	**7.81**	**353**	*i* P		**Pn**	**14 29 35.0**	**+0.4**
ACAN	**Cantantal**	**8.17**	**180**	*i* P		**Pn**	**14 29 36.5**	**-2.0**
CPUP	**Villa Florida**	**9.15**	**106**	P		**Pn**	**14 29 49.1**	**-2.2**
	comp=Z,0.0nm,0.3s,baz=311,slow=14,SNR=3.1							
CPUP	**Villa Florida**	**9.15**	**106**	*e*P		**P**	**14 29 57.4**	**-2.9**
CPUP	**Villa Florida**	**9.15**	**106**	*e*P		**P**	**14 29 57.4**	**-2.9**
ROC1	**El Roble**	**9.50**	**200**	Pn		**Pn**	**14 29 54.7**	**-1.3**
SIV	**San Ignacio**	**9.85**	**36**	P		**Pn**	**14 29 58.3**	**-2.1**
	comp=Z,1.0nm,0.3s,baz=240,slow=13,SNR=18							
SIV				S		S	14 31 33.9	-17
	baz=239,slow=16,SNR=4.2							
AQDB	**Aquidauana**	**11.17**	**74**	*e*P		**P**	**14 30 23.6**	**+0.5**
AQDB	**Aquidauana**	**11.17**	**74**	*e*P		**P**	**14 30 23.6**	**+0.5**
TRCB	**Terra Rica**	**13.36**	**87**	*e*P		**P**	**14 30 48.7**	**+1.2**
TRCB	**Terra Rica**	**13.36**	**87**	*e*P		**P**	**14 30 48.7**	**+1.2**
PTGB	**Pitanga**	**13.74**	**96**	*e*P		**P**	**14 30 53.3**	**+1.6**
PTGB	**Pitanga**	**13.74**	**96**	*e*P		**P**	**14 30 53.3**	**+1.6**
ITAB	**Concordia**	**13.88**	**106**	*e*P		**P**	**14 30 52.7**	**-0.5**
ITAB	**Concordia**	**13.88**	**106**	*e*P		**P**	**14 30 52.7**	**-0.5**
PLTB	**Pedras Altas**	**14.19**	**126**	*e*P		**Pn**	**14 30 55.1**	**0.0**
PLTB	**Pedras Altas**	**14.19**	**126**	*e*P		**Pn**	**14 30 55.1**	**0.0**
TRQA	**Tornquist**	**14.61**	**164**	Pn		**Pn**	**14 30 59.3**	**-1.0**
PCMB	**Pacaembu**	**14.83**	**84**	*e*P		**P**	**14 31 05.7**	**+2.0**
PCMB	**Pacaembu**	**14.83**	**84**	*e*P		**P**	**14 31 05.7**	**+2.0**
NNA	**Nana**	**15.15**	**321**	LR		LR	14 37 43.6	
	comp=Z,26nm,18.5s,baz=31,slow=40							
CNLB	**Canela**	**15.45**	**113**	*e*P		**Pn**	**14 31 09.8**	**-0.7**
CNLB	**Canela**	**15.45**	**113**	*e*P		**Pn**	**14 31 09.8**	**-0.7**
SAML	**Samuel**	**15.51**	**15**	*e*P		**P**	**14 31 09.7**	**-1.6**
SAML	**Samuel**	**15.51**	**15**	*e*P		**P**	**14 31 09.7**	**-1.6**
SAML	**Samuel**	**15.51**	**15**			**Pn**	**14 31 11.5**	**+0.1**
GO06	**Curarrehue**	**15.89**	**192**	P		**P**	**14 31 15.6**	**+0.1**
ITRB	**Iturama**	**16.15**	**78**	*e*P		**Pn**	**14 31 20.0**	**+0.9**
ITRB	**Iturama**	**16.15**	**78**	*e*P		**Pn**	**14 31 20.0**	**+0.9**
ARAG	**Araguaiana, MT**	**16.62**	**63**	*e*P		**Pn**	**14 31 25.8**	**+1.1**
ARAG	**Araguaiana, MT**	**16.62**	**63**	*e*P		**Pn**	**14 31 25.8**	**+1.1**
PLCA	**Paso Flores**	**16.86**	**189**	P		**Pn**	**14 31 27.6**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=7.9,slow=9.2,SNR=10							
PLCA	**Paso Flores**	**16.86**	**189**			**Pn**	**14 31 27.7**	**+0.3**
PLCA				IAmb		IAmb	14 32 06.5	
	comp=Z,31nm,1.9s							
CLDB	**Colider**	**16.99**	**41**	*e*P		**P**	**14 31 27.0**	**-0.6**
CLDB	**Colider**	**16.99**	**41**	*e*P		**P**	**14 31 27.0**	**-0.6**
BB19B	**Bebedouro**	**17.43**	**84**	*e*P		**P**	**14 31 33.5**	**+1.0**
BB19B	**Bebedouro**	**17.43**	**84**	*e*P		**P**	**14 31 33.5**	**+1.0**
SPB	**Sao Paulo**	**18.02**	**92**	*e*P		**P**	**14 31 38.7**	**-0.1**
SPB	**Sao Paulo**	**18.02**	**92**	*e*P		**P**	**14 31 38.7**	**-0.1**
SPB	**Sao Paulo**	**18.02**	**92**	P		**P**	**14 31 38.9**	**+0.1**
SPB				IAmb		IAmb	14 31 40.9	
	comp=Z,19nm,1.1s							
RCLB	**Rio Claro- Sao**	**18.08**	**89**	*e*P		**P**	**14 31 39.9**	**+0.4**
RCLB	**Rio Claro- Sao**	**18.08**	**89**	*e*P		**P**	**14 31 39.9**	**+0.4**
VAO	**Valinhos**	**18.52**	**91**	*e*P		**P**	**14 31 44.1**	**-0.1**
VAO	**Valinhos**	**18.52**	**91**	*e*P		**P**	**14 31 44.1**	**-0.1**
IPMB	**Ipameri, GO**	**18.66**	**75**	*e*P		**P**	**14 31 46.8**	**+0.9**
IPMB	**Ipameri, GO**	**18.66**	**75**	*e*P		**P**	**14 31 46.8**	**+0.9**
BDFB	**Brasilia**	**19.82**	**68**	P		**P**	**14 31 58.6**	**+0.3**
	comp=Z,2.5nm,0.3s,baz=246,slow=11,SNR=57							
BDFB	**Brasilia**	**19.82**	**68**	P		**P**	**14 31 59.0**	**+0.6**
PMNB	**Patos De Minas**	**20.04**	**78**	*e*P		**P**	**14 32 00.2**	**-0.4**
PMNB	**Patos De Minas**	**20.04**	**78**	*e*P		**P**	**14 32 00.2**	**-0.4**
ESAR	**Angra dos Reis**	**20.82**	**92**	*e*P		**P**	**14 32 07.1**	**-1.7**
ESAR	**Angra dos Reis**	**20.82**	**92**	*e*P		**P**	**14 32 07.1**	**-1.7**
SJMB	**Sao Joao De Ma**	**24.72**	**83**	*e*P		**P**	**14 32 43.3**	**-2.3**
SJMB	**Sao Joao De Ma**	**24.72**	**83**	*e*P		**P**	**14 32 43.3**	**-2.3**
OTAV	**Otavalo**	**26.55**	**334**	P		**P**	**14 33 02.6**	**0.0**
OTAV				IAmb		IAmb	14 33 10.5	
	comp=Z,7.6nm,1.4s							
RCBR	**Riachuelo**	**35.06**	**64**	P		**P**	**14 34 16.9**	**+0.2**
RCBR				IAmb		IAmb	14 34 23.8	
	comp=Z,33nm,1.4s							
SNAA	**Sanae**	**59.32**	**161**	P		**P**	**14 37 25.4**	**+2.4**
SNAA				IAmb		IAmb	14 37 29.4	
	comp=Z,8.6nm,1.6s							
TOA0	**Torodi Ar. Sit**	**76.70**	**69**	P		**P**	**14 39 12.8**	**+0.9**
TOA0				IAmb		IAmb	14 39 14.3	
	comp=Z,3.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**76.70**	**69**	P		**P**	**14 39 13.0**	**+1.1**
	comp=Z,3.3nm,0.8s,baz=263,slow=5.5,SNR=14							
BOSA	**Boshof**	**80.80**	**117**	P		**P**	**14 39 36.6**	**+2.4**
	comp=Z,1.7nm,0.6s,baz=250,slow=4.9,SNR=4.9							
ESDC	**Sonseca Array**	**86.53**	**44**	P		**P**	**14 40 06.2**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=212,slow=38,SNR=2.4							
YKA	**Yellowknife Ar**	**94.16**	**340**	P		**P**	**14 40 40.0**	**+2.3**
	comp=Z,0.3nm,0.8s,baz=131,slow=4.7,SNR=7.0							
ASAR	**Alice Springs**	**128.34**	**205**	PKP		**PKiKP**	**14 46 28.3**	**+1.9**
	comp=Z,0.1nm,0.5s,baz=125,slow=1.9,SNR=1.8							
WRA	**Warramunga Arr**	**131.51**	**207**	PKP		**PKiKP**	**14 46 34.9**	**+2.1**
	comp=Z,0.2nm,0.4s,baz=152,slow=2.0,SNR=5.7							
ZALV	**Zalesovo Beam**	**143.51**	**28**	PKP		**PKPdf**	**14 46 53.9**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=298,slow=5.0,SNR=5.1							
KSH	**Kashi**	**145.33**	**55**	PKPbc		**PKPdf**	**14 46 53.8**	**-2.7**
KSH				pPKP		pPKPab	14 47 50.5	-0.1
KSH				sPKP			14 48 14.4	
KSH				PP		**PP**	**14 50 18.3**	**-0.2**
KSH				SKS		**SKSdf**	**14 53 38.1**	**-8.0**
KSH				SKKS		**SKKSac**	**14 56 43.1**	**-6.9**
MKAR	**Makanchi Array**	**146.66**	**39**	PKPbc		**PKiKP**	**14 47 03.3**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=325,slow=1.9,SNR=7.1							
LZH	**Lanzhou**	**165.71**	**31**	*e*PKP		**PKPdf**	**14 47 27.1**	**+3.7**
LZH				pPKP		pPKPdf	14 48 08.0	-11
LZH				sPKP			14 48 25.8	

IDC 15 14:32:16.1±8.5,6°.47S×128°.26E,h331km±93km,mb3.2/1, mb1 3.0/4,mb1mx2.7/27,mbtmp3.7/4,Error ellipse: s-maj=108.1km s-min=90.1km az=166.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.87**	**230**	P		Pn	14 33 46.1	+1.2
	3.5nm,0.3s,baz=105,slow=12,SNR=2.2							
BATI				S		S	14 34 55.9	-0.8
	2.5nm,0.3s,baz=122,slow=24,SNR=1.7							
WRA	**Warramunga Arr**	**14.64**	**157**	P		P	14 35 26.7	-1.1
	0.2nm,0.3s,baz=338,slow=12,SNR=11							
ASAR	**Alice Springs**	**17.94**	**163**	P		P	14 36 04.7	+1.0
	0.2nm,0.3s,baz=340,slow=9.9,SNR=34							
STKA	**Stephens Creek**	**28.19**	**155**	P		P	14 37 38.5	-0.7
	1.4nm,0.8s,baz=303,slow=14,SNR=3.9							

ISCJB ***15*** *14:51:14.9±0.5,15°.28S±0°.08×174°.27W±0°.07,h10km, mb3.6/8,MS3.9/23,Error ellipse: s-maj=13.5km s-min=6.8km az=147.1*
IDC ***15*** *14:51:15.2±0.9,15°.14S×174°.36W,h0km,mb3.6/8, mb1 3.9/9,mb1mx3.8/27,mbtmp3.6/9,ML3.8/1,MS3.9/25, Ms1 3.9/25,ms1mx3.8/32,Error ellipse: s-maj=46.0km s-min=19.9km az=146.0*
NEIC ***15*** *14:51:16.2±2.0,15°.2S±0°.1×174°.2W±0°.1,h10km±1km, mb4.4/4*
GCMT ***15*** *14:51:24.2±0.4,15°.20S±0°.02×174°.20W±0°.02,h14km±2km, MW4.9/77,Moment Tensor Solution. s11,c11; s77,c98; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.19±. 17; Mθθ1.00±. 16; Mϕϕ0.18±.11; Mrθ-0.37±.25; Mrϕ2.64±.11; Mθϕ1.13±.31; Best double couple: Mo3.07200×10¹⁶ NP1:ϕs190.00000°,δ71.00000°,λ-150.00000°. NP2: ϕs90.00000°,δ62.00000°,λ-22.00000°. Principal axes: T 3.3130, Plg6.0000°, Azm318.0000°; N -0.4840, Plg55.0000°, Azm219.0000°; P -2.8310, Plg34.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 14:51:16.4±0.6,15°.23S±0°.09×174°.23W±0°.09,h10km,n50, σ1ᵍ19/23,mb3.7/11,MS4.0/23,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.71**	**61**	Pn		**Pn**	**14 51 59.4**	**-0.9**
	16nm,0.3s,baz=122,slow=1.1,SNR=19							
AFI				Sn		**Sn**	**14 52 33.6**	**+0.5**
	9.7nm,0.3s,baz=360,slow=19,SNR=4.8							
AFI				LR		LR	14 53 04.4	
	comp=Z,2μm,19.3s,baz=294,slow=39							
AFI	**Afiamalu**	**2.71**	**61**			**Pn**	**14 51 59.1**	**-1.1**
NIUE	**Niue**	**5.62**	**134**			**Pn**	**14 52 39.5**	**-0.6**
RAO	**Raoul Island**	**14.36**	**193**	LR		LR	14 58 40.2	
	comp=Z,414nm,20.5s,baz=311,slow=31							
RAR	**Rarotonga**	**14.96**	**116**	LR		LR	14 59 17.7	
	comp=Z,363nm,18.2s,baz=272,slow=32							
DZM	**Mont Dzumac**	**19.52**	**247**	*e*P		**Pn**	**14 55 45.2**	**-0.3**
	36nm,1.1s							
DZM				*e*LQ		LQ	14 59 33.9	
	1μm,25.1s							
DZM				*e*LR		LR	15 00 20.9	
	comp=Z,1μm,25.9s							
DZM	**Mont Dzumac**	**19.52**	**247**	LR		LR	15 01 58.2	
	comp=Z,498nm,20.0s,baz=274,slow=33							
PAE	**Paea**	**23.76**	**99**	*e*T		T	15 21 07.1	
	3.4nm,0.3s							
PPT	**Papeete**	**23.76**	**99**	LR		LR	15 04 45.4	
	comp=Z,64nm,18.3s,baz=274,slow=34							
PPT2	**Papeete2**	**23.76**	**99**	*e*S		**S**	**15 00 42.0**	**-3.0**
	116nm,27.0s							
PPT2				*e*LQ		LQ	15 01 13.4	
	2μm,26.0s							
PPT2				*e*LR		LR	15 02 13.2	
	comp=Z,177nm,26.0s							
PPT2	**Papeete2**	**23.76**	**99**	*e*T		T	15 21 07.7	
	4.9nm,0.3s							
TVO	**Taravao**	**24.08**	**100**	*e*T		T	15 21 29.9	
	1.6nm,0.3s							
URZ	**Urewera**	**24.18**	**197**	LR		LR	15 05 49.0	
	comp=Z,421nm,18.0s,baz=16,slow=36							
URZ	**Urewera**	**24.18**	**197**	P		**P**	**14 56 32.1**	**-0.9**
URZ				IAmb		IAmb	14 56 50.0	
	comp=Z,21nm,1.2s							
TBI	**Tubuai**	**24.71**	**113**	*e*S		**S**	**15 01 01.0**	**+1.0**
	comp=Z,33nm,20.8s							
TBI				*e*LQ		LQ	15 01 39.0	
	comp=Z,1μm,27.0s							
TBI				*e*LR		LR	15 02 43.8	
	comp=Z,503nm,27.8s							
TBI	**Tubuai**	**24.71**	**113**	*e*T		T	15 22 15.2	
	comp=Z,12nm,0.3s							
HIZ	**Hauiti**	**25.11**	**200**	P		**P**	**14 56 39.6**	**-1.8**
HNR	**Honiara**	**25.86**	**280**	LR		LR	15 05 15.2	
	comp=Z,561nm,21.6s,baz=120,slow=33							
BHW	**Baring Head**	**27.74**	**198**	P		**P**	**14 57 05.0**	**-0.2**
CMWZ	**Cape Campbell**	**28.25**	**198**	P		**P**	**14 57 09.7**	**0.0**
RPZ	**Rata Peaks**	**31.04**	**201**	LR		LR	15 08 25.2	
	comp=Z,202nm,21.3s,baz=16,slow=33							
TAOE	**Nuku Hiva Isla**	**33.90**	**83**	*e*T		T	15 33 35.5	
	comp=Z,24nm,0.2s							
H11S2	**WAKE ISLAND Hy**	**38.41**	**330**	T		T	15 39 44.6	
	baz=149,slow=76,SNR=36							
H11S3	**WAKE ISLAND Hy**	**38.42**	**330**	T		T	15 39 22.7	
	baz=149,slow=76,SNR=22							
H11S1	**WAKE ISLAND Hy**	**38.43**	**330**	T		T	15 39 32.3	
	baz=149,slow=76,SNR=13							
H11N3	**WAKE ISLAND Hy**	**39.37**	**331**	T		T	15 40 50.8	
	baz=151,slow=76,SNR=21							
H11N1	**WAKE ISLAND Hy**	**39.38**	**331**	T		T	15 40 33.6	
	baz=151,slow=76,SNR=42							
H11N2	**WAKE ISLAND Hy**	**39.39**	**331**	T		T	15 40 33.5	
	baz=151,slow=76,SNR=19							
STKA	**Stephens Creek**	**43.43**	**240**	LR		LR	15 16 14.5	
	comp=Z,173nm,19.1s,baz=35,slow=35							
WRA	**Warramunga Arr**	**49.10**	**257**	P		**P**	**15 00 03.3**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=90,slow=7.1,SNR=5.6							
WRA				LR		LR	15 19 29.7	
	comp=Z,156nm,19.3s,baz=100,slow=35							
AS31	**Alice Springs**	**49.40**	**252**	P		**P**	**15 00 06.2**	**-0.7**
AS31				IAmb		IAmb	15 00 15.4	
	comp=Z,1.0nm,0.8s							
ASAR	**Alice Springs**	**49.40**	**252**	P		**P**	**15 00 06.0**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=86,slow=7.8,SNR=37							
ASAR				LR		LR	15 19 25.1	
	comp=Z,112nm,21.2s,baz=95,slow=34							
BATI	**Baumata**	**60.62**	**267**	LR		LR	15 25 59.8	
	comp=Z,103nm,19.2s,baz=105,slow=34							
VNDA	**Vanda**	**63.46**	**186**	P		**P**	**15 01 47.8**	**+1.6**
	comp=Z,1.2nm,1.1s,baz=5.9,slow=8.5,SNR=1.9							
VNDA				LR		LR	15 24 31.0	
	comp=Z,44nm,21.6s,baz=104,slow=31							
DAV	**Davao City (W)**	**63.62**	**286**	LR		LR	15 28 14.1	
	comp=Z,119nm,18.0s,baz=325,slow=35							
KAPI	**Kappang**	**65.57**	**271**	LR		LR	15 29 03.7	
	comp=Z,38nm,19.4s,baz=304,slow=35							
PETK	**Petropavlovsk-**	**72.23**	**343**	LR		LR	15 26 36.3	
	comp=Z,80nm,21.3s,baz=242,slow=29							
NVAR	**Mina Array Bea**	**74.74**	**42**	P		**P**	**15 02 58.2**	**+1.2**
	comp=Z,0.3nm,0.8s,baz=234,slow=7.7,SNR=2.2							
NVAR				LR		LR	15 32 46.7	
	comp=Z,105nm,18.3s,baz=266,slow=33							
QSPA	**South Pole Qui**	**74.81**	**180**	P		**P**	**15 02 57.6**	**+0.7**
QSPA				IAmb		IAmb	15 03 09.6	
	comp=Z,5.6nm,1.1s							
USRK	**Ussuriysk Ar.**	**76.77**	**323**	LR		LR	15 30 01.2	
	comp=Z,181nm,20.8s,baz=123,slow=30							
LEM	**Lembang**	**76.84**	**266**	LR		LR	15 37 35.2

comp=Z,72nm,1.9s
TKL Tuckaleechee C 23.53 31 P P 15 07 36.4 +1.1
USIN University of 23.86 21 P P 15 07 38.8 +0.4
PV13 Radium Mtn., P 24.01 339 P P 15 07 40.8 +0.7
PV13 IAmb IAmb 15 07 57.6
comp=Z,18nm,1.7s
PV02 Paradox Valley 24.02 339 P P 15 07 40.7 +0.5
PV02 IAmb IAmb 15 07 42.6
comp=Z,24nm,1.6s
WCI Wyandotte Cave 24.59 23 P P 15 07 45.8 +0.6
WCI IAmb IAmb 15 07 48.2
comp=Z,16nm,1.0s
ROC1 El Roble 55.18 152 P P 15 11 57.9 -0.2
DOT Dot Lake 57.07 338 P P 15 12 10.4 -0.5
RIDG Independent Ri 57.41 337 P P 15 12 12.7 -0.7
RND Reindeer 58.76 336 P P 15 12 22.4 -0.4

*JMA **15** 15:07:22.0±0.1,23˚.43N×123˚.25E,h51km,M2.2*
*TAP **15** 15:07:23.0,23˚.43N×122˚.95E,h4km±1km,ML2.6,D*
ISC 15 15:07:17.3±1.5,**23˚.32N**±0˚.05×**123˚.22E**±0˚.04,**h7**km±10km,
n48,σ0°**80**/74,**Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.91**	**36**	*eS*	**Sb**	**15 07 48.3**	**+0.6**
IRIF	**Iriomote-Funau**	**1.11**	**25**	P	**Pn**	**15 07 40.1**	**+0.8**
IRIF				*eS*	**Sg**	**15 07 53.0**	**-0.2**
YOJ	**Yonaguni jima**	**1.15**	**351**	P	**Pn**	**15 07 40.9**	**+1.1**
YOJ				S	**Sg**	**15 07 54.0**	**-0.4**
YOJ	**Yonaguni jima**	**1.15**	**351**	*eP*	**Pn**	**15 07 43.5**	**+3.7**
	baz=2.0						
JYNG	**Yonagunijimaku**	**1.15**	**348**	P	**Pn**	**15 07 41.0**	**+1.2**
JYNG				*eS*	**Sg**	**15 07 54.1**	**-0.3**
JKRS	**Kuro-shima**	**1.17**	**38**	P	**Pn**	**15 07 41.2**	**+1.2**
JKRS				*eS*	**Sg**	**15 07 54.7**	**-0.1**
JIJ	**Ishigaki jima**	**1.34**	**39**	P	**Pn**	**15 07 43.3**	**+0.9**
JIJ				*eS*	**Sb**	**15 07 58.9**	**-1.2**
EOS1	**EOS1**	**1.58**	**321**	*eP*	**Pg**	**15 07 48.2**	**+0.7**
	baz=325						
EOS1				*eS*	**Sn**	**15 08 05.4**	**-0.9**
	baz=325						
JISG	**Ishigakijimahi**	**1.61**	**38**	P	**Pn**	**15 07 47.0**	**+0.9**
JISG				*eS*	**Sn**	**15 08 05.9**	**-1.3**
HGSD	**Ruisui**	**1.66**	**276**	*eP*	**Pb**	**15 07 48.2**	**+0.1**
	baz=272						
HGSD				S	**Sn**	**15 08 07.4**	**-0.9**
	baz=272						
EGFH	**Guangfu**	**1.68**	**282**	P	**Pb**	**15 07 48.8**	**+0.3**
	baz=279						
EGFH				S	**Sn**	**15 08 07.7**	**-1.2**
	baz=279						
ESL	**Shilin**	**1.71**	**287**	P	**Pb**	**15 07 49.2**	**+0.1**
	baz=285						
NACB	**Ninganchiao**	**1.71**	**300**	*eP*	**Pb**	**15 07 48.9**	**-0.2**
	baz=300						
NACB				*eS*	**Sn**	**15 08 08.8**	**-0.9**
	baz=300						
NANB	**Nanao**	**1.74**	**310**	P	**Pb**	**15 07 49.5**	**0.0**
	baz=312						
NANB				S	**Sn**	**15 08 09.6**	**-0.7**
	baz=312						
ENA	**Nanau**	**1.75**	**310**	*eP*	**Pb**	**15 07 50.0**	**+0.4**
	baz=312						
EHY	**Hungye**	**1.75**	**276**	P	**Pg**	**15 07 50.3**	**-0.5**
	baz=272						
EHY				*eS*	**Sn**	**15 08 10.0**	**-0.6**
	baz=272						
TWF1	**Yuli**	**1.77**	**271**	P	**Pb**	**15 07 50.3**	**+0.3**
	baz=267						
TWF1				S	**Sn**	**15 08 10.4**	**-0.6**
	baz=267						
YULB	**Yu-li**	**1.77**	**273**	P	**Pg**	**15 07 50.6**	**-0.5**
	baz=268						
YULB				*eS*	**Sb**	**15 08 11.4**	**-1.0**
	baz=268						
FULB	**Fuli**	**1.77**	**266**	P	**Pb**	**15 07 50.3**	**+0.2**
	baz=261						
FULB				*eS*	**Sn**	**15 08 10.9**	**-0.4**
	baz=261						
ETLH	**Xiulin Townshi**	**1.82**	**299**	*eP*	**Pb**	**15 07 50.2**	**-0.8**
	baz=299						
ETLH				*eS*	**Sn**	**15 08 11.8**	**-0.6**
	baz=299						
VWDT	**VWDT**	**1.95**	**283**	P	**Pb**	**15 07 53.4**	**+0.2**
	baz=281						
VWDT				*eS*	**Sn**	**15 08 15.3**	**-0.3**
	baz=281						
WHF	**Hehuan Shan**	**1.97**	**295**	*eP*	**Pb**	**15 07 52.7**	**-1.0**
	baz=294						
WHF				*eS*	**Sn**	**15 08 15.2**	**-1.4**
	baz=294						
ENTT	**Nioudou**	**2.00**	**311**	*eP*	**Pb**	**15 07 53.4**	**-0.7**
	baz=313						
ENTT				*eS*	**Sn**	**15 08 15.8**	**-1.1**
	baz=313						
NNSH	**Datong**	**2.01**	**304**	*eP*	**Pb**	**15 07 53.8**	**-0.4**
	baz=304						
NNSH				*eS*	**Sn**	**15 08 16.2**	**-1.0**
	baz=304						
CHGB	**Renai**	**2.01**	**292**	*eP*	**Pb**	**15 07 53.8**	**-0.5**
	baz=291						
NDT	**Datong Townshi**	**2.02**	**310**	*eP*	**Pb**	**15 07 53.8**	**-0.5**
	baz=311						
NDT				*eS*	**Sn**	**15 08 16.2**	**-1.0**
	baz=311						
NNS	**Nan Shan**	**2.02**	**304**	*eP*	**Pb**	**15 07 54.2**	**-0.2**
	baz=304						
NNS				*eS*	**Sn**	**15 08 17.3**	**-0.3**
	baz=304						
ELDTW	**Lidau**	**2.03**	**267**	P	**Pb**	**15 07 54.5**	**0.0**
	baz=262						
TWGBT	**Beinan**	**2.03**	**256**	*eP*	**Pb**	**15 07 54.2**	**-0.3**
	baz=250						
TWG	**Pinlang**	**2.04**	**256**	*eP*	**Pb**	**15 07 55.1**	**+0.4**
	baz=250						
SSLB	**Suanglung**	**2.13**	**283**	*eP*	**Pb**	**15 07 55.8**	**-0.4**
	baz=281						
NWLT	**Wulai**	**2.14**	**313**	*eP*	**Pb**	**15 07 56.6**	**+0.3**
	baz=315						
NWLT				*eS*	**Sn**	**15 08 19.9**	**-0.3**
	baz=315						
YHNB	**Yeheng**	**2.15**	**309**	*eP*	**Pb**	**15 07 56.0**	**-0.6**
	baz=310						
YHNB				*eS*	**Sn**	**15 08 19.5**	**-1.2**
	baz=310						
WHYT	**Xinyi Township**	**2.20**	**280**	P	**Pb**	**15 07 57.4**	**0.0**
	baz=277						
WHP	**Taichung City**	**2.29**	**295**	*eP*	**Pb**	**15 07 59.5**	**+0.6**
	baz=294						
CHN5	**Tsauling**	**2.35**	**277**	*eS*	**Sn**	**15 08 25.0**	**-0.5**
	baz=274						
EAST	**Anshuo**	**2.38**	**247**	*eP*	**Pb**	**15 08 00.1**	**-0.3**
	baz=241						
TPUB	**Ta-pu**	**2.38**	**270**	*eS*	**Sn**	**15 08 26.2**	**0.0**
	baz=266						
SLGT	**Liugui**	**2.39**	**263**	*eP*	**Pb**	**15 08 00.7**	**0.0**
	baz=258						
WTP	**Ta-pu**	**2.40**	**269**	*eS*	**Sn**	**15 08 26.5**	**-0.1**
	baz=265						
LIOB	**Emei**	**2.41**	**304**	*eP*	**Pb**	**15 08 00.9**	**0.0**
	baz=304						
LIOB				*eS*	**Sn**	**15 08 27.2**	**+0.3**
	baz=304						
NSTT	**Nanjuang**	**2.41**	**303**	*eP*	**Pb**	**15 08 00.5**	**-0.5**
	baz=303						
NSTT				*eS*	**Sn**	**15 08 27.5**	**+0.5**
	baz=303						
CHN4	**Tsaushan**	**2.41**	**271**	*eS*	**Sn**	**15 08 26.9**	**-0.1**
	baz=267						
CHN1	**Nanshi**	**2.48**	**267**	*eS*	**Sn**	**15 08 28.9**	**+0.3**
	baz=263						
MASBT	**Mashibuluo**	**2.48**	**254**	*eP*	**Pb**	**15 08 01.8**	**-0.5**
	baz=249						
SNST	**Tainan City**	**2.50**	**268**	*eS*	**Sn**	**15 08 29.6**	**+0.4**
	baz=264						
TWK	**Hsinying**	**2.51**	**269**	*eS*	**Sn**	**15 08 29.5**	**0.0**
	baz=265						
SCZT	**Fangliau**	**2.58**	**249**	*eP*	**Pb**	**15 08 03.5**	**-0.3**
	baz=243						

*ISCJB **15** 15:18:10.0±0.5,18˚.85S±0˚.04×69˚.38W±0˚.10,h138km±4km,*
Error ellipse: s-maj=15.6km s-min=5.6km az=12.8
*NEIC **15** 15:18:10.4±1.3,18˚.78S±0˚.04×69˚.5W±0˚.2,h134km±7km,*
mb4.4/3

*IDC **15** 15:18:11.2±2.1,18˚.74S×69˚.42W,h142km±14km,mb3.6/4,*
mb1 3.6/6,mb1mx3.3/27,mbtmp4.0/6,MS3.5/1,Ms1 3.5/1,
ms1mx2.6/24,Error ellipse: s-maj=38.4km s-min=18.3km
az=101.0
*GUC **15** 15:18:11.8±0.7,18˚.81S×69˚.23W,h115km±6km,ML3.6*
ISC 15 15:18:10.5±0.8,**18˚.83S**±0˚.04×**69˚.38W**±0˚.10,**h134**km±7km,
n29,σ1°**05**/37,**5C-2D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**0.36**	**214**	⇑*iP*	**Pn**	**15 18 29.9**	**+0.2**
MNMC				*i* S	**Sn**	**15 18 43.9**	**-0.3**
MNMC	**Minye Minye**	**0.36**	**214**		**Pn**	**15 18 29.7**	**0.0**
PB16	**IPOC Station P**	**0.51**	**346**	⇓*iP*	**Pn**	**15 18 31.0**	**+0.2**
PB16				*i* S	**Sn**	**15 18 45.2**	**-0.9**
PB16				IAML		15 18 46.8	
	comp=E,2μm,0.3s						
GO01	**Chusmiza**	**0.85**	**168**	⇑*iP*	**Pn**	**15 18 33.5**	**+0.4**
GO01				*i* S	**Sn**	**15 18 50.0**	**-0.2**
GO01				IAML		15 18 50.8	
	comp=N,2μm,0.1s						
GO01	**Chusmiza**	**0.85**	**168**		**Pn**	**15 18 33.4**	**+0.3**
PB11	**IPOC Station P**	**0.96**	**196**	⇑*iP*	**Pn**	**15 18 34.3**	**+0.7**
PB11				*i* S	**Sn**	**15 18 51.0**	**-0.2**
PB11				IAML		15 18 52.1	
	comp=E,3μm,0.4s						
PB11	**IPOC Station P**	**0.96**	**196**		**Pn**	**15 18 33.7**	**0.0**
PSGC	**Pisagua**	**1.04**	**222**	⇑*iP*	**Pn**	**15 18 35.1**	**+0.9**
PSGC				*i* S	**Sn**	**15 18 52.8**	**+0.5**
PSGC				IAML		15 18 59.7	
	comp=N,492nm,0.2s						
PB08	**IPOC Station P**	**1.32**	**171**	⇑*iP*	**Pn**	**15 18 38.2**	**+0.8**
PB08				*i* S	**Sn**	**15 18 57.8**	**-0.1**
PB08				IAML		15 18 59.8	
	comp=E,943nm,0.2s						
TA01	**Diego Aracena**	**1.88**	**203**	*eP*	**Pn**	**15 18 43.6**	**+0.3**
TA01				*i* S	**Sn**	**15 19 08.7**	**+0.3**
TA01				IAML		15 19 12.8	
	comp=E,271nm,0.4s						
PB02	**IPOC Station P**	**2.52**	**191**	*eP*	**Pn**	**15 18 52.3**	**+1.0**
PB02				*i* S	**Sn**	**15 19 21.1**	**-1.6**
PB02				IAML		15 19 35.4	
	comp=E,410nm,0.3s						
LPAZ	**La Paz**	**2.80**	**25**	P	**Pn**	**15 18 56.2**	**+0.9**
	comp=E,12nm,0.3s,baz=208,slow=5.3,SNR=191						
LPAZ				S	**Sn**	**15 19 29.4**	**-0.2**
	comp=E,0.4nm,0.3s,baz=38,slow=23,SNR=1.6						
LPAZ	**La Paz**	**2.80**	**25**		**Pn**	**15 18 56.4**	**+1.1**
PB07	**IPOC Station P**	**2.92**	**189**	*eP*	**Pn**	**15 18 57.7**	**+1.3**
PB07				*i* S	**Sn**	**15 19 30.2**	**-1.7**
PB09	**IPOC Station P**	**2.95**	**177**	⇓*eP*	**Pn**	**15 18 58.2**	**+1.4**
PB04	**IPOC Station P**	**3.56**	**192**	Pn	**Pn**	**15 19 05.6**	**+0.9**
LVC	**Limon Verde**	**3.79**	**173**	P	**Pn**	**15 19 09.6**	**+1.7**
	comp=E,3.5nm,0.3s,baz=3.2,slow=8.5,SNR=35						
LVC				S	**Sn**	**15 19 51.0**	**-1.3**
	comp=E,21nm,0.3s,baz=344,slow=8.2,SNR=4.7						
LVC	**Limon Verde**	**3.79**	**173**		**Pn**	**15 19 08.9**	**+1.0**
PB10	**IPOC Station P**	**4.79**	**193**	Pn	**Pn**	**15 19 20.7**	**-0.2**
GO02	**Mina Guanaco**	**6.30**	**182**		**Pn**	**15 19 41.1**	**-0.4**
SIV	**San Ignacio**	**8.42**	**72**	P	**Pn**	**15 20 06.6**	**-3.1**
	comp=E,1.9nm,0.3s,baz=290,slow=11,SNR=13						
TRQA	**Tornquist**	**20.22**	**163**	P	**P**	**15 22 36.6**	**+1.6**
TRQA				IAmb	IAmb	15 22 36.8	
	comp=Z,24nm,1.5s						
BDFB	**Brasilia**	**20.65**	**84**	P	**P**	**15 22 41.1**	**+1.2**
	comp=Z,4.5nm,0.4s,baz=254,slow=7.2,SNR=12						
BDFB	**Brasilia**	**20.65**	**84**	IAmb	IAmb	15 22 42.1	
	comp=Z,5.3nm,0.4s						
ROSC	**El Rosal**	**24.02**	**348**	LR	LR	15 33 59.5	
	comp=Z,102nm,18.2s,baz=100,slow=40						
DBIC	**Dimbokro**	**68.43**	**75**	P	**P**	**15 28 58.2**	**-0.3**
	comp=E,3.1nm,0.8s,baz=228,slow=7.1,SNR=4.8						
DBIC	**Dimbokro**	**68.43**	**75**	IAmb	IAmb	15 30 47.5	
	comp=E,28nm,1.9s						
TORD	**Torodi Ar. Bea**	**76.90**	**71**	P	**P**	**15 29 47.9**	**-0.7**
	comp=E,1.0nm,0.5s,baz=249,slow=5.5,SNR=9.0						
YKA	**Yellowknife Ar**	**88.53**	**341**	P	**P**	**15 30 47.2**	**-0.4**
	comp=E,0.1nm,0.4s,baz=131,slow=4.5,SNR=1.8						

IDC 15 15:21:13.5±2.5,**1˚.68N**×**127˚.41E**,**h0**km,**mb3.1**/3,
mb1 3.3/3,**mb1mx3.2**/31,**mbtmp3.2**/3,**Error ellipse:**
s-maj=185.5km s-min=28.8km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.54**	**163**	P	P	15 26 15.9	+0.7
	0.1nm,0.3s,baz=341,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**25.97**	**166**	P	P	15 26 47.5	-0.6
	0.3nm,0.8s,baz=357,slow=8.8,SNR=4.7						
MKAR	**Makanchi Array**	**59.62**	**326**	P	P	15 31 19.4	0.0
	0.4nm,0.5s,baz=118,slow=7.3,SNR=2.1						

*KRNET **15** 15:24:12.6±0.1,41˚.83N×72˚.34E,h11km,mb2.5*
*SOME **15** 15:24:13.6,41˚.90N×72˚.40E,h5km*
*NNC **15** 15:24:16.0±3.0,41˚.91N×72˚.18E,h0km,mb2.7,mpv2.4,*
Error ellipse: s-maj=36.6km s-min=19.0km az=167.0
ISC 15 15:24:12.6±1.1,**41˚.82N**±0˚.04×**72˚.34E**±0˚.02,**h7**km±11km,
n22,σ1°**44**/44,**19C-12D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.29**	**265**	⇓*iP*	**Pg**	**15 24 17.6**	**-0.7**
	baz=60						
ARK				⇓*iS*	**Sg**	**15 24 22.1**	**0.0**
	baz=60						
ARSB	**Arslanbob**	**0.69**	**136**	⇑*iP*	**Pg**	**15 24 25.7**	**-0.2**
	baz=36						
ARSB				⇑*iS*	**Sg**	**15 24 35.6**	**+0.7**
	baz=36						
AML	**Almayashu**	**1.05**	**72**	⇑*iP*	**Pg**	**15 24 32.8**	**-0.1**
	baz=73						
AML				⇑*iS*	**Sg**	**15 24 47.2**	**+0.6**
	baz=73						
MRKS	**Merke**	**1.13**	**35**	*eP*	**Pb**	**15 24 34.4**	**-0.2**
	5.3nm,0.2s						
MRKS				*eS*	**Sn**	**15 24 50.1**	**-0.8**
	14nm,0.4s						
EKS2	**Erkin-Say**	**1.35**	**51**	⇑*iP*	**Pn**	**15 24 38.1**	**0.0**
	baz=52						
EKS2				⇑*iS*	**Sn**	**15 24 55.9**	**-0.5**
	baz=52						
ARLS	**Aral**	**1.48**	**88**	⇑*iP*	**Pb**	**15 24 40.6**	**0.0**
	baz=88						
ARLS				⇑*iS*	**Sg**	**15 25 00.3**	**+0.1**
	baz=88						
UCH	**Uchtor**	**1.67**	**75**	⇑*iP*	**Pb**	**15 24 43.7**	**-0.2**
	baz=75						
UCH				⇑*iS*	**Sg**	**15 25 06.2**	**0.0**
	baz=75						
IUG	**Iuzhnay**	**1.75**	**281**	*eP*	**Pg**	**15 24 46.7**	**+0.4**
	2.7nm,0.2s						
IUG				*eS*	**Sg**	**15 25 10.8**	**+1.8**
	61nm,0.2s						
AAK	**Ala-Archa**	**1.79**	**62**	⇓*iP*	**Pb**	**15 24 46.3**	**+0.4**
	baz=62						
AAK				⇓*iS*	**Sg**	**15 25 09.8**	**-0.5**
	baz=62						
AAK	**Ala-Archa**	**1.79**	**62**	Pn	**Pg**	**15 24 47.1**	**+0.1**
	1.7nm,0.3s						
AAK				Sn	**Sg**	**15 25 14.7**	**+4.5**
	1.4nm,0.3s						
KK31	**Karatay Array**	**1.86**	**314**	⇑Pn	**Pb**	**15 24 46.6**	**-0.4**
	0.6nm,0.3s,baz=131,slow=15,SNR=3.5						
KK31				Sn	**Sg**	**15 25 11.8**	**-0.8**
	2.8nm,0.3s,baz=132,slow=27,SNR=6.6						
CHMS	**Chumysh**	**2.13**	**56**	⇑*iP*	**Pb**	**15 24 51.5**	**-0.2**
	baz=56						
CHMS				⇑*iS*	**Sb**	**15 25 19.0**	**+0.6**
	baz=56						
USP	**Ospenovka**	**2.15**	**47**	⇑*iP*	**Pb**	**15 24 51.6**	**-0.3**
	baz=47						
USP				⇑*iS*	**Sb**	**15 25 19.1**	**+0.3**
	baz=47						
KZA	**Kyzart**	**2.18**	**82**	⇓*iP*	**Pb**	**15 24 52.3**	**-0.4**
	baz=82						
KZA				⇓*iS*	**Sb**	**15 25 20.8**	**+0.7**
	baz=82						
BRLS	**Borolday**	**2.21**	**304**	*eP*	**Pg**	**15 24 54.4**	**-0.7**
	0.4nm,0.2s						
BRLS				*eS*	**Sg**	**15 25 24.0**	**+0.2**
	8.3nm,0.5s						
TKM2	**Tokmak 2**	**2.65**	**64**	⇑*iP*	**Pb**	**15 24 58.4**	**-2.1**
	baz=65						
TKM2				⇑*iS*	**Sb**	**15 25 31.1**	**-2.2**
	baz=65						
TKM2	**Tokmak 2**	**2.65**	**64**	⇑Pn	**Pb**	**15 25 01.0**	**+0.5**
	0.9nm,0.4s						
TKM2				⇑Sn	**Sg**	**15 25 38.0**	**+0.3**
	3.3nm,0.4s						
BOOM	**Boomskoye usch**	**2.75**	**75**	⇓*iP*	**Pn**	**15 24 59.8**	**+2.4**
	baz=75						
BOOM				⇓*iS*	**Sb**	**15 25 34.6**	**-1.8**
	baz=75						
NRN	**Naryn**	**2.77**	**97**	⇓*iP*	**Pn**	**15 24 59.8**	**+2.1**
	baz=97						
NRN				⇓*iS*	**Sb**	**15 25 34.6**	**-2.3**
	baz=97						
DGS	**Degeres**	**2.90**	**60**	*eP*	**Pg**	**15 25 06.7**	**-1.6**
	2.8nm,0.5s						
DGS				*eS*	**Sg**	**15 25 45.5**	**-0.4**
	7.1nm,0.4s						
ULHL	**Ulahol**	**2.93**	**80**	⇓*iP*	**Pb**	**15 25 02.8**	**-2.6**
	baz=80						
ULHL				⇓*iS*	**Sb**	**15 25 38.5**	**-3.0**
	baz=80						
KST	**Kastek**	**2.94**	**64**	*eP*	**Pb**	**15 25 06.0**	**+0.5**
	1.1nm,0.4s						
KST				*eS*	**Sb**	**15 25 44.4**	**+2.6**
	8.4nm,0.6s						

*NIED **15** 15:35:00,36˚.40N×141˚.80E,h14km,Mw4.3 Best double*
couple: M○3.30000×10^15 NP1:φ▷215.00000°,δ20.00000°,
λ107.00000°. NP2:φ▷17.00000°,δ71.00000°,λ84.00000°.
*ISCJB **15** 15:35:10.6±0.4,36˚.36N±0˚.04×142˚.01E±0˚.04,h19km,*
mb4.1/34,MS4.0/12,Error ellipse: s-maj=6.5km
s-min=3.8km az=146.2
*MOS **15** 15:35:12.5±1.0,36˚.32N×142˚.01E,h35km,mb4.6/17,Error*
ellipse: s-maj=10.9km s-min=6.8km az=117.1
*JMA **15** 15:35:13.5±0.3,36˚.39N×141˚.84E,h48km,M4.2*
*BJI **15** 15:35:13.9±0.0,36˚.27N×141˚.65E,h39km,mb4.6/33,*
mB5.0/21,Ms4.5/15,Ms7 4.2/13
*NEIC **15** 15:35:15.1±1.4,36˚.36N±0˚.07×141˚.91E±0˚.09,h38km±6km,*
mb4.7/23
*IDC **15** 15:35:17.9±3.0,36˚.30N×141˚.74E,h59km±25km,mb3.6/17,*
mb1 3.8/21,mb1mx3.6/62,mbtmp3.9/21,ML3.1/4,MS3.8/12,
Ms1 3.8/12,ms1mx3.4/37,Error ellipse: s-maj=19.3km
s-min=17.0km az=107.0
ISC 15 15:35:12.2±0.5,**36˚.38N**±0˚.05×**141˚.90E**±0˚.05,**h19**km,**n117,**
σ1°50/119,**mb4.3**/39,**MS4.0**/12,**7C-2D,Near east coast of**
eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.06**	**268**	P	**Pn**	**15 35 31.4**	**-0.7**
JHYU				*eS*	**Sg**	**15 35 45.8**	**-1.0**
CHOJ	**Chosi**	**1.08**	**232**	P	**Pg**	**15 35 32.2**	**-1.0**
CHOJ				S	**Sg**	**15 35 47.2**	**-0.1**
JHO	**Hitachi**	**1.10**	**283**	P	**Pn**	**15 35 31.7**	**-0.9**
ONAJ	**Iwakimizuishiy**	**1.14**	**310**	P	**Pn**	**15 35 33.0**	**-0.3**
JIHU	**Itakohorinouch**	**1.18**	**250**	P	**Pg**	**15 35 34.2**	**-1.0**
JFK	**Kawauchi**	**1.28**	**321**	P	**Pn**	**15 35 35.1**	**-0.1**
JFT	**Otama**	**1.69**	**313**	P	**Pn**	**15 35 41.6**	**+0.8**
JMM	**Marumori**	**1.73**	**330**	P	**Pn**	**15 35 41.3**	**0.0**
BSO3	**Boso 3**	**1.94**	**216**	P	**Pb**	**15 35 44.4**	**-2.4**
JAG	**Ashikaga**	**1.97**	**272**	P	**Pn**	**15 35 44.5**	**-0.2**
JFY	**Yanaizu**	**2.04**	**301**	P	**Pn**	**15 35 46.6**	**+1.0**
JKT	**Katashina**	**2.17**	**281**	P	**Pn**	**15 35 48.2**	**+0.8**
JRY	**Ryogami san**	**2.45**	**262**	P	**Pn**	**15 35 51.2**	**0.0**
JOD2	**Odawara 2**	**2.54**	**245**	P	**Pn**	**15 35 53.1**	**+0.6**
MJAR	**Matsushiro Arr**	**2.98**	**274**	P	**Pn**	**15 35 59.7**	**+1.2**
	4.3nm,0.3s,baz=237,slow=20,SNR=236						
MJAR				S	**Sb**	**15 36 37.0**	**-3.7**
	1.4nm,0.3s,baz=86,slow=16,SNR=5.1						
MJAR				LR	LR	15 37 14.4	
	comp=Z,673nm,21.2s,baz=115,slow=41						
MAJO	**Matsushiro**	**2.98**	**274**	⇑*eP*	**Pn**	**15 36 00.1**	**+1.6**
MAJO	**Matsushiro**	**2.98**	**274**		**Pn**	**15 35 59.9**	**+1.3**
MAT	**Matsushiro**	**2.98**	**274**	P	**Pn**	**15 35 59.9**	**+1.4**
MAT				*eS*	**Sn**	**15 36 33.4**	**-0.4**
MJB9	**Matsu-Tunnel**	**2.98**	**274**		**Pn**	**15 35 60.0**	**+1.4**
JHJ2	**Mitsune**	**3.68**	**208**	Pn	**Pn**	**15 36 09.5**	**+1.3**
INU	**Inuyama**	**4.09**	**257**		**Pn**	**15 36 14.8**	**+1.0**
ERM	**Erimo**	**5.71**	**9**	⇑*eP*	**Pn**	**15 36 36.4**	**+0.4**
ERM	**Erimo**	**5.71**	**9**	Pn	**Pn**	**15 36 37.2**	**+1.1**
NMR	**Nemuro--Hokkai**	**7.58**	**22**	*eP*	**Pn**	**15 36 59.0**	**-2.6**
ASAJ	**Asahikawa**	**7.75**	**4**	P	**Pn**	**15 37 04.2**	**+0.2**
	2.2nm,0.3s,baz=202,slow=16,SNR=21						
ASAJ				S	**Sn**	**15 38 29.4**	**-1.8**
	1.2nm,0.3s,baz=310,slow=32,SNR=2.2						
ASAJ				LR	LR	15 40 59.6	
	comp=Z,419nm,18.4s,baz=166,slow=44						
JKA	**Kamikawa-asahi**	**7.75**	**4**		**Pn**	**15 37 04.2**	**+0.2**
JKA					**Sn**	**15 38 29.4**	**-1.8**
GRPR	**Tuman**	**8.16**	**20**	P	**Pn**	**15 37 06.4**	**-3.2**
JNU	**Nakatsue**	**9.63**	**254**	LR	LR	15 41 27.5	
	comp=Z,387nm,18.5s,baz=54,slow=39						
KUR	**Kuril'sk**	**9.93**	**25**	*eP*	**Pn**	**15 37 30.9**	**-3.0**
KUR				S	**Sn**	**15 39 17.7**	**-7.1**
YSS	**Yuzh-Sakhalins**	**10.59**	**3**	P	**Pn**	**15 37 46.8**	**+3.9**
YSS	**Yuzh-Sakhalins**	**10.59**	**3**	Pn	**Pn**	**15 37 46.8**	**+3.9**
USRK	**Ussuriysk Ar.**	**10.87**	**319**	P	Pn	15 37 51.5	+4.7
	baz=134,slow=11,SNR=7.5						
USRK				LR	LR	15 41 50.4	
	comp=Z,504nm,18.1s,baz=118,slow=36						
KSRS	**Korea Array**	**11.24**	**280**	P	**Pn**	**15 37 55.8**	**+3.9**
	0.2nm,0.3s,baz=84,slow=13,SNR=6.6						
KSRS				LR	LR	15 42 16.3	
	comp=Z,345nm,18.2s,baz=76,slow=38						
KLR	**Kul'dur**	**14.83**	**333**	P	**P**	**15 38 43.9**	**-2.6**
	0.1nm,0.3s,baz=132,slow=16,SNR=2.4						
NJ2	**Nanjing**	**19.53**	**264**	*eP*	**Pn**	**15 39 39.0**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
ZEA	**Zeya**	**20.14**	**334**	*eP*	Pn	15 39 48.2	+1.3
ZEA				pmax	pmax		
	comp=Z,21nm,1.2s						
ZEA				MLR	MLR		
	comp=Z,600nm,13.0s						
BJI	**Beijing**	**20.52**	**288**	*e

	comp=Z,2.7nm,0.4s,baz=122,slow=5.3,SNR=24								
SONM					LR	LR	15 51 30.7		
	comp=Z,135nm,18.1s,baz=38,slow=34								
LZH	**Lanzhou**	**30.57**	**281**	*e*P	**P**		**15 41 26.3**	**+1.4**	
LZH				pP	pwP		15 41 38.0	+5.2	
LZH				pmax	pmax				
	comp=Z,12nm,1.1s								
LZH				pmax	pmax				
	comp=Z,66nm,5.4s								
LZH				LR	LR				
	comp=Z,320nm,13.2s								
LZH				LR	LR				
	comp=Z,340nm,12.5s								
LZH				LR	LR				
	comp=Z,440nm,16.3s								
ZAK	**Zakamensk**	**30.98**	**309**	*e*P	P		15 41 22.8	-5.5	
ZAK				pmax	pmax				
	comp=Z,5.0nm,1.1s								
TLY	**Talaya**	**31.06**	**312**	*ce*P	**P**		**15 41 29.7**	**+0.8**	
TLY				pmax	pmax				
	comp=Z,14nm,1.1s								
TLY	**Talaya**	**31.06**	**312**	P	**P**		**15 41 29.1**	**+0.2**	
	comp=Z,16nm,1.1s,baz=94,slow=9.3,SNR=3.2								
TLY	**Talaya**	**31.06**	**312**	P	**P**		**15 41 29.3**	**+0.4**	
TLY				IAmb	IAmb		15 41 30.5		
	comp=Z,12nm,1.0s								
CD2	**Chengdu**	**32.07**	**271**	*e*P	**P**		**15 41 37.0**	**-1.1**	
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2				pmax	pmax				
	comp=Z,120nm,5.0s								
GTA	**Gaotai**	**33.13**	**288**	⇑P	**P**		**15 41 47.9**	**+0.5**	
GTA				pP	pwP		15 41 58.6	+3.3	
GTA				sP	sP		15 42 02.6	+8.5	
GTA				S	**S**		**15 47 06.8**	**+0.9**	
GTA				pmax	pmax				
	comp=Z,150nm,6.8s								
GTA				LR	LR				
	comp=Z,140nm,15.6s								
GTA				LR	LR				
	comp=Z,180nm,16.2s								
GTA				LR	LR				
	comp=Z,240nm,15.2s								
KMI	**Kunming**	**35.26**	**263**	P	**P**		**15 42 06.1**	**+0.1**	
KMI				pmax	pmax				
	comp=Z,8.0nm,1.1s								
WMQ	**Urumqi**	**41.49**	**298**	*e*P	**P**		**15 42 59.5**	**+1.4**	
WMQ				pmax	pmax				
	comp=Z,11nm,0.8s								
WMQ				pmax	pmax				
	comp=Z,93nm,7.5s								
WMQ				LR	LR				
	comp=Z,170nm,26.9s								
WMQ				LR	LR				
	comp=Z,2μm,29.0s								
CHTO	**Chiang Mai**	**41.52**	**257**	P	**P**		**15 42 58.2**	**-0.3**	
CHTO				pmax	pmax				
	comp=Z,6.0nm,1.2s								
CHTO	**Chiang Mai**	**41.52**	**257**	P	**P**		**15 42 58.2**	**-0.3**	
KRVT	**Keravat (AS076**	**41.57**	**165**	LR	LR		15 59 20.7		
	comp=Z,248nm,21.2s,baz=63,slow=35								
CMAR	**Chiang Mai Arr**	**41.72**	**256**	*ce*P	**P**		**15 43 00.9**	**+0.8**	
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**41.72**	**256**	P	**P**		**15 43 00.3**	**+0.2**	
	comp=Z,1.6nm,0.9s,baz=48,slow=5.6,SNR=9.6								
CMAR				LR	LR		16 01 13.2		
	comp=Z,38nm,18.5s,baz=25,slow=37								
ZAA0	**Zalesovo Array**	**42.65**	**313**	P	**P**		**15 43 07.3**	**0.0**	
ZALV	**Zalesovo Beam**	**42.65**	**313**	P	**P**		**15 43 08.1**	**+0.8**	
	comp=Z,1.2nm,0.3s,baz=101,slow=7.7,SNR=11								
ZALV				LR	LR		16 01 27.3		
	comp=Z,129nm,18.4s,baz=70,slow=37								
MK31	**Makanchi Array**	**44.80**	**303**	P	**P**		**15 43 25.5**	**+0.7**	
MK31				pmax	pmax				
	comp=Z,11nm,1.3s								
MK31	**Makanchi Array**	**44.80**	**303**	P	**P**		**15 43 25.4**	**+0.7**	
MK31				IAmb	IAmb		15 43 28.9		
	comp=Z,11nm,1.3s								
MKAR	**Makanchi Array**	**44.80**	**303**	P	**P**		**15 43 25.6**	**+0.8**	
	comp=Z,1.2nm,0.6s,baz=90,slow=8.6,SNR=7.7								
MKAR				LR	LR		16 02 15.4		
	comp=Z,91nm,20.7s,baz=44,slow=36								
MAKZ	**Makanchi**	**45.01**	**303**	P	**P**		**15 43 27.4**	**+1.0**	
MAKZ				pmax	pmax				
	comp=Z,29nm,1.7s								
MAKZ	**Makanchi**	**45.01**	**303**	P	**P**		**15 43 27.4**	**+1.0**	
MAKZ				IAmb	IAmb		15 45 02.1		
	comp=Z,29nm,1.7s								
SVW2	**Sparrevohn**	**45.81**	**37**	P	**P**		**15 43 33.9**	**+1.4**	
KURK	**Kurchatov**	**46.65**	**309**	P	**P**		**15 43 39.2**	**0.0**	
KURK				pmax	pmax				
	comp=Z,7.0nm,1.0s								
KURK	**Kurchatov**	**46.65**	**309**	P	**P**		**15 43 39.1**	**0.0**	
KURK				IAmb	IAmb		15 43 40.5		
	comp=Z,6.6nm,1.0s								
KURBB	**Kurchatov Arra**	**46.71**	**309**	P	**P**		**15 43 40.4**	**+0.6**	
	comp=Z,1.7nm,0.4s,baz=84,slow=7.8,SNR=18								
SKT	**Skwentna**	**47.77**	**36**	P	**P**		**15 43 48.5**	**+0.6**	
TRF	**Thorofare Moun**	**48.36**	**34**	P	**P**		**15 43 53.7**	**+1.2**	
TRF				IAmb	IAmb		15 44 42.9		
	comp=Z,29nm,1.5s								
TARG	**Taragay, Kyrgy**	**49.04**	**297**	P	**P**		**15 43 58.6**	**+0.2**	
TARG				IAmb	IAmb		15 44 12.9		
	comp=Z,4.6nm,0.8s								
KDJ	**Kajisay**	**49.38**	**298**	P	**P**		**15 44 01.6**	**+0.8**	
KDJ				pmax	pmax				
	comp=Z,3.0nm,0.9s								
KDJ	**Kajisay**	**49.38**	**298**	P	**P**		**15 44 01.6**	**+0.8**	
ILAR	**Eielson Array**	**49.84**	**32**	P	**P**		**15 44 05.4**	**+1.7**	
	comp=Z,0.3nm,0.8s,baz=273,slow=6.1,SNR=3.6								
KSH	**Kashi**	**51.03**	**295**	P	**P**		**15 44 16.8**	**+3.6**	
KSH				ScP	**ScP**		**15 49 22.9**	**-1.5**	
KSH				PcS	**PcS**		**15 49 27.0**	**+0.2**	
KSH				S	**S**		**15 51 30.5**	**+0.8**	
KSH				sS	sS		15 51 51.4	+14	
KSH				ScS	**ScS**		**15 53 59.9**	**-3.2**	
KSH				SS	**SS**		**15 55 03.8**	**-0.7**	
KSH				LR	LR				
	comp=Z,850nm,7.4s								
KSH				LR	LR				
	comp=Z,890nm,8.6s								
KSH				LR	LR				
	comp=Z,760nm,6.6s								
DOT	**Dot Lake**	**51.14**	**33**	P	**P**		**15 44 12.3**	**-1.2**	
AAK	**Ala-Archa**	**51.15**	**299**	⇓*e*P	**P**		**15 44 15.2**	**+1.1**	
AAK				pmax	pmax				
	comp=Z,5.0nm,1.8s								
AAK	**Ala-Archa**	**51.15**	**299**	P	**P**		**15 44 14.6**	**+0.5**	
BRVK	**Borovoye**	**51.36**	**313**	⇓*e*P	**P**		**15 44 16.0**	**+0.7**	
BRVK				pmax	pmax				
	comp=Z,4.0nm,1.7s								
INK	**Inuvik**	**54.79**	**27**	P	**P**		**15 44 42.0**	**+1.6**	
INK				pmax	pmax				
	comp=Z,20nm,1.9s								
INK	**Inuvik**	**54.79**	**27**	P	**P**		**15 44 42.0**	**+1.6**	
	comp=Z,0.5nm,0.6s,baz=306,slow=2.3,SNR=3.9								
INK	**Inuvik**	**54.79**	**27**	IAmb	IAmb		15 44 58.2		
	comp=Z,20nm,1.9s								
GAR	**Garm**	**55.33**	**296**	P	**P**		**15 44 45.4**	**+0.5**	
GAR				IAmb	IAmb		15 44 46.7		
	comp=Z,14nm,1.2s								
SKAG	**Skagway**	**55.98**	**38**	P	**P**		**15 44 48.4**	**-0.6**	
CHGR	**Chuyangaron**	**56.30**	**296**	P	**P**		**15 44 52.7**	**+0.9**	
WRA	**Warramunga Arr**	**56.47**	**189**	P	**P**		**15 44 52.6**	**-0.3**	
	comp=Z,0.5nm,0.7s,baz=5.1,slow=7.5,SNR=6.4								
ARU	**Arti**	**57.11**	**319**	P	**P**		**15 44 58.2**	**+1.1**	
ARU				S	**S**		**15 52 53.0**	**+2.0**	
ARU				SS	**SS**		**15 56 40.8**	**+1.4**	
ABKAR	**Akbulak array**	**58.66**	**311**	P	**P**		**15 45 08.2**	**+0.1**	
ABKAR				IAmb	IAmb		15 45 40.4		
	comp=Z,14nm,1.9s								
ASAR	**Alice Springs**	**60.19**	**188**	P	**P**		**15 45 19.0**	**+0.1**	
	comp=Z,0.4nm,0.9s,baz=12,slow=7.4,SNR=5.3								
RES	**Resolute Bay**	**63.14**	**14**	P	**P**		**15 45 37.0**	**-1.2**	
RES				pmax	pmax				
	comp=Z,25nm,2.0s								
RES	**Resolute Bay**	**63.14**	**14**	P	**P**		**15 45 37.0**	**-1.2**	
	comp=Z,1.2nm,0.8s,baz=332,slow=3.3,SNR=5.9								
RES	**Resolute Bay**	**63.14**	**14**	IAmb	IAmb		15 47 00.8		
	comp=Z,25nm,2.0s								
YKA	**Yellowknife Ar**	**64.18**	**30**	P	**P**		**15 45 46.5**	**+1.3**	
	comp=Z,0.3nm,0.7s,baz=306,slow=6.5,SNR=4.9								
FINES	**FINESS Array B**	**69.58**	**333**	*e*P	**P**		**15 46 20.9**	**+1.3**	
FINES				pmax	pmax				
	comp=Z,7.0nm,1.1s								
FINES	**FINESS Array B**	**69.58**	**333**	P	**P**		**15 46 19.8**	**+0.2**	
	comp=Z,7.3nm,1.1s,baz=45,slow=3.0,SNR=6.1								
FINES				LR	LR		16 17 52.0		
	comp=Z,237nm,18.2s,baz=314,slow=37								
NOA	**NORSAR Array B**	**74.94**	**338**	P	**P**		**15 46 52.5**	**+0.8**	
	comp=Z,1.5nm,0.8s,baz=38,slow=5.8,SNR=2.9								
AKASG	**Malin Array Be**	**75.06**	**323**	*i* P	**P**		**15 46 53.4**	**+0.9**	
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**75.06**	**323**	P	**P**		**15 46 52.9**	**+0.4**	
	comp=Z,1.3nm,0.6s,baz=49,slow=6.0,SNR=6.3								
NVAR	**Mina Array Bea**	**75.07**	**53**	P	**P**		**15 46 55.1**	**+2.0**	
	comp=Z,0.2nm,0.6s,baz=294,slow=6.8,SNR=2.7								
BRTR	**Keskin Array B**	**79.58**	**312**	*ce*P	**P**		**15 47 19.7**	**+1.4**	
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
BRTR	**Keskin Array B**	**79.58**	**312**	P	**P**		**15 47 18.6**	**+0.3**	
	comp=Z,0.7nm,0.8s,baz=192,slow=2.4,SNR=3.9								
GERES	**GERESS Array B**	**83.47**	**328**	P	**P**		**15 47 38.9**	**+0.3**	
	comp=Z,0.2nm,0.5s,baz=54,slow=5.0,SNR=3.4								
PPT	**Papeete**	**83.99**	**117**	LR	LR		16 20 19.1		
	comp=Z,52nm,19.4s,baz=352,slow=32								
LPAZ	**La Paz**	**146.68**	**61**	PKP2	**PKPab**		**15 54 55.0**	**-0.1**	
LPAZ	**La Paz**	**146.68**	**61**	PKPbc	**PKPab**		**15 54 55.0**	**-0.1**	
	comp=Z,0.9nm,0.7s,baz=11,slow=9.9,SNR=3.7								

*IDC **15** 15:36:52.7±1.6, 35°.20N×26°.15E, h0km, mb4.0/4, mb1 3.8/8, mb1mx3.5/50, mbtmp3.7/8, ML3.3/4, Error ellipse: s-maj=41.9km s-min=24.0km az=144.0*
*ATH **15** 15:36:54.0, 35°.54N×25°.81E, h30km±1km, ML3.4/11, Error ellipse: s-maj=1.6km s-min=0.7km az=192.0*
*ISCJB **15** 15:36:54.6±0.4, 35°.57N±0°.02×25°.84E±0°.02, h12km±3km, mb3.9/4, Error ellipse: s-maj=2.7km s-min=2.4km az=41.1*
*ISK **15** 15:36:54.5, 35°.59N×25°.88E, h11km, ML3.2/17*
*THE **15** 15:36:55.1, 35°.55N×25°.83E, h8km±1km, ML3.4/7, Error ellipse: s-maj=1.1km s-min=0.3km az=162.0*
*DDA **15** 15:36:56.2, 35°.73N×25°.75E, h7km±4km, MW3.7*

ISC 15 15:36:54.3±1.1, 35°.55N±0°.02×25°.85E±0°.02, h11km±8km, n109, σ1s27/138, mb3.9/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.35**	**213**	P		**Pg**		**15 37 01.8**	**+0.5**
NPS				S		**Sb**		**15 37 07.2**	**-0.8**
	12μm,0.3s								
NPS	**Neapolis**	**0.35**	**213**	P		**Pg**		**15 37 01.3**	**0.0**
NPS				S		**Sb**		**15 37 07.2**	**-0.8**
NPS				AML		AML		15 37 07.8	
	comp=E,29651μm,0.4s								
NPS				AML		AML		15 37 08.3	
	comp=N,16738μm,0.3s								
STIA	**Sitia Lasithi**	**0.41**	**150**	P		**Pb**		**15 37 03.6**	**+0.1**
STIA				S		**Sb**		**15 37 09.4**	**-0.2**
LAST	**Lasithi**	**0.49**	**217**	P		**Pg**		**15 37 04.0**	**0.0**
LAST	**Lasithi**	**0.49**	**217**	P		**Pg**		**15 37 04.1**	**+0.1**
LAST				S		**Sg**		**15 37 11.2**	**+0.7**
LAST				AML		AML		15 37 12.3	
	comp=N,6622μm,0.5s								
LAST				AML		AML		15 37 13.1	
	comp=E,4784μm,0.4s								
ZKR	**Zakros**	**0.53**	**145**	P		**Pb**		**15 37 05.8**	**+0.1**
ZKR				S		**Sb**		**15 37 13.6**	**+0.2**
	comp=E,3μm,0.4s								
ZKR	**Zakros**	**0.53**	**145**	P		**Pb**		**15 37 05.8**	**+0.1**
ZKR				S		**Sb**		**15 37 13.6**	**+0.2**
ZKR				AML		AML		15 37 14.2	
	comp=E,6772μm,0.3s								
ZKR				AML		AML		15 37 14.5	
	comp=N,5137μm,0.4s								
ZKR	**Zakros**	**0.53**	**145**	PG		**Pb**		**15 37 05.6**	**-0.1**
ZKR				SG		**Sb**		**15 37 13.6**	**+0.2**
FRMA	**Ierapetra Chan**	**0.55**	**190**	P		**Pb**		**15 37 05.8**	**-0.1**
FRMA				S		**Sb**		**15 37 13.5**	**-0.2**
HRKL	**Herakleio**	**0.65**	**248**	P		**Pg**		**15 37 07.2**	**+0.2**
HRKL				S		**Sb**		**15 37 17.3**	**+0.5**
	comp=N,6μm,0.4s								
IACM	**Heraklion**	**0.68**	**249**	P		**Pg**		**15 37 07.8**	**+0.3**
IACM				S		**Sb**		**15 37 18.2**	**+0.7**
	comp=N,16μm,0.3s								
IACM	**Heraklion**	**0.68**	**249**	P		**Pg**		**15 37 07.8**	**+0.3**
KSTL	**Kastelli Herak**	**0.68**	**249**	P		**Pg**		**15 37 05.3**	**-2.2**
KSTL				S		**Sg**		**15 37 13.6**	**-2.8**
IDI	**Anoyia**	**0.82**	**251**	P		**Pg**		**15 37 09.6**	**-0.6**
IDI				S		**Sg**		**15 37 21.2**	**+0.2**
IDI				AML		AML		15 37 22.1	
	comp=E,5323μm,0.2s								
IDI				AML		AML		15 37 23.0	
	comp=N,8387μm,0.2s								
SANT	**Santorini**	**0.87**	**339**	P		**Pb**		**15 37 11.9**	**+0.4**
SANT				S		**Sb**		**15 37 24.1**	**+0.8**
SANT	**Santorini**	**0.87**	**339**	P		**Pg**		**15 37 11.4**	**+0.3**
SANT				S		**Sb**		**15 37 24.1**	**+0.8**
SANT				AML		AML		15 37 25.0	
	comp=E,8670μm,0.3s								
SANT				AML		AML		15 37 26.9	
	comp=N,2500μm,0.3s								
SANT	**Santorini**	**0.87**	**339**	PG		**Pb**		**15 37 11.6**	**+0.1**
SANT				SG		**Sb**		**15 37 24.0**	**+0.8**
THR6	**Thira Island,**	**0.88**	**336**	P		**Pg**		**15 37 11.5**	**+0.2**
SAP1	**Santorini-Akro**	**0.88**	**336**	P		**Pb**		**15 37 11.7**	**+0.1**
SAP1				S		**Sb**		**15 37 24.5**	**+1.1**
THR8	**Santorini-Mono**	**0.90**	**341**	P		**Pb**		**15 37 12.0**	**+0.1**
SAP2K	**Karterados**	**0.91**	**339**	P		**Pb**		**15 37 12.4**	**+0.2**
SAP2K				S		**Sn**		**15 37 25.9**	**-0.4**
THR3	**Thira Island,**	**0.93**	**337**	P		**Pb**		**15 37 12.4**	**0.0**
SFIR	**Foira Santorin**	**0.93**	**339**	P		**Pb**		**15 37 12.9**	**+0.4**
THR7	**Fira-Santorini**	**0.93**	**339**	P		**Pb**		**15 37 12.6**	**+0.1**
THT2	**Imerovigli**	**0.94**	**339**	P		**Pb**		**15 37 13.0**	**+0.3**
THT2	**Imerovigli**	**0.94**	**339**	PG		**Pb**		**15 37 12.9**	**+0.3**
THT2				SG		**Sb**		**15 37 25.6**	**+0.4**
THR5	**Thira Island,**	**0.95**	**335**	P		**Pg**		**15 37 12.8**	**+0.2**
SIVA	**Sivas**	**1.00**	**238**	P		**Pg**		**15 37 13.6**	**0.0**
SIVA				S		**Sn**		**15 37 27.9**	**-0.5**
	comp=N,3μm,0.5s								
SIVA	**Sivas**	**1.00**	**238**	P		**Pg**		**15 37 13.3**	**-0.3**
SIVA				AML		AML		15 37 31.6	
	comp=N,5968μm,0.3s								
SIVA				AML		AML		15 37 31.7	
	comp=E,10375μm,0.4s								
TMBK	**Timbaki Herakl**	**1.00**	**242**	P		**Pb**		**15 37 13.9**	**+0.2**
TMBK				S		**Sn**		**15 37 27.9**	**-0.6**
	comp=E,1μm,0.5s								
KARP	**Karpathos**	**1.07**	**90**	P		**Pb**		**15 37 14.9**	**0.0**
KARP				S		**Sn**		**15 37 30.8**	**+0.6**
	comp=E,2μm,0.3s								
KARP	**Karpathos**	**1.07**	**90**	P		**Pb**		**15 37 14.8**	**-0.1**
KARP				S		**Sn**		**15 37 30.5**	**+0.2**
KARP				AML		AML		15 37 34.0	
	comp=N,3286μm,0.2s								
KARP				AML		AML		15 37 35.6	
	comp=E,4542μm,0.2s								
KARP	**Karpathos**	**1.07**	**90**	PG		**Pb**		**15 37 14.6**	**-0.3**
PRNS	**Prines Rethymn**	**1.11**	**261**	P		**Pn**		**15 37 16.3**	**+0.5**
PRNS				S		**Sn**		**15 37 32.5**	**+1.4**
IOSP	**Ios island**	**1.25**	**339**	P		**Pn**		**15 37 17.1**	**-0.6**
IOSP	**Ios island**	**1.25**	**339**	P		**Pn**		**15 37 16.9**	**-0.8**
IOSP				AML		AML		15 37 34.6	
	comp=E,1809μm,0.4s								
IOSP				AML		AML		15 37 39.6	
	comp=N,2115μm,0.2s								
AMGA	**Amorgos Island**	**1.27**	**2**	P		**Pn**		**15 37 17.3**	**-0.8**
AMGA	**Amorgos Island**	**1.27**	**2**	P		**Pn**		**15 37 17.2**	**-0.9**
AMGA				AML		AML		15 37 39.8	
	comp=N,3053μm,0.2s								
AMGA				AML		AML		15 37 39.8	
	comp=E,1935μm,0.4s								
VAM	**Vamos**	**1.35**	**264**	P		**Pn**		**15 37 19.0**	**-0.1**
VAM	**Vamos**	**1.35**	**264**	P		**Pn**		**15 37 18.4**	**-0.7**
VAM				AML		AML		15 37 40.5	
	comp=N,4330μm,0.3s								
VAM				AML		AML		15 37 41.0	
	comp=E,3578μm,0.3s								
NISR	**Nisiros**	**1.48**	**44**	P		**Pn**		**15 37 21.4**	**+0.5**
NISR	**Nisiros**	**1.48**	**44**	P		**Pn**		**15 37 21.3**	**+0.4**
NISR				AML		AML		15 37 49.5	
	comp=E,3085μm,0.2s								
NISR				AML		AML		15 37 51.6	
	comp=N,1815μm,0.4s								
KOSK	**Kos Island**	**1.51**	**37**	PN		**Pb**		**15 37 22.0**	**-0.3**
IMMV	**Iera Moni Meta**	**1.52**	**267**	P		**Pn**		**15 37 21.1**	**-0.4**
IMMV	**Iera Moni Meta**	**1.52**	**267**	P		**Pn**		**15 37 20.6**	**-0.8**
APE	**Apeiranthos**	**1.53**	**351**	P		**Pn**		**15 37 21.0**	**-0.7**
APE	**Apeiranthos**	**1.53**	**351**	P		**Pn**		**15 37 20.7**	**-1.0**
APE	**Apeiranthos**	**1.53**	**351**	PN		**Pn**		**15 37 21.3**	**-0.4**
GVD	**Gavdhos**	**1.61**	**244**	P		**Pb**		**15 37 23.6**	**-0.4**
MHLO	**Agia Marina, M**	**1.63**	**315**	P		**Pn**		**15 37 23.2**	**+0.3**
MHLA	**Plaka, Milos I**	**1.66**	**316**	P		**Pn**		**15 37 23.0**	**-0.3**
DAT	**Datca**	**1.83**	**50**	*i* P		**Pn**		**15 37 25.4**	**-0.3**
DAT				*i* S		**Sb**		**15 37 50.8**	**0.0**
DAT	**Datca**	**1.83**	**50**	PN		**Pn**		**15 37 25.8**	**0.0**
DATC	**Datca-Mugla**	**1.90**	**50**	PN		**Pn**		**15 37 26.9**	**+0.3**
BODT	**Bodrum**	**1.91**	**38**	PN		**Pn**		**15 37 27.1**	**+0.2**
SERI	**Serifos**	**1.94**	**326**	P		**Pn**		**15 37 26.8**	**-0.5**
ANKY	**Antikythira Is**	**2.09**	**279**	P		**Pn**		**15 37 28.6**	**-0.7**
ANKY	**Antikythira Is**	**2.09**	**279**	P		**Pn**		**15 37 28.7**	**-0.7**
MRSB	**Marmaris-Mugla**	**2.23**	**58**	PN		**Pn**		**15 37 32.1**	**+0.9**
SMG	**Samos**	**2.29**	**20**	P		**Pn**		**15 37 31.9**	**-0.2**
MLSB	**Milas**	**2.33**	**41**	PN		**Pn**		**15 37 33.5**	**+0.9**
KTHA	**Kythira Island**	**2.37**	**288**	P		**Pn**		**15 37 32.5**	**-0.6**
KTHA	**Kythira Island**	**2.37**	**288**	P		**Pn**		**15 37 32.5**	**-0.6**
KTHR	**Kythira**	**2.41**	**288**	P		**Pn**		**15 37 33.3**	**-0.4**
GCAM	**G?zelcaml?**	**2.42**	**27**	PN		**Pn**		**15 37 34.8**	**+1.1**
YER	**Yerkesik**	**2.52**	**51**	PN		**Pn**		**15 37 36.7**	**+1.4**
TURN	**Turunc**	**2.59**	**59**	*i* P		**Pn**		**15 37 32.2**	**-3.8**
TURN				*i* S		**Sn**		**15 38 00.9**	**-6.6**
TURN	**Turunc**	**2.59**	**59**	PN		**Pn**		**15 37 32.3**	**-3.8**
VLI	**Veliai**	**2.62**	**297**	P		**Pn**		**15 37 36.6**	**-0.1**
DGB	**zmir**	**2.63**	**18**	*i* P		**Pn**		**15 37 36.5**	**-0.1**
DGB				*i* S		**Sn**		**15 38 07.1**	**-1.5**
DGB				IAML				15 38 25.0	
	comp=E,28nm,0.5s								
DGB				IAML				15 38 29.0	
	comp=N,19nm,0.7s								
AYDN	**Tasoluk**	**2.66**	**37**	*i* P		**Pb**		**15 37 40.4**	**-1.7**
AYDN				*i* S		**Sb**		**15 38 17.1**	**+2.3**
KARY	**Karystos**	**2.72**	**336**	P		**Pn**		**15 37 38.3**	**+0.3**
ZEY	**zmir**	**2.73**	**11**	*i* P		**Pn**		**15 37 38.4**	**+0.3**
ZEY				*i* S		**Sn**		**15 38 06.8**	**-4.2**
ZEY				IAML				15 38 31.0	
	comp=E,22nm,0.4s								
ZEY				IAML				15 38 35.0	
	comp=N,47nm,0.7s								
CHOS	**Chios island**	**2.83**	**3**	P		**Pn**		**15 37 39.8**	**+0.3**
CHOS	**Chios island**	**2.83**	**3**	P		**Pn**		**15 37 39.8**	**+0.3**
CHOS	**Chios island**	**2.83**	**3**	PN		**Pn**		**15 37 39.8**	**+0.3**
FETY	**Fethiye**	**2.83**	**67**	*i* PA				15 37 41.5	
FETY				*i* S		**Sn**		**15 38 12.0**	**-1.7**
FETY				IAML				15 38 30.0	
	comp=E,18nm,0.5s								
FETY				IAML				15 38 33.0	
	comp=N,22nm,0.5s								
FETY	**Fethiye**	**2.83**	**67**	PN		**Pn**		**15 37 41.4**	**+1.9**
URLA	**Izmir**	**2.86**	**12**	*i* P		**Pn**		**15 37 39.6**	**-0.3**
URLA				*i* S		**Sn**		**15 38 13.4**	**-1.1**
URLA				IAML				15 38 37.0	
	comp=E,24nm,1.2s								
URLA				IAML				15 38 41.0	
	comp=N,21nm,0.6s								
URLA	**Izmir**	**2.86**	**12**	PN		**Pn**		**15 37 39.9**	**0.0**
DID	**Didima**	**2.87**	**314**	P		**Pn**		**15 37 40.2**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**2.90**	**34**	PN		**Pn**		**15 37 42.4**	**+1.9**
ATHU	**Athens Univers**	**2.92**	**326**	P		**Pn**		**15 37 41.4**	**+0.7**
BLCB	**Balcova**	**2.98**	**18**	PN		**Pn**		**15 37 41.3**	**-0.2**
DYR	**Agios Nikonas**	**3.09**	**294**	P		**Pn**		**15 37 43.2**	**+0.2**
TAVA	**DENIZLI_Tavas**	**3.12**	**51**	*i* PA				15 37 46.5	
TAVA				*i* S		**Sn**		**15 38 22.7**	**+1.9**
TAVA				IAML				15 38 28.0	
	comp=N,11nm,0.2s								
TAVA				IAML				15 38 36.0	
	comp=E,14nm,0.4s								
AKAS	**Kas**	**3.13**	**76**	*i* P		**Pn**		**15 37 44.8**	**+1.1**
AKAS				*i* S		**Sn**		**15 38 19.1**	**-1.9**
AKAS				IAML				15 38 46.0	
	comp=N,28nm,0.7s								
AKAS				IAML				15 38 46.0	
	comp=E,20nm,0.7s								
AKAS	**Kas**	**3.13**	**76**	PN		**Pn**		**15 37 44.3**	**+0.7**
GLHS	**Glhisar (BURDU**	**3.35**	**60**	PN		**Pn**		**15 37 47.6**	**+0.9**
VIL2	**Platees**	**3.36**	**323**	P		**Pn**		**15 37 46.8**	**0.0**
GOLH	**Golhisar**	**3.44**	**60**	*i* PA				15 37 50.7	
GOLH			

HUMP	**Col San Antoni**	**1.86 233**	⇑*eP*	**Pn**	**15 43 48.4**	**+0.1**
HUMP	**Col San Antoni**	**1.86 233**	⇑*eP*	**Pn**	**15 43 48.4**	**+0.1**
HUMP	**Col San Antoni**	**1.86 233**		**Pn**	**15 43 48.4**	**+0.1**
SABA	**Saba**	**1.92 149**	*eP*	**Pn**	**15 43 49.8**	**+0.6**
GCPR	**Guaynabo City**	**1.96 241**		**Pn**	**15 43 48.8**	**-0.9**
PDPR	**Patillas Dam,**	**2.07 233**	⇓*eP*	**Pn**	**15 43 51.6**	**+0.4**
PDPR	**Patillas Dam,**	**2.07 233**		**Pn**	**15 43 51.1**	**-0.1**
SJG	**San Juan**	**2.11 237**		**Pn**	**15 43 51.0**	**-0.8**
SEUS	**St. Eustatius**	**2.16 145**	*eP*	**Pn**	**15 43 52.9**	**+0.4**
SEUS			*eS*	**Sb**	**15 44 21.7**	**-0.9**
IGPR	**InterUniversit**	**2.16 233**	⇑*eP*	**Pn**	**15 43 52.7**	**+0.2**
IGPR	**InterUniversit**	**2.16 233**	*eS*	**Sn**	**15 44 19.1**	**-0.8**
IGPR	**InterUniversit**	**2.16 233**		**Pn**	**15 43 52.7**	**+0.2**
EMPR	**Esperanza - Ma**	**2.27 250**	⇑*eP*	**Pn**	**15 43 54.5**	**+0.6**
EMPR	**Esperanza - Ma**	**2.27 250**	*eS*	**Sb**	**15 44 24.8**	**-0.9**
EMPR	**Esperanza - Ma**	**2.27 250**		**Pn**	**15 43 54.5**	**+0.6**
EMPR				**Sb**	**15 44 24.8**	**-0.9**
SKI	**Saint Kitts**	**2.43 143**	*eP*	**Pn**	**15 43 56.9**	**+0.7**
SKI			*eS*	**Sb**	**15 44 27.8**	**-2.4**
SKOC	**St. Kitts, UWI**	**2.46 143**	*eP*	**Pn**	**15 43 56.5**	**-0.1**
SKOC			*eS*	**Sn**	**15 44 26.7**	**-0.6**
CELP	**Cerrillos**	**2.48 242**	⇓*eP*	**Pn**	**15 43 57.3**	**+0.4**
CELP	**Cerrillos**	**2.48 242**	⇓*eP*	**Pn**	**15 43 57.3**	**+0.4**
CELP	**Cerrillos**	**2.48 242**		**Pn**	**15 43 57.3**	**+0.4**
AOPR	**Arecibo Observ**	**2.52 249**	⇑*eP*	**Pn**	**15 43 57.6**	**+0.3**
AOPR	**Arecibo Observ**	**2.52 249**	⇑*eP*	**Pn**	**15 43 57.6**	**+0.3**
AOPR			*eS*	**Sn**	**15 44 29.6**	**+1.0**
AOPR	**Arecibo Observ**	**2.52 249**		**Pn**	**15 43 57.6**	**+0.3**
AOPR				**Sn**	**15 44 29.6**	**+1.0**
OBIP	**Obispado Ponce**	**2.52 241**	⇑*eP*	**Pn**	**15 43 57.6**	**+0.2**
OBIP	**Obispado Ponce**	**2.52 241**	⇑*eP*	**Pn**	**15 43 57.6**	**+0.2**
OBIP			*eS*	**Sn**	**15 44 29.4**	**+0.7**
OBIP	**Obispado Ponce**	**2.52 241**		**Pn**	**15 43 57.3**	**-0.2**
OBIP	**Obispado Ponce**	**2.52 241**		**Sn**	**15 44 29.4**	**+0.7**
ICMP	**Isla Caja de M**	**2.54 237**		**Pn**	**15 43 58.1**	**+0.5**
NEV	**Hard Times**	**2.68 142**	*eP*	**Pn**	**15 44 00.8**	**+1.2**
GBPR	**Guanica, Bosqu**	**2.78 243**	⇑*eP*	**Pn**	**15 44 01.8**	**+0.8**
GBPR	**Guanica, Bosqu**	**2.78 243**	⇑*eP*	**Pn**	**15 44 01.8**	**+0.8**
GBPR	**Guanica, Bosqu**	**2.78 243**		**Pn**	**15 44 01.8**	**+0.8**
AGPR	**Aguadilla, PR**	**2.79 254**	⇑*eP*	**Pn**	**15 44 01.4**	**+0.3**
AGPR	**Aguadilla, PR**	**2.79 254**	⇑*eP*	**Pn**	**15 44 01.4**	**+0.3**
AGPR	**Aguadilla, PR**	**2.79 254**		**Pn**	**15 44 01.4**	**+0.3**
ANWB	**Willy Bob**	**2.86 124**	*eP*	**Pn**	**15 44 02.5**	**+0.4**
MPR	**Mayaguez**	**2.91 249**		**Pn**	**15 44 02.4**	**-0.3**
MLPR	**Magueyes Islan**	**2.92 244**	⇑*eP*	**Pn**	**15 44 03.3**	**+0.4**
MLPR	**Magueyes Islan**	**2.92 244**		**Pn**	**15 44 03.3**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.96 245**	⇑*eP*	**Pn**	**15 44 04.3**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.96 245**	⇑*eP*	**Pn**	**15 44 04.3**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.96 245**		**Pn**	**15 44 04.3**	**+0.8**
IDE	**Isla Desecheo**	**3.15 254**	⇑*eP*	**Pn**	**15 44 07.2**	**+1.2**
IDE	**Isla Desecheo**	**3.15 254**	⇑*eP*	**Pn**	**15 44 07.2**	**+1.2**
IDE	**Isla Desecheo**	**3.15 254**		**Pn**	**15 44 07.2**	**+1.2**
BPA	**Boggy Peak**	**3.20 133**	*eP*	**Pn**	**15 44 07.3**	**+0.5**
BPA			*eS*	**Sn**	**15 44 44.6**	**-0.9**
MLYT	**Lee's Yard**	**3.23 142**	*eS*	**Sn**	**15 44 45.7**	**-0.5**
MDPO	**Dominica; Chan**	**4.57 143**	*eP*	**Pn**	**15 44 28.9**	**+3.3**
MDPO	**Dominica; Chan**	**4.57 143**	*eS*	**Sn**	**15 45 19.3**	**+0.1**
BBL	**Barber's Block**	**4.60 144**	*eP*	**Pn**	**15 44 26.9**	**+0.9**
SDDR	**Presa de Saban**	**6.63 269**		**Pn**	**15 44 54.8**	**+0.8**

NNC 15 15:45:44.7±5.9, 37°08N×70°96E, h0km, mb3.5, mpv3.3, 2C, Error ellipse: s-maj=61.3km s-min=37.6km az=142.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.03**	**357**	P	Pn	15 47 15.9	+0.8
	1.1nm,0.2s,baz=178,slow=13,SNR=66						
KK31				⇑S	Sn	15 48 27.1	+2.3
	0.6nm,0.3s,baz=172,slow=22,SNR=5.2						
AAK	**Ala-Archa**	**6.18**	**25**	⇑P	Pn	15 47 17.7	+0.3
	1.1nm,0.6s						
AAK				S	Sn	15 48 29.3	+0.5
	2.9nm,0.8s						
AB31	**Akbulak array**	**14.56**	**330**	P	Pn	15 49 08.7	-3.2
	0.2nm,0.3s,baz=172,slow=13,SNR=9.2						

*NIED **15** 15:54:00,36°10N×140°00E,h77km,Mw3.9 Best double couple: M0 9.16000×10^14 NP1:φs182.00000°,δ12.00000°, λ-84.00000°. NP2:φs356.00000°,δ78.00000°, λ-91.00000°.*

*ISCJB **15** 15:54:12.2±0.3,36°02N±0°.03×140°00E±0°.04,h92km±2km, mb3.9/14, Error ellipse: s-maj=5.3km s-min=4.4km az=12.2*

*NEIC **15** 15:54:12.8±2.6,36°06N±0°.06×140°08E±0°.09,h83km±7km, mb4.9/18*

*JMA **15** 15:54:13.7±0.1,36°04N×140°00E,h76km±1km,M3.9 Broadband fault plane solution: P waves. NP1: φs351.00000°,δ83.00000°,λ-81.00000°. NP2: φs117.00000°,δ11.00000°,λ-143.00000°. Principal axes: T Plg38.0000°, Azm73.0000°; N Plg9.0000°, Azm170.0000°; P Plg51.0000°, Azm271.0000°;*

JMA Felt II J1.

*IDC **15** 15:54:14.4±1.7,35°96N×139°86E,h94km±14km,mb3.6/14, mb1 3.8/17,mb1mx3.6/44,mbtmp3.9/17,MS2.7/2, Ms1 2.7/2,ms1mx2.5/32 Error ellipse: s-maj=18.8km s-min=14.5km az=91.0*

ISC 15 15:54:13.0±0.6, 36°06N±0°.04×139°99E±0°.04, h82km±6km, n68, σ1°53/77, mb4.2/21, 6C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.23**	**45**	⇓P	**Pn**	**15 54 25.3**	**+0.2**
JYT				S	**Sn**	**15 54 33.9**	**-0.1**
TOK	**Tokyo**	**0.42**	**207**	P	**Pn**	**15 54 27.4**	**+1.2**
TOK				S	**Sn**	**15 54 39.1**	**+3.1**
JIHU	**Itakohorinouch**	**0.44**	**103**	⇓P	**Pn**	**15 54 27.0**	**+0.6**
JIHU				S	**Sn**	**15 54 37.7**	**+1.4**
JAG	**Ashikaga**	**0.57**	**310**	⇑P	**Pn**	**15 54 28.0**	**+0.5**
JAG				S	**Sn**	**15 54 38.6**	**+0.4**
JRY	**Ryogami san**	**0.89**	**267**	⇑P	**Pn**	**15 54 31.4**	**+0.5**
JRY				S	**Sn**	**15 54 45.0**	**+0.8**
JKT	**Katashina**	**0.92**	**320**	⇑P	**Pn**	**15 54 32.1**	**+0.7**
JKT				S	**Sn**	**15 54 46.6**	**+1.6**
JOD2	**Odawara 2**	**1.09**	**223**	⇑P	**Pn**	**15 54 32.9**	**-0.3**
JOD2				S	**Sn**	**15 54 48.2**	**-0.1**
JYN	**Shimob**	**1.31**	**245**	⇑P	**Pn**	**15 54 36.6**	**+0.6**
JYN				S	**Sn**	**15 54 53.0**	**-0.3**
BSO3	**Boso 3**	**1.33**	**161**	P	**Pn**	**15 54 35.6**	**-0.3**
JFY	**Yanaizu**	**1.36**	**350**	⇓P	**Pn**	**15 54 38.0**	**+1.4**
JFY				S	**Sn**	**15 54 57.6**	**+3.2**
JFNN	**Fujinakano**	**1.37**	**231**	⇑P	**Pn**	**15 54 36.9**	**+0.1**
JFNN				S	**Sn**	**15 54 54.2**	**-0.5**
JIM2	**Oshima 3**	**1.42**	**199**	P	**Pn**	**15 54 36.4**	**-1.0**
JIM2				S	**Sn**	**15 54 53.7**	**-2.1**
JFT	**Otama**	**1.48**	**11**	⇓P	**Pn**	**15 54 39.6**	**+1.5**
JFT				S	**Sn**	**15 54 58.6**	**+1.5**
MJAR	**Matsushiro Arr**	**1.52**	**289**	P	**Pn**	**15 54 39.6**	**+0.9**
	19nm,0.3s,baz=93,slow=24,SNR=1180						
MJAR				S	**Sn**	**15 54 57.8**	**-0.2**
	13nm,0.3s,baz=8.6,slow=25,SNR=5.4						
MJAR				LR	LR	15 55 15.6	
	comp=Z,194nm,19.0s,baz=215,slow=43						
MAJO	**Matsushiro**	**1.52**	**289**		**Pn**	**15 54 40.0**	**+1.3**
MAT	**Matsushiro**	**1.52**	**289**	P	**Pn**	**15 54 40.0**	**+1.3**
MAT				S	**Sn**	**15 54 58.3**	**+0.2**
MAT	**Matsushiro**	**1.52**	**289**	P	**Pn**	**15 54 40.0**	**+1.3**
MJB9	**Matsu-Tunnel**	**1.52**	**289**		**Pn**	**15 54 39.9**	**+1.2**
BSO1	**Boso 1**	**1.62**	**150**	P	**Pn**	**15 54 39.5**	**+0.1**
INU	**Inuyama**	**2.52**	**254**		**Pn**	**15 54 52.7**	**+0.8**
JHJ2	**Mitsune**	**2.95**	**183**	Pn	**Pn**	**15 54 57.7**	**0.0**
ERM	**Erimo**	**6.43**	**22**	Pn	**Pn**	**15 55 43.9**	**-1.1**
JNU	**Nakatsue**	**8.07**	**251**	P	**Pn**	**15 56 08.8**	**+1.3**
	0.8nm,0.3s,baz=40,slow=6.6,SNR=10						
JNU				LR	LR	15 59 27.3	
	comp=Z,79nm,19.8s,baz=351,slow=39						
JNU	**Nakatsue**	**8.07**	**251**	Pn	**Pn**	**15 56 09.0**	**+1.6**
ASAJ	**Asahikawa**	**8.29**	**13**	P	**Pn**	**15 56 09.3**	**-1.0**
	1.9nm,0.3s,baz=224,slow=12,SNR=19						
ASAJ				S	**Sn**	**15 57 36.6**	**-5.6**
	0.4nm,0.3s,baz=88,slow=32,SNR=2.0						
JKA	**Kamikawa-asahi**	**8.29**	**13**		**Pn**	**15 56 09.3**	**-1.0**
JKA					**Sn**	**15 57 36.6**	**-5.7**
KSRS	**Korea Array**	**9.79**	**282**	P	**Pn**	**15 56 32.5**	**+1.7**
	0.3nm,0.3s,baz=98,slow=14,SNR=8.8						
KSRS				LR	LR	16 00 12.4	
	comp=Z,29nm,21.0s,baz=345,slow=37						

USA0B	**Ussuriysk Arra**	**10.17**	**325**	Pn	**Pn**	**15 56 35.2**	**-0.8**
USRK	**Ussuriysk Ar.**	**10.17**	**325**	P	**Pn**	**15 56 39.2**	**+3.1**
	baz=132,slow=12,SNR=8.8						
KLR	**Kul'dur**	**14.47**	**338**	P	**Pn**	**15 57 32.4**	**-1.2**
	0.5nm,0.3s,baz=150,slow=14,SNR=8.8						
SARN	**Sarigan**	**19.96**	**164**	P	**P**	**15 58 39.3**	**+0.6**
SARN				IAmb	IAmb	15 59 29.2	
	comp=Z,191nm,1.4s						
ANA2	**Anatahan**	**20.29**	**164**	P	**P**	**15 58 43.1**	**+0.8**
SSLB	**Suanglung**	**20.50**	**239**	P	**P**	**15 58 41.1**	**-3.4**
SSLB				IAmb	IAmb	15 59 35.5	
	comp=Z,61nm,1.6s						
TPUB	**Ta-pu**	**21.04**	**238**	P	**P**	**15 58 48.0**	**-2.3**
TPUB				IAmb	IAmb	15 59 46.1	
	comp=Z,138nm,1.6s						
MA2	**Magadan**	**24.55**	**13**	P	**P**	**15 59 26.8**	**+2.0**
MA2				IAmb	IAmb	15 59 39.4	
	comp=Z,55nm,1.4s						
ENH	**Enshi**	**26.12**	**266**	P	**P**	**15 59 38.8**	**-0.6**
SONM	**Songino Array**	**27.40**	**306**	P	**P**	**15 59 50.1**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=107,slow=9.0,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**28.68**	**117**	T	T	16 29 49.8	
	baz=308,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**28.68**	**117**	T	T	16 30 08.9	
	baz=308,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**28.70**	**117**	T	T	16 30 05.5	
	baz=308,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**29.34**	**119**	T	T	16 31 09.9	
	baz=314,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**29.34**	**120**	T	T	16 31 10.8	
	baz=314,slow=75,SNR=15						
H11S2	**WAKE ISLAND Hy**	**29.35**	**120**	T	T	16 31 15.3	
	baz=314,slow=75,SNR=12						
FAKI	**Fak Fak**	**39.45**	**192**	P	**P**	**16 01 35.6**	**+0.2**
FAKI				IAmb	IAmb	16 02 59.2	
	comp=Z,29nm,1.3s						
LSA	**Lhasa**	**41.16**	**276**	P	**P**	**16 01 49.3**	**-0.7**
ZAA0	**Zalesovo Array**	**41.73**	**313**	P	**P**	**16 01 53.9**	**+0.1**
ZALV	**Zalesovo Beam**	**41.73**	**313**	P	**P**	**16 01 54.1**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=87,slow=6.6,SNR=10						
MK31	**Mananchi Array**	**43.67**	**304**	P	**P**	**16 02 09.4**	**-0.2**
MKAR	**Makanchi Array**	**43.67**	**303**	P	**P**	**16 02 09.6**	**0.0**
	comp=Z,3.2nm,0.8s,baz=91,slow=9.2,SNR=12						
KURK	**Kurchatov**	**45.64**	**309**	P	**P**	**16 02 24.9**	**-0.2**
KURK				IAmb	IAmb	16 02 26.8	
	comp=Z,8.8nm,1.1s						
SVW2	**Sparrevohn**	**46.98**	**37**	P	**P**	**16 02 35.7**	**+0.1**
KDAK	**Kodiak Island**	**48.58**	**41**	P	**P**	**16 02 48.6**	**+0.7**
	comp=Z,10nm,0.8s,baz=270,slow=10,SNR=3.4						
KDAK	**Kodiak Island**	**48.58**	**41**	P	**P**	**16 02 48.8**	**+0.9**
HOM	**Homer**	**48.96**	**39**	P	**P**	**16 02 49.2**	**-1.6**
MTN	**Manton Dam**	**49.36**	**191**	P	**P**	**16 02 53.3**	**-0.9**
MTN				IAmb	IAmb	16 03 08.9	
	comp=Z,22nm,1.4s						
TRF	**Thorofare Moun**	**49.47**	**34**	P	**P**	**16 02 54.0**	**-0.9**
TRF				IAmb	IAmb	16 03 10.9	
	comp=Z,52nm,1.9s						
ILAR	**Eielson Array**	**50.92**	**32**	P	**P**	**16 03 06.2**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=271,slow=5.9,SNR=14						
INK	**Inuvik**	**55.77**	**27**	P	**P**	**16 03 42.0**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=294,slow=9.3,SNR=5.3						
INK	**Inuvik**	**55.77**	**27**	IAmb	IAmb	16 04 08.0	
	comp=Z,16nm,1.9s						
WRA	**Warramunga Arr**	**55.96**	**186**	P	**P**	**16 03 41.9**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=0.3,slow=7.5,SNR=19						
ABKAR	**Akbulak array**	**57.69**	**310**	P	**P**	**16 03 54.8**	**-0.1**
ABKAR				IAmb	IAmb	16 03 55.6	
	comp=Z,5.1nm,1.4s						
ASAR	**Alice Springs**	**59.69**	**186**	P	**P**	**16 04 07.7**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=358,slow=4.3,SNR=13						
ARCES	**ARCESS Array B**	**64.50**	**339**	P	**P**	**16 04 41.2**	**+0.6**
	comp=Z,4.5nm,0.9s,baz=45,slow=7.6,SNR=9.2						
FINES	**FINESS Array B**	**69.13**	**332**	P	**P**	**16 05 10.2**	**0.0**
	comp=Z,2.4nm,0.9s,baz=46,slow=8.6,SNR=7.7						
AKASG	**Malin Array Be**	**74.36**	**322**	P	**P**	**16 05 41.4**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=52,slow=6.7,SNR=4.6						
NOA	**NORSAR Array B**	**74.63**	**337**	P	**P**	**16 05 43.4**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=161,slow=7.3,SNR=2.4						
NVAR	**Mina Array Bea**	**76.48**	**52**	P	**P**	**16 05 55.5**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=292,slow=4.8,SNR=5.9						
TXAR	**Lajitas Array**	**91.62**	**52**	P	**P**	**16 07 12.6**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=294,slow=6.6,SNR=3.5						

*ISCJB **15** 15:59:23.9±0.4,22°64S±0°.04×179°32W±0°.07,h550km, mb4.0/5, Error ellipse: s-maj=8.2km s-min=5.3km az=5.4*

*IDC **15** 15:59:25.3±2.2,22°45S×179°47W,h540km±31km, mb3.4/5, mb1 3.6/6,mb1mx3.2/28,mbtmp4.5/6, Error ellipse: s-maj=23.1km s-min=19.7km az=131.0*

*NEIC **15** 15:59:26.3±1.6,22°75S±0°.1×179°2W±0°.1,h582km±10km, mb4.8/34*

ISC 15 15:59:24.6±0.5, 22°79S±0°.06×179°09W±0°.08, h550km, n78, σ1°87/87, mb4.7/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.70**	**331**	P	**P**	**16 01 02.1**	**+1.3**
GLKZ	**Green Lake**	**6.53**	**171**	P	**P**	**16 01 11.0**	**+3.0**
GLKZ				S	**S**	**16 02 32.4**	**-0.4**
AFI	**Afiamalu**	**11.23**	**39**	P	**P**	**16 01 57.5**	**+2.1**
	5.5nm,0.3s,baz=255,slow=2.0,SNR=5.1						
AFI				S	**S**	**16 03 56.1**	**-3.2**
	0.9nm,0.3s,baz=350,slow=22,SNR=1.5						
AFI	**Afiamalu**	**11.23**	**39**	P	**P**	**16 01 57.6**	**+2.3**
DZM	**Mont Dzumac**	**13.40**	**270**	P	**P**	**16 02 20.0**	**+2.2**
	0.5nm,0.3s,baz=232,slow=22,SNR=8.0						
OUZ	**Omahuta**	**13.94**	**206**	P	**P**	**16 02 25.2**	**+2.3**
OUZ	**Omahuta**	**13.94**	**206**	P	**P**	**16 02 25.3**	**+2.3**
WCZ	**Waipu Caves**	**14.30**	**202**	P	**P**	**16 02 28.6**	**+2.0**
KUZ	**Kuaotunu**	**14.62**	**197**	P	**P**	**16 02 31.5**	**+1.5**
WIAZ	**Waiheke Island**	**14.83**	**198**	P	**P**	**16 02 34.0**	**+1.8**
MBAZ	**Motutapu North**	**14.88**	**199**	P	**P**	**16 02 34.5**	**+1.9**
MKAZ	**Mokmaki**	**15.11**	**198**	P	**P**	**16 02 36.5**	**+1.5**
WTAZ	**Waiatarua**	**15.13**	**200**	P	**P**	**16 02 36.9**	**+1.7**
HAZ	**Te Kaha**	**15.16**	**190**	P	**P**	**16 02 36.7**	**+1.2**
HAZ				S	**S**	**16 05 10.1**	**-2.5**
AWAZ	**Awhitu Peninsu**	**15.22**	**199**	P	**P**	**16 02 37.7**	**+1.5**
RUGZ	**Raukumara Rang**	**15.38**	**190**	P	**P**	**16 02 38.7**	**+0.7**
RUGZ				S	**S**	**16 05 17.3**	**+0.7**
PUZ	**Puketiti**	**15.41**	**188**	P	**P**	**16 02 39.7**	**+1.6**
PUZ				S	**S**	**16 05 13.7**	**-3.2**
URZ	**Urewera**	**15.76**	**191**	P	**P**	**16 02 40.1**	**-1.5**
	1.5nm,0.3s,baz=252,slow=3.8,SNR=11						
URZ				S	**S**	**16 05 17.6**	**-5.2**
	0.5nm,0.3s,baz=207,slow=22,SNR=6.6						
URZ	**Urewera**	**15.76**	**191**	P	**P**	**16 02 39.8**	**-1.8**
URZ				S	**S**	**16 05 17.0**	**-5.9**
URZ	**Urewera**	**15.76**	**191**	IAmb	IAmb	16 02 48.4	
	comp=Z,18nm,1.3s						
MWZ	**Matawai**	**15.77**	**190**	P	**P**	**16 02 41.1**	**-0.6**
MWZ				S	**S**	**16 05 18.6**	**-4.4**
MUGZ	**Murupara**	**16.04**	**192**	P	**P**	**16 02 43.8**	**-0.5**
RIGZ	**Rimuhau**	**16.10**	**189**	P	**P**	**16 02 44.4**	**-0.5**
MTHZ	**Maungataniwha**	**16.39**	**191**	P	**P**	**16 02 46.9**	**-0.7**
MTHZ				S	**S**	**16 05 29.9**	**-3.4**
RAHZ	**Arahi**	**16.41**	**191**	P	**P**	**16 02 48.3**	**+0.5**
BKZ	**Black Stump Fm**	**16.76**	**192**	P	**P**	**16 02 49.6**	**-1.4**
BKZ				S	**S**	**16 05 34.8**	**-4.5**
BKZ	**Black Stump Fm**	**16.76**	**192**	P	**P**	**16 02 49.5**	**-1.5**
BKZ				IAmb	IAmb	16 02 58.6	
	comp=Z,29nm,1.7s						
VRZ	**Vera Road**	**17.11**	**196**	P	**P**	**16 02 56.3**	**+2.1**
KRHZ	**Kereru**	**17.24**	**192**	P	**P**	**16 02 55.1**	**-0.3**
KAHZ	**Kahuranaki**	**17.30**	**191**	P	**P**	**16 02 56.9**	**+0.9**
TSZ	**Takapari Road**	**17.73**	**193**	P	**P**	**16 02 59.9**	**+0.1**
RAR	**Rarotonga**	**17.98**	**89**	P	**P**	**16 03 03.7**	**+1.3**
RAR				IAmb	IAmb	16 03 07.4	
	comp=Z,138nm,1.9s						
ANWZ	**Angora Road**	**18.02**	**191**	P	**P**	**16 03 03.3**	**+0.9**
BFZ	**Birch Farm**	**18.27**	**191**	P	**P**	**16 03 05.1**	**+0.3**
BFZ				IAmb	IAmb	16 03 10.6	
	comp=Z,60nm,1.3s						
MSWZ	**Moikau Station**	**19.18**	**193**	P	**P**	**16 03 13.3**	**+0.3**
SNZO	**South Karori**	**19.19**	**194**	P	**P**	**16 03 14.7**	**+1.6**
BHW	**Baring Head**	**19.25**	**194**	P	**P**	**16 03 14.9**	**+1.2**
PLWZ	**Palliser**	**19.32**	**193**	P	**P**	**16 03 15.3**	**+0.9**
QRZ	**Quartz Range**	**19.33**	**200**	P	**P**	**16 03 15.7**	**+1.3**
QRZ				IAmb	IAmb	16 03 17.8	
	comp=Z,30nm,0.5s						
NNZ	**Nelson**	**19.44**	**197**	P	**P**	**16 03 16.3**	**+0.9**
NNZ				IAmb	IAmb	16 04 02.8	
	comp=Z,44nm,1.3s						
TUWZ	**Tuamarina**	**19.49**	**196**	P	**P**	**16 03 16.6**	**+0.8**
CMWZ	**Cape Campbell**	**19.73**	**195**	P	**P**	**16 03 19.8**	**+1.8**

BSWZ	**Blackbirch Sta**	**19.78**	**196**	P	**P**	**16 03 20.3**	**+1.9**
THZ	**Tophouse**	**20.08**	**198**	P	**P**	**16 03 22.4**	**+1.1**
THZ				IAmb	IAmb	16 03 24.3	
	comp=Z,26nm,1.3s						
KHZ	**Kahutara**	**20.52**	**196**	P	**P**	**16 03 26.2**	**+1.1**
KHZ				IAmb	IAmb	16 03 33.3	
	comp=Z,24nm,1.1s						
LTZ	**Lake Taylor**	**21.20**	**198**	P	**P**	**16 03 31.6**	**+0.2**
LTZ				IAmb	IAmb	16 03 35.5	
	comp=Z,13nm,0.6s						
OXZ	**Oxford**	**21.77**	**198**	P	**P**	**16 03 36.4**	**0.0**
MQZ	**McQueen's Vall**	**21.95**	**196**	P	**P**	**16 03 38.7**	**+0.7**
RPZ	**Rata Peaks**	**22.41**	**199**	P	**P**	**16 03 44.4**	**+2.2**
	comp=Z,9.9nm,0.7s,baz=23,slow=0.4,SNR=7.9						
RPZ	**Rata Peaks**	**22.41**	**199**	P	**P**	**16 03 43.4**	**+1.2**
RPZ				IAmb	IAmb	16 04 01.9	
	comp=Z,72nm,1.8s						
FOZ	**Fox Glacier**	**22.64**	**201**	P	**P**	**16 03 44.4**	**+0.2**
FOZ				IAmb	IAmb	16 04 02.1	
	comp=Z,48nm,1.5s						
WKZ	**Wanaka**	**24.05**	**201**	P	**P**	**16 03 56.7**	**-0.1**
MLZ	**Mavora Lakes**	**24.83**	**202**	P	**P**	**16 04 04.5**	**+0.9**
MLZ				IAmb	IAmb	16 04 06.2	
	comp=Z,50nm,1.3s						
DCZ	**Deep Cove**	**25.25**	**203**	P	**P**	**16 04 08.5**	**+1.2**
WHZ	**Wether Hill Ro**	**25.35**	**201**	P	**P**	**16 04 09.6**	**+1.4**
CAN	**Canberra**	**30.43**	**239**	P	**P**	**16 04 53.3**	**+0.5**
CAN				IAmb	IAmb	16 05 54.5	
	comp=Z,18nm,1.4s						
TAU	**Tasmania Unive**	**34.30**	**226**	P	**P**	**16 05 25.9**	**+0.5**
STKA	**Stephens Creek**	**35.92**	**247**	P	**P**	**16 05 38.9**	**-0.2**
	comp=Z,4.6nm,0.5s,baz=95,slow=9.7,SNR=20						
STKA	**Stephens Creek**	**35.92**	**247**	P	**P**	**16 05 38.8**	**-0.3**
BBOO	**Buckleboo**	**40.66**	**246**	P	**P**	**16 06 16.3**	**-1.2**
BBOO				IAmb	IAmb	16 06 26.9	
	comp=Z,50nm,1.8s						
AS31	**Alice Springs**	**43.05**	**259**	P	**P**	**16 06 35.3**	**-1.3**
ASAR	**Alice Springs**	**43.05**	**259**	P	**P**	**16 06 35.6**	**-0.9**
	comp=Z,5.4nm,0.6s,baz=99,slow=7.0,SNR=72						
WR0	**Warramunga Arr**	**43.14**	**265**	P	**P**	**16 06 35.3**	**-2.0**
WRAB	**Tennant Creek**	**43.32**	**265**	P	**P**	**16 06 36.7**	**-1.9**
WRA	**Warramunga Arr**	**43.33**	**265**	P	**P**	**16 06 36.9**	**-1.9**
	comp=Z,3.6nm,0.7s,baz=90,slow=6.0,SNR=75						
FORT	**Forrest**	**47.49**	**249**	P	**P**	**16 07 09.2**	**-1.1**
FORT				IAmb	IAmb	16 07 09.9	
	comp=Z,32nm,0.7s						
HLP	**Hilina Pali**	**47.84**	**31**	P	**P**	**16 07 11.2**	**-1.9**
KNRA	**Kununurra**	**49.54**	**268**	P	**P**	**16 07 24.5**	**-1.2**
KNRA				IAmb	IAmb	16 07 36.8	
	comp=Z,67nm,1.9s						
FITZ	**Fitzroy Crossi**	**51.76**	**264**	P	**P**	**16 07 41.1**	**-0.7**
VNDA	**Vanda**	**55.55**	**185**	P	**P**	**16 08 11.3**	**+3.6**
	comp=Z,0.8nm,0.7s,baz=

	baz=90								
ULHL				⇑*iS*		**Sb**	**16 03 35.5**	**-1.4**
	baz=90								
KNDC	**Almaty**	**2.39**	**316**	Pn		**Pb**	**16 03 07.8**	**-0.2**
	7.1nm,0.3s								
KNDC				⇓Sn		**Sg**	**16 03 40.2**	**-1.4**
	34nm,0.5s								
AAA	**Alma-Ata**	**2.41**	**315**	*eP*		**Pb**	**16 03 08.2**	**-0.2**
	16nm,0.1s								
AAA				*eS*		**Sg**	**16 03 40.9**	**-1.4**
	29nm,0.3s								
AAA	**Alma-Ata**	**2.41**	**315**	Pg		**Pb**	**16 03 08.2**	**-0.2**
	20nm,0.1s								
AAA				Lg		Lg	16 03 41.0		
	28nm,0.2s								
NRN	**Naryn**	**2.45**	**269**	⇑*iP*		**Pn**	**16 03 06.3**	**+1.2**
	baz=70								
NRN				⇑*iS*		**Sb**	**16 03 37.8**	**-1.7**
	baz=70								
IZV	**Izvestkoviy**	**2.47**	**308**	*eP*		**Pb**	**16 03 08.6**	**-0.8**
	9.8nm,0.4s								
IZV				*eS*		**Sb**	**16 03 41.6**	**+1.6**
	102nm,0.4s								
IZV	**Izvestkoviy**	**2.47**	**308**	Pg		**Pb**	**16 03 08.6**	**-0.8**
	11nm,0.2s								
IZV				Lg		Lg	16 03 41.9		
	95nm,0.5s								
MTBS	**Maitube**	**2.64**	**308**	*eP*		**Pb**	**16 03 12.0**	**-0.1**
	10.0nm,0.4s								
MTBS				*eS*		**Sg**	**16 03 46.9**	**-2.6**
	28nm,0.4s								
BOOM	**Boomskoye usch**	**2.65**	**292**	⇓*iP*		**Pn**	**16 03 08.9**	**+1.1**
	baz=93								
BOOM				⇓*iS*		**Sb**	**16 03 43.0**	**-2.1**
	baz=93								
DJR	**Jarkent**	**2.83**	**8**	*eP*		**Pb**	**16 03 15.1**	**-0.3**
	1.5nm,0.2s								
DJR				*eS*		**Sg**	**16 03 52.2**	**-3.4**
	19nm,0.5s								
DJR	**Jarkent**	**2.83**	**8**	Pg		**Pb**	**16 03 15.1**	**-0.3**
	1.3nm,0.2s								
DJR				Lg		Lg	16 03 52.3		
	16nm,0.4s								
CHKK	**Chushkaly**	**2.86**	**325**	*eP*		**Pb**	**16 03 15.5**	**-0.4**
	3.3nm,0.2s								
CHKK				*eS*		**Sb**	**16 03 52.9**	**+1.9**
	159nm,0.6s								
KST	**Kastek**	**2.87**	**303**	*eP*		**Pb**	**16 03 15.8**	**-0.4**
	10.0nm,0.4s								
KST				*eS*		**Sb**	**16 03 53.6**	**+2.1**
	44nm,0.6s								
KST	**Kastek**	**2.87**	**303**	Pg		**Pb**	**16 03 15.8**	**-0.4**
	9.9nm,0.4s								
KST				Lg		Lg	16 03 53.7		
	52nm,0.4s								
ARXS	**Arharly**	**2.88**	**339**	*eP*		**Pb**	**16 03 15.9**	**-0.4**
	7.2nm,0.6s								
ARXS				*eS*		**Sg**	**16 03 54.0**	**-3.3**
	32nm,0.5s								
ARXS	**Arharly**	**2.88**	**339**	Pg		**Pb**	**16 03 15.9**	**-0.4**
	3.6nm,0.5s								
ARXS				Lg		Lg	16 03 54.0		
	30nm,0.5s								
KTBS	**Karatobe**	**2.89**	**320**	*eP*		**Pb**	**16 03 16.3**	**-0.1**
	3.5nm,0.2s								
KTBS				*eS*		**Sg**	**16 03 54.6**	**-3.0**
	98nm,0.3s								
KTBS	**Karatobe**	**2.89**	**320**	Pg		**Pb**	**16 03 16.3**	**-0.1**
	3.9nm,0.2s								
KTBS				Lg		Lg	16 03 54.6		
	89nm,0.2s								
KZA	**Kyzart**	**3.05**	**282**	⇑*iP*		**Pn**	**16 03 14.6**	**+1.2**
	baz=83								
KZA				⇑*iS*		**Sn**	**16 03 52.2**	**+2.1**
	baz=83								
TKM2	**Tokmak 2**	**3.05**	**298**	⇑*iP*		**Pn**	**16 03 14.7**	**+1.4**
	baz=99								
TKM2				⇑*iS*		**Sn**	**16 03 52.4**	**+2.4**
	baz=99								
TKM2	**Tokmak 2**	**3.05**	**298**	Pg		**Pb**	**16 03 18.7**	**-0.6**
	1.5nm,0.3s								
TKM2				⇓Lg		Lg	16 03 59.7		
	12nm,0.5s								
DGS	**Degeres**	**3.10**	**305**	*eP*		**Pb**	**16 03 19.6**	**-0.4**
	3.8nm,0.3s								
DGS				*eS*		**Sb**	**16 04 00.3**	**+2.4**
	23nm,0.5s								
DGS	**Degeres**	**3.10**	**305**	Pg		**Pb**	**16 03 19.6**	**-0.4**
	4.1nm,0.4s								
DGS				Lg		Lg	16 04 00.2		
	18nm,0.2s								
KUU	**Kurty**	**3.19**	**319**	*eP*		**Pb**	**16 03 21.6**	**0.0**
	1.6nm,0.1s								
KUU				*eS*		**Sb**	**16 04 03.4**	**+2.8**
	53nm,0.4s								
UCH	**Uchtor**	**3.61**	**283**	⇑*iP*		**Pn**	**16 03 22.5**	**+1.3**
	baz=83								
UCH				⇑*iS*		**Sn**	**16 04 05.9**	**+1.8**
	baz=83								
CHMS	**Chumysh**	**3.65**	**295**	⇑*iP*		**Pn**	**16 03 22.9**	**+1.5**
	baz=96								
CHMS				⇑*iS*		**Sn**	**16 04 06.5**	**+2.0**
	baz=96								
AAK	**Ala-Archa**	**3.71**	**289**	Pg		**Pg**	**16 03 35.7**	**-0.2**
	0.8nm,0.4s								
AAK				⇑Lg		Lg	16 04 18.4		
	4.1nm,0.6s								
KAPS	**Kapalarasan**	**3.75**	**1**	*eP*		**Pb**	**16 03 32.2**	**+1.1**
	1.8nm,0.3s								
KAPS				*eS*		**Sg**	**16 04 21.7**	**-3.6**
	11nm,0.8s								
KAPS	**Kapalarasan**	**3.75**	**1**	Pg		**Pb**	**16 03 32.2**	**+1.1**
	2.2nm,0.3s								
KAPS				Lg		Lg	16 04 21.7		
	12nm,0.5s								
USP	**Ospenovka**	**3.93**	**298**	⇑*iP*		**Pn**	**16 03 26.6**	**+1.4**
	baz=98								
USP				⇑*iS*		**Sn**	**16 04 13.3**	**+2.0**
	baz=98								
MRKS	**Merke**	**4.65**	**287**	*eP*		**Pb**	**16 03 48.8**	**+2.4**
	0.9nm,0.3s								
MRKS				*eS*		**Sg**	**16 04 50.0**	**-3.9**
	2.5nm,0.4s								

IDC ***15*** *16:42:46.2±1.1, 19°.51N×64°.23W, h0km, mb3.6/8, mb1 3.9/10, mb1mx3.7/42, mbtmp3.7/10, ML3.4/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/35, Error ellipse: s-maj=27.6km s-min=22.2km az=76.0*
NEIC ***15*** *16:42:50.6±1.4, 19°.56N±0°.04×64°.43W±0°.04, h28km±4km*
RSPR ***15*** *16:42:51.5, 19°.62N×64°.46W, h11km±6km, MD3.5/12*

ISC 15 16:42:48.1±1.8, 19°.57N±0°.05×64°.43W±0°.05, h8km±11km, n59, σ0s79/73, mb3.8/8, 21C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ABV	**Anegada**	**0.84**	**173**	⇑*eP*		**Pn**	**16 43 06.2**	**0.0**
ABV	**Anegada**	**0.84**	**173**	⇑*eP*		**Pn**	**16 43 06.2**	**0.0**
ABV				*eS*		**Sn**	**16 43 18.5**	**-0.2**
ABVI	**Anegada Island**	**0.84**	**173**			**Pn**	**16 43 06.2**	**0.0**
ABVI						**Sn**	**16 43 18.5**	**-0.2**
TBVI	**Tortola**	**1.16**	**189**	⇑*eP*		**Pg**	**16 43 10.2**	**-0.1**
TBVI	**Tortola**	**1.16**	**189**	⇑*eP*		**Pg**	**16 43 10.2**	**-0.1**
TBVI				*eS*		**Sb**	**16 43 26.6**	**+1.0**
TBVI	**Tortola**	**1.16**	**189**			**Pg**	**16 43 10.2**	**-0.1**
TBVI						**Sb**	**16 43 26.6**	**+1.0**
STVI	**Saint Thomas**	**1.31**	**202**	⇑*eP*		**Pg**	**16 43 12.9**	**-0.3**
STVI	**Saint Thomas**	**1.31**	**202**	⇑*eP*		**Pg**	**16 43 12.9**	**-0.3**
STVI				*eS*		**Sg**	**16 43 29.9**	**-0.3**
STVI	**Saint Thomas**	**1.31**	**202**			**Pg**	**16 43 12.9**	**-0.3**
STVI						**Sg**	**16 43 29.9**	**-0.3**
MTP	**Monte Pirata**	**1.81**	**216**			**Pn**	**16 43 19.9**	**+0.3**
CDVI	**St. Croix**	**1.83**	**190**	⇑*eP*		**Pn**	**16 43 21.2**	**+1.3**
CDVI	**St. Croix**	**1.83**	**190**	⇑*eP*		**Pn**	**16 43 21.2**	**+1.3**
CDVI				*eS*		**Sn**	**16 43 43.8**	**+0.5**
CDVI	**St. Croix**	**1.83**	**190**			**Pn**	**16 43 21.2**	**+1.3**
CDVI						**Sn**	**16 43 43.8**	**+0.5**
CBYP	**Canovanas**	**1.86**	**226**			**Pn**	**16 43 20.1**	**-0.3**
HUMP	**Col San Antoni**	**1.95**	**224**	⇑*eP*		**Pn**	**16 43 21.7**	**+0.2**
HUMP	**Col San Antoni**	**1.95**	**224**	⇑*eP*		**Pn**	**16 43 21.7**	**+0.2**
HUMP				*eS*		**Sn**	**16 43 45.7**	**-0.6**
HUMP	**Col San Antoni**	**1.95**	**224**			**Pn**	**16 43 21.7**	**+0.2**
HUMP						**Sn**	**16 43 45.7**	**-0.6**
SMRT	**St. Maarten**	**1.98**	**139**			**Pb**	**16 43 24.3**	**-0.2**
GCPR	**Guaynabo City**	**2.00**	**232**			**Pn**	**16 43 21.8**	**-0.4**
PDPR	**Patillas Dam,**	**2.15**	**225**			**Pn**	**16 43 24.5**	**+0.1**
SJG	**San Juan**	**2.18**	**229**	Pn		**Pn**	**16 43 24.7**	**0.0**
	15nm,0.3s,baz=61,slow=15,SNR=19							
SJG				Sn		**Sn**	**16 43 48.7**	**-3.1**
	31nm,0.3s,baz=41,slow=19,SNR=6.4							
SJG				LR		LR	16 44 44.9	
	comp=Z,301nm,18.1s,baz=84,slow=52							
SJG	**San Juan**	**2.18**	**229**			**Pn**	**16 43 24.5**	**-0.2**
IGPR	**InterUniversit**	**2.25**	**225**	⇑*eP*		**Pn**	**16 43 26.2**	**+0.6**
IGPR	**InterUniversit**	**2.25**	**225**	*eS*		**Sn**	**16 43 53.0**	**-0.5**
IGPR	**InterUniversit**	**2.25**	**225**			**Pn**	**16 43 26.0**	**+0.4**
EMPR	**Esperanza - Ma**	**2.26**	**242**	⇑*eP*		**Pn**	**16 43 25.9**	**+0.1**
EMPR	**Esperanza - Ma**	**2.26**	**242**	*eS*		**Sn**	**16 43 53.0**	**-0.9**
EMPR	**Esperanza - Ma**	**2.26**	**242**			**Pn**	**16 43 25.9**	**+0.1**
EMPR						**Sn**	**16 43 53.0**	**-0.9**
AOPR	**Arecibo Observ**	**2.51**	**241**	⇑*eP*		**Pn**	**16 43 29.9**	**+0.6**
AOPR	**Arecibo Observ**	**2.51**	**241**	⇑*eP*		**Pn**	**16 43 29.9**	**+0.6**
AOPR				*eS*		**Sn**	**16 43 59.7**	**-0.4**
AOPR	**Arecibo Observ**	**2.51**	**241**			**Pn**	**16 43 29.9**	**+0.6**
AOPR						**Sn**	**16 43 59.7**	**-0.4**
CELP	**Cerrillos**	**2.52**	**234**	⇑*eP*		**Pn**	**16 43 30.1**	**+0.8**
CELP	**Cerrillos**	**2.52**	**234**	⇑*eP*		**Pn**	**16 43 30.1**	**+0.8**
CELP	**Cerrillos**	**2.52**	**234**			**Pn**	**16 43 30.1**	**+0.8**
OBIP	**Obispado Ponce**	**2.56**	**234**			**Pn**	**16 43 30.0**	**+0.2**
ICMP	**Isla Caja de M**	**2.59**	**230**			**Pn**	**16 43 31.1**	**+0.7**
AGPR	**Aguadilla, PR**	**2.76**	**247**	⇑*eP*		**Pn**	**16 43 33.5**	**+0.8**
AGPR	**Aguadilla, PR**	**2.76**	**247**	⇑*eP*		**Pn**	**16 43 33.5**	**+0.8**
AGPR				*eS*		**Sn**	**16 44 05.5**	**-0.7**
AGPR	**Aguadilla, PR**	**2.76**	**247**			**Sn**	**16 44 05.5**	**-0.7**
AGPR	**Aguadilla, PR**	**2.76**	**247**			**Pn**	**16 43 32.8**	**+0.1**
MPR	**Mayaguez**	**2.90**	**243**			**Pn**	**16 43 34.5**	**-0.1**
MLPR	**Magueyes Islan**	**2.94**	**238**	⇑*eP*		**Pn**	**16 43 35.5**	**+0.3**
MLPR	**Magueyes Islan**	**2.94**	**238**			**Pn**	**16 43 35.5**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.97**	**239**	⇑*eP*		**Pn**	**16 43 36.2**	**+0.6**
CRPR	**Cabo Rojo, PR**	**2.97**	**239**	⇑*eP*		**Pn**	**16 43 36.2**	**+0.6**
CRPR				*eS*		**Sn**	**16 44 11.1**	**-0.4**
CRPR	**Cabo Rojo, PR**	**2.97**	**239**			**Pn**	**16 43 36.2**	**+0.6**
CRPR						**Sn**	**16 44 11.1**	**-0.4**
SDDR	**Presa de Saban**	**6.50**	**266**			**Pn**	**16 44 25.0**	**+0.8**
ROSC	**El Rosal**	**17.52**	**215**	P		**Pn**	**16 46 54.5**	**+1.1**
	1.9nm,0.3s,baz=36,slow=19,SNR=2.0							
ROSC	**El Rosal**	**17.52**	**215**	IAmb		IAmb	16 47 07.4	
	comp=Z,7.6nm,0.6s							
MDP	**Montagnes des**	**18.41**	**140**	LR		LR	16 55 00.7	
	comp=Z,55nm,19.5s,baz=142,slow=40							
TXAR	**Lajitas Array**	**36.87**	**293**	P		**P**	**16 49 59.2**	**+1.8**
	comp=Z,0.5nm,0.9s,baz=118,slow=11,SNR=3.5							
ULM	**Lac du Bonnet**	**39.49**	**328**	P		**P**	**16 50 18.3**	**-0.8**
	comp=Z,2.3nm,1.0s,baz=146,slow=11,SNR=2.3							
ULM	**Lac du Bonnet**	**39.49**	**328**	IAmb		IAmb	16 50 19.0	
	comp=Z,46nm,1.9s							
PDAR	**Pinedale Array**	**44.34**	**312**	P		**P**	**16 51 00.6**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=110,slow=14,SNR=2.8							
CPUP	**Villa Florida**	**46.14**	**171**	P		**P**	**16 51 11.3**	**-1.9**
	comp=Z,1.3nm,0.8s,baz=1.5,slow=7.3,SNR=4.0							
NVAR	**Mina Array Bea**	**50.00**	**304**	P		**P**	**16 51 43.1**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=93,slow=7.5,SNR=2.2							
YKA	**Yellowknife Ar**	**54.88**	**334**	P		**P**	**16 52 19.4**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=108,slow=7.5,SNR=11							
TORD	**Torodi Ar. Bea**	**63.45**	**85**	P		**P**	**16 53 17.5**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=267,slow=7.8,SNR=1.9							
ILAR	**Eielson Array**	**69.28**	**333**	P		**P**	**16 53 55.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=103,slow=5.3,SNR=6.4							

IDC ***15*** *16:55:23.8±1.0, 39°.53N×74°.11E, h0km, mb3.7/5, mb1 3.8/8, mb1mx3.5/42, mbtmp3.6/8, ML3.2/3, Error ellipse: s-maj=22.7km s-min=11.5km az=98.0*
KRNET ***15*** *16:55:26.7±0.1, 39°.67N×74°.34E, mb3.6*
SOME ***15*** *16:55:26.7, 39°.77N×74°.20E, h10km*
NNC ***15*** *16:55:30.2±1.9, 39°.88N×74°.25E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=14.7km s-min=8.7km az=174.0*

ISC 15 16:55:26.3±1.9, 39°.72N±0°.06×74°.54E±0°.04, h13km±11km, n66, σ1s59/101, mb3.5/5, 41C-13D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARSB	**Arslanbob**	**2.00**	**324**	⇑*iP*		**Pb**	**16 56 02.4**	**-0.1**
	baz=28							
ARSB				⇑*iS*		**Sb**	**16 56 29.4**	**+2.1**
	baz=28							
NRN	**Naryn**	**2.04**	**32**	⇑*iP*		**Pg**	**16 56 05.9**	**+0.5**
	baz=35							
NRN				⇑*iS*		**Sg**	**16 56 34.8**	**+2.9**
	baz=35							
ARLS	**Aral**	**2.15**	**356**	⇓*iP*		**Pg**	**16 56 06.5**	**-0.9**
	baz=60							
ARLS				⇓*iS*		**Sg**	**16 56 35.7**	**+0.5**
	baz=60							
KZA	**Kyzart**	**2.42**	**13**	⇓*iP*		**Pg**	**16 56 11.1**	**-1.5**
	baz=16							
KZA				⇓*iS*		**Sg**	**16 56 43.4**	**-0.5**
	baz=16							
KZA	**Kyzart**	**2.42**	**13**	P		**Pg**	**16 56 11.0**	**-1.6**
	SNR=55							
AML	**Almayashu**	**2.49**	**345**	⇑*iP*		**Pb**	**16 56 11.3**	**+0.2**
	baz=49							
AML				⇑*iS*		**Sb**	**16 56 43.8**	**+1.9**
	baz=49							
AML	**Almayashu**	**2.49**	**345**	P		**Pb**	**16 56 10.6**	**-0.5**
	SNR=20							
UCH	**Uchtor**	**2.50**	**359**	⇑*iP*		**Pb**	**16 56 11.8**	**+0.4**
	baz=3.0							
UCH				⇑*iS*		**Sb**	**16 56 45.1**	**+2.8**
	baz=3.0							
UCH	**Uchtor**	**2.50**	**359**	P		**Pb**	**16 56 11.8**	**+0.4**
	SNR=107							
ULHL	**Ulahol**	**2.83**	**26**	⇓*eP*		**Pb**	**16 56 17.3**	**+0.5**
	baz=29							
ULHL				⇓*iS*		**Sb**	**16 56 53.9**	**+2.4**
	baz=29							
ULHL	**Ulahol**	**2.83**	**26**	P		**Pb**	**16 56 17.4**	**+0.6**
	SNR=20							
ARK	**Arkit**	**2.85**	**317**	⇑*iP*		**Pn**	**16 56 14.0**	**+2.4**
	baz=20							
ARK				⇑*iS*		**Sn**	**16 56 48.9**	**+3.0**
	baz=20							
BTK	**Batken**	**2.89**	**278**	⇑*iP*		**Pn**	**16 56 14.1**	**+2.1**
	baz=79							
BTK				⇑*iS*		**Sn**	**16 56 49.0**	**+2.4**
	baz=79							
AAK	**Ala-Archa**	**2.92**	**359**	Pn		**Pb**	**16 56 17.4**	**-0.7**
	15nm,0.3s,baz=151,slow=8.0,SNR=104							
AAK				Pg		**Pg**	**16 56 20.9**	**-1.2**
	15nm,0.3s,baz=156,slow=8.5,SNR=104							
AAK				Sn		**Sb**	**16 56 57.3**	**+3.5**
	7.2nm,0.3s,baz=286,slow=21,SNR=11							
AAK				Lg		Lg	16 57 00.3	
	7.1nm,0.3s,baz=289,slow=21,SNR=3.8							
AAK	**Ala-Archa**	**2.92**	**359**	⇓*iP*		**Pb**	**16 56 17.5**	**-0.7**
	baz=2.0							
AAK				⇓*iS*		**Sb**	**16 56 54.3**	**+0.5**
	baz=2.0							
AAK	**Ala-Archa**	**2.92**	**359**	P		**Pb**	**16 56 17.6**	**-0.6**
	SNR=80							
AAK	**Ala-Archa**	**2.92**	**359**	⇑Pg		**Pg**	**16 56 20.3**	**-1.9**
	37nm,0.5s							
AAK				Lg		Lg	16 56 59.0	
KBK	**Karagaybulak**	**2.95**	**6**	⇑*iP*		**Pb**	**16 56 18.3**	**-0.5**
	baz=9.0							
KBK				⇑*iS*		**Sb**	**16 56 55.6**	**+0.8**
	baz=9.0							
KBK	**Karagaybulak**	**2.95**	**6**	P		**Pb**	**16 56 18.7**	**-0.1**
	SNR=23							
BOOM	**Boomskoye usch**	**2.96**	**20**	⇑*iP*		**Pb**	**16 56 18.9**	**-0.1**
	baz=23							
BOOM				⇑*iS*		**Sb**	**16 56 56.7**	**+1.5**
	baz=23							
EKS2	**Erkin-Say**	**3.00**	**349**	⇑*eP*		**Pb**	**16 56 18.3**	**-1.2**
	baz=52							
EKS2				⇑*iS*		**Sb**	**16 56 55.6**	**-0.5**
	baz=52							
EKS2	**Erkin-Say**	**3.00**	**349**	P		**Pb**	**16 56 16.9**	**-2.6**
	SNR=15							
FRU1	**Bishkek**	**3.09**	**1**	⇓*iP*		**Pb**	**16 56 19.3**	**-1.8**
	baz=4.0							
FRU1				⇓*iS*		**Sb**	**16 56 57.9**	**-0.8**
	baz=4.0							
KDJ	**Kajisay**	**3.13**	**39**	⇑*eP*		**Pb**	**16 56 21.6**	**-0.2**
	baz=40							
KDJ				⇑*iS*		**Sb**	**16 57 01.3**	**+1.3**
	baz=40							
MRKS	**Merke**	**3.18**	**342**	*eP*		**Pb**	**16 56 22.2**	**-0.5**
	4.1nm,0.2s							
MRKS				*eS*		**Sb**	**16 57 02.5**	**+1.1**
	26nm,0.4s							
MRKS	**Merke**	**3.18**	**342**	Pg		**Pb**	**16 56 22.2**	**-0.5**
	18nm,0.3s							
MRKS				Lg		Lg	16 57 02.5	
	28nm,0.4s							
TARG	**Taragay, Kyrgy**	**3.19**	**50**	⇑*iP*		**Pb**	**16 56 22.5**	**-0.5**
	baz=51							
TARG				⇑*iS*		**Sb**	**16 57 03.1**	**+1.2**
	baz=51							
CHMS	**Chumysh**	**3.28**	**3**	⇑*iP*		**Pb**	**16 56 22.5**	**-1.8**
	baz=5.0							
CHMS				⇑*iS*		**Sb**	**16 57 03.1**	**-1.1**
	baz=5.0							
TKM2	**Tokmak 2**	**3.29**	**14**	⇑*iP*		**Pb**	**16 56 22.9**	**-1.8**
	baz=16							
TKM2				⇑*iS*		**Sb**	**16 57 04.6**	**-0.2**
	baz=16							
TKM2	**Tokmak 2**	**3.29**	**14**	P		**Pb**	**16 56 23.4**	**-1.3**
	SNR=10							
TKM2	**Tokmak 2**	**3.29**	**14**	⇑Pn		**Pb**	**16 56 23.2**	**-1.5**
	1.6nm,0.2s							
TKM2				⇑Pg		Pg	16 56 34.5	+5.1
	7.1nm,0.4s							
TKM2				⇓Lg		Lg	16 57 09.1	
	22nm,0.5s							
KST	**Kastek**	**3.49**	**17**	*eP*		**Pg**	**16 56 31.7**	**-1.4**
	30nm,0.5s							
KST				*eS*		**Sg**	**16 57 18.7**	**+0.5**
	42nm,0.7s							
KST	**Kastek**	**3.49**	**17**	Pg		**Pg**	**16 56 31.7**	**-1.4**
	30nm,0.5s							
KST				Lg		Lg	16 57 18.7	
	42nm,0.7s							
USP	**Ospenovka**	**3.54**	**359**	⇑*iP*		**Pb**	**16 56 26.1**	**-2.7**
	baz=2.0							
USP				⇑*iS*		**Sb**	**16 57 09.1**	**-2.7**
	baz=2.0							
USP	**Ospenovka**	**3.54**	**359**	P		**Pg**	**16 56 32.0**	**-2.1**
	SNR=11							
DGS	**Degeres**	**3.64**	**14**	*eP*		**Pg**	**16 56 34.6**	**-1.3**
	19nm,0.4s							
DGS				*eS*		**Sg**	**16 57 23.8**	**+0.7**
	23nm,0.6s							
DGS	**Degeres**	**3.64**	**14**	Pg		**Pg**	**16 56 34.6**	**-1.3**
	19nm,0.4s							
DGS				Lg		Lg	16 57 23.8	
	23nm,0.6s							
IZV	**Izvestkoviy**	**3.66**	**25**	*eP*		**Pg**	**16 56 35.8**	**-0.5**
	39nm,0.6s							
IZV				*eS*		**Sg**	**16 57 25.8**	**+2.0**
	28nm,0.5s							
IZV	**Izvestkoviy**	**3.66**	**25**	Pg		**Pg**	**16 56 35.8**	**-0.5**
	36nm,0.6s							
IZV				Lg		Lg	16 57 26.2	
	28nm,0.6s							
MTBS	**Maitube**	**3.69**	**22**	*eP*		**Pg**	**16 56 37.0**	**+0.1**
	11nm,0.6s							
MTBS				*eS*		**Sg**	**16 57 27.3**	**+2.6**
	13nm,0.5s							
SGDS	**Sogindy**	**3.73**	**1**	Pg		**Pg**	**16 56 35.3**	**-2.4**
	8.8nm,0.5s							
SGDS				Lg		Lg	16 57 25.1	
	17nm,0.6s							
TNSS	**Tian-Shan**	**3.77**	**28**	*eP*		**Pg**	**16 56 37.8**	**-0.8**
	17nm,0.6s							
TNSS				*eS*		**Sg**	**16 57 28.9**	**+1.4**
	17nm,0.7s							
TNSS	**Tian-Shan**	**3.77**	**28**	Pg		**Pg**	**16 56 37.8**	**-0.8**
	17nm,0.6s							
TNSS				Lg		Lg	16 57 28.9	
	17nm,0.7s							
ANVS	**Anan'yevo**	**3.86**	**37**	⇑*iP*		**Pb**	**16 56 31.7**	**-2.6**
	baz=38							
ANVS				⇑*iS*		**Sb**	**16 57 18.6**	**-2.4**
	baz=38							
MDOK	**Medeo**	**3.92**	**28**	*eP*		**Pg**	**16 56 39.5**	**-1.8**
	20nm,0.6s							
MDOK				*eS*		**Sg**	**16 57 31.6**	**-0.6**
	13nm,0.9s							
MDOK	**Medeo**	**3.92**	**28**	⇑Pg		**Pg**	**16 56 40.2**	**-1.2**
	19nm,0.6s							
MDOK				⇓Lg		Lg	16 57 32.0	
	15nm,0.9s							
KNDC	**Almaty**	**3.94**	**27**	⇑Pg		**Pg**	**16 56 40.5**	**-1.2**
KNDC				⇑Lg		Lg	16 57 37.8	
KOTS	**Kotyrbulak**	**4.01**	**28**	*eP*		**Pg**	**16 56 42.1**	**-0.9**
	47nm,0.5s							
KOTS				*eS*		**Sg**	**16 57 36.2**	**+1.3**
	44nm,0.6s							
KOTS	**Kotyrbulak**	**4.01**	**28**	Pg		**Pg**	**16 56 42.1**	**-0.9**
	47nm,0.5s							
KOTS				Lg		Lg	16 57 36.2	
	44nm,0.6s							
IUG	**Iuzhnay**	**4.19**	**307**	Pg		**Pn**	**16 56 32.7**	**+2.7**
	1.7nm,0.3s							
IUG				Lg		Lg	16 57 20.8	
	56nm,0.4s							
KTBS	**Karatobe**	**4.30**	**21**	*eP*		**Pg**	**16 56 46.6**	**-2.0**
	11nm

SKHL ***15*** *17:17:42.5±0.1, 43˚.14N×145˚.09E, h92km±2km, mb5.6/8, msh6.5/4*

IDC ***15*** *17:17:42.0±0.4, 43˚.18N×144˚.95E, h77km±3km, mb4.4/40, mb1 4.5/46, mb1mx4.4/59, mbtmp4.7/46, MS3.7/18, Ms1 3.7/18, ms1mx3.5/45, Error ellipse: s-maj=8.9km s-min=6.8km az=14.0*

ISC 15 17:17:41.5±0.3, 43˚.13N±0˚.04×144˚.97E±0˚.03, h78km±2km, h78km:pP-P, n588, σ1♀25/645, mb4.9/201, 56C-20D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.15**	**109**	⇓P		**Pn**	**17 17 53.4**	**+0.6**
JKHN				*e*S		**Sn**	**17 18 01.9**	**+0.7**
JAK	**Akkeshi**	**0.24**	**236**	⇑P		**Pn**	**17 17 53.7**	**+0.5**
JAK				*e*S		**Sn**	**17 18 02.4**	**+0.6**
JNK	**Nakash**	**0.49**	**338**	⇑P		**Pn**	**17 17 55.2**	**+0.2**
NMR	**Nemuro--Hokkai**	**0.60**	**67**	*d* iPN		**Pn**	**17 17 56.4**	**+0.4**
NMR				*i* S		**Sn**	**17 18 06.7**	**0.0**
NMR	**Nemuro--Hokkai**	**0.60**	**67**	*i* P		**Pn**	**17 17 56.4**	**+0.4**
NMR				*i* S		**Sn**	**17 18 06.8**	**0.0**
NEM2	**Nemuro 2**	**0.61**	**67**	⇓P		**Pn**	**17 17 56.4**	**+0.3**
NEM2				*e*S		**Sn**	**17 18 06.7**	**-0.2**
GLVR	**Golovnino**	**0.73**	**33**	*c* iPN		**Pn**	**17 17 58.3**	**+1.0**
GLVR				*i* S		**Sn**	**17 18 10.1**	**+1.1**
GLVR				pmax	pmax			
	comp=Z,12μm,0.5s							
GLVR				pmax	pmax			
	comp=N,6μm,0.1s							
GLVR				pmax	pmax			
	comp=E,2μm,0.1s							
GLVR				smax	smax			
	comp=N,82μm,0.4s							
GLVR				smax	smax			
	comp=E,63μm,0.4s							
GLVR	**Golovnino**	**0.73**	**33**	*i* P		**Pn**	**17 17 57.9**	**+0.6**
GLVR				AMB	AMB		17 17 59.5	
	comp=E,12μm,0.5s							
GLVR				*i* S		**Sn**	**17 18 09.5**	**+0.5**
GLVR				A	A		17 18 10.0	
	comp=E,21μm,0.6s							
GLVR				A	A		17 18 10.0	
	comp=E,19μm,0.6s							
JRA	**Rausu**	**0.81**	**8**	⇑P		**Pn**	**17 17 59.3**	**+1.1**
JRA				*e*S		**Sn**	**17 18 12.2**	**+1.5**
JOB	**Onbets**	**0.86**	**255**	⇑P		**Pn**	**17 17 59.7**	**+0.9**
JOB				*e*S		**Sn**	**17 18 12.7**	**+1.1**
JAR	**Ashorobuto**	**0.89**	**281**	⇑P		**Pn**	**17 18 00.1**	**+1.0**
JAR				*e*S		**Sn**	**17 18 13.1**	**+0.8**
GRPR	**Tuman**	**1.04**	**34**	⇑*i* PN		**Pn**	**17 18 01.8**	**+0.9**
GRPR				*i* S		**Sn**	**17 18 16.0**	**+0.6**
GRPR				pmax	pmax			
	comp=Z,3μm,0.4s							
GRPR				pmax	pmax			
	comp=N,947nm,0.1s							
GRPR				pmax	pmax			
	comp=E,2μm,0.2s							
GRPR				smax	smax			
	comp=N,26μm,0.4s							
GRPR				smax	smax			
	comp=E,42μm,0.4s							
GRPR	**Tuman**	**1.04**	**34**	*i* P		**Pn**	**17 18 01.8**	**+0.9**
GRPR				AMB	AMB		17 18 05.0	
	comp=E,3μm,0.3s							
GRPR				*i* S		**Sn**	**17 18 15.7**	**+0.3**
GRPR				A	A		17 18 18.0	
	comp=E,25μm,0.6s							
GRPR				A	A		17 18 18.0	
	comp=E,22μm,0.6s							
YUK	**Yuzh-Kuril'sk**	**1.11**	**35**	*c* iPN		**Pn**	**17 18 02.8**	**+1.0**
YUK				*i* S		**Sn**	**17 18 17.9**	**+0.9**
YUK				pmax	pmax			
	comp=Z,4μm,0.3s							
YUK				pmax	pmax			
	comp=E,1μm,0.2s							
YUK				pmax	pmax			
	comp=N,1μm,0.1s							
YUK				smax	smax			
	comp=N,39μm,0.3s							
YUK				smax	smax			
	comp=E,43μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.11**	**35**	*i* P		**Pn**	**17 18 02.8**	**+1.0**
YUK				AMB	AMB		17 18 04.0	
	comp=E,4μm,0.4s							
YUK				*i* S		**Sn**	**17 18 17.6**	**+0.6**
YUK				A	A		17 18 19.8	
	comp=E,19μm,0.6s							
YUK				A	A		17 18 19.8	
	comp=E,21μm,0.6s							
JTKR	**Abashiri--Toko**	**1.14**	**318**	⇑P		**Pn**	**17 18 03.4**	**+1.3**
JTKR				*e*S		**Sn**	**17 18 18.7**	**+1.2**
JCH	**Churui**	**1.29**	**247**	⇑P		**Pn**	**17 18 04.7**	**+0.7**
JCH				*e*S		**Sn**	**17 18 21.0**	**+0.1**
JMP	**Maruseppu**	**1.46**	**307**	⇑P		**Pn**	**17 18 07.5**	**+1.3**
JMP				*e*S		**Sn**	**17 18 26.4**	**+1.5**
SHO	**Shikotan**	**1.54**	**61**	*i* P		**Pn**	**17 18 07.4**	**+0.1**
SHO				AMB	AMB		17 18 08.0	
	comp=E,2μm,0.4s							
ERM	**Erimo**	**1.74**	**231**	*c e* PN		**Pn**	**17 18 11.9**	**+2.0**
ERM	**Erimo**	**1.74**	**231**			**Pn**	**17 18 11.8**	**+2.0**
JKA	**Kamikawa-asahi**	**1.98**	**301**			**Pn**	**17 18 14.8**	**+1.7**
JKA						**Sn**	**17 18 37.4**	**+0.3**
ASAJ	**Asahikawa**	**1.98**	**301**	P		**Pn**	**17 18 14.8**	**+1.7**
	comp=E,198nm,0.3s,baz=143,slow=8.9,SNR=1279							
ASAJ				S		**Sn**	**17 18 37.4**	**+0.2**
	comp=E,193nm,0.3s,baz=68,slow=32,SNR=7.4							
ASAJ				LR	LR		17 18 57.0	
	comp=E,2μm,20.0s,baz=178,slow=38							
KUR	**Kuril'sk**	**2.96**	**44**	*d* iPN		**Pn**	**17 18 28.2**	**+2.0**
KUR				*i* S		**Sn**	**17 19 03.6**	**+2.9**
KUR				pmax	pmax			
	comp=N,95nm,0.4s							
KUR				pmax	pmax			
	comp=Z,623nm,0.4s							
KUR				pmax	pmax			
	comp=E,152nm,0.3s							
KUR				smax	smax			
	comp=N,1μm,0.8s							
KUR				smax	smax			
	comp=E,1μm,0.4s							
KUR	**Kuril'sk**	**2.96**	**44**	*i* P		**Pn**	**17 18 28.4**	**+2.2**
KUR				AMB	AMB		17 18 38.0	
	comp=E,100nm,0.4s							
KUR				AMB	AMB		17 18 38.0	
	comp=E,150nm,0.4s							
KUR				AMB	AMB		17 18 38.0	
	comp=E,540nm,0.4s							
KUR				*i* S		**Sn**	**17 19 02.3**	**+1.6**
KUR				A	A		17 19 09.8	
	comp=E,3μm,0.6s							
KUR				A	A		17 19 09.8	
	comp=E,2μm,0.6s							
YSS	**Yuzh-Sakhalins**	**4.13**	**338**	⇑*i* PN		**Pn**	**17 18 43.9**	**+1.8**
YSS				*e*S		**Sn**	**17 19 30.3**	**+1.1**
YSS				pmax	pmax			
	comp=Z,180nm,1.2s							
YSS				smax	smax			
	comp=E,200nm,0.9s							
YSS	**Yuzh-Sakhalins**	**4.13**	**338**	*i* P		**Pn**	**17 18 43.9**	**+1.8**
YSS				AMB	AMB		17 18 44.2	
	comp=E,180nm,1.0s							
YSS				*e*S		**Sn**	**17 19 30.3**	**+1.1**
YSS				A	A		17 19 32.1	
	comp=E,200nm,0.9s							
YSS	**Yuzh-Sakhalins**	**4.13**	**338**			**Pn**	**17 18 42.1**	**-0.1**
UGL	**Uglegorsk**	**6.28**	**342**	*i* P		**Pn**	**17 19 13.5**	**+2.1**
TEY	**Ternei**	**6.32**	**290**	⇑*e* PN		**Pn**	**17 19 13.1**	**+1.1**
TEY				pmax	pmax			
	comp=E,60nm,0.7s							
TEY				pmax	pmax			
	comp=Z,40nm,0.8s							
TEY				pmax	pmax			
	comp=N,20nm,0.9s							
TEY	**Ternei**	**6.32**	**290**	*e* P		**Pn**	**17 19 13.4**	**+1.4**
TEY				AMB	AMB		17 19 13.8	
	comp=N,20nm,0.8s							
TEY				AMB	AMB		17 19 13.8	
	comp=N,80nm,0.8s							
MJB9	**Matsu-Tunnel**	**8.38**	**221**			**Pn**	**17 19 40.8**	**+0.5**
MAJO	**Matsushiro**	**8.38**	**221**	⇓*e* PN		**Pn**	**17 19 40.2**	**-0.1**
MAJO	**Matsushiro**	**8.38**	**221**			**Pn**	**17 19 40.6**	**+0.3**
MAT	**Matsushiro**	**8.38**	**221**	P		**Pn**	**17 19 40.1**	**-0.2**
MAT				S		**Sn**	**17 21 12.9**	**-0.4**
MJAR	**Matsushiro Arr**	**8.38**	**221**	P		**Pn**	**17 19 40.2**	**-0.1**
	comp=N,0.4nm,0.3s,baz=34,slow=14,SNR=61							
MJAR				S		**Sn**	**17 21 09.9**	**-3.4**
	baz=13,slow=24,SNR=2.6							
MJAR				LR	LR		17 23 27.9	
	comp=N,114nm,19.5s,baz=40,slow=41							
USA0B	**Ussuriysk Arra**	**9.47**	**281**	PN		**Pn**	**17 19 57.2**	**+2.2**
USA0B	**Ussuriysk Arra**	**9.47**	**281**			**Pn**	**17 19 57.2**	**+2.2**
USRK	**Ussuriysk Ar.**	**9.47**	**281**	P		**Pn**	**17 19 55.7**	**+0.7**
	baz=90,slow=14,SNR=20							
VLA	**Vladivostok**	**9.57**	**274**	⇓*e* PN		**Pn**	**17 19 57.8**	**+1.5**
VLA	**Vladivostok**	**9.57**	**274**	*e* P		**Pn**	**17 19 57.8**	**+1.5**
GRNR	**Gornyy**	**9.61**	**326**	⇑*i* PN		**Pn**	**17 20 00.4**	**+3.5**
GRNR				*e*S		**Sn**	**17 21 50.4**	**+7.3**
GRNR				pmax	pmax			
	comp=Z,60nm,1.3s							
GRNR				smax	smax			
	comp=N,8.0nm,0.9s							
GRNR	**Gornyy**	**9.61**	**326**	*e* P		**Pn**	**17 20 00.4**	**+3.5**
INU	**Inuyama**	**9.92**	**221**	Pn		**Pn**	**17 20 01.7**	**+0.6**
KLR	**Kul'dur**	**11.00**	**308**	⇑*e* PN		**Pn**	**17 20 18.4**	**+2.6**
KLR				pmax	pmax			
	comp=Z,57nm,0.9s							
KLR	**Kul'dur**	**11.00**	**308**	P		**Pn**	**17 20 20.1**	**+4.3**
	comp=Z,1.3nm,0.3s,baz=111,slow=16,SNR=59							
KLR				LR	LR		17 24 53.5	
	comp=Z,305nm,21.5s,baz=172,slow=39							
KLR	**Kul'dur**	**11.00**	**308**	*e* P		**Pn**	**17 20 18.4**	**+2.6**
MDJ	**Mudanjiang**	**11.20**	**283**			**Pn**	**17 20 17.3**	**-1.3**
EKMR	**Ekimchan**	**12.76**	**325**	*e* P		**Pn**	**17 20 41.5**	**+1.7**
EKMR				AMB	AMB		17 20 46.0	
	comp=Z,10.0nm,0.8s							
PETK	**Petropavlovsk-**	**13.09**	**36**	P		**Pn**	**17 20 43.2**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=203,slow=11,SNR=13							
PET	**Petropavlovsk**	**13.45**	**38**	PN		**Pn**	**17 20 48.0**	**-0.9**
PET	**Petropavlovsk**	**13.45**	**38**	*e* P		**Pn**	**17 20 49.6**	**+0.7**
PET	**Petropavlovsk**	**13.45**	**38**	Pn		**Pn**	**17 20 48.0**	**-0.9**
KSRS	**Korea Array**	**14.18**	**252**	P		**Pn**	**17 20 58.0**	**-0.6**
KSRS	**Korea Array**	**14.18**	**252**	P		**Pn**	**17 20 58.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=62,slow=12,SNR=20							
KSRS				LR	LR		17 25 41.1	
	comp=Z,175nm,21.0s,baz=54,slow=34							
KSRS	**Korea Array**	**14.18**	**252**	*e* P		**Pn**	**17 20 58.0**	**-0.6**
CN2	**Changchun**	**14.20**	**279**	*e* P		**Pn**	**17 20 58.1**	**-0.6**
CN2				pmax	pmax			
	comp=Z,30nm,0.7s							
KS19	**Wonju Array Si**	**14.20**	**252**			**Pn**	**17 20 57.5**	**-1.3**
JNU	**Nakatsue**	**14.91**	**233**	P		**Pn**	**17 21 08.6**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=56,slow=3.6,SNR=3.0							
JNU				LR	LR		17 26 33.6	
	comp=Z,85nm,19.1s,baz=44,slow=36							
TJN	**Taejon**	**15.11**	**249**	⇓*e* P		**Pn**	**17 21 11.6**	**+1.0**
BMKR	**Bomnak**	**15.66**	**323**	*e* P		**Pn**	**17 21 16.2**	**-1.1**
ZEA	**Zeya**	**15.79**	**318**	*e* P		**P**	**17 21 21.0**	**-0.4**
ZEA				pmax	pmax			
	comp=N,73nm,1.6s							
ZEA				pmax	pmax			
	comp=Z,73nm,1.6s							
ZEA	**Zeya**	**15.79**	**318**	*e* P		**Pn**	**17 21 20.0**	**+1.0**
ZEA				AMB	AMB		17 21 23.0	
	comp=Z,70nm,2.0s							
KROS	**Kirovskiy**	**16.33**	**320**	*e* P		**Pn**	**17 21 26.0**	**+0.2**
KROS				AMB	AMB		17 21 30.2	
	comp=Z,10.0nm,0.8s							
MA2	**Magadan**	**16.85**	**10**	P		**Pn**	**17 21 31.4**	**-0.7**
MA2				pmax	pmax			
	comp=Z,32nm,1.2s							
MA2	**Magadan**	**16.85**	**10**	P		**P**	**17 21 32.7**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=196,slow=17,SNR=3.6							
MA2	**Magadan**	**16.85**	**10**	AMB	AMB		17 21 31.4	
	comp=Z,70nm,2.0s							
MA2	**Magadan**	**16.85**	**10**			**Pn**	**17 21 31.4**	**-0.7**
DL2	**Dalian**	**18.09**	**264**	P		**P**	**17 21 46.1**	**-0.8**
DL2				pmax	pmax			
	comp=Z,96nm,0.7s							
HIA	**Hailar**	**18.46**	**298**	P		**P**	**17 21 47.9**	**-3.0**
HIA				pmax	pmax			
	comp=Z,12nm,0.5s							
HIA	**Hailar**	**18.46**	**298**	P		**P**	**17 21 47.9**	**-3.0**
SEY	**Seymchan**	**20.30**	**10**	P		**P**	**17 22 10.0**	**-0.8**
	comp=Z,3.7nm,0.6s,baz=179,slow=9.3,SNR=8.4							
YAK	**Yakutsk**	**20.98**	**340**	*e* P		**P**	**17 22 12.4**	**-5.7**
YAK				*e*			17 22 35.4	
YAK				*e*S		**S**	**17 26 01.8**	**-5.4**
YAK				*e*SS		**SnSn**	**17 26 28.6**	**-5.5**
YAK				pmax	pmax			
	comp=Z,17nm,0.9s							
YAK				pmax	pmax			
	comp=N,10.0nm,1.6s							
YAK				pmax	pmax			
	comp=E,5.0nm,1.0s							
YAK				pmax	pmax			
	comp=Z,294nm,3.1s							
YAK				pmax	pmax			
	comp=N,244nm,3.9s							
YAK				pmax	pmax			
	comp=E,134nm,3.7s							
YAK				smax	smax			
	comp=N,176nm,2.7s							
YAK				smax	smax			
	comp=E,165nm,3.0s							
YAK	**Yakutsk**	**20.98**	**340**	P		**P**	**17 22 14.2**	**-3.9**
	comp=E,4.3nm,0.3s,baz=137,slow=4.9,SNR=7.5							
YAK	**Yakutsk**	**20.98**	**340**	P		**P**	**17 22 15.1**	**-2.9**
YAK				IAmb	IAmb		17 22 22.4	
	comp=Z,21nm,0.6s							
BJI	**Beijing**	**21.71**	**272**	⇓*i* P		**P**	**17 22 25.6**	**-0.4**
BJI				pmax	pmax			
	comp=Z,59nm,0.8s							
BJT	**Baijiatuau**	**21.72**	**272**	P		**P**	**17 22 25.5**	**-0.7**
BJT				pmax	pmax			
	comp=Z,59nm,1.0s							
BJT	**Baijiatuau**	**21.72**	**272**	P		**P**	**17 22 25.5**	**-0.7**
BJT				IAmb	IAmb		17 22 26.3	
	comp=Z,59nm,1.0s							
TIA	**Tai'an**	**22.45**	**261**	P		**P**	**17 22 33.1**	**-1.0**
TIA				pmax	pmax			
	comp=Z,130nm,0.8s							
NJ2	**Nanjing**	**23.37**	**250**	*e* P		**P**	**17 22 43.1**	**-0.1**
NJ2				pmax	pmax			
	comp=Z,22nm,0.5s							
BOD	**Bodaibo**	**24.30**	**318**	*e* P		**P**	**17 22 49.7**	**-1.6**
BOD				pmax	pmax			
	comp=Z,9.0nm,2.3s							
HHC	**Hu-ho-hao-te**	**24.84**	**276**	P		**P**	**17 22 58.0**	**+1.4**
HHC				pmax	pmax			
	comp=Z,15nm,0.7s							
TIY	**Taiyuan**	**25.25**	**269**	*e* P		**P**	**17 23 02.3**	**+2.0**
YOJ	**Yonaguni jima**	**25.94**	**231**	P		**P**	**17 23 07.3**	**+0.8**
YOJ				pmax	pmax			
	comp=Z,363nm,1.5s							
YOJ	**Yonaguni jima**	**25.94**	**231**	P		**P**	**17 23 07.3**	**+0.8**
BTO	**Baotou**	**26.04**	**276**	*e* P		**P**	**17 23 08.3**	**+0.9**
SARN	**Sarigan**	**26.35**	**178**	P		**P**	**17 23 11.0**	**+0.6**
SARN				PcP		**PcP**	**17 26 31.9**	**-2.5**
ULN	**Ulaanbaatar**	**26.80**	**293**	*d* iP		**P**	**17 23 14.7**	**+0.3**
ULN				pmax	pmax			
	comp=Z,37nm,1.0s							
ULN	**Ulaanbaatar**	**26.80**	**293**	*e* P		**P**	**17 23 14.7**	**+0.3**
ULN	**Ulaanbaatar**	**26.80**	**293**	P		**P**	**17 23 15.1**	**+0.7**
ULN				IAmb	IAmb		17 23 15.8	
	comp=Z,28nm,0.8s							
SONM	**Songino Array**	**27.25**	**293**	P		**P**	**17 23 18.8**	**+0.5**
	comp=Z,48nm,0.7s,baz=83,slow=8.3,SNR=268							
SONM				LR	LR		17 34 52.7	
	comp=Z,158nm,18.7s,baz=126,slow=38							
WHN	**Wuhan**	**27.38**	**253**	⇑P		**P**	**17 23 20.6**	**+1.2**
WHN				pmax	pmax			
	comp=Z,46nm,0.9s							
BILL	**Bilibino**	**27.41**	**17**	*e* P		**P**	**17 23 21.9**	**+2.6**
BILL				*e**PP		**pP**	**17 23 35.5**	**-1.9**
BILL				*e**SP		**sP**	**17 23 49.7**	**+3.2**
BILL				*e*			17 24 04.8	
BILL				pmax	pmax			
	comp=Z,1.0nm,1.1s							
BILL	**Bilibino**	**27.41**	**17**	*e* P		**P**	**17 23 21.9**	**+2.6**
BILL	**Bilibino**	**27.41**	**17**	P		**P**	**17 23 16.7**	**-2.7**
TLY	**Talaya**	**28.91**	**302**	LR	LR		17 35 59.2	
	comp=Z,132nm,20.7s,baz=89,slow=38							
ZAK	**Zakamensk**	**29.15**	**299**	*e* P		**P**	**17 23 31.1**	**-4.1**
ZAK				pmax	pmax			
	comp=Z,13nm,1.3s							
XAN	**Xi'an**	**29.41**	**264**	P		**P**	**17 23 38.3**	**+0.7**
XAN				pmax	pmax			
	comp=Z,23nm,0.7s							
XAN	**Xi'an**	**29.41**	**264**	P		**P**	**17 23 38.1**	**+0.5**
XAN				pmax	pmax			
	comp=Z,49nm,0.7s							
XAN	**Xi'an**	**29.41**	**264**	P		**P**	**17 23 38.1**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**29.73**	**135**	T	T		17 54 50.4	
	baz=327,slow=75,SNR=1616							
H11N1	**WAKE ISLAND Hy**	**29.75**	**135**	T	T		17 54 51.5	
	baz=327,slow=75,SNR=1667							
H11N3	**WAKE ISLAND Hy**	**29.75**	**135**	T	T		17 54 52.0	
	baz=327,slow=75,SNR=1859							
MOY	**Mondy**	**30.56**	**302**	*e* P		**P**	**17 23 48.7**	**+1.1**
MOY				pmax	pmax			
	comp=Z,12nm,1.3s							
MOY	**Mondy**	**30.56**	**302**	*e* P		**P**	**17 23 48.7**	**+1.1**
H11S1	**WAKE ISLAND Hy**	**30.66**	**136**	T	T		17 55 59.4	
	baz=328,slow=76,SNR=2511							
H11S3	**WAKE ISLAND Hy**	**30.66**	**136**	T	T		17 55 59.7	
	baz=328,slow=76,SNR=2268							
H11S2	**WAKE ISLAND Hy**	**30.67**	**136**	T	T		17 56 03.5	
	baz=328,slow=76,SNR=1453							
ENH	**Enshi**	**30.97**	**257**	P		**P**	**17 23 50.9**	**-0.5**
ENH				IAmb	IAmb		17 23 56.2	
	comp=Z,17nm,0.6s							
LZH	**Lanzhou**	**32.20**	**271**	⇑P		**P**	**17 24 03.6**	**+1.3**
LZH				pP	pP		17 24 21.5	+1.0
LZH				sP	sP		17 24 31.9	+2.3
LZH				pmax	pmax			
	comp=Z,28nm,1.1s							
LZH				pmax	pmax			
	comp=Z,95nm,4.3s							
LZH				LR	LR			
	comp=Z,310nm,14.2s							
LZH				LR	LR			
	comp=Z,330nm,14.4s							
LZH				LR	LR			
	comp=Z,430nm,15.2s							
GTA	**Gaotai**	**33.83**	**279**	⇑P		**P**	**17 24 17.3**	**+0.9**
GTA				PcP		**PcP**	**17 26 55.6**	**+1.9**
GTA				pmax	pmax			
	comp=Z,13nm,0.8s							
GTA				pmax	pmax			
	comp=Z,53nm,5.9s							
GTA				LR	LR			
	comp=Z,170nm,16.2s							
GTA				LR	LR			
	comp=Z,230nm,18.4s							
GTA				LR	LR			
	comp=Z,330nm,19.0s							
CD2	**Chengdu**	**34.76**	**263**	*e* P		**P**	**17 24 23.5**	**-0.9**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,120nm,5.0s							
KMI	**Kunming**	**38.83**	**256**	P		**P**	**17 25 00.3**	**+1.1**
KMI				pP	pP		17 25 20.4	+2.6
KMI				pmax	pmax			
	comp=Z,18nm,1.2s							
KMI				pmax	pmax			
	comp=Z,340nm,3.9s							
KMI	**Kunming**	**38.83**	**256**	P		**P**	**17 24 59.3**	**+0.1**
KMI				pmax	pmax			
	comp=Z,18nm,0.9s							
KMI	**Kunming**	**38.83**	**256**	P		**P**	**17 24 59.3**	**+0.1**
KMI				IAmb	IAmb		17 25 02.5	
	comp=Z,18nm,0.9s							
ZAA0	**Zalesovo Array**	**40.10**	**307**	P		**P**	**17 25 08.8**	**-0.4**
ZAA0				IAmb	IAmb		17 25 09.9	
	comp=Z,11nm,1.0s							
ZAA0						**PcP**	**17 27 13.2**	**+0.9**
ZALV	**Zalesovo Beam**	**40.10**	**307**	P		**P**	**17 25 09.1**	**-0.1**
	comp=Z,4.0nm,0.4s,baz=93,slow=7.6,SNR=26							
ZALV				PcP		**PcP**	**17 27 12.9**	**+0.7**
	comp=Z,3.9nm,0.6s,baz=85,slow=2.5,SNR=7.9							
ZALV				ScP		**ScP**	**17 30 54.5**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=100,slow=3.5,SNR=4.7							
ZALV				LR	LR		17 41 00.1	
	comp=Z,160nm,18.9s,baz=70,slow=35							
SII	**Sitkinak Islan**	**40.12**	**49**	P		**P**	**17 25 09.1**	**-0.3**
OHAK	**Old Harbor**	**40.52**	**48**	P		**P**	**17 25 11.3**	**-1.2**
OHAK				IAmb	IAmb		17 25 25.8	
	comp=Z,35nm,1.2s							
KDAK	**Kodiak Island**	**40.83**	**47**	P		**P**	**17 25 15.2**	**+0.1**
KDAK				pmax	pmax			
	comp=Z,28nm,1.4s							
KDAK	**Kodiak Island**	**40.83**	**47**	P		**P**	**17 25 15.4**	**+0.3**
	comp=Z,15nm,1.0s,baz=251,slow=6.6,SNR=5.8							
KDAK				pP		**pP**	**17 25 34.2**	**+0.3**
	comp=Z,14nm,0.9s,baz=190,slow=6.1,SNR=2.1							
KDAK	**Kodiak Island**	**40.83**	**47**	P		**P**	**17 25 15.2**	**+0.1**
KDAK				IAmb	IAmb		17 25 26.7	
	comp=Z,28nm,1.4s							
WMQ	**Urumqi**	**40.84**	**291**	*e* P		**P**	**17 25 16.6**	**+1.1**
WMQ				pmax	pmax			
	comp=Z,33nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,150nm,5.9s							
WMQ				LR	LR			
	comp=Z,430nm,29.2s							
WMQ				LR	LR			
	comp=Z,1μm,29.0s							
BPAW	**Bear Paw Mtn.**	**41.17**	**37**	P		**P**	**17 25 19.9**	**+2.0**
KTH	**Kantishna Hill**	**41.22**	**38**	P		**P**	**17 25 21.0**	**+2.6**
KTH				IAmb	IAmb		17 25 22.0	
	comp=Z,17nm,1.4s							
MLY	**Manley**	**41.27**	**35**	P		**P**	**17 25 21.1**	**+2.4**
MLY				PcP		**PcP**	**17 27 18.1**	**+2.2**
SUA	**Susitna One**	**41.40**	**41**	P		**P**	**17 25 20.8**	**+0.8**
SUA				IAmb	IAmb		17 25 29.4	
	comp=Z,27nm,1.4s							
TRF	**Thorofare Moun**	**41.50**	**38**	P		**P**	**17 25 23.2**	**+2.4**
TRF				IAmb	IAmb		17 25 29.7	
	comp=Z,9.7nm,1.3s							
TOLK	**Toolik Lake Re**	**41.82**	**30**	P		**P**	**17 25 23.6**	**+0.4**
BWN	**Browne**	**41.84**	**37**	P		**P**	**17 25 24.5**	**+1.2**
BWN				IAmb	IAmb		17 25 30.0	
	comp=Z,16nm,0.8s							
NEA	**Nenana**	**41.99**	**36**	P		**P**	**17 25 22.4**	**-2.1**
NEA				IAmb	IAmb		17 25 27.4	
	comp=Z,9.9nm,0.6s							
GHO	**Glory Hole Cre**	**42.25**	**40**	P		**P**	**17 25 27.6**	**+0.9**
GHO				IAmb	IAmb		17 25 47.1	
	comp=Z,10nm,0.9s							
WRH	**Wood River Hil**	**42.42**	**36**	P		**P**	**17 25 29.8**	**+1.7**
KNK	**Knik Glacier**	**42.50**	**41**

KURK **Kurchatov** 44.56 304 P **P** 17 25 45.6 +0.2
KURK IAmb IAmb 17 25 46.4
comp=Z,23nm,0.8s
PAYA **Payao** 44.57 252 P **P** 17 25 49.1 +3.2
comp=Z,32µm,0.8s
LSA **Lhasa** 44.62 271 P **P** 17 25 47.0 +0.3
LSA pmax pmax
comp=Z,9.0nm,0.7s
LSA **Lhasa** 44.62 271 P **P** 17 25 47.0 +0.3
LSA IAmb IAmb 17 25 48.8
comp=Z,9.0nm,0.7s
HMT **Hamilton** 44.69 42 P **P** 17 25 46.3 -0.1
PHRA **Phrae** 44.90 251 P **P** 17 25 50.5 +2.0
comp=Z,2.0nm,1.0s
VRDI **Verde Repeater** 44.92 41 P **P** 17 25 49.2 +0.9
VRDI IAmb IAmb 17 26 05.3
comp=Z,16nm,1.3s
TNTI **Ternate** 45.02 205 P **P** 17 25 47.5 -1.9
TNTI IAmb IAmb 17 25 57.0
comp=Z,11nm,0.8s
MANU **Manus Island** 45.02 177 P **P** 17 25 47.8 -1.6
MANU IAmb IAmb 17 25 57.6
comp=Z,28nm,1.4s
UTTA **Uttaradit** 45.19 250 P **P** 17 25 52.5 +1.7
comp=Z,14µm,0.8s
EGAK **Eagle** 45.36 35 P **P** 17 25 51.8 +0.3
EGAK IAmb IAmb 17 26 10.9
comp=Z,16nm,1.4s
RKPI **Ransiki, Papua** 45.49 195 P **P** 17 25 53.0 -0.1
comp=Z,52nm,0.7s
SWI **Sorong** 45.50 199 P **P** 17 25 54.9 +1.8
comp=Z,27nm,0.7s
CHAI **Chaiyaphum** 45.51 247 P **P** 17 25 55.2 +1.9
comp=Z,22µm,0.6s
CMMT **Chiang Mai** 45.58 253 P **P** 17 25 55.2 +1.3
comp=Z,6.2nm,0.8s
CHTO **Chiang Mai** 45.58 253 P **P** 17 25 54.3 +0.4
CHTO pmax pmax
comp=Z,11nm,1.0s
CHTO **Chiang Mai** 45.58 253 P **P** 17 25 54.3 +0.4
CHTO IAmb IAmb 17 25 56.5
comp=Z,11nm,0.9s
GENI **Genyem** 45.72 187 P **P** 17 25 55.7 +0.8
comp=Z,38nm,0.8s
BARN **Barnard Glacie** 45.80 41 P **P** 17 25 56.6 +1.3
BARN IAmb IAmb 17 26 10.2
comp=Z,30nm,1.3s
CM31 **Chiang Mai Arr** 45.82 252 P **P** 17 25 57.4 +1.6
CM31 IAmb IAmb 17 26 06.7
comp=Z,7.2nm,0.9s
CMAR **Chiang Mai Arr** 45.82 252 P **P** 17 25 57.0 +1.2
comp=Z,2.5nm,0.8s,baz=45,slow=7.3,SNR=21
CMAR PP **PP** 17 27 43.1 -1.3
comp=Z,0.6nm,0.8s,baz=41,slow=8.4,SNR=2.4
CMAR LR LR 17 46 16.9
comp=Z,66nm,18.4s,baz=6.5,slow=37
CTGM **Chitina Glacie** 45.98 41 P **P** 17 25 58.3 +1.6
CTGM IAmb IAmb 17 26 02.0
comp=Z,16nm,1.1s
DAWY **Dawson** 46.24 36 P **P** 17 26 00.3 +1.8
PDGK **Podgornoye** 46.57 294 P **P** 17 26 00.9 -0.6
PDGK pmax pmax
comp=Z,13nm,0.6s
MHMT **Maesarieng** 46.72 253 P P 17 26 19.7 +17
EPYK **Eagle Plains** 46.91 33 P **P** 17 26 04.8 +1.1
EPYK IAmb IAmb 17 26 09.5
comp=Z,9.3nm,0.9s
MRSI **Marisa** 47.21 212 P **P** 17 26 05.8 -0.7
comp=Z,17nm,0.8s
FAKI **Fak Fak** 47.26 197 P **P** 17 26 06.2 -0.7
comp=Z,28nm,0.7s
FAKI **Fak Fak** 47.26 197 P **P** 17 26 07.0 +0.1
FAKI IAmb IAmb 17 26 08.7
comp=Z,20nm,0.7s
KRVT **Keravat (AS076** 47.65 170 P **P** 17 26 11.0 +1.0
comp=Z,9.6nm,0.4s,baz=6.7,slow=8.9,SNR=3.6
INK **Inuvik** 47.73 30 P **P** 17 26 10.9 +0.9
INK *PP **pP** 17 26 28.7 -0.5
INK pmax pmax
comp=Z,4.0nm,0.9s
INK **Inuvik** 47.73 30 P **P** 17 26 10.4 +0.4
comp=Z,2.4nm,0.6s,baz=290,slow=6.8,SNR=13
INK pP **pP** 17 26 28.7 -0.5
comp=Z,2.3nm,0.5s,baz=334,slow=5.5,SNR=3.7
INK **Inuvik** 47.73 30 P **P** 17 26 10.9 +0.9
SANI **Sanana** 48.12 206 P **P** 17 26 13.4 -0.2
comp=Z,21nm,0.7s
LUWI **Luwuk** 48.29 210 P **P** 17 26 13.9 -1.0
comp=Z,196nm,0.7s,comp=Z,2µm
LUWI **Luwuk** 48.29 210 P **P** 17 26 12.9 -2.0
TARG **Taragay, Kyrgy** 48.36 293 P **P** 17 26 16.5 +0.7
TARG IAmb IAmb 17 26 17.5
comp=Z,14nm,0.7s
TAPN **Taplejung** 48.43 271 *eP* **P** 17 26 16.5 +0.1
comp=Z,9.6nm,0.4s
KDJ **Kajisay** 48.61 293 P **P** 17 26 18.3 +0.8
KDJ pmax pmax
comp=Z,23nm,0.7s
KDJ **Kajisay** 48.61 293 P **P** 17 26 18.3 +0.8
BRVK **Borovoye** 48.71 309 *iP* **P** 17 26 17.8 0.0
BRVK pmax pmax
comp=Z,17nm,0.8s
BRVK **Borovoye** 48.71 309 *eP* **P** 17 26 17.8 0.0
BRVK **Borovoye** 48.71 309 P **P** 17 26 18.4 +0.6
BRVK IAmb IAmb 17 26 19.1
comp=Z,22nm,1.1s
NLAI **Namlea** 48.90 204 P **P** 17 26 19.1 -0.4
comp=Z,9.5nm,0.4s
ODAN **Odare** 48.95 270 *eP* **P** 17 26 21.1 +0.9
comp=Z,27nm,0.9s
ULHL **Ulahol** 49.19 294 P **P** 17 26 22.9 +1.0
SNR=5.3
PHET **Kaeng Krachan** 49.23 246 P **P** 17 26 24.8 +2.6
comp=Z,28µm,0.6s,comp=Z,337µm
PCI **Palu** 49.31 214 P **P** 17 26 22.8 +0.1
comp=Z,8.3nm,0.8s,comp=Z,171nm
TKM2 **Tokmak 2** 49.33 295 P **P** 17 26 23.9 +1.0
SNR=117
JIRN **Jiri** 49.37 272 *eP* **P** 17 26 24.1 +0.5
comp=Z,18nm,0.5s
GUN **Gumba** 49.46 272 *eP* **P** 17 26 24.7 +0.5
comp=Z,71nm,0.6s
RAMN **Ramite** 49.47 271 *eP* **P** 17 26 24.4 +0.1
comp=Z,46nm,0.7s
NRN **Naryn** 49.71 293 P **P** 17 26 25.1 -0.9
NRN pmax pmax
comp=Z,6.0nm,0.7s
NRN **Naryn** 49.71 293 P **P** 17 26 25.1 -0.9
NRN IAmb IAmb 17 26 31.8
comp=Z,5.5nm,0.7s
KBK **Karagaybulak** 49.88 295 P **P** 17 26 27.7 +0.7
SNR=61
USP **Ospenovka** 49.91 296 P **P** 17 26 27.7 +0.6
SNR=36
KZA **Kyzart** 49.93 294 P **P** 17 26 29.2 +1.4
SNR=39
KKN **Kakani** 49.96 273 *eP* **P** 17 26 28.3 +0.4
comp=Z,32nm,0.9s
PKI **Pulchoki** 49.99 272 *eP* **P** 17 26 28.3 0.0
comp=Z,21nm,0.6s
PKIN **Phulchoki** 50.00 272 *eP* **P** 17 26 28.3 0.0
comp=Z,15nm,0.7s
FRU1 **Bishkek** 50.02 295 P **P** 17 26 26.7 -1.3
FRU1 pmax pmax
comp=Z,46nm,0.5s
FRU1 **Bishkek** 50.02 295 P **P** 17 26 26.7 -1.3
AAK **Ala-Archa** 50.18 295 *diP* **P** 17 26 29.7 +0.3
AAK pmax pmax
comp=Z,19nm,0.6s
AAK **Ala-Archa** 50.18 295 LR LR 17 47 25.1
comp=Z,117nm,19.4s,baz=348,slow=36
AAK **Ala-Archa** 50.18 295 P **P** 17 26 30.0 +0.6
SNR=8.5
AAK **Ala-Archa** 50.18 295 *eP* **P** 17 26 29.7 +0.3
AAK **Ala-Archa** 50.18 295 P **P** 17 26 30.0 +0.6
DMN **Daman** 50.19 273 *eP* **P** 17 26 30.0 +0.3
comp=Z,20nm,0.6s
UCH **Uchtor** 50.35 295 P **P** 17 26 31.6 +0.6
SNR=10
KSH **Kashi** 50.60 291 P **P** 17 26 37.0 +4.5
KSH S **S** 17 33 45.8 +4.5
KSH sS sS 17 34 19.0 +4.7
KSH pmax pmax
comp=Z,26nm,0.7s
KSH pmax pmax
comp=Z,670nm,7.7s
KSH LR LR
comp=Z,530nm,6.7s
KSH LR LR
comp=Z,730nm,5.9s
KSH LR LR
comp=Z,450nm,5.7s
EKS2 **Erkin-Say** 50.65 295 P **P** 17 26 33.4 +0.6
SNR=58
AML **Almayashu** 50.94 295 P **P** 17 26 36.3 +1.0
SNR=29
TTSI **Tana Toraja** 51.26 213 P **P** 17 26 38.3 +0.9
comp=Z,25nm,0.5s,comp=Z,2µm
ARSB **Arslanbob** 51.78 294 P **P** 17 26 42.6 +1.3
SVE **Sverdlovsk** 52.50 316 *eP* **P** 17 26 46.4 +0.2
SVE pmax pmax
comp=Z,27nm,0.6s
KK31 **Karatay Array** 52.59 297 P **P** 17 26 47.5 +0.4
KK31 pmax pmax
comp=Z,34nm,0.7s
KK31 **Karatay Array** 52.59 297 P **P** 17 26 47.5 +0.4
KKAR **Karatay Array** 52.59 297 P **P** 17 26 47.5 +0.4
KKAR pmax pmax
comp=Z,34nm,0.7s
KKAR **Karatay Array** 52.59 297 P **P** 17 26 47.5 +0.4
ARU **Arti** 53.71 317 *diP* **P** 17 26 54.8 -0.3
ARU *PP **pP** 17 27 14.0 -0.6
ARU 17 28 52.8
ARU S **S** 17 34 23.8 +0.8
ARU SS **SKiKP** 17 37 57.1 -4.1
ARU pmax pmax
comp=Z,51nm,1.4s
ARU **Arti** 53.71 317 P **P** 17 26 54.9 -0.3
comp=Z,8.1nm,0.5s,baz=78,slow=5.6,SNR=61
ARU pP **pP** 17 27 14.8 +0.1
comp=Z,3.2nm,0.6s,baz=43,slow=9.0,SNR=3.6
ARU **Arti** 53.71 317 *eP* **P** 17 26 54.7 -0.3
ARU **Arti** 53.71 317 P **P** 17 26 54.9 -0.1
BTK **Batken** 53.83 294 P **P** 17 26 56.6 +0.2
BTK pmax pmax
comp=Z,26nm,1.2s
BTK **Batken** 53.83 294 P **P** 17 26 56.6 +0.2
BTK IAmb IAmb 17 26 57.4
comp=Z,26nm,1.1s
HNR **Honiara** 54.07 162 LR LR 17 47 44.4
comp=Z,39nm,19.1s,baz=354,slow=33
KULM **Kulim** 54.27 239 P **P** 17 27 01.1 +1.4
KULM IAmb IAmb 17 27 02.5
comp=Z,7.8nm,0.9s
GAR **Garm** 54.69 293 P **P** 17 27 01.0 -1.7
SPA0 **Spitsbergen Ar** 55.08 349 *eP* **P** 17 27 04.6 -0.2
NIL **Nilore** 55.44 286 P **P** 17 27 08.8 +0.8
NIL pmax pmax
comp=Z,30nm,0.7s
NIL **Nilore** 55.44 286 P **P** 17 27 08.8 +0.8
CHGR **Chuyangaron** 55.65 293 P **P** 17 27 09.7 +0.2
SOEI **Soe** 55.92 205 P **P** 17 27 11.2 -0.4
comp=Z,15nm,0.6s
SOEI **Soe** 55.92 205 P **P** 17 27 11.8 +0.2
SOEI IAmb IAmb 17 27 24.8
comp=Z,12nm,1.0s
RES **Resolute Bay** 56.01 16 P **P** 17 27 11.6 +0.1
comp=Z,26nm,0.8s,baz=309,slow=6.5,SNR=93
AB31 **Akbulak array** 56.20 308 *iP* **P** 17 27 13.7 +0.5
AB31 pmax pmax
comp=Z,26nm,0.5s
ABKAR **Akbulak array** 56.20 308 P **P** 17 27 13.9 +0.8
DSRI **Dabo** 56.50 231 P **P** 17 27 14.8 -0.9
comp=Z,11nm,0.8s
BATI **Baumata** 56.53 205 P **P** 17 27 16.2 +0.3
comp=Z,4.6nm,0.6s
LHMI **Lhok Sumawe** 56.68 242 P **P** 17 27 16.9 -0.1
comp=Z,65nm,1.0s
TPI **Tanjungpandan** 56.70 226 P **P** 17 27 16.9 -0.2
comp=Z,8.2nm,1.5s
AKTO **Aktyubinsk** 56.73 310 P **P** 17 27 16.8 -0.1
AKTO pmax pmax
comp=Z,11nm,0.6s
AKTO **Aktyubinsk** 56.73 310 P **P** 17 27 16.9 0.0
comp=Z,11nm,0.6s,baz=70,slow=8.4,SNR=58
KIRV **Kirov** 57.10 322 P **P** 17 27 19.0 -0.4
KIRV **Kirov** 57.10 322 P **P** 17 27 18.9 -0.4
comp=Z,20nm,0.7s,baz=149,slow=3.5,SNR=5.7
MTN **Manton Dam** 57.12 196 P **P** 17 27 20.7 +0.7
YKA **Yellowknife Ar** 57.19 33 P **P** 17 27 20.0 0.0
comp=Z,1.4nm,0.8s,baz=303,slow=6.8,SNR=23
YKA pP **pP** 17 27 39.9 +0.2
comp=Z,3.6nm,0.8s,baz=302,slow=6.9,SNR=14
PRGR **Permogore** 57.19 326 *eP* **P** 17 27 19.0 -1.0
PRGR pmax pmax
comp=Z,19nm,0.6s
LVZ **Lovozero** 57.70 335⇑ *eP* **P** 17 27 22.8 -0.7
LVZ pmax pmax
comp=Z,25nm,1.0s
KBL **Kabul** 57.90 289 P **P** 17 27 23.1 -2.5
KBL pmax pmax
comp=Z,20nm,0.8s
KBL **Kabul** 57.90 289 P **P** 17 27 23.1 -2.5
IGBI **Denpasar** 58.40 215 P **P** 17 27 29.3 +0.3
comp=Z,22nm,0.7s
SDSI **Sungai Dareh** 58.69 234 P **P** 17 27 31.0 -0.1
comp=Z,9.3nm,0.7s
TMCR **Tamitsa** 58.74 331 *eP* **P** 17 27 30.1 -0.6
TMCR pmax pmax
comp=Z,51nm,1.5s
ARCES **ARCESS Array B** 59.27 339 P **P** 17 27 34.2 -0.2
comp=Z,6.1nm,0.9s,baz=39,slow=7.8,SNR=7.3
ARE0 **ARCESS Array S** 59.27 339 *eP* **P** 17 27 34.5 +0.1
LHSI **Lahat** 59.84 230 P **P** 17 27 38.8 -0.2
comp=Z,12nm,1.9s
DAG **Danmarks Havn** 59.92 356 *iP* **P** 17 27 38.1 -0.6
DAG pmax pmax
comp=Z,6.0nm,0.7s
DAG **Danmarks Havn** 59.92 356 *iP* **P** 17 27 38.1 -0.6
comp=Z,5.7nm,0.7s
KPJI **Karang Pucung** 59.95 222 P **P** 17 27 39.9 +0.2
comp=Z,14nm,1.3s
KTK1 **Kautokeino** 60.21 339 *eP* **P** 17 27 41.0 +0.1
KSI **Kapahiang** 60.22 231 P **P** 17 27 42.4 +0.7
comp=Z,14nm,0.9s
TRO **Tromso** 60.84 341 *eP* **P** 17 27 45.1 0.0
KULLO **Kullorsuaq** 61.64 7 *iP* **P** 17 27 49.5 -0.9
KULLO pmax pmax
comp=Z,9.0nm,0.6s
KULLO **Kullorsuaq** 61.64 7 *iP* **P** 17 27 49.5 -0.9
comp=Z,8.9nm,0.6s
HRA **Herat** 62.63 293 P **P** 17 27 58.3 +0.3
HRA IAmb IAmb 17 27 59.5
comp=Z,14nm,0.8s
GEYT **Alibeck** 63.33 298 P **P** 17 28 02.7 +0.3
comp=Z,8.6nm,0.5s,baz=33,slow=3.5,SNR=20
GEYT LR LR 17 57 00.5
comp=Z,125nm,18.7s,baz=230,slow=37
GYA0B **ALIBECK ARRAY** 63.33 298 P **P** 17 28 02.0 -0.4
GYA0B IAmb IAmb 17 28 03.6
comp=Z,16nm,1.0s
FITZ **Fitzroy Crossi** 63.47 201 P **P** 17 28 04.1 +1.0
comp=Z,5.2nm,0.8s,baz=26,slow=3.4,SNR=12
FITZ **Fitzroy Crossi** 63.47 201 P **P** 17 28 04.2 +1.0
FITZ IAmb IAmb 17 28 05.3
comp=Z,6.2nm,0.8s
WR0 **Warramunga Arr** 63.51 191 P **P** 17 28 03.4 0.0
WR0 IAmb IAmb 17 28 04.5
comp=Z,7.7nm,0.8s
WRAB **Tennant Creek** 63.51 191 P **P** 17 28 03.9 +0.4
WRAB pmax pmax
comp=Z,11nm,1.1s
WRAB **Tennant Creek** 63.51 191 P **P** 17 28 03.9 +0.4
WRAB IAmb IAmb 17 28 04.6
comp=Z,11nm,1.1s
WRA **Warramunga Arr** 63.52 191 P **P** 17 28 03.7 +0.1
comp=Z,3.6nm,0.5s,baz=7.5,slow=6.8,SNR=33
PINE **Pine Mountain** 64.41 53 P **P** 17 28 11.3 +1.8
PINE IAmb IAmb 17 28 12.3
comp=Z,12nm,1.0s
YBH **Yreka Blue Hor** 64.56 56 P **P** 17 28 11.5 +1.1
YBH pmax pmax
comp=Z,4.0nm,1.2s
YBH **Yreka Blue Hor** 64.56 56 P **P** 17 28 11.4 +1.1
SUMG **Summit** 64.57 1 P **P** 17 28 11.2 +0.9
SUMG pmax pmax
comp=Z,34nm,0.8s
SUMG **Summit** 64.57 1 *iP* **P** 17 28 11.0 +0.7
comp=Z,72nm,0.7s
SUMG **Summit** 64.57 1 P **P** 17 28 11.2 +0.9
FIA1 **FINESS Array S** 64.69 332 P **P** 17 28 10.7 0.0
FINES **FINESS Array B** 64.69 332 P **P** 17 28 10.5 -0.3
comp=Z,21nm,0.6s,baz=42,slow=7.9,SNR=92
FINES pP **pP** 17 28 30.7 -0.2
comp=Z,8.7nm,0.6s,baz=43,slow=7.0,SNR=3.7
OBN **Obninsk** 64.86 323 *eP* **P** 17 28 11.6 -0.4
OBN *e*PP **pP** 17 28 30.0 -2.1
OBN *e*SP **sP** 17 28 38.9 -1.8
OBN *e* 17 30 33.8
OBN pmax pmax
comp=Z,17nm,0.7s
OBN **Obninsk** 64.86 323 *eP* **P** 17 28 11.6 -0.4
VRH **Novokhopyorsk** 64.91 317 *eP* **P** 17 28 11.4 -1.0
VRH pmax pmax
comp=Z,50nm,0.8s
WDC **Whiskeytown Da** 65.34 57 P **P** 17 28 17.1 +1.7
WDC pmax pmax
comp=Z,7.0nm,1.1s
WDC **Whiskeytown Da** 65.34 57 P **P** 17 28 17.1 +1.7
WDC IAmb IAmb 17 28 20.9
comp=Z,6.8nm,1.1s
LPSR **Galich'ya Gora** 65.39 320 *eP* **P** 17 28 14.9 -0.5
LPSR pmax pmax
comp=Z,40nm,0.8s
BMO **Blue Mountains** 65.87 51 P **P** 17 28 20.8 +2.0
BMO pmax pmax
comp=Z,3.0nm,1.1s
BMO **Blue Mountains** 65.87 51 P **P** 17 28 20.8 +2.0
MOD **Modoc Plateau** 65.91 55 P **P** 17 28 19.3 +0.1
HOPS **Hopland Field** 65.96 59 P **P** 17 28 20.1 +0.7
HOPS IAmb IAmb 17 28 33.9
comp=Z,27nm,1.3s
VSR **Storozhevoye** 66.16 319 *eP* **P** 17 28 20.0 -0.4
VSR pmax pmax
comp=Z,40nm,0.5s
VORD **Divnogorie** 66.25 318 *eP* **P** 17 28 20.9 -0.1
VORD pmax pmax
comp=Z,30nm,1.0s
SCO **Scoresbysund** 66.30 355 P **P** 17 28 21.5 +0.5
SCO pmax pmax
comp=Z,7.0nm,0.7s
SCO **Scoresbysund** 66.30 355 P **P** 17 28 21.5 +0.5
SCO IAmb IAmb 17 28 22.0
comp=Z,6.5nm,0.7s
PLID **Pearl Lake** 66.46 50 P **P** 17 28 23.9 +1.1
VSU **Vasula** 66.58 330⇑ *eP* **P** 17 28 23.1 +0.2
VSU pmax pmax
comp=Z,73nm,1.3s
VSU **Vasula** 66.58 330 *eP* **P** 17 28 22.3 -0.6
BEKR **Beckworth** 67.11 56 P **P** 17 28 28.2 +1.3
AS31 **Alice Springs** 67.24 191 P **P** 17 28 28.8 +1.2
ASAR **Alice Springs** 67.24 191 P **P** 17 28 28.6 +1.0
comp=Z,7.8nm,0.7s,baz=9.5,slow=5.3,SNR=142
FCC **Fort Churchill** 67.34 29 P **P** 17 28 27.8 0.0
FCC pmax pmax
comp=Z,17nm,1.4s
FCC **Fort Churchill** 67.34 29 P **P** 17 28 27.9 0.0
FCC IAmb IAmb 17 28 32.5
comp=Z,17nm,1.4s
ILULI **Ilulissat** 67.34 6 P **P** 17 28 25.6 -2.0
ILULI pmax pmax
comp=Z,20nm,1.0s
ILULI **Ilulissat** 67.34 6 P **P** 17 28 25.6 -2.0
ILULI IAmb IAmb 17 28 29.1
comp=Z,20nm,1.0s
AKT **Akhty** 67.65 306 *eP* **P** 17 28 30.7 +0.5
AKT *e*PP **pP** 17 28 50.8 +0.3
AKT *e* 17 28 55.6
AKT *e*SP **sP** 17 28 59.8 +0.7
AKT pmax pmax
comp=Z,24nm,0.8s
PAHR **Pah Rah Range** 67.80 56 P **P** 17 28 32.3 +1.0
DZM **Mont Dzumac** 67.83 158 P **P** 17 28 34.1 +2.8
comp=Z,5.1nm,0.8s,baz=67,slow=6.7,SNR=4.2
DZM **Mont Dzumac** 67.83 158 IAmb IAmb 17 28 35.2
comp=Z,7.9nm,0.9s
YERR **Yerington** 68.33 57 P **P** 17 28 36.3 +1.7
YERR IAmb IAmb 17 28 37.1
comp=Z,8.2nm,1.0s
WAKR **Walker** 68.51 57 P **P** 17 28 36.4 +0.6
IZAR **Zarasai** 68.72 328 *eP* **P** 17 28 36.9 +0.4
ISAL **Salakas** 68.89 328 *eP* **P** 17 28 38.1 +0.5
ISAL IAmb IAmb 17 28 39.0
comp=Z,17nm,0.6s
KVAR **Kislovodsk Arr** 68.97 311 P **P** 17 28 39.0 +0.6
comp=Z,15nm,0.8s,baz=307,slow=5.1,SNR=16
KIV **Kislovodsk** 68.98 311 P **P** 17 28 39.7 +1.3
KIV pmax pmax
comp=Z,41nm,0.7s
KIV **Kislovodsk** 68.98 311 ⇑P **P** 17 28 39.8 +1.4
KIV mb 17 28 40.7
KIV **Kislovodsk** 68.98 311 *eP* **P** 17 28 39.5 +1.1
KIV **Kislovodsk** 68.98 311 P **P** 17 28 39.7 +1.3
KVN **Kaiserville** 68.98 56 P **P** 17 28 40.3 +1.6
KVN pmax pmax
comp=Z,6.0nm,0.7s
KVN **Kaiserville** 68.98 56 P **P** 17 28 40.3 +1.6
KVN IAmb IAmb 17 28 41.1
comp=Z,6.0nm,0.7s
RYN **Ryan** 68.99 56 P **P** 17 28 38.4 -0.3
KBZ **Khabaz** 69.01 311 P **P** 17 28 39.6 +1.1
comp=Z,23nm,0.8s,baz=60,slow=4.4,SNR=48
KBZ pP **pP** 17 28 59.3 +0.5
comp=Z,6.2nm,0.6s,baz=2.3,slow=6.2,SNR=3.2
KBZ LR LR 18 04 43.2
comp=Z,133nm,20.8s,baz=12,slow=41
IIGN **Ignalina** 69.02 328 *eP* **P** 17 28 38.7 +0.4
IIGN IAmb IAmb 17 28 39.8
comp=Z,20nm,0.6s
NACGM **Naroch** 69.12 327 *e* P 17 28 29.0 -10
NVAR **Mina Array Bea** 69.25 57 P **P** 17 28 41.7 +1.3
comp=Z,4.2nm,0.7s,baz=288,slow=6.7,SNR=37
NVAR pP **pP** 17 29 01.6 +0.9
comp=Z,0.7nm,0.5s,baz=232,slow=27,SNR=4.3
YHL **Hebgen Lake** 69.26 48 P **P** 17 28 41.3 +0.9
MOL **Molde** 69.26 340 *eP* **P** 17 28 40.4 +0.7
YHB **Horse Butte** 69.32 48 P **P** 17 28 41.8 +1.1
DOMB **Dombas** 69.33 339 *eP* **P** 17 28 40.3 +0.1
NEY **Neytrino** 69.41 310⇑ *eP* **P** 17 28 43.0 +1.7
NEY pmax pmax
comp=Z,3.0nm,0.8s
GCMT **Greycliff** 69.45 46 P **P** 17 28 41.0 -0.4
NB2 **NORSAR Subarra** 69.59 338 P **P** 17 28 42.0 +0.1
comp=Z,9.7nm,0.5s,baz=33,slow=6.5
NB2 **NORSAR Subarra** 69.59 338 P **P** 17 28 42.0 +0.1
baz=33,slow=6.5
NOA **NORSAR Array B** 69.59 338 P **P** 17 28 41.9 +0.1
comp=Z,14nm,0.6s,baz=35,slow=4.5,SNR=71
NOA pP **pP** 17 29 02.3 +0.1
comp=Z,3.2nm,0.8s,baz=34,slow=6.3,SNR=2.7
NOA LR LR 18 02 19.9
comp=Z,85nm,18.8s,baz=0.0,slow=38
HFS **Hagfors** 69.63 336 P **P** 17 28 41.9 -0.2
comp=Z,28nm,0.5s,baz=54,slow=7.5,SNR=146
NBO00 **NORSAR Array S** 69.72 338 P **P** 17 28 42.4 -0.2
NC602 **NORSAR Array S** 69.75 338 *eP* **P** 17 28 42.1 -0.7
NC602 **NORSAR Array S** 69.75 338 P **P** 17 28 41.8 -1.0
PABE **Paberze** 69.77 329 *eP* **P** 17 28 42.9 0.0
PABE IAmb IAmb 17 28 44.1
comp=Z,33nm,0.6s
FXWY **Fox Creek** 70.13 49 P **P** 17 28 47.7 +2.0
PBUR **Paburg** 70.14 330 *eP* **P** 17 28 45.2 0.0
AKH **Akhalkalaki** 70.16 308 ⇑P **P** 17 28 47.7 +1.8
MOOW **Moose Ponds** 70.22 48 P **P** 17 28 46.3 +0.1
GNI **Garni** 70.25 307 LR LR 18 02 40.0
comp=Z,66nm,19.9s,baz=42,slow=38
TPAW **Teton Pass** 70.27 49 P **P** 17 28 47.3 +0.6
TPAW IAmb IAmb 17 28 49.6
comp=Z,9.3nm,1.2s
SKAR **Skarslia** 70.67 339 *eP* **P** 17 28 49.2 +0.7
HYA **Hoyanger** 70.80 340 *eP* **P** 17 28 49.5 +0.4
R11A **Troy Canyon, C** 70.95 55 P **P** 17 28 51.0 +0.3
AKASG **Malin Array Be** 71.12 323 *iP* **P** 17 28 51.0 -0.3
AKASG pmax pmax
comp=Z,16nm,0.6s
AKASG **Malin Array Be** 71.12 323 P **P** 17 28 51.1 -0.2
comp=Z,16nm,0.6s,baz=41,slow=6.1,SNR=82
AKASG pP **pP** 17 29 11.5 -0.2
comp=Z,5.5nm,0.6s,baz=40,slow=6.0,SNR=5.8
AKBB **Malin Array Si** 71.12 323 P **P** 17 28 51.2 -0.1
AKBB pmax pmax
comp=Z,27nm,0.9s
AKBB **Malin Array Si** 71.12 323 P **P** 17 28 51.2 -0.1
KONO **Kongsberg** 71.20 338 *eP* **P** 17 28 52.0 +0.4
ANN **Anapa** 71.25 314 *eP* **P** 17 28 50.2 -2.0
ANN *e*PP **PcP** 17 29 11.7 0.0

ANN eS S 17 38 00.1 -3.2
ANN pmax pmax
comp=Z,33nm,0.9s
TPNV Topopah Spring 71.45 57 P P 17 28 53.2 -0.5
TPNV pmax pmax
comp=Z,5.0nm,0.7s
TPNV Topopah Spring 71.45 57 P P 17 28 53.2 -0.5
TPNV IAmb IAmb 17 28 56.1
comp=Z,5.1nm,0.7s
PD31 Pinedale Array 71.52 48 P P 17 28 54.8 +0.6
PDAR Pinedale Array 71.52 48 P P 17 28 55.0 +0.9
comp=Z,2.8nm,0.6s,baz=233,slow=0.8,SNR=29
PDAR pP pP 17 29 14.6 +0.1
comp=Z,1.7nm,0.5s,baz=316,slow=2.5,SNR=6.8
ASK Askoy 71.64 340 eP P 17 28 55.0 +0.8
BER Bergen 71.69 340 eP P 17 28 55.4 +0.9
ODD1 Odda 71.77 339 eP P 17 28 55.9 +0.8
BORG Borgarnes 71.92 354 P P 17 28 56.8 +0.9
BORG pmax pmax
comp=Z,58nm,1.4s
BORG Borgarnes 71.92 354 P P 17 28 56.8 +0.9
comp=Z,9.1nm,0.7s,baz=13,slow=11,SNR=4.2
BORG Borgarnes 71.92 354 IAmb IAmb 17 28 57.7
comp=Z,58nm,1.4s
SHPR Sheep Range 72.40 56 P P 17 29 00.8 +1.3
ULM Lac du Bonnet 72.94 36 P P 17 29 02.6 +0.4
ULM pmax pmax
comp=Z,6.0nm,1.2s
ULM Lac du Bonnet 72.94 36 P P 17 29 02.6 +0.4
comp=Z,2.8nm,1.0s,baz=30,slow=8.1,SNR=2.3
ULM Lac du Bonnet 72.94 36 IAmb IAmb 17 29 07.3
comp=Z,6.1nm,1.1s
SNART Snartemo 72.97 338 eP P 17 29 02.7 +0.6
SORM Soroca 73.38 321 ⇑P P 17 29 05.0 +0.2
PFO Pinyon Flats O 73.48 59 *i* P P 17 29 07.7 +1.8
BEL Belsk 73.80 328 eP P 17 29 08.1 +1.0
BEL Belsk 73.80 328 eP P 17 29 08.1 +1.0
BEL eP P 17 29 08.1 +1.0
LVV L'vov 74.02 325 eP P 17 29 22.1 +14
MILM Milestii Mici 74.05 320 ⇑P P 17 29 08.9 +0.2
STKA Stephens Creek 74.71 183 P P 17 29 12.3 -0.2
comp=Z,3.3nm,0.7s,baz=330,slow=7.9,SNR=8.8
STKA LR LR 17 59 42.7
comp=Z,15nm,21.7s,baz=24,slow=34
KWP Kalwaria Pacla 74.72 325 P P 17 29 12.0 -0.7
KWP pmax pmax
comp=Z,692nm,1.3s
KWP Kalwaria Pacla 74.72 325 eP P 17 29 14.0 +1.4
KWP eP P 17 29 14.0 +1.4
KWP Kalwaria Pacla 74.72 325 P P 17 29 11.9 -0.7
BUR08 Bucovina Ar. S 75.16 323 P P 17 29 16.2 +0.9
BUR08 IAmb IAmb 17 29 16.8
comp=Z,15nm,0.6s
BURAR Bucovina Array 75.18 323 ⇓P P 17 29 16.2 +0.8
BURAR mb 17 29 16.9
VARL Varlezi 75.25 320 ⇑P P 17 29 16.9 +1.2
VARL mb 17 29 17.2
BIZ Bicaz 75.28 322 ⇑P P 17 29 16.6 +0.7
GHRR 75.34 320 ⇑P P 17 29 17.6 +1.4
TESR Tescani 75.36 321 ⇑P P 17 29 17.1 +0.8
KOLS Kolonicke sedl 75.44 325 eP P 17 29 17.7 +0.9
KOLS pmax pmax
comp=Z,11nm,1.2s
KOLS Kolonicke sedl 75.44 325 eP P 17 29 17.7 +0.9
OJC Ojcow 75.45 327 P P 17 29 16.9 +0.1
OJC pmax pmax
comp=Z,55nm,1.1s
OJC Ojcow 75.45 327 eP P 17 29 17.7 +0.9
OJC eP P 17 29 17.7 +0.9
OJC Ojcow 75.45 327 P P 17 29 16.9 +0.1
JURR Jurilovca 75.60 319 ⇓P P 17 29 18.3 +0.7
JURR mb 17 29 20.1
CFR Carcaliu 75.65 319 ⇑P P 17 29 18.3 +0.3
UZH Uzhgorod 75.67 325 eP P 17 29 17.3 -0.7
UZH e 17 29 36.6
ODBI Odobesti 75.72 320 ⇑P P 17 29 20.6 +2.2
ODBI mb 17 29 21.0
TOPG Topolog 75.75 319 ⇑P P 17 29 19.1 +0.5
VRI Vrincioaia 75.80 321 ⇑P P 17 29 20.0 +1.1
NIE Niedzica 75.88 326 eP P 17 29 20.5 +1.2
NIE Niedzica 75.88 326 eP P 17 29 20.5 +1.2
NIE eP P 17 29 20.5 +1.2
TRPA Tarpa 75.95 324 ⇑P P 17 29 21.2 +1.5
TRPA mb 17 29 21.2
TRPA Tarpa 75.95 324 eP P 17 29 20.1 +0.4
ARCR ARCALIA 75.96 323 ⇑P P 17 29 21.6 +1.8
TIRR Tirgusor 76.05 319 ⇑P P 17 29 20.3 0.0
OZUR 76.06 321 ⇓P P 17 29 22.1 +1.7
HARR Harsova 76.11 319 ⇑P P 17 29 20.9 +0.2
HARR mb 17 29 21.6
KSP Ksiaz 76.30 329 eP P 17 29 22.1 +0.5
KSP Ksiaz 76.30 329 eP P 17 29 22.1 +0.5
KSP eP P 17 29 22.1 +0.5
DOPR Dopca 76.34 321 ⇑P P 17 29 23.1 +1.1
OKC Ostrava-Krasne 76.40 328 eP P 17 29 22.9 +0.7
OKC Ostrava-Krasne 76.40 328 eP P 17 29 22.9 +0.7
LANS Liptovska Anna 76.43 327 eP P 17 29 24.2 +1.8
LANS pmax pmax
comp=Z,11nm,1.0s
LANS Liptovska Anna 76.43 327 eP P 17 29 24.2 +1.8
MLR Muntele Rosu 76.44 321 ⇑P P 17 29 23.7 +1.0
ISR Istrita 76.45 320 ⇑P P 17 29 24.2 +1.6
CJR Cluj-Napoca 76.58 323 ⇑P P 17 29 24.8 +1.5
CHVC Chvalec 76.60 329 eP P 17 29 23.9 +0.6
UPC Upice 76.68 329 eP P 17 29 24.8 +1.0
UPC e 17 29 45.2
UPC Upice 76.68 329 eP P 17 29 24.8 +1.0
UPC epP pP 17 29 45.2 +0.8
MORC Moravsky Berou 76.69 328 P P 17 29 24.2 +0.3
MORC pmax pmax
comp=Z,14nm,0.8s
MORC Moravsky Berou 76.69 328 eP P 17 29 24.7 +0.8
MORC e 17 29 45.2
MORC Moravsky Berou 76.69 328 P P 17 29 24.2 +0.3
MORC IAmb IAmb 17 29 25.8
comp=Z,14nm,0.8s
DPC Dobruska-Polom 76.69 329 eP P 17 29 24.7 +0.8
DPC e 17 29 44.7
DPC Dobruska-Polom 76.69 329 eP P 17 29 24.7 +0.8
DPC epP pP 17 29 44.7 +0.2
KRLC Kraliky 76.74 329 eP P 17 29 24.6 +0.4
KRLC e 17 29 45.4
KRLC Kraliky 76.74 329 eP P 17 29 24.6 +0.4
KRLC epP pP 17 29 45.4 +0.6
LTVH Ltavrtes, Hu 76.80 324 eP P 17 29 36.0 +12
BR131 Keskin Array S 76.80 312 P P 17 29 23.1 -1.8
BR131 pmax pmax
comp=Z,4.0nm,0.8s
BR131 Keskin Array S 76.80 312 P P 17 29 23.1 -1.8
BRTR Keskin Array B 76.80 312 P P 17 29 25.3 +0.5
comp=Z,2.8nm,0.7s,baz=78,slow=3.6,SNR=18
BRTR pP pP 17 29 45.5 0.0
comp=Z,1.2nm,0.7s,baz=47,slow=2.1,SNR=3.0
BRTR LR LR 18 06 44.0
comp=Z,54nm,18.2s,baz=312,slow=38
VOIR 76.90 321 ⇑P P 17 29 26.4 +1.2
DRGR 76.91 323 ⇑P P 17 29 25.5 +0.2
CLL Collm 77.11 331 ⇓*i*P P 17 29 26.3 +0.1
CLL e*PP pP 17 29 47.0 +0.2
CLL pmax pmax
comp=Z,28nm,1.1s
CLL Collm 77.11 331 ⇓*i*P P 17 29 26.3 +0.1
comp=Z,28nm,1.1s
CLL epP pP 17 29 47.0 +0.2
CLL Collm 77.11 331 P P 17 29 25.8 -0.3
CLL IAmb IAmb 17 29 27.2
comp=Z,18nm,0.7s
BRG Berggiesshubel 77.14 331 eP P 17 29 26.6 +0.3
comp=Z,5.8nm,0.9s
BRG Berggiesshubel 77.14 331 eP P 17 29 26.6 +0.3
BRG pmax pmax
comp=Z,6.0nm,0.9s
ARR Arges 77.14 321 ⇑P P 17 29 27.9 +1.3
PVCC Panska Ves 77.20 330 eP P 17 29 27.3 +0.6
PVCC Panska Ves 77.20 330 eP P 17 29 27.3 +0.6
VYHS Vyhne 77.20 327 eP P 17 29 28.0 +1.2
VYHS pmax pmax
comp=Z,20nm,1.4s
VYHS Vyhne 77.20 327 eP P 17 29 28.0 +1.2
PSZ Piszkesteto 77.23 326 P P 17 29 28.1 +1.1
PSZ pmax pmax
comp=Z,13nm,0.9s
PSZ Piszkesteto 77.23 326 ⇓P P 17 29 28.2 +1.3
PSZ mb 17 29 29.6
PSZ Piszkesteto 77.23 326 eP P 17 29 27.0 0.0
PSZ Piszkesteto 77.23 326 P P 17 29 28.1 +1.1
PSZ IAmb IAmb 17 29 29.0
comp=Z,13nm,0.9s
KOLL Kolacno 77.31 327 eP P 17 29 28.5 +1.2
JAVC Velka Javorina 77.38 327 eP P 17 29 29.6 +1.8
JAVC e 17 29 50.2
VRAC Vranov 77.43 328 eP P 17 29 29.1 +1.1
VRAC e 17 29 49.7
GOPC GO Pecny, Ondr 77.62 330 eP P 17 29 29.4 +0.3
GOPC GO Pecny, Ondr 77.62 330 eP P 17 29 29.4 +0.3
PRA Prague 77.62 330 eP P 17 29 30.0 +1.0
PRA Prague 77.62 330 eP P 17 29 30.0 +1.0
PRU Pruhonice 77.65 330 eP P 17 29 29.8 +0.6
PRU e 17 29 50.0
PRU Pruhonice 77.65 330 eP P 17 29 29.8 +0.6
PRU epP pP 17 29 50.0 +0.1
KRUC Moravsky 77.71 328 eP P 17 29 30.5 +1.0
KRUC e 17 29 51.0
SMOL Smolenice 77.75 327 eP P 17 29 31.4 +1.6
SMOL pmax pmax
comp=Z,13nm,1.4s
SMOL Smolenice 77.75 327 eP P 17 29 31.3 +1.5
SIRR Siria 77.77 324 ⇑P P 17 29 31.1 +1.1
COPA Copaceanca 77.81 320 ⇑P P 17 29 31.6 +1.4
TREC Trest 77.86 329 eP P 17 29 31.4 +1.0
TREC Trest 77.86 329 eP P 17 29 31.4 +1.0
MODS Modra-Piesok 77.92 327 eP P 17 29 31.4 +0.6
MODS pmax pmax
comp=Z,16nm,1.3s
MODS Modra-Piesok 77.92 327 eP P 17 29 31.3 +0.5
SRO Srobarova 77.96 326 eP P 17 29 32.2 +1.3
SRO pmax pmax
comp=Z,21nm,0.8s
SRO Srobarova 77.96 326 eP P 17 29 32.2 +1.3
GZR Gura Zlata 77.96 322 ⇑P P 17 29 31.3 +0.2
PBCC Pribram 78.10 330 eP P 17 29 32.2 +0.5
NKC Novy Kostel 78.20 331 eP P 17 29 32.8 +0.5
NKC Novy Kostel 78.20 331 eP P 17 29 32.8 +0.5
EKA Eskdalemuir Ar 78.24 342 P P 17 29 32.9 +0.6
comp=Z,4.6nm,0.4s,baz=24,slow=5.1,SNR=33
EKA pP pP 17 29 52.9 -0.2
comp=Z,1.1nm,0.4s,baz=24,slow=5.2,SNR=2.5
BZS Buzias 78.30 323 ⇑P P 17 29 32.9 0.0
CSKK Cskako 78.34 326 eP P 17 29 33.0 0.0
PLVB Pleven 78.66 320 ⇑P P 17 29 32.9 -2.0
KHC Kasperske Hory 78.71 330 ⇓eP P 17 29 36.0 +0.9
KHC pmax pmax
comp=Z,36nm,0.7s
KHC Kasperske Hory 78.71 330 eP P 17 29 35.7 +0.6
KHC epP pP 17 29 56.0 +0.1
KHC Kasperske Hory 78.71 330 P P 17 29 36.1 +1.0
KHC IAmb IAmb 17 29 36.9
comp=Z,7.1nm,0.7s
SCHQ Schefferville 78.72 18 P P 17 29 35.1 +0.1
comp=Z,3.3nm,0.8s,baz=357,slow=8.6,SNR=3.7
SCHQ Schefferville 78.72 18 IAmb IAmb 17 29 39.2
comp=Z,12nm,1.1s
SOP Sopron 78.76 327 eP P 17 29 36.0 +0.6
MPLH Magyarpolny 78.79 326 eP P 17 29 35.1 -0.5
CONA Conrad Observa 78.84 328 eP P 17 29 37.1 +1.1
comp=Z,7.9nm,0.7s
GEC2 GERESS Array S 78.90 330 P P 17 29 36.0 -0.2
GEC2 IAmb IAmb 17 29 37.1
comp=Z,4.9nm,0.5s
GERES GERESS Array B 78.90 330 P P 17 29 36.6 +0.3
comp=Z,4.4nm,0.6s,baz=40,slow=6.0,SNR=44
GERES pP pP 17 29 56.3 -0.7
comp=Z,1.4nm,0.5s,baz=33,slow=5.1,SNR=5.3
MDVR Moldovita 78.91 323 ⇑P P 17 29 36.7 +0.4
GRA1 Grafenberg Arr 79.09 331 P P 17 29 37.5 +0.4
GRA1 IAmb IAmb 17 29 39.0
comp=Z,15nm,0.7s
GRF Grafenberg Arr 79.09 331 P P 17 29 37.5 +0.4
GRF pmax pmax
comp=Z,15nm,0.7s
MORH Mrgy, Hungar 79.10 325 eP P 17 29 36.8 -0.4
MORH Mrgy, Hungar 79.10 325 eP P 17 29 36.1 -1.2
MOA Molln 79.52 329 eP P 17 29 40.5 +1.0
comp=Z,4.1nm,0.7s
ARSA Arzberg 79.52 328 eP P 17 29 40.3 +0.8
comp=Z,7.8nm,1.2s
VTS Vitosha 79.90 320 P P 17 29 43.3 +1.4
VTS pmax pmax
comp=Z,10.0nm,0.8s
VTS Vitosha 79.90 320 ⇑P P 17 29 43.4 +1.4
VTS mb 17 29 43.5
VTS Vitosha 79.90 320 P P 17 29 43.2 +1.4
VTS IAmb IAmb 17 29 43.9
comp=Z,10nm,0.8s
RDO Rodhopi 79.93 318 P P 17 29 42.5 +0.7
GROS Grobnik 80.18 327 *i* P P 17 29 43.5 +0.3
GROS *i* pP pP 17 30 04.4 +0.4
SOKA Soboth 80.19 328 eP P 17 29 44.1 +0.8
comp=Z,10nm,0.7s
DIVS Divibare 80.21 323 eP P 17 29 42.6 -0.8
KBA Koelnbreinsper 80.50 329 eP P 17 29 46.3 +1.2
comp=Z,8.5nm,0.5s,SNR=7.2
OBKA Obir 80.51 328 eP P 17 29 45.7 +0.7
comp=Z,9.4nm,0.8s
NVR Nevrokopi 80.58 319 P P 17 29 46.5 +1.1
MMAI Mount Meron Ar 80.59 307 P P 17 29 46.8 +1.1
comp=Z,10nm,0.7s,baz=38,slow=7.4,SNR=25
MMAI pP pP 17 30 07.1 +0.6
comp=Z,3.1nm,0.6s,baz=55,slow=6.0,SNR=3.8
BBLS Lazići 80.65 323 eP P 17 29 46.4 +0.6
HAPS Han Pijesak,Bl 80.67 324 ⇑P P 17 29 45.2 -0.7
LEGS Legarje 80.67 327 *i* P P 17 29 45.9 +0.2
PDKS Podkum 80.71 327 *i* P P 17 29 46.1 +0.1
CRES Cresnjev 80.72 327 eP P 17 29 45.5 -0.5
MYKA Terra Mystica 80.77 328 eP P 17 29 46.3 0.0
comp=Z,6.0nm,0.6s
RAYN Ar Rayn 80.80 293 P P 17 29 44.3 -2.6
RAYN pmax pmax
comp=Z,6.0nm,1.0s
RAYN Ar Rayn 80.80 293 P P 17 29 44.2 -2.6
BLY Banja Luka 80.89 325 eP P 17 29 46.6 -0.3
LJU Ljubljana 80.91 328 eP P 17 29 47.1 +0.1
WATA Walderalm 80.95 330 eP P 17 29 48.0 +0.6
comp=Z,9.0nm,0.7s
WTTA Wattenberg 80.99 330 eP P 17 29 48.5 +0.8
comp=Z,6.8nm,0.6s
ABTA Abfaltersbach 81.10 329 eP P 17 29 49.0 +0.9
comp=Z,4.7nm,0.8s
STIP Stip 81.11 320 *i* P P 17 29 48.1 -0.1
MOTA Moosalm 81.11 330 eP P 17 29 49.0 +0.7
comp=Z,16nm,0.7s,SNR=6.5
RETA Reutte 81.12 331 eP P 17 29 49.2 +1.0
comp=Z,6.4nm,0.8s
SQTA Sankt Quirin 81.18 330 eP P 17 29 49.3 +0.7
comp=Z,12nm,0.8s,SNR=5.2
CEY Cerknica 81.20 327 eP P 17 29 47.6 -1.0
MGRS Mrkonjic Grad 81.20 325 ⇑P P 17 29 49.9 +1.3
VAY Valandovo 81.22 320 *i* P P 17 29 49.9 +1.2
SKO Skopje 81.24 321 *i* P P 17 29 50.4 +1.6
SIGR SIGRI 81.25 317 P P 17 29 49.2 +0.3
OUR Ouranopolis 81.31 318 P P 17 29 49.8 +0.6
STAL STALIGIAL 81.43 329 P P 17 29 49.4 -0.4
STAL IAmb IAmb 17 29 49.7
comp=Z,8.4nm,0.6s
FETA Feichten 81.52 330 eP P 17 29 51.0 +0.6
comp=Z,6.0nm,0.8s
DAVA Damuels 81.60 331 eP P 17 29 51.4 +0.5
comp=Z,7.8nm,0.7s
BRY Bratogost 81.80 323 eP P 17 29 51.6 -0.4
PDG Podgorica 81.86 323 eP P 17 29 52.0 -0.1
PDG Podgorica 81.86 323 ⇑P P 17 29 52.7 +0.6
PDG mb 17 29 53.2
PDG Podgorica 81.86 323 P P 17 29 51.5 -0.6
CTI Castel Tesino 82.01 329 P P 17 29 52.4 -0.5
CTI pmax pmax
comp=Z,6.0nm,0.6s
CTI Castel Tesino 82.01 329 P P 17 29 52.4 -0.5
CTI IAmb IAmb 17 29 53.1
comp=Z,5.9nm,0.6s
TREB Trebinje 82.03 323 eP P 17 29 52.2 -0.8
FUORN Ofenpass-Fuorn 82.03 330 P P 17 29 54.1 +0.8
FUORN IAmb IAmb 17 29 54.9
comp=Z,12nm,0.8s
DRME Dracevica, Mon 82.09 323 eP P 17 29 53.8 +0.5
HCY Herceg Novi 82.19 323 eP P 17 29 52.6 -1.2
STON Ston 82.19 324 eP P 17 29 52.1 -1.7
FNA Florina 82.20 320 P P 17 29 55.3 +1.3
FNA pmax pmax
comp=Z,6.0nm,0.7s
FNA Florina 82.20 320 P P 17 29 55.3 +1.3
FNA IAmb IAmb 17 29 55.4
comp=Z,6.1nm,0.7s
NEST Nestorio 82.64 320 P P 17 29 56.7 +0.3
EIL Elat 83.26 305 P P 17 30 00.2 +0.6
comp=Z,6.1nm,0.7s,baz=41,slow=3.2,SNR=6.1
KARP Karpathos 83.35 313 P P 17 29 59.6 -0.4
KARP IAmb IAmb 17 30 01.6
comp=Z,17nm,0.9s
ANAF Anafi Island 83.46 315 P P 17 29 56.0 -4.6
KALE Kalithea 83.72 318 P P 17 29 59.0 -2.9
SERG Sergoula 83.74 318 P P 17 30 01.3 -0.7
KEK Kerkira 83.78 321 P P 17 30 02.5 +0.4
PVO Paravola 83.84 319 P P 17 30 02.7 +0.3
LKD2 Lefkada island 84.11 320 P P 17 30 03.3 -0.6
NRCA Norcia 84.14 327 P P 17 30 04.5 +0.5
NRCA IAmb IAmb 17 30 05.6
comp=Z,21nm,1.0s
ZKR Zakros 84.18 314 P P 17 30 04.9 +0.7
DRO Drossia 84.27 318 P P 17 30 04.9 +0.2
MSSA Maissana 84.27 330 P P 17 30 04.3 -0.3
MSSA IAmb IAmb 17 30 05.1
comp=Z,19nm,1.2s
TX31 Lajitas Ar. Si 84.31 55 P P 17 30 03.5 -1.6
TX32 Lajitas Array 84.31 55 P P 17 30 03.9 -1.2
TXAR Lajitas Array 84.31 55 P P 17 30 05.0 -0.1
comp=Z,2.1nm,0.7s,baz=298,slow=3.8,SNR=14
TXAR pP pP 17 30 25.4 -0.6
comp=Z,0.8nm,0.5s,baz=297,slow=4.0,SNR=3.6
LAST Lasithi 84.53 314 P P 17 30 06.6 +0.5
IMMV Iera Moni Meta 85.08 315 P P 17 30 08.8 +0.1
PPT Papeete 85.08 119 LR LR 17 59 57.4
comp=Z,44nm,21.9s,baz=356,slow=30
PPT2 Papeete2 85.10 119 *e*LR LR 17 56 50.0
comp=Z,226nm,33.0s
PPT2 Papeete2 85.10 119 *e*T T 19 03 31.5
comp=Z,5.3nm,0.3s
TBI Tubuai 89.44 123 *e*T T 19 08 58.8
comp=Z,14nm,0.3s
KEST Kesra 91.70 325 P P 17 30 39.5 -0.9
comp=Z,6.4nm,1.1s,baz=255,slow=21,SNR=3.5
ESDC Sonseca Array 92.91 336 P P 17 30 45.6 -0.3
comp=Z,1.3nm,0.8s,baz=16,slow=4.6,SNR=7.5
TORD Torodi Ar. Bea 114.68 320 PKP **PKiKP** 17 36 12.9 -0.3
comp=Z,0.3nm,0.5s,baz=50,slow=1.1,SNR=2.6
TORD PP **PP** 17 37 09.6 -1.3
comp=Z,1.7nm,1.0s,baz=12,slow=7.4,SNR=4.5
VNDA Vanda 120.83 176 PKP **PKiKP** 17 36 24.1 +0.8
comp=Z,0.7nm,0.9s,baz=307,slow=1.9,SNR=3.4
LPAZ La Paz 141.16 57 PKP **PKPdf** 17 37 03.0 -1.0
comp=Z,0.9nm,0.7s,baz=297,slow=2.3,SNR=2.4
SNAA Sanae 147.38 198 PKPbc **PKPbc** 17 37 15.8 +0.8
SNAA Sanae 147.38 198 PKP2 **PKPab** 17 37 16.2 -1.0
SNAA Sanae 147.38 198 **PKPab** 17 37 16.2 -1.0
GO04 Tololo Observa 148.77 77 **PKiKP** 17 37 21.1 -0.4
VNA2 Neumayer--Watz 148.93 197 PKPbc **PKiKP** 17 37 20.6 +0.3
VNA3 Neumayer Olymp 149.16 196 PKPbc **PKiKP** 17 37 20.6 -0.2
VNA1 Neumayer--Stat 149.33 197 PKPbc **PKiKP** 17 37 21.1 0.0
BDFB Brasilia 150.44 26 PKPbc **PKPbc** 17 37 24.4 0.0
comp=Z,3.8nm,0.9s,baz=35,slow=4.0,SNR=4.8
PLCA Paso Flores 153.59 97 PKPbc **PKiKP** 17 37 31.4 +0.4
comp=Z,2.8nm,1.1s,baz=316,slow=4.4,SNR=4.0
PLCA PKPab **pPKPdf** 17 37 45.8 +0.6
comp=Z,1.8nm,0.8s,baz=331,slow=2.2,SNR=3.8
CPUP Villa Florida 155.28 55 PKPab **PKPab** 17 37 51.8 +0.6
comp=Z,0.7nm,0.4s,baz=346,slow=4.2,SNR=3.1

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*ISCJB **15** 17:29:46.8±0.3,51°.39N±0'.02×16°.14E±0'.02,h0km, Error ellipse: s-maj=2.6km s-min=1.8km az=21.6*
*LDG **15** 17:29:47.5±0.3,51°.47N×16°.07E,h1km,Ml3.1/4, Error ellipse: s-maj=6.4km s-min=4.5km az=39.0, Suspected Mining induced.*
*VIE **15** 17:29:48.2±0.9,51°.42N×16°.24E,h0km,mb2.6/5,ml3.1/9, Error ellipse: s-maj=11.4km s-min=4.0km az=68.0 65 km NW of Wroclaw Suspected Mining induced.*
*BGR **15** 17:29:49.1±0.2,51:40N×16:17E,h1km,ML3.3/23,Error ellipse: s-maj=2.2km s-min=2.2km az=26.0*

ISC 15 17:29:47.7±0.8,51°.42N±0'.03×16°.09E±0'.02,h0km,n65,
σ1§95/148**, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.59**	**167**	*e*Pg		**Pg**	**17 29 59.9**	**+0.7**
KSP				*e*Sg		**Sg**	**17 30 07.7**	**+1.0**
KSP	**Ksiaz**	**0.59**	**167**	*i* Pg		**Pg**	**17 29 59.8**	**+0.7**
KSP				*i* Pg		**Pg**	**17 29 59.8**	**+0.7**
KSP				*e*Sg		**Sg**	**17 30 07.5**	**+0.7**
KSP				*e*Sg		**Sg**	**17 30 07.5**	**+0.7**
CHVC	**Chvalec**	**0.83**	**182**	*e*PG		**Pg**	**17 30 04.6**	**+0.9**
CHVC				*e*SG		**Sg**	**17 30 15.7**	**+1.2**
comp=Z,144nm,0.5s								
UPC	**Upice**	**0.92**	**183**	*e*PG		**Pg**	**17 30 06.0**	**+0.7**
UPC				*e*SG		**Sg**	**17 30 17.0**	**-0.1**
comp=Z,299nm,0.4s								
DPC	**Dobruska-Polom**	**1.08**	**172**	*e*Pg		**Pg**	**17 30 08.7**	**+0.2**
DPC				*e*Sg		**Sg**	**17 30 22.9**	**+0.5**
DPC	**Dobruska-Polom**	**1.08**	**172**	*e*PG		**Pg**	**17 30 08.7**	**+0.2**
DPC				*e*SG		**Sg**	**17 30 23.3**	**+0.9**
comp=Z,104nm,0.5s								
PVCC	**Panska Ves**	**1.31**	**228**	*e*Pn		**Pb**	**17 30 13.8**	**+0.6**
PVCC				*e*Sg		**Sn**	**17 30 33.2**	**+1.7**
PVCC	**Panska Ves**	**1.31**	**228**	*e*PG		**Pb**	**17 30 13.8**	**+0.6**
PVCC				*e*SG		**Sb**	**17 30 31.9**	**+1.3**
comp=Z,507nm,0.4s								
KRLC	**Kraliky**	**1.42**	**162**	*e*PG		**Pn**	**17 30 14.3**	**-0.5**
KRLC				*e*SG		**Sg**	**17 30 32.8**	**-0.4**
comp=Z,102nm,0.4s								
BRG	**Berggiesshubel**	**1.46**	**249**	PN		**Pn**	**17 30 14.9**	**-0.4**
BRG				PG		**Pg**	**17 30 16.5**	**+0.9**
BRG				SG		**Sn**	**17 30 36.8**	**+1.7**
225nm,0.5s								
BRG	**Berggiesshubel**	**1.46**	**249**	*e*Pn		**Pn**	**17 30 15.0**	**-0.3**
BRG				*e*Pg		**Pg**	**17 30 16.8**	**+1.1**
BRG				*e*Sg		**Sn**	**17 30 37.2**	**+2.1**
PRA	**Prague**	**1.71**	**219**	*e*PG		**Pn**	**17 30 19.2**	**+0.4**
PRA				*e*SG		**Sg**	**17 30 43.8**	**+1.1**
comp=Z,86nm,0.5s								
PRU	**Pruhonice**	**1.74**	**215**	*e*Pn		**Pn**	**17 30 19.2**	**+0.1**
PRU				*e*Pg		**Pb**	**17 30 21.2**	**+0.7**
PRU				*e*Sg		**Sg**	**17 30 44.8**	**+1.2**
PRU	**Pruhonice**	**1.74**	**215**	*e*PN		**Pn**	**17 30 19.6**	**+0.4**
PRU				*e*PG		**Pb**	**17 30 20.9**	**+0.4**
PRU				*e*SG		**Sb**	**17 30 44.3**	**+1.4**
comp=Z,107nm,0.4s								
RUE	**Ruedersdorf**	**1.78**	**308**	*e*Pg		**Pg**	**17 30 23.2**	**+1.4**
RUE				*e*Sg		**Sg**	**17 30 47.5**	**+2.6**
FBE	**Freiberg**	**1.79**	**255**	*e*Pn		**Pb**	**17 30 21.6**	**+0.1**
FBE				*e*Sg		**Sg**	**17 30 46.9**	**+1.6**
MORC	**Moravsky Berou**	**1.89**	**150**	*e*Pn		**Pn**	**17 30 20.7**	**-0.6**
MORC				*e*Sg		**Sb**	**17 30 47.7**	**+0.5**
MORC	**Moravsky Berou**	**1.89**	**150**	*e*PN		**Pn**	**17 30 20.5**	**-0.8**
MORC				*e*SG		**Sn**	**17 30 45.3**	**-0.5**
RAC	**Raciborz**	**1.89**	**134**	*e*Pg		**Pg**	**17 30 23.5**	**-0.5**
RAC				*e*Pg		**Pg**	**17 30 23.5**	**-0.5**
RAC				*e*Sg		**Sg**	**17 30 49.2**	**+0.8**
RAC				*e*Sg		**Sg**	**17 30 49.2**	**+0.8**
RAC				*e*Sg		**Sg**	**17 30 49.2**	**+0.8**
RAC				*e*Sg		**Sg**	**17 30 49.2**	**+0.8**
CLL	**Collm**	**1.94**	**268**	*e*Pn		**Pn**	**17 30 22.0**	**+0.1**
CLL				*e*Pg		**Pg**	**17 30 25.0**	**+0.1**
CLL				*e*Sg		**Sg**	**17 30 51.0**	**+1.0**
comp=Z,51nm,0.6s								
CLL	**Collm**	**1.94**	**268**	*e*Pn		**Pn**	**17 30 21.7**	**-0.2**
CLL				*e*Pg		**Pg**	**17 30 26.0**	**+1.1**
CLL				*e*Sg		**Sg**	**17 30 52.7**	**+2.8**
GKP	**Gorka Klasztor**	**1.98**	**20**	*e*Sg		**Sg**	**17 30 52.4**	**+1.0**
OKC	**Ostrava-Krasne**	**2.06**	**140**	*e*Pn		**Pn**	**17 30 22.9**	**-0.7**
OKC				*e*Pg		**Pb**	**17 30 26.1**	**+0.2**
OKC				*e*Sg		**Sb**	**17 30 52.0**	**0.0**
OKC	**Ostrava-Krasne**	**2.06**	**140**	*e*PG		**Pb**	**17 30 25.6**	**-0.3**
OKC				*e*SG		**Sg**	**17 30 53.1**	**-0.6**
comp=Z,213nm,1.4s								
VRAC	**Vranov**	**2.14**	**171**	*e*Pn		**Pn**	**17 30 25.4**	**+0.7**
VRAC				*e*Pg		**Pg**	**17 30 28.5**	**-0.2**
VRAC				*e*Sg		**Sg**	**17 30 56.5**	**+0.1**
VRAC	**Vranov**	**2.14**	**171**	*e*PN		**Pn**	**17 30 24.7**	**0.0**
VRAC				*e*SG		**Sg**	**17 30 56.2**	**-0.2**
TREC	**Trest**	**2.16**	**191**	*e*PN		**Pn**	**17 30 25.4**	**+0.4**

TREC			*e*PG	**Pb**	**17 30 28.6**	**+0.8**	
TREC			*e*SG	**Sb**	**17 30 56.7**	**+1.6**	
	comp=Z,88nm,0.6s						
PBCC	**Pribram**	**2.19**	**218** *e*PG	**Pb**	**17 30 29.5**	**+1.3**	
PBCC			*e*SG	**Sg**	**17 30 58.9**	**+0.8**	
	comp=Z,16nm,0.4s						
KRUC	**Moravsky**	**2.37**	**175** *e*PN	**Pn**	**17 30 28.4**	**+0.6**	
KRUC			*e*SG	**Sg**	**17 31 04.6**	**+0.8**	
TANN	**Tannenbergstha**	**2.51**	**248** *e*Pn	**Pn**	**17 30 30.5**	**+0.7**	
TANN			*e*Pg	**Pg**	**17 30 36.6**	**+0.8**	
TANN			*e*Sg	**Sg**	**17 31 08.9**	**+0.7**	
NKC	**Novy Kostel**	**2.60**	**244** *e*PN	**Pn**	**17 30 31.8**	**+0.8**	
NKC			*e*SG	**Sg**	**17 31 12.1**	**+1.0**	
	comp=Z,120nm,0.4s						
GUNZ	**Gunzen**	**2.60**	**247** *e*Pn	**Pn**	**17 30 32.2**	**+1.1**	
GUNZ			*e*Sg	**Sg**	**17 31 12.4**	**+1.0**	
WERN	**Wernitzgruen**	**2.61**	**246** *e*Pn	**Pn**	**17 30 32.0**	**+0.8**	
OJC	**Ojcow**	**2.64**	**116** *e*Pn	**Pn**	**17 30 31.0**	**-0.6**	
OJC			*e*Pg	**Pg**	**17 30 36.9**	**-1.4**	
OJC			*e*Sg	**Sg**	**17 31 12.4**	**-0.1**	
OJC	**Ojcow**	**2.64**	**116** *e*Pg	**Pg**	**17 30 37.3**	**-1.0**	
OJC			*e*Pg	**Pg**	**17 30 37.3**	**-1.0**	
OJC			*e*Sg	**Sg**	**17 31 12.1**	**-0.5**	
OJC			*e*Sg	**Sg**	**17 31 12.1**	**-0.5**	
PLN	**Plauen**	**2.66**	**251** *e*Pn	**Pn**	**17 30 32.5**	**+0.7**	
JAVC	**Velka Javorina**	**2.76**	**158** *e*PN	**Pn**	**17 30 34.1**	**+0.9**	
KHC	**Kasperske Hory**	**2.80**	**216** *e*PN	**Pn**	**17 30 34.5**	**+0.7**	
KHC			*e*PG	**Pb**	**17 30 40.3**	**+1.7**	
KHC			*e*SN	**Sn**	**17 31 09.2**	**+0.9**	
KHC			*e*SG	**Sg**	**17 31 17.6**	**-0.1**	
	comp=Z,55nm,0.7s						
MANZ	**Manzenberg**	**2.91**	**242** *e*Pn	**Pn**	**17 30 36.2**	**+0.9**	
MOX	**Moxa**	**2.93**	**256** *e*Pn	**Pn**	**17 30 36.2**	**+0.7**	
ROTZ	**Rotzenmuhle**	**2.98**	**238** *e*Pn	**Pn**	**17 30 37.0**	**+0.8**	
GEC2	**GERESS Array S**	**3.00**	**212** *e*Pn	**Pn**	**17 30 38.0**	**+1.4**	
SMOL	**Smolenice**	**3.04**	**163** *e*PG	**Pg**	**17 30 45.9**	**0.0**	
SMOL			*e*SG	**Sg**	**17 31 26.6**	**+1.4**	
SMOL			*e*LG	Lg	17 31 37.5		
WET	**Wettzell**	**3.07**	**223** *e*Pn	**Pn**	**17 30 38.4**	**+0.9**	
LANS	**Liptovska Anna**	**3.14**	**135** *e*PN	**Pn**	**17 30 38.2**	**-0.3**	
LANS			*e*PG	**Pg**	**17 30 47.1**	**-0.8**	
LANS			*e*SG	**Sg**	**17 31 29.4**	**+0.9**	
LANS			*e*LG	Lg	17 31 37.9		
MODS	**Modra-Piesok**	**3.15**	**165** *e*PG	**Pg**	**17 30 46.9**	**-1.1**	
MODS			*e*SG	**Sg**	**17 31 30.5**	**+1.8**	
MODS			*e*LG	Lg	17 31 40.1		
KOLL	**Kolacno**	**3.21**	**151** *e*PN	**Pn**	**17 30 39.9**	**+0.5**	
KOLL			*e*PG	**Pg**	**17 30 48.0**	**-1.3**	
KOLL			*e*SG	**Sg**	**17 31 31.1**	**+0.2**	
NIE	**Niedzica**	**3.36**	**125** *e*P	**Pg**	**17 30 51.5**	**-0.5**	
NIE			*e*P	**Pg**	**17 30 51.5**	**-0.5**	
NIE			*e*S	**Sg**	**17 31 36.6**	**+1.1**	
NIE			*e*S	**Sg**	**17 31 36.6**	**+1.1**	
VYHS	**Vyhne**	**3.42**	**148** *e*PN	**Pn**	**17 30 41.7**	**-0.7**	
VYHS			*e*PG	**Pg**	**17 30 53.1**	**-0.2**	
VYHS			*e*SG	**Sg**	**17 31 38.1**	**+0.4**	
CONA	**Conrad Observa**	**3.50**	**183** *e*Pn	**Pn**	**17 30 44.4**	**+0.9**	
	comp=Z,1.3nm,0.4s						
CONA			Sg	**Sg**	**17 31 39.1**	**-1.0**	
	comp=Z,38nm,0.4s						
GRF	**Grafenberg Arr**	**3.55**	**243** *e*Pn	**Pn**	**17 30 45.0**	**+0.9**	
MOA	**Molln**	**3.77**	**199** *e*Pn	**Pn**	**17 30 47.6**	**+0.6**	
	comp=Z,1.7nm,0.2s,SNR=8.6						
MOA			Sg	**Sg**	**17 31 50.4**	**+1.8**	
	comp=Z,20nm,0.4s						
BSD	**Bornholm Skovb**	**3.77**	**350** *i* P	**Pn**	**17 30 45.2**	**-1.8**	
BSD			*i* S	**Sn**	**17 31 27.7**	**-4.3**	
STHS	**Stebnicka Huta**	**3.86**	**119** *e*PN	**Pn**	**17 30 48.7**	**+0.4**	
STHS			*e*PG	**Pg**	**17 31 02.3**	**+0.7**	
STHS			*e*SG	**Sg**	**17 31 53.4**	**+1.8**	
ARSA	**Arzberg**	**4.19**	**185** *e*Pn	**Pn**	**17 30 54.8**	**+1.9**	
	comp=Z,1.2nm,0.2s						
ARSA			Sn	**Sn**	**17 31 48.8**	**+6.2**	
	comp=Z,9.0nm,0.8s						
KOLS	**Kolonicke sedl**	**4.69**	**120** *e*PN	**Pn**	**17 30 59.1**	**-0.6**	
KOLS			*e*PG	**Pg**	**17 31 20.3**	**+2.8**	
KBA	**Koelnbreinsper**	**4.70**	**204** Pg	**Pg**	**17 31 17.4**	**-0.4**	
	comp=Z,2.1nm,0.3s						
KBA			Sg	**Sg**	**17 32 21.4**	**+2.7**	
	comp=Z,21nm,0.5s						
WTTA	**Wattenberg**	**5.08**	**217** Pn	**Pn**	**17 31 06.2**	**+1.0**	
	comp=Z,0.8nm,0.2s						
WTTA			Sn	**Sn**	**17 32 04.0**	**-0.6**	
	comp=Z,2.9nm,0.4s						
RETA	**Reutte**	**5.25**	**223** Pn	**Pn**	**17 31 08.1**	**+0.6**	
	SNR=4.8						
SQTA	**Sankt Quirin**	**5.28**	**219** *i* Pn	**Pn**	**17 31 09.9**	**+2.0**	
	SNR=6.9						
CDF	**Champ du Feu**	**6.44**	**246** *e*Pn	**Pn**	**17 31 21.4**	**-2.4**	
CDF			*e*Sn	**Sn**	**17 32 31.1**	**-6.9**	
CDF			*e*Sg	**Sg**	**17 33 09.6**	**-4.8**	
	comp=Z,3.2nm,0.4s						
HINF	**Hinteralfeld**	**7.00**	**243** *e*Pn	**Pn**	**17 31 29.1**	**-2.4**	
HINF			*e*Sn	**Sn**	**17 32 44.9**	**-6.9**	
HINF			*e*Sg	**Sg**	**17 33 26.6**	**-5.8**	
	comp=Z,5.0nm,0.5s						
HAU	**Haudompre**	**7.18**	**245** *e*Pn	**Pn**	**17 31 31.6**	**-2.3**	
HAU			*e*Sn	**Sn**	**17 32 48.7**	**-7.5**	
HAU			*e*Sg	**Sg**	**17 33 33.3**	**-4.9**	
	comp=Z,6.1nm,0.4s						
PAGF	**Fort de Pagny**	**7.27**	**251** *e*Pn	**Pn**	**17 31 33.1**	**-2.1**	
CABF	**La Chapelle**	**8.14**	**238** *e*Pn	**Pn**	**17 31 44.5**	**-2.7**	
CABF			*e*Sn	**Sn**	**17 33 12.4**	**-7.6**	
CABF			*e*Sg	**Sg**	**17 34 02.7**	**-6.4**	
	comp=Z,1.1nm,0.4s						

*ISCJB **15** 17:38:06.1±1.0, 13°.29N±0°.05×89°.22W±0°.03, h11^{km}±5^{km}, Error ellipse: s-maj=9.2km s-min=3.9km az=22.8*
*SNET **15** 17:38:06.5±1.1, 13°.35N×89°.23W, h20^{km}×9^{km}, ML3.5*
*UCR **15** 17:38:06.5±2.5, 13°.34N×89°.21W, h11^{km}±9^{km}, MD3.5, ML3.5*
*GCG **15** 17:38:09.7±0.9, 13°.26N×89°.64W, h1^{km}±24^{km}, MD3.9*

ISC 15 17:38:06.5±1.4, **13.35N**±0°.06×**89.21W**±0.03, **h12**^{km}±10^{km}, **n42**, σ0**951/57**, **15C-12D**, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.31**	**29**	⇑*i*P		**Pb**		**17 38 14.2**	**+0.1**
SNET	**Serv Nac Est T**	**0.33**	**357**	*e*P		**Pb**		**17 38 14.3**	**-0.2**
SNET				⇑*i*P		**Pb**		**17 38 14.4**	**-0.2**
SNET				*e*S		**Sb**		**17 38 19.9**	**0.0**
SNET				*e*S		**Sb**		**17 38 19.9**	**0.0**
SNET				IAML				17 38 20.9	
	comp=Z,8μm,0.2s								
SNET	**Serv Nac Est T**	**0.33**	**357**	⇑*i*P		**Pb**		**17 38 14.4**	**-0.2**
SNET				*e*S		**Sb**		**17 38 19.9**	**0.0**
SNET				IAML				17 38 20.9	
	comp=Z,8μm,0.2s								
OPAM	**Oficina de Pla**	**0.36**	**2**	⇑*i*P		**Pb**		**17 38 14.8**	**-0.1**
OPAM				IAML				17 38 22.1	
	comp=Z,5μm,0.2s								
OPAM	**Oficina de Pla**	**0.36**	**2**	⇑*i*P		**Pb**		**17 38 14.8**	**-0.1**
OPAM				IAML				17 38 22.1	
	comp=Z,5μm,0.2s								
UEES	**Universidad Ev**	**0.36**	**356**	⇑*i*P		**Pb**		**17 38 14.8**	**-0.2**
UEES				IAML				17 38 23.3	
	comp=Z,8μm,0.2s								
UEES	**Universidad Ev**	**0.36**	**356**	⇑*i*P		**Pb**		**17 38 14.8**	**-0.2**
UEES				IAML				17 38 23.3	
	comp=Z,8μm,0.2s								
BOQS	**Boqueron**	**0.39**	**350**	⇑*i*P		**Pb**		**17 38 15.3**	**-0.2**
BOQS				*e*S		**Sb**		**17 38 21.3**	**-0.2**
LFU	**La Fuente**	**0.41**	**14**	⇑*i*P		**Pb**		**17 38 15.8**	**+0.1**
LFU				*e*S		**Sb**		**17 38 21.9**	**-0.1**
LFU	**La Fuente**	**0.41**	**14**	⇑*i*P		**Pb**		**17 38 15.8**	**+0.1**
LFU				*e*S		**Sb**		**17 38 21.9**	**-0.1**
LBRS	**Las Brisas**	**0.42**	**23**	⇑*i*P		**Pb**		**17 38 16.0**	**+0.1**
CEVE	**Cerro Verde**	**0.62**	**320**	⇓*i*P		**Pg**		**17 38 18.6**	**0.0**
CEVE				*e*S		**Sb**		**17 38 28.6**	**+0.4**
CEVE	**Cerro Verde**	**0.62**	**320**	⇓*i*P		**Pg**		**17 38 18.6**	**0.0**
CEVE				*e*S		**Sb**		**17 38 28.6**	**+0.4**
ALJI	**Alcalda de J**	**0.63**	**92**	*e*P		**Pg**		**17 38 18.7**	**0.0**
ALJI				IAML				17 38 31.0	
	comp=Z,2μm,0.3s								
SBLS	**San Blas**	**0.63**	**321**	⇓*e*P		**Pg**		**17 38 18.8**	**-0.1**
SBLS	**San Blas**	**0.63**	**321**	⇓*e*P		**Pg**		**17 38 18.8**	**-0.1**
SNJE	**San Jose**	**0.64**	**323**	⇓*i*P		**Pg**		**17 38 18.9**	**-0.1**
SNJE	**San Jose**	**0.64**	**323**	⇓*i*P		**Pg**		**17 38 18.9**	**-0.1**
COEB	**Comit de Eme**	**0.68**	**78**	⇓*e*P		**Pg**		**17 38 19.7**	**-0.1**
COEB				*e*S		**Sg**		**17 38 29.5**	**+0.7**
COEB				IAML				17 38 31.6	
	comp=Z,933nm,0.1s								
RTR	**El Retiro**	**0.69**	**322**	⇓*i*P		**Pg**		**17 38 19.9**	**-0.1**
RTR	**El Retiro**	**0.69**	**322**	⇓*i*P		**Pg**		**17 38 19.9**	**-0.1**
TECA	**Tecapa**	**0.71**	**78**	⇓*e*P		**Pg**		**17 38 20.2**	**-0.1**
TECA	**Tecapa**	**0.71**	**78**	⇓*e*P		**Pg**		**17 38 20.2**	**-0.1**
VICT	**Victoria**	**0.82**	**43**	*e*P		**Pg**		**17 38 22.4**	**-0.1**
VICT				*e*S		**Sg**		**17 38 34.0**	**+0.7**
VICT	**Victoria**	**0.82**	**43**	*e*P		**Pg**		**17 38 22.4**	**-0.1**
VICT				*e*S		**Sg**		**17 38 34.0**	**+0.7**
VSM	**San Miguel**	**0.92**	**85**	*e*P		Pg		17 38 19.6	-4.7
MTO3	**Montecristo**	**1.05**	**352**	*e*P		**Pg**		**17 38 25.7**	**-1.2**
MTO3	**Montecristo**	**1.05**	**352**	*e*P		**Pg**		**17 38 25.7**	**-1.2**
FAGO	**Alcalda de S**	**1.13**	**72**	⇓*i*P		**Pb**		**17 38 26.9**	**-1.2**
LCND	**La Caada**	**1.29**	**92**	⇑*e*P		**Pn**		**17 38 29.6**	**-0.8**
LCND				IAML				17 38 52.1	
	comp=Z,2μm,0.5s								
LCND	**La Caada**	**1.29**	**92**	⇑*e*P		**Pn**		**17 38 29.6**	**-0.8**
LCND				IAML				17 38 52.1	
	comp=Z,2μm,0.5s								
CNCH	**Conchagua**	**1.34**	**93**	⇑*e*P		**Pn**		**17 38 30.7**	**-0.6**
CNCH	**Conchagua**	**1.34**	**93**	⇑*e*P		**Pn**		**17 38 30.7**	**-0.6**
IXG	**Ixpaco**	**1.45**	**304**	*e*P		**Pn**		**17 38 32.4**	**-0.3**
IXG	**Ixpaco**	**1.45**	**304**	*e*P		**Pn**		**17 38 32.4**	**-0.3**
NBG	**Las Nubes**	**1.65**	**318**	*e*P		**Pb**		**17 38 36.9**	**-0.1**
NBG				*e*S		**Sg**		**17 39 00.0**	**+0.3**
NBG	**Las Nubes**	**1.65**	**318**	*e*P		**Pb**		**17 38 36.9**	**-0.1**
NBG				*e*S		**Sg**		**17 39 00.0**	**+0.3**
FUG	**Fuego 3**	**1.92**	**305**	*e*P		**Pb**		**17 38 40.8**	**-0.8**
FUG	**Fuego 3**	**1.92**	**305**	*e*P		**Pb**		**17 38 40.8**	**-0.8**
CRIN	**San Cristobal**	**2.21**	**107**	*e*P		**Pn**		**17 38 43.0**	**-0.1**
CRIN				*e*S		**Sn**		**17 39 11.3**	**+0.9**
CNGN	**Cerro Negro**	**2.59**	**109**	*e*S		**Sn**		**17 39 21.0**	**+1.1**
CNGN				IAML				17 39 25.6	
	comp=E,64nm,0.4s								
STG3	**Santiaguito 3,**	**2.66**	**301**	*e*P		**Pn**		**17 38 50.5**	**+1.1**
STG3				*e*S		**Sn**		**17 39 21.6**	**-0.1**

*IDC **15** 17:51:33.5±1.3, 4°.87S×152°.97E, h0^{km}, mb3.5/5, mb1 3.7/5, mb1mx3.4/47, mbtmp3.5/5, MS3.1/1, Ms1 3.1/1, ms1mx2.4/17, Error ellipse: s-maj=26.3km s-min=21.9km az=73.0*
*ISCJB **15** 17:51:37.6±1.4, 4°.9S±0°.1×153°.0E±0°.1, h43^{km}, mb3.3/5, MS3.0/1, Error ellipse: s-maj=23.8km s-min=12.1km az=142.1*

ISC 15 17:51:39.2±1.3, **4°.9S**±0°.1×**152°.9E**±0°.2, **h43**^{km}, **n8**, σ0**°67**/9, **mb3.5**/5, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.05**	**302**	Pn		**Pn**		**17 51 57.3**	**-0.3**
	37nm,0.3s,baz=116,slow=3.0,SNR=118								
KRVT				Sn		**Sn**		**17 52 11.2**	**+0.1**
	73nm,0.3s,baz=54,slow=22,SNR=6.6								
WRA	**Warramunga Arr**	**23.49**	**229**	P		**P**		**17 56 45.8**	**+0.4**
	0.4nm,0.5s,baz=54,slow=10.0,SNR=8.6								
ASAR	**Alice Springs**	**26.18**	**223**	P		**P**		**17 57 11.3**	**+1.4**
	0.2nm,0.5s,baz=58,slow=8.9,SNR=6.6								
STKA	**Stephens Creek**	**28.89**	**200**	P		**P**		**17 57 33.4**	**-0.7**
	0.5nm,0.4s,baz=342,slow=13,SNR=1.3								
FITZ	**Fitzroy Crossi**	**29.73**	**242**	P		**P**		**17 57 41.5**	**-0.2**
	0.9nm,0.8s,baz=80,slow=6.1,SNR=3.7								
DAV	**Davao City (W)**	**29.75**	**293**	LR		LR		18 07 40.5	
	comp=Z,30nm,18.7s,baz=329,slow=32								
ILAR	**Eielson Array**	**82.17**	**22**	P		**P**		**18 03 55.4**	**+0.1**
	0.3nm,0.6s,baz=252,slow=5.9,SNR=6.0								
TORD	**Torodi Ar, Bea**	**150.44**	**288**	PKPbc		**PKiKP**		**18 11 28.1**	**+0.1**
	0.6nm,0.8s,baz=95,slow=4.1,SNR=3.4								
TORD				PKPab		**PKPab**		**18 11 34.0**	**+0.2**
	0.4nm,0.7s,baz=100,slow=3.8,SNR=2.9								

*IDC **15** 17:51:54.3±1.5, 39°.53N×74°.27E, h0^{km}, mb3.9/3, mb1 4.1/4, mb1mx3.4/51, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=40.3km s-min=13.9km az=99.0*
*SOME **15** 17:51:54.9, 39°.83N×73°.83E, h0^{km}*
*NNC **15** 17:51:56.9±2.3, 39°.81N×73°.93E, h0^{km}, mb3.9, mpv3.6, Error ellipse: s-maj=16.9km s-min=10.1km az=170.0*
*ISCJB **15** 17:51:59.2±0.5, 39°.60N±0°.03×74°.33E±0°.04, h10^{km}, mb3.9/3, Error ellipse: s-maj=4.9km s-min=3.9km az=38.5*
*KRNET **15** 17:52:00.1±0.1, 39°.82N×74°.31E, mb3.2*
*NEIC **15** 17:52:03.1±2.1, 39°.67N±0°.06×74°.24E±0°.07, h75^{km}±10^{km}, mb4.2/2*

ISC 15 17:51:57.6±0.7, **39°.69N**±0°.04×**74°.31E**±0°.03, **h10**^{km}, **n76**, σ2**°23**/108, **mb4.1**/5, **29C-13D**, **Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.92**	**329**	⇓*i*P		**Pb**		**17 52 33.6**	**+0.8**
	baz=27								
ARSB				⇓*i*S		**Sg**		**17 52 58.7**	**-0.6**
	baz=27								
ARSB	**Arslanbob**	**1.92**	**329**			**Pb**		**17 52 33.3**	**+0.5**
ARSB				Sn		**Sg**		**17 53 00.5**	**+1.1**
NRN	**Naryn**	**2.17**	**36**	⇓*i*P		**Pb**		**17 52 37.5**	**+0.3**
	baz=38								
NRN				⇓*i*S		**Sb**		**17 53 05.0**	**+0.8**
	baz=38								
NRN	**Naryn**	**2.17**	**36**			**Pb**		**17 52 36.5**	**-0.6**
ARLS	**Aral**	**2.17**	**0**	⇑*e*P		**Pb**		**17 52 37.6**	**+0.5**
	baz=0.0								
ARLS				⇑*i*S		**Sg**		**17 53 05.5**	**-1.8**
	baz=0.0								
AML	**Almayashu**	**2.48**	**349**	⇑*i*P		**Pb**		**17 52 42.3**	**-0.3**
	baz=49								
AML				⇑*i*S		**Sb**		**17 53 12.9**	**-0.4**
	baz=49								
AML	**Almayashu**	**2.48**	**349**	P		**Pb**		**17 52 42.8**	**+0.2**
	SNR=14								
KZA	**Kyzart**	**2.49**	**16**	⇑*i*P		**Pb**		**17 52 42.4**	**-0.3**
	baz=17								
KZA				⇑*i*S		**Sb**		**17 53 13.2**	**-0.4**
	baz=17								
KZA	**Kyzart**	**2.49**	**16**	P		**Pb**		**17 52 41.8**	**-0.9**
	SNR=42								
UCH	**Uchtor**	**2.54**	**3**	⇑*i*P		**Pb**		**17 52 43.3**	**-0.3**
	baz=4.0								
UCH				⇑*i*S		**Sb**		**17 53 14.5**	**-0.5**
	baz=4.0								
UCH	**Uchtor**	**2.54**	**3**	P		**Pb**		**17 52 42.9**	**-0.7**
	SNR=48								
BTK	**Batken**	**2.71**	**279**	⇑*i*P		**Pb**		**17 52 46.5**	**+0.3**
	baz=76								
BTK				⇑*i*S		**Sb**		**17 53 20.7**	**+1.1**
	baz=76								
BTK	**Batken**	**2.71**	**279**			**Pb**		**17 52 45.0**	**-1.3**
ARK	**Arkit**	**2.76**	**321**	⇑*i*P		**Pb**		**17 52 46.2**	**-0.9**
	baz=19								
ARK				⇑*i*S		**Sb**		**17 53 19.6**	**-1.4**
	baz=19								
ULHL	**Ulahol**	**2.94**	**29**	⇑*i*P		**Pb**		**17 52 48.8**	**-1.5**
	baz=30								
ULHL				⇑*i*S		**Sb**		**17 53 24.0**	**-2.4**
	baz=30								
ULHL	**Ulahol**	**2.94**	**29**	P		**Pb**		**17 52 51.3**	**+1.0**
	SNR=7.3								
AAK	**Ala-Archa**	**2.95**	**3**	Pn		**Pb**		**17 52 48.4**	**-1.9**
	7.9nm,0.3s,baz=167,slow=12,SNR=82								
AAK				Pg		**Pg**		**17 52 51.6**	**-2.5**
	7.9nm,0.3s,baz=155,slow=12,SNR=62								
AAK				Sn		**Sb**		**17 53 27.6**	**+1.1**
	3.2nm,0.3s,baz=286,slow=21,SNR=10								
AAK				Lg		Lg		17 53 31.0	
	3.1nm,0.3s,baz=295,slow=22,SNR=3.5								
AAK	**Ala-Archa**	**2.95**	**3**	⇑*i*P		**Pb**		**17 52 48.7**	**-1.7**
	baz=3.0								
AAK				⇑*i*S		**Sb**		**17 53 23.8**	**-2.7**
	baz=3.0								
AAK	**Ala-Archa**	**2.95**	**3**	P		**Pb**		**17 52 51.8**	**+1.4**
	SNR=13								
AAK	**Ala-Archa**	**2.95**	**3**			**Pb**		**17 52 48.6**	**-1.7**
AAK	**Ala-Archa**	**2.95**	**3**	⇑Pg		**Pb**		**17 52 50.5**	**+0.1**
	16nm,0.4s								
AAK				⇓Lg		Lg		17 53 28.5	
	14nm,0.7s								
EKS2	**Erkin-Say**	**3.00**	**353**	⇓*i*P		**Pb**		**17 52 49.2**	**-1.9**
	baz=52								
EKS2				⇓*i*S		**Sb**		**17 53 24.9**	**-2.9**
	baz=52								
EKS2	**Erkin-Say**	**3.00**	**353**	P		**Pb**		**17 52 50.7**	**-0.4**
	SNR=9.9								
KBK	**Karagaybulak**	**3.00**	**9**	P		**Pb**		**17 52 49.5**	**-1.8**
	SNR=15								
BOOM	**Boomskoye usch**	**3.06**	**23**	⇓*i*P		**Pb**		**17 52 49.7**	**-2.5**
	baz=24								
BOOM				⇓*i*S		**Sb**		**17 53 26.4**	**-3.3**
	baz=24								
BOOM	**Boomskoye usch**	**3.06**	**23**			**Pn**		**17 52 49.4**	**+3.1**
MRKS	**Merke**	**3.16**	**345**	*e*P		**Pb**		**17 52 51.3**	**-2.6**
	1.4nm,0.2s								
MRKS				*e*S		**Sb**		**17 53 32.2**	**-0.3**
	18nm,0.6s								
MRKS	**Merke**	**3.16**	**345**	Pg		**Pb**		**17 52 51.3**	**-2.6**
	9.5nm,0.3s								
MRKS				Lg		Lg		17 53 32.7	
	13nm,0.4s								
GAR	**Garm**	**3.17**	**259**			**Pn**		**17 52 50.5**	**+2.9**
KDJ	**Kajisay**	**3.27**	**41**	⇑*i*P		**Pb**		**17 52 53.3**	**-2.5**
	baz=42								
KDJ				⇑*i*S		**Sn**		**17 53 32.2**	**+4.1**
	baz=42								
KDJ	**Kajisay**	**3.27**	**41**			**Pb**		**17 52 53.8**	**-2.1**
CHMS	**Chumysh**	**3.32**	**6**	⇓*i*P		**Pb**		**17 52 53.7**	**-3.0**
	baz=6.0								
CHMS				⇓*i*S		**Sn**		**17 53 32.5**	**+3.2**
	baz=6.0								
TARG	**Taragay, Kyrgy**	**3.35**	**51**	⇑*i*P		**Pb**		**17 52 55.7**	**-1.7**
	baz=53								
TARG				⇑*i*S		**Sn**		**17 53 34.8**	**+4.3**
	baz=53								
TARG	**Taragay, Kyrgy**	**3.35**	**51**			**Pb**		**17 52 56.9**	**-0.4**
TKM2	**Tokmak 2**	**3.37**	**16**	⇑*i*P		**Pn**		**17 52 54.2**	**+3.7**
	baz=17								
TKM2				⇑*i*S		**Sn**		**17 53 34.1**	**+3.4**
	baz=17								
TKM2	**Tokmak 2**	**3.37**	**16**	P		**Pb**		**17 52 55.5**	**-2.1**
	SNR=5.9								
TKM2	**Tokmak 2**	**3.37**	**16**	⇓Pg		**Pb**		**17 52 58.6**	**+1.0**
	4.0nm,0.4s								
TKM2				⇑Lg		Lg		17 53 36.4	
	8.8nm,0.6s								
KST	**Kastek**	**3.57**	**20**	*e*P		**Pb**		**17 53 03.3**	**+2.2**
	17nm,0.5s								
KST				*e*S		**Sg**		**17 53 52.2**	**-0.2**
	19nm,0.7s								
KST	**Kastek**	**3.57**	**20**	Pg		**Pb**		**17 53 02.6**	**+1.6**
	15nm,0.4s								
KST				Lg		Lg		17 53 52.0	
	16nm,0.7s								
USP	**Ospenovka**	**3.58**	**2**	⇑*i*P		**Pn**		**17 52 57.3**	**+4.1**
	baz=2.0								
USP				⇑*i*S		**Sn**		**17 53 38.5**	**+3.0**
	baz=2.0								
USP	**Ospenovka**	**3.58**	**2**	P		**Pb**		**17 53 02.7**	**+1.7**
	SNR=8.7								
DGS	**Degeres**	**3.71**	**17**	*e*P		**Pb**		**17 53 05.5**	**+2.1**
	10.0nm,0.4s								
DGS				*e*S		**Sg**		**17 53 56.7**	**-0.3**
	11nm,0.7s								
DGS	**Degeres**	**3.71**	**17**	Pg		**Pb**		**17 53 05.5**	**+2.1**
	10.0nm,0.4s								
DGS				Lg		Lg		17 53 56.7	
	11nm,0.7s								
IZV	**Izvestkoviy**	**3.77**	**27**	*e*P		**Pb**		**17 53 06.6**	**+2.3**
	18nm,0.5s								
IZV				*e*S		**Sg**		**17 53 58.2**	**-0.4**
	14nm,0.8s								
IZV	**Izvestkoviy**	**3.77**	**27**	Pg		**Pb**		**17 53 06.6**	**+2.3**
	17nm,0.4s								
IZV				Lg		Lg		17 53 58.2	
	14nm,0.6s								
TNSS	**Tian-Shan**	**3.89**	**30**	*e*P		**Pb**		**17 53 08.9**	**+2.4**
	7.6nm,0.6s								
TNSS				*e*S		**Sg**		**17 54 02.3**	**-0.3**
	7.9nm,0.7s								
TNSS	**Tian-Shan**	**3.89**	**30**	Pg		**Pb**		**17 53 08.9**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi**	**0.08**	**183**	⇑*eP*	Pg	17 58 10.8	+0.6
	baz=183						
ETLH				*eS*	Sg	17 58 12.1	+0.4
	baz=183						
NACB	**Ninganchiao**	**0.15**	**140**	*eP*	Pg	17 58 12.1	+0.7
	baz=140						
NACB				*i* S	Sg	17 58 14.4	+0.9
	baz=140						
NNSH	**Datong**	**0.17**	**325**	*i* P	Pg	17 58 12.2	+0.6
	baz=323						
NNSH				S	Sg	17 58 14.7	+0.7
	baz=323						
NNS	**Nan Shan**	**0.18**	**325**	⇑*i*P	Pg	17 58 12.5	+0.6
	baz=326						
NNS				S	Sg	17 58 15.2	+0.8
	baz=326						
TWD	**Chiawan**	**0.23**	**155**	*eP*	Pg	17 58 13.5	+0.7
	baz=153						
TWD				*eS*	Sg	17 58 16.9	+1.0
	baz=153						
WHF	**Hehuan Shan**	**0.25**	**234**	⇑*i*P	Pg	17 58 13.8	+0.5
	baz=233						
WHF				*eS*	Sg	17 58 17.6	+0.9
	baz=233						
ENA	**Nanau**	**0.27**	**59**	⇑*i*P	Pg	17 58 13.9	+0.4
	baz=62						
NANB	**Nanao**	**0.28**	**60**	⇑P	Pg	17 58 13.9	+0.2
	baz=61						
TWT	**Tachien**	**0.29**	**263**	*eP*	Pb	17 58 15.1	-0.7
	baz=252						
TWT				*eS*	Sg	17 58 18.8	+1.1
	baz=252						
TDCB	**Techi**	**0.30**	**263**	*eP*	Pg	17 58 15.1	+0.9
	baz=253						
TDCB				S	Sg	17 58 18.9	+0.7
	baz=253						
NDT	**Datong Townshi**	**0.31**	**4**	P	Pg	17 58 15.1	+0.8
	baz=4.0						
NDT				*eS*	Sg	17 58 19.1	+0.6
	baz=4.0						
ENTT	**Nioudou**	**0.35**	**12**	⇑*i*P	Pg	17 58 15.9	+0.7
	baz=5.0						
ENTT				*eS*	Sg	17 58 20.7	+0.8
	baz=5.0						
CHGB	**Renai**	**0.37**	**231**	*eP*	Pg	17 58 16.0	+0.5
	baz=231						
YHNB	**Yeheng**	**0.39**	**345**	*eP*	Pb	17 58 16.9	-0.7
	baz=344						
YHNB				*eS*	Sg	17 58 22.1	+1.1
	baz=344						
NSK	**Sanguang**	**0.40**	**343**	⇑P	Pb	17 58 17.0	-0.7
	baz=343						
NSK				*eS*	Sg	17 58 22.5	+1.2
	baz=343						
OWD	**Renai**	**0.44**	**220**	*eP*	Pg	17 58 17.3	+0.6
	baz=220						
TWC	**Suao**	**0.46**	**46**	⇑*i*P	Pg	17 58 17.4	+0.3
	baz=38						
TWC				S	Sg	17 58 23.7	+0.6
	baz=38						
TWE	**Neicheng**	**0.46**	**21**	⇑*i*P	Pg	17 58 17.9	+0.8
	baz=35						
TWE				*eS*	Sb	17 58 25.0	-0.8
	baz=35						
ESL	**Shilin**	**0.48**	**186**	P	Pg	17 58 17.8	+0.4
	baz=173						
NWLT	**Wulai**	**0.48**	**2**	P	Pb	17 58 18.4	-0.7
	baz=355						
NWLT				*eS*	Sg	17 58 24.3	+0.4
	baz=355						
WHP	**Taichung City**	**0.49**	**269**	*eP*	Pb	17 58 19.0	-0.3
	baz=268						
WHP				S	Sg	17 58 25.5	+1.3
	baz=268						
LIOB	**Emei**	**0.56**	**310**	*eP*	Pb	17 58 20.6	+0.3
	baz=309						
LIOB				*eS*	Sb	17 58 28.5	-0.1
	baz=309						
NSTT	**Nanjuang**	**0.56**	**307**	*eP*	Pb	17 58 20.5	+0.1
	baz=309						
DPDB	**Guoxing**	**0.57**	**244**	P	Pb	17 58 20.4	-0.2
	baz=243						
WLTB	**Daxi**	**0.60**	**339**	*eP*	Pb	17 58 21.6	+0.5
	baz=350						
VWDT	**VWDT**	**0.62**	**211**	*eP*	Pg	17 58 20.5	+0.3
	baz=216						
EGFH	**Guangfu**	**0.62**	**185**	*eP*	Pg	17 58 20.5	+0.3
	baz=177						
EOS1	**EOS1**	**0.64**	**66**	*eP*	Pb	17 58 21.3	-0.4
	baz=67						
TWQ1	**Liyutan**	**0.65**	**275**	*eP*	Pn	17 58 23.8	-0.3
	baz=275						
TWQ1				*eS*	Sb	17 58 31.5	+0.1
	baz=275						
NHDH	**Xindian Distri**	**0.67**	**3**	*eP*	Pb	17 58 22.2	-0.1
	baz=4.0						
SMLT	**Sun Moon Lake**	**0.67**	**233**	P	Pb	17 58 22.0	-0.4
	baz=232						
SMLT				*eS*	Sb	17 58 31.8	-0.2
	baz=232						
SMLT	**Sun Moon Lake**	**0.67**	**233**	P	Pb	17 58 22.1	-0.3
	baz=30						
TATO	**Taipei**	**0.68**	**0**	*eP*	Pb	17 58 22.4	-0.1
	baz=1.0						
TYC	**Yuchr**	**0.69**	**236**	P	Pb	17 58 22.2	-0.5
	baz=236						
TYC	**Yuchr**	**0.69**	**236**	P	Pb	17 58 22.2	-0.5
	baz=23						
SSLB	**Suanglung**	**0.70**	**224**	*eP*	Pg	17 58 21.4	-0.3
	baz=235						
SSLB	**Suanglung**	**0.70**	**224**	P	Pg	17 58 21.4	-0.2
	baz=46						
NCU	**National Centr**	**0.73**	**338**	*eP*	Pg	17 58 21.7	-0.6
	baz=339						
TIPB	**Shuangxi**	**0.74**	**24**	*eP*	Pg	17 58 23.0	+0.4
	baz=11						
EHY	**Hungye**	**0.80**	**191**	*eP*	Pb	17 58 24.0	-0.4
	baz=183						
HGSD	**Ruisui**	**0.80**	**184**	P	Pg	17 58 23.8	+0.3
	baz=192						
WJS	**Zhushan**	**0.84**	**236**	*eP*	Pg	17 58 24.4	+0.1
	baz=228						
WJS	**Zhushan**	**0.84**	**236**	*eS*	Pg	17 58 24.4	+0.1
	baz=1.0						
WNT	**Mingjian**	**0.84**	**241**	*eP*	Pn	17 58 26.1	-0.4
	baz=240						
WNT	**Mingjian**	**0.84**	**241**	S	Sg	17 58 26.5	-8.8
	baz=354						
YM10	**YM10**	**0.86**	**4**	*eP*	Pb	17 58 26.2	+0.5
	baz=5.0						
YM05	**YM05**	**0.87**	**5**	*eP*	Pn	17 58 26.5	-0.6
	baz=5.0						
YULB	**Yu-li**	**0.91**	**191**	P	Pg	17 58 26.0	+0.3
	baz=185						
YULB				*eS*	Sb	17 58 39.3	+0.5
	baz=185						
TWF1	**Yuli**	**0.95**	**191**	*eP*	Pb	17 58 27.1	0.0
	baz=177						
CHN5	**Tsauling**	**1.01**	**227**	*eP*	Pn	17 58 29.0	0.0
	baz=227						
FULB	**Fuli**	**1.10**	**189**	P	Pg	17 58 29.3	-0.1
	baz=189						
ELDTW	**Lidau**	**1.18**	**202**	*eP*	Pg	17 58 30.9	0.0
	baz=192						
CHN4	**Tsaushan**	**1.24**	**221**	*eP*	Pn	17 58 33.1	+1.0
	baz=222						
TPUB	**Ta-pu**	**1.26**	**219**	*eP*	Pg	17 58 33.1	+0.7
	baz=219						
WTP	**Ta-pu**	**1.31**	**218**	*eP*	Pg	17 58 33.9	+0.5
	baz=218						
CHN1	**Nanshi**	**1.41**	**219**	*eP*	Pb	17 58 36.2	+0.9
	baz=219						

TAP 15 17:58:15.5, 23.59N×120.72E, h13km±1km, ML1.4, 1C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN5	**Tsauling**	**0.04**	**284**	⇑*i*P	Pg	17 58 17.3	-0.6
	baz=283						
CHN5				S	Sg	17 58 19.4	-0.3
	baz=283						
WHYT	**Xinyi Township**	**0.16**	**48**	P	Pg	17 58 19.0	-0.3
	baz=48						
WHYT				S	Sg	17 58 22.4	+0.3
	baz=48						
WGK	**Gukeng**	**0.18**	**304**	P	Pg	17 58 19.2	-0.3
	baz=304						
WGK				*eS*	Sg	17 58 22.9	+0.6
	baz=304						
WDLH	**Douliu**	**0.20**	**301**	*eP*	Pg	17 58 19.4	-0.5
	baz=300						
WDLH				*eS*	Sg	17 58 23.2	+0.4
	baz=300						
YUS	**Yu-Shan**	**0.23**	**115**	*eP*	Pg	17 58 21.1	+0.4
	baz=116						
WJS	**Zhushan**	**0.23**	**2**	*eP*	Pg	17 58 20.5	0.0
	baz=1.0						
CHN4	**Tsaushan**	**0.26**	**207**	*eP*	Pg	17 58 21.0	+0.1
	baz=206						
CHN4				*eS*	Sb	17 58 25.9	-0.7
	baz=206						
SSLB	**Suanglung**	**0.29**	**47**	*eS*	Sg	17 58 26.3	+0.7
	baz=46						
WNT	**Mingjian**	**0.29**	**353**	*eP*	Pg	17 58 21.3	-0.2
	baz=354						
TPUB	**Ta-pu**	**0.30**	**196**	*eP*	Pg	17 58 21.3	-0.3
	baz=196						
TPUB				*eS*	Sg	17 58 26.3	+0.6
	baz=196						
WTP	**Ta-pu**	**0.35**	**196**	*eP*	Pg	17 58 22.3	-0.3
	baz=194						
WTP				*eS*	Sb	17 58 28.5	-0.7
	baz=194						
TWK	**Hsinying**	**0.38**	**214**	*eP*	Pg	17 58 23.0	-0.2
	baz=212						
TWK				*eS*	Sg	17 58 29.1	+0.7
	baz=212						
SNST	**Tainan City**	**0.42**	**209**	*eP*	Pg	17 58 23.5	-0.3
	baz=209						
SNST				*eS*	Sb	17 58 30.5	-0.6
	baz=209						
CHN1	**Nanshi**	**0.44**	**204**	P	Pg	17 58 23.9	-0.3
	baz=203						
CHN1				*eS*	Sb	17 58 31.1	-0.5
	baz=203						
ELDTW	**Lidau**	**0.48**	**145**	*eP*	Pg	17 58 25.0	0.0
	baz=145						

IDC 15 18:11:35.6±2.2, 7.05S×128.99E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.3/37, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=119.2km s-min=33.2km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.83**	**158**	P	Pn	18 14 52.1	-0.9
	0.5nm,0.3s,baz=337,slow=13,SNR=29						
WRA				S	Sn	18 17 12.8	-15
	0.7nm,0.3s,baz=341,slow=22,SNR=13						
ASAR	**Alice Springs**	**17.18**	**165**	P	Pn	18 15 38.0	+0.7
	0.3nm,0.3s,baz=339,slow=8.5,SNR=29						
ASAR				S	Sn	18 18 38.6	-11
	0.2nm,0.3s,baz=331,slow=18,SNR=6.1						
MKAR	**Makanchi Array**	**67.72**	**327**	P	P	18 22 35.0	0.0
	0.2nm,0.3s,baz=120,slow=6.9,SNR=1.8						

*BJI **15** 18:11:45.0±0.0, 49.40N×127.70W, h5km, mb4.7/30, mB5.1/6, Ms4.9/4, Ms7 4.7/2*
*IDC **15** 18:11:46.5±0.5, 49.19N×127.97W, h0km, mb4.3/27, mb1 4.4/38, mb1mx4.3/65, mbtmp4.3/38, ML4.3/10, MS4.0/30, Ms1 4.0/30, ms1mx3.9/47, Error ellipse: s-maj=12.7km s-min=6.7km az=54.0*
*ISCJB **15** 18:11:47.9±0.5, 49.30N±0.01×127.70W±0.02, h11km±3km, mb4.3/32, MS4.0/22, Error ellipse: s-maj=3.0km s-min=1.8km az=143.4*
*NEIC **15** 18:11:47.5±2.9, 49.26N±0.04×127.81W±0.06, h5km±1km, mb4.7/57, Mwr4.6(OTT), Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=0.09; Mθθ=0.93; Mφφ=0.99; Mrθ=0.13; Mrφ=0.42; Mθφ=0.39; Fault plane solution: M0 1.10000×10^16 NP1:φs=326.00000°, δ76.00000°, λ170.00000°. NP2:φs=58.00000°, δ80.00000°, λ15.00000°. Principal axes: T 1.2135, Plg17.0000°, Azm282.0000°; N -0.2036, Plg72.0000°, Azm92.0000°; P -1.0098, Plg3.0000°, Azm191.0000°;*
*PGC **15** 18:11:47.1±0.3, 49.13N×127.99W, h10km, MLSn4.1/40, Mw4.6, 149km Wsw of Gold R., Bc Vancouver Island, Canada Region*
*PMR **15** 18:11:51±3.5, 49.349N±0.010×127.36W±0.07, h2km±4km*
*GCMT **15** 18:11:52.5±0.2, 49.13N±0.02×127.93W±0.02, h23km±1km, MW4.9/108, Moment Tensor Solution. s30,c33; s108,c154; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.10±.15; Mθθ-2.35±.11; Mφφ2.45±.11; Mrθ-0.42±.17; Mφθ1.98±.10; Mφr-0.15±.15; Best double couple: M0 3.14400×10^16 NP1:φs=65.00000°, δ89.00000°, λ-8.00000°. NP2:φs=155.00000°, δ82.00000°, λ-179.00000°. Principal axes: T 3.1860, Plg5.0000°, Azm110.0000°; N -0.0810, Plg82.0000°, Azm237.0000°; P -3.1010, Plg7.0000°, Azm19.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 18:11:47.7±0.8, 49.25N±0.02×127.79W±0.02, h4km±4km, n470, σ1°76/509, mb4.5/38, MS4.0/22, 14C, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**0.76**	**35**	P	Pb	18 12 03.8	+0.3
EDB				S	Sb	18 12 15.0	+0.9
ETB	**Estevan Point**	**0.82**	**81**	P	Pb	18 12 05.0	+0.5
NC89	**ODP889**	**0.85**	**133**	P	Pg	18 12 03.6	-0.4
NC89				S	Sg	18 12 13.1	-1.8
NC89	**ODP889**	**0.85**	**133**	Pg	Pg	18 12 03.6	-0.4
NC89				Sg	Sg	18 12 13.1	-1.8
BPBC	**Brooks Peninsu**	**0.91**	**1**	P	Pb	18 12 05.4	-0.6
BPBC				S	Sg	18 12 17.1	+0.2
BPBC	**Brooks Peninsu**	**0.91**	**1**	Pg	Pb	18 12 05.4	-0.6
BPBC				Sg	Sg	18 12 17.1	+0.2
PACB	**Port Alice, BC**	**1.20**	**9**	Pn	Pg	18 12 09.8	-0.9
PACB				Sn	Sg	18 12 25.6	-0.7
PACB	**Port Alice, BC**	**1.20**	**9**	Pn	Pg	18 12 09.8	-0.9
PACB				Sn	Sg	18 12 25.6	-0.7
WOSB	**Woss**	**1.20**	**40**	Sn	Sg	18 12 26.1	-0.3
WOSB	**Woss**	**1.20**	**40**	Sn	Sg	18 12 26.1	-0.3
MAYB	**Maynard**	**1.22**	**19**	Pn	Pg	18 12 10.7	-0.4
MAYB	**Maynard**	**1.22**	**19**	Pn	Pg	18 12 10.7	-0.4
TOFB	**Tofino**	**1.23**	**94**	Pn	Pg	18 12 10.0	-1.4
TOFB				Sn	Sg	18 12 26.0	-1.4
TOFB	**Tofino**	**1.23**	**94**	Pn	Pg	18 12 10.0	-1.4
TOFB				Sn	Sg	18 12 26.0	-1.4
NCBC	**Barkley Canyon**	**1.34**	**127**	Pn	Pg	18 12 10.5	-3.0
NCBC				Sn	Sg	18 12 27.8	-3.1
NCBC	**Barkley Canyon**	**1.34**	**127**	Pn	Pg	18 12 10.5	-3.0
NCBC				Sn	Sg	18 12 27.8	-3.1
HOLB	**Holberg**	**1.41**	**351**	Pn	Pn	18 12 12.1	-2.1
HOLB				Sn	Sg	18 12 29.2	-3.8
HOLB	**Holberg**	**1.41**	**351**	Pn	Pn	18 12 12.1	-2.1
HOLB				Sn	Sg	18 12 29.2	-3.8
TLCB	**Telegraph Cove**	**1.44**	**25**	Pn	Pn	18 12 14.1	-0.3
TLCB				Sn	Sg	18 12 33.0	-0.9
TLCB	**Telegraph Cove**	**1.44**	**25**	Pn	Pn	18 12 14.1	-0.3
TLCB				Sn	Sg	18 12 33.0	-0.9
PHC	**Port Hardy**	**1.48**	**9**	Pn	Pn	18 12 13.9	-1.1
PHC				Sn	Sg	18 12 33.2	-1.9
NC27	**ODP1027**	**1.49**	**179**	Pn	Pn	18 12 09.3	-5.5
NC27	**ODP1027**	**1.49**	**179**		Pn	18 12 09.3	-5.5
BTB	**Buttle Lake**	**1.50**	**81**	Pn	Pn	18 12 14.6	-0.9
BTB				Sn	Sg	18 12 34.0	-1.7
B012	**Ucluelet**	**1.51**	**102**	Pn	Pn	18 12 13.6	-1.9
B012				Sn	Sn	18 12 31.9	-3.6
B012	**Ucluelet**	**1.51**	**102**	Pn	Pn	18 12 13.6	-1.9
B012				Sn	Sn	18 12 31.9	-3.6
SPLB	**Strathcona Par**	**1.53**	**64**	Pn	Pn	18 12 15.6	-0.2
SPLB				Sn	Sn	18 12 35.5	-0.6
SPLB	**Strathcona Par**	**1.53**	**64**	Pn	Pn	18 12 15.6	-0.2
SPLB				Sn	Sn	18 12 35.5	-0.6
OZB	**Mount Ozzard**	**1.53**	**100**	Pn	Pn	18 12 13.9	-2.0
OZB				Sn	Sn	18 12 32.6	-3.6
KEMF	**NEPTUNE Canada**	**1.57**	**214**	Pn	Pn	18 12 09.5	-6.5
KEMF	**NEPTUNE Canada**	**1.57**	**214**		Pn	18 12 09.5	-6.5
NCRB	**Newcastle Ridg**	**1.61**	**43**	Sn	Sn	18 12 38.4	+0.2
NCRB	**Newcastle Ridg**	**1.61**	**43**	Sn	Sn	18 12 38.4	+0.2
CBB	**Campbell River**	**1.76**	**63**	Pn	Pn	18 12 18.8	-0.1
CBB				Sn	Sn	18 12 41.4	-0.3
BFSB	**Bamfield**	**1.79**	**102**	Pn	Pn	18 12 17.5	-1.9
BFSB				Sn	Sn	18 12 39.0	-3.5
B928	**Bamfield**	**1.79**	**102**	Pn	Pn	18 12 17.4	-1.9
B928				Sn	Sn	18 12 39.1	-3.4
B928	**Bamfield**	**1.79**	**102**	Pn	Pn	18 12 17.4	-1.9
B928				Sn	Sn	18 12 39.1	-3.4
B927	**Port Alberni**	**1.95**	**90**	Pn	Pn	18 12 20.4	-1.1
B927				Sn	Sn	18 12 44.9	-1.4
B927	**Port Alberni**	**1.95**	**90**	Pn	Pn	18 12 20.4	-1.1
B927				Sn	Sn	18 12 44.9	-1.4
MGB	**Mount Grey**	**2.05**	**96**	Pn	Pn	18 12 21.2	-1.8
MGB				Sn	Sn	18 12 46.3	-2.8
TXB	**Texada**	**2.23**	**77**	Pn	Pn	18 12 25.2	-0.3
TXB				Sn	Sn	18 12 52.6	-0.8
OCP	**Olym-Cheeka Pk**	**2.30**	**113**	Pn	Pn	18 12 24.7	-1.7
OCP				Sn	Sn	18 12 51.5	-3.5
PFB	**Port Renfrew**	**2.31**	**106**	Pn	Pn	18 12 24.4	-2.1
PFB				Sn	Sn	18 12 51.2	-4.1
GHNB	**Nanoose**	**2.32**	**87**	Pn	Pn	18 12 26.3	-0.4
GHNB				Sn	Sn	18 12 55.4	-0.2
GHNB	**Nanoose**	**2.32**	**87**	Pn	Pn	18 12 26.3	-0.4
GHNB				Sn	Sn	18 12 55.4	-0.2
YOUB	**Youbou, Lake C**	**2.34**	**97**	Pn	Pn	18 12 25.5	-1.5
YOUB				Sn	Sn	18 12 53.5	-2.7
YOUB	**Youbou, Lake C**	**2.34**	**97**	Pn	Pn	18 12 25.5	-1.5
YOUB				Sn	Sn	18 12 53.5	-2.7
B926	**Mesachie Lake**	**2.44**	**99**	Pn	Pn	18 12 26.9	-1.4
B926	**Mesachie Lake**	**2.44**	**99**	Pn	Pn	18 12 26.9	-1.4
NLLB	**Nanaimo Lost L**	**2.49**	**89**	Pn	Pn	18 12 28.7	-0.2
NLLB				Sn	Sn	18 12 59.2	-0.5
NLLB	**Nanaimo Lost L**	**2.49**	**89**	Pn	Pn	18 12 28.7	-0.2
NLLB				Sn	Sn	18 12 59.2	-0.5
SHB	**Sechelt**	**2.58**	**81**	Pn	Pn	18 12 29.8	-0.4
SHB				Sn	Sn	18 13 01.3	-0.7
LZB	**Mount Lazard**	**2.69**	**102**	Pn	Pn	18 12 30.3	-1.5
LZB				Sn	Sn	18 13 01.5	-3.3
BPCB	**Bare Point**	**2.70**	**95**	Pn	Pn	18 12 31.4	-0.5
BPCB				Sn	Sn	18 13 02.7	-2.2
BPCB	**Bare Point**	**2.70**	**95**	Pn	Pn	18 12 31.4	-0.5
BPCB				Sn	Sn	18 13 02.7	-2.2
OBC	**Olympics--Boni**	**2.74**	**115**	Pn	Pn	18 12 31.2	-1.3
GOBB	**Galiano Island**	**2.83**	**95**	Pn	Pn	18 12 33.9	+0.3
GOBB	**Galiano Island**	**2.83**	**95**	Pn	Pn	18 12 33.9	+0.3
SOKB	**Sooke**	**2.85**	**106**	Pn	Pn	18 12 31.8	-2.1
SOKB				Sn	Sn	18 13 04.5	-4.1
SOKB	**Sooke**	**2.85**	**106**	Pn	Pn	18 12 31.8	-2.1
SOKB				Sn	Sn	18 13 04.5	-4.1
B009	**North Saanich**	**2.92**	**100**	Pn	Pn	18 12 33.9	-1.0
B009	**North Saanich**	**2.92**	**100**	Pn	Pn	18 12 33.9	-1.0
B010	**North Saanich**	**2.92**	**100**	Pn	Pn	18 12 33.7	-1.2
B010	**North Saanich**	**2.92**	**100**	Pn	Pn	18 12 33.7	-1.2
PGC	**Sidney**	**2.92**	**100**	Pn	Pn	18 12 33.8	-1.1
PGC	**Sidney**	**2.92**	**100**	Pn	Pn	18 12 34.2	-0.6
PA12	**PA12 Sannich**	**2.92**	**100**	Pn	Pn	18 12 33.8	-1.1
PA12	**PA12 Sannich**	**2.92**	**100**	Pn	Pn	18 12 33.8	-1.1
B011	**North Saanich**	**2.92**	**100**	Pn	Pn	18 12 33.9	-1.0
B011	**North Saanich**	**2.92**	**100**	Pn	Pn	18 12 33.9	-1.0
BIB	**Bowen Island**	**2.93**	**85**	Pn	Pn	18 12 34.7	-0.4
BIB				Sn	Sn	18 13 10.0	-0.6
BBB	**Bella Bella**	**2.94**	**356**	Pn	Pn	18 12 34.5	-0.7
	198nm,0.3s,baz=200,slow=11,SNR=522						
BBB				Sn	Sn	18 13 08.3	-2.7
	472nm,0.3s,baz=285,slow=21,SNR=33						
BBB				LR	LR	18 13 53.0	
	comp=Z,2μm,19.1s,baz=154,slow=42						
BBB	**Bella Bella**	**2.94**	**356**	Pn	Pn	18 12 34.2	-1.0
BBB				Sn	Sn	18 13 08.2	-2.7
WPB	**Watts Point**	**3.01**	**81**	Pn	Pn	18 12 36.3	+0.2
VGZ	**Gonzales**	**3.06**	**104**	Pn	Pn	18 12 35.2	-1.6
VGZ				Sn	Sn	18 13 10.2	-3.7
SNB	**Saturna Island**	**3.07**	**97**	Pn	Pn	18 12 36.9	-0.1
SNB				Sn	Sn	18 13 12.7	-1.5
BCBC	**Bella Coola**	**3.19**	**11**	Pn	Pn	18 12 39.1	+0.5
BCBC	**Bella Coola**	**3.19**	**11**	Pn	Pn	18 12 39.1	+0.5
NLWA	**Neilton Lookou**	**3.21**	**124**		Pn	18 12 37.2	-1.6
MCW	**Mount Constitu**	**3.31**	**98**	Pn	Pn	18 12 40.5	+0.1
A04D	**Lummi Island**	**3.39**	**97**	P	Pn	18 12 42.0	+0.7
	baz=279,SNR=7.6						
A04D				S	Sn	18 13 22.6	+0.7
	baz=279						
HNBB	**Haney**	**3.41**	**87**	Pn	Pn	18 12 41.7	0.0
HNBB				Sn	Sn	18 13 20.6	-1.9
BLN	**Blyn Mountain**	**3.43**	**109**	Pn	Pn	18 12 41.0	-0.9
WISH	**Wishkah**	**3.43**	**127**	Pn	Pn	18 12 40.9	-1.0
WISH				Sn	Sn	18 13 18.1	-4.8
WISH	**Wishkah**	**3.43**	**127**	Pn	Pn	18 12 40.9	-1.0
WISH				Sn	Sn	18 13 18.1	-4.8
HDW	**Hoodsport**	**3.53**	**115**	Pn	Pn	18 12 42.2	-1.2
D03D	**Eldon**	**3.57**	**117**	P	Pn	18 12 43.0	-0.8
	baz=298,SNR=309						
D03D				S	Sn	18 13 23.4	-3.0
	baz=298						
GNW	**Green Mountain**	**3.71**	**115**	Pn	Pn	18 12 44.6	-1.1
VDB	**Vedder Mountai**	**3.74**	**91**	Pn	Pn	18 12 46.4	+0.3
CMW	**Cultus Mountai**	**3.83**	**100**	Pn	Pn	18 12 48.1	+0.6
B05A	**Bryant**	**3.89**	**103**	P	Pn	18 12 47.6	-0.6
	baz=285,SNR=39						
B05A				S	Sn	18 13 32.6	-1.7
	baz=285						
MBW	**Mount Baker**	**3.90**	**95**	Pn	Pn	18 12 49.2	+0.7
D04E	**Lakebay**	**3.94**	**120**	P	Pn	18 12 49.9	+1.0
	baz=301						
JCW	**Jim Creek**	**4.02**	**103**	Pn	Pn	18 12 50.0	-0.1
LLLB	**Lillooet**	**4.05**	**68**	Pn	Pn	18 12 51.0	+0.5
LLLB				Sn	Sn	18 13 37.2	-1.0
LLLB	**Lillooet**	**4.05**	**68**		Pn	18 12 52.1	+1.7
HG3B	**Hotspring**	**4.05**	**327**	Sn	Sn	18 13 33.7	-4.6
HG3B	**Hotspring**	**4.05**	**327**	Sn	Sn	18 13 33.7	-4.6
HOPB	**Hope**	**4.17**	**86**	Pn	Pn	18 12 51.8	-0.2
HOPB				Sn	Sn	18 13 40.5	-0.6
HOPB	**Hope**	**4.17**	**86**	Pn	Pn	18 12 51.8	-0.2
HOPB				Sn	Sn	18 13 40.5	-0.6
B06A	**Marblemount**	**4.22**	**98**	Pn	Pn	18 12 53.2	+0.4
B06A				Sn	Sn	18 13 41.2	-1.3
B06A	**Marblemount**	**4.22**	**98**		Pn	18 12 53.4	+0.7
UBRB	**Upper Baezaeko**	**4.33**	**31**	Pn	Pn	18 12 55.5	+1.1
UBRB	**Upper Baezaeko**	**4.33**	**31**	Pn	Pn	18 12 55.5	+1.1
C05A	**Tolt Reservoir**	**4.34**	**109**	Pn	Pn	18 12 54.8	+0.3
C05A				Sn	Sn	18 13 42.0	-3.5
C05A	**Tolt Reservoir**	**4.34**	**109**	Pn	Pn	18 12 54.8	+0.3
C05A			

B08A Colville Reser 5.66 96 Pn **Pn** **18 13 12.7 +0.2**
H04D Lebanon 5.86 142 P **Pn** **18 13 16.9 +1.7**
baz=324,SNR=53
H04D S **Sn** **18 14 19.9 -2.9**
baz=324
G05D Wamic, OR 5.96 130 P **Pn** **18 13 18.3 +1.7**
baz=313,SNR=18
H04A Detroit Lake 5.96 138 **Pn** **18 13 17.4 +0.7**
E07A Sunnyside 5.97 114 **Pn** **18 13 17.0 +0.1**
BLBC Blue River 6.11 60 Pn **Pn** **18 13 20.7 +1.8**
BLBC Blue River 6.11 60 Pn **Pn** **18 13 20.7 +1.8**
HAWA Hanford 6.25 114 **Pn** **18 13 21.1 +0.5**
F07A Phinny Hill Vi 6.29 119 **Pn** **18 13 21.8 +0.7**
G06A Carlson Farm, 6.31 127 **Pn** **18 13 22.6 +1.1**
I03D Drain, OR 6.34 149 P **Pn** **18 13 23.5 +1.7**
baz=331,SNR=9.2
C09A Chrisman Ranch 6.48 99 Pn **Pn** **18 13 23.4 -0.4**
C09A Chrisman Ranch 6.48 99 **Pn** **18 13 22.9 -0.9**
E08A Dider Farm, El 6.49 112 **Pn** **18 13 23.3 -0.5**
SLEB Sale Mountain 6.49 69 Pn **Pn** **18 13 25.6 +1.5**
SLEB Sale Mountain 6.49 69 Pn **Pn** **18 13 25.6 +1.5**
I04A Tendick Farm, 6.60 144 P **Pn** **18 13 27.0 +1.6**
baz=326,SNR=21
I05D Terrebonne, OR 6.61 136 P **Pn** **18 13 27.1 +1.4**
baz=319,SNR=8.0
J01E Myrtle Point 6.65 155 P **Pn** **18 13 28.4 +2.3**
baz=336,SNR=7.1
MNB Mounoet Dainar 6.66 60 Pn **Pn** **18 13 28.2 +1.8**
KEBM Edson Butte 6.82 158 Pn **Pn** **18 13 30.3 +1.8**
CRAG Craig 7.03 334 Pn **Pn** **18 13 32.3 +1.0**
CRAG **Sn** **18 14 49.8 -1.8**
E09A Wood Farm, Sta 7.04 109 Pn **Pn** **18 13 32.9 +1.5**
NEW Newport 7.12 94 P **Pn** **18 13 32.7 +0.1**
baz=281,SNR=17
NEW Newport 7.12 94 Pn **Pn** **18 13 32.7 +0.1**
2.8nm,0.3s,baz=289,slow=12,SNR=32
NEW Sn **Sn** **18 15 02.6 +8.7**
0.5nm,0.3s,baz=254,slow=12,SNR=3.1
NEW LR LR 18 16 17.3
comp=Z,1µm,20.4s,baz=278,slow=37
NEW Newport 7.12 94 **Pn** **18 13 32.9 +0.3**
K02D Willamette Mer 7.16 155 P **Pn** **18 13 35.3 +2.1**
baz=336,SNR=10
J04D Umpqua Nationa 7.18 145 P Pn 18 13 36.9 +3.3
baz=328,SNR=32
G08A Pilot Rock 7.19 120 Pn **Pn** **18 13 33.7 0.0**
PINE Pine Mountain 7.22 137 **Pn** **18 13 35.0 +0.9**
HUMO Hull Mountain 7.45 151 **Pn** **18 13 39.1 +2.0**
J05D Fort Rock, OR 7.50 140 P **Pn** **18 13 39.2 +1.3**
baz=324,SNR=26
BMBC Bull Mountain 7.62 25 Pn **Pn** **18 13 41.7 +2.2**
BMBC Bull Mountain 7.62 25 Pn **Pn** **18 13 41.7 +2.2**
L02E Cave Junction 7.67 156 P Pn 18 13 43.3 +3.1
baz=338,SNR=12
WRAK Wrangell Islan 7.69 341 **Pn** **18 13 40.5 +0.2**
WRAK **Sn** **18 15 06.3 -1.5**
K04D Chiloquin, OR 7.84 145 P **Pn** **18 13 45.0 +2.4**
baz=328,SNR=18
F10A Beach Ranch, E 7.85 111 Pn **Pn** **18 13 41.9 -0.8**
L04D Klamath Falls 8.01 149 P Pn 18 13 47.8 +2.9
baz=332,SNR=18
KRMB Red Mountain 8.19 159 **Pn** **18 13 49.2 +1.8**
YBH Yreka Blue Hor 8.32 153 Pn **Pn** **18 13 51.4 +2.3**
0.5nm,0.3s,baz=345,slow=11,SNR=54
YBH Sn **Sn** **18 15 26.8 +3.3**
baz=238,slow=23,SNR=0.8
YBH LR LR 18 16 44.6
comp=Z,970nm,18.4s,baz=332,slow=36
YBH Yreka Blue Hor 8.32 153 Pn 18 13 52.1 +3.0
BMO Blue Mountains 8.40 118 **Pn** **18 13 50.8 +0.6**
M04C Macdoel 8.55 149 P Pn 18 13 55.1 +2.7
baz=332,SNR=8.8
M02C Callahan 8.59 154 P Pn 18 13 57.9 +5.0
baz=337,SNR=6.5
BSMT Bassoo Peak 8.74 94 Pn **Pn** **18 13 55.1 +0.1**
BSMT Bassoo Peak 8.74 94 Pn **Pn** **18 13 55.1 +0.1**
NBC5 NorthernBC 5 8.83 18 Pn **Pn** **18 13 57.7 +1.6**
NBC5 NorthernBC 5 8.83 18 Pn **Pn** **18 13 57.7 +1.6**
PRDA Priddis 8.83 74 Pn **Pn** **18 13 59.2 +3.1**
PRDA Priddis 8.83 74 Pn **Pn** **18 13 59.2 +3.1**
KHMM Horse Mountain 8.85 160 **Pn** **18 13 60.4 +3.9**
N02D Trinity Center 9.02 155 P Pn 18 14 02.7 +4.0
baz=337,SNR=19
MOD Modoc Plateau 9.03 142 Pn 18 14 01.9 +3.0
PLID Pearl Lake 9.04 113 **Pn** **18 13 59.9 +0.8**
JTMT Jette 9.09 94 **Pn** **18 14 00.3 +0.5**
WALA Waterton Lakes 9.10 86 Pn **Pn** **18 14 00.8 +1.0**
WALA Waterton Lakes 9.10 86 **Pn** **18 14 00.6 +0.8**
WALA Waterton Lakes 9.10 86 Pn **Pn** **18 14 00.8 +1.0**
DLBC Dease Lake 9.30 353 Pn **Pn** **18 14 04.5 +2.0**
3.5nm,0.3s,baz=199,slow=14,SNR=24
DLBC Sn **Sn** **18 15 46.7 -0.8**
2.7nm,0.3s,baz=112,slow=26,SNR=13
DLBC Dease Lake 9.30 353 Pn **Pn** **18 14 04.3 +1.9**
DLBC Sn **Sn** **18 15 46.9 -0.5**
DLBC Dease Lake 9.30 353 Pn **Pn** **18 14 04.3 +1.9**
DLBC Sn **Sn** **18 15 46.9 -0.5**
WVOR Wild Horse Val 9.33 133 **Pn** **18 14 06.0 +2.9**
WDC Whiskeytown Da 9.43 155 **Pn** **18 14 06.8 +2.5**
MSO Missoula 9.59 99 P **Pn** **18 14 06.5 +0.1**
baz=289,SNR=16
MSO Missoula 9.59 99 **Pn** **18 14 05.8 -0.7**
O02D Mt. Diablo Mer 9.74 157 P Pn 18 14 12.2 +3.6
baz=339,SNR=7.7
JIS Juneau Island 9.84 339 **Pn** **18 14 10.3 +0.5**
JIS **Sn** **18 15 58.8 -1.8**
O03E Paynes Creek 9.91 152 P Pn 18 14 14.1 +3.1
baz=336,SNR=16
FNBB Fort Nelson 10.05 14 Pn **Pn** **18 14 13.9 +1.1**
FNBB Fort Nelson 10.05 14 Pn **Pn** **18 14 13.9 +1.1**
NBC6 NorthernBC 6 10.09 20 Pn **Pn** **18 14 14.8 +1.5**
NBC6 NorthernBC 6 10.09 20 Pn **Pn** **18 14 14.8 +1.5**
MFID Camas Ranch 10.12 121 **Pn** **18 14 14.9 +1.2**
OVMT Ovando 10.12 97 Pn **Pn** **18 14 14.5 +0.6**
OVMT Ovando 10.12 97 Pn **Pn** **18 14 14.5 +0.6**
BESE Bessie Mountai 10.23 339 **Sn** **18 16 08.4 -1.7**
BEKR Beckworth 10.77 148 Pn 18 14 25.7 +3.0
HOPS Hopland Field 10.80 160 **Pn** **18 14 23.5 +0.6**
NBC2 NorthernBC 2 10.98 14 Pn **Pn** **18 14 26.3 +0.8**
HRY Holter Researc 10.99 97 Pn **Pn** **18 14 26.4 +0.6**
DLMT Dillon 11.02 105 **Pn** **18 14 26.1 0.0**
MCMT McKenzie Canyo 11.11 108 **Pn** **18 14 26.5 -1.0**
SKAG Skagway 11.13 340 Pn **Pn** **18 14 26.4 -0.9**
SKAG **Sn** **18 16 30.3 -1.8**
PAHR Pah Rah Range 11.26 145 Pn 18 14 33.1 +3.6
AFDM Forest Hills D 11.40 152 Pn 18 14 34.5 +3.3
BMN Battle Mountai 11.56 136 **Pn** **18 14 35.2 +1.5**
YHL Hebgen Lake 12.14 105 **Pn** **18 14 42.3 +0.6**
YHB Horse Butte 12.18 105 **Pn** **18 14 41.4 -0.8**
ELK Elko 12.28 129 Pn **Pn** **18 14 46.6 +3.1**
0.2nm,0.3s,baz=316,slow=13,SNR=22
ELK LR LR 18 19 36.0
comp=Z,456nm,18.8s,baz=320,slow=38
ELK Elko 12.28 129 **Pn** **18 14 44.0 +0.5**
WAKR Walker 12.30 148 **Pn** **18 14 44.4 +0.6**
KVN Kaiserville 12.33 142 **Pn** **18 14 44.7 +0.6**
YMR Madison River 12.37 105 **Pn** **18 14 45.1 +0.5**
YHH Holmes Hill 12.38 105 **Pn** **18 14 44.2 -0.7**
RYN Ryan 12.53 144 **Pn** **18 14 48.6 +1.8**
BCPM Bancas Point 12.71 332 Pn **Pn** **18 14 46.4 -2.6**
GCMT Greycliff 12.72 99 Pn **Pn** **18 14 47.5 -2.0**
NVAR Mina Array Bea 12.79 144 Pn Pn 18 14 53.8 +3.4
0.5nm,0.3s,baz=321,slow=11,SNR=135
NVAR LR LR 18 19 10.8
comp=Z,359nm,18.7s,baz=332,slow=34
FXWY Fox Creek 12.84 110 Pn **Pn** **18 14 53.2 +2.1**
NV11 Mina Array Sit 12.84 144 **Pn** **18 14 53.6 +2.5**
HYT Haines Junctio 12.85 338 Pn **Pn** **18 14 52.1 +1.1**
YUKS Granite Creek 13.20 338 Pn **Pn** **18 14 58.1 +2.3**
RLMT Red Lodge 13.25 101 P **P** **18 15 02.6 -4.1**
baz=294
BGU Big Grassy Mou 13.32 123 **Pn** **18 15 00.1 +2.4**
DUG Dugway, Tooele 13.95 125 P **Pn** **18 15 08.2 +2.0**
baz=315,SNR=19
DUG Dugway, Tooele 13.95 125 Pn **Pn** **18 15 08.5 +2.3**
R11A Troy Canyon, C 13.99 137 P **Pn** **18 15 08.7 +1.9**
baz=324,SNR=22
R11A Troy Canyon, C 13.99 137 **Pn** **18 15 08.6 +1.9**
BW06 Boulder Array 14.21 110 P **Pn** **18 15 12.8 +2.9**
baz=303,SNR=49
BW06 Boulder Array 14.21 110 **Pn** **18 15 10.5 +0.6**
PD31 Pinedale Array 14.21 110 **Pn** **18 15 11.6 +1.8**
PDAR Pinedale Array 14.21 110 Pn **Pn** **18 15 13.0 +3.1**
0.4nm,0.3s,baz=316,slow=12,SNR=50
PDAR LR LR 18 21 10.3
comp=Z,496nm,18.4s,baz=296,slow=39
YUK2 White River 14.54 335 Pn **Pn** **18 15 15.2 +1.2**
CWC Cottonwood Cre 14.63 147 P **P** **18 15 20.0 -2.1**
baz=334
LAO LASA Array 14.66 92 P **Pn** **18 15 16.1 +0.3**
baz=288,SNR=8.4
LAO LASA Array 14.66 92 **Pn** **18 15 14.4 -1.4**
TPNV Topopah Spring 14.88 141 P **Pn** **18 15 21.6 +2.6**
baz=329
TPNV Topopah Spring 14.88 141 **Pn** **18 15 17.3 -1.6**
FURC Furnace Creek, 15.06 144 P **P** **18 15 24.6 -1.9**
baz=331,SNR=17
YKA Yellowknife Ar 15.14 24 Pn **Pn** **18 15 19.6 -2.5**
3.5nm,0.3s,baz=212,slow=12,SNR=197
YKW1 Yellowknife Ar 15.17 24 Pn **Pn** **18 15 21.1 -1.3**
MPMC Manual Prospec 15.18 146 P **P** **18 15 27.0 -1.2**
baz=333,SNR=7.6
YKW3 Yellowknife Ar 15.20 24 Pn **Pn** **18 15 21.9 -0.9**
PKM Mcpherson Peak 15.51 155 P **P** **18 15 32.3 +0.5**
baz=340
DGMT Dagmar 15.54 84 P **Pn** **18 15 27.8 +0.4**
baz=281
LRMC Laurel Mtn Rad 15.63 148 P **P** **18 15 36.2 +3.0**
baz=334,SNR=5.6
CCUT Cedar City 15.67 133 P **Pn** **18 15 30.6 +1.1**
SHPR Sheep Range 15.71 139 **Pn** **18 15 31.4 +1.4**
SZCU Shurtz Canyon 15.77 132 P **Pn** **18 15 31.9 +1.2**
SHOC Shoshone, Teco 15.78 143 P **P** **18 15 37.7 +3.1**
baz=331,SNR=15
SRU San Rafael Swe 15.96 123 P **P** **18 15 35.3 -1.6**
GSC Goldstone, Bar 16.11 146 P **P** **18 15 38.7 +0.3**
baz=333,SNR=15
DAWY Dawson 16.12 341 Pn **P** **18 15 37.2 -1.1**
LCMT Little Creek M 16.16 134 P **P** **18 15 38.0 -1.0**
K22A Casper 16.16 106 P **P** **18 15 37.7 -1.3**
baz=301,SNR=27
K22A Casper 16.16 106 P **P** **18 15 37.9 -1.2**
K22A IAmb IAmb 18 15 42.2
comp=Z,110nm,1.1s
RWWY Rawlins 16.26 110 P **Pn** **18 15 36.7 -0.4**
TUQ Turquoise Moun 16.32 143 P **P** **18 15 40.7 -0.1**
baz=331,SNR=16
O20A White River Ci 16.58 116 P **P** **18 15 42.9 -0.8**
baz=309,SNR=53
O20A White River Ci 16.58 116 P **P** **18 15 42.8 -0.9**
HEC Hector,Ludlow 16.70 145 P **P** **18 15 48.0 +3.1**
baz=333,SNR=13
FFC Flin Flon 16.76 61 **Pn** **18 15 41.9 -1.2**
FFC IAmb IAmb 18 15 55.4
comp=Z,76nm,0.8s
PAX Paxson 16.83 331 Pn **Pn** **18 15 44.2 +0.2**
KNK Knik Glacier 16.83 324 **Pn** **18 15 42.8 -1.2**
KNK IAmb IAmb 18 15 50.8
comp=Z,75nm,1.0s
KDAK Kodiak Island 16.96 310 Pn **Pn** **18 15 44.4 -1.1**
comp=Z,0.2nm,0.3s,baz=123,slow=14,SNR=2.7
KDAK LR LR 18 20 31.2
comp=Z,1µm,21.2s,baz=114,slow=31
KDAK Kodiak Island 16.96 310 IAmb IAmb 18 15 50.0
comp=Z,88nm,1.2s
GMRC Granite Mounta 17.00 144 P **P** **18 15 48.6 +0.3**
baz=331,SNR=9.6
RSSD Black Hills 17.05 99 P **P** **18 15 48.4 -0.5**
baz=296
RSSD Black Hills 17.05 99 P **P** **18 15 49.4 +0.5**
RSSD IAmb IAmb 18 15 53.8
comp=Z,51nm,0.8s
U15A North Rim 17.08 133 P **P** **18 15 49.3 -0.1**
U15A IAmb IAmb 18 16 01.0
comp=Z,46nm,1.1s
PV16 Nyswonger Mesa 17.42 122 P **P** **18 15 52.8 -0.3**
PV16 IAmb IAmb 18 15 57.2
comp=Z,71nm,1.1s
W13A Hualapai Mount 17.45 139 P **P** **18 15 53.7 +0.2**
N23A Red Feather La 17.50 110 P **Pn** **18 15 53.4 +0.6**
baz=305,SNR=73
N23A Red Feather La 17.50 110 P **Pn** **18 15 53.3 +0.6**
BELC Belle Mtn. Jos 17.57 146 P **P** **18 15 57.5 +2.9**
baz=333,SNR=11
IRM Iron Mountain 17.75 143 P **P** **18 15 58.4 +1.9**
baz=332
PFO Pinyon Flats O 17.75 147 P **P** **18 15 56.2 -0.4**
comp=Z,0.1nm,0.3s,baz=319,slow=7.2,SNR=3.5
PFO LR LR 18 22 36.7
comp=Z,170nm,18.4s,baz=327,slow=37
TPFO Pinon Flats 17.76 147 P **P** **18 15 59.0 +2.4**
baz=335
EPYK Eagle Plains 17.78 348 P **P** **18 15 58.5 +1.9**
baz=161
EPYK Eagle Plains 17.78 348 P **P** **18 15 58.4 +1.8**
WUAZ Wupatki 18.26 133 P **P** **18 16 03.8 +1.6**
baz=323
WUAZ Wupatki 18.26 133 P **P** **18 16 03.4 +1.2**
ISCO Idaho Springs 18.36 113 P **P** **18 16 04.8 +1.3**
baz=308
MONP2 Monument Peak 18.42 148 P **P** **18 16 06.9 +2.9**
baz=335
MVCO Mesa Verde 18.44 124 P **P** **18 16 05.6 +1.3**
baz=316
MVCO Mesa Verde 18.44 124 P **P** **18 16 05.1 +0.8**
MVCO IAmb IAmb 18 16 14.2
comp=Z,88nm,1.1s
ILAR Eielson Array 18.58 334 P **P** **18 16 04.9 -0.5**
comp=Z,0.1nm,0.3s,baz=150,slow=10,SNR=26
ILAR PcP **PcP** **18 20 33.2 -0.9**
comp=Z,0.1nm,0.3s,baz=172,slow=3.2,SNR=8.1
ILAR LR LR 18 22 46.1
comp=Z,373nm,19.8s,baz=150,slow=36
WRH Wood River Hil 18.72 332 P **Pn** **18 16 08.0 +0.7**
WRH IAmb IAmb 18 16 19.7
comp=Z,28nm,1.0s
IKP In-Ko-Pah, Jac 18.75 148 P **Pn** **18 16 10.3 +2.4**
baz=335
CCB Clear Creek Bu 18.76 333 P **Pn** **18 16 09.7 +2.0**
TRF Thorofare Moun 18.76 328 P **Pn** **18 16 09.0 +1.0**
Y14A Wickenburg 18.82 139 P **Pn** **18 16 10.6 +1.9**
S22A 4UR Ranch, Cre 18.99 119 P **Pn** **18 16 12.7 +1.7**
baz=314
S22A 4UR Ranch, Cre 18.99 119 P **Pn** **18 16 12.5 +1.5**
POKR Poker Plat Res 18.99 334 P **Pn** **18 16 12.6 +2.0**
baz=138
KTH Kantishna Hill 19.05 327 P **Pn** **18 16 11.5 +0.2**
KTH IAmb IAmb 18 16 22.6
comp=Z,50nm,1.2s
PPLA Purkeypile 19.12 325 P **Pn** **18 16 12.9 +0.6**
Q24A Divide 19.16 114 P **Pn** **18 16 15.0 +1.9**
baz=309
Q24A Divide 19.16 114 P **Pn** **18 16 13.4 +0.3**
Q24A IAmb IAmb 18 16 29.8
comp=Z,31nm,1.1s
INK Inuvik 19.33 354 P **P** **18 16 13.4 -0.1**
comp=Z,0.2nm,0.3s,baz=161,slow=14,SNR=23
INK Inuvik 19.33 354 Pn **Pn** **18 16 14.7 +0.2**
INK Inuvik 19.33 354 P **Pn** **18 16 14.5 0.0**
W18A Petrified Fore 19.38 130 P **Pn** **18 16 17.2 +1.6**
baz=322
BPAW Bear Paw Mtn. 19.41 329 P **Pn** **18 16 15.4 -0.2**
BPAW IAmb IAmb 18 16 27.5
comp=Z,36nm,1.3s
X18A Snowflake 19.74 132 P **P** **18 16 18.9 +0.4**
X18A IAmb IAmb 18 16 32.3
comp=Z,23nm,0.8s
SDCO Great Sand Dun 19.76 117 P **Pn** **18 16 21.0 +0.7**
baz=312
SDCO Great Sand Dun 19.76 117 P **P** **18 16 17.8 -1.0**
OGNE Ogallala 19.91 105 P **Pn** **18 16 22.7 +0.9**
baz=303
MLY Manley 19.93 331 P **P** **18 16 20.2 -0.1**
C36M Paulatuk 20.24 4 P Pn 18 16 24.5 -0.9
baz=187
ULM Lac du Bonnet 20.56 75 P **P** **18 16 27.1 -0.2**
comp=Z,19nm,0.7s,baz=282,slow=11,SNR=32
ULM LR LR 18 24 38.6
comp=Z,698nm,20.1s,baz=278,slow=37
ULM Lac du Bonnet 20.56 75 P **P** **18 16 26.9 -0.2**
ULM Lac du Bonnet 20.56 75 P **P** **18 16 26.8 -0.4**
ULM IAmb IAmb 18 16 39.6
comp=Z,47nm,1.1s
214A Organ Pipe Nat 20.61 141 P Pn 18 16 30.3 +0.2
baz=331
TTA Tatalina 20.64 322 P Pn 18 16 28.6 -1.6
TTA IAmb IAmb 18 16 34.1
comp=Z,27nm,1.1s
T25A Trinidad 20.81 117 P Pn 18 16 32.5 -0.1
baz=313
T25A Trinidad 20.81 117 P **P** **18 16 31.1 +1.0**
T25A IAmb IAmb 18 16 40.2
comp=Z,49nm,1.1s
AGMN Agassiz Nation 20.98 80 P **P** **18 16 33.7 +1.9**
baz=284
AGMN Agassiz Nation 20.98 80 P **P** **18 16 32.8 +1.1**
AGMN IAmb IAmb 18 16 41.3
comp=Z,45nm,0.9s
TUC Tucson 21.18 137 P **P** **18 16 36.5 +2.4**
baz=328
TUC Tucson 21.18 137 P **P** **18 16 34.9 +0.8**
TUC IAmb IAmb 18 16 37.4
comp=Z,23nm,0.9s
ANMO Albuquerque 21.22 124 P **P** **18 16 37.0 +2.4**
baz=318
ANMO Albuquerque 21.22 124 P **P** **18 16 34.9 +0.2**
comp=Z,12nm,0.9s,baz=316,slow=12,SNR=14
ANMO Albuquerque 21.22 124 P **P** **18 16 35.3 +0.7**
ANMO IAmb IAmb 18 16 47.5
comp=Z,26nm,1.1s
LENM Lemitar 21.54 127 P **P** **18 16 39.5 +1.4**
LPM Los Pinos Moun 21.61 126 P **P** **18 16 40.7 +1.9**
FCC Fort Churchill 21.75 51 P **P** **18 16 41.2 +1.4**
FCC Fort Churchill 21.75 51 P **P** **18 16 40.9 +1.0**
ECSD EROS Data Cent 22.06 93 P **P** **18 16 43.7 +0.3**
baz=295
ECSD EROS Data Cent 22.06 93 P **P** **18 16 44.6 +1.2**
TOLK Toolik Lake Re 22.21 339 P **P** **18 16 47.8 +3.0**
baz=140
121A Cookes Peak, D 22.42 131 P **P** **18 16 49.9 +2.5**
baz=324
CBKS Cedar Bluff 22.58 107 P **P** **18 16 51.4 +2.4**
baz=306
CBKS Cedar Bluff 22.58 107 P **P** **18 16 50.6 +1.6**
SOLO Sioux Lookout 23.00 74 P **P** **18 16 53.2 -0.1**
PKLO Pickle Lake 23.81 70 P **P** **18 17 02.6 +1.2**
EYMN Ely 23.89 79 P **P** **18 17 03.0 +0.8**
baz=287
EYMN Ely 23.89 79 P **P** **18 17 03.2 +1.0**
AMTX Amarillo 23.96 117 P **P** **18 17 04.7 +1.7**
baz=314
MSTX Muleshoe 23.99 120 P **P** **18 17 05.2 +1.9**
baz=317
MSTX Muleshoe 23.99 120 P **P** **18 17 03.1 -0.2**
MSTX IAmb IAmb 18 17 07.0
comp=Z,16nm,0.8s
MNTX Cornudas Mount 24.30 128 P **P** **18 17 08.2 +2.0**
baz=322
MNTX Cornudas Mount 24.30 128 P **P** **18 17 05.9 -0.3**
MNTX IAmb IAmb 18 17 15.9
comp=Z,37nm,1.4s
WMOK Wichita Mounta 25.78 113 P **P** **18 17 21.2 +1.7**
baz=313
WMOK Wichita Mounta 25.78 113 P **P** **18 17 20.2 +0.6**
WMOK IAmb IAmb 18 17 28.9
comp=Z,18nm,1.1s
JFWS Jewell Farm 26.59 89 P **P** **18 17 31.2 +4.4**
baz=297
ABTX Abilene, Hawle 26.76 118 P **P** **18 17 29.5 +1.1**
baz=316
TUL1 Leonard 26.84 108 P **P** **18 17 30.7 +1.6**
baz=310
TX31 Lajitas Ar. Si 27.08 128 P **P** **18 17 32.2 +0.8**
TX31 IAmb IAmb 18 17 44.3
comp=Z,31nm,1.4s
TX32 Lajitas Array 27.08 128 P **P** **18 17 31.1 -0.2**
TX32 IAmb IAmb 18 17 44.3
comp=Z,32nm,1.4s
TXAR Lajitas Array 27.08 128 P **P** **18 17 32.7 +1.3**
comp=Z,9.8nm,1.0s,baz=326,slow=7.5,SNR=49
TXAR PcP **PcP** **18 20 51.9 -0.4**
comp=Z,0.2nm,0.5s,baz=248,slow=1.0,SNR=2.9
N41A Harden Midland 27.26 94 P **P** **18 17 31.6 -1.2**
U40A Yellville 28.42 104 P **P** **18 17 44.7 +1.5**
baz=308
W39A Magazine 28.56 107 P **P** **18 17 46.2 +1.8**
baz=310
RES Resolute Bay 29.02 17 P **P** **18 17 48.7 +0.5**
comp=Z,3.6nm,0.7s,baz=237,slow=9.4,SNR=13
RES Resolute Bay 29.02 17 P **P** **18 17 48.9 +0.7**
RES Resolute Bay 29.02 17 IAmb IAmb 18 18 07.1
comp=Z,16nm,1.4s
MIAR Mount Ida 29.11 107 P **P** **18 17 51.2 +1.9**
baz=311
MIAR Mount Ida 29.11 107 P **P** **18 17 49.2 -0.1**
W41B Gary Mavity, V 29.54 105 P **P** **18 17 54.7 +1.5**
baz=309
H48A Harrisville 30.34 81 P **P** **18 17 59.3 -0.8**
baz=295
N48A Decatur 31.00 89 P **P** **18 18 07.8 +1.8**
baz=300
O48A Farmland 31.22 90 P **P** **18 18 09.2 +1.2**
baz=301
WCI Wyandotte Cave 31.56 95 P **P** **18 18 12.9 +1.9**
baz=304
OXF Oxford 31.76 103 P **P** **18 18 14.1 +1.3**
baz=309
WVT Waverly 31.78 99 P **P** **18 18 14.7 +1.8**
baz=307
Q49A Aurora 32.05 92 P **P** **18 18 16.5 +1.2**
baz=303
E51A G1948 Merrick 32.06 76 P **P** **18 18 18.1 +2.8**
baz=293
E52A Mattawa 32.69 76 P **P** **18 18 21.8 +1.0**
baz=293
D53A Lac Vacive, Po 32.99 74 P **P** **18 18 25.0 +1.5**
baz=292
SADO Sadowa 33.01 79 P **P** **18 18 24.6 +1.0**
comp=Z,7.5nm,0.9s,baz=287,slow=9.7,SNR=4.4
LG4Q La Grande 4 33.08 62 P **P** **18 18 25.3 +1.2**
ALGO Algonquin Park 33.21 76 P **P** **18 18 26.9 +1.5**
baz=294
G54A Lake Saint Pet 33.41 77 P **P** **18 18 30.3 +3.1**
baz=295
M53A WI Miller and 33.55 85 P **P** **18 18 29.9 +1.5**
baz=300
E54A Lac Daplat, Po 33.56 75 P **P** **18 18 31.2 +2.7**
baz=294
FRB Frobisher Bay 34.35 43 P **P** **18 18 35.6 +0.5**
comp=Z,4.1nm,0.6s,baz=262,slow=9.3,SNR=5.8
T52A Hallie 34.36 94 P **P** **18 18 37.4 +1.9**
baz=305
D55A Sainte-Anne-du 34.41 73 P **P** **18 18 37.0 +1.2**
baz=293
E56A St. Veronique 34.88 74 P **P** **18 18 42.1 +2.2**
baz=294
R54A Victor 35.06 90 P **P** **18 18 43.2 +1.7**
baz=304
M56A Emporium 35.16 84 P **P** **18 18 45.8 +3.5**
baz=300
Q55A Buckhannon 35.21 89 P **P** **18 18 43.4 +0.5**
baz=303
V53A Saluda 35.31 95 P **P** **18 18 45.5 +1.7**
baz=307
V53A Saluda 35.31 95 P **P** **18 18 43.5 -0.3**
W53A Cullowhee 35.39 96 P **P** **18 18 46.5 +1.9**
baz=307
D57A Chemin Vers le 35.41 73 P **P** **18 18 45.6 +1.1**
baz=294
H57A Richville 35.55 77 P **P** **18 18 47.5 +1.9**
baz=297
R55A Marlinton 35.58 90 P P 18 18 51.3 +5.3
baz=304
S55A Lewisburg 35.61 91 P P 18 18 51.1 +4.8
baz=304
P56A Dayton Farm, R 35.75 87 P **P** **18 18 48.7 +1.3**
baz=302
Y54A Tignall 36.50 98 P **P** **18 18 55.2 +1.3**
baz=309
SCHQ Schefferville 36.85 57 P **P** **18 18 58.1 +1.4**
comp=Z,17nm,1.0s,baz=320,slow=7.9,SNR=4.7
SCHQ LR LR 18 34 31.8
comp=Z,718nm,19.9s,baz=308,slow=37
SCHQ Schefferville 36.85 57 IAmb IAmb 18 19 06.6
comp=Z,38nm,1.1s
CMIG Matias Romero 41.68 129 LR LR 18 38 21.3
comp=Z,110nm,18.2s,baz=7.5,slow=38
SEY Seymchan 43.56 319 P **P** **18 19 52.0 -0.1**
comp=Z,12nm,0.8s,baz=87,slow=6.7,SNR=26
SUMG Summit 43.73 26 *i* P **P** **18 19 55.0 +1.1**
comp=Z,25nm,0.8s
SUMG Summit 43.73 26 P **P** **18 19 52.9 -1.0**
SUMG IAmb IAmb 18 20 05.9
comp=Z,19nm,1.1s
PETK Petropavlovsk- 44.92 305 P **P** **18 20 02.3 -0.9**
comp=Z,13nm,0.9s,baz=74,slow=12,SNR=13

PETK PcP **PcP** **18 21 43.1 -1.4**
comp=Z,5.4nm,1.0s,baz=72,slow=4.7,SNR=3.2
PETK LR LR 18 35 48.8
comp=Z,113nm,18.4s,baz=60,slow=32
APG El Apazote 45.74 125 LR LR 18 40 26.8
comp=Z,137nm,18.7s,baz=318,slow=38
DAG Danmarks Havn 46.71 17 *iP* **P** **18 20 17.0 0.0**
comp=Z,5.0nm,0.8s
JTS Las Juntas de 52.63 123 LR LR 18 46 16.1
comp=Z,90nm,18.4s,baz=9.0,slow=39
YAK Yakutsk 53.19 325 P **P** **18 21 04.3 -2.1**
H11N2 WAKE ISLAND Hy 59.25 265 T T 19 26 28.9
baz=43,slow=75,SNR=12
H11N3 WAKE ISLAND Hy 59.25 265 T T 19 26 29.9
baz=43,slow=75,SNR=108
H11N1 WAKE ISLAND Hy 59.27 265 T T 19 26 30.2
baz=43,slow=75,SNR=68
H11S1 WAKE ISLAND Hy 60.26 264 T T 19 27 46.7
baz=40
H11S2 WAKE ISLAND Hy 60.27 264 T T 19 27 50.5
baz=40
H11S3 WAKE ISLAND Hy 60.28 264 T T 19 27 48.0
baz=40
SDV Santo Domingo 62.15 110 LR LR 18 51 59.1
comp=Z,42nm,19.0s,baz=288,slow=39
ROSC El Rosal 63.13 116 LR LR 18 51 17.8
comp=Z,61nm,21.9s,baz=59,slow=38
USRK Ussuriysk Ar. 63.82 308 P **P** **18 22 19.2 -1.7**
comp=Z,7.9nm,0.8s,baz=69,slow=6.1,SNR=12
NB2 NORSAR Subarra 65.22 21 P **P** **18 22 30.1 +0.4**
comp=Z,3.1nm,0.8s,baz=333,slow=6.9
NOA NORSAR Array B 65.22 21 P **P** **18 22 29.4 -0.3**
comp=Z,1.5nm,0.7s,baz=331,slow=6.6,SNR=7.2
NOA LR LR 18 50 20.9
comp=Z,165nm,19.2s,baz=280,slow=35
MJAR Matsushiro Arr 65.73 298 P **P** **18 22 32.4 -1.1**
comp=Z,2.1nm,0.8s,baz=45,slow=6.2,SNR=4.2
MJAR LR LR 18 49 28.5
comp=Z,25nm,20.9s,baz=350,slow=34
HFS Hagfors 66.58 20 P **P** **18 22 38.7 +0.2**
comp=Z,3.9nm,0.7s,baz=20,slow=4.7,SNR=6.7
FINES FINESS Array B 67.68 13 P **P** **18 22 44.8 -0.6**
comp=Z,4.4nm,0.7s,baz=29,slow=4.4,SNR=10
KSRS Korea Array 70.81 305 P **P** **18 23 03.4 -1.8**
comp=Z,1.3nm,0.7s,baz=48,slow=5.5,SNR=4.2
KSRS LR LR 18 53 45.3
comp=Z,48nm,19.5s,baz=10,slow=36
SONM Songino Array 72.55 325 P **P** **18 23 14.2 -1.5**
comp=Z,1.1nm,0.8s,baz=25,slow=5.8,SNR=7.1
SONM LR LR 18 57 07.7
comp=Z,141nm,18.5s,baz=34,slow=38
ZALV Zalesovo Beam 73.56 341 P **P** **18 23 20.3 -1.1**
comp=Z,1.1nm,0.8s,baz=35,slow=5.3,SNR=6.3
ZALV LR LR 18 57 58.1
comp=Z,83nm,19.1s,baz=2.0,slow=38
ARU Arti 74.56 356 P **P** **18 23 26.9 -0.3**
comp=Z,0.8nm,0.7s,baz=336,slow=12,SNR=5.0
ARU Arti 74.56 356 IAmb IAmb 18 23 35.4
comp=Z,8.3nm,1.1s
HHC Hu-ho-hao-te 76.19 318 P **P** **18 23 39.1 +2.1**
HHC pmax pmax
comp=Z,5.0nm,0.7s
KRLC Kraliky 76.48 23 *eP* **P** **18 23 39.4 +1.0**
KRLC *e*PCP **PcP** **18 23 47.3 -2.8**
KHC Kasperske Hory 76.50 25 *eP* P 18 23 42.7 +4.2
GERES GERESS Array B 76.80 25 P **P** **18 23 40.8 +0.6**
comp=Z,0.4nm,0.8s,baz=311,slow=8.6,SNR=3.8
VRAC Vranov 77.14 23 P **P** **18 23 42.3 +0.2**
comp=Z,1.2nm,0.5s,baz=56,slow=9.8,SNR=4.4
VRAC Vranov 77.14 23 ⇑P **P** **18 23 43.2 +1.0**
AKASG Malin Array Be 78.50 15 P **P** **18 23 49.4 -0.1**
AKASG LR LR 19 00 34.9
comp=Z,1.5nm,0.7s,baz=347,slow=4.9,SNR=5.9
comp=Z,108nm,19.6s,baz=325,slow=37
ESDC Sonseca Array 78.53 41 P **P** **18 23 50.5 +0.5**
comp=Z,0.7nm,0.6s,baz=314,slow=4.6,SNR=5.9
NJ2 Nanjing 79.73 308 *eP* **P** **18 23 57.3 +0.7**
NJ2 pmax pmax
comp=Z,17nm,0.5s
AKTO Aktyubinsk 80.57 356 P **P** **18 24 00.9 0.0**
comp=Z,1.1nm,0.8s,baz=61,slow=14,SNR=3.6
BURAR Bucovina Array 80.72 18 ⇑P **P** **18 24 03.2 +1.3**
SORM Soroca 80.82 16 ⇑P **P** **18 24 02.3 +0.1**
MKAR Makanchi Array 80.83 340 P **P** **18 24 01.5 -0.9**
comp=Z,0.7nm,0.5s,baz=27,slow=5.2,SNR=6.6
MKAR LR LR 19 01 52.1
comp=Z,138nm,19.2s,baz=6.5,slow=37
DRGR 80.97 20 ⇑P **P** **18 24 02.6 -0.5**
BIZ Bicaz 81.55 18 ⇑P **P** **18 24 06.9 +0.8**
TESR Tescani 82.06 18 ⇑P **P** **18 24 09.6 +0.7**
GTA Gaotai 82.22 325 *eP* **P** **18 24 09.3 -0.7**
GTA pP PcP 18 24 12.9 -2.5
GTA sP sP 18 24 15.3 +4.4
GTA pmax pmax
comp=Z,2.0nm,1.0s
WMQ Urumqi 82.24 335 *eP* **P** **18 24 12.5 +2.5**
GZR Gura Zlata 82.30 20 ⇑P **P** **18 24 11.0 +0.7**
PLOR Plostina 82.70 18 ⇑P **P** **18 24 13.9 +1.7**
VRI Vrincioaia 82.70 19 ⇑P **P** **18 24 12.6 +0.3**
ARR Arges 82.74 19 ⇑P **P** **18 24 13.7 +1.1**
VOIR 82.76 19 ⇑P **P** **18 24 12.8 +0.2**
LZH Lanzhou 83.48 320 *eP* **P** **18 24 16.9 +0.2**
LZH pP PcP 18 24 20.4 -0.6
LZH sP sP 18 24 24.3 +6.8
LZH PP **PP** **18 27 31.3 +3.3**
LZH pmax pmax
comp=Z,12nm,1.1s
LZH pmax pmax
comp=Z,59nm,4.9s
LZH LR LR
comp=Z,110nm,17.4s
LZH LR LR
comp=Z,120nm,17.3s
LZH LR LR
comp=Z,160nm,19.7s
CFR Carcaliu 83.63 17 ⇑P **P** **18 24 15.0 -2.0**
LPAZ La Paz 83.84 124 P **P** **18 24 18.8 -0.3**
comp=Z,2.3nm,0.8s,baz=16,slow=5.8,SNR=6.1
LPAZ LR LR 19 04 59.6
comp=Z,46nm,18.6s,baz=348,slow=38
MDT Midelt 83.95 45 P **P** **18 24 18.9 -0.1**
comp=Z,0.7nm,0.6s,baz=282,slow=6.7,SNR=3.6
RAZG Razgrad 84.86 18 ⇑P **P** **18 24 23.4 0.0**
VTS Vitosha 85.04 21 ⇑P **P** **18 24 24.7 +0.2**
HNR Honiara 85.76 250 LR LR 18 55 04.5
comp=Z,46nm,19.5s,baz=142,slow=30
KBZ Khabaz 87.04 7 LR LR 19 05 44.0
comp=Z,109nm,19.1s,baz=320,slow=37
KEST Kesra 87.22 34 LR LR 19 03 27.6
comp=Z,195nm,18.7s,baz=326,slow=36
KSH Kashi 89.15 342 P P 18 24 48.4 +4.0
KSH PP PP 18 28 21.5 +8.0
KSH SKS **SKSac** **18 35 17.9 +2.9**
KSH S **S** **18 35 36.4 +2.4**
KSH LR LR
comp=Z,520nm,7.2s
BRTR Keskin Array B 89.89 14 P **P** **18 24 47.9 0.0**
comp=Z,0.3nm,0.6s,baz=341,slow=2.2,SNR=2.8
BDFB Brasilia 95.18 108 LR LR 19 14 53.8
comp=Z,82nm,18.1s,baz=168,slow=40
CPUP Villa Florida 97.85 121 LR LR 19 15 41.4
comp=Z,52nm,19.1s,baz=25,slow=39
BOSA Boshof 150.86 55 PKPbc **PKPbc** **18 31 40.5 -0.9**
comp=Z,2.2nm,0.8s,baz=326,slow=3.6,SNR=3.8

IDC 15 18:27:19.9±3.3, 14°30S×177°20W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.6/40, mbtmp3.6/4, MS3.5/4, Ms1 3.5/4, ms1mx3.0/30, Error ellipse: s-maj=191.8km s-min=28.6km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**14.90**	**182**	LR	LR	18 35 14.5	
	comp=Z,215nm,20.9s,baz=81,slow=32						
DZM	**Mont Dzumac**	**17.34**	**241**	*e*LR	LR	18 35 55.1	
	comp=Z,74nm,23.8s						
DZM	**Mont Dzumac**	**17.34**	**241**	LR	LR	18 37 17.2	
	comp=Z,58nm,18.9s,baz=34,slow=34						
URZ	**Urewera**	**24.39**	**191**	LR	LR	18 40 23.4	
	comp=Z,161nm,21.8s,baz=38,slow=32						
PPT2	**Papeete2**	**26.75**	**101**	*e*LR	LR	18 39 16.6	
	comp=Z,105nm,26.0s						
TBI	**Tubuai**	**27.72**	**113**	*e*LR	LR	18 39 45.3	
	comp=Z,103nm,29.0s						
RPZ	**Rata Peaks**	**31.00**	**197**	LR	LR	18 44 34.7	
	comp=Z,152nm,20.2s,baz=36,slow=33						
WRA	**Warramunga Arr**	**46.53**	**256**	P	P	18 35 48.9	-0.7
	0.6nm,0.8s,baz=88,slow=8.0,SNR=7.0						
ASAR	**Alice Springs**	**46.97**	**251**	P	P	18 35 53.4	+0.3
	0.8nm,0.7s,baz=84,slow=8.7,SNR=13						
NVAR	**Mina Array Bea**	**76.03**	**44**	P	P	18 39 09.2	-0.3
	0.4nm,0.7s,baz=230,slow=8.2,SNR=2.4						
ILAR	**Eielson Array**	**82.13**	**13**	P	P	18 39 42.7	+0.6
	0.5nm,0.9s,baz=206,slow=6.0,SNR=1.9						
BRTR	**Keskin Array B**	**142.95**	**319**	PKP	PKPdf	18 46 55.2	-1.0
	1.9nm,1.0s,baz=50,slow=2.3,SNR=5.6						

IDC 15 18:51:55.7±42.0, 18°25S×178°07W, h604km±386km, mb2.3/2, mb1 2.6/2, mb1mx2.4/31, mbtmp3.4/2, Error ellipse: s-maj=423.3km s-min=110.5km az=121.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.89**	**260**	P	P	18 59 17.9	-0.4
	0.1nm,0.3s,baz=97,slow=7.3,SNR=2.0						
ASAR	**Alice Springs**	**45.02**	**255**	P	P	18 59 19.3	+0.1
	0.4nm,0.5s,baz=89,slow=7.9,SNR=4.9						
ASAR				PcP	PcP	19 00 46.8	-0.2
	0.1nm,0.5s,baz=98,slow=4.1,SNR=1.4						
GERES	**GERESS Array B**	**148.02**	**345**	PKPbc	PKPbc	19 10 33.8	-0.6
	0.3nm,0.5s,baz=352,slow=4.0,SNR=2.1						

ISCJB ***15*** *19:01:16.0±0.3, 28°.27N±0°.04×99°.48E±0°.03, h10km, mb3.9/17, MS3.1/2, Error ellipse: s-maj=6.3km s-min=3.6km az=172.1*
IDC ***15*** *19:01:16.0±0.7, 28°.08N×99°.39E, h0km, mb3.9/18, mb1 4.1/18, mb1mx3.9/42, mbtmp3.9/18, MS3.3/2, Ms1 3.3/2, ms1mx2.8/43, Error ellipse: s-maj=21.7km s-min=15.3km az=45.0*
BJI ***15*** *19:01:19.1±0.0, 28°.16N×99°.49E, h11km, mb3.9/9, ML3.8/10*
NEIC ***15*** *19:01:20.9±1.8, 28°.14N±0°.08×99°.44E±0°.07, h31km±5km, mb4.4/14*

ISC 15 19:01:18.2±0.4, 28°23N±0°.04×99°47E±0°.04, h10km, n62, σ1°92/69, mb4.1/23, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**4.26**	**136**	Pn	**Pn**	**19 02 25.0**	**+1.7**
KMI				Pg	**Pb**	**19 02 34.5**	**+1.2**
KMI				Sn	**Sn**	**19 03 12.3**	**-0.9**
KMI				Sg	**Sg**	**19 03 33.3**	**-1.6**
KMI				smax	smax		
	comp=N,130nm,1.3s						
KMI				smax	smax		
	comp=E,190nm,1.1s						
KMI	**Kunming**	**4.26**	**136**		**Pn**	**19 02 24.9**	**+1.7**
KMI				Sn	**Sn**	**19 03 07.3**	**-5.9**
CD2	**Chengdu**	**4.59**	**53**	Pg	**Pg**	**19 02 45.6**	**-0.6**
CD2				Sg	**Sg**	**19 03 46.3**	**+0.6**
ZIRO	**ZIRO**	**5.02**	**263**	*e*P	**Pn**	**19 02 36.3**	**+2.5**
ZIRO				*e*S	**Sn**	**19 03 36.8**	**+4.7**
ZIRO				IAML		19 04 16.7	
	comp=N,639nm,0.9s						
ZIRO				IAML		19 04 18.4	
	comp=E,566nm,0.5s						
KOHI	**KOHIMA**	**5.40**	**244**	*e*P	**Pn**	**19 02 41.6**	**+2.7**
KOHI				*e*S	**Sn**	**19 03 43.5**	**+2.4**
KOHI				IAML		19 03 50.0	
	comp=N,81nm,0.6s						
KOHI				IAML		19 03 51.7	
	comp=E,570nm,1.0s						
GYA	**Guiyang**	**6.64**	**104**	⇑*i*Pn	**Pn**	**19 02 59.4**	**+3.5**
GYA				Pg	**Pb**	**19 03 12.8**	**-1.0**
GYA				Sn	**Sn**	**19 04 12.5**	**+0.8**
GYA				smax	smax		
	comp=E,30nm,0.9s						
GYA				smax	smax		
	comp=E,20nm,0.8s						
SHL	**Shillong**	**7.27**	**250**	*e*P	**Pn**	**19 03 05.0**	**+0.3**
SHL				*e*P	Pn	19 03 12.0	+7.3
SHL				*e*S	**Sn**	**19 04 24.0**	**-3.5**
SHL				IAML		19 04 27.2	
	comp=N,56nm,0.5s						
SHL				IAML		19 04 27.5	
	comp=E,55nm,0.7s						
SHL				IAML		19 04 29.0	
SHL				*i* S	**Sn**	**19 04 30.0**	**+2.5**
SHL	**Shillong**	**7.27**	**250**		**Pn**	**19 03 05.0**	**+0.3**
SHL				Sn	**Sn**	**19 04 25.2**	**-2.2**
LSA	**Lhasa**	**7.43**	**283**		**Pn**	**19 03 09.8**	**+2.6**
PAYA	**Payao**	**8.83**	**178**	P	**Pg**	**19 04 06.3**	**-1.1**
	comp=E,382µmcomp=E,36µm,0.6s						
ENH	**Enshi**	**8.98**	**74**	Pn	**Pn**	**19 03 31.3**	**+3.2**
CMMT	**Chiang Mai**	**9.38**	**183**	P	Pg	19 04 13.3	
	comp=E,6.0nm,0.7s						
LAMP	**Lampang**	**9.66**	**179**	P	Pg	19 04 23.0	
	comp=E,50µm,0.8s						
GTK	**Tadong**	**9.67**	**267**	*e*P	**Pn**	**19 03 38.5**	**+1.0**
GTK				*e*S	**Sn**	**19 05 25.3**	**-1.1**
GTK				IAML		19 05 30.8	
	comp=N,16nm,0.2s						
GTK				IAML		19 05 30.8	
	comp=E,13nm,0.4s						
PHRA	**Phrae**	**9.71**	**176**	P	Pg	19 04 24.9	
	comp=E,1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**9.74**	**183**	Pn	**Pn**	**19 03 42.5**	**+4.2**
	comp=E,0.1nm,0.3s,baz=359,slow=12,SNR=12						
CMAR				Pg		19 04 15.7	
	comp=E,0.3nm,0.3s,baz=360,slow=16,SNR=8.8						
CMAR				Lg	Lg	19 06 23.3	
	baz=2.2,slow=26,SNR=3.0						
TAPN	**Taplejung**	**10.45**	**268**	*e*P	**Pn**	**19 03 48.5**	**+0.1**
	comp=E,17nm,0.4s						
ODAN	**Odare**	**10.81**	**266**	*e*P	**Pn**	**19 03 53.4**	**+0.1**
	comp=E,35nm,0.8s						
RAMN	**Ramite**	**11.49**	**267**	*e*P	**Pn**	**19 04 02.4**	**-0.2**
	comp=E,89nm,0.6s						
JIRN	**Jiri**	**11.76**	**270**	*e*P	**Pn**	**19 04 05.7**	**-0.7**
	comp=E,18nm,0.4s						
GUN	**Gumba**	**12.01**	**272**	*e*P	**Pn**	**19 04 09.4**	**-0.4**
	comp=E,17nm,0.7s						
PKI	**Pulchoki**	**12.46**	**270**	*e*P	**Pn**	**19 04 14.5**	**-1.4**
	comp=E,45nm,0.7s						
PKIN	**Phulchoki**	**12.46**	**270**	*e*P	**Pn**	**19 04 14.6**	**-1.4**
	comp=E,10nm,0.3s						
KKN	**Kakani**	**12.55**	**271**	*e*P	**Pn**	**19 04 16.3**	**-0.7**
	comp=E,31nm,0.6s						
BOK	**Bokaro**	**12.99**	**253**	*e*P	**Pn**	**19 04 26.1**	**+3.3**
BOK				*e*S	**Sn**	**19 06 45.0**	**-2.5**
WHN	**Wuhan**	**13.18**	**76**	P	**P**	**19 04 36.3**	**+0.7**
UBPT	**Khong Chiam**	**14.03**	**155**	P	**P**	**19 04 46.2**	**+1.1**
WMQ	**Urumqi**	**18.21**	**332**	*e*P	**Pn**	**19 05 30.4**	**-0.8**
TATO	**Taipei**	**19.95**	**94**	P	**P**	**19 05 51.8**	**+1.3**
SONM	**Songino Array**	**20.30**	**14**	P	**P**	**19 05 56.8**	**+2.4**
	comp=E,0.7nm,0.8s,baz=191,slow=12,SNR=4.9						
ULN	**Ulaanbaatar**	**20.48**	**15**	P	**P**	**19 05 53.6**	**-2.6**
YOJ	**Yonaguni jima**	**21.42**	**95**	P	**P**	**19 06 04.9**	**-1.5**
TARG	**Taragay, Kyrgy**	**22.21**	**313**	P	**P**	**19 06 14.8**	**-0.4**
PRZ	**Przheval'sk**	**22.23**	**315**	P	**P**	**19 06 13.3**	**-1.8**
PRZ				IAmb	IAmb	19 06 18.0	
	comp=Z,10nm,0.9s						
KDJ	**Kajisay**	**22.81**	**313**	P	**P**	**19 06 18.5**	**-2.9**
KDJ				IAmb	IAmb	19 06 28.5	
	comp=Z,7.2nm,0.8s						
MK31	**Makanchi Array**	**22.91**	**329**	P	**P**	**19 06 24.5**	**+2.3**
MKAR	**Makanchi Array**	**22.91**	**329**	P	**P**	**19 06 23.1**	**+0.8**
	comp=Z,6.1nm,0.9s,baz=142,slow=10,SNR=16						
TLY	**Talaya**	**23.64**	**6**	LR	LR	19 15 27.0	
	comp=Z,80nm,18.3s,baz=322,slow=36						
KSRS	**Korea Array**	**25.54**	**62**	P	**P**	**19 06 47.8**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=258,slow=9.8,SNR=2.9						
KSRS				LR	LR	19 16 30.3	
	comp=Z,49nm,19.1s,baz=340,slow=36						
GAR	**Garm**	**26.45**	**302**	P	P	19 06 48.9	-6.5
GAR				IAmb	IAmb	19 07 02.3	
	comp=Z,10nm,0.9s						
CHGR	**Chuyangaron**	**27.24**	**300**	P	**P**	**19 07 00.5**	**-2.0**
CHGR				IAmb	IAmb	19 07 04.7	
	comp=Z,16nm,1.0s						
KURBB	**Kurchatov Arra**	**27.42**	**330**	P	**P**	**19 07 04.0**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=142,slow=9.6,SNR=11						
ZALV	**Zalesovo Beam**	**27.86**	**341**	P	**P**	**19 07 08.5**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=146,slow=11,SNR=6.3						
GEYT	**Alibeck**	**35.73**	**297**	P	**P**	**19 08 16.5**	**-0.6**
	comp=Z,3.4nm,0.9s,baz=108,slow=9.3,SNR=5.8						
ABKAR	**Akbulak array**	**36.74**	**316**	P	**P**	**19 08 27.6**	**+2.0**
ABKAR				IAmb	IAmb	19 08 28.0	
	comp=Z,3.5nm,0.9s						
BRTR	**Keskin Array B**	**54.68**	**300**	P	**P**	**19 10 46.1**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=104,slow=6.1,SNR=5.0						
AKASG	**Malin Array Be**	**56.44**	**314**	P	**P**	**19 10 59.8**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=76,slow=6.4,SNR=6.1						
FINES	**FINESS Array B**	**57.74**	**327**	P	**P**	**19 11 09.3**	**+0.3**
	comp=Z,4.3nm,0.9s,baz=258,slow=5.3,SNR=4.3						
ELL	**Elmali**	**58.14**	**298**	P	**P**	**19 11 11.8**	**-0.6**
WRAB	**Tennant Creek**	**58.56**	**141**	P	**P**	**19 11 13.0**	**-2.3**
WRA	**Warramunga Arr**	**58.56**	**141**	P	**P**	**19 11 14.2**	**-1.1**
	comp=Z,3.5nm,0.9s,baz=331,slow=7.8,SNR=23						
WR0	**Warramunga Arr**	**58.69**	**141**	P	**P**	**19 11 15.3**	**-0.8**
WR0				IAmb	IAmb	19 11 16.7	
	comp=Z,4.5nm,1.0s						
ASAR	**Alice Springs**	**61.35**	**144**	P	**P**	**19 11 33.5**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=326,slow=6.6,SNR=11						
NOA	**NORSAR Array B**	**64.91**	**328**	P	**P**	**19 11 57.3**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=77,slow=6.5,SNR=2.9						
KMBO	**Kilima Mbogo**	**66.30**	**255**	P	**P**	**19 12 06.5**	**-1.1**
	comp=Z,2.8nm,0.5s,baz=56,slow=14,SNR=5.2						
KMBO	**Kilima Mbogo**	**66.30**	**255**	IAmb	IAmb	19 12 08.5	
	comp=Z,6.4nm,1.1s						
GERES	**GERESS Array B**	**66.66**	**314**	P	**P**	**19 12 09.2**	**0.0**
	comp=Z,0.3nm,0.6s,baz=71,slow=5.8,SNR=4.3						
ILAR	**Eielson Array**	**74.13**	**24**	P	**P**	**19 12 54.3**	**-0.2**
	comp=Z,1.6nm,1.1s,baz=292,slow=4.1,SNR=7.3						
INK	**Inuvik**	**76.15**	**18**	P	**P**	**19 13 05.8**	**-0.2**
	comp=Z,2.1nm,1.1s,baz=315,slow=4.8,SNR=3.7						
INK	**Inuvik**	**76.15**	**18**	IAmb	IAmb	19 13 07.5	
	comp=Z,5.9nm,1.3s						
YKA	**Yellowknife Ar**	**85.56**	**15**	P	**P**	**19 13 55.9**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=328,slow=4.8,SNR=6.9						
TORD	**Torodi Ar. Bea**	**90.57**	**285**	P	**P**	**19 14 20.8**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=104,slow=4.6,SNR=3.2						

SOME ***15*** *19:05:28.9, 39°.75N×75°.68E, h5km*
KRNET ***15*** *19:05:28.2±0.1, 39°.68N×75°.62E, mb2.9*
NNC ***15*** *19:05:30.9±2.6, 39°.80N×75°.54E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=17.2km s-min=15.4km az=166.0*

ISC 15 19:05:28.1±1.6, 39°76N±0°.04×75°63E±0°.04, h3km±17km, n39, σ1°28/59, 19C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**0.36**	**132**	Pg	**Pb**	**19 05 37.5**	**+0.3**
KSH				Sg	**Sb**	**19 05 44.3**	**+1.0**
KSH				smax	smax		
	comp=N,320nm,0.6s						
KSH				smax	smax		
	comp=E,550nm,0.6s						
NRN	**Naryn**	**1.70**	**9**	⇓*i*P	**Pg**	**19 06 01.1**	**+0.4**
	baz=9.0						
NRN				⇓*i*S	**Sg**	**19 06 25.2**	**+2.5**
	baz=9.0						
ARLS	**Aral**	**2.32**	**335**	⇑*e*P	**Pb**	**19 06 10.8**	**0.0**
	baz=36						
ARLS				⇑*i*S	**Sb**	**19 06 41.8**	**+1.9**
	baz=36						
KZA	**Kyzart**	**2.33**	**353**	⇑*i*P	**Pb**	**19 06 11.1**	**0.0**
	baz=53						
KZA				⇑*i*S	**Sg**	**19 06 43.0**	**-0.2**
	baz=53						
KZA	**Kyzart**	**2.33**	**353**	P	**Pg**	**19 06 13.7**	**+0.8**
	SNR=7.6						
ULHL	**Ulahol**	**2.53**	**10**	⇑*e*P	**Pb**	**19 06 13.9**	**-0.4**
	baz=10.0						
ULHL				⇑*i*S	**Sb**	**19 06 47.3**	**+1.4**
	baz=10.0						
ULHL	**Ulahol**	**2.53**	**10**	P	**Pg**	**19 06 16.9**	**+0.3**
	SNR=5.8						
TARG	**Taragay, Kyrgy**	**2.57**	**39**	⇑*i*P	**Pb**	**19 06 14.2**	**-0.9**
	baz=38						
TARG				⇑*i*S	**Sb**	**19 06 47.9**	**+0.6**
	baz=38						
UCH	**Uchtor**	**2.61**	**341**	⇑*i*P	**Pb**	**19 06 15.1**	**-0.7**
	baz=42						
UCH				⇑*i*S	**Sb**	**19 06 49.3**	**+0.9**
	baz=42						
UCH	**Uchtor**	**2.61**	**341**	P	**Pb**	**19 06 15.7**	**-0.1**
	SNR=14						
KDJ	**Kajisay**	**2.65**	**26**	⇑*e*P	**Pb**	**19 06 15.6**	**-0.7**
	baz=25						
KDJ				⇑*i*S	**Sb**	**19 06 49.4**	**+0.2**
	baz=25						
BOOM	**Boomskoye usch**	**2.74**	**5**	⇓*e*P	**Pb**	**19 06 16.9**	**-1.0**
	baz=5.0						
BOOM				⇓*e*S	**Sb**	**19 06 52.5**	**+0.6**
	baz=5.0						
AML	**Almayashu**	**2.79**	**329**	⇑*i*P	**Pb**	**19 06 17.3**	**-1.5**
	baz=30						
AML				⇑*i*S	**Sb**	**19 06 53.2**	**-0.3**
	baz=30						
AML	**Almayashu**	**2.79**	**329**	P	**Pg**	**19 06 21.6**	**0.0**
	SNR=6.0						
KBK	**Karagaybulak**	**2.94**	**350**	⇑*i*P	**Pb**	**19 06 19.7**	**-1.6**
	baz=50						
KBK				⇑*i*S	**Sb**	**19 06 57.1**	**-0.6**
	baz=50						
AAK	**Ala-Archa**	**3.00**	**344**	⇑*i*P	**Pb**	**19 06 20.1**	**-2.2**
	baz=44						
AAK				⇑*i*S	**Sb**	**19 06 58.1**	**-1.4**
	baz=44						
AAK	**Ala-Archa**	**3.00**	**344**	P	**Pb**	**19 06 21.7**	**-0.6**
	SNR=12						
AAK	**Ala-Archa**	**3.00**	**344**	⇓Pg	**Pb**	**19 06 21.3**	**-1.0**
	comp=E,7.0nm,0.7s						
AAK				⇓Lg	Lg	19 07 01.2	
	comp=E,17nm,0.7s						
TKM2	**Tokmak 2**	**3.16**	**360**	⇓Pg	**Pg**	**19 06 30.9**	**+2.3**
	comp=E,3.2nm,0.7s						
TKM2				⇑Lg	Lg	19 07 10.7	
	comp=E,6.3nm,0.4s						
KST	**Kastek**	**3.29**	**4**	*e*P	**Pg**	**19 06 31.0**	**-0.2**
	comp=E,9.8nm,0.9s						
KST				*e*S	**Sg**	**19 07 15.7**	**+1.9**
	comp=E,8.4nm,0.9s						
KST	**Kastek**	**3.29**	**4**	Pg	**Pg**	**19 06 31.0**	**-0.2**
	comp=E,4.5nm,0.5s						
KST				Lg	Lg	19 07 15.8	
	comp=E,7.8nm,0.5s						
IZV	**Izvestkoviy**	**3.36**	**12**	*e*P	**Pg**	**19 06 32.4**	**-0.1**
	comp=E,4.3nm,0.8s						
IZV				*e*S	**Sg**	**19 07 17.9**	**+2.0**
	comp=E,9.9nm,0.5s						
IZV	**Izvestkoviy**	**3.36**	**12**	Pg	**Pg**	**19 06 32.4**	**-0.1**
	comp=E,4.3nm,0.8s						
IZV				Lg	Lg	19 07 17.9	
	comp=E,9.9nm,0.5s						
TNSS	**Tian-Shan**	**3.42**	**16**	*e*P	**Pg**	**19 06 33.1**	**-0.6**
	comp=E,2.5nm,0.5s						
TNSS				*e*S	**Sg**	**19 07 19.5**	**+1.4**
	comp=E,6.9nm,0.8s						
TNSS	**Tian-Shan**	**3.42**	**16**	Pg	**Pg**	**19 06 33.2**	**-0.6**
	comp=E,4.5nm,0.6s						
TNSS				Lg	Lg	19 07 19.6	
	comp=E,5.3nm,0.4s						
DGS	**Degeres**	**3.48**	**2**	*e*P	**Pb**	**19 06 33.1**	**+2.6**
	comp=E,3.8nm,0.7s						
DGS				*e*S	**Sg**	**19 07 19.6**	**-0.4

comp=E,4.5nm,0.7s
SATY Saty 3.90 31 *e*P **Pg 19 06 41.2 -1.7**
comp=E,14nm,1.5s
SATY *e*S **Sg 19 07 33.2 -0.3**
comp=E,9.1nm,1.5s
SATY Saty 3.90 31 Pg **Pg 19 06 41.2 -1.7**
comp=E,5.8nm,0.6s
SATY Lg Lg 19 07 33.6
comp=E,3.8nm,0.4s
KTBS Karatobe 4.03 11 *e*P **Pg 19 06 44.0 -1.3**
comp=E,2.0nm,1.0s
KTBS *e*S **Sg 19 07 38.0 +0.5**
comp=E,8.6nm,0.6s
KTBS Karatobe 4.03 11 Pg **Pg 19 06 44.0 -1.3**
comp=E,2.0nm,1.0s
KTBS Lg Lg 19 07 38.0
comp=E,8.6nm,0.6s
ARXS Arharly 4.74 19 *e*P **Pg 19 06 56.5 -2.5**
comp=E,1.8nm,0.6s
ARXS *e*S **Sg 19 07 59.2 -1.2**
comp=E,4.1nm,0.7s
ARXS Arharly 4.74 19 Pg **Pg 19 06 56.5 -2.5**
comp=E,1.8nm,0.6s
ARXS Lg Lg 19 07 59.2
comp=E,4.1nm,0.7s

IDC 15 19:11:29.1±2.2,6.05S×130.27E,h0km,mb4.0/1, mb1 3.7/3,mb1mx3.4/29,mbtmp3.6/3,ML3.7/2,Error ellipse: s-maj=141.6km s-min=30.2km az=70.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.37**	**164**	Pn	Pn	19 14 54.0	+0.1
	0.4nm,0.3s,baz=348,slow=13,SNR=24						
WRA				Sn	Sn	19 17 17.0	-17
	0.1nm,0.3s,baz=338,slow=22,SNR=3.0						
ASAR	**Alice Springs**	**17.86**	**169**	P	Pn	19 15 39.2	-0.1
	0.2nm,0.3s,baz=347,slow=9.7,SNR=20						
ASAR				S	Sn	19 18 44.1	-15
	0.3nm,0.3s,baz=357,slow=26,SNR=6.3						
MKAR	**Makanchi Array**	**67.58**	**326**	P	P	19 22 27.6	0.0
	0.6nm,0.4s,baz=121,slow=7.7,SNR=12						

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*NIED **15** 19:34:00,36.70N×140.60E,h8km,Mw3.9 Best double couple: M0 7.44000×10^14 NP1:φs347.00000°,δ41.00000°, λ-70.00000°. NP2:φs141.00000°,δ52.00000°, λ-107.00000°.*
*ISCJB **15** 19:34:04.3±0.5,36.65N±0.02×140.70E±0.04,h20km±3km, mb4.0/21,Error ellipse: s-maj=5.5km s-min=3.7km az=28.0*
*JMA **15** 19:34:05.3,36.68N×140.61E,h10km,M4.2 Broadband fault plane solution: P waves. NP1:φs342.00000°, δ50.00000°,λ-78.00000°. NP2:φs144.00000°,δ42.00000°, λ-104.00000°. Principal axes: T Plg4.0000°, Azm64.0000°; N Plg9.0000°, Azm155.0000°; P Plg80.0000°, Azm310.0000°;*
JMA Felt III J1.
*NEIC **15** 19:34:09.2±1.8,36.67N±0.09×140.59E±0.10,h46km±1km, mb4.3/7*
*IDC **15** 19:34:10.9±2.2,36.69N×140.46E,h60km±19km,mb3.7/21, mb1 3.9/23,mb1mx3.8/40,mbtmp4.0/23,MS2.7/1, Ms1 2.7/1,ms1mx2.4/42,Error ellipse: s-maj=16.0km s-min=12.4km az=110.0*

ISC 15 19:34:05.0±0.8,36.70N±0.04×140.60E±0.04,h12km±5km, n57,σ1°04/63,mb4.1/22,7C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.09**	**197**	⇓P	**Pg**	**19 34 07.5**	**-0.3**
JHO				S	**Sg**	**19 34 09.1**	**-0.7**
JHYU	**Hitachinakayam**	**0.36**	**182**	⇑P	**Pg**	**19 34 12.1**	**-0.1**
JHYU				S	**Sg**	**19 34 16.9**	**-0.1**
JFFD	**Fukushimafurud**	**0.39**	**355**	⇑P	**Pb**	**19 34 13.5**	**-0.4**
JFFD				S	**Sb**	**19 34 19.1**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.43**	**21**	⇑P	**Pb**	**19 34 14.2**	**-0.4**
ONAJ				S	**Sb**	**19 34 20.6**	**-0.5**
JYT	**Yasato**	**0.57**	**215**	⇑P	**Pg**	**19 34 15.8**	**-0.4**
JYT				S	**Sg**	**19 34 23.6**	**-0.2**
JSB	**Shiboa**	**0.61**	**296**	⇑P	**Pb**	**19 34 17.8**	**+0.2**
JSB				S	**Sb**	**19 34 26.2**	**0.0**
JFK	**Kawauchi**	**0.70**	**18**	⇑P	**Pb**	**19 34 18.7**	**-0.5**
JFK				S	**Sb**	**19 34 28.5**	**-0.3**
JFT	**Otama**	**0.84**	**345**	⇓P	**Pb**	**19 34 21.6**	**0.0**
JFT				S	**Sb**	**19 34 33.2**	**+0.3**
JAG	**Ashikaga**	**0.96**	**254**	⇑P	**Pg**	**19 34 22.4**	**-1.2**
JFY	**Yanaizu**	**1.01**	**315**	P	**Pb**	**19 34 24.5**	**+0.1**
JFY				*e*S	**Sb**	**19 34 37.8**	**+0.2**
MJAR	**Matsushiro Arr**	**1.93**	**266**	P	**Pn**	**19 34 38.4**	**+0.8**
	8.5nm,0.3s,baz=85,slow=10.0,SNR=382						
MJAR				S	**Sn**	**19 35 01.8**	**-0.1**
	15nm,0.3s,baz=77,slow=30,SNR=14						
MAJO	**Matsushiro**	**1.93**	**266**		**Pb**	**19 34 38.8**	**-1.3**
MAJO				Sn	**Sb**	**19 35 04.3**	**0.0**
MAT	**Matsushiro**	**1.93**	**266**	P	**Pn**	**19 34 38.6**	**+0.9**
MAT				S	**Sb**	**19 35 03.6**	**-0.7**
MJB9	**Matsu-Tunnel**	**1.94**	**266**		**Pb**	**19 34 38.9**	**-1.4**
MJB9				Sn	**Sb**	**19 35 04.3**	**0.0**
INU	**Inuyama**	**3.20**	**246**		**Pn**	**19 34 57.1**	**+2.0**
ERM	**Erimo**	**5.67**	**20**	Pn	**Pn**	**19 35 31.1**	**+2.2**
JNU	**Nakatsue**	**8.75**	**249**	LR	LR	19 39 49.0	
	comp=Z,50nm,18.3s,baz=360,slow=39						
USRK	**Ussuriysk Ar.**	**9.96**	**321**	P	**Pn**	**19 36 29.9**	**+2.1**
	baz=135,slow=13,SNR=2.2						
KSRS	**Korea Array**	**10.16**	**278**	P	**Pn**	**19 36 34.2**	**+3.6**
	0.1nm,0.3s,baz=92,slow=14,SNR=2.9						
JOW	**Kunigami**	**14.37**	**230**		**Pn**	**19 37 31.4**	**+3.2**
BJT	**Baijiatuau**	**19.43**	**287**	P	**P**	**19 38 30.1**	**-1.0**
BJT				IAmb	IAmb	19 38 48.6	
	comp=Z,5.1nm,0.4s						
TATO	**Taipei**	**20.11**	**240**	P	**P**	**19 38 38.1**	**-0.5**
MA2	**Magadan**	**23.82**	**13**	P	**P**	**19 39 18.2**	**+0.7**
	comp=Z,7.1nm,0.7s,baz=138,slow=12,SNR=3.1						
MA2	**Magadan**	**23.82**	**13**	IAmb	IAmb	19 39 29.9	
	comp=Z,27nm,1.2s						
SEY	**Seymchan**	**27.25**	**12**	P	**P**	**19 39 49.3**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=248,slow=12,SNR=4.6						
SONM	**Songino Array**	**27.44**	**305**	P	**P**	**19 39 50.0**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=107,slow=9.5,SNR=14						
H11N2	**WAKE ISLAND Hy**	**28.54**	**119**	T	T	20 09 43.0	
	baz=312,slow=75,SNR=1196						
H11N1	**WAKE ISLAND Hy**	**28.55**	**119**	T	T	20 09 43.6	
	baz=312,slow=75,SNR=1542						
H11N3	**WAKE ISLAND Hy**	**28.56**	**119**	T	T	20 09 44.5	
	baz=312,slow=75,SNR=1144						
H11S1	**WAKE ISLAND Hy**	**29.23**	**121**	T	T	20 10 37.1	
	baz=314,slow=75,SNR=2466						
H11S3	**WAKE ISLAND Hy**	**29.23**	**121**	T	T	20 10 37.6	
	baz=314,slow=75,SNR=1370						
H11S2	**WAKE ISLAND Hy**	**29.25**	**121**	T	T	20 10 39.4	
	baz=314,slow=75,SNR=1215						
GSTR	**Great Sitkin T**	**34.01**	**49**	P	**P**	**19 40 47.3**	**-1.2**
ZAA0	**Zalesovo Array**	**41.66**	**313**	P	**P**	**19 41 52.2**	**-0.8**
ZAA0				IAmb	IAmb	19 41 53.8	
	comp=Z,3.1nm,0.7s						
ZALV	**Zalesovo Beam**	**41.66**	**313**	P	**P**	**19 41 51.7**	**-1.4**
	comp=Z,2.7nm,0.6s,baz=94,slow=6.3,SNR=14						
ZALV				PcP	**PcP**	**19 43 48.6**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=106,slow=3.1,SNR=2.8						
MKAR	**Makanchi Array**	**43.75**	**302**	P	**P**	**19 42 10.0**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=84,slow=9.7,SNR=3.5						
KURK	**Kurchatov**	**45.63**	**308**	P	**P**	**19 42 23.8**	**-1.2**
KURK	**Kurchatov**	**45.63**	**308**		**PcP**	**19 44 02.4**	**-0.7**
KURBB	**Kurchatov Arra**	**45.70**	**308**	P	**P**	**19 42 24.2**	**-1.3**
	comp=Z,4.3nm,0.7s,baz=84,slow=7.9,SNR=19						
KURBB				PcP	**PcP**	**19 44 02.4**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=92,slow=3.9,SNR=2.6						
ILAR	**Eielson Array**	**50.12**	**32**	P	**P**	**19 43 00.1**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=262,slow=5.8,SNR=14						
INK	**Inuvik**	**54.98**	**27**	P	**P**	**19 43 36.1**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=298,slow=6.8,SNR=9.5						
INK	**Inuvik**	**54.98**	**27**	IAmb	IAmb	19 43 37.2	
	comp=Z,5.1nm,1.4s						
WRA	**Warramunga Arr**	**56.64**	**187**	P	**P**	**19 43 47.1**	**-0.9**
	comp=Z,2.2nm,0.7s,baz=2.8,slow=7.5,SNR=16						
WRA				PcP	**PcP**	**19 44 43.4**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=5.2,slow=4.3,SNR=2.2						
ASAR	**Alice Springs**	**60.37**	**187**	P	**P**	**19 44 13.6**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=11,slow=5.7,SNR=19						
ARCES	**ARCESS Array B**	**64.08**	**339**	P	**P**	**19 44 37.7**	**-0.7**
	comp=Z,4.1nm,0.9s,baz=32,slow=8.6,SNR=3.5						
YKA	**Yellowknife Ar**	**64.42**	**30**	P	**P**	**19 44 40.7**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=304,slow=6.8,SNR=7.8						
STKA	**Stephens Creek**	**68.22**	**179**	P	**P**	**19 45 05.0**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=0.0,slow=10,SNR=4.0						
FINES	**FINESS Array B**	**68.81**	**332**	P	**P**	**19 45 08.1**	**-0.6**
	comp=Z,3.6nm,0.8s,baz=38,slow=7.0,SNR=4.0						
AKASG	**Malin Array Be**	**74.16**	**322**	P	**P**	**19 45 40.4**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=47,slow=6.2,SNR=7.4						
NOA	**NORSAR Array B**	**74.24**	**337**	P	**P**	**19 45 40.9**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=40,slow=6.0,SNR=3.6						
NVAR	**Mina Array Bea**	**75.71**	**53**	P	**P**	**19 45 51.1**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=296,slow=5.7,SNR=5.2						
PDAR	**Pinedale Array**	**78.36**	**45**	P	**P**	**19 46 05.5**	**0.0**
	comp=Z,0.7nm,0.6s,baz=296,slow=2.1,SNR=8.6						
BRTR	**Keskin Array B**	**78.58**	**311**	P	**P**	**19 46 06.6**	**0.0**
	comp=Z,0.4nm,0.9s,baz=37,slow=7.4,SNR=3.0						
ULM	**Lac du Bonnet**	**80.14**	**33**	P	**P**	**19 46 14.8**	**0.0**
	comp=Z,1.3nm,0.6s,baz=326,slow=3.6,SNR=3.2						
ULM	**Lac du Bonnet**	**80.14**	**33**	IAmb	IAmb	19 46 22.3	
	comp=Z,5.1nm,1.2s						
TXAR	**Lajitas Array**	**90.84**	**52**	P	**P**	**19 47 09.7**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=305,slow=3.2,SNR=4.4						
LPAZ	**La Paz**	**147.42**	**59**	PKPbc	**PKPdf**	**19 53 48.3**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=323,slow=5.1,SNR=2.2						

IDC 15 19:35:55.1±1.6,28.06N×101.50E,h0km,mb3.2/3, mb1 3.3/4,mb1mx3.3/4,mbtmp3.1/4,ML2.1/1,Error ellipse: s-maj=45.7km s-min=25.6km az=79.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.84**	**194**	Pn	Pn	19 38 19.7	+1.7
	0.0nm,0.3s,baz=7.5,slow=14,SNR=1.7						
CMAR				Pg		19 38 54.9	
	0.1nm,0.3s,baz=6.3,slow=17,SNR=2.9						
CMAR				Lg	Lg	19 41 05.3	
	baz=13,slow=28						
MKAR	**Makanchi Array**	**24.02**	**326**	P	P	19 41 11.3	-0.4
	0.7nm,0.7s,baz=138,slow=10,SNR=2.9						
WRA	**Warramunga Arr**	**57.32**	**143**	P	P	19 45 45.6	+0.4
	0.4nm,0.8s,baz=327,slow=8.2,SNR=2.8						
ASAR	**Alice Springs**	**60.17**	**146**	P	P	19 46 04.3	-0.6
	0.1nm,0.7s,baz=322,slow=7.1,SNR=1.4						

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*IDC **15** 19:48:12.5±2.5,21.89S×170.19E,h0km,mb3.8/7, mb1 4.0/8,mb1mx3.8/41,mbtmp3.8/8,ML4.0/1,MS3.6/7, Ms1 3.6/7,ms1mx3.2/34,Error ellipse: s-maj=87.8km s-min=26.5km az=150.0*
*NEIC **15** 19:48:21.1±1.5,21.93S±0.05×169.87E±0.08,h50km±9km, mb4.3/6*

ISC 15 19:48:16.3±0.7,22.0S±0.2×170.07E±0.08,h25km,n33, σ1°45/30,mb3.9/9,MS3.6/7,4C,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.37**	**268**	Pn	**Pn**	**19 49 08.3**	**+0.9**
	14nm,0.3s,baz=126,slow=15,SNR=224						
DZM				Sn	**Sn**	**19 49 43.6**	**-3.0**
	5.0nm,0.3s,baz=278,slow=19,SNR=3.9						
DZM	**Mont Dzumac**	**3.37**	**268**		**Pn**	**19 49 08.3**	**+0.9**
DZM					**Sn**	**19 49 47.6**	**+1.0**
MSVF	**Nonsavu**	**8.62**	**62**		Pn	19 50 25.6	+6.1
NIUE	**Niue**	**18.95**	**85**	P	**Pn**	**19 52 38.6**	**+2.2**
CTA	**Charters Tower**	**22.31**	**270**	P	**P**	**19 53 12.8**	**+0.8**
	2.4nm,0.8s,baz=105,slow=12,SNR=2.2						
CTAO	**Charters Tower**	**22.31**	**270**	P	**P**	**19 53 10.4**	**-1.7**
CTAO				IAmb	IAmb	19 53 21.1	
	comp=Z,15nm,0.8s						
STKA	**Stephens Creek**	**27.16**	**243**	P	**P**	**19 53 59.1**	**+1.3**
	comp=Z,2.2nm,0.9s,baz=86,slow=12,SNR=5.2						
STKA				LR	LR	20 04 08.3	
	comp=Z,92nm,19.6s,baz=27,slow=35						
WR0	**Warramunga Arr**	**33.20**	**267**	P	**P**	**19 54 54.1**	**+2.8**
WR0				IAmb	IAmb	19 55 04.0	
	comp=Z,4.2nm,1.1s						
ASAR	**Alice Springs**	**33.33**	**260**	P	**P**	**19 54 53.5**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=94,slow=8.4,SNR=5.7						
ASAR				LR	LR	20 08 47.8	
	comp=Z,64nm,18.1s,baz=102,slow=37						
WRAB	**Tennant Creek**	**33.38**	**267**	P	**P**	**19 54 53.1**	**+0.3**
WRAB				IAmb	IAmb	19 55 05.1	
	comp=Z,5.3nm,1.2s						
WRA	**Warramunga Arr**	**33.38**	**267**	P	**P**	**19 54 53.2**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=98,slow=8.3,SNR=8.0						
MTN	**Manton Dam**	**38.16**	**277**	P	**P**	**19 55 34.2**	**+0.3**
BATI	**Baumata**	**45.93**	**277**	LR	LR	20 15 42.4	
	comp=Z,96nm,21.2s,baz=124,slow=36						
DAV	**Davao City (W)**	**52.30**	**298**	LR	LR	20 20 18.3	
	comp=Z,36nm,19.0s,baz=22,slow=37						
VNDA	**Vanda**	**55.73**	**182**	LR	LR	20 19 02.4	
	comp=Z,59nm,18.3s,baz=267,slow=33						
TGY	**Tagaytay City**	**60.06**	**302**	LR	LR	20 22 14.8	
	comp=Z,51nm,19.7s,baz=142,slow=34						
LEM	**Lembang**	**61.95**	**274**	LR	LR	20 24 43.6	
	comp=Z,42nm,18.4s,baz=226,slow=35						
CMAR	**Chiang Mai Arr**	**80.34**	**294**	P	**P**	**20 00 26.5**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=138,slow=5.2,SNR=6.4						
SNAA	**Sanae**	**86.46**	**182**	Pdiff	**P**	**20 00 55.7**	**-0.8**
VNA3	**Neumayer Olymp**	**87.02**	**180**	Pdiff	**P**	**20 00 58.0**	**-1.2**
VNA2	**Neumayer--Watz**	**87.32**	**181**	Pdiff	**P**	**20 00 60.0**	**-0.7**
	baz=169,slow=4.1						
VNA1	**Neumayer--Stat**	**87.61**	**181**	Pdiff	P	**20 00 59.3**	**-2.7**
SONM	**Songino Array**	**89.87**	**323**	P	**P**	**20 01 13.9**	**+0.8**
	comp=Z,1.6nm,1.0s,baz=112,slow=1.6,SNR=5.9						
ILAR	**Eielson Array**	**92.61**	**17**	P	**P**	**20 01 23.8**	**-1.4**
	comp=Z,0.4nm,1.0s,baz=226,slow=5.1,SNR=7.0						
DRGR		**143.85**	**321**	⇑P	**PKPdf**	**20 07 47.7**	**-1.7**
GZR	**Gura Zlata**	**144.53**	**319**	⇑P	**PKPab**	**20 07 48.1**	**-1.0**
SIRR	**Siria**	**144.74**	**321**	⇑P	**PKPdf**	**20 07 51.5**	**+0.6**
UPC	**Upice**	**145.03**	**331**	*e*PKP	**PKPdf**	**20 07 51.9**	**+0.7**
VRAC	**Vranov**	**145.59**	**329**	⇑P	**PKPab**	**20 07 53.7**	**+1.0**
CLL	**Collm**	**145.72**	**334**	*e*PKPbc	**PKPab**	**20 07 53.0**	**-0.1**
CLL				*i* PKiKP	**pPKPdf**	**20 07 57.3**	**-2.0**
CLL				epPKPbc	sPKPab	20 08 06.0	+3.7
NKC	**Novy Kostel**	**146.77**	**334**	*e*PKP	**PKPab**	**20 07 56.6**	**-0.6**
KHC	**Kasperske Hory**	**147.11**	**331**	*e*PKP	**PKiKP**	**20 07 58.4**	**-1.1**
GERES	**GERESS Array B**	**147.26**	**331**	PKPbc	**PKPab**	**20 07 57.9**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=39,slow=6.8,SNR=10						

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*ISCJB **15** 20:10:47.3±0.5,60.73S±0.08×24.9W±0.2,h11km, mb4.0/7, MS3.4/5,Error ellipse: s-maj=15.4km s-min=8.0km az=141.4*
*IDC **15** 20:10:48.8±0.8,60.47S×24.83W,h0km,mb4.1/7, mb1 4.1/7,mb1mx3.9/23,mbtmp4.0/7,MS3.3/7,Ms1 3.3/7, ms1mx3.1/22,Error ellipse: s-maj=31.1km s-min=22.1km az=88.0*
*NEIC **15** 20:10:51.5±2.3,60.8S±0.1×24.9W±0.2,h27km±5km, mb4.3/7*

ISC 15 20:10:50.0±0.6,60.61S±0.10×24.8W±0.1,h11km,n29, σ1°25/25,mb4.3/10,MS3.4/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**8.93**	**310**	Pn	**Pn**	**20 12 59.5**	**+0.8**
VNA1	**Neumayer--Stat**	**12.11**	**153**	P	**Pn**	**20 13 41.6**	**-0.6**
VNA1				S	Sn	20 15 43.5	-13
VNA3	**Neumayer Olymp**	**12.28**	**157**	P	**Pn**	**20 13 42.7**	**-1.7**
VNA3				S	Sn	20 15 47.6	-13
VNA2	**Neumayer--Watz**	**12.51**	**153**	P	**Pn**	**20 13 46.3**	**-1.3**
	baz=314,slow=16						
VNA2				S	Sn	20 15 53.2	-14
	baz=326,slow=23						
SNAA	**Sanae**	**14.09**	**151**	P	**Pn**	**20 14 07.8**	**-1.3**
SNAA				S	Sn	20 16 32.8	-12
SNAA	**Sanae**	**14.09**	**151**	Pn	**Pn**	**20 14 07.9**	**-1.3**
	2.7nm,0.3s,baz=323,slow=15,SNR=200						
SNAA				Sn	Sn	20 16 31.4	-14
	0.2nm,0.3s,baz=332,slow=19,SNR=4.5						
SNAA				LR	LR	20 18 16.8	
	comp=Z,65nm,21.9s,baz=2.0,slow=32						
SNAA	**Sanae**	**14.09**	**151**		**Pn**	**20 14 08.4**	**-0.8**
SNAA				Sn	Sn	20 16 35.3	-10
PMSA	**Palmer Station**	**18.25**	**240**	LR	LR	20 20 57.5	
	comp=Z,32nm,18.2s,baz=208,slow=33						
PMSA	**Palmer Station**	**18.25**	**240**	P	**Pn**	**20 15 00.5**	**-2.3**
USHA	**Ushuaia**	**23.64**	**265**	LR	LR	20 23 02.2	
	comp=Z,124nm,19.3s,baz=134,slow=31						
QSPA	**South Pole Qui**	**29.62**	**180**	P	**P**	**20 16 57.0**	**+2.0**
	1.2nm,0.2s,baz=200,slow=6.5,SNR=6.6						
TRQA	**Tornquist**	**32.41**	**297**	P	**P**	**20 17 18.2**	**-1.4**
TRQA				IAmb	IAmb	20 17 22.6	
	comp=Z,6.0nm,1.1s						
PLCA	**Paso Flores**	**34.20**	**285**	P	**P**	**20 17 35.0**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=193,slow=8.8,SNR=4.6						
PLCA				LR	LR	20 30 19.6	
	comp=Z,38nm,18.1s,baz=157,slow=34						
PLCA	**Paso Flores**	**34.20**	**285**	P	**P**	**20 17 34.3**	**-1.0**
PLCA				IAmb	IAmb	20 17 37.0	
	comp=Z,5.8nm,1.2s						
MAW	**Mawson**	**35.79**	**139**	LR	LR	20 30 52.7	
	comp=Z,38nm,18.9s,baz=230,slow=34						
CPUP	**Villa Florida**	**40.80**	**312**	LR	LR	20 35 39.7	
	comp=Z,62nm,18.5s,baz=50,slow=37						
VNDA	**Vanda**	**42.06**	**182**	P	**P**	**20 18 43.5**	**+2.6**
	comp=Z,2.0nm,1.1s,baz=220,slow=7.9,SNR=3.6						
LBTB	**Lobatse**	**49.38**	**67**	P	**P**	**20 19 38.6**	**-0.9**
LBTB				IAmb	IAmb	20 19 51.0	
	comp=Z,1.8nm,1.2s						
MNMC	**Minye Minye**	**52.09**	**302**	P	**P**	**20 19 59.3**	**-0.9**
LPAZ	**La Paz**	**54.05**	**306**	P	**P**	**20 20 14.5**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=140,slow=11,SNR=3.6						
LPAZ	**La Paz**	**54.05**	**306**	P	**P**	**20 20 14.1**	**-0.9**
LPAZ				IAmb	IAmb	20 20 17.9	
	comp=Z,5.3nm,1.4s						
SAML	**Samuel**	**58.90**	**314**	P	**P**	**20 20 50.2**	**+1.4**
SAML				IAmb	IAmb	20 21 06.5	
	comp=Z,3.0nm,1.1s						
DBIC	**Dimbokro**	**68.89**	**21**	P	**P**	**20 21 54.4**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=185,slow=11,SNR=2.3						
MBAR	**Mbarara**	**73.26**	**59**	LR	LR	20 50 21.9	
	comp=Z,58nm,18.6s,baz=356,slow=32						
TORD	**Torodi Ar. Bea**	**76.51**	**27**	P	**P**	**20 22 40.0**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=202,slow=6.4,SNR=12						
ASAR	**Alice Springs**	**94.25**	**161**	P	**P**	**20 24 08.7**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=242,slow=2.0,SNR=3.4						
FINES	**FINESS Array B**	**127.83**	**28**	PKP	**PKPdf**	**20 29 54.0**	**+0.1**
	comp=Z,4.6nm,1.1s,baz=167,slow=7.0,SNR=3.6						
SONM	**Songino Array**	**149.51**	**92**	PKPbc	**PKPbc**	**20 30 37.8**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=209,slow=2.6,SNR=3.4						
ILAR	**Eielson Array**	**153.92**	**304**	PKPbc	**PKiKP**	**20 30 48.6**	**+0.8**
	comp=Z,1.2nm,1.0s,baz=6.3,slow=0.3,SNR=10						
ILAR				PKPab	**PKPab**	**20 31 01.1**	**0.0**
	comp=Z,0.5nm,0.8s,baz=97,slow=2.0,SNR=6.1						

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*IDC **15** 20:16:00.4±2.2,6.51N×127.24E,h0km,mb3.4/5, mb1 3.6/5,mb1mx3.3/47,mbtmp3.4/5,Error ellipse: s-maj=132.2km s-min=28.2km az=67.0*
*MAN **15** 20:16:10.8,6.23N×126.21E,h21km,MS3.2*

ISC 15 20:16:07.1±2.7,5.98N±0.07×126.42E±0.08,h28km±21km, n12,σ1°90/18,mb3.4/5,3C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.71**	**280**	P	**Pn**	**20 16 22.1**	**+0.7**
DDMP				S	**Sn**	**20 16 32.5**	**+1.0**
MATI	**Mati**	**0.97**	**350**	P	**Pn**	**20 16 24.1**	**-0.8**
MATI				S	**Sb**	**20 16 37.0**	**-0.8**
GSPH	**General Santos**	**1.47**	**274**	⇑P	**Pn**	**20 16 30.8**	**-1.0**
KCP	**Kidapawan**	**1.67**	**308**	⇑P	**Pn**	**20 16 34.9**	**+0.3**
KCP				S	**Sn**	**20 16 52.6**	**-2.4**
SKMP	**Bagumbayan, Su**	**1.94**	**286**	P	**Pn**	**20 16 38.1**	**-0.2**
SKMP				S	**Sn**	**20 17 00.2**	**-1.5**
BUKP	**Musuan**	**2.31**	**324**	P	**Pn**	**20 16 44.2**	**+0.7**
BUKP				S	**Sn**	**20 17 11.2**	**+0.1**
CGP	**Cagayan de Oro**	**2.99**	**325**	⇑P	**Sn**	**20 17 32.6**	**+4.9**
CGP				S	**Sb**	**20 17 36.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**23.94**	**182**	P	**P**	**20 21 21.8**	**+2.7**
	1.3nm,1.0s,baz=22,slow=11,SNR=1.5						
WRA	**Warramunga Arr**	**26.92**	**163**	P	**P**	**20 21 45.1**	**-1.0**
	0.2nm,0.7s,baz=347,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**30.36**	**166**	P	**P**	**20 22 16.7**	**-0.1**
	0.2nm,0.5s,baz=342,slow=7.1,SNR=4.9						
STKA	**Stephens Creek**	**40.34**	**160**	P	**P**	**20 23 42.6**	**+0.2**
	1.0nm,0.7s,baz=327,slow=3.6,SNR=3.2						
MKAR	**Makanchi Array**	**55.55**	**325**	P	**P**	**20 25 37.9**	**-2.2**
	0.4nm,0.7s,baz=133,slow=8.5,SNR=2.0						

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*MEX **15** 20:32:52.7±0.5,15.17N×93.29W,h76km±8km,MD3.7*
*GCG **15** 20:33:26.9±0.6,14.55N×92.01W,h18km±31km,MD3.7*

ISC 15 20:32:54.0±2.7,15.3N±0.1×93.3W±0.2,h57km,n7, σ2°50/10,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.46**	**6**	*e*P	**Pn**	**20 33 05.0**	**-0.3**
PCIG	

HRKL	Herakleio	0.61	308	P	Pg	20 40 31.8	-0.8
HRKL				S	Sg	20 40 41.8	+1.2
	comp=E,15µm,0.6s						
HRKL	Herakleio	0.61	308	PG	Pg	20 40 31.9	-0.7
HRKL				SG	Sg	20 40 41.4	+0.8
KSTL	Kastelli Herak	0.62	306	P	Pg	20 40 27.7	-5.2
IACM	Heraklion	0.63	306	P	Pg	20 40 32.3	-0.5
IACM				S	Sg	20 40 42.0	+0.9
	comp=E,33µm,0.6s						
IACM	Heraklion	0.63	306	P	Pg	20 40 32.4	-0.5
IACM				S	Sg	20 40 40.4	-0.7
IACM				AML	AML	20 40 54.4	
	comp=N,93397µm,0.5s						
IACM				AML	AML	20 40 55.9	
	comp=E,80911µm,0.6s						
SIVA	Sivas	0.72	277	P	Pg	20 40 33.4	-1.3
SIVA				S	Sg	20 40 44.8	+0.6
	comp=E,15µm,0.6s						
SIVA	Sivas	0.72	277	P	Pg	20 40 33.5	-1.3
SIVA				S	Sg	20 40 44.9	+0.6
SIVA				AML	AML	20 40 50.0	
	comp=N,29043µm,0.7s						
SIVA				AML	AML	20 40 50.7	
	comp=E,33341µm,0.5s						
IDI	Anoyia	0.74	299	P	Pg	20 40 33.3	-1.8
IDI				S	Sg	20 40 45.0	+0.2
IDI				AML	AML	20 40 46.0	
	comp=E,6812µm,0.5s						
IDI				AML	AML	20 40 46.2	
	comp=N,8695µm,0.4s						
IDI	Anoyia	0.74	299	PG	Pg	20 40 33.3	-1.8
IDI				SG	Sg	20 40 45.2	+0.4
TMBK	Timbaki Herakl	0.77	281	P	Pg	20 40 34.7	-0.9
TMBK				S	Sg	20 40 46.3	+0.7
	comp=N,5µm,0.6s						
PRNS	Prines Rethymn	1.06	294	P	Pb	20 40 40.1	-1.0
VAM	Vamos	1.31	292	P	Pn	20 40 43.3	-1.6
VAM	Vamos	1.31	292	P	Pn	20 40 43.3	-1.6
VAM				S	Sb	20 41 03.4	+1.4
VAM				AML	AML	20 41 11.2	
	comp=N,7861µm,0.7s						
VAM				AML	AML	20 41 17.3	
	comp=E,7596µm,0.8s						
GVD	Gavdhos	1.32	266	P	Pn	20 40 45.1	0.0
GVD				S	Sn	20 41 02.2	-0.4
GVD				AML	AML	20 41 14.5	
	comp=E,9528µm,0.6s						
GVD				AML	AML	20 41 21.2	
	comp=N,7097µm,0.7s						
KARP	Karpathos	1.35	63	P	Pn	20 40 44.9	-0.7
KARP	Karpathos	1.35	63	P	Pn	20 40 45.1	-0.5
KARP				S	Sg	20 41 03.5	-0.9
KARP				AML	AML	20 41 10.8	
	comp=E,7715µm,0.6s						
KARP				AML	AML	20 41 17.6	
	comp=N,6601µm,0.5s						
KARP	Karpathos	1.35	63	PN	Pn	20 40 45.6	0.0
KARP	Karpathos	1.35	63	P	Pn	20 40 45.2	-0.3
KARP				S	Sg	20 41 08.2	+3.9
KARP				AMd		20 45 03.4	
KARP				AMd		20 45 03.4	
KARP	Karpathos	1.35	63		Pn	20 40 45.3	-0.3
THR6	Thira Island,	1.44	351	P	Pn	20 40 46.1	-0.6
THR6	Thira Island,	1.44	351	P	Pn	20 40 46.1	-0.6
SAP1	Santorini-Akro	1.44	351	P	Pn	20 40 45.9	-0.8
SAP1				S	Sg	20 41 05.9	-1.2
SANT	Santorini	1.45	353	P	Pn	20 40 45.9	-1.0
SANT				S	Sg	20 41 06.2	-1.1
SANT	Santorini	1.45	353	P	Pn	20 40 46.0	-0.9
SANT				AML	AML	20 41 09.9	
	comp=N,4805µm,0.3s						
SANT				AML	AML	20 41 10.2	
	comp=E,9462µm,0.4s						
SANT	Santorini	1.45	353	PN	Pn	20 40 46.3	-0.5
SANT	Santorini	1.45	353		Pn	20 40 46.4	-0.5
SANT				Sn	Sg	20 41 07.1	-0.2
THR8	Santorini-Mono	1.48	354	P	Pn	20 40 46.6	-0.7
THR8	Santorini-Mono	1.48	354	P	Pn	20 40 46.2	-1.0
SAP2K	Karterados	1.49	353	P	Pn	20 40 47.0	-0.4
SAP2K				S	Sb	20 41 06.9	-0.3
THR3	Thira Island,	1.49	351	P	Pn	20 40 46.8	-0.6
THR3	Thira Island,	1.49	351	P	Pn	20 40 46.9	-0.6
IMMV	Iera Moni Meta	1.49	291	P	Pn	20 40 46.5	-0.9
IMMV				S	Sn	20 41 06.6	-0.3
	comp=E,3µm,0.6s						
IMMV	Iera Moni Meta	1.49	291	P	Pn	20 40 47.9	+0.5
SFIR	Foira Santorin	1.50	352	P	Pn	20 40 47.0	-0.6
THR7	Fira-Santorini	1.50	352	P	Pn	20 40 47.1	-0.5
THR7	Fira-Santorini	1.50	352	P	Pn	20 40 47.3	-0.3
THR5	Thira Island,	1.50	350	P	Pn	20 40 46.9	-0.7
THR5	Thira Island,	1.50	350	P	Pn	20 40 47.0	-0.7
THT2	Imerovigli	1.51	352	P	Pn	20 40 47.4	-0.4
THT2	Imerovigli	1.51	352	PN	Pn	20 40 47.3	-0.5
IOSP	Ios island	1.81	350	P	Pn	20 40 51.1	-0.8
IOSP	Ios island	1.81	350	P	Pn	20 40 51.3	-0.6
IOSP				S	Sn	20 41 14.6	-0.2
IOSP				AML	AML	20 41 22.6	
	comp=N,4506µm,0.6s						
IOSP				AML	AML	20 41 27.7	
	comp=E,4364µm,0.5s						
AMGA	Amorgos Island	1.90	5	P	Pn	20 40 52.5	-0.6
AMGA	Amorgos Island	1.90	5	P	Pn	20 40 52.7	-0.4
AMGA				S	Sn	20 41 16.1	-0.9
AMGA				AML	AML	20 41 24.4	
	comp=N,2736µm,0.4s						
AMGA				AML	AML	20 41 24.6	
	comp=E,3537µm,0.7s						
NISR	Nisiros	2.04	35	P	Pn	20 40 55.9	+0.9
MHLA	Plaka, Milos I	2.08	331	P	Pn	20 40 55.3	-0.3
KOSK	Kos Island	2.10	30	PN	Pn	20 40 56.8	+1.1
APE	Apeiranthos	2.13	357	P	Pn	20 40 56.2	-0.1
APE	Apeiranthos	2.13	357	*c* *i*P	Pn	20 40 55.6	-0.7
APE	Apeiranthos	2.13	357	P	Pn	20 40 56.9	-0.5
APE	Apeiranthos	2.13	357	PN	Pn	20 40 56.3	-0.1
APE	Apeiranthos	2.13	357	P	Pn	20 40 56.4	+0.1
APE				AMd		20 46 18.3	
ANKY	Antikythira Is	2.16	296	P	Pn	20 40 57.8	+1.1
DAT	Datca	2.36	40	*i* P	Pn	20 41 00.2	+0.7
DAT				*i* S	Sb	20 41 29.5	-3.0
DAT	Datca	2.36	40	PN	Pn	20 41 00.2	+0.7
SERI	Serifos	2.42	337	P	Pn	20 40 59.4	-0.9
SERI	Serifos	2.42	337	P	Pn	20 40 59.6	-0.8
DATC	Datca-Mugla	2.43	41	PN	Pn	20 41 00.9	+0.6
BODT	Bodrum	2.50	31	PN	Pn	20 41 02.0	+0.7
KTHA	Kythira Island	2.51	302	P	Pn	20 41 01.4	-0.1
KTHA	Kythira Island	2.51	302	P	Pn	20 41 01.4	-0.1
KTHR	Kythira	2.56	302	P	Pn	20 41 02.0	-0.1
VLI	Veliai	2.86	309	P	Pn	20 41 06.2	-0.1
MLSB	Milas	2.90	35	PN	Pn	20 41 08.0	+1.1
SMG	Samos	2.92	18	P	Pn	20 41 07.2	+0.1
GCAM	G?zelcaml?	3.03	24	*e*P	Pn	20 41 11.1	+2.6
GCAM	G?zelcaml?	3.03	24	PN	Pn	20 41 10.1	+1.5
YER	Yerkesik	3.04	43	PN	Pn	20 41 10.0	+1.2
TURN	Turunc	3.06	50	*i* P	Pn	20 41 06.1	-2.8
TURN	Turunc	3.06	50	PN	Pn	20 41 05.8	-3.2
KRND	KRANIDI	3.19	321	P	Pn	20 41 11.7	+0.9
DID	Didima	3.24	323	P	Pn	20 41 11.5	0.0
FETY	Fethiye	3.24	57	*i* P	Pn	20 41 13.0	+1.5
FETY				*i* S	Sb	20 41 54.3	-3.5
FETY	Fethiye	3.24	57	PN	Pn	20 41 12.5	+1.0
AYDN	Tasoluk	3.25	32	*i* P	Pn	20 41 14.1	+2.5
AYDN				*i* S	Sb	20 41 53.7	-4.2
DGB	zmir	3.26	17	*i* P	Pn	20 41 12.5	+0.8
DGB				*i* S	Sn	20 41 52.5	+2.1
ZEY	zmir	3.36	11	*e*P	Pn	20 41 16.0	+2.9
KSL	Kastellorizon	3.40	68	P	Pn	20 41 15.2	+1.5
KSL				S	Sb	20 41 57.3	-5.0
AKAS	Kas	3.45	67	*i* P	Pn	20 41 15.8	+1.3
AKAS				*i* S	Sb	20 42 01.4	-2.4
AKAS	Kas	3.45	67	PN	Pn	20 41 15.2	+0.7
CHOS	Chios island	3.46	5	P	Pn	20 41 14.8	+0.2
CHOS	Chios island	3.46	5	P	Pn	20 41 14.3	-0.3
CHOS	Chios island	3.46	5	PN	Pn	20 41 14.9	+0.3
AYDB	Zeytinkoy-Aydi	3.49	30	PN	Pn	20 41 16.1	+1.0
URLA	Izmir	3.50	12	*i* P	Pn	20 41 16.0	+0.9
URLA				*i* S	Sn	20 41 58.7	+2.3
URLA	Izmir	3.50	12	PN	Pn	20 41 16.1	+1.1
BLCB	Balcova	3.61	17	PN	Pn	20 41 17.5	+0.9
TAVA	DENIZLI_Tavas	3.63	45	*i* P	Pn	20 41 19.3	+2.3
TAVA				*i* S	Sb	20 42 06.9	-2.1
LTK	Loutraki	3.78	325	P	Pn	20 41 20.4	+1.4
GLHS	Gihisar (BURDU	3.80	53	PN	Pn	20 41 20.4	+1.1
ELL	Elmali	3.88	61	P	Pn	20 41 22.7	+2.3
ELL	Elmali	3.88	61	PN	Pn	20 41 21.5	+1.1
ELL	Elmali	3.88	61		Pn	20 41 22.7	+2.3
GOLH	Golhisar	3.89	53	*i* P	Pn	20 41 23.0	+2.5
GOLH				*i* S	Sb	20 42 12.7	-3.8
AKUM	Antalya-Kumluc	4.04	69	*i* P	Pn	20 41 23.8	+1.3
ZEDA	zmir-Bergama	4.18	15	*i* P	Pn	20 41 25.5	+1.2
ZEDA				*i* S	Sb	20 42 17.6	-7.0
KLV	Kalavryta, Ach	4.21	318	P	Pn	20 41 26.1	+1.2
MANT	Manisa	4.23	32		Pn	20 41 28.3	+2.9
SIGR	SIGRI	4.27	2	P	Pn	20 41 25.5	-0.2
KORT	Korkueli	4.31	60	*i* P	Pn	20 41 28.7	+2.4
KORT				*i* S	Sb	20 42 23.6	-5.0
KORT	Korkueli	4.31	60	PN	Pn	20 41 27.7	+1.4
PRK	Paraskevi	4.33	6	P	Pn	20 41 26.3	-0.1
DRO	Drossia	4.40	314	P	Pn	20 41 29.6	+2.2
BRDR	BURDUR-Merkez	4.48	51	*e*P	Pn	20 41 31.1	+2.4
SERG	Sergoula	4.53	321	P	Pn	20 41 30.0	+0.7
KHAL	Karahalli	4.59	41	*i* P	Pn	20 41 32.3	+2.1
BASM	Basmaki-Afyon	4.61	48	PN	Pn	20 41 32.0	+1.6
USAK	Uak-Merkez	4.62	34	*i* P	Pn	20 41 33.3	+2.7
BCK	Bucak	4.70	56	PN	Pn	20 41 33.2	+1.6
STEP	BALIKESIR_Sava	4.72	20	*i* P	Pn	20 41 34.2	+2.3
DEMI	Demirci	4.76	30	*i* P	Pn	20 41 35.9	+3.4
BAYC	CANAKKALE_Bayr	4.85	8	*i* P	Pn	20 41 35.3	+1.7
ISP	Isparta	4.85	52	⇑P	Pn	20 41 36.0	+2.3
ISP	Isparta	4.85	52	⇑P	Pn	20 41 36.0	+2.3
ISP	Isparta	4.85	52	PN	Pn	20 41 35.3	+1.6
AGG	Agios Georgios	4.88	328	P	Pn	20 41 35.6	+1.5
AGG	Agios Georgios	4.88	328		Pn	20 41 35.6	+1.5
EZN	Ezine	4.91	6	⇑P	Pn	20 41 37.3	+2.9
EZN	Ezine	4.91	6	⇑P	Pn	20 41 37.3	+2.9
BAGO	Egridir - ISPA	5.12	52	*i* P	Pn	20 41 39.0	+1.6
GDZ	Gediz	5.14	35	*i* P	Pn	20 41 40.3	+2.6
DURS	Dursunbey	5.16	25	*e*P	Pn	20 41 41.2	+3.2
KEPZ	Antalya-Kepez	5.19	66	*i* P	Pn	20 41 41.1	+2.8
AFYO	Afyonkarahisar	5.33	43	*i* P	Pn	20 41 43.1	+2.8
AKMS	Akamas	5.46	87	P	Pn	20 41 41.1	-0.9
AKMS				S	Sn	20 42 44.9	+0.1
AKMS				AML	AML	20 42 53.3	
	comp=E,0.6nm,0.4s						
AKMS				AML	AML	20 42 53.3	
	comp=E,0.6nm,0.4s						
AKMS				AML	AML	20 42 59.4	
	comp=E,0.7nm,0.4s						
AKMS				AML	AML	20 42 59.4	
	comp=E,0.7nm,0.4s						
AKMS				AMd		20 47 53.5	
AKMS				AMd		20 47 53.5	
GAZI	Gazipasa	5.56	75	*i* P	Pn	20 41 43.7	+0.4
NATA	Nata	5.66	90	P	Pn	20 41 44.5	-0.3
NATA				S	Sn	20 42 51.1	+1.2
NATA				AML	AML	20 43 10.1	
	comp=E,1.4nm,1.1s						
NATA				AML	AML	20 43 10.1	
	comp=E,1.4nm,1.1s						
NATA				AML	AML	20 43 26.2	
	comp=E,1.2nm,0.8s						
NATA				AML	AML	20 43 26.2	
	comp=E,1.2nm,0.8s						
NATA				AMd		20 44 47.2	
NATA				AMd		20 44 47.2	
ALFC	Alefka	5.67	86	P	Pn	20 41 45.1	+0.1
ALFC				S	Sn	20 42 49.5	-0.7
ALFC				AML	AML	20 42 56.0	
	comp=E,0.7nm,0.8s						
ALFC				AML	AML	20 42 56.0	
	comp=E,0.7nm,0.8s						
ALFC				AML	AML	20 42 56.1	
	comp=E,0.7nm,0.6s						
ALFC				AML	AML	20 42 56.1	
	comp=E,0.7nm,0.6s						
LIT	Litokhoron	5.75	335	P	Pn	20 41 47.9	+1.9
LIT	Litokhoron	5.75	335		Pn	20 41 47.9	+1.9
DOGA	KONYA_Doganhis	5.76	55	*i* P	Pn	20 41 48.3	+2.0
SZAC	Souni	5.92	90	P	Pn	20 41 47.2	-1.1
SZAC				S	Sn	20 42 55.4	-0.8
SZAC				AML	AML	20 43 14.7	
	comp=E,0.4nm,0.5s						
SZAC				AML	AML	20 43 14.7	
	comp=E,0.4nm,0.5s						
SZAC				AML	AML	20 43 19.6	
	comp=E,0.7nm,0.7s						
SZAC				AML	AML	20 43 19.6	
	comp=E,0.7nm,0.7s						
SZAC				AMd		20 47 13.8	
SZAC				AMd		20 47 13.8	
ALN	Alexandroupoli	5.96	3	P	Pn	20 41 49.9	+1.1
ALN	Alexandroupoli	5.96	3	Pn	Pn	20 41 49.9	+1.1
ERMK	Ermenek	6.12	72	*i* P	Pn	20 41 53.4	+2.2
ASGA	Asgata	6.22	89	P	Pn	20 41 51.2	-0.6
ASGA				S	Sn	20 43 02.1	-1.4
ASGA				AML	AML	20 43 08.1	
	comp=E,0.5nm,0.5s						
ASGA				AML	AML	20 43 08.1	
	comp=E,0.5nm,0.5s						
ASGA				AMd		20 44 19.6	
ASGA				AMd		20 44 19.6	
CSS	Mathiatis	6.28	88	P	Pn	20 41 52.6	-0.7
CSS				S	Sn	20 43 03.9	-1.1
CSS	Mathiatis	6.28	88	Pn	Pn	20 41 52.8	-0.5
MVOU	Mavrovouni	6.52	87	P	Pn	20 41 56.6	0.0
MVOU				AML	AML	20 43 17.5	
	comp=E,0.3nm,0.5s						
MVOU				AML	AML	20 43 24.4	
	comp=E,0.3nm,0.6s						
FNA	Florina	6.76	331	P	Pn	20 42 02.4	+2.5
FNA	Florina	6.76	331		Pn	20 42 02.4	+2.5
RZN	Rozhen	6.79	354	*e*P	Pn	20 42 03.5	+3.1
MMB	Musomiste	6.82	348	*e*P	Pn	20 42 01.7	+1.0
VAY	Valandovo	6.83	340	*i* P	Pn	20 42 04.4	+3.6
DIM	Dimitrovgrad	7.11	359	*e*P	Pn	20 42 09.3	+4.7
KKB	Krupnik	7.22	344	*e*P	Pn	20 42 09.5	+3.4
STIP	Stip	7.29	339	*i* P	Pn	20 42 10.5	+3.4
ANTO	Ankara	7.50	47	⇓P	Pn	20 42 12.7	+2.6
ANTO	Ankara	7.50	47	⇓P	Pn	20 42 12.7	+2.6
ANTO	Ankara	7.50	47		Pn	20 42 12.3	+2.3
SCTE	Santa Cesarea	7.69	314	Pn	Pn	20 42 12.2	-0.4
VTS	Vitosha	7.91	347	*e*P	Pn	20 42 17.9	+2.2
VTS	Vitosha	7.91	347	⇑P	Pn	20 42 23.5	+7.8
VTS	Vitosha	7.91	347	⇑P	Pn	20 42 23.5	+7.8
VTS	Vitosha	7.91	347		Pn	20 42 17.5	+1.8
BR131	Keskin Array S	7.94	51	*ce*P	Pn	20 42 18.1	+2.0
BR131	Keskin Array S	7.94	51		Pn	20 42 17.7	+1.6
BRTR	Keskin Array B	7.94	51	*i* P	Pn	20 42 17.3	+1.2
BRTR				pmax	pmax		
	comp=E,3.0nm,0.6s						
BRTR	Keskin Array B	7.94	51	Pn	Pn	20 42 17.1	+1.0
	comp=E,2.0.4nm,0.3s,baz=223,slow=14,SNR=23						
BRTR				Sn	Sn	20 43 45.0	-0.9
	baz=210,slow=20,SNR=1.8						
MMAI	Mount Meron Ar	8.29	101	Pn	Pn	20 42 19.7	-1.3
	comp=E,2.7nm,0.3s,baz=276,slow=11,SNR=14						
MMAI				Sn	Sn	20 43 53.4	-1.4
	comp=E,1.9nm,0.3s,baz=318,slow=23,SNR=3.6						
TIP	Timpagrande	8.30	303	Pn	Pn	20 42 21.2	+0.2
AMAZ	Amatzia	8.44	111	P	Pn	20 42 21.6	-1.4
AMAZ				S	Sn	20 43 52.6	-5.7
PLVB	Pleven	8.48	355	⇑P	Pn	20 42 29.6	+6.2
ILGA	Ilgaz	8.80	44	Pn	Pn	20 42 29.9	+1.8
HRFI	Mount Harif	9.28	119	P	Pn	20 42 34.2	-0.3
	comp=Z,44nm,1.0s						
EIL	Elat	9.43	121	Pn	Pn	20 42 35.3	-1.3
	comp=Z,0.9nm,0.3s,baz=280,slow=2.6,SNR=13						
EIL				Sn	Sn	20 44 15.9	-6.7
	comp=Z,0.7nm,0.3s,baz=65,slow=19,SNR=2.3						
RAFF	Raffo Rosso	9.45	287	Pn	Pn	20 42 38.0	+1.3
VAE	Valguarnera	9.46	289	Pn	Pn	20 42 35.5	-1.4
	comp=E,1.2nm,0.3s,baz=221,slow=16,SNR=2.3						
HSNJ	Maan	9.64	116	P	Pn	20 42 41.0	+1.5
ACER	Acerenza	9.66	310	Pn	Pn	20 42 39.3	-0.4
MTUR	Matau	10.29	358	⇑P	Pn	20 42 57.2	+8.9
MTUR	Matau	10.29	358	⇑P	Pn	20 42 57.2	+8.9
SGRT	San Giovanni R	10.36	314	Pn	Pn	20 42 47.6	-1.7
CORL	Corleone	10.41	290	Pn	Pn	20 42 51.7	+1.8
CLTB	Caltabellotta	10.41	288	Pn	Pn	20 42 47.8	-2.2
MLR	Muntele Rosu	10.55	1	⇑P	Pn	20 42 58.4	+6.5
MLR	Muntele Rosu	10.55	1	Pn	Pn	20 42 53.2	+1.3
	comp=Z,0.0nm,0.3s,baz=186,slow=9.2,SNR=2.3						
MLR	Muntele Rosu	10.55	1	⇑P	Pn	20 42 58.4	+6.5
MLR	Muntele Rosu	10.55	1		Pn	20 42 51.4	-0.5
GZR	Gura Zlata	10.68	349	⇑P	Pn	20 42 58.6	+5.0
GZR	Gura Zlata	10.68	349	⇑P	Pn	20 42 58.6	+5.0
BZS	Buzias	11.11	345	⇑P	Pn	20 43 06.5	+7.0
BZS	Buzias	11.11	345	⇑P	Pn	20 43 06.5	+7.0
TESR	Tescani	11.59	3	⇑P	Pn	20 43 12.9	+6.9
NRCA	Norcia	12.56	313	Pn	Pn	20 43 19.3	-0.1
ANN	Anapa	13.35	39	*e*P	Pn	20 43 28.8	-1.2
ANN				*e*S	Sn	20 45 58.3	0.0
ANN				pmax	pmax		
	comp=Z,16nm,1.1s						
KEST	Kesra	13.37	278	Pn	Pn	20 43 29.9	-0.6
	comp=Z,0.0nm,0.3s,baz=60,slow=8.1,SNR=2.2						
KOLS	Kolonicke sedl	14.21	351	*e*P	P	20 43 51.2	+1.9
KOLS	Kolonicke sedl	14.21	351	*e*	P	20 43 51.2	+1.9
TEOL	Teolo	14.92	318	P	P	20 43 57.5	+0.3
VLC	Villacollemand	14.95	313	P	P	20 43 57.2	-0.3
STAL	STALIGIAL	14.98	323	P	P	20 43 58.1	+0.2
ABTA	Abfaltersbach	15.42	324	Pn	P	20 44 01.8	-1.0
	comp=Z,2.4nm,0.5s						
MOA	Molln	15.47	330	Pn	Pn	20 44 00.9	+2.2
	comp=Z,0.7nm,0.6s						
MSSA	Maissana	15.56	312		Pn	20 44 02.1	+2.0
MSSA				IAmb	IAmb	20 44 12.0	
	comp=Z,8.1nm,0.9s						
NEY	Neytrino	15.60	53	⇑*e*P	P	20 44 03.4	-1.5
KIV	Kislovodsk	15.90	50	*e*P	Pn	20 44 05.2	+0.7
KIV				pmax	pmax		
	comp=Z,41nm,1.1s						
KIV				MLR	MLR		
	comp=Z,189nm,12.0s						
KIV	Kislovodsk	15.90	50	P	P	20 44 09.8	+1.6
KIV				IAmb	IAmb	20 44 16.3	
	comp=Z,12nm,1.0s						
KBZ	Khabaz	15.93	51	Pn	P	20 44 07.8	-0.5
	comp=Z,0.1nm,0.3s,baz=274,slow=8.7,SNR=7.6						
AKASG	Malin Array Be	15.97	8	*i* P	P	20 44 08.0	-0.7
AKASG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AKASG	Malin Array Be	15.97	8	Pn	Pn	20 44 04.9	-0.3
	comp=Z,1.5nm,0.3s,baz=199,slow=11,SNR=19						
AKBB	Malin Array Si	15.97	8	P	P	20 44 09.1	+0.4
AKBB				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AKBB	Malin Array Si	15.97	8	P	P	20 44 09.1	+0.4
AKBB				IAmb	IAmb	20 44 13.3	
	comp=Z,10.0nm,0.8s						
GNI	Garni	15.98	65	P	P	20 44 09.3	+0.2
GNI				pmax	pmax		
	comp=Z,50nm,1.4s						
GNI	Garni	15.98	65	LR	LR	20 51 37.9	
	comp=Z,164nm,20.2s,baz=298,slow=42						
GNI	Garni	15.98	65	P	P	20 44 09.3	+0.2
WTTA	Wattenberg	16.21	324	Pn	Pn	20 44 09.5	+0.9
	comp=Z,1.7nm,0.5s						
SQTA	Sankt Quirin	16.39	323	Pn	P	20 44 13.4	-0.2
	comp=Z,1.6nm,0.4s						
KRLC	Kraliky	16.47	339	*e*P	P	20 44 14.5	+0.1
KRLC	Kraliky	16.47	339	*e*P	P	20 44 14.5	+0.1
KRLC				*ex*	x	20 44 26.4	
GEC2	GERESS Array S	16.49	331		P	20 44 14.6	-0.1
GERES	GERESS Array B	16.49	331	Pn	Pn	20 44 13.4	+1.5
	comp=Z,0.2nm,0.3s,baz=144,slow=12,SNR=8.9						
FETA	Feichten	16.50	322	pP	P	20 44 16.2	+1.3
	comp=Z,0.2nm,0.3s						
MOTA	Moosalm	16.53	323	Pn	Pn	20 44 13.4	+0.8
	comp=Z,0.6nm,0.3s						
KHC	Kasperske Hory	16.76	331	⇑*e*P	Pn	20 44 14.0	-1.4
KHC				pmax	pmax		
	comp=Z,6.0nm,1.5s						
KHC	Kasperske Hory	16.76	331	*e*P	P	20 44 19.0	+1.4
DPC	Dobruska-Polom	16.85	339	*e*P	P	20 44 19.0	+0.4
DPC	Dobruska-Polom	16.85	339	*e*P	P	20 44 19.0	+0.4
SENIN	Lac Senin/Sane	17.98	315	Pn	Pn	20 44 30.8	+0.1
BFO	Black Forest	18.58	321	P	P	20 44 38.1	+0.4
BFO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BFO	Black Forest	18.58	321	P	P	20 44 38.1	+0.4
CLL	Collm	18.76	335	*e*P	P	20 44 39.0	-0.5
CLL	Collm	18.76	335	*e*(pP)	P	20 44 39.0	-0.5
VSR	Storozhevoye	18.97	27	*e*P	Pn	20 44 44.1	+1.6
VSR				pmax	pmax		
	comp=Z,10.0nm,1.4s						
VRH	Novokhopyorsk	19.97	31	*e*P	Pn	20 44 54.4	-0.1
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LPSR	Galich'ya Gora	20.02	24	*e*P	Pn	20 44 57.4	+2.3
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WLF	Walferdange	20.54	322	P	P	20 44 58.2	-0.8
WLF				pmax	pmax		
	comp=Z,13nm,1.2s						
WLF	Walferdange	20.54	322	P	P	20 44 58.2	-0.8
WLF				IAmb	IAmb	20 45 10.4	
	comp=Z,12nm,1.2s						
OBN	Obninsk	21.55	17	*e*P	P	20 45 12.7	+2.9
OBN				*e*		20 45 33.

TIXI					pmax	pmax			
	comp=Z,7.0nm,1.7s								
LZH	**Lanzhou**	**61.91**	**64**	*eP*	**P**	**20 50 41.0**	**+0.4**		
LZH				pP	pP	20 50 45.4	+1.3		
LZH				sP	sP	20 50 48.1	+2.6		
LZH				PP	PP	20 53 05.8	+9.2		
LZH				pmax	pmax				
	comp=Z,13nm,1.1s								
LZH				pmax	pmax				
	comp=Z,140nm,5.4s								
SCHQ	**Schefferville**	**63.64**	**320**	P	**P**	**20 50 50.7**	**-0.9**		
	comp=Z,4.6nm,0.7s,baz=75,slow=4.9,SNR=9.6								
SCHQ	**Schefferville**	**63.64**	**320**	IAmb	IAmb	20 50 54.1			
	comp=Z,22nm,1.4s								
HHC	**Hu-ho-hao-te**	**65.40**	**56**	P	**P**	**20 51 05.3**	**+1.8**		
HHC				pmax	pmax				
	comp=Z,4.0nm,0.9s								
HHC				AMB	AMB				
	comp=Z,7.0nm,6.6s								
CMAR	**Chiang Mai Arr**	**66.17**	**84**	P	**P**	**20 51 08.2**	**-0.5**		
	comp=Z,0.4nm,0.7s,baz=292,slow=7.6,SNR=3.8								
BILL	**Bilibino**	**73.18**	**14**	*eP*	**P**	**20 51 53.1**	**+2.1**		
BILL				*e*		20 52 07.6			
BILL				*e*		20 54 33.7			
BILL				pmax	pmax				
	comp=Z,1.0nm,1.0s								
USRK	**Ussuriysk Ar.**	**76.69**	**45**	P	**P**	**20 52 10.1**	**-1.7**		
	comp=Z,1.8nm,0.8s,baz=262,slow=3.3,SNR=3.8								
YKA	**Yellowknife Ar**	**77.79**	**342**	P	**P**	**20 52 16.4**	**-1.2**		
	comp=Z,0.4nm,0.7s,baz=32,slow=5.2,SNR=3.9								
KSRS	**Korea Array**	**78.08**	**53**	P	**P**	**20 52 18.9**	**-0.7**		
	comp=Z,0.9nm,0.7s,baz=301,slow=5.0,SNR=3.8								
ILAR	**Eielson Array**	**80.45**	**357**	P	**P**	**20 52 32.4**	**+0.2**		
	comp=Z,0.4nm,0.7s,baz=340,slow=4.0,SNR=5.1								
BDFB	**Brasilia**	**86.02**	**248**	LR	LR	21 32 28.1			
	comp=Z,92nm,18.1s,baz=68,slow=36								

IDC ***15*** *20:55:44.0±0.7,39°.26N×144°.48E, h0km, mb3.9/19, mb1 4.1/22, mb1mx4.0/51, mbtmp3.9/22, ML3.2/3, MS3.3/8, Ms1 3.3/8, ms1mx3.0/48, Error ellipse: s-maj=18.5km s-min=15.1km az=139.0*

ISCJB ***15*** *20:55:46.4±0.4, 39°.45N±0°.03×144°.33E±0°.04, h23km, mb3.8/19, MS3.5/5, Error ellipse: s-maj=4.6km s-min=3.1km az=135.0*

NEIC ***15*** *20:55:48.9±2.0, 39°.35N±0°.07×144°.44E±0°.06, h32km±5km, mb4.5/12*

JMA ***15*** *20:55:48.9±0.2, 39°.43N×144°.27E, h50km, M3.9*

ISC 15 20:55:47.8±0.6, 39°.41N±0°.05×144°.40E±0°.06, h23km, n66, σ1§44/74, mb3.9/24, MS3.2/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**2.00**	**276**	P	**Pn**	**20 56 19.9**	**-0.3**
MIYJ				*eS*	**Sn**	**20 56 42.4**	**-2.1**
JTH	**Tanohata**	**2.02**	**286**	P	**Pn**	**20 56 20.7**	**+0.2**
JTH				S	**Sn**	**20 56 43.6**	**-1.5**
OFUJ	**Ofunato**	**2.14**	**262**	P	**Pn**	**20 56 21.6**	**-0.6**
OFUJ				*eS*	**Sn**	**20 56 45.6**	**-2.4**
JOM	**Ohasama**	**2.41**	**273**	P	**Pn**	**20 56 25.8**	**0.0**
JOM				S	**Sn**	**20 56 53.7**	**-0.8**
JANG	**Nango**	**2.42**	**294**	P	**Pn**	**20 56 25.2**	**-0.7**
JANG				*eS*	**Sn**	**20 56 52.0**	**-2.8**
JMK	**Ichinoseki**	**2.51**	**261**	P	**Pn**	**20 56 26.9**	**-0.3**
JMK				*eS*	**Sn**	**20 56 54.9**	**-2.2**
ERM	**Erimo**	**2.77**	**341**	Pn	**Pn**	**20 56 31.9**	**+1.1**
JNBK	**Urakawa-nobuka**	**3.13**	**337**	P	**Pn**	**20 56 36.3**	**+0.6**
JNBK				*eS*	**Sn**	**20 57 12.2**	**-0.1**
JYK	**Kaneyama**	**3.18**	**262**	P	**Pn**	**20 56 36.8**	**+0.4**
JYK				*eS*	**Sn**	**20 57 13.8**	**+0.3**
JOT	**Ohata**	**3.23**	**309**	P	**Pn**	**20 56 37.3**	**+0.2**
JOT				*eS*	**Sn**	**20 57 13.3**	**-1.5**
JCH	**Churui**	**3.30**	**347**	P	**Pn**	**20 56 38.3**	**+0.3**
JCH				S	**Sn**	**20 57 14.2**	**-2.3**
JKB	**Kayabe**	**3.56**	**315**	*eS*	**Sn**	**20 57 20.8**	**-2.2**
JAK	**Akkeshi**	**3.59**	**4**	P	**Pn**	**20 56 41.2**	**-0.9**
JAK				S	**Sn**	**20 57 21.5**	**-2.2**
JFT	**Otama**	**3.70**	**241**	P	**Pn**	**20 56 43.2**	**-0.4**
JFT				*eS*	**Sn**	**20 57 24.4**	**-2.2**
NEM2	**Nemuro 2**	**4.08**	**14**	P	**Pn**	**20 56 47.7**	**-1.1**
NEM2				*eS*	**Sn**	**20 57 31.1**	**-4.7**
JTKR	**Abashiri--Toko**	**4.57**	**356**	P	**Pn**	**20 56 55.5**	**0.0**
JTKR				*eS*	**Sn**	**20 57 45.3**	**-2.6**
JKA	**Kamikawa-asahi**	**4.89**	**345**		**Pn**	**20 56 59.6**	**-0.3**
JKA					**Sn**	**20 57 54.1**	**-1.7**
ASAJ	**Asahikawa**	**4.89**	**345**	Pn	**Pn**	**20 56 59.6**	**-0.3**
	2.8nm,0.3s,baz=226,slow=13,SNR=5.6						
ASAJ				Sn	**Sn**	**20 57 54.1**	**-1.7**
	2.3nm,0.3s,baz=21,slow=20,SNR=4.4						
ASAJ				LR	LR	20 58 52.6	
	comp=Z,232nm,18.4s,baz=178,slow=37						
JRY	**Ryogami san**	**5.52**	**234**	P	**Pn**	**20 57 07.7**	**-0.9**
JRY				*eS*	**Sn**	**20 58 06.6**	**-4.7**
MJAR	**Matsushiro Arr**	**5.66**	**242**	Pn	**Pn**	**20 57 10.8**	**+0.2**
	0.2nm,0.3s,baz=54,slow=11,SNR=23						
MJAR				Sn	**Sn**	**20 58 13.3**	**-1.6**
	baz=353,slow=27,SNR=3.0						
MAJO	**Matsushiro**	**5.67**	**242**		**Pn**	**20 57 10.5**	**-0.1**
MAT	**Matsushiro**	**5.67**	**242**	P	**Pn**	**20 57 11.3**	**+0.7**
MAT				*eS*	**Sn**	**20 58 15.4**	**+0.5**
MJB9	**Matsu-Tunnel**	**5.67**	**242**		**Pn**	**20 57 11.1**	**+0.5**
USRK	**Ussuriysk Ar.**	**10.42**	**301**	Pn	**Pn**	**20 58 17.7**	**+1.9**
	baz=93,slow=14,SNR=7.2						
USRK				LR	LR	21 02 41.9	
	comp=Z,120nm,18.5s,baz=113,slow=40						
MDJ	**Mudanjiang**	**12.17**	**300**	Pn	**Pn**	**20 58 40.9**	**+1.1**
KSRS	**Korea Array**	**13.07**	**267**	LR	LR	21 02 44.6	
	comp=Z,27nm,19.6s,baz=9.0,slow=33						
INCN	**Inchon**	**14.06**	**268**	P	**P**	**20 59 12.9**	**-0.3**
H11N2	**WAKE ISLAND Hy**	**27.57**	**129**	T	T	21 30 10.9	
	baz=321,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.58**	**129**	T	T	21 30 12.0	
	baz=321,slow=75						
H11N3	**WAKE ISLAND Hy**	**27.59**	**129**	T	T	21 30 09.7	
	baz=321,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.40**	**131**	T	T	21 31 12.1	
	baz=323,slow=76						
H11S3	**WAKE ISLAND Hy**	**28.40**	**131**	T	T	21 31 15.8	
	baz=323,slow=76						
H11S2	**WAKE ISLAND Hy**	**28.42**	**131**	T	T	21 31 18.2	
	baz=323,slow=76						
SONM	**Songino Array**	**28.53**	**300**	P	**P**	**21 01 41.8**	**+0.1**
	0.3nm,0.5s,baz=88,slow=8.4,SNR=3.5						
SONM				LR	LR	21 14 54.4	
	comp=Z,62nm,18.0s,baz=328,slow=40						
TIXI	**Tiksi**	**33.26**	**351**	LR	LR	21 16 42.8	
	comp=Z,50nm,18.8s,baz=322,slow=38						
CNBA	**Chernabura Isl**	**39.98**	**48**	P	**P**	**21 03 19.6**	**-0.7**
RDOG	**Red Dog Mine**	**40.32**	**28**	P	**P**	**21 03 24.2**	**+1.1**
ZALV	**Zalesovo Beam**	**42.11**	**311**	P	**P**	**21 03 38.2**	**+0.3**
	1.4nm,0.6s,baz=96,slow=8.4,SNR=6.4						
ZALV				PcP	**PcP**	**21 05 33.0**	**+0.9**
	1.2nm,0.6s,baz=100,slow=2.4,SNR=5.6						
KRVT	**Keravat (AS076**	**44.06**	**169**	LR	LR	21 20 59.4	
	comp=Z,18nm,19.2s,baz=101,slow=34						
CMAR	**Chiang Mai Arr**	**44.37**	**255**	P	**P**	**21 03 57.0**	**+0.5**
	0.5nm,0.3s,baz=50,slow=6.1,SNR=3.6						
MKAR	**Makanchi Array**	**44.89**	**301**	P	**P**	**21 04 00.8**	**+0.3**
	1.7nm,0.9s,baz=79,slow=9.1,SNR=5.6						
ILAR	**Eielson Array**	**46.23**	**34**	P	**P**	**21 04 10.6**	**-0.1**
	1.5nm,0.8s,baz=262,slow=6.3,SNR=15						
KURK	**Kurchatov**	**46.36**	**307**	P	**P**	**21 04 12.8**	**+0.8**
KURK				IAmb	IAmb	21 04 13.6	
	comp=Z,4.4nm,0.9s						
PRP	**Porcupine Dome**	**46.78**	**33**	P	**P**	**21 04 16.5**	**+1.3**
PRP				IAmb	IAmb	21 04 28.5	
	comp=Z,6.1nm,1.5s						
FYU	**Fort Yukon**	**46.87**	**31**	P	**P**	**21 04 14.3**	**-1.4**
FYU				IAmb	IAmb	21 04 23.1	
	comp=Z,18nm,1.5s						
INK	**Inuvik**	**51.20**	**28**	P	**P**	**21 04 49.8**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=253,slow=5.9,SNR=4.9						
NIL	**Nilore**	**56.11**	**288**	P	**P**	**21 05 24.5**	**-0.9**
NIL				IAmb	IAmb	21 05 28.1	
	comp=Z,5.1nm,0.9s						
KNRA	**Kununurra**	**56.71**	**198**	P	**P**	**21 05 27.5**	**-2.1**
CISI	**Cisompet, Garu**	**57.71**	**224**	P	**P**	**21 05 36.1**	**-0.8**
ABKAR	**Akbulak array**	**58.22**	**310**	P	**P**	**21 05 41.1**	**+1.1**
ABKAR				IAmb	IAmb	21 05 41.8	
	comp=Z,1.5nm,0.7s						
CTA	**Charters Tower**	**59.21**	**178**	LR	LR	21 32 19.5	
	comp=Z,78nm,18.8s,baz=50,slow=37						
RES	**Resolute Bay**	**59.71**	**15**	P	**P**	**21 05 50.7**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=308,slow=7.1,SNR=7.8						
RES	**Resolute Bay**	**59.71**	**15**	IAmb	IAmb	21 05 51.9	
	comp=Z,4.4nm,0.9s						
WRA	**Warramunga Arr**	**59.78**	**191**	P	**P**	**21 05 48.9**	**-2.2**
	comp=Z,0.3nm,0.4s,baz=9.9,slow=7.1,SNR=4.8						
YKA	**Yellowknife Ar**	**60.57**	**32**	P	**P**	**21 05 55.4**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=300,slow=6.3,SNR=10.0						
ASAR	**Alice Springs**	**63.51**	**191**	P	**P**	**21 06 14.8**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=16,slow=14,SNR=3.6						
FINES	**FINESS Array B**	**67.80**	**333**	P	**P**	**21 06 44.0**	**+0.6**
	comp=Z,7.3nm,1.1s,baz=47,slow=8.6,SNR=6.1						
KBZ	**Khabaz**	**71.12**	**311**	LR	LR	21 42 23.2	
	comp=Z,126nm,18.4s,baz=330,slow=39						
NVAR	**Mina Array Bea**	**71.69**	**55**	P	**P**	**21 07 08.9**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=277,slow=7.2,SNR=6.0						
HFS	**Hagfors**	**72.87**	**337**	P	**P**	**21 07 15.4**	**+0.9**
	comp=Z,4.2nm,1.0s,baz=19,slow=9.2,SNR=3.5						
NOA	**NORSAR Array B**	**72.88**	**338**	P	**P**	**21 07 15.3**	**+0.7**
	comp=Z,1.9nm,0.9s,baz=36,slow=6.0,SNR=3.1						
AKASG	**Malin Array Be**	**73.83**	**323**	P	**P**	**21 07 21.0**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=44,slow=5.1,SNR=5.3						
PDAR	**Pinedale Array**	**74.33**	**47**	P	**P**	**21 07 24.4**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=349,slow=3.7,SNR=1.7						
BRTR	**Keskin Array B**	**79.00**	**313**	P	**P**	**21 07 51.0**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=57,slow=3.5,SNR=3.1						
GERES	**GERESS Array B**	**81.89**	**330**	P	**P**	**21 08 06.1**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=50,slow=7.9,SNR=4.1						
TXAR	**Lajitas Array**	**86.82**	**54**	P	**P**	**21 08 31.1**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=306,slow=3.1,SNR=6.0						

IDC 15 21:00:03.7±18.0, 17°.36S×177°.72W, h344km±161km, mb3.3/4, mb1 3.5/4, mb1mx3.1/38, mbtmp4.0/4, Error ellipse: s-maj=143.6km s-min=52.0km az=129.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.47**	**241**	P	P	21 07 02.1	+0.2
	0.6nm,0.2s,baz=77,slow=9.7,SNR=5.1						
WRA	**Warramunga Arr**	**45.38**	**259**	P	P	21 07 48.8	-0.5
	0.6nm,0.5s,baz=92,slow=7.0,SNR=16						
ASAR	**Alice Springs**	**45.57**	**254**	P	P	21 07 51.0	+0.1
	8.8nm,0.6s,baz=89,slow=8.2,SNR=150						
ASAR				PcP	PcP	21 09 20.7	-2.2
	0.3nm,0.5s,baz=106,slow=3.7,SNR=3.5						
ILAR	**Eielson Array**	**85.21**	**13**	P	P	21 12 00.2	-1.3
	0.5nm,1.0s,baz=196,slow=5.6,SNR=2.4						
BRTR	**Keskin Array B**	**144.86**	**316**	PKP	PKPbc	21 19 00.3	-0.1
	0.7nm,0.8s,baz=90,slow=1.5,SNR=4.7						
GERES	**GERESS Array B**	**147.25**	**346**	PKPbc	PKPbc	21 19 07.9	+0.9
	0.1nm,0.3s,baz=46,slow=2.8,SNR=4.0						

IDC 15 21:05:52.1±2.1, 18°.83S×174°.85W, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/37, mbtmp4.0/6, Error ellipse: s-maj=94.0km s-min=25.1km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.19**	**243**	P	P	21 13 36.9	-1.7
	1.1nm,0.3s,baz=84,slow=9.5,SNR=4.6						
WRA	**Warramunga Arr**	**47.79**	**260**	P	P	21 14 32.0	+0.3
	3.7nm,1.0s,baz=96,slow=8.5,SNR=20						
ASAR	**Alice Springs**	**47.80**	**255**	P	P	21 14 32.4	+0.7
	5.7nm,0.9s,baz=85,slow=8.5,SNR=41						
KSRS	**Korea Array**	**77.66**	**317**	P	P	21 17 50.1	-0.4
	1.6nm,0.9s,baz=143,slow=4.4,SNR=4.7						
NVAR	**Mina Array Bea**	**77.79**	**42**	P	P	21 17 51.6	0.0
	0.5nm,0.8s,baz=200,slow=4.8,SNR=3.2						
ILAR	**Eielson Array**	**86.06**	**12**	P	P	21 18 33.7	-0.5
	0.2nm,0.7s,baz=217,slow=5.7,SNR=4.2						
BRTR	**Keskin Array B**	**147.80**	**316**	PKPbc	PKPbc	21 25 38.6	-0.8
	1.0nm,1.0s,baz=40,slow=2.5,SNR=3.9						
GERES	**GERESS Array B**	**149.27**	**349**	PKPbc	PKiKP	21 25 43.7	-0.4
	0.5nm,0.8s,baz=16,slow=1.4,SNR=2.6						

IDC 15 21:17:08.0±5.2, 17°.73S×174°.66W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/35, mbtmp3.7/3, Error ellipse: s-maj=205.3km s-min=58.8km az=137.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.85**	**242**	P	P	21 24 58.5	-1.6
	0.7nm,0.3s,baz=45,slow=5.7,SNR=5.2						
WRA	**Warramunga Arr**	**48.17**	**259**	P	P	21 25 50.1	-0.4
	0.2nm,0.6s,baz=92,slow=6.7,SNR=10						
ASAR	**Alice Springs**	**48.27**	**254**	P	P	21 25 52.7	+1.4
	0.8nm,0.5s,baz=86,slow=8.4,SNR=6.3						
BRTR	**Keskin Array B**	**147.13**	**318**	PKPbc	PKPbc	21 36 52.8	-0.7
	0.7nm,0.8s,baz=73,slow=2.0,SNR=4.6						

NIED ***15*** *21:20:00, 34°.10N×140°.30E, h83km, Mw4.0 Best double couple: M0 9.77000×10^14 NP1:φ=35.00000°, δ 17.00000°, λ 135.00000°. NP2:φ=169.00000°, δ 78.00000°, λ 78.00000°.*

ISCJB ***15*** *21:20:40.4±0.5, 34°.06N±0°.03×140°.28E±0°.05, h87km±3km, mb3.7/16, Error ellipse: s-maj=7.7km s-min=5.4km az=161.6*

NEIC ***15*** *21:20:41.6±1.5, 34°.03N±0°.05×140°.3E±0°.1, h83km±7km, mb4.3/14*

IDC ***15*** *21:20:41.4±2.4, 34°.04N×140°.30E, h81km±19km, mb3.5/16, mb1 3.7/19, mb1mx3.5/57, mbtmp3.8/19, MS2.8/4, Ms1 2.8/4, ms1mx2.6/39, Error ellipse: s-maj=19.8km s-min=14.5km az=89.0*

JMA ***15*** *21:20:41.7±0.2, 34°.13N×140°.32E, h69km±2km, M3.7 Broadband fault plane solution: P waves. NP1: φ=172.00000°, δ90.00000°, λ90.00000°. NP2:φ=82.00000°, δ3.00000°, λ177.00000°. Principal axes: T Plg45.0000°, Azm79.0000°; N Plg3.0000°, Azm172.0000°; P Plg45.0000°, Azm265.0000°;*

JMA Felt I J1.

ISC 15 21:20:41.2±0.8, 34°.08N±0°.04×140°.30E±0°.06, h79km±7km, n62, σ0§77/70, mb4.1/23, 8C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMKN	**Mikurajimanish**	**0.62**	**253**	↑P	**Pn**	**21 20 56.0**	**+0.1**
JMKN				S	**Sn**	**21 21 06.8**	**0.0**
BSO3	**Boso 3**	**0.74**	**13**	↓P	**Pn**	**21 20 56.9**	**0.0**
BSO3				X		21 21 09.9	
BSO1	**Boso 1**	**0.80**	**44**	↓P	**Pn**	**21 20 57.2**	**-0.1**
JNIO	**Niijimaoohara**	**0.90**	**288**	P	**Pn**	**21 20 58.9**	**0.0**
BSO4	**Boso 4**	**0.91**	**2**	↓P	**Pn**	**21 20 59.2**	**+0.2**
JTHY	**Toshimahigashi**	**0.95**	**298**	P	**Pn**	**21 20 59.8**	**+0.2**
JTHY				S	**Sn**	**21 21 13.4**	**+0.1**
JIM2	**Oshima 3**	**0.96**	**312**	↑P	**Pn**	**21 20 59.4**	**-0.4**
JIM2				S	**Sn**	**21 21 12.7**	**-0.9**
JKO	**Kozu shima**	**0.97**	**277**	↑P	**Pn**	**21 21 00.0**	**+0.2**
JKO				*eS*	**Sn**	**21 21 14.1**	**+0.3**
JHJ2	**Mitsune**	**1.04**	**203**	↑P	**Pn**	**21 21 01.4**	**+0.7**
JHJ2				S	**Sn**	**21 21 16.3**	**+1.1**
JHJ2	**Mitsune**	**1.04**	**203**		**Pn**	**21 21 00.1**	**-0.6**
JHJ2				Sn	**Sn**	**21 21 15.6**	**+0.4**
KTJ3	**Kamata3**	**1.33**	**310**	↑P	**Pn**	**21 21 04.0**	**-0.3**
KTJ3				S	**Sn**	**21 21 21.0**	**-0.6**
JIZS	**Izushimoda**	**1.34**	**299**	↑P	**Pn**	**21 21 04.7**	**+0.3**
JIZS				S	**Sn**	**21 21 22.2**	**+0.3**
JOD2	**Odawara 2**	**1.55**	**320**	↑P	**Pn**	**21 21 07.1**	**0.0**
JOD2				S	**Sn**	**21 21 26.0**	**-0.8**
JFNN	**Fujinakano**	**1.74**	**310**	P	**Pn**	**21 21 10.6**	**+1.0**
JFNN				S	**Sn**	**21 21 32.0**	**+0.9**
SHZ3	**Shizuoka 3**	**1.99**	**300**	P	**Pn**	**21 21 14.3**	**+1.3**
JYN	**Shimob**	**2.03**	**315**	↑P	**Pn**	**21 21 14.4**	**+0.9**
INU	**Inuyama**	**2.99**	**296**	Pn	**Pn**	**21 21 26.8**	**+0.4**
INU				Sn	**Sn**	**21 22 00.1**	**-1.1**
MJAR	**Matsushiro Arr**	**3.00**	**326**	P	**Pn**	**21 21 27.4**	**+1.0**
	2.5nm,0.3s,baz=136,slow=9.8,SNR=94						
MJAR				S	**Sn**	**21 22 01.6**	**+0.2**
	3.3nm,0.3s,baz=255,slow=20,SNR=11						
MJAR				LR	LR	21 22 30.8	
	comp=Z,40nm,21.4s,baz=330,slow=36						
MAJO	**Matsushiro**	**3.00**	**326**	Pn	**Pn**	**21 21 27.3**	**+0.8**
MAJO				Sn	**Sn**	**21 22 01.9**	**+0.5**
MAT	**Matsushiro**	**3.00**	**326**	P	**Pn**	**21 21 27.9**	**+1.4**
MAT				S	**Sn**	**21 22 02.0**	**+0.6**
MJB9	**Matsu-Tunnel**	**3.00**	**326**	Pn	**Pn**	**21 21 27.4**	**+0.8**
MJB9				Sn	**Sn**	**21 22 01.3**	**-0.2**
JNU	**Nakatsue**	**7.92**	**266**	P	**Pn**	**21 22 34.9**	**+1.2**
	1.4nm,0.3s,baz=144,slow=1.9,SNR=10						
JNU	**Nakatsue**	**7.92**	**266**		**Pn**	**21 22 34.1**	**+0.5**
KSRS	**Korea Array**	**10.61**	**292**	P	**Pn**	**21 23 12.3**	**+2.1**
	0.1nm,0.3s,baz=108,slow=15,SNR=9.6						
KSRS				LR	LR	21 26 43.2	
	comp=Z,48nm,19.7s,baz=145,slow=34						
KLR	**Kul'dur**	**16.42**	**340**	P	**Pn**	**21 24 24.4**	**-2.1**
	0.5nm,0.3s,baz=169,slow=13,SNR=9.0						
KLR				LR	LR	21 30 59.5	
	comp=Z,196nm,18.1s,baz=186,slow=38						
TPUB	**Ta-pu**	**20.29**	**243**	P	**P**	**21 25 10.1**	**-0.6**
TPUB				IAmb	IAmb	21 25 26.8	
	comp=Z,15nm,1.0s						
GUMO	**Guam**	**20.81**	**167**	LR	LR	21 31 15.5	
	comp=Z,23nm,20.9s,baz=112,slow=30						
H11N2	**WAKE ISLAND Hy**	**27.58**	**114**	T	T	21 55 32.7	
	baz=306,slow=75						
H11N1	**WAKE ISLAND Hy**	**27.59**	**114**	T	T	21 55 34.3	
	baz=306,slow=75						
H11N3	**WAKE ISLAND Hy**	**27.60**	**114**	T	T	21 55 35.2	
	baz=306,slow=75						
H11S3	**WAKE ISLAND Hy**	**28.18**	**117**	T	T	21 56 16.1	
	baz=308,slow=76						
H11S1	**WAKE ISLAND Hy**	**28.18**	**117**	T	T	21 56 14.8	
	baz=308,slow=76						
H11S2	**WAKE ISLAND Hy**	**28.19**	**117**	T	T	21 56 21.2	
	baz=308,slow=76						
ULN	**Ulaanbaatar**	**28.39**	**309**	P	**P**	**21 26 28.4**	**+0.2**
SONM	**Songino Array**	**28.81**	**309**	P	**P**	**21 26 32.2**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=107,slow=8.6,SNR=6.1						
ZALV	**Zalesovo Beam**	**43.29**	**315**	P	**P**	**21 28 34.6**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=119,slow=8.2,SNR=4.9						
MK31	**Makanchi Array**	**44.98**	**304**	P	**P**	**21 28 47.7**	**-0.8**
MK31				IAmb	IAmb	21 28 58.2	
	comp=Z,3.0nm,1.1s						
MKAR	**Makanchi Array**	**44.98**	**304**	P	**P**	**21 28 48.1**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=85,slow=10,SNR=22						
SOEI	**Soe**	**46.17**	**202**	P	**P**	**21 28 56.7**	**-1.6**
RDOG	**Red Dog Mine**	**46.55**	**26**	P	**P**	**21 29 00.2**	**-0.3**
KURK	**Kurchatov**	**47.09**	**310**	IAmb	IAmb	21 29 05.7	
	comp=Z,2.1nm,0.7s						
KURK				P	**P**	**21 29 05.7**	**+0.7**
KURBB	**Kurchatov Arra**	**47.16**	**310**	P	**P**	**21 29 05.6**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=84,slow=8.4,SNR=3.1						
TARG	**Taragay, Kyrgy**	**48.95**	**298**	P	**P**	**21 29 19.0**	**-1.0**
TARG				IAmb	IAmb	21 29 21.9	
	comp=Z,3.0nm,0.6s						
KDJ	**Kajisay**	**49.32**	**299**	P	**P**	**21 29 22.9**	**+0.4**
KDJ				IAmb	IAmb	21 29 23.5	
	comp=Z,2.3nm,0.6s						
NRN	**Naryn**	**50.34**	**298**	P	**P**	**21 29 30.5**	**+0.1**
NRN				IAmb	IAmb	21 29 31.4	
	comp=Z,1.2nm,0.5s						
SUA	**Susitna One**	**50.77**	**35**	P	**P**	**21 29 34.0**	**+0.9**
MLY	**Manley**	**50.84**	**31**	P	**P**	**21 29 34.0**	**+0.5**
AAK	**Ala-Archa**	**51.14**	**300**	P	**P**	**21 29 36.1**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=73,slow=4.6,SNR=5.4						
GHO	**Glory Hole Cre**	**51.64**	**35**	P	**P**	**21 29 40.6**	**+1.1**
GHO				IAmb	IAmb	21 29 54.0	
	comp=Z,7.1nm,1.1s						
ILAR	**Eielson Array**	**52.48**	**31**	P	**P**	**21 29 45.5**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=266,slow=6.3,SNR=15						
WRA	**Warramunga Arr**	**54.02**	**187**	P	**P**	**21 29 56.5**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=3.7,slow=7.6,SNR=41						
CHGR	**Chuyangaron**	**56.15**	**297**	P	**P**	**21 30 12.5**	**-0.3**
INK	**Inuvik**	**57.43**	**26**	P	**P**	**21 30 22.1**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=275,slow=3.9,SNR=4.0						
ASAR	**Alice Springs**	**57.74**	**187**	P	**P**	**21 30 23.4**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=15,slow=15,SNR=11						
ABKAR	**Akbulak array**	**59.18**	**311**	P	**P**	**21 30 33.7**	**0.0**
ABKAR				IAmb	IAmb	21 30 34.0	
	comp=Z,1.3nm,0.6s						
AKTO	**Aktyubinsk**	**60.00**	**313**	P	**P**	**21 30 40.7**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=60,slow=14,SNR=4.0						
YKA

KHNJ	Kahnooj	5.31	93	Pn	Pn	21 37 54.2	+1.4
ASHO	Ashiyiah	5.34	132	P	Pn	21 37 55.1	+1.7
	SNR=18						
ASHO				S	Sn	21 38 55.6	+1.4
KHMZ	Khomeyn	5.57	345	*e*Pn	Pn	21 37 58.0	+1.3
KHMZ	Khomeyn	5.57	345	*e*Pn	Pn	21 37 58.0	+1.3
KHMZ	Khomeyn	5.57	345	Pn	Pn	21 37 58.0	+1.3
GHVR	GHOM	6.11	357	*e*Pn	Pn	21 38 05.1	+1.1
GHVR	GHOM	6.11	357	*e*Pn	Pn	21 38 05.0	+1.1
GHVR	GHOM	6.11	357	Pn	Pn	21 38 05.0	+1.1
TPRV	Parvadeh(Tabas	6.33	41	*e*Pn	Pn	21 38 08.0	+1.1
TPRV	Parvadeh(Tabas	6.33	41	Pn	Pn	21 38 07.9	+1.1
ASAO	Ashtian	6.34	347	*e*Pn	Pn	21 38 08.7	+1.5
ASAO	Ashtian	6.34	347	*e*Pn	Pn	21 38 08.7	+1.5
ASAO	Ashtian	6.34	347	Pn	Pn	21 38 08.0	+0.8
ARQ	Araqi	6.62	138	P	Pn	21 38 12.5	+1.7
	SNR=10						
ARQ				S	Sn	21 39 27.9	+2.3
RAYN	Ar Rayn	7.38	231		Pn	21 38 19.4	-1.9
RAYN				Sn	Sn	21 39 42.8	-1.5
BSY	Bisya	7.47	137	P	Pn	21 38 23.1	+0.5
	SNR=28						
BSY				S	Sn	21 39 47.4	+0.9
ITEG	Tejag	7.56	52	*e*Pn	Pn	21 38 25.2	+1.2
ITEG	Tejag	7.56	52	Pn	Pn	21 38 25.2	+1.2
SMDO	Samad	7.78	131	S	Sn	21 39 54.5	+0.3
NHDN	Nehbandan	7.85	65	*e*Pn	Pn	21 38 29.3	+1.5
WSAR	Wadi Sarin	8.05	128	P	Pn	21 38 10.6	+1.0
	SNR=14						
WSAR	Wadi Sarin	8.05	128	Pn	Pn	21 38 31.3	+0.8
	comp=Z,2.2nm,0.3s,baz=308,slow=11,SNR=20						
WSAR				Sn	Sn	21 39 56.5	-4.4
	comp=Z,0.2nm,0.3s,baz=234,slow=19,SNR=2.1						
JMDO	Jabal Madar	8.30	134	P	Pn	21 38 35.0	+1.0
	SNR=8.9						
WBK	Wadi Bani Khal	8.70	129	P	Pn	21 38 40.4	+0.9
	SNR=9.8						
WHFO	Wadi Hawf	10.56	169	P	Pn	21 39 05.0	0.0
	SNR=10						
GEYT	Alibeck	10.95	28	Pn	Pn	21 39 08.6	-1.6
	comp=Z,0.1nm,0.3s,baz=214,slow=12,SNR=2.3						
DMTO	DMTO	11.00	164	P	Pn	21 39 10.8	-0.2
	SNR=10						
ABTO	Aybut	11.05	172	P	Pn	21 39 11.0	-0.7
	SNR=13						
ABTO				S	Sn	21 41 14.6	0.0
MMAI	Mount Meron Ar	14.78	292	Pn	Pn	21 40 01.6	-1.0
	comp=Z,0.6nm,0.3s,baz=108,slow=14,SNR=3.0						
SOCY	Socotra	16.23	172	Pn	Pn	21 40 17.0	-4.6
KBZ	Khabaz	16.90	338	Pn	Pn	21 40 29.6	-0.2
	comp=Z,0.1nm,0.3s,baz=158,slow=11,SNR=2.6						
KIV	Kislovodsk	17.17	337	Pn	Pn	21 40 32.4	-1.0
GAR	Garm	18.74	51	P	P	21 40 53.1	+0.8
GAR				IAmb	IAmb	21 41 00.5	
	comp=Z,10nm,1.2s						
BR131	Keskin Array S	18.75	312	P	Pn	21 40 54.2	+1.4
	SNR=7.3						
BR131	Keskin Array S	18.75	312	P	P	21 40 51.8	-0.6
BRTR	Keskin Array B	18.75	312	P	P	21 40 53.2	+0.9
	comp=Z,0.3nm,0.3s,baz=138,slow=12,SNR=17						
NIL	Nilore	19.19	69	P	P	21 40 56.8	-0.4
NIL				IAmb	IAmb	21 41 02.3	
	comp=Z,5.9nm,0.8s						
ELL	Elmali	20.16	300	P	P	21 41 07.2	-0.6
KK31	Karatay Array	21.13	41	P	P	21 41 18.8	+0.6
KK31				IAmb	IAmb	21 41 21.6	
	comp=Z,4.8nm,0.8s						
KKAR	Karatay Array	21.13	41	P	P	21 41 17.8	-0.4
KKAR				IAmb	IAmb	21 41 21.6	
	comp=Z,4.8nm,0.8s						
ARSB	Arslanbob	21.66	48	P	P	21 41 23.2	-0.8
ARSB				IAmb	IAmb	21 41 33.5	
	comp=Z,4.6nm,0.8s						
ABKAR	Akbulak array	21.80	15	P	P	21 41 24.9	-0.3
KARP	Karpathos	22.00	295	P	P	21 41 27.4	-0.1
KARP				IAmb	IAmb	21 41 32.6	
	comp=Z,7.6nm,0.9s						
AKTO	Aktyubinsk	22.56	11	P	P	21 41 34.0	+0.6
	comp=Z,1.6nm,0.4s,baz=187,slow=14,SNR=5.3						
AAK	Ala-Archa	23.29	46	P	P	21 41 41.8	+0.6
	comp=Z,0.7nm,0.5s,baz=270,slow=4.0,SNR=3.2						
AAK	Ala-Archa	23.29	46	P	P	21 41 40.6	-0.7
MLR	Muntele Rosu	26.60	317	P	P	21 42 13.0	+1.4
	comp=Z,1.0nm,0.6s,baz=90,slow=3.0,SNR=2.9						
MLR	Muntele Rosu	26.60	317	P	P	21 42 11.1	-0.5
TESR	Tescani	26.74	319	⇓P	P	21 42 14.4	+1.7
ARR	Arges	27.34	316	⇓P	P	21 42 22.3	+4.2
AKASG	Malin Array Be	28.06	329	P	P	21 42 24.3	-0.1
	comp=Z,0.2nm,0.3s,baz=132,slow=8.2,SNR=4.5						
AKBB	Malin Array Si	28.06	329	P	P	21 42 25.1	+0.7
AKBB				IAmb	IAmb	21 42 25.5	
	comp=Z,1.8nm,0.6s						
BURAR	Bucovina Array	28.16	320	⇓P	P	21 42 27.7	+2.2
BUR08	Bucovina Ar. S	28.19	320	P	P	21 42 24.2	-1.6
BVAR	Borovoye Array	28.25	24	P	P	21 42 26.4	+0.2
	comp=Z,0.8nm,0.6s,baz=225,slow=9.2,SNR=6.2						
KURBB	Kurchatov Arra	30.09	35	P	P	21 42 42.3	-0.1
	comp=Z,0.6nm,0.7s,baz=237,slow=8.9,SNR=3.4						
MKAR	Makanchi Array	30.16	44	P	P	21 42 42.9	-0.3
	comp=Z,0.7nm,0.7s,baz=233,slow=6.6,SNR=2.9						
KMBO	Kilima Mbogo	32.43	208	LR	LR	21 58 27.5	
	comp=Z,38nm,19.5s,baz=107,slow=40						
LSA	Lhasa	34.40	78	P	P	21 43 20.8	-0.2
LSA				IAmb	IAmb	21 43 25.2	
	comp=Z,3.1nm,1.0s						
ZALV	Zalesovo Beam	35.16	34	P	P	21 43 26.2	-0.6
	comp=Z,1.9nm,0.7s,baz=247,slow=9.3,SNR=7.7						
GERES	GERESS Array B	35.57	316	P	P	21 43 29.8	-0.7
	comp=Z,0.2nm,0.4s,baz=113,slow=7.7,SNR=2.8						
KEST	Kesra	36.44	295	P	P	21 43 39.7	+1.6
	comp=Z,2.2nm,1.0s,baz=23,slow=7.0,SNR=4.2						
FINES	FINESS Array B	37.23	340	P	P	21 43 44.1	-0.2
	comp=Z,4.6nm,0.8s,baz=141,slow=9.0,SNR=8.2						
NB2	NORSAR Subarra	42.36	332	P	P	21 44 26.8	-0.3
	comp=Z,1.2nm,0.6s,baz=123,slow=8.6						
NOA	NORSAR Array B	42.36	332	P	P	21 44 26.5	-0.5
	comp=Z,1.1nm,0.6s,baz=122,slow=8.3,SNR=5.6						
ARCES	ARCESS Array B	43.91	347	P	P	21 44 40.2	+0.7
	comp=Z,2.5nm,0.9s,baz=146,slow=9.6,SNR=4.4						
SONM	Songino Array	46.18	50	P	P	21 44 56.4	-1.6
	comp=Z,0.5nm,0.9s,baz=335,slow=6.4,SNR=3.7						
TORD	Torodi Ar. Bea	48.82	263	P	P	21 45 19.2	+0.5
	comp=Z,0.7nm,0.6s,baz=77,slow=7.4,SNR=5.4						
DBIC	Dimbokro	57.53	259	P	P	21 46 24.2	+1.3
	comp=Z,1.9nm,0.8s,baz=30,slow=7.9,SNR=3.5						
DBIC	Dimbokro	57.53	259	P	P	21 46 22.0	-0.9
SCHQ	Schefferville	81.85	329	P	P	21 48 52.9	+0.8
	comp=Z,3.0nm,0.7s,baz=56,slow=7.3,SNR=3.4						
SCHQ	Schefferville	81.85	329	P	P	21 48 51.3	-0.9
YKA	Yellowknife Ar	88.80	354	P	P	21 49 27.3	+0.7
	comp=Z,0.3nm,0.6s,baz=9.8,slow=4.9,SNR=7.0						
WRA	Warramunga Arr	93.08	111	P	P	21 49 48.3	+1.0
	comp=Z,0.3nm,0.9s,baz=317,slow=4.1,SNR=2.9						

ROM 15 21:37:53.9±0.3, 38.28N±0.01×13.25E±0.02, h6km±2km, ML2.6/3, Error ellipse: s-maj=1.6km s-min=1.3km az=103.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPG	Monte Pellegri	0.15	145	P	Pg	21 37 57.6	+0.7
MPG				S	Sg	21 38 00.2	+1.2
MPG				AML	AML		
	comp=N,6180μm,0.2s						
MPG				AML	AML		
	comp=E,6820μm,0.7s						
SOLUN	Solunto	0.29	131	P	Pg	21 38 00.0	+0.4
SOLUN				S	Sg	21 38 04.9	+1.5
SOLUN				AML	AML		
	comp=N,1405μm,0.5s						
SOLUN				AML	AML		
	comp=E,948μm,0.6s						
CORL	Corleone	0.39	174	P	Pg	21 38 01.9	+0.4
CORL				S	Sb	21 38 08.5	-0.9
CORL				AML	AML		
	comp=N,1725μm,0.2s						
CORL				AML	AML		
	comp=E,3220μm,0.3s						
USI	Ustica	0.43	352	P	Pb	21 38 03.2	-0.7
USI				S	Sb	21 38 10.1	-0.5
USI				AML	AML		
	comp=E,8340μm,0.2s						
USI				AML	AML		
	comp=N,10340μm,0.4s						

CRJA	Costa Raja	0.52	202	P	Pb	21 38 04.6	-0.7
MTGR	Montagna Grand	0.55	225	P	Pb	21 38 05.3	-0.6
MFNL	Monte Finestre	0.56	208	P	Pb	21 38 05.9	-0.1
MMGO	Monte Magaggia	0.66	200	P	Pg	21 38 06.6	+0.1
GIB	Gibilmanna	0.68	115	P	Pg	21 38 07.0	+0.1
PETRA	Petralia Sopra	0.81	123	P	Pg	21 38 09.7	+0.2
RESU	Resuttano	0.90	135	P	Pn	21 38 12.9	-0.1
IACL	Alicudi	0.90	73	P	Pg	21 38 11.0	-0.2
CLTA	Licata	1.25	153	P	Pg	21 38 18.8	+0.9
RAFF	Raffo Rosso	1.38	140	P	Pg	21 38 20.3	+0.1

IDC 15 21:48:09.5±1.4, 16.47S×178.38W, h0km, mb4.0/8, mb1 4.3/8, mb1mx4.1/24, mbtmp4.0/8, Error ellipse: s-maj=99.1km s-min=19.2km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	39.36	240	P	P	21 55 40.4	-0.5
	2.1nm,0.7s,baz=93,slow=12,SNR=6.5						
WRA	Warramunga Arr	44.94	258	P	P	21 56 26.6	0.0
	1.0nm,0.3s,baz=90,slow=7.9,SNR=62						
ASAR	Alice Springs	45.22	253	P	P	21 56 28.9	+0.1
	10nm,0.6s,baz=88,slow=8.5,SNR=112						
NVAR	Mina Array Bea	78.38	44	P	P	22 00 13.4	+1.1
	0.5nm,0.6s,baz=226,slow=8.4,SNR=5.9						
ILAR	Eielson Array	84.49	13	P	P	22 00 43.8	0.0
	0.3nm,0.4s,baz=220,slow=5.1,SNR=8.1						
TXAR	Lajitas Array	85.21	58	P	P	22 00 48.2	-0.1
	0.8nm,0.7s,baz=216,slow=6.1,SNR=10						
PDAR	Pinedale Array	86.30	43	P	P	22 00 53.3	-0.4
	1.2nm,0.9s,baz=251,slow=2.8,SNR=3.5						
YKA	Yellowknife Ar	93.02	25	P	P	22 01 23.4	-1.1
	0.1nm,0.5s,baz=234,slow=5.3,SNR=3.0						

IDC 15 21:55:36.2±1.8, 14.37S×177.18W, h0km, mb3.7/7, mb1 4.1/7, mb1mx3.9/27, mbtmp3.7/7, MS3.6/9, Ms1 3.6/9, ms1mx3.4/32, Error ellipse: s-maj=114.8km s-min=22.6km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	5.26	86	LR	LR	21 58 15.5	
	comp=Z,241nm,18.9s,baz=193,slow=30						
RAO	Raoul Island	14.82	183	LR	LR	22 03 32.3	
	comp=Z,521nm,21.9s,baz=47,slow=32						
DZM	Mont Dzumac	17.33	241	*e*LR	LR	22 03 46.8	
	comp=Z,151nm,24.1s						
PPT	Papeete	26.71	101	LR	LR	22 08 59.1	
	comp=Z,47nm,19.1s,baz=188,slow=30						
PPT2	Papeete2	26.72	101	*e*LR	LR	22 07 30.7	
	comp=Z,231nm,27.0s						
TBI	Tubuai	27.66	113	*e*LR	LR	22 07 59.8	
	comp=Z,250nm,29.2s						
WRA	Warramunga Arr	46.53	256	P	P	22 04 06.0	0.0
	0.8nm,0.9s,baz=89,slow=7.8,SNR=5.4						
WRA				LR	LR	22 22 48.0	
	comp=Z,58nm,18.6s,baz=100,slow=35						
ASAR	Alice Springs	46.97	251	P	P	22 04 09.2	-0.3
	0.8nm,0.6s,baz=83,slow=8.6,SNR=10						
VNDA	Vanda	64.05	185	LR	LR	22 29 46.5	
	comp=Z,49nm,18.9s,baz=26,slow=32						
JNU	Nakatsue	68.46	315	LR	LR	22 32 42.1	
	comp=Z,34nm,18.4s,baz=17,slow=32						
PETK	Petropavlovsk-	70.60	344	LR	LR	22 31 48.2	
	comp=Z,38nm,20.2s,baz=63,slow=31						
NVAR	Mina Array Bea	76.07	44	P	P	22 07 25.7	-0.4
	0.8nm,0.8s,baz=229,slow=8.1,SNR=10						
KLR	Kul'dur	77.71	329	LR	LR	22 35 01.8	
	comp=Z,45nm,20.8s,baz=142,slow=30						
ILAR	Eielson Array	82.20	13	P	P	22 07 58.7	-0.1
	0.5nm,1.0s,baz=190,slow=4.6,SNR=3.3						
TXAR	Lajitas Array	83.11	57	P	P	22 08 04.4	0.0
	1.0nm,1.0s,baz=216,slow=7.6,SNR=5.9						
PDAR	Pinedale Array	83.98	43	P	P	22 08 09.6	+0.7
	1.2nm,0.9s,baz=215,slow=3.0,SNR=7.3						
MAW	Mawson	87.57	199	LR	LR	22 45 18.9	
	comp=Z,54nm,18.2s,baz=22,slow=34						
YKA	Yellowknife Ar	90.64	24	P	P	22 08 40.4	+0.1
	0.2nm,0.8s,baz=277,slow=4.9,SNR=2.8						
BRTR	Keskin Array B	143.02	319	PKP	PKPdf	22 15 11.4	-1.2
	3.7nm,1.1s,baz=140,slow=1.4,SNR=5.0						

*ISCJB **15** 22:07:29.6±0.2, 21.76S±0.02×68.53W±0.04, h131km±4km, Error ellipse: s-maj=6.4km s-min=3.9km az=1.3*
*SJA **15** 22:07:30.0±0.8, 21.73S×68.56W, h130km±5km, ML3.4, MW3.5*
*NEIC **15** 22:07:30.3±1.6, 21.72S±0.05×68.6W±0.1, h125km±4km*
*IDC **15** 22:07:30.8±0.8, 21.80S×68.24W, h110km±9km, mb3.6/7, mb1 3.8/12, mb1mx3.7/31, mbtmp4.0/12, Error ellipse: s-maj=17.4km s-min=15.5km az=150.0*
*VAO **15** 22:07:31.0±0.4, 21.73S×68.52W, h130km, mb4.3*
*GUC **15** 22:07:31.1±0.8, 21.72S×68.69W, h128km±5km, ML3.9*
ISC 15 22:07:30.6±0.6, 21.75S±0.04×68.45W±0.05, h119km±6km, n111, σ1♀43/138, 9C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	IPOC Station P	0.74	266	⇑*i*P	Pn	22 07 50.6	+0.3
PB09				*i* S	Sn	22 08 05.1	-0.1
PB09				IAML		22 08 06.6	
	comp=N,2μm,0.3s						
PB09	IPOC Station P	0.74	266	*i* P	Pn	22 07 50.2	-0.1
PB09				*e*S	Sn	22 08 06.8	+1.6
LVC	Limon Verde	0.96	206	*e*P	Pn	22 07 53.1	+0.5
LVC				*i* S	Sn	22 08 09.4	+0.3
LVC	Limon Verde	0.96	206	P	Pn	22 07 53.0	+0.5
	baz=38,slow=12						
LVC				LR	LR	22 08 07.4	
	comp=N,129nm,18.0s,baz=292,slow=36						
LVC				S	Sn	22 08 09.3	+0.1
	comp=N,257nm,0.3s,baz=107,slow=19,SNR=21						
LVC	Limon Verde	0.96	206	*e*P	Pn	22 07 53.1	+0.5
LVC	Limon Verde	0.96	206	*e*P	Pn	22 07 53.1	+0.5
LVC	Limon Verde	0.96	206		Pn	22 07 52.8	+0.3
LVC					Sn	22 08 08.9	-0.2
LVC	Limon Verde	0.96	206	⇑*i*P	Pn	22 07 52.9	+0.4
LVC				IAML		22 07 53.7	
	comp=Z,2μm,0.3s						
LVC				*e*S	Sn	22 08 10.6	+1.5
PB03	IPOC Station P	1.25	256	⇑*i*P	Pn	22 07 55.2	-0.1
PB03				*i* S	Sn	22 08 13.2	-0.8
PB03				IAML		22 08 14.2	
	comp=E,3μm,0.5s						
PB07	IPOC Station P	1.34	270	⇑*i*P	Pn	22 07 55.9	-0.3
PB07				*i* S	Sn	22 08 14.8	-0.9
PB07				IAML		22 08 16.0	
	comp=N,4μm,0.3s						
PB06	IPOC Station P	1.42	227	⇑*i*P	Pn	22 07 57.5	+0.4
PB06				*i* S	Sn	22 08 17.3	0.0
PB06				IAML		22 08 18.4	
	comp=E,3μm,0.4s						
PB06	IPOC Station P	1.42	227	*i* P	Pn	22 07 57.2	+0.1
PB06				*e*S	Sn	22 08 17.7	+0.5
PB04	IPOC Station P	1.69	249	⇑*i*P	Pn	22 07 60.0	-0.3
PB04				*i* S	Sn	22 08 21.4	-1.5
PB04				IAML		22 08 23.6	
	comp=E,2μm,0.2s						
PB04	IPOC Station P	1.69	249		Pn	22 07 59.4	-0.9
PB04				Sn	Sn	22 08 22.2	-0.7
PB04	IPOC Station P	1.69	249	*i* P	Pn	22 08 00.0	-0.3
PB08	IPOC Station P	1.73	337	⇓*i*P	Pn	22 08 02.0	+1.0
PB08				*i* S	Sn	22 08 25.8	+1.6
PB08				IAML		22 08 26.6	
	comp=N,892nm,0.3s						
PB15	IPOC Station P	1.74	213	⇑*i*P	Pn	22 08 01.6	+0.6
PB15				*i* S	Sn	22 08 25.5	+1.3
PB15	IPOC Station P	1.74	213	*i* P	Pn	22 08 01.5	+0.6
PB15				*e*S	Sn	22 08 24.8	+0.7
PB05	IPOC Station P	1.96	236	⇑*i*P	Pn	22 08 03.4	-0.3
PB05				*i* S	Sn	22 08 27.7	-1.3
PB05				IAML		22 08 35.2	
	comp=N,847nm,0.3s						
PB05	IPOC Station P	1.96	236	⇑*i*P	Pn	22 08 03.4	-0.3
TA01	Diego Aracena	2.00	306	⇑*i*P	Pn	22 08 03.5	-0.4
TA01				*i* S	Sn	22 08 27.3	-2.1
TA01				IAML		22 08 29.1	
	comp=E,2μm,0.3s						
GO01	Chusmiza	2.18	341	⇑*i*P	Pn	22 08 07.2	+0.5
GO01				*i* S	Sn	22 08 33.7	-0.7
GO01	Chusmiza	2.18	341		Pn	22 08 05.9	-0.9
GO01				Sn	Sn	22 08 31.1	-3.3
PB11	IPOC Station P	2.27	330	⇓*i*P	Pn	22 08 07.5	-0.2
PB11				*i* S	Sn	22 08 34.8	-1.2
PB11				IAML		22 08 38.7	
	comp=E,998nm,0.4s						
PB11	IPOC Station P	2.27	330		Pn	22 08 06.8	-0.9
PB11				Sn	Sn	22 08 33.6	-2.4
PB10	IPOC Station P	2.62	227		Pn	22 08 11.3	-0.6
PB10				Sn	Sn	22 08 40.1	-3.7
PB10	IPOC Station P	2.62	227	*i* P	Pn	22 08 12.2	+0.2
YJA	Yavi	2.75	100	⇑*i*P	Pn	22 08 17.0	+3.0
YJA				IAML		22 08 18.8	
	comp=Z,25nm,0.3s						
MNMC	Minye Minye	2.81	337			22 08 13.9	-0.9
MNMC				Sn	Sn	22 08 45.8	-2.8
PB14	IPOC Station P	3.39	212	*i* P	Pn	22 08 22.9	+0.6
GO02	Mina Guanaco	3.56	197		Pn	22 08 24.3	-0.2
GO02				Sn	Sn	22 09 05.6	-0.6
LPAZ	La Paz	5.44	3	P	Pn	22 08 51.1	+1.1
	comp=Z,3.1nm,0.3s,baz=199,slow=7.3,SNR=51						
LPAZ	La Paz	5.44	3	*e*P	Pn	22 08 50.7	+0.7
LPAZ	La Paz	5.44	3	*e*P	Pn	22 08 50.7	+0.7
LPAZ	La Paz	5.44	3		Pn	22 08 50.3	+0.3
LPAZ	La Paz	5.44	3	*i* P	Pn	22 08 50.7	+0.7
AHML	Horco Molle	5.76	151	⇓*i*P	Pn	22 08 55.7	+1.8
AHML				IAML		22 08 56.6	
	comp=Z,4.8nm,0.6s						
GO03	Copiap	6.05	195		Pn	22 08 55.9	-1.8
GO03				Sn	Sn	22 10 01.9	-3.7
GO03	Copiap	6.05	195	*i* P	Pn	22 08 55.9	-1.8
VCA	Vinchina	6.96	178	*i* P	Pn	22 09 10.8	+0.6
VCA				IAML		22 10 19.3	
	comp=Z,18nm,0.4s						
GO04	Tololo Observa	8.66	194	Pn	Pn	22 09 29.0	-4.1
GO04				Sn	Sn	22 11 05.3	-3.8
SIV	San Ignacio	9.03	52	P	Pn	22 09 35.5	-2.5
	comp=Z,20nm,0.3s,baz=250,slow=10,SNR=240						
SIV				S	Sn	22 11 11.7	-6.2
	comp=Z,0.2nm,0.3s,baz=288,slow=20,SNR=2.1						
AMOG	MOGNA	9.16	180	*i* P	Pn	22 09 37.9	-1.9
RTLL	Cerro Villicun	9.55	180	*i* P	Pn	22 09 43.2	-1.8
RTCV	Cerro Valdivia	10.08	180	*i* P	Pn	22 09 50.5	-1.6
TCA	Tanti	10.15	161	*i* P	Pn	22 09 51.3	-2.0
CPUP	Villa Florida	11.14	116	P	Pn	22 10 02.4	-4.0
	comp=Z,0.1nm,0.3s,baz=314,slow=11,SNR=4.1						
CPUP	Villa Florida	11.14	116	*e*P	Pn	22 10 04.3	-2.0
CPUP	Villa Florida	11.14	116	*e*P	Pn	22 10 04.3	-2.0
CPUP	Villa Florida	11.14	116		Pn	22 10 08.6	+2.2
ROC1	El Roble	11.42	191	Pn	Pn	22 10 08.6	-1.7
NNA	Nana	12.59	319	P	Pn	22 10 27.0	+1.3
	comp=Z,0.3nm,0.3s,baz=156,slow=18,SNR=2.5						
NNA	Nana	12.59	319		Pn	22 10 23.4	-2.3
SAML	Samuel	13.69	23	*e*P	Pn	22 10 40.0	+0.1
SAML	Samuel	13.69	23	*e*P	Pn	22 10 40.0	+0.1
TRCB	Terra Rica	14.68	97	*e*P	P	22 10 54.5	-1.0
TRCB	Terra Rica	14.68	97	*e*P	P	22 10 54.5	-1.0
PTGB	Pitanga	15.35	104	*e*P	P	22 11 03.0	+0.1
PTGB	Pitanga	15.35	104	*e*P	P	22 11 03.0	+0.1
ITAB	Concordia	15.82	113	*e*P	P	22 11 09.0	+0.9
ITAB	Concordia	15.82	113	*e*P	P	22 11 09.0	+0.9
PCMB	Pacaembu	15.98	93	*e*P	Pn	22 11 09.2	+0.5
PCMB	Pacaembu	15.98	93	*e*P	Pn	22 11 09.2	+0.5
CLDB	Colider	16.24	50	*e*P	Pn	22 11 12.0	0.0
CLDB	Colider	16.24	50	*e*P	Pn	22 11 12.0	0.0
PLTB	Pedras Altas	16.57	130	*e*P	P	22 11 17.2	+0.8
PLTB	Pedras Altas	16.57	130	*e*P	P	22 11 17.2	+0.8
ARAG	Araguaiana, MT	16.86	72	*e*P	P	22 11 19.6	0.0
ARAG	Araguaiana, MT	16.86	72	*e*P	P	22 11 19.6	0.0
ITRB	Iturama	17.04	86	*e*P	Pn	22 11 22.3	+0.5
ITRB	Iturama	17.04	86	*e*P	Pn	22 11 22.3	+0.5
TRQA	Tornquist	17.19	162	P	P	22 11 21.9	-1.2
FRTB	Fartura	17.52	99	*e*P	Pn	22 11 28.0	+0.5
FRTB	Fartura	17.52	99	*e*P	Pn	22 11 28.0	+0.5
CNLB	Canela	17.56	119	*e*P	P	22 11 27.8	+0.3
CNLB	Canela	17.56	119	*e*P	P	22 11 27.8	+0.3
GO06	Curarrehue	17.97	188		P	22 11 31.5	-0.3
GO06				IAmb	IAmb	22 11 34.5	
	comp=Z,5.5nm,0.8s						
BB19B	Bebedouro	18.56	92	*e*P	P	22 11 39.1	+0.7
BB19B	Bebedouro	18.56	92	*e*P	P	22 11 39.1	+0.7
PLCA	Paso Flores	19.01	185	P	P	22 11 43.8	+0.6
	comp=Z,0.3nm,0.3s,baz=37,slow=8.9,SNR=11						
PLCA	Paso Flores	19.01	185	*e*P	P	22 11 43.1	-0.1
PLCA	Paso Flores	19.01	185	*e*P	P	22 11 43.1	-0.1
PLCA	Paso Flores	19.01	185	P	P	22 11 42.5	-0.7
IPMB	Ipameri, GO	19.39	82	*e*P	P

Error ellipse: s-maj=9.7km s-min=8.5km az=117.4
ISCJB ***15*** *22:17:21.6±0.1, 17°.09S±0°.02×168°.42E±0°.03, h200km, mb4.9/92, Error ellipse: s-maj=3.4km s-min=2.8km az=164.5*
BJI ***15*** *22:17:23.6±0.0, 16°.82S×168°.73E, h218km, mb5.0/53, mB5.1/34*
IDC ***15*** *22:17:23.3±0.9, 17°.22S×168°.56E, h211km±7km, mb4.5/33, mb1 4.6/35, mb1mx4.5/42, mbtmp5.1/35, Error ellipse: s-maj=10.9km s-min=7.7km az=89.0*
NEIC ***15*** *22:17:24.2±1.3, 17°.21S±0°.06×168°.44E±0°.09, h221km±4km, mb4.9/131*
GCMT ***15*** *22:17:25.2±0.4, 17°.24S±0°.03×168°.42E±0°.03, h240km±4km, MW5.0/73, Moment Tensor Solution. s14,c17; s73,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.74±.23; $M_{\theta\theta}$0.79±.21; $M_{\phi\phi}$-1.53±.22; $M_{r\theta}$-3.41±.16; $M_{\theta\phi}$-1.78±.17; $M_{\phi r}$0.12±.18; Best double couple: M_o3.97100×10^{16} NP1:ϕ256.00000°, δ84.00000°, λ124.00000°. NP2: ϕ355.00000°, δ34.00000°, λ11.00000°. Principal axes: T 4.4880, Plg41.0000°, Azm197.0000°; N -1.0330, Plg34.0000°, Azm72.0000°; P -3.4530, Plg31.0000°, Azm319.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 22:17:22.3±0.3, **17°.20S**±0°.04×**168°.47E**±0°.05, **h200**km, **n462**,σ1**s51**/463, **mb4.9**/130, **8C-17D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.21**	**201**	P	**Pn**	**22 18 42.2**	**+2.8**
	19nm,0.3s,baz=66,slow=16,SNR=143						
DZM				S	**Sn**	**22 19 42.0**	**+1.6**
	6.0nm,0.3s,baz=49,slow=20,SNR=1.9						
DZM	**Mont Dzumac**	**5.21**	**201**		**Pn**	**22 18 42.4**	**+2.9**
DZM					**Sn**	**22 19 41.4**	**+1.0**
MSVF	**Nonsavu**	**9.16**	**95**	*d* *i*P	**Pn**	**22 19 34.8**	**+4.1**
MSVF	**Nonsavu**	**9.16**	**95**		**Pn**	**22 19 34.1**	**+3.4**
MSVF				S	**Sn**	**22 21 16.2**	**+2.7**
HNR	**Honiara**	**11.33**	**312**	P	**Pn**	**22 20 01.2**	**+2.5**
HNR	**Honiara**	**11.33**	**312**	P	**Pn**	**22 20 01.4**	**+2.7**
	18nm,0.3s,baz=150,slow=5.7,SNR=14						
HNR	**Honiara**	**11.33**	**312**	P	**Pn**	**22 20 01.2**	**+2.5**
NFK	**Norfolk Island**	**11.80**	**182**	P	**P**	**22 20 09.9**	**+0.3**
	baz=12,SNR=3.6						
LHI	**Lord Howe Isla**	**16.62**	**209**	P	**Pn**	**22 21 05.6**	**+1.6**
	baz=17,SNR=6.6						
LHI	**Lord Howe Isla**	**16.62**	**209**	P	**Pn**	**22 21 04.2**	**+0.2**
LHI				IAmb	IAmb	22 21 16.4	
	comp=Z,51nm,0.7s						
OUZ	**Omahuta**	**18.52**	**167**	P	**Pn**	**22 21 26.2**	**-0.2**
OUZ	**Omahuta**	**18.52**	**167**	P	**Pn**	**22 21 25.3**	**-1.0**
TARA	**Tarawa**	**18.95**	**14**	P	**P**	**22 21 29.4**	**+0.9**
WCZ	**Waipu Caves**	**19.38**	**166**	P	**Pn**	**22 21 35.8**	**-0.8**
GRZ	**Great Barrier**	**19.96**	**163**	P	**P**	**22 21 37.0**	**-2.2**
RMQ	**Roma**	**20.48**	**240**	P	Pn	22 21 47.6	-2.5
	baz=21,SNR=67						
KUZ	**Kuaotunu**	**20.50**	**163**	P	**P**	**22 21 46.8**	**+1.8**
KRVT	**Keravat (AS076**	**20.59**	**307**	P	**P**	**22 21 45.5**	**-0.6**
	comp=Z,111nm,0.4s,baz=97,slow=4.4,SNR=13						
CTA	**Charters Tower**	**21.24**	**259**	P	**P**	**22 21 54.1**	**+1.1**
	comp=Z,18nm,0.5s,baz=86,slow=11,SNR=18						
TOZ	**Tahuroa Road**	**21.37**	**165**	P	**P**	**22 21 55.8**	**+1.8**
KMRZ	**Kaimai**	**21.59**	**164**	P	**P**	**22 21 58.1**	**+1.6**
OPRZ	**Ohinepanea**	**21.76**	**163**	P	**P**	**22 22 02.0**	**+3.9**
KARZ	**Kaharoa**	**21.84**	**163**	P	**P**	**22 22 04.2**	**+5.4**
MARZ	**Manawahe**	**21.93**	**162**	P	**P**	**22 22 03.2**	**+3.5**
OMRZ	**Omania**	**21.95**	**163**	P	**P**	**22 22 03.1**	**+3.1**
HIZ	**Hauiti**	**21.96**	**167**	P	**P**	**22 22 00.6**	**+0.6**
MKRZ	**Makatiti**	**22.01**	**163**	P	**P**	**22 22 03.5**	**+2.9**
MXZ	**Matakaoa Point**	**22.06**	**159**	P	**P**	**22 22 01.8**	**+0.9**
MXZ	**Matakaoa Point**	**22.06**	**159**	P	**P**	**22 22 01.7**	**+0.8**
HLRZ	**Highlands Stat**	**22.08**	**163**	P	**P**	**22 22 05.3**	**+4.1**
GRRZ	**Galatos Road**	**22.11**	**164**	P	**P**	**22 22 05.6**	**+4.0**
HSRZ	**Hossack Road**	**22.11**	**164**	P	**P**	**22 22 04.8**	**+3.3**
TARZ	**Mount Tarawera**	**22.11**	**163**	P	**P**	**22 22 04.9**	**+3.3**
PMG	**Port Moresby**	**22.12**	**288**	P	**P**	**22 22 03.4**	**+1.6**
	comp=Z,63nm,0.9s,baz=105,slow=8.6,SNR=19						
PMG	**Port Moresby**	**22.12**	**288**	P	**P**	**22 22 01.9**	**0.0**
HRRZ	**Handcock Road**	**22.20**	**164**	P	**P**	**22 22 05.2**	**+2.9**
RRRZ	**Republican Roa**	**22.21**	**163**	P	**P**	**22 22 04.6**	**+2.1**
RUGZ	**Raukumara Rang**	**22.21**	**160**	P	**P**	**22 22 03.2**	**+0.6**
PKGZ	**Pakihiroa**	**22.27**	**160**	P	**P**	**22 22 04.5**	**+1.4**
URZ	**Urewera**	**22.31**	**162**	P	**P**	**22 22 04.3**	**+1.0**
	comp=Z,140nm,0.4s,baz=344,slow=4.0,SNR=64						
URZ				S	**S**	**22 25 46.1**	**-7.4**
	comp=Z,4.5nm,0.5s,baz=18,slow=20,SNR=2.7						
URZ	**Urewera**	**22.31**	**162**	P	**P**	**22 22 04.4**	**+1.2**
URZ	**Urewera**	**22.31**	**162**	P	**P**	**22 22 03.8**	**+0.5**
WMGZ	**Waiomatatini S**	**22.32**	**159**	P	**P**	**22 22 04.2**	**+0.8**
PRRZ	**Plateau Road**	**22.33**	**163**	P	**P**	**22 22 05.0**	**+1.5**
MGCD	**Mangrove Creek**	**22.33**	**221**	P	**P**	**22 22 05.3**	**+1.8**
	baz=22,SNR=54						
ALRZ	**Allen Road**	**22.37**	**164**	P	**P**	**22 22 06.4**	**+2.4**
MUGZ	**Murupara**	**22.41**	**163**	P	**P**	**22 22 06.1**	**+1.8**
PUZ	**Puketiti**	**22.50**	**159**	P	**P**	**22 22 05.6**	**+0.5**
MWZ	**Matawai**	**22.50**	**161**	P	**P**	**22 22 06.0**	**+0.9**
RATZ	**Rangitukua**	**22.51**	**165**	P	**P**	**22 22 07.8**	**+2.6**
RAGZ	**Rawiri**	**22.62**	**162**	P	**P**	**22 22 07.6**	**+1.4**
MRHZ	**Matea Rd**	**22.65**	**164**	P	**P**	**22 22 08.4**	**+2.0**
TKGZ	**Te Karaka**	**22.70**	**161**	P	**P**	**22 22 07.8**	**+0.9**
WTVZ	**West Tongariro**	**22.70**	**166**	P	**P**	**22 22 09.4**	**+2.4**
RIV	**Riverview**	**22.71**	**220**	P	**P**	**22 22 09.4**	**+2.4**
	baz=23,SNR=4.3						
NGZ	**Ngauruhoe**	**22.76**	**166**	P	**P**	**22 22 09.9**	**+2.3**
FWVZ	**Far West T-bar**	**22.83**	**166**	P	**P**	**22 22 10.6**	**+2.3**
DRZ	**Dome Shelter**	**22.85**	**166**	P	**P**	**22 22 11.1**	**+2.6**
CNGZ	**Carnagh Statio**	**22.86**	**160**	P	**P**	**22 22 09.3**	**+1.1**
SNGZ	**Shannon Statio**	**22.86**	**162**	P	**P**	**22 22 09.6**	**+1.2**
RAHZ	**Arahi**	**22.91**	**163**	P	**P**	**22 22 10.4**	**+1.6**
RIGZ	**Rimuhau**	**22.92**	**161**	P	**P**	**22 22 09.8**	**+1.0**
NMHZ	**Naumai**	**23.00**	**163**	P	**P**	**22 22 11.7**	**+2.1**
MOVZ	**Moawhango**	**23.02**	**165**	P	**P**	**22 22 11.3**	**+1.5**
MTSU	**Mount Surprise**	**23.03**	**264**	P	**P**	**22 22 11.7**	**+1.6**
	baz=23,SNR=28						
PRGZ	**Paritu Road**	**23.15**	**161**	P	**P**	**22 22 12.4**	**+1.4**
KWHZ	**Kaweka Forest**	**23.20**	**164**	P	**P**	**22 22 12.9**	**+1.4**
ARHZ	**Aropaoanui**	**23.21**	**163**	P	**P**	**22 22 12.9**	**+1.5**
MHGZ	**Mahia Peninsul**	**23.37**	**161**	P	**P**	**22 22 13.5**	**+0.5**
KRHZ	**Kereru**	**23.39**	**164**	P	**P**	**22 22 14.2**	**+1.1**
QRZ	**Quartz Range**	**23.80**	**172**	P	**P**	**22 22 17.6**	**+0.7**
NNZ	**Nelson**	**24.31**	**171**	P	**P**	**22 22 22.7**	**+1.3**
NNZ				IAmb	IAmb	22 22 39.9	
	comp=Z,34nm,1.1s						
BFZ	**Birch Farm**	**24.35**	**166**	P	**P**	**22 22 21.6**	**-0.2**
COEN	**Coen**	**24.57**	**274**	P	**P**	**22 22 25.5**	**+1.4**
	baz=25,SNR=5.7						
COEN	**Coen**	**24.57**	**274**	P	**P**	**22 22 22.9**	**-1.2**
SNZO	**South Karori**	**24.62**	**169**	P	**P**	**22 22 24.6**	**+0.4**
SNZO				IAmb	IAmb	22 22 31.2	
	comp=Z,49nm,0.9s						
YNG	**Young**	**24.76**	**223**	P	**P**	**22 22 27.3**	**+1.7**
	baz=25,SNR=11						
THZ	**Tophouse**	**24.77**	**172**	IAmb	IAmb	22 22 27.3	
	comp=Z,60nm,1.2s						
CNB	**Canberra Magne**	**24.80**	**220**	P	**P**	**22 22 27.6**	**+1.6**
	baz=25,SNR=41						
BSWZ	**Blackbirch Sta**	**24.87**	**170**	P	**P**	**22 22 26.8**	**+0.3**
CMWZ	**Cape Campbell**	**24.96**	**170**	P	**P**	**22 22 26.6**	**-0.7**
CAN	**Canberra**	**25.03**	**220**	IAmb	IAmb	22 22 33.0	
	comp=Z,34nm,0.7s						
CMSA	**Cobar Meteorol**	**25.11**	**231**	P	**P**	**22 22 29.9**	**+1.1**
	baz=25,SNR=55						
KHZ	**Kahutara**	**25.50**	**171**	IAmb	IAmb	22 22 34.9	
	comp=Z,46nm,1.2s						
LTZ	**Lake Taylor**	**25.70**	**174**	IAmb	IAmb	22 22 35.4	
	comp=Z,40nm,0.8s						
PATS	**Pohnpei**	**25.91**	**336**	P	**P**	**22 22 36.2**	**+0.1**
MILA	**Mila**	**26.11**	**217**	P	**P**	**22 22 39.3**	**+1.5**
	baz=26,SNR=4.6						
RPZ	**Rata Peaks**	**26.52**	**176**	P	**P**	**22 22 41.7**	**+0.4**
	comp=Z,26nm,0.6s,baz=2.5,slow=13,SNR=18						
RPZ	**Rata Peaks**	**26.52**	**176**	IAmb	IAmb	22 22 43.0	
	comp=Z,29nm,0.8s						
MQZ	**McQueen's Vall**	**26.66**	**173**	P	**P**	**22 22 42.6**	**+0.1**
MQZ				IAmb	IAmb	22 22 43.4	
	comp=Z,19nm,0.8s						
QIS	**Mount Isa**	**27.50**	**258**	P	**P**	**22 22 51.8**	**+1.5**
	baz=28,SNR=8.5						
WKZ	**Wanaka**	**27.55**	**179**	P	**P**	**22 22 51.1**	**+0.6**
WKZ				IAmb	IAmb	22 23 05.5	
	comp=Z,19nm,0.7s						
ODZ	**Otahua Downs**	**27.82**	**177**	P	**P**	**22 22 51.9**	**-0.9**
ODZ				IAmb	IAmb	22 23 00.2	
	comp=Z,18nm,1.0s						
DCZ	**Deep Cove**	**28.20**	**182**	P	**P**	**22 22 57.0**	**+0.8**
STKA	**Stephens Creek**	**28.38**	**234**	P	**P**	**22 22 58.5**	**+0.5**
STKA				pmax	pmax		
	comp=Z,19nm,0.8s						
STKA	**Stephens Creek**	**28.38**	**234**	P	**P**	**22 22 58.3**	**+0.3**
	comp=Z,84nm,0.7s,baz=56,slow=7.8,SNR=212						
STKA				PcP	**PcP**	**22 26 05.0**	**-0.4**
	comp=Z,4.8nm,0.6s,baz=66,slow=8.9,SNR=3.3						
STKA				ScP	**ScP**	**22 29 27.0**	**-0.7**
	comp=Z,4.8nm,0.9s,baz=94,slow=3.7,SNR=4.7						
STKA	**Stephens Creek**	**28.38**	**234**	P	**P**	**22 22 58.5**	**+0.5**
STKA				IAmb	IAmb	22 23 00.3	
	comp=Z,19nm,0.8s						
STKA					**ScP**	**22 29 26.6**	**-1.0**
WHZ	**Wether Hill Ro**	**28.61**	**181**	IAmb	IAmb	22 23 01.0	
	comp=Z,36nm,0.9s						
ARPS	**Mount Arapiles**	**30.54**	**225**	P	**P**	**22 23 18.5**	**+1.5**
	baz=31,SNR=6.4						
MOO	**Moorlands**	**31.03**	**211**	P	**P**	**22 23 22.7**	**+1.4**
	baz=31,SNR=12						
HTT	**Hallett**	**31.07**	**233**	P	**P**	**22 23 22.9**	**+1.1**
	baz=31,SNR=50						
TAU	**Tasmania Unive**	**31.32**	**211**	P	**P**	**22 23 23.8**	**+0.1**
TAU				pmax	pmax		
	comp=Z,26nm,0.8s						
TAU	**Tasmania Unive**	**31.32**	**211**	P	**P**	**22 23 23.8**	**+0.1**
TAU				IAmb	IAmb	22 23 25.2	
	comp=Z,26nm,0.8s						
GENI	**Genyem**	**31.36**	**294**	P	**P**	**22 23 26.2**	**+1.8**
WR0	**Warramunga Arr**	**32.25**	**260**	IAmb	IAmb	22 23 35.3	
	comp=Z,15nm,0.6s						
WRAB	**Tennant Creek**	**32.43**	**260**	P	**P**	**22 23 33.3**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WRAB	**Tennant Creek**	**32.43**	**260**	P	**P**	**22 23 33.3**	**-0.5**
WRA	**Warramunga Arr**	**32.44**	**260**	P	**P**	**22 23 33.4**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=92,slow=9.3,SNR=86						
WRA				PcP	**PcP**	**22 26 15.8**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=86,slow=4.0,SNR=5.4						
WRA				S	**S**	**22 28 30.4**	**-3.3**
	comp=Z,0.7nm,0.7s,baz=93,slow=14,SNR=3.9						
WRA				ScP	**ScP**	**22 29 40.4**	**-0.9**
	comp=Z,7.8nm,1.0s,baz=85,slow=3.6,SNR=16						
AS31	**Alice Springs**	**32.97**	**253**	P	**P**	**22 23 38.7**	**+0.3**
ASAR	**Alice Springs**	**32.97**	**253**	P	**P**	**22 23 38.8**	**+0.3**
	comp=Z,147nm,0.5s,baz=79,slow=9.1,SNR=1938						
ASAR				PcP	**PcP**	**22 26 17.4**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=101,slow=3.7,SNR=5.4						
ASAR				S	**S**	**22 28 39.1**	**-2.8**
	comp=Z,3.7nm,0.8s,baz=88,slow=15,SNR=10						
ASAR				ScP	**ScP**	**22 29 41.8**	**-1.3**
	comp=Z,8.3nm,0.8s,baz=96,slow=3.7,SNR=20						
BBOO	**Buckleboo**	**33.07**	**236**	P	**P**	**22 23 40.1**	**+0.9**
	baz=33,SNR=165						
BBOO	**Buckleboo**	**33.07**	**236**	P	**P**	**22 23 39.6**	**+0.5**
KDU	**Kakadu**	**35.03**	**272**	P	**P**	**22 23 56.7**	**+0.5**
	baz=35,SNR=7.4						
MTN	**Manton Dam**	**36.28**	**272**	P	**P**	**22 24 07.6**	**+0.7**
	baz=36,SNR=6.2						
MTN	**Manton Dam**	**36.28**	**272**	P	**P**	**22 24 07.5**	**+0.6**
MTN				IAmb	IAmb	22 24 13.7	
	comp=Z,13nm,0.7s						
MTN					**S**	**22 29 30.6**	**-2.2**
KMPI	**Kaimana, Papua**	**36.65**	**288**	P	**P**	**22 24 11.1**	**+1.1**
	comp=Z,208nm,0.7s						
RKPI	**Ransiki, Papua**	**37.15**	**291**	P	**P**	**22 24 16.2**	**+2.0**
	comp=Z,113nm,0.8s,comp=Z,4μm						
KNRA	**Kununurra**	**38.07**	**266**	P	**P**	**22 24 22.3**	**+0.4**
	baz=38,SNR=17						
KNRA	**Kununurra**	**38.07**	**266**	P	**P**	**22 24 21.9**	**0.0**
KNRA					**ScP**	**22 30 02.5**	**+0.8**
WRKA	**Warakurna**	**38.17**	**251**	P	**P**	**22 24 23.0**	**+0.3**
	baz=38,SNR=45						
FAKI	**Fak Fak**	**38.28**	**288**	P	**P**	**22 24 24.2**	**+0.5**
	comp=Z,152nm,1.0s,comp=Z,1μm						
FAKI	**Fak Fak**	**38.28**	**288**	P	**P**	**22 24 23.3**	**-0.4**
FORT	**Forrest**	**39.10**	**242**	P	**P**	**22 24 31.0**	**+0.6**
	baz=39,SNR=103						
FORT	**Forrest**	**39.10**	**242**	P	**P**	**22 24 29.6**	**-0.8**
SWI	**Sorong**	**40.04**	**290**	P	**P**	**22 24 38.9**	**+0.6**
	comp=Z,121nm,0.7s						
SARN	**Sarigan**	**40.43**	**325**	P	**P**	**22 24 41.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**40.76**	**262**	P	**P**	**22 24 44.9**	**+0.8**
	baz=41,SNR=42						
FITZ	**Fitzroy Crossi**	**40.76**	**262**	P	**P**	**22 24 45.0**	**+0.8**
	comp=Z,27nm,0.6s,baz=106,slow=12						
FITZ	**Fitzroy Crossi**	**40.76**	**262**	P	**P**	**22 24 44.0**	**-0.1**
FITZ				IAmb	IAmb	22 24 46.2	
	comp=Z,24nm,0.7s						
AAI	**Ambon**	**41.71**	**284**	P	**P**	**22 24 54.0**	**+2.1**
	comp=Z,116nm,0.8s,comp=Z,1μm						
NLAI	**Namlea**	**42.89**	**284**	P	**P**	**22 25 03.5**	**+2.1**
	comp=Z,58nm,1.2s,comp=Z,4μm						
SOEI	**Soe**	**43.54**	**274**	P	**P**	**22 25 09.8**	**+3.0**
	comp=Z,33nm,0.8s						
SOEI	**Soe**	**43.54**	**274**	IAmb	IAmb	22 25 18.3	
	comp=Z,29nm,0.9s						
BATI	**Baumata**	**44.00**	**273**	P	**P**	**22 25 11.3**	**+0.9**
	baz=118,slow=0.4						
SANI	**Sanana**	**44.36**	**285**	P	**P**	**22 25 13.8**	**+0.6**
	comp=Z,49nm,0.7s,comp=Z,656nm						
KMBL	**Kambalda**	**44.43**	**243**	P	**P**	**22 25 13.5**	**-0.1**
	baz=45,SNR=45						
PSA00	**Pilbara Seismi**	**45.93**	**256**	P	**P**	**22 25 25.1**	**-0.3**
MEEK	**Meekatharra**	**46.95**	**249**	P	**P**	**22 25 33.8**	**+0.5**
	baz=47,SNR=78						
KLBR	**Kellerberrin**	**47.96**	**243**	P	**P**	**22 25 40.7**	**-0.3**
	baz=48,SNR=29						
NWAO	**Narrogin (SRO)**	**48.52**	**241**	P	**P**	**22 25 45.3**	**0.0**
	baz=49,SNR=31						
NWAO	**Narrogin (SRO)**	**48.52**	**241**	P	**P**	**22 25 45.0**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,50nm,0.8s						
NWAO	**Narrogin (SRO)**	**48.52**	**241**	P	**P**	**22 25 45.0**	**-0.3**
NWAO				IAmb	IAmb	22 25 46.0	
	comp=Z,50nm,0.8s						
BKSI	**Bulukumba**	**48.73**	**278**	P	**P**	**22 25 48.2**	**+1.1**
	comp=Z,21nm,0.9s						
BLDU	**Ballidu**	**48.78**	**244**	P	**P**	**22 25 47.0**	**-0.3**
	baz=49,SNR=16						
APSI	**Ampana**	**48.81**	**284**	P	**P**	**22 25 49.0**	**+1.3**
	comp=Z,49nm,1.2s						
RKGY	**Rocky Gully**	**48.93**	**239**	P	**P**	**22 25 48.8**	**+0.4**
	baz=49,SNR=30						
BNSI	**Bone**	**49.03**	**279**	P	**P**	**22 25 50.6**	**+1.2**
	comp=Z,23nm,1.2s						
KCP	**Kidapawan**	**49.16**	**296**	⇑P	**P**	**22 25 50.9**	**+0.5**
KAPI	**Kappang**	**49.17**	**278**	*ce*P	**P**	**22 25 52.4**	**+1.9**
KAPI				pmax	pmax		
	comp=Z,33nm,1.7s						
KAPI	**Kappang**	**49.17**	**278**	P	**P**	**22 25 51.2**	**+0.7**
KAPI				IAmb	IAmb	22 25 52.7	
	comp=Z,30nm,0.9s						
MORW	**Morawa**	**49.29**	**246**	P	**P**	**22 25 51.2**	**0.0**
	baz=49,SNR=6.8						
MORW	**Morawa**	**49.29**	**246**	P	**P**	**22 25 50.6**	**-0.6**
MUN	**Mundaring**	**49.30**	**242**	P	**P**	**22 25 51.2**	**0.0**
	baz=49,SNR=4.5						
SPSI	**Sidrap Palu**	**49.49**	**280**	P	**P**	**22 25 53.4**	**+0.5**
	comp=Z,20nm,1.5s						
PLAI	**Plampang**	**49.97**	**273**	P	**P**	**22 25 57.5**	**+1.0**
	comp=Z,60nm,0.8s						
TWSI	**Taliwang, Sumb**	**50.84**	**273**	P	**P**	**22 26 04.4**	**+1.4**
	comp=Z,46nm,0.9s,comp=Z,514nm						
JCJ	**Chichijima**	**50.89**	**329**	P	**P**	**22 26 02.6**	**-0.5**
	comp=Z,139nm,0.7s,baz=302,slow=22,SNR=4.1						
MPSI	**Mapaga**	**50.90**	**285**	P	**P**	**22 26 04.0**	**+0.6**
	comp=Z,28nm,1.0s						
IGBI	**Denpasar**	**52.48**	**272**	P	**P**	**22 26 17.0**	**+1.8**
	comp=Z,54nm,0.9s						
SRBI	**Singaraja**	**52.61**	**273**	P	**P**	**22 26 16.6**	**+0.5**
	comp=Z,25nm,1.4s						
JAGI	**Jajag, Banyuwa**	**53.52**	**272**	P	**P**	**22 26 24.6**	**+1.8**
	comp=Z,21nm,0.7s						
JAGI	**Jajag, Banyuwa**	**53.52**	**272**	P	**P**	**22 26 22.0**	**-0.8**
JAGI				IAmb	IAmb	22 26 28.9	
	comp=Z,19nm,0.9s						
KPJI	**Karang Pucung**	**58.81**	**272**	P	**P**	**22 27 00.8**	**+0.6**
	comp=Z,29nm,1.1s						
CISI	**Cisompet, Garu**	**59.81**	**271**	P	**P**	**22 27 07.7**	**+0.5**
	comp=Z,46nm,1.1s,comp=Z,3μm						
LEM	**Lembang**	**60.20**	**272**	P	**P**	**22 27 10.9**	**+1.0**
	comp=Z,25nm,0.8s						
KSM	**Kuching**	**60.23**	**282**	P	**P**	**22 27 11.0**	**+1.1**
KSM	**Kuching**	**60.23**	**282**	IAmb	IAmb	22 27 11.4	
	comp=Z,20nm,0.9s						
VNDA	**Vanda**	**60.44**	**182**	P	**P**	**22 27 10.5**	**+0.3**
VNDA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
VNDA	**Vanda**	**60.44**	**182**	P	**P**	**22 27 09.4**	**-0.8**
	comp=Z,4.8nm,0.6s,baz=356,slow=8.3,SNR=38						
VNDA	**Vanda**	**60.44**	**182**	P	**P**	**22 27 10.5**	**+0.3**
CNJI	**Cibinong**	**60.54**	**271**	P	**P**	**22 27 12.1**	**+0.1**
	comp=Z,60nm,1.0s						
MJAR	**Matsushiro Arr**	**60.62**	**332**	P	**P**	**22 27 11.8**	**-0.3**
	comp=Z,3.4nm,0.9s,baz=147,slow=7.3,SNR=4.2						
MAJO	**Matsushiro**	**60.62**	**332**	⇑*i*P	**P**	**22 27 12.4**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,27nm,1.2s						
MAJO	**Matsushiro**	**60.62**	**332**	P	**P**	**22 27 11.6**	**-0.5**
MAJO				IAmb	IAmb	22 27 12.9	
	comp=Z,28nm,1.1s						
MAT	**Matsushiro**	**60.62**	**332**	P	**P**	**22 27 11.9**	**-0.2**
SBA	**Scott Base**	**60.69**	**180**	P	**P**	**22 27 12.2**	**+0.3**
SBA				pmax	pmax		
	comp=Z,36nm,1.0s						
SBA	**Scott Base**	**60.69**	**180**	P	**P**	**22 27 12.2**	**+0.3**
SBA				IAmb	IAmb	22 27 14.4	
	comp=Z,36nm,0.9s						
DBJI	**Dramaga**	**61.10**	**272**	P	**P**	**22 27 18.7**	**+2.9**
	comp=Z,48nm,0.9s						
YULB	**Yu-li**	**61.25**	**310**	IAmb	IAmb	22 27 21.6	
	comp=Z,35nm,1.0s						
JNU	**Nakatsue**	**61.59**	**324**	P	**P**	**22 27 18.8**	**+0.1**
	comp=Z,17nm,0.8s,baz=215,slow=1.9,SNR=9.8						
JNU	**Nakatsue**	**61.59**	**324**	IAmb	IAmb	22 27 20.1	
	comp=Z,27nm,1.0s						
TPUB	**Ta-pu**	**61.69**	**309**	P	**P**	**22 27 19.0**	**-0.6**
CASY	**Casey**	**61.70**	**203**	P	**P**	**22 27 19.1**	**+0.2**
CASY				IAmb	IAmb	22 27 20.0	
	comp=Z,22nm,0.8s						
SSLB	**Suanglung**	**61.74**	**310**	P	**P**	**22 27 19.2**	**-0.7**
YHNB	**Yeheng**	**61.96**	**311**	P	**P**	**22 27 20.8**	**-0.6**
ASAJ	**Asahikawa**	**65.44**	**340**	P	**P**	**22 27 44.5**	**+0.8**
	comp=Z,30nm,0.8s,baz=225,slow=12,SNR=6.6						
KSRS	**Korea Array**	**66.42**	**326**	P	**P**	**22 27 50.6**	**+0.7**
	comp=Z,3.5nm,0.8s,baz=156,slow=5.4,SNR=10.0						
KSRS				PP	**PP**	**22 30 13.3**	**-5.9**
	comp=Z,2.2nm,0.9s,baz=140,slow=9.5,SNR=5.0						
NJ2	**Nanjing**	**68.24**	**316**	*e*P	**P**	**22 28 02.5**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,65nm,1.0s						
VLA	**Vladivostok**	**68.79**	**332**	*de*P	**P**	**22 28 05.0**	**+0.3**
VLA				pmax	pmax		
	comp=Z,39nm,0.7s						
USA0B	**Ussuriysk Arra**	**69.60**	**333**	P	**P**	**22 28 10.2**	**+0.6**
USA0B				pmax	pmax		
	comp=Z,24nm,1.0s						
USA0B	**Ussuriysk Arra**	**69.60**	**333**	P	**P**	**22 28 10.2**	**+0.6**
USA0B				IAmb	IAmb	22 28 11.3	
	comp=Z,24nm,0.9s						
USRK	**Ussuriysk Ar.**	**69.60**	**333**	P	**P**	**22 28 10.5**	**+0.9**
	comp=Z,12nm,0.6s,baz=130,slow=6.2,SNR=34						
IPM	**Ipoh**	**69.96**	**281**	P	**P**	**22 28 13.0**	**+0.5**
IPM	**Ipoh**	**69.96**	**281**	P	**P**	**22 28 11.4**	**-1.1**
IPM				IAmb	IAmb	22 28 13.8	
	comp=Z,15nm,0.9s						
WHN	**Wuhan**	**70.45**	**312**	⇑*i*P	**P**	**22 28 16.1**	**+1.0**
WHN				pmax	pmax		
	comp=Z,130nm,1.2s						
PETK	**Petropavlovsk-**	**70.63**	**353**	P	**P**	**22 28 16.1**	**+0.3**
	comp=Z,27nm,0.8s,baz=146,slow=5.6,SNR=25						
MDJ	**Mudanjiang**	**70.99**	**332**	P	**P**	**22 28 19.6**	**+1.5**
MDJ

MAW Mawson 80.04 202 P **P** 22 29 09.4 +0.2
MAW pmax pmax
comp=Z,5.0nm,1.1s
MAW Mawson 80.04 202 P **P** 22 29 09.3 +0.1
comp=Z,16nm,0.9s,baz=110,slow=6.4,SNR=20
MAW Mawson 80.04 202 P **P** 22 29 09.4 +0.2
LZH Lanzhou 80.83 312 ⇓P **P** 22 29 16.1 +2.0
LZH pP pP 22 30 02.3 -0.1
LZH sP sP 22 30 29.1 +5.6
LZH PP **PP** 22 32 26.4 +4.8
LZH pmax pmax
comp=Z,29nm,1.3s
LZH pmax pmax
comp=Z,110nm,5.4s
SEY Seymchan 80.86 353 P **P** 22 29 13.2 -0.3
comp=Z,19nm,0.8s,baz=150,slow=6.0,SNR=26
RSO Redoubt South 83.46 18 P **P** 22 29 26.7 -0.5
YAK Yakutsk 84.72 343 P **P** 22 29 33.4 +0.1
YAK pmax pmax
comp=Z,47nm,0.9s
YAK Yakutsk 84.72 343 P **P** 22 29 33.8 +0.5
comp=Z,19nm,0.6s,baz=201,slow=1.2,SNR=9.8
YAK Yakutsk 84.72 343 P **P** 22 29 33.4 +0.1
ULN Ulaanbaatar 84.80 324 *ce*P **P** 22 29 34.7 +0.4
ULN pmax pmax
comp=Z,27nm,0.8s
ULN Ulaanbaatar 84.80 324 P **P** 22 29 33.9 -0.4
ULN IAmb IAmb 22 29 36.0
comp=Z,25nm,0.8s
KCPM Cahto Peak 84.84 46 P **P** 22 29 33.8 -0.8
KCPM IAmb IAmb 22 29 36.0
comp=Z,21nm,0.7s
KMRM Mail Ridge 84.99 45 P **P** 22 29 35.2 -0.1
KMRM IAmb IAmb 22 29 37.3
comp=Z,32nm,0.9s
BILL Bilibino 85.01 359 *e*P **P** 22 29 34.4 -0.3
BILL *e**PP **pwP** 22 30 26.0 +0.9
BILL *e**SP **sP** 22 30 49.8 +5.9
BILL *e* 22 32 52.1
BILL pmax pmax
comp=Z,29nm,1.4s
BILL Bilibino 85.01 359 P **P** 22 29 34.2 -0.4
BILL IAmb IAmb 22 29 35.1
comp=Z,9.7nm,0.7s
SONM Songino Array 85.16 323 P **P** 22 29 36.5 +0.5
comp=Z,11nm,0.7s,baz=157,slow=6.7,SNR=63
GTA Gaotai 85.20 314 ⇓P **P** 22 29 37.4 +1.0
GTA pP pP 22 30 34.0 +8.8
GTA S **S** 22 39 47.8 -1.8
GTA sS sS 22 41 16.3 +1.8
GTA SS **SS** 22 45 32.4 +3.4
GTA pmax pmax
comp=Z,35nm,1.0s
GTA pmax pmax
comp=Z,70nm,6.7s
GTA LR LR
comp=Z,180nm,16.8s
GTA LR LR
comp=Z,220nm,16.5s
GTA LR LR
comp=Z,240nm,19.7s
KHMM Horse Mountain 85.28 45 P **P** 22 29 36.3 -0.5
KHMM IAmb IAmb 22 29 38.4
comp=Z,17nm,0.7s
PKM Mcpherson Peak 85.46 52 P **P** 22 29 38.6 +0.7
baz=246
PAGB Antelope Grade 85.48 51 P **P** 22 29 38.0 +0.2
PAGB IAmb IAmb 22 29 38.8
comp=Z,8.8nm,0.6s
O02D Mt. Diablo Mer 85.60 46 P **P** 22 29 39.3 +1.0
baz=243,SNR=13
WDC Whiskeytown Da 85.95 45 P **P** 22 29 39.5 -0.4
WDC pmax pmax
comp=Z,6.0nm,0.9s
WDC Whiskeytown Da 85.95 45 P **P** 22 29 39.5 -0.4
N02D Trinity Center 86.02 45 P **P** 22 29 41.2 +0.8
baz=243,SNR=7.0
M02C Callahan 86.10 45 P **P** 22 29 41.5 +0.7
baz=243,SNR=5.3
K02D Willamette Mer 86.16 43 P **P** 22 29 41.6 +0.6
baz=242
ORV Oroville 86.22 47 P **P** 22 29 41.1 -0.2
ORV pmax pmax
comp=Z,9.0nm,0.9s
ORV Oroville 86.22 47 P **P** 22 29 41.1 -0.2
ARVC Arvin 86.29 52 P **P** 22 29 42.7 +1.0
baz=246
AFDM Forest Hills D 86.32 47 P **P** 22 29 40.8 -1.1
AFDM IAmb IAmb 22 29 42.8
comp=Z,12nm,0.9s
O03E Paynes Creek 86.33 46 P **P** 22 29 42.1 +0.2
baz=244,SNR=5.9
CMB Columbia Colle 86.35 48 P **P** 22 29 41.5 -0.5
CMB pmax pmax
comp=Z,12nm,0.8s
CMB Columbia Colle 86.35 48 P **P** 22 29 41.5 -0.5
CMB IAmb IAmb 22 29 42.9
comp=Z,12nm,0.8s
YBH Yreka Blue Hor 86.35 44 P **P** 22 29 41.4 -0.6
YBH pmax pmax
comp=Z,8.0nm,1.0s
YBH Yreka Blue Hor 86.35 44 P **P** 22 29 41.4 -0.6
VES Vestal, Richgr 86.39 51 P **P** 22 29 42.3 +0.1
baz=246
MWC Mount Wilson 86.52 53 P **P** 22 29 42.4 -0.7
MWC pmax pmax
comp=Z,11nm,0.7s
MWC Mount Wilson 86.52 53 P **P** 22 29 42.4 -0.7
MWC IAmb IAmb 22 29 43.7
comp=Z,11nm,0.7s
SYO Syowa Base 86.68 196 ⇓*e*P **P** 22 29 41.6 -1.4
SYO Syowa Base 86.68 196 ⇓*e*PcP **PcP** 22 29 44.2 -0.9
ISA Isabella, Lake 86.77 51 P **P** 22 29 44.7 +0.6
baz=246,SNR=9.7
ISA Isabella, Lake 86.77 51 P **P** 22 29 43.8 -0.4
ISA pmax pmax
comp=Z,9.0nm,0.9s
ISA Isabella, Lake 86.77 51 P **P** 22 29 43.9 -0.4
EDW2 Edwards Air Fo 86.82 52 P **P** 22 29 44.9 +0.5
baz=247,SNR=8.1
BFSC Mount Baldy Ra 86.83 53 P **P** 22 29 44.6 +0.1
baz=247,SNR=6.9
L04D Klamath Falls 86.84 44 P **P** 22 29 44.8 +0.4
baz=243
MURC Murrieta 86.93 54 P **P** 22 29 45.1 +0.2
baz=247
RUBR Rubicon Trail 86.94 48 IAmb IAmb 22 29 46.2
comp=Z,12nm,0.8s
M04C Macdoel 86.96 45 P **P** 22 29 45.5 +0.5
baz=244
MDPB Devils Postpil 87.13 49 P **P** 22 29 45.5 -0.6
MDPB IAmb IAmb 22 29 47.1
comp=Z,12nm,0.8s
BEKR Beckworth 87.14 47 P **P** 22 29 45.1 -0.9
BEKR IAmb IAmb 22 29 46.9
comp=Z,9.9nm,0.7s
WAKR Walker 87.23 48 P **P** 22 29 45.5 -0.9
WAKR IAmb IAmb 22 29 47.8
comp=Z,10nm,0.8s
MONP2 Monument Peak 87.26 54 P **P** 22 29 47.3 +0.6
baz=248,SNR=8.9
LRMC Laurel Mtn Rad 87.29 52 P **P** 22 29 47.0 +0.3
baz=247
PNTR Pine Nut 87.35 48 IAmb IAmb 22 29 48.3
comp=Z,12nm,0.8s
CWC Cottonwood Cre 87.38 51 P **P** 22 29 47.5 +0.4
baz=246
IKP In-Ko-Pah, Jac 87.41 55 P **P** 22 29 47.9 +0.6
baz=248
J04D Umpqua Nationa 87.42 43 P **P** 22 29 48.2 +0.9
baz=244
I04A Tendick Farm, 87.47 43 P **P** 22 29 47.3 -0.1
baz=243
PFO Pinyon Flats O 87.50 54 P **P** 22 29 47.9 +0.2
baz=248
PFO Pinyon Flats O 87.50 54 *i*P **P** 22 29 48.5 +0.7
TPFO Pinon Flats 87.50 54 P **P** 22 29 48.1 +0.3
baz=248
TIN Tinemaha, Big 87.51 50 P **P** 22 29 48.8 +1.0
baz=246
YERR Yerington 87.56 48 P **P** 22 29 47.4 -0.7
MPMC Manual Prospec 87.67 51 P **P** 22 29 48.9 +0.3
baz=247,SNR=6.0
PAHR Pah Rah Range 87.76 47 P **P** 22 29 48.4 -0.5
SWSC Sam W. Stewart 87.76 55 P **P** 22 29 49.3 +0.5
baz=248

BELC Belle Mtn. Jos 88.00 54 P **P** 22 29 50.7 +0.5
baz=248,SNR=12
NVAR Mina Array Bea 88.01 49 P **P** 22 29 50.4 +0.2
comp=Z,6.5nm,0.7s,baz=228,slow=8.2,SNR=65
NVAR PKKP **PKKPbc** 22 47 36.1 +0.1
comp=Z,0.3nm,0.6s,baz=96,slow=3.6,SNR=3.9
J05D Fort Rock, OR 88.02 43 P **P** 22 29 50.7 +0.7
baz=244
MOD Modoc Plateau 88.05 45 IAmb IAmb 22 29 51.2
comp=Z,8.9nm,0.7s
NV11 Mina Array Sit 88.12 49 IAmb IAmb 22 29 51.6
comp=Z,7.9nm,0.8s
GRAC Grapevine Rang 88.12 50 P **P** 22 29 51.0 +0.5
baz=247,SNR=11
ZAK Zakamensk 88.22 324 *e*P **P** 22 29 46.5 -4.2
ZAK pmax pmax
comp=Z,7.0nm,1.2s
HDA Harding Lake 88.23 18 P **P** 22 29 49.3 -1.0
baz=222
HDA Harding Lake 88.23 18 P **P** 22 29 49.6 -0.7
FURC Furnace Creek, 88.29 51 P **P** 22 29 51.8 +0.6
baz=247
BC3 Big Chuckawall 88.30 54 P **P** 22 29 52.0 +0.5
baz=248
COLA College 88.31 17 ⇓*i*P **P** 22 29 49.5 -1.1
COLA pmax pmax
comp=Z,14nm,1.9s
KVN Kaiserville 88.40 48 P **P** 22 29 51.4 -0.6
KVN pmax pmax
comp=Z,11nm,0.6s
KVN Kaiserville 88.40 48 P **P** 22 29 51.4 -0.6
KVN IAmb IAmb 22 29 52.9
comp=Z,11nm,0.6s
I05D Terrebonne, OR 88.41 42 P **P** 22 29 52.5 +0.8
baz=244
PINE Pine Mountain 88.43 43 IAmb IAmb 22 29 53.5
comp=Z,9.7nm,0.8s
SHOC Shoshone, Teco 88.51 52 P **P** 22 29 53.1 +0.8
baz=248
IL31 88.51 18 P **P** 22 29 49.3 -2.3
ILAR Eielson Array 88.51 18 P **P** 22 29 49.6 -2.0
comp=Z,3.7nm,0.7s,baz=235,slow=4.8,SNR=58
GMRC Granite Mounta 88.56 53 P **P** 22 29 53.0 +0.3
baz=248
TUQ Turquoise Moun 88.60 52 P **P** 22 29 53.4 +0.5
baz=248,SNR=7.9
TLY Talaya 88.67 326 ⇓*e*P **P** 22 29 52.7 0.0
TLY pmax pmax
comp=Z,9.0nm,0.7s
TLY Talaya 88.67 326 P **P** 22 29 52.5 -0.2
comp=Z,7.2nm,0.7s,baz=141,slow=6.5,SNR=3.1
IRM Iron Mountain 88.72 54 P **P** 22 29 54.1 +0.7
baz=248
TPNV Topopah Spring 88.93 51 P **P** 22 29 54.7 +0.2
baz=248,SNR=9.3
TPNV Topopah Spring 88.93 51 P **P** 22 29 53.7 -0.8
TPNV pmax pmax
comp=Z,9.0nm,0.9s
TPNV Topopah Spring 88.93 51 P **P** 22 29 53.7 -0.8
TPNV IAmb IAmb 22 29 55.6
comp=Z,8.7nm,0.9s
F05D White Salmon 89.01 41 P **P** 22 29 55.3 +0.8
baz=244
Y12C Blythe 89.05 54 P **P** 22 29 55.4 +0.5
baz=249
PMSA Palmer Station 89.07 160 P **P** 22 29 53.7 -0.7
NEE2 Needles Airpor 89.35 53 P **P** 22 29 57.3 +1.0
baz=248
WVOR Wild Horse Val 89.39 45 IAmb IAmb 22 29 57.7
comp=Z,11nm,1.0s
B05A Bryant 89.67 39 P **P** 22 29 58.0 +0.6
baz=243
R11A Troy Canyon, C 89.95 50 P **P** 22 29 59.3 +0.1
baz=248
F07A Phinny Hill Vi 89.98 42 IAmb IAmb 22 29 60.0
comp=Z,14nm,0.7s
MOY Mondy 90.11 325 *e*P **P** 22 29 59.8 +0.2
G08A Pilot Rock 90.35 42 IAmb IAmb 22 30 02.3
comp=Z,14nm,0.8s
HAWA Hanford 90.44 41 IAmb IAmb 22 30 02.3
comp=Z,12nm,0.8s
SNAA Sanae 91.16 183 P **P** 22 30 03.3 -0.8
SNAA Sanae 91.16 183 P **P** 22 30 03.6 -0.5
SNAA pmax pmax
comp=Z,11nm,0.8s
SNAA Sanae 91.16 183 P **P** 22 30 03.6 -0.5
SNAA IAmb IAmb 22 30 04.0
comp=Z,11nm,0.8s
B08A Colville Reser 91.38 39 P **P** 22 30 05.1 -0.4
TUC Tucson 91.50 57 P **P** 22 30 07.3 +0.9
baz=251
TUC Tucson 91.50 57 P **P** 22 30 05.8 -0.7
TUC pmax pmax
comp=Z,5.0nm,0.9s
TUC Tucson 91.50 57 P **P** 22 30 05.8 -0.7
U15A North Rim 91.71 52 IAmb IAmb 22 30 09.0
comp=Z,7.4nm,0.6s
VNA3 Neumayer Olymp 91.78 181 P **P** 22 30 06.1 -0.8
VNA2 Neumayer--Watz 92.06 181 P **P** 22 30 07.7 -0.5
baz=176,slow=4.9
WUAZ Wupatki 92.10 54 P **P** 22 30 09.9 +0.7
baz=250
WUAZ Wupatki 92.10 54 IAmb IAmb 22 30 10.5
comp=Z,7.0nm,0.8s
VNA1 Neumayer--Stat 92.35 181 P **P** 22 30 08.8 -0.7
319A Douglas 92.41 58 IAmb IAmb 22 30 15.4
comp=Z,15nm,1.1s
TIXI Tiksi 92.61 348 ⇓*e*P **P** 22 30 10.2 -0.3
TIXI pmax pmax
comp=Z,13nm,3.4s
TIXI Tiksi 92.61 348 P **P** 22 30 10.0 -0.5
comp=Z,1.6nm,0.2s,baz=157,slow=7.6,SNR=2.8
DUG Dugway, Tooele 92.62 49 P **P** 22 30 11.5 0.0
baz=250
INK Inuvik 94.85 18 P **P** 22 30 19.1 -1.7
comp=Z,0.8nm,0.6s,baz=234,slow=3.1,SNR=5.1
WMQ Urumqi 95.27 314 *e*P **P** 22 30 24.0 +0.5
ANMO Albuquerque 95.75 55 ⇓*e*P **P** 22 30 26.2 +0.2
ANMO pmax pmax
comp=Z,1.0nm,1.0s
PDAR Pinedale Array 95.77 47 P **P** 22 30 25.1 -0.9
comp=Z,0.5nm,0.5s,baz=203,slow=3.7,SNR=8.2
PDAR S SKSac 22 40 26.6 -17
comp=Z,0.4nm,0.4s,baz=210,slow=5.2,SNR=8.5
PDAR PKKP **PKKPbc** 22 47 14.4 -1.8
comp=Z,0.5nm,0.7s,baz=94,slow=3.6,SNR=4.5
TXAR Lajitas Array 96.44 61 P **P** 22 30 28.0 -1.1
comp=Z,0.7nm,0.8s,baz=234,slow=4.2,SNR=4.4
TXAR PKKP **PKKPbc** 22 47 12.7 -1.1
comp=Z,0.1nm,0.5s,baz=318,slow=1.2,SNR=3.2
YKA Yellowknife Ar 99.20 27 P **Pdif** 22 30 40.3 -0.2
comp=Z,1.4nm,0.5s,baz=256,slow=4.8,SNR=38
YKA PKiKP **PKiKP** 22 35 08.6 -0.9
comp=Z,0.3nm,0.5s,baz=237,slow=1.2,SNR=4.4
MKAR Makanchi Array 99.78 316 *i*P **Pdif** 22 30 45.0 +1.4
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 99.78 316 P **Pdif** 22 30 44.2 +0.6
comp=Z,2.6nm,0.6s,baz=87,slow=6.5,SNR=53
MKAR PKiKP **PKiKP** 22 35 11.3 +0.2
comp=Z,0.8nm,0.9s,baz=164,slow=2.5,SNR=4.1
ZAA0 Zalesovo Array 100.05 323 **Pdif** 22 30 44.3 -0.3
ZALV Zalesovo Beam 100.05 323 *i*P **Pdif** 22 30 44.7 +0.1
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 100.05 323 P **Pdif** 22 30 44.1 -0.5
comp=Z,2.0nm,0.6s,baz=115,slow=5.0,SNR=12
KSH Kashi 102.62 308 *e*P **Pdif** 22 30 58.5 +1.9
ARU Arti 115.16 325 ⇑*i*PKiKP **PKPdf** 22 35 39.6 +0.2
ARU Arti 115.16 325 PKP **PKiKP** 22 35 38.4 -1.0
comp=Z,0.7nm,0.6s,baz=156,slow=2.3,SNR=4.6
ARU Arti 115.16 325 **PKiKP** 22 35 38.6 -0.7
BOSA Boshof 122.21 218 PKiKP **PKPdf** 22 35 52.2 -1.9
BOSA Boshof 122.21 218 PKP **PKPdf** 22 35 51.5 -2.5
comp=Z,1.7nm,0.7s,baz=107,slow=11,SNR=3.9
BOSA Boshof 122.21 218 **PKPdf** 22 35 52.2 -1.9
ARCES ARCESS Array B 122.92 345 PKP **PKPdf** 22 35 51.5 -2.5
comp=Z,3.0nm,0.4s,baz=80,slow=2.6,SNR=57
SCHQ Schefferville 123.67 35 PKP **PKPdf** 22 35 54.8 -1.1
comp=Z,4.9nm,1.0s,baz=310,slow=16,SNR=3.7
SCHQ Schefferville 123.67 35 **PKPdf** 22 35 55.0 -0.9
KVAR Kislovodsk Arr 127.36 313 PKP **PKPdf** 22 36 00.6 -2.8
comp=Z,5.6nm,0.8s,baz=87,slow=14,SNR=3.5
KIV Kislovodsk 127.37 313 *e*PKiKP **PKiKP** 22 36 04.4 +0.5
KIV pmax pmax
comp=Z,13nm,1.1s
OBN Obninsk 127.39 327 *e*PKiKP **PKPdf** 22 36 03.1 +0.2

OBN *e* 22 36 53.2
OBN *e* 22 38 12.0
OBN pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 128.43 338 PKP **PKPdf** 22 36 04.7 0.0
comp=Z,0.9nm,0.6s,baz=42,slow=1.9,SNR=6.1
FINES SKPbc SKPbc 22 39 04.6
comp=Z,2.5nm,0.5s,baz=58,slow=4.5,SNR=23
NB2 NORSAR Subarra 133.29 345 PKPdf **PKPdf** 22 36 13.7 -0.3
comp=Z,0.2nm,0.4s,baz=39,slow=1.9
NOA NORSAR Array B 133.29 345 PKP **PKPdf** 22 36 13.1 -1.0
comp=Z,2.5nm,1.0s,baz=37,slow=2.1,SNR=4.4
NOA SKPbc **SKPbc** 22 39 22.0 -1.4
comp=Z,7.1nm,1.0s,baz=28,slow=3.4,SNR=9.0
HFS Hagfors 133.41 343 PKP **PKPdf** 22 36 13.3 -0.9
comp=Z,0.7nm,0.4s,baz=122,slow=5.6,SNR=5.5
HFS SKPbc **SKPbc** 22 39 22.1 -1.7
comp=Z,5.8nm,0.8s,baz=70,slow=4.9,SNR=9.2
AKASG Malin Array Be 133.41 325 PKP **PKPdf** 22 36 13.7 -0.8
comp=Z,0.7nm,0.6s,baz=41,slow=1.9,SNR=4.3
AKASG SKPbc **SKPbc** 22 39 23.1 -0.9
comp=Z,2.8nm,0.7s,baz=48,slow=4.3,SNR=15
BRTR Keskin Array B 134.97 309 PKP **PKPdf** 22 36 18.6 +0.7
comp=Z,0.7nm,0.7s,baz=118,slow=2.8,SNR=4.6
BRTR PP **PP** 22 38 55.0 0.0
comp=Z,3.6nm,1.0s,baz=102,slow=5.7,SNR=16
BRTR SKPbc **SKPbc** 22 39 29.1 -0.7
comp=Z,0.7nm,0.9s,baz=101,slow=7.5,SNR=3.0
MMAI Mount Meron Ar 135.05 300 PKP **PKPdf** 22 36 18.4 +0.2
comp=Z,3.9nm,1.0s,baz=73,slow=33,SNR=2.6
MMAI SKP 22 39 30.5
comp=Z,0.7nm,0.5s,baz=64,slow=5.7,SNR=5.5
BURAR Bucovina Array 137.27 323 ⇑P **PKiKP** 22 36 25.5 +1.6
MLR Muntele Rosu 137.94 320 PKP **PKPdf** 22 36 23.1 -0.2
comp=Z,1.1nm,0.6s,baz=103,slow=16,SNR=3.2
MLR PP **PP** 22 39 10.9 -2.2
comp=Z,1.9nm,0.9s,baz=17,slow=1.8,SNR=2.5
MLR SKP 22 39 36.7
comp=Z,0.7nm,0.4s,baz=57,slow=11,SNR=3.3
KOLS Kolonicke sedl 138.13 327 *e*PKiKP **PKiKP** 22 36 24.5 -0.9
KOLS Kolonicke sedl 138.13 327 *e*PKP **PKiKP** 22 36 24.5 -0.9
KOLS *e* 22 39 39.0
BRG Berggiesshubel 140.72 335 *e*P **PKPdf** 22 36 22.2 -5.7
comp=Z,11nm,1.5s
CLL Collm 140.77 336 *e*PKiKP **PKPdf** 22 36 23.0 -5.0
CLL Collm 140.77 336 *e*PKPdf **PKPdf** 22 36 26.0 -2.0
CLL *e*PKiKP **PKiKP** 22 36 31.0 +0.3
CLL *i* SKPbc **SKPbc** 22 39 44.7 -1.0
comp=Z,71nm,2.3s
PRU Pruhonice 141.14 333 *e*SKP **SKPbc** 22 39 46.6 -0.2
EKA Eskdalemuir Ar 141.40 352 SKP **SKPdf** 22 39 41.7 -3.1
comp=Z,6.6nm,1.0s,baz=30,slow=7.3,SNR=2.4
CONA Conrad Observa 142.02 330 *e*PKPdf **PKPdf** 22 36 27.3 -3.2
comp=Z,3.8nm,1.2s
KHC Kasperske Hory 142.20 333 *e*PKiKP **PKPdf** 22 36 27.6 -3.1
KHC Kasperske Hory 142.20 333 *e*PKP **PKPdf** 22 36 27.6 -3.1
KHC *ex* x 22 36 34.0
KHC *e*SKP 22 39 49.8
KHC *ex* x 22 40 05.2
GERES GERESS Array B 142.36 333 PKhKP PKPpre 22 36 26.0
comp=Z,1.3nm,0.7s,baz=32,slow=2.1,SNR=10
GERES PKP **PKPdf** 22 36 28.8 -2.3
comp=Z,0.5nm,0.4s,baz=43,slow=1.7,SNR=9.1
GERES SKP 22 39 45.2
comp=Z,0.5nm,0.7s,baz=352,slow=5.9,SNR=3.8
GERES PP PP 22 39 50.5 +11
comp=Z,1.8nm,0.8s,baz=48,slow=2.0,SNR=7.3
ARSA Arzberg 142.66 329 *e*PKPdf **PKPdf** 22 36 29.2 -2.4
comp=Z,1.9nm,0.5s
MOA Molln 142.83 331 PKPdf **PKPdf** 22 36 29.2 -2.7
comp=Z,3.1nm,0.5s
MOA SKPbc **SKPbc** 22 39 45.3 -5.9
comp=Z,5.9nm,1.4s
SOKA Soboth 143.30 329 *e*PKPdf PKPbc 22 36 30.3 -0.2
comp=Z,9.7nm,0.6s,SNR=5.6
PTJ Puntijarka 143.36 327 *i*P PKPbc 22 36 31.6 +0.9
OBKA Obir 143.66 329 *e*PKPdf PKPbc 22 36 31.2 -0.3
comp=Z,13nm,1.0s
PDG Podgorica 143.66 320 ⇓*i*P PKPab 22 36 30.6 0.0
CRES Cresnjev 143.68 328 *e*P PKPbc 22 36 31.5 0.0
OZLJ Ozalj 143.81 327 P PKPbc 22 36 31.9 +0.1
BRY Bratogost 143.82 321 *e*P PKPab 22 36 31.8 +0.4
KBA Koelnbreinsper 143.82 331 *e*PKPdf PKPbc 22 36 31.8 -0.3
comp=Z,6.1nm,0.6s
DRME Dracevica, Mon 143.84 320 ⇓*i*P PKPab 22 36 31.6 +0.2
LJU Ljubljana 144.00 329 *i* PKPbc PKPbc 22 36 32.5 +0.1
LJU Ljubljana 144.00 329 ⇓*i*P PKPbc 22 36 32.5 +0.1
MYKA Terra Mystica 144.01 330 *e*PKPdf **PKPab** 22 36 31.9 0.0
comp=Z,11nm,0.5s,SNR=5.8
TREB Trebinje 144.04 321 *e*P **PKPab** 22 36 31.3 -0.8
HCY Herceg Novi 144.11 321 *e*P **PKPab** 22 36 31.5 -0.9
GBRS Gornja Briga 144.21 328 *i* PKPbc PKPbc 22 36 33.5 +0.4
CEY Cerknica 144.26 328 *i* PKPbc PKPbc 22 36 33.3 0.0
CEY Cerknica 144.26 328 ⇓*i*P **PKPab** 22 36 32.6 -0.3
WATA Walderalm 144.43 333 *e*PKPdf **PKPab** 22 36 33.6 0.0
comp=Z,19nm,0.8s,SNR=9.3
ABTA Abfaltersbach 144.45 331 *e*PKPdf **PKPab** 22 36 33.2 -0.4
comp=Z,39nm,0.6s,SNR=22
ABTA *e*PP **PP** 22 39 52.5 +0.3
comp=Z,4.1nm,0.9s
WTTA Wattenberg 144.46 333 *e*PKPdf PKPbc 22 36 34.1 +0.1
comp=Z,23nm,0.8s,SNR=9.8
WTTA PP **PP** 22 39 53.6 +1.3
comp=Z,4.1nm,0.8s
RIY Rijeka 144.52 328 *e*P **PKPab** 22 36 32.4 -1.4
WLF Walferdange 144.60 340 PKiKP **PKPab** 22 36 33.6 -0.4
WLF Walferdange 144.60 340 PKPdf **PKPdf** 22 36 34.8 -0.1
WLF PKiKP **PKiKP** 22 36 38.9 +0.2
WLF Walferdange 144.60 340 **PKPab** 22 36 33.6 -0.4
MOTA Moosalm 144.63 333 *e*PKPdf **PKPab** 22 36 34.4 0.0
comp=Z,49nm,0.8s,SNR=20
MOTA *e*PP **PP** 22 39 54.6 +1.3
comp=Z,5.6nm,1.1s
RETA Reutte 144.66 334 *e*PKPdf PKPbc 22 36 34.7 +0.2
comp=Z,14nm,0.5s,SNR=11
SQTA Sankt Quirin 144.68 333 *e*PKPdf PKPbc 22 36 34.8 +0.2
comp=Z,57nm,0.7s,SNR=24
SQTA *e*PP **PP** 22 39 54.3 +0.7
comp=Z,3.1nm,0.7s
STAL STALIGIAL 144.72 330 **PKPab** 22 36 34.0 -0.6
NVLJ Novalja 144.84 327 P PKPbc 22 36 34.7 -0.2
BFO Black Forest 144.97 337 PKiKP PKPbc 22 36 34.6 -0.7
BFO Black Forest 144.97 337 PKPbc 22 36 34.6 -0.7
FETA Feichten 145.04 333 *e*PKPdf **PKPab** 22 36 36.2 +0.2
comp=Z,59nm,0.9s,SNR=26
FETA *e*PP **PP** 22 39 55.0 -0.8
comp=Z,5.0nm,1.1s
BRJN Brijuni 145.18 328 P **PKPdf** 22 36 35.5 -0.5
DAVA Damuels 145.19 334 *e*PKPab **PKPab** 22 36 36.6 0.0
comp=Z,54nm,1.1s,SNR=12
CTI Castel Tesino 145.37 331 PKP2 **PKPdf** 22 36 35.7 -0.8
CTI Castel Tesino 145.37 331 **PKPdf** 22 36 35.7 -0.8
ECH Echery 145.49 338 PKP2 **PKPdf** 22 36 36.2 -0.3
ECH Echery 145.49 338 **PKPdf** 22 36 36.2 -0.3
FUORN Ofenpass-Fuorn 145.56 333 **PKPab** 22 36 38.3 +0.3
DAVOX Davos/Dischmat 145.59 334 PKP2 **PKPab** 22 36 38.0 -0.1
DAVOX Davos/Dischmat 145.59 334 PKPbc **PKPab** 22 36 38.0 -0.1
comp=Z,21nm,0.5s,baz=146,slow=0.6,SNR=94
DAVOX SKP 22 39 48.2
comp=Z,0.3nm,0.3s,baz=360,slow=15,SNR=1.6
DAVOX PP **PP** 22 39 56.4 -2.6
comp=Z,3.5nm,0.8s,baz=58,slow=4.1,SNR=4.4
TIP Timpagrande 147.05 317 **PKPbc** 22 36 42.3 +0.5
KEST Kesra 153.83 319 PKPbc **PKPbc** 22 36 57.7 -0.5
comp=Z,3.7nm,0.9s,baz=56,slow=3.6,SNR=4.3
KEST Kesra 153.83 319 **PKPbc** 22 36 57.3 -0.9
POLO Lamas de Olo 155.69 353 *e*PKPab **PKPab** 22 37 20.2 +0.5
PVRL Vila Real 155.78 353 *e*PKPab **PKPab** 22 37 20.6 +0.6
PVIS Viseu 156.36 353 *e*PKPab **PKPab** 22 37 22.9 +0.4
ESDC Sonseca Array 156.66 345 PKPab **PKPab** 22 37 24.1 +0.3
comp=Z,1.8nm,0.6s,baz=22,slow=3.6,SNR=12
PTOM Tomar 157.50 354 *e*PKPab **PKPab** 22 37 27.9 +0.5
MDT Midelt 163.24 339 PKPab **PKPab** 22 37 53.6 +0.9
comp=Z,1.7nm,0.8s,baz=35,slow=6.9,SNR=3.8
TORD Torodi Ar. Bea 166.62 254 PKP **PKPdf** 22 37 01.4 -3.3
comp=Z,1.3nm,0.8s,baz=127,slow=1.0,SNR=6.3
TORD PKPab **PKPab** 22 38 08.2 -0.1
comp=Z,2.7nm,0.7s,baz=107,slow=4.1,SNR=14
DBIC Dimbokro 167.67 213 PKP2 **PKPab** 22 38 09.7 -2.9
DBIC Dimbokro 167.67 213 PKPab **PKPab** 22 38 12.4 -0.2
comp=Z,3.4nm,0.8s,baz=172,slow=7.1,SNR=5.4
DBIC PP **PP** 22 42 01.8 +1.3
comp=Z,2.0nm,0.9s,baz=107,slow=5.5,SNR=2.2
DBIC Dimbokro 167.67 213 **PKPab** 22 38 09.7 -2.9

*IDC **15** 23:18:00.4±0.7,9.76N×125.63E, h0km, mb3.9/16, mb1 4.1/17, mb1mx4.0/40, mbtmp3.9/17, ML4.8/1, MS3.4/13, Ms1 3.4/13, ms1mx3.1/41, Error ellipse: s-maj=31.3km s-min=13.6km az=74.0*

*ISCJB **15** 23:18:03.4±0.8, 9.70N±0.04×125.56E±0.06, h33km±8km, mb3.8/16, MS3.4/10, Error ellipse: s-maj=10.7km s-min=5.2km az=160.8*

*MAN **15** 23:18:03.2, 9.63N×125.42E, h11km, MS3.8*

MAN Intensity III - Malimono Surigao del Norte.

*NEIC **15** 23:18:07.7±1.9, 9.78N±0.08×125.6E±0.2, h55km±8km, mb4.4/18*

ISC 15 23:18:02.6±1.3,**9.72N**±0.03×**125.48E**±0.06,**h14**km±8km, **n55**,σ1§**41**/55,**mb4.2**/24,**MS3.2**/10,**2C-2D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**0.73**	**304**	P	**Pb**	**23 18 17.2**	**0.0**
MSLP				S	**Sn**	**23 18 29.9**	**+0.3**
BUTP	**Butuan**	**0.76**	**169**	P	**Pb**	**23 18 16.3**	**-1.4**
BUTP				S	**Sn**	**23 18 32.1**	**+1.7**
CGP	**Cagayan de Oro**	**1.48**	**212**	⇓P	**Pn**	**23 18 27.8**	**-1.1**
CGP				S	**Sn**	**23 18 46.3**	**-1.7**
OCLP	**Ormoc**	**1.57**	**327**	P	**Pg**	**23 18 31.9**	**-1.0**
OCLP				S	**Sg**	**23 18 55.0**	**+1.6**
LLP	**Lapu-Lapu**	**1.60**	**292**	⇑P	**Pn**	**23 18 31.3**	**+0.7**
LLP				S	**Sn**	**23 18 52.8**	**+1.8**
DCPH	**Dipolog City**	**2.38**	**242**	⇑P	**Pn**	**23 18 41.2**	**-0.1**
DAV	**Davao City (W)**	**2.64**	**178**	Pn	**Pb**	**23 18 49.3**	**-0.4**
	61nm,0.3s,baz=49,slow=4.0,SNR=8.9						
DAV				Sn	**Sg**	**23 19 29.5**	**+2.0**
	47nm,0.3s,baz=137,slow=19,SNR=3.1						
DAV				LR	LR	23 20 07.3	
	comp=Z,882nm,21.9s,baz=347,slow=47						
DAV	**Davao City (W)**	**2.64**	**178**	Sn	**Sb**	**23 19 21.7**	**-0.3**
KCP	**Kidapawan**	**2.72**	**188**	⇓P	**Pn**	**23 18 47.0**	**+0.9**
PAGZ	**Pagadian**	**2.78**	**228**	P	**Pn**	**23 18 45.8**	**-1.0**
PAGZ				S	**Sn**	**23 19 16.1**	**-4.2**
CNP	**Catarman**	**2.88**	**344**	P	**Pn**	**23 18 47.4**	**-0.8**
CNP				S	**Sg**	**23 19 31.9**	**-3.5**
GUIM	**Jordan**	**2.98**	**288**	P	**Pn**	**23 18 51.2**	**+1.7**
GUIM				S	**Sn**	**23 19 22.9**	**-2.2**
TGY	**Tagaytay City**	**6.22**	**315**	LR	LR	23 22 17.3	
	comp=Z,355nm,19.2s,baz=152,slow=41						
FAKI	**Fak Fak**	**14.26**	**151**	Pn	**Pn**	**23 21 26.5**	**+2.1**
TPUB	**Ta-pu**	**14.28**	**342**	Pn	**Pn**	**23 21 27.2**	**+2.7**
NACB	**Ninganchiao**	**14.84**	**346**	Pn	**Pn**	**23 21 33.3**	**+1.1**
GUMO	**Guam**	**19.38**	**77**	LR	LR	23 28 37.5	
	comp=Z,32nm,21.5s,baz=121,slow=33						
SOEI	**Soe**	**19.39**	**184**	P	**Pn**	**23 22 29.6**	**0.0**
SOEI				IAmb	IAmb	23 22 37.7	
	comp=Z,13nm,0.6s						
BATI	**Baumata**	**19.88**	**185**	P	**Pn**	**23 22 35.4**	**0.0**
	comp=Z,2.8nm,0.3s,baz=111,slow=9.7,SNR=3.8						
CMAR	**Chiang Mai Arr**	**27.13**	**292**	P	**P**	**23 23 46.8**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=110,slow=6.9,SNR=8.6						
CMAR				LR	LR	23 33 59.0	
	comp=Z,82nm,18.2s,baz=177,slow=35						
CHTO	**Chiang Mai**	**27.22**	**292**	P	**P**	**23 23 46.0**	**-0.4**
INU	**Inuyama**	**27.60**	**21**	P	**P**	**23 23 48.2**	**-1.4**
INU				IAmb	IAmb	23 23 54.6	
	comp=Z,13nm,1.0s						
FITZ	**Fitzroy Crossi**	**27.64**	**180**	P	**P**	**23 23 49.6**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=12,slow=5.5,SNR=4.5						
FITZ				LR	LR	23 36 30.9	
	comp=Z,26nm,18.8s,baz=22,slow=40						
FITZ	**Fitzroy Crossi**	**27.64**	**180**	IAmb	IAmb	23 24 01.7	
	comp=Z,4.6nm,1.1s						
KSRS	**Korea Array**	**27.70**	**4**	P	**P**	**23 23 50.0**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=181,slow=10,SNR=3.1						
KSRS				LR	LR	23 37 18.9	
	comp=Z,26nm,18.1s,baz=320,slow=42						
PMG	**Port Moresby**	**28.76**	**131**	LR	LR	23 36 18.4	
	comp=Z,36nm,20.3s,baz=249,slow=38						
KRVT	**Keravat (AS076**	**29.90**	**117**	LR	LR	23 36 40.7	
	comp=Z,55nm,18.3s,baz=340,slow=38						
WRA	**Warramunga Arr**	**30.74**	**164**	P	**P**	**23 24 16.8**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=348,slow=9.4,SNR=2.7						
WR0	**Warramunga Arr**	**30.82**	**163**	P	**P**	**23 24 18.7**	**+0.3**
ASAR	**Alice Springs**	**34.19**	**166**	P	**P**	**23 24 48.5**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=346,slow=6.9,SNR=6.1						
ASAR				LR	LR	23 41 17.1	
	comp=Z,39nm,18.2s,baz=21,slow=41						
USRK	**Ussuriysk Ar.**	**34.81**	**8**	P	**P**	**23 24 51.6**	**-1.5**
	comp=Z,2.6nm,0.8s,baz=197,slow=8.2,SNR=3.0						
FORT	**Forrest**	**40.34**	**177**	P	**P**	**23 25 40.2**	**+0.2**
SONM	**Songino Array**	**41.26**	**340**	P	**P**	**23 25 47.8**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=159,slow=11,SNR=2.7						
STKA	**Stephens Creek**	**44.15**	**160**	P	**P**	**23 26 11.7**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=348,slow=7.9,SNR=3.8						
STKA				LR	LR	23 49 59.7	
	comp=Z,30nm,18.1s,baz=21,slow=44						
STKA	**Stephens Creek**	**44.15**	**160**	IAmb	IAmb	23 26 15.4	
	comp=Z,1.1nm,1.1s						
DZM	**Mont Dzumac**	**51.11**	**129**	P	**P**	**23 27 04.6**	**-0.8**
	comp=Z,3.9nm,0.9s,baz=252,slow=9.6,SNR=2.6						
MKAR	**Makanchi Array**	**51.99**	**323**	P	**P**	**23 27 12.6**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=113,slow=8.0,SNR=7.6						
KDJ	**Kajisay**	**53.13**	**316**	P	**P**	**23 27 19.6**	**-0.8**
KDJ				IAmb	IAmb	23 27 29.7	
	comp=Z,3.8nm,0.9s						
NIL	**Nilore**	**53.40**	**305**	P	**P**	**23 27 23.3**	**+1.1**
ZALV	**Zalesovo Beam**	**54.73**	**332**	P	**P**	**23 27 30.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=134,slow=8.3,SNR=2.1						
KBL	**Kabul**	**57.00**	**305**	P	**P**	**23 27 50.7**	**+2.2**
KBL				IAmb	IAmb	23 27 51.6	
	comp=Z,2.8nm,0.8s						
KK31	**Karatay Array**	**58.08**	**315**	P	**P**	**23 27 57.5**	**+1.8**
KK31				IAmb	IAmb	23 28 00.7	
	comp=Z,3.3nm,0.9s						
KKAR	**Karatay Array**	**58.08**	**315**	IAmb	IAmb	23 28 00.7	
	comp=Z,3.3nm,0.9s						
BRVK	**Borovoye**	**61.74**	**326**	P	**P**	**23 28 21.8**	**+1.2**
BRVK				IAmb	IAmb	23 28 25.4	
	comp=Z,4.4nm,1.1s						
HRA	**Herat**	**62.52**	**304**	P	**P**	**23 28 26.4**	**0.0**
HRA				IAmb	IAmb	23 28 32.1	
	comp=Z,2.9nm,0.9s						
FOZ	**Fox Glacier**	**66.57**	**146**	P	**P**	**23 28 51.9**	**-0.5**
ABKAR	**Akbulak array**	**66.78**	**320**	P	**P**	**23 28 54.1**	**+0.3**
ABKAR				IAmb	IAmb	23 28 55.4	
	comp=Z,2.0nm,0.8s						
AKTO	**Aktyubinsk**	**68.24**	**321**	LR	LR	23 58 51.3	
	comp=Z,111nm,18.3s,baz=322,slow=36						
ILAR	**Eielson Array**	**80.27**	**26**	P	**P**	**23 30 12.4**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=233,slow=4.4,SNR=3.3						
ARCES	**ARCESS Array B**	**84.43**	**340**	P	**P**	**23 30 33.8**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=83,slow=7.4,SNR=3.3						
ARE0	**ARCESS Array S**	**84.43**	**340**	P	**P**	**23 30 33.8**	**-0.8**
AKASG	**Malin Array Be**	**86.49**	**321**	P	**P**	**23 30 45.6**	**+0.5**
	comp=Z,0.1nm,0.2s,baz=70,slow=3.3,SNR=4.0						
VNDA	**Vanda**	**89.49**	**173**	P	**P**	**23 30 57.0**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=328,slow=6.9,SNR=5.6						
VNDA				LR	LR	00 11 53.6	
	comp=Z,23nm,19.5s,baz=240,slow=36						
NOA	**NORSAR Array B**	**92.90**	**334**	LR	LR	00 15 58.6	
	comp=Z,92nm,18.2s,baz=15,slow=37						
YKA	**Yellowknife Ar**	**94.57**	**24**	P	**P**	**23 31 23.2**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=303,slow=4.6,SNR=7.7						

*NEIC **15** 23:18:22.4±1.4, 31.73S±0.05×179.8E±0.2, h382km±7km, mb4.1/13*

*IDC **15** 23:18:22.9±0.9, 31.82S×179.87E, h383km±9km, mb3.1/4, mb1 3.5/8, mb1mx3.3/37, mbtmp4.3/8, Error ellipse: s-maj=20.6km s-min=12.9km az=115.0*

*WEL **15** 23:18:29.4±1.0, 32°S±6'×18°0W±1'6, h321km±14km, mB4.8/12, MLv4.9/22, Mw(mB)4.1/12, Error ellipse: s-maj=0.0km s-min=0.0km az=108.2*

ISC 15 23:18:21.9±0.5,**31.76S**±0.06×**179.61E**±0.10,**h363**km, **n122**,σ1§**41**/118,**mb3.7**/8,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.28**	**41**	P	**Pn**	**23 19 27.6**	**+2.8**
GLKZ				S	**S**	**23 20 16.8**	**+1.3**
RIZ	**Raoul Island**	**3.29**	**41**	P	Pn	23 19 28.1	+3.2
RIZ				S	**S**	**23 20 19.4**	**+3.7**
RAO	**Raoul Island**	**3.29**	**41**	P	**Pn**	**23 19 25.5**	**+0.6**
	40nm,0.3s,baz=77,slow=21,SNR=2.3						
RAO				S	**S**	**23 20 18.6**	**+2.9**
	100nm,0.3s,baz=83,slow=23,SNR=2.2						
RAO	**Raoul Island**	**3.29**	**41**	Pn	**Pn**	**23 19 25.3**	**+0.3**
MXZ	**Matakaoa Point**	**5.88**	**190**	P	Pn	23 19 55.8	+4.1
MXZ				S	**S**	**23 21 05.9**	**+1.3**
MXZ	**Matakaoa Point**	**5.88**	**190**		**Pn**	**23 19 54.8**	**+3.1**
KUZ	**Kuaotunu**	**5.92**	**212**	P	Pn	23 19 59.8	+7.7
WCZ	**Waipu Caves**	**6.04**	**225**	P	Pn	23 20 01.3	+7.8
OUZ	**Omahuta**	**6.09**	**234**	P	Pn	23 20 02.1	+8.0
OUZ	**Omahuta**	**6.09**	**234**	Pn	**Pn**	**23 19 58.4**	**+4.3**
WMGZ	**Waiomatatini S**	**6.12**	**189**	P	Pn	23 19 59.0	+4.7
WMGZ				S	**S**	**23 21 11.4**	**+1.9**
HAZ	**Te Kaha**	**6.16**	**194**	P	Pn	23 20 00.2	+5.4
HAZ				S	**S**	**23 21 12.0**	**+1.6**
PKGZ	**Pakihiroa**	**6.24**	**191**	P	Pn	23 19 59.6	+3.8
PKGZ				S	**S**	**23 21 13.6**	**+1.5**
PUZ	**Puketiti**	**6.39**	**190**	P	**Pn**	**23 20 00.6**	**+3.1**
PUZ				S	**S**	**23 21 15.7**	**+0.5**
MWZ	**Matawai**	**6.77**	**194**	P	**P**	**23 20 05.1**	**+2.0**
MWZ				S	**S**	**23 21 24.6**	**+1.3**
KMRZ	**Kaimai**	**6.77**	**205**	P	P	23 20 08.7	+5.6
URZ	**Urewera**	**6.79**	**197**	P	**P**	**23 20 04.4**	**+1.1**
	32nm,0.3s,baz=263,slow=4.7,SNR=52						
URZ				S	**S**	**23 21 24.7**	**+1.0**
	16nm,0.3s,baz=242,slow=22,SNR=15						
URZ	**Urewera**	**6.79**	**197**	P	**P**	**23 20 05.1**	**+1.8**
URZ				S	**S**	**23 21 24.7**	**+1.0**
URZ	**Urewera**	**6.79**	**197**		**P**	**23 20 04.9**	**+1.6**
URZ					**S**	**23 21 25.3**	**+1.7**
KARZ	**Kaharoa**	**6.82**	**203**	P	P	23 20 09.5	+5.9
TOZ	**Tahuroa Road**	**6.84**	**208**	P	P	23 20 10.7	+6.8
OMRZ	**Omania**	**6.86**	**202**	P	P	23 20 09.6	+5.4
TARZ	**Mount Tarawera**	**6.94**	**201**	P	P	23 20 10.1	+5.1
RRRZ	**Republican Roa**	**7.03**	**200**	P	P	23 20 11.0	+4.9
HSRZ	**Hossack Road**	**7.09**	**202**	P	P	23 20 12.6	+5.9
RTZ	**Ruatahuna**	**7.17**	**197**	P	**P**	**23 20 10.7**	**+3.0**
SNGZ	**Shannon Statio**	**7.24**	**194**	P	**P**	**23 20 10.7**	**+2.2**
SNGZ				S	**S**	**23 21 34.7**	**+1.5**
HIZ	**Hauiti**	**7.78**	**209**	P	P	23 20 19.9	+5.3
HIZ	**Hauiti**	**7.78**	**209**		**P**	**23 20 16.0**	**+1.4**
BKZ	**Black Stump Fm**	**7.81**	**198**		**P**	**23 20 16.5**	**+1.5**
WTVZ	**West Tongariro**	**8.03**	**203**	P	**P**	**23 20 20.8**	**+1.9**
TWVZ	**Taurewa**	**8.04**	**204**	P	**P**	**23 20 20.9**	**+2.0**
NGZ	**Ngauruhoe**	**8.08**	**203**	P	**P**	**23 20 21.1**	**+1.6**
FWVZ	**Far West T-bar**	**8.17**	**203**	P	**P**	**23 20 21.6**	**+1.1**
WHVZ	**Whangaehu Hut**	**8.18**	**202**	P	**P**	**23 20 22.0**	**+1.4**
TRVZ	**Turoa**	**8.21**	**203**	P	**P**	**23 20 21.9**	**+0.9**
PKVZ	**Pokaka**	**8.27**	**204**	P	**P**	**23 20 23.0**	**+1.6**
KRHZ	**Kereru**	**8.29**	**198**	P	**P**	**23 20 21.6**	**-0.1**
VRZ	**Vera Road**	**8.34**	**207**	P	**P**	**23 20 25.4**	**+3.1**
PNHZ	**Pukenui**	**8.59**	**198**	P	**P**	**23 20 24.3**	**-0.7**
PKE	**Pukeiti**	**8.71**	**210**	P	P	23 20 31.6	+5.3
KHEZ	**Kahui Hut**	**8.79**	**210**	P	P	23 20 31.8	+4.6
TSZ	**Takapari Road**	**8.79**	**199**	P	**P**	**23 20 26.5**	**-0.7**
PRHZ	**Porangahau**	**8.82**	**195**	P	**P**	**23 20 27.9**	**+0.5**
DVHZ	**Dannevirke**	**8.96**	**197**	P	**P**	**23 20 29.7**	**+0.7**
ANWZ	**Angora Road**	**9.04**	**195**	P	**P**	**23 20 31.3**	**+1.4**
POWZ	**Post Office Ro**	**9.15**	**199**	P	**P**	**23 20 32.0**	**+0.8**
PRWZ	**Pori Road**	**9.25**	**197**	P	**P**	**23 20 33.5**	**+1.2**
BFZ	**Birch Farm**	**9.30**	**196**	P	**P**	**23 20 33.2**	**+0.3**
BFZ	**Birch Farm**	**9.30**	**196**	P	**P**	**23 20 34.3**	**+1.4**
MRZ	**Mangatainoka R**	**9.45**	**199**	P	**P**	**23 20 34.5**	**-0.1**
CPWZ	**Castlepoint**	**9.53**	**196**	P	**P**	**23 20 37.4**	**+2.0**
HOWZ	**Holdsworth Sta**	**9.69**	**199**	P	**P**	**23 20 38.1**	**+0.8**
OGWZ	**Otaki Gorge**	**9.71**	**200**	P	**P**	**23 20 37.1**	**-0.4**
MTW	**Mount Morrison**	**9.94**	**198**	P	**P**	**23 20 37.7**	**+0.8**
CAW	**Cannon Point**	**10.01**	**200**	P	**P**	**23 20 41.1**	**+0.3**
DUWZ	**D'Urville Isla**	**10.12**	**205**	P	**P**	**23 20 41.5**	**-0.5**
TRWZ	**Traveller**	**10.12**	**197**	P	**P**	**23 20 42.0**	**+0.1**
PAWZ	**Paruwai Farm**	**10.17**	**198**	P	**P**	**23 20 43.2**	**+0.7**
MSWZ	**Moikau Station**	**10.25**	**199**	P	**P**	**23 20 43.7**	**+0.3**
SNZO	**South Karori**	**10.31**	**201**	P	**P**	**23 20 44.0**	**+0.1**
BHW	**Baring Head**	**10.35**	**200**	P	**P**	**23 20 44.8**	**+0.3**
BHW	**Baring Head**	**10.35**	**200**	P	**P**	**23 20 44.7**	**+0.3**
TCW	**Tory Channel**	**10.35**	**203**	P	**P**	**23 20 44.6**	**+0.1**
PLWZ	**Palliser**	**10.39**	**198**	P	**P**	**23 20 45.4**	**+0.5**
PLWZ	**Palliser**	**10.39**	**198**	P	**P**	**23 20 45.0**	**0.0**
TUWZ	**Tuamarina**	**10.66**	**204**	P	**P**	**23 20 48.1**	**+0.1**
TUWZ	**Tuamarina**	**10.66**	**204**	P	**P**	**23 20 48.0**	**0.0**
NNZ	**Nelson**	**10.68**	**206**	P	**P**	**23 20 48.5**	**+0.3**
NNZ	**Nelson**	**10.68**	**206**	P	**P**	**23 20 48.7**	**+0.6**
QRZ	**Quartz Range**	**10.69**	**210**	P	**P**	**23 20 49.3**	**+1.1**
QRZ	**Quartz Range**	**10.69**	**210**	P	**P**	**23 20 49.4**	**+1.1**
CNWZ	**Cape Campbell**	**10.86**	**202**	P	**Pn**	**23 20 46.7**	**-3.1**
BSWZ	**Blackbirch Sta**	**10.94**	**203**	P	**P**	**23 20 52.0**	**+0.9**
BSWZ	**Blackbirch Sta**	**10.94**	**203**	P	**P**	**23 20 51.6**	**+0.6**
THZ	**Tophouse**	**11.33**	**206**	P	**Pn**	**23 20 56.2**	**+0.7**
THZ	**Tophouse**	**11.33**	**206**	P	**Pn**	**23 20 56.8**	**+1.3**
KHZ	**Kahutara**	**11.68**	**203**	P	**P**	**23 20 58.1**	**-1.1**
KHZ	**Kahutara**	**11.68**	**203**	P	**Pn**	**23 21 00.5**	**+1.0**
GVZ	**Greta Valley S**	**12.34**	**203**	P	**Pn**	**23 21 07.7**	**+0.4**
LTZ	**Lake Taylor**	**12.45**	**206**	P	**Pn**	**23 21 08.4**	**-0.1**
LTZ	**Lake Taylor**	**12.45**	**206**	P	**Pn**	**23 21 09.3**	**+0.7**
OXZ	**Oxford**	**13.00**	**205**	P	**Pn**	**23 21 14.5**	**-0.6**
OKCZ	**Okains Bay**	**13.01**	**202**	P	**Pn**	**23 21 15.7**	**+0.6**
MQZ	**McQueen's Vall**	**13.12**	**203**	P	**Pn**	**23 21 15.7**	**-0.7**
MQZ	**McQueen's Vall**	**13.12**	**203**	P	**Pn**	**23 21 15.4**	**-1.0**
RPZ	**Rata Peaks**	**13.70**	**207**	P	**Pn**	**23 21 23.3**	**0.0**
	1.5nm,0.3s,baz=6.2,slow=1.8,SNR=10						
RPZ				S	**S**	**23 23 46.6**	**-3.8**
	1.1nm,0.3s,baz=303,slow=20,SNR=4.4						
RPZ	**Rata Peaks**	**13.70**	**207**	P	**Pn**	**23 21 23.1**	**-0.2**
RPZ	**Rata Peaks**	**13.70**	**207**	P	**Pn**	**23 21 23.4**	**+0.1**
FOZ	**Fox Glacier**	**14.06**	**211**	P	**Pn**	**23 21 27.7**	**+0.3**
LBZ	**Lake Benmore**	**14.61**	**208**	P	**Pn**	**23 21 32.5**	**-1.2**
ODZ	**Otahua Downs**	**14.99**	**205**	P	**Pn**	**23 21 36.9**	**-1.2**
ODZ				IAmb	IAmb	23 21 52.9	
	comp=Z,10.0nm,1.1s						
DZM	**Mont Dzumac**	**15.19**	**306**	P	**Pn**	**23 21 41.8**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=119,slow=13,SNR=4.6						
DZM	**Mont Dzumac**	**15.19**	**306**	P	**P**	**23 21 39.1**	**+1.0**
DZM				IAmb	IAmb	23 21 44.0	
	comp=Z,8.8nm,0.9s						
WKZ	**Wanaka**	**15.45**	**209**	P	**P**	**23 21 40.9**	**+0.3**
MLZ	**Mavora Lakes**	**16.26**	**210**	P	**P**	**23 21 50.5**	**+1.1**
MLZ				IAmb	IAmb	23 21 50.6	
	comp=Z,18nm,1.2s						
WHZ	**Wether Hill Ro**	**16.75**	**209**	P	**P**	**23 21 56.1**	**+1.5**
DCZ	**Deep Cove**	**16.76**	**212**	P	**P**	**23 21 55.3**	**+0.6**
ASAR	**Alice Springs**	**41.02**	**270**	P	**P**	**23 25 32.5**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=104,slow=7.4,SNR=18						
WR0	**Warramunga Arr**	**41.95**	**275**	P	**P**	**23 25 38.9**	**+0.1**
WRAB	**Tennant Creek**	**42.13**	**275**	P	**P**	**23 25 40.8**	**+0.6**
WRA	**Warramunga Arr**	**42.13**	**275**	P	**P**	**23 25 41.0**	**+0.7**
	comp=Z,2.0nm,0.4s,baz=113,slow=7.7,SNR=28						
SBA	**Scott Base**	**46.54**	**184**	P	**P**	**23 26 13.7**	**-0.2**
SBA				IAmb	IAmb	23 26 27.8	
	comp=Z,6.9nm,1.1s						
VNDA	**Vanda**	**46.54**	**185**	P	**P**	**23 26 13.9**	**0.0**
	comp=Z,0.4nm,0.6s,baz=26,slow=7.0,SNR=3.6						
FITZ	**Fitzroy Crossi**	**50.33**	**272**	P	**P**	**23 26 44.3**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=90,slow=8.1,SNR=2.6						
FITZ	**Fitzroy Crossi**	**50.33**	**272**	P	**P**	**23 26 43.8**	**+0.4**
CASY	**Casey**	**52.97**	**208**	P	**P**	**23 27 01.3**	**-0.7**
CASY				IAmb	IAmb	23 27 09.4	
	comp=Z,3.7nm,0.9s						
QSPA	**South Pole Qui**	**58.35**	**180**	P	**P**	**23 27 40.2**	**+0.3**
QSPA				IAmb	IAmb	23 27 41.9	
	comp=Z,8.6nm,0.8s						
SNAA	**Sanae**	**76.84**	**179**	P	**P**	**23 29 33.9**	**-0.2**
SNAA	**Sanae**	**76.84**	**179**	P	**P**	**23 29 33.8**	**-0.3**
SNAA				IAmb	IAmb	23 29 34.6	
	comp=Z,3.7nm,1.0s						
VNA3	**Neumayer Olymp**	**77.07**	**177**	P	**P**	**23 29 35.1**	**-0.4**
VNA2	**Neumayer--Watz**	**77.48**	**178**	P	**P**	**23 29 37.3**	**-0.4**
	baz=179,slow=4.9						
VNA1	**Neumayer--Stat**	**77.72**	**177**	P	**P**	**23 29 39.1**	**+0.2**
PEA0B	**Petropavlovsk-**	**86.65**	**347**	P	**P**	**23 30 23.6**	**-1.2**
ZALV	**Zalesovo Beam**	**117.68**	**318**	PKP	**PKPdf**	**23 36 22.9**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=54,slow=2.5,SNR=2.1						
FINES	**FINESS Array B**	**145.67**	**338**	PKPbc	**PKPdf**	**23 37 16.3**	**-0.4**
	comp=Z,5.5nm,0.8s,baz=54,slow=2.9,SNR=13						
NOA	**NORSAR Array B**	**149.74**	**349**	PKPbc	**PKPbc**	**23 37 26.5**	**-2.1**
	comp=Z,1.7nm,1.1s,baz=35,slow=2.2,SNR=2.9						
MMAI	**Mount Meron Ar**	**149.83**	**282**	PKPbc	**PKiKP**	**23 37 29.9**	**-0.7**
	comp=Z,1.9nm,0.5s,baz=88,slow=6.0,SNR=11						
AKASG	**Malin Array Be**	**151.07**	**319**	PKPbc	**PKPbc**	**23 37 30.3**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=28,slow=2.2,SNR=4.5						
BRTR	**Keskin Array B**	**151.39**	**296**	PKPbc	**PKPbc**	**23 37 31.1**	**-2.2**
	comp=Z,0.7nm,0.6s,baz=143,slow=4.1,SNR=6.1						
CLL	**Collm**	**158.12**	**337**	*e*PKPab	**PKPab**	**23 38 11.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**161.37**	**186**	PKPab	**PKPab**	**23 38 25.0**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=177,slow=3.7,SNR=11						

*IDC **15** 23:22:16.5±1.2, 4.00N×126.74E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/44, mbtmp3.8/7, MS3.6/1, Ms1 3.6/1, ms1mx2.7/35, Error ellipse: s-maj=69.7km s-min=16.5km az=66.0*

*ISCJB **15** 23:22:20.5±0.3, 4.01N±0.04×126.75E±0.07, h45km, mb3.7/7, MS3.5/1, Error ellipse: s-maj=9.9km s-min=5.5km az=164.4*

*NEIC **15** 23:22:25.1±1.1, 3.94N±0.04×126.7E±0.1, h73km±6km, mb4.3/33*

ISC 15 23:22:22.3±0.5,**3.97N**±0.05×**126.79E**±0.10,**h45**km,**n49**, σ1§**16**/47,**mb4.3**/20,**1C-1D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.79**	**319**	⇓P	**Pn**	**23 23 07.2**	**+2.6**
TNTI	**Ternate**	**3.23**	**170**	Pn	**Pn**	**23 23 13.0**	**+2.4**
DAV	**Davao City (W)**	**3.30**	**339**	Pn	**Pn**	**23 23 14.1**	**+2.5**
KCP	**Kidapawan**	**3.46**	**331**	⇑P	Pn	23 23 18.9	+5.1
LUWI	**Luwuk**	**6.39**	**219**	Pn	**Pn**	**23 23 56.2**	**+2.2**
FAKI	**Fak Fak**	**8.76**	**141**	Pn	Pn	23 24 30.9	+4.4
KKM	**Kota Kinabalu**	**10.73**	**281**	Pn	**Pn**	**23 24 55.0**	**+1.4**
KAPI	**Kappang**	**11.36**	**218**	Pn	**Pn**	**23 25 04.3**	**+2.2**
MTN	**Manton Dam**	**17.26**	**166**	Pn	**Pn**	**23 26 19.3**	**-0.9**
KNRA	**Kununurra**	**19.62**	**174**	P	**Pn**	**23 26 47.7**	**-1.1**
KNRA				IAmb	IAmb	23 27 02.9	
	comp=Z,12nm,1.1s						
YULB	**Yu-li**	**20.02**	**345**	P	**P**	**23 26 50.7**	**-0.8**
TPUB	**Ta-pu**	**20.11**	**343**	P	**P**	**23 26 53.6**	**+1.1**
TPUB				IAmb	IAmb	23 26 55.7	
	comp=Z,11nm,0.9s						
SSLB	**Suanglung**	**20.49**	**345**	P	**P**	**23 26 56.7**	**+0.1**
SSLB				IAmb	IAmb	23 26 59.1	
	comp=Z,12nm,0.9s						
NACB	**Ninganchiao**	**20.70**	**346**	P	**P**	**23 26 59.6**	**+0.7**
NACB				IAmb	IAmb	23 27 09.6	
	comp=Z,34nm,1.0s						
TATO	**Taipei**	**21.50**	**347**	P	**P**	**23 27 08.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**21.96**	**183**	P	**P**	**23 27 12.4**	**0.0**
	comp=Z,0.9nm,0.6s,baz=2.4,slow=10,SNR=2.8						
FITZ	**Fitzroy Crossi**	**21.96**	**183**	P	**P**	**23 27 11.8**	**-0.6**
UBPT	**Khong Chiam**	**23.80**	**300**	P	**P**	**23 27 30.6**	**-0.7**
WRAB	**Tennant Creek**	**24.89**	**163**	P	**P**	**23 27 41.0**	**-0.2**
WRA	**Warramunga Arr**	**24.90**	**163**	P	**P**	**23 27 40.6**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=342,slow=10,SNR=13						
WR0

BRTR	**Keskin Array B**	**28.96**	**287**	P	**P**	**23 40 49.4**	**+0.5**		
	comp=E,0.3nm,0.6s,baz=89,slow=9.4,SNR=2.3								
TORD	**Torodi Ar. Bea**	**65.31**	**268**	P	**P**	**23 45 31.0**	**-0.5**		
	comp=E,0.4nm,0.8s,baz=41,slow=5.9,SNR=1.8								

MOS ***15*** *23:40:30.9±0.0, 42°.32N×42°.99E, h1km, MPVA3.5*
TIF ***15*** *23:40:30.0, 42°.31N×43°.08E, h0km±1km*
ISK ***15*** *23:40:31.9, 42°.31N×43°.22E, h5km, ML3.0/11*
NORS ***15*** *23:40:32.7±0.0, 42°.36N×42°.93E, h4km, MPVA3.5*

ISC 15 23:40:32.0±1.1**, 42°.32N**±0°.02×**43°.06E**±0°.02**, h2km**±10km**, n43,** σ1°**37/74, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.39**	**47**	P	**Pg**	**23 40 38.9**	**-0.6**
ONI				S	**Sg**	**23 40 46.0**	**+1.3**
ONI	**Oni**	**0.39**	**47**	PG	**Pg**	**23 40 39.1**	**-0.5**
ONI				SG	**Sg**	**23 40 45.7**	**+1.0**
ONI	**Oni**	**0.39**	**47**	*e*Pg	**Pg**	**23 40 38.6**	**-0.9**
ONI				*e*Sg	**Sg**	**23 40 45.9**	**+1.2**
DIGR	**Digorskoe uzhe**	**0.69**	**34**	*e*Pg	**Pg**	**23 40 44.6**	**-0.7**
DIGR				*e*Sg	**Sg**	**23 40 54.8**	**+0.5**
NEY	**Neytrino**	**0.96**	**345**	*e*Pg	**Pg**	**23 40 49.4**	**-1.0**
NEY				*e*Sg	**Sg**	**23 41 01.9**	**-0.8**
AKH	**Akhalkalaki**	**0.97**	**160**	P	**Pg**	**23 40 50.5**	**-0.1**
AKH				S	**Sb**	**23 41 04.0**	**-0.9**
AKH	**Akhalkalaki**	**0.97**	**160**	PG	**Pg**	**23 40 50.6**	**+0.1**
AKH				SG	**Sb**	**23 41 04.6**	**-0.3**
AKH	**Akhalkalaki**	**0.97**	**160**	*e*Pg	**Pg**	**23 40 50.4**	**-0.1**
AKH				*e*Sg	**Sb**	**23 41 04.1**	**-0.9**
GUDG	**Gudauri**	**1.06**	**82**	P	**Pg**	**23 40 51.6**	**-0.7**
GUDG	**Gudauri**	**1.06**	**82**	*e*Pg	**Pg**	**23 40 51.1**	**-1.2**
GUDG				*e*Sg	**Sb**	**23 41 07.5**	**-0.1**
LSNR	**Lesken**	**1.11**	**30**	*e*Pg	**Pg**	**23 40 53.1**	**-0.1**
LSNR				*e*Sg	**Sn**	**23 41 09.7**	**-0.8**
ARNR	**Ardon**	**1.24**	**46**	*e*Pg	**Pn**	**23 40 56.0**	**-0.4**
ARNR				*e*Sg	**Sn**	**23 41 14.3**	**+0.4**
STDR	**Stavd-Durt**	**1.28**	**35**	*e*Pg	**Pn**	**23 40 57.5**	**+0.6**
STDR				*e*Sg	**Sn**	**23 41 15.7**	**+1.0**
KZRT	**Kazreti**	**1.37**	**133**	P	**Pn**	**23 40 57.6**	**-0.6**
KZRT				S	**Sn**	**23 41 16.1**	**-0.9**
TBLG	**Delisi**	**1.38**	**115**	P	**Pn**	**23 40 57.2**	**-1.2**
TBLG				S	**Sn**	**23 41 16.9**	**-0.4**
TBLG	**Delisi**	**1.38**	**115**	PN	**Sn**	**23 40 56.9**	**-1.5**
TBLG				SN	**Sn**	**23 41 16.3**	**-1.0**
VLKR	**Vladikavkaz**	**1.40**	**58**	*e*Pg	**Pg**	**23 40 58.9**	**+0.2**
VLKR				*e*Sg	**Sn**	**23 41 21.2**	**+3.6**
SEAG	**Tbilisi Sea**	**1.41**	**113**	P	**Pn**	**23 40 58.0**	**-0.8**
SEAG				S	**Sn**	**23 41 18.2**	**+0.2**
SHA1	**Shidzhatmaz**	**1.44**	**348**	*e*Pg	**Pn**	**23 40 58.9**	**-0.5**
SHA1				*e*Sg	**Sg**	**23 41 18.2**	**-0.2**
BTNK	**Botanikuri**	**1.45**	**116**	P	**Pn**	**23 40 58.0**	**-1.2**
BTNK				S	**Sn**	**23 41 19.1**	**+0.2**
BTKR	**Batakoyurt**	**1.51**	**46**	*e*Pg	**Pg**	**23 41 01.8**	**+0.8**
BTKR				*e*Sg	**Sg**	**23 41 25.1**	**+4.5**
KARS	**Kars**	**1.69**	**180**	PN	**Pb**	**23 41 03.8**	**-0.2**
PYA1	**Pyatigorsk**	**1.74**	**1**	*e*Pg	**Pb**	**23 41 04.4**	**-0.3**
PYA1				*e*Sg	**Sb**	**23 41 26.8**	**-0.2**
ARXR	**Arkhyz**	**1.80**	**314**	*e*Pg	**Pn**	**23 41 05.0**	**+0.7**
ARXR				*e*Sg	**Sg**	**23 41 30.8**	**+0.9**
SENK	**Senkaya-Erzuru**	**1.84**	**197**	PN	**Pb**	**23 41 06.3**	**-0.2**
TRKR	**Terskaya**	**1.86**	**41**	*e*Pg	**Pg**	**23 41 07.8**	**+0.2**
TRKR				*e*Sg	**Sg**	**23 41 35.1**	**+3.3**
DGRG	**David-gareji**	**1.94**	**116**	P	**Pb**	**23 41 07.4**	**-0.6**
DGRG				S	**Sg**	**23 41 34.7**	**+0.6**
DGRG	**David-gareji**	**1.94**	**116**	*e*Pg	**Pb**	**23 41 07.5**	**-0.6**
DGRG				*e*Sg	**Sg**	**23 41 35.6**	**+1.4**
CHOM	**Cayeli-Rize**	**2.11**	**235**	PN	**Pb**	**23 41 10.7**	**-0.3**
BTLR	**Botlikh**	**2.36**	**81**	*e*Pn	**Pb**	**23 41 15.6**	**+0.2**
BTLR				*e*Sn	**Sg**	**23 41 48.7**	**+0.8**
ALER	**Alexandrovskoy**	**2.44**	**358**	*e*Pn	**Pg**	**23 41 18.1**	**-0.7**
ALER				*e*Sn	**Sb**	**23 41 47.1**	**-0.1**
DDFL	**Dedoflistskaro**	**2.45**	**110**	P	**Pb**	**23 41 15.6**	**-1.2**
RPOR	**Krasnaya Polya**	**2.47**	**305**	*e*Pn	**Pb**	**23 41 16.6**	**-0.5**
RPOR				*e*Sn	**Sb**	**23 41 47.4**	**-0.6**
KOPR	**Koprukoy-ERZUR**	**2.50**	**202**	PN	**Pb**	**23 41 16.0**	**-1.8**
TASB	**TASBURUN-IGDIR**	**2.50**	**159**	PN	**Pb**	**23 41 15.2**	**-2.5**
GNI	**Garni**	**2.52**	**149**	PN	**Pn**	**23 41 14.6**	**+0.5**
GOF	**Gofitskoye**	**2.73**	**360**	*e*Pn	**Pb**	**23 41 19.3**	**-2.4**
GOF				*e*Sn	**Sb**	**23 41 53.6**	**-2.0**
AGRB	**Hanur-Agry**	**2.75**	**181**	PN	**Pn**	**23 41 18.8**	**+1.5**
SOC	**Sochi**	**2.76**	**298**	*e*Pn	**Pn**	**23 41 16.3**	**-0.9**
SOC				*e*Sn	**Sn**	**23 41 49.9**	**-1.2**
BAYT	**Aydıntepe-Bayb**	**2.92**	**230**	PN	**Pb**	**23 41 22.5**	**-2.5**
LZRR	**Lazarevskoye**	**3.14**	**302**	*e*Pn	**Pn**	**23 41 24.5**	**+2.1**
LZRR				*e*Sn	**Sn**	**23 42 03.5**	**+2.9**
KARO	**Karliova-Bingo**	**3.38**	**208**	PN	**Pn**	**23 41 28.4**	**+2.5**
VRTB	**Varto-Mus**	**3.39**	**202**	PN	**Pn**	**23 41 28.6**	**+2.5**

IDC ***15*** *23:41:26.9±1.0, 33°.95N×25°.69E, h0km, mb3.7/11, mb1 3.8/17, mb1mx3.6/62, mbtmp3.7/17, ML3.7/6, Error ellipse: s-maj=21.0km s-min=16.1km az=5.0*
ISCJB ***15*** *23:41:27.9±1.2, 33°.70N±0°.04×25°.73E±0°.03, h33km±11km, mb3.6/11, Error ellipse: s-maj=6.8km s-min=3.2km az=32.4*
ATH ***15*** *23:41:29.1, 33°.96N×25°.63E, h24km±2km, ML2.8/8, Error ellipse: s-maj=5.8km s-min=1.6km az=341.0*
ISK ***15*** *23:41:29.6, 33°.85N×25°.55E, h88km, ML3.4/19*
GII ***15*** *23:41:31.9±0.0, 33°.96N×26°.26E, h2km, MD3.3/1*
THE ***15*** *23:41:33.8, 34°.05N×25°.59E, h18km±5km, ML2.9/3, Error ellipse: s-maj=7.0km s-min=1.2km az=173.0*

ISC 15 23:41:29.9±2.6**, 33.79N**±0°.06×**25.71E**±0°.05**, h28**km±19km**, n117,** σ0°**96/128, mb3.7/11, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**1.23**	**1**	P	**Pn**	**23 41 51.1**	**-0.1**
LAST	**Lasithi**	**1.38**	**352**	P	**Pn**	**23 41 52.9**	**-0.6**
LAST	**Lasithi**	**1.38**	**352**	P	**Pn**	**23 41 51.8**	**-1.7**
LAST				AML	AML	23 42 26.9	
	comp=E,493μm,0.8s						
LAST				AML	AML	23 42 28.4	
	comp=N,415μm,0.6s						
ZKR	**Zakros**	**1.39**	**18**	P	**Pn**	**23 41 53.9**	**+0.4**
ZKR				S	**Sn**	**23 42 09.7**	**-1.2**
	comp=N,255nm,1.2s						
ZKR	**Zakros**	**1.39**	**18**	P	**Pn**	**23 41 53.7**	**+0.2**
ZKR				S	**Sn**	**23 42 09.7**	**-1.2**
ZKR				AML	AML	23 42 18.8	
	comp=N,358μm,1.2s						
ZKR				AML	AML	23 42 27.4	
	comp=E,779μm,0.5s						
ZKR	**Zakros**	**1.39**	**18**	PN	**Pn**	**23 41 54.6**	**+1.1**
ZKR				SN	**Sb**	**23 42 13.0**	**+0.4**
SIVA	**Sivas**	**1.44**	**329**	P	**Pn**	**23 41 53.3**	**-0.8**
SIVA				S	**Sn**	**23 42 09.5**	**-2.5**
	comp=E,852nm,0.6s						
SIVA	**Sivas**	**1.44**	**329**	P	**Pn**	**23 41 53.2**	**-0.8**
SIVA				AML	AML	23 42 19.2	
	comp=E,2035μm,0.7s						
SIVA				AML	AML	23 42 28.7	
	comp=N,1795μm,0.7s						
STIA	**Sitia Lasithi**	**1.45**	**13**	P	**Pn**	**23 41 55.3**	**+1.1**
NPS	**Neapolis**	**1.48**	**357**	P	**Pn**	**23 41 54.2**	**-0.4**
NPS	**Neapolis**	**1.48**	**357**	P	**Pn**	**23 41 54.0**	**-0.6**
NPS				AML	AML	23 42 31.8	
	comp=N,294μm,0.6s						
NPS				AML	AML	23 42 32.1	
	comp=E,434μm,0.5s						
HRKL	**Herakleio**	**1.60**	**342**	PN	**Pn**	**23 41 57.0**	**+0.7**
KSTL	**Kastelli Herak**	**1.60**	**341**	P	**Pn**	**23 41 54.2**	**-2.2**
IDI	**Anoyia**	**1.64**	**336**	P	**Pn**	**23 41 56.3**	**-0.7**
IDI				AML	AML	23 42 18.8	
	comp=N,263μm,0.8s						
IDI				AML	AML	23 42 25.8	
	comp=E,359μm,0.7s						
IDI	**Anoyia**	**1.64**	**336**	PN	**Pn**	**23 41 56.8**	**-0.2**
GVD	**Gavdhos**	**1.70**	**309**	P	**Pn**	**23 41 57.5**	**-0.2**
GVD	**Gavdhos**	**1.70**	**309**	P	**Pn**	**23 41 56.9**	**-0.8**
GVD				AML	AML	23 42 40.2	
	comp=E,884μm,0.7s						
GVD				AML	AML	23 42 40.6	
	comp=N,554μm,0.8s						
GVD	**Gavdhos**	**1.70**	**309**	PN	**Pn**	**23 41 57.3**	**-0.4**
GVDS	**Gavdos**	**1.70**	**309**	P	**Pn**	**23 41 58.3**	**+0.5**
GVDS	**Gavdos**	**1.70**	**309**	PN	**Pn**	**23 41 57.4**	**-0.4**
VAM	**Vamos**	**2.04**	**323**	P	**Pn**	**23 42 02.6**	**+0.2**
VAM	**Vamos**	**2.04**	**323**	P	**Pn**	**23 42 02.7**	**+0.3**
KARP	**Karpathos**	**2.13**	**34**	P	**Pn**	**23 42 05.6**	**+2.0**
KARP				S	**Sn**	**23 42 29.3**	**+0.2**
	comp=N,210nm,0.9s						
KARP	**Karpathos**	**2.13**	**34**	P	**Pn**	**23 42 04.1**	**+0.5**
KARP				S	**Sn**	**23 42 30.3**	**+1.2**
KARP				AML	AML	23 42 34.2	
	comp=E,377μm,0.7s						
KARP				AML	AML	23 42 34.4	
	comp=N,473μm,0.9s						
KARP	**Karpathos**	**2.13**	**34**	PN	**Pn**	**23 42 05.4**	**+1.8**
IMMV	**Iera Moni Meta**	**2.19**	**320**	P	**Pn**	**23 42 04.6**	**+0.1**
IMMV	**Iera Moni Meta**	**2.19**	**320**	P	**Pn**	**23 42 04.6**	**+0.1**
IMMV				AML	AML	23 42 52.6	
	comp=E,311μm,0.9s						
IMMV				AML	AML	23 42 57.5	
	comp=N,362μm,1.1s						
IMMV	**Iera Moni Meta**	**2.19**	**320**	PN	**Pn**	**23 42 04.2**	**-0.3**
KNDR	**Palaiochora Ch**	**2.21**	**311**	PN	**Pn**	**23 42 04.4**	**-0.3**
ANAF	**Anafi Island**	**2.56**	**1**	P	**Pn**	**23 42 09.4**	**-0.3**
THR6	**Thira Island,**	**2.58**	**354**	P	**Pn**	**23 42 09.2**	**-0.6**
SANT	**Santorini**	**2.59**	**356**	P	**Pn**	**23 42 09.7**	**-0.2**
SANT	**Santorini**	**2.59**	**356**	PN	**Pn**	**23 42 10.2**	**+0.3**
THR8	**Santorini-Mono**	**2.62**	**356**	P	**Pn**	**23 42 09.4**	**-1.0**
THR3	**Thira Island,**	**2.63**	**355**	P	**Pn**	**23 42 09.5**	**-0.9**
THR5	**Thira Island,**	**2.64**	**354**	P	**Pn**	**23 42 10.2**	**-0.4**
THT2	**Imerovigli**	**2.65**	**355**	PN	**Pn**	**23 42 10.5**	**-0.3**
ANKY	**Antikythira Is**	**2.87**	**317**	P	**Pn**	**23 42 14.3**	**+0.5**
IOSP	**Ios Island**	**2.95**	**353**	P	**Pn**	**23 42 14.6**	**-0.3**
IOSP	**Ios Island**	**2.95**	**353**	P	**Pn**	**23 42 14.5**	**-0.4**
AMGA	**Amorgos Island**	**3.04**	**3**	P	**Pn**	**23 42 15.4**	**-0.8**
NISR	**Nisiros**	**3.05**	**22**	P	**Pn**	**23 42 15.8**	**-0.5**
MHLO	**Agia Marina, M**	**3.09**	**340**	P	**Pn**	**23 42 16.2**	**-0.6**
MHLA	**Pláka, Milos I**	**3.13**	**341**	P	**Pn**	**23 42 17.5**	**0.0**
APE	**Apeiranthos**	**3.28**	**358**	P	**Pn**	**23 42 18.7**	**-0.8**
APE	**Apeiranthos**	**3.28**	**358**	PN	**Pn**	**23 42 19.2**	**-0.3**
KTHA	**Kythira Island**	**3.28**	**319**	P	**Pn**	**23 42 19.8**	**+0.3**
KTHA	**Kythira Island**	**3.28**	**319**	PN	**Pn**	**23 42 18.6**	**-0.9**
DAT	**Datca**	**3.31**	**27**	PN	**Pn**	**23 42 20.6**	**+0.6**
SERI	**Serifos**	**3.51**	**344**	P	**Pn**	**23 42 22.1**	**-0.5**
BODT	**Bodrum**	**3.52**	**21**	PN	**Pn**	**23 42 23.5**	**+0.7**
VLI	**Veliai**	**3.70**	**323**	P	**Pn**	**23 42 24.8**	**-0.4**
TURN	**Turunc**	**3.88**	**37**	PN	**Pn**	**23 42 25.5**	**-2.2**
YER	**Yerkesik**	**3.95**	**31**	PN	**Pn**	**23 42 29.6**	**+0.9**
KSL	**Kastellorizon**	**3.96**	**52**	P	**Pn**	**23 42 30.3**	**+1.5**
FETY	**Fethiye**	**3.96**	**43**	PN	**Pn**	**23 42 30.3**	**+1.4**
SMG	**Samos**	**4.02**	**13**	P	**Pn**	**23 42 29.1**	**-0.5**
AKAS	**Kas**	**4.02**	**52**	PN	**Pn**	**23 42 30.9**	**+1.1**
DYR	**Agios Nikonas**	**4.05**	**318**	P	**Pn**	**23 42 29.5**	**-0.5**
KRND	**KRANIDI**	**4.15**	**331**	P	**Pn**	**23 42 30.8**	**-0.6**
DID	**Didima**	**4.22**	**332**	P	**Pn**	**23 42 31.6**	**-0.8**
VLY	**Voula,Athens**	**4.34**	**340**	P	**Pn**	**23 42 34.1**	**0.0**
VLX	**Vlachokerasia**	**4.49**	**324**	P	**Pn**	**23 42 35.6**	**-0.6**
PTL	**Penteli**	**4.51**	**341**	P	**Pn**	**23 42 35.8**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**4.51**	**23**	PN	**Pn**	**23 42 37.1**	**+0.6**
ELL	**Elmali**	**4.53**	**48**	PN	**Pn**	**23 42 37.8**	**+1.0**
GLHS	**Glhisar (BURDU**	**4.57**	**42**	PN	**Pn**	**23 42 38.2**	**+0.9**
CHOS	**Chios island**	**4.60**	**3**	PN	**Pn**	**23 42 37.6**	**0.0**
KORT	**Korkueli**	**4.97**	**48**	PN	**Pn**	**23 42 43.5**	**+0.8**
KLV	**Kalavryta, Ach**	**5.13**	**327**	P	**Pn**	**23 42 44.8**	**-0.2**
LAKA	**Lakka**	**5.37**	**327**	P	**Pn**	**23 42 48.4**	**+0.2**
BCK	**Bucak**	**5.41**	**46**	PN	**Pn**	**23 42 49.4**	**+0.6**
BASM	**Basmaki-Afyon**	**5.43**	**39**	PN	**Pn**	**23 42 49.6**	**+0.6**
KALE	**Kalithea**	**5.43**	**329**	P	**Pn**	**23 42 48.7**	**-0.3**
SERG	**Sergoula**	**5.48**	**328**	P	**Pn**	**23 42 50.6**	**+0.8**
PVO	**Paravola**	**5.89**	**326**	P	**Pn**	**23 42 54.9**	**-0.4**
CSS	**Mathiatis**	**6.41**	**77**	Pn	**Pn**	**23 43 02.6**	**+0.1**
OFRI	**`Ofer**	**7.86**	**96**	Pn	**Pn**	**23 43 21.2**	**-1.2**
SLTI	**Sal'it**	**7.99**	**99**	Pn	**Pn**	**23 43 23.7**	**-0.4**
SLTI				Sn	**Sn**	**23 44 50.7**	**-2.9**
AMAZ	**Amatzia**	**8.08**	**104**	Pn	**Pn**	**23 43 24.8**	**-0.7**
MMA0B	**Mount Meron ar**	**8.14**	**93**	Pn	**Pn**	**23 43 25.1**	**-1.2**
MMAI	**Mount Meron Ar**	**8.14**	**93**	Pn	**Pn**	**23 43 26.1**	**-0.2**
	comp=N,2.2nm,0.3s,baz=266,slow=12,SNR=29						
MMAI				Sn	**Sn**	**23 44 56.8**	**-0.7**
	comp=N,3.2nm,0.3s,baz=270,slow=15,SNR=8.4						
MMLI	**Mount Malkishu**	**8.26**	**97**	Pn	**Pn**	**23 43 26.1**	**-1.8**
YTIR	**Yattir**	**8.30**	**104**	Pn	**Pn**	**23 43 28.6**	**+0.1**
YTIR				Sn	**Sn**	**23 44 58.6**	**-2.7**
HMDT	**Nahal Hemdat**	**8.39**	**98**	Pn	**Pn**	**23 43 29.6**	**0.0**
DSI	**Dead Sea**	**8.45**	**103**	Pn	**Pn**	**23 43 30.9**	**+0.5**
KSHT	**Keshet**	**8.49**	**93**	Pn	**Pn**	**23 43 30.4**	**-0.6**
KRMI	**Paran Flat**	**8.49**	**113**	Pn	**Pn**	**23 43 31.4**	**+0.4**
MZDA	**Masada**	**8.52**	**104**	Pn	**Pn**	**23 43 30.4**	**-0.9**
PRNI	**Paran**	**8.60**	**111**	Pn	**Pn**	**23 43 33.3**	**+0.7**
ZFRI	**Zfri**	**8.65**	**109**	Pn	**Pn**	**23 43 32.6**	**-0.6**
BRTR	**Keskin Array B**	**8.70**	**45**	Pn	**Pn**	**23 43 35.5**	**+1.6**
	comp=N,0.1nm,0.3s,baz=215,slow=17,SNR=4.1						
BRTR				Sn	**Sn**	**23 45 09.2**	**-1.9**
	comp=N,0.1nm,0.3s,baz=209,slow=28,SNR=3.5						
HRFI	**Mount Harif**	**8.77**	**113**	Pn	**Pn**	**23 43 35.6**	**+0.8**
MBRI	**Mt Berech**	**8.79**	**114**	Pn	**Pn**	**23 43 36.0**	**+0.8**
EIL	**Elat**	**8.88**	**115**	Pn	**Pn**	**23 43 36.5**	**+0.2**
EIL	**Elat**	**8.88**	**115**	Pn	**Pn**	**23 43 36.6**	**+0.3**
	comp=N,1.2nm,0.3s,baz=294,slow=2.0,SNR=15						
EIL				Sn	**Sn**	**23 45 13.2**	**-2.2**
	comp=N,1.1nm,0.3s,baz=338,slow=7.3,SNR=4.6						
ABTA	**Abfaltersbach**	**16.37**	**326**	*e*P	**P**	**23 45 20.8**	**+0.5**
	comp=N,1.4nm,0.5s						
MOA	**Molln**	**16.48**	**332**	P	**P**	**23 45 21.3**	**-0.1**
	comp=N,2.0nm,0.7s						
AKASG	**Malin Array Be**	**17.10**	**8**	Pn	**Pn**	**23 45 26.1**	**-0.7**
	comp=N,1.1nm,0.3s,baz=199,slow=10,SNR=6.4						
WTTA	**Wattenberg**	**17.16**	**326**	P	**P**	**23 45 29.8**	**+0.7**
	comp=N,1.3nm,0.4s						
WATA	**Walderalm**	**17.24**	**326**	Pn	**Pn**	**23 45 28.2**	**-0.5**
	comp=N,1.1nm,0.5s						
SQTA	**Sankt Quirin**	**17.33**	**325**	Pn	**Pn**	**23 45 28.7**	**-1.1**
	comp=N,1.7nm,0.6s						
MOTA	**Moosalm**	**17.47**	**325**	Pn	**Pn**	**23 45 31.8**	**+0.3**
	comp=N,0.6nm,0.4s						
GERES	**GERESS Array B**	**17.51**	**333**	P	**Pn**	**23 45 31.5**	**-0.4**
	comp=N,0.1nm,0.3s,baz=146,slow=12,SNR=10						
DAVOX	**Davos/Dischmat**	**17.68**	**322**	P	**Pn**	**23 45 34.3**	**+0.1**
	comp=N,0.1nm,0.3s,baz=131,slow=20,SNR=2.6						
RETA	**Reutte**	**17.73**	**325**	P	**P**	**23 45 36.1**	**+0.7**
	comp=N,1.0nm,0.5s						
ESDC	**Sonseca Array**	**24.43**	**293**	P	**P**	**23 46 46.6**	**+0.4**
	comp=N,0.2nm,0.5s,baz=92,slow=19,SNR=3.0						
HFS	**Hagfors**	**27.51**	**347**	P	**P**	**23 47 12.3**	**-1.5**
	comp=N,2.2nm,0.8s,baz=166,slow=7.6,SNR=4.2						
FINES	**FINESS Array B**	**27.67**	**0**	P	**P**	**23 47 13.7**	**-1.4**
	comp=N,0.7nm,0.5s,baz=161,slow=12,SNR=4.8						
NOA	**NORSAR Array B**	**28.84**	**345**	P	**P**	**23 47 25.4**	**-0.2**
	comp=N,0.4nm,0.8s,baz=177,slow=11,SNR=2.7						
TORD	**Torodi Ar. Bea**	**29.98**	**232**	P	**P**	**23 47 37.9**	**+1.8**
	comp=N,0.3nm,0.7s,baz=20,slow=17,SNR=3.0						
ARCES	**ARCESS Array B**	**35.80**	**360**	P	**P**	**23 48 24.9**	**-1.5**
	comp=N,2.8nm,1.0s,baz=186,slow=9.1,SNR=4.7						
KURBB	**Kurchatov Arra**	**41.65**	**50**	P	**P**	**23 49 16.6**	**+1.0**
	comp=N,0.4nm,0.5s,baz=280,slow=8.4,SNR=2.3						
MKAR	**Makanchi Array**	**44.17**	**55**	P	**P**	**23 49 37.4**	**+1.3**
	comp=N,0.9nm,0.7s,baz=269,slow=8.2,SNR=6.4						
ZALV	**Zalesovo Beam**	**45.64**	**45**	P	**P**	**23 49 47.3**	**-0.4**
	comp=N,0.6nm,0.3s,baz=274,slow=11,SNR=3.3						
FRB	**Frobisher Bay**	**62.08**	**330**	P	**P**	**23 51 48.5**	**+1.0**
	comp=N,1.1nm,0.3s,baz=114,slow=12,SNR=7.1						
CMAR	**Chiang Mai Arr**	**66.28**	**83**	P	**P**	**23 52 17.5**	**+1.6**
	comp=N,0.4nm,0.4s,baz=260,slow=5.1,SNR=3.0						

ISCJB ***15*** *23:49:16.1±0.3, 8°.20S±0°.03×123°.91E±0°.04, h150km, mb3.9/7, Error ellipse: s-maj=5.3km s-min=4.2km az=139.8*
NEIC ***15*** *23:49:17.1±2.3, 8°.20S±0°.07×123°.8E±0°.1, h152km±7km, mb4.2/10*
IDC ***15*** *23:49:19.1±1.6, 8°.15S×123°.85E, h161km±18km, mb3.7/7, mb1 3.7/10, mb1mx3.5/29, mbtmp4.1/10, Error ellipse: s-maj=39.8km s-min=14.1km az=64.0*
DJA ***15*** *23:49:19.0±0.3, 8°.S±4°×12°.4E±°, h184km±4km, M4.4/7, mb4.3/7, mB5.1/7, MLv4.4/7, Mw(mB)4.4/7*

ISC 15 23:49:17.5±0.5**, 8°.23S**±0°.05×**123°.85E**±0°.06**, h150**km**, n58,** σ1°**88/64, mb4.2/12, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.58**	**165**	P	**Pn**	**23 49 52.4**	**+4.4**
SOEI				S	**Sn**	**23 50 17.4**	**+6.0**
SOEI	**Soe**	**1.58**	**165**	P	**Pn**	**23 49 48.9**	**+0.9**
BATI	**Baumata**	**1.98**	**185**	P	**Pn**	**23 49 56.5**	**+4.1**
	235nm,0.3s,baz=196,slow=0.6,SNR=106						
BATI				S	**Sn**	**23 50 23.6**	**+4.3**
	139nm,0.3s,baz=142,slow=22,SNR=10						

WSI	**Waingapu**	**3.79**	**247**	P	**Pn**	**23 50 16.2**	**+1.2**		
WSI				S	**Sn**	**23 51 02.3**	**+2.6**		
BKSI	**Bulukumba**	**4.69**	**308**	P	**Pn**	**23 50 29.4**	**+2.5**		
KAPI	**Kappang**	**5.17**	**308**	P	**Pn**	**23 50 35.9**	**+2.7**		
	1.3nm,0.3s,baz=112,slow=12,SNR=7.1								
KAPI	**Kappang**	**5.17**	**308**		**Pn**	**23 50 32.0**	**-1.2**		
BNSI	**Bone**	**5.32**	**315**	P	**Pn**	**23 50 38.7**	**+3.6**		
	44nm,0.8s								
PLAI	**Plampang**	**6.03**	**264**	P	**Pn**	**23 50 46.4**	**+1.7**		
	47nm,0.4s,3μm0.4nm								
PLAI				S	**Sn**	**23 51 54.4**	**+1.5**		
	47nm,0.4s,3μm0.4nm								
TWSI	**Taliwang, Sumb**	**6.91**	**265**	P	**Pn**	**23 50 58.3**	**+1.9**		
MTN	**Manton Dam**	**8.51**	**123**		**Pn**	**23 51 18.3**	**+0.6**		
IGBI	**Denpasar**	**8.63**	**265**	P	**Pn**	**23 51 20.7**	**+1.4**		
KNRA	**Kununurra**	**8.83**	**147**		**Pn**	**23 51 21.9**	**0.0**		
JAGI	**Jajag, Banyuwa**	**9.60**	**268**	P	**Pn**	**23 51 32.6**	**+0.4**		
	10nm,0.7s								
JAGI	**Jajag, Banyuwa**	**9.60**	**268**	Pn	**Pn**	**23 51 30.1**	**-2.1**		
FAKI	**Fak Fak**	**9.88**	**58**	Pn	**Pn**	**23 51 35.6**	**-0.4**		
FITZ	**Fitzroy Crossi**	**9.97**	**170**	P	**Pn**	**23 51 36.9**	**-0.2**		
	3.8nm,0.3s,baz=6.0,slow=8.8,SNR=103								
FITZ				S	**Sn**	**23 53 22.5**	**-5.1**		
	8.9nm,0.3s,baz=244,slow=14,SNR=14								
FITZ	**Fitzroy Crossi**	**9.97**	**170**		**Pn**	**23 51 36.7**	**-0.4**		
PCJI	**Pacitan**	**12.54**	**269**	P	**Pn**	**23 52 11.4**	**+0.5**		
	32nm,0.5s,944nm								
WOJI	**Wonogiri, Jawa**	**12.80**	**271**	P	**Pn**	**23 52 13.9**	**-0.4**		
PSAC1	**Pilbara Seismi**	**13.79**	**196**	Pn	**Pn**	**23 52 24.9**	**-1.9**		
PSAC2	**Pilbara Seismi**	**13.79**	**196**	Pn	**Pn**	**23 52 26.2**	**-0.7**		
PSAB2	**Pilbara Seismi**	**13.80**	**196**	Pn	**Pn**	**23 52 26.6**	**-0.3**		
PSAA2	**Pilbara Seismi**	**13.81**	**196**	Pn	**Pn**	**23 52 27.0**	**-0.1**		
PSA00	**Pilbara Seismi**	**13.82**	**196**	Pn	**Pn**	**23 52 26.1**	**-1.1**		
PSAA3	**Pilbara Seismi**	**13.82**	**196**	Pn	**Pn**	**23 52 27.6**	**+0.4**		
PSAB1	**Pilbara Seismi**	**13.82**	**196**	Pn	**Pn**	**23 52 26.4**	**-0.8**		
PSAA1	**Pilbara Seismi**	**13.83**	**196**	Pn	**Pn**	**23 52 26.0**	**-1.3**		
PSAD2	**Pilbara Seismi**	**13.83**	**195**	Pn	**Pn**	**23

baz=18
KZA Kyzart 2.39 317 ⇑*i*P **Pb 00 18 44.4 +0.4**
baz=16
KZA ⇑*i*S **Sb 00 19 15.4 +1.7**
baz=16
KZA Kyzart 2.39 317 P **Pg 00 18 45.6 -0.9**
SNR=31
BOOM Boomskoye usch 2.42 332 ⇓*i*P **Pb 00 18 43.4 -0.9**
baz=32
BOOM ⇓*i*S **Sb 00 19 14.6 +0.4**
baz=32
ANVS Anan'yevo 2.43 4 ⇑*e*P **Pb 00 18 43.4 -1.1**
baz=3.0
ANVS ⇑*i*S **Sb 00 19 14.6 +0.1**
baz=3.0
TNSS Tian-Shan 2.70 352 *e*P **Pg 00 18 51.2 -1.2**
41nm,0.3s
TNSS *e*S **Sg 00 19 27.6 +0.1**
48nm,0.5s
TNSS Tian-Shan 2.70 352 Pg **Pg 00 18 51.2 -1.2**
41nm,0.3s
TNSS Lg Lg 00 19 27.6
48nm,0.5s
IZV Izvestkoviy 2.75 347 *e*P **Pg 00 18 52.0 -1.2**
31nm,0.5s
IZV *e*S **Sg 00 19 28.9 0.0**
54nm,0.4s
IZV Izvestkoviy 2.75 347 Pg **Pg 00 18 52.0 -1.2**
31nm,0.5s
IZV Lg Lg 00 19 29.8
54nm,0.4s
SATY Saty 2.79 14 *e*P **Pg 00 18 52.6 -1.4**
40nm,0.3s
SATY *e*S **Sg 00 19 30.1 -0.2**
42nm,0.3s
SATY Saty 2.79 14 Pg **Pg 00 18 52.6 -1.4**
40nm,0.3s
SATY Lg Lg 00 19 30.1
42nm,0.3s
ARLS Aral 2.80 303 ⇑*i*P **Pb 00 18 49.1 -1.8**
baz=3.0
ARLS ⇑*i*S **Sb 00 19 24.1 -1.2**
baz=3.0
MDOK Medeo 2.82 354 *e*P **Pg 00 18 53.2 -1.4**
38nm,0.4s
MDOK *e*S **Sg 00 19 31.1 0.0**
27nm,0.5s
MDOK Medeo 2.82 354 Pn **Pn 00 18 48.2 +2.4**
2.5nm,0.4s
MDOK Pg **Pg 00 18 52.9 -1.7**
21nm,0.4s
MDOK Lg Lg 00 19 31.5
48nm,0.7s
MDOK Medeo 2.82 354 Pg **Pg 00 18 53.2 -1.4**
38nm,0.4s
MDOK Lg Lg 00 19 31.1
27nm,0.5s
MTBS Maitube 2.87 345 *e*P **Pg 00 18 54.5 -1.2**
15nm,0.3s
MTBS *e*S **Sg 00 19 33.3 +0.4**
27nm,0.4s
MTBS Maitube 2.87 345 Pg **Pg 00 18 54.5 -1.2**
15nm,0.3s
MTBS Lg Lg 00 19 33.3
27nm,0.4s
AAA Alma-Ata 2.88 352 *e*P **Pg 00 18 54.5 -1.2**
43nm,0.3s
AAA *e*S **Sg 00 19 33.6 +0.6**
40nm,0.3s
AAA Alma-Ata 2.88 352 Pg **Pg 00 18 54.5 -1.2**
43nm,0.3s
AAA Lg Lg 00 19 33.6
40nm,0.3s
KNDC Almaty 2.88 353 ⇑Pn **Pb 00 18 52.7 +0.6**
26nm,0.5s
KNDC ⇑Lg Lg 00 19 33.9
82nm,0.6s
KOTS Kotyrbulak 2.88 355 *e*P **Pg 00 18 54.3 -1.6**
51nm,0.4s
KOTS *e*S **Sg 00 19 32.7 -0.5**
66nm,0.3s
KOTS Kotyrbulak 2.88 355 Pg **Pg 00 18 54.3 -1.6**
51nm,0.4s
KOTS Lg Lg 00 19 33.5
66nm,0.3s
UCH Uchtor 2.90 311 ⇑*i*P **Pb 00 18 50.8 -1.9**
baz=10.0
UCH ⇑*i*S **Sb 00 19 28.0 -0.3**
baz=10.0
UCH Uchtor 2.90 311 P **Pg 00 18 54.9 -1.3**
SNR=7.4
ZHN Zhinishke 2.90 14 *e*P **Pg 00 18 54.7 -1.5**
12nm,0.1s
ZHN *e*S **Sg 00 19 33.2 -0.6**
21nm,0.2s
KST Kastek 2.91 338 *e*P **Pg 00 18 54.8 -1.5**
10nm,0.3s
KST *e*S **Sg 00 19 33.8 -0.1**
20nm,0.6s
KST Kastek 2.91 338 Pg **Pg 00 18 54.8 -1.5**
10nm,0.3s
KST Lg Lg 00 19 33.8
20nm,0.6s
TKM2 Tokmak 2 2.92 332 P **Pb 00 18 51.4 -1.4**
SNR=12
TKM2 Tokmak 2 2.92 332 ⇓Pn **Pb 00 18 50.3 -2.5**
10nm,0.7s
TKM2 ⇑Lg Lg 00 19 34.4
32nm,0.8s
KBK Karagaybulak 2.97 321 P **Pg 00 18 56.5 -1.0**
SNR=7.7
UZB Uzynbulak 3.02 22 *e*P **Pb 00 18 56.2 +1.7**
8.0nm,0.4s
UZB *e*S **Sg 00 19 36.2 -1.5**
19nm,0.3s
UZB Uzynbulak 3.02 22 Pg **Pb 00 18 56.2 +1.7**
8.0nm,0.4s
UZB Lg Lg 00 19 36.2
19nm,0.3s
DGS Degeres 3.14 337 Pg **Pg 00 18 59.3 -1.6**
6.8nm,0.5s
DGS Lg Lg 00 19 42.0
15nm,0.6s
KURS Kuram 3.17 9 *e*P **Pb 00 18 58.6 +1.5**
5.9nm,0.3s
KURS *e*S **Sg 00 19 40.3 -2.1**
22nm,0.4s
KURS Kuram 3.17 9 Pg **Pb 00 18 58.6 +1.5**
20nm,0.7s
KURS Lg Lg 00 19 40.3
22nm,0.4s
AAK Ala-Archa 3.18 317 P **Pg 00 19 00.0 -1.5**
SNR=7.3
AAK Ala-Archa 3.18 317 ⇓Pn **Pb 00 18 59.4 +2.1**
9.1nm,0.5s
AAK ⇑Lg Lg 00 19 42.7
21nm,0.7s
KPKS Kokpek 3.24 16 *e*P **Pb 00 19 00.2 +2.0**
24nm,0.3s
KPKS *e*S **Sg 00 19 43.3 -1.2**
43nm,0.4s
PDGK Podgornoye 3.33 26 Pg **Pb 00 19 01.8 +1.9**
5.7nm,0.4s
PDGK Lg Lg 00 19 45.7
20nm,0.8s
PDGK Podgornoye 3.33 26 ⇓Pn **Pn 00 18 54.7 +1.8**
1.4nm,0.4s
PDGK ⇓Pg **Pb 00 19 01.3 +1.5**
7.2nm,0.5s
PDGK ⇓Lg Lg 00 19 45.5
44nm,0.6s
KTBS Karatobe 3.40 350 *e*P **Pg 00 19 03.5 -2.2**
14nm,0.4s
KTBS *e*S **Sg 00 19 48.4 -1.4**
54nm,0.3s
KTBS Karatobe 3.40 350 Pg **Pg 00 19 03.5 -2.2**
14nm,0.4s
KTBS Lg Lg 00 19 49.2
54nm,0.3s
CHKK Chushkaly 3.51 354 *e*P **Pg 00 19 05.5 -2.4**
16nm,0.4s
CHKK *e*S **Sg 00 19 52.2 -1.1**
41nm,0.3s
CHKK Chushkaly 3.51 354 Pg **Pg 00 19 05.5 -2.4**
16nm,0.4s
CHKK Lg Lg 00 19 52.2
41nm,0.3s
KUU Kurty 3.63 347 *e*P **Pb 00 19 07.2 +2.4**
4.6nm,0.5s
KUU *e*S **Sg 00 19 55.2 -1.9**
22nm,0.6s
KUU Kurty 3.63 347 Pg **Pb 00 19 07.2 +2.4**
4.6nm,0.5s
KUU Lg Lg 00 19 55.2
22nm,0.6s
USP Ospenovka 3.65 324 P **Pb 00 19 08.0 +2.8**
SNR=10
SGDS Sogindy 3.74 327 Pg **Pg 00 19 09.8 -2.5**
10nm,0.7s
SGDS Lg Lg 00 19 59.4
8.5nm,0.6s
KTMS Ketmen 3.77 34 *e*P **Pb 00 19 08.9 +1.6**
0.8nm,0.1s
KTMS *e*S **Sg 00 19 57.6 -3.9**
22nm,0.5s
KTMS Ketmen 3.77 34 Pg **Pb 00 19 08.9 +1.6**
0.8nm,0.1s
KTMS Lg Lg 00 19 58.4
22nm,0.5s
ARXS Arharly 3.86 4 *e*P **Pb 00 19 11.4 +2.6**
6.9nm,0.3s
ARXS *e*S **Sg 00 20 01.9 -2.7**
42nm,0.4s
ARXS Arharly 3.86 4 Pg **Pb 00 19 11.4 +2.6**
7.6nm,0.4s
ARXS Lg Lg 00 20 02.8
42nm,0.4s
MRKS Merke 3.97 308 *e*P **Pg 00 19 14.9 -1.8**
4.3nm,0.2s
MRKS *e*S **Sg 00 20 08.0 0.0**
6.8nm,0.5s
MRKS Merke 3.97 308 Pg **Pg 00 19 14.9 -1.8**
7.5nm,0.6s
MRKS Lg Lg 00 20 08.0
6.8nm,0.5s
DJR Jarkent 4.33 23 *e*P **Pb 00 19 19.6 +2.8**
1.2nm,0.2s
DJR *e*S **Sg 00 20 16.6 -3.1**
12nm,0.5s
DJR Jarkent 4.33 23 Pg **Pb 00 19 19.6 +2.8**
1.2nm,0.2s
DJR Lg Lg 00 20 16.6
12nm,0.5s
TDK Taldyqorghan 4.69 8 *e*P **Pb 00 19 25.9 +2.9**
13nm,0.2s
TDK *e*S **Sg 00 20 26.8 -4.4**
87nm,0.5s
TDK Taldyqorghan 4.69 8 Pg **Pb 00 19 25.9 +2.9**
13nm,0.2s
TDK Lg Lg 00 20 26.8
87nm,0.5s
KAPS Kapalarasan 5.12 15 Pg **Pg 00 19 34.4 -4.2**
2.2nm,0.4s
KAPS Lg Lg 00 20 42.5
6.1nm,0.6s
KK31 Karatay Array 5.88 300 ⇓Pg **Pg 00 19 51.9 -1.2**
0.3nm,0.4s,baz=108,slow=17,SNR=3.8
KK31 ⇑Lg Lg 00 21 12.7
0.8nm,0.5s,baz=110,slow=29,SNR=4.2

*ISCJB **16** 00:41:38.5±0.7,8°.95S±0°.06×124°.71E±0°.08,h100km, mb3.7/4, Error ellipse: s-maj=13.2km s-min=7.2km az=148.7*
*IDC **16** 00:41:42.1±3.1,9°.03S×124°.39E,h110km±34km, mb3.5/4, mb1 3.7/8,mb1mx3.4/47,mbtmp3.9/8,MS2.5/2,Ms1 2.6/2, ms1mx2.3/23,Error ellipse: s-maj=52.6km s-min=20.2km az=53.0*
ISC 16 00:41:40.7±0.9,9°.06S±0°.08×124°.6E±0°.1,h100km,n9, σ3$09/13,mb3.8/4,Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.47**	**219**	P		**Pn**	**00 42 08.4**	**+1.8**
	114nm,0.3s,baz=29,slow=2.6,SNR=55							
BATI				S		**Sn**	**00 42 26.4**	**+0.1**
	166nm,0.3s,baz=212,slow=5.1,SNR=28							
KAPI	**Kappang**	**6.28**	**310**	P		**Pn**	**00 43 10.2**	**-0.6**
	1.0nm,0.3s,baz=124,slow=16,SNR=3.4							
KAPI				S		Sn	00 44 07.0	-14
	0.7nm,0.3s,baz=196,slow=8.6,SNR=8.3							
KAPI				LR		LR	00 46 23.2	
	comp=Z,18nm,18.4s,baz=289,slow=46							
FITZ	**Fitzroy Crossi**	**9.04**	**174**	P		**Pn**	**00 43 50.1**	**+1.7**
	1.0nm,0.3s,baz=11,slow=13,SNR=25							
FITZ				S		**Sn**	**00 45 23.3**	**-5.0**
	6.1nm,0.3s,baz=16,slow=7.4,SNR=16							
WRA	**Warramunga Arr**	**14.34**	**140**	P		**Pn**	**00 45 01.9**	**+2.8**
	0.6nm,0.3s,baz=315,slow=14,SNR=30							
WRA				S		**Sn**	**00 47 35.2**	**-1.9**
	1.1nm,0.3s,baz=313,slow=24,SNR=15							
ASAR	**Alice Springs**	**17.03**	**150**	P		**P**	**00 45 36.9**	**+3.9**
	0.2nm,0.3s,baz=323,slow=12,SNR=19							
ASAR				S		**Sn**	**00 48 36.3**	**-5.8**
	0.1nm,0.3s,baz=319,slow=21,SNR=3.5							
CMAR	**Chiang Mai Arr**	**37.27**	**317**	P		**P**	**00 48 43.0**	**-0.2**
	0.9nm,0.4s,baz=146,slow=8.3,SNR=3.7							
CMAR				LR		LR	01 08 24.9	
	comp=Z,14nm,18.6s,baz=60,slow=43							
MKAR	**Makanchi Array**	**67.17**	**330**	P		**P**	**00 52 22.9**	**-1.1**
	1.0nm,0.6s,baz=136,slow=7.5,SNR=6.6							
ZALV	**Zalesovo Beam**	**71.19**	**336**	P		**P**	**00 52 47.2**	**-1.4**
	0.6nm,0.6s,baz=122,slow=4.1,SNR=4.4							
KURBB	**Kurchatov Arra**	**71.59**	**331**	P		**P**	**00 52 50.6**	**-0.5**
	0.3nm,0.5s,baz=143,slow=5.2,SNR=4.5							

*ISCJB **16** 00:49:25.7±0.6,36°.29N±0°.03×28°.04E±0°.03,h7km±5km, Error ellipse: s-maj=5.1km s-min=3.7km az=166.6*
*ISK **16** 00:49:25.0,36°.31N×28°.09E,h5km,ML2.6/15*
*ATH **16** 00:49:25.9,36°.31N×28°.00E,h28km±2km,ML2.3/4, Error ellipse: s-maj=2.8km s-min=1.2km az=234.0*
*THE **16** 00:49:25.6,36°.32N×28°.09E,h1km±1km,ML2.3/3, Error ellipse: s-maj=1.6km s-min=0.9km az=147.0*
ISC 16 00:49:25.0±1.2,36°.32N±0°.03×28°.10E±0°.02,h4km±11km, n34,σ1$04/46,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.40**	**11**	PG		**Pg**	**00 49 34.4**	**+1.6**
MRSB				SG		**Sb**	**00 49 41.2**	**-0.1**
DATC	**Datca-Mugla**	**0.56**	**321**	PG		**Pg**	**00 49 37.1**	**+1.2**
DAT	**Datca**	**0.58**	**314**	PG		**Pg**	**00 49 37.1**	**+0.8**
DAT				SG		**Sb**	**00 49 46.9**	**+0.3**
TURN	**Turunc**	**0.68**	**36**	PG		**Pg**	**00 49 35.3**	**-2.9**
TURN				SG		**Sg**	**00 49 43.7**	**-3.4**
YER	**Yerkesik**	**0.82**	**10**	P		**Pg**	**00 49 42.1**	**+1.2**
YER				S		**Sb**	**00 49 54.4**	**+0.9**
YER	**Yerkesik**	**0.82**	**10**	PG		**Pb**	**00 49 42.2**	**+0.2**
NISR	**Nisiros**	**0.83**	**291**	P		**Pb**	**00 49 42.5**	**+0.4**
NISR				S		**Sb**	**00 49 55.0**	**+1.3**
	202nm,0.5s							
NISR	**Nisiros**	**0.83**	**291**	P		**Pg**	**00 49 41.2**	**+0.1**
NISR				S		**Sg**	**00 49 52.0**	**+0.1**
NISR				AML		AML	00 49 56.9	
	comp=E,422μm,0.5s							
NISR				AML		AML	00 49 60.0	
	comp=N,364μm,0.6s							
FETY	**Fethiye**	**0.85**	**68**	P		**Pg**	**00 49 42.1**	**+0.7**
FETY				S		**Sn**	**00 49 56.4**	**-0.4**
FETY	**Fethiye**	**0.85**	**68**	PG		**Pg**	**00 49 42.2**	**+0.8**
FETY				SG		**Sb**	**00 49 55.8**	**+1.5**
BODT	**Bodrum**	**0.97**	**320**	P		**Pg**	**00 49 44.3**	**+0.6**
BODT				S		**Sb**	**00 49 58.6**	**+0.8**
BODT	**Bodrum**	**0.97**	**320**	PG		**Pb**	**00 49 44.9**	**+0.4**
KOSK	**Kos Island**	**1.00**	**296**	PG		**Pb**	**00 49 45.5**	**+0.6**
KARP	**Karpathos**	**1.08**	**225**	P		**Pg**	**00 49 45.2**	**-0.6**
KARP				S		**Sn**	**00 50 02.1**	**-0.5**
	comp=N,320nm,0.4s							
KARP	**Karpathos**	**1.08**	**225**	P		**Pg**	**00 49 45.1**	**-0.8**
KARP				S		**Sg**	**00 50 00.4**	**+0.5**
KARP				AML		AML	00 50 03.4	
	comp=N,465μm,0.4s							
KARP				AML		AML	00 50 03.5	
	comp=E,832μm,0.3s							
KARP	**Karpathos**	**1.08**	**225**	PG		**Pb**	**00 49 46.8**	**+0.4**
KSL	**Kastellorizon**	**1.21**	**98**	P		**Pn**	**00 49 50.2**	**+1.4**
KSL				AML		AML	00 50 12.9	
	comp=N,99μm,1.1s							
KSL				AML		AML	00 50 16.1	
	comp=E,142μm,0.6s							
AKAS	**Kas**	**1.22**	**94**	PN		**Pn**	**00 49 50.1**	**+1.1**
GLHS	**Gihisar (BURDU**	**1.40**	**53**	PN		**Pg**	**00 49 52.9**	**+1.0**
ELL	**Elmali**	**1.52**	**73**	PN		**Pg**	**00 49 55.1**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**1.63**	**354**	PN		**Pn**	**00 49 54.9**	**+0.2**
SMG	**Samos**	**1.71**	**324**	P		**Pn**	**00 49 55.4**	**-0.3**
SMG				S		**Sn**	**00 50 17.3**	**-0.8**
	comp=E,32nm,0.6s							
SMG	**Samos**	**1.71**	**324**	P		**Pn**	**00 49 55.1**	**-0.6**
AMGA	**Amorgos Island**	**1.85**	**287**	P		**Pn**	**00 49 56.9**	**-0.6**
KORT	**Korkueli**	**1.93**	**69**	PN		**Pb**	**00 50 00.7**	**-0.2**
ZKR	**Zakros**	**1.95**	**232**	P		**Pn**	**00 49 58.8**	**-0.1**
APE	**Apeiranthos**	**2.19**	**291**	P		**Pn**	**00 50 01.7**	**-0.6**
BASM	**Basmaki-Afyon**	**2.23**	**44**	PN		**Pb**	**00 50 05.1**	**-0.9**
NPS	**Neapolis**	**2.28**	**243**	P		**Pn**	**00 50 02.7**	**-0.8**
NPS				AML		AML	00 50 32.5	
	comp=E,104μm,0.4s							
NPS				AML		AML	00 50 36.6	
	comp=N,82μm,0.4s							
BCK	**Bucak**	**2.30**	**60**	PN		**Pb**	**00 50 06.4**	**-0.7**
IOSP	**Ios island**	**2.30**	**281**	P		**Pn**	**00 50 02.7**	**-1.0**
LAST	**Lasithi**	**2.43**	**242**	P		**Pn**	**00 50 05.3**	**-0.3**
CHOS	**Chios island**	**2.63**	**322**	P		**Pn**	**00 50 08.3**	**0.0**
IDI	**Anoyia**	**2.81**	**249**	P		**Pn**	**00 50 10.6**	**-0.1**

*NIED **16** 00:49:00,44°.20N×148°.90E,h23km,Mw3.9 Best double couple: M0 9.41000×10^14 NP1:φs211.00000°,δ27.00000°, λ85.00000°. NP2:φs36.00000°,δ64.00000°,λ92.00000°.*
*IDC **16** 00:49:24.6±0.7,43°.97N×148°.82E,h0km,mb3.9/18, mb1 4.1/21,mb1mx3.9/48,mbtmp3.9/21,ML3.0/3,MS3.5/4, Ms1 3.5/4,ms1mx3.0/39,Error ellipse: s-maj=18.7km s-min=15.9km az=150.0*
*ISCJB **16** 00:49:28.1±0.8,43°.97N±0°.05×148°.85E±0°.06,h34km±7km, mb4.0/27,MS3.5/3,Error ellipse: s-maj=9.4km s-min=5.8km az=147.1*
*SKHL **16** 00:49:28.8±1.0,43°.93N×148°.90E,h49km±1km,mb4.6/4*
*JMA **16** 00:49:28.0±0.3,44°.22N×148°.89E,h30km,M4.2*
*MOS **16** 00:49:28.9±1.2,44°.07N×148°.84E,h39km,mb4.5/9,Error ellipse: s-maj=9.0km s-min=7.6km az=86.2*
*NEIC **16** 00:49:30.2±1.7,44°.03N±0°.05×148°.94E±0°.09,h35km±6km, mb4.4/20*
ISC 16 00:49:29.5±0.7,43°.96N±0°.06×148°.75E±0°.05,h32km±3km, n106,σ1$50/114,mb4.1/35,MS3.5/3,1C-7D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.42**	**334**	*e*PN		**Pb**	**00 49 53.3**	**-2.0**
KUR				*e*S		**Sb**	**00 50 13.0**	**0.0**
KUR				pmax		pmax		
	comp=Z,877nm,0.3s							
KUR				smax		smax		
	comp=N,2μm,0.5s							
KUR				smax		smax		
	comp=E,975nm,0.5s							
KUR	**Kuril'sk**	**1.42**	**334**	*e*P		**Pb**	**00 49 53.0**	**-2.3**
KUR				AMB		AMB	00 49 54.8	
	comp=E,120nm,0.4s							
KUR				*i* S		**Sb**	**00 50 10.7**	**-2.3**
KUR				A		A	00 50 15.3	
	comp=E,800nm,0.7s							
KUR				A		A	00 50 15.3	
	comp=E,980nm,0.7s							
YUK	**Yuzh-Kuril'sk**	**2.08**	**273**	*e*PN		**Pn**	**00 50 02.1**	**0.0**
YUK				*e*S		**Sn**	**00 50 27.9**	**+0.9**
YUK				pmax		pmax		
	comp=Z,283nm,0.5s							
YUK				smax		smax		
	comp=E,618nm,0.3s							
YUK				smax		smax		
	comp=N,1μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.08**	**273**	*e*P		**Pn**	**00 50 02.3**	**+0.2**
YUK				AMB		AMB	00 50 04.0	
	comp=N,180nm,0.5s							
YUK				*e*S		**Sn**	**00 50 27.0**	**0.0**
YUK				A		A	00 50 35.0	
	comp=N,500nm,0.5s							
YUK				A		A	00 50 35.0	
	comp=N,620nm,0.5s							
GRPR	**Tuman**	**2.15**	**272**	*e*PN		**Pn**	**00 50 03.0**	**0.0**
GRPR				*e*S		**Sn**	**00 50 29.3**	**+0.7**
GRPR				pmax		pmax		
	comp=Z,185nm,0.2s							
GRPR				smax		smax		
	comp=N,1μm,0.4s							
GRPR				smax		smax		
	comp=E,998nm,0.3s							
GRPR	**Tuman**	**2.15**	**272**	*e*P		**Pn**	**00 50 03.3**	**+0.3**
GRPR				AMB		AMB	00 50 07.0	
	comp=E,120nm,0.4s							
GRPR				*e*S		**Sn**	**00 50 29.0**	**+0.4**
GRPR				A		A	00 50 33.0	
	comp=E,500nm,0.5s							
GRPR				A		A	00 50 33.0	
	comp=E,1μm,0.5s							
NEM2	**Nemuro 2**	**2.26**	**256**	P		**Pn**	**00 50 04.7**	**+0.1**
NEM2				*e*S		**Sn**	**00 50 31.7**	**+0.4**
NMR	**Nemuro--Hokkai**	**2.27**	**256**	*e*PN		**Pn**	**00 50 05.0**	**+0.3**
NMR				*e*S		**Sn**	**00 50 32.6**	**+1.1**
NMR	**Nemuro--Hokkai**	**2.27**	**256**	*e*P		**Pn**	**00 50 05.0**	**+0.3**
GLVR	**Golovnino**	**2.35**	**266**	*e*PN		**Pn**	**00 50 06.7**	**+1.0**
GLVR				*e*S		**Sn**	**00 50 35.3**	**+1.9**
GLVR				pmax		pmax		
	comp=Z,521nm,0.5s							
GLVR				smax		smax		
	comp=N,2μm,0.3s							
GLVR				smax		smax		
	comp=E,2μm,0.3s							
GLVR	**Golovnino**	**2.35**	**266**	*e*P		**Pn**	**00 50 06.0**	**+0.3**
GLVR				AMB		AMB	00 50 08.0	
	comp=E,140nm,0.5s							
GLVR				*e*S		**Sn**	**00 50 35.0**	**+1.6**
GLVR				A		A	00 50 38.0	
	comp=E,450nm,0.4s							
GLVR				A		A	00 50 38.0	
	comp=E,380nm,0.4s							
JRA	**Rausu**	**2.62**	**271**	P		**Pn**	**00 50 11.2**	**+1.7**
JRA				*e*S		**Sb**	**00 50 43.4**	**-4.0**
JNK	**Nakash**	**2.94**	**264**	P		**Pn**	**00 50 15.3**	**+1.3**
JNK				*e*S		**Sn**	**00 50 50.2**	**+2.0**
JAK	**Akkeshi**	**3.10**	**253**	P		**Pn**	**00 50 16.6**	**+0.5**
JTKR	**Abashiri--Toko**	**3.50**	**272**	P		**Pn**	**00 50 23.8**	**+2.3**
JAR	**Ashorobuto**	**3.68**	**261**	P		**Pn**	**00 50 25.6**	**+1.6**
JAR				*e*S		**Sn**	**00 51 08.3**	**+2.1**
JCH	**Churui**	**4.16**	**253**	P		**Pn**	**00 50 31.5**	**+0.9**
JCH				*e*S		**Sn**	**00 51 18.8**	**+0.7**
JKA	**Kamikawa-asahi**	**4.44**	**274**			**Pn**	**00 50 35.6**	**+1.2**
JKA						**Sb**	**00 51 37.3**	**-2.3**
ASAJ	**Asahikawa**	**4.44**	**274**	Pn		**Pn**	**00 50 35.6**	**+1.1**
	comp=E,0.9nm,0.3s,baz=110,slow=6.4,SNR=2.3							
ASAJ				Sn		**Sb**	**00 51 37.3**	**-2.4**
	comp=E,2.0nm,0.3s,baz=19,slow=18,SNR=2.8							
ERM	**Erimo**	**4.54**	**247**	⇓*e*PN		**Pn**	**00 50 39.1**	**+3.2**
ERM	**Erimo**	**4.54**	**247**			**Pn**	**00 50 39.3**	**+3.4**
YSS	**Yuzh-Sakhalins**	**5.17**	**307**	*e*PN		Pb	00 50 53.1	-6.0
YSS				pmax		pmax		
	comp=Z,30nm,0.5s							
YSS				MLR		MLR		
	comp=Z,2μm,11.0s							
YSS	**Yuzh-Sakhalins**	**5.17**	**307**	Pn		**Pn**	**00 50 46.1**	**+1.5**
JKB	**Kayabe**	**6.03**	**253**	P		**Pn**	**00 50 56.9**	**+0.5**
JKB				*e*S		**Sn**	**00 52 02.5**	**-1.8**
JANG	**Nango**	**6.46**	**239**	*e*S		**Sn**	**00 52 09.6**	**-5.3**
JTM	**Tenmabayashi**	**6.51**	**243**	*e*S		**Sn**	**00 52 13.0**	**-3.1**
JRG	**Rokugo**	**7.59**	**236**	*e*S		**Sn**	**00 52 39.8**	**-3.0**
PEA0B	**Petropavlovsk-**	**10.90**	**30**	PN		**Pn**	**00 52 01.3**	**-1.7**
PEA0B	**Petropavlovsk-**	**10.90**	**30**	Pn		**Pn**	**00 52 01.3**	**-1.7**
PETK	**Petropavlovsk-**	**10.90**	**30**	Pn		**Pn**	**00 52 02.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=207,slow=21,SNR=2.8							
MAJO	**Matsushiro**	**10.94**	**231**	⇓*e*PN		Pn	00 52 08.7	+5.0
MAJO				pmax		pmax		
	comp=Z,66nm,2.9s							
KLR	**Kul'dur**	**12.81**	**300**	⇓*e*PN		**Pn**	**00 52 30.9**	**+1.6**
KLR				pmax		pmax		
	comp=Z,37nm,2.6s							
KLR	**Kul'dur**	**12.81**	**300**	LR		LR	00 57 44.7	
	comp=Z,117nm,18.1s,baz=98,slow=39							
KLR	**Kul'dur**	**12.81**	**300**	*e*P		**Pn**	**00 52 30.9**	**+1.6**
SEY	**Seymchan**	**19.12**	**5**	⇓*e*P		**Pn**	**00 53 49.9**	**-0.6**
SEY	**Seymchan**	**19.12**	**5**	P		**P**	**00 53 48.4**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=180,slow=9.6,SNR=4.6							
SEY	**Seymchan**	**19.12**	**5**	*e*P		**Pn**	**00 53 49.9**	**-0.6**
YAK	**Yakutsk**	**21.28**	**335**	*e*P		**P**	**00 54 10.5**	**-2.3**
YAK				pmax		pmax		
	comp=Z,38nm,2.2s							

H11N2	**WAKE ISLAND Hy**	**28.53**	**142**	T		T	01 26 16.6	
	baz=332,slow=75,SNR=28							
H11N1	**WAKE ISLAND Hy**	**28.54**	**142**	T		T	01 26 17.9	
	baz=332,slow=75,SNR=24							
H11N3	**WAKE ISLAND Hy**	**28.55**	**142**	T		T	01 26 20.0	
	baz=332,slow=75,SNR=27							
TIXI	**Tiksi**	**29.40**	**347**	⇓ *eP*		**P**	**00 55 28.9**	**-0.4**
TIXI				pmax		pmax		
	comp=Z,3.0nm,1.4s							
TIXI	**Tiksi**	**29.40**	**347**	*eP*		**P**	**00 55 28.9**	**-0.4**
SONM	**Songino Array**	**29.46**	**293**	*eP*		**P**	**00 55 31.8**	**+1.5**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.5s							
SONM	**Songino Array**	**29.46**	**293**	P		**P**	**00 55 30.5**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=81,slow=8.5,SNR=5.0							
SONM				LR		LR	01 08 13.9	
	comp=Z,109nm,20.6s,baz=30,slow=38							
H11S1	**WAKE ISLAND Hy**	**29.52**	**144**	T		T	01 27 36.5	
	baz=334,slow=76,SNR=26							
H11S3	**WAKE ISLAND Hy**	**29.53**	**144**	T		T	01 27 37.2	
	baz=334,slow=76,SNR=20							
H11S2	**WAKE ISLAND Hy**	**29.54**	**144**	T		T	01 27 36.7	
	baz=334,slow=76,SNR=26							
SVW2	**Sparrevohn**	**36.63**	**42**			pP	00 56 40.7	+0.1
RND	**Reindeer**	**39.80**	**39**	P		**P**	**00 56 57.4**	**-1.8**
RND				pmax		pmax		
	comp=Z,15nm,0.5s							
RND	**Reindeer**	**39.80**	**39**	P		**P**	**00 56 57.4**	**-1.8**
COLA	**College**	**40.22**	**36**	⇓ *eP*		**P**	**00 57 04.2**	**+1.7**
COLA				pmax		pmax		
	comp=Z,46nm,5.4s							
ILAR	**Eielson Array**	**40.63**	**36**	*eP*		**P**	**00 57 05.5**	**-0.5**
ILAR	**Eielson Array**	**40.63**	**36**	P		**P**	**00 57 05.3**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=261,slow=7.0,SNR=4.6							
ZALV	**Zalesovo Beam**	**41.79**	**307**	PcP		**PcP**	**00 59 11.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=86,slow=4.6,SNR=2.4							
MK31	**Makanchi Array**	**45.51**	**298**	P		**P**	**00 57 46.1**	**+0.4**
MK31				pmax		pmax		
	comp=Z,4.0nm,0.9s							
MK31	**Makanchi Array**	**45.51**	**298**	P		**P**	**00 57 46.1**	**+0.4**
MK31				IAmb		IAmb	00 57 59.2	
	comp=Z,4.3nm,0.9s							
MKAR	**Makanchi Array**	**45.51**	**298**	P		**P**	**00 57 46.3**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=85,slow=6.6,SNR=12							
INK	**Inuvik**	**45.63**	**31**	P		**P**	**00 57 47.0**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=300,slow=5.3,SNR=4.7							
KURK	**Kurchatov**	**46.37**	**304**	⇑ *eP*		**P**	**00 57 51.7**	**-0.6**
KURK				pmax		pmax		
	comp=Z,4.0nm,1.6s							
KURK	**Kurchatov**	**46.37**	**304**	*eP*		**P**	**00 57 51.7**	**-0.6**
KURK	**Kurchatov**	**46.37**	**304**	P		**P**	**00 57 52.0**	**-0.3**
KURK	**Kurchatov**	**46.37**	**304**	IAmb		IAmb	00 57 58.0	
	comp=Z,1.5nm,0.9s							
KURBB	**Kurchatov Arra**	**46.45**	**304**	P		**P**	**00 57 52.0**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=76,slow=9.3,SNR=7.2							
CMAR	**Chiang Mai Arr**	**48.70**	**255**	LR		LR	01 20 14.0	
	comp=Z,22nm,18.6s,baz=300,slow=38							
AAK	**Ala-Archa**	**52.30**	**296**	⇓ *eP*		**P**	**00 58 39.1**	**+1.1**
AAK				pmax		pmax		
	comp=Z,2.0nm,1.2s							
AAK	**Ala-Archa**	**52.30**	**296**	*eP*		**P**	**00 58 39.1**	**+1.1**
ARSB	**Arslanbob**	**53.93**	**295**	P		**P**	**00 58 52.5**	**+2.5**
ARSB				IAmb		IAmb	00 59 05.0	
	comp=Z,7.3nm,1.0s							
KK31	**Karatay Array**	**54.63**	**298**	P		**P**	**00 58 58.4**	**+3.5**
KK31				*SP		**pwP**	**00 59 07.9**	**-0.5**
KK31				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KK31	**Karatay Array**	**54.63**	**298**	P		**P**	**00 58 58.4**	**+3.5**
KK31						**pwP**	**00 59 07.9**	**-0.5**
KK31				IAmb		IAmb	00 59 08.2	
	comp=Z,2.5nm,0.8s							
KKAR	**Karatay Array**	**54.63**	**298**			**sP**	**00 59 07.9**	**+0.9**
KKAR				IAmb		IAmb	00 59 08.2	
	comp=Z,2.5nm,0.8s							
YKA	**Yellowknife Ar**	**54.98**	**34**	P		**P**	**00 58 57.0**	**0.0**
YKA	**Yellowknife Ar**	**54.98**	**34**	P		**P**	**00 58 57.0**	**0.0**
	comp=Z,0.5nm,0.6s,baz=299,slow=6.8,SNR=9.2							
ABKAR	**Akbulak array**	**57.83**	**309**	IAmb		IAmb	00 59 30.6	
	comp=Z,3.3nm,1.1s							
ARCES	**ARCESS Array B**	**59.45**	**340**	P		**P**	**00 59 28.6**	**+0.1**
	comp=Z,4.3nm,1.1s,baz=45,slow=9.0,SNR=2.9							
WRA	**Warramunga Arr**	**64.95**	**195**	P		**P**	**01 00 05.6**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=17,slow=6.9,SNR=7.9							
FINES	**FINESS Array B**	**65.21**	**334**	*i* P		**P**	**01 00 07.5**	**+0.4**
FINES				pmax		pmax		
	comp=Z,4.0nm,0.7s							
FINES	**FINESS Array B**	**65.21**	**334**	P		**P**	**01 00 06.0**	**-1.1**
	comp=Z,3.1nm,0.7s,baz=152,slow=8.6,SNR=11							
GEYT	**Alibeck**	**65.35**	**300**	LR		LR	01 33 25.2	
	comp=Z,85nm,19.1s,baz=345,slow=40							
NVAR	**Mina Array Bea**	**66.49**	**59**	P		**P**	**01 00 15.8**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=289,slow=6.0,SNR=7.0							
ASAR	**Alice Springs**	**68.66**	**195**	P		**P**	**01 00 30.2**	**+0.7**
	comp=Z,5.8nm,0.4s,baz=16,slow=6.3,SNR=9.4							
PDAR	**Pinedale Array**	**68.89**	**51**	P		**P**	**01 00 30.9**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=184,slow=1.6,SNR=4.3							
NB2	**NORSAR Subarra**	**69.82**	**340**	P		**P**	**01 00 36.2**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**69.82**	**340**	P		**P**	**01 00 36.5**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=31,slow=6.7,SNR=5.0							
HFS	**Hagfors**	**69.94**	**338**	P		**P**	**01 00 37.1**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=47,slow=6.5,SNR=7.7							
KBZ	**Khabaz**	**70.52**	**312**	P		**P**	**01 00 41.8**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=18,slow=9.6,SNR=3.1							
AKASG	**Malin Array Be**	**72.09**	**324**	*eP*		**P**	**01 00 50.3**	**+0.1**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.7s							
AKASG	**Malin Array Be**	**72.09**	**324**	P		**P**	**01 00 50.3**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=39,slow=6.3,SNR=5.0							
NIUE	**Niue**	**73.25**	**139**	P		**P**	**01 00 57.9**	**+0.5**
W18A	**Petrified Fore**	**73.86**	**57**	P		**P**	**01 01 00.2**	**-1.1**
W18A				IAmb		IAmb	01 01 08.1	
	comp=Z,2.4nm,0.7s							
ARMA	**Armidale**	**74.07**	**177**	P		**P**	**01 01 02.6**	**+0.5**
ARMA				IAmb		IAmb	01 01 19.2	
	comp=Z,5.2nm,1.1s							
EYMN	**Ely**	**74.27**	**37**	P		**P**	**01 01 02.2**	**-1.0**
EYMN				IAmb		IAmb	01 01 18.7	
	comp=Z,7.1nm,1.0s							
ECSD	**EROS Data Cent**	**75.03**	**43**	P		**P**	**01 01 07.8**	**+0.2**
OJC	**Ojcow**	**76.20**	**329**	P		**P**	**01 01 15.2**	**+1.0**
OJC				pmax		pmax		
	comp=Z,7.0nm,1.1s							
OJC	**Ojcow**	**76.20**	**329**	P		**P**	**01 01 15.2**	**+1.0**
OJC				IAmb		IAmb	01 01 28.9	
	comp=Z,6.5nm,1.1s							
CLL	**Collm**	**77.65**	**333**	*eP*		**P**	**01 01 22.0**	**-0.4**
CLL				*i* *PP		**sP**	**01 01 34.8**	**+0.3**
CLL	**Collm**	**77.65**	**333**	*eP*		**P**	**01 01 22.0**	**-0.4**
CLL				*i* pP		**sP**	**01 01 34.8**	**+0.3**
	comp=Z,8.0nm,0.9s							
CLL				*es*P		**pwP**	**01 01 40.0**	**+3.4**
CLL	**Collm**	**77.65**	**333**	P		**P**	**01 01 23.2**	**+0.9**
BRTR	**Keskin Array B**	**78.23**	**314**	P		**P**	**01 01 27.8**	**+1.8**
	comp=Z,0.4nm,0.8s,baz=37,slow=3.6,SNR=3.3							
KHC	**Kasperske Hory**	**79.33**	**332**	*eP*		**P**	**01 01 32.5**	**+0.8**
KHC				*e*			01 01 44.5	
KHC	**Kasperske Hory**	**79.33**	**332**	*eP*		**P**	**01 01 32.5**	**+0.8**
KHC				*ex*		x	01 01 44.5	
GERES	**GERESS Array B**	**79.53**	**332**	P		**P**	**01 01 33.4**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=29,slow=6.1,SNR=4.2							
TX32	**Lajitas Array**	**81.56**	**57**	P		**P**	**01 01 43.8**	**-0.3**
TXAR	**Lajitas Array**	**81.57**	**57**	P		**P**	**01 01 44.0**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=311,slow=4.2,SNR=6.7							
O44A	**Mansfield**	**81.69**	**41**	P		**P**	**01 01 43.2**	**-1.3**
O44A				IAmb		IAmb	01 01 52.6	
	comp=Z,4.2nm,0.8s							
VLC	**Villacollemand**	**84.73**	**331**	P		**P**	**01 02 00.0**	**-0.1**

ISCJB ***16*** *01:23:59.6±0.2, 7.°47S±0.°03×128.°84E±0.°04, h131km, mb4.4/25, Error ellipse: s-maj=5.3km s-min=3.6km az=167.2*
NEIC ***16*** *01:23:59.8±1.6, 7.°38S±0.°07×128.°81E±0.°03, h118km±6km, mb4.6/36*
DJA ***16*** *01:24:01.6±0.2, 7.°S±2.°×12.°9E±.°, h127km±3km, M4.9/25, mB5.2/12, mb4.7/25, MLv5.1/10, MLv5.1/12, Mw(mB)4.6/12*
IDC ***16*** *01:24:01.5±2.6, 7.°26S×128.°74E, h129km±24km, mb4.1/16, mb1 4.1/18, mb1mx4.0/42, mbtmp4.5/18, MS3.5/9, Ms1 3.5/9, ms1mx3.1/48, Error ellipse: s-maj=19.5km s-min=11.4km az=55.0*
ISC 16 01:24:01.1±0.3, 7.°48S±0.°05×128.°83E±0.°05, h131km, n111,

σ1§65/111, **mb4.5**/40, **2C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.50**	**102**	P		**Pn**	**01 24 42.7**	**+1.4**
SAUI	**Saumlaki**	**2.50**	**102**			**Pn**	**01 24 42.8**	**+1.4**
SAUI				Sn		**Sn**	**01 25 05.9**	**-6.3**
BNDI	**Bandanaira**	**3.12**	**20**	P		**Pn**	**01 24 49.1**	**-0.3**
AAI	**Ambon**	**3.82**	**350**	P		**Pn**	**01 24 58.4**	**-0.1**
MSAI	**Masohi**	**4.10**	**1**	P		**Pn**	**01 25 02.5**	**+0.2**
NLAI	**Namlea**	**4.55**	**338**	P		**Pn**	**01 25 09.6**	**+1.4**
SOEI	**Soe**	**5.05**	**243**	P		**Pn**	**01 25 15.2**	**+0.2**
	255nm,1.1s,4μm1.9nm							
SOEI	**Soe**	**5.05**	**243**			**Pn**	**01 25 15.3**	**+0.3**
FAKI	**Fak Fak**	**5.66**	**37**	P		**Pn**	**01 25 21.0**	**-2.1**
	241nm,0.7s,2μm1.6nm							
FAKI	**Fak Fak**	**5.66**	**37**			**Pn**	**01 25 21.0**	**-2.1**
BATI	**Baumata**	**5.78**	**242**	P		**Pn**	**01 25 24.6**	**-0.2**
	25nm,0.3s,baz=134,slow=2.4,SNR=39							
BATI				S		**Sn**	**01 26 25.2**	**-4.9**
	8.8nm,0.3s,baz=127,slow=20,SNR=1.6							
BATI				LR		LR	01 27 39.3	
	comp=Z,572nm,21.6s,baz=356,slow=38							
MTN	**Manton Dam**	**5.80**	**157**			**Pn**	**01 25 26.2**	**+1.3**
MTN						**Sn**	**01 26 25.3**	**-5.0**
SANI	**Sanana**	**6.09**	**332**	P		**Pn**	**01 25 29.9**	**+1.0**
	40nm,0.8s,550nm0.1nm							
KMPI	**Kaimana, Papua**	**6.15**	**52**	P		**Pn**	**01 25 28.2**	**-1.5**
	356nm,1.0s,6μm7.4nm							
SWI	**Sorong**	**7.00**	**20**	P		**Pn**	**01 25 40.9**	**-0.2**
	96nm,0.7s,3μm0.6nm0.6nm							
RKPI	**Ransiki, Papua**	**7.97**	**42**	P		**Pn**	**01 25 53.3**	**-0.9**
	750nm,0.7s,8μm2.4nm2.4nm							
KNRA	**Kununurra**	**8.15**	**180**			**Pn**	**01 25 56.8**	**+0.2**
KNRA						**Sn**	**01 27 23.0**	**-4.2**
BAKI	**Biak**	**9.57**	**50**	P		**Pn**	**01 26 16.2**	**+0.5**
	742nm,1.0s							
FITZ	**Fitzroy Crossi**	**11.01**	**196**	P		**Pn**	**01 26 32.2**	**-2.7**
	5.2nm,0.3s,baz=26,slow=11,SNR=53							
FITZ				S		Sn	01 28 28.2	-8.1
	3.0nm,0.3s,baz=288,slow=20,SNR=5.1							
FITZ				LR		LR	01 31 59.2	
	comp=Z,221nm,20.2s,baz=12,slow=43							
FITZ	**Fitzroy Crossi**	**11.01**	**196**			**Pn**	**01 26 32.6**	**-2.4**
PLAI	**Plampang**	**11.03**	**262**	P		**Pn**	**01 26 34.3**	**-0.9**
	33nm,0.8s							
PCI	**Palu**	**11.09**	**306**	P		**P**	**01 26 45.2**	**0.0**
SMPI	**Sarmi**	**11.25**	**62**	P		**Pn**	**01 26 36.8**	**-1.4**
	41nm,0.9s,8μm							
WRAB	**Tennant Creek**	**13.49**	**157**			**Pn**	**01 27 06.9**	**-0.4**
WRAB				Sn		Sn	01 29 29.1	-7.3
WRA	**Warramunga Arr**	**13.50**	**157**	P		**Pn**	**01 27 05.7**	**-1.7**
	3.4nm,0.3s,baz=344,slow=12,SNR=192							
WRA				S		Sn	01 29 26.1	-10
	5.6nm,0.3s,baz=334,slow=22,SNR=12							
WR0	**Warramunga Ar**	**13.59**	**157**	Pn		**Pn**	**01 27 07.0**	**-1.6**
DAV	**Davao City (W)**	**14.81**	**347**	LR		LR	01 33 31.4	
	comp=Z,100nm,19.0s,baz=348,slow=39							
KCP	**Kidapawan**	**14.86**	**345**	⇑ P		**Pn**	**01 27 24.3**	**-0.6**
COEN	**Coen**	**15.49**	**116**	P		**Pn**	**01 27 33.7**	**+1.1**
PSA00	**Pilbara Seismi**	**16.48**	**211**	P		**Pn**	**01 27 44.9**	**0.0**
PSAC3	**Pilbara Seismi**	**16.53**	**211**	P		**Pn**	**01 27 46.4**	**+0.9**
PSAC3				IAmb		IAmb	01 27 52.0	
	comp=Z,54nm,0.8s							
AS31	**Alice Springs**	**16.82**	**164**	P		**P**	**01 27 49.0**	**+0.2**
AS31				Sn		Sn	01 30 48.5	-8.0
ASAR	**Alice Springs**	**16.82**	**164**	P		**P**	**01 27 49.2**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=333,slow=8.7,SNR=71							
ASAR				S		Sn	01 30 48.0	-8.5
	comp=Z,1.9nm,0.3s,baz=342,slow=24,SNR=6.0							
ASAR				LR		LR	01 34 38.2	
	comp=Z,104nm,18.8s,baz=324,slow=37							
PMG	**Port Moresby**	**18.23**	**97**	P		**Pn**	**01 28 07.2**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=268,slow=14,SNR=3.8							
PMG				LR		LR	01 35 20.3	
	comp=Z,70nm,20.4s,baz=313,slow=37							
PMG	**Port Moresby**	**18.23**	**97**	P		**P**	**01 28 05.9**	**+1.5**
SBUM	**Sibu**	**19.29**	**300**			**P**	**01 28 15.3**	**-0.6**
KSM	**Kuching**	**20.51**	**295**	P		**P**	**01 28 28.4**	**-0.7**
KSM				IAmb		IAmb	01 28 36.4	
	comp=Z,32nm,0.9s							
CTA	**Charters Tower**	**21.03**	**128**	P		**P**	**01 28 37.5**	**+2.9**
	comp=Z,2.3nm,0.6s,baz=328,slow=9.8,SNR=3.0							
LEM	**Lembang**	**21.06**	**270**	LR		LR	01 39 32.7	
	comp=Z,61nm,18.7s,baz=59,slow=44							
TPI	**Tanjungpandan**	**21.60**	**281**	P		**P**	**01 28 41.8**	**+0.9**
	comp=Z,28nm,1.2s,comp=Z,294nm							
FORT	**Forrest**	**23.20**	**182**	P		**P**	**01 28 58.5**	**+2.1**
FORT				IAmb		IAmb	01 29 10.0	
	comp=Z,23nm,0.8s							
MORW	**Morawa**	**24.63**	**208**	P		**P**	**01 29 11.8**	**+2.3**
BBOO	**Buckleboo**	**26.09**	**166**	P		**P**	**01 29 22.7**	**0.0**
STKA	**Stephens Creek**	**27.04**	**156**	P		**P**	**01 29 33.7**	**+2.5**
	comp=Z,2.0nm,0.5s,baz=335,slow=8.9,SNR=8.6							
STKA				LR		LR	01 41 37.4	
	comp=Z,118nm,21.1s,baz=7.2,slow=39							
STKA	**Stephens Creek**	**27.04**	**156**	P		**P**	**01 29 31.4**	**+0.2**
RPSI	**Rantau Prapat**	**31.51**	**288**	P		**P**	**01 30 10.8**	**-0.2**
RPSI				IAmb		IAmb	01 30 15.1	
	comp=Z,9.4nm,0.9s							
RPSI	**Rantau Prapat**	**31.51**	**288**	P		**P**	**01 30 10.6**	**-0.3**
PSI	**Prapat**	**31.54**	**288**	P		**P**	**01 30 10.6**	**-0.8**
	comp=Z,7.3nm,0.8s,baz=101,slow=13,SNR=5.4							
CMAR	**Chiang Mai Arr**	**39.16**	**311**	P		**P**	**01 31 16.0**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=144,slow=7.3,SNR=16							
CMMT	**Chiang Mai**	**39.38**	**312**	P		**P**	**01 31 19.7**	**+1.5**
	comp=Z,3.4nm,0.8s							
CHTO	**Chiang Mai**	**39.38**	**312**	P		**P**	**01 31 19.2**	**+1.0**
CHTO				IAmb		IAmb	01 31 20.0	
	comp=Z,16nm,1.4s							
WHN	**Wuhan**	**40.27**	**341**	P		**P**	**01 31 25.5**	**+0.1**
NJ2	**Nanjing**	**40.44**	**347**	*eP*		**P**	**01 31 28.5**	**+1.8**
NJ2				pmax		pmax		
	comp=Z,11nm,0.5s							
PBA	**Port Blair**	**40.62**	**298**	P		P	01 31 28.0	-0.5
KMI	**Kunming**	**41.17**	**323**	P		**P**	**01 31 35.1**	**+1.9**
KMI				pP		pP	01 32 04.0	+2.7
KMI				pmax		pmax		
	comp=Z,10.0nm,1.2s							
KSRS	**Korea Array**	**44.70**	**359**	P		**P**	**01 32 00.6**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=182,slow=9.9,SNR=9.9							
SHL	**Shillong**	**48.68**	**314**	P		**P**	**01 32 31.8**	**-0.8**
SHL				IAmb		IAmb	01 32 33.0	
	comp=Z,8.4nm,1.0s							
LZH	**Lanzhou**	**49.29**	**333**	⇑ P		**P**	**01 32 37.6**	**+0.6**
LZH				pP		pwP	01 33 09.8	-0.9
LZH				PP		**PP**	**01 34 35.4**	**+3.1**
LZH				pmax		pmax		
	comp=Z,22nm,1.4s							
LZH				pmax		pmax		
	comp=Z,110nm,4.3s							
LZH				LR		LR		
	comp=Z,310nm,14.2s							
LZH				LR		LR		
	comp=Z,330nm,14.4s							
LZH				LR		LR		
	comp=Z,430nm,15.2s							
HHC	**Hu-ho-hao-te**	**50.65**	**343**	*eP*		**P**	**01 32 48.9**	**+1.8**
HHC				pmax		pmax		
	comp=Z,8.0nm,0.9s							
USRK	**Ussuriysk Ar.**	**51.51**	**3**	P		**P**	**01 32 52.0**	**-1.3**
	comp=Z,2.0nm,0.6s,baz=192,slow=5.2,SNR=4.2							
RPZ	**Rata Peaks**	**51.58**	**142**	P		**P**	**01 32 56.1**	**+2.1**
	comp=Z,22nm,0.9s,baz=297,slow=3.7,SNR=8.2							
RPZ	**Rata Peaks**	**51.58**	**142**	IAmb		IAmb	01 32 58.6	
	comp=Z,22nm,0.9s							
ASAJ	**Asahikawa**	**52.84**	**12**	LR		LR	01 53 55.5	
	comp=Z,64nm,19.5s,baz=116,slow=34							
GTA	**Gaotai**	**53.84**	**332**	P		**P**	**01 33 10.8**	**+0.1**
GTA				pP		pwP	01 33 43.6	-1.4
GTA				sP		sP	01 33 58.3	+3.9
GTA				pmax		pmax		
	comp=Z,17nm,1.0s							
ULN	**Ulaanbaatar**	**58.37**	**343**	P		**P**	**01 33 42.3**	**-0.5**
ULN				IAmb		IAmb	01 33 44.7	
	comp=Z,14nm,1.4s							
SONM	**Songino Array**	**58.53**	**342**	P		**P**	**01 33 44.3**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=163,slow=7.5,SNR=20							
WMQ	**Urumqi**	**63.17**	**328**	*eP*		**P**	**01 34 15.9**	**+0.6**
WMQ				pmax		pmax		
	comp=Z,21nm,1.1s							
WMQ				pmax		pmax		
	comp=Z,150nm,5.5s							
WMQ				LR		LR		
	comp=Z,330nm,29.2s							
WMQ				LR		LR		
	comp=Z,870nm,28.9s							
WMQ	**Urumqi**	**63.17**	**328**	P		**P**	**01 34 15.0**	**-0.2**
PETK	**Petropavlovsk-**	**65.14**	**19**	P		**P**	**01 34 27.1**	**-0.7**
	comp=Z,5.2nm,0.8s,baz=208,slow=5.0,SNR=3.7							
NIL	**Nilore**	**66.66**	**311**	P		**P**	**01 34 37.0**	**-1.0**
NIL				IAmb		IAmb	01 34 38.5	
	comp=Z,7.2nm,0.7s							
KSH	**Kashi**	**67.59**	**318**	P		**P**	**01 34 45.4**	**+1.5**
KSH				PP		**PP**	**01 37 19.4**	**+4.7**
KSH				PcS			01 39 13.4	
KSH				S		**S**	**01 43 29.9**	**-0.7**
KSH				ScS		**SKiKP**	**01 44 25.1**	**-3.7**
KSH				SS		**SS**	**01 47 54.5**	**+0.4**
KSH				pmax		pmax		
	comp=Z,29nm,0.6s							
KSH				pmax		pmax		
	comp=Z,670nm,8.7s							
KSH				LR		LR		
	comp=Z,810nm,6.9s							
KSH				LR		LR		
	comp=Z,560nm,8.0s							
KSH				LR		LR		
	comp=Z,790nm,8.1s							
TARG	**Taragay, Kyrgy**	**67.60**	**321**	P		**P**	**01 34 44.1**	**-0.1**
TARG				IAmb		IAmb	01 34 53.2	
	comp=Z,7.9nm,1.1s							
MKAR	**Makanchi Array**	**67.99**	**327**	P		**P**	**01 34 45.5**	**-0.7**
	comp=Z,13nm,0.8s,baz=127,slow=5.9,SNR=66							
MAKZ	**Makanchi**	**68.17**	**327**	P		**P**	**01 34 47.0**	**-0.2**
MAKZ				IAmb		IAmb	01 34 48.8	
	comp=Z,16nm,1.0s							
NRN	**Naryn**	**68.58**	**320**	IAmb		IAmb	01 34 51.4	
	comp=Z,5.4nm,0.9s							
YAK	**Yakutsk**	**69.30**	**0**	P		**P**	**01 34 53.4**	**-0.5**
	comp=Z,7.5nm,0.4s,baz=122,slow=0.4,SNR=6.5							
YAK	**Yakutsk**	**69.30**	**0**	IAmb		IAmb	01 34 54.6	
	comp=Z,22nm,0.7s							
KZA	**Kyzart**	**69.39**	**320**	P		**P**	**01 34 56.8**	**+1.4**
	SNR=10.0							
TKM2	**Tokmak 2**	**69.62**	**321**	P		**P**	**01 34 57.4**	**+0.8**
	SNR=19							
KBK	**Karagaybulak**	**69.89**	**321**	P		**P**	**01 34 59.4**	**+1.2**
	SNR=7.4							
UCH	**Uchtor**	**69.94**	**320**	P		**P**	**01 35 00.1**	**+1.2**
	SNR=16							
AAK	**Ala-Archa**	**70.16**	**320**	LR		LR	02 09 14.0	
	comp=Z,110nm,18.0s,baz=309,slow=39							
AAK	**Ala-Archa**	**70.16**	**320**	P		**P**	**01 35 01.1**	**+1.2**
	SNR=15							
AAK	**Ala-Archa**	**70.16**	**320**	P		**P**	**01 35 00.2**	**+0.4**
AAK				IAmb		IAmb	01 35 01.7	
	comp=Z,17nm,1.0s							
CHMS	**Chumysh**	**70.19**	**321**	P		**P**	**01 34 59.8**	**0.0**
	SNR=5.5							
AML	**Almayashu**	**70.41**	**320**	P		**P**	**01 35 02.9**	**+1.2**
	SNR=16							
USP	**Ospenovka**	**70.48**	**321**	P		**P**	**01 35 02.5**	**+0.9**
	SNR=26							
EKS2	**Erkin-Say**	**70.63**	**320**	P		**P**	**01 35 04.0**	**+1.4**
	SNR=16							
BTK	**Batken**	**71.32**	**317**	IAmb		IAmb	01 35 08.1	
	comp=Z,7.9nm,1.1s							
ZAA0	**Zalesovo Array**	**71.50**	**334**	IAmb		IAmb	01 35 08.4	
	comp=Z,10nm,1.0s							
ZALV	**Zalesovo Beam**	**71.50**	**334**	P		**P**	**01 35 05.6**	**-1.8**
	comp=Z,4.9nm,0.8s,baz=124,slow=4.1,SNR=19							
CHGR	**Chuyangaron**	**71.84**	**315**	P		**P**	**01 35 09.1**	**-0.9**
KURK	**Kurchatov**	**72.32**	**329**	P		**P**	**01 35 11.8**	**-0.6**
SEY	**Seymchan**	**72.49**	**11**	P		**P**	**01 35 13.1**	**0.0**
	comp=Z,5.4nm,0.9s,baz=222,slow=4.0,SNR=8.8							
KK31	**Karatay Array**	**72.94**	**319**	P		**P**	**01 35 15.3**	**-1.0**
KK31				IAmb		IAmb	01 35 18.1	
	comp=Z,16nm,1.2s							
KKAR	**Karatay Array**	**72.94**	**319**	P		**P**	**01 35 15.3**	**-1.

SGT03					Sg	Sg	01 26 23.8	+1.4	
SVAM	**Vaz, Muldain**	**0.37**	**176**	⇑Pg	Pg	01 26 18.2	+0.5		
SVAM				Sg	Sg	01 26 23.4	+0.9		
SGT05	**Eggersriet**	**0.38**	**357**	Pg	Pg	01 26 18.7	+0.8		
SGT00	**Sennhlsen**	**0.38**	**341**	Pg	Pg	01 26 18.6	+0.7		
SGT00				Sg	Sg	01 26 24.2	+1.3		
DAVOX	**Davos/Dischmat**	**0.39**	**136**	⇓Pg	Pg	01 26 18.2	+0.2		
DAVOX				Sg	Sg	01 26 23.9	+0.8		
DAVOX	**Davos/Dischmat**	**0.39**	**136**	P	Pg	01 26 18.2	+0.2		
DAVOX				S	Sg	01 26 23.9	+0.8		
DAVOX				AML	AML				
	comp=E,264µm,1.1s								
DAVOX				AML	AML				
	comp=N,377µm,0.3s								
LLS	**Linth-Limmern**	**0.39**	**237**	Pg	Pg	01 26 18.1	-0.1		
SGT02	**Zihlschlacht**	**0.48**	**340**	⇓Pg	Pg	01 26 20.4	+0.6		
SGT02				Sg	Sb	01 26 27.4	-1.2		
WILA	**Wila**	**0.53**	**312**	⇓Pg	Pg	01 26 21.3	+0.6		
WILA	**Wila**	**0.53**	**312**	*e*Pg	Pg	01 26 21.3	+0.6		
WILA				*e*Sg	Sb	01 26 29.7	-0.3		
VDL	**Val di Lei**	**0.58**	**183**	⇑Pg	Pg	01 26 21.9	+0.3		
VDL				Sg	Sg	01 26 29.5	+0.4		
WEIN	**Weingarten**	**0.58**	**324**	⇓Pg	Pg	01 26 22.2	+0.6		
MUO	**Muotathal**	**0.59**	**261**	⇑Pg	Pg	01 26 22.0	+0.2		
TUE	**Stuetta**	**0.60**	**189**	P	Pg	01 26 22.1	+0.1		
TUE				S	Sg	01 26 29.9	+0.2		
TUE				AML	AML				
	comp=E,126µm,0.2s								
TUE				AML	AML				
	comp=E,126µm,0.2s								
TUE				AML	AML				
	comp=N,66µm,0.8s								
OBER	**Oberstdorf**	**0.65**	**57**	*e*Pg	Pg	01 26 23.4	+0.5		
OBER				*e*Sg	Sg	01 26 31.4	0.0		
NALPS	**Val Nalps**	**0.69**	**228**	⇑Pg	Pg	01 26 23.9	+0.1		
ZUR	**Degenried**	**0.69**	**297**	⇓Pg	Pg	01 26 24.3	+0.5		
ZUR				Sg	Sb	01 26 34.0	-0.7		
STIEG	**Stiegenhof Hun**	**0.72**	**308**	⇓Pg	Pg	01 26 24.7	+0.4		
STIEG				Pn	Pn	01 26 27.2	+0.1		
SISB	**Singen-Schiene**	**0.72**	**330**	⇓Pg	Pg	01 26 24.8	+0.5		
SISB				PmP		01 26 27.1			
SISB				SmS		01 26 38.7			
EWZT2	**Wettswil, ZR**	**0.73**	**292**	⇓Pg	Pg	01 26 25.1	+0.5		
EWZT2				Pn	Pn	01 26 27.6	+0.3		
WALHA	**Wallhausen, DE**	**0.73**	**340**	⇓Pg	Pb	01 26 25.1	-0.5		
WALHA				Pn	Pn	01 26 27.3	0.0		
WALHA	**Wallhausen, DE**	**0.73**	**340**	*e*Pg	Pb	01 26 25.1	-0.5		
WALHA				PmP		01 26 27.3			
WALHA				*e*Sg	Sb	01 26 35.4	-0.5		
WALHA				SmS		01 26 38.9			
BERNI	**Berninapass**	**0.74**	**150**	P	Pg	01 26 24.9	+0.1		
BERNI				S	Sg	01 26 34.9	+0.4		
BERNI				AML	AML				
	comp=N,68µm,0.8s								
BERNI				AML	AML				
	comp=N,68µm,0.8s								
BERNI				AML	AML				
	comp=E,64µm,0.3s								
UBR	**Ueberruh**	**0.75**	**34**	⇑Pg	Pg	01 26 25.3	+0.5		
UBR	**Ueberruh**	**0.75**	**34**	*e*Pg	Pb	01 26 25.4	-0.5		
UBR				PmP		01 26 27.9			
UBR				*e*Sg	Sb	01 26 36.8	+0.4		
UBR				SmS		01 26 40.3			
BNALP	**Bannalp**	**0.75**	**256**	⇓Pg	Pg	01 26 25.0	+0.1		
BNALP	**Bannalp**	**0.75**	**256**	P	Pg	01 26 25.0	+0.1		
BNALP				AML	AML				
	comp=N,165µm,0.4s								
BNALP				AML	AML				
	comp=E,296µm,0.4s								
BNALP				AML	AML				
	comp=N,166µm,0.4s								
TRULL	**Truellikon**	**0.80**	**317**	⇓Pg	Pb	01 26 26.4	-0.4		
FLACH	**Flaach**	**0.81**	**309**	⇓Pg	Pg	01 26 26.3	+0.3		
FUSIO	**Fusio**	**0.83**	**223**	⇑Pg	Pg	01 26 26.5	+0.1		
FUSIO	**Fusio**	**0.83**	**223**	P	Pg	01 26 26.5	+0.1		
FUSIO				S	Sg	01 26 37.3	+0.1		
FUSIO				AML	AML				
	comp=N,94µm,1.4s								
FUSIO				AML	AML				
	comp=N,94µm,1.4s								
FUSIO				AML	AML				
	comp=E,97µm,0.7s								
BRMO	**Bormio**	**0.84**	**134**	P	Pb	01 26 27.1	-0.4		
BRMO				S	Sg	01 26 37.9	+0.3		
BRMO				AML	AML				
	comp=E,24µm,1.6s								
BRMO				AML	AML				
	comp=N,35µm,1.2s								
BRMO				AML	AML				
	comp=N,35µm,1.2s								
FETA	**Feichten**	**0.85**	**92**	*e*Pg	Pg	01 26 26.5	-0.2		
	comp=N,2.6nm,0.2s,SNR=9.4								
FETA				*e*Sg	Sg	01 26 38.2	+0.4		
	comp=N,0.7nm,0.1s,SNR=6.1								
EMING	**Emmingen-Lipti**	**0.94**	**332**	⇓Pg	Pg	01 26 28.7	+0.2		
EMING	**Emmingen-Lipti**	**0.94**	**332**	*e*Pg	Pg	01 26 28.8	+0.3		
EMING				PmP		01 26 29.7			
EMING				*e*Sg	Sb	01 26 41.8	-0.1		
RETA	**Reutte**	**0.97**	**63**	Pg	Pg	01 26 29.0	0.0		
RETA				PmP		01 26 31.1			
RETA				SmS		01 26 46.5			
RETA	**Reutte**	**0.97**	**63**	*e*Pg	Pg	01 26 28.9	-0.1		
	comp=N,0.7nm,0.1s,SNR=21								
RETA				*i* Sg	Sb	01 26 42.8	+0.2		
	comp=N,2.4nm,0.1s								
SLE	**Schleitheim**	**0.98**	**316**	⇓Pg	Pg	01 26 29.2	0.0		
SLE				Pn	Pn	01 26 30.7	0.0		
SLE	**Schleitheim**	**0.98**	**316**	*e*Pg	Pg	01 26 29.3	+0.1		
SLE				PmP		01 26 30.7			
SLE				*e*Sg	Sg	01 26 42.2	+0.4		
ACHB	**Acheberg**	**0.99**	**303**	⇓Pg	Pg	01 26 29.6	+0.1		
GUT	**Gutenstein**	**1.04**	**346**	Pg	Pg	01 26 30.4	0.0		
GUT				PmP		01 26 31.6			
CARE	**Lago del Cares**	**1.04**	**127**	*e*Pg	Pg	01 26 30.4	-0.1		
CARE				*e*Sg	Sg	01 26 44.1	+0.1		
SULZ	**Cheisacher**	**1.05**	**297**	⇓Pg	Pb	01 26 30.8	-0.2		
SULZ	**Cheisacher**	**1.05**	**297**	*e*Pg	Pb	01 26 30.8	-0.1		
SULZ				PmP		01 26 31.8			
SULZ				*e*Sg	Sb	01 26 45.0	+0.1		
METMA	**Mettma DE**	**1.06**	**308**	*e*Pg	Pg	01 26 30.8	0.0		
METMA				*e*Sg	Sb	01 26 45.7	+0.4		
FIESA	**Fiescheralp**	**1.14**	**237**	⇑Pn	Pg	01 26 32.0	-0.2		
MOTA	**Moosalm**	**1.14**	**75**	*e*Pg	Pg	01 26 32.1	-0.2		
	comp=N,0.5nm,0.1s,SNR=41								
MOTA				*i* Sg	Sn	01 26 48.4	-0.5		
	comp=N,1.5nm,0.1s								
ROTHE	**Rothenfluh**	**1.15**	**292**	⇓Pn	Pb	01 26 32.6	0.0		
MUGIO	**Muggio**	**1.18**	**195**	P	Pg	01 26 32.9	-0.2		
MUGIO				AML	AML				
	comp=N,46µm,1.6s								
MUGIO				AML	AML				
	comp=E,56µm,0.4s								
SQTA	**Sankt Quirin**	**1.18**	**82**	*i* Pg	Pg	01 26 33.0	-0.1		
	comp=E,0.9nm,0.2s								
SQTA				*e*Sg	Sn	01 26 49.6	-0.5		
	comp=E,11nm,0.2s								
PART	**Garmisch-Parte**	**1.19**	**68**	*e*Pg	Pn	01 26 34.6	+1.0		
PART				*e*Sg	Sn	01 26 49.9	-0.2		
BERGE	**Lenzkirch (DE)**	**1.20**	**313**	⇓Pn	Pg	01 26 33.3	-0.2		
BERGE	**Lenzkirch (DE)**	**1.20**	**313**	*e*Pn	Pg	01 26 33.3	-0.2		
BERGE				*e*Sn	Sg	01 26 49.1	-0.1		
BERGE				*e*Sg	Sb	01 26 49.8	+0.4		
BALST	**Balsthal**	**1.25**	**283**	⇓Pn	Pb	01 26 34.5	0.0		
BALST	**Balsthal**	**1.25**	**283**	*e*Pn	Pg	01 26 34.5	0.0		
BALST				*e*Pg	Pn	01 26 35.6	+1.1		
OZOL	**Ozolo**	**1.26**	**121**	*e*Pg	Pg	01 26 34.3	-0.3		
OZOL				*e*Sg	Sn	01 26 52.2	+0.4		
VARE	**Varese**	**1.29**	**203**	P	Pg	01 26 35.6	+0.4		
VARE				AML	AML				
	comp=N,82µm,0.3s								
VARE				AML	AML				
	comp=E,82µm,0.2s								
FELD	**Feldberg im Sc**	**1.30**	**310**	Pn	Pn	01 26 34.7	-0.5		
FELD				PmP		01 26 35.7			
FELD				Sg	Sn	01 26 53.0	+0.1		
ABSI	**Aberstueckl**	**1.30**	**104**	P	Pb	01 26 35.3	0.0		
ABSI				AML	AML				
	comp=E,75µm,0.6s								
ABSI				AML	AML				
	comp=N,101µm,0.4s								
ROSI	**Rosskopf**	**1.32**	**95**	P	Pg	01 26 36.1	+0.3		
ROSI				S	Sn	01 26 57.4	+3.9		
ROSI				AML	AML				
	comp=N,142µm,1.2s								
ROSI				AML	AML				
	comp=E,231µm,0.4s								
APPI	**Appiano**	**1.33**	**115**	P	Pg	01 26 36.6	+0.7		
APPI				AML	AML				
	comp=E,70µm,0.8s								
APPI				AML	AML				
	comp=N,99µm,0.5s								
ENDD	**Endenburg**	**1.36**	**299**	⇓Pn	Pn	01 26 35.4	-0.5		
ENDD				PmP		01 26 36.7			
ENDD				Sg	Sn	01 26 54.8	+0.6		
KIZ	**Kirchzarten**	**1.39**	**311**	Sg	Sb	01 26 54.0	-0.7		
KIZ	**Kirchzarten**	**1.39**	**311**	Pn	Pn	01 26 35.9	-0.5		
KIZ				Pg	Pg	01 26 37.2	+0.1		
KIZ	**Kirchzarten**	**1.39**	**311**	Pn	Pn	01 26 35.9	-0.5		
KIZ				PmP		01 26 37.3			
KIZ				Sg	Sg	01 26 55.5	+0.3		
BUCH	**Bad Urach**	**1.39**	**356**	Pn	Pn	01 26 35.6	-0.7		
BUCH				Pg	Pb	01 26 36.2	-0.6		
BUCH				PmP		01 26 37.5			
BUCH				SmS		01 26 56.1			
KOSI	**Kohlern**	**1.43**	**114**	AML	AML				
	comp=N,47µm,1.6s								
KOSI				AML	AML				
	comp=E,51µm,0.4s								
WATA	**Walderalm**	**1.45**	**78**	Pg	Pg	01 26 38.5	+0.2		
	comp=E,0.6nm,0.1s								
WATA				*e*Sg	Sg	01 26 58.5	+1.4		
	comp=E,2.8nm,0.1s,SNR=6.7								
FBB	**Freiburg im Br**	**1.45**	**311**	PmP		01 26 38.3			
MMK	**Mattmark**	**1.46**	**227**	P	Pb	01 26 37.8	-0.3		
MMK				AML	AML				
	comp=E,31µm,0.2s								
MMK				AML	AML				
	comp=N,44µm,1.5s								
WTTA	**Wattenberg**	**1.48**	**81**	*e*Pg	Pg	01 26 39.9	+1.1		
WTTA				*e*Sg	Sg	01 27 00.2	+2.2		
WTTA	**Wattenberg**	**1.48**	**81**	P	Pg	01 26 39.4	+0.6		
WTTA				AML	AML				
	comp=E,61µm,1.6s								
WTTA				AML	AML				
	comp=N,70µm,1.2s								
WTTA	**Wattenberg**	**1.48**	**81**	*e*Pg	Pg	01 26 38.9	+0.1		
	comp=N,0.6nm,0.1s,SNR=5.6								
WTTA				Sg	Sg	01 27 00.1	+2.1		
	comp=N,10.0nm,0.2s,SNR=11								
TUBL	**Tuebingen-Lenn**	**1.49**	**350**	Pn	Pn	01 26 36.8	-0.9		
TUBL				Sn	Sn	01 26 54.8	-2.5		
TUBL				SmS		01 26 58.1			
BFO	**Black Forest**	**1.49**	**329**	*e*Pn	Pn	01 26 37.3	-0.4		
BFO				*e*Pg	Pg	01 26 38.9	-0.1		
BFO				*e*Sn	Sn	01 26 55.3	-2.1		
BFO				*e*Sg	Sg	01 26 58.4	0.0		
MAGA	**Magasa**	**1.51**	**148**	P	Pg	01 26 39.4	+0.1		
MAGA				AML	AML				
	comp=E,160µm,0.5s								
MAGA				AML	AML				
	comp=N,143µm,0.4s								
BOURR	**Bourrignon**	**1.57**	**283**	⇓Pn	Pn	01 26 38.9	0.0		
BOURR				Pg	Pg	01 26 41.0	+0.3		
BOURR	**Bourrignon**	**1.57**	**283**	⇓Pn	Pn	01 26 38.9	0.0		
BOURR				⇑Pg	Pg	01 26 41.0	+0.3		
BOURR				Sg	Sg	01 27 01.7	+0.7		
BRES	**Bressanone**	**1.58**	**102**	P	Pg	01 26 41.7	+1.0		
BRES				AML	AML				
	comp=N,106µm,1.6s								
BRES				AML	AML				
	comp=E,95µm,1.3s								
HDH	**Heidenheim-Cha**	**1.60**	**17**	Pn	Pn	01 26 38.0	-1.2		
HDH				Pg	Pb	01 26 40.4	0.0		
HDH				Sg	Sg	01 27 01.8	0.0		
SATI	**Passo dei Sala**	**1.63**	**224**	P	Pn	01 26 38.6	-1.3		
SATI	**Passo dei Sala**	**1.63**	**224**	P	Pb	01 26 41.0	-0.1		
SATI				AML	AML				
	comp=E,44µm,1.2s								
SATI				AML	AML				
	comp=N,27µm,1.6s								
FUR	**Furstenfeldbru**	**1.64**	**47**	*e*Pg	Pg	01 26 41.5	-0.3		
FUR				*e*Sg	Sg	01 27 03.8	+0.8		
LBG	**Lerchenberg**	**1.67**	**344**	Sg	Sg	01 27 03.6	-0.5		
OPP	**Oppenau**	**1.68**	**329**	Pn	Pn	01 26 40.0	-0.3		
OPP	**Oppenau**	**1.68**	**329**	Pn	Pn	01 26 39.8	-0.5		
OPP				Pg	Pg	01 26 42.4	-0.4		
OPP				Sn	Sn	01 26 59.5	-2.7		
STU	**Stuttgart**	**1.72**	**354**	*e*Sg	Sg	01 27 05.6	-0.2		
RISI	**Rein**	**1.78**	**93**	P	Pg	01 26 44.6	+0.1		
RISI				AML	AML				
	comp=N,312µm,1.5s								
RISI				AML	AML				
	comp=E,121µm,1.5s								
MOF	**Molkenrain**	**1.78**	**297**	Pn	Pn	01 26 42.1	+0.3		
NORI	**Noerdlinger Ri**	**1.83**	**24**	*e*Pn	Pn	01 26 41.1	-1.2		
NORI				*e*Sg	Sg	01 27 08.8	-0.3		
LOMF	**Lomont**	**1.84**	**280**	Pn	Pn	01 26 42.5	0.0		
LOMF	**Lomont**	**1.84**	**280**	Pn	Pn	01 26 42.6	+0.1		
LOMF				Pg	Pg	01 26 45.5	-0.2		
HINF	**Hinteralfeld**	**1.94**	**294**	*e*Pn	Pn	01 26 43.4	-0.5		
	SNR=1.0								
HINF	**Hinteralfeld**	**1.94**	**294**	*e*Pg	Pb	01 26 46.6	+0.4		
HINF				*e*Sn	Sn	01 27 05.9	-2.7		
	SNR=1.0								
HINF				*e*Sg	Sb	01 27 11.3	+0.6		
	comp=E,4.9nm,0.2s,SNR=1.0								
CHMF	**Charmoille**	**1.95**	**277**	Pn	Pn	01 26 43.9	-0.1		
CHMF				Sn	Sn	01 27 07.5	-1.2		
ECH	**Echery**	**1.95**	**307**	Pn	Pn	01 26 43.7	-0.4		
ECH				Sn	Sn	01 27 07.5	-1.4		
ECH	**Echery**	**1.95**	**307**	*e*Pn	Pn	01 26 43.7	-0.4		
ECH				*e*Pg	Pg	01 26 47.6	-0.3		
TRAV	**Traversella**	**1.96**	**219**	P	Pn	01 26 44.7	+0.4		
TRAV	**Traversella**	**1.96**	**219**	P	Pn	01 26 45.0	+0.7		
CIRO	**Champorcher**	**1.98**	**223**	P	Pb	01 26 45.9	-1.0		
CIRO				S	Sb	01 27 12.7	+0.8		
WLS	**Welschbruch**	**1.98**	**314**	Pn	Pn	01 26 44.1	-0.3		
WLS				Sn	Sn	01 27 08.0	-1.5		
WLS	**Welschbruch**	**1.98**	**314**	Pn	Pn	01 26 44.1	-0.3		
CGRP	**Cima Grappa**	**1.99**	**126**	*e*Pn	Pb	01 26 46.6	-0.4		
CDF	**Champ du Feu**	**2.02**	**313**	*e*Pn	Pn	01 26 44.3	-0.7		
	SNR=1.0								
CDF	**Champ du Feu**	**2.02**	**313**	*e*Pg	Pb	01 26 48.2	+0.7		
	SNR=1.0								
CDF				*e*Sg	Sb	01 27 13.0	+0.2		
	comp=E,15nm,0.5s,SNR=1.0								
REMY	**Saint-Rhmy-en**	**2.02**	**234**	P	Pb	01 26 47.0	-0.8		
REMY				S	Sg	01 27 17.5	+2.1		
BRET	**Bretten**	**2.03**	**345**	Sn	Sn	01 27 07.4	-3.2		
SIND				Sg	Sg	01 27 23.0	-1.0		
ABTA	**Abfaltersbach**	**2.10**	**98**	*e*Pg	Pg	01 26 50.3	-0.3		
	comp=E,0.4nm,0.1s								
ABTA				*e*Sg	Sg	01 27 19.8	+2.1		
	comp=E,2.2nm,0.2s								
GRC2	**Grafenberg Arr**	**2.21**	**34**	*e*Pn	Pn	01 26 46.5	-1.1		
GRC2				*e*Sg	Sg	01 27 21.4	+0.1		
LSD	**Lago del Serru**	**2.29**	**226**	P	Pb	01 26 50.8	-1.4		
SIND	**Sindeldorf**	**2.29**	**2**	Sn	Sn	01 27 13.5	-3.6		
SIND				Sg	Sg	01 27 23.0	-1.0		
GRC3	**Grafenberg Arr**	**2.31**	**37**	*e*Sg	Sg	01 27 23.5	-1.1		
HAU	**Haudompre**	**2.33**	**295**	*e*Pn	Pn	01 26 48.8	-0.4		
	SNR=1.0								
HAU	**Haudompre**	**2.33**	**295**	*e*Pg	Pb	01 26 53.6	+0.8		
	SNR=1.0								
HAU				*e*Sn	Sn	01 27 15.5	-2.6		
HAU				*e*Sg	Sb	01 27 23.2	+1.4		
	comp=E,6.8nm,0.3s,SNR=1.0								
PEB	**Petersbachel**	**2.33**	**330**	⇑Pn	Pn	01 26 49.0	-0.3		
RJOB	**Jochberg**	**2.34**	**72**	*e*Pg	Pb	01 26 53.8	+0.7		
GRC1	**Grafenberg Arr**	**2.37**	**34**	*e*Pn	Pn	01 26 48.3	-1.5		
GRC1				*e*Pg	Pg	01 26 55.0	-0.8		
GRC1				*e*Sg	Sg	01 27 25.6	-0.9		
CABF	**La Chapelle**	**2.38**	**260**	*e*Pn	Pn	01 26 50.0	0.0		
	SNR=1.0								
CABF	**La Chapelle**	**2.38**	**260**	*e*Pg	Pg	01 26 55.4	-0.6		
	SNR=1.0								
CABF				*e*Sn	Sn	01 27 18.2	-1.2		
CABF				*e*Sg	Sg	01 27 26.2	-0.6		
	comp=E,19nm,0.4s								
LPL	**La Plagne**	**2.46**	**232**	*e*Pn	Pn	01 26 51.4	+0.2		
LPL	**La Plagne**	**2.46**	**232**	*e*Pg	Pg	01 26 57.1	-0.4		
	SNR=1.0								
LPL				*e*Sg	Sg	01 27 30.8	+1.4		
	comp=E,2.7nm,0.3s								
LPG	**La Plagne**	**2.46**	**232**	*e*P	Pb	01 26 53.7	-1.5		
	SNR=1.0								
LPG	**La Plagne**	**2.46**	**232**	*e*Pg	Pg	01 26 57.7	+0.1		
LPG				*e*Sg	Sg	01 27 30.3	+0.8		
	comp=E,2.9nm,0.3s,SNR=1.0								
GRB2	**Grafenberg Arr**	**2.65**	**33**	⇑Pn	Pn	01 26 52.0	-1.6		
GRB4	**Grafenberg Arr**	**2.78**	**29**	*e*Pn	Pn	01 26 53.7	-1.7		
GRF	**Grafenberg Arr**	**2.88**	**23**	Pn	Pn	01 26 54.6	-2.1		
GRA2	**Grafenberg Arr**	**2.88**	**25**	*e*Pn	Pn	01 26 54.7	-2.0		
MBDF	**Montbardon**	**3.01**	**220**	*e*P	Pn	01 27 01.1	+2.4		
	SNR=1.0								
MBDF				*e*Sg	Sg	01 27 47.8	+0.7		
	comp=E,2.1nm,0.4s								
GBOS	**Grotte di Boss**	**3.05**	**203**	P	Pn	01 27 01.7	+2.5		
WET	**Wettzell**	**3.08**	**46**	*e*Pn	Pn	01 26 58.8	-0.8		
WET				*e*Pg	Pb	01 27 07.3	+1.7		
WET				*e*Sn	Sn	01 27 34.6	-2.1		
WET				*e*Sg	Sg	01 27 48.0	-1.4		
SFTF	**Sexfontaines**	**3.22**	**292**	*e*Pn	Pn	01 27 00.6	-0.8		
	baz=120								
SFTF	**Sexfontaines**	**3.22**	**292**	*e*Pg	Pg	01 27 10.5	-1.6		
	baz=116								
SFTF				*e*Sn	Sn	01 27 37.4	-2.7		
SFTF				*e*Sg	Sg	01 27 50.6	-3.2		
	comp=E,2.4nm,0.3s								
MGRO	**Montegrosso**	**3.24**	**202**	P	Pn	01 27 04.5	+2.6		
ROTZ	**Rotzenmuhle**	**3.26**	**33**	*e*Pn	Pn	01 26 59.9	-2.1		
ROTZ				*e*Sn	Sn	01 27 37.9	-3.0		
ORIF	**Oris-en-Rattie**	**3.31**	**231**	*e*P	Pn	01 27 05.6	+2.9		
	SNR=1.0								
ORIF	**Oris-en-Rattie**	**3.31**	**231**	*e*Pg	Pg	01 27 13.0	-0.7		
ORIF				*e*Sg	Sg	01 27 55.9	-0.7		
	comp=E,3.7nm,0.5s,SNR=1.0								
MEZF	**Maizieres J'vi**	**3.32**	**297**	*e*Sn	Sn	01 27 38.7	-3.8		
	comp=E,0.7nm,0.3s								
GEC2	**GERESS Array S**	**3.35**	**56**	*e*Pn	Pn	01 27 03.3	0.0		
TURF	**col de Turini**	**3.42**	**206**	Pn	Pn	01 27 05.4	+1.1		
KHC	**Kasperske Hory**	**3.44**	**51**	*e*PN	Pn	01 27 03.9	-0.5		
KHC				*e*PG	Pb	01 27 10.9	-0.7		
KHC				*e*SN	Sn	01 27 43.5	-1.9		
KHC				*e*SG	Sb	01 27 56.6	+3.0		
	comp=E,3.8nm,0.3s								
SBF	**Sospel**	**3.51**	**205**	*e*P	Pn	01 27 08.3	+2.8		
	SNR=1.0								
SBF				*e*Sn	Sn	01 27 46.3	-1.0		
	comp=E,2.0nm,0.2s								
NKC	**Novy Kostel**	**3.73**	**31**	*e*SG	Sb	01 28 05.8	+3.7		
CALF	**Calern**	**3.77**	**210**	Pn	Pn	01 27 10.0	+0.9		
LOR	**Lormes**	**3.85**	**275**	*e*Pn	Pn	01 27 09.7	-0.4		
	baz=95,SNR=1.0								
LOR	**Lormes**	**3.85**	**275**	*e*Pg	Pg	01 27 21.8	-2.3		
	baz=95,SNR=1.0								
LOR				*e*Sn	Sn	01 27 52.8	-2.7		
	SNR=1.0								
LOR				*e*Sg	Sg	01 28 10.8	-3.1		
	comp=E,3.0nm,0.2s,baz=90,SNR=1.0								
SMF	**Signal de Mont**	**3.90**	**266**	*e*Pn	Pn	01 27 10.2	-0.6		
SMF	**Signal de Mont**	**3.90**	**266**	*e*Pg	Pg	01 27 23.8	-1.3		
SMF				*e*Sg	Sg	01 28 13.5	-2.1		
	comp=E,2.9nm,0.2s,SNR=1.0								
VIVF	**Saint-Julien-l**	**4.02**	**238**	*e*Pn	Pn	01 27 12.4	0.0		
	SNR=1.0								
VIVF	**Saint-Julien-l**	**4.02**	**238**	*e*Pg	Pg	01 27 25.9	-1.5		
	SNR=1.0								
VIVF				*e*Sn	Sn	01 27 58.0	-1.8		
	SNR=1.0								
VIVF				*e*Sg	Sg	01 28 17.8	-1.6		
	comp=E,1.9nm,0.3s,SNR=1.0								
FRF	**La Foret Royal**	**4.03**	**211**	*e*P	Pn	01 27 15.0	+2.4		
	SNR=1.0								
FRF	**La Foret Royal**	**4.03**	**211**	*e*Pg	Pg	01 27 27.3	-0.4		
FRF				*e*Sn	Sn	01 27 58.5	-1.6		
	comp=E,0.5nm,0.2s								
SSF	**Saint Saulge**	**4.09**	**272**	*e*Pn	Pn	01 27 12.9	-0.5		
	SNR=1.0								
SSF	**Saint Saulge**	**4.09**	**272**	*e*Pg	Pg	01 27 26.7	-2.1		
SSF				*e*Sn	Sn	01 27 57.8	-3.7		
SSF				*e*Sg	Sg	01 28 19.3	-2.4		
	comp=E,2.9nm,0.4s,SNR=1.0								
SMRF	**Simiane la Rot**	**4.13**	**223**	*e*Pn	Pn	01 27 14.3	+0.3		
	SNR=1.0								
**SMRF

MOCO				AML	AML		
	comp=N,103μm,1.5s						
MOCO				AML	AML		
	comp=E,212μm,0.5s						
MOCO				AML	AML		
	comp=N,103μm,1.5s						
MOCO				END			
CIGN	**Sant'Elia a Pi**	**0.69**	**253**	P	**Pb**	**01 33 18.2**	**0.0**
GATE	**Gambatesa**	**0.74**	**242**	P	**Pn**	**01 33 19.6**	**-0.2**
GATE				AML	AML		
	comp=E,728μm,0.3s						
GATE				AML	AML		
	comp=N,450μm,0.5s						
GATE				AML	AML		
	comp=N,450μm,0.5s						
GATE				AML	AML		
	comp=E,181μm,0.5s						
GATE				AML	AML		
	comp=E,728μm,0.3s						
GATE				AML	AML		
	comp=N,513μm,0.6s						
SGTA	**Sant Agata di**	**0.79**	**204**	P	**Pb**	**01 33 19.8**	**-0.1**
SGTA				S	**Sb**	**01 33 30.7**	**+0.4**
SGTA				AML	AML		
	comp=E,253μm,0.3s						
SGTA				AML	AML		
	comp=N,214μm,0.3s						
SGTA				END			
MRVN	**Minervino Murg**	**0.86**	**159**	P	**Pb**	**01 33 20.4**	**-0.6**
MRVN				S	**Sb**	**01 33 32.9**	**+0.8**
MRVN				AML	AML		
	comp=N,344μm,1.0s						
MRVN				AML	AML		
	comp=E,436μm,0.2s						
MRVN				END			
VULT	**Monte Vulture**	**0.92**	**188**	P	**Pb**	**01 33 22.2**	**+0.2**
VULT				S	**Sn**	**01 33 34.9**	**+0.1**
VULT				AML	AML		
	comp=E,458μm,0.9s						
VULT				AML	AML		
	comp=N,552μm,0.2s						
VULT				AML	AML		
	comp=E,464μm,0.9s						
VULT				AML	AML		
	comp=N,548μm,0.3s						
BSSO	**Busso**	**0.95**	**251**	P	**Pb**	**01 33 22.4**	**-0.2**
SNAL	**S. Angelo Dei**	**1.03**	**205**	P	**Pn**	**01 33 22.6**	**-1.3**
SNAL				AML	AML		
	comp=N,128μm,1.6s						
SNAL				AML	AML		
	comp=E,120μm,1.4s						
ACER	**Acerenza**	**1.08**	**174**	P	**Pn**	**01 33 24.8**	**+0.2**
ACER				AML	AML		
	comp=E,732μm,0.3s						
ACER				AML	AML		
	comp=E,756μm,0.3s						
ACER				AML	AML		
	comp=N,396μm,1.1s						
ACER				AML	AML		
	comp=N,386μm,1.1s						
BAI	**Bari**	**1.11**	**132**	*e*Pg	**Pn**	**01 33 24.7**	**-0.2**
BAI				Sg	**Sn**	**01 33 40.9**	**+1.3**
MRLC	**Muro Lucano**	**1.13**	**192**	P	**Pn**	**01 33 25.4**	**+0.2**
MRLC				AML	AML		
	comp=N,126μm,0.3s						
MRLC				AML	AML		
	comp=N,135μm,0.3s						
MRLC				AML	AML		
	comp=E,144μm,1.1s						
MRLC				AML	AML		
	comp=E,146μm,1.1s						
CAFR	**Castel Frentan**	**1.13**	**289**	P	**Pn**	**01 33 25.1**	**-0.1**
MIDA	**Miranda**	**1.17**	**260**	P	**Pn**	**01 33 25.5**	**-0.3**
MIDA				AML	AML		
	comp=N,105μm,1.4s						
MIDA				AML	AML		
	comp=E,108μm,0.5s						
LPEL	**Lama dei Pelig**	**1.21**	**279**	P	**Pn**	**01 33 26.5**	**+0.1**
LPEL				AML	AML		
	comp=N,276μm,0.3s						
LPEL				AML	AML		
	comp=E,347μm,0.8s						
SG1	**Sgolgore (BA)**	**1.22**	**146**	*e*Pg	**Pn**	**01 33 26.2**	**-0.3**
SG1				Sg	**Sb**	**01 33 43.2**	**+0.6**
PAOL	**Paolisi**	**1.24**	**228**	P	**Pb**	**01 33 27.8**	**+0.3**
PAOL				AML	AML		
	comp=N,60μm,1.5s						
PAOL				AML	AML		
	comp=E,56μm,0.3s						
HVAR	**Hvar**	**1.40**	**20**	*e*Pg	**Pb**	**01 33 30.6**	**+0.4**
HVAR				Sg	**Sn**	**01 33 43.5**	**-3.1**
INTR	**Introdacqua**	**1.41**	**277**	P	**Pn**	**01 33 29.4**	**+0.2**
INTR				AML	AML		
	comp=E,197μm,1.3s						
INTR				AML	AML		
	comp=N,306μm,0.5s						
VCEL	**Villa Celiera**	**1.54**	**291**	P	**Pb**	**01 33 33.0**	**+0.3**
POFI	**Posta Fibreno**	**1.56**	**265**	P	**Pb**	**01 33 32.5**	**-0.5**
MASS	**Massafra**	**1.60**	**140**	*e*Pg	**Pn**	**01 33 31.2**	**-0.4**
MASS				(Sg)	**Sn**	**01 33 51.3**	**-0.2**
VVLD	**Villa Vallelon**	**1.62**	**271**	P	**Pn**	**01 33 32.9**	**+0.9**
FAGN	**Fagnano**	**1.69**	**285**	P	**Pb**	**01 33 34.8**	**-0.4**
FAGN				AML	AML		
	comp=E,204μm,0.6s						
FAGN				AML	AML		
	comp=N,106μm,0.3s						
MAKA	**Makarska**	**1.69**	**32**	*e*Pn	**Pb**	**01 33 35.9**	**+0.7**
MAKA				Sn	**Sn**	**01 33 52.8**	**-0.9**
STON	**Ston**	**1.74**	**54**	*i* Pn	**Pb**	**01 33 36.2**	**+0.2**
ZIRJ	**Zirje**	**1.79**	**357**	*e*Pn	**Pb**	**01 33 38.2**	**+1.3**
RICI	**Ricice**	**1.91**	**31**	ePn		01 33 37.3	
RICI				Sn	**Sn**	**01 33 58.7**	**-0.5**
T0721	**Laino Castello**	**1.93**	**176**	S	**Sb**	**01 34 02.0**	**-0.9**
MORI	**Morici**	**2.00**	**358**	*e*Pn	**Pb**	**01 33 41.2**	**+0.7**
MORI				Sn	**Sn**	**01 33 59.0**	**-2.5**
KIJV	**Kijevo**	**2.19**	**12**	*i* Pn	**Pn**	**01 33 40.1**	**+0.4**
KIJV				Sn	**Sn**	**01 34 07.3**	**+1.2**
DUGI	**Dugi Otok**	**2.19**	**346**	*e*Pn	**Pb**	**01 33 44.3**	**+0.5**
DUGI				Sn	**Sn**	**01 34 04.7**	**-1.5**
CSP1	**Cessapalombo**	**2.27**	**304**	P	**Pb**	**01 33 45.2**	**+0.1**
CRE	**Caprese Michel**	**3.33**	**303**	P	**Pn**	**01 33 55.8**	**+0.3**
TRI	**Trieste**	**4.11**	**340**	P	**Pb**	**01 34 15.4**	**-1.1**
CGL	**Cagliari Serpe**	**5.54**	**245**	P	**Pn**	**01 34 28.9**	**+3.0**

IDC 16 01:34:47.4±1.6, 16°60S×178°32W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.7/48, mbtmp3.8/5, Error ellipse: s-maj=109.9km s-min=22.1km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.34**	**240**	P	P	01 42 18.4	-0.2
	1.9nm,0.5s,baz=94,slow=9.7,SNR=7.5						
WRA	**Warramunga Arr**	**44.96**	**258**	P	P	01 43 04.7	0.0
	1.5nm,0.4s,baz=94,slow=7.2,SNR=35						
ASAR	**Alice Springs**	**45.24**	**253**	P	P	01 43 06.7	-0.2
	15nm,0.6s,baz=88,slow=8.4,SNR=143						
ILAR	**Eielson Array**	**84.61**	**13**	P	P	01 47 22.4	+0.1
	0.3nm,0.5s,baz=219,slow=5.0,SNR=5.4						
TXAR	**Lajitas Array**	**85.23**	**58**	P	P	01 47 26.7	+0.3
	0.3nm,0.7s,baz=208,slow=4.3,SNR=3.8						
PDAR	**Pinedale Array**	**86.35**	**43**	P	P	01 47 31.6	-0.3
	0.2nm,0.6s,baz=261,slow=4.5,SNR=2.8						

*IDC **16** 01:38:30.0±2.5, 15°.95S×167°.84E, h28km±16km, mb4.6/24, mb1 4.7/28, mb1mx4.5/47, mbtmp4.8/28, ML5.3/4, MS3.7/13, Ms1 3.7/13, ms1mx3.5/29, Error ellipse: s-maj=15.7km s-min=13.0km az=101.0*

*ISCJB **16** 01:38:32.4±0.2, 15°.93S±0°.04×167°.55E±0°.05, h56km, mb4.9/46, MS3.8/18, Error ellipse: s-maj=7.3km s-min=5.4km az=173.0*

*NEIC **16** 01:38:33.8±2.4, 15°.81S±0°.06×167°.57E±0°.09, h56km±5km, mb5.1/35*

*MOS **16** 01:38:33.1±1.2, 15°.85S×167°.44E, h53km, mb5.3/14, Error ellipse: s-maj=11.7km s-min=8.3km az=44.9*

*BJI **16** 01:38:33.7±0.0, 15°.87S×168°.02E, h78km, mb5.0/47, mB5.2/31, Ms4.9/6, Ms7 4.7/6*

ISC 16 01:38:33.7±0.3, 15°.91S±0°.05×167°.53E±0°.06, h56km, n220, σ1§67/214, mb5.0/58, MS3.8/19, 34C-18D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.21**	**189**	*e*Pn	**Pn**	**01 40 01.4**	**-1.5**
	251nm,0.3s						
DZM				*e*Sn	**Sn**	**01 41 08.5**	**-4.1**
	158nm,0.2s						
DZM	**Mont Dzumac**	**6.21**	**189**	Pn	**Pn**	**01 40 01.2**	**-1.6**
	54nm,0.3s,baz=46,slow=3.2,SNR=240						
DZM				Sn	**Sn**	**01 41 08.3**	**-4.3**
	28nm,0.3s,baz=322,slow=23,SNR=5.7						
DZM	**Mont Dzumac**	**6.21**	**189**		**Pn**	**01 40 01.8**	**-1.1**
DZM					**Sn**	**01 41 10.3**	**-2.3**
HNR	**Honiara**	**9.81**	**310**	P	**Pn**	**01 40 52.1**	**0.0**
HNR						01 42 32.0	
HNR	**Honiara**	**9.81**	**310**	Pn	**Pn**	**01 40 53.6**	**+1.5**
	48nm,0.3s,baz=152,slow=8.8,SNR=5.2						
HNR				Sn	**Sn**	**01 42 38.3**	**-2.6**
	20nm,0.3s,baz=221,slow=11,SNR=2.0						
HNR				LR	LR	01 44 33.9	
	comp=Z,233nm,19.2s,baz=150,slow=36						
HNR	**Honiara**	**9.81**	**310**	*e*P	**Pn**	**01 40 55.0**	**+2.9**
HNR	**Honiara**	**9.81**	**310**		**Pn**	**01 40 52.1**	**0.0**
HNR					**Sn**	**01 42 31.9**	**-8.9**
MSVF	**Nonsavu**	**10.23**	**102**	P	**Pn**	**01 41 01.3**	**+3.3**
MSVF	**Nonsavu**	**10.23**	**102**		**Pn**	**01 41 01.3**	**+3.3**
FUNA	**Funafuti**	**13.56**	**59**	Pn	**Pn**	**01 41 42.2**	**-1.1**
KRVT	**Keravat (AS076**	**19.11**	**305**	P	**Pn**	**01 42 53.5**	**0.0**
	3.9nm,0.3s,baz=39,slow=6.5,SNR=3.1						
OUZ	**Omahuta**	**19.98**	**165**	P	**P**	**01 43 02.7**	**+1.2**
AFI	**Afiamalu**	**20.10**	**87**	P	**P**	**01 42 58.1**	**-4.9**
AFI				pmax	pmax		
	comp=Z,47nm,0.5s						
AFI	**Afiamalu**	**20.10**	**87**	P	**P**	**01 42 57.7**	**-5.3**
	comp=Z,14nm,0.3s,baz=98,slow=20,SNR=14						
AFI	**Afiamalu**	**20.10**	**87**	P	**P**	**01 42 58.1**	**-4.9**
AFI				IAmb	IAmb	01 43 01.2	
	comp=Z,47nm,0.5s						
ARMA	**Armidale**	**20.51**	**222**	P	**P**	**01 43 06.6**	**-0.8**
CTA	**Charters Tower**	**20.65**	**255**	P	**P**	**01 43 11.1**	**+2.1**
	comp=Z,7.1nm,0.6s,baz=84,slow=14,SNR=5.2						
PMG	**Port Moresby**	**20.89**	**286**	*e*P	Pn	01 43 13.8	-0.8
PMG				pmax	pmax		
	comp=Z,56nm,1.0s						
PMG	**Port Moresby**	**20.89**	**286**	P	Pn	01 43 14.0	-0.5
	comp=Z,7.5nm,0.5s,baz=90,slow=9.2,SNR=3.6						
PMG				LR	LR	01 50 40.1	
	comp=Z,279nm,18.7s,baz=22,slow=34						
PMG	**Port Moresby**	**20.89**	**286**	P	**P**	**01 43 08.2**	**-3.3**
PATS	**Pohnpei**	**24.38**	**337**	P	**P**	**01 43 45.5**	**-1.3**
PATS				IAmb	IAmb	01 43 56.7	
	comp=Z,235nm,1.4s						
BKZ	**Black Stump Fm**	**24.46**	**163**	P	**P**	**01 43 50.0**	**+2.5**
BFZ	**Birch Farm**	**25.81**	**165**	P	**P**	**01 44 01.0**	**+1.4**
BFZ				IAmb	IAmb	01 44 44.1	
	comp=Z,46nm,1.3s						
TUWZ	**Tuamarina**	**26.02**	**169**	P	**P**	**01 43 60.0**	**-1.5**
MSWZ	**Moikau Station**	**26.27**	**167**	P	**P**	**01 44 03.9**	**+0.1**
LTZ	**Lake Taylor**	**27.08**	**172**	P	**P**	**01 44 12.6**	**+1.4**
LTZ				IAmb	IAmb	01 45 00.7	
	comp=Z,46nm,1.6s						
RPZ	**Rata Peaks**	**27.87**	**175**	P	**P**	**01 44 18.2**	**0.0**
	comp=Z,5.0nm,0.6s,baz=276,slow=18,SNR=3.3						
RPZ				LR	LR	01 54 34.4	
	comp=Z,239nm,20.8s,baz=346,slow=35						
RPZ	**Rata Peaks**	**27.87**	**175**	P	**P**	**01 44 16.8**	**-1.3**
RPZ				IAmb	IAmb	01 45 12.4	
	comp=Z,62nm,1.7s						
STKA	**Stephens Creek**	**28.44**	**231**	P	**P**	**01 44 25.0**	**+1.7**
STKA						01 47 35.0	
STKA				pmax	pmax		
	comp=Z,7.0nm,2.0s						
STKA	**Stephens Creek**	**28.44**	**231**	P	**P**	**01 44 24.1**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=50,slow=8.4,SNR=5.6						
STKA				PcP	**PcP**	**01 47 35.0**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=62,slow=4.5,SNR=4.5						
STKA				ScP	**ScP**	**01 51 14.2**	**+3.2**
	comp=Z,1.7nm,0.8s,baz=6.2,slow=7.3,SNR=3.0						
STKA				LR	LR	01 55 35.3	
	comp=Z,77nm,18.6s,baz=34,slow=36						
STKA	**Stephens Creek**	**28.44**	**231**	P	**P**	**01 44 25.1**	**+1.7**
LBZ	**Lake Benmore**	**28.47**	**176**	P	**P**	**01 44 25.0**	**+1.6**
LBZ				IAmb	IAmb	01 45 02.9	
	comp=Z,60nm,1.5s						
RAR	**Rarotonga**	**31.41**	**105**	LR	LR	01 54 43.7	
	comp=Z,174nm,20.4s,baz=240,slow=31						
WRAB	**Tennant Creek**	**31.79**	**258**	*e*P	**P**	**01 44 52.7**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,12nm,2.2s						
WRA	**Warramunga Arr**	**31.80**	**258**	P	**P**	**01 44 53.1**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=89,slow=8.5,SNR=13						
WRA				PcP	**PcP**	**01 47 43.6**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=88,slow=2.7,SNR=5.3						
WRA				ScP	**ScP**	**01 51 25.7**	**+3.4**
	comp=Z,1.1nm,0.8s,baz=87,slow=3.5,SNR=8.5						
WRA				PKiKP	**PKiKP**	**01 55 10.6**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=328,slow=0.3,SNR=5.6						
WRA				LR	LR	01 58 06.6	
	comp=Z,52nm,20.8s,baz=90,slow=37						
AS31	**Alice Springs**	**32.50**	**251**	P	**P**	**01 45 00.4**	**+1.0**
AS31				PcP	**PcP**	**01 47 43.5**	**-1.8**
ASAR	**Alice Springs**	**32.51**	**251**	P	**P**	**01 45 00.0**	**+0.6**
	comp=Z,20nm,0.8s,baz=78,slow=9.2,SNR=100						
ASAR				PcP	**PcP**	**01 47 45.5**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=94,slow=3.3,SNR=6.2						
ASAR				ScP	**ScP**	**01 51 28.0**	**+3.4**
	comp=Z,2.7nm,1.0s,baz=90,slow=3.0,SNR=14						
ASAR				PKiKP	**PKiKP**	**01 55 10.8**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=132,slow=1.4,SNR=3.8						
ASAR				LR	LR	01 57 56.4	
	comp=Z,148nm,18.9s,baz=89,slow=36						
BBOO	**Buckleboo**	**33.07**	**234**	P	**P**	**01 45 05.7**	**+1.5**
BBOO				IAmb	IAmb	01 45 14.4	
	comp=Z,21nm,1.4s						
WAKE	**Wake Island**	**34.99**	**359**	P	**P**	**01 45 19.0**	**-1.7**
GUMO	**Guam**	**36.90**	**321**	P	**P**	**01 45 35.8**	**-1.4**
GUMO				pmax	pmax		
	comp=Z,311nm,1.3s						
GUMO	**Guam**	**36.90**	**321**	P	**P**	**01 45 35.8**	**-1.4**
KNRA	**Kununurra**	**37.27**	**265**	P	**P**	**01 45 40.9**	**+0.5**
KNRA				IAmb	IAmb	01 45 42.0	
	comp=Z,15nm,0.8s						
FORT	**Forrest**	**38.92**	**241**	P	**P**	**01 45 55.0**	**+0.8**
FORT				IAmb	IAmb	01 45 57.5	
	comp=Z,34nm,0.7s						
FITZ	**Fitzroy Crossi**	**40.06**	**261**	P	**P**	**01 46 04.1**	**+0.3**
PPT2	**Papeete2**	**41.05**	**99**	*e*LR	LR	01 57 36.5	
	comp=Z,158nm,25.5s						
TBI	**Tubuai**	**41.06**	**107**	*e*LR	LR	01 57 38.8	
	comp=Z,123nm,35.5s						
DAV	**Davao City (W)**	**47.40**	**296**	LR	LR	02 05 05.1	
	comp=Z,34nm,20.3s,baz=122,slow=34						
NWAO	**Narrogin (SRO)**	**48.37**	**240**	P	**P**	**01 47 09.3**	**-0.8**
NWAO	**Narrogin (SRO)**	**48.37**	**240**	P	**P**	**01 47 09.3**	**-0.8**
MORW	**Morawa**	**48.99**	**245**	P	**P**	**01 47 15.2**	**+0.2**
MORW				IAmb	IAmb	01 47 36.9	
	comp=Z,14nm,1.1s						
TWSI	**Taliwang, Sumb**	**49.89**	**272**	P	**P**	**01 47 22.5**	**+0.5**
	comp=Z,22nm,0.8s,comp=Z,56nm						
CISI	**Cisompet, Garu**	**58.89**	**271**	P	**P**	**01 48 27.3**	**-0.2**
MJAR	**Matsushiro Arr**	**59.07**	**333**	P	**P**	**01 48 28.1**	**-0.1**
	comp=Z,11nm,0.5s,baz=163,slow=7.4,SNR=21						
MAJO	**Matsushiro**	**59.07**	**333**	*e*P	**P**	**01 48 28.9**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,14nm,0.5s						
MAJO	**Matsushiro**	**59.07**	**333**	P	**P**	**01 48 28.9**	**+0.7**
MAT	**Matsushiro**	**59.07**	**333**	P	**P**	**01 48 28.6**	**+0.4**
MJB9	**Matsu-Tunnel**	**59.07**	**333**	P	**P**	**01 48 29.0**	**+0.8**
JNU	**Nakatsue**	**60.03**	**325**	P	**P**	**01 48 36.2**	**+1.3**
	comp=Z,25nm,0.6s,baz=203,slow=0.5,SNR=15						
VNDA	**Vanda**	**61.69**	**181**	P	**P**	**01 48 46.3**	**+0.7**
	comp=Z,1.2nm,1.0s,baz=1.4,slow=8.5,SNR=3.2						
VNDA				LR	LR	02 13 31.9	
	comp=Z,41nm,18.3s,baz=356,slow=34						
ASAJ	**Asahikawa**	**63.94**	**340**	P	**P**	**01 49 02.0**	**+1.1**
ASAJ	**Asahikawa**	**63.94**	**340**	P	**P**	**01 49 01.9**	**+1.1**
	comp=Z,51nm,0.8s,baz=220,slow=6.8,SNR=14						
KSRS	**Korea Array**	**64.86**	**326**	P	**P**	**01 49 08.1**	**+1.1**
	comp=Z,4.0nm,0.7s,baz=140,slow=7.1,SNR=16						
YSS	**Yuzh-Sakhalins**	**66.43**	**342**	*e*P	**P**	**01 49 19.3**	**+2.4**
NJ2	**Nanjing**	**66.70**	**316**	*e*P	**P**	**01 49 20.1**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,21nm,0.8s						
USA0B	**Ussuriysk Arra**	**68.05**	**333**	IAmb	IAmb	01 49 30.6	
	comp=Z,38nm,0.9s						
USRK	**Ussuriysk Ar.**	**68.05**	**333**	P	**P**	**01 49 28.5**	**+1.3**
	comp=Z,16nm,0.7s,baz=132,slow=5.9,SNR=34						
WHN	**Wuhan**	**68.92**	**312**	P	**P**	**01 49 37.1**	**+4.1**
PETK	**Petropavlovsk-**	**69.26**	**354**	P	**P**	**01 49 35.5**	**+0.9**
	comp=Z,7.0nm,0.6s,baz=144,slow=7.8,SNR=7.7						
PETK				LR	LR	02 15 24.1	
	comp=Z,41nm,20.9s,baz=229,slow=32						
MDJ	**Mudanjiang**	**69.44**	**332**	P	**P**	**01 49 37.8**	**+1.9**
MDJ				pP	sP	01 49 56.3	-0.7
MDJ				pmax	pmax		
	comp=Z,53nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,510nm,4.6s						
MDJ	**Mudanjiang**	**69.44**	**332**	IAmb	IAmb	01 49 38.5	
	comp=Z,40nm,0.9s						
CN2	**Changchun**	**70.78**	**329**	*e*P	**P**	**01 49 45.8**	**+1.6**
CN2				pmax	pmax		
	comp=Z,30nm,0.6s						
GRNR	**Gornyy**	**71.78**	**340**	*i*P	**P**	**01 49 52.4**	**+2.3**
GRNR				*e*S	**S**	**01 59 09.7**	**+3.6**
GRNR				pmax	pmax		
	comp=Z,70nm,0.6s						
GRNR				smax	smax		
	comp=N,6.0nm,0.8s						
KLR	**Kul'dur**	**72.19**	**336**	*d* iP	**P**	**01 49 54.5**	**+2.0**
KLR				pmax	pmax		
	comp=Z,37nm,0.9s						
KLR	**Kul'dur**	**72.19**	**336**	P	**P**	**01 49 53.7**	**+1.2**
	comp=Z,24nm,0.9s,baz=129,slow=2.8,SNR=43						
ENH	**Enshi**	**72.31**	**310**	P	**P**	**01 49 54.1**	**+0.3**
BJI	**Beijing**	**73.34**	**321**	*i*P	**P**	**01 50 01.8**	**+2.3**
BJI				pmax	pmax		
	comp=Z,18nm,0.7s						
QSPA	**South Pole Qui**	**74.12**	**180**	P	**P**	**01 50 05.4**	**+1.4**
XAN	**Xi'an**	**74.67**	**313**	P	**P**	**01 50 08.1**	**+0.5**
XAN				S	**S**	**01 59 36.9**	**-2.7**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN				LR	LR		
	comp=Z,160nm,8.7s						
XAN				LR	LR		
	comp=Z,170nm,13.0s						
KMI	**Kunming**	**75.14**	**302**	P	**P**	**01 50 11.9**	**+1.2**
KMI				pP	sP	01 50 32.4	+0.2
KMI				sP	pP	01 50 40.3	+14
KMI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KMI				pmax	pmax		
	comp=Z,160nm,4.3s						
CMAR	**Chiang Mai Arr**	**75.66**	**294**	*ce*P	**P**	**01 50 15.1**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**75.66**	**294**	P	**P**	**01 50 14.7**	**+1.2**
	comp=Z,2.4nm,0.5s,baz=133,slow=4.5,SNR=9.9						
HHC	**Hu-ho-hao-te**	**76.65**	**320**	*e*P	**P**	**01 50 20.6**	**+1.8**
HHC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CD2	**Chengdu**	**76.93**	**308**	*e*P	**P**	**01 50 21.0**	**+0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HIA	**Hailar**	**77.43**	**330**	*i*P	**P**	**01 50 24.2**	**+1.3**
HIA				pmax	pmax		
	comp=Z,102nm,1.0s						
HIA	**Hailar**	**77.43**	**330**	P	**P**	**01 50 22.8**	**-0.1**
HIA				IAmb	IAmb	01 50 24.9	
	comp=Z,14nm,1.0s						
ZEA	**Zeya**	**77.47**	**337**	*e*P	**P**	**01 50 25.0**	**+2.0**
ZEA				pmax	pmax		
	comp=N,49nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,67nm,0.8s						
LZH	**Lanzhou**	**79.30**	**312**	P	**P**	**01 50 36.3**	**+2.6**
LZH				pP	sP	01 50 55.6	+0.2
LZH				sP	pP	01 51 03.8	+15
LZH				pmax	pmax		
	comp=Z,25nm,1.4s						
LZH				pmax	pmax		
	comp=Z,190nm,4.9s						
LZH				LR	LR		
	comp=Z,120nm,17.0s						
LZH				LR	LR		
	comp=Z,120nm,16.8s						
LZH				LR	LR		
	comp=Z,180nm,18.5s						
SEY	**Seymchan**	**79.48**	**353**	*e*P	**P**	**01 50 34.8**	**+1.0**
SEY	**Seymchan**	**79.48**	**353**	P	**P**	**01 50 34.4**	**+0.5**
	comp=Z,4.1nm,0.7s,baz=175,slow=4.9,SNR=9.6						
SVW2	**Sparrevohn**	**82.20**	**17**	P	**P**	**01 50 49.6**	**+1.2**
YAK	**Yakutsk**	**83.23**	**343**	*e*P	**P**	**01 50 53.7**	**0.0**
YAK				pmax	pmax		
	comp=Z,33nm,1.0s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=N,11nm,1.1s						
YAK	**Yakutsk**	**83.23**	**343**	P	**P**	**01 50 53.9**	**+0.3**
	comp=N,25nm,0.6s,baz=180,slow=1.5,SNR=12						
YAK	**Yakutsk**	**83.23**	**343**	IAmb	IAmb	01 50 55.6	
	comp=Z,53nm,0.7s						
ULN	**Ulaanbaatar**	**83.23**	**324**	*ce*P	**P**	**01 50 55.9**	**+1.6**
ULN				pmax	pmax		
	comp=Z,44nm,1.0s						
ULN	**Ulaanbaatar**	**83.23**	**324**	P	**P**	**01 50 55.2**	**+0.9**
ULN				IAmb	IAmb	01 50 57.2	
	comp=Z,35nm,0.8s						
SONM	**Songino Array**	**83.59**	**324**	P	**P**	**01 50 56.7**	**+0.6**
	comp=Z,20nm,1.0s,baz=152,slow=7.7,SNR=70						
GTA	**Gaotai**	**83.66**	**314**	*e*P	**P**	**01 50 57.5**	**+0.9**
GTA				pP	sP	01 51 17.9	-0.6
GTA				sP	pP	01 51 26.0	+14
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,100nm,6.7s						
GTA				LR	LR		
	comp=Z,130nm,9.2s						
GTA				LR	LR		
	comp=Z,140nm,10.2s						
BILL	**Bilibino**	**83.72**	**360**	*e*P	**P**	**01 50 57.4**	**+1.3**
BILL				*e*SS	SS	02 06 49.2	+6.6
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,84nm,15.0s						
BILL	**Bilibino**	**83.72**	**360**	P	**P**	**01 50 56.6**	**+0.5**
SHL	**Shillong**	**84.35**	**298**	P	**P**	**01 51 00.9**	**+0.4**
SHL				pmax	pmax		
	comp=Z,14nm,0.8s						
SHL	**Shillong**	**84.35**	**298**	P	**P**	**01 51 00.9**	**+0.4**
SHL				IAmb	IAmb	01 51 01.4	
	comp=Z,14nm,0.8s						
BOD	**Bodaibo**	**85.65**	**334**	*e*P	**P**	**01 51 05.8**	**-0.2**
BOD				pmax	pmax		

baz=183,slow=4.6
WMQ Urumqi 93.73 314 *e*P **P** **01 51 46.5 +1.9**
WMQ pmax pmax
comp=Z,190nm,5.7s
WMQ LR LR
comp=Z,550nm,29.3s
TXAR Lajitas Array 96.62 62 P **P** **01 51 55.8 -2.4**
comp=Z,0.1nm,0.5s,baz=224,slow=5.0,SNR=2.4
MKAR Makanchi Array 98.23 316*c*eP Pdif 01 52 08.1 +3.2
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 98.23 316 P Pdif 01 52 05.2 +0.2
comp=Z,2.3nm,0.7s,baz=99,slow=6.1,SNR=14
MKAR PKiKP **PKiKP** **01 56 38.4 +1.0**
comp=Z,0.2nm,0.6s,baz=209,slow=1.5,SNR=4.0
YKA Yellowknife Ar 98.48 27 P **P** **01 52 04.1 -1.4**
comp=Z,1.0nm,0.9s,baz=257,slow=4.7,SNR=11
ZAA0 Zalesovo Array 98.49 324 IAmb IAmb 01 52 07.1
comp=Z,5.1nm,0.8s
ZALV Zalesovo Beam 98.49 324 P **P** **01 52 05.0 -0.8**
comp=Z,3.5nm,0.7s,baz=108,slow=4.8,SNR=16
ZALV LR LR 02 35 53.5
comp=Z,37nm,19.3s,baz=267,slow=35
KSH Kashi 101.12 308 *e*P **Pdif** **01 52 20.4 +2.3**
ARU Arti 113.60 325⇑*i*PKiKP **PKiKP** **01 57 05.5 +0.1**
AKTO Aktyubinsk 114.52 319 PKP PKPdf 01 57 06.2 -1.2
comp=Z,1.7nm,0.6s,baz=112,slow=2.0,SNR=8.9
GEYT Alibeck 114.81 305 PKP PKPdf 01 57 07.7 -0.7
comp=Z,1.7nm,0.7s,baz=241,slow=3.1,SNR=5.0
ARCES ARCESS Array B 121.45 345 PKP **PKPdf** **01 57 19.9 -0.3**
comp=Z,3.7nm,0.6s,baz=83,slow=2.4,SNR=52
BOSA Boshof 122.63 220 PKP **PKiKP** **01 57 24.5 +0.3**
comp=Z,3.8nm,0.9s,baz=69,slow=4.0,SNR=5.6
VRH Novokhopyorsk 124.47 322 *e*PKiKP **PKPdf** **01 57 26.1 -0.4**
VRH pmax pmax
comp=Z,10.0nm,0.8s
RAYN Ar Rayn 125.20 288 PKiKP **PKiKP** **01 57 29.3 +0.1**
RAYN Ar Rayn 125.20 288 **PKiKP** **01 57 29.3 +0.1**
LPSR Galich'ya Gora 125.60 324 *e*PKiKP **PKiKP** **01 57 29.8 +0.8**
LPSR pmax pmax
comp=Z,20nm,1.1s
KBZ Khabaz 125.74 313 PKP **PKiKP** **01 57 30.4 +0.9**
comp=Z,2.1nm,0.9s,baz=18,slow=3.8,SNR=3.9
AKH Akhalkalaki 125.78 310⇑P **PKiKP** **01 57 30.2 +0.2**
KIV Kislovodsk 125.84 313 *e*PKiKP **PKiKP** **01 57 31.2 +1.3**
KIV pmax pmax
comp=Z,20nm,1.1s
NEY Neytrino 125.97 312⇓*i*PKiKP **PKiKP** **01 57 31.9 +1.6**
VSR Storozhevoye 125.97 322⇑*i*PKiKP **PKPdf** **01 57 29.5 +0.1**
VORD Divnogorie 125.99 322 *e*PKiKP **PKPdf** **01 57 28.9 -0.5**
VORD pmax pmax
comp=Z,6.0nm,0.9s
FINES FINESS Array B 126.91 338 PKP **PKPdf** **01 57 30.8 -0.1**
comp=Z,2.9nm,0.8s,baz=97,slow=1.6,SNR=11
NB2 NORSAR Subarra131.83 345 PKPdf **PKPdf** **01 57 39.4 -0.9**
comp=Z,1.3nm,0.9s,baz=31,slow=1.9
NOA NORSAR Array B131.83 345 PKP **PKPdf** **01 57 40.2 -0.1**
comp=Z,1.0nm,0.6s,baz=30,slow=2.0,SNR=4.0
AKASG Malin Array Be 131.85 325*c i*PKiKP **PKiKP** **01 57 41.2 -0.4**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 131.85 325 PKP **PKPdf** **01 57 41.0 +0.4**
comp=Z,1.8nm,0.5s,baz=46,slow=2.6,SNR=10.0
KONO Kongsberg 133.44 345⇓*i*PKiKP **PKiKP** **01 57 44.0 -0.5**
BRTR Keskin Array B 133.46 310*c i*PKiKP **PKiKP** **01 57 45.0 -0.4**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 133.46 310 PKP **PKiKP** **01 57 44.9 -0.6**
comp=Z,2.6nm,0.9s,baz=135,slow=1.7,SNR=14
SORM Soroca 133.63 325⇑PKiKP **PKPdf** **01 57 43.9 -0.1**
SORM Soroca 133.63 323⇑P **PKPdf** **01 57 43.9 -0.1**
MILM Milestii Mici 133.95 321⇑P **PKiKP** **01 57 45.8 -0.2**
ANTO Ankara 134.04 310 PKiKP **PKPdf** **01 57 43.4 -1.8**
ANTO Ankara 134.04 310 **PKPdf** **01 57 43.4 -1.8**
TLCR 134.75 319⇑PKiKP **PKiKP** **01 57 47.9 +0.3**
TLCR 134.75 319⇑P **PKiKP** **01 57 47.9 +0.3**
CFR Carcaliu 135.18 319⇓PKiKP **PKiKP** **01 57 48.5 0.0**
CFR Carcaliu 135.18 319⇓P **PKiKP** **01 57 48.5 0.0**
HARR Harsova 135.53 319⇑PKiKP **PKPdf** **01 57 46.2 -1.5**
HARR Harsova 135.53 319⇑P **PKPdf** **01 57 46.2 -1.5**
BIZ Bicaz 135.55 322⇑P **PKiKP** **01 57 48.9 -0.4**
BUR08 Bucovina Ar. S 135.70 324 **PKPdf** **01 57 48.0 0.0**
BURAR Bucovina Array 135.71 324⇑PKiKP **PKiKP** **01 57 49.3 -0.4**
BURAR Bucovina Array 135.71 324⇑P **PKiKP** **01 57 49.3 -0.4**
DOPR Dopca 136.48 322⇓P **PKiKP** **01 57 50.5 -0.7**
KOLS Kolonicke sedl 136.57 327 *e*PKiKP **PKiKP** **01 57 51.1 -0.2**
KOLS Kolonicke sedl 136.57 327 *e*PKP **PKiKP** **01 57 51.1 -0.2**
TRPA Tarpa 136.91 326⇑P **PKPdf** **01 57 50.7 +0.5**
VOIR 136.95 321⇓PKiKP **PKPdf** **01 57 49.3 -1.1**
VOIR 136.95 321⇓P **PKPdf** **01 57 49.3 -1.1**
ARR Arges 137.24 321⇑P **PKiKP** **01 57 52.3 -0.6**
ELND Elena 137.66 317⇑P **PKiKP** **01 57 54.1 +0.4**
PLVB Pleven 138.25 319⇑P **PKiKP** **01 57 55.0 +0.2**
GZR Gura Zlata 138.33 322⇑PKiKP **PKPdf** **01 57 53.0 0.0**
GZR Gura Zlata 138.33 322⇑P **PKPdf** **01 57 53.0 0.0**
SIRR Siria 138.48 324⇑P **PKiKP** **01 57 55.1 -0.2**
CHVC Chvalec 138.49 333 *e*PKP **PKiKP** **01 57 55.8 +0.6**
KRLC Kraliky 138.53 332 *e*PKiKP **PKiKP** **01 57 54.5 -0.8**
KRLC Kraliky 138.53 332 *e*PKP **PKiKP** **01 57 54.5 -0.8**
VYHS Vyhne 138.62 328 *e*PKiKP **PKiKP** **01 57 55.8 +0.3**
VYHS Vyhne 138.62 328 *e*PKP **PKiKP** **01 57 55.8 +0.3**
BZS Buzias 138.88 323⇑PKiKP **PKPdf** **01 57 53.1 -0.8**
BZS Buzias 138.88 323⇑P **PKPdf** **01 57 53.1 -0.8**
MDVR Moldovita 139.30 322⇓ **PKPdf** **01 57 55.4 +0.7**
MODS Modra-Piesok 139.47 329 *e*PKiKP **PKPdf** **01 57 55.1 +0.1**
MODS Modra-Piesok 139.47 329 *e*PKP **PKPdf** **01 57 55.0 +0.1**
VTS Vitosha 139.51 318⇓PKiKP **PKPdf** **01 57 52.6 -2.7**
VTS Vitosha 139.51 318⇓P **PKPdf** **01 57 52.6 -2.7**
VTS Vitosha 139.51 318 **PKPdf** **01 57 54.1 -1.2**
CONA Conrad Observa 140.47 330 *i* PKiKP **PKiKP** **01 57 59.4 0.0**
comp=Z,2.1nm,0.5s
KHC Kasperske Hory 140.65 333 *e*PKiKP **PKPdf** **01 57 57.4 +0.4**
KHC *e* 01 58 12.2
KHC Kasperske Hory 140.65 333 *e*PKP **PKPdf** **01 57 57.4 +0.4**
KHC *e*pPKP **pPKPdf** **01 58 12.2 -1.0**
GERES GERESS Array B 140.81 333 PKhKP PKPpre 01 57 52.3
comp=Z,0.7nm,0.7s,baz=48,slow=2.0,SNR=5.7
FNA Florina 141.64 317 PKiKP **PKPdf** **01 57 57.9 -1.2**
FNA Florina 141.64 317 **PKPdf** **01 57 57.9 -1.2**
SOKA Soboth 141.74 329 *i* PKiKP **PKPdf** **01 57 59.3 +0.1**
comp=Z,1.6nm,0.6s
MEM Membach 142.32 341 PKPdf **PKPdf** **01 58 01.2 +1.3**
MYKA Terra Mystica 142.45 330 *i* PKPdf **PKPdf** **01 57 57.6 -2.8**
comp=Z,2.2nm,0.5s
WATA Walderalm 142.88 333 *i* PKPdf **PKPdf** **01 57 58.8 -2.5**
comp=Z,3.9nm,0.6s
ABTA Abfaltersbach 142.90 331 *i* PKPdf **PKPdf** **01 57 57.7 -3.5**
comp=Z,7.2nm,0.7s
WTTA Wattenberg 142.91 333 *i* PKPdf **PKPdf** **01 57 58.7 -2.7**
comp=Z,1.1nm,1.1s
MOTA Moosalm 143.08 333 *i* PKPdf PKPbc 01 57 58.7 +0.2
comp=Z,14nm,1.1s
RETA Reutte 143.12 334 *i* PKPdf PKPbc 01 57 58.9 +0.3
comp=Z,4.5nm,0.8s
SQTA Sankt Quirin 143.13 333 *i* PKPdf PKPbc 01 57 58.8 +0.2
comp=Z,12nm,1.0s
FETA Feichten 143.49 333 *i* PKPdf PKPbc 01 58 00.0 +0.3
comp=Z,15nm,0.9s,SNR=7.7
DAVA Damuels 143.65 334 *i* PKPdf PKPbc 01 58 00.6 +0.5
comp=Z,15nm,1.1s
CTI Castel Tesino 143.82 331 PKiKP PKPbc 01 58 01.1 +0.5
CTI Castel Tesino 143.82 331 PKPbc 01 58 01.1 +0.5
FUORN Ofenpass-Fuorn 144.01 333 PKPbc 01 58 02.3 +0.9
TEOL Teolo 144.32 330 **PKPdf** **01 58 03.0 -0.7**
TUE Stuetta 144.52 334 **PKPdf** **01 58 04.1 -0.1**
TIP Timpagrande 145.50 318⇓P **PKPab** **01 58 07.4 +1.1**
TIP Timpagrande 145.50 318 **PKPab** **01 58 06.2 -0.1**
CLTB Caltabellotta 148.69 318 **PKPbc** **01 58 14.5 -0.7**
KEST Kesra 152.28 319 PKPbc **PKiKP** **01 58 24.4 +0.4**
comp=Z,21nm,0.8s,baz=133,slow=1.6,SNR=23
CMAH Djebel Manchou 152.84 323 P **PKPbc** **01 58 25.0 0.0**
ABSA Djebel Ababsia 153.05 323 P **PKiKP** **01 58 25.6 -0.1**
CKFL Kef-Lekhel 153.40 324 P **PKiKP** **01 58 26.4 0.0**
CASM Ain Smara 153.63 324 P **PKiKP** **01 58 27.7 +0.9**
DFRA Djebel Bou Aff 153.76 325 P **PKiKP** **01 58 28.0 +0.8**
ESDC Sonseca Array 155.19 344 PKPbc PKPdf 01 58 30.2 +9.2
comp=Z,0.6nm,0.7s,baz=5.1,slow=4.1,SNR=4.2
ESDC PKPab pPKPbc 01 58 46.6 +0.6
comp=Z,1.4nm,0.5s,baz=21,slow=3.7,SNR=14
TORD Torodi Ar. Bea 166.01 260 PKP **PKPdf** **01 58 32.5 -0.8**
comp=Z,1.6nm,0.6s,baz=357,slow=0.7,SNR=14
TORD PKPab **PKPab** **01 59 33.3 -0.5**
comp=Z,0.8nm,0.7s,baz=107,slow=3.8,SNR=4.3

THR **16** *01:42:19.5,28.°17N×51.°69E,h14km,ML3.5*
IDC **16** *01:42:20.4±1.4,28.°32N×51.°71E,h0km,mb3.8/13, mb1 3.9/17,mb1mx3.7/54,mbtmp3.8/17,ML3.5/4,MS3.1/1, Ms1 3.1/1,ms1mx2.4/41,Error ellipse: s-maj=28.8km s-min=18.9km az=2.0*
ISCJB **16** *01:42:21.1±0.3,28.°24N±0.°03×51.°63E±0.°04,h16km, mb3.7/13, Error ellipse: s-maj=6.2km s-min=3.1km az=148.6*
TEH **16** *01:42:23.6,28.°43N×51.°74E,h16km, ML3.7*
OMAN **16** *01:42:29.9±0.7,28.°02N×51.°88E,h158km±21km, ml3.6/3, Error ellipse: s-maj=19.7km s-min=13.3km az=295.0*
DSN **16** *01:42:29.2±0.9,28.°10N×52.°13E,h10km,ML4.0/7, Error ellipse: s-maj=11.9km s-min=5.3km az=177.0*

ISC 16 01:42:23.1±0.6,28.°36N±0.°05×51.°70E±0.°06,h16km,n75, σ1§29/79,mb3.7/13,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**1.42**	**5**	*e*Pg		**Pg**	**Pg**	**01 42 50.2**	**-0.3**
IKAZ				IAMB	IAmb			01 43 13.6	
	comp=Z,14μm,0.5s								
SHI	**Shiraz**	**1.46**	**29**	*e*Pg		**Pb**	**Pb**	**01 42 50.2**	**+0.2**
LMD1	**Lamerd**	**1.65**	**128**	*e*Pn		**Pb**	**Pb**	**01 42 55.2**	**+2.1**
LMD1				*e*Sg		**Sg**	**Sg**	**01 43 17.9**	**+1.7**
LMD1				IAMB	IAmb			01 43 30.5	
	comp=Z,0.0nm,0.6s								
JHRM	**Jahrom**	**1.66**	**85**	*e*Pn		**Pn**	**Pn**	**01 42 52.9**	**+1.3**
JHRM				IAMB	IAmb			01 43 30.9	
	comp=Z,0.0nm,0.5s								
KLNJ	**Kolanjah**	**2.64**	**358**	*e*Pn		**Pn**	**Pn**	**01 43 06.5**	**+1.1**
KLNJ				IAMB	IAmb			01 44 06.7	
	comp=Z,0.0nm,0.8s								
IRAM	**Rameshed**	**3.49**	**10**	*e*Pn		**Pn**	**Pn**	**01 43 17.6**	**+0.7**
IBRJ	**Brojen**	**3.56**	**354**	*e*Pn		**Pn**	**Pn**	**01 43 19.3**	**+1.4**
ISAD	**Sadrabad**	**3.94**	**25**	*e*Pn		**Pn**	**Pn**	**01 43 24.6**	**+1.5**
IMEH	**Mehriz**	**3.94**	**39**	*e*Pn		**Pn**	**Pn**	**01 43 25.1**	**+2.0**
JHBN	**Jahan bin**	**3.96**	**347**	*e*Pn		**Pn**	**Pn**	**01 43 24.8**	**+1.3**
ROKH	**ROKH**	**4.01**	**352**	*e*Pn		**Pn**	**Pn**	**01 43 26.3**	**+2.1**
IGAR	**Gharneh**	**4.04**	**4**	*e*Pn		**Pn**	**Pn**	**01 43 25.1**	**+0.6**
IPIR	**Pirpir**	**4.37**	**351**	*e*Pn		**Pn**	**Pn**	**01 43 28.8**	**-0.3**
ICHK	**Chekchek**	**4.52**	**30**	*e*Pn		**Pn**	**Pn**	**01 43 32.7**	**+1.5**
IZEF	**Zefreh**	**4.55**	**7**	*e*Pn		**Pn**	**Pn**	**01 43 32.8**	**+1.2**
SHME	**Shamm**	**4.57**	**119**	P		**Pn**	**Pn**	**01 43 32.4**	**+0.7**
NIAN	**Nian**	**4.61**	**99**	*e*Pn		**Pn**	**Pn**	**01 43 34.6**	**+2.5**
NIAN				IAMB	IAmb			01 45 19.6	
	comp=Z,0.0nm,0.6s								
KHGB	**Koh Gabri**	**4.62**	**63**	*e*Pn		**Pn**	**Pn**	**01 43 33.2**	**+0.6**
KHGB				IAMB	IAmb			01 43 55.9	
	comp=Z,0.0nm,0.5s								
IBAF	**Bafgh**	**4.65**	**45**	*e*Pn		**Pn**	**Pn**	**01 43 33.7**	**+0.9**
KRBR	**Kerman**	**4.71**	**69**	*e*Pn		**Pn**	**Pn**	**01 43 33.6**	**-0.2**
KRBR	**Kerman**	**4.71**	**69**	*e*Pn		**Pn**	**Pn**	**01 43 33.6**	**-0.2**
TVBK	**TV Kerman**	**4.71**	**69**	*e*Pn		**Pn**	**Pn**	**01 43 35.7**	**+1.8**
TVBK				IAMB	IAmb			01 43 56.5	
	comp=Z,0.0nm,0.6s								
YZKH	**Yazd**	**4.73**	**31**	*e*Pn		**Pn**	**Pn**	**01 43 35.2**	**+1.3**
YZKH	**Yazd**	**4.73**	**31**	*e*P		**Pn**	**Pn**	**01 43 35.2**	**+1.3**
BANOM	**Banah**	**4.76**	**120**	*i* P		**Pn**	**Pn**	**01 43 34.2**	**0.0**
	SNR=17								
BANOM				S		**Sn**	**Sn**	**01 44 26.1**	**-3.0**
BANOM	**Banah**	**4.76**	**120**	P		**Pn**	**Pn**	**01 43 34.2**	**0.0**
	SNR=17								
BANOM				S		**Sn**	**Sn**	**01 44 27.0**	**-2.1**
NAZ	**Nazwa. Dubai**	**4.88**	**133**	P		**Pn**	**Pn**	**01 43 36.9**	**+1.0**
ASUD	**Al Ashush, Dub**	**4.94**	**138**	*i* P		**Pn**	**Pn**	**01 43 38.1**	**+1.4**
	SNR=15								
ASUD	**Al Ashush, Dub**	**4.94**	**138**	P		**Pn**	**Pn**	**01 43 39.0**	**+2.3**
	SNR=15								
IKLH	**Kolahrood**	**4.94**	**359**	*e*Pn		**Pn**	**Pn**	**01 43 37.2**	**+0.2**
MSFE	**Esma-Masafi**	**4.98**	**126**	P		**Pn**	**Pn**	**01 43 37.6**	**+0.4**
ANAR	**Anarak**	**5.12**	**19**	*e*Pn		**Pn**	**Pn**	**01 43 39.9**	**+0.6**
UOSS	**Minazif**	**5.27**	**129**	*i* P		**Pn**	**Pn**	**01 43 41.8**	**+0.5**
	SNR=12								
HATD	**Hatta, Dubai**	**5.30**	**131**	P		**Pn**	**Pn**	**01 43 42.5**	**+0.8**
KHNJ	**Kahnooj**	**5.32**	**93**	*e*Pn		**Pn**	**Pn**	**01 43 43.7**	**+1.8**
CHMN	**Cheshme madani**	**5.32**	**72**	*e*Pn		**Pn**	**Pn**	**01 43 43.3**	**+1.1**
CHMN				IAMB	IAmb			01 43 46.2	
	comp=Z,0.0nm,0.6s								
ASHO	**Ashiyiah**	**5.35**	**132**	*i* P		**Pn**	**Pn**	**01 43 43.4**	**+1.0**
	SNR=20								
ASHO	**Ashiyiah**	**5.35**	**132**	P		**Pn**	**Pn**	**01 43 44.0**	**+1.6**
	SNR=20								
ASHO				S		**Sn**	**Sn**	**01 44 41.6**	**-2.1**
QAM	**Ghamsar**	**5.39**	**358**	*e*Pn		**Pn**	**Pn**	**01 43 44.2**	**+1.2**
KHMZ	**Khomeyn**	**5.57**	**345**	*e*Pn		**Pn**	**Pn**	**01 43 46.8**	**+1.3**
KHMZ	**Khomeyn**	**5.57**	**345**	*e*Pn		**Pn**	**Pn**	**01 43 46.8**	**+1.3**
IMZR	**Muzera**	**5.57**	**161**	P		**Pn**	**Pn**	**01 43 47.3**	**+1.1**
IKMR	**Kamar-syah**	**5.88**	**332**	*e*Pn		**Pn**	**Pn**	**01 43 50.7**	**+1.1**
BDRS	**Dareh Seyedi**	**6.08**	**337**	*e*Pn		**Pn**	**Pn**	**01 43 53.9**	**+1.3**
IDOB	**Doab**	**6.20**	**332**	*e*Pn		**Pn**	**Pn**	**01 43 55.5**	**+1.3**
TPRV	**Parvadeh(Tabas**	**6.33**	**41**	*e*Pn		**Pn**	**Pn**	**01 43 57.1**	**+1.2**
ASAO	**Ashtian**	**6.33**	**347**	*e*Pn		**Pn**	**Pn**	**01 43 57.5**	**+1.4**
ASAO	**Ashtian**	**6.33**	**347**	*e*Pn		**Pn**	**Pn**	**01 43 57.5**	**+1.4**
TKDS	**Koohdasht(Taba**	**7.00**	**40**	*e*Pn		**Pn**	**Pn**	**01 44 05.7**	**+0.6**
BSY	**Bisya**	**7.47**	**137**	P		**Pn**	**Pn**	**01 44 11.9**	**+0.3**
	SNR=7.7								
BSY				S		**Sn**	**Sn**	**01 45 32.8**	**-3.3**
SMDO	**Samad**	**7.78**	**131**	P		**Pn**	**Pn**	**01 44 16.9**	**+1.0**
	SNR=7.2								
SMDO				S		**Sn**	**Sn**	**01 45 42.2**	**-1.6**
WSAR	**Wadi Sarin**	**8.06**	**128**	P		**Pn**	**Pn**	**01 44 20.1**	**+0.5**
	SNR=16								
WSAR	**Wadi Sarin**	**8.06**	**128**	Pn		**Pn**	**Pn**	**01 44 18.8**	**-0.8**
	comp=Z,2.5nm,0.3s,baz=318,slow=12,SNR=22								
WSAR				Sn		Sn	Sn	01 45 43.6	-6.8
	comp=Z,0.2nm,0.3s,baz=323,slow=19,SNR=2.6								
WBK	**Wadi Bani Khal**	**8.71**	**129**	P		**Pn**	**Pn**	**01 44 28.0**	**-0.5**
	SNR=18								
WHFO	**Wadi Hawf**	**10.56**	**169**	P		**Pn**	**Pn**	**01 44 53.0**	**-1.0**
	SNR=9.9								
WHFO				S		Sn	Sn	01 46 41.7	-10
GEYT	**Alibeck**	**10.95**	**28**	LR		LR	LR	01 50 06.3	
	comp=Z,86nm,19.6s,baz=0.0,slow=42								
DMTO	**DMTO**	**11.01**	**164**	P		**Pn**	**Pn**	**01 44 58.9**	**-1.0**
	SNR=13								
ABTO	**Aybut**	**11.05**	**172**	P		Pn	Pn	01 44 59.0	-1.7
	SNR=15								
ABTO				S		Sn	Sn	01 46 58.3	-5.8
MMAI	**Mount Meron Ar**	**14.77**	**292**	Pn		**Pn**	**Pn**	**01 45 50.3**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=93,slow=12,SNR=2.2								
KBZ	**Khabaz**	**16.89**	**338**	Pn		**Pn**	**Pn**	**01 46 20.0**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=198,slow=19,SNR=3.2								
BRTR	**Keskin Array B**	**18.74**	**312**	P		**P**	**P**	**01 46 41.9**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=136,slow=13,SNR=13								
AKTO	**Aktyubinsk**	**22.56**	**11**	P		**P**	**P**	**01 47 23.4**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=202,slow=12,SNR=8.8								
AAK	**Ala-Archa**	**23.30**	**46**	P		**P**	**P**	**01 47 31.4**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=178,slow=17,SNR=2.1								
AKASG	**Malin Array Be**	**28.05**	**329**	P		**P**	**P**	**01 48 13.7**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=122,slow=6.8,SNR=2.9								
BVAR	**Borovoye Array**	**28.25**	**24**	P		**P**	**P**	**01 48 16.0**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=201,slow=7.7,SNR=4.2								
MKAR	**Makanchi Array**	**30.16**	**44**	P		**P**	**P**	**01 48 32.6**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=242,slow=10,SNR=3.7								
ZALV	**Zalesovo Beam**	**35.17**	**34**	P		**P**	**P**	**01 49 15.2**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=200,slow=7.7,SNR=4.7								
FINES	**FINESS Array B**	**37.23**	**340**	P		**P**	**P**	**01 49 32.9**	**-0.7**
	comp=Z,4.7nm,0.9s,baz=160,slow=6.1,SNR=5.5								
NB2	**NORSAR Subarra**	**42.35**	**332**	P		**P**	**P**	**01 50 15.5**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=123,slow=8.6								
NOA	**NORSAR Array B**	**42.35**	**332**	P		**P**	**P**	**01 50 15.7**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=127,slow=9.2,SNR=4.4								
ARCES	**ARCESS Array B**	**43.91**	**347**	P		**P**	**P**	**01 50 28.7**	**0.0**
	comp=Z,1.0nm,0.6s,baz=137,slow=9.4,SNR=4.2								
SONM	**Songino Array**	**46.18**	**50**	P		**P**	**P**	**01 50 45.8**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=258,slow=7.6,SNR=3.0								
TORD	**Torodi Ar. Bea**	**48.81**	**263**	P		**P**	**P**	**01 51 08.1**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=52,slow=7.3,SNR=4.3								
SCHQ	**Schefferville**	**81.85**	**329**	P		**P**	**P**	**01 54 41.5**	**0.0**
	comp=Z,2.8nm,0.7s,baz=45,slow=1.4,SNR=3.6								
YKA	**Yellowknife Ar**	**88.80**	**354**	P		**P**	**P**	**01 55 16.2**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=6.0,slow=4.3,SNR=5.4								

ISCJB **16** *02:07:08.6±0.6,31.°29S±0.°05×138.°62E±0.°06,h14km, Error ellipse: s-maj=8.1km s-min=6.6km az=38.6*
AUST **16** *02:07:10.8±0.0,31.°51S×138.°68E,h10km,Error ellipse: s-maj=0.1km s-min=0.1km az=283.0*
IDC **16** *02:07:11.7±3.2,30.°96S×138.°85E,h0km,mb1 3.5/4, mb1mx3.4/30,mbtmp3.3/4,ML3.3/4, Error ellipse: s-maj=73.8km s-min=14.2km az=36.0*

ISC 16 02:07:11.0±0.9,31.°40S±0.°06×138.°53E±0.°06,h14km,n12, σ1§96/16,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LCRK	**Leigh Creek**	**0.99**	**344**	P		**P**	**Pg**	**02 07 31.8**	**+1.6**
	baz=1.1,SNR=74								
HTT	**Hallett**	**2.05**	**171**	P		**Pn**	**Pn**	**02 07 44.7**	**-0.4**
	baz=1.9,SNR=43								
BBOO	**Buckleboo**	**2.53**	**236**	P		**Pn**	**Pn**	**02 07 51.9**	**+0.3**
	baz=2.6								
BBOO				S		**Sn**	**Sn**	**02 08 23.5**	**+1.3**
	baz=2.6								
STKA	**Stephens Creek**	**2.66**	**101**	Pn		**Pn**	**Pn**	**02 07 53.7**	**+0.3**
	3.6nm,0.3s,baz=293,slow=12,SNR=16								
STKA				Pg		**Pb**	**Pb**	**02 07 59.0**	**+0.6**
	5.7nm,0.3s,baz=281,slow=15,SNR=26								
STKA				Lg		Lg	Lg	02 08 30.2	
	5.7nm,0.3s,baz=277,slow=17,SNR=4.9								
MULG	**Mulgathing**	**4.00**	**285**	P		**Pn**	**Pn**	**02 08 13.5**	**+1.5**
	baz=4.2								
INKA	**Innaminka**	**4.12**	**28**	P		**Pn**	**Pn**	**02 08 16.1**	**+2.5**
	baz=4.2								
OOD	**Oodnadatta**	**4.36**	**325**	P		**Pn**	**Pn**	**02 08 20.3**	**+3.4**
	baz=4.5								
ARPS	**Mount Arapiles**	**6.02**	**154**	P		**Pn**	**Pn**	**02 08 38.7**	**-0.9**
	baz=5.9								
CMSA	**Cobar Meteorol**	**6.12**	**93**	P		**Pn**	**Pn**	**02 08 40.8**	**-0.3**
	baz=6.0								
ASAR	**Alice Springs**	**8.73**	**331**	Pn		**Pn**	**Pn**	**02 09 16.4**	**-0.5**
	0.3nm,0.3s,baz=154,slow=13,SNR=9.9								
ASAR				Sn		**Sn**	**Sn**	**02 10 53.3**	**-1.9**
	0.5nm,0.3s,baz=154,slow=23,SNR=13								
WRA	**Warramunga Arr**	**12.02**	**341**	Pn		**Pn**	**Pn**	**02 10 01.1**	**-0.9**
	0.3nm,0.3s,baz=151,slow=13,SNR=14								
WRA				Sn		**Sn**	**Sn**	**02 12 11.5**	**-4.4**
	0.1nm,0.3s,baz=157,slow=25,SNR=4.4								
FITZ	**Fitzroy Crossi**	**17.66**	**316**	P		**Pn**	**Pn**	**02 11 16.6**	**0.0**
	0.1nm,0.3s,baz=158,slow=9.7,SNR=3.2								

IDC 16 02:11:49.9±16.0,19.°55S×178.°33W,h578km±155km, mb2.8/4,mb1 3.1/4,mb1mx2.8/31,mbtmp3.7/4,Error ellipse: s-maj=279.6km s-min=61.8km az=142.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.43**	**261**	P		P	P	02 19 10.1	-0.5
	0.8nm,0.5s,baz=97,slow=8.0,SNR=17								
ASAR	**Alice Springs**	**44.44**	**256**	P		P		02 19 10.8	+0.1
	1.0nm,0.5s,baz=88,slow=8.2,SNR=14								
FITZ	**Fitzroy Crossi**	**52.85**	**262**	P		P	P	02 20 12.9	0.0
	0.4nm,0.4s,baz=117,slow=6.8,SNR=4.2								
ILAR	**Eielson Array**	**87.46**	**13**	P		P	P	02 23 36.1	0.0
	0.2nm,0.4s,baz=213,slow=5.0,SNR=5.0								
BRTR	**Keskin Array B**	**145.97**	**313**	PKPbc		PKPbc		02 30 25.0	-0.9
	0.6nm,0.8s,baz=127,slow=2.7,SNR=4.0								

ISCJB **16** *02:35:38.4±0.8, 16.°2N±0.°1×46.°9W±0.°2,h10km,mb3.5/7, MS3.3/10,Error ellipse: s-maj=23.1km s-min=15.8km az=27.3*
IDC **16** *02:35:38.9±0.9, 16.°34N×46.°81W,h0km,mb3.7/7, mb1 4.0/8,mb1mx3.7/37,mbtmp3.8/8,ML3.8/1,MS3.3/12, Ms1 3.3/12,ms1mx3.2/33,Error ellipse: s-maj=26.9km s-min=21.8

ISC 16 03:28:14.1±1.0, 13°32N±0°09×91°73W±0°07, h28km, n16, σ0§98/18, mb3.5/6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERG	**Entre ros, C**	**1.12**	**8**	*eS*	**Sn**	**03 28 47.2**	**-1.3**
STG3	**Santiaguito 3,**	**1.39**	**6**	*eP*	**Pn**	**03 28 36.9**	**-1.0**
FUG	**Fuego 3**	**1.42**	**37**	*eP*	**Pn**	**03 28 38.8**	**+0.7**
FUG				*eS*	**Sb**	**03 28 58.5**	**+0.9**
IXG	**Ixpaco**	**1.51**	**56**	*eP*	**Pn**	**03 28 38.7**	**-0.7**
NBG	**Las Nubes**	**1.84**	**47**	*eP*	**Pn**	**03 28 45.2**	**+1.1**
APG	**El Apazote**	**2.08**	**36**	P	**Pn**	**03 28 48.0**	**+0.7**
	7.4nm,0.3s,baz=149,slow=8.9,SNR=64						
CMIG	**Matias Romero**	**4.83**	**321**	P	**Pn**	**03 29 25.9**	**+0.9**
	0.4nm,0.3s,baz=137,slow=12,SNR=4.3						
CMIG				S	**Sn**	**03 30 20.4**	**+0.4**
	0.7nm,0.3s,baz=36,slow=18,SNR=2.2						
JTS	**Las Juntas de**	**7.28**	**114**	P	**Pn**	**03 30 00.4**	**+1.6**
	0.7nm,0.3s,baz=18,slow=19,SNR=4.9						
TEIG	**Tepich**	**7.62**	**25**	P	**Pn**	**03 30 03.8**	**+0.4**
	3.8nm,0.3s,baz=139,slow=12,SNR=25						
TXAR	**Lajitas Array**	**19.41**	**327**	P	**Pn**	**03 32 40.2**	**+0.8**
	0.2nm,0.3s,baz=154,slow=15,SNR=4.3						
TKL	**Tuckaleechee C**	**23.37**	**17**	P	**P**	**03 33 19.6**	**-0.9**
	1.6nm,0.5s,baz=180,slow=9.7,SNR=5.5						
TKL				LR	LR	03 42 16.7	
	comp=Z,33nm,19.7s,baz=1.5,slow=36						
NVAR	**Mina Array Bea**	**34.37**	**322**	P	**P**	**03 35 00.1**	**+1.1**
	0.3nm,0.6s,baz=121,slow=11,SNR=2.7						
SIV	**San Ignacio**	**42.03**	**133**	P	**P**	**03 36 03.4**	**-0.1**
	0.2nm,0.4s,baz=307,slow=10,SNR=3.7						
YKA	**Yellowknife Ar**	**51.75**	**347**	P	**P**	**03 37 18.4**	**-0.4**
	0.6nm,0.6s,baz=150,slow=7.9,SNR=14						
ILAR	**Eielson Array**	**63.57**	**337**	P	**P**	**03 38 41.8**	**-0.1**
	0.2nm,0.7s,baz=101,slow=4.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**90.28**	**77**	P	**P**	**03 41 11.9**	**-1.2**
	0.4nm,0.8s,baz=270,slow=4.3,SNR=3.3						

*IDC **16** 03:42:43.3±27.0, 34°48N×72°82E, h228km±114km, mb2.8/2, mb1 2.9/3, mb1mx2.6/38, mbtmp3.4/3, Error ellipse: s-maj=630.6km s-min=44.5km az=142.0*

*NNC **16** 03:42:55.6±8.3, 36°90N×70°72E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=64.8km s-min=57.3km az=162.0*

ISC 16 03:42:49.1±1.9, 36°1N±0°2×71°1E±0°2, h200km, n6, σ1§86/8, 1C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.99**	**357**	⇑Pn	**Pn**	**03 44 30.1**	**+1.0**
	3.1nm,0.8s,baz=170,slow=12,SNR=16						
KK31				⇓Sn	Sn	03 45 39.8	-8.7
	1.5nm,0.5s,baz=179,slow=20,SNR=6.3						
AAK	**Ala-Archa**	**7.02**	**21**	⇓Pn	**Pn**	**03 44 31.3**	**+1.7**
	2.8nm,0.5s						
AAK				⇓Sn	**Sn**	**03 45 46.7**	**-2.8**
	5.8nm,1.0s						
TKM2	**Tokmak 2**	**7.63**	**26**	⇓Pn	**Pn**	**03 44 38.8**	**+1.2**
	1.6nm,0.7s						
TKM2				⇓Sn	**Sn**	**03 46 05.6**	**+1.7**
	3.6nm,0.9s						
MKAR	**Makanchi Array**	**13.56**	**35**	P	**P**	**03 45 55.0**	**-0.9**
	0.1nm,0.3s,baz=206,slow=12,SNR=5.2						
TORD	**Torodi Ar. Bea**	**65.78**	**269**	P	**P**	**03 53 13.2**	**+0.2**
	0.3nm,0.6s,baz=56,slow=5.5,SNR=5.3						
YKA	**Yellowknife Ar**	**81.62**	**3**	P	**P**	**03 54 43.5**	**-0.8**
	0.1nm,0.4s,baz=352,slow=5.5,SNR=4.3						

*ISCJB **16** 04:05:27.0±0.7, 16°27N±0°07×94°77W±0°03, h84km±12km, Error ellipse: s-maj=11.1km s-min=5.3km az=2.4*

*NEIC **16** 04:05:28.1±1.6, 16°26N±0°06×94°80W±0°04, h75km±13km*

*MEX **16** 04:05:29.8±0.7, 16°22N×94°79W, h70km±12km, MD4.2*

ISC 16 04:05:27.4±1.2, 16°25N±0°06×94°79W±0°03, h81km±15km, n13, σ0§79/25, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.84**	**354**	*i* P	**Pn**	**04 05 45.1**	**+0.4**
CMIG				*eS*	**Sn**	**04 05 57.3**	**-0.3**
CMIG	**Matias Romero**	**0.84**	**354**		**Pn**	**04 05 45.1**	**+0.4**
CMIG					**Sn**	**04 05 57.3**	**-0.3**
HUIG	**Huatulco**	**1.36**	**249**	*i* P	**Pn**	**04 05 50.9**	**-0.1**
HUIG				*eS*	**Sn**	**04 06 08.6**	**-0.2**
HUIG	**Huatulco**	**1.36**	**249**		**Pn**	**04 05 50.9**	**-0.1**
HUIG					**Sn**	**04 06 08.6**	**-0.2**
PCIG		**1.60**	**110**	*eP*	**Pn**	**04 05 54.8**	**+0.7**
PCIG				*eS*	**Sn**	**04 06 14.5**	**+0.1**
PCIG		**1.60**	**110**		**Pn**	**04 05 54.8**	**+0.7**
PCIG					**Sn**	**04 06 14.5**	**+0.1**
VHO	**Vista Hermosa**	**2.04**	**294**	*i* P	**Pn**	**04 06 01.5**	**+1.5**
VHO				*i* S	**Sn**	**04 06 25.5**	**+0.7**
CCIG	**Comitan**	**2.55**	**89**	*eP*	**Pn**	**04 06 07.5**	**+0.7**
CCIG				*eS*	**Sn**	**04 06 36.5**	**-0.5**
CCIG	**Comitan**	**2.55**	**89**		**Pn**	**04 06 08.2**	**+1.4**
CCIG					**Sn**	**04 06 36.3**	**-0.8**
PNIG	**Pinotepa**	**3.21**	**273**	*eP*	**Pn**	**04 06 16.7**	**+1.0**
PNIG				*i* S	**Sn**	**04 06 52.7**	**-0.2**
PNIG	**Pinotepa**	**3.21**	**273**		**Pn**	**04 06 16.7**	**+1.0**
PNIG					**Sn**	**04 06 52.7**	**-0.2**
TEIG	**Tepich**	**7.34**	**56**	Pn	**Pn**	**04 07 12.8**	**+0.9**
TEIG				Sn	**Sn**	**04 08 33.0**	**-0.8**
TX31	**Lajitas Ar. Si**	**15.37**	**329**	Pn	**P**	**04 09 01.2**	**-1.5**

*ISCJB **16** 04:11:45.3±0.3, 58°72S±0°04×149°2E±0°1, h10km, mb4.4/12, MS4.8/20, Error ellipse: s-maj=8.1km s-min=5.7km az=22.8*

*BJI **16** 04:11:46.7±0.0, 58°98S×148°53E, h10km, mb5.4/3, mB5.4/1, Ms5.0/2, Ms7 4.8/2*

*NEIC **16** 04:11:46.5±1.9, 58°69S±0°09×149°4E±0°2, h7km±3km, mb4.9/31, Ms_20 5.1/128, Mwb5.5, Mwc5.6(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.23; $M_{\theta\theta}$1.39; $M_{\phi\phi}$-1.16; $M_{r\theta}$-0.02; $M_{\theta\phi}$-2.15; $M_{\phi r}$0.51; Fault plane solution: M_o2.56000×10^{17} NP1: ϕ_s164.24000°, δ86.15000°, λ-11.59000°. NP2: ϕ_s255.03000°, δ78.44000°, λ-176.07000°. Principal axes: T 2.6358, Plg5.0000°, Azm210.0000°; N -0.1683, Plg78.0000°, Azm326.0000°; P -2.4675, Plg11.0000°, Azm119.0000°;*

*IDC **16** 04:11:48.0±0.8, 58°51S×149°09E, h0km, mb4.4/10, mb1 4.5/10, mb1mx4.3/26, mbtmp4.4/10, MS4.8/16, Ms1 4.8/16, ms1mx4.8/18 Error ellipse: s-maj=31.8km s-min=17.4km az=93.0*

*GCMT **16** 04:11:52.5±0.1, 58°77S±0°01×148°79E±0°02, h18km, MW5.6/141, Moment Tensor Solution. s130, c233; s141, c265; Duration: 1§6 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.14±.04; $M_{\theta\theta}$1.88±.04; $M_{\phi\phi}$-1.74±.04; $M_{r\theta}$-0.64±.09; $M_{\theta\phi}$-2.64±.03; $M_{\phi r}$0.04±.09; Best double couple: M_o3.26200×10^{17} NP1: ϕ_s253.00000°, δ87.00000°, λ170.00000°. NP2: ϕ_s343.00000°, δ80.00000°, λ3.00000°. Principal axes: T 3.3690, Plg10.0000°, Azm207.0000°; N -0.2130, Plg79.0000°, Azm56.0000°; P -3.1550, Plg5.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **16** 04:11:52, 58°79S×148°83E, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.16; $M_{\theta\theta}$1.90; $M_{\phi\phi}$-1.75; $M_{r\theta}$-0.48; $M_{\theta\phi}$-2.74; $M_{\phi r}$0.15; Fault plane solution: M_o3.33000×10^{17} NP1: ϕ_s253.00000°, δ86.00000°, λ173.00000°. NP2: ϕ_s343.00000°, δ83.00000°, λ4.00000°. Principal axes: T 3.4380, Plg8.0000°, Azm208.0000°; N -0.2200, Plg82.0000°, Azm42.0000°; P -3.2180, Plg2.0000°, Azm298.0000°;*

ISC 16 04:11:47.8±0.4, 58°67S±0°06×149°40E±0°07, h10km, n236, σ1§91/116, mb4.8/20, MS5.0/141, 13C-5D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**6.73**	**56**	Pn	**Pn**	**04 13 26.4**	**-0.2**
MCQ				Sn	**Sn**	**04 14 37.3**	**-5.9**
TAU	**Tasmania Unive**	**15.83**	**354**		**Pn**	**04 15 31.5**	**+0.9**
TAU				IAmb	IAmb	04 15 40.1	
	comp=Z,113nm,1.1s						
WHZ	**Wether Hill Ro**	**17.02**	**49**		**Pn**	**04 15 46.8**	**+1.1**
WHZ				IAmb	IAmb	04 15 52.3	
	comp=Z,175nm,1.6s						
DCZ	**Deep Cove**	**17.07**	**47**		**Pn**	**04 15 46.8**	**+0.5**
DCZ				IAmb	IAmb	04 15 54.9	
	comp=Z,124nm,1.6s						
MLZ	**Mavora Lakes**	**17.52**	**49**	P	**P**	**04 15 53.6**	**+0.5**
MLZ				IAmb	IAmb	04 16 04.5	
	comp=Z,112nm,1.5s						
CASY	**Casey**	**19.21**	**230**	P	**P**	**04 16 09.3**	**-2.2**
VNDA	**Vanda**	**19.41**	**172**	P	**P**	**04 16 11.7**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=339,slow=11,SNR=30						
VNDA				S	Sn	04 19 35.7	-16
	comp=Z,0.1nm,0.3s,baz=240,slow=18,SNR=2.6						
VNDA				LR	LR	04 22 33.9	
	comp=Z,5μm,20.3s,baz=346,slow=33						
VNDA	**Vanda**	**19.41**	**172**	P	**P**	**04 16 11.2**	**-2.4**
VNDA				IAmb	IAmb	04 16 15.8	
	comp=Z,96nm,1.2s						
RPZ	**Rata Peaks**	**20.07**	**51**	LR	LR	04 22 53.6	
	comp=Z,6μm,19.2s,baz=202,slow=33						
RPZ	**Rata Peaks**	**20.07**	**51**	IAMs_20	IAMs_20	04 22 41.9	
	comp=Z,7μm,18.0s						
SBA	**Scott Base**	**20.13**	**169**	P	**P**	**04 16 20.2**	**-1.2**
SBA				IAmb	IAmb	04 16 27.3	
	comp=Z,104nm,1.4s						
SBA				IAMs_20	IAMs_20	04 22 29.8	
	comp=Z,3μm,22.0s						
MQZ	**McQueen's Vall**	**20.74**	**54**	IAMs_20	IAMs_20	04 22 36.8	
	comp=Z,6μm,21.0s						
OXZ	**Oxford**	**20.79**	**52**	P	**P**	**04 16 29.9**	**+1.0**
OXZ				IAmb	IAmb	04 16 56.3	
	comp=Z,116nm,1.9s						
OXZ				IAMs_20	IAMs_20	04 23 07.1	
	comp=Z,5μm,19.0s						
CRLZ	**Canterbury Las**	**20.83**	**54**	IAMs_20	IAMs_20	04 22 38.2	
	comp=Z,6μm,19.0s						
TOO	**Toolangi**	**21.27**	**351**	P	**P**	**04 16 33.7**	**-0.4**
TOO				IAmb	IAmb	04 16 44.5	
	comp=Z,66nm,1.2s						
TOO				IAMs_20	IAMs_20	04 22 55.6	
	comp=Z,3μm,19.0s						
LTZ	**Lake Taylor**	**21.34**	**52**	P	**P**	**04 16 34.8**	**0.0**
LTZ				IAmb	IAmb	04 16 44.6	
	comp=Z,59nm,1.3s						
LTZ				IAMs_20	IAMs_20	04 23 40.5	
	comp=Z,5μm,18.0s						
KHZ	**Kahutara**	**22.16**	**53**	P	**P**	**04 16 44.2**	**+0.6**
KHZ				IAmb	IAmb	04 16 56.7	
	comp=Z,84nm,1.6s						
KHZ				IAMs_20	IAMs_20	04 23 48.5	
	comp=Z,8μm,20.0s						
THZ	**Tophouse**	**22.45**	**51**	P	**P**	**04 16 45.1**	**-1.6**
THZ				IAmb	IAmb	04 17 18.2	
	comp=Z,100nm,1.7s						
THZ				IAMs_20	IAMs_20	04 23 32.8	
	comp=Z,8μm,22.0s						
QRZ	**Quartz Range**	**23.08**	**49**	P	**P**	**04 16 52.8**	**-0.6**
QRZ				IAMs_20	IAMs_20	04 24 08.7	
	comp=Z,6μm,21.0s						
NNZ	**Nelson**	**23.10**	**51**	IAMs_20	IAMs_20	04 24 03.1	
	comp=Z,7μm,21.0s						
CAN	**Canberra**	**23.36**	**359**	P	**P**	**04 16 55.8**	**-0.4**
CAN				IAMs_20	IAMs_20	04 23 44.9	
	comp=Z,5μm,19.0s						
BHW	**Baring Head**	**23.56**	**54**	P	**P**	**04 16 56.7**	**-1.4**
SNZO	**South Karori**	**23.57**	**54**	IAMs_20	IAMs_20	04 24 52.7	
	comp=Z,8μm,19.0s						
BFZ	**Birch Farm**	**24.74**	**55**	IAMs_20	IAMs_20	04 25 17.9	
	comp=Z,4μm,21.0s						
HIZ	**Hauiti**	**25.99**	**50**	IAMs_20	IAMs_20	04 26 12.6	
	comp=Z,3μm,19.0s						
BKZ	**Black Stump Fm**	**26.11**	**54**	IAMs_20	IAMs_20	04 26 44.7	
	comp=Z,4μm,20.0s						
URZ	**Urewera**	**27.13**	**53**	P	**P**	**04 17 31.3**	**+0.5**
	comp=Z,12nm,1.1s,baz=228,slow=14,SNR=2.4						
URZ				LR	LR	04 27 41.5	
	comp=Z,4μm,18.6s,baz=214,slow=35						
URZ	**Urewera**	**27.13**	**53**	IAMs_20	IAMs_20	04 27 30.8	
	comp=Z,4μm,19.0s						
STKA	**Stephens Creek**	**27.31**	**345**	P	**P**	**04 17 32.0**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=133,slow=13,SNR=4.9						
STKA				LR	LR	04 26 20.1	
	comp=Z,2μm,18.1s,baz=177,slow=32						
STKA	**Stephens Creek**	**27.31**	**345**	P	**P**	**04 17 32.0**	**-0.5**
STKA				IAMs_20	IAMs_20	04 25 37.0	
	comp=Z,326nm,18.0s						
BBOO	**Buckleboo**	**27.38**	**335**	P	**P**	**04 17 32.1**	**-0.9**
BBOO				IAMs_20	IAMs_20	04 25 45.7	
	comp=Z,2μm,20.0s						
LHI	**Lord Howe Isla**	**27.93**	**18**	IAMs_20	IAMs_20	04 25 39.1	
	comp=Z,4μm,21.0s						
MXZ	**Matakaoa Point**	**28.23**	**54**	IAMs_20	IAMs_20	04 28 04.4	
	comp=Z,3μm,22.0s						
ARMA	**Armidale**	**28.29**	**4**	IAMs_20	IAMs_20	04 26 30.0	
	comp=Z,3μm,20.0s						
OUZ	**Omahuta**	**28.39**	**45**	IAMs_20	IAMs_20	04 26 23.8	
	comp=Z,3μm,20.0s						
QSPA	**South Pole Qui**	**31.43**	**180**	P	**P**	**04 18 09.1**	**+0.2**
	comp=Z,16nm,0.9s,baz=357,slow=4.4,SNR=34						
QSPA	**South Pole Qui**	**31.43**	**180**	P	**P**	**04 18 08.4**	**-0.5**
QSPA				IAmb	IAmb	04 18 53.9	
	comp=Z,23nm,1.0s						
QSPA	**South Pole Qui**	**31.43**	**180**	IAMs_20	IAMs_20	04 30 11.9	
	comp=Z,4μm,20.0s						
FORT	**Forrest**	**31.46**	**323**	P	**P**	**04 18 08.2**	**-1.0**
FORT				IAMs_20	IAMs_20	04 27 59.0	
	comp=Z,2μm,18.0s						
H01W1	**Cape Leeuwin H**	**33.25**	**300**	T	T	04 53 48.1	
	baz=146,slow=75,SNR=371						
H01W2	**Cape Leeuwin H**	**33.25**	**300**	T	T	04 53 17.2	
	baz=146,slow=75,SNR=402						
H01W3	**Cape Leeuwin H**	**33.26**	**300**	T	T	04 53 37.5	
	baz=146,slow=75,SNR=375						
EIDS	**Eidsvold**	**33.30**	**3**	P	**P**	**04 18 25.1**	**-0.3**
EIDS				IAMs_20	IAMs_20	04 29 45.6	
	comp=Z,3μm,19.0s						
NWAO	**Narrogin (SRO)**	**33.56**	**306**	IAMs_20	IAMs_20	04 28 25.2	
	comp=Z,2μm,20.0s						
ASAR	**Alice Springs**	**36.68**	**336**	P	**P**	**04 18 53.8**	**-0.9**
	comp=Z,3.4nm,0.7s,baz=170,slow=9.8,SNR=20						
ASAR				LR	LR	04 31 52.2	
	comp=Z,608nm,21.2s,baz=170,slow=33						
AS31	**Alice Springs**	**36.68**	**336**	P	**P**	**04 18 54.0**	**-0.6**
AS31				PP	**PnPn**	**04 20 11.0**	**-6.9**
AS31				IAMs_20	IAMs_20	04 30 43.0	
	comp=Z,17nm,19.0s						
MAW	**Mawson**	**36.90**	**220**	P	**P**	**04 18 56.6**	**+0.6**
	comp=Z,16nm,1.1s,baz=120,slow=9.2,SNR=13						
MAW				LR	LR	04 34 01.1	
	comp=Z,5μm,18.0s,baz=104,slow=36						
MAW	**Mawson**	**36.90**	**220**	P	**P**	**04 18 55.2**	**-0.8**
MAW				IAMs_20	IAMs_20	04 33 58.8	
	comp=Z,1μm,18.0s						
RAO	**Raoul Island**	**36.98**	**52**	IAMs_20	IAMs_20	04 32 06.7	
	comp=Z,3μm,20.0s						
MORW	**Morawa**	**37.42**	**308**	IAMs_20	IAMs_20	04 31 07.3	
	comp=Z,2μm,20.0s						
DZM	**Mont Dzumac**	**38.56**	**26**	*eS*	**S**	**04 25 07.3**	**+0.8**
	comp=Z,1μm,26.1s						
DZM	**Mont Dzumac**	**38.56**	**26**	LR	LR	04 31 26.7	
	comp=Z,3μm,21.7s,baz=206,slow=31						
DZM	**Mont Dzumac**	**38.56**	**26**	P	**P**	**04 19 11.6**	**+1.0**
DZM				IAmb	IAmb	04 19 23.7	
	comp=Z,32nm,1.4s						
DZM				IAMs_20	IAMs_20	04 31 15.1	
	comp=Z,3μm,20.0s						
CTA	**Charters Tower**	**38.60**	**355**	P	**P**	**04 19 11.7**	**+0.8**
	comp=Z,5.7nm,0.8s,baz=174,slow=11,SNR=4.4						
CTAO	**Charters Tower**	**38.60**	**355**	IAMs_20	IAMs_20	04 33 03.2	
	comp=Z,3μm,19.0s						
WRA	**Warramunga Arr**	**40.20**	**338**	P	**P**	**04 19 22.6**	**-1.7**
	comp=Z,2.5nm,0.6s,baz=167,slow=7.6,SNR=16						
WRA				LR	LR	04 33 51.9	
	comp=Z,1μm,21.6s,baz=165,slow=33						
WRAB	**Tennant Creek**	**40.21**	**338**	P	**P**	**04 19 22.3**	**-2.0**
PSAD2	**Pilbara Seismi**	**42.63**	**318**	P	**P**	**04 19 41.5**	**-2.7**
PSAD2				IAmb	IAmb	04 20 06.4	
	comp=Z,26nm,1.1s						
PSAD3	**Pilbara Seismi**	**42.67**	**317**	IAMs_20	IAMs_20	04 34 09.0	
	comp=Z,3μm,22.0s						
PSAC3	**Pilbara Seismi**	**42.67**	**317**	IAMs_20	IAMs_20	04 34 20.1	
	comp=Z,3μm,22.0s						
PSAC2	**Pilbara Seismi**	**42.70**	**317**	IAMs_20	IAMs_20	04 34 39.9	
	comp=Z,3μm,20.0s						
PSA00	**Pilbara Seismi**	**42.71**	**317**	P	**P**	**04 19 44.0**	**-0.8**
PSA00				IAmb	IAmb	04 19 54.8	
	comp=Z,33nm,1.1s						
PSAA2	**Pilbara Seismi**	**42.72**	**317**	IAMs_20	IAMs_20	04 34 00.3	
	comp=Z,3μm,22.0s						
PSAB2	**Pilbara Seismi**	**42.72**	**317**	IAMs_20	IAMs_20	04 34 01.4	
	comp=Z,3μm,21.0s						
PSAB1	**Pilbara Seismi**	**42.73**	**317**	IAMs_20	IAMs_20	04 34 31.4	
	comp=Z,2μm,20.0s						
PSAC1	**Pilbara Seismi**	**42.76**	**317**	IAMs_20	IAMs_20	04 34 12.4	
	comp=Z,3μm,22.0s						
SYO	**Syowa Base**	**42.98**	**210**	⇓*eP*	**P**	**04 19 44.6**	**-1.9**
SYO	**Syowa Base**	**42.98**	**210**	⇓*eP*	**P**	**04 19 47.6**	**+1.1**
SYO	**Syowa Base**	**42.98**	**210**	⇓*eP*	**P**	**04 19 44.6**	**-1.9**
SYO	**Syowa Base**	**42.98**	**210**	⇓*es*P	sP	04 19 49.4	-0.2
MBWA	**Marble Bar**	**43.13**	**317**	IAMs_20	IAMs_20	04 34 34.3	
	comp=Z,2μm,21.0s						
GIRL	**Giralia**	**43.86**	**310**	IAMs_20	IAMs_20	04 34 52.1	
	comp=Z,2μm,20.0s						
FITZ	**Fitzroy Crossi**	**44.10**	**327**	P	**P**	**04 19 57.5**	**+1.5**
	comp=Z,8.0nm,1.0s,baz=181,slow=10,SNR=8.5						
FITZ	**Fitzroy Crossi**	**44.10**	**327**	P	**P**	**04 19 52.5**	**-3.5**
FITZ				IAmb	IAmb	04 20 18.5	
	comp=Z,23nm,1.4s						
FITZ				IAMs_20	IAMs_20	04 36 16.0	
	comp=Z,1μm,18.0s						
COEN	**Coen**	**44.87**	**351**	P	**P**	**04 20 01.2**	**-1.0**
COEN				IAmb	IAmb	04 20 25.1	
	comp=Z,20nm,1.1s						
COEN				IAMs_20	IAMs_20	04 37 15.9	
	comp=Z,4μm,18.0s						
KNRA	**Kununurra**	**45.57**	**332**	IAMs_20	IAMs_20	04 36 54.4	
	comp=Z,3μm,21.0s						
MSVF	**Nonsavu**	**45.96**	**39**	IAMs_20	IAMs_20	04 35 03.7	
	comp=Z,3μm,20.0s						
MTN	**Manton Dam**	**47.76**	**336**	P	**P**	**04 20 22.1**	**-2.8**
MTN				IAMs_20	IAMs_20	04 39 59.5	
	comp=Z,1μm,18.0s						
SNAA	**Sanae**	**48.51**	**191**	P	**P**	**04 20 29.4**	**-0.7**
SNAA	**Sanae**	**48.51**	**191**	P	**P**	**04 20 29.1**	**-1.0**
SNAA				IAMs_20	IAMs_20	04 40 37.8	
	comp=Z,2μm,19.0s						
PMG	**Port Moresby**	**49.18**	**357**	IAMs_20	IAMs_20	04 37 56.8	
	comp=Z,2μm,21.0s						
VNA3	**Neumayer Olymp**	**49.54**	**189**	P	**P**	**04 20 36.7**	**-1.4**
VNA2	**Neumayer--Watz**	**49.66**	**190**	P	**P**	**04 20 37.8**	**-1.1**
	baz=156,slow=5.7						
HNR	**Honiara**	**49.78**	**14**	IAMs_20	IAMs_20	04 37 33.6	
	comp=Z,2μm,20.0s						
VNA1	**Neumayer--Stat**	**50.00**	**190**	P	**P**	**04 20 41.4**	**0.0**
SOEI	**Soe**	**52.42**	**328**	IAMs_20	IAMs_20	04 39 44.7	
	comp=Z,1μm,21.0s						
SAUI	**Saumlaki**	**52.44**	**337**	IAMs_20	IAMs_20	04 43 53.9	
	comp=Z,2μm,20.0s						
MMRI	**Maumere**	**54.06**	**326**	IAMs_20	IAMs_20	04 42 58.1	
	comp=Z,1μm,20.0s						
CRZF	**Crozet Islands**	**55.37**	**236**	IAMs_20	IAMs_20	04 41 58.0	
	comp=Z,1μm,19.0s						
TBI	**Tubuai**	**55.40**	**78**	*eS*	**S**	**04 29 10.6**	**+4.2**
	comp=Z,818nm,28.8s						
TBI				*eLQ*	LQ	04 34 42.3	
	comp=Z,1μm,25.0s						
TBI				*eLR*	LR	04 37 32.2	
	comp=Z,1μm,27.2s,baz=209						
TBI	**Tubuai**	**55.40**	**78**	*eT*	T	05 21 02.9	
	comp=Z,3.6nm,0.3s						
JAGI	**Jajag, Banyuwa**	**56.85**	**317**	IAMs_20	IAMs_20	04 39 17.6	
	comp=Z,526nm,20.0s						
FAKI	**Fak Fak**	**57.20**	**339**	IAMs_20	IAMs_20	04 48 53.0	
	comp=Z,977nm,20.0s						
KAPI	**Kappang**	**58.24**	**325**	IAMs_20	IAMs_20	04 43 50.6	
	comp=Z,1μm,22.0s						
CISI	**Cisompet, Garu**	**60.08**	**311**	IAMs_20	IAMs_20	04 43 31.7	
	comp=Z,724nm,22.0s						
PPT2	**Papeete2**	**60.16**	**74**	*eS*	**S**	**04 30 09.0**	**-0.1**
	comp=Z,945nm,32.0s						
PPT2				*eLQ*	LQ	04 37 11.9	
	comp=Z,1μm,24.8s						
PPT2				*eLR*	LR	04 39 42.1	
	comp=Z,1μm,24.2s,baz=208						
PPT	**Papeete**	**60.18**	**74**	LR	LR	04 41 25.8	
	comp=Z,417nm,21.5s,baz=206,slow=30						
COCO	**West Island**	**60.70**	**297**	IAMs_20	IAMs_20	04 48 23.6	
	comp=Z,0.4nm,19.0s						
PMBI	**Palembang**	**65.50**	**310**	IAMs_20	IAMs_20	04 46 29.9	
	comp=Z,885nm,21.0s						
KSM	**Kuching**	**67.44**	**317**	IAMs_20	IAMs_20	04 48 34.4	
	comp=Z,425nm,20.0s						
KKM	**Kota Kinabalu**	**69.77**	**325**	IAMs_20	IAMs_20	04 52 01.4	
	comp=Z,717nm,21.0s						
BKNI	**Bangkinang**	**69.98**	**307**	IAMs_20	IAMs_20	04 48 26.0	
	comp=Z,563nm,21.0s						
MYKOM	**Kota Tinggi**	**70.17**	**311**	IAMs_20	IAMs_20	04 49 39.3	
	comp=Z,601nm,19.0s						
TAOE	**Nuku Hiva Isla**	**72.35**	**78**	*e*LR	LR	04 45 20.9	
	comp=Z,726nm,23.4s						
RPSI	**Rantau Prapat**	**73.00**	**306**	IAMs_20	IAMs_20	04 51 11.1	
	comp=Z,733nm,20.0s			

LZH			PP	PP	04 29 56.3	+4.6
LZH			LR	LR		
	comp=Z,110nm,17.4s					
LZH			LR	LR		
	comp=Z,120nm,17.3s					
LZH			LR	LR		
	comp=Z,160nm,19.7s					
BJT	**Baijiatuau**	**102.15 334**	IAMs_20	IAMs_20	05 11 17.5	
	comp=Z,2µm,18.0s					
SOCY	**Socotra**	**103.12 272**	IAMs_20	IAMs_20	05 01 16.7	
	comp=Z,565nm,22.0s					
USA0B	**Ussuriysk Arra**	**103.52 347**	IAMs_20	IAMs_20	05 17 10.0	
	comp=Z,806nm,18.0s					
MDJ	**Mudanjiang**	**104.22 346**	IAMs_20	IAMs_20	05 17 55.5	
	comp=Z,2µm,18.0s					
DAMY	**Dhamar**	**110.13 265**	IAMs_20	IAMs_20	05 06 55.0	
	comp=Z,387nm,19.0s					
HIA	**Hailar**	**110.29 340**	IAMs_20	IAMs_20	05 17 18.5	
	comp=Z,4µm,19.0s					
NIL	**Nilore**	**111.46 300**	IAMs_20	IAMs_20	05 24 33.7	
	comp=Z,930nm,20.0s					
ULN	**Ulaanbaatar**	**111.74 331**	IAMs_20	IAMs_20	05 15 55.0	
	comp=Z,2µm,19.0s					
KBL	**Kabul**	**114.14 297**	IAMs_20	IAMs_20	05 27 24.7	
	comp=Z,694nm,21.0s					
WMQ	**Urumqi**	**114.14 316**	*e*PKP	**PKiKP**	**04 30 27.5**	**+1.1**
WMQ	**Urumqi**	**114.14 316**	IAMs_20	IAMs_20	05 17 27.0	
	comp=Z,2µm,19.0s					
KSH	**Kashi**	**115.16 305**	PKP	**PKiKP**	**04 30 30.1**	**+1.6**
KSH			SKS	**SKSdf**	**04 37 41.6**	**+1.2**
TLY	**Talaya**	**116.12 330**	IAMs_20	IAMs_20	05 12 57.9	
	comp=Z,281nm,18.0s					
ROSC	**El Rosal**	**116.60 130**	IAMs_20	IAMs_20	05 03 31.4	
	comp=Z,92nm,18.0s					
CHGR	**Chuyangaron**	**117.46 300**	IAMs_20	IAMs_20	05 28 14.6	
	comp=Z,2µm,21.0s					
FRU1	**Bishkek**	**118.44 306**	IAMs_20	IAMs_20	05 24 04.8	
	comp=Z,1µm,20.0s					
ESTN	**Estel**	**118.58 113**	IAMs_20	IAMs_20	05 11 25.9	
	comp=Z,466nm,20.0s					
MKAR	**Makanchi Array**	**118.68 314**	PKP	**PKiKP**	**04 30 36.3**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=168,slow=1.9,SNR=3.2					
ESPN	**Las Esperanzas**	**118.78 116**	IAMs_20	IAMs_20	05 09 55.9	
	comp=Z,400nm,19.0s					
MAKZ	**Makanchi**	**118.81 314**	IAMs_20	IAMs_20	05 21 57.6	
	comp=Z,1µm,19.0s					
113A	**Mohawk Valley,**	**120.77 77**	IAMs_20	IAMs_20	05 12 44.5	
	comp=Z,660nm,21.0s					
DAC	**Darwin (Calif)**	**121.63 71**	IAMs_20	IAMs_20	05 14 45.0	
	comp=Z,839nm,21.0s					
SDV	**Santo Domingo**	**121.75 132**	IAMs_20	IAMs_20	05 14 25.3	
	comp=Z,845nm,20.0s					
KURK	**Kurchatov**	**123.28 314**	IAMs_20	IAMs_20	05 19 59.1	
	comp=Z,183nm,18.0s					
ZAA0	**Zalesovo Array**	**123.72 320**	IAMs_20	IAMs_20	05 24 21.7	
	comp=Z,473nm,18.0s					
R11A	**Troy Canyon, C**	**124.24 71**	IAMs_20	IAMs_20	05 19 22.3	
	comp=Z,565nm,19.0s					
BMN	**Battle Mountai**	**125.05 69**	IAMs_20	IAMs_20	05 19 52.5	
	comp=Z,499nm,22.0s					
GAMB	**Gambell**	**125.67 20**	IAMs_20	IAMs_20	05 11 20.7	
	comp=Z,254nm,18.0s					
PV18	**Skein Mesa, Pa**	**127.52 76**	IAMs_20	IAMs_20	05 15 16.6	
	comp=Z,778nm,18.0s					
PV02	**Paradox Valley**	**127.57 77**	IAMs_20	IAMs_20	05 09 50.6	
	comp=Z,2µm,22.0s					
TORD	**Torodi Ar. Bea**	**128.53 222**	PKP	**PKiKP**	**04 30 57.6**	**+2.2**
	comp=Z,0.6nm,0.9s,baz=128,slow=3.0,SNR=3.2					
TOA1	**Torodi Ar. Sit**	**128.54 222**	IAMs_20	IAMs_20	05 11 06.5	
	comp=Z,8µm,22.0s					
TOB1	**Torodi Ar. Sit**	**128.55 222**	IAMs_20	IAMs_20	05 12 32.7	
	comp=Z,24nm,18.0s					
TRF	**Thorofare Moun**	**130.19 31**	IAMs_20	IAMs_20	05 15 19.0	
	comp=Z,1µm,21.0s					
VRDI	**Verde Repeater**	**130.39 36**	IAMs_20	IAMs_20	05 13 00.7	
	comp=Z,642nm,18.0s					
SDD	**Santo Domingo**	**130.70 128**	IAMs_20	IAMs_20	05 38 13.9	
	comp=Z,1µm,18.0s					
TIXI	**Tiksi**	**130.82 352**	IAMs_20	IAMs_20	05 31 43.1	
	comp=Z,1µm,20.0s					
DLMT	**Dillon**	**130.99 68**	IAMs_20	IAMs_20	05 37 20.7	
	comp=Z,644nm,20.0s					
ILAR	**Eielson Array**	**132.16 31**	PKP	**PKiKP**	**04 31 01.8**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=264,slow=1.7,SNR=3.0					
SEUS	**St. Eustatius**	**132.52 136**	IAMs_20	IAMs_20	05 26 19.4	
	comp=Z,967nm,21.0s					
SABA	**Saba**	**132.54 136**	IAMs_20	IAMs_20	05 24 14.0	
	comp=Z,1µm,19.0s					
SMRT	**St. Maarten**	**133.00 136**	IAMs_20	IAMs_20	05 34 41.1	
	comp=Z,881nm,21.0s					
KIV	**Kislovodsk**	**134.29 285**	IAMs_20	IAMs_20	05 13 27.9	
	comp=Z,138nm,18.0s					
BRTR	**Keskin Array B**	**135.88 274**	PKP	**PKiKP**	**04 31 10.8**	**+1.1**
	comp=Z,1.9nm,1.2s,baz=230,slow=3.1,SNR=3.9					
YKA	**Yellowknife Ar**	**141.30 48**	PKhKP	PKPpre	04 31 14.3	
	comp=Z,0.4nm,0.8s,baz=231,slow=2.7,SNR=6.7					
VRI	**Vrincioaia**	**143.81 275**	⇑P	**PKiKP**	**04 31 23.8**	**-1.7**
MLR	**Muntele Rosu**	**143.97 274**	⇓P	**PKPdf**	**04 31 22.1**	**-0.5**
MLR	**Muntele Rosu**	**143.97 274**		PKPbc	04 31 21.1	+0.7
RAFF	**Raffo Rosso**	**143.97 254**	IAMs_20	IAMs_20	05 39 51.1	
	comp=Z,516nm,20.0s					
TESR	**Tescani**	**144.28 276**	⇑P	**PKPdf**	**04 31 23.0**	**+0.1**
VOIR		**144.40 273**	⇑P	**PKPdf**	**04 31 23.1**	**-0.1**
SORM	**Soroca**	**144.45 279**	⇑P	**PKPdf**	**04 31 24.6**	**+1.6**
DOPR	**Dopca**	**144.57 274**	⇑P	**PKPdf**	**04 31 24.0**	**+0.6**
CLTB	**Caltabellotta**	**144.82 253**	IAMs_20	IAMs_20	05 20 36.6	
	comp=Z,627nm,19.0s					
ALLY	**Alegheny Colle**	**144.94 97**	IAMs_20	IAMs_20	05 27 29.9	
	comp=Z,3µm,19.0s					
CORL	**Corleone**	**145.02 253**	IAMs_20	IAMs_20	05 16 15.9	
	comp=Z,406nm,21.0s					
KEST	**Kesra**	**145.25 246**	PKPbc	**PKPdf**	**04 31 25.8**	**+0.8**
	comp=Z,12nm,1.1s,baz=143,slow=5.1,SNR=4.3					
KEST	**Kesra**	**145.25 246**		**PKPbc**	**04 31 21.4**	**-3.4**
KEST				**PKPdf**	**04 31 25.5**	**+0.4**
GZR	**Gura Zlata**	**145.55 271**	⇓P	**PKiKP**	**04 31 27.6**	**-1.7**
AKASG	**Malin Array Be**	**145.59 283**	PKPbc	**PKiKP**	**04 31 27.3**	**-1.7**
	comp=Z,3.3nm,0.9s,baz=105,slow=2.1,SNR=12					
BURAR	**Bucovina Array**	**145.74 276**	⇑P	**PKPab**	**04 31 26.9**	**+0.5**
ARCR	**ARCALIA**	**145.85 275**	⇑P	**PKPdf**	**04 31 25.1**	**-0.5**
ACER	**Acerenza**	**145.87 259**	IAMs_20	IAMs_20	05 51 14.3	
	comp=Z,377nm,19.0s					
BZS	**Buzias**	**146.31 271**	⇑P	**PKPab**	**04 31 28.1**	**-0.4**
DRGR		**146.51 273**	⇑P	**PKPdf**	**04 31 24.7**	**-2.1**
SIRR	**Siria**	**146.72 271**	⇑P	**PKPdf**	**04 31 27.8**	**+0.7**
TRPA	**Tarpa**	**147.46 275**	⇑P	**PKiKP**	**04 31 34.7**	**+1.8**
VYHS	**Vyhne**	**149.62 272**	*e*PKP	**PKPab**	**04 31 44.0**	**+2.3**
LANS	**Liptovska Anna**	**149.69 274**	*e*PKP	**PKiKP**	**04 31 37.1**	**-0.5**
LANS			*e*		04 31 46.9	
CASP	**Castiglione de**	**149.92 257**	IAMs_20	IAMs_20	05 35 15.7	
	comp=Z,593nm,21.0s					
OJC	**Ojcow**	**150.16 276**		**PKPdf**	**04 31 32.4**	**-0.1**
SOKA	**Soboth**	**150.45 266**	*i* PKPab	**PKPab**	**04 31 45.2**	**-0.1**
	comp=Z,8.9nm,1.3s					
SUW	**Suwalki**	**150.52 285**		**PKPbc**	**04 31 37.5**	**-0.8**
ARSA	**Arzberg**	**150.56 268**	*i* PKPab	**PKPab**	**04 31 44.6**	**-1.0**
	comp=Z,6.9nm,1.0s					
OBKA	**Obir**	**150.59 266**	*i* pPKiKP	**PKiKP**	**04 31 41.4**	**+1.8**
	comp=Z,14nm,1.2s					
CONA	**Conrad Observa**	**150.82 269**	*i* PKPab	**PKPab**	**04 31 45.3**	**-1.4**
	comp=Z,7.6nm,1.6s					
MORC	**Moravsky Berou**	**151.07 273**	⇑P	**PKiKP**	**04 31 43.7**	**+3.3**
MYKA	**Terra Mystica**	**151.14 265**	*i* PKPab	**PKPab**	**04 31 46.6**	**-1.5**
	comp=Z,5.8nm,1.0s					
TEOL	**Teolo**	**151.31 261**	PKPdf	**PKPdf**	**04 31 32.4**	**-2.1**
TEOL			PKPbc	**PKPbc**	**04 31 40.4**	**-0.2**
KBA	**Koelnbreinsper**	**151.59 265**	*i* pPKiKP	**PKiKP**	**04 31 43.8**	**+2.0**
	comp=Z,9.0nm,1.1s					
MOA	**Molln**	**151.60 267**	*i* pPKiKP	**PKPab**	**04 31 46.0**	**-3.9**
	comp=Z,5.3nm,0.9s					
KRLC	**Kraliky**	**151.65 273**	*e*PKPAB	**PKPab**	**04 31 46.4**	**-3.7**
CTI	**Castel Tesino**	**151.79 262**	PKPdf	**PKPdf**	**04 31 35.0**	**-0.4**
ABTA	**Abfaltersbach**	**151.81 264**	*i* PKPbc	**PKPbc**	**04 31 40.0**	**-1.7**
	comp=Z,6.4nm,0.8s					
TREC	**Trest**	**151.86 271**	*e*PKPAB	**PKiKP**	**04 31 46.0**	**+3.9**
FINES	**FINESS Array B**	**152.34 300**	PKPbc	**PKiKP**	**04 31 44.8**	**+2.2**
	comp=Z,4.7nm,0.8s,baz=72,slow=4.5,SNR=6.1					
GEC2	**GERESS Array S**	**152.52 269**	IAMs_20	IAMs_20	05 54 05.2	
	comp=Z,1µm,18.0s					
GERES	**GERESS Array B**	**152.52 269**	PKPbc	**PKiKP**	**04 31 44.5**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=98,slow=2.0,SNR=5.5					
WTTA	**Wattenberg**	**152.60 264**	*i* PKPbc	**PKPbc**	**04 31 43.1**	**-0.5**
	comp=Z,9.9nm,1.4s					
WATA	**Walderalm**	**152.68 264**	*i* pPKPbc	pPKPbc	04 31 45.8	-0.4
	comp=Z,7.1nm,1.1s					
KHC	**Kasperske Hory**	**152.75 269**	*e*PKPAB	**PKPab**	**04 31 57.8**	**+3.1**
KHC			*ex*	x	04 32 10.0	
SQTA	**Sankt Quirin**	**152.79 264**	*i* pPKPbc	pPKPbc	04 31 46.0	-0.5
	comp=Z,9.3nm,0.8s					
FETA	**Feichten**	**152.91 263**	*i* PKPbc	**PKPbc**	**04 31 42.6**	**-1.7**
	comp=Z,7.3nm,1.1s					
MOTA	**Moosalm**	**152.93 264**	*i* PKiKP	**PKiKP**	**04 31 44.4**	**-0.1**
	comp=Z,6.4nm,0.9s					
RETA	**Reutte**	**153.19 264**	*i* PKPab	**PKPab**	**04 31 54.4**	**-2.3**
	comp=Z,7.8nm,1.2s					
TUE	**Stuetta**	**153.26 261**	IAMs_20	IAMs_20	05 26 33.3	
	comp=Z,825nm,18.0s					
DAVA	**Damuels**	**153.52 262**	*i* PKPab	**PKPab**	**04 31 57.7**	**-0.5**
	comp=Z,8.6nm,1.2s					
CLL	**Collm**	**154.32 273**	*e*(PKPab)	**PKPab**	**04 32 05.0**	**+3.8**
ESDC	**Sonseca Array**	**154.51 234**	PKPbc	**PKiKP**	**04 31 48.3**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=146,slow=1.4,SNR=5.6					
ESDC			PKPab	**PKPab**	**04 32 01.7**	**-0.7**
	comp=Z,2.2nm,0.9s,baz=154,slow=3.4,SNR=7.3					

NDI 16 04:31:36.6±2.6, 26.89N×89.45E, h18km±21km, ML3.5,
India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GTK	**Tadong**	**0.87**	**299**	*e*P		Pb		04 31 53.2	0.0
GTK				*e*S		Sg		04 32 05.1	+0.1
GTK				IAML				04 32 06.8	
	comp=N,1µm,0.3s								
GTK				IAML				04 32 08.1	
	comp=E,2µm,0.5s								
GUWA	**GUWAHATI**	**2.12**	**109**	*e*P		Pn		04 32 12.4	+1.2
GUWA				*e*S		Sn		04 32 38.2	+1.0
GUWA				IAML				04 32 40.4	
	comp=E,719nm,0.2s								
GUWA				IAML				04 32 40.5	
	comp=N,465nm,0.2s								
SHL	**Shillong**	**2.55**	**121**	*e*P		Pn		04 32 17.0	-0.3
SHL				*e*S		Sn		04 32 45.6	-2.4
SHL				IAML				04 32 58.7	
	comp=E,494nm,0.6s								
SHL				IAML				04 32 59.4	
	comp=N,346nm,0.1s								
AZL	**Aizawl**	**4.30**	**136**	*e*P		Pn		04 32 40.9	-0.3
AZL				*e*S		Sn		04 33 26.2	-4.7
AZL				IAML				04 33 29.1	
	comp=N,98nm,0.4s								
AZL				IAML				04 33 29.6	
	comp=E,117nm,0.1s								
KOHI	**KOHIMA**	**4.34**	**105**	*e*P		Pg		04 32 59.0	-0.8
KOHI				*e*S		Sn		04 33 32.5	+0.4
KOHI				*e*S		Sb		04 33 32.9	-12
KOHI				IAML				04 33 37.3	
	comp=N,104nm,0.7s								
KOHI				IAML				04 33 57.9	
	comp=E,160nm,0.3s								
BOK	**Bokaro**	**4.46**	**227**	*e*S		Sn		04 33 31.7	-3.2
SAIH	**SAIHA**	**5.44**	**143**	*e*P		Pn		04 32 56.4	-0.5
SAIH				*e*S		Sn		04 33 57.1	-2.1
SAIH				IAML				04 33 57.7	
	comp=N,36nm,0.1s								
BWNR	**Bhubaneshwar**	**7.37**	**208**	*e*S		Sn		04 34 40.6	-5.9
NGP	**Nagpur**	**11.09**	**241**	*e*S		Sn		04 36 08.4	-10
LATR	**Latur**	**14.58**	**237**	*e*S		S		04 38 05.6	+3.2

ISCJB ***16*** *04:56:12.1±1.0, 18.6N±0.3×68.94W±0.06, h120km±10km, Error ellipse: s-maj=54.3km s-min=7.5km az=6.5*
NEIC ***16*** *04:56:13.5±1.7, 18.1N±0.5×68.98W±0.09, h98km±29km*
RSPR ***16*** *04:56:13.5, 18.50N×68.92W, h118km±2km, MD3.4/4*
ISC 16 04:56:12.1±1.8, 18.3N±0.2×68.98W±0.06, h121km±13km,
n32,σ1§07/41, 16C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.58**	**320**	Pn		Pn		**04 56 33.3**	**+2.5**
PCDR	**Punta Cana, DR**	**0.59**	**73**	⇑*e*P		Pn		**04 56 30.9**	**+0.2**
PCDR	**Punta Cana, DR**	**0.59**	**73**	⇑*e*P		Pn		**04 56 30.9**	**+0.2**
PCDR				*e*S		Sn		**04 56 44.0**	**-0.8**
PCDR	**Punta Cana, DR**	**0.59**	**73**			Pn		**04 56 30.9**	**+0.2**
PCDR	**Punta Cana, DR**	**0.59**	**73**			Sn		**04 56 43.0**	**-1.9**
BANI	**BANI**	**1.31**	**272**	Pn		Pn		**04 56 37.9**	**+0.4**
AGPR	**Aguadilla, PR**	**1.78**	**86**	⇑*e*P		Pn		**04 56 43.4**	**+0.5**
AGPR	**Aguadilla, PR**	**1.78**	**86**	⇑*e*P		Pn		**04 56 43.4**	**+0.5**
AGPR				*e*S		Sn		**04 57 06.1**	**-0.3**
AGPR	**Aguadilla, PR**	**1.78**	**86**			Pn		**04 56 43.7**	**+0.8**
AGPR						Sn		**04 57 03.2**	**-3.2**
LSP	**Las Mesas**	**1.81**	**95**	⇑*e*P		Pn		**04 56 44.0**	**+0.7**
LSP	**Las Mesas**	**1.81**	**95**	⇑*e*P		Pn		**04 56 44.0**	**+0.7**
LSP				*e*S		Sn		**04 57 07.6**	**+0.5**
LSP	**Las Mesas**	**1.81**	**95**			Pn		**04 56 44.0**	**+0.7**
LSP						Sn		**04 57 07.6**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.81**	**100**	⇑*e*P		Pn		**04 56 43.6**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.81**	**100**	⇑*e*P		Pn		**04 56 43.6**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.81**	**100**			Pn		**04 56 43.1**	**-0.1**
MLPR	**Magueyes Islan**	**1.88**	**101**	⇑*e*P		Pn		**04 56 45.2**	**+1.1**
MLPR	**Magueyes Islan**	**1.88**	**101**			Pn		**04 56 44.4**	**+0.3**
AOPR	**Arecibo Observ**	**2.12**	**89**	⇑*e*P		Pn		**04 56 47.7**	**+0.7**
AOPR	**Arecibo Observ**	**2.12**	**89**	⇑*e*P		Pn		**04 56 47.7**	**+0.7**
AOPR				*e*S		Sn		**04 57 13.9**	**+0.1**
AOPR	**Arecibo Observ**	**2.12**	**89**			Pn		**04 56 47.7**	**+0.7**
AOPR	**Arecibo Observ**	**2.12**	**89**			Sn		**04 57 13.2**	**-0.7**
OBIP	**Obispado Ponce**	**2.28**	**97**	⇑*e*P		Pn		**04 56 49.5**	**+0.4**
OBIP	**Obispado Ponce**	**2.28**	**97**	⇑*e*P		Pn		**04 56 49.5**	**+0.4**
OBIP				*e*S		Sn		**04 57 18.2**	**+0.8**
OBIP	**Obispado Ponce**	**2.28**	**97**			Pn		**04 56 49.5**	**+0.4**
OBIP						Sn		**04 57 18.2**	**+0.8**
SDDR	**Presa de Saban**	**2.28**	**287**	Pn		Pn		**04 56 48.6**	**-0.5**
IGPR	**InterUniversit**	**2.76**	**97**	⇑*e*P		Pn		**04 56 56.2**	**+1.0**
PDPR	**Patillas Dam,**	**2.83**	**96**	Pn		Pn		**04 56 56.7**	**+0.5**
HUMP	**Col San Antoni**	**2.98**	**93**	⇑*e*P		Pn		**04 56 59.0**	**+0.9**
HUMP	**Col San Antoni**	**2.98**	**93**	⇑*e*P		Pn		**04 56 59.0**	**+0.9**
HUMP	**Col San Antoni**	**2.98**	**93**			Pn		**04 56 57.9**	**-0.2**
HUMP						Sn		**04 57 30.6**	**-3.1**
STVI	**Saint Thomas**	**3.83**	**89**	*e*S		Sn		**04 57 53.5**	**-0.1**
STVI	**Saint Thomas**	**3.83**	**89**	*e*S		Sn		**04 57 53.5**	**-0.1**

ISCJB ***16*** *04:57:12.0±0.5, 12.87S±0.07×169.48E±0.08, h645km, mb4.0/13, Error ellipse: s-maj=11.8km s-min=5.8km az=142.5*
NEIC ***16*** *04:57:13.9±1.6, 12.9S±0.1×169.5E±0.1, h654km±9km, mb4.6/35*
IDC ***16*** *04:57:16.4±1.6, 13.01S×169.31E, h680km±21km, mb3.3/13, mb1 3.5/14, mb1mx3.2/44, mbtmp4.4/14, Error ellipse: s-maj=14.6km s-min=13.0km az=27.0*
ISC 16 04:57:13.8±0.7, 12.88S±0.09×169.43E±0.09, h645km, n73,
σ1§16/70, mb4.5/28, 1C, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.57**	**197**	P		P		**04 59 30.7**	**+1.3**
	1.8nm,0.3s,baz=283,slow=11,SNR=17								
MSVF	**Nonsavu**	**9.62**	**121**	P		P		**04 59 30.4**	**+0.5**
HNR	**Honiara**	**9.91**	**289**	P		P		**04 59 32.6**	**-0.1**
KRVT	**Keravat (AS076**	**19.18**	**295**	P		P		**05 00 59.1**	**+0.7**
	7.4nm,0.3s,baz=153,slow=9.0,SNR=3.8								
EIDS	**Eidsvold**	**21.29**	**232**	P		P		**05 01 18.0**	**+0.9**
PMG	**Port Moresby**	**22.11**	**277**	P		P		**05 01 25.7**	**+1.1**
	20nm,0.7s,baz=80,slow=8.3,SNR=9.1								
PMG	**Port Moresby**	**22.11**	**277**	P		P		**05 01 25.1**	**+0.5**
OUZ	**Omahuta**	**22.56**	**171**	P		P		**05 01 30.4**	**+2.2**
OUZ						IAmb	IAmb	05 01 31.9	
	comp=Z,21nm,1.2s								
ARMA	**Armidale**	**23.99**	**221**	P		P		**05 01 42.1**	**+1.0**
MKAZ	**Moumakai**	**24.66**	**169**	P		P		**05 01 48.3**	**+1.5**
COEN	**Coen**	**25.55**	**265**	P		P		**05 01 55.9**	**+1.0**
COEN						IAmb	IAmb	05 01 56.4	
	comp=Z,11nm,0.7s								
HAZ	**Te Kaha**	**25.87**	**165**	P		P		**05 01 56.4**	**-1.0**
URZ	**Urewera**	**26.19**	**166**	P		P		**05 01 59.5**	**-0.6**
	comp=Z,7.3nm,0.6s,baz=12,slow=4.9,SNR=8.3								
URZ	**Urewera**	**26.19**	**166**	IAmb		IAmb		05 02 00.5	
	comp=Z,8.6nm,0.6s								
MWZ	**Matawai**	**26.36**	**166**	P		P		**05 02 01.2**	**-0.5**
WTVZ	**West Tongariro**	**26.70**	**169**	P		P		**05 02 05.3**	**+0.6**
TRVZ	**Turoa**	**26.87**	**169**	P		P		**05 02 07.5**	**+1.2**
BKZ	**Black Stump Fm**	**26.92**	**168**	P		P		**05 02 06.0**	**-0.5**
BKZ	**Black Stump Fm**	**26.92**	**168**	P		P		**05 02 06.1**	**-0.5**
NMHZ	**Naumai**	**26.92**	**167**	P		P		**05 02 06.9**	**+0.3**
MOVZ	**Moawhango**	**27.01**	**169**	P		P		**05 02 07.5**	**+0.2**
KWHZ	**Kaweka Forest**	**27.16**	**168**	P		P		**05 02 08.5**	**-0.2**
KRHZ	**Kereru**	**27.36**	**168**	P		P		**05 02 09.7**	**-0.7**
QRZ	**Quartz Range**	**27.97**	**175**	P		P		**05 02 16.9**	**+1.3**
BFZ	**Birch Farm**	**28.34**	**169**	P		P		**05 02 17.5**	**-1.2**
NNZ	**Nelson**	**28.44**	**174**	P		P		**05 02 20.7**	**+1.0**
SNZO	**South Karori**	**28.70**	**172**	P		P		**05 02 21.2**	**-0.6**
TUWZ	**Tuamarina**	**28.72**	**173**	P		P		**05 02 21.9**	**-0.1**
BHW	**Baring Head**	**28.82**	**171**	P		P		**05 02 21.8**	**-1.0**
MSWZ	**Moikau Station**	**28.88**	**171**	P		P		**05 02 22.7**	**-0.8**
THZ	**Tophouse**	**28.93**	**175**	P		P		**05 02 24.5**	**+0.5**
BSWZ	**Blackbirch Sta**	**28.99**	**173**	P		P		**05 02 24.6**	**+0.2**
PLWZ	**Palliser**	**29.03**	**171**	P		P		**05 02 23.8**	**-1.0**
CMWZ	**Cape Campbell**	**29.06**	**173**	P		P		**05 02 25.0**	**0.0**
KHZ	**Kahutara**	**29.64**	**174**	P		P		**05 02 29.1**	**-0.9**
LTZ	**Lake Taylor**	**29.90**	**176**	P		P		**05 02 32.3**	**+0.2**
LTZ				IAml		IAmb		05 02 41.3	
	comp=Z,23nm,1.2s								
OXZ	**Oxford**	**30.42**	**176**	P		P		**05 02 36.7**	**+0.1**
OXZ				IAml		IAmb		05 02 51.0	
	comp=Z,27nm,1.4s								
FOZ	**Fox Glacier**	**30.55**	**179**	P		P		**05 02 38.0**	**+0.4**
RPZ	**Rata Peaks**	**30.76**	**178**	P		P		**05 02 40.2**	**+0.7**
	comp=Z,10nm,0.6s,baz=35,slow=2.1,SNR=6.3								
MQZ	**McQueen's Vall**	**30.84**	**175**	P		P		**05 02 39.9**	**-0.2**
LBZ	**Lake Benmore**	**31.40**	**179**	P		P		**05 02 44.1**	**-0.9**
LBZ				IAmb		IAmb		05 02 47.9	
	comp=Z,20nm,1.3s								
STKA	**Stephens Creek**	**31.78**	**229**	P		P		**05 02 48.8**	**+0.5**
	comp=Z,2.3nm,0.4s,baz=46,slow=8.6,SNR=9.7								
STKA	**Stephens Creek**	**31.78**	**229**	P		P		**05 02 49.2**	**+0.9**
WKZ	**Wanaka**	**31.84**	**181**	P		P		**05 02 48.6**	**0.0**
ODZ	**Otahua Downs**	**32.07**	**178**	P		P		**05 02 49.5**	**-1.0**
ODZ				IAmb		IAmb		05 02 50.2	
	comp=Z,24nm,1.4s								
MLZ	**Mavora Lakes**	**32.40**	**182**	P		P		**05 02 53.0**	**-0.3**
DCZ	**Deep Cove**	**32.53**	**183**	P		P		**05 02 54.3**	**-0.1**
DCZ				IAmb		IAmb		05 02 56.2	
	comp=Z,12nm,0.9s								
TOO	**Toolangi**	**32.58**	**217**	P		P		**05 02 55.8**	**+0.8**
TOO				IAmb		IAmb		05 02 56.6	
	comp=Z,6.4nm,0.7s								
WRA	**Warramunga Arr**	**34.33**	**254**	P		P		**05 03 09.2**	**-0.7**
	comp=Z,10nm,0.5s,baz=84,slow=8.6,SNR=124								
WRA				S		S		**05 07 50.9**	**-3.3**
	comp=Z,2.7nm,0.8s,baz=84,slow=14,SNR=6.6								
AS31	**Alice Springs**	**35.30**	**247**	P		P		**05 03 17.7**	**-0.1**
ASAR	**Alice Springs**	**35.30**	**247**	P		P		**05 03 17.4**	**-0.4**
	comp=Z,13nm,0.5s,baz=74,slow=9.4,SNR=220								
ASAR				S		S		**05 08 05.7**	**-2.9**
	comp=Z,3.3nm,0.8s,baz=74,slow=17,SNR=16								
TAU	**Tasmania Unive**	**35.51**	**208**	P		P		**05 03 18.5**	**-0.6**
TAU				IAmb		IAmb		05 03 31.7	
	comp=Z,37nm,1.3s								
BBOO	**Buckleboo**	**36.36**	**231**	P		P		**05 03 26.8**	**+0.5**
MTN	**Manton Dam**	**37.31**	**266**	IAmb		IAmb		05 03 35.5	
	comp=Z,14nm,

CNCH Conchagua 0.72 110 eP Pn 04 59 38.4 +0.6
UEES Universidad Ev 0.72 285 iP Pn 04 59 38.2 +0.3
UEES Universidad Ev 0.72 285 iP Pn 04 59 38.2 +0.3
BOQS Boqueron 0.76 286 eP Pn 04 59 38.6 +0.4
SNJE San Jose 1.10 288 eP Pn 04 59 41.1 +0.7
SNJE San Jose 1.10 288 eP Pn 04 59 41.1 +0.7
CEVE Cerro Verde 1.11 286 iP Pn 04 59 41.5 +0.9
CEVE Cerro Verde 1.11 286 iP Pn 04 59 41.5 +0.9
SBLS San Blas 1.11 286 eP Pn 04 59 41.2 +0.6
SBLS San Blas 1.11 286 eP Pn 04 59 41.2 +0.6
RTR El Retiro 1.15 289 eP Pn 04 59 41.7 +0.9
RTR El Retiro 1.15 289 eP Pn 04 59 41.7 +0.9
MTO3 Montecristo 1.19 317 iP Pn 04 59 41.9 +0.8
MTO3 Montecristo 1.19 317 iP Pn 04 59 41.9 +0.8
TGUH Tegucigalpa,Un 1.32 66 Pn 04 59 42.3 +0.2
CRIN San Cristobal 1.65 120 eP Pn 04 59 46.3 +1.3
CRIN eS Sn 05 00 12.5 +0.8
MRL Marmol 1.91 324 eP Pn 04 59 49.9 +2.1
MRL Marmol 1.91 324 eP Pn 04 59 49.9 +2.1
IXG Ixpaco 1.97 289 iP Pn 04 59 49.8 +1.5
IXG Ixpaco 1.97 289 iP Pn 04 59 49.8 +1.5
CNGN Cerro Negro 2.05 120 eS Sn 05 00 22.3 +3.4
CNGN IAML 05 00 26.7
comp=N,364nm,0.2s
NBG Las Nubes 2.06 301 eP Pn 04 59 51.8 +2.4
NBG Las Nubes 2.06 301 eP Pn 04 59 51.8 +2.4
ESTN Estel 2.14 101 eS Sn 05 00 21.1 +0.5
ESTN Estel 2.14 101 Pn 04 59 50.7 +0.6
ESTN Sn Sn 05 00 21.1 +0.5
MOMN Momotombo 2.23 120 eP Pn 04 59 51.9 +0.8
APG El Apazote 2.39 308 P Pn 04 59 54.4 +1.5
comp=N,12nm,0.3s,baz=116,slow=6.5,SNR=94
APG S Sn 05 00 27.1 +1.3
comp=N,7.3nm,0.3s,baz=274,slow=19,SNR=13
FUG Fuego 3 2.43 292 eP Pn 04 59 55.5 +2.1
FUG Fuego 3 2.43 292 eP Pn 04 59 55.5 +2.1
MATN Matagalpa 2.60 103 eP Pn 04 59 55.6 +0.4
MATN eS Sn 05 00 29.9 0.0
MGAN Managua 2.61 121 eS Sn 05 00 29.8 -0.2
STG3 Santiaguito 3, 3.18 292 eP Pn 05 00 04.2 +1.9
STG3 eS Sn 05 00 44.4 +1.9
ACON Acoyapa 3.62 115 Pn 05 00 09.5 +2.1
GB1A Borinquen Arri 4.07 131 eP Pn 05 00 16.3 +3.1
GB1A eS Sn 05 00 57.8 -4.3
BUEV Buena Vista 4.08 131 eP Pn 05 00 15.5 +2.2
BUEV eS Sn 05 01 00.7 -1.7
CUI Cuipilapa 4.35 131 eP Pn 05 00 18.7 +2.0
CUI eS Sn 05 01 07.1 -1.3
PLVR Palo Verde 4.43 135 eP Pn 05 00 20.1 +2.3
PLVR eS Sn 05 01 08.5 -2.0
CCIG Comitan 4.44 309 Pn Pn 05 00 20.4 +2.5
JTS Las Juntas de 4.75 132 P Pn 05 00 23.5 +1.8
comp=N,10nm,0.3s,baz=172,slow=22,SNR=105
JTS S Sn 05 01 15.0 -2.6
comp=N,34nm,0.3s,baz=0.0,slow=20,SNR=8.3
JTS Las Juntas de 4.75 132 eP Pn 05 00 23.4 +1.6
JTS eS Sn 05 01 14.9 -2.6
JTS Las Juntas de 4.75 132 Pn 05 00 23.1 +1.4
CEDE Laguna Cedeo 4.80 129 eP Pn 05 00 25.6 +3.1
ARE1 Arenal 1 4.81 129 eP Pn 05 00 25.7 +3.2
ARE1 eS Sn 05 01 20.9 +1.9
LCR2 La Lucha 2 5.81 130 eP Pn 05 00 38.0 +2.4
TEIG Tepich 6.67 2 P Pn 05 00 47.1 +0.6
comp=N,1.6nm,0.3s,baz=318,slow=1.4,SNR=9.8
CMIG Matias Romero 7.09 301 P Pn 05 00 52.7 +0.6
comp=N,0.5nm,0.3s,baz=149,slow=10,SNR=9.9
CMIG S Sn 05 02 05.5 -6.9
comp=N,1.2nm,0.3s,baz=279,slow=19,SNR=6.2
ROSC El Rosal 16.45 120 LR LR 05 10 13.6
comp=N,535nm,21.5s,baz=236,slow=40
656A Willston 16.72 18 P P 05 02 54.0 +0.9
baz=200
553A Crawfordville 17.01 12 P P 05 02 57.2 +0.8
baz=194
451A Vernon 17.20 8 P Pn 05 02 59.7 -0.2
baz=189
BRAL Brewton 17.61 4 P P 05 03 01.5 -1.4
baz=185
453A Whigham 17.68 12 P P 05 03 04.9 +1.2
baz=194,SNR=5.8
833A Chaparral WMA, 17.87 327 P P 05 03 01.7 -4.1
baz=146,SNR=6.9
833A Chaparral WMA, 17.87 327 P P 05 03 06.0 +0.2
833A IAmb IAmb 05 03 08.0
comp=Z,30nm,0.8s
SDV Santo Domingo 18.14 103 P P 05 03 10.0 +0.9
comp=Z,1.5nm,0.3s,baz=313,slow=13,SNR=13
SDV Santo Domingo 18.14 103 P P 05 03 10.0 +0.9
SDV IAmb IAmb 05 03 14.4
comp=Z,14nm,0.8s
352A Blakely 18.17 10 P Pn 05 03 10.8 -0.4
baz=191,SNR=9.7
352A Blakely 18.17 10 P P 05 03 10.5 +1.4
353A Camilla 18.18 12 P Pn 05 03 11.2 0.0
baz=193,SNR=6.1
TIGA Tifton 18.40 13 P Pn 05 03 13.4 -0.5
baz=195,SNR=5.4
TIGA Tifton 18.40 13 P Pn 05 03 13.6 -0.3
250A Grady 18.48 6 P P 05 03 12.7 +0.2
baz=187
356A Blackshear 18.67 17 P P 05 03 13.8 -0.6
baz=199
VBMS Vicksburg 18.70 355 P P 05 03 13.9 -0.9
baz=175,SNR=10
VBMS Vicksburg 18.70 355 P Pn 05 03 17.1 -0.3
252A Lumpkin 18.71 10 P P 05 03 16.7 +1.8
baz=192,SNR=15
253A Americus 18.89 12 P P 05 03 15.7 -1.0
baz=193
254A Abbeville 18.95 14 P P 05 03 18.5 +1.0
baz=196
255A Hazlehurst 19.14 16 P P 05 03 20.7 +1.2
baz=198
256A Glennville 19.35 17 P P 05 03 22.7 +0.9
baz=199
LRAL Lakeview Retre 19.47 4 P P 05 03 24.4 +1.3
baz=185
LRAL Lakeview Retre 19.47 4 P P 05 03 24.6 +1.5
LRAL IAmb IAmb 05 03 27.8
comp=Z,21nm,1.1s
153A Fort Valley 19.51 12 P P 05 03 24.9 +1.4
baz=194
257A Skidaway Islan 19.61 19 P P 05 03 26.2 +1.7
baz=202
154A Montrose 19.64 14 P P 05 03 25.8 +0.9
baz=196,SNR=6.2
154A Montrose 19.64 14 P P 05 03 26.4 +1.6
Z50A Ashland 19.78 6 P P 05 03 27.1 +0.6
baz=188,SNR=7.1
Z50A Ashland 19.78 6 IAmb IAmb 05 03 30.4
comp=Z,29nm,0.9s
155A Kite 19.80 15 P P 05 03 28.0 +1.4
baz=197,SNR=6.9
JCT Junction City 19.82 330 P P 05 03 25.9 -1.1
baz=149
Z52A Williamson 19.93 10 P P 05 03 28.8 +0.8
baz=192
Z51A Franklin 19.94 8 P P 05 03 29.2 +1.1
baz=190
Z41A Richland Creek 20.03 349 P P 05 03 30.0 +1.0
baz=169
156A Sylvania 20.10 17 P P 05 03 30.3 +0.5
baz=200
WHTX Lake Whitney, 20.12 337 P P 05 03 28.3 -1.8
baz=156
WHTX Lake Whitney, 20.12 337 P P 05 03 31.9 +1.8
Z53A Monticello 20.18 12 P P 05 03 31.4 +0.8
baz=194,SNR=8.5
157A Early Branch 20.27 19 P P 05 03 33.6 +2.0
baz=201
Z54A Sparta 20.29 14 P P 05 03 32.5 +0.6
baz=196
GOGA Godfrey 20.32 12 P P 05 03 32.8 +0.6
baz=194,SNR=8.3
GOGA Godfrey 20.32 12 P P 05 03 33.4 +1.2
GOGA IAmb IAmb 05 03 35.3
comp=Z,26nm,0.7s
Y49A Blount Mountai 20.33 5 P P 05 03 32.8 +0.4
baz=186
Z55A Blythe 20.45 15 P P 05 03 35.3 +1.7
baz=198
WLAR White Oak Lake 20.50 349 P P 05 03 37.1 +3.1
WLAR IAmb IAmb 05 03 38.3
comp=Z,40nm,0.9s
Y51A Rockmart 20.53 8 P P 05 03 35.1 +0.7
baz=190,SNR=9.6
Y52A Lilburn 20.65 11 P P 05 03 36.2 +0.5
baz=192,SNR=6.3
Y52A Lilburn 20.65 11 IAmb IAmb 05 03 37.3
comp=Z,23nm,0.8s
Y53A Monroe 20.73 12 P P 05 03 37.4 +0.8
baz=194,SNR=13
Z56A Willison 20.76 17 P P 05 03 38.3 +1.4
baz=200,SNR=14
X48A Hartselle 20.88 3 P P 05 03 38.0 -0.1
baz=184
OXF Oxford 20.91 358 P P 05 03 37.6 -0.8
baz=178
OXF Oxford 20.91 358 IAmb IAmb 05 03 56.8
comp=Z,26nm,1.1s
NHSC New Hope 20.93 20 P P 05 03 40.3 +1.7
baz=203
NHSC New Hope 20.93 20 P P 05 03 40.1 +1.5
Y54A Tignall 20.93 14 P P 05 03 39.2 +0.6
baz=196,SNR=5.7
Z57A Bowman 20.93 19 P P 05 03 40.5 +1.9
baz=201
TXAR Lajitas Array 21.08 321 P P 05 03 41.5 +1.1
comp=Z,5.3nm,0.5s,baz=138,slow=9.6,SNR=102
FPAL Fort Paine 21.09 7 P P 05 03 40.7 +0.3
Y55A Saluda 21.20 15 P P 05 03 42.4 +0.9
baz=198,SNR=6.7
X51A Calhoun 21.21 8 P P 05 03 41.1 -0.5
baz=190
Y56A Pelion 21.22 17 P P 05 03 43.7 +2.0
baz=199
X40A Basin Creek Fa 21.23 350 P P 05 03 42.3 +0.4
baz=170
X40A Basin Creek Fa 21.23 350 IAmb IAmb 05 03 44.5
comp=Z,19nm,1.2s
Z58A St. Stephen 21.26 20 P P 05 03 43.3 +1.2
baz=203
HODGE Hodges 21.38 14 P P 05 03 44.9 +1.5
HODGE IAmb IAmb 05 03 46.0
comp=Z,20nm,0.6s
X52A Dahlonega 21.40 11 P P 05 03 43.8 +0.2
baz=192
X53A Estanollee 21.41 12 P P 05 03 43.8 0.0
baz=194,SNR=6.7
MIAR Mount Ida 21.42 349 P P 05 03 43.4 -0.4
baz=168,SNR=10
MIAR Mount Ida 21.42 349 IAmb IAmb 05 03 46.9
comp=Z,49nm,1.4s
UALR University of 21.44 351 IAmb IAmb 05 03 45.6
comp=Z,19nm,0.6s
W49A Belvidere 21.60 5 P P 05 03 45.3 -0.4
baz=186
X54A Belton 21.66 14 P P 05 03 46.9 +0.6
baz=196,SNR=5.3
JSC Jeninsville 21.69 16 IAmb IAmb 05 03 48.8
comp=Z,18nm,0.7s
Y57A Sumter 21.70 19 P P 05 03 47.7 +1.0
baz=201,SNR=10
X55A Gracelyn & Ava 21.77 16 P P 05 03 48.4 +1.0
baz=198,SNR=8.3
W50A Signal Mountai 21.77 7 P P 05 03 47.1 -0.5
baz=189
W50A Signal Mountai 21.77 7 P P 05 03 47.5 0.0
W51A Cleveland 21.81 8 P P 05 03 47.9 +0.1
baz=190,SNR=7.5
W41B Gary Mavity, V 21.82 352 P P 05 03 48.3 +0.5
baz=171,SNR=7.2
W41B Gary Mavity, V 21.82 352 IAmb IAmb 05 03 49.4
comp=Z,17nm,0.8s
Y58A Scranton 21.83 20 P P 05 03 48.1 +0.1
baz=203
Y58A Scranton 21.83 20 P P 05 03 49.2 +1.2
W52A Murphy 21.87 10 P P 05 03 48.3 -0.2
baz=192
W52A Murphy 21.87 10 IAmb IAmb 05 03 50.8
comp=Z,28nm,1.4s
WHAR Wooly Hollow 21.94 352 IAmb IAmb 05 03 50.5
comp=Z,28nm,0.8s
X56A White Oak 21.95 17 P P 05 03 50.2 +1.0
baz=199,SNR=6.6
BG3 Lake Jocassee 21.96 12 P P 05 03 50.5 +1.2
BG3 IAmb IAmb 05 03 51.3
comp=Z,40nm,1.5s
PAULI Pauline 22.05 15 IAmb IAmb 05 03 51.4
comp=Z,20nm,0.6s
W53A Cullowhee 22.09 12 P P 05 03 50.6 -0.1
baz=194
W39A Magazine 22.09 348 P P 05 03 51.1 +0.6
baz=168,SNR=6.3
CPCT Cooper Cave 22.13 9 P P 05 03 51.3 +0.3
V48A Smith Brothers 22.17 4 P P 05 03 50.7 -0.7
baz=185
Y59A Loris 22.18 22 P P 05 03 51.7 +0.3
baz=205
X57A Johnson Farm, 22.20 19 P P 05 03 51.8 +0.2
baz=202
W54A Cherokee Point 22.22 14 P P 05 03 52.8 +1.0
baz=196,SNR=9.4
BIRD Birdtown, Kers 22.26 18 P P 05 03 52.6 +0.5
V50A Pikevile 22.27 7 P P 05 03 51.8 -0.4
baz=189
V49A McMinnville 22.27 6 P P 05 03 51.6 -0.7
baz=187
Y60A Bolivia 22.43 23 P P 05 03 54.3 +0.5
baz=206
Y60A Bolivia 22.43 23 P P 05 03 54.5 +0.8
TKL Tuckaleechee C 22.45 10 P P 05 03 54.3 +0.4
comp=Z,28nm,0.7s,baz=181,slow=11,SNR=35
TKL Tuckaleechee C 22.45 10 IAmb IAmb 05 03 55.8
comp=Z,33nm,0.9s
KMSC Kings Mountain 22.48 16 P P 05 03 54.6 +0.3
baz=198,SNR=6.0
KMSC Kings Mountain 22.48 16 IAmb IAmb 05 03 55.7
comp=Z,16nm,0.6s
V51A Loudon 22.50 9 P P 05 03 53.8 -0.5
baz=191
WVT Waverly 22.52 1 P P 05 03 54.1 -0.4
baz=182
WVT Waverly 22.52 1 P P 05 03 54.7 +0.2
X58A Rowland 22.53 20 P P 05 03 55.2 +0.5
baz=203,SNR=6.4
V53A Saluda 22.64 12 P P 05 03 56.3 +0.5
baz=194,SNR=8.4
V53A Saluda 22.64 12 IAmb IAmb 05 03 58.7
comp=Z,27nm,0.8s
V52A Sevierville 22.66 10 P P 05 03 56.2 +0.4
baz=192
V52A Sevierville 22.66 10 P P 05 03 56.1 +0.3
V52A IAmb IAmb 05 03 58.4
comp=Z,17nm,0.9s
W56A Indian Trail 22.68 17 P P 05 03 56.2 +0.2
baz=200
W57A Gilead 22.87 18 P P 05 03 58.1 +0.4
baz=201
W57A Gilead 22.87 18 P P 05 03 58.3 +0.6
W57A IAmb IAmb 05 04 12.1
comp=Z,35nm,1.4s
V54A Nebo 22.93 14 P P 05 03 59.1 +0.8
baz=196,SNR=7.4
W58A Raeford 22.99 20 P P 05 03 59.7 +0.9
baz=203,SNR=8.6
U49A Bad Boiling Sp 23.02 6 P P 05 03 58.7 -0.4
baz=187,SNR=6.3
U50A Jamestown 23.03 8 P P 05 03 59.0 -0.2
baz=189,SNR=5.5
X60A Albert Glenn T 23.03 23 P P 05 03 59.1 0.0
baz=206
U40A Yellville 23.07 351 P P 05 03 59.7 +0.3
baz=170,SNR=25
WMOK Wichita Mounta 23.07 338 P P 05 03 59.6 0.0
baz=198,SNR=6.5
U51A La Follette 23.11 9 P P 05 04 00.1 +0.2
baz=191
HHAR Hobbs 23.18 349 IAmb IAmb 05 04 03.2
comp=Z,12nm,0.6s
V55A Taylorsville 23.18 15 P P 05 04 01.2 +0.6
baz=198,SNR=6.5
PBMO Poplar Bluff 23.22 356 IAmb IAmb 05 04 01.8
comp=Z,14nm,0.9s
TUL1 Leonard 23.23 345 P P 05 04 00.0 -0.9
baz=163,SNR=6.0
TUL1 Leonard 23.23 345 IAmb IAmb 05 04 03.6
comp=Z,18nm,0.8s
U52A Thorn Hill 23.24 11 P P 05 04 01.6 +0.5
baz=193
V56A Mocksville 23.34 17 P P 05 04 02.8 +0.9
baz=200,SNR=10
TZTN Tazewell 23.35 10 P P 05 04 01.9 -0.2
baz=192
TZTN Tazewell 23.35 10 P P 05 04 02.5 +0.4
TZTN IAmb IAmb 05 04 04.6
comp=Z,18nm,0.9s
U53A Fall Branch 23.36 12 P P 05 04 02.7 +0.5
baz=195,SNR=5.8
T47A Sharon Grove 23.40 3 P P 05 04 02.2 -0.3
baz=184,SNR=12
W60A Pink Hill 23.55 23 P P 05 04 04.3 +0.4
baz=206
V57A Coltrane Farms 23.62 18 P P 05 04 05.0 +0.5
baz=201
T50A Nancy 23.63 7 P P 05 04 04.2 -0.4
baz=189
T49A Edmonton 23.63 6 P P 05 04 04.2 -0.4
baz=188,SNR=6.0
T49A Edmonton 23.63 6 IAmb IAmb 05 04 05.3
comp=Z,12nm,0.7s
U54A Nelsons Funny 23.68 14 P P 05 04 05.6 +0.5
baz=196,SNR=9.7
T51A Gray 23.70 9 P P 05 04 04.9 -0.4
baz=191
V58A Windy Hill, Pi 23.74 19 P P 05 04 06.2 +0.6
baz=203,SNR=8.4
MGMO Mountain Grove 23.77 353 IAmb IAmb 05 04 08.0
comp=Z,9.9nm,0.8s
MNTX Cornudas Mount 23.80 322 P P 05 04 06.3 0.0
baz=138,SNR=6.4
U55A TA2, Sparta 23.84 15 P P 05 04 07.4 +0.8
baz=198
U56A King 23.87 16 P P 05 04 07.8 +1.0
baz=200
T53A Wise 23.97 12 P P 05 04 08.0 +0.2
baz=194
T52A Hallie 24.00 11 P P 05 04 08.0 0.0
baz=193
V59A Middlesex 24.00 21 P P 05 04 08.2 +0.2
baz=205
S44A Carbondale 24.08 359 P P 05 04 08.4 -0.3
baz=179
MSTX Muleshoe 24.12 330 P P 05 04 09.1 -0.1
baz=146,SNR=9.9
MSTX Muleshoe 24.12 330 IAmb IAmb 05 04 10.6
comp=Z,19nm,0.7s
T54A Tazewell 24.25 14 P P 05 04 10.4 +0.1
baz=196
U57A Blanch 24.25 18 P P 05 04 11.0 +0.8
baz=202
S49A Springfield 24.33 6 P P 05 04 09.8 -1.1
baz=188
S50A Richmond 24.33 8 P P 05 04 10.8 -0.2
baz=190
V60A Jim Taylor Roa 24.36 23 P P 05 04 12.1 +0.9
baz=207
AMTX Amarillo 24.37 333 IAmb IAmb 05 04 13.6
comp=Z,8.6nm,0.6s
S51A Beattyville 24.41 10 P P 05 04 11.1 -0.6
baz=192
U58A Oxford 24.47 20 P P 05 04 12.3 +0.1
baz=204
T55A Pulaski 24.49 15 P P 05 04 13.1 +0.6
baz=198
CCM Cathedral Cave 24.55 355 P P 05 04 12.5 -0.4
baz=175
CCM Cathedral Cave 24.55 355 P P 05 04 12.9 -0.1
CCM IAmb IAmb 05 04 13.5
comp=Z,13nm,0.7s
V61A Roper 24.64 24 P P 05 04 14.3 +0.6
baz=208
V61A Roper 24.64 24 P P 05 04 15.1 +1.3
BLA Blacksburg 24.68 16 P P 05 04 14.2 0.0
baz=199
BLA Blacksburg 24.68 16 P P 05 04 14.8 +0.6
BLA IAmb IAmb 05 04 22.6
comp=Z,37nm,1.4s
WCI Wyandotte Cave 24.68 4 P P 05 04 13.6 -0.5
baz=186
WCI Wyandotte Cave 24.68 4 P P 05 04 13.9 -0.3
WCI IAmb IAmb 05 04 14.4
comp=Z,19nm,0.6s
U59A Littleton 24.69 21 P P 05 04 14.2 0.0
baz=205
T57A Hurt 24.80 18 P P 05 04 15.5 +0.3
baz=202
T57A Hurt 24.80 18 IAmb IAmb 05 04 17.4
comp=Z,11nm,0.7s
R49A Shelbyville 24.85 6 P P 05 04 14.3 -1.3
baz=188
T58A Grand View Acr 24.98 19 P P 05 04 16.7 -0.1
baz=203
S54A Dingess, Beckl 25.02 14 P P 05 04 16.8 -0.4
baz=197
S54A Dingess, Beckl 25.02 14 P P 05 04 17.6 +0.4
S54A IAmb IAmb 05 04 21.7
comp=Z,26nm,1.2s
U60A Pendleton 25.02 22 P P 05 04 16.5 -0.7
baz=206
R51A Hillsboro 25.06 9 P P 05 04 16.0 -1.5
baz=192
OLIL Olney 25.11 1 P P 05 04 18.1 +0.1
OLIL IAmb IAmb 05 04 18.6
comp=Z,13nm,0.8s
S55A Lewisburg 25.18 15 P P 05 04 18.8 +0.1
baz=198
T59A Double "B" Far 25.33 21 P P 05 04 20.5 +0.5
baz=205
T59A Double "B" Far 25.33 21 P P 05 04 20.8 +0.8
T59A IAmb IAmb 05 04 22.7
comp=Z,11nm,0.9s
S56A Natural Bridge 25.34 17 P P 05 04 20.9 +0.7
baz=200
Q48A North Vernon 25.42 5 P P 05 04 19.9 -0.9
baz=187
R54A Victor 25.45 14 P P 05 04 21.0 -0.1
baz=197
Q49A Aurora 25.58 7 P P 05 04 21.6 -0.6
baz=188
S57A Dark Hollow, R 25.60 18 P P 05 04 23.1 +0.7
baz=202
BLO Bloomington 25.61 4 P P 05 04 21.6 -0.8
BLO IAmb IAmb 05 04 35.5
comp=Z,25nm,1.4s
S58A Poland Farm, P 25.74 19 P P 05 04 23.8 +0.1
baz=204
R55A Marlinton 25.76 15 P P 05 04 23.9 -0.1
baz=199
R55A Marlinton 25.76 15 P P 05 04 24.8 +0.8
R55A IAmb IAmb 05 04 25.1
comp=Z,12nm,0.8s
Q51A Peebles 25.81 9 P P 05 04 24.4 +0.1
baz=192,SNR=5.9
121A Cookes Peak, D 25.84 320 P P 05 04 19.3 -5.6
baz=135
Q52A Bidwell 25.93 11 P P 05 04 25.2 -0.3
baz=194
P48A Milroy 25.98 5 P P 05 04 24.7 -1.2
baz=187
P48A Milroy 25.98 5 P P 05 04 24.9 -0.9
Q53A Leroy 25.98 13 P P 05 04 25.6 -0.3
baz=196
R56A Bull Pasture M 26.07 16 P P 05 04 27.6 +0.9
baz=200
R58B Mineral 26.12 19 P P 05 04 27.3 +0.3
baz=204
R58B Mineral 26.12 19 P P 05 04 27.8 +0.7
R58B IAmb IAmb 05 04 40.3
comp=Z,24nm,1.5s
P49A Miami Univ. Ec 26.12 7 P P 05 04 26.2 -1.0
baz=189
S59A Mechanicsville 26.13 21 P P 05 04 27.5 +0.4
baz=206
R57A Stanardsville 26.22 18 P P 05 04 28.4 +0.3
baz=202
Q54A Coxs Mills 26.25 14 P P 05 04 28.7 +0.4
baz=197,SNR=9.3
P51A Williamsport 26.30 10 P P 05 04 28.1 -0.6
baz=192
S60A Water View 26.30 22 P P 05 04 29.0 +0.3
baz=206
R58A Rapidan 26.38 19 P P 05 04 29.4 -0.1
baz=203
Q55A Buckhannon 26.45 15 P P 05 04 30.4 +0.3
baz=198
KSU1 Kansas State U 26.46 346 P P 05 04 28.1 -2.0
baz=164
CBN Corbin Frederi 26.50 20 P P 05 04 31.7 +1.2
baz=204
R59A King George, V 26.58 20 P P 05 04 31.5 +0.2

baz=205
P52A **Corning** 26.61 11 P P 05 04 31.6 +0.1
baz=194
P53A **Whipple** 26.61 12 P P 05 04 31.9 +0.4
baz=196
P53A **Whipple** 26.61 12 P P 05 04 32.4 +0.9
P53A IAmb IAmb 05 04 32.8
comp=Z,28nm,1.1s
Q56A **Snyder Ridge,** 26.72 16 P P 05 04 32.7 +0.2
baz=200
Q56A **Snyder Ridge,** 26.72 16 P P 05 04 33.5 +1.0
Q56A IAmb IAmb 05 04 34.2
comp=Z,9.6nm,0.7s
SFIN **Lafayette** 26.78 2 P P 05 04 31.9 -1.1
baz=184
ANMO **Albuquerque** 26.79 326 P P 05 04 29.1 -4.2
baz=141
ANMO **Albuquerque** 26.79 326 P P 05 04 35.6 +2.2
comp=Z,1.5nm,0.8s,baz=151,slow=8.7,SNR=6.4
O48A **Farmland** 26.79 6 P P 05 04 31.9 -1.2
baz=188
O49A **Covington** 26.81 7 P P 05 04 32.4 -0.8
baz=189
R60A **Leonardtown, M** 26.83 21 P P 05 04 33.9 +0.5
baz=206
O50A **Cable** 26.87 8 P P 05 04 33.4 -0.3
baz=191,SNR=5.8
P54A **Burton** 26.93 14 P P 05 04 34.9 +0.5
baz=197
Q57A **Strasburg** 26.94 18 P P 05 04 35.2 +0.7
baz=202
P55A **Reedsville** 26.99 15 P P 05 04 35.1 +0.1
baz=199
O51A **Pataskala** 27.02 10 P P 05 04 34.7 -0.5
baz=193
ACSO **Alum Creek Sta** 27.05 9 P P 05 04 34.8 -0.6
baz=192
ACSO **Alum Creek Sta** 27.05 9 P P 05 04 35.5 +0.2
Q58A **Fox Den Farm,** 27.07 19 P P 05 04 35.7 +0.1
baz=203
CBKS **Cedar Bluff** 27.07 341 P P 05 04 34.5 -1.2
baz=157
CBKS **Cedar Bluff** 27.07 341 P P 05 04 36.0 +0.3
CBKS IAmb IAmb 05 04 40.5
comp=Z,28nm,1.5s
MCWV **Mont Chateau** 27.13 15 P P 05 04 36.5 +0.4
baz=198
MCWV **Mont Chateau** 27.13 15 P P 05 04 36.5 +0.4
O52A **Adamsville** 27.13 11 P P 05 04 35.8 -0.3
baz=194
O52A **Adamsville** 27.13 11 P P 05 04 36.4 +0.2
O52A IAmb IAmb 05 04 36.8
comp=Z,17nm,0.9s
N41A **Harden Midland** 27.16 356 IAmb IAmb 05 04 37.0
comp=Z,23nm,1.1s
P56A **Dayton Farm, R** 27.25 17 P P 05 04 37.9 +0.7
baz=201
N47A **Urbana** 27.36 5 P P 05 04 36.8 -1.3
baz=186
N47A **Urbana** 27.36 5 P P 05 04 37.6 -0.6
N47A IAmb IAmb 05 04 54.8
comp=Z,10nm,0.9s
O53A **New Philadelph** 27.39 12 P P 05 04 38.2 -0.1
baz=196
N48A **Decatur** 27.40 6 P P 05 04 37.2 -1.3
baz=188
P57A **Homestead Farm** 27.47 18 P P 05 04 39.7 +0.5
baz=202
P57A **Homestead Farm** 27.47 18 IAmb IAmb 05 04 40.9
comp=Z,16nm,0.7s
T25A **Trinidad** 27.47 332 P P 05 04 35.8 -3.6
baz=147
O54A **Avella** 27.50 14 P P 05 04 39.5 +0.1
baz=197
N50A **Nevada** 27.55 9 P P 05 04 39.4 -0.4
baz=191
N49A **Columbus Grove** 27.56 7 P P 05 04 38.6 -1.2
baz=189
P58A **Pank, Wackersv** 27.69 19 P P 05 04 41.7 +0.6
baz=204
SDMD **Soldier's Deli** 27.77 20 P P 05 04 42.6 +0.8
SDMD IAmb IAmb 05 04 43.1
comp=Z,7.1nm,0.7s
O55A **Ligonier** 27.79 15 P P 05 04 41.8 -0.2
baz=199
N51A **Ashland** 27.82 10 P P 05 04 41.8 -0.4
baz=193
N52A **McGinn's Farm,** 27.84 11 P P 05 04 42.0 -0.4
baz=194
M47A **Cromwell** 27.85 5 P P 05 04 41.2 -1.3
baz=186
N53A **Lisbon** 28.00 12 P P 05 04 43.4 -0.4
baz=196
P59A **Jarrettsville** 28.08 20 P P 05 04 44.0 -0.6
baz=205
M49A **Liberty Center** 28.13 7 P P 05 04 44.3 -0.6
baz=190
M50A **Fremont** 28.18 9 P P 05 04 44.4 -1.1
baz=191
M51A **Elyria** 28.25 10 P P 05 04 45.2 -0.8
baz=193
O57A **Amberson** 28.25 18 P P 05 04 46.3 +0.2
baz=202
KSCO **Kaye Shedlock'** 28.28 336 P P 05 04 42.6 -4.0
baz=152
N54A **Moraine State** 28.33 14 P P 05 04 46.9 +0.1
baz=198
O58A **Lewisberry** 28.39 19 P P 05 04 48.2 +0.9
baz=204
N55A **Marion Center** 28.41 15 P P 05 04 48.2 +0.7
baz=200
SDCO **Great Sand Dun** 28.47 331 P P 05 04 48.2 -0.2
baz=145
L47A **Sherwood** 28.49 5 P P 05 04 46.2 -2.0
baz=187
L48A **N Adams** 28.54 6 P P 05 04 47.3 -1.3
baz=189
P60A **Greenville** 28.54 21 P P 05 04 49.0 +0.4
baz=206
N56A **West Decatur** 28.72 16 P P 05 04 50.7 +0.4
baz=201
L49A **Milan** 28.78 7 P P 05 04 49.5 -1.2
baz=190
N57A **Milroy** 28.78 17 P P 05 04 51.3 +0.6
baz=202
O59A **Robesonia** 28.80 20 P P 05 04 51.8 +0.8
baz=205
L50A **Kingsville** 28.84 9 P P 05 04 50.9 -0.4
baz=192
M54A **Oil Creek Stat** 28.93 14 P P 05 04 52.0 -0.1
baz=198
BGNE **Belgrade** 29.02 345 P P 05 04 50.4 -2.5
baz=162
BGNE **Belgrade** 29.02 345 P P 05 04 52.9 0.0
BGNE IAmb IAmb 05 04 54.7
comp=Z,18nm,0.9s
N58A **Sunbury** 29.11 19 P P 05 04 54.5 +0.8
baz=204
M55A **Ridgway** 29.11 15 P P 05 04 53.5 -0.2
baz=200
K46A **Dorr** 29.15 4 P P 05 04 53.1 -0.9
baz=186
O61A **Allentown** 29.18 22 P P 05 04 54.9 +0.7
baz=208
K47A **Vermontville** 29.20 5 P P 05 04 53.0 -1.4
baz=187
L53A **Girard** 29.22 13 P P 05 04 54.0 -0.7
baz=196
M56A **Emporium** 29.28 16 P P 05 04 54.3 -0.8
baz=201
JFWS **Jewell Farm** 29.32 357 P P 05 04 54.9 -0.6
baz=177
JFWS **Jewell Farm** 29.32 357 P P 05 04 55.3 -0.2
JFWS IAmb IAmb 05 04 56.6
comp=Z,11nm,0.7s
K48A **Perry** 29.42 7 P P 05 04 55.1 -1.3
baz=189
M57A **Sunshine Farm,** 29.44 18 P P 05 04 56.7 +0.1
baz=203
N59A **State Game Lan** 29.48 20 P P 05 04 57.5 +0.5
baz=205
K49A **Clarkson** 29.48 8 P P 05 04 55.7 -1.2
baz=190
MVCO **Mesa Verde** 29.57 326 P P 05 04 54.1 -4.0
baz=140
N60A **Cedar Hill Far** 29.66 21 P P 05 04 58.4 -0.2
baz=207
M58A **Price's Panora** 29.67 19 P P 05 04 58.7 0.0
baz=204
J47A **Sunmer** 29.78 5 P P 05 04 58.0 -1.5
baz=188
J47A **Sunmer** 29.78 5 P P 05 04 57.8 -1.7
N61A **South Mountain** 29.85 22 P P 05 05 00.6 +0.5
baz=208
L55A **Hinsdale** 29.86 15 P P 05 05 00.1 -0.3
baz=200
J48A **Bridge Port** 29.95 7 P P 05 04 59.9 -1.1
baz=189
J49A **Marlette** 30.09 8 P P 05 05 00.9 -1.4
baz=191
M59A **Waymart** 30.15 20 P P 05 05 02.4 -0.5
baz=206
PAL **Palisades** 30.21 22 P P 05 05 03.7 +0.3
baz=209
M60A **Port Jervis** 30.23 21 P P 05 05 03.2 -0.4
baz=207
I42A **Draeger Farm,** 30.26 359 P P 05 05 03.4 -0.4
L58A **Harry Jones Me** 30.47 19 P P 05 05 05.9 +0.2
baz=204
M61A **Granite Spring** 30.53 22 P P 05 05 06.7 +0.5
baz=209
I47A **Gladwin** 30.58 6 P P 05 04 04.7 -1.9
baz=188
I47A **Gladwin** 30.58 6 P P 05 05 05.5 -1.1
K56A **Middlesex** 30.64 16 P P 05 05 06.8 -0.3
baz=202
I48A **Sherman Twp** 30.84 7 P P 05 05 09.1 +0.3
baz=189
I51A **Listowel** 30.85 11 P P 05 05 10.5 +1.5
baz=194
L59A **Walton** 30.86 20 P P 05 05 09.3 +0.1
baz=206
ECSD **EROS Data Cent** 30.90 349 P P 05 05 07.5 -1.9
baz=166
ECSD **EROS Data Cent** 30.90 349 P P 05 05 08.7 -0.7
K57A **Scipio Center** 30.90 17 P P 05 05 08.8 -0.6
baz=203
H46A **Fife Lake** 31.04 5 P P 05 05 10.3 -0.3
baz=187
N23A **Red Feather La** 31.23 334 P P 05 05 09.6 -3.0
baz=148
I52A **Shelburne** 31.27 12 P P 05 05 12.4 -0.3
baz=196
J56A **Wolcott** 31.30 17 P P 05 05 12.7 -0.2
baz=202
J56A **Wolcott** 31.30 17 P P 05 05 12.5 -0.4
H48A **Harrisville** 31.39 7 P P 05 05 12.5 -1.1
baz=190
H48A **Harrisville** 31.39 7 P P 05 05 13.0 -0.7
O20A **White River Ci** 31.66 330 IAmb IAmb 05 05 19.3
comp=Z,8.9nm,0.8s
J57A **Williamstown** 31.67 18 P P 05 05 16.0 -0.1
J57A IAmb IAmb 05 05 35.0
comp=Z,27nm,1.1s
SPMN **Marine on St.** 31.80 354 P P 05 05 16.4 -0.9
baz=173,SNR=6.3
J58A **Remsen** 31.84 18 P P 05 05 17.4 -0.3
J58A IAmb IAmb 05 05 22.9
comp=Z,20nm,1.1s
H52A **Wyevale** 31.88 12 P P 05 05 17.8 -0.1
baz=196
H53A **Bobcaygeon** 32.09 13 P P 05 05 19.2 -0.6
baz=198
DELO **Deloro Mine** 32.26 15 P P 05 05 20.7 -0.6
DELO IAmb IAmb 05 05 33.9
comp=Z,23nm,1.1s
COWI **Conover** 32.47 359 P P 05 05 22.3 -0.9
F48A **Evansville** 32.58 8 P P 05 05 22.1 -1.9
baz=191
F49A **Sandfield** 32.60 8 P P 05 05 22.6 -1.6
baz=192
G53A **Haliburton** 32.60 13 P P 05 05 23.3 -0.9
baz=198
E43A **Lone Tree Farm** 32.77 2 P P 05 05 24.8 -0.9
G55A **Calabogie** 33.18 15 P P 05 05 28.3 -1.0
baz=201
RSSD **Black Hills** 33.26 339 P P 05 05 31.7 +1.4
E48A **Lockeyer** 33.28 8 P P 05 05 29.2 -0.9
baz=191
D41A **Chassel** 33.43 360 P P 05 05 30.5 -0.9
E50A **Wahnapitae** 33.44 10 P P 05 05 30.1 -1.5
baz=194
ALGO **Algonquin Park** 33.52 13 P P 05 05 31.3 -0.8
baz=198
E52A **Mattawa** 33.70 12 P P 05 05 33.2 -0.5
baz=197
H60A **Morristown** 33.75 21 P P 05 05 33.7 -0.5
baz=208
E51A **G1948 Merrick** 33.77 11 P P 05 05 33.0 -1.4
baz=196
E53A **Dumoine, Ponti** 34.00 13 P P 05 05 35.7 -0.7
baz=199
D48A **Paudash Townsh** 34.01 8 P P 05 05 35.0 -1.5
baz=192
D50A **G1974 Best Tow** 34.32 11 P P 05 05 37.9 -1.1
baz=195
D51A **Lot 18 Range I** 34.33 11 P P 05 05 38.0 -1.1
baz=196
PDAR **Pinedale Array** 34.34 332 P P 05 05 40.4 +0.8
comp=Z,1.2nm,0.6s,baz=127,slow=9.9,SNR=14
EYMN **Ely** 34.41 356 P P 05 05 38.7 -1.1
baz=176
EYMN **Ely** 34.41 356 P P 05 05 38.5 -1.4
EYMN IAmb IAmb 05 05 44.5
comp=Z,18nm,1.3s
D53A **Lac Vacive, Po** 34.66 13 P P 05 05 41.8 -0.1
baz=199
D53A **Lac Vacive, Po** 34.66 13 P P 05 05 42.1 +0.1
BGU **Big Grassy Mou** 34.69 326 P P 05 05 44.0 +1.5
G62A **West of Eustis** 35.09 22 P P 05 05 45.7 -0.1
G62A IAmb IAmb 05 05 50.7
comp=Z,20nm,1.2s
AGMN **Agassiz Nation** 35.20 351 P P 05 05 46.1 -0.4
AGMN IAmb IAmb 05 05 47.4
comp=Z,13nm,0.8s
REDW **Red Top Meadow** 35.40 331 IAmb IAmb 05 05 50.9
comp=Z,17nm,0.8s
SNOW **Snow King Moun** 35.43 332 IAmb IAmb 05 05 51.7
comp=Z,30nm,1.1s
FXWY **Fox Creek** 35.69 332 P P 05 05 52.5 +1.4
D58A **Chemin du LacG** 35.94 18 P P 05 05 52.5 -0.4
baz=206
F63A **Nahmakanta, Br** 36.04 23 P P 05 05 54.0 +0.2
F63A IAmb IAmb 05 06 05.1
comp=Z,32nm,1.4s
RLMT **Red Lodge** 36.09 335 P P 05 05 53.6 -0.9
baz=146,SNR=6.7
NVAR **Mina Array Bea** 36.21 319 P P 05 05 57.6 +2.0
comp=Z,0.8nm,0.7s,baz=132,slow=7.3,SNR=8.8
G65A **Princeton** 36.24 25 P P 05 05 56.5 +1.0
baz=215
G65A **Princeton** 36.24 25 P P 05 05 56.0 +0.5
G65A IAmb IAmb 05 05 57.0
comp=Z,33nm,1.1s
LSQQ **Lebel-sur-Quev** 36.69 13 P P 05 05 58.5 -0.7
baz=199
ULM **Lac du Bonnet** 37.11 352 P P 05 06 01.6 -1.2
comp=Z,9.3nm,0.5s,baz=164,slow=8.8,SNR=21
ULM LR LR 05 25 21.6
comp=Z,404nm,18.4s,baz=248,slow=42
ULM **Lac du Bonnet** 37.11 352 IAmb IAmb 05 06 02.0
comp=Z,13nm,0.7s
DGMT **Dagmar** 37.19 343 P P 05 06 03.9 +0.5
baz=155,SNR=6.1
MATQ **Matagami** 37.22 12 P P 05 06 02.5 -1.2
baz=198
BATG **Bathurst New B** 38.54 25 P P 05 06 15.0 +0.3
BATG IAmb IAmb 05 06 15.2
comp=Z,18nm,1.1s
EGMT **Eagleton** 38.66 337 P P 05 06 15.6 -0.2
baz=147
MSO **Missoula** 39.45 332 P P 05 06 23.3 +0.8
baz=140,SNR=6.3
MSO **Missoula** 39.45 332 P P 05 06 23.6 +1.1
SIV **San Ignacio** 39.96 136 P P 05 06 26.8 -0.2
comp=Z,1.6nm,0.6s,baz=312,slow=8.2,SNR=11
F10A **Beach Ranch, E** 40.40 329 P P 05 06 31.4 +1.0
NEW **Newport** 41.97 331 P P 05 06 42.5 -0.5
baz=137
G05D **Wamic, OR** 42.09 325 P P 05 06 40.7 -3.3
baz=130
FFC **Flin Flon** 42.44 348 P P 05 06 47.0 +0.4
SCHQ **Schefferville** 44.57 18 P P 05 07 02.5 -1.1
comp=Z,11nm,0.8s,baz=210,slow=5.4,SNR=10
SCHQ **Schefferville** 44.57 18 IAmb IAmb 05 07 03.2
comp=Z,9.0nm,0.8s
LLLB **Lillooet** 45.84 331 P P 05 07 14.6 +0.9
YKA **Yellowknife Ar** 52.31 345 P P 05 08 02.2 -0.4
comp=Z,3.6nm,0.7s,baz=135,slow=8.3,SNR=89
PLCA **Paso Flores** 56.50 164 P P 05 08 35.3 +2.2
comp=Z,0.9nm,0.7s,baz=336,slow=13,SNR=3.1
INK **Inuvik** 61.87 343 P P 05 09 08.4 -1.1
comp=Z,1.3nm,0.6s,baz=134,slow=6.5,SNR=12
HDA **Harding Lake** 64.50 336 P P 05 09 26.2 -0.7
baz=114
ILAR **Eielson Array** 64.62 336 P P 05 09 27.2 -0.4
comp=Z,1.2nm,0.8s,baz=164,slow=4.7,SNR=16
TOLK **Toolik Lake Re** 67.12 340 P P 05 09 43.9 +0.3
baz=113
ESDC **Sonseca Array** 77.35 52 P P 05 10 44.3 -0.5
comp=Z,0.4nm,0.6s,baz=294,slow=5.9,SNR=5.0
STKA **Stephens Creek** 130.75 240 PKP PKiKP 05 18 01.2 +0.6
comp=Z,1.6nm,0.5s,baz=72,slow=6.4,SNR=3.0
WRA **Warramunga Arr** 138.55 255 PKP PKiKP 05 18 16.0 -0.9
comp=Z,2.6nm,0.5s,baz=89,slow=2.4,SNR=18
ASAR **Alice Springs** 138.68 250 PKhKP PKPpre 05 18 08.6
comp=Z,0.3nm,0.4s,baz=103,slow=2.1,SNR=3.3
ASAR PKP PKiKP 05 18 15.9 -1.1
comp=Z,1.4nm,0.7s,baz=94,slow=2.1,SNR=5.3
FITZ **Fitzroy Crossi** 146.85 258 PKPbc PKPab 05 18 32.7 -0.5
comp=Z,2.6nm,0.5s,baz=1.8,slow=1.3,SNR=11

ISCJB ***16*** *05:04:51.9±0.1,31.°08N±0.°02×110.°43E±0.°02,h10km, mb5.0/142,MS4.6/22,Error ellipse: s-maj=2.4km s-min=2.2km az=165.9*

GCMT ***16*** *05:04:52.4±0.2,31.°04N±0.°01×110.°36E±0.°02,h12km±1km, MW4.9/86,Moment Tensor Solution. s10,c12; s86,c121; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.40±.10; Mθθ1.21±.09; Mϕϕ-1.61±.10; Mrθ1.15±.33; Mϕϕ-2.37±.10; Mϕr-1.14±.33; Best double couple: Ms3.20100×10¹⁶ NP1:ϕs167.00000°,δ77.00000°,λ26.00000°. NP2: ϕs71.00000°,δ65.00000°,λ165.00000°. Principal axes: T 3.3840, Plg28.0000°, Azm32.0000°; N -0.3670, Plg61.0000°, Azm193.0000°; P -3.0180, Plg8.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***16*** *05:04:52.3±0.0,31.°10N×110.°45E,h10km,mb5.1/52, mB5.2/36,ML5.2/27,Ms5.1/69,Ms7 5.0/63*

MOS ***16*** *05:04:53.8±0.9,31.°04N×110.°43E,h26km,mb5.2/82, MS4.8/10,Error ellipse: s-maj=5.5km s-min=4.0km az=114.7*

NEIC ***16*** *05:04:54.4±1.4,31.°07N±0.°05×110.°41E±0.°06,h18km±3km, mb5.1/176*

IDC ***16*** *05:04:59.4±3.4,31.°13N×110.°52E,h57km±31km,mb4.6/32, mb1 4.6/35,mb1mx4.6/43,mbtmp4.8/35,ML4.7/4,MS4.2/10, Ms1 4.2/10,ms1mx4.0/27,Error ellipse: s-maj=13.0km s-min=9.1km az=53.0*

ISC 16 05:04:53.3±0.2,31.°08N±0.°03×110.°44E±0.°03,h10km,n618, σ1s53/647,mb5.1/202,MS4.7/23,47C-17D,Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENH	**Enshi**	**1.15**	**226**		**Pb**	**05 05 13.9**	**-1.4**
ENH				Sg	**Sb**	**05 05 29.4**	**-0.8**
XAN	**Xi'an**	**3.22**	**337**	Pn	**Pn**	**05 05 44.5**	**+0.6**
XAN				Sn	**Sn**	**05 06 15.8**	**-6.6**
XAN				Sg	**Sb**	**05 06 30.8**	**+1.0**
XAN				smax	smax		
	comp=N,24μm,1.0s						
XAN				smax	smax		
	comp=E,34μm,1.1s						
XAN	**Xi'an**	**3.22**	**337**	P	**Pn**	**05 05 44.7**	**+0.8**
XAN						05 06 20.8	
XAN	**Xi'an**	**3.22**	**337**		**Pn**	**05 05 44.7**	**+0.8**
XAN				Sn	**Sn**	**05 06 20.8**	**-1.5**
WHN	**Wuhan**	**3.41**	**98**	Pn	**Pn**	**05 05 46.5**	**0.0**
WHN				Pg	**Pg**	**05 05 55.3**	**-3.3**
WHN				Sn	**Sn**	**05 06 26.3**	**-0.7**
WHN				Sg	**Sg**	**05 06 40.8**	**-2.0**
WHN				smax	smax		
	comp=N,67μm,1.7s						
WHN				smax	smax		
	comp=E,7μm,0.7s						
WHN				LR	LR		
	comp=N,24μm,4.0s						
WHN				LR	LR		
	comp=E,38μm,3.8s						
WHN				LR	LR		
	comp=Z,42μm,3.7s						
GYA	**Guiyang**	**5.67**	**217**	⇑*i*Pn	**Pn**	**05 06 20.0**	**+2.2**
GYA				Sn	**Sn**	**05 07 27.9**	**+4.9**
GYA				Sg	**Sg**	**05 07 52.8**	**-2.7**
GYA				smax	smax		
	comp=N,2μm,0.9s						
GYA				smax	smax		
	comp=E,1μm,1.0s						
GYA				LR	LR		
	comp=N,9μm,5.0s						
GYA				LR	LR		
	comp=Z,11μm,5.3s						
CD2	**Chengdu**	**5.74**	**270**	⇓Pn	**Pn**	**05 06 17.8**	**-0.8**
CD2				Sn	**Sn**	**05 07 25.0**	**+0.5**
CD2				LR	LR		
	comp=E,37μm,5.6s						
CD2				LR	LR		
	comp=Z,30μm,7.1s						
TIY	**Taiyuan**	**6.82**	**13**	Pn	**Pn**	**05 06 34.5**	**+1.1**
TIY				Sn	**Sn**	**05 07 47.8**	**-3.4**
TIY				Sg	**Sb**	**05 08 15.5**	**+2.0**
TIY				smax	smax		
	comp=N,1μm,1.0s						
TIY				smax	smax		
	comp=E,1μm,0.9s						
NJ2	**Nanjing**	**7.25**	**80**	*e*Pn	**Pn**	**05 06 39.6**	**+0.4**
NJ2				Pg	Pb	05 07 04.3	+5.1
NJ2				Sn	Sn	05 08 10.3	+8.7
NJ2				Sg	Sg	05 08 35.4	-10
NJ2				smax	smax		
	comp=N,1μm,1.1s						
NJ2				smax	smax		
	comp=E,960nm,1.1s						
LZH	**Lanzhou**	**7.43**	**314**	⇓Pn	**Pn**	**05 06 42.3**	**+0.4**
LZH				Sn	**Sn**	**05 08 07.0**	**+0.7**
LZH				smax	smax		
	comp=N,1μm,1.0s						
LZH				smax	smax		
	comp=E,2μm,1.0s						
LZH				LR	LR		
	comp=N,11μm,8.4s						
LZH				LR	LR		
	comp=E,16μm,8.1s						
LZH				LR	LR		
	comp=Z,15μm,10.8s						
TIA	**Tai'an**	**7.57**	**46**	P	**Pn**	**05 06 44.6**	**+0.9**
TIA				S	Sb	05 08 25.0	-10
TIA				LR	LR		
	comp=N,5μm,13.7s						
TIA				LR	LR		
	comp=E,5μm,8.8s						
TIA				LR	LR		
	comp=Z,7μm,9.5s						
TIA	**Tai'an**	**7.57**	**46**	Pn	**Pn**	**05 06 44.5**	**+0.9**
TIA				Sn	Sn	05 08 17.3	+7.8
TIA				LR	LR		
	comp=Z,4μm,11.8s						
TIA				LR	LR		
	comp=Z,5μm,8.5s						
TIA				LR	LR		
	comp=Z,8μm,9.4s						
GZH	**Guangzhou**	**8.37**	**161**	P	Pn	05 06 49.1	-5.6
GZH				S	Sn	05 08 18.3	-11
GZH				smax	smax		
	comp=E,1μm,1.2s						
GZH				smax	smax		
	comp=Z,2μm,1.2s						
KMI	**Kunming**	**9.02**	**231**	P	**Pn**	**05 07 04.3**	**+0.4**
KMI				pP		05 07 06.3	
KMI				S	**Sn**	**05 08 42.1**	**-3.5**
KMI				pmax	pmax		
	comp=Z,21nm,0.7s						
KMI				pmax	pmax		
	comp=Z,390nm,3.1s						
KMI				LR	LR		
	comp=Z,13μm,6.3s						

KMI LR LR
comp=Z,8μm,7.8s
KMI LR LR
comp=Z,11μm,7.9s
KMI Kunming 9.02 231 P **Pn 05 07 04.3 +0.4**
KMI 05 08 41.6
KMI Kunming 9.02 231 Pn 05 07 04.3 +0.4
KMI Sn **Sn 05 08 41.6 -4.0**
SSE Sheshan 9.22 87 P **Pn 05 07 07.4 +1.1**
SSE S **Sn 05 08 52.3 +2.2**
SSE pmax pmax
comp=Z,51nm,0.8s
SSE pmax pmax
comp=Z,250nm,4.7s
SSE LR LR
comp=Z,9μm,11.5s
SSE LR LR
comp=Z,5μm,8.1s
HKPS Hong Kong Po S 9.37 158 Pn **Pn 05 07 08.4 0.0**
QZH Quanzhou 9.45 128⇓*i*P **Pn 05 07 10.1 +0.6**
QZH S **Sn 05 08 53.3 -2.4**
QZH LR LR
comp=Z,8μm,7.2s
QZH LR LR
comp=Z,6μm,7.8s
QZH LR LR
comp=Z,3μm,7.8s
BTO Baotou 9.51 358 *e*P **Pn 05 07 13.6 +3.2**
BTO S **Sn 05 08 55.6 -1.8**
KNMB Chin-men Tao 9.64 131 Pn **Pn 05 07 12.8 +0.7**
KNMB Sn **Sn 05 08 58.3 -2.2**
HHC Hu-ho-hao-te 9.79 5 *e*P Pn 05 07 18.6 +4.4
HHC S **Sn 05 09 09.0 +4.7**
HHC pmax pmax
comp=Z,8.0nm,1.1s
BJT Baijiatuau 10.06 26 P **Pn 05 07 18.9 +1.0**
BJT 05 09 05.6
BJT Baijiatuau 10.06 26 Pn 05 07 18.9 +1.0
BJT Sn **Sn 05 09 05.6 -5.2**
BJI Beijing 10.08 26⇑*i*P **Pn 05 07 19.1 +1.0**
BJI S Sn 05 09 22.5 +11
BJI pmax pmax
comp=Z,32nm,0.6s
BJI pmax pmax
comp=Z,220nm,3.4s
BJI LR LR
comp=Z,3μm,7.8s
BJI LR LR
comp=Z,2μm,5.9s
SLVN Son La 11.34 213 Pn 05 07 34.0 -1.4
YHNB Yeheng 11.59 121 Pn **Pn 05 07 41.3 +2.4**
SSLB Suanglung 11.83 125 Pn 05 07 43.5 +1.4
TPUB Ta-pu 11.92 128 Pn 05 07 44.0 +0.6
QIZ Qiongzhong 12.01 183 P **Pn 05 07 45.4 +0.8**
QIZ S **Sn 05 10 00.3 +1.6**
QIZ pmax pmax
comp=Z,64nm,2.6s
QIZ LR LR
comp=Z,4μm,9.2s
QIZ LR LR
comp=Z,14μm,12.4s
QIZ LR LR
comp=Z,5μm,8.4s
GTA Gaotai 12.01 317⇑P **Pn 05 07 42.6 -2.1**
GTA pP 05 07 47.3
GTA sP 05 07 49.8
GTA S **Sn 05 09 57.5 -1.3**
GTA SS **SnSn 05 10 12.6 +1.7**
GTA pmax pmax
comp=Z,7.0nm,0.8s
GTA pmax pmax
comp=Z,130nm,6.8s
GTA LR LR
comp=Z,3μm,14.3s
GTA LR LR
comp=Z,6μm,12.7s
GTA LR LR
comp=Z,5μm,12.7s
DL2 Dalian 12.04 47 P **Pn 05 07 47.8 +2.9**
DL2 *e*S **Sn 05 10 06.3 +7.1**
DL2 pmax pmax
comp=Z,86nm,0.8s
DL2 pmax pmax
comp=Z,660nm,3.6s
DL2 LR LR
comp=Z,4μm,11.1s
DL2 LR LR
comp=Z,2μm,10.4s
DL2 LR LR
comp=Z,5μm,9.6s
NACB Ninganchiao 12.04 122 Pn **Pn 05 07 45.5 +0.4**
YULB Yu-li 12.32 126 Pn 05 07 49.8 +0.9
NONG Nongkai 14.55 209 P **P 05 08 28.4 +2.5**
INCN Inchon 14.82 60 P **Pn 05 08 22.8 -0.2**
INCN Inchon 14.82 60 Pn **Pn 05 08 22.8 -0.2**
TJN Taejon 15.04 65⇑*e*P **Pn 05 08 26.7 +0.9**
PAYA Payao 15.07 222 P **P 05 08 30.9 -0.9**
comp=Z,128μm,0.9s
PHRA Phrae 15.57 219 P **P 05 08 38.2 +0.9**
comp=Z,8.3nm,1.7s,comp=Z,874nm
KS19 Wonju Array Si 15.76 61 Pn **P 05 08 37.0 -2.2**
KSRS Korea Array 15.78 62 P **P 05 08 37.4 -2.1**
comp=Z,3.9nm,0.3s,baz=242,slow=11,SNR=52
LAMP Lampang 15.88 221 P **P 05 08 42.8 +2.1**
comp=Z,85μm,1.0s
CMMT Chiang Mai 16.04 223 P **P 05 08 42.0 -0.5**
comp=Z,92nm,1.1s,comp=Z,873nm
CHTO Chiang Mai 16.04 223 P **Pn 05 08 38.8 -0.2**
CHTO pmax pmax
comp=Z,157nm,1.0s
CHTO Chiang Mai 16.04 223 Pn **Pn 05 08 38.8 -0.2**
CHTO IAmb IAmb 05 08 46.0
comp=Z,157nm,0.9s
CM31 Chiang Mai Arr 16.32 222 P **P 05 08 46.9 +1.2**
SNR=74
CMAR Chiang Mai Arr 16.32 222 P **P 05 08 47.1 +1.5**
comp=Z,9.0nm,0.3s,baz=28,slow=10.0,SNR=129
CMAR LR LR 05 16 04.8
comp=Z,525nm,20.2s,baz=43,slow=41
UBPT Khong Chiam 16.37 197 P **P 05 08 48.0 +1.8**
comp=Z,66nm,1.5s
UBPT Khong Chiam 16.37 197 Pn 05 08 43.1 -0.2
UBPT IAmb IAmb 05 08 48.8
comp=Z,143nm,1.2s
LSA Lhasa 16.70 270 P **Pn 05 08 45.8 -2.1**
LSA S **S 05 12 01.8 -3.2**
LSA pmax pmax
comp=Z,130nm,0.7s
LSA LR LR
comp=Z,7μm,7.8s
LSA LR LR
comp=Z,9μm,7.1s
LSA LR LR
comp=Z,12μm,7.1s
LSA Lhasa 16.70 270 P **Pn 05 08 46.5 -1.5**
LSA Lhasa 16.70 270 P **Pn 05 08 47.3 -0.6**
LSA pmax pmax
comp=Z,35nm,0.6s
LSA Lhasa 16.70 270 Pn 05 08 47.2 -0.6
ULN Ulaanbaatar 16.96 352⇓*e*P **P 05 08 51.6 -1.1**
ULN pmax pmax
comp=Z,38nm,1.3s
ULN Ulaanbaatar 16.96 352 Pn **P 05 08 51.1 -1.6**
ULN P **P 05 08 51.7 -1.1**
CHAI Chaiyaphum 16.97 209 P **P 05 08 53.8 +1.0**
comp=Z,70μm,0.9s,comp=Z,697μm
SONM Songino Array 17.02 351 P **P 05 08 51.5 -1.8**
comp=Z,0.6nm,0.3s,baz=172,slow=12,SNR=33
SONM S **Sn 05 11 53.1 -7.5**
comp=Z,1.0nm,0.3s,baz=173,slow=26,SNR=4.3
MHMT Maesarieng 17.14 224 P **P 05 08 56.2 +1.6**
comp=Z,218nm,0.9s,comp=Z,2μm
SHL Shillong 17.23 256 *e*P **P 05 08 55.5 -0.3**
SHL *e*S **S 05 12 10.5 -4.8**
CN2 Changchun 17.38 39 *e*P **P 05 08 56.9 -0.3**
CN2 *e*S **Sn 05 12 09.0 -0.3**
CN2 pmax pmax
comp=Z,70nm,1.1s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,4μm,12.0s
CN2 LR LR
comp=Z,2μm,12.0s
CN2 LR LR
comp=Z,3μm,12.0s
JNU Nakatsue 17.44 78 P **P 05 08 58.9 +0.9**
comp=Z,0.7nm,0.3s,baz=257,slow=2.4,SNR=6.9
JNU Nakatsue 17.44 78 Pn **P 05 08 56.9 -1.1**
UMPA Umpang Tak 18.19 218 P **P 05 09 11.0 +4.7**
comp=Z,89μm,0.8s
UTHA Uthaitani 18.43 216 P **Pn 05 09 11.3 +2.3**
comp=Z,61μm,0.9s,comp=Z,697μm
HIA Hailar 19.48 19 P **Pn 05 09 21.1 -0.4**
HIA pmax pmax
comp=Z,32nm,0.9s
HIA Hailar 19.48 19 P **Pn 05 09 21.1 -0.4**
SRDT SRDT 19.63 214 P **Pn 05 09 24.5 +1.1**
comp=Z,32nm,1.4s,comp=Z,647nm
ZAK Zakamensk 20.01 347 *e*P **P 05 09 24.4 -1.8**
ZAK pmax pmax
comp=Z,28nm,1.3s
PATY Pattaya 20.11 208 P Pn 05 09 39.0 +10
TAPN Taplejung 20.18 265 *e*P **P 05 09 27.4 -1.0**
MDJ Mudanjiang 20.22 43 P Pn 05 09 29.5 -0.7
MDJ pP sP 05 09 33.5 +0.8
MDJ sP pP 05 09 35.8 +4.5
MDJ S Sn 05 13 18.8 +1.0
MDJ pmax pmax
comp=Z,92nm,1.0s
MDJ pmax pmax
comp=Z,390nm,3.6s
MDJ LR LR
comp=Z,2μm,13.2s
MDJ LR LR
comp=Z,1μm,10.1s
MDJ LR LR
comp=Z,2μm,11.4s
MDJ Mudanjiang 20.22 43 P Pn 05 09 29.1 -1.1
MDJ IAmb IAmb 05 09 31.5
comp=Z,95nm,1.1s
ODAN Odare 20.59 264 *e*P **P 05 09 31.8 -1.0**
comp=Z,242nm,0.7s
PHET Kaeng Krachan 20.65 211 P Pn 05 09 35.9 +0.4
comp=Z,43μm,0.8s
VLA Vladivostok 20.84 49⇑*e*P Pn 05 09 37.0 -0.5
VLA pmax pmax
comp=Z,125nm,1.2s
TLY Talaya 21.19 348*c i*P **P 05 09 40.2 +1.4**
TLY *e*S Sn 05 13 36.6 -4.4
TLY pmax pmax
comp=Z,65nm,0.8s
TLY MLR MLR
comp=Z,2μm,13.0s
TLY Talaya 21.19 348 P **P 05 09 42.4 +3.6**
comp=Z,24nm,0.9s,baz=211,slow=15,SNR=4.9
TLY Talaya 21.19 348 P **P 05 09 39.6 +0.8**
RAMN Ramite 21.24 265 *e*P **P 05 09 38.9 -0.9**
comp=Z,112nm,0.5s
JIRN Jiri 21.39 267 *e*P **P 05 09 41.1 -0.5**
comp=Z,312nm,0.6s
USA0B Ussuriysk Arra 21.43 46 P **P 05 09 42.3 +0.8**
USA0B pmax pmax
comp=Z,97nm,0.8s
USA0B Ussuriysk Arra 21.43 46 P **P 05 09 42.3 +0.8**
USA0B IAmb IAmb 05 09 46.0
comp=Z,97nm,0.8s
USRK Ussuriysk Ar. 21.43 46 P **P 05 09 43.3 +1.9**
comp=Z,74nm,0.7s,baz=246,slow=7.5,SNR=109
USRK LR LR 05 17 20.9
comp=Z,714nm,21.1s,baz=223,slow=35
GUN Gumba 21.60 268 *e*P **P 05 09 43.3 -0.5**
comp=Z,709nm,0.9s
IRK Irkutsk 21.63 350 *e*P **P 05 09 44.8 +1.3**
MOY Mondy 21.72 344 *e*P **P 05 09 47.2 +2.6**
MOY *e* 05 13 52.5
MOY pmax pmax
comp=Z,46nm,2.5s
WMQ Urumqi 22.00 312 *e*P **P 05 09 47.8 +0.1**
WMQ pP sP 05 09 53.1 +1.1
WMQ sP pP 05 09 59.0 +8.3
WMQ PP **PnPn 05 10 14.1 +4.8**
WMQ pmax pmax
comp=Z,40nm,0.9s
WMQ pmax pmax
comp=Z,230nm,4.1s
WMQ LR LR
comp=Z,2μm,9.7s
WMQ LR LR
comp=Z,3μm,11.7s
WMQ LR LR
comp=Z,2μm,7.9s
WMQ Urumqi 22.00 312 P **P 05 09 47.6 -0.1**
WMQ pmax pmax
comp=Z,127nm,1.1s
WMQ Urumqi 22.00 312 P **P 05 09 47.6 -0.1**
WMQ IAmb IAmb 05 09 55.3
comp=Z,127nm,1.1s
PKI Pulchoki 22.09 267 *e*P **P 05 09 47.8 -1.2**
comp=Z,138nm,0.7s
PKIN Phulchoki 22.10 267 *e*P **P 05 09 47.9 -1.1**
comp=Z,84nm,0.6s
KKN Kakani 22.14 268 *e*P **P 05 09 48.6 -0.9**
comp=Z,266nm,0.8s
DMN Daman 22.34 268 *e*P **P 05 09 50.7 -0.9**
comp=Z,294nm,1.1s
MJB9 Matsu-Tunnel 23.66 69 P 05 10 05.0 0.0
MAJO Matsushiro 23.66 69⇓*e*P **P 05 10 04.7 -0.3**
MAJO pmax pmax
comp=Z,60nm,2.1s
MAJO Matsushiro 23.66 69 P **P 05 10 05.0 0.0**
MAT Matsushiro 23.66 69 P **P 05 10 04.6 -0.4**
MAT S **S 05 14 23.8 +4.0**
MJAR Matsushiro Arr 23.67 69 P **P 05 10 05.2 +0.2**
comp=Z,5.0nm,0.8s,baz=264,slow=10,SNR=12
MJAR LR LR 05 19 33.6
comp=Z,605nm,19.8s,baz=270,slow=37
KLR Kul'dur 24.23 35*c e*P **P 05 10 10.4 +0.2**
KLR pmax pmax
comp=Z,98nm,0.9s
KLR Kul'dur 24.23 35 P **P 05 10 10.4 +0.2**
comp=Z,91nm,1.0s,baz=239,slow=10.0,SNR=110
SURT Suratani 24.54 209 P **P 05 10 14.3 +1.1**
comp=Z,117nm,1.1s,comp=Z,1μm
TEY Ternei 24.74 48⇑*e*P **P 05 10 16.9 +2.1**
TEY pmax pmax
comp=Z,200nm,2.1s
TEY pmax pmax
comp=E,40nm,1.5s
TEY pmax pmax
comp=N,30nm,1.2s
TEY pmax pmax
comp=Z,80nm,1.3s
TEY MLR MLR
comp=E,400nm,10.0s
TEY MLR MLR
comp=N,200nm,11.0s
TEY MLR MLR
comp=Z,400nm,10.0s
TRTT Trang 25.21 206 P **P 05 10 20.8 +1.5**
comp=Z,44nm,1.1s
SKLT Songkhla 25.50 203 P **P 05 10 23.2 +1.3**
comp=Z,32nm,1.1s,comp=Z,1μmcomp=Z,126μm
ZEA Zeya 25.69 23 *e*P **P 05 10 23.8 +0.4**
ZEA pmax pmax
comp=E,59nm,1.0s
ZEA pmax pmax
comp=N,86nm,1.2s
ZEA pmax pmax
comp=Z,140nm,1.2s
ZEA MLR MLR
comp=N,1μm,10.0s
ZEA MLR MLR
comp=Z,2μm,10.0s
MK31 Makanchi Array 26.75 314 *e*P **P 05 10 32.9 -0.1**
MK31 pmax pmax
comp=Z,30nm,0.7s
MK31 Makanchi Array 26.75 314 P **P 05 10 33.3 +0.2**
MK31 IAmb IAmb 05 10 38.2
comp=Z,34nm,0.8s
MKAR Makanchi Array 26.75 314 P **P 05 10 33.4 +0.3**
comp=Z,49nm,0.8s,baz=110,slow=10,SNR=150
MKAR ScP **ScP 05 17 34.0 -2.3**
comp=Z,1.5nm,0.8s,baz=100,slow=4.4,SNR=4.3
BOD Bodaibo 26.85 4 *e*P **P 05 10 34.3 +0.5**
BOD pmax pmax
comp=Z,15nm,1.4s
MAKZ Makanchi 26.95 314 P **P 05 10 35.4 +0.6**
MAKZ pmax pmax
comp=Z,44nm,1.0s
MAKZ Makanchi 26.95 314 P **P 05 10 35.4 +0.6**
MAKZ IAmb IAmb 05 10 37.7
comp=Z,44nm,0.9s
KULM Kulim 27.25 202 P **P 05 10 39.0 +1.2**
KULM Kulim 27.25 202 P **P 05 10 37.9 +0.1**
KULM IAmb IAmb 05 10 39.9
comp=Z,42nm,1.1s
PDGK Podgornoye 27.35 305 P **P 05 10 38.5 -0.2**
PDGK pmax pmax
comp=Z,103nm,1.0s
GRNR Gornyy 27.55 37⇑*i*P **P 05 10 34.4 -5.8**
GRNR *e*S **S 05 15 12.1 -9.2**
GRNR pmax pmax
comp=Z,20nm,0.7s
GRNR smax smax
comp=E,30nm,0.5s
GRNR MLR MLR
comp=Z,1μm,16.0s
IPM Ipoh 27.91 200 P **P 05 10 45.0 +1.4**
IPM Ipoh 27.91 200 P **P 05 10 43.1 -0.5**
IPM IAmb IAmb 05 10 44.7
comp=Z,27nm,1.0s
JRMM Jerantut 28.07 197 P **P 05 10 47.0 +1.9**
TARG Taragay, Kyrgy 28.18 301 P **P 05 10 45.6 -0.8**
TARG IAmb IAmb 05 10 57.8
comp=Z,23nm,0.9s
ERM Erimo 28.30 58 P **P 05 10 46.3 -0.6**
ERM Erimo 28.30 58 P **P 05 10 46.4 -0.6**
ASAJ Asahikawa 28.42 54 P **P 05 10 48.1 +0.1**
comp=Z,26nm,0.7s,baz=18,slow=28,SNR=6.2
JKA Kamikawa-asahi 28.42 54 P **P 05 10 48.1 +0.1**
SBUM Sibu 28.53 176 P **P 05 10 52.0 +2.9**
KDJ Kajisay 28.72 302 P **P 05 10 51.2 +0.3**
KDJ pmax pmax
comp=Z,20nm,0.8s
KDJ Kajisay 28.72 302 P **P 05 10 51.2 +0.3**
KDJ IAmb IAmb 05 10 54.6
comp=Z,20nm,0.8s
KSH Kashi 29.22 296 P **P 05 10 59.1 +3.7**
KSH PP **PP 05 11 54.0 -7.2**
KSH PcP **PcP 05 14 05.0 +2.6**
KSH S **S 05 15 51.3 +3.2**
KSH SS **SnSn 05 17 23.8 +11**
KSH pmax pmax
comp=Z,28nm,0.9s
KSH pmax pmax
comp=Z,570nm,6.3s
KSH LR LR
comp=Z,3μm,17.4s
KSH LR LR
comp=Z,2μm,14.1s
KSH LR LR
comp=Z,3μm,18.0s
ZAA0 Zalesovo Array 29.35 329 P **P 05 10 56.5 +0.3**
ZALV Zalesovo Beam 29.35 329 P **P 05 10 56.4 +0.2**
comp=Z,51nm,0.8s,baz=124,slow=7.6,SNR=111
ULHL Ulahol 29.42 302 P **P 05 10 58.3 +1.1**
SNR=7.0
YSS Yuzh-Sakhalins 29.43 48 *e*P **P 05 10 58.2 +1.2**
YSS *e* 05 11 07.4
YSS pmax pmax
comp=Z,50nm,1.4s
YSS MLR MLR
comp=Z,3μm,14.0s
KSM Kuching 29.45 180 P **P 05 11 00.0 +2.7**
NRN Naryn 29.46 300 P **P 05 10 57.0 -0.7**
NRN pmax pmax
comp=Z,27nm,0.9s
NRN Naryn 29.46 300 P **P 05 10 57.0 -0.7**
NRN IAmb IAmb 05 11 01.0
comp=Z,27nm,0.8s
TKM2 Tokmak 2 30.02 303 P **P 05 11 03.3 +0.8**
SNR=26
KBK Karagaybulak 30.44 302 P **P 05 11 07.2 +1.0**
SNR=17
YUK Yuzh-Kuril'sk 30.67 55⇑*e*P **P 05 11 08.4 +0.4**
KURK Kurchatov 30.68 319*d i*P **P 05 11 08.0 0.0**
KURK pmax pmax
comp=Z,28nm,1.0s
KURK Kurchatov 30.68 319 P **P 05 11 08.2 +0.2**
KURK IAmb IAmb 05 11 11.8
comp=Z,28nm,1.0s
UCH Uchtor 30.68 301 P **P 05 11 10.0 +1.4**
SNR=29
AAK Ala-Archa 30.77 302 *i* P **P 05 11 10.0 +0.9**
SNR=11
AAK Ala-Archa 30.77 302⇑*e*P **P 05 11 09.0 -0.1**
AAK pmax pmax
comp=Z,10.0nm,1.0s
AAK Ala-Archa 30.77 302 P **P 05 11 09.5 +0.5**
SNR=9.5
AAK Ala-Archa 30.77 302 P **P 05 11 07.5 -1.6**
USP Ospenovka 30.88 303 P **P 05 11 10.5 +0.6**
SNR=18
AML Almayashu 31.27 301 P **P 05 11 14.8 +1.0**
SNR=47
EKS2 Erkin-Say 31.29 302 P **P 05 11 14.7 +1.1**
SNR=8.1
ARSB Arslanbob 31.69 299 P **P 05 11 17.2 0.0**
HYB Hyderabad 31.97 252 *i* P **P 05 11 19.0 -0.7**
SDSI Sungai Dareh 32.97 197 P **P 05 11 30.9 +2.5**
BTK Batken 33.22 297 P **P 05 11 31.0 +0.4**
BTK pmax pmax
comp=Z,13nm,0.9s
BTK Batken 33.22 297 P **P 05 11 31.1 +0.4**
YAK Yakutsk 33.39 16 *e*P **P 05 11 29.8 -1.8**
YAK *e**PP **sP 05 11 39.6 +3.3**
YAK *e* 05 12 40.8
YAK *e* 05 14 08.0
YAK *e*S **S 05 16 52.2 -0.2**
YAK *e**SS sS 05 17 08.5 +10
YAK *e*SS **SnSn 05 19 02.1 +8.6**
YAK *e* 05 21 50.3
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,168nm,3.3s
YAK pmax pmax
comp=E,153nm,3.7s
YAK pmax pmax
comp=N,103nm,3.6s
YAK smax smax
comp=E,349nm,4.1s
YAK smax smax
comp=N,386nm,4.3s
YAK MLR MLR
comp=Z,2μm,11.0s
YAK MLR MLR
comp=E,1μm,11.0s
YAK MLR MLR
comp=N,1μm,11.0s
YAK Yakutsk 33.39 16 P **P 05 11 31.3 -0.3**
comp=N,9.5nm,0.4s,baz=32,slow=2.1,SNR=5.9
GAR Garm 33.57 295 P **P 05 11 33.9 +0.2**
GAR IAmb IAmb 05 11 39.1
comp=Z,18nm,0.7s
KK31 Karatay Array 33.73 302 P **P 05 11 35.2 +0.3**
KK31 pmax pmax
comp=Z,13nm,0.9s
KK31 Karatay Array 33.73 302 P **P 05 11 35.2 +0.3**
KKAR Karatay Array 33.73 302 P **P 05 11 35.2 +0.3**
KKAR pmax pmax
comp=Z,13nm,0.9s
KKAR Karatay Array 33.73 302 P **P 05 11 35.2 +0.3**
LUWI Luwuk 34.03 158 P P 05 11 45.6 +8.0
CHGR Chuyangaron 34.48 294 P **P 05 11 39.8 -1.6**
CHGR IAmb IAmb 05 11 44.0
comp=Z,34nm,0.9s
KBL Kabul 34.79 287 P **P 05 11 43.9 -0.5**
KBL pmax pmax
comp=Z,40nm,1.2s
KBL Kabul 34.79 287 P **P 05 11 43.9 -0.5**
KBL IAmb IAmb 05 11 48.5
comp=Z,40nm,1.1s
TTSI Tana Toraja 35.09 164 P **P 05 11 50.6 +3.8**
comp=Z,28nm,0.8s
LHSI Lahat 35.33 192 P **P 05 11 52.3 +3.4**
MDSI Maura Dua 35.87 191 P **P 05 11 55.2 +1.7**
comp=Z,19nm,1.2s,comp=Z,968nm
SPSI Sidrap Palu 35.97 164 P **P 05 11 56.0 +1.7**
comp=Z,40nm,0.9s
KLSI 35.98 190 P **P 05 11 56.2 +1.7**

BOM **Bombay** 36.03 259 *e*P P 05 11 59.2 +4.3
BRVK **Borovoye** 36.35 319⇓ *e*P **P** **05 11 57.6 +0.3**
BRVK pmax pmax
comp=Z,50nm,1.0s
BRVK Borovoye 36.35 319 P **P** **05 11 57.8 +0.5**
PALK Pallekele 36.52 236 P **P** **05 11 59.2 0.0**
PALK pmax pmax
comp=Z,27nm,0.9s
PALK Pallekele 36.52 236 P **P** **05 11 59.2 0.0**
PALK lAmb lAmb 05 12 00.9
comp=Z,27nm,0.9s
KAPI Kappang 36.98 164 P **P** **05 12 03.4 +0.5**
KAPI pmax pmax
comp=Z,49nm,1.4s
KAPI Kappang 36.98 164 P **P** **05 12 03.6 +0.7**
comp=Z,16nm,0.9s,baz=124,slow=10,SNR=5.9
KAPI Kappang 36.98 164 P **P** **05 12 03.4 +0.5**
KAPI lAmb lAmb 05 12 09.0
comp=Z,49nm,1.4s
KPJI Karang Pucung 38.22 182 P **P** **05 12 15.7 +2.2**
comp=Z,76nm,1.3s
PWJI Pagerwojo 38.90 178 P **P** **05 12 20.5 +1.3**
comp=Z,25nm,1.6s
JAGI Jajag, Banyuwa 39.48 174 P **P** **05 12 25.5 +1.4**
comp=Z,30nm,0.9s
JAGI Jajag, Banyuwa 39.48 174 P **P** **05 12 25.2 +1.1**
JAGI lAmb lAmb 05 12 29.6
comp=Z,35nm,1.1s
PLAI Plampang 40.30 169 P **P** **05 12 32.1 +1.3**
comp=Z,19nm,0.7s
HRA Herat 40.38 288 P **P** **05 12 32.3 +0.6**
PETK Petropavlovsk- 40.46 43 P **P** **05 12 31.0 -0.9**
PETK Petropavlovsk- 40.46 43 P **P** **05 12 31.0 -0.9**
comp=Z,4.5nm,0.9s,baz=303,slow=14,SNR=3.5
PETK LR LR 05 28 49.2
comp=Z,555nm,20.9s,baz=249,slow=35
MMRI Maumere 41.08 162 P **P** **05 12 36.8 -0.5**
SEY Seymchan 41.52 27⇓ *e*P **P** **05 12 40.6 +0.2**
AB31 Akbulak array 41.78 311 *i*P **P** **05 12 43.1 +0.3**
AB31 pmax pmax
comp=Z,12nm,0.7s
ABKAR Akbulak array 41.78 311 P **P** **05 12 43.1 +0.3**
TIXI Tiksi 41.84 9 *d*iP **P** **05 12 42.0 -0.9**
TIXI pmax pmax
comp=Z,16nm,1.0s
TIXI Tiksi 41.84 9 P **P** **05 12 41.4 -1.5**
SVE Sverdlovsk 42.82 322 *e*P **P** **05 12 52.3 +1.2**
SVE pmax pmax
comp=Z,73nm,0.9s
AKTO Aktyubinsk 43.15 312 P **P** **05 12 54.7 +0.8**
AKTO pmax pmax
comp=Z,22nm,1.1s
GEYT Alibeck 43.19 294 P **P** **05 12 55.2 +0.8**
comp=Z,28nm,1.0s,baz=96,slow=4.5,SNR=28
GEYT LR LR 05 34 49.8
comp=Z,609nm,18.2s,baz=150,slow=41
ARU Arti 43.83 321 *c i*P **P** **05 13 00.8 +1.5**
ARU 05 14 42.8
ARU S **S** **05 19 33.7 +3.7**
ARU SS **SS** **05 22 47.3 +1.6**
ARU pmax pmax
comp=Z,67nm,1.0s
ARU Arti 43.83 321 P **P** **05 12 59.2 -0.1**
WSAR Wadi Sarin 46.41 274 P **P** **05 13 21.1 +0.8**
SMDO Samad 46.97 274 P **P** **05 13 25.6 +0.8**
SNR=5.0
BANOM Banah 47.47 278 P **P** **05 13 29.5 +0.9**
SHME Shamm 47.56 278 P **P** **05 13 29.4 +0.1**
MSFE Esma-Masafi 47.78 277 P **P** **05 13 31.8 +0.8**
BSY Bisya 47.82 274 P **P** **05 13 32.2 +0.9**
SNR=9.6
UOSS Minazif 47.88 277 P **P** **05 13 32.1 +0.3**
UOSS Minazif 47.88 277 P **P** **05 13 31.6 -0.1**
UOSS lAmb lAmb 05 13 48.6
comp=Z,26nm,0.9s
HATD Hatta, Dubai 47.98 277 *i*P **P** **05 13 33.5 +1.0**
SNR=5.8
HATD Hatta, Dubai 47.98 277 P **P** **05 13 34.3 +1.7**
MTN Manton Dam 47.98 152 P **P** **05 13 31.9 -0.6**
ASHO Ashiyiah 48.09 276 *i*P **P** **05 13 34.5 +1.1**
SNR=16
ASHO Ashiyiah 48.09 276 P **P** **05 13 34.7 +1.3**
SNR=6.5
ARQ Araqi 48.18 275 P **P** **05 13 35.1 +1.0**
ASUD Al Ashush, Dub 48.74 277 P **P** **05 13 38.8 +0.4**
BILL Bilibino 48.91 24⇑ *i*P **P** **05 13 38.3 -0.8**
BILL *e* 05 15 03.5
BILL *e* 05 15 32.4
BILL *e*SS SS 05 23 22.3 -51
BILL pmax pmax
comp=Z,26nm,1.7s
BILL MLR MLR
comp=Z,572nm,18.0s
KNRA Kununurra 49.71 157 P **P** **05 13 45.7 0.0**
KNRA lAmb lAmb 05 14 02.9
comp=Z,15nm,0.9s
LKRN Lenkeran, Azer 50.31 297 P **P** **05 13 50.5 +0.3**
AKT Akhty 50.61 300 *e*P **P** **05 13 53.0 +0.4**
AKT *e* 05 15 09.1
AKT pmax pmax
comp=Z,27nm,0.8s
PATS Pohnpei 50.79 108 P **P** **05 13 54.5 +0.5**
FITZ Fitzroy Crossi 51.03 161 P **P** **05 13 55.3 -0.3**
comp=Z,3.0nm,0.8s,baz=50,slow=4.7,SNR=6.7
SEKA Sheki 51.05 300 P **P** **05 13 56.3 +0.5**
MNGR Mingechevir, A 51.21 299 P **P** **05 13 57.4 +0.5**
PRGR Permogore 51.27 326 *e*P **P** **05 13 56.6 -0.4**
PRGR *e* 05 15 06.9
PRGR pmax pmax
comp=Z,42nm,0.9s
GANJ Ganja 51.81 299 P **P** **05 14 01.9 +0.4**
WHFO Wadi Hawf 52.70 270 P **P** **05 14 07.3 -1.1**
SNR=5.8
TBLG Delisi 52.78 301 P **P** **05 14 07.2 -1.4**
TBLG pmax pmax
comp=Z,10.0nm,0.5s
TBLG Delisi 52.78 301 P **P** **05 14 07.2 -1.4**
TBLG lAmb lAmb 05 14 10.9
comp=Z,10nm,0.5s
GNI Garni 53.09 299⇓ *e*P **P** **05 14 13.7 +2.6**
GNI pmax pmax
comp=Z,109nm,1.7s
GNI Garni 53.09 299 P **P** **05 14 11.1 0.0**
GNI lAmb lAmb 05 14 26.9
comp=Z,20nm,0.9s
PSA00 Pilbara Seismi 53.12 169 P **P** **05 14 09.8 -1.4**
PSA00 lAmb lAmb 05 14 12.6
comp=Z,21nm,0.8s
GOF Gofitskoye 53.41 305⇑ *e*P **P** **05 14 14.0 +0.8**
GOF pmax pmax
comp=Z,89nm,1.1s
VRH Novokhopyorsk 53.47 313 *e*P **P** **05 14 13.8 +0.3**
VRH pmax pmax
comp=Z,110nm,0.7s
PMG Port Moresby 53.47 133 *de*P **P** **05 14 14.4 +0.5**
PMG pmax pmax
comp=Z,34nm,0.7s
PMG Port Moresby 53.47 133 P **P** **05 14 14.1 +0.1**
comp=Z,14nm,0.8s,baz=20,slow=17,SNR=5.5
PMG Port Moresby 53.47 133 P **P** **05 14 13.7 -0.2**
PMG lAmb lAmb 05 14 14.9
comp=Z,12nm,0.8s
GIRL Giralia 53.54 176 P **P** **05 14 14.2 0.0**
KBZ Khabaz 53.74 304 P **P** **05 14 15.9 +0.3**
comp=Z,13nm,0.8s,baz=121,slow=6.6,SNR=17
KBZ LR LR 05 39 46.2
comp=Z,549nm,19.4s,baz=68,slow=39
AKH Akhalkalaki 53.76 301 P **P** **05 14 15.1 -0.9**
AKH pmax pmax
comp=Z,21nm,0.9s
AKH Akhalkalaki 53.76 301 P **P** **05 14 15.1 -0.9**
AKH lAmb lAmb 05 14 19.4
comp=Z,21nm,0.9s
KIV Kislovodsk 53.85 304 *i*P **P** **05 14 18.0 +1.5**
SNR=6.7
KIV Kislovodsk 53.85 304 *e*P **P** **05 14 17.9 +1.3**
KIV pmax pmax
comp=Z,124nm,1.0s
KIV MLR MLR
comp=Z,1μm,17.0s
KIV Kislovodsk 53.85 304 P **P** **05 14 15.9 -0.7**
NEY Neytrino 53.95 303⇓ *e*P **P** **05 14 19.0 +1.5**
NEY pmax pmax
comp=Z,5.0nm,0.7s

COEN Coen 54.72 140 P **P** **05 14 21.6 -1.5**
TMCR Tamitsa 54.87 329 *e*P **P** **05 14 23.6 +0.1**
TMCR pmax pmax
comp=Z,62nm,1.2s
VORD Divnogorie 55.02 313 *e*P **P** **05 14 24.7 -0.1**
VORD pmax pmax
comp=Z,10.0nm,0.8s
LPSR Galich'ya Gora 55.04 315 *e*P **P** **05 14 25.1 +0.2**
LPSR pmax pmax
comp=Z,70nm,0.9s
VSR Storozhevoye 55.07 313 *e*P **P** **05 14 24.9 -0.3**
VSR pmax pmax
comp=Z,50nm,0.7s
SOCY Socotra 55.16 263 P **P** **05 14 23.6 -2.8**
MOS Moscow 55.46 319 *e*P **P** **05 14 27.5 -0.4**
MOS *e* 05 15 25.4
MOS *e* 05 16 31.2
MOS *e*S **S** **05 22 12.0 -0.6**
MOS pmax pmax
comp=Z,46nm,0.6s
WRAB Tennant Creek 55.68 153 *c i*P **P** **05 14 29.4 -0.5**
WRAB pmax pmax
comp=Z,14nm,0.9s
WRAB Tennant Creek 55.68 153 P **P** **05 14 29.6 -0.3**
WRAB lAmb lAmb 05 14 31.4
comp=Z,12nm,0.8s
WRA Warramunga Arr 55.68 153 P **P** **05 14 29.3 -0.6**
comp=Z,6.6nm,0.8s,baz=340,slow=7.8,SNR=34
WRA LR LR 05 39 22.0
comp=Z,44nm,21.6s,baz=315,slow=37
WR0 Warramunga Arr 55.78 152 P **P** **05 14 29.6 -1.0**
SOC Sochi 56.03 304 *e*P P 05 14 23.6 -8.6
SOC *e*PPP PPP 05 17 48.1
SOC *e*SS **SS** **05 26 02.2 -4.2**
SOC pmax pmax
comp=Z,15nm,0.5s
SOC MLR MLR
comp=Z,633nm,17.0s
OBN Obninsk 56.12 318⇓ *e*P **P** **05 14 33.3 +0.6**
OBN *e* 05 15 33.2
OBN *e* 05 16 39.9
OBN pmax pmax
comp=Z,65nm,1.7s
OBN Obninsk 56.12 318 P **P** **05 14 33.0 +0.4**
LVZ Lovozero 56.27 334⇓ *e*P **P** **05 14 35.8 +2.2**
LVZ pmax pmax
comp=Z,56nm,1.4s
APA Apatity 56.75 333⇑ *i*P **P** **05 14 37.7 +0.7**
APA pmax pmax
comp=Z,10.0nm,1.0s
APA MLR MLR
comp=Z,2μm,13.0s
ANN Anapa 57.37 306 *e*P **P** **05 14 42.4 +0.7**
ANN pmax pmax
comp=Z,38nm,0.8s
RAYN Ar Rayn 57.49 280 *i*P **P** **05 14 42.3 -0.6**
SNR=11
RAYN Ar Rayn 57.49 280 P **P** **05 14 42.0 -0.9**
RAYN pmax pmax
comp=Z,21nm,1.0s
RAYN Ar Rayn 57.49 280 P **P** **05 14 42.0 -0.9**
RAYN lAmb lAmb 05 14 44.2
comp=Z,21nm,1.0s
AS31 Alice Springs 58.90 155 P **P** **05 14 52.3 -0.3**
ASAR Alice Springs 58.90 155 P **P** **05 14 52.4 -0.2**
comp=Z,9.4nm,0.7s,baz=332,slow=6.0,SNR=65
ARCES ARCESS Array B 59.50 336 P **P** **05 14 56.0 -0.2**
comp=Z,12nm,0.8s,baz=78,slow=7.4,SNR=27
GAZ Gaziantep 59.55 297 P **P** **05 14 55.2 -2.0**
GAZ lAmb lAmb 05 15 01.5
comp=Z,14nm,0.8s
SIM Simferopol' 59.62 307 *e*P **P** **05 14 57.8 +0.4**
SIM pmax pmax
comp=Z,19nm,0.8s
ANM Nome 59.94 30 P **P** **05 14 58.7 -0.6**
ANM pmax pmax
comp=Z,6.0nm,1.0s
ANM Nome 59.94 30 P **P** **05 14 58.7 -0.6**
MORW Morawa 60.05 174 P **P** **05 15 01.3 +0.9**
MORW lAmb lAmb 05 15 02.8
comp=Z,21nm,0.9s
RDOG Red Dog Mine 60.34 26 P **P** **05 15 01.3 -0.7**
FINES FINESS Array B 60.59 327 P **P** **05 15 04.1 +0.3**
comp=Z,6.3nm,0.8s,baz=106,slow=8.7,SNR=17
VSU Vasula 60.89 323⇓ *e*P **P** **05 15 08.0 +2.1**
VSU pmax pmax
comp=Z,102nm,1.1s
VSU Vasula 60.89 323 *e*P **P** **05 15 05.9 0.0**
ILGA Ilgaz 60.98 303 P **P** **05 15 07.2 +0.1**
ILGA lAmb lAmb 05 15 11.4
comp=Z,21nm,0.9s
AKASG Malin Array Be 61.33 314 P **P** **05 15 08.4 -0.6**
comp=Z,20nm,0.8s,baz=63,slow=6.5,SNR=36
AKBB Malin Array Si 61.33 314 P **P** **05 15 08.5 -0.5**
AKBB pmax pmax
comp=Z,19nm,0.9s
AKBB Malin Array Si 61.33 314 P **P** **05 15 08.5 -0.5**
AKBB lAmb lAmb 05 15 10.4
comp=Z,19nm,0.9s
BR131 Keskin Array S 61.44 301 P **P** **05 15 10.2 +0.2**
SNR=12
BR131 Keskin Array S 61.44 301 P **P** **05 15 10.3 +0.2**
BR131 pmax pmax
comp=Z,17nm,1.0s
BR131 Keskin Array S 61.44 301 P **P** **05 15 10.3 +0.2**
BR131 lAmb lAmb 05 15 12.6
comp=Z,17nm,0.9s
BRTR Keskin Array B 61.44 301 *i*P **P** **05 15 09.8 -0.3**
BRTR pmax pmax
comp=Z,14nm,0.9s
BRTR Keskin Array B 61.44 301 P **P** **05 15 09.9 -0.2**
comp=Z,14nm,0.9s,baz=106,slow=4.9,SNR=54
NACGM Naroch 61.70 319 *e* **P** **05 15 12.0 +0.6**
IZAR Zarasai 61.78 320 *e*P **P** **05 15 13.6 +1.6**
IZAR lAmb lAmb 05 15 14.2
comp=Z,10nm,0.6s
ISAL Salakas 61.90 320 *e*P **P** **05 15 13.8 +1.1**
ISAL lAmb lAmb 05 15 15.1
comp=Z,9.2nm,0.9s
IIGN Ignalina 61.90 320 *e*P **P** **05 15 13.8 +1.1**
IIGN lAmb lAmb 05 15 15.1
comp=Z,8.0nm,0.8s
ANTO Ankara 62.01 302 P **P** **05 15 13.6 -0.3**
ANTO pmax pmax
comp=Z,21nm,0.9s
ANTO Ankara 62.01 302 ⇑P **P** **05 15 14.3 +0.4**
ANTO mb 05 15 16.6
ANTO Ankara 62.01 302 P **P** **05 15 13.6 -0.3**
BR231 Keskin MP Arra 62.03 302 P **P** **05 15 13.5 -0.6**
BR231 lAmb lAmb 05 15 16.7
comp=Z,19nm,0.8s
DAMY Dhamar 62.24 271 P **P** **05 15 17.4 +1.4**
SNR=9.1
DAMY Dhamar 62.24 271 P **P** **05 15 16.4 +0.3**
SORM Soroca 62.58 312 ⇑P **P** **05 15 17.9 +0.5**
PABE Paberze 63.09 320 *e*P **P** **05 15 21.1 +0.4**
CSS Mathiatis 63.24 296 P **P** **05 15 21.9 -0.2**
CSS lAmb lAmb 05 15 33.0
comp=Z,18nm,0.8s
MSEY Mahe Island 63.29 246 P **P** **05 15 22.7 -0.1**
TOPG Topolog 63.55 308 ⇑P **P** **05 15 23.9 0.0**
CFR Carcaliu 63.61 309 ⇑P **P** **05 15 24.5 +0.2**
TIRR Tirgusor 63.65 308 P **P** **05 15 22.3 -2.4**
TIRR pmax pmax
comp=Z,60nm,1.0s
TIRR Tirgusor 63.65 308 ⇑P **P** **05 15 25.4 +0.7**
TIRR Tirgusor 63.65 308 P **P** **05 15 22.3 -2.4**
FORT Forrest 63.76 163 P **P** **05 15 25.3 0.0**
HARR Harsova 63.91 308 ⇑P **P** **05 15 26.8 +0.5**
HARR mb 05 15 28.4
SUW Suwalki 63.97 319 *e*P **P** **05 15 27.1 +0.6**
SUW Suwalki 63.97 319 *e*P **P** **05 15 27.1 +0.6**
SUW *e*P **P** **05 15 27.1 +0.6**
NWAO Narrogin (SRO) 63.99 174 P **P** **05 15 27.1 +0.3**
NWAO pmax pmax
comp=Z,15nm,0.9s
NWAO Narrogin (SRO) 63.99 174 P **P** **05 15 27.1 +0.3**
NWAO lAmb lAmb 05 15 28.9
comp=Z,15nm,0.9s
TESR Tescani 64.18 310 ⇑P **P** **05 15 29.4 +1.3**
VRI Vrincioaia 64.33 310 ⇑P **P** **05 15 30.2 +1.1**
ISP Isparta 64.36 300 P **P** **05 15 29.2 -0.4**
ISP pmax pmax
comp=Z,35nm,1.0s

ISP Isparta 64.36 300 ⇓P **P** **05 15 28.8 -0.8**
ISP mb 05 15 30.9
ISP Isparta 64.36 300 P **P** **05 15 29.2 -0.4**
PLOR Plostina 64.39 310 ⇑P **P** **05 15 31.6 +2.1**
BIZ Bicaz 64.39 311 ⇑P **P** **05 15 30.1 +0.6**
ISR Istrita 64.70 309 ⇑P **P** **05 15 33.3 +1.7**
BURAR Bucovina Array 64.75 312 ⇓P **P** **05 15 33.0 +1.0**
BURAR mb 05 15 34.2
BUR08 Bucovina Ar. S 64.75 312 P **P** **05 15 32.3 +0.3**
BUR08 lAmb lAmb 05 15 34.1
comp=Z,9.5nm,0.8s
LVV L'vov 64.77 314 *e*P **P** **05 15 32.8 +0.9**
OZUR 64.88 310 ⇑P **P** **05 15 33.7 +0.9**
TOLK Toolik Lake Re 64.95 23 P **P** **05 15 33.4 +0.6**
baz=291
TOLK Toolik Lake Re 64.95 23 P **P** **05 15 33.1 +0.3**
TOLK lAmb lAmb 05 15 33.5
comp=Z,14nm,0.9s
MLR Muntele Rosu 64.97 309 P **P** **05 15 33.6 +0.1**
MLR pmax pmax
comp=Z,12nm,0.8s
MLR Muntele Rosu 64.97 309 ⇑P **P** **05 15 35.0 +1.5**
MLR mb 05 15 41.9
MLR Muntele Rosu 64.97 309 P **P** **05 15 33.6 +0.1**
MLR lAmb lAmb 05 15 41.6
comp=Z,12nm,0.8s
DOPR Dopca 65.18 310 ⇑P **P** **05 15 35.6 +1.0**
ELL Elmali 65.20 299 P **P** **05 15 34.5 -0.6**
ELL pmax pmax
comp=Z,36nm,1.0s
ELL Elmali 65.20 299 P **P** **05 15 34.5 -0.6**
CNBA Chernabura Isl 65.22 40 P **P** **05 15 34.0 -0.7**
COLD Coldfoot 65.24 25 P **P** **05 15 34.8 +0.2**
ARCR ARCALIA 65.48 311 ⇑P **P** **05 15 38.7 +2.1**
VOIR 65.58 310 ⇑P **P** **05 15 38.2 +0.8**
KWP Kalwaria Pacla 65.65 315 *e*P **P** **05 15 38.8 +1.2**
KWP Kalwaria Pacla 65.65 315 *e*P **P** **05 15 38.8 +1.2**
KWP *e*P **P** **05 15 38.8 +1.2**
MLY Manley 65.84 27 P **P** **05 15 39.0 +0.4**
MLY lAmb lAmb 05 15 40.9
comp=Z,14nm,0.8s
ARR Arges 65.88 310 ⇑P **P** **05 15 40.4 +1.1**
COPA Copaceanca 65.92 308 ⇑P **P** **05 15 40.8 +1.3**
HUMR Humele 65.95 309 ⇑P **P** **05 15 39.8 +0.2**
PPLA Purkeypile 66.03 30 P **P** **05 15 40.5 +0.5**
BPAW Bear Paw Mtn. 66.09 28 P **P** **05 15 40.7 +0.4**
BPAW lAmb lAmb 05 15 41.5
comp=Z,27nm,1.2s
KOLS Kolonicke sedl 66.15 314 *e*P **P** **05 15 42.0 +1.1**
KOLS Kolonicke sedl 66.15 314 *e*P **P** **05 15 42.0 +1.1**
UZH Uzhgorod 66.25 314 *e*P **P** **05 15 41.5 +0.1**
UZH *e* 05 15 46.8
UZH *e* 05 15 57.3
UZH *e* 05 16 09.9
TRPA Tarpa 66.27 313 ⇑P **P** **05 15 42.4 +0.8**
TRPA mb 05 15 44.8
KTH Kantishna Hill 66.32 29 P **P** **05 15 42.2 +0.4**
KTH lAmb lAmb 05 15 53.5
comp=Z,22nm,1.2s
TRF Thorofare Moun 66.62 29 P **P** **05 15 44.4 +0.5**
DRGR 66.63 312 ⇑P **P** **05 15 44.8 +0.7**
NEA Nenana 66.67 28 P **P** **05 15 44.3 +0.4**
NEA lAmb lAmb 05 15 45.2
comp=Z,15nm,0.8s
RSO Redoubt South 66.68 32 P **P** **05 15 44.3 0.0**
MDM Murphy Dome 66.85 27 P **P** **05 15 45.2 +0.1**
MDM lAmb lAmb 05 15 47.3
comp=Z,15nm,0.9s
TCOL CIGO, UAF Yank 67.03 27 P **P** **05 15 46.4 +0.2**
baz=294
COLA College 67.03 27 ⇓ *i*P **P** **05 15 46.6 +0.4**
COLA pmax pmax
comp=Z,57nm,1.9s
COLA College 67.03 27 P **P** **05 15 47.0 +0.8**
MCK McKinley 67.07 28 P **P** **05 15 46.6 +0.1**
MCK pmax pmax
comp=Z,10.0nm,0.9s
MCK McKinley 67.07 28 P **P** **05 15 46.6 +0.1**
MCK lAmb lAmb 05 15 51.4
comp=Z,9.6nm,0.9s
POKR Poker Plat Res 67.10 27 P **P** **05 15 46.8 +0.2**
baz=294
GZR Gura Zlata 67.10 310 ⇑P **P** **05 15 47.9 +0.8**
WRH Wood River Hil 67.11 27 P **P** **05 15 46.2 -0.5**
WRH lAmb lAmb 05 15 52.2
comp=Z,8.7nm,0.8s
CCB Clear Creek Bu 67.15 27 P **P** **05 15 46.4 -0.6**
NIE Niedzica 67.19 315 *e*P **P** **05 15 49.0 +1.5**
NIE Niedzica 67.19 315 *e*P **P** **05 15 49.0 +1.5**
NIE *e*P **P** **05 15 49.0 +1.5**
OJC Ojcow 67.20 316 *e*P **P** **05 15 48.9 +1.4**
OJC Ojcow 67.20 316 *e*P **P** **05 15 48.9 +1.4**
OJC *e*P **P** **05 15 48.9 +1.4**
SUA Susitna One 67.20 31 P **P** **05 15 47.7 +0.2**
NC405 NORSAR Array S 67.30 329 P **P** **05 15 47.7 -0.3**
NC303 NORSAR Array S 67.41 329 P **P** **05 15 48.2 -0.5**
IL31 67.45 27 P **P** **05 15 47.7 -1.1**
ILAR Eielson Array 67.45 27 P **P** **05 15 47.5 -1.4**
comp=Z,3.0nm,0.7s,baz=286,slow=4.4,SNR=47
SIRR Siria 67.50 311 ⇑P **P** **05 15 50.3 +0.8**
NB201 NORSAR Array S 67.51 329 P **P** **05 15 49.0 -0.3**
NC602 NORSAR Array S 67.53 328 P **P** **05 15 50.0 +0.5**
NC602 lAmb lAmb 05 15 50.3
comp=Z,21nm,0.9s
NB2 NORSAR Subarra 67.55 329 P **P** **05 15 48.8 -0.8**
comp=Z,34nm,1.0s,baz=66,slow=6.5
NB2 NORSAR Subarra 67.55 329 P **P** **05 15 48.7 -0.8**
comp=Z,6.6nm,0.7s,baz=83,slow=6.5
NB2 NORSAR Subarra 67.55 329 P **P** **05 15 48.8 -0.8**
baz=66,slow=6.5
NOA NORSAR Array B 67.55 329 P **P** **05 15 48.9 -0.8**
comp=Z,15nm,0.9s,baz=67,slow=6.2,SNR=26
HDA Harding Lake 67.58 27 P **P** **05 15 48.7 -1.1**
baz=295
HDA Harding Lake 67.58 27 P **P** **05 15 48.5 -1.2**
PRP Porcupine Dome 67.65 26 P **P** **05 15 50.4 +0.1**
NC204 NORSAR Array S 67.66 329 P **P** **05 15 50.1 -0.2**
KARP Karpathos 67.71 299 P **P** **05 15 50.7 -0.3**
NBO00 NORSAR Array S 67.75 329 P **P** **05 15 50.5 -0.3**
BZS Buzias 67.77 311 ⇑P **P** **05 15 51.2 0.0**
NAO01 NORSAR Array S 67.78 329 P **P** **05 15 50.6 -0.4**
KDAK Kodiak Island 67.79 35 P **P** **05 15 51.0 -0.1**
KDAK pmax pmax
comp=Z,68nm,1.4s
KDAK Kodiak Island 67.79 35 P **P** **05 15 51.0 -0.1**
RC01 Rabbit Creek A 67.80 31 P **P** **05 15 51.5 +0.3**
RC01 lAmb lAmb 05 16 01.8
comp=Z,18nm,1.3s
BRLK Bradley Lake 67.82 33 P **P** **05 15 51.2 -0.1**
VTS Vitosha 67.82 307 ⇓P **P** **05 15 53.6 +1.8**
VTS mb 05 15 54.5
PMR Palmer 67.86 31 P **P** **05 15 52.0 +0.6**
PMR pmax pmax
comp=Z,17nm,0.8s
PMR Palmer 67.86 31 P **P** **05 15 52.0 +0.6**
PMR lAmb lAmb 05 16 04.5
comp=Z,17nm,0.8s
GHO Glory Hole Cre 67.88 30 P **P** **05 15 52.3 +0.6**
GHO lAmb lAmb 05 15 59.6
comp=Z,20nm,1.1s
DAG Danmarks Havn 67.96 349 *e*P **P** **05 15 51.3 -0.6**
DAG Danmarks Havn 67.96 349 *i*P **P** **05 15 51.3 -0.6**
DHY Denali Highway 67.98 29 P **P** **05 15 52.3 -0.1**
DHY lAmb lAmb 05 16 01.8
comp=Z,13nm,0.9s
BBOO Buckleboo 68.01 157 P **P** **05 15 51.9 -0.8**
BBOO lAmb lAmb 05 15 53.9
comp=Z,13nm,1.1s
MDVR Moldovita 68.02 310 ⇑P **P** **05 15 53.0 +0.1**
SML Sawmill 68.12 30 P **P** **05 15 53.2 0.0**
KNK Knik Glacier 68.23 31 P **P** **05 15 54.3 +0.4**
KNK lAmb lAmb 05 15 54.7
comp=Z,21nm,1.0s
EIDS Eidsvold 68.28 141 P **P** **05 15 54.4 -0.1**
EIDS lAmb lAmb 05 15 56.9
comp=Z,12nm,0.8s
OKC Ostrava-Krasne 68.33 316 *e*P **P** **05 15 56.2 +1.6**
OKC Ostrava-Krasne 68.33 316 *e*P **P** **05 15 56.2 +1.6**
SEW Seward 68.34 32 P **P** **05 15 54.8 +0.4**
SEW lAmb lAmb 05 15 57.4
comp=Z,21nm,1.0s
VYHS Vyhne 68.43 314 *e*P **P** **05 15 56.1 +0.8**
VYHS pmax pmax

	comp=Z,17nm,1.1s								
VYHS	**Vyhne**	**68.43**	**314**	*e*P		**P**		**05 15 56.1**	**+0.8**
SCM	**Sheep Creek Mo**	**68.54**	**30**	P		**P**		**05 15 56.1**	**+0.3**
SCM				pmax		pmax			
	comp=Z,27nm,1.1s								
SCM	**Sheep Creek Mo**	**68.54**	**30**	P		**P**		**05 15 56.1**	**+0.3**
SCM				IAmb		IAmb		05 15 56.4	
	comp=Z,27nm,1.1s								
RIDG	**Independent Ri**	**68.71**	**28**	P		**P**		**05 15 56.1**	**-0.8**
MORC	**Moravsky Berou**	**68.71**	**316**	P		**P**		**05 15 57.5**	**+0.4**
MORC				pmax		pmax			
	comp=Z,13nm,1.0s								
MORC	**Moravsky Berou**	**68.71**	**316**	⇑P		**P**		**05 15 57.8**	**+0.7**
MORC				mb				05 15 59.4	
MORC	**Moravsky Berou**	**68.71**	**316**	*e*P		**P**		**05 15 58.3**	**+1.2**
MORC	**Moravsky Berou**	**68.71**	**316**	P		**P**		**05 15 57.5**	**+0.4**
MORC				IAmb		IAmb		05 15 59.3	
	comp=Z,12nm,1.0s								
PAX	**Paxson**	**68.81**	**28**	P		**P**		**05 15 57.8**	**+0.2**
PAX				pmax		pmax			
	comp=Z,9.0nm,1.0s								
PAX	**Paxson**	**68.81**	**28**	P		**P**		**05 15 57.8**	**+0.2**
SCRK	**Sand Creek**	**68.94**	**27**	P		**P**		**05 15 57.6**	**-0.8**
SCRK				IAmb		IAmb		05 15 58.1	
	comp=Z,14nm,0.8s								
JAVC	**Velka Javorina**	**69.00**	**315**	*e*P		**P**		**05 16 01.4**	**+2.5**
KSP	**Ksiaz**	**69.03**	**317**	*e*P		**P**		**05 16 00.5**	**+1.5**
KSP	**Ksiaz**	**69.03**	**317**	*e*P		**P**		**05 16 00.5**	**+1.5**
KSP				*e*P		**P**		**05 16 00.5**	**+1.5**
KRLC	**Kraliky**	**69.05**	**316**	*e*P		**P**		**05 15 59.5**	**+0.3**
KRLC	**Kraliky**	**69.05**	**316**	*e*P		**P**		**05 15 59.5**	**+0.3**
DPC	**Dobruska-Polom**	**69.21**	**317**	*e*P		**P**		**05 16 01.4**	**+1.2**
DPC	**Dobruska-Polom**	**69.21**	**317**	*e*P		**P**		**05 16 01.4**	**+1.2**
STKA	**Stephens Creek**	**69.23**	**152**	P		**P**		**05 15 59.8**	**-0.6**
	comp=Z,11nm,0.7s,baz=326,slow=7.2,SNR=27								
STKA				LR		LR		05 48 12.5	
	comp=Z,55nm,20.0s,baz=343,slow=38								
STKA	**Stephens Creek**	**69.23**	**152**	P		**P**		**05 15 59.7**	**-0.6**
CHVC	**Chvalec**	**69.27**	**317**	*e*P		**P**		**05 16 01.4**	**+0.9**
SMOL	**Smolenice**	**69.28**	**315**	*e*P		**P**		**05 16 02.1**	**+1.5**
SMOL				pmax		pmax			
	comp=Z,8.0nm,1.0s								
SMOL	**Smolenice**	**69.28**	**315**	*e*P		**P**		**05 16 02.1**	**+1.5**
UPC	**Upice**	**69.33**	**317**	*e*P		**P**		**05 16 02.3**	**+1.4**
UPC	**Upice**	**69.33**	**317**	*e*P		**P**		**05 16 02.3**	**+1.4**
MODS	**Modra-Piesok**	**69.43**	**315**	*e*P		**P**		**05 16 02.0**	**+0.4**
MODS				pmax		pmax			
	comp=Z,15nm,1.1s								
MODS	**Modra-Piesok**	**69.43**	**315**	*e*P		**P**		**05 16 02.0**	**+0.4**
VRAC	**Vranov**	**69.47**	**316**	⇑P		**P**		**05 16 01.8**	**+0.1**
VRAC				mb				05 16 04.9	
VRAC	**Vranov**	**69.47**	**316**	*e*P		**P**		**05 16 03.2**	**+1.4**
HIN	**Hinchinbrook I**	**69.53**	**31**	P		**P**		**05 16 03.1**	**+1.1**
EGAK	**Eagle**	**69.63**	**26**	P		**P**		**05 16 02.0**	**-0.5**
KRUC	**Moravsky**	**69.69**	**316**	*e*P		**P**		**05 16 04.5**	**+1.4**
AGG	**Agios Georgios**	**69.87**	**304**	P		**P**		**05 16 03.5**	**-1.0**
AGG				pmax		pmax			
	comp=Z,26nm,1.0s								
AGG	**Agios Georgios**	**69.87**	**304**	P		**P**		**05 16 03.5**	**-1.0**
GLB	**Gilahina Butte**	**70.21**	**29**	P		**P**		**05 16 06.5**	**+0.3**
GLB				IAmb		IAmb		05 16 07.5	
	comp=Z,17nm,0.8s								
GOPC	**GO Pecny, Ondr**	**70.29**	**317**	*e*P		**P**		**05 16 08.7**	**+1.9**
GOPC	**GO Pecny, Ondr**	**70.29**	**317**	*e*P		**P**		**05 16 08.7**	**+1.9**
INK	**Inuvik**	**70.31**	**21**	P		**P**		**05 16 05.9**	**-0.7**
INK				pmax		pmax			
	comp=Z,13nm,0.8s								
INK	**Inuvik**	**70.31**	**21**	P		**P**		**05 16 05.9**	**-0.7**
INK				IAmb		IAmb		05 16 07.7	
	comp=Z,12nm,0.8s								
RAGM	**Ragged Mountai**	**70.34**	**31**	P		**P**		**05 16 07.1**	**+0.1**
BRG	**Berggiesshubel**	**70.37**	**318**	*e*P		**P**		**05 16 07.7**	**+0.4**
	comp=Z,7.5nm,0.9s								
BRG	**Berggiesshubel**	**70.37**	**318**	*e*P		**P**		**05 16 07.7**	**+0.4**
BRG				pmax		pmax			
	comp=Z,8.0nm,1.0s								
EPYK	**Eagle Plains**	**70.38**	**23**	P		**P**		**05 16 05.9**	**-1.1**
	baz=303								
EPYK	**Eagle Plains**	**70.38**	**23**	P		**P**		**05 16 06.1**	**-1.0**
EPYK				IAmb		IAmb		05 16 16.4	
	comp=Z,12nm,0.8s								
PRU	**Pruhonice**	**70.40**	**317**	*e*P		**P**		**05 16 07.5**	**0.0**
PRU	**Pruhonice**	**70.40**	**317**	*e*P		**P**		**05 16 07.5**	**0.0**
VRDI	**Verde Repeater**	**70.46**	**30**	P		**P**		**05 16 08.9**	**+1.0**
VRDI				IAmb		IAmb		05 16 12.1	
	comp=Z,14nm,1.0s								
CONA	**Conrad Observa**	**70.48**	**315**	*i* pP		**P**		**05 16 09.3**	**+1.1**
	comp=Z,12nm,1.1s,SNR=4.7								
MCARA	**McCarthy VSAT**	**70.57**	**29**	P		**P**		**05 16 08.4**	**+0.1**
PDG	**Podgorica**	**70.60**	**308**	P		**P**		**05 16 09.2**	**+0.4**
PDG				IAmb		IAmb		05 16 12.7	
	comp=Z,22nm,1.0s								
DAWY	**Dawson**	**70.65**	**26**	P		**P**		**05 16 08.5**	**-0.3**
CLL	**Collm**	**70.72**	**319**	*i* P		**P**		**05 16 09.9**	**+0.5**
CLL				*i* *PP		**sP**		**05 16 14.7**	**+0.4**
CLL				pmax		pmax			
	comp=Z,17nm,1.0s								
CLL				MLR		MLR			
	comp=Z,500nm,19.9s								
CLL	**Collm**	**70.72**	**319**	*i* P		**P**		**05 16 09.9**	**+0.5**
	comp=Z,17nm,1.0s								
CLL				*i* pP		**sP**		**05 16 14.7**	**+0.4**
CLL				LmV				05 49 00.0	
	comp=Z,500nm,19.9s								
CLL	**Collm**	**70.72**	**319**	P		**P**		**05 16 08.8**	**-0.6**
CLL				IAmb		IAmb		05 16 11.1	
	comp=Z,13nm,0.9s								
BALM	**Baldy**	**71.03**	**29**	P		**P**		**05 16 11.6**	**+0.4**
BALM				IAmb		IAmb		05 16 13.0	
	comp=Z,16nm,0.9s								
BARN	**Barnard Glacie**	**71.30**	**29**	P		**P**		**05 16 13.3**	**+0.3**
BARN				IAmb		IAmb		05 16 14.6	
	comp=Z,10nm,0.8s								
KHC	**Kasperske Hory**	**71.34**	**317**	⇑*e*P		**P**		**05 16 14.3**	**+1.1**
KHC				pmax		pmax			
	comp=Z,61nm,3.9s								
KHC	**Kasperske Hory**	**71.34**	**317**	*e*P		**P**		**05 16 13.6**	**+0.4**
GEC2	**GERESS Array S**	**71.39**	**316**	P		**P**		**05 16 11.9**	**-1.7**
GERES	**GERESS Array B**	**71.39**	**316**	P		**P**		**05 16 13.7**	**+0.1**
	comp=Z,6.7nm,0.9s,baz=64,slow=6.1,SNR=30								
MOA	**Molln**	**71.48**	**315**	*i* P		**P**		**05 16 14.5**	**+0.3**
	comp=Z,12nm,1.0s								
CTGM	**Chitina Glacie**	**71.49**	**29**	P		**P**		**05 16 13.9**	**-0.1**
CTGM				IAmb		IAmb		05 16 18.8	
	comp=Z,15nm,0.8s								
PERS	**Pernice**	**71.49**	**314**	*i* P		**P**		**05 16 15.4**	**+1.1**
SOKA	**Soboth**	**71.53**	**314**	*i* P		**P**		**05 16 15.1**	**+0.6**
	comp=Z,12nm,1.1s,SNR=7.6								
MESA	**MESA**	**71.63**	**30**	P		**P**		**05 16 12.8**	**-2.1**
OBKA	**Obir**	**71.90**	**314**	*i* P		**P**		**05 16 16.1**	**-0.6**
	comp=Z,6.2nm,1.1s								
BOJS	**Bojanci**	**71.90**	**313**	*i* P		**P**		**05 16 18.2**	**+1.6**
C36M	**Paulatuk**	**72.33**	**18**	P		**P**		**05 16 17.4**	**-1.4**
	baz=313								
KBA	**Koelnbreinsper**	**72.39**	**315**	*i* P		**P**		**05 16 20.4**	**+0.6**
	comp=Z,5.2nm,0.6s								
MYKA	**Terra Mystica**	**72.41**	**314**	*i* pP		**P**		**05 16 20.8**	**+1.1**
	comp=Z,5.3nm,0.8s								
TULEG	**Thule**	**72.64**	**360**	P		**P**		**05 16 19.5**	**-1.0**
TULEG				IAmb		IAmb		05 16 29.6	
	comp=Z,14nm,1.0s								
ABTA	**Abfaltersbach**	**73.05**	**315**	*i* P		**P**		**05 16 23.6**	**+0.1**
	comp=Z,10nm,1.4s								
STAL	**STALIGIAL**	**73.15**	**314**	P		**P**		**05 16 23.2**	**-1.0**
STAL				IAmb		IAmb		05 16 25.1	
	comp=Z,16nm,1.0s								
WTTA	**Wattenberg**	**73.34**	**315**	*i* P		**P**		**05 16 24.9**	**-0.5**
	comp=Z,22nm,1.1s,SNR=6.4								
WATA	**Walderalm**	**73.34**	**315**	*i* pP		**P**		**05 16 26.3**	**+0.9**
	comp=Z,11nm,0.9s								
SQTA	**Sankt Quirin**	**73.62**	**315**	*i* pP		**P**		**05 16 27.9**	**+0.9**
	SNR=5.2								
MOTA	**Moosalm**	**73.62**	**316**	*i* P		**P**		**05 16 26.0**	**-1.0**
	comp=Z,12nm,1.0s,SNR=7.1								
RETA	**Reutte**	**73.76**	**316**	*i* P		**P**		**05 16 27.7**	**-0.1**
	comp=Z,8.7nm,1.0s								
CTI	**Castel Tesino**	**73.90**	**314**	P		**P**		**05 16 28.6**	**0.0**
CTI				pmax		pmax			
	comp=Z,21nm,1.4s								
CTI	**Castel Tesino**	**73.90**	**314**	P		**P**		**05 16 28.6**	**0.0**
CTI				IAmb		IAmb		05 16 29.7	
	comp=Z,21nm,1.4s								
FETA	**Feichten**	**74.00**	**315**	*i* P		**P**		**05 16 29.3**	**0.0**
	comp=Z,15nm,1.0s,SNR=12								
TEOL	**Teolo**	**74.21**	**314**	P		**P**		**05 16 31.1**	**+0.7**
TEOL				IAmb		IAmb		05 16 32.6	
	comp=Z,18nm,0.8s								
DAVA	**Damuels**	**74.38**	**316**	*i* P		**P**		**05 16 30.4**	**-1.0**
	comp=Z,7.0nm,0.8s								
SUMG	**Summit**	**74.42**	**351**	*i* P		**P**		**05 16 31.6**	**0.0**
SUMG	**Summit**	**74.42**	**351**	*i* P		**P**		**05 16 31.6**	**0.0**
SUMG	**Summit**	**74.42**	**351**	P		**P**		**05 16 31.8**	**+0.2**
SUMG				IAmb		IAmb		05 16 34.0	
	comp=Z,14nm,0.9s								
FUORN	**Ofenpass-Fuorn**	**74.47**	**315**	P		**P**		**05 16 32.3**	**+0.2**
FUORN				IAmb		IAmb		05 16 34.5	
	comp=Z,22nm,0.8s								
NRCA	**Norcia**	**74.48**	**311**	P		**P**		**05 16 31.8**	**-0.2**
NRCA				IAmb		IAmb		05 16 34.4	
	comp=Z,32nm,1.2s								
AQU	**L'Aquila**	**74.52**	**310**	P		**P**		**05 16 32.3**	**+0.1**
AQU				pmax		pmax			
	comp=Z,22nm,0.9s								
AQU	**L'Aquila**	**74.52**	**310**	P		**P**		**05 16 32.3**	**+0.1**
AQU				IAmb		IAmb		05 16 34.8	
	comp=Z,22nm,0.9s								
BFO	**Black Forest**	**74.78**	**317**	*i* P		**P**		**05 16 35.0**	**+1.4**
MEM	**Membach**	**74.95**	**320**	P		**P**		**05 16 34.7**	**+0.2**
TUE	**Stuetta**	**75.10**	**315**	P		**P**		**05 16 34.3**	**-1.4**
ZCCA	**Zocca**	**75.13**	**313**	P		**P**		**05 16 35.0**	**-0.7**
DZM	**Mont Dzumac**	**75.34**	**127**	P		**P**		**05 16 38.0**	**+0.8**
	comp=Z,19nm,0.7s,baz=312,slow=4.3,SNR=15								
DZM	**Mont Dzumac**	**75.34**	**127**	P		**P**		**05 16 36.5**	**-0.7**
DZM				IAmb		IAmb		05 16 38.9	
	comp=Z,21nm,0.7s								
CAN	**Canberra**	**75.35**	**148**	P		**P**		**05 16 37.6**	**+0.7**
CAN				pmax		pmax			
	comp=Z,8.0nm,0.9s								
CAN	**Canberra**	**75.35**	**148**	P		**P**		**05 16 37.6**	**+0.7**
WLF	**Walferdange**	**75.35**	**319**	P		**P**		**05 16 38.7**	**+1.8**
WLF				pmax		pmax			
	comp=Z,28nm,0.9s								
WLF	**Walferdange**	**75.35**	**319**	P		**P**		**05 16 38.2**	**+1.3**
WLF	**Walferdange**	**75.35**	**319**	P		**P**		**05 16 38.6**	**+1.8**
BCLA	**Clavier**	**75.43**	**320**	P		**P**		**05 16 38.6**	**+1.3**
VLC	**Villacollemand**	**75.59**	**313**	P		**P**		**05 16 36.9**	**-1.5**
VLC				IAmb		IAmb		05 16 41.8	
	comp=Z,20nm,1.1s								
BMRD	**Maredsous**	**75.79**	**320**	P		**P**		**05 16 40.4**	**+1.1**
KMBO	**Kilima Mbogo**	**76.23**	**260**	P		**P**		**05 16 41.8**	**-0.9**
KMBO				pmax		pmax			
	comp=Z,10.0nm,1.1s								
KMBO	**Kilima Mbogo**	**76.23**	**260**	P		**P**		**05 16 43.9**	**+1.2**
	comp=Z,4.1nm,0.8s,baz=36,slow=8.9,SNR=9.7								
KMBO	**Kilima Mbogo**	**76.23**	**260**	P		**P**		**05 16 41.8**	**-0.9**
BNI	**Bardonecchia**	**77.43**	**315**	P		**P**		**05 16 49.2**	**+0.3**
BNI				pmax		pmax			
	comp=Z,9.0nm,1.0s								
BNI	**Bardonecchia**	**77.43**	**315**	P		**P**		**05 16 49.2**	**+0.3**
CLF	**Chambon-Feter**	**78.40**	**319**	P		**P**		**05 16 55.3**	**+1.2**
ABPO	**Ambohimpanom**	**78.49**	**240**	P		**P**		**05 16 55.3**	**+0.2**
ABPO				pmax		pmax			
	comp=Z,15nm,1.0s								
ABPO	**Ambohimpanom**	**78.49**	**240**	P		**P**		**05 16 55.3**	**+0.2**
ABPO				IAmb		IAmb		05 16 57.5	
	comp=Z,15nm,1.0s								
YKA	**Yellowknife Ar**	**80.01**	**19**	P		**P**		**05 17 01.1**	**-1.4**
	comp=Z,1.5nm,0.5s,baz=324,slow=5.1,SNR=78								
KEST	**Kesra**	**80.54**	**306**	P		**P**		**05 17 06.9**	**+0.8**
	comp=Z,4.6nm,0.9s,baz=56,slow=7.3,SNR=3.6								
KEST	**Kesra**	**80.54**	**306**	P		**P**		**05 17 06.6**	**+0.6**
SFJD	**Kangerlussuaq**	**81.17**	**353**	*e*P		**P**		**05 17 08.5**	**-0.2**
SFJD	**Kangerlussuaq**	**81.17**	**353**	*i* P		**P**		**05 17 08.5**	**-0.2**
ESBB	**Sonseca Array**	**86.95**	**315**	P		**P**		**05 17 39.1**	**+0.2**
ESBB				IAmb		IAmb		05 17 41.4	
	comp=Z,11nm,1.1s								
ESDC	**Sonseca Array**	**86.96**	**315**	P		**P**		**05 17 39.4**	**+0.5**
	comp=Z,6.6nm,0.9s,baz=40,slow=4.9,SNR=22								
PBRG	**Braganca**	**87.24**	**318**	*e*P		**P**		**05 17 40.2**	**0.0**
MVO	**Moncorvo**	**87.82**	**318**	*e*P		**P**		**05 17 44.1**	**+1.1**
	comp=Z,41nm,1.5s								
PCAB	**Cabril**	**88.03**	**319**	*e*P		**P**		**05 17 46.1**	**+2.1**
	comp=Z,67nm,1.5s								
B05A	**Bryant**	**88.08**	**32**	P		**P**		**05 17 44.1**	**+0.1**
	baz=317								
PVRL	**Vila Real**	**88.14**	**318**	*e*P		**P**		**05 17 46.0**	**+1.5**
D03D	**Eldon**	**88.16**	**33**	P		**P**		**05 17 45.3**	**+0.9**
	baz=316								
PVIS	**Viseu**	**88.61**	**318**	*e*P		**P**		**05 17 48.0**	**+1.3**
	comp=Z,41nm,1.3s								
MTE	**Manteigas**	**88.61**	**318**	*e*P		**P**		**05 17 48.6**	**+1.8**
	comp=Z,55nm,1.2s								
MTE	**Manteigas**	**88.61**	**318**	P		**P**		**05 17 46.6**	**-0.2**
PCBR	**Castelo Branco**	**88.94**	**317**	*e*P		**P**		**05 17 50.1**	**+1.9**
	comp=Z,26nm,1.5s								
E04D	**Cinebar**	**89.11**	**33**	P		**P**		**05 17 49.8**	**+0.9**
	baz=317								
PMRV	**Marv??o**	**89.16**	**317**	*e*P		**P**		**05 17 50.3**	**+1.0**
	comp=Z,33nm,1.4s								
COI	**Coimbra**	**89.24**	**318**	*e*P		**P**		**05 17 51.0**	**+1.4**
	comp=Z,62nm,1.2s								
COI	**Coimbra**	**89.24**	**318**	P		**P**		**05 17 49.0**	**-0.6**
COI				pmax		pmax			
	comp=Z,53nm,1.0s								
COI	**Coimbra**	**89.24**	**318**	P		**P**		**05 17 49.0**	**-0.6**
B08A	**Colville Reser**	**89.25**	**31**	P		**P**		**05 17 49.7**	**+0.2**
B08A				IAmb		IAmb		05 17 50.7	
	comp=Z,9.0nm,0.8s								
LTY	**Liberty**	**89.47**	**32**	P		**P**		**05 17 50.7**	**0.0**
F04A	**Amboy**	**89.64**	**34**	P		**P**		**05 17 52.5**	**+1.2**
F04A				IAmb		IAmb		05 17 52.5	
	comp=Z,14nm,0.8s								
PMTG	**Montargil**	**89.88**	**317**	*e*P		**P**		**05 17 50.4**	**-2.2**
FFC	**Flin Flon**	**90.10**	**18**	P		**P**		**05 17 52.5**	**-0.9**
FFC				pmax		pmax			
	comp=Z,10.0nm,0.8s								
FFC	**Flin Flon**	**90.10**	**18**	P		**P**		**05 17 52.5**	**-0.9**
FFC				IAmb		IAmb		05 17 53.3	
	comp=Z,10.0nm,0.8s								
EVO	**Evora**	**90.11**	**316**	*e*P		**P**		**05 17 55.5**	**+1.8**
	comp=Z,28nm,1.9s								
F05D	**White Salmon**	**90.13**	**33**	P		**P**		**05 17 54.7**	**+1.0**
	baz=318								
C09A	**Chrisman Ranch**	**90.13**	**30**	P		**P**		**05 17 53.9**	**+0.2**
I02D	**Swisshome**	**90.26**	**36**	P		**P**		**05 17 55.2**	**+0.9**
	baz=316								
NEW	**Newport**	**90.27**	**30**	P		**P**		**05 17 54.9**	**+0.6**
	baz=321								
NEW	**Newport**	**90.27**	**30**	P		**P**		**05 17 54.2**	**-0.1**
NEW				pmax		pmax			
	comp=Z,10.0nm,0.9s								
NEW	**Newport**	**90.27**	**30**	P		**P**		**05 17 54.2**	**-0.1**
NEW				IAmb		IAmb		05 17 55.8	
	comp=Z,10nm,0.8s								
TAM	**Tamanrasset**	**90.34**	**297**	P		**P**		**05 17 56.5**	**+1.2**
TAM				pmax		pmax			
	comp=Z,5.0nm,1.1s								
TAM	**Tamanrasset**	**90.34**	**297**	P		**P**		**05 17 56.5**	**+1.2**
PBEJ	**Beja**	**90.35**	**316**	*e*P		**P**		**05 17 57.0**	**+2.1**
	comp=Z,25nm,1.2s								
E07A	**Sunnyside**	**90.37**	**32**	P		**P**		**05 17 55.6**	**+0.8**
H04D	**Lebanon**	**90.51**	**35**	P		**P**		**05 17 56.3**	**+0.8**
	baz=317								
HAWA	**Hanford**	**90.64**	**32**	P		**P**		**05 17 56.6**	**+0.6**
HAWA				IAmb		IAmb		05 17 57.7	
	comp=Z,12nm,0.8s								
H04A	**Detroit Lake**	**90.66**	**35**	P		**P**		**05 17 56.2**	**0.0**
H04A				IAmb		IAmb		05 17 57.3	
	comp=Z,11nm,0.9s								
G05D	**Wamic, OR**	**90.67**	**34**	P		**P**		**05 17 57.3**	**+1.1**
	baz=318								
E08A	**Dider Farm, El**	**90.78**	**32**	P		**P**		**05 17 56.9**	**+0.2**
I03D	**Drain, OR**	**90.80**	**36**	P		**P**		**05 17 58.0**	**+1.2**
	baz=316								
J01E	**Myrtle Point**	**90.89**	**36**	P		**P**		**05 17 58.1**	**+0.9**
	baz=316								
PBDV	**Barranco-do-Ve**	**90.90**	**315**	*e*P		**P**		**05 18 00.6**	**+3.1**
G06A	**Carlson Farm,**	**91.00**	**33**	P		**P**		**05 17 59.0**	**+1.2**
G06A				IAmb		IAmb		05 17 59.2	
	comp=Z,9.8nm,0.9s								
I04A	**Tendick Farm,**	**91.20**	**35**	P		**P**		**05 17 59.5**	**+0.7**
	baz=317								
I05D	**Terrebonne, OR**	**91.33**	**34**	P		**P**		**05 18 00.2**	**+0.9**
	baz=318								
J04D	**Umpqua Nationa**	**91.75**	**35**	P		**P**		**05 18 02.4**	**+0.8**
	baz=317								
PINE	**Pine Mountain**	**91.92**	**34**	P		**P**		**05 18 03.5**	**+1.2**
F10A	**Beach Ranch, E**	**92.00**	**31**	P		**P**		**05 18 02.3**	**-0.2**
F10A				IAmb		IAmb		05 18 04.0	
	comp=Z,5.5nm,0.8s								
J05D	**Fort Rock, OR**	**92.16**	**35**	P		**P**		**05 18 04.4**	**+1.1**
	baz=318								
L04D	**Klamath Falls**	**92.40**	**36**	P		**P**		**05 18 05.2**	**+0.8**
	baz=317								
M02C	**Callahan**	**92.72**	**37**	P		**P**		**05 18 06.9**	**+1.0**
	baz=317								
MSO	**Missoula**	**92.73**	**29**	P		**P**		**05 18 06.5**	**+0.6**
	baz=323								
BMO	**Blue Mountains**	**92.83**	**32**	P		**P**		**05 18 06.1**	**-0.2**
BMO				pmax		pmax			
	comp=Z,3.0nm,0.8s								
BMO	**Blue Mountains**	**92.83**	**32**	P		**P**		**05 18 06.1**	**-0.2**
M04C	**Macdoel**	**92.96**	**36**	P		**P**		**05 18 07.8**	**+0.7**
	baz=317								
N02D	**Trinity Center**	**93.10**	**37**	P		**P**		**05 18 08.5**	**+0.8**
	baz=317								
EGMT	**Eagleton**	**93.39**	**26**	P		**P**		**05 18 08.5**	**-0.3**
	baz=326								
O02D	**Mt. Diablo Mer**	**93.64**	**38**	P		**P**		**05 18 10.6**	**+0.5**
	baz=317								
SCHQ	**Schefferville**	**94.41**	**358**	P		**P**		**05 18 12.6**	**-0.7**
	comp=Z,7.2nm,0.9s,baz=47,slow=3.1,SNR=3.9								
SCHQ	**Schefferville**	**94.41**	**358**	P		**P**		**05 18 12.9**	**-0.4**
SCHQ				IAmb		IAmb		05 18 25.8	
	comp=Z,6.6nm,1.1s								
BEKR	**Beckworth**	**95.13**	**37**	P		**P**		**05 18 17.6**	**+0.5**
ULM	**Lac du Bonnet**	**95.73**	**17**	P		**P**		**05 18 18.5**	**-0.9**
ULM				pmax		pmax			
	comp=Z,3.0nm,1.0s								
ULM	**Lac du Bonnet**	**95.73**	**17**	P		**P**		**05 18 17.7**	**-1.7**
	comp=Z,1.8nm,0.7s,baz=5.5,slow=10,SNR=4.3								
ULM				LR		LR		06 04 41.7	
	comp=Z,252nm,20.6s,baz=68,slow=37								
ULM	**Lac du Bonnet**	**95.73**	**17**	P		**P**		**05 18 18.5**	**-0.9**
NVAR	**Mina Array Bea**	**97.26**	**37**	P		Pdif		05 18 27.4	+0.5
	comp=Z,0.9nm,0.7s,baz=291,slow=4.5,SNR=9.1								
NVAR				LR		LR		06 06 29.9	
	comp=Z,63nm,18.0s,baz=22,slow=38								
TORD	**Torodi Ar. Bea**	**98.77**	**291**	P		Pdif		05 18 33.5	-0.3
	comp=Z,0.9nm,0.8s,baz=15,slow=6.1,SNR=3.0								
SYO	**Syowa Base**	**112.19**	**202**	⇑*e*PDiff		pPdif		05 19 39.0	+3.4
QSPA	**South Pole Qui**	**120.85**	**180**			**PKPdf**		**05 23 43.9**	**-1.1**
VNA2	**Neumayer--Watz**	**128.09**	**202**	PKPdf		**PKiKP**		**05 23 58.7**	**-0.5**
	baz=78,slow=2.2								
VNA3	**Neumayer Olymp**	**128.70**	**201**	PKPdf		**PKiKP**		**05 23 60.0**	**-0.6**
RUSC	**La Rusia**	**143.08**	**6**	*e*P		PKPbc		05 24 24.1	-1.5
RUSC	**La Rusia**	**143.08**	**6**	*e*P		PKPbc		05 24 24.1	-1.5
SPBC	**San Pablo de B**	**143.22**	**8**	*e*P		PKPbc		05 24 23.9	-1.6
SPBC	**San Pablo de B**	**143.22**	**8**	*e*P		PKPbc		05 24 23.9	-1.6
GUY2C	**Guyana, Caldas**	**143.48**	**10**	*e*P		PKPab		05 24 25.1	-0.6
GUY2C	**Guyana, Caldas**	**143.48**	**10**	*e*P		PKPab		05 24 25.1	-0.6
ROSC	**El Rosal**	**143.99**	**8**	*e*P		PKPbc		05 24 27.4	-0.6
ROSC	**El Rosal**	**143.99**	**8**	*e*P		PKPbc		05 24 27.4	-0.6
CHIC	**Chingaza**	**144.27**	**7**	*e*P		**PKPab**		**05 24 27.7**	**-1.0**
CHIC	**Chingaza**	**144.27**	**7**	*e*P		**PKPab**		**05 24 27.7**	**-1.0**
VILC	**Villavicencio,**	**144.78**	**7**	*e*P		PKPbc		05 24 29.8	-0.5
VILC	**Villavicencio,**	**144.78**	**7**	*e*P		PKPbc		05 24 29.8	-0.5
ORTC	**Ort

GTC	**Three Chop Rid**	**0.94**	**314**			Pg	05 55 36.7	-0.3
BRK	**Berkeley--Havi**	**0.94**	**159**			Pg	05 55 37.2	+0.2
VAK	**Adit at Lawren**	**0.94**	**158**			Pg	05 55 37.4	+0.4
CVPM	**Vollmer Peak**	**0.94**	**157**			Pg	05 55 36.6	-0.5
BKS	**Berkeley--Byer**	**0.94**	**158**			Pg	05 55 37.1	0.0
JPRM	**Presidio of Sa**	**0.97**	**170**			Pg	05 55 37.8	+0.1
GVV	**Valley View**	**1.02**	**0**			Pg	05 55 39.0	+0.3
BDM	**Black Diamond**	**1.02**	**141**			Pg	05 55 38.3	-0.4
CRPB	**Russellman Par**	**1.04**	**144**			Pg	05 55 38.5	-0.4
CRHM	**Round Hill Res**	**1.04**	**148**			Pg	05 55 38.8	-0.3
BGC	**Bolinger Road**	**1.05**	**152**			Pg	05 55 38.7	-0.6
JSBM	**San Bruno Moun**	**1.09**	**168**			Pg	05 55 39.7	-0.4
OHCM	**Honcut**	**1.10**	**58**			Pg	05 55 38.3	-1.9
CLCB	**Lake Chabot**	**1.12**	**154**			Pg	05 55 40.5	-0.1
JMGM	**Milagra Ridge**	**1.12**	**171**			Pg	05 55 40.5	-0.1
KCPM	**Cahto Peak**	**1.17**	**323**		Pg	Pb	05 55 41.7	-0.1
KCPM					Sg	Sg	05 55 56.3	-0.2
JCPM	**Coyote Point**	**1.20**	**166**			Pg	05 55 41.5	-0.4
ORV	**Oroville**	**1.22**	**49**	Pg		Pg	05 55 41.3	-1.1
ORV				Sg		Sg	05 55 58.0	-0.2
AASM	**Arroyo Seco**	**1.27**	**104**			Pn	05 55 41.3	-2.2
CNIC	**Niles Canyon**	**1.27**	**153**			Pg	05 55 42.2	-1.3
AFDM	**Forest Hills D**	**1.35**	**81**			Pn	05 55 42.5	-2.0
AFDM					Sn	Sb	05 56 02.1	-0.4
CMJM	**Mission San Jo**	**1.39**	**152**			Pn	05 55 43.3	-1.7
JSFB	**Stanford Teles**	**1.40**	**163**			Pn	05 55 44.0	-1.2
JFP	**Foothills Park**	**1.44**	**164**			Pn	05 55 43.9	-1.9
WDC	**Whiskeytown Da**	**1.83**	**3**	Pn		Pn	05 55 50.7	-0.4
CMB	**Columbia Colle**	**1.94**	**111**			Pn	05 55 52.3	-0.4
CMB					Sn	Sn	05 56 17.6	+0.1
LMEM	**Manzanita Entr**	**1.98**	**25**			Pn	05 55 52.4	-0.9
RUBR	**Rubicon Trail**	**2.00**	**81**			Pn	05 55 54.0	+0.4
RUBR					Sn	Sn	05 56 19.2	+0.1
BEKR	**Beckworth**	**2.12**	**58**			Sn	05 55 55.8	+0.5
BEKR					Sn	Sn	05 56 22.2	+0.2
MPK	**Martis Peak**	**2.14**	**74**			Pn	05 55 56.2	+0.5
SAO	**San Andreas Ge**	**2.21**	**153**	Pn		Pn	05 55 54.5	-1.9
VCNR	**Virginia City**	**2.42**	**76**			Pn	05 56 00.1	+0.6
PNTR	**Pine Nut**	**2.43**	**81**			Pn	05 56 00.1	+0.5
WAKR	**Walker**	**2.56**	**95**			Pn	05 56 02.4	+1.1
YERR	**Yerington**	**2.70**	**84**			Pn	05 56 03.4	+0.1
PAHR	**Pah Rah Range**	**2.73**	**69**			Pn	05 56 03.4	-0.3
PMPB	**Monarch Peak**	**2.94**	**149**	Pn		Pn	05 56 07.3	+0.8
YBH	**Yreka Blue Hor**	**2.98**	**360**	Pn		Pn	05 56 08.0	+1.0
MDPB	**Devils Postpil**	**3.05**	**110**			Pn	05 56 09.2	+1.1
MDPB					Sn	Sn	05 56 44.6	-0.6
OMMB	**Old Mammoth Mi**	**3.12**	**110**			Pn	05 56 10.2	+1.1
OMMB					Sn	Sn	05 56 47.6	+0.7
RYN	**Ryan**	**3.26**	**91**			Pn	05 56 11.0	+0.1
RYN					Sn	Sn	05 56 50.9	+0.8
NV11	**Mina Array Sit**	**3.56**	**94**			Pn	05 56 15.1	0.0
NV11					Sn	Sn	05 56 56.9	-0.8
PAGB	**Antelope Grade**	**3.59**	**146**	Pn		Pn	05 56 15.7	+0.4
PAGB					Sn	Sn	05 56 58.7	+0.6
KVN	**Kaiserville**	**3.59**	**84**			Pn	05 56 14.9	-0.6
ISA	**Isabella, Lake**	**4.56**	**131**	Pn		Pn	05 56 29.7	+1.0
ISA					Sn	Sn	05 57 21.1	-1.1

*ISCJB **16** 06:11:00.8±0.4,39.81N±0.05×139.66E±0.08, h183km±4km,mb3.4/7,Error ellipse: s-maj=11.1km s-min=7.7km az=23.8*
*JMA **16** 06:11:01.7±0.1,39.78N×139.67E,h181km±1km,M3.3*
*IDC **16** 06:11:02.7±2.0,39.76N×139.53E,h189km±26km,mb3.1/7, mb1 3.3/9,mb1mx3.1/40,mbtmp3.6/9,Error ellipse: s-maj=34.3km s-min=17.9km az=8.0*
ISC 16 06:11:01.8±0.8,39.80N±0.06×139.63E±0.07,h180km±6km, n26,σ0946/35,mb3.3/7,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JOG3	**Oga3**	**0.44**	**286**	P		**Pn**	**06 11 25.7**	**-0.5**
JYW	**Yuwa**	**0.51**	**120**	P		**Pn**	**06 11 26.9**	**+0.4**
JYW				*eS*		**Sn**	**06 11 45.9**	**+0.4**
JTB	**Tobi-shima**	**0.61**	**186**	P		**Pn**	**06 11 27.0**	**0.0**
JTB				*eS*		**Sn**	**06 11 46.2**	**-0.2**
JIW	**Iwasaki**	**0.84**	**20**	P		**Pn**	**06 11 28.6**	**+0.3**
JIW				*eS*		**Sn**	**06 11 49.1**	**+0.1**
JAH	**Hinai**	**0.86**	**63**	P		**Pn**	**06 11 28.6**	**+0.2**
JAH				S		**Sn**	**06 11 48.9**	**-0.1**
JRG	**Rokugo**	**0.87**	**117**	P		**Pn**	**06 11 28.5**	**0.0**
JRG				S		**Sn**	**06 11 49.2**	**+0.1**
JYK	**Kaneyama**	**1.04**	**147**	P		**Pn**	**06 11 29.8**	**0.0**
JYK				S		**Sn**	**06 11 51.5**	**+0.1**
JYA	**Atsumi**	**1.21**	**177**	P		**Pn**	**06 11 31.2**	**+0.1**
JYA				*eS*		**Sn**	**06 11 53.7**	**0.0**
JOM	**Ohasama**	**1.32**	**104**	P		**Pn**	**06 11 31.7**	**-0.3**
JAW	**Awa shima**	**1.37**	**193**	P		**Pn**	**06 11 32.4**	**-0.1**
JMK	**Ichinoseki**	**1.49**	**124**	P		**Pn**	**06 11 33.2**	**-0.4**
JMK				*eS*		**Sn**	**06 11 57.2**	**-1.0**
JANG	**Nango**	**1.55**	**68**	P		**Pn**	**06 11 33.9**	**-0.3**
JANG				*eS*		**Sn**	**06 11 58.6**	**-0.7**
JOT	**Ohata**	**1.91**	**34**	P		**Pn**	**06 11 38.0**	**+0.2**
JNS	**Sasagawa**	**1.99**	**187**	P		**Pn**	**06 11 38.8**	**+0.1**
JSD	**Sado**	**2.06**	**212**	P		**Pn**	**06 11 39.5**	**0.0**
JFT	**Otama**	**2.34**	**166**	P		**Pn**	**06 11 43.2**	**+0.5**
MAT	**Matsushiro**	**3.44**	**200**	P		**Pn**	**06 11 56.2**	**+0.4**
MJAR	**Matsushiro Arr** 0.5nm,0.3s,baz=16,slow=14,SNR=18	**3.44**	**199**	P		**Pn**	**06 11 56.4**	**+0.5**
USRK	**Ussuriysk Ar.** baz=129,slow=14,SNR=4.1	**7.19**	**310**	P		**Pn**	**06 12 44.5**	**+0.2**
SONM	**Songino Array** 0.2nm,0.3s,baz=106,slow=8.8,SNR=3.0	**25.14**	**300**	P		**P**	**06 16 11.0**	**+0.7**
MKAR	**Makanchi Array** 1.1nm,0.7s,baz=82,slow=11,SNR=6.9	**41.51**	**299**	P		**P**	**06 18 30.5**	**-0.7**
KURBB	**Kurchatov Arra** 1.1nm,0.4s,baz=80,slow=8.6,SNR=6.1	**43.23**	**305**	P		**P**	**06 18 44.2**	**-0.7**
ILAR	**Eielson Array** 0.7nm,0.7s,baz=272,slow=5.8,SNR=8.8	**47.94**	**34**	P		**P**	**06 19 22.2**	**+0.6**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=300,slow=6.2,SNR=6.1	**62.13**	**30**	P		**P**	**06 21 03.2**	**0.0**
AKASG	**Malin Array Be** 0.5nm,0.5s,baz=48,slow=6.4,SNR=3.0	**71.26**	**321**	P		**P**	**06 22 00.3**	**-0.9**
NVAR	**Mina Array Bea** 0.2nm,0.4s,baz=302,slow=4.1,SNR=2.8	**74.44**	**53**	P		**P**	**06 22 21.2**	**+0.8**

TRN 16 06:15:17.0,11.41N×61.48W,h57km,MD3.6,Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GRGR	**Grenville**	**0.74**	**347**	*eP*		Pn	06 15 32.9	+1.3
GRGR				*eS*		Sn	06 15 44.2	+1.9
TRN	**Trinidad (W)**	**0.76**	**174**	*eP*		Pn	06 15 33.0	+1.3
TRN				*eS*		Sn	06 15 43.6	+1.1
GRHS	**Sauteurs**	**0.83**	**349**	*eP*		Pn	06 15 33.8	+1.2
GRHS				*eS*		Sn	06 15 46.3	+2.1
GRSS	**Sisters**	**0.90**	**352**	*eP*		Pn	06 15 34.9	+1.4
GRSS				*eS*		Sn	06 15 47.9	+2.2
TOSP	**Speyside**	**0.93**	**97**	*eP*		Pn	06 15 35.8	+1.8
TOSP				*eS*		Sn	06 15 47.7	+1.2
TBH	**Brigand Hill**	**1.00**	**156**	*eP*		Pn	06 15 37.0	+2.0
TBH				*eS*		Sn	06 15 50.0	+1.8
GUIV	**Guiria**	**1.05**	**224**	*eP*		Pn	06 15 36.9	+1.3
GUIV				*eS*		Sn	06 15 51.0	+1.7
FCV	**Fort Charlotte**	**1.75**	**7**	*eP*		Pn	06 15 47.3	+2.2
FCV				*eS*		Sn	06 16 07.5	+1.1
SVB	**Belmont**	**1.87**	**7**	*eP*		Pn	06 15 47.7	+1.0
SVB				*eS*		Sn	06 16 11.0	+1.8
SVCV	**St. Vincent, C**	**1.88**	**10**	*eP*		Pn	06 15 47.8	+1.0
SVCV				*eS*		Sn	06 16 11.5	+2.0
SVV	**Soufriere Volc**	**1.92**	**8**	*eS*		Sn	06 16 11.8	+1.4
MCLT	**Moule a Chique**	**2.35**	**13**	*eP*		Pn	06 15 55.0	+1.8
MCLT				*eS*		Sn	06 16 21.8	+0.9
SLDE	**Delcer**	**2.42**	**10**	*eP*		Pn	06 15 56.7	+2.5
SLDE				*eS*		Sn	06 16 24.1	+1.5
SLB	**Belfond**	**2.44**	**10**	*eP*		Pn	06 15 56.9	+2.4
BCHC	**Barbados, Cave**	**2.49**	**46**	*eS*		Sn	06 16 25.2	+0.9
SLPA	**Patience**	**2.49**	**13**	*eP*		Pn	06 15 56.7	+1.5
SLPA				*eS*		Sn	06 16 25.3	+0.8
BBGH	**Gun Hill**	**2.55**	**47**	*eP*		Pn	06 15 57.3	+1.4
BBGH				*eS*		Sn	06 16 27.2	+1.4
SLBI	**Saint Lucia, B**	**2.65**	**11**	*eP*		Pn	06 15 58.5	+1.3
SLBI				*eS*		Sn	06 16 28.4	+0.3
ORIV	**Oritupano**	**3.00**	**219**	*eP*		Pn	06 16 03.9	+1.8
ORIV				*eS*		Sn	06 16 36.9	0.0
MPOM	**Morne Pois Mar**	**3.08**	**11**	*eP*		Pn	06 16 04.4	+1.2
BIM	**Bigot**	**3.12**	**7**	*eP*		Pn	06 16 05.1	+1.4
TRMF	**Trois Ilets**	**3.14**	**8**	*eP*		Pn	06 16 05.6	+1.6
ZAM	**Aeronautique**	**3.18**	**8**	*eP*		Pn	06 16 05.5	+1.0
LPMF	**Morne Lapointe**	**3.19**	**9**	*eP*		Pn	06 16 06.1	+1.4
FDF	**Fort de France**	**3.32**	**5**	*eP*		Pn	06 16 07.8	+1.3
FDF				*eS*		Sn	06 16 45.5	+0.6
PML	**Morne Lenard**	**3.37**	**5**	*eP*		Pn	06 16 08.6	+1.5
PCM	**Pelee Case Pet**	**3.40**	**4**	*eP*		Pn	06 16 08.9	+1.4
BAMF	**Morne Balai**	**3.40**	**5**	*eP*		Pn	06 16 09.1	+1.4
BAUV	**El Baul**	**6.91**	**250**	*eP*		Pn	06 16 54.7	-1.0
BAUV	**El Baul**	**6.91**	**250**	*eS*		Sn	06 18 10.9	-2.1

*SOME **16** 06:17:02.9,40.07N×75.28E,h15km*
*KRNET **16** 06:17:04.0±0.1,40.14N×75.29E,h16km,mb3.5*
*NNC **16** 06:17:05.8±1.0,40.21N×75.26E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=7.4km s-min=5.1km az=161.0*
ISC 16 06:17:07.3±1.3,40.27N±0.06×75.28E±0.03,h10km,n69, σ1965/102,29C-11D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn** baz=22	**1.28**	**25**	⇓*iP*		**Pn**	**06 17 30.0**	**-1.6**
NRN				⇓*iS*		**Sg**	**06 17 49.4**	**+0.7**
ARLS	**Aral** baz=37	**1.75**	**336**	⇓*iP*		**Pn**	**06 17 38.2**	**+0.3**
ARLS				⇓*iS*		**Sg**	**06 18 04.3**	**+0.8**
KZA	**Kyzart** baz=59	**1.81**	**359**	⇑*eP*		**Pb**	**06 17 39.9**	**-0.8**
KZA				⇑*iS*		**Sg**	**06 18 07.0**	**+1.5**
KZA	**Kyzart** SNR=75 baz=59	**1.81**	**359**	P		**Pb**	**06 17 40.2**	**-0.6**
ARSB	**Arslanbob** baz=5.0	**2.04**	**302**	⇑*eP*		**Pn**	**06 17 42.5**	**+0.6**
ARSB				⇑*iS*		**Sb**	**06 18 11.0**	**+0.9**
UCH	**Uchtor** baz=45	**2.04**	**344**	⇑*eP*		**Pb**	**06 17 43.7**	**-1.1**
UCH				⇑*iS*		**Sg**	**06 18 12.7**	**-0.3**
UCH	**Uchtor** SNR=72 baz=45	**2.04**	**344**	P		**Pb**	**06 17 44.1**	**-0.6**
ULHL	**Ulahol** baz=19	**2.10**	**20**	⇑*eP*		**Pb**	**06 17 44.2**	**-1.5**
ULHL				⇑*iS*		**Sg**	**06 18 14.2**	**-0.7**
ULHL	**Ulahol** SNR=17 baz=19	**2.10**	**20**	P		**Pb**	**06 17 45.4**	**-0.3**
AML	**Almayashu** baz=29	**2.21**	**328**	⇑*iP*		**Pb**	**06 17 46.2**	**-1.5**
AML				⇑*iS*		**Sb**	**06 18 16.7**	**+1.4**
AML	**Almayashu** SNR=48 baz=29	**2.21**	**328**	P		**Pb**	**06 17 47.0**	**-0.7**
BOOM	**Boomskoye usch** baz=12	**2.27**	**12**	⇑*iP*		**Pb**	**06 17 46.9**	**-1.6**
BOOM				⇑*iS*		**Sb**	**06 18 17.2**	**+0.4**
KDJ	**Kajisay** baz=35	**2.35**	**37**	⇑*iP*		**Pb**	**06 17 47.7**	**-2.1**
KDJ				⇑*iS*		**Sb**	**06 18 19.3**	**+0.4**
KBK	**Karagaybulak** baz=54	**2.40**	**354**	⇑*iP*		**Pb**	**06 17 49.0**	**-1.7**
KBK				⇑*iS*		**Sb**	**06 18 20.8**	**+0.4**
KBK	**Karagaybulak** SNR=27 baz=54	**2.40**	**354**	P		**Pb**	**06 17 49.9**	**-0.7**
AAK	**Ala-Archa** SNR=22	**2.44**	**346**	P		**Pb**	**06 17 50.5**	**-0.9**
AAK	**Ala-Archa** 36nm,0.9s	**2.44**	**346**	Pg		**Pb**	**06 17 49.7**	**-1.7**
AAK				⇓Lg		Lg	06 18 24.9	
FRU1	**Bishkek** baz=50	**2.59**	**349**	⇓*eP*		**Pn**	**06 17 51.1**	**+1.8**
FRU1				⇓*eS*		**Sb**	**06 18 25.2**	**-0.5**
EKS2	**Erkin-Say** baz=36	**2.65**	**335**	⇑*eP*		**Pn**	**06 17 51.5**	**+1.3**
EKS2				⇑*iS*		**Sb**	**06 18 26.6**	**-0.8**
EKS2	**Erkin-Say** SNR=18 baz=36	**2.65**	**335**	P		**Pb**	**06 17 55.0**	**+0.1**
TKM2	**Tokmak 2** SNR=31	**2.66**	**5**	P		**Pb**	**06 17 53.3**	**-1.9**
TKM2	**Tokmak 2** 7.7nm,0.3s	**2.66**	**5**	⇓Pn		**Pb**	**06 17 52.8**	**-2.4**
TKM2				⇓Lg		Lg	06 18 33.5	
CHMS	**Chumysh** SNR=16 76nm,0.5s	**2.76**	**352**	P		**Pb**	**06 17 54.8**	**-1.9**
KST	**Kastek** 21nm,0.5s	**2.82**	**10**	*eP*		**Pb**	**06 17 58.8**	**+1.0**
KST				*eS*		**Sg**	**06 18 39.0**	**+1.1**
KST	**Kastek** 99nm,0.4s 21nm,0.5s	**2.82**	**10**	Pg		**Pb**	**06 17 58.8**	**+1.0**
KST				Lg		Lg	06 18 39.0	
MRKS	**Merke** 10nm,0.3s	**2.92**	**329**	*eP*		**Pb**	**06 17 58.9**	**-0.5**
MRKS				*eS*		**Sg**	**06 18 39.3**	**-1.7**
MRKS	**Merke** 22nm,0.6s 18nm,0.3s	**2.92**	**329**	Pg		**Pb**	**06 17 58.9**	**-0.5**
MRKS				Lg		Lg	06 18 39.3	
IZV	**Izvestkoviy** 22nm,0.6s 17nm,0.5s	**2.94**	**19**	*eP*		**Pb**	**06 18 00.8**	**+0.9**
IZV				*eS*		**Sg**	**06 18 42.2**	**+0.5**
IZV	**Izvestkoviy** 99nm,0.5s 17nm,0.5s	**2.94**	**19**	Pg		**Pb**	**06 18 00.8**	**+0.9**
IZV				Lg		Lg	06 18 42.2	
ARK	**Arkit** 99nm,0.5s baz=4.0	**2.94**	**302**	⇑*iP*		**Pn**	**06 17 55.1**	**+0.9**
ARK				⇑*iS*		**Sn**	**06 18 32.3**	**+2.7**
MTBS	**Maitube** 64nm,0.2s 25nm,0.4s	**2.98**	**16**	*eP*		**Pb**	**06 18 02.3**	**+1.7**
MTBS				*eS*		**Sg**	**06 18 44.4**	**+1.2**
MTBS	**Maitube** 64nm,0.2s 25nm,0.4s	**2.98**	**16**	Pg		**Pb**	**06 18 02.3**	**+1.7**
MTBS				Lg		Lg	06 18 44.4	
DGS	**Degeres** 58nm,0.4s 18nm,0.4s	**2.99**	**7**	*eP*		**Pb**	**06 18 02.0**	**+1.2**
DGS				*eS*		**Sg**	**06 18 44.3**	**+0.9**
DGS	**Degeres** 58nm,0.4s 18nm,0.4s	**2.99**	**7**	Pg		**Pb**	**06 18 02.0**	**+1.2**
DGS				Lg		Lg	06 18 44.3	
TNSS	**Tian-Shan** 101nm,0.5s 17nm,0.3s	**3.03**	**24**	*eP*		**Pb**	**06 18 02.8**	**+1.2**
TNSS				*eS*		**Sg**	**06 18 45.5**	**+0.7**
TNSS	**Tian-Shan** 101nm,0.5s 17nm,0.3s	**3.03**	**24**	Pg		**Pb**	**06 18 02.8**	**+1.2**
TNSS				Lg		Lg	06 18 45.4	
USP	**Ospenovka** SNR=19	**3.05**	**349**	P		**Pn**	**06 17 58.4**	**+2.7**
ANVS	**Anan'yevo** baz=33	**3.08**	**35**	⇑*eP*		**Pn**	**06 17 57.8**	**+1.6**
ANVS				⇑*iS*		**Sn**	**06 18 36.4**	**+3.1**
MDOK	**Medeo** 9.0nm,0.4s 46nm,0.5s	**3.18**	**24**	*eP*		**Pb**	**06 18 05.1**	**+1.2**
MDOK				*eS*		**Sg**	**06 18 49.2**	**-0.2**
MDOK	**Medeo** 8.5nm,0.6s 43nm,0.6s	**3.18**	**24**	Pg		**Pb**	**06 18 04.5**	**+0.5**
MDOK				Lg		Lg	06 18 49.6	
MDOK	**Medeo** 9.0nm,0.4s 46nm,0.5s	**3.18**	**24**	Pg		**Pb**	**06 18 05.1**	**+1.2**
MDOK				Lg		Lg	06 18 49.2	
AAA	**Alma-Ata** 14nm,0.1s 15nm,0.2s	**3.18**	**22**	*eP*		**Pg**	**06 18 06.5**	**-1.8**
AAA				*eS*		**Sg**	**06 18 51.3**	**+1.9**
KNDC	**Almaty** 21nm,0.6s	**3.20**	**23**	⇑Pg		**Pb**	**06 18 03.5**	**-0.8**
KNDC				⇑Lg		Lg	06 18 51.0	
SGDS	**Sogindy** 13nm,0.4s 13nm,0.5s	**3.22**	**351**	Pg		**Pb**	**06 18 05.6**	**+1.0**
SGDS				Lg		Lg	06 18 50.0	
KOTS	**Kotyrbulak** 23nm,0.4s 263nm,0.5s	**3.26**	**24**	*eP*		**Pb**	**06 18 06.7**	**+1.3**
KOTS				*eS*		**Sg**	**06 18 52.2**	**+0.1**
KOTS	**Kotyrbulak** 23nm,0.4s 263nm,0.5s	**3.26**	**24**	Pg		**Pb**	**06 18 06.7**	**+1.3**
KOTS				Lg		Lg	06 18 52.2	
BTK	**Batken** baz=70 baz=70	**3.43**	**268**	⇑*eP*		**Pn**	**06 18 01.4**	**+0.5**
BTK				⇑*iS*		**Sn**	**06 18 42.7**	**+1.1**
KTBS	**Karatobe** 14nm,0.4s 73nm,0.5s	**3.59**	**16**	*eP*		**Pb**	**06 18 12.3**	**+1.3**
KTBS				*eS*		**Sg**	**06 19 01.4**	**-1.3**
KTBS	**Karatobe** 14nm,0.4s 73nm,0.5s	**3.59**	**16**	Pg		**Pb**	**06 18 12.3**	**+1.3**
KTBS				Lg		Lg	06 19 02.7	
SATY	**Saty** 14nm,0.3s 45nm,0.4s	**3.64**	**39**	*eP*		**Pb**	**06 18 13.3**	**+1.6**
SATY				*eS*		**Sg**	**06 19 03.3**	**-0.8**
SATY	**Saty** 14nm,0.3s 45nm,0.4s	**3.64**	**39**	Pg		**Pb**	**06 18 13.3**	**+1.6**
SATY				Lg		Lg	06 19 03.3	
KUU	**Kurty** 6.8nm,0.4s 22nm,0.5s	**3.71**	**12**	*eP*		**Pb**	**06 18 14.4**	**+1.6**
KUU				*eS*		**Sg**	**06 19 05.2**	**-1.1**
KUU	**Kurty** 6.8nm,0.4s 22nm,0.5s	**3.71**	**12**	Pg		**Pb**	**06 18 14.4**	**+1.6**
KUU				Lg		Lg	06 19 05.2	
CHKK	**Chushkaly** 6.9nm,0.5s 28nm,0.3s	**3.80**	**19**	*eP*		**Pb**	**06 18 16.5**	**+2.1**
CHKK				*eS*		**Sg**	**06 19 09.0**	**-0.3**
CHKK	**Chushkaly** 6.9nm,0.5s 28nm,0.3s	**3.80**	**19**	Pg		**Pb**	**06 18 16.5**	**+2.1**
CHKK				Lg		Lg	06 19 09.0	
KURS	**Kuram** 9.7nm,0.8s 21nm,0.9s	**3.87**	**33**	*eP*		**Pb**	**06 18 18.1**	**+2.4**
KURS				*eS*		**Sg**	**06 19 11.4**	**-0.2**
KURS	**Kuram** 9.7nm,0.8s 21nm,0.9s	**3.87**	**33**	Pg		**Pb**	**06 18 18.1**	**+2.4**
KURS				Lg		Lg	06 19 11.4	
ARXS	**Arharly** 7.3nm,0.4s 26nm,0.5s	**4.37**	**25**	*eP*		**Pb**	**06 18 26.3**	**+2.1**
ARXS				*eS*		**Sg**	**06 19 25.7**	**-1.8**
ARXS	**Arharly** 7.3nm,0.4s 26nm,0.5s	**4.37**	**25**	Pg		**Pb**	**06 18 26.3**	**+2.1**
ARXS				Lg		Lg	06 19 25.7	
PDGK	**Podgornoye** 3.1nm,0.4s 18nm,0.6s	**4.38**	**44**	Pg		**Pb**	**06 18 25.8**	**+1.3**
PDGK				Lg		Lg	06 19 24.6	
PDGK	**Podgornoye** 4.2nm,0.5s 27nm,0.5s	**4.38**	**44**	⇑Pg		**Pg**	**06 18 27.8**	**-3.4**
PDGK				⇑Lg		Lg	06 19 24.6	
KK31	**Karatay Array** 0.5nm,0.4s,baz=129,slow=13,SNR=6.9 1.4nm,0.4s,baz=126,slow=14,SNR=7.1 3.3nm,0.4s,baz=136,slow=27,SNR=5.6	**4.56**	**310**	⇓Pn ⇓Pg ⇑Lg		**Pn** **Pb** Lg	**06 18 18.5** **06 18 27.8** 06 19 30.5	**+2.1** **+0.4**
KTMS	**Ketmen** 0.7nm,0.1s 14nm,0.6s	**4.94**	**48**	*eP*		**Pb**	**06 18 35.7**	**+1.8**
KTMS				*eS*		**Sg**	**06 19 42.3**	**-3.5**
KTMS	**Ketmen** 0.7nm,0.1s 14nm,0.6s	**4.94**	**48**	Pg		**Pb**	**06 18 35.7**	**+1.8**
KTMS				Lg		Lg	06 19 42.3	
DJR	**Jarkent** 1.2nm,0.4s 9.3nm,0.5s	**5.26**	**38**	*eP*		**Pb**	**06 18 42.4**	**+3.1**
DJR				*eS*		**Sg**	**06 19 53.2**	**-2.9**
DJR	**Jarkent** 1.2nm,0.4s 9.3nm,0.5s	**5.26**	**38**	Pg		**Pb**	**06 18 42.4**	**+3.1**
DJR				Lg		Lg	06 19 53.2	
TDK	**Taldyqorghan** 33nm,0.4s 46nm,0.7s	**5.26**	**25**	*eP*		**Pg**	**06 18 43.6**	**-4.4**
TDK				*eS*		**Sg**	**06 19 55.1**	**-1.0**
TDK	**Taldyqorghan** 33nm,0.4s 46nm,0.7s	**5.26**	**25**	Pg		**Pg**	**06 18 43.6**	**-4.4**
TDK				Lg		Lg	06 19 56.3	
KAPS	**Kapalarasan** 2.1nm,0.4s 6.1nm,0.5s	**5.84**	**30**	Pg		Pb	**06 18 53.7**	**+4.5**
KAPS				Lg		Lg	06 20 12.5	

NNC 16 06:28:39.2±3.5,54.32N×86.33E,h0km,mb3.8,mpv3.0, 7C-7D,Error ellipse: s-maj=37.1km s-min=16.5km az=172.0,Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array** 0.3nm,0.3s 4.4nm,0.6s	**0.96**	**248**	⇑P		Pg	06 28 57.3	-0.4
ZAA0				⇓S		Sg	06 29 11.0	+0.9
KURK	**Kurchatov** 2.1nm,0.9s 2.3nm,1.0s 7.5nm,1.4s	**5.93**	**236**	⇓Pn ⇑Sn ⇑Lg		Pn Sn Lg	06 30 11.7 06 31 21.1 06 31 48.2	+3.5 +4.3
KURBB	**Kurchatov Arra** 2.9nm,0.8s 0.9nm,0.3s 2.7nm,0.7s	**6.03**	**235**	⇑Pn ⇓Sn ⇑Lg		Pn Sn Lg	06 30 11.8 06 31 20.2 06 31 51.4	+2.2 +0.8
MK31	**Makanchi Array** 1.7nm,0.8s,baz=25,slow=13,SNR=13 0.6nm,0.6s,baz=27,slow=19 1.2nm,0.7s,baz=25,slow=25	**7.96**	**200**	⇓Pn ⇓Sn ⇓Lg		Pn Sn Lg	06 30 38.3 06 32 08.9 06 32 50.8	+2.2 +2.1
MAKZ	**Makanchi** 3.6nm,1.0s 6.2nm,1.4s 3.1nm,1.2s	**8.01**	**202**	⇑Pn ⇑Sn ⇓Lg		Pn Sn Lg	06 30 34.6 06 32 09.6 06 32 52.5	-2.2 +1.4

*BJI **16** 06:31:43.0±0.0,20.09S×177.14W,h536km,mb4.9/34, mB5.1/21*
*ISCJB **16** 06:31:44.4±0.1,20.40S±0.03×178.00W±0.03,h534km, mb4.8/82,Error ellipse: s-maj=4.5km s-min=3.5km az=40.4*
*NEIC **16** 06:31:45.4±1.5,20.36S±0.09×178.00W±0.09, h538km±3km,mb4.8/118*
*IDC **16** 06:31:47.1±1.1,20.47S×177.99W,h553km±11km, mb4.0/22,mb1 4.1/25,mb1mx3.9/40,mbtmp4.8/25,Error ellipse: s-maj=13.3km s-min=9.3km az=160.0*
*MOS **16** 06:31:47.4±2.8,20.21S×178.14W,h539km,mb4.8/

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.64**	**304**	*c i* P	**P**	**06 33 13.6**	**+2.4**
MSVF	**Nonsavu**	**4.64**	**304**	P	**P**	**06 33 12.9**	**+1.7**
NIUE	**Niue**	**7.61**	**82**	P	**P**	**06 33 40.5**	**+1.9**
	baz=7.6,SNR=8.5						
NIUE	**Niue**	**7.61**	**82**	P	**P**	**06 33 40.4**	**+1.9**
AFI	**Afiamalu**	**8.67**	**43**	P	**P**	**06 33 48.8**	**-0.6**
AFI				S	**S**	**06 35 26.1**	**-5.2**
AFI	**Afiamalu**	**8.67**	**43**	P	**P**	**06 33 48.4**	**-1.0**
	19nm,0.3s,baz=188,slow=1.9,SNR=25						
AFI				S	**S**	**06 35 25.7**	**-5.6**
	17nm,0.3s,baz=37,slow=20,SNR=9.4						
AFI	**Afiamalu**	**8.67**	**43**	P	**P**	**06 33 48.8**	**-0.6**
AFI				S	**S**	**06 35 26.1**	**-5.2**
RAO	**Raoul Island**	**8.86**	**180**	P	**P**	**06 33 51.3**	**+0.4**
RAO				S	**S**	**06 35 34.5**	**+0.2**
RAO	**Raoul Island**	**8.86**	**180**	P	**P**	**06 33 51.3**	**+0.4**
RAO				S	**S**	**06 35 34.5**	**+0.2**
DZM	**Mont Dzumac**	**14.71**	**261**	*e* P	**P**	**06 34 50.3**	**-1.7**
	54nm,1.4s						
DZM	**Mont Dzumac**	**14.71**	**261**	P	**P**	**06 34 54.1**	**+2.0**
	3.5nm,0.3s,baz=86,slow=15,SNR=33						
DZM	**Mont Dzumac**	**14.71**	**261**	P	**P**	**06 34 51.0**	**-1.0**
DZM					**S**	**06 37 30.7**	**+4.6**
OUZ	**Omahuta**	**16.60**	**205**	P	**P**	**06 35 11.9**	**+1.2**
OUZ				IAmb	IAmb	06 35 26.9	
	comp=Z,26nm,1.4s						
RAR	**Rarotonga**	**16.96**	**96**	P	**P**	**06 35 16.2**	**+1.8**
RAR				pmax	pmax		
	comp=Z,41nm,0.9s						
RAR	**Rarotonga**	**16.96**	**96**	P	**P**	**06 35 15.7**	**+1.4**
	comp=Z,2.3nm,0.3s,baz=246,slow=7.8,SNR=10.0						
RAR	**Rarotonga**	**16.96**	**96**	P	**P**	**06 35 16.2**	**+1.8**
MXZ	**Matakaoa Point**	**17.46**	**190**	P	**P**	**06 35 17.9**	**-0.8**
URZ	**Urewera**	**18.36**	**193**	P	**P**	**06 35 26.5**	**-0.4**
	comp=Z,3.7nm,0.3s,baz=298,slow=2.8,SNR=16						
URZ				S	**S**	**06 38 20.3**	**-7.1**
	comp=Z,0.6nm,0.3s,baz=60,slow=22,SNR=6.1						
URZ	**Urewera**	**18.36**	**193**	P	**P**	**06 35 25.3**	**-1.6**
BKZ	**Black Stump Fm**	**19.36**	**193**	P	**P**	**06 35 35.1**	**-1.0**
BFZ	**Birch Farm**	**20.87**	**193**	P	**P**	**06 35 48.6**	**-1.1**
BFZ				IAmb	IAmb	06 36 07.2	
	comp=Z,38nm,1.2s						
MSWZ	**Moikau Station**	**21.79**	**194**	P	**P**	**06 35 57.8**	**-0.2**
SNZO	**South Karori**	**21.82**	**195**	P	**P**	**06 35 57.7**	**-0.5**
BHW	**Baring Head**	**21.87**	**195**	P	**P**	**06 35 59.0**	**+0.3**
PLWZ	**Palliser**	**21.93**	**194**	P	**P**	**06 35 58.9**	**-0.4**
QRZ	**Quartz Range**	**21.98**	**200**	P	**P**	**06 35 59.9**	**+0.3**
QRZ				IAmb	IAmb	06 36 16.5	
	comp=Z,57nm,1.5s						
NNZ	**Nelson**	**22.08**	**198**	P	**P**	**06 36 00.6**	**0.0**
TUWZ	**Tuamarina**	**22.12**	**196**	P	**P**	**06 35 59.2**	**-1.7**
BSWZ	**Blackbirch Sta**	**22.41**	**196**	P	**P**	**06 36 03.7**	**+0.2**
THZ	**Tophouse**	**22.72**	**198**	P	**P**	**06 36 06.7**	**+0.3**
THZ				IAmb	IAmb	06 36 21.5	
	comp=Z,26nm,1.3s						
KHZ	**Kahutara**	**23.15**	**196**	P	**P**	**06 36 09.2**	**-0.9**
KHZ				IAmb	IAmb	06 36 10.3	
	comp=Z,20nm,1.1s						
LTZ	**Lake Taylor**	**23.84**	**198**	P	**P**	**06 36 14.9**	**-1.5**
HNR	**Honiara**	**23.98**	**294**	P	**P**	**06 36 15.5**	**-2.4**
HNR				pmax	pmax		
	comp=Z,164nm,1.1s						
HNR	**Honiara**	**23.98**	**294**	P	**P**	**06 36 15.5**	**-2.4**
OXZ	**Oxford**	**24.41**	**198**	P	**P**	**06 36 20.2**	**-1.1**
MQZ	**McQueen's Vall**	**24.59**	**197**	P	**P**	**06 36 21.4**	**-1.4**
MQZ				IAmb	IAmb	06 36 33.8	
	comp=Z,29nm,1.3s						
RPZ	**Rata Peaks**	**25.06**	**199**	P	**P**	**06 36 27.9**	**+0.8**
RPZ				IAmb	IAmb	06 36 42.7	
	comp=Z,35nm,1.5s						
FOZ	**Fox Glacier**	**25.30**	**201**	P	**P**	**06 36 29.3**	**+0.1**
FOZ				IAmb	IAmb	06 36 40.2	
	comp=Z,47nm,1.4s						
LBZ	**Lake Benmore**	**25.93**	**200**	P	**P**	**06 36 34.0**	**-0.8**
LBZ				IAmb	IAmb	06 36 46.7	
	comp=Z,20nm,1.1s						
WKZ	**Wanaka**	**26.71**	**201**	P	**P**	**06 36 40.8**	**-0.9**
WKZ				IAmb	IAmb	06 36 53.9	
	comp=Z,52nm,1.3s						
PAE	**Paea**	**26.89**	**89**	*e* P	**P**	**06 36 44.4**	**+0.9**
	comp=Z,8.3nm,0.9s						
PPT2	**Papeete2**	**26.90**	**89**	*e* P	**P**	**06 36 45.0**	**+1.2**
	comp=Z,49nm,0.8s						
PPT	**Papeete**	**26.91**	**89**	P	**P**	**06 36 45.2**	**+1.5**
	comp=Z,42nm,0.4s,baz=38,slow=6.0,SNR=23						
PPTF	**Pamatai, Papee**	**26.91**	**89**	P	**P**	**06 36 45.4**	**+1.6**
TVO	**Taravao**	**27.17**	**89**	*e* P	**P**	**06 36 47.0**	**+0.9**
	comp=Z,12nm,0.7s						
MLZ	**Mavora Lakes**	**27.49**	**202**	P	**P**	**06 36 47.0**	**-1.5**
MLZ				IAmb	IAmb	06 37 00.5	
	comp=Z,38nm,1.5s						
EIDS	**Eidsvold**	**28.98**	**254**	P	**P**	**06 37 01.8**	**0.0**
	baz=29,SNR=19						
EIDS	**Eidsvold**	**28.98**	**254**	P	**P**	**06 37 01.9**	**0.0**
EIDS				IAmb	IAmb	06 37 02.6	
	comp=Z,26nm,0.6s						
ARMA	**Armidale**	**29.22**	**244**	P	**P**	**06 37 04.9**	**+0.9**
	baz=29,SNR=12						
ARMA	**Armidale**	**29.22**	**244**	P	**P**	**06 37 03.9**	**0.0**
ARMA				IAmb	IAmb	06 37 05.6	
	comp=Z,16nm,0.7s						
MGCD	**Mangrove Creek**	**30.37**	**239**	P	**P**	**06 37 14.3**	**+0.6**
	baz=30						
RMQ	**Roma**	**31.15**	**252**	P	**P**	**06 37 21.4**	**+0.9**
	baz=31,SNR=13						
CNB	**Canberra Magne**	**32.39**	**236**	P	**P**	**06 37 31.8**	**+0.8**
	baz=32,SNR=14						
CAN	**Canberra**	**32.68**	**236**	P	**P**	**06 37 32.1**	**-1.3**
CAN				pmax	pmax		
	comp=Z,14nm,0.9s						
CAN	**Canberra**	**32.68**	**236**	P	**P**	**06 37 32.1**	**-1.3**
CAN				IAmb	IAmb	06 37 34.8	
	comp=Z,14nm,0.9s						
CMSA	**Cobar Meteorol**	**34.44**	**244**	P	**P**	**06 37 48.4**	**+0.2**
	baz=34,SNR=31						
QLP	**Quilpie**	**35.20**	**253**	P	**P**	**06 37 54.9**	**+0.2**
	baz=35,SNR=3.3						
PMG	**Port Moresby**	**35.41**	**283**	*i* P	**P**	**06 37 56.1**	**-0.5**
PMG				pmax	pmax		
	comp=Z,210nm,0.9s						
MTSU	**Mount Surprise**	**35.70**	**267**	P	**P**	**06 37 59.1**	**+0.1**
	baz=36,SNR=75						
PATS	**Pohnpei**	**35.75**	**317**	P	**P**	**06 37 59.5**	**+0.2**
TOO	**Toolangi**	**36.06**	**234**	P	**P**	**06 38 02.1**	**+0.4**
	baz=36,SNR=21						
TOO	**Toolangi**	**36.06**	**234**	P	**P**	**06 38 01.4**	**-0.4**
TOO				pmax	pmax		
	comp=Z,17nm,0.7s						
TOO	**Toolangi**	**36.06**	**234**	P	**P**	**06 38 01.4**	**-0.4**
TOO				IAmb	IAmb	06 38 02.9	
	comp=Z,17nm,0.7s						
TAU	**Tasmania Unive**	**36.80**	**224**	P	**P**	**06 38 06.9**	**-0.7**
TAU				pmax	pmax		
	comp=Z,24nm,1.0s						
TAU	**Tasmania Unive**	**36.80**	**224**	P	**P**	**06 38 06.9**	**-0.7**
TAU				IAmb	IAmb	06 38 17.9	
	comp=Z,24nm,1.0s						
COEN	**Coen**	**37.68**	**273**	P	**P**	**06 38 15.4**	**+0.2**
	baz=38,SNR=26						
COEN	**Coen**	**37.68**	**273**	P	**P**	**06 38 15.7**	**+0.5**
COEN				IAmb	IAmb	06 38 16.4	
	comp=Z,28nm,0.8s						
STKA	**Stephens Creek**	**37.94**	**244**	P	**P**	**06 38 17.8**	**+0.6**
STKA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
STKA	**Stephens Creek**	**37.94**	**244**	P	**P**	**06 38 17.6**	**+0.4**
	comp=Z,16nm,0.7s,baz=88,slow=9.5,SNR=40						
STKA	**Stephens Creek**	**37.94**	**244**	P	**P**	**06 38 17.8**	**+0.6**
TAOE	**Nuku Hiva Isla**	**38.17**	**78**	P	**P**	**06 38 20.0**	**+0.6**
ARPS	**Mount Arapiles**	**38.65**	**236**	P	**P**	**06 38 22.9**	**0.0**
	baz=39,SNR=13						
QIS	**Mount Isa**	**39.74**	**262**	P	**P**	**06 38 31.3**	**-0.6**
	baz=40,SNR=14						
HTT	**Hallett**	**40.38**	**242**	P	**P**	**06 38 37.0**	**0.0**
	baz=40,SNR=26						
BBOO	**Buckleboo**	**42.70**	**243**	P	**P**	**06 38 55.1**	**-0.1**
	baz=43,SNR=116						
BBOO	**Buckleboo**	**42.70**	**243**	P	**P**	**06 38 55.1**	**-0.1**
GENI	**Genyem**	**44.54**	**288**	P	**P**	**06 39 10.2**	**+0.5**
AS31	**Alice Springs**	**44.65**	**257**	P	**P**	**06 39 10.4**	**-0.2**
AS31				IAmb	IAmb	06 39 11.1	
	comp=Z,16nm,0.8s						
ASAR	**Alice Springs**	**44.65**	**257**	P	**P**	**06 39 10.3**	**-0.2**
	comp=Z,65nm,0.7s,baz=95,slow=7.6,SNR=712						
ASAR				PcP	**PcP**	**06 40 41.5**	**-0.2**
	comp=Z,6.7nm,0.6s,baz=103,slow=4.0,SNR=7.6						
ASAR				ScP	**ScP**	**06 43 44.4**	**+1.2**
	comp=Z,2.3nm,0.8s,baz=88,slow=4.3,SNR=7.5						
ASAR				S	**S**	**06 45 04.8**	**-3.3**
	comp=Z,2.9nm,0.9s,baz=92,slow=14,SNR=16						
WRAB	**Tennant Creek**	**44.71**	**262**	P	**P**	**06 39 10.1**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,65nm,1.0s						
WRAB	**Tennant Creek**	**44.71**	**262**	P	**P**	**06 39 10.1**	**-1.0**
OPA	**Opana**	**46.08**	**26**	P	**P**	**06 39 22.5**	**+1.1**
OPA				pmax	pmax		
	comp=Z,255nm,1.5s						
OPA	**Opana**	**46.08**	**26**	P	**P**	**06 39 22.5**	**+1.1**
SMPI	**Sarmi**	**46.11**	**288**	P	**P**	**06 39 22.3**	**+0.5**
	comp=Z,71nm,0.9s						
KDU	**Kakadu**	**48.05**	**271**	P	**P**	**06 39 35.8**	**-0.6**
	baz=48,SNR=93						
MTN	**Manton Dam**	**49.27**	**270**	P	**P**	**06 39 44.5**	**-0.9**
	baz=49,SNR=35						
MTN	**Manton Dam**	**49.27**	**270**	P	**P**	**06 39 44.6**	**-0.9**
FORT	**Forrest**	**49.45**	**246**	P	**P**	**06 39 45.8**	**-0.7**
	baz=50,SNR=43						
FORT	**Forrest**	**49.45**	**246**	P	**P**	**06 39 46.0**	**-0.5**
WRKA	**Warakurna**	**49.60**	**254**	P	**P**	**06 39 47.4**	**-0.4**
	baz=50,SNR=110						
KNRA	**Kununurra**	**50.77**	**266**	P	**P**	**06 39 56.0**	**-0.4**
	baz=51,SNR=20						
KNRA	**Kununurra**	**50.77**	**266**	P	**P**	**06 39 55.9**	**-0.4**
FAKI	**Fak Fak**	**51.57**	**283**	P	**P**	**06 40 01.8**	**-0.4**
FAKI				IAmb	IAmb	06 40 02.8	
	comp=Z,64nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.15**	**262**	P	**P**	**06 40 13.3**	**-0.2**
	baz=53,SNR=37						
FITZ	**Fitzroy Crossi**	**53.15**	**262**	P	**P**	**06 40 13.5**	**0.0**
SWI	**Sorong**	**53.31**	**285**	P	**P**	**06 40 15.1**	**+0.4**
	comp=Z,204nm,0.8s,comp=Z,2μm						
MSAI	**Masohi**	**54.45**	**281**	P	**P**	**06 40 22.4**	**-0.4**
	comp=Z,17nm,0.6s,comp=Z,926nm						
KMBL	**Kambalda**	**54.71**	**245**	P	**P**	**06 40 23.6**	**-0.8**
	baz=55,SNR=6.3						
NLAI	**Namlea**	**56.18**	**280**	P	**P**	**06 40 35.2**	**+0.4**
	comp=Z,41nm,0.6s						
SOEI	**Soe**	**56.60**	**272**	P	**P**	**06 40 38.8**	**+0.9**
	comp=Z,190nm,0.9s,comp=Z,1μm						
SOEI	**Soe**	**56.60**	**272**	P	**P**	**06 40 37.0**	**-0.8**
SANI	**Sanana**	**57.66**	**281**	P	**P**	**06 40 44.8**	**-0.1**
	comp=Z,54nm,1.0s						
PSAD2	**Pilbara Seismi**	**57.69**	**257**	P	**P**	**06 40 44.1**	**-1.0**
PSAD2				IAmb	IAmb	06 40 45.0	
	comp=Z,37nm,0.6s						
PSAC2	**Pilbara Seismi**	**57.75**	**257**	P	**P**	**06 40 44.8**	**-0.7**
PSAC2				IAmb	IAmb	06 40 45.5	
	comp=Z,44nm,0.6s						
PSAB3	**Pilbara Seismi**	**57.79**	**257**	P	**P**	**06 40 45.2**	**-0.6**
PSAB3				IAmb	IAmb	06 40 45.8	
	comp=Z,46nm,0.7s						
PSAB2	**Pilbara Seismi**	**57.79**	**257**	P	**P**	**06 40 44.9**	**-0.8**
PSAB2				IAmb	IAmb	06 40 45.8	
	comp=Z,46nm,0.7s						
PSAA3	**Pilbara Seismi**	**57.79**	**257**	P	**P**	**06 40 45.1**	**-0.7**
PSAA3				IAmb	IAmb	06 40 45.8	
	comp=Z,45nm,0.7s						
PSA00	**Pilbara Seismi**	**57.80**	**257**	P	**P**	**06 40 45.1**	**-0.7**
PSA00				IAmb	IAmb	06 40 45.9	
	comp=Z,44nm,0.7s						
PSAA2	**Pilbara Seismi**	**57.80**	**257**	P	**P**	**06 40 45.1**	**-0.7**
PSAA2				IAmb	IAmb	06 40 45.9	
	comp=Z,45nm,0.8s						
PSAC3	**Pilbara Seismi**	**57.81**	**257**	P	**P**	**06 40 45.3**	**-0.6**
PSAC3				IAmb	IAmb	06 40 45.9	
	comp=Z,50nm,0.7s						
PSAA1	**Pilbara Seismi**	**57.81**	**257**	P	**P**	**06 40 45.3**	**-0.6**
PSAA1				IAmb	IAmb	06 40 46.0	
	comp=Z,49nm,0.8s						
PSAB1	**Pilbara Seismi**	**57.82**	**257**	P	**P**	**06 40 45.2**	**-0.8**
PSAB1				IAmb	IAmb	06 40 46.0	
	comp=Z,47nm,0.7s						
PSAD1	**Pilbara Seismi**	**57.84**	**257**	P	**P**	**06 40 45.5**	**-0.6**
PSAD1				IAmb	IAmb	06 40 46.1	
	comp=Z,54nm,0.7s						
PSAC1	**Pilbara Seismi**	**57.84**	**257**	P	**P**	**06 40 45.1**	**-1.0**
PSAC1				IAmb	IAmb	06 40 46.2	
	comp=Z,45nm,0.8s						
PSAD3	**Pilbara Seismi**	**57.85**	**257**	P	**P**	**06 40 45.4**	**-0.8**
PSAD3				IAmb	IAmb	06 40 46.2	
	comp=Z,47nm,0.7s						
SBA	**Scott Base**	**58.02**	**184**	P	**P**	**06 40 49.8**	**+3.5**
SBA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SBA	**Scott Base**	**58.02**	**184**	P	**P**	**06 40 49.8**	**+3.5**
VNDA	**Vanda**	**58.06**	**185**	P	**P**	**06 40 44.4**	**-2.2**
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
VNDA	**Vanda**	**58.06**	**185**	P	**P**	**06 40 46.3**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=338,slow=5.8,SNR=5.9						
VNDA	**Vanda**	**58.06**	**185**	P	**P**	**06 40 44.4**	**-2.2**
MEEK	**Meekatharra**	**58.06**	**251**	P	**P**	**06 40 46.5**	**-1.0**
	baz=58,SNR=16						
KLBR	**Kellerberrin**	**58.21**	**245**	P	**P**	**06 40 48.0**	**-0.5**
	baz=58,SNR=22						
NWAO	**Narrogin (SRO)**	**58.52**	**243**	P	**P**	**06 40 50.5**	**-0.1**
	baz=59,SNR=7.3						
NWAO	**Narrogin (SRO)**	**58.52**	**243**	P	**P**	**06 40 50.3**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,47nm,1.5s						
NWAO	**Narrogin (SRO)**	**58.52**	**243**	P	**P**	**06 40 49.8**	**-0.7**
NWAO				IAmb	IAmb	06 40 51.1	
	comp=Z,59nm,1.4s						
NWAO	**Narrogin (SRO)**	**58.52**	**243**	P	**P**	**06 40 50.3**	**-0.3**
NWAO				IAmb	IAmb	06 40 51.1	
	comp=Z,47nm,1.4s						
RKGY	**Rocky Gully**	**58.60**	**241**	P	**P**	**06 40 51.6**	**+0.6**
	baz=59,SNR=11						
BLDU	**Ballidu**	**59.21**	**246**	P	**P**	**06 40 54.5**	**-0.7**
	baz=59,SNR=35						
MUN	**Mundaring**	**59.48**	**244**	P	**P**	**06 40 57.0**	**0.0**
	baz=60,SNR=7.2						
MORW	**Morawa**	**59.98**	**248**	P	**P**	**06 40 59.7**	**-0.6**
	baz=60,SNR=13						
MORW	**Morawa**	**59.98**	**248**	P	**P**	**06 40 59.6**	**-0.8**
MORW				IAmb	IAmb	06 41 00.6	
	comp=Z,16nm,0.6s						
BKSI	**Bulukumba**	**61.92**	**275**	P	**P**	**06 41 13.6**	**+0.3**
	comp=Z,16nm,0.9s						
MRSI	**Marisa**	**62.36**	**282**	P	**P**	**06 41 16.4**	**+0.2**
	comp=Z,18nm,1.0s						
GIRL	**Giralia**	**62.69**	**254**	P	**P**	**06 41 18.9**	**+0.6**
	baz=63,SNR=16						
GIRL	**Giralia**	**62.69**	**254**	P	**P**	**06 41 18.8**	**+0.6**
PLAI	**Plampang**	**62.98**	**270**	P	**P**	**06 41 19.9**	**-0.3**
	comp=Z,86nm,0.9s,comp=Z,957nm						
CASY	**Casey**	**64.14**	**205**	P	**P**	**06 41 27.5**	**+0.9**
MPSI	**Mapaga**	**64.19**	**281**	P	**P**	**06 41 27.8**	**-0.1**
	comp=Z,44nm,0.8s						
IGBI	**Denpasar**	**65.45**	**269**	P	**P**	**06 41 36.0**	**+0.2**
	comp=Z,65nm,0.8s						
JAGI	**Jajag, Banyuwa**	**66.49**	**269**	P	**P**	**06 41 41.9**	**-0.4**
	comp=Z,48nm,1.0s						
JAGI	**Jajag, Banyuwa**	**66.49**	**269**	P	**P**	**06 41 40.3**	**-2.1**
JAGI				IAmb	IAmb	06 41 41.6	
	comp=Z,41nm,1.0s						
JHJ2	**Mitsune**	**66.77**	**322**	P	**P**	**06 41 43.1**	**-0.5**
PWJI	**Pagerwojo**	**68.83**	**269**	P	**P**	**06 41 56.5**	**-0.2**
	comp=Z,29nm,0.6s						
QSPA	**South Pole Qui**	**69.71**	**180**	P	**P**	**06 42 01.4**	**+0.2**
WOJI	**Wonogiri, Jawa**	**69.72**	**269**	P	**P**	**06 42 01.9**	**-0.1**
	comp=Z,49nm,1.0s						
KKM	**Kota Kinabalu**	**69.82**	**285**	P	**P**	**06 42 02.6**	**-0.1**
KKM				IAmb	IAmb	06 42 03.7	
	comp=Z,33nm,1.0s						
UGM	**Wanagama**	**70.07**	**269**	P	**P**	**06 42 03.0**	**-1.1**
MJAR	**Matsushiro Arr**	**70.16**	**324**	P	**P**	**06 42 04.0**	**0.0**
	comp=Z,20nm,0.6s,baz=142,slow=5.8,SNR=30						
MAJO	**Matsushiro**	**70.16**	**324**	*i* P	**P**	**06 42 03.7**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,22nm,0.6s						
MAJO	**Matsushiro**	**70.16**	**324**	P	**P**	**06 42 02.5**	**-1.6**
MAJO				IAmb	IAmb	06 42 04.5	
	comp=Z,28nm,0.6s						
MAT	**Matsushiro**	**70.16**	**324**	P	**P**	**06 42 03.9**	**-0.2**
MJB9	**Matsu-Tunnel**	**70.16**	**324**	P	**P**	**06 42 02.3**	**-1.8**
MJB9				IAmb	IAmb	06 42 04.4	
	comp=Z,27nm,0.6s						
KPJI	**Karang Pucung**	**71.75**	**269**	P	**P**	**06 42 13.8**	**-0.1**
	comp=Z,40nm,0.5s						
STKI	**Sintang**	**71.89**	**277**	P	**P**	**06 42 16.1**	**+1.3**
ADK	**Adak**	**71.94**	**1**	P	**P**	**06 42 13.8**	**-0.3**
ADK				pmax	pmax		
	comp=Z,35nm,0.6s						
ADK	**Adak**	**71.94**	**1**	P	**P**	**06 42 13.8**	**-0.3**
CMJI	**Cimerak**	**72.06**	**268**	P	**P**	**06 42 15.5**	**-0.2**
	comp=Z,34nm,1.0s,comp=Z,869nm						
SBUM	**Sibu**	**72.08**	**280**	P	**P**	**06 42 17.0**	**+1.1**
JNU	**Nakatsue**	**72.24**	**317**	P	**P**	**06 42 16.3**	**-0.1**
	comp=Z,15nm,0.8s,baz=93,slow=6.3,SNR=8.0						
JNU	**Nakatsue**	**72.24**	**317**	P	**P**	**06 42 16.3**	**-0.1**
JNU				IAmb	IAmb	06 42 17.4	
	comp=Z,27nm,1.0s						
ATKA	**Atka Island**	**72.32**	**2**	P	**P**	**06 42 16.2**	**-0.1**
TWG	**Pinlang**	**73.39**	**303**	P	**P**	**06 42 21.1**	**-2.1**
NIKH	**Nikolski High**	**73.44**	**6**	P	**P**	**06 42 22.7**	**-0.1**
NIKH				IAmb	IAmb	06 42 23.4	
	comp=Z,41nm,1.0s						
KSM	**Kuching**	**73.50**	**278**	P	**P**	**06 42 25.0**	**+1.0**
YULB	**Yu-li**	**73.51**	**303**	P	**P**	**06 42 22.8**	**-1.1**
YULB				IAmb	IAmb	06 42 39.3	
	comp=Z,18nm,1.0s						
JKA	**Kamikawa-asahi**	**73.65**	**331**	P	**P**	**06 42 26.0**	**+1.8**
ASAJ	**Asahikawa**	**73.65**	**331**	P	**P**	**06 42 26.0**	**+1.8**
ASAJ	**Asahikawa**	**73.65**	**331**	P	**P**	**06 42 26.0**	**+1.8**
	comp=Z,43nm,0.7s,baz=216,slow=4.6,SNR=14						
NACB	**Ninganchiao**	**73.68**	**304**	P	**P**	**06 42 23.8**	**-1.0**
SSLB	**Suanglung**	**73.98**	**303**	P	**P**	**06 42 25.5**	**-1.1**
TPUB	**Ta-pu**	**73.99**	**303**	P	**P**	**06 42 25.7**	**-0.9**
DBJI	**Dramaga**	**74.05**	**269**	P	**P**	**06 42 27.3**	**+0.1**
YHNB	**Yeheng**	**74.11**	**304**	P	**P**	**06 42 25.8**	**-1.5**
UNV	**Unalaska Valle**	**74.54**	**7**	P	**P**	**06 42 28.5**	**-0.5**
UNV				IAmb	IAmb	06 42 41.1	
	comp=Z,41nm,1.4s						
AKUT	**Akutan**	**74.92**	**7**	P	**P**	**06 42 30.7**	**-0.3**
AKUT				IAmb	IAmb	06 42 36.8	
	comp=Z,48nm,1.1s						
YSS	**Yuzh-Sakhalins**	**75.81**	**333**	*e* P	**P**	**06 42 37.3**	**+1.1**
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
PEA0B	**Petropavlovsk-**	**76.16**	**345**	*i* P	**P**	**06 42 38.6**	**+0.6**
PEA0B	**Petropavlovsk-**	**76.16**	**345**	P	**P**	**06 42 38.4**	**+0.3**
PEA0B				IAmb	IAmb	06 42 39.8	
	comp=Z,85nm,1.4s						
PETK	**Petropavlovsk-**	**76.16**	**345**	P	**P**	**06 42 38.1**	**+0.1**
	comp=Z,22nm,0.8s,baz=137,slow=8.3,SNR=19						
KASI	**Kota Agung**	**76.50**	**269**	P	**P**	**06 42 40.4**	**-0.4**
KSRS	**Korea Array**	**76.85**	**318**	P	**P**	**06 42 43.1**	**+0.9**
	comp=Z,8.9nm,0.7s,baz=130,slow=6.1,SNR=27						
KS19	**Wonju Array Si**	**76.91**	**319**	P	**P**	**06 42 43.3**	**+0.7**
MDSI	**Maura Dua**	**77.15**	**270**	P	**P**	**06 42 43.3**	**-1.1**
	comp=Z,35nm,0.8s						
CHGN	**Chignik**	**78.11**	**11**	P	**P**	**06 42 46.2**	**-2.4**
CHGN				IAmb	IAmb	06 43 00.9	
	comp=Z,52nm,1.2s						
CHIR	**Chirikof Islan**	**78.20**	**13**	P	**P**	**06 42 49.6**	**+0.6**
MNAI	**Manna**	**78.34**	**270**	P	**P**	**06 42 50.1**	**-0.7**
USA0B	**Ussuriysk Arra**	**78.90**	**326**	P	**P**	**06 42 54.2**	**+1.1**
USA0B				pmax	pmax		
	comp=Z,22nm,0.8s						
USA0B	**Ussuriysk Arra**	**78.90**	**326**	P	**P**	**06 42 54.2**	**+1.1**
USA0B				IAmb	IAmb	06 42 55.3	
	comp=Z,22nm,0.8s						
USRK	**Ussuriysk Ar.**	**78.90**	**326**	P	**P**	**06 42 54.5**	**+1.4**
	comp=Z,21nm,0.7s,baz=123,slow=3.1,SNR=46						
KSI	**Kapahiang**	**78.92**	**270**	P	**P**	**06 42 53.7**	**-0.3**
MYKOM	**Kota Tinggi**	**79.62**	**276**	P	**P**	**06 42 58.0**	**+0.4**
YBH	**Yreka Blue Hor**	**80.11**	**39**	P	**P**	**06 43 02.0**	**+2.3**
	comp=Z,2.3nm,0.6s,baz=49,slow=2.8,SNR=5.2						
BEKR	**Beckworth**	**80.39**	**41**	P	**P**	**06 43 00.6**	**-0.7**
PNTR	**Pine Nut**	**80.41**	**42**	P	**P**	**06 43 01.3**	**-0.1**
MDJ	**Mudanjiang**	**80.46**	**325**	P	**P**	**06 43 02.5**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,43nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,430nm,5.1s						
MDJ	**Mudanjiang**	**80.46**	**325**	P	**P**	**06 43 00.4**	**-0.9**
MDJ				IAmb	IAmb	06 43 03.3	
	comp=Z,33nm,0.9s						
YERR	**Yerington**	**80.57**	**42**	P	**P**	**06 43 01.1**	**-1.2**
**NVA

MNTX	Cornudas Mount	86.58	55	P		P		06 43 34.0	+2.0
SURT	Suratani	86.88	281	P		P		06 43 35.6	+1.8
	comp=Z,23nm,0.9s								
SYO	Syowa Base	86.89	193	‖ *e*P		P		06 43 30.4	-2.4
SYO	Syowa Base	86.89	193	‖ *e*PcP		PcP		06 43 33.8	-0.5
TX31	Lajitas Ar. Si	86.89	57	P		P		06 43 34.7	+1.0
TX32	Lajitas Array	86.89	57	P		P		06 43 35.1	+1.5
TXAR	Lajitas Array	86.89	57	P		P		06 43 35.7	+2.0
	comp=Z,4.1nm,0.8s,baz=219,slow=6.9,SNR=50								
ANMO	Albuquerque	87.23	51	P		P		06 43 35.9	+0.6
ANMO				pmax		pmax			
	comp=Z,2.0nm,0.9s								
ANMO	Albuquerque	87.23	51	P		P		06 43 36.8	+1.5
	comp=Z,0.9nm,0.5s,baz=218,slow=5.3,SNR=6.5								
ANMO	Albuquerque	87.23	51	P		P		06 43 35.9	+0.6
PHET	Kaeng Krachan	87.54	285	P		P		06 43 38.8	+2.0
	comp=Z,69µm,0.9s								
MLY	Manley	87.63	11	P		P		06 43 35.6	-0.6
MLY				lAmb		lAmb		06 43 36.4	
	comp=Z,8.3nm,0.5s								
WRH	Wood River Hil	87.64	12	P		P		06 43 36.2	0.0
WRH				lAmb		lAmb		06 43 36.9	
	comp=Z,13nm,0.7s								
CCB	Clear Creek Bu	87.85	12	P		P		06 43 37.0	-0.1
COLA	College	88.05	12	P		P		06 43 38.1	+0.1
COLA				pmax		pmax			
	comp=Z,21nm,0.6s								
COLA	College	88.05	12	P		P		06 43 38.1	+0.1
XAN	Xi'an	88.13	307	P		P		06 43 40.3	+1.0
XAN				pP		pP		06 45 33.9	-1.9
XAN				pmax		pmax			
	comp=Z,41nm,0.9s								
SNAA	Sanae	88.15	178	*i* P		P		06 43 39.2	+0.4
ILAR	Eielson Array	88.15	13	P		P		06 43 38.1	-0.4
	comp=Z,4.5nm,0.5s,baz=218,slow=5.1,SNR=21								
VNA3	Neumayer Olymp	88.28	176	P		P		06 43 39.3	0.0
UTHA	Uthaitani	88.67	287	P		P		06 43 43.6	+1.5
	comp=Z,44µm,0.8s,comp=Z,427µm								
VNA2	Neumayer--Watz	88.72	177	P		P		06 43 41.7	+0.3
	baz=195,slow=4.4								
PDAR	Pinedale Array	88.79	43	P		P		06 43 43.4	+1.0
	comp=Z,0.9nm,0.6s,baz=204,slow=2.7,SNR=11								
BILL	Bilibino	88.90	354	P		P		06 43 42.5	+0.5
BILL				pmax		pmax			
	comp=Z,3.0nm,0.7s								
BILL	Bilibino	88.90	354	P		P		06 43 42.5	+0.5
PHRA	Phrae	89.04	290	P		P		06 43 45.6	+1.8
	comp=Z,0.8nm,0.7s,comp=Z,970nm								
PRP	Porcupine Dome	89.09	13	P		P		06 43 42.6	-0.5
DAWY	Dawson	89.29	16	P		P		06 43 44.7	+0.7
DAWY				lAmb		lAmb		06 43 45.2	
	comp=Z,7.0nm,0.7s								
HHC	Hu-ho-hao-te	89.33	314	*e*P		P		06 43 45.4	+0.6
HHC				pmax		pmax			
	comp=Z,4.0nm,0.5s								
KMI	Kunming	89.38	297	P		P		06 43 47.1	+1.6
KMI				pmax		pmax			
	comp=Z,25nm,0.9s								
EGAK	Eagle	89.44	15	P		P		06 43 44.6	+0.1
EGAK				lAmb		lAmb		06 43 46.4	
	comp=Z,12nm,1.1s								
LAMP	Lampang	89.58	290	P		P		06 43 48.2	+1.9
	comp=Z,84µm,0.8s								
CMAR	Chiang Mai Arr	90.17	290	P		P		06 43 50.3	+1.3
	comp=Z,14nm,0.8s,baz=124,slow=2.8,SNR=64								
CMMT	Chiang Mai	90.29	290	P		P		06 43 50.5	+0.9
CHTO	Chiang Mai	90.29	290	P		P		06 43 50.6	+1.0
CHTO				pmax		pmax			
	comp=Z,24nm,0.7s								
CHTO	Chiang Mai	90.29	290	P		P		06 43 50.6	+1.0
YAK	Yakutsk	92.02	338	*i* P		P		06 43 56.3	-0.2
YAK				pmax		pmax			
	comp=Z,10.0nm,0.8s								
LZH	Lanzhou	92.77	307	*e*P		P		06 44 02.0	+1.2
LZH				sP		sP		06 46 47.8	-3.5
LZH				PP		PP		06 47 54.4	+1.8
LZH				pmax		pmax			
	comp=Z,13nm,1.1s								
LZH				pmax		pmax			
	comp=Z,87nm,5.0s								
INK	Inuvik	94.11	15	P		P		06 44 05.7	-0.2
INK				pmax		pmax			
	comp=Z,4.0nm,1.1s								
INK	Inuvik	94.11	15	P		P		06 44 05.6	-0.3
	comp=Z,1.9nm,0.8s,baz=260,slow=6.4,SNR=6.4								
INK	Inuvik	94.11	15	P		P		06 44 05.7	-0.2
SONM	Songino Array	95.71	319	P		P		06 44 13.6	-0.3
	comp=Z,0.5nm,0.5s,baz=121,slow=3.2,SNR=3.8								
YKA	Yellowknife Ar	96.34	25	P		P		06 44 16.1	0.0
	comp=Z,0.3nm,0.8s,baz=240,slow=4.2,SNR=5.4								
GTA	Gaotai	96.96	309	*e*P		P		06 44 20.0	+0.3
GTA				pmax		pmax			
	comp=Z,3.0nm,0.9s								
FFC	Flin Flon	98.58	35	*c e*P		P		06 44 28.9	+2.5
FFC				pmax		pmax			
	comp=Z,37nm,2.5s								
TIXI	Tiksi	98.64	345	*i* P		Pdif		06 44 26.1	-0.1
TIXI				pmax		pmax			
	comp=Z,3.0nm,1.3s								
ZALV	Zalesovo Beam	110.45	321	PKiKP		PKiKP		06 49 15.1	-1.3
	comp=Z,2.3nm,0.6s,baz=186,slow=1.2,SNR=9.4								
MKAR	Makanchi Array	111.17	313	PKiKP		PKiKP		06 49 16.7	-1.4
	comp=Z,2.1nm,0.5s,baz=218,slow=0.8,SNR=18								
KURK	Kurchatov	113.96	317	*c i* PKIKP		PKiKP		06 49 22.8	-0.4
KURK				pmax		pmax			
	comp=Z,36nm,2.5s								
KURK	Kurchatov	113.96	317			PKiKP		06 49 22.2	-1.0
KURBB	Kurchatov Arra	114.01	317	PKP		PKPdf		06 49 22.2	-1.1
	comp=Z,2.9nm,0.6s,baz=90,slow=1.8,SNR=20								
KURBB				SKP				06 52 07.5	
	comp=Z,0.7nm,0.7s,baz=81,slow=1.7,SNR=6.6								
KSH	Kashi	114.89	305	*e* PKP		PKiKP		06 49 25.8	+0.2
AAK	Ala-Archa	116.29	308	PKiKP		PKPdf		06 49 27.6	-0.7
AAK	Ala-Archa	116.29	308	PKP		PKPdf		06 49 27.2	-1.1
	comp=Z,0.9nm,0.4s,baz=147,slow=2.4,SNR=3.7								
AAK	Ala-Archa	116.29	308			PKPdf		06 49 27.6	-0.7
BVAR	Borovoye Array	119.04	320	PKP		PKPdf		06 49 32.2	-0.8
	comp=Z,7.0nm,0.4s,baz=141,slow=1.1,SNR=43								
BVAR				SKP				06 52 16.9	
	comp=Z,1.2nm,0.8s,baz=43,slow=3.0,SNR=4.1								
BRVK	Borovoye	119.10	320	*c i* PKIKP		PKPdf		06 49 33.0	-0.1
BRVK				pmax		pmax			
	comp=Z,7.0nm,1.0s								
GAR	Garm	119.22	304			PKPdf		06 49 33.9	-0.1
KK31	Karatay Array	119.24	309	PKiKP		PKPdf		06 49 33.1	-0.6
KK31	Karatay Array	119.24	309			PKPdf		06 49 33.1	-0.6
KKAR	Karatay Array	119.24	309	PKiKP		PKPdf		06 49 33.1	-0.6
KKAR	Karatay Array	119.24	309			PKPdf		06 49 33.1	-0.6
SPITS	Spitsbergen Ar	121.73	357	PKP		PKPdf		06 49 37.1	-0.5
	comp=Z,26nm,1.2s,baz=82,slow=6.0,SNR=5.6								
ARU	Arti	125.14	326	*i* PKIKP		PKPdf		06 49 44.3	-0.3
ARU								06 56 04.3	
ARU	Arti	125.14	326	PKP		PKPdf		06 49 44.5	-0.1
	comp=Z,4.1nm,0.4s,baz=90,slow=5.1,SNR=13								
ARU	Arti	125.14	326			PKPdf		06 49 43.8	-0.7
ABKAR	Akbulak array	126.05	317			PKPdf		06 49 46.6	0.0
AKTO	Aktyubinsk	127.03	318	PKP		PKPdf		06 49 48.1	-0.3
	comp=Z,4.2nm,0.7s,baz=49,slow=4.0,SNR=14								
GEYT	Alibeck	128.79	303	PKP		PKPdf		06 49 52.5	+0.3
	comp=Z,2.8nm,0.6s,baz=204,slow=1.5,SNR=5.3								
ARCES	ARCESS Array B	128.80	350	PKP		PKPdf		06 49 50.7	-0.5
	comp=Z,2.5nm,0.4s,baz=53,slow=1.7,SNR=22								
FINES	FINESS Array B	135.66	344	PKhKP		PKPpre		06 49 50.7	
	comp=Z,3.3nm,1.0s,baz=58,slow=3.4,SNR=3.8								
FINES				PKP		PKPdf		06 50 02.2	-2.1
	comp=Z,2.2nm,0.5s,baz=36,slow=2.6,SNR=12								
FINES				SKP				06 52 46.3	
	comp=Z,1.6nm,0.5s,baz=46,slow=4.0,SNR=7.3								
OBN	Obninsk	136.68	332	‖ *e*PKIKP		PKPdf		06 50 03.5	-2.9
OBN				*e*PPP		PPP		06 56 04.5	
OBN				*e*				06 56 26.0	
OBN				pmax		pmax			
	comp=Z,29nm,0.4s								
NB2	NORSAR Subarra	138.85	353	PKP		PKPdf		06 50 00.3	-10
	comp=Z,1.0nm,0.6s,baz=16,slow=3.2								
NOA	NORSAR Array B	138.85	353	PKhKP		PKPdf		06 50 00.9	-9.4
	comp=Z,0.8nm,0.5s,baz=16,slow=4.2,SNR=5.8								
NOA				SKPbc		SKPbc		06 52 55.3	+0.3
	comp=Z,2.7nm,0.8s,baz=13,slow=4.5,SNR=3.9								
NEY	Neytrino	139.16	313	*c i* PKIKP		PKiKP		06 50 14.8	+0.8
KAC	Achnashellach	142.51	7	*e*P		PKPdf		06 50 13.9	-3.0
KPL	Plockton	142.62	7	*e*P		PKPdf		06 50 13.8	-3.3
AKASG	Malin Array Be	142.94	331	PKhKP		PKPdf		06 50 14.8	-3.1
	comp=Z,20nm,0.5s,baz=42,slow=4.3,SNR=82								
AKASG				SKPbc		SKPbc		06 53 05.3	-0.4
	comp=Z,0.8nm,0.5s,baz=47,slow=3.6,SNR=4.3								
AKBB	Malin Array Si	142.94	331	PKHKP		PKPdf		06 50 14.8	-3.0
AKBB	Malin Array Si	142.94	331	PKPdf		PKPdf		06 50 14.8	-3.0
DRUM	Mains of Drumt	143.34	4	*e*P		PKPab		06 50 16.1	-0.4
MUD	Monsted U'grnd	143.57	353	*i* PKHKP		PKPab		06 50 17.7	+0.4
MUD				pmax		pmax			
	comp=Z,39nm,0.8s								
MUD	Monsted U'grnd	143.57	353	*i* P		PKPbc		06 50 17.7	+0.2
	comp=Z,39nm,0.8s								
EDU	Dundee	143.66	5	*e*P		PKPab		06 50 17.4	-0.4
INVG	Invergeldie, C	143.69	6	*e*P		PKPab		06 50 17.6	-0.2
LAWE	Loch Awe, Argy	143.71	7	*e*P		PKPab		06 50 17.8	-0.1
EAB	Aberfoyle	143.90	6	*e*P		PKPbc		06 50 18.4	-0.1
SIM	Simferopol'	143.95	320	*de* PKIKP		PKPab		06 50 19.3	+0.1
SIM				pmax		pmax			
	comp=Z,35nm,0.6s								
BSD	Bornholm Skovb	143.97	347	*i* PKHKP		PKPbc		06 50 18.4	-0.4
BSD				pmax		pmax			
	comp=Z,41nm,0.7s								
BSD	Bornholm Skovb	143.97	347	*i* P		PKPbc		06 50 18.4	-0.4
	comp=Z,41nm,0.7s								
ESY	Stoneypath	144.32	5	*e*P		PKPbc		06 50 19.6	-0.3
EBL	Broad Law	144.43	5	*e*P		PKPbc		06 50 19.8	-0.5
SEVA	Sevastopol	144.44	320	⇑P		PKPdf		06 50 20.7	+0.1
SORM	Soroca	145.14	329	⇑PKIKP		PKPbc		06 50 22.4	-0.2
SORM	Soroca	145.14	329	⇑P		PKPbc		06 50 22.4	-0.2
GAL1	Galloway	145.16	7	*e*P		PKPdf		06 50 21.8	+0.3
EDMD	Edmundbyers	145.44	4	*e*P		PKPbc		06 50 22.8	-0.5
BZK	Bozkurt	145.54	316	⇑P		PKPab		06 50 24.7	-0.7
LVV	L'vov	145.82	335	*e* PKP2		PKPab		06 50 26.2	-0.1
WIM	Isle of Man	145.87	7	*e*P		PKPdf		06 50 23.1	+0.3
HPK	Haverah Park	146.33	4	*e*P		PKPbc		06 50 26.1	+0.2
KWP	Kalwaria Pacla	146.50	336	*e* PKIKP		PKPbc		06 50 26.7	+0.2
KWP	Kalwaria Pacla	146.50	336	*e* PKP		PKPbc		06 50 26.7	+0.2
KWP				*e* PKP		PKPbc		06 50 26.7	+0.2
KWP	Kalwaria Pacla	146.50	336			PKPbc		06 50 26.2	-0.2
WME	Myndd Eilian	146.65	7	*e*P		PKPbc		06 50 25.6	-1.1
BR131	Keskin Array S	146.82	313	PKIKP		PKPbc		06 50 27.0	-0.9
BR131	Keskin Array S	146.82	313			PKPbc		06 50 27.0	-0.9
BRTR	Keskin Array B	146.82	313	PKPbc		PKPbc		06 50 27.6	-0.3
	comp=Z,10nm,0.7s,baz=137,slow=3.0,SNR=60								
TLCR		146.85	324	⇑PKIKP		PKPbc		06 50 27.8	+0.3
TLCR		146.85	324	⇑P		PKPbc		06 50 27.8	+0.3
BUR08	Bucovina Ar. S	146.97	331			PKPbc		06 50 28.5	+0.6
BURAR	Bucovina Array	146.99	331	⇑PKIKP		PKPbc		06 50 28.7	+0.7
BURAR	Bucovina Array	146.99	331	⇑P		PKPbc		06 50 28.7	+0.7
GHRR		147.02	327	⇑P		PKiKP		06 50 29.2	-0.7
BIZ	Bicaz	147.06	329	⇑P		PKiKP		06 50 29.1	-0.8
OJC	Ojcow	147.06	339	PKIKP		PKPbc		06 50 28.0	+0.1
OJC	Ojcow	147.06	339	*e* PKP		PKPbc		06 50 28.0	+0.1
OJC				*e* PKP		PKPbc		06 50 28.0	+0.1
OJC	Ojcow	147.06	339			PKPbc		06 50 28.0	+0.1
JURR	Jurilovca	147.09	324	⇑P		PKPbc		06 50 28.4	+0.2
TESR	Tescani	147.10	328	⇑P		PKPbc		06 50 28.4	+0.2
KOLS	Kolonicke sedl	147.22	335	*e* PKIKP		PKPbc		06 50 29.0	+0.6
KOLS				*e*				06 50 32.4	
KOLS	Kolonicke sedl	147.22	335	*e* PKP		PKPbc		06 50 29.0	+0.6
KOLS				*e*				06 50 32.4	
CFR	Carcaliu	147.23	325	⇑PKIKP		PKPbc		06 50 28.7	+0.2
CFR	Carcaliu	147.23	325	⇑P		PKPbc		06 50 28.7	+0.2
STHS	Stebnicka Huta	147.23	337	*e* PKIKP		PKPbc		06 50 28.2	-0.2
STHS				*e*				06 50 32.8	
STHS	Stebnicka Huta	147.23	337	*e* PKP		PKPbc		06 50 28.1	-0.3
STHS				*e*				06 50 32.8	
LLW	Llanuwchllyn	147.26	6	*e*P		PKPdf		06 50 26.4	+1.2
FOEL	Foel Wylfa	147.27	6	*e*P		PKPdf		06 50 26.6	+1.4
TOPG	Topolog	147.29	324	⇑P		PKPbc		06 50 29.2	+0.5
ANTO	Ankara	147.34	313	PKIKP		PKPbc		06 50 28.2	-0.9
ANTO	Ankara	147.34	313			PKPbc		06 50 28.2	-0.9
UZH	Uzhgorod	147.46	335	*e* PKIKP		PKPbc		06 50 27.9	-1.1
UZH				*e*				06 50 31.7	
UZH				*e*				06 50 28.5	
VRI	Vrincioaia	147.50	327	⇑PKIKP		PKPbc		06 50 29.3	+0.1
VRI	Vrincioaia	147.50	327	⇑P		PKPbc		06 50 29.3	+0.1
KSP	Ksiaz	147.58	343	*e* PKIKP		PKPbc		06 50 29.8	+0.5
KSP	Ksiaz	147.58	343	*e* PKP		PKPbc		06 50 29.8	+0.5
KSP				*e* PKP		PKPbc		06 50 29.8	+0.5
HARR	Harsova	147.65	325	⇑PKIKP		PKPbc		06 50 30.1	+0.5
HARR	Harsova	147.65	325	⇑P		PKPbc		06 50 30.1	+0.5
HLM1	Long Mynd	147.66	6	*e*P		PKPbc		06 50 28.9	-0.6
TRPA	Tarpa	147.76	334	⇑P		PKPbc		06 50 30.2	+0.5
MANR	Mangalia	147.84	323	⇑P		PKiKP		06 50 30.9	-0.7
CHVC	Chvalec	147.88	343	‖ *e* PKP		PKPbc		06 50 30.5	+0.4
CLL	Collm	147.95	347	PKHKP		PKPbc		06 50 30.5	+0.3
CLL	Collm	147.95	347	‖ *i* PKPbc		PKPbc		06 50 30.4	+0.3
	comp=Z,39nm,0.8s								
CLL				⇑ *i* PKPab		PKPab		06 50 34.6	-0.1
	comp=Z,14nm,0.8s								
CLL	Collm	147.95	347			PKPbc		06 50 30.5	+0.3
UPC	Upice	147.96	343	*e* PKHKP		PKiKP		06 50 30.9	-0.7
UPC	Upice	147.96	343	⇑ *e* PKP		PKiKP		06 50 30.9	-0.7
DPC	Dobruska-Polom	148.02	343	*e* PKHKP		PKiKP		06 50 31.0	-0.8
DPC				*e*				06 50 35.8	
DPC	Dobruska-Polom	148.02	343	‖ *e* PKP		PKiKP		06 50 31.0	-0.8
DPC				*e* PKPAB		PKPab		06 50 35.8	+0.6
LANS	Liptovska Anna	148.09	338	*e* PKHKP		PKiKP		06 50 31.9	-0.1
LANS				*e*				06 50 37.0	
LANS	Liptovska Anna	148.09	338	*e* PKP		PKiKP		06 50 31.9	-0.1
LANS				*e*				06 50 37.0	
DOPR	Dopca	148.10	329	⇑P		PKiKP		06 50 31.7	-0.4
ISR	Istrita	148.11	326	⇑PKHKP		PKiKP		06 50 31.3	-0.9
ISR	Istrita	148.11	326	⇑P		PKiKP		06 50 31.3	-0.9
KRLC	Kraliky	148.14	342	*e* PKHKP		PKiKP		06 50 31.1	-1.0
KRLC				*e*				06 50 36.2	
KRLC	Kraliky	148.14	342	⇑ *e* PKP		PKiKP		06 50 31.1	-1.0
KRLC				*e* PKPAB		PKPab		06 50 36.2	+0.6
BRG	Berggiesshubel	148.15	346	‖ *i* PKP		PKPbc		06 50 31.0	+0.3
	comp=Z,23nm,1.0s								
BRG	Berggiesshubel	148.15	346	*i* PKP		PKPab		06 50 35.6	+0.1
	comp=Z,11nm,0.7s								
BRG				*ep* PKP		pPKPab		06 52 36.9	+1.1
	comp=Z,16nm,1.7s								
BRG	Berggiesshubel	148.15	346	‖ *i* PKHKP		PKPbc		06 50 31.0	+0.3
BRG				*i*				06 50 35.7	
BRG				pmax		pmax			
	comp=Z,23nm,1.0s								
BRG				pmax		pmax			
	comp=Z,11nm,0.7s								
BRG				pmax		pmax			
	comp=Z,16nm,1.7s								
MLR	Muntele Rosu	148.16	327	PKHKP		PKPbc		06 50 30.3	-0.8
MLR	Muntele Rosu	148.16	327	⇑P		PKPbc		06 50 31.1	0.0
MLR	Muntele Rosu	148.16	327			PKPbc		06 50 30.3	-0.8
MCH1	Michaelchurch	148.17	6	*e*P		PKPbc		06 50 30.1	-0.7
MORC	Moravsky Berou	148.18	341	PKHKP		PKPbc		06 50 30.5	-0.4
MORC	Moravsky Berou	148.18	341	⇑P		PKPbc		06 50 31.5	+0.6
MORC	Moravsky Berou	148.18	341	*e* PKP		PKPbc		06 50 31.2	+0.3
MORC	Moravsky Berou	148.18	341			PKPbc		06 50 30.4	-0.4
KECS	Kecovo	148.28	336	*e* PKHKP		PKiKP		06 50 32.0	-0.3
KECS				*e*				06 50 36.8	
KECS	Kecovo	148.28	336	*e* PKP		PKiKP		06 50 32.0	-0.3
KECS				*e*				06 50 36.8	
PVCC	Panska Ves	148.32	345	*e* PKHKP		PKiKP		06 50 31.9	-0.5
PVCC	Panska Ves	148.32	345	‖ *e* PKP		PKiKP		06 50 31.9	-0.5
SECR		148.41	327	⇑P		PKPbc		06 50 31.9	+0.3
VOIR		148.65	328	⇑PKHKP		PKiKP		06 50 32.5	-0.8
VOIR		148.65	328	⇑P		PKiKP		06 50 32.5	-0.8
DRGR		148.73	332	⇑PKHKP		PKiKP		06 50 32.6	-0.8
DRGR		148.73	332	⇑P		PKiKP		06 50 32.6	-0.8
PRU	Pruhonice	148.82	344	*e* PKHKP		PKiKP		06 50 32.7	-0.7
PRU				*e*				06 50 38.7	
PRU	Pruhonice	148.82	344	‖ *e* PKP		PKiKP		06 50 32.7	-0.7
PRU				*e* PKPAB		PKPab		06 50 38.7	+0.3
GOPC	GO Pecny, Ondr	148.83	344	*e* PKHKP		PKiKP		06 50 32.6	-0.9
GOPC	GO Pecny, Ondr	148.83	344	‖ *e* PKP		PKiKP		06 50 32.6	-0.9
VYHS	Vyhne	148.87	338	*e* PKHKP		PKiKP		06 50 33.1	-0.5
VYHS				*e*				06 50 39.1	
VYHS	Vyhne	148.87	338	*e* PKP		PKiKP		06 50 33.1	-0.5
VYHS				*e*				06 50 39.1	
VRAC	Vranov	148.88	342	⇑PKHKP		PKiKP		06 50 32.7	-0.9
VRAC	Vranov	148.88	342	⇑P		PKiKP		06 50 32.7	-0.9
VRAC	Vranov	148.88	342	*e* PKP		PKiKP		06 50 32.7	-0.9
VRAC				*e*				06 50 39.2	
ARR	Arges	148.90	328	⇑P		PKiKP		06 50 33.9	0.0
CSS	Mathiatis	148.91	304			PKPbc		06 50 32.7	-0.4
JAVC	Velka Javorina	148.94	340	*e* PKP		PKiKP		06 50 34.2	+0.4
JAVC				*e*				06 50 40.6	
NKC	Novy Kostel	149.08	347	*e* PKHKP		PKiKP		06 50 33.6	-0.4
NKC				*e*				06 50 39.6	
NKC	Novy Kostel	149.08	347	⇑ *e* PKP		PKiKP		06 50 33.6	-0.4
NKC				*e* PKPAB		PKPab		06 50 39.6	+0.1
KRUC	Moravsky	149.16	342	*e* PKP		PKPbc		06 50 33.4	+0.2
KRUC				*e*				06 50 40.1	
TREC	Trest	149.21	343	⇑ *e* PKHKP		PKiKP		06 50 33.5	-0.8
TREC	Trest	149.21	343	⇑ *e* PKP		PKiKP		06 50 33.5	-0.8
PBCC	Pribram	149.24	345	⇑ *e* PKP		PKPbc		06 50 33.8	+0.4
MODS	Modra-Piesok	149.49	340	*e* PKHKP		PKPbc		06 50 33.8	-0.3
MODS	Modra-Piesok	149.49	340	*e* PKP		PKPbc		06 50 33.8	-0.3
SIRR	Siria	149.59	333	⇑P		PKiKP		06 50 34.8	-0.3
MEM	Membach	149.65	355	PKiKP		PKPbc		06 50 34.5	+0.2
BSTI	Sart Tilman	149.71	356	PKiKP		PKiKP		06 50 35.0	-0.2
GZR	Gura Zlata	149.77	330	⇑PKIKP		PKPbc		06 50 34.8	-0.1
GZR	Gura Zlata	149.77	330	⇑P		PKPbc		06 50 34.8	-0.1
KHC	Kasperske Hory	149.86	345	PKHKP		PKiKP		06 50 35.1	-0.5
KHC								06 50 43.3	
KHC	Kasperske Hory	149.86	345	⇑ *e* PKP		PKPbc		06 50 35.3	+0.3
KHC				*e* PKPAB		PKPab		06 50 43.2	+0.5
KHC	Kasperske Hory	149.86	345			PKiKP		06 50 35.1	-0.5
KHC				PKPab		PKPab		06 50 43.3	+0.5
BMRD	Maredsous	150.04	357	PKiKP		PKPbc		06 50 35.6	+0.3
GEC2	GERESS Array S	150.09	345			PKPbc		06 50 35.6	0.0
GEC2				PKPab		PKPab		06 50 44.3	+0.5
GERES	GERESS Array B	150.09	345	PKP		PKPdf		06 50 29.1	-0.8
	comp=Z,0.6nm,0.6s,baz=64,slow=2.3,SNR=4.7								
GERES				PKPbc		PKPbc		06 50 35.6	0.0
	comp=Z,7.3nm,0.8s,baz=34,slow=2.1,SNR=32								
BZS	Buzias	150.12	332	⇑PKHKP		PKiKP		06 50 35.8	-0.4
BZS	Buzias	150.12	332	⇑P		PKiKP		06 50 35.8	-0.4
DOU	Dourbes	150.26	357	PKiKP		PKPbc		06 50 36.0	+0.2
PLVB	Pleven	150.30	326	⇑P		PKiKP		06 50 36.5	-0.2
CONA	Conrad Observa	150.33	341	*i* PKiKP		PKPbc		06 50 36.4	+0.2
	comp=Z,12nm,0.6s								
WLF	Walferdange	150.58	355	PKiKP		PKiKP		06 50 37.8	+0.8
MDVR	Moldovita	150.72	331	⇑P		PKPbc		06 50 37.2	+0.1
ELL	Elmali	150.77	310	PKIKP		PKPbc		06 50

σ1^{s}26/46, **mb4.0**/18, **Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JASL	Jaisalmer	3.15	161	eP	Pb	06 53 60.0	-0.5
KBL	Kabul	4.65	352	Pn	Pn	06 54 17.1	+2.3
KBL				Sn	Sn	06 55 09.8	+0.9
NIL	Nilore	4.75	38	Pn	Pn	06 54 17.4	+1.4
NIL				Sn	Sn	06 55 09.7	-1.4
DHRM	DHARAMSHALA	6.06	66	eP	Pn	06 54 33.5	-0.7
DHRM				eSN	Sn	06 55 43.1	-0.5
DHRM				IAML		06 55 50.0	
	comp=N,150nm,0.4s						
DHRM				ex	x	06 56 28.2	
DHRM				IAML		06 56 28.2	
	comp=E,131nm,0.5s						
SMLA	Simla	6.49	77	eP	Pn	06 54 40.3	+0.4
SMLA				eSN	Sn	06 55 53.4	-0.4
SMLA				IAML		06 55 59.5	
	comp=N,61nm,0.6s						
SMLA				IAML		06 56 01.7	
	comp=E,57nm,0.3s						
AYAN	Aya Nagar	6.58	101	eP	Pn	06 54 46.7	+5.5
NDI	New Delhi	6.61	99	eP	Pn	06 54 48.0	+6.4
NDI				eS	Sg	06 56 38.0	+1.1
JOSI	Joshimath	8.48	83	eP	Pn	06 55 10.2	+2.7
GAR	Garm	9.07	3	Pn	Pn	06 55 15.5	0.0
GAR				Sn	Sn	06 56 56.5	-1.0
BHPL	Bhopal	9.54	132	ex	Pn	06 55 23.1	+1.3
BHPL				ex	Sn	06 57 06.2	-2.9
BHPL				IAML		06 57 09.4	
	comp=N,8.5nm,0.1s						
BHPL				IAML		06 58 10.0	
	comp=E,171nm,1.0s						
BTK	Batken	10.15	5	Pn	Pn	06 55 31.1	+0.9
ARSB	Arslanbob	11.67	12	Pn	Pn	06 55 51.8	+0.7
POO	Poona	11.93	161	ex	Sn	06 58 11.0	+3.2
KK31	Karatay Array	13.17	2		Pn	06 56 11.4	-0.1
KKAR	Karatay Array	13.17	2		Pn	06 56 11.3	-0.1
AAK	Ala-Archa	13.24	15	Pn	Pn	06 56 12.5	-0.1
	comp=E,0.4nm,0.3s,baz=179,slow=10.0,SNR=5.6						
AAK				LR	LR	07 02 22.8	
	comp=E,255nm,19.4s,baz=326,slow=42						
TARG	Taragay, Kyrgy	13.45	27	Pn	Pn	06 56 15.2	-0.4
BOOM	Boomskoye usch	13.49	20	Pn	Pn	06 56 17.6	+1.7
MAKZ	Makanchi	19.34	26	P	P	06 57 30.4	+0.6
MKAR	Makanchi Array	19.45	27	P	P	06 57 30.0	-1.0
	comp=E,0.0nm,0.3s,baz=220,slow=8.5,SNR=6.9						
ABKAR	Akbulak array	20.71	342		P	06 57 45.0	+0.3
KURBB	Kurchatov Arra	21.70	15	P	P	06 57 54.4	-0.9
	comp=E,3.9nm,0.8s,baz=208,slow=9.1,SNR=18						
KURK	Kurchatov	21.81	15	P	P	06 57 56.2	-0.2
KURK				IAmb	IAmb	06 58 00.7	
	comp=Z,7.1nm,1.1s						
AKTO	Aktyubinsk	22.32	340	P	P	06 58 04.7	+2.7
	comp=Z,1.5nm,0.8s,baz=121,slow=5.9,SNR=3.9						
BVAR	Borovoye Array	23.09	1	P	P	06 58 09.9	-0.2
	comp=Z,4.7nm,1.1s,baz=155,slow=7.4,SNR=11						
BRVK	Borovoye	23.12	1	P	P	06 58 10.8	+0.4
BRVK				IAmb	IAmb	06 58 12.7	
	comp=Z,8.7nm,1.1s						
ZALV	Zalesovo Beam	26.38	20	P	P	06 58 40.2	-0.3
	comp=Z,1.0nm,0.4s,baz=224,slow=6.0,SNR=4.6						
CMAR	Chiang Mai Arr	28.86	107	P	P	06 59 02.9	-0.3
	comp=Z,1.8nm,0.9s,baz=295,slow=8.1,SNR=6.2						
CMAR				LR	LR	07 12 08.2	
	comp=Z,44nm,19.8s,baz=290,slow=40						
BRTR	Keskin Array B	31.06	298	P	P	06 59 22.8	+0.1
	comp=Z,0.5nm,0.6s,baz=120,slow=7.1,SNR=3.9						
SONM	Songino Array	33.26	47	P	P	06 59 42.7	+0.9
	comp=Z,2.5nm,1.2s,baz=252,slow=8.9,SNR=6.0						
ELL	Elmali	33.82	292	P	P	06 59 46.9	0.0
KARP	Karpathos	36.08	290	P	P	07 00 05.9	-0.3
AKASG	Malin Array Be	36.63	316	P	P	07 00 10.7	0.0
	comp=Z,0.2nm,0.3s,baz=101,slow=7.7,SNR=4.0						
DAV	Davao City (W)	56.98	102	LR	LR	07 31 29.5	
	comp=Z,120nm,18.6s,baz=341,slow=40						
TORD	Torodi Ar. Bea	64.67	271	P	P	07 03 41.7	-1.1
	comp=Z,1.9nm,1.1s,baz=55,slow=5.9,SNR=7.7						
TOLK	Toolik Lake Re	77.53	14	P	P	07 04 59.8	-0.2
TOLK				IAmb	IAmb	07 05 03.0	
	comp=Z,8.4nm,1.3s						
MLY	Manley	80.26	16	P	P	07 05 11.9	-3.0
MLY				IAmb	IAmb	07 05 16.5	
	comp=Z,2.8nm,1.1s						
INK	Inuvik	80.55	9	P	P	07 05 16.2	-0.1
INK				IAmb	IAmb	07 05 19.4	
	comp=Z,9.1nm,1.4s						
ILAR	Eielson Array	81.38	15	P	P	07 05 21.6	+0.7
	comp=Z,0.8nm,1.0s,baz=303,slow=5.2,SNR=5.7						
ASAR	Alice Springs	81.42	123	P	P	07 05 20.5	-1.2
	comp=Z,0.9nm,0.9s,baz=313,slow=5.3,SNR=10						
YKA	Yellowknife Ar	87.84	2	P	P	07 05 53.3	-0.3
	comp=Z,1.0nm,0.8s,baz=349,slow=4.9,SNR=16						
STKA	Stephens Creek	91.74	126	P	P	07 06 11.8	-0.5
STKA				IAmb	IAmb	07 06 14.7	
	comp=Z,0.7nm,1.0s						

MOS ***16*** *07:06:16.4±0.9, 35°.44N×6°.86W, h13^{km}, mb5.0/52, Error ellipse: s-maj=8.0km s-min=3.3km az=57.3*
BJI ***16*** *07:06:18.7±0.0, 35°.63N×6°.75W, h25^{km}, mb4.9/25, mB5.3/9, Ms4.7/3, Ms7 4.7/2*
ISCJB ***16*** *07:06:20.6±0.2, 35°.61N±0°.01×6°.92W±0°.02, h45^{km}±2^{km}, mb4.7/84, MS4.1/11, Error ellipse: s-maj=2.7km s-min=2.0km az=137.4*
CRAAG ***16*** *07:06:20.0, 35°.50N×9°.96W, Mb5.0*
MED_RC ***16*** *07:06:20.0±0.4, 35°.50N×6°.96W, h26^{km}±2^{km}, MW4.7/16, Moment Tensor Solution.Mantle waves: s16,c28; Duration: 1^{s}3 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.03±.24; $M_{\theta\theta}$-1.19±.12; $M_{\phi\phi}$1.22±.15; $M_{r\theta}$0.09±.19; $M_{\theta\phi}$-0.70±.08; $M_{\phi r}$0.01±.15; Best double couple: $M_0$1.40000×10^{16} NP1:ϕ_s300.00000°,δ88.00000°, λ-177.00000°. NP2:ϕ_s210.00000°,δ87.00000°, λ-2.00000°. Principal axes: T 1.4100, Plg1.0000°, Azm75.0000°; N -0.0200, Plg86.0000°, Azm336.0000°; P -1.3900, Plg4.0000°, Azm165.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
NEIC ***16*** *07:06:20.4±1.8, 35°.48N±0°.04×7°.03W±0°.05, h35^{km}±4^{km}, mb4.8/94*
CNRM ***16*** *07:06:21.6, 35°.56N×7°.03W, h40^{km}, ml5.2*
LDG ***16*** *07:06:21.2, 35°.59N×6°.89W, h51^{km}*
GCMT ***16*** *07:06:22.4±0.6, 35°.32N±0°.03×7°.01W±0°.03, h37^{km}±2^{km}, MW4.8/72, Moment Tensor Solution. s20,c20; s72,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.90±.31; $M_{\theta\theta}$-1.03±.19; $M_{\phi\phi}$1.93±.18; $M_{r\theta}$0.41±.19; $M_{\theta\phi}$-1.75±.15; $M_{\phi r}$-0.06±.18; Best double couple: $M_0$2.35600×10^{16} NP1:ϕ_s292.00000°,δ80.00000°,λ-164.00000°. NP2: ϕ_s199.00000°,δ75.00000°,λ-11.00000°. Principal axes: T 2.7560, Plg4.0000°, Azm65.0000°; N -0.8020, Plg71.0000°, Azm324.0000°; P -1.9550, Plg18.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
INMG ***16*** *07:06:23.7±2.3, 35°.57N×6°.99W, h48^{km}±9^{km}, MD3.8, ML4.8 Error ellipse: s-maj=3.0km s-min=2.8km az=43.0*
SFS ***16*** *07:06:23.0, 35°.59N×6°.94W, h40^{km}, ML4.9, GOLFO DE CADIZ*
IDC ***16*** *07:06:23.3±2.0, 35°.55N×6°.87W, h46^{km}±18^{km}, mb4.2/22, mb1 4.3/26, mb1mx4.1/45, mbtmp4.4/26, ML4.9/5, MS3.9/10, Ms1 3.9/10, ms1mx3.5/42, Error ellipse: s-maj=14.6km s-min=11.1km az=90.0*
MDD ***16*** *07:06:23.3±0.6, 35°.60N×6°.95W, h72^{km}±9^{km}, mb5.4/64, Error ellipse: s-maj=6.2km s-min=3.1km az=24.0, PRXIMO*
MDD EMS: II INTENSIDAD MAXIMA.
IGIL ***16*** *07:06:24.1, 35°.56N×6°.95W, h31^{km}, ML5.0*

ISC 16 07:06:21.6±0.6**, 35°.56N**±0°.03×**6°.98W**±0°.03**, h45**^{km}±5^{km}**, n779,** σ**2^{s}31**/994**, mb4.7**/98**, MS4.2**/12**, 57C-67D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFS	San Fernando	1.11	35	P	Pn	07 06 41.2	+0.6
SFS						07 06 54.9	
SFS	San Fernando	1.11	35	eP	Pn	07 06 41.7	+1.1
SFS				iS	Sn	07 06 56.3	+1.6
SFS	San Fernando	1.11	35	P	Pn	07 06 41.7	+1.1
SFS				S	Sn	07 06 56.3	+1.6
SFS	San Fernando	1.11	35	Pn	Pn	07 06 41.2	+0.6
SFS				Sn	Sn	07 06 54.9	+0.2
CNIL	Conil	1.11	43	⇑iP	Pn	07 06 42.6	+1.9
CNIL				iS	Sn	07 06 50.8	-4.0
CNIL	Conil	1.11	43	⇑P	Pn	07 06 42.6	+1.9
CNIL				S	Sn	07 06 50.8	-4.0
ECEU	Ceuta	1.35	75	⇑P	Pn	07 06 45.7	+1.7
	597nm,0.2s,SNR=18						
ECEU				S	Sn	07 07 01.7	+0.9
	2µm,0.4s,SNR=9.3						
ECEU	Ceuta	1.35	75		Pn	07 06 45.7	+1.7
ECEU					Sn	07 07 03.3	+2.5
CEU	Ceuta	1.35	75	⇑iP	Pn	07 06 46.4	+2.4
CEU				eS	Sn	07 07 03.1	+2.3
CEU	Ceuta	1.35	75	⇑P	Pn	07 06 46.4	+2.4
CEU				S	Sn	07 07 03.1	+2.3
ALJ	Aljibe	1.46	48	⇑iP	Pn	07 06 47.5	+2.0
ALJ				iS	Sn	07 07 00.0	-3.4
ALJ	Aljibe	1.46	48	⇑P	Pn	07 06 47.5	+2.0
ALJ				S	Sn	07 07 00.0	-3.4
GIBL	Gibalbin	1.52	33	⇓iP	Pn	07 06 47.7	+1.4
GIBL	Gibalbin	1.52	33	⇓P	Pn	07 06 47.7	+1.4
RTC	Rabat Centre	1.57	176	P	Pn	07 06 48.2	+1.2
RTC				S	Sn	07 07 06.1	0.0
ESPR	Espera	1.60	35	⇓P	Pn	07 06 48.1	+0.7
	220nm,0.1s,SNR=18						
ESPR				S	Sn	07 07 05.9	-0.8
	4µm,0.7s						
ESPR	Espera	1.60	35		Pn	07 06 48.1	+0.7
ESPR					Sn	07 07 06.0	-0.8
REAL	Reales	1.71	57	⇓iP	Pn	07 06 50.7	+1.6
REAL				eS	Sn	07 07 03.1	-6.7
REAL	Reales	1.71	57	⇓P	Pn	07 06 50.7	+1.6
REAL				S	Sn	07 07 03.1	-6.7
PBDV	Barranco-do-Ve	1.85	336	⇓iP	Pn	07 06 51.6	+0.7
PBDV				eS	Sn	07 07 12.6	-0.5
PBDV				A	A	07 07 13.2	
	4µm,0.3s						
PBDV	Barranco-do-Ve	1.85	336	P	Pn	07 06 51.6	+0.7
PBDV				S	Sn	07 07 12.6	-0.5
	4µm,0.3s						
LIJA	Lijar	1.86	43	⇓iP	Pn	07 06 52.2	+1.1
LIJA				iS	Sn	07 07 05.4	-8.0
LIJA	Lijar	1.86	43	⇓P	Pn	07 06 52.2	+1.1
LIJA				S	Sn	07 07 05.4	-8.0
PVAQ	Vaqueiros	1.94	342	⇓iP	Pn	07 06 52.9	+0.8
PVAQ				iS	Sn	07 07 14.3	-0.9
PVAQ				A	A	07 07 14.9	
	6µm,0.3s						
PVAQ	Vaqueiros	1.94	342	P	Pn	07 06 52.8	+0.8
PVAQ				S	Sn	07 07 13.9	-1.3
PVAQ	Vaqueiros	1.94	342	P	Pn	07 06 52.9	+0.8
PVAQ				S	Sn	07 07 14.3	-0.9
	6µm,0.3s						
PVAQ	Vaqueiros	1.94	342		Pn	07 06 52.8	+0.8
PVAQ				Sn	Sn	07 07 13.9	-1.3
EGRO	El Granado	2.02	349	⇓P	Pn	07 06 54.0	+0.9
	2µm,0.3s,SNR=18						
EGRO				S	Sn	07 07 16.1	-1.0
	3µm,0.2s						
EGRO	El Granado	2.02	349		Pn	07 06 54.0	+0.9
EGRO					Sn	07 07 15.3	-1.8
EMIJ	Mijas	2.06	60	⇑P	Pn	07 06 54.0	+0.3
	2µm,0.4s,SNR=18						
EMIJ				S	Sn	07 07 15.8	-2.3
	2µm,0.4s						
EMIJ	Mijas	2.06	60		Pn	07 06 54.0	+0.3
EMIJ					Sn	07 07 16.4	-1.8
PFVI	Vila Bisbo	2.17	317	⇓iP	Pn	07 06 56.0	+0.8
PFVI				eS	Sn	07 07 20.4	-0.4
PFVI				A	A	07 07 24.7	
	4µm,0.3s						
PFVI	Vila Bisbo	2.17	317	P	Pn	07 06 56.0	+0.8
PFVI				S	Sn	07 07 19.3	-1.5
PFVI	Vila Bisbo	2.17	317	⇓P	Pn	07 06 56.0	+0.8
	1µm,0.2s,SNR=18						
PFVI				S	Sn	07 07 20.3	-0.5
	3µm,0.1s,SNR=15						
PFVI	Vila Bisbo	2.17	317		Pn	07 06 55.9	+0.7
PFVI					Sn	07 07 20.2	-0.6
MORF	Marmelete	2.21	323	eP	Pn	07 06 56.3	+0.6
MORF				eS	Sn	07 07 20.7	-1.1
MORF				AML	AML	07 07 27.8	
	comp=E,8µm,0.1s						
MORF	Marmelete	2.21	323	⇓iP	Pn	07 06 56.4	+0.6
MORF				eS	Sn	07 07 21.0	-0.8
MORF				A	A	07 07 24.9	
	comp=E,3µm,0.2s						
MORF	Marmelete	2.21	323	eP	Pn	07 06 56.3	+0.6
MORF				eS	Sn	07 07 20.7	-1.1
MORF	Marmelete	2.21	323	P	Pn	07 06 56.4	+0.6
MORF				S	Sn	07 07 21.0	-0.8
	comp=E,3µm,0.2s						
EMIN	Mina Concepcio	2.22	6	⇓P	Pn	07 06 56.5	+0.6
	comp=E,860nm,0.2s,SNR=18						
EMIN				S	Sn	07 07 19.9	-2.3
	comp=E,2µm,0.2s,SNR=9.6						
EMIN	Mina Concepcio	2.22	6		Pn	07 06 56.5	+0.6
EMIN					Sn	07 07 19.6	-2.5
PVLZ	Peæn de	2.23	99	⇑iP	Pn	07 06 56.6	+0.7
PVLZ				es	Sn	07 07 20.2	-2.0
PVLZ	Peæn de	2.23	99	⇑P	Pn	07 06 56.6	+0.7
PVLZ				S	Sn	07 07 20.2	-2.0
PCVE	Castro Verde	2.24	338	⇓iP	Pn	07 06 57.0	+0.8
PCVE				eS	Sn	07 07 22.1	-0.5
PCVE				A	A	07 07 22.9	
	comp=E,3µm,0.5s						
PCVE	Castro Verde	2.24	338	P	Pn	07 06 57.0	+0.8
PCVE				S	Sn	07 07 22.1	-0.5
	comp=E,3µm,0.5s						
EMAL	Malaga-Limoner	2.39	59	⇑iP	Pn	07 06 58.8	+0.5
EMAL				eS	Sn	07 07 25.2	-1.1
PTEO	Sao Teotonio	2.43	325	⇓iP	Pn	07 06 59.7	+0.9
PTEO				eS	Sn	07 07 26.5	-0.8
PTEO				A	A	07 07 35.3	
	comp=E,3µm,0.6s						
PTEO	Sao Teotonio	2.43	325	P	Pn	07 06 59.7	+0.9
PTEO				S	Sn	07 07 26.5	-0.8
	comp=E,1µm,0.6s						
MESJ	Messejana	2.49	337	eP	Pn	07 07 00.5	+0.9
MESJ				eS	Sn	07 07 27.2	-1.5
MESJ				AML	AML	07 07 30.8	
	comp=N,7µm,0.3s						
MESJ	Messejana	2.49	337	eP	Pn	07 07 00.5	+0.9
MESJ				eS	Sn	07 07 27.2	-1.5
MESJ	Messejana	2.49	337	P	Pn	07 07 00.5	+0.9
MESJ				S	Sn	07 07 27.2	-1.5
	comp=N,7µm,0.3s						
PALE	Palemas	2.51	97	P	Pn	07 07 00.5	+0.5
PALE				S	Sn	07 07 28.8	-0.5
IFR	Ifrane	2.55	142	⇓iP	Pn	07 07 00.7	+0.1
IFR				iS	Sn	07 07 28.9	-1.5
PBEJ	Beja	2.57	344	⇓iP	Pn	07 07 01.3	+0.6
PBEJ				eS	Sn	07 07 29.4	-1.3
PBEJ				A	A	07 07 30.5	
	comp=N,2µm,0.3s						
PBEJ	Beja	2.57	344	P	Pn	07 07 01.3	+0.6
PBEJ				S	Sn	07 07 29.4	-1.3
	comp=N,868nm,0.3s						
PBAR	Barrancos	2.62	359	⇓iP	Pn	07 07 02.2	+0.9
PBAR				eS	Sn	07 07 30.0	-1.9
PBAR				A	A	07 07 35.0	
	comp=N,2µm,0.4s						
PBAR	Barrancos	2.62	359	P	Pn	07 07 02.2	+0.9
PBAR				S	Sn	07 07 30.0	-1.9
	comp=N,2µm,0.4s						
HORN	Hornachuelos	2.67	31	P	Pn	07 07 02.6	+0.4
EGOR	Sierra Gorda,	2.79	55	⇑P	Pn	07 07 05.4	+1.5
	comp=N,304nm,0.3s,SNR=18						
EGOR				S	Sn	07 07 35.6	-0.8
	comp=N,4µm,0.5s,SNR=7.9						
EGOR	Sierra Gorda,	2.79	55		Pn	07 07 05.4	+1.5
EGOR					Sn	07 07 35.6	-0.8
ECAB	El Cabril	2.81	26	⇓P	Pn	07 07 04.3	+0.2
	comp=N,7.3nm,0.1s,SNR=18						
ECAB				S	Sn	07 07 33.1	-3.7
	comp=N,2µm,0.3s,SNR=13						
ECAB	El Cabril	2.81	26		Pn	07 07 04.3	+0.2
ECAB					Sn	07 07 33.7	-3.1
PNCL	Nicolau / Gran	2.84	335	⇓iP	Pn	07 07 05.1	+0.7
PNCL				eS	Sn	07 07 36.0	-1.3
PNCL				A	A	07 07 38.2	
	comp=N,1µm,0.2s						
PNCL	Nicolau / Gran	2.84	335	P	Pn	07 07 05.1	+0.7
PNCL				S	Sn	07 07 36.0	-1.3
	comp=N,1µm,0.2s						
ELGU	Los Guajares,	3.02	63	P	Pn	07 07 06.0	-0.9
	comp=N,67nm,0.1s,SNR=7.9						
ELGU				S	Sn	07 07 39.4	-2.4
	comp=N,1µm,0.2s,SNR=7.9						
ELGU	Los Guajares,	3.02	63		Pn	07 07 06.0	-0.9
ELGU					Sn	07 07 42.2	+0.3
EVO	Evora	3.08	345	⇓iP	Pn	07 07 08.7	+0.9
EVO				eS	Sn	07 07 41.7	-1.7
EVO				A	A	07 07 43.6	
	comp=N,2µm,0.3s						
EVO	Evora	3.08	345	⇓iP	Pn	07 07 08.6	+0.9
EVO				eS	Sn	07 07 40.7	-2.7
EVO	Evora	3.08	345	⇓P	Pn	07 07 08.6	+0.9
EVO				S	Sn	07 07 40.7	-2.7
EBAD	Badajoz	3.19	360	⇓P	Pn	07 07 10.0	+0.7
	comp=N,601nm,0.2s,SNR=18						
EBAD				S	Sn	07 07 43.4	-2.7
	comp=N,1µm,0.2s,SNR=11						
EBAD	Badajoz	3.19	360		Pn	07 07 10.0	+0.7
EBAD					Sn	07 07 44.2	-1.9
EALB	Alboran	3.24	82	P	Pn	07 07 10.1	+0.3
	comp=N,205nm,0.1s,SNR=24						
EALB				S	Sn	07 07 44.5	-2.6
	comp=N,578nm,0.3s						
EALB	Alboran	3.24	82		Pn	07 07 10.1	+0.3
EALB					Sn	07 07 44.9	-2.2
EADA	Adamuz	3.24	36	⇓P	Pn	07 07 10.6	+0.6
	comp=N,827nm,0.2s,SNR=18						
EADA				S	Sn	07 07 43.4	-4.0
	comp=N,1µm,0.4s,SNR=18						
EADA	Adamuz	3.24	36		Pn	07 07 10.6	+0.6
EADA					Sn	07 07 44.1	-3.3
EMEL	Melilla	3.30	93	P	Pn	07 07 10.6	-0.1
	comp=N,5µm,0.3s,SNR=7.9						
EMEL				S	Sn	07 07 45.5	-3.1
	comp=N,3µm,0.4s,SNR=7.9						
EQUE	Quentar	3.30	59	⇑P	Pn	07 07 12.2	+1.3
	comp=N,306nm,0.3s,SNR=18						
EQUE				S	Sn	07 07 47.6	-1.2
	comp=N,858nm,0.6s,SNR=5.9						
EMLI	Melilla	3.30	93		Pn	07 07 10.6	-0.1
EMLI					Sn	07 07 45.5	-3.3
MELI	Melilla	3.32	93	⇑iP	Pn	07 07 10.9	0.0
MELI				iS	Sn	07 07 45.5	-3.6
MELI	Melilla	3.32	93	P	Pn	07 07 10.6	-0.3
	comp=N,1µm,0.2s,SNR=7.9						
MELI				S	Sn	07 07 45.7	-3.4
	comp=N,130nm,0.7s,SNR=7.9						
MELI	Melilla	3.32	93		Pn	07 07 10.6	-0.3
MELI					Sn	07 07 45.7	-3.4
PESTR	Estremoz	3.34	352	⇓iP	Pn	07 07 11.9	+0.6
PESTR				eS	Sn	07 07 48.5	-1.3
PESTR				A	A	07 07 59.8	
	comp=N,902nm,0.5s						
PESTR	Estremoz	3.34	352	P	Pn	07 07 11.9	+0.6
PESTR				S	Sn	07 07 48.7	-1.1
PESTR	Estremoz	3.34	352		Pn	07 07 11.9	+0.6
PESTR				Sn	Sn	07 07 48.8	-0.9
MDT	Midelt	3.37	144	P	Pn	07 07 12.8	+1.0
	comp=N,1µm,0.3s,baz=331,slow=14						
MDT				S	Sn	07 07 48.1	-2.5
	comp=N,1µm,0.3s,baz=28,slow=18,SNR=52						
MDT	Midelt	3.37	144	P	Pn	07 07 12.6	+0.7
EBER	Berja	3.57	67	⇑P	Pn	07 07 14.2	-0.4
	comp=N,84nm,0.2s,SNR=18						
EBER				S	Sn	07 07 54.3	-1.4
	comp=N,1µm,0.5s,SNR=6.3						
EBER	Berja	3.57	67		Pn	07 07 14.2	-0.4
EBER					Sn	07 07 54.3	-1.4
LIS	Lisbon	3.60	332	eP	Pn	07 07 15.9	+1.1
LIS				eS	Sn	07 07 53.7	-2.3
LIS				AML	AML	07 07 56.6	
	comp=E,6µm,0.5s						
LIS	Lisbon	3.60	332	⇓iP	Pn	07 07 16.1	+1.3
LIS				eS	Sn	07 07 54.7	-1.3
LIS				A	A	07 07 58.3	
	comp=E,1µm,0.5s						
LIS	Lisbon	3.60	332	eP	Pn	07 07 15.9	+1.1
LIS				eS	Sn	07 07 53.7	-2.3
LIS	Lisbon	3.60	332	P	Pn	07 07 16.1	+1.3
LIS				S	Sn	07 07 54.7	-1.3
	comp=E,1µm,0.5s						
INMG	Instituto de M	3.64	333	⇓iP	Pn	07 07 17.9	+2.5
INMG	Instituto de M	3.64	333	P	Pn	07 07 17.9	+2.5
PMTG	Montargil	3.64	345	⇓iP	Pn	07 07 12.8	-2.7
PMTG				eS	Sn	07 07 52.2	-5.0
PMTG				A	A	07 07 55.2	
	comp=E,899nm,0.2s						
PMTG	Montargil	3.64	345	P	Pn	07 07 12.8	-2.7
PMTG				S	Sn	07 07 52.2	-5.0
	comp=E,899nm,0.2s						
GORA	Gorafe	3.71	58	⇑P	Pn	07 07 17.5	+1.0
	comp=E,114nm,0.2s,SNR=18						
GORA				S	Sn	07 07 57.0	-1.9
	comp=E,2µm,0.4s,SNR=7.9						
GORA	Gorafe	3.71	58		Pn	07 07 17.5	+1.0
GORA					Sn	07 07 57.0	-1.9
JBK	JBK	3.83	107	P	Pn	07 07 18.3	+0.1
TISM	Timmit	3.85	173	P	Pn	07 07 16.8	-1.5
PMAFR	Mafra	3.86	332	⇓iP	Pn	07 07 19.5	+1.1
PMAFR				eS	Sn	07 08 00.6	-1.9
PMAFR				A	A	07 08 03.8	
	comp=E,4µm,0.3s						
PMAFR	Mafra	3.86	332	⇓P	Pn	07 07 19.5	+1.1
	comp=E,950nm,0.2s,SNR=18						
PMAFR				S	Sn	07 08 00.3	-2.1
	comp=E,1µm,0.6s,SNR=24						
PMAFR	Mafra	3.86	332		Pn	07 07 19.5	+1.1
PMAFR					Sn	07 08 00.8	-1.7
EQES	Quesada	3.86	53	⇓P	Pn	07 07 19.0	+0.5
	comp=E,174nm,0.2s,SNR=18						
EQES				S	Sn	07 07 60.0	-2.8
	comp=E,850nm,0.5s,SNR=12						
EQES	Quesada	3.86	53		Pn	07 07 19.0	+0.5
EQES					Sn	07 08 03.0	+0.3
PMRV	Marv??o	3.88	355	⇓iP	Pn	07 07 19.5	+0.8
PMRV				eS	Sn	07 08 00.5	-2.5
PMRV				A	A	07 08 02.9	
	comp=E,2µm,0.3s						
PMRV	Marv??o	3.88	355	P	Pn	07 07 19.5	+0.8
PMRV				S	Sn	07 08 00.5	-2.5
	comp=E,2µm,0.3s						
ENIJ	Nijar	4.11	68	P	Pn	07 07 21.8	-0.1
ENIJ						07 08 05.5	
ENIJ	Nijar	4.11	68	⇑P	Pn	07 07 21.8	-0.1
	comp=E,362nm,0.5s,SNR=18						
ENIJ				S	Sn	07 08 05.5	-3.2
	comp=E,68nm,0.6s,SNR=7.9						
ENIJ	Nijar	4.11	68		Pn	07 07 21.8	-0.1
ENIJ					Sn	07 08 05.5	-3.2
GOLM	Goulmima	4.20	156	P	Pn	07 07 24.3	+1.1
GOLM				S	Sn	07 08 11.5	+0.5
PTOM	Tomar	4.21	345	⇓iP	Pn	07 07 24.3	+1.1
PTOM				eS	Sn	07 08 08.7	-2.4
PTOM				A	A	07 08 09.7	
	comp=E,738nm,0.7s						
PTOM	Tomar	4.21	345	P	Pn	07 07 24.3	+1.1
PTOM				S	Sn	07 08 08.7	-2.4
	comp=E,369nm,0.7s						
PCBR	Castelo Branco	4.30	355	⇓iP	Pn	07 07 25.3	+0.9
PCBR				eS	Sn	07 08 10.8	-2.4
PCBR				A	A	07 08 12.5	
	comp=E,1µm,0.5s						
PCBR	Castelo Branco	4.30	355	P	Pn	07 07 25.3	+0.9
PCBR				S	Sn	07 08 10.8	-2.4
	comp=E,702nm,0.5s						
SESP	Santiago Espad	4.38	53	P	Pn	07 07 26.1	+0.3
SESP	Santiago Espad	4.38	53	⇓P	Pn	07 07 25.9	+0.1
	comp=E,93nm,0.3s,SNR=18						
SESP				S	Sn	07 08 10.7	-5.0
	comp=E,794nm,0.2s,SNR=7.9						
SESP	Santiago Espad	4.38	53		Pn	07 07 25.9	+0.1
SESP					Sn	07 08 11.0	-4.6
OUK	Oukaimeden	4.40	190	P	Pn	07 07 27.0	+0.8
PAB	San Pablo	4.50	27	P	Pn	07 07 27.5	+0.2
PAB						07 08 14.5	
PAB	San Pablo	4.50	27	⇓P	Pn	07 07 27.4	+0.1
	comp=E,12nm,0.1s,SNR=18						
PAB				S	Sn	07 08 13.4	-5.0
	comp=E,3µm,0.4s,SNR=7.9						
PAB	San Pablo	4.50	27		Pn	07 07 27.5	+0.2

PAB Sn 07 08 14.5 -3.9
EPLA Plasencia 4.56 9 P Pn 07 07 28.7 +0.6
EPLA 07 08 17.2
EPLA Plasencia 4.56 9 ⇓P Pn 07 07 28.6 +0.6
comp=E,342nm,0.2s,SNR=18
EPLA S Sn 07 08 16.0 -3.8
comp=E,3µm,0.2s,SNR=22
EPLA Plasencia 4.56 9 Pn 07 07 28.6 +0.6
EPLA Sn 07 08 17.2 -2.6
TLOR Lorca, Murcia 4.75 62 ⇓P Pn 07 07 31.7 +1.1
comp=E,190nm,0.1s,SNR=18
TLOR S Sn 07 08 21.5 -2.9
comp=E,992nm,0.3s,SNR=7.9
ESDC Sonseca Array 4.76 29 P Pn 07 07 31.0 +0.1
comp=E,63nm,0.3s,baz=212,slow=13,SNR=326
ESDC S Sn 07 08 18.8 -6.0
comp=E,457nm,0.3s,baz=214,slow=23,SNR=27
ESDC LR LR 07 09 27.4
comp=E,267nm,22.0s,baz=320,slow=39
ESDC Sonseca Array 4.76 29 ⇓P Pn 07 07 30.9 +0.1
comp=E,62nm,0.1s,baz=215,slow=12,SNR=18
ESDC S Sn 07 08 19.8 -4.9
comp=E,426nm,0.4s,baz=214,slow=23,SNR=34
ESBB Sonseca Array 4.76 29 Pn 07 07 31.1 +0.2
ESBB Sn Sn 07 08 19.1 -5.7
COI Coimbra 4.78 347 ⇓*i*P Pn 07 07 31.7 +0.7
COI *e*S Sn 07 08 22.2 -2.9
COI A A 07 08 31.1
comp=E,610nm,0.3s
COI Coimbra 4.78 347 P Pn 07 07 31.7 +0.7
COI 07 08 22.9
COI Coimbra 4.78 347 P Pn 07 07 31.7 +0.7
COI S Sn 07 08 22.2 -2.9
comp=E,305nm,0.3s
COI Coimbra 4.78 347 Pn 07 07 31.7 +0.7
COI Sn Sn 07 08 22.9 -2.2
TDRA Tendrara 4.81 120 P Pn 07 07 31.9 +0.3
TDRA S Sn 07 08 23.3 -2.8
MTE Manteigas 4.86 355 ⇓*i*P Pn 07 07 32.9 +0.7
MTE *e*S Sn 07 08 24.2 -2.9
MTE A A 07 08 28.7
comp=E,2µm,0.7s
MTE Manteigas 4.86 355 P Pn 07 07 32.9 +0.7
MTE S Sn 07 08 24.2 -2.9
comp=E,1µm,0.7s
MTE Manteigas 4.86 355 Pn 07 07 32.8 +0.6
MTE Sn Sn 07 08 25.1 -2.1
TZRR Tazzarine 4.90 166 P Pn 07 07 33.9 +1.1
TZRR S Sn 07 08 26.3 -2.1
OTSS Djebel Tessala 5.06 91 P Pn 07 07 38.0 +3.0
OTSS Djebel Tessala 5.06 91 P Pn 07 07 38.0 +3.0
EMUR La Murta 5.15 62 ⇑P Pn 07 07 36.3 +0.2
comp=E,66nm,0.3s,SNR=18
EMUR S Sn 07 08 29.9 -4.4
comp=E,547nm,0.7s,SNR=7.2
EMUR La Murta 5.15 62 Pn 07 07 36.3 +0.2
EMUR Sn 07 08 30.2 -4.1
PVIS Viseu 5.20 352 ⇓*i*P Pn 07 07 37.1 +0.2
PVIS *e*S Sn 07 08 32.4 -3.2
PVIS A A 07 08 33.6
comp=E,415nm,0.5s
PVIS Viseu 5.20 352 P Pn 07 07 37.1 +0.2
PVIS S Sn 07 08 32.4 -3.2
comp=E,207nm,0.5s
CART Cartagena 5.22 65 *e*P Pn 07 07 36.6 -0.5
CART *i* S Sn 07 08 32.4 -3.7
CART Cartagena 5.22 65 P Pn 07 07 36.6 -0.5
CART S Sn 07 08 32.4 -3.7
CART Cartagena 5.22 65 Pn Pn 07 07 36.7 -0.4
CART Sn Sn 07 08 32.7 -3.4
ETOB Tobarra 5.33 53 ⇑P Pn 07 07 38.5 -0.1
comp=E,343nm,0.1s,SNR=18
ETOB S Sn 07 08 33.4 -5.3
comp=E,1µm,0.4s,SNR=9.9
ETOB Tobarra 5.33 53 Pn 07 07 38.5 -0.1
ETOB Sn 07 08 34.6 -4.2
ZGR Zagora 5.54 168 P Pn 07 07 42.2 +0.5
ZGR S Sn 07 08 45.0 +0.9
GUD Guadarrama 5.55 23 P Pn 07 07 42.2 +0.5
GUD 07 08 39.5
GUD Guadarrama 5.55 23 ⇓P Pn 07 07 42.2 +0.5
comp=E,33nm,0.2s,SNR=18
GUD S Sn 07 08 39.4 -4.9
comp=E,1µm,0.4s,SNR=17
GUD Guadarrama 5.55 23 Pn 07 07 42.2 +0.5
GUD Sn 07 08 39.5 -4.8
ETRV Los Montesinos 5.57 62 P Pn 07 07 42.0 +0.2
comp=E,83nm,0.1s,SNR=7.9
ETRV S Sn 07 08 40.1 -4.4
comp=E,486nm,0.4s,SNR=7.9
ETRV Los Montesinos 5.57 62 Pn 07 07 42.0 +0.2
ETRV Sn 07 08 40.1 -4.4
ODJA Bouhanifia 5.58 90 P Pn 07 07 43.0 +0.9
ODJA Bouhanifia 5.58 90 P Pn 07 07 43.0 +0.9
UCM Universidad Co 5.59 31 ⇓*i*P Pn 07 07 43.1 +0.9
UCM *e*S Sn 07 08 40.2 -4.9
MVO Moncorvo 5.60 360 ⇓*e*P Pn 07 07 42.9 +0.5
MVO *e*S Sn 07 08 41.9 -3.6
MVO A A 07 08 44.1
comp=E,2µm,0.6s
MVO Moncorvo 5.60 360 ⇓P Pn 07 07 42.9 +0.5
comp=E,911nm,0.3s,SNR=18
MVO S Sn 07 08 41.4 -4.1
comp=E,1µm,0.5s,SNR=15
MVO Moncorvo 5.60 360 Pn 07 07 42.9 +0.5
MVO Sn 07 08 41.4 -4.1
PVRL Vila Real 5.74 354 ⇓*e*P Pn 07 07 44.7 +0.4
PVRL *e*S Sn 07 08 45.1 -3.8
PVRL A A 07 08 47.6
comp=E,840nm,0.2s
PVRL Vila Real 5.74 354 P Pn 07 07 44.7 +0.4
PVRL S Sn 07 08 45.1 -3.8
comp=E,420nm,0.2s
POLO Lamas de Olo 5.84 354 ⇓*e*P Pn 07 07 46.0 +0.2
POLO *e*S Sn 07 08 47.2 -4.3
POLO A A 07 08 50.8
comp=E,445nm,0.4s
POLO Lamas de Olo 5.84 354 P Pn 07 07 46.0 +0.2
POLO S Sn 07 08 47.2 -4.3
comp=E,445nm,0.4s
FIGM Figuig 5.86 124 P Pn 07 07 46.7 +0.7
OJBR Djebel Berber 5.97 88 P Pn 07 07 42.0 -5.5
OJBR Djebel Berber 5.97 88 P Pn 07 07 42.0 -5.5
AFON Font Roja 6.01 57 ⇑P Pn 07 07 47.9 -0.2
comp=E,252nm,0.3s,SNR=18
AFON S Sn 07 08 49.8 -5.8
comp=E,657nm,0.4s,SNR=7.2
AFON Font Roja 6.01 57 Pn 07 07 47.9 -0.2
AFON Sn 07 08 54.2 -1.4
PCAB Cabril 6.20 353 ⇓*e*P Pn 07 07 50.8 +0.2
PCAB *i* S Sn 07 08 55.8 -4.3
PCAB A A 07 08 59.5
comp=E,456nm,0.4s
PCAB Cabril 6.20 353 P Pn 07 07 50.8 +0.2
PCAB S Sn 07 08 55.8 -4.3
comp=E,228nm,0.4s
OKGL Djebel Kef Gue 6.22 83 P Pn 07 07 44.0 -6.8
OKGL Djebel Kef Gue 6.22 83 P Pn 07 07 50.3 -0.6
comp=E,122nm,0.3s,SNR=7.9
OKGL S Sn 07 08 56.6 -4.0
comp=E,200nm,0.3s,SNR=7.9
OKGL Djebel Kef Gue 6.22 83 Pn 07 07 50.3 -0.6
OKGL Sn 07 08 57.8 -2.9
PBRG Braganca 6.24 2 ⇓*e*P Pn 07 07 51.5 +0.3
PBRG *e*S Sn 07 08 56.4 -4.8
PBRG A A 07 08 59.4
comp=E,668nm,0.5s
PBRG Braganca 6.24 2 P Pn 07 07 51.5 +0.3
PBRG S Sn 07 08 56.4 -4.8
comp=E,334nm,0.5s
ECHE Chera 6.25 48 P Pn 07 07 51.0 -0.3
ECHE 07 08 55.7
ECHE Chera 6.25 48 ⇑P Pn 07 07 51.0 -0.3
comp=E,69nm,0.2s,SNR=18
ECHE S Sn 07 08 55.1 -6.2
comp=E,571nm,0.3s,SNR=7.9
ECHE Chera 6.25 48 Pn 07 07 51.0 -0.3
ECHE Sn 07 08 55.7 -5.7
OJGS Djebel Guires 6.31 88 P Pn 07 07 43.0 -9.1
OJGS Djebel Guires 6.31 88 P Pn 07 07 43.0 -9.1
ELOB Lobios 6.36 353 ⇓P Pn 07 07 52.9 +0.1
comp=E,122nm,0.3s,SNR=18
ELOB S Sn 07 08 59.2 -4.9
comp=E,565nm,0.4s
ELOB Lobios 6.36 353 Pn 07 07 52.9 +0.1
ELOB Sn 07 09 02.1 -2.0
ECAL Calabor 6.38 2 ⇓P Pn 07 07 53.7 +0.6
comp=E,444nm,0.3s,SNR=18
ECAL S Sn 07 09 00.5 -4.1
comp=E,2µm,0.5s
ECAL Calabor 6.38 2 Pn 07 07 53.7 +0.6
ECAL Sn 07 09 01.3 -3.3
ETOR Torete 6.53 35 ⇓P Pn 07 07 55.7 +0.5
comp=E,437nm,0.3s,SNR=18
ETOR S Sn 07 09 02.3 -6.1
comp=E,2µm,0.3s,SNR=18
EZAM Zamans 6.72 349 P Pn 07 07 57.9 +0.3
EZAM 07 09 08.3
EZAM Zamans 6.72 349 ⇓P Pn 07 07 57.9 +0.3
comp=E,117nm,0.3s,SNR=18
EZAM S Sn 07 09 07.9 -5.0
comp=E,136nm,0.4s,SNR=7.9
EZAM Zamans 6.72 349 Pn 07 07 57.9 +0.3
EZAM Sn 07 09 08.3 -4.5
EMOS Mosqueruela 7.04 45 ⇑P Pn 07 08 02.8 +0.7
comp=E,451nm,0.6s,SNR=18
EMOS S Sn 07 09 15.0 -5.9
comp=E,198nm,0.6s
EMOS Mosqueruela 7.04 45 Pn 07 08 02.9 +0.7
EMOS Sn 07 09 15.0 -5.9
EAGO Agolada(Pontev 7.29 354 ⇓P Pn 07 08 05.5 +0.1
comp=E,52nm,0.3s,SNR=18
EAGO S Sn 07 09 21.4 -5.4
comp=E,230nm,0.2s,SNR=7.9
EAGO Agolada(Pontev 7.29 354 Pn 07 08 05.5 +0.1
EAGO Sn 07 09 22.7 -4.2
EIBI Ibiza 7.49 60 ⇑P Pn 07 08 07.3 -0.9
comp=E,95nm,0.4s,SNR=18
EIBI S Sn 07 09 25.1 -6.7
comp=E,56nm,0.6s,SNR=6.3
EIBI Ibiza 7.49 60 Pn 07 08 07.3 -0.9
EIBI Sn 07 09 25.7 -6.1
EMAZ Mazaricos 7.54 349 P Pn 07 08 09.6 +0.6
comp=E,120nm,0.3s,SNR=7.9
EMAZ S Sn 07 09 28.3 -4.8
comp=E,90nm,0.4s,SNR=7.9
EMAZ Mazaricos 7.54 349 Pn 07 08 09.6 +0.6
EMAZ Sn 07 09 29.6 -3.5
EPON Pontenova 7.76 359 P Pn 07 08 12.6 +0.7
comp=E,51nm,0.3s,SNR=78
EPON S Sn 07 09 34.7 -3.8
comp=E,88nm,0.5s,SNR=4.8
EPON Pontenova 7.76 359 Pn 07 08 12.7 +0.7
EPON Sn 07 09 35.2 -3.3
EARI Arriondas 7.86 10 P Pn 07 08 13.9 +0.7
comp=E,125nm,0.6s,SNR=216
EARI S Sn 07 09 34.6 -6.2
comp=E,403nm,0.8s,SNR=5.4
EARI Arriondas 7.86 10 Pn 07 08 13.9 +0.7
EARI Sn 07 09 35.2 -5.7
ERTA Horta de San J 7.89 45 P Pn 07 08 13.9 +0.2
comp=E,11nm,0.1s,SNR=34
ERTA S Sn 07 09 36.5 -5.0
comp=E,384nm,0.6s,SNR=7.6
ERTA Horta de San J 7.89 45 Pn 07 08 13.9 +0.2
ERTA Sn 07 09 36.5 -5.0
ESAC San Caprasio 7.99 38 P Pn 07 08 15.4 +0.2
comp=E,201nm,0.3s,SNR=61
ESAC S Sn 07 09 38.9 -5.3
comp=E,2µm,0.4s,SNR=5.3
ESAC San Caprasio 7.99 38 Pn 07 08 15.3 +0.2
ESAC Sn 07 09 40.0 -4.2
PMPST Porto Santo, M 8.12 255 *e*P Pn 07 08 16.9 0.0
PMPST *e*S Sn 07 09 39.2 -8.1
PMPST A A 07 09 49.0
comp=E,256nm,0.4s
PMPST *e*T T 07 14 42.1
PMPS Porto Santo 8.13 255 *e*P Pn 07 08 15.9 -1.1
PMPS *e*S Sn 07 09 40.5 -7.0
PMPS A A 07 09 47.5
comp=E,266nm,0.3s
PMPS *e*T T 07 14 54.8
PMPS Porto Santo 8.13 255 P Pn 07 08 16.9 -0.1
PMPS S Sn 07 09 39.2 -8.3
comp=E,128nm,0.4s
ELAN Lanestosa 8.14 19 ⇑P Pn 07 08 17.7 +0.5
comp=E,56nm,0.3s,SNR=18
ELAN S Sn 07 09 40.7 -7.2
comp=E,195nm,0.3s,SNR=5.4
ELAN Lanestosa 8.14 19 Pn 07 08 17.7 +0.5
ELAN Sn 07 09 41.5 -6.4
EARA Aranguren 8.34 29 P Pn 07 08 21.2 +1.3
comp=E,88nm,0.3s,SNR=20
EARA S Sn 07 09 45.9 -6.8
comp=E,226nm,0.3s,SNR=7.4
EARA Aranguren 8.34 29 Pn 07 08 21.2 +1.3
EARA Sn 07 09 46.8 -5.8
EFAM Famara 8.47 223 P Pn 07 08 19.4 -2.2
comp=E,55nm,0.2s,SNR=7.9
EFAM S Sn 07 09 46.8 -9.1
comp=E,401nm,0.4s,SNR=7.9
EFAM Famara 8.47 223 Pn 07 08 19.4 -2.2
EORO Oroz-Betelu 8.55 29 ⇑P Pn 07 08 23.8 +1.1
comp=E,104nm,0.3s,SNR=18
EORO S Sn 07 09 51.3 -6.5
comp=E,816nm,0.5s,SNR=5.7
EORO Oroz-Betelu 8.55 29 Pn 07 08 23.8 +1.1
EORO Sn 07 09 51.3 -6.5
EPOB Poblet 8.57 45 P Pn 07 08 23.1 0.0
comp=E,51nm,0.3s,SNR=71
EPOB S Sn 07 09 51.2 -7.2
comp=E,339nm,1.0s,SNR=14
EPOB Poblet 8.57 45 Pn 07 08 23.1 0.0
EPOB Sn 07 09 51.2 -7.2
FUL Funchal 8.71 253 *e*P Pn 07 08 24.4 -0.6
FUL *e*S Sn 07 09 53.3 -8.6
FUL A A 07 10 04.3
comp=E,383nm,0.2s
FUL Funchal 8.71 253 P Pn 07 08 24.4 -0.6
FUL S Sn 07 09 53.3 -8.6
comp=E,191nm,0.2s
EALK Alkurruntz 8.75 27 P Pn 07 08 26.1 +0.6
comp=E,250nm,0.4s,SNR=84
EALK S Sn 07 09 56.2 -6.6
comp=E,2µm,0.4s,SNR=16
EALK Alkurruntz 8.75 27 Pn 07 08 26.1 +0.6
SJPF Ste Jean 8.77 29 *e*P Pn 07 08 26.5 +0.8
SJPF *e*Sg Sn 07 09 55.4 -7.7
comp=E,653nm,0.5s
SJPF Ste Jean 8.77 29 P Pn 07 08 26.5 +0.8
SJPF S Sn 07 09 55.4 -7.7
comp=E,326nm,0.5s
ETOS Mallorca 8.83 59 P Pn 07 08 25.8 -0.9
comp=E,28nm,0.4s,SNR=69
ETOS S Sn 07 09 57.1 -7.7
comp=E,34nm,0.6s,SNR=5.7
ETOS Mallorca 8.83 59 Pn 07 08 25.8 -0.9
ETSF Etsaut 8.86 32 *e*P Pn 07 08 27.9 +0.8
ETSF *e*Sg Sn 07 09 58.0 -7.6
comp=E,271nm,0.5s
ETSF Etsaut 8.86 32 P Pn 07 08 27.9 +0.8
ETSF S Sn 07 09 58.0 -7.6
comp=E,136nm,0.5s
PMOZ Porto Moniz, M 8.89 255 *e*P Pn 07 08 26.3 -1.2
PMOZ *e*S Sn 07 09 57.8 -8.6
PMOZ A A 07 10 08.8
comp=E,350nm,0.4s
PMOZ Porto Moniz, M 8.89 255 P Pn 07 08 26.3 -1.2
PMOZ Porto Moniz, M 8.89 255 P Pn 07 08 26.5 -1.0
comp=E,80nm,0.7s,SNR=7.9
PMOZ S Sn 07 10 00.9 -5.4
comp=E,648nm,0.6s,SNR=7.9
PMOZ Porto Moniz, M 8.89 255 Pn 07 08 26.2 -1.2
PMOZ Sn 07 10 03.4 -2.9
ATE Arette 8.96 31 ⇑P Pn 07 08 29.3 +1.0
comp=E,44nm,0.6s,SNR=18
ATE S Sn 07 10 01.1 -6.7
comp=E,490nm,0.6s,SNR=7.9
ATE Arette 8.96 31 Pn 07 08 29.3 +1.0
ECHI Chisagues Biel 9.03 36 P Pn 07 08 29.6 +0.2
comp=E,129nm,0.6s,SNR=7.9
ECHI S Sn 07 10 02.5 -7.2
comp=E,152nm,0.6s,SNR=7.9
ECHI Chisagues Biel 9.03 36 Pn 07 08 29.6 +0.2
CFUE Fuerteventura 9.06 222 S Sn 07 10 01.4 -9.1
comp=E,168nm,0.1s,SNR=7.9
EMIR Miracle 9.19 44 P Pn 07 08 31.5 0.0
comp=E,29nm,0.2s,SNR=94
EMIR S Sn 07 10 06.3 -7.4
comp=E,476nm,0.8s,SNR=9.8
EMIR Miracle 9.19 44 Pn 07 08 31.5 0.0
CSOR Sort 9.29 40 P Pn 07 08 32.7 -0.3
comp=E,26nm,0.2s,SNR=110
CSOR S Sn 07 10 07.7 -8.4
comp=E,165nm,0.5s,SNR=9.7
CSOR Sort 9.29 40 Pn 07 08 32.7 -0.3
CFTV Fuerteventura 9.33 222 P Pn 07 08 31.2 -2.3
comp=E,6.7nm,0.2s,SNR=7.9
CFTV S Sn 07 10 08.4 -8.6
comp=E,43nm,0.3s,SNR=7.9
CFTV Fuerteventura 9.33 222 Pn 07 08 31.2 -2.3
EPF Esparros 9.38 35 *e*P Pn 07 08 35.2 +1.1
EPF *e*Sg Sn 07 10 10.2 -7.9
comp=E,532nm,0.6s
EPF Esparros 9.38 35 P Pn 07 08 35.2 +1.1
EPF S Sn 07 10 10.2 -7.9
comp=E,266nm,0.6s
CFON Fontmartina 9.62 47 P Pn 07 08 36.8 -0.8
comp=E,16nm,0.2s,SNR=46
CFON S Sn 07 10 16.8 -7.5
comp=E,79nm,0.3s,SNR=7.9
CFON Fontmartina 9.62 47 Pn 07 08 36.8 -0.8
CLLI Llivia 9.81 43 P Pn 07 08 40.3 +0.1
comp=E,38nm,0.5s,SNR=163
CLLI S Sn 07 10 21.0 -8.0
comp=E,136nm,0.6s,SNR=12
CLLI Llivia 9.81 43 Pn 07 08 40.3 +0.1
MAHO Mahon 9.91 61 *e*P Pn 07 08 41.0 -0.3
MAHO *e*S Sn 07 10 26.7 -4.4
MAHO Mahon 9.91 61 P Pn 07 08 41.0 -0.3
MAHO S Sn 07 10 26.7 -4.4
EJON La Jonquera 10.31 45 P Pn 07 08 47.1 +0.2
comp=E,38nm,0.4s,SNR=26
EJON S Sn 07 10 34.9 -6.2
SNR=7.9
EJON La Jonquera 10.31 45 Pn 07 08 47.0 +0.2
SJAF Saint Jean de 10.33 45 P Pn 07 08 46.8 -0.3
comp=E,28nm,0.4s,SNR=7.9
SJAF S Sn 07 10 34.7 -6.7
comp=E,150nm,1.3s,SNR=7.9
SJAF Saint Jean de 10.33 45 Pn 07 08 46.8 -0.3
EOSO Osorio 10.43 227 P Pn 07 08 44.4 -4.2
comp=E,61nm,0.7s,SNR=6.0
EOSO S Sn 07 10 32.9 -11
comp=E,194nm,0.6s,SNR=10
EOSO Osorio 10.43 227 Pn 07 08 44.4 -4.2
DFRA Djebel Bou Aff 10.46 81 P Pn 07 08 49.8 +0.8
DFRA Djebel Bou Aff 10.46 81 P Pn 07 08 49.8 +0.8
MTLF Montolieu 10.53 40 *e*P Pn 07 08 49.5 -0.4
MTLF *e*Sg Sn 07 10 38.2 -8.2
comp=E,51nm,0.5s
MTLF Montolieu 10.53 40 P Pn 07 08 49.5 -0.4
MTLF S Sn 07 10 38.2 -8.2
comp=E,25nm,0.5s
MACI Morro de la Ar 10.88 231 Pn Pn 07 08 52.0 -2.9
MACI Sn Sn 07 10 49.5 -5.9
LFF La Frestale 11.07 30 *e*P Pn 07 08 57.5 +0.3
LFF *e*Sg Sn 07 10 49.8 -10
comp=E,366nm,0.5s
LFF La Frestale 11.07 30 P Pn 07 08 57.5 +0.3
LFF S Sn 07 10 49.8 -10
comp=E,183nm,0.5s
CKFL Kef-Lekhel 11.14 82 P Pn 07 09 00.5 +2.2
CKFL Kef-Lekhel 11.14 82 P Pn 07 09 00.5 +2.2
EGOM La Gomera 11.39 233 S Sn 07 10 57.6 -10
comp=E,59nm,0.3s,SNR=6.9
TBT Taburiente 11.52 237 S Sn 07 10 59.8 -11
comp=E,318nm,0.4s,SNR=7.9
EHIG Higuera 11.53 236 S Sn 07 11 02.0 -9.0
comp=E,36nm,0.2s,SNR=6.0
CAF Calviac 11.63 34 *e*P Pn 07 09 04.8 -0.1
CAF *e*Sg Sn 07 11 03.3 -10
comp=E,105nm,0.5s
CAF Calviac 11.63 34 P Pn 07 09 04.8 -0.1
CAF S Sn 07 11 03.3 -10
comp=E,53nm,0.5s
RJF Les Rejaudoux 11.69 31 *e*P Pn 07 09 05.2 -0.5
RJF *e*Sg Sn 07 11 04.1 -11
comp=E,291nm,0.7s
RJF Les Rejaudoux 11.69 31 P Pn 07 09 05.2 -0.5
RJF S Sn 07 11 04.1 -11
comp=E,146nm,0.7s
CMAH Djebel Manchou 11.70 81 P Pn 07 09 06.0 0.0
CMAH Djebel Manchou 11.70 81 P Pn 07 09 06.0 0.0
LASF Ste Croix 11.90 41 *e*P Pn 07 09 08.1 -0.5
LASF *e*Sg Sn 07 11 07.9 -12
comp=E,109nm,0.8s
LASF Ste Croix 11.90 41 P Pn 07 09 08.1 -0.5
LASF S Sn 07 11 07.9 -12
comp=E,54nm,0.8s
CTIG El Hierro 12.11 233 S Sn 07 11 20.1 -4.9
comp=E,53nm,0.3s,SNR=7.9
MFF Saint Martin d 12.18 23 *e*P Pn 07 09 11.9 -0.4
MFF *e*Sg Sn 07 11 12.1 -14
comp=E,328nm,0.7s
MFF Saint Martin d 12.18 23 P Pn 07 09 11.9 -0.4
MFF S Sn 07 11 12.1 -14
comp=E,164nm,0.7s
QUIF Quistinic 12.67 12 *e*P Pn 07 09 18.1 -1.0
QUIF *e*Sg Sn 07 11 26.4 -12
comp=E,268nm,0.5s
QUIF Quistinic 12.67 12 P Pn 07 09 18.1 -1.0
QUIF S Sn 07 11 26.4 -12
comp=E,134nm,0.5s
TCF Toulx Ste Croi 12.77 30 *e*P Pn 07 09 19.0 -1.4
TCF *e*Sg Sn 07 11 27.4 -14
comp=E,155nm,0.5s
TCF Toulx Ste Croi 12.77 30 P Pn 07 09 19.0 -1.4
TCF S Sn 07 11 27.4 -14
comp=E,77nm,0.5s
SMRF Simiane la Rot 12.80 45 *e*P Pn 07 09 21.9 +1.1
SMRF *e*Sg Sn 07 11 36.9 -4.9
comp=E,45nm,1.1s
SMRF Simiane la Rot 12.80 45 P Pn 07 09 21.9 +1.1
SMRF S Sn 07 11 36.9 -4.9
comp=E,45nm,1.1s
VIVF Saint-Julien-l 12.86 40 *e*P Pn 07 09 20.6 -1.1
VIVF *e*Sg Sn 07 11 33.0 -10
comp=E,50nm,0.7s
VIVF Saint-Julien-l 12.86 40 P Pn 07 09 20.6 -1.1
VIVF S Sn 07 11 33.0 -10
comp=E,25nm,0.7s
LMR La Mourre 12.99 49 *e*P Pn 07 09 23.4 -0.1
LMR *e*Sg Sn 07 11 35.8 -11
comp=E,18nm,0.5s
LMR La Mourre 12.99 49 P Pn 07 09 23.4 -0.1
LMR S Sn 07 11 35.8 -11
comp=E,8.9nm,0.5s
ROSF Rostrenen 13.06 11 *e*P Pn 07 09 23.9 -0.5
ROSF *e*Sg Sn 07 11 37.0 -11
comp=E,119nm,0.4s
ROSF Rostrenen 13.06 11 P Pn 07 09 23.9 -0.5
ROSF S Sn 07 11 37.0 -11
comp=E,59nm,0.4s
SSB Saint Sauveur 13.08 39 P Pn 07 09 24.7 0.0
SSB Saint Sauveur 13.08 39 Pn 07 09 24.7 0.0
SGMF Saint Gilles 13.11 13 *e*P Pn 07 09 24.3 -0.7
SGMF *e*Sg Sn 07 11 37.8 -11
comp=E,165nm,0.5s
SGMF Saint Gilles 13.11 13 P Pn 07 09 24.3 -0.7
SGMF S Sn 07 11 37.8 -11
comp=E,83nm,0.5s
FRF La Foret Royal 13.20 49 *e*P Pn 07 09 26.5 +0.2
FRF *e*Sg Sn 07 11 42.7 -8.9
comp=E,19nm,0.6s
FRF La Foret Royal 13.20 49 P Pn 07 09 26.5 +0.2
FRF S Sn 07 11 42.7 -8.9
comp=E,9.3nm,0.6s
BGF Bois d'Agland 13.25 31 *e*P Pn 07 09 25.7 -1.2
BGF *e*Sg Sn 07 11 42.4 -10
comp=E,641nm,0.6s
BGF Bois d'Agland 13.25 31 P Pn 07 09 25.7 -1.2
BGF S Sn 07 11 42.4 -10
comp=E,320nm,0.6s
KEST Kesra 13.29 84 P Pn 07 09 29.1 +1.4
comp=E,1.7nm,0.3s,baz=202,slow=3.3,SNR=17
KEST Kesra 13.29 84 Pn 07 09 26.7 -0.9
ORIF Oris-en-Rattie 13.55 42 *e*P Pn 07 09 31.8 +0.6
ORIF *e*Sg Sn 07 11 49.8 -10
comp=E,25nm,0.9s
ORIF Oris-en-Rattie 13.55 42 P Pn 07 09 31.8 +0.6
ORIF S Sn 07 11 49.8 -10
comp=E,12nm,0.9s
GRR Gorron 13.60 18 *e*P Pn 07 09 31.2 -0.6

GRR eSg Sn 07 11 47.9 -13
comp=E,201nm,0.5s
GRR Gorron 13.60 18 P **Pn 07 09 31.2 -0.6**
GRR S Sn 07 11 47.9 -13
comp=E,100nm,0.5s
AVF Avril sur Loir 13.64 32 eP **Pn 07 09 31.5 -0.9**
AVF eSg Sn 07 11 49.7 -13
comp=E,76nm,0.6s
AVF Avril sur Loir 13.64 32 P **Pn 07 09 31.5 -0.9**
AVF S Sn 07 11 49.7 -13
comp=E,38nm,0.6s
HYF Humbligny 13.74 29 eP **Pn 07 09 32.7 -0.9**
HYF eSg Sn 07 11 54.4 -10
HYF Humbligny 13.74 29 P **Pn 07 09 32.7 -0.9**
HYF S Sn 07 11 54.4 -10
SMF Signal de Mont 13.74 33 eP **Pn 07 09 32.5 -1.2**
SMF eSg Sn 07 11 53.0 -12
comp=E,112nm,0.9s
SMF Signal de Mont 13.74 33 P **Pn 07 09 32.5 -1.2**
SMF S Sn 07 11 53.0 -12
comp=E,56nm,0.9s
SBF Sospel 13.84 49 eP **Pn 07 09 35.4 +0.2**
SBF eSg Sn 07 11 56.4 -11
comp=E,28nm,0.5s
SBF Sospel 13.84 49 P **Pn 07 09 35.4 +0.2**
SBF S Sn 07 11 56.4 -11
comp=E,14nm,0.5s
SSF Saint Saulge 13.92 31 eP **Pn 07 09 34.7 -1.4**
SSF eSg Sn 07 11 58.0 -11
comp=E,117nm,0.6s
SSF Saint Saulge 13.92 31 P **Pn 07 09 34.7 -1.4**
SSF S Sn 07 11 58.0 -11
comp=E,58nm,0.6s
MBDF Montbardon 13.93 45 eP **Pn 07 09 37.2 +0.7**
MBDF eSg Sn 07 11 58.9 -11
comp=E,14nm,0.7s
MBDF Montbardon 13.93 45 P **Pn 07 09 37.2 +0.7**
MBDF S Sn 07 11 58.9 -11
comp=E,7.1nm,0.7s
LDF La Druitiere 13.98 19 eP **Pn 07 09 35.9 -1.0**
LDF eSg Sn 07 11 57.8 -13
comp=E,121nm,0.7s
FLN La Foliniere 14.04 18 eP **Pn 07 09 37.1 -0.6**
baz=200
FLN eSg Sn 07 11 58.6 -13
comp=E,109nm,0.5s,baz=190
FLN La Foliniere 14.04 18 P **Pn 07 09 37.1 -0.6**
FLN S Sn 07 11 58.6 -13
comp=E,54nm,0.5s
JSA Saint Aubin 14.08 13 eP **Pn 07 09 37.4 -0.8**
JSA IAmb IAmb 07 09 39.7
comp=E,67nm,0.9s
BNI Bardonecchia 14.08 44 P **Pn 07 09 38.7 +0.3**
BNI Bardonecchia 14.08 44 Pn **Pn 07 09 38.7 +0.3**
JQE Queens East 14.11 13 eP **Pn 07 09 38.1 -0.6**
JLP Les Platons 14.14 13 eP **Pn 07 09 38.7 -0.4**
CLF Chambon-Foret 14.23 26 **Pn 07 09 40.0 -0.2**
LOR Lormes 14.23 31 eP **Pn 07 09 38.7 -1.7**
baz=213
LOR eSg Sn 07 12 04.3 -12
comp=E,92nm,0.9s
LOR Lormes 14.23 31 P **Pn 07 09 38.7 -1.7**
LOR S Sn 07 12 04.3 -12
comp=E,46nm,0.9s
LPG La Plagne 14.39 42 eP **Pn 07 09 43.8 +1.0**
LPG eSg **Sn 07 12 13.6 -7.5**
comp=E,21nm,0.9s
LPG La Plagne 14.39 42 P **Pn 07 09 43.8 +1.0**
LPG S **Sn 07 12 13.6 -7.5**
comp=E,10nm,0.9s
LPL La Plagne 14.39 42 eP **Pn 07 09 44.2 +1.5**
LPL eSg Sn 07 12 12.4 -8.6
comp=E,9.6nm,0.6s
LPL La Plagne 14.39 42 P **Pn 07 09 44.2 +1.5**
LPL S Sn 07 12 12.4 -8.6
comp=E,4.8nm,0.6s
CCA1 Carnmenellis 14.68 4 eP **Pn 07 09 46.4 +0.2**
CABF La Chapelle 14.78 38 eP **Pn 07 09 47.2 -0.5**
CABF eSg **Sn 07 12 21.8 -8.4**
comp=E,79nm,1.0s
CABF La Chapelle 14.78 38 P **Pn 07 09 47.2 -0.5**
CABF S **Sn 07 12 21.8 -8.4**
comp=E,40nm,1.0s
SBD Saint Breward 15.10 6 eP **Pn 07 09 51.3 -0.4**
SENIN Lac Senin/Sane 15.24 41 **Pn 07 09 54.2 +0.4**
MSSA Maissana 15.37 50 **Pn 07 09 55.0 -0.4**
SFTF Sexfontaines 15.46 32 eP **Pn 07 09 56.4 -0.1**
baz=206
SFTF eSg Sn 07 12 29.8 -17
comp=E,42nm,0.6s
SFTF Sexfontaines 15.46 32 P **Pn 07 09 56.4 -0.1**
SFTF S Sn 07 12 29.8 -17
comp=E,42nm,0.6s
HTL Hartland 15.54 6 eP **Pn 07 09 58.0 +0.6**
CASP Castiglione de 15.60 57 Pn **Pn 07 09 59.6 +1.3**
MEZF Maizieres J'vi 15.70 31 ePg **P 07 10 02.4 -0.5**
MEZF eSg Sn 07 12 36.2 -16
comp=E,35nm,0.5s
MEZF Maizieres J'vi 15.70 31 P **P 07 10 02.4 -0.5**
MEZF S Sn 07 12 36.2 -16
comp=E,35nm,0.5s
VLC Villacollemand 15.84 52 Pn **Pn 07 10 00.4 -1.1**
HAU Haudompre 15.90 34 eP **Pn 07 10 02.3 +0.2**
HAU eSg **Sn 07 12 47.2 -10**
comp=E,33nm,0.7s
HAU Haudompre 15.90 34 P **Pn 07 10 02.3 +0.2**
HAU S **Sn 07 12 47.2 -10**
comp=E,17nm,0.7s
HINF Hinteralfeld 16.00 36 eP **P 07 10 05.3 -1.0**
HINF eSg Sn 07 12 49.2 -10
comp=E,12nm,0.6s
HINF Hinteralfeld 16.00 36 P **P 07 10 05.3 -1.0**
HINF S Sn 07 12 49.2 -10
comp=E,6.2nm,0.6s
PAGF Fort de Pagny 16.03 32 eP **Pn 07 10 04.6 +0.9**
PAGF eSg Sn 07 12 42.2 -18
comp=E,79nm,0.9s
ZCCA Zocca 16.31 52 P **P 07 10 09.2 -0.5**
CLTB Caltabellotta 16.36 77 P **P 07 10 09.9 -0.5**
CLTB IAmb IAmb 07 10 13.4
comp=E,36nm,0.5s
ECH Echery 16.43 35 P **Pn 07 10 10.1 +1.3**
ECH pmax pmax
comp=E,22nm,1.3s
ECH Echery 16.43 35 P **Pn 07 10 10.1 +1.3**
CORL Corleone 16.43 76 P **P 07 10 10.6 -0.6**
CORL IAmb IAmb 07 10 15.5
comp=E,78nm,1.1s
RSBS Rosebush, Pemb 16.47 5 eP **Pn 07 10 10.2 +0.9**
STRD Stroud 16.58 11 eP **Pn 07 10 11.3 +0.7**
STRD IAmb IAmb 07 10 14.8
comp=E,130nm,1.1s
CDF Champ du Feu 16.62 35 eP **P 07 10 14.7 +1.5**
CDF eSg Sn 07 13 03.3 -11
comp=E,20nm,0.6s
CDF Champ du Feu 16.62 35 P **P 07 10 14.7 +1.5**
CDF S Sn 07 13 03.3 -11
comp=E,10nm,0.6s
BAIF Baives 16.63 26 eP **Pn 07 10 11.8 +0.5**
BAIF eSg Sn 07 13 02.8 -12
comp=E,121nm,0.9s
BAIF Baives 16.63 26 P **Pn 07 10 11.8 +0.5**
BAIF S Sn 07 13 02.8 -12
comp=E,60nm,0.9s
MCH1 Michaelchurch 16.68 9 eP **P 07 10 13.7 -0.1**
TAM Tamanrasset 16.74 136 P **Pn 07 10 13.3 +0.2**
TAM pmax pmax
comp=E,13nm,0.8s
TAM Tamanrasset 16.74 136 P **Pn 07 10 13.3 +0.2**
DOU Dourbes 16.80 27 Pn **Pn 07 10 14.4 +1.0**
DOU Dourbes 16.80 27 P **P 07 10 14.8 -0.2**
IWEX Carrickbyrne, 16.82 0 eP **P 07 10 15.6 +0.4**
GIVF Givet 16.89 27 eP **Pn 07 10 15.2 +0.6**
GIVF eSg Sn 07 13 06.9 -14
comp=E,126nm,0.7s
GIVF Givet 16.89 27 P **Pn 07 10 15.2 +0.6**
GIVF S Sn 07 13 06.9 -14
comp=E,63nm,0.7s
DAVOX Davos/Dischmat 16.90 43 P **P 07 10 16.9 +0.4**
comp=Z,2.6nm,0.3s,baz=226,slow=9.3,SNR=20
MURB Monte Urbino 16.90 57 P **P 07 10 16.5 +0.1**
MURB IAmb IAmb 07 10 19.6
comp=E,65nm,1.3s
FUORN Ofenpass-Fuorn 17.03 44 P **P 07 10 17.8 -0.1**
BMRD Maredsous 17.03 26 P **P 07 10 17.6 -0.1**

SNF Seneffe 17.03 25 P **P 07 10 18.0 +0.4**
WLF Walferdange 17.06 30 P **Pn 07 10 17.6 +0.9**
WLF pmax pmax
comp=Z,44nm,1.2s
WLF Walferdange 17.06 30 P **P 07 10 17.7 -0.3**
WLF Walferdange 17.06 30 P **P 07 10 17.6 -0.3**
BFO Black Forest 17.07 37 P **Pn 07 10 16.8 0.0**
BFO pmax pmax
comp=Z,36nm,1.7s
BFO Black Forest 17.07 37 P **Pn 07 10 16.8 0.0**
NRCA Norcia 17.17 59 P **Pn 07 10 19.0 +0.8**
DAVA Damuels 17.20 42 *i* P **Pn 07 10 19.0 +0.3**
comp=Z,12nm,0.9s
HLM1 Long Mynd 17.21 8 eP **P 07 10 20.9 +1.3**
TEOL Teolo 17.21 50 P **P 07 10 20.8 +1.1**
TEOL IAmb IAmb 07 10 21.9
comp=Z,40nm,0.7s
RAFF Raffo Rosso 17.27 78 P **Pn 07 10 20.0 +0.6**
UCC Uccle 17.30 25 P **Pn 07 10 20.9 +0.3**
UCC pmax pmax
comp=Z,39nm,0.6s
UCC Uccle 17.30 25 P **P 07 10 20.9 +0.3**
UCC IAmb IAmb 07 10 33.3
comp=Z,39nm,0.6s
VAE Valguarnera 17.31 77 P **P 07 10 23.0 +2.2**
comp=Z,5.0nm,0.3s,baz=348,slow=9.3,SNR=4.4
BCLA Clavier 17.33 27 P **P 07 10 21.0 +0.1**
LLW Llanuwychllyn 17.45 7 eP **P 07 10 23.3 +1.0**
INTR Introdacqua 17.50 62 P **Pn 07 10 22.9 +0.6**
FETA Feichten 17.52 44 *i* Pn **P 07 10 24.8 +1.6**
comp=Z,14nm,0.8s,SNR=6.7
CTI Castel Tesino 17.53 48 P **P 07 10 23.4 +0.1**
CTI pmax pmax
comp=Z,49nm,0.9s
CTI Castel Tesino 17.53 48 P **P 07 10 23.4 +0.1**
CTI IAmb IAmb 07 10 26.3
comp=Z,49nm,0.9s
FOEL Foel Wylfa 17.54 8 eP **P 07 10 24.8 +1.5**
FOEL IAmb IAmb 07 10 28.1
comp=Z,43nm,0.9s
BHOU Houvegnez 17.54 29 P **P 07 10 24.4 +1.1**
BSTI Sart Tilman 17.56 27 P **P 07 10 25.6 +2.2**
DSB Dublin 17.69 1 P **Pn 07 10 24.1 -0.3**
MEM Membach 17.75 28 P **P 07 10 27.3 +1.8**
RETA Reutte 17.80 43 *i* P **P 07 10 27.0 +0.7**
comp=Z,7.4nm,0.6s
WLF1 Llynfaes 17.82 5 eP **P 07 10 28.9 +2.5**
SQTA Sankt Quirin 17.90 44 *i* P **P 07 10 28.2 +0.8**
comp=Z,7.1nm,0.6s
MOTA Moosalm 17.91 43 *i* P **P 07 10 28.2 +0.7**
comp=Z,17nm,0.8s
WACR West Acre 18.00 15 eP **Pn 07 10 29.6 +1.5**
WACR IAmb IAmb 07 10 32.9
comp=Z,189nm,1.0s
WTTA Wattenberg 18.17 44 *i* Pn **Pn 07 10 31.3 +0.8**
comp=Z,31nm,0.9s
WATA Walderalm 18.17 44 *i* Pn **P 07 10 30.8 +0.4**
comp=Z,19nm,1.0s
STAL STALIGIAL 18.28 48 P **P 07 10 31.4 -0.1**
STAL IAmb IAmb 07 10 34.9
comp=Z,125nm,1.8s
ABTA Abfaltersbach 18.40 47 *i* Pn **Pn 07 10 33.9 +0.6**
comp=Z,14nm,0.6s,SNR=8.3
ACER Acerenza 18.75 67 P **P 07 10 37.2 +0.5**
SGRT San Giovanni R 18.77 64 P **P 07 10 37.1 +0.1**
SGRT IAmb IAmb 07 10 40.5
comp=Z,90nm,1.1s
VOJS Vojsko 18.90 50 eP **P 07 10 38.9 +0.6**
RIY Rijeka 18.98 53 eP **P 07 10 39.2 +0.1**
MYKA Terra Mystica 19.02 48 *i* Pn **Pn 07 10 40.8 +0.1**
comp=Z,15nm,0.7s,SNR=7.1
KBA Koelnbreinsper 19.06 47 *i* Pn **P 07 10 40.8 +0.6**
comp=Z,6.1nm,0.4s
CEY Cerknica 19.11 51⇑ *i* P **P 07 10 41.0 +0.4**
TIP Timpagrande 19.20 72⇑P **P 07 10 42.1 +0.4**
TIP Timpagrande 19.20 72 P **P 07 10 42.0 +0.3**
TIP IAmb IAmb 07 10 48.4
comp=Z,29nm,0.8s
MATE Matera 19.30 68⇑P **P 07 10 43.0 +0.3**
LJU Ljubljana 19.31 51 eP **P 07 10 43.6 +0.9**
LJU Ljubljana 19.31 51 eP **P 07 10 43.6 +0.9**
OBKA Obir 19.52 49 *i* Pn **P 07 10 45.7 +0.6**
comp=Z,44nm,0.9s,SNR=16
BOJS Bojanci 19.55 53 eP **P 07 10 46.0 +0.7**
CRES Cresnjev 19.81 52⇑*i*P **P 07 10 48.5 +0.3**
SOKA Soboth 19.90 49 *i* P **P 07 10 49.7 +0.5**
comp=Z,29nm,0.9s,SNR=11
ESK Eskdalemuir 19.93 6 P **P 07 10 50.2 +0.7**
ESK pmax pmax
comp=Z,108nm,1.6s
ESK Eskdalemuir 19.93 6 P **P 07 10 50.2 +0.7**
ESK IAmb IAmb 07 11 02.1
comp=Z,108nm,1.6s
EKA Eskdalemuir Ar 19.95 6 P **Pn 07 10 51.9 +0.2**
baz=183,slow=11,SNR=10
EKA S **S 07 14 24.4 -7.1**
baz=175,slow=25,SNR=4.9
MOA Molln 19.99 46 *i* P **P 07 10 49.3 -0.8**
comp=Z,17nm,0.4s,SNR=12
GEC2 GERESS Array S 20.19 43 P **P 07 10 52.6 +0.2**
GERES GERESS Array B 20.19 43 P **P 07 10 53.3 +0.8**
comp=Z,7.0nm,0.6s,baz=234,slow=10,SNR=38
KHC Kasperske Hory 20.29 42*c i*P **P 07 10 54.3 +0.9**
KHC pmax pmax
comp=Z,233nm,1.4s
KHC Kasperske Hory 20.29 42 eP **P 07 10 54.4 +1.0**
KHC e*p*P Pn 07 11 00.0 +4.3
KHC e*s*P **sP 07 11 16.7 +7.1**
KHC Kasperske Hory 20.29 42 P **P 07 10 53.3 -0.1**
KHC IAmb IAmb 07 10 56.2
comp=Z,49nm,1.3s
NKC Novy Kostel 20.35 38 eP Pn 07 10 57.9 +1.5
NKC Novy Kostel 20.35 38 eP Pn 07 10 57.9 +1.5
MGRS Mrkonjic Grad 20.40 57 eP Pn 07 10 56.3 -0.8
STON Ston 20.43 62 eP **P 07 10 53.3 -1.6**
ARSA Arzberg 20.45 48 *i* P **P 07 10 54.5 -0.6**
comp=Z,14nm,0.7s,SNR=7.1
BLY Banja Luka 20.57 56 eP **P 07 10 53.5 -2.9**
BLY Banja Luka 20.57 56 mb 07 10 57.4
BLY ⇓P **P 07 10 57.4 +1.0**
BLY Banja Luka 20.57 56 P **P 07 10 55.2 -1.3**
BLY IAmb IAmb 07 10 57.3
comp=Z,28nm,0.9s
SCTE Santa Cesarea 20.58 70 P **P 07 10 55.0 -1.6**
PBCC Pribram 20.83 41 eP **P 07 10 59.8 +0.6**
BEHE Becsehely 20.90 51 eP **P 07 10 58.2 -1.8**
BEHE Becsehely 20.90 51 eP **P 07 11 00.0 0.0**
CONA Conrad Observa 20.97 47 *i* P **P 07 11 00.1 -0.7**
comp=Z,51nm,0.6s,SNR=28
SOP Sopron 21.27 48 eP **P 07 11 03.1 -0.9**
PRU Pruhonice 21.29 41 eP **P 07 11 04.6 +0.5**
PRU Pruhonice 21.29 41 eP **P 07 11 04.6 +0.5**
CLL Collm 21.31 36⇑*i*P **P 07 11 06.0 +1.7**
CLL *i* 07 11 08.7
CLL pmax pmax
comp=Z,65nm,1.5s
CLL Collm 21.31 36⇑*i*P **P 07 11 06.0 +1.7**
comp=Z,65nm,1.5s
CLL *i* 07 11 08.7
comp=Z,65nm,1.0s
CLL Collm 21.31 36 P **P 07 11 04.6 +0.3**
DRME Dracevica, Mon 21.38 64 eP **P 07 11 04.6 -0.5**
GOPC GO Pecny, Ondr 21.38 41 eP **P 07 11 05.6 +0.5**
GOPC GO Pecny, Ondr 21.38 41 eP **P 07 11 05.6 +0.5**
TREC Trest 21.43 43 eP **P 07 11 05.8 +0.1**
TREC Trest 21.43 43 eP **P 07 11 05.8 +0.1**
PDG Podgorica 21.47 63 eP **P 07 11 05.4 -0.7**
PDG Podgorica 21.47 63⇑P **P 07 11 05.4 -0.7**
PDG Podgorica 21.47 63 P **P 07 11 06.5 +0.4**
PDG IAmb IAmb 07 11 11.5
comp=Z,21nm,0.8s
BRG Berggiesshubel 21.50 38 *i* P **P 07 11 07.8 +1.4**
comp=Z,39nm,1.1s
BRG *i* 07 11 10.2
comp=Z,58nm,1.1s
BRG Berggiesshubel 21.50 38 *i* P **P 07 11 07.8 +1.4**
BRG *i* 07 11 10.2
BRG pmax pmax
comp=Z,39nm,1.1s
BRG pmax pmax
comp=Z,58nm,1.1s
HAPS Han Pijesak,Bl 21.60 59⇑*i*P **P 07 11 06.2 -1.4**
PVCC Panska Ves 21.61 40 eP **P 07 11 09.9 +2.3**
PVCC Panska Ves 21.61 40 eP **P 07 11 09.9 +2.3**

MPLH Magyarpolny 21.66 50 eP **P 07 11 08.0 -0.1**
TIH Tihany 21.78 51 eP **P 07 11 08.1 -1.3**
KRUC Moravsky 21.82 45 eP **P 07 11 09.4 -0.5**
ZST Bratislava 21.83 47 eP **P 07 11 09.1 -0.8**
ZST pmax pmax
comp=Z,41nm,1.2s
ZST Bratislava 21.83 47 eP **P 07 11 09.1 -0.8**
BBLS Lazi?i 21.86 60 eP **P 07 11 08.3 -2.1**
MODS Modra-Piesok 22.01 47 eP **P 07 11 10.8 -1.1**
MODS pmax pmax
comp=Z,79nm,0.8s
MODS Modra-Piesok 22.01 47 eP **P 07 11 10.8 -1.1**
MORH Mrgy, Hungar 22.02 53 eP **P 07 11 10.9 -1.0**
MORH Mrgy, Hungar 22.02 53 eP **P 07 11 11.1 -0.9**
VRAC Vranov 22.06 44 P **P 07 11 12.0 -0.4**
comp=Z,26nm,0.8s,baz=238,slow=12,SNR=19
VRAC Vranov 22.06 44⇑P **P 07 11 12.9 +0.5**
VRAC mb 07 11 14.9
VRAC Vranov 22.06 44 eP **P 07 11 11.8 -0.6**
TEKS Tekeris 22.12 58 eP **P 07 11 12.0 -1.1**
SMOL Smolenice 22.17 47 eP **P 07 11 13.2 -0.4**
SMOL pmax pmax
comp=Z,12nm,1.1s
SMOL Smolenice 22.17 47 eP **P 07 11 13.2 -0.4**
CSKK Cekako 22.19 50 eP **P 07 11 13.1 -0.8**
DIVS Divibare 22.33 59 eP **P 07 11 11.5 -4.0**
UPC Upice 22.36 41 eP **P 07 11 15.8 +0.1**
UPC Upice 22.36 41 eP **P 07 11 15.8 +0.1**
CHVC Chvalec 22.43 41 eP **P 07 11 16.5 +0.1**
DPC Dobruska-Polom 22.44 42 eP **P 07 11 16.6 0.0**
DPC Dobruska-Polom 22.44 42 eP **P 07 11 16.6 0.0**
JAVC Velka Javorina 22.47 46 eP **P 07 11 16.1 -0.8**
FRGS Fruska Gora 22.47 57 eP **P 07 11 13.8 -3.1**
KRLC Kraliky 22.55 43 eP **P 07 11 17.9 +0.2**
KRLC Kraliky 22.55 43 eP **P 07 11 17.9 +0.2**
PENT Pentalofos 22.63 70 P **P 07 11 19.9 +1.1**
KSP Ksiaz 22.70 40 eP **P 07 11 19.7 +0.5**
KSP Ksiaz 22.70 40 eP **P 07 11 19.7 +0.5**
KSP eP **P 07 11 19.7 +0.5**
MORC Moravsky Berou 22.83 44 P **P 07 11 21.0 +0.4**
MORC pmax pmax
comp=Z,44nm,0.9s
MORC Moravsky Berou 22.83 44⇑P **P 07 11 21.2 +0.5**
MORC mb 07 11 23.0
MORC Moravsky Berou 22.83 44 eP **P 07 11 20.5 -0.1**
MORC Moravsky Berou 22.83 44 P **P 07 11 21.0 +0.4**
MORC IAmb IAmb 07 11 23.0
comp=Z,44nm,0.9s
FNA Florina 22.85 68 P **P 07 11 19.7 -1.3**
FNA pmax pmax
comp=Z,22nm,0.8s
FNA Florina 22.85 68 P **P 07 11 19.6 -1.3**
FNA IAmb IAmb 07 11 23.0
comp=Z,22nm,0.8s
VYHS Vyhne 23.00 48 eP **P 07 11 20.9 -1.5**
VYHS pmax pmax
comp=Z,14nm,1.0s
VYHS Vyhne 23.00 48 eP **P 07 11 20.9 -1.5**
VYHS Vyhne 23.00 48 ePN P 07 11 34.2 +12
PYL PYLOS 23.18 78 P **P 07 11 29.2 +4.9**
OKC Ostrava-Krasne 23.20 44 eP **P 07 11 24.8 +0.5**
OKC Ostrava-Krasne 23.20 44 eP **P 07 11 24.8 +0.5**
KLV Kalavryta, Ach 23.42 75 P **P 07 11 26.7 0.0**
PSZ Piszkesteto 23.42 50 P **P 07 11 25.5 -1.1**
PSZ pmax pmax
comp=Z,22nm,0.9s
PSZ Piszkesteto 23.42 50⇓P **P 07 11 25.7 -0.9**
PSZ mb 07 11 27.1
PSZ Piszkesteto 23.42 50 eP **P 07 11 25.0 -1.6**
PSZ Piszkesteto 23.42 50 P **P 07 11 25.5 -1.1**
PSZ IAmb IAmb 07 11 27.0
comp=Z,22nm,0.9s
AGG Agios Georgios 23.53 73 P **P 07 11 27.8 +0.1**
AGG pmax pmax
comp=Z,33nm,0.7s
AGG Agios Georgios 23.53 73 P **P 07 11 27.4 -0.3**
AGG Agios Georgios 23.53 73 P **P 07 11 27.8 +0.1**
AGG IAmb IAmb 07 11 31.1
comp=Z,33nm,0.7s
STIP Stip 23.53 66 *i* P **P 07 11 28.4 +0.7**
GRG Griva 23.64 68 P **P 07 11 26.9 -1.7**
GRG Griva 23.64 68 P **P 07 11 26.9 -1.7**
TOA0 Torodi Ar. Sit 23.64 159 P **P 07 11 28.4 -0.4**
TORD Torodi Ar. Bea 23.64 159 P **P 07 11 29.5 +0.7**
comp=Z,29nm,0.7s,baz=342,slow=9.0,SNR=112
TORD S **S 07 15 42.0 +1.6**
comp=Z,3.4nm,1.0s,baz=347,slow=16,SNR=4.1
TORD LR LR 07 20 19.2
comp=Z,160nm,20.6s,baz=340,slow=35
LANS Liptovska Anna 23.66 47 eP **P 07 11 28.9 +0.1**
LANS pmax pmax
comp=Z,14nm,0.9s
LANS Liptovska Anna 23.66 47 eP **P 07 11 28.9 +0.1**
LIT Litokhoron 23.66 70 P **P 07 11 28.1 -0.8**
LIT pmax pmax
comp=Z,30nm,0.6s
LIT Litokhoron 23.66 70 P **P 07 11 28.1 -0.8**
LIT IAmb IAmb 07 11 31.9
comp=Z,30nm,0.6s
MDVR Moldovita 23.68 58⇓P **P 07 11 28.3 -0.8**
VAY Valandovo 23.79 67 *i* P **P 07 11 29.4 -0.6**
BZS Buzias 23.82 56⇑P **P 07 11 29.8 -0.4**
KECS Kecovo 24.00 49 eP **P 07 11 31.6 -0.3**
KECS pmax pmax
comp=Z,14nm,0.8s
KECS Kecovo 24.00 49 eP **P 07 11 31.6 -0.3**
KNT Kendrikon 24.02 68 P **P 07 11 30.9 -1.3**
SIRR Siria 24.02 55⇑P **P 07 11 32.2 0.0**
HORT Hortiatis 24.15 69 P **P 07 11 31.4 -2.0**
VLI Veliai 24.15 78 P **P 07 11 34.7 +1.3**
NIE Niedzica 24.26 47 eP **P 07 11 35.1 +0.7**
NIE Niedzica 24.26 47 eP **P 07 11 35.1 +0.7**
NIE eP **P 07 11 35.1 +0.7**
OJC Ojcow 24.32 45 P **P 07 11 32.3 -2.5**
OJC pmax pmax
comp=Z,10.0nm,0.9s
OJC Ojcow 24.32 45 P **P 07 11 32.3 -2.5**
PLG Polygyros 24.40 69 P **P 07 11 34.6 -1.1**
VTS Vitosha 24.41 64 eP **P 07 11 36.1 +0.2**
VTS Vitosha 24.41 64 P **P 07 11 35.3 -0.6**
VTS pmax pmax
comp=Z,51nm,1.5s
VTS Vitosha 24.41 64⇓P **P 07 11 35.2 -0.6**
VTS mb 07 11 38.0
VTS Vitosha 24.41 64 P **P 07 11 35.3 -0.6**
VTS IAmb IAmb 07 11 38.0
comp=Z,51nm,1.5s
GZR Gura Zlata 24.56 57⇑P **P 07 11 37.3 +0.2**
GKP Gorka Klasztor 24.57 36 eP **P 07 11 39.7 +2.7**
GKP Gorka Klasztor 24.57 36 eP **P 07 11 39.6 +2.7**
GKP eP **P 07 11 39.6 +2.7**
MMB Musomiste 24.68 67 eP **P 07 11 38.8 +0.6**
NVR Nevrokopi 24.76 67 P **P 07 11 39.6 +0.6**
DRGR 24.87 54⇑P **P 07 11 39.6 -0.4**
IMMV Iera Moni Meta 25.16 81 P **P 07 11 43.3 +0.7**
TRPA Tarpa 25.16 51 eP **P 07 11 41.1 -1.4**
UZH Uzhgorod 25.18 50 eP **P 07 11 40.7 -1.9**
UZH *e* 07 11 45.5
KOLS Kolonicke sedl 25.27 49 eP **P 07 11 43.2 -0.3**
KOLS *e* 07 11 43.8
KOLS Kolonicke sedl 25.27 49 eP **P 07 11 43.2 -0.3**
KOLS Kolonicke sedl 25.27 49 eP **P 07 11 43.8 +0.3**
SACV Santiago Islan 25.35 220 P **P 07 11 43.0 -1.4**
GVD Gavdhos 25.35 83 P **P 07 11 45.2 +0.9**
GVD Gavdhos 25.35 83 P **P 07 11 45.1 +0.8**
GVDS Gavdos 25.35 82 P **P 07 11 44.9 +0.6**
GVDS Gavdos 25.35 82 P **P 07 11 44.8 +0.5**
PLD Plovdiv 25.44 66 P **P 07 11 45.7 +0.6**
BMR Baia Mare 25.63 52⇑P **P 07 11 46.9 +0.1**
KWP Kalwaria Pacla 25.79 48 eP **P 07 11 49.2 +1.0**
KWP Kalwaria Pacla 25.79 48 eP **P 07 11 49.2 +1.0**
KWP eP **P 07 11 49.2 +1.0**
KWP Kalwaria Pacla 25.79 48 P **P 07 11 48.2 +0.1**
ARR Arges 25.83 58⇓P **P 07 11 49.0 +0.3**
IDI Anoyia 25.92 81 P **P 07 11 50.6 +1.0**
KDZ Kurdzhali 25.94 67 eP **P 07 11 49.9 +0.2**
KDZ Kurdzhali 25.94 67 P **P 07 11 49.5 -0.2**
RDO Rodhopi 26.01 68 P **P 07 11 50.7 +0.4**
RDO Rodhopi 26.01 68 P **P 07 11 50.9 +0.6**
ARCR ARCALIA 26.03 54⇓P **P 07 11 50.4 0.0**
APE Apeiranthos 26.18 77 *i* P **P 07 11 51.6 -0.3**
APE pmax pmax

comp=Z,35nm,0.7s
APE Apeiranthos 26.18 77 P **P 07 11 51.7 -0.2**
SANT Santorini 26.21 79 ⇓P **P 07 11 49.7 -2.4**
SANT mb 07 11 52.4
SANT Santorini 26.21 79 P **P 07 11 52.2 0.0**
SIGR SIGRI 26.27 72 P **P 07 11 53.3 +0.7**
ALN Alexandroupoli 26.39 68 P **P 07 11 54.2 +0.5**
ALN pmax pmax
comp=Z,12nm,0.8s
ALN Alexandroupoli 26.39 68 P **P 07 11 53.2 -0.5**
ALN Alexandroupoli 26.39 68 P **P 07 11 54.2 +0.5**
ALN IAmb IAmb 07 11 57.0
comp=Z,12nm,0.8s
BOZC Bozcaada 26.40 71 P **P 07 11 53.7 -0.1**
LAST Lasithi 26.42 81 P **P 07 11 54.8 +0.7**
DOPR Dopca 26.47 57 ⇑P **P 07 11 54.1 -0.2**
CHOS Chios island 26.47 74 P **P 07 11 54.1 -0.4**
EZN Ezine 26.61 71 P **P 07 11 56.3 +0.6**
LVV L'vov 26.66 48 *e*P **P 07 11 55.9 -0.1**
GELI Tayfur-Gelibol 26.72 69 P **P 07 11 57.6 +1.0**
BUR08 Bucovina Ar. S 26.73 53 P **P 07 11 56.9 0.0**
BURAR Bucovina Array 26.73 53 ⇑P **P 07 11 57.3 +0.5**
BURAR mb 07 11 59.1
MLR Muntele Rosu 26.76 58 P **P 07 11 57.5 +0.3**
comp=Z,9.0nm,0.6s,baz=160,slow=17,SNR=8.9
MLR Muntele Rosu 26.76 58 ⇑P **P 07 11 57.2 0.0**
MLR Muntele Rosu 26.76 58 P **P 07 11 57.0 -0.1**
MLR IAmb IAmb 07 12 04.9
comp=Z,17nm,0.9s
OZUR 26.77 57 ⇑P **P 07 11 57.1 0.0**
SECR 26.77 59 ⇓P **P 07 11 54.8 -2.3**
UKOP Uzunkopru-Edir 26.84 68 P **P 07 11 58.9 +1.2**
EDRB Edirne 26.94 66 P **P 07 11 59.4 +0.7**
EDRB Edirne 26.94 66 P **P 07 12 00.0 +1.3**
BIZ Bicaz 27.16 55 ⇑P **P 07 12 00.8 +0.2**
VRI Vrincioaia 27.37 58 ⇓P **P 07 12 02.3 -0.2**
PRD Provadia 27.51 63 *e*P **P 07 12 04.2 +0.5**
KARP Karpathos 27.70 80 P **P 07 12 05.6 0.0**
KARP Karpathos 27.70 80 P **P 07 12 05.2 -0.4**
EDC Edincik 27.78 70 P **P 07 12 07.1 +0.9**
BALB Balikesir 27.82 71 P **P 07 12 06.8 +0.3**
SUW Suwalki 27.95 39 *e*P **P 07 12 09.3 +1.8**
SUW Suwalki 27.95 39 *e*P **P 07 12 09.3 +1.8**
SUW *e*P **P 07 12 09.3 +1.8**
SUW Suwalki 27.95 39 P **P 07 12 07.7 +0.3**
AYDB Zeytinkoy-Aydi 27.95 75 P **P 07 12 07.9 0.0**
HFS Hagfors 28.00 22 P **P 07 12 08.9 +1.0**
comp=Z,6.2nm,0.8s,baz=185,slow=8.9,SNR=4.9
YER Yerkesik 28.35 76 P **P 07 12 11.5 +0.1**
MANT Manisa 28.42 73 P **P 07 12 12.6 +0.4**
GEMT Gemlik 28.79 69 P **P 07 12 15.2 +0.1**
DBIC Dimbokro 28.81 176 P **P 07 12 17.3 +1.8**
DBIC pmax pmax
comp=Z,19nm,1.0s
DBIC Dimbokro 28.81 176 P **P 07 12 16.6 +1.1**
comp=Z,8.2nm,0.7s,baz=346,slow=11,SNR=13
DBIC Dimbokro 28.81 176 P **P 07 12 17.3 +1.8**
DBIC IAmb IAmb 07 12 40.7
comp=Z,19nm,0.9s
TIC Toumodi 28.83 176 *e*P **P 07 12 16.6 +0.9**
comp=Z,8.2nm,0.4s
TIC Toumodi 28.83 176 P **P 07 12 16.6 +0.9**
TIC Toumodi 28.83 176 P **P 07 12 16.6 +0.9**
SORM Soroca 28.91 53 ⇑P **P 07 12 14.9 -1.2**
FETY Fethiye 29.06 77 P **P 07 12 16.8 -0.8**
KIC Kosan Boka 29.13 175 *e*P **P 07 12 18.6 +0.3**
comp=Z,11nm,0.7s
KIC Kosan Boka 29.13 175 P **P 07 12 18.6 +0.3**
LIC Lamto 29.25 176 *e*P **P 07 12 15.4 -4.0**
comp=Z,45nm,1.2s
LIC Lamto 29.25 176 P **P 07 12 15.4 -4.0**
AKAS Kas 29.54 78 P **P 07 12 21.8 -0.2**
ELL Elmali 29.70 77 P **P 07 12 23.8 +0.4**
ELL pmax pmax
comp=Z,28nm,0.7s
ELL Elmali 29.70 77 P **P 07 12 23.8 +0.4**
BORA Eskisehir 29.78 70 P **P 07 12 24.2 +0.1**
GULT Gulveren 29.80 69 P **P 07 12 24.9 +0.7**
SRCK Saricakaya, Es 29.91 70 P **P 07 12 25.6 +0.5**
SHUT Suhut-Afyon 29.97 73 P **P 07 12 26.5 +0.7**
KORT Korkueli 30.01 76 P **P 07 12 27.2 +1.0**
AKASG Malin Array Be 30.10 49 P **P 07 12 23.8 -2.8**
comp=Z,2.0nm,0.5s,baz=247,slow=9.4,SNR=3.9
AKASG PcP **PcP 07 15 28.6 +1.4**
comp=Z,1.7nm,0.6s,baz=269,slow=2.9,SNR=4.6
AKBB Malin Array Si 30.10 49 P **P 07 12 24.6 -2.0**
AKBB pmax pmax
comp=Z,9.0nm,1.1s
AKBB Malin Array Si 30.10 49 P **P 07 12 24.6 -2.0**
CIFT Cifteler, Eski 30.29 71 P **P 07 12 29.1 +0.5**
YUVA Yuva-Kibriscik 30.69 69 P **P 07 12 33.1 +0.9**
BR231 Keskin MP Arra 31.57 70 P **P 07 12 37.8 -2.0**
ANTO Ankara 31.58 70 P **P 07 12 39.8 -0.1**
ANTO pmax pmax
comp=Z,22nm,0.8s
ANTO Ankara 31.58 70 P **P 07 12 39.8 -0.1**
VSU Vasula 31.90 34 *i* P **P 07 12 42.5 +0.1**
VSU pmax pmax
comp=Z,33nm,1.0s
ILGA Ilgaz 32.19 68 P **P 07 12 45.8 +0.4**
ILGA IAmb IAmb 07 12 47.0
comp=Z,13nm,0.9s
BR131 Keskin Array S 32.24 70*c i*P **P 07 12 46.1 +0.3**
BR131 Keskin Array S 32.24 70 P **P 07 12 45.6 -0.2**
BR131 IAmb IAmb 07 12 47.4
comp=Z,7.7nm,0.8s
BRTR Keskin Array B 32.24 70*ce*P **P 07 12 46.2 +0.4**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
BRTR Keskin Array B 32.24 70 P **P 07 12 46.3 +0.4**
comp=Z,5.2nm,0.8s,baz=269,slow=6.9,SNR=27
TEVE Tevekalti-Mers 32.55 76 P **P 07 12 48.7 +0.2**
CSS Mathiatis 32.77 79 P **P 07 12 52.8 +2.5**
CSS Mathiatis 32.77 79 P **P 07 12 50.3 0.0**
CSS IAmb IAmb 07 12 53.7
comp=Z,15nm,0.8s
KEBE Keben-Mersin 32.77 76 P **P 07 12 51.0 +0.6**
FINES FINESS Array B 33.27 29 P **P 07 12 55.7 +1.3**
comp=Z,3.6nm,0.8s,baz=233,slow=4.6,SNR=7.2
CMRD Camardi-Nigde 33.56 74 P **P 07 12 57.3 0.0**
KVT Kavak 33.95 67 P **P 07 13 00.9 +0.3**
TOKT Tokat 34.40 69 P **P 07 13 05.0 +0.5**
SVSK Karacayir 34.79 69 P **P 07 13 08.5 +0.7**
MMAI Mount Meron Ar 34.92 82 P **P 07 13 11.0 +1.9**
comp=Z,15nm,0.6s,baz=291,slow=7.0,SNR=23
RSDY Resadiye-TOKAT 34.98 69 P **P 07 13 10.3 +0.8**
DARE Darende-Malaty 35.35 72 P **P 07 13 13.3 +0.5**
GAZ Gaziantep 35.39 74 P **P 07 13 12.9 -0.1**
OBN Obninsk 35.58 43⇓ *e*P **P 07 13 14.5 +0.2**
OBN *e* 07 14 33.3
OBN pmax pmax
comp=Z,15nm,0.8s
MALT Malatya 36.13 72 P **P 07 13 20.1 +0.6**
MOS Moscow 36.32 42 *e*P **P 07 13 20.8 +0.1**
VSR Storozhevoye 36.36 50 *i* P **P 07 13 20.8 -0.3**
VSR pmax pmax
comp=Z,21nm,1.0s
LPSR Galich'ya Gora 36.41 48 *e*P **P 07 13 21.1 -0.4**
LPSR pmax pmax
comp=Z,20nm,0.6s
SOC Sochi 36.48 63 *e*P **P 07 13 18.4 -3.9**
SOC *e* 07 14 47.7
SOC *e*S **S 07 18 56.0 -5.0**
SOC *e*SS **SnSn 07 21 33.3 +0.8**
SOC pmax pmax
comp=Z,34nm,0.9s
DOMR Dombai 37.89 63 *i* P **P 07 13 34.7 +0.3**
VRH Novokhopyorsk 37.95 50 *e*P **P 07 13 34.2 -0.4**
VRH pmax pmax
comp=Z,40nm,0.8s
ARCES ARCESS Array B 38.39 18 P **P 07 13 39.6 +1.5**
comp=Z,6.0nm,1.0s,baz=214,slow=8.6,SNR=6.7
SHA1 Shidzhatmaz 38.60 62 *i* P **P 07 13 42.2 +1.8**
KIV Kislovodsk 38.60 62 *e*P **P 07 13 40.7 +0.4**
KIV pmax pmax
comp=Z,17nm,1.0s
NEY Neytrino 38.69 63 *i* P **P 07 13 41.4 +0.2**
NEY pmax pmax
comp=Z,3.0nm,0.9s
GOF Gofitskoye 38.77 60⇑ *e*P **P 07 13 42.4 +0.8**
GOF pmax pmax
comp=Z,35nm,0.8s
KBZ Khabaz 38.77 62 P **P 07 13 42.9 +1.3**
comp=Z,7.5nm,0.9s,baz=288,slow=3.9,SNR=9.1
TMCR Tamitsa 39.38 29 *e*P **P 07 13 47.4 +1.0**
TMCR pmax pmax
comp=Z,48nm,0.5s
AKH Akhalkalaki 39.49 66 P **P 07 13 48.2 +0.3**
AKH pmax pmax
comp=Z,8.0nm,0.8s
AKH Akhalkalaki 39.49 66 P **P 07 13 48.2 +0.3**
ZEI Tsey 39.60 64 *e*P **P 07 13 47.4 -1.4**
ZEI pmax pmax
comp=Z,6.0nm,0.6s
TBLG Delisi 40.36 65 P **P 07 13 55.7 +0.8**
TBLG pmax pmax
comp=Z,30nm,1.2s
TBLG Delisi 40.36 65 P **P 07 13 55.6 +0.8**
TBLG IAmb IAmb 07 13 56.6
comp=Z,30nm,1.2s
GNI Garni 40.63 68*ce*P **P 07 13 55.9 -1.4**
GNI pmax pmax
comp=Z,71nm,1.3s
GNI Garni 40.63 68 P **P 07 13 57.9 +0.6**
GNI IAmb IAmb 07 13 59.2
comp=Z,26nm,1.1s
PRGR Permogore 41.84 35 *e*P P 07 13 59.1 -7.6
PRGR pmax pmax
comp=Z,21nm,0.7s
AKT Akhty 42.62 65 *e*P **P 07 14 12.2 -1.3**
AKT *e* 07 16 04.5
AKT pmax pmax
comp=Z,18nm,1.0s
RAYN Ar Rayn 46.73 90 P **P 07 14 48.0 +1.7**
RAYN Ar Rayn 46.73 90 P **P 07 14 46.4 0.0**
RAYN pmax pmax
comp=Z,7.0nm,0.8s
RAYN Ar Rayn 46.73 90 P **P 07 14 46.4 0.0**
RAYN IAmb IAmb 07 14 48.7
comp=Z,7.3nm,0.8s
ARU Arti 48.02 43 P **P 07 14 56.4 +0.5**
ARU pmax pmax
comp=Z,30nm,0.7s
ARU Arti 48.02 43 P **P 07 14 56.4 +0.5**
SVE Sverdlovsk 49.14 42 *e*P **P 07 15 05.4 +0.9**
SVE pmax pmax
comp=Z,22nm,0.9s
ABKAR Akbulak array 49.71 52 P **P 07 15 09.5 +0.5**
ABKAR IAmb IAmb 07 15 10.2
comp=Z,7.4nm,0.7s
GEYT Alibeck 51.26 67 P **P 07 15 21.4 +0.5**
comp=Z,5.8nm,0.4s,baz=289,slow=9.0,SNR=12
GYA0B ALIBECK ARRAY 51.26 67 P **P 07 15 20.5 -0.4**
ANWB Willy Bob 51.48 265 P **P 07 15 20.8 -2.0**
ASUD Al Ashush, Dub 54.22 83 P **P 07 15 44.0 +1.2**
SHME Shamm 54.24 81 P **P 07 15 42.8 -0.3**
NAZ Nazwa, Dubai 54.32 83 P **P 07 15 44.1 +0.5**
BANOM Banah 54.42 82 P **P 07 15 44.7 +0.3**
MSFE Esma-Masafi 54.56 82 P **P 07 15 45.5 +0.1**
MDH Madha 54.70 82 P **P 07 15 46.7 +0.3**
HATD Hatta, Dubai 54.78 83 *i* P **P 07 15 47.1 +0.1**
SNR=7.7
UOSS Minazif 54.78 83 P **P 07 15 47.2 +0.2**
UOSS Minazif 54.78 83 P **P 07 15 47.4 +0.4**
ASHO Ashiyiah 54.78 83 *i* P **P 07 15 47.0 -0.1**
SNR=9.0
SJG San Juan 54.80 268 P **P 07 15 46.3 -0.9**
SJG pmax pmax
comp=Z,82nm,1.6s
SJG San Juan 54.80 268 P **P 07 15 46.2 -0.9**
BRVK Borovoye 55.25 46*ce*P **P 07 15 51.1 +1.2**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BRVK Borovoye 55.25 46 P **P 07 15 50.4 +0.5**
BRVK IAmb IAmb 07 15 51.9
comp=Z,7.4nm,0.8s
HRA Herat 55.62 70 P **P 07 15 53.1 -0.1**
HRA IAmb IAmb 07 15 54.4
comp=Z,9.2nm,0.7s
KK31 Karatay Array 58.44 57 P **P 07 16 12.8 +0.1**
KK31 pmax pmax
comp=Z,16nm,1.6s
KK31 Karatay Array 58.44 57 P **P 07 16 12.8 +0.1**
KK31 IAmb IAmb 07 16 16.5
comp=Z,16nm,1.6s
KKAR Karatay Array 58.44 57 P **P 07 16 12.7 0.0**
KKAR pmax pmax
comp=Z,16nm,1.6s
KKAR Karatay Array 58.44 57 P **P 07 16 12.7 0.0**
KKAR IAmb IAmb 07 16 16.5
comp=Z,16nm,1.6s
BTK Batken 59.78 60 P **P 07 16 22.5 +0.3**
BTK pmax pmax
comp=Z,7.0nm,0.7s
BTK Batken 59.78 60 P **P 07 16 22.5 +0.3**
BTK IAmb IAmb 07 16 23.8
comp=Z,6.7nm,0.7s
KBL Kabul 60.71 67 P **P 07 16 29.3 +0.5**
KBL pmax pmax
comp=Z,7.0nm,0.9s
KBL Kabul 60.71 67 P **P 07 16 29.3 +0.5**
KBL IAmb IAmb 07 16 29.8
comp=Z,6.8nm,0.9s
ARSB Arslanbob 60.80 58 P **P 07 16 29.3 +0.1**
ARSB IAmb IAmb 07 16 35.8
comp=Z,7.7nm,1.1s
KURK Kurchatov 60.88 47*ce*P **P 07 16 30.1 +0.7**
KURK pmax pmax
comp=Z,27nm,1.3s
KURK Kurchatov 60.88 47 P **P 07 16 28.9 -0.5**
AAK Ala-Archa 61.32 56 P **P 07 16 33.5 +0.7**
AAK Ala-Archa 61.32 56 P **P 07 16 33.5 +0.7**
AAK pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa 61.32 56 P **P 07 16 33.5 +0.7**
AAK IAmb IAmb 07 16 35.6
comp=Z,4.7nm,0.9s
ZAA0 Zalesovo Array 63.14 41 P **P 07 16 44.9 +0.4**
ZAA0 IAmb IAmb 07 16 46.3
comp=Z,12nm,1.6s
ZALV Zalesovo Beam 63.14 41 P **P 07 16 45.3 +0.8**
comp=Z,1.7nm,0.4s,baz=298,slow=6.4,SNR=9.9
ZALV LR LR 07 46 02.8
comp=Z,152nm,21.0s,baz=312,slow=38
KSH Kashi 63.63 59 P **P 07 16 49.1 +1.0**
KSH PP **PP 07 19 10.3 +2.2**
KSH PcS 07 21 27.4
KSH S **S 07 25 17.5 -1.5**
KSH ScS **SKKSac 07 26 35.9 -2.1**
KSH pmax pmax
comp=Z,44nm,1.0s
TARG Taragay, Kyrgy 63.94 56 P **P 07 16 51.6 +1.1**
TARG IAmb IAmb 07 16 53.5
comp=Z,7.3nm,1.0s
BDFB Brasilia 64.06 225 P **P 07 16 53.7 +2.6**
comp=Z,2.9nm,0.8s,baz=39,slow=6.5,SNR=4.6
BDFB LR LR 07 41 15.5
comp=Z,56nm,19.2s,baz=122,slow=33
BDFB Brasilia 64.06 225 P **P 07 16 49.0 -2.1**
BDFB IAmb IAmb 07 18 27.8
comp=Z,13nm,1.4s
MAKZ Makanchi 64.48 50 P **P 07 16 54.0 +0.6**
MAKZ pmax pmax
comp=Z,7.0nm,1.0s
MAKZ Makanchi 64.48 50 P **P 07 16 54.0 +0.6**
MAKZ IAmb IAmb 07 16 55.0
comp=Z,7.1nm,0.9s
MK31 Makanchi Array 64.68 49 P **P 07 16 55.5 +0.7**
MK31 pmax pmax
comp=Z,4.0nm,1.1s
MK31 Makanchi Array 64.68 49 P **P 07 16 55.5 +0.7**
MKAR Makanchi Array 64.68 49*ce*P **P 07 16 55.5 +0.7**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 64.68 49 P **P 07 16 55.1 +0.3**
comp=Z,4.2nm,0.9s,baz=290,slow=6.2,SNR=17
YKA Yellowknife Ar 66.54 331 P **P 07 17 07.9 +1.5**
comp=Z,1.9nm,0.8s,baz=64,slow=6.6,SNR=22
TIXI Tiksi 68.67 14*ce*P **P 07 17 21.0 +1.3**
TIXI pmax pmax
comp=Z,6.0nm,1.7s
INK Inuvik 69.09 341 P **P 07 17 23.8 +1.5**
INK pmax pmax
comp=Z,4.0nm,1.3s
INK Inuvik 69.09 341 P **P 07 17 23.8 +1.5**
WMQ Urumqi 69.43 50 *e*P **P 07 17 26.8 +1.7**
WMQ pmax pmax
comp=Z,10.0nm,0.6s
WMQ pmax pmax
comp=Z,270nm,7.1s
WMQ LR LR
comp=Z,440nm,29.0s
ETX02 Prairie Street 70.39 296 P **P 07 17 30.0 -1.0**
TLY Talaya 74.09 37 LR LR 07 55 20.3
comp=Z,111nm,19.3s,baz=294,slow=40
BOD Bodaibo 74.67 28 *e*P **P 07 17 55.3 -0.7**
BOD pmax pmax
comp=Z,18nm,0.8s
PDAR Pinedale Array 74.87 312 P **P 07 17 59.0 +1.2**
comp=Z,1.4nm,0.7s,baz=69,slow=6.9,SNR=12
SCRK Sand Creek 75.14 342 P **P 07 17 58.9 +0.1**
SCRK IAmb IAmb 07 18 21.0
comp=Z,23nm,1.7s
DLMT Dillon 75.18 315 P **P 07 17 59.2 -0.2**
DLMT IAmb IAmb 07 18 27.6
comp=Z,13nm,1.5s
ILAR Eielson Array 75.18 343 P **P 07 18 01.6 +2.7**
comp=Z,0.3nm,0.6s,baz=16,slow=5.6,SNR=10
BILL Bilibino 76.60 3 *i* P **P 07 18 09.1 +2.2**
BILL *e* 07 18 20.2
BILL pmax pmax
comp=Z,1.0nm,0.9s
BILL MLR MLR
comp=Z,114nm,17.0s
YAK Yakutsk 76.65 19 *i* P **P 07 18 07.8 +0.6**
YAK pmax pmax
comp=Z,4.0nm,0.7s
HWUT Hardware Ranch 76.76 312 P **P 07 18 08.8 +0.3**
PV22 Blue Mesa, Par 76.80 308 P **P 07 18 08.7 -0.1**
PV23 Carpenter Ridg 76.99 308 P **P 07 18 10.7 +0.7**
PV23 IAmb IAmb 07 18 32.4
comp=Z,7.4nm,1.0s
PV03 Paradox Valley 77.00 308 P **P 07 18 09.3 -0.7**
PV03 IAmb IAmb 07 18 32.3
comp=Z,8.1nm,1.3s
B08A Colville Reser 77.02 321 P **P 07 18 11.3 +1.6**
B08A IAmb IAmb 07 18 30.7
comp=Z,7.0nm,0.9s
CPUP Villa Florida 77.78 225 P **P 07 18 15.8 +1.7**
comp=Z,1.4nm,1.0s,baz=76,slow=2.5,SNR=3.4
CPUP LR LR 07 48 46.9
comp=Z,51nm,19.7s,baz=40,slow=33
CPUP Villa Florida 77.78 225 P **P 07 18 13.1 -0.9**
CPUP IAmb IAmb 07 19 24.2
comp=Z,18nm,1.9s
SONM Songino Array 77.89 39 P **P 07 18 16.5 +1.9**
comp=Z,1.2nm,0.8s,baz=291,slow=6.7,SNR=9.0
ULN Ulaanbaatar 78.21 39*ce*P **P 07 18 17.2 +0.7**
ULN pmax pmax
comp=Z,2.0nm,1.0s
TXAR Lajitas Array 78.50 298 P **P 07 18 21.0 +2.6**
TXAR Lajitas Array 78.50 298 P **P 07 18 21.0 +2.6**
comp=Z,0.3nm,0.6s,baz=63,slow=6.0,SNR=4.0
SVW2 Sparrevohn 80.33 345 P **P 07 18 28.0 +0.3**
SEY Seymchan 80.46 9 LR LR 07 55 21.3
comp=Z,341nm,21.5s,baz=150,slow=36
X16A Lo Mia Camp, P 80.94 306 P **P 07 18 32.6 +1.0**
R11A Troy Canyon, C 81.19 311 P **P 07 18 34.1 +1.2**
SHL Shillong 82.25 64 P **P 07 18 38.8 +0.2**
SHL pmax pmax
comp=Z,12nm,1.0s
SHL Shillong 82.25 64 P **P 07 18 38.8 +0.2**
SHL IAmb IAmb 07 18 39.6
comp=Z,12nm,1.0s
LZH Lanzhou 83.99 50 *e*P **P 07 18 47.0 -0.5**
LZH pP pP 07 18 58.8 -1.7
LZH sP sP 07 19 04.8 -0.7
LZH PP **PP 07 21 57.1 -4.0**
LZH pmax pmax
comp=Z,13nm,1.1s
LZH pmax pmax
comp=Z,74nm,5.4s
LZH LR LR
comp=Z,120nm,17.0s
LZH LR LR
comp=Z,120nm,16.8s
LZH LR LR
comp=Z,180nm,18.5s
HHC Hu-ho-hao-te 85.32 42 *e*P **P 07 18 53.8 -0.2**
HHC pmax pmax
comp=Z,6.0nm,0.5s
KLR Kul'dur 87.97 26 *i* P **P 07 19 06.7 +0.1**
KLR pmax pmax
comp=Z,2.0nm,0.9s
XAN Xi'an 88.47 48 P **P 07 19 12.8 +3.5**
XAN pP pP 07 19 17.8 -4.7
XAN pmax pmax
comp=Z,6.0nm,0.6s
CMAR Chiang Mai Arp 91.73 66 P **P 07 19 25.9 +1.2**
comp=Z,0.8nm,0.2s,baz=300,slow=6.1,SNR=5.4
CMAR LR LR 08 07 24.5
comp=Z,29nm,18.9s,baz=0.0,slow=40
YSS Yuzh-Sakhalins 93.48 20 *e*P **P 07 19 33.7 +1.4**
WHN Wuhan 94.19 48 P P 07 19 41.1 +5.2
NJ2 Nanjing 95.72 44 *e*P **P 07 19 41.5 -1.3**
PLCA Paso Flores 95.77 223 LR LR 08 01 49.0
comp=Z,50nm,19.0s,baz=82,slow=35
KSRS Korea Array 96.17 35 LR LR 08 05 27.5
comp=Z,78nm,18.6s,baz=340,slow=37
ASAR Alice Springs 144.21 82 PKP PKPbc 07 25 51.9 +0.7
comp=Z,0.7nm,0.5s,baz=301,slow=2.6,SNR=16
STKA Stephens Creek 153.67 91 PKIKP **PKiKP 07 26 16.8 +1.1**
STKA Stephens Creek 153.67 91 PKPbc **PKiKP 07 26 17.3 +1.7**
comp=Z,7.5nm,0.7s,baz=341,slow=2.5,SNR=24
STKA Stephens Creek 153.67 91 **PKiKP 07 26 16.8 +1.1**

OMAN 16 07:13:12.2±0.3, 14°05'N×51°88'E, h36km±175km, ml3.6/5, Error ellipse: s-maj=27.2km s-min=2.8km az=246.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**2.77**	**132**	P	Pn	07 13 51.1	-2.9
	SNR=44						
SOCY				S	Sn	07 14 18.5	-7.7
ABTO	**Aybut**	**3.55**	**22**	P	Pn	07 14 04.9	0.0
	SNR=15						
ABTO				S	Sn	07 14 45.7	0.0
RBK	**Rabkut**	**4.09**	**33**	P	Pn	07 14 13.6	+1.3
	SNR=91						
RBK				S	Sn	07 14 59.9	+0.9
WHFO	**Wadi Hawf**	**4.25**	**25**	P	Pn	07 14 14.6	+0.1
	SNR=136						
DMTO	**DMTO**	**4.69**	**39**	P	Pn	07 14 21.2	+0.8
	SNR=128						
SHAO	**Shalim**	**5.34**	**42**	P	Pn	07 14 31.0	+1.6
	SNR=8.1						

JMA 16 07:28:06.7, 35.75°N×136.49°E, h8km±1km, M2.8, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYTA	**Yamagatataniai**	**0.25**	**128**	P	Pg	07 28 11.8	+0.1
JYTA				S	Sg	07 28 15.4	+0.2
JICN	**Ichinomiyachia**	**0.53**	**147**	P	Pg	07 28 17.4	+0.4
JKG	**Kaga**	**0.54**	**346**	P	Pg	07 28 17.4	+0.2
JKG				S	Sg	07 28 24.8	+0.5
JWT	**Wachi**	**1.00**	**243**	P	Pg	07 28 25.6	-0.4
TSUJ	**Tsu 2**	**1.04**	**183**	S	Sg	07 28 40.0	-0.1
MAT	**Matsushiro**	**1.60**	**60**	P	Pg	07 28 37.0	-0.4
MAT				S	Sg	07 28 59.0	+0.9

IDC ***16*** *08:52:01.6±1.4, 33.°24N×46.°77E, h0km, mb3.8/11, mb1 3.9/14, mb1mx3.7/51, mbtmp3.8/14, ML3.7/3, Error ellipse: s-maj=31.0km s-min=20.9km az=174.0*
TEH ***16*** *08:52:04.5, 33.°41N×46.°90E, h10km, ML3.6*
ISN ***16*** *08:52:04.8±0.9, 33.°52N×47.°03E, h7km±4km, ML3.4*
ISCJB ***16*** *08:52:06.9±0.3, 33.°45N±0.°02×46.°98E±0.°03, h17km, mb3.7/11, Error ellipse: s-maj=3.8km s-min=3.1km az=37.7*
THR ***16*** *08:52:07.9, 33.°57N×47.°03E, h15km, ML3.5*
AZER ***16*** *08:52:08.9±3.3, 33.°60N×46.°71E, h0km, ml3.5/4, Error ellipse: s-maj=40.5km s-min=31.4km az=67.0*
ISC 16 08:52:06.0±0.6, 33.°43N±0.°03×46.°94E±0.°03, h17km, n81, σ2s11/89, mb3.8/11, Iran-Iraq border region

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

IKFM	**Kafar-mosalman**	**0.77**	**82**	*e*Pg		**Pb**	**08 52 20.1**	**-0.8**
IKFM				IAMB		IAmb	08 52 35.0	
	comp=Z,0.0nm,0.6s							
KCHF	**Cheshme Sefid,**	**0.85**	**6**	*e*Pg		**Pb**	**08 52 21.1**	**-1.4**
KCHF				IAMB		IAmb	08 52 33.7	
	comp=Z,0.0nm,0.4s							
IKOM	**Komasi**	**0.89**	**32**	*e*Pg		**Pb**	**08 52 21.8**	**-1.2**
IKOM				IAMB		IAmb	08 52 37.4	
	comp=Z,0.0nm,0.3s							
IBDR	**Badra**	**0.90**	**250**	*e*Pg		**Pg**	**08 52 25.0**	**+1.4**
IBDR				AML		AML	08 52 29.4	
	comp=Z,316nm,0.4s							
IBDR				*e*Sg		**Sn**	**08 52 38.0**	**+1.4**
IGHG	**Ghaleghazi**	**0.95**	**341**	*e*Pg		**Pb**	**08 52 23.2**	**-1.1**
IGHG				IAMB		IAmb	08 52 47.0	
	comp=Z,14µm,0.6s							
KER	**Kermanshah**	**0.97**	**9**	*e*Pg		**Pb**	**08 52 23.0**	**-1.5**
IDOB	**Doab**	**1.09**	**70**	*e*Pg		**Pb**	**08 52 26.4**	**-0.2**
IKMR	**Kamar-syah**	**1.21**	**85**	*e*Pg		**Pb**	**08 52 28.7**	**+0.3**
IBZA	**Bozab**	**1.29**	**36**	*e*Pn		**Pb**	**08 52 30.1**	**0.0**
IDHR	**Dehrash**	**1.35**	**340**	*e*Pg		**Pn**	**08 52 30.6**	**+0.3**
ILIN	**Lien**	**1.49**	**1**	*e*Pn		**Pb**	**08 52 33.0**	**-0.4**
ILIN				IAMB		IAmb	08 52 57.5	
	comp=Z,10µm,0.6s							
HSAM	**Samen**	**1.59**	**60**	*e*Pn		**Pb**	**08 52 35.6**	**+0.5**
HSAM				IAMB		IAmb	08 53 03.0	
	comp=Z,0.0nm,0.4s							
BMDN	**Meydan**	**1.59**	**81**	*e*Pn		**Pb**	**08 52 35.0**	**-0.1**
BMDN				IAMB		IAmb	08 53 06.6	
	comp=Z,0.0nm,0.6s							
BDRS	**Dareh Seyedi**	**1.70**	**71**	*e*Pn		**Pb**	**08 52 37.3**	**+0.3**
BDRS				IAMB		IAmb	08 53 04.7	
	comp=Z,0.0nm,0.5s							
SHGR	**Shooshtar-Gavs**	**2.05**	**129**	*e*Pg		**Pb**	**08 52 44.3**	**+1.6**
SHGR	**Shooshtar-Gavs**	**2.05**	**129**	*e*AML		AML	08 53 22.8	
	comp=E,311nm,0.3s							
SHGR	**Shooshtar-Gavs**	**2.05**	**129**	*e*AML		AML	08 53 34.9	
	comp=N,332nm,0.6s							
SHGR	**Shooshtar-Gavs**	**2.05**	**129**	*e*Pn		**Pb**	**08 52 44.3**	**+1.6**
HSRG	**Sareghieh**	**2.12**	**31**	*e*Pn		**Pb**	**08 52 44.0**	**-0.2**
BHD	**Baghdad**	**2.15**	**267**	*e*Pn		**Pb**	**08 52 44.0**	**-0.5**
BHD				AML		AML	08 52 45.4	
	comp=Z,8µm,0.4s							
BHD				*e*Sn		**Sb**	**08 53 13.0**	**+2.2**
HAGD	**Aghdareh**	**2.30**	**52**	*e*Pn		**Pb**	**08 52 45.7**	**-1.4**
HAGD				IAMB		IAmb	08 53 20.0	
	comp=Z,0.0nm,0.5s							
NSR	**Nassriya**	**2.50**	**196**	*e*Pn		**Pn**	**08 52 49.0**	**+3.1**
NSR				*e*Sn		**Sb**	**08 53 21.0**	**0.0**
KHMZ	**Khomeyn**	**2.54**	**82**	*e*Pn		**Pb**	**08 52 49.4**	**-1.9**
KHMZ	**Khomeyn**	**2.54**	**82**	*e*Pn		**Pb**	**08 52 49.4**	**-1.9**
ASAO	**Ashtian**	**2.80**	**66**	*e*Pn		**Pb**	**08 52 53.3**	**-2.4**
ASAO	**Ashtian**	**2.80**	**66**	*e*Pn		**Pb**	**08 52 53.3**	**-2.4**
IKRK	**Kirkuk**	**2.92**	**313**	*e*Pn		**Pn**	**08 52 53.0**	**+1.4**
IKRK				AML		AML	08 52 55.4	
	comp=Z,76nm,0.4s							
IKRK				*e*Sn		**Sn**	**08 53 29.0**	**+2.7**
QABG	**Abgarm-Qazvin**	**3.15**	**43**	*e*Pn		**Pn**	**08 52 58.0**	**+2.9**
IRAZ	**Razeghan**	**3.16**	**51**	*e*Pn		**Pn**	**08 52 57.9**	**+2.7**
JHBN	**Jahan bin**	**3.35**	**110**	*e*Pn		**Pn**	**08 52 59.3**	**+1.3**
IPIR	**Pirpir**	**3.40**	**101**	*e*Pn		**Pn**	**08 53 00.3**	**+1.7**
MAHB	**Mahabad**	**3.48**	**343**	IAMB		IAmb	08 53 02.9	
	comp=Z,0.0nm,0.5s							
MAHB				*e*Pn		**Pn**	**08 53 01.5**	**+1.9**
ZNJK	**Zanjan**	**3.54**	**23**	*e*Pn		**Pn**	**08 53 02.4**	**+2.0**
ZNJK	**Zanjan**	**3.54**	**23**	*e*Pn		**Pn**	**08 53 02.4**	**+2.0**
ROKH	**ROKH**	**3.61**	**106**	*e*Pn		**Pn**	**08 53 02.8**	**+1.4**
IQOM	**Qom**	**3.71**	**66**	*e*Pn		**Pn**	**08 53 04.7**	**+2.0**
IMHD	**Mahdasht**	**3.81**	**53**	*e*Pn		**Pn**	**08 53 06.7**	**+2.6**
IKLH	**Kolahrood**	**3.88**	**90**	*e*Pn		**Pn**	**08 53 07.0**	**+1.8**
IBRJ	**Brojen**	**3.94**	**111**	*e*Pn		**Pn**	**08 53 07.4**	**+1.3**
CHTH	**Charan**	**4.25**	**53**	*e*Pn		**Pn**	**08 53 12.1**	**+1.9**
CHTH	**Charan**	**4.25**	**53**	*e*Pn		**Pn**	**08 53 12.1**	**+1.9**
IVRN	**Varamin**	**4.26**	**67**	*e*Pn		**Pn**	**08 53 11.9**	**+1.6**
QALM	**Alamut, Qazvin**	**4.27**	**44**	*e*Pn		**Pn**	**08 53 12.7**	**+2.2**
MSL	**Mosul**	**4.33**	**314**	*e*Pn		**Pn**	**08 53 13.0**	**+2.0**
MSL				*e*Sn		**Sn**	**08 54 03.0**	**+2.0**
IGAR	**Gharneh**	**4.41**	**102**	*e*Pn		**Pn**	**08 53 12.9**	**+0.5**
ISRB	**Sarab**	**4.43**	**7**	*e*Pn		**Pn**	**08 53 14.6**	**+2.0**
ISFB	**Sefidab**	**4.50**	**77**	*e*Pn		**Pn**	**08 53 14.9**	**+1.3**
IZEF	**Zefreh**	**4.55**	**95**	*e*Pn		**Pn**	**08 53 16.2**	**+1.8**
KLNJ	**Kolanjah**	**4.62**	**120**	*e*Pn		**Pn**	**08 53 17.2**	**+1.8**
DAMV	**Damavand**	**4.70**	**61**	*e*Pn		**Pn**	**08 53 18.7**	**+2.3**
DAMV	**Damavand**	**4.70**	**61**	*e*Pn		**Pn**	**08 53 18.7**	**+2.3**
IDMV	**Damavand**	**4.72**	**62**	*e*Pn		**Pn**	**08 53 18.4**	**+1.7**
IRAM	**Ramesheh**	**4.87**	**108**	*e*Pn		**Pn**	**08 53 20.2**	**+1.5**
IHRS	**Heris**	**4.88**	**1**	*e*Pn		**Pn**	**08 53 20.9**	**+2.0**
IFIR	**Firoozkooh**	**5.28**	**64**	*e*Pn		**Pn**	**08 53 26.3**	**+1.9**
LRK	**Lerik**	**5.33**	**12**	P		**Pn**	**08 53 28.1**	**+3.2**
LRK				S		**Sn**	**08 54 30.1**	**+4.1**
ASTR	**Astara**	**5.34**	**16**	P		**Pn**	**08 53 28.6**	**+3.6**
ASTR				S		**Sn**	**08 54 30.5**	**+4.5**
IMRD	**Marand**	**5.37**	**350**	*e*Pn		**Pn**	**08 53 27.8**	**+2.3**
LKRN	**Lenkeran, Azer**	**5.48**	**15**	P		**Pn**	**08 53 30.1**	**+3.3**
LKRN				S		**Sn**	**08 54 35.8**	**+6.3**
IKAZ	**Kazeroun**	**5.54**	**130**	*e*Pn		**Pn**	**08 53 28.7**	**+0.7**
ORD	**Ordubad**	**5.54**	**352**	P		**Pn**	**08 53 29.9**	**+2.0**
ORD				S		**Sn**	**08 54 32.9**	**+1.7**
YRD	**Yardimli**	**5.58**	**10**	P		**Pn**	**08 53 31.3**	**+2.8**
YRD				S		**Sn**	**08 54 37.5**	**+5.3**
ANAR	**Anarak**	**5.69**	**91**	*e*Pn		**Pn**	**08 53 30.9**	**+1.0**
ISHM	**Shahmirzad**	**5.75**	**64**	*e*Pn		**Pn**	**08 53 33.0**	**+2.1**
ISAD	**Sadrabad**	**5.88**	**103**	*e*Pn		**Pn**	**08 53 33.9**	**+1.2**
GLBA	**Clilabad** SNR=17	**5.92**	**11**	P		**Pn**	**08 53 36.5**	**+3.6**
SBZ	**Shahbuz**	**6.06**	**350**	S		**Sn**	**08 54 45.4**	**+1.4**
GEYT	**Alibeck**	**10.14**	**61**	Pn		**Pn**	**08 54 31.4**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=240,slow=20,SNR=2.3							
WSAR	**Wadi Sarin**	**14.44**	**132**	Pn		**Pn**	**08 55 26.5**	**-3.2**
	comp=Z,0.6nm,0.3s,baz=323,slow=11,SNR=5.0							
AKTO	**Aktyubinsk**	**18.85**	**22**	P		**P**	**08 56 24.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=201,slow=14,SNR=4.6							
AKASG	**Malin Array Be**	**21.61**	**328**	P		**P**	**08 56 54.1**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=139,slow=10,SNR=6.9							
BVAR	**Borovoye Array**	**25.79**	**34**	P		**P**	**08 57 36.8**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=228,slow=8.9,SNR=9.2							
KURBB	**Kurchatov Arra**	**28.79**	**44**	P		**P**	**08 58 04.2**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=248,slow=9.4,SNR=9.2							
MKAR	**Makanchi Array**	**29.89**	**53**	P		**P**	**08 58 13.6**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=250,slow=10.0,SNR=3.5							
FINES	**FINESS Array B**	**31.09**	**341**	P		**P**	**08 58 22.9**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=159,slow=8.8,SNR=3.8							
ZALV	**Zalesovo Beam**	**33.65**	**41**	P		**P**	**08 58 46.7**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=262,slow=8.9,SNR=2.8							
ARCES	**ARCESS Array B**	**38.09**	**348**	P		**P**	**08 59 22.4**	**-1.1**
	comp=Z,5.5nm,1.1s,baz=167,slow=7.5,SNR=8.2							
TORD	**Torodi Ar. Bea**	**45.77**	**255**	P		**P**	**09 00 24.2**	**-2.7**
	comp=Z,1.0nm,0.8s,baz=60,slow=9.1,SNR=4.2							
SONM	**Songino Array**	**46.25**	**53**	P		**P**	**09 00 28.4**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=268,slow=8.1,SNR=3.0							
KSRS	**Korea Array**	**64.13**	**61**	P		**P**	**09 02 38.9**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=279,slow=6.5,SNR=3.5							
YKA	**Yellowknife Ar**	**83.27**	**351**	P		**P**	**09 04 29.4**	**-1.9**
	comp=Z,0.3nm,0.8s,baz=3.9,slow=5.4,SNR=7.0							

*ISCJB **16** 09:01:53.2±0.5,29.°77N±0.°05×69.°75E±0.°06,h10km, mb3.9/14,MS3.8/3,Error ellipse: s-maj=7.8km s-min=5.8km az=143.5*

*IDC **16** 09:01:53.8±0.9,29.°81N×69.°73E,h0km,mb3.9/14, mb1 4.1/17,mb1mx3.9/70,mbtmp4.0/17,ML3.8/3,MS3.8/3, Ms1 3.9/3,ms1mx3.2/43,Error ellipse: s-maj=20.2km s-min=17.9km az=176.0*

*NEIC **16** 09:01:58.4±2.5,29.°68N±0.°08×69.°6E±0.°1,h38km±9km, mb4.0/5*

*NNC **16** 09:02:00.2±11.0,30.°43N×69.°14E,h0km,mb4.2,Error ellipse: s-maj=140.6km s-min=88.5km az=108.0*

ISC 16 09:01:54.6±0.6,**29.°75N**±0.°05×**69.°58E**±0.°05,**h10**km,**n48,** σ2**s46/47,mb4.0**/15,**MS3.9**/3,**2C-3D,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JASL	**Jaisalmer**	**3.04**	**157**	*e*P	**Pn**	**09 02 43.5**	**+0.7**
JASL				*i* x	x	09 02 57.1	
KBL	**Kabul**	**4.80**	**355**		**Pn**	**09 03 09.4**	**+2.2**
NIL	**Nilore**	**5.00**	**38**	Pn	**Pn**	**09 03 11.7**	**+2.0**
THN	**Thein Dam**	**5.91**	**61**	*e*PG	**Pb**	**09 03 35.0**	**-2.7**
THN				*e*S	**Sg**	**09 05 07.0**	**+2.7**
KUDL	**Kundal**	**6.26**	**103**	*e*P	**Pn**	**09 03 25.1**	**-2.0**
KUDL				*e*S	**Sn**	**09 04 47.2**	**+8.5**
DHRM	**DHARAMSHALA**	**6.29**	**65**	*e*P	**Pn**	**09 03 26.9**	**-0.8**
DHRM				IAML		09 04 42.5	
	comp=E,224nm,0.6s						
DHRM				IAML		09 04 42.5	
	comp=N,210nm,0.6s						
SMLA	**Simla**	**6.70**	**76**	*e*P	**Pn**	**09 03 33.1**	**+0.1**
SMLA				IAML		09 04 51.8	
	comp=E,86nm,0.6s						
SMLA				IAML		09 04 52.5	
	comp=N,89nm,0.6s						
AYAN	**Aya Nagar**	**6.72**	**99**	*e*P	Pn	09 03 27.1	-6.3
NDI	**New Delhi**	**6.76**	**97**	*e*PG	Pn	09 03 41.0	+7.1
NDI				*e*S	**Sg**	**09 05 29.0**	**-2.7**
JOSI	**Joshimath**	**8.68**	**82**	*e*P	**Pn**	**09 04 01.2**	**+0.7**
BTK	**Batken**	**10.34**	**5**		**Pn**	**09 04 24.4**	**+1.3**
BTK				Sn	**Sn**	**09 06 20.5**	**+1.4**
WSAR	**Wadi Sarin**	**11.75**	**239**	Pn	**Pn**	**09 04 43.5**	**+1.2**
	comp=N,0.5nm,0.3s,baz=37,slow=17,SNR=3.2						
WSAR				Sn	**Sn**	**09 06 49.3**	**-4.3**
	comp=N,0.3nm,0.3s,baz=300,slow=19,SNR=2.5						
KK31	**Karatay Array**	**13.35**	**3**		**Pn**	**09 05 04.0**	**-0.2**
KK31	**Karatay Array**	**13.35**	**3**	⇑P	**Pn**	**09 05 03.3**	**-0.9**
	comp=N,5.1nm,0.8s,baz=179,slow=12,SNR=21						
KK31				⇓S	**Sn**	**09 07 25.8**	**-6.9**
	comp=N,3.1nm,0.8s,baz=189,slow=21,SNR=5.8						
KKAR	**Karatay Array**	**13.35**	**3**		**Pn**	**09 05 04.0**	**-0.2**
AAK	**Ala-Archa**	**13.46**	**16**	Pn	**Pn**	**09 05 04.0**	**-1.8**
	comp=N,0.9nm,0.3s,baz=123,slow=6.9,SNR=6.7						
AAK	**Ala-Archa**	**13.46**	**16**		**Pn**	**09 05 05.4**	**-0.4**
AAK	**Ala-Archa**	**13.46**	**16**	P	**Pn**	**09 05 04.0**	**-1.8**
	comp=N,4.7nm,0.9s						
AAK				⇓S	**Sn**	**09 07 32.5**	**-3.1**
	comp=N,7.3nm,1.1s						
DMN	**Daman**	**13.80**	**95**	*e*P	**Pn**	**09 05 09.3**	**-1.3**
TKM2	**Tokmak 2**	**14.01**	**19**	⇑P	**Pn**	**09 05 12.9**	**-0.5**
	comp=N,3.8nm,1.3s						
TKM2				⇓S	**Sn**	**09 07 42.9**	**-6.1**
	comp=N,1.2nm,0.8s						
PKIN	**Phulchoki**	**14.06**	**95**	*e*P	**Pn**	**09 05 12.1**	**-2.0**
	comp=N,8.8nm,0.5s						
PKI	**Pulchoki**	**14.07**	**95**	*e*P	**Pn**	**09 05 12.3**	**-2.1**
	comp=N,3.8nm,0.3s						
GUN	**Gumba**	**14.41**	**93**	*e*P	Pn	09 05 14.4	-4.6
	comp=N,18nm,0.4s						
JIRN	**Jiri**	**14.73**	**94**	*e*P	Pn	09 05 19.0	-4.4
	comp=N,14nm,0.3s						
RAMN	**Ramite**	**15.25**	**96**	*e*P	**Pn**	**09 05 27.6**	**-2.6**
	comp=N,3.6nm,0.3s						
TAPN	**Taplejung**	**16.11**	**94**	*e*P	Pn	09 05 33.5	-8.1
	comp=N,4.9nm,0.4s						
MAKZ	**Makanchi**	**19.58**	**26**	P	**P**	**09 06 23.7**	**+1.0**
MAKZ				IAmb	IAmb	09 06 29.7	
	comp=Z,9.8nm,1.2s						
MK31	**Makanchi Array**	**19.69**	**27**	P	**Pn**	**09 06 25.9**	**+0.6**
MKAR	**Makanchi Array**	**19.69**	**27**	P	**P**	**09 06 22.7**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=206,slow=11,SNR=7.2						
KURBB	**Kurchatov Arra**	**21.91**	**15**	P	**P**	**09 06 47.3**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=209,slow=9.0,SNR=15						
KURK	**Kurchatov**	**22.02**	**15**	P	**P**	**09 06 48.4**	**-0.6**
KURK				IAmb	IAmb	09 06 54.1	
	comp=Z,5.7nm,0.8s						
AKTO	**Aktyubinsk**	**22.43**	**340**	P	**P**	**09 06 54.7**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=141,slow=13,SNR=3.3						
BVAR	**Borovoye Array**	**23.27**	**1**	P	**P**	**09 07 02.9**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=170,slow=9.0,SNR=11						
ZALV	**Zalesovo Beam**	**26.60**	**20**	P	**P**	**09 07 31.2**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=223,slow=11,SNR=5.0						
ZALV				LR	LR	09 17 27.9	
	comp=Z,123nm,19.5s,baz=313,slow=35						
CMAR	**Chiang Mai Arr**	**28.98**	**106**	P	**P**	**09 07 54.6**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=296,slow=7.5,SNR=5.4						
BRTR	**Keskin Array B**	**30.99**	**298**	P	**P**	**09 08 14.1**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=99,slow=9.1,SNR=2.7						
SONM	**Songino Array**	**33.50**	**47**	P	**P**	**09 08 33.8**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=246,slow=8.5,SNR=5.7						
AKASG	**Malin Array Be**	**36.64**	**316**	P	**P**	**09 09 01.8**	**+0.7**
	comp=Z,0.1nm,0.2s,baz=96,slow=7.8,SNR=4.1						
PSI	**Prapat**	**38.64**	**128**	LR	LR	09 26 11.9	
	comp=Z,211nm,18.8s,baz=270,slow=38						
ARCES	**ARCESS Array B**	**47.01**	**340**	P	**P**	**09 10 27.1**	**+1.4**
	comp=Z,3.2nm,0.9s,baz=111,slow=6.6,SNR=5.3						
KSRS	**Korea Array**	**48.54**	**65**	P	**P**	**09 10 38.6**	**+0.6**
	comp=Z,1.6nm,1.0s,baz=276,slow=6.0,SNR=4.9						
NOA	**NORSAR Array B**	**49.21**	**327**	LR	LR	09 33 01.3	
	comp=Z,138nm,20.9s,baz=300,slow=38						
TORD	**Torodi Ar. Bea**	**64.50**	**271**	P	**P**	**09 12 33.7**	**+1.7**
	comp=Z,0.8nm,0.4s,baz=55,slow=5.5,SNR=15						
FITZ	**Fitzroy Crossi**	**71.98**	**124**	P	P	09 13 14.5	-4.3
INK	**Inuvik**	**80.74**	**8**	P	**P**	**09 14 07.8**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=354,slow=3.8,SNR=5.9						
INK	**Inuvik**	**80.74**	**8**	IAmb	IAmb	09 14 12.1	
	comp=Z,1.1nm,1.4s						
ASAR	**Alice Springs**	**81.47**	**123**	P	**P**	**09 14 12.7**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=307,slow=5.6,SNR=7.5						
YKA	**Yellowknife Ar**	**88.02**	**2**	P	**P**	**09 14 44.4**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=348,slow=4.9,SNR=15						

*KLM **16** 09:03:04.0,6.°95S×102.°26E,h4km,mb5.0*

*IDC **16** 09:03:05.7±0.4,6.°82S×102.°57E,h0km,mb4.7/30, mb1 4.7/33,mb1mx4.6/57,mbtmp4.7/33,ML4.4/3,MS4.1/7, Ms1 4.1/7,ms1mx3.6/35,Error ellipse: s-maj=12.6km s-min=10.5km az=58.0*

*ISCJB **16** 09:03:05.5±0.8,6.°83S±0.°02×102.°57E±0.°02,h8km±5km, mb5.0/94,MS4.7/18,Error ellipse: s-maj=3.9km s-min=3.0km az=27.6*

*DJA **16** 09:03:09.8±0.5,7.°5S±2.°×107.°3E±.°,h18km±4km,M4.9/51, mB5.4/25,mb5.0/51,MLv5.1/23,Mw(mB)4.9/25*

*BJI **16** 09:03:10.0±0.0,6.°70S×102.°60E,h30km,mb5.0/56, mB5.3/42,Ms5.1/41,Ms7 4.9/41*

*MOS **16** 09:03:10.3±1.2,6.°65S×102.°72E,h37km,mb5.3/37,Error ellipse: s-maj=10.7km s-min=6.1km az=113.2*

*NEIC **16** 09:03:11.1±1.4,6.°80S±0.°06×102.°58E±0.°07,h34km±4km, mb5.0/58*

ISC 16 09:03:10.3±0.7,**6.°82S**±0.°04×**102.°61E**±0.°04,**h31**km±4km**, n315,** σ1**s73/**342**, mb5.0**/102,**MS4.8**/18,**27C-10D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**2.27**	**56**	P	**Pn**	**09 03 45.8**	**+0.1**
KASI				S	**Sn**	**09 04 11.9**	**-0.8**
LWLI	**Liwa**	**2.30**	**39**	P	**Pn**	**09 03 46.5**	**+0.3**
LWLI				S	**Sn**	**09 04 14.3**	**+0.8**
MNAI	**Manna**	**2.46**	**8**	P	**Pn**	**09 03 48.6**	**+0.2**
MNAI				S	**Sn**	**09 04 18.6**	**+1.1**
MNAI	**Manna**	**2.46**	**8**		**Pn**	**09 03 47.8**	**-0.6**
MNAI				Sn	**Sb**	**09 04 18.9**	**-5.0**
MDSI	**Maura Dua**	**2.79**	**34**	P	**Pn**	**09 03 53.4**	**+0.5**
MDSI				S	**Sn**	**09 04 26.5**	**+0.9**
KLSI		**2.98**	**45**	P	**Pn**	**09 03 56.4**	**+0.8**
KLSI				S	**Sn**	**09 04 32.2**	**+1.9**
BLSI	**Bandar Lampung**	**2.99**	**61**	P	**Pn**	**09 03 56.5**	**+0.9**
BLSI				S	**Sn**	**09 04 32.0**	**+1.6**
LHSI	**Lahat**	**3.11**	**17**	P	**Pn**	**09 03 57.4**	**+0.2**
LHSI				S	**Sn**	**09 04 34.9**	**+1.6**
KSI	**Kapahiang**	**3.15**	**360**	P	**Pn**	**09 03 56.9**	**-0.9**
KSI				S	**Sn**	**09 04 33.3**	**-1.1**
SBJI	**Serang**	**3.56**	**79**	P	**Pn**	**09 04 04.8**	**+1.3**
SBJI				S	**Sn**	**09 04 44.8**	**+0.2**
MASI	**Maura Aman, Be**	**3.67**	**354**	P	**Pn**	**09 04 03.5**	**-1.5**
MASI				S	**Sn**	**09 04 48.3**	**+1.0**
SKJI	**Sukabumi**	**3.92**	**93**	P	**Pn**	**09 04 09.0**	**+0.6**
DBJI	**Dramaga**	**4.12**	**87**	P	**Pn**	**09 04 12.5**	**+1.3**
DBJI				S	**Sn**	**09 04 57.7**	**-0.6**
PMBI	**Palembang**	**4.42**	**29**	P	**Pn**	**09 04 15.1**	**-0.3**
PMBI				S	**Sn**	**09 05 06.6**	**+0.7**
CNJI	**Cibinong**	**4.51**	**96**	P	**Pn**	**09 04 15.7**	**-0.8**
KRJI	**Kerinci**	**4.83**	**346**	P	**Pn**	**09 04 19.8**	**-1.3**
KRJI				S	**Sn**	**09 05 15.9**	**-0.2**
LEM	**Lembang**	**4.97**	**90**	Pn	**Pn**	**09 04 23.6**	**+0.6**
	68nm,0.3s,baz=212,slow=3.6,SNR=4.6						
LEM				Sn	**Sn**	**09 05 20.7**	**+1.1**
	13nm,0.3s,baz=311,slow=20,SNR=3.4						
LEM				LR	LR	09 06 31.6	
	comp=Z,1µm,18.0s,baz=260,slow=41						
CISI	**Cisompet, Garu**	**5.21**	**98**	P	**Pn**	**09 04 25.5**	**-0.8**
	532nm,0.7s,12µm3.4nm						
CISI	**Cisompet, Garu**	**5.21**	**98**		**Pn**	**09 04 25.5**	**-0.8**
CISI				Sn	**Sn**	**09 05 19.3**	**-6.2**
CMJI	**Cimerak**	**5.87**	**100**	P	**Pn**	**09 04 34.4**	**-0.8**
	1µm,0.7s,10µm						
SDSI	**Sungai Dareh**	**5.96**	**349**	P	**Pn**	**09 04 34.7**	**-1.8**
	79nm,1.1s,13µm0.9nm						
KPJI	**Karang Pucung**	**6.29**	**95**	P	**Pn**	**09 04 43.2**	**+2.2**
	181nm,0.6s,2µm1.0nm						
TPI	**Tanjungpandan** 67nm,1.1s,779nm0.3nm	**6.44**	**51**	P	**Pn**	**09 04 43.8**	**+0.7**
SISI	**Saibi** 146nm,0.8s,0.6nm	**6.49**	**327**	P	**Pn**	**09 04 42.0**	**-1.7**
BKNI	**Bangkinang** 187nm,1.1s,0.8nm	**7.27**	**347**	P	**Pn**	**09 04 52.4**	**-2.0**
BKNI	**Bangkinang**	**7.27**	**347**		**Pn**	**09 04 52.5**	**-2.0**
YOGI	**Yogyakarta** 248nm,0.8s,2µm1.1nm	**7.69**	**98**	P	**Pn**	**09 05 01.0**	**+0.8**
SMRI	**Semarang** 424nm,1.1s,5µm1.6nm	**7.78**	**92**	P	**Pn**	**09 05 04.0**	**+2.6**
SMRI	**Semarang**	**7.78**	**92**		**Pn**	**09 05 02.4**	**+0.9**
UGM	**Wanagama** 490nm,0.8s,3µm1.6nm	**7.92**	**98**	P	**Pn**	**09 05 03.6**	**+0.1**
UGM	**Wanagama**	**7.92**	**98**		**Pn**	**09 05 03.7**	**+0.2**
WOJI	**Wonogiri, Jawa** 86nm,0.9s	**8.31**	**98**	P	**Pn**	**09 05 09.3**	**+0.6**
PCJI	**Pacitan** 223nm,0.9s,3µm	**8.60**	**100**	P	**Pn**	**09 05 11.9**	**-0.9**
MYKOM	**Kota Tinggi**	**8.64**	**8**	P	**Pn**	**09 05 15.0**	**+1.7**
MYKOM	**Kota Tinggi**	**8.64**	**8**		**Pn**	**09 05 14.5**	**+1.2**
NGJI	**Ngawi**	**8.80**	**94**	P	Pn	09 05 22.3	+6.8
PWJI	**Pagerwojo** 397nm,0.9s,4µm	**9.19**	**98**	P	**Pn**	**09 05 20.9**	**0.0**
GSI	**Gunungsitoli**	**9.51**	**328**		**Pn**	**09 05 25.3**	**+0.1**
GRJI	**Gresik** 302nm,0.8s,3µm	**9.80**	**91**	P	**Pn**	**09 05 31.2**	**+2.0**
RPSI	**Rantau Prapat**	**10.14**	**339**		**Pn**	**09 05 32.6**	**-1.3**
RPSI	**Rantau Prapat**	**10.14**	**339**		**Pn**	**09 05 31.4**	**-2.5**
PSI	**Prapat** 1.3nm,0.3s,baz=154,slow=12,SNR=4.9	**10.24**	**339**	Pn	**Pn**	**09 05 31.4**	**-4.0**
JRMM	**Jerantut**	**10.63**	**359**	P	**Pn**	**09 05 40.0**	**-0.7**
GMJI	**Gumukmas** 70nm,1.0s,806nm	**10.84**	**98**	P	**Pn**	**09 05 45.8**	**+2.4**
SNSI	**Sinabang, Aceh** 195nm,1.1s,3µm	**11.11**	**325**	P	**Pn**	**09 05 47.6**	**+0.5**
STKI	**Sintang**	**11.18**	**53**	P	**Pn**	**09 05 51.3**	**+3.2**
KSM	**Kuching**	**11.26**	**43**	P	**Pn**	**09 05 50.0**	**+0.7**
KSM	**Kuching**	**11.26**	**43**		**Pn**	**09 05 50.5**	**+1.2**
IPM	**Ipoh**	**11.33**	**352**		**Pn**	**09 05 50.5**	**+0.2**
KCSI	**Kotacane, Aceh** 30nm,1.2s	**11.35**	**335**	P	**Pn**	**09 05 52.8**	**+2.3**
TPTI		**11.38**	**331**	P	**Pn**	**09 05 49.8**	**-1.1**
	6.3nm,0.5s		

baz=338,slow=76,SNR=15
H08S3 Diego Garcia H 29.90 267 T T 09 41 06.2
baz=89,slow=75,SNR=68
H08S1 Diego Garcia H 29.91 267 T T 09 41 06.8
baz=89,slow=75,SNR=38
KMI Kunming 31.75 0 P **P** **09 09 34.0 +2.0**
KMI pP sP 09 09 42.4 -0.9
KMI sP pwP 09 09 49.8 +5.4
KMI S **S** **09 14 42.3 +2.0**
KMI pmax pmax
comp=Z,38nm,1.0s
KMI pmax pmax
comp=Z,200nm,4.2s
KMI LR LR
comp=Z,2μm,10.6s
KMI LR LR
comp=Z,530nm,11.6s
KMI LR LR
comp=Z,2μm,10.6s
KMI Kunming 31.75 0 P **P** **09 09 33.7 +1.7**
KMI pmax pmax
comp=Z,48nm,1.1s
KMI Kunming 31.75 0 P **P** **09 09 33.7 +1.7**
GYA Guiyang 33.31 7⇑*i*P **P** **09 09 46.5 +0.9**
GYA pP pwP 09 09 56.8 -1.2
GYA S **S** **09 15 08.4 +4.0**
GYA sS sS 09 15 24.4 +6.5
GYA pmax pmax
comp=Z,30nm,0.9s
GYA pmax pmax
comp=Z,240nm,4.8s
GYA LR LR
comp=Z,1μm,12.3s
GYA LR LR
comp=Z,890nm,11.9s
GYA LR LR
comp=Z,2μm,12.3s
WRAB Tennant Creek 33.44 116*ce*P **P** **09 09 47.7 +0.9**
WRAB pmax pmax
comp=Z,23nm,1.3s
WRAB Tennant Creek 33.44 116 P **P** **09 09 47.6 +0.9**
WRAB IAmb IAmb 09 09 49.6
comp=Z,14nm,0.9s
HYB Hyderabad 33.84 316 *i*P P 09 09 30.0 -20
SHL Shillong 33.84 342 P **P** **09 09 50.6 +0.3**
SHL pmax pmax
comp=Z,27nm,0.7s
SHL Shillong 33.84 342 P **P** **09 09 50.6 +0.3**
ASAR Alice Springs 34.40 123 P **P** **09 09 55.5 +0.3**
comp=Z,5.2nm,1.0s,baz=287,slow=7.8,SNR=27
ASAR PcP **PcP** **09 12 31.4 +0.8**
comp=Z,2.2nm,0.8s,baz=295,slow=2.1,SNR=10.0
AS31 Alice Springs 34.40 123 P **P** **09 09 55.8 +0.7**
ODAN Odare 36.59 337 *e*P **P** **09 10 15.1 +1.1**
comp=Z,70nm,0.9s
TAPN Taplejung 36.90 338 *e*P **P** **09 10 18.1 +1.3**
comp=Z,137nm,0.9s
RAMN Ramite 36.98 336 *e*P **P** **09 10 18.8 +1.4**
comp=Z,36nm,0.7s
ENH Enshi 37.46 10 P **P** **09 10 21.0 -0.2**
ENH IAmb IAmb 09 10 21.8
comp=Z,21nm,0.7s
CD2 Chengdu 37.53 2 P **P** **09 10 22.0 +0.3**
CD2 S **S** **09 16 11.5 +2.5**
CD2 pmax pmax
comp=Z,80nm,0.6s
CD2 LR LR
comp=Z,1μm,10.0s
CD2 LR LR
comp=Z,2μm,14.7s
CD2 LR LR
comp=Z,2μm,12.0s
JIRN Jiri 37.78 336 *e*P **P** **09 10 25.6 +1.4**
comp=Z,143nm,0.9s
LSA Lhasa 37.94 344 P **P** **09 10 26.1 +0.4**
LSA pmax pmax
comp=Z,22nm,1.0s
LSA Lhasa 37.94 344 P **P** **09 10 26.1 +0.4**
LSA IAmb IAmb 09 10 30.4
comp=Z,22nm,1.0s
GUN Gumba 38.12 336 *e*P **P** **09 10 28.3 +1.1**
comp=Z,57nm,0.6s
WHN Wuhan 38.82 16 P **P** **09 10 33.5 +1.0**
WHN LR LR
comp=Z,2μm,11.9s
WHN LR LR
comp=Z,2μm,10.6s
WHN LR LR
comp=Z,2μm,13.0s
COEN Coen 40.48 103 P **P** **09 10 47.0 +0.4**
XAN Xi'an 41.07 8 P **P** **09 10 51.5 +0.2**
XAN S **S** **09 17 07.0 +4.9**
XAN SS **SS** **09 19 57.8 -7.6**
XAN pmax pmax
comp=Z,46nm,1.0s
XAN pmax pmax
comp=Z,90nm,3.1s
XAN LR LR
comp=Z,620nm,12.7s
XAN LR LR
comp=Z,730nm,12.8s
XAN LR LR
comp=Z,1μm,12.3s
NJ2 Nanjing 41.64 21 *e*P **P** **09 10 57.3 +1.4**
NJ2 pmax pmax
comp=Z,21nm,0.6s
LZH Lanzhou 42.69 1 ⇓P **P** **09 11 06.1 +1.5**
LZH pP sP 09 11 14.8 -1.3
LZH sP pwP 09 11 20.8 +3.7
LZH PP **PcP** **09 12 49.9 -6.3**
LZH pmax pmax
comp=Z,40nm,1.4s
LZH pmax pmax
comp=Z,190nm,5.0s
LZH LR LR
comp=Z,2μm,12.5s
LZH LR LR
comp=Z,1μm,14.6s
LZH LR LR
comp=Z,2μm,13.0s
STKA Stephens Creek 44.05 130 P **P** **09 11 16.3 +0.7**
STKA pmax pmax
comp=Z,3.0nm,1.1s
STKA Stephens Creek 44.05 130 P **P** **09 11 16.2 +0.7**
comp=Z,7.8nm,0.8s,baz=298,slow=6.8,SNR=19
STKA Stephens Creek 44.05 130 P **P** **09 11 16.3 +0.7**
PMG Port Moresby 44.16 96*ce*P **P** **09 11 17.5 +0.9**
PMG pmax pmax
comp=Z,98nm,1.0s
PMG Port Moresby 44.16 96 P **P** **09 11 17.3 +0.7**
comp=Z,20nm,0.8s,baz=328,slow=12,SNR=5.5
PMG Port Moresby 44.16 96 P **P** **09 11 17.6 +1.0**
PMG IAmb IAmb 09 11 18.3
comp=Z,23nm,0.9s
CTA Charters Tower 44.30 112 P **P** **09 11 18.2 +0.5**
comp=Z,8.8nm,0.9s,baz=277,slow=5.1,SNR=4.2
GTA Gaotai 46.07 357 *e*P **P** **09 11 32.6 +1.1**
GTA pP sP 09 11 41.8 -1.2
GTA sP pwP 09 11 46.3 +2.3
GTA S **S** **09 18 20.8 +5.6**
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA pmax pmax
comp=Z,180nm,7.6s
GTA LR LR
comp=Z,690nm,11.1s
GTA LR LR
comp=Z,540nm,12.4s
GTA LR LR
comp=Z,1μm,12.4s
JNU Nakatsue 47.95 32 P **P** **09 11 46.0 -0.3**
comp=Z,27nm,0.9s,baz=153,slow=5.2,SNR=13
HHC Hu-ho-hao-te 48.14 9 *e*P **P** **09 11 51.0 +3.3**
HHC pmax pmax
comp=Z,5.0nm,0.5s
BJT Baijiatuau 48.26 14 IAmb IAmb 09 11 50.3
comp=Z,26nm,1.1s
BJI Beijing 48.28 14⇑*i*P **P** **09 11 49.1 +0.5**
BJI sP **pwP** **09 12 04.8 +3.6**
BJI S **S** **09 18 48.9 +2.5**
BJI pmax pmax
comp=Z,20nm,1.2s
BJI LR LR
comp=Z,840nm,13.3s
BJI LR LR
comp=Z,380nm,9.6s
BJI LR LR
comp=Z,400nm,15.5s
TJN Taejon 48.84 27*ce*P **P** **09 11 53.4 +0.4**
NIL Nilore 48.94 327 P **P** **09 11 53.4 -0.4**
NIL pmax pmax
comp=Z,26nm,0.9s
NIL Nilore 48.94 327 **P** **09 11 53.4 -0.4**
KSRS Korea Array 49.99 26 P **P** **09 12 02.5 +0.8**
comp=Z,20nm,0.8s,baz=228,slow=7.5,SNR=65
WMQ Urumqi 52.18 346 *e*P **P** **09 12 19.8 +1.6**
WMQ pP sP 09 12 28.3 -1.5
WMQ sP pwP 09 12 32.9 +1.3
WMQ pmax pmax
comp=Z,60nm,0.9s
WMQ pmax pmax
comp=Z,92nm,3.6s
WMQ LR LR
comp=Z,530nm,29.3s
WMQ LR LR
comp=Z,2μm,29.0s
WMQ LR LR
comp=Z,200nm,21.1s
KSH Kashi 52.28 334 P **P** **09 12 18.0 -1.1**
KSH pP sP 09 12 28.4 -2.0
KSH PcP **PcP** **09 13 29.8 -0.4**
KSH PcS **PcS** **09 17 24.6 -4.0**
KSH S **S** **09 19 36.5 -5.9**
KSH SS **SS** **09 23 11.8 -8.8**
KSH pmax pmax
comp=Z,25nm,1.0s
KSH pmax pmax
comp=Z,330nm,4.3s
KSH LR LR
comp=Z,880nm,7.2s
KSH LR LR
comp=Z,1μm,7.9s
KSH LR LR
comp=Z,690nm,8.8s
NRN Naryn 53.85 335 P **P** **09 12 28.8 -2.1**
NRN pmax pmax
comp=Z,11nm,1.0s
NRN Naryn 53.85 335 P **P** **09 12 28.8 -2.1**
NRN IAmb IAmb 09 12 40.6
comp=Z,11nm,1.0s
PDGK Podgornoye 54.14 339 P **P** **09 12 29.4 -3.3**
PDGK pmax pmax
comp=Z,30nm,1.4s
CN2 Changchun 54.46 20 *e*P **P** **09 12 34.4 -0.4**
CN2 *ep*P pP 09 12 43.5 +0.4
CN2 *eS* **S** **09 20 09.4 -2.2**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 LR LR
comp=Z,700nm,14.0s
CN2 LR LR
comp=Z,500nm,14.0s
CN2 LR LR
comp=Z,700nm,17.0s
SONM Songino Array 54.52 3 P **P** **09 12 36.7 +1.3**
comp=Z,13nm,0.8s,baz=179,slow=8.3,SNR=63
ULN Ulaanbaatar 54.59 4*ce*P **P** **09 12 36.0 +0.1**
ULN pmax pmax
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 54.59 4 P **P** **09 12 36.6 +0.7**
ULN IAmb IAmb 09 12 38.2
comp=Z,9.4nm,0.8s
BTK Batken 55.10 330 P **P** **09 12 39.2 -0.5**
BTK pmax pmax
comp=Z,11nm,0.9s
BTK Batken 55.10 330 P **P** **09 12 39.2 -0.5**
BTK IAmb IAmb 09 12 51.3
comp=Z,11nm,0.9s
OPO Ambohidratompo 55.12 252 P **P** **09 12 40.7 +0.3**
comp=Z,3.9nm,0.7s,baz=82,slow=5.6,SNR=5.0
AAK Ala-Archa 55.48 335 P **P** **09 12 43.6 +1.1**
AAK pmax pmax
comp=Z,16nm,1.2s
AAK Ala-Archa 55.48 335 P **P** **09 12 42.6 +0.1**
comp=Z,3.4nm,0.9s,baz=156,slow=6.5,SNR=4.7
AAK Ala-Archa 55.48 335 P **P** **09 12 43.6 +1.1**
AAK IAmb IAmb 09 12 59.8
comp=Z,16nm,1.2s
MK31 Makanchi Array 56.35 343 *i*P **P** **09 12 48.3 -0.2**
MK31 pmax pmax
comp=Z,22nm,0.8s
MKAR Makanchi Array 56.35 343 P **P** **09 12 49.0 +0.5**
MKAR Makanchi Array 56.35 343 P **P** **09 12 49.0 +0.5**
comp=Z,20nm,0.9s,baz=147,slow=7.8,SNR=90
MKAR LR LR 09 41 18.7
comp=Z,98nm,18.7s,baz=308,slow=41
MAKZ Makanchi 56.45 343 P **P** **09 12 49.7 +0.5**
MAKZ pmax pmax
comp=Z,22nm,1.2s
MAKZ Makanchi 56.45 343 P **P** **09 12 49.7 +0.5**
MAKZ IAmb IAmb 09 12 58.8
comp=Z,22nm,1.1s
MDJ Mudanjiang 56.67 23 P **P** **09 12 51.1 +0.4**
MDJ pP sP 09 13 01.5 -0.8
MDJ pmax pmax
comp=Z,19nm,1.0s
MDJ pmax pmax
comp=Z,270nm,5.3s
MDJ Mudanjiang 56.67 23 IAmb IAmb 09 12 52.1
comp=Z,15nm,0.9s
ZAK Zakamensk 56.97 1 *e*P **P** **09 12 53.6 +0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
USA0B Ussuriysk Arra 57.28 25 *i*P **P** **09 12 55.8 +0.7**
USA0B Ussuriysk Arra 57.28 25 P **P** **09 12 55.0 -0.1**
USRK Ussuriysk Ar. 57.28 25 P **P** **09 12 55.4 +0.3**
comp=Z,5.1nm,0.7s,baz=212,slow=5.7,SNR=4.7
KK31 Karatay Array 57.60 333 P **P** **09 12 57.1 -0.3**
KK31 pmax pmax
comp=Z,4.0nm,0.9s
KK31 Karatay Array 57.60 333 P **P** **09 12 57.1 -0.3**
KKAR Karatay Array 57.60 333 P **P** **09 12 56.8 -0.6**
KKAR pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 57.60 333 P **P** **09 12 56.8 -0.6**
MOY Mondy 58.27 359 *e*P **P** **09 13 03.3 +1.3**
MOY pmax pmax
comp=Z,40nm,2.5s
GEYT Alibeck 60.80 321 P **P** **09 13 18.8 -0.9**
comp=Z,2.7nm,0.8s,baz=162,slow=6.1,SNR=4.5
GYA0B ALIBECK ARRAY 60.80 321 P **P** **09 13 17.4 -2.2**
GYA0B IAmb IAmb 09 13 28.8
comp=Z,13nm,1.0s
KURK Kurchatov 60.94 343*ce*P **P** **09 13 20.8 +0.5**
KURK pmax pmax
comp=Z,22nm,1.3s
KURK Kurchatov 60.94 343 P **P** **09 13 20.6 +0.4**
KLR Kul'dur 61.35 21 *i*P **P** **09 13 23.0 -0.1**
KLR pmax pmax
comp=Z,18nm,0.9s
KLR Kul'dur 61.35 21 P **P** **09 13 23.1 +0.1**
comp=Z,9.9nm,0.8s,baz=248,slow=4.9,SNR=28
ZALV Zalesovo Beam 62.37 348 P **P** **09 13 30.1 +0.3**
comp=Z,44nm,0.9s,baz=159,slow=4.5,SNR=103
ZALV LR LR 09 41 25.1
comp=Z,150nm,19.6s,baz=195,slow=37
RAYN Ar Rayn 63.37 300 P **P** **09 13 35.5 -1.7**
RAYN pmax pmax
comp=Z,15nm,1.0s
RAYN Ar Rayn 63.37 300 P **P** **09 13 35.5 -1.7**
RAYN IAmb IAmb 09 13 47.2
comp=Z,15nm,1.0s
YSS Yuzh-Sakhalins 64.27 29 *e*P **P** **09 13 42.0 -0.6**
GRNR Gornyy 64.35 23 *e*P **P** **09 13 42.9 -0.2**
GRNR *eS* **S** **09 22 20.4 +1.1**
GRNR pmax pmax
comp=Z,20nm,1.2s
GRNR smax smax
comp=N,10.0nm,1.3s
BOD Bodaibo 65.08 7 *e*P **P** **09 13 47.1 -0.6**
BOD pmax pmax
comp=Z,18nm,1.7s
KMBO Kilima Mbogo 65.40 272 P **P** **09 13 50.7 -0.3**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 65.40 272 P **P** **09 13 52.0 +1.1**
comp=Z,24nm,0.6s,baz=68,slow=5.7,SNR=5.3
KMBO Kilima Mbogo 65.40 272 P **P** **09 13 50.6 -0.3**
BRVK Borovoye 65.64 339*ce*P **P** **09 13 51.5 +0.1**
BRVK pmax pmax
comp=Z,12nm,1.3s
BRVK Borovoye 65.64 339 P **P** **09 13 51.3 -0.1**
BRVK IAmb IAmb 09 14 00.7
comp=Z,13nm,0.9s
MAW Mawson 66.33 196 P **P** **09 13 56.1 +0.5**
comp=Z,2.9nm,0.8s,baz=58,slow=8.3,SNR=4.8
MAW LR LR 09 36 32.0
comp=Z,125nm,21.5s,baz=58,slow=30
AB31 Akbulak array 67.09 331 *i*P **P** **09 14 00.3 -0.4**
AB31 pmax pmax
comp=Z,25nm,0.7s
AKTO Aktyubinsk 68.81 331 P **P** **09 14 10.8 -0.7**
AKTO pmax pmax
comp=Z,20nm,1.3s
AKTO Aktyubinsk 68.81 331 P **P** **09 14 11.4 -0.2**
comp=Z,4.2nm,0.7s,baz=133,slow=10,SNR=12
YAK Yakutsk 71.77 13 *e*P **P** **09 14 27.9 -1.5**
YAK *e**PP **pP** **09 14 36.1 -1.9**
YAK *e* 09 14 44.6
YAK *eS* **S** **09 23 48.5 +1.2**
YAK *e* 09 24 33.6
YAK *eSS* **SS** **09 28 24.0 +0.1**
YAK pmax pmax
comp=Z,56nm,0.9s
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=Z,263nm,4.4s
YAK pmax pmax
comp=E,120nm,4.5s
YAK pmax pmax
comp=N,229nm,4.1s
YAK smax smax
comp=E,280nm,3.8s
YAK smax smax
comp=N,107nm,3.3s
YAK MLR MLR
comp=Z,162nm,22.0s
YAK MLR MLR
comp=E,106nm,17.0s
YAK MLR MLR
comp=N,192nm,21.0s
YAK Yakutsk 71.77 13 P **P** **09 14 29.2 -0.1**
comp=N,30nm,0.7s,baz=191,slow=0.2,SNR=17
YAK Yakutsk 71.77 13 P **P** **09 14 29.3 -0.1**
SVE Sverdlovsk 72.10 337 *e*P **P** **09 14 32.8 +1.3**
SVE pmax pmax
comp=Z,54nm,1.1s
ZEI Tsey 72.55 319 *e*P **P** **09 14 33.3 -1.5**
ZEI pmax pmax
comp=Z,14nm,1.0s
ARU Arti 72.64 336*d i*P **P** **09 14 35.4 +0.7**
ARU *e**PP **pP** **09 14 43.2 +0.1**
ARU 09 17 17.4
ARU S **S** **09 24 01.5 +4.0**
ARU pmax pmax
comp=Z,30nm,1.2s
ARU Arti 72.64 336 P **P** **09 14 35.0 +0.3**
BKZ Black Stump Fm 73.23 129 P **P** **09 14 39.2 +0.4**
BKZ IAmb IAmb 09 14 49.5
comp=Z,17nm,0.9s
LSZ Lusaka 73.25 256 P **P** **09 14 40.0 +0.7**
LSZ pmax pmax
comp=Z,6.0nm,0.9s
LSZ Lusaka 73.25 256 P **P** **09 14 39.5 +0.1**
comp=Z,2.6nm,0.6s,baz=86,slow=5.2,SNR=6.4
LSZ Lusaka 73.25 256 P **P** **09 14 40.0 +0.7**
NEY Neytrino 73.53 319 *i*P **P** **09 14 41.6 +1.1**
NEY pmax pmax
comp=Z,1.0nm,1.0s
KBZ Khabaz 73.63 319 *i*P **P** **09 14 41.3 +0.5**
KBZ Khabaz 73.63 319 P **P** **09 14 40.6 -0.2**
comp=Z,6.5nm,0.9s,baz=121,slow=5.7,SNR=7.2
SHA1 Shidzhatmaz 73.79 319 *i*P **P** **09 14 42.8 +0.7**
KIV Kislovodsk 73.87 319 *e*P **P** **09 14 43.3 +0.9**
KIV pmax pmax
comp=Z,43nm,1.1s
SYO Syowa Base 74.20 199⇓*e*P **P** **09 14 42.8 -0.9**
PETK Petropavlovsk- 75.61 31 P **P** **09 14 51.7 -0.5**
comp=Z,6.0nm,0.8s,baz=206,slow=6.7,SNR=6.1
BOSA Boshof 75.68 242 P **P** **09 14 53.8 +0.5**
comp=Z,5.2nm,1.0s,baz=110,slow=8.5,SNR=4.7
PET Petropavlovsk 76.05 31 *e*P **P** **09 14 54.8 +0.2**
PET pmax pmax
comp=Z,42nm,0.8s
MA2 Magadan 76.37 23 P **P** **09 14 56.8 +0.5**
MA2 pmax pmax
comp=Z,48nm,0.9s
MA2 Magadan 76.37 23 P **P** **09 14 56.8 +0.5**
VNDA Vanda 76.96 169 P **P** **09 14 58.4 -1.1**
comp=Z,2.5nm,0.9s,baz=283,slow=7.3,SNR=6.2
VRH Novokhopyorsk 77.75 326 *e*P P 09 15 10.4 +6.2
VRH pmax pmax
comp=Z,30nm,0.8s
BR131 Keskin Array S 78.48 313 *i*P **P** **09 15 08.5 -0.3**
BRTR Keskin Array B 78.48 313 P **P** **09 15 08.5 -0.3**
comp=Z,1.9nm,0.7s,baz=126,slow=6.3,SNR=9.5
VORD Divnogorie 79.01 325 *e*P P 09 15 17.8 +6.6
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 79.19 325 *i*P **P** **09 15 12.6 +0.4**
VSR pmax pmax
comp=Z,6.0nm,0.8s
LPSR Galich'ya Gora 79.92 326 *e*P P 09 15 24.1 +8.0
LPSR pmax pmax
comp=Z,20nm,0.9s
TIXI Tiksi 80.20 8*ce*P **P** **09 15 16.1 -1.2**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 80.20 8 P **P** **09 15 16.6 -0.7**
comp=Z,2.9nm,0.4s,baz=360,slow=24,SNR=4.9
TIXI LR LR 09 54 21.6
comp=Z,189nm,18.8s,baz=234,slow=38
TIXI Tiksi 80.20 8 IAmb IAmb 09 15 17.2
comp=Z,6.1nm,0.8s
ELL Elmali 80.39 309 P **P** **09 15 19.6 +0.3**
ELL pmax pmax
comp=Z,42nm,1.0s
ELL Elmali 80.39 309 P **P** **09 15 19.6 +0.3**
PRGR Permogore 81.10 336 *e*P **P** **09 15 21.3 -1.0**
PRGR *e**PP **pP** **09 15 29.9 -0.9**
PRGR pmax pmax
comp=Z,46nm,0.9s
MOS Moscow 81.94 329 *e*P **P** **09 15 26.5 -0.4**
OBN Obninsk 82.23 328⇓*e*P **P** **09 15 29.5 +1.1**
OBN *e* 09 15 37.2
OBN *e* 09 18 35.2
OBN *eS* **S** **09 25 42.6 +1.0**
OBN *eSS* **SS** **09 31 06.2 +4.0**
OBN pmax pmax
comp=Z,14nm,1.1s
OBN MLR MLR
comp=Z,209nm,12.0s
QSPA South Pole Qui 83.17 180 P **P** **09 15 33.4 +0.1**
comp=Z,2.5nm,0.8s,baz=317,slow=1.3,SNR=12
QSPA South Pole Qui 83.17 180 P **P** **09 15 33.7 +0.3**
SORM Soroca 84.67 320⇑P **P** **09 15 44.0 +2.9**
SORM Soroca 84.67 320⇑P **P** **09 15 44.0 +2.9**
VRI Vrincioaia 85.13 317⇑P **P** **09 15 45.5 +1.9**
VRI Vrincioaia 85.13 317⇑P **P** **09 15 45.5 +1.9**
PLOR Plostina 85.18 317⇑P **P** **09 15 47.9 +4.1**
PLOR Plostina 85.18 317⇑P **P** **09 15 47.9 +4.1**
TESR Tescani 85.35 318⇓P **P** **09 15 45.6 +1.0**
TMCR Tamitsa 85.37 337 *e*P **P** **09 15 44.2 0.0**
TMCR pmax pmax
comp=Z,22nm,0.8s
MLR Muntele Rosu 85.57 317⇑P **P** **09 15 48.7 +2.8**
MLR Muntele Rosu 85.57 317⇑P **P** **09 15 48.7 +2.8**
MLR Muntele Rosu 85.57 317 P **P** **09 15 44.7 -1.2**
VOIR 86.17 316⇑P **P** **09 15 51.3 +2.5**
VOIR 86.17 316⇑P **P** **09 15 51.3 +2.5**
BURAR Bucovina Array 86.57 319⇑P **P** **09 15 52.8 +2.1**
BURAR Bucovina Array 86.57 319⇑P **P** **09 15 52.8 +2.1**
BUR08 Bucovina Ar. S 86.59 319 P **P** **09 15 51.8 +1.0**
BUR08 IAmb IAmb 09 16 01.8
comp=Z,9.7nm,0.9s
BILL Bilibino 86.76 20*ce*P **P** **09 15 50.5 -0.6**
BILL *e* 09 19 18.5
BILL *eS* **S** **09 26 19.0 -7.4**
BILL pmax pmax
comp=Z,6.0nm,1.7s
BILL Bilibino 86.76 20 P **P** **09 15 52.4 +1.3**
BILL IAmb IAmb 09 15 54.3
comp=Z,4.8nm,0.9s

VTS	Vitosha	86.81	313	⇑P	P	09 15 54.5	+2.4
VTS	Vitosha	86.81	313	⇑P	P	09 15 54.5	+2.4
GZR	Gura Zlata	87.72	316	⇓P	P	09 15 58.1	+1.8
GZR	Gura Zlata	87.72	316	⇓P	P	09 15 58.1	+1.8
DRGR		88.05	317	⇑P	P	09 15 59.7	+1.8
DRGR		88.05	317	⇑P	P	09 15 59.7	+1.8
SNAA	Sanae	88.39	198	P	P	09 16 00.7	+1.6
SNAA	Sanae	88.39	198	P	P	09 16 00.6	+1.6
SNAA				pmax	pmax		
	comp=Z,12nm,1.1s						
SNAA	Sanae	88.39	198	P	P	09 15 59.3	+0.3
	comp=Z,5.7nm,1.0s,baz=90,slow=5.4,SNR=12						
SNAA	Sanae	88.39	198	P	P	09 16 00.6	+1.6
SNAA				IAmb	IAmb	09 16 01.8	
	comp=Z,12nm,1.1s						
BZS	Buzias	88.56	316	⇓P	P	09 16 01.9	+1.7
BZS	Buzias	88.56	316	⇓P	P	09 16 01.9	+1.7
SIRR	Siria	88.66	317	⇑P	P	09 16 02.1	+1.4
KOLS	Kolonicke sedl	88.78	319	*e*P	P	09 16 03.3	+2.1
KOLS				pmax	pmax		
	comp=Z,26nm,1.1s						
KOLS	Kolonicke sedl	88.78	319	*e*P	P	09 16 03.3	+2.1
VNA2	Neumayer--Watz	90.02	198	P	P	09 16 08.6	+2.0
	baz=99,slow=4.6						
VNA3	Neumayer Olymp	90.58	197	P	P	09 16 10.3	+1.0
VYHS	Vyhne	90.94	319	*e*P	P	09 16 14.9	+3.6
VYHS	Vyhne	90.94	319	*e*P	P	09 16 14.9	+3.6
MODS	Modra-Piesok	91.95	318	*e*P	P	09 16 17.0	+1.0
MODS	Modra-Piesok	91.95	318	*e*P	P	09 16 17.0	+1.0
GERES	GERESS Array B	94.36	319	P	P	09 16 25.9	-1.3
	comp=Z,0.2nm,0.3s,baz=104,slow=4.3,SNR=3.6						
ILAR	Eielson Array	104.81	25	PKKPbc	PKKPbc	09 32 57.1	-2.5
	comp=Z,0.5nm,0.7s,baz=152,slow=3.5,SNR=5.6						
YKA	Yellowknife Ar	118.14	19	PKP	PKPdf	09 21 53.5	-0.5
	comp=Z,0.2nm,0.8s,baz=340,slow=2.2,SNR=4.3						
YKA				PKKPbc	PKKPbc	09 32 13.1	-2.3
	comp=Z,0.4nm,0.8s,baz=126,slow=4.2,SNR=6.7						
NVAR	Mina Array Bea	131.48	43	PKP	PKiKP	09 22 21.1	-0.5
	comp=Z,0.3nm,0.8s,baz=270,slow=0.9,SNR=3.6						
ANMO	Albuquerque	141.28	40	PKP	PKPdf	09 22 39.8	+1.0
	comp=Z,0.4nm,0.6s,baz=256,slow=8.3,SNR=2.7						
MNTX	Cornudas Mount	144.01	43		PKPdf	09 22 43.6	+0.1
GO03	Copiap	145.10	191		PKPab	09 22 45.2	+0.2
SFIN	Lafayette	145.47	13		PKPab	09 22 46.2	+0.3
N49A	Columbus Grove	145.50	9		PKPbc	09 22 45.4	-0.4
TX31	Lajitas Ar. Si	146.61	45	PKPbc	PKPab	09 22 51.1	+0.4
TX32	Lajitas Array	146.61	45		PKPab	09 22 50.9	+0.1
TX32				PKPbc	PKiKP	09 22 51.4	-1.2
TXAR	Lajitas Array	146.61	45	PKPbc	PKPab	09 22 51.1	+0.4
	comp=Z,4.7nm,0.9s,baz=302,slow=1.7,SNR=38						
OLIL	Olney	146.78	15	PKPbc	PKPab	09 22 51.2	+0.3
MGMO	Mountain Grove	146.90	22		PKPbc	09 22 50.0	-0.1
HHAR	Hobbs	146.99	25		PKPbc	09 22 50.5	0.0
ABTX	Abilene, Hawle	147.02	36		PKPab	09 22 52.1	-0.1
GO02	Mina Guanaco	147.32	193		PKPab	09 22 53.5	-0.3
U40A	Yellville	147.37	24		PKPbc	09 22 51.5	0.0
WCI	Wyandotte Cave	147.71	13	PKP2	PKPbc	09 22 53.0	+0.6
WCI	Wyandotte Cave	147.71	13		PKPbc	09 22 53.0	+0.6
PBMO	Poplar Bluff	147.89	20		PKPbc	09 22 52.9	+0.1
MIAR	Mount Ida	148.62	26	PKP2	PKiKP	09 22 55.7	-0.7
MIAR	Mount Ida	148.62	26		PKiKP	09 22 55.7	-0.7
S51A	Beattyville	148.81	10		PKPbc	09 22 55.2	-0.1
WVT	Waverly	149.30	17	PKP2	PKPbc	09 22 56.6	+0.1
WVT	Waverly	149.30	17		PKPbc	09 22 56.6	+0.1
LVC	Limon Verde	149.60	196	PKPbc	PKPbc	09 22 57.8	-0.4
	comp=Z,11nm,0.9s,baz=146,slow=15,SNR=3.1						
CLTN	Cedars of Leba	149.73	14		PKiKP	09 22 58.0	-0.6
CPCT	Cooper Cave	150.76	12		PKiKP	09 23 00.6	-0.2
SIV	San Ignacio	152.17	215	PKPbc	PKiKP	09 23 04.2	0.0
	comp=Z,1.1nm,0.7s,baz=143,slow=6.6,SNR=7.3						
LPAZ	La Paz	155.28	202	PKPbc	PKPdf	09 23 11.2	+8.8
	comp=Z,1.5nm,0.8s,baz=132,slow=3.9,SNR=4.2						
LPAZ				PKPab	PKPab	09 23 26.9	-0.4
	comp=Z,3.5nm,0.8s,baz=166,slow=4.5,SNR=9.7						

IDC 16 09:34:48.0±1.0, 16°44N×46°64W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.7/40, mbtmp3.9/7, ML4.1/1, MS3.5/10, Ms1 3.5/10, ms1mx3.4/30, Error ellipse: s-maj=33.5km s-min=22.5km az=110.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MDP	Montagnes des	12.71	208	LR		LR	09 41 48.8	
	comp=Z,132nm,19.7s,baz=40,slow=33							
PCRV	Puerto La Cruz	18.58	253	P		Pn	09 39 07.9	+0.9
	0.6nm,0.3s,baz=27,slow=2.3,SNR=2.8							
SJG	San Juan	18.70	278	LR		LR	09 45 18.3	
	comp=Z,151nm,21.7s,baz=94,slow=34							
ROSC	El Rosal	29.50	250	LR		LR	09 54 52.4	
	comp=Z,106nm,18.2s,baz=41,slow=41							
BDFB	Brasilia	31.91	183	LR		LR	09 54 36.3	
	comp=Z,47nm,18.0s,baz=193,slow=37							
LPAZ	La Paz	38.82	214	P		P	09 42 15.3	-0.3
	1.6nm,0.8s,baz=40,slow=8.0,SNR=5.7							
LPAZ				LR		LR	09 58 60.0	
	comp=Z,46nm,18.2s,baz=30,slow=37							
H10N3	ASCENSION HYDR	39.92	125	T		T	10 24 46.8	
	baz=307,slow=75,SNR=110							
H10N2	ASCENSION HYDR	39.92	125	T		T	10 24 47.3	
	baz=307,slow=75,SNR=102							
H10N1	ASCENSION HYDR	39.94	125	T		T	10 24 47.9	
	baz=307,slow=75,SNR=96							
DBIC	Dimbokro	41.99	98	LR		LR	09 56 41.0	
	comp=Z,90nm,21.7s,baz=336,slow=31							
ESDC	Sonseca Array	43.67	49	LR		LR	09 56 28.5	
	comp=Z,85nm,21.5s,baz=300,slow=30							
CPUP	Villa Florida	43.77	194	P		P	09 42 54.9	-0.5
	4.7nm,1.0s,baz=9.0,slow=8.9,SNR=8.3							
TORD	Torodi Ar. Bea	46.77	87	LR		LR	09 59 49.1	
	comp=Z,154nm,21.0s,baz=335,slow=32							
TXAR	Lajitas Array	53.62	295	P		P	09 44 12.4	+0.9
	0.4nm,0.8s,baz=111,slow=6.9,SNR=4.3							
PDAR	Pinedale Array	59.20	310	LR		LR	10 11 01.1	
	comp=Z,9.2nm,19.4s,baz=24,slow=37							
PLCA	Paso Flores	61.06	201	P		P	09 45 03.5	-0.2
	1.5nm,0.9s,baz=17,slow=7.5,SNR=4.1							
PLCA				LR		LR	10 11 49.1	
	comp=Z,72nm,19.5s,baz=168,slow=36							
YKA	Yellowknife Ar	65.40	332	P		P	09 45 30.9	-1.3
	0.2nm,0.7s,baz=105,slow=7.0,SNR=3.9							
BRTR	Keskin Array B	72.30	53	P		P	09 46 16.7	+0.8
	0.3nm,0.3s,baz=250,slow=2.9,SNR=2.8							

*KRAR **16** 09:42:23.2±0.2, 53°49N×87°71E, M2.2, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

NNC 16 09:42:26.1±2.0, 53°42N×87°84E, h0km, mb3.6, mpv3.3, 10C-4D, Error ellipse: s-maj=15.9km s-min=7.8km az=66.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	1.88	288		⇓Pn	Pn	09 42 58.6	-0.8
	0.9nm,0.5s							
ZAA0					⇓Sn	Sb	09 43 25.0	-0.1
	3.9nm,0.4s							
KURK	Kurchatov	6.30	248		⇑Pn	Pn	09 44 01.1	+0.9
	2.2nm,0.7s							
KURK					⇑Sn	Sn	09 45 12.9	+0.2
	1.5nm,0.7s							
KURK					⇑Lg	Lg	09 45 44.6	
	4.5nm,0.8s							
KURBB	Kurchatov Arra	6.39	248		⇑Pn	Pn	09 44 02.5	+1.0
	4.7nm,0.7s							
KURBB					⇑Sn	Sn	09 45 14.8	-0.2
	6.9nm,0.7s							
KURBB					⇑Lg	Lg	09 45 51.1	
	9.8nm,0.6s							
MK31	Makanchi Array	7.53	210		⇑Pn	Pn	09 44 18.8	+1.7
	2.7nm,0.9s,baz=29,slow=13,SNR=4.9							
MK31					⇑Sn	Sn	09 45 43.2	+0.1
	0.3nm,0.4s,baz=29,slow=29,SNR=4.7							
MK31					⇓Lg	Lg	09 46 25.3	
	2.5nm,0.7s,baz=37,slow=32,SNR=3.0							
MAKZ	Makanchi	7.61	212		⇑Pn	Pn	09 44 18.2	0.0
	6.3nm,1.3s							
MAKZ					⇓Sn	Sn	09 45 47.9	+2.8
	3.5nm,1.1s							
MAKZ					⇑Lg	Lg	09 46 27.4	
	6.3nm,1.4s							

*ISCJB **16** 09:47:21.3±0.3, 24°.88N±0°.02×121°.74E±0°.02, h109km±2km, Error ellipse: s-maj=3.3km s-min=2.7km az=144.3*

*TAP **16** 09:47:22.0, 24°.89N×121°.69E, h107km, ML3.9, B*

*JMA **16** 09:47:22.0±0.1, 24°.81N×121°.75E, h10±2km, M3.2*

ISC 16 09:47:21.3±1.3, 24°90N±0°03×121°73E±0°03, h111km±5km, n122, s0°69/201, 5C-23D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NTC	Toucheng	0.10	117	*e*P		Pn	09 47 37.0	+0.4
	baz=102							
NTC				*e*S		Sn	09 47 48.5	+0.5
	baz=102							
TIPB	Shuangxi	0.11	49	⇑*i*P		Pn	09 47 37.2	+0.5
	baz=53							
TIPB				*i* S		Sn	09 47 47.8	-0.3
	baz=53							
ILA	Ilan	0.13	174	*e*P		Pn	09 47 37.4	+0.8
	baz=154							
ILA				*e*S		Sn	09 47 49.1	+1.0
	baz=154							
TWA	Mucha	0.16	301	⇓*i*P		Pn	09 47 37.0	+0.3
	baz=301							
TWA				S		Sn	09 47 47.9	-0.3
	baz=301							
NWF	Wu-fen Shan	0.18	14	⇑*i*P		Pn	09 47 37.4	+0.5
	baz=23							
NWF				S		Sn	09 47 48.5	0.0
	baz=23							
WFSB	Wu-fen Shan	0.18	14	⇑P		Pn	09 47 37.4	+0.6
	baz=23							
WFSB				S		Sn	09 47 48.5	+0.2
	baz=23							
TWE	Neicheng	0.19	199	*e*P		Pn	09 47 37.0	+0.2
	baz=190							
TWE				S		Sn	09 47 48.4	0.0
	baz=190							
EGS		0.19	107	*e*P		Pn	09 47 37.0	+0.3
	baz=91							
NHDH	Xindian Distri	0.20	289	⇓*e*P		Pn	09 47 37.0	+0.3
	baz=288							
NHDH				*e*S		Sn	09 47 47.8	-0.6
	baz=288							
TATO	Taipei	0.23	289	P		Pn	09 47 37.0	+0.1
	baz=291							
TATO				*e*S		Sn	09 47 47.3	-1.3
	baz=291							
NWLT	Wulai	0.24	240	⇑P		Pn	09 47 37.0	0.0
	baz=233							
NWLT				*e*S		Sn	09 47 47.8	-0.9
	baz=233							
TAP	Taipei	0.25	304	⇓P		Pn	09 47 37.2	+0.3
	baz=314							
TAP				S		Sn	09 47 48.3	-0.4
	baz=314							
TWB1	Santiao Chiao	0.26	65	⇑P		Pn	09 47 37.4	+0.4
	baz=62							
TWB1				S		Sn	09 47 48.2	-0.4
	baz=62							
YM01	YM01	0.29	329	*e*P		Pn	09 47 37.4	+0.3
	baz=332							
YM01				*e*S		Sn	09 47 48.6	-0.5
	baz=332							
ENTT	Nioudou	0.30	211	*e*P		Pn	09 47 37.4	+0.2
	baz=209							
ENTT				*e*S		Sn	09 47 48.9	-0.2
	baz=209							
YM10	YM10	0.30	329	*e*P		Pn	09 47 37.4	+0.2
	baz=332							
YM10				S		Sn	09 47 48.6	-0.6
	baz=332							
YM11	YM11	0.30	332	*e*P		Pn	09 47 37.6	+0.3
	baz=334							
YM11				*e*S		Sn	09 47 48.1	-1.2
	baz=334							
YM05	YM05	0.30	330	*e*P		Pn	09 47 37.5	+0.2
	baz=333							
YM05				*e*S		Sn	09 47 47.8	-1.4
	baz=333							
TWC	Suao	0.31	160	⇓P		Pn	09 47 38.0	+0.8
	baz=151							
TWC				*e*S		Sn	09 47 50.0	+0.9
	baz=151							
YM04	YM04	0.31	325	*e*P		Pn	09 47 37.4	+0.1
	baz=328							
YM04				*e*S		Sn	09 47 48.5	-0.7
	baz=328							
YM08	YM08	0.32	336	*e*P		Pn	09 47 37.4	+0.2
	baz=338							
YM08				*e*S		Sn	09 47 48.3	-0.9
	baz=338							
ANP	Anpu	0.34	326	*e*P		Pn	09 47 37.6	+0.1
	baz=333							
TWS1	Kuangyinshan	0.35	305	⇓P		Pn	09 47 37.9	+0.6
	baz=303							
TWS1				*e*S		Sn	09 47 49.5	+0.1
	baz=303							
NDT	Datong Townshi	0.36	214	⇓P		Pn	09 47 37.6	+0.2
	baz=220							
NDT				*e*S		Sn	09 47 48.6	-0.9
	baz=220							
NTST	Danshui	0.37	316	*e*P		Pn	09 47 37.8	+0.4
	baz=318							
NTST				*e*S		Sn	09 47 49.8	+0.3
	baz=318							
YHNB	Yeheng	0.40	235	⇓P		Pn	09 47 37.6	-0.1
	baz=227							
YHNB				S		Sn	09 47 48.6	-1.4
	baz=227							
NSK	Sanguang	0.41	237	⇓*i*P		Pn	09 47 37.7	0.0
	baz=228							
NSK				S		Sn	09 47 48.8	-1.3
	baz=228							
WLTB	Daxi	0.44	264	⇓P		Pn	09 47 38.4	+0.6
	baz=270							
WLTB				S		Sn	09 47 50.2	0.0
	baz=270							
ENA	Nanau	0.47	179	*e*P		Pn	09 47 38.5	+0.5
	baz=183							
NANB	Nanao	0.47	178	*e*P		Pn	09 47 38.3	+0.2
	baz=182							
NANB				*e*S		Sn	09 47 51.1	+0.5
	baz=182							
EOS1	EOS1	0.50	134	*e*P		Pn	09 47 38.8	+0.6
	baz=123							
EOS1				*e*S		Sn	09 47 51.6	+0.8
	baz=123							
NCU	National Centr	0.50	278	⇓P		Pn	09 47 38.7	+0.5
	baz=281							
NCU				*e*S		Sn	09 47 50.6	-0.3
	baz=281							
NCUH	Zhongli	0.50	278	⇓*e*P		Pn	09 47 38.6	+0.4
	baz=281							
NCUH				*e*S		Sn	09 47 50.7	-0.3
	baz=281							
NNS	Nan Shan	0.56	216	⇓P		Pn	09 47 39.1	+0.3
	baz=213							
NNS				*e*S		Sn	09 47 51.4	-0.6
	baz=213							
NNSH	Datong	0.57	214	⇓*e*P		Pn	09 47 39.1	+0.3
	baz=213							
NNSH				*e*S		Sn	09 47 51.1	-0.9
	baz=213							
SBCB	Hsinchu	0.69	261	P		Pn	09 47 40.1	+0.5
	baz=267							
SBCB				*e*S		Sn	09 47 53.7	+0.4
	baz=267							
LIOB	Emei	0.70	249	⇓*i*P		Pn	09 47 40.2	+0.5
	baz=245							
LIOB				S		Sn	09 47 53.3	-0.3
	baz=245							
HSN	Hsinchu	0.70	262	P		Pn	09 47 39.9	+0.2
	baz=259							
HSN				S		Sn	09 47 52.9	-0.7
	baz=259							
NSTT	Nanjuang	0.72	248	⇓*i*P		Pn	09 47 40.3	+0.4
	baz=244							
NSTT				S		Sn	09 47 53.2	-0.6
	baz=244							
ETLH	Xiulin Townshi	0.73	198	*e*P		Pn	09 47 39.9	-0.2
	baz=190							
ETLH				*e*S		Sn	09 47 53.6	-0.6
	baz=190							
NACB	Ninganchiao	0.73	190	*e*P		Pn	09 47 39.3	-0.7
	baz=191							
NACB				*e*S		Sn	09 47 53.2	-0.9
	baz=191							
TWD	Chiawan	0.82	189	*e*P		Pn	09 47 40.3	-0.6
	baz=192							
TWD				*e*S		Sn	09 47 53.6	-2.0
	baz=192							
TDCB	Techi	0.83	219	*e*P		Pn	09 47 41.6	+0.5
	baz=224							
TDCB				*e*S		Sn	09 47 55.3	-0.6
	baz=224							
WHF	Hehuan Shan	0.86	210	⇓P		Pn	09 47 42.1	+0.4
	baz=201							
WHF				*e*S		Sn	09 47 56.3	-0.7
	baz=201							
NMLH	Miaoli	0.93	247	*e*P		Pn	09 47 42.5	+0.7
	baz=248							
NMLH				*e*S		Sn	09 47 57.9	+0.6
	baz=248							
WHP	Taichung City	0.95	229	⇓P		Pn	09 47 42.8	+0.7
	baz=223							
WHP				S		Sn	09 47 57.8	0.0
	baz=223							
CHGB	Renai	0.98	211	⇓P		Pn	09 47 43.5	+0.9
	baz=216							
CHGB				S		Sn	09 47 58.5	-0.1
	baz=216							
ENLB	Shoufeng	1.00	187	*e*P		Pn	09 47 41.1	-1.4
	baz=191							
NSY	Sanyi	1.01	242	⇓P		Pn	09 47 43.4	+0.7
	baz=241							
NSY				*e*S		Sn	09 47 58.9	+0.2
	baz=241							
TWQ1	Liyutan	1.03	238	P		Pn	09 47 43.2	+0.3
	baz=238							
TWQ1				S		Sn	09 47 59.0	-0.2
	baz=238							
ESL	Shilin	1.11	194	*e*P		Pn	09 47 42.5	-1.3
	baz=189							
ESL				*e*S		Sn	09 47 59.3	-1.5
	baz=189							
DPDB	Guoxing	1.13	221	*e*P		Pn	09 47 43.9	-0.1
	baz=226							
DPDB				*e*S		Sn	09 48 00.9	-0.3
	baz=226							
WDJ	Dajia District	1.14	241	*e*P		Pn	09 47 44.6	+0.7
	baz=241							
WDJ				*e*S		Sn	09 48 01.8	+0.7
	baz=241							
JYNG	Yonagunijimaku	1.19	112	P		Pn	09 47 44.5	-0.1
JYNG						eS	Sn	09 48 00.9	-1.2
TCU	Taichung	1.22	232	*e*P		Pn	09 47 45.6	+0.7
	baz=232							
YOJ	Yonaguni jima	1.24	110	P		Pn	09 47 45.0	-0.2
YOJ						eS	Sn	09 48 02.1	-1.1
YOJ	Yonaguni jima	1.24	110	*e*P		Pn	09 47 44.9	-0.2
	baz=109							
EGFH	Guangfu	1.26	193	*e*P		Pn	09 47 46.0	+0.6
	baz=191							
EGFH				*e*S		Sn	09 48 03.0	-0.5
	baz=191							
VWDT	VWDT	1.26	205	*e*P		Pn	09 47 46.4	+1.0
	baz=211							
TYC	Yuchr	1.27	219	P		Pn	09 47 46.1	+0.6
	baz=226							
TYC				*e*S		Sn	09 48 03.9	0.0
	baz=226							
SSLB	Suanglung	1.31	213	⇓P		Pn	09 47 46.6	+0.5
	baz=212							
SSLB				*e*S		Sn	09 48 04.6	-0.2
	baz=212							
WCHH	Zhanghua	1.35	233	*e*P		Pn	09 47 46.8	+0.5
	baz=233							
WNT	Mingjian	1.40	223	*e*P		Pn	09 47 47.4	+0.5
	baz=222							
WNT				*e*S		Sn	09 48 06.4	0.0
	baz=222							
WJS	Zhushan	1.41	221	*e*P		Pn	09 47 46.8	-0.3
	baz=228							
WJS				*e*S		Sn	09 48 06.9	+0.2
	baz=228							
HGSD	Ruisui	1.43	191	*e*P		Pn	09 47 48.3	+1.0
	baz=194							
HGSD				*e*S		Sn	09 48 07.4	+0.4
	baz=194							
EHY	Hungye	1.44	195	*e*P		Pn	09 47 48.0	+0.6
	baz=193							
EHY				*e*S		Sn	09 48 05.5	-1.7
	baz=193							
WHYT	Xinyi Township	1.44	214	*e*P		Pn	09 47 48.2	+0.6
	baz=213							
WHYT				*e*S		Sn	09 48 07.7	+0.3
	baz=213							
YULB	Yu-li	1.55	195	*e*P		Pn	09 47 48.3	-0.6
	baz=188							
YUS	Yu-Shan	1.57	207	*e*P		Pn	09 47 50.2	+0.6
	baz=214							
TWF1	Yuli	1.59	195	*e*P		Pn	09 47 49.0	-0.2
	baz=187							
TWF1				*e*S		Sn	09 48 10.8	+0.2
	baz=187							
RLNB	Erlin	1.60	232	*e*P		Pn	09 47 49.8	+0.4
	baz=231							
WGK	Gukeng	1.61	222	*e*P		Pn	09 47 49.5	0.0
	baz=221							
WGK				*e*S		Sn	09 48 11.6	+0.6
	baz=221							
CHN5	Tsauling	1.61	217	*e*P		Pn	09 47 50.2	+0.5
	baz=224							
CHN5				*e*S		Sn	09 48 11.8	+0.7
	baz=224							
WDLH	Douliu	1.62	222	*e*P		Pn	09 47 49.8	+0.2
	baz=230							
FULB	Fuli	1.74	193	*e*P		Pn	09 47 51.8	+0.7
	baz=192							
FULB				*e*S		Sn	09 48 14.1	+0.3
	baz=192							
CHKT	Chengkung	1.82	191	*e*P		Pn	09 47 52.6	+0.5
	baz=182							
ELDTW	Lidau	1.82	201	*e*P		Pn	09 47 53.1	+0.8
	baz=194							
CHY	Chiayi	1.84	221	*e*P		Pn	09 47 52.5	+0.2
	baz=228							
CHN4	Tsaushan	1.86	214	⇓P		Pn	09 47 53.2	+0.6
	baz=213							
CHN4				*e*S		Sn	09 48 17.8	+1.4
	baz=213							
PTTC	Pingtan	1.88	289	*e*P		Pn	09 47 52.7	0.0
	baz=290							
PTTC				*e*S		Sn	09 48 15.3	-1.4
	baz=290							
TPUB	Ta-pu	1.88	213	*e*P		Pn	09 47 53.2	+0.3
	baz=212							
TPUB				*e*S		Sn	09 48 16.3	-0.7
	baz=212							
IRIF	Iriomote-Funau	1.90	107	P		Pn	09 47 53.3	+0.2
IRIF						S	Sn	09 48 16.3	-1.0
WTP	Ta-pu	1.94	212	P		Pn	09 47 54.0	+0.4
	baz=211							
WTP				*e*S		Sn	09 48 18.2	-0.1
	baz=211							
STYT	Tauyuan	1.94	208	*e*P		Pn	09 47 54.3	+0.6
	baz=207							
TWK	Hsinying	1.98	215	*e*P		Pn	09 47 54.2	+0.1
	baz=214							
TWK				*e*S		Sn	09 48 19.6	+0.4
	baz=214							
SNST	Tainan City	2.02	214	*e*P		Pn	09 47 54.7	+0.1
	baz=214							
CHN1	Nanshi	2.03	213	*e*P		Pn	09 47 55.0	+0.2
	baz=212							
CHN1				*e*S		Sn	09 48 20.1	-0.2
	baz=212							
MATB	Ma-tsu	2.04	308	*e*P		Pn	09 47 54.1	-0.7
	baz=309							
HATJ	Hateruma jima	2.07	114	P		Pn	09 47 55.7	+0.6
VWUC	V

	baz=187							
TWGBT				*e*S		**Sn**	**09 48 22.0**	**-1.1**
	baz=187							
JKRS	**Kuro-shima**	**2.17**	**107**	P		**Pn**	**09 47 56.7**	**+0.2**
JKRS				*e*S		**Sn**	**09 48 23.3**	**-0.2**
SCLT	**Jiali**	**2.22**	**220**	*e*P		**Pn**	**09 47 57.8**	**+0.6**
	baz=227							
JIJ	**Ishigaki jima**	**2.26**	**103**	P		**Pn**	**09 47 57.7**	**+0.1**
JIJ				*e*S		**Sn**	**09 48 24.2**	**-1.2**
JISG	**Ishigakijimahi**	**2.36**	**97**	P		**Pn**	**09 47 59.3**	**+0.3**
SSD	**Sandimen**	**2.37**	**205**	*e*P		**Pn**	**09 47 59.8**	**+0.7**
	baz=206							
PTMZ	**Houxiangcun**	**2.38**	**274**⇓	*e*P		**Pn**	**09 47 59.5**	**+0.4**
	baz=275							
TWM1	**Shoushan**	**2.39**	**210**	*e*P		**Pn**	**09 48 00.3**	**+0.9**
	baz=216							
PNG	**Penghu**	**2.39**	**237**	*e*P		**Pn**	**09 47 59.1**	**-0.2**
	baz=236							
ECL	**Taimali**	**2.40**	**197**	*e*P		**Pn**	**09 47 59.8**	**+0.3**
	baz=189							
ECL				*e*S		**Sn**	**09 48 27.8**	**-0.9**
	baz=189							
PHUB	**P'eng-hu**	**2.41**	**235**	*e*P		**Pn**	**09 47 59.2**	**-0.3**
	baz=235							
PHUB				*e*S		**Sn**	**09 48 26.7**	**-2.2**
	baz=235							
LYJJ	**Jianjiangzhen**	**2.42**	**313**	*e*P		**Pn**	**09 47 59.8**	**+0.1**
	baz=314							
XPSS	**Dashiqiu**	**2.45**	**326**	*e*P		**Pn**	**09 48 00.4**	**+0.3**
	baz=327							
MASBT	**Mashibuluo**	**2.49**	**204**	*e*P		**Pn**	**09 48 01.3**	**+0.7**
	baz=195							
WDGT	**Dungji**	**2.50**	**230**	*e*P		**Pn**	**09 48 01.1**	**+0.3**
	baz=223							
WSSB	**Gushan**	**2.62**	**211**	*e*P		**Pn**	**09 48 03.5**	**+1.1**
	baz=211							
EAST	**Anshuo**	**2.63**	**198**	*e*P		**Pn**	**09 48 03.4**	**+0.9**
	baz=199							
VCHM	**Qimei**	**2.69**	**232**	*e*P		**Pn**	**09 48 03.2**	**-0.1**
	baz=236							
VCHM				*e*S		**Sn**	**09 48 34.1**	**-1.5**
	baz=236							
JTJ	**Tarama**	**2.71**	**95**	P		**Pn**	**09 48 04.4**	**+0.9**
JTJ				*e*S		**Sn**	**09 48 35.7**	**-0.3**
SCZT	**Fangliau**	**2.71**	**202**	*e*P		**Pn**	**09 48 04.1**	**+0.5**
	baz=203							
MHZQ	**Yeshan**	**2.72**	**297**	*e*P		**Pn**	**09 48 03.9**	**+0.3**
	baz=298							
LAY	**Lan-yu**	**2.85**	**183**	*e*P		**Pn**	**09 48 05.1**	**-0.3**
	baz=179							
KNM	**Kinmen**	**3.04**	**262**	*e*P		**Pn**	**09 48 09.7**	**+1.9**
	baz=262							
KNMB	**Chin-men Tao**	**3.07**	**263**	*e*P		**Pn**	**09 48 08.4**	**+0.1**
	baz=263							
JMJ	**Miyako jima 2**	**3.24**	**91**	*e*P		**Pn**	**09 48 12.7**	**+2.3**
	baz=90							
AXDP	**Jialang**	**3.42**	**271**⇓	*e*P		**Pn**	**09 48 13.4**	**+0.6**
	baz=271							
ZPLA	**Ao Xicun**	**3.76**	**256**	*e*P		**Pn**	**09 48 17.7**	**+0.4**
	baz=256							
ZZJH	**Jiuhuzhen**	**3.76**	**264**	*e*P		**Pn**	**09 48 17.8**	**+0.4**
	baz=264							

TRN 16 10:00:27.0, 13°.96N × 59°.94W, h8 km, MD3.6, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCHC	**Barbados, Cave**	**0.88**	**160**	*e*P	Pn	10 00 46.8	+1.2
BCHC				*e*S	Sn	10 01 00.7	+2.2
BBGH	**Gun Hill**	**0.89**	**155**	*e*P	Pn	10 00 46.5	+0.7
BBGH				*e*S	Sn	10 01 01.8	+2.9
SLPA	**Patience**	**0.95**	**264**	*e*P	Pn	10 00 47.7	+1.0
SLPA				*e*S	Sn	10 01 02.7	+2.3
MCLT	**Moule a Chique**	**1.00**	**256**	*e*P	Pn	10 00 49.5	+2.2
MCLT				*e*S	Sn	10 01 03.8	+2.2
SLBI	**Saint Lucia, B**	**1.00**	**274**	*e*P	Pn	10 00 48.2	+0.9
SLBI				*e*S	Sn	10 01 03.8	+2.2
MPOM	**Morne Pois Mar**	**1.01**	**299**	*e*P	Pn	10 00 47.9	+0.5
SLB	**Belfond**	**1.07**	**263**	*e*P	Pn	10 00 50.5	+2.1
SLB				*e*S	Sn	10 01 07.0	+3.6
SLDE	**Delcer**	**1.09**	**262**	*e*P	Pn	10 00 50.1	+1.5
SLDE				*e*S	Sn	10 01 06.2	+2.3
LPMF	**Morne Lapointe**	**1.17**	**302**	*e*P	Pn	10 00 50.2	+0.6
ZAM	**Aeronautique**	**1.22**	**300**	*e*P	Pg	10 00 51.0	+0.7
TRMF	**Trois Ilets**	**1.22**	**298**	*e*P	Pg	10 00 51.2	+0.9
BIM	**Bigot**	**1.23**	**297**	*e*P	Pg	10 00 51.5	+0.9
SVCV	**St. Vincent, C**	**1.35**	**240**	*e*P	Pg	10 00 53.8	+0.9
SVCV				*e*S	Sg	10 01 13.4	+2.8
SVV	**Soufriere Volc**	**1.39**	**243**	*e*P	Pg	10 00 54.4	+0.7
SVV				*e*S	Sg	10 01 13.3	+1.5
FDF	**Fort de France**	**1.40**	**303**	*e*P	Pg	10 00 53.9	0.0
FDF				*e*S	Sg	10 01 12.7	+0.7
BAMF	**Morne Balai**	**1.45**	**306**	*e*P	Pg	10 00 54.7	0.0
SVB	**Belmont**	**1.45**	**242**	*e*P	Pg	10 00 55.1	+0.4
SVB				*e*S	Sg	10 01 15.6	+2.1
GBMF	**Grand Be**	**1.45**	**305**	*e*P	Pg	10 00 54.7	0.0
PML	**Morne Lenard**	**1.45**	**304**	*e*P	Pg	10 00 54.9	+0.1
SVN	**Savane Anatole**	**1.48**	**307**	*e*P	Pg	10 00 55.1	-0.2
PCM	**Pelee Case Pet**	**1.49**	**305**	*e*P	Pn	10 00 54.5	+0.4
PCM	**Pelee Case Pet**	**1.49**	**305**	*e*P	Pg	10 00 55.4	-0.3
FCV	**Fort Charlotte**	**1.50**	**238**	*e*P	Pg	10 00 55.5	-0.2
FCV				*e*S	Sg	10 01 16.8	+1.6
BBL	**Barber's Block**	**2.15**	**317**	*e*P	Pb	10 01 05.5	-0.6
BBL				*e*S	Sb	10 01 33.3	+0.4
GRSS	**Sisters**	**2.32**	**225**	*e*P	Pn	10 01 06.5	+1.1
GRHS	**Sauteurs**	**2.39**	**224**	*e*P	Pb	10 01 08.4	-1.9
GRGR	**Grenville**	**2.47**	**223**	*e*P	Pn	10 01 09.4	+1.9
GRGR				*e*S	Sb	10 01 40.4	-1.7
CBE	**Ff, Capester**	**2.64**	**323**	*e*P	Pn	10 01 11.2	+1.3

*SJA **16** 10:23:56.1±0.7, 22°.05S × 68°.45W, h132 km ± 4 km, ML2.7, MW2.9*
*ISCJB **16** 10:23:57.8±1.1, 22°.00S ± 0°.05 × 68°.6W ± 0°.1, h130 km ± 10 km, Error ellipse: s-maj=15.6km s-min=7.7km az=179.9*
*GUC **16** 10:23:57.8±0.8, 22°.00S × 68°.53W, h117 km ± 5 km, ML2.7*
ISC 16 10:23:58.1±2.0, 22°.01S ± 0°.05 × 68°.54W ± 0°.10, h123 km ± 13 km, n17, σ 0 59/29, 4C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.68**	**288**	*e*P	**Pn**	**10 24 17.9**	**0.0**
PB09				*e*S	**Sn**	**10 24 32.7**	**-0.1**
PB09				IAML		10 24 36.6	
	comp=E,134nm,0.6s						
PB09	**IPOC Station P**	**0.68**	**288**	*i* P	**Pn**	**10 24 17.7**	**-0.2**
PB09				*e*S	**Sn**	**10 24 34.7**	**+1.9**
LVC	**Limon Verde**	**0.69**	**210**⇑	*i*P	**Pn**	**10 24 17.6**	**-0.5**
LVC				*e*S	**Sn**	**10 24 32.2**	**-1.1**
LVC	**Limon Verde**	**0.69**	**210**	*i* P	**Pn**	**10 24 17.7**	**-0.5**
LVC				IAML		10 24 18.2	
	comp=Z,96nm,0.1s						
LVC				*e*S	**Sn**	**10 24 33.8**	**+0.5**
PB03	**IPOC Station P**	**1.12**	**268**	*e*P	**Pn**	**10 24 21.6**	**-0.2**
PB03				*e*S	**Sn**	**10 24 39.7**	**-0.1**
PB03				IAML		10 24 41.1	
	comp=N,178nm,0.2s						
PB06	**IPOC Station P**	**1.18**	**234**⇑	*i*P	**Pn**	**10 24 22.4**	**0.0**
PB06				*e*S	**Sn**	**10 24 41.1**	**+0.2**
PB06				IAML		10 24 43.7	
	comp=N,171nm,0.2s						
PB06	**IPOC Station P**	**1.18**	**234**	*i* P	**Pn**	**10 24 22.4**	**0.0**
PB06				IAML		10 24 22.5	
	comp=Z,94nm,0.3s						
PB07	**IPOC Station P**	**1.28**	**282**⇑	*i*P	**Pn**	**10 24 23.3**	**-0.2**
PB07				*e*S	**Sn**	**10 24 42.6**	**-0.1**
PB07				IAML		10 24 44.2	
	comp=N,234nm,0.1s						
PB15	**IPOC Station P**	**1.47**	**216**⇑	*i*P	**Pn**	**10 24 25.9**	**+0.2**
PB15				*e*S	**Sn**	**10 24 47.0**	**+0.4**
PB15	**IPOC Station P**	**1.47**	**216**	*i* P	**Pn**	**10 24 25.6**	**0.0**
PB15				*e*S	**Sn**	**10 24 47.1**	**+0.5**
PB04	**IPOC Station P**	**1.52**	**257**	*e*P	**Pn**	**10 24 26.1**	**-0.1**
PB04				*e*S	**Sn**	**10 24 47.8**	**+0.2**
PB04				IAML		10 24 54.1	
	comp=E,100nm,0.2s						
PB04	**IPOC Station P**	**1.52**	**257**	*i* P	**Pn**	**10 24 26.2**	**-0.1**
PB05	**IPOC Station P**	**1.75**	**241**	*i* P	**Pn**	**10 24 28.6**	**-0.2**
TA01	**Diego Aracena**	**2.10**	**313**	*e*P	**Pn**	**10 24 33.0**	**+0.1**
TA01				*i* S	**Sn**	**10 24 58.1**	**-1.5**
PB10	**IPOC Station P**	**2.39**	**231**	*i* P	**Pn**	**10 24 36.6**	**0.0**
GO01	**Chusmiza**	**2.41**	**345**	*e*P	**Pn**	**10 24 37.6**	**+0.3**
GO01				*i* S	**Sn**	**10 25 07.7**	**+0.3**
LPAZ	**La Paz**	**5.70**	**4**	*i* P	**Pn**	**10 25 21.1**	**-0.1**

*ISCJB **16** 10:52:42.4±0.6, 16°.45N ± 0°.04 × 96°.15W ± 0°.04, h54 km, Error ellipse: s-maj=6.1km s-min=5.2km az=147.8*
*NEIC **16** 10:52:43.2±2.8, 16°.46N ± 0°.03 × 96°.20W ± 0°.04, h54 km ± 13 km*
*MEX **16** 10:52:44.8±0.8, 16°.44N × 96°.15W, h52 km ± 11 km, MD4.1*
ISC 16 10:52:42.9±1.2, 16°.42N ± 0°.04 × 96°.15W ± 0°.04, h54 km, n17, σ 2 s 01/30, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.65**	**176**	*e*P	**Pn**	**10 52 56.2**	**-0.1**
HUIG				*i* S	**Sn**	**10 53 06.2**	**+0.2**
HUIG	**Huatulco**	**0.65**	**176**		**Pn**	**10 52 56.2**	**-0.1**
HUIG					**Sn**	**10 53 06.2**	**+0.2**
PANG	**Puerto Angel**	**0.81**	**202**	*i* P	**Pn**	**10 52 59.1**	**+0.8**
PANG				*e*S	**Sn**	**10 53 10.4**	**+0.9**
PANG	**Puerto Angel**	**0.81**	**202**		**Pn**	**10 52 59.1**	**+0.8**
PANG					**Sn**	**10 53 10.4**	**+0.9**
OXBJ	**Oaxaca**	**0.84**	**319**	*i* P	**Pn**	**10 52 58.5**	**-0.4**
OXBJ				*e*S	**Sn**	**10 53 10.1**	**-0.5**
OXBJ	**Oaxaca**	**0.84**	**319**		**Pn**	**10 52 58.5**	**-0.4**
OXBJ					**Sn**	**10 53 10.1**	**-0.5**
VHO	**Vista Hermosa**	**0.85**	**319**	*i* P	**Pn**	**10 52 58.7**	**-0.3**
VHO				*i* S	**Sn**	**10 53 10.3**	**-0.5**
CMIG	**Matias Romero**	**1.38**	**61**	*e*P	**Pn**	**10 53 05.9**	**0.0**
CMIG				*e*S	**Sn**	**10 53 23.0**	**-0.2**
CMIG	**Matias Romero**	**1.38**	**61**		**Pn**	**10 53 05.9**	**0.0**
CMIG					**Sn**	**10 53 23.0**	**-0.2**
PNIG	**Pinotepa**	**1.90**	**269**	*e*P	**Pn**	**10 53 11.5**	**-1.4**
PNIG				*e*S	**Sn**	**10 53 32.7**	**-3.0**
PNIG	**Pinotepa**	**1.90**	**269**		**Pn**	**10 53 11.5**	**-1.4**
PNIG					**Sn**	**10 53 32.7**	**-3.0**
TPIG	**Tehuac#an**	**2.30**	**330**	*e*P	Pn	10 53 26.6	+8.1
TPIG				*i* S	**Sn**	**10 53 53.4**	**+7.6**
TPIG	**Tehuac#an**	**2.30**	**330**		Pn	10 53 26.6	+8.1
TPIG					LR	10 53 53.4	
TLIG	**Tlapa**	**2.57**	**296**	*e*P	**Pn**	**10 53 23.3**	**+1.0**
TLIG				*e*S	**Sn**	**10 53 52.4**	**-0.1**
TLIG	**Tlapa**	**2.57**	**296**		**Pn**	**10 53 23.0**	**+0.8**
TLIG	**Tlapa**	**2.57**	**296**		**Pn**	**10 53 23.3**	**+1.0**
TLIG					**Sn**	**10 53 52.4**	**-0.1**
TEIG	**Tepich**	**8.38**	**62**	Pn	**Pn**	**10 54 42.5**	**+0.8**
TEIG				Sn	**Sn**	**10 56 10.4**	**-4.6**

KRSC 16 11:38:52.6±1.3, 51°.46N × 158°.95E, h41 km ± 20 km, ML4.1, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.01**	**345**	*e*P	Pn	11 39 11.7	+1.4
RUS				*e*S	Sn	11 39 24.2	+0.9
MTVR	**Mutnovka**	**1.13**	**336**	*e*P	Pn	11 39 13.7	+1.7
MTVR				*e*S	Sn	11 39 27.6	+1.2
ASAK	**Asacha**	**1.13**	**325**	*e*P	Pn	11 39 13.8	+1.8
ASAK				*e*S	Sn	11 39 27.7	+1.4
PAU	**Pauzhetka**	**1.33**	**271**	*e*P	Pn	11 39 16.7	+2.0
PAU				*e*S	Sn	11 39 32.9	+1.7
KRMR	**Karymshinskiy**	**1.46**	**340**	*i* P	Pn	11 39 18.7	+2.3
KRMR				*e*S	Sn	11 39 36.5	+2.2
DALK	**Dalny**	**1.58**	**356**	*i* P	Pn	11 39 20.1	+2.1
DALK				*e*S	Sn	11 39 39.0	+1.8
NLC	**Nalytchevo**	**1.73**	**8**	*e*P	Pn	11 39 21.4	+1.3
NLC				*e*S	Sn	11 39 41.6	+0.6
UGLR	**Uglovaya**	**1.75**	**358**	*e*P	Pn	11 39 22.9	+2.3
UGLR				*e*S	Sn	11 39 43.9	+2.2
SPN	**Mys Shipunski**	**1.77**	**22**	*e*P	Pn	11 39 23.2	+2.5
SPN				*e*S	Sn	11 39 44.3	+2.4
SMAR	**Somma**	**1.81**	**357**	*e*P	Pn	11 39 23.4	+2.0
AVH	**Avacha**	**1.81**	**356**	*e*P	Pn	11 39 23.9	+2.5
AVH				*e*S	Sn	11 39 45.3	+2.2
SDLR	**Sedlovina**	**1.82**	**359**	*e*P	Pn	11 39 23.3	+1.8
APC	**Apacha**	**1.83**	**324**	*e*P	Pn	11 39 24.1	+2.5
APC				*e*S	Sn	11 39 46.1	+2.6
KOK	**Koryaka**	**1.84**	**354**	*e*P	Pn	11 39 24.6	+2.8
KOK				*e*S	Sn	11 39 46.7	+2.8
KRER	**Koryakskii**	**1.85**	**356**	*e*P	Pn	11 39 24.4	+2.4
KRER				*e*S	Sn	11 39 46.4	+2.2
SKR	**Severo-Kuril's**	**1.95**	**248**	*e*P	Pn	11 39 25.1	+2.0
SKR				*e*S	Sn	11 39 47.5	+1.2
KZV	**Kizimen**	**3.75**	**12**	*e*P	Pn	11 39 52.2	+4.2
TUMD	**Tumrok D**	**3.85**	**13**	*e*P	Pn	11 39 53.3	+4.0
TUMR	**Tumrok**	**3.90**	**10**	*e*P	Pn	11 39 54.3	+4.3
KMNR	**Kamenistaya**	**4.37**	**10**	*e*P	Pn	11 40 02.7	+6.2
KIRR	**Kirishev**	**4.58**	**10**	*e*P	Pn	11 40 03.9	+4.5
KPT	**Kopyto**	**4.58**	**9**	*e*P	Pn	11 40 04.0	+4.7
BZWR	**Bezymyannyi-We**	**4.61**	**11**	*e*P	Pn	11 40 04.0	+4.2
KOZ	**Kozyrevsk**	**4.64**	**6**	*e*P	Pn	11 40 05.1	+5.0
ZLN	**Zelenaya**	**4.70**	**13**	*e*P	Pn	11 40 05.5	+5.5
CIRR	**Tsirk**	**4.78**	**12**	*e*P	Pn	11 40 07.6	+5.4
KLY	**Klyuchi**	**4.96**	**11**	*e*P	Pn	11 40 10.7	+6.2
KBTR	**Krutoberegovo**	**5.28**	**24**	*e*P	Pn	11 40 12.6	+3.8
BKI	**Bering**	**5.64**	**46**	*e*S	Sn	11 41 17.2	+0.1

*IDC **16** 11:58:07.8±1.0, 38°.68N × 43°.82E, h0 km, mb3.6/9, mb1 3.6/13, mb1mx3.5/38, mbtmp3.5/13, ML2.8/4, MS3.5/3, Ms1 3.5/3, ms1mx3.1/34, Error ellipse: s-maj=16.8km s-min=10.9km az=148.0*
*NSSP **16** 11:58:08.6, 38°.92N × 43°.63E, h10 km, Ms3.8*
*ISK **16** 11:58:08.8, 38°.94N × 43°.61E, h5 km, ML4.0/21*
*ISCJB **16** 11:58:09.2±0.4, 38°.92N ± 0°.02 × 43°.64E ± 0°.02, h3 km ± 3 km, mb3.5/8, Error ellipse: s-maj=3.2km s-min=2.3km az=161.7*
*TEH **16** 11:58:09.1, 38°.95N × 43°.62E, h9 km, ML3.9*
*NEIC **16** 11:58:10.5±2.0, 38°.93N ± 0°.02 × 43°.63E ± 0°.05, h6 km ± 7 km*
*AZER **16** 11:58:10.7±0.3, 39°.00N × 43°.64E, h5 km, ml4.0/29, Error ellipse: s-maj=3.1km s-min=2.7km az=162.0*
ISC 16 11:58:10.3±0.9, 38°.96N ± 0°.02 × 43°.60E ± 0°.02, h9 km ± 6 km, n173, σ 1 s 00/206, mb3.6/8, 7C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.04**	**328**	*e*Pg	**Pg**	**11 58 11.5**	**-0.8**
CLDR	**Caldiran**	**0.31**	**53**	*e*Pg	**Pg**	**11 58 16.0**	**-0.5**
CLDR	**Caldiran**	**0.31**	**53**	PG	**Pg**	**11 58 16.1**	**-0.5**
CLDR				SG	**Sg**	**11 58 21.6**	**+0.9**
CLDR	**Caldiran**	**0.31**	**53**	Pg	**Pg**	**11 58 16.1**	**-0.5**
CLDR				Sg	**Sg**	**11 58 21.6**	**+0.9**
VANB	**Van**	**0.40**	**204**	*e*Pg	**Pg**	**11 58 18.9**	**+0.8**
VANB	**Van**	**0.40**	**204**	PG	**Pg**	**11 58 18.8**	**+0.7**
VANB				SG	**Sb**	**11 58 26.2**	**+0.4**
VANB	**Van**	**0.40**	**204**	Pg	**Pg**	**11 58 18.9**	**+0.8**
VANB				Sg	**Sb**	**11 58 26.2**	**+0.4**
TVAN	**Van**	**0.45**	**199**	*e*Pg	**Pg**	**11 58 18.8**	**-0.3**
DYDN	**Diyadin**	**0.59**	**7**	*e*Pg	**Pg**	**11 58 20.8**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.70**	**258**	*e*Pg	**Pg**	**11 58 22.9**	**-0.8**
TUTA	**Tutak**	**0.76**	**306**	*e*Pg	**Pg**	**11 58 23.7**	**-1.1**
AGRB	**Hanur-Agry**	**0.78**	**323**	*e*Pg	**Pg**	**11 58 25.1**	**-0.2**
AGRB	**Hanur-Agry**	**0.78**	**323**	PG	**Pg**	**11 58 25.1**	**-0.2**
AGRB				SG	**Sb**	**11 58 37.1**	**+0.3**
AGRB	**Hanur-Agry**	**0.78**	**323**	Pg	**Pg**	**11 58 25.1**	**-0.2**
AGRB				Sg	**Sb**	**11 58 37.1**	**+0.3**
MLAZ	**Malazgirt-MUS**	**0.84**	**283**	*e*Pg	**Pg**	**11 58 26.4**	**+0.1**
MLAZ	**Malazgirt-MUS**	**0.84**	**283**	PG	**Pg**	**11 58 26.5**	**+0.1**
MLAZ				SG	**Sb**	**11 58 39.2**	**+0.7**
MLAZ	**Malazgirt-MUS**	**0.84**	**283**	Pg	**Pg**	**11 58 26.5**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.14**	**26**	*e*Pg	**Pb**	**11 58 31.6**	**-0.6**
TASB	**TASBURUN-IGDIR**	**1.14**	**26**	PN	**Pb**	**11 58 31.7**	**-0.5**
TASB				SN	**Sn**	**11 58 49.1**	**+0.8**
TASB	**TASBURUN-IGDIR**	**1.14**	**26**	Pn	**Pb**	**11 58 31.7**	**-0.5**
VNNZ	**Vanand**	**1.16**	**9**⇑	*i*P	**Pb**	**11 58 32.1**	**-0.4**
VNNZ				⇑*i*S	**Sn**	**11 58 49.2**	**+0.4**
EKAR	**Karacoban**	**1.23**	**285**	*e*Pg	**Pg**	**11 58 34.7**	**+0.8**
HYR	**Heyderabad**	**1.23**	**52**	*e*Pg	**Pn**	**11 58 32.9**	**-0.9**
HYR	**Heyderabad**	**1.23**	**52**	P	**Pn**	**11 58 33.0**	**-0.9**
	SNR=54						
HYR				S	**Sn**	**11 58 50.6**	**-0.1**
BLIS	**Bitlis-Merkez**	**1.28**	**245**	*e*Pn	**Pn**	**11 58 32.7**	**-1.8**
GURO	**Guroymak-BITLI**	**1.29**	**252**	*e*Pn	**Pn**	**11 58 32.7**	**-1.9**
GURO	**Guroymak-BITLI**	**1.29**	**252**	PN	**Pn**	**11 58 33.4**	**-1.2**
GURO	**Guroymak-BITLI**	**1.29**	**252**	Pn	**Pn**	**11 58 32.7**	**-1.9**
NRKZ	**NAREK**	**1.33**	**38**	*i* P	**Pb**	**11 58 35.2**	**-0.2**
NRKZ				*i* S	**Sg**	**11 58 54.7**	**+1.7**
ARUZ	**Aruch**	**1.38**	**16**⇑	*i*P	**Pg**	**11 58 37.5**	**+0.8**
ARUZ				⇑*i*S	**Sg**	**11 58 58.6**	**+4.0**
HAKT	**HAKKARI**	**1.40**	**176**	*e*Pg	**Pn**	**11 58 34.5**	**-1.7**
DIGO	**Kars**	**1.47**	**353**	*e*Pg	**Pg**	**11 58 38.2**	**-0.2**
YOVA	**Hakkari_Yksek**	**1.47**	**158**	*e*Pg	**Pn**	**11 58 37.2**	**0.0**
GNI	**Garni**	**1.48**	**36**⇑	*i*P	**Pb**	**11 58 37.9**	**-0.2**
GNI				⇑*i*S	**Sg**	**11 58 59.0**	**+1.0**
GNI	**Garni**	**1.48**	**36**	Pn	**Pg**	**11 58 38.9**	**+0.1**
	76nm,0.3s,baz=218,slow=3.2,SNR=76						
GNI				Lg	Lg	11 58 59.7	
	45nm,0.3s,baz=276,slow=19,SNR=14						
GNI				LR	LR	11 59 35.4	
	comp=Z,614nm,19.8s,baz=214,slow=54						
GNI	**Garni**	**1.48**	**36**	PN	**Pb**	**11 58 38.1**	**0.0**
GNI	**Garni**	**1.48**	**36**		**Pb**	**11 58 37.9**	**-0.2**
GNI				Sn	**Sg**	**11 58 57.7**	**-0.3**
NAX	**Nakhchivan**	**1.49**	**81**	*e*Pg	**Pn**	**11 58 36.9**	**-0.4**
NAX	**Nakhchivan**	**1.49**	**81**	P	**Pn**	**11 58 36.9**	**-0.4**
	SNR=62						
NAX				S	**Sb**	**11 58 57.5**	**+0.2**
SBZ	**Shahbuz**	**1.58**	**73**	*e*Pg	**Pn**	**11 58 38.8**	**+0.2**
SBZ	**Shahbuz**	**1.58**	**73**	P	**Pn**	**11 58 38.9**	**+0.2**
	SNR=305						
SBZ				S	**Sb**	**11 59 00.1**	**+0.2**
KAPZ	**Kaputan**	**1.61**	**32**⇓	*i*P	**Pb**	**11 58 40.4**	**+0.1**
KAPZ				⇑*i*S	**Sg**	**11 59 03.2**	**+1.3**
SRTM	**Siirt_Merkez**	**1.63**	**234**	*e*Pn	**Pn**	**11 58 39.6**	**+0.3**
MUSM	**Mu-Merkez**	**1.65**	**263**	*e*Pn	**Pn**	**11 58 38.9**	**-0.6**
IMRD	**Marand**	**1.66**	**98**	*e*Pn	**Pn**	**11 58 40.0**	**+0.2**
IMRD				IAMB	IAmb	11 59 19.7	
	comp=Z,24μm,0.6s						
VRTB	**Varto-Mus**	**1.68**	**278**	*e*Pn	**Pb**	**11 58 41.1**	**-0.3**
VRTB	**Varto-Mus**	**1.68**	**278**	PN	**Pb**	**11 58 40.9**	**-0.6**
VRTB	**Varto-Mus**	**1.68**	**278**	Pn	**Pb**	**11 58 41.1**	**-0.3**
KOPR	**Koprukoy-ERZUR**	**1.70**	**308**	*e*Pn	**Pb**	**11 58 41.5**	**-0.3**
KOPR	**Koprukoy-ERZUR**	**1.70**	**308**	PN	**Pb**	**11 58 41.3**	**-0.5**
KOPR	**Koprukoy-ERZUR**	**1.70**	**308**	Pn	**Pb**	**11 58 41.6**	**-0.3**
CUKT	**Cukurca**	**1.71**	**180**	*e*Pn	**Pn**	**11 58 40.8**	**+0.5**
CUKT	**Cukurca**	**1.71**	**180**	PN	**Pn**	**11 58 40.9**	**+0.5**
CUKT	**Cukurca**	**1.71**	**180**	Pn	**Pn**	**11 58 40.8**	**+0.5**
SIRT	**Sirnak**	**1.72**	**212**	*e*Pn	**Pn**	**11 58 41.2**	**+0.8**
SIRT	**Sirnak**	**1.72**	**212**	PN	**Pn**	**11 58 41.2**	**+0.8**
SIRT	**Sirnak**	**1.72**	**212**	Pn	**Pn**	**11 58 41.2**	**+0.8**
KARS	**Kars**	**1.72**	**347**	*e*Pn	**Pb**	**11 58 41.5**	**-0.6**
KARS	**Kars**	**1.72**	**347**	PN	**Pb**	**11 58 41.4**	**-0.6**
KARS	**Kars**	**1.72**	**347**	Pn	**Pn**	**11 58 40.5**	**0.0**
EAK	**Akyaka**	**1.73**	**0**	*e*Pn	**Pg**	**11 58 42.9**	**-0.5**
SIRN	**Sirnak**	**1.73**	**213**	*e*Pn	**Pb**	**11 58 42.3**	**0.0**
ORD	**Ordubad**	**1.87**	**90**	*e*Pn	**Pn**	**11 58 42.9**	**+0.4**
ORD	**Ordubad**	**1.87**	**90**	P	**Pn**	**11 58 42.9**	**+0.4**
	SNR=19						
ORD				S	**Sn**	**11 59 06.2**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.87**	**329**	*e*Pn	**Pb**	**11 58 44.0**	**-0.7**
SENK	**Senkaya-Erzuru**	**1.87**	**329**	PN	**Pb**	**11 58 43.8**	**-0.9**
SENK	**Senkaya-Erzuru**	**1.87**	**329**	Pn	**Pb**	**11 58 44.0**	**-0.7**
BNGL	**BINGOL**	**1.91**	**271**	*e*Pn	**Pb**	**11 58 45.0**	**-0.4**
KARO	**Karliova-Bingo**	**2.01**	**281**	PN	**Pn**	**11 58 45.8**	**+1.2**
KARO	**

	SNR=5.5							
XNQ					S	**Sn**	**12 00 03.4**	**+1.1**
PQL	**Pirkuli**	**4.26**	**63**	*e*Pn	**Pn**	**11 59 15.6**	**+0.2**
PQL	**Pirkuli**	**4.26**	**63**	P	**Pn**	**11 59 15.7**	**+0.2**
	SNR=5.7							
PQL					S	**Sn**	**12 00 06.2**	**+0.9**
QSAR	**Qusar**	**4.39**	**53**	*e*Pn	**Pn**	**11 59 17.5**	**+0.4**
QSAR	**Qusar**	**4.39**	**53**	P	**Pn**	**11 59 17.6**	**+0.4**
	SNR=3.6							
ATGJ	**Altiaghaj**	**4.53**	**63**	*e*Pn	**Pn**	**11 59 19.4**	**+0.3**
ATGJ	**Altiaghaj**	**4.53**	**63**	P	**Pn**	**11 59 19.4**	**+0.3**
	SNR=4.8							
SIZA	**Siyzn**	**4.59**	**61**	*e*Pn	**Pn**	**11 59 20.2**	**+0.3**
SIZA	**Siyzn**	**4.59**	**61**	P	**Pn**	**11 59 20.3**	**+0.3**
	SNR=4.4							
KBZ	**Khabaz**	**4.80**	**354**	Pn	Pb	11 59 29.2	-5.3	
	comp=Z,0.1nm,0.3s,baz=175,slow=12,SNR=2.2							
IDHR	**Dehrash**	**4.80**	**151**	*e*Pn	**Pn**	**11 59 25.3**	**+2.3**	
KIV	**Kislovodsk**	**5.04**	**352**	Pn	**Pn**	**11 59 26.0**	**-0.1**	
GAZ	**Gaziantep**	**5.34**	**253**	Pn	**Pn**	**11 59 29.5**	**-0.8**	
BRTR	**Keskin Array B**	**7.76**	**279**	Pn	Pn	12 00 08.6	+5.1	
	comp=Z,0.1nm,0.3s,baz=108,slow=11,SNR=4.6							
MMAI	**Mount Meron Ar**	**8.90**	**231**	LR	LR	12 04 11.8		
	comp=Z,282nm,18.3s,baz=25,slow=41							
GEYT	**Alibeck**	**11.44**	**91**	Pn	**Pn**	**12 00 55.4**	**+1.7**	
	comp=Z,0.2nm,0.3s,baz=289,slow=18,SNR=2.6							
GEYT				LR	LR	12 06 10.1		
	comp=Z,178nm,20.0s,baz=335,slow=43							
GYA0B	**ALIBECK ARRAY**	**11.44**	**91**	Pn	**Pn**	**12 00 54.5**	**+0.7**	
EIL	**Elat**	**11.69**	**220**	LR	LR	12 05 49.4		
	comp=Z,232nm,18.7s,baz=33,slow=40							
SANT	**Santorini**	**14.60**	**265**	Pn	**Pn**	**12 01 37.2**	**+0.2**	
AKTO	**Aktyubinsk**	**15.36**	**37**	Pn	**Pn**	**12 01 45.2**	**-1.8**	
	comp=Z,0.1nm,0.3s,baz=213,slow=17,SNR=2.2							
RAYN	**Ar Rayn**	**15.47**	**173**	Pn	**Pn**	**12 01 47.3**	**-1.4**	
RAYN				IAmb	IAmb	12 01 49.2		
	comp=Z,4.4nm,0.8s							
AKASG	**Malin Array Be**	**15.52**	**324**	Pn	**Pn**	**12 01 50.1**	**+1.0**	
	comp=Z,0.3nm,0.3s,baz=133,slow=11,SNR=3.0							
ABKAR	**Akbulak array**	**15.58**	**43**		**Pn**	**12 01 48.9**	**-1.1**	
BUR08	**Bucovina Ar. S**	**15.93**	**309**	Pn	**Pn**	**12 01 54.7**	**0.0**	
BUR08				IAmb	IAmb	12 02 11.5		
	comp=Z,4.3nm,0.9s							
ARU	**Arti**	**20.10**	**25**	P	**P**	**12 02 44.8**	**+0.8**	
	comp=Z,1.0nm,0.3s,baz=236,slow=3.6,SNR=2.2							
VYHS	**Vyhne**	**20.20**	**306**	*e*PN	P	12 02 37.7	-7.5	
VYHS	**Vyhne**	**20.20**	**306**	*e*P	Pn	12 02 47.1	0.0	
KK31	**Karatay Array**	**20.68**	**70**	P	**P**	**12 02 50.4**	**-0.2**	
KK31				IAmb	IAmb	12 03 06.4		
	comp=Z,4.6nm,0.8s							
KKAR	**Karatay Array**	**20.68**	**70**	P	**P**	**12 02 50.5**	**-0.1**	
BVAR	**Borovoye Array**	**23.16**	**44**	P	**P**	**12 03 17.5**	**+0.7**	
	comp=Z,0.4nm,0.5s,baz=260,slow=5.7,SNR=3.0							
GERES	**GERESS Array B**	**23.56**	**305**	P	**P**	**12 03 22.4**	**+1.3**	
	comp=Z,1.5nm,0.9s,baz=92,slow=5.0,SNR=3.1							
MKAR	**Makanchi Array**	**29.18**	**62**	P	**P**	**12 04 11.6**	**-0.3**	
	comp=Z,0.8nm,0.8s,baz=266,slow=6.0,SNR=6.0							
ESDC	**Sonseca Array**	**36.46**	**287**	P	**P**	**12 05 15.3**	**-0.3**	
	comp=Z,0.3nm,0.4s,baz=70,slow=8.5,SNR=3.6							
TORD	**Torodi Ar. Bea**	**45.02**	**247**	P	**P**	**12 06 25.7**	**-0.7**	
	comp=Z,0.8nm,0.8s,baz=60,slow=7.2,SNR=3.9							
CMAR	**Chiang Mai Arr**	**51.84**	**97**	P	**P**	**12 07 16.3**	**-2.6**	
	comp=Z,0.4nm,0.3s,baz=304,slow=9.7,SNR=2.5							
KSRS	**Korea Array**	**63.86**	**62**	P	**P**	**12 08 41.6**	**-1.5**	
	comp=Z,0.3nm,0.4s,baz=297,slow=4.2,SNR=3.0							
YKA	**Yellowknife Ar**	**77.38**	**350**	P	**P**	**12 10 05.3**	**+0.2**	
	comp=Z,0.2nm,0.8s,baz=11,slow=6.0,SNR=5.2							

ISCJB ***16*** *12:04:02.9±0.4, 47.01S±0.07×13.2W±0.1, h10km, mb4.2/5, Error ellipse: s-maj=10.6km s-min=10.1km az=41.0*
IDC ***16*** *12:04:03.6±0.9, 47.16S×12.60W, h0km, mb4.3/5, mb1 4.3/5, mb1mx4.0/25, mbtmp4.3/5, Error ellipse: s-maj=62.7km s-min=20.6km az=98.0*
NEIC ***16*** *12:04:04.4±0.9, 47.1S±0.1×13.3W±0.1, h10km±1km, mb4.7/19*
ISC 16 12:04:04.6±0.5**, 47.1S**×**13.2W**±0.1**, h10**km**, n35,**
σ1$00/35, mb4.6/14, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**16.39**	**235**		**P**	**12 07 56.4**	**-0.9**
HOPE				IAmb	IAmb	12 08 04.8	
	comp=Z,66nm,1.2s						
VNA1	**Neumayer--Stat**	**23.76**	**176**	P	**P**	**12 09 17.6**	**+0.9**
VNA2	**Neumayer--Watz**	**24.08**	**175**	P	**P**	**12 09 18.9**	**-0.9**
	baz=342,slow=12						
VNA3	**Neumayer Olymp**	**24.30**	**177**	P	**P**	**12 09 20.9**	**-0.9**
SNAA	**Sanae**	**25.14**	**172**	P	**P**	**12 09 29.6**	**0.0**
SNAA	**Sanae**	**25.14**	**172**	P	**P**	**12 09 29.1**	**-0.5**
	comp=Z,8.7nm,1.3s,baz=331,slow=10,SNR=7.0						
SNAA	**Sanae**	**25.14**	**172**	P	**P**	**12 09 28.4**	**-1.2**
PMSA	**Palmer Station**	**32.39**	**218**	P	**P**	**12 10 37.3**	**+3.3**
	comp=Z,1.9nm,0.3s,baz=100,slow=7.2,SNR=3.6						
TRQA	**Tornquist**	**36.54**	**266**	P	**P**	**12 11 09.9**	**-0.3**
LBTB	**Lobatse**	**37.77**	**68**	P	**P**	**12 11 21.0**	**0.0**
LBTB				IAmb	IAmb	12 11 23.1	
	comp=Z,16nm,1.5s						
MAW	**Mawson**	**42.48**	**147**	P	**P**	**12 11 59.0**	**-0.4**
QSPA	**South Pole Qui**	**43.18**	**180**	P	**P**	**12 12 04.6**	**-0.7**
	comp=Z,9.5nm,1.1s,baz=220,slow=6.9,SNR=14						
QSPA	**South Pole Qui**	**43.18**	**180**	P	**P**	**12 12 05.3**	**0.0**
QSPA				IAmb	IAmb	12 12 07.0	
	comp=Z,17nm,1.2s						
GO05	**Huala**	**44.93**	**264**	P	**P**	**12 12 18.8**	**-0.8**
GO05				IAmb	IAmb	12 12 19.7	
	comp=Z,23nm,1.6s						
PEL	**Peldehue**	**45.15**	**267**	P	**P**	**12 12 20.9**	**-0.4**
LSZ	**Lusaka**	**46.67**	**61**	P	**P**	**12 12 33.0**	**-0.6**
LSZ				IAmb	IAmb	12 12 36.5	
	comp=Z,9.4nm,1.4s						
GO04	**Tololo Observa**	**47.00**	**270**	P	**P**	**12 12 35.8**	**-0.4**
GO04				IAmb	IAmb	12 12 42.2	
	comp=Z,13nm,1.1s						
GO02	**Mina Guanaco**	**49.36**	**276**	P	**P**	**12 12 54.2**	**-0.4**
LVC	**Limon Verde**	**50.61**	**279**	P	**P**	**12 13 03.9**	**-0.2**
LVC				IAmb	IAmb	12 13 10.0	
	comp=Z,6.9nm,1.1s						
PB10	**IPOC Station P**	**51.11**	**277**	P	**P**	**12 13 07.1**	**-0.4**
GO01	**Chusmiza**	**52.83**	**281**	P	**P**	**12 13 19.4**	**-1.4**
MNMC	**Minye Minye**	**53.47**	**281**	P	**P**	**12 13 24.1**	**-1.3**
MNMC				IAmb	IAmb	12 13 32.5	
	comp=Z,5.7nm,1.0s						
TOA0	**Torodi Ar. Sit**	**61.41**	**17**	P	**P**	**12 14 21.6**	**+0.6**
TOA0				IAmb	IAmb	12 14 22.7	
	comp=Z,15nm,1.4s						
TORD	**Torodi Ar. Bea**	**61.41**	**17**	P	**P**	**12 14 21.6**	**+0.6**
	comp=Z,3.2nm,1.1s,baz=188,slow=5.2,SNR=8.3						
TAM	**Tamanrasset**	**71.56**	**18**	P	**P**	**12 15 26.3**	**+0.4**
TAM				IAmb	IAmb	12 15 29.1	
	comp=Z,7.9nm,1.3s						
OTAV	**Otavalo**	**73.57**	**289**	P	**P**	**12 15 38.5**	**-0.1**
OTAV				IAmb	IAmb	12 15 44.1	
	comp=Z,12nm,1.6s						
ESDC	**Sonseca Array**	**86.76**	**7**	P	**P**	**12 16 50.9**	**+2.4**
	comp=Z,0.2nm,0.3s,baz=180,slow=3.4,SNR=7.3						
KARP	**Karpathos**	**89.87**	**32**	P	**P**	**12 17 02.3**	**-1.0**
YKA	**Yellowknife Ar**	**135.19**	**320**	PKP	**PKPdf**	**12 23 22.5**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=112,slow=1.9,SNR=4.9						
EPYK	**Eagle Plains**	**145.12**	**324**		**PKPbc**	**12 23 39.5**	**-1.0**
PRP	**Porcupine Dome**	**148.81**	**324**		**PKPbc**	**12 23 50.9**	**-0.4**
TOLK	**Toolik Lake Re**	**149.38**	**330**		**PKPbc**	**12 23 52.1**	**-0.3**
ILAR	**Eielson Array**	**149.54**	**322**	PKPbc	**PKPbc**	**12 23 52.0**	**-0.9**
	comp=Z,2.1nm,0.9s,baz=77,slow=3.5,SNR=16						
COLD	**Coldfoot**	**150.12**	**328**		**PKPbc**	**12 23 54.1**	**-0.2**
BPAW	**Bear Paw Mtn.**	**151.43**	**322**		**PKPbc**	**12 23 57.5**	**+0.1**

BJI ***16*** *12:07:23.3±0.0, 46.14S×166.06E, h6km, mb5.3/25, mB5.4/3, Ms5.4/14, Ms7 5.1/18*
ISCJB ***16*** *12:07:23.4±0.2, 46.11S±0.03×166.00E±0.02, h9km, mb5.2/45, MS5.2/28, Error ellipse: s-maj=4.1km s-min=2.2km az=170.2*
IDC ***16*** *12:07:23.6±0.5, 46.12S×166.25E, h0km, mb4.8/11, mb1 5.0/13, mb1mx4.8/21, mbtmp4.9/13, ML5.4/2, MS5.2/9, Ms1 5.2/9, ms1mx5.0/16, Error ellipse: s-maj=19.0km s-min=14.9km az=79.0*
WEL ***16*** *12:07:25.0±1.1, 46.5S×166.6E±, h5km, ML6.1/10, MLv6.1/19, Error ellipse: s-maj=0.0km s-min=0.0km az=71.6*
NEIC ***16*** *12:07:24.8±1.3, 46.08S±0.06×165.99E±0.07, h11km±2km, mb5.5/63, Ms_20 5.6/307, Mwb5.6, Mww5.8, ML6.2(WEL), Mwc5.7(GCMT), Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr1.95; Mθθ 1.12; Mφφ-3.07; Mrθ0.89; Mrφ-0.61; Mθφ-1.77; Fault plane solution: M0 3.40000×1017 NP1:φs38.94000°, δ37.29000°, λ140.73000°. NP2:φs161.99000°, δ67.45000°, λ59.48000°; Principal axes: T 3.0594, Plg56.0000°, Azm31.0000°; N 0.5942, Plg28.0000°, Azm175.0000°; P -3.6536, Plg17.0000°, Azm274.0000°;*
MOS ***16*** *12:07:26.6±1.6, 46.15S×165.85E, h27km, mb5.5/20, MS5.3/8 Error ellipse: s-maj=14.3km s-min=9.1km az=105.9*
NEIC ***16*** *12:07:29, 46.30S×166.09E, h12km, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr2.44; Mθθ 0.51; Mφφ-2.94; Mrθ-0.24; Mθφ-1.79; Mφr-4.23; Fault plane solution: M0 5.34000×1017 NP1:φs184.00000°, δ73.00000°, λ74.00000°. NP2:φs50.00000°, δ23.00000°, λ133.00000°. Principal axes: T 4.8608, Plg59.0000°, Azm72.0000°; N 0.8599, Plg15.0000°, Azm189.0000°; P -5.7207, Plg27.0000°, Azm287.0000°;*
GCMT ***16*** *12:07:29.8±0.1, 46.02S±0.01×165.82E±0.01, h20km, MW5.7/138, Moment Tensor Solution. s134,c241; s138,c348; Duration: 1s7 Moment tensor: Scale 1017 Nm; Mrr1.87±.04; Mθθ 0.80±.03; Mφφ-2.67±.03; Mrθ 0.93±.07; Mθφ-0.95±.02; Mφr-3.01±.10; Best double couple: M0 4.04800×1017 NP1:φs168.00000°, δ74.00000°, λ67.00000°. NP2:φs45.00000°, δ28.00000°, λ144.00000°. Principal axes: T 3.8860, Plg55.0000°, Azm49.0000°; N 0.3270, Plg22.0000°, Azm174.0000°; P -4.2100, Plg26.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***16*** *12:07:31, 46.01S×165.86E, h18km, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr1.96; Mθθ 0.79; Mφφ-2.75; Mrθ 1.43; Mθφ-0.96; Mφr-2.99; Fault plane solution: M0 4.23000×1017 NP1:φs163.00000°, δ75.00000°, λ64.00000°. NP2:φs45.00000°, δ30.00000°, λ148.00000°. Principal axes: T 4.2536, Plg53.0000°, Azm42.0000°; N -0.0392, Plg25.0000°, Azm171.0000°; P -4.2144, Plg25.0000°, Azm273.0000°;*
ISC 16 12:07:26.1±1.1**, 46.10S**±0.04×**166.07E**±0.03**, h17**km±6km**, n557,** σ1$**59**/406**, mb5.4**/70**, MS5.6**/182**, 37C-16D, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.99**	**51**	P	**Pb**	**12 07 44.1**	**-0.6**
DCZ				S	**Sb**	**12 07 57.6**	**+0.2**
DCZ	**Deep Cove**	**0.99**	**51**		**Pb**	**12 07 43.6**	**-1.1**
DCZ				Sg	**Sb**	**12 07 57.4**	**0.0**
WHZ	**Wether Hill Ro**	**1.32**	**82**	P	**Pn**	**12 07 49.6**	**-0.2**
WHZ	**Wether Hill Ro**	**1.32**	**82**		**Pn**	**12 07 49.5**	**-0.3**
WHZ				Sn	**Sg**	**12 08 09.2**	**+0.2**
APZ	**The Paps**	**1.52**	**120**	P	**Pn**	**12 07 51.8**	**-0.7**
APZ				S	**Sn**	**12 08 11.0**	**-0.8**
MLZ	**Mavora Lakes**	**1.61**	**64**	P	**Pb**	**12 07 55.5**	**+0.1**
MLZ				S	**Sg**	**12 08 17.6**	**-0.5**
MLZ	**Mavora Lakes**	**1.61**	**64**		**Pn**	**12 07 54.5**	**+0.7**
MLZ				Sn	**Sb**	**12 08 19.5**	**+0.4**
MSZ	**Milford Sound**	**1.94**	**43**	P	**Pn**	**12 07 58.1**	**-0.1**
MSZ				S	**Sb**	**12 08 25.5**	**+0.8**
SYZ	**Scrubby Hill**	**2.17**	**103**	P	**Pn**	**12 08 01.1**	**-0.4**
EAZ	**Earnscleugh**	**2.43**	**70**	P	**Pn**	**12 08 06.5**	**+1.5**
EAZ				S	**Sn**	**12 08 36.6**	**+2.2**
WKZ	**Wanaka**	**2.43**	**60**		**Pn**	**12 08 06.7**	**+1.6**
WKZ				Sn	**Sn**	**12 08 36.6**	**+2.2**
TUZ	**Tuapeka**	**2.49**	**88**	P	**Pn**	**12 08 06.5**	**+0.8**
TUZ				S	**Sn**	**12 08 38.4**	**+2.8**
JCZ	**Jackson Bay**	**2.79**	**45**	P	**Pn**	**12 08 11.1**	**+1.0**
HHSZ	**Highcliff Hill**	**3.16**	**88**	P	**Pn**	**12 08 15.7**	**+0.6**
HHSZ				S	**Sn**	**12 08 55.4**	**+3.0**
LBZ	**Lake Benmore**	**3.37**	**61**	P	**Pn**	**12 08 18.3**	**+0.3**
LBZ	**Lake Benmore**	**3.37**	**61**		**Pn**	**12 08 18.1**	**+0.1**
LBZ				Sn	**Sn**	**12 09 00.0**	**+2.4**
ODZ	**Otahua Downs**	**3.38**	**73**		**Pn**	**12 08 17.9**	**-0.2**
ODZ				Sn	**Sn**	**12 08 59.4**	**+1.6**
FOZ	**Fox Glacier**	**3.70**	**47**	P	**Pn**	**12 08 22.7**	**+0.3**
FOZ	**Fox Glacier**	**3.70**	**47**		**Pn**	**12 08 23.5**	**+1.1**
RPZ	**Rata Peaks**	**4.27**	**58**	Pn	**Pn**	**12 08 29.6**	**-0.7**
	498nm,0.3s,baz=211,slow=4.0,SNR=1013						
RPZ				Sn	**Sn**	**12 09 19.1**	**-0.6**
	197nm,0.3s,baz=90,slow=21,SNR=4.0						
RPZ	**Rata Peaks**	**4.27**	**58**	P	**Pn**	**12 08 29.7**	**-0.6**
RPZ	**Rata Peaks**	**4.27**	**58**		**Pn**	**12 08 29.7**	**-0.6**
RPZ				Sn	**Sn**	**12 09 20.1**	**+0.4**
OXZ	**Oxford**	**5.08**	**59**		**Pn**	**12 08 40.1**	**-1.2**
OXZ				Sn	**Sn**	**12 09 38.6**	**-1.0**
INZ	**Inchbonnie**	**5.12**	**51**	P	**Pn**	**12 08 41.5**	**-0.5**
MQZ	**McQueen's Vall**	**5.25**	**65**		**Pn**	**12 08 43.3**	**-0.5**
CRLZ	**Canterbury Las**	**5.30**	**64**		**Pn**	**12 08 44.1**	**-0.3**
LTZ	**Lake Taylor**	**5.54**	**55**	P	**Pn**	**12 08 46.7**	**-1.1**
LTZ	**Lake Taylor**	**5.54**	**55**		**Pn**	**12 08 47.0**	**-0.8**
DSZ	**Dennistoun Nort**	**6.01**	**46**	P	**Pn**	**12 08 53.1**	**-1.1**
KHZ	**Kahutara**	**6.50**	**58**	P	**Pn**	**12 08 59.8**	**-1.1**
KHZ	**Kahutara**	**6.50**	**58**		**Pn**	**12 08 59.8**	**-1.1**
THZ	**Tophouse**	**6.57**	**51**	P	**Pn**	**12 09 00.3**	**-1.6**
THZ	**Tophouse**	**6.57**	**51**		**Pn**	**12 09 01.0**	**-0.9**
QRZ	**Quartz Range**	**7.06**	**44**	P	**Pn**	**12 09 08.3**	**-0.3**
QRZ	**Quartz Range**	**7.06**	**44**		**Pn**	**12 09 08.1**	**-0.5**
BSWZ	**Blackbirch Sta**	**7.14**	**55**		**Pn**	**12 09 09.3**	**-0.4**
NNZ	**Nelson**	**7.20**	**50**		**Pn**	**12 09 10.2**	**-0.3**
SNZO	**South Karori**	**7.88**	**56**		**Pn**	**12 09 19.4**	**-0.3**
MCQ	**Macquarie Isla**	**9.56**	**206**	P	**Pn**	**12 09 42.1**	**-0.6**
	baz=9.6,SNR=12						
MCQ	**Macquarie Isla**	**9.56**	**206**	P	**Pn**	**12 09 41.3**	**-1.4**
MCQ	**Macquarie Isla**	**9.56**	**206**	Pn	**Pn**	**12 09 41.3**	**-1.4**
BKZ	**Black Stump Fm**	**10.34**	**52**		**Pn**	**12 09 53.0**	**-0.6**
URZ	**Urewera**	**11.33**	**50**	Pn	**Pn**	**12 10 05.8**	**-1.3**
	14nm,0.3s,baz=240,slow=8.3,SNR=77						
URZ				Sn	**Sn**	**12 12 07.3**	**-5.8**
	2.2nm,0.3s,baz=197,slow=19,SNR=3.4						
URZ	**Urewera**	**11.33**	**50**		**Pn**	**12 10 05.5**	**-1.6**
OUZ	**Omahuta**	**12.27**	**30**		**Pn**	**12 10 19.0**	**-1.0**
MXZ	**Matakaoa Point**	**12.48**	**51**		**Pn**	**12 10 21.5**	**-1.3**
I05AU	**HOBART INFRASO**	**13.65**	**279**	*i*		13 35 40.0	
	baz=108,slow=318,SNR=1.0						
TAU	**Tasmania Unive**	**13.75**	**277**	P	**Pn**	**12 10 36.3**	**-3.9**
TAU	**Tasmania Unive**	**13.75**	**277**		**Pn**	**12 10 36.3**	**-3.9**
MOO	**Moorlands**	**14.01**	**278**	P	**Pn**	**12 10 41.2**	**-2.5**
	baz=14,SNR=44						
MILA	**Mila**	**15.53**	**300**	P	**Pn**	**12 11 02.3**	**-1.9**
	baz=16,SNR=197						
LHI	**Lord Howe Isla**	**15.54**	**337**	Pn	**Pn**	**12 11 02.9**	**-1.3**
CNB	**Canberra Magne**	**16.59**	**305**	P	**Pn**	**12 11 16.9**	**-1.0**
	baz=17,SNR=25						
RIV	**Riverview**	**16.72**	**312**	P	**Pn**	**12 11 19.0**	**-0.4**
	baz=17,SNR=11						
CAN	**Canberra**	**16.80**	**304**	P	**Pn**	**12 11 19.8**	**-0.7**
CAN				pmax	pmax		
	comp=Z,110nm,1.1s						
CAN	**Canberra**	**16.80**	**304**		**Pn**	**12 11 19.8**	**-0.7**
MGCD	**Mangrove Creek**	**17.23**	**313**	P	**Pn**	**12 11 25.9**	**-0.1**
	baz=17,SNR=9.3						
TOO	**Toolangi**	**17.51**	**292**	P	**Pn**	**12 11 29.4**	**+0.1**
	baz=18,SNR=118						
TOO	**Toolangi**	**17.51**	**292**	P	**Pn**	**12 11 29.0**	**-0.3**
TOO				pmax	pmax		
	comp=Z,109nm,0.8s						
TOO	**Toolangi**	**17.51**	**292**	P	**Pn**	**12 11 29.0**	**-0.3**
YNG	**Young**	**17.88**	**305**	P	**P**	**12 11 34.7**	**+0.2**
	baz=18,SNR=13						
ARMA	**Armidale**	**19.28**	**319**	P	**Pn**	**12 11 50.4**	**-0.7**
	baz=19,SNR=6.2						
ARMA	**Armidale**	**19.28**	**319**	P	**P**	**12 11 49.8**	**-0.3**
ARPS	**Mount Arapiles**	**20.35**	**289**	P	Pn	12 12 03.5	-0.2
	baz=20,SNR=20						
RAO	**Raoul Island**	**20.99**	**42**	LR	LR	12 20 04.3	
	comp=Z,15μm,21.8s,baz=203,slow=36						
CMSA	**Cobar Meteorol**	**21.44**	**306**	P	**P**	**12 12 14.6**	**+1.2**
	baz=22,SNR=46						
STKA	**Stephens Creek**	**23.62**	**298**	P	**P**	**12 12 35.8**	**-0.3**
STKA				pmax	pmax		
	comp=Z,33nm,1.5s						
STKA				MLR	MLR		
	comp=Z,1μm,18.0s						
STKA	**Stephens Creek**	**23.62**	**298**	P	**P**	**12 12 38.0**	**+1.8**
	comp=Z,11nm,0.8s,baz=129,slow=12,SNR=20						
STKA				LR	LR	12 21 07.2	
	comp=Z,5μm,18.3s,baz=129,slow=35						
STKA	**Stephens Creek**	**23.62**	**298**	P	**P**	**12 12 35.8**	**-0.3**
EIDS	**Eidsvold**	**23.92**	**325**	P	**P**	**12 12 41.5**	**+2.4**
	baz=24,SNR=5.1						
EIDS	**Eidsvold**	**23.92**	**325**	P	**P**	**12 12 38.9**	**-0.1**
EIDS				IAmb	IAmb	12 13 01.6	
	comp=Z,111nm,1.1s						
RMQ	**Roma**	**23.94**	**319**	P	**P**	**12 12 41.0**	**+1.7**
	baz=24,SNR=12						
DZM	**Mont Dzumac**	**23.97**	**1**	*e*P	**P**	**12 12 42.4**	**+2.7**
	comp=Z,653nm,1.4s						
DZM				*e*S	**S**	**12 16 56.3**	**+0.6**
	comp=Z,705nm,20.6s						
DZM				*e*LR	LR	12 18 37.3	
	comp=Z,3μm,22.2s						
DZM	**Mont Dzumac**	**23.97**	**1**	P	**P**	**12 12 41.8**	**+2.2**
	comp=Z,138nm,1.0s,baz=184,slow=9.1,SNR=52						
DZM				LR	LR	12 20 37.8	
	comp=Z,4μm,18.6s,baz=192,slow=33						
DZM	**Mont Dzumac**	**23.97**	**1**	P	**P**	**12 12 39.1**	**-0.6**
HTT	**Hallett**	**24.27**	**292**	P	**P**	**12 12 43.5**	**+1.1**
	baz=24,SNR=11						
QLP	**Quilpie**	**26.09**	**311**	P	**P**	**12 13 00.7**	**+1.9**
	baz=26,SNR=4.5						
BBOO	**Buckleboo**	**26.52**	**289**	P	**P**	**12 13 03.7**	**+1.0**
	baz=26,SNR=8.9						
BBOO	**Buckleboo**	**26.52**	**289**	P	**P**	**12 13 01.8**	**-0.9**
BBOO				IAmb	IAmb	12 13 18.0	
	comp=Z,68nm,0.9s						
MSVF	**Nonsavu**	**29.98**	**23**	P	**P**	**12 13 33.3**	**-0.4**
MSVF				pmax	pmax		
	comp=Z,47nm,1.5s						
MSVF				MLR	MLR		
	comp=Z,10μm,18.0s						
MSVF	**Nonsavu**	**29.98**	**23**	P	**P**	**12 13 33.3**	**-0.4**
MSVF	**Nonsavu**	**29.98**	**23**	IAMs_20	IAMs_20	12 24 21.2	
	comp=Z,10μm,18.0s						
VNDA	**Vanda**	**31.57**	**182**	P	**P**	**12 13 47.7**	**+0.5**
	comp=Z,3.9nm,1.1s,baz=339,slow=6.2,SNR=6.2						
VNDA				LR	LR	12 24 03.9	
	comp=Z,6μm,20.6s,baz=19,slow=32						
VNDA	**Vanda**	**31.57**	**182**	P	**P**	**12 13 47.1**	**-0.1**
SBA	**Scott Base**	**31.87**	**180**	P	**P**	**12 13 50.1**	**+0.4**
SBA				pmax	pmax		
	comp=Z,116nm,1.9s						
SBA	**Scott Base**	**31.87**	**180**	P	**P**	**12 13 50.1**	**+0.4**
SBA				IAmb	IAmb	12 14 25.7	
	comp=Z,116nm,1.9s						
FORT	**Forrest**	**33.12**	**284**	P	**P**	**12 13 60.0**	**-1.2**
FORT				IAmb	IAmb	12 14 17.9	
	comp=Z,33nm,1.0s						
FORT				IAMs_20	IAMs_20	12 27 00.3	
	comp=Z,9μm,18.0s						
QIS	**Mount Isa**	**33.44**	**311**	P	**P**	**12 14 05.1**	**+1.1**
	baz=34,SNR=10						
ASAR	**Alice Springs**	**34.23**	**300**	P	**P**	**12 14 10.7**	**-0.3**
	comp=Z,8.3nm,0.9s,baz=131,slow=8.6,SNR=74						
ASAR				PcP	**PcP**	**12 16 46.8**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=131,slow=3.8,SNR=4.1						
ASAR				PKiKP	**PKiKP**	**12 24 08.9**	**-2.1**
	comp=Z,0.2nm,0.8s,baz=125,slow=1.2,SNR=5.0						
ASAR				LR	LR	12 28 01.5	
	comp=Z,5μm,18.4s,baz=141,slow=36						
AS31	**Alice Springs**	**34.23**	**300**	P	**P**	**12 14 10.2**	**-0.8**
CASY	**Casey**	**35.30**	**215**	P	**P**	**12 14 19.3**	**-0.4**
CASY				IAmb	IAmb	12 14 28.1	
	comp=Z,66nm,1.2s						
WRKA	**Warakurna**	**36.76**	**292**	P	**P**	**12 14 33.0**	**+0.3**
	baz=37,SNR=38						
WRAB	**Tennant Creek**	**36.84**	**304**	*d*iP	**P**	**12 14 33.0**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,43nm,1.6s						
WRAB	**Tennant Creek**	**36.84**	**304**	P	**P**	**12 14 32.3**	**-1.1**
HNR	**Honiara**	**36.91**	**350**	P	**P**	**12 14 33.9**	**-0.1**
HNR				pmax	pmax		
	comp=Z,556nm,1.4s						
HNR	**Honiara**	**36.91**	**350**	P	**P**	**12 14 33.9**	**-0.1**
AFI	**Afiamalu**	**37.12**	**37**	P

PSAC1 **Pilbara Seismi** **44.77 287** IAMs_20 IAMs_20 12 33 04.8
comp=Z,6µm,21.0s
PSAD1 **Pilbara Seismi** **44.81 287** IAMs_20 IAMs_20 12 33 27.2
comp=Z,6µm,21.0s
MBWA **Marble Bar** **45.08 288** IAMs_20 IAMs_20 12 33 13.2
comp=Z,5µm,20.0s
PPT2 **Papeete2** **46.35 67** *e*P **P** **12 15 52.9 +1.6**
comp=Z,56nm,1.5s
PPT2 *e*S **S** **12 22 37.8 -0.2**
comp=Z,2µm,28.2s
PPT2 *e*LQ LQ 12 26 22.7
comp=Z,4µm,29.2s
PPT2 *e*LR LR 12 28 48.8
comp=Z,6µm,26.8s
PPT **Papeete** **46.36 67** LR LR 12 33 48.1
comp=Z,2µm,18.1s,baz=220,slow=34
TVO **Taravao** **46.41 68** *e*P **P** **12 15 53.2 +1.3**
comp=Z,11nm,0.9s
MANU **Manus Island** **46.83 334** P **P** **12 15 54.1 -1.0**
MANU IAmb IAmb 12 16 08.6
comp=Z,104nm,1.6s
GIRL **Giralia** **47.77 281** IAMs_20 IAMs_20 12 36 13.3
comp=Z,4µm,18.0s
SAUI **Saumlaki** **48.30 311** P **P** **12 16 05.7 -0.8**
SAUI IAMs_20 IAMs_20 12 37 43.3
comp=Z,7µm,18.0s
GENI **Genyem** **48.88 325** P P 12 16 25.7 +15
SMPI **Sarmi** **50.03 323** P P 12 16 33.4 +14
SOEI **Soe** **50.79 302** P **P** **12 16 24.8 -0.8**
SOEI IAMs_20 IAMs_20 12 39 09.7
comp=Z,5µm,18.0s
MMRI **Maumere** **52.88 301** P P 12 16 58.0 +17
MMRI **Maumere** **52.88 301** P **P** **12 16 39.7 -1.4**
MMRI IAmb IAmb 12 17 22.3
comp=Z,64nm,1.2s
MAW **Mawson** **52.95 208** P **P** **12 16 40.9 0.0**
MAW pmax pmax
comp=Z,10.0nm,1.4s
MAW **Mawson** **52.95 208** LR LR 12 36 57.3
comp=Z,5µm,20.2s,baz=110,slow=34
MAW **Mawson** **52.95 208** P **P** **12 16 40.9 0.0**
SWI **Sorong** **54.41 315** P P 12 17 02.4 +10
TWSI **Taliwang, Sumb** **56.08 296** P **P** **12 17 05.7 +1.3**
comp=Z,57nm,1.1s,comp=Z,844nm
KAPI **Kappang** **57.24 301** P **P** **12 17 12.3 -0.3**
KAPI pmax pmax
comp=Z,131nm,1.7s
KAPI MLR MLR
comp=Z,2µm,19.0s
KAPI **Kappang** **57.24 301** P **P** **12 17 12.3 -0.3**
KAPI IAmb IAmb 12 17 38.4
comp=Z,131nm,1.6s
BNSI **Bone** **57.52 302** P **P** **12 17 17.5 +3.0**
comp=Z,37nm,1.9s,comp=Z,2µm
JAGI **Jajag, Banyuwa** **58.02 293** P **P** **12 17 17.3 -0.8**
JAGI IAmb IAmb 12 17 40.9
comp=Z,48nm,1.3s
SPSI **Sidrap Palu** **58.07 302** P **P** **12 17 20.4 +2.0**
comp=Z,34nm,1.0s,comp=Z,769nm
SYO **Syowa Base** **58.61 200**‖ *e*P **P** **12 17 22.0 +0.6**
SYO **Syowa Base** **58.61 200**‖ *e*pP pP 12 17 24.4 -2.5
LUWI **Luwuk** **58.71 307** P **P** **12 17 22.4 -0.5**
LUWI IAmb IAmb 12 18 31.9
comp=Z,48nm,0.9s
TAOE **Nuku Hiva Isla** **58.93 69** *e*S **S** **12 25 28.3 -1.7**
comp=Z,1µm,29.2s
TAOE *e*LR LR 12 34 37.3
comp=Z,4µm,29.2s
PWJI **Pagerwojo** **59.87 292** P **P** **12 17 33.3 +2.4**
comp=Z,23nm,1.1s
PCJI **Pacitan** **60.14 291** P **P** **12 17 35.9 +3.1**
comp=Z,68nm,1.6s,comp=Z,1µm
WOJI **Wonogiri, Jawa** **60.58 291** P **P** **12 17 39.3 +3.5**
NGJI **Ngawi** **60.58 292** P **P** **12 17 32.2 -3.6**
MPSI **Mapaga** **61.47 305** P **P** **12 17 43.7 +1.9**
comp=Z,52nm,1.2s,comp=Z,670nm
SMRI **Semarang** **61.48 291** P **P** **12 17 41.3 -0.7**
KPJI **Karang Pucung** **62.25 290** P **P** **12 17 49.7 +2.6**
comp=Z,46nm,1.2s,comp=Z,1µm
SNAA **Sanae** **62.27 184** P **P** **12 17 46.6 0.0**
SNAA **Sanae** **62.27 184** P **P** **12 17 46.7 +0.1**
comp=Z,19nm,0.8s,baz=260,slow=9.5,SNR=89
SNAA **Sanae** **62.27 184** P **P** **12 17 46.5 0.0**
SNAA IAmb IAmb 12 17 49.7
comp=Z,64nm,1.3s
PMSA **Palmer Station** **62.76 158** P **P** **12 17 50.0 +0.3**
PMSA IAmb IAmb 12 18 34.6
comp=Z,37nm,1.4s
CISI **Cisompet, Garu** **62.82 289** P P 12 18 02.7 +12
CISI **Cisompet, Garu** **62.82 289** P **P** **12 17 50.8 -0.2**
CISI IAmb IAmb 12 18 02.6
comp=Z,62nm,1.2s
VNA3 **Neumayer Olymp** **62.93 182** P **P** **12 17 51.2 +0.3**
VNA2 **Neumayer--Watz** **63.19 182** P **P** **12 17 52.6 -0.1**
baz=170,slow=4.2
VNA1 **Neumayer--Stat** **63.49 182** P **P** **12 17 55.0 +0.4**
KCP **Kidapawan** **64.25 314**‖ P P 12 18 08.5 +8.1
DBJI **Dramaga** **64.27 288** P **P** **12 18 03.6 +3.1**
comp=Z,83nm,1.0s,comp=Z,8µm
CGJI **Cibinong** **64.92 288** P **P** **12 18 06.8 +2.1**
comp=Z,35nm,1.0s,comp=Z,2µm
STKI **Sintang** **66.28 297** P P 12 18 22.0 +8.5
MDSI **Maura Dua** **67.50 288** P P 12 18 29.3 +8.0
SBUM **Sibu** **67.69 299** P **P** **12 18 22.2 -0.2**
SBUM IAmb IAmb 12 18 31.1
comp=Z,46nm,1.9s
KSM **Kuching** **68.10 297** P **P** **12 18 24.9 -0.1**
KSM IAmb IAmb 12 18 33.2
comp=Z,98nm,1.8s
KKM **Kota Kinabalu** **68.22 305** P **P** **12 18 25.3 -0.6**
KKM IAmb IAmb 12 18 38.7
comp=Z,40nm,1.2s
GO09 **Cerro Castillo** **70.74 145** P **P** **12 18 41.2 +0.2**
GO09 IAMs_20 IAMs_20 12 50 45.2
comp=Z,3µm,18.0s
BKNI **Bangkinang** **73.16 289** P **P** **12 18 55.2 -0.7**
POHA **Pohakuloa** **74.20 37** P **P** **12 19 00.9 -1.2**
KIP **Kipapa** **74.68 35** *e*P **P** **12 19 04.3 -0.2**
KIP pmax pmax
comp=Z,41nm,1.0s
KIP **Kipapa** **74.68 35** P **P** **12 19 04.4 -0.1**
OPA **Opana** **74.92 34** P **P** **12 19 06.0 +0.1**
OPA pmax pmax
comp=Z,158nm,1.0s
OPA **Opana** **74.92 34** P **P** **12 19 06.0 +0.1**
GSI **Gunungsitoli** **76.18 287** P P 12 19 23.6 +10
GSI **Gunungsitoli** **76.18 287** P **P** **12 19 12.8 -0.7**
GSI IAmb IAmb 12 19 23.0
comp=Z,75nm,1.2s
RPSI **Rantau Prapat** **76.32 289** P **P** **12 19 13.2 -1.0**
PSI **Prapat** **76.40 289** P **P** **12 19 13.2 -1.6**
PSI pmax pmax
comp=Z,20nm,1.2s
KULM **Kulim** **77.15 292** P **P** **12 19 18.1 -0.8**
KULM IAmb IAmb 12 19 26.9
comp=Z,39nm,1.5s
KCSI **Kotacane, Aceh** **77.70 288** P P 12 19 30.0 +8.0
TPTI **77.90 288** P P 12 19 30.7 +7.6
MLSI **Meulaboh, Aceh** **79.16 288** P P 12 19 41.0 +11
PLCA **Paso Flores** **79.87 140** P **P** **12 19 33.9 +0.2**
PLCA pmax pmax
comp=Z,60nm,1.4s
PLCA **Paso Flores** **79.87 140** P **P** **12 19 34.3 +0.6**
comp=Z,7.3nm,1.0s,baz=243,slow=3.5,SNR=8.9
PLCA **Paso Flores** **79.87 140** P **P** **12 19 33.9 +0.2**
PLCA IAmb IAmb 12 19 45.2
comp=Z,60nm,1.4s
GO06 **Curarrehue** **80.37 139** P **P** **12 19 36.5 0.0**
GO06 IAmb IAmb 12 19 47.7
comp=Z,69nm,1.6s
QIZ **Qiongzhong** **82.35 307** P **P** **12 19 46.8 -0.1**
QIZ S **S** **12 30 03.9 +1.8**
QIZ LR LR
comp=Z,700nm,18.0s
GO05 **Huala** **83.83 136** P **P** **12 19 55.4 +0.8**
JNU **Nakatsue** **85.03 331** P **P** **12 19 60.0 -0.4**
INU **Inuyama** **85.20 337** P **P** **12 20 00.9 -0.2**
INU IAmb IAmb 12 20 15.1
comp=Z,41nm,1.1s
NONG **Nongkai** **85.41 302** P P 12 20 16.4 +14
TRQA **Tornquist** **85.78 144** P **P** **12 20 03.9 -0.5**
TRQA pmax pmax
comp=Z,12nm,1.0s
TRQA **Tornquist** **85.78 144** P **P** **12 20 03.9 -0.5**
TRQA IAMs_20 IAMs_20 12 51 56.0
comp=Z,2µm,19.0s
ROC1 **El Roble** **85.92 135** P **P** **12 20 05.2 -0.2**
PEL **Peldehue** **85.94 135** P **P** **12 20 05.0 -0.3**
PEL pmax pmax
comp=Z,62nm,1.3s
PEL **Peldehue** **85.94 135** P **P** **12 20 05.0 -0.3**
PEL IAmb IAmb 12 20 16.8
comp=Z,62nm,1.3s
PEL IAMs_20 IAMs_20 12 53 15.2
comp=Z,2µm,18.0s
MJAR **Matsushiro Arr** **86.01 338** P **P** **12 20 06.6 +1.4**
comp=Z,10nm,0.9s,baz=161,slow=5.6,SNR=12
MAJO **Matsushiro** **86.01 338** P **P** **12 20 04.6 -0.5**
MAJO pmax pmax
comp=Z,62nm,1.5s
MAJO **Matsushiro** **86.01 338** P **P** **12 20 04.6 -0.5**
MAJO IAmb IAmb 12 20 18.0
comp=Z,62nm,1.5s
MAT **Matsushiro** **86.01 338** P **P** **12 20 06.3 +1.2**
MJB9 **Matsu-Tunnel** **86.01 338** P **P** **12 20 04.9 -0.2**
MJB9 IAmb IAmb 12 20 18.0
comp=Z,66nm,1.5s
H08S2 **Diego Garcia H** **87.03 262** T T 13 55 56.4
baz=136,slow=76
H08S1 **Diego Carcia H** **87.04 262** T T 13 55 57.5
baz=136,slow=76
H08S3 **Diego Garcia H** **87.04 262** T T 13 55 57.9
baz=136,slow=76
RER **Riviere de l'E** **88.16 241** IAMs_20 IAMs_20 12 52 07.4
comp=Z,3µm,18.0s
CM31 **Chiang Mai Arr** **88.24 299** P **P** **12 20 16.0 -0.4**
CM31 IAmb IAmb 12 20 38.8
comp=Z,20nm,1.1s
CMAR **Chiang Mai Arr** **88.24 299** P **P** **12 20 18.1 +1.7**
comp=Z,5.0nm,0.9s,baz=158,slow=3.3,SNR=20
CMAR LR LR 13 01 22.6
comp=Z,660nm,19.9s,baz=164,slow=37
GO04 **Tololo Observa** **88.29 133** P **P** **12 20 16.7 -0.2**
GO04 IAmb IAmb 12 20 27.3
comp=Z,23nm,1.3s
CHTO **Chiang Mai** **88.51 299** P **P** **12 20 18.4 +0.8**
CHTO pmax pmax
comp=Z,12nm,1.0s
CHTO MLR MLR
comp=Z,800nm,19.0s
CHTO **Chiang Mai** **88.51 299** P **P** **12 20 18.4 +0.8**
NJ2 **Nanjing** **88.74 321** *e*P **P** **12 20 19.1 +0.7**
NJ2 pmax pmax
comp=Z,16nm,1.0s
WHN **Wuhan** **89.50 317** P P 12 20 34.3 +12
WHN pmax pmax
comp=Z,300nm,1.8s
KSRS **Korea Array** **89.97 331** P **P** **12 20 26.6 +2.6**
comp=Z,4.9nm,1.1s,baz=141,slow=5.8,SNR=10
KSRS LR LR 13 00 02.4
comp=Z,206nm,18.5s,baz=150,slow=35
GYA **Guiyang** **90.05 309** *e*P **P** **12 20 29.1 +4.3**
GYA PP **PP** **12 24 06.1 +7.6**
GYA S **S** **12 31 22.8 +5.6**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,170nm,6.7s
GYA LR LR
comp=Z,300nm,19.6s
GYA LR LR
comp=Z,310nm,19.8s
GYA LR LR
comp=Z,230nm,20.3s
KMI **Kunming** **91.15 306** P **P** **12 20 32.8 +2.6**
KMI sP sP 12 20 39.4 +1.5
KMI SKS **SKSac** **12 31 03.4 +1.8**
KMI S **S** **12 31 29.3 +1.7**
KMI pmax pmax
comp=Z,11nm,2.0s
KMI LR LR
comp=Z,470nm,19.0s
KMI LR LR
comp=Z,640nm,19.6s
KMI LR LR
comp=Z,840nm,27.3s
YUK **Yuzh-Kuril'sk** **91.52 346** *e*P P 12 20 25.4 -5.6
YUK *e*S **SKSac** **12 30 53.8 -8.4**
YUK MLR MLR
comp=Z,625nm,19.0s
GO02 **Mina Guanaco** **92.98 131** P **P** **12 20 38.2 -0.8**
GO02 IAMs_20 IAMs_20 12 54 28.8
comp=Z,2µm,20.0s
DL2 **Dalian** **93.53 327** *e*P **P** **12 20 36.8 -3.7**
DL2 PP **PP** **12 24 25.6 -0.1**
DL2 **Dalian** **93.53 327** S **S** **12 31 43.3 -4.4**
DL2 **Dalian** **93.53 327** SS SS 12 38 04.3 -1.8
DL2 pmax pmax
comp=Z,19nm,0.9s
DL2 pmax pmax
comp=Z,260nm,8.2s
DL2 LR LR
comp=N,330nm,15.1s
DL2 LR LR
comp=E,660nm,16.6s
DL2 LR LR
comp=Z,780nm,19.8s
CD2 **Chengdu** **95.12 310** P **P** **12 20 48.5 +0.4**
CD2 S **S** **12 32 03.1 +0.9**
CD2 LR LR
comp=Z,730nm,14.2s
CD2 LR LR
comp=Z,900nm,17.2s
CN2 **Changchun** **96.48 332** *e*P **P** **12 20 54.8 +0.9**
CN2 *e*S **S** **12 32 11.3 -1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,400nm,17.0s
BJI **Beijing** **96.67 324** *e*P **P** **12 20 56.0 +1.2**
BJI S **S** **12 32 19.9 +5.0**
BJI pmax pmax
comp=Z,5.0nm,0.7s
BJI LR LR
comp=Z,480nm,17.2s
PB11 **IPOC Station P** **97.34 128** IAMs_20 IAMs_20 12 55 33.4
comp=Z,2µm,21.0s
CPUP **Villa Florida** **97.87 142** P **P** **12 21 00.6 -0.2**
comp=Z,1.7nm,1.0s,baz=164,slow=4.1,SNR=3.0
MNMC **Minye Minye** **97.88 128** IAMs_20 IAMs_20 12 55 58.9
comp=Z,2µm,21.0s
PET **Petropavlovsk** **98.95 355** *e*P Pdif 12 21 05.8 +1.1
PET *e*S **S** **12 32 30.8 -2.9**
PET *e*SS **SS** **12 39 22.5 +0.2**
PET MLR MLR
comp=Z,400nm,21.0s
PET MLR MLR
comp=Z,800nm,18.0s
LZH **Lanzhou** **99.12 313** *e*P **Pdif** **12 21 06.9 +0.7**
LZH pP pP 12 21 10.3 -1.6
LZH sP sP 12 21 13.3 -0.5
LZH PP **PP** **12 25 09.5 +0.3**
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,65nm,5.4s
LZH LR LR
comp=Z,530nm,15.7s
LZH LR LR
comp=Z,560nm,17.3s
LZH LR LR
comp=Z,910nm,17.9s
HHC **Hu-ho-hao-te** **99.29 321** *e*P **Pdif** **12 21 08.9 +2.1**
HHC pmax pmax
comp=Z,3.0nm,0.5s
NNA **Nana** **99.31 118** IAMs_20 IAMs_20 13 01 16.6
comp=Z,2µm,18.0s
MSEY **Mahe Island** **100.71 252** IAMs_20 IAMs_20 13 01 47.5
comp=Z,1µm,18.0s
NIKH **Nikolski High** **101.00 15** IAMs_20 IAMs_20 13 03 11.3
comp=Z,1µm,19.0s
SRIG **Santa Rosalia** **103.79 65** IAMs_20 IAMs_20 13 06 09.1
comp=Z,2µm,18.0s
CNBA **Chernabura Isl** **104.67 20** IAMs_20 IAMs_20 13 00 11.7
comp=Z,2µm,22.0s
109C **Camp Elliot, M** **104.76 58** IAMs_20 IAMs_20 13 04 29.4
comp=Z,2µm,19.0s
SPIA **Saint Paul Isl** **104.79 13** IAMs_20 IAMs_20 13 09 03.8
comp=Z,2µm,20.0s
BAR **Barrett** **104.86 58** IAMs_20 IAMs_20 13 04 31.8
comp=Z,2µm,19.0s
SDPT **Sand Point** **104.95 19** IAMs_20 IAMs_20 13 00 11.8
comp=Z,2µm,22.0s
PAGB **Antelope Grade** **104.98 54** IAMs_20 IAMs_20 13 07 51.2
comp=Z,2µm,19.0s
PASC **Pasadena Art C** **105.04 56** IAMs_20 IAMs_20 13 04 38.9
comp=Z,2µm,19.0s
OSI **Osito Audit: C** **105.05 56** IAMs_20 IAMs_20 13 05 06.0
comp=Z,2µm,19.0s
SAO **San Andreas Ge** **105.06 52** IAMs_20 IAMs_20 13 01 14.3
comp=Z,2µm,20.0s
MWC **Mount Wilson** **105.15 56** IAMs_20 IAMs_20 13 10 03.8
comp=Z,2µm,18.0s
HSIG **105.79 65** IAMs_20 IAMs_20 13 00 48.0
comp=Z,1µm,21.0s
ISA **Isabella, Lake** **105.94 55** IAMs_20 IAMs_20 13 05 45.6
comp=Z,2µm,19.0s
TLIG **Tlapa** **106.11 81** IAMs_20 IAMs_20 13 02 59.0
comp=Z,2µm,19.0s
CMB **Columbia Colle** **106.56 52** IAMs_20 IAMs_20 13 09 24.0
comp=Z,2µm,19.0s
AFDM **Forest Hills D** **106.89 51** IAMs_20 IAMs_20 13 13 53.8
comp=Z,2µm,19.0s
ZAIG **Zacatecas** **106.96 75** IAMs_20 IAMs_20 13 05 16.5
comp=Z,2µm,18.0s
OMMB **Old Mammoth Mi** **107.03 53** IAMs_20 IAMs_20 13 02 06.4
comp=Z,2µm,22.0s
ORV **Oroville** **107.05 50** IAMs_20 IAMs_20 13 02 39.8
comp=Z,2µm,20.0s
RUBR **Rubicon Trail** **107.41 52** IAMs_20 IAMs_20 13 00 27.6
comp=Z,2µm,22.0s
WAKR **Walker** **107.42 52** IAMs_20 IAMs_20 13 02 49.7
comp=Z,2µm,22.0s
PNTR **Pine Nut** **107.74 52** IAMs_20 IAMs_20 13 10 20.3
comp=Z,2µm,19.0s
VCNR **Virginia City** **107.86 52** IAMs_20 IAMs_20 13 07 32.5
comp=Z,2µm,20.0s
YERR **Yerington** **107.87 52** IAMs_20 IAMs_20 13 02 40.6
comp=Z,2µm,20.0s
BEKR **Beckworth** **107.88 51** IAMs_20 IAMs_20 13 03 16.0
comp=Z,2µm,21.0s
RYN **Ryan** **108.01 53** IAMs_20 IAMs_20 13 02 58.4
comp=Z,2µm,20.0s
NV11 **Mina Array Sit** **108.08 53** IAMs_20 IAMs_20 13 02 39.2
comp=Z,2µm,22.0s
TPNV **Topopah Spring** **108.11 55** IAMs_20 IAMs_20 13 07 16.3
comp=Z,2µm,19.0s
TUC **Tucson** **108.16 62** IAMs_20 IAMs_20 13 02 16.8
comp=Z,1µm,20.0s
W13A **Hualapai Mount** **108.21 58** IAMs_20 IAMs_20 13 06 07.8
comp=Z,2µm,19.0s
PAHR **Pah Rah Range** **108.30 52** IAMs_20 IAMs_20 13 12 53.1
comp=Z,2µm,18.0s
OHAK **Old Harbor** **108.39 22** IAMs_20 IAMs_20 13 03 04.0
comp=Z,2µm,20.0s
SHPR **Sheep Range** **108.44 56** IAMs_20 IAMs_20 13 12 48.8
comp=Z,2µm,19.0s
319A **Douglas** **108.46 64** IAMs_20 IAMs_20 13 02 40.6
comp=Z,1µm,19.0s
KVN **Kaiserville** **108.54 53** IAMs_20 IAMs_20 13 03 15.4
comp=Z,2µm,21.0s
KDAK **Kodiak Island** **109.06 22** IAMs_20 IAMs_20 13 02 38.8
comp=Z,2µm,22.0s
X16A **Lo Mia Camp, P** **109.20 60** IAMs_20 IAMs_20 13 06 21.2
comp=Z,1µm,19.0s
SAML **Samuel** **109.74 127** IAMs_20 IAMs_20 13 00 47.4
comp=Z,1µm,18.0s
SNET **Serv Nac Est T** **109.91 91** IAMs_20 IAMs_20 13 07 42.8
comp=Z,1µm,18.0s
WUAZ **Wupatki** **109.99 59** IAMs_20 IAMs_20 13 07 15.0
comp=Z,2µm,19.0s
BMN **Battle Mountai** **109.99 52** IAMs_20 IAMs_20 13 13 50.8
comp=Z,2µm,18.0s
U15A **North Rim** **110.06 58** IAMs_20 IAMs_20 13 07 26.9
comp=Z,1µm,19.0s
121A **Cookes Peak, D** **110.17 64** IAMs_20 IAMs_20 13 05 11.1
comp=Z,2µm,20.0s
X18A **Snowflake** **110.18 61** IAMs_20 IAMs_20 13 06 24.2
comp=Z,1µm,19.0s
EPT **El Paso** **110.47 65** IAMs_20 IAMs_20 13 09 59.9
comp=Z,2µm,18.0s
JTS **Las Juntas de** **110.50 97** IAMs_20 IAMs_20 13 03 14.3
comp=Z,1µm,20.0s
WVOR **Wild Horse Val** **110.61 50** IAMs_20 IAMs_20 13 05 04.7
comp=Z,2µm,21.0s
HDC **Heredia** **110.87 97** IAMs_20 IAMs_20 13 02 23.2
comp=Z,1µm,21.0s
MNTX **Cornudas Mount** **111.13 66** IAMs_20 IAMs_20 13 09 43.5
comp=Z,2µm,18.0s
BRLK **Bradley Lake** **111.23 22** IAMs_20 IAMs_20 13 08 07.6
comp=Z,2µm,20.0s
BDFB **Brasilia** **111.27 145** IAMs_20 IAMs_20 13 07 38.3
comp=Z,2µm,20.0s
ELK **Elko** **111.30 53** IAMs_20 IAMs_20 13 12 21.6
comp=Z,2µm,18.0s
Y22D **IRIS PASSCAL I** **111.74 63** IAMs_20 IAMs_20 13 06 18.5
comp=Z,2µm,19.0s
ESPN **Las Esperanzas** **112.29 96** IAMs_20 IAMs_20 13 13 15.9
comp=Z,1µm,19.0s
DUG **Dugway, Tooele** **112.30 55** IAMs_20 IAMs_20 13 11 44.0
comp=Z,1µm,19.0s
ANMO **Albuquerque** **112.60 63** IAMs_20 IAMs_20 13 07 26.7
comp=Z,2µm,19.0s
MVCO **Mesa Verde** **112.84 60** IAMs_20 IAMs_20 13 07 13.6
comp=Z,2µm,20.0s
HAWA **Hanford** **112.88 46** IAMs_20 IAMs_20 13 16 28.1
comp=Z,1µm,19.0s
SKT **Skwentna** **112.98 20** IAMs_20 IAMs_20 13 14 48.3
comp=Z,1µm,20.0s
WMQ **Urumqi** **113.21 310** *e*PKP **PKiKP** **12 26 02.5 +0.4**
WMQ LR LR
comp=Z,670nm,27.3s
WMQ LR LR
comp=Z,560nm,24.7s
KNK **Knik Glacier** **113.27 22** IAMs_20 IAMs_20 13 09 40.9
comp=Z,1µm,18.0s
KVTX **Kingsville** **113.29 74** IAMs_20 IAMs_20 13 09 04.2
comp=Z,1µm,19.0s
BILL **Bilibino** **113.81 0**‖ *i*PKIKP **PKiKP** **12 26 02.4 0.0**
BILL *e*PPP PPP 12 29 21.6
BILL pmax pmax
comp=Z,1.0nm,1.1s
BILL MLR MLR
comp=Z,995nm,20.0s
SCM **Sheep Creek Mo** **113.91 22** IAMs_20 IAMs_20 13 10 28.0
comp=Z,1µm,20.0s
JCT **Junction City** **113.94 70** IAMs_20 IAMs_20 13 11 03.8
comp=Z,2µm,18.0s
HWUT **Hardware Ranch** **113.94 54** IAMs_20 IAMs_20 13 13 48.4
comp=Z,2µm,18.0s
SOCY **Socotra** **113.98 263** IAMs_20 IAMs_20 13 06 37.7
comp=Z,2µm,18.0s
CRQM **Cirque** **114.18 25** IAMs_20 IAMs_20 13 09 47.6
comp=Z,2µm,20.0s
S22A **4UR Ranch, Cre** **114.20 60** IAMs_20 IAMs_20 13 06 40.5
comp=Z,1µm,21.0s
MSTX **Muleshoe** **114.28 66** IAMs_20 IAMs_20 13 06 31.7
comp=Z,1µm,20.0s
KTH **Kantishna Hill** **114.48 20** IAMs_20 IAMs_20 13 08 02.8
comp=Z,2µm,20.0s
TRF **Thorofare Moun** **114.54 20** IAMs_20 IAMs_20 13 15 38.5
comp=Z,2µm,20.0s
CTGM **Chitina Glacie** **114.88 25** IAMs_20 IAMs_20 13 05 56.8
comp=Z,2µm,21.0s
BPAW **Bear Paw Mtn.** **114.93 19** IAMs_20 IAMs_20 13 20 49.8
comp=Z,1µm,19.0s
KMBO **Kilima Mbogo** **114.97 239** IAMs_20 IAMs_20 13 04 14.5
comp=Z,1µm,20.0s
SMCO **Snowmass** **115.03 59** IAMs_20 IAMs_20 13 11 01.6
comp=Z,2µm,21.0s
TEIG **Tepich** **115.03 86** IAMs_20 IAMs_20 13 06 27.9
comp=Z,2µm,19.0s
MCK **McKinley** **115.10 20** IAMs_20 IAMs_20 13 06 42.3
comp=Z,2µm,21.0s
T25A **Trinidad** **115.28 62** IAMs_20 IAMs_20 13 06 50.3
comp=Z,2µm,21.0s
BWN **Browne** **115.35 20** IAMs_20 IAMs_20 13 07 02.9
comp=Z,2µm,22.0s
ABTX **Abilene, Hawle** **115.42 69** IAMs_20 IAMs_20 13 09 24.1
comp=Z,2µm,18.0s
435B **Jarrell** **115.59 72** IAMs_20 IAMs_20 13 08 35.6
comp=Z,1µm,19.0s
SKAG **Skagway** **115.62 29** IAMs_20 IAMs_20 13 10 52.3
comp=Z,2µm,21.0s
NEA **Nenana** **115.78 20** IAMs_20 IAMs_20 13 16 17.6

	comp=Z,1μm,19.0s							
MLY	**Manley**	**115.78**	**19**	IAMs_20	IAMs_20	13 11 50.2		
	comp=Z,1μm,18.0s							
MOOW	**Moose Ponds**	**115.79**	**53**	IAMs_20	IAMs_20	13 17 19.2		
	comp=Z,2μm,18.0s							
PDAR	**Pinedale Array**	**115.83**	**55**	PKP	**PKPdf**	**12 26 07.0**	**-0.3**	
	comp=Z,0.3nm,0.5s,baz=98,slow=4.5,SNR=4.3							
WRH	**Wood River Hil**	**115.93**	**20**	IAMs_20	IAMs_20	13 07 08.1		
	comp=Z,2μm,22.0s							
FLWY	**Flagg Ranch**	**116.03**	**53**	IAMs_20	IAMs_20	13 15 39.6		
	comp=Z,1μm,18.0s							
RIDG	**Independent Ri**	**116.14**	**22**	IAMs_20	IAMs_20	13 11 27.8		
	comp=Z,1μm,18.0s							
CCB	**Clear Creek Bu**	**116.14**	**20**	IAMs_20	IAMs_20	13 07 23.8		
	comp=Z,2μm,22.0s							
HDA	**Harding Lake**	**116.15**	**21**		**PKiKP**	**12 26 07.2**	**+0.2**	
HKT	**Hockley**	**116.22**	**73**	IAMs_20	IAMs_20	13 10 50.4		
	comp=Z,1μm,20.0s							
H17A	**Grant Village**	**116.30**	**53**	IAMs_20	IAMs_20	13 08 09.7		
	comp=Z,2μm,20.0s							
COLA	**College**	**116.32**	**20**	IAMs_20	IAMs_20	13 11 18.5		
	comp=Z,2μm,20.0s							
WHTX	**Lake Whitney,**	**116.44**	**71**	IAMs_20	IAMs_20	13 13 12.2		
	comp=Z,2μm,19.0s							
IL31		**116.47**	**21**		**PKPdf**	**12 26 06.9**	**-0.6**	
ILAR	**Eielson Array**	**116.47**	**21**	PKP	**PKPdf**	**12 26 07.2**	**-0.4**	
	comp=Z,2.8nm,1.1s,baz=273,slow=3.6,SNR=11							
ILAR				PKKPbc	**PKKPbc**	**12 36 35.4**	**-1.2**	
	comp=Z,0.5nm,0.8s,baz=358,slow=1.9,SNR=5.5							
BOZ	**Bozeman (W)**	**116.48**	**51**	IAMs_20	IAMs_20	13 23 15.6		
	comp=Z,1μm,19.0s							
LKWY	**Lake**	**116.50**	**53**	IAMs_20	IAMs_20	13 17 13.1		
	comp=Z,2μm,18.0s							
SCRK	**Sand Creek**	**116.55**	**22**		**PKiKP**	**12 26 08.2**	**+0.2**	
N23A	**Red Feather La**	**116.73**	**58**	IAMs_20	IAMs_20	13 11 16.5		
	comp=Z,2μm,20.0s							
KSH	**Kashi**	**117.13**	**300**	*e*PKP	**PKPdf**	**12 26 08.3**	**-1.5**	
WMOK	**Wichita Mounta**	**117.31**	**67**	PKiKP	**PKPdf**	**12 26 09.5**	**-0.7**	
WMOK	**Wichita Mounta**	**117.31**	**67**		**PKPdf**	**12 26 09.5**	**-0.7**	
WMOK	**Wichita Mounta**	**117.31**	**67**	IAMs_20	IAMs_20	13 07 39.1		
	comp=Z,2μm,21.0s							
K22A	**Casper**	**117.49**	**56**	IAMs_20	IAMs_20	13 12 44.5		
	comp=Z,2μm,19.0s							
MKAR	**Makanchi Array**	**118.04**	**309**	PKP	**PKPdf**	**12 26 10.9**	**-0.3**	
	comp=Z,1.3nm,0.8s,baz=182,slow=2.9,SNR=6.7							
NATX	**Nacogdoches**	**118.14**	**72**	IAMs_20	IAMs_20	13 07 30.2		
	comp=Z,1μm,21.0s							
FYU	**Fort Yukon**	**118.33**	**20**	IAMs_20	IAMs_20	13 12 31.7		
	comp=Z,2μm,20.0s							
TOLK	**Toolik Lake Re**	**119.08**	**17**		**PKiKP**	**12 26 12.9**	**+0.2**	
SDV	**Santo Domingo**	**119.19**	**109**	IAMs_20	IAMs_20	13 10 35.0		
	comp=Z,1μm,20.0s							
AAK	**Ala-Archa**	**119.92**	**302**	*i* PKIKP	**PKPdf**	**12 26 13.8**	**-1.4**	
LAO	**LASA Array**	**120.12**	**53**		**PKPdf**	**12 26 15.3**	**0.0**	
TIXI	**Tiksi**	**120.38**	**347**	*i* PKIKP	**PKPdf**	**12 26 12.2**	**-2.7**	
TIXI				pmax	pmax			
	comp=Z,18nm,2.7s							
TIXI	**Tiksi**	**120.38**	**347**		**PKPdf**	**12 26 14.2**	**-0.6**	
ATD	**Arta Tunnel**	**121.08**	**253**	IAMs_20	IAMs_20	13 11 44.7		
	comp=Z,1μm,19.0s							
ZALV	**Zalesovo Beam**	**121.11**	**317**	PKP	**PKPdf**	**12 26 15.7**	**-1.1**	
	comp=Z,0.5nm,0.5s,baz=90,slow=1.4,SNR=3.2							
W41B	**Gary Mavity, V**	**121.82**	**71**	IAMs_20	IAMs_20	13 17 06.7		
	comp=Z,1μm,18.0s							
FURI	**Furi**	**121.86**	**248**	IAMs_20	IAMs_20	13 10 12.1		
	comp=Z,1μm,20.0s							
WHAR	**Wooly Hollow**	**121.87**	**71**	IAMs_20	IAMs_20	13 11 32.8		
	comp=Z,2μm,21.0s							
DAMY	**Dhamar**	**122.23**	**257**	IAMs_20	IAMs_20	13 09 52.7		
	comp=Z,1μm,20.0s							
DGMT	**Dagmar**	**122.27**	**52**		**PKPdf**	**12 26 19.0**	**-0.3**	
KURK	**Kurchatov**	**122.32**	**311**	*c i* PKIKP	**PKiKP**	**12 26 19.9**	**+0.5**	
KURK				pmax	pmax			
	comp=Z,30nm,1.0s							
KURK	**Kurchatov**	**122.32**	**311**		**PKPdf**	**12 26 19.0**	**-0.2**	
X43A	**Marvell**	**122.33**	**72**	IAMs_20	IAMs_20	13 10 21.2		
	comp=Z,2μm,21.0s							
INK	**Inuvik**	**122.61**	**23**	PKIKP	**PKPdf**	**12 26 18.7**	**-0.6**	
INK	**Inuvik**	**122.61**	**23**		**PKPdf**	**12 26 18.7**	**-0.6**	
MGMO	**Mountain Grove**	**122.98**	**69**		**PKPdf**	**12 26 20.1**	**-0.9**	
ECSD	**EROS Data Cent**	**123.99**	**60**		**PKPdf**	**12 26 22.0**	**-0.7**	
PARMO	**Parma**	**124.34**	**71**	IAMs_20	IAMs_20	13 17 32.2		
	comp=Z,1μm,19.0s							
HENM	**Henderson Moun**	**124.55**	**71**	IAMs_20	IAMs_20	13 14 45.2		
	comp=Z,1μm,20.0s							
RCBR	**Riachuelo**	**124.72**	**153**	IAMs_20	IAMs_20	13 30 09.3		
	comp=Z,1μm,19.0s							
YKA	**Yellowknife Ar**	**125.19**	**34**	PKP	**PKPdf**	**12 26 23.4**	**-0.9**	
	comp=Z,1.9nm,0.8s,baz=225,slow=1.8,SNR=20							
N41A	**Harden Midland**	**125.89**	**66**		**PKPdf**	**12 26 25.8**	**-0.7**	
SWET	**Sewanee**	**126.04**	**74**	IAMs_20	IAMs_20	13 14 07.4		
	comp=Z,1μm,21.0s							
FFC	**Flin Flon**	**126.78**	**46**	*c i* PKIKP	**PKiKP**	**12 26 29.1**	**+0.9**	
FFC				pmax	pmax			
	comp=Z,49nm,2.5s							
FFC	**Flin Flon**	**126.78**	**46**		**PKPdf**	**12 26 27.7**	**0.0**	
AGMN	**Agassiz Nation**	**126.86**	**56**	IAMs_20	IAMs_20	13 18 25.3		
	comp=Z,1μm,20.0s							
WCI	**Wyandotte Cave**	**127.49**	**71**	PKIKP	**PKPdf**	**12 26 28.8**	**-0.8**	
WCI	**Wyandotte Cave**	**127.49**	**71**		**PKPdf**	**12 26 28.8**	**-0.8**	
ULM	**Lac du Bonnet**	**127.83**	**54**	PKP	**PKPdf**	**12 26 28.1**	**-1.8**	
	comp=Z,1.4nm,0.5s,baz=221,slow=4.8,SNR=4.7							
BRVK	**Borovoye**	**127.95**	**310**	*c i* PKIKP	**PKiKP**	**12 26 31.2**	**+0.6**	
BRVK				pmax	pmax			
	comp=Z,30nm,2.5s							
V53A	**Saluda**	**128.39**	**76**	IAMs_20	IAMs_20	13 23 05.7		
	comp=Z,1μm,19.0s							
SVB	**Belmont**	**128.54**	**114**	IAMs_20	IAMs_20	13 11 37.6		
	comp=Z,2μm,22.0s							
S51A	**Beattyville**	**128.96**	**73**	PKPdf	**PKPdf**	**12 26 31.0**	**-1.4**	
MCLT	**Moule a Chique**	**129.07**	**114**	IAMs_20	IAMs_20	13 23 40.4		
	comp=Z,1μm,21.0s							
Y57A	**Sumter**	**129.11**	**79**	IAMs_20	IAMs_20	13 18 31.2		
	comp=Z,1μm,18.0s							
BIRD	**Birdtown, Kers**	**129.41**	**78**	IAMs_20	IAMs_20	13 18 47.7		
	comp=Z,1μm,20.0s							
Q51A	**Peebles**	**129.86**	**72**		**PKPdf**	**12 26 33.6**	**-0.5**	
X58A	**Rowland**	**130.13**	**79**	IAMs_20	IAMs_20	13 19 32.2		
	comp=Z,1μm,20.0s							
U56A	**King**	**130.41**	**76**	IAMs_20	IAMs_20	13 21 21.1		
	comp=Z,1μm,18.0s							
SABA	**Saba**	**130.44**	**108**	IAMs_20	IAMs_20	13 23 31.4		
	comp=Z,1μm,19.0s							
SMRT	**St. Maarten**	**130.86**	**108**	IAMs_20	IAMs_20	13 22 13.5		
	comp=Z,1μm,18.0s							
V58A	**Windy Hill, Pi**	**130.97**	**78**	IAMs_20	IAMs_20	13 17 25.4		
	comp=Z,959nm,18.0s							
ARU	**Arti**	**135.52**	**311**	*i* PKIKP	**PKiKP**	**12 26 52.9**	**+7.2**	
AKT	**Akhty**	**136.23**	**287**	*e*PKIKP	**PKPdf**	**12 26 45.0**	**-1.1**	
AKT				*e*		12 29 26.6		
AKT				*e*		12 33 55.0		
AKT				pmax	pmax			
	comp=Z,21nm,1.1s							
LIC	**Lamto**	**139.54**	**194**	*e*PKP1	PKPdf	12 26 41.6	-11	
	comp=Z,5.8nm,1.0s							
KIC	**Kosan Boka**	**139.62**	**194**	*e*PKP1	PKPdf	12 26 42.3	-11	
	comp=Z,23nm,1.4s							
DBIC	**Dimbokro**	**139.94**	**194**	PKhKP	PKPpre	12 26 45.1		
	comp=Z,2.2nm,0.6s,baz=156,slow=6.8,SNR=5.2							
TIC	**Toumodi**	**139.95**	**194**	*e*PKP1	PKPdf	12 26 41.4	-12	
KBZ	**Khabaz**	**140.42**	**288**	*i* PKIKP	**PKPdf**	**12 26 53.0**	**-0.6**	
SHA1	**Shidzhatmaz**	**140.58**	**288**	*i* PKIKP	**PKPdf**	**12 26 53.3**	**-0.9**	
KIV	**Kislovodsk**	**140.65**	**288**	*i* PKIKP	**PKiKP**	**12 26 55.6**	**-1.1**	
KIV				pmax	pmax			
	comp=Z,23nm,1.1s							
CEYT	**Ceyhan**	**142.27**	**274**	*e*P	**PKPdf**	**12 26 52.4**	**-4.7**	
SOC	**Sochi**	**142.48**	**286**	*e*PKIKP	**PKPdf**	**12 26 57.1**	**-0.2**	
SOC				*e*		12 30 02.6		
SOC				pmax	pmax			
	comp=Z,6.0nm,0.4s							
SOC				MLR	MLR			
	comp=Z,619nm,17.0s							
SVSK	**Karacayir**	**142.78**	**279**	*e*P	**PKPdf**	**12 26 56.6**	**-1.3**	
KARA	**Karaisali**	**142.87**	**274**	*e*P	**PKPdf**	**12 26 54.9**	**-3.3**	
PRGR	**Permogore**	**143.07**	**317**	*e*PKIKP	**PKPdf**	**12 26 56.4**	**-1.3**	
PRGR				pmax	pmax			
	comp=Z,9.0nm,0.5s							
TOKT	**Tokat**	**143.27**	**280**	*e*P	**PKiKP**	**12 27 02.9**	**+0.7**	
LEF	**Lefka**	**143.29**	**270**	*e*P	**PKiKP**	**12 27 02.8**	**+0.5**	
IKL	**Isikli**	**143.31**	**272**	*e*P	PKPbc	12 26 56.4	+0.2	
KEBE	**Keben-Mersin**	**143.40**	**272**	*e*P	PKPbc	12 26 56.3	-0.2	
YOZ	**Yozgat**	**143.81**	**278**	*e*P	PKPab	12 26 56.7	-0.3	
KVT	**Kavak**	**143.94**	**280**	*e*P	PKPbc	12 26 57.9	0.0	
SULT	**Sultanhani-AKS**	**144.40**	**275**	*e*P	**PKiKP**	**12 27 05.6**	**+1.0**	
ANN	**Anapa**	**144.46**	**287**	*e*PKIKP	**PKPdf**	**12 27 01.5**	**+0.8**	
ANN				pmax	pmax			
	comp=Z,45nm,1.2s							
CORM	**Corum**	**144.53**	**278**	*e*P	PKPbc	12 27 00.5	+0.6	
YAYX	**Yaylak**	**144.53**	**276**	*e*P	**PKPab**	**12 26 58.9**	**-0.8**	
TOA0	**Torodi Ar. Sit**	**144.60**	**207**		**PKPab**	**12 27 00.0**	**-0.4**	
TORD	**Torodi Ar. Bea**	**144.60**	**207**	PKP	**PKPab**	**12 27 00.1**	**-0.3**	
	comp=Z,13nm,0.7s,baz=162,slow=1.6,SNR=55							
BATG	**Bathurst New B**	**144.77**	**69**		**PKPab**	**12 26 59.8**	**-0.4**	
BR131	**Keskin Array S**	**145.01**	**277**	PKiKP	PKPbc	12 27 01.1	-0.4	
BR131	**Keskin Array S**	**145.01**	**277**		PKPbc	12 27 01.1	-0.4	
BRTR	**Keskin Array B**	**145.01**	**277**	PKPbc	**PKPab**	**12 27 01.5**	**0.0**	
	comp=Z,13nm,0.8s,baz=125,slow=3.9,SNR=26							
BRTR	**Keskin Array B**	**145.01**	**277**	*e*P	**PKPdf**	**12 27 01.9**	**-0.2**	
KONT	**Konya--Tatoy**	**145.08**	**273**	*e*P	**PKPab**	**12 27 01.8**	**+0.2**	
LADK	**Ladik-KONYA**	**145.19**	**274**	*e*P	PKPbc	**12 27 00.5**	**-1.6**	
AFSR	**Afar-Bala (An**	**145.28**	**276**	*e*P	**PKPdf**	**12 27 02.5**	**0.0**	
CANT	**Cankiri**	**145.41**	**278**	*e*P	PKPbc	12 27 01.9	-0.7	
HAL	**Halifax**	**145.53**	**74**	PKP2	**PKPdf**	**12 27 02.3**	**-0.3**	
HAL	**Halifax**	**145.53**	**74**		**PKPdf**	**12 27 02.3**	**-0.3**	
HOPEN	**Hopen**	**145.61**	**345**	*e*PKPdf	**PKPab**	**12 27 02.4**	**0.0**	
ANTO	**Ankara**	**145.66**	**277**	*e*P	**PKPdf**	**12 27 00.8**	**-2.3**	
KBS	**Kingsbay**	**145.66**	**351**	*e*PKPdf	**PKPab**	**12 27 02.4**	**-0.1**	
LOD	**Lodumlu**	**145.69**	**277**	*e*P	**PKPdf**	**12 27 01.7**	**-1.4**	
SPA0	**Spitsbergen Ar**	**145.76**	**349**	*e*PKPbc	**PKPab**	**12 27 02.8**	**-0.2**	
SPA0	**Spitsbergen Ar**	**145.76**	**349**		PKPbc	**12 27 02.4**	**-0.2**	
KIZT	**Kizilcal**	**145.85**	**275**	*e*P	**PKPdf**	**12 27 02.2**	**-1.3**	
SCHQ	**Schefferville**	**145.96**	**56**	PKPbc	**PKPdf**	**12 27 03.1**	**0.0**	
	comp=Z,44nm,0.9s,baz=277,slow=3.7,SNR=27							
SCHQ	**Schefferville**	**145.96**	**56**		**PKPdf**	**12 27 02.7**	**-0.4**	
ELL	**Elmali**	**146.20**	**270**	PKP2	**PKPdf**	**12 27 03.8**	**-0.4**	
ELL				MLR	MLR			
	comp=Z,2μm,18.0s							
ELL	**Elmali**	**146.20**	**270**		**PKPdf**	**12 27 03.8**	**-0.4**	
AUSIV	**SIVRIHISAR**	**146.34**	**275**	*e*P	**PKPbc**	**12 27 05.0**	**-0.6**	
TMCR	**Tamitsa**	**146.45**	**321**	*e*PKP2	**PKPbc**	**12 27 04.9**	**0.0**	
TMCR				pmax	pmax			
	comp=Z,71nm,1.2s							
SIM	**Simferopol'**	**146.72**	**286**	*cc*PKP2	**PKiKP**	**12 27 14.2**	**+5.1**	
SIM				pmax	pmax			
	comp=Z,14nm,1.0s							
SIM				pmax	pmax			
	comp=Z,500nm,8.4s							
HSPB	**Hornsund (broa**	**146.79**	**348**	*e*PKPdf	**PKPdf**	**12 27 04.3**	**+0.5**	
MOS	**Moscow**	**146.82**	**306**	*e*PKP2	**PKiKP**	**12 27 09.0**	**+0.1**	
SEVA	**Sevastopol**	**146.87**	**285**	⇑P	**PKPbc**	**12 27 06.2**	**-0.6**	
LVZ	**Lovozero**	**147.03**	**329**	*c i* PKP2	**PKPbc**	**12 27 06.0**	**-0.6**	
LVZ	**Lovozero**	**147.03**	**329**		**PKPbc**	**12 27 05.8**	**-0.8**	
OBN	**Obninsk**	**147.37**	**305**	⇓*e*PKP2	**PKPbc**	**12 27 07.6**	**-0.2**	
OBN				*e*		12 30 37.4		
OBN				*e*		12 34 06.1		
OBN				*e*SS	SS	12 49 35.8	-0.3	
OBN				pmax	pmax			
	comp=Z,22nm,1.2s							
OBN	**Obninsk**	**147.37**	**305**	PKPbc	**PKPbc**	**12 27 08.5**	**+0.7**	
	comp=Z,5.8nm,0.3s,baz=90,slow=1.0,SNR=2.6							
KARP	**Karpathos**	**147.49**	**266**		**PKPbc**	**12 27 08.5**	**-0.4**	
APA	**Apatity**	**147.58**	**328**	⇓*i* PKP2	**PKPbc**	**12 27 07.9**	**-0.2**	
APA				pmax	pmax			
	comp=Z,12nm,0.9s							
MANT	**Manisa**	**147.98**	**272**		**PKPdf**	**12 27 06.3**	**-0.9**	
BJO1	**Bjornoya**	**148.08**	**344**	*ep*PKPdf	pPKPdf	12 27 10.5	-1.4	
DAG	**Danmarks Havn**	**149.16**	**2**	*i* PKP2	**PKPab**	**12 27 20.2**	**+3.8**	
DAG				pmax	pmax			
	comp=Z,31nm,1.0s							
DAG	**Danmarks Havn**	**149.16**	**2**	*i* P	**PKPab**	**12 27 20.2**	**+3.8**	
	comp=Z,31nm,1.0s							
APE	**Apeiranthos**	**149.40**	**267**	⇑PKP2	**PKPbc**	**12 27 13.4**	**-0.4**	
APE	**Apeiranthos**	**149.40**	**267**	⇑P	**PKPbc**	**12 27 13.4**	**-0.4**	
HAMF	**Hammerfest**	**149.42**	**336**	*e*PKPbc	**PKiKP**	**12 27 13.3**	**-0.5**	
ARCES	**ARCESS Array B**	**149.47**	**334**	PKPbc	**PKPbc**	**12 27 13.4**	**+0.5**	
	comp=Z,26nm,0.8s,baz=69,slow=2.6,SNR=80							
ARE0	**ARCESS Array S**	**149.47**	**334**	*e*PKPbc	**PKPbc**	**12 27 13.3**	**+0.4**	
ARE0	**ARCESS Array S**	**149.47**	**334**		**PKiKP**	**12 27 13.5**	**-0.5**	
MFTR	**Murfatlar**	**150.32**	**282**	⇑P	**PKiKP**	**12 27 16.6**	**+0.2**	
TLCR		**150.36**	**284**	⇑PKIKP	**PKiKP**	**12 27 16.4**	**-0.1**	
TLCR		**150.36**	**284**	⇑P	**PKiKP**	**12 27 16.4**	**-0.1**	
TIRR	**Tirgusor**	**150.41**	**282**	⇓PKIKP	**PKPbc**	**12 27 16.0**	**+0.1**	
TIRR	**Tirgusor**	**150.41**	**282**	⇓P	**PKiKP**	**12 27 16.0**	**+0.1**	
TIRR	**Tirgusor**	**150.41**	**282**		**PKPab**	**12 27 23.4**	**+0.9**	
KTK1	**Kaatokeino**	**150.43**	**334**	*e*PKPbc	**PKiKP**	**12 27 15.6**	**-0.3**	
TOPG	**Topolog**	**150.56**	**283**	⇓P	**PKiKP**	**12 27 17.7**	**+0.7**	
HARR	**Harsova**	**150.81**	**283**	⇑PKIKP	**PKiKP**	**12 27 17.6**	**+0.1**	
HARR	**Harsova**	**150.81**	**283**	⇑P	**PKiKP**	**12 27 17.6**	**+0.1**	
CFR	**Carcaliu**	**150.82**	**284**	⇑PKIKP	**PKiKP**	**12 27 18.2**	**+0.7**	
CFR	**Carcaliu**	**150.82**	**284**	⇑P	**PKiKP**	**12 27 18.2**	**+0.7**	
MILM	**Milestii Mici**	**150.83**	**287**	⇑P	**PKPbc**	**12 27 15.4**	**-1.4**	
KIS	**Kishinev**	**150.85**	**287**	*e*PKP	**PKPab**	**12 27 24.0**	**-0.2**	
KIS	**Kishinev**	**150.85**	**287**	*e*PKIKP	**PKPab**	**12 27 24.0**	**-0.2**	
SUMG	**Summit**	**151.11**	**15**	⇑*i* PKIKP	**PKiKP**	**12 27 17.9**	**+0.1**	
SUMG				pmax	pmax			
	comp=Z,250nm,1.5s							
SUMG	**Summit**	**151.11**	**15**	⇑*i* P	**PKiKP**	**12 27 17.9**	**+0.1**	
	comp=Z,248nm,1.5s							
SUMG	**Summit**	**151.11**	**15**		**PKiKP**	**12 27 18.0**	**+0.1**	
AKASG	**Malin Array Be**	**151.29**	**295**	PKPbc	**PKPbc**	**12 27 17.9**	**+0.1**	
	comp=Z,5.4nm,0.5s,baz=75,slow=2.6,SNR=36							
AKBB	**Malin Array Si**	**151.29**	**295**	PKIKP	**PKPbc**	**12 27 17.5**	**-0.3**	
AKBB	**Malin Array Si**	**151.29**	**295**		**PKPbc**	**12 27 17.5**	**-0.3**	
TRO	**Tromso**	**151.33**	**337**	*e*PKPbc	**PKiKP**	**12 27 17.6**	**-0.1**	
SORM	**Soroca**	**151.41**	**290**	⇑PKIKP	**PKPbc**	**12 27 16.5**	**-1.7**	
SORM	**Soroca**	**151.41**	**290**	⇑P	**PKPbc**	**12 27 16.5**	**-1.7**	
GHRR		**151.55**	**285**	⇓P	**PKiKP**	**12 27 20.3**	**+1.3**	
SFJD	**Kangerlussuaq**	**151.61**	**30**	PKIKP	**PKPbc**	**12 27 17.7**	**-0.3**	
SFJD	**Kangerlussuaq**	**151.61**	**30**	*i* P	**PKiKP**	**12 27 18.3**	**-0.1**	
SFJD	**Kangerlussuaq**	**151.61**	**30**		**PKPbc**	**12 27 17.7**	**-0.3**	
ELND	**Elena**	**151.64**	**278**	⇑P	**PKiKP**	**12 27 19.1**	**-0.1**	
ISR	**Istrita**	**151.88**	**283**	⇓PKIKP	**PKiKP**	**12 27 20.3**	**+0.5**	
ISR	**Istrita**	**151.88**	**283**	⇓P	**PKiKP**	**12 27 20.3**	**+0.5**	
TAM	**Tamanrasset**	**151.90**	**221**	PKIKP	**PKPdf**	**12 27 13.2**	**-0.6**	
TAM						12 27 20.6		
TAM						12 27 29.5		
TAM	**Tamanrasset**	**151.90**	**221**		**PKPdf**	**12 27 13.2**	**-0.6**	
TAM				PKPbc	**PKiKP**	**12 27 20.6**	**0.0**	
TAM				PKPab	**PKPab**	**12 27 29.5**	**+0.1**	
TAM				IAMs_20	IAMs_20	13 32 42.3		
	comp=Z,1μm,18.0s							
VRI	**Vrincioaia**	**151.96**	**284**	⇑PKIKP	**PKPbc**	**12 27 19.0**	**-0.5**	
VRI	**Vrincioaia**	**151.96**	**284**	⇑P	**PKPbc**	**12 27 19.0**	**-0.5**	
PLOR	**Plostina**	**152.01**	**284**	⇓PKIKP	**PKiKP**	**12 27 20.2**	**+0.2**	
PLOR	**Plostina**	**152.01**	**284**	⇓P	**PKiKP**	**12 27 20.2**	**+0.2**	
TESR	**Tescani**	**152.18**	**286**	⇑P	**PKiKP**	**12 27 20.3**	**0.0**	
MICGM	**Minsk**	**152.36**	**303**	*e*	**PKPbc**	**12 27 19.0**	**-1.1**	
MNK	**Minsk**	**152.36**	**303**	*e*PKIKP	**PKPbc**	**12 27 19.0**	**-1.1**	
FINES	**FINESS Array B**	**152.37**	**318**	PKPbc	**PKiKP**	**12 27 20.1**	**0.0**	
	comp=Z,5.5nm,0.8s,baz=91,slow=4.1,SNR=14							
MLR	**Muntele Rosu**	**152.39**	**283**	PKIKP	**PKPbc**	**12 27 20.3**	**-0.3**	
MLR	**Muntele Rosu**	**152.39**	**283**	PKPbc	**PKPbc**	**12 27 20.7**	**0.0**	
	comp=Z,12nm,0.7s,baz=301,slow=4.5,SNR=8.7							
MLR	**Muntele Rosu**	**152.39**	**283**	⇑P	**PKiKP**	**12 27 21.0**	**+0.1**	
MLR	**Muntele Rosu**	**152.39**	**283**		**PKPbc**	**12 27 20.3**	**-0.3**	
BIZ	**Bicaz**	**152.64**	**286**	⇑P	**PKiKP**	**12 27 22.0**	**+0.7**	
PLVB	**Pleven**	**152.66**	**278**	⇓P	**PKiKP**	**12 27 24.8**	**+3.4**	
DOPR	**Dopca**	**152.89**	**284**	⇑P	**PKiKP**	**12 27 22.3**	**+0.5**	
VOIR		**152.98**	**283**	⇑PKIKP	**PKPbc**	**12 27 21.5**	**-0.4**	
VOIR		**152.98**	**283**	⇑P	**PKPbc**	**12 27 21.5**	**-0.4**	
ARR	**Arges**	**153.25**	**283**	⇑P	**PKPbc**	**12 27 22.4**	**-0.1**	
BURAR	**Bucovina Array**	**153.38**	**288**	⇑PKIKP	**PKPdf**	**12 27 12.3**	**-2.8**	
BURAR	**Bucovina Array**	**153.38**	**288**	⇑P	**PKPdf**	**12 27 12.3**	**-2.8**	
STEI	**Steigen**	**153.45**	**336**	*e*PKPdf	**PKPdf**	**12 27 14.5**	**+0.1**	
LOF	**Lofoten**	**153.79**	**337**	*e*PKPdf	**PKPdf**	**12 27 15.4**	**+0.5**	
GZR	**Gura Zlata**	**154.51**	**282**	⇑PKIKP	**PKPbc**	**12 27 24.5**	**-0.7**	
GZR	**Gura Zlata**	**154.51**	**282**	⇑P	**PKPbc**	**12 27 24.5**	**-0.7**	
DRGR		**154.88**	**285**	⇑PKIKP	**PKPdf**	**12 27 10.5**	**-6.7**	
DRGR		**154.88**	**285**	⇑P	**PKPdf**	**12 27 10.5**	**-6.7**	
KONS	**Konsvik**	**155.02**	**334**	*ep*PKPbc	pPKPbc	12 27 30.3	-1.0	
MDVR	**Moldovita**	**155.08**	**280**	⇓P	PKPab	12 27 31.4	-11	
SCO	**Scoresbysund**	**155.23**	**6**	PKIKP	PKPdf	12 27 26.0	+9.1	
SCO	**Scoresbysund**	**155.23**	**6**		PKPdf	12 27 26.0	+9.2	
KOLS	**Kolonicke sedl**	**155.53**	**290**	*e*PKIKP	**PKPdf**	**12 27 20.0**	**+2.0**	
KOLS	**Kolonicke sedl**	**155.53**	**290**	*e*PKP	**PKPdf**	**12 27 20.0**	**+2.0**	
WDD	**Wied Dalam**	**156.31**	**254**	IAMs_20	IAMs_20	13 33 53.0		
	comp=Z,1μm,19.0s							
NSS	**Namsos**	**156.67**	**332**	*e*PKPdf	**PKPdf**	**12 27 17.5**	**-1.4**	
HFS	**Hagfors**	**158.49**	**321**	PKPab	**PKPab**	**12 27 56.6**	**+0.3**	
	comp=Z,2.5nm,0.6s,baz=123,slow=5.3,SNR=3.2							
MODS	**Modra-Piesok**	**158.76**	**288**	*e*PKP2	**PKPab**	**12 28 00.9**	**+2.9**	
MODS	**Modra-Piesok**	**158.76**	**288**	*e*PKP	**PKPab**	**12 28 00.9**	**+2.9**	
PAOL	**Paolisi**	**158.80**	**266**	IAMs_20	IAMs_20	13 39 49.1		
	comp=Z,917nm,22.0s							
NOA	**NORSAR Array B**	**159.06**	**325**	PKPab	**PKPab**	**12 27 58.6**	**-0.3**	
	comp=Z,1.8nm,0.9s,baz=58,slow=4.5,SNR=2.4							
NC602	**NORSAR Array S**	**159.10**	**324**	*e*PKPdf	**PKPdf**	**12 27 22.2**	**+0.1**	
DOMB	**Dombas**	**159.28**	**329**	*e*PKPdf	**PKPdf**	**12 27 22.1**	**-0.2**	
MOL	**Molde**	**159.46**	**331**	*e*PKPdf	**PKPdf**	**12 27 22.2**	**-0.2**	
KEST	**Kesra**	**159.66**	**248**	PKPab	**PKPab**	**12 28 04.2**	**+2.0**	
	comp=Z,1.8nm,0.5s,baz=214,slow=3.6,SNR=2.6							
SKAR	**Skarslia**	**160.42**	**326**	*e*PKPdf	**PKPdf**	**12 27 23.5**	**-0.1**	
HYA	**Hoyanger**	**160.89**	**329**	*ep*PKPdf	p

LZH					LR	LR				
	comp=Z,140nm,17.9s									
LZH					LR	LR				
	comp=Z,140nm,18.1s									
LZH					LR	LR				
	comp=Z,170nm,20.0s									
YKA	**Yellowknife Ar**	**135.09**	**320**		PKP	**PKPdf**	**12**	**27**	**33.4**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=111,slow=2.2,SNR=7.1									
SONM	**Songino Array**	**140.26**	**66**		PKP	**PKPdf**	**12**	**27**	**43.5**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=184,slow=1.6,SNR=4.1									
HHC	**Hu-ho-hao-te**	**140.66**	**78**	*e*	PKP	**PKiKP**	**12**	**27**	**45.8**	**-1.1**
NJ2	**Nanjing**	**140.92**	**95**	*e*	PKP	**PKPdf**	**12**	**27**	**44.8**	**0.0**
SCRK	**Sand Creek**	**148.35**	**320**			**PKPdf**	**12**	**27**	**56.4**	**-0.4**
PRP	**Porcupine Dome**	**148.72**	**323**			**PKPdf**	**12**	**27**	**57.6**	**+0.1**
RIDG	**Independent Ri**	**148.76**	**320**			**PKPdf**	**12**	**27**	**57.1**	**-0.3**
PAX	**Paxson**	**149.15**	**319**			**PKPdf**	**12**	**27**	**58.4**	**+0.3**
ILAR	**Eielson Array**	**149.44**	**322**		PKPbc	**PKPbc**	**12**	**28**	**02.9**	**0.0**
	comp=Z,3.6nm,0.7s,baz=37,slow=0.7,SNR=19									
TIXI	**Tiksi**	**149.78**	**23**			**PKPbc**	**12**	**28**	**02.6**	**-0.9**
COLA	**College**	**149.82**	**323**			**PKPbc**	**12**	**28**	**03.4**	**-0.3**
WRH	**Wood River Hil**	**150.02**	**322**			**PKPdf**	**12**	**28**	**00.3**	**+0.9**
COLD	**Coldfoot**	**150.04**	**328**			**PKPdf**	**12**	**28**	**00.7**	**+1.4**
KSRS	**Korea Array**	**150.12**	**95**		PKPbc	**PKPbc**	**12**	**28**	**05.2**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=255,slow=2.6,SNR=7.2									
RND	**Reindeer**	**150.58**	**320**			**PKPdf**	**12**	**28**	**00.0**	**-0.4**

ISK ***16*** *12:17:49.3,38.96N×43.59E,h5km,ML3.4/18*
NSSP ***16*** *12:17:49.3,38.93N×43.62E,h10km,Ms3.2*
ISCJB ***16*** *12:17:50.9±0.4,38.94N±0.02×43.59E±0.02,h5km±3km, Error ellipse: s-maj=3.6km s-min=2.6km az=41.7*
DDA ***16*** *12:17:50.2,38.95N×43.59E,h10km,ML3.1*
AZER ***16*** *12:17:51.5±2.0,39.08N×43.59E,h5km,ml3.0/8,Error ellipse: s-maj=19.7km s-min=13.2km az=85.0*

ISC 16 12:17:50.4±0.9,38.91N±0.02×43.60E±0.02,h6km±7km, n54,σ1°16/83,6C,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VMUR	**Van-Muradiye**	**0.08**	**347**	*i* PA		**Pg**	**12 17 52.2**	**-0.3**
VMUR				*i* S		**Sg**	**12 17 53.9**	**-0.1**
VMUR				IAML			12 17 54.0	
	comp=E,21μm,0.6s							
VMUR				IAML			12 17 55.0	
	comp=N,20μm,0.4s							
CLDR	**Caldiran**	**0.34**	**47**	*i* PA		**Pg**	**12 17 56.7**	**-0.6**
CLDR				*i* S		**Sg**	**12 18 01.7**	**-0.1**
CLDR				IAML			12 18 03.0	
	comp=E,4μm,0.3s							
CLDR				IAML			12 18 07.0	
	comp=N,2μm,0.4s							
CLDR	**Caldiran**	**0.34**	**47**	PG		**Pg**	**12 17 56.6**	**-0.6**
CLDR				SG		**Sg**	**12 18 02.3**	**+0.6**
VANB	**Van**	**0.35**	**207**	PG		**Pb**	**12 17 59.6**	**+0.4**
VANB				SG		**Sb**	**12 18 07.6**	**+2.5**
TVAN	**Van**	**0.41**	**201**	*i* PA		**Pg**	**12 17 59.3**	**+0.9**
TVAN				*i* S		**Sb**	**12 18 07.4**	**+0.6**
TVAN				IAML			12 18 08.0	
	comp=N,5μm,0.5s							
TVAN				IAML			12 18 08.0	
	comp=E,6μm,0.4s							
DYDN	**Diyadin**	**0.64**	**7**	*i* PA		**Pg**	**12 18 01.7**	**-1.1**
DYDN				*i* S		**Sg**	**12 18 10.6**	**-0.5**
DYDN				IAML			12 18 12.0	
	comp=N,774nm,0.4s							
DYDN				IAML			12 18 19.0	
	comp=E,1μm,0.6s							
ADCV	**BITLIS_Adilcev**	**0.69**	**262**	*i* PA		**Pg**	**12 18 03.7**	**0.0**
ADCV				*i* S		**Sb**	**12 18 14.3**	**-0.4**
ADCV				IAML			12 18 15.0	
	comp=N,2μm,0.6s							
ADCV				IAML			12 18 15.0	
	comp=E,2μm,0.4s							
GEVA	**Gevas**	**0.73**	**215**	*i* PA		**Pg**	**12 18 04.2**	**-0.3**
GEVA				*i* S		**Sb**	**12 18 16.4**	**+0.4**
GEVA				IAML			12 18 17.0	
	comp=N,533nm,0.5s							
GEVA				IAML			12 18 20.0	
	comp=E,660nm,0.9s							
TUTA	**Tutak**	**0.78**	**309**	*i* PA		**Pg**	**12 18 04.5**	**-1.0**
TUTA				*i* S		**Sg**	**12 18 15.7**	**+0.1**
TUTA				IAML			12 18 18.0	
	comp=N,1μm,0.3s							
AGRB	**Hanur-Agry**	**0.81**	**325**	PG		**Pg**	**12 18 04.9**	**-1.2**
AGRB				SG		**Sg**	**12 18 16.9**	**+0.3**
MLAZ	**Malazgirt-MUS**	**0.85**	**286**	PG		**Pg**	**12 18 06.6**	**-0.1**
MLAZ				SG		**Sb**	**12 18 18.9**	**-0.4**
IGDI	**IGDIR**	**1.03**	**21**	*i* PA		**Pg**	**12 18 09.8**	**-0.4**
IGDI				*i* S		**Sg**	**12 18 23.8**	**+0.3**
IGDI				IAML			12 18 29.0	
	comp=E,436nm,0.6s							
IGDI				IAML			12 18 30.0	
	comp=N,362nm,0.5s							
TASB	**TASBURUN-IGDIR**	**1.18**	**25**	PN		**Pg**	**12 18 12.4**	**-0.7**
VNNZ	**Vanand**	**1.20**	**8**	⇑*i* P		**Pg**	**12 18 13.0**	**-0.5**
VNNZ				⇑*i* S		**Sg**	**12 18 29.3**	**+0.2**
BLIS	**Bitlis-Merkez**	**1.26**	**247**	*i* PA		**Pg**	**12 18 13.3**	**-1.3**
BLIS				*i* S		**Sg**	**12 18 30.5**	**-0.5**
HYR	**Heyderabad**	**1.27**	**50**	P		**Pg**	**12 18 13.1**	**-1.6**
	SNR=8.7							
HYR				S		**Sg**	**12 18 29.8**	**-1.4**
GURO	**Guroymak-BITLI**	**1.27**	**254**	PN		**Pg**	**12 18 13.9**	**-1.0**
EATA	**Eleskirt**	**1.28**	**318**	*i* P		**Pg**	**12 18 14.3**	**-0.6**
EATA				*i* S		**Sb**	**12 18 31.8**	**-0.1**
EATA				IAML			12 18 35.0	
	comp=N,246nm,0.4s							
METS	**Metsamor**	**1.29**	**17**	*i* P		**Pg**	**12 18 15.9**	**+0.6**
METS				*i* S		**Sn**	**12 18 34.1**	**+1.4**
HAKT	**HAKKARI**	**1.35**	**176**	*i* P		**Pn**	**12 18 15.0**	**-1.1**
HAKT				*i* S		**Sg**	**12 18 33.0**	**-0.9**
HAKT				IAML			12 18 41.0	
	comp=N,138nm,0.6s							
HAKT				IAML			12 18 44.0	
	comp=E,84nm,0.4s							
NRKZ	**NAREK**	**1.36**	**37**	*i* P		**Pn**	**12 18 15.7**	**-0.5**
NRKZ				*i* S		**Sb**	**12 18 34.2**	**0.0**
ARUZ	**Aruch**	**1.42**	**15**	⇑*i* P		**Pg**	**12 18 19.1**	**+1.4**
ARUZ				⇑*i* S		**Sg**	**12 18 40.4**	**+4.2**
YOVA	**Hakkari_Yksek**	**1.43**	**157**	*i* P		**Pb**	**12 18 17.6**	**0.0**
NAX	**Nakhchivan**	**1.50**	**79**	P		**Pb**	**12 18 18.5**	**-0.3**
	SNR=42							
NAX				S		**Sg**	**12 18 40.4**	**+1.6**
DIGO	**Kars**	**1.51**	**354**	*i* PA		**Pn**	**12 18 18.7**	**+0.4**
DIGO				IAML			12 18 50.0	
	comp=E,243nm,0.8s							
GNI	**Garni**	**1.52**	**35**	*i* P		**Pb**	**12 18 19.3**	**+0.1**
GNI				*i* S		**Sg**	**12 18 40.2**	**+0.8**
GNI	**Garni**	**1.52**	**35**	PN		**Pn**	**12 18 18.5**	**+0.1**
SBZ	**Shahbuz**	**1.60**	**72**	P		**Pn**	**12 18 19.5**	**+0.1**
	SNR=131							
SBZ				S		**Sg**	**12 18 42.1**	**+0.3**
SRTM	**Siirt_Merkez**	**1.60**	**236**	*i* PA		**Pn**	**12 18 19.8**	**+0.4**
SRTM				IAML			12 18 48.0	
	comp=E,296nm,0.6s							
SRTM				IAML			12 19 01.0	
	comp=N,350nm,0.8s							
MUSM	**Mu-Merkez**	**1.64**	**264**	*i* PA		**Pn**	**12 18 19.8**	**-0.1**
KAPZ	**Kaputan**	**1.65**	**31**	⇑*i* P		**Pb**	**12 18 20.8**	**-0.5**
KAPZ				⇑*i* S		**Sg**	**12 18 42.9**	**-0.5**
CUKT	**Cukurca**	**1.66**	**180**	*i* P		**Pb**	**12 18 21.4**	**-0.1**
CUKT				IAML			12 18 50.0	
	comp=N,278nm,1.4s							
CUKT				IAML			12 18 50.0	
	comp=E,236nm,0.6s							
CUKT	**Cukurca**	**1.66**	**180**	PN		**Pb**	**12 18 21.0**	**-0.5**
SIRT	**Sirnak**	**1.68**	**213**	PN		**Pb**	**12 18 21.6**	**-0.2**
VRTB	**Varto-Mus**	**1.68**	**279**	*i* P		**Pg**	**12 18 22.8**	**+0.1**
VRTB				IAML			12 19 05.0	
	comp=E,350nm,0.8s							
VRTB				IAML			12 19 06.0	
	comp=N,334nm,1.0s							
VRTB	**Varto-Mus**	**1.68**	**279**	PN		**Pn**	**12 18 21.3**	**+0.7**
KOPR	**Koprukoy-ERZUR**	**1.73**	**309**	PN		**Pn**	**12 18 21.4**	**+0.2**
HOMI	**Horasan**	**1.73**	**311**	*i* PA		**Pg**	**12 18 23.4**	**-0.2**
HOMI				*i* S		**Sg**	**12 18 49.6**	**+3.6**
HOMI				IAML			12 18 57.0	
	comp=N,322nm,1.0s							
HOMI				IAML			12 19 12.0	
	comp=E,285nm,1.1s							
KARS	**Kars**	**1.76**	**347**	PN		**Pn**	**12 18 21.6**	**0.0**
EAK	**Akyaka**	**1.77**	**0**	*i* PA		**Pb**	**12 18 24.4**	**+1.0**
EAK				IAML			12 18 52.0	
	comp=N,204nm,1.3s							
EAK				IAML			12 18 54.0	
	comp=E,164nm,0.7s							
ORD	**Ordubad**	**1.87**	**89**	P		**Pb**	**12 18 24.4**	**-0.7**
	SNR=46							
ORD				S		**Sg**	**12 18 50.2**	**-0.4**
BNGL	**BINGOL**	**1.91**	**272**	*i* P		**Pg**	**12 18 26.6**	**-0.4**
KARO	**Karliova-Bingo**	**2.02**	**282**	PN		**Pn**	**12 18 25.9**	**+0.7**
SVAN	**Silvan-Diyarba**	**2.03**	**249**	*i* P		**Pb**	**12 18 27.2**	**-0.5**
SVAN	**Silvan-Diyarba**	**2.03**	**249**	PN		**Pb**	**12 18 26.6**	**-1.1**
AKDA	**Akdag**	**2.10**	**305**	*i* P		**Sn**	**12 18 47.6**	**-5.2**
BNGB	**Bingl**	**2.27**	**273**	PN		**Pn**	**12 18 29.9**	**+1.2**
YEDI	**Yedisu-Bingol**	**2.43**	**283**	PN		**Pn**	**12 18 31.7**	**+0.9**
GDB	**GEDABAY**	**2.46**	**42**	P		**Pn**	**12 18 30.8**	**-0.4**
	SNR=15							
GDB				S		**Sn**	**12 19 00.6**	**-1.0**
AKH	**Akhalkalaki**	**2.50**	**358**	PN		**Pn**	**12 18 32.5**	**+0.7**
QZX	**Qazax, Azerbai**	**2.54**	**32**	P		**Pn**	**12 18 31.3**	**-0.9**
	SNR=7.4							
QZX				S		**Sn**	**12 19 03.9**	**+0.3**
GANJ	**Ganja**	**2.72**	**50**	P		**Pn**	**12 18 34.9**	**+0.1**
	SNR=9.5							
GANJ				S		**Sn**	**12 19 09.5**	**+1.5**
MAZI	**Mazidag**	**2.87**	**241**	PN		**Pn**	**12 18 38.4**	**+1.5**
LRK	**Lerik**	**3.72**	**93**	P		**Pn**	**12 18 50.1**	**+1.6**
	SNR=4.0							

ISCJB ***16*** *12:26:01.1±1.3,46.71S±0.05×165.92E±0.07,h5km±9km, Error ellipse: s-maj=9.8km s-min=7.8km az=140.0*
WEL ***16*** *12:26:04.8±1.2,46.5S±6.1×16.6E±.1,h5km,ML4.0/12, MLv3.9/12,Error ellipse: s-maj=0.0km s-min=0.0km az=82.3*
NEIC ***16*** *12:26:05.3±2.2,46.31S±0.05×166.39E±0.10,h10km±2km*

ISC 16 12:26:03.5±2.1,46.19S±0.06×166.14E±0.08,h6km±12km, n42,σ0°96/51,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DCZ	**Deep Cove**	**1.02**	**45**	P		**Pg**	**12 26 22.7**	**-0.3**
DCZ				S		**Sg**	**12 26 35.8**	**-0.4**
DCZ	**Deep Cove**	**1.02**	**45**			**Pg**	**12 26 22.9**	**-0.1**
DCZ				Sg		**Sg**	**12 26 36.1**	**-0.1**
WHZ	**Wether Hill Ro**	**1.30**	**77**	P		**Pn**	**12 26 28.5**	**+0.3**
WHZ				S		**Sn**	**12 26 46.4**	**+0.5**
WHZ	**Wether Hill Ro**	**1.30**	**77**			**Pn**	**12 26 28.8**	**+0.5**
WHZ				Sn		**Sn**	**12 26 46.5**	**+0.6**
APZ	**The Paps**	**1.43**	**117**	P		**Pb**	**12 26 30.3**	**-0.4**
APZ				S		**Sn**	**12 26 49.7**	**+0.4**
MLZ	**Mavora Lakes**	**1.61**	**60**	P		**Pb**	**12 26 34.1**	**+0.3**
MLZ				S		**Sg**	**12 26 55.9**	**+0.5**
MLZ	**Mavora Lakes**	**1.61**	**60**			**Pb**	**12 26 34.1**	**+0.3**
MLZ				Sn		**Sg**	**12 26 56.1**	**+0.7**
MSZ	**Milford Sound**	**1.98**	**40**	P		**Pn**	**12 26 37.5**	**0.0**
SYZ	**Scrubby Hill**	**2.11**	**100**	P		**Pn**	**12 26 40.4**	**+1.1**
EAZ	**Earnscleugh**	**2.42**	**68**	P		**Pn**	**12 26 45.7**	**+2.0**
WKZ	**Wanaka**	**2.44**	**57**	P		**Pn**	**12 26 46.3**	**+2.2**
WKZ	**Wanaka**	**2.44**	**57**			**Pn**	**12 26 46.1**	**+2.1**
TUZ	**Tuapeka**	**2.44**	**86**	P		**Pn**	**12 26 45.9**	**+1.9**
TUZ				S		**Sb**	**12 27 17.1**	**-1.2**
JCZ	**Jackson Bay**	**2.83**	**42**	P		**Pn**	**12 26 50.7**	**+1.3**
HHSZ	**Highcliff Hill**	**3.12**	**86**	P		**Pn**	**12 26 54.7**	**+1.4**
ODZ	**Otahua Downs**	**3.37**	**72**	P		**Pn**	**12 26 56.6**	**-0.1**
ODZ	**Otahua Downs**	**3.37**	**72**			**Pn**	**12 26 56.8**	**+0.1**
LBZ	**Lake Benmore**	**3.38**	**59**	P		**Pn**	**12 26 57.5**	**+0.6**
LBZ	**Lake Benmore**	**3.38**	**59**			**Pn**	**12 26 57.6**	**+0.8**
FOZ	**Fox Glacier**	**3.73**	**46**	P		**Pn**	**12 27 02.7**	**+1.0**
FOZ	**Fox Glacier**	**3.73**	**46**			**Pn**	**12 27 03.1**	**+1.4**
RPZ	**Rata Peaks**	**4.28**	**56**	P		**Pn**	**12 27 09.0**	**-0.2**
RPZ	**Rata Peaks**	**4.28**	**56**			**Pn**	**12 27 09.1**	**-0.2**
WVZ	**Waitaha Valley**	**4.53**	**48**	P		**Pn**	**12 27 13.6**	**+1.0**
OXZ	**Oxford**	**5.09**	**58**	P		**Pn**	**12 27 19.3**	**-1.1**
OXZ	**Oxford**	**5.09**	**58**	Pn		**Pn**	**12 27 19.8**	**-0.6**
OXZ				Sn		**Sn**	**12 28 18.4**	**-1.0**
INZ	**Inchbonnie**	**5.14**	**50**	P		**Pn**	**12 27 20.8**	**-0.3**
MQZ	**McQueen's Vall**	**5.25**	**64**	P		**Pn**	**12 27 22.5**	**-0.1**
MQZ	**McQueen's Vall**	**5.25**	**64**	Pn		**Pn**	**12 27 21.9**	**-0.6**
LTZ	**Lake Taylor**	**5.56**	**54**	P		**Pn**	**12 27 26.0**	**-0.9**
LTZ	**Lake Taylor**	**5.56**	**54**	Pn		**Pn**	**12 27 25.9**	**-1.0**
GVZ	**Greta Valley S**	**5.89**	**59**	P		**Pn**	**12 27 30.5**	**-0.8**
DSZ	**Denniston Nort**	**6.04**	**45**	P		**Pn**	**12 27 32.9**	**-0.6**
KHZ	**Kahutara**	**6.52**	**57**	P		**Pn**	**12 27 39.2**	**-0.7**
THZ	**Tophouse**	**6.59**	**50**	P		**Pn**	**12 27 39.7**	**-1.3**
QRZ	**Quartz Range**	**7.10**	**43**	P		**Pn**	**12 27 47.8**	**-0.1**
QRZ	**Quartz Range**	**7.10**	**43**	Pn		**Pn**	**12 27 48.2**	**+0.3**
NNZ	**Nelson**	**7.23**	**49**	P		**Pn**	**12 27 51.5**	**+1.8**
MSWZ	**Moikau Station**	**8.14**	**57**	Pn		**Pn**	**12 28 03.0**	**+0.8**
OUZ	**Omahuta**	**12.33**	**30**	Pn		**Pn**	**12 28 59.0**	**-0.6**
VNDA	**Vanda**	**31.48**	**182**	P		**P**	**12 32 25.3**	**-0.2**
VNDA				IAmb		IAmb	12 32 41.2	
	comp=Z,3.7nm,1.2s							
QSPA	**South Pole Qui**	**43.93**	**180**	P		**P**	**12 34 11.0**	**+0.1**
QSPA				IAmb		IAmb	12 34 21.5	
	comp=Z,0.6nm,0.9s							

ISCJB ***16*** *12:27:08.5±0.5,46.97S±0.08×13.3W±0.1,h10km,mb4.0/4, Error ellipse: s-maj=12.8km s-min=10.9km az=1.0*
IDC ***16*** *12:27:09.1±1.1,46.98S×13.12W,h0km,mb3.9/4, mb1 4.0/4,mb1mx3.7/29,mbtmp3.9/4,Error ellipse: s-maj=45.6km s-min=25.8km az=81.0*
NEIC ***16*** *12:27:10.1±1.0,47.03S±0.09×13.3W±0.2,h10km±1km, mb4.5/15*

ISC 16 12:27:10.3±0.6,47.0S±0.1×13.3W±0.1,h10km,n27, σ0°72/27,mb4.4/10,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	**Hope Point**	**16.34**	**235**	Pn		**Pn**	**12 31 00.1**	**+0.5**
HOPE				IAmb		IAmb	12 31 01.1	
	comp=Z,28nm,0.9s							
VNA2	**Neumayer--Watz**	**24.14**	**175**	P		**P**	**12 32 25.6**	**-0.4**
	baz=344,slow=12							
VNA3	**Neumayer Olymp**	**24.36**	**177**	P		**P**	**12 32 27.4**	**-0.6**
SNAA	**Sanae**	**25.21**	**172**	P		**P**	**12 32 35.7**	**0.0**
SNAA	**Sanae**	**25.21**	**172**	P		**P**	**12 32 37.6**	**+1.8**
	comp=Z,3.2nm,1.0s,baz=329,slow=8.4,SNR=3.1							
SNAA	**Sanae**	**25.21**	**172**	P		**P**	**12 32 35.1**	**-0.7**
SNAA				IAmb		IAmb	12 32 42.7	
	comp=Z,8.8nm,1.2s							
TRQA	**Tornquist**	**36.45**	**266**	P		**P**	**12 34 13.7**	**-1.5**
TRQA				IAmb		IAmb	12 34 15.2	
	comp=Z,12nm,1.5s							
ASCN	**Ascension**	**38.96**	**358**	P		**P**	**12 34 36.4**	**-0.1**
CPUP	**Villa Florida**	**40.25**	**285**	P		**P**	**12 34 48.6**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=111,slow=7.1,SNR=5.8							
CPUP	**Villa Florida**	**40.25**	**285**	P		**P**	**12 34 47.5**	**+0.4**
MAW	**Mawson**	**42.58**	**147**	P		**P**	**12 35 06.0**	**+0.2**
QSPA	**South Pole Qui**	**43.23**	**180**	P		**P**	**12 35 11.3**	**-0.1**
	comp=Z,6.7nm,1.1s,baz=206,slow=4.7,SNR=8.0							
QSPA	**South Pole Qui**	**43.23**	**180**	P		**P**	**12 35 10.9**	**-0.5**
QSPA				IAmb		IAmb	12 35 17.8	
	comp=Z,8.2nm,1.1s							
PEL	**Peldehue**	**45.06**	**267**	P		**P**	**12 35 26.8**	**+0.5**
PEL				IAmb		IAmb	12 35 28.6	
	comp=Z,9.2nm,0.7s							
GO04	**Tololo Observa**	**46.91**	**270**	P		**P**	**12 35 40.9**	**-0.3**
GO02	**Mina Guanaco**	**49.26**	**276**	P		**P**	**12 35 59.4**	**-0.1**
LVC	**Limon Verde**	**50.51**	**279**	P		**P**	**12 36 08.8**	**-0.3**
LVC				IAmb		IAmb	12 36 16.4	
	comp=Z,6.4nm,1.0s							
TOA0	**Torodi Ar. Sit**	**61.39**	**17**	P		**P**	**12 37 26.2**	**-0.2**
TOA0				IAmb		IAmb	12 37 27.4	
	comp=Z,8.0nm,1.4s							
TORD	**Torodi Ar. Bea**	**61.39**	**17**	P		**P**	**12 37 26.4**	**0.0**
	comp=Z,0.8nm,0.6s,baz=191,slow=4.5,SNR=5.0							
KMBO	**Kilima Mbogo**	**63.34**	**60**	P		**P**	**12 37 39.7**	**-0.2**
KMBO				IAmb		IAmb	12 37 43.2	
	comp=Z,2.9nm,1.1s							
TAM	**Tamanrasset**	**71.54**	**18**	P		**P**	**12 38 31.6**	**+0.1**
TAM				IAmb		IAmb	12 38 40.4	
	comp=Z,3.1nm,0.9s							
OTAV	**Otavalo**	**73.47**	**289**	P		**P**	**12 38 43.2**	**-0.4**
YKA	**Yellowknife Ar**	**135.09**	**320**	PKP		**PKPdf**	**12 46 28.6**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=112,slow=2.4,SNR=6.4							
EPYK	**Eagle Plains**	**145.02**	**324**			**PKPdf**	**12 46 46.3**	**-0.1**
TOLK	**Toolik Lake Re**	**149.29**	**330**			**PKPdf**	**12 46 54.1**	**+0.6**
ILAR	**Eielson Array**	**149.44**	**322**	PKPbc		**PKPbc**	**12 46 58.2**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=127,slow=1.4,SNR=5.8							
BPAW	**Bear Paw Mtn.**	**151.33**	**322**			**PKPdf**	**12 46 58.4**	**+1.6**

ISCJB ***16*** *12:28:30.9±0.2,47.16S±0.04×13.26W±0.06,h10km, mb4.8/32,Error ellipse: s-maj=6.2km s-min=5.6km az=21.1*
IDC ***16*** *12:28:30.7±0.4,47.17S×13.35W,h0km,mb4.6/19, mb1 4.6/19,mb1mx4.5/26,mbtmp4.6/19,Error ellipse: s-maj=14.7km s-min=13.9km az=142.0*
NEIC ***16*** *12:28:31.9±0.9,47.18S±0.08×13.4W±0.1,h10km±1km, mb5.2/44*
MOS ***16*** *12:28:31.7±1.0,47.20S×13.39W,h15km,mb5.4/17,Error ellipse: s-maj=13.8km s-min=11.5km az=77.1*
GCMT ***16*** *12:28:32.9±0.2,47.54S±0.03×13.18W±0.02,h18km, MW5.2/119,Moment Tension Solution. s52,c67; s119,c177; Duration: 1°0 Moment tensor: Scale 10^17 Nm; Mrr-0.85±.04; Mθθ0.04±.02; Mϕϕ0.82±.03; Mrθ-0.34±.07; Mθϕ-0.20±.02; Mϕr-0.16±.06; Best double couple: M0.93100×10^17 NP1:ϕs6.00000°,δ51.00000°, λ-64.00000°. NP2:ϕs148.00000°,δ46.00000°, λ-119.00000°. Principal axes: T 0.8700, Plg3.0000°, Azm78.0000°; N 0.1230, Plg20.0000°, Azm169.0000°; P -0.9930, Plg70.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 12:28:32.4±0.3,47.14S±0.06×13.26W±0.06,h10km,n253, σ1°23/258,mb5.0/42,4C-1D,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TRIS	**Tristan da Cun**	**10.09**	**4**	Pn		**Pn**	**12 30 57.5**	**+0.2**
HOPE	**Hope Point**	**16.30**	**235**	P		**Pn**	**12 32 19.4**	**-1.8**
HOPE				pmax		pmax		
	comp=Z,247nm,1.5s							
HOPE	**Hope Point**	**16.30**	**235**	Pn		**Pn**	**12 32 19.4**	**-1.8**
HOPE				IAmb		IAmb	12 32 33.0	
	comp=Z,248nm,1.5s							
VNA1	**Neumayer--Stat**	**23.70**	**176**	P		**P**	**12 33 44.8**	**+0.9**
VNA1				S		**S**	**12 37 59.3**	**+0.7**
VNA2	**Neumayer--Watz**	**24.02**	**175**	P		**P**	**12 33 47.0**	**0.0**
	baz=347,slow=11							
VNA2				S		**S**	**12 38 04.6**	**+0.9**
	baz=341,slow=21							
VNA3	**Neumayer Olymp**	**24.24**	**177**	P		**P**	**12 33 48.6**	**-0.4**
VNA3				S		**S**	**12 38 06.8**	**-0.4**
SNAA	**Sanae**	**25.09**	**172**	P		**P**	**12 33 57.5**	**+0.7**
SNAA				S		**S**	**12 38 30.2**	**+9.1**
SNAA	**Sanae**	**25.09**	**172**	*d* iP		**P**	**12 33 55.9**	**-0.9**
SNAA	**Sanae**	**25.09**	**172**	P		**P**	**12 33 56.8**	**0.0**
	comp=Z,11nm,1.0s,baz=331,slow=8.5,SNR=15							
SNAA	**Sanae**	**25.09**	**172**	P		**P**	**12 33 55.8**	**-1.0**
SNAA				IAmb		IAmb	12 34 04.8	
	comp=Z,38nm,1.1s							
SUR	**Sutherland**	**29.78**	**73**	P		**P**	**12 34 39.8**	**+0.4**
SUR				IAmb		IAmb	12 34 49.2	
	comp=Z,40nm,1.4s							
PMSA	**Palmer Station**	**32.31**	**218**	*e*P		**P**	**12 35 04.5**	**+3.5**
PMSA	**Palmer Station**	**32.31**	**218**	*e*P		**P**	**12 35 04.5**	**+3.5**
OGAUY	**Aigu**	**33.52**	**277**	*e*P		**P**	**12 35 12.8**	**+0.7**
OGAUY	**Aigu**	**33.52**	**277**	*e*P		**P**	**12 35 12.8**	**+0.7**
SYO	**Syowa Base**	**33.88**	**149**	⇑*e*P		**P**	**12 35 11.6**	**-3.1**
SYO	**Syowa Base**	**33.88**	**149**	⇑*i* sP		sP	12 35 19.4	+1.6
SYO	**Syowa Base**	**33.88**	**149**	⇑*e*PnPn		PnPn	12 36 25.4	-1.8
CNLB	**Canela**	**34.07**	**288**	*e*P		**P**	**12 35 18.1**	**+1.2**
CNLB	**Canela**	**34.07**	**288**	*e*P		**P**	**12 35 18.1**	**+1.2**
PLTB	**Pedras Altas**	**34.31**	**282**	*e*P		**P**	**12 35 20.4**	**+1.5**
PLTB	**Pedras Altas**	**34.31**	**282**	*e*P		**P**	**12 35 20.4**	**+1.5**
ESAR	**Angra dos Reis**	**34.69**	**303**	*e*P		**P**	**12 35 23.0**	**+0.8**
ESAR	**Angra dos Reis**	**34.69**	**303**	*e*P		**P**	**12 35 23.0**	**+0.8**
USHA	**Ushuaia**	**34.75**	**236**	P		**P**	**12 35 22.7**	**+0.2**
	comp=Z,11nm,1.0s,ba

PEL	**Peldehue**	**45.09**	**267**	P	**P**	**12 36 47.4**	**-1.2**
PEL				pmax	pmax		
	comp=Z,70nm,1.1s						
PEL	**Peldehue**	**45.09**	**267**	P	**P**	**12 36 47.4**	**-1.2**
NBMA	**Muriti-CE**	**45.24**	**323**	*eP*	**P**	**12 36 50.1**	**+0.2**
NBMA	**Muriti-CE**	**45.24**	**323**	*eP*	**P**	**12 36 50.1**	**+0.2**
RCBR	**Riachuelo**	**45.53**	**328**	P	**P**	**12 36 51.7**	**-0.5**
RCBR				pmax	pmax		
	comp=Z,65nm,1.6s						
RCBR	**Riachuelo**	**45.53**	**328**	*eP*	**P**	**12 36 53.5**	**+1.3**
RCBR	**Riachuelo**	**45.53**	**328**	*eP*	**P**	**12 36 53.5**	**+1.3**
RCBR	**Riachuelo**	**45.53**	**328**	P	**P**	**12 36 51.7**	**-0.5**
RCBR				IAmb	IAmb	12 36 58.0	
	comp=Z,65nm,1.6s						
LSZ	**Lusaka**	**46.75**	**61**	P	**P**	**12 37 03.7**	**+1.7**
	comp=Z,2.5nm,0.5s,baz=189,slow=8.8,SNR=5.6						
LSZ	**Lusaka**	**46.75**	**61**	P	**P**	**12 37 03.6**	**+1.7**
LSZ				IAmb	IAmb	12 37 10.0	
	comp=Z,39nm,1.6s						
GO04	**Tololo Observa**	**46.94**	**270**	P	**P**	**12 37 02.6**	**-0.9**
NBPB	**Pedra_Branca-C**	**47.22**	**323**	*eP*	**P**	**12 37 05.1**	**-0.4**
NBPB	**Pedra_Branca-C**	**47.22**	**323**	*eP*	**P**	**12 37 05.1**	**-0.4**
SMTB	**Santa Maria do**	**48.01**	**311**	*eP*	**P**	**12 37 12.6**	**+0.9**
SMTB	**Santa Maria do**	**48.01**	**311**	*eP*	**P**	**12 37 12.6**	**+0.9**
GO03	**Copiap**	**48.17**	**273**	P	**P**	**12 37 11.8**	**-1.1**
GO03				IAmb	IAmb	12 37 28.4	
	comp=Z,28nm,1.3s						
NBPS	**Pedro II - PI**	**49.04**	**321**	*eP*	**P**	**12 37 20.8**	**+1.2**
NBPS	**Pedro II - PI**	**49.04**	**321**	*eP*	**P**	**12 37 20.8**	**+1.2**
GO02	**Mina Guanaco**	**49.31**	**276**	P	**P**	**12 37 21.1**	**-0.8**
LVC	**Limon Verde**	**50.56**	**279**	*eP*	**P**	**12 37 30.7**	**-0.8**
LVC	**Limon Verde**	**50.56**	**279**	*eP*	**P**	**12 37 33.3**	**+1.8**
LVC	**Limon Verde**	**50.56**	**279**	*eP*	**P**	**12 37 33.3**	**+1.8**
LVC	**Limon Verde**	**50.56**	**279**	P	**P**	**12 37 30.7**	**-0.8**
LVC				IAmb	IAmb	12 37 38.4	
	comp=Z,40nm,1.4s						
CLDB	**Colider**	**50.87**	**301**	*eP*	**P**	**12 37 31.5**	**-2.0**
CLDB	**Colider**	**50.87**	**301**	*eP*	**P**	**12 37 31.5**	**-2.0**
PRPB	**Parauapebas**	**51.44**	**311**	*eP*	**P**	**12 37 38.8**	**+1.1**
PRPB	**Parauapebas**	**51.44**	**311**	*eP*	**P**	**12 37 38.8**	**+1.1**
GO01	**Chusmiza**	**52.78**	**281**	P	**P**	**12 37 47.5**	**-0.8**
GO01				IAmb	IAmb	12 37 58.7	
	comp=Z,49nm,1.5s						
PB11	**IPOC Station P**	**53.03**	**281**	P	**P**	**12 37 48.6**	**-1.1**
MNMC	**Minye Minye**	**53.43**	**282**	P	**P**	**12 37 51.7**	**-1.1**
MNMC				IAmb	IAmb	12 38 03.9	
	comp=Z,28nm,1.3s						
LIC	**Lamto**	**53.63**	**10**	*eP*	**P**	**12 37 53.8**	**-0.1**
	comp=Z,69nm,1.2s						
KIC	**Kosan Boka**	**53.80**	**11**	*eP*	**P**	**12 37 54.8**	**-0.3**
	comp=Z,170nm,1.9s						
KIC	**Kosan Boka**	**53.80**	**11**	P	**P**	**12 37 54.8**	**-0.3**
TIC	**Toumodi**	**54.05**	**10**	*eP*	**P**	**12 37 55.6**	**-1.4**
TIC	**Toumodi**	**54.05**	**10**	P	**P**	**12 37 55.6**	**-1.4**
TIC	**Toumodi**	**54.05**	**10**	P	**P**	**12 37 55.6**	**-1.4**
DBIC	**Dimbokro**	**54.09**	**10**	P	**P**	**12 37 56.9**	**-0.3**
DBIC				pmax	pmax		
	comp=Z,65nm,1.7s						
DBIC	**Dimbokro**	**54.09**	**10**	P	**P**	**12 37 56.7**	**-0.5**
	comp=Z,6.2nm,1.0s,baz=160,slow=7.8,SNR=6.7						
DBIC	**Dimbokro**	**54.09**	**10**	P	**P**	**12 37 56.9**	**-0.3**
LPAZ	**La Paz**	**54.48**	**285**	*eP*	**P**	**12 38 01.6**	**+0.7**
LPAZ				pmax	pmax		
	comp=Z,7.0nm,1.2s						
LPAZ	**La Paz**	**54.48**	**285**	P	**P**	**12 38 00.1**	**-0.8**
	comp=Z,7.0nm,1.2s,baz=142,slow=2.3,SNR=5.2						
LPAZ	**La Paz**	**54.48**	**285**	*eP*	**P**	**12 38 01.0**	**+0.1**
LPAZ	**La Paz**	**54.48**	**285**	*eP*	**P**	**12 38 01.0**	**+0.1**
LPAZ	**La Paz**	**54.48**	**285**	P	**P**	**12 37 59.1**	**-1.8**
SBA	**Scott Base**	**55.28**	**180**	P	**P**	**12 38 04.8**	**-0.4**
SBA				pmax	pmax		
	comp=Z,42nm,1.1s						
SBA	**Scott Base**	**55.28**	**180**	P	**P**	**12 38 04.8**	**-0.4**
VNDA	**Vanda**	**55.58**	**179**	P	**P**	**12 38 07.4**	**0.0**
VNDA				pmax	pmax		
	comp=Z,26nm,1.2s						
VNDA	**Vanda**	**55.58**	**179**	P	**P**	**12 38 07.0**	**-0.4**
	comp=Z,11nm,1.0s,baz=215,slow=7.3,SNR=17						
VNDA	**Vanda**	**55.58**	**179**	P	**P**	**12 38 07.4**	**0.0**
VNDA				IAmb	IAmb	12 38 14.9	
	comp=Z,26nm,1.1s						
ABPO	**Ambohimpanom**	**56.30**	**82**	P	**P**	**12 38 14.2**	**+0.7**
ABPO				pmax	pmax		
	comp=Z,22nm,1.5s						
ABPO	**Ambohimpanom**	**56.30**	**82**	P	**P**	**12 38 14.2**	**+0.7**
OPO	**Ambohidratompo**	**56.59**	**81**	P	**P**	**12 38 16.0**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=197,slow=13,SNR=2.7						
SAML	**Samuel**	**56.83**	**295**	P	**P**	**12 38 15.8**	**-1.2**
SAML				pmax	pmax		
	comp=Z,38nm,1.3s						
SAML	**Samuel**	**56.83**	**295**	*eP*	**P**	**12 38 17.2**	**+0.1**
SAML	**Samuel**	**56.83**	**295**	*eP*	**P**	**12 38 17.2**	**+0.1**
SAML	**Samuel**	**56.83**	**295**	P	**P**	**12 38 15.8**	**-1.2**
SAML				IAmb	IAmb	12 38 23.3	
	comp=Z,38nm,1.2s						
CASY	**Casey**	**59.02**	**157**	P	**P**	**12 38 31.6**	**-0.2**
CASY				IAmb	IAmb	12 38 34.7	
	comp=Z,30nm,1.2s						
MBAR	**Mbarara**	**60.09**	**53**	P	**P**	**12 38 39.3**	**-0.7**
MBAR				pmax	pmax		
	comp=Z,19nm,1.2s						
MBAR	**Mbarara**	**60.09**	**53**	P	**P**	**12 38 39.3**	**-0.7**
MBAR				IAmb	IAmb	12 38 51.0	
	comp=Z,19nm,1.1s						
TOA0	**Torodi Ar. Sit**	**61.49**	**17**	P	**P**	**12 38 48.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**61.49**	**17**	P	**P**	**12 38 48.7**	**-0.5**
	comp=Z,8.1nm,0.9s,baz=195,slow=4.5,SNR=17						
NNA	**Nana**	**63.38**	**281**	*i* P	**P**	**12 39 01.7**	**-0.4**
NNA				pmax	pmax		
	comp=Z,24nm,1.1s						
TAM	**Tamanrasset**	**71.64**	**18**	P	**P**	**12 39 54.3**	**+0.2**
TAM				pmax	pmax		
	comp=Z,15nm,1.3s						
TAM	**Tamanrasset**	**71.64**	**18**	P	**P**	**12 39 54.3**	**+0.2**
OTAV	**Otavalo**	**73.53**	**289**	P	**P**	**12 40 05.4**	**-0.7**
OTAV				pmax	pmax		
	comp=Z,38nm,1.4s						
OTAV	**Otavalo**	**73.53**	**289**	*eP*	**P**	**12 40 07.6**	**+1.5**
OTAV	**Otavalo**	**73.53**	**289**	*eP*	**P**	**12 40 07.6**	**+1.5**
OTAV	**Otavalo**	**73.53**	**289**	P	**P**	**12 40 05.4**	**-0.7**
OTAV				IAmb	IAmb	12 40 10.2	
	comp=Z,38nm,1.4s						
ROSC	**El Rosal**	**74.46**	**295**	P	**P**	**12 40 11.9**	**+0.5**
	comp=Z,6.5nm,0.4s,baz=110,slow=7.5,SNR=6.4						
ROSC	**El Rosal**	**74.46**	**295**	P	**P**	**12 40 10.9**	**-0.5**
ROSC				IAmb	IAmb	12 40 18.1	
	comp=Z,39nm,1.6s						
SDV	**Santo Domingo**	**75.43**	**301**	*eP*	**P**	**12 40 18.7**	**+2.0**
SDV	**Santo Domingo**	**75.43**	**301**	*eP*	**P**	**12 40 18.7**	**+2.0**
SDV	**Santo Domingo**	**75.43**	**301**	P	**P**	**12 40 15.9**	**-0.9**
SDV				IAmb	IAmb	12 40 24.2	
	comp=Z,24nm,1.4s						
DAMY	**Dhamar**	**80.16**	**56**	P	**P**	**12 40 43.6**	**+0.5**
KEST	**Kesra**	**84.96**	**18**	P	**P**	**12 41 09.3**	**+1.9**
	comp=Z,6.5nm,1.0s,baz=162,slow=1.5,SNR=3.7						
KEST	**Kesra**	**84.96**	**18**	P	**P**	**12 41 07.5**	**0.0**
KEST				IAmb	IAmb	12 41 21.5	
	comp=Z,23nm,1.2s						
JTS	**Las Juntas de**	**85.33**	**290**	*i* P	**P**	**12 41 08.8**	**-1.0**
JTS				pmax	pmax		
	comp=Z,12nm,1.2s						
JTS	**Las Juntas de**	**85.33**	**290**	P	**P**	**12 41 08.7**	**-1.0**
PAB	**San Pablo**	**86.67**	**7**	P	**P**	**12 41 15.7**	**-0.1**
PAB				pmax	pmax		
	comp=Z,44nm,1.5s						
PAB	**San Pablo**	**86.67**	**7**	P	**P**	**12 41 15.7**	**-0.1**
ESDC	**Sonseca Array**	**86.83**	**7**	P	**P**	**12 41 17.8**	**+1.2**
	comp=Z,8.4nm,1.1s,baz=184,slow=4.8,SNR=16						
ESBB	**Sonseca Array**	**86.83**	**7**	P	**P**	**12 41 16.9**	**+0.3**
ESBB				IAmb	IAmb	12 41 25.3	
	comp=Z,37nm,1.6s						
RAYN	**Ar Rayn**	**88.00**	**52**	P	**P**	**12 41 23.1**	**+0.5**
RAYN				pmax	pmax		
	comp=Z,13nm,1.5s						
RAYN	**Ar Rayn**	**88.00**	**52**	P	**P**	**12 41 23.1**	**+0.5**
RAYN				IAmb	IAmb	12 41 25.1	
	comp=Z,13nm,1.4s						
NWAO	**Narrogin (SRO)**	**88.71**	**140**	P	**P**	**12 41 23.8**	**-2.2**
NWAO				pmax	pmax		
	comp=Z,30nm,1.2s						
NWAO	**Narrogin (SRO)**	**88.71**	**140**	P	**P**	**12 41 23.8**	**-2.2**
KARP	**Karpathos**	**89.95**	**32**	P	**P**	**12 41 31.7**	**+0.2**
BRTR	**Keskin Array B**	**96.05**	**34**	P	**P**	**12 42 00.0**	**+0.3**
BRTR	**Keskin Array B**	**96.05**	**34**	P	**P**	**12 41 60.0**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=185,slow=7.4,SNR=6.0						
BRTR	**Keskin Array B**	**96.05**	**34**	P	**P**	**12 42 00.0**	**+0.3**
KHC	**Kasperske Hory**	**98.68**	**17**	*i* P	**P**	**12 42 10.3**	**-0.9**
KHC				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MODS	**Modra-Piesok**	**98.78**	**20**	*eP*	Pdif	12 42 13.0	+1.4
MODS	**Modra-Piesok**	**98.78**	**20**	*e*PDIFF	Pdif	12 42 13.0	+1.4
VYHS	**Vyhne**	**99.26**	**21**	*eP*	**Pdif**	**12 42 16.0**	**+2.3**
VYHS	**Vyhne**	**99.26**	**21**	*e*PDIFF	**Pdif**	**12 42 16.0**	**+2.3**
TBI	**Tubuai**	**99.49**	**220**	eLR	LR	13 14 40.7	
	comp=Z,427nm,31.2s						
ASAR	**Alice Springs**	**103.55**	**149**	PP	**PP**	**12 46 47.8**	**-0.9**
	comp=Z,1.1nm,1.0s,baz=203,slow=6.9,SNR=4.7						
PPT2	**Papeete2**	**104.56**	**223**	eLR	LR	13 17 01.7	
	comp=Z,256nm,22.2s						
TAOE	**Nuku Hiva Isla**	**107.05**	**236**	eLR	LR	13 18 10.8	
	comp=Z,452nm,25.4s						
OBN	**Obninsk**	**110.19**	**28**	⇑*i* PKIKP	**PKiKP**	**12 47 03.9**	**+0.6**
OBN				*e*		12 47 38.0	
OBN				*e*		12 54 13.1	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,314nm,11.0s						
KSH	**Kashi**	**117.14**	**60**	PKP	**PKiKP**	**12 47 19.3**	**+2.0**
KSH				PKS	**PKSdf**	**12 50 54.1**	**+0.1**
KSH				SKKS		12 55 26.3	
AAK	**Ala-Archa**	**118.26**	**57**	*i* PKIKP	**PKPdf**	**12 47 18.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**118.35**	**93**	PKP	**PKPdf**	**12 47 19.4**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=239,slow=2.9,SNR=5.8						
LUWI	**Luwuk**	**118.56**	**128**	PKP	**PKiKP**	**12 47 21.7**	**+1.0**
ULM	**Lac du Bonnet**	**120.26**	**313**	*e*PKIKP	**PKPdf**	**12 47 22.3**	**-0.5**
ULM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULM	**Lac du Bonnet**	**120.26**	**313**	PKP	**PKPdf**	**12 47 21.1**	**-1.6**
	comp=Z,2.4nm,1.0s,baz=125,slow=5.1,SNR=3.2						
RSSD	**Black Hills**	**120.90**	**303**	PKIKP	**PKPdf**	**12 47 23.5**	**-1.0**
RSSD	**Black Hills**	**120.90**	**303**		**PKPdf**	**12 47 23.5**	**-1.0**
Y12C	**Blythe**	**121.01**	**288**		**PKPdf**	**12 47 24.0**	**-0.8**
W13A	**Hualapai Mount**	**121.43**	**289**		**PKPdf**	**12 47 24.7**	**-1.2**
BRVK	**Borovoye**	**122.43**	**45**	*i* PKIKP	**PKPdf**	**12 47 26.6**	**-0.3**
PD31	**Pinedale Array**	**123.33**	**299**		**PKPdf**	**12 47 27.5**	**-1.7**
PDAR	**Pinedale Array**	**123.33**	**299**	PKP	**PKPdf**	**12 47 27.4**	**-1.9**
	comp=Z,1.7nm,0.8s,baz=126,slow=3.3,SNR=13						
GSC	**Goldstone, Bar**	**123.45**	**288**	PKIKP	**PKPdf**	**12 47 28.3**	**-1.2**
GSC	**Goldstone, Bar**	**123.45**	**288**		**PKPdf**	**12 47 28.3**	**-1.2**
MK31	**Makanchi Array**	**125.19**	**57**	PKIKP	**PKPdf**	**12 47 30.9**	**-1.5**
MK31	**Makanchi Array**	**125.19**	**57**		**PKPdf**	**12 47 30.9**	**-1.5**
MKAR	**Makanchi Array**	**125.19**	**57**	PKP	**PKPdf**	**12 47 31.6**	**-0.8**
	comp=Z,3.0nm,1.1s,baz=272,slow=3.6,SNR=9.0						
KURK	**Kurchatov**	**125.33**	**51**	*i* PKIKP	**PKiKP**	**12 47 32.7**	**-0.1**
KURK	**Kurchatov**	**125.33**	**51**		**PKPdf**	**12 47 31.4**	**-1.1**
ELK	**Elko**	**125.64**	**294**	PKP	**PKPdf**	**12 47 33.8**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=137,slow=3.3,SNR=13						
NV11	**Mina Array Sit**	**126.17**	**290**		**PKPdf**	**12 47 33.8**	**-0.9**
NVAR	**Mina Array Bea**	**126.26**	**290**	PKP	**PKPdf**	**12 47 35.0**	**0.0**
	comp=Z,3.2nm,1.1s,baz=136,slow=2.9,SNR=8.8						
WMQ	**Urumqi**	**126.74**	**62**	*e*PKP	**PKiKP**	**12 47 36.4**	**+0.4**
WMQ				LR	LR		
	comp=Z,510nm,25.3s						
WMQ				LR	LR		
	comp=Z,220nm,21.1s						
AFDM	**Forest Hills D**	**128.27**	**289**		**PKPdf**	**12 47 37.5**	**-1.1**
BEKR	**Beckworth**	**128.39**	**290**		**PKPdf**	**12 47 38.5**	**-0.5**
CD2	**Chengdu**	**129.80**	**85**	PKP	**PKPdf**	**12 47 42.0**	**+0.3**
ZALV	**Zalesovo Beam**	**130.25**	**50**	PKP	**PKPdf**	**12 47 40.2**	**-1.6**
	comp=Z,0.8nm,0.4s,baz=253,slow=4.5,SNR=6.7						
GTA	**Gaotai**	**132.02**	**74**	*e*PKP	**PKiKP**	**12 47 46.8**	**0.0**
GTA				sPKP		12 47 54.0	
RES	**Resolute Bay**	**132.69**	**339**	PKP	**PKPdf**	**12 47 45.0**	**-0.8**
	comp=Z,6.5nm,1.0s,baz=176,slow=0.7,SNR=10.0						
LZH	**Lanzhou**	**132.88**	**80**	*e*PKP	**PKPdf**	**12 47 45.0**	**-2.6**
LZH				LR	LR		
	comp=Z,180nm,18.2s						
LZH				LR	LR		
	comp=Z,180nm,18.3s						
LZH				LR	LR		
	comp=Z,230nm,20.0s						
YKA	**Yellowknife Ar**	**135.20**	**320**	PKP	**PKPdf**	**12 47 50.0**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=107,slow=2.0,SNR=24						
WHN	**Wuhan**	**136.80**	**93**	PKP	**PKPdf**	**12 47 54.8**	**0.0**
MOY	**Mondy**	**138.28**	**59**	*e*PKIKP	**PKPdf**	**12 47 56.6**	**-0.5**
MOY				pmax	pmax		
	comp=Z,18nm,1.3s						
SONM	**Songino Array**	**140.14**	**66**	PKP	**PKPdf**	**12 48 00.0**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=200,slow=2.8,SNR=9.6						
HHC	**Hu-ho-hao-te**	**140.52**	**78**	*e*PKP	**PKiKP**	**12 48 04.0**	**-0.1**
ULN	**Ulaanbaatar**	**140.56**	**66**	*i* PKIKP	**PKPdf**	**12 47 59.7**	**-1.7**
NJ2	**Nanjing**	**140.78**	**95**	*e*PKP	**PKPdf**	**12 48 01.0**	**-1.1**
BJI	**Beijing**	**143.24**	**82**	*e*PKP	**PKPdf**	**12 48 07.0**	**+0.8**
BJI				PP	**PP**	**12 51 19.9**	**+2.3**
INK	**Inuvik**	**143.73**	**327**	PKhKP	PKPab	12 48 03.4	+0.3
	comp=Z,14nm,1.1s,baz=97,slow=2.6,SNR=14						
DAWY	**Dawson**	**146.44**	**320**		**PKPdf**	**12 48 10.4**	**-0.7**
BOD	**Bodaibo**	**146.98**	**51**	*e*PKIKP	**PKPdf**	**12 48 12.0**	**-0.1**
BOD				pmax	pmax		
	comp=Z,33nm,1.9s						
EGAK	**Eagle**	**147.13**	**321**		**PKPdf**	**12 48 12.4**	**+0.2**
SCRK	**Sand Creek**	**148.46**	**320**		**PKPdf**	**12 48 14.4**	**-0.1**
MENT	**Mentasta**	**148.48**	**318**		**PKPdf**	**12 48 14.8**	**+0.3**
PRP	**Porcupine Dome**	**148.83**	**323**		**PKPbc**	**12 48 18.6**	**-0.5**
ILAR	**Eielson Array**	**149.55**	**322**	PKP	**PKPdf**	**12 48 15.0**	**-1.1**
	comp=Z,3.6nm,1.0s,baz=332,slow=2.6,SNR=4.5						
ILAR				PKPbc	**PKPbc**	**12 48 20.1**	**-0.5**
	comp=Z,20nm,1.0s,baz=3.3,slow=1.2,SNR=55						
TIXI	**Tiksi**	**149.75**	**23**	*i* PKHKP	**PKPdf**	**12 48 17.8**	**+1.6**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIXI	**Tiksi**	**149.75**	**23**		**PKPdf**	**12 48 16.2**	**0.0**
COLA	**College**	**149.93**	**323**	PKHKP	**PKPdf**	**12 48 16.8**	**+0.2**
COLA	**College**	**149.93**	**323**		**PKPdf**	**12 48 16.8**	**+0.2**
KSRS	**Korea Array**	**149.97**	**95**	PKP	**PKPdf**	**12 48 17.3**	**-0.3**
	comp=Z,3.0nm,0.9s,baz=270,slow=1.3,SNR=4.1						
KSRS				PKPbc	**PKPbc**	**12 48 22.0**	**-0.5**
	comp=Z,5.6nm,1.0s,baz=259,slow=3.1,SNR=13						
DHY	**Denali Highway**	**150.11**	**319**		**PKPdf**	**12 48 16.6**	**-0.7**
WRH	**Wood River Hil**	**150.13**	**322**		**PKPdf**	**12 48 16.5**	**-0.5**
WRH				PKPbc	**PKPbc**	**12 48 21.8**	**-0.3**
CN2	**Changchun**	**151.09**	**81**	*e*PKPbc	**PKPdf**	**12 48 16.1**	**-3.1**
CN2				*e*pPKP	pPKPbc	12 48 26.8	-0.8
CN2				*e*PP	**PP**	**12 52 05.9**	**+2.1**
CN2				LR	LR		
	comp=Z,300nm,18.0s						
CN2				LR	LR		
	comp=Z,300nm,19.0s						
ZEA	**Zeya**	**154.26**	**60**	*e*PKIKP	**PKPbc**	**12 48 31.1**	**-0.6**
ZEA				pmax	pmax		
	comp=Z,40nm,1.8s						
BILL	**Bilibino**	**159.04**	**0**	PKIKP	**PKPdf**	**12 48 29.0**	**-0.2**
BILL	**Bilibino**	**159.04**	**0**		**PKPdf**	**12 48 29.0**	**-0.2**
BILL				PKPab	**PKPab**	**12 49 06.3**	**+0.4**

SJA 16 12:35:21.9±0.3, 27.94S×62.22W, h664km±21km, ML3.6, MW3.5, 1D, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHML	**Horco Molle**	**3.00**	**292**	*i* P	P	12 36 50.2	+3.8
AHML				*i* S	S	12 37 55.6	+0.3
AHML				IAML		12 39 02.6	
	comp=Z,7.6nm,4.6s						
ASTB	**Santa Barbara**	**4.46**	**333**	⇓*i* P	P	12 37 00.6	+5.2
ASTB				IAML		12 38 36.1	
	comp=Z,9.0nm,2.9s						
AZAP	**Zapla**	**4.50**	**325**	*i* P	P	12 37 01.0	+5.2
AZAP				IAML		12 38 43.7	
	comp=Z,7.9nm,0.7s						
HJA	**Humahuaca**	**5.53**	**328**	*i* P	P	12 37 10.2	+6.8
HJA				IAML		12 39 22.9	
	comp=Z,6.1nm,3.1s						

*SJA **16** 13:02:30.4±0.7, 21.57S×68.50W, h121km±6km, ML2.8, MW3.3*
*ISCJB **16** 13:02:32.7±0.9, 21.72S±0.04×68.53W±0.07, h118km±12km, Error ellipse: s-maj=11.2km s-min=5.9km az=6.5*
*GUC **16** 13:02:32.6±0.7, 21.72S×68.64W, h121km±6km, ML2.7*
ISC 16 13:02:34.1±1.5, 21.71S±0.04×68.52W±0.06, h104km±14km, n19, σ0.99/31, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.68**	**262**	⇑*i* P	**Pn**	**13 02 51.7**	**-0.2**
PB09				*i* S	**Sn**	**13 03 06.1**	**+0.8**
PB09				IAML		13 03 10.8	
	comp=E,136nm,0.1s						
PB09	**IPOC Station P**	**0.68**	**262**	*i* P	**Pn**	**13 02 51.1**	**-0.8**
PB09				*i* S	**Sn**	**13 03 06.4**	**+1.1**
PB09				IAML		13 03 10.8	
	comp=Z,115nm,0.5s						
LVC	**Limon Verde**	**0.97**	**202**	*i* P	**Pn**	**13 02 54.2**	**-0.7**
PB03	**IPOC Station P**	**1.20**	**253**	⇑*i* P	**Pn**	**13 02 56.4**	**-0.8**
PB03				*i* S	**Sn**	**13 03 14.2**	**-0.4**
PB03				IAML		13 03 15.5	
	comp=E,181nm,0.6s						
PB07	**IPOC Station P**	**1.27**	**269**	⇑*i* P	**Pn**	**13 02 57.0**	**-1.0**
PB07				*i* S	**Sn**	**13 03 16.0**	**-0.1**
PB07				IAML		13 03 17.3	
	comp=N,263nm,0.4s						
PB06	**IPOC Station P**	**1.39**	**224**	⇑*i* P	**Pn**	**13 02 58.6**	**-0.8**
PB06				*i* S	**Sn**	**13 03 18.8**	**+0.1**
PB06				IAML		13 03 19.7	
	comp=E,146nm,0.3s						
PB06	**IPOC Station P**	**1.39**	**224**	*i* P	**Pn**	**13 02 58.7**	**-0.8**
PB06				IAML		13 03 22.2	
	comp=Z,83nm,0.2s						
PB04	**IPOC Station P**	**1.64**	**247**	⇑*i* P	**Pn**	**13 03 01.1**	**-1.3**
PB04				*i* S	**Sn**	**13 03 23.4**	**-0.5**
PB04				IAML		13 03 31.5	
	comp=N,119nm,0.2s						
PB04	**IPOC Station P**	**1.64**	**247**	*i* P	**Pn**	**13 03 01.3**	**-1.1**
PB08	**IPOC Station P**	**1.67**	**339**	*eP*	**Pn**	**13 03 03.4**	**+0.4**
PB08				*i* S	**Sn**	**13 03 26.8**	**+1.9**
PB08				IAML		13 03 28.5	
	comp=E,61nm,0.5s						
PB15	**IPOC Station P**	**1.73**	**210**	⇑*i* P	**Pn**	**13 03 03.0**	**-0.7**
PB15				*i* S	**Sn**	**13 03 26.6**	**+0.4**
PB15	**IPOC Station P**	**1.73**	**210**	*i* P	**Pn**	**13 03 03.6**	**-0.1**
PB15				*i* S	**Sn**	**13 03 28.0**	**+1.8**
GO01	**Chusmiza**	**2.12**	**343**	*eP*	**Pn**	**13 03 09.2**	**+0.3**
GO01				*i* S	**Sn**	**13 03 35.8**	**+0.4**
PB11	**IPOC Station P**	**2.21**	**331**	⇓*i* P	**Pn**	**13 03 08.8**	**-1.0**
PB11				*i* S	**Sn**	**13 03 36.2**	**-0.7**
PB11				IAML		13 03 38.1	
	comp=N,103nm,0.1s						
PB10	**IPOC Station P**	**2.60**	**226**	*eP*	**Pn**	**13 03 14.6**	**-0.1**
PB10				*i* S	**Sn**	**13 03 48.3**	**+2.5**
PB10	**IPOC Station P**	**2.60**	**226**	*i* P	**Pn**	**13 03 14.3**	**-0.4**
PB10				IAML		13 03 49.9	
	comp=Z,21nm,1.5s						
YJA	**Yavi**	**2.83**	**100**	*i* P	**Pn**	**13 03 17.0**	**-1.1**
HJA	**Humahuaca**	**3.24**	**118**	*i* P	**Pn**	**13 03 22.9**	**-0.6**
PB14	**IPOC Station P**	**3.38**	**210**	*i* P	**Pn**	**13 03 25.3**	**-0.1**
PB14				IAML		13 04 11.7	
	comp=Z,27nm,0.6s						

*SOME **16** 13:09:10.7, 39.65N×77.00E, h0km*
*KRNET **16** 13:09:10.4±0.1, 39.18N×76.87E, mb3.6*
*NNC **16** 13:09:12.6±1.8, 39.66N×76.99E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=12.0km s-min=9.8km az=160.0*
ISC 16 13:09:15.4±2.5, 39.5N±0.1×76.99E±0.05, h25km, n48, σ2.24/70, 13C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**2.08**	**339**	⇑*i* P	**Pn**	**13 09 48.4**	**-0.7**
	baz=43						
NRN				⇑*i* S	**Sb**	**13 10 16.0**	**-2.3**
	baz=43						
TARG	**Taragay, Kyrgy**	**2.32**	**15**	⇑*i* P	**Pn**	**13 09 52.3**	**-0.1**
	baz=15						
TARG				⇑

DGS	**Degeres**	**3.86**	**347**	Pg	**Pb**	**13 10 19.9**	**-2.9**
	6.7nm,0.6s							
DGS				Lg	Lg	13 11 10.3		
	20nm,0.5s							
UZB	**Uzynbulak**	**3.96**	**22**	*eP*	**Pb**	**13 10 21.6**	**-3.1**
	7.6nm,0.6s							
UZB				*eS*	**Sb**	**13 11 12.4**	**+0.2**
	17nm,0.4s							
UZB	**Uzynbulak**	**3.96**	**22**	Pg	**Pb**	**13 10 21.6**	**-3.1**
	7.6nm,0.6s							
UZB				Lg	Lg	13 11 12.8		
	17nm,0.4s							
KURS	**Kuram**	**4.09**	**12**	*eP*	**Pb**	**13 10 25.1**	**-1.7**
	9.8nm,0.8s							
KURS				*eS*	**Sb**	**13 11 18.9**	**+3.1**
	16nm,0.6s							
KURS	**Kuram**	**4.09**	**12**	Pg	**Pb**	**13 10 25.1**	**-1.7**
	9.8nm,0.8s							
KURS				Lg	Lg	13 11 18.9		
	16nm,0.6s							
KPKS	**Kokpek**	**4.17**	**17**	*eP*	**Pb**	**13 10 25.2**	**-3.0**
	7.6nm,0.2s							
KPKS				*eS*	**Sb**	**13 11 19.0**	**+0.9**
	26nm,0.4s							
KTBS	**Karatobe**	**4.23**	**357**	*eP*	**Pb**	**13 10 27.1**	**-1.9**
	3.4nm,0.5s							
KTBS				*eS*	**Sb**	**13 11 21.9**	**+2.3**
	10nm,0.5s							
KTBS	**Karatobe**	**4.23**	**357**	Pg	**Pb**	**13 10 27.1**	**-1.9**
	3.4nm,0.5s							
KTBS				Lg	Lg	13 11 22.6		
	10nm,0.5s							
PDGK	**Podgornoye**	**4.27**	**25**	Pg	**Pb**	**13 10 27.2**	**-2.7**
	2.5nm,0.4s							
PDGK				Lg	Lg	13 11 22.5		
	11nm,0.5s							
PDGK	**Podgornoye**	**4.27**	**25**	⇓Pg	Pb	13 10 25.0	-4.9	
	9.4nm,1.2s							
PDGK				⇑Lg	Lg	13 11 20.5		
	36nm,0.7s							
MRKS	**Merke**	**4.32**	**320**	*eP*	**Pb**	**13 10 28.7**	**-2.0**
	4.1nm,0.5s							
MRKS				*eS*	**Sb**	**13 11 25.0**	**+2.6**
	13nm,0.5s							
MRKS	**Merke**	**4.32**	**320**	Pg	**Pb**	**13 10 28.7**	**-2.0**
	4.1nm,0.5s							
MRKS				Lg	Lg	13 11 25.0		
	13nm,0.5s							
CHKK	**Chushkaly**	**4.36**	**360**	*eP*	**Pb**	**13 10 29.6**	**-1.7**
	2.7nm,0.3s							
CHKK				*eS*	**Sb**	**13 11 26.0**	**+2.5**
	12nm,0.4s							
CHKK	**Chushkaly**	**4.36**	**360**	Pg	**Pb**	**13 10 29.6**	**-1.7**
	2.7nm,0.3s							
CHKK				Lg	Lg	13 11 26.9		
	12nm,0.4s							
KUU	**Kurty**	**4.43**	**354**	*eP*	**Pb**	**13 10 31.7**	**-0.8**
	5.6nm,0.5s							
KUU				*eS*	**Sb**	**13 11 30.3**	**+4.9**
	9.9nm,0.6s							
KUU	**Kurty**	**4.43**	**354**	Pg	**Pb**	**13 10 31.7**	**-0.8**
	5.6nm,0.5s							
KUU				Lg	Lg	13 11 30.3		
	9.9nm,0.6s							
KTMS	**Ketmen**	**4.69**	**31**	*eP*	**Pb**	**13 10 35.9**	**-1.2**
	0.4nm,0.1s							
KTMS				*eS*	**Sb**	**13 11 36.9**	**+3.8**
	14nm,0.3s							
KTMS	**Ketmen**	**4.69**	**31**	Pg	**Pb**	**13 10 35.9**	**-1.2**
	0.4nm,0.1s							
KTMS				Lg	Lg	13 11 37.6		
	14nm,0.3s							
ARXS	**Arharly**	**4.76**	**7**	*eP*	**Pb**	**13 10 36.1**	**-2.1**
	3.7nm,0.5s							
ARXS				*eS*	**Sb**	**13 11 37.3**	**+2.2**
	15nm,0.5s							
ARXS	**Arharly**	**4.76**	**7**	Pg	**Pb**	**13 10 36.1**	**-2.1**
	3.7nm,0.5s							
ARXS				Lg	Lg	13 11 38.1		
	15nm,0.5s							
DJR	**Jarkent**	**5.27**	**22**	Pg	**Pb**	**13 10 46.5**	**-0.4**
	1.2nm,0.4s							
DJR				Lg	Lg	13 11 55.9		
	9.0nm,0.8s							
KAPS	**Kapalarasan**	**6.05**	**16**	Pg	**Pb**	**13 11 00.9**	**+0.7**
	1.9nm,1.1s							
KAPS				Lg	Lg	13 12 21.2		
	5.1nm,0.7s							
KK31	**Karatay Array**	**6.07**	**309**	⇑Pg	**Pb**	**13 11 01.7**	**+1.3**
	0.6nm,0.5s,baz=115,slow=14							
KK31				⇑Lg	Lg	13 12 19.6		
	2.8nm,0.7s,baz=119,slow=29,SNR=5.4							

NNC 16 13:24:58.2±3.6, **36°93N**×**70°83E**, **h152**km±54km, **mb2.8, mpv3.6, 4C-2D, Error ellipse: s-maj=32.9km s-min=22.5km az=45.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.17**	**358**	⇑P	Pn	13 26 27.3	+0.2
	2.6nm,0.3s,baz=182,slow=13,SNR=52						
KK31				⇑S	Sn	13 27 37.9	+1.1
	3.1nm,0.5s,baz=182,slow=24,SNR=10.0						
AAK	**Ala-Archa**	**6.36**	**25**	P	Pn	13 26 29.0	-0.8
	2.2nm,0.6s						
AAK				S	Sn	13 27 41.9	+0.4
	8.0nm,0.8s						
AB31	**Akbulak array**	**14.64**	**331**	⇓P	Pn	13 28 18.8	+1.0
	0.3nm,0.3s,baz=148,slow=12,SNR=18						
AB31				⇑S	Sn	13 30 57.6	-2.6
	1.6nm,0.8s,baz=154,slow=22,SNR=5.2						
AKTO	**Aktyubinsk**	**16.34**	**330**	⇑P	P	13 28 39.6	+0.8
	2.5nm,1.3s						
AKTO				⇓S	Sn	13 31 40.8	-0.1
	1.6nm,1.1s						

*ISCJB **16** 13:50:45.0±0.4, 60°55S±0°06×43°0W±0°2, h18km, mb3.9/6, MS3.7/4, Error ellipse: s-maj=12.2km s-min=6.9km az=144.7*
*IDC **16** 13:50:44.7±0.9, 60°49S×43°16W, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, ML3.5/2, MS3.7/7, Ms1 3.6/7, ms1mx3.4/22, Error ellipse: s-maj=34.8km s-min=21.1km az=48.0*
*NEIC **16** 13:50:46.9±0.9, 60°47S±0°09×43°1W±0°2, h15km±3km, mb4.8/17*

ISC 16 13:50:47.0±0.5, **60°50S**±0°08×**43°05W**±0°09, **h18**km, **n50, σ0°88/42, mb4.6**/12, **MS3.5**/4, **1C, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.16**	**33**	Pn	**Pn**	**13 52 29.4**	**-1.4**
PMSA	**Palmer Station**	**10.55**	**237**	Pn	**Pn**	**13 53 17.0**	**0.0**
	0.3nm,0.3s,baz=49,slow=11,SNR=2.9						
PMSA				LR	LR	13 56 58.7	
	comp=Z,269nm,18.1s,baz=51,slow=36						
USHA	**Ushuaia**	**14.66**	**281**	LR	LR	13 57 43.8	
	comp=Z,113nm,19.7s,baz=38,slow=29						
VNA3	**Neumayer Olymp**	**17.08**	**143**	P	**Pn**	**13 54 41.5**	**-3.0**
VNA1	**Neumayer--Stat**	**17.31**	**140**	P	**Pn**	**13 54 46.0**	**-1.3**
VNA2	**Neumayer--Watz**	**17.67**	**141**	P	**Pn**	**13 54 50.1**	**-1.8**
	baz=292,slow=16						
VNA2				S	Sn	13 57 55.8	-12
	baz=285,slow=26						
SNAA	**Sanae**	**19.29**	**142**	P	**Pn**	**13 55 12.0**	**+0.4**
SNAA				S	Sn	13 58 36.6	-11
SNAA	**Sanae**	**19.29**	**142**	P	**Pn**	**13 55 12.0**	**+0.4**
	0.2nm,0.3s,baz=250,slow=8.0,SNR=17						
SNAA				LR	LR	14 00 35.4	
	comp=Z,216nm,20.8s,baz=342,slow=31						
SNAA	**Sanae**	**19.29**	**142**	P	**P**	**13 55 11.2**	**+0.7**
TRQA	**Tornquist**	**25.44**	**323**	P	**P**	**13 56 13.2**	**-0.4**
TRQA				IAmb	IAmb	13 56 21.6	
	comp=Z,30nm,1.9s						
PLCA	**Paso Flores**	**26.05**	**307**	P	**P**	**13 56 18.8**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=180,slow=14,SNR=2.6						
PLCA				LR	LR	14 05 47.6	
	comp=Z,112nm,18.9s,baz=186,slow=35						
PLCA	**Paso Flores**	**26.05**	**307**	P	**P**	**13 56 17.9**	**-1.2**
PLCA				IAmb	IAmb	13 56 49.3	
	comp=Z,27nm,1.9s						
GO06	**Curarrehue**	**27.39**	**307**	P	**P**	**13 56 29.8**	**-1.5**
QSPA	**South Pole Qui**	**29.74**	**180**	LR	LR	14 07 55.0	
	comp=Z,94nm,18.1s,baz=180,slow=35						
QSPA	**South Pole Qui**	**29.74**	**180**	P	**P**	**13 56 50.7**	**-1.3**
QSPA				IAmb	IAmb	13 56 58.2	
	comp=Z,21nm,1.7s						
SYO	**Syowa Base**	**33.55**	**140**	⇑*eP*	P	13 57 40.0	+15
CPUP	**Villa Florida**	**35.53**	**338**	P	**P**	**13 57 43.1**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=171,slow=12,SNR=2.3						
GO02	**Mina Guanaco**	**39.76**	**321**	P	**P**	**13 58 19.0**	**+0.1**
MAW	**Mawson**	**41.36**	**146**	LR	LR	14 13 39.9	
	comp=Z,79nm,20.8s,baz=238,slow=33						
VNDA	**Vanda**	**41.37**	**189**	P	**P**	**13 58 32.5**	**+1.2**
PB10	**IPOC Station P**	**41.61**	**320**	P	**P**	**13 58 34.5**	**+0.7**
PB10				IAmb	IAmb	13 59 21.5	
	comp=Z,36nm,1.2s						
GO01	**Chusmiza**	**44.81**	**324**	P	**P**	**13 59 00.2**	**0.0**
PB11	**IPOC Station P**	**44.86**	**323**	P	**P**	**13 59 00.3**	**+0.1**
PB11				IAmb	IAmb	13 59 08.9	
	comp=Z,13nm,0.9s						
BDFB	**Brasilia**	**44.93**	**353**	P	**P**	**13 59 00.8**	**+0.1**
	comp=Z,2.0nm,0.4s,baz=134,slow=7.0,SNR=4.5						
BDFB	**Brasilia**	**44.93**	**353**	IAmb	IAmb	13 59 02.1	
	comp=Z,11nm,1.3s						
MNMC	**Minye Minye**	**45.44**	**324**	P	**P**	**13 59 05.5**	**+0.6**
MNMC				IAmb	IAmb	13 59 06.6	
	comp=Z,9.7nm,0.6s						
SIV	**San Ignacio**	**46.32**	**336**	P	**P**	**13 59 11.8**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=175,slow=8.7,SNR=4.0						
LPAZ	**La Paz**	**47.72**	**327**	P	**P**	**13 59 23.8**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=166,slow=8.3,SNR=3.0						
LPAZ	**La Paz**	**47.72**	**327**	P	**P**	**13 59 23.3**	**0.0**
LPAZ				IAmb	IAmb	14 00 01.7	
	comp=Z,13nm,1.6s						
CRZF	**Crozet Islands**	**53.26**	**121**	P	**P**	**14 00 05.1**	**+1.0**
SAML	**Samuel**	**53.60**	**335**	P	**P**	**14 00 07.2**	**+0.3**
ASCN	**Ascension**	**56.68**	**35**	P	**P**	**14 00 29.2**	**0.0**
LBTB	**Lobatse**	**58.07**	**85**	P	**P**	**14 00 39.1**	**+0.1**
LSZ	**Lusaka**	**67.59**	**81**	LR	LR	14 26 45.8	
	comp=Z,249nm,21.1s,baz=327,slow=32						
LSZ	**Lusaka**	**67.59**	**81**	P	**P**	**14 01 42.8**	**+0.2**
LSZ				IAmb	IAmb	14 01 44.4	
	comp=Z,6.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**81.60**	**44**	P	**P**	**14 03 05.1**	**+1.6**
	comp=Z,2.9nm,0.9s,baz=206,slow=6.8,SNR=13						
FINES	**FINESS Array B**	**132.63**	**38**	PKP	**PKPdf**	**14 09 58.4**	**-0.5**
	comp=Z,4.6nm,1.0s,baz=193,slow=5.6,SNR=3.0						
YKA	**Yellowknife Ar**	**134.18**	**322**	PKP	**PKPdf**	**14 10 01.7**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=137,slow=1.9,SNR=8.4						
INK	**Inuvik**	**143.91**	**321**	PKhKP	PKPpre	14 10 16.4	
	comp=Z,1.2nm,0.7s,baz=160,slow=3.5,SNR=5.9						
INK	**Inuvik**	**143.91**	**321**	PKPpre	PKPpre	14 10 16.8	
MAKZ	**Makanchi**	**145.75**	**88**		**PKPbc**	**14 10 23.6**	**-0.2**
MK31	**Makanchi Array**	**145.90**	**89**		**PKPdf**	**14 10 23.6**	**+0.1**
MKAR	**Makanchi Array**	**145.90**	**89**	PKPbc	**PKPbc**	**14 10 23.9**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=251,slow=2.7,SNR=18						
DHY	**Denali Highway**	**146.04**	**308**		**PKPab**	**14 10 24.5**	**-0.5**
PRP	**Porcupine Dome**	**146.55**	**312**	PKPdf	**PKPbc**	**14 10 26.0**	**+0.2**
IL31		**146.70**	**311**	PKPdf	**PKPbc**	**14 10 26.1**	**+0.1**
ILAR	**Eielson Array**	**146.70**	**311**	PKPbc	**PKPbc**	**14 10 26.0**	**0.0**
	comp=Z,1.7nm,0.8s,baz=144,slow=1.9,SNR=16						
KURK	**Kurchatov**	**146.71**	**80**		**PKPbc**	**14 10 26.8**	**+0.4**
ZALV	**Zalesovo Beam**	**151.70**	**80**	PKPbc	**PKPbc**	**14 10 38.1**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=212,slow=5.3,SNR=3.5						
SONM	**Songino Array**	**158.32**	**112**	PKPab	**PKPab**	**14 11 17.2**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=255,slow=4.3,SNR=4.3						

WEL 16 14:10:59.5±1.1, **46°S**±5°×**16°6E**±°, **h5**km, **ML3.8**/12, **MLv3.7**/14, **Error ellipse: s-maj=0.0km s-min=0.0km az=83.7, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.93**	**44**	P	Pg	14 11 16.2	-1.0
DCZ				S	Sg	14 11 28.7	-0.6
WHZ	**Wether Hill Ro**	**1.22**	**79**	P	Pg	14 11 22.1	-0.7
WHZ				S	Sn	14 11 39.6	-0.4
APZ	**The Paps**	**1.40**	**121**	P	Pn	14 11 24.1	-1.5
APZ				S	Sb	14 11 43.3	-0.9
MLZ	**Mavora Lakes**	**1.52**	**60**	P	Pn	14 11 27.6	+0.1
MLZ				S	Sg	14 11 48.5	0.0
MSZ	**Milford Sound**	**1.89**	**40**	P	Pn	14 11 31.7	-0.6
SYZ	**Scrubby Hill**	**2.05**	**102**	P	Pn	14 11 34.2	-0.4
EAZ	**Earnscleugh**	**2.33**	**68**	P	Pn	14 11 39.4	+0.9
WKZ	**Wanaka**	**2.35**	**57**	P	Pn	14 11 39.9	+1.1
TUZ	**Tuapeka**	**2.37**	**87**	P	Pn	14 11 39.6	+0.6
JCZ	**Jackson Bay**	**2.74**	**42**	P	Pn	14 11 44.8	+0.6
HHSZ	**Highcliff Hill**	**3.05**	**87**	P	Pn	14 11 48.6	+0.3
ODZ	**Otahua Downs**	**3.28**	**72**	P	Pn	14 11 50.4	-1.1
LBZ	**Lake Benmore**	**3.29**	**59**	P	Pn	14 11 51.1	-0.6
FOZ	**Fox Glacier**	**3.64**	**46**	P	Pn	14 11 57.3	+0.8
RPZ	**Rata Peaks**	**4.19**	**56**	P	Pn	14 12 02.8	-1.3
WVZ	**Waitaha Valley**	**4.44**	**48**	P	Pn	14 12 07.7	+0.3
OXZ	**Oxford**	**5.00**	**58**	P	Pn	14 12 13.0	-2.2
INZ	**Inchbonnie**	**5.05**	**49**	P	Pn	14 12 14.6	-1.2
LTZ	**Lake Taylor**	**5.47**	**54**	P	Pn	14 12 19.7	-1.9
GVZ	**Greta Valley S**	**5.80**	**59**	P	Pn	14 12 24.4	-1.7
DSZ	**Denniston Nort**	**5.95**	**44**	P	Pn	14 12 27.2	-1.1
KHZ	**Kahutara**	**6.42**	**57**	P	Pn	14 12 33.2	-1.5
THZ	**Tophouse**	**6.50**	**50**	P	Pn	14 12 34.3	-1.5
QRZ	**Quartz Range**	**7.01**	**43**	P	Pn	14 12 42.2	-0.5
DUWZ	**D'Urville Isla**	**7.72**	**49**	P	Pn	14 12 53.9	+1.4

*ISCJB **16** 14:19:20.5±0.5, 47°04S±0°07×13°4W±0°1, h10km, mb4.3/11, MS3.9/12, Error ellipse: s-maj=14.0km s-min=9.8km az=154.2*
*IDC **16** 14:19:20.5±0.7, 47°11S×13°37W, h0km, mb4.2/9, mb1 4.3/9, mb1mx4.0/29, mbtmp4.2/9, MS4.0/12, Ms1 4.0/12, ms1mx3.8/21, Error ellipse: s-maj=28.0km s-min=18.2km az=71.0*
*NEIC **16** 14:19:22.3±1.8, 47°07S±0°02×13°4W±0°2, h10km±1km, mb4.9/11*

ISC 16 14:19:22.1±0.5, **47°1S**±0°1×**13°4W**±0°1, **h10**km, **n57, σ0°79/46, mb4.4**/17, **MS4.0**/12, **Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**23.76**	**176**	P	**P**	**14 24 34.9**	**+0.7**
VNA2	**Neumayer--Watz**	**24.08**	**175**	P	**P**	**14 24 36.7**	**-0.7**
	baz=343,slow=11						
VNA3	**Neumayer Olymp**	**24.29**	**177**	P	**P**	**14 24 38.6**	**-0.7**
SNAA	**Sanae**	**25.16**	**172**	P	**P**	**14 24 47.7**	**+0.6**
SNAA	**Sanae**	**25.16**	**172**	P	**P**	**14 24 46.5**	**-0.6**
	3.7nm,1.1s,baz=2.1,slow=12,SNR=5.6						
SNAA				LR	LR	14 32 21.3	
	comp=Z,99nm,18.5s,baz=4.5,slow=31						
SNAA	**Sanae**	**25.16**	**172**	P	**P**	**14 24 46.7**	**-0.4**
SUR	**Sutherland**	**29.85**	**73**	LR	LR	14 34 30.4	
	comp=Z,406nm,21.7s,baz=283,slow=30						
PMSA	**Palmer Station**	**32.29**	**218**	LR	LR	14 36 56.7	
	comp=Z,99nm,21.3s,baz=56,slow=33						
USHA	**Ushuaia**	**34.71**	**236**	LR	LR	14 37 22.7	
	comp=Z,324nm,21.4s,baz=84,slow=31						
BOSA	**Boshof**	**35.21**	**72**	LR	LR	14 37 24.6	
	comp=Z,494nm,21.8s,baz=234,slow=31						
TRQA	**Tornquist**	**36.39**	**266**	P	**P**	**14 26 26.9**	**+0.3**
TRQA				IAmb	IAmb	14 27 42.4	
	comp=Z,17nm,1.6s						
CPUP	**Villa Florida**	**40.21**	**285**	P	**P**	**14 26 59.4**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=145,slow=6.4,SNR=3.3						
CPUP				LR	LR	14 40 42.2	
	comp=Z,240nm,21.9s,baz=112,slow=32						
PLCA	**Paso Flores**	**40.87**	**257**	LR	LR	14 42 39.7	
	comp=Z,175nm,19.3s,baz=136,slow=34						
PLCA	**Paso Flores**	**40.87**	**257**	P	**P**	**14 27 05.2**	**+1.0**
PLCA				IAmb	IAmb	14 27 31.7	
	comp=Z,14nm,1.6s						
BDFB	**Brasilia**	**42.49**	**306**	LR	LR	14 41 40.2	
	comp=Z,166nm,19.8s,baz=127,slow=32						
MAW	**Mawson**	**42.56**	**147**	P	**P**	**14 27 17.5**	**0.0**
	comp=Z,5.2nm,1.0s,baz=274,slow=11,SNR=5.0						
MAW	**Mawson**	**42.56**	**147**	P	**P**	**14 27 17.9**	**+0.4**
QSPA	**South Pole Qui**	**43.17**	**180**	P	**P**	**14 27 22.5**	**-0.2**
	comp=Z,6.8nm,1.0s,baz=218,slow=7.9,SNR=13						
QSPA	**South Pole Qui**	**43.17**	**180**	P	**P**	**14 27 22.1**	**-0.6**
QSPA				IAmb	IAmb	14 27 25.4	
	comp=Z,12nm,1.1s						
ROC1	**El Roble**	**45.33**	**267**	P	**P**	**14 27 40.1**	**-0.4**
GO04	**Tololo Observa**	**46.86**	**270**	P	**P**	**14 27 52.7**	**+0.1**
GO04				IAmb	IAmb	14 29 25.5	
	comp=Z,58nm,1.9s						
GO02	**Mina Guanaco**	**49.22**	**276**	P	**P**	**14 28 11.6**	**+0.7**
GO02				IAmb	IAmb	14 28 14.4	
	comp=Z,11nm,0.8s						
SIV	**San Ignacio**	**50.03**	**292**	P	**P**	**14 28 16.1**	**-0.8**
	comp=Z,1.6nm,0.9s,baz=137,slow=8.9,SNR=4.9						
LVC	**Limon Verde**	**50.47**	**279**	P	**P**	**14 28 21.0**	**+0.5**
	comp=Z,3.3nm,0.7s,baz=73,slow=3.3,SNR=3.8						
LVC	**Limon Verde**	**50.47**	**279**	P	**P**	**14 28 20.8**	**+0.2**
GO01	**Chusmiza**	**52.69**	**281**	P	**P**	**14 28 36.3**	**-1.1**
GO01				IAmb	IAmb	14 30 16.6	
	comp=Z,12nm,0.4s						
PB11	**IPOC Station P**	**52.93**	**281**	P	**P**	**14 28 38.3**	**-0.5**
LIC	**Lamto**	**53.60**	**10**	*eP*	**P**	**14 28 41.3**	**-2.1**
	comp=Z,7.8nm,0.4s						
LIC	**Lamto**	**53.60**	**10**	P	**P**	**14 28 41.3**	**-2.1**
KIC	**Kosan Boka**	**53.77**	**11**	*eP*	**P**	**14 28 44.7**	**+0.1**
	comp=Z,16nm,0.9s						
KIC	**Kosan Boka**	**53.77**	**11**	P	**P**	**14 28 44.7**	**+0.1**
TIC	**Toumodi**	**54.01**	**10**	*eP*	P	14 28 40.8	-5.6
DBIC	**Dimbokro**	**54.06**	**10**	LR	LR	14 45 46.6	
	comp=Z,83nm,19.1s,baz=188,slow=29						
LPAZ	**La Paz**	**54.39**	**285**	LR	LR	14 50 15.5	
	comp=Z,188nm,21.9s,baz=116,slow=34						
VNDA	**Vanda**	**55.63**	**179**	P	**P**	**14 28 58.0**	**+0.5**
	comp=Z,1.6nm,0.9s,baz=239,slow=6.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**61.47**	**17**	P	**P**	**14 29 39.0**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=197,slow=6.7,SNR=9.4						
KMBO	**Kilima Mbogo**	**63.41**	**60**	LR	LR	14 55 46.1	
	comp=Z,82nm,19.8s,baz=18,slow=34						
ROSC	**El Rosal**	**74.36**	**295**	LR	LR	15 02 17.4	
	comp=Z,107nm,19.4s,baz=157,slow=35						
ESDC	**Sonseca Array**	**86.79**	**7**	P	**P**	**14 32 07.2**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=182,slow=4.8,SNR=9.4						
KARP	**Karpathos**	**89.95**	**32**	P	**P**	**14 32 23.0**	**+1.7**
KARP				IAmb	IAmb	14 32 25.4	
	comp=Z,16nm,1.0s						
PDAR	**Pinedale Array**	**123.23**	**299**	PKP	**PKPdf**	**14 38 17.5**	**-1.4**
	comp=Z,0.4nm,0.8s,baz=156,slow=2.5,SNR=3.3						
MKAR	**Makanchi Array**	**125.24**	**57**	PKP	**PKPdf**	**14 38 22.2**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=180,slow=1.7,SNR=2.9						
G08A	**Pilot Rock**	**130.29**	**297**		**PKiKP**	**14 38 32.9**	**0.0**
YKA	**Yellowknife Ar**	**135.10**	**320**	PKP	**PKPdf**	**14 38 40.9**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=111,slow=2.1,SNR=7.3						
EPYK	**Eagle Plains**	**145.04**	**324**		**PKPdf**	**14 38 58.5**	**+0.1**
PRP	**Porcupine Dome**	**148.73**	**323**	PKPbc	**PKiKP**	**14 39 09.3**	**-0.6**
TOLK	**Toolik Lake Re**	**149.32**	**330**		**PKPbc**	**14 39 09.8**	**0.0**
IL31		**149.46**	**322**		**PKPbc**	**14 39 10.1**	**-0.1**
ILAR	**Eielson Array**	**149.46**	**322**	PKPbc	**PKPbc**	**14 39 09.6**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=360,slow=1.1,SNR=25						
CCB	**Clear Creek Bu**	**149.87**	**322**		**PKPbc**	**14 39 10.7**	**-0.5**
WRH	**Wood River Hil**	**150.03**	**322**		**PKiKP**	**14 39 12.0**	**-0.4**
COLD	**Coldfoot**	**150.05**	**328**		**PKiKP**	**14 39 11.9**	**-0.6**
KSRS	**Korea Array**	**150.06**	**95**	PKPbc	**PKPbc**	**14 39 11.2**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=242,slow=4.1,SNR=5.9						
RND	**Reindeer**	**150.60**	**320**		**PKiKP**	**14 39 14.6**	**+0.8**
TRF	**Thorofare Moun**	**151.22**	**320**		**PKiKP**	**14 39 14.9**	**-0.3**
BPAW	**Bear Paw Mtn.**	**151.35**	**322**		**PKPbc**	**14 39 14.1**	**-0.7**
KTH	**Kantishna Hill**	**151.47**	**321**		**PKPbc**	**14 39 15.0**	**-0.1**

*IDC **16** 14:25:10.4±1.2, 47°18S×13°42W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/23, mbtmp3.9/3, Error ellipse: s-maj=111.0km s-min=29.0km az=90.0*
*NEIC **16** 14:25:11.9±0.8, 47°11S±0°08×13°3W±0°8, h10km±1km, mb4.4/2*

ISC 16 14:25:12.2±0.9, **47°1S**±0°1×**13°6W**±0°7, **h10**km, **n10, σ1°24/9, mb4.0**/4, **Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**25.14**	**172**	P	**P**	**14 30 36.2**	**-0.9**
	1.7nm,0.9s,baz=347,slow=11,SNR=4.7						
SNAA	**Sanae**	**25.14**	**172**	IAmb	IAmb	14 30 53.7	
	comp=Z,5.1nm,1.0s						
QSPA	**South Pole Qui**	**43.14**	**180**	P	**P**	**14 33 12.1**	**-0.4**
QSPA				IAmb	IAmb	14 33 54.5	
	comp=Z,20nm,1.6s						
VNDA	**Vanda**	**55.60**	**179**	P	**P**	**14 34 48.8**	**+1.4**
TORD	**Torodi Ar. Bea**	**61.53**	**17**	P	**P**	**14 35 28.6**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=189,slow=7.7,SNR=6.2						
ESDC	**Sonseca Array**	**86.84**	**7**	P	**P**	**14 37 57.9**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=193,slow=5.3,SNR=5.0						
YKA	**Yellowknife Ar**	**135.05**	**320**	PKP	**PKPdf**	**14 44 28.5**	**-1.8**
	comp=Z,0.2nm,0.8s,baz=109,slow=3.2,SNR=4.0						
EPYK	**Eagle Plains**	**144.99**	**324**		**PKPab**	**14 44 48.0**	**+0.3**
ILAR	**Eielson Array**	**149.41**	**322**	PKPbc	**PKPbc**	**14 44 59.9**	**-0.3**

AAK				⇑*i*S		**Sb**	14 51 04.3	+1.6	
	baz=62								
AAK	**Ala-Archa**	**1.99**	**64**	⇓Pn		**Pb**	14 50 38.3	+0.3	
	2.6nm,0.5s								
AAK				⇑Sn		**Sg**	14 51 05.0	-1.3	
	3.7nm,0.5s								
FRU1	**Bishkek**	**2.16**	**61**	⇑*e*P		**Pb**	14 50 40.3	-0.5	
	baz=59								
FRU1				⇑*e*S		**Sb**	14 51 07.6	+0.2	
	baz=59								
CHMS	**Chumysh**	**2.33**	**58**	⇑*i*P		**Pb**	14 50 43.0	-0.7	
	baz=56								
CHMS				⇑*i*S		**Sb**	14 51 12.5	+0.3	
	baz=56								
USP	**Ospenovka**	**2.33**	**50**	⇓*i*P		**Pb**	14 50 42.7	-1.0	
	baz=48								
USP				⇓*i*S		**Sb**	14 51 13.0	+0.8	
	baz=48								
KZA	**Kyzart**	**2.39**	**82**	⇑*i*P		**Pb**	14 50 44.2	-0.8	
	baz=81								
KZA				⇑*i*S		**Sb**	14 51 14.7	+0.3	
	baz=81								
TKM2	**Tokmak 2**	**2.85**	**65**	⇑Pg		**Pb**	14 50 52.9	+0.2	
	1.5nm,0.7s								
TKM2				⇑Lg		Lg	14 51 30.2		
	3.4nm,0.7s								
CHKK	**Chushkaly**	**4.17**	**59**	Pg		**Pb**	14 51 16.5	+1.5	
	0.2nm,0.4s								
CHKK				Lg		Lg	14 52 09.8		
	1.0nm,0.5s								

DJA 16 15:08:52.9±0.3, 0˚N±2˚×12˚5E±˚, h10km, M3.7/9, MLv3.7/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.69**	**302**	P	Pg	15 09 05.5	-0.8
KMSI				S	Sg	15 09 14.8	-0.6
LUWI	**Luwuk**	**2.19**	**235**	P	Pn	15 09 30.2	+0.9
MRSI	**Marisa**	**2.64**	**276**	P	Pn	15 09 36.8	+1.2
SANI	**Sanana**	**2.66**	**148**	P	Pn	15 09 35.9	+0.1
SANI				S	Sn	15 10 06.8	-1.3
TNTI	**Ternate**	**2.85**	**79**	P	Pn	15 09 38.8	+0.3
APSI	**Ampana**	**3.13**	**249**	P	Pn	15 09 44.1	+1.8
NLAI	**Namlea**	**4.26**	**144**	P	Pb	15 10 03.9	-4.0
MPSI	**Mapaga**	**4.67**	**272**	P	Pn	15 10 02.9	-0.7

NIED ***16*** *15:09:00, 36˚.90N×141˚.90E, h17km, Mw3.5 Best double couple: M0 2.18000×10^14 NP1:φs=282.00000°, δ17.00000°, λ-131.00000°. NP2:φs=144.00000°, δ78.00000°, λ-79.00000°.*

ISCJB ***16*** *15:09:33.2±1.8, 36˚.97N±0˚.05×142˚.02E±0˚.06, h1km±12km, mb3.4/6, Error ellipse: s-maj=8.5km s-min=7.1km az=135.5*

IDC ***16*** *15:09:35.7±1.3, 37˚.19N×141˚.83E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.5/57, mbtmp3.5/8, ML3.2/2, Error ellipse: s-maj=28.9km s-min=23.3km az=115.0*

JMA ***16*** *15:09:36.3±0.2, 36˚.89N×141˚.94E, h45km, M3.7*

ISC 16 15:09:35.3±2.0, 37˚.05N±0˚.06×141˚.81E±0˚.07, h1km±11km, n28, σθ99°/30, mb3.4/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.81**	**274**	P	**Pn**	**15 09 53.1**	**-0.7**
JFK	**Kawauchi**	**0.81**	**293**	P	**Pn**	15 09 53.6	-0.2
JFK				*e*S	**Sn**	**15 10 06.3**	**-0.2**
JMST	**Minamisoumatoc**	**1.00**	**313**	P	**Pn**	**15 09 56.6**	**+0.3**
JMST				*e*S	**Sn**	**15 10 11.4**	**+0.4**
JFFD	**Fukushimafurud**	**1.00**	**273**	P	**Pn**	**15 09 55.6**	**-0.8**
JHO	**Hitachi**	**1.09**	**247**	P	**Pb**	**15 09 55.6**	**-1.2**
JHO				*e*S	**Sb**	**15 10 10.6**	**-0.9**
JMM	**Marumori**	**1.15**	**316**	P	**Pn**	**15 09 58.8**	**+0.4**
JFT	**Otama**	**1.26**	**292**	P	**Pg**	**15 10 01.2**	**+1.7**
JFT				*e*S	**Sn**	**15 10 19.0**	**+1.3**
JIO	**Ouri**	**1.45**	**346**	P	**Pg**	**15 10 02.9**	**-0.2**
JIO				*e*S	**Sg**	**15 10 22.6**	**+0.7**
JOU	**Okura**	**1.60**	**326**	P	**Pg**	**15 10 06.2**	**+0.3**
JFY	**Yanaizu**	**1.72**	**283**	P	**Pg**	**15 10 08.0**	**-0.2**
JMK	**Ichinoseki**	**1.96**	**346**	P	**Pb**	**15 10 11.0**	**-0.6**
JAG	**Ashikaga**	**1.99**	**252**	P	**Pn**	**15 10 09.4**	**-0.6**
JKT	**Katashina**	**2.07**	**263**	P	**Pb**	**15 10 12.0**	**-1.7**
MJAR	**Matsushiro Arr**	**2.93**	**261**	Pn	**Pn**	**15 10 23.8**	**+0.8**
	1.5nm,0.3s,baz=89,slow=14,SNR=72						
MJAR				Sn	**Sb**	**15 11 03.1**	**-1.6**
	0.5nm,0.3s,baz=88,slow=24,SNR=4.3						
MAT	**Matsushiro**	**2.94**	**261**	P	**Pn**	**15 10 24.4**	**+1.4**
MAT				S	**Sb**	**15 11 03.8**	**-0.9**
ASAJ	**Asahikawa**	**7.09**	**5**	Pn	**Pn**	**15 11 19.6**	**-0.4**
	0.5nm,0.3s,baz=205,slow=19,SNR=11						
ASAJ				Sn	**Sn**	**15 12 39.7**	**-1.5**
	0.5nm,0.3s,baz=171,slow=18,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**27.88**	**121**	T	T	15 44 32.0	
	baz=314,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**27.89**	**121**	T	T	15 44 27.5	
	baz=314,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**27.90**	**121**	T	T	15 44 32.0	
	baz=314,slow=75,SNR=15						
SONM	**Songino Array**	**28.04**	**304**	P	**P**	**15 15 28.6**	**+0.6**
	0.9nm,0.6s,baz=108,slow=9.3,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**28.60**	**123**	T	T	15 45 16.5	
	baz=316,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**28.60**	**123**	T	T	15 45 20.2	
	baz=316,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**28.62**	**123**	T	T	15 45 20.1	
	baz=316,slow=76,SNR=9.2						
CMAR	**Chiang Mai Arr**	**41.81**	**256**	P	**P**	**15 17 27.1**	**+0.4**
	0.2nm,0.4s,baz=60,slow=5.3,SNR=4.3						
ZALV	**Zalesovo Beam**	**42.14**	**312**	P	**P**	**15 17 28.6**	**-0.3**
	0.4nm,0.4s,baz=90,slow=7.7,SNR=3.1						
MKAR	**Makanchi Array**	**44.38**	**302**	P	**P**	**15 17 47.2**	**0.0**
	0.3nm,0.7s,baz=87,slow=9.2,SNR=3.0						
ILAR	**Eielson Array**	**49.31**	**32**	P	**P**	**15 18 24.7**	**-0.8**
	0.5nm,0.9s,baz=263,slow=7.2,SNR=3.3						
ASAR	**Alice Springs**	**60.85**	**188**	P	**P**	**15 19 51.1**	**+1.8**
	0.2nm,0.9s,baz=19,slow=4.2,SNR=3.2						

IDC ***16*** *15:09:52.9±0.5, 37˚.25N×97˚.81W, h0km, mb4.1/18, mb1 4.3/25, mb1mx4.1/60, mbtmp4.1/25, ML4.0/7, MS3.4/4, Ms1 3.4/4, ms1mx2.9/44, Error ellipse: s-maj=11.3km s-min=10.2km az=124.0*

NEIC ***16*** *15:09:53.9±1.1, 37˚.13N±0˚.02×97˚.78W±0˚.06, h5km±1km, mb4.6/51, Mwr3.8, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr-4.15; Mθe1.98; Mφφ2.17; Mrθ3.59; Mθφ2.87; Mφr-0.31; Fault plane solution: M0 5.84000×10^14 NP1:φs=20.14000°, δ37.13000°, λ-134.18000°. NP2:φs=250.78000°, δ64.35000°, λ-62.18000°. Principal axes: T 5.5526, Plg15.0000°, Azm321.0000°; N 0.5399, Plg25.0000°, Azm58.0000°; P -6.0925, Plg60.0000°, Azm203.0000°;*

ANF ***16*** *15:09:55.6±1.7, 37˚.21N×97˚.74W, h27km±18km, ML5.2/18*

ISC 16 15:09:52.7±1.8, 37˚.19N±0˚.03×97˚.71W±0˚.03, h1km±12km, n389, σ1s20/413, mb4.4/26, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**1.31**	**232**		**Pn**	**15 10 16.4**	**-1.7**
ADOK	**Arcadia Dam**	**1.56**	**170**		**Pn**	**15 10 21.3**	**-0.2**
OK005	**Luther M Schoo**	**1.59**	**164**		**Pn**	**15 10 22.1**	**+0.1**
OK009	**Oakdale Elemen**	**1.63**	**172**		**Pn**	**15 10 22.6**	**+0.2**
OK009				Sn	**Sn**	**15 10 43.5**	**-0.5**
OKCSW	**OKLAHOMA CITY**	**1.80**	**173**		**Pn**	**15 10 24.8**	**0.0**
FNO	**Franklin**	**1.95**	**172**		**Pn**	**15 10 27.9**	**+1.0**
TUL1	**Leonard**	**2.01**	**129**	P	**Pn**	**15 10 29.1**	**+1.4**
	baz=308						
TUL1				Sb	**Sb**	**15 10 56.7**	**+1.3**
	baz=308						
TUL1	**Leonard**	**2.01**	**129**		**Pn**	**15 10 29.1**	**+1.4**
KSU1	**Kansas State U**	**2.09**	**24**	P	**Pb**	**15 10 31.3**	**-0.1**
	baz=205						
KSU1				Sb	**Sg**	**15 11 00.2**	**+0.3**
	baz=205						
W35A	**Tecumseh**	**2.15**	**161**		**Pn**	**15 10 29.7**	**+0.1**
CBKS	**Cedar Bluff**	**2.27**	**316**	P	**Pn**	**15 10 32.7**	**+1.3**
	baz=137						
CBKS				Sb	**Sg**	**15 11 04.3**	**-1.4**
	baz=137						
CBKS	**Cedar Bluff**	**2.27**	**316**		**Pn**	**15 10 32.9**	**+1.5**
X34A	**Smith Ranch, M**	**2.59**	**182**		**Pn**	**15 10 36.9**	**+1.3**
WMOK	**Wichita Mounta**	**2.60**	**200**	P	**Pn**	**15 10 35.1**	**-0.7**
	baz=18						
WMOK				S	**Sn**	**15 11 06.9**	**-1.1**
	baz=18						
WMOK	**Wichita Mounta**	**2.60**	**200**		**Pn**	**15 10 35.4**	**-0.4**
HHAR	**Hobbs**	**3.17**	**106**		**Pn**	**15 10 45.1**	**+1.5**
X37A	**Clayton**	**3.22**	**143**		**Pn**	**15 10 45.2**	**+0.8**
W39A	**Magazine**	**3.75**	**121**	P	**Pn**	**15 10 52.1**	**+0.4**
	baz=302						
W39A				S	**Sn**	**15 11 36.8**	**+0.4**
	baz=302						
W39A	**Magazine**	**3.75**	**121**		**Pn**	**15 10 52.7**	**+1.0**
AMTX	**Amarillo**	**3.96**	**236**	P	**Pn**	**15 10 53.4**	**-1.1**
	baz=54						
AMTX				Sb	**Sb**	**15 11 54.7**	**+3.1**
	baz=54						
AMTX	**Amarillo**	**3.96**	**236**		**Pn**	**15 10 55.5**	**+0.9**
U40A	**Yellville**	**3.99**	**101**	P	**Pn**	**15 10 56.3**	**+1.4**
	baz=283						
U40A				S	**Sn**	**15 11 43.2**	**+0.8**
	baz=283						
U40A	**Yellville**	**3.99**	**101**		**Pn**	**15 10 56.3**	**+1.4**
BGNE	**Belgrade**	**4.22**	**356**	P	**Pn**	**15 10 59.5**	**+1.4**
	baz=176						
BGNE				S	**Sn**	**15 11 48.3**	**+0.2**
	baz=176						
BGNE	**Belgrade**	**4.22**	**356**		**Pn**	**15 10 59.4**	**+1.2**
MIAR	**Mount Ida**	**4.27**	**127**	P	**Pn**	**15 10 59.4**	**+0.6**
	baz=308						
MIAR				S	**Sn**	**15 11 49.7**	**+0.3**
	baz=308						
MIAR	**Mount Ida**	**4.27**	**127**		**Pn**	**15 10 60.0**	**+1.1**
KSCO	**Kaye Shedlock'**	**4.28**	**297**	P	**Pn**	**15 10 59.8**	**+0.8**
	baz=115						
KSCO				S	**Sn**	**15 11 48.3**	**-1.4**
	baz=115						
KSCO	**Kaye Shedlock'**	**4.28**	**297**		**Pn**	**15 10 59.8**	**+0.8**
MGMO	**Mountain Grove**	**4.35**	**89**		**Pn**	**15 11 01.5**	**+1.6**
WHAR	**Wooly Hollow**	**4.78**	**112**		**Pn**	**15 11 06.5**	**+0.7**
X40A	**Basin Creek Fa**	**4.80**	**123**	P	**Pn**	**15 11 06.7**	**+0.7**
	baz=305						
X40A				S	**Sn**	**15 12 02.5**	**+0.3**
	baz=305						
X40A	**Basin Creek Fa**	**4.80**	**123**		**Pn**	**15 11 07.2**	**+1.2**
ABTX	**Abilene, Hawle**	**4.83**	**200**	P	**Pn**	**15 11 05.8**	**-0.6**
	baz=18						
ABTX				S	**Sn**	**15 12 00.4**	**-2.6**
	baz=18						
ABTX	**Abilene, Hawle**	**4.83**	**200**		**Pn**	**15 11 05.1**	**-1.4**
W41B	**Gary Mavity, V**	**4.86**	**113**	P	**Pn**	**15 11 07.6**	**+0.7**
	baz=295						
W41B				S	**Sn**	**15 12 03.0**	**-0.7**
	baz=295						
W41B	**Gary Mavity, V**	**4.86**	**113**	Pn	**Pn**	**15 11 07.7**	**+0.9**
UALR	**University of**	**4.98**	**117**		**Pn**	**15 11 10.0**	**+1.5**
OGNE	**Ogallala**	**5.03**	**319**	P	**Pn**	**15 11 10.5**	**+1.2**
	baz=138						
OGNE				S	**Sn**	**15 12 08.7**	**+0.5**
	baz=138						
OGNE	**Ogallala**	**5.03**	**319**		**Pn**	**15 11 11.3**	**+2.0**
WLAR	**White Oak Lake**	**5.13**	**132**		**Pn**	**15 11 11.5**	**+0.9**
WHTX	**Lake Whitney,**	**5.19**	**178**	P	**Pn**	**15 11 11.0**	**-0.5**
	baz=357						
WHTX				S	**Sn**	**15 12 08.8**	**-3.3**
	baz=357						
WHTX	**Lake Whitney,**	**5.19**	**178**		**Pn**	**15 11 10.7**	**-0.7**
CCM	**Cathedral Cave**	**5.21**	**79**	P	**Pn**	**15 11 12.3**	**+0.7**
	baz=262						
CCM				S	**Sn**	**15 12 12.9**	**+0.6**
	baz=262						
CCM	**Cathedral Cave**	**5.21**	**79**		**Pn**	**15 11 13.6**	**+1.9**
MSTX	**Muleshoe**	**5.23**	**234**	P	**Pn**	**15 11 11.9**	**-0.2**
	baz=51						
MSTX				Sb	**Sb**	**15 12 32.3**	**+4.1**
	baz=51						
MSTX	**Muleshoe**	**5.23**	**234**		**Pn**	**15 11 12.2**	**+0.1**
T25A	**Trinidad**	**5.35**	**271**	P	**Pn**	**15 11 13.3**	**-0.5**
	baz=88						
T25A	**Trinidad**	**5.35**	**271**		**Pn**	**15 11 13.0**	**-0.8**
LCAR	**Lake Charles**	**5.39**	**100**		**Pn**	**15 11 14.7**	**+0.5**
Z41A	**Richland Creek**	**5.62**	**133**	P	**Pn**	**15 11 17.8**	**+0.5**
	baz=315						
Z41A				S	**Sn**	**15 12 21.6**	**-0.9**
	baz=315						
Z41A	**Richland Creek**	**5.62**	**133**		**Pn**	**15 11 17.5**	**+0.2**
PBMO	**Poplar Bluff**	**5.85**	**92**		**Pn**	**15 11 21.1**	**+0.6**
SCIA	**State Center**	**5.85**	**35**	P	**Pn**	**15 11 21.7**	**+1.2**
	baz=218						
SCIA	**State Center**	**5.85**	**35**		**Pn**	**15 11 21.9**	**+1.5**
HBAR	**Harrisburg**	**5.92**	**104**	Pn	**Pn**	**15 11 22.4**	**+0.9**
NATX	**Nacogdoches**	**5.98**	**154**	P	**Pn**	**15 11 22.1**	**-0.2**
	baz=335						
NATX				S	**Sn**	**15 12 27.3**	**-4.1**
	baz=335						
NATX	**Nacogdoches**	**5.98**	**154**		**Pn**	**15 11 22.5**	**+0.3**
SLM	**Saint Louis**	**6.09**	**74**	Pn	**Pn**	**15 11 24.7**	**+1.0**
Q24A	**Divide**	**6.13**	**289**	P	**Pn**	**15 11 24.4**	**-0.2**
	baz=105						
Q24A				S	**Sn**	**15 12 32.9**	**-2.5**
	baz=105						
Q24A	**Divide**	**6.13**	**289**		**Pn**	**15 11 24.2**	**-0.3**
X43A	**Marvell**	**6.16**	**114**	P	**Pn**	**15 11 24.9**	**+0.3**
	baz=297						
X43A				S	**Sn**	**15 12 35.2**	**-0.5**
	baz=297						
X43A	**Marvell**	**6.16**	**114**	Pn	**Pn**	**15 11 25.9**	**+1.2**
LPAR	**Lepanto**	**6.19**	**103**	Pn	**Pn**	**15 11 26.1**	**+1.0**
SDCO	**Great Sand Dun**	**6.22**	**277**	P	**Pn**	**15 11 25.5**	**-0.4**
	baz=93						
SDCO	**Great Sand Dun**	**6.22**	**277**		**Pn**	**15 11 26.9**	**+1.0**
GNAR	**Gosnell**	**6.31**	**99**	Pn	**Pn**	**15 11 27.9**	**+1.1**
N41A	**Harden Midland**	**6.39**	**55**		**Pn**	**15 11 29.1**	**+1.1**
435B	**Jarrell**	**6.39**	**179**	P	**Pn**	**15 11 27.3**	**-0.7**
	baz=359						
435B				S	**Sn**	**15 12 36.7**	**-4.9**
	baz=359						
435B	**Jarrell**	**6.39**	**179**		**Pn**	**15 11 27.1**	**-0.9**
PARMO	**Parma**	**6.40**	**92**	Pn	**Pn**	**15 11 30.6**	**+2.5**
ECSD	**EROS Data Cent**	**6.59**	**7**	P	**Pn**	**15 11 31.3**	**+0.7**
	baz=188						
ECSD				S	**Sn**	**15 12 45.8**	**-0.5**
	baz=188						
ECSD	**EROS Data Cent**	**6.59**	**7**		**Pn**	**15 11 31.2**	**+0.6**
LNXT	**Lenox**	**6.70**	**97**	Pn	**Pn**	**15 11 32.6**	**+0.4**
ISCO	**Idaho Springs**	**6.72**	**295**	P	**Pn**	**15 11 32.9**	**+0.2**
	baz=111						
ISCO	**Idaho Springs**	**6.72**	**295**		**Pn**	**15 11 33.0**	**+0.2**
S44A	**Carbondale**	**6.75**	**83**	P	**Pn**	**15 11 33.3**	**+0.5**
	baz=268						
S44A				S	**Sn**	**15 12 49.1**	**-1.2**
	baz=268						
SIUC	**Southern Illin**	**6.78**	**83**		**Pn**	**15 11 34.3**	**+1.1**
GLAT	**Glass**	**6.83**	**95**	Pn	**Pn**	**15 11 35.0**	**+1.1**
HICK	**Hickman**	**6.83**	**93**	Pn	**Pn**	**15 11 36.1**	**+2.1**
HALT	**Halls**	**6.86**	**98**	Pn	**Pn**	**15 11 35.8**	**+1.4**
P43A	**Skaggs, Pawnee**	**6.88**	**67**		**Pn**	**15 11 35.4**	**+0.8**
JCT	**Junction City**	**6.92**	**195**	P	**Pn**	**15 11 34.5**	**-0.7**
	baz=14						
JCT	**Junction City**	**6.92**	**195**		**Pn**	**15 11 34.3**	**-0.9**
L40A	**Anamosa**	**6.98**	**44**		**Pn**	**15 11 36.5**	**+0.5**
OXF	**Oxford**	**7.25**	**109**	P	**Pn**	**15 11 40.2**	**+0.5**
	baz=294						
OXF	**Oxford**	**7.25**	**109**		**Pn**	**15 11 39.7**	**-0.1**
S22A	**4UR Ranch, Cre**	**7.27**	**277**		**Pn**	**15 11 38.8**	**-1.4**
PHWY	**Pilot Hill**	**7.27**	**307**		**Pn**	**15 11 39.8**	**-0.5**
SUSD	**Miller**	**7.30**	**353**	P	**Pn**	**15 11 40.9**	**+0.4**
	baz=173						
SUSD	**Miller**	**7.30**	**353**	Pn	**Pn**	**15 11 40.8**	**+0.4**
SUSD					**Sn**	**15 13 00.1**	**-3.9**
N23A	**Red Feather La**	**7.39**	**303**	P	**Pn**	**15 11 41.8**	**-0.1**
	baz=118						
N23A	**Red Feather La**	**7.39**	**303**		**Pn**	**15 11 42.3**	**+0.3**
GDL2	**Guadalupe Moun**	**7.40**	**230**	Pn	**Pn**	**15 11 41.2**	**-0.7**
ANMO	**Albuquerque**	**7.43**	**255**	Pn	**Pn**	**15 11 43.1**	**+0.7**
	0.3nm,0.3s,baz=80,slow=17,SNR=4.5						
ANMO				Lg	Lg	15 13 44.2	
	11nm,0.3s,baz=336,slow=19,SNR=9.4						
ANMO				LR	LR	15 14 47.6	
	comp=Z,139nm,19.0s,baz=62,slow=40						
SMCO	**Snowmass**	**7.56**	**288**		**Pn**	**15 11 44.5**	**+0.2**
VBMS	**Vicksburg**	**7.73**	**128**	Pn	**Pn**	**15 11 47.2**	**+1.0**
LPM	**Los Pinos Moun**	**7.80**	**251**	Pn	**Pn**	**15 11 47.8**	**+0.3**
O44A	**Mansfield**	**7.81**	**65**	Pn	**Pn**	**15 11 49.2**	**+1.8**
L42A	**Oliver, Polo**	**7.85**	**50**		**Pn**	**15 11 48.6**	**+0.6**
BNM	**Barren Site**	**7.86**	**250**		**Pn**	**15 11 48.4**	**0.0**
WVT	**Waverly**	**8.02**	**95**	P	**Pn**	**15 11 50.7**	**+0.5**
	baz=280						
WVT	**Waverly**	**8.02**	**95**		**Pn**	**15 11 50.3**	**+0.1**
JFWS	**Jewell Farm**	**8.09**	**43**	P	**Pn**	**15 11 52.0**	**+0.8**
	baz=227						
JFWS	**Jewell Farm**	**8.09**	**43**		**Pn**	**15 11 51.5**	**+0.4**
PLAL	**Pickwick Lake**	**8.11**	**103**		**Pn**	**15 11 51.4**	**-0.1**
LENM	**Lemitar**	**8.12**	**251**	Pn	**Pn**	**15 11 51.0**	**-0.8**
MNTX	**Cornudas Mount**	**8.37**	**231**	P	**Pn**	**15 11 54.7**	**-0.4**
	baz=47						
MNTX	**Cornudas Mount**	**8.37**	**231**		**Pn**	**15 11 54.8**	**-0.3**
RSSD	**Black Hills**	**8.42**	**327**	P	**Pn**	**15 11 57.2**	**+1.3**
	baz=144						
RSSD	**Black Hills**	**8.42**	**327**		**Pn**	**15 11 57.8**	**+1.8**
T47A	**Sharon Grove**	**8.48**	**88**	P	**Pn**	**15 11 57.5**	**+0.9**
	baz=274						
T47A	**Sharon Grove**	**8.48**	**88**		**Pn**	**15 11 57.5**	**+0.9**
M44A	**Midewin, Midew**	**8.59**	**58**		**Pn**	**15 11 58.8**	**+0.8**
I40A	**Norwalk**	**8.60**	**37**		**Pn**	**15 11 58.4**	**+0.3**
P46A	**Rosedale**	**8.60**	**70**	P	**Pn**	**15 11 59.4**	**+1.2**
	baz=257						
MVCO	**Mesa Verde**	**8.61**	**273**	Pn	**Pn**	**15 11 58.6**	**+0.1**
RWWY	**Rawlins**	**8.61**	**304**	Pn	**Pn**	**15 11 59.4**	**+0.8**
K22A	**Casper**	**8.69**	**312**	P	**Pn**	**15 12 00.1**	**+0.5**
	baz=127						
K22A	**Casper**	**8.69**	**312**		**Pn**	**15 12 00.4**	**+0.8**
O20A	**White River Ci**	**8.74**	**293**	P	**Pn**	**15 12 01.3**	**+1.0**
	baz=107						
O20A	**White River Ci**	**8.74**	**293**		**Pn**	**15 12 01.0**	**+0.6**
SPMN	**Marine on St.**	**8.83**	**23**	P	**Pn**	**15 12 01.8**	**+0.4**
	baz=206						
SPMN	**Marine on St.**	**8.83**	**23**		**Pn**	**15 12 02.5**	**+1.1**
PV12	**Saucer Basin,**	**8.85**	**281**	Pn	**Pn**	**15 12 00.2**	**-1.8**
PV13	**Radium Mtn., P**	**8.86**	**280**	Pn	**Pn**	**15 12 01.6**	**-0.4**
SFIN	**Lafayette**	**8.88**	**66**	P	**Pn**	**15 12 02.9**	**+0.9**
	baz=252						
SFIN	**Lafayette**	**8.88**	**66**		**Pn**	**15 12 03.0**	**+0.9**
V48A	**Smith Brothers**	**8.89**	**96**	Pn	**Pn**	**15 12 03.5**	**+1.2**
PV11	**David Mesa, Pa**	**8.91**	**280**	Pn	**Pn**	**15 12 03.4**	**+0.7**
PV18	**Skein Mesa, Pa**	**8.93**	**280**	Pn	**Pn**	**15 12 03.1**	**+0.1**
PV04	**Paradox Valley**	**8.94**	**281**	Pn	**Pn**	**15 12 04.7**	**+1.7**
PV16	**Nyswonger Mesa**	**8.94**	**281**		**Pn**	**15 12 04.3**	**+1.1**
833A	**Chaparral WMA,**	**8.96**	**190**	P	**Pn**	**15 12 02.4**	**-0.7**
	baz=8.4						
833A	**Chaparral WMA,**	**8.96**	**190**	Pn	**Pn**	**15 12 02.6**	**-0.5**
PV23	**Carpenter Ridg**	**9.03**	**281**	Pn	**Pn**	**15 12 04.6**	**+0.3**
BLO	**Bloomington**	**9.03**	**74**		**Pn**	**15 12 05.1**	**+0.9**
L44A	**Lake County Fo**	**9.05**	**54**	P	**Pn**	**15 12 04.6**	**+0.3**
	baz=240						
L44A	**Lake County Fo**	**9.05**	**54**		**Pn**	**15 12 05.0**	**+0.6**
K43A	**Burlington**	**9.06**	**50**		**Pn**	**15 12 04.8**	**+0.3**
X48A	**Hartselle**	**9.09**	**104**	P	**Pn**	**15 12 05.0**	**+0.1**
	baz=290						
X48A	**Hartselle**	**9.09**	**104**		**Pn**	**15 12 04.8**	**-0.1**
WCI	**Wyandotte Cave**	**9.11**	**80**	P	**Pn**	**15 12 06.1**	**+0.9**
	baz=267						
WCI	**Wyandotte Cave**	**9.11**	**80**		**Pn**	**15 12 05.9**	**+0.7**
CLTN	**Cedars of Leba**	**9.21**	**93**		**Pn**	**15 12 07.2**	**+0.5**
TX31	**Lajitas Ar. Si**	**9.29**	**214**		**Pn**	**15 12 06.2**	**-1.5**
TX32	**Lajitas Array**	**9.29**	**214**		**Pn**	**15 12 06.1**	**-1.7**
TXAR	**Lajitas Array**	**9.29**	**214**	Pn	**Pn**	**15 12 06.3**	**-1.5**
	1.8nm,0.3s,baz=34,slow=11,SNR=39						
TXAR				Pg		15 12 37.6	
	1.5nm,0.3s,baz=24,slow=13,SNR=5.8						
TXAR				Lg	Lg	15 14 40.3	
	2.7nm,0.3s,baz=33,slow=28,SNR=5.2						
I42A	**Draeger Farm,**	**9.46**	**42**		**Pn**	**15 12 10.6**	**+0.6**
W49A	**Belvidere**	**9.49**	**99**	P	**Pn**	**15 12 11.6**	**+1.2**
	baz=286						
121A	**Cookes Peak, D**	**9.49**	**244**	P	**Pn**	**15 12 10.6**	**0.0**
	baz=58						
121A	**Cookes Peak, D**	**9.49**	**244**	Pn	**Pn**	**15 12 10.3**	**-0.3**
U49A	**Red Boiling Sp**	**9.59**	**90**	P	**Pn**	**15 12 13.0**	**+1.2**
	baz=277						
Q48A	**North Vernon**	**9.61**	**76**	P	**Pn**	**15 12 14.1**	**+2.0**
	baz=263						
V49A	**McMinnville**	**9.62**	**95**	P	**Pn**	**15 12 13.7**	**+1.5**
	baz=282						
LRAL	**Lakeview Retre**	**9.71**	**112**	P	**Pn**	**15 12 14.9**	**+1.5**
	baz=298						
LRAL	**Lakeview Retre**	**9.71**	**112**		**Pn**	**15 12 14.3**	**+0.9**
SWET	**Sewanee**	**9.72**	**98**		**Pn**	**15 12 14.6**	**+0.8**
T49A	**Edmonton**	**9.73**	**87**	P	**Pn**	**15 12 15.2**	**+1.5**
	baz=274						
**T49

	baz=275							
U51A	**La Follette**	**11.02**	**90**	P	**Pn**	15 12 32.6	**+1.3**	
	baz=278							
J46A	**Howard City**	**11.07**	**53**	P	**Pn**	15 12 31.8	**-0.3**	
	baz=240							
N49A	**Columbus Grove**	**11.16**	**66**	P	**Pn**	15 12 33.0	**-0.3**	
	baz=255							
N49A	**Columbus Grove**	**11.16**	**66**		**Pn**	15 12 32.0	**-1.2**	
AGMN	**Agassiz Nation**	**11.18**	**6**	P	**Pn**	15 12 32.0	**-1.5**	
	baz=188							
AGMN	**Agassiz Nation**	**11.18**	**6**		**Pn**	15 12 31.4	**-2.2**	
P50A	**Jamestown**	**11.18**	**73**	P	**Pn**	15 12 34.3	**+0.7**	
	baz=262							
K47A	**Vermontville**	**11.19**	**57**	P	**Pn**	15 12 33.4	**-0.3**	
	baz=245							
JLU	**Jordanelle**	**11.23**	**292**	Pn	**Pn**	15 12 34.1	**-0.4**	
S51A	**Beattyville**	**11.24**	**83**	P	**Pn**	15 12 34.9	**+0.5**	
	baz=272							
S51A	**Beattyville**	**11.24**	**83**		**Pn**	15 12 34.6	**+0.1**	
L48A	**N Adams**	**11.29**	**61**	P	**Pn**	15 12 34.9	**-0.2**	
	baz=249							
TKL	**Tuckaleechee C**	**11.34**	**94**	Pn	**Pn**	15 12 36.3	**+0.6**	
	1.4nm,0.3s,baz=234,slow=5.4,SNR=11							
TKL				Sn	**Sn**	15 14 40.0	**-3.1**	
	3.4nm,0.3s,baz=245,slow=15,SNR=3.4							
TKL				Lg	Lg	15 15 45.8		
	7.3nm,0.3s,baz=186,slow=18,SNR=14							
TKL				LR	LR	15 17 09.4		
	comp=Z,211nm,19.9s,baz=46,slow=38							
TZTN	**Tazewell**	**11.37**	**89**	Pn	**Pn**	15 12 37.4	**+1.2**	
LAO	**LASA Array**	**11.40**	**329**	P	**Pn**	15 12 36.2	**-0.5**	
	baz=144							
O50A	**Cable**	**11.41**	**71**	P	**Pn**	15 12 36.7	**0.0**	
	baz=259							
V52A	**Sevierville**	**11.44**	**93**	P	**Pn**	15 12 37.4	**+0.2**	
	baz=281							
V52A	**Sevierville**	**11.44**	**93**		**Pn**	15 12 37.7	**+0.6**	
Q51A	**Peebles**	**11.47**	**76**	P	**Pn**	15 12 37.3	**-0.2**	
	baz=265							
Q51A	**Peebles**	**11.47**	**76**		**Pn**	15 12 36.3	**-1.2**	
J47A	**Sunmer**	**11.55**	**55**	P	**Pn**	15 12 37.8	**-0.8**	
	baz=243							
J47A	**Sunmer**	**11.55**	**55**	Pn	**Pn**	15 12 38.8	**+0.2**	
152A	**Waverly Hall**	**11.58**	**109**	Pn	**Pn**	15 12 39.6	**+0.6**	
Y52A	**Lilburn**	**11.61**	**103**	Pn	**Pn**	15 12 40.4	**+0.9**	
EYMN	**Ely**	**11.68**	**21**	P	**Pn**	15 12 38.4	**-1.9**	
	baz=205							
EYMN	**Ely**	**11.68**	**21**	Pn	**Pn**	15 12 38.1	**-2.2**	
TCRU	**Three Creeks R**	**11.73**	**281**	Pn	**Pn**	15 12 40.4	**-0.9**	
P51A	**Williamsport**	**11.73**	**74**	P	**Pn**	15 12 40.0	**-1.1**	
	baz=263							
P51A	**Williamsport**	**11.73**	**74**	Pn	**Pn**	15 12 41.4	**+0.3**	
T52A	**Hallie**	**11.76**	**86**	Pn	**Pn**	15 12 40.9	**-0.6**	
L49A	**Milan**	**11.81**	**61**	P	**Pn**	15 12 42.2	**0.0**	
	baz=250							
K48A	**Perry**	**11.83**	**58**	P	**Pn**	15 12 42.0	**-0.4**	
	baz=246							
N50A	**Nevada**	**11.88**	**68**	P	**Pn**	15 12 42.3	**-0.9**	
	baz=257							
ACSO	**Alum Creek Sta**	**11.90**	**71**		**Pn**	15 12 41.3	**-2.2**	
D41A	**Chassel**	**11.96**	**32**	Pn	**Pn**	15 12 42.2	**-2.1**	
G45A	**Suttons Bay**	**12.00**	**45**	Pn	**Pn**	15 12 42.8	**-1.9**	
FXWY	**Fox Creek**	**12.01**	**307**		**Pn**	15 12 44.2	**-0.9**	
FLWY	**Flagg Ranch**	**12.02**	**309**	Pn	**Pn**	15 12 44.5	**-0.7**	
LKWY	**Lake**	**12.09**	**311**	Pn	**Pn**	15 12 45.7	**-0.6**	
V53A	**Saluda**	**12.10**	**93**	Pn	**Pn**	15 12 47.0	**+0.7**	
M50A	**Fremont**	**12.12**	**65**	P	**Pn**	15 12 45.6	**-0.8**	
	baz=254							
M50A	**Fremont**	**12.12**	**65**		**Pn**	15 12 46.1	**-0.2**	
I47A	**Gladwin**	**12.12**	**52**	P	**Pn**	15 12 45.6	**-0.8**	
	baz=240							
I47A	**Gladwin**	**12.12**	**52**		**Pn**	15 12 45.4	**-1.1**	
SPUT	**South Promonto**	**12.14**	**294**	Pn	**Pn**	15 12 46.0	**-0.8**	
BGJ	**Lake Jocassee**	**12.16**	**96**	Pn	**Pn**	15 12 45.6	**-1.4**	
E43A	**Lone Tree Farm**	**12.16**	**38**	Pn	**Pn**	15 12 44.9	**-2.1**	
O51A	**Pataskala**	**12.17**	**71**	P	**Pn**	15 12 46.3	**-0.9**	
	baz=261							
DGMT	**Dagmar**	**12.23**	**339**	P	**Pn**	15 12 47.2	**-0.7**	
	baz=155							
DGMT	**Dagmar**	**12.23**	**339**		**Pn**	15 12 47.5	**-0.4**	
J48A	**Bridge Port**	**12.26**	**56**	P	**Pn**	15 12 47.8	**-0.5**	
	baz=245							
J48A	**Bridge Port**	**12.26**	**56**		**Pn**	15 12 47.6	**-0.7**	
K49A	**Clarkson**	**12.27**	**59**	P	**Pn**	15 12 47.6	**-0.9**	
	baz=248							
253A	**Americus**	**12.30**	**111**	Pn	**Pn**	15 12 49.0	**+0.1**	
Q52A	**Bidwell**	**12.30**	**77**	P	**Pn**	15 12 47.5	**-1.4**	
	baz=266							
GCMT	**Greycliff**	**12.40**	**318**	Pn	**Pn**	15 12 49.8	**-0.6**	
P52A	**Corning**	**12.46**	**74**	P	**Pn**	15 12 50.2	**-1.0**	
	baz=263							
F45A	**CMU Biological**	**12.47**	**43**	P	**Pn**	15 12 48.5	**-2.6**	
	baz=231							
L50A	**Kingsville**	**12.47**	**63**	P	**Pn**	15 12 49.8	**-1.4**	
	baz=252							
GLMI	**Grayling**	**12.48**	**48**	P	**Pn**	15 12 49.6	**-1.7**	
	baz=237							
GLMI	**Grayling**	**12.48**	**48**	Pn	**Pn**	15 12 49.9	**-1.4**	
N51A	**Ashland**	**12.49**	**68**	P	**Pn**	15 12 50.3	**-1.1**	
	baz=257							
N51A	**Ashland**	**12.49**	**68**		**Pn**	15 12 50.9	**-0.5**	
R53A	**Hurricane**	**12.53**	**80**	Pn	**Pn**	15 12 52.0	**0.0**	
H47A	**Mio**	**12.61**	**50**	P	**Pn**	15 12 51.6	**-1.5**	
	baz=239							
YHB	**Horse Butte**	**12.67**	**311**	Pn	**Pn**	15 12 52.6	**-1.5**	
J49A	**Marlette**	**12.71**	**57**	P	**Pn**	15 12 52.7	**-1.8**	
	baz=246							
I48A	**Sherman Twp**	**12.71**	**52**	P	**Pn**	15 12 52.9	**-1.6**	
	baz=241							
O52A	**Adamsville**	**12.75**	**72**	Pn	**Pn**	15 12 57.0	**+2.0**	
U54A	**Nelsons Funny**	**12.75**	**88**	P	**Pn**	15 12 54.6	**-0.5**	
	baz=278							
U54A	**Nelsons Funny**	**12.75**	**88**		**Pn**	15 12 55.8	**+0.7**	
453A	**Whigham**	**12.78**	**116**	Pn	**Pn**	15 12 56.7	**+1.3**	
K50A	**Casco**	**12.84**	**60**		**Pn**	15 12 55.1	**-1.1**	
Q53A	**Leroy**	**12.88**	**78**	P	**Pn**	15 12 55.1	**-1.7**	
	baz=267							
HODGE	**Hodges**	**12.90**	**99**	Pn	**Pn**	15 12 56.8	**-0.3**	
P53A	**Whipple**	**13.02**	**75**	P	**Pn**	15 12 57.4	**-1.4**	
	baz=265							
P53A	**Whipple**	**13.02**	**75**	Pn	**Pn**	15 12 58.1	**-0.7**	
S54A	**Dingess, Beckl**	**13.04**	**82**	Pn	**Pn**	15 12 58.3	**-0.8**	
ULM	**Lac du Bonnet**	**13.12**	**5**	Pn	**Pn**	15 12 56.2	**-3.8**	
	1.7nm,0.3s,baz=185,slow=13,SNR=15							
ULM				Sn	Sn	15 15 15.5	-11	
	1.7nm,0.3s,baz=108,slow=20,SNR=6.3							
ULM				Lg	Lg	15 16 36.4		
	1.4nm,0.3s,baz=61,slow=19,SNR=1.9							
ULM	**Lac du Bonnet**	**13.12**	**5**		**Pn**	15 12 56.4	**-3.7**	
G47A	**Hillman**	**13.12**	**48**	P	**Pn**	15 12 57.9	**-2.1**	
	baz=237							
I49A	**Point Hope**	**13.16**	**55**	Pn	**Pn**	15 12 58.9	**-1.7**	
H48A	**Harrisville**	**13.20**	**51**	Pn	**Pn**	15 12 59.2	**-2.0**	
O53A	**New Philadelph**	**13.24**	**72**	P	**Pn**	15 13 00.5	**-1.3**	
	baz=262							
V55A	**Taylorsville**	**13.34**	**91**	Pn	**Pn**	15 13 02.9	**-0.3**	
U55A	**TA2, Sparta**	**13.37**	**88**	P	**Pn**	15 13 03.1	**-0.5**	
	baz=278							
M52A	**Chesterland**	**13.38**	**66**	Pn	**Pn**	15 13 02.6	**-1.0**	
KMSC	**Kings Mountain**	**13.39**	**94**	Pn	**Pn**	15 13 03.5	**-0.3**	
Q54A	**Coxs Mills**	**13.42**	**77**	P	**Pn**	15 13 03.8	**-0.4**	
	baz=267							
Q54A	**Coxs Mills**	**13.42**	**77**		**Pn**	15 13 04.4	**+0.2**	
214A	**Organ Pipe Nat**	**13.49**	**252**	P	**Pn**	15 13 03.8	**-1.4**	
	baz=63							
E46A	**Sault Ste Mari**	**13.55**	**43**	Pn	**Pn**	15 13 04.1	**-1.8**	
N53A	**Lisbon**	**13.61**	**69**	P	**Pn**	15 13 06.1	**-0.7**	
	baz=260							
N53A	**Lisbon**	**13.61**	**69**	Pn	**Pn**	15 13 05.3	**-1.5**	
JSC	**Jenkinsville**	**13.68**	**97**	Pn	**Pn**	15 13 06.1	**-1.7**	
R55A	**Marlinton**	**13.97**	**80**	Pn	**Pn**	15 13 11.4	**-0.4**	
D46A	**Sault St. Mari**	**14.02**	**42**	P	**Pn**	15 13 10.7	**-1.7**	
	baz=231							
ELK	**Elko**	**14.09**	**290**	Lg	Lg	15 17 05.2		
	0.1nm,0.3s,baz=246,slow=19,SNR=2.0							
E47A	**Iron Bridge**	**14.18**	**45**	P	**Pn**	15 13 12.7	**-1.7**	
	baz=234							
N54A	**Moraine State**	**14.27**	**69**	P	**Pn**	15 13 13.6	**-2.3**	
	baz=260							
N54A	**Moraine State**	**14.27**	**69**	Pn	**Pn**	15 13 14.1	**-1.8**	
ALLY	**Alegheny Colle**	**14.29**	**66**	Pn	**Pn**	15 13 14.3	**-1.8**	
ALLY				P	**P**	15 13 24.5	**+1.0**	
S56A	**Natural Bridge**	**14.43**	**83**	P	**Pn**	15 13 17.1	**-1.0**	
	baz=273							
F49A	**Sandfield**	**14.52**	**49**	P	Pn	15 13 15.5	-3.7	
	baz=239							
M54A	**Oil Creek Stat**	**14.61**	**67**	Pn	**Pn**	15 13 18.8	**-1.7**	
T57A	**Hurt**	**14.74**	**85**		**Pn**	15 13 19.9	**-2.4**	
E48A	**Lockeyer**	**14.82**	**46**	P	**Pn**	15 13 20.1	**-3.2**	
	baz=237							
S57A	**Dark Hollow, R**	**14.91**	**82**	Pn	**Pn**	15 13 24.7	**+0.1**	
O56A	**Blue Knob Stat**	**15.26**	**73**	Pn	**Pn**	15 13 27.6	**-1.6**	
O56A				IAmb	IAmb	15 14 22.5		
	comp=Z,71nm,1.9s							
M55A	**Ridgway**	**15.27**	**68**	Pn	**Pn**	15 13 27.2	**-2.2**	
M56A	**Emporium**	**15.70**	**68**	Pn	**Pn**	15 13 32.3	**-2.8**	
SADO	**Sadowa**	**15.92**	**56**	Pn	**Pn**	15 13 33.9	**-3.8**	
	comp=Z,0.7nm,0.3s,baz=267,slow=10,SNR=4.9							
SADO				Lg	Lg	15 18 05.2		
	comp=Z,0.5nm,0.3s,baz=266,slow=19,SNR=2.1							
GSR	**Geological Sur**	**16.12**	**78**	P	**P**	15 13 44.0	**+0.2**	
L56A	**Greenwood**	**16.28**	**66**	P	**P**	15 13 46.2	**+0.6**	
L56A				IAmb	IAmb	15 14 42.6		
	comp=Z,63nm,1.8s							
NVAR	**Mina Array Bea**	**16.32**	**281**	Pn	**P**	15 13 47.0	**+0.6**	
	comp=Z,0.1nm,0.3s,baz=88,slow=9.2,SNR=8.9							
M57A	**Sunshine Farm,**	**16.46**	**69**	Pn	**Pn**	15 13 43.0	**-1.8**	
M57A				IAmb	IAmb	15 13 48.1		
	comp=Z,66nm,1.6s							
RYN	**Ryan**	**16.49**	**281**	P	**P**	15 13 47.6	**-0.4**	
V60A	**Jim Taylor Roa**	**16.51**	**89**	P	**P**	15 13 48.7	**+0.5**	
V60A				IAmb	IAmb	15 14 39.0		
	comp=Z,62nm,1.4s							
N58A	**Sunbury**	**16.71**	**71**	P	**P**	15 13 51.1	**+0.7**	
N58A				IAmb	IAmb	15 13 56.9		
	comp=Z,54nm,1.6s							
T60A	**Surry**	**16.73**	**84**	P	**P**	15 13 50.6	**+0.1**	
T60A				IAmb	IAmb	15 14 23.7		
	comp=Z,37nm,0.8s							
N59A	**State Game Lan**	**17.44**	**71**	P	**P**	15 13 59.2	**+0.7**	
BINY	**Binghamton**	**17.44**	**67**	P	**P**	15 13 59.2	**+0.7**	
P60A	**Greenville**	**17.47**	**75**	P	**P**	15 14 00.0	**+1.2**	
P60A				IAmb	IAmb	15 14 01.0		
	comp=Z,74nm,1.7s							
RUBR	**Rubicon Trail**	**17.75**	**283**	P	**Pn**	15 14 01.4	**+0.1**	
FFC	**Flin Flon**	**17.78**	**352**	P	**P**	15 14 03.3	**+1.2**	
D53A	**Lac Vacive, Po**	**17.78**	**50**	Pn	**Pn**	15 13 58.7	**-2.7**	
D53A				IAmb	IAmb	15 14 01.6		
	comp=Z,81nm,1.9s							
K58A	**Earlville**	**17.79**	**65**	Pn	**Pn**	15 13 59.4	**-2.0**	
K58A				IAmb	IAmb	15 14 12.9		
	comp=Z,51nm,1.5s							
L59A	**Walton**	**18.13**	**67**	P	**P**	15 14 07.7	**+1.6**	
J58A	**Remsen**	**18.16**	**63**	Pn	**Pn**	15 14 04.9	**-1.1**	
J58A				IAmb	IAmb	15 14 12.8		
	comp=Z,51nm,1.6s							
BRNJ	**Basking Ridge**	**18.33**	**72**		**Pn**	15 14 09.2	**+1.1**	
J59A	**Piesco**	**18.74**	**63**	P	**P**	15 14 13.5	**+0.7**	
J59A				IAmb	IAmb	15 15 05.3		
	comp=Z,88nm,1.9s							
TEIG	**Tepich**	**18.80**	**151**	P	**Pn**	15 14 15.9	**+1.9**	
	comp=Z,0.9nm,0.3s,baz=319,slow=13,SNR=4.7							
TEIG	**Tepich**	**18.80**	**151**	IAmb	IAmb	15 14 43.5		
	comp=Z,53nm,1.3s							
LONY	**Lake Ozonia**	**18.95**	**60**	P	**P**	15 14 14.9	**-0.2**	
LONY				IAmb	IAmb	15 14 42.5		
	comp=Z,56nm,1.9s							
NCB	**Newcomb**	**19.05**	**62**	P	**P**	15 14 15.7	**-0.4**	
NCB				IAmb	IAmb	15 15 05.8		
	comp=Z,87nm,2.0s							
TRY	**Troy**	**19.22**	**66**	P	**P**	15 14 18.9	**+1.0**	
TRY				IAmb	IAmb	15 14 39.5		
	comp=Z,78nm,1.5s							
KSCT	**Kent School, K**	**19.23**	**69**	P	**Pn**	15 14 20.0	**+1.0**	
KSCT				IAmb	IAmb	15 15 02.8		
	comp=Z,40nm,1.4s							
ACCN	**Adirondack Com**	**19.32**	**64**	P	**P**	15 14 18.7	**-0.5**	
YBH	**Yreka Blue Hor**	**19.80**	**291**	P	**Pn**	15 14 27.4	**+1.5**	
	comp=Z,0.1nm,0.3s,baz=47,slow=5.8,SNR=5.3							
CMIG	**Matias Romero**	**20.18**	**172**	P	**P**	15 14 29.8	**+1.1**	
	comp=Z,1.8nm,0.5s,baz=354,slow=9.2,SNR=2.4							
NLWA	**Neilton Lookou**	**21.77**	**306**	P	**P**	15 14 45.9	**+0.2**	
NLWA				IAmb	IAmb	15 15 26.8		
	comp=Z,44nm,1.6s							
E63A	**Oxbow**	**23.59**	**58**	P	**P**	15 15 06.6	**+1.9**	
BATG	**Bathurst New B**	**25.35**	**57**	P	**P**	15 15 22.2	**+1.1**	
BBB	**Bella Bella**	**26.05**	**315**	LR	LR	15 26 26.6		
	comp=Z,180nm,19.5s,baz=23,slow=38							
YKA	**Yellowknife Ar**	**27.39**	**343**	P	**P**	15 15 39.3	**+0.1**	
	comp=Z,1.5nm,0.7s,baz=143,slow=8.9,SNR=22							
SCHQ	**Schefferville**	**27.44**	**40**	P	**P**	15 15 40.0	**+0.1**	
	comp=Z,4.0nm,0.8s,baz=247,slow=12,SNR=4.5							
SCHQ	**Schefferville**	**27.44**	**40**	P	**P**	15 15 40.0	**+0.1**	
SCHQ				IAmb	IAmb	15 16 34.8		
	comp=Z,30nm,1.7s							
FRB	**Frobisher Bay**	**31.87**	**24**	P	**P**	15 16 18.8	**-0.2**	
	comp=Z,2.2nm,0.4s,baz=220,slow=14,SNR=5.6							
SKAG	**Skagway**	**32.80**	**325**	P	**P**	15 16 27.4	**+0.2**	
BALM	**Baldy**	**36.64**	**325**	P	**P**	15 17 01.4	**+0.9**	
INK	**Inuvik**	**36.91**	**339**	P	**P**	15 17 03.4	**+0.8**	
INK				IAmb	IAmb	15 18 26.2		
	comp=Z,16nm,1.9s							
VRDI	**Verde Repeater**	**37.21**	**325**	P	**P**	15 17 05.8	**+0.4**	
EGAK	**Eagle**	**37.60**	**331**	P	**P**	15 17 08.7	**+0.2**	
EGAK				IAmb	IAmb	15 17 52.3		
	comp=Z,18nm,1.7s							
RES	**Resolute Bay**	**37.60**	**1**	P	**P**	15 17 07.9	**-0.5**	
	comp=Z,0.9nm,0.6s,baz=171,slow=7.8,SNR=5.2							
DOT	**Dot Lake**	**38.31**	**329**	P	**P**	15 17 15.2	**+0.7**	
DOT				IAmb	IAmb	15 17 49.7		
	comp=Z,13nm,1.3s							
PRP	**Porcupine Dome**	**39.59**	**331**	P	**P**	15 17 26.0	**+0.7**	
HDA	**Harding Lake**	**39.77**	**329**	P	**P**	15 17 27.4	**+0.7**	
HDA				IAmb	IAmb	15 18 16.2		
	comp=Z,34nm,2.0s							
IL31		**39.86**	**330**	P	**P**	15 17 28.6	**+1.2**	
IL31				IAmb	IAmb	15 17 29.4		
	comp=Z,7.5nm,0.7s							
ILAR	**Eielson Array**	**39.86**	**330**	P	**P**	15 17 28.6	**+1.2**	
	comp=Z,5.7nm,0.6s,baz=108,slow=7.3,SNR=51							
ILAR				PcP	**PcP**	15 19 33.7	**+0.5**	
	comp=Z,0.5nm,0.9s,baz=130,slow=3.6,SNR=4.8							
CCB	**Clear Creek Bu**	**40.19**	**329**	P	**P**	15 17 31.3	**+1.2**	
WRH	**Wood River Hil**	**40.26**	**329**	P	**P**	15 17 31.8	**+1.1**	
WRH				IAmb	IAmb	15 17 55.4		
	comp=Z,22nm,1.8s							
MDM	**Murphy Dome**	**40.47**	**330**	P	**P**	15 17 34.0	**+1.5**	
NEA	**Nenana**	**40.70**	**329**	P	**P**	15 17 35.6	**+1.2**	
NEA				IAmb	IAmb	15 17 38.4		
	comp=Z,25nm,2.0s							
KDAK	**Kodiak Island**	**41.02**	**318**	P	**P**	15 17 37.1	**0.0**	
BPAW	**Bear Paw Mtn.**	**41.37**	**328**	P	**P**	15 17 40.2	**+0.3**	
BPAW				IAmb	IAmb	15 18 43.2		
	comp=Z,21nm,1.9s							
MLY	**Manley**	**41.51**	**329**	P	**P**	15 17 42.0	**+1.0**	
PPLA	**Purkeypile**	**41.62**	**326**	P	**P**	15 17 43.2	**+1.1**	
COLD	**Coldfoot**	**41.95**	**332**	P	**P**	15 17 46.2	**+1.6**	
EKA	**Eskdalemuir Ar**	**52.76**	**40**	P	**P**	15 20 18.7	**-0.5**	
	comp=Z,0.5nm,0.3s,baz=295,slow=6.7,SNR=4.1							
ARCES	**ARCESS Array B**	**65.82**	**19**	P	**P**	15 20 39.2	**+0.1**	
	comp=Z,3.8nm,0.8s,baz=310,slow=5.7,SNR=8.7							
PETK	**Petropavlovsk-**	**68.96**	**321**	P	**P**	15 20 58.8	**-0.5**	
	comp=Z,1.7nm,0.7s,baz=54,slow=7.4,SNR=3.5							
ESDC	**Sonseca Array**	**69.97**	**55**	P	**P**	15 21 06.3	**+0.5**	
	comp=Z,0.5nm,0.5s,baz=300,slow=6.2,SNR=3.7							
FINES	**FINESS Array B**	**71.67**	**25**	P	**P**	15 21 15.4	**-0.2**	
	comp=Z,1.7nm,0.7s,baz=293,slow=10,SNR=3.6							
MDT	**Midelt**	**73.25**	**61**	P	**P**	15 21 27.0	**+1.3**	
	comp=Z,1.6nm,0.7s,baz=333,slow=9.0,SNR=4.3							
GERES	**GERESS Array B**	**74.97**	**40**	P	**P**	15 21 36.3	**+0.7**	
	comp=Z,0.4nm,0.5s,baz=327,slow=5.2,SNR=2.7							
AKASG	**Malin Array Be**	**80.83**	**31**	P	**P**	15 22 08.2	**+0.2**	
	comp=Z,1.3nm,0.6s,baz=314,slow=4.4,SNR=6.1							
KEST	**Kesra**	**80.83**	**52**	P	**P**	15 22 09.9	**+1.6**	
	comp=Z,7.6nm,1.0s,baz=305,slow=3.4,SNR=5.7							
KEST	**Kesra**	**80.83**	**52**	IAmb	IAmb	15 22 12.1		
	comp=Z,10.0nm,1.1s							
PLCA	**Paso Flores**	**81.45**	**159**	P	**P**	15 22 11.7	**+0.5**	
	comp=Z,1.0nm,0.9s,baz=339,slow=8.6,SNR=3.0							
ZALV	**Zalesovo Beam**	**89.20**	**359**	P	**P**	15 22 49.7	**-0.2**	
	comp=Z,0.8nm,0.7s,baz=357,slow=7.5,SNR=4.1							
SONM	**Songino Array**	**92.65**	**344**	P	**P**	15 23 07.4	**+1.2**	
	comp=Z,0.4nm,0.5s,baz=0.9,slow=4.2,SNR=2.3							
QSPA	**South Pole Qui**	**127.04**	**180**	PKP	**PKPdf**	15 28 57.8	**+0.3**	
	comp=Z,1.6nm,1.0s,baz=133,slow=2.7,SNR=7.0							

*ISCJB **16** 15:23:28.3±0.3,8°.56S±0°.05×118°.38E±0°.03, h152km, mb3.7/9, Error ellipse: s-maj=6.5km s-min=3.8km az=10.7*
*NEIC **16** 15:23:28.8±1.8,8°.62S±0°.08×118°.39E±0°.07, h135km±6km, mb4.3/9*
*IDC **16** 15:23:28.4±2.3,8°.55S×118°.23E, h129km±19km, mb3.5/9, mb1 3.6/12, mb1mx3.4/40, mbtmp4.0/12, Error ellipse: s-maj=32.4km s-min=12.4km az=77.0*
*DJA **16** 15:23:30.1±0.3,9°.S±10°×11°.8E±°, h110km±5km, M4.3/11, mb4.5/3, mB4.7/2, MLv4.2/11, Mw(mB)4.0/2*

ISC 16 15:23:29.8±0.5, 8°.62S±0°.05×118°.37E±0°.04, h152km, n45, σ2°.9 19/57, mb3.9/11, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.62**	**251**	P	**Pn**	**15 23 49.4**	**-2.6**
PLAI				S	**Sn**	**15 24 03.7**	**-5.2**
TWSI	**Taliwang, Sumb**	**1.48**	**265**	P	**Pn**	**15 23 57.3**	**-1.9**
WSI	**Waingapu**	**2.17**	**119**	P	**Pn**	**15 24 05.4**	**-1.6**
DNP	**Denpasar**	**3.12**	**269**	P	**Pn**	**15 24 20.0**	**+1.2**
SRBI	**Singaraja**	**3.17**	**279**	P	**Pn**	**15 24 18.8**	**-0.6**
IGBI	**Denpasar**	**3.19**	**266**	P	**Pn**	**15 24 18.9**	**-0.8**
IGBI				S	**Sn**	**15 24 57.6**	**-0.7**
KAPI	**Kappang**	**3.84**	**21**	P	**Pn**	**15 24 27.6**	**-0.4**
	3.0nm,0.3s,baz=187,slow=8.2,SNR=9.7						
KAPI				S	**Sn**	**15 25 10.0**	**-3.2**
	1.6nm,0.3s,baz=244,slow=23,SNR=5.9						
JAGI	**Jajag, Banyuwa**	**4.17**	**272**	P	**Pn**	**15 24 30.5**	**-1.9**
JAGI				S	**Sn**	**15 25 18.5**	**-2.6**
JAGI	**Jajag, Banyuwa**	**4.17**	**272**		**Pn**	**15 24 30.1**	**-2.3**
GMJI	**Gumukmas**	**4.88**	**274**	P	**Pn**	**15 24 41.7**	**0.0**
GMJI				S	**Sn**	**15 25 35.6**	**-2.2**
BATI	**Baumata**	**5.46**	**107**	P	**Pn**	**15 24 48.5**	**-0.8**
	32nm,0.3s,baz=302,slow=4.9,SNR=53						
BATI				S	**Sn**	**15 25 48.8**	**-2.7**
	16nm,0.3s,baz=350,slow=18,SNR=6.7						
BATI	**Baumata**	**5.46**	**107**	P	**Pn**	**15 24 48.7**	**-0.6**
	48nm,0.6s,922nm0.2nm						
BATI				S	**Sn**	**15 25 49.2**	**-2.3**
	48nm,0.6s,922nm0.2nm						
SOEI	**Soe**	**5.93**	**101**	P	**Pn**	**15 24 55.0**	**-0.8**
	52nm,0.6s,896nm0.3nm						
SOEI	**Soe**	**5.93**	**101**		**Pn**	**15 24 54.9**	**-0.8**
PWJI	**Pagerwojo**	**6.52**	**275**	P	**Pn**	**15 25 05.1**	**+1.6**
UGM	**Wanagama**	**7.80**	**275**	Pn	**Pn**	**15 25 19.8**	**-0.8**
CISI	**Cisompet, Garu**	**10.50**	**275**	Pn	**Pn**	**15 25 56.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**11.78**	**144**	P	**Pn**	**15 26 12.3**	**-0.8**
	0.4nm,0.3s,baz=330,slow=9.1,SNR=11						
FITZ				S	**Sn**	**15 28 14.8**	**-8.6**
	0.3nm,0.3s,baz=192,slow=19,SNR=4.5						
KNRA	**Kununurra**	**12.34**	**126**	Pn	**Pn**	**15 26 19.3**	**-1.2**
TNTI	**Ternate**	**12.94**	**44**	Pn	**Pn**	**15 26 23.6**	**-4.7**
PSA00	**Pilbara Seismi**	**12.96**	**174**	Pn	**Pn**	**15 26 26.6**	**-1.8**
MTN	**Manton Dam**	**13.22**	**110**		**Pn**	**15 26 29.5**	**-2.3**
PMBI	**Palembang**	**14.66**	**292**

*ANF **16** 16:55:32.2±2.4,40.61N×124.27W,ML2.1/3,ML1.9/1, Error ellipse: s-maj=20.4km s-min=5.1km az=55.0*

NCEDC 16 16:55:30.6±0.1,40.31N×124.46W,h9km,MD2.8,MD2.4, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
O02D	**Mt. Diablo Mer**	**1.21**	**110**	P	Pn	16 55 56.7	+0.3
	baz=276						
O02D				S	Sb	16 56 12.8	+0.5
	baz=276						
N02D	**Trinity Center**	**1.24**	**72**	P	Pb	16 55 56.4	-0.3
	baz=244,SNR=8.1						
M02C	**Callahan**	**1.33**	**53**	P	Pn	16 55 58.2	0.0
	baz=229,SNR=34						
L02E	**Cave Junction**	**1.63**	**18**	P	Pn	16 56 02.5	+0.3
	baz=200,SNR=31						
L02E				S	Sg	16 56 25.1	+0.5
	baz=200						
K02D	**Willamette Mer**	**2.14**	**12**	S	Sb	16 56 38.1	-0.9
	baz=195						
L04D	**Klamath Falls**	**2.19**	**42**	Pb	Pb	16 56 12.0	-0.7
	baz=221,SNR=20						

*ANF **16** 16:56:22.7±1.2,40.54N×124.31W,Error ellipse: s-maj=12.0km s-min=4.5km az=44.0*

NCEDC 16 16:56:22.1±0.1,40.31N×124.47W,h8km,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
O02D	**Mt. Diablo Mer**	**1.22**	**107**	P	Pg	16 56 45.8	-0.3
	baz=276						
O02D				S	Sb	16 57 03.5	+0.5
	baz=276						
N02D	**Trinity Center**	**1.30**	**70**	P	Pg	16 56 47.8	+0.2
	baz=244,SNR=17						
M02C	**Callahan**	**1.40**	**52**	P	Pb	16 56 49.6	-0.1
	baz=229,SNR=59						
L02E	**Cave Junction**	**1.70**	**18**	P	Pn	16 56 53.8	+0.1
	baz=200,SNR=42						
L02E				S	Sb	16 57 17.0	+0.1
	baz=200						
K02D	**Willamette Mer**	**2.21**	**13**	P	Pn	16 57 01.0	+0.3
	baz=195						
K02D				S	Sn	16 57 29.5	+0.7
	baz=195						
L04D	**Klamath Falls**	**2.26**	**41**	Pb	Pb	16 57 03.7	-0.7
	baz=221,SNR=29						

*IDC **16** 17:11:44.5±1.3,29.37N×81.37E,h0km,mb3.7/7, mb1 3.8/9,mb1mx3.5/40,mbtmp3.7/9,ML3.3/2,Error ellipse: s-maj=41.8km s-min=19.4km az=57.0*

*ISCJB **16** 17:11:46.5±0.9,29.4N±0.1×81.4E±0.1,h27km,mb3.7/7, Error ellipse: s-maj=19.5km s-min=11.4km az=35.3*

ISC 16 17:11:48.6±1.1,29.4N±0.2×81.3E±0.1,h27km,n13, σ1s63/13,mb3.6/7,Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NGP	**Nagpur**	**8.46**	**195**	*e*S	Sb	17 15 58.3	+3.6
THW	**Thamme Wali**	**8.89**	**295**	P	**Pn**	**17 13 56.3**	**+1.0**
CEP	**Cherat**	**9.16**	**301**	P	**Pn**	**17 13 59.9**	**+0.8**
CEP				S	**Sn**	**17 15 38.0**	**-3.5**
AAK	**Ala-Archa**	**14.32**	**339**	Pn	**Pn**	**17 15 10.6**	**+1.1**
	0.2nm,0.3s,baz=160,slow=15,SNR=3.0						
MKAR	**Makanchi Array**	**17.39**	**2**	P	**Pn**	**17 15 47.2**	**-2.0**
	0.1nm,0.3s,baz=191,slow=12,SNR=5.5						
CMAR	**Chiang Mai Arr**	**19.41**	**120**	P	**Pn**	**17 16 13.3**	**-0.8**
	0.1nm,0.3s,baz=300,slow=12,SNR=4.4						
KURBB	**Kurchatov Arra**	**21.31**	**355**	P	**P**	**17 16 31.8**	**-1.3**
	1.8nm,0.9s,baz=180,slow=9.7,SNR=10						
ZALV	**Zalesovo Beam**	**24.66**	**5**	P	**P**	**17 17 05.9**	**-1.0**
	2.2nm,0.6s,baz=196,slow=10.0,SNR=10						
BVAR	**Borovoye Array**	**24.94**	**344**	P	**P**	**17 17 10.3**	**+0.9**
	0.8nm,0.5s,baz=159,slow=11,SNR=6.7						
SONM	**Songino Array**	**26.69**	**39**	P	**P**	**17 17 26.9**	**+1.3**
	0.7nm,0.5s,baz=234,slow=8.9,SNR=4.1						
AKASG	**Malin Array Be**	**44.13**	**314**	P	**P**	**17 19 55.1**	**+0.5**
	0.6nm,0.4s,baz=81,slow=7.6,SNR=4.6						
FINES	**FINESS Array B**	**48.14**	**328**	P	**P**	**17 20 27.2**	**+1.2**
	2.9nm,0.9s,baz=98,slow=4.0,SNR=3.9						
ASAR	**Alice Springs**	**73.06**	**130**	P	**P**	**17 23 15.7**	**-0.8**
	0.2nm,0.3s,baz=316,slow=6.2,SNR=21						

*ISCJB **16** 17:25:58.5±0.4,20.72S±0.03×66.78W±0.03,h238km±5km, mb3.1/3,Error ellipse: s-maj=5.2km s-min=5.1km az=34.1*

*SCB **16** 17:25:58.3±2.2,20.77S×66.73W,h261km±13km,ML3.5/4, Error ellipse: s-maj=4.1km s-min=3.4km az=0.0*

*SJA **16** 17:25:59.2±0.4,20.71S×66.24W,h257km±9km,ML3.0, MW3.1*

*IDC **16** 17:25:59.2±1.3,20.62S×66.73W,h236km±14km,mb3.2/4, mb1 3.4/7,mb1mx3.2/28,mbtmp3.7/7,Error ellipse: s-maj=26.0km s-min=15.9km az=105.0*

ISC 16 17:25:58.7±0.8,20.70S±0.05×66.75W±0.04,h233km±8km, n31,σ1s25/46,mb3.0/3,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.87**	**142**	P	**Pn**	**17 26 39.0**	**0.0**
YJA				S	**S**	**17 27 10.1**	**-0.5**
YJA				AML	AML	17 27 10.4	
	32nm,0.4s						
YJA	**Yavi**	**1.87**	**142**	*e*P	**Pn**	**17 26 40.2**	**+1.2**
YJA				*e*S	**S**	**17 27 10.7**	**0.0**
YJA				IAML		17 27 13.4	
	comp=Z,38nm,0.3s						
PB08	**IPOC Station P**	**2.32**	**283**	P	**Pn**	**17 26 44.7**	**+1.3**
PB08				S	**S**	**17 27 19.3**	**+1.1**
BS03	**Mojotorillo**	**2.62**	**59**	P	**Pn**	**17 26 46.7**	**+0.2**
BS03				S	**S**	**17 27 23.0**	**-0.9**
LVC	**Limon Verde**	**2.77**	**226**	P	**Pn**	**17 26 48.5**	**+0.5**
	comp=Z,5.2nm,0.3s,baz=24,slow=6.3,SNR=30						
LVC				S	**S**	**17 27 25.6**	**-1.0**
	comp=Z,5.1nm,0.3s,baz=249,slow=18,SNR=23						
HJA	**Humahuaca**	**2.79**	**154**	*e*P	**Pn**	**17 26 49.4**	**+1.2**
HJA				IAML		17 26 50.0	
	comp=Z,51nm,0.4s						
HJA				*e*S	**S**	**17 27 26.3**	**-0.9**
PB11	**IPOC Station P**	**2.88**	**288**	P	**Pn**	**17 26 49.4**	**+0.3**
PB11				S	**S**	**17 27 27.8**	**-0.8**
PB11				AML	AML	17 27 28.4	
	comp=Z,79nm,0.3s						
PB02	**IPOC Station P**	**3.01**	**258**	P	**Pn**	**17 26 50.9**	**+0.6**
PB02				S	**S**	**17 27 28.9**	**-2.0**
MNMC	**Minye Minye**	**3.10**	**300**	P	**Pn**	**17 26 52.5**	**+0.9**
MNMC				S	**S**	**17 27 33.4**	**+0.3**
BS06	**Camiri**	**3.10**	**78**	P	**Pn**	**17 26 52.2**	**+0.8**
PB06	**IPOC Station P**	**3.30**	**232**	P	**Pn**	**17 26 54.8**	**+1.1**
PB06				S	**S**	**17 27 34.5**	**-2.5**
BS08	**Valle Grande**	**3.31**	**49**	P	**Pn**	**17 26 54.6**	**+0.6**
PSGC	**Pisagua**	**3.35**	**288**	P	**Pn**	**17 26 54.4**	**+0.1**
PSGC				S	**S**	**17 27 36.0**	**-2.0**
PB04	**IPOC Station P**	**3.56**	**242**	P	**Pn**	**17 26 56.9**	**+0.2**
PB04				S	**S**	**17 27 39.4**	**-3.0**
PB04				AML	AML	17 27 40.7	
	comp=Z,69nm,0.4s						
AZAP	**Zapla**	**3.84**	**156**	*e*P	**Pn**	**17 27 00.2**	**+0.1**
BBOJ	**La Paz, Jacaqu**	**3.94**	**339**	P	**Pn**	**17 27 03.5**	**+1.8**
BBOE	**La Paz, Chanca**	**4.04**	**343**	P	**Pn**	**17 27 04.7**	**+1.9**
SLA	**San Lorenzo**	**4.17**	**164**	P	**Pn**	**17 27 04.3**	**+0.4**
BBOD	**La Paz, Gloria**	**4.40**	**336**	P	**Pn**	**17 27 08.6**	**+1.4**
LPAZ	**La Paz**	**4.58**	**343**	P	**Pn**	**17 27 10.5**	**+1.1**
LPAZ				S	**S**	**17 28 03.7**	**-1.6**
LPAZ				AML	AML	17 28 05.7	
	comp=Z,65nm,0.6s						
LPAZ	**La Paz**	**4.58**	**343**	P	**Pn**	**17 27 10.6**	**+1.1**
	comp=Z,1.9nm,0.3s,baz=131,slow=7.8,SNR=31						
LPAZ				S	**S**	**17 28 04.2**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=280,slow=18,SNR=10						
BBOB	**La Paz, Bander**	**4.72**	**344**	P	**Pn**	**17 27 11.9**	**+0.9**
FSA	**Cafayete**	**5.44**	**173**	*e*P	**Pn**	**17 27 21.1**	**+1.5**
SIV	**San Ignacio**	**7.14**	**50**	P	**Pn**	**17 27 40.3**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=252,slow=12,SNR=17						
SIV				S	**S**	**17 29 02.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=342,slow=20,SNR=2.4						
VCA	**Vinchina**	**8.12**	**189**	*e*P	**Pn**	**17 27 55.3**	**+1.8**
CFA	**Coronel Fontan**	**10.95**	**187**	P	**Pn**	**17 28 27.6**	**-1.9**
	comp=Z,0.8nm,0.3s,baz=32,slow=11,SNR=5.8						
CFA				S	S	17 30 22.6	-9.4
	comp=Z,0.4nm,0.3s,baz=106,slow=16,SNR=3.5						
PLCA	**Paso Flores**	**20.23**	**188**	P	**P**	**17 30 18.1**	**+1.8**
	comp=Z,3.1nm,0.6s,baz=21,slow=14,SNR=8.9						
PDAR	**Pinedale Array**	**74.45**	**329**	P	**P**	**17 37 11.4**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=126,slow=9.0,SNR=2.6						
TORD	**Torodi Ar. Bea**	**75.19**	**70**	P	**P**	**17 37 16.1**	**0.0**
	comp=Z,0.6nm,0.6s,baz=249,slow=5.2,SNR=3.8						
YKA	**Yellowknife Ar**	**91.12**	**340**	P	**P**	**17 38 36.0**	**-0.4**
	comp=Z,0.1nm,0.6s,baz=127,slow=4.8,SNR=3.9						
ASAR	**Alice Springs**	**131.53**	**206**	PKP	**PKPdf**	**17 44 43.7**	**-0.6**
	comp=Z,0.1nm,0.7s,baz=150,slow=1.4,SNR=4.6						

NNC 16 17:36:34.1±10.0,37.23N×69.78E,h0km,mb3.9,mpv3.1, 3C-2D,Error ellipse: s-maj=84.7km s-min=58.9km az=176.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.89**	**5**	⇑P	Pn	17 38 03.0	+0.3
	0.4nm,0.3s,baz=187,slow=15,SNR=9.5						
KK31				⇓S	Sn	17 39 14.1	+3.3
	1.2nm,0.3s,baz=194,slow=26,SNR=5.8						
AAK	**Ala-Archa**	**6.50**	**32**	⇓P	Pn	17 38 11.2	0.0
	2.0nm,0.7s						
AAK				⇑S	Sn	17 39 23.7	-2.4
	3.2nm,0.8s						
AB31	**Akbulak array**	**13.97**	**332**	P	Pn	17 39 54.3	+1.0
	5.1nm,0.3s,baz=156,slow=12,SNR=9.8						
AB31				⇑S	Sn	17 42 31.8	+2.7
	0.8nm,0.7s,baz=160,slow=22,SNR=6.2						

*ISCJB **16** 18:26:35.6±0.3,56.01N±0.05×161.79W±0.07,h173km, mb3.2/3,Error ellipse: s-maj=8.9km s-min=3.1km az=144.7*

*NEIC **16** 18:26:36.1±2.0,55.9N±0.1×161.8W±0.1,h186km±9km*

*AEIC **16** 18:26:37.6±2.6,55.8N±0.1×161.7W±0.1,h187km±7km, ML3.5*

*IDC **16** 18:26:40.2±7.7,55.93N×161.17W,h161km±49km,mb3.0/3, mb1 3.4/5,mb1mx2.9/45,mbtmp3.5/5,Error ellipse: s-maj=66.9km s-min=44.5km az=59.0*

ISC 16 18:26:37.3±0.8,55.88N±0.09×161.67W±0.05,h173km, n55,σ1s55/60,mb3.4/3,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLHA	**Black Hill**	**0.28**	**233**		**Pn**	**18 27 00.9**	**+0.3**
SDPT	**Sand Point**	**0.86**	**127**		**Sn**	**18 27 24.3**	**+1.1**
SDPT	**Sand Point**	**0.86**	**127**	Pn	**Pn**	**18 27 03.7**	**+0.5**
VNWF	**Veniaminof 8**	**1.21**	**76**		**Pn**	**18 27 07.3**	**+1.2**
VNFG	**Fog Glacier, M**	**1.25**	**70**		**Pn**	**18 27 07.8**	**+1.3**
VNNF	**Veniaminof 3**	**1.38**	**72**		**Pn**	**18 27 08.8**	**+1.2**
FALS	**False Pass**	**1.43**	**225**	Pn	**Pn**	**18 27 07.7**	**-0.3**
CNBA	**Chernabura Isl**	**1.59**	**131**		**Pn**	**18 27 09.5**	**0.0**
CNBA	**Chernabura Isl**	**1.59**	**131**		**Sn**	**18 27 34.2**	**-0.1**
CHGN	**Chignik**	**1.87**	**75**		**Pn**	**18 27 12.7**	**+0.3**
CHGN	**Chignik**	**1.87**	**75**		**Sn**	**18 27 41.4**	**+1.8**
ANNE	**Aniakchak Nort**	**2.26**	**61**		**Pn**	**18 27 17.3**	**+0.6**
AKSA	**Akutan Strait**	**2.90**	**235**		**Pn**	**18 27 24.3**	**-0.1**
AKSA					**Sn**	**18 28 00.8**	**-0.1**
AKUT	**Akutan**	**2.94**	**235**	Pn	**Pn**	**18 27 24.2**	**-0.5**
AKUT	**Akutan**	**2.94**	**235**		**Sn**	**18 28 01.3**	**-0.4**
AKLV	**Akutan Long Va**	**3.01**	**237**		**Pn**	**18 27 25.3**	**-0.4**
AKBBA	**Akutan Broad B**	**3.03**	**236**		**Pn**	**18 27 25.4**	**-0.6**
CHIR	**Chirikof Islan**	**3.41**	**88**	Pn	**Pn**	**18 27 30.0**	**-0.6**
CHIR	**Chirikof Islan**	**3.41**	**88**		**Sn**	**18 28 10.2**	**-2.0**
UNV	**Unalaska Valle**	**3.46**	**236**		**Pn**	**18 27 30.1**	**-1.2**
UNV					**Sn**	**18 28 10.7**	**-2.6**
MSW	**Makushin Switc**	**3.55**	**238**		**Pn**	**18 27 31.4**	**-1.0**
MREP	**Makushin Rep't**	**3.59**	**237**		**Pn**	**18 27 32.3**	**-0.7**
CAHL	**Cahill**	**4.11**	**55**		**Pn**	**18 27 39.7**	**+0.1**
SII	**Sitkinak Islan**	**4.23**	**78**	Pn	**Pn**	**18 27 40.1**	**-1.0**
OKSP	**Okmok Steeple**	**4.67**	**238**		**Pn**	**18 27 45.1**	**-1.6**
OHAK	**Old Harbor**	**4.83**	**70**		**Pn**	**18 27 47.4**	**-1.4**
NIKH	**Nikolski High**	**5.11**	**238**	Pn	**Pn**	**18 27 50.9**	**-1.5**
KDAK	**Kodiak Island**	**5.34**	**65**	P	**Pn**	**18 27 54.2**	**-1.3**
	12nm,0.3s,baz=250,slow=6.9,SNR=213						
KDAK				S	**Sn**	**18 28 53.2**	**-3.5**
	3.4nm,0.3s,baz=30,slow=21,SNR=11						
RSO	**Redoubt South**	**6.58**	**42**	Pn	**Pn**	**18 28 11.2**	**-0.8**
RSO					**Sn**	**18 29 26.9**	**+0.4**
CNPM	**China Poot**	**6.68**	**53**	Pn	**Pn**	**18 28 11.8**	**-1.2**
BRLK	**Bradley Lake**	**6.95**	**51**	Pn	**Pn**	**18 28 14.9**	**-1.7**
BRSE	**Bradley Lake S**	**7.00**	**52**		**Pn**	**18 28 15.4**	**-1.9**
SLKM	**Skilak Lake**	**7.62**	**48**		**Pn**	**18 28 23.9**	**-1.5**
SEW	**Seward**	**7.75**	**52**		**Pn**	**18 28 25.6**	**-1.5**
SUA	**Susitna One**	**7.98**	**41**		**Pn**	**18 28 28.7**	**-1.6**
RC01	**Rabbit Creek A**	**8.14**	**45**		**Pn**	**18 28 30.4**	**-1.9**
KNK	**Knik Glacier**	**8.84**	**46**	Pn	**Pn**	**18 28 39.0**	**-2.5**
GHO	**Glory Hole Cre**	**8.86**	**43**	Pn	**Pn**	**18 28 38.2**	**-3.6**
GLI	**Glacier Island**	**9.14**	**51**	Pn	**Pn**	**18 28 42.4**	**-3.1**
HIN	**Hinchinbrook I**	**9.20**	**54**	Pn	**Pn**	**18 28 44.6**	**-1.7**
FID	**Port Fidalgo**	**9.36**	**52**	Pn	**Pn**	**18 28 45.6**	**-2.7**
SCM	**Sheep Creek Mo**	**9.52**	**45**	Pn	**Pn**	**18 28 48.1**	**-2.3**
EYAK	**Cordova Ski Ar**	**9.61**	**54**	Pn	**Pn**	**18 28 49.4**	**-2.1**
HMT	**Hamilton**	**10.23**	**57**	Pn	**Pn**	**18 28 58.8**	**-0.9**
GLB	**Gibbina Butte**	**10.82**	**52**	Pn	**Pn**	**18 29 05.5**	**-2.0**
CRQM	**Cirque**	**10.88**	**56**	Pn	**Pn**	**18 29 07.2**	**-1.3**
VRDI	**Verde Repeater**	**10.90**	**53**	Pn	**Pn**	**18 29 07.0**	**-1.7**
WAX	**Waxell Ridge**	**10.93**	**57**	Pn	**Pn**	**18 29 07.8**	**-1.0**
MCARA	**McCarthy VSAT**	**11.15**	**53**	Pn	**Pn**	**18 29 10.6**	**-1.1**
ILAR	**Eielson Array**	**11.51**	**33**	P	**Pn**	**18 29 17.1**	**+0.8**
	0.1nm,0.3s,baz=218,slow=15,SNR=4.8						
BARN	**Barnard Glacie**	**11.67**	**55**	Pn	**Pn**	**18 29 17.9**	**-0.7**
CTGM	**Chitina Glacie**	**11.79**	**56**	P	**Pn**	**18 29 20.9**	**+0.8**
YKA	**Yellowknife Ar**	**24.51**	**55**	P	**P**	**18 31 41.7**	**+1.5**
	0.2nm,0.6s,baz=276,slow=10,SNR=5.6						
YKA				pP	**pP**	**18 32 15.7**	**+1.1**
	0.5nm,0.7s,baz=274,slow=10,SNR=5.7						
NVAR	**Mina Array Bea**	**33.58**	**103**	P	**P**	**18 33 02.8**	**+1.9**
	0.5nm,0.5s,baz=307,slow=7.1,SNR=3.5						
PDAR	**Pinedale Array**	**35.53**	**89**	P	**P**	**18 33 19.1**	**+1.4**
	0.5nm,0.5s,baz=319,slow=4.2,SNR=7.2						

*IDC **16** 18:27:00.1±8.8,2.83N×127.53E,h44km±81km,mb3.6/5, mb1 3.6/5,mb1mx3.3/38,mbtmp3.8/5,Error ellipse: s-maj=114.2km s-min=19.6km az=67.0*

*DJA **16** 18:27:01.8±1.2,2°N±3°×12°6E±°,h12km±10km,M3.9/7, mb4.0/2,MLv3.9/7*

*ISCJB **16** 18:27:03.6±0.9,2.30N±0.06×126.43E±0.10,h53km, mb3.8/5,Error ellipse: s-maj=14.3km s-min=8.3km az=169.0*

ISC 16 18:27:02.7±0.8,2.34N±0.06×126.49E±0.09,h53km,n13, σ2s87/15,mb3.9/5,1C,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.79**	**151**	P	**Pn**	**18 27 33.3**	**+2.1**
TNTI				S	**Sn**	**18 27 57.8**	**+5.0**
KMSI	**Cibinong**	**3.06**	**235**	P	**Pn**	**18 27 49.8**	**+1.2**
KCP	**Kidapawan**	**4.84**	**343**	⇑P	**Pn**	**18 28 16.3**	**+3.1**
KCP				S	**Sn**	**18 29 12.2**	**+4.2**
MRSI	**Marisa**	**4.91**	**248**	P	**Pn**	**18 28 16.6**	**+2.6**
LUWI	**Luwuk**	**5.01**	**228**	P	Pn	18 28 30.8	+15
MPSI	**Mapaga**	**6.88**	**253**	P	**Pn**	**18 28 43.1**	**+2.0**
ASAR	**Alice Springs**	**26.84**	**165**	P	**P**	**18 32 38.4**	**0.0**
	0.5nm,0.4s,baz=346,slow=11,SNR=9.8						
ASAR				PcP	**PcP**	**18 35 59.8**	**-0.3**
	0.4nm,0.4s,baz=356,slow=2.4,SNR=5.8						
STKA	**Stephens Creek**	**36.93**	**158**	P	**P**	**18 34 05.7**	**-1.0**
	0.9nm,0.6s,baz=333,slow=11,SNR=4.3						
SONM	**Songino Array**	**48.53**	**342**	P	**P**	**18 35 38.9**	**-1.7**
	0.7nm,0.7s,baz=165,slow=7.2,SNR=4.3						
MKAR	**Makanchi Array**	**58.56**	**326**	P	**P**	**18 36 53.1**	**-0.9**
	0.7nm,0.5s,baz=121,slow=7.7,SNR=25						
ZALV	**Zalesovo Beam**	**61.71**	**333**	P	**P**	**18 37 13.7**	**-1.6**
	0.4nm,0.4s,baz=146,slow=6.4,SNR=2.5						
TXAR	**Lajitas Array**	**122.63**	**53**	PKP	**PKPdf**	**18 45 48.6**	**-4.7**
	0.4nm,0.5s,baz=242,slow=1.9,SNR=5.4						
TORD	**Torodi Ar. Bea**	**123.11**	**287**	PKP	**PKiKP**	**18 45 54.5**	**-0.2**
	0.4nm,0.6s,baz=90,slow=1.4,SNR=3.1						

*SCB **16** 19:29:53.9±2.1,17.55S×69.46W,h181km±51km,ML4.0/7, Error ellipse: s-maj=6.8km s-min=2.8km az=1.0*

*ISCJB **16** 19:29:53.2±0.2,17.62S±0.02×69.31W±0.03,h162km±2km, mb4.4/22,Error ellipse: s-maj=5.0km s-min=3.6km az=12.7*

*VAO **16** 19:29:54.4±0.4,17.49S×69.21W,h154km,mb4.6*

*NEIC **16** 19:29:54.7±2.1,17.58S±0.06×69.2W±0.1,h154km±6km, mb4.8/35,ML4.5(GUC)*

*GUC **16** 19:29:54.7±0.5,17.82S×69.57W,h170km±5km,ML4.5*

*IDC **16** 19:29:56.7±0.6,17.44S×69.06W,h164km±4km,mb4.1/21, mb1 4.2/23,mb1mx4.1/35,mbtmp4.6/23,Error ellipse: s-maj=10.8km s-min=9.7km az=91.0*

ISC 16 19:29:54.3±0.4,17.60S±0.03×69.35W±0.05,h155km±4km, h155km:pP-P,n180,σ1s58/207,mb4.7/40,8C,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBOD	**La Paz, Gloria**	**1.20**	**37**	P	**Pn**	**19 30 22.1**	**+0.2**
AP01	**Chacalluta**	**1.22**	**231**	⇑*i*P	**Pn**	**19 30 20.9**	**-0.5**
AP01				*i* S	**Sn**	**19 30 41.2**	**-0.9**
AP01				IAML		19 30 42.3	
	comp=N,10μm,0.5s						
BBOJ	**La Paz, Jacaqu**	**1.27**	**61**	P	**Pn**	**19 30 23.3**	**+0.7**
BBOE	**La Paz, Chanca**	**1.52**	**59**	P	**Pn**	**19 30 26.1**	**+1.0**
MNMC	**Minye Minye**	**1.54**	**189**	⇑*i*P	**Pn**	**19 30 25.3**	**+0.3**
MNMC				*i* S	**Sn**	**19 30 48.6**	**+0.1**
MNMC				IAML		19 30 57.4	
	comp=N,5μm,0.5s						
MNMC	**Minye Minye**	**1.54**	**189**	P	**Pn**	**19 30 25.3**	**+0.3**
MNMC				S	**Sn**	**19 30 48.7**	**+0.2**
MNMC				AML	AML	19 30 49.4	
	comp=N,453nm,0.6s						
MNMC	**Minye Minye**	**1.54**	**189**		**Pn**	**19 30 25.3**	**+0.3**
BS09	**Huarina**	**1.57**	**27**	P	**Pn**	**19 30 26.7**	**+1.1**
BS09				S	**Sn**	**19 30 49.5**	**+0.1**
BS09				AML	AML	19 30 52.2	
	comp=N,358nm,0.6s						
LPAZ	**La Paz**	**1.75**	**42**	P	**Pn**	**19 30 27.9**	**+0.3**
LPAZ	**La Paz**	**1.75**	**42**	P	**Pn**	**19 30 27.8**	**+0.2**
	comp=N,194nm,0.3s,baz=218,slow=7.1,SNR=3925						
LPAZ				S	**Sn**	**19 30 51.3**	**-1.7**
	comp=N,57nm,0.3s,baz=124,slow=24,SNR=11						
LPAZ				LR	LR	19 31 08.8	
	comp=N,667nm,18.7s,baz=175,slow=50						
BBOB	**La Paz, Bander**	**1.86**	**39**	P	**Pn**	**19 30 28.9**	**+0.2**
GO01	**Chusmiza**	**2.06**	**176**	⇑*i*P	**Pn**	**19 30 31.9**	**+0.9**
GO01				*i* S	**Sn**	**19 30 59.4**	**+0.2**
GO01				IAML		19 31 08.0	
	comp=N,1μm,0.2s						
GO01	**Chusmiza**	**2.06**	**176**		**Pn**	**19 30 31.7**	**+0.8**
PSGC	**Pisagua**	**2.12**	**200**	⇑*i*P	**Pn**	**19 30 30.4**	**-0.8**
PSGC				*i* S	**Sn**	**19 30 57.6**	**-2.1**
PSGC				IAML		19 30 58.5	
	comp=N,6μm,0.3s						
PSGC	**Pisagua**	**2.12**	**200**	P	**Pn**	**19 30 30.6**	**-0.6**
PSGC				S	**Sn**	**19 30 57.6**	**-2.1**
PSGC				AML	AML	19 30 58.1	
	comp=N,681nm,0.3s						
PB11	**IPOC Station P**	**2.17**	**188**	⇑*i*P	**Pn**	**19 30 31.6**	**-0.3**
PB11				*i* S	**Sn**	**19 30 59.6**	**-1.2**
PB11				IAML		19 31 02.5	
	comp=N,2μm,0.5s						
PB11	**IPOC Station P**	**2.17**	**188**	P	**Pn**	**19 30 31.6**	**-0.3**
PB11				S	**Sn**	**19 31 00.0**	**-0.9**
PB11				AML	AML	19 31 01.5	
	comp=N,655nm,0.5s						
PB11	**IPOC Station P**	**2.17**	**188**		**Pn**	**19 30 31.5**	**-0.3**
BS05	**Cuyupaya**	**2.37**	**76**	P	**Pn**	**19 30 35.1**	**+0.5**
BS05				S	**Sn**	**19 31 05.0**	**-0.6**
BS05				AML	AML	19 31 07.2	
	comp=N,777nm,0.6s						
PB08	**IPOC Station P**	**2.53**	**176**	⇑*i*P	**Pn**	**19 30 37.3**	**+0.8**
PB08				*i* S	**Sn**	**19 31 07.2**	**-1.8**
PB08	**IPOC Station P**	**2.53**	**176**	P	**Pn**	**19 30 37.0**	**+0.5**
PB08				S	**Sn**	**19 31 08.2**	**-0.8**
PB08				AML	AML	19 31 09.3	
	comp=N,199nm,0.3s						
TA01	**Diego Aracena**	**3.05**	**195**	⇑*i*P	**Pn**	**19 30 41.6**	**-1.0**
TA01				*i* S	**Sn**	**19 31 14.9**	**-5.0**
TA01				IAML		19 31 18.3	
	comp=N,1μm,0.3s						
PB02	**IPOC Station P**	**3.74**	**188**	⇑*i*P	**Pn**	**19 30 51.2**	**-0.1**
PB02				*i* S	**Sn**	**19 31 32.5**	**-3.2**
PB02	**IPOC Station P**	**3.74**	**188**	P	**Pn**	**19 30 51.3**	**-0.1**
PB07	**IPOC Station P**	**4.14**	**187**	*e*P	**Pn**	**19 30 56.3**	**-0.4**
PB07				*i* S	**Sn**	**19 31 41.4**	**-3.7**
PB04	**IPOC Station P**	**4.77**	**189**	P	**Pn**	**19 31 04.2**	**-0.7**
PB04				S	**Sn**	**19 31 53.8**	**-6.2**
PB04				AML	AML	19 32 00.0	
	comp=N,400nm,0.3s						
PB04	**IPOC Station P**	**4.77**	**189**		**Pn**	**19 31 04.3**	**-0.7**
LVC	**Limon Verde**	**5.00**	**175**	P	**Pn**	**

BDFB	**Brasilia**	**20.54**	**88**	P		**P**	19 34 19.8	**-1.2**
CNLB	**Canela**	**20.56**	**128**	*e*P		**P**	19 34 18.9	**-2.1**
CNLB	**Canela**	**20.56**	**128**	*e*P		**P**	19 34 18.9	**-2.1**
RCLB	**Rio Claro- Sao**	**21.05**	**107**	*e*P		**P**	19 34 25.3	**-1.0**
RCLB	**Rio Claro- Sao**	**21.05**	**107**	*e*P		**P**	19 34 25.3	**-1.0**
SPB	**Sao Paulo**	**21.36**	**110**	*e*P		**P**	19 34 28.0	**-1.5**
SPB	**Sao Paulo**	**21.36**	**110**	*e*P		**P**	19 34 28.0	**-1.5**
SPB	**Sao Paulo**	**21.36**	**110**	P		**P**	19 34 27.9	**-1.7**
SPB				IAmb		IAmb	19 34 28.5	
	comp=Z,24nm,0.8s							
TRQA	**Tornquist**	**21.38**	**164**	*e*P		**P**	19 34 30.3	**+0.6**
TRQA	**Tornquist**	**21.38**	**164**	*e*P		**P**	19 34 30.3	**+0.6**
TRQA	**Tornquist**	**21.38**	**164**	P		**P**	19 34 30.5	**+0.8**
TRQA				IAmb		IAmb	19 34 37.2	
	comp=Z,19nm,0.6s							
VAO	**Valinhos**	**21.66**	**108**	*e*P		**P**	19 34 30.9	**-2.0**
VAO	**Valinhos**	**21.66**	**108**	*e*P		**P**	19 34 30.9	**-2.0**
PMNB	**Patos De Minas**	**21.80**	**96**	*e*P		**P**	19 34 32.9	**-1.5**
PMNB	**Patos De Minas**	**21.80**	**96**	*e*P		**P**	19 34 32.9	**-1.5**
GO06	**Currarehue**	**21.98**	**184**	P		**P**	19 34 37.2	**+1.2**
GO06				IAmb		IAmb	19 34 38.9	
	comp=Z,43nm,1.0s							
PLCA	**Paso Flores**	**23.08**	**182**	P		**P**	19 34 47.9	**+1.5**
	comp=Z,15nm,0.8s,baz=24,slow=10,SNR=42							
PLCA	**Paso Flores**	**23.08**	**182**	*e*P		**P**	19 34 48.1	**+1.7**
PLCA	**Paso Flores**	**23.08**	**182**	*e*P		**P**	19 34 48.1	**+1.7**
PLCA	**Paso Flores**	**23.08**	**182**	P		**P**	19 34 47.6	**+1.3**
ESAR	**Angra dos Reis**	**23.96**	**107**	*e*P		**P**	19 34 53.9	**-0.7**
ESAR	**Angra dos Reis**	**23.96**	**107**	*e*P		**P**	19 34 53.9	**-0.7**
SDV	**Santo Domingo**	**26.35**	**357**	P		**P**	19 35 14.6	**-1.8**
	comp=Z,4.5nm,0.7s,baz=304,slow=11,SNR=5.7							
SDV	**Santo Domingo**	**26.35**	**357**	*e*P		**P**	19 35 14.4	**-1.9**
SDV	**Santo Domingo**	**26.35**	**357**	*e*P		**P**	19 35 14.4	**-1.9**
SDV	**Santo Domingo**	**26.35**	**357**	P		**P**	19 35 14.3	**-2.0**
SJMB	**Sao Joao De Ma**	**26.78**	**97**	*e*P		**P**	19 35 18.8	**-1.2**
SJMB	**Sao Joao De Ma**	**26.78**	**97**	*e*P		**P**	19 35 18.8	**-1.2**
BSFB	**Barra de Sao F**	**27.09**	**97**	*e*P		**P**	19 35 22.4	**-0.5**
BSFB	**Barra de Sao F**	**27.09**	**97**	*e*P		**P**	19 35 22.4	**-0.5**
MDP	**Montagnes des**	**27.95**	**38**	P		**P**	19 35 28.4	**-2.0**
	comp=Z,15nm,0.8s,baz=198,slow=4,SNR=3.9							
NBMO	**Morrinhos-CE**	**32.05**	**67**	*e*P		**P**	19 36 05.4	**-1.3**
NBMO	**Morrinhos-CE**	**32.05**	**67**	*e*P		**P**	19 36 05.4	**-1.3**
NBLI	**Livramento-PB**	**33.18**	**76**	*e*P		**P**	19 36 16.3	**-0.3**
NBLI	**Livramento-PB**	**33.18**	**76**	*e*P		**P**	19 36 16.3	**-0.3**
RCBR	**Riachuelo**	**34.71**	**74**	*e*P		**P**	19 36 29.6	**-0.2**
RCBR	**Riachuelo**	**34.71**	**74**	*e*P		**P**	19 36 29.6	**-0.2**
USHA	**Ushuaia**	**37.17**	**179**	P		**P**	19 36 52.3	**+2.2**
	comp=Z,15nm,1.1s,baz=268,slow=3.4,SNR=3.5							
TEIG	**Tepich**	**41.93**	**333**	P		**P**	19 37 30.0	**+0.1**
	comp=Z,22nm,1.1s,baz=319,slow=19,SNR=3.6							
CMIG	**Matias Romero**	**42.67**	**323**	P		**P**	19 37 38.4	**+2.4**
	comp=Z,3.2nm,0.4s,baz=172,slow=15,SNR=4.1							
PMSA	**Palmer Station**	**47.27**	**177**	P		**P**	19 38 14.1	**+2.4**
	comp=Z,7.6nm,0.7s,baz=0.2,slow=6.1,SNR=7.5							
PMSA	**Palmer Station**	**47.27**	**177**	P		**P**	19 38 12.6	**+0.9**
Z50A	**Ashland**	**52.99**	**343**	P		**P**	19 38 54.8	**-0.3**
Z50A				IAmb		IAmb	19 40 42.0	
	comp=Z,42nm,1.9s							
V55A	**Taylorsville**	**54.34**	**348**	P		**P**	19 39 05.0	**+0.1**
V55A				IAmb		IAmb	19 39 54.4	
	comp=Z,45nm,1.8s							
SWET	**Sewanee**	**54.83**	**343**	P		**P**	19 39 07.8	**-0.8**
SWET				IAmb		IAmb	19 39 09.3	
	comp=Z,41nm,2.0s							
V52A	**Sevierville**	**54.84**	**346**	P		**P**	19 39 08.0	**-0.5**
V52A				IAmb		IAmb	19 39 08.1	
	comp=Z,13nm,1.1s							
CLTN	**Cedars of Leba**	**55.77**	**343**	P		**P**	19 39 14.5	**-0.6**
CLTN				IAmb		IAmb	19 40 38.9	
	comp=Z,20nm,1.9s							
WHTX	**Lake Whitney,**	**56.19**	**331**	P		**P**	19 39 19.9	**+1.7**
WHTX				IAmb		IAmb	19 39 21.0	
	comp=Z,8.5nm,0.6s							
TXAR	**Lajitas Array**	**57.22**	**324**	P		**P**	19 39 28.1	**+2.4**
	comp=Z,0.5nm,0.5s,baz=150,slow=11,SNR=3.7							
HHAR	**Hobbs**	**58.42**	**337**	P		**P**	19 39 34.2	**+0.5**
HHAR				IAmb		IAmb	19 39 35.0	
	comp=Z,11nm,1.1s							
MGMO	**Mountain Grove**	**58.59**	**339**	P		**P**	19 39 34.7	**-0.3**
CCM	**Cathedral Cave**	**59.06**	**340**	P		**P**	19 39 38.2	**0.0**
CCM				IAmb		IAmb	19 39 39.1	
	comp=Z,18nm,1.2s							
M57A	**Sunshine Farm,**	**59.08**	**353**	P		**P**	19 39 37.9	**-0.3**
M57A				IAmb		IAmb	19 39 45.0	
	comp=Z,30nm,1.4s							
N53A	**Lisbon**	**59.08**	**350**	P		**P**	19 39 38.0	**-0.2**
BRYW	**Bryant College**	**59.25**	**358**	P		**P**	19 39 39.0	**-0.4**
N49A	**Columbus Grove**	**59.83**	**347**	P		**P**	19 39 42.8	**-0.5**
N49A				IAmb		IAmb	19 40 53.6	
	comp=Z,44nm,1.7s							
ERPA	**Erie**	**60.22**	**351**	P		**P**	19 39 46.0	**-0.1**
ANMO	**Albuquerque**	**63.03**	**326**	P		**P**	19 40 07.1	**+1.8**
	comp=Z,0.6nm,0.5s,baz=194,slow=4.2,SNR=2.8							
VNA3	**Neumayer Olymp**	**63.89**	**162**	P		**P**	19 40 11.8	**+1.6**
VNA1	**Neumayer--Stat**	**64.08**	**161**	P		**P**	19 40 12.5	**+1.1**
VNA2	**Neumayer--Watz**	**64.45**	**161**	P		**P**	19 40 15.5	**+1.6**
	baz=310,slow=9.4							
BGNE	**Belgrade**	**64.49**	**336**	P		**P**	19 40 16.0	**+1.6**
SDCO	**Great Sand Dun**	**64.70**	**329**	P		**P**	19 40 17.9	**+1.7**
SDCO				IAmb		IAmb	19 40 20.3	
	comp=Z,23nm,1.9s							
SDCO						**pP**	19 40 56.6	**+2.1**
ECSD	**EROS Data Cent**	**65.95**	**339**	P		**P**	19 40 24.3	**+0.5**
ECSD				IAmb		IAmb	19 40 25.8	
	comp=Z,21nm,1.4s							
SPMN	**Marine on St.**	**66.06**	**342**	P		**P**	19 40 24.8	**+0.4**
SPMN				IAmb		IAmb	19 40 25.0	
	comp=Z,14nm,0.8s							
SNAA	**Sanae**	**66.09**	**161**	P		**P**	19 40 25.9	**+1.5**
SNAA	**Sanae**	**66.09**	**161**	P		**P**	19 40 25.5	**+1.1**
LIC	**Lamto**	**67.76**	**75**	*e*P		**P**	19 40 34.6	**-1.3**
	comp=Z,48nm,0.9s							
TIC	**Toumodi**	**67.92**	**75**	*e*P		**P**	19 40 36.1	**-0.8**
KIC	**Kosan Boka**	**68.08**	**75**	*e*P		**P**	19 40 36.9	**-0.9**
	comp=Z,50nm,0.7s							
DBIC	**Dimbokro**	**68.08**	**75**	P		**P**	19 40 37.6	**-0.2**
	comp=Z,23nm,0.7s,baz=226,slow=6.8,SNR=38							
DBIC	**Dimbokro**	**68.08**	**75**	P		**P**	19 40 37.1	**-0.8**
AGMN	**Agassiz Nation**	**69.75**	**341**	P		**P**	19 40 47.7	**+0.3**
AGMN				IAmb		IAmb	19 40 48.5	
	comp=Z,13nm,0.8s							
PDAR	**Pinedale Array**	**70.55**	**330**	P		**P**	19 40 53.6	**+0.9**
	comp=Z,0.4nm,0.6s,baz=130,slow=8.4,SNR=4.2							
PDAR				pP		**pP**	19 41 33.8	**+2.2**
	comp=Z,0.5nm,0.8s,baz=126,slow=7.3,SNR=2.6							
ULM	**Lac du Bonnet**	**71.49**	**342**	P		**P**	19 40 58.2	**+0.3**
	comp=Z,19nm,0.5s,baz=150,slow=6.1,SNR=40							
ULM	**Lac du Bonnet**	**71.49**	**342**	P		**P**	19 40 58.2	**+0.3**
SCHQ	**Schefferville**	**72.17**	**2**	P		**P**	19 41 01.2	**-0.7**
	comp=Z,3.2nm,0.7s,baz=225,slow=8.6,SNR=3.0							
NVAR	**Mina Array Bea**	**72.19**	**322**	P		**P**	19 41 04.7	**+2.1**
	comp=Z,0.5nm,0.4s,baz=137,slow=6.8,SNR=5.9							
NVAR				pP		**pP**	19 41 43.4	**+1.7**
	comp=Z,0.9nm,0.8s,baz=156,slow=6.8,SNR=2.8							
QSPA	**South Pole Qui**	**72.57**	**180**	P		**P**	19 41 06.9	**+2.5**
QSPA				IAmb		IAmb	19 41 07.5	
	comp=Z,20nm,1.6s							
MFID	**Camas Ranch**	**74.17**	**327**	P		**P**	19 41 15.0	**+1.0**
TOA0	**Torodi Ar. Sit**	**76.48**	**71**	P		**P**	19 41 27.2	**-0.5**
TORD	**Torodi Ar. Bea**	**76.48**	**71**	P		**P**	19 41 27.4	**-0.3**
	comp=Z,31nm,0.6s,baz=256,slow=5.0,SNR=296							
VNDA	**Vanda**	**80.60**	**190**	P		**P**	19 41 52.0	**+2.8**
	comp=Z,1.4nm,0.7s,baz=101,slow=5.6,SNR=5.8							
ESDC	**Sonseca Array**	**83.37**	**45**	P		**P**	19 42 04.5	**+0.2**
	comp=Z,2.8nm,0.8s,baz=251,slow=5.1,SNR=12							
TAM	**Tamanrasset**	**83.46**	**64**	P		**P**	19 42 04.4	**-0.8**
YKA	**Yellowknife Ar**	**87.39**	**341**	P		**P**	19 42 24.6	**+1.1**
	comp=Z,2.2nm,0.6s,baz=132,slow=4.9,SNR=64							
YKA				pP		**pP**	19 43 06.5	**+2.6**
	comp=Z,2.0nm,0.8s,baz=135,slow=4.8,SNR=6.0							
MAW	**Mawson**	**88.17**	**164**	P		**P**	19 42 29.4	**+2.1**
	comp=Z,3.1nm,0.6s,baz=214,slow=7.1,SNR=7.8							
MAW	**Mawson**	**88.17**	**164**	P		**P**	19 42 29.4	**+2.1**
KEST	**Kesra**	**91.30**	**53**	P		**P**	19 42 43.0	**+0.4**
	comp=Z,2.9nm,0.8s,baz=208,slow=17,SNR=3.3							
ASAR	**Alice Springs**	**133.12**	**210**	PKP		**PKiKP**	19 48 53.4	**-0.2**
	comp=Z,0.5nm,0.6s,baz=131,slow=2.1,SNR=11							
ASAR				SKPbc		**SKPab**	19 52 08.1	**+0.1**
	comp=Z,1.4nm,0.8s,baz=142,slow=4.2,SNR=11							
ZALV	**Zalesovo Beam**	**138.58**	**23**	PKP		**PKiKP**	19 49 03.0	**-0.6**
	comp=Z,1.4nm,0.7s,baz=248,slow=1.6,SNR=5.9							
ZALV				pPKP		**pPKPdf**	19 49 45.3	**+1.5**
	comp=Z,2.3nm,0.8s,baz=318,slow=1.9,SNR=2.9							
ZALV				SKPbc		**SKiKP**	19 52 24.2	**-1.2**
	comp=Z,4.6nm,0.9s,baz=316,slow=6.2,SNR=12							

MKAR	**Makanchi Array**	**142.66**	**33**	PKhKP		PKPpre	19 49 05.7	
	comp=Z,0.4nm,0.7s,baz=296,slow=2.8,SNR=5.0							
MKAR				SKPbc		**SKiKP**	19 52 34.5	**+0.5**
	comp=Z,1.1nm,0.8s,baz=314,slow=2.1,SNR=7.0							
SONM	**Songino Array**	**149.65**	**6**	PKPbc		**PKiKP**	19 49 27.4	**+0.6**
	comp=Z,1.2nm,0.5s,baz=334,slow=2.1,SNR=12							
SONM				pPKPbc		**pPKPbc**	19 50 09.0	**+1.1**
	comp=Z,3.8nm,0.8s,baz=314,slow=1.8,SNR=9.1							
CMAR	**Chiang Mai Arr**	**168.83**	**84**	PKPab		**PKPab**	19 50 55.3	**+0.1**
	comp=Z,0.5nm,0.8s,baz=273,slow=5.9,SNR=3.3							

*IDC **16** 19:30:22.8±1.0,53.˝71N×165.˚54W,h0km,mb3.9/17, mb1 4.1/19,mb1mx3.9/54,mbtmp3.9/19,ML3.1/2,MS3.5/4, Ms1 3.6/4,ms1mx3.1/43,Error ellipse: s-maj=26.5km s-min=13.7km az=177.0*

*AEIC **16** 19:30:26±1.0,53.˝48N±0.˚05×165.˚38W±0.˚06,h41km±6km, ML3.5*

*NEIC **16** 19:30:27.4±0.7,53.˚50N±0.˚04×165.˚39W±0.˚06,h40km±6km*

ISC 16 19:30:26.2±1.5,53.˚51N±0.˚07×165.˚33W±0.˚04, h30km±10km,n52,σ1ᵍ09/52,mb3.9/17,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.67**	**341**		**Pn**	**19 30 40.1**	**+0.4**
AKSA					Sn	19 30 50.3	+1.1
AKUT	**Akutan**	**0.68**	**338**		**Pn**	**19 30 40.6**	**+0.7**
AKUT					Sn	19 30 51.1	+1.7
AKBBA	**Akutan Broad B**	**0.69**	**329**		**Pn**	**19 30 40.6**	**+0.5**
AKBBA					Sn	19 30 50.1	+0.4
AKMO	**Akutan Morgan**	**0.71**	**326**		**Pn**	**19 30 40.8**	**+0.5**
AKLV	**Akutan Long Va**	**0.76**	**331**		**Pn**	**19 30 41.3**	**+0.4**
AKRB	**Akutan Reef Bi**	**0.76**	**325**		**Pn**	**19 30 41.4**	**+0.4**
UNV	**Unalaska Valle**	**0.78**	**296**		**Pb**	**19 30 41.0**	**-0.2**
UNV					**Sb**	**19 30 51.1**	**-0.3**
AKGG	**Akutan Green G**	**0.80**	**331**		**Pn**	**19 30 42.0**	**+0.6**
MREP	**Makushin Rep't**	**0.90**	**290**		**Pb**	**19 30 43.1**	**-0.2**
MTBL	**Makushin Table**	**0.93**	**301**		**Pb**	**19 30 43.9**	**+0.1**
MSW	**Makushin Switc**	**0.96**	**296**		**Pb**	**19 30 44.1**	**-0.2**
MSW					**Sb**	**19 30 57.1**	**+0.6**
MCIR	**Makushin Cirqu**	**1.03**	**296**		**Pb**	**19 30 45.5**	**0.0**
WEBT	**Westdahl Beart**	**1.14**	**17**		**Pb**	**19 30 47.8**	**+0.4**
SSBA	**Shishaldin**	**1.45**	**29**		**Pb**	**19 30 51.7**	**-1.0**
SSBA					**Sn**	**19 31 09.5**	**+0.9**
OKFG	**Magazine Ridge**	**1.55**	**268**		**Pn**	**19 30 52.0**	**+0.2**
OKNC	**Okmok New Cone**	**1.67**	**269**		**Pn**	**19 30 54.1**	**+0.6**
FALS	**False Pass**	**1.76**	**39**		**Pn**	**19 30 55.4**	**+0.8**
OKSP	**Okmok Steeple**	**1.79**	**263**		**Pn**	**19 30 55.4**	**+0.3**
NIKH	**Nikolski High**	**2.19**	**257**		**Pn**	**19 31 00.5**	**0.0**
CNBA	**Chernabura Isl**	**3.62**	**66**		**Pn**	**19 31 21.4**	**+1.2**
KDAK	**Kodiak Island**	**8.38**	**54**	Pn	**Pn**	**19 32 26.4**	**+0.9**
	0.6nm,0.3s,baz=186,slow=5.1,SNR=8.4						
KDAK				Sn	**Sn**	**19 33 55.4**	**-3.6**
	0.1nm,0.3s,baz=350,slow=17,SNR=2.6						
ILAR	**Eielson Array**	**14.65**	**32**	Pn	**Pn**	**19 33 48.9**	**-2.3**
	0.0nm,0.3s,baz=223,slow=14,SNR=3.0						
ILAR				LR	LR	19 39 22.4	
	comp=Z,98nm,19.4s,baz=264,slow=37						
SCRK	**Sand Creek**	**15.16**	**38**	P	**Pn**	**19 33 58.4**	**+0.3**
TOLK	**Toolik Lake Re**	**16.89**	**20**	P	**Pn**	**19 34 20.8**	**+0.7**
DAWY	**Dawson**	**16.96**	**41**	P	**Pn**	**19 34 21.2**	**+0.1**
EPYK	**Eagle Plains**	**19.03**	**36**	P	**P**	**19 34 45.8**	**+0.3**
INK	**Inuvik**	**21.05**	**33**	P	**P**	**19 35 05.7**	**-1.6**
	1.9nm,0.6s,baz=241,slow=12,SNR=17						
INK	**Inuvik**	**21.05**	**33**	P	**P**	**19 35 05.4**	**-1.9**
PETK	**Petropavlovsk-**	**21.94**	**284**	P	**P**	**19 35 16.8**	**-0.2**
	1.5nm,0.6s,baz=81,slow=14,SNR=6.5						
SEY	**Seymchan**	**23.75**	**310**	P	**P**	**19 35 35.3**	**-0.2**
	0.6nm,0.4s,baz=108,slow=19,SNR=3.2						
YKA	**Yellowknife Ar**	**27.64**	**51**	P	**P**	**19 36 12.5**	**+1.7**
	1.1nm,0.6s,baz=274,slow=9.3,SNR=14						
NVAR	**Mina Array Bea**	**35.29**	**96**	P	**P**	**19 37 21.3**	**+2.7**
	0.7nm,0.7s,baz=289,slow=9.8,SNR=6.1						
YHH	**Holmes Hill**	**35.88**	**81**	P	**P**	**19 37 24.0**	**+0.3**
PDAR	**Pinedale Array**	**37.81**	**83**	P	**P**	**19 37 41.5**	**+1.5**
	0.6nm,0.8s,baz=298,slow=3.2,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**39.91**	**223**	T	T	20 20 43.5	
	baz=25,slow=76,SNR=36						
H11N3	**WAKE ISLAND Hy**	**39.92**	**223**	T	T	20 20 45.5	
	baz=25,slow=76,SNR=42						
H11N1	**WAKE ISLAND Hy**	**39.93**	**223**	T	T	20 20 45.3	
	baz=25,slow=76,SNR=36						
H11S1	**WAKE ISLAND Hy**	**41.09**	**223**	T	T	20 22 06.0	
	baz=25,slow=76,SNR=46						
H11S2	**WAKE ISLAND Hy**	**41.11**	**223**	T	T	20 22 07.0	
	baz=25,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**41.11**	**223**	T	T	20 22 07.3	
	baz=25,slow=76,SNR=28						
KSRS	**Korea Array**	**47.68**	**279**	P	**P**	**19 39 00.2**	**+0.6**
	1.3nm,0.8s,baz=50,slow=8.7,SNR=3.2						
TXAR	**Lajitas Array**	**50.32**	**93**	P	**P**	**19 39 21.4**	**+1.2**
	0.8nm,0.6s,baz=301,slow=6.9,SNR=5.3						
SONM	**Songino Array**	**52.79**	**302**	P	**P**	**19 39 38.2**	**-0.2**
	0.6nm,0.5s,baz=39,slow=8.9,SNR=6.5						
ARCES	**ARCESS Array B**	**57.01**	**355**	P	**P**	**19 40 07.3**	**-1.2**
	2.5nm,0.9s,baz=17,slow=6.6,SNR=2.5						
MKAR	**Makanchi Array**	**64.76**	**315**	P	**P**	**19 41 00.7**	**-0.8**
	0.5nm,0.7s,baz=53,slow=7.4,SNR=4.3						
FINES	**FINESS Array B**	**65.04**	**354**	P	**P**	**19 41 02.3**	**-0.7**
	3.5nm,0.8s,baz=5.7,slow=7.7,SNR=8.1						
FINES				LR	LR	20 10 03.4	
	comp=Z,181nm,18.4s,baz=308,slow=37						
NOA	**NORSAR Array B**	**65.77**	**2**	P	**P**	**19 41 07.4**	**-0.4**
	0.9nm,0.6s,baz=360,slow=6.0,SNR=3.0						
PPT	**Papeete**	**72.07**	**164**	LR	LR	20 07 32.6	
	comp=Z,37nm,21.6s,baz=20,slow=31						
AKASG	**Malin Array Be**	**75.45**	**350**	P	**P**	**19 42 05.7**	**-1.2**
	2.3nm,0.6s,baz=14,slow=5.8,SNR=6.6						
CMAR	**Chiang Mai Arr**	**78.71**	**286**	P	**P**	**19 42 25.9**	**+0.3**
	1.4nm,1.0s,baz=16,slow=6.4,SNR=6.7						
CMAR				LR	LR	20 18 32.8	
	comp=Z,13nm,19.8s,baz=0.0,slow=37						
KBZ	**Khabaz**	**80.16**	**340**	P	**P**	**19 42 33.2**	**0.0**
	2.9nm,0.9s,baz=333,slow=3.1,SNR=6.2						
BRTR	**Keskin Array B**	**85.71**	**345**	P	**P**	**19 43 01.6**	**-0.6**
	1.3nm,0.8s,baz=33,slow=2.9,SNR=6.8						

IDC 16 19:43:59.0±2.4,20.˚19S×169.˚56E,h0km,mb3.9/2, mb1 4.2/3,mb1mx3.7/34,mbtmp3.9/3,ML3.8/1,Error ellipse: s-maj=144.8km s-min=29.3km az=149.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.46**	**237**	Pn	Pn	19 44 54.9	+0.7
	9.0nm,0.3s,baz=107,slow=6.8,SNR=361						
DZM				Sn	Sn	19 45 32.1	-3.9
	22nm,0.3s,baz=142,slow=17,SNR=11						
ASAR	**Alice Springs**	**33.20**	**257**	P	P	19 50 37.3	-0.6
	1.2nm,0.5s,baz=87,slow=9.0,SNR=35						
NVAR	**Mina Array Bea**	**89.20**	**48**	P	P	19 56 56.9	-0.3
	0.2nm,0.5s,baz=233,slow=7.5,SNR=2.3						
GERES	**GERESS Array B**	**145.47**	**332**	PKPbc	PKPbc	20 03 39.0	-0.2
	0.3nm,0.5s,baz=41,slow=3.3,SNR=5.4						

*IDC **16** 20:24:57.3±1.0,20.˚72N×146.˚76E,h0km,mb3.8/7, mb1 4.0/7,mb1mx3.7/48,mbtmp3.8/7,MS3.3/2,Ms1 3.4/2, ms1mx2.7/38,Error ellipse: s-maj=35.1km s-min=28.5km az=57.0*

*ISCJB **16** 20:25:00.3±0.6,20.˚7N±0.˚1×146.˚7E±0.˚1,h34km,MS3.3/2, Error ellipse: s-maj=21.2km s-min=13.0km az=154.0*

*NEIC **16** 20:25:02.0±1.6,20.˚7N±0.˚1×146.˚7E±0.˚1,h35km±2km, mb4.4/5*

ISC 16 20:25:02.0±0.7,20.˚7N±0.˚1×146.˚7E±0.˚2,h34km,n15, σ0ᵍ72/15,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATS	**Pohnpei**	**17.80**	**139**	P	**P**	**20 29 08.1**	**+0.3**
DAV	**Davao City (W)**	**24.56**	**239**	LR	LR	20 37 03.4	
	comp=Z,31nm,21.7s,baz=3.0,slow=30						
WRAB	**Tennant Creek**	**42.17**	**197**	P	**P**	**20 32 51.6**	**-0.2**
SONM	**Songino Array**	**42.20**	**320**	P	**P**	**20 32 52.8**	**+1.0**
	0.6nm,0.7s,baz=118,slow=7.7,SNR=5.5						
SONM				PcP	**PcP**	**20 34 46.6**	**+1.0**
	0.6nm,0.7s,baz=143,slow=3.5,SNR=4.0						
ASAR	**Alice Springs**	**45.86**	**196**	P	**P**	**20 33 20.8**	**-0.4**
	0.2nm,0.5s,baz=14,slow=7.8,SNR=4.3						
ZAA0	**Zalesovo Array**	**57.02**	**322**	P	**P**	**20 34 43.8**	**-0.5**
ZAA0				IAmb	IAmb	20 34 45.4	
	comp=Z,3.6nm,0.7s						
ZALV	**Zalesovo Beam**	**57.02**	**322**	P	**P**	**20 34 45.0**	**+0.6**
	comp=Z,3.0nm,0.5s,baz=102,slow=7.5,SNR=14						
RSO	**Redoubt South**	**57.73**	**31**	P	**P**	**20 34 48.7**	**-0.9**
MKAR	**Makanchi Array**	**57.78**	**313**	P	**P**	**20 34 50.7**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=98,slow=8.1,SNR=8.5						
BTK	**Batken**	**66.39**	**306**	P	**P**	**20 35 47.0**	**-0.9**
ABKAR	**Akbulak array**	**72.53**	**317**	P	**P**	**20 36 25.0**	**-0.6**
ABKAR				IAmb	IAmb	20 36 44.5	
	comp=Z,5.6nm,1.5s						
YKA	**Yellowknife Ar**	**75.75**	**28**	P	**P**	**20 36 43.8**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=287,slow=5.4,SNR=4.7						
NVAR	**Mina Array Bea**	**81.14**	**52**	P	**P**	**20 37 15.3**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=268,slow=4.5,SNR=4.5						
NVAR				LR	LR	21 08 14.3	
	comp=Z,45nm,19.1s,baz=309,slow=32						
FINES	**FINESS Array B**	**85.45**	**336**	P	**P**	**20 37 35.8**	**-0.2**
	comp=Z,3.2nm,0.7s,baz=66,slow=4.8,SNR=8.2						
LPAZ	**La Paz**	**146.70**	**88**	PKPbc	**PKPab**	**20 44 43.3**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=326,slow=3.6,SNR=3.9						

*ISCJB **16** 20:27:23.0±0.7,32.˚64S±0.˚04×178.˚0W±0.˚1,h20km, mb4.3/4,MS3.4/5,Error ellipse: s-maj=16.0km s-min=3.4km az=15.4*

*IDC **16** 20:27:23.9±1.1,32.˚47S×178.˚09W,h0km,mb4.3/4, mb1 4.4/7,mb1mx4.0/41,mbtmp4.3/7,ML4.0/3,MS3.6/5, Ms1 3.6/5,ms1mx3.3/26,Error ellipse: s-maj=30.8km s-min=22.1km az=93.0*

*NEIC **16** 20:27:24.2±1.0,32.˚55S±0.˚09×178.˚1W±0.˚2,h8km±3km, mb4.7/9*

ISC 16 20:27:25.4±0.8,32.˚58S±0.˚05×177.˚9W±0.˚1,h20km,n63, σ1ᵍ95/76,mb4.6/9,MS3.4/5,1C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.31**	**360**	P	**Pn**	**20 28 13.3**	**-2.7**
GLKZ				S	**Sn**	**20 28 50.8**	**-3.9**
RAO	**Raoul Island**	**3.32**	**0**	Pn	**Pn**	**20 28 15.9**	**-0.2**
	55nm,0.3s,baz=73,slow=19,SNR=2.9						
RAO				Sn	**Sn**	**20 28 56.3**	**+1.3**
	138nm,0.3s,baz=218,slow=18,SNR=3.7						
RAO	**Raoul Island**	**3.32**	**0**	Pn	**Pn**	**20 28 14.2**	**-2.0**
RIZ	**Raoul Island**	**3.32**	**360**	S	**Sn**	**20 28 52.9**	**-2.3**
MXZ	**Matakaoa Point**

ISC 16 20:56:59.8±0.9, 43°04'N±0°02×77°64E±0°02, h13km±8km, n32, σ0°38/64, 13C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANVS	**Anan'yevo**	**0.26**	**176**	⇓*iP*	**Pg**	**20 57 05.1**	**-0.2**
	baz=77						
ANVS				⇓*iS*	**Sg**	**20 57 08.8**	**-0.2**
	baz=77						
KOTS	**Kotyrbulak**	**0.43**	**297**	*eP*	**Pg**	**20 57 08.6**	**+0.2**
	30nm,0.1s						
KOTS				*eS*	**Sg**	**20 57 14.7**	**+0.4**
	15nm,0.1s						
KOTS	**Kotyrbulak**	**0.43**	**297**	*eP*	**Pg**	**20 57 08.6**	**+0.2**
	baz=96						
KOTS				*eS*	**Sg**	**20 57 14.7**	**+0.4**
	baz=96						
KOTS	**Kotyrbulak**	**0.43**	**297**	P	**Pg**	**20 57 08.6**	**+0.2**
	27nm,0.2s						
KOTS				S	**Sg**	**20 57 14.7**	**+0.4**
	16nm,0.3s						
MDOK	**Medeo**	**0.45**	**286**	*eP*	**Pg**	**20 57 08.9**	**+0.1**
	3.5nm,0.1s						
MDOK				*eS*	**Sg**	**20 57 15.2**	**+0.3**
	4.6nm,0.1s						
MDOK	**Medeo**	**0.45**	**286**	*eP*	**Pg**	**20 57 08.9**	**+0.1**
	baz=86						
MDOK				*eS*	**Sg**	**20 57 15.1**	**+0.3**
	baz=86						
SATY	**Saty**	**0.56**	**88**	*eP*	**Pg**	**20 57 10.9**	**+0.1**
	9.2nm,0.1s						
SATY				*eS*	**Sg**	**20 57 18.5**	**+0.3**
	39nm,0.1s						
SATY	**Saty**	**0.56**	**88**	P	**Pg**	**20 57 10.9**	**+0.1**
	6.9nm,0.1s						
SATY				S	**Sg**	**20 57 18.6**	**+0.3**
	29nm,0.1s						
ZHN	**Zhinishke**	**0.59**	**77**	*eP*	**Pg**	**20 57 11.4**	**-0.1**
	3.2nm,0.1s						
ZHN				*eS*	**Sg**	**20 57 19.3**	**0.0**
	6.8nm,0.1s						
ZHN	**Zhinishke**	**0.59**	**77**	*eP*	**Pg**	**20 57 11.4**	**-0.1**
	baz=77						
ZHN				*eS*	**Sg**	**20 57 19.4**	**0.0**
	baz=77						
IZV	**Izvestkoviy**	**0.75**	**270**	*eP*	**Pb**	**20 57 14.8**	**-0.1**
	1.4nm,0.1s						
IZV				*eS*	**Sb**	**20 57 25.1**	**0.0**
	8.1nm,0.1s						
IZV	**Izvestkoviy**	**0.75**	**270**	*eP*	**Pb**	**20 57 14.8**	**-0.1**
	baz=70						
IZV				*eS*	**Sb**	**20 57 25.2**	**0.0**
	baz=70						
CHKK	**Chushkaly**	**0.94**	**330**	*eP*	**Pg**	**20 57 17.6**	**-0.4**
	2.5nm,0.3s						
CHKK				*eS*	**Sb**	**20 57 30.4**	**-0.1**
	12nm,0.3s						
CHKK	**Chushkaly**	**0.94**	**330**	*eP*	**Pg**	**20 57 17.6**	**-0.4**
	baz=30						
CHKK				*eS*	**Sb**	**20 57 30.3**	**-0.1**
	baz=30						
CHKK	**Chushkaly**	**0.94**	**330**	P	**Pg**	**20 57 17.6**	**-0.4**
	2.5nm,0.3s						
CHKK				S	**Sb**	**20 57 30.4**	**-0.1**
	12nm,0.3s						
KDJ	**Kajisay**	**0.97**	**201**	⇑*iP*	**Pg**	**20 57 18.2**	**-0.3**
	baz=1.0						
KDJ				⇑*iS*	**Sg**	**20 57 31.0**	**-0.2**
	baz=1.0						
KTBS	**Karatobe**	**0.97**	**314**	*eP*	**Pg**	**20 57 18.4**	**-0.2**
	0.9nm,0.1s						
KTBS				*eS*	**Sb**	**20 57 31.4**	**+0.1**
	2.3nm,0.2s						
KTBS	**Karatobe**	**0.97**	**314**	P	**Pg**	**20 57 18.4**	**-0.2**
	1.8nm,0.3s						
KTBS				S	**Sb**	**20 57 31.4**	**+0.1**
	1.4nm,0.2s						
UZB	**Uzynbulak**	**1.02**	**83**	*eP*	**Pg**	**20 57 18.9**	**-0.5**
	2.1nm,0.1s						
UZB				*eS*	**Sg**	**20 57 32.3**	**-0.4**
	7.6nm,0.1s						
UZB	**Uzynbulak**	**1.02**	**83**	*eP*	**Pg**	**20 57 18.9**	**-0.5**
	baz=83						
UZB				*eS*	**Sg**	**20 57 32.3**	**-0.4**
	baz=83						
UZB	**Uzynbulak**	**1.02**	**83**	P	**Pg**	**20 57 18.9**	**-0.5**
	3.6nm,0.2s						
UZB				S	**Sg**	**20 57 32.3**	**-0.4**
	3.4nm,0.1s						
ARXS	**Arharly**	**1.18**	**6**	*eP*	**Pb**	**20 57 21.8**	**-0.3**
	2.2nm,0.9s						
ARXS				*eS*	**Sb**	**20 57 37.4**	**0.0**
	6.8nm,0.3s						
ARXS	**Arharly**	**1.18**	**6**	P	**Pb**	**20 57 21.8**	**-0.3**
	2.2nm,0.9s						
ARXS				S	**Sb**	**20 57 37.4**	**0.0**
	6.8nm,0.3s						
ULHL	**Ulahol**	**1.30**	**233**	⇑*iP*	**Pn**	**20 57 24.1**	**+0.2**
	baz=33						
ULHL				⇑*iS*	**Sb**	**20 57 41.1**	**+0.2**
	baz=33						
TARG	**Taragay, Kyrgy**	**1.31**	**175**	⇑*iP*	**Pn**	**20 57 24.3**	**+0.1**
	baz=75						
TARG				⇑*iS*	**Sb**	**20 57 41.4**	**-0.1**
	baz=75						
BOOM	**Boomskoye usch**	**1.37**	**247**	⇑*iP*	**Pn**	**20 57 25.1**	**+0.3**
	baz=47						
BOOM				⇑*iS*	**Sb**	**20 57 43.3**	**+0.5**
	baz=47						
PDGK	**Podgornoye**	**1.38**	**77**	P	**Pn**	**20 57 25.3**	**+0.4**
	0.8nm,0.3s						
PDGK				S	**Sb**	**20 57 43.4**	**+0.2**
	0.7nm,0.3s						
PDGK	**Podgornoye**	**1.38**	**77**	⇑P	**Pn**	**20 57 25.3**	**+0.4**
	1.0nm,0.4s						
PDGK				⇓S	**Sn**	**20 57 43.9**	**+0.8**
	1.9nm,0.4s						
DGS	**Degeres**	**1.38**	**279**	*eP*	**Pn**	**20 57 24.5**	**-0.4**
	0.7nm,0.2s						
DGS				*eS*	**Sb**	**20 57 42.0**	**-1.3**
	1.2nm,0.1s						
DGS	**Degeres**	**1.38**	**279**	P	**Pn**	**20 57 24.5**	**-0.4**
	0.4nm,0.6s						
DGS				S	**Sb**	**20 57 42.0**	**-1.3**
	1.7nm,0.5s						
TKM2	**Tokmak 2**	**1.51**	**266**	⇑*iP*	**Pb**	**20 57 28.0**	**+0.3**
	baz=66						
TKM2				⇑*iS*	**Sg**	**20 57 47.8**	**-0.5**
	baz=66						
TKM2	**Tokmak 2**	**1.51**	**266**	⇑P	**Pn**	**20 57 27.0**	**+0.3**
	0.9nm,0.8s						
TKM2				⇑S	**Sg**	**20 57 47.8**	**-0.5**
	0.8nm,0.4s						

*ISCJB **16** 21:04:46.7±1.0, 32°.57S±0°.06×177°.8W±0°.2, h20km, MS3.5/5, Error ellipse: s-maj=23.9km s-min=6.3km az=14.8*

*IDC **16** 21:04:47.3±1.4, 32°.47S×178°.07W, h0km, mb4.3/1, mb1 4.4/3, mb1mx3.9/21, mbtmp4.4/3, ML3.9/2, MS3.8/4, Ms1 3.8/4, ms1mx3.3/33, Error ellipse: s-maj=50.6km s-min=25.5km az=106.0*

*NEIC **16** 21:04:51±2.1, 32°.36S±0°.07×177°.9W±0°.1, h35km±1km, mb4.1/3*

ISC 16 21:04:49.0±0.9, 32°.58S±0°.08×178°.0W±0°.2, h20km, n29, σ2s16/27, MS3.5/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.32**	**1**	Pn	**Pn**	**21 05 38.8**	**-1.0**
	16nm,0.3s,baz=253,slow=19,SNR=2.2						
RAO				Sn	**Sn**	**21 06 18.3**	**-0.4**
	117nm,0.3s,baz=114,slow=20,SNR=2.8						
RAO	**Raoul Island**	**3.32**	**1**	Pn	**Pn**	**21 05 36.0**	**-3.8**
MXZ	**Matakaoa Point**	**5.83**	**211**	Pn	**Pn**	**21 06 15.7**	**+1.4**
URZ	**Urewera**	**6.94**	**214**	Pn	**Pn**	**21 06 30.4**	**+0.8**
	2.0nm,0.3s,baz=25,slow=6.7,SNR=4.1						
URZ				Sn	**Sn**	**21 07 46.6**	**-1.3**
	4.7nm,0.3s,baz=180,slow=23,SNR=12						
URZ	**Urewera**	**6.94**	**214**		**Pn**	**21 06 30.4**	**+0.8**
URZ					**Sn**	**21 07 44.0**	**-3.9**
OUZ	**Omahuta**	**7.49**	**247**		**Pn**	**21 06 39.2**	**+2.1**
BKZ	**Black Stump Fm**	**7.96**	**213**		**Pn**	**21 06 44.1**	**+0.6**
BKZ				Sn	**Sn**	**21 08 09.7**	**-3.3**
BFZ	**Birch Farm**	**9.32**	**208**	Pn	**Pn**	**21 07 05.1**	**+2.9**
BFZ					**Sn**	**21 08 42.5**	**-4.0**
MSWZ	**Moikau Station**	**10.35**	**210**	Pn	**Pn**	**21 07 17.9**	**+1.6**
SNZO	**South Karori**	**10.49**	**212**	Pn	**Pn**	**21 07 21.3**	**+3.1**
TUWZ	**Tuamarina**	**10.94**	**214**	Pn	**Pn**	**21 07 24.4**	**+0.1**
NNZ	**Nelson**	**11.05**	**216**	Pn	**Pn**	**21 07 28.5**	**+2.7**
THZ	**Tophouse**	**11.69**	**216**	Pn	**Pn**	**21 07 37.8**	**+3.1**
DZM	**Mont Dzumac**	**17.34**	**303**	*e*LR	LR	21 12 50.1	
	comp=Z,320nm,21.1s						
DZM	**Mont Dzumac**	**17.34**	**303**	LR	LR	21 14 26.8	
	comp=Z,533nm,18.1s,baz=202,slow=34						
TBI	**Tubuai**	**26.74**	**77**	*e*LR	LR	21 17 01.9	
	comp=Z,113nm,34.0s						
PPT2	**Papeete2**	**29.61**	**67**	*e*LR	LR	21 18 36.7	
	comp=Z,91nm,22.0s						
PPT	**Papeete**	**29.63**	**67**	LR	LR	21 22 26.6	
	comp=Z,110nm,18.1s,baz=191,slow=36						
STKA	**Stephens Creek**	**34.07**	**260**	LR	LR	21 25 24.7	
	comp=Z,243nm,18.1s,baz=35,slow=36						
XMAS	**Kiritimati**	**39.54**	**33**	P	**P**	**21 12 17.6**	**-1.1**
AS31	**Alice Springs**	**43.06**	**269**	P	**P**	**21 12 48.3**	**+0.6**
AS31				IAmb	IAmb	21 12 48.8	
	comp=Z,1.5nm,0.8s						
ASAR	**Alice Springs**	**43.06**	**269**	P	**P**	**21 12 48.3**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=110,slow=7.8,SNR=34						
WRAB	**Tennant Creek**	**44.24**	**274**	P	**P**	**21 12 57.3**	**0.0**
WRAB				IAmb	IAmb	21 12 59.4	
	comp=Z,9.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**94.14**	**289**	LR	LR	22 04 24.7	
	comp=Z,21nm,18.2s,baz=0.0,slow=38						
KBZ	**Khabaz**	**146.31**	**301**	PKPbc	**PKPab**	**21 24 29.4**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=53,slow=5.1,SNR=2.6						
FINES	**FINESS Array B**	**147.19**	**339**	PKPbc	**PKPbc**	**21 24 30.6**	**+0.6**
	comp=Z,6.3nm,0.8s,baz=45,slow=3.6,SNR=18						
AKASG	**Malin Array Be**	**153.02**	**320**	PKPbc	**PKiKP**	**21 24 45.4**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=80,slow=2.4,SNR=4.4						
BRTR	**Keskin Array B**	**153.60**	**295**	PKPbc	**PKiKP**	**21 24 47.8**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=140,slow=3.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**160.65**	**179**	PKPab	**PKPab**	**21 25 31.3**	**+1.7**
	comp=Z,1.7nm,1.1s,baz=185,slow=4.0,SNR=4.7						

IDC 16 21:05:41.8±2.7, 15°.63S×176°.33W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/23, mbtmp3.9/5, Error ellipse: s-maj=173.2km s-min=30.9km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**47.36**	**252**	P	P	21 14 18.0	0.0
	2.1nm,0.7s,baz=85,slow=8.3,SNR=7.0						
NVAR	**Mina Array Bea**	**76.41**	**43**	P	P	21 17 34.0	+0.4
	1.2nm,0.9s,baz=230,slow=5.1,SNR=6.8						
ILAR	**Eielson Array**	**83.24**	**12**	P	P	21 18 09.6	-0.2
	1.3nm,1.2s,baz=224,slow=6.2,SNR=4.6						
PDAR	**Pinedale Array**	**84.34**	**43**	P	P	21 18 15.7	-0.4
	0.9nm,1.0s,baz=242,slow=1.9,SNR=5.3						
YKA	**Yellowknife Ar**	**91.44**	**24**	P	P	21 18 49.8	+0.3
	0.1nm,0.4s,baz=245,slow=3.3,SNR=3.7						
BRTR	**Keskin Array B**	**144.51**	**318**	PKP	PKPbc	21 25 19.2	-0.1
	0.9nm,0.9s,baz=29,slow=3.3,SNR=4.3						

*ISCJB **16** 22:04:05.2±0.2, 55°.65S±0°.04×32°.37W±0°.08, h10km, mb4.9/25, MS4.5/21, Error ellipse: s-maj=7.6km s-min=5.0km az=145.7*

*IDC **16** 22:04:05.7±0.5, 55°.64S×32°.23W, h0km, mb4.8/19, mb1 4.8/20, mb1mx4.7/29, mbtmp4.8/20, ML3.6/1, MS4.5/18, Ms1 4.4/18, ms1mx4.4/19, Error ellipse: s-maj=17.7km s-min=13.1km az=39.0*

*MOS **16** 22:04:05.8±1.8, 55°.56S×32°.32W, h10km, mb4.9/5, Error ellipse: s-maj=21.6km s-min=11.0km az=117.0*

*NEIC **16** 22:04:07.0±2.0, 55°.58S±0°.10×32°.5W±0°.1, h14km±3km, mb5.2/34*

*GCMT **16** 22:04:11.0±0.2, 55°.70S±0°.01×32°.45W±0°.02, h12km±1km, MW5.2/123, Moment Tensor Solution. s57,c70; s123,c185; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.62±.13; Mθθ-1.12±.14; Mϕϕ0.50±.13; Mrθ1.47±.37; Mθϕ6.61±.15; Mϕr0.87±.33; Best double couple: M=6.89300×10^16^ NP1:ϕ=87.00000°, δ82.00000°, λ13.00000°. NP2:ϕ=356.00000°, δ77.00000°, λ172.00000°. Principal axes: T 6.7810, Plg15.0000°, Azm312.0000°; N 0.2210, Plg75.0000°, Azm116.0000°; P -7.0060, Plg4.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 22:04:06.9±0.3, 55°.65S±0°.06×32°.47W±0°.06, h10km, n178, σ19s67/162, mb5.1/32, MS4.5/22, 2C-2D, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**2.69**	**299**	P	**Pn**	**22 04 49.7**	**-0.4**
HOPE						22 05 19.0	
HOPE	**Hope Point**	**2.69**	**299**		**Pn**	**22 04 49.7**	**-0.4**
HOPE					**Sn**	**22 05 19.0**	**-3.7**
EFI	**East Falkland**	**15.64**	**274**	P	**Pn**	**22 07 47.2**	**+0.1**
EFI				pmax	pmax		
	comp=Z,69nm,1.2s						
EFI	**East Falkland**	**15.64**	**274**	Pn	**Pn**	**22 07 47.2**	**+0.1**
PMSA	**Palmer Station**	**17.96**	**227**	P	**P**	**22 08 17.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=76,slow=13,SNR=8.3						
PMSA				LR	LR	22 14 35.2	
	comp=Z,1μm,18.9s,baz=57,slow=35						
PMSA	**Palmer Station**	**17.96**	**227**	P	**Pn**	**22 08 15.6**	**-0.7**
VNA1	**Neumayer--Stat**	**18.37**	**154**	P	**P**	**22 08 22.6**	**+1.3**
VNA3	**Neumayer Olymp**	**18.46**	**157**	P	**Pn**	**22 08 23.3**	**+0.9**
VNA2	**Neumayer--Watz**	**18.77**	**154**	P	**Pn**	**22 08 26.6**	**+0.4**
	baz=308,slow=14						
USHA	**Ushuaia**	**20.38**	**257**	P	Pn	22 08 45.0	-0.5
	comp=Z,23nm,0.8s,baz=106,slow=12,SNR=7.1						
SNAA	**Sanae**	**20.39**	**153**	P	**P**	**22 08 43.7**	**+0.2**
SNAA	**Sanae**	**20.39**	**153**	P	**P**	**22 08 43.4**	**-0.1**
	comp=Z,33nm,1.1s,baz=307,slow=9.3,SNR=64						
SNAA				LR	LR	22 15 03.4	
	comp=Z,2μm,20.3s,baz=316,slow=32						
SNAA	**Sanae**	**20.39**	**153**	P	**P**	**22 08 43.4**	**-0.1**
SNAA				IAmb	IAmb	22 08 57.2	
	comp=Z,201nm,1.4s						
GO10	**Punta Arenas**	**22.40**	**260**	P	**P**	**22 09 04.1**	**-1.2**
GO09	**Cerro Castillo**	**23.89**	**264**	P	**P**	**22 09 17.2**	**-3.2**
GO09				IAmb	IAmb	22 09 40.6	
	comp=Z,110nm,1.2s						
NVL	**N'lazarevskaya**	**24.26**	**146**	*eP*	**P**	**22 09 22.2**	**-1.4**
NVL				*eS*	**S**	**22 13 37.8**	**-4.1**
NVL				pmax	pmax		
	comp=Z,29nm,1.2s						
TRQA	**Tornquist**	**26.47**	**299**	*eP*	**P**	**22 09 44.4**	**+0.4**
TRQA	**Tornquist**	**26.47**	**299**	P	**P**	**22 09 42.7**	**-1.2**
TRQA				IAmb	IAmb	22 09 52.9	
	comp=Z,42nm,1.0s						
PLCA	**Paso Flores**	**29.00**	**285**	*eP*	**P**	**22 10 10.5**	**+3.8**
PLCA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PLCA	**Paso Flores**	**29.00**	**285**	P	**P**	**22 10 07.8**	**+1.1**
	comp=Z,2.7nm,0.8s,baz=162,slow=7.3,SNR=5.7						
PLCA				LR	LR	22 21 36.0	
	comp=Z,866nm,20.9s,baz=154,slow=36						
PLCA	**Paso Flores**	**29.00**	**285**	P	**P**	**22 10 04.2**	**-2.5**
SYO	**Syowa Base**	**33.76**	**142**	*e*P	**P**	**22 10 46.2**	**-1.9**
SYO	**Syowa Base**	**33.76**	**142**	⇓*i*sP	sP	22 10 51.0	-0.1
SYO	**Syowa Base**	**33.76**	**142**	⇓*e*PnPn	PnPn	22 11 55.6	-4.4
SPB	**Sao Paulo**	**33.87**	**335**	P	**P**	**22 10 47.7**	**-1.8**
PTGB	**Pitanga**	**34.08**	**327**	*eP*	**P**	**22 10 53.9**	**+2.5**
PTGB	**Pitanga**	**34.08**	**327**	*eP*	**P**	**22 10 53.9**	**+2.5**
VAO	**Valinhos**	**34.33**	**336**	*eP*	**P**	**22 10 55.5**	**+1.9**
VAO	**Valinhos**	**34.33**	**336**	*eP*	**P**	**22 10 55.5**	**+1.9**
CPUP	**Villa Florida**	**34.41**	**318**	P	**P**	**22 10 53.9**	**-0.2**
CPUP				pmax	pmax		
	comp=Z,45nm,1.0s						
CPUP	**Villa Florida**	**34.41**	**318**	P	**P**	**22 10 54.2**	**+0.1**
	comp=Z,35nm,0.9s,baz=155,slow=8.1,SNR=30						
CPUP				LR	LR	22 24 07.0	
	comp=Z,777nm,20.3s,baz=160,slow=35						
CPUP	**Villa Florida**	**34.41**	**318**	P	**P**	**22 10 53.9**	**-0.2**
CPUP				IAmb	IAmb	22 10 57.4	
	comp=Z,45nm,0.9s						
QSPA	**South Pole Qui**	**34.61**	**180**	P	**P**	**22 10 57.3**	**+1.5**
QSPA				IAmb	IAmb	22 11 05.4	
	comp=Z,40nm,0.9s						
FRTB	**Fartura**	**34.65**	**332**	*eP*	**P**	**22 10 58.6**	**+2.3**
FRTB	**Fartura**	**34.65**	**332**	*eP*	**P**	**22 10 58.6**	**+2.3**
ROC1	**El Roble**	**35.02**	**294**	P	**P**	**22 10 58.0**	**-1.7**
TRCB	**Terra Rica**	**36.06**	**327**	*eP*	**P**	**22 11 10.2**	**+1.8**
TRCB	**Terra Rica**	**36.06**	**327**	*eP*	**P**	**22 11 10.2**	**+1.8**
BB19B	**Bebedouro**	**36.56**	**334**	*eP*	**P**	**22 11 15.3**	**+2.5**
BB19B	**Bebedouro**	**36.56**	**334**	*eP*	**P**	**22 11 15.3**	**+2.5**
GO04	**Tololo Observa**	**37.15**	**297**	P	**P**	**22 11 15.8**	**-2.2**
SJMB	**Sao Joao De Ma**	**37.47**	**346**	*eP*	**P**	**22 11 23.7**	**+3.3**
SJMB	**Sao Joao De Ma**	**37.47**	**346**	*eP*	**P**	**22 11 23.7**	**+3.3**
PMNB	**Patos De Minas**	**38.53**	**338**	*eP*	**P**	**22 11 31.6**	**+2.1**
PMNB	**Patos De Minas**	**38.53**	**338**	*eP*	**P**	**22 11 31.6**	**+2.1**
GO03	**Copiap**	**38.98**	**300**	P	**P**	**22 11 32.6**	**-0.6**
GO03				IAmb	IAmb	22 11 41.3	
	comp=Z,39nm,1.2s						
AQDB	**Aquidauana**	**39.20**	**324**	*eP*	**P**	**22 11 36.0**	**+1.0**
AQDB	**Aquidauana**	**39.20**	**324**	*eP*	**P**	**22 11 36.0**	**+1.0**
GO02	**Mina Guanaco**	**40.71**	**303**	P	**P**	**22 11 47.4**	**-0.5**
GO02				IAmb	IAmb	22 11 56.7	
	comp=Z,61nm,1.0s						
JANB	**Januaria**	**41.52**	**343**	*eP*	**P**	**22 11 54.8**	**+0.5**
JANB	**Januaria**	**41.52**	**343**	*eP*	**P**	**22 11 54.8**	**+0.5**
PP1B	**Ponte de Pedra**	**41.63**	**327**	*eP*	**P**	**22 11 55.8**	**+0.6**
PP1B	**Ponte de Pedra**	**41.63**	**327**	*eP*	**P**	**22 11 55.8**	**+0.6**
BDFB	**Brasilia**	**41.67**	**337**	P	**P**	**22 11 54.8**	**-0.8**
BDFB				pmax	pmax		
	comp=Z,29nm,1.3s						
BDFB	**Brasilia**	**41.67**	**337**	P	**P**	**22 11 56.2**	**+0.6**
	comp=Z,10nm,1.0s,baz=152,slow=5.0,SNR=9.8						
BDFB				LR	LR	22 29 36.3	
	comp=Z,249nm,18.3s,baz=153,slow=37						
BDFB	**Brasilia**	**41.67**	**337**	P	**P**	**22 11 54.8**	**-0.8**
MAW	**Mawson**	**42.21**	**145**	P	**P**	**22 11 59.0**	**-0.3**
MAW				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MAW	**Mawson**	**42.21**	**145**	P	**P**	**22 11 59.2**	**-0.1**
	comp=Z,14nm,0.9s,baz=236,slow=8.0,SNR=12						
MAW				LR	LR	22 27 40.5	
	comp=Z,556nm,20.1s,baz=242,slow=34						
MAW	**Mawson**	**42.21**	**145**	P	**P**	**22 11 59.0**	**-0.3**
ARAG	**Araguaiana, MT**	**42.54**	**332**	*eP*	**P**	**22 12 03.0**	**+0.4**
ARAG	**Araguaiana, MT**	**42.54**	**332**	*eP*	**P**	**22 12 03.0**	**+0.4**
LVC	**Limon Verde**	**42.58**	**306**	P	**P**	**22 12 02.2**	**-1.1**
LVC				pmax	pmax		
	comp=Z,37nm,0.9s						
LVC	**Limon Verde**	**42.58**	**306**	*eP*	**P**	**22 12 06.7**	**+3.5**
LVC	**Limon Verde**	**42.58**	**306**	*eP*	**P**	**22 12 06.7**	**+3.5**
LVC	**Limon Verde**	**42.58**	**306**	P	**P**	**22 12 02.2**	**-1.1**
LVC				IAmb	IAmb	22 12 13.7	
	comp=Z,37nm,0.8s						
SUR	**Sutherland**	**43.46**	**80**	P	**P**	**22 12 10.0**	**-0.2**
	comp=Z,9.6nm,1.1s,baz=222,slow=12,SNR=2.3						
NBLA	**Lagarto - SE**	**44.74**	**353**	*eP*	**P**	**22 12 19.3**	**-1.0**
NBLA	**Lagarto - SE**	**44.74**	**353**	*eP*	**P**	**22 12 19.3**	**-1.0**
NBPN	**Ponto Novo - B**	**45.10**	**349**	*eP*	**P**	**22 12 23.1**	**-0.1**
NBPN	**Ponto Novo - B**	**45.10**	**349**	*eP*	**P**	**22 12 23.1**	**-0.1**
SIV	**San Ignacio**	**45.23**	**320**	LR	LR	22 31 07.4	
	comp=Z,502nm,20.0s,baz=164,slow=36						
NBAN	**Anadia - AL**	**45.96**	**355**	*eP*	**P**	**22 12 28.4**	**-1.5**
NBAN	**Anadia - AL**	**45.96**	**355**	*eP*	**P**	**22 12 28.4**	**-1.5**
NBTA	**Tacaratu-PE**	**46.61**	**352**	*eP*	**P**	**22 12 37.8**	**+2.7**
NBTA	**Tacaratu-PE**	**46.61**	**352**	*eP*	**P**	**22 12 37.8**	**+2.7**
VNDA	**Vanda**	**46.80**	**184**	P	**P**	**22 12 37.3**	**+1.4**
VNDA				pmax	pmax		
	comp=Z,21nm,1.7s						
VNDA	**Vanda**	**46.80**	**184**	P	**P**	**22 12 37.0**	**+1.1**
	comp=Z,3.4nm,0.9s,baz=190,slow=6.8,SNR=8.2						
VNDA				LR	LR	22 32 56.1	
	comp=Z,181nm,18.3s,baz=166,slow=37						
VNDA	**Vanda**	**46.80**	**184**	P	**P**	**22 12 37.3**	**+1.4**
LPAZ	**La Paz**	**47.78**	**311**	P	**P**	**22 12 45.6**	**+0.7**
	comp=Z,30nm,0.8s,baz=173,slow=6.2,SNR=50						
LPAZ				LR	LR	22 35 29.5	
	comp=Z,236nm,18.1s,baz=154,slow=39						
LPAZ	**La Paz**	**47.78**	**311**	*eP*	**P**	**22 12 46.3**	**+1.4**
LPAZ	**La Paz**	**47.78**	**311**	*eP*	**P**	**22 12 46.3**	**+1.4**
LPAZ	**La Paz**	**47.78**	**311**	P	**P**	**22 12 44.6**	**-0.3**
LPAZ				PcP	**PcP**	**22 14 09.9**	**-4.0**
SMTB	**Santa Maria do**	**48.17**	**340**	*eP*	**P**	**22 12 48.5**	**+1.3**
SMTB	**Santa Maria do**	**48.17**	**340**	*eP*	**P**	**22 12 48.5**	**+1.3**
NBLI	**Livramento-PB**	**48.28**	**354**	*eP*	**P**	**22 12 48.5**	**+0.4**
NBLI	**Livramento-PB**	**48.28**	**354**	*eP*	**P**	**22 12 48.5**	**+0.4**
NBMA	**Muriti-CE**	**48.41**	**352**	*eP*	**P**	**22 12 49.4**	**+0.3**
NBMA	**Muriti-CE**	**48.41**	**352**	*eP*	**P**	**22 12 49.4**	**+0.3**
BOSA	**Boshof**	**48.81**	**81**	P	**P**	**22 12 51.6**	**-0.6**
BOSA				pmax	pmax		
	comp=Z,24nm,1.2s						
BOSA	**Boshof**	**48.81**	**81**	P	**P**	**22 12 51.6**	**-0.6**
	comp=Z,6.2nm,1.0s,baz=213,slow=8.0,SNR=4.0						
BOSA				LR	LR	22 30 50.0	
	comp=Z,388nm,18.5s,baz=220,slow=33						
BOSA	**Boshof**	**48.81**	**81**	IAmb	IAmb	22 12 60.0	
	comp=Z,24nm,1.1s						
H10N3	**ASCENSION HYDR**	**49.77**	**24**	T	T	23 06 38.4	
	baz=193,slow=75,SNR=336						
H10N1	**ASCENSION HYDR**	**49.77**	**24**	T	T	23 06 33.5	
	baz=193,slow=75,SNR=330						
H10N2	**ASCENSION HYDR**	**49.78**

comp=Z,307nm,18.1s,baz=266,slow=34
JTS Las Juntas de 78.84 307 *i* P **P 22 16 11.0 +1.0**
JTS pmax pmax
comp=Z,8.0nm,1.0s
LTZ Lake Taylor 79.72 198 **PcP 22 16 22.8 +0.5**
TAM Tamanrasset 84.55 35 P **P 22 16 38.9 -1.2**
TAM pmax pmax
comp=Z,9.0nm,1.0s
TAM Tamanrasset 84.55 35 P **P 22 16 38.9 -1.2**
TAM IAmb IAmb 22 16 50.3
comp=Z,9.3nm,1.0s
TBI Tubuai 84.94 235 *e*LR LR 22 43 15.4
comp=Z,359nm,30.5s
OUZ Omahuta 86.79 201 P **P 22 16 50.6 -0.5**
TEIG Tepich 89.08 309 P **P 22 17 04.8 +2.8**
comp=Z,10nm,0.6s,baz=140,slow=2.7,SNR=7.4
TEIG Tepich 89.08 309 P **P 22 17 02.2 +0.2**
PPT2 Papeete2 89.94 238 *e*S **S 22 27 58.4 -0.7**
comp=Z,107nm,28.2s
PPT2 Papeete2 89.94 238 *e*LR LR 22 45 37.3
comp=Z,353nm,25.0s
PPT Papeete 89.96 238 LR LR 22 49 45.4
comp=Z,106nm,18.9s,baz=182,slow=30
STKA Stephens Creek 92.68 175 LR LR 22 56 39.7
comp=Z,297nm,20.5s,baz=190,slow=34
KEST Kesra 97.77 33 LR LR 22 57 39.0
comp=Z,649nm,19.1s,baz=206,slow=33
ESDC Sonseca Array 98.01 22 P Pdif 22 17 43.2 +0.5
comp=Z,0.5nm,0.8s,baz=182,slow=5.4,SNR=3.0
ESDC LR LR 22 58 04.1
comp=Z,202nm,18.3s,baz=160,slow=33
ASAR Alice Springs 100.16 167 P **Pdif 22 17 51.8 -1.2**
comp=Z,0.4nm,0.7s,baz=174,slow=3.4,SNR=3.5
ASAR PP PP 22 21 49.2 -8.3
comp=Z,0.4nm,0.9s,baz=181,slow=7.4,SNR=3.8
COCO West Island 100.27 130 *i* P **Pdif 22 17 56.8 +3.4**
DZM Mont Dzumac 100.94 198 *e*LR LR 22 51 02.7
comp=Z,604nm,24.5s
BRTR Keskin Array B 110.32 49 PP PP **22 23 14.9 +0.9**
comp=Z,0.6nm,0.9s,baz=171,slow=10,SNR=3.1
PDAR Pinedale Array 117.65 306 PP PP 22 24 09.2 +3.1
comp=Z,0.3nm,0.8s,baz=116,slow=4.1,SNR=2.9
VSR Storozhevoye 121.88 45 *i* PKIKP **PKiKP 22 23 01.8 +1.6**
OBN Obninsk 123.90 40⇑ *e*PKIKP **PKiKP 22 23 06.2 +2.2**
OBN pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 125.47 30 *e*PKIKP **PKiKP 22 23 07.3 +0.3**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 125.47 30 PKP **PKPdf 22 23 05.6 -1.0**
comp=Z,2.0nm,0.7s,baz=222,slow=1.9,SNR=7.2
CMAR Chiang Mai Arr 127.97 115 PKP **PKPdf 22 23 12.7 -0.1**
comp=Z,0.5nm,0.4s,baz=236,slow=4.3,SNR=4.8
ABKAR Akbulak array 129.64 58 PKPdf **PKPdf 22 23 12.5 -2.5**
KSH Kashi 131.36 78 *e*PKP **PKiKP 22 23 22.6 +2.9**
ARCES ARCESS Array B 131.72 24 PKhKP PKPpre 22 23 14.3
comp=Z,3.4nm,0.8s,baz=259,slow=1.4,SNR=3.3
AAK Ala-Archa 132.69 74 *i* PKIKP **PKPdf 22 23 20.7 -0.5**
ARU Arti 133.68 50 *i* PKIKP **PKiKP 22 23 24.2 +0.6**
ARU 22 25 54.7
ARU SS SS 22 43 31.5 -7.0
YKA Yellowknife Ar 133.91 320 PKP **PKPdf 22 23 21.6 -1.0**
comp=Z,0.5nm,0.7s,baz=140,slow=2.1,SNR=2.3
YKA PP **PP 22 25 46.3 -7.5**
comp=Z,0.4nm,0.9s,baz=122,slow=6.8,SNR=4.5
RES Resolute Bay 136.42 340 PKP **PKPdf 22 23 26.9 -0.1**
comp=Z,0.9nm,0.9s,baz=153,slow=2.3,SNR=2.1
BRVK Borovoye 137.08 60 *i* PKIKP **PKPdf 22 23 29.3 +0.5**
MKAR Makanchi Array 139.61 74 *e*PKIKP **PKPdf 22 23 33.6 -0.2**
MKAR Makanchi Array 139.61 74 PKhKP PKPpre 22 23 28.8
comp=Z,0.4nm,0.8s,baz=341,slow=0.4,SNR=3.0
MKAR PKP **PKPdf 22 23 33.4 -0.4**
comp=Z,0.2nm,0.4s,baz=250,slow=2.0,SNR=4.2
KURK Kurchatov 139.96 67 *i* PKIKP **PKPdf 22 23 34.0 -0.2**
CD2 Chengdu 140.62 110 PKP **PKPdf 22 23 37.0 +0.9**
WMQ Urumqi 140.77 82 *e*PKP **PKiKP 22 23 37.5 -1.1**
WMQ LR LR
comp=Z,430nm,29.3s
INK Inuvik 143.62 322 PKhKP PKPpre 22 23 37.2
comp=Z,2.3nm,0.7s,baz=138,slow=3.3,SNR=5.0
LZH Lanzhou 144.60 105 *e*PKP PKPbc 22 23 42.3 +0.3
LZH pPKP PKiKP 22 23 52.8 +5.9
LZH LR LR
comp=Z,180nm,18.3s
LZH LR LR
comp=Z,250nm,20.0s
GTA Gaotai 144.72 97 *e*PKP **PKPab 22 23 41.8 -0.3**
ZAA0 Zalesovo Array 144.90 66 **PKPab 22 23 41.6 -0.4**
ZALV Zalesovo Beam 144.90 66 PKIKP **PKPab 22 23 41.0 -1.1**
ZALV Zalesovo Beam 144.90 66 PKP **PKPab 22 23 41.0 -1.1**
comp=Z,9.3nm,0.9s,baz=259,slow=3.0,SNR=21
WHN Wuhan 145.68 123 PKPbc **PKiKP 22 23 54.0 +5.0**
XAN Xi'an 145.78 113 PKPbc **PKPab 22 23 47.3 +1.3**
SCRK Sand Creek 146.20 312 **PKPdf 22 23 43.7 -1.3**
ILAR Eielson Array 147.64 313 PKPbc **PKPbc 22 23 49.8 -0.2**
comp=Z,3.6nm,0.8s,baz=113,slow=1.5,SNR=16
KDAK Kodiak Island 147.99 299 PKIKP **PKPdf 22 23 49.3 +1.3**
KDAK Kodiak Island 147.99 299 PKPbc **PKPbc 22 23 51.5 +0.4**
comp=Z,14nm,1.1s,baz=123,slow=6.5,SNR=2.0
KDAK Kodiak Island 147.99 299 **PKPdf 22 23 49.3 +1.3**
WRH Wood River Hil 148.06 312 **PKPdf 22 23 47.9 0.0**
NJ2 Nanjing 149.03 128 *e*PKPbc **PKPbc 22 23 52.9 -1.7**
MLY Manley 149.30 313 **PKPdf 22 23 49.9 -0.1**
HHC Hu-ho-hao-te 152.23 107 *e*PKPbc **PKPdf 22 23 53.6 -1.8**
SONM Songino Array 153.69 90 PKPbc **PKiKP 22 24 05.5 +0.3**
comp=Z,1.3nm,0.9s,baz=224,slow=3.1,SNR=6.0

ISCJB ***16*** *23:00:30.7±0.4, 35˚65N±0˚03×6˚82W±0˚04, h35km, Error ellipse: s-maj=5.0km s-min=3.1km az=146.4*
MDD ***16*** *23:00:32.6±1.3, 35˚83N×6˚87W, h0km, mbLg1.7/12, Error ellipse: s-maj=12.4km s-min=6.6km az=5.0, PRXIMO*
IGIL ***16*** *23:00:32.7, 35˚56N×6˚91W, h32km, ML1.8*
CNRM ***16*** *23:00:33.6, 35˚35N×6˚88W, h22km, ml2.8*
INMG ***16*** *23:00:33.3±1.0, 35˚57N×6˚92W, h31km, ML1.9, Error ellipse: s-maj=4.1km s-min=2.8km az=60.0*
ISC 16 23:00:31.4±1.2, 35˚61N±0˚03×6˚87W±0˚04, h35km, n43, σ1§30/78, 2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ESPR	**Espera**	**1.50**	**33**	P		**Pn**	**23 00 55.9**	**+0.1**
	0.3nm,0.1s,SNR=7.9							
ESPR				S		**Sn**	**23 01 16.0**	**+1.9**
	4.9nm,0.3s,SNR=7.9							
PBDV	**Barranco-do-Ve**	**1.84**	**332**	⇓ *e*P		**Pn**	**23 01 01.3**	**+0.8**
PBDV				*e*S		**Sn**	**23 01 22.3**	**-0.3**
PBDV				A		A	23 01 24.3	
	7.4nm,0.7s							
PBDV	**Barranco-do-Ve**	**1.84**	**332**	P		**Pn**	**23 01 01.3**	**+0.8**
PBDV				S		**Sn**	**23 01 22.3**	**-0.3**
	7.4nm,0.7s							
PVAQ	**Vaqueiros**	**1.92**	**339**	*e*P		**Pn**	**23 01 02.4**	**+0.9**
PVAQ				*e*S		**Sn**	**23 01 24.3**	**-0.1**
PVAQ				A		A	23 01 30.1	
	4.3nm,0.8s							
PVAQ	**Vaqueiros**	**1.92**	**339**	P		Pn	23 01 07.7	+6.2
PVAQ				S		Sn	23 01 35.3	+11
PVAQ	**Vaqueiros**	**1.92**	**339**	P		**Pn**	**23 01 02.4**	**+0.9**
PVAQ				S		**Sn**	**23 01 24.3**	**-0.1**
	4.3nm,0.8s							
EGRO	**El Granado**	**1.98**	**346**	P		**Pn**	**23 01 03.7**	**+1.2**
	0.8nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**23 01 26.0**	**0.0**
	1.8nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**2.16**	**4**	P		**Pn**	**23 01 06.1**	**+1.3**
	0.7nm,0.1s,SNR=9.3							
EMIN				S		**Sn**	**23 01 30.2**	**-0.1**
	2.1nm,0.1s,SNR=8.0							
PFVI	**Vila Bisbo**	**2.19**	**314**	⇓ *e*P		**Pn**	**23 01 05.8**	**+0.5**
PFVI				*e*S		**Sn**	**23 01 31.4**	**+0.2**
PFVI	**Vila Bisbo**	**2.19**	**314**	S		**Sn**	**23 01 31.4**	**+0.2**
	3.4nm,0.1s,SNR=4.0							
MORF	**Marmelete**	**2.22**	**320**	*e*P		**Pn**	**23 01 06.4**	**+0.7**
MORF	**Marmelete**	**2.22**	**320**	*e*P		**Pn**	**23 01 06.5**	**+0.7**
MORF				*e*S		**Sn**	**23 01 32.7**	**+0.7**
MORF				A		A	23 01 34.6	
	5.1nm,1.0s							
MORF	**Marmelete**	**2.22**	**320**	P		**Pn**	**23 01 06.5**	**+0.7**
MORF				S		**Sn**	**23 01 32.7**	**+0.7**
	5.1nm,1.0s							
PCVE	**Castro Verde**	**2.23**	**335**	*e*P		**Pn**	**23 01 06.8**	**+1.0**
PCVE				*e*S		**Sn**	**23 01 31.9**	**-0.2**
PCVE				A		A	23 01 36.3	
	2.4nm,1.0s							
PCVE	**Castro Verde**	**2.23**	**335**	P		**Pn**	**23 01 06.8**	**+1.0**
PCVE				S		**Sn**	**23 01 31.9**	**-0.2**
	2.4nm,1.0s							
PTEO	**Sao Teotonio**	**2.44**	**323**	*e*P		**Pn**	**23 01 09.3**	**+0.6**
PTEO				*e*S		**Sn**	**23 01 37.0**	**-0.4**
PTEO	**Sao Teotonio**	**2.44**	**323**	P		**Pn**	**23 01 09.3**	**+0.6**
PTEO				S		**Sn**	**23 01 37.0**	**-0.4**
MESJ	**Messejana**	**2.48**	**334**	*e*P		**Pn**	**23 01 10.1**	**+0.9**
MESJ				*e*S		**Sn**	**23 01 37.3**	**-0.9**
MESJ				AML		AML	23 01 41.8	
	comp=N,4.1nm,0.4s							
MESJ	**Messejana**	**2.48**	**334**	P		**Pn**	**23 01 10.1**	**+0.9**
MESJ				S		**Sn**	**23 01 37.3**	**-0.9**
	comp=N,4.1nm,0.4s							
PBEJ	**Beja**	**2.54**	**342**	*e*P		**Pn**	**23 01 11.1**	**+1.0**
PBEJ				*e*S		**Sn**	**23 01 39.7**	**-0.1**
PBEJ	**Beja**	**2.54**	**342**	P		**Pn**	**23 01 11.1**	**+1.0**
PBEJ				S		**Sn**	**23 01 39.7**	**-0.1**
PBAR	**Barrancos**	**2.56**	**357**	*e*S		**Sn**	**23 01 39.8**	**-0.6**
PBAR	**Barrancos**	**2.56**	**357**	S		**Sn**	**23 01 39.8**	**-0.6**
ECAB	**El Cabril**	**2.72**	**25**	S		**Sn**	**23 01 42.9**	**-1.4**
	comp=N,0.5nm,0.0s,SNR=6.8							
PNCL	**Nicolau / Gran**	**2.83**	**332**	*e*P		**Pn**	**23 01 14.8**	**+0.7**
PNCL				*e*S		**Sn**	**23 01 46.6**	**-0.3**
PNCL				A		A	23 01 51.6	
	comp=N,3.3nm,0.7s							
PNCL	**Nicolau / Gran**	**2.83**	**332**	P		**Pn**	**23 01 14.8**	**+0.7**
PNCL				S		**Sn**	**23 01 46.6**	**-0.3**
	comp=N,3.3nm,0.7s							
EVO	**Evora**	**3.06**	**343**	*e*P		**Pn**	**23 01 18.4**	**+1.2**
EVO				*e*S		**Sn**	**23 01 51.9**	**-0.6**
EVO	**Evora**	**3.06**	**343**	P		**Pn**	**23 01 18.4**	**+1.2**
EVO				S		**Sn**	**23 01 51.9**	**-0.6**
EBAD	**Badajoz**	**3.14**	**358**	P		**Pn**	**23 01 19.6**	**+1.3**
	comp=N,0.6nm,0.1s,SNR=9.2							
EBAD				S		**Sn**	**23 01 52.5**	**-2.1**
	comp=N,1.2nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**3.14**	**35**	P		**Pn**	**23 01 20.4**	**+2.0**
	comp=N,0.2nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**23 01 53.1**	**-1.6**
	comp=N,0.8nm,0.0s,SNR=7.9							
MD31	**MD31**	**3.25**	**147**	P		**Pn**	**23 01 20.5**	**+0.6**
MD31				S		**Sn**	**23 01 57.1**	**-0.3**
MDT	**Midelt**	**3.36**	**146**	P		**Pn**	**23 01 21.9**	**+0.4**
MDT				S		**Sn**	**23 01 59.9**	**-0.3**
PMTG	**Montargil**	**3.62**	**343**	*e*P		**Pn**	**23 01 22.6**	**-2.3**
PMTG				*e*S		**Sn**	**23 02 02.5**	**-3.9**
PMTG	**Montargil**	**3.62**	**343**	P		**Pn**	**23 01 22.6**	**-2.3**
PMTG				S		**Sn**	**23 02 02.5**	**-3.9**
EQES	**Quesada**	**3.75**	**53**	P		**Pn**	**23 01 28.9**	**+2.0**
	comp=N,0.1nm,0.1s,SNR=4.0							
EQES				S		**Sn**	**23 02 10.6**	**+0.7**
	comp=N,0.2nm,0.1s,SNR=7.9							
PMRV	**Marv??o**	**3.83**	**354**	*e*P		**Pn**	**23 01 29.2**	**+1.3**
PMRV				*e*S		**Sn**	**23 02 10.6**	**-1.1**
PMRV				A		A	23 02 11.4	
	comp=N,4.5nm,0.7s							
PMRV	**Marv??o**	**3.83**	**354**	P		**Pn**	**23 01 29.2**	**+1.3**
PMRV				S		**Sn**	**23 02 10.6**	**-1.1**
	comp=N,4.5nm,0.7s							
TISM	**Timmit**	**3.90**	**175**	P		**Pn**	**23 01 29.5**	**+0.7**
TISM				S		**Sn**	**23 02 11.6**	**-1.6**
PCBR	**Castelo Branco**	**4.25**	**354**	*e*P		**Pn**	**23 01 34.9**	**+1.3**
PCBR				*e*S		**Sn**	**23 02 20.6**	**-1.3**
PCBR	**Castelo Branco**	**4.25**	**354**	P		**Pn**	**23 01 34.9**	**+1.3**
PCBR				S		**Sn**	**23 02 20.6**	**-1.3**
SESP	**Santiago Espad**	**4.27**	**53**	P		**Pn**	**23 01 35.6**	**+1.5**
	comp=N,0.2nm,0.1s,SNR=4.0							
SESP				S		**Sn**	**23 02 21.4**	**-1.4**
	comp=N,0.7nm,0.1s,SNR=4.0							
PAB	**San Pablo**	**4.41**	**26**	S		**Sn**	**23 02 23.1**	**-2.9**
	comp=N,0.5nm,0.3s,SNR=4.0							
ETOB	**Tobarra**	**5.22**	**53**	P		**Pn**	**23 01 48.1**	**+1.2**
	comp=N,0.5nm,0.1s,SNR=12							
ETOB				S		**Sn**	**23 02 42.6**	**-3.3**
	comp=N,0.4nm,0.2s,SNR=4.0							

IDC 16 23:09:22.5±1.8, 60˚29S×48˚31W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.6/22, mbtmp4.1/3, MS3.3/6, Ms1 3.3/6, ms1mx3.0/20, Error ellipse: s-maj=69.3km s-min=34.8km az=90.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**8.54**	**232**	LR		LR	23 14 21.2	
	comp=Z,135nm,19.8s,baz=56,slow=35							
SNAA	**Sanae**	**21.08**	**141**	P		P	23 14 07.7	-0.3
	7.1nm,0.9s,baz=286,slow=9.9,SNR=27							
PLCA	**Paso Flores**	**23.93**	**315**	LR		LR	23 22 43.5	
	comp=Z,59nm,18.7s,baz=172,slow=34							
QSPA	**South Pole Qui**	**29.95**	**180**	P		P	23 15 32.3	+0.2
	2.7nm,0.9s,baz=160,slow=7.0,SNR=6.2							
VNDA	**Vanda**	**41.18**	**190**	LR		LR	23 37 09.5	
	comp=Z,42nm,18.1s,baz=169,slow=40							
MAW	**Mawson**	**42.95**	**148**	LR		LR	23 34 59.5	
	comp=Z,55nm,18.0s,baz=238,slow=36							
SIV	**San Ignacio**	**45.20**	**343**	LR		LR	23 34 47.4	
	comp=Z,26nm,21.5s,baz=108,slow=34							
SUR	**Sutherland**	**52.24**	**90**	LR		LR	23 36 40.1	
	comp=Z,40nm,19.3s,baz=258,slow=31							
H10N3	**ASCENSION HYDR**	**58.16**	**40**	T		T	00 22 14.2	
	baz=199,slow=75,SNR=7.2							
H10N1	**ASCENSION HYDR**	**58.16**	**40**	T		T	00 22 16.0	
	baz=199,slow=75,SNR=5.8							
H10N2	**ASCENSION HYDR**	**58.17**	**40**	T		T	00 22 16.5	
	baz=199,slow=75,SNR=7.8							
TORD	**Torodi Ar. Bea**	**83.34**	**49**	P		P	23 21 51.1	0.0
	0.8nm,0.9s,baz=203,slow=4.1,SNR=3.9							
ILAR	**Eielson Array**	**144.61**	**313**	PKP		PKPab	23 28 58.0	+0.1
	0.4nm,0.5s,baz=151,slow=1.3,SNR=7.9							
MKAR	**Makanchi Array**	**148.51**	**93**	PKPbc		PKPbc	23 29 09.9	-0.2
	0.5nm,0.5s,baz=243,slow=2.6,SNR=3.5							

SOME ***16*** *23:24:19.7, 40˚78N×78˚30E, h0km*
NNC ***16*** *23:24:20.6±1.3, 40˚67N×78˚28E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=9.1km s-min=5.9km az=160.0*
KRNET ***16*** *23:24:22.2±0.1, 40˚73N×78˚19E, h17km, mb3.4*
ISC 16 23:24:23.8±1.8, 40˚80N±0˚08×78˚29E±0˚05, h10km, n61, σ1§27/96, 23C-17D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.00**	**339**	⇓ *i*P		**Pg**	**23 24 41.8**	**-1.2**
	baz=44							
TARG				⇓ *i*S		**Sb**	**23 24 56.7**	**-0.1**
	baz=44							
KDJ	**Kajisay**	**1.57**	**328**	⇓ *i*P		**Pb**	**23 24 52.1**	**-0.9**
	baz=32							
KDJ				⇓ *i*S		**Sb**	**23 25 13.8**	**+0.8**
	baz=32							
PRZ	**Przheval'sk**	**1.69**	**3**	⇑ *i*P		**Pb**	**23 24 54.8**	**-0.2**
	baz=6.0							
PRZ				⇑ *i*S		**Sg**	**23 25 18.4**	**+0.4**
	baz=6.0							
NRN	**Naryn**	**1.84**	**291**	⇑ *i*P		**Pn**	**23 24 55.7**	**-0.1**
	baz=93							
NRN				⇑ *i*S		**Sb**	**23 25 20.1**	**-0.9**
	baz=93							
ANVS	**Anan'yevo**	**2.04**	**347**	⇑ *e*P		**Pb**	**23 25 00.4**	**-0.6**
	baz=49							
ANVS				⇑ *i*S		**Sg**	**23 25 28.4**	**-0.8**
	baz=49							
ULHL	**Ulahol**	**2.11**	**314**	⇑ *i*P		**Pb**	**23 25 00.4**	**-1.8**
	baz=17							
ULHL				⇑ *i*S		**Sb**	**23 25 28.5**	**-0.1**
	baz=17							
ULHL	**Ulahol**	**2.11**	**314**	P		**Pb**	**23 25 01.5**	**-0.7**
	SNR=19							
SATY	**Saty**	**2.26**	**2**	*e*P		**Pb**	**23 25 04.8**	**0.0**
	88nm,0.5s							
SATY				*e*S		**Sg**	**23 25 37.8**	**+1.4**
	47nm,0.7s							
SATY	**Saty**	**2.26**	**2**	Pg		**Pb**	**23 25 04.8**	**0.0**
	88nm,0.5s							
SATY				Pg		**Pg**	**23 25 06.2**	**-0.9**
	87nm,0.5s							
SATY				Lg		Lg	23 25 37.8	
	47nm,0.7s							
SATY				Lg		Lg	23 25 39.3	
	47nm,0.4s							
ZHN	**Zhinishke**	**2.37**	**3**	*e*P		**Pg**	**23 25 07.6**	**-1.6**
	32nm,0.2s							
ZHN				*e*S		**Sg**	**23 25 41.9**	**+2.0**
	12nm,0.3s							
UZB	**Uzynbulak**	**2.41**	**13**	*e*P		**Pb**	**23 25 07.1**	**-0.2**
	3.4nm,0.5s							
UZB				*e*S		**Sg**	**23 25 41.0**	**-0.2**
	18nm,0.7s							
UZB	**Uzynbulak**	**2.41**	**13**	Pg		**Pb**	**23 25 07.1**	**-0.2**
	3.4nm,0.5s							
UZB				Lg		Lg	23 25 41.0	
	18nm,0.7s							
BOOM	**Boomskoye usch**	**2.44**	**315**	⇓ *i*P		**Pb**	**23 25 05.2**	**-2.6**
	baz=17							
BOOM				⇓ *e*S		**Sb**	**23 25 36.6**	**-1.4**
	baz=17							
TNSS	**Tian-Shan**	**2.45**	**336**	*e*P		**Pb**	**23 25 08.2**	**+0.1**
	40nm,0.8s							
TNSS				*e*S		**Sg**	**23 25 43.0**	**+0.5**
	47nm,0.6s							
TNSS	**Tian-Shan**	**2.45**	**336**	Pg		**Pb**	**23 25 08.2**	**+0.1**
	40nm,0.8s							
TNSS				Lg		Lg	23 25 44.1	
	47nm,0.6s							
MDOK	**Medeo**	**2.54**	**339**	Pg		**Pb**	**23 25 09.2**	**-0.3**
	22nm,0.6s							
MDOK				Lg		Lg	23 25 43.9	
	34nm,0.6s							
IZV	**Izvestkoviy**	**2.56**	**331**	*e*P		**Pb**	**23 25 09.8**	**-0.1**
	11nm,0.2s							
IZV				*e*S		**Sg**	**23 25 45.6**	**-0.5**
	61nm,0.4s							
KOTS	**Kotyrbulak**	**2.59**	**341**	*e*P		**Pb**	**23 25 10.7**	**+0.4**
	34nm,0.5s							
KOTS				*e*S		**Sg**	**23 25 47.4**	**+0.5**
	60nm,0.5s							
KOTS	**Kotyrbulak**	**2.59**	**341**	Pg		**Pb**	**23 25 10.7**	**+0.4**
	34nm,0.5s							
KOTS				Lg		Lg	23 25 47.4	
	60nm,0.5s							
KZA	**Kyzart**	**2.62**	**300**	⇓ *i*P		**Pn**	**23 25 07.3**	**+0.8**
	baz=2.0							
KZA				⇓ *i*S		**Sn**	**23 25 40.5**	**+2.0**
	baz=2.0							
KZA	**Kyzart**	**2.62**	**300**	P		**Pb**	**23 25 11.3**	**+0.3**
	SNR=22							
KPKS	**Kokpek**	**2.68**	**6**	*e*P		**Pb**	**23 25 12.4**	**+0.5**
	28nm,0.5s							
KPKS				*e*S		**Sg**	**23 25 50.3**	**+0.4**
	101nm,0.7s							
PDGK	**Podgornoye**	**2.68**	**19**	Pg		**Pb**	**23 25 10.5**	**-1.4**
	4.5nm,0.6s							
PDGK				Pg		**Pg**	**23 25 10.6**	**-1.4**
	3.1nm,0.7s							
PDGK				Lg		Lg	23 25 47.5	
	19nm,0.7s							
PDGK				Lg		Lg	23 25 47.9	
	20nm,0.6s							
PDGK	**Podgornoye**	**2.68**	**19**	⇑ Pg		**Pb**	**23 25 10.4**	**-1.6**
	5.6nm,0.4s							
PDGK				⇑ Lg		Lg	23 25 45.6	
	40nm,0.7s							
KURS	**Kuram**	**2.69**	**358**	*e*P		**Pb**	**23 25 12.7**	**+0.7**
	14nm,0.8s							
KURS				*e*S		**Sg**	**23 25 51.0**	**+0.9**
	35nm,0.8s							
KURS	**Kuram**	**2.69**	**358**	Pg		**Pb**	**23 25 12.7**	**+0.7**
	14nm,0.8s							
KURS				Lg		Lg	23 25 51.0	
	35nm,0.8s							
MTBS	**Maitube**	**2.71**	**330**	*e*P		**Pb**	**23 25 12.3**	**-0.1**
	9.6nm,0.3s							
MTBS				*e*S		**Sg**	**23 25 50.2**	**-0.7**
	20nm,0.4s							
MTBS	**Maitube**	**2.71**	**330**	Pg		**Pb**	**23 25 12.3**	**-0.1**
	9.6nm,0.3s							
MTBS				Lg		Lg	23 25 50.2	
	20nm,0.4s							
KST	**Kastek**	**2.83**	**323**	*e*P		**Pb**	**23 25 14.6**	**+0.1**
	20nm,0.7s							
KST				*e*S		**Sg**	**23 25 54.3**	**-0.5**
	44nm,1.0s							
KST	**Kastek**	**2.83**	**323**	Pg		**Pb**	**23 25 14.6**	**+0.1**
	20nm,0.7s							
KST				Lg		Lg	23 25 54.3	
	44nm,1.0s							
TKM2	**Tokmak 2**	**2.92**	**317**	⇓ *i*P		**Pn**	**23 25 11.9**	**+1.4**
	baz=19							
TKM2				⇓ *i*S		**Sn**	**23 25 48.2**	**+2.4**
	baz=19							
TKM2	**Tokmak 2**	**2.92**	**317**	⇑ Pg		**Pb**	**23 25 13.5**	**-2.5**
	4.5nm,0.5s							
TKM2				⇓ Lg		Lg	23 25 54.9	
	24nm,0.6s							
DGS	**Degeres**	**3.08**	**323**	*e*P		**Pb**	**23 25 19.0**	**+0.3**
	12nm,0.6s							
DGS				*e*S		**Sg**	**23 26 01.6**	**-1.1**
	33nm,0.8s							
DGS	**Degeres**	**3.08**	**323**	Pg		**Pb**	**23 25 19.0**	**+0.3**
	12nm,0.6s							
DGS				Lg		Lg	23 26 01.6	
	33nm,0.8s							
KBK	**Karagaybulak**	**3.11**	**308**	⇑ *i*P		**Pn**	**23 25 14.4**	**+1.3**
	baz=9.0							
KBK				⇑ *i*S		**Sn**	**23 25 52.4**	**+1.9**
	baz=9.0							
KBK	**Karagaybulak**	**3.11**	**308**	P		**Pb**	**23 25 19.6**	**+0.2**
	SNR=14							
KTBS	**Karatobe**	**3.15**	**338**	*e*P		**Pb**	**23 25 20.0**	**+0.2**
	15nm,0.6s							
KTBS				*e*S		**Sg**	**23 26 03.3**	**-1.5**
	30nm,0.5s							
KTBS	**Karatobe**	**3.15**	**338**	Pg		**Pb**	**23 25 20.0**	**+0.2**
	15nm,0.6s							
KTBS				Lg		Lg	23 26 03.3	
	30nm,0.5s							
ARLS	**Aral**	**3.17**	**291**	⇑ *e*P		**Pn**	**23 25 14.6**	**+0.7**
	baz=93							
ARLS				⇑ *e*S		**Sn**	**23 25 52.8**	**+1.0**
	baz=93							
UCH	**Uchtor**	**3.17**	**298**	⇑ *i*P		**Pn**	**23 25 15.1**	**+0.9**
	baz=0.0							
UCH				⇑ *i*S		**Sn**	**23 25 53.6**	**+1.3**
	baz=0.0							
UCH	**Uchtor**	**3.17**	**298**	P		**Pb**	**23 25 20.4**	**-0.1**
	SNR=8.5							
AAK	**Ala-Archa**	**3.38**

EKS2	**Erkin-Say**	**3.85**	**300**	⇓*i*P		**Pn**	**23**	**25**	**24.5**	**+1.3**
	baz=2.0									
EKS2				⇓*i*S		**Sn**	**23**	**26**	**09.5**	**+0.8**
	baz=2.0									
EKS2	**Erkin-Say**	**3.85**	**300**	P		**Pb**	**23**	**25**	**33.9**	**+1.9**
	SNR=8.7									
MRKS	**Merke**	**4.26**	**299**	*e*P		**Pb**	**23**	**25**	**39.6**	**+0.8**
	4.1nm,0.7s									
MRKS				*e*S		**Sg**	**23**	**26**	**37.0**	**-3.4**
	4.7nm,0.7s									
MRKS	**Merke**	**4.26**	**299**	Pg		**Pb**	**23**	**25**	**39.6**	**+0.8**
	4.1nm,0.7s									
MRKS				Lg		Lg	23	26	37.0	
	4.7nm,0.7s									
KAPS	**Kapalarasan**	**4.55**	**10**	*e*P		**Pg**	**23**	**25**	**47.5**	**-3.4**
	3.5nm,0.8s									
KAPS				*e*S		**Sg**	**23**	**26**	**50.9**	**+1.0**
	6.7nm,0.7s									
KAPS	**Kapalarasan**	**4.55**	**10**	Pg		**Pg**	**23**	**25**	**47.5**	**-3.4**
	3.5nm,0.8s									
KAPS				Lg		Lg	23	26	50.9	
	6.7nm,0.7s									
KK31	**Karatay Array**	**6.24**	**294**	⇑Pg		**Pb**	**23**	**26**	**16.0**	**+3.5**
	0.4nm,0.3s,baz=108,slow=16,SNR=5.0									
KK31				⇑Lg		Lg	23	27	40.4	
	1.8nm,0.7s,baz=110,slow=27,SNR=4.6									

SJA ***16*** *23:50:36.1±0.8,34°.36S×70°.84W,h28km±9km, ML2.7, MW3.0*
GUC ***16*** *23:50:36.9±0.7,34°.40S×70°.83W,h91km±6km, ML3.8*

ISC 16 23:50:37.0±2.1,34°.37S±0°.04×70°.86W±0°.05,h12km±16km**, n18,σ0°96/28,4C-2D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
LMEL	**Las Melosas**	**0.75**	**46**	⇓*i*P		**Pn**	**23**	**50**	**54.0**	**+0.4**
LMEL				*i*S		**Sn**	**23**	**51**	**07.0**	**+2.0**
LMEL				IAML			23	51	10.3	
	comp=N,6μm,0.2s									
CLCH	**Cerro Calan**	**1.01**	**15**	⇑*i*P		**Pb**	**23**	**50**	**56.8**	**+0.3**
CLCH				*i*S		**Sn**	**23**	**51**	**12.1**	**+0.9**
CLCH				IAML			23	51	13.6	
	comp=E,3μm,0.3s									
GO05	**Huala**	**1.09**	**234**	⇓*i*P		**Pb**	**23**	**50**	**57.6**	**-0.3**
GO05				*i*S		**Sb**	**23**	**51**	**13.1**	**+1.1**
GO05	**Huala**	**1.09**	**234**	*i*P		**Pb**	**23**	**50**	**57.6**	**-0.3**
GO05				*e*S		**Sb**	**23**	**51**	**13.1**	**+1.1**
FCH	**Farellones**	**1.14**	**24**	⇑*i*P		**Pb**	**23**	**50**	**58.5**	**-0.5**
FCH				*i*S		**Sn**	**23**	**51**	**14.9**	**+0.1**
FCH				IAML			23	51	16.9	
	comp=E,2μm,0.3s									
PEL	**Peldehue**	**1.23**	**7**	⇑*i*P		**Pn**	**23**	**50**	**59.5**	**-0.6**
PEL				*i*S		**Sn**	**23**	**51**	**16.8**	**+0.1**
PEL				IAML			23	51	21.3	
	comp=N,2μm,0.1s									
PEL	**Peldehue**	**1.23**	**7**	*i*P		**Pn**	**23**	**50**	**59.6**	**-0.6**
PEL				*e*S		**Sg**	**23**	**51**	**17.4**	**+0.6**
COIS	**El Sosneado**	**1.27**	**126**	*i*P		**Pn**	**23**	**50**	**59.5**	**-1.1**
ROC1	**El Roble**	**1.40**	**354**	*i*P		**Pn**	**23**	**51**	**01.8**	**-0.8**
ROC1				*e*S		**Sn**	**23**	**51**	**20.6**	**-0.5**
ROCH	**El Roble**	**1.40**	**355**	⇑*i*P		**Pn**	**23**	**51**	**01.8**	**-0.9**
ROCH				*i*S		**Sn**	**23**	**51**	**20.6**	**-0.6**
ROCH				IAML			23	51	27.4	
	comp=N,1μm,0.6s									
VA01	**Torpederas**	**1.50**	**334**	*e*P		**Pn**	**23**	**51**	**03.1**	**-0.6**
VA01				*i*S		**Sn**	**23**	**51**	**23.3**	**+0.1**
VA01				IAML			23	51	25.9	
	comp=N,4μm,0.0s									
PUMA	**Malargue**	**1.61**	**135**	*i*P		**Pn**	**23**	**51**	**05.1**	**-0.2**
EDS3	**Malargue**	**1.84**	**140**	*i*P		**Pn**	**23**	**51**	**08.3**	**-0.2**
AAGR	**Agrelo**	**2.12**	**53**	*i*P		**Pn**	**23**	**51**	**12.0**	**-0.4**
AAGR				IAML			23	51	41.3	
	comp=Z,36nm,0.5s									
ARCO	**CERRO ARCO**	**2.21**	**47**	*i*P		**Pn**	**23**	**51**	**13.5**	**-0.3**
ARCO				IAML			23	51	42.7	
	comp=Z,54nm,0.5s									
ASAL	**Salagasta**	**2.45**	**44**	*i*P		**Pn**	**23**	**51**	**16.8**	**-0.1**
ASAL				IAML			23	51	51.2	
	comp=Z,16nm,1.0s									
RTLS	**Leoncito**	**2.88**	**27**	*i*P		**Pn**	**23**	**51**	**23.2**	**+0.2**
RTLS				IAML			23	52	23.8	
	comp=Z,19nm,0.5s									
TCA	**Tanti**	**6.08**	**62**	*i*P		**Pn**	**23**	**52**	**03.7**	**-3.0**
TCA				IAML			23	53	18.9	
	comp=Z,6.1nm,2.7s									

DJA 16 23:55:42.1±0.6,2°N±2°×9°9E±°,h161km±6km**,M3.6/7, MLv3.6/7,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
GSI	**Gunungsitoli**	**1.81**	**262**	P		Pn	23	56	17.6	+1.8
GSI				S		Sn	23	56	42.6	+0.8
PBSI	**Pulau Batu**	**1.94**	**214**	P		Pn	23	56	18.3	+1.1
PBSI				S		Sn	23	56	45.1	+0.7
KCSI	**Kotacane, Aceh**	**2.52**	**321**	P		Pn	23	56	24.4	+0.4
KCSI				S		Sn	23	56	55.8	-0.7
PDSI	**Padang**	**2.69**	**156**	P		Pn	23	56	26.0	-0.1
PDSI				S		Sn	23	56	59.8	-0.4
SISI	**Saibi**	**2.88**	**186**	P		Pn	23	56	27.4	-1.1
SISI				S		Sn	23	57	03.9	-0.5
SNSI	**Sinabang, Aceh**	**3.16**	**286**	P		Pn	23	56	33.0	+1.1
SNSI				S		Sn	23	57	10.4	-0.1
MLSI	**Meulaboh, Aceh**	**4.00**	**312**	P		Pn	23	56	43.3	+0.6
MLSI				S		Sn	23	57	28.1	-1.8

SKHL ***17*** *00:15:45.2±0.1,44°.42N×149°.23E,h49km,mb4.3/3*

ISC 17 00:15:43.0±3.7,44°.32N±0°.09×149°.3E±0°.2,h36km**,n16, σ2°05/27,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
KUR	**Kuril'sk**	**1.39**	**312**	*i*P		**Pn**	**00**	**16**	**05.7**	**-0.1**
KUR				AMB		AMB	00	16	06.0	
	220nm,0.4s									
KUR				*i*S		**Sn**	**00**	**16**	**21.0**	**-1.8**
KUR				A		A	00	16	23.1	
	1μm,0.3s									
KUR				A		A	00	16	23.1	
	460nm,0.3s									
YUK	**Yuzh-Kuril'sk**	**2.51**	**265**	*e*P		**Pn**	**00**	**16**	**22.2**	**+0.9**
YUK				AMB		AMB	00	16	25.0	
	20nm,0.2s									
YUK				*e*S		**Sn**	**00**	**16**	**50.1**	**-0.5**
YUK				A		A	00	16	55.1	
	160nm,0.3s									
YUK				A		A	00	16	55.1	
	210nm,0.3s									
GRPR	**Tuman**	**2.58**	**264**	*e*P		**Pn**	**00**	**16**	**23.3**	**+1.1**
GRPR				AMB		AMB	00	16	29.0	
	40nm,0.4s									
GRPR				*e*S		**Sn**	**00**	**16**	**52.4**	**+0.1**
GRPR				A		A	00	16	58.0	
	250nm,0.4s									
GRPR				A		A	00	16	58.0	
	170nm,0.4s									
NEM2	**Nemuro 2**	**2.76**	**251**	P		**Pn**	**00**	**16**	**25.7**	**+1.0**
NMR	**Nemuro--Hokkai**	**2.77**	**251**	*e*P		**Pn**	**00**	**16**	**25.8**	**+0.9**
NMR				*e*S		**Sn**	**00**	**16**	**57.8**	**+0.8**
GLVR	**Golovnino**	**2.81**	**259**	*e*P		**Pn**	**00**	**16**	**26.5**	**+1.2**
GLVR				*e*S		**Sn**	**00**	**16**	**58.5**	**+0.6**
GLVR				A		A	00	17	01.0	
	210nm,0.3s									
GLVR				A		A	00	17	01.0	
	140nm,0.3s									
JRA	**Rausu**	**3.05**	**264**	P		**Pn**	**00**	**16**	**30.9**	**+2.2**
JNK	**Nakash**	**3.41**	**259**	P		**Pn**	**00**	**16**	**35.2**	**+1.6**
JNK				*e*S		**Sn**	**00**	**17**	**12.4**	**-0.4**
JAK	**Akkeshi**	**3.61**	**250**	P		**Pn**	**00**	**16**	**37.4**	**+1.0**
JAR	**Ashorobuto**	**4.15**	**258**	P		**Pn**	**00**	**16**	**46.3**	**+2.5**
JAR				*e*S		**Sn**	**00**	**17**	**32.1**	**+1.0**
JCH	**Churui**	**4.67**	**251**	P		**Pn**	**00**	**16**	**52.7**	**+1.8**
JCH				*e*S		**Sn**	**00**	**17**	**42.5**	**-1.2**
JNBK	**Urakawa-nobuka**	**5.21**	**249**	P		**Pn**	**00**	**16**	**59.9**	**+1.5**
JNB	**Noboribetsu**	**6.32**	**256**	P		**Pn**	**00**	**17**	**15.3**	**+1.7**
JNB				*e*S		**Sn**	**00**	**18**	**22.8**	**-1.6**
JKB	**Kayabe**	**6.54**	**251**	P		**Pn**	**00**	**17**	**17.8**	**+1.2**
JKB				*e*S		**Sn**	**00**	**18**	**26.4**	**-3.5**
JANG	**Nango**	**7.00**	**238**	P		**Pn**	**00**	**17**	**24.7**	**+1.7**
JANG				*e*S		**Sn**	**00**	**18**	**35.8**	**-5.5**
JTM	**Tenmabayashi**	**7.05**	**243**	*e*S		**Sn**	**00**	**18**	**38.4**	**-4.0**

HEL 17 00:56:48.6±0.0,67°.84N×20°.18E,h0km**,ML1.5, ML1.3(UPP),Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
KUA	**Kurravaara**	**0.13**	**28**	*i*P		Pg	00	56	50.6	-0.5
KUA				*i*S		Sg	00	56	52.5	-0.2
RATU	**Laukkuluspa**	**0.22**	**266**	*i*P		Pg	00	56	52.5	-0.3
RATU				*i*S		Sg	00	56	55.5	-0.2
KOVU	**Salmi**	**0.39**	**359**	*i*P		Pg	00	56	55.6	-0.3
LANU	**Lannavaara**	**0.72**	**72**	*e*P		Pg	00	57	01.4	-0.9
LANU				*e*S		Sg	00	57	11.1	-0.4
DUNU	**Dundret**	**0.74**	**168**	*i*P		Pg	00	57	01.9	-0.8
MASU	**Masugnsbyn**	**0.80**	**118**	*i*P		Pg	00	57	03.2	-0.7
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*PB		Pg	00	57	11.0	-0.4
	baz=188									
KIF				MSG			00	57	26.1	
	comp=Z,4.9nm,0.2s									
KIF				*e*S		Sg	00	57	26.7	-0.2
PAJU	**Pajala**	**1.40**	**125**	*e*P		Pg	00	57	13.6	-1.8
PAJU				*e*S		Sg	00	57	32.0	-1.4
HEF	**Hetta**	**1.42**	**65**	*e*PG		Pn	00	57	14.2	-1.5
	baz=247									
HEF				MSG			00	57	31.6	
	comp=Z,3.6nm,0.2s									
HEF				*e*SN		Sn	00	57	37.9	+2.8
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*PG		Pn	00	57	15.9	-1.0
ERTU				*e*SN		Sg	00	57	36.5	-0.6
KALU	**Kalix**	**2.35**	**146**	*e*PB		Pn	00	57	28.9	+0.5
KALU				*e*SG		Sb	00	58	00.7	-0.6
TOF	**Tornio**	**2.41**	**135**	*e*PB		Pn	00	57	30.5	+1.4
	baz=323									
TOF				MSG			00	57	59.0	
	comp=Z,2.3nm,0.2s									
TOF				*e*SG		Sb	00	58	02.3	-0.5
SGF	**Sodankyl**	**2.46**	**96**	*e*PB		Pn	00	57	31.2	+1.3
RNF	**Rovaniemi**	**2.59**	**116**	*e*PB		Pn	00	57	33.0	+1.4
RNF				*e*SB		Sb	00	58	06.2	-1.8
OUL	**Oulu**	**3.59**	**138**	*e*SB		Sb	00	58	36.9	-0.1

ISCJB ***17*** *00:57:00.7±1.0,8°.26N±0°.04×82°.80W±0°.03,h14km±6km, Error ellipse: s-maj=6.8km s-min=3.7km az=27.1*
UPA ***17*** *00:57:01.6±1.7,8°.34N×82°.76W,h10km±4km, MW4.4*
UCR ***17*** *00:57:01.6±1.8,8°.31N×82°.78W,h14km±5km*

ISC 17 00:56:59.2±1.8,8°.24N±0°.06×82°.81W±0°.04,h1km±11km**, n28,σ1°25/48,6D,Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
DVD	**David**	**0.41**	**61**	*e*P		**Pb**	**00**	**57**	**09.0**	**-0.1**
DVD				*e*S		**Sb**	**00**	**57**	**15.6**	**-0.3**
DVD	**David**	**0.41**	**61**	*e*P		**Pb**	**00**	**57**	**09.0**	**-0.1**
DVD				*e*S		**Sb**	**00**	**57**	**15.6**	**-0.3**
BCO2	**Palmira**	**0.55**	**30**	⇓*e*P		**Pg**	**00**	**57**	**11.1**	**+1.3**
BCO2				*e*S		**Sb**	**00**	**57**	**18.5**	**-1.8**
BRU2	**Volcan**	**0.56**	**12**	⇓*e*P		**Pg**	**00**	**57**	**11.2**	**+1.1**
BRU2				⇓*e*S		**Sb**	**00**	**57**	**19.3**	**-1.3**
BRU2	**Volcan**	**0.56**	**12**	⇓*i*P		**Pg**	**00**	**57**	**11.1**	**+1.1**
BRU2				⇓*e*S		**Sb**	**00**	**57**	**19.3**	**-1.3**
EDSV	**San Vito**	**0.60**	**345**	*e*P		**Pg**	**00**	**57**	**12.0**	**+1.3**
EDSV				*e*S		**Sb**	**00**	**57**	**20.8**	**-0.7**
CHGR2	**Aguacate**	**0.96**	**43**	*e*P		**Pg**	**00**	**57**	**16.9**	**-0.7**
CHGR2				*e*S		**Sg**	**00**	**57**	**29.0**	**-1.1**
EDPN	**Palmar Norte**	**0.96**	**319**	*e*P		**Pg**	**00**	**57**	**17.0**	**-0.7**
EDPN				*e*S		**Sg**	**00**	**57**	**30.5**	**+0.4**
CNI2	**El Empalme, Bo**	**1.23**	**16**	*e*P		**Pb**	**00**	**57**	**21.3**	**-1.9**
CNI2				*e*S		**Sb**	**00**	**57**	**37.2**	**-2.2**
EDDO	**Dominical**	**1.45**	**314**	*e*P		**Pn**	**00**	**57**	**26.2**	**-0.2**
GMAL	**Guarumal, Vera**	**1.63**	**107**	*e*P		**Pn**	**00**	**57**	**27.5**	**-1.5**
GMAL				*e*S		**Sn**	**00**	**57**	**50.3**	**-0.5**
LCR2	**La Lucha 2**	**1.90**	**322**	*e*P		**Pn**	**00**	**57**	**32.8**	**-0.1**
CVTR	**Volcan Turrial**	**2.00**	**332**	*e*P		**Pn**	**00**	**57**	**34.1**	**-0.4**
CACAO	**El Cacao, Vera**	**2.13**	**115**	*e*P		**Pn**	**00**	**57**	**35.7**	**-0.1**
CACAO				*e*S		**Sn**	**00**	**58**	**03.3**	**+0.4**
HDC	**Heredia**	**2.17**	**324**	*e*P		**Pn**	**00**	**57**	**37.4**	**+0.9**
HDC				*e*P		**Pn**	**00**	**57**	**37.5**	**+0.9**
HDC				*e*S		**Sn**	**00**	**58**	**04.8**	**+0.6**
HDC	**Heredia**	**2.17**	**324**	*e*P		**Pn**	**00**	**57**	**37.5**	**+0.9**
HDC				*e*S		**Sn**	**00**	**58**	**04.8**	**+0.6**
AZU	**Azuero**	**2.55**	**100**	*e*P		**Pn**	**00**	**57**	**42.1**	**+0.4**
AZU				*e*S		**Sn**	**00**	**58**	**13.5**	**+0.1**
AZU	**Azuero**	**2.55**	**100**	*e*P		**Pn**	**00**	**57**	**42.4**	**+0.7**
AZU				*e*S		**Sn**	**00**	**58**	**13.5**	**+0.1**
VTON	**El Valle, Cocl**	**2.70**	**82**	*e*P		**Pn**	**00**	**57**	**45.5**	**+1.8**
ARE1	**Arenal 1**	**2.90**	**320**	⇓*e*P		**Pn**	**00**	**57**	**47.6**	**+1.1**
CEDE	**Laguna Cedeo**	**2.91**	**320**	*e*P		**Pn**	**00**	**57**	**48.8**	**+2.1**
CHOR3	**La Chorrera**	**3.08**	**77**	*e*P		**Pn**	**00**	**57**	**49.7**	**+0.7**
CHOR3				*e*S		**Sn**	**00**	**58**	**24.6**	**-1.9**
MLIR	**Monte Lirio**	**3.09**	**71**	*e*P		**Pn**	**00**	**57**	**51.7**	**+2.6**
MLIR				*e*S		**Sb**	**00**	**58**	**35.1**	**+2.0**
UPA	**Univ. de Panam**	**3.33**	**77**	*e*P		**Pn**	**00**	**57**	**51.6**	**-0.7**
UPA				*e*S		**Sn**	**00**	**58**	**33.0**	**+0.6**
UPA	**Univ. de Panam**	**3.33**	**77**	*e*P		**Pn**	**00**	**57**	**51.6**	**-0.7**
UPA				*e*S		**Sn**	**00**	**58**	**33.0**	**+0.6**
CUI	**Cuipilapa**	**3.34**	**316**	*e*P		**Pn**	**00**	**57**	**53.8**	**+1.2**
BUEV	**Buena Vista**	**3.61**	**315**	*e*P		**Pn**	**00**	**57**	**57.2**	**+0.9**
CHPO	**Chepo, Panama**	**3.77**	**76**	*e*S		**Sn**	**00**	**58**	**46.7**	**+3.2**

UPP 17 00:57:32.5±0.1,67°.82N×20°.15E,h0km**,ML2.2, Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
KOVU	**Salmi**	**0.40**	**1**	P		Pg	00	57	40.3	+0.1
KOVU				S		Sg	00	57	45.7	+0.3
DUNU	**Dundret**	**0.72**	**167**	P		Pg	00	57	46.0	-0.2
LANU	**Lannavaara**	**0.73**	**71**	P		Pg	00	57	46.2	-0.3
MASU	**Masugnsbyn**	**0.80**	**117**	P		Pg	00	57	47.6	-0.1
PAJU	**Pajala**	**1.40**	**124**	P		Pg	00	57	57.9	-1.3
ERTU	**Ertsjaerv**	**1.50**	**147**	P		Pn	00	58	00.2	-0.4

IDC ***17*** *01:12:15.4±0.9,52°.86N×167°.91W,h0km,mb3.7/13, mb1 3.9/14,mb1mx3.8/33,mbtmp3.6/14,ML2.9/1, Error ellipse: s-maj=27.1km s-min=15.0km az=180.0*
ISCJB ***17*** *01:12:19.0±0.7,52°.80N±0°.06×167°.66W±0°.05,h42km±6km, mb3.7/14,Error ellipse: s-maj=10.2km s-min=4.1km az=161.5*
NEIC ***17*** *01:12:18.3±1.3,52°.77N±0°.04×167°.65W±0°.05,h22km±5km*
AEIC ***17*** *01:12:19.6±1.9,52°.82N±0°.06×167°.60W±0°.04,h33km±5km, ML3.6,mb3.7/5(NEIC)*

ISC 17 01:12:20.0±1.4,52°.88N±0°.07×167°.67W±0°.04,h29km±9km**, n56,σ1°08/65,mb3.9/14,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
OKSP	**Okmok Steeple**	**0.53**	**315**			**Pn**	**01**	**12**	**31.7**	**+0.2**
OKFG	**Magazine Ridge**	**0.55**	**345**			**Pn**	**01**	**12**	**32.1**	**+0.2**
OKFG						**Sn**	**01**	**12**	**41.7**	**+1.6**
OKNC	**Okmok New Cone**	**0.64**	**335**			**Pn**	**01**	**12**	**33.9**	**+0.8**
OKNC						**Sn**	**01**	**12**	**44.2**	**+1.9**
NIKH	**Nikolski High**	**0.72**	**278**			**Pb**	**01**	**12**	**33.8**	**-0.2**
NIKH					Sn	**Sb**	**01**	**12**	**43.5**	**-0.1**
NIKH	**Nikolski High**	**0.72**	**278**			**Sn**	**01**	**12**	**44.4**	**+0.1**
MGOD	**Makushin Gods**	**1.04**	**27**			**Pn**	**01**	**12**	**38.5**	**0.0**
MREP	**Makushin Rep't**	**1.09**	**30**			**Pn**	**01**	**12**	**39.4**	**+0.1**
MSW	**Makushin Switc**	**1.17**	**27**			**Pn**	**01**	**12**	**40.5**	**+0.2**
MSW						**Sb**	**01**	**12**	**56.5**	**+0.2**
MCIR	**Makushin Cirqu**	**1.17**	**23**			**Pb**	**01**	**12**	**41.4**	**-0.2**
UNV	**Unalaska Valle**	**1.20**	**35**			**Sn**	**01**	**12**	**55.3**	**-0.5**
UNV	**Unalaska Valle**	**1.20**	**35**			**Pn**	**01**	**12**	**40.7**	**+0.1**
UNV					Sn	**Sn**	**01**	**12**	**55.2**	**-0.7**
MTBL	**Makushin Table**	**1.24**	**28**			**Pb**	**01**	**12**	**42.0**	**-0.8**
AKMO	**Akutan Morgan**	**1.57**	**39**			**Pn**	**01**	**12**	**46.4**	**+0.6**
AKRB	**Akutan Reef Bi**	**1.58**	**37**			**Pn**	**01**	**12**	**46.9**	**+1.0**
AKRB						**Sn**	**01**	**13**	**05.5**	**+0.1**
AKBBA	**Akutan Broad B**	**1.60**	**40**			**Pn**	**01**	**12**	**46.5**	**+0.2**
AKLV	**Akutan Long Va**	**1.65**	**38**			**Pn**	**01**	**12**	**47.4**	**+0.5**
AKGG	**Akutan Green G**	**1.66**	**36**			**Pn**	**01**	**12**	**47.4**	**+0.3**
AKUT	**Akutan**	**1.69**	**41**			**Pn**	**01**	**12**	**47.6**	**0.0**
AKUT					Sn	**Sn**	**01**	**13**	**07.5**	**-0.7**
AKSA	**Akutan Strait**	**1.73**	**42**			**Pn**	**01**	**12**	**48.4**	**+0.4**
SSBA	**Shishaldin**	**2.83**	**46**			**Pn**	**01**	**13**	**03.5**	**+0.3**
FALS	**False Pass**	**3.21**	**50**		Pn	**Pn**	**01**	**13**	**07.6**	**-0.6**
FALS						**Pb**	**01**	**13**	**18.6**	**+2.5**
FALS					Sn	**Sn**	**01**	**13**	**45.1**	**-0.3**
ATKA	**Atka Island**	**4.04**	**263**			**Pn**	**01**	**13**	**18.7**	**-1.0**
ATKA					Sn	**Sn**	**01**	**14**	**05.5**	**-0.6**
SPIA	**Saint Paul Isl**	**4.56**	**342**			**Pn**	**01**	**13**	**24.9**	**-1.9**
SPIA					Sn	**Sn**	**01**	**14**	**19.6**	**+0.9**
SDPT	**Sand Point**	**4.90**	**57**		Pn	**Pn**	**01**	**13**	**31.4**	**-0.2**
CNBA	**Chernabura Isl**	**5.17**	**65**			**Pn**	**01**	**13**	**34.0**	**-1.2**
CNBA					Sn	**Sn**	**01**	**14**	**28.8**	**-4.9**
ADK	**Adak**	**5.61**	**263**			**Pn**	**01**	**13**	**41.3**	**0.0**
ADK					Sn	**Sn**	**01**	**14**	**43.6**	**-1.0**
KDAK	**Kodiak Island**	**9.89**	**54**		Pn	**Pn**	**01**	**14**	**40.6**	**+0.6**
	0.4nm,0.3s,baz=261,slow=5.5,SNR=7.4									
HIN	**Hinchinbrook I**	**13.82**	**49**		Pn	**Pn**	**01**	**15**	**33.2**	**-0.5**
SCM	**Sheep Creek Mo**	**14.12**	**43**		Pn	**Pn**	**01**	**15**	**37.4**	**-0.3**
GLB	**Gilahina Butte**	**15.44**	**47**		Pn	**Pn**	**01**	**15**	**55.2**	**-0.3**
GLB					IAmb	IAmb	01	15	55.8	
	comp=Z,5.7nm,1.2s									
ILAR	**Eielson Array**	**15.95**	**34**		Pn	**Pn**	**01**	**16**	**03.0**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=228,slow=13,SNR=3.9									
BALM	**Baldy**	**15.96**	**49**		Pn	**Pn**	**01**	**16**	**02.2**	**+0.1**
BALM					IAmb	IAmb	01	16	09.7	
	comp=Z,8.7nm,1.2s									
BARN	**Barnard Glacie**	**16.28**	**50**		Pn	**Pn**	**01**	**16**	**05.6**	**-0.8**
CTGM	**Chitina Glacie**	**16.40**	**50**			**Pn**	**01**	**16**	**08.5**	**+0.6**
CTGM					IAmb	IAmb	01	16	25.6	
	comp=Z,5.0nm,0.7s									
PETK	**Petropavlovsk-**	**20.73**	**285**	P		**P**	**01**	**16**	**57.5**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=90,slow=12,SNR=9.4									
INK	**Inuvik**	**22.35**	**33**	P		**P**	**01**	**17**	**15.0**	**0.0**
	comp=Z,3.9nm,0.7s,baz=234,slow=11,SNR=9.1									
INK	**Inuvik**	**22.35**	**33**	P		**P**	**01**	**17**	**13.9**	**-1.2**
SEY	**Seymchan**	**23.10**	**312**	P		**P**	**01**	**17**	**24.9**	**+2.0**
	comp=Z,1.1nm,0.2s,baz=111,slow=14,SNR=4.9									
YKA	**Yellowknife Ar**	**29.12**	**50**	P		**P**	**01**	**18**	**19.5**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=276,slow=7.8,SNR=4.3									
YKA				PcP		**PcP**	**01**	**21**	**25.7**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=299,slow=2.0,SNR=4.4									
NVAR	**Mina Array Bea**	**36.65**	**93**	P		**P**	**01**	**19**	**25.2**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=300,slow=6.1,SNR=3.5									
H11N2	**WAKE ISLAND Hy**	**38.51**	**221**	T		T	02	00	57.8	
	baz=24,slow=76,SNR=320									
H11N3	**WAKE ISLAND Hy**	**38.51**	**220**	T		T	02	01	00.6	
	baz=24,slow=76,SNR=406									
H11N1	**WAKE ISLAND Hy**	**38.52**	**221**	T		T	02	00	36.5	
	baz=24,slow=76,SNR=297									
PDAR	**Pinedale Array**	**39.30**	**81**	P		**P**	**01**	**19**	**46.3**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=327,slow=6.5,SNR=3.0									
H11S1	**WAKE ISLAND Hy**	**39.69**	**220**	T		T	02	02	27.8	
	baz=24,slow=76,SNR=304									
H11S2	**WAKE ISLAND Hy**	**39.70**	**220**	T		T

BILL	**Bilibino**	**19.85**	**333**	*c*	*i*	P	**Pn**	**01 34 17.1**	**-0.1**
BILL						pmax	pmax		
	comp=Z,14nm,1.0s								
BILL						MLR	MLR		
	comp=Z,168nm,17.0s								
BILL	**Bilibino**	**19.85**	**333**			P	**P**	**01 34 14.9**	**-0.6**
BILL						IAmb	IAmb	01 34 22.4	
	comp=Z,15nm,1.1s								
EPYK	**Eagle Plains**	**21.77**	**36**			P	**P**	**01 34 35.1**	**-1.2**
SEY	**Seymchan**	**22.81**	**313**		*i*	P	**P**	**01 34 47.2**	**-0.2**
SEY	**Seymchan**	**22.81**	**313**			P	**P**	**01 34 46.9**	**-0.5**
	comp=Z,4.8nm,0.8s,baz=106,slow=9.8,SNR=13								
INK	**Inuvik**	**23.72**	**33**			P	**P**	**01 34 55.1**	**-1.4**
INK						pmax	pmax		
	comp=Z,6.0nm,1.1s								
INK	**Inuvik**	**23.72**	**33**			P	**P**	**01 34 55.2**	**-1.3**
	comp=Z,3.5nm,0.5s,baz=249,slow=7.8,SNR=25								
INK	**Inuvik**	**23.72**	**33**			P	**P**	**01 34 55.1**	**-1.4**
INK						IAmb	IAmb	01 34 58.8	
	comp=Z,6.3nm,1.1s								
YKA	**Yellowknife Ar**	**30.58**	**48**			P	**P**	**01 35 59.1**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=273,slow=8.8,SNR=32								
YKA						ScP	**ScP**	**01 42 37.2**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=277,slow=3.0,SNR=3.7								
TIXI	**Tiksi**	**32.97**	**329**	*ce*		P	**P**	**01 36 19.0**	**-0.1**
TIXI						pmax	pmax		
	comp=Z,11nm,2.5s								
TIXI	**Tiksi**	**32.97**	**329**			P	**P**	**01 36 18.6**	**-0.6**
	comp=Z,2.0nm,0.4s,baz=97,slow=10,SNR=2.4								
TIXI	**Tiksi**	**32.97**	**329**			P	**P**	**01 36 18.2**	**-0.9**
TIXI						IAmb	IAmb	01 36 20.9	
	comp=Z,3.2nm,0.8s								
GRNR	**Gornyy**	**33.06**	**290**	*e*		P	P	01 36 09.9	-10
GRNR						pmax	pmax		
	comp=Z,10.0nm,1.0s								
NEW	**Newport**	**33.23**	**75**			P	**P**	**01 36 22.5**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=287,slow=6.7,SNR=5.5								
NEW	**Newport**	**33.23**	**75**			IAmb	IAmb	01 36 40.4	
	comp=Z,3.0nm,0.8s								
YAK	**Yakutsk**	**33.30**	**311**		*i*	P	**P**	**01 36 22.0**	**-0.1**
YAK						pmax	pmax		
	comp=Z,7.0nm,1.0s								
KLR	**Kul'dur**	**36.44**	**290**			P	**P**	**01 36 48.5**	**-0.9**
	comp=Z,3.7nm,0.4s,baz=68,slow=6.7,SNR=21								
H11N2	**WAKE ISLAND Hy**	**37.09**	**219**			T	T	02 16 57.1	
	baz=24								
H11N3	**WAKE ISLAND Hy**	**37.09**	**219**			T	T	02 16 56.9	
	baz=24								
H11N1	**WAKE ISLAND Hy**	**37.11**	**219**			T	T	02 16 55.4	
	baz=24								
NVAR	**Mina Array Bea**	**37.80**	**90**			P	**P**	**01 37 02.7**	**+1.4**
	comp=Z,0.6nm,0.9s,baz=266,slow=9.9,SNR=2.4								
NVAR						ScP	**ScP**	**01 43 01.7**	**-2.7**
	comp=Z,0.5nm,0.9s,baz=338,slow=3.2,SNR=3.9								
H11S1	**WAKE ISLAND Hy**	**38.27**	**218**			T	T	02 18 15.3	
	baz=23,slow=76,SNR=12								
H11S2	**WAKE ISLAND Hy**	**38.29**	**218**			T	T	02 18 11.9	
	baz=23,slow=76,SNR=3.1								
H11S3	**WAKE ISLAND Hy**	**38.29**	**218**			T	T	02 18 18.4	
	baz=23,slow=76,SNR=7.5								
YHH	**Holmes Hill**	**38.71**	**77**			P	**P**	**01 37 09.4**	**+0.3**
USRK	**Ussuriysk Ar.**	**38.83**	**282**			P	**P**	**01 37 10.1**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=48,slow=8.2,SNR=4.6								
YNE	**Yellowstone No**	**39.10**	**76**			P	**P**	**01 37 11.3**	**-0.9**
PD31	**Pinedale Array**	**40.61**	**79**			P	**P**	**01 37 25.2**	**+0.4**
PD31						IAmb	IAmb	01 37 43.9	
	comp=Z,3.9nm,1.1s								
PDAR	**Pinedale Array**	**40.61**	**79**			P	**P**	**01 37 25.4**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=308,slow=4.5,SNR=14								
U15A	**North Rim**	**42.77**	**88**			IAmb	IAmb	01 37 56.6	
	comp=Z,2.6nm,0.9s								
O20A	**White River Ci**	**42.95**	**81**			P	**P**	**01 37 44.2**	**+0.3**
HIA	**Hailar**	**43.27**	**296**		*i*	P	**P**	**01 37 45.6**	**-0.6**
HIA						pmax	pmax		
	comp=Z,34nm,0.9s								
PV04	**Paradox Valley**	**43.62**	**83**			IAmb	IAmb	01 37 56.6	
	comp=Z,4.4nm,0.8s								
PV03	**Paradox Valley**	**43.74**	**83**			P	**P**	**01 37 50.7**	**+0.4**
PV03						IAmb	IAmb	01 37 56.9	
	comp=Z,3.1nm,0.8s								
ULM	**Lac du Bonnet**	**44.44**	**62**			P	**P**	**01 37 55.2**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=325,slow=9.0,SNR=3.6								
ULM						LR	LR	01 57 59.2	
	comp=Z,87nm,18.7s,baz=300,slow=38								
ULM	**Lac du Bonnet**	**44.44**	**62**			IAmb	IAmb	01 37 55.8	
	comp=Z,5.0nm,1.1s								
KSRS	**Korea Array**	**45.31**	**277**			P	**P**	**01 38 03.1**	**+0.6**
	comp=Z,4.9nm,0.7s,baz=54,slow=7.7,SNR=11								
KSRS						LR	LR	01 55 35.4	
	comp=Z,48nm,21.0s,baz=345,slow=34								
AGMN	**Agassiz Nation**	**45.51**	**64**			P	**P**	**01 38 04.5**	**+0.4**
ANMO	**Albuquerque**	**47.34**	**85**		*i*	P	**P**	**01 38 18.6**	**-0.2**
ANMO						pmax	pmax		
	comp=Z,1.0nm,1.1s								
DAG	**Danmarks Havn**	**50.16**	**8**		*i*	P	**P**	**01 38 39.2**	**-0.5**
DAG						pmax	pmax		
	comp=Z,13nm,0.6s								
DAG	**Danmarks Havn**	**50.16**	**8**		*i*	P	**P**	**01 38 39.2**	**-0.5**
	comp=Z,13nm,0.6s								
MNTX	**Cornudas Mount**	**50.19**	**88**			P	**P**	**01 38 41.4**	**+0.9**
MNTX						IAmb	IAmb	01 38 53.6	
	comp=Z,2.8nm,0.8s								
ULN	**Ulaanbaatar**	**50.99**	**301**	*ce*		P	**P**	**01 38 45.2**	**-1.4**
ULN						pmax	pmax		
	comp=Z,4.0nm,0.9s								
ULN	**Ulaanbaatar**	**50.99**	**301**			P	**P**	**01 38 46.3**	**-0.3**
SUMG	**Summit**	**51.16**	**17**		*i*	P	**P**	**01 38 48.1**	**+0.3**
SUMG						pmax	pmax		
	comp=Z,37nm,0.8s								
SUMG	**Summit**	**51.16**	**17**		*i*	P	**P**	**01 38 48.1**	**+0.3**
	comp=Z,37nm,0.8s								
SUMG	**Summit**	**51.16**	**17**			P	**P**	**01 38 47.6**	**-0.2**
SONM	**Songino Array**	**51.36**	**301**			P	**P**	**01 38 49.4**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=54,slow=8.2,SNR=11								
SONM						LR	LR	02 02 42.3	
	comp=Z,142nm,18.4s,baz=29,slow=38								
TX31	**Lajitas Ar. Si**	**52.90**	**88**			P	**P**	**01 39 01.3**	**+0.4**
TX31						IAmb	IAmb	01 39 13.0	
	comp=Z,3.9nm,0.9s								
TXAR	**Lajitas Array**	**52.90**	**88**			P	**P**	**01 39 00.7**	**-0.2**
	comp=Z,4.2nm,0.3s,baz=299,slow=5.6,SNR=8.1								
SCO	**Scoresbysund**	**55.60**	**13**			P	**P**	**01 39 20.3**	**+0.5**
SCO						pmax	pmax		
	comp=Z,7.0nm,0.8s								
SCO	**Scoresbysund**	**55.60**	**13**		*i*	P	**P**	**01 39 20.1**	**+0.2**
	comp=Z,5.3nm,0.6s								
SCO	**Scoresbysund**	**55.60**	**13**			P	**P**	**01 39 20.3**	**+0.5**
ZALV	**Zalesovo Beam**	**57.59**	**318**			P	**P**	**01 39 33.2**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=60,slow=9.4,SNR=4.8								
ZALV						PcP	**PcP**	**01 40 27.9**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=34,slow=4.3,SNR=7.2								
ZALV						LR	LR	02 06 59.0	
	comp=Z,66nm,18.5s,baz=18,slow=39								
ARCES	**ARCESS Array B**	**58.26**	**354**			P	**P**	**01 39 38.2**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=4.3,slow=6.4,SNR=8.4								
ARCES						LR	LR	02 06 40.0	
	comp=Z,134nm,18.2s,baz=318,slow=38								
WHN	**Wuhan**	**58.26**	**280**			P	**P**	**01 39 37.8**	**-1.5**
XAN	**Xi'an**	**59.07**	**287**			P	**P**	**01 39 45.0**	**+0.1**
XAN						pmax	pmax		
	comp=Z,11nm,1.2s								
GTA	**Gaotai**	**60.52**	**297**		*e*	P	**P**	**01 39 54.5**	**-0.5**
GTA						pmax	pmax		
	comp=Z,3.0nm,0.6s								
LZH	**Lanzhou**	**60.59**	**292**		*e*	P	**P**	**01 39 56.0**	**+0.5**
LZH						pP	pP	01 40 00.6	+1.2
LZH						pmax	pmax		
	comp=Z,23nm,1.3s								
KURK	**Kurchatov**	**62.55**	**318**			P	**P**	**01 40 08.3**	**0.0**
KURK								01 40 47.7	
KURK	**Kurchatov**	**62.55**	**318**			P	**P**	**01 40 08.3**	**0.0**
KURBB	**Kurchatov Arra**	**62.65**	**318**			P	**P**	**01 40 08.9**	**-0.1**
	comp=Z,5.9nm,0.9s,baz=42,slow=7.3,SNR=22								
KURBB						PcP	**PcP**	**01 40 47.7**	**0.0**
	comp=Z,0.4nm,0.3s,baz=42,slow=3.0,SNR=4.5								
PRGR	**Permogore**	**63.28**	**342**		*e*	P	**P**	**01 40 10.8**	**-2.2**
PRGR						pmax	pmax		
	comp=Z,15nm,0.9s								
BVAR	**Borovoye Array**	**63.91**	**324**			P	**P**	**01 40 17.5**	**+0.2**
	comp=Z,12nm,0.6s,baz=52,slow=6.8,SNR=97								
BVAR						PcP	**PcP**	**01 40 52.9**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=64,slow=6.8,SNR=3.6								
BRVK	**Borovoye**	**63.92**	**324**			P	**P**	**01 40 17.5**	**+0.1**
BRVK						pmax	pmax		
	comp=Z,10.0nm,0.8s								
BRVK	**Borovoye**	**63.92**	**324**			P	**P**	**01 40 17.5**	**+0.1**
MK31	**Makanchi Array**	**63.95**	**313**		*i*	P	**P**	**01 40 17.2**	**-0.5**
MKAR	**Makanchi Array**	**63.95**	**313**			P	**P**	**01 40 16.4**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=56,slow=6.6,SNR=5.1								
ARU	**Arti**	**64.87**	**333**		*d*	*i* P	**P**	**01 40 23.5**	**0.0**
ARU								01 42 45.6	
ARU						S	**S**	**01 49 04.8**	**+1.0**
ARU						pmax	pmax		
	comp=Z,10.0nm,1.0s								
ARU	**Arti**	**64.87**	**333**			P	**P**	**01 40 23.3**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=354,slow=3.5,SNR=8.5								
FINES	**FINESS Array B**	**66.20**	**352**			P	**P**	**01 40 31.7**	**-0.4**
	comp=Z,5.6nm,0.7s,baz=12,slow=8.8,SNR=16								
NB2	**NORSAR Subarra**	**67.29**	**360**			P	**P**	**01 40 38.3**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=358,slow=6.5								
NOA	**NORSAR Array B**	**67.29**	**360**			P	**P**	**01 40 38.4**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=0.6,slow=6.3,SNR=6.8								
AKTO	**Aktyubinsk**	**70.25**	**330**			P	**P**	**01 40 57.5**	**-0.2**
	comp=Z,6.5nm,0.7s,baz=45,slow=5.9,SNR=27								
AAK	**Ala-Archa**	**70.65**	**315**	*ce*		P	**P**	**01 41 01.2**	**+0.8**
AAK						pmax	pmax		
	comp=Z,8.0nm,1.3s								
AAK	**Ala-Archa**	**70.65**	**315**			P	**P**	**01 41 00.7**	**+0.3**
	comp=Z,5.7nm,0.8s,baz=146,slow=2.3,SNR=18								
ABKAR	**Akbulak array**	**70.66**	**328**			P	**P**	**01 41 00.2**	**0.0**
OBN	**Obninsk**	**71.05**	**344**	*ce*		P	**P**	**01 41 02.2**	**-0.1**
OBN						*e*		01 41 24.8	
OBN						pmax	pmax		
	comp=Z,17nm,1.7s								
OBN	**Obninsk**	**71.05**	**344**			LR	LR	02 14 40.1	
	comp=Z,12nm,18.6s,baz=339,slow=38								
KK31	**Karatay Array**	**71.96**	**318**			P	**P**	**01 41 08.0**	**-0.1**
KK31	**Karatay Array**	**71.96**	**318**			P	**P**	**01 41 08.0**	**-0.1**
KKAR	**Karatay Array**	**71.96**	**318**			P	**P**	**01 41 07.8**	**-0.3**
KKAR	**Karatay Array**	**71.96**	**318**			P	**P**	**01 41 07.8**	**-0.3**
ARSB	**Arslanbob**	**72.38**	**315**			P	**P**	**01 41 10.3**	**-0.5**
KSH	**Kashi**	**72.51**	**312**			P	**P**	**01 41 15.1**	**+3.5**
KSH						PP	**PP**	**01 44 00.0**	**+7.7**
KSH						S	**S**	**01 50 38.4**	**+3.1**
KSH						ScS	**ScS**	**01 51 17.8**	**-0.2**
KSH						pmax	pmax		
	comp=Z,20nm,1.0s								
KSH						pmax	pmax		
	comp=Z,400nm,8.4s								
KSH						LR	LR		
	comp=Z,510nm,8.9s								
GAR	**Garm**	**75.44**	**316**			P	**P**	**01 41 28.4**	**-0.4**
CHGR	**Chuyangaron**	**76.23**	**316**			P	**P**	**01 41 32.4**	**-0.8**
AKASG	**Malin Array Be**	**76.42**	**348**			P	**P**	**01 41 33.4**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=15,slow=5.6,SNR=5.5								
CMAR	**Chiang Mai Arr**	**76.56**	**283**			P	**P**	**01 41 35.5**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=27,slow=6.9,SNR=4.3								
CLL	**Collm**	**77.03**	**358**		*e*	P	**P**	**01 41 37.0**	**-0.4**
CLL					*e*			01 41 50.0	
CLL	**Collm**	**77.03**	**358**		*e*	P	**P**	**01 41 37.0**	**-0.4**
CLL					*es*	P	**PcP**	**01 41 50.0**	**+1.7**
DPC	**Dobruska-Polom**	**77.89**	**356**		*e*	P	**P**	**01 41 43.0**	**+0.7**
DPC	**Dobruska-Polom**	**77.89**	**356**		*e*	P	**P**	**01 41 43.0**	**+0.7**
PRU	**Pruhonice**	**78.31**	**357**		*e*	P	**P**	**01 41 45.1**	**+0.5**
PRU	**Pruhonice**	**78.31**	**357**		*e*	P	**P**	**01 41 45.1**	**+0.5**
MORC	**Moravsky Berou**	**78.40**	**355**		↑P	P	**P**	**01 41 46.5**	**+1.3**
MORC	**Moravsky Berou**	**78.40**	**355**		↑P	P	**P**	**01 41 46.5**	**+1.3**
KOLS	**Kolonicke sedl**	**78.92**	**352**		*e*	P	**P**	**01 41 48.0**	**0.0**
KOLS	**Kolonicke sedl**	**78.92**	**352**		*e*	P	**P**	**01 41 48.0**	**0.0**
SORM	**Soroca**	**79.06**	**348**		↑P	P	**P**	**01 41 48.6**	**-0.1**
SORM	**Soroca**	**79.06**	**348**		↑P	P	**P**	**01 41 48.6**	**-0.1**
KHC	**Kasperske Hory**	**79.20**	**358**		*e*	P	**P**	**01 41 50.3**	**+0.8**
KHC						*e*		01 41 53.5	
KHC	**Kasperske Hory**	**79.20**	**358**		*e*	P	**P**	**01 41 50.3**	**+0.8**
KHC						*ex*	x	01 41 53.5	
GOF	**Gofitskoye**	**79.30**	**337**	↑	*e*	P	**P**	**01 41 51.2**	**+1.1**
GOF						pmax	pmax		
	comp=Z,35nm,1.0s								
GERES	**GERESS Array B**	**79.48**	**358**			P	**P**	**01 41 52.0**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=33,slow=5.1,SNR=8.9								
VYHS	**Vyhne**	**79.61**	**354**		*e*	P	**P**	**01 41 52.5**	**+0.7**
VYHS						pmax	pmax		
	comp=Z,8.0nm,1.4s								
VYHS	**Vyhne**	**79.61**	**354**		*e*	P	**P**	**01 41 52.5**	**+0.7**
TRPA	**Tarpa**	**79.69**	**352**	↑	P	P	**P**	**01 41 53.0**	**+0.8**
KBL	**Kabul**	**79.73**	**314**		P	P	**P**	**01 41 52.5**	**-0.4**
KBL	**Kabul**	**79.73**	**314**		P	P	**P**	**01 41 52.5**	**-0.4**
MODS	**Modra-Piesok**	**79.82**	**355**		*e*	P	**P**	**01 41 53.5**	**+0.6**
MODS						pmax	pmax		
	comp=Z,11nm,1.3s								
MODS	**Modra-Piesok**	**79.82**	**355**		*e*	P	**P**	**01 41 53.5**	**+0.6**
BURAR	**Bucovina Array**	**79.94**	**350**	↑	P	P	**P**	**01 41 53.5**	**-0.2**
BURAR	**Bucovina Array**	**79.94**	**350**	↑	P	P	**P**	**01 41 53.5**	**-0.2**
CONA	**Conrad Observa**	**80.33**	**356**		*e*	P	**P**	**01 41 56.7**	**+1.0**
	comp=Z,6.2nm,0.9s,SNR=5.0								
KIV	**Kislovodsk**	**80.42**	**337**		*e*	P	**P**	**01 41 56.3**	**0.0**
KIV						pmax	pmax		
	comp=Z,20nm,1.0s								
KIV	**Kislovodsk**	**80.42**	**337**			P	**P**	**01 41 56.7**	**+0.4**
BIZ	**Bicaz**	**80.51**	**349**	↑	P	P	**P**	**01 41 57.5**	**+0.9**
ARCR	**ARCALIA**	**80.56**	**350**	↑	P	P	**P**	**01 41 57.5**	**+0.6**
KBZ	**Khabaz**	**80.58**	**337**		*i*	P	**P**	**01 41 58.1**	**+1.1**
KBZ	**Khabaz**	**80.58**	**337**			P	**P**	**01 41 57.8**	**+0.8**
	comp=Z,3.8nm,0.9s,baz=53,slow=1.9,SNR=8.4								
SHA1	**Shidzhatmaz**	**80.63**	**337**		*i*	P	**P**	**01 41 57.6**	**0.0**
DRGR		**81.01**	**351**	↑	P	P	**P**	**01 41 59.0**	**-0.4**
DRGR		**81.01**	**351**	↑	P	P	**P**	**01 41 59.0**	**-0.4**
ARSA	**Arzberg**	**81.02**	**356**		*e*	P	**P**	**01 42 00.4**	**+1.0**
	comp=Z,3.4nm,0.7s								
MOTA	**Moosalm**	**81.02**	**360**		*i*	P	**P**	**01 42 00.3**	**+0.8**
	comp=Z,11nm,1.3s								
WATA	**Walderalm**	**81.02**	**359**		*i*	P	**P**	**01 42 01.0**	**+1.5**
	comp=Z,3.8nm,0.6s								
WTTA	**Wattenberg**	**81.09**	**359**		*i*	P	**P**	**01 42 00.9**	**+0.9**
	comp=Z,6.0nm,0.6s								
SQTA	**Sankt Quirin**	**81.14**	**359**		*e*	P	**P**	**01 42 01.2**	**+1.0**
	comp=Z,5.5nm,0.8s,SNR=4.4								
GEYT	**Alibeck**	**81.23**	**324**			P	**P**	**01 42 01.4**	**+0.7**
	comp=Z,4.0nm,0.8s,baz=9.5,slow=3.6,SNR=6.6								
KBA	**Koelnbreinsper**	**81.25**	**358**		*i*	P	**P**	**01 42 02.1**	**+1.3**
	comp=Z,10nm,0.6s								
FETA	**Feichten**	**81.34**	**360**		*e*	P	**P**	**01 42 02.4**	**+1.1**
	comp=Z,7.3nm,0.9s								
DOPR	**Dopca**	**81.55**	**349**	↑	P	P	**P**	**01 42 02.2**	**0.0**
ABTA	**Abfaltersbach**	**81.60**	**359**		*i*	P	**P**	**01 42 03.5**	**+0.9**
	comp=Z,4.0nm,0.7s								
SOKA	**Soboth**	**81.61**	**357**		*e*	P	**P**	**01 42 03.9**	**+1.3**
	comp=Z,4.8nm,0.7s								
MYKA	**Terra Mystica**	**81.69**	**358**		*i*	P	**P**	**01 42 03.8**	**+0.7**
	comp=Z,8.9nm,1.6s								
FUORN	**Ofenpass-Fuorn**	**81.74**	**0**			P	**P**	**01 42 03.5**	**0.0**
FUORN						IAmb	IAmb	01 42 11.3	
	comp=Z,3.2nm,0.8s								
OBKA	**Obir**	**81.79**	**357**		*i*	PcP	**P**	**01 42 05.1**	**+1.5**
	comp=Z,5.1nm,0.7s								
TBLG	**Delisi**	**81.99**	**335**			P	**P**	**01 42 04.6**	**0.0**
TBLG						pmax	pmax		
	comp=Z,8.0nm,1.0s								
TBLG	**Delisi**	**81.99**	**335**			P	**P**	**01 42 04.6**	**0.0**
BZS	**Buzias**	**82.27**	**352**	↑	P	P	**P**	**01 42 04.1**	**-1.9**
BZS	**Buzias**	**82.27**	**352**	↑	P	P	**P**	**01 42 04.1**	**-1.9**
GZR	**Gura Zlata**	**82.39**	**351**	↑	P	P	**P**	**01 42 06.6**	**-0.1**
GZR	**Gura Zlata**	**82.39**	**351**	↑	P	P	**P**	**01 42 06.6**	**-0.1**
TEOL	**Teolo**	**83.00**	**359**		P	P	**P**	**01 42 09.6**	**-0.2**
BNI	**Bardonecchia**	**83.26**	**3**		P	P	**P**	**01 42 11.3**	**0.0**
BNI						pmax	pmax		
	comp=Z,5.0nm,1.0s								
BNI	**Bardonecchia**	**83.26**	**3**		P	P	**P**	**01 42 11.3**	**0.0**
OSSC	**Osservatorio P**	**84.84**	**359**		P	P	**P**	**01 42 19.2**	**-0.1**
BRTR	**Keskin Array B**	**86.42**	**342**		P	P	**P**	**01 42 27.1**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=19,slow=2.8,SNR=4.8								
ESDC	**Sonseca Array**	**87.83**	**11**		P	P	**P**	**01 42 34.3**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=357,slow=4.2,SNR=5.0								
ASAR	**Alice Springs**	**90.06**	**230**		P	P	**P**	**01 42 44.4**	**-0.2**
	comp=Z,4.2nm,0.7s,baz=34,slow=4.7,SNR=42								

ISCJB ***17*** *02:42:33.0±0.3,38.50N±0.01×21.56E±0.02,h12km±2km, mb3.6/5, MS3.7/2, Error ellipse: s-maj=2.4km s-min=2.1km az=27.9*

THE ***17*** *02:42:33.7,38.50N×21.60E,h0km±1km, ML3.4/11, Error ellipse: s-maj=1.7km s-min=0.4km az=241.0*

ATH ***17*** *02:42:33.1,38.50N×21.61E,h19km±1km, ML3.6/12, Error ellipse: s-maj=1.0km s-min=0.7km az=205.0*

NEIC ***17*** *02:42:35.3±1.6, 38.51N±0.03×21.59E±0.05, h21km±7km*

IDC ***17*** *02:42:38.5±1.7, 38.49N×21.57E, h48km±21km, mb3.5/5, mb1 3.5/12, mb1mx3.3/49, mbtmp3.5/12, ML3.8/6, MS3.6/2, Ms1 3.6/2, ms1mx2.8/41, Error ellipse: s-maj=22.5km*

s-min=13.8km az=162.0

BEO ***17*** *02:42:57.2±0.6, 40.16N×20.98E, h0km, ML2.7/4*

ISC 17 02:42:33.9±0.8, 38.50N±0.02×21.59E±0.02, h13km±5km, n218, σ1$44/271, mb4.0/8, 18C-10D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVO	**Paravola**	**0.13**	**337**	P	**Pg**	**02 42 36.9**	**-0.2**
PVO				S	**Sg**	**02 42 39.0**	**-0.5**
	43µm,0.4s						
PVO	**Paravola**	**0.13**	**337**	P	**Pg**	**02 42 36.9**	**-0.2**
PVO				S	**Sg**	**02 42 39.8**	**+0.3**
PVO				AML	AML	02 42 39.9	
	comp=N,88721µm,0.6s						
PVO				AML	AML	02 42 40.3	
	comp=E,78823µm,0.2s						
EFP	**Efpalio**	**0.26**	**107**	P	**Pg**	**02 42 38.7**	**-0.6**
EFP				S	**Sg**	**02 42 42.2**	**-0.7**
	comp=E,22µm,0.4s						
EFP	**Efpalio**	**0.26**	**107**	P	**Pg**	**02 42 38.7**	**-0.6**
EFP				S	**Sg**	**02 42 43.0**	**+0.1**
EFP				AML	AML	02 42 43.4	
	comp=E,42032µm,0.5s						
EFP				AML	AML	02 42 47.7	
	comp=N,40558µm,0.3s						
UPR	**University Cam**	**0.27**	**145**	P	**Pg**	**02 42 39.3**	**-0.2**
UPR				S	**Sg**	**02 42 43.2**	**+0.1**
UPR	**University Cam**	**0.27**	**145**	P	**Pg**	**02 42 39.2**	**-0.2**
SERG	**Sergoula**	**0.38**	**103**	P	**Pg**	**02 42 40.6**	**-0.8**
SERG				S	**Sg**	**02 42 46.2**	**-0.3**
	comp=N,16µm,0.5s						
SERG	**Sergoula**	**0.38**	**103**	P	**Pg**	**02 42 40.6**	**-0.8**
SERG				AML	AML	02 42 49.2	
	comp=N,40676µm,0.4s						
SERG				AML	AML	02 42 50.4	
	comp=E,19136µm,0.2s						
LAKA	**Lakka**	**0.40**	**130**	P	**Pg**	**02 42 41.2**	**-0.7**
LAKA				S	**Sg**	**02 42 47.5**	**+0.2**
	comp=E,4µm,0.3s						
LAKA	**Lakka**	**0.40**	**130**	P	**Pg**	**02 42 41.2**	**-0.7**
LAKA				S	**Sg**	**02 42 46.7**	**-0.6**
LAKA				AML	AML	02 42 50.5	
	comp=E,8542µm,0.3s						
LAKA				AML	AML	02 42 50.9	
	comp=N,10724µm,0.3s						
TRIZ	**Trizonia**	**0.40**	**110**	P	**Pg**	**02 42 41.0**	**-0.9**
TRIZ	**Trizonia**	**0.40**	**110**	P	**Pg**	**02 42 41.0**	**-0.9**
TRIZ				S	**Sg**	**02 42 48.0**	**+0.7**
KALE	**Kalithea**	**0.45**	**104**	P	**Pg**	**02 42 41.6**	**-1.1**
KALE				S	**Sg**	**02 42 49.1**	**+0.4**
	comp=N,7µm,0.6s						
KALE	**Kalithea**	**0.45**	**104**	P	**Pg**	**02 42 41.7**	**-1.1**
KALE				S	**Sg**	**02 42 49.0**	**+0.3**
KALE				AML	AML	02 42 51.6	
	comp=N,13400µm,0.6s						
KALE				AML	AML	02 42 52.3	
	comp=E,11360µm,0.2s						
EVR	**Evrytania**	**0.45**	**22**	P	**Pg**	**02 42 41.9**	**-0.9**
EVR				S	**Sg**	**02 42 48.9**	**+0.1**
	comp=E,4µm,0.5s						
EVR	**Evrytania**	**0.45**	**22**	P	**Pg**	**02 42 42.0**	**-0

DID	Didima	1.64	127	P		Pn	02 43 02.8 +0.4
KRND	KRANIDI	1.66	132	P		Pn	02 43 03.0 +0.2
KRND	KRANIDI	1.66	132	P		Pn	02 43 03.0 +0.2
PENT	Pentalofos	1.73	348	P		Pb	02 43 05.6 0.0
LIT	Litokhoron	1.74	23	P		Pn	02 43 04.7 +0.8
LIT	Litokhoron	1.74	23	P		Pn	02 43 04.5 +0.6
LIT	Litokhoron	1.74	23			Pn	02 43 04.8 +0.8
LIT					Sn	Sb	02 43 27.4 -0.2
ATH	Athens Observa	1.76	107	P		Pn	02 43 04.3 +0.3
ATH	Athens Observa	1.76	107	P		Pn	02 43 04.5 +0.5
ATHU	Athens Univers	1.81	106	P		Pn	02 43 05.0 +0.2
KZN	Kozani	1.81	4	P		Pb	02 43 06.6 -0.3
KZN	Kozani	1.81	4	P		Pb	02 43 06.3 -0.6
ERA	Eretria	1.84	92	P		Pn	02 43 05.7 +0.4
ERA	Eretria	1.84	92	P		Pn	02 43 05.6 +0.4
KEK	Kerkira	1.85	312	P		Pb	02 43 06.8 -0.7
PTL	Penteli	1.85	103	P		Pn	02 43 05.6 +0.3
SRN	Sarande	1.85	319	P		Pb	02 43 06.9 -0.7
VLY	Voula,Athens	1.85	110	P		Pn	02 43 05.7 +0.3
VLY	Voula,Athens	1.85	110	P		Pn	02 43 05.7 +0.3
VLI	Veliai	2.08	149	P		Pn	02 43 09.4 +0.9
VLI	Veliai	2.08	149	P		Pn	02 43 09.3 +0.9
FNA	Florina	2.29	356	P		Pb	02 43 13.4 -1.6
FNA	Florina	2.29	356	*e*Pn		Pb	02 43 13.7 -1.3
FNA	Florina	2.29	356	P		Pb	02 43 13.5 -1.6
FNA	Florina	2.29	356			Pn	02 43 11.7 +0.3
FNA					Sn	Sn	02 43 38.5 -1.0
KARY	Karystos	2.29	101	P		Pn	02 43 11.9 +0.6
PLG	Polygyros	2.36	37	P		Pn	02 43 12.5 +0.1
OUR	Ouranopolis	2.60	45	P		Pn	02 43 15.8 +0.1
SOH	Sokhos	2.69	30	P		Pn	02 43 17.5 +0.6
KNT	Kendrikon	2.84	29	P		Pn	02 43 18.0 +1.8
SCTE	Santa Cesarea	2.89	304	P		Pn	02 43 20.2 +0.7
SCTE	Santa Cesarea	2.89	304	Pn		Pn	02 43 19.9 +0.4
SCTE				Sn		Sn	02 43 55.7 +1.5
VAY	Valandovo	2.92	15	*i* Pn		Pn	02 43 22.3 +2.3
TIR	Tirane	3.14	336	*e*Pn		Pn	02 43 25.4 +2.4
TIR	Tirane	3.14	336	⇑P		Pn	02 43 25.2 +2.2
TIR					AML	AML	02 44 45.6
TIR	Tirane	3.14	336			Pn	02 43 24.0 +0.9
TIR				Sn		Sn	02 44 01.9 +1.5
STIP	Stip	3.22	8	*i* Pn		Pn	02 43 27.1 +2.9
NVR	Nevrokopi	3.34	31	P		Pn	02 43 27.1 +1.3
APE	Apeiranthos	3.43	113	⇑P		Pn	02 43 25.1 -2.1
APE				⇓S		Sn	02 44 04.1 -3.7
SKO	Skopje	3.47	358	*e*Pn		Pn	02 43 28.9 +1.3
TIP	Timpagrande	3.83	282	P		Pn	02 43 33.6 +1.0
TIP	Timpagrande	3.83	282	⇑P		Pn	02 43 33.7 +1.0
TIP				⇑S		Sn	02 44 19.7 +2.0
TIP					AML	AML	02 45 13.4
TIP	Timpagrande	3.83	282			Pn	02 43 32.8 +0.2
TIP				Sn		Sn	02 44 18.3 +0.6
BOSS	Bosilegrad	4.05	9	*e*Pn		Pn	02 43 38.4 +2.8
DRME	Dracevica, Mon	4.12	334	*e*Pn		Pn	02 43 37.2 +0.7
ALN	Alexandroupoli	4.19	54	Pn		Pn	02 43 38.4 +0.9
VTS	Vitosha	4.30	16	*e*Sn		Sn	02 44 22.0 -7.3
VTS	Vitosha	4.30	16	⇓P		Pn	02 43 40.5 +1.3
VTS				⇑S		Sn	02 44 31.5 +2.2
VTS					AML	AML	02 44 38.1
VTS	Vitosha	4.30	16			Pn	02 43 40.3 +1.2
VTS				Sn		Sn	02 44 29.8 +0.5
PDG	Podgorica	4.31	336	*e*Pn		Pn	02 43 41.3 +2.2
PDG	Podgorica	4.31	336	*e*Pn		Pn	02 43 40.7 +1.6
PDG	Podgorica	4.31	336	⇑P		Pn	02 43 40.8 +1.6
PDG				⇑S		Sn	02 44 33.4 +4.2
PDG	Podgorica	4.31	336			Pn	02 43 39.0 -0.1
PDG				Sn		Sn	02 44 30.5 +1.3
BARS	Barje	4.31	2	*e*Pn		Pn	02 43 41.9 +2.7
MATE	Matera	4.34	301	⇓P		Pn	02 43 41.3 +1.8
MATE					AML	AML	02 44 47.1
SG1	Sgolgore (BA)	4.45	303	*e*Pn		Pn	02 43 42.1 +1.0
SG1				Sn		Sn	02 44 32.5 -0.3
BAI	Bari	4.46	307	*e*Pn		Pn	02 43 41.9 +0.6
HCY	Herceg Novi	4.59	330	*e*Pn		Pn	02 43 42.0 -1.1
SELS	Selova	4.73	356	*e*Pn		Pn	02 43 45.8 +0.9
ZAPS	Zavoj	4.83	9	*e*Pn		Pn	02 43 49.0 +2.6
TREB	Trebinje	4.88	331	*e*Pn		Pn	02 43 50.4 +3.4
TREB				*e*Sg		Sn	02 44 39.2 -4.1
TREB	Trebinje	4.88	331	*e*Pn		Pn	02 43 46.3 -0.7
SJES	Sjenica	4.91	346	*e*Pn		Pn	02 43 49.4 +1.9
ACER	Acerenza	4.92	299			Pn	02 43 48.7 +1.1
ACER				Sn		Sn	02 44 43.7 -0.7
BRY	Bratogost	4.97	333	*e*Pn		Pn	02 43 48.2 -0.1
BOVS	Bovan	5.13	1	*e*Pn		Pn	02 43 52.6 +2.2
BLKB	Belogradchik	5.18	29	⇓S		Sn	02 44 20.0 +2.2
IVAS	Ivanjica	5.18	348	*e*Pn		Pn	02 43 52.5 +1.3
STON	Ston	5.27	327	*e*Pn		Pn	02 43 51.6 -0.7
STON	Ston	5.27	327	*e*Pn		Pn	02 43 51.7 -0.7
ZAGS	Zajecar	5.33	5	*e*Pn		Pn	02 43 55.8 +2.7
ZAGS				*e*Sg		Sn	02 44 56.1 +1.7
RUDO	Rudo	5.38	343	*e*Pn		Pn	02 43 53.4 -0.5
PLVB	Pleven	5.39	24	⇓P		Pn	02 43 54.6 +0.6
PLVB				⇑S		Sn	02 44 59.8 +3.8
GRUS	Gruza	5.42	353	*e*Pn		Pn	02 43 56.7 +2.3
ELND	Elena	5.49	35	⇓P		Pn	02 43 56.1 +0.7
ELND				⇑S		Sn	02 45 00.3 +1.9
SGRT	San Giovanni R	5.53	308	Pn		Pn	02 43 56.0 0.0
SGRT				Sn		Sn	02 44 58.0 -1.6
BBLS	Lazići	5.61	344	*e*Pn		Pn	02 43 57.4 +0.4
BBLS	Lazići	5.61	344	*e*Pn		Pn	02 43 58.0 +1.0
DIVS	Divibare	5.72	348	*e*Pn		Pn	02 43 58.9 +0.3
DIVS				*e*Sg		Sn	02 45 04.1 -0.1
DIVS	Divibare	5.72	348	*e*Pn		Pn	02 43 58.0 -0.6
VAE	Valguarnera	5.76	262	P		Pn	02 44 00.9 +1.7
	comp=E,0.3nm,0.3s,baz=184,slow=19,SNR=2.8						
VAE				S		Sn	02 45 07.5 +2.3
	comp=E,0.6nm,0.3s,baz=31,slow=5.9,SNR=2.6						
TRUS	Trudelj	5.79	352	*e*Pn		Pn	02 44 01.0 +1.6
RAFF	Raffo Rosso	5.86	260	Pn		Pn	02 43 59.3 -1.2
RAFF				Sn		Sn	02 45 06.0 -1.5
MAKA	Makarska	5.90	326	*i* Pn		Pn	02 44 00.3 -0.7
MAKA				Sn		Sn	02 45 05.0 -3.5
HAPS	Han Pijesak,BI	5.92	341	*e*Pn		Pn	02 44 00.1 -1.3
PAOL	Paolisi	5.97	297			Pn	02 44 01.9 -0.1
RICI	Ricice	6.02	327	iPn		Pn	02 44 02.2 -0.5
RICI				Sn		Sn	02 45 00.7 -4.0
HVAR	Hvar	6.08	322	*e*Pn		Pn	02 44 02.1 -1.4
MDVR	Moldovita	6.28	1	⇑P		Pn	02 44 08.4 +2.2
MDVR				⇑S		Sn	02 45 22.6 +4.8
CORL	Corleone	6.55	267	Pn		Pn	02 44 10.6 +0.5
CLTB	Caltabellotta	6.67	265	Pn		Pn	02 44 13.4 +1.7
KIJV	Kijevo	6.74	326	*e*Pn		Pn	02 44 12.4 -0.2
KIJV				Sn		Sn	02 45 24.6 -4.7
FRGS	Fruska Gora	6.78	349	*e*Pn		Pn	02 44 13.5 +0.4
MGRS	Mrkonjic Grad	6.81	332	*e*Pn		Pn	02 44 13.4 -0.1
ELL	Elmali	6.83	102	Pn		Pn	02 44 14.4 +0.5
ZIRJ	Zirje	6.83	321	*e*Pn		Pn	02 44 12.9 -0.9
ZIRJ				Sn		Sn	02 45 26.9 -4.5
INTR	Introdacqua	6.84	303			Pn	02 44 14.2 +0.2
GZR	Gura Zlata	6.94	7	⇓P		Pn	02 44 17.1 +1.7
GZR				⇑S		Sn	02 45 35.1 +0.8
MORI	Morici	6.96	322	*i* Pn		Pn	02 44 15.6 +0.1
BLY	Banja Luka	7.06	334	*e*Pn		Pn	02 44 15.5 -1.4
BLY	Banja Luka	7.06	334	⇑P		Pn	02 44 19.0 +2.1
BLY				⇑S		Sn	02 45 39.1 +2.1
BLY	Banja Luka	7.06	334	Pn		Pn	02 44 16.8 -0.1
BZS	Buzias	7.11	0	⇓P		Pn	02 44 19.5 +1.9
AQU	L'Aquila	7.33	304	*e*Pn		Pn	02 44 19.9 -0.9
AQU	L'Aquila	7.33	304	Pn		Pn	02 44 21.2 +0.5
DUGI	Dugi Otok	7.37	320	*e*Pn		Pn	02 44 20.9 -0.3
VOIR		7.39	19	⇑P		Pn	02 44 23.0 +1.5
UDBI	Udbina	7.44	326	*e*Pn		Pn	02 44 23.2 +1.0
MLR	Muntele Rosu	7.70	23	P		Pn	02 44 30.1 +4.3
	comp=E,0.9nm,0.3s,baz=312,slow=8.2,SNR=5.9						
MLR	Muntele Rosu	7.70	23	⇑P		Pn	02 44 27.0 +1.2
MLR	Muntele Rosu	7.70	23			Pn	02 44 26.6 +0.8
NRCA	Norcia	7.76	307			Pn	02 44 27.7 +1.1
NRCA				Sn		Sn	02 45 51.5 -2.8
NVLJ	Novalja	7.88	322	*e*Pn		Pn	02 44 28.5 +0.4
DOPR	Dopca	7.97	19	⇓P		Pn	02 44 30.6 +1.1
MORH	Mrgy, Hungar	8.01	345	*e*Pn		Pn	02 44 26.6 -3.3
PLOR	Plostina	8.25	25	⇑P		Pn	02 44 34.1 +0.8
VRI	Vrincioaia	8.29	26	⇑P		Pn	02 44 35.1 +1.4
CRES	Cresnjev	8.62	330	*e*Pn		Pn	02 44 37.0 -1.3
BRJN	Brijuni	8.68	320	*e*Pn		Pn	02 44 38.6 -0.5
CEY	Cerknica	8.98	326	*e*Pn		Pn	02 44 42.3 -0.9
BR131	Keskin Array S	9.45	79	Pn		Pn	02 44 50.8 +1.0
BRTR	Keskin Array B	9.45	79	P		Pn	02 44 52.5 +2.7
	comp=E,0.3nm,0.3s,baz=256,slow=12,SNR=12						
PSZ	Piszkesteto	9.49	353	⇓P		Pn	02 44 52.9 +2.5
VYHS	Vyhne	10.19	350	*e*PN		Pn	02 45 03.4 +3.6
CTI	Castel Tesino	10.53	319	Pn		Pn	02 45 03.3 -1.4
ABTA	Abfaltersbach	10.61	324	*i* Pn		Pn	02 45 05.1 -0.5
	comp=E,0.9nm,0.3s						
MOA	Molln	10.76	333	*e*Pn		Pn	02 45 09.0 +1.4
	comp=E,1.5nm,0.4s						
WTTA	Wattenberg	11.39	323	*i* Pn		Pn	02 45 16.8 +0.3
	comp=E,1.4nm,0.5s						
WATA	Walderalm	11.47	324	*i* Pn		Pn	02 45 18.2 +0.7
	comp=E,0.8nm,0.3s						
SQTA	Sankt Quirin	11.56	322	*i* Pn		Pn	02 45 19.2 +0.5
	comp=E,1.4nm,0.4s						
FETA	Feichten	11.66	320	*e*Pn		Pn	02 45 20.4 +0.3
	comp=E,0.5nm,0.4s						
MOTA	Moosalm	11.70	322	*e*Pn		Pn	02 45 20.7 +0.1
	comp=E,1.7nm,0.5s						
GERES	GERESS Array B	11.80	334	P		Pn	02 45 22.7 +0.7
	comp=E,0.2nm,0.3s,baz=156,slow=17,SNR=4.2						
DAVOX	Davos/Dischmat	11.94	318	P		Pn	02 45 26.8 +2.9
	comp=E,0.2nm,0.3s,baz=130,slow=17,SNR=3.8						
MMAI	Mount Meron Ar	12.48	112	P		Pn	02 45 32.8 +1.5
	comp=E,0.3nm,0.3s,baz=336,slow=13,SNR=3.3						
ESDC	Sonseca Array	19.85	281	P		Pn	02 47 06.6 +0.4
	comp=E,0.1nm,0.3s,baz=79,slow=12,SNR=3.1						
HFS	Hagfors	22.22	350	P		P	02 47 30.1 +0.1
	comp=E,4.1nm,1.0s,baz=153,slow=13,SNR=4.6						
NOA	NORSAR Array B	23.48	347	P		P	02 47 43.3 +0.2
	comp=E,0.7nm,0.8s,baz=154,slow=8.3,SNR=2.7						
TORD	Torodi Ar. Bea	30.82	220	P		P	02 48 49.9 +0.3
	comp=E,0.4nm,0.6s,baz=35,slow=8.9,SNR=5.1						
KK31	Karatay Array	36.90	67	P		P	02 49 41.9 -0.4
KK31				IAmb	IAmb		02 50 34.0
	comp=Z,11nm,1.9s						
KKAR	Karatay Array	36.90	67	P		P	02 49 41.8 -0.4
KKAR				IAmb	IAmb		02 50 34.0
	comp=Z,11nm,1.9s						
MK31	Makanchi Array	44.42	59	P		P	02 50 43.4 -0.9
MK31				IAmb	IAmb		02 52 22.0
	comp=Z,3.1nm,1.1s						
MKAR	Makanchi Array	44.42	59	P		P	02 50 44.1 -0.1
	comp=Z,0.9nm,0.5s,baz=275,slow=7.5,SNR=14						
ZALV	Zalesovo Beam	44.85	48	P		P	02 50 47.7 +0.1
	comp=Z,1.7nm,0.7s,baz=282,slow=8.9,SNR=5.7						
FRB	Frobisher Bay	56.33	328	LR		LR	03 17 49.3
	comp=Z,76nm,18.1s,baz=152,slow=38						
TXAR	Lajitas Array	95.35	314	LR		LR	03 38 05.6
	comp=Z,18nm,19.0s,baz=0.0,slow=35						

ISCJB ***17*** *03:00:59.4±0.5, 83°.69N±0°.08×3°.5W±0°.6, h10km, mb3.5/9, MS3.4/10, Error ellipse: s-maj=13.3km s-min=8.0km az=30.0*

IDC ***17*** *03:01:00.3±0.7, 83°.76N×2°.70W, h0km, mb3.6/9, mb1 3.9/11, mb1mx3.6/36, mbtmp3.7/11, ML3.4/2, MS3.5/12, Ms1 3.5/12, ms1mx3.1/49, Error ellipse: s-maj=26.3km s-min=14.3km az=45.0*

NEIC ***17*** *03:01:02.5±1.1, 83°.8N±0°.1×2°.8W±0°.6, h15km±5km, mb4.0/5*

ISC 17 03:01:01.1±0.6, 83°.67N±0°.07×2°.24W±0°.07, h10km, n31, σ1s91/25, mb3.7/11, MS3.5/10, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	5.20	149	*e*P		Pg		03 02 48.7	+8.1
KBS				*e*S		Sg		03 04 01.2	+13
SPA0	Spitsbergen Ar	6.20	142	Pn		Pn		03 02 34.9	+2.4
SPITS	Spitsbergen Ar	6.20	142	Pn		Pn		03 02 32.6	+0.2
	baz=4.8,slow=11,SNR=12								
SPITS				Sn		Sn		03 03 39.1	-4.1
	baz=19,slow=18,SNR=2.0								
ZFI2	Zemlya Franca-	7.07	87	*e*P		Pn		03 02 43.0	-1.4
ZFI2				*e*S		Sn		03 03 49.8	-15
	22nm,1.0s								
HSPB	Hornsund (broa	7.27	147	*e*P		Pg		03 03 19.3	-0.8
HSPB				*e*S		Sg		03 04 50.8	-3.3
TULEG	Thule	12.45	274	Pn		Pn		03 03 55.2	-2.7
SUMG	Summit	12.93	233			Pn		03 04 05.4	+0.5
ARCES	ARCESS Array B	15.23	141	Pn		Pn		03 04 35.3	-0.5
	0.2nm,0.3s,baz=348,slow=11,SNR=4.0								
RES	Resolute Bay	16.92	294	Pn		Pn		03 04 53.9	-3.6
	0.1nm,0.3s,baz=17,slow=13,SNR=4.8								
RES				LR		LR		03 11 12.7	
	comp=Z,133nm,20.7s,baz=18,slow=36								
RES	Resolute Bay	16.92	294			Pn		03 04 54.6	-2.8
SFJD	Kangerlussuaq	19.47	242	LR		LR		03 12 58.7	
	comp=Z,135nm,18.1s,baz=40,slow=37								
INK	Inuvik	26.45	321	P		P		03 06 36.8	-0.6
	1.1nm,0.7s,baz=0.1,slow=11,SNR=6.1								
INK				LR		LR		03 18 04.0	
	comp=Z,43nm,20.4s,baz=92,slow=39								
INK	Inuvik	26.45	321	P		P		03 06 36.9	-0.5
INK				IAmb		IAmb		03 06 49.8	
	comp=Z,2.9nm,1.1s								
KIRV	Kirov	28.04	119	LR		LR		03 19 02.0	
	comp=Z,118nm,19.5s,baz=127,slow=38								
OBN	Obninsk	30.33	135	P		P		03 07 14.2	+2.0
YKA	Yellowknife Ar	30.62	303	P		P		03 07 14.6	0.0
	comp=Z,0.1nm,0.7s,baz=9.7,slow=7.7,SNR=3.3								
YKA				PcP		PcP		03 10 12.6	+0.2
	comp=Z,0.2nm,0.7s,baz=6.9,slow=2.9,SNR=4.2								
ILAR	Eielson Array	30.78	331	P		P		03 07 16.2	+0.1
	comp=Z,0.8nm,0.8s,baz=1.6,slow=8.2,SNR=12								
ILAR				LR		LR		03 20 29.2	
	comp=Z,45nm,18.9s,baz=342,slow=38								
FCC	Fort Churchill	32.19	282	P		P		03 07 27.5	-0.9
FCC				IAmb		IAmb		03 07 29.8	
	comp=Z,0.4nm,0.5s								
GERES	GERESS Array B	35.25	162	P		P		03 07 57.3	+1.9
	comp=Z,0.6nm,0.8s,baz=12,slow=10.0,SNR=3.3								
ZALV	Zalesovo Beam	36.39	84	P		P		03 08 05.4	+0.4
	comp=Z,0.7nm,0.3s,baz=359,slow=8.6,SNR=2.3								
ZALV				LR		LR		03 25 09.3	
	comp=Z,73nm,20.2s,baz=74,slow=40								
KDAK	Kodiak Island	38.05	335	LR		LR		03 24 52.9	
	comp=Z,33nm,18.5s,baz=24,slow=38								
ULM	Lac du Bonnet	40.76	281	LR		LR		03 26 57.4	
	comp=Z,70nm,19.4s,baz=19,slow=38								
KBZ	Khabaz	42.16	130	LR		LR		03 26 29.0	
	comp=Z,104nm,18.1s,baz=338,slow=36								
MKAR	Makanchi Array	43.17	89	LR		LR		03 31 08.0	
	comp=Z,55nm,19.2s,baz=337,slow=42								
SONM	Songino Array	44.73	65	P		P		03 09 15.0	+1.0
	comp=Z,2.6nm,1.0s,baz=346,slow=7.7,SNR=9.5								
ULN	Ulaanbaatar	44.76	64	P		P		03 09 15.2	+0.9
ULN				IAmb		IAmb		03 09 22.0	
	comp=Z,6.5nm,0.9s								
BRTR	Keskin Array B	45.41	141	P		P		03 09 21.4	+1.8
	comp=Z,0.5nm,0.8s,baz=323,slow=11,SNR=3.1								
GEYT	Jelbeck	49.33	115	LR		LR		03 33 46.6	
	comp=Z,41nm,21.1s,baz=350,slow=40								
PDAR	Pinedale Array	49.61	293	LR		LR		03 29 22.0	
	comp=Z,78nm,19.1s,baz=28,slow=34								
TXAR	Lajitas Array	62.28	285	P		P		03 11 23.3	+0.4
	comp=Z,0.6nm,0.8s,baz=11,slow=3.9,SNR=7.6								
TORD	Torodi Ar. Bea	70.58	176	P		P		03 12 16.9	+0.9
	comp=Z,0.3nm,0.8s,baz=356,slow=6.6,SNR=2.9								

IDC 17 03:07:46.6±2.1, 1°.04N×126°.68E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/30, mbtmp3.6/3, Error ellipse: s-maj=177.0km s-min=26.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.16	161	P		P		03 12 43.6	-0.7
	1.4nm,0.5s,baz=339,slow=11,SNR=19								
ASAR	Alice Springs	25.54	164	P		P		03 13 17.6	+0.4
	1.0nm,0.4s,baz=347,slow=13,SNR=16								
MKAR	Makanchi Array	59.74	326	P		P		03 17 53.2	-0.1
	0.3nm,0.6s,baz=123,slow=7.4,SNR=4.4								

IDC ***17*** *03:22:04.5±4.8, 22°.24S×68°.43W, h0km, mb3.8/1, mb1 3.8/2, mb1mx3.4/18, mbtmp3.7/2, ML3.6/1, Error ellipse: s-maj=142.2km s-min=54.3km az=69.0*

SJA ***17*** *03:22:17.9±0.6, 21°.23S×68°.87W, h130km±7km, ML3.0, MW3.3*

ISCJB ***17*** *03:22:18.6±0.6, 21°.20S±0°.03×68°.91W±0°.07, h122km±7km, mb3.5/1, Error ellipse: s-maj=11.0km s-min=5.5km az=179.7*

GUC ***17*** *03:22:18.9±0.6, 21°.19S×68°.85W, h108km±4km, ML3.5*

ISC 17 03:22:19.6±1.0, 21°.21S±0°.04×68°.90W±0°.06, h112km±9km, n21, σ0s59/33, 4C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.67	209	⇑*i*P		Pn		03 22 37.8	-0.3
PB09				*i* S		Sn		03 22 52.1	-0.1
PB09				IAML				03 22 53.3	
	comp=E,1μm,0.3s								
PB07	IPOC Station P	1.06	240	⇑*i*P		Pn		03 22 41.6	-0.1
PB07				*i* S		Sn		03 22 58.9	+0.4
PB07				IAML				03 23 00.4	
	comp=N,2μm,0.3s								
PB08	IPOC Station P	1.09	347	*i* P		Pn		03 22 42.1	-0.2
PB08				*i* S		Sn		03 22 59.3	-0.1
PB03	IPOC Station P	1.16	223	⇓*i*P		Sn		03 22 42.7	-0.1
PB03				*i* S		Sn		03 23 00.6	+0.3
PB03				IAML				03 23 01.5	
	comp=N,1μm,0.3s								
TA01	Diego Aracena	1.36	298	⇑*i*P		Pn		03 22 44.8	0.0
TA01				*i* S		Sn		03 23 04.7	+0.6
TA01				IAML				03 23 05.5	
	comp=E,1μm,0.3s								
LVC	Limon Verde	1.40	181	⇑*i*P		Pn		03 22 45.7	0.0
LVC				*i* S		Sn		03 23 05.7	+0.2
LVC	Limon Verde	1.40	181	*i* P		Pn		03 22 45.7	0.0
LVC				*e*S		Sn		03 23 06.5	+1.0
LVC				IAML				03 23 13.8	
	comp=Z,77nm,0.1s								
PB11	IPOC Station P	1.60	333	⇓*i*P		Pn		03 22 47.6	-0.3
PB11				*i* S		Sn		03 23 09.4	-0.1
PB11				IAML				03 23 10.7	
	comp=N,514nm,0.2s								
PB04	IPOC Station P	1.62	226	*i* P		Pn		03 22 48.2	+0.1
PB04				*e*S		Sn		03 23 11.2	+1.3
PB06	IPOC Station P	1.62	203	*i* P		Pn		03 22 48.1	0.0
PB06				*i* S		Sn		03 23 10.4	+0.5
PB06				IAML				03 23 12.6	
	comp=E,605nm,0.2s								
PB06	IPOC Station P	1.62	203	*i* P		Pn		03 22 48.1	0.0
PB06				*e*S		Sn		03 23 10.7	+0.8
PB06				IAML				03 23 15.2	
	comp=Z,332nm,0.2s								
PB05	IPOC Station P	2.04	216	*i* P		Pn		03 22 53.6	+0.3
PB05				IAML				03 23 22.5	
	comp=Z,155nm,0.4s								
PB15	IPOC Station P	2.06	195	*i* P		Pn		03 22 53.8	+0.1
PB15				*e*S		Sn		03 23 19.9	+0.1
PB10	IPOC Station P	2.76	213	*i* P		Pn		03 23 01.9	-0.6
PB10				IAML				03 23 57.1	
	comp=Z,55nm,0.4s								
YJA	Yavi	3.29	108	*i* P		Pn		03 23 09.8	-0.1
PB14	IPOC Station P	3.68	202	*i* P		Pn		03 23 15.0	0.0
PB14				IAML				03 24 17.9	
	comp=Z,320nm,0.4s								
HJA	Humahuaca	3.79	122	*i* P		Pn		03 23 16.8	+0.2
HJA				IAML				03 24 47.7	
	comp=Z,4.0nm,2.4s								
LPAZ	La Paz	4.95	9	Pn		Pn		03 23 34.1	+1.8
	comp=Z,0.9nm,0.3s,baz=190,slow=6.1,SNR=22								
LPAZ	La Paz	4.95	9	*i* P		Pn		03 23 32.5	+0.2
TORD	Torodi Ar. Bea	77.25	70	P		P		03 34 00.7	-1.2
	comp=Z,0.4nm,0.5s,baz=250,slow=5.0,SNR=12								
MKAR	Makanchi Array	145.39	36	PKPbc		PKPab		03 41 45.3	+0.6
	comp=Z,0.4nm,0.5s,baz=327,slow=3.8,SNR=3.8								

IDC ***17*** *03:25:29.9±0.9, 20°.68N×146°.80E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/42, mbtmp3.8/8, Error ellipse: s-maj=33.0km s-min=21.6km az=87.0*

ISCJB ***17*** *03:25:34.3±0.9, 20°.6N±0°.1×146°.7E±0°.2, h44km, mb3.7/8, Error ellipse: s-maj=31.8

comp=Z,0.8nm,0.7s,baz=28,slow=3.1,SNR=5.2
ASAR LR LR 03 55 58.2
comp=Z,45nm,20.8s,baz=40,slow=36
DZM Mont Dzumac 46.58 155 LR LR 03 54 26.4
comp=Z,57nm,19.2s,baz=34,slow=33
BILL Bilibino 48.87 10 P **P 03 37 16.2 -0.3**
BILL IAmb IAmb 03 37 18.4
comp=Z,5.2nm,0.9s
LSA Lhasa 50.85 292 P **P 03 37 31.2 -1.5**
LSA IAmb IAmb 03 37 37.6
comp=Z,14nm,1.1s
STKA Stephens Creek 52.52 186 P **P 03 37 45.9 +1.5**
comp=Z,0.4nm,0.3s,baz=36,slow=9.1,SNR=3.3
STKA LR LR 04 01 19.7
comp=Z,33nm,20.1s,baz=23,slow=38
STKA Stephens Creek 52.52 186 P **P 03 37 44.6 +0.2**
STKA IAmb IAmb 03 38 02.5
comp=Z,0.6nm,0.9s
KDAK Kodiak Island 57.07 34 LR LR 03 58 54.6
comp=Z,57nm,20.2s,baz=288,slow=32
ZAA0 Zalesovo Array 57.16 322 P **P 03 38 16.8 -1.0**
ZAA0 IAmb IAmb 03 38 18.1
comp=Z,9.5nm,0.7s
ZALV Zalesovo Beam 57.16 322 P **P 03 38 17.5 -0.2**
comp=Z,9.7nm,0.6s,baz=99,slow=6.6,SNR=27
ZALV PcP **PcP 03 39 11.2 -0.8**
comp=Z,2.5nm,0.6s,baz=115,slow=3.6,SNR=3.6
MK31 Makanchi Array 57.94 313 P **P 03 38 22.4 -1.0**
MK31 IAmb IAmb 03 38 24.3
comp=Z,5.2nm,0.9s
MKAR Makanchi Array 57.94 313 P **P 03 38 23.4 0.0**
comp=Z,5.0nm,0.8s,baz=93,slow=8.8,SNR=29
MKAR PcP **PcP 03 39 15.4 +0.1**
comp=Z,1.5nm,0.8s,baz=94,slow=7.3,SNR=2.6
MAKZ Makanchi 58.15 313 P **P 03 38 23.6 -1.3**
MAKZ IAmb IAmb 03 38 26.0
comp=Z,8.8nm,0.9s
KURK Kurchatov 60.58 317 P **P 03 38 39.5 -2.0**
KURK IAmb IAmb 03 38 42.3
comp=Z,8.4nm,0.8s
ILAR Eielson Array 61.35 27 P **P 03 38 46.2 -0.4**
comp=Z,2.2nm,1.1s,baz=248,slow=5.6,SNR=8.3
NRN Naryn 62.51 307 P **P 03 38 53.7 -1.4**
NRN IAmb IAmb 03 39 09.7
comp=Z,4.5nm,1.1s
KSH Kashi 62.68 305 *eP* **P 03 38 58.8 +2.7**
KSH pmax pmax
comp=Z,640nm,5.5s
BRVK Borovoye 65.75 320 P **P 03 39 15.9 +0.1**
BRVK IAmb IAmb 03 39 17.1
comp=Z,14nm,0.8s
KK31 Karatay Array 66.40 309 P **P 03 39 20.1 -0.1**
KK31 IAmb IAmb 03 39 24.0
comp=Z,6.3nm,0.9s
KKAR Karatay Array 66.40 309 P **P 03 39 19.8 -0.4**
KKAR IAmb IAmb 03 39 24.0
comp=Z,6.3nm,0.9s
INK Inuvik 67.09 23 P **P 03 39 23.5 -0.6**
comp=Z,3.2nm,1.1s,baz=253,slow=4.5,SNR=5.0
CHGR Chuyangaron 68.05 304 P **P 03 39 30.8 0.0**
CHGR IAmb IAmb 03 39 31.7
comp=Z,9.6nm,0.9s
KBL Kabul 68.87 300 P **P 03 39 35.0 -1.1**
KBL IAmb IAmb 03 39 48.2
comp=Z,10nm,1.1s
ABKAR Akbulak array 72.68 317 P **P 03 39 58.0 -0.7**
ABKAR IAmb IAmb 03 39 59.5
comp=Z,5.3nm,0.9s
YKA Yellowknife Ar 75.69 28 P **P 03 40 16.3 +0.3**
comp=Z,2.1nm,0.9s,baz=289,slow=5.5,SNR=20
GEYT Alibeck 76.68 306 P **P 03 40 22.8 +0.6**
comp=Z,1.3nm,0.4s,baz=198,slow=4.2,SNR=3.7
PINE Pine Mountain 77.47 48 P **P 03 40 27.5 +0.8**
PINE IAmb IAmb 03 40 29.2
comp=Z,8.5nm,1.1s
BMO Blue Mountains 79.63 46 P **P 03 40 36.2 -2.3**
BMO IAmb IAmb 03 40 40.4
comp=Z,2.9nm,1.1s
YERR Yerington 80.14 52 IAmb IAmb 03 40 55.7
comp=Z,4.7nm,1.2s
ARCES ARCESS Array B 80.95 342 P **P 03 40 45.2 +0.1**
comp=Z,4.0nm,0.9s,baz=64,slow=6.1,SNR=3.8
KVN Kaiserville 80.96 52 P **P 03 40 45.4 -0.5**
KVN IAmb IAmb 03 40 48.2
comp=Z,5.3nm,1.2s
NVAR Mina Array Bea 81.01 52 P **P 03 40 47.7 +1.5**
comp=Z,2.9nm,0.9s,baz=269,slow=6.1,SNR=18
NVAR LR LR 04 10 58.9
comp=Z,32nm,19.6s,baz=322,slow=31
NV11 Mina Array Sit 81.12 52 IAmb IAmb 03 40 52.8
comp=Z,3.6nm,1.1s
ELK Elko 82.45 49 P **P 03 40 51.5 -2.3**
TPNV Topopah Spring 83.04 53 IAmb IAmb 03 40 59.7
comp=Z,2.7nm,0.8s
R11A Troy Canyon, C 83.05 52 P **P 03 40 57.3 +0.5**
R11A IAmb IAmb 03 40 59.9
comp=Z,3.4nm,1.1s
YHL Hebgen Lake 83.70 44 IAmb IAmb 03 41 03.7
comp=Z,3.1nm,0.9s
YHH Holmes Hill 83.95 44 IAmb IAmb 03 41 06.3
comp=Z,2.5nm,1.0s
SHPR Sheep Range 84.02 53 IAmb IAmb 03 41 04.5
comp=Z,2.6nm,1.0s
PFO Pinyon Flats O 84.06 56 LR LR 04 08 42.5
comp=Z,26nm,21.5s,baz=272,slow=29
SPUT South Promonto 84.21 48 IAmb IAmb 03 41 08.5
comp=Z,3.0nm,1.1s
DUG Dugway, Tooele 84.37 49 IAmb IAmb 03 41 10.0
comp=Z,2.0nm,1.0s
HWUT Hardware Ranch 84.70 48 IAmb IAmb 03 41 06.8
comp=Z,3.1nm,0.9s
RLMT Red Lodge 84.84 44 IAmb IAmb 03 41 08.9
comp=Z,6.3nm,1.1s
NLU North Lily Min 84.99 49 IAmb IAmb 03 41 09.5
comp=Z,2.9nm,0.9s
LCMT Little Creek M 85.26 52 IAmb IAmb 03 41 13.6
comp=Z,2.8nm,1.0s
KBZ Khabaz 85.56 315 P **P 03 41 08.9 -0.3**
comp=Z,3.0nm,0.9s,baz=87,slow=3.7,SNR=5.5
FINES FINESS Array B 85.56 336 P **P 03 41 08.3 -0.5**
comp=Z,6.5nm,0.7s,baz=55,slow=4.0,SNR=9.6
KNB Kanab 85.57 52 P **P 03 41 09.6 -0.1**
KNB IAmb IAmb 03 41 12.6
comp=Z,10nm,1.2s
PDAR Pinedale Array 85.61 46 P **P 03 41 09.9 +0.1**
comp=Z,0.7nm,0.8s,baz=270,slow=3.0,SNR=6.1
PDAR LR LR 04 15 06.6
comp=Z,27nm,19.3s,baz=19,slow=33
TMUT Trail Mountain 85.86 50 IAmb IAmb 03 41 27.2
comp=Z,4.7nm,1.0s
Q16A Castle Valley 86.04 50 IAmb IAmb 03 41 14.0
comp=Z,4.7nm,0.9s
U15A North Rim 86.19 53 IAmb IAmb 03 41 16.1
comp=Z,4.4nm,1.1s
SRU San Rafael Swe 86.42 50 IAmb IAmb 03 41 15.7
comp=Z,4.5nm,0.8s
RDMU Red Mountain 86.50 48 IAmb IAmb 03 41 16.4
comp=Z,4.8nm,0.9s
Y14A Wickenburg 86.61 55 IAmb IAmb 03 41 17.1
comp=Z,3.7nm,0.9s
WUAZ Wupatki 87.23 53 IAmb IAmb 03 41 20.5
comp=Z,7.5nm,0.9s
N23A Red Feather La 88.85 46 IAmb IAmb 03 41 29.1
comp=Z,10nm,1.1s
SMCO Snowmass 88.90 48 IAmb IAmb 03 41 28.4
comp=Z,3.7nm,0.9s
ULM Lac du Bonnet 90.31 35 P **P 03 41 32.2 +0.4**
comp=Z,0.5nm,0.3s,baz=338,slow=11,SNR=3.5
ULM Lac du Bonnet 90.31 35 IAmb IAmb 03 41 36.2
comp=Z,2.5nm,1.0s
AKASG Malin Array Be 90.32 326 P **P 03 41 30.8 -1.1**
comp=Z,1.4nm,0.8s,baz=41,slow=4.9,SNR=5.4
BRTR Keskin Array B 93.54 315 P **P 03 41 46.4 -0.9**
comp=Z,0.9nm,0.8s,baz=92,slow=5.1,SNR=5.7
TXAR Lajitas Array 95.77 56 P **P 03 41 58.0 +0.4**
comp=Z,0.5nm,1.0s,baz=204,slow=2.7,SNR=3.6
GERES GERESS Array B 99.20 331 P **Pdif 03 42 14.4 +1.8**
comp=Z,0.6nm,0.7s,baz=12,slow=14,SNR=4.0
TORD Torodi Ar. Bea 132.05 312 PKP **PKPdf 03 47 45.5 +0.2**
comp=Z,0.6nm,0.7s,baz=355,slow=1.7,SNR=3.1
MNMC Minye Minye 145.67 94 PKPdf 03 48 09.9 -0.4
PB11 IPOC Station P 145.71 95 PKPdf 03 48 10.3 +0.1
LPAZ La Paz 146.51 88 PKPbc **PKPab 03 48 15.6 +0.9**
comp=Z,3.2nm,0.6s,baz=306,slow=2.9,SNR=12
LPAZ La Paz 146.51 88 PKPdf PKPdf 03 48 11.1 -1.1
SAML Samuel 148.71 73 PKPdf **PKPdf 03 48 14.6 -0.6**

*IDC **17** 03:44:20.4±0.8,20.°69N×146.°75E,h0km,mb3.9/10, mb1 4.2/10,mb1mx3.9/50,mbtmp3.9/10,MS2.9/1, Ms1 2.9/1,ms1mx2.3/44,Error ellipse: s-maj=29.3km s-min=20.2km az=88.0*
*NEIC **17** 03:44:21.9±1.0,20.°65N±0.°03×146.°8E±0.°1,h10km±1km, mb4.5/11*
*ISCJB **17** 03:44:24.5±0.5,20.°64N±0.°08×146.°8E±0.°1,h44km, mb3.9/11,MS2.8/1,Error ellipse: s-maj=15.1km s-min=12.1km az=177.0*
ISC 17 03:44:26.5±0.6,20.°6N±0.°1×146.°8E±0.°1,h44km,n30, σ0.°86/25,mb4.3/18,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**18.87**	**93**	T	T	04 06 58.1	
	baz=285,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**18.88**	**93**	T	T	04 06 58.8	
	baz=285						
H11S2	**WAKE ISLAND Hy**	**18.89**	**93**	T	T	04 06 56.7	
	baz=285						
H11N1	**WAKE ISLAND Hy**	**18.89**	**89**	T	T	04 06 59.6	
	baz=276,slow=75,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**18.90**	**89**	T	T	04 06 59.6	
	baz=276,slow=75,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**18.91**	**89**	T	T	04 06 58.2	
	baz=276,slow=75,SNR=3.2						
YULB	**Yu-li**	**23.79**	**281**	P	**P**	**03 49 33.6**	**-1.7**
YULB				IAmb	IAmb	03 49 50.6	
	comp=Z,8.9nm,0.9s						
DAV	**Davao City (W)**	**24.57**	**240**	LR	LR	03 58 08.9	
	comp=Z,30nm,20.3s,baz=342,slow=34						
USRK	**Ussuriysk Ar.**	**26.54**	**336**	P	**P**	**03 50 02.7**	**+2.6**
	comp=Z,1.2nm,0.6s,baz=145,slow=5.3,SNR=2.8						
WRA	**Warramunga Arr**	**42.12**	**198**	P	**P**	**03 52 14.6**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=17,slow=8.6,SNR=6.5						
WRA				PcP	**PcP**	**03 54 09.6**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=14,slow=3.6,SNR=5.8						
SONM	**Songino Array**	**42.32**	**320**	P	**P**	**03 52 15.5**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=131,slow=8.4,SNR=6.9						
SONM				PcP	**PcP**	**03 54 09.8**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=131,slow=4.4,SNR=3.0						
FITZ	**Fitzroy Crossi**	**43.72**	**210**	P	**P**	**03 52 27.9**	**+0.3**
ASAR	**Alice Springs**	**45.78**	**197**	P	**P**	**03 52 44.0**	**0.0**
	comp=Z,0.4nm,0.7s,baz=12,slow=7.4,SNR=5.8						
BBOO	**Buckleboo**	**54.12**	**191**	P	**P**	**03 53 47.3**	**+0.3**
BBOO				IAmb	IAmb	03 53 49.9	
	comp=Z,2.8nm,0.8s						
JCUZ	**Jacuzzi**	**54.36**	**80**	P	**P**	**03 53 48.3**	**-0.9**
ZAA0	**Zalesovo Array**	**57.13**	**322**	P	**P**	**03 54 08.1**	**-0.4**
ZAA0				IAmb	IAmb	03 54 08.8	
	comp=Z,4.8nm,0.7s						
ZALV	**Zalesovo Beam**	**57.13**	**322**	P	**P**	**03 54 08.2**	**-0.4**
	comp=Z,3.6nm,0.4s,baz=106,slow=7.2,SNR=15						
MK31	**Makanchi Array**	**57.89**	**313**	P	**P**	**03 54 14.2**	**+0.1**
MKAR	**Makanchi Array**	**57.89**	**313**	P	**P**	**03 54 14.3**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=86,slow=8.1,SNR=22						
MAKZ	**Makanchi**	**58.11**	**313**	P	**P**	**03 54 15.7**	**+0.1**
MAKZ				IAmb	IAmb	03 54 16.7	
	comp=Z,5.1nm,1.1s						
KURK	**Kurchatov**	**60.54**	**317**	P	**P**	**03 54 31.8**	**-0.4**
KURK				IAmb	IAmb	03 54 33.0	
	comp=Z,3.0nm,0.8s						
ILAR	**Eielson Array**	**61.47**	**27**	P	**P**	**03 54 38.5**	**+0.2**
	comp=Z,0.5nm,1.0s,baz=242,slow=7.7,SNR=4.2						
BRVK	**Borovoye**	**65.72**	**320**	P	**P**	**03 55 06.7**	**+0.1**
BRVK				IAmb	IAmb	03 55 07.7	
	comp=Z,5.3nm,0.8s						
CRAG	**Craig**	**67.68**	**37**	P	**P**	**03 55 18.8**	**-0.1**
ABKAR	**Akbulak array**	**72.64**	**317**	P	**P**	**03 55 49.2**	**-0.3**
ABKAR				IAmb	IAmb	03 55 50.5	
	comp=Z,1.6nm,0.8s						
YKA	**Yellowknife Ar**	**75.81**	**28**	P	**P**	**03 56 06.7**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=285,slow=5.3,SNR=4.6						
NVAR	**Mina Array Bea**	**81.15**	**52**	P	**P**	**03 56 38.9**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=269,slow=7.1,SNR=3.6						
KBZ	**Khabaz**	**85.51**	**315**	P	**P**	**03 57 00.6**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=168,slow=9.2,SNR=4.1						
FINES	**FINESS Array B**	**85.57**	**336**	P	**P**	**03 56 59.0**	**-0.9**
	comp=Z,10nm,1.1s,baz=66,slow=3.1,SNR=8.7						
LPAZ	**La Paz**	**146.64**	**88**	PKPbc	**PKPab**	**04 04 06.0**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=345,slow=3.1,SNR=5.4						

*ATH **17** 04:00:15.8,35.°09N×24.°32E,h25km±4km,ML2.7/5,Error ellipse: s-maj=4.4km s-min=1.1km az=255.0*
*ISCJB **17** 04:00:16.6±0.6,35.°10N±0.°03×24.°34E±0.°03,h13km±7km, Error ellipse: s-maj=5.0km s-min=4.1km az=158.0*
*THE **17** 04:00:16.1,35.°09N×24.°32E,h21km±1km,ML2.7/6,Error ellipse: s-maj=1.9km s-min=0.5km az=100.0*
ISC 17 04:00:16.0±1.0,35.°10N±0.°03×24.°32E±0.°03,h23km±10km, n14,σ0.°59/26,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRNS	**Prines Rethymn**	**0.31**	**30**	P	**Pb**	**04 00 22.2**	**-0.8**
PRNS				S	**Sb**	**04 00 26.9**	**-0.8**
GVDS	**Gavdos**	**0.32**	**216**	P	**Pb**	**04 00 22.7**	**-0.4**
GVDS				S	**Sb**	**04 00 28.7**	**+0.8**
	1μm,0.4s						
GVD	**Gavdhos**	**0.32**	**216**	P	**Pb**	**04 00 23.1**	**-0.1**
GVD				S	**Sb**	**04 00 28.6**	**+0.5**
	2μm,0.4s						
GVD	**Gavdhos**	**0.32**	**216**	P	**Pb**	**04 00 22.9**	**-0.3**
GVD				S	**Sb**	**04 00 28.3**	**+0.2**
GVD				AML	AML	04 00 28.6	
	comp=E,4828μm,0.4s						
GVD				AML	AML	04 00 28.8	
	comp=N,5047μm,0.4s						
VAM	**Vamos**	**0.32**	**343**	P	**Pb**	**04 00 23.4**	**+0.1**
VAM				S	**Sb**	**04 00 28.8**	**+0.7**
	comp=N,6μm,0.3s						
VAM	**Vamos**	**0.32**	**343**	P	**Pb**	**04 00 23.4**	**+0.1**
VAM				S	**Sb**	**04 00 28.9**	**+0.7**
VAM				AML	AML	04 00 29.2	
	comp=N,13537μm,0.3s						
VAM				AML	AML	04 00 29.6	
	comp=E,10798μm,0.4s						
SIVA	**Sivas**	**0.41**	**101**	P	**Pb**	**04 00 24.8**	**0.0**
SIVA				S	**Sb**	**04 00 31.1**	**+0.5**
	comp=E,1μm,0.4s						
SIVA	**Sivas**	**0.41**	**101**	P	**Pb**	**04 00 24.7**	**0.0**
SIVA				S	**Sb**	**04 00 31.2**	**+0.5**
SIVA				AML	AML	04 00 31.7	
	comp=N,2392μm,0.3s						
SIVA				AML	AML	04 00 31.9	
	comp=E,2406μm,0.3s						
IMMV	**Iera Moni Meta**	**0.45**	**323**	P	**Pb**	**04 00 25.2**	**-0.2**
IMMV				S	**Sb**	**04 00 32.7**	**+1.0**
	comp=E,968nm,0.4s						
IMMV	**Iera Moni Meta**	**0.45**	**323**	P	**Pb**	**04 00 25.2**	**-0.2**
IMMV				S	**Sb**	**04 00 32.9**	**+1.2**
IMMV				AML	AML	04 00 33.5	
	comp=N,2081μm,0.2s						
IMMV				AML	AML	04 00 34.2	
	comp=E,1683μm,0.3s						
IDI	**Anoyia**	**0.51**	**68**	P	**Pb**	**04 00 25.7**	**-0.6**
IDI				S	**Sb**	**04 00 33.7**	**+0.3**
IDI				AML	AML	04 00 37.2	
	comp=N,647μm,0.3s						
IDI				AML	AML	04 00 39.1	
	comp=E,509μm,0.3s						
KNDR	**Palaiochora Ch**	**0.53**	**285**	P	**Pn**	**04 00 27.8**	**-0.4**
KNDR				S	**Sn**	**04 00 36.0**	**-0.5**
	comp=E,165nm,0.3s						
LAST	**Lasithi**	**0.96**	**86**	P	**Pn**	**04 00 34.1**	**0.0**
NPS	**Neapolis**	**1.07**	**81**	P	**Pb**	**04 00 36.7**	**+0.7**

IDC 17 04:23:19.4±1.0,20.°71N×146.°88E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.5/37,mbtmp3.6/5,MS2.7/1,Ms1 2.7/1, ms1mx2.3/25,Error ellipse: s-maj=37.8km s-min=27.0km az=101.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**23.44**	**319**	LR	LR	04 37 48.4	
	comp=Z,18nm,18.2s,baz=10.0,slow=37						
WRA	**Warramunga Arr**	**42.23**	**198**	P	P	04 31 13.8	-0.7
	0.4nm,0.8s,baz=17,slow=8.7,SNR=3.0						
WRA				PcP	PcP	04 33 09.1	+0.5
	0.4nm,0.8s,baz=14,slow=3.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**57.12**	**322**	P	P	04 33 07.5	-0.1
	1.8nm,0.5s,baz=113,slow=8.3,SNR=7.4						
MKAR	**Makanchi Array**	**57.90**	**313**	P	P	04 33 13.5	+0.2
	0.5nm,0.7s,baz=90,slow=8.5,SNR=4.1						
YKA	**Yellowknife Ar**	**75.70**	**28**	P	P	04 35 05.9	-0.5
	0.2nm,0.6s,baz=290,slow=5.7,SNR=2.7						
NVAR	**Mina Array Bea**	**81.03**	**52**	P	P	04 35 37.1	+0.4
	0.3nm,0.7s,baz=266,slow=5.2,SNR=2.9						

IDC 17 04:28:43.4±57.0,10.°65S×165.°25E,h0km,mb3.8/3, mb1 3.9/3,mb1mx3.5/28,mbtmp3.8/3,MS3.1/2,Ms1 3.1/2, ms1mx2.8/18,Error ellipse: s-maj=967.1km s-min=114.6km az=59.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**28.99**	**3**	T	T	05 06 02.2	
	baz=184,slow=76,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**28.99**	**3**	T	T	05 06 02.7	
	baz=184,slow=76,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**29.00**	**3**	T	T	05 06 03.1	
	baz=184,slow=76,SNR=4.5						
STKA	**Stephens Creek**	**30.40**	**222**	P	P	04 34 57.6	+0.1
	0.7nm,0.5s,baz=38,slow=13,SNR=3.3						
STKA				LR	LR	04 45 54.1	
	comp=Z,38nm,18.7s,baz=25,slow=34						
WRA	**Warramunga Arr**	**31.17**	**249**	P	P	04 35 04.6	+0.2
	0.8nm,0.6s,baz=80,slow=9.0,SNR=7.9						
WRA				LR	LR	04 47 11.1	
	comp=Z,34nm,19.9s,baz=25,slow=36						
ASAR	**Alice Springs**	**32.54**	**242**	P	P	04 35 16.2	-0.3
	0.6nm,0.6s,baz=70,slow=11,SNR=6.5						

IDC 17 05:14:57.6±2.6,30.°20S×138.°57E,h0km,mb1 3.4/4, mb1mx3.3/26,mbtmp3.1/4,ML3.1/4,Error ellipse: s-maj=82.6km s-min=15.9km az=42.0,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.09**	**124**	Pn	Pn	05 15 48.0	+0.3
	0.5nm,0.3s,baz=297,slow=13,SNR=6.1						
STKA				Pg	Pb	05 15 54.9	+1.4
	3.0nm,0.3s,baz=302,slow=13,SNR=25						
STKA				Sn	Sn	05 16 24.0	-1.4
	2.9nm,0.3s,baz=269,slow=19,SNR=5.7						
STKA				Lg	Lg	05 16 34.6	
	4.7nm,0.3s,baz=18,slow=20,SNR=8.9						
ASAR	**Alice Springs**	**7.72**	**326**	Pn	Pn	05 16 51.0	-0.4
	0.3nm,0.3s,baz=153,slow=12,SNR=14						
ASAR				Sn	Sn	05 18 19.1	-0.5
	0.3nm,0.3s,baz=152,slow=22,SNR=5.9						
WRA	**Warramunga Arr**	**10.90**	**339**	Pn	Pn	05 17 34.6	-0.4
	0.2nm,0.3s,baz=158,slow=13,SNR=2.3						
WRA				Sn	Sn	05 19 37.1	-0.7
	0.1nm,0.3s,baz=157,slow=24,SNR=2.6						
FITZ	**Fitzroy Crossi**	**16.84**	**313**	Pn	Pn	05 18 55.2	+0.4
	0.2nm,0.3s,baz=144,slow=8.5,SNR=5.3						

*ISCJB **17** 05:19:32.6±0.4,28.°24N±0.°03×59.°20E±0.°04,h10km,Error ellipse: s-maj=5.8km s-min=3.3km az=19.8*
*THR **17** 05:19:32.9,28.°27N×59.°05E,h18km,ML3.7*
*TEH **17** 05:19:33.3,28.°27N×59.°11E,h17km,ML3.9*
*OMAN **17** 05:19:37.6±0.5,28.°16N×59.°58E,h65km±79km,ml3.5/6, Error ellipse: s-maj=9.6km s-min=9.4km az=254.0*
ISC 17 05:19:34.1±0.9,28.°28N±0.°04×59.°14E±0.°04,h10km,n33, σ1.°55/37,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**1.31**	**256**	*e*Pg	**Pn**	**05 19 57.7**	**-0.7**
KHNJ				*e*Sg	**Sb**	**05 20 15.5**	**-0.1**
SZD1	**Zahaedan-tmp**	**1.94**	**51**	*e*Pn	**Pn**	**05 20 07.8**	**+0.6**
ZHSF	**Zahedan**	**1.95**	**47**	*e*Pg	**Pb**	**05 20 10.3**	**+0.4**
ZHSF	**Zahedan**	**1.95**	**47**	*e*Pg	**Pb**	**05 20 10.3**	**+0.4**
ZHSF	**Zahedan**	**1.95**	**47**	*e*Sg	**Sg**	**05 20 36.3**	**-0.6**
CHMN	**Cheshme madani**	**2.10**	**319**	*e*Pn	**Pn**	**05 20 10.1**	**+0.4**
CHMN				IAMB	IAmb	05 20 42.6	
	comp=Z,0.0nm,0.3s						
NGRK	**Negar Kerman**	**2.51**	**303**	*e*Pn	**Pb**	**05 20 17.0**	**-2.4**
NGRK				IAMB	IAmb	05 20 57.9	
	comp=Z,0.0nm,0.3s						
KRBR	**Kerman**	**2.68**	**310**	*e*AML	AML	05 21 00.3	
	comp=E,247nm,0.2s						
KRBR				*e*Pn	**Pn**	**05 20 16.8**	**-0.8**
KRBR				*e*Sg	**Sb**	**05 20 55.6**	**+0.2**
TVBK	**TV Kerman**	**2.68**	**310**	*e*Pn	**Pn**	**05 20 18.5**	**+0.9**
TVBK				IAMB	IAmb	05 21 02.5	
	comp=Z,0.0nm,0.2s						
GENO	**Geno**	**2.77**	**252**	IAMB	IAmb	05 21 09.2	
	comp=Z,0.0nm,0.3s						
CHBR	**Chabahar**	**2.93**	**155**	*e*Pn	**Pn**	**05 20 20.8**	**0.0**
CHBR	**Chabahar**	**2.93**	**155**	*e*Pn	**Pn**	**05 20 20.8**	**0.0**
KHGB	**Koh Gabri**	**3.12**	**313**	*e*Pn	**Pn**	**05 20 24.8**	**+1.2**
KHGB				IAMB	IAmb	05 21 16.2	
	comp=Z,0.0nm,0.3s						
NHDN	**Nehbandan**	**3.20**	**14**	*e*Pn	**Pn**	**05 20 25.1**	**+0.5**
NHDN				IAMB	IAmb	05 21 20.9	
	comp=Z,0.0nm,0.6s						
BANOM	**Banah**	**3.45**	**228**	P	**Pn**	**05 20 29.0**	**+1.0**
	SNR=18						
BSRN	**Basiran**	**3.67**	**360**	*e*Pn	**Pn**	**05 20 30.9**	**-0.2**
BSRN	**Basiran**	**3.67**	**360**	*e*AML	AML	05 21 31.0	
	comp=N,99nm,0.3s						
BSRN				*e*AML	AML	05 21 33.4	
	comp=E,104nm,0.5s						
BSRN	**Basiran**	**3.67**	**360**	*e*P	**Pn**	**05 20 30.9**	**-0.2**
IKOO	**Kooshah**	**4.13**	**358**	*e*Pn	**Pn**	**05 20 37.4**	**-0.1**
IKOO				IAMB	IAmb	05 21 47.4	
	comp=Z,3μm,0.2s						
IDAH	**Dahanechah**	**4.49**	**8**	*e*Pn	**Pn**	**05 20 43.2**	**+0.8**
IDAH				IAMB	IAmb	05 20 47.2	
	comp=Z,611nm,0.4s						
ASHO	**Ashiyiah**	**4.52**	**218**	P	**Pn**	**05 20 46.0**	**+3.3**
	SNR=12						
ITEG	**Tejag**	**4.61**	**356**	*e*Pn	**Pn**	**05 20 44.6**	**+0.6**
ITEG				IAMB	IAmb	05 22 08.4	
	comp=Z,2μm,0.4s						
HOQ	**Hoqain**	**4.96**	**200**	P	**Pn**	**05 20 47.8**	**-0.9**
HOQ				S	**Sn**	**05 21 44.1**	**-2.0**
ASUD	**Al Ashush, Dub**	**4.99**	**224**	P	**Pn**	**05 20 51.7**	**+2.7**
	SNR=7.5						
ASUD				S	**Sn**	**05 21 51.2**	**+4.4**
WSAR	**Wadi Sarin**	**5.04**	**185**	P	**Pn**	**05 20 50.0**	**+0.2**
	SNR=18						
WSAR				S	**Sn**	**05 21 46.0**	**-2.1**
AFRZ	**Afriz**	**5.13**	**359**	*e*Pn	**Pn**	**05 20 50.8**	**-0.3**
AFRZ				IAMB	IAmb	05 22 41.3	
	comp=Z,0.0nm,0.8s						
SMDO	**Samad**	**5.29**	**191**	P	**Pn**	**05 20 53.2**	**-0.1**
SMDO				S	**Sn**	**05 21 54.6**	**+0.1**
ARQ	**Araqi**	**5.46**	**206**	P	**Pn**	**05 20 57.9**	**+2.3**
	SNR=11						
ARQ				S	**Sn**	**05 22 01.7**	**+3.3**
TABS	**Tabas**	**5.62**	**343**	*e*Pn	**Pn**	**05 20 57.9**	**+0.1**
TABS	**Tabas**	**5.62**	**343**	*e*AML	AML	05 22 41.2	
	comp=N,87nm,0.5s						
TABS	**Tabas**	**5.62**	**343**	*e*AML	AML	05 22 41.0	
	comp=E,34nm,0.6s						
TABS	**Tabas**	**5.62**	**343**	*e*Pn	**Pn**	**05 20 57.9**	**+0.1**
WBK	**Wadi Bani Khal**	**5.65**	**182**	P	**Pn**	**05 20 57.3**	**-0.9**
	SNR=26						
WBK				S	**Sn**	**05 22 01.0**

TREB				eSg	Sg	05 25 48.1	+0.5		
BRY	**Bratogost**	0.77	89	⇑*i* Pg	Pg	05 25 39.8	-1.5		
BRY				eSg	Sg	05 25 50.9	-0.4		
HCY	**Herceg Novi**	0.86	121	*e* Pg	Pg	05 25 42.4	-0.7		
HCY				eSg	Sg	05 25 54.7	+0.4		
KIJV	**Kijevo**	1.36	325	*e* Pn	Pn	05 25 50.6	-1.8		
KIJV				Sn	Sn	05 26 11.3	+0.3		
PDG	**Podgorica**	1.38	109	*e* Pn	Pn	05 25 52.6	0.0		
PDG				eSg	Sn	05 26 11.5	+0.2		
PDG	**Podgorica**	1.38	109	*e* Pg	Pn	05 25 51.9	-0.7		
PDG				eSg	Sb	05 26 10.6	-0.3		
DRME	**Dracevica, Mon**	1.44	119	*e* Pg	Pn	05 25 53.3	-0.1		
DRME				eSg	Sg	05 26 13.0	+0.3		
ZIRJ	**Zirje**	1.55	300	*e* Pn	Pn	05 25 54.0	-0.9		
ZIRJ				Sn	Sb	05 26 16.1	+0.4		
MGRS	**Mrkonjic Grad**	1.55	349	*e* Pn	Pb	05 25 55.7	-0.2		
MGRS				eSn	Sb	05 26 16.0	+0.1		
RUDO	**Rudo**	1.55	62	*e* Pg	Pn	05 25 55.2	+0.2		
RUDO				eSg	Sb	05 26 15.8	-0.1		
HAPS	**Han Pijesak,Bl**	1.60	41	*e* Pg	Pn	05 25 54.9	-0.8		
HAPS				eSg	Sg	05 26 18.0	+0.1		
HAPS	**Han Pijesak,Bl**	1.60	41	*e* Pn	Pn	05 25 54.6	-1.1		
HAPS				eSn	Sn	05 26 15.8	-1.0		
MORI	**Morici**	1.62	307	*e* Pn	Pn	05 25 56.0	0.0		
MORI				Sn	Sb	05 26 18.5	+0.7		
BBLS	**Lazići**	1.70	54	*e* Pn	Pb	05 25 58.0	-0.4		
BBLS				eSg	Sb	05 26 20.2	0.0		
BBLS	**Lazići**	1.70	54	*e* Pn	Pn	05 25 57.7	+0.6		
BBLS				eSn	Sn	05 26 18.8	-0.5		
SJES	**Sjenica**	1.86	78	*e* Pg	Pb	05 26 01.1	0.0		
SJES				eSg	Sg	05 26 25.9	-0.3		
BLY	**Banja Luka**	1.87	353	*e* Pn	Pb	05 26 01.4	+0.2		
BLY	**Banja Luka**	1.87	353	*e* Pn	Pn	05 26 00.1	+0.8		
BLY				eSn	Sn	05 26 23.3	-0.1		
BLY	**Banja Luka**	1.87	353	⇓P	Pb	05 26 01.6	+0.4		
BLY				⇑S	Sg	05 26 27.7	+1.1		
UDBI	**Udbina**	2.06	323	*i* Pn	Pb	05 26 03.6	-0.9		
UDBI				Sn	Sb	05 26 30.4	-0.1		
IVAS	**Ivanjica**	2.06	70	*e* Pn	Pn	05 26 02.7	+0.7		
IVAS				eSg	Sb	05 26 30.8	+0.2		
DUGI	**Dugi Otok**	2.08	303	*i* Pn	Pn	05 26 02.7	+0.4		
DUGI				Sn	Sn	05 26 29.9	+1.2		
DIVS	**Divibare**	2.18	56	*e* Pn	Pn	05 26 04.5	+0.8		
DIVS				eSg	Sb	05 26 34.8	+0.7		
DIVS	**Divibare**	2.18	56	*e* Pn	Pn	05 26 04.2	+0.5		
DIVS				eSn	Sn	05 26 30.7	-0.5		
TEKS	**Tekeris**	2.22	41	*e* Pn	Pn	05 26 03.9	-0.3		
TEKS				eSn	Sn	05 26 31.3	-0.8		
TRUS	**Trudelj**	2.50	57	*e* Pn	Pn	05 26 08.0	0.0		
TRUS	**Trudelj**	2.50	57	*e* Pn	Pn	05 26 08.7	+0.7		
NVLJ	**Novalja**	2.53	312	*i* Pn	Pn	05 26 08.8	+0.5		
NVLJ				Sn	Sn	05 26 40.2	+0.6		
GRUS	**Gruza**	2.55	66	*e* Pn	Pn	05 26 09.4	+0.7		
SELS	**Selova**	2.68	82	*e* Pn	Pn	05 26 10.7	+0.2		
MOSL	**Moslavina**	2.77	349	*i* Pn	Pn	05 26 12.3	+0.6		
FRGS	**Fruska Gora**	2.81	36	*e* Pn	Pn	05 26 12.3	0.0		
FRGS	**Fruska Gora**	2.81	36	*e* Pn	Pn	05 26 12.1	-0.2		
FRGS				eSn	Sn	05 26 46.1	-0.6		
BOVS	**Bovan**	3.17	75	*e* Pn	Pn	05 26 18.1	+1.0		
CRES	**Cresnjev**	3.27	334	*e* Pn	Pn	05 26 19.7	+1.0		
CRES				eSn	Sn	05 26 58.1	0.0		
MORH	**Mrgy, Hungar**	3.42	14	*e* Pn	Pn	05 26 20.7	+0.1		
ZAGS	**Zajecar**	3.58	74	*e* Pn	Pn	05 26 22.8	0.0		
MDVR	**Moldovita**	3.59	57	⇑P	Pn	05 26 23.6	+0.6		
MDVR				⇑S	Sn	05 27 06.2	+0.3		
MDVR				AML	AML	05 27 25.6			
CEY	**Cerknica**	3.60	323	*e* Pn	Pn	05 26 23.1	0.0		
CEY				eSn	Sn	05 27 05.3	-0.7		
ZAPS	**Zavoj**	3.79	82	*e* Pn	Pn	05 26 26.5	+0.8		
BLKB	**Belogradchik**	3.86	77	⇑S	Sn	05 27 13.1	+0.6		
BLKB				AML	AML	05 27 14.9			
BZS	**Buzias**	4.03	46	⇓P	Pn	05 26 29.1	+0.2		
BZS				⇑S	Sn	05 27 16.6	+0.1		
BZS				AML	AML	05 27 58.7			
GZR	**Gura Zlata**	4.55	55	⇑P	Pn	05 26 36.4	+0.2		
GZR				AML	AML	05 27 18.3			
GZR				⇑S	Sn	05 27 30.2	+0.6		
DRGR		5.38	42	⇑S	Sn	05 27 52.2	+2.1		

NORS **17** *05:27:36.8±0.0, 42°.26N×48°.06E, h10km, MPVA4.9*
AZER **17** *05:27:36.9±0.3, 42°.26N×48°.05E, h17km±1km, ml3.9/33, Error ellipse: s-maj=4.4km s-min=1.8km az=0.0*
IDC **17** *05:27:36.1±0.7, 42°.30N×47°.96E, h0km, mb4.0/14, mb1 4.1/21, mb1mx3.9/41, mbtmp4.0/21, ML3.5/6, Error ellipse: s-maj=14.8km s-min=9.8km az=151.0*
ISCJB **17** *05:27:38.6±0.3, 42°.38N±0°.01×48°.17E±0°.02, h22km±2km, mb3.9/15, Error ellipse: s-maj=3.0km s-min=1.8km az=146.1*
DRS **17** *05:27:38.8±0.0, 42°.26N×48°.15E, h17km*
MOS **17** *05:27:38.1±0.0, 42°.25N×47°.97E, h12km, MPVA4.8*
NEIC **17** *05:27:41.0±2.7, 42°.40N±0°.07×48°.22E±0°.08, h47km±8km, mb4.3/12*
NNC **17** *05:27:51.6±7.7, 42°.57N×49°.99E, h0km, mb4.1, Error ellipse: s-maj=66.9km s-min=51.5km az=77.0*

ISC 17 05:27:38.9±0.9, **42°.32N**±0°.02×**48°.09E**±0°.02, **h24**km±7km, **n169**, σ**2**s**05**/251, **mb4.2**/18, **18C-9D**, **Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRN	**Derbent**	0.34	149	⇑*i* PG	Pb	05 27 46.4	0.0
DRN				*e*S	Sb	05 27 52.3	+0.8
DRN				pmax	pmax		
	comp=Z,3μm,0.5s						
DRN	**Derbent**	0.34	149	*i* Pg	Pb	05 27 46.4	0.0
	comp=Z,3μm,0.5s						
DRN				*e*Sg	Sb	05 27 52.3	+0.8
	comp=Z,19μm,0.4s						
URKR	**Urkarakh**	0.38	246	⇓*i* PG	Pb	05 27 45.5	-1.6
URKR	**Urkarakh**	0.38	246	*e*Pg	Pb	05 27 45.5	-1.6
URKR				*e*Sg	Sb	05 27 50.6	-2.1
KMKR	**Kumukh**	0.76	256	⇓*i* PG	Pb	05 27 53.0	-0.6
KMKR				*e*S	Sb	05 28 03.0	-0.7
KMKR	**Kumukh**	0.76	256	*i* Pg	Pb	05 27 53.0	-0.6
	comp=Z,1μm,0.0s						
KMKR				*e*Sg	Sb	05 28 03.0	-0.7
	comp=Z,4μm,0.0s						
MAK	**Makhachkala**	0.78	326	*e*PG	Pn	05 27 55.1	+0.8
MAK				*e*		05 28 06.8	
MAK				pmax	pmax		
	comp=Z,484nm,0.3s						
MAK				smax	smax		
	comp=N,6μm,0.4s						
MAK				smax	smax		
	comp=N,7μm,0.6s						
MAK	**Makhachkala**	0.78	326	*e*Pg	Pn	05 27 55.1	+0.8
MAK				*e*Sg	Sb	05 28 04.2	+0.4
QSAR	**Qusar**	0.81	171	P	Pb	05 27 54.2	-0.1
	SNR=122						
QSAR				S	Sn	05 28 05.7	-0.4
GNBR	**Gunib**	0.84	275	⇑*i* PG	Pb	05 27 54.2	-0.7
GNBR				*i*		05 28 06.3	
GNBR				pmax	pmax		
	comp=Z,734nm,0.6s						
GNBR				smax	smax		
	comp=N,5μm,0.5s						
GNBR	**Gunib**	0.84	275	*e*Pg	Pb	05 27 54.4	-0.5
GNBR				*e*Sg	Sn	05 28 06.1	-0.8
ARKR	**Arakani**	0.86	290	*e*PG	Pb	05 27 55.0	-0.2
ARKR				*e*S	Sn	05 28 08.5	+1.1
ARKR	**Arakani**	0.86	290	*e*Pg	Pb	05 27 55.0	-0.2
	comp=N,175nm,0.0s						
ARKR				*e*Sg	Sn	05 28 08.5	+1.1
	comp=N,2μm,0.0s						
AKT	**Akhty**	0.88	198	⇓*i* PG	Pb	05 27 54.4	-1.2
AKT				*e*S	Sb	05 28 06.0	-1.0
AKT				pmax	pmax		
	comp=Z,3μm,0.4s						
AKT	**Akhty**	0.88	198	*i* Pg	Pb	05 27 54.4	-1.2
AKT				*e*Sg	Sb	05 28 05.8	-1.2
BUJR	**Buynaksk**	0.89	305	*e*PG	Pn	05 27 56.0	+0.2
BUJR				*e*S	Sn	05 28 09.0	+1.0
BUJR	**Buynaksk**	0.89	305	*e*Pg	Pn	05 27 56.0	+0.2
BUJR				*e*Sg	Sn	05 28 09.1	+1.0
KANR	**Karaman**	0.98	333	*i* Pg	Pn	05 27 59.5	+2.3
KANR				*e*Sg	Sn	05 28 14.5	+4.2
QUBA	**Quba, Azerbaij**	1.01	163	P	Pn	05 27 57.7	+0.2
	SNR=73						
QUBA				S	Sn	05 28 11.9	+0.9
KRNR	**Karanay**	1.01	300	⇑*i* PG	Pb	05 27 57.0	-0.8
KRNR				*i* S	Sb	05 28 10.5	-0.3
KRNR				pmax	pmax		
	comp=Z,466nm,0.2s						
KRNR	**Karanay**	1.01	300	*i* Pg	Pb	05 27 57.0	-0.8
	comp=Z,466nm,0.2s						
KRNR				*i* Sg	Sb	05 28 10.5	-0.3
	comp=Z,805nm,0.3s						
UNCR	**Uncukul**	1.04	293	⇓*i* PG	Pn	05 27 58.0	0.0
UNCR				*e*S	Sn	05 28 12.0	+0.2
UNCR				pmax	pmax		
	comp=Z,535nm,0.2s						
UNCR	**Uncukul**	1.04	293	*i* Pg	Pn	05 27 58.0	0.0
	comp=Z,535nm,0.2s						
UNCR				*e*Sg	Sn	05 28 12.0	+0.2
	comp=Z,2μm,0.3s						
XNZR	**Khunzakh**	1.05	283	⇑*i* PG	Pb	05 27 57.9	-0.6
XNZR				*e*S	Sn	05 28 12.4	+0.1
XNZR	**Khunzakh**	1.05	283	*i* Pg	Pb	05 27 57.9	-0.6
XNZR				*e*Sg	Sn	05 28 12.4	+0.1
XNQ	**Khinaliq**	1.15	178	P	Pb	05 27 59.7	-0.4
	SNR=311						
XNQ				S	Sn	05 28 14.6	-0.1
DBC	**Dubki**	1.17	307	*i* PG	Pb	05 28 00.2	-0.2
DBC				pmax	pmax		
	comp=Z,149nm,0.3s						
DBC	**Dubki**	1.17	307	*i* Pg	Pb	05 28 00.1	-0.2
DBC				*e*Sg	Sn	05 28 16.4	+1.4
ZKTA	**Zakatala**	1.29	239	P	Pn	05 28 01.1	-0.4
	SNR=53						
ZKTA				S	Sn	05 28 17.0	-0.9
SEKA	**Sheki**	1.30	211	PG	Pn	05 28 01.1	-0.4
SEKA	**Sheki**	1.30	211	P	Pn	05 28 01.1	-0.4
	SNR=197						
SEKA				S	Sb	05 28 18.8	0.0
SIZA	**Siyzn**	1.38	154	P	Pb	05 28 04.0	-0.1
	SNR=40						
SIZA				S	Sb	05 28 23.2	+1.9
QBL	**Gabala**	1.39	188	P	Pn	05 28 03.1	+0.3
	SNR=39						
QBL				S	Sb	05 28 23.0	+1.6
BTLR	**Botlikh**	1.43	285	⇓*i* PG	Pb	05 28 04.4	-0.4
BTLR				*e*S	Sb	05 28 23.6	+1.0
BTLR				pmax	pmax		
	comp=Z,319nm,0.5s						
BTLR	**Botlikh**	1.43	285	*i* Pg	Pb	05 28 04.4	-0.4
BTLR				*e*Sg	Sb	05 28 24.1	+1.4
IML	**Ismayilli**	1.53	177	P	Pb	05 28 06.2	-0.3
	SNR=31						
IML				S	Sb	05 28 27.0	+1.6
PQL	**Pirkuli**	1.57	166	P	Pb	05 28 07.1	-0.3
	SNR=32						
PQL				S	Sb	05 28 28.6	+1.7
ATGJ	**Altiaghaj**	1.59	156	P	Pb	05 28 07.0	-0.6
	SNR=60						
ATGJ				S	Sb	05 28 29.5	+2.3
DDFL	**Dedoflistskaro**	1.71	240	P	Pb	05 28 11.2	+1.5
DDFL				S	Sb	05 28 38.9	+8.0
DDFL	**Dedoflistskaro**	1.71	240	PN	Pb	05 28 11.1	+1.4
MNGR	**Mingechevir, A**	1.72	206	PN	Pb	05 28 08.5	-1.2
MNGR	**Mingechevir, A**	1.72	206	P	Pb	05 28 08.6	-1.2
	SNR=8.3						
MNGR				S	Sb	05 28 32.5	+1.6
GBS	**Qobustan**	1.89	160	P	Pb	05 28 11.8	-0.9
	SNR=13						
GBS				S	Sb	05 28 35.9	-0.1
GROC	**Groznyy**	1.91	298	*e*PN	Pb	05 28 11.6	-1.4
GROC				*e*		05 28 39.4	
GROC				pmax	pmax		
	comp=Z,121nm,0.6s						
GROC				smax	smax		
	comp=N,628nm,0.6s						
GROC				smax	smax		
	comp=E,434nm,0.6s						
GROC				smax	smax		
	comp=N,689nm,0.5s						
GROC	**Groznyy**	1.91	298	*e*Pg	Pb	05 28 13.5	+0.5
GROC				*e*Sg	Sb	05 28 38.5	+2.1
KDMR	**Kurdemir**	1.94	178	S	Sb	05 28 36.9	-0.4
ZRD	**Zardab**	2.06	189	P	Pb	05 28 13.7	-1.9
	SNR=4.4						
ZRD				S	Sb	05 28 38.8	-1.9
GANJ	**Ganja**	2.14	219	PN	Pn	05 28 13.5	+0.4
GANJ	**Ganja**	2.14	219	P	Pn	05 28 14.0	+0.9
	SNR=133						
GANJ				S	Sb	05 28 41.6	-1.3
BRDA	**Brd**	2.17	199	P	Pn	05 28 14.8	+1.4
	SNR=10						
BRDA				S	Sb	05 28 43.1	-0.6
NDR	**Nardaran**	2.25	140	P	Pb	05 28 16.7	-2.0
NDR				S	Sb	05 28 46.2	+0.2
GOBA	**Gobu**	2.28	147	P	Pb	05 28 17.3	-2.0
GOBA				S	Sb	05 28 47.3	+0.3
AGDM	**Agdam**	2.33	199	P	Pn	05 28 17.0	+1.2
	SNR=35						
AGDM				S	Sb	05 28 48.4	-0.1
GDB	**GEDABAY**	2.37	229	P	Pn	05 28 17.3	+0.9
	SNR=140						
GDB				S	Sb	05 28 48.8	-1.2
QZX	**Qazax, Azerbai**	2.40	239	P	Pn	05 28 17.9	+1.3
	SNR=42						
QZX				S	Sb	05 28 49.4	-1.0
ALIB	**Äli-Bayra**	2.46	163	P	Pn	05 28 19.3	+1.9
	SNR=4.3						
ALIB				S	Sb	05 28 50.7	-1.4
KMGR	**Komgaron**	2.49	288	*e*Pn	Pb	05 28 20.3	-2.7
KMGR				*e*Sn	Sb	05 28 51.3	-1.9
SEAG	**Tbilisi Sea**	2.51	258	P	Sb	05 28 52.0	-1.8
SEAG				S	Sb	05 28 52.5	-1.3
SEAG	**Tbilisi Sea**	2.51	258	PN	Pb	05 28 21.5	-1.8
SEAG				S	Sb	05 28 53.8	0.0
TBLG	**Delisi**	2.57	258	P	Pb	05 28 22.6	-1.6
TBLG				S	Sb	05 28 53.4	-2.0
TBLG	**Delisi**	2.57	258	PN	Pb	05 28 22.1	-2.1
TBLG	**Delisi**	2.57	258		Pb	05 28 22.1	-2.1
BLQ	**Beylaqan**	2.63	189	P	Pn	05 28 21.1	+1.4
	SNR=8.1						
BLQ				S	Sb	05 28 54.0	-3.0
GUDG	**Gudauri**	2.68	274	P	Pn	05 28 22.5	+1.7
GUDG	**Gudauri**	2.68	274	PN	Pn	05 28 23.3	+2.6
GUDG	**Gudauri**	2.68	274	*e*Pn	Pn	05 28 22.7	+1.9
GUDG				*e*Sn	Sn	05 28 53.5	+0.9
BTKR	**Batakoyurt**	2.82	293	*e*Pn	Pb	05 28 26.0	-2.5
BTKR				*e*Sn	Sn	05 28 57.8	+2.2
LACR	**Lac**	2.85	282	*e*PN	Pn	05 28 25.7	+2.8
LACR				pmax	pmax		
	comp=Z,37nm,0.3s						
LACR	**Lac**	2.85	282	*e*Pn	Pn	05 28 25.2	+2.3
KZRT	**Kazreti**	2.91	253	P	Pn	05 28 25.5	+1.7
KZRT	**Kazreti**	2.91	253	PN	Pn	05 28 25.4	+1.7
QRD	**Qoradiz**	2.91	192	P	Pn	05 28 25.0	+1.3
	SNR=8.5						
QRD				S	Sn	05 28 59.4	+1.4
ARNR	**Ardon**	2.94	288	*e*Pn	Pb	05 28 27.7	-2.8
KORR	**Kora**	3.06	286	*e*Pn	Pb	05 28 29.8	-3.0
KORR				*e*Sn	Sn	05 29 04.7	+2.9
GLBA	**Clilabad**	3.08	176	P	Pn	05 28 27.6	+1.6
	SNR=4.9						
GLBA				S	Sn	05 29 04.8	+2.7
ZEI	**Tsey**	3.13	280	*ce*PN	Pn	05 28 29.7	+2.8
ZEI	**Tsey**	3.13	280	*e*Pn	Pn	05 28 29.4	+2.5
PRTR	**Priterechnaya**	3.14	298	*e*Pn	Pn	05 28 29.4	+2.6
PRTR				*e*Sn	Sn	05 29 04.2	+0.7
STDR	**Stavd-Durt**	3.15	291	*e*Pn	Pb	05 28 30.4	-3.7
STDR				*e*Sn	Sn	05 29 03.2	-0.4
LSNR	**Lesken**	3.28	288	*ce*PN	Pn	05 28 32.0	+3.2
LSNR	**Lesken**	3.28	288	*e*Pn	Pn	05 28 31.5	+2.7
LSNR				*e*Sn	Sn	05 29 06.9	-0.3
GNI	**Garni**	3.33	231	*e*PN	Pb	05 28 33.2	-4.1
GNI	**Garni**	3.33	231	Pn	Pb	05 28 33.4	-3.9
	comp=Z,3.1nm,0.3s,baz=27,slow=11,SNR=4.1						
GNI				Lg	Lg	05 29 19.3	
	comp=Z,10nm,0.3s,baz=32,slow=19,SNR=5.0						
DIGR	**Digorskoe uzhe**	3.38	281	*ce*PN	Pn	05 28 33.0	+2.7
DIGR	**Digorskoe uzhe**	3.38	281	*e*Pn	Pn	05 28 32.6	+2.3
DIGR				*e*Sn	Sn	05 29 13.1	+3.3
YRD	**Yardimli**	3.40	178	P	Pn	05 28 31.7	+1.1
	SNR=6.7						
YRD				S	Sn	05 29 12.6	+2.3
ONI	**Oni**	3.44	276	P	Pb	05 28 35.6	-3.6
ONI				S	Sb	05 29 28.0	+7.3
ONI	**Oni**	3.44	276	*e*Pn	Pn	05 28 31.5	+0.5
ONI				*e*Sn	Sn	05 29 13.7	+2.5
SBZ	**Shahbuz**	3.50	214	P	Pn	05 28 33.1	+1.2
	SNR=6.3						
SBZ				S	Sn	05 29 14.6	+2.1
AKH	**Akhalkalaki**	3.56	257	PN	Pn	05 28 36.6	+3.9
AKH	**Akhalkalaki**	3.56	257		Pn	05 28 36.6	+3.9
HYR	**Heyderabad**	3.57	224	P	Pn	05 28 34.1	+1.2
	SNR=5.3						
HYR				S	Sn	05 29 18.0	+3.7
LKRN	**Lenkeran, Azer**	3.64	172	PN	Pn	05 28 35.5	+1.8
LKRN	**Lenkeran, Azer**	3.64	172	P	Pn	05 28 35.5	+1.8
LKRN				S	Sn	05 29 18.4	+2.5
LRK	**Lerik**	3.68	177	P	Pn	05 28 36.2	+1.8
	SNR=5.3						
LRK				S	Sn	05 29 20.8	+3.8
NAX	**Nakhchivan**	3.71	213	PN	Pn	05 28 36.3	+1.6
NAX	**Nakhchivan**	3.71	213	P	Pn	05 28 36.4	+1.6
NAX				S	Sn	05 29 21.3	+3.6
ORD	**Ordubad**	3.75	206	P	Pn	05 28 36.9	+1.7
	SNR=13						
ORD				S	Sn	05 29 22.6	+4.0
ASTR	**Astara**	3.79	172	P	Pn	05 28 38.1	+2.3
ASTR				S	Sn	05 29 24.2	+4.6
PYA1	**Pyatigorsk**	4.05	297	*i* PN	Pn	05 28 41.8	+2.5
PYA1	**Pyatigorsk**	4.05	297	*e*Pn	Pn	05 28 41.5	+2.1
PYA1				*e*Sn	Sn	05 29 26.1	+0.1
KBZ	**Khabaz**	4.06	292	*d i* PN	Pn	05 28 41.1	+1.6
KBZ	**Khabaz**	4.06	292	Pn	Pn	05 28 40.9	+1.4
	comp=Z,4.0nm,0.3s,baz=149,slow=2.3,SNR=43						
KBZ				Sn	Sn	05 29 27.9	+1.7
	comp=Z,6.0nm,0.3s,baz=127,slow=20,SNR=5.5						
KBZ				Lg	Lg	05 29 43.9	
	comp=Z,3.4nm,0.3s,baz=165,slow=19,SNR=2.6						
KBZ	**Khabaz**	4.06	292	*i* Pn	Pn	05 28 41.0	+1.6
KBZ				*e*Sn	Sn	05 29 29.0	+2.8
NEY	**Neytrino**	4.06	285	*i* PN	Pn	05 28 42.6	+3.0
NEY	**Neytrino**	4.06	285	*i* Pn	Pn	05 28 42.2	+2.5
NEY				*e*Sn	Sn	05 29 27.7	+1.2
SHA1	**Shidzhatmaz**	4.23	291	*de*PN	Pn	05 28 43.6	+1.6
SHA1	**Shidzhatmaz**	4.23	291	*e*Pn	Pn	05 28 43.6	+1.6
SHA1				*e*Sn	Sn	05 29 32.4	+1.7
KIV0	**Kislovodsk Arr**	4.28	294	*e*Pn	Pn	05 28 44.3	+1.7
KIV0				*e*Sn	Sn	05 29 33.1	+1.4
KVAR	**Kislovodsk Arr**	4.28	294	Pn	Pn	05 28 44.4	+1.9
	baz=112,slow=19,SNR=8.1						
KVAR				Sn	Sn	05 29 32.9	+1.2
	baz=169,slow=16,SNR=9.8						
KIV	**Kislovodsk**	4.28	294	*e*PN	Pn	05 28 45.3	+2.7
KIV				*e*S	Sn	05 29 35.6	+3.8
KIV				pmax	pmax		
	comp=Z,57nm,1.0s						
KIV	**Kislovodsk**	4.28	294		Pn	05 28 43.5	+0.9
ALER	**Alexandrovskoy**	4.49	305	*e*Pn	Pn	05 28 47.7	+2.3
ALER				*e*Sn	Sn	05 29 38.8	+1.9
GOF	**Gofitskoye**	4.57	308	⇑*e*PN	Pn	05 28 49.0	+2.5
GOF				pmax	pmax		
	comp=Z,16nm,0.6s						
GOF	**Gofitskoye**	4.57	308	*e*Pn	Pn	05 28 49.0	+2.5
GOF				*e*Sn	Sn	05 29 42.5	+3.7
GEYT	**Alibeck**	8.84	116	Pn	Pn	05 29 45.8	+0.7
	comp=Z,1.2nm,0.3s,baz=304,slow=16,SNR=4.3						
GEYT				Sn	Sn	05 31 19.1	-4.8
	comp=Z,0.2nm,0.3s,baz=295,slow=22,SNR=2.0						
AKTO	**Aktyubinsk**	10.62	37	Pn	Pn	05 30 09.6	+0.2
	comp=Z,0.9nm,0.3s,baz=206,slow=9.6,SNR=13						
AKTO				Sn	Sn	05 32 03.0	-4.4
	comp=Z,2.1nm,0.3s,baz=180,slow=20,SNR=8.4						
AKTO	**Aktyubinsk**	10.62	37	⇓P	Pn	05 30 09.5	+0.2
	comp=Z,2.7nm,0.6s						
AKTO				⇑S	Sn	05 32 00.7	-6.6
	comp=Z,13nm,0.8s						
AB31	**Akbulak array**	10.79	46	P	Pn	05 30 12.0	+0.3
	comp=Z,1.7nm,0.5s,baz=228,slow=12,SNR=41						
AB31				⇓S	Sn	05 32 01.7	-10
	comp=Z,4.0nm,0.5s,baz=226,slow=23,SNR=6.4						
ABKAR	**Akbulak array**	10.79	46		Pn	05 30 12.0	+0.3
SORM	**Soroca**	15.06	299	⇑P	P	05 31 14.5	-0.5
ELL	**Elmali**	15.09	254	P	P	05 31 16.6	+1.0
ELL				pmax	pmax		
	comp=Z,26nm,0.7s						
ELL	**Elmali**	15.09	254	P	P	05 31 16.6	+1.0
ELL				IAmb	IAmb	05 31 18.9	
	comp=Z,26nm,0.7s		

comp=Z,3.3nm,1.4s
BOSA Boshof 73.66 201 P P 05 39 10.6 +0.3
comp=Z,2.2nm,0.8s,baz=1.6,slow=5.8,SNR=4.6
BOSA Boshof 73.66 201 IAmb IAmb 05 39 13.9
comp=Z,22nm,1.5s
YKA Yellowknife Ar 74.61 352 P P 05 39 16.1 +0.6
comp=Z,0.5nm,0.7s,baz=8.1,slow=6.0,SNR=12

IDC 17 05:37:24.6±9.4, 20°55N×146°02E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.4/30, mbtmp3.8/3, Error ellipse: s-maj=360.0km s-min=30.7km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.84**	**197**	P	P	05 45 16.3	-0.2
	0.3nm,0.6s,baz=17,slow=8.4,SNR=2.3						
ZALV	**Zalesovo Beam**	**56.75**	**322**	P	P	05 47 09.8	-0.4
	2.0nm,0.4s,baz=110,slow=8.7,SNR=6.7						
MKAR	**Makanchi Array**	**57.42**	**313**	P	P	05 47 15.4	+0.3
	0.5nm,0.5s,baz=93,slow=8.7,SNR=6.2						

IDC 17 05:45:58.6±3.1, 7.76S×146.75E, h0km, mb3.2/1, mb1 3.7/2, mb1mx3.3/17, mbtmp3.4/2, ML3.2/1, Error ellipse: s-maj=66.5km s-min=18.5km az=66.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.69**	**166**	Pg	Pn	05 46 28.4	-1.0
	19nm,0.3s,baz=354,slow=9.2,SNR=26						
PMG				Lg	Lg	05 46 52.6	
	7.0nm,0.3s,baz=297,slow=23,SNR=3.2						
WRA	**Warramunga Arr**	**17.07**	**224**	P	Pn	05 49 59.2	+0.3
	0.1nm,0.3s,baz=44,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**20.05**	**216**	P	P	05 50 33.6	0.0
	1.3nm,0.3s,baz=41,slow=9.6,SNR=7.9						
TORD	**Torodi Ar. Bea**	**145.25**	**282**	PKPbc	PKPbc	06 05 38.5	-0.6
	0.2nm,0.5s,baz=60,slow=4.6,SNR=5.5						

ATH 17 05:53:51.1, 36.67N×21.72E, h15km±1km, ML2.6/5, Error ellipse: s-maj=2.8km s-min=1.3km az=26.0
THE 17 05:53:52.6, 36.71N×21.75E, h4km±10km, ML2.6/6, Error ellipse: s-maj=10.0km s-min=0.5km az=326.0
ISC 17 05:53:51.9±1.5, 36.69N±0.05×21.73E±0.05, h9km±8km, n27, σ0.855/43, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.20**	**2**	P	Pg	05 53 56.0	-0.1
PYL				S	Sg	05 53 59.1	+0.1
PYL	**PYLOS**	**0.20**	**2**	P	Pg	05 53 56.1	-0.1
PYL				S	Sg	05 53 59.0	+0.1
KLMT	**Kalamata**	**0.45**	**35**	P	Pb	05 54 01.3	-0.8
KLMT				S	Sg	05 54 06.8	+0.1
	822nm,0.6s						
ITM	**Ithomi**	**0.51**	**18**	P	Pg	05 54 01.5	-0.3
ITM				S	Sg	05 54 09.1	+0.5
	900nm,0.3s						
ITM	**Ithomi**	**0.51**	**18**	P	Pg	05 54 01.5	-0.3
ITM				S	Sg	05 54 08.4	-0.2
ITM				AML	AML	05 54 10.8	
	comp=N,1517μm,0.3s						
ITM				AML	AML	05 54 11.7	
	comp=E,2077μm,0.3s						
AMT	**Artemida-Makis**	**0.84**	**359**	P	Pg	05 54 08.0	-0.1
AMT				S	Sb	05 54 19.9	-0.2
	comp=E,700nm,0.4s						
AMT	**Artemida-Makis**	**0.84**	**359**	P	Pg	05 54 08.0	-0.1
AMT				S	Sb	05 54 19.9	-0.2
AMT				AML	AML	05 54 22.9	
	comp=N,1576μm,0.5s						
AMT				AML	AML	05 54 30.0	
	comp=E,1157μm,0.4s						
VLX	**Vlachokerasia**	**0.85**	**37**	P	Pg	05 54 08.2	-0.2
VLX				S	Sb	05 54 20.1	-0.5
	comp=E,450nm,0.7s						
VLX	**Vlachokerasia**	**0.85**	**37**	P	Pg	05 54 08.1	-0.2
VLX				S	Sg	05 54 19.2	-0.3
VLX				AML	AML	05 54 22.4	
	comp=N,896μm,0.5s						
VLX				AML	AML	05 54 24.7	
	comp=E,797μm,0.5s						
VLI	**Veliai**	**0.97**	**88**	P	Pb	05 54 11.0	+0.2
VLI				S	Sn	05 54 24.7	-0.9
	comp=E,128nm,1.0s						
VLI	**Veliai**	**0.97**	**88**	P	Pg	05 54 10.4	-0.1
VLI				S	Sg	05 54 22.7	-0.4
KTHR	**Kythira**	**1.11**	**112**	P	Pg	05 54 13.1	-0.1
KTHR				S	Sn	05 54 29.1	0.0
	comp=E,248nm,0.5s						
DRO	**Drossia**	**1.26**	**359**	P	Pn	05 54 15.1	-0.6
DRO				S	Sn	05 54 33.2	+0.3
DRO				AML	AML	05 54 40.8	
	comp=N,492μm,0.2s						
DRO				AML	AML	05 54 41.2	
	comp=E,607μm,0.3s						
KRND	**KRANIDI**	**1.33**	**58**	P	Pg	05 54 17.3	0.0
KLV	**Kalavryta, Ach**	**1.39**	**14**	P	Pn	05 54 17.3	-0.2
KLV				S	Sg	05 54 38.0	+1.3
KLV				AML	AML	05 54 45.7	
	comp=E,184μm,0.7s						
KLV				AML	AML	05 54 47.9	
	comp=N,135μm,0.6s						
DID	**Didima**	**1.45**	**55**	P	Pb	05 54 19.1	0.0
DID				S	Sg	05 54 39.5	+0.9
VLMS	**Volimes, Zakyn**	**1.46**	**325**	P	Pn	05 54 18.7	+0.2
VLMS				S	Sg	05 54 39.3	+0.5
LTK	**Loutraki**	**1.66**	**36**	P	Pb	05 54 22.2	-0.4
TRIZ	**Trizonia**	**1.69**	**9**	P	Pn	05 54 22.0	+0.3
KALE	**Kalithea**	**1.73**	**11**	P	Pb	05 54 23.5	-0.4
VLS	**Valsamata**	**1.74**	**329**	P	Pn	05 54 22.5	+0.1
VIL2	**Platees**	**1.95**	**38**	P	Pn	05 54 25.7	+0.5
VLY	**Voula,Athens**	**2.01**	**54**	P	Pn	05 54 26.6	+0.5
ATHU	**Athens Univers**	**2.07**	**51**	P	Pn	05 54 27.7	+0.8
AXAR	**Agios Charalam**	**2.20**	**19**	P	Pn	05 54 30.0	+1.3
MAKR	**Makrakomi, Fth**	**2.34**	**8**	P	Pn	05 54 32.1	+1.5
AGG	**Agios Georgios**	**2.38**	**11**	P	Pn	05 54 31.4	+0.3

ISCJB 17 05:54:19.8±0.9, 24.02S±0.06×66.94W±0.05, h197km±12km, Error ellipse: s-maj=10.9km s-min=5.3km az=26.7
SJA 17 05:54:19.2±0.6, 23.99S×66.87W, h203km±5km, ML2.7, MW3.0
GUC 17 05:54:20.7±0.5, 23.71S×67.31W, h243km±7km, ML3.7
ISC 17 05:54:19.0±2.0, 23.97S±0.08×66.89W±0.05, h207km±19km, n23, σ1.904/34, 4C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.47**	**121**	*i* P	Pn	05 54 53.8	+0.6
SLA				IAML		05 54 54.4	
	comp=Z,23nm,0.6s						
SLA				*e*S	Sn	05 55 18.7	-1.1
HJA	**Humahuaca**	**1.56**	**61**	*i* P	Pn	05 54 54.9	+0.6
HJA				IAML		05 54 57.2	
	comp=Z,28nm,0.5s						
AZAP	**Zapla**	**1.69**	**99**	*i* P	Pn	05 54 55.5	+0.2
AZAP				IAML		05 54 55.7	
	comp=Z,89nm,0.6s						
YJA	**Yavi**	**2.19**	**36**	↑*i* P	Pn	05 55 01.6	+1.1
YJA				IAML		05 55 02.4	
	comp=Z,7.4nm,0.3s						
YJA				*e*S	Sn	05 55 32.9	0.0
LVC	**Limon Verde**	**2.30**	**306**	*e*P	Pn	05 55 02.9	+1.3
LVC				*i* S	Sn	05 55 35.4	+0.7
LVC	**Limon Verde**	**2.30**	**306**	*i* P	Pn	05 55 02.6	+1.0
LVC				IAML		05 55 04.8	
	comp=Z,33nm,0.1s						
LVC				*e*S	Sn	05 55 34.0	-0.7
PB15	**IPOC Station P**	**2.49**	**287**	↑*i* P	Pn	05 55 04.7	+1.3
PB15				*i* S	Sn	05 55 38.5	+0.5
PB15	**IPOC Station P**	**2.49**	**287**	*i* P	Pn	05 55 04.5	+1.1
PB15				*e*S	Sn	05 55 37.4	-0.7
PB06	**IPOC Station P**	**2.77**	**297**	↑*i* P	Pn	05 55 07.7	+1.2
PB06				*i* S	Sn	05 55 43.1	-0.5
PB06				IAML		05 55 45.0	
	comp=E,159nm,0.1s						
PB06	**IPOC Station P**	**2.77**	**297**	*i* P	Pn	05 55 07.5	+0.9
PB06				IAML		05 55 44.9	
	comp=Z,88nm,0.3s						
PB05	**IPOC Station P**	**3.24**	**289**	*e*P	Pn	05 55 12.7	+0.8
PB05				*i* S	Sn	05 55 51.8	-1.7
PB05				IAML		05 55 56.5	
	comp=N,56nm,0.3s						
PB05	**IPOC Station P**	**3.24**	**289**	*i* P	Pn	05 55 12.8	+0.8
PB03	**IPOC Station P**	**3.26**	**305**	*e*P	Pn	05 55 13.0	+0.8
PB03				*i* S	Sn	05 55 52.4	-1.6
PB03				IAML		05 55 53.4	
	comp=E,128nm,0.3s						
PB14	**IPOC Station P**	**3.27**	**258**	*i* P	Pn	05 55 13.2	+0.7
PB10	**IPOC Station P**	**3.39**	**277**	↑*i* P	Pn	05 55 14.6	+0.9
PB10				*i* S	Sn	05 55 56.0	-0.5
PB04	**IPOC Station P**	**3.42**	**298**	*e*P	Pn	05 55 15.0	+0.9
PB04				*e*S	Sn	05 55 56.0	-1.3
PB04				IAML		05 55 58.2	
	comp=N,123nm,0.4s						
PB04	**IPOC Station P**	**3.42**	**298**	*i* P	Pn	05 55 15.0	+0.9
PB07	**IPOC Station P**	**3.56**	**308**	↑*i* P	Pn	05 55 16.4	+0.6
PB07				*e*S	Sn	05 55 58.1	-2.3
PB07				IAML		05 55 59.8	
	comp=E,90nm,0.3s						
ACLC	**CERRO LA CRUZ**	**5.43**	**181**	*i* P	Pn	05 55 39.6	+0.4
AGUA	**GUANDACOL**	**5.67**	**194**	*i* P	Pn	05 55 43.6	+1.4
APLL	**PUNTA DE LOS L**	**6.41**	**177**	*i* P	Pn	05 55 51.8	+0.2
AMOG	**MOGNA**	**7.08**	**191**	*i* P	Pn	05 55 54.4	-6.0
TCA	**Tanti**	**7.61**	**165**	*i* P	Pn	05 56 06.5	-0.7

ISCJB 17 05:56:14.0±0.6, 17.40S±0.05×70.22W±0.09, h151km±6km, Error ellipse: s-maj=14.1km s-min=7.5km az=17.8
GUC 17 05:56:14.9±0.7, 17.36S×70.18W, h130km±6km, ML4.1
IDC 17 05:56:16.0±1.7, 17.29S×70.05W, h149km±16km, mb3.5/9, mb1 3.7/12, mb1mx3.5/37, mbtmp3.9/12, Error ellipse: s-maj=21.6km s-min=19.1km az=60.0
ISC 17 05:56:15.0±0.9, 17.38S±0.06×70.10W±0.09, h145km±8km, n23, σ1.955/35, 4C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AP01	**Chacalluta**	**1.01**	**193**	↑*i* P	Pn	05 56 38.5	-0.8
AP01				*e*S	Sn	05 56 56.6	-1.3
AP01				IAML		05 56 58.3	
	comp=E,2μm,0.2s						
PB16	**IPOC Station P**	**1.10**	**149**	↑*i* P	Pn	05 56 41.6	+0.8
PB16				*i* S	Sn	05 57 01.5	+0.9
MNMC	**Minye Minye**	**1.80**	**165**	*e*P	Pn	05 56 48.6	+0.7
MNMC				*i* S	Sn	05 57 13.8	+0.8
LPAZ	**La Paz**	**2.18**	**60**	↓*i* P	Pn	05 56 53.8	+1.2
LPAZ				*e*S	Sn	05 57 22.0	+0.6
LPAZ	**La Paz**	**2.18**	**60**	P	Pn	05 56 53.5	+0.9
	comp=E,28nm,0.3s,baz=284,slow=5.7,SNR=690						
LPAZ				S	Sn	05 57 21.4	0.0
	comp=E,8.8nm,0.3s,baz=335,slow=25,SNR=13						
PSGC	**Pisagua**	**2.20**	**180**	*e*P	Pn	05 56 51.8	-0.6
PSGC				*e*S	Sn	05 57 19.1	-1.9
PB11	**IPOC Station P**	**2.40**	**170**	↑*i* P	Pn	05 56 54.9	+0.1
PB11				*i* S	Sn	05 57 25.2	-0.4
PB11				IAML		05 57 27.6	
	comp=E,1μm,0.2s						
GO01	**Chusmiza**	**2.43**	**159**	*e*P	Pn	05 56 57.0	+1.5
GO01				*e*S	Sn	05 57 29.1	+2.4
PB08	**IPOC Station P**	**2.89**	**162**	*e*P	Pn	05 57 02.2	+1.1
PB08				*i* S	Sn	05 57 37.4	+0.7
PB08				IAML		05 57 40.2	
	comp=E,618nm,0.1s						
TA01	**Diego Aracena**	**3.17**	**181**	↑*i* P	Pn	05 57 03.6	-0.7
TA01				*i* S	Sn	05 57 39.3	-3.1
TA01				IAML		05 57 40.1	
	comp=N,554nm,0.2s						
LVC	**Limon Verde**	**5.32**	**168**	P	Pn	05 57 33.7	+0.8
	comp=N,8.0nm,0.3s,baz=343,slow=10,SNR=12						
LVC				S	Sn	05 58 31.6	-2.1
	comp=N,12nm,0.3s,baz=246,slow=20,SNR=34						
SIV	**San Ignacio**	**8.77**	**82**	P	Pn	05 58 19.0	+0.3
	comp=N,1.2nm,0.3s,baz=275,slow=14,SNR=37						
SIV				S	Sn	05 59 50.7	-5.4
	comp=N,0.2nm,0.3s,baz=223,slow=19,SNR=3.4						
CFA	**Coronel Fontan**	**14.26**	**174**	P	Pn	05 59 29.2	-1.2
	comp=N,0.2nm,0.3s,baz=343,slow=15,SNR=4.1						
CFA				S	Sn	06 01 58.9	-10
	comp=N,0.1nm,0.3s,baz=288,slow=20,SNR=3.9						
PLCA	**Paso Flores**	**23.27**	**181**	P	P	06 01 11.9	+2.2
	comp=N,2.3nm,0.9s,baz=5.2,slow=11,SNR=4.4						
TXAR	**Lajitas Array**	**56.63**	**325**	P	P	06 05 42.6	-0.7
	comp=N,0.2nm,0.6s,baz=150,slow=9.5,SNR=5.3						
DBIC	**Dimbokro**	**68.72**	**75**	P	P	06 07 03.4	-0.2
	comp=N,3.3nm,0.9s,baz=248,slow=8.7,SNR=3.6						
PDAR	**Pinedale Array**	**70.00**	**330**	P	P	06 07 11.4	+0.2
	comp=N,0.2nm,0.4s,baz=117,slow=8.3,SNR=5.3						
ULM	**Lac du Bonnet**	**71.07**	**343**	P	P	06 07 16.4	-0.8
	comp=N,2.7nm,0.7s,baz=152,slow=6.9,SNR=5.1						
NVAR	**Mina Array Bea**	**71.57**	**322**	P	P	06 07 21.7	+0.9
	comp=N,0.3nm,0.8s,baz=148,slow=5.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**77.09**	**72**	P	P	06 07 52.5	-0.4
	comp=N,3.8nm,0.9s,baz=257,slow=5.1,SNR=20						
ESDC	**Sonseca Array**	**83.73**	**45**	P	P	06 08 28.1	+0.1
	comp=N,0.1nm,0.3s,baz=260,slow=5.5,SNR=2.7						
YKA	**Yellowknife Ar**	**86.95**	**341**	P	P	06 08 43.4	+0.2
	comp=N,0.9nm,0.7s,baz=134,slow=4.9,SNR=23						
SONM	**Songino Array**	**149.50**	**5**	PKPbc	PKiKP	06 15 48.3	-0.1
	comp=N,0.3nm,0.4s,baz=327,slow=2.8,SNR=3.6						

IDC 17 06:00:25.9±1.2, 57.77S×24.85W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.8/17, mbtmp3.8/4, Error ellipse: s-maj=44.8km s-min=31.9km az=76.0
ISC 17 06:00:32.4±0.9, 57.8S±0.1×25.2W±0.3, h40km, n10, σ2.830/12, mb3.8/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**14.75**	**158**	P	P	06 04 05.0	+1.7
VNA3	**Neumayer Olymp**	**14.96**	**160**	P	P	06 04 06.9	+1.3
VNA3				S	Sn	06 06 42.0	-2.9
VNA2	**Neumayer--Watz**	**15.14**	**157**	P	P	06 04 09.7	+2.0
	baz=333,slow=15						
VNA2				S	Sn	06 06 48.7	-0.6
	baz=319,slow=21						
SNAA	**Sanae**	**16.68**	**155**	P	P	06 04 30.0	+5.2
CPUP	**Villa Florida**	**38.78**	**310**	P	P	06 07 52.8	-0.1
	0.3nm,0.4s,baz=161,slow=6.6,SNR=3.3						
VNDA	**Vanda**	**44.85**	**182**	P	P	06 08 41.1	-0.8
	1.4nm,0.8s,baz=174,slow=9.2,SNR=4.6						
LPAZ	**La Paz**	**52.27**	**304**	P	P	06 09 40.3	0.0
	0.6nm,0.5s,baz=171,slow=8.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**74.11**	**27**	P	P	06 12 02.7	-1.5
	0.6nm,0.7s,baz=202,slow=7.1,SNR=3.1						
YKA	**Yellowknife Ar**	**138.20**	**316**	PKP	PKPdf	06 19 51.6	+0.2
	0.1nm,0.5s,baz=111,slow=2.9,SNR=3.5						
ILAR	**Eielson Array**	**152.08**	**309**	PKPbc	PKiKP	06 20 22.6	+0.6
	0.4nm,0.5s,baz=104,slow=1.4,SNR=6.6						

NCEDC 17 06:02:50.8±1.4, 36.84N±0.04×121.57W±0.06, h5km±1km, Md2.7
NEIC 17 06:02:50.7±1.9, 36.80N±0.04×121.65W±0.05, h11km±6km, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTUM	**Tustin Road**	**0.03**	**7**		Pg	06 02 54.0	+1.2
HERM	**Elkhorn Road**	**0.05**	**273**		Pg	06 02 53.9	+1.0
HBTM	**San Juan Bauti**	**0.10**	**55**		Pg	06 02 51.8	-1.6
ANZ	**Anzar Road**	**0.10**	**27**		Pg	06 02 52.0	-1.4
HCOM	**Corn Cob Canyo**	**0.10**	**332**		Pg	06 02 53.8	+0.3
FRP	**Fremont Peak**	**0.13**	**108**		Pg	06 02 53.1	-0.8
SAO	**San Andreas Ge**	**0.16**	**101**		Pg	06 02 53.5	-0.9
BSRM	**Salinas Radio**	**0.17**	**141**		Pg	06 02 54.4	0.0
OCR	**O'Connell Ranc**	**0.17**	**43**		Pg	06 02 53.3	-1.1
CSR	**Chase Ranch**	**0.17**	**17**		Pg	06 02 53.8	-0.7
BVYM	**Vineyard**	**0.19**	**104**		Pg	06 02 54.1	-0.8
JELB	**Ellicott, Sant**	**0.20**	**312**		Pb	06 02 55.7	-0.6
JELB					Sg	06 02 59.7	+1.9
BPCNC	**Pine Canyon**	**0.22**	**176**		Pg	06 02 56.5	-0.2
BSLM	**Silva Ranch**	**0.24**	**95**		Pg	06 02 55.6	-0.1
HLPM	**Lions Peak**	**0.24**	**3**		Pg	06 02 55.4	-0.4
BCGM	**Cienega Road**	**0.26**	**109**		Pg	06 02 55.4	-0.7
CDC	**Canada Road**	**0.26**	**30**		Pg	06 02 55.4	-0.8
HFEM	**San Felipe**	**0.27**	**46**		Pg	06 02 55.5	-0.8
SCZ	**Santa Cruz**	**0.28**	**135**		Pg	06 02 56.1	-0.3
SCZ					Sg	06 03 00.0	-0.2
HLTM	**Lone Tree Road**	**0.29**	**72**		Pg	06 02 56.1	-0.5
HMOM	**Monterey**	**0.29**	**228**		Pb	06 02 58.3	+0.3
HMOM					Sb	06 03 03.8	+0.9
JTGM	**Trout Gulch Ro**	**0.30**	**322**		Pg	06 02 57.2	+0.5
BHRM	**Hodges Ranch**	**0.32**	**102**		Pg	06 02 57.1	0.0
BJOM	**Mount Johnson**	**0.32**	**122**		Pg	06 02 56.7	-0.4
BJCM	**Johnson Can.**	**0.32**	**140**		Pg	06 02 57.1	-0.1
BLRM	**Lewis Ranch**	**0.33**	**113**		Pg	06 02 56.8	-0.5
HSPM	**Sheep**	**0.34**	**18**		Pg	06 02 57.1	-0.4
GHS	**Gilroy Hot Spr**	**0.34**	**28**		Pg	06 02 56.9	-0.7
JHLM	**Holstrom Ranch**	**0.35**	**335**		Pg	06 02 57.4	-0.3
PACP	**Pacheco Peak**	**0.36**	**54**		Pg	06 02 57.2	-0.7
JLAB	**Laurel Hill**	**0.36**	**349**		Pg	06 02 57.9	-0.1
CADM	**Anderson Res.**	**0.37**	**3**		Pg	06 02 57.7	-0.4
AMC	**Almaden**	**0.40**	**336**		Pg	06 02 58.1	-0.4
HPCM	**Pacheco Lake**	**0.40**	**48**		Pg	06 02 57.8	-0.8
HPCM					Sg	06 03 03.3	-0.6
BEHM	**Elkhorn Ranch**	**0.40**	**109**		Pg	06 02 58.8	+0.1
HAST	**Hastings Reser**	**0.41**	**169**		Pb	06 02 59.6	-0.5
HAST					Sb	06 03 06.1	-0.3
JUMM	**Mount Umunhum**	**0.42**	**331**		Pg	06 02 58.7	-0.2
JSTM	**Santa Teresa H**	**0.43**	**344**		Pg	06 02 58.9	-0.3
SLD	**San Luis Dam**	**0.44**	**51**		Pg	06 02 58.6	-0.8
BSMM	**Soledad Missio**	**0.45**	**157**		Pg	06 03 00.1	+0.5
SFJWR	**San Luis Fatjo**	**0.46**	**56**		Pg	06 02 58.9	-0.8
BEMM	**Emmet**	**0.46**	**107**		Pg	06 02 59.6	-0.1
CCOB	**Coe Ranch Numb**	**0.46**	**357**		Pg	06 03 00.3	+0.5
JJOM	**Saint Joseph's**	**0.49**	**327**		Pg	06 03 00.1	-0.1
BCWM	**Chews Ridge**	**0.49**	**172**		Pb	06 03 01.2	-0.3
BPIM	**Pinnacles**	**0.49**	**128**		Pg	06 02 59.6	-0.7
BSGM	**Shirttail Gulc**	**0.49**	**140**		Pg	06 03 00.0	-0.4
BAVM	**Antelope Valle**	**0.52**	**107**		Pg	06 03 00.7	-0.2
JBNB	**Ben Lomond Mou**	**0.52**	**309**		Pg	06 03 00.8	-0.1
BBGB	**Big Mountain B**	**0.53**	**114**		Pg	06 03 01.3	+0.2
BBNM	**San Benito**	**0.54**	**122**		Pg	06 03 01.1	-0.2
MHC	**Mount Hamilton**	**0.55**	**0**		Pg	06 03 01.4	+0.1
ARN	**Arnold Ranch**	**0.56**	**9**		Pg	06 03 01.4	-0.3
BPOM	**Post Ranch**	**0.57**	**190**		Pb	06 03 02.9	+0.1
JSGM	**Saratoga Golf**	**0.58**	**327**		Pg	06 03 02.3	+0.2
BAPM	**Anderson Peak**	**0.62**	**180**		Pb	06 03 03.5	-0.1
LRV	**Little Rabbit**	**0.63**	**126**		Pg	06 03 02.5	-0.3
JPC	**Peters Creek,**	**0.66**	**317**		Pg	06 03 03.5	+0.1
JBMM	**Black Mountain**	**0.66**	**322**		Pg	06 03 03.8	+0.2
BRMM	**Rolling Bench**	**0.66**	**86**		Pg	06 03 03.6	+0.1
CALM	**Calaveras Res.**	**0.67**	**350**		Pg	06 03 03.8	+0.2
CMMM	**Mount Mocho**	**0.67**	**10**		Pg	06 03 03.5	-0.2
CMLM	**Mount Lewis**	**0.68**	**360**		Pg	06 03 04.0	+0.1
JPSM		**0.69**	**306**		Pg	06 03 03.9	-0.2
BMSM	**Mercy Hot Spri**	**0.70**	**101**		Pg	06 03 04.1	-0.1
JJRM	**Joaquin Road**	**0.70**	**321**		Pg	06 03 04.4	0.0
JFP	**Foothills Park**	**0.71**	**323**		Pg	06 03 04.1	-0.4
LRC	**Lone Oak Road**	**0.73**	**138**		Pg	06 03 04.3	-0.6
JSFB	**Stanford Teles**	**0.74**	**325**		Pg	06 03 05.2	+0.2
CMJM	**Mission San Jo**	**0.74**	**346**		Pg	06 03 05.2	+0.1
JRSC	**Jasper Ridge**	**0.77**	**322**		Pg	06 03 05.2	-0.4
BGH	**Bear Gulch**	**0.78**	**315**		Pg	06 03 05.4	-0.3
PCCM	**Crazy Canyon**	**0.81**	**151**		Pg	06 03 06.4	+0.1
WENL	**Wente Vineyard**	**0.83**	**354**		Pb	06 03 07.2	+0.1
JHPM	**Huddart Park**	**0.83**	**321**		Pg	06 03 06.6	-0.2
CVLM	**Vallecito**	**0.84**	**350**		Pb	06 03 07.4	+0.1
CNIC	**Niles Canyon**	**0.85**	**343**		Pg	06 03 07.0	-0.1
PMPB	**Monarch Peak**	**0.89**	**130**		Pg	06 03 07.5	-0.5
PAPM	**Alder Peak**	**0.91**	**165**		Pb	06 03 08.6	0.0
JCHM	**Cahill Ridge**	**0.93**	**321**		Pg	06 03 08.0	-0.5
JCPM	**Coyote Point**	**0.96**	**326**		Pg	06 03 08.5	-0.7
PSAM	**San Ardo**	**0.98**	**141**		Pg	06 03 09.1	-0.5
SAC	**San Andreas**	**1.00**	**322**		Pg	06 03 09.6	-0.3
CLCB	**Lake Chabot**	**1.00**	**341**		Pg	06 03 09.2	-0.7
PPTM	**Peach Tree Val**	**1.01**	**132**		Pg	06 03 09.4	-0.8
CMOB	**Morgan Territo**	**1.02**	**353**		Pb	06 03 10.5	0.0
JSBM	**San Bruno Moun**	**1.06**	**326**		Pb	06 03 09.7	-1.5
BGC	**Bolinger Road**	**1.07**	**342**		Pb	06 03 10.3	-1.0
PHSB	**Hesperia Broad**	**1.08**	**154**		Pb	06 03 11.0	-0.4
CRHM	**Round Hill Res**	**1.10**	**346**		Pn	06 03 12.7	+0.6
PSMM	**Smith Mountain**	**1.12**	**130**		Pb	06 03 11.8	-0.3
MYLM	**Yosemite Lake**	**1.14**	**59**		Pb	06 03 10.5	-2.0
BDM	**Black Diamond**	**1.17**	**352**		Pb	06 03 11.7	-1.2
PHPM	**Hope Ranch**	**1.17**	**134**		Pb	06 03 11.9	-1.0
BKS	**Berkeley--Byer**	**1.18**	**337**		Pb	06 03 11.8	-1.3
PANM	**San Antonio Re**	**1.18**	**149**		Pb	06 03 12.6	-0.5
CVPM	**Vollmer Peak**	**1.18**	**337**		Pb	06 03 11.9	-1.2
PARM	**Anticline Ridg**	**1.19**	**117**		Pn	06 03 13.3	0.0
BRIB	**Briones**	**1.19**	**340**		Pb	06 03 11.9	-1.4
JPRM	**Presidio of Sa**	**1.20**

9.5nm,0.3s,baz=270,slow=10,SNR=3.5
BATI Sn **Sn** **06 21 37.8 -1.3**
9.4nm,0.3s,baz=354,slow=19,SNR=4.5
BATI Baumata 5.64 99 P **Pn** **06 20 37.0 +1.6**
TTSI Tana Toraja 6.58 16 P **Pn** **06 20 50.1 +1.9**
FITZ Fitzroy Crossi 11.39 140 Pn Pn 06 21 51.2 -3.0
0.6nm,0.3s,baz=318,slow=11,SNR=24
FITZ Sn Sn 06 23 49.2 -11
1.3nm,0.3s,baz=17,slow=20,SNR=12
FITZ LR LR 06 26 20.4
comp=Z,23nm,19.3s,baz=8.0,slow=37
WRA Warramunga Arr 18.95 125 P **P** **06 23 30.2 -2.0**
0.2nm,0.3s,baz=301,slow=12,SNR=8.2
WRA S Sn 06 26 48.8 -16
0.2nm,0.3s,baz=306,slow=25,SNR=5.0
ASAR Alice Springs 20.79 135 P **P** **06 23 50.0 -2.3**
0.5nm,0.6s,baz=310,slow=8.9,SNR=11
ASAR S S 06 27 34.8 -7.8
0.3nm,0.6s,baz=306,slow=22,SNR=3.5
NWAO Narrogin (SRO) 23.42 182 LR LR 06 34 35.1
comp=Z,22nm,19.0s,baz=328,slow=40
KSH Kashi 62.35 324 P **P** **06 29 35.6 +2.4**
KSH pP pP 06 29 43.3 0.0
KSH ScP **ScP** **06 34 13.9 +1.7**
KSH S **S** **06 38 01.3 +3.8**
KSH ScS **ScS** **06 39 22.1 -0.9**
KSH pmax pmax
comp=Z,520nm,5.8s
KSH LR LR
comp=N,430nm,4.8s
KSH LR LR
comp=E,690nm,8.4s
KSH LR LR
comp=Z,960nm,7.7s
MKAR Makanchi Array 64.37 334 P P 06 29 37.5 -8.9
comp=Z,0.4nm,0.5s,baz=146,slow=7.1,SNR=7.5

*ISCJB **17** 06:37:24.4±1.1, 17°.9S±0°.2×177°.3W±0°.2, h35km, mb3.6/4, Error ellipse: s-maj=35.2km s-min=30.3km az=11.9*
*IDC **17** 06:37:26.2±2.0, 16°.50S×178°.34W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/25, mbtmp3.6/4, Error ellipse: s-maj=130.7km s-min=27.3km az=153.0*
ISC 17 06:37:25.6±1.3, 17°.9S±0°.3×177°.2W±0°.3, h35km, n8, σ0§50/7, mb3.5/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.75**	**259**	P		**P**	**P**	**06 45 43.6**	**-0.4**
0.2nm,0.3s,baz=97,slow=7.4,SNR=10.0									
ASAR	**Alice Springs**	**45.89**	**254**	P		**P**	**P**	**06 45 45.5**	**+0.5**
2.1nm,0.5s,baz=89,slow=8.2,SNR=50									
TXAR	**Lajitas Array**	**85.03**	**57**	P		P	P	06 50 05.4	+7.4
0.1nm,0.6s,baz=235,slow=6.3,SNR=2.9									
ILAR	**Eielson Array**	**85.61**	**13**	P		**P**	**P**	**06 50 00.1**	**+0.1**
0.1nm,0.4s,baz=228,slow=6.7,SNR=4.2									
SNAA	**Sanae**	**90.59**	**178**	P		**P**	**P**	**06 50 23.5**	**-0.5**
VNA3	**Neumayer Olymp**	**90.69**	**176**	P		**P**	**P**	**06 50 24.4**	**0.0**
VNA2	**Neumayer--Watz**	**91.14**	**177**	P		**P**	**P**	**06 50 27.0**	**+0.5**
baz=156,slow=3.2									
VNA1	**Neumayer--Stat**	**91.36**	**176**	P		**P**	**P**	**06 50 27.3**	**-0.2**

IDC 17 06:57:03.8±2.1, 7°.11S×155°.88E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/33, mbtmp3.7/4, Error ellipse: s-maj=76.0km s-min=38.3km az=125.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.48**	**236**	P		P	P	07 02 25.8	+0.9
0.3nm,0.5s,baz=62,slow=9.7,SNR=5.4									
WRA				PcP		PcP	PcP	07 06 03.3	-0.6
0.2nm,0.7s,baz=61,slow=3.0,SNR=3.2									
ASAR	**Alice Springs**	**26.76**	**230**	P		P	P	07 02 45.1	-0.4
0.2nm,0.3s,baz=59,slow=10,SNR=4.6									
ASAR				PcP		PcP	PcP	07 06 08.4	-0.7
0.1nm,0.5s,baz=50,slow=2.9,SNR=3.1									
H11S3	**WAKE ISLAND Hy**	**27.59**	**23**	T		T	T	07 31 18.1	
baz=202,slow=75,SNR=35									
H11S2	**WAKE ISLAND Hy**	**27.59**	**23**	T		T	T	07 31 12.7	
baz=202,slow=75,SNR=48									
H11S1	**WAKE ISLAND Hy**	**27.61**	**23**	T		T	T	07 31 23.1	
baz=202,slow=75,SNR=24									
H11N1	**WAKE ISLAND Hy**	**28.78**	**22**	T		T	T	07 32 47.3	
baz=203									
H11N3	**WAKE ISLAND Hy**	**28.79**	**22**	T		T	T	07 32 54.4	
baz=203									
H11N2	**WAKE ISLAND Hy**	**28.80**	**22**	T		T	T	07 32 56.1	
baz=203									
FITZ	**Fitzroy Crossi**	**31.41**	**247**	P		P	P	07 03 27.0	0.0
0.7nm,0.6s,baz=76,slow=9.6,SNR=5.4									
MKAR	**Makanchi Array**	**84.08**	**318**	P		P	P	07 09 36.7	+0.1
0.7nm,0.7s,baz=103,slow=6.5,SNR=6.3									

*KRNET **17** 07:21:09.2±0.1, 40°.37N×78°.90E, mb3.8*
*SOME **17** 07:21:10.0, 40°.33N×78°.95E, h20km*
*NNC **17** 07:21:11.8±1.1, 40°.51N×78°.95E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=7.6km s-min=6.5km az=170.0*
ISC 17 07:21:11.5±1.9, 40°.48N±0°.08×78°.92E±0°.05, h10km, n71, σ1§89/106, 34C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.51**	**326**	⇑*i*P		**P**	**Pb**	**07 21 39.1**	**-0.8**
baz=29									
TARG				⇑*i*S		**Sg**	**Sg**	**07 22 01.2**	**+1.1**
baz=29									
PRZ	**Przheval'sk**	**2.04**	**349**	⇑*i*P		**P**	**Pb**	**07 21 48.4**	**-0.4**
baz=50									
PRZ				⇑*i*S		**Sg**	**Sg**	**07 22 17.1**	**-0.1**
baz=50									
KDJ	**Kajisay**	**2.11**	**322**	⇑*i*P		**P**	**Pb**	**07 21 49.3**	**-0.6**
baz=24									
KDJ				⇑*i*S		**Sg**	**Sg**	**07 22 18.2**	**-1.1**
baz=24									
NRN	**Naryn**	**2.41**	**294**	⇑*e*P		**P**	**Pb**	**07 21 52.6**	**-2.5**
baz=96									
NRN				⇑*e*S		**Sb**	**Sb**	**07 22 24.3**	**-0.7**
baz=96									
ANVS	**Anan'yevo**	**2.49**	**338**	⇑*e*P		**P**	**Pb**	**07 21 54.5**	**-1.9**
baz=39									
ANVS				⇑*i*S		**Sb**	**Sb**	**07 22 27.2**	**0.0**
baz=39									
SATY	**Saty**	**2.61**	**352**	*e*P		**P**	**Pb**	**07 21 59.1**	**+0.7**
142nm,0.8s									
SATY				*e*S		**Sg**	**Sg**	**07 22 34.3**	**-1.0**
190nm,0.8s									
SATY	**Saty**	**2.61**	**352**	Pg		**P**	**Pb**	**07 21 58.4**	**-0.1**
142nm,0.8s									
SATY				Lg		Lg	Lg	07 22 33.1	
137nm,0.6s									
UZB	**Uzynbulak**	**2.67**	**2**	*e*P		**P**	**Pb**	**07 21 59.8**	**+0.3**
34nm,0.6s									
UZB				*e*S		**Sg**	**Sg**	**07 22 35.4**	**-1.8**
102nm,0.8s									
UZB	**Uzynbulak**	**2.67**	**2**	Pg		**P**	**Pb**	**07 22 00.3**	**+0.8**
34nm,0.6s									
UZB				Lg		Lg	Lg	07 22 36.6	
102nm,0.8s									
ULHL	**Ulahol**	**2.68**	**312**	⇑*i*P		**P**	**Pb**	**07 21 57.0**	**-2.7**
baz=14									
ULHL				⇑*i*S		**Sb**	**Sb**	**07 22 31.4**	**-1.3**
baz=14									
ULHL	**Ulahol**	**2.68**	**312**	P		**P**	**Pb**	**07 21 57.5**	**-2.2**
SNR=17									
ZHN	**Zhinishke**	**2.71**	**353**	*e*P		**P**	**Pb**	**07 22 00.5**	**+0.3**
26nm,0.2s									
ZHN				*e*S		**Sg**	**Sg**	**07 22 36.9**	**-1.8**
43nm,0.3s									
ZHN	**Zhinishke**	**2.71**	**353**	Pg		**P**	**Pb**	**07 22 00.8**	**+0.6**
30nm,0.2s									
ZHN				Lg		Lg	Lg	07 22 37.4	
30nm,0.2s									
PDGK	**Podgornoye**	**2.88**	**8**	Pg		**P**	**Pb**	**07 22 03.1**	**0.0**
16nm,0.3s									
PDGK				Lg		Lg	Lg	07 22 41.2	
30nm,0.8s									
PDGK	**Podgornoye**	**2.88**	**8**	⇑Pn		**Pn**	**Pn**	**07 21 59.7**	**+2.1**
51nm,1.0s									
PDGK				⇑Lg		Lg	Lg	07 22 39.0	
248nm,1.2s									
TNSS	**Tian-Shan**	**2.95**	**331**	*e*P		**Pg**	**Pg**	**07 22 06.5**	**-1.6**
37nm,0.6s									
TNSS				*e*S		**Sg**	**Sg**	**07 22 47.1**	**+0.7**
65nm,0.7s									
TNSS	**Tian-Shan**	**2.95**	**331**	Pg		**Pg**	**Pg**	**07 22 06.5**	**-1.6**
37nm,0.6s									
TNSS				Lg		Lg	Lg	07 22 47.1	
65nm,0.7s									
KPKS	**Kokpek**	**2.99**	**357**	*e*P		**Pb**	**Pb**	**07 22 05.4**	**+0.5**
100nm,0.7s									
KPKS				*e*S		**Sg**	**Sg**	**07 22 45.8**	**-1.9**
134nm,0.5s									
BOOM	**Boomskoye usch**	**3.01**	**313**	⇓*e*P		**Pn**	**Pn**	**07 22 01.6**	**+2.2**
baz=15									
BOOM				⇓*i*S		**Sb**	**Sb**	**07 22 39.2**	**-2.9**
baz=15									
MDOK	**Medeo**	**3.02**	**333**	*e*P		**Pg**	**Pg**	**07 22 07.4**	**-2.1**
38nm,0.7s									
MDOK				*e*S		**Sg**	**Sg**	**07 22 48.6**	**-0.1**
120nm,0.7s									
MDOK	**Medeo**	**3.02**	**333**	⇓Pg		**Pb**	**Pb**	**07 22 04.9**	**-0.7**
67nm,0.9s									
MDOK				Lg		Lg	Lg	07 22 49.0	
159nm,0.8s									
MDOK	**Medeo**	**3.02**	**333**	Pg		**Pg**	**Pg**	**07 22 07.4**	**-2.1**
38nm,0.7s									
MDOK				Lg		Lg	Lg	07 22 48.6	
120nm,0.7s									
KURS	**Kuram**	**3.06**	**350**	*e*P		**Pb**	**Pb**	**07 22 06.9**	**+0.8**
68nm,0.8s									
KURS				*e*S		**Sg**	**Sg**	**07 22 47.6**	**-2.1**
71nm,0.7s									
KURS	**Kuram**	**3.06**	**350**	Pg		**Pb**	**Pb**	**07 22 06.9**	**+0.8**
68nm,0.8s									
KURS				Lg		Lg	Lg	07 22 47.6	
71nm,0.7s									
KOTS	**Kotyrbulak**	**3.07**	**335**	*e*P		**Pb**	**Pb**	**07 22 07.8**	**+1.5**
81nm,0.7s									
KOTS				*e*S		**Sg**	**Sg**	**07 22 49.0**	**-1.0**
137nm,0.9s									
KOTS	**Kotyrbulak**	**3.07**	**335**	Pg		**Pb**	**Pb**	**07 22 07.8**	**+1.5**
81nm,0.7s									
KOTS				Lg		Lg	Lg	07 22 50.4	
137nm,0.9s									
KNDC	**Almaty**	**3.10**	**333**	⇑Pg		**Pg**	**Pg**	**07 22 09.0**	**-2.0**
100nm,1.1s									
KNDC				⇓Lg		Lg	Lg	07 22 52.1	
269nm,0.9s									
AAA	**Alma-Ata**	**3.11**	**332**	*e*P		**Pg**	**Pg**	**07 22 09.6**	**-1.6**
28nm,0.1s									
AAA				*e*S		**Sg**	**Sg**	**07 22 52.4**	**+0.9**
94nm,0.4s									
AAA	**Alma-Ata**	**3.11**	**332**	Pg		**Pg**	**Pg**	**07 22 09.6**	**-1.6**
28nm,0.1s									
AAA				Lg		Lg	Lg	07 22 52.4	
94nm,0.4s									
KZA	**Kyzart**	**3.19**	**301**	⇑*i*P		**Pn**	**Pn**	**07 22 03.5**	**+1.3**
baz=3.0									
KZA				⇑*i*S		**Sn**	**Sn**	**07 22 43.3**	**+2.8**
baz=3.0									
KZA	**Kyzart**	**3.19**	**301**	P		**Pn**	**Pn**	**07 22 04.0**	**+1.9**
SNR=12									
MTBS	**Maitube**	**3.24**	**326**	*e*P		**Pb**	**Pb**	**07 22 10.4**	**+1.2**
9.7nm,0.3s									
MTBS				*e*S		**Sg**	**Sg**	**07 22 53.7**	**-1.8**
24nm,0.3s									
MTBS	**Maitube**	**3.24**	**326**	Pg		**Pb**	**Pb**	**07 22 10.4**	**+1.2**
9.7nm,0.3s									
MTBS				Lg		Lg	Lg	07 22 53.7	
24nm,0.3s									
KST	**Kastek**	**3.38**	**320**	*e*P		**Pb**	**Pb**	**07 22 12.2**	**+0.5**
38nm,0.6s									
KST				*e*S		**Sg**	**Sg**	**07 22 57.3**	**-2.9**
81nm,0.9s									
KST	**Kastek**	**3.38**	**320**	Pg		**Pb**	**Pb**	**07 22 12.2**	**+0.5**
38nm,0.6s									
KST				Lg		Lg	Lg	07 22 57.3	
81nm,0.9s									
TKM2	**Tokmak 2**	**3.48**	**316**	⇓*i*P		**Pn**	**Pn**	**07 22 08.2**	**+2.2**
baz=17									
TKM2				⇓*i*S		**Sn**	**Sn**	**07 22 51.0**	**+3.6**
baz=17									
TKM2	**Tokmak 2**	**3.48**	**316**	P		**Pn**	**Pn**	**07 22 08.6**	**+2.6**
SNR=13									
TKM2	**Tokmak 2**	**3.48**	**316**	⇑Pn		**Pn**	**Pn**	**07 22 08.2**	**+2.2**
33nm,1.3s									
TKM2				⇑Lg		Lg	Lg	07 23 02.0	
45nm,0.6s									
DGS	**Degeres**	**3.63**	**321**	*e*P		**Pb**	**Pb**	**07 22 17.1**	**+1.3**
17nm,0.7s									
DGS				*e*S		**Sg**	**Sg**	**07 23 05.6**	**-2.3**
76nm,0.7s									
DGS	**Degeres**	**3.63**	**321**	Pg		**Pb**	**Pb**	**07 22 17.1**	**+1.3**
17nm,0.7s									
DGS				Lg		Lg	Lg	07 23 05.6	
76nm,0.7s									
KTBS	**Karatobe**	**3.63**	**333**	*e*P		**Pb**	**Pb**	**07 22 17.8**	**+1.9**
14nm,0.7s									
KTBS				*e*S		**Sg**	**Sg**	**07 23 07.1**	**-1.2**
36nm,0.5s									
KTBS	**Karatobe**	**3.63**	**333**	Pg		**Pb**	**Pb**	**07 22 17.8**	**+1.9**
14nm,0.7s									
KTBS				Lg		Lg	Lg	07 23 07.1	
36nm,0.5s									
CHKK	**Chushkaly**	**3.67**	**338**	*e*P		**Pb**	**Pb**	**07 22 18.6**	**+2.2**
14nm,0.5s									
CHKK				*e*S		**Sg**	**Sg**	**07 23 08.1**	**-1.2**
60nm,0.5s									
CHKK	**Chushkaly**	**3.67**	**338**	Pg		**Pb**	**Pb**	**07 22 18.6**	**+2.2**
14nm,0.5s									
CHKK				Lg		Lg	Lg	07 23 08.1	
60nm,0.5s									
KBK	**Karagaybulak**	**3.69**	**307**	⇑*i*P		**Pn**	**Pn**	**07 22 10.7**	**+1.9**
baz=9.0									
KBK				⇑*i*S		**Sn**	**Sn**	**07 22 55.4**	**+3.0**
baz=9.0									
UCH	**Uchtor**	**3.75**	**299**	⇓*i*P		**Pn**	**Pn**	**07 22 11.5**	**+1.7**
baz=1.0									
UCH				⇓*i*S		**Sn**	**Sn**	**07 22 56.5**	**+2.3**
baz=1.0									
UCH	**Uchtor**	**3.75**	**299**	P		**Pg**	**Pg**	**07 22 20.5**	**-2.9**
SNR=6.6									
ARXS	**Arharly**	**3.82**	**348**	*e*P		**Pb**	**Pb**	**07 22 20.4**	**+1.3**
19nm,0.9s									
ARXS				*e*S		**Sg**	**Sg**	**07 23 11.0**	**-3.1**
134nm,0.6s									
ARXS	**Arharly**	**3.82**	**348**	Pg		**Pb**	**Pb**	**07 22 20.4**	**+1.3**
19nm,0.9s									
ARXS				Lg		Lg	Lg	07 23 11.0	
134nm,0.6s									
DJR	**Jarkent**	**3.91**	**9**	*e*P		**Pb**	**Pb**	**07 22 22.8**	**+2.2**
1.6nm,0.2s									
DJR				*e*S		**Sg**	**Sg**	**07 23 15.3**	**-1.6**
31nm,0.7s									
DJR	**Jarkent**	**3.91**	**9**	Pg		**Pb**	**Pb**	**07 22 22.8**	**+2.2**
1.6nm,0.2s									
DJR				Lg		Lg	Lg	07 23 15.3	
31nm,0.7s									
KUU	**Kurty**	**3.91**	**332**	*e*P		**Pb**	**Pb**	**07 22 22.5**	**+1.9**
4.7nm,0.6s									
KUU				*e*S		**Sg**	**Sg**	**07 23 14.4**	**-2.8**
30nm,0.8s									
KUU	**Kurty**	**3.91**	**332**	Pg		**Pb**	**Pb**	**07 22 22.5**	**+1.9**
4.7nm,0.6s									
KUU				Lg		Lg	Lg	07 23 14.4	
30nm,0.8s									
AAK	**Ala-Archa**	**3.96**	**304**	⇑*i*P		**Pn**	**Pn**	**07 22 14.5**	**+2.0**
baz=6.0									
AAK				⇑*e*S		**Sn**	**Sn**	**07 23 01.7**	**+2.7**
baz=6.0									
AAK	**Ala-Archa**	**3.96**	**304**	P		**Pb**	**Pb**	**07 22 22.2**	**+0.7**
SNR=13									
AAK	**Ala-Archa**	**3.96**	**304**	⇑Pg		**Pg**	**Pg**	**07 22 24.0**	**-3.3**
18nm,0.8s									
AAK				⇓Lg		Lg	Lg	07 23 17.6	
30nm,0.9s									
CHMS	**Chumysh**	**4.01**	**310**	⇑*i*P		**Pn**	**Pn**	**07 22 15.2**	**+2.2**
baz=12									
CHMS				⇑*i*S		**Sn**	**Sn**	**07 23 02.8**	**+2.7**
baz=12									
CHMS	**Chumysh**	**4.01**	**310**	P		**Pb**	**Pb**	**07 22 23.2**	**+1.0**
SNR=9.8									
AML	**Almayashu**	**4.27**	**294**	⇑*i*P		**Pn**	**Pn**	**07 22 18.6**	**+1.7**
baz=96									
AML				⇑*i*S		**Sn**	**Sn**	**07 23 08.7**	**+1.7**
baz=96									
AML	**Almayashu**	**4.27**	**294**	P		**Pb**	**Pb**	**07 22 28.3**	**+1.5**
SNR=10									
USP	**Ospenovka**	**4.32**	**312**	P		**Pb**	**Pb**	**07 22 29.4**	**+1.9**
SNR=9.5									
EKS2	**Erkin-Say**	**4.43**	**301**	⇑*e*P		**Pn**	**Pn**	**07 22 20.9**	**+2.0**
baz=2.0									
EKS2				⇑*i*S		**Sn**	**Sn**	**07 23 12.6**	**+2.0**
baz=2.0									
TDK	**Taldyqorghan**	**4.54**	**355**	*e*P		**Pb**	**Pb**	**07 22 34.4**	**+3.1**
54nm,0.4s									
TDK				*e*S		**Sg**	**Sg**	**07 23 35.2**	**-2.0**
110nm,0.9s									
TDK	**Taldyqorghan**	**4.54**	**355**	Pg		**Pg**	**Pg**	**07 22 37.2**	**-1.2**
54nm,0.4s									
TDK				Lg		Lg	Lg	07 23 39.7	
110nm,0.9s									
KAPS	**Kapalarasan**	**4.82**	**4**	*e*P		**Pg**	**Pg**	**07 22 40.1**	**-3.7**
6.9nm,0.6s									
KAPS				*e*S		**Sg**	**Sg**	**07 23 45.1**	**-1.0**
25nm,0.7s									
MRKS	**Merke**	**4.83**	**300**	*e*P		**Pb**	**Pb**	**07 22 39.1**	**+2.8**
9.6nm,0.6s									
MRKS				*e*S		**Sg**	**Sg**	**07 23 43.6**	**-3.0**
8.2nm,0.8s									
MRKS	**Merke**	**4.83**	**300**	Pg		**Pb**	**Pb**	**07 22 38.3**	**+2.0**
9.6nm,0.6s									
MRKS				Lg		Lg	Lg	07 23 41.5	
8.2nm,0.8s									
BTLS	**Baital**	**5.80**	**323**	Pg		**Pb**	**Pb**	**07 22 56.3**	**+3.6**
2.0nm,0.5s									
BTLS				Lg		Lg	Lg	07 24 12.3	
2.3nm,0.3s									
MAKZ	**Makanchi**	**6.71**	**18**	⇑Pn		**Pn**	**Pn**	**07 22 50.0**	**-0.1**
3.8nm,1.0s									
MAKZ				⇓Lg		Lg	Lg	07 24 42.4	
10nm,1.3s									
MK31	**Makanchi Array**	**6.77**	**20**	⇓Pn		**Pn**	**Pn**	**07 22 51.1**	**+0.2**
0.6nm,0.5s,baz=204,slow=13,SNR=26									
MK31				⇑Sn		**Sn**	**Sn**	**07 24 08.0**	**-0.1**
4.0nm,0.8s,baz=203,slow=23,SNR=4.0									
MK31				⇑Lg		Lg	Lg	07 24 44.9	
3.1nm,0.7s									
KK31	**Karatay Array**	**6.81**	**295**	⇓Pg		Pb	Pb	07 23 14.8	+4.8
0.7nm,0.5s,baz=116,slow=15,SNR=14									
KK31				⇑Lg		Lg	Lg	07 24 48.9	
7.5nm,1.1s,baz=117,slow=25,SNR=5.5									

*IDC **17** 07:25:36.4±2.4, 60°.42S×47°.54W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.5/15, mbtmp3.8/1, MS3.1/4, Ms1 3.1/4, ms1mx2.9/18, Error ellipse: s-maj=152.4km s-min=98.3km az=145.0*
*ISCJB **17** 07:25:37.8±0.6, 60°.37S±0°.08×47°.4W±0°.2, h10km, mb3.5/1, MS3.0/4, Error ellipse: s-maj=16.2km s-min=8.7km az=146.7*
*NEIC **17** 07:25:38.2±1.6, 60°.41S±0°.09×47°.0W±0°.1, h10km±1km, mb4.1/9*
ISC 17 07:25:38.8±0.6, 60°.33S±0°.09×47°.05W±0°.10, h10km, n23, σ1§52/18, mb4.1/6, MS3.1/4, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.32**	**48**	Pn		**Pn**	**Pn**	**07 27 38.6**	**-0.7**
PMSA	**Palmer Station**	**9.01**	**233**	Pn		**Pn**	**Pn**	**07 27 48.8**	**0.0**
EFI	**East Falkland**	**10.63**	**320**	Pn		**Pn**	**Pn**	**07 28 10.4**	**-0.5**
VNA3	**Neumayer Olymp**	**18.43**	**142**	P		**Pn**	**Pn**	**07 29 55.9**	**+2.0**
VNA1	**Neumayer--Stat**	**18.71**	**139**	P		**Pn**	**Pn**	**07 29 59.9**	**+2.5**
VNA2	**Neumayer--Watz**	**19.06**	**140**	P		**Pn**	**Pn**	**07 30 05.0**	**+3.4**
baz=294,slow=16									
SNAA	**Sanae**	**20.65**	**141**	P		Pn	Pn	07 30 24.1	+3.6
SNAA	**Sanae**	**20.65**	**141**	P		**P**	**P**	**07 30 16.4**	**-1.8**
TRQA	**Tornquist**	**24.22**	**330**	P		**P**	**P**	**07 30 55.8**	**+0.3**
TRQA						IAmb	IAmb	07 31 05.1	
comp=Z,11nm,1.2s									
PLCA	**Paso Flores**	**24.42**	**313**	LR		LR	LR	07 39 34.8	
comp=Z,30nm,21.0s,baz=194,slow=34									
PLCA	**Paso Flores**	**24.42**	**313**	P		**P**	**P**	**07 30 57.8**	**+0.5**
PLCA						IAmb	IAmb	07 31 00.6	
comp=Z,2.6nm,0.9s									
GO06	**Curarrehue**	**25.76**	**313**	P		**P**	**P**	**07 31 09.9**	**+0.4**
GO06						IAmb	IAmb	07 31 22.0	
comp=Z,5.3nm,1.2s									
QSPA	**South Pole Qui**	**29.91**	**180**	P		**P**	**P**	**07 31 45.2**	**-1.3**
GO02	**Mina Guanaco**	**38.45**	**326**	P		**P**	**P**	**07 33 00.7**	**-0.2**
GO02						IAmb	IAmb	07 33 11.1	
comp=Z,4.3nm,1.1s									
MAW	**Mawson**	**42.58**	**148**	LR		LR	LR	07 49 29.9	
comp=Z,36nm,19.5s,baz=244,slow=34									
BDFB	**Brasilia**	**44.63**	**359**	P		**P**	**P**	**07 33 52.6**	**+1.2**
LPAZ	**La Paz**	**46.56**	**332**	LR		LR	LR	07 55 10.3	
comp=Z,21nm,18.3s,baz=77,slow=38									
SAML	**Samuel**	**52.69**	**340**	P		**P**	**P**	**07 34 54.2**	**+1.1**
SAML						IAmb	IAmb	07 35 10.3	
comp=Z,3.0nm,1.2s									
NNA	**Nana**	**53.03**	**323**	LR		LR	LR	07 56 36.4	
comp=Z,12nm,18.0s,baz=294,slow=35									
BOSA	**Boshof**	**56.89**	**90**	P		**P**	**P**	**07 35 22.4**	**-1.4**
TORD	**Torodi Ar. Bea**	**82.91**	**48**	P		**P**	**P**	**07 38 04.0**	**+0.6**
comp=Z,0.3nm,0.6s,baz=208,slow=6.2,SNR=3.0									
ILAR	**Eielson Array**	**145.10**	**312**	PKP		**PKPbc**	**PKPbc**	**07 45 13.2**	**-1.1**
comp=Z,0.3nm,0.5s,baz=128,slow=1.0,SNR=5.7									
MKAR	**Makanchi Array**	**147.88**	**92**	PKPbc		**PKPbc**	**PKPbc**	**07 45 22.3**	**-0.7**
comp=Z,0.5nm,0.4s,baz=242,slow=2.9,SNR=10									

*ISCJB **17** 07:34:47.1±0.7, 24°.89N±0°.04×94°.90E±0°.05, h131km±5km, mb3.5/5, Error ellipse: s-maj=7.9km s-min=6.1km az=141.5*
*NDI **17** 07:34:47.1±2.3, 24°.88N×95°.02E, h138km±16km, ML4.0*
*IDC **17** 07:34:47.5±2.8, 24°.77N×95°.20E, h118km±32km, mb3.3/5, mb1 3.5/6, mb1mx3.2/35, mbtmp3.7/6, Error ellipse: s-maj=41.0km s-min=16.5km az=61.0*
ISC 17 07:34:47.8±1.0, 24°.88N±0°.05×94°.94E±0°.07, h125km±8km, n25, σ1§38/42, mb3.5/5, Myanmar-India border region

| Code | Station Name

RAMN	**Ramite**	**7.79**	**287**	*e*Pn	**Pn**	**07 36 39.8**	**+1.2**
RAMN				*e*Sn	**Sn**	**07 38 04.2**	**-1.2**
	comp=E,67nm,0.4s						
BOK	**Bokaro**	**8.33**	**264**	*e*S	**Sn**	**07 38 13.2**	**-4.9**
JIRN	**Jiri**	**8.33**	**291**	*e*Pn	**Pn**	**07 36 46.8**	**+0.8**
JIRN				*e*Sn	**Sn**	**07 38 18.0**	**-0.7**
	comp=E,97nm,0.3s						
GUN	**Gumba**	**8.67**	**292**	*e*Pn	**Pn**	**07 36 51.3**	**+0.7**
GUN				*e*Sn	**Sn**	**07 38 25.5**	**-1.3**
	comp=E,64nm,0.4s						
PKI	**Pulchoki**	**8.97**	**289**	*e*Pn	**Pn**	**07 36 54.5**	**-0.1**
PKI				*e*Sn	**Sn**	**07 38 33.0**	**-1.1**
	comp=E,26nm,0.3s						
PKIN	**Phulchoki**	**8.98**	**289**	*e*Pn	**Pn**	**07 36 54.6**	**-0.1**
PKIN				*e*Sn	**Sn**	**07 38 32.8**	**-1.5**
	comp=E,25nm,0.4s						
KKN	**Kakani**	**9.14**	**291**	*e*Pn	**Pn**	**07 36 57.7**	**+0.9**
KKN				*e*Sn	**Sn**	**07 38 36.7**	**-1.4**
	comp=E,35nm,0.4s						
DMN	**Daman**	**9.24**	**289**	*e*Pn	**Pn**	**07 36 58.1**	**-0.1**
DMN				*e*Sn	**Sn**	**07 38 39.7**	**-0.8**
	comp=E,37nm,0.6s						
MKAR	**Makanchi Array**	**24.10**	**338**	P	**P**	**07 39 54.1**	**+2.4**
	comp=E,1.9nm,0.4s,baz=149,slow=9.5,SNR=36						
SONM	**Songino Array**	**24.65**	**19**	P	**P**	**07 39 56.4**	**-0.4**
	comp=E,0.3nm,0.4s,baz=204,slow=7.4,SNR=5.0						
WRA	**Warramunga Arr**	**58.77**	**136**	P	**P**	**07 44 31.4**	**-1.6**
	comp=E,0.3nm,0.6s,baz=324,slow=7.4,SNR=4.6						
ARCES	**ARCESS Array B**	**59.75**	**338**	P	**P**	**07 44 41.1**	**+2.1**
	comp=E,2.2nm,0.9s,baz=90,slow=6.8,SNR=3.3						
ASAR	**Alice Springs**	**61.28**	**139**	P	**P**	**07 44 48.8**	**-1.3**
	comp=E,0.1nm,0.3s,baz=323,slow=7.5,SNR=4.4						

IDC 17 07:42:30.7±1.5, 46°88N×155°11E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.3/39, mbtmp3.5/4, ML2.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/37, Error ellipse: s-maj=101.1km s-min=27.4km az=118.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.45**	**14**	Pn	Pn	07 44 06.9	0.0
	0.6nm,0.3s,baz=181,slow=12,SNR=3.9						
USRK	**Ussuriysk Ar.**	**16.41**	**269**	LR	LR	07 53 20.2	
	comp=Z,54nm,18.2s,baz=254,slow=40						
H11S1	**WAKE ISLAND Hy**	**29.86**	**157**	T	T	08 19 38.8	
	baz=345,slow=76,SNR=8.6						
H11S3	**WAKE ISLAND Hy**	**29.87**	**158**	T	T	08 19 41.8	
	baz=345,slow=76,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**29.88**	**157**	T	T	08 19 44.6	
	baz=345,slow=76,SNR=6.7						
WRA	**Warramunga Arr**	**69.11**	**201**	P	P	07 53 38.1	-0.4
	0.4nm,0.8s,baz=19,slow=6.4,SNR=3.7						
ASAR	**Alice Springs**	**72.79**	**200**	P	P	07 54 01.4	+0.6
	0.3nm,0.6s,baz=18,slow=6.3,SNR=6.1						
TXAR	**Lajitas Array**	**76.23**	**62**	P	P	07 54 21.1	0.0
	0.2nm,0.6s,baz=292,slow=4.2,SNR=4.7						

IDC 17 08:11:36.0±0.8, 39°61N×73°96E, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.7/52, mbtmp3.8/11, ML3.0/3, Error ellipse: s-maj=22.9km s-min=11.8km az=90.0
KRNET 17 08:11:38.8±0.1, 39°69N×74°10E, mb3.6
SOME 17 08:11:38.0, 39°67N×74°03E, h5km
NNC 17 08:11:43.4±1.2, 39°92N×74°01E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=9.3km s-min=5.2km az=174.0
ISC 17 08:11:40.8±1.6, 39°53N±0°06×73°92E±0°03, h29km±11km, n76, σ1s67/113, mb3.7/10, 32C-23D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.93**	**339**	⇑*e*P	**Pn**	**08 12 12.7**	**+0.9**
ARSB	baz=33			⇑*i*S	**Sb**	**08 12 37.9**	**-1.2**
ARLS	**Aral**	**2.35**	**7**	⇓*i*P	**Pn**	**08 12 18.5**	**+0.9**
ARLS	baz=4.0			⇓*i*S	**Sn**	**08 12 47.2**	**+1.6**
BTK	**Batken**	**2.44**	**283**	⇑*i*P	**Pb**	**08 12 23.7**	**-0.4**
BTK	baz=79			⇑*e*S	**Sb**	**08 12 56.6**	**+2.8**
NRN	**Naryn**	**2.48**	**39**	⇑*i*P	**Pn**	**08 12 19.5**	**0.0**
NRN	baz=39			⇑*i*S	**Sn**	**08 12 48.9**	**-0.1**
AML	**Almayashu**	**2.60**	**356**	⇓*i*P	**Pn**	**08 12 22.8**	**+1.5**
AML	baz=53			⇓*i*S	**Sn**	**08 12 54.2**	**+2.0**
AML	**Almayashu**	**2.60**	**356**	P	**Pn**	**08 12 23.1**	**+1.8**
	SNR=58						
ARK	**Arkit**	**2.71**	**327**	⇑*i*P	**Pn**	**08 12 25.0**	**+2.5**
ARK	baz=23			⇑*i*S	**Sb**	**08 12 58.6**	**-2.9**
UCH	**Uchtor**	**2.73**	**9**	⇑*i*P	**Pn**	**08 12 24.1**	**+1.0**
UCH	baz=7.0			⇑*i*S	**Sn**	**08 12 57.5**	**+2.0**
UCH	**Uchtor**	**2.73**	**9**	P	**Pn**	**08 12 24.1**	**+1.0**
	SNR=76						
KZA	**Kyzart**	**2.74**	**21**	⇑*i*P	**Pn**	**08 12 23.9**	**+0.7**
KZA	baz=20			⇑*i*S	**Sn**	**08 12 57.1**	**+1.5**
KZA	**Kyzart**	**2.74**	**21**	P	**Pn**	**08 12 25.0**	**+1.8**
	SNR=28						
EKS2	**Erkin-Say**	**3.13**	**358**	⇑*i*P	**Pn**	**08 12 29.8**	**+1.5**
EKS2	baz=55			⇑*i*S	**Sn**	**08 13 06.5**	**+1.7**
EKS2	**Erkin-Say**	**3.13**	**358**	P	**Pn**	**08 12 31.1**	**+2.8**
	SNR=11						
AAK	**Ala-Archa**	**3.14**	**8**	Pn	**Pn**	**08 12 29.5**	**+1.1**
	4.4nm,0.3s,baz=166,slow=9.6,SNR=36						
AAK				Pg	**Pb**	**08 12 33.6**	**-2.4**
	7.8nm,0.3s,baz=147,slow=9.5,SNR=22						
AAK				Lg	Lg	08 13 10.6	
	4.6nm,0.3s,baz=350,slow=16,SNR=12						
AAK	**Ala-Archa**	**3.14**	**8**	⇑*i*P	**Pn**	**08 12 29.9**	**+1.5**
AAK	baz=6.0			⇑*i*S	**Sn**	**08 13 06.6**	**+1.6**
AAK	**Ala-Archa**	**3.14**	**8**	P	**Pn**	**08 12 30.6**	**+2.2**
	SNR=8.7						
AAK	**Ala-Archa**	**3.14**	**8**	⇓Pn	**Pn**	**08 12 30.1**	**+1.7**
AAK	30nm,0.8s			⇑Lg	Lg	08 13 11.6	
	59nm,0.6s						
KBK	**Karagaybulak**	**3.22**	**14**	⇓*i*P	**Pn**	**08 12 30.7**	**+1.1**
KBK	baz=12			⇓*i*S	**Sn**	**08 13 08.5**	**+1.4**
KBK	**Karagaybulak**	**3.22**	**14**	P	**Pn**	**08 12 31.5**	**+1.9**
	SNR=16						
ULHL	**Ulahol**	**3.24**	**32**	⇑*e*P	**Pn**	**08 12 30.7**	**+0.9**
ULHL	baz=32			⇑*i*S	**Sn**	**08 13 08.3**	**+0.8**
ULHL	**Ulahol**	**3.24**	**32**	P	**Pn**	**08 12 33.4**	**+3.6**
	SNR=9.1						
MRKS	**Merke**	**3.25**	**351**	*e*P	**Pb**	**08 12 34.8**	**-3.1**
MRKS	48nm,0.4s			*e*S	**Sb**	**08 13 14.1**	**-3.0**
	63nm,0.5s						
MRKS	**Merke**	**3.25**	**351**	Pg	**Pb**	**08 12 34.8**	**-3.1**
MRKS	45nm,0.4s			Lg	Lg	08 13 14.1	
	63nm,0.5s						
FRU1	**Bishkek**	**3.32**	**9**	⇓*i*P	**Pn**	**08 12 31.0**	**+0.1**
FRU1	baz=7.0			⇓*i*S	**Sn**	**08 13 09.7**	**+0.3**
	baz=7.0						
BOOM	**Boomskoye usch**	**3.33**	**27**	⇓*i*P	**Pn**	**08 12 31.0**	**-0.1**
BOOM	baz=26			⇓*i*S	**Sn**	**08 13 09.7**	**-0.1**
	baz=26						
CHMS	**Chumysh**	**3.52**	**10**	⇑*i*P	**Pn**	**08 12 34.8**	**+1.2**
CHMS	baz=8.0			⇑*i*S	**Sn**	**08 13 15.9**	**+1.6**
	baz=8.0						
KDJ	**Kajisay**	**3.59**	**43**	⇓*i*P	**Pn**	**08 12 35.2**	**+0.5**
KDJ	baz=43			⇓*i*S	**Sn**	**08 13 16.1**	**-0.1**
TKM2	**Tokmak 2**	**3.62**	**20**	⇑*i*P	**Pn**	**08 12 36.2**	**+1.1**
TKM2	baz=19			⇑*i*S	**Sn**	**08 13 17.9**	**+1.0**
TKM2	**Tokmak 2**	**3.62**	**20**	P	**Pn**	**08 12 37.3**	**+2.2**
	SNR=6.4						
TKM2	**Tokmak 2**	**3.62**	**20**	⇓Pn	**Pn**	**08 12 36.1**	**+1.1**
TKM2	4.5nm,0.4s			⇑Lg	Lg	08 13 26.6	
	43nm,0.8s						
TARG	**Taragay, Kyrgy**	**3.69**	**52**	⇑*e*P	**Pn**	**08 12 36.4**	**+0.2**
TARG	baz=53			⇑*i*S	**Sn**	**08 13 18.0**	**-0.9**
	baz=53						
USP	**Ospenovka**	**3.76**	**7**	⇓*i*P	**Pn**	**08 12 38.2**	**+1.3**
USP	baz=5.0			⇓*i*S	**Sn**	**08 13 21.3**	**+1.1**
	baz=5.0						
USP	**Ospenovka**	**3.76**	**7**	P	**Pb**	**08 12 44.2**	**-2.3**
	SNR=10						
KST	**Kastek**	**3.83**	**23**	*e*P	**Pb**	**08 12 45.5**	**-2.4**
KST	19nm,0.4s			*e*S	**Sb**	**08 13 32.0**	**-1.8**
	55nm,0.6s						
KST	**Kastek**	**3.83**	**23**	Pg	**Pb**	**08 12 45.9**	**-2.0**
KST	19nm,0.4s			Lg	Lg	08 13 32.0	
	55nm,0.6s						
DGS	**Degeres**	**3.96**	**20**	*e*P	**Pb**	**08 12 48.0**	**-2.0**
DGS	12nm,0.5s			*e*S	**Sb**	**08 13 37.0**	**-0.5**
	38nm,0.8s						
DGS	**Degeres**	**3.96**	**20**	Pg	**Pb**	**08 12 48.7**	**-1.3**
DGS	12nm,0.5s			Lg	Lg	08 13 36.9	
	38nm,0.8s						
MTBS	**Maitube**	**4.07**	**27**	*e*P	**Pb**	**08 12 50.6**	**-1.1**
MTBS	17nm,0.6s			*e*S	**Sb**	**08 13 41.2**	**+0.8**
	34nm,0.6s						
MTBS	**Maitube**	**4.07**	**27**	Pg	**Pb**	**08 12 51.6**	**-0.1**
MTBS	17nm,0.6s			Lg	Lg	08 13 41.6	
	34nm,0.6s						
TNSS	**Tian-Shan**	**4.18**	**32**	*e*P	**Pb**	**08 12 53.5**	**-0.4**
TNSS	21nm,0.6s			*e*S	**Sb**	**08 13 46.2**	**+2.1**
	22nm,0.6s						
TNSS	**Tian-Shan**	**4.18**	**32**	Pg	**Pb**	**08 12 54.3**	**+0.4**
TNSS	21nm,0.6s			Lg	Lg	08 13 46.2	
	22nm,0.6s						
ANVS	**Anan'yevo**	**4.31**	**40**	⇑*i*P	**Pn**	**08 12 45.3**	**+0.7**
ANVS	baz=40			⇑*i*S	**Sn**	**08 13 33.3**	**-0.7**
	baz=40						
MDOK	**Medeo**	**4.33**	**32**	*e*P	**Pb**	**08 12 55.5**	**-0.8**
MDOK	14nm,0.7s			*e*S	**Sb**	**08 13 49.0**	**+0.9**
	32nm,0.9s						
MDOK	**Medeo**	**4.33**	**32**	⇓Pn	**Pn**	**08 12 46.0**	**+1.2**
MDOK	5.1nm,0.6s			⇓Pg	**Pb**	**08 12 53.3**	**-2.9**
MDOK	14nm,0.6s			⇓Lg	Lg	08 13 49.8	
	44nm,0.8s						
MDOK	**Medeo**	**4.33**	**32**	Pg	**Pb**	**08 12 55.3**	**-0.9**
MDOK	14nm,0.7s			Lg	Lg	08 13 48.9	
KNDC	**Almaty**	**4.34**	**31**	⇓Pg	**Pb**	**08 12 54.8**	**-1.6**
KNDC	20nm,0.4s			⇑Lg	Lg	08 13 51.8	
	114nm,0.9s						
KK31	**Karatay Array**	**4.40**	**325**	⇑Pn	**Pn**	**08 12 47.3**	**+1.8**
KK31	1.2nm,0.3s,baz=132,slow=13,SNR=53			⇑Pg	**Pb**	**08 12 58.5**	**+1.2**
	2.6nm,0.3s,baz=155,slow=17,SNR=15						
KK31				⇑Sn	**Sn**	**08 13 38.9**	**+3.1**
	13nm,0.5s			⇓Lg	Lg	08 13 54.2	
KK31	14nm,0.5s,baz=138,slow=26,SNR=3.6						
BRLS	**Borolday**	**4.66**	**320**	*e*P	**Pb**	**08 13 00.4**	**-1.3**
BRLS	0.5nm,0.1s			*e*S	**Sb**	**08 13 57.7**	**+0.3**
	15nm,0.4s						
BRLS	**Borolday**	**4.66**	**320**	Pg	**Pb**	**08 13 00.4**	**-1.3**
BRLS	0.5nm,0.1s			Lg	Lg	08 13 57.7	
	15nm,0.4s						
KTBS	**Karatobe**	**4.67**	**25**	*e*P	**Pb**	**08 13 01.2**	**-0.7**
KTBS	8.5nm,0.8s			*e*S	**Sb**	**08 13 59.2**	**+1.6**
	46nm,0.5s						
KTBS	**Karatobe**	**4.67**	**25**	Pg	**Pb**	**08 13 01.5**	**-0.4**
KTBS	8.5nm,0.8s			Lg	Lg	08 13 59.2	
	26nm,0.8s						
KUU	**Kurty**	**4.72**	**22**	*e*P	**Pb**	**08 13 01.9**	**-1.0**
KUU	8.1nm,0.3s			*e*S	**Sb**	**08 14 00.3**	**+1.1**
	59nm,1.2s						
KUU	**Kurty**	**4.72**	**22**	Pg	**Pb**	**08 13 01.9**	**-1.0**
KUU	8.1nm,0.3s			Lg	Lg	08 14 00.3	
	22nm,0.7s						
CHKK	**Chushkaly**	**4.90**	**27**	*e*P	**Pb**	**08 13 03.9**	**-1.9**
CHKK	5.5nm,0.4s			*e*S	**Sb**	**08 14 03.0**	**-1.2**
	27nm,0.7s						
KPKS	**Kokpek**	**5.32**	**41**	*e*P	**Pb**	**08 13 12.0**	**-1.0**
KPKS	13nm,0.7s			*e*S	**Sb**	**08 14 17.4**	**+1.0**
	24nm,0.6s						
BTLS	**Baital**	**5.51**	**1**	*e*P	**Pb**	**08 13 16.9**	**+0.6**
BTLS	1.1nm,0.2s			*e*S	**Sb**	**08 14 25.2**	**+3.3**
	11nm,0.7s						
BTLS	**Baital**	**5.51**	**1**	Pg	**Pb**	**08 13 16.9**	**+0.6**
BTLS	1.1nm,0.2s			Lg	Lg	08 14 25.2	
	1.9nm,0.2s						
ARXS	**Arharly**	**5.52**	**31**	*e*P	**Pb**	**08 13 16.4**	**0.0**
ARXS	11nm,0.6s			*e*S	**Sb**	**08 14 24.6**	**+2.5**
	16nm,0.6s						
ARXS	**Arharly**	**5.52**	**31**	Pg	**Pb**	**08 13 16.4**	**0.0**
ARXS	11nm,0.6s			Lg	Lg	08 14 24.6	
	16nm,0.6s						
PDGK	**Podgornoye**	**5.65**	**46**	⇓Pg	**Pb**	**08 13 19.4**	**+0.7**
PDGK	9.1nm,0.7s			⇓Lg	Lg	08 14 35.3	
	16nm,0.9s						
DJR	**Jarkent**	**6.50**	**40**	*e*P	**Pb**	**08 13 34.6**	**+1.5**
DJR	1.6nm,0.4s			*e*S	**Sb**	**08 14 55.9**	**+5.7**
	5.2nm,0.8s						
DJR	**Jarkent**	**6.50**	**40**	Pg	**Pb**	**08 13 34.8**	**+1.7**
DJR	1.6nm,0.4s			Lg	Lg	08 14 55.9	
	5.2nm,0.8s						
KAPS	**Kapalarasan**	**7.02**	**33**	Pg	**Pb**	**08 13 44.7**	**+2.7**
KAPS	3.9nm,0.8s			Lg	Lg	08 15 12.9	
MKAR	**Makanchi Array**	**9.49**	**37**	Pn	**Pn**	**08 13 53.2**	**-2.3**
	0.0nm,0.3s,baz=221,slow=15,SNR=2.8						
BVAR	**Borovoye Array**	**13.72**	**351**	Pn	Pn	08 14 46.4	-6.8
	0.1nm,0.3s,baz=154,slow=10,SNR=2.7						
AKTO	**Aktyubinsk**	**15.63**	**319**	Pn	**Pn**	**08 15 18.1**	**-0.8**
	0.1nm,0.3s,baz=123,slow=15,SNR=3.0						
AKTO				Sn	Sn	08 17 57.5	-14
	0.1nm,0.3s,baz=33,slow=16,SNR=2.1						
FINES	**FINESS Array B**	**36.35**	**323**	P	**P**	**08 18 41.8**	**0.0**
	2.7nm,0.7s,baz=148,slow=8.2,SNR=2.5						
ARCES	**ARCESS Array B**	**39.29**	**335**	P	**P**	**08 19 06.2**	**-0.3**
	7.6nm,1.2s,baz=89,slow=8.2,SNR=2.1						
NOA	**NORSAR Array B**	**43.41**	**321**	P	**P**	**08 19 38.3**	**-2.3**
	0.9nm,0.7s,baz=90,slow=7.9,SNR=1.9						
TORD	**Torodi Ar. Bea**	**68.08**	**269**	P	**P**	**08 22 38.0**	**0.0**
	0.5nm,0.6s,baz=41,slow=5.4,SNR=3.9						
ILAR	**Eielson Array**	**71.23**	**17**	P	**P**	**08 22 55.0**	**-1.6**
	0.2nm,0.8s,baz=333,slow=5.4,SNR=3.6						
YKA	**Yellowknife Ar**	**78.09**	**4**	P	**P**	**08 23 36.0**	**-0.4**
	0.2nm,0.4s,baz=348,slow=5.6,SNR=7.5						
WRA	**Warramunga Arr**	**81.71**	**124**	P	**P**	**08 23 56.2**	**-0.4**
	0.3nm,0.5s,baz=324,slow=5.2,SNR=6.9						
PMG	**Port Moresby**	**83.28**	**108**	P	**P**	**08 24 04.6**	**-0.3**
	7.6nm,0.5s,baz=240,slow=8.1,SNR=3.2						
ASAR	**Alice Springs**	**84.17**	**127**	P	**P**	**08 24 09.2**	**-0.1**
	0.3nm,0.6s,baz=317,slow=4.7,SNR=5.0						
CTA	**Charters Tower**	**89.77**	**116**	P	**P**	**08 24 37.3**	**+0.7**
	3.0nm,0.8s,baz=292,slow=5.4,SNR=3.3						

IDC 17 08:56:25.2±1.6, 24°24N×91°36E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.4/35, mbtmp3.6/5, ML4.1/1, MS2.5/2, Ms1 2.7/2, ms1mx2.5/46, Error ellipse: s-maj=54.7km s-min=13.3km az=82.0
ISCJB 17 08:56:28.9±0.7, 24°06N±0°04×91°00E±0°09, h47km±7km, mb3.5/4, Error ellipse: s-maj=14.2km s-min=6.1km az=171.1
NDI 17 08:56:28.3±2.0, 24°07N×90°89E, h20km±7km, ML3.7
ISC 17 08:56:27.6±1.3, 24°01N±0°05×90°84E±0°06, h28km±10km, n17, σ1s55/22, mb3.5/4, Bangladesh

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGT	**Agartala**	**0.40**	**108**	*e*P	**Pb**	**08 56 35.8**	**-0.5**
AGT				*e*S	**Sb**	**08 56 42.8**	**+0.6**
AGT				IAML		08 56 44.2	
	comp=N,10μm,0.7s						
AGT				IAML		08 56 44.3	
	comp=E,7μm,0.7s						
BELO	**BELONIA**	**0.94**	**143**	*e*P	**Pn**	**08 56 45.5**	**+0.6**
BELO				*e*S	**Sn**	**08 56 59.3**	**+1.9**
BRDH	**Bariadhala**	**1.52**	**151**	Pg	**Pb**	**08 56 54.7**	**-0.4**
	comp=E,0.2nm,0.3s,baz=92,slow=24,SNR=1.5						
BRDH				Lg	Lg	08 57 16.1	
	comp=E,0.9nm,0.3s,baz=205,slow=24,SNR=22						
AZL	**Aizawl**	**1.72**	**99**	*ex*	**Pn**	**08 56 55.3**	**-0.4**
AZL				*ex*	**Sn**	**08 57 18.6**	**+1.8**
SHL	**Shillong**	**1.82**	**31**	*e*P	**Pn**	**08 56 56.2**	**-1.0**
SHL				*e*S	**Sn**	**08 57 19.8**	**+0.4**
SHL				IAML		08 57 20.9	
	comp=E,2μm,0.3s						
SHL				IAML		08 57 21.1	
	comp=N,2μm,0.3s						
DHUB	**DHUBRI**	**2.14**	**339**	*e*P	**Pn**	**08 57 03.8**	**+2.3**
DHUB				*e*S	**Sn**	**08 57 28.0**	**+0.9**
DHUB				IAML		08 57 34.2	
	comp=N,958nm,0.3s						
DHUB				IAML		08 57 35.0	
	comp=E,751nm,0.1s						
GUWA	**GUWAHATI**	**2.31**	**19**	*ex*	**Pn**	**08 57 02.6**	**-1.2**
GUWA				*e*S	**Sn**	**08 57 31.2**	**0.0**
SAIH	**SAIHA**	**2.49**	**127**	*e*P	**Pn**	**08 57 08.9**	**+2.6**
ZIRO	**ZIRO**	**4.43**	**37**	*ex*	Pn	08 57 43.0	+10
ZIRO				*e*S	**Sn**	**08 58 21.3**	**-2.6**
ZIRO				IAML		08 58 47.2	
	comp=N,820nm,0.1s						
ZIRO				IAML		08 58 48.8	
	comp=E,808nm,1.4s						
BWNR	**Bhubaneshwar**	**5.95**	**233**	*ex*	**Sn**	**08 58 58.3**	**-2.8**
BWNR				IAML		08 59 19.8	
	comp=N,32nm,0.5s						
BWNR				IAML		08 59 19.8	
	comp=E,26nm,0.2s						
CMAR	**Chiang Mai Arr**	**9.36**	**125**	Pn	**Pn**	**08 58 38.6**	**-2.0**
	comp=E,0.6nm,0.3s,baz=302,slow=13,SNR=14						
CMAR				LR	LR	09 02 40.6	
	comp=E,25nm,19.1s,baz=350,slow=41						
NGP	**Nagpur**	**11.26**	**258**	*ex*	**Sn**	**09 01 11.1**	**-0.5**
NGP				IAML		09 01 28.1	
	comp=E,4.9nm,0.7s						
NGP				IAML		09 01 28.3	
	comp=N,7.6nm,0.7s						
PALK	**Pallekele**	**19.27**	**212**	LR	LR	09 10 41.4	
	comp=N,18nm,18.9s,baz=29,slow=43						
MKAR	**Makanchi Array**	**23.75**	**345**	P	**P**	**09 01 38.1**	**+0.6**
	comp=N,0.5nm,0.5s,baz=157,slow=9.3,SNR=8.8						
SONM	**Songino Array**	**26.80**	**24**	P	**P**	**09 02 05.4**	**0.0**
	comp=N,0.5nm,0.8s,baz=201,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**60.87**	**132**	P	**P**	**09 06 37.7**	**-0.1**
	comp=N,1.0nm,0.6s,baz=321,slow=7.2,SNR=14						
ASAR	**Alice Springs**	**63.19**	**135**	P	**P**	**09 06 53.1**	**-0.2**
	comp=N,0.4nm,0.7s,baz=318,slow=6.5,SNR=5.0						

AEIC 17 09:13:35.9±1.7, 57°68N±0°08×142°93W±0°09, h9km±8km
PGC 17 09:13:35.1±0.5, 57°89N×142°65W, h10km, ML3.0/8, 240km Wsw of Yakutat, Ak Gulf Of Alaska
NEIC 17 09:13:30.0±2.1, 57°60N±0°06×142°88W±0°09, h10km±2km, ML2.8(AEIC), Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUCK	**Suckling Hills**	**2.52**	**350**		Pn	09 14 11.5	+0.5
SUCK				Sn	Sn	09 14 39.2	-2.6
BGLC	**Bering Glacier**	**2.54**	**355**		Pn	09 14 11.7	+0.5
YKU2	**Yakutat**	**2.55**	**40**	Pn	Pn	09 14 12.3	+1.0
YKU2				Sn	Sn	09 14 40.7	-1.6
MIDI	**Middleton Isla**	**2.58**	**317**	Pn	Pn	09 14 12.7	+0.2
MESA	**MESA**	**2.63**	**10**	Pn	Pn	09 14 12.9	+0.3
MESA				Sn	Sn	09 14 42.0	-2.7
MESA	**MESA**	**2.63**	**10**		Pn	09 14 12.7	0.0
MESA				Sn	Sn	09 14 41.8	-2.9
KULT	**Kultieth River**	**2.66**	**2**		Pn	09 14 13.1	+0.2
GRIN	**Grindle Hills**	**2.70**	**355**		Pn	09 14 13.9	+0.5
NICHA	**Nichawak Mount**	**2.70**	**348**		Pn	09 14 13.7	+0.2
NICHA					Sn	09 14 43.3	-3.0
PNL	**Peninsula**	**2.76**	**40**	Pn	Pn	09 14 14.4	+0.1
PNL				Sn	Sn	09 14 43.3	-4.3
PNL	**Peninsula**	**2.76**	**40**		Pn	09 14 14.4	+0.1
SAMH	**Samovar Hills**	**2.76**	**22**	Pn	Pn	09 14 14.9	+0.6
SAMH				Sn	Sn	09 14 44.0	-3.7
SAMH	**Samovar Hills**	**2.76**	**22**		Pn	09 14 15.1	+0.7
SAMH					Sn	09 14 45.9	-1.9
RKAV	**Rock Avalanche**	**2.82**	**16**	Pn	Pn	09 14 15.9	+0.7
RKAV				Sn	Sn	09 14 46.1	-3.3
RKAV	**Rock Avalanche**	**2.82**	**16**		Pn	09 14 15.9	+0.7
HMT	**Hamilton**	**2.83**	**346**	Pn	Pn	09 14 15.4	0.0
HMT				Sn	Sn	09 14 47.3	-2.2
PCA	**Pinnacle**	**2.85**	**27**	Pn	Pn	09 14 16.0	+0.4
PCA				Sn	Sn	09 14 47.2	-2.7
KHIT	**Khitrov Hills**	**2.86**	**356**		Pn	09 14 15.7	0.0
KHIT					Sn	09 14 46.5	-3.6
WAX	**Waxell Ridge**	**2.86**	**0**	Pn	Pn	09 14 15.7	0.0
WAX				Sn	Sn	09 14 48.2	-1.9
DHAK	**Deception Hill**	**2.88**	**57**	Pn	Pn	09 14 15.8	-0.1
DHAK				Sn	Sn	09 14 46.6	-3.9
BCPM	**Bancas Point**	**2.90**	**34**	Pn	Pn	09 14 16.4	+0.2
BCPM				Sn	Sn	09 14 48.8	-2.2
GOAT	**Goat Mountain**	**3.14**	**343**		Pn	09 14 19.5	0.0
TGL	**Tana Glacier**	**3.16**	**0**	Pn	Pn	09 14 19.9	0.0
TGL				Sn	Sn	09 14 53.8	-3.9
CRQM	**Cirque**	**3.17**	**358**		Pn	09 14 19.8	-0.2
CRQM				Sn	Sn	09 14 55.0	-2.9
GRNC	**Granite Creek**	**3.19**	**10**	Pn	Pn	09 14 20.8	+0.3
GRNC				Sn	Sn	09 14 54.7	-3.9
GRNC	**Granite Creek**	**3.19**	**10**		Pn	09 14 20.8	+0.3
EYAK	**Cordova Ski Ar**	**3.31**	**335**	Pn	Pn	09 14 19.8	-2.0
EYAK				Sn	Sn	09 14 57.7	-3.4
**K

GLB	**Gilahina Butte**	**3.88**	**353**	Pn	Pn	09 14 29.8	+0.1
GLB				Sn	Sn	09 15 13.2	-2.2
PLBC	**Pleasant Camp**	**3.89**	**59**	Pn	Pn	09 14 30.4	+0.6
PLBC				Sn	Sn	09 15 11.7	-3.7
PLBC	**Pleasant Camp**	**3.89**	**59**		P	09 14 30.3	+0.6
GLI	**Glacier Island**	**3.94**	**328**	Pn	Pn	09 14 30.7	+0.2
GLI				Sn	Sn	09 15 15.0	-1.7
YUK6	**Outpost Mounta**	**4.07**	**33**	Pn	Pn	09 14 33.8	+1.3
YUK6				Sn	Sn	09 15 15.7	-4.6
SEW	**Seward**	**4.24**	**309**	Pn	Pn	09 14 34.5	-0.1
SEW				Sn	Sn	09 15 20.6	-3.4
HYT	**Haines Junctio**	**4.25**	**38**	Pn	Pn	09 14 35.7	+0.9
HYT	**Haines Junctio**	**4.25**	**38**	Pn	Pn	09 14 36.0	+1.1
HYT				Sn	Sn	09 15 23.9	-0.6
PWL	**Port Wells**	**4.30**	**322**		Pn	09 14 35.5	0.0
YUK2	**White River**	**4.32**	**13**	Pn	Pn	09 14 37.0	+1.1
YUK4	**Talbot Arm**	**4.33**	**28**	Pn	Pn	09 14 38.8	+2.8
YUK3	**Moose Creek**	**4.36**	**15**	Pn	Pn	09 14 37.8	+1.4
YUK3				Sn	Sn	09 15 22.6	-4.8
BESE	**Bessie Mountai**	**4.37**	**74**	Pn	Pn	09 14 39.9	+3.4
YUK5	**Granite Creek**	**4.37**	**34**	Pn	Pn	09 14 38.0	+1.4
YUK5				Sn	Sn	09 15 23.4	-4.2
SKAG	**Skagway**	**4.37**	**62**		Pn	09 14 36.5	+0.1
SKAG				Sn	Sn	09 15 26.3	-1.0
JIS	**Juneau Island**	**4.58**	**78**	Pn	Pn	09 14 39.6	+0.4
JIS				Sn	Sn	09 15 28.8	-3.5
BRSE	**Bradley Lake S**	**4.63**	**301**		Pn	09 14 40.5	+0.5
BRLK	**Bradley Lake**	**4.71**	**301**	Pn	Pn	09 14 41.1	+0.1
BRLK				Sn	Sn	09 15 33.8	-1.9
YUK1	**Sand Pete Hill**	**4.72**	**14**	Pn	Pn	09 14 43.4	+2.1
KNK	**Knik Glacier**	**4.76**	**326**	Pn	Pn	09 14 42.3	+0.4
KNK					Sn	09 15 35.3	-1.7
SLKM	**Skilak Lake**	**4.78**	**311**		Pn	09 14 41.9	-0.2
CNPM	**China Poot**	**4.78**	**297**		Pn	09 14 42.3	+0.2
CNPM				Sn	Sn	09 15 34.5	-3.1
SCM	**Sheep Creek Mo**	**4.80**	**334**		Pn	09 14 42.7	+0.2
SCM				Sn	Sn	09 15 34.8	-3.3
BVCY	**Beaver Creek**	**4.93**	**11**	Pn	Pn	09 14 45.4	+1.2
BVCY	**Beaver Creek**	**4.93**	**11**		Pn	09 14 44.8	+0.7
RC01	**Rabbit Creek A**	**4.96**	**318**		Pn	09 14 44.7	+0.3
RC01					Sn	09 15 38.0	-3.7
HOM	**Homer**	**5.02**	**298**		Pn	09 14 46.7	+1.3
HOM				Sn	Sn	09 15 41.9	-1.5
PMR	**Palmer**	**5.11**	**324**	Pn	Pn	09 14 47.9	+1.4
WHY	**Whitehorse**	**5.13**	**50**	Pn	Pn	09 14 48.0	+1.0
WHY				Sn	Sn	09 15 41.2	-5.0
WHY	**Whitehorse**	**5.13**	**50**		Pn	09 14 48.1	+1.1
WHY				Sn	Sn	09 15 44.1	-2.2
GHO	**Glory Hole Cre**	**5.18**	**326**	Pn	Pn	09 14 47.6	0.0
GHO				Sn	Sn	09 15 45.9	-1.6
KDAK	**Kodiak Island**	**5.21**	**276**	Pn	Pn	09 14 48.5	+0.5
KDAK	**Kodiak Island**	**5.21**	**276**	Sn	Sn	09 15 46.1	-1.9
PAX	**Paxson**	**5.54**	**348**	Pn	Pn	09 14 52.5	0.0
PAX				Sn	Sn	09 15 52.9	-3.3
WAT6	**Susitna Watana**	**5.55**	**336**		Pn	09 14 52.7	-0.1
OHAK	**Old Harbor**	**5.64**	**271**		Pn	09 14 54.0	+0.2
OHAK				Sn	Sn	09 15 55.4	-3.2
CRAG	**Craig**	**5.80**	**107**	Pn	Pn	09 14 53.3	-2.7
RED	**Redoubt Volcan**	**5.84**	**303**		Pn	09 14 57.4	+0.7
RSO	**Redoubt South**	**5.85**	**303**	Pn	Pn	09 14 53.9	-3.0
RSO				Sn	Sn	09 16 01.0	-3.0
DFR	**Drift River**	**5.88**	**305**		Pn	09 14 57.4	+0.3
RDWB	**Redoubt West**	**5.90**	**304**		Pn	09 14 57.7	+0.1
DHY	**Denali Highway**	**5.93**	**340**	Pn	Pn	09 14 58.4	+0.5
DHY				Sn	Sn	09 16 04.3	-1.5
SPCG	**Spurr Capps Gl**	**5.95**	**312**		Pn	09 14 58.4	+0.2
SPCP	**Crater Peak Br**	**5.99**	**312**		Pn	09 14 58.7	-0.1
DOT	**Dot Lake**	**6.09**	**355**	Pn	Pn	09 15 00.2	+0.1
SKT	**Skwentna**	**6.19**	**319**		Pn	09 14 59.4	-2.1
SKT				Sn	Sn	09 16 09.1	-3.1
RIDG	**Independent Ri**	**6.23**	**352**	Pn	Pn	09 15 03.3	+1.2
SCRK	**Sand Creek**	**6.42**	**356**	Pn	Pn	09 15 05.2	+0.5
DAWY	**Dawson**	**6.70**	**13**	Pn	Pn	09 15 09.2	+0.7
DAWY	**Dawson**	**6.70**	**13**		Pn	09 15 09.8	+1.3
TRF	**Thorofare Moun**	**6.91**	**331**	Pn	Pn	09 15 13.0	+1.6
TRF				Sn	Sn	09 16 28.5	-1.6
PPLA	**Purkeypile**	**7.04**	**323**	Pn	Pn	09 15 10.5	-2.7
PPLA				Sn	Sn	09 16 33.4	+0.1
HDA	**Harding Lake**	**7.11**	**346**	Pn	Pn	09 15 13.4	-0.6
KTH	**Kantishna Hill**	**7.16**	**330**	Pn	Pn	09 15 14.8	+0.1
KTH				Sn	Sn	09 16 34.6	-1.4
EGAK	**Eagle**	**7.25**	**6**	Pn	Pn	09 15 17.2	+1.4
SVW2	**Sparrevohn**	**7.38**	**304**	Pn	Pn	09 15 18.4	+0.8
IL31		**7.45**	**347**		Pn	09 15 18.1	-0.5
BPAW	**Bear Paw Mtn.**	**7.62**	**332**	Pn	Pn	09 15 18.8	+1.1
BPAW				Sn	Sn	09 16 45.8	-1.6
MOBC	**Moresby Island**	**7.65**	**121**	Pn	Pn	09 15 21.6	+0.2
MLY	**Manley**	**8.35**	**336**	Pn	Pn	09 15 31.7	+0.7

IDC ***17*** *09:19:39.0±67.0, 20.°94S×177.°13E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/45, mbtmp3.9/3, Error ellipse: s-maj=1182.0km s-min=149.4km az=81.0*

NEIC 17 09:20:21.5±0.9, 21.°6S×0.°2×175.°35E±0.°08, h281km±15km, mb4.4/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.59**	**34**	Pn	Pn	09 21 33.7	0.0
DZM	**Mont Dzumac**	**8.29**	**265**	Pn	Pn	09 22 17.4	-1.3
DZM				S	S	09 23 54.0	+0.3
RAO	**Raoul Island**	**9.76**	**143**	Pn	Pn	09 22 36.2	-0.6
TOO	**Toolangi**	**30.30**	**232**	P	P	09 26 06.3	-0.9
TOO				IAmb	IAmb	09 26 27.5	
	comp=Z,35nm,1.9s						
STKA	**Stephens Creek**	**31.73**	**244**	P	P	09 26 20.4	+0.7
	comp=Z,0.9nm,0.5s,baz=96,slow=11,SNR=5.7						
STKA	**Stephens Creek**	**31.73**	**244**	P	P	09 26 21.9	+2.2
STKA				IAmb	IAmb	09 27 35.1	
	comp=Z,3.2nm,1.9s						
AS31	**Alice Springs**	**38.22**	**259**	P	P	09 27 14.9	-0.2
ASAR	**Alice Springs**	**38.22**	**259**	P	P	09 27 15.3	+0.3
	comp=Z,1.9nm,0.8s,baz=93,slow=7.9,SNR=25						
WRA	**Warramunga Arr**	**38.31**	**265**	P	P	09 27 16.1	+0.3
	comp=Z,0.3nm,0.3s,baz=98,slow=7.9,SNR=14						
HDA	**Harding Lake**	**90.55**	**15**	P	P	09 32 51.1	-0.2
HDA				IAmb	IAmb	09 34 55.8	
	comp=Z,25nm,1.9s						
PHWY	**Pilot Hill**	**96.25**	**48**	P	P	09 33 17.6	-0.8

IDC 17 09:24:25.4±1.4, 5.°98S×149.°07E, h0km, mb3.8/3, mb1 3.9/6, mb1mx3.6/50, mbtmp3.8/6, ML3.7/2, Error ellipse: s-maj=58.4km s-min=20.4km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.38**	**61**	Pn	Pn	09 25 20.9	+1.5
	6.6nm,0.3s,baz=49,slow=16,SNR=2.5						
KRVT				Lg	Lg	09 26 17.1	
	5.9nm,0.3s,baz=84,slow=21,SNR=1.8						
PMG	**Port Moresby**	**3.89**	**209**	Pn	Pn	09 25 27.9	+1.4
	13nm,0.3s,baz=16,slow=7.4,SNR=27						
PMG				Sn	Sn	09 26 10.3	-2.6
	15nm,0.3s,baz=44,slow=17,SNR=16						
WRA	**Warramunga Arr**	**19.94**	**225**	P	P	09 28 58.9	-0.2
	0.3nm,0.3s,baz=51,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.85**	**218**	P	P	09 29 29.7	-0.8
	0.4nm,0.4s,baz=56,slow=9.5,SNR=13						
FITZ	**Fitzroy Crossi**	**25.85**	**240**	P	P	09 29 59.2	+0.4
	1.6nm,0.6s,baz=68,slow=11,SNR=3.6						
PETK	**Petropavlovsk-**	**59.32**	**6**	P	P	09 34 28.6	-0.4
	4.1nm,1.0s,baz=165,slow=7.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**147.08**	**285**	PKPbc	PKPbc	09 44 10.4	-1.0
	0.3nm,0.4s,baz=86,slow=3.7,SNR=5.1						

IDC ***17*** *09:52:08.8±0.9, 1.°60N×127.°02E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.6/34, mbtmp3.8/7, ML3.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/37, Error ellipse: s-maj=57.6km s-min=16.6km az=76.0*

ISCJB ***17*** *09:52:11.9±0.5, 1.°5N±0.°1×126.°6E±0.°1, h35km, mb3.9/6, MS2.8/1, Error ellipse: s-maj=24.0km s-min=7.6km az=147.4*

NEIC ***17*** *09:52:13.7±2.5, 1.°6N±0.°2×126.°9E±0.°3, h35km±2km, mb4.1/7*

ISC 17 09:52:14.0±0.8, 1.°6N±0.°1×126.°8E±0.°2, h35km, n16, σ1§10/16, mb4.0/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.00**	**143**		**Pn**	**09 52 33.4**	**+1.8**
TNTI				Sn	**Sn**	**09 52 44.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.58**	**183**	P	**P**	**09 56 39.8**	**+0.5**
	0.1nm,0.3s,baz=349,slow=5.2,SNR=2.3						
WRAB	**Tennant Creek**	**22.63**	**161**	P	**P**	**09 57 11.2**	**-1.0**
WRAB				IAmb	IAmb	09 57 20.6	
	comp=Z,8.3nm,1.4s						
WRA	**Warramunga Arr**	**22.64**	**161**	P	**P**	**09 57 10.8**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=340,slow=11,SNR=29						
WR0	**Warramunga Arr**	**22.72**	**161**	P	**P**	**09 57 11.6**	**-1.5**
WR0				IAmb	IAmb	09 57 36.5	
	comp=Z,6.6nm,1.3s						
ASAR	**Alice Springs**	**26.03**	**165**	P	**P**	**09 57 43.0**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=341,slow=8.3,SNR=8.1						
PSI	**Prapat**	**27.85**	**273**	LR	LR	10 10 54.3	
	comp=Z,22nm,18.4s,baz=91,slow=40						
STKA	**Stephens Creek**	**36.12**	**158**	P	**P**	**09 59 12.3**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=332,slow=10,SNR=3.8						
STKA	**Stephens Creek**	**36.12**	**158**	P	**P**	**09 59 12.1**	**-0.8**
SONM	**Songino Array**	**49.34**	**342**	P	**P**	**10 01 00.7**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=148,slow=8.5,SNR=3.2						
PETK	**Petropavlovsk-**	**57.40**	**22**	P	**P**	**10 01 58.3**	**-0.7**
	comp=Z,8.5nm,1.2s,baz=216,slow=6.2,SNR=2.3						
MK31	**Makanchi Array**	**59.34**	**326**	P	**P**	**10 02 14.1**	**+1.4**
MK31				IAmb	IAmb	10 02 15.0	
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**59.34**	**326**	P	**P**	**10 02 13.3**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=120,slow=8.8,SNR=18						
KURK	**Kurchatov**	**63.57**	**328**	P	**P**	**10 02 41.5**	**+0.4**
KK31	**Karatay Array**	**64.83**	**318**	P	**P**	**10 02 49.1**	**-0.5**
KK31				IAmb	IAmb	10 04 14.0	
	comp=Z,2.9nm,1.0s						
KKAR	**Karatay Array**	**64.83**	**318**	P	**P**	**10 02 48.6**	**-1.0**
KKAR				IAmb	IAmb	10 04 13.9	
	comp=Z,2.9nm,1.0s						

ISCJB ***17*** *10:18:37.3±1.3, 78.°17N±0.°05×8.°7E±0.°2, h4km±8km, mb3.5/6, MS3.2/4, Error ellipse: s-maj=8.3km s-min=7.7km az=44.0*

NAO ***17*** *10:18:37.7±2.4, 78.°27N×8.°29E, ML2.9*

BER ***17*** *10:18:38.4±3.6, 78.°25N×7.°82E, h15km±32km, ML2.7, ML2.9(NAO), Confirmed Earthquake*

IDC ***17*** *10:18:39.4±1.0, 78.°24N×8.°54E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.5/40, mbtmp3.7/7, ML2.7/1, MS3.2/5, Ms1 3.2/5, ms1mx2.8/46, Error ellipse: s-maj=15.8km s-min=8.7km az=179.0*

IEPN ***17*** *10:18:40.0, 78.°31N×8.°55E, h15km*

ISC 17 10:18:40.5±2.0, 78.°25N±0.°06×9.°02E±0.°08, h12km±12km, n32, σ1§60/33, mb3.6/6, MS3.2/4, 2C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**0.89**	**39**	Pg	**Pg**	**10 18 57.3**	**-0.5**
KBS				Lg	Lg	10 19 09.4	
KBS	**Kingsbay**	**0.89**	**39**	↑*i*P	**Pg**	**10 18 57.2**	**-0.6**
KBS				*i* S	**Sg**	**10 19 09.0**	**-0.4**
KBS	**Kingsbay**	**0.89**	**39**	*e*P	**Pg**	**10 18 57.2**	**-0.5**
KBS				*e*S	**Sg**	**10 19 09.4**	**0.0**
KBS				IAML		10 19 15.0	
	comp=Z,395nm,0.4s						
SPA0	**Spitsbergen Ar**	**1.51**	**89**	Pg	**Pb**	**10 19 08.6**	**+0.1**
	baz=268,slow=14						
SPA0				Lg	Lg	10 19 30.5	
	baz=266,slow=28						
SPA0	**Spitsbergen Ar**	**1.51**	**89**	↑*i*P	**Pb**	**10 19 08.5**	**+0.1**
SPA0				*i* S	**Sg**	**10 19 28.9**	**-0.2**
SPA0	**Spitsbergen Ar**	**1.51**	**89**	Pg	**Pb**	**10 19 08.6**	**+0.1**
	baz=268,slow=14						
SPA0				Sg	**Sg**	**10 19 30.5**	**+1.4**
	baz=266,slow=28						
SPITS	**Spitsbergen Ar**	**1.51**	**89**	Pn	**Pb**	**10 19 08.4**	**0.0**
	baz=268,slow=13,SNR=309						
SPITS				Lg	Lg	10 19 29.4	
	baz=274,slow=13,SNR=8.6						
HSPB	**Hornsund (broa**	**1.88**	**129**	Pn	**Pn**	**10 19 11.8**	**-0.6**
HSPB				Sn	**Sn**	**10 19 35.1**	**-0.8**
HSPB	**Hornsund (broa**	**1.88**	**129**	*e*P	**Pn**	**10 19 11.8**	**-0.6**
HSPB				*e*S	**Sn**	**10 19 35.4**	**-0.6**
HSPB	**Hornsund (broa**	**1.88**	**129**	*e*P	**Pn**	**10 19 11.8**	**-0.6**
HSPB				*e*S	**Sn**	**10 19 35.2**	**-0.8**
HSPB				IAML		10 19 41.3	
	comp=Z,34nm,0.5s						
HOPEN	**Hopen**	**3.91**	**109**	*e*P	**Pn**	**10 19 40.4**	**+0.2**
HOPEN				*e*S	**Sn**	**10 20 25.7**	**-0.2**
HOPEN	**Hopen**	**3.91**	**109**	IAML		10 20 19.4	
	comp=Z,50nm,0.4s						
HOPEN				*e*S	**Sn**	**10 20 26.2**	**+0.2**
BJO1	**Bjornoya**	**4.44**	**143**	*e*P	**Pn**	**10 19 46.1**	**-1.4**
DAG	**Danmarks Havn**	**6.14**	**270**	*i* P	Pn	10 20 03.0	-7.8
DAG				*i* S	Sn	10 21 03.2	-18
DAG	**Danmarks Havn**	**6.14**	**270**	*i* P	Pn	10 20 03.0	-7.8
DAG				*i* S	Sn	10 21 03.2	-18
DAG				IAML		10 21 07.6	
	comp=Z,18nm,0.4s						
ZFI2	**Zemlya Franca-**	**7.35**	**52**	*e*P	**Pn**	**10 20 27.3**	**-0.1**
ZFI2				*e*S	**Sn**	**10 21 46.8**	**-3.8**
	comp=Z,7.8nm,0.8s						
ARA0	**ARCESS Array S**	**9.82**	**144**	Pn	**Pn**	**10 20 59.8**	**-1.5**
ARA0	**ARCESS Array S**	**9.82**	**144**	Pn	**Pn**	**10 20 59.8**	**-1.5**
ARCES	**ARCESS Array B**	**9.82**	**144**	Pn	**Pn**	**10 21 01.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=334,slow=12,SNR=3.0						
ARCES				Sn	**Sn**	**10 22 45.6**	**-5.5**
	comp=Z,0.1nm,0.3s,baz=346,slow=21,SNR=2.6						
SUMG	**Summit**	**12.83**	**269**	*i* P	Pn	10 21 35.0	-7.7
SUMG	**Summit**	**12.83**	**269**	*i* P	Pn	10 21 35.0	-7.7
SFJD	**Kangerlussuaq**	**19.83**	**269**	LR	LR	10 30 27.9	
	comp=Z,76nm,20.5s,baz=36,slow=36						
FRB	**Frobisher Bay**	**26.33**	**282**	LR	LR	10 34 18.8	
	comp=Z,59nm,18.1s,baz=46,slow=36						
TIXI	**Tiksi**	**26.35**	**38**	P	**P**	**10 24 18.0**	**+2.2**
	comp=Z,0.5nm,0.2s,baz=319,slow=9.3,SNR=3.4						
ARU	**Arti**	**27.41**	**113**	LR	LR	10 36 48.8	
	comp=Z,36nm,20.1s,baz=316,slow=40						
GERES	**GERESS Array B**	**29.57**	**174**	P	**P**	**10 24 46.4**	**+1.6**
	comp=Z,0.3nm,0.2s,baz=19,slow=12,SNR=3.7						
ILAR	**Eielson Array**	**36.47**	**343**	P	**P**	**10 25 45.4**	**+0.8**
	comp=Z,0.4nm,0.9s,baz=7.8,slow=7.3,SNR=3.4						
BRTR	**Keskin Array B**	**39.94**	**150**	LR	LR	10 44 35.4	
	comp=Z,40nm,18.3s,baz=16,slow=39						
MKAR	**Makanchi Array**	**41.26**	**94**	P	**P**	**10 26 27.5**	**+2.5**
	comp=Z,0.7nm,0.8s,baz=331,slow=7.0,SNR=3.6						
ULM	**Lac du Bonnet**	**44.22**	**297**	LR	LR	10 43 42.4	
	comp=Z,36nm,21.1s,baz=348,slow=34						
TORD	**Torodi Ar. Bea**	**65.21**	**188**	P	**P**	**10 29 21.6**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=354,slow=6.4,SNR=5.9						
TXAR	**Lajitas Array**	**65.92**	**298**	P	**P**	**10 29 24.3**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=23,slow=4.6,SNR=4.1						

IDC ***17*** *10:35:33.9±1.2, 29.°09N×129.°81E, h0km, mb3.4/4, mb1 3.5/6, mb1mx3.3/31, mbtmp3.4/6, ML2.7/2, Error ellipse: s-maj=46.6km s-min=22.1km az=104.0*

ISCJB ***17*** *10:35:35.6±0.6, 29.°00N±0.°03×129.°87E±0.°05, h30km±5km, mb3.3/4, Error ellipse: s-maj=8.6km s-min=3.4km az=22.3*

JMA ***17*** *10:35:35.9±0.1, 29.°02N×129.°81E, h36km, M3.5*

ISC 17 10:35:36.0±1.2, 29.°01N±0.°03×129.°85E±0.°05, h20km±4km, n24, σ0§95/35, mb3.3/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.58**	**284**	P	**Pg**	**10 35 47.1**	**-0.5**
JTAJ				S	**Sb**	**10 35 56.1**	**+0.9**
JAM	**Amami Oshima**	**0.64**	**200**	P	**Pb**	**10 35 47.4**	**-1.0**
JAM				*e*S	**Sg**	**10 35 56.0**	**-1.2**
JZK	**Kikaishima**	**0.71**	**171**	P	**Pg**	**10 35 50.6**	**+0.7**
JNN	**Nakanoshima**	**0.82**	**2**	P	**Pb**	**10 35 51.5**	**-0.2**
JNN				S	**Sg**	**10 36 03.1**	**0.0**
JAMN	**Amaminishikomi**	**0.97**	**218**	P	**Pb**	**10 35 53.0**	**-1.1**
JAMN				S	**Sb**	**10 36 06.8**	**+0.3**
JYAK	**Yakushimahirau**	**1.35**	**25**	P	**Pn**	**10 35 59.2**	**-0.5**
JYAK				*e*S	**Sn**	**10 36 15.5**	**-1.6**
JTK	**Tokunoshima**	**1.46**	**213**	P	**Pn**	**10 36 00.4**	**-0.8**
JTK				S	**Sn**	**10 36 18.8**	**-0.9**
JKC	**Kuchinoerabu**	**1.47**	**12**	P	**Pn**	**10 36 00.8**	**-0.6**
JKC				S	**Sn**	**10 36 19.0**	**-1.2**
JMTN	**Minamitane**	**1.66**	**33**	P	**Pn**	**10 36 02.4**	**-1.5**
JTN	**Tanegashima 3**	**1.91**	**31**	P	**Pn**	**10 36 07.3**	**-0.1**
JOKE	**Okinoerabujima**	**2.00**	**215**	P	**Pn**	**10 36 08.3**	**-0.3**
JOKE				S	**Sn**	**10 36 31.8**	**-1.3**
JYRO	**Yoronjima**	**2.33**	**212**	P	**Pn**	**10 36 13.3**	**0.0**
JYRO				*e*S	**Sn**	**10 36 40.5**	**-0.9**
JIH	**Iheya**	**2.58**	**221**	*e*S	**Sn**	**10 36 46.4**	**-1.0**
JOW	**Kunigami**	**2.58**	**213**	P	**Pn**	**10 36 16.6**	**-0.1**
JOW	**Kunigami**	**2.58**	**213**	Pn	**Pn**	**10 36 18.0**	**+1.3**
	3.9nm,0.3s,baz=76,slow=19,SNR=15						
JOW				Sn	**Sn**	**10 36 46.5**	**-1.0**
	3.8nm,0.3s,baz=105,slow=14,SNR=5.6						
JOW				Lg	Lg	10 36 52.7	
	5.4nm,0.3s,baz=66,slow=20,SNR=4.3						
JNTH	**Nagotoyohara**	**2.97**	**213**	P	**Pn**	**10 36 21.9**	**-0.1**
JNTH				*e*S	**Sn**	**10 36 56.5**	**-0.5**
JKDJ	**Kitadaitoujima**	**3.31**	**157**	*e*S	**Sn**	**10 37 03.6**	**-2.0**
JAGN	**Aguni-jima**	**3.34**	**224**	P	Pn	**10 36 27.5**	**+0.4**
JKE	**Kume jima 2**	**3.81**	**226**	P	Pn	**10 36 34.0**	**+0.4**
JNU	**Nakatsue**	**4.19**	**12**	Pn	Pn	**10 36 38.8**	**-0.1**
	0.4nm,0.3s,baz=162,slow=20,SNR=2.9						
SONM	**Songino Array**	**26.11**	**322**	P	**P**	**10 41 08.4**	**-0.2**
	0.4nm,0.5s,baz=138,slow=8.9,SNR=4.5						
ASAR	**Alice Springs**	**52.52**	**175**	P	**P**	**10 44 49.4**	**+1.4**
	0.3nm,0.9s,baz=1.5,slow=14,SNR=3.7						
ILAR	**Eielson Array**	**61.31**	**29**	P	**P**	**10 45 50.8**	**+1.0**
	0.1nm,0.6s,baz=294,slow=7.4,SNR=1.7						
YKA	**Yellowknife Ar**	**75.40**	**26**	P	**P**	**10 47 18.8**	**+0.8**
	0.4nm,0.5s,baz=301,slow=5.8,SNR=9.5						

NEIC ***17*** *11:00:19.6±2.0, 15.°20S±0.°08×173.°2W±0.°1, h10km±1km, mb4.1/3*

IDC ***17*** *11:00:19.8±1.8, 14.°91S×173.°50W, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.8/40, mbtmp3.8/6, MS3.4/4, Ms1 3.4/4, ms1mx3.0/28, Error ellipse: s-maj=111.6km s-min=23.4km az=152.0*

ISCJB ***17*** *11:00:20.9±0.6, 15.°33S±0.°07×173.°18W±0.°08, h30km, mb3.8/6, MS3.3/4, Error ellipse: s-maj=10.8km s-min=9.4km az=165.7*

ISC 17 11:00:23.0±0.9, 15.°21S±0.°07×173.°1W±0.°1, h30km, n19, σ2§16/15, mb3.8/9, MS3.2/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.84**	**46**	Pn	**Pn**	**11 00 52.1**	**-0.5**
	37nm,0.3s,baz=15,slow=0.8,SNR=31						
AFI				Sn	**Sn**	**11 01 11.2**	**-3.7**
	178nm,0.3s,baz=238,slow=16,SNR=14						
AFI				LR	LR	11 01 32.9	
	comp=Z,399nm,19.1s,baz=208,slow=38						
AFI	**Afiamalu**	**1.84**	**46**		**Pn**	**11 00 51.4**	**-1.2**
AFI					**Sn**	**11 01 14.4**	**-0.6**
NIUE	**Niue**	**4.91**	**142**	Pn	**Pn**	**11 01 35.1**	**+0.3**
NIUE				Sn	**Sn**	**11 02 29.3**	**-1.4**
DZM	**Mont Dzumac**	**20.51**	**248**	LR	LR	11 11 31.3	
	comp=Z,106nm,18.2s,baz=36,slow=33						
URZ	**Urewera**	**24.52**	**199**	LR	LR	11 13 47.1	
	comp=Z,83nm,21.2s,baz=36,slow=33						
H11S2	**WAKE ISLAND Hy**	**38.94**	**329**	T	T	11 49 09.3	
	baz=149,slow=76,SNR=3.2						
H11S3	**WAKE ISLAND Hy**	**38.95**	**329**	T	T	11 49 08.5	
	baz=149,slow=76,SNR=5.3						
H11S1	**WAKE ISLAND Hy**	**38.95**	**329**	T	T	11 49 07.3	
	baz=149,slow=76,SNR=6.3						
WRAB	**Tennant Creek**	**50.13**	**257**	P	**P**	**11 09 14.4**	**-1.6**
WRAB				IAmb	IAmb	11 09 18.1	
	comp=Z,6.1nm,1.4s						
AS31	**Alice Springs**	**50.41**	**252**	P	**P**	**11 09 17.2**	**-0.9**
AS31				IAmb	IAmb	11 09 18.0	
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**50.42**	**252**	P	**P**	**11 09 17.2**	**-0.9**
	comp=Z,1.6nm,0.4s,baz=88,slow=7.8,SNR=49						
GUMO	**Guam**	**50.45**	**302**	LR	LR	11 27 32.6	
	comp=Z,25nm,20.1s,baz=109,slow=33						
YBH	**Yreka Blue Hor**	**73.29**	**37**	P	**P**	**11 11 53.7**	**+2.0**
	comp=Z,1.6nm,0.8s,baz=245,slow=9.0,SNR=4.1						
NVAR	**Mina Array Bea**	**74.02**	**42**	P	**P**	**11 11 59.4**	**+3.1**
	comp=Z,0.4nm,0.7s,baz=228,slow=11,SNR=4

SPN					*e*S	**Sn**	11 14 05.9	-2.7	
SPN	**Mys Shipunski**	**4.61**	**38**	PN	**Pn**	11 13 15.7	+0.2		
SPN				S	**Sn**	11 14 05.9	-2.7		
KZV	**Kizimen**	**6.34**	**27**	*e*P	**Pn**	11 13 39.4	+0.6		
KZV	**Kizimen**	**6.34**	**27**	PN	**Pn**	11 13 39.4	+0.6		
TUMR	**Tumrok**	**6.45**	**25**	*e*P	**Pn**	11 13 42.3	+2.2		
TUMR	**Tumrok**	**6.45**	**25**	PN	**Pn**	11 13 42.3	+2.2		
TUMD	**Tumrok D**	**6.45**	**27**	*e*P	**Pn**	11 13 41.1	+1.0		
KUR	**Kuril'sk**	**6.67**	**233**⇑	*e*PN	**Pn**	11 13 43.1	+0.1		
KMNR	**Kamenistaya**	**6.89**	**24**	*e*P	**Pn**	11 13 46.3	+0.3		
KMNR	**Kamenistaya**	**6.89**	**24**	PN	**Pn**	11 13 46.3	+0.3		
KBTR	**Krutoberegovo**	**8.05**	**31**	*e*P	**Pn**	11 14 01.2	-0.2		
KBTR	**Krutoberegovo**	**8.05**	**31**	PN	**Pn**	11 14 01.2	-0.2		
BKI	**Bering**	**8.61**	**45**	*e*P	**Pn**	11 14 08.1	-0.7		
BKI				*e*S	**Sn**	11 15 36.0	-8.4		
BKI	**Bering**	**8.61**	**45**	PN	**Pn**	11 14 08.1	-0.7		
YSS	**Yuzh-Sakhalins**	**8.80**	**258**	*e*PN	Pn	11 14 02.8	-8.6		
JKA	**Kamikawa-asahi**	**10.29**	**243**		**Pn**	11 14 29.8	-1.4		
ASAJ	**Asahikawa**	**10.29**	**243**	P	**Pn**	11 14 29.8	-1.4		
	comp=E,2.3nm,0.3s,baz=60,slow=14,SNR=8.6								
ERM	**Erimo**	**11.36**	**233**	PN	Pn	11 14 40.6	-4.7		
ERM	**Erimo**	**11.36**	**233**	Pn	Pn	11 14 40.6	-4.7		
KLR	**Kul'dur**	**15.37**	**278**	P	**Pn**	11 15 38.2	+2.0		
	comp=E,0.1nm,0.3s,baz=88,slow=12,SNR=4.4								
MAJO	**Matsushiro**	**18.00**	**230**	P	**P**	11 16 04.8	-1.8		
MAJO				pmax	pmax				
	comp=Z,10.0nm,1.1s								
MAJO	**Matsushiro**	**18.00**	**230**	P	**P**	11 16 04.8	-1.8		
MAJO				IAmb	IAmb	11 16 19.0			
	comp=Z,9.7nm,1.1s								
INU	**Inuyama**	**19.53**	**230**	P	**P**	11 16 22.8	-0.5		
INU				IAmb	IAmb	11 16 30.0			
	comp=Z,26nm,1.4s								
TIXI	**Tiksi**	**25.27**	**341**⇓	*e*P	**P**	11 17 17.5	-1.7		
TIXI				pmax	pmax				
	comp=Z,3.0nm,0.8s								
TIXI	**Tiksi**	**25.27**	**341**	P	**P**	11 17 17.4	-1.9		
	comp=Z,2.6nm,0.7s,baz=144,slow=9.0,SNR=12								
TIXI				pP	**pP**	11 17 50.0	-0.2		
	comp=Z,1.2nm,0.4s,baz=138,slow=6.6,SNR=4.0								
TIXI	**Tiksi**	**25.27**	**341**	P	**P**	11 17 17.4	-1.9		
TIXI				IAmb	IAmb	11 17 18.2			
	comp=Z,3.0nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**31.14**	**159**	T	T	11 50 30.0			
	baz=344,slow=74								
H11N1	**WAKE ISLAND Hy**	**31.16**	**159**	T	T	11 50 29.5			
	baz=344,slow=74								
H11N3	**WAKE ISLAND Hy**	**31.16**	**159**	T	T	11 50 29.5			
	baz=344								
H11S1	**WAKE ISLAND Hy**	**32.28**	**160**	T	T	11 52 36.1			
	baz=346,slow=76,SNR=33								
H11S3	**WAKE ISLAND Hy**	**32.29**	**160**	T	T	11 52 38.1			
	baz=346,slow=76,SNR=40								
H11S2	**WAKE ISLAND Hy**	**32.30**	**160**	T	T	11 52 37.2			
	baz=346,slow=76,SNR=32								
TOLK	**Toolik Lake Re**	**32.58**	**34**	P	**P**	11 18 26.6	+2.4		
TOLK				IAmb	IAmb	11 18 30.9			
	comp=Z,2.7nm,1.4s								
HYT	**Haines Junctio**	**38.24**	**47**	P	**P**	11 19 13.4	+0.8		
HYT				IAmb	IAmb	11 19 16.9			
	comp=Z,7.9nm,1.3s								
DHAK	**Deception Hill**	**38.34**	**50**		pP	11 19 45.1	-0.7		
INK	**Inuvik**	**38.49**	**34**	P	**P**	11 19 16.8	+2.4		
	comp=Z,0.7nm,0.8s,baz=311,slow=6.8,SNR=3.8								
INK	**Inuvik**	**38.49**	**34**	P	**P**	11 19 16.8	+2.4		
MK31	**Makanchi Array**	**47.03**	**296**	P	**P**	11 20 21.7	-1.8		
MK31				pmax	pmax				
	comp=Z,2.0nm,1.2s								
MK31	**Makanchi Array**	**47.03**	**296**	P	**P**	11 20 21.7	-1.8		
MKAR	**Makanchi Array**	**47.03**	**296**	P	**P**	11 20 21.9	-1.6		
	comp=Z,1.7nm,0.8s,baz=62,slow=6.9,SNR=10								
KURK	**Kurchatov**	**47.11**	**302**⇓	*e*P	P	11 20 21.8	-2.1		
KURK				*i* *PP	pP	11 20 54.7	-2.5		
KURK				pmax	pmax				
	comp=Z,5.0nm,1.0s								
KURK	**Kurchatov**	**47.11**	**302**	P	**P**	11 20 22.3	-1.6		
KURK				IAmb	IAmb	11 20 23.1			
	comp=Z,4.6nm,1.0s								
RES	**Resolute Bay**	**47.70**	**20**	P	**P**	11 20 29.3	+1.1		
RES				pmax	pmax				
	comp=Z,4.0nm,1.3s								
RES	**Resolute Bay**	**47.70**	**20**	P	**P**	11 20 29.3	+1.1		
RES				IAmb	IAmb	11 20 30.1			
	comp=Z,3.8nm,1.3s								
YKA	**Yellowknife Ar**	**47.79**	**39**	P	**P**	11 20 31.6	+2.5		
	comp=Z,0.3nm,0.6s,baz=296,slow=7.5,SNR=4.3								
YKA				pP	**pwP**	11 21 02.9	+0.1		
	comp=Z,0.2nm,0.6s,baz=297,slow=7.6,SNR=3.5								
BRVK	**Borovoye**	**50.31**	**309**⇓	*e*P	**P**	11 20 46.7	-1.6		
BRVK				pmax	pmax				
	comp=Z,1.0nm,0.9s								
ARU	**Arti**	**53.98**	**317**	*c* *i*P	**P**	11 21 14.3	-1.1		
ARU						11 22 13.7			
ARU				S	**S**	11 28 36.7	-2.5		
ARU				SS	**SKiKP**	11 32 12.1	+1.0		
ARU				pmax	pmax				
	comp=Z,20nm,1.9s								
ARU	**Arti**	**53.98**	**317**	P	**P**	11 21 13.8	-1.6		
CMAR	**Chiang Mai Arr**	**54.50**	**256**	P	**P**	11 21 20.4	+0.8		
	comp=Z,0.6nm,0.3s,baz=35,slow=8.0,SNR=3.5								
ARCES	**ARCESS Array B**	**55.71**	**341**	P	**P**	11 21 25.6	-2.0		
	comp=Z,6.9nm,1.0s,baz=40,slow=7.1,SNR=4.5								
ABKAR	**Akbulak array**	**57.80**	**310**	P	**P**	11 21 41.4	-1.3		
PMG	**Port Moresby**	**59.13**	**189**	*de*P	P	11 21 57.1	+4.9		
PMG				pmax	pmax				
	comp=Z,102nm,1.1s								
FINES	**FINESS Array B**	**62.15**	**335**	P	**P**	11 22 10.7	-1.4		
	comp=Z,2.6nm,0.8s,baz=31,slow=8.9,SNR=9.0								
OBN	**Obninsk**	**63.85**	**326**⇓	*e*P	**P**	11 22 24.2	+0.8		
OBN				pmax	pmax				
	comp=Z,4.0nm,0.6s								
KBZ	**Khabaz**	**69.99**	**315**	P	**P**	11 23 02.4	0.0		
	comp=Z,3.0nm,0.8s,baz=57,slow=3.5,SNR=6.8								
TXAR	**Lajitas Array**	**74.84**	**63**	P	**P**	11 23 33.0	+1.5		
	comp=Z,0.1nm,0.5s,baz=301,slow=4.0,SNR=2.7								
TXAR				pP	**pwP**	11 24 08.1	0.0		
	comp=Z,0.3nm,0.7s,baz=301,slow=4.9,SNR=3.1								
ASAR	**Alice Springs**	**75.34**	**200**	P	**P**	11 23 36.1	+2.0		
	comp=Z,0.3nm,0.6s,baz=12,slow=5.4,SNR=8.9								
GERES	**GERESS Array B**	**76.58**	**335**	P	**P**	11 23 41.0	-0.1		
GERES	**GERESS Array B**	**76.58**	**335**	P	**P**	11 23 41.0	-0.1		
	comp=Z,0.2nm,0.4s,baz=39,slow=6.3,SNR=3.4								
BRTR	**Keskin Array B**	**77.36**	**318**	P	**P**	11 23 46.6	+1.0		
	comp=Z,0.8nm,0.7s,baz=90,slow=3.7,SNR=3.7								
MMAI	**Mount Meron Ar**	**82.06**	**313**	P	**P**	11 24 11.7	+0.7		
	comp=Z,1.3nm,0.4s,baz=36,slow=5.9,SNR=2.4								

*NAO **17** 11:30:38.8±2.9, 75.84N×6.92E, ML3.3*
*ISCJB **17** 11:30:41.4±0.7, 75.90N±0.04×8.5E±0.2, h10km, mb3.4/6, MS3.3/4, Error ellipse: s-maj=7.6km s-min=6.2km az=177.8*
*IDC **17** 11:30:42.0±0.8, 75.86N×7.76E, h0km, mb3.4/6, mb1 3.6/9, mb1mx3.4/53, mbtmp3.4/9, ML3.0/3, MS3.4/5, Ms1 3.4/5, ms1mx2.9/33, Error ellipse: s-maj=19.6km s-min=13.2km az=60.0*
*BER **17** 11:30:43.3±2.3, 75.84N×8.10E, h10km, ML2.2, ML3.3(NAO), Confirmed Earthquake*
*IEPN **17** 11:30:45.0, 76.00N×8.03E, h15km*

ISC 17 11:30:43.1±0.8, 75.91N±0.05×8.50E±0.07, h10km, n37, σ2.22/51, mb3.3/6, MS3.4/4, 1C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**1.99**	**53**	Pn	**Pn**	**11 31 17.2**	**+0.5**
HSPB				Sn	**Sn**	**11 31 40.7**	**-0.9**
HSPB	**Hornsund (broa**	**1.99**	**53**	*e*P	**Pn**	**11 31 17.1**	**+0.5**
HSPB				*e*S	**Sn**	**11 31 39.8**	**-1.7**
HSPB	**Hornsund (broa**	**1.99**	**53**	*e*P	**Pn**	**11 31 17.2**	**+0.5**
HSPB				*e*S	**Sn**	**11 31 41.0**	**-0.6**
HSPB				IAML		11 31 45.3	
	comp=Z,12nm,0.2s						
BRBA	**Barentsburg A**	**2.52**	**28**	Pn	**Pn**	**11 31 24.7**	**+0.7**
BRBA	**Barentsburg A**	**2.52**	**28**	Pn	**Pn**	**11 31 24.7**	**+0.7**
SPA0	**Spitsbergen Ar**	**2.89**	**34**	Pn	**Pn**	**11 31 29.6**	**+0.4**
	baz=221,slow=14						
SPA0				Sn	**Sn**	**11 32 02.2**	**-1.6**
	baz=238,slow=37						
SPA0	**Spitsbergen Ar**	**2.89**	**34**⇑	*i*P	**Pn**	**11 31 29.5**	**+0.4**
SPA0				*i* S	**Sn**	**11 32 02.5**	**-1.3**
SPA0	**Spitsbergen Ar**	**2.89**	**34**	Pn	**Pn**	**11 31 29.6**	**+0.4**
	baz=221,slow=14						
SPA0				*e*S	**Sn**	**11 32 02.5**	**-1.3**
SPA0				IAML		11 32 09.2	
	comp=Z,14nm,0.7s						
SPITS	**Spitsbergen Ar**	**2.89**	**34**	Pn	**Pn**	**11 31 29.5**	**+0.4**
	baz=202,slow=11,SNR=41						
SPITS				Sn	**Sn**	**11 32 01.8**	**-2.0**
	baz=225,slow=22,SNR=6.2						
BJO1	**Bjornoya**	**3.04**	**112**	Pn	**Pn**	**11 31 32.1**	**+1.0**
BJO1				Sn	**Sn**	**11 32 06.0**	**-1.4**
BJO1	**Bjornoya**	**3.04**	**112**	*e*P	**Pn**	**11 31 32.3**	**+1.2**
BJO1				*e*S	**Sn**	**11 32 09.2**	**+1.8**
BJO1	**Bjornoya**	**3.04**	**112**	*e*S	**Sn**	**11 32 05.3**	**-2.1**
BJO1				IAML		11 32 25.0	
	comp=Z,31nm,0.5s						
KBS	**Kingsbay**	**3.13**	**12**	Pn	**Pn**	**11 31 30.9**	**-1.4**
KBS				Sn	**Sn**	**11 32 04.7**	**-5.0**
KBS	**Kingsbay**	**3.13**	**12**	*e*P	**Pn**	**11 31 31.3**	**-1.0**
KBS				*e*S	**Sn**	**11 32 07.4**	**-2.3**
KBS	**Kingsbay**	**3.13**	**12**	*e*P	**Pn**	**11 31 31.0**	**-1.3**
KBS				*e*S	**Sn**	**11 32 06.7**	**-3.0**
KBS				IAML		11 32 11.1	
	comp=Z,10.0nm,0.6s						
HOPEN	**Hopen**	**3.99**	**73**	Pn	**Pn**	**11 31 45.6**	**+1.4**
HOPEN				Sn	**Sn**	**11 32 30.6**	**-0.3**
HOPEN	**Hopen**	**3.99**	**73**	*e*P	**Pn**	**11 31 45.4**	**+1.3**
HOPEN				*e*S	**Sn**	**11 32 30.4**	**-0.5**
HOPEN	**Hopen**	**3.99**	**73**	*e*P	**Pn**	**11 31 45.6**	**+1.4**
HOPEN				*e*S	**Sn**	**11 32 30.6**	**-0.3**
HOPEN				IAML		11 32 43.3	
	comp=Z,33nm,0.3s						
ARA0	**ARCESS Array S**	**8.12**	**133**	Pn	**Pn**	**11 32 40.2**	**-0.5**
	baz=329,slow=12						
ARA0				Sn	**Sn**	**11 34 06.0**	**-6.4**
	baz=329,slow=22						
ARA0	**ARCESS Array S**	**8.12**	**133**	Pn	**Pn**	**11 32 40.2**	**-0.5**
	baz=329,slow=12						
ARA0				Sn	**Sn**	**11 34 06.0**	**-6.4**
	baz=329,slow=22						
ARCES	**ARCESS Array B**	**8.12**	**133**	Pn	**Pn**	**11 32 40.0**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=329,slow=12,SNR=17						
ARCES				Sn	**Sn**	**11 34 05.7**	**-6.7**
	comp=Z,2.3nm,0.3s,baz=327,slow=19,SNR=14						
ARCES				LR	LR	11 36 31.6	
	comp=Z,144nm,18.1s,baz=334,slow=43						
ZFI2	**Zemlya Franca-**	**9.09**	**40**	*e*P	**Pn**	**11 32 54.8**	**+0.8**
ZFI2				*e*S	**Sn**	**11 34 32.6**	**-3.5**
APA0	**Apatity Array**	**11.20**	**125**	Pn	**Pn**	**11 33 23.3**	**+0.4**
	baz=343,slow=10						
APA0				Sn	Sn	11 35 18.2	-10
	baz=327,slow=28						
APA0	**Apatity Array**	**11.20**	**125**	Pn	**Pn**	**11 33 23.3**	**+0.4**
	baz=343,slow=10						
APA0				Sn	Sn	11 35 18.2	-10
	baz=327,slow=28						
FINES	**FINESS Array B**	**15.74**	**148**	Pn	**Pn**	**11 34 25.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=6.9,slow=13,SNR=2.8						
KIRV	**Kirov**	**22.65**	**117**	LR	LR	11 43 37.7	
	comp=Z,108nm,18.5s,baz=143,slow=34						
FRB	**Frobisher Bay**	**26.77**	**286**	LR	LR	11 46 40.1	
	comp=Z,35nm,18.5s,baz=43,slow=36						
KURBB	**Kurchatov Arra**	**36.80**	**92**	P	**P**	**11 37 53.3**	**+2.8**
	comp=Z,0.4nm,0.5s,baz=340,slow=6.9,SNR=3.6						
YKA	**Yellowknife Ar**	**37.20**	**320**	P	**P**	**11 37 52.2**	**-1.6**
	comp=Z,0.2nm,0.7s,baz=12,slow=9.3,SNR=4.3						
ILAR	**Eielson Array**	**38.70**	**343**	P	**P**	**11 38 07.7**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=5.6,slow=7.1,SNR=5.1						
MKAR	**Makanchi Array**	**41.28**	**91**	P	**P**	**11 38 30.2**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=350,slow=7.6,SNR=3.7						
SONM	**Songino Array**	**46.07**	**68**	LR	LR	12 01 39.8	
	comp=Z,40nm,18.4s,baz=130,slow=40						
PDAR	**Pinedale Array**	**55.18**	**308**	LR	LR	12 02 50.3	
	comp=Z,59nm,19.4s,baz=19,slow=35						
TORD	**Torodi Ar. Bea**	**62.86**	**187**	P	**P**	**11 41 08.6**	**-0.2**
	comp=Z,1.3nm,1.1s,baz=339,slow=3.8,SNR=4.1						
TXAR	**Lajitas Array**	**66.93**	**298**	P	**P**	**11 41 35.5**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=38,slow=3.4,SNR=4.0						
ASAR	**Alice Springs**	**121.14**	**61**	PKhKP	PKPpre	11 49 32.8	
	comp=Z,0.2nm,0.6s,baz=348,slow=1.5,SNR=4.7						
SNAA	**Sanae**	**147.53**	**187**	PKPbc	**PKPbc**	**11 50 25.5**	**+0.2**
	comp=Z,1.5nm,1.1s,baz=319,slow=2.4,SNR=4.7						

*IDC **17** 11:52:36.0±1.3, 46.02S×166.02E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.7/21, mbtmp3.9/3, ML4.7/1, MS3.5/3, Ms1 3.5/3, ms1mx3.3/18, Error ellipse: s-maj=33.3km s-min=29.4km az=152.0*
*NEIC **17** 11:52:37.0±2.3, 46.3S±0.1×166.0E±0.1, h20km±7km*
*WEL **17** 11:52:38.7±1.2, 46°S±6'×16°6E±', h5km, M4.4/14, ML4.6/12, MLv4.4/14, Error ellipse: s-maj=0.0km s-min=0.0km az=69.8*

ISC 17 11:52:35.6±1.9, 46.21S±0.06×165.99E±0.06, h4km±11km, n85, σ1.93/99, mb3.9/3, MS3.4/3, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**1.10**	**48**	P	**Pg**	**11 52 56.4**	**-0.3**
DCZ				S	**Sg**	**11 53 10.2**	**-0.8**
DCZ	**Deep Cove**	**1.10**	**48**		**Pg**	**11 52 56.6**	**-0.1**
DCZ				Sn	**Sn**	**11 53 13.2**	**-0.2**
WHZ	**Wether Hill Ro**	**1.40**	**78**	P	**Pn**	**11 53 02.4**	**+0.6**
WHZ				S	**Sb**	**11 53 20.3**	**-0.2**
WHZ	**Wether Hill Ro**	**1.40**	**78**		**Pn**	**11 53 02.1**	**+0.2**
WHZ				Sn	**Sg**	**11 53 20.9**	**+0.3**
APZ	**The Paps**	**1.52**	**115**	P	**Pn**	**11 53 04.1**	**+0.6**
APZ				S	**Sn**	**11 53 22.7**	**-0.9**
MLZ	**Mavora Lakes**	**1.71**	**61**	P	**Pb**	**11 53 07.5**	**-0.1**
MLZ				S	**Sg**	**11 53 31.3**	**+0.7**
MLZ	**Mavora Lakes**	**1.71**	**61**		**Pb**	**11 53 07.8**	**+0.2**
MLZ				Sn	**Sn**	**11 53 26.1**	**-2.4**
MSZ	**Milford Sound**	**2.06**	**42**	P	**Pn**	**11 53 10.9**	**+0.1**
SYZ	**Scrubby Hill**	**2.21**	**100**	P	**Pn**	**11 53 14.3**	**+1.4**
SYZ				S	**Sn**	**11 53 42.0**	**+1.4**
EAZ	**Earnscleugh**	**2.52**	**68**	P	**Pn**	**11 53 19.3**	**+2.0**
WKZ	**Wanaka**	**2.54**	**58**	P	**Pn**	**11 53 19.8**	**+2.3**
WKZ	**Wanaka**	**2.54**	**58**		**Pn**	**11 53 19.6**	**+2.1**
WKZ				Sn	**Sn**	**11 53 49.1**	**+0.2**
TUZ	**Tuapeka**	**2.55**	**86**	P	**Pn**	**11 53 19.5**	**+1.9**
TUZ				S	**Sn**	**11 53 50.1**	**+1.1**
JCZ	**Jackson Bay**	**2.91**	**44**	P	**Pn**	**11 53 25.1**	**+2.4**
HHSZ	**Highcliff Hill**	**3.23**	**86**	P	**Pn**	**11 53 28.4**	**+1.4**
ODZ	**Otahua Downs**	**3.47**	**72**	P	**Pn**	**11 53 30.6**	**+0.3**
ODZ	**Otahua Downs**	**3.47**	**72**		**Pn**	**11 53 30.5**	**+0.3**
ODZ				Sn	**Sn**	**11 54 09.5**	**-2.2**
LBZ	**Lake Benmore**	**3.48**	**60**	P	**Pn**	**11 53 31.1**	**+0.7**
LBZ	**Lake Benmore**	**3.48**	**60**		**Pn**	**11 53 31.1**	**+0.7**
LBZ				Sn	**Sn**	**11 54 10.2**	**+4.1**
FOZ	**Fox Glacier**	**3.82**	**47**	P	**Pn**	**11 53 35.5**	**+0.4**
FOZ	**Fox Glacier**	**3.82**	**47**		**Pn**	**11 53 35.8**	**+0.7**
RPZ	**Rata Peaks**	**4.38**	**57**	Pn	**Pn**	**11 53 42.3**	**-0.4**
	46nm,0.3s,baz=221,slow=5.0,SNR=224						
RPZ				Sn	**Sn**	**11 54 33.1**	**-1.1**
	23nm,0.3s,baz=40,slow=19,SNR=6.4						
RPZ	**Rata Peaks**	**4.38**	**57**	P	**Pn**	**11 53 42.5**	**-0.3**
RPZ	**Rata Peaks**	**4.38**	**57**		**Pn**	**11 53 42.7**	**-0.1**
RPZ					**Sn**	**11 54 35.1**	**+0.9**
OXZ	**Oxford**	**5.18**	**58**	P	**Pn**	**11 53 52.9**	**-0.9**
OXZ	**Oxford**	**5.18**	**58**		**Pn**	**11 53 53.0**	**-0.8**
INZ	**Inchbonnie**	**5.23**	**50**	P	**Pn**	**11 53 54.4**	**-0.1**
MQZ	**McQueen's Vall**	**5.35**	**64**	P	**Pn**	**11 53 55.8**	**-0.3**
MQZ	**McQueen's Vall**	**5.35**	**64**		**Pn**	**11 53 56.1**	**-0.0**
CRLZ	**Canterbury Las**	**5.40**	**63**	P	**Pn**	**11 53 56.9**	**+0.1**
CRLZ	**Canterbury Las**	**5.40**	**63**	Pn	**Pn**	**11 53 56.9**	**+0.1**
AKCZ	**Akaroa Harbour**	**5.43**	**67**	P	**Pn**	**11 53 57.6**	**+0.3**
OKCZ	**Okains Bay**	**5.60**	**66**	P	**Pn**	**11 54 00.5**	**+0.9**
AMCZ	**Amberley**	**5.64**	**60**	P	**Pn**	**11 53 59.6**	**-0.4**
LTZ	**Lake Taylor**	**5.65**	**55**	P	**Pn**	**11 53 59.4**	**-0.9**
LTZ	**Lake Taylor**	**5.65**	**55**		**Pn**	**11 53 59.7**	**-0.6**
LTZ				Sn	**Sn**	**11 55 05.8**	**+0.2**
GVZ	**Greta Valley S**	**5.99**	**60**	P	**Pn**	**11 54 04.4**	**-0.5**
DSZ	**Denniston Nort**	**6.13**	**45**	P	**Pn**	**11 54 06.6**	**-0.3**
KHZ	**Kahutara**	**6.61**	**58**	P	**Pn**	**11 54 12.8**	**-0.6**
KHZ	**Kahutara**	**6.61**	**58**	Pn	**Pn**	**11 54 13.0**	**-0.4**
KHZ				Sn	**Sn**	**11 55 27.3**	**-1.9**
THZ	**Tophouse**	**6.68**	**51**	P	**Pn**	**11 54 13.2**	**-1.3**
THZ	**Tophouse**	**6.68**	**51**		**Pn**	**11 54 13.8**	**-0.7**
THZ				Sn	**Sn**	**11 55 35.8**	**+4.8**
QRZ	**Quartz Range**	**7.18**	**44**	P	**Pn**	**11 54 21.1**	**-0.2**
QRZ	**Quartz Range**	**7.18**	**44**		**Pn**	**11 54 21.2**	**0.0**
QRZ				Sn	**Sn**	**11 55 44.3**	**+1.1**
BSWZ	**Blackbirch Sta**	**7.25**	**55**	P	**Pn**	**11 54 24.3**	**+2.1**
BSWZ	**Blackbirch Sta**	**7.25**	**55**	Pn	**Pn**	**11 54 21.5**	**-0.7**
BSWZ				Sn	**Sn**	**11 55 46.2**	**+1.3**
NNZ	**Nelson**	**7.32**	**50**	P	**Pn**	**11 54 22.2**	**-0.9**
NNZ	**Nelson**	**7.32**	**50**	Pn	**Pn**	**11 54 22.2**	**-0.9**
NNZ				Sn	**Sn**	**11 55 46.0**	**-0.5**
CMWZ	**Cape Campbell**	**7.42**	**56**	Pn	**Pn**	**11 54 27.7**	**+3.2**
CMWZ				Sn	**Sn**	**11 55 49.1**	**0.0**
TUWZ	**Tuamarina**	**7.48**	**53**	P	**Pn**	**11 54 26.8**	**+1.5**
TUWZ	**Tuamarina**	**7.48**	**53**	Pn	**Pn**	**11 54 25.4**	**+0.1**
TUWZ				Sn	**Sn**	**11 55 50.5**	**0.0**
TCW	**Tory Channel**	**7.81**	**53**	P	**Pn**	**11 54 31.5**	**+1.6**
DUWZ	**D'Urville Isla**	**7.90**	**50**	P	**Pn**	**11 54 33.0**	**+1.8**
SNZO	**South Karori**	**7.99**	**55**	Pn	**Pn**	**11 54 33.1**	**+0.8**
BHW	**Baring Head**	**8.02**	**56**	Pn	**Pn**	**11 54 34.1**	**+1.4**
PLWZ	**Palliser**	**8.14**	**59**	Pn	**Pn**	**11 54 35.6**	**+1.1**
MSWZ	**Moikau Station**	**8.23**	**58**	P	**Pn**	**11 54 35.1**	**-0.6**
MSWZ	**Moikau Station**	**8.23**	**58**	Pn	**Pn**	**11 54 35.3**	**-0.4**
MSWZ				Sn	**Sn**	**11 56 08.2**	**-0.9**
CAW	**Cannon Point**	**8.32**	**55**	P	**Pn**	**11 54 36.9**	**0.0**
KIW	**Kapiti Island**	**8.40**	**54**	P	**Pn**	**11 54 37.3**	**-0.7**
MTW	**Mount Morrison**	**8.54**	**57**	P	**Pn**	**11 54 40.2**	**+0.3**
OGWZ	**Otaki Gorge**	**8.57**	**54**	P	**Pn**	**11 54 40.6**	**+0.2**
HOWZ	**Holdsworth Sta**	**8.72**	**56**	P	**Pn**	**11 54 42.2**	**-0.2**
MRZ	**Mangatainoka R**	**8.91**	**55**	P	**Pn**	**11 54 43.1**	**-1.9**
NBEZ	**Newall Road No**	**9.04**	**43**	P	**Pn**	**11 54 47.1**	**+0.3**
PREZ	**Palmer Road**	**9.12**	**44**	P	**Pn**	**11 54 49.5**	**+1.6**
BFZ	**Birch Farm**	**9.28**	**57**	Pn	**Pn**	**11 54 49.2**	**-0.9**
BFZ				Sn	**Sn**	**11 56 31.0**	**-3.9**
HIZ	**Hauiti**	**10.11**	**44**	Pn	**Pn**	**11 55 01.9**	**+0.6**
BKZ	**Black Stump Fm**	**10.45**	**51**	Pn	**Pn**	**11 55 06.3**	**+0.2**
URZ	**Urewera**	**11.44**	**50**	Pn	**Pn**	**11 55 19.0**	**-0.6**
OUZ	**Omahuta**	**12.39**	**30**	Pn	**Pn**	**11 55 32.2**	**-0.5**
RAO	**Raoul Island**	**21.11**	**42**	LR	LR	12 05 17.2	
	comp=Z,175nm,19.6s,baz=234,slow=36						
VNDA	**Vanda**	**31.46**	**182**	LR	LR	12 08 39.8	
	comp=Z,62nm,18.7s,baz=354,slow=30						
ASAR	**Alice Springs**	**34.24**	**300**	P	**P**	**11 59 22.9**	**+0.5**
	0.3nm,0.5s,baz=132,slow=9.1,SNR=9.1						
ASAR				LR	LR	12 11 55.9	
	comp=Z,70nm,20.4s,baz=106,slow=34						
H01W1	**Cape Leeuwin H**	**40.31**	**267**	T	T	12 42 57.8	
	baz=123,slow=75,SNR=173						
H01W2	**Cape Leeuwin H**	**40.33**	**267**	T	T	12 42 59.8	
	baz=123,slow=75,SNR=135						
H01W3	**Cape Leeuwin H**	**40.33**	**267**	T	T	12 42 58.9	
	baz=123,slow=75,SNR=136						
QSPA	**South Pole Qui**	**43.91**	**180**	P	**P**	**12 00 45.8**	**+2.7**
	1.7nm,1.1s,baz=27,slow=4.5,SNR=2.8						
QSPA	**South Pole Qui**	**43.91**	**180**	P	**P**	**12 00 41.1**	**-2.0**
QSPA				IAmb	IAmb	12 00 55.7	
	comp=Z,2.9nm,1.1s					

JOD2	Odawara 2	12.16	348	P		Pn	12 17 47.7	-1.8
JHU	Hanno	12.70	349	P		Pn	12 17 53.6	-2.9
INU	Inuyama	12.76	341	Pn		Pn	12 17 54.7	-2.6
JRY	Ryogami san	12.93	348	P		Pn	12 17 57.2	-2.4
JOW	Kunigami	13.05	288	Pn		Pn	12 18 00.6	-0.7
JAG	Ashikaga	13.23	350	P		Pn	12 18 00.3	-3.2
JHO	Hitachi	13.28	354	P		Pn	12 18 01.7	-2.5
MJAR	Matsushiro Arr	13.58	346	P		Pn	12 18 06.3	-1.8
	0.1nm,0.3s,baz=145,slow=11,SNR=5.8							
MAJO	Matsushiro	13.58	346	Pn		Pn	12 18 07.8	-0.3
MJB9	Matsu-Tunnel	13.58	346	Pn		Pn	12 18 08.2	+0.1
KSRS	Korea Array	18.63	322	P		P	12 19 09.7	+0.4
	0.1nm,0.3s,baz=133,slow=12,SNR=3.0							
H11N1	WAKE ISLAND Hy	23.27	94	T		T	12 43 53.3	
	baz=279							
H11N2	WAKE ISLAND Hy	23.28	94	T		T	12 44 00.7	
	baz=279,slow=74							
H11N3	WAKE ISLAND Hy	23.29	94	T		T	12 44 00.4	
	baz=279,slow=74							
SONM	Songino Array	37.47	320	P		P	12 22 05.4	+1.8
	0.2nm,0.5s,baz=134,slow=10,SNR=2.7							
WRAB	Tennant Creek	43.70	191	P		P	12 22 53.7	-1.2
WRAB				IAmb		IAmb	12 24 32.5	
	comp=Z,6.8nm,1.4s							
IPM	Ipoh	43.90	251	P		P	12 22 56.0	-0.7
ASAR	Alice Springs	47.43	190	P		P	12 23 23.6	-0.6
	comp=Z,0.2nm,0.8s,baz=16,slow=14,SNR=4.3							
MK31	Makanchi Array	52.89	312	P		P	12 24 05.7	+0.3
MKAR	Makanchi Array	52.89	312	P		P	12 24 06.0	+0.7
	comp=Z,0.5nm,0.6s,baz=87,slow=9.2,SNR=13							
MAKZ	Makanchi	53.10	312	P		P	12 24 05.9	-1.0
MAKZ				IAmb		IAmb	12 24 44.0	
	comp=Z,8.3nm,1.9s							
KK31	Karatay Array	61.30	308	P		P	12 25 06.4	+1.7
KK31				IAmb		IAmb	12 25 07.4	
	comp=Z,1.9nm,0.6s							
KKAR	Karatay Array	61.30	308	P		P	12 25 06.5	+1.8
KKAR				IAmb		IAmb	12 25 07.4	
	comp=Z,1.9nm,0.6s							
ABKAR	Akbulak array	67.71	315	P		P	12 25 47.6	+1.3
ABKAR				IAmb		IAmb	12 25 48.1	
	comp=Z,4.0nm,0.6s							
YKA	Yellowknife Ar	75.43	28	P		P	12 26 32.3	-0.1
	comp=Z,1.0nm,0.5s,baz=293,slow=5.9,SNR=7.8							
ARCES	ARCESS Array B	77.05	341	P		P	12 26 42.0	+0.6
	comp=Z,3.9nm,1.0s,baz=74,slow=9.0,SNR=3.8							
KBZ	Khabaz	80.55	314	P		P	12 27 01.0	0.0
	comp=Z,2.0nm,0.9s,baz=63,slow=6.8,SNR=4.0							
NVAR	Mina Array Bea	82.85	51	P		P	12 27 13.2	-0.3
	comp=Z,0.5nm,0.8s,baz=265,slow=5.9,SNR=3.5							

VAO ***17*** *12:29:54.4±0.3,25°.59S×70°.42W,h10km,mb5.7*

SJA ***17*** *12:29:56.4±0.8,25°.68S×70°.65W,h30km,ML5.1,MW5.4*

ISCJB ***17*** *12:29:57.7±0.5,25°.52S±0°.02×70°.33W±0°.03,h55km±4km, mb5.5/88,MS4.6/23,Error ellipse: s-maj=4.5km s-min=2.8km az=170.4*

MOS ***17*** *12:29:57.9±1.5,25°.60S×70°.40W,h52km,mb5.9/49, MS4.8/4,Error ellipse: s-maj=10.4km s-min=4.7km az=102.5*

NEIC ***17*** *12:30:00.4±2.3,25°.61S±0°.04×70°.46W±0°.07,h65km±2km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=1.36; Mθθ0.04; Mφφ 1.33; Mrθ-0.41; Mθφ0.45; Mφr0.14; Fault plane solution: M0 1.48000×10¹⁷ NP1: φs=180.98000°,δ47.63000°,λ-113.62000°. NP2: φs=33.96000°,δ47.40000°,λ-66.29000°. Principal axes: T 1.4677, Plg0.0000°, Azm287.0000°; N 0.0292, Plg17.0000°, Azm197.0000°; P -1.4968, Plg73.0000°, Azm18.0000°; Moment Tensor Solution. Moment tensor: Scale 10¹⁷ Nm; Mrr-3.03; Mθθ-0.08; Mφφ3.11; Mrθ-0.16; Mθφ0.54; Mφr-0.75; Fault plane solution: M0 3.21000×10¹⁷ NP1:φs9.99000°,δ51.95000°,λ-89.22000°. NP2: φs188.73000°,δ38.06000°,λ-91.00000°. Principal axes: T 3.2906, Plg7.0000°, Azm99.0000°; N -0.1689, Plg1.0000°, Azm190.0000°; P -3.1216, Plg83.0000°, Azm285.0000°;*

GUC ***17*** *12:30:00.8±0.4,25°.51S×70°.52W,h72km±7km,ML5.4, MW5.3*

IDC ***17*** *12:30:01.1±0.3,25°.66S×70°.29W,h66km±3km,mb4.9/26, mb1 5.0/33,mb1mx4.9/41,mbtmp5.2/33,MS4.5/19, Ms1 4.4/19,ms1mx4.3/21,Error ellipse: s-maj=10.2km s-min=7.0km az=90.0*

BJI ***17*** *12:30:02.0±0.0,25°.60S×70°.50W,h62km,mB5.6/30, Ms5.8/16,Ms7 5.5/18*

NEIC ***17*** *12:30:02,25°.61S×70°.92W,h70km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-2.30; Mθθ-0.38; Mφφ2.68; Mrθ-0.25; Mθφ0.64; Mφr-0.53; Fault plane solution: M0 2.66000×10¹⁷ NP1:φs187.00000°, δ39.00000°,λ-97.00000°. NP2:φs16.00000°,δ51.00000°, λ-84.00000°. Principal axes: T 2.8701, Plg6.0000°, Azm102.0000°; N -0.5009, Plg4.0000°, Azm192.0000°; P -2.3692, Plg82.0000°, Azm317.0000°;*

NEIC ***17*** *12:30:04,25°.65S×70°.84W,h72km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-1.79; Mθθ-0.53; Mφφ2.31; Mrθ-0.33; Mθφ0.62; Mφr-0.27; Fault plane solution: M0 2.23000×10¹⁷ NP1:φs179.00000°, δ42.00000°,λ-109.00000°. NP2:φs24.00000°,δ51.00000°, λ-74.00000°. Principal axes: T 2.4675, Plg5.0000°, Azm102.0000°; N -0.5933, Plg12.0000°, Azm193.0000°; P -1.8742, Plg77.0000°, Azm353.0000°;*

GCMT ***17*** *12:30:04.0±0.1,25°.64S±0°.01×70°.83W±0°.01,h74km, MW5.5/127,Moment Tensor Solution. s126,c187; s127,c219; Duration: 1s3 Moment tensor: Scale 10¹⁷ Nm; Mrr-1.73±.02; Mθθ-0.52±.03; Mφφ2.25±.03; Mrθ-0.35±.02; Mθφ0.63±.03; Mφr-0.28±.03; Best double couple: M0 2.12100×10¹⁷ NP1:φs25.00000°,δ51.00000°, λ-73.00000°. NP2:φs178.00000°,δ42.00000°, λ-110.00000°. Principal axes: T 2.4160, Plg5.0000°, Azm103.0000°; N -0.5920, Plg13.0000°, Azm194.0000°; P -1.8260, Plg76.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 12:30:00.0±0.2,25°.59S±0°.03×70°.51W±0°.04,h65km±2km, h65km:pP-P,n1452,s1s40/1553,mb5.7/270,17C-15D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GO02	Mina Guanaco	0.93	63	⇑*i*	P	Pn	12 30 19.0	+1.3
GO02				*i*	S	Sn	12 30 33.2	+2.4
GO02	Mina Guanaco	0.93	63		Pn	Pn	12 30 19.3	+1.6
GO02					Sn	Sn	12 30 32.2	+1.4
PB14	IPOC Station P	0.96	6	⇑*i*	P	Pn	12 30 19.0	+0.9
PB14				*i*	S	Sn	12 30 32.5	+1.0
PB14					IAML		12 30 35.2	
	comp=E,74μm,0.5s							
PB14	IPOC Station P	0.96	6	*i*	P	Pn	12 30 19.1	+0.9
PB14				*i*	S	Sn	12 30 33.3	+1.8
PB14					IAML		12 30 34.4	
	comp=Z,61μm,0.5s							
GO03	Copiap	2.01	173	⇑*i*	P	Pn	12 30 31.2	-0.5
GO03				*i*	S	Sn	12 30 55.0	-1.0
GO03					IAML		12 30 57.7	
	comp=E,30μm,0.2s							
GO03	Copiap	2.01	173			Pn	12 30 31.2	-0.5
GO03					Sn	Sn	12 30 55.8	-0.2
GO03	Copiap	2.01	173	*i*	P	Pn	12 30 31.3	-0.5
PB10	IPOC Station P	2.07	359	*i*	S	Sn	12 30 50.6	-6.6
PB10					IAML		12 31 00.4	
	comp=E,9μm,0.3s							
PB10	IPOC Station P	2.07	359			Pn	12 30 32.5	0.0
PB10					Sn	Sn	12 30 51.3	-5.9
PB10	IPOC Station P	2.07	359	*i*	P	Pn	12 30 32.6	+0.1
PB10					IAML		12 31 19.1	
	comp=Z,7μm,0.7s							
PB15	IPOC Station P	2.55	22	⇓*i*	P	Pn	12 30 40.6	+1.3
PB05	IPOC Station P	2.74	6		IAML		12 31 59.7	
	comp=E,10μm,0.7s							
PB06	IPOC Station P	3.00	17		IAML		12 31 52.0	
	comp=N,12μm,0.3s							
PB04	IPOC Station P	3.26	6	*i*	P	Pn	12 30 48.3	-0.6
PB04					IAML		12 31 54.9	
	comp=E,12μm,0.5s							
PB04	IPOC Station P	3.26	6			Pn	12 30 48.2	-0.6
PB04					Sn	Sn	12 31 25.9	-0.6
LVC	Limon Verde	3.31	27	⇓*i*	P	Pn	12 30 50.8	+1.1
	comp=E,163nm,0.3s,baz=172,slow=7.2,SNR=658							
LVC					S	Sn	12 31 30.0	+2.0
	comp=E,1μm,0.3s,baz=197,slow=15,SNR=5.8							
LVC					LR	LR	12 32 21.0	
	comp=E,18μm,21.6s,baz=208,slow=43							
LVC	Limon Verde	3.31	27			Pn	12 30 50.7	+1.0
LVC						Sn	12 31 28.0	0.0
LVC	Limon Verde	3.31	27	*i*	P	Pn	12 30 51.0	+1.3
LVC					IAML		12 31 54.8	
	comp=Z,10μm,0.5s							
PB03	IPOC Station P	3.59	11	⇓*i*	P	Pn	12 30 52.8	-0.6
PB03					IAML		12 32 08.2	
	comp=E,9μm,0.7s							
VCA	Vinchina	3.75	147	*i*	P	Pn	12 30 58.1	+2.5
VCA	Vinchina	3.75	147	*i*	P	Pn	12 30 58.2	+2.7
VCA					IAML		12 32 05.1	
	comp=Z,8μm,1.3s							
PB07	IPOC Station P	3.89	9		IAML		12 32 27.1	
	comp=E,8μm,0.4s							
PB09	IPOC Station P	3.95	17		IAML		12 32 22.1	
	comp=N,7μm,0.4s							
GO04	Tololo Observa	4.57	183			Pn	12 31 05.2	-1.7
GO04					Sn	Sn	12 31 55.9	-3.0
GO04	Tololo Observa	4.57	183	*i*	P	Pn	12 31 05.3	-1.7
SLA	San Lorenzo	4.62	80	*i*	P	Pn	12 31 10.4	+3.0
SLA					IAML		12 32 33.7	
	comp=Z,949nm,2.4s							
AHML	Horco Molle	4.80	105	⇑*i*	P	Pn	12 31 12.0	+2.2
AHML				*i*	S	Sn	12 31 42.8	-21
AHML	Horco Molle	4.80	105	*i*	P	Pn	12 31 12.6	+2.7
AHML					IAML		12 32 49.6	
	comp=E,851nm,2.6s							
ACLC	CERRO LA CRUZ	4.96	141	*i*	P	Pn	12 31 13.3	+1.2
CYA	Choya	5.07	125	*i*	P	Pn	12 31 14.3	+0.8
CYA					IAML		12 32 53.9	
	comp=Z,1μm,2.7s							
AZAP	Zapla	5.13	76	*i*	P	Pn	12 31 16.8	+2.3
AZAP					IAML		12 32 57.9	
	comp=Z,468nm,1.3s							
HJA	Humahuaca	5.22	64	*i*	P	Pn	12 31 18.9	+3.0
HJA					IAML		12 33 09.0	
	comp=Z,469nm,2.7s							
YJA	Yavi	5.70	54	*i*	P	Pn	12 31 24.9	+2.5
YJA					IAML		12 33 42.9	
	comp=Z,275nm,3.1s							
PB11	IPOC Station P	5.85	8			Pn	12 31 22.3	-2.1
PB11					Sn	Sn	12 32 23.6	-6.6
APLL	PUNTA DE LOS L	5.94	145	*i*	P	Pn	12 31 25.6	+0.1
RTLL	Cerro Villicun	5.99	163	*i*	P	Pn	12 31 26.2	0.0
RTLL					IAML		12 33 14.5	
	comp=Z,1μm,0.5s							
GO01	Chusmiza	6.02	12			Pn	12 31 25.9	-1.0
GO01					Sn	Sn	12 32 31.5	-3.2
RTLS	Leoncito	6.28	171	*i*	P	Pn	12 31 30.4	+0.1
CFA	Coronel Fontan	6.32	162		P	Pn	12 31 30.1	-0.5
	comp=Z,45nm,0.3s,baz=357,slow=14,SNR=178							
CFA					S	Sn	12 32 36.0	-5.4
	comp=Z,71nm,0.3s,baz=335,slow=11,SNR=3.9							
MNMC	Minye Minye	6.48	8			Pn	12 31 31.9	-1.2
MNMC					Sn	Sn	12 32 40.0	-5.9
RTCV	Cerro Valdivia	6.49	165	*i*	P	Pn	12 31 32.7	-0.2
ROC1	El Roble	7.38	183			Pn	12 31 41.7	-3.5
ROC1					Sn	Sn	12 33 04.4	-3.2
PEL	Peldehue	7.53	181		P	Pn	12 31 44.7	-2.5
PEL							12 33 12.8	
PEL	Peldehue	7.53	181		Pn	Pn	12 31 44.7	-2.5
PEL					Sn	Sn	12 33 12.8	+1.7
GO05	Huala	9.47	187			Pn	12 32 08.1	-5.6
GO05					Sn	Sn	12 34 00.2	+1.6
LPAZ	La Paz	9.52	14		P	Pn	12 32 15.6	+0.6
	comp=Z,31nm,0.3s,baz=191,slow=8.1,SNR=491							
LPAZ					LR	LR	12 36 23.1	
	comp=Z,6μm,21.6s,baz=216,slow=40							
LPAZ	La Paz	9.52	14			Pn	12 32 15.3	+0.3
LPAZ					Sn	Sn	12 33 53.0	-7.7
CPUP	Villa Florida	11.88	96	*i*	P	Pn	12 32 43.8	-2.9
	comp=Z,0.5nm,0.3s,baz=276,slow=12,SNR=27							
CPUP					LR	LR	12 37 45.3	
	comp=Z,9μm,21.1s,baz=290,slow=40							
CPUP	Villa Florida	11.88	96	*e*P		Pn	12 32 43.8	-2.9
CPUP	Villa Florida	11.88	96	*e*P		Pn	12 32 43.8	-2.9
CPUP	Villa Florida	11.88	96			Pn	12 32 43.8	-2.9
CPUP					Sn	Sn	12 34 57.8	+0.2
ITQB	Itaqui	12.96	111	*e*P		Pn	12 32 59.3	-2.0
ITQB	Itaqui	12.96	111	*e*P		Pn	12 32 59.3	-2.0
SIV	San Ignacio	12.99	45	P		Pn	12 32 57.9	-4.0
	comp=Z,21nm,0.3s,baz=237,slow=11,SNR=280							
SIV					S	Sn	12 35 14.6	-10
	comp=Z,2.9nm,0.3s,baz=156,slow=20,SNR=2.7							
GO06	Curarrehue	13.98	183			Pn	12 33 13.4	-1.6
GO06					Sn	Sn	12 35 51.4	+2.7
LPA	La Plata	14.29	134	*e*P		Pn	12 33 19.8	+0.9
LPA				S		Sn	12 35 54.5	-1.4
LPA				PCP		PcP	12 38 29.0	-3.1
LPA				SCS		ScS	12 45 36.4	-1.3
LPA				PKIKP		PKiKP	12 46 27.1	-0.8
LPA				SKIKS			12 53 23.3	
TRQA	Tornquist	14.38	152	P		Pn	12 33 16.8	-3.4
TRQA	Tornquist	14.38	152	*e*P		Pn	12 33 16.9	-3.4
TRQA	Tornquist	14.38	152	*e*P		Pn	12 33 16.9	-3.4
TRQA	Tornquist	14.38	152			Pn	12 33 16.9	-3.4
AQDB	Aquidauana	14.55	73	*e*P		Pn	12 33 19.1	-3.4
AQDB	Aquidauana	14.55	73	*e*P		Pn	12 33 19.1	-3.4
NNA	Nana	14.79	335	⇑*e*P		Pn	12 33 27.8	+2.1
NNA	Nana	14.79	335	P		P	12 33 28.1	-2.0
	comp=Z,2.2nm,0.3s,baz=170,slow=11,SNR=7.3							
NNA					S	Sn	12 36 01.5	-7.1
	comp=Z,3.1nm,0.3s,baz=180,slow=14,SNR=3.9							
NNA					LR	LR	12 38 30.7	
	comp=Z,943nm,20.6s,baz=164,slow=34							
NNA	Nana	14.79	335		Pn	Pn	12 33 24.4	-1.3
NNA						Sn	12 36 04.5	-4.1
PLCA	Paso Flores	15.10	180	P		Pn	12 33 28.1	-1.5
	comp=Z,0.6nm,0.3s,baz=26,slow=14,SNR=25							
PLCA					PcP	PcP	12 38 34.5	+1.3
	comp=Z,1.3nm,0.3s,baz=191,slow=3.5,SNR=4.8							
PLCA					LR	LR	12 39 05.8	
	comp=Z,3μm,20.4s,baz=14,slow=36							
PLCA	Paso Flores	15.10	180	*e*P		Pn	12 33 28.1	-1.5
PLCA	Paso Flores	15.10	180	*e*P		Pn	12 33 28.1	-1.5
PLCA	Paso Flores	15.10	180			Pn	12 33 28.1	-1.5
PLTB	Pedras Altas	16.05	116	*e*P		Pn	12 33 38.5	-3.2
PLTB	Pedras Altas	16.05	116	*e*P		Pn	12 33 38.5	-3.2
TRCB	Terra Rica	16.55	84	*e*P		Pn	12 33 46.6	-1.3
TRCB	Terra Rica	16.55	84	*e*P		Pn	12 33 46.6	-1.3
ITAB	Concordia	16.55	100	*e*P		Pn	12 33 45.9	-2.0
ITAB	Concordia	16.55	100	*e*P		Pn	12 33 45.9	-2.0
PP1B	Ponte de Pedra	16.56	64	*e*P		Pn	12 33 45.4	-2.7
PP1B	Ponte de Pedra	16.56	64	*e*P		Pn	12 33 45.4	-2.7
PTGB	Pitanga	16.73	91	*e*P		Pn	12 33 48.7	-1.6
PTGB	Pitanga	16.73	91	*e*P		Pn	12 33 48.7	-1.6
CNLB	Canela	17.84	106	*e*P		P	12 34 01.2	-2.6
CNLB	Canela	17.84	106	*e*P		P	12 34 01.2	-2.6
SAML	Samuel	17.96	24	P		P	12 34 03.3	-1.8
SAML					pmax	pmax		
	comp=Z,102nm,0.9s							
SAML	Samuel	17.96	24	*e*P		P	12 34 03.0	-2.0
SAML	Samuel	17.96	24	*e*P		P	12 34 03.0	-2.0
SAML	Samuel	17.96	24	P		P	12 34 03.3	-1.8
PCMB	Pacaembu	18.08	81	*e*P		P	12 34 05.1	-1.3
PCMB	Pacaembu	18.08	81	*e*P		P	12 34 05.1	-1.3
FRTB	Fartura	19.20	88	*e*P		P	12 34 18.4	-0.3
FRTB	Fartura	19.20	88	*e*P		P	12 34 18.4	-0.3
ITRB	Iturama	19.49	77	*e*P		P	12 34 21.8	-0.2
ITRB	Iturama	19.49	77	*e*P		P	12 34 21.8	-0.2
ATAH	Atahualpa	19.84	336	P		Pn	12 34 28.9	+0.8
	comp=Z,1.4nm,0.3s,baz=154,slow=8.0,SNR=29							
ATAH					S	Sn	12 38 11.4	+0.5
	comp=Z,0.2nm,0.3s,baz=111,slow=15,SNR=1.6							
ARAG	Araguaiana, MT	20.05	64	*e*P		P	12 34 27.5	-0.4
ARAG	Araguaiana, MT	20.05	64	*e*P		P	12 34 27.5	-0.4
CLDB	Colider	20.20	46	*e*P		P	12 34 28.9	-0.7
CLDB	Colider	20.20	46	*e*P		P	12 34 28.9	-0.7
BB19B	Bebedouro	20.68	82	*e*P		P	12 34 33.0	-1.8
BB19B	Bebedouro	20.68	82	*e*P		P	12 34 33.0	-1.8
SPB	Sao Paulo	21.08	89	*e*P		P	12 34 38.0	-1.1
SPB	Sao Paulo	21.08	89	*e*P		P	12 34 38.0	-1.1
SPB	Sao Paulo	21.08	89	P		P	12 34 39.2	+0.2
RCLB	Rio Claro- Sao	21.22	86	*e*P		P	12 34 39.2	-1.5
RCLB	Rio Claro- Sao	21.22	86	*e*P		P	12 34 39.2	-1.5
VAO	Valinhos	21.61	88	*e*P		P	12 34 43.4	-1.5
VAO	Valinhos	21.61	88	*e*P		P	12 34 43.4	-1.5
IPMB	Ipameri, GO	22.02	74	*e*P		P	12 34 47.6	-1.7
IPMB	Ipameri, GO	22.02	74	*e*P		P	12 34 47.6	-1.7
BDFB	Brasilia	23.23	69	P		P	12 35 00.5	-1.4
	comp=Z,237nm,0.7s,baz=240,slow=11,SNR=204							
BDFB					S	S	12 39 06.9	-2.2
	comp=Z,10nm,0.9s,baz=198,slow=20,SNR=2.1							
BDFB					LR	LR	12 45 13.2	
	comp=Z,2μm,20.7s,baz=262,slow=40							
BDFB	Brasilia	23.23	69	P		P	12 35 00.6	-1.4
BDFB					IAmb	IAmb	12 35 02.3	
	comp=Z,439nm,1.1s							
PMNB	Patos De Minas	23.36	77	*e*P		P	12 35 00.9	-2.2
PMNB	Patos De Minas	23.36	77	*e*P		P	12 35 00.9	-2.2
ESAR	Angra dos Reis	23.88	89	*e*P		P	12 35 06.9	-0.8
ESAR	Angra dos Reis	23.88	89	*e*P		P	12 35 06.9	-0.8
OTAV	Otavalo	26.80	342	P		P	12 35 36.8	+2.1
OTAV					pmax	pmax		
	comp=Z,102nm,1.3s							
OTAV	Otavalo	26.80	342	P		P	12 35 36.8	+2.1
FLOC	Florencia	27.47	349	*e*P		P	12 35 42.2	+2.0
FLOC	Florencia	27.47	349	*e*P		P	12 35 42.2	+2.0
GO10	Punta Arenas	27.53	181	P		P	12 35 39.4	-1.0
GO10					IAmb	IAmb	12 36 27.5	
	comp=Z,129nm,0.9s							
EFI	East Falkland	27.72	163	⇑*e*P		P	12 35 42.2	+0.1
EFI					pmax	pmax		
	comp=Z,112nm,2.0s							
EFI	East Falkland	27.72	163	P		P	12 35 41.5	-0.6
SJMB	Sao Joao De Ma	27.97	82	*e*P		P	12 35 44.7	0.0
SJMB	Sao Joao De Ma	27.97	82	*e*P		P	12 35 44.7	0.0
BBAC	Balboa, Cauca	28.21	346	*e*P		P	12 35 49.5	+2.4
BBAC	Balboa, Cauca	28.21	346	*e*P		P	12 35 49.5	+2.4
BSFB	Barra de Sao F	28.23	82	*e*P		P	12 35 46.2	-0.8
BSFB	Barra de Sao F	28.23	82	*e*P		P	12 35 46.2	-0.8
USHA	Ushuaia	29.25	178	P		P	12 35 55.6	0.0
	comp=Z,13nm,0.4s,baz=360,slow=7.1,SNR=26							
USHA					PcP	PcP	12 39 02.1	+1.0
	comp=Z,9.8nm,0.6s,baz=322,slow=5.0,SNR=4.8							
USHA					LR	LR	12 48 16.5	
	comp=Z,2μm,19.2s,baz=357,slow=38							
ORTC	Ortega, Tolima	29.68	350	*e*P		P	12 36 02.7	+2.8
ORTC	Ortega, Tolima	29.68	350	*e*P		P	12 36 02.7	+2.8
VILC	Villavicencio,	29.68	354	*e*P		P	12 36 02.0	+2.0
VILC	Villavicencio,	29.68	354	*e*P		P	12 36 02.0	+2.0
CHIC	Chingaza	30.20	354	*e*P		P	12 36 06.3	+1.4
CHIC	Chingaza	30.20	354	*e*P		P	12 36 06.3	+1.4
ROSC	El Rosal	30.47	352	P		P	12 36 09.3	+2.0
	comp=Z,32nm,0.6s,baz=146,slow=4.9,SNR=11							
ROSC					LR	LR	12 48 45.4	
	comp=Z,2μm,19.0s,baz=201,slow=37							
ROSC	El Rosal	30.47	352	P		P	12 36 05.4	-1.9
PLMC	San Jos del P	30.83	349	*e*P		P	12 36 12.4	+2.4
PLMC	San Jos del P	30.83	349	*e*P		P	12 36 12.4	+2.4
GUY2C	Guyana, Caldas	30.99	351	*e*P		P	12 36 14.0	+2.1
GUY2C				*e*P		P	12 36 14.5	+2.6
GUY2C	Guyana, Caldas	30.99	351	*e*P		P	12 36 14.0	+2.1
GUY2C				*e*P		P	12 36 14.5	+2.6
NORC	Norcasia	31.25	352	*e*P		P	12 36 15.2	+1.4
NORC	Norcasia	31.25	352	*e*P		P	12 36 15.2	+1.4
RUSC	La Rusia	31.39	355	*e*P		P	12 36 16.8	+1.3
RUSC	La Rusia	31.39	355	*e*P		P	12 36 16.8	+1.3
CBOC	Ciudad Bolivar	31.72	350	*e*P		P	12 36 19.9	+2.0
CBOC	Ciudad Bolivar	31.72	350	*e*P		P	12 36 19.9	+2.0
TAMC	Tame, Arauca	31.86	358	*e*P		P	12 36 19.7	+0.7
TAMC	Tame, Arauca	31.86	358	*e*P		P	12 36 19.7	+0.7
HELC	Santa Helena	31.96	351	*e*P		P	12 36 21.3	+1.0
HELC	Santa Helena	31.96	351	*e*P		P	12 36 21.3	+1.0
BARC	Barichara	32.09	355	*e*P		P	12 36 21.3	0.0
BARC	Barichara	32.09	355	*e*P		P	12 36 21.3	0.0
PTBC	PUERTO BERRIO,	32.16	353	*e*P		P	12 36 20.6	-1.1
PTBC	PUERTO BERRIO,	32.16	353	*e*P		P	12 36 20.6	-1.1
UREC	San Jos de Ur	33.50	351	*e*P		P	12 36 33.8	+0.4
UREC	San Jos de Ur	33.50	351	*e*P		P	12 36 33.8	+0.4
SDV	Santo Domingo	34.27	360	*e*P		P	12 36 40.6	+0.4
SDV	Santo Domingo	34.27	360	*e*P		P	12 36 40.6	+0.4
SDV	Santo Domingo	34.27	360	P		P	12 36 37.6	-2.6
SMLC	San Martn de	34.36	354	*e*P		P	12 36 39.5	-1.3
SMLC	San Martn de	34.36	354	*e*P		P	12 36 39.5	-1.3
ARGC	Ariguani, Magd	35.42	354	*e*P		P	12 36 50.9	+0.9
ARGC	Ariguani, Magd	35.42	354	*e*P		P	12 36 50.9	+0.9
SJCC	San Jacinto, C	35.56	352	*e*P		P	12 36

SDD	Santo Domingo	43.78	1	P	P	12 37 57.4	-2.0		
AOPR	Arecibo Observ	43.82	5	P	P	12 37 56.2	-3.5		
AOPR				lAmb	lAmb	12 38 00.6			
	comp=Z,231nm,1.4s								
ANWB	Willy Bob	43.83	12	P	P	12 37 58.0	-1.8		
CBYP	Canovanas	43.83	6	P	P	12 37 58.9	-1.0		
GCPR	Guaynabo City	43.85	6	P	P	12 37 59.4	-0.5		
CUPR	Culebra, Puert	43.93	7	P	P	12 37 57.6	-2.9		
EMPR	Esperanza - Ma	43.97	5	P	P	12 37 58.5	-2.3		
EMPR				lAmb	lAmb	12 39 24.5			
	comp=Z,136nm,0.8s								
SMRT	St. Maarten	43.98	10	P	P	12 37 57.7	-3.2		
SMRT				lAmb	lAmb	12 37 59.8			
	comp=Z,136nm,1.1s								
STVI	Saint Thomas	44.01	8	P	P	12 38 00.3	-0.9		
DR12	Loma Pena Alta	44.12	2	P	P	12 37 59.0	-3.2		
SC01	Santiago de lo	44.75	360	P	P	12 38 08.4	+1.3		
SC01				lAmb	lAmb	12 38 09.2			
	comp=Z,164nm,1.1s								
GTBY	Guantanamo Bay	45.46	354	P	P	12 38 14.1	+1.3		
TEIG	Tepich	48.70	338	P	P	12 38 39.2	+1.2		
TLIG	Tlapa	50.85	325	P	P	12 38 52.3	-2.2		
TLIG				lAmb	lAmb	12 38 58.5			
	comp=Z,84nm,1.3s								
061Z	Ochoppi	52.13	348	P	P	12 39 04.5	+0.7		
	baz=168								
060A	Indiantown	53.17	349	P	P	12 39 12.1	+0.7		
	baz=169								
MOIG	Morelia	53.98	324	P	P	12 39 18.5	+0.7		
MOIG				lAmb	lAmb	12 39 21.9			
	comp=Z,68nm,1.0s								
DWPF	Disney Wildern	54.41	348	P	P	12 39 20.9	+0.4		
	baz=168								
DWPF	Disney Wildern	54.41	348	P	P	12 39 19.8	-0.7		
656A	Willston	55.85	347	P	P	12 39 31.3	+0.5		
	baz=167,SNR=7.6								
656A	Willston	55.85	347	P	P	12 39 32.4	+1.5		
VNA3	Neumayer Olymp	56.72	160	P	P	12 39 36.1	-0.5		
VNA3	Neumayer Olymp	56.72	160	pP	pP	12 39 53.4	-0.4		
VNA3	Neumayer Olymp	56.72	160	sP	sP	12 40 01.9	+0.6		
VNA1	Neumayer--Stat	56.97	159	P	P	12 39 38.2	0.0		
VNA1	Neumayer--Stat	56.97	159	pP	pP	12 39 54.7	-0.8		
VNA1	Neumayer--Stat	56.97	159	sP	sP	12 40 04.0	+1.0		
456A	Hilliard	57.07	348	P	P	12 39 39.4	-0.1		
	baz=168								
456A	Hilliard	57.07	348	P	P	12 39 41.5	+2.0		
ZAIG	Zacatecas	57.24	324	P	P	12 39 42.7	+1.5		
ZAIG				lAmb	lAmb	12 39 45.8			
	comp=Z,83nm,1.3s								
VNA2	Neumayer--Watz	57.32	160	P	P	12 39 40.4	-0.5		
	baz=288,slow=8.4								
VNA2	Neumayer--Watz	57.32	160	pP	pP	12 39 57.1	-1.0		
	baz=296,slow=6.7								
VNA2	Neumayer--Watz	57.32	160	sP	sP	12 40 06.4	+0.8		
	baz=290,slow=8.9								
453A	Whigham	57.66	346	P	P	12 39 44.0	+0.4		
	baz=165,SNR=10.0								
BBSR	BB Station	57.90	6	P	P	12 39 46.5	+1.2		
TIGA	Tifton	58.07	347	P	P	12 39 46.5	0.0		
	baz=166,SNR=8.9								
TIGA	Tifton	58.07	347	P	P	12 39 46.2	-0.3		
353A	Camilla	58.11	346	P	P	12 39 46.4	-0.4		
	baz=166,SNR=19								
257A	Skidaway Islan	58.12	349	P	P	12 39 46.7	-0.1		
	baz=169								
256A	Glennville	58.27	349	P	P	12 39 47.9	+0.1		
	baz=168,SNR=5.6								
255A	Hazlehurst	58.32	348	P	P	12 39 48.1	-0.1		
	baz=167								
255A	Hazlehurst	58.32	348	P	P	12 39 48.7	+0.4		
255A					pP	12 40 06.6	+1.3		
255A				sP	sP	12 40 12.6	+0.1		
352A	Blakely	58.40	346	P	P	12 39 48.8	0.0		
	baz=165,SNR=23								
352A	Blakely	58.40	346	P	P	12 39 46.8	-2.0		
352A				pP	pP	12 40 06.8	+1.2		
352A				sP	sP	12 40 13.5	+0.7		
254A	Abbeville	58.50	347	P	P	12 39 49.4	-0.1		
	baz=166,SNR=18								
BRAL	Brewton	58.61	343	P	P	12 39 50.3	0.0		
	baz=163,SNR=7.9								
BRAL	Brewton	58.61	343	P	P	12 39 48.9	-1.4		
BRAL					pP	12 40 08.5	+1.3		
BRAL				sP	sP	12 40 15.6	+1.2		
158A	Hollywood	58.73	350	P	P	12 39 51.6	+0.5		
	baz=170								
253A	Americus	58.78	346	P	P	12 39 51.2	-0.3		
	baz=166,SNR=9.6								
253A	Americus	58.78	346	P	P	12 39 52.3	+0.8		
253A				pP	pP	12 40 09.5	+1.2		
253A				sP	sP	12 40 15.9	+0.4		
157A	Early Branch	58.80	350	P	P	12 39 52.2	+0.7		
	baz=169								
252A	Lumpkin	58.85	346	P	P	12 39 50.9	-1.0		
	baz=165,SNR=21								
156A	Sylvania	58.86	349	P	P	12 39 52.7	+0.8		
	baz=168,SNR=7.8								
RGRS	Roger Stewart	58.90	350	P	P	12 39 52.0	-0.2		
SNAA	Sanae	58.93	160	P	P	12 39 51.8	-0.4		
SNAA	Sanae	58.93	160	*d* iP	P	12 39 51.2	-1.0		
SNAA	Sanae	58.93	160	P	P	12 39 51.5	-0.7		
SNAA				lAmb	lAmb	12 39 53.3			
	comp=Z,34nm,0.6s								
SNAA				pP	pP	12 40 08.8	-0.7		
CSU	Charleston Sou	58.96	351	P	P	12 39 51.1	-1.6		
CSU				pP	pP	12 40 11.8	+2.2		
CSU				sP	sP	12 40 19.0	+2.1		
155A	Kite	59.00	348	P	P	12 39 53.3	+0.4		
	baz=167,SNR=12								
H06S1	SOCORRO T	59.06	314	T	T	13 43 45.1			
	SNR=15								
H06E1	SOCORRO T-PHAS	59.07	314	T	T	13 43 46.5			
	SNR=77								
NHSC	New Hope	59.09	351	P	P	12 39 54.7	+1.1		
	baz=170,SNR=6.4								
NHSC	New Hope	59.09	351	P	P	12 39 53.7	+0.2		
Z59A	Georgetown, SC	59.10	351	P	P	12 39 54.3	+0.7		
	baz=171								
154A	Montrose	59.11	348	P	P	12 39 53.9	+0.2		
	baz=167,SNR=13								
154A	Montrose	59.11	348	P	P	12 39 53.4	-0.3		
154A				pP	pP	12 40 11.1	+0.4		
154A				sP	sP	12 40 18.7	+0.7		
Z58A	St. Stephen	59.26	351	P	P	12 39 55.2	+0.5		
	baz=170,SNR=9.0								
153A	Fort Valley	59.29	347	P	P	12 39 55.1	+0.1		
	baz=166								
Z57A	Bowman	59.36	350	P	P	12 39 55.7	+0.3		
	baz=169,SNR=12								
Z56A	Williston	59.49	349	P	P	12 39 56.6	+0.3		
	baz=169								
Z56A	Williston	59.49	349	P	P	12 39 57.0	+0.7		
Z56A				pP	pP	12 40 12.8	-0.6		
Z56A				sP	sP	12 40 21.1	+0.5		
152A	Waverly Hall	59.49	346	P	P	12 39 56.1	-0.3		
	baz=165,SNR=26								
152A	Waverly Hall	59.49	346	P	P	12 39 55.8	-0.6		
152A				pP	pP	12 40 13.2	-0.1		
152A				sP	sP	12 40 20.7	+0.2		
Z55A	Blythe	59.52	349	P	P	12 39 57.0	+0.4		
	baz=168								
Z54A	Sparta	59.66	348	P	P	12 39 57.1	-0.4		
	baz=167,SNR=19								
Y60A	Bolivia	59.72	353	P	P	12 39 58.0	+0.2		
	baz=172,SNR=9.6								
Y60A	Bolivia	59.72	353	P	P	12 39 59.4	+1.6		
Y59A	Loris	59.78	352	P	P	12 39 58.8	+0.5		
	baz=171								
Y58A	Scranton	59.80	351	P	P	12 39 59.1	+0.7		
	baz=170,SNR=8.2								
Z53A	Monticello	59.85	347	P	P	12 39 58.7	0.0		
	baz=166,SNR=17								
Z52A	Williamson	59.93	347	P	P	12 39 59.3	-0.1		
	baz=166,SNR=32								
Y56A	Pelion	59.94	350	P	P	12 39 59.5	+0.1		
	baz=169								
GOGA	Godfrey	59.95	347	P	P	12 39 59.2	-0.3		
	baz=166,SNR=18								
GOGA	Godfrey	59.95	347	P	P	12 39 59.6	+0.1		
GOGA				pmax	pmax				
	comp=Z,57nm,1.1s								
GOGA	Godfrey	59.95	347	P	P	12 39 59.6	+0.1		
GOGA				lAmb	lAmb	12 40 01.0			
	comp=Z,57nm,1.1s								
Y57A	Sumter	60.02	351	P	P	12 40 00.3	+0.4		
	baz=170								
Y57A	Sumter	60.02	351	P	P	12 40 00.1	+0.1		
Y55A	Saluda	60.17	349	P	P	12 40 01.4	+0.4		
	baz=168,SNR=23								
Y54A	Tignall	60.25	348	P	P	12 40 01.5	0.0		
	baz=167,SNR=22								
X60A	Albert Glenn T	60.26	353	P	P	12 40 02.6	+1.1		
	baz=172								
X59A	McDuffie Farm,	60.32	352	P	P	12 40 02.6	+0.6		
	baz=172								
HKT	Hockley	60.33	335	P	P	12 40 03.2	+1.2		
HKT				pmax	pmax				
	comp=Z,96nm,1.3s								
HKT	Hockley	60.33	335	P	P	12 40 03.2	+1.2		
HKT				lAmb	lAmb	12 40 05.2			
	comp=Z,96nm,1.2s								
Z50A	Ashland	60.33	345	P	P	12 40 02.1	0.0		
	baz=164,SNR=61								
Z50A	Ashland	60.33	345	P	P	12 40 00.8	-1.3		
833A	Chaparral WMA,	60.37	331	P	P	12 40 03.9	+1.4		
	baz=150,SNR=26								
833A	Chaparral WMA,	60.37	331	P	P	12 40 00.7	-1.8		
LRAL	Lakeview Retre	60.38	344	P	P	12 40 02.3	-0.1		
	baz=163,SNR=15								
LRAL	Lakeview Retre	60.38	344	P	P	12 40 02.2	-0.2		
LRAL				lAmb	lAmb	12 40 03.9			
	comp=Z,83nm,1.2s								
X58A	Rowland	60.40	352	P	P	12 40 03.3	+0.8		
	baz=171,SNR=13								
X58A	Rowland	60.40	352	P	P	12 40 02.9	+0.4		
Y53A	Monroe	60.41	347	P	P	12 40 02.5	-0.2		
	baz=166,SNR=17								
JSC	Jenkinsville	60.41	350	P	P	12 40 02.2	-0.4		
JSC				pmax	pmax				
	comp=Z,37nm,1.0s								
JSC	Jenkinsville	60.41	350	P	P	12 40 02.2	-0.4		
X57A	Johnson Farm,	60.41	351	P	P	12 40 03.1	+0.5		
	baz=170								
Y52A	Lilburn	60.51	347	P	P	12 40 03.3	-0.1		
	baz=166,SNR=17								
Y52A	Lilburn	60.51	347	P	P	12 40 02.4	-1.0		
Y52A				lAmb	lAmb	12 40 04.9			
	comp=Z,74nm,0.9s								
HODGE	Hodges	60.53	349	P	P	12 40 03.4	0.0		
HODGE				lAmb	lAmb	12 40 05.3			
	comp=Z,48nm,1.0s								
VBMS	Vicksburg	60.57	341	P	P	12 40 04.6	+0.9		
	baz=159,SNR=5.3								
VBMS	Vicksburg	60.57	341	P	P	12 40 03.5	-0.3		
X56A	White Oak	60.58	350	P	P	12 40 03.6	-0.1		
	baz=169,SNR=20								
BIRD	Birdtown, Kers	60.64	351	P	P	12 40 05.3	+1.1		
X55A	Gracelyn & Ava	60.66	349	P	P	12 40 04.4	+0.1		
	baz=168,SNR=20								
W60A	Pink Hill	60.70	353	P	P	12 40 05.1	+0.6		
	baz=173								
W61A	Ground Anchor	60.75	354	P	P	12 40 05.7	+0.9		
	baz=173,SNR=5.5								
Y51A	Rockmart	60.76	346	P	P	12 40 03.8	-1.2		
	baz=165,SNR=42								
W58A	Raeford	60.84	352	P	P	12 40 06.5	+0.9		
	baz=171,SNR=25								
X54A	Belton	60.86	349	P	P	12 40 05.5	-0.1		
	baz=168,SNR=20								
W59A	Clinton	60.89	353	P	P	12 40 06.9	+1.0		
	baz=172								
CNNC	Cliffs of the	60.90	353	P	P	12 40 06.3	+0.4		
	baz=172								
CNNC	Cliffs of the	60.90	353	P	P	12 40 07.3	+1.4		
X53A	Estanollee	60.98	348	P	P	12 40 06.6	+0.1		
	baz=167,SNR=20								
PAULI	Pauline	61.03	349	P	P	12 40 07.8	+1.0		
PAULI				lAmb	lAmb	12 40 08.9			
	comp=Z,90nm,1.1s								
V62A	Hyde County Ai	61.04	355	P	P	12 40 07.2	+0.4		
	baz=174								
W57A	Gilead	61.08	351	P	P	12 40 07.7	+0.6		
	baz=170,SNR=21								
W57A	Gilead	61.08	351	P	P	12 40 07.0	-0.1		
W57A				lAmb	lAmb	12 40 09.2			
	comp=Z,81nm,1.0s								
W56A	Indian Trail	61.14	351	P	P	12 40 07.8	+0.2		
	baz=170,SNR=16								
X52A	Dahlonega	61.19	347	P	P	12 40 07.9	-0.1		
	baz=166,SNR=28								
KMSC	Kings Mountain	61.26	350	P	P	12 40 08.7	+0.3		
	baz=169,SNR=15								
KMSC	Kings Mountain	61.26	350	P	P	12 40 09.3	+0.9		
KMSC				lAmb	lAmb	12 40 10.5			
	comp=Z,82nm,1.1s								
V61A	Roper	61.32	354	P	P	12 40 09.5	+0.8		
	baz=174								
V61A	Roper	61.32	354	P	P	12 40 08.5	-0.2		
W54A	Cherokee Point	61.35	349	P	P	12 40 09.4	+0.4		
	baz=168,SNR=22								
X51A	Calhoun	61.35	347	P	P	12 40 09.3	+0.3		
	baz=165,SNR=14								
V60A	Jim Taylor Roa	61.35	354	P	P	12 40 09.7	+0.7		
	baz=173								
V60A	Jim Taylor Roa	61.35	354	P	P	12 40 09.6	+0.6		
V60A				lAmb	lAmb	12 40 11.7			
	comp=Z,82nm,1.1s								
BG3	Lake Jocassee	61.39	348	P	P	12 40 09.3	0.0		
V59A	Middlesex	61.46	353	P	P	12 40 10.1	+0.4		
	baz=172,SNR=26								
FPAL	Fort Paine	61.49	346	P	P	12 40 09.0	-1.0		
FPAL				lAmb	lAmb	12 40 11.5			
	comp=Z,84nm,1.3s								
NATX	Nacogdoches	61.52	337	P	P	12 40 11.3	+1.2		
	baz=155,SNR=6.6								
NATX	Nacogdoches	61.52	337	P	P	12 40 10.9	+0.8		
V58A	Windy Hill, Pi	61.59	352	P	P	12 40 10.6	0.0		
	baz=171,SNR=18								
V58A	Windy Hill, Pi	61.59	352	P	P	12 40 11.2	+0.6		
V58A				lAmb	lAmb	12 40 12.7			
	comp=Z,76nm,1.0s								
W53A	Cullowhee	61.60	348	P	P	12 40 10.8	-0.1		
	baz=167,SNR=26								
W52A	Murphy	61.68	348	P	P	12 40 11.6	+0.4		
	baz=166,SNR=6.4								
W52A	Murphy	61.68	348	P	P	12 40 11.1	-0.2		
435B	Jarrell	61.75	334	P	P	12 40 12.8	+1.0		
	baz=152								
435B	Jarrell	61.75	334	P	P	12 40 12.6	+0.8		
435B				lAmb	lAmb	12 40 14.6			
	comp=Z,62nm,0.9s								
V57A	Coltrane Farms	61.77	351	P	P	12 40 12.0	+0.2		
	baz=170,SNR=14								
V56A	Mocksville	61.79	351	P	P	12 40 12.4	+0.5		
	baz=170,SNR=22								
U61A	Possum Corner	61.84	355	P	P	12 40 13.0	+0.8		
	baz=174								
U61A	Possum Corner	61.84	355	P	P	12 40 12.8	+0.6		
W51A	Cleveland	61.91	347	P	P	12 40 12.8	+0.1		
	baz=166,SNR=34								
V55A	Taylorsville	61.94	350	P	P	12 40 13.5	+0.6		
	baz=169,SNR=27								
V55A	Taylorsville	61.94	350	P	P	12 40 13.2	+0.3		
V54A	Nebo	61.98	349	P	P	12 40 13.7	+0.4		
	baz=168,SNR=28								
U59A	Littleton	61.99	353	P	P	12 40 14.1	+0.8		
	baz=173,SNR=21								
U59A	Littleton	61.99	353	P	P	12 40 13.0	-0.2		
V53A	Saluda	62.03	349	P	P	12 40 13.8	+0.2		
	baz=168,SNR=17								
V53A	Saluda	62.03	349	P	P	12 40 13.1	-0.5		
V53A				lAmb	lAmb	12 40 15.4			
	comp=Z,49nm,0.9s								
U60A	Pendleton	62.05	354	P	P	12 40 14.3	+0.7		
	baz=173								
W50A	Signal Mountai	62.06	346	P	P	12 40 13.9	+0.1		
	baz=165,SNR=36								
W50A	Signal Mountai	62.06	346	P	P	12 40 13.6	-0.2		
U58A	Oxford	62.12	353	P	P	12 40 14.6	+0.5		
	baz=172,SNR=16								
CPCT	Cooper Cave	62.14	347	P	P	12 40 14.0	-0.3		
TKL	Tuckaleechee C	62.19	348	P	P	12 40 14.9	+0.3		
TKL				pmax	pmax				
	comp=Z,85nm,1.0s								
TKL	Tuckaleechee C	62.19	348	P	P	12 40 14.9	+0.3		
TKL				lAmb	lAmb	12 40 16.2			
	comp=Z,85nm,1.0s								
W49A	Belvidere	62.20	345	P	P	12 40 14.2	-0.4		
	baz=164,SNR=25								
SWET	Sewanee	62.21	346	P	P	12 40 14.5	-0.3		
U57A	Blanch	62.25	352	P	P	12 40 15.6	+0.6		
	baz=171,SNR=17								
Z41A	Richland Creek	62.25	339	P	P	12 40 15.6	+0.6		
	baz=157,SNR=7.7								
Z41A	Richland Creek	62.25	339	P	P	12 40 16.3	+1.2		
U56A	King	62.30	351	P	P	12 40 16.4	+1.0		
	baz=170,SNR=8.6								
U56A	King	62.30	351	P	P	12 40 15.8	+0.4		
U56A				lAmb	lAmb	12 40 17.9			
	comp=Z,71nm,0.9s								
V52A	Sevierville	62.34	348	P	P	12 40 15.2	-0.4		
	baz=167,SNR=30								
V52A	Sevierville	62.34	348	P	P	12 40 15.6	0.0		
OXF	Oxford	62.40	342	P	P	12 40 15.7	-0.3		
	baz=161,SNR=30								
OXF	Oxford	62.40	342	P	P	12 40 13.9	-2.2		
OXF				pmax	pmax				
	comp=Z,186nm,1.0s								
OXF	Oxford	62.40	342	P	P	12 40 13.9	-2.2		
JCT	Junction City	62.41	332	P	P	12 40 17.6	+1.2		
	baz=150,SNR=54								
JCT	Junction City	62.41	332	P	P	12 40 17.5	+1.2		
JCT				pmax	pmax				
	comp=Z,121nm,0.8s								
JCT	Junction City	62.41	332	P	P	12 40 17.5	+1.2		
V51A	Loudon	62.45	347	P	P	12 40 16.3	0.0		
	baz=166,SNR=13								
V51A	Loudon	62.45	347	P	P	12 40 17.2	+0.9		
V51A				lAmb	lAmb	12 40 17.9			
	comp=Z,47nm,0.8s								
V50A	Pikevile	62.47	347	P	P	12 40 16.7	+0.2		
	baz=165,SNR=66								
PLAL	Pickwick Lake	62.50	344	P	P	12 40 16.8	+0.1		
PLAL				lAmb	lAmb	12 40 17.9			
	comp=Z,90nm,1.1s								
U55A	TA2, Sparta	62.55	350	P	P	12 40 17.5	+0.4		
	baz=169,SNR=9.9								
T59A	Double "B" Far	62.58	354	P	P	12 40 17.9	+0.8		
	baz=173,SNR=17								
T59A	Double "B" Far	62.58	354	P	P	12 40 17.9	+0.8		
T59A				lAmb	lAmb	12 40 19.7			
	comp=Z,100nm,1.1s								
T58A	Grand View Acr	62.66	353	P	P	12 40 18.3	+0.6		
	baz=172,SNR=33								
U53A	Fall Branch	62.66	349	P	P	12 40 17.5	-0.3		
	baz=168,SNR=14								
T60A	Surry	62.67	354	P	P	12 40 18.2	+0.4		
	baz=174								
T60A	Surry	62.67	354	P	P	12 40 19.1	+1.3		
U54A	Nelsons Funny	62.69	350	P	P	12 40 18.2	+0.1		
	baz=168,SNR=23								
U54A	Nelsons Funny	62.69	350	P	P	12 40 18.8	+0.7		
V49A	McMinnville	62.73	346	P	P	12 40 17.8	-0.4		
	baz=164,SNR=52								
WLAR	White Oak Lake	62.74	339	P	P	12 40 19.6	+1.2		
WHTX	Lake Whitney,	62.77	334	P	P	12 40 19.3	+0.8		
	baz=153,SNR=29								
WHTX	Lake Whitney,	62.77	334	P	P	12 40 19.6	+1.0		
T57A	Hurt	62.80	352	P	P	12 40 18.9	+0.3		
	baz=171,SNR=13								
T57A	Hurt	62.80	352	P	P	12 40 19.4	+0.7		
T57A				lAmb	lAmb	12 40 20.9			
	comp=Z,133nm,1.6s								
X43A	Marvell	62.82	341	P	P	12 40 19.6	+0.8		
	baz=159,SNR=15								
X43A	Marvell	62.82	341	P	P	12 40 18.7	-0.1		
U52A	Thorn Hill	62.83	348	P	P	12 40 18.6	-0.3		
	baz=167,SNR=8.7								
T56A	Rocky Mt	62.92	351	P	P	12 40 20.4	+0.9		
	baz=170,SNR=15								
U51A	La Follette	62.94	348	P	P	12 40 19.7	0.0		
	baz=166,SNR=17								
TZTN	Tazewell	63.01	348	P	P	12 40 20.0	0.0		
	baz=167,SNR=9.9								
TZTN	Tazewell	63.01	348	P	P	12 40 20.6	+0.6		
TZTN				lAmb	lAmb	12 40 21.6			
	comp=Z,54nm,1.1s								
T55A	Pulaski	63.12	351	P	P	12 40 21.6	+0.7		
	baz=170,SNR=21								
U50A	Jamestown	63.14	347	P	P	12 40 20.2	-0.8		
	baz=166,SNR=39								
CLTN	Cedars of Leba	63.14	346	P	P	12 40 21.1	+0.2		
BLA	Blacksburg	63.16	351	P	P	12 40 21.2	+0.1		
	baz=170,SNR=7.2								
BLA	Blacksburg	63.16	351	P	P	12 40 21.9	+0.8		
BLA				pmax	pmax				
	comp=Z,31nm,0.9s								
BLA	Blacksburg	63.16	351	P	P	12 40 21.9	+0.8		
T54A	Tazewell	63.18	350	P	P	12 40 21.1	-0.2		
	baz=169,SNR=15								
TXAR	Lajitas Array	63.21	328	P	P	12 40 23.6	+1.9		
	comp=Z,14nm,0.7s,baz=144,slow=8.8,SNR=102								
TXAR				LR	LR	13 03 38.1			
	comp=Z,154nm,21.9s,baz=0.0,slow=32								
TXAR				PKP2ab		13 09 33.6			
	comp=Z,0.3nm,0.7s,baz=347,slow=3.7,SNR=2.8								
TX31	Lajitas Ar. Si	63.21	328	P	P	12 40 23.1	+1.4		
TX32	Lajitas Array	63.21	328	P	P	12 40 22.7	+1.0		
S60A	Water View	63.22	355	P	P	12 40 22.2	+0.8		
	baz=174								
T53A	Wise	63.26	349	P	P	12 40 21.9	+0.1		
	baz=168,SNR=15								
S58A	Poland Farm, P	63.26	353	P	P	12 40 22.1	+0.4		
	baz=172,SNR=17								
S58A	Poland Farm, P	63.26	353	P	P	12 40 22.7	+1.0		
S58A				lAmb	lAmb	12 40 24.3			
	comp=Z,107nm,1.1s								
S59A	Mechanicsville	63.34	354	P	P	12 40 23.1	+1.0		
	baz=173,SNR=5.7								
X40A	Basin Creek Fa	63.39	339	P	P	12 40 22.6	0.0		
	baz=158,SNR=6.2								
X40A	Basin Creek Fa	63.39	339	P	P	12 40 23.6	+1.0		
U49A	Red Boiling Sp	63.43	346	P	P	12 40 22.5	-0.3		
	baz=165,SNR=21								
T52A	Hallie	63.46	349	P	P	12 40 22.9	-0.2		
	baz=167,SNR=7.5								
T52A	Hallie	63.46	349	P	P	12 40 23.3	+0.3		
T51A	Gray	63.49	348	P	P	12 40 23.3	+0.1		
	baz=166,SNR=25								
UALR	University of	63.50

W41B **Gary Mavity, V** **63.84 340** P **P** **12 40 26.4 +0.9**
W41B IAmb IAmb 12 40 27.7
comp=Z,84nm,1.0s
S54A **Dingess, Beckl** **63.86 350** P **P** **12 40 25.1 -0.6**
baz=169,SNR=11
S54A **Dingess, Beckl** **63.86 350** P **P** **12 40 25.9 +0.1**
S54A IAmb IAmb 12 40 27.4
comp=Z,83nm,1.1s
LNXT **Lenox** **63.92 343** P **P** **12 40 24.8 -1.3**
LNXT IAmb IAmb 12 40 28.0
comp=Z,132nm,1.1s
GNAR **Gosnell** **63.94 342** P **P** **12 40 25.4 -0.8**
R58A **Rapidan** **63.94 353** P **P** **12 40 27.1 +1.0**
baz=172,SNR=14
T49A **Edmonton** **63.94 347** P **P** **12 40 25.5 -0.7**
baz=165,SNR=44
T49A **Edmonton** **63.94 347** P **P** **12 40 26.1 -0.1**
T49A IAmb IAmb 12 40 27.7
comp=Z,122nm,1.0s
WHAR **Wooly Hollow** **63.96 340** P **P** **12 40 26.9 +0.6**
WHAR IAmb IAmb 12 40 28.5
comp=Z,87nm,0.9s
UTMT **University of** **63.99 344** P **P** **12 40 26.6 +0.1**
R57A **Stanardsville** **63.99 353** P **P** **12 40 27.7 +1.2**
baz=172,SNR=29
GLAT **Glass** **64.03 343** P **P** **12 40 28.3 +1.5**
PEBM **Pemiscott Bayo** **64.03 343** P **P** **12 40 27.9 +1.1**
S51A **Beattyville** **64.08 348** P **P** **12 40 26.5 -0.6**
baz=167,SNR=12
S51A **Beattyville** **64.08 348** P **P** **12 40 27.4 +0.3**
S51A IAmb IAmb 12 40 28.6
comp=Z,71nm,1.1s
R55A **Marlinton** **64.17 352** P **P** **12 40 28.8 +1.1**
baz=170,SNR=15
R55A **Marlinton** **64.17 352** P **P** **12 40 28.4 +0.7**
R55A IAmb IAmb 12 40 30.5
comp=Z,69nm,1.1s
R54A **Victor** **64.19 351** P **P** **12 40 28.5 +0.6**
baz=170,SNR=12
R56A **Bull Pasture M** **64.20 352** P **P** **12 40 28.6 +0.6**
baz=171,SNR=13
ABTX **Abilene, Hawle** **64.20 333** P **P** **12 40 29.2 +1.1**
baz=151,SNR=66
ABTX **Abilene, Hawle** **64.20 333** P **P** **12 40 28.7 +0.6**
HICK **Hickman** **64.27 343** P **P** **12 40 28.0 -0.4**
S50A **Richmond** **64.27 348** P **P** **12 40 28.4 +0.1**
baz=166,SNR=30
PVMO **Portageville** **64.27 343** P **P** **12 40 29.4 +1.0**
PENMO **Penman** **64.29 343** P **P** **12 40 29.9 +1.4**
W39A **Magazine** **64.35 339** P **P** **12 40 29.9 +1.0**
baz=157,SNR=28
Q59A **Harwood** **64.37 355** P **P** **12 40 29.4 +0.4**
baz=174
Q60A **Greensboro** **64.45 355** P **P** **12 40 30.8 +1.3**
baz=175
FCAR **Ozark Folk Cen** **64.47 341** P **P** **12 40 30.5 +0.9**
FCAR IAmb IAmb 12 40 31.5
comp=Z,172nm,1.4s
R53A **Hurricane** **64.48 350** P **P** **12 40 29.8 +0.1**
baz=169,SNR=5.4
R53A **Hurricane** **64.48 350** P **P** **12 40 30.3 +0.6**
HENM **Henderson Moun** **64.50 343** P **P** **12 40 30.6 +0.7**
HENM IAmb IAmb 12 40 32.5
comp=Z,118nm,0.9s
PARMO **Parma** **64.52 343** P **P** **12 40 30.7 +0.7**
Q58A **Fox Den Farm,** **64.54 354** P **P** **12 40 30.6 +0.5**
baz=173,SNR=7.9
S49A **Springfield** **64.55 347** P **P** **12 40 29.2 -0.9**
baz=165,SNR=16
R52A **Catlettsburg** **64.60 349** P **P** **12 40 30.1 -0.4**
baz=168
QSPA **South Pole Qui** **64.62 180** P **P** **12 40 31.3 +0.7**
baz=163,slow=3.7
QSPA **South Pole Qui** **64.62 180** P **P** **12 40 30.6 +0.1**
QSPA IAmb IAmb 12 40 49.5
comp=Z,95nm,0.8s
Q57A **Strasburg** **64.71 353** P **P** **12 40 32.5 +1.3**
baz=172
R51A **Hillsboro** **64.72 349** P **P** **12 40 31.2 -0.1**
baz=167,SNR=13
Q56A **Snyder Ridge,** **64.80 353** P **P** **12 40 33.0 +1.1**
baz=171,SNR=14
Q56A **Snyder Ridge,** **64.80 353** P **P** **12 40 33.2 +1.4**
Q56A IAmb IAmb 12 40 34.8
comp=Z,103nm,1.1s
PBMO **Poplar Bluff** **64.81 342** P **P** **12 40 32.1 +0.2**
PBMO IAmb IAmb 12 40 33.7
comp=Z,104nm,0.8s
R50A **Paris** **64.84 348** P **P** **12 40 31.8 -0.2**
baz=166,SNR=11
R50A **Paris** **64.84 348** P **P** **12 40 31.9 -0.2**
Q55A **Buckhannon** **64.87 352** P **P** **12 40 33.0 +0.8**
baz=170,SNR=11
SDMD **Soldier's Deli** **64.93 355** P **P** **12 40 30.2 -2.4**
Q53A **Leroy** **64.93 351** P **P** **12 40 32.8 +0.1**
baz=169,SNR=10
Q54A **Coxs Mills** **64.96 351** P **P** **12 40 33.3 +0.5**
baz=170,SNR=9.0
Q54A **Coxs Mills** **64.96 351** P **P** **12 40 33.1 +0.4**
R49A **Shelbyville** **65.02 347** P **P** **12 40 32.1 -1.1**
baz=165,SNR=12
R49A **Shelbyville** **65.02 347** P **P** **12 40 32.0 -1.1**
R49A IAmb IAmb 12 40 34.3
comp=Z,60nm,1.0s
P61A **Hammonton** **65.05 356** P **P** **12 40 34.4 +1.1**
baz=176
P58A **Pank, Wackersv** **65.05 354** P **P** **12 40 34.4 +1.1**
baz=173,SNR=11
P59A **Jarrettsville** **65.10 355** P **P** **12 40 34.7 +1.1**
baz=174,SNR=16
P57A **Homestead Farm** **65.11 354** P **P** **12 40 34.4 +0.6**
baz=172,SNR=23
P57A **Homestead Farm** **65.11 354** P **P** **12 40 35.1 +1.3**
P57A IAmb IAmb 12 40 36.9
comp=Z,91nm,0.9s
U40A **Yellville** **65.12 340** P **P** **12 40 34.5 +0.6**
baz=158,SNR=47
U40A **Yellville** **65.12 340** P **P** **12 40 34.6 +0.7**
U40A IAmb IAmb 12 40 36.0
comp=Z,93nm,0.9s
Q52A **Bidwell** **65.15 350** P **P** **12 40 33.7 -0.3**
baz=168,SNR=6.9
WCI **Wyandotte Cave** **65.19 346** P **P** **12 40 33.8 -0.5**
baz=164
WCI **Wyandotte Cave** **65.19 346** P **P** **12 40 34.1 -0.2**
WCI pmax pmax
comp=Z,83nm,0.8s
WCI **Wyandotte Cave** **65.19 346** P **P** **12 40 34.1 -0.2**
WCI IAmb IAmb 12 40 35.4
comp=Z,83nm,0.8s
P56A **Dayton Farm, R** **65.22 353** P **P** **12 40 35.2 +0.7**
baz=172,SNR=18
X34A **Smith Ranch, M** **65.23 335** P **P** **12 40 36.2 +1.5**
P60A **Greenville** **65.24 356** P **P** **12 40 35.8 +1.2**
baz=175,SNR=5.6
P60A **Greenville** **65.24 356** P **P** **12 40 36.4 +1.8**
USIN **University of** **65.24 345** P **P** **12 40 34.8 +0.2**
USIN IAmb IAmb 12 40 36.5
comp=Z,98nm,0.9s
Q50A **Georgetown** **65.32 348** P **P** **12 40 34.2 -0.9**
baz=167,SNR=5.5
P55A **Reedsville** **65.34 352** P **P** **12 40 36.3 +1.0**
baz=171,SNR=7.4
W35A **Tecumseh** **65.37 336** P **P** **12 40 36.2 +0.7**
SIUC **Southern Illin** **65.38 344** P **P** **12 40 36.0 +0.5**
Q51A **Peebles** **65.39 349** P **P** **12 40 35.4 -0.2**
baz=167,SNR=11
Q51A **Peebles** **65.39 349** P **P** **12 40 34.9 -0.7**
Q51A IAmb IAmb 12 40 37.1
comp=Z,63nm,1.1s
HHAR **Hobbs** **65.39 339** P **P** **12 40 36.7 +1.0**
O61A **Allentown** **65.45 357** P **P** **12 40 37.1 +1.2**
baz=176
MVL **Millersville** **65.48 355** P **P** **12 40 37.9 +1.8**
MCWV **Mont Chateau** **65.49 352** P **P** **12 40 36.6 +0.4**
baz=171
MCWV **Mont Chateau** **65.49 352** P **P** **12 40 37.8 +1.6**
P54A **Burton** **65.52 352** P **P** **12 40 37.2 +0.8**
baz=170,SNR=22
P53A **Whipple** **65.53 351** P **P** **12 40 36.4 -0.1**
baz=169,SNR=10
P53A **Whipple** **65.53 351** P **P** **12 40 37.6 +1.1**
P53A IAmb IAmb 12 40 38.4
comp=Z,65nm,0.9s
O58A **Lewisberry** **65.64 355** P **P** **12 40 38.3 +1.1**
baz=174,SNR=10

Q49A **Aurora** **65.65 348** P **P** **12 40 37.0 -0.3**
baz=166,SNR=14
FNO **Franklin** **65.65 336** P **P** **12 40 38.6 +1.2**
TUL1 **Leonard** **65.67 338** P **P** **12 40 37.9 +0.4**
baz=155,SNR=25
TUL1 **Leonard** **65.67 338** P **P** **12 40 38.3 +0.8**
TUL1 IAmb IAmb 12 40 39.6
comp=Z,101nm,0.9s
MGMO **Mountain Grove** **65.68 341** P **P** **12 40 37.3 -0.2**
MGMO IAmb IAmb 12 40 39.7
comp=Z,96nm,1.1s
WMOK **Wichita Mounta** **65.71 335** P **P** **12 40 38.0 +0.2**
baz=152,SNR=30
WMOK **Wichita Mounta** **65.71 335** P **P** **12 40 38.0 +0.2**
WMOK pmax pmax
comp=Z,93nm,1.6s
WMOK **Wichita Mounta** **65.71 335** P **P** **12 40 38.0 +0.2**
WMOK IAmb IAmb 12 40 39.9
comp=Z,93nm,1.6s
O60A **Telford** **65.72 356** P **P** **12 40 38.7 +1.0**
baz=175
PAGS **Pennsylvania G** **65.73 355** P **P** **12 40 39.1 +1.4**
Q48A **North Vernon** **65.74 347** P **P** **12 40 38.1 +0.2**
baz=165,SNR=17
O59A **Robesonia** **65.77 355** P **P** **12 40 39.0 +0.9**
baz=174,SNR=10
P52A **Corning** **65.78 350** P **P** **12 40 37.9 -0.2**
baz=168,SNR=8.7
P51A **Williamsport** **65.79 349** P **P** **12 40 37.9 -0.2**
baz=168,SNR=12
P51A **Williamsport** **65.79 349** P **P** **12 40 37.5 -0.6**
P51A IAmb IAmb 12 40 39.3
comp=Z,63nm,0.8s
P51A **pP** **12 40 55.0 -0.4**
P51A sP **sP** **12 41 03.7 +1.1**
O57A **Amberson** **65.80 354** P **P** **12 40 39.2 +1.0**
baz=173,SNR=22
O56A **Blue Knob Stat** **65.95 353** P **P** **12 40 40.1 +0.9**
baz=172,SNR=20
O56A **Blue Knob Stat** **65.95 353** P **P** **12 40 39.0 -0.2**
O56A IAmb IAmb 12 40 42.0
comp=Z,119nm,1.2s
O55A **Ligonier** **65.97 353** P **P** **12 40 40.5 +1.1**
baz=171,SNR=12
MNTX **Cornudas Mount** **65.99 328** P **P** **12 40 40.1 +0.5**
baz=146,SNR=104
MNTX **Cornudas Mount** **65.99 328** P **P** **12 40 40.1 +0.5**
MNTX IAmb IAmb 12 40 42.0
comp=Z,62nm,0.8s
P50A **Jamestown** **66.03 349** P **P** **12 40 39.5 -0.2**
baz=167,SNR=13
BRNJ **Basking Ridge** **66.04 357** P **P** **12 40 41.9 +2.2**
OLIL **Olney** **66.07 345** P **P** **12 40 40.2 +0.2**
OLIL IAmb IAmb 12 40 41.0
comp=Z,70nm,1.0s
O54A **Avella** **66.08 352** P **P** **12 40 40.0 0.0**
baz=170,SNR=5.2
O54A **Avella** **66.08 352** P **P** **12 40 40.8 +0.8**
N61A **South Mountain** **66.09 357** P **P** **12 40 40.8 +0.8**
baz=176
P49A **Miami Univ. Ec** **66.13 348** P **P** **12 40 39.4 -0.9**
baz=166,SNR=10.0
BLO **Bloomington** **66.14 346** P **P** **12 40 39.4 -1.0**
BLO pmax pmax
comp=Z,39nm,0.9s
BLO **Bloomington** **66.14 346** P **P** **12 40 39.4 -1.0**
P48A **Milroy** **66.19 347** P **P** **12 40 39.4 -1.4**
baz=165,SNR=6.8
P48A **Milroy** **66.19 347** P **P** **12 40 39.6 -1.1**
P48A IAmb IAmb 12 40 41.6
comp=Z,113nm,1.3s
SRIG **Santa Rosalia** **66.20 320** P **P** **12 40 41.5 +0.5**
O52A **Adamsville** **66.21 351** P **P** **12 40 40.9 0.0**
baz=169,SNR=10
O52A **Adamsville** **66.21 351** P **P** **12 40 40.6 -0.3**
O52A IAmb IAmb 12 40 42.3
comp=Z,58nm,0.8s
CCM **Cathedral Cave** **66.23 342** P **P** **12 40 41.3 +0.2**
baz=160
CCM **Cathedral Cave** **66.23 342** P **P** **12 40 41.2 +0.2**
CCM pmax pmax
comp=Z,135nm,1.0s
CCM **Cathedral Cave** **66.23 342** P **P** **12 40 41.2 +0.2**
N62A **Caumsett State** **66.24 358** P **P** **12 40 41.7 +0.7**
baz=177
SSPA **Standing Stone** **66.24 354** P **P** **12 40 42.2 +1.2**
baz=173
SSPA **Standing Stone** **66.24 354** P **P** **12 40 41.3 +0.3**
SSPA IAmb IAmb 12 40 43.7
comp=Z,83nm,1.1s
O53A **New Philadelph** **66.25 351** P **P** **12 40 40.7 -0.4**
baz=170,SNR=8.3
N60A **Cedar Hill Far** **66.26 356** P **P** **12 40 41.5 +0.4**
baz=176,SNR=9.5
N57A **Milroy** **66.33 354** P **P** **12 40 42.3 +0.7**
baz=173,SNR=18
PAL **Palisades** **66.33 357** P **P** **12 40 42.7 +1.2**
baz=177
N58A **Sunbury** **66.34 355** P **P** **12 40 43.1 +1.4**
baz=174,SNR=12
N58A **Sunbury** **66.34 355** P **P** **12 40 41.6 0.0**
N58A IAmb IAmb 12 40 44.5
comp=Z,102nm,1.2s
N59A **State Game Lan** **66.35 356** P **P** **12 40 42.9 +1.1**
baz=175,SNR=11
N59A **State Game Lan** **66.35 356** P **P** **12 40 43.0 +1.3**
N59A IAmb IAmb 12 40 44.9
comp=Z,80nm,1.2s
O51A **Pataskala** **66.36 350** P **P** **12 40 41.5 -0.4**
baz=168,SNR=12
ODNJ **Oggendsburg** **66.44 357** P **P** **12 40 43.1 +0.8**
WSPT **Westport, CT** **66.47 358** P **P** **12 40 44.0 +1.5**
WSPT IAmb IAmb 12 40 45.2
comp=Z,146nm,1.4s
N55A **Marion Center** **66.50 353** P **P** **12 40 43.8 +1.1**
baz=172,SNR=22
ACSO **Alum Creek Sta** **66.50 350** P **P** **12 40 42.2 -0.6**
baz=168,SNR=19
ACSO **Alum Creek Sta** **66.50 350** P **P** **12 40 42.2 -0.6**
SLM **Saint Louis** **66.51 343** P **P** **12 40 43.1 +0.4**
SLM pmax pmax
comp=Z,114nm,1.2s
SLM **Saint Louis** **66.51 343** P **P** **12 40 43.1 +0.4**
SLM IAmb IAmb 12 40 44.5
comp=Z,114nm,1.1s
O50A **Cable** **66.53 349** P **P** **12 40 42.4 -0.5**
baz=167,SNR=15
N56A **West Decatur** **66.56 354** P **P** **12 40 43.9 +0.8**
baz=172,SNR=5.7
YLE **Yale** **66.60 358** P **P** **12 40 42.2 -1.0**
M61A **Granite Spring** **66.63 357** P **P** **12 40 44.4 +0.9**
baz=177
M63A **Gales Ferry** **66.67 359** P **P** **12 40 45.2 +1.5**
baz=178
M60A **Port Jervis** **66.68 357** P **P** **12 40 45.1 +1.3**
baz=176,SNR=9.3
MSTX **Muleshoe** **66.69 331** P **P** **12 40 45.0 +0.8**
baz=148,SNR=116
MSTX **Muleshoe** **66.69 331** P **P** **12 40 44.9 +0.7**
O49A **Covington** **66.69 349** P **P** **12 40 43.6 -0.4**
baz=166,SNR=14
O49A **Covington** **66.69 349** P **P** **12 40 41.7 -2.2**
O49A IAmb IAmb 12 40 45.2
comp=Z,82nm,1.0s
P46A **Rosedale** **66.72 346** P **P** **12 40 43.7 -0.4**
baz=164,SNR=8.9
M62A **Hamden** **66.73 358** P **P** **12 40 45.3 +1.2**
baz=178,SNR=7.0
N53A **Lisbon** **66.75 351** P **P** **12 40 44.4 +0.1**
baz=170,SNR=6.0
N53A **Lisbon** **66.75 351** P **P** **12 40 43.6 -0.7**
N53A IAmb IAmb 12 40 46.3
comp=Z,108nm,1.4s
HSIG **66.76 322** P **P** **12 40 44.9 +0.3**
HSIG IAmb IAmb 12 40 48.5
comp=Z,104nm,1.2s
N54A **Moraine State** **66.79 352** P **P** **12 40 45.0 +0.5**
baz=171,SNR=11
N54A **Moraine State** **66.79 352** P **P** **12 40 44.4 -0.2**
N54A IAmb IAmb 12 40 46.9
comp=Z,94nm,1.1s
M64A **Tiverton** **66.80 359** P **P** **12 40 44.9 +0.4**
baz=179
M65A **Busby, Falmout** **66.81 360** P **P** **12 40 45.0 +0.4**
baz=180
M58A **Price's Panora** **66.85 355** P **P** **12 40 45.6 +0.7**
baz=174,SNR=12

M57A **Sunshine Farm,** **66.87 355** P **P** **12 40 46.0 +0.9**
baz=174,SNR=9.7
M57A **Sunshine Farm,** **66.87 355** P **P** **12 40 44.8 -0.3**
M57A IAmb IAmb 12 40 48.0
comp=Z,133nm,1.4s
N52A **McGinn's Farm,** **66.87 351** P **P** **12 40 45.0 -0.1**
baz=169,SNR=5.3
O48A **Farmland** **66.91 348** P **P** **12 40 44.5 -0.8**
baz=166,SNR=12
M59A **Waymart** **66.94 356** P **P** **12 40 47.3 +1.7**
baz=175,SNR=20
KSPA **Keystone Colle** **66.98 356** P **P** **12 40 47.2 +1.5**
KSPA IAmb IAmb 12 40 48.6
comp=Z,72nm,1.1s
AMTX **Amarillo** **67.00 332** P **P** **12 40 47.0 +0.8**
baz=150
AMTX **Amarillo** **67.00 332** P **P** **12 40 45.9 -0.2**
AMTX IAmb IAmb 12 40 48.8
comp=Z,159nm,1.6s
KSCT **Kent School, K** **67.03 358** P **P** **12 40 47.5 +1.5**
KSCT IAmb IAmb 12 40 49.0
comp=Z,88nm,1.4s
N50A **Nevada** **67.06 350** P **P** **12 40 45.9 -0.3**
baz=168,SNR=9.1
N51A **Ashland** **67.08 350** P **P** **12 40 46.0 -0.3**
baz=168
N51A **Ashland** **67.08 350** P **P** **12 40 46.1 -0.3**
N51A IAmb IAmb 12 40 47.7
comp=Z,74nm,1.1s
M56A **Emporium** **67.11 354** P **P** **12 40 47.5 +0.9**
baz=172,SNR=17
M56A **Emporium** **67.11 354** P **P** **12 40 47.6 +1.1**
M56A IAmb IAmb 12 40 49.0
comp=Z,103nm,1.1s
L63A **North Scituate** **67.12 359** P **P** **12 40 47.8 +1.2**
baz=179,SNR=14
M55A **Ridgway** **67.16 353** P **P** **12 40 47.8 +0.9**
baz=172,SNR=17
M55A **Ridgway** **67.16 353** P **P** **12 40 47.7 +0.9**
M55A IAmb IAmb 12 40 49.2
comp=Z,120nm,0.9s
BRYW **Bryant College** **67.17 359** P **P** **12 40 49.1 +2.2**
L64A **Middleborough** **67.18 360** P **P** **12 40 48.8 +1.8**
baz=180,SNR=7.6
U32A **Winter Ranch,** **67.24 335** P **P** **12 40 46.7 -0.8**
U32A IAmb IAmb 12 40 50.1
comp=Z,116nm,1.0s
P43A **Skaggs, Pawnee** **67.28 344** P **P** **12 40 47.9 +0.3**
M54A **Oil Creek Stat** **67.29 353** P **P** **12 40 48.2 +0.4**
baz=171,SNR=11
M54A **Oil Creek Stat** **67.29 353** P **P** **12 40 48.4 +0.7**
M54A IAmb IAmb 12 40 49.8
comp=Z,89nm,1.0s
L60A **Shokan** **67.32 357** P **P** **12 40 49.5 +1.6**
baz=176,SNR=9.7
M53A **WI Miller and** **67.35 352** P **P** **12 40 48.5 +0.5**
baz=170,SNR=5.4
N49A **Columbus Grove** **67.38 349** P **P** **12 40 47.8 -0.5**
baz=167,SNR=21
N49A **Columbus Grove** **67.38 349** P **P** **12 40 48.7 +0.4**
SFIN **Lafayette** **67.42 346** P **P** **12 40 47.6 -0.9**
baz=164,SNR=9.1
SFIN **Lafayette** **67.42 346** P **P** **12 40 47.3 -1.2**
SFIN IAmb IAmb 12 40 49.2
comp=Z,124nm,1.4s
M51A **Elyria** **67.46 351** P **P** **12 40 48.7 0.0**
baz=169
N48A **Decatur** **67.47 348** P **P** **12 40 47.9 -0.9**
baz=166,SNR=9.1
L58A **Harry Jones Me** **67.47 356** P **P** **12 40 50.0 +1.2**
baz=175,SNR=17
ALLY **Alegheny Colle** **67.49 352** P **P** **12 40 49.2 +0.3**
ALLY IAmb IAmb 12 40 50.9
comp=Z,81nm,0.9s
L61A **Hillsdale 1, H** **67.50 358** P **P** **12 40 50.0 +1.0**
baz=177,SNR=6.8
L57A **Andrews Acres** **67.50 355** P **P** **12 40 50.0 +0.9**
baz=174,SNR=6.9
O44A **Mansfield** **67.51 345** P **P** **12 40 49.3 +0.2**
O44A IAmb IAmb 12 40 49.9
comp=Z,137nm,1.4s
M52A **Chesterland** **67.54 351** P **P** **12 40 49.4 +0.1**
baz=169
M52A **Chesterland** **67.54 351** P **P** **12 40 50.2 +0.9**
M52A IAmb IAmb 12 40 51.0
comp=Z,66nm,0.8s
QUA2 **Belchertown** **67.55 359** P **P** **12 40 51.5 +2.2**
QUA2 IAmb IAmb 12 40 52.1
comp=Z,141nm,1.5s
L59A **Walton** **67.57 356** P **P** **12 40 51.2 +1.7**
baz=176,SNR=21
L59A **Walton** **67.57 356** P **P** **12 40 51.5 +2.0**
N47A **Urbana** **67.62 348** P **P** **12 40 49.1 -0.7**
baz=165,SNR=9.9
N47A **Urbana** **67.62 348** P **P** **12 40 49.1 -0.7**
N47A IAmb IAmb 12 40 50.7
comp=Z,187nm,1.4s
BINY **Binghamton** **67.64 356** P **P** **12 40 50.9 +1.0**
baz=175,SNR=12
BINY **Binghamton** **67.64 356** P **P** **12 40 49.3 -0.6**
BINY IAmb IAmb 12 40 52.7
comp=Z,132nm,1.3s
M50A **Fremont** **67.66 350** P **P** **12 40 49.4 -0.6**
baz=168,SNR=7.1
M50A **Fremont** **67.66 350** P **P** **12 40 47.7 -2.3**
M50A IAmb IAmb 12 40 51.4
comp=Z,75nm,0.9s
319A **Douglas** **67.69 325** P **P** **12 40 52.7 +2.1**
319A IAmb IAmb 12 40 54.7
comp=Z,98nm,0.8s
L56A **Greenwood** **67.70 354** P **P** **12 40 51.3 +1.0**
baz=173,SNR=14
L56A **Greenwood** **67.70 354** P **P** **12 40 51.8 +1.4**
L61B **Northampton** **67.73 358** P **P** **12 40 51.5 +1.1**
baz=178,SNR=16
HRV **Adam Dziewonsk** **67.76 359** P **P** **12 40 52.2 +1.6**
baz=179
HRV **Adam Dziewonsk** **67.76 359** P **P** **12 40 52.4 +1.8**
HRV pmax pmax
comp=Z,100nm,1.0s
HRV **Adam Dziewonsk** **67.76 359** P **P** **12 40 52.4 +1.8**
HRV IAmb IAmb 12 40 53.8
comp=Z,100nm,0.9s
L53A **Girard** **67.81 352** P **P** **12 40 51.1 +0.1**
baz=170
L55A **Hinsdale** **67.83 354** P **P** **12 40 51.4 +0.3**
baz=172,SNR=12
121A **Cookes Peak, D** **67.85 326** P **P** **12 40 53.7 +2.0**
baz=144,SNR=44
121A **Cookes Peak, D** **67.85 326** P **P** **12 40 53.9 +2.3**
121A IAmb IAmb 12 40 55.8
comp=Z,91nm,1.1s
M49A **Liberty Center** **67.88 349** P **P** **12 40 50.8 -0.6**
baz=167,SNR=9.9
TAOE **Nuku Hiva Isla** **67.90 271** *e*LR LR 13 01 25.4
comp=Z,2µm,28.1s
K62A **Royalston** **67.93 359** P **P** **12 40 53.5 +1.8**
baz=178,SNR=5.9
K62A **Royalston** **67.93 359** P **P** **12 40 53.5 +1.8**
K62A IAmb IAmb 12 41 20.1
comp=Z,97nm,1.3s
ERPA **Erie** **67.93 352** P **P** **12 40 51.9 +0.1**
baz=171,SNR=5.4
ERPA **Erie** **67.93 352** P **P** **12 40 51.9 +0.1**
ERPA IAmb IAmb 12 40 53.7
comp=Z,88nm,0.8s
K60A **Five Rivers En** **67.94 357** P **P** **12 40 52.9 +1.2**
baz=177
K63A **Dunstable** **67.94 359** P **P** **12 40 53.3 +1.6**
baz=179,SNR=5.3
K61A **Williamstown** **67.96 358** P **P** **12 40 54.0 +2.1**
baz=177,SNR=9.2
L54A **Sinclairville** **67.97 353** P **P** **12 40 52.2 +0.2**
baz=171,SNR=12
M48A **Edgerton** **68.02 349** P **P** **12 40 51.4 -0.9**
baz=166,SNR=9.1
M48A **Edgerton** **68.02 349** P **P** **12 40 52.4 +0.1**
M48A IAmb IAmb 12 40 53.5
comp=Z,91nm,0.9s
TRY **Troy** **68.04 357** P **P** **12 40 54.3 +2.0**
WVNY **West Valley, N** **68.07 354** P **P** **12 40 54.1 +1.5**
M47A **Cromwell** **68.07 348** P **P** **12 40 52.1 -0.5**
baz=165
HDIL **Hopedale** **68.09 345** P **P** **12 40 51.8 -1.0**
HDIL IAmb IAmb 12 40 54.0
comp=Z,85nm,0.8s

K59A Cooperstown 68.14 357 P **P** 12 40 54.2 +1.1
baz=176,SNR=17
K58A Earlville 68.18 356 P **P** 12 40 54.2 +0.9
baz=175,SNR=13
K58A Earlville 68.18 356 P **P** 12 40 54.1 +0.9
K58A IAmb IAmb 12 40 56.0
comp=Z,111nm,1.1s
K57A Scipio Center 68.20 355 P **P** 12 40 54.1 +0.7
baz=174,SNR=6.1
K56A Middlesex 68.24 355 P **P** 12 40 54.7 +1.0
baz=173,SNR=7.2
L50A Kingsville 68.25 350 P **P** 12 40 53.7 0.0
baz=168
K54A Basiliko Farm, 68.28 354 P **P** 12 40 54.5 +0.6
baz=172,SNR=12
MMNY Mt. Morris Dam 68.32 354 P **P** 12 40 55.0 +0.9
K55A Perry 68.33 354 P **P** 12 40 54.7 +0.5
baz=173,SNR=9.5
L48A N Adams 68.42 349 P **P** 12 40 54.5 -0.3
baz=166,SNR=9.6
L49A Milan 68.46 349 P **P** 12 40 54.8 -0.2
baz=167,SNR=10
J62A Henniker 68.48 359 P **P** 12 40 56.2 +1.1
baz=179,SNR=6.0
J63A Strafford 68.53 360 P **P** 12 40 56.1 +0.7
baz=179
J60A Lant Hill Farm 68.54 358 P **P** 12 40 57.2 +1.6
baz=177,SNR=9.4
L47A Sherwood 68.58 348 P **P** 12 40 55.4 -0.4
baz=166,SNR=12
M44A Midewin, Midew 68.59 346 P **P** 12 40 55.7 -0.1
M44A IAmb IAmb 12 40 56.8
comp=Z,64nm,1.1s
BNM Barren Site 68.60 328 P **P** 12 40 58.0 +1.6
N41A Harden Midland 68.62 344 P **P** 12 40 56.0 0.0
J61A Chester 68.62 358 P **P** 12 40 57.6 +1.6
baz=178,SNR=13
Y22D IRIS PASSCAL I 68.67 328 P **P** 12 40 59.3 +2.6
baz=145
K52A Tillsonburg 68.68 352 P **P** 12 40 56.6 +0.2
baz=170
ACCN Adirondack Com 68.69 358 P **P** 12 40 58.3 +1.8
ACCN IAmb IAmb 12 40 59.6
comp=Z,101nm,1.1s
K51A Iona Station 68.72 351 P **P** 12 40 56.5 -0.2
baz=169
J58A Remsen 68.75 356 P **P** 12 40 58.0 +1.2
baz=175
J58A Remsen 68.75 356 P **P** 12 40 57.7 +0.8
J56A Wolcott 68.77 355 P **P** 12 40 57.3 +0.4
baz=174,SNR=5.9
J56A Wolcott 68.77 355 P **P** 12 40 57.8 +0.9
J56A IAmb IAmb 12 40 59.0
comp=Z,108nm,0.9s
MEDO Medina 68.80 354 P **P** 12 40 56.9 -0.2
MEDO IAmb IAmb 12 40 59.3
comp=Z,89nm,1.1s
J59A Piesco 68.81 357 P **P** 12 40 58.4 +1.1
baz=176,SNR=15
J59A Piesco 68.81 357 P **P** 12 40 57.9 +0.7
KSU1 Kansas State U 68.83 338 P **P** 12 40 57.1 -0.3
baz=155,SNR=6.6
L46A Eue Claire 68.83 347 P **P** 12 40 56.5 -0.8
baz=165,SNR=5.8
L46A Eue Claire 68.83 347 P **P** 12 40 57.3 0.0
J55A Hilton 68.84 354 P **P** 12 40 57.9 +0.6
baz=173
J57A Williamstown 68.84 356 P **P** 12 40 58.2 +0.8
baz=175,SNR=9.1
J57A Williamstown 68.84 356 P **P** 12 40 57.6 +0.3
J57A IAmb IAmb 12 40 59.7
comp=Z,106nm,1.1s
J54A Appleton 68.93 354 P **P** 12 40 58.8 +0.9
baz=172
K50A Casco 68.93 350 P **P** 12 40 57.4 -0.6
baz=168,SNR=6.9
K50A Casco 68.93 350 P **P** 12 40 57.8 -0.1
HNH Hanover 68.97 359 P **P** 12 40 56.8 -1.3
HNH IAmb IAmb 12 41 01.8
comp=Z,146nm,1.1s
I58A Old Forge 69.06 357 P **P** 12 41 00.1 +1.4
baz=176,SNR=15
K49A Clarkson 69.07 350 P **P** 12 40 58.4 -0.5
baz=168
J52A Paris 69.10 352 P **P** 12 40 58.3 -0.7
baz=170,SNR=11
I62A Tamworth 69.12 359 P **P** 12 41 01.0 +1.8
baz=179
I62A Tamworth 69.12 359 P **P** 12 40 58.1 -1.0
I62A IAmb IAmb 12 41 02.6
comp=Z,100nm,1.2s
I60A Shoreham 69.14 358 P **P** 12 41 01.3 +2.1
baz=177,SNR=14
ANMO Albuquerque 69.17 329 P **P** 12 41 02.0 +2.2
baz=146
ANMO Albuquerque 69.17 329*de*P **P** 12 41 01.9 +2.0
ANMO pmax pmax
comp=Z,138nm,1.7s
ANMO Albuquerque 69.17 329 P **P** 12 41 02.7 +2.9
comp=Z,30nm,0.7s,baz=140,slow=6.8,SNR=160
ANMO Albuquerque 69.17 329 P **P** 12 41 02.2 +2.4
I64A Boothbay 69.17 1 P **P** 12 41 01.6 +2.2
baz=181
I61A Oroboro, Fairl 69.20 359 P **P** 12 41 01.5 +1.9
baz=178
K48A Perry 69.20 349 P **P** 12 40 59.2 -0.4
baz=167,SNR=12
TUC Tucson 69.21 324 P **P** 12 41 02.0 +1.9
baz=142
TUC Tucson 69.21 324 P **P** 12 40 58.9 -1.2
TUC pmax pmax
comp=Z,78nm,1.2s
TUC Tucson 69.21 324 P **P** 12 40 58.9 -1.2
TUC IAmb IAmb 12 41 03.9
comp=Z,78nm,1.2s
K47A Vermontville 69.22 349 P **P** 12 40 58.8 -0.9
baz=166,SNR=7.5
I63A Otisfield 69.30 360 P **P** 12 41 02.0 +1.9
baz=180,SNR=7.2
I63A Otisfield 69.30 360 P **P** 12 40 57.8 -2.4
NCB Newcomb 69.30 357 P **P** 12 40 58.1 -2.1
NCB IAmb IAmb 12 41 02.9
comp=Z,88nm,1.4s
NCB **pP** 12 41 17.8 +0.1
NCB sP **sP** 12 41 27.0 +2.1
L44A Lake County Fo 69.32 346 P **P** 12 41 00.3 -0.1
baz=163
L44A Lake County Fo 69.32 346 P **P** 12 41 00.5 +0.2
L44A IAmb IAmb 12 41 01.7
comp=Z,138nm,1.1s
I57A Carthage 69.35 356 P **P** 12 41 01.4 +0.9
baz=175,SNR=8.0
K46A Dorr 69.38 348 P **P** 12 41 00.3 -0.4
baz=165,SNR=5.9
LBNH Lisbon 69.50 359 P **P** 12 41 03.2 +1.7
baz=179,SNR=8.4
LBNH Lisbon 69.50 359 P **P** 12 41 02.7 +1.3
LBNH Lisbon 69.50 359 P **P** 12 41 02.7 +1.3
L42A Oliver, Polo 69.55 345 P **P** 12 41 01.1 -0.7
L42A IAmb IAmb 12 41 03.2
comp=Z,214nm,1.7s
I53A Kortright Cn E 69.57 353 P **P** 12 41 02.5 +0.6
baz=171
J49A Marlette 69.58 350 P **P** 12 41 01.6 -0.4
baz=168
VT1 Waterbury 69.61 358 P **P** 12 41 01.3 -0.8
J48A Bridge Port 69.63 350 P **P** 12 41 02.0 -0.2
baz=167,SNR=9.0
J48A Bridge Port 69.63 350 P **P** 12 41 01.7 -0.5
J48A IAmb IAmb 12 41 03.6
comp=Z,120nm,0.9s
CBKS Cedar Bluff 69.66 336 P **P** 12 41 03.7 +1.1
baz=152,SNR=31
CBKS Cedar Bluff 69.66 336 P **P** 12 41 04.0 +1.4
CBKS pmax pmax
comp=Z,238nm,1.2s
CBKS Cedar Bluff 69.66 336 P **P** 12 41 04.0 +1.4
I51A Listowel 69.72 352 P **P** 12 41 03.2 +0.4
baz=170
J47A Sumner 69.74 349 P **P** 12 41 02.3 -0.6
baz=166,SNR=9.6
J47A Sumner 69.74 349 P **P** 12 41 03.3 +0.3
J47A IAmb IAmb 12 41 04.2
comp=Z,112nm,1.0s
H58A Gabriels 69.75 357 P **P** 12 41 03.4 +0.4
baz=176,SNR=18
I55A Frankford 69.77 355 P **P** 12 41 03.8 +0.7
baz=173
H61A Lyndonville 69.79 359 P **P** 12 41 04.6 +1.4
baz=179,SNR=14
WVL Waterville 69.82 1 P **P** 12 41 05.6 +2.3
WVL IAmb IAmb 12 41 31.1
comp=Z,144nm,1.6s
H62A Milan 69.82 360 P **P** 12 41 04.8 +1.4
baz=179
H62A Milan 69.82 360 P **P** 12 41 04.7 +1.3
H60A Morristown 69.84 358 P **P** 12 41 04.2 +0.7
baz=178,SNR=5.1
H57A Richville 69.85 356 P **P** 12 41 05.0 +1.4
baz=175,SNR=11
I52A Shelburne 69.88 353 P **P** 12 41 04.2 +0.4
baz=171
H64A Troy 69.90 1 P **P** 12 41 05.1 +1.3
baz=181,SNR=5.5
H63A New Sharon 69.91 0 P **P** 12 41 05.5 +1.6
baz=180
K43A Burlington 69.91 346 P **P** 12 41 04.5 +0.4
H59A Cadyville 69.95 358 P **P** 12 41 04.8 +0.6
baz=177,SNR=13
LONY Lake Ozonia 69.97 357 P **P** 12 41 05.2 +0.9
baz=176,SNR=8.8
LONY Lake Ozonia 69.97 357 P **P** 12 41 06.1 +1.8
LONY IAmb IAmb 12 41 07.0
comp=Z,79nm,1.1s
H65A Eastbrook 69.97 2 P **P** 12 41 06.0 +1.7
baz=182
L40A Anamosa 69.98 344 P **P** 12 41 03.4 -1.1
J46A Howard City 70.00 348 P **P** 12 41 03.8 -0.7
baz=166,SNR=5.4
214A Organ Pipe Nat 70.03 323 P **P** 12 41 07.2 +2.2
baz=140,SNR=60
214A Organ Pipe Nat 70.03 323 P **P** 12 41 06.9 +1.8
214A IAmb IAmb 12 41 09.3
comp=Z,120nm,1.1s
H56A Elgin 70.04 356 P **P** 12 41 05.9 +1.2
baz=174,SNR=8.7
H55A Tweed 70.06 355 P **P** 12 41 05.7 +0.8
baz=174,SNR=6.6
DELO Deloro Mine 70.07 355 P **P** 12 41 04.8 0.0
DELO IAmb IAmb 12 41 07.1
comp=Z,169nm,1.6s
T25A Trinidad 70.08 332 P **P** 12 41 06.6 +1.2
baz=148,SNR=50
T25A Trinidad 70.08 332 P **P** 12 41 06.9 +1.4
T25A IAmb IAmb 12 41 09.2
comp=Z,106nm,1.1s
H66A Whiting 70.09 2 P **P** 12 41 06.5 +1.5
baz=183
I49A Point Hope 70.10 351 P **P** 12 41 04.9 -0.2
baz=168
I49A Point Hope 70.10 351 P **P** 12 41 05.8 +0.6
I49A IAmb IAmb 12 41 06.4
comp=Z,127nm,1.0s
HAL Halifax 70.17 5 P **P** 12 41 06.7 +1.2
HAL pmax pmax
comp=Z,70nm,1.0s
HAL Halifax 70.17 5 P **P** 12 41 06.7 +1.2
HAL IAmb IAmb 12 41 08.3
comp=Z,70nm,1.0s
H53A Bobcaygeon 70.21 354 P **P** 12 41 06.5 +0.7
baz=172,SNR=7.1
J45A Montague 70.22 348 P **P** 12 41 05.3 -0.5
baz=165
G60A Masonville 70.36 359 P **P** 12 41 06.6 -0.1
baz=178,SNR=5.3
G63A Kingsbury 70.37 1 P **P** 12 41 07.8 +1.0
baz=181,SNR=7.2
SCIA State Center 70.37 342 P **P** 12 41 07.2 +0.4
baz=158
SCIA State Center 70.37 342 P **P** 12 41 07.6 +0.8
SCIA IAmb IAmb 12 41 08.9
comp=Z,157nm,1.4s
G59A Clarenceville 70.37 358 P **P** 12 41 07.8 +1.1
baz=177
H52A Wyevale 70.41 353 P **P** 12 41 07.4 +0.4
baz=171
I47A Gladwin 70.45 349 P **P** 12 41 07.2 0.0
baz=167,SNR=5.2
I47A Gladwin 70.45 349 P **P** 12 41 07.0 -0.2
I47A IAmb IAmb 12 41 08.5
comp=Z,89nm,0.8s
SADO Sadowa 70.46 353 P **P** 12 41 08.2 +1.0
comp=Z,54nm,0.7s,baz=129,slow=2.8,SNR=18
SADO Sadowa 70.46 353 P **P** 12 41 07.2 0.0
SADO IAmb IAmb 12 41 09.2
comp=Z,88nm,0.9s
G62A West of Eustis 70.47 360 P **P** 12 41 08.8 +1.5
baz=180,SNR=12
G62A West of Eustis 70.47 360 P **P** 12 41 07.6 +0.2
G62A IAmb IAmb 12 41 10.7
comp=Z,148nm,1.1s
G57A Newington 70.47 357 P **P** 12 41 08.6 +1.3
baz=176,SNR=11
G58A Ormstown 70.47 357 P **P** 12 41 08.3 +1.0
baz=177,SNR=6.9
I48A Sherman Twp 70.48 350 P **P** 12 41 07.3 -0.1
baz=167,SNR=7.1
G65A Princeton 70.50 2 P **P** 12 41 08.7 +1.2
baz=183
G65A Princeton 70.50 2 P **P** 12 41 09.8 +2.3
G65A IAmb IAmb 12 41 10.6
comp=Z,85nm,1.1s
G64A Maxfield 70.52 1 P **P** 12 41 08.9 +1.3
baz=182
PKME Peaks-Kenny Pk 70.52 1 P **P** 12 41 09.2 +1.5
baz=181,SNR=6.6
PKME Peaks-Kenny Pk 70.52 1 P **P** 12 41 08.6 +0.9
PKME IAmb IAmb 12 41 10.5
comp=Z,68nm,1.1s
X18A Snowflake 70.52 326 P **P** 12 41 10.7 +2.5
I46A Reed City 70.53 349 P **P** 12 41 07.3 -0.5
baz=166,SNR=10
G61A St-Isidore-de- 70.53 359 P **P** 12 41 09.8 +2.1
baz=179,SNR=5.6
PLVO Plevna 70.54 355 P **P** 12 41 09.4 +1.6
PLVO IAmb IAmb 12 41 10.2
comp=Z,84nm,1.3s
JFWS Jewell Farm 70.55 345 P **P** 12 41 07.8 -0.2
baz=161,SNR=13
JFWS Jewell Farm 70.55 345 P **P** 12 41 07.7 -0.2
JFWS pmax pmax
comp=Z,89nm,1.0s
JFWS Jewell Farm 70.55 345 P **P** 12 41 07.7 -0.2
JFWS IAmb IAmb 12 41 09.8
comp=Z,89nm,0.9s
G55A Calabogie 70.73 355 P **P** 12 41 09.5 +0.6
baz=174,SNR=9.0
G53A Haliburton 70.76 354 P **P** 12 41 09.8 +0.7
baz=172,SNR=14
TBI Tubuai 70.83 253 *e*S **S** 12 50 19.0 -1.6
comp=Z,282nm,29.5s
TBI *e*LQ LQ 12 59 46.8
comp=Z,643nm,25.2s
TBI *e*LR LR 13 02 54.7
comp=Z,1µm,31.5s
TBI Tubuai 70.83 253 *e*T T 13 58 15.1
comp=Z,5.3nm,0.3s
W18A Petrified Fore 70.88 327 P **P** 12 41 11.8 +1.5
baz=143,SNR=9.8
W18A Petrified Fore 70.88 327 P **P** 12 41 10.8 +0.5
W18A IAmb IAmb 12 41 14.3
comp=Z,148nm,1.2s
H48A Harrisville 70.92 350 P **P** 12 41 09.8 -0.3
baz=168
KSCO Kaye Shedlock' 70.94 334 P **P** 12 41 11.7 +1.1
LIC Lamto 70.95 73 *e*P **P** 12 41 10.7 -0.3
comp=Z,44nm,0.8s
F63A Nahmakanta, Br 70.96 1 P **P** 12 41 11.3 +1.0
baz=181
F63A Nahmakanta, Br 70.96 1 P **P** 12 41 12.8 +2.4
F63A IAmb IAmb 12 41 13.4
comp=Z,122nm,1.4s
H47A Mio 70.96 350 P **P** 12 41 10.4 0.0
baz=167
G54A Lake Saint Pet 70.98 354 P **P** 12 41 10.7 +0.2
baz=173,SNR=6.0
SDCO Great Sand Dun 71.06 331 P **P** 12 41 13.4 +2.0
baz=147,SNR=106
SDCO Great Sand Dun 71.06 331 P **P** 12 41 13.0 +1.5
SDCO IAmb IAmb 12 41 15.2
comp=Z,118nm,1.2s
H46A Fife Lake 71.07 349 P **P** 12 41 11.1 +0.1
baz=168,SNR=10.0
F59A Saint Guilaume 71.13 358 P **P** 12 41 11.6 +0.3
baz=178
F64A Sherman 71.14 2 P **P** 12 41 12.2 +0.8
baz=182,SNR=7.2
F64A Sherman 71.14 2 P **P** 12 41 13.3 +1.9
F64A IAmb IAmb 12 41 14.4
comp=Z,89nm,1.1s
F57A Harrington 71.16 357 P **P** 12 41 11.8 +0.2
baz=176
TIC Toumodi 71.17 73 *e*P **P** 12 41 12.2 -0.2
comp=Z,13nm,0.4s
I42A Draeger Farm, 71.17 346 P **P** 12 41 11.8 +0.2
I42A IAmb IAmb 12 41 13.5
comp=Z,67nm,0.9s
113A Mohawk Valley, 71.17 322 P **P** 12 41 13.9 +2.0
F58A St-Lin Laurent 71.18 358 P **P** 12 41 12.8 +1.2
baz=177
X16A Lo Mia Camp, P 71.20 325 P **P** 12 41 14.6 +2.3
X16A IAmb IAmb 12 41 16.4
comp=Z,67nm,1.1s
F61A St Evariste 71.22 360 P **P** 12 41 13.3 +1.4
baz=180
F60A Warwick 71.23 359 P **P** 12 41 12.9 +0.9
baz=179,SNR=6.0
GLMI Grayling 71.25 349 P **P** 12 41 12.4 +0.3
baz=167
KIC Kosan Boka 71.27 73 *e*P **P** 12 41 12.8 -0.1
comp=Z,75nm,0.8s
F55A Inter Lake 71.28 356 P **P** 12 41 13.4 +1.2
baz=174,SNR=5.9
LMN Caledonia Moun 71.29 4 P **P** 12 41 13.9 +1.6
LMN IAmb IAmb 12 41 14.8
comp=Z,77nm,1.1s
H45A Beulah 71.30 348 P **P** 12 41 12.3 -0.1
baz=165
DBIC Dimbokro 71.32 73 P **P** 12 41 14.0 +0.7
comp=Z,19nm,0.5s,baz=218,slow=6.0,SNR=34
DBIC pP **pP** 12 41 31.5 +0.3
comp=Z,55nm,0.7s,baz=214,slow=6.9,SNR=12
DBIC LR LR 13 12 08.8
comp=Z,481nm,18.6s,baz=223,slow=36
DBIC Dimbokro 71.32 73 P **P** 12 41 14.0 +0.7
DBIC pP **pP** 12 41 31.1 -0.1
DBIC IAmb IAmb 12 41 32.2
comp=Z,70nm,0.8s
DBIC sP **sP** 12 41 39.4 +0.9
BGNE Belgrade 71.42 338 P **P** 12 41 14.0 +0.8
baz=154,SNR=34
BGNE Belgrade 71.42 338 P **P** 12 41 14.1 +0.8
G47A Hillman 71.47 350 P **P** 12 41 13.7 +0.3
baz=167
H43A Windswept, Lux 71.48 347 P **P** 12 41 13.9 +0.4
H43A IAmb IAmb 12 41 15.2
comp=Z,95nm,0.8s
ALGO Algonquin Park 71.53 354 P **P** 12 41 14.3 +0.6
baz=173,SNR=8.5
SBA Scott Base 71.56 191 P **P** 12 41 15.7 +2.0
SBA pmax pmax
comp=Z,48nm,1.4s
SBA Scott Base 71.56 191 P **P** 12 41 15.7 +2.0
I40A Norwalk 71.56 345 P **P** 12 41 14.2 +0.2
TRQ Mont Tremblant 71.56 357 P **P** 12 41 14.9 +0.8
E60A Ste Agathe de 71.62 359 P **P** 12 41 15.1 +0.8
baz=179
G45A Suttons Bay 71.64 349 P **P** 12 41 14.8 +0.4
baz=166
S22A 4UR Ranch, Cre 71.64 330 P **P** 12 41 16.6 +1.6
baz=146,SNR=28
S22A 4UR Ranch, Cre 71.64 330 P **P** 12 41 14.3 -0.7
Y14A Wickenburg 71.65 324 P **P** 12 41 16.1 +1.3
E58A La Victoria 71.66 358 P **P** 12 41 15.6 +1.1
baz=177,SNR=9.8
E61A Lac Etchemin 71.68 0 P **P** 12 41 16.2 +1.5
baz=180
F51A Arnstein 71.69 353 P **P** 12 41 15.0 +0.3
baz=171,SNR=6.6
E63A Oxbow 71.69 2 P **P** 12 41 16.6 +1.8
baz=182,SNR=5.7
E63A Oxbow 71.69 2 P **P** 12 41 16.2 +1.5
E64A Bridgewater 71.71 2 P **P** 12 41 16.5 +1.7
baz=182,SNR=6.0
F49A Sandfield 71.78 352 P **P** 12 41 15.8 +0.5
baz=169
E55A Montcerf-Lytto 71.88 356 P **P** 12 41 17.2 +1.4
baz=175
E56A St. Veronique 71.91 357 P **P** 12 41 17.3 +1.3
baz=176
E52A Mattawa 71.91 354 P **P** 12 41 17.3 +1.3
baz=172
E53A Dumoine, Ponti 71.92 355 P **P** 12 41 16.9 +0.8
baz=173
F48A Evansville 71.92 351 P **P** 12 41 16.4 +0.3
baz=168
Q24A Divide 71.93 332 P **P** 12 41 18.8 +2.0
baz=147,SNR=38
Q24A Divide 71.93 332 P **P** 12 41 17.5 +0.8
Q24A IAmb IAmb 12 41 20.4
comp=Z,109nm,0.9s
E54A Lac Daplat, Po 71.94 355 P **P** 12 41 17.1 +0.9
baz=174
PQI Presque Isle 71.95 2 P **P** 12 41 18.2 +1.9
MVCO Mesa Verde 71.97 329 P **P** 12 41 19.0 +2.0
baz=144,SNR=50
MVCO Mesa Verde 71.97 329 P **P** 12 41 18.6 +1.7
MVCO IAmb IAmb 12 41 20.7
comp=Z,104nm,1.1s
GLA Glamis 71.97 322 P **P** 12 41 18.8 +2.0
baz=139
GLA Glamis 71.97 322 P **P** 12 41 19.2 +2.4
GLA pmax pmax
comp=Z,61nm,1.2s
GLA Glamis 71.97 322 P **P** 12 41 19.2 +2.4
WUAZ Wupatki 72.02 326 P **P** 12 41 19.5 +2.3
baz=142,SNR=81
WUAZ Wupatki 72.02 326 P **P** 12 41 19.2 +2.0
WUAZ IAmb IAmb 12 41 21.4
comp=Z,109nm,1.1s
D60A Saint Jean D'O 72.16 360 P **P** 12 41 18.7 +1.2
baz=180,SNR=12
F45A CMU Biological 72.23 349 P **P** 12 41 18.5 +0.5
baz=166
E51A G1948 Merrick 72.24 354 P **P** 12 41 18.2 +0.2
baz=172
D59A Saint-Raymond 72.26 359 P **P** 12 41 19.5 +1.3
baz=179
E50A Wahnapitae 72.27 353 P **P** 12 41 18.5 +0.3
baz=170,SNR=5.3
D63A Stockholm 72.32 2 P **P** 12 41 19.7 +1.3
baz=182,SNR=5.9
Y12C Blythe 72.33 323 P **P** 12 41 20.8 +2.0
baz=139,SNR=55
Y12C Blythe 72.33 323 P **P** 12 41 21.1 +2.3
Y12C IAmb IAmb 12 41 23.0
comp=Z,80nm,1.1s
D57A Chemin Vers le 72.33 358 P **P** 12 41 19.8 +1.2
baz=177
D58A Chemin du LacG 72.37 358 P **P** 12 41 19.9 +1.1
baz=178,SNR=16
OGNE Ogallala 72.38 335 P **P** 12 41 20.6 +1.5
baz=150
OGNE Ogallala 72.38 335 P **P** 12 41 20.8 +1.6
OGNE IAmb IAmb 12 41 22.3
comp=Z,111nm,1.2s
D56A ZEC Mazanza, M 72.40 357 P **P** 12 41 19.9 +1.0
baz=176
IKP In-Ko-Pah, Jac 72.40 321 P **P** 12 41 21.1 +1.7
baz=138,SNR=23
D55A Sainte-Anne-du 72.41 356 P **P** 12 41 19.4 +0.5
baz=175,SNR=15
SWSC Sam W. Stewart 72.44 321 P **P** 12 41 21.7 +2.1
baz=138,SNR=19
D61A St Aubert, Com 72.45 0 P **P** 12 41 20.8 +1.6
baz=180
E48A Lockeyer 72.50 352 P **P** 12 41 20.7 +1.1
baz=169
D52A ZEK Kipawa Sen 72.58 354 P **P** 12 41 20.7 +0.7
baz=172
VNDA Vanda 72.58 190 P **P** 12 41 21.1 +1.4
comp=Z,4.8nm,0.6s,baz=116,slow=6.1,SNR=26
VNDA pP **pP** 12 41 38.7 +1.0
comp=Z,11nm,0.9s,baz=115,slow=4.9,SNR=11
VNDA LR LR 13 11 21.6
comp=Z,138nm,19.4s,baz=134,slow=34
VNDA Vanda 72.58 190 P **P** 12 41 21.2 +1.4
D54A Lac Fusel, La 72.61 356 P **P** 12 41 20.2 0.0
baz=174,SNR=10
D53A Lac Vacive, Po 72.62 355 P **P** 12 41 21.0 +0.8
baz=173

D53A **Lac Vacive, Po** 72.62 355 P **P** 12 41 21.1 +0.8
E47A **Iron Bridge** 72.63 351 P **P** 12 41 20.5 +0.2
baz=168,SNR=8.7
BATG **Bathurst New B** 72.64 3 P **P** 12 41 22.4 +2.1
LATQ **La Tuque** 72.66 358 P **P** 12 41 21.6 +1.2
baz=178,SNR=8.0
LATQ **La Tuque** 72.66 358 P **P** 12 41 22.0 +1.5
E46A **Sault Ste Mari** 72.70 350 P **P** 12 41 21.1 +0.4
E46A lAmb lAmb 12 41 22.3
comp=Z,83nm,0.9s
BAR **Barrett** 72.74 320 P **P** 12 41 23.2 +1.9
MONP2 **Monument Peak** 72.76 321 P **P** 12 41 23.7 +2.1
baz=137,SNR=30
G40A **Rib Lake** 72.77 346 P **P** 12 41 21.4 +0.2
G40A lAmb lAmb 12 41 23.2
comp=Z,114nm,1.6s
BC3 **Big Chuckawall** 72.77 322 P **P** 12 41 23.5 +1.9
baz=138,SNR=28
D51A **Lot 18 Range I** 72.78 354 P **P** 12 41 21.5 +0.3
baz=172,SNR=5.3
F42A **Maple Grove Fa** 72.79 347 P **P** 12 41 21.8 +0.5
ISCO **Idaho Springs** 72.83 332 P **P** 12 41 23.8 +1.7
baz=147,SNR=44
ISCO **Idaho Springs** 72.83 332 P **P** 12 41 22.0 0.0
ISCO pmax pmax
comp=Z,58nm,1.1s
ISCO **Idaho Springs** 72.83 332 P **P** 12 41 22.0 0.0
PV02 **Paradox Valley** 72.89 329 P **P** 12 41 23.5 +1.1
PV02 lAmb lAmb 12 41 26.2
comp=Z,82nm,1.2s
SMCO **Snowmass** 72.89 331 P **P** 12 41 24.3 +1.8
SMCO lAmb lAmb 12 41 26.6
comp=Z,95nm,1.0s
D50A **G1974 Best Tow** 72.90 353 P **P** 12 41 22.7 +0.8
baz=171,SNR=10
IRM **Iron Mountain** 72.97 322 P **P** 12 41 24.5 +1.8
baz=139,SNR=34
PV03 **Paradox Valley** 72.97 329 P **P** 12 41 23.6 +0.8
PPT2 **Papeete2** 73.00 258 *e*S **S** 12 50 45.9 +0.1
comp=Z,494nm,28.0s
PPT2 *e*LQ LQ 13 00 42.0
comp=Z,578nm,25.2s
PPT2 *e*LR LR 13 03 47.0
comp=Z,3µm,30.5s
W13A **Hualapai Mount** 73.00 324 P **P** 12 41 25.0 +1.9
ECSD **EROS Data Cent** 73.03 341 P **P** 12 41 23.2 +0.4
baz=156,SNR=87
ECSD **EROS Data Cent** 73.03 341 P **P** 12 41 22.8 0.0
ECSD lAmb lAmb 12 41 25.1
comp=Z,130nm,1.0s
PV16 **Nyswonger Mesa** 73.05 329 P **P** 12 41 24.8 +1.4
D48A **Paudash Townsh** 73.14 352 P **P** 12 41 23.7 +0.4
baz=169
109C **Camp Elliot, M** 73.14 320 P **P** 12 41 25.6 +1.9
baz=137
109C **Camp Elliot, M** 73.14 320 P **P** 12 41 23.6 -0.1
NEE2 **Needles Airpor** 73.14 323 P **P** 12 41 25.1 +1.4
baz=139
E43A **Lone Tree Farm** 73.17 348 P **P** 12 41 24.0 +0.5
D46A **Sault St. Mari** 73.17 350 P **P** 12 41 23.6 +0.1
baz=167
U15A **North Rim** 73.19 326 P **P** 12 41 26.4 +2.1
U15A lAmb lAmb 12 41 28.7
comp=Z,91nm,1.1s
SYO **Syowa Base** 73.21 159⇑ *i*P **P** 12 41 21.9 -1.7
SYO **Syowa Base** 73.21 159⇑ *i*PcP **PcP** 12 41 32.8 -7.0
XPFO **Pion Flat** 73.30 321 P **P** 12 41 26.4 +1.6
PFO **Pinyon Flats O** 73.30 321 P **P** 12 41 26.9 +2.1
baz=138,SNR=39
PFO **Pinyon Flats O** 73.30 321⇑ *e*P **P** 12 41 26.9 +2.1
PFO pmax pmax
comp=Z,90nm,1.2s
PFO **Pinyon Flats O** 73.30 321 P **P** 12 41 27.3 +2.5
comp=Z,28nm,1.0s,baz=118,slow=5.2,SNR=15
PFO **Pinyon Flats O** 73.30 321 P **P** 12 41 26.8 +2.1
COWI **Conover** 73.33 347 P **P** 12 41 25.8 +1.3
COWI lAmb lAmb 12 41 26.5
comp=Z,99nm,1.2s
BELC **Belle Mtn. Jos** 73.33 322 P **P** 12 41 26.7 +1.7
baz=138,SNR=26
SPMN **Marine on St.** 73.35 344 P **P** 12 41 24.7 +0.1
baz=159,SNR=20
SPMN **Marine on St.** 73.35 344 P **P** 12 41 25.2 +0.6
SPMN lAmb lAmb 12 41 26.3
comp=Z,96nm,1.0s
VLDQ **Val d'Or** 73.62 355 P **P** 12 41 27.2 +1.1
VLDQ lAmb lAmb 12 41 28.5
comp=Z,104nm,1.2s
MURC **Murrieta** 73.71 321 P **P** 12 41 29.0 +1.9
baz=137,SNR=17
GMRC **Granite Mounta** 73.72 323 P **P** 12 41 29.5 +2.2
baz=138,SNR=64
N23A **Red Feather La** 73.88 333 P **P** 12 41 30.0 +1.8
baz=147,SNR=23
N23A **Red Feather La** 73.88 333 P **P** 12 41 28.2 +0.1
N23A lAmb lAmb 12 41 31.8
comp=Z,59nm,0.9s
KNB **Kanab** 73.92 326 P **P** 12 41 31.0 +2.6
KNB pmax pmax
comp=Z,220nm,1.2s
KNB **Kanab** 73.92 326 P **P** 12 41 30.9 +2.6
PKCU **Pink Cliffs** 73.99 327 P **P** 12 41 31.9 +2.9
PHWY **Pilot Hill** 74.02 333 P **P** 12 41 30.6 +1.5
BBRC **Big Bear Solar** 74.04 321 P **P** 12 41 31.2 +1.9
baz=137,SNR=33
SCI2 **San Clemente I** 74.05 319 P **P** 12 41 30.9 +1.9
baz=136,SNR=6.6
D41A **Chassel** 74.13 347 P **P** 12 41 30.4 +1.2
HEC **Hector,Ludlow** 74.13 322 P **P** 12 41 31.8 +2.3
baz=138,SNR=33
LCMT **Little Creek M** 74.13 326 P **P** 12 41 31.4 +1.8
O20A **White River Ci** 74.23 331 P **P** 12 41 31.8 +1.7
baz=145,SNR=83
O20A **White River Ci** 74.23 331 P **P** 12 41 32.1 +1.9
O20A lAmb lAmb 12 41 33.9
comp=Z,125nm,0.9s
CIS **Catalina Islan** 74.27 320 P **P** 12 41 32.2 +1.9
baz=136,SNR=13
TUQ **Turquoise Moun** 74.35 323 P **P** 12 41 32.8 +1.9
baz=138,SNR=16
SUSD **Miller** 74.39 339 P **P** 12 41 31.7 +0.9
baz=154
SUSD **Miller** 74.39 339 P **P** 12 41 31.4 +0.6
MTPU **Mount Pierson** 74.40 327 P **P** 12 41 33.5 +2.1
FMP **Fort Macarthur** 74.43 320 P **P** 12 41 33.3 +2.2
baz=136
BFSC **Mount Baldy Ra** 74.44 321 P **P** 12 41 33.5 +2.0
baz=137,SNR=38
SRU **San Rafael Swe** 74.44 329 P **P** 12 41 31.9 +0.5
SRU pmax pmax
comp=Z,71nm,1.0s
SRU **San Rafael Swe** 74.44 329 P **P** 12 41 31.9 +0.5
SZCU **Shurtz Canyon** 74.50 326 P **P** 12 41 34.1 +2.2
LSQQ **Lebel-sur-Quev** 74.53 356 P **P** 12 41 31.7 +0.3
baz=174
Q16A **Castle Valley** 74.59 328 P **P** 12 41 33.9 +1.6
CCUT **Cedar City** 74.61 326 P **P** 12 41 35.1 +2.6
MWC **Mount Wilson** 74.66 321 P **P** 12 41 34.2 +1.4
MWC pmax pmax
comp=Z,106nm,1.3s
MWC **Mount Wilson** 74.66 321 P **P** 12 41 34.2 +1.4
MWC lAmb lAmb 12 41 36.6
comp=Z,106nm,1.3s
PASC **Pasadena Art C** 74.69 321 P **P** 12 41 35.1 +2.3
PASC lAmb lAmb 12 41 36.7
comp=Z,80nm,1.2s
GSC **Goldstone, Bar** 74.74 322 P **P** 12 41 35.0 +1.9
baz=138,SNR=46
GSC **Goldstone, Bar** 74.74 322 P **P** 12 41 34.5 +1.4
GSC pmax pmax
comp=Z,53nm,1.0s
GSC **Goldstone, Bar** 74.74 322 P **P** 12 41 34.5 +1.4
SHPR **Sheep Range** 74.74 324 P **P** 12 41 34.8 +1.6
SHPR lAmb lAmb 12 41 37.3
comp=Z,68nm,1.1s
MSU **Marysvale** 74.76 327 P **P** 12 41 35.5 +2.2
MSU **Marysvale** 74.76 327 P **P** 12 41 35.5 +2.2
SNCC **San Nicolas Is** 74.82 319 P **P** 12 41 35.5 +2.0
baz=135
SNCC **San Nicolas Is** 74.82 319 P **P** 12 41 35.9 +2.5
SNCC lAmb lAmb 12 41 37.1
comp=Z,87nm,1.1s
P17A **Butcher Ranch,** 74.83 329 P **P** 12 41 35.5 +1.9
DECC **Green Verdugo** 74.84 321 P **P** 12 41 35.9 +2.3
baz=136

SHOC **Shoshone, Teco** 74.89 323 P **P** 12 41 35.5 +1.7
baz=138,SNR=23
TMUT **Trail Mountain** 74.91 328 P **P** 12 41 35.2 +0.9
RWWY **Rawlins** 75.07 332 P **P** 12 41 36.2 +1.2
RWWY lAmb lAmb 12 41 38.6
comp=Z,105nm,1.1s
EDW2 **Edwards Air Fo** 75.10 321 P **P** 12 41 36.9 +1.8
baz=137,SNR=39
BLG **Laguna Peak, P** 75.16 320 P **P** 12 41 37.0 +1.5
baz=136
RDMU **Red Mountain** 75.18 330 P **P** 12 41 36.5 +0.8
CHGQ **Chibougamau** 75.24 357 P **P** 12 41 36.1 +0.6
baz=176,SNR=7.1
MATQ **Matagami** 75.28 355 P **P** 12 41 36.3 +0.6
baz=173
OSI **Osito Audit: C** 75.32 321 P **P** 12 41 38.2 +1.8
baz=136
OSI **Osito Audit: C** 75.32 321 P **P** 12 41 37.3 +0.9
OSI lAmb lAmb 12 41 40.0
comp=Z,90nm,1.2s
LRMC **Laurel Mtn Rad** 75.36 322 P **P** 12 41 38.7 +2.1
baz=137,SNR=25
DRLN **Deer Lake** 75.41 9 P **P** 12 41 38.4 +2.0
DRLN lAmb lAmb 12 41 39.1
comp=Z,129nm,1.1s
SCZ2 **Santa Cruz Isl** 75.41 320 P **P** 12 41 38.8 +1.9
baz=135,SNR=5.3
K22A **Casper** 75.59 333 P **P** 12 41 39.6 +1.6
baz=147,SNR=31
K22A **Casper** 75.59 333 P **P** 12 41 39.5 +1.6
K22A lAmb lAmb 12 41 41.4
comp=Z,117nm,1.2s
EYMN **Ely** 75.59 346 P **P** 12 41 37.8 +0.3
baz=161,SNR=11
EYMN **Ely** 75.59 346 P **P** 12 41 38.1 +0.5
PSUT **Pine Spring** 75.61 326 P **P** 12 41 39.9 +1.7
FURC **Furnace Creek,** 75.63 323 P **P** 12 41 39.9 +1.9
baz=138,SNR=44
TPNV **Topopah Spring** 75.65 324 P **P** 12 41 40.3 +1.9
baz=138,SNR=47
TPNV **Topopah Spring** 75.65 324 P **P** 12 41 40.6 +2.2
TPNV pmax pmax
comp=Z,124nm,1.3s
TPNV **Topopah Spring** 75.65 324 P **P** 12 41 40.6 +2.2
TPNV lAmb lAmb 12 41 42.7
comp=Z,124nm,1.3s
MPMC **Manual Prospec** 75.67 322 P **P** 12 41 40.4 +1.9
baz=137,SNR=32
ARVC **Arvin** 75.75 321 P **P** 12 41 41.0 +2.2
baz=136,SNR=7.4
SBC **Santa Barbara** 75.77 320 P **P** 12 41 41.1 +2.2
baz=135
NLU **North Lily Min** 75.84 328 P **P** 12 41 40.3 +0.8
RSSD **Black Hills** 75.87 336 P **P** 12 41 40.9 +1.3
baz=149
RSSD **Black Hills** 75.87 336 P **P** 12 41 39.6 +0.1
RSSD pmax pmax
comp=Z,48nm,0.9s
RSSD **Black Hills** 75.87 336 P **P** 12 41 39.6 +0.1
ISA **Isabella, Lake** 75.93 321 P **P** 12 41 41.6 +1.7
baz=136,SNR=48
ISA **Isabella, Lake** 75.93 321 P **P** 12 41 41.3 +1.4
ISA pmax pmax
comp=Z,56nm,0.9s
ISA **Isabella, Lake** 75.93 321 P **P** 12 41 41.4 +1.4
ISA lAmb lAmb 12 41 43.9
comp=Z,56nm,0.9s
JLU **Jordanelle** 76.06 329 P **P** 12 41 42.2 +1.5
PKM **Mcpherson Peak** 76.14 320 P **P** 12 41 43.2 +1.9
baz=135,SNR=58
D32A **Dogwood Acres,** 76.24 342 P **P** 12 41 42.2 +1.0
CWC **Cottonwood Cre** 76.28 322 P **P** 12 41 44.2 +2.2
baz=137
GRAC **Grapevine Rang** 76.29 323 P **P** 12 41 44.5 +2.6
baz=138
R11A **Troy Canyon, C** 76.35 325 P **P** 12 41 44.3 +1.9
baz=139,SNR=67
R11A **Troy Canyon, C** 76.35 325 P **P** 12 41 44.5 +2.1
R11A lAmb lAmb 12 41 46.6
comp=Z,97nm,1.4s
DUG **Dugway, Tooele** 76.38 328 P **P** 12 41 44.2 +1.7
baz=141,SNR=64
DUG **Dugway, Tooele** 76.38 328 P **P** 12 41 44.2 +1.7
DUG pmax pmax
comp=Z,90nm,1.2s
DUG **Dugway, Tooele** 76.38 328 P **P** 12 41 44.1 +1.7
DUG lAmb lAmb 12 41 46.4
comp=Z,90nm,1.1s
VES **Vestal, Richgr** 76.41 321 P **P** 12 41 43.9 +1.4
baz=136,SNR=40
TCUT **Toone Canyon** 76.45 329 P **P** 12 41 44.4 +1.5
SMMC **Simler** 76.55 320 P **P** 12 41 45.7 +2.3
baz=135,SNR=31
TIN **Tinemaha, Big** 76.80 323 P **P** 12 41 46.5 +1.7
baz=137,SNR=16
HWUT **Hardware Ranch** 76.91 330 P **P** 12 41 46.9 +1.4
HWUT lAmb lAmb 12 41 48.7
comp=Z,74nm,0.9s
VOG **Valley Oaks Go** 76.92 321 P **P** 12 41 46.3 +0.9
baz=136
BW06 **Boulder Array** 76.95 332 P **P** 12 41 47.0 +1.3
baz=144,SNR=20
BW06 **Boulder Array** 76.95 332 P **P** 12 41 46.2 +0.6
PD31 **Pinedale Array** 76.95 332 P **P** 12 41 46.0 +0.3
PDAR **Pinedale Array** 76.95 332 P **P** 12 41 47.2 +1.5
comp=Z,4.8nm,0.6s,baz=130,slow=7.4,SNR=58
PDAR PKKPbc **PKKPbc** 13 00 54.0 -2.0
comp=Z,0.2nm,0.5s,baz=225,slow=2.4,SNR=4.2
PDAR LR LR 13 17 48.9
comp=Z,56nm,18.4s,baz=150,slow=37
AGMN **Agassiz Nation** 76.99 343 P **P** 12 41 45.7 +0.2
baz=157,SNR=20
AGMN **Agassiz Nation** 76.99 343 P **P** 12 41 45.4 -0.1
AGMN lAmb lAmb 12 41 47.6
comp=Z,70nm,0.9s
PAGB **Antelope Grade** 76.99 320 P **P** 12 41 46.7 +0.8
PAGB lAmb lAmb 12 41 49.9
comp=Z,102nm,1.2s
BGU **Big Grassy Mou** 77.06 328 P **P** 12 41 46.4 +0.2
SPUT **South Promonto** 77.08 329 P **P** 12 41 47.5 +1.2
MLAC **Mammoth, Mammo** 77.55 323 P **P** 12 41 51.4 +2.2
baz=136,SNR=26
HVU **Hansel Valley** 77.60 329 P **P** 12 41 50.5 +1.2
HVU pmax pmax
comp=Z,72nm,1.1s
HVU **Hansel Valley** 77.60 329 P **P** 12 41 50.5 +1.2
AHID **Auburn Hatcher** 77.62 331 P **P** 12 41 50.3 +0.9
AHID lAmb lAmb 12 41 52.6
comp=Z,116nm,1.1s
OMMB **Old Mammoth Mi** 77.63 322 P **P** 12 41 50.1 +0.4
OMMB lAmb lAmb 12 41 53.4
comp=Z,64nm,1.1s
MDND **Maddock** 77.64 340 P **P** 12 41 50.3 +1.1
baz=153,SNR=9.5
MDND **Maddock** 77.64 340 P **P** 12 41 50.8 +1.6
PMPB **Monarch Peak** 77.65 320 P **P** 12 41 51.2 +1.6
MDPB **Devils Postpil** 77.69 322 P **P** 12 41 51.6 +1.7
NV11 **Mina Array Sit** 77.77 324 P **P** 12 41 51.4 +1.1
SUR **Sutherland** 77.80 120 P **P** 12 41 52.4 +1.5
SUR lAmb lAmb 12 42 11.0
comp=Z,165nm,1.9s
NVAR **Mina Array Bea** 77.84 323 P **P** 12 41 53.0 +2.3
comp=Z,16nm,0.8s,baz=156,slow=6.3,SNR=114
NVAR PKKPbc **PKKPbc** 13 00 52.6 -1.0
comp=Z,0.2nm,0.5s,baz=298,slow=1.9,SNR=3.1
NVAR LR LR 13 12 05.1
comp=Z,78nm,20.2s,baz=140,slow=32
ELK **Elko** 77.98 327 P **P** 12 41 53.0 +1.5
ELK pmax pmax
comp=Z,51nm,1.1s
ELK **Elko** 77.98 327 P **P** 12 41 53.4 +1.9
comp=Z,28nm,0.9s,baz=137,slow=3.4,SNR=82
ELK **Elko** 77.98 327 P **P** 12 41 53.0 +1.5
REDW **Red Top Meadow** 77.99 331 P **P** 12 41 52.6 +1.1
REDW lAmb lAmb 12 41 54.9
comp=Z,92nm,1.1s
SNOW **Snow King Moun** 78.03 331 P **P** 12 41 53.0 +1.2
SNOW lAmb lAmb 12 41 55.2
comp=Z,61nm,0.9s
RYN **Ryan** 78.11 323 P **P** 12 41 53.7 +1.5
TPAW **Teton Pass** 78.13 331 P **P** 12 41 54.0 +1.6
TPAW lAmb lAmb 12 41 55.9
comp=Z,74nm,1.1s
KVN **Kaiserville** 78.19 324 P **P** 12 41 54.2 +1.6
KVN pmax pmax
comp=Z,66nm,1.1s

KVN **Kaiserville** 78.19 324 P **P** 12 41 54.2 +1.6
MOOW **Moose Ponds** 78.25 331 P **P** 12 41 53.8 +0.9
FXWY **Fox Creek** 78.29 331 P **P** 12 41 54.2 +1.1
SAO **San Andreas Ge** 78.41 320 P **P** 12 41 54.8 +1.2
SAO pmax pmax
comp=Z,20nm,1.1s
SAO **San Andreas Ge** 78.41 320 P **P** 12 41 54.8 +1.2
FLWY **Flagg Ranch** 78.50 332 P **P** 12 41 56.1 +1.8
FLWY lAmb lAmb 12 41 58.2
comp=Z,127nm,1.0s
WAKR **Walker** 78.51 323 P **P** 12 41 54.6 +0.1
WAKR lAmb lAmb 12 41 58.7
comp=Z,87nm,1.3s
YPP **Pitchstone Pla** 78.70 332 P **P** 12 41 58.1 +2.7
CMB **Columbia Colle** 78.70 322 P **P** 12 41 57.1 +1.8
CMB pmax pmax
comp=Z,47nm,1.6s
CMB **Columbia Colle** 78.70 322 P **P** 12 41 57.1 +1.8
H17A **Grant Village** 78.70 332 P **P** 12 41 57.3 +1.9
baz=144,SNR=15
H17A **Grant Village** 78.70 332 P **P** 12 41 56.9 +1.5
RLMT **Red Lodge** 78.74 333 P **P** 12 41 57.5 +1.9
baz=145,SNR=45
RLMT **Red Lodge** 78.74 333 P **P** 12 41 56.5 +0.9
BMN **Battle Mountai** 78.75 325 P **P** 12 41 56.7 +1.0
BMN **Battle Mountai** 78.75 325 P **P** 12 41 56.7 +1.0
YERR **Yerington** 78.75 323 P **P** 12 41 57.5 +1.8
YERR lAmb lAmb 12 41 59.6
comp=Z,71nm,1.0s
ULM **Lac du Bonnet** 78.78 344 *c i*P **P** 12 41 56.5 +1.1
ULM **Lac du Bonnet** 78.78 344 P **P** 12 41 55.8 +0.4
comp=Z,28nm,0.6s,baz=159,slow=5.8,SNR=60
ULM PKKPbc **PKKPbc** 13 00 48.9 -3.1
comp=Z,2.4nm,0.5s,baz=353,slow=3.5,SNR=6.7
ULM LR LR 13 18 19.4
comp=Z,146nm,21.6s,baz=144,slow=37
ULM **Lac du Bonnet** 78.78 344 P **P** 12 41 56.2 +0.8
YMP **Mirror Lake Pl** 78.80 332 P **P** 12 41 55.7 -0.3
LAO **LASA Array** 78.86 336 P **P** 12 41 57.5 +1.5
baz=148,SNR=38
LAO **LASA Array** 78.86 336 P **P** 12 41 56.9 +0.9
LAO lAmb lAmb 12 41 59.1
comp=Z,111nm,1.1s
YUF **Upper Falls** 78.93 332 P **P** 12 41 55.9 -0.8
YNE **Yellowstone No** 78.96 333 P **P** 12 41 57.7 +0.9
YNR **Norris Junctio** 79.00 332 P **P** 12 41 58.2 +1.1
PNTR **Pine Nut** 79.02 323 P **P** 12 41 59.0 +1.7
PNTR lAmb lAmb 12 42 01.2
comp=Z,94nm,0.8s
YNM **Yellowstone No** 79.02 332 P **P** 12 41 55.0 -2.1
YMR **Madison River** 79.08 332 P **P** 12 41 59.3 +1.8
YHH **Holmes Hill** 79.13 332 P **P** 12 41 59.7 +1.9
VCNR **Virginia City** 79.19 323 P **P** 12 41 60.0 +1.8
YHB **Horse Butte** 79.25 332 P **P** 12 41 57.9 -0.5
RUBR **Rubicon Trail** 79.29 323 P **P** 12 41 60.0 +1.2
RUBR lAmb lAmb 12 42 02.8
comp=Z,72nm,1.1s
YHL **Hebgen Lake** 79.32 332 P **P** 12 41 58.9 0.0
PAHR **Pah Rah Range** 79.35 324 P **P** 12 42 00.8 +1.9
PAHR lAmb lAmb 12 42 02.9
comp=Z,123nm,1.0s
QLMT **Earthquake Lak** 79.41 332 P **P** 12 42 00.0 +0.8
GCMT **Greycliff** 79.45 333 P **P** 12 41 59.5 +0.2
DGMT **Dagmar** 79.66 338 P **P** 12 42 01.8 +1.6
baz=150,SNR=19
DGMT **Dagmar** 79.66 338 P **P** 12 42 01.2 +0.9
AFDM **Forest Hills D** 79.67 322 P **P** 12 42 00.9 +0.3
BEKR **Beckworth** 79.99 323 P **P** 12 42 04.0 +1.5
MCMT **McKenzie Canyo** 80.03 331 P **P** 12 42 04.1 +1.5
TORD **Torodi Ar. Bea** 80.11 70 P **P** 12 42 04.3 +0.9
comp=Z,57nm,0.5s,baz=264,slow=4.8,SNR=367
TORD pP **pP** 12 42 22.1 +0.5
comp=Z,78nm,0.7s,baz=258,slow=5.5,SNR=11
TORD sP **sP** 12 42 29.4 +0.5
comp=Z,104nm,0.6s,baz=263,slow=5.1,SNR=11
TORD PKKPbc **PKKPbc** 13 00 48.2 +1.5
comp=Z,0.6nm,0.6s,baz=46,slow=2.9,SNR=4.1
TORD LR LR 13 17 25.3
comp=Z,242nm,19.3s,baz=290,slow=36
BOZ **Bozeman (W)** 80.11 332 P **P** 12 42 04.9 +2.0
baz=143,SNR=20
BOZ **Bozeman (W)** 80.11 332 P **P** 12 42 03.0 +0.1
BOZ pmax pmax
comp=Z,84nm,1.5s
BOZ **Bozeman (W)** 80.11 332 P **P** 12 42 03.0 +0.1
SCHQ **Schefferville** 80.15 2 P **P** 12 42 04.1 +1.3
comp=Z,16nm,0.8s,baz=207,slow=4.7,SNR=11
SCHQ LR LR 13 18 48.0
comp=Z,86nm,20.1s,baz=176,slow=36
SCHQ **Schefferville** 80.15 2 P **P** 12 42 02.4 -0.4
TSUM **Tsumeb** 80.28 107 P **P** 12 42 04.6 +0.1
MFID **Camas Ranch** 80.30 328 P **P** 12 42 05.1 +1.1
MFID lAmb lAmb 12 42 07.6
comp=Z,92nm,1.4s
DLMT **Dillon** 80.34 331 P **P** 12 42 04.6 +0.5
DLMT lAmb lAmb 12 42 07.8
comp=Z,71nm,1.1s
ORV **Oroville** 80.39 322 P **P** 12 42 04.6 +0.3
ORV pmax pmax
comp=Z,125nm,1.3s
ORV **Oroville** 80.39 322 P **P** 12 42 04.6 +0.3
ORV lAmb lAmb 12 42 08.1
comp=Z,125nm,1.2s
GDXM **Geysers** 80.59 321 P **P** 12 42 05.9 +0.3
LRM **Limekiln Ridge** 80.64 332 P **P** 12 42 07.7 +1.8
MAW **Mawson** 80.85 164 P **P** 12 42 06.9 +0.5
MAW *PP **pP** 12 42 24.4 -0.2
MAW pmax pmax
comp=Z,9.0nm,0.6s
MAW **Mawson** 80.85 164 P **P** 12 42 06.6 +0.2
comp=Z,40nm,0.6s,baz=212,slow=6.3,SNR=77
MAW pP **pP** 12 42 24.8 +0.2
comp=Z,22nm,0.4s,baz=203,slow=7.0,SNR=6.4
MAW LR LR 13 20 00.8
comp=Z,158nm,19.9s,baz=234,slow=37
MAW **Mawson** 80.85 164 P **P** 12 42 06.9 +0.5
MAW **pP** 12 42 24.4 -0.2
WVOR **Wild Horse Val** 80.94 326 P **P** 12 42 06.1 -1.3
WVOR pmax pmax
comp=Z,59nm,1.4s
WVOR **Wild Horse Val** 80.94 326 P **P** 12 42 06.1 -1.3
O03E **Paynes Creek** 81.07 323 P **P** 12 42 08.6 +0.5
baz=135,SNR=27
EGMT **Eagleton** 81.31 335 P **P** 12 42 09.8 +0.7
baz=145,SNR=22
EGMT **Eagleton** 81.31 335 P **P** 12 42 10.1 +0.9
EGMT lAmb lAmb 12 42 11.8
comp=Z,100nm,1.1s
MOD **Modoc Plateau** 81.41 325 P **P** 12 42 10.7 +0.7
MOD lAmb lAmb 12 42 13.3
comp=Z,70nm,1.1s
O02D **Mt. Diablo Mer** 81.53 322 P **P** 12 42 11.7 +1.1
baz=134,SNR=12
PLID **Pearl Lake** 81.65 329 P **P** 12 42 12.1 +0.9
PLID lAmb lAmb 12 42 14.4
comp=Z,96nm,0.9s
WDC **Whiskeytown Da** 81.67 323 P **P** 12 42 11.6 +0.4
WDC pmax pmax
comp=Z,35nm,0.9s
WDC **Whiskeytown Da** 81.67 323 P **P** 12 42 11.6 +0.4
N02D **Trinity Center** 82.04 323 P **P** 12 42 14.1 +0.9
baz=134,SNR=20
MSO **Missoula** 82.07 332 P **P** 12 42 15.1 +1.9
baz=141,SNR=15
MSO **Missoula** 82.07 332 P **P** 12 42 14.2 +1.0
KMRM **Mail Ridge** 82.07 322 P **P** 12 42 14.3 +0.9
KMRM lAmb lAmb 12 42 17.3
comp=Z,109nm,1.2s
BMO **Blue Mountains** 82.08 328 P **P** 12 42 13.0 -0.3
BMO pmax pmax
comp=Z,110nm,1.7s
BMO **Blue Mountains** 82.08 328 P **P** 12 42 13.1 -0.3
BMO lAmb lAmb 12 42 16.4
comp=Z,110nm,1.6s
M04C **Macdoel** 82.13 324 P **P** 12 42 15.0 +1.2
baz=135,SNR=26
M02C **Callahan** 82.41 323 P **P** 12 42 16.1 +1.0
baz=134,SNR=14
KHMM **Horse Mountain** 82.53 322 P **P** 12 42 14.9 -1.0
YBH **Yreka Blue Hor** 82.56 323 P **P** 12 42 16.6 +0.6
comp=Z,12nm,0.7s,baz=88,slow=3.6,SNR=46
YBH **Yreka Blue Hor** 82.56 323 P **P** 12 42 15.7 -0.2
K04D **Chiloquin, OR** 82.68 325 P **P** 12 42 18.0 +1.4
baz=135
L04D **Klamath Falls** 82.69 324 P **P** 12 42 17.5 +0.9

baz=134,SNR=13
BOSA Boshof 82.83 118 P **P** **12 42 17.3 -0.5**
BOSA *PP **pP** **12 42 35.4 -0.7**
BOSA pmax pmax
comp=Z,37nm,0.8s
BOSA Boshof 82.83 118 P **P** **12 42 17.1 -0.7**
comp=Z,12nm,0.8s,baz=264,slow=4.2,SNR=19
BOSA pP **pP** **12 42 35.3 -0.7**
comp=Z,30nm,0.8s,baz=245,slow=3.9,SNR=13
BOSA LR LR 13 15 19.8
comp=Z,480nm,19.6s,baz=218,slow=33
BOSA Boshof 82.83 118 P **P** **12 42 17.3 -0.5**
BOSA **pP** **12 42 35.4 -0.7**
BOSA sP **sP** **12 42 42.9 -0.5**
J05D Fort Rock, OR 82.88 325 P **P** **12 42 19.2 +1.6**
baz=135,SNR=30
F10A Beach Ranch, E 82.88 329 P **P** **12 42 18.0 +0.6**
JTMT Jette 82.93 332 P **P** **12 42 18.7 +1.0**
KRMB Red Mountain 83.07 323 P **P** **12 42 18.6 0.0**
PINE Pine Mountain 83.09 326 P **P** **12 42 20.5 +1.7**
PINE IAmb IAmb 12 42 22.4
comp=Z,75nm,1.0s
G08A Pilot Rock 83.19 328 P **P** **12 42 17.6 -1.5**
ZGR Zagora 83.25 52 P **P** **12 42 22.0 +2.2**
J04D Umpqua Nationa 83.30 325 P **P** **12 42 21.0 +1.1**
baz=135,SNR=9.7
HUMO Hull Mountain 83.30 324 P **P** **12 42 20.5 +0.9**
L02E Cave Junction 83.34 323 P **P** **12 42 21.7 +1.9**
baz=134,SNR=7.0
TZRR Tazzarine 83.66 52 P **P** **12 42 24.3 +2.4**
I05D Terrebonne, OR 83.68 326 P **P** **12 42 23.1 +1.6**
baz=135,SNR=27
E09A Wood Farm, Sta 83.71 329 P **P** **12 42 21.5 -0.1**
K02D Willamette Mer 83.74 324 P **P** **12 42 23.7 +1.7**
baz=134,SNR=12
WALA Waterton Lakes 83.80 333 P **P** **12 42 23.6 +1.4**
WALA IAmb IAmb 12 42 25.1
comp=Z,72nm,0.8s
I04A Tendick Farm, 83.84 325 P **P** **12 42 22.9 +0.5**
baz=134,SNR=8.3
G06A Carlson Farm, 83.97 327 P **P** **12 42 24.6 +1.6**
G06A IAmb IAmb 12 42 26.7
comp=Z,81nm,1.5s
F07A Phinny Hill Vi 84.10 328 P **P** **12 42 25.5 +1.9**
F07A IAmb IAmb 12 42 27.2
comp=Z,109nm,1.9s
E08A Dider Farm, El 84.12 329 P **P** **12 42 24.5 +0.9**
J01E Myrtle Point 84.20 324 P **P** **12 42 26.3 +2.1**
baz=133
I03D Drain, OR 84.26 324 P **P** **12 42 26.2 +1.8**
baz=134
HAWA Hanford 84.27 328 P **P** **12 42 25.2 +0.7**
G05D Wamic, OR 84.31 327 P **P** **12 42 26.6 +1.8**
baz=135
FFC Flin Flon 84.44 342 *i* P **P** **12 42 25.7 +0.6**
FFC Flin Flon 84.44 342 P **P** **12 42 25.5 +0.4**
H04D Lebanon 84.52 325 P **P** **12 42 27.1 +1.4**
baz=134
E07A Sunnyside 84.54 328 P **P** **12 42 27.8 +1.9**
NEW Newport 84.55 331 P **P** **12 42 26.3 +0.4**
baz=139,SNR=12
NEW Newport 84.55 331 P **P** **12 42 26.9 +1.0**
comp=Z,12nm,0.8s,baz=132,slow=6.2,SNR=15
NEW Newport 84.55 331 P **P** **12 42 25.9 0.0**
GOLM Goulimina 84.61 51 P **P** **12 42 30.0 +3.3**
LBTB Lobatse 84.64 115 P **P** **12 42 24.5 -2.6**
LBTB pmax pmax
comp=Z,52nm,0.7s
LBTB Lobatse 84.64 115 P **P** **12 42 24.5 -2.6**
LBTB IAmb IAmb 12 42 45.8
comp=Z,52nm,0.7s
C09A Chrisman Ranch 84.72 330 P **P** **12 42 27.7 +1.0**
C09A IAmb IAmb 12 42 29.5
comp=Z,55nm,0.9s
I02D Swisshome 84.81 325 P **P** **12 42 29.4 +2.2**
baz=134
F05D White Salmon 84.84 327 P **P** **12 42 29.1 +1.8**
baz=135
COR Corvallis 84.86 325 P **P** **12 42 26.3 -1.1**
COR pmax pmax
comp=Z,88nm,1.2s
COR Corvallis 84.86 325 P **P** **12 42 26.4 -1.1**
COR IAmb IAmb 12 42 31.1
comp=Z,88nm,1.1s
G03D McMinnville, O 85.27 326 P **P** **12 42 31.2 +1.7**
baz=134
F04A Amboy 85.34 327 P **P** **12 42 30.4 +0.6**
F04A IAmb IAmb 12 42 32.5
comp=Z,48nm,1.0s
MORF Marmelete 85.39 45 *eP* **P** **12 42 31.2 +0.9**
MORF AMb AMB 12 42 35.1
comp=Z,123nm,1.9s
MORF Marmelete 85.39 45 *eP* **P** **12 42 32.7 +2.3**
comp=Z,122nm,1.7s
MORF *eP* **pP** **12 42 50.7 +2.0**
MORF Marmelete 85.39 45 *eP* **P** **12 42 31.2 +0.9**
LTY Liberty 85.44 328 P **P** **12 42 31.4 +1.0**
MDT Midelt 85.48 50 P **P** **12 42 32.1 +1.1**
comp=Z,21nm,1.1s,baz=240,slow=4.3,SNR=16
MDT Midelt 85.48 50 P **P** **12 42 33.4 +2.4**
PTEO Sao Teotonio 85.49 45 *eP* **P** **12 42 32.7 +1.9**
comp=Z,175nm,1.6s
PTEO *eP* **pP** **12 42 51.5 +2.5**
B08A Colville Reser 85.61 330 P **P** **12 42 31.8 +0.6**
F04D Rainier, OR 85.75 326 P **P** **12 42 33.7 +1.8**
baz=134
PBDV Barranco-do-Ve 85.81 45 *eP* **P** **12 42 35.0 +2.6**
comp=Z,158nm,1.6s
PBDV *eP* **pP** **12 42 53.0 +2.3**
E04D Cinebar 85.86 327 P **P** **12 42 33.5 +1.2**
baz=135
PNCL Nicolau / Gran 85.95 44 *eP* **P** **12 42 35.3 +2.3**
comp=Z,90nm,1.8s
PCVE Castro Verde 85.97 45 *eP* **P** **12 42 35.6 +2.4**
comp=Z,71nm,1.3s
PCVE *eP* **pP** **12 42 53.6 +2.1**
MESJ Messejana 85.98 45 *eP* **P** **12 42 34.3 +1.0**
MESJ AMb AMB 12 42 37.3
comp=Z,96nm,1.6s
MESJ Messejana 85.98 45 *eP* **P** **12 42 34.2 +1.0**
D05A Enumclaw 86.02 328 P **P** **12 42 34.0 +0.9**
C06D Leavenworth 86.02 329 P **P** **12 42 33.9 +0.8**
baz=136
PVAQ Vaqueiros 86.04 45 *eP* **P** **12 42 35.9 +2.4**
comp=Z,109nm,1.6s
PVAQ *eP* **pP** **12 42 53.1 +1.3**
PVAQ Vaqueiros 86.04 45 P **P** **12 42 36.0 +2.4**
PVAQ Vaqueiros 86.04 45 P **P** **12 42 32.9 -0.6**
PVAQ **pP** **12 42 52.1 +0.3**
PBEJ Beja 86.32 45 *eP* **P** **12 42 37.1 +2.2**
comp=Z,90nm,1.7s
PBEJ *eP* **pP** **12 42 55.2 +2.0**
D04E Lakebay 86.39 327 P **P** **12 42 36.4 +1.4**
baz=134
EVO Evora 86.53 44 *eP* **P** **12 42 37.4 +1.5**
comp=Z,68nm,1.8s
EVO *eP* **pP** **12 42 54.5 +0.3**
PMTG Montargil 86.71 44 *eP* **P** **12 42 35.2 -1.6**
comp=Z,99nm,1.8s
PMTG *eP* **pP** **12 42 52.5 -2.6**
B06A Marblemount 86.72 329 P **P** **12 42 35.2 -1.3**
D03D Eldon 86.79 327 P **P** **12 42 38.0 +1.0**
baz=134,SNR=14
B05A Bryant 86.83 328 P **P** **12 42 37.9 +0.9**
baz=135
PESTR Estremoz 86.99 44 P **P** **12 42 34.4 -3.7**
PESTR pP **pP** **12 42 55.4 -1.1**
NLWA Neilton Lookou 87.08 327 P **P** **12 42 36.5 -1.9**
A04D Lummi Island 87.44 328 P **P** **12 42 40.9 +0.9**
baz=134
PMRV Marv??o 87.45 44 *eP* pP 12 42 59.7 +1.0
FIGM Figuig 87.47 53 P **P** **12 42 44.0 +3.2**
PCBR Castelo Branco 87.64 43 *eP* pP 12 43 01.6 +2.0
MTE Manteigas 87.93 43 *eP* pP 12 43 03.5 +2.4
PVRL Vila Real 88.34 42 *eP* pP 12 43 04.2 +1.2
POLO Lamas de Olo 88.36 42 *eP* pP 12 43 03.8 +0.7
LLLB Lillooet 88.39 330 P **P** **12 42 42.5 -2.1**
LLLB IAmb IAmb 12 42 46.6
comp=Z,50nm,1.3s
PCAB Cabril 88.42 42 *eP* pP 12 43 03.2 -0.1
CASY Casey 88.42 180 P **P** **12 42 45.2 +0.6**
CASY IAmb IAmb 12 42 46.7
comp=Z,43nm,0.6s
MVO Moncorvo 88.69 43 *eP* pP 12 43 05.5 +0.8
FRB Frobisher Bay 89.05 1 P **P** **12 42 48.0 +0.7**

comp=Z,12nm,1.1s,baz=202,slow=7.7,SNR=5.2
ESDC Sonseca Array 89.76 45 P **P** **12 42 52.2 +0.9**
comp=Z,2.8nm,0.9s,baz=244,slow=4.5,SNR=11
ESDC pP **pP** **12 43 09.7 -0.1**
comp=Z,0.8nm,0.3s,baz=245,slow=3.0,SNR=6.7
ESDC LR LR 13 21 07.5
comp=Z,207nm,20.5s,baz=220,slow=34
URZ Urewera 90.33 227 P **P** **12 42 56.5 +2.3**
comp=Z,12nm,0.8s,baz=59,slow=5.9,SNR=4.3
URZ Urewera 90.33 227 P **P** **12 42 56.1 +1.9**
URZ IAmb IAmb 12 43 52.6
comp=Z,75nm,1.4s
RPZ Rata Peaks 90.92 220 P **P** **12 42 58.4 +1.6**
comp=Z,12nm,0.9s,baz=80,slow=5.7,SNR=4.1
RPZ pP **pP** **12 43 16.9 +1.8**
comp=Z,19nm,1.0s,baz=69,slow=7.4,SNR=4.3
RPZ Rata Peaks 90.92 220 P **P** **12 42 56.1 -0.7**
THZ Tophouse 90.99 222 P **P** **12 42 58.9 +1.7**
THZ pP **pP** **12 43 16.4 +0.8**
YKA Yellowknife Ar 94.55 341 P **P** **12 43 13.3 +0.5**
comp=Z,9.3nm,0.9s,baz=137,slow=4.6,SNR=142
YKA pP **pP** **12 43 31.5 +0.4**
comp=Z,3.2nm,0.8s,baz=141,slow=4.5,SNR=3.7
YKA PKKPbc **PKKPdf** **13 00 11.0 -2.6**
comp=Z,0.4nm,0.5s,baz=327,slow=3.2,SNR=15
RES Resolute Bay 101.28 354 PKKPbc PKKPbc 12 59 53.0 -2.1
comp=Z,1.3nm,0.5s,baz=308,slow=3.7,SNR=13
EPYK Eagle Plains 104.26 338 P **Pdif** **12 43 57.1 +0.7**
baz=122
INK Inuvik 104.27 340 *i* P **Pdif** **12 43 57.0 +0.8**
INK Inuvik 104.27 340 Pdiff **Pdif** **12 43 56.8 +0.6**
comp=Z,4.3nm,1.1s,baz=96,slow=4.3,SNR=6.7
INK PKKPbc **PKKPbc** **12 59 44.4 -1.6**
comp=Z,2.0nm,0.6s,baz=321,slow=2.4,SNR=17
INK PKKPab **PKKPab** **13 00 01.7 +1.3**
comp=Z,2.0nm,0.8s,baz=335,slow=3.6,SNR=5.4
INK Inuvik 104.27 340 **Pdif** **12 43 57.0 +0.8**
GERES GERESS Array B 105.21 43 PKiKP **PKiKP** **12 48 15.7 +0.6**
comp=Z,0.5nm,0.5s,baz=195,slow=2.1,SNR=4.6
DZM Mont Dzumac 107.24 234 *e*LR LR 13 19 35.7
comp=Z,711nm,29.6s
ILAR Eielson Array 107.27 334 Pdiff **Pdif** **12 44 10.4 +0.7**
comp=Z,0.5nm,0.7s,baz=113,slow=1.9,SNR=5.9
ILAR PKiKP **PKiKP** **12 48 19.6 +1.4**
comp=Z,0.8nm,1.0s,baz=133,slow=3.8,SNR=3.7
ILAR PKKPbc **PKKPbc** **12 59 33.6 -3.1**
comp=Z,0.5nm,0.6s,baz=302,slow=3.5,SNR=7.4
ILAR PKKPab **PKKPab** **12 59 48.0 +0.7**
comp=Z,0.3nm,0.6s,baz=314,slow=4.6,SNR=3.9
POKR Poker Plat Res 107.62 334 P **PKiKP** **12 48 18.3 -0.6**
baz=113
TOLK Toolik Lake Re 109.69 338 P **PKiKP** **12 48 22.7 -0.1**
baz=110
STKA Stephens Creek 115.15 210 PKP **PKPdf** **12 48 34.7 +0.4**
comp=Z,0.6nm,0.6s,baz=135,slow=2.9,SNR=6.0
STKA PKKPbc **PKKPbc** **12 59 08.9 -0.8**
comp=Z,2.0nm,0.8s,baz=324,slow=5.3,SNR=4.5
STKA PKKP **PKKPdf** **12 59 32.9 +0.1**
comp=Z,1.6nm,0.8s,baz=0.0,slow=0.0,SNR=2.9
STKA Stephens Creek 115.15 210 **PKiKP** **12 48 34.2 -0.1**
FINES FINESS Array B 115.25 32 PKP **PKPdf** **12 48 34.3 +0.9**
comp=Z,3.9nm,1.0s,baz=101,slow=4.4,SNR=2.4
FINES PKKPbc **PKKPbc** **12 59 09.5 -0.7**
comp=Z,1.3nm,0.5s,baz=85,slow=2.9,SNR=6.4
AKASG Malin Array Be 115.38 44 PKP **PKPdf** **12 48 33.8 -0.2**
comp=Z,4.3nm,0.5s,baz=270,slow=2.7,SNR=25
AKASG pPKP **pPKiKP** **12 48 52.8 -0.3**
comp=Z,2.5nm,0.5s,baz=267,slow=3.0,SNR=2.8
AKASG PKKPbc **PKKPbc** **12 59 09.0 -0.4**
comp=Z,1.3nm,0.5s,baz=66,slow=3.9,SNR=7.0
AKBB Malin Array Si 115.38 44 || *i* PKiKP **PKPdf** **12 48 33.5 -0.5**
AKBB Malin Array Si 115.38 44 **PKPdf** **12 48 33.5 -0.5**
ARCES ARCESS Array B 115.81 23 PKKPbc PKKPbc 12 59 07.4 -1.0
comp=Z,1.5nm,0.5s,baz=84,slow=4.0,SNR=13
BR131 Keskin Array S 116.34 57 *c i* PKiKP **PKiKP** **12 48 37.0 +0.6**
BRTR Keskin Array B 116.34 57 PKP **PKPdf** **12 48 36.4 -0.1**
comp=Z,3.8nm,0.6s,baz=207,slow=2.3,SNR=10.0
BRTR PP **PP** **12 49 46.5 +2.9**
comp=Z,1.0nm,0.6s,baz=221,slow=6.7,SNR=2.5
BRTR PKKPbc **PKKPbc** **12 59 05.9 0.0**
comp=Z,0.4nm,0.3s,baz=116,slow=3.4,SNR=3.2
OBN Obninsk 120.26 39 || *i* PKiKP **PKiKP** **12 48 44.5 +1.2**
OBN *e* 12 50 07.2
OBN *e*PS **PS** **12 59 56.1 -4.9**
OBN *e*SS SS 13 06 31.5 -1.4
OBN pmax pmax
comp=Z,14nm,0.5s
OBN MLR MLR
comp=Z,180nm,16.0s
SOC Sochi 121.46 53 *e*PKiKP **PKiKP** **12 48 46.2 +0.1**
SOC *e* 12 50 20.1
SOC *e*PPP PPP 12 52 54.4
SOC *e*PS **PS** **13 00 17.8 +5.6**
SOC *e*SS SS 13 06 50.6 +1.5
SOC *e*SSS SSS 13 11 22.5
SOC pmax pmax
comp=Z,19nm,0.6s
LPSR Galich'ya Gora 121.58 42 *e*PKiKP **PKiKP** **12 48 46.0 0.0**
LPSR pmax pmax
comp=Z,30nm,0.7s
VSR Storozhevoye 121.68 44 || *i* PKiKP **PKiKP** **12 48 46.6 +0.3**
CTA Charters Tower 122.23 222 PKP **PKiKP** **12 48 49.0 +0.6**
comp=Z,3.0nm,0.6s,baz=153,slow=4.5,SNR=4.1
RAYN Ar Rayn 122.28 77 PKiKP **PKiKP** **12 48 48.8 +0.4**
RAYN Ar Rayn 122.28 77 **PKiKP** **12 48 48.8 +0.4**
VRH Novokhopyorsk 123.29 44 *e*PKiKP **PKPdf** **12 48 46.4 -2.8**
VRH pmax pmax
comp=Z,6.0nm,0.3s
KIV Kislovodsk 123.64 53 *i* PKiKP **PKiKP** **12 48 51.4 +0.9**
KIV pmax pmax
comp=Z,49nm,1.1s
KIV MLR MLR
comp=Z,321nm,22.0s
KBZ Khabaz 123.78 53 *c i* PKiKP **PKiKP** **12 48 51.1 +0.5**
KBZ Khabaz 123.78 53 PKP **PKiKP** **12 48 51.2 +0.6**
comp=Z,14nm,0.9s,baz=220,slow=3.5,SNR=26
AKH Akhalkalaki 124.01 56 PKiKP **PKPdf** **12 48 50.5 -0.6**
AKH Akhalkalaki 124.01 56 **PKPdf** **12 48 50.5 -0.6**
ZEI Tsey 124.43 54 *i* PKiKP **PKiKP** **12 48 52.7 +0.4**
ZEI pmax pmax
comp=Z,10.0nm,1.0s
PRGR Permogore 124.57 31 *e*PKiKP **PKiKP** **12 48 52.0 +0.4**
PRGR *e* 12 49 10.6
PRGR pmax pmax
comp=Z,22nm,0.7s
ASAR Alice Springs 125.63 208 PKP **PKPdf** **12 48 54.4 -0.3**
comp=Z,12nm,0.6s,baz=130,slow=1.8,SNR=128
ASAR pPKP **pPKPdf** **12 49 13.3 -0.4**
comp=Z,9.4nm,0.8s,baz=143,slow=2.0,SNR=9.7
ASAR PKKP **PKKPdf** **12 59 13.8 +0.8**
comp=Z,0.3nm,0.7s,baz=318,slow=1.8,SNR=4.2
AS31 Alice Springs 125.63 208 **PKPdf** **12 48 54.1 -0.6**
BILL Bilibino 125.74 337 *i* PKiKP **PKiKP** **12 48 53.8 0.0**
BILL *i* 12 49 16.7
BILL *i* 12 50 48.3
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,269nm,26.0s
H11S2 WAKE ISLAND Hyl 126.83 275 T T 15 08 44.5
baz=108,slow=75,SNR=533
H11S1 WAKE ISLAND Hyl 126.84 275 T T 15 08 44.6
baz=108,slow=75,SNR=464
H11S3 WAKE ISLAND Hyl 126.85 275 T T 15 08 44.8
baz=108,slow=75,SNR=448
H11N3 WAKE ISLAND Hyl 127.03 276 T T 15 08 57.8
baz=108,slow=75,SNR=38
H11N1 WAKE ISLAND Hyl 127.04 276 T T 15 09 01.9
baz=108,slow=75,SNR=23
H11N2 WAKE ISLAND Hyl 127.04 276 T T 15 08 58.9
baz=108,slow=75,SNR=35
AKT Akhty 127.19 56 *e*PKiKP **PKiKP** **12 48 58.7 +1.0**
AKT *e* 12 50 58.6
AKT pmax pmax
comp=Z,16nm,1.1s
WRAB Tennant Creek 128.70 210 *d i* PKiKP **PKPdf** **12 49 00.5 -0.1**
WRAB pmax pmax
comp=Z,42nm,1.7s
WRAB Tennant Creek 128.70 210 **PKPdf** **12 49 00.4 -0.3**
WRAB pPKPdf **pPKPdf** **12 49 18.9 -0.8**
PMG Port Moresby 129.46 231 || *i* PKiKP **PKiKP** **12 49 03.0 +0.1**
PMG Port Moresby 129.46 231 PKP **PKiKP** **12 49 03.6 +0.7**
comp=Z,13nm,0.8s,baz=220,slow=16,SNR=3.6
PMG Port Moresby 129.46 231 **PKPdf** **12 49 01.6 -0.5**
ARU Arti 132.33 36 *i* PKiKP **PKiKP** **12 49 08.6 +1.2**
ARU 12 51 32.9
ARU SS SS 13 09 01.9 -1.4
ARU Arti 132.33 36 **PKiKP** **12 49 07.7 +0.3**
TIXI Tiksi 132.63 352 *c i* PKiKP **PKiKP** **12 49 09.3 +1.8**
TIXI MLR MLR
comp=Z,264nm,23.0s
TIXI Tiksi 132.63 352 PKhKP PKPpre 12 49 01.5
comp=Z,4.2nm,0.8s,baz=85,slow=1.1,SNR=10
SEY Seymchan 133.21 335 || *i* PKiKP **PKiKP** **12 49 09.8 +0.9**
SEY Seymchan 133.21 335 PKP **PKiKP** **12 49 09.3 +0.4**
comp=Z,9.0nm,0.8s,baz=95,slow=3.4,SNR=38
SVE Sverdlovsk 133.27 35 *e*PKiKP **PKiKP** **12 49 09.9 +0.6**
SVE pmax pmax
comp=Z,26nm,1.6s
AKTO Aktyubinsk 133.62 44 PKP **PKiKP** **12 49 10.3 +0.1**
comp=Z,4.3nm,0.6s,baz=252,slow=1.2,SNR=3.7
FITZ Fitzroy Crossi 133.82 202 PKP **PKPdf** **12 49 10.8 +0.5**
comp=Z,7.0nm,0.7s,baz=214,slow=5.1,SNR=19
FITZ pPKP **pPKPdf** **12 49 28.9 -0.5**
comp=Z,6.0nm,0.7s,baz=208,slow=6.1,SNR=5.7
FITZ Fitzroy Crossi 133.82 202 **PKPdf** **12 49 09.7 -0.7**
FITZ **pPKPdf** **12 49 29.5 +0.2**
PETK Petropavlovsk- 134.87 321 PKP **PKiKP** **12 49 12.9 +0.3**
comp=Z,2.5nm,0.6s,baz=111,slow=8.1,SNR=4.9
AB31 Akbulak array 135.10 45 *i* PKiKP **PKiKP** **12 49 13.0 -0.2**
AB31 pmax pmax
comp=Z,13nm,0.8s
ABKAR Akbulak array 135.10 45 PKPdf **PKPdf** **12 49 09.7 -2.1**
GEYT Alibeck 135.13 61 PKP **PKiKP** **12 49 13.4 -0.3**
comp=Z,7.3nm,0.5s,baz=290,slow=1.0,SNR=13
GYA0B ALIBECK ARRAY 135.13 61 **PKPdf** **12 49 12.1 -0.1**
GYA0B pPKPdf **pPKPdf** **12 49 32.1 +0.8**
HRA Herat 138.46 66 **PKPdf** **12 49 16.5 -2.3**
BRVK Borovoye 139.89 36 *d i* PKiKP **PKiKP** **12 49 21.9 -1.0**
BRVK Borovoye 139.89 36 **PKPdf** **12 49 17.8 -2.6**
YAK Yakutsk 141.11 345 *e*PKHKP PKPpre 12 49 16.5
YAK *e*SS SS 13 10 55.5 +8.7
YAK pmax pmax
comp=Z,19nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,126nm,2.0s
YAK pmax pmax
comp=N,93nm,2.1s
YAK pmax pmax
comp=E,64nm,1.9s
YAK Yakutsk 141.11 345 PKhKP PKPpre 12 49 15.7
comp=E,6.1nm,0.5s,baz=80,slow=0.3,SNR=5.0
SOEI Soe 142.04 204 PKP **PKiKP** **12 49 27.7 -0.9**
KK31 Karatay Array 143.77 51 *e*PKiKP PKPbc 12 49 25.3 -0.2
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KK31 Karatay Array 143.77 51 PKPbc 12 49 26.0 +0.5
KKAR Karatay Array 143.77 51 PKIKP PKPbc 12 49 25.7 +0.2
KKAR Karatay Array 143.77 51 PKPbc 12 49 25.7 +0.2
MMRI Maumere 143.79 202 PKP PKPbc 12 49 27.1 +0.8
MMRI PKP **PKiKP** **12 49 34.5 +2.4**
KBL Kabul 144.07 66 PKIKP **PKPab** **12 49 26.3 -0.1**
KBL Kabul 144.07 66 **PKPab** **12 49 26.3 -0.1**
GAR Garm 144.56 58 PKPbc 12 49 28.3 +0.1
GUMO Guam 144.71 257 PKP PKPbc 12 49 29.5 +0.4
comp=Z,266nm,1.0s,baz=170,slow=4.4,SNR=6.3
PLAI Plampang 144.85 194 PKP **PKPab** **12 49 28.7 -0.8**
PLAI PKP PKPbc 12 49 29.5 -0.1
TWSI Taliwang, Sumb 145.13 193 PKP **PKPbc** **12 49 30.5 +0.1**
TWSI PKP **PKPbc** **12 49 30.6 +0.1**
IGBI Denpasar 145.36 190 PKP **PKPab** **12 49 31.5 +0.1**
IGBI PKP **PKPdf** **12 49 32.6 +1.3**
KURK Kurchatov 145.52 35 *d i* PKiKP **PKPab** **12 49 31.1 +0.1**
KURK Kurchatov 145.52 35 **PKPab** **12 49 31.0 +0.1**
KURK **pPKPdf** **12 49 50.5 +0.9**
AAI Ambon 145.71 215 PKP **PKPdf** **12 49 31.9 -0.1**
JAGI Jajag, Banyuwa 145.84 188 PKP **PKPbc** **12 49 32.8 0.0**
JAGI PKP **PKPab** **12 49 33.5 +0.3**
JAGI Jajag, Banyuwa 145.84 188 PKPdf **PKPdf** **12 49 32.1 -0.1**
JAGI pPKPdf **pPKPdf** **12 49 51.1 -0.1**
SRBI Singaraja 146.07 190 PKP **PKPbc** **12 49 33.6 +0.2**
SRBI PKP **PKPbc** **12 49 33.6 +0.2**
YSS Yuzh-Sakhalins 146.12 318 *e*PKP2 **PKPab** **12 49 33.7 +0.4**
EKS2 Erkin-Say 146.19 51 P **PKPab** **12 49 33.7 -0.3**
SNR=76
KAD Karad 146.20 97 *eP* **PKPbc** **12 49 34.1 +0.3**
ZAA0 Zalesovo Array 146.26 26 **PKPbc** **12 49 32.4 -0.5**
ZAA0 pPKPdf pPKPab 12 49 52.4 +0.2
ZALV Zalesovo Beam 146.26 26 PKPbc **PKPab** **12 49 33.3 -0.3**
comp=Z,163nm,0.8s,baz=302,slow=3.6,SNR=226
ZALV pPKPbc pPKPab 12 49 52.1 -0.1
comp=Z,51nm,0.8s,baz=305,slow=3.6,SNR=4.7
AML Almayashu 146.30 52 P **PKPbc** **12 49 33.7 -0.1**
SNR=112
POO Poona 146.30 95 *eP* **PKPbc** **12 49 33.5 -0.6**
SWI Sorong 146.32 222 PKP **PKPab** **12 49 34.9 -0.2**
PCJI Pacitan 146.38 183 PKP **PKPbc** **12 49 34.0 -0.4**
USP Aspenovka 146.49 49 P **PKPbc** **12 49 34.2 +0.2**
SNR=55
PWJI Pagerwojo 146.52 184 PKP **PKPbc** **12 49 34.4 -0.4**
PWJI PKP **PKPab** **12 49 34.7 -1.0**
NLAI Namlea 146.64 213 PKP **PKPbc** **12 49 34.9 -0.3**
UGM Wanagama 146.69 182 PKP **PKPab** **12 49 35.9 -0.5**
UGM PKP **PKiKP** **12 49 37.6 -0.5**
UGM Wanagama 146.69 182 **PKPbc** **12 49 35.2 -0.1**
AAK Ala-Archa 146.70 50 *d i* PKP2 **PKPbc** **12 49 34.4 -0.3**
AAK pmax pmax
comp=Z,138nm,1.0s
AAK Ala-Archa 146.70 50 P **PKPbc** **12 49 34.6 -0.2**
SNR=85
AAK Ala-Archa 146.70 50 **PKPbc** **12 49 34.1 -0.6**
FRU1 Bishkek 146.73 50 PKP2 **PKPbc** **12 49 34.6 -0.1**
FRU1 Bishkek 146.73 50 PKPbc **PKPbc** **12 49 34.6 -0.1**
CHMS Chumysh 146.75 50 P **PKPbc** **12 49 35.0 +0.3**
SNR=73
YOGI Yogyakarta 146.79 181 PKP **PKPbc** **12 49 35.7 +0.1**
YOGI PKP **PKPab** **12 49 36.8 0.0**
CMJI Cimerak 146.81 178 PKP **PKPbc** **12 49 35.3 -0.3**
UCH Uchtor 146.84 51 P **PKPbc** **12 49 35.4 -0.2**
SNR=160
KBK Karagaybulak 147.01 50 P **PKiKP** **12 49 38.0 -0.1**
SNR=9.3
CISI Cisompet, Garu 147.01 177 PKP **PKPbc** **12 49 35.7 -0.6**
CISI PKP **PKPdf** **12 49 35.9 +1.7**
CISI Cisompet, Garu 147.01 177 PKPbc **PKPbc** **12 49 35.3 -1.0**
CISI pPKPdf **pPKPdf** **12 49 53.4 +0.1**
PALK Pallekele 147.05 119 || *i* PKP2 **PKPab** **12 49 38.4 +0.4**
NGJI Ngawi 147.19 184 PKP **PKPdf** **12 49 33.7 -0.7**
CNJI Cibinong 147.22 176 PKP **PKPbc** **12 49 37.0 +0.2**
KPJI Karang Pucung 147.27 179 PKP **PKPbc** **12 49 35.9 -1.0**
TKM2 Tokmak 2 147.36 49 PKIKP **PKPdf** **12 49 35.3 +1.2**
TKM2 pmax pmax
comp=Z,95nm,0.9s
TKM2 Tokmak 2 147.36 49 P **PKPdf** **12 49 34.9 +0.7**
SNR=127
KZA Kyzart 147.41 51 P **PKPdf** **12 49 34.8 +0.3**
SNR=34
JKA Kamikawa-asahi 147.44 313 **PKPbc** **12 49 37.5 +1.0**
ASAJ Asahikawa 147.44 313 PKPbc **PKPbc** **12 49 37.5 +1.0**
comp=Z,32nm,0.9s,baz=150,slow=9.7,SNR=6.0
GRNR Gornyy 147.47 328 || *i* PKP2 **PKPbc** **12 49 35.9 -0.5**
GRNR pmax pmax
comp=Z,40nm,1.2s
SMRI Semarang 147.54 182 PKP **PKPab** **12 49 39.4 -0.4**
SMRI Semarang 147.54 182 PKPbc **PKPbc** **12 49 38.2 +0.5**
BKSI Bulukumba 147.59 200 PKP **PKPbc** **12 49 37.9 +0.1**
NIL Nilore 147.62 67 PKIKP **PKPdf** **12 49 35.7 +1.1**
NIL Nilore 147.62 67 **PKPdf** **12 49 35.7 +1.1**
BOD Bodaibo 147.63 355 *e*PKIKP **PKPdf** **12 49 33.5 -0.3**
BOD pmax pmax
comp=Z,75nm,2.0s
LEM Lembang 147.73 177 PKP **PKiKP** **12 49 39.5 -0.9**
DBJI Dramaga 147.94 175 PKP **PKPdf** **12 49 37.1 +1.4**
KDI Kendari 147.99 205 PKP **PKPbc** **12 49 37.8 -1.1**
KAPI Kappang 147.99 200 PKP2 **PKPbc** **12 49 39.1 +0.2**
KAPI Kappang 147.99 200 **PKPbc** **12 49 39.1 +0.2**
ULHL Ulahol 148.05 50 P **PKiKP** **12 49 40.7 +0.4**
SNR=32
NRN Naryn 148.15 52 PKIKP **PKPdf** **12 49 36.8 +1.2**
NRN Naryn 148.15 52 **PKPdf** **12 49 36.8 +1.2**
SANI Sanana 148.22 213 PKP **PKPbc** **12 49 39.8 +0.3**
KSH Kashi 148.72 55 PKPbc **PKPdf** **12 49 37.8 +1.4**
KSH PP **PP** **12 53 14.4 +3.5**
KSH SKS **SKSdf** **12 56 39.6 +0.4**
KSH AMB AMB

	comp=Z,410nm,6.3s								
KDJ	**Kajisay**	**148.74**	**50**		PKIKP	**PKPdf**	**12 49 38.1**	**+1.7**
KDJ	**Kajisay**	**148.74**	**50**			**PKPdf**	**12 49 38.1**	**+1.7**
ZEA	**Zeya**	**148.92**	**339**	*e*	PKP2	**PKPbc**	**12 49 40.2**	**+0.1**
ZEA					pmax	pmax		
	comp=Z,71nm,1.2s							
ZEA					pmax	pmax		
	comp=Z,400nm,4.0s							
KLSI		**149.55**	**171**		PKP	**PKiKP**	**12 49 43.8**	**-0.2**
MAKZ	**Makanchi**	**149.58**	**39**		PKP2	**PKPbc**	**12 49 41.7**	**-0.3**
MAKZ					pmax	pmax		
	comp=Z,60nm,0.6s							
MAKZ	**Makanchi**	**149.58**	**39**		PKPbc	**PKPbc**	**12 49 42.5**	**+0.5**
MK31	**Makanchi Array**	**149.76**	**39**		PKP2	**PKPbc**	**12 49 42.3**	**-0.2**
MK31	**Makanchi Array**	**149.76**	**39**		PKPbc	**PKPbc**	**12 49 42.3**	**-0.2**
MKAR	**Makanchi Array**	**149.76**	**39**	*c*	iPKP	**PKPbc**	**12 49 41.4**	**-1.1**
MKAR					pmax	pmax		
	comp=Z,74nm,0.7s							
MKAR	**Makanchi Array**	**149.76**	**39**		PKPbc	**PKiKP**	**12 49 43.1**	**-0.3**
	comp=Z,74nm,0.7s,baz=317,slow=2.5,SNR=78							
PDGK	**Podgornoye**	**149.81**	**47**		PKP2	**PKiKP**	**12 49 43.6**	**-0.2**
PDGK					pmax	pmax		
	comp=Z,147nm,1.3s							
HYB	**Hyderabad**	**150.15**	**100**	*i*	PKP	**PKPdf**	**12 49 40.0**	**+0.9**
HYB				*e*			12 49 48.0	
HYB				*ep*	PKP	**pPKPbc**	**12 50 02.0**	**-1.3**
HYB	**Hyderabad**	**150.15**	**100**	*eP*		**PKPdf**	**12 49 40.5**	**+1.4**
DHRM	**DHARAMSHALA**	**150.28**	**69**	*eP*		**PKPdf**	**12 49 37.4**	**-1.8**
KLR	**Kul'dur**	**150.72**	**329**	*de*	PKIKP	**PKPdf**	**12 49 39.6**	**+0.6**
KLR	**Kul'dur**	**150.72**	**329**		PKP	**PKPdf**	**12 49 40.5**	**+1.4**
	comp=Z,7.9nm,0.7s,baz=131,slow=6.1							
KLR					PKPbc	**PKiKP**	**12 49 45.5**	**+0.2**
	baz=0.0,slow=2.3							
BHPL	**Bhopal**	**150.74**	**88**	*eP*		**PKPdf**	**12 49 41.6**	**+1.7**
SMLA	**Simla**	**151.09**	**72**	*eP*		**PKPdf**	**12 49 41.9**	**+1.7**
SMLA				*i*	x	x	12 49 47.2	
NDI	**New Delhi**	**151.16**	**77**	*ex*		**PKPbc**	**12 49 45.0**	**-1.3**
NGP	**Nagpur**	**151.74**	**93**	*eP*		**PKPdf**	**12 49 41.4**	**-0.1**
NGP				*ex*		x	12 49 56.1	
	comp=N,70nm,5.1s							
NGP					IAmb	IAmb	12 50 07.4	
	comp=Z,124nm,1.7s							
DDI	**Dehra Dun**	**151.89**	**73**	*eP*		**PKPdf**	**12 49 43.4**	**+1.8**
DDI				*ex*		x	12 49 49.8	
IRK	**Irkutsk**	**153.09**	**7**	*e*	PKIKP	**PKPdf**	**12 49 43.7**	**+1.2**
IRK					pmax	pmax		
	comp=Z,123nm,2.1s							
MOY	**Mondy**	**153.16**	**12**	*e*	PKIKP	**PKPdf**	**12 49 45.1**	**+2.3**
MOY					pmax	pmax		
	comp=Z,67nm,2.2s							
MJAR	**Matsushiro Arr**	**153.18**	**301**		PKP	**PKPdf**	**12 49 44.6**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=146,slow=1.3,SNR=3.1							
MJAR					PKPbc	**PKiKP**	**12 49 51.3**	**+0.5**
	comp=Z,6.0nm,0.9s,baz=157,slow=1.0,SNR=11							
MJAR					PKPab	**PKPab**	**12 50 03.5**	**+0.9**
	comp=Z,15nm,0.7s,baz=76,slow=5.1,SNR=18							
MAJO	**Matsushiro**	**153.18**	**301**		PKIKP	**PKPbc**	**12 49 48.8**	**-1.8**
MAJO							12 50 03.7	
MAJO	**Matsushiro**	**153.18**	**301**		PKPbc	**PKPbc**	**12 49 48.8**	**-1.8**
MAJO						**PKPab**	**12 50 03.7**	**+1.1**
MAT	**Matsushiro**	**153.18**	**301**		PKP	**PKiKP**	**12 49 51.1**	**+0.3**
MJB9	**Matsu-Tunnel**	**153.18**	**301**			**PKPbc**	**12 49 48.4**	**-2.3**
MJB9					PKPab	**PKPab**	**12 50 02.4**	**-0.2**
TLY	**Talaya**	**153.57**	**8**	*e*	PKIKP	**PKPdf**	**12 49 45.6**	**+2.3**
TLY				*e*			12 50 05.0	
TLY					pmax	pmax		
	comp=Z,56nm,1.2s							
USRK	**Ussuriysk Ar.**	**153.96**	**321**		PKPbc	**PKiKP**	**12 49 52.8**	**+0.7**
	comp=Z,4.6nm,0.8s,baz=29,slow=3.1,SNR=8.4							
INU	**Inuyama**	**154.43**	**299**		PKPbc	**PKPbc**	**12 49 52.2**	**-1.1**
INU					PKPab	**PKPab**	**12 50 08.8**	**+0.9**
WMQ	**Urumqi**	**154.59**	**39**	*e*	PKPbc	**PKPdf**	**12 49 44.5**	**-0.5**
WMQ					AMB	AMB		
	comp=Z,110nm,4.9s							
WMQ					LR	LR		
	comp=Z,460nm,29.1s							
WMQ					LR	LR		
	comp=Z,940nm,28.9s							
WMQ					LR	LR		
	comp=Z,230nm,29.3s							
ZAK	**Zakamensk**	**154.79**	**9**	*e*	PKIKP	**PKPdf**	**12 49 45.6**	**+0.5**
ZAK					pmax	pmax		
	comp=Z,14nm,1.3s							
KSM	**Kuching**	**156.01**	**182**		PKPdf	**PKPdf**	**12 49 47.9**	**+0.1**
KSM					PKPab	**PKPab**	**12 50 15.4**	**+0.4**
SBUM	**Sibu**	**156.84**	**187**		PKPdf	**PKPdf**	**12 49 46.1**	**-2.7**
SBUM						**sPKPdf**	**12 50 16.3**	**+1.5**
CN2	**Changchun**	**157.66**	**328**	*eP*		**PKPab**	**12 50 21.8**	**+0.4**
CN2					pmax	pmax		
	comp=Z,20nm,1.0s							
SONM	**Songino Array**	**157.66**	**5**		PKP	**PKPdf**	**12 49 49.7**	**+0.7**
	comp=Z,6.2nm,0.8s,baz=303,slow=0.9,SNR=38							
SONM					PP	**PP**	**12 54 02.2**	**+2.1**
	comp=Z,3.9nm,1.1s,baz=319,slow=3.9,SNR=8.9							
ULN	**Ulaanbaatar**	**157.68**	**4**		PKIKP	**PKPdf**	**12 49 49.0**	**-0.1**
ULN							12 50 22.2	
ULN	**Ulaanbaatar**	**157.68**	**4**		PKPdf	**PKPdf**	**12 49 49.0**	**-0.1**
ULN						**PKPab**	**12 50 22.2**	**+0.7**
KSRS	**Korea Array**	**160.37**	**311**		PKP	**PKPdf**	**12 49 53.4**	**+1.1**
	comp=Z,4.8nm,1.0s,baz=102,slow=0.5,SNR=9.4							
KSRS					PKPab	**PKPab**	**12 50 36.1**	**+2.8**
	comp=Z,5.1nm,0.9s,baz=64,slow=4.8,SNR=7.4							
DL2	**Dalian**	**163.24**	**325**		PKP	**PKPdf**	**12 49 57.0**	**+1.8**
DL2					PP	**PP**	**12 54 37.5**	**+6.9**
DL2					AMB	AMB		
	comp=Z,300nm,4.2s							
DL2					LR	LR		
	comp=Z,690nm,20.2s							
DL2					LR	LR		
	comp=Z,430nm,18.0s							
DL2					LR	LR		
	comp=Z,530nm,29.6s							
LSA	**Lhasa**	**163.24**	**72**		PKIKP	**PKPdf**	**12 49 55.0**	**-1.1**
LSA							12 50 47.5	
LSA	**Lhasa**	**163.24**	**72**			**PKPdf**	**12 49 55.0**	**-1.1**
LSA					PKPab	**PKPab**	**12 50 47.5**	**+0.5**
GTA	**Gaotai**	**164.00**	**28**	*e*	PKP	**PKPdf**	**12 49 57.3**	**+1.2**
SHL	**Shillong**	**164.11**	**86**	*eP*		**PKPdf**	**12 49 56.8**	**+0.1**
SHL				*eP*		**PKPdf**	**12 50 00.0**	**+3.3**
SHL					IAmb	IAmb	12 50 17.0	
HHC	**Hu-ho-hao-te**	**164.68**	**354**	*e*	PKP	**PKPdf**	**12 49 58.8**	**+2.2**
HHC					PP	**PP**	**12 54 38.3**	**+0.6**
HHC					SS	SS	13 15 10.3	+5.5
CMAR	**Chiang Mai Arr**	**167.92**	**124**		PKP	**PKPdf**	**12 50 00.0**	**+0.3**
	comp=Z,6.7nm,0.9s,baz=267,slow=2.0,SNR=29							
CMAR					PKPab	**PKPab**	**12 51 07.1**	**0.0**
	comp=Z,1.3nm,0.8s,baz=239,slow=5.0,SNR=2.6							
CMAR					pPKPab	**pPKPab**	**12 51 24.6**	**-1.1**
	comp=Z,3.5nm,0.9s,baz=239,slow=4.1,SNR=3.9							
CMAR					PP	**PP**	**12 54 56.8**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=220,slow=6.7,SNR=3.5							
PBKT	**Sadao Pong**	**168.01**	**137**			**PKPdf**	**12 49 58.2**	**-1.5**
CHTO	**Chiang Mai**	**168.13**	**123**		PKIKP	**PKPdf**	**12 49 58.1**	**-1.7**
CHTO	**Chiang Mai**	**168.13**	**123**			**PKPdf**	**12 49 58.1**	**-1.7**
LZH	**Lanzhou**	**168.47**	**23**	*e*	PKP	**PKPdf**	**12 49 56.0**	**-3.8**
LZH					pPKP	pPKPdf	12 50 21.3	+2.3
LZH					sPKP		12 50 31.1	
LZH					LR	LR		
	comp=Z,1μm,19.1s							
LZH					LR	LR		
	comp=Z,1μm,19.5s							
LZH					LR	LR		
	comp=Z,2μm,20.5s							
NJ2	**Nanjing**	**169.57**	**310**	*e*	PKP	**PKPdf**	**12 50 00.4**	**+0.1**
XAN	**Xi'an**	**171.56**	**3**		PKP	**PKPdf**	**12 50 02.8**	**+1.3**
XAN					pPKP	pPKPdf	12 50 21.3	+0.8
XAN					LR	LR		
	comp=Z,1μm,17.2s							
XAN					LR	LR		
	comp=Z,760nm,12.7s							
XAN					LR	LR		
	comp=Z,1μm,17.7s							
CD2	**Chengdu**	**172.68**	**42**		PKP	**PKPdf**	**12 50 01.0**	**-1.1**
CD2					PP	**PP**	**12 55 19.1**	**0.0**
CD2					AMB	AMB		
	comp=Z,380nm,5.5s							
CD2					LR	LR		
	comp=Z,1μm,15.2s							
CD2					LR	LR		
	comp=Z,2μm,18.6s							
CD2					LR	LR		
	comp=Z,1μm,12.8s							
KMI	**Kunming**	**173.88**	**93**		PKP	**PKPdf**	**12 50 03.9**	**+1.0**
KMI					pPKP	pPKPdf	12 50 22.8	+0.6
KMI					sPKP		12 50 31.8	
GYA	**Guiyang**	**177.31**	**71**	*e*	PKP	**PKPdf**	**12 50 01.0**	**-2.6**
GYA					PKPab	PKPab	12 51 48.4	-0.5
GYA					PKS		12 53 32.0	
GYA					PP	**PP**	**12 55 42.3**	**-0.1**
GYA					AMB	AMB		
	comp=Z,160nm,7.6s							

ISCJB ***17*** *12:34:45.0±0.3, 24°.22S±0°.03×179°.93W±0°.05, h490km, mb4.2/20, Error ellipse: s-maj=5.8km s-min=4.2km az=7.9*
NEIC ***17*** *12:34:45.9±1.5, 24°.28S±0°.09×179°.8W±0°.1, h498km±6km, mb4.5/52*
IDC ***17*** *12:34:45.2±1.6, 24°.28S×179°.69W, h486km±14km, mb3.7/15, mb1 3.8/17, mb1mx3.5/46, mbtmp4.6/17, Error ellipse: s-maj=18.0km s-min=12.9km az=98.0*

ISC 17 12:34:45.7±0.4, 24°.32S±0°.06×179°.75W±0°.06, h490km, n111, σ1°33/133, mb4.4/39, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.18**	**162**	P	P	12 36 19.1	+5.4
RAO				S	**S**	**12 37 26.6**	**+1.0**
MSVF	**Nonsavu**	**6.87**	**342**	P	**P**	**12 36 32.1**	**+1.7**
NIUE	**Niue**	**10.51**	**62**	P	**P**	**12 37 10.2**	**+1.6**
NIUE				S	**S**	**12 39 08.1**	**+2.0**
OUZ	**Omahuta**	**12.30**	**206**	P	**P**	**12 37 31.0**	**+3.6**
AFI	**Afiamalu**	**12.80**	**37**	P	**P**	**12 37 31.8**	**-1.2**
	3.0nm,0.3s,baz=300,slow=7.6,SNR=4.5						
AFI				S	**S**	**12 39 46.1**	**-4.9**
	2.7nm,0.3s,baz=246,slow=20,SNR=3.5						
AFI	**Afiamalu**	**12.80**	**37**	P	**P**	**12 37 32.7**	**-0.4**
AFI				S	**S**	**12 39 47.2**	**-3.7**
DZM	**Mont Dzumac**	**12.89**	**277**	P	**P**	**12 37 36.3**	**+2.3**
	0.9nm,0.3s,baz=87,slow=15,SNR=12						
DZM	**Mont Dzumac**	**12.89**	**277**	P	**P**	**12 37 34.2**	**+0.2**
URZ	**Urewera**	**14.15**	**190**	P	**P**	**12 37 48.5**	**+1.5**
	0.8nm,0.3s,baz=0.0,slow=5.1,SNR=7.9						
URZ				S	**S**	**12 40 17.1**	**+0.5**
	2.1nm,0.3s,baz=54,slow=22,SNR=16						
URZ	**Urewera**	**14.15**	**190**	P	**P**	**12 37 45.9**	**-1.0**
URZ				S	**S**	**12 40 12.0**	**-4.5**
BKZ	**Black Stump Fm**	**15.14**	**191**	P	**P**	**12 37 58.2**	**+0.7**
BKZ				IAmb	IAmb	12 38 08.6	
	comp=Z,7.4nm,1.0s						
BKZ					**S**	**12 40 31.7**	**-4.0**
BFZ	**Birch Farm**	**16.66**	**191**	P	**P**	**12 38 12.2**	**-1.2**
BFZ				S	**S**	**12 41 01.7**	**-2.4**
MSWZ	**Moikau Station**	**17.55**	**193**	P	**P**	**12 38 21.9**	**-0.3**
MSWZ				S	**S**	**12 41 18.3**	**-1.1**
SNZO	**South Karori**	**17.57**	**194**	P	**P**	**12 38 22.5**	**+0.2**
SNZO				S	**S**	**12 41 18.1**	**-1.4**
BHW	**Baring Head**	**17.63**	**193**	P	**P**	**12 38 23.2**	**+0.3**
QRZ	**Quartz Range**	**17.69**	**200**	P	**P**	**12 38 23.8**	**+0.3**
PLWZ	**Palliser**	**17.70**	**192**	P	**P**	**12 38 22.9**	**-0.8**
NNZ	**Nelson**	**17.80**	**197**	P	**P**	**12 38 24.4**	**-0.2**
TUWZ	**Tuamarina**	**17.86**	**196**	P	**P**	**12 38 24.9**	**-0.2**
BSWZ	**Blackbirch Sta**	**18.14**	**195**	P	**P**	**12 38 27.1**	**-0.6**
THZ	**Tophouse**	**18.44**	**198**	P	**P**	**12 38 30.9**	**+0.4**
THZ				IAmb	IAmb	12 38 37.9	
	comp=Z,23nm,1.3s						
RAR	**Rarotonga**	**18.68**	**84**	P	**P**	**12 38 33.4**	**+0.5**
KHZ	**Kahutara**	**18.89**	**196**	P	**P**	**12 38 33.9**	**-0.6**
LTZ	**Lake Taylor**	**19.56**	**198**	P	**P**	**12 38 39.7**	**-1.0**
LTZ				IAmb	IAmb	12 38 43.3	
	comp=Z,12nm,0.7s						
OXZ	**Oxford**	**20.13**	**198**	P	**P**	**12 38 45.2**	**-0.6**
MQZ	**McQueen's Vall**	**20.32**	**196**	P	**P**	**12 38 47.1**	**-0.4**
MQZ				IAmb	IAmb	12 38 49.4	
	comp=Z,10nm,1.0s						
RPZ	**Rata Peaks**	**20.77**	**199**	P	**P**	**12 38 50.7**	**-1.0**
	comp=Z,11nm,0.5s,baz=44,slow=3.2,SNR=12						
RPZ	**Rata Peaks**	**20.77**	**199**	P	**P**	**12 38 52.2**	**+0.5**
RPZ				IAmb	IAmb	12 38 54.4	
	comp=Z,11nm,0.5s						
ODZ	**Otahua Downs**	**22.10**	**198**	P	**P**	**12 39 04.8**	**+1.1**
WKZ	**Wanaka**	**22.41**	**201**	P	**P**	**12 39 06.3**	**-0.2**
MLZ	**Mavora Lakes**	**23.19**	**202**	P	**P**	**12 39 13.9**	**+0.4**
MLZ				IAmb	IAmb	12 39 21.9	
	comp=Z,22nm,1.3s						
DCZ	**Deep Cove**	**23.61**	**203**	P	**P**	**12 39 17.6**	**+0.4**
DCZ				IAmb	IAmb	12 39 19.9	
	comp=Z,27nm,1.4s						
WHZ	**Wether Hill Ro**	**23.71**	**202**	P	**P**	**12 39 18.0**	**-0.1**
WHZ				IAmb	IAmb	12 39 20.8	
	comp=Z,19nm,1.0s						
ARMA	**Armidale**	**26.09**	**250**	P	**P**	**12 39 38.6**	**-1.0**
ARMA				IAmb	IAmb	12 39 42.0	
	comp=Z,10nm,0.8s						
EIDS	**Eidsvold**	**26.47**	**262**	P	**P**	**12 39 42.0**	**-0.9**
EIDS				IAmb	IAmb	12 39 44.3	
	comp=Z,10nm,0.7s						
CAN	**Canberra**	**29.13**	**241**	P	**P**	**12 40 07.4**	**+1.2**
CAN				IAmb	IAmb	12 40 08.3	
	comp=Z,31nm,1.4s						
CTA	**Charters Tower**	**31.71**	**271**	P	**P**	**12 40 29.2**	**+0.7**
	comp=Z,34nm,0.4s,baz=94,slow=11,SNR=38						
TOO	**Toolangi**	**32.42**	**238**	P	**P**	**12 40 35.2**	**+0.8**
TOO				IAmb	IAmb	12 40 36.2	
	comp=Z,9.9nm,0.7s						
STKA	**Stephens Creek**	**34.78**	**249**	P	**P**	**12 40 55.1**	**+0.7**
	comp=Z,7.1nm,0.6s,baz=95,slow=10,SNR=29						
STKA				PcP	**PcP**	**12 43 14.5**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=87,slow=5.8,SNR=4.0						
STKA	**Stephens Creek**	**34.78**	**249**	P	**P**	**12 40 55.1**	**+0.7**
PMG	**Port Moresby**	**34.85**	**289**	P	**P**	**12 40 52.9**	**-2.3**
COEN	**Coen**	**36.41**	**280**	P	**P**	**12 41 08.9**	**+0.7**
COEN				IAmb	IAmb	12 41 18.1	
	comp=Z,9.9nm,1.0s						
BBOO	**Buckleboo**	**39.49**	**247**	P	**P**	**12 41 32.8**	**-0.5**
AS31	**Alice Springs**	**42.19**	**261**	P	**P**	**12 41 54.7**	**-0.3**
AS31				IAmb	IAmb	12 41 57.0	
	comp=Z,3.5nm,0.4s						
ASAR	**Alice Springs**	**42.19**	**261**	P	**P**	**12 41 54.8**	**-0.3**
	comp=Z,6.4nm,0.5s,baz=95,slow=7.0,SNR=156						
ASAR				PcP	**PcP**	**12 43 37.8**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=113,slow=2.4,SNR=4.1						
ASAR				ScP	**ScP**	**12 46 42.6**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=114,slow=4.4,SNR=7.1						
ASAR				S	**S**	**12 47 36.4**	**-2.9**
	comp=Z,0.4nm,0.8s,baz=104,slow=19,SNR=3.9						
WRAB	**Tennant Creek**	**42.60**	**267**	P	**P**	**12 41 57.5**	**-0.7**
WRAB				IAmb	IAmb	12 41 58.1	
	comp=Z,22nm,1.1s						
FORT	**Forrest**	**46.38**	**250**	P	**P**	**12 42 26.6**	**-0.7**
MTN	**Manton Dam**	**47.72**	**275**	P	**P**	**12 42 36.7**	**-0.9**
KNRA	**Kununurra**	**48.91**	**270**	P	**P**	**12 42 46.4**	**-0.1**
KNRA				IAmb	IAmb	12 42 47.1	
	comp=Z,26nm,0.9s						
FAKI	**Fak Fak**	**50.92**	**287**	P	**P**	**12 43 00.8**	**-0.6**
FAKI				IAmb	IAmb	12 43 05.2	
	comp=Z,29nm,1.3s						
FITZ	**Fitzroy Crossi**	**51.02**	**266**	P	**P**	**12 43 02.0**	**-0.1**
	comp=Z,14nm,0.6s,baz=107,slow=5.8,SNR=39						
FITZ	**Fitzroy Crossi**	**51.02**	**266**	P	**P**	**12 43 01.9**	**-0.1**
FITZ				IAmb	IAmb	12 43 03.5	
	comp=Z,13nm,0.7s						
SOEI	**Soe**	**55.11**	**275**	P	**P**	**12 43 31.3**	**-0.2**
SOEI				IAmb	IAmb	12 43 41.8	
	comp=Z,42nm,1.1s						
PSAD2	**Pilbara Seismi**	**55.20**	**260**	P	**P**	**12 43 31.2**	**-0.7**
PSAC2	**Pilbara Seismi**	**55.27**	**260**	P	**P**	**12 43 31.8**	**-0.5**
NWAO	**Narrogin (SRO)**	**55.27**	**246**	P	**P**	**12 43 31.5**	**-0.7**
	comp=Z,3.2nm,0.7s,baz=104,slow=4.2,SNR=2.9						
PSAB3	**Pilbara Seismi**	**55.30**	**260**	P	**P**	**12 43 31.7**	**-0.9**
PSAB3				IAmb	IAmb	12 43 32.3	
	comp=Z,5.6nm,0.5s						
PSAA3	**Pilbara Seismi**	**55.30**	**260**	P	**P**	**12 43 32.1**	**-0.6**
PSAB2	**Pilbara Seismi**	**55.30**	**260**	P	**P**	**12 43 31.5**	**-1.1**
PSA00	**Pilbara Seismi**	**55.31**	**260**	P	**P**	**12 43 31.9**	**-0.7**
PSAA2	**Pilbara Seismi**	**55.32**	**260**	P	**P**	**12 43 32.0**	**-0.7**
PSAA2				IAmb	IAmb	12 43 32.4	
	comp=Z,17nm,1.4s						
PSAC3	**Pilbara Seismi**	**55.32**	**260**	P	**P**	**12 43 31.6**	**-1.1**
PSAA1	**Pilbara Seismi**	**55.32**	**260**	P	**P**	**12 43 30.7**	**-2.0**
PSAA1				IAmb	IAmb	12 43 32.2	
	comp=Z,6.8nm,0.6s						
PSAB1	**Pilbara Seismi**	**55.34**	**260**	P	**P**	**12 43 31.6**	**-1.2**
PSAB1				IAmb	IAmb	12 43 32.9	
	comp=Z,31nm,1.5s						
PSAD3	**Pilbara Seismi**	**55.35**	**260**	P	**P**	**12 43 32.4**	**-0.6**
PSAC1	**Pilbara Seismi**	**55.36**	**260**	P	**P**	**12 43 32.4**	**-0.6**
PSAC1				IAmb	IAmb	12 43 32.4	
PSAD1	**Pilbara Seismi**	**55.36**	**260**	P	**P**	**12 43 32.4**	**-0.6**
MORW	**Morawa**	**56.95**	**250**	P	**P**	**12 43 43.6**	**-0.3**
QSPA	**South Pole Qui**	**65.77**	**180**	P	**P**	**12 44 42.3**	**+0.9**
	comp=Z,3.1nm,0.7s,baz=58,slow=4.2,SNR=3.9						
QSPA	**South Pole Qui**	**65.77**	**180**	P	**P**	**12 44 42.1**	**+0.8**
QSPA				IAmb	IAmb	12 44 46.5	
	comp=Z,9.8nm,1.2s						
WOJI	**Wonogiri, Jawa**	**68.00**	**271**	P	**P**	**12 44 55.8**	**-0.1**
	comp=Z,15nm,1.2s						
UGM	**Wanagama**	**68.34**	**271**	P	**P**	**12 44 57.6**	**-0.3**
KKM	**Kota Kinabalu**	**69.24**	**287**	P	**P**	**12 45 03.7**	**+0.2**
KPJI	**Karang Pucung**	**70.02**	**271**	P	**P**	**12 45 06.5**	**-1.5**
	comp=Z,19nm,0.6s						
MJAR	**Matsushiro Arr**	**72.37**	**326**	P	**P**	**12 45 20.2**	**-1.1**
	comp=Z,2.0nm,0.7s,baz=143,slow=6.9,SNR=6.3						
KSM	**Kuching**	**72.40**	**280**	P	**P**	**12 45 21.6**	**-0.5**
KSM				IAmb	IAmb	12 45 22.6	
	comp=Z,13nm,0.7s						
MDSI	**Maura Dua**	**75.48**	**272**	P	**P**	**12 45 38.2**	**-1.4**
	comp=Z,16nm,1.0s						
KSI	**Kapahiang**	**77.26**	**272**	P	**P**	**12 45 47.7**	**-1.8**
MAW	**Mawson**	**77.44**	**200**	P	**P**	**12 45 50.2**	**+0.9**
	comp=Z,4.3nm,0.6s,baz=117,slow=6.9,SNR=5.0						
MAW	**Mawson**	**77.44**	**200**	P	**P**	**12 45 50.7**	**+1.4**
KSRS	**Korea Array**	**78.71**	**320**	P	**P**	**12 45 57.1**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=131,slow=5.6,SNR=6.4						
PETK	**Petropavlovsk-**	**79.56**	**346**	P	**P**	**12 46 00.5**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=109,slow=7.2,SNR=6.2						
NJ2	**Nanjing**	**81.11**	**311**	*eP*	**P**	**12 46 11.6**	**+2.2**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
USRK	**Ussuriysk Ar.**	**81.24**	**327**	P	**P**	**12 46 10.2**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=172,slow=3.7,SNR=5.3						
VNA3	**Neumayer Olymp**	**84.45**	**177**	P	**P**	**12 46 26.4**	**+0.7**
VNA2	**Neumayer--Watz**	**84.87**	**177**	P	**P**	**12 46 28.6**	**+0.8**
	baz=188,slow=2.1						
SEY	**Seymchan**	**89.72**	**348**	P	**P**	**12 46 50.5**	**0.0**
	comp=Z,2.1nm,0.6s,baz=224,slow=5.6,SNR=9.1						
CMAR	**Chiang Mai Arr**	**89.89**	**290**	P	**P**	**12 46 54.1**	**+1.8**
	comp=Z,2.0nm,0.8s,baz=143,slow=3.3,SNR=11						
HHC	**Hu-ho-hao-te**	**90.87**	**315**	*eP*	**P**	**12 46 57.4**	**+0.9**
HHC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,8.0nm,5.2s						
ILAR	**Eielson Array**	**92.38**	**13**	P	**P**	**12 47 01.6**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=229,slow=5.8,SNR=6.5						
LZH	**Lanzhou**	**93.81**	**308**	*eP*	**P**	**12 47 11.1**	**+0.9**
LZH				pP	pwP	12 49 03.4	-0.3
LZH				sP	sP	12 50 02.5	+14
LZH				PP	**PP**	**12 51 10.3**	**+6.0**
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
LZH				pmax	pmax		
	comp=Z,78nm,5.4s						
PHWY	**Pilot Hill**	**94.77**	**47**	P	**P**	**12 47 13.8**	**-0.8**
ARCES	**ARCESS Array B**	**132.34**	**348**	PKP	**PKPdf**	**12 53 02.0**	**-0.9**
	comp=Z,5.3nm,1.0s,baz=8.5,slow=2.0,SNR=6.4						
FINES	**FINESS Array B**	**138.91**	**341**	PKhKP	PKPpre	12 53 04.9	
	comp=Z,2.3nm,0.8s,baz=180,slow=1.0,SNR=4.9						
FINES				PKP	**PKPdf**	**12 53 15.6**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=101,slow=1.4,SNR=7.2						
FINES				SKPbc	**SKPbc**	**12 56 02.6**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=40,slow=4.5,SNR=6.0						
NOA	**NORSAR Array B**	**142.53**	**351**	PKhKP	PKPpre	12 53 18.3	
	comp=Z,0.6nm,0.7s,baz=57,slow=2.5,SNR=2.6						
AKASG	**Malin Array Be**	**145.44**	**327**	PKPbc	**PKPdf**	**12 53 27.3**	**+0.2**
	comp=Z,2.9nm,0.4s,baz=47,slow=4.1,SNR=16						
AKASG				SKPbc	**SKPbc**	**12 56 19.6**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=42,slow=0.9,SNR=2.5						
AKBB	**Malin Array Si**	**145.44**	**327**		**

	baz=347							
YHNB	**Yeheng**	**0.59**	**323**		P	Pb	12 36 52.5	+0.3
	baz=322							
YHNB					*e*S	Sb	12 37 01.0	+0.3
	baz=322							
NWLT	**Wulai**	**0.62**	**337**		P	Pb	12 36 52.4	-0.3
	baz=337							
NWLT					S	Sb	12 37 02.1	+0.5
	baz=337							
WHP	**Taichung City**	**0.75**	**276**		S	Sb	12 37 06.3	+0.8
	baz=275							
TIPB	**Shuangxi**	**0.77**	**4**		P	Pb	12 36 54.9	-0.3
	baz=4.0							
TIPB					*e*S	Sb	12 37 06.6	+0.7
	baz=4.0							

TAP 17 12:36:52.3,24°.19N×121°.79E,h11km,ML2.7,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.18**	**265**	P		Pg	12 36 56.1	-0.1
	baz=266							
NACB				S		Sg	12 36 58.9	-0.1
	baz=266							
TWD	**Chiawan**	**0.21**	**238**	*e*P		Pg	12 36 56.7	-0.1
	baz=244							
NANB	**Nanao**	**0.24**	**352**	P		Pg	12 36 57.5	+0.1
	baz=352							
NANB				*e*S		Sg	12 37 01.1	+0.4
	baz=352							
ENA	**Nanau**	**0.24**	**350**	P		Pg	12 36 57.5	+0.2
	baz=351							
ENA				*e*S		Sg	12 37 01.3	+0.6
	baz=351							
HWA	**Hwalien**	**0.27**	**218**	*e*P		Pb	12 36 59.0	-0.2
	baz=229							
ETLH	**Xiulin Townshi**	**0.28**	**273**	*e*P		Pg	12 36 58.4	+0.3
	baz=275							
ENLB	**Shoufeng**	**0.33**	**211**	*e*P		Pb	12 37 00.1	-0.1
	baz=224							
TWC	**Suao**	**0.42**	**8**	P		Pg	12 37 00.7	+0.1
	baz=8.0							
TWC				*e*S		Sg	12 37 07.1	+0.8
	baz=8.0							
NNSH	**Datong**	**0.44**	**303**	P		Pg	12 37 01.3	+0.2
	baz=303							
NNSH				S		Sg	12 37 06.9	0.0
	baz=303							
NNS	**Nan Shan**	**0.45**	**303**	*e*P		Pg	12 37 01.3	+0.1
	baz=305							
NNS				S		Sg	12 37 08.1	+0.8
	baz=305							
EOS1	**EOS1**	**0.47**	**41**	*e*P		Pb	12 37 02.1	-0.5
	baz=28							
EOS1				*e*S		Sb	12 37 10.0	+0.4
	baz=28							
WHF	**Hehuan Shan**	**0.48**	**265**	*e*P		Pg	12 37 02.0	+0.2
	baz=266							
WHF				*e*S		Sg	12 37 08.3	0.0
	baz=266							
NDT	**Datong Townshi**	**0.48**	**329**	*e*P		Pb	12 37 02.4	-0.4
	baz=329							
NDT				*e*S		Sb	12 37 09.2	-0.6
	baz=329							
ENTT	**Nioudou**	**0.49**	**336**	*e*P		Pg	12 37 02.2	+0.3
	baz=337							
ENTT				*e*S		Sg	12 37 09.2	+0.7
	baz=337							
ESL	**Shilin**	**0.49**	**221**	*e*P		Pb	12 37 02.8	-0.2
	baz=231							
ESL				*e*S		Sb	12 37 11.2	+0.9
	baz=231							
TWE	**Neicheng**	**0.54**	**348**	*e*P		Pg	12 37 02.8	-0.1
	baz=350							
TWE				*e*S		Sb	12 37 10.9	-0.6
	baz=350							
TWT	**Tachien**	**0.56**	**277**	*e*P		Pb	12 37 04.1	-0.2
	baz=282							
CHGB	**Renai**	**0.58**	**257**	*e*P		Pg	12 37 03.6	0.0
	baz=251							
CHGB				*e*S		Sb	12 37 12.4	-0.4
	baz=251							
SLBB	**Yuanshan**	**0.58**	**346**	*e*P		Pg	12 37 03.1	-0.5
	baz=346							
TDCB	**Techi**	**0.58**	**276**	*e*P		Pb	12 37 04.5	0.0
	baz=282							
YHNB	**Yeheng**	**0.61**	**322**	*e*P		Pb	12 37 04.7	-0.3
	baz=322							
YHNB				*e*S		Sb	12 37 12.9	-0.6
	baz=322							
EGFH	**Guangfu**	**0.61**	**213**	*e*P		Pb	12 37 04.9	-0.2
	baz=223							
NWLT	**Wulai**	**0.64**	**336**	*e*P		Pg	12 37 04.8	0.0
	baz=336							
VWDT	**VWDT**	**0.73**	**234**	*e*P		Pb	12 37 07.5	+0.4
	baz=242							
HGSD	**Ruisui**	**0.77**	**206**	*e*P		Pn	12 37 08.7	-0.3
	baz=198							
WHP	**Taichung City**	**0.77**	**277**	*e*P		Pg	12 37 07.3	0.0
	baz=278							
WHP				*e*S		Sb	12 37 18.0	-0.3
	baz=278							
TIPB	**Shuangxi**	**0.78**	**3**	*e*P		Pg	12 37 07.3	-0.1
	baz=9.0							
DPDB	**Guoxing**	**0.80**	**259**	*e*P		Pb	12 37 08.8	+0.5
	baz=261							
EHY	**Hungye**	**0.80**	**212**	*e*S		Pg	12 37 07.6	-0.3
	baz=209							
EHY	**Hungye**	**0.80**	**212**	*e*P		Pg	12 37 07.5	-0.3
	baz=225							
TWA	**Mucha**	**0.81**	**347**	*e*P		Pb	12 37 08.3	-0.1
	baz=338							
TATO	**Taipei**	**0.83**	**341**	*e*S		Pg	12 37 08.4	0.0
	baz=342							
TATO	**Taipei**	**0.83**	**341**	*e*P		Pg	12 37 08.0	-0.4
	baz=341							
TWB1	**Santiao Chiao**	**0.83**	**13**	*e*S		Pg	12 37 08.5	+0.1
	baz=14							
TWB1	**Santiao Chiao**	**0.83**	**13**	*e*P		Pg	12 37 08.5	0.0
	baz=6.0							
LIOB	**Emei**	**0.84**	**303**	*e*P		Pb	12 37 08.9	0.0
	baz=304							
NSTT	**Nanjuang**	**0.84**	**302**	*e*P		Pb	12 37 08.9	0.0
	baz=303							
SSLB	**Suanglung**	**0.86**	**242**	*e*P		Pg	12 37 08.9	-0.1
	baz=245							
NWF	**Wu-fen Shan**	**0.88**	**360**	*e*P		Pg	12 37 09.2	-0.1
	baz=359							
WFSB	**Wu-fen Shan**	**0.88**	**360**	*e*P		Pb	12 37 09.6	+0.1
	baz=352							
WFSB				*e*S		Sb	12 37 22.0	+0.7
	baz=352							
TYC	**Yuchr**	**0.90**	**252**	*e*P		Pb	12 37 10.3	+0.5
	baz=254							
YULB	**Yu-li**	**0.91**	**210**	*e*P		Pb	12 37 10.3	+0.2
	baz=222							
TWQ1	**Liyutan**	**0.94**	**280**	*e*P		Pn	12 37 11.7	+0.3
	baz=282							
TWF1	**Yuli**	**0.95**	**208**	*e*P		Pg	12 37 10.6	0.0
	baz=226							
NSY	**Sanyi**	**0.96**	**284**	*e*P		Pn	12 37 12.4	+0.7
	baz=286							
YM10	**YM10**	**0.98**	**348**	*e*P		Pg	12 37 11.1	-0.2
	baz=348							
YM04	**YM04**	**0.99**	**347**	*e*P		Pg	12 37 10.7	-0.6
	baz=347							
WHYT	**Xinyi Township**	**0.99**	**240**	*e*P		Pn	12 37 11.9	-0.2
	baz=251							
YM05	**YM05**	**0.99**	**348**	*e*P		Pg	12 37 10.1	-1.3
	baz=348							
YM11	**YM11**	**0.99**	**349**	*e*P		Pg	12 37 11.2	-0.3
	baz=349							
YM08	**YM08**	**1.01**	**350**	*e*P		Pg	12 37 11.2	-0.6
	baz=350							
YUS	**Yu-Shan**	**1.04**	**228**	*e*P		Pb	12 37 12.6	+0.1
	baz=230							
WNT	**Mingjian**	**1.06**	**253**	*e*P		Pn	12 37 13.4	+0.4
	baz=248							
FULB	**Fuli**	**1.09**	**205**	*e*P		Pn	12 37 13.8	+0.4
	baz=223							
YOJ	**Yonaguni jima**	**1.15**	**76**	*e*P		Pg	12 37 14.4	0.0
	baz=61							
CHKT	**Chengkung**	**1.15**	**200**	*e*P		Pg	12 37 14.5	0.0
	baz=183							
CHN5	**Tsauling**	**1.18**	**240**	*e*P		Pg	12 37 15.2	+0.2
	baz=243							
ELDTW	**Lidau**	**1.22**	**216**	*e*P		Pn	12 37 14.8	-0.6
	baz=203							
TPUB	**Ta-pu**	**1.38**	**230**	*e*P		Pb	12 37 18.2	+0.1
	baz=234							
WTP	**Ta-pu**	**1.43**	**229**	*e*P		Pn	12 37 18.5	+0.3
	baz=232							
TWK	**Hsinying**	**1.50**	**233**	*e*P		Pn	12 37 19.5	+0.2
	baz=236							
SNST	**Tainan City**	**1.53**	**231**	*e*P		Pb	12 37 21.0	+0.3
	baz=235							
CHN1	**Nanshi**	**1.53**	**229**	*e*P		Pb	12 37 20.2	-0.4
	baz=223							
CHN1				*e*S		Sg	12 37 44.0	+2.5
	baz=223							
SGST	**Jiashian**	**1.56**	**225**	*e*P		Pb	12 37 20.7	-0.5
	baz=229							
SLGT	**Liugui**	**1.59**	**222**	*e*P		Pg	12 37 22.7	-0.1
	baz=225							
SSD	**Sandimen**	**1.79**	**217**	*e*P		Pn	12 37 23.3	+0.2
	baz=233							
MASBT	**Mashibuluo**	**1.90**	**214**	*e*P		Pn	12 37 25.6	+1.1
	baz=217							
EAST	**Anshuo**	**2.00**	**206**	*e*P		Pn	12 37 26.8	+0.8
	baz=196							
PTTC	**Pingtan**	**2.25**	**306**	*e*P		Pn	12 37 30.0	+0.6
	baz=307							
PTMZ	**Houxiangcun**	**2.57**	**290**	*e*P		Pn	12 37 34.9	+1.0
	baz=291							

BER 17 12:38:02.1±0.7,76°.18N×8°.77E,h10km,ML1.9,
Confirmed Earthquake,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**1.78**	**59**	*e*P		Pn	12 38 30.9	-2.0
SPA0	**Spitsbergen Ar**	**2.63**	**36**	*e*P		Pn	12 38 43.3	-1.2
KBS	**Kingsbay**	**2.85**	**12**	*e*P		Pn	12 38 45.4	-2.1

*NAO **17** 12:38:14.2±2.6,75°.88N×7°.28E,ML3.4*
*BER **17** 12:38:17.4±1.9,75°.81N×7°.79E,h10km,ML2.2,*
ML3.4(NAO),Confirmed Earthquake
ISC 17 12:38:14.5±1.9,75°.81N±0°.07×8°.0E±0°.1,h10km,n14,
σ2s03/22,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**2.15**	**53**	Pn		**Pn**	**12 38 51.6**	**+1.2**
HSPB				Sn		**Sn**	**12 39 15.5**	**-1.5**
HSPB	**Hornsund (broa**	**2.15**	**53**	*e*P		**Pb**	**12 38 52.2**	**-1.3**
HSPB				IAML			12 39 18.1	
	comp=Z,12nm,0.6s							
HSPB	**Hornsund (broa**	**2.15**	**53**	*e*S		**Pb**	**12 38 52.5**	**-1.0**
HSPB				IAML			12 38 52.5	
	comp=Z,20nm,0.2s							
SPA0	**Spitsbergen Ar**	**3.04**	**35**	Pn		**Pn**	**12 39 04.1**	**+1.5**
	baz=213,slow=14							
SPA0				Sn		**Sn**	**12 39 37.6**	**-1.4**
	baz=196,slow=18							
SPA0	**Spitsbergen Ar**	**3.04**	**35**	*e*P		**Pn**	**12 39 04.5**	**+1.9**
SPA0				*e*S		**Sn**	**12 39 37.7**	**-1.4**
SPA0				IAML			12 39 50.5	
	comp=Z,11nm,0.7s							
BJO1	**Bjornoya**	**3.13**	**109**	*e*S		**Sn**	**12 39 39.8**	**-1.3**
BJO1				IAML			12 39 46.4	
	comp=Z,38nm,0.8s							
KBS	**Kingsbay**	**3.25**	**14**	Pn		**Pn**	**12 39 06.2**	**+0.7**
KBS	**Kingsbay**	**3.25**	**14**	*e*P		**Pn**	**12 39 06.0**	**+0.5**
KBS				*e*S		**Sn**	**12 39 43.4**	**-0.7**
KBS				IAML			12 39 48.1	
	comp=Z,13nm,0.8s							
HOPEN	**Hopen**	**4.15**	**72**	Pn		**Pn**	**12 39 20.2**	**+2.4**
HOPEN				Sn		**Sn**	**12 40 06.0**	**-0.2**
HOPEN	**Hopen**	**4.15**	**72**	*e*P		**Pn**	**12 39 19.8**	**+2.0**
HOPEN				*e*S		**Sn**	**12 40 06.0**	**-0.2**
HOPEN				IAML			12 40 16.4	
	comp=Z,34nm,0.4s							
ARA0	**ARCESS Array S**	**8.15**	**132**	Pn		**Pn**	**12 40 14.8**	**+2.1**
	baz=332,slow=14							
ARA0				Sn		**Sn**	**12 41 40.9**	**-3.8**
	baz=326,slow=22							
ARA0	**ARCESS Array S**	**8.15**	**132**	Pn		**Pn**	**12 40 14.8**	**+2.1**
	baz=332,slow=14							
ARA0				Sn		**Sn**	**12 41 40.9**	**-3.8**
	baz=326,slow=22							
APA0	**Apatity Array**	**11.25**	**124**	Pn		**Pn**	**12 40 57.5**	**+2.4**
	baz=342,slow=14							
APA0	**Apatity Array**	**11.25**	**124**	Pn		**Pn**	**12 40 57.5**	**+2.4**
	baz=342,slow=14							

*JMA **17** 12:39:44.7±0.1,24°.17N×121°.77E,h0km,M3.2*
*ISCJB **17** 12:39:45.3±0.3,24°.19N±0°.01×121°.80E±0°.02,h3km±2km,*
Error ellipse: s-maj=2.8km s-min=1.8km az=27.7
*TAP **17** 12:39:45.2,24°.19N×121°.78E,h9km,ML3.5,C*
ISC 17 12:39:45.4±0.9,24°.19N±0°.02×121°.78E±0°.02,h8km±7km,
n108,σ0s68/151,1C-13D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.17**	**265**	P		**Pg**	**12 39 48.9**	**-0.1**
	baz=264							
NACB				S		**Sg**	**12 39 51.7**	**+0.3**
	baz=264							
TWD	**Chiawan**	**0.20**	**238**	↑*i*P		**Pg**	**12 39 49.6**	**+0.1**
	baz=243							
TWD				S		**Sg**	**12 39 52.8**	**+0.6**
	baz=243							
NANB	**Nanao**	**0.24**	**353**	↓*i*P		**Pg**	**12 39 50.2**	**-0.1**
	baz=353							
NANB				S		**Sg**	**12 39 53.7**	**+0.2**
	baz=353							
ENA	**Nanau**	**0.24**	**351**	P		**Pg**	**12 39 50.2**	**-0.1**
	baz=353							
ENA				S		**Sg**	**12 39 53.8**	**+0.2**
	baz=353							
HWA	**Hwalien**	**0.27**	**218**	*e*P		**Pb**	**12 39 51.5**	**-1.0**
	baz=228							
ETLH	**Xiulin Townshi**	**0.28**	**274**	↓*e*P		**Pg**	**12 39 51.0**	**0.0**
	baz=274							
ETLH				*e*S		**Sg**	**12 39 54.9**	**+0.2**
	baz=274							
ENLB	**Shoufeng**	**0.33**	**211**	P		**Pb**	**12 39 52.8**	**-0.7**
	baz=223							
ENLB				*e*S		**Sb**	**12 39 59.2**	**+0.2**
	baz=223							
TWC	**Suao**	**0.42**	**8**	↓*i*P		**Pg**	**12 39 53.7**	**0.0**
	baz=6.0							
TWC				S		**Sg**	**12 39 59.5**	**+0.3**
	baz=6.0							
NNSH	**Datong**	**0.44**	**303**	↓*i*P		**Pg**	**12 39 54.2**	**+0.2**
	baz=303							
NNSH				*e*S		**Sg**	**12 39 60.0**	**+0.2**
	baz=303							
NNS	**Nan Shan**	**0.45**	**304**	↓*i*P		**Pg**	**12 39 54.5**	**+0.2**
	baz=305							
NNS				S		**Sg**	**12 40 00.4**	**+0.2**
	baz=305							
WHF	**Hehuan Shan**	**0.48**	**265**	P		**Pg**	**12 39 54.7**	**0.0**
	baz=266							
WHF				S		**Sg**	**12 40 01.2**	**+0.2**
	baz=266							
EOS1	**EOS1**	**0.48**	**41**	P		**Pb**	**12 39 55.3**	**-0.8**
	baz=29							
EOS1				*e*S		**Sb**	**12 40 02.5**	**-0.8**
	baz=29							
NDT	**Datong Townshi**	**0.48**	**329**	↓P		**Pb**	**12 39 55.1**	**-1.1**
	baz=330							
NDT				S		**Sg**	**12 40 01.6**	**+0.5**
	baz=330							
ESL	**Shilin**	**0.49**	**221**	*e*P		**Pg**	**12 39 55.0**	**+0.1**
	baz=231							
ENTT	**Nioudou**	**0.49**	**336**	↓*i*P		**Pg**	**12 39 55.2**	**+0.2**
	baz=337							
ENTT				S		**Sg**	**12 40 02.0**	**+0.5**
	baz=337							
TWE	**Neicheng**	**0.54**	**349**	↓*i*P		**Pg**	**12 39 56.1**	**+0.2**
	baz=351							
TWE				S		**Sg**	**12 40 03.2**	**+0.2**
	baz=351							
TWT	**Tachien**	**0.56**	**277**	P		**Pb**	**12 39 57.0**	**-0.6**
	baz=277							
TWT				S		**Sb**	**12 40 04.4**	**-1.4**
	baz=277							
CHGB	**Renai**	**0.57**	**257**	P		**Pb**	**12 39 56.7**	**-1.2**
	baz=250							
CHGB				S		**Sb**	**12 40 04.7**	**-1.6**
	baz=250							
TDCB	**Techi**	**0.57**	**277**	P		**Pb**	**12 39 57.0**	**-0.9**
	baz=277							
TDCB				*e*S		**Sg**	**12 40 04.3**	**+0.2**
	baz=277							
ILA	**Ilan**	**0.58**	**357**	*e*P		**Pg**	**12 39 56.7**	**+0.2**
	baz=350							
ILA				*e*S		**Sb**	**12 40 05.1**	**-1.0**
	baz=350							
SLBB	**Yuanshan**	**0.58**	**347**	↓P		**Pg**	**12 39 56.1**	**-0.5**
	baz=347							
YHNB	**Yeheng**	**0.61**	**322**	↓P		**Pb**	**12 39 57.6**	**-0.8**
	baz=323							
YHNB				S		**Sg**	**12 40 05.3**	**+0.1**
	baz=323							
EGFH	**Guangfu**	**0.61**	**212**	*e*P		**Pb**	**12 39 57.9**	**-0.5**
	baz=223							
NWLT	**Wulai**	**0.64**	**336**	↓P		**Pb**	**12 39 58.1**	**-0.8**
	baz=337							
NWLT				S		**Sg**	**12 40 06.2**	**0.0**
	baz=337							
NTC	**Toucheng**	**0.67**	**4**	*e*P		**Pg**	**12 39 58.3**	**0.0**
	baz=15							
VWDT	**VWDT**	**0.73**	**234**	*e*P		**Pb**	**12 39 59.9**	**-0.5**
	baz=242							
HGSD	**Ruisui**	**0.77**	**206**	*e*P		**Pb**	**12 40 01.2**	**+0.1**
	baz=194							
HGSD				*e*S		**Sb**	**12 40 12.7**	**+1.1**
	baz=194							
WHP	**Taichung City**	**0.77**	**277**	*e*P		**Pb**	**12 40 00.8**	**-0.4**
	baz=278							
WHP				*e*S		**Sb**	**12 40 11.3**	**-0.6**
	baz=278							
TIPB	**Shuangxi**	**0.78**	**3**	↓P		**Pg**	**12 40 00.5**	**0.0**
	baz=3.0							
TIPB				*e*S		**Sg**	**12 40 11.0**	**+0.3**
	baz=3.0							
DPDB	**Guoxing**	**0.80**	**259**	P		**Pb**	**12 40 01.4**	**-0.2**
	baz=251							
DPDB				*e*S		**Sb**	**12 40 11.4**	**-1.2**
	baz=251							
EHY	**Hungye**	**0.80**	**212**	*e*P		**Pb**	**12 40 01.0**	**-0.6**
	baz=227							
NHDH	**Xindian Distri**	**0.81**	**343**	*e*P		**Pb**	**12 40 01.1**	**-0.6**
	baz=344							
TWA	**Mucha**	**0.81**	**347**	↓P		**Pb**	**12 40 01.3**	**-0.5**
	baz=348							
TWA				*e*S		**Sb**	**12 40 13.2**	**+0.3**
	baz=348							
WLTB	**Daxi**	**0.82**	**324**	*e*P		**Pb**	**12 40 02.0**	**0.0**
	baz=318							
TATO	**Taipei**	**0.83**	**341**	*e*P		**Pb**	**12 40 01.9**	**-0.2**
	baz=342							
LIOB	**Emei**	**0.84**	**303**	*e*P		**Pb**	**12 40 02.3**	**0.0**
	baz=305							
TWB1	**Santiao Chiao**	**0.84**	**13**	*e*P		**Pg**	**12 40 01.4**	**-0.2**
	baz=6.0							
NSTT	**Nanjuang**	**0.84**	**302**	P		**Pb**	**12 40 02.1**	**-0.1**
	baz=303							
NSTT				*e*S		**Sb**	**12 40 12.7**	**-1.0**
	baz=303							
SSLB	**Suanglung**	**0.86**	**242**	P		**Pb**	**12 40 02.0**	**-0.6**
	baz=253							
SSLB				*e*S		**Sg**	**12 40 12.4**	**-0.6**
	baz=253							
NWF	**Wu-fen Shan**	**0.88**	**360**	*e*P		**Pb**	**12 40 02.8**	**-0.2**
	baz=351							
NWF				*e*S		**Sb**	**12 40 14.6**	**-0.4**
	baz=351							
TAP1	**Taipei**	**0.88**	**344**	*e*P		**Pb**	**12 40 02.9**	**-0.1**
	baz=344							
TAP1				*e*S		**Sb**	**12 40 15.0**	**+0.1**
	baz=344							
WFSB	**Wu-fen Shan**	**0.88**	**360**	P		**Pb**	**12 40 02.8**	**-0.2**
	baz=353							
WFSB				S		**Sg**	**12 40 14.1**	**+0.3**
	baz=353							
TYC	**Yuchr**	**0.89**	**252**	P		**Pb**	**12 40 02.8**	**-0.4**
	baz=254							
YULB	**Yu-li**	**0.91**	**209**	*e*P		**Pb**	**12 40 02.8**	**-0.7**
	baz=223							
YULB				*e*S		**Sb**	**12 40 16.0**	**+0.2**
	baz=223							
TWQ1	**Liyutan**	**0.94**	**280**	*e*P		**Pn**	**12 40 04.5**	**-0.5**
	baz=282							
SBCB	**Hsinchu**	**0.94**	**310**	*e*P		**Pn**	**12 40 04.7**	**-0.4**
	baz=311							
SBCB				*e*S		**Sn**	**12 40 18.1**	**-0.6**
	baz=311							
TWF1	**Yuli**	**0.94**	**208**	*e*P		**Pb**	**12 40 03.3**	**-0.7**
	baz=221							
TWF1				S		**Sb**	**12 40 17.4**	**+0.6**
	baz=221							
NCUH	**Zhongli**	**0.95**	**325**	*e*P		**Pn**	**12 40 04.7**	**-0.4**
	baz=320							
NCU	**National Centr**	**0.95**	**325**	*e*P		**Pn**	**12 40 04.8**	**-0.3**
	baz=326							
NCU				*e*S		**Sn**	**12 40 19.1**	**+0.2**
	baz=326							
NSY	**Sanyi**	**0.96**	**284**	*e*P		**Pn**	**12 40 05.0**	**-0.3**
	baz=286							
HSN	**Hsinchu**	**0.96**	**310**	*e*P		**Pb**	**12 40 04.3**	**-0.1**
	baz=303							
TWS1	**Kuangyinshan**	**0.97**	**340**	*e*P		**Pb**	**12 40 04.8**	**+0.3**
	baz=341							
NMLH	**Miaoli**	**0.97**	**291**	*e*P		**Pn**	**12 40 06.8**	**+1.4**
	baz=301							
YM01	**YM01**	**0.97**	**349**	P		**Pb**	**12 40 04.5**	**-0.1**
	baz=349							
WHYT	**Xinyi Township**	**0.98**	**240**	*e*P		**Pn**	**12 40 05.3**	**-0.3**
	baz=243							
YM10	**YM10**	**0.98**	**348**	*e*P		**Pb**	**12 40 04.8**	**0.0**
	baz=349							
YM11	**YM11**	**0.99**	**349**	*e*P		**Pb**	**12 40 05.0**	**+0.1**
	baz=350							
YM08	**YM08**	**1.01**	**350**	*e*P		**Pb**	**12 40 05.1**	**-0.1**
	baz=351							
TCU	**Taichung**	**1.01**	**268**	*e*P		**Pn**	**12 40 06.8**	**+0.9**
	baz=270							
PTSB	**Yuanli**	**1.02**	**285**	*e*P		**Pn**	**12 40 06.6**	**+0.5**
	baz=287							
NTST	**Danshui**	**1.02**	**343**	*e*P		**Pn**	**12 40 05.7**	**-0.4**
	baz=344							
ANP	**Anpu**	**1.02**	**346**	*e*P		**Pb**	**12 40 05.4**	**0.0**
	baz=348							
YUS	**Yu-Shan**	**1.03**	**228**	*e*P		**Pb**	**12 40 05.9**	**0.0**
	baz=229							
YUS				*e*S		**Sn**	**12 40 20.6**	**-1.0**
	baz=229							
WJS	**Zhushan**	**1.03**	**250**	*e*P		**Pn**	**12 40 06.5**	**+0.3**
	baz=245							
WJS				*e*S		**Sn**	**12 40 21.1**	**+0.2**
	baz=245							
WNT	**Mingjian**	**1.05**	**253**	*e*P		**Pn**	**12 40 06.6**	**+0.1**
	baz=248							
WDJ	**Dajia District**	**1.06**	**279**	*e*P		**Pn**	**12 40 07.0**	**+0.5**
	baz=281							
FULB	**Fuli**	**1.08**	**205**	*e*P		**Pn**	**12 40 06.6**	**-0.4**
	baz=193							
TWY	**Chenhua**	**1.10**	**351**	*e*P		**Pb**	**12 40 06.7**	**0.0**
	baz=352							
WCHH	**Zhanghua**	**1.12**	**265**	*e*P		**Pn**	**12 40 08.5**	**+1.0**
	baz=268							
CHKT	**Chengkung**	**1.15**	**200**	*e*P		**Pn**	**12 40 07.4**	**-0.4**
	baz=202							
YOJ	**Yonaguni jima**	**1.15**	**76**	P		**Pg**	**12 40 06.3**	**-1.3**
YOJ	**Yonaguni jima**	**1.15**	**76**	*e*P		**Pg**	**12 40 06.5**	**-1.0**
	baz=59							
CHN5	**Tsauling**	**1.17**	**240**	*e*P		**Pn**	**12 40 09.3**	**+1.1**
	baz=243							
CHN5				*e*S		**Sn**	**12 40 26.1**	**+1.7**
	baz=243							
ELDTW	**Lidau**	**1.22**	**215**	*e*P		**Pg**	**12 40 07.9**	**-0.9**
	baz=203							
WGK	**Gukeng**	**1.22**	**246**	*e*P		**Pn**

	baz=237								
TWG	**Pinlang**	**1.51**	**206**	*eP*		**Pn**	**12 40 11.1**	**-1.7**
	baz=210								
TWGBT	**Beinan**	**1.51**	**205**	*eP*		**Pn**	**12 40 10.7**	**-2.2**
	baz=210								
SNST	**Tainan City**	**1.52**	**231**	*eP*		**Pg**	**12 40 14.8**	**+0.1**
	baz=236								
CHN1	**Nanshi**	**1.52**	**229**	*eP*		**Pg**	**12 40 14.3**	**-0.4**
	baz=233								
CHN1				*eS*		**Sg**	**12 40 36.6**	**+2.2**
	baz=233								
SGST	**Jiashian**	**1.56**	**225**	*eP*		**Pb**	**12 40 14.0**	**-0.6**
	baz=229								
SGST				*eS*		**Sg**	**12 40 36.9**	**+1.4**
	baz=229								
SLGT	**Liugui**	**1.58**	**222**	*eP*		**Pg**	**12 40 15.9**	**+0.2**
	baz=227								
ECL	**Taimali**	**1.76**	**206**	*eP*		**Pn**	**12 40 15.5**	**-0.7**
	baz=194								
IRIF	**Iriomote-Funau**	**1.78**	**85**	P		**Pn**	**12 40 17.2**	**+0.6**
SSD	**Sandimen**	**1.78**	**217**	*eP*		**Pb**	**12 40 17.9**	**-0.5**
	baz=210								
MASBT	**Mashibuluo**	**1.89**	**214**	*eP*		**Pn**	**12 40 18.1**	**0.0**
	baz=220								
EAST	**Anshuo**	**1.99**	**206**	*eP*		**Pn**	**12 40 20.1**	**+0.6**
	baz=197								
JKRS	**Kuro-shima**	**2.03**	**88**	P		**Pn**	**12 40 20.7**	**+0.7**
SCZT	**Fangliau**	**2.10**	**211**	*eP*		**Pn**	**12 40 21.6**	**+0.7**
	baz=199								
PNG	**Penghu**	**2.13**	**254**	*eP*		**Pn**	**12 40 22.0**	**+0.7**
	baz=259								
PHUB	**P'eng-hu**	**2.13**	**252**	*eP*		**Pn**	**12 40 21.2**	**-0.1**
	baz=257								
PHUB				*eS*		**Sb**	**12 40 49.9**	**-1.1**
	baz=257								
JIJ	**Ishigaki jima**	**2.16**	**85**	P		**Pn**	**12 40 21.8**	**0.0**
JIJ				*eS*		**Sn**	**12 40 50.4**	**+1.6**
PTTC	**Pingtan**	**2.25**	**306**	*eP*		**Pn**	**12 40 22.9**	**-0.1**
	baz=308								
VWUC	**VWUC**	**2.27**	**291**	*eP*		**Pn**	**12 40 23.2**	**0.0**
	baz=281								
JISG	**Ishigakijimahi**	**2.34**	**80**	P		**Pn**	**12 40 24.1**	**-0.1**
JISG				*eS*		**Sn**	**12 40 55.0**	**+1.9**
VCHM	**Qimei**	**2.37**	**246**	*eP*		**Pn**	**12 40 24.1**	**-0.5**
	baz=236								
PTMZ	**Houxiangcun**	**2.57**	**290**	*eP*		**Pn**	**12 40 27.4**	**0.0**
	baz=291								
PTMZ				*eS*		**Sn**	**12 40 59.7**	**+0.9**
	baz=291								
XPSS	**Dashiqiu**	**3.09**	**333**	*eP*		**Pn**	**12 40 34.7**	**+0.2**
	baz=333								
KNMB	**Chin-men Tao**	**3.11**	**276**	*eP*		**Pn**	**12 40 35.5**	**+0.6**
	baz=279								
MHZQ	**Yeshan**	**3.14**	**308**	*eP*		**Pn**	**12 40 35.6**	**+0.4**
	baz=310								
AXDP	**Jialang**	**3.54**	**282**	*eP*		**Pn**	**12 40 41.5**	**+0.7**
	baz=285								
ZPLA	**Ao Xicun**	**3.70**	**267**	*eP*		**Pn**	**12 40 43.0**	**+0.1**
	baz=271								

ISCJB ***17*** *12:41:07.9±1.4,25.0S±0.1×28.5E±0.1, h10km, Error ellipse: s-maj=20.5km s-min=7.6km az=139.8*
EAF ***17*** *12:41:09.7±1.1, 25.0Ns×28.5OE, h10km, MD3.6*
BUL ***17*** *12:41:11.0±0.8, 25.03Ns×28.53E, h10km, MD3.8*

ISC 17 12:41:08.4±1.6, 25.03S±0.09×28.53E±0.09, h10km, n8, σ1s38/12, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**2.66**	**270**	*i* P	**Pn**	**12 41 52.6**	**+1.1**
LBTB				*i* S	**Sn**	**12 42 22.7**	**-1.2**
LBTB	**Lobatse**	**2.66**	**270**	*i* P	**Pn**	**12 41 52.6**	**+1.1**
LBTB				*i* S	**Sn**	**12 42 22.7**	**-1.2**
MSNA	**Messina**	**3.00**	**27**	*i* P	**Pn**	**12 41 57.5**	**+1.3**
MSNA				*i* S	**Sn**	**12 42 30.5**	**-1.8**
MSNA	**Messina**	**3.00**	**27**	*i* P	**Pn**	**12 41 57.5**	**+1.3**
MSNA				*i* S	**Sn**	**12 42 30.5**	**-1.8**
MATP	**Matopo**	**4.58**	**360**	*i* P	**Pn**	**12 42 18.9**	**+0.9**
MATP	**Matopo**	**4.58**	**360**	*i* P	**Pn**	**12 42 18.9**	**+0.9**
BOSA	**Boshof**	**4.61**	**219**	*i* P	**Pn**	**12 42 18.9**	**+0.5**
BOSA	**Boshof**	**4.61**	**219**	*i* P	**Pn**	**12 42 18.9**	**+0.5**

IDC ***17*** *13:08:33.9±2.7, 2.5Nx127.29E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/30, mbtmp3.7/3, Error ellipse: s-maj=272.0km s-min=25.4km az=65.0*
ISCJB ***17*** *13:08:40.3±0.8, 2.52N±0.09×127.4E±0.2, h64km, mb3.7/3, Error ellipse: s-maj=23.7km s-min=8.6km az=155.1*
NEIC ***17*** *13:08:40.5±1.2, 2.5N±0.1×127.5E±0.2, h52km±13km, mb4.4/12*

ISC 17 13:08:41.7±1.1, 2.5N±0.1×127.4E±0.2, h64km, n17, σ0s87/17, mb4.3/7, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.75**	**182**		**Pn**	**13 09 09.1**	**-0.9**
KKM	**Kota Kinabalu**	**11.72**	**288**	Pn	**Pn**	**13 11 27.3**	**+1.1**
MTN	**Manton Dam**	**15.71**	**167**	P	**P**	**13 12 21.4**	**-0.6**
KNRA	**Kununurra**	**18.14**	**176**	P	**P**	**13 12 48.8**	**-0.1**
KNRA				IAmb	IAmb	13 13 10.4	
	comp=Z,24nm,1.6s						
FITZ	**Fitzroy Crossi**	**20.58**	**185**	P	**P**	**13 13 15.3**	**-0.2**
FITZ				IAmb	IAmb	13 13 38.9	
	comp=Z,13nm,1.8s						
TATO	**Taipei**	**23.04**	**346**	P	**P**	**13 13 41.2**	**-0.4**
WRAB	**Tennant Creek**	**23.34**	**163**	P	**P**	**13 13 44.5**	**-0.2**
WRAB				IAmb	IAmb	13 14 08.4	
	comp=Z,21nm,1.9s						
HKPS	**Hong Kong Po S**	**23.49**	**328**	P	**P**	**13 13 45.3**	**-0.7**
PSA00	**Pilbara Seismi**	**25.08**	**197**	P	**P**	**13 14 01.8**	**+1.3**
PSA00				IAmb	IAmb	13 14 09.8	
	comp=Z,14nm,1.4s						
AS31	**Alice Springs**	**26.79**	**167**	P	**P**	**13 14 15.8**	**-0.2**
ASAR	**Alice Springs**	**26.79**	**167**	P	**P**	**13 14 15.4**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=349,slow=7.8,SNR=17						
GSI	**Gunungsitoli**	**29.87**	**268**	P	**P**	**13 14 42.5**	**-1.0**
FORT	**Forrest**	**33.13**	**179**	P	**P**	**13 15 11.5**	**-0.4**
FORT				IAmb	IAmb	13 16 22.5	
	comp=Z,21nm,0.9s						
BBOO	**Buckleboo**	**36.09**	**168**	P	**P**	**13 15 37.9**	**+0.5**
BBOO				IAmb	IAmb	13 15 42.7	
	comp=Z,9.3nm,1.1s						
STKA	**Stephens Creek**	**36.77**	**160**	P	**P**	**13 15 44.9**	**+1.6**
	comp=Z,1.9nm,0.6s,baz=318,slow=10,SNR=5.9						
STKA	**Stephens Creek**	**36.77**	**160**	P	**P**	**13 15 44.5**	**+1.2**
MKAR	**Makanchi Array**	**58.93**	**325**	P	**P**	**13 18 34.4**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=119,slow=5.6,SNR=5.4						

ISCJB ***17*** *13:23:38.9±0.5, 35.43Ns×96.67W±0.02, h9km±4km, Error ellipse: s-maj=4.4km s-min=3.0km az=169.1*
NEIC ***17*** *13:23:39.8±1.0, 35.38N±0.05×96.65W±0.02, h5km±7km*
ANF ***17*** *13:23:39.4±1.2, 35.39Nx96.66W, h0km±9km, ML3.7/10, Error ellipse: s-maj=12.6km s-min=4.7km az=162.0*
TUL ***17*** *13:23:39.6, 35.40Nx96.65W, h3km, ML3.4*

ISC 17 13:23:39.4±1.2, 35.40N±0.04×96.66W±0.02, h2km±11km, n58, σ0s77/71, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
W35A	**Tecumseh**	**0.30**	**215**		**Pg**	**13 23 45.5**	**+0.3**
W35A				Sg	**Sg**	**13 23 48.3**	**-0.7**
OK005	**Luther M Schoo**	**0.50**	**301**	Pg	**Pg**	**13 23 49.7**	**+0.6**
OK005				Sg	**Sg**	**13 23 56.9**	**+1.3**
OK001	**Jones High Sch**	**0.54**	**288**	Pg	**Pg**	**13 23 50.3**	**+0.6**
FNO	**Franklin**	**0.62**	**257**	Pg	**Pg**	**13 23 52.7**	**-0.3**
FNO				Sg	**Sg**	**13 23 59.6**	**+0.3**
ADOK	**Arcadia Dam**	**0.63**	**294**	Pg	**Pg**	**13 23 51.7**	**+0.1**
ADOK				Sg	**Sg**	**13 24 00.0**	**+0.3**
OKCSW	**OKLAHOMA CITY**	**0.63**	**271**		**Pg**	**13 23 52.1**	**+0.5**
OKCSW				Sg	**Sg**	**13 24 00.1**	**+0.3**
TUL1	**Leonard**	**0.88**	**54**	P	**Pg**	**13 23 56.2**	**-0.1**
	baz=232						
TUL1				S	**Sg**	**13 24 07.9**	**+0.3**
	baz=232						
TUL1	**Leonard**	**0.88**	**54**		**Pg**	**13 23 56.2**	**-0.1**
TUL1				Sg	**Sg**	**13 24 07.7**	**0.0**
X34A	**Smith Ranch, M**	**1.24**	**231**		**Pb**	**13 24 03.2**	**-0.5**
WMOK	**Wichita Mounta**	**1.86**	**250**	P	**Pb**	**13 24 12.5**	**-1.6**
	baz=70						
WMOK				S	**Sb**	**13 24 37.0**	**-0.7**
	baz=70						

WMOK	**Wichita Mounta**	**1.86**	**250**			**Pb**	**13 24 12.5**	**-1.6**
U32A	**Winter Ranch,**	**2.14**	**298**			**Pn**	**13 24 16.7**	**+0.6**
W39A	**Magazine**	**2.36**	**94**	P		**Pn**	**13 24 19.5**	**+0.3**
	baz=275								
W39A				S		**Sb**	**13 24 49.3**	**-3.0**
	baz=275								
W39A	**Magazine**	**2.36**	**94**			**Pn**	**13 24 19.5**	**+0.3**
HHAR	**Hobbs**	**2.38**	**67**			**Pn**	**13 24 19.8**	**+0.2**
MIAR	**Mount Ida**	**2.67**	**108**	Pb		**Pb**	**13 24 28.0**	**0.0**
	baz=289								
MIAR				S		**Sn**	**13 24 57.5**	**+1.1**
	baz=289								
MIAR	**Mount Ida**	**2.67**	**108**			**Pn**	**13 24 23.8**	**+0.3**
U40A	**Yellville**	**3.24**	**72**	P		**Pn**	**13 24 31.4**	**+0.1**
	baz=253								
U40A				S		**Sn**	**13 25 11.9**	**+1.5**
	baz=253								
U40A	**Yellville**	**3.24**	**72**			**Pn**	**13 24 31.3**	**0.0**
X40A	**Basin Creek Fa**	**3.27**	**105**	P		**Pn**	**13 24 31.5**	**-0.3**
	baz=287								
X40A				Sb		**Sb**	**13 25 20.9**	**+2.4**
	baz=287								
X40A	**Basin Creek Fa**	**3.27**	**105**			**Pn**	**13 24 31.9**	**+0.2**
WLAR	**White Oak Lake**	**3.39**	**119**	Pn		**Pn**	**13 24 33.4**	**0.0**
WHTX	**Lake Whitney,**	**3.46**	**191**	Pb		**Pb**	**13 24 41.4**	**0.0**
	baz=11								
WHTX	**Lake Whitney,**	**3.46**	**191**	Pn		**Pn**	**13 24 33.7**	**-0.6**
WHAR	**Wooly Hollow**	**3.58**	**90**			**Pn**	**13 24 36.1**	**+0.2**
UALR	**University of**	**3.60**	**99**	Pn		**Pn**	**13 24 35.8**	**-0.4**
W41B	**Gary Mavity, V**	**3.62**	**92**	P		**Pn**	**13 24 36.8**	**+0.3**
	baz=274								
W41B				S		**Sn**	**13 25 20.2**	**+0.5**
	baz=274								
W41B	**Gary Mavity, V**	**3.62**	**92**			**Pn**	**13 24 36.4**	**-0.1**
KSU1	**Kansas State U**	**3.70**	**1**	P		**Pn**	**13 24 37.4**	**-0.2**
	baz=180								
ABTX	**Abilene, Hawle**	**3.71**	**223**	Pb		**Pb**	**13 24 45.8**	**+0.1**
	baz=41								
ABTX	**Abilene, Hawle**	**3.71**	**223**	Pn		**Pn**	**13 24 37.7**	**-0.1**
FCAR	**Ozark Folk Cen**	**3.73**	**81**			**Pn**	**13 24 37.9**	**-0.2**
Z41A	**Richland Creek**	**3.84**	**123**	Pn		**Pn**	**13 24 39.5**	**0.0**
MGMO	**Mountain Grove**	**3.96**	**62**			**Pn**	**13 24 41.4**	**+0.2**
NATX	**Nacogdoches**	**3.99**	**152**	Pn		**Pn**	**13 24 42.2**	**+0.6**
AMTX	**Amarillo**	**4.14**	**264**			**Pn**	**13 24 44.3**	**+0.5**
CBKS	**Cedar Bluff**	**4.20**	**325**			**Pn**	**13 24 45.0**	**+0.4**
X43A	**Marvell**	**4.83**	**99**	Pn		**Pn**	**13 24 53.4**	**+0.2**
CCM	**Cathedral Cave**	**5.10**	**57**	Pn		**Pn**	**13 24 57.0**	**+0.2**
MSTX	**Muleshoe**	**5.23**	**256**			**Pn**	**13 24 59.4**	**+0.6**
PBMO	**Poplar Bluff**	**5.23**	**73**	Pn		**Pn**	**13 24 58.7**	**0.0**
JCT	**Junction City**	**5.57**	**209**	Pn		**Pn**	**13 25 03.8**	**+0.4**
OXF	**Oxford**	**6.02**	**96**	Pn		**Pn**	**13 25 08.9**	**-0.6**
BGNE	**Belgrade**	**6.12**	**349**	Pn		**Pn**	**13 25 09.9**	**-0.9**
T25A	**Trinidad**	**6.50**	**288**	Pn		**Pn**	**13 25 16.3**	**+0.1**
OGNE	**Ogallala**	**6.97**	**324**	Pn		**Pn**	**13 25 23.0**	**+0.4**
N41A	**Harden Midland**	**7.01**	**39**	Pn		**Pn**	**13 25 22.5**	**-0.5**
PLAL	**Pickwick Lake**	**7.04**	**91**	Pn		**Pn**	**13 25 22.2**	**-1.4**
WVT	**Waverly**	**7.22**	**82**	Pn		**Pn**	**13 25 25.1**	**-0.8**
SDCO	**Great Sand Dun**	**7.49**	**291**			**Pn**	**13 25 29.9**	**0.0**
Q24A	**Divide**	**7.65**	**300**	Pn		**Pn**	**13 25 31.6**	**-0.6**
L40A	**Anamosa**	**7.90**	**31**	Pn		**Pn**	**13 25 33.9**	**-1.3**
MNTX	**Cornudas Mount**	**8.16**	**246**			**Pn**	**13 25 39.1**	**+0.3**
ECSD	**EROS Data Cent**	**8.33**	**0**	Pn		**Pn**	**13 25 38.8**	**-1.4**
ISCO	**Idaho Springs**	**8.35**	**304**			**Pn**	**13 25 42.2**	**+0.4**
L42A	**Oliver, Polo**	**8.57**	**38**	Pn		**Pn**	**13 25 44.5**	**0.0**
JFWS	**Jewell Farm**	**9.01**	**32**	Pn		**Pn**	**13 25 49.9**	**-0.6**
N23A	**Red Feather La**	**9.14**	**310**	Pn		**Pn**	**13 25 53.2**	**+0.6**

ISCJB ***17*** *13:24:49.5±0.4, 44.47N±0.10×144.29E±0.10, h221km±7km, mb3.3/7, Error ellipse: s-maj=16.7km s-min=10.3km az=18.2*
JMA ***17*** *13:24:50.4±0.5, 44.48Nx144.25E, h220km±4km, M3.3*
IDC ***17*** *13:24:51.2±0.9, 44.72Nx144.08E, h213km±14km, mb3.1/7, mb1 3.4/9, mb1mx3.0/45, mbtmp3.7/9, Error ellipse: s-maj=39.8km s-min=25.2km az=173.0*

ISC 17 13:24:50.5±0.7, 44.45N±0.09×144.27E±0.08, h217km±8km, n24, σ0s71/31, mb3.3/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTKR	**Abashiri--Toko**	**0.55**	**208**	P	**Pn**	**13 25 20.2**	**+0.4**
JTKR				eS	**S**	**13 25 42.9**	**+0.3**
JMP	**Maruseppu**	**0.79**	**236**	P	**Pn**	**13 25 21.0**	**+0.1**
JNK	**Nakash**	**0.93**	**159**	P	**Pn**	**13 25 22.2**	**+0.6**
JAR	**Ashorobuto**	**1.21**	**197**	P	**Pn**	**13 25 24.2**	**+0.7**
JKK2	**Kamakawa 2**	**1.24**	**243**	P	**Pn**	**13 25 24.0**	**+0.3**
ASAJ	**Asahikawa**	**1.25**	**255**	P	**Pn**	**13 25 24.0**	**+0.3**
ASAJ				*eS*	**S**	**13 25 49.8**	**+0.3**
ASAJ	**Asahikawa**	**1.25**	**255**	P	**Pn**	**13 25 24.1**	**+0.3**
	10nm,0.3s,baz=167,slow=4.1,SNR=130						
ASAJ				S	**S**	**13 25 49.3**	**-0.2**
	0.7nm,0.3s,baz=342,slow=20,SNR=4.8						
JAK	**Akkeshi**	**1.49**	**168**	P	**Pn**	**13 25 25.8**	**+0.1**
JAK				*eS*	**S**	**13 25 53.0**	**+0.1**
JKHN	**Kushirohamanak**	**1.52**	**154**	P	**Pn**	**13 25 26.0**	**+0.1**
JKHN				eS	**S**	**13 25 52.0**	**-0.2**
NEM2	**Nemuro 2**	**1.52**	**135**	P	**Pn**	**13 25 25.6**	**-0.3**
NEM2				*eS*	**S**	**13 25 52.5**	**-0.8**
JFR	**Furan**	**1.77**	**224**	P	**Pn**	**13 25 28.9**	**+0.8**
JWK2	**Keihoku**	**1.89**	**298**	P	**Pn**	**13 25 29.2**	**0.0**
JCH	**Churui**	**1.95**	**200**	P	**Pn**	**13 25 29.6**	**-0.3**
JCH				*eS*	**S**	**13 25 58.9**	**-1.4**
JNBK	**Urakawa-nobuka**	**2.44**	**207**	P	**Pn**	**13 25 34.4**	**-0.4**
JEW	**Eniwo**	**2.60**	**233**	P	**Pn**	**13 25 37.7**	**+1.1**
USRK	**Ussuriysk Ar.**	**8.81**	**273**	P	**Pn**	**13 26 53.3**	**-0.7**
	baz=85,slow=14,SNR=6.1						
SEY	**Seymchan**	**19.10**	**11**	P	**P**	**13 28 55.6**	**-1.0**
	0.6nm,0.3s,baz=198,slow=15,SNR=13						
ILAR	**Eielson Array**	**42.15**	**37**	P	**P**	**13 32 21.6**	**+0.4**
	0.2nm,0.4s,baz=250,slow=5.8,SNR=8.4						
INK	**Inuvik**	**46.84**	**30**	P	**P**	**13 32 57.4**	**-0.7**
	0.4nm,0.3s,baz=300,slow=5.9,SNR=7.6						
RES	**Resolute Bay**	**54.88**	**16**	P	**P**	**13 33 56.8**	**-1.0**
	0.8nm,0.4s,baz=315,slow=6.3,SNR=7.7						
YKA	**Yellowknife Ar**	**56.36**	**33**	P	**P**	**13 34 09.3**	**+0.8**
	0.7nm,0.6s,baz=304,slow=6.9,SNR=5.0						
FINES	**FINESS Array B**	**63.29**	**332**	P	**P**	**13 34 54.9**	**-0.7**
	1.4nm,0.5s,baz=57,slow=7.0,SNR=10						
PDAR	**Pinedale Array**	**71.02**	**48**	P	**P**	**13 35 45.0**	**+0.2**
	0.3nm,0.7s,baz=306,slow=3.1,SNR=2.8						
TXAR	**Lajitas Array**	**83.96**	**54**	P	**P**	**13 36 58.1**	**+1.7**
	0.2nm,0.6s,baz=305,slow=3.2,SNR=3.6						

BJI ***17*** *13:27:57.0±0.0, 40.70Nx124.50W, h15km, mb4.6/3*
IDC ***17*** *13:27:59.1±1.2, 40.72Nx124.34W, h0km, mb4.0/6, mb1 4.1/10, mb1mx3.8/50, mbtmp3.9/10, ML4.7/2, MS3.1/4, Ms1 3.0/4, ms1mx2.8/46, Error ellipse: s-maj=14.2km s-min=9.7km az=109.0*
ISCJB ***17*** *13:28:00.5±0.3, 40.69N±0.01×124.58W±0.04, h33km±4km, mb4.1/6, MS3.9/2, Error ellipse: s-maj=4.8km s-min=1.9km az=177.5*
NEIC ***17*** *13:28:01.3±2.5, 40.71N±0.02×124.52W±0.06, h24km±6km*
NCEDC ***17*** *13:28:01.5±0.2, 40.70Nx124.55W, h19km, ML4.3*
ANF ***17*** *13:28:02.4±0.6, 40.80Nx124.34W, h20km, ML4.0/19, Error ellipse: s-maj=8.0km s-min=2.7km az=76.0*

ISC 17 13:28:02.1±1.0, 40.70N±0.03×124.52W±0.05, h27km±7km, n316, σ1s14/325, mb4.4/9, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.26**	**148**		**Pb**	**13 28 08.7**	**0.0**
KCTM					**Sb**	**13 28 13.9**	**+0.7**
JCC	**Jacoby Creek,**	**0.39**	**72**		**Pb**	**13 28 10.0**	**-0.6**
JCC	**Jacoby Creek,**	**0.39**	**72**		**Sb**	**13 28 15.9**	**-0.4**
KMPM	**Mount Pierce**	**0.41**	**133**		**Pb**	**13 28 10.6**	**-0.4**
KSMM	**Slide Mountain**	**0.57**	**153**		**Pb**	**13 28 12.7**	**-1.0**
KRPM	**Rodgers**	**0.59**	**39**		**Pb**	**13 28 13.2**	**-0.8**
KCRM	**Chalk Rock**	**0.60**	**117**		**Pb**	**13 28 13.5**	**-0.6**
KHMM	**Horse Mountain**	**0.62**	**73**		**Pb**	**13 28 13.8**	**-0.7**
KHMM	**Horse Mountain**	**0.62**	**73**		**Sb**	**13 28 22.8**	**-0.2**
KMRM	**Mail Ridge**	**0.78**	**127**		**Pb**	**13 28 16.2**	**-0.9**
KCSM	**Cold Springs**	**0.78**	**102**		**Pb**	**13 28 16.4**	**-0.8**
KRMB	**Red Mountain**	**0.94**	**29**		**Pb**	**13 28 18.1**	**-1.8**
KPPM	**Pickett Peak**	**0.95**	**111**		**Pb**	**13 28 18.8**	**-1.2**
KHBM	**Hayfork Bally**	**0.99**	**92**		**Pb**	**13 28 19.0**	**-1.7**
KOMM	**Orleans Mounta**	**0.99**	**54**		**Pb**	**13 28 19.1**	**-1.6**
KBSM	**Bell Springs**	**1.05**	**138**		**Pb**	**13 28 20.0**	**-1.7**
KIPM	**Iron Peak**	**1.19**	**138**		**Pn**	**13 28 21.9**	**-1.2**
KSXB	**Camp Six Broad**	**1.23**	**23**		**Pn**	**13 28 22.0**	**-1.6**

KCPM	**Cahto Peak**	**1.24**	**144**			**Pn**	**13 28 22.1**	**-1.7**
KBNM	**Bluenose Ridge**	**1.29**	**128**			**Pn**	**13 28 24.0**	**-0.5**
LGPM	**Granite Peak**	**1.30**	**80**			**Pn**	**13 28 23.4**	**-1.2**
LBPM	**Beegum Peak**	**1.30**	**106**			**Pn**	**13 28 23.4**	**-1.2**
KFPM	**Farley Peak**	**1.35**	**141**			**Pn**	**13 28 23.8**	**-1.5**
N02D	**Trinity Center**	**1.40**	**78**	P		**Pn**	**13 28 24.8**	**-1.2**
	baz=259,SNR=1000								
N02D				S		**Sn**	**13 28 41.5**	**-2.2**
	baz=259								
N02D	**Trinity Center**	**1.40**	**78**			**Pn**	**13 28 24.8**	**-1.2**
O02D	**Mt. Diablo Mer**	**1.42**	**111**	P		**Pn**	**13 28 25.0**	**-1.2**
	baz=292,SNR=170								
O02D				S		**Sn**	**13 28 43.2**	**-0.8**
	baz=292								
O02D	**Mt. Diablo Mer**	**1.42**	**111**			**Pn**	**13 28 25.0**	**-1.2**
M02C	**Callahan**	**1.44**	**61**	P		**Pn**	**13 28 25.1**	**-1.4**
	baz=241,SNR=346								
M02C				S		**Sn**	**13 28 41.8**	**-2.6**
	baz=241								
M02C	**Callahan**	**1.44**	**61**			**Pn**	**13 28 25.0**	**-1.4**
LBKM	**Bonanza King**	**1.46**	**74**			**Pn**	**13 28 25.6**	**-1.2**
KTRM	**Thompson Ridge**	**1.48**	**35**			**Pn**	**13 28 25.8**	**-1.4**
GTC	**Three Chop Rid**	**1.49**	**150**			**Pn**	**13 28 25.5**	**-1.6**
WDC	**Whiskeytown Da**	**1.51**	**94**			**Pn**	**13 28 26.1**	**-1.2**
KRKM	**Rackout Spring**	**1.53**	**137**			**Pn**	**13 28 26.5**	**-1.2**
KBO	**Bosley Butte**	**1.53**	**8**			**Pn**	**13 28 25.5**	**-2.2**
GROM	**Round Mountain**	**1.61**	**118**			**Pn**	**13 28 28.2**	**-0.7**
L02E	**Cave Junction**	**1.61**	**25**	P		**Pn**	**13 28 27.3**	**-1.4**
	baz=205,SNR=1000								
L02E				S		**Sn**	**13 28 47.2**	**-1.5**
	baz=205								
L02E	**Cave Junction**	**1.61**	**25**			**Pn**	**13 28 27.4**	**-1.4**
GNAM	**Navarro Ridge**	**1.65**	**155**			**Pn**	**13 28 27.4**	**-1.8**
GVV	**Valley View**	**1.69**	**123**			**Pn**	**13 28 29.2**	**-0.6**
LAMM	**Antelope Mount**	**1.69**	**57**			**Pn**	**13 28 29.1**	**-1.0**
GHMM	**Hull Mountain**	**1.71**	**134**			**Pn**	**13 28 29.0**	**-1.3**
YBH	**Yreka Blue Hor**	**1.71**	**52**	Pg		**Pn**	**13 28 29.3**	**-0.9**
	132nm,0.3s,baz=273,slow=9.9,SNR=3331								
YBH				Lg		Lg	13 28 49.4		
	197nm,0.3s,baz=106,slow=23,SNR=15								
YBH				LR		LR	13 29 14.5		
	comp=Z,164nm,20.7s,baz=230,slow=47								
YBH	**Yreka Blue Hor**	**1.71**	**52**			**Pn**	**13 28 29.0**	**-1.2**
GASB	**Alder Springs**	**1.73**	**126**			**Pn**	**13 28 29.7**	**-0.8**
LCSM	**College of the**	**1.76**	**65**			**Pn**	**13 28 30.1**	**-0.8**
GHOM	**Hamilton Openi**	**1.81**	**155**			**Pn**	**13 28 29.8**	**-1.8**
LGBM	**Gray Butte**	**1.87**	**69**			**Pn**	**13 28 32.4**	**-0.2**
LSHM	**Sage Hill**	**1.89**	**86**			**Pn**	**13 28 32.0**	**-0.5**
LTCM	**Tuscan Springs**	**1.89**	**104**			**Pn**	**13 28 31.9**	**-0.7**
M03C	**McCloud**	**1.90**	**72**			**Pn**	**13 28 32.5**	**-0.3**
LMPM	**Military Pass**	**1.95**	**65**			**Pn**	**13 28 33.8**	**+0.3**
GCK	**Clark Valley**	**1.97**	**125**			**Pn**	**13 28 33.7**	**0.0**
LHEM	**Herd Peak**	**1.97**	**61**			**Pn**	**13 28 33.5**	**-0.4**
GGUM	**Gualala**	**2.00**	**157**			**Pn**	**13 28 32.2**	**-2.0**
GHLM	**Highland Sprin**	**2.02**	**145**			**Pn**	**13 28 32.8**	**-1.6**
SOUA	**Southern Orego**	**2.02**	**42**			**Pn**	**13 28 34.5**	**+0.1**
GTSM	**Trough Springs**	**2.02**	**133**			**Pn**	**13 28 33.5**	**-0.9**
GSNM	**Snow Mountain**	**2.03**	**149**			**Pn**	**13 28 33.0**	**-1.5**
HOPS	**Hopland Field**	**2.03**	**146**			**Pn**	**13 28 32.9**	**-1.7**
LBFM	**Black Fox Moun**	**2.09**	**71**			**Pn**	**13 28 35.5**	**0.0**
K02D	**Willamette Mer**	**2.10**	**17**	P		**Pn**	**13 28 34.0**	**-1.5**
	baz=198,SNR=1000								
K02D				S		**Sn**	**13 28 58.4**	**-2.3**

DONR	Donner Summit	3.49	111			Pn		13 28 55.3	+0.5
ASMM	Slate Mountain	3.50	121			Pn		13 28 54.8	0.0
SAC	San Andreas	3.51	152			Pn		13 28 53.6	-1.3
CLCB	Lake Chabot	3.52	146			Pn		13 28 54.5	-0.4
J05D	Fort Rock, OR	3.56	42	P		Pn		13 28 56.0	+0.3
	baz=224,SNR=936								
JCHM	Cahill Ridge	3.59	152			Pn		13 28 54.4	-1.6
VPK	Verdi Peak	3.65	108			Pn		13 28 57.2	+0.2
PEAR	Peavine Mounta	3.66	106			Pn		13 28 57.2	+0.1
CNIC	Niles Canyon	3.67	146			Pn		13 28 56.8	-0.2
TAHR	Tahoe	3.69	113			Pn		13 28 58.3	+0.8
MPK	Martis Peak	3.72	111			Pn		13 28 58.5	+0.5
JRSC	Jasper Ridge	3.74	151			Pn		13 28 56.5	-1.5
RUBR	Rubicon Trail	3.74	115			Pn		13 28 58.4	+0.2
JSFB	Stanford Teles	3.76	150			Pn		13 28 57.3	-1.0
CMJM	Mission San Jo	3.78	146			Pn		13 28 58.3	-0.3
JFP	Foothills Park	3.79	151			Pn		13 28 57.4	-1.3
JJRM	Joaquin Road	3.80	151			Pn		13 28 57.6	-1.3
EMB	Emerald Bay	3.81	115			Pn		13 28 59.6	+0.4
MNHB	New Hogan Dam	3.84	130			Pn		13 28 59.0	-0.3
JPC	Peters Creek,	3.87	152			Pn		13 28 58.3	-1.5
JSGM	Saratoga Golf	3.92	150			Pn		13 28 59.3	-1.1
JHUM	Huhtala Lane,	3.93	152			Pn		13 28 59.4	-1.3
COR	Corvallis	3.99	13			Pn		13 29 01.3	-0.1
VCNR	Virginia City	3.99	109			Pn		13 29 01.6	-0.1
GNO	Genoa	4.00	115			Pn		13 29 02.6	+0.8
JBNB	Ben Lomond Mou	4.02	152			Pn		13 29 00.1	-1.8
H04D	Lebanon	4.04	18	P		Pn		13 29 02.8	+0.6
	baz=199,SNR=28								
H04D					S	Sn		13 29 46.7	-1.9
	baz=199								
PAHR	Pah Rah Range	4.05	102			Pn		13 29 01.9	-0.6
ARN	Arnold Ranch	4.07	144			Pn		13 29 02.6	0.0
PINE	Pine Mountain	4.08	39			Pn		13 29 03.2	+0.4
JSTM	Santa Teresa H	4.08	148			Pn		13 29 01.2	-1.4
PNTR	Pine Nut	4.11	111			Pn		13 29 03.5	+0.2
JHLM	Holstrom Ranch	4.15	149			Pn		13 29 02.2	-1.5
CMB	Columbia Colle	4.16	128			Pn		13 29 03.8	-0.1
BFC	Buffalo Canyon	4.19	114			Pn		13 29 04.8	+0.4
JTGM	Trout Gulch Ro	4.20	150			Pn		13 29 03.5	-0.9
HSPM	Sheep	4.28	146			Pn		13 29 05.1	-0.3
HLPM	Lions Peak	4.29	147			Pn		13 29 04.1	-1.4
I05D	Terrebonne, OR	4.33	32	P		Pn		13 29 06.5	+0.3
	baz=214,SNR=35								
YERR	Yerington	4.41	111			Pn		13 29 07.3	0.0
HFEM	San Felipe	4.44	146			Pn		13 29 07.3	-0.3
SFJWR	San Luis Fatjo	4.48	143			Pn		13 29 08.2	0.0
WAKR	Walker	4.49	118			Pn		13 29 09.1	+0.6
MYLM	Yosemite Lake	4.60	135			Pn		13 29 10.5	+0.7
SAO	San Andreas Ge	4.60	148			Pn		13 29 08.0	-1.9
G03D	McMinnville, O	4.60	11	P		Pn		13 29 10.7	+0.9
	baz=192,SNR=20								
G03D					S	Sn		13 30 00.6	-1.8
	baz=192								
BSLM	Silva Ranch	4.63	147			Pn		13 29 10.2	-0.1
BSRM	Salinas Radio	4.66	149			Pn		13 29 08.6	-2.1
BPCNC	Pine Canyon	4.70	150			Pn		13 29 09.6	-1.6
WVOR	Wild Horse Val	4.74	67			Pn		13 29 10.5	-1.4
BEHM	Elkhorn Ranch	4.80	146			Pn		13 29 12.1	-0.5
BRMM	Rolling Bench	4.82	142			Pn		13 29 13.3	+0.5
HAST	Hastings Reser	4.89	151			Pn		13 29 11.9	-2.0
MMIM	Miami Mountain	4.95	130			Pn		13 29 15.6	+0.8
BPOM	Post Ranch	4.96	153			Pn		13 29 13.8	-1.0
RYN	Ryan	5.07	112			Pn		13 29 16.5	+0.1
MHDM	Hidden Dam	5.08	133			Pn		13 29 17.3	+0.9
G05D	Wamic, OR	5.11	26	P		Pn		13 29 18.0	+1.1
	baz=208,SNR=40								
KVN	Kaiserville	5.20	106			Pn		13 29 17.9	-0.4
MDPB	Devils Postpil	5.22	124			Pn		13 29 19.4	+0.9
MDYM	Dry Creek	5.25	124			Pn		13 29 20.5	+1.5
MMSM	Mammoth Summit	5.25	124			Pn		13 29 21.8	+2.7
LHV	Little Huntoon	5.25	116			Pn		13 29 20.4	+1.5
FRI	Friant	5.27	133			Pn		13 29 20.0	+1.0
OMMB	Old Mammoth Mi	5.28	124			Pn		13 29 20.3	+0.9
NVAR	Mina Array Bea	5.31	113	Pn		Pn		13 29 19.9	+0.1
	15nm,0.3s,baz=289,slow=14,SNR=214								
NVAR					LR	LR		13 30 50.5	
	comp=Z,45nm,20.5s,baz=170,slow=32								
PMPB	Monarch Peak	5.34	146			Pn		13 29 19.6	-0.5
G06A	Carlson Farm,	5.36	31			Pn		13 29 21.9	+1.6
NV11	Mina Array Sit	5.41	113			Pn		13 29 21.0	-0.1
F04A	Amboy	5.45	16			Pn		13 29 21.7	+0.2
BMN	Battle Mountai	5.56	90			Pn		13 29 22.2	-1.0
F05D	White Salmon	5.64	22	P		Pn		13 29 25.4	+1.2
	baz=204,SNR=7.6								
VOG	Valley Oaks Go	5.94	136	P		Pn		13 29 28.7	+0.5
	baz=319								
PAGB	Antelope Grade	5.99	145			Pn		13 29 28.4	-0.6
E04D	Cinebar	6.03	13	P		Pn		13 29 30.1	+0.7
	baz=194,SNR=15								
E04D					S	Sn		13 30 34.9	-2.5
	baz=194								
G08A	Pilot Rock	6.14	40			Pn		13 29 30.8	-0.2
F07A	Phinny Hill Vi	6.18	31			Pn		13 29 31.5	0.0
SMMC	Simmler	6.45	145	P		Pn		13 29 35.1	-0.2
	baz=328								
VES	Vestal, Richgr	6.46	137	P		Pn		13 29 35.9	+0.5
	baz=320								
NLWA	Neilton Lookou	6.71	4	Pn		Pn		13 29 39.5	+0.7
BMO	Blue Mountains	6.74	50			Pn		13 29 40.1	+0.9
D05A	Enumclaw	6.74	15	Pn		Pn		13 29 40.2	+1.1
HAWA	Hanford	6.75	31			Pn		13 29 40.4	+1.1
E07A	Sunnyside	6.76	28			Pn		13 29 41.5	+1.9
PKM	Mcpherson Peak	6.89	146	P		Pn		13 29 41.0	-0.5
	baz=329								
D03D	Eldon	6.91	8	P		Pn		13 29 41.3	-0.2
	baz=189,SNR=20								
ISA	Isabella, Lake	6.92	135	P		Pn		13 29 42.8	+1.0
	baz=318								
ISA	Isabella, Lake	6.92	135			Pn		13 29 42.9	+1.1
MFID	Camas Ranch	7.01	64			Pn		13 29 42.1	-1.0
E08A	Dider Farm, El	7.01	33			Pn		13 29 44.0	+1.0
ELK	Elko	7.05	87	Pn		Pn		13 29 43.1	-0.5
	0.2nm,0.3s,baz=273,slow=16,SNR=6.3								
ELK					Sn	Sn		13 31 00.5	-2.5
	0.2nm,0.3s,baz=36,slow=19,SNR=2.4								
ELK	Elko	7.05	87			Pn		13 29 43.5	-0.2
LTY	Liberty	7.12	22			Pn		13 29 45.5	+1.0
ARVC	Arvin	7.15	139	P		Pn		13 29 45.7	+0.9
	baz=323								
R11A	Troy Canyon, C	7.29	106	P		Pn		13 29 47.2	+0.2
	baz=292								
R11A	Troy Canyon, C	7.29	106			Pn		13 29 46.9	-0.1
TPNV	Topopah Spring	7.46	117	P		Pn		13 29 50.1	+0.8
	baz=303								
TPNV	Topopah Spring	7.46	117			Pn		13 29 50.6	+1.3
F10A	Beach Ranch, E	7.48	43			Pn		13 29 50.8	+1.3
OSI	Osito Audit: C	7.61	141	P		Pn		13 29 52.7	+1.4
	baz=325								
OSI	Osito Audit: C	7.61	141			Pn		13 29 52.2	+0.9
PLID	Pearl Lake	7.64	52			Pn		13 29 53.3	+1.5
B05A	Bryant	7.76	12	P		Pn		13 29 53.7	+0.6
	baz=194,SNR=13								
EDW2	Edwards Air Fo	7.77	136	P		Pn		13 29 54.5	+1.1
	baz=320								
B06A	Marblemount	8.11	14	Pn		Pn		13 29 59.4	+1.4
GSC	Goldstone, Bar	8.13	129			Pn		13 29 59.3	+0.9
PASC	Pasadena Art C	8.23	140			Pn		13 30 00.5	+0.7
MWC	Mount Wilson	8.25	140			Pn		13 30 01.2	+1.0
SHPR	Sheep Range	8.44	117			Pn		13 30 03.8	+1.1
BFSC	Mount Baldy Ra	8.44	138	P		Pn		13 30 03.5	+0.8
	baz=322								
B08A	Colville Reser	8.51	24			Pn		13 30 03.3	-0.1
PSUT	Pine Spring	8.51	101			Pn		13 30 04.2	+0.5
BGU	Big Grassy Mou	8.72	85	Pn		Pn		13 30 07.5	+1.0
HEC	Hector,Ludlow	8.73	130	P		Pn		13 30 07.5	+0.9
	baz=315								
CIS	Catalina Islan	8.76	144	P		Pn		13 30 06.3	-0.7
	baz=328								
BBRC	Big Bear Solar	8.81	134	P		Pn		13 30 08.1	+0.2
	baz=319								
DUG	Dugway, Tooele	8.94	89	P		Pn		13 30 10.3	+0.7
	baz=277								
DUG	Dugway, Tooele	8.94	89			Pn		13 30 10.4	+0.9
SPUT	South Promonto	9.15	82	Pn		Pn		13 30 13.8	+1.4
MURC	Murrieta	9.18	138	P		Pn		13 30 13.3	+0.5
	baz=323								
CCUT	Cedar City	9.22	106			Pn		13 30 14.2	+0.7
NEW	Newport	9.22	32	Pn		Pn		13 30 12.4	-0.9
	0.2nm,0.3s,baz=158,slow=19,SNR=2.3								
NEW					LR	LR		13 34 14.2	
	comp=Z,167nm,18.2s,baz=202,slow=41								
NEW	Newport	9.22	32	Pn		Pn		13 30 14.6	+1.3

SZCU	Shurtz Canyon	9.40	106		Pn		Pn	13 30 16.4	+0.5
BELC	Belle Mtn. Jos	9.52	132		P		Pn	13 30 17.9	+0.4
	baz=317								
MCMT	McKenzie Canyo	9.52	60				Pn	13 30 17.8	+0.3
LCMT	Little Creek M	9.53	109				Pn	13 30 18.2	+0.6
TCRU	Three Creeks R	9.54	99				Pn	13 30 18.3	+0.4
PFO	Pinyon Flats O	9.56	135		P		Pn	13 30 18.5	+0.6
	baz=320								
PFO	Pinyon Flats O	9.56	135		Pn		Pn	13 30 18.7	+0.7
	2.9nm,0.3s,baz=325,slow=11,SNR=41								
PFO					LR		LR	13 34 39.5	
	comp=Z,174nm,19.6s,baz=310,slow=42								
PFO	Pinyon Flats O	9.56	135				Pn	13 30 18.2	+0.3
XPFO	Pion Flat	9.56	135				Pn	13 30 18.5	+0.5
MSU	Marysvale	9.77	99				Pn	13 30 22.8	+1.8
MSO	Missoula	9.80	48		P		Pn	13 30 22.5	+1.2
	baz=235								
MSO	Missoula	9.80	48				Pn	13 30 22.8	+1.6
KNB	Kanab	9.83	108		Pn		Pn	13 30 23.0	+1.1
DLMT	Dillon	9.89	58				Pn	13 30 23.9	+1.3
IRM	Iron Mountain	9.90	128		P		Pn	13 30 23.4	+0.8
	baz=314								
MTPU	Mount Pierson	9.91	102				Pn	13 30 24.9	+1.8
PKCU	Pink Cliffs	10.03	105		Pn		Pn	13 30 25.9	+1.2
LLLB	Lillooet	10.08	10		Pn		Pn	13 30 25.7	+0.7
MONP2	Monument Peak	10.14	138		P		Pn	13 30 27.1	+1.0
	baz=323								
JTMT	Jette	10.17	43		Pn		Pn	13 30 27.7	+1.3
BAR	Barrett	10.18	139				Pn	13 30 27.0	+0.6
Q16A	Castle Valley	10.42	96		Pn		Pn	13 30 31.2	+1.3
IKP	In-Ko-Pah, Jac	10.49	137		P		Pn	13 30 30.6	-0.1
	baz=322								
YHL	Hebgen Lake	10.64	63		Pn		Pn	13 30 33.9	+0.9
PDAR	Pinedale Array	11.37	75		Pn		Pn	13 30 44.7	+1.8
	baz=265,slow=12,SNR=3.0								
LENM	Lemitar	15.38	110		P		P	13 31 42.4	+0.7
319A	Douglas	15.42	122		P		P	13 31 42.4	+0.2
319A					IAmb		IAmb	13 31 46.6	
	comp=Z,11nm,0.8s								
T25A	Trinidad	16.05	96		P		P	13 31 48.9	-0.3
TX31	Lajitas Ar. Si	20.44	117		P		P	13 32 37.6	+0.1
TX32	Lajitas Array	20.45	117		P		P	13 32 37.6	+0.1
TXAR	Lajitas Array	20.45	117		P		P	13 32 38.9	+1.4
	comp=Z,2.4nm,0.8s,baz=300,slow=8.4,SNR=12								
FFC	Flin Flon	20.54	39		P		P	13 32 38.2	0.0
ULM	Lac du Bonnet	22.12	55		P		P	13 32 52.8	-2.5
	comp=Z,4.2nm,0.6s,baz=263,slow=11,SNR=5.8								
ULM					LR		LR	13 40 51.7	
	comp=Z,66nm,18.1s,baz=66,slow=35								
ULM	Lac du Bonnet	22.12	55		P		P	13 32 53.0	-2.2
ULM					IAmb		IAmb	13 32 57.8	
	comp=Z,24nm,1.5s								
YKA	Yellowknife Ar	22.62	12		P		P	13 33 00.7	+0.2
	comp=Z,1.4nm,0.8s,baz=195,slow=9.9,SNR=16								
SUCK	Suckling Hills	22.80	335		P		P	13 33 00.1	-2.3
RAGM	Ragged Mountai	23.33	334		P		P	13 33 08.7	+0.9
GLB	Gilahina Butte	23.87	337		P		P	13 33 13.3	+0.2
GLB					IAmb		IAmb	13 33 55.3	
	comp=Z,50nm,2.0s								
EYMN	Ely	24.57	62		P		P	13 33 20.6	+0.9
EYMN					IAmb		IAmb	13 33 39.2	
	comp=Z,55nm,1.9s								
RSO	Redoubt South	26.35	328		P		P	13 33 36.8	+1.0
O44A	Mansfield	27.33	79		P		P	13 33 45.3	+0.6
O44A					IAmb		IAmb	13 33 58.2	
	comp=Z,29nm,1.4s								
RES	Resolute Bay	36.69	13		P		P	13 35 07.2	+1.1
	comp=Z,2.3nm,0.7s,baz=217,slow=10,SNR=8.9								
RES	Resolute Bay	36.69	13		IAmb		IAmb	13 35 08.6	
	comp=Z,3.6nm,0.8s								
SCHQ	Schefferville	40.10	49		P		P	13 35 34.8	-0.2
	comp=Z,2.9nm,0.8s,baz=265,slow=12,SNR=3.4								
SCHQ	Schefferville	40.10	49		IAmb		IAmb	13 35 40.2	
	comp=Z,28nm,1.5s								
H11N3	WAKE ISLAND Hy	61.35	272		T		T	14 44 55.5	
	baz=53,slow=75,SNR=24								
H11N2	WAKE ISLAND Hy	61.35	272		T		T	14 44 53.8	
	baz=53,slow=75,SNR=24								
H11N1	WAKE ISLAND Hy	61.36	272		T		T	14 44 55.5	
	baz=53,slow=75,SNR=20								
FINES	FINESS Array B	75.44	14		P		P	13 39 43.9	+0.8
	comp=Z,3.6nm,0.8s,baz=343,slow=6.0,SNR=5.4								
ESDC	Sonseca Array	83.41	42		LR		LR	14 14 58.9	
	comp=Z,277nm,18.7s,baz=335,slow=34								
HHC	Hu-ho-hao-te	84.18	321		*eP*		P	13 40 31.6	+0.6
HHC					pmax		pmax		
	comp=Z,7.0nm,1.0s								
WMQ	Urumqi	91.00	337		*eP*		P	13 41 06.5	+2.7
KSH	Kashi	98.00	344		P		Pdif	13 41 37.9	+1.9

BJI ***17*** *13:49:33.0±0.0, 75°.90N×7°.10E, h5km, mb4.8/49, mB5.4/45, Ms5.2/42, Ms7 5.0/41*

IDC ***17*** *13:49:34.8±0.4, 75°.82N×7°.08E, h0km, mb4.3/35, mb1 4.4/41, mb1mx4.4/46, mbtmp4.3/41, ML3.5/5, MS4.6/40, Ms1 4.6/40, ms1mx4.5/46, Error ellipse: s-maj=10.3km s-min=7.9km az=53.0*

ISCJB ***17*** *13:49:35.6±0.1, 75°.88N±0°.02×6°.92E±0°.07, h16km, mb4.8/125, MS4.6/72, Error ellipse: s-maj=3.0km s-min=1.8km az=44.3*

MOS ***17*** *13:49:35.3±1.0, 75°.90N×7°.02E, h15km, mb5.2/69, MS4.5/23, Error ellipse: s-maj=19.4km s-min=4.0km az=95.5*

BER ***17*** *13:49:35.5±4.3, 75°.90N×7°.43E, h10km, ML3.2, ML4.8(NAO), Confirmed Earthquake*

GCMT ***17*** *13:49:36.3±0.1, 75°.93N±0°.01×6°.90E±0°.02, h12km, MW5.3/144, Moment Tensor Solution. s83,c126; s144,c281; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-1.10±.01; Mθθ 0.21±.01; Mϕϕ 0.88±.01; Mrθ-0.07±.04; Mrϕ 0.46±.01; Mθϕ-0.33±.04; Best double couple: Ms1.15900×10^17 NP1:ϕ23.00000°, δ53.00000°, λ-95.00000°. NP2:ϕ211.00000°, δ37.00000°, λ-83.00000°. Principal axes: T 1.1630, Plg8.0000°, Azm116.0000°; N -0.0130, Plg4.0000°, Azm26.0000°; P -1.1550, Plg81.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***17*** *13:49:36.3±1.2, 75°.82N±0°.06×7°.0E±0°.3, h10km±1km, mb5.1/250*

IEPN ***17*** *13:49:41.0, 75°.95N×8°.44E, h15km*

ISC 17 13:49:35.3±0.7, 75°.96N±0°.03×7°.09E±0°.03, h5km±4km, n778, σ1°80/816, mb5.0/218, MS4.5/73, 37C-19D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HSPB	Hornsund (broa	2.24	58	Pn		Pn	13 50 10.9	-2.2
HSPB				Sn		Sn	13 50 34.6	-6.3
HSPB	Hornsund (broa	2.24	58	*eP*		Pn	13 50 10.8	-2.2
HSPB				*e*			13 50 34.4	
HSPB				pmax		pmax		
	comp=Z,700nm,0.8s							
HSPB	Hornsund (broa	2.24	58	⇓*iP*		Pn	13 50 10.7	-2.2
HSPB				*i* S		Sn	13 50 34.8	-6.1
HSPB	Hornsund (broa	2.24	58	*ePn*		Pn	13 50 10.8	-2.2
HSPB				*ePn*		Pn	13 50 10.8	-2.2
HSPB				*eSn*		Sn	13 50 34.4	-6.5
HSPB				*eSn*		Sn	13 50 34.4	-6.5
HSPB	Hornsund (broa	2.24	58	*eP*		Pn	13 50 10.8	-2.2
HSPB				*eS*		Sn	13 50 35.1	-5.9
HSPB				IAML			13 50 39.6	
	comp=Z,331nm,0.4s							
BRBA	Barentsburg A	2.65	34	Pn		Pn	13 50 17.7	-0.9
BRBA	Barentsburg A	2.65	34	Pn		Pn	13 50 17.7	-0.9
SPA0	Spitsbergen Ar	3.05	39	Pn		Pn	13 50 23.0	-1.1
	baz=200,slow=11							
SPA0				Sn		Sn	13 50 57.0	-3.9
	baz=222,slow=37							
SPA0	Spitsbergen Ar	3.05	39	⇑*iP*		Pn	13 50 23.1	-1.1
SPA0				*i* S		Sn	13 50 56.7	-4.2
SPA0	Spitsbergen Ar	3.05	39	Pn		Pn	13 50 23.0	-1.1
	baz=200,slow=11							
SPA0				Sn		Sn	13 50 57.0	-3.9
	baz=222,slow=37							
SPA0	Spitsbergen Ar	3.05	39	Pn		Pn	13 50 23.3	-0.8
SPITS	Spitsbergen Ar	3.05	39	Pn		Pn	13 50 23.1	-1.1
	baz=203,slow=14,SNR=360							
SPITS				Sn		Sn	13 50 56.4	-4.5
	baz=226,slow=23,SNR=14							
SPITS				LR		LR	13 51 40.8	

	comp=Z,6μm,21.7s,baz=220,slow=40								
KBS	Kingsbay	3.16	17		Pn		Pn	13 50 24.8	-0.8
KBS					Sn		Sn	13 50 57.6	-6.0
KBS	Kingsbay	3.16	17		P		Pn	13 50 24.7	-0.9
KBS	Kingsbay	3.16	17	⇑	*iP*		Pn	13 50 25.1	-0.5
KBS					*i* S		Sn	13 50 57.7	-6.0
KBS	Kingsbay	3.16	17		*eP*		Pn	13 50 24.9	-0.8
KBS					*eS*		Sn	13 50 58.3	-5.4
KBS					IAML			13 51 05.2	
	comp=Z,381nm,0.5s								
KBS	Kingsbay	3.16	17				Pn	13 50 24.7	-0.9
BJO1	Bjornoya	3.38	110		Pn		Pn	13 50 25.6	-3.0
BJO1					Sn		Sn	13 50 59.3	-10
BJO1	Bjornoya	3.38	110		*eP*		Pn	13 50 26.0	-2.6
BJO1					*eS*		Sn	13 50 59.2	-10
BJO1	Bjornoya	3.38	110		*eP*		Pn	13 50 25.6	-3.0
BJO1					*eS*		Sn	13 51 00.1	-8.8
BJO1					IAML			13 51 05.1	
	comp=Z,360nm,0.5s								
HOPEN	Hopen	4.31	74		Pn		Pn	13 50 38.9	-2.4
HOPEN					Sn		Sn	13 51 24.9	-6.9
HOPEN	Hopen	4.31	74	⇑	*iP*		Pn	13 50 38.9	-2.4
HOPEN					*i* S		Sn	13 51 23.9	-7.9
HOPEN	Hopen	4.31	74		*eP*		Pn	13 50 38.9	-2.4
HOPEN					*eS*		Sn	13 51 23.3	-8.5
HOPEN					IAML			13 51 27.5	
	comp=Z,862nm,0.3s								
DAG	Danmarks Havn	6.11	290		*i* P		Pn	13 51 02.9	-3.2
DAG	Danmarks Havn	6.11	290		*i* P		Pn	13 51 02.9	-3.2
DAG					*i* S		Sn	13 52 06.6	-10
DAG	Danmarks Havn	6.11	290		*i* P		Pn	13 51 02.9	-3.2
DAG					*i* S		Sn	13 52 06.6	-10
DAG					IAML			13 52 10.7	
	comp=Z,142nm,0.3s								
JMIC	Jan Mayen	6.66	229		Pn		Pn	13 51 09.6	-4.0
JMIC	Jan Mayen	6.66	229		Pn		Pn	13 51 09.2	-4.4
	comp=Z,38nm,0.3s,baz=312,slow=5.8,SNR=5.3								
JMIC					LR		LR	13 53 07.4	
	comp=Z,3μm,21.8s,baz=34,slow=32								
JMIC	Jan Mayen	6.66	229		*eP*		Pn	13 51 11.3	-2.4
HAMF	Hammerfest	7.13	130		*eP*		Pn	13 51 15.8	-4.3
HAMF					*eS*		Sn	13 52 28.8	-13
HAMF					IAML			13 52 30.3	
	comp=Z,44nm,0.4s								
NOR	Nord	7.23	332	⇑	*iP*		Pn	13 51 19.1	-2.3
NOR					IAML			13 52 41.5	
	comp=Z,18nm,0.4s								
TRO	Tromso	7.24	145		*eP*		Pn	13 51 19.3	-2.3
TRO					IAML			13 52 45.2	
	comp=Z,8.1nm,0.6s								
KIF	Kilpisjarvi	8.09	143		Pn		Pn	13 51 30.1	-3.1
KIF					Sn		Sn	13 52 55.5	-9.3
KIF	Kilpisjarvi	8.09	143		*eP*		Pn	13 51 30.9	-2.2
KIF					*eS*		Sn	13 52 55.5	-9.2
ARA0	ARCESS Array S	8.41	131		Pn		Pn	13 51 33.4	-4.2
	baz=331,slow=14								
ARA0					Sn		Sn	13 53 00.0	-13
	baz=335,slow=22								
ARA0	ARCESS Array S	8.41	131		Pn		Pn	13 51 33.4	-4.2
	baz=331,slow=14								
ARA0					Sn		Sn	13 53 00.0	-13
	baz=335,slow=22								
ARCES	ARCESS Array B	8.41	131		Pn		Pn	13 51 33.5	-4.0
	comp=Z,2.9nm,0.3s,baz=332,slow=12,SNR=110								
ARCES					Sn		Sn	13 52 59.9	-13
	comp=Z,19nm,0.3s,baz=328,slow=19,SNR=11								
ARCES					LR		LR	13 54 53.5	
	comp=Z,5μm,21.5s,baz=334,slow=38								
ARE0	ARCESS Array S	8.41	131		IAML			13 53 04.0	
	comp=Z,1.5nm,0.3s								
ARE0	ARCESS Array S	8.41	131				Pn	13 51 34.0	-3.6
KTK1	Kautokeino	8.46	137		*eP*		Pn	13 51 36.3	-2.0
KTK1					*eS*		Sn	13 53 03.7	-10
KTK1					IAML			13 53 07.7	
	comp=Z,22nm,0.4s								
KEV	Kevo	8.51	127		Pn		Pn	13 51

KONO Kongsberg 16.41 175 Pn **Pn 13 53 24.1 -1.8**
AMDE Amderma 16.59 83⇓ *i*P **Pn 13 53 25.2 -3.0**
comp=Z,63nm,0.9s
AMDE *i* S Sn 13 56 14.0 -18
LSH Leshukonskoye 16.59 111 *e*P **Pn 13 53 25.1 -3.1**
LSH *e*S Sn 13 56 12.9 -20
TULEG Thule 16.93 309 *i* P **Pn 13 53 26.9 -5.5**
TULEG Thule 16.93 309 Pn **Pn 13 53 26.1 -6.3**
TULEG IAmb IAmb 13 53 27.9
comp=Z,174nm,1.1s
PUL Pulkovo 18.20 140⇓ *e*P **Pn 13 53 47.6 -0.7**
PUL pmax pmax
comp=Z,437nm,1.7s
VSU Vasula 18.94 147⇓ *e*P **P 13 53 55.2 -1.5**
VSU pmax pmax
comp=Z,391nm,1.7s
VSU Vasula 18.94 147 *e*P **P 13 53 54.8 -2.0**
PRGR Permogore 19.40 116⇓ *i*P **P 13 54 02.1 +0.4**
PRGR pmax pmax
comp=Z,127nm,1.3s
PRGR Permogore 19.40 116⇓ *i*P **P 13 54 02.0 +0.4**
comp=Z,126nm,1.2s
PRGR *e*S Sn 13 57 18.8 -21
SFJD Kangerlussuaq 19.45 274 P **Pn 13 54 03.7 +0.4**
SFJD pmax pmax
comp=Z,70nm,1.3s
SFJD Kangerlussuaq 19.45 274 P **Pn 13 54 02.9 -0.4**
comp=Z,0.8nm,0.3s,baz=32,slow=7.5,SNR=5.1
SFJD LR LR 14 00 47.2
comp=Z,3μm,19.4s,baz=40,slow=35
SFJD Kangerlussuaq 19.45 274 P **Pn 13 54 03.6 +0.4**
EKA Eskdalemuir Ar 21.07 196 P **P 13 54 18.3 -1.7**
comp=Z,2.7nm,0.7s,baz=8,9,slow=12,SNR=2.9
PABE Paberze 21.50 153 *e*P **P 13 54 24.4 -0.1**
PABE IAmb IAmb 13 54 31.7
comp=Z,482nm,1.3s
IZAR Zarasai 21.52 150 *e*P **P 13 54 28.7 +4.0**
ISAL Salakas 21.68 150 *e*P **P 13 54 28.9 +2.4**
ISAL IAmb IAmb 13 54 33.7
comp=Z,125nm,1.7s
IIGN Ignalina 21.91 150 *e*P **P 13 54 29.0 +0.1**
IIGN IAmb IAmb 13 54 36.1
comp=Z,62nm,1.3s
KLNR Kaliningrad 22.02 159⇑ *e*P **P 13 54 31.9 +1.9**
KLNR pmax pmax
comp=Z,211nm,1.4s
NACGM Naroch 22.42 149 *e*P **P 13 54 33.0 -1.3**
NACGM *e*S **S 13 58 42.0 +1.4**
NACGM *e*LQ LQ 14 01 40.0
NACGM *e*LR LR 14 03 28.0
RES Resolute Bay 22.87 318 P **P 13 54 39.8 +0.8**
comp=Z,12nm,1.0s,baz=46,slow=10.0,SNR=24
RES S **S 13 58 41.1 -7.4**
comp=Z,4.3nm,1.0s,baz=307,slow=19,SNR=4.0
RES LR LR 14 03 23.2
comp=Z,2μm,21.9s,baz=34,slow=36
RES Resolute Bay 22.87 318 IAmb IAmb 13 54 54.4
comp=Z,59nm,1.1s
SUW Suwalki 22.89 155 *e*P **P 13 54 38.3 -1.0**
SUW Suwalki 22.89 155 *e*P **P 13 54 38.3 -1.0**
SUW *e*P **P 13 54 38.3 -1.0**
SUW *e*L L 14 01 26.3
comp=Z,1μm,35.9s
SUW *e*L L 14 01 26.3
comp=Z,1μm,35.9s
SUW Suwalki 22.89 155 P **P 13 54 38.0 -1.2**
MICGM Minsk 22.95 148 *e*P **P 13 54 41.0 +1.0**
MICGM *e*LR LR 14 01 08.0
MNK Minsk 22.95 148 *e*P **P 13 54 41.0 +1.0**
KIRV Kirov 22.98 115 P **P 13 54 39.6 -0.7**
comp=Z,33nm,0.9s,baz=333,slow=12,SNR=19
KIRV LR LR 14 03 54.9
comp=Z,3μm,19.5s,baz=314,slow=38
NRS Narsarsuaq 23.05 259 P **P 13 54 40.6 -0.3**
NRS pmax pmax
comp=Z,65nm,1.1s
NRS Narsarsuaq 23.05 259 P **P 13 54 40.6 -0.3**
NRS IAmb IAmb 13 54 52.7
comp=Z,65nm,1.1s
MOS Moscow 23.27 133 *e*P **P 13 54 41.7 -1.5**
MOS *e*S **S 13 58 58.6 +3.1**
MOS pmax pmax
comp=Z,201nm,1.5s
MOS MLR MLR
comp=Z,2μm,17.0s
OBN Obninsk 23.68 135⇓ *e*P **P 13 54 46.5 -0.8**
OBN *i* 13 54 54.9
OBN *e* 13 55 15.3
OBN *e*S **S 13 59 03.2 +1.1**
OBN *e*SS **SnSn 13 59 41.5 +2.7**
OBN pmax pmax
comp=Z,68nm,2.0s
OBN MLR MLR
comp=Z,3μm,22.0s
OBN Obninsk 23.68 135 P **P 13 54 46.5 -0.8**
comp=Z,3.1nm,0.4s,baz=158,slow=7.7,SNR=3.6
OBN LR LR 14 03 56.2
comp=Z,604nm,21.7s,baz=348,slow=36
CLL Collm 24.86 171 *e*P **P 13 54 58.0 -0.3**
CLL *e* 13 55 04.0
CLL *e*S **S 13 59 26.0 +4.8**
CLL pmax pmax
comp=Z,71nm,2.1s
CLL MLR MLR
comp=Z,1μm,20.5s
CLL Collm 24.86 171 *e*P **P 13 54 58.0 -0.3**
comp=Z,71nm,2.1s
CLL *e*(sP) **pwP 13 55 04.0 +1.1**
CLL *i* 13 55 11.6
CLL *e*S **S 13 59 26.0 +4.8**
CLL Lm MLR 14 04 00.0
comp=N,1μm,20.1s
CLL Lm MLR 14 04 00.0
comp=E,500nm,19.0s
CLL Lm MLR 14 04 00.0
comp=Z,1μm,20.5s
BRG Berggiesshubel 25.33 170 *e*P **P 13 55 03.7 +1.2**
comp=Z,20nm,1.3s
BRG S **S 13 59 33.0 +4.2**
comp=N,1μm,22.6s
comp=E,578nm,22.3s
comp=Z,2μm,23.7s
BRG Berggiesshubel 25.33 170 *e*P **P 13 55 03.7 +1.2**
BRG S **S 13 59 33.0 +4.2**
BRG pmax pmax
comp=Z,20nm,1.3s
BRG MLR MLR
comp=N,1μm,22.6s
BRG MLR MLR
comp=E,578nm,22.3s
BRG MLR MLR
comp=Z,2μm,23.7s
MEM Membach 25.45 182 x P 13 55 11.8 +8.1
KSP Ksiaz 25.48 166 *e*P **P 13 55 04.3 +0.4**
KSP MLR MLR
comp=Z,1μm,24.4s
KSP Ksiaz 25.48 166 *e*P **P 13 55 04.2 +0.4**
KSP *e*P **P 13 55 04.2 +0.4**
KSP *e*L L 14 03 46.6
comp=Z,1μm,24.4s
KSP *e*L L 14 03 46.6
comp=Z,1μm,24.4s
PVCC Panska Ves 25.70 169 AMS AMS 14 04 10.0
comp=Z,1μm,21.1s
CHVC Chvalec 25.72 167 *e*P **P 13 55 08.0 +1.9**
CHVC AMS AMS 14 04 40.0
comp=Z,1μm,21.7s
BMRD Maredsous 25.77 183 P **P 13 55 06.2 -0.3**
BMRD x x 13 55 17.2
UPC Upice 25.80 167 AMS AMS 14 04 50.0
comp=Z,2μm,23.6s
NKC Novy Kostel 25.91 172 *e*P **P 13 55 08.4 +0.5**
NKC *e* 13 55 14.8
NKC MLR MLR
comp=Z,2μm,21.0s
NKC Novy Kostel 25.91 172 *e*P **P 13 55 08.4 +0.5**
NKC *e*pP **pwP 13 55 14.8 +2.3**
NKC AMS AMS 14 05 10.0
comp=Z,2μm,21.0s
DPC Dobruska-Polom 25.97 166 *e*P **P 13 55 09.7 +1.3**
DPC MLR MLR
comp=Z,1μm,19.9s
DPC Dobruska-Polom 25.97 166 *e*P **P 13 55 09.7 +1.3**
DPC AMS AMS 14 05 10.0
comp=Z,1μm,19.9s
PRA Prague 26.16 169 AMS AMS 14 04 40.0
comp=Z,2μm,20.2s
PRU Pruhonice 26.24 169 *e*P **P 13 55 13.0 +2.2**
PRU MLR MLR
comp=Z,2μm,22.9s
PRU Pruhonice 26.24 169 *e*P **P 13 55 13.0 +2.2**
PRU AMS AMS 14 03 50.0
comp=Z,2μm,22.9s
GOPC GO Pecny, Ondr 26.33 169 AMS AMS 14 04 10.0
comp=Z,2μm,23.8s
OJC Ojcow 26.34 161 *e*P **P 13 55 11.5 -0.2**
OJC MLR MLR
comp=Z,2μm,24.0s
OJC Ojcow 26.34 161 *e*P **P 13 55 11.5 -0.2**
OJC *e*P **P 13 55 11.5 -0.2**
OJC *e*L L 14 04 34.6
comp=Z,2μm,24.0s
OJC *e*L L 14 04 34.6
comp=Z,2μm,24.0s
OJC Ojcow 26.34 161 P **P 13 55 11.0 -0.7**
FRB Frobisher Bay 26.43 285 P **P 13 55 12.0 -0.4**
FRB Frobisher Bay 26.43 285 P **P 13 55 11.9 -0.4**
comp=Z,14nm,1.1s,baz=42,slow=12,SNR=5.5
FRB LR LR 14 05 26.4
comp=Z,4μm,21.0s,baz=36,slow=36
LPSR Galich'ya Gora 26.49 134 *e*P **P 13 55 12.5 -0.5**
LPSR pmax pmax
comp=Z,50nm,1.1s
LPSR MLR MLR
comp=Z,2μm,17.0s
PBCC Pribram 26.52 170 *e*P **P 13 55 14.1 +0.8**
PBCC AMS AMS 14 04 30.0
comp=Z,600nm,22.1s
OKC Ostrava-Krasne 26.60 164 AMS AMS 14 04 40.0
comp=Z,2μm,24.2s
MORC Moravsky Berou 26.62 165 P **P 13 55 14.0 -0.3**
MORC pmax pmax
comp=Z,111nm,1.9s
MORC Moravsky Berou 26.62 165 ⇓P **P 13 55 15.4 +1.1**
MORC mb 13 55 22.6
MORC Moravsky Berou 26.62 165 *e*P **P 13 55 13.3 -1.0**
MORC Moravsky Berou 26.62 165 P **P 13 55 14.0 -0.3**
MORC IAmb IAmb 13 55 21.6
comp=Z,111nm,1.9s
AKASG Malin Array Be 26.85 148 P **P 13 55 14.5 -1.7**
comp=Z,1.0nm,0.5s,baz=347,slow=9.5,SNR=7.6
AKASG LR LR 14 06 01.1
comp=Z,2μm,21.6s,baz=340,slow=37
AKBB Malin Array Si 26.85 148⇓ *e*P **P 13 55 15.9 -0.3**
AKBB Malin Array Si 26.85 148 P **P 13 55 14.7 -1.5**
AKBB IAmb IAmb 13 55 34.9
comp=Z,30nm,1.1s
TREC Trest 26.98 168 AMS AMS 14 06 00.0
comp=Z,2μm,10.4s
ARU Arti 27.02 107 *c i*P **P 13 55 19.1 +1.3**
ARU 13 56 01.0
ARU 13 58 40.3
ARU S **S 13 59 57.0 +1.6**
ARU SS **SnSn 14 01 03.2 +2.6**
ARU pmax pmax
comp=Z,46nm,1.8s
ARU MLR MLR
comp=Z,2μm,22.0s
ARU Arti 27.02 107 P **P 13 55 18.5 +0.7**
comp=Z,4.6nm,0.8s,baz=351,slow=8.1,SNR=8.8
ARU LR LR 14 06 27.0
comp=Z,2μm,21.1s,baz=324,slow=38
ARU Arti 27.02 107 P **P 13 55 18.9 +1.2**
VRAC Vranov 27.03 166 P **P 13 55 17.6 -0.3**
comp=Z,16nm,1.1s,baz=357,slow=8.7,SNR=8.1
VRAC LR LR 14 06 15.6
comp=Z,1μm,18.7s,baz=350,slow=37
VRAC Vranov 27.03 166 ⇑P **P 13 55 19.9 +2.0**
VRAC mb 13 55 27.0
VRAC Vranov 27.03 166 *e*P **P 13 55 17.6 -0.3**
KHC Kasperske Hory 27.06 171 *e*P **P 13 55 18.2 0.0**
KHC MLR MLR
comp=Z,2μm,20.3s
KHC Kasperske Hory 27.06 171 *e*P **P 13 55 18.2 0.0**
KHC *ex* x 13 55 30.0
KHC AMS AMS 14 05 30.0
comp=Z,2μm,20.3s
KHC Kasperske Hory 27.06 171 P **P 13 55 18.9 +0.6**
LVV L'vov 27.11 156 *e*P **P 13 55 18.5 -0.2**
LVV *e*S **S 13 59 58.2 +1.2**
LVV MLR MLR
comp=Z,900nm,15.0s
SVE Sverdlovsk 27.15 104 *e*P **P 13 55 25.3 +6.4**
SVE pmax pmax
comp=Z,37nm,1.3s
SVE MLR MLR
comp=Z,2μm,18.0s
NIE Niedzica 27.18 161 *e*P **P 13 55 26.0 +6.7**
NIE MLR MLR
comp=Z,800nm,24.5s
NIE Niedzica 27.18 161 *e*P **P 13 55 26.0 +6.7**
NIE *e*P **P 13 55 26.0 +6.7**
NIE *e*L L 14 04 56.7
comp=Z,822nm,24.6s
NIE *e*L L 14 04 56.7
comp=Z,822nm,24.6s
KRUC Moravsky 27.26 167 *e*P **P 13 55 20.4 +0.4**
GEC2 GERESS Array S 27.35 170 P **P 13 55 21.5 +0.6**
GERES GERESS Array B 27.35 170 P **P 13 55 21.6 +0.6**
comp=Z,4.8nm,1.1s,baz=1.3,slow=5.7,SNR=18
GERES LR LR 14 06 22.7
comp=Z,1μm,18.4s,baz=360,slow=37
VORR Voronezh 27.43 134 P **P 13 55 20.0 -1.5**
VORR pmax pmax
comp=Z,250nm,2.0s
JAVC Velka Javorina 27.54 165 *e*P **P 13 55 21.6 -1.0**
BFO Black Forest 27.73 178 P **P 13 55 23.3 -1.0**
BFO pmax pmax
comp=Z,31nm,1.3s
BFO Black Forest 27.73 178 P **P 13 55 23.3 -1.0**
BFO IAmb IAmb 13 55 36.9
comp=Z,31nm,1.3s
KOLS Kolonicke sedl 27.82 158 *e*P **P 13 55 26.9 +1.9**
KOLS Kolonicke sedl 27.82 158 *e*P **P 13 55 26.9 +1.9**
VYHS Vyhne 27.98 163 *e*P **P 13 55 30.1 +3.6**
VYHS Vyhne 27.98 163 *e*P **P 13 55 30.1 +3.6**
MODS Modra-Piesok 28.00 165 *e*P **P 13 55 29.4 +2.8**
MODS Modra-Piesok 28.00 165 *e*P **P 13 55 29.4 +2.8**
UZH Uzhgorod 28.12 158 *e*P **P 13 55 29.0 +1.3**
UZH *e* 13 56 22.7
UZH *e*S **S 14 00 13.0 +0.2**
UZH MLR MLR
comp=N,300nm,16.0s
UZH MLR MLR
comp=E,300nm,16.0s
UZH MLR MLR
comp=Z,160nm,16.0s
VORD Divnogorie 28.13 134 *e*P **P 13 55 27.5 -0.2**
VORD pmax pmax
comp=Z,30nm,1.8s
VRH Novokhopyorsk 28.34 131 *e*P **P 13 55 28.6 -0.9**
VRH pmax pmax
comp=Z,20nm,0.7s
VRH MLR MLR
comp=Z,3μm,20.0s
CONA Conrad Observa 28.36 168 *e*pP **P 13 55 30.9 +1.0**
comp=Z,16nm,1.3s
MOA Molln 28.37 170 pP **P 13 55 30.7 +0.8**
comp=Z,22nm,1.5s
TIXI Tiksi 28.47 34⇑ *i*P **P 13 55 33.0 +2.5**
TIXI pmax pmax
comp=Z,23nm,1.7s
TIXI Tiksi 28.47 34 P **P 13 55 32.6 +2.0**
comp=Z,6.4nm,1.1s,baz=180,slow=24,SNR=7.4
TIXI LR LR 14 06 15.1
comp=Z,522nm,21.7s,baz=335,slow=35
TIXI Tiksi 28.47 34 P **P 13 55 32.0 +1.4**
PSZ Piszkesteto 28.63 162 P **P 13 55 33.4 +1.0**
PSZ pmax pmax
comp=Z,52nm,1.8s
PSZ Piszkesteto 28.63 162 ⇑P **P 13 55 34.3 +1.9**
PSZ mb 13 55 39.5
PSZ Piszkesteto 28.63 162 *e*P **P 13 55 37.0 +4.7**
PSZ Piszkesteto 28.63 162 P **P 13 55 33.4 +1.0**
PSZ IAmb IAmb 13 55 37.5
comp=Z,52nm,1.8s
TRPA Tarpa 28.64 158 *e*P **P 13 55 33.1 +0.8**
MOTA Moosalm 28.76 174 *e*P **P 13 55 32.8 -0.8**
comp=Z,12nm,1.2s
WATA Walderalm 28.79 174 *e*pP **P 13 55 35.3 +1.5**
comp=Z,6.7nm,0.8s
DAVA Damuels 28.80 176 *e*P **P 13 55 33.1 -0.8**
comp=Z,16nm,1.5s
WTTA Wattenberg 28.86 174 *e*pP **P 13 55 34.9 +0.4**
comp=Z,9.1nm,1.1s
SQTA Sankt Quirin 28.89 174 *e*pP **P 13 55 35.8 +1.2**
comp=Z,9.1nm,1.1s
FETA Feichten 29.08 175 *e*pP **P 13 55 37.6 +1.2**
comp=Z,8.9nm,1.5s
KBA Koelnbreinsper 29.10 171 *e*pP **P 13 55 38.2 +1.6**
comp=Z,15nm,1.2s
DAVOX Davos/Dischmat 29.30 176 P **P 13 55 39.0 +0.6**
comp=Z,1.5nm,0.6s,baz=322,slow=8.9,SNR=3.3
DAVOX LR LR 14 08 50.7
comp=Z,1μm,18.1s,baz=3.0,slow=40
BUR08 Bucovina Ar. S 29.39 155 P **P 13 55 39.4 +0.4**
ABTA Abfaltersbach 29.40 172 *e*pP **P 13 55 40.6 +1.4**
comp=Z,5.7nm,1.0s
BURAR Bucovina Array 29.42 155 ⇑P **P 13 55 38.4 -0.9**
BURAR mb 13 55 47.5
FUORN Ofenpass-Fuorn 29.47 176 P **P 13 55 40.7 +0.7**
MYKA Terra Mystica 29.56 171 *e*pP **P 13 55 40.6 0.0**
comp=Z,24nm,1.6s
SOKA Soboth 29.57 169 *i* P **P 13 55 38.0 -2.7**
comp=Z,11nm,1.5s
OBKA Obir 29.72 170 *e*pP **P 13 55 42.3 +0.3**
comp=Z,20nm,1.4s
DRGR 29.99 158 ⇑P **P 13 55 44.9 +0.6**
CTI Castel Tesino 30.07 174 P **P 13 55 45.4 +0.2**
CTI pmax pmax
comp=Z,72nm,2.0s
CTI Castel Tesino 30.07 174 P **P 13 55 45.4 +0.2**
CTI IAmb IAmb 13 55 51.0
comp=Z,72nm,2.0s
BIZ Bicaz 30.18 154 ⇑P **P 13 55 47.3 +1.4**
MORH Mrgy, Hungar 30.24 164 *e*P **P 13 55 41.1 -5.4**
BZS Buzias 31.06 160 ⇑P **P 13 55 55.7 +2.0**
VRI Vrincioaia 31.31 153 ⇓P **P 13 55 59.4 +3.5**
GZR Gura Zlata 31.38 159 ⇑P **P 13 55 59.1 +2.5**
VOIR 31.55 155 ⇓P **P 13 55 59.3 +1.1**
C36M Paulatuk 31.83 330 P **P 13 56 02.6 +2.4**
baz=21
MDVR Moldovita 31.89 160 ⇑P **P 13 56 03.7 +2.6**
VLC Villacollemand 31.93 176 P **P 13 56 01.7 +0.3**
VLC IAmb IAmb 13 56 10.3
comp=Z,28nm,1.2s
MURB Monte Urbino 32.88 173 P **P 13 56 10.1 +0.3**
BRVK Borovoye 32.90 97⇑ *e*P **P 13 56 11.0 +1.2**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 32.90 97 P **P 13 56 10.0 +0.2**
BRVK IAmb IAmb 13 56 19.0
comp=Z,26nm,1.3s
BVAR Borovoye Array 32.95 97 P **P 13 56 11.6 +1.3**
comp=Z,1.4nm,0.6s,baz=332,slow=12,SNR=13
BVAR PP **PP 13 57 25.7 +1.2**
comp=Z,38nm,1.1s,baz=334,slow=9.9,SNR=14
CASP Castiglione de 33.31 175 P **P 13 56 13.0 -0.5**
CASP IAmb IAmb 13 56 17.7
comp=Z,24nm,1.3s
NRCA Norcia 33.33 172 P **P 13 56 14.0 +0.3**
ANN Anapa 33.80 140 *e*P **P 13 56 16.4 -1.3**
ANN *e*S **S 14 01 37.6 -3.9**
ANN pmax pmax
comp=Z,103nm,1.6s
ANN MLR MLR
comp=Z,739nm,18.0s
INK Inuvik 33.90 335 P **P 13 56 19.6 +1.3**
INK pmax pmax
comp=Z,16nm,1.1s
INK Inuvik 33.90 335 P **P 13 56 19.6 +1.3**
INK IAmb IAmb 13 56 21.7
comp=Z,16nm,1.1s
SCHQ Schefferville 33.90 275 LR LR 14 08 52.5
comp=Z,2μm,21.2s,baz=20,slow=34
ABKAR Akbulak array 33.98 111 P **P 13 56 19.2 -0.1**
ABKAR IAmb IAmb 13 57 28.2
comp=Z,23nm,1.2s
GOF Gofitskoye 34.49 133⇑ *e*P **P 13 56 25.3 +1.6**
GOF pmax pmax
comp=Z,28nm,0.7s
PBRG Braganca 34.79 198 *e*P **P 13 56 27.1 +0.7**
TOLK Toolik Lake Re 34.90 345 P **P 13 56 29.2 +2.1**
baz=9.8,SNR=11
TOLK Toolik Lake Re 34.90 345 P **P 13 56 28.9 +1.8**
POLO Lamas de Olo 35.30 200 *e*P **P 13 56 31.6 +0.7**
SOC Sochi 35.35 137 *e*P **P 13 56 31.0 -0.1**
SOC *e*S **S 14 02 04.2 -1.3**
SOC *e*SS **SnSn 14 04 24.2 +0.9**
SOC pmax pmax
comp=Z,6.0nm,0.4s
SOC MLR MLR
comp=Z,2μm,19.0s
MVO Moncorvo 35.45 199 *e*P **P 13 56 33.5 +1.4**
KIV Kislovodsk 35.50 134 *e*P **P 13 56 31.0 -1.5**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,3μm,16.0s
ZAA0 Zalesovo Array 35.62 83 P **P 13 56 33.5 +0.1**
ZALV Zalesovo Beam 35.62 83 P **P 13 56 33.8 +0.4**
comp=Z,8.3nm,0.9s,baz=330,slow=8.6,SNR=21
ZALV PcP **PcP 13 59 02.2 +0.5**
comp=Z,1.0nm,0.5s,baz=319,slow=2.9,SNR=2.5
ZALV LR LR 14 14 57.8
comp=Z,2μm,18.4s,baz=326,slow=43
BILL Bilibino 35.64 13*d i*P **P 13 56 35.2 +1.8**
BILL pmax pmax
comp=Z,26nm,1.3s
BILL MLR MLR
comp=Z,397nm,17.0s
BILL Bilibino 35.64 13 P **P 13 56 34.1 +0.7**
BILL IAmb IAmb 13 56 43.0
comp=Z,16nm,0.9s
KBZ Khabaz 35.76 133⇑ *e*P **P 13 56 35.4 +0.8**
KBZ Khabaz 35.76 133 P **P 13 56 34.2 -0.4**
comp=Z,3.3nm,0.8s,baz=315,slow=7.4,SNR=5.3
KBZ LR LR 14 11 37.0
comp=Z,2μm,20.3s,baz=348,slow=37
FNA Florina 35.84 161 P **P 13 56 34.4 -1.1**
FNA pmax pmax
comp=Z,38nm,1.4s
FNA Florina 35.84 161 P **P 13 56 34.4 -1.1**
FNA IAmb IAmb 13 56 36.4
comp=Z,38nm,1.4s
PVIS Viseu 35.96 200 *e*P **P 13 56 37.0 +0.5**
RDOG Red Dog Mine 36.08 354 P **P 13 56 38.6 +1.5**
RDOG IAmb IAmb 13 56 43.9
comp=Z,29nm,1.0s
EPYK Eagle Plains 36.09 336 P **P 13 56 37.8 +0.4**
baz=14,SNR=9.2
EPYK Eagle Plains 36.09 336 P **P 13 56 37.6 +0.3**
EPYK IAmb IAmb 13 56 41.6
comp=Z,78nm,1.7s
MTE Manteigas 36.25 199 *e*P **P 13 56 40.4 +1.4**
COLD Coldfoot 36.34 345 P **P 13 56 41.4 +2.0**
FYU Fort Yukon 36.65 342 P **P 13 56 44.9 +2.9**
FYU IAmb IAmb 13 56 50.1
comp=Z,39nm,1.2s
ESDC Sonseca Array 36.72 194 P **P 13 56 42.1 -0.9**
comp=Z,3.2nm,0.8s,baz=1.9,slow=8.9,SNR=12
GROC Groznyy 36.79 130 *e*P **P 13 56 42.1 -1.4**
GROC *e* 13 59 03.8
GROC *e*S **S 14 02 26.7 -0.9**
GROC pmax pmax
comp=Z,25nm,0.6s
PCBR Castelo Branco 36.80 199 *e*P **P 13 56 44.5 +0.9**
ZEI Tsey 36.85 133 *e*P **P 13 56 45.8 +1.6**
ZEI pmax pmax
comp=Z,16nm,1.6s
PAB San Pablo 36.87 195 P **P 13 56 44.4 +0.1**
PAB pmax pmax
comp=Z,17nm,1.1s
PAB San Pablo 36.87 195 P **P 13 56 44.4 +0.1**
YKA Yellowknife Ar 36.94 319 P **P 13 56 44.9 +0.4**
comp=Z,4.5nm,0.8s,baz=11,slow=8.7,SNR=40
YKA PP **PP 13 58 08.1 -0.1**
comp=Z,2.3nm,1.0s,baz=20,slow=11,SNR=4.7
YKA PcP **PcP 13 59 05.8 +0.4**
comp=Z,0.5nm,0.6s,baz=12,slow=2.9,SNR=5.8
KURK Kurchatov 37.09 91*ce*P **P 13 56 47.0 +1.1**
KURK pmax pmax
comp=Z,16nm,1.0s
KURK Kurchatov 37.09 91 P **P 13 56 46.4 +0.5**
KURK Kurchatov 37.09 91 PP 13 58 14.1 +4.1

PTOM Tomar 37.10 200 eP P 13 56 50.1 +4.0
TIP Timpagrande 37.13 168 ⇓P P 13 56 48.0 +1.5
TIP mb 13 56 52.9
TIP Timpagrande 37.13 168 P P 13 56 45.6 -0.9
TIP IAmb IAmb 13 56 54.8
comp=Z,39nm,1.3s
KURBB Kurchatov Arra 37.15 91 P P 13 56 46.8 +0.3
comp=Z,7.9nm,0.8s,baz=332,slow=7.4,SNR=24
KURBB PP PnPn 13 58 14.1 +3.1
comp=Z,3.9nm,0.7s,baz=335,slow=10,SNR=5.0
PMRV Marv??o 37.20 199 eP P 13 56 47.9 +0.9
comp=Z,38nm,1.2s
YAK Yakutsk 37.51 41 eP P 13 56 48.9 -0.5
YAK e*PP pwP 13 56 54.0 0.0
YAK e 13 58 15.9
YAK e 13 59 09.3
YAK eS S 14 02 39.1 +0.9
YAK e*SS ScP 14 02 50.7 -3.8
YAK eSS SnSn 14 05 14.3 -0.7
YAK eSSS SSS 14 05 40.7
YAK e 14 07 01.1
YAK pmax pmax
comp=Z,6.0nm,1.3s
YAK pmax pmax
comp=N,4.0nm,1.4s
YAK pmax pmax
comp=Z,41nm,1.5s
YAK pmax pmax
comp=N,84nm,1.5s
YAK pmax pmax
comp=E,31nm,1.5s
YAK smax smax
comp=N,162nm,3.1s
YAK smax smax
comp=E,61nm,2.7s
YAK MLR MLR
comp=Z,338nm,19.0s
YAK MLR MLR
comp=N,443nm,20.0s
YAK MLR MLR
comp=E,307nm,17.0s
PRP Porcupine Dome 37.70 342 P P 13 56 53.1 +1.9
PESTR Estremoz 37.78 199 P P 13 56 51.9 0.0
BR231 Keskin MP Arra 37.98 147 P P 13 56 52.9 -0.8
TBLG Delisi 38.02 132 P P 13 56 53.1 -0.9
TBLG pmax pmax
comp=Z,17nm,0.9s
TBLG Delisi 38.02 132 P P 13 56 53.1 -0.9
EGAK Eagle 38.07 339 P P 13 56 55.1 +1.0
AKH Akhalkalaki 38.11 134 P P 13 56 54.3 -0.6
AKH pmax pmax
comp=Z,14nm,1.1s
AKH Akhalkalaki 38.11 134 P P 13 56 54.3 -0.6
BR131 Keskin Array S 38.21 146⇑ eP P 13 56 56.4 +0.7
BR131 Keskin Array S 38.21 146 P P 13 56 55.6 -0.1
BRTR Keskin Array B 38.21 146 P P 13 56 55.7 0.0
comp=Z,0.7nm,0.5s,baz=350,slow=7.3,SNR=3.2
BRTR PP PP 13 58 24.5 +1.8
comp=Z,2.7nm,1.0s,baz=17,slow=9.0,SNR=4.1
BRTR LR LR 14 14 07.8
comp=Z,818nm,21.2s,baz=336,slow=39
POKR Poker Plat Res 38.24 343 P P 13 56 58.5 +3.0
baz=9.8,SNR=7.6
CORL Corleone 38.27 172 P P 13 56 55.5 -0.5
COLA College 38.51 343⇓ eP P 13 56 57.5 -0.3
COLA pmax pmax
comp=Z,10.0nm,1.1s
COLA College 38.51 343 P P 13 56 58.2 +0.4
TCOL CIGO, UAF Yank 38.51 343 P P 13 57 00.1 +2.3
baz=9.6
IL31 38.54 342 P P 13 57 00.2 +2.2
ILAR Eielson Array 38.54 342 P P 13 57 00.8 +2.7
comp=Z,6.1nm,0.9s,baz=2.7,slow=6.7,SNR=51
ILAR PcP PcP 13 59 11.0 +0.6
comp=Z,0.7nm,0.9s,baz=1.1,slow=4.5,SNR=3.2
MLY Manley 38.55 345 P P 13 57 00.7 +2.5
CLTB Caltabellotta 38.58 172 P P 13 56 57.3 -1.5
CLTB IAmb IAmb 13 57 06.2
comp=Z,33nm,1.3s
DAWY Dawson 38.61 337 P P 13 56 59.3 +0.6
BOD Bodaibo 38.63 55 eP P 13 56 57.8 -1.1
BOD pmax pmax
comp=Z,22nm,1.5s
PBEJ Beja 38.63 199 eP P 13 57 00.0 +0.9
CCB Clear Creek Bu 38.73 343 P P 13 57 01.4 +1.8
AKT Akhty 38.82 129 eP P 13 57 01.8 +1.0
AKT e 13 59 12.1
AKT pmax pmax
comp=Z,30nm,1.0s
HDA Harding Lake 38.91 342 P P 13 57 02.5 +1.4
baz=9.9,SNR=5.6
HDA Harding Lake 38.91 342 P P 13 57 03.1 +1.9
WRH Wood River Hil 38.93 343 P P 13 57 03.1 +1.8
RAFF Raffo Rosso 38.97 171 P P 13 57 01.6 -0.4
RAFF IAmb IAmb 13 57 03.0
comp=Z,86nm,1.4s
RIDG Independent Ri 39.41 341 P P 13 57 07.6 +2.2
RIDG IAmb IAmb 13 57 12.8
comp=Z,65nm,1.8s
MORF Marmelete 39.41 200 eP P 13 57 04.7 -1.0
MORF AMb AMB 13 57 05.5
comp=Z,56nm,1.8s
MORF Marmelete 39.41 200 eP P 13 57 04.8 -0.9
MORF Marmelete 39.41 200 eP P 13 57 04.7 -1.0
PBDV Barranco-do-Ve 39.42 199 eP P 13 57 07.0 +1.3
DOT Dot Lake 39.43 340 P P 13 57 07.9 +2.4
BPAW Bear Paw Mtn. 39.49 345 P P 13 57 07.6 +1.6
GNI Garni 39.56 133⇓ iP P 13 57 07.8 +0.8
GNI pmax pmax
comp=Z,51nm,1.2s
GNI Garni 39.56 133 P P 13 57 07.4 +0.4
comp=Z,3.9nm,0.4s,baz=329,slow=5.9,SNR=2.2
GNI PP PnPn 13 58 43.4 +3.0
comp=Z,34nm,1.2s,baz=181,slow=10.0,SNR=5.4
GNI Garni 39.56 133 IAmb IAmb 13 57 16.3
comp=Z,39nm,1.2s
SEY Seymchan 39.60 24⇑ iP P 13 57 06.7 -0.2
MCK McKinley 39.72 344 P P 13 57 09.1 +1.2
MCK pmax pmax
comp=Z,19nm,1.4s
MCK McKinley 39.72 344 P P 13 57 09.1 +1.2
KTH Kantishna Hill 40.03 345 P P 13 57 12.8 +2.2
CHGQ Chibougamau 40.25 278 P P 13 57 12.9 +0.5
baz=22
DHY Denali Highway 40.26 342 P P 13 57 13.8 +1.2
DHY IAmb IAmb 13 57 24.2
comp=Z,40nm,1.4s
KEST Kesra 40.33 177 P P 13 57 13.3 -0.1
comp=Z,3.9nm,0.8s,baz=214,slow=7.3,SNR=5.7
KEST LR LR 14 13 44.9
comp=Z,530nm,19.9s,baz=329,slow=36
KEST Kesra 40.33 177 P P 13 57 12.1 -1.3
KEST IAmb IAmb 13 57 19.2
comp=Z,44nm,1.4s
TTA Tatalina 40.94 348 P P 13 57 19.3 +1.2
TTA Tatalina 40.94 348 P P 13 57 19.3 +1.2
MATQ Matagami 41.18 281 P P 13 57 20.4 +0.3
baz=22
SCM Sheep Creek Mo 41.49 342 P P 13 57 24.2 +1.6
SCM pmax pmax
comp=Z,22nm,0.9s
SCM Sheep Creek Mo 41.49 342 P P 13 57 24.2 +1.6
SCM IAmb IAmb 13 57 35.9
comp=Z,22nm,0.9s
MAKZ Makanchi 41.54 90 P P 13 57 23.1 -0.1
MAKZ pmax pmax
comp=Z,62nm,1.9s
MAKZ Makanchi 41.54 90 P P 13 57 23.1 -0.1
MAKZ IAmb IAmb 13 57 33.3
comp=Z,62nm,1.9s
MOY Mondy 41.55 70 eP P 13 57 26.2 +2.9
MOY pmax pmax
comp=Z,114nm,1.8s
GLB Gilahina Butte 41.59 339 P P 13 57 24.7 +1.2
MK31 Makanchi Array 41.63 89 P P 13 57 24.7 +0.8
MK31 pmax pmax
comp=Z,38nm,1.7s
MK31 Makanchi Array 41.63 89 P P 13 57 24.7 +0.8
MKAR Makanchi Array 41.63 89 ceP P 13 57 24.8 +0.9
MKAR pmax pmax
comp=Z,6.0nm,0.9s
MKAR Makanchi Array 41.63 89 P P 13 57 24.6 +0.7
comp=Z,6.5nm,0.9s,baz=329,slow=5.8,SNR=39
MKAR PP PP 13 59 00.4 +0.7
comp=Z,5.8nm,1.0s,baz=333,slow=9.9,SNR=4.3
MKAR LR LR 14 17 24.6
comp=Z,3μm,21.5s,baz=336,slow=40
SKT Skwentna 41.63 345 P P 13 57 24.9 +1.2
SKT IAmb IAmb 13 57 34.2
comp=Z,35nm,1.0s
GHO Glory Hole Cre 41.66 343 P P 13 57 25.3 +1.2
GHO IAmb IAmb 13 57 34.5
comp=Z,38nm,1.2s
LSQQ Lebel-sur-Quev 41.67 280 P P 13 57 24.2 0.0
baz=22
D61A St Aubert, Com 41.76 273 P P 13 57 25.0 +0.2
baz=21
VRDI Verde Repeater 41.77 339 P P 13 57 26.0 +0.9
BARN Barnard Glacie 41.77 338 P P 13 57 24.6 -0.5
BARN IAmb IAmb 13 58 01.6
comp=Z,59nm,1.9s
CTGM Chitina Glacie 41.84 337 P P 13 57 27.7 +2.1
CTGM IAmb IAmb 13 57 54.5
comp=Z,62nm,1.8s
E64A Bridgewater 41.91 270 P P 13 57 26.2 0.0
baz=21
FFC Flin Flon 41.96 305 i P P 13 57 27.3 +0.8
FFC Flin Flon 41.96 305 P P 13 57 27.0 +0.5
SUA Susitna One 42.09 344 P P 13 57 28.6 +1.0
SUA IAmb IAmb 13 57 37.3
comp=Z,44nm,1.0s
CRQM Cirque 42.21 339 P P 13 57 30.5 +1.9
KK31 Karatay Array 42.24 103 P P 13 57 29.9 +0.9
KK31 pmax pmax
comp=Z,39nm,1.6s
KK31 Karatay Array 42.24 103 P P 13 57 29.9 +0.9
KK31 IAmb IAmb 13 57 38.4
comp=Z,39nm,1.6s
KKAR Karatay Array 42.24 103 P P 13 57 29.7 +0.8
KKAR pmax pmax
comp=Z,39nm,1.6s
KKAR Karatay Array 42.24 103 P P 13 57 29.7 +0.8
KKAR IAmb IAmb 13 57 38.4
comp=Z,39nm,1.6s
RC01 Rabbit Creek A 42.40 344 P P 13 57 31.3 +1.4
D58A Chemin du LacG 42.51 275 P P 13 57 31.0 -0.1
baz=21
E61A Lac Etchemin 42.55 273 P P 13 57 30.7 -0.7
baz=21
F64A Sherman 42.56 270 P P 13 57 31.8 +0.4
F64A IAmb IAmb 13 57 54.4
comp=Z,106nm,1.9s
D56A ZEC Mazanza, M 43.01 277 P P 13 57 35.2 +0.1
baz=21
USP Ospenovka 43.05 99 P P 13 57 37.6 +2.1
SNR=7.6
F61A St Evariste 43.10 273 P P 13 57 35.6 -0.2
baz=21
D55A Sainte-Anne-du 43.21 278 P P 13 57 36.3 -0.4
baz=21
RSO Redoubt South 43.22 346 P P 13 57 37.6 +0.8
G64A Maxfield 43.23 270 P P 13 57 36.1 -0.8
baz=20
ZAK Zakamensk 43.27 68 eP P 13 57 41.1 +3.8
ZAK pmax pmax
comp=Z,7.0nm,1.3s
H66A Whiting 43.32 269 P P 13 57 37.3 -0.3
baz=20
F60A Warwick 43.34 274 P P 13 57 37.6 -0.2
baz=21
D54A Lac Fusel, La 43.37 279 P P 13 57 37.9 -0.1
baz=21
EKS2 Erkin-Say 43.44 100 P P 13 57 42.0 +3.2
SNR=9.0
E56A St. Veronique 43.55 277 P P 13 57 38.9 -0.6
baz=21
H65A Eastbrook 43.63 270 P P 13 57 40.3 +0.2
baz=20
TKM2 Tokmak 2 43.64 98 P P 13 57 42.3 +1.8
SNR=9.9
AAK Ala-Archa 43.64 99⇑ iP P 13 57 41.9 +1.5
AAK pmax pmax
comp=Z,10.0nm,1.3s
AAK Ala-Archa 43.64 99 P P 13 57 40.0 -0.4
AAK IAmb IAmb 13 57 50.4
comp=Z,38nm,1.6s
AML Almayashu 43.92 100 P P 13 57 45.4 +2.4
SNR=11
UCH Uchtor 44.03 99 P P 13 57 46.2 +2.3
SNR=9.0
D51A Lot 18 Range I 44.08 281 P P 13 57 42.6 -1.1
baz=21
E53A Dumoine, Ponti 44.34 279 P P 13 57 45.9 +0.1
baz=20
GEYT Alibeck 44.35 118 P P 13 57 45.9 -0.2
comp=Z,10nm,0.9s,baz=298,slow=7.6,SNR=13
GEYT PP PcP 13 59 31.4 +1.5
comp=Z,4.1nm,0.9s,baz=294,slow=11,SNR=3.7
GEYT LR LR 14 18 17.4
comp=Z,2μm,19.6s,baz=345,slow=39
GYA0B ALIBECK ARRAY 44.35 118 P P 13 57 46.8 +0.8
GYA0B IAmb IAmb 13 57 56.1
comp=Z,42nm,1.2s
D48A Paudash Townsh 44.59 284 P P 13 57 47.2 -0.6
baz=20
KDJ Kajisay 44.77 97 P P 13 57 49.7 +0.2
KDJ pmax pmax
comp=Z,40nm,1.5s
KDJ Kajisay 44.77 97 P P 13 57 49.7 +0.2
KDJ IAmb IAmb 13 57 59.2
comp=Z,40nm,1.5s
ULM Lac du Bonnet 44.90 298⇑ iP P 13 57 50.3 +0.1
ULM Lac du Bonnet 44.90 298 P P 13 57 50.4 +0.2
comp=Z,5.8nm,1.0s,baz=7.1,slow=7.7,SNR=5.6
ULM LR LR 14 17 07.6
comp=Z,2μm,19.5s,baz=58,slow=37
ULM Lac du Bonnet 44.90 298 P P 13 57 50.4 +0.2
ZEA Zeya 44.99 47 eP P 13 57 53.0 +2.1
ZEA e 14 07 50.0
ZEA pmax pmax
comp=Z,46nm,1.4s
ZEA MLR MLR
comp=Z,1μm,16.0s
ZEA MLR MLR
comp=E,400nm,12.0s
ZEA MLR MLR
comp=N,600nm,14.0s
TARG Taragay, Kyrgy 45.30 96 P P 13 57 53.1 -0.8
TARG IAmb IAmb 13 58 04.4
comp=Z,68nm,1.9s
WMQ Urumqi 45.74 86 eP P 13 57 59.0 +2.0
WMQ pP pwP 13 58 00.0 -1.6
WMQ sP sP 13 58 05.9 +8.0
WMQ S S 14 04 40.1 -0.3
WMQ pmax pmax
comp=Z,13nm,1.1s
WMQ pmax pmax
comp=Z,250nm,4.3s
WMQ LR LR
comp=Z,770nm,24.5s
WMQ LR LR
comp=Z,1μm,29.2s
WMQ LR LR
comp=Z,780nm,27.5s
KDAK Kodiak Island 45.88 345 i P P 13 58 00.1 +2.3
KDAK Kodiak Island 45.88 345 P P 13 57 59.4 +1.5
CHGR Chuyangaron 46.15 106 P P 13 58 00.7 +0.3
SONM Songino Array 46.37 67 P P 13 58 02.9 +0.9
comp=Z,3.7nm,1.1s,baz=333,slow=8.0,SNR=9.2
SONM PP PP 13 59 52.1 +1.6
comp=Z,0.6nm,0.7s,baz=343,slow=4.6,SNR=3.8
SONM LR LR 14 20 23.7
comp=Z,518nm,19.4s,baz=344,slow=40
OHAK Old Harbor 46.48 345 P P 13 58 03.6 +1.0
ULN Ulaanbaatar 46.49 66⇓ iP P 13 58 01.0 -2.0
ULN pmax pmax
comp=Z,4.0nm,1.2s
ULN Ulaanbaatar 46.49 66 P P 13 58 04.0 +1.0
E43A Lone Tree Farm 46.55 288 P P 13 58 02.9 -0.4
AGMN Agassiz Nation 46.74 297 P P 13 58 05.1 +0.3
AGMN IAmb IAmb 13 58 13.8
comp=Z,48nm,1.9s
KSH Kashi 46.95 99 P P 13 58 09.9 +3.2
KSH PcP PcP 13 59 41.6 +2.6
KSH ScP ScP 14 03 33.8 +1.0
KSH S S 14 04 59.3 +1.3
KSH sS sS 14 05 06.8 +7.7
KSH ScS ScS 14 08 00.0 -1.4
KSH pmax pmax
comp=Z,730nm,6.0s
KSH LR LR
comp=Z,4μm,16.1s
KSH LR LR
comp=Z,4μm,20.4s
KSH LR LR
comp=Z,4μm,18.1s
H48A Harrisville 47.27 284 P P 13 58 09.1 +0.2
K56A Middlesex 47.72 277 P P 13 58 13.1 +0.6
baz=19
BINY Binghamton 47.87 276 P P 13 58 14.5 +0.9
baz=19
BINY Binghamton 47.87 276 P P 13 58 14.6 +0.9
MDND Maddock 47.97 300 P P 13 58 15.2 +0.9
baz=18
MDND Maddock 47.97 300 P P 13 58 15.1 +0.7
L57A Andrews Acres 48.27 277 P P 13 58 16.8 0.0
baz=19
DGMT Dagmar 48.33 304 P P 13 58 18.3 +1.1
DGMT IAmb IAmb 13 58 27.0
comp=Z,38nm,1.4s
HRA Herat 48.66 115 P P 13 58 19.9 -0.1
LLLB Lillooet 49.49 319 P P 13 58 27.4 +1.4
LLLB IAmb IAmb 13 58 30.3
comp=Z,26nm,1.4s
K47A Vermontville 49.59 285 P P 13 58 27.4 +0.6
baz=19
WALA Waterton Lakes 49.63 312 P P 13 58 27.7 +0.5
WALA IAmb IAmb 13 58 40.8
comp=Z,16nm,1.0s
PETK Petropavlovsk- 49.80 23 LR LR 14 20 10.6
comp=Z,246nm,18.9s,baz=28,slow=37
SSPA Standing Stone 49.81 277 P P 13 58 29.2 +0.7
baz=19
EGMT Eagleton 49.85 308 P P 13 58 30.0 +1.1
baz=17
EGMT Eagleton 49.85 308 P P 13 58 29.3 +0.4
EGMT IAmb IAmb 13 58 37.9
comp=Z,27nm,1.2s
N55A Marion Center 49.94 278 P P 13 58 29.9 +0.3
baz=19
KLR Kul'dur 50.11 45⇑ eP P 13 58 33.3 +2.6
KLR pmax pmax
comp=Z,21nm,4.9s
O57A Amberson 50.15 277 P P 13 58 32.1 +0.9
baz=19
LAO LASA Array 50.44 305 P P 13 58 33.9 +0.5
baz=17
LAO LASA Array 50.44 305 P P 13 58 34.7 +1.3
LAO IAmb IAmb 13 58 43.5
comp=Z,50nm,1.4s
P58A Pank, Wackersv 50.75 276 P P 13 58 36.1 +0.4
baz=18
N50A Nevada 50.95 282 P P 13 58 37.5 +0.4
baz=18
JTMT Jette 50.96 312 P P 13 58 38.2 +0.8
JTMT IAmb IAmb 13 58 46.5
comp=Z,59nm,1.9s
NEW Newport 50.97 315 P P 13 58 37.8 +0.5
baz=15
N49A Columbus Grove 51.05 283 P P 13 58 38.0 +0.1
baz=18
N49A Columbus Grove 51.05 283 P P 13 58 37.2 -0.7
N49A IAmb IAmb 13 58 54.2
comp=Z,22nm,1.1s
ECSD EROS Data Cent 51.24 295 P P 13 58 39.8 +0.5
baz=18,SNR=7.4
ECSD EROS Data Cent 51.24 295 P P 13 58 39.8 +0.5
O52A Adamsville 51.25 281 P P 13 58 39.5 +0.1
O49A Covington 51.78 283 P P 13 58 43.5 +0.1
baz=18
O49A Covington 51.78 283 P P 13 58 44.1 +0.7
MSO Missoula 51.79 312 P P 13 58 43.7 +0.2
baz=16,SNR=14
MSO Missoula 51.79 312 P P 13 58 44.2 +0.7
NIL Nilore 51.89 104 P P 13 58 43.8 -0.5
NIL pmax pmax
comp=Z,62nm,1.9s
NIL Nilore 51.89 104 P P 13 58 43.8 -0.5
NIL IAmb IAmb 13 58 53.3
comp=Z,62nm,1.9s
GCMT Greycliff 51.98 308 P P 13 58 46.4 +1.3
S61A Accomac 52.07 274 P P 13 58 46.6 +1.0
baz=18
Q54A Coxs Mills 52.09 279 P P 13 58 46.4 +0.7
baz=18
RSSD Black Hills 52.45 302 P P 13 58 49.3 +0.6
baz=17
RSSD Black Hills 52.45 302 P P 13 58 48.9 +0.3
RSSD pmax pmax
comp=Z,16nm,1.3s
RSSD Black Hills 52.45 302 P P 13 58 48.9 +0.3
RLMT Red Lodge 52.55 307 P P 13 58 50.4 +1.1
baz=16
RLMT Red Lodge 52.55 307 P P 13 58 50.5 +1.1
RLMT IAmb IAmb 13 58 59.6
comp=Z,23nm,1.1s
Q51A Peebles 52.65 282 P P 13 58 50.1 +0.2
Q51A IAmb IAmb 13 59 03.3
comp=Z,33nm,1.4s
P48A Milroy 52.73 284 P P 13 58 50.6 +0.1
baz=18
P48A Milroy 52.73 284 P P 13 58 50.6 +0.1
YNE Yellowstone No 52.80 308 P P 13 58 52.3 +1.1
GTA Gaotai 52.83 76 eP P 13 58 52.9 +1.6
GTA pP pwP 13 58 57.1 +1.1
GTA sP sP 13 59 00.3 +8.0
GTA S S 14 06 23.9 +3.8
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,170nm,4.8s
GTA LR LR
comp=Z,790nm,16.8s
GTA LR LR
comp=Z,700nm,18.1s
GTA LR LR
comp=Z,1μm,17.1s
T60A Surry 52.85 275 P P 13 58 51.5 +0.2
baz=18
DLMT Dillon 52.95 310 P P 13 58 52.7 +0.5
E08A Dider Farm, El 53.02 316 P P 13 58 53.3 +0.9
YMP Mirror Lake Pl 53.09 308 P P 13 58 54.7 +1.3
YHH Holmes Hill 53.17 308 P P 13 58 55.0 +0.9
YHL Hebgen Lake 53.18 309 P P 13 58 55.1 +1.0
T59A Double "B" Far 53.20 275 P P 13 58 54.7 +0.7
baz=18
QLMT Earthquake Lak 53.24 309 P P 13 58 55.3 +0.9
YHB Horse Butte 53.28 308 P P 13 58 55.7 +1.0
Q48A North Vernon 53.31 284 P P 13 58 55.7 +1.0
baz=18
YMR Madison River 53.31 308 P P 13 58 55.0 0.0
H17A Grant Village 53.50 308 P P 13 58 58.3 +1.9
baz=16,SNR=8.4
H17A Grant Village 53.50 308 P P 13 58 58.1 +1.7
H17A IAmb IAmb 13 59 07.9
comp=Z,22nm,1.1s
MCMT McKenzie Canyo 53.52 310 P P 13 58 57.0 +0.5
U61A Possum Corner 53.54 274 P P 13 58 56.5 +0.1
R50A Paris 53.59 282 P P 13 58 57.2 +0.4
baz=18
R50A Paris 53.59 282 P P 13 58 57.2 +0.4
T57A Hurt 53.59 277 P P 13 58 56.4 -0.4
baz=18
YPP Pitchstone Pla 53.66 308 P P 13 58 59.5 +1.9
R49A Shelbyville 53.78 283 P P 13 58 58.9 +0.7
baz=18
R49A Shelbyville 53.78 283 P P 13 58 58.5 +0.3
R49A IAmb IAmb 13 59 11.4
comp=Z,51nm,1.6s
BGNE Belgrade 53.79 296 P P 13 58 58.6 +0.3
BGNE IAmb IAmb 13 59 42.5
comp=Z,31nm,1.1s
FLWY Flagg Ranch 53.83 308 P P 13 58 60.0 +1.2
T55A Pulaski 53.85 278 P P 13 59 00.0 +1.2
baz=18
U58A Oxford 54.00 276 P P 13 59 00.8 +1.0
baz=18
U57A Blanch 54.15 277 P P 13 59 00.5 -0.4
baz=18
MOOW Moose Ponds 54.16 308 P P 13 59 02.5 +1.3
MOOW IAmb IAmb 13 59 13.4
comp=Z,28nm,1.6s
HHC Hu-ho-hao-te 54.16 65 eP P 13 59 01.8 +0.7
HHC S S 14 06 37.8 -0.2
HHC sS sS 14 06 46.8 +7.6
HHC pmax pmax
comp=Z,3.0nm,0.9s

G08A Pilot Rock 54.16 315 P **P** 13 59 02.4 +1.3
G08A IAmb IAmb 13 59 11.1
comp=Z,40nm,1.6s
S50A Richmond 54.18 282 P **P** 13 59 02.1 +1.0
baz=18
CN2 Changchun 54.20 52 *e*P **P** 13 59 01.6 +0.4
CN2 *e*PP **PP** 14 01 04.1 +1.7
CN2 *e*S **S** 14 06 38.4 +0.1
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,980nm,16.0s
CN2 LR LR
comp=Z,710nm,17.0s
S49A Springfield 54.29 283 P **P** 13 59 02.4 +0.4
baz=18
BMO Blue Mountains 54.30 314 P **P** 13 59 02.5 +0.4
BMO pmax pmax
comp=Z,23nm,1.3s
BMO Blue Mountains 54.30 314 P **P** 13 59 02.5 +0.4
BMO IAmb IAmb 13 59 11.1
comp=Z,23nm,1.3s
FXWY Fox Creek 54.32 308 P **P** 13 59 03.8 +1.5
K22A Casper 54.38 304 P **P** 13 59 02.1 -0.6
baz=16,SNR=8.4
K22A Casper 54.38 304 P **P** 13 59 02.5 -0.2
T52A Hallie 54.39 280 P **P** 13 59 03.4 +0.7
baz=18
SNOW Snow King Moun 54.43 308 P **P** 13 59 03.9 +0.7
SNOW IAmb IAmb 13 59 30.8
comp=Z,38nm,1.6s
TPAW Teton Pass 54.44 308 P **P** 13 59 03.8 +0.5
U55A TA2, Sparta 54.50 278 P **P** 13 59 04.8 +1.2
baz=18
V59A Middlesex 54.52 275 P **P** 13 59 03.8 +0.2
baz=18
REDW Red Top Meadow 54.55 308 P **P** 13 59 05.0 +1.0
REDW IAmb IAmb 13 59 13.8
comp=Z,36nm,1.6s
U54A Nelsons Funny 54.67 279 P **P** 13 59 05.4 +0.6
baz=18
V58A Windy Hill, Pi 54.70 276 P **P** 13 59 05.7 +0.8
baz=18
T51A Gray 54.75 281 P **P** 13 59 06.0 +0.7
baz=18
V57A Coltrane Farms 54.78 277 P **P** 13 59 05.3 -0.1
baz=18
BW06 Boulder Array 54.87 306 P **P** 13 59 06.7 +0.3
baz=16,SNR=12
BW06 Boulder Array 54.87 306 P **P** 13 59 06.8 +0.4
BW06 IAmb IAmb 13 59 19.0
comp=Z,43nm,1.6s
PD31 Pinedale Array 54.87 306 P **P** 13 59 06.5 +0.1
PD31 IAmb IAmb 13 59 19.0
comp=Z,38nm,1.6s
PDAR Pinedale Array 54.87 306 P **P** 13 59 06.9 +0.5
comp=Z,8.2nm,1.1s,baz=35,slow=5.4,SNR=27
PDAR LR LR 14 22 45.4
comp=Z,2µm,20.6s,baz=14,slow=36
T50A Nancy 54.91 282 P **P** 13 59 07.5 +1.0
baz=18
U53A Fall Branch 55.00 280 P **P** 13 59 07.2 +0.1
baz=17
T49A Edmonton 55.00 283 P **P** 13 59 06.7 -0.4
baz=17
T49A Edmonton 55.00 283 P **P** 13 59 06.8 -0.3
T49A IAmb IAmb 13 59 20.0
comp=Z,33nm,1.6s
USA0B Ussuriysk Arra 55.02 46⇑ *e*P **P** 13 59 07.5 +0.4
USRK Ussuriysk Ar. 55.02 46 P **P** 13 59 08.1 +1.0
comp=Z,3.0nm,0.9s,baz=350,slow=7.3,SNR=3.5
USRK LR LR 14 24 19.4
comp=Z,577nm,19.3s,baz=331,slow=38
V56A Mocksville 55.02 278 P **P** 13 59 07.4 +0.2
baz=17
TZTN Tazewell 55.06 281 P **P** 13 59 08.3 +0.7
baz=17
TZTN Tazewell 55.06 281 P **P** 13 59 08.1 +0.5
OGNE Ogallala 55.08 299 P **P** 13 59 08.5 +0.8
baz=16
OGNE Ogallala 55.08 299 P **P** 13 59 07.9 +0.2
V55A Taylorsville 55.16 278 P **P** 13 59 08.7 +0.4
baz=17
U52A Thorn Hill 55.16 281 P **P** 13 59 08.7 +0.4
baz=17
SIUC Southern Illin 55.29 286 P **P** 13 59 09.1 0.0
U51A La Follette 55.33 281 P **P** 13 59 09.9 +0.4
baz=17
V54A Nebo 55.41 279 P **P** 13 59 11.1 +1.0
baz=17
CCM Cathedral Cave 55.44 288 P **P** 13 59 10.6 +0.4
baz=17
RWWY Rawlins 55.44 304 P **P** 13 59 11.0 +0.5
RWWY IAmb IAmb 13 59 20.0
comp=Z,27nm,1.3s
PHWY Pilot Hill 55.45 302 P **P** 13 59 10.5 -0.2
PHWY IAmb IAmb 13 59 19.4
comp=Z,52nm,1.9s
W58A Raeford 55.47 276 P **P** 13 59 11.0 +0.5
baz=17
I05D Terrebonne, OR 55.49 317 P **P** 13 59 09.7 -0.9
baz=14
U50A Jamestown 55.49 282 P **P** 13 59 11.2 +0.6
baz=17,SNR=5.9
W57A Gilead 55.53 277 P **P** 13 59 11.4 +0.5
baz=17
W57A Gilead 55.53 277 P **P** 13 59 11.0 +0.1
W57A IAmb IAmb 13 59 23.7
comp=Z,55nm,1.8s
W56A Indian Trail 55.69 277 P **P** 13 59 12.8 +0.8
baz=17
V53A Saluda 55.72 280 P **P** 13 59 13.0 +0.7
baz=17
V53A Saluda 55.72 280 P **P** 13 59 13.2 +0.8
V52A Sevierville 55.74 281 P **P** 13 59 12.9 +0.4
baz=17
KMSC Kings Mountain 55.86 278 P **P** 13 59 13.5 +0.2
baz=17
RAYN Ar Rayn 55.91 136 P **P** 13 59 13.2 -0.7
RAYN pmax pmax
comp=Z,46nm,1.5s
RAYN Ar Rayn 55.91 136 P **P** 13 59 13.2 -0.7
N23A Red Feather La 55.95 303 P **P** 13 59 14.8 +0.7
baz=16,SNR=7.4
N23A Red Feather La 55.95 303 P **P** 13 59 14.9 +0.7
TKL Tuckaleechee C 55.96 281 P **P** 13 59 14.3 +0.3
TKL pmax pmax
comp=Z,6.0nm,1.6s
TKL Tuckaleechee C 55.96 281 P **P** 13 59 14.3 +0.3
V51A Loudon 55.96 281 P **P** 13 59 15.3 +1.3
baz=17
V51A Loudon 55.96 281 P **P** 13 59 14.7 +0.7
V51A IAmb IAmb 13 59 27.5
comp=Z,40nm,1.6s
W54A Cherokee Point 56.12 279 P **P** 13 59 15.6 +0.5
baz=17
V50A Pikeville 56.26 282 P **P** 13 59 16.1 -0.1
baz=17
W53A Cullowhee 56.28 280 P **P** 13 59 16.8 +0.3
baz=17
PAULI Pauline 56.29 279 P **P** 13 59 16.7 +0.4
PAULI IAmb IAmb 13 59 18.2
comp=Z,20nm,1.3s
V49A McMinnville 56.37 283 P **P** 13 59 16.8 -0.1
baz=17
HWUT Hardware Ranch 56.38 308 P **P** 13 59 17.5 +0.3
PBMO Poplar Bluff 56.47 287 P **P** 13 59 16.8 -0.8
WVT Waverly 56.48 285 P **P** 13 59 18.1 +0.5
baz=17
J05D Fort Rock, OR 56.50 317 P **P** 13 59 18.1 +0.1
baz=13
UOSS Minazif 56.51 125 P **P** 13 59 17.4 -0.6
UOSS IAmb IAmb 13 59 29.7
comp=Z,19nm,0.9s
MGMO Mountain Grove 56.53 289 P **P** 13 59 17.4 -0.7
MGMO IAmb IAmb 13 59 26.9
comp=Z,26nm,1.4s
W52A Murphy 56.53 281 P **P** 13 59 18.6 +0.4
baz=17
X55A Gracelyn & Ava 56.58 278 P **P** 13 59 18.9 +0.5
baz=17
CBKS Cedar Bluff 56.62 296 P **P** 13 59 19.7 +0.9
baz=16
CBKS Cedar Bluff 56.62 296 P **P** 13 59 19.0 +0.2
CBKS pmax pmax
comp=Z,32nm,1.2s
CBKS Cedar Bluff 56.62 296 P **P** 13 59 19.0 +0.2
CBKS IAmb IAmb 13 59 28.0
comp=Z,32nm,1.2s
W51A Cleveland 56.67 281 P **P** 13 59 19.8 +0.8
baz=17
X54A Belton 56.68 279 P **P** 13 59 19.4 +0.2
baz=17
W50A Signal Mountai 56.76 282 P **P** 13 59 19.6 -0.2
W50A IAmb IAmb 13 59 32.8
comp=Z,52nm,1.8s
SPUT South Promonto 56.84 308 P **P** 13 59 21.1 +0.7
ISCO Idaho Springs 56.93 302 P **P** 13 59 21.5 +0.3
baz=16,SNR=6.0
ISCO Idaho Springs 56.93 302 P **P** 13 59 21.2 -0.1
ISCO pmax pmax
comp=Z,38nm,1.8s
ISCO Idaho Springs 56.93 302 P **P** 13 59 21.1 -0.1
ISCO IAmb IAmb 13 59 30.6
comp=Z,38nm,1.8s
LZH Lanzhou 56.95 74 *e*P **P** 13 59 20.8 -0.4
LZH pP pwP 13 59 26.5 +0.7
LZH sP sP 13 59 30.3 +8.1
LZH PP **PP** 14 01 27.8 +0.5
LZH pmax pmax
comp=Z,13nm,1.2s
LZH pmax pmax
comp=Z,69nm,5.4s
LZH LR LR
comp=Z,1µm,17.9s
LZH LR LR
comp=Z,1µm,17.3s
LZH LR LR
comp=Z,2µm,19.5s
X53A Estanollee 56.95 280 P **P** 13 59 22.1 +1.1
baz=17
HODGE Hodges 56.95 279 P **P** 13 59 20.9 -0.2
HODGE IAmb IAmb 13 59 34.3
comp=Z,39nm,1.5s
RDMU Red Mountain 56.99 306 P **P** 13 59 22.5 +1.0
X52A Dahlonega 56.99 280 P **P** 13 59 22.7 +1.3
baz=17
W49A Belvidere 57.07 283 P **P** 13 59 21.8 -0.1
baz=17
Y55A Saluda 57.14 278 P **P** 13 59 22.3 -0.1
baz=17
O20A White River Ci 57.14 304 P **P** 13 59 23.8 +1.2
baz=15,SNR=19
O20A White River Ci 57.14 304 P **P** 13 59 23.4 +0.7
X51A Calhoun 57.26 281 P **P** 13 59 23.8 +0.5
baz=17
BGU Big Grassy Mou 57.32 309 P **P** 13 59 24.6 +0.8
Y54A Tignall 57.41 279 P **P** 13 59 24.3 0.0
baz=17,SNR=5.1
U40A Yellville 57.43 289 P **P** 13 59 23.8 -0.7
baz=17
U40A Yellville 57.43 289 P **P** 13 59 23.8 -0.7
U40A IAmb IAmb 13 59 36.9
comp=Z,24nm,1.4s
PLAL Pickwick Lake 57.63 284 P **P** 13 59 26.1 +0.2
PLAL IAmb IAmb 13 59 37.2
comp=Z,21nm,1.4s
Q24A Divide 57.64 301 P **P** 13 59 26.9 +0.6
baz=16,SNR=6.3
Q24A Divide 57.64 301 P **P** 13 59 26.6 +0.4
Q24A IAmb IAmb 13 59 36.0
comp=Z,18nm,1.1s
MOD Modoc Plateau 57.69 315 P **P** 13 59 26.8 +0.4
MOD IAmb IAmb 13 59 36.4
comp=Z,36nm,1.9s
FCAR Ozark Folk Cen 57.71 289 P **P** 13 59 25.9 -0.5
FCAR IAmb IAmb 13 59 33.3
comp=Z,20nm,1.6s
L04D Klamath Falls 57.72 317 P **P** 13 59 26.5 -0.1
baz=13
Y52A Lilburn 57.74 280 P **P** 13 59 27.2 +0.5
baz=17
Y52A Lilburn 57.74 280 P **P** 13 59 26.9 +0.2
Y52A IAmb IAmb 13 59 40.0
comp=Z,21nm,1.2s
SMCO Snowmass 57.81 303 P **P** 13 59 28.6 +1.0
SMCO IAmb IAmb 13 59 37.9
comp=Z,14nm,1.1s
ELK Elko 57.91 311 P **P** 13 59 29.0 +1.0
ELK pmax pmax
comp=Z,49nm,2.0s
ELK Elko 57.91 311 P **P** 13 59 29.0 +1.0
ELK IAmb IAmb 13 59 42.6
comp=Z,49nm,2.0s
Y51A Rockmart 57.95 281 P **P** 13 59 28.3 +0.2
baz=17
DUG Dugway, Tooele 57.98 308 P **P** 13 59 28.7 +0.2
baz=15
DUG Dugway, Tooele 57.98 308 P **P** 13 59 29.1 +0.6
DUG pmax pmax
comp=Z,8.0nm,1.1s
DUG Dugway, Tooele 57.98 308 P **P** 13 59 29.1 +0.6
GOGA Godfrey 58.03 280 P **P** 13 59 28.9 +0.3
baz=17
GOGA Godfrey 58.03 280 P **P** 13 59 28.5 -0.1
GOGA pmax pmax
comp=Z,36nm,1.5s
GOGA Godfrey 58.03 280 P **P** 13 59 28.6 -0.1
GOGA IAmb IAmb 13 59 41.9
comp=Z,36nm,1.4s
Z54A Sparta 58.05 279 P **P** 13 59 29.0 +0.3
baz=17
NLU North Lily Min 58.07 308 P **P** 13 59 30.2 +1.0
Z53A Monticello 58.18 280 P **P** 13 59 29.4 -0.3
baz=17
OXF Oxford 58.39 286 P **P** 13 59 30.9 -0.3
baz=17
OXF Oxford 58.39 286 P **P** 13 59 31.6 +0.4
OXF pmax pmax
comp=Z,22nm,1.1s
OXF Oxford 58.39 286 P **P** 13 59 31.6 +0.4
OXF IAmb IAmb 13 59 32.9
comp=Z,22nm,1.1s
Z52A Williamson 58.47 280 P **P** 13 59 31.1 -0.6
baz=17
155A Kite 58.54 278 P **P** 13 59 32.2 0.0
baz=17
TMUT Trail Mountain 58.54 307 P **P** 13 59 33.9 +1.3
SRU San Rafael Swe 58.59 306 P **P** 13 59 33.6 +0.8
SRU pmax pmax
comp=Z,41nm,1.9s
SRU San Rafael Swe 58.59 306 P **P** 13 59 33.6 +0.8
W39A Magazine 58.76 290 P **P** 13 59 33.1 -0.6
baz=16
Z50A Ashland 58.77 282 P **P** 13 59 33.2 -0.6
baz=17
Z50A Ashland 58.77 282 P **P** 13 59 33.2 -0.6
PV22 Blue Mesa, Par 58.80 304 P **P** 13 59 34.5 +0.3
PV22 IAmb IAmb 13 59 47.8
comp=Z,13nm,1.1s
PV21 Cone Mtn., Par 58.81 305 P **P** 13 59 35.2 +0.8
SDCO Great Sand Dun 58.88 301 P **P** 13 59 35.3 +0.4
baz=15
SDCO Great Sand Dun 58.88 301 P **P** 13 59 35.6 +0.7
SDCO IAmb IAmb 13 59 49.1
comp=Z,23nm,1.8s
PV09 Paradox Valley 58.90 305 P **P** 13 59 35.9 +0.8
Q16A Castle Valley 58.90 307 P **P** 13 59 36.1 +1.1
PV23 Carpenter Ridg 58.92 305 P **P** 13 59 36.1 +0.9
PV04 Paradox Valley 58.96 304 P **P** 13 59 36.5 +1.1
N02D Trinity Center 58.99 317 P **P** 13 59 36.6 +1.1
baz=13
PV14 Lion Creek, Pa 59.00 305 P **P** 13 59 36.0 +0.3
PV12 Saucer Basin, 59.01 304 P **P** 13 59 36.5 +0.8
PV12 IAmb IAmb 13 59 49.4
comp=Z,25nm,1.4s
PV20 West Nyswonger 59.02 305 P **P** 13 59 36.8 +1.0
PV16 Nyswonger Mesa 59.04 304 P **P** 13 59 36.5 +0.6
PV16 IAmb IAmb 13 59 55.2
comp=Z,30nm,1.4s
152A Waverly Hall 59.04 281 P **P** 13 59 35.4 -0.3
baz=17
152A Waverly Hall 59.04 281 P **P** 13 59 35.6 -0.1
152A IAmb IAmb 13 59 48.6
comp=Z,21nm,1.6s
PV11 David Mesa, Pa 59.04 304 P **P** 13 59 36.8 +0.8
PV17 East Wray Mesa 59.08 304 P **P** 13 59 37.3 +1.1
PV03 Paradox Valley 59.08 304 P **P** 13 59 37.0 +0.8
PV18 Skein Mesa, Pa 59.10 304 P **P** 13 59 37.3 +1.0
PV02 Paradox Valley 59.10 304 P **P** 13 59 37.3 +0.9
PV02 IAmb IAmb 13 59 49.2
comp=Z,15nm,1.1s
S22A 4UR Ranch, Cre 59.16 302 P **P** 13 59 37.4 +0.6
baz=15,SNR=13
S22A 4UR Ranch, Cre 59.16 302 P **P** 13 59 37.6 +0.7
S22A IAmb IAmb 13 59 56.3
comp=Z,22nm,1.4s
PV13 Radium Mtn., P 59.17 304 P **P** 13 59 37.5 +0.7
X40A Basin Creek Fa 59.22 289 P **P** 13 59 38.0 +1.1
baz=16
T25A Trinidad 59.24 300 P **P** 13 59 37.8 +0.5
baz=15
T25A Trinidad 59.24 300 P **P** 13 59 37.7 +0.3
PV05 Paradox Valley 59.30 305 P **P** 13 59 37.3 -0.5
MIAR Mount Ida 59.33 289 P **P** 13 59 38.5 +0.8
baz=16
MIAR Mount Ida 59.33 289 P **P** 13 59 37.7 0.0
MIAR pmax pmax
comp=Z,36nm,1.5s
MIAR Mount Ida 59.33 289 P **P** 13 59 37.7 0.0
254A Abbeville 59.39 279 P **P** 13 59 38.4 +0.3
baz=17
MSU Marysvale 59.49 307 P **P** 13 59 40.0 +0.9
MSU Marysvale 59.49 307 P **P** 13 59 40.0 +0.9
W35A Tecumseh 59.50 293 P **P** 13 59 38.8 -0.1
O03E Paynes Creek 59.51 316 P **P** 13 59 40.7 +1.7
baz=13
PAHR Pah Rah Range 59.66 314 P **P** 13 59 40.9 +0.7
PAHR IAmb IAmb 13 59 50.4
comp=Z,26nm,1.5s
BEKR Beckworth 59.68 315 P **P** 13 59 40.6 +0.3
BEKR IAmb IAmb 13 59 50.0
comp=Z,14nm,1.5s
252A Lumpkin 59.69 280 P **P** 13 59 40.5 +0.3
baz=16
O02D Mt. Diablo Mer 59.79 317 P **P** 13 59 42.1 +1.1
baz=13
PSUT Pine Spring 59.79 309 P **P** 13 59 42.2 +1.1
MTPU Mount Pierson 59.95 307 P **P** 13 59 43.7 +1.3
MVCO Mesa Verde 60.02 304 P **P** 13 59 43.6 +0.9
baz=15,SNR=16
MVCO Mesa Verde 60.02 304 P **P** 13 59 43.9 +1.1
KVN Kaiserville 60.07 313 P **P** 13 59 44.1 +1.1
KVN pmax pmax
comp=Z,16nm,1.3s
KVN Kaiserville 60.07 313 P **P** 13 59 44.1 +1.1
KVN IAmb IAmb 13 59 52.8
comp=Z,16nm,1.3s
XAN Xi'an 60.08 70 P P 13 59 49.1 +6.1
XAN pP pwP 13 59 54.1 +6.5
XAN pmax pmax
comp=Z,21nm,1.8s
XAN LR LR
comp=Z,1µm,16.7s
XAN LR LR
comp=Z,470nm,14.7s
XAN LR LR
comp=Z,1µm,15.7s
VCNR Virginia City 60.11 314 P **P** 13 59 44.4 +1.1
X34A Smith Ranch, M 60.24 293 P **P** 13 59 45.0 +1.0
X34A IAmb IAmb 13 59 54.2
comp=Z,15nm,0.8s
R11A Troy Canyon, C 60.30 310 P **P** 13 59 45.4 +0.8
baz=14,SNR=9.6
R11A Troy Canyon, C 60.30 310 P **P** 13 59 45.4 +0.8
R11A IAmb IAmb 13 59 53.9
comp=Z,40nm,2.0s
PNTR Pine Nut 60.30 314 P **P** 13 59 46.0 +1.4
PNTR IAmb IAmb 14 00 00.4
comp=Z,12nm,0.8s
WMOK Wichita Mounta 60.33 294 P **P** 13 59 45.5 +0.8
baz=16,SNR=7.1
WMOK Wichita Mounta 60.33 294 P **P** 13 59 44.9 +0.3
WMOK pmax pmax
comp=Z,10.0nm,1.0s
WMOK Wichita Mounta 60.33 294 P **P** 13 59 44.9 +0.3
WMOK IAmb IAmb 13 59 54.5
comp=Z,10nm,1.0s
YERR Yerington 60.34 314 P **P** 13 59 45.7 +0.9
PKCU Pink Cliffs 60.55 307 P **P** 13 59 47.7 +1.2
SZCU Shurtz Canyon 60.55 308 P **P** 13 59 47.2 +0.8
RYN Ryan 60.56 313 P **P** 13 59 47.6 +1.2
RYN IAmb IAmb 13 59 56.8
comp=Z,26nm,1.7s
CCUT Cedar City 60.65 308 P **P** 13 59 47.8 +0.7
AFDM Forest Hills D 60.68 315 P **P** 13 59 47.6 +0.6
NV11 Mina Array Sit 60.68 313 P **P** 13 59 47.8 +0.6
NV11 IAmb IAmb 14 00 01.4
comp=Z,18nm,1.6s
NVAR Mina Array Bea 60.71 313 P **P** 13 59 48.9 +1.4
comp=Z,1.7nm,0.8s,baz=30,slow=4.1,SNR=11
NVAR LR LR 14 25 49.0
comp=Z,790nm,21.9s,baz=17,slow=36
KSRS Korea Array 60.81 52 P **P** 13 59 49.4 +1.5
comp=Z,2.2nm,0.8s,baz=347,slow=6.2,SNR=3.9
KSRS LR LR 14 30 21.6
comp=Z,391nm,18.7s,baz=340,slow=40
WAKR Walker 60.84 314 P **P** 13 59 48.8 +0.5
KNB Kanab 61.06 308 P **P** 13 59 50.5 +0.7
KNB pmax pmax
comp=Z,71nm,2.0s
KNB Kanab 61.06 308 P **P** 13 59 50.5 +0.7
LCMT Little Creek M 61.15 308 P **P** 13 59 51.8 +1.5
U15A North Rim 61.53 307 P **P** 13 59 53.1 +0.1
U15A IAmb IAmb 13 59 58.6
comp=Z,13nm,1.4s
MDPB Devils Postpil 61.63 313 P **P** 13 59 55.0 +1.3
MDPB IAmb IAmb 14 00 04.2
comp=Z,20nm,1.5s
OMMB Old Mammoth Mi 61.63 313 P **P** 13 59 55.6 +1.8
OMMB IAmb IAmb 14 00 04.4
comp=Z,23nm,1.7s
TJN Taejon 61.75 52⇓ *e*P **P** 13 59 54.7 +0.5
TPNV Topopah Spring 61.78 311 P **P** 13 59 54.9 +0.3
baz=14,SNR=7.1
TPNV Topopah Spring 61.78 311 P **P** 13 59 55.3 +0.7
TPNV pmax pmax
comp=Z,30nm,1.8s
TPNV Topopah Spring 61.78 311 P **P** 13 59 55.3 +0.7
TPNV IAmb IAmb 14 00 03.5
comp=Z,30nm,1.8s
ANMO Albuquerque 61.78 301 P **P** 13 59 55.2 +0.5
baz=15
ANMO Albuquerque 61.78 301⇑ *i*P **P** 13 59 55.7 +1.0
ANMO pmax pmax
comp=Z,17nm,2.5s
ANMO Albuquerque 61.78 301 P **P** 13 59 55.5 +0.8
ANMO IAmb IAmb 14 00 04.0
comp=Z,22nm,1.6s
CD2 Chengdu 61.88 75 *e*P **P** 13 59 53.5 -1.7
MSTX Muleshoe 61.94 298 P **P** 13 59 56.6 +1.0
baz=15
MSTX Muleshoe 61.94 298 P **P** 13 59 56.1 +0.4
MSTX IAmb IAmb 14 00 05.4
comp=Z,9.9nm,0.9s
SHPR Sheep Range 62.00 309 P **P** 13 59 57.4 +1.3
SHPR IAmb IAmb 14 00 06.2
comp=Z,29nm,1.9s
WUAZ Wupatki 62.23 306 P **P** 13 59 58.2 +0.6
baz=14,SNR=8.4
WUAZ Wupatki 62.23 306 P **P** 13 59 58.3 +0.6
FURC Furnace Creek, 62.36 311 P **P** 13 59 58.8 +0.5
baz=13
ABTX Abilene, Hawle 62.55 294 P **P** 14 00 00.2 +0.5
baz=15
ABTX Abilene, Hawle 62.55 294 P **P** 13 59 60.0 +0.3
BNM Barren Site 62.59 301 P **P** 14 00 00.8 +0.7
CWC Cottonwood Cre 62.61 312 P **P** 14 00 02.7 +2.6
baz=13
LENM Lemitar 62.64 302 P **P** 14 00 00.6 +0.2
MPMC Manual Prospec 62.87 311 P **P** 14 00 04.0 +2.0
baz=13,SNR=13
TOA0 Torodi Ar. Sit 62.87 186 P **P** 14 00 01.4 -0.5
TORD Torodi Ar. Bea 62.87 186 P **P** 14 00 01.4 -0.5
comp=Z,10.0nm,1.0s,baz=354,slow=6.2,SNR=23
TORD LR LR 14 30 20.6
comp=Z,247nm,18.6s,baz=340,slow=39
W13A Hualapai Mount 63.12 308 P **P** 14 00 04.9 +1.2
X16A Lo Mia Camp, P 63.31 306 P **P** 14 00 05.4 +0.5
ISA Isabella, Lake 63.43 312 P **P** 14 00 06.5 +0.9
baz=13
ISA Isabella, Lake 63.43 312 P **P** 14 00 06.5 +0.9
ISA pmax pmax
comp=Z,9.0nm,1.2s

ISA	**Isabella, Lake**	**63.43**	**312**	P		**P**		**14 00 06.5**	**+0.9**
LRMC	**Laurel Mtn Rad**	**63.47**	**311**	P		**P**		**14 00 07.6**	**+1.8**
	baz=13								
GSC	**Goldstone, Bar**	**63.48**	**311**	P		**P**		**14 00 06.5**	**+0.6**
GSC				pmax		pmax			
	comp=Z,21nm,1.7s								
GSC	**Goldstone, Bar**	**63.48**	**311**	P		**P**		**14 00 06.5**	**+0.6**
GSC				IAmb		IAmb		14 00 16.1	
	comp=Z,21nm,1.7s								
MJAR	**Matsushiro Arr**	**63.54**	**43**	P		**P**		**14 00 07.7**	**+1.5**
	comp=Z,9.9nm,1.1s,baz=350,slow=6.7,SNR=4.7								
MJAR				LR		LR		14 28 57.3	
	comp=Z,235nm,19.8s,baz=340,slow=37								
GMRC	**Granite Mounta**	**63.77**	**309**	P		**P**		**14 00 09.1**	**+1.2**
	baz=13								
HEC	**Hector,Ludlow**	**63.85**	**310**	P		**P**		**14 00 09.9**	**+1.6**
	baz=13								
EDW2	**Edwards Air Fo**	**64.11**	**312**	P		**P**		**14 00 11.0**	**+1.0**
	baz=13								
HKT	**Hockley**	**64.26**	**290**	P		**P**		**14 00 11.7**	**+0.8**
IRM	**Iron Mountain**	**64.28**	**309**	P		**P**		**14 00 11.3**	**+0.2**
	baz=13								
121A	**Cookes Peak, D**	**64.39**	**302**	P		**P**		**14 00 12.4**	**+0.3**
	baz=14								
121A	**Cookes Peak, D**	**64.39**	**302**	P		**P**		**14 00 12.6**	**+0.5**
121A				IAmb		IAmb		14 00 21.6	
	comp=Z,9.9nm,1.1s								
PKM	**Mcpherson Peak**	**64.43**	**313**	P		**P**		**14 00 13.1**	**+0.8**
	baz=13								
Y12C	**Blythe**	**64.56**	**308**	P		**P**		**14 00 14.3**	**+1.4**
	baz=13								
Y12C	**Blythe**	**64.56**	**308**	P		**P**		**14 00 14.3**	**+1.4**
Y12C				IAmb		IAmb		14 00 22.0	
	comp=Z,23nm,1.6s								
BELC	**Belle Mtn. Jos**	**64.59**	**310**	P		**P**		**14 00 14.2**	**+0.9**
	baz=13								
061Z	**Ochoppi**	**64.63**	**275**	P		**P**		**14 00 13.1**	**-0.4**
	baz=16								
JCT	**Junction City**	**64.65**	**294**	P		**P**		**14 00 14.1**	**+0.6**
	baz=15								
JCT	**Junction City**	**64.65**	**294**	P		**P**		**14 00 14.0**	**+0.4**
JCT				pmax		pmax			
	comp=Z,41nm,1.6s								
JCT	**Junction City**	**64.65**	**294**	P		**P**		**14 00 14.0**	**+0.4**
WHN	**Wuhan**	**64.67**	**66**	P		P		14 00 19.5	+5.9
BFSC	**Mount Baldy Ra**	**64.67**	**311**	P		**P**		**14 00 14.1**	**+0.4**
	baz=13								
MNTX	**Cornudas Mount**	**64.69**	**299**	P		**P**		**14 00 13.5**	**-0.3**
	baz=14								
MNTX	**Cornudas Mount**	**64.69**	**299**	P		**P**		**14 00 13.9**	**+0.1**
MWC	**Mount Wilson**	**64.76**	**311**	P		**P**		**14 00 15.5**	**+1.1**
MWC				pmax		pmax			
	comp=Z,34nm,1.7s								
MWC	**Mount Wilson**	**64.76**	**311**	P		**P**		**14 00 15.5**	**+1.1**
MWC				IAmb		IAmb		14 00 24.3	
	comp=Z,34nm,1.7s								
PFO	**Pinyon Flats O**	**65.06**	**310**	P		**P**		**14 00 17.3**	**+1.0**
	baz=13								
PFO	**Pinyon Flats O**	**65.06**	**310**	⇑*e*P		**P**		**14 00 15.6**	**-0.7**
PFO				pmax		pmax			
	comp=Z,4.0nm,1.3s								
TUC	**Tucson**	**65.22**	**304**	P		**P**		**14 00 18.6**	**+1.3**
	baz=14								
TUC	**Tucson**	**65.22**	**304**	P		**P**		**14 00 17.5**	**+0.2**
TUC				pmax		pmax			
	comp=Z,44nm,1.8s								
TUC	**Tucson**	**65.22**	**304**	P		P		**14 00 17.5**	**+0.2**
SWSC	**Sam W. Stewart**	**65.58**	**309**	P		**P**		**14 00 21.3**	**+1.7**
	baz=13								
CIS	**Catalina Islan**	**65.62**	**312**	P		**P**		**14 00 21.5**	**+1.7**
	baz=13								
MONP2	**Monument Peak**	**65.75**	**310**	P		**P**		**14 00 22.4**	**+1.4**
	baz=13								
IKP	**In-Ko-Pah, Jac**	**65.93**	**309**	P		**P**		**14 00 22.6**	**+0.8**
	baz=13								
214A	**Organ Pipe Nat**	**65.97**	**306**	P		**P**		**14 00 23.8**	**+1.7**
	baz=14								
214A	**Organ Pipe Nat**	**65.97**	**306**	P		**P**		**14 00 22.5**	**+0.4**
TX31	**Lajitas Ar. Si**	**66.60**	**297**	P		**P**		**14 00 26.5**	**+0.2**
TX32	**Lajitas Array**	**66.60**	**297**	P		**P**		**14 00 26.6**	**+0.3**
TXAR	**Lajitas Array**	**66.60**	**297**	P		**P**		**14 00 26.2**	**-0.1**
	comp=Z,4.6nm,0.9s,baz=52,slow=5.0,SNR=20								
TXAR				LR		LR		14 30 42.0	
	comp=Z,807nm,19.8s,baz=0.0,slow=37								
833A	**Chaparral WMA,**	**66.63**	**293**	P		**P**		**14 00 27.3**	**+1.0**
	baz=15								
GYA	**Guiyang**	**66.84**	**74**	⇓*i*P		P		14 00 34.5	+6.7
GYA				PP		PP		14 03 03.3	+8.7
GYA				S		S		14 09 11.1	-10
GYA	**Guiyang**	**66.84**	**74**	SS		SS		14 13 55.8	+18
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
GYA				pmax		pmax			
	comp=Z,110nm,4.9s								
GYA				LR		LR			
	comp=N,190nm,17.8s								
GYA				LR		LR			
	comp=E,170nm,17.6s								
GYA				LR		LR			
	comp=Z,200nm,17.3s								
KMI	**Kunming**	**67.19**	**78**	P		**P**		**14 00 31.0**	**+0.8**
KMI				pP		pwP		14 00 34.4	-0.4
KMI				sP		sP		14 00 36.1	+5.0
KMI				pmax		pmax			
	comp=Z,8.0nm,0.8s								
KMI				LR		LR			
	comp=Z,700nm,23.0s								
KMI				LR		LR			
	comp=Z,710nm,18.7s								
KMI				LR		LR			
	comp=Z,1μm,20.6s								
DBIC	**Dimbokro**	**69.56**	**193**	P		**P**		**14 00 43.8**	**-1.1**
	comp=Z,8.0nm,1.2s,baz=338,slow=14,SNR=3.3								
DBIC				LR		LR		14 34 21.4	
	comp=Z,167nm,18.2s,baz=360,slow=39								
DBIC	**Dimbokro**	**69.56**	**193**	IAmb		IAmb		14 00 49.7	
	comp=Z,36nm,1.6s								
TIC	**Toumodi**	**69.60**	**193**	*e*PKP1		**P**		**14 00 45.3**	**+0.2**
	comp=Z,3.1nm,0.3s								
TIC	**Toumodi**	**69.60**	**193**	P		**P**		**14 00 45.3**	**+0.2**
TIC	**Toumodi**	**69.60**	**193**	P		**P**		**14 00 45.3**	**+0.2**
KIC	**Kosan Boka**	**69.87**	**193**	*e*PKP1		**P**		**14 00 45.7**	**-1.0**
	comp=Z,49nm,1.2s								
KIC	**Kosan Boka**	**69.87**	**193**	P		**P**		**14 00 45.7**	**-1.0**
LIC	**Lamto**	**70.02**	**193**	*e*PKP1		**P**		**14 00 46.3**	**-1.3**
	comp=Z,43nm,1.2s								
LIC	**Lamto**	**70.02**	**193**	P		**P**		**14 00 46.3**	**-1.3**
CHTO	**Chiang Mai**	**72.34**	**83**	P		**P**		**14 01 01.8**	**+0.1**
CHTO				pmax		pmax			
	comp=Z,26nm,1.3s								
CHTO	**Chiang Mai**	**72.34**	**83**	P		**P**		**14 01 01.8**	**+0.1**
CHTO				IAmb		IAmb		14 01 09.9	
	comp=Z,26nm,1.2s								
CMMT	**Chiang Mai**	**72.34**	**83**	P		**P**		**14 01 02.8**	**+1.1**
	comp=Z,9.7nm,1.2s								
CM31	**Chiang Mai Arr**	**72.68**	**84**	P		**P**		**14 01 03.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**72.68**	**84**	*ce*P		**P**		**14 01 04.3**	**+0.5**
CMAR				pmax		pmax			
	comp=Z,6.0nm,1.1s								
CMAR	**Chiang Mai Arr**	**72.68**	**84**	P		**P**		**14 01 03.8**	**+0.1**
	comp=Z,6.4nm,1.1s,baz=329,slow=6.9,SNR=22								
CMAR				PP		**PP**		**14 03 47.5**	**+2.5**
	comp=Z,0.4nm,0.5s,baz=342,slow=11,SNR=3.8								
CMAR				LR		LR		14 38 33.9	
	comp=Z,537nm,18.4s,baz=344,slow=40								
ZAIG	**Zacatecas**	**72.70**	**294**	P		**P**		**14 01 04.4**	**+0.3**
MHMT	**Maesarieng**	**72.70**	**85**	P		P		14 01 14.4	+11
PHRA	**Phrae**	**72.95**	**82**	P		**P**		**14 01 06.8**	**+1.5**
	comp=Z,3.3nm,1.2s								
UTTA	**Uttaradit**	**73.76**	**82**	P		P		14 01 17.5	+7.4
	comp=Z,12μm,0.5s								
NONG	**Nongkai**	**74.08**	**80**	P		**P**		**14 01 13.9**	**+2.0**
	comp=Z,1.0nm,1.2s								
PBKT	**Sadao Pong**	**74.99**	**82**	P		**P**		**14 01 21.5**	**+4.3**
	comp=Z,5.3nm,1.8s,comp=Z,972nm								
UTHA	**Uthaitani**	**75.59**	**84**	P		**P**		**14 01 23.1**	**+2.4**
	comp=Z,36μm,1.0s,comp=Z,360μm								
CHAI	**Chaiyaphum**	**75.88**	**81**	P		P		14 01 29.4	+7.0
	comp=Z,25μm,1.2s								
MBAR	**Mbarara**	**77.67**	**156**	P		P		**14 01 32.7**	**0.0**
MBAR				pmax		pmax			
	comp=Z,23nm,1.6s								
MBAR	**Mbarara**	**77.67**	**156**	P		**P**		**14 01 32.7**	**0.0**
MBAR				IAmb		IAmb		14 01 37.6	
	comp=Z,23nm,1.6s								
SDV	**Santo Domingo**	**78.46**	**260**	P		**P**		**14 01 37.6**	**+0.5**
KMBO	**Kilima Mbogo**	**78.92**	**149**	P		**P**		**14 01 38.2**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=358,slow=12,SNR=1.9								
KMBO				LR		LR		14 39 19.6	
	comp=Z,120nm,19.4s,baz=300,slow=38								
KMBO	**Kilima Mbogo**	**78.92**	**149**	IAmb		IAmb		14 01 50.0	
	comp=Z,24nm,1.9s								
ROSC	**El Rosal**	**83.25**	**263**	LR		LR		14 37 30.0	
	comp=Z,90nm,20.8s,baz=50,slow=34								
IPM	**Ipoh**	**86.64**	**85**	P		**P**		**14 02 19.9**	**+0.4**
PSI	**Prapat**	**87.75**	**88**	P		**P**		**14 02 24.5**	**-0.5**
PSI				pmax		pmax			
	comp=Z,20nm,1.0s								
RPSI	**Rantau Prapat**	**87.85**	**88**	P		**P**		**14 02 24.5**	**-0.8**
BDFB	**Brasilia**	**97.20**	**233**	LR		LR		14 39 39.4	
	comp=Z,169nm,19.5s,baz=327,slow=31								
PPT2	**Papeete2**	**120.34**	**334**	*e*LR		LR		14 45 23.9	
	comp=Z,779nm,37.5s								
ASAR	**Alice Springs**	**121.41**	**59**	PKP		**PKPdf**		**14 08 28.1**	**-0.9**
	comp=Z,1.6nm,0.5s,baz=354,slow=1.9,SNR=27								
DZM	**Mont Dzumac**	**125.04**	**24**	*e*LR		LR		14 47 33.8	
	comp=Z,232nm,25.6s								
TBI	**Tubuai**	**126.02**	**333**	*e*LR		LR		14 47 58.1	
	comp=Z,488nm,38.5s								
SYO	**Syowa Base**	**146.14**	**160**	⇑*i*PKPdf		**PKPdf**		**14 09 13.4**	**+0.1**
SYO	**Syowa Base**	**146.14**	**160**	⇑*e*PKPbc		**PKPab**		**14 09 15.2**	**+0.2**
SYO	**Syowa Base**	**146.14**	**160**	⇑*ep*PKPdf		**PKiKP**		**14 09 18.2**	**+0.7**
VNA1	**Neumayer--Stat**	**146.70**	**189**	PKPdf		**PKPab**		**14 09 16.6**	**-0.6**
	baz=76,slow=7.2								
RPZ	**Rata Peaks**	**146.92**	**22**	PKPbc		**PKPbc**		**14 09 16.8**	**-0.6**
	comp=Z,11nm,1.0s,baz=37,slow=10,SNR=3.0								
VNA2	**Neumayer--Watz**	**146.94**	**189**	PKPdf		**PKPbc**		**14 09 16.7**	**+0.1**
	baz=356,slow=4.8								
VNA3	**Neumayer Olymp**	**147.35**	**190**	PKPdf		**PKPbc**		**14 09 17.6**	**-0.2**
	baz=76,slow=7.2								
PMSA	**Palmer Station**	**147.39**	**229**	PKPbc		**PKPbc**		**14 09 18.2**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=39,slow=14,SNR=2.2								
MAW	**Mawson**	**147.47**	**144**	PKPbc		**PKPbc**		**14 09 18.9**	**+0.8**
	comp=Z,7.8nm,0.8s,baz=36,slow=2.0,SNR=8.4								
SNAA	**Sanae**	**147.55**	**186**	PKPdf		**PKPbc**		**14 09 18.5**	**+0.1**
	baz=76,slow=7.2								
SNAA	**Sanae**	**147.55**	**186**	PKP2		**PKPbc**		**14 09 18.1**	**-0.3**
SNAA	**Sanae**	**147.55**	**186**			**PKPbc**		**14 09 18.1**	**-0.3**

*ISCJB **17** 13:49:42.3±0.4, 44°.22N±0°.02×19°.70E±0°.02, h4km±3km, Error ellipse: s-maj=3.1km s-min=2.8km az=137.1*
*RHSSO **17** 13:49:43.6±0.2, 44°.21N×19°.63E, h2km±1km, ML2.5/1*
*BEO **17** 13:49:43.4±0.3, 44°.21N×19°.65E, h4km±2km, ML2.4/13*
ISC 17 13:49:42.0±1.1, 44°.21N±0°.02×19°.64E±0°.02, h14km±10km, n36, σ0s81/66, 3C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
DIVS	**Divibare**	**0.28**	**113**	*e*Pg	**Pb**	**13**	**49**	**48.4**	**-0.4**
DIVS				*e*Sg	**Sb**	**13**	**49**	**52.8**	**-0.6**
DIVS	**Divibare**	**0.28**	**113**	*e*Pg	**Pb**	**13**	**49**	**48.7**	**-0.1**
DIVS				*e*Sg	**Sb**	**13**	**49**	**52.7**	**-0.6**
TEKS	**Tekeris**	**0.35**	**347**	*e*Pg	**Pb**	**13**	**49**	**50.5**	**+0.4**
TEKS				*e*Sg	**Sb**	**13**	**49**	**55.3**	**-0.3**
TEKS	**Tekeris**	**0.35**	**347**	*e*Pg	**Pb**	**13**	**49**	**50.2**	**+0.1**
TEKS				*e*Sg	**Sb**	**13**	**49**	**55.0**	**-0.6**
BBLS	**Lazići**	**0.38**	**207**	*e*Pg	**Pb**	**13**	**49**	**51.1**	**+0.5**
BBLS				*e*Sg	**Sb**	**13**	**49**	**56.6**	**+0.3**
BBLS	**Lazići**	**0.38**	**207**	⇓*i*Pg	**Pb**	**13**	**49**	**51.0**	**+0.5**
BBLS				*e*Sg	**Sb**	**13**	**49**	**56.0**	**-0.3**
HAPS	**Han Pijesak,Bl**	**0.51**	**257**	*e*Pg	**Pb**	**13**	**49**	**52.1**	**-0.7**
HAPS				*e*Sg	**Sb**	**13**	**49**	**59.5**	**-0.6**
HAPS	**Han Pijesak,Bl**	**0.51**	**257**	*e*Pg	**Pb**	**13**	**49**	**52.1**	**-0.7**
HAPS				*e*Sg	**Sb**	**13**	**49**	**59.3**	**-0.8**
TRUS	**Trudelj**	**0.55**	**88**	*e*Pg	**Pb**	**13**	**49**	**53.8**	**+0.3**
TRUS				*e*Sg	**Sb**	**13**	**50**	**00.9**	**-0.3**
RUDO	**Rudo**	**0.62**	**198**	*e*Pg	**Pb**	**13**	**49**	**54.4**	**-0.2**
IVAS	**Ivanjica**	**0.73**	**149**	*e*Pg	**Pb**	**13**	**49**	**56.4**	**-0.1**
IVAS				*e*Sg	**Sg**	**13**	**50**	**05.7**	**-0.1**
GRUS	**Gruza**	**0.84**	**112**	*e*Pg	**Pb**	**13**	**49**	**58.9**	**+0.6**
GRUS				*e*Sg	**Sb**	**13**	**50**	**10.0**	**+0.5**
FRGS	**Fruska Gora**	**0.96**	**7**	*e*Pg	**Pn**	**13**	**50**	**01.2**	**+0.1**
FRGS				*e*Sg	**Sb**	**13**	**50**	**14.0**	**+1.0**
FRGS	**Fruska Gora**	**0.96**	**7**	*e*Pg	**Pn**	**13**	**50**	**01.0**	**-0.1**
FRGS				*e*Sg	**Sb**	**13**	**50**	**13.5**	**+0.5**
SJES	**Sjenica**	**0.97**	**165**	*e*Pg	**Pn**	**13**	**50**	**01.7**	**+0.3**
SJES				*e*Sg	**Sb**	**13**	**50**	**14.8**	**+1.3**
UPM	**Unac-Piva**	**1.14**	**208**	*e*Pg	**Pn**	**13**	**50**	**04.0**	**+0.3**
UPM				*e*Sg	**Sn**	**13**	**50**	**19.8**	**+0.7**
SELS	**Selova**	**1.46**	**132**	*e*Pg	**Pg**	**13**	**50**	**09.2**	**-0.8**
SELS				*e*Sg	**Sg**	**13**	**50**	**30.4**	**+1.5**
KUBS	**Kucevo**	**1.48**	**81**	*e*Pg	**Pg**	**13**	**50**	**10.2**	**-0.2**
KUBS				*e*Sg	**Sg**	**13**	**50**	**30.2**	**+0.6**
BRY	**Bratogost**	**1.53**	**212**	*e*Pn	**Sg**	**13**	**50**	**10.9**	**-0.5**
BRY				*e*Sn	**Sg**	**13**	**50**	**32.4**	**+1.1**
MDVR	**Moldovita**	**1.59**	**68**	⇑P	**Pb**	**13**	**50**	**10.7**	**-0.6**
MDVR				⇓S	**Sn**	**13**	**50**	**29.9**	**-0.3**
MDVR				AML	AML	13	50	38.3	
BOVS	**Bovan**	**1.60**	**110**	*e*Pg	**Pb**	**13**	**50**	**11.0**	**-0.3**
BOVS				*e*Sg	**Sg**	**13**	**50**	**34.6**	**+1.1**
TREB	**Trebinje**	**1.76**	**213**	*e*Pn	**Pg**	**13**	**50**	**15.3**	**-0.5**
TREB				*e*Sn	**Sg**	**13**	**50**	**38.4**	**-0.2**
PDG	**Podgorica**	**1.80**	**189**	*e*Pn	**Pg**	**13**	**50**	**15.7**	**-0.8**
PDG				*e*Sn	**Sg**	**13**	**50**	**38.4**	**-1.4**
PDG	**Podgorica**	**1.80**	**189**	⇓P	**Pg**	**13**	**50**	**17.8**	**+1.3**
PDG				⇓S	**Sg**	**13**	**50**	**41.4**	**+1.7**
PDG				AML	AML	13	50	42.5	
BLY	**Banja Luka**	**1.84**	**288**	*e*Pn	**Pg**	**13**	**50**	**16.4**	**-0.9**
BLY				*e*Sn	**Sg**	**13**	**50**	**40.0**	**-1.2**
BLY	**Banja Luka**	**1.84**	**288**	⇑P	**Pg**	**13**	**50**	**18.6**	**+1.3**
BLY				⇓S	**Sg**	**13**	**50**	**42.3**	**+1.1**
BLY				AML	AML	13	50	45.0	
MGRS	**Mrkonjic Grad**	**1.85**	**277**	*e*Sn	**Sg**	**13**	**50**	**40.1**	**-1.3**
ZAGS	**Zajecar**	**1.91**	**101**	*e*Pn	**Pb**	**13**	**50**	**16.3**	**-0.3**
ZAGS				*e*Sg	**Sg**	**13**	**50**	**43.4**	**-0.1**
STON	**Ston**	**1.94**	**227**	*e*Pn	**Pb**	**13**	**50**	**17.5**	**+0.4**
STON				*e*Sn	**Sb**	**13**	**50**	**42.4**	**+1.2**
BZS	**Buzias**	**1.99**	**44**	*e*Pn	**Pn**	**13**	**50**	**16.3**	**+1.0**
BZS	**Buzias**	**1.99**	**44**	⇓P	**Pn**	**13**	**50**	**15.7**	**+0.5**
BZS				⇓S	**Sn**	**13**	**50**	**40.1**	**+0.1**
DRME	**Dracevica, Mon**	**2.04**	**190**	*e*Pn	**Pb**	**13**	**50**	**18.8**	**-0.1**
DRME				*e*Sn	**Sb**	**13**	**50**	**44.6**	**+0.4**
BARS	**Barje**	**2.11**	**131**	*e*Pn	**Pn**	**13**	**50**	**14.1**	**-2.7**
MORH	**Mrgy, Hungar**	**2.13**	**341**	*e*Pn	**Pb**	**13**	**50**	**20.6**	**+0.2**
MORH				*e*Sn	**Sb**	**13**	**50**	**46.4**	**-0.2**
GZR	**Gura Zlata**	**2.53**	**61**	⇑P	**Pn**	**13**	**50**	**22.5**	**-0.2**
GZR				AML	AML	13	51	06.8	
DRGR		**3.37**	**39**	⇓P	**Pn**	**13**	**50**	**34.4**	**-0.1**
DRGR				AML	AML	13	50	52.5	

*NAO **17** 14:02:23.8±2.9, 75°.85N×7°.01E, ML3.2*
*BER **17** 14:02:28.0±3.0, 75°.88N×8°.08E, h10km, ML1.9, ML3.2(NAO), Confirmed Earthquake*
ISC 17 14:02:22.7±2.0, 75°.82N±0°.07×7°.3E±0°.1, h10km, n13, σ2s86/21, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
HSPB	**Hornsund (broa**	**2.27**	**55**	Pn	**Pn**	**14**	**03**	**02.0**	**+1.8**
HSPB				Sn	**Sn**	**14**	**03**	**27.3**	**-1.0**
HSPB	**Hornsund (broa**	**2.27**	**55**	*e*P	**Pn**	**14**	**03**	**02.1**	**+1.8**
HSPB				*e*S	**Sn**	**14**	**03**	**25.8**	**-2.5**
HSPB				IAML		14	03	34.3	
	comp=Z,11nm,0.5s								
SPA0	**Spitsbergen Ar**	**3.13**	**36**	Pn	**Pn**	**14**	**03**	**14.2**	**+2.2**
	baz=205,slow=14								
SPA0				Sn	**Sn**	**14**	**03**	**47.5**	**-1.8**
SPA0	**Spitsbergen Ar**	**3.13**	**36**	Pn	**Pn**	**14**	**03**	**14.2**	**+2.2**
	baz=205,slow=14								
SPA0				Sn	**Sn**	**14**	**03**	**47.5**	**-1.8**
KBS	**Kingsbay**	**3.28**	**16**	Pn	**Pn**	**14**	**03**	**15.8**	**+1.7**
KBS				Sn	**Sn**	**14**	**03**	**49.3**	**-3.8**
KBS	**Kingsbay**	**3.28**	**16**	*e*P	**Pn**	**14**	**03**	**16.2**	**+2.1**
KBS				*e*S	**Sn**	**14**	**03**	**49.0**	**-4.1**
KBS				IAML		14	03	57.0	
	comp=Z,12nm,0.6s								
HOPEN	**Hopen**	**4.30**	**72**	Pn	**Pn**	**14**	**03**	**30.3**	**+2.3**
HOPEN				Sn	**Sn**	**14**	**04**	**16.4**	**-1.7**
HOPEN	**Hopen**	**4.30**	**72**	*e*P	**Pn**	**14**	**03**	**30.1**	**+2.2**
DAG	**Danmarks Havn**	**6.21**	**291**	*i*P	Pn	14	03	54.9	+0.7
DAG				*i*S	Sn	14	04	58.3	-6.8
ARA0	**ARCESS Array S**	**8.28**	**130**	Pn	**Pn**	**14**	**04**	**24.9**	**+2.4**
	baz=328,slow=12								
ARA0				Sn	**Sn**	**14**	**05**	**51.4**	**-4.5**
	baz=326,slow=22								
ARA0	**ARCESS Array S**	**8.28**	**130**	Pn	**Pn**	**14**	**04**	**24.9**	**+2.4**
	baz=328,slow=12								
ARA0				Sn	**Sn**	**14**	**05**	**51.4**	**-4.5**
	baz=326,slow=22								
APA0	**Apatity Array**	**11.39**	**123**	Pn	**Pn**	**14**	**05**	**07.7**	**+2.5**
	baz=333,slow=11								
APA0				Sn	Sn	14	07	05.4	-6.9
	baz=323,slow=28								
APA0	**Apatity Array**	**11.39**	**123**	Pn	**Pn**	**14**	**05**	**07.7**	**+2.5**
	baz=333,slow=11								
APA0				Sn	Sn	14	07	05.4	-6.9
	baz=323,slow=28								

*NIED **17** 14:12:00, 36°.70N×141°.70E, h5km, Mw3.9 Best double couple: M0 9.04000×10^14 NP1:φs200.00000°, δ57.00000°, λ-39.00000°. NP2:φs313.00000°, δ58.00000°, λ-140.00000°.*
*IDC **17** 14:12:57.5±1.4, 36°.51N×141°.54E, h0km, mb3.7/7, mb1 3.9/10, mb1mx3.7/51, mbtmp3.9/10, ML3.9/3, MS4.0/1, Ms1 4.0/1, ms1mx2.8/39, Error ellipse: s-maj=30.0km s-min=21.3km az=169.0*
*ISCJB **17** 14:12:58.1±1.0, 36°.72N±0°.03×141°.73E±0°.06, h21km±6km, mb3.5/7, MS4.0/1, Error ellipse: s-maj=7.6km s-min=5.5km az=13.7*
*JMA **17** 14:12:58.2±0.1, 36°.67N×141°.72E, h53km±3km, M4.1*
ISC 17 14:12:57.6±1.9, 36°.66N±0°.04×141°.72E±0°.06, h10km±12km, n27, σ2s16/40, mb3.6/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
ONAJ	**Iwakimizuishiy**	**0.86**	**301**	P	**Pg**	**14**	**13**	**14.1**	**-0.1**
ONAJ				*e*S	**Sb**	**14**	**13**	**25.8**	**-0.6**
JHO	**Hitachi**	**0.93**	**267**	P	**Pb**	**14**	**13**	**14.9**	**-0.9**
JHO				*e*S	**Sb**	**14**	**13**	**27.6**	**-0.6**
JHYU	**Hitachinakayam**	**0.96**	**251**	P	**Pb**	**14**	**13**	**15.8**	**-0.7**
JHYU				*e*S	**Sb**	**14**	**13**	**28.4**	**-0.9**
JFK	**Kawauchi**	**0.98**	**317**	P	**Pb**	**14**	**13**	**15.8**	**-0.9**
JFK				*e*S	**Sb**	**14**	**13**	**28.5**	**-1.2**
JFFD	**Fukushimafurud**	**1.02**	**295**	P	**Pb**	**14**	**13**	**16.5**	**-1.0**
JFFD				*e*S	**Sb**	**14**	**13**	**29.8**	**-1.2**
JFT	**Otama**	**1.40**	**308**	P	**Pn**	**14**	**13**	**22.8**	**-0.5**
JFT				*e*S	**Sn**	**14**	**13**	**39.3**	**-2.5**
JMM	**Marumori**	**1.42**	**329**	P	**Pn**	**14**	**13**	**21.7**	**-1.8**
JMM				*e*S	**Sn**	**14**	**13**	**39.7**	**-2.5**
JFY	**Yanaizu**	**1.78**	**296**	P	**Pn**	**14**	**13**	**28.7**	**+0.2**
JIO	**Ouri**	**1.82**	**351**	P	**Pn**	**14**	**13**	**27.0**	**-2.0**
JIO				*e*S	**Sn**	**14**	**13**	**48.5**	**-3.6**
JAG	**Ashikaga**	**1.84**	**263**	P	**Pn**	**14**	**13**	**28.5**	**-0.8**
JAG				*e*S	**Sn**	**14**	**13**	**50.6**	**-2.0**
JOU	**Okura**	**1.90**	**334**	P	**Pn**	**14**	**13**	**29.8**	**-0.4**
JOU				*e*S	**Sn**	**14**	**13**	**52.0**	**-2.2**
JKT	**Katashina**	**1.99**	**274**	P	**Pn**	**14**	**13**	**31.3**	**-0.1**
JYS	**Shirataka**	**2.04**	**320**	*e*S	**Sn**	**14**	**13**	**55.5**	**-2.2**
BSO1	**Boso 1**	**2.09**	**197**	P	**Pn**	**14**	**13**	**32.5**	**+0.3**
BSO3	**Boso 3**	**2.10**	**208**	P	**Pn**	**14**	**13**	**33.5**	**+0.9**
MJAR	**Matsushiro Arr**	**2.83**	**269**	Pn	**Pn**	**14**	**13**	**42.5**	**-0.4**
	4.3nm,0

FUNA IAmb IAmb 14 20 46.1
comp=Z,110nm,1.1s
EIDS Eidsvold 17.79 212 P **Pn** **14 20 45.4 +1.3**
baz=18,SNR=18
EIDS Eidsvold 17.79 212 P **Pn** **14 20 44.6 +0.6**
MSVF Nonsavu 17.84 116⇓*e*P **Pn** **14 20 47.0 +2.2**
MSVF Nonsavu 17.84 116 P **Pn** **14 20 45.6 +0.8**
MSVF IAmb IAmb 14 21 03.9
comp=Z,168nm,1.4s
COEN Coen 18.05 257 P **Pn** **14 20 47.4 +0.2**
baz=18,SNR=11
COEN Coen 18.05 257 P **P** **14 20 45.4 -0.9**
MTSU Mount Surprise 18.16 243 P **Pn** **14 20 49.3 +0.8**
baz=18,SNR=15
RMQ Roma 19.94 215 P **Pn** **14 21 09.1 -0.3**
baz=20,SNR=6.5
KWAJ Kwajalein Atol 20.05 19 P **P** **14 21 08.1 +0.1**
KWAJ pmax pmax
comp=Z,811nm,0.6s
KWAJ Kwajalein Atol 20.05 19 P **P** **14 21 08.1 +0.1**
ARMA Armidale 21.89 203 P **P** **14 21 28.6 +0.7**
baz=22,SNR=7.4
ARMA Armidale 21.89 203 P **P** **14 21 28.1 +0.2**
QLP Quilpie 22.80 223 P **P** **14 21 37.7 +0.6**
baz=23,SNR=8.2
QIS Mount Isa 23.19 241 P **P** **14 21 39.1 -1.9**
baz=23,SNR=4.4
CMSA Cobar Meteorol 25.55 212 P **P** **14 22 02.9 +0.6**
baz=26,SNR=14
CNB Canberra Magne 27.11 202 P **P** **14 22 17.9 +1.5**
baz=27,SNR=4.3
OUZ Omahuta 27.18 158 P **P** **14 22 18.5 +1.7**
CAN Canberra 27.25 202 P **P** **14 22 18.6 +1.0**
CAN pmax pmax
comp=Z,45nm,1.0s
CAN Canberra 27.25 202 P **P** **14 22 18.6 +1.0**
WRAB Tennant Creek 27.64 247*de*P **P** **14 22 21.3 +0.1**
WRAB pmax pmax
comp=Z,14nm,1.1s
WRAB Tennant Creek 27.64 247 P **P** **14 22 20.9 -0.3**
WRAB IAmb IAmb 14 22 45.2
comp=Z,39nm,0.8s
STKA Stephens Creek 28.11 217 P **P** **14 22 26.2 +1.0**
comp=Z,3.1nm,0.6s,baz=42,slow=11,SNR=11
STKA LR LR 14 33 21.0
comp=Z,555nm,18.6s,baz=41,slow=35
STKA Stephens Creek 28.11 217 P **P** **14 22 25.2 -0.1**
KDU Kakadu 28.31 262 P **P** **14 22 27.0 -0.2**
baz=28,SNR=8.5
AS31 Alice Springs 29.26 240 P **P** **14 22 33.8 -1.8**
ASAR Alice Springs 29.26 240 P **P** **14 22 34.8 -0.8**
comp=Z,4.2nm,0.6s,baz=62,slow=10,SNR=66
ASAR pP **pP** **14 22 58.5 +1.8**
comp=Z,23nm,0.9s,baz=60,slow=10.0,SNR=18
ASAR ScP **ScP** **14 29 13.3 +0.4**
comp=Z,0.7nm,0.7s,baz=77,slow=2.6,SNR=4.9
ASAR LR LR 14 33 34.2
comp=Z,407nm,20.2s,baz=66,slow=35
MTN Manton Dam 29.62 262 P **P** **14 22 40.4 +1.6**
baz=30,SNR=7.6
MTN Manton Dam 29.62 262 P **P** **14 22 38.3 -0.5**
TOO Toolangi 30.60 205 P **P** **14 22 48.7 +1.5**
baz=31,SNR=8.5
TOO Toolangi 30.60 205 P **P** **14 22 48.4 +1.1**
TOO pmax pmax
comp=Z,13nm,0.8s
TOO Toolangi 30.60 205 P **P** **14 22 48.4 +1.1**
HTT Hallett 30.81 218 P **P** **14 22 50.1 +0.9**
baz=31,SNR=6.8
URZ Urewera 31.21 156 P **P** **14 22 53.6 +1.1**
comp=Z,4.0nm,0.3s,baz=264,slow=2.8,SNR=13
URZ Urewera 31.21 156 IAmb IAmb 14 23 18.5
comp=Z,74nm,1.6s
BKZ Black Stump Fm 31.75 157 P **P** **14 22 57.4 0.0**
KNRA Kununurra 32.09 257 P **P** **14 23 00.8 +0.2**
baz=32,SNR=26
KNRA Kununurra 32.09 257 P **P** **14 23 00.4 -0.2**
KNRA IAmb IAmb 14 23 01.4
comp=Z,35nm,0.7s
BBOO Buckleboo 32.23 222 P **P** **14 23 02.0 +0.4**
baz=32,SNR=22
BBOO Buckleboo 32.23 222 P **P** **14 23 01.5 -0.2**
TUWZ Tuamarina 32.90 162 P **P** **14 23 08.0 +0.7**
THZ Tophouse 32.91 164 P **P** **14 23 06.4 -1.1**
THZ IAmb IAmb 14 23 11.1
comp=Z,33nm,0.9s
BFZ Birch Farm 32.98 159 P **P** **14 23 09.1 +1.1**
BFZ IAmb IAmb 14 23 32.8
comp=Z,74nm,1.4s
SNZO South Karori 33.03 161 P **P** **14 23 09.4 +0.9**
BSWZ Blackbirch Sta 33.15 163 P **P** **14 23 10.1 +0.6**
LTZ Lake Taylor 33.70 165 P **P** **14 23 14.7 +0.4**
LTZ IAmb IAmb 14 23 17.2
comp=Z,35nm,1.0s
FOZ Fox Glacier 33.88 169 P **P** **14 23 16.7 +0.9**
OXZ Oxford 34.16 166 P **P** **14 23 18.4 +0.1**
RPZ Rata Peaks 34.30 167 P **P** **14 23 20.3 +0.8**
comp=Z,41nm,0.8s,baz=40,slow=0.7,SNR=18
RPZ pP **pP** **14 23 43.8 +3.0**
comp=Z,12nm,0.7s,baz=119,slow=19,SNR=2.3
RPZ Rata Peaks 34.30 167 P **P** **14 23 20.1 +0.6**
WRKA Warakurna 34.53 241 P **P** **14 23 21.1 -0.7**
baz=35,SNR=58
CRLZ Canterbury Las 34.54 165 P **P** **14 23 22.4 +1.0**
MQZ McQueen's Vall 34.67 165 P **P** **14 23 22.9 +0.4**
MQZ IAmb IAmb 14 23 24.2
comp=Z,66nm,1.1s
LBZ Lake Benmore 34.77 169 P **P** **14 23 23.5 0.0**
WKZ Wanaka 34.99 170 P **P** **14 23 25.8 +0.4**
WKZ IAmb IAmb 14 23 27.4
comp=Z,55nm,1.1s
FITZ Fitzroy Crossi 35.34 253 P **P** **14 23 28.4 -0.3**
baz=36,SNR=22
FITZ Fitzroy Crossi 35.34 253 P **P** **14 23 28.6 -0.1**
comp=Z,14nm,0.6s,baz=87,slow=9.3,SNR=5.5
FITZ Fitzroy Crossi 35.34 253 P **P** **14 23 28.1 -0.6**
FITZ IAmb IAmb 14 23 52.5
comp=Z,21nm,0.8s
DCZ Deep Cove 35.35 173 P **P** **14 23 28.7 +0.3**
DCZ IAmb IAmb 14 23 30.1
comp=Z,41nm,1.0s
MLZ Mavora Lakes 35.38 172 P **P** **14 23 29.1 +0.3**
MLZ IAmb IAmb 14 23 30.3
comp=Z,29nm,0.9s
WHZ Wether Hill Ro 35.87 172 P **P** **14 23 32.6 -0.4**
WHZ IAmb IAmb 14 23 34.0
comp=Z,42nm,1.0s
SANI Sanana 36.00 281 P **P** **14 23 34.7 +0.2**
comp=Z,31nm,0.8s
BATI Baumata 36.99 267 P **P** **14 23 44.1 +1.2**
comp=Z,42nm,0.7s
MMRI Maumere 38.53 269 P **P** **14 23 53.6 -2.2**
comp=Z,68nm,0.8s
MMRI Maumere 38.53 269 P **P** **14 23 53.6 -2.2**
APSI Ampana 40.49 281 P **P** **14 24 12.0 -0.1**
comp=Z,28nm,1.7s
BNSI Bone 41.23 275 P **P** **14 24 18.4 +0.2**
comp=Z,60nm,0.8s
PSA00 Pilbara Seismi 41.24 249 P **P** **14 24 17.0 -1.2**
KAPI Kappang 41.47 274 P **P** **14 24 21.2 +1.1**
comp=Z,22nm,0.8s,baz=88,slow=7.3,SNR=5.5
KAPI Kappang 41.47 274 IAmb IAmb 14 24 21.8
comp=Z,19nm,0.7s
PLAI Plampang 42.90 268 P **P** **14 24 30.4 -1.3**
comp=Z,62nm,0.8s,comp=Z,615nm
MEEK Meekatharra 43.34 242 P **P** **14 24 35.9 +0.6**
baz=44,SNR=14
TWSI Taliwang, Sumb 43.78 268 P **P** **14 24 37.8 -1.1**
comp=Z,33nm,0.8s
KLBR Kellerberrin 45.42 236 P **P** **14 24 51.5 -0.2**
baz=46,SNR=6.2
IGBI Denpasar 45.48 268 P **P** **14 24 51.5 -0.9**
comp=Z,69nm,1.0s
BLDU Balliduu 45.99 237 P **P** **14 24 56.5 +0.3**
baz=46,SNR=15
NWAO Narrogin (SRO) 46.26 234 P **P** **14 25 00.0 +1.8**
baz=46,SNR=3.7
NWAO Narrogin (SRO) 46.26 234 P **P** **14 24 58.6 +0.4**
comp=Z,6.8nm,0.7s,baz=50,slow=6.0,SNR=5.3
NWAO Narrogin (SRO) 46.26 234 IAmb IAmb 14 26 04.0
comp=Z,37nm,1.4s
JAGI Jajag, Banyuwa 46.50 268 P **P** **14 24 58.2 -2.2**
comp=Z,56nm,0.7s,comp=Z,668nm
JAGI Jajag, Banyuwa 46.50 268 P **P** **14 24 57.8 -2.6**
JAGI IAmb IAmb 14 25 00.9
comp=Z,47nm,0.8s

MUN Mundaring 46.79 236 P **P** **14 25 03.2 +0.7**
baz=47,SNR=4.6
PPT2 Papeete2 48.12 104 *e*LR LR 14 38 47.9
comp=Z,282nm,25.5s
TBI Tubuai 48.66 112 *e*LR LR 14 39 20.9
comp=Z,322nm,33.0s
PWJI Pagerwojo 48.86 268 P **P** **14 25 17.3 -1.3**
UGM Wanagama 50.13 268 P **P** **14 25 27.4 -0.9**
INU Inuyama 50.91 334 P **P** **14 25 33.2 -0.6**
KIP Kipapa 50.94 51⇑*e*P **P** **14 25 34.8 +0.6**
KIP pmax pmax
comp=Z,131nm,2.1s
OPA Opana 51.09 51 P **P** **14 25 36.3 +0.9**
OPA pmax pmax
comp=Z,178nm,1.0s
OPA Opana 51.09 51 P **P** **14 25 36.3 +0.9**
MJAR Matsushiro Arr 51.45 336 P **P** **14 25 36.8 -1.0**
comp=Z,23nm,0.8s,baz=165,slow=8.4,SNR=46
MAJO Matsushiro 51.45 336*d* iP **P** **14 25 36.5 -1.3**
MAJO pmax pmax
comp=Z,49nm,0.8s
MAJO Matsushiro 51.45 336 P **P** **14 25 36.3 -1.5**
MAT Matsushiro 51.45 336 P **P** **14 25 36.5 -1.3**
MJB9 Matsu-Tunnel 51.46 336 P **P** **14 25 36.2 -1.7**
YULB Yu-li 51.52 311 P **P** **14 25 37.6 -1.0**
KKH Kailua Kona 51.56 55 P **P** **14 25 39.1 +0.2**
KKH Kailua Kona 51.56 55 P **P** **14 25 39.1 +0.2**
KHU Kahuku 51.67 55 P **P** **14 25 39.9 -0.1**
KHU pmax pmax
comp=Z,87nm,0.8s
KHU Kahuku 51.67 55 P **P** **14 25 39.9 -0.1**
HUH Hualalai 51.72 55 P **P** **14 25 40.9 +0.5**
NACB Ninganchiao 51.76 312 P **P** **14 25 39.1 -1.2**
MWH Moku'aweowe 51.81 55 P **P** **14 25 41.0 -0.4**
MLOA Mauna Loa Obse 51.85 55 P **P** **14 25 42.0 +0.4**
AIN Ainahou 51.86 55 P **P** **14 25 41.6 +0.3**
HMH Humu'ula Sheep 51.96 55 P **P** **14 25 42.6 +0.4**
TPUB Ta-pu 51.96 311 P **P** **14 25 40.5 -1.4**
POHA Pohakuloa 52.00 55 P **P** **14 25 42.9 +0.4**
SSLB Suanglung 52.01 311 P **P** **14 25 41.1 -1.1**
JNU Nakatsue 52.04 327 P **P** **14 25 41.9 -0.4**
KSM Kuching 52.06 280 P **P** **14 25 42.0 -0.7**
CMJI Cimerak 52.18 268 P **P** **14 25 42.5 -1.2**
comp=Z,80nm,0.8s,comp=Z,612nm
CISI Cisompet, Garu 52.84 268 P **P** **14 25 47.8 -0.8**
CISI Cisompet, Garu 52.84 268 P **P** **14 25 46.7 -1.9**
LEM Lembang 53.12 269 P **P** **14 25 51.4 +0.6**
comp=Z,59nm,0.7s,baz=45,slow=4.5,SNR=5.7
TJN Taejon 56.39 327⇓*e*P **P** **14 26 13.2 -0.5**
KSRS Korea Array 56.91 329 P **P** **14 26 17.1 -0.3**
comp=Z,26nm,0.8s,baz=141,slow=7.4,SNR=52
KSRS LR LR 14 47 40.0
comp=Z,66nm,21.7s,baz=141,slow=33
KS19 Wonju Array Si 56.98 329 P **P** **14 26 16.6 -1.2**
INCN Inchon 57.60 328 P **P** **14 26 21.9 -0.4**
INCN pmax pmax
comp=Z,86nm,1.1s
INCN Inchon 57.60 328 P **P** **14 26 21.9 -0.4**
MYKOM Kota Tinggi 58.40 279 P **P** **14 26 28.0 -0.3**
NJ2 Nanjing 58.50 318 *e*P **P** **14 26 28.3 -0.3**
NJ2 pmax pmax
comp=Z,17nm,0.8s
YSS Yuzh-Sakhalins 59.40 345 *e*P **P** **14 26 35.3 +0.8**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS Yuzh-Sakhalins 59.40 345 P **P** **14 26 34.1 -0.4**
VLA Vladivostok 59.59 335*ce*P **P** **14 26 36.4 +0.4**
VLA pmax pmax
comp=Z,58nm,1.0s
USA0B Ussuriysk Arra 60.45 336*d* iP **P** **14 26 41.5 -0.3**
USA0B Ussuriysk Arra 60.45 336 P **P** **14 26 41.5 -0.3**
USRK Ussuriysk Ar. 60.45 336 P **P** **14 26 41.8 0.0**
comp=Z,86nm,0.8s,baz=148,slow=6.5,SNR=104
USRK LR LR 14 49 35.2
comp=Z,48nm,21.9s,baz=146,slow=33
WHN Wuhan 60.70 314 P **P** **14 26 42.3 -1.5**
MDJ Mudanjiang 61.77 335 P **P** **14 26 50.8 +0.1**
MDJ pP pP 14 27 15.8 +0.4
MDJ sP sP 14 27 27.1 +0.7
MDJ PP **PP** **14 29 07.6 -0.4**
MDJ S **S** **14 35 08.3 +2.4**
MDJ ScS **SKKSac** 14 36 32.8 -0.1
MDJ pmax pmax
comp=Z,78nm,1.0s
MDJ pmax pmax
comp=Z,350nm,4.3s
MDJ Mudanjiang 61.77 335 P **P** **14 26 50.1 -0.7**
IPM Ipoh 61.78 281 P **P** **14 26 51.0 -0.4**
IPM Ipoh 61.78 281 P **P** **14 26 50.0 -1.5**
IPM IAmb IAmb 14 26 51.7
comp=Z,32nm,1.1s
TIA Tai'an 62.23 320 P **P** **14 26 53.1 -0.9**
TIA pmax pmax
comp=Z,13nm,1.0s
KULM Kulim 62.34 282 P **P** **14 26 55.0 -0.2**
KULM Kulim 62.34 282 P **P** **14 26 54.0 -1.2**
KULM IAmb IAmb 14 26 55.3
comp=Z,24nm,1.0s
CN2 Changchun 62.97 332 *e*P **P** **14 26 57.3 -1.4**
CN2 pmax pmax
comp=Z,120nm,0.7s
TYV Tymovskoe 63.08 347 *e*P **P** **14 26 59.6 +0.3**
TYV pmax pmax
comp=Z,35nm,0.8s
PETK Petropavlovsk- 63.28 358 P **P** **14 27 00.6 -0.1**
comp=Z,21nm,0.8s,baz=157,slow=7.0,SNR=25
PETK pP **pP** **14 27 24.9 -0.3**
comp=Z,14nm,0.8s,baz=162,slow=8.2,SNR=4.4
PETK LR LR 14 50 46.3
comp=Z,60nm,21.7s,baz=238,slow=32
ENH Enshi 64.09 311 P **P** **14 27 05.1 -1.4**
ENH IAmb IAmb 14 27 07.2
comp=Z,27nm,1.2s
GYA Guiyang 64.43 306⇓*i* P **P** **14 27 09.8 +1.0**
GYA pP pP 14 27 33.9 0.0
GYA sP sP 14 27 45.6 +0.7
GYA PP **PP** **14 29 33.4 +1.5**
GYA S **S** **14 35 41.4 +1.4**
GYA pmax pmax
comp=Z,10.0nm,0.9s
GYA pmax pmax
comp=Z,110nm,5.6s
GRNR Gornyy 64.60 343⇑*i* P **P** **14 27 08.3 -1.0**
GRNR *e*S **S** **14 35 40.0 -0.9**
GRNR pmax pmax
comp=Z,30nm,1.5s
GRNR smax smax
comp=E,3.0nm,1.5s
KLR Kul'dur 64.76 339*d* iP **P** **14 27 10.3 -0.1**
KLR *i* *PP **pP** **14 27 35.9 +0.7**
KLR pmax pmax
comp=Z,73nm,1.4s
PBKT Sadao Pong 65.37 294 P **P** **14 27 14.5 -0.5**
CASY Casey 65.47 200 P **P** **14 27 14.8 0.0**
UTTA Uttaradit 66.14 295 P **P** **14 27 21.9 +2.0**
comp=Z,14μm,0.8s
NANT Nan 66.38 296 P **P** **14 27 21.1 -0.3**
comp=Z,327μm,0.7s
UTHA Uthaitani 66.42 292 P **P** **14 27 22.4 +0.7**
comp=Z,29μm,1.0s
XAN Xi'an 66.45 314 P **P** **14 27 21.1 -0.6**
XAN pP pP 14 27 44.8 -1.8
XAN pmax pmax
comp=Z,19nm,0.8s
XAN Xi'an 66.45 314 P **P** **14 27 20.4 -1.2**
XAN pmax pmax
comp=Z,15nm,0.6s
XAN Xi'an 66.45 314 P **P** **14 27 20.4 -1.2**
XAN IAmb IAmb 14 27 46.9
comp=Z,15nm,0.6s
PHRA Phrae 66.69 295 P **P** **14 27 24.3 +0.9**
comp=Z,2.8nm,1.1s,comp=Z,1μm
KMI Kunming 67.04 303 P **P** **14 27 26.4 +0.6**
KMI pmax pmax
comp=Z,8.0nm,0.8s
VNDA Vanda 67.15 180 P **P** **14 27 26.3 +1.0**
comp=Z,9.0nm,0.8s,baz=339,slow=6.4,SNR=38
VNDA pP **PcP** **14 27 51.8 -0.8**
comp=Z,4.8nm,0.8s,baz=329,slow=5.9,SNR=5.4
VNDA LR LR 14 51 18.4
comp=Z,94nm,21.1s,baz=348,slow=31
VNDA Vanda 67.15 180 P **P** **14 27 26.0 +0.6**
LAMP Lampang 67.23 295 P **P** **14 27 27.4 +0.6**
comp=Z,55μm,0.8s,comp=Z,517μm

CMAR Chiang Mai Arr 67.82 295 *i* P **P** **14 27 30.8 +0.2**
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CMAR Chiang Mai Arr 67.82 295 P **P** **14 27 30.6 0.0**
comp=Z,6.5nm,0.9s,baz=122,slow=4.6,SNR=22
CMAR pP **pP** **14 27 55.8 +0.1**
comp=Z,12nm,0.7s,baz=121,slow=4.8,SNR=10
CMMT Chiang Mai 67.94 295 P **P** **14 27 31.7 +0.4**
comp=Z,9.3nm,1.2s
CHTO Chiang Mai 67.94 295 P **P** **14 27 30.3 -1.0**
CHTO pmax pmax
comp=Z,27nm,1.4s
CHTO Chiang Mai 67.94 295 P **P** **14 27 30.3 -1.0**
CHTO IAmb IAmb 14 27 57.8
comp=Z,27nm,1.4s
HHC Hu-ho-hao-te 68.51 322 *e*P **P** **14 27 36.0 +1.4**
HHC S **S** **14 36 31.6 +2.8**
HHC pmax pmax
comp=Z,11nm,0.8s
CD2 Chengdu 68.72 309 P **P** **14 27 34.6 -1.4**
HIA Hailar 69.66 332 P **P** **14 27 41.3 -0.1**
HIA pmax pmax
comp=Z,57nm,0.7s
HIA Hailar 69.66 332 P **P** **14 27 41.3 -0.1**
ZEA Zeya 70.07 339 *e*P **P** **14 27 44.2 +0.4**
ZEA pmax pmax
comp=N,62nm,0.8s
ZEA pmax pmax
comp=E,21nm,0.8s
ZEA pmax pmax
comp=Z,100nm,0.8s
MA2 Magadan 70.20 354⇑*e*P **P** **14 27 44.0 -0.4**
MA2 pmax pmax
comp=Z,58nm,1.2s
LZH Lanzhou 71.08 314 ⇑P **P** **14 27 51.0 +0.5**
LZH pP pP 14 28 17.3 +1.5
LZH sP sP 14 28 27.5 +0.8
LZH PP **PP** **14 30 34.3 +4.8**
LZH pmax pmax
comp=Z,21nm,1.4s
LZH pmax pmax
comp=Z,130nm,5.6s
SDPT Sand Point 72.86 22 P **P** **14 27 59.9 -0.6**
SEY Seymchan 73.39 356⇓*i* P **P** **14 28 03.2 -0.2**
ULN Ulaanbaatar 75.21 326*d* iP **P** **14 28 14.9 +0.4**
ULN pmax pmax
comp=Z,45nm,0.8s
ULN Ulaanbaatar 75.21 326 P **P** **14 28 14.3 -0.3**
ULN IAmb IAmb 14 28 16.0
comp=Z,44nm,0.8s
GTA Gaotai 75.45 315 *e*P **P** **14 28 16.3 +0.2**
GTA pP pP 14 28 42.0 +0.3
GTA sP sP 14 28 55.3 +2.9
GTA pmax pmax
comp=Z,16nm,1.2s
SONM Songino Array 75.56 325 P **P** **14 28 16.8 +0.3**
comp=Z,38nm,0.7s,baz=138,slow=5.4,SNR=156
SONM pP **pP** **14 28 42.0 +0.1**
comp=Z,13nm,0.8s,baz=143,slow=4.5,SNR=5.0
SONM LR LR 14 59 58.8
comp=Z,39nm,21.8s,baz=130,slow=34
SII Sitkinak Islan 76.14 24 P **P** **14 28 19.9 +0.4**
YAK Yakutsk 76.25 345*d* iP **P** **14 28 19.7 -0.2**
YAK *e* 14 28 28.7
YAK *e**PP **pP** **14 28 43.1 -2.2**
YAK *e*PPP PPP 14 32 59.9
YAK *e*S **S** **14 37 56.3 +0.4**
YAK *e* 14 38 25.0
YAK *e**SS **sS** **14 38 40.9 +0.3**
YAK *e*SS **SS** **14 42 52.4 +0.2**
YAK pmax pmax
comp=Z,71nm,0.6s
YAK pmax pmax
comp=N,15nm,0.8s
YAK pmax pmax
comp=E,10.0nm,0.8s
YAK pmax pmax
comp=Z,145nm,3.6s
YAK pmax pmax
comp=N,109nm,3.8s
YAK pmax pmax
comp=E,88nm,3.3s
YAK smax smax
comp=N,53nm,2.3s
YAK smax smax
comp=E,17nm,2.5s
YAK Yakutsk 76.25 345 P **P** **14 28 19.0 -0.9**
OHAK Old Harbor 76.95 23 P **P** **14 28 24.6 +0.6**
OHAK IAmb IAmb 14 28 25.1
comp=Z,47nm,0.7s
KDAK Kodiak Island 77.62 23 P **P** **14 28 28.2 +0.5**
KDAK pmax pmax
comp=Z,73nm,0.8s
KDAK Kodiak Island 77.62 23 P **P** **14 28 28.2 +0.5**
BOD Bodaibo 78.09 336 *e*P **P** **14 28 29.0 -1.3**
BOD pmax pmax
comp=Z,260nm,1.0s
BILL Bilibino 78.27 2*d* iP **P** **14 28 31.3 +0.2**
BILL *i* 14 29 03.1
BILL pmax pmax
comp=Z,89nm,1.0s
BILL Bilibino 78.27 2 P **P** **14 28 31.1 0.0**
ZAK Zakamensk 78.66 326 *e*P **P** **14 28 32.6 -1.2**
ZAK *e* 14 28 58.2
ZAK pmax pmax
comp=Z,21nm,1.0s
ZAK pmax pmax
comp=Z,12nm,1.2s
ANM Nome 78.82 14 P **P** **14 28 34.9 +0.7**
ANM pmax pmax
comp=Z,13nm,0.9s
ANM Nome 78.82 14 P **P** **14 28 34.9 +0.7**
TLY Talaya 79.15 328 P **P** **14 28 36.1 -0.3**
comp=Z,18nm,0.8s,baz=291,slow=2.2,SNR=3.9
TLY Talaya 79.15 328 IAmb IAmb 14 28 37.2
comp=Z,24nm,0.9s
HOM Homer 79.26 22 P **P** **14 28 37.4 +0.7**
CNPM China Poot 79.32 22 P **P** **14 28 37.8 +0.7**
RSO Redoubt South 79.41 21 P **P** **14 28 37.4 -0.3**
BRLK Bradley Lake 79.62 22 P **P** **14 28 39.2 +0.5**
BRLK IAmb IAmb 14 28 40.1
comp=Z,55nm,0.9s
QSPA South Pole Qui 79.64 180 P **P** **14 28 39.4 +0.4**
TTA Tatalina 80.10 18 P **P** **14 28 41.8 +0.5**
TTA Tatalina 80.10 18 P **P** **14 28 41.8 +0.5**
SEW Seward 80.38 23 P **P** **14 28 43.0 +0.3**
SEW IAmb IAmb 14 28 46.6
comp=Z,59nm,1.1s
MOY Mondy 80.56 327 *e*P **P** **14 28 43.9 -0.2**
MOY pmax pmax
comp=Z,18nm,1.4s
SUA Susitna One 80.81 21 P **P** **14 28 45.1 -0.1**
SUA IAmb IAmb 14 28 46.0
comp=Z,40nm,0.8s
SKT Skwentna 80.89 21 P **P** **14 28 44.5 -1.0**
RC01 Rabbit Creek A 80.93 22 P **P** **14 28 45.8 +0.1**
RC01 IAmb IAmb 14 28 47.0
comp=Z,30nm,0.6s
PPLA Purkeypile 81.30 20 P **P** **14 28 47.6 -0.2**
PMR Palmer 81.48 22 P **P** **14 28 48.7 +0.2**
PMR pmax pmax
comp=Z,31nm,0.8s
PMR Palmer 81.48 22 P **P** **14 28 48.7 +0.2**
PMR IAmb IAmb 14 28 49.8
comp=Z,31nm,0.8s
KNK Knik Glacier 81.61 22 P **P** **14 28 49.6 +0.3**
KNK IAmb IAmb 14 28 51.0
comp=Z,48nm,1.5s
GHO Glory Hole Cre 81.67 22 P **P** **14 28 50.0 +0.3**
GHO IAmb IAmb 14 28 51.1
comp=Z,28nm,0.7s
SML Sawmill 81.91 22 P **P** **14 28 51.3 +0.4**
SML IAmb IAmb 14 28 52.5
comp=Z,55nm,1.3s
PALK Pallekele 82.10 279⇓*e*P **P** **14 28 52.4 -0.6**
PALK pmax pmax
comp=Z,86nm,2.6s
PALK Pallekele 82.10 279 P **P** **14 28 53.7 +0.8**
comp=Z,10nm,0.6s,baz=99,slow=9.1,SNR=4.4
PALK Pallekele 82.10 279 IAmb IAmb 14 31 37.9
comp=Z,54nm,1.6s
KTH Kantishna Hill 82.17 20 P **P** **14 28 51.7 -0.6**
RDOG Red Dog Mine 82.27 13 P **P** **14 28 52.8 +0.2**
RDOG IAmb IAmb 14 28 54.2
comp=Z,53nm,1.0s

SCM	Sheep Creek Mo	82.29	22	P	P	14 28 53.1	+0.2	
SCM				pmax	pmax			
	comp=Z,27nm,0.6s							
SCM	Sheep Creek Mo	82.29	22	P	P	14 28 53.1	+0.2	
SCM				IAmb	IAmb	14 28 54.4		
	comp=Z,27nm,0.6s							
TRF	Thorofare Moun	82.31	20	P	P	14 28 52.5	-0.6	
TRF				IAmb	IAmb	14 28 55.2		
	comp=Z,41nm,0.9s							
RAGM	Ragged Mountai	82.42	24	P	P	14 28 54.1	+0.5	
BPAW	Bear Paw Mtn.	82.52	19	P	P	14 28 53.3	-0.7	
HMT	Hamilton	82.56	24	P	P	14 28 54.9	+0.6	
HMT				IAmb	IAmb	14 28 57.6		
	comp=Z,34nm,0.9s							
RND	Reindeer	82.76	20	P	P	14 28 55.2	-0.1	
RND				pmax	pmax			
	comp=Z,33nm,0.8s							
RND	Reindeer	82.76	20	P	P	14 28 55.2	-0.1	
RND				IAmb	IAmb	14 28 56.2		
	comp=Z,33nm,0.8s							
MCK	McKinley	82.95	20	P	P	14 28 56.2	-0.1	
MCK				pmax	pmax			
	comp=Z,120nm,0.9s							
MCK	McKinley	82.95	20	P	P	14 28 56.1	-0.1	
DHY	Denali Highway	83.06	21	P	P	14 28 56.9	-0.1	
BWN	Browne	83.06	20	P	P	14 28 56.9	+0.2	
MLY	Manley	83.23	19	P	P	14 28 57.6	-0.1	
MLY				IAmb	IAmb	14 28 58.9		
	comp=Z,32nm,0.8s							
CRQM	Cirque	83.25	24	P	P	14 28 58.2	+0.1	
TGL	Tana Glacier	83.38	24	P	P	14 28 58.6	0.0	
TGL				IAmb	IAmb	14 29 01.6		
	comp=Z,48nm,1.0s							
GLB	Gilahina Butte	83.39	23	P	P	14 28 59.1	+0.5	
GLB				IAmb	IAmb	14 29 00.1		
	comp=Z,45nm,0.8s							
VRDI	Verde Repeater	83.40	24	P	P	14 28 59.0	+0.2	
VRDI				IAmb	IAmb	14 29 01.2		
	comp=Z,31nm,0.8s							
NEA	Nenana	83.46	19	P	P	14 28 58.3	-0.5	
NEA				IAmb	IAmb	14 28 59.9		
	comp=Z,46nm,0.9s							
MCARA	McCarthy VSAT	83.66	24	P	P	14 29 00.4	+0.5	
MCARA				IAmb	IAmb	14 29 03.0		
	comp=Z,43nm,0.9s							
PAX	Paxson	83.68	22	P	P	14 28 59.8	-0.3	
PAX				pmax	pmax			
	comp=Z,12nm,1.1s							
PAX	Paxson	83.68	22	P	P	14 28 59.8	-0.3	
MAW	Mawson	83.70	202	P	P	14 29 01.3	+1.2	
	baz=84,SNR=5.5							
MAW	Mawson	83.70	202	P	P	14 29 00.6	+0.6	
	comp=Z,14nm,1.1s,baz=83,slow=7.5,SNR=9.2							
MAW				pP	pP	14 29 24.0	-0.8	
	comp=Z,8.0nm,1.0s,baz=122,slow=15,SNR=3.4							
MAW				LR	LR	15 00 46.4		
	comp=Z,69nm,20.5s,baz=54,slow=32							
MAW	Mawson	83.70	202	P	P	14 29 00.5	+0.5	
WRH	Wood River Hil	83.71	20	P	P	14 28 59.7	-0.4	
WRH				IAmb	IAmb	14 29 00.6		
	comp=Z,30nm,0.8s							
BALM	Baldy	83.73	24	P	P	14 29 00.9	+0.5	
BALM				IAmb	IAmb	14 29 02.8		
	comp=Z,44nm,0.8s							
CCB	Clear Creek Bu	83.92	20	P	P	14 29 00.3	-0.9	
CCB				IAmb	IAmb	14 29 01.5		
	comp=Z,21nm,0.8s							
MDM	Murphy Dome	83.98	19	P	P	14 29 00.6	-0.9	
MDM				IAmb	IAmb	14 29 02.5		
	comp=Z,32nm,1.0s							
BARN	Barnard Glacie	84.02	24	P	P	14 29 03.0	+1.0	
BARN				IAmb	IAmb	14 29 03.9		
	comp=Z,28nm,0.7s							
TCOL	CIGO, UAF Yank	84.05	19	P	P	14 29 01.4	-0.4	
	baz=230							
COLA	College	84.05	19	*de*P	P	14 29 01.2	-0.5	
COLA				*i* *PP	pP	14 29 28.0	+0.4	
COLA				pmax	pmax			
	comp=Z,51nm,0.9s							
COLA	College	84.05	19	P	P	14 29 01.2	-0.5	
HDA	Harding Lake	84.06	20	P	P	14 29 01.8	-0.1	
	baz=231							
HDA	Harding Lake	84.06	20	P	P	14 29 01.6	-0.2	
CTGM	Chitina Glacie	84.10	24	P	P	14 29 02.9	+0.5	
CTGM				IAmb	IAmb	14 29 04.3		
	comp=Z,32nm,0.7s							
MENT	Mentasta	84.30	22	P	P	14 29 03.7	+0.6	
MENT				IAmb	IAmb	14 29 04.9		
	comp=Z,24nm,0.6s							
IL31		84.31	20	P	P	14 29 02.2	-0.8	
IL31				IAmb	IAmb	14 29 03.6		
	comp=Z,34nm,1.2s							
ILAR	Eielson Array	84.31	20	P	P	14 29 02.3	-0.8	
	comp=Z,10nm,0.6s,baz=243,slow=4.9,SNR=265							
ILAR				pP	pP	14 29 29.1	+0.1	
	comp=Z,9.9nm,1.1s,baz=254,slow=4.6,SNR=4.4							
ILAR				LR	LR	15 04 14.3		
	comp=Z,86nm,19.1s,baz=269,slow=34							
POKR	Poker Plat Res	84.34	19	P	P	14 29 02.8	-0.5	
	baz=231							
RIDG	Independent Ri	84.37	21	P	P	14 29 03.5	0.0	
RIDG				IAmb	IAmb	14 29 05.0		
	comp=Z,40nm,1.1s							
DOT	Dot Lake	84.59	21	P	P	14 29 04.9	+0.3	
DOT				IAmb	IAmb	14 29 06.2		
	comp=Z,36nm,0.8s							
TIXI	Tiksi	84.62	350	*d* *i*P	P	14 29 03.7	-0.9	
TIXI				pmax	pmax			
	comp=Z,37nm,1.5s							
TIXI	Tiksi	84.62	350	P	P	14 29 03.6	-0.9	
TIXI				IAmb	IAmb	14 29 05.6		
	comp=Z,27nm,1.1s							
SCRK	Sand Creek	84.82	21	P	P	14 29 06.5	+0.6	
SCRK				IAmb	IAmb	14 29 07.5		
	comp=Z,27nm,0.8s							
COLD	Coldfoot	84.88	17	P	P	14 29 06.7	+0.7	
PRP	Porcupine Dome	85.22	20	P	P	14 29 06.5	-1.4	
KCPM	Cahto Peak	85.35	48	P	P	14 29 10.0	+0.9	
KCPM				IAmb	IAmb	14 29 11.5		
	comp=Z,22nm,0.8s							
KMRM	Mail Ridge	85.42	48	P	P	14 29 10.8	+1.5	
KMRM				IAmb	IAmb	14 29 12.1		
	comp=Z,27nm,0.9s							
WMQ	Urumqi	85.52	316	*e*P	P	14 29 10.1	+0.3	
WMQ				pmax	pmax			
	comp=Z,14nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,130nm,4.3s							
WMQ				LR	LR			
	comp=Z,430nm,29.1s							
WMQ				LR	LR			
	comp=Z,1µm,29.0s							
WMQ				LR	LR			
	comp=Z,150nm,22.9s							
KHMM	Horse Mountain	85.59	47	P	P	14 29 11.6	+1.3	
KHMM				IAmb	IAmb	14 29 13.1		
	comp=Z,24nm,0.9s							
GDXM	Geysers	85.67	49	P	P	14 29 11.0	+0.3	
GDXM				IAmb	IAmb	14 29 13.7		
	comp=Z,15nm,0.9s							
FYU	Fort Yukon	85.96	19	P	P	14 29 12.3	+1.0	
FYU				IAmb	IAmb	14 30 22.2		
	comp=Z,57nm,1.4s							
TOLK	Toolik Lake Re	86.01	16	P	P	14 29 12.3	+0.7	
	baz=228							
TOLK	Toolik Lake Re	86.01	16	P	P	14 29 12.4	+0.8	
L02E	Cave Junction	86.08	46	P	P	14 29 13.9	+1.4	
	baz=252							
O02D	Mt. Diablo Mer	86.08	48	P	P	14 29 14.4	+1.8	
	baz=253,SNR=17							
SAO	San Andreas Ge	86.12	52	P	P	14 29 13.0	+0.2	
SAO				pmax	pmax			
	comp=Z,18nm,1.1s							
SAO	San Andreas Ge	86.12	52	P	P	14 29 13.0	+0.2	
SAO				IAmb	IAmb	14 29 15.2		
	comp=Z,18nm,1.1s							
J01E	Myrtle Point	86.15	45	P	P	14 29 14.1	+1.3	
	baz=252							
K02D	Willamette Mer	86.19	46	P	P	14 29 14.5	+1.4	
	baz=252,SNR=7.6							
EGAK	Eagle	86.29	21	P	P	14 29 13.6	+0.6	
EGAK				IAmb	IAmb	14 29 15.1		
	comp=Z,42nm,0.9s							
N02D	Trinity Center	86.37	47	P	P	14 29 15.7	+1.6	
	baz=253,SNR=15							
M02C	Callahan	86.38	47	P	P	14 29 15.6	+1.5	
	baz=253,SNR=16							
PMPB	Monarch Peak	86.48	52	P	P	14 29 15.1	+0.5	
PMPB				IAmb	IAmb	14 29 51.0		
	comp=Z,20nm,1.2s							
DAWY	Dawson	86.54	22	P	P	14 29 15.1	+0.8	
DAWY				IAmb	IAmb	14 29 16.6		
	comp=Z,48nm,1.1s							
YBH	Yreka Blue Hor	86.58	47	P	P	14 29 15.7	+0.6	
YBH				pmax	pmax			
	comp=Z,17nm,0.9s							
YBH	Yreka Blue Hor	86.58	47	P	P	14 29 15.7	+0.6	
YBH				IAmb	IAmb	14 29 17.6		
	comp=Z,17nm,0.8s							
HUMO	Hull Mountain	86.67	46	P	P	14 29 16.5	+1.1	
HUMO				IAmb	IAmb	14 29 18.1		
	comp=Z,23nm,0.9s							
I03D	Drain, OR	86.72	45	P	P	14 29 17.0	+1.5	
	baz=253							
SNCC	San Nicolas Is	86.73	56	P	P	14 29 17.3	+1.5	
	baz=256							
PAGB	Antelope Grade	86.78	53	P	P	14 29 17.1	+1.0	
PAGB				IAmb	IAmb	14 29 18.8		
	comp=Z,22nm,1.0s							
SCZ2	Santa Cruz Isl	86.83	55	P	P	14 29 17.4	+1.1	
	baz=255							
O03E	Paynes Creek	86.83	48	P	P	14 29 17.2	+0.9	
	baz=254,SNR=12							
ORV	Oroville	86.85	49	P	P	14 29 16.8	+0.5	
ORV				pmax	pmax			
	comp=Z,10.0nm,1.0s							
ORV	Oroville	86.85	49	P	P	14 29 16.8	+0.5	
SMMC	Simmler	86.87	53	P	P	14 29 18.2	+1.6	
	baz=255							
PKM	Mcpherson Peak	86.91	54	P	P	14 29 18.5	+1.5	
	baz=255							
L04D	Klamath Falls	87.01	46	P	P	14 29 18.4	+1.1	
	baz=253,SNR=10							
AFDM	Forest Hills D	87.08	50	P	P	14 29 17.4	0.0	
AFDM				IAmb	IAmb	14 29 19.5		
	comp=Z,23nm,1.2s							
M04C	Macdoel	87.22	47	P	P	14 29 19.4	+1.2	
	baz=254,SNR=11							
G03D	McMinnville, O	87.23	43	P	P	14 29 19.4	+1.4	
	baz=252							
CMB	Columbia Colle	87.28	51	P	P	14 29 18.9	+0.4	
CMB				pmax	pmax			
	comp=Z,11nm,1.1s							
CMB	Columbia Colle	87.28	51	P	P	14 29 18.9	+0.4	
H04D	Lebanon	87.38	44	P	P	14 29 20.3	+1.5	
	baz=253							
I04A	Tendick Farm,	87.39	45	P	P	14 29 19.9	+1.0	
	baz=253							
J04D	Umpqua Nationa	87.44	45	P	P	14 29 20.6	+1.3	
	baz=253,SNR=11							
CIS	Catalina Island	87.67	56	P	P	14 29 21.3	+0.9	
	baz=256							
RUBR	Rubicon Trail	87.72	50	P	P	14 29 20.6	-0.2	
ARVC	Arvin	87.75	54	P	P	14 29 22.1	+1.4	
	baz=256							
BEKR	Beckworth	87.78	49	P	P	14 29 21.5	+0.5	
FMP	Fort Macarthur	87.84	55	P	P	14 29 22.0	+0.9	
	baz=256							
D03D	Eldon	88.05	41	P	P	14 29 22.9	+1.1	
	baz=253							
J05D	Fort Rock, OR	88.07	46	P	P	14 29 23.8	+1.5	
	baz=254							
E04D	Cinebar	88.10	42	P	P	14 29 23.0	+0.9	
	baz=253							
WAKR	Walker	88.12	50	P	P	14 29 23.1	+0.4	
D04E	Lakebay	88.15	41	P	P	14 29 23.7	+1.4	
	baz=253							
PNTR	Pine Nut	88.15	50	P	P	14 29 23.3	+0.5	
MWC	Mount Wilson	88.15	55	P	P	14 29 22.7	-0.2	
MWC				pmax	pmax			
	comp=Z,31nm,1.0s							
MWC	Mount Wilson	88.15	55	P	P	14 29 22.7	-0.2	
MWC				IAmb	IAmb	14 29 25.0		
	comp=Z,31nm,0.9s							
ISA	Isabella, Lake	88.16	53	P	P	14 29 23.7	+0.9	
	baz=256,SNR=7.0							
ISA	Isabella, Lake	88.16	53	P	P	14 29 23.5	+0.7	
ISA				pmax	pmax			
	comp=Z,23nm,1.5s							
ISA	Isabella, Lake	88.16	53	P	P	14 29 23.5	+0.7	
ISA				IAmb	IAmb	14 29 25.2		
	comp=Z,23nm,1.4s							
MDPB	Devils Postpil	88.17	51	P	P	14 29 23.3	+0.2	
OMMB	Old Mammoth Mi	88.23	51	P	P	14 29 23.3	-0.1	
I05D	Terrebonne, OR	88.29	44	P	P	14 29 24.1	+1.0	
	baz=254							
EDW2	Edwards Air Fo	88.36	54	P	P	14 29 25.0	+1.3	
	baz=256,SNR=14							
YERR	Yerington	88.39	50	P	P	14 29 24.4	+0.5	
PINE	Pine Mountain	88.42	45	P	P	14 29 24.9	+0.9	
PINE				IAmb	IAmb	14 29 26.6		
	comp=Z,19nm,0.9s							
PAHR	Pah Rah Range	88.47	49	P	P	14 29 24.8	+0.6	
PAHR				IAmb	IAmb	14 29 26.5		
	comp=Z,15nm,1.0s							
BFSC	Mount Baldy Ra	88.48	55	P	P	14 29 25.2	+0.8	
	baz=256,SNR=9.8							
G05D	Wamic, OR	88.56	44	P	P	14 29 25.6	+1.2	
	baz=254							
109C	Camp Elliot, M	88.61	56	P	P	14 29 26.0	+1.1	
	baz=257							
F05D	White Salmon	88.64	43	P	P	14 29 26.0	+1.3	
	baz=254							
A04D	Lummi Island	88.64	40	P	P	14 29 26.4	+1.8	
	baz=253							
CWC	Cottonwood Cre	88.66	53	P	P	14 29 26.3	+1.1	
	baz=256							
TIN	Tinemaha, Big	88.69	52	P	P	14 29 26.1	+0.8	
	baz=256,SNR=5.1							
EPYK	Eagle Plains	88.70	21	P	P	14 29 25.4	+0.8	
MURC	Murrieta	88.70	56	P	P	14 29 26.0	+0.6	
	baz=257							
LRMC	Laurel Mtn Rad	88.75	54	P	P	14 29 27.1	+1.5	
	baz=256,SNR=11							
RYN	Ryan	88.84	51	P	P	14 29 26.9	+0.8	
RYN				IAmb	IAmb	14 29 28.3		
	comp=Z,58nm,2.0s							
BAR	Barrett	88.92	57	P	P	14 29 27.0	+0.6	
BAR				IAmb	IAmb	14 29 28.6		
	comp=Z,21nm,1.1s							
NVAR	Mina Array Bea	88.96	51	P	P	14 29 27.8	+1.1	
	comp=Z,9.0nm,0.9s,baz=237,slow=6.8,SNR=50							
NVAR				LR	LR	15 09 33.6		
	comp=Z,36nm,18.1s,baz=324,slow=36							
MPMC	Manual Prospec	89.03	53	P	P	14 29 28.0	+0.9	
	baz=257,SNR=20							
BBRC	Big Bear Solar	89.08	55	P	P	14 29 28.3	+1.0	
	baz=257							
NV11	Mina Array Sit	89.08	51	P	P	14 29 27.4	+0.3	
NV11				IAmb	IAmb	14 29 29.5		
	comp=Z,34nm,1.4s							
MONP2	Monument Peak	89.18	56	P	P	14 29 29.0	+1.2	
	baz=257,SNR=20							
KVN	Kaiserville	89.27	50	P	P	14 29 28.9	+0.9	
KVN				pmax	pmax			
	comp=Z,38nm,1.5s							
KVN	Kaiserville	89.27	50	P	P	14 29 28.9	+0.9	
KVN				IAmb	IAmb	14 29 30.5		
	comp=Z,38nm,1.5s							
PFO	Pinyon Flats O	89.31	56	P	P	14 29 29.5	+1.2	
	baz=257,SNR=8.0							
PFO	Pinyon Flats O	89.31	56	‖ *e*P	P	14 29 29.2	+0.9	
PFO				pmax	pmax			
	comp=Z,16nm,1.1s							
PFO	Pinyon Flats O	89.31	56	P	P	14 29 28.4	+0.1	
XPFO	Pion Flat	89.31	56	P	P	14 29 28.3	0.0	
GRAC	Grapevine Rang	89.35	52	P	P	14 29 29.6	+1.3	
	baz=257							
IKP	In-Ko-Pah, Jac	89.38	57	P	P	14 29 30.1	+1.6	
	baz=257,SNR=7.0							
GSC	Goldstone, Bar	89.40	54	P	P	14 29 29.3	+0.7	
	baz=257,SNR=11							
GSC	Goldstone, Bar	89.40	54	P	P	14 29 28.7	0.0	
GSC				pmax	pmax			
	comp=Z,18nm,1.2s							
GSC	Goldstone, Bar	89.40	54	P	P	14 29 28.6	0.0	
GSC				IAmb	IAmb	14 29 31.0		
	comp=Z,18nm,1.2s							
FURC	Furnace Creek,	89.62	53	P	P	14 29 30.9	+1.4	
	baz=257,SNR=32							
HEC	Hector,Ludlow	89.67	55	P	P	14 29 31.0	+1.1	
	baz=257							
WVOR	Wild Horse Val	89.69	47	P	P	14 29 30.2	+0.3	
WVOR				pmax	pmax			
	comp=Z,44nm,1.3s							
WVOR	Wild Horse Val	89.69	47	P	P	14 29 30.2	+0.3	
WVOR				IAmb	IAmb	14 29 32.5		
	comp=Z,44nm,1.2s							
SWSC	Sam W. Stewart	89.70	57	P	P	14 29 31.4	+1.4	
	baz=258,SNR=7.0							
BELC	Belle Mtn. Jos	89.76	55	P	P	14 29 31.8	+1.3	
	baz=258,SNR=17							
E07A	Sunnyside	89.89	43	P	P	14 29 31.5	+0.9	
SHOC	Shoshone, Teco	89.96	54	P	P	14 29 32.3	+1.1	
	baz=257,SNR=11							
MK31	Makanchi Array	90.03	318	P	P	14 29 30.2	-1.0	
MK31				pmax	pmax			
	comp=Z,7.0nm,0.9s							
MK31	Makanchi Array	90.03	318	P	P	14 29 30.2	-1.0	
MKAR	Makanchi Array	90.03	318	P	P	14 29 30.4	-0.8	
	comp=Z,5.2nm,0.5s,baz=93,slow=6.7,SNR=83							
HAWA	Hanford	90.07	43	P	P	14 29 32.4	+1.1	
BC3	Big Chuckawall	90.13	56	P	P	14 29 33.3	+1.2	
	baz=258							
TUQ	Turquoise Moun	90.14	54	P	P	14 29 33.1	+1.0	
	baz=258							
G08A	Pilot Rock	90.17	44	P	P	14 29 32.6	+0.5	
G08A				IAmb	IAmb	14 29 34.3		
	comp=Z,20nm,1.4s							
GMRC	Granite Mounta	90.21	55	P	P	14 29 33.7	+1.3	
	baz=258,SNR=16							
TPNV	Topopah Spring	90.21	53	P	P	14 29 33.8	+1.3	
	baz=257,SNR=22							
TPNV	Topopah Spring	90.21	53	P	P	14 29 32.9	+0.4	
TPNV				pmax	pmax			
	comp=Z,21nm,0.9s							
TPNV	Topopah Spring	90.21	53	P	P	14 29 32.9	+0.4	
TPNV				IAmb	IAmb	14 29 34.8		
	comp=Z,21nm,0.9s							
MAKZ	Makanchi	90.25	318	P	P	14 29 31.1	-1.1	
MAKZ				pmax	pmax			
	comp=Z,39nm,1.8s							
MAKZ	Makanchi	90.25	318	P	P	14 29 31.1	-1.1	
MAKZ				IAmb	IAmb	14 29 32.3		
	comp=Z,39nm,1.8s							
BMN	Battle Mountai	90.25	49	P	P	14 29 33.5	+1.0	
BMN	Battle Mountai	90.25	49	P	P	14 29 33.5	+1.0	
E08A	Dider Farm, El	90.41	43	P	P	14 29 33.2	+0.3	
E08A				IAmb	IAmb	14 29 35.3		
	comp=Z,33nm,1.3s							
ZALV	Zalesovo Beam	90.45	325	P	P	14 29 31.3	-1.6	
	comp=Z,3.3nm,0.6s,baz=114,slow=4.8,SNR=16							
ZALV				pP	pP	14 29 57.6	-1.4	
	comp=Z,0.9nm,0.5s,baz=116,slow=5.1,SNR=2.2							
ZALV				LR	LR	15 08 12.6		
	comp=Z,56nm,21.9s,baz=102,slow=34							
IRM	Iron Mountain	90.49	55	P	P	14 29 35.2	+1.5	
	baz=258,SNR=13							
GLA	Glamis	90.52	57	P	P	14 29 35.4	+1.6	
	baz=258							
B08A	Colville Reser	90.70	41	P	P	14 29 34.4	0.0	
B08A				IAmb	IAmb	14 29 35.7		
	comp=Z,15nm,0.9s							
INK	Inuvik	90.70	20	P	P	14 29 33.9	+0.1	
INK				pmax	pmax			
	comp=Z,11nm,1.4s							
INK	Inuvik	90.70	20	P	P	14 29 33.9	+0.1	
Y12C	Blythe	90.91	56	P	P	14 29 36.7	+1.1	
	baz=258							
Y12C	Blythe	90.91	56	P	P	14 29 36.8	+1.2	
Y12C				IAmb	IAmb	14 29 38.1		
	comp=Z,14nm,1.0s							
SHPR	Sheep Range	90.97	53	P	P	14 29 36.8	+0.8	
SHPR				IAmb	IAmb	14 29 38.6		
	comp=Z,18nm,0.9s							
R11A	Troy Canyon, C	91.03	51	P	P	14 29 37.5	+1.3	
	baz=258,SNR=22							
R11A	Troy Canyon, C	91.03	51	P	P	14 29 37.3	+1.1	
R11A				IAmb	IAmb	14 29 38.6		
	comp=Z,14nm,1.1s							
NEE2	Needles Airpor	91.04	55	P	P	14 29 37.5	+1.3	
	baz=258							
BMO	Blue Mountains	91.21	45	P	P	14 29 37.3	+0.5	
BMO				pmax	pmax			
	comp=Z,11nm,1.0s							
BMO	Blue Mountains	91.21	45	P	P	14 29 37.3	+0.5	
BMO				IAmb	IAmb	14 29 38.4		
	comp=Z,11nm,0.9s							
C09A	Chrisman Ranch	91.25	42	P	P	14 29 37.1	+0.2	
C09A				IAmb	IAmb	14 29 38.5		
	comp=Z,27nm,1.4s							
F10A	Beach Ranch, E	91.52	44	P	P	14 29 38.5	+0.3	
W13A	Hualapai Mount	91.70	55	P	P	14 29 40.2	+0.7	
ELK	Elko	91.79	49	P	P	14 29 40.4	+0.6	
ELK				pmax	pmax			
	comp=Z,18nm,1.1s							
ELK	Elko	91.79	49	P	P	14 29 40.4	+0.6	
ELK				IAmb	IAmb	14 29 42.2		
	comp=Z,18nm,1.1s							
MFID	Camas Ranch	91.93	46	P	P	14 29 41.2	+0.9	
MFID				IAmb	IAmb	14 29 42.6		
	comp=Z,17nm,1.1s							
214A	Organ Pipe Nat	91.97	58	P	P	14 29 41.8	+1.2	
	baz=259							
NEW	Newport	92.11	41	P	P	14 29 41.7	+0.8	
	baz=257							
NEW	Newport	92.11	41	P	P	14 29 41.2	+0.3	
NEW				pmax	pmax			
	comp=Z,15nm,0.8s							
NEW	Newport	92.11	41	P	P	14 29 41.1	+0.3	
NEW				IAmb	IAmb	14 29 42.4		
	comp=Z,15nm,0.8s							
PLID	Pearl Lake	92.16	45	P	P	14 29 41.6	+0.1	
PLID				IAmb	IAmb	14 29 43.0		
	comp=Z,11nm,0.8s							
PSUT	Pine Spring	92.39	51	P	P	14 29 43.4	+0.8	
LCMT	Little Creek M	92.58	53	P	P	14 29 44.5	+1.1	
CCUT	Cedar City	92.59	52	P	P	14 29 44.8	+1.2	
KNB	Kanab	92.91	53	P	P	14 29 46.2	+1.2	
KNB				pmax	pmax			
	comp=Z,10.0nm,1.1s							
KNB	Kanab	92.91	53	P	P	14 29 46.2	+1.2	
KURK	Kurchatov	93.32	321	*d* *i*P	P	14 29 44.5	-1.8	
KURK				pmax	pmax			
	comp=Z,14nm,1.3s							
KURK	Kurchatov	93.32	321	P	P	14 29 44.5	-1.8	
KURK				IAmb	IAmb	14 29 45.8		
	comp=Z,13nm,1.1s							
DUG	Dugway, Tooele	93.50	50	P	P	14 29 48.7	+1.1	
	baz=260							
DUG	Dugway, Tooele	93.50	50	P	P	14 29 48.1	+0.5	
DUG				pmax	pmax			
	comp=Z,12nm,1.6s							
DUG	Dugway, Tooele	93.50	50	P	P	14 29 48.1	+0.5	
DUG				IAmb	IAmb	14 29 50.9		
	comp=Z,12nm,1.6s							
MTPU	Mount Pierson	93.59	52	P	P	14 29 49.9	+1.6	
MSU	Marysvale	93.68	52	P	P	14 29 48.2	-0.4	
MSU	Marysvale	93.68	52	P	P	14 29 48.2	-0.4	
TUC	Tucson	93.73	58	P	P	14 29 50.0	+1.3	
	baz=260							
TUC	Tucson	93.73	58	P	P	14 29 49.1

REDW	Red Top Meadow	95.48	47	P	P	14 29 57.7	+1.0
REDW				IAmb	IAmb	14 29 59.1	
	comp=Z,19nm,1.6s						
YMR	Madison River	95.60	46	P	P	14 29 58.6	+1.4
MOOW	Moose Ponds	95.62	47	P	P	14 29 57.9	+0.6
FLWY	Flagg Ranch	95.70	46	P	P	14 29 58.9	+1.2
FLWY				IAmb	IAmb	14 30 01.6	
	comp=Z,6.0nm,0.9s						
H17A	Grant Village	95.84	46	P	P	14 29 58.2	-0.1
	baz=261						
H17A	Grant Village	95.84	46	P	P	14 29 58.9	+0.6
H17A				IAmb	IAmb	14 30 03.2	
	comp=Z,5.9nm,0.9s						
121A	Cookes Peak, D	96.27	58	P	P	14 30 01.3	+0.9
	baz=262						
PV12	Saucer Basin,	96.27	52	P	P	14 30 01.9	+1.5
PV12				IAmb	IAmb	14 30 05.0	
	comp=Z,5.3nm,0.8s						
BW06	Boulder Array	96.33	48	P	P	14 30 01.9	+1.3
	baz=262						
BW06	Boulder Array	96.33	48	P	P	14 30 01.0	+0.4
BW06				IAmb	IAmb	14 33 48.4	
	comp=Z,11nm,1.7s						
PD31	Pinedale Array	96.33	48	P	P	14 30 00.7	+0.1
PDAR	Pinedale Array	96.33	48	P	P	14 30 01.2	+0.6
	comp=Z,2.7nm,0.8s,baz=233,slow=2.0,SNR=22						
PDAR				LR	LR	15 14 59.4	
	comp=Z,40nm,18.1s,baz=12,slow=36						
YKA	Yellowknife Ar	96.39	28	P	P	14 29 59.4	-0.6
	comp=Z,7.4nm,0.7s,baz=258,slow=4.6,SNR=114						
RLMT	Red Lodge	96.86	45	P	P	14 30 04.0	+1.1
	baz=262						
EGMT	Eagleton	96.92	43	P	P	14 30 03.0	+0.1
	baz=262						
EGMT	Eagleton	96.92	43	P	P	14 30 03.2	+0.3
SNAA	Sanae	97.47	185	P	Pdif	14 30 05.8	+0.8
ANMO	Albuquerque	97.69	56	P	Pdif	14 30 07.7	+0.8
	baz=263						
ANMO	Albuquerque	97.69	56⇓	eP	Pdif	14 30 08.4	+1.5
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VNA2	Neumayer--Watz	98.54	184	P	P	14 30 08.0	-1.7
	baz=159,slow=4.1						
BRVK	Borovoye	98.78	322⇑	eP	P	14 30 09.6	-1.4
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BRVK	Borovoye	98.78	322	P	P	14 30 09.5	-1.6
BRVK				IAmb	IAmb	14 30 10.3	
	comp=Z,8.1nm,1.2s						
LAO	LASA Array	99.15	44	P	Pdif	14 30 13.9	+0.9
	baz=265						
TXAR	Lajitas Array	99.37	62	P	Pdif	14 30 15.7	+1.4
	comp=Z,0.4nm,0.6s,baz=231,slow=5.7,SNR=3.1						
TXAR				LR	LR	15 08 24.5	
	comp=Z,22nm,20.4s,baz=0.0,slow=31						
RSSD	Black Hills	100.47	47	P	Pdif	14 30 19.4	+0.3
	baz=266						
DGMT	Dagmar	100.66	42	P	Pdif	14 30 19.9	+0.4
	baz=267						
WCI	Wyandotte Cave	113.94	53	P	PKiKP	14 35 09.7	-0.6
	baz=276						
ARCES	ARCESS Array B	114.53	344	PKP	PKiKP	14 35 09.8	-0.7
	comp=Z,0.9nm,0.4s,baz=68,slow=1.3,SNR=18						
L48A	N Adams	114.89	49	P	PKiKP	14 35 11.3	-0.7
	baz=279						
K48A	Perry	114.98	48	P	PKiKP	14 35 11.5	-0.7
	baz=279						
W50A	Signal Mountai	115.00	56	P	PKPdf	14 35 11.6	-0.9
	baz=275						
P49A	Miami Univ. Ec	115.01	51	P	PKiKP	14 35 11.1	-1.2
	baz=278						
N49A	Columbus Grove	115.23	50	P	PKiKP	14 35 11.7	-1.0
	baz=278						
M49A	Liberty Center	115.30	49	P	PKiKP	14 35 12.3	-0.5
	baz=279						
L50A	Kingsville	116.07	48	P	PKPdf	14 35 13.6	-0.6
	baz=280						
S51A	Beattyville	116.12	53	P	PKPdf	14 35 14.2	-0.4
	baz=277						
W52A	Murphy	116.14	56	P	PKPdf	14 35 13.8	-0.8
	baz=276						
X52A	Dahlonega	116.22	57	P	PKPdf	14 35 14.0	-0.8
	baz=276						
TZTN	Tazewell	116.29	54	P	PKPdf	14 35 13.6	-1.4
	baz=277						
V52A	Sevierville	116.33	55	P	PKPdf	14 35 14.3	-0.7
	baz=276						
U52A	Thorn Hill	116.45	55	P	PKPdf	14 35 14.7	-0.6
	baz=277						
GOGA	Godfrey	116.68	58	P	PKPdf	14 35 15.0	-0.7
	baz=275						
X53A	Estanollee	116.71	57	P	PKPdf	14 35 15.1	-0.7
	baz=276						
W53A	Cullowhee	116.76	56	P	PKPdf	14 35 15.3	-0.7
	baz=276						
V53A	Saluda	116.98	55	P	PKPdf	14 35 15.8	-0.5
	baz=277						
T53A	Wise	117.04	54	P	PKPdf	14 35 16.1	-0.3
	baz=278						
U53A	Fall Branch	117.09	54	P	PKPdf	14 35 16.3	-0.1
	baz=277						
X54A	Belton	117.47	56	P	PKPdf	14 35 16.9	-0.3
	baz=277						
Q53A	Leroy	117.56	52	P	PKPdf	14 35 16.6	-0.6
	baz=279						
W54A	Cherokee Point	117.56	56	P	PKPdf	14 35 17.0	-0.4
	baz=277						
P53A	Whipple	117.56	51	P	PKPdf	14 35 16.8	-0.5
	baz=280						
O53A	New Philadelph	117.57	50	P	PKPdf	14 35 16.6	-0.6
	baz=280						
V54A	Nebo	117.67	55	P	PKPdf	14 35 17.4	-0.2
	baz=278						
N53A	Lisbon	117.75	49	P	PKPdf	14 35 17.5	-0.1
	baz=281						
S54A	Dingess, Beckl	117.89	53	P	PKPdf	14 35 17.6	-0.4
	baz=279						
Q54A	Coxs Mills	118.07	51	P	PKPdf	14 35 17.8	-0.4
	baz=280						
X55A	Gracelyn & Ava	118.09	56	P	PKPdf	14 35 18.0	-0.4
	baz=277						
O54A	Avella	118.21	50	P	PKPdf	14 35 18.0	-0.5
	baz=281						
P54A	Burton	118.24	51	P	PKPdf	14 35 17.6	-1.0
	baz=280						
KMSC	Kings Mountain	118.25	56	P	PKPdf	14 35 18.4	-0.3
	baz=278						
V55A	Taylorsville	118.25	55	P	PKPdf	14 35 18.0	-0.7
	baz=278						
U55A	TA2, Sparta	118.29	54	P	PKPdf	14 35 17.6	-1.2
	baz=278						
N54A	Moraine State	118.35	49	P	PKPdf	14 35 18.0	-0.7
	baz=282						
T55A	Pulaski	118.41	53	P	PKPdf	14 35 18.2	-0.8
	baz=279						
M54A	Oil Creek Stat	118.48	48	P	PKPdf	14 35 18.3	-0.7
	baz=282						
D53A	Lac Vacive, Po	118.48	42	P	PKPdf	14 35 17.7	-1.1
	baz=287						
X56A	White Oak	118.58	56	P	PKPdf	14 35 18.3	-1.0
	baz=277						
BLA	Blacksburg	118.68	53	P	PKPdf	14 35 18.7	-0.8
	baz=279						
R55A	Marlinton	118.74	52	P	PKPdf	14 35 19.3	-0.4
	baz=280						
V56A	Mocksville	118.83	55	P	PKPdf	14 35 19.0	-0.8
	baz=278						
W56A	Indian Trail	118.86	56	P	PKPdf	14 35 19.0	-0.8
	baz=278						
O55A	Ligonier	119.01	50	P	PKPdf	14 35 19.3	-0.8
	baz=282						
T56A	Rocky Mt	119.02	53	P	PKPdf	14 35 19.1	-1.0
	baz=279						
M55A	Ridgway	119.15	48	P	PKPdf	14 35 19.9	-0.4
	baz=283						
L55A	Hinsdale	119.23	47	P	PKPdf	14 35 19.8	-0.6
	baz=283						
S56A	Natural Bridge	119.28	53	P	PKPdf	14 35 19.5	-1.2
	baz=280						
Q56A	Snyder Ridge,	119.33	51	P	PKPdf	14 35 20.0	-0.7
	baz=281						
W57A	Gilead	119.33	56	P	PKPdf	14 35 20.1	-0.7
	baz=278						
V57A	Coltrane Farms	119.40	55	P	PKPdf	14 35 20.1	-0.8
	baz=279						
P56A	Dayton Farm, R	119.50	50	P	PKPdf	14 35 19.9	-1.1
	baz=282						
O56A	Blue Knob Stat	119.55	50	P	PKPdf	14 35 20.7	-0.4
	baz=282						
M56A	Emporium	119.57	48	P	PKPdf	14 35 20.5	-0.6
	baz=283						
L56A	Greenwood	119.87	47	P	PKPdf	14 35 20.9	-0.8
	baz=284						
V58A	Windy Hill, Pi	119.95	55	P	PKPdf	14 35 20.9	-1.0
	baz=279						
W58A	Raeford	119.97	56	P	PKPdf	14 35 20.8	-1.2
	baz=279						
SSPA	Standing Stone	119.98	49	P	PKPdf	14 35 21.0	-0.8
	baz=283						
P57A	Homestead Farm	120.13	50	P	PKPdf	14 35 21.8	-0.4
	baz=282						
H56A	Elgin	120.15	44	P	PKPdf	14 35 21.1	-0.9
	baz=286						
N57A	Milroy	120.20	49	P	PKPdf	14 35 21.2	-1.1
	baz=283						
T58A	Grand View Acr	120.22	53	P	PKPdf	14 35 21.3	-1.1
	baz=280						
O57A	Amberson	120.26	49	P	PKPdf	14 35 21.9	-0.5
	baz=283						
U58A	Oxford	120.30	54	P	PKPdf	14 35 22.3	-0.3
	baz=280						
M57A	Sunshine Farm,	120.38	48	P	PKPdf	14 35 22.2	-0.4
	baz=284						
R58A	Rapidan	120.38	52	P	PKPdf	14 35 22.2	-0.5
	baz=282						
E56A	St. Veronique	120.39	42	P	PKPdf	14 35 22.2	-0.2
	baz=289						
K57A	Scipio Center	120.47	46	P	PKPdf	14 35 22.4	-0.4
	baz=285						
S58A	Poland Farm, P	120.47	52	P	PKPdf	14 35 22.5	-0.4
	baz=281						
Q58A	Fox Den Farm,	120.49	51	P	PKPdf	14 35 22.4	-0.5
	baz=282						
R58B	Mineral	120.54	52	P	PKPdf	14 35 22.3	-0.7
	baz=281						
P58A	Pank, Wackersv	120.67	50	P	PKPdf	14 35 22.6	-0.6
	baz=283						
N58A	Sunbury	120.80	49	P	PKPdf	14 35 23.0	-0.4
	baz=284						
O58A	Lewisberry	120.81	49	P	PKPdf	14 35 23.1	-0.4
	baz=283						
M58A	Price's Panora	120.86	48	P	PKPdf	14 35 22.9	-0.7
	baz=284						
G57A	Newington	120.87	43	P	PKPdf	14 35 23.5	+0.1
	baz=288						
T59A	Double "B" Far	120.98	53	P	PKPdf	14 35 23.2	-0.7
	baz=281						
BINY	Binghamton	120.99	47	P	PKPdf	14 35 23.3	-0.5
	baz=285						
L58A	Harry Jones Me	121.13	47	P	PKPdf	14 35 23.7	-0.3
	baz=285						
J58A	Remsen	121.17	45	P	PKPdf	14 35 23.8	-0.3
	baz=286						
O59A	Robesonia	121.31	49	P	PKPdf	14 35 23.9	-0.5
	baz=284						
N59A	State Game Lan	121.47	48	P	PKPdf	14 35 24.3	-0.5
	baz=285						
M59A	Waymart	121.56	47	P	PKPdf	14 35 24.5	-0.4
	baz=285						
T60A	Surry	121.59	53	P	PKPdf	14 35 24.7	-0.3
	baz=282						
E58A	La Victoria	121.60	41	P	PKPdf	14 35 24.4	-0.4
	baz=290						
L59A	Walton	121.67	47	P	PKPdf	14 35 24.7	-0.4
	baz=286						
J59A	Piesco	121.69	45	P	PKPdf	14 35 24.7	-0.4
	baz=287						
P60A	Greenville	121.84	49	P	PKPdf	14 35 25.0	-0.5
	baz=284						
O60A	Telford	121.89	49	P	PKPdf	14 35 25.4	-0.1
	baz=285						
N60A	Cedar Hill Far	121.98	48	P	PKPdf	14 35 25.3	-0.4
	baz=285						
I60A	Shoreham	122.41	44	P	PKPdf	14 35 26.1	-0.3
	baz=288						
BOSA	Boshof	122.51	226	PKP	PKPdf	14 35 26.9	-0.4
	comp=Z,2.3nm,0.5s,baz=97,slow=1.6,SNR=6.1						
O61A	Allentown	122.58	49	P	PKPdf	14 35 26.5	-0.3
	baz=285						
H60A	Morristown	122.58	43	P	PKPdf	14 35 26.4	-0.4
	baz=289						
F60A	Warwick	122.60	42	P	PKPdf	14 35 26.4	-0.3
	baz=291						
G60A	Masonville	122.65	43	P	PKPdf	14 35 26.8	-0.1
	baz=290						
L61A	Hillsdale 1, H	122.73	46	P	PKPdf	14 35 26.9	-0.2
	baz=287						
K61A	Williamstown	122.79	46	P	PKPdf	14 35 27.0	-0.2
	baz=288						
PAL	Palisades	122.81	48	P	PKPdf	14 35 27.1	-0.2
	baz=286						
M61A	Granite Spring	122.83	47	P	PKPdf	14 35 27.0	-0.3
	baz=286						
L61B	Northampton	123.27	46	P	PKPdf	14 35 27.8	-0.3
	baz=288						
E61A	Lac Etchemin	123.38	41	P	PKPdf	14 35 27.9	-0.3
	baz=292						
J62A	Henniker	123.63	45	P	PKPdf	14 35 28.7	-0.1
	baz=289						
AKASG	Malin Array Be	123.84	325	PKP	PKPdf	14 35 28.0	-0.9
	comp=Z,1.2nm,0.5s,baz=48,slow=2.6,SNR=6.1						
L63A	North Scituate	124.21	46	P	PKPdf	14 35 29.6	-0.3
	baz=289						
LPAZ	La Paz	124.41	118	PKP	PKPdf	14 35 32.0	+0.2
	comp=Z,0.8nm,0.5s,baz=148,slow=3.8,SNR=4.4						
G63A	Kingsbury	124.44	42	P	PKPdf	14 35 30.0	-0.3
	baz=292						
PKME	Peaks-Kenny Pk	124.59	42	P	PKPdf	14 35 30.7	+0.1
	baz=293						
D63A	Stockholm	124.64	39	P	PKPdf	14 35 30.0	-0.6
	baz=295						
HFS	Hagfors	124.77	341	PKP	PKPdf	14 35 29.2	-1.3
	comp=Z,3.5nm,0.9s,baz=29,slow=3.3,SNR=4.1						
I64A	Boothbay	124.87	43	P	PKPdf	14 35 30.9	-0.2
	baz=292						
BRTR	Keskin Array B	125.24	312	PKP	PKPdf	14 35 31.1	-1.1
	comp=Z,0.6nm,0.5s,baz=108,slow=3.2,SNR=3.9						
KOLS	Kolonicke sedl	128.60	326	ePKIKP	PKiKP	14 35 39.4	+0.6
KOLS	Kolonicke sedl	128.60	326	ePKP	PKiKP	14 35 39.4	+0.6
SDV	Santo Domingo	128.84	87		PKPdf	14 35 39.0	-0.8
VYHS	Vyhne	130.70	328	ePKIKP	PKiKP	14 35 43.1	+0.1
VYHS	Vyhne	130.70	328	ePKP	PKiKP	14 35 43.1	+0.1
GERES	GERESS Array B	133.05	331	PKP	PKPdf	14 35 46.7	0.0
	comp=Z,0.7nm,0.4s,baz=57,slow=3.6,SNR=6.2						
BDFB	Brasilia	141.16	131	PKP	PKPdf	14 36 02.7	+0.1
	comp=Z,2.8nm,0.5s,baz=21,slow=25,SNR=3.7						
KEST	Kesra	144.11	319	PKP	PKPab	14 36 05.3	+0.3
	comp=Z,12nm,1.0s,baz=69,slow=1.6,SNR=8.3						
KEST	Kesra	144.11	319		PKPab	14 36 05.1	+0.1
PBRG	Braganca	146.95	343	ePKPbc	PKPbc	14 36 13.7	-0.3
PCAB	Cabril	147.38	345	ePKPbc	PKPbc	14 36 15.5	+0.3
MVO	Moncorvo	147.62	343	ePKPbc	PKPbc	14 36 16.2	+0.3
POLO	Lamas de Olo	147.63	345	ePKPbc	PKPbc	14 36 16.2	+0.3
PVRL	Vila Real	147.71	344	ePKPbc	PKPbc	14 36 16.4	+0.3
ESDC	Sonseca Array	147.98	338	PKPbc	PKPbc	14 36 16.1	-0.8
	comp=Z,2.8nm,0.7s,baz=11,slow=3.8,SNR=13						
PVIS	Viseu	148.28	344	ePKPbc	PKPbc	14 36 16.8	-0.8
MTE	Manteigas	148.48	344	ePKPdf	PKPdf	14 36 12.7	-1.8
MTE	Manteigas	148.48	344	ePKPbc	PKPbc	14 36 18.6	+0.4
MTE	Manteigas	148.48	344		PKPbc	14 36 17.1	-1.0
PCBR	Castelo Branco	148.98	343	ePKPbc	PKPbc	14 36 19.1	-0.2
PMRV	Marv??o	149.33	343	ePKPbc	PKPbc	14 36 20.3	0.0
PTOM	Tomar	149.44	344	ePKPbc	PKPbc	14 36 20.8	+0.3
PMTG	Montargil	149.91	344	ePKPdf	PKPdf	14 36 18.0	+1.3
PMAFR	Mafra	150.29	345	ePKPab	PKPab	14 36 29.9	+0.9
EVO	Evora	150.34	343	ePKPbc	PKPbc	14 36 22.9	+0.2
EVO	Evora	150.34	343	ePKPab	PKPab	14 36 29.8	+0.6
PBEJ	Beja	150.77	342	ePKPbc	PKiKP	14 36 24.4	0.0
PBEJ	Beja	150.77	342	ePKPab	PKPab	14 36 31.8	+0.8
PNCL	Nicolau / Gran	150.88	343	ePKPbc	PKiKP	14 36 24.9	+0.3
LIJA	Lijar	150.95	338	i P	PKPbc	14 36 24.2	-0.1
PCVE	Castro Verde	151.19	342	ePKPbc	PKPbc	14 36 24.3	-0.4
PCVE	Castro Verde	151.19	342	ePKPab	PKPab	14 36 32.7	-0.1
PVAQ	Vaqueiros	151.30	342	ePKPab	PKPab	14 36 33.9	+0.7
PBDV	Barranco-do-Ve	151.51	342	ePKPbc	PKiKP	14 36 26.5	+0.5
MORF	Marmelete	151.67	343	ePKPbc	PKiKP	14 36 26.9	+0.6
TORD	Torodi Ar. Bea	159.82	280	PKP	PKPdf	14 36 30.0	-0.9
	comp=Z,1.1nm,0.8s,baz=108,slow=0.7,SNR=4.9						
TORD				PKPab	sPKPdf	14 37 09.3	+0.8
	comp=Z,2.6nm,0.8s,baz=60,slow=4.3,SNR=8.1						

IDC ***17*** *14:21:28.7±1.3, 1.°72N×93.°56E, h0km, mb4.2/9, mb1 4.3/12, mb1mx3.9/43, mbtmp4.2/12, ML4.3/3, Error ellipse: s-maj=37.9km s-min=22.3km az=37.0*
BJI ***17*** *14:21:31.7±0.0, 1.°92N×93.°72E, h18km, mb4.4/13, mB4.9/11, Ms4.5/5, Ms7 4.2/5*
ISCJB ***17*** *14:21:33.0±0.5, 1.°88N±0.°05×93.°69E±0.°04, h33km, mb4.2/12, MS4.3/2, Error ellipse: s-maj=8.2km s-min=4.5km az=26.4*
NEIC ***17*** *14:21:34.4±1.1, 1.°87N±0.°10×93.°63E±0.°08, h33km±5km, mb4.4/10*
DJA ***17*** *14:21:39.9±0.7, 2°N±4°×9°4E±°, h22km, M4.8/12, mb5.0/7, mB5.3/4, MLv4.8/12, Mw(mB)4.7/4*
ISC 17 14:21:35.0±0.7, **1.°91N**±0.°07×**93.°74E**±0.°06, **h35km, n58, σ1.s65**/67, **mb4.4**/18, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	2.64	79	P	Pn	14 22 15.8	+0.8
SNSI				S	Sn	14 22 44.1	-1.7
MLSI	Meulaboh, Aceh	3.55	49	P	Pn	14 22 27.7	+0.1
TPTI		3.69	69	P	Pn	14 22 30.2	+0.6
GSI	Gunungsitoli	3.88	99	P	Pn	14 22 33.5	+1.3
GSI				S	Sn	14 23 14.7	-2.0
GSI	Gunungsitoli	3.88	99		Pn	14 22 33.8	+1.6
KCSI	Kotacane, Aceh	4.34	68	P	Pn	14 22 40.1	+1.6
LHMI	Lhok Sumawe	4.60	44	P	Pn	14 22 44.4	+2.4
LHMI	Lhok Sumawe	4.60	44	Pn	Pn	14 22 43.6	+1.6
PBSI	Pulau Batu	4.95	113	P	Pn	14 22 48.5	+1.7
PBSI				S	Sn	14 23 39.8	-3.0
CMBY	CAMPBELL BAY	5.07	2	eP	Pn	14 22 49.8	+1.3
CMBY				eS	Sn	14 23 41.5	-4.5
RPSI	Rantau Prapat	5.24	81		Pn	14 22 52.0	+1.1
RPSI	Rantau Prapat	5.24	81		Pn	14 22 52.7	+1.8
RPSI					Sn	14 23 47.2	-3.0
PSI	Prapat	5.26	80	Pn	Pn	14 22 52.7	+1.4
	14nm,0.3s,baz=270,slow=5.9,SNR=29						
PSI				Sn	Sn	14 23 47.2	-3.5
	1.8nm,0.3s,baz=324,slow=19,SNR=2.5						
SISI	Saibi	6.24	121	P	Pn	14 23 05.6	+0.9
	51nm,0.9s,0.5nm						
SISI				S	Sn	14 24 11.0	-3.9
	51nm,0.9s,0.5nm						
PKDT	Phuket	7.50	37	P	Pn	14 23 22.6	+0.6
	66nm,0.8s,2μm0.4nm						
KULM	Kulim	7.67	64		Pn	14 23 25.1	+0.8
IPM	Ipoh	7.71	70		Pn	14 23 25.9	+1.0
TRTT	Trang	8.36	45	P	Pn	14 23 34.3	+0.6
	56nm,0.6s,0.2nm						
SURT	Suratani	8.62	36	P	Pn	14 23 37.8	+0.5
SKLT	Songkhla	8.62	52	P	Pn	14 23 38.3	+0.9
	31nm,0.8s,328nm0.1nm						
PBA	Port Blair	9.73	354	Pn	Pn	14 23 52.5	0.0
MYKOM	Kota Tinggi	10.11	91		Pn	14 23 59.0	+1.2
MNAI	Manna	11.12	124	P	Pn	14 24 12.3	+0.7
	287nm,0.9s						
MNAI	Manna	11.12	124	Pn	Pn	14 24 12.3	+0.7
LHSI	Lahat	11.32	120	P	Pn	14 24 15.1	+0.8
PALK	Pallekele	14.04	293	Pn	Pn	14 24 49.7	-1.8
	0.6nm,0.3s,baz=106,slow=12,SNR=4.1						
PALK				Sn	Sn	14 27 10.1	-16
	5.6nm,0.3s,baz=18,slow=23,SNR=12						
PALK	Pallekele	14.04	293	Pn	Pn	14 24 50.0	-1.6
PBKT	Sadao Pong	16.21	26	Pn	Pn	14 25 20.3	0.0
KSM	Kuching	16.57	91	Pn	P	14 25 26.1	-0.9
CMAR	Chiang Mai Arr	17.22	17	P	Pn	14 25 33.1	+0.2
	0.7nm,0.3s,baz=213,slow=13,SNR=11						
UBPT	Khong Chiam	17.62	40	P	P	14 25 39.4	+0.8
KPJI	Karang Pucung	17.73	121	P	P	14 25 41.4	+1.6
	77nm,0.8s						
SHL	Shillong	23.59	356	P	P	14 26 43.4	+0.5
ODAN	Odare	25.55	347	eP	P	14 27 01.0	+0.1
	21nm,0.9s						
RAMN	Ramite	25.82	345	eP	P	14 27 04.2	+0.8
	17nm,0.6s						
TAPN	Taplejung	25.95	348	eP	P	14 27 05.4	+0.8
	6.6nm,0.6s						
JIRN	Jiri	26.61	345	eP	P	14 27 10.6	0.0
	19nm,0.8s						
GUN	Gumba	26.93	345	eP	P	14 27 14.0	+0.5
	13nm,0.7s						
LSA	Lhasa	27.75	355	P	P	14 27 20.1	-0.9
LSA				IAmb	IAmb	14 27 23.6	
	comp=Z,4.8nm,0.7s						
LZH	Lanzhou	35.27	14	eP	P	14 28 30.8	+4.1
LZH				pP	sP	14 28 40.0	+0.9
LZH				sP	pwP	14 28 42.4	+1.0
LZH				PP	PP	14 29 47.0	-0.2
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				pmax	pmax		
	comp=Z,86nm,4.6s						
LZH				LR	LR		
	comp=Z,310nm,14.2s						
LZH				LR	LR		
	comp=Z,330nm,14.4s						
LZH				LR	LR		
	comp=Z,430nm,15.2s						
KSH	Kashi	40.78	339	P	P	14 29 14.3	+1.3
KSH				ScP	ScP	14 35 03.8	+2.8
KSH				S	S	14 35 24.1	+2.5
KSH				SS	SS	14 38 20.3	-3.2
KSH				pmax	pmax		
	comp=Z,500nm,6.9s						
HHC	Hu-ho-hao-te	41.98	20	eP	P	14 29 24.5	+1.6
HHC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WMQ	Urumqi	42.08	353	eP	P	14 29 25.6	+2.1
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,130nm,5.9s						
WMQ				LR	LR		
	comp=Z,560nm,29.1s						
WMQ				LR	LR		
	comp=Z,1μm,29.2s						
WMQ				LR	LR		
	comp=Z,140nm,28.3s						
BTK	Batken	43.30	334	P	P	14 29 33.9	+0.4
BTK				IAmb	IAmb	14 29 35.0	
	comp=Z,10.0nm,1.1s						
MKAR	Makanchi Array	45.81	349	P	P	14 29 53.3	-0.1
	comp=Z,4.3nm,0.6s,baz=175,slow=7.2,SNR=13						
ASAR	Alice Springs	46.60	126	P	P	14 29 59.0	-1.0
	comp=Z,0.2nm,0.5s,baz=299,slow=7.6,SNR=3.6						
SONM	Songino Array	47.04	12	P	P	14 30 03.5	+0.3
	comp=Z,2.2nm,0.6s,baz=191,slow=7.9,SNR=2.4						
GEYT	Alibeck	48.49	322	P	P	14 30 14.1	-0.4
	comp=Z,3.7nm,0.7s,baz=156,slow=8.1,SNR=5.9						
GYA0B	ALIBECK ARRAY	48.49	322	P	P	14 30 14.3	-0.2
GYA0B				IAmb	IAmb	14 30 15.5	
	comp=Z,3.4nm,0.7s						
KURK	Kurchatov	50.29	348	P	P	14 30 27.9	0.0
KURK				IAmb	IAmb	14 30 28.4	
	comp=Z,3.0nm,0.7s						
ZAA0	Zalesovo Array	52.39	353	P	P	14 30 43.1	-0.5
ZAA0				IAmb	IAmb	14 30 44.0	
	comp=Z,3.7nm,0.5s						
ZALV	Zalesovo Beam	52.39	353	P	P	14 30 43.7	+0.1
	comp=Z,4.5nm,0.5s,baz=177,slow=7.9,SNR=11						
ABKAR	Akbulak array	55.30	334	P	P	14 31 03.7	-1.3
ABKAR				IAmb	IAmb	14 31 04.8	
	comp=Z,2.1nm,0.8s						
FINES	FINESS Array B	77.78	333	P	P	14 33 27.4	-0.9
	comp=Z,1.9nm,0.8s,baz=160,slow=4.4,SNR=3.4						
ARCES	ARCESS Array B	80.71	341	P	P	14 33 43.9	-0.3
	comp=Z,1.7nm,0.8s,baz=90,slow=4.9,SNR=4.3						
GERES	GERESS Array B	82.00	319	P	P	14 33 51.4	-0.3
	comp=Z,0.3nm,0.4s,baz=106,slow=5.2,SNR=4.8						
HFS	Hagfors	83.39	330	P	P	14 33 57.6	-0.9
	comp=Z,4.1nm,0.9s,baz=129,slow=4.0,SNR=4.5						
TXAR	Lajitas Array	144.75	27	PKPbc	PKPbc	14 41 08.0	+0.1
	comp=Z,0.3nm,0.5s,baz=31,slow=1.6,SNR=6.6						

NAO ***17*** *14:33:43.7±2.9, 75.°86N×7.°24E, ML3.6*
IDC ***17*** *14:33:46.2±0.8, 75.°89N×7.°94E, h0km, mb3.6/9, mb1 3.8/12, mb1mx3.6/41, mbtmp3.6/12, ML3.3/3, Error ellipse: s-maj=15.7km s-min=11.8km az=76.0*
BER ***17*** *14:33:46.0±3.9, 75.°90N×7.°79E, h10km, ML2.5, ML3.6(NAO), Confirmed Earthquake*
NEIC ***17*** *14:33:48.2±2.8, 75.°86N±0.°07×7.°5E±0.°3, h15km±4km, mb4.5/7*
ISC 17 14:33:45.7±3.9, **75.°90N**±0.°05×**8.°19E**±0.°06, **h5km**±26km,

n53,σ2ᵍ73/62, mb3.7/13, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**2.05**	**54**	Pn	**Pn**	**14 34 21.3**	**+0.6**
HSPB				Sn	**Sn**	**14 34 44.2**	**-2.4**
HSPB	**Hornsund (broa**	**2.05**	**54**	*e*P	**Pn**	**14 34 21.2**	**+0.4**
HSPB				*e*S	**Sn**	**14 34 44.4**	**-2.3**
HSPB				IAML		14 34 49.3	
	comp=Z,33nm,0.3s						
BRBA	**Barentsburg A**	**2.56**	**29**	Pn	**Pn**	**14 34 27.9**	**+0.1**
BRBA				Sn	**Sn**	**14 34 53.0**	**-6.2**
BRBA	**Barentsburg A**	**2.56**	**29**	Pn	**Pn**	**14 34 27.9**	**+0.1**
BRBA				Sn	**Sn**	**14 34 53.0**	**-6.2**
SPA0	**Spitsbergen Ar**	**2.94**	**35**	Pn	**Pn**	**14 34 33.8**	**+0.9**
	baz=205,slow=14						
SPA0				Sn	**Sn**	**14 35 05.9**	**-2.6**
SPA0	**Spitsbergen Ar**	**2.94**	**35**	Pn	**Pn**	**14 34 33.8**	**+0.9**
	baz=205,slow=14						
SPA0				Sn	**Sn**	**14 35 05.9**	**-2.6**
SPA0				IAML		14 35 13.9	
	comp=Z,39nm,0.5s						
SPA0	**Spitsbergen Ar**	**2.94**	**35**		**Pn**	**14 34 33.2**	**+0.3**
SPITS	**Spitsbergen Ar**	**2.94**	**35**	Pn	**Pn**	**14 34 33.4**	**+0.5**
	baz=199,slow=13,SNR=63						
SPITS				Sn	**Sn**	**14 35 06.8**	**-1.7**
	baz=219,slow=22,SNR=12						
BJO1	**Bjornoya**	**3.11**	**112**	Sn	**Sn**	**14 35 10.2**	**-2.3**
BJO1	**Bjornoya**	**3.11**	**112**	*e*S	**Sn**	**14 35 10.5**	**-2.1**
KBS	**Kingsbay**	**3.15**	**13**	Pn	**Pn**	**14 34 35.3**	**-0.5**
KBS				Sn	**Sn**	**14 35 08.3**	**-5.4**
KBS	**Kingsbay**	**3.15**	**13**	*e*P	**Pn**	**14 34 35.0**	**-0.8**
KBS				*e*S	**Sn**	**14 35 08.0**	**-5.7**
KBS				IAML		14 35 12.9	
	comp=Z,23nm,0.5s						
KBS	**Kingsbay**	**3.15**	**13**		**Pn**	**14 34 34.9**	**-1.0**
HOPEN	**Hopen**	**4.07**	**73**	Pn	**Pn**	**14 34 48.9**	**+0.6**
HOPEN				Sn	**Sn**	**14 35 35.0**	**-1.3**
HOPEN	**Hopen**	**4.07**	**73**	*e*P	**Pn**	**14 34 48.7**	**+0.4**
HOPEN				*e*S	**Sn**	**14 35 34.4**	**-1.8**
HOPEN				IAML		14 35 37.0	
	comp=Z,65nm,0.3s						
DAG	**Danmarks Havn**	**6.39**	**291**	*i* PKIKP	Pn	14 35 13.8	-6.3
DAG	**Danmarks Havn**	**6.39**	**291**	*i* P	Pn	14 35 13.8	-6.3
DAG				*i* S	Sn	14 36 17.8	-15
DAG	**Danmarks Havn**	**6.39**	**291**	*i* P	Pn	14 35 13.9	-6.3
DAG				*i* S	Sn	14 36 17.9	-15
DAG				IAML		14 36 21.8	
	comp=Z,30nm,0.5s						
ARA0	**ARCESS Array S**	**8.16**	**133**	Pn	**Pn**	**14 35 44.5**	**0.0**
	baz=332,slow=12						
ARA0				Sn	**Sn**	**14 37 10.3**	**-6.7**
	baz=329,slow=22						
ARA0	**ARCESS Array S**	**8.16**	**133**	Pn	**Pn**	**14 35 44.5**	**0.0**
	baz=332,slow=12						
ARA0				Sn	**Sn**	**14 37 10.3**	**-6.7**
	baz=329,slow=22						
ARCES	**ARCESS Array B**	**8.16**	**133**	Pn	**Pn**	**14 35 44.1**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=325,slow=11,SNR=13						
ARCES				Sn	**Sn**	**14 37 10.2**	**-6.8**
	comp=Z,1.7nm,0.3s,baz=328,slow=20,SNR=9.8						
ARE0	**ARCESS Array S**	**8.16**	**133**	Pn	**Pn**	**14 35 43.9**	**-0.6**
SCO	**Scoresbysund**	**10.15**	**253**	*i* P	**Pn**	**14 36 08.0**	**-3.7**
SCO				*e*S	Sn	14 37 47.7	-18
SCO	**Scoresbysund**	**10.15**	**253**	*i* P	**Pn**	**14 36 08.0**	**-3.7**
SCO				*e*S	Sn	14 37 47.7	-18
SCO				IAML		14 37 58.2	
	comp=Z,1.0nm,0.4s						
SCO	**Scoresbysund**	**10.15**	**253**	Pn	Pn	14 36 06.7	-5.0
APA0	**Apatity Array**	**11.25**	**125**	Pn	**Pn**	**14 36 26.0**	**-0.8**
	baz=318,slow=10						
APA0				Sn	Sn	14 38 23.3	-9.4
	baz=327,slow=37						
APA0	**Apatity Array**	**11.25**	**125**	Pn	**Pn**	**14 36 26.0**	**-0.8**
	baz=318,slow=10						
APA0				Sn	Sn	14 38 23.3	-9.4
	baz=327,slow=37						
LVZ	**Lovozero**	**11.35**	**121**	Pn	**Pn**	**14 36 29.6**	**+1.5**
SUMG	**Summit**	**12.80**	**279**		**Pn**	**14 36 44.2**	**-4.1**
FINES	**FINESS Array B**	**15.77**	**147**	Pn	**Pn**	**14 37 28.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=349,slow=13,SNR=2.7						
LSH	**Leshukonskoye**	**16.32**	**112**	*e*P	**Pn**	**14 37 31.6**	**-3.5**
	comp=Z,62nm,2.8s						
SFJD	**Kangerlussuaq**	**19.72**	**275**	P	**P**	**14 38 14.8**	**-0.7**
SFJD				IAmb	IAmb	14 38 19.3	
	comp=Z,48nm,1.6s						
RES	**Resolute Bay**	**23.10**	**319**	P	**P**	**14 38 52.7**	**+1.1**
	comp=Z,1.4nm,1.1s,baz=16,slow=7.4,SNR=3.0						
RES	**Resolute Bay**	**23.10**	**319**	P	**P**	**14 38 52.4**	**+0.8**
RES				IAmb	IAmb	14 39 01.7	
	comp=Z,18nm,1.9s						
BRG	**Berggiesshubel**	**25.23**	**171**	*e*PKP	P	14 39 02.9	-9.0
	comp=Z,18nm,1.4s						
GERES	**GERESS Array B**	**27.25**	**172**	P	**P**	**14 39 32.3**	**+2.0**
	comp=Z,0.4nm,0.4s,baz=345,slow=7.1,SNR=2.7						
ZCCA	**Zocca**	**31.67**	**176**	P	**P**	**14 40 10.8**	**+1.3**
INK	**Inuvik**	**34.06**	**336**	P	**P**	**14 40 32.3**	**+2.2**
INK				IAmb	IAmb	14 40 34.4	
	comp=Z,15nm,1.9s						
TOLK	**Toolik Lake Re**	**35.02**	**346**	P	**P**	**14 40 39.9**	**+1.4**
TOLK				IAmb	IAmb	14 40 48.3	
	comp=Z,13nm,1.8s						
KIV	**Kislovodsk**	**35.26**	**135**	P	**P**	**14 40 42.5**	**+1.7**
KIV				IAmb	IAmb	14 41 07.8	
	comp=Z,3.6nm,0.6s						
ZALV	**Zalesovo Beam**	**35.36**	**84**	P	**P**	**14 40 44.2**	**+2.8**
	comp=Z,0.4nm,0.4s,baz=333,slow=12,SNR=2.6						
COLD	**Coldfoot**	**36.46**	**346**	P	**P**	**14 40 52.3**	**+1.5**
YKA	**Yellowknife Ar**	**37.16**	**320**	P	**P**	**14 40 57.1**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=12,slow=8.5,SNR=7.2						
ILAR	**Eielson Array**	**38.68**	**343**	P	**P**	**14 41 11.7**	**+2.1**
	comp=Z,1.0nm,0.8s,baz=1.8,slow=6.8,SNR=11						
MKAR	**Makanchi Array**	**41.36**	**90**	P	**P**	**14 41 34.4**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=0.9,slow=7.5,SNR=5.1						
PDAR	**Pinedale Array**	**55.12**	**307**	P	**P**	**14 43 19.0**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=23,slow=4.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**62.84**	**187**	P	**P**	**14 44 12.8**	**+0.7**
	comp=Z,1.9nm,0.9s,baz=358,slow=7.8,SNR=5.8						
CMAR	**Chiang Mai Arr**	**72.42**	**85**	P	**P**	**14 45 15.3**	**+2.8**
	comp=Z,0.6nm,0.9s,baz=331,slow=5.4,SNR=3.6						
ASAR	**Alice Springs**	**121.21**	**61**	PKP	**PKiKP**	**14 52 39.0**	**0.0**
	comp=Z,0.3nm,0.7s,baz=330,slow=1.8,SNR=6.0						
VNA1	**Neumayer--Stat**	**146.68**	**190**	PKPdf	**PKPab**	**14 53 27.7**	**+0.3**
VNA2	**Neumayer--Watz**	**146.92**	**189**	PKPdf	**PKPab**	**14 53 28.0**	**-0.4**
	baz=350,slow=4.6						
VNA3	**Neumayer Olymp**	**147.34**	**191**	PKPdf	**PKPab**	**14 53 29.0**	**-1.0**
SNAA	**Sanae**	**147.51**	**186**	PKPdf	**PKiKP**	**14 53 30.0**	**-0.7**

*IDC **17** 14:45:51.3±1.0,31°.33N×77°.63E, h0km, mb3.6/10, mb1 3.7/13, mb1mx3.6/38, mbtmp3.6/13, ML3.5/3, Error ellipse: s-maj=27.5km s-min=18.0km az=52.0*
*NDI **17** 14:45:52.6±2.3, 31°.46N×78°.08E, h5km, ML3.5*
*NNC **17** 14:46:10.4±13.0, 32°.77N×77°.45E, h0km, mb3.9, Error ellipse: s-maj=111.2km s-min=90.7km az=152.0*

ISC 17 14:45:52.7±1.5, 31°.44N±0°.04×78°.00E±0°.04, h8km±10km, n30,σ2ᵍ28/39, mb3.6/10, 3C-2D, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLA	**Simla**	**0.78**	**246**	*e*P	**Pb**	**14 46 07.9**	**-0.5**
SMLA				*e*S	**Sn**	**14 46 19.9**	**-1.7**
SMLA				IAML		14 46 23.7	
	comp=N,856nm,0.5s						
SMLA				IAML		14 46 24.1	
	comp=E,933nm,0.3s						
DDI	**Dehra Dun**	**1.12**	**177**	*e*P	**Pn**	**14 46 15.3**	**+0.7**
DDI				*e*S	**Sn**	**14 46 30.4**	**+0.2**
DDI				IAML		14 46 34.6	
	comp=E,643nm,0.2s						
DDI				IAML		14 46 39.0	
	comp=N,728nm,0.4s						
BHK	**Bhakra**	**1.35**	**269**	*e*P	**Pg**	**14 46 17.8**	**-0.8**
BHK				*e*S	**Sn**	**14 46 40.8**	**+4.8**
JOSI	**Joshimath**	**1.61**	**123**	*e*P	**Pn**	**14 46 22.2**	**+0.6**
JOSI				*e*S	**Sn**	**14 46 42.4**	**-0.2**
DHRM	**DHARAMSHALA**	**1.65**	**300**	*e*P	**Pg**	**14 46 24.8**	**+0.3**
DHRM				*e*S	**Sg**	**14 46 46.0**	**+0.1**
DHRM				*e*S	**Sb**	**14 46 46.3**	**+1.7**
DHRM				IAML		14 46 51.6	
	comp=E,3μm,0.5s						
DHRM				IAML		14 46 53.2	
	comp=N,2μm,0.3s						
LGTI	**Lohaghat**	**2.78**	**135**	*e*P	**Pb**	**14 46 41.9**	**-0.6**
NDI	**New Delhi**	**2.83**	**194**	*ex*	**Pb**	**14 46 42.0**	**-1.5**
NDI				*ex*	**Sn**	**14 47 12.5**	**0.0**
AYAN	**Aya Nagar**	**3.04**	**195**	*ex*	**Pb**	**14 46 48.2**	**+1.1**
AYAN				*ex*	**Sn**	**14 47 20.8**	**+3.1**
KUDL	**Kundal**	**3.54**	**202**	*e*P	**Pn**	**14 46 46.8**	**-1.0**
KUDL				*i* x	x	14 46 56.9	
KUDL				*e*S	**Sn**	**14 47 29.1**	**-0.8**
KUDL				IAML		14 47 45.1	
	comp=N,218nm,0.8s						
KUDL				IAML		14 47 48.9	
	comp=E,273nm,0.5s						
CHCP	**Chirah Chowk**	**4.57**	**300**	P	**Pn**	**14 47 03.5**	**+1.4**
THW	**Thamme Wali**	**5.47**	**286**	P	**Pn**	**14 47 14.7**	**+0.1**
BHPL	**Bhopal**	**8.18**	**184**	*ex*	Sn	14 49 13.2	-11
BHPL				IAML		14 50 08.8	
	comp=E,23nm,0.9s						
NGP	**Nagpur**	**10.29**	**174**	IAML		14 50 29.4	
	comp=E,4.3nm,0.6s						
NGP				IAML		14 50 32.9	
	comp=Z,4.1nm,0.4s						
AAK	**Ala-Archa**	**11.52**	**347**	Pn	**Pn**	**14 48 39.8**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=169,slow=10,SNR=3.1						
AAK				Sn	**Sn**	**14 50 44.1**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=41,slow=20,SNR=2.4						
PDGK	**Podgornoye**	**11.93**	**5**	⇑P	**Pn**	**14 48 47.4**	**+4.3**
	comp=Z,1.9nm,0.7s						
PDGK				⇑S	Sn	14 50 46.5	-10
	comp=Z,4.9nm,0.7s						
KK31	**Karatay Array**	**13.07**	**335**	P	**Pn**	**14 48 56.0**	**-2.6**
	comp=Z,1.2nm,0.4s,baz=138,slow=13,SNR=27						
KK31				⇓S	Sn	14 51 10.4	-14
	comp=Z,4.2nm,0.5s,baz=144,slow=22,SNR=9.6						
MK31	**Makanchi Array**	**15.69**	**11**	⇑P	**Pn**	**14 49 34.5**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=193,slow=13,SNR=9.2						
MK31				⇓S	**Sn**	**14 52 20.8**	**-7.1**
	comp=Z,0.8nm,0.6s,baz=84,slow=34,SNR=3.3						
MKAR	**Makanchi Array**	**15.69**	**11**	Pn	**Pn**	**14 49 33.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=195,slow=12,SNR=12						
MKAR				Sn	Sn	14 52 13.4	-15
	comp=Z,0.4nm,0.3s,baz=187,slow=22,SNR=10						
GEYT	**Alibeck**	**17.57**	**297**	P	**Pn**	**14 49 54.9**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=116,slow=10,SNR=5.1						
KURBB	**Kurchatov Arra**	**19.17**	**1**	P	**P**	**14 50 13.7**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=188,slow=12,SNR=7.1						
BVAR	**Borovoye Array**	**22.27**	**348**	P	**P**	**14 50 49.1**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=163,slow=12,SNR=11						
CMAR	**Chiang Mai Arr**	**22.92**	**119**	P	**P**	**14 50 57.4**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=308,slow=10,SNR=6.4						
ZALV	**Zalesovo Beam**	**23.02**	**10**	P	**P**	**14 50 57.9**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=202,slow=11,SNR=3.6						
AKTO	**Aktyubinsk**	**24.11**	**328**	P	**P**	**14 51 08.5**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=115,slow=9.1,SNR=7.1						
SONM	**Songino Array**	**27.11**	**45**	P	**P**	**14 51 39.3**	**+3.2**
	comp=Z,0.3nm,0.6s,baz=262,slow=10.0,SNR=2.3						
FINES	**FINESS Array B**	**44.88**	**328**	P	**P**	**14 54 06.6**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=132,slow=13,SNR=6.1						
ARCES	**ARCESS Array B**	**48.01**	**338**	P	**P**	**14 54 31.6**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=94,slow=7.3,SNR=6.4						
TORD	**Torodi Ar. Bea**	**71.67**	**274**	P	**P**	**14 57 12.8**	**-2.6**
	comp=Z,0.4nm,0.6s,baz=54,slow=4.3,SNR=3.5						
ASAR	**Alice Springs**	**76.58**	**129**	P	**P**	**14 57 46.0**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=308,slow=5.5,SNR=5.1						
YKA	**Yellowknife Ar**	**85.84**	**6**	P	**P**	**14 58 35.1**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=342,slow=5.0,SNR=3.7						

*ISCJB **17** 14:55:53.1±0.3, 60°.08N±0°.02×153°.30W±0°.06, h141km±2km, mb3.3/4, Error ellipse: s-maj=4.9km s-min=3.2km az=18.3*
*NEIC **17** 14:55:54.0±1.2, 60°.08N±0°.04×153°.3W±0°.1, h137km±3km*
*IDC **17** 14:55:54.3±7.7, 60°.22N×153°.42W, h124km±67km, mb3.1/4, mb1 3.5/6, mb1mx3.2/44, mbtmp3.6/6, Error ellipse: s-maj=62.1km s-min=25.2km az=40.0*
*AEIC **17** 14:55:55±1.5, 60°.05N±0°.04×153°.3W±0°.1, h135km±4km, ML3.2*

ISC 17 14:55:54.7±0.8, 60°.07N±0°.04×153°.29W±0°.05, h136km±6km, n132,σ0ᵍ97/150, mb3.3/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.16**	**136**		**Pn**	**14 56 12.7**	**-0.7**
ILIM	**Iliamna**	**0.17**	**87**		**Pn**	**14 56 12.8**	**-0.5**
RED	**Redoubt Volcan**	**0.43**	**36**		**Pn**	**14 56 13.8**	**-0.4**
RED					**Sn**	**14 56 28.3**	**-0.8**
RDWB	**Redoubt West**	**0.47**	**28**		**Sn**	**14 56 28.9**	**-0.7**
RSO	**Redoubt South**	**0.47**	**34**		**Pn**	**14 56 14.1**	**-0.5**
NCT	**North Crescent**	**0.52**	**20**		**Pn**	**14 56 14.3**	**-0.4**
NCT					**Sn**	**14 56 29.1**	**-0.9**
RDJH	**Redoubt Jeurge**	**0.57**	**25**		**Pn**	**14 56 14.8**	**-0.3**
RDJH					**Sn**	**14 56 30.3**	**-0.2**
DFR	**Drift River**	**0.60**	**30**		**Pn**	**14 56 14.7**	**-0.5**
DFR					**Sn**	**14 56 30.1**	**-0.7**
AUL	**Augustine Lava**	**0.70**	**186**		**Pn**	**14 56 15.5**	**-0.2**
AUL					**Sn**	**14 56 31.4**	**-0.3**
AU22	**Augustine Moun**	**0.70**	**183**		**Pn**	**14 56 15.4**	**-0.4**
AU22					**Sn**	**14 56 31.4**	**-0.3**
AUH	**Augustine H**	**0.71**	**186**		**Pn**	**14 56 15.6**	**-0.4**
AUP	**Augustine Pinn**	**0.71**	**185**		**Pn**	**14 56 15.7**	**-0.3**
AUQ	**Augustine Qik'**	**0.72**	**185**		**Pn**	**14 56 15.6**	**-0.3**
AUI	**Augustine Isla**	**0.74**	**185**		**Pn**	**14 56 15.3**	**-0.8**
HOM	**Homer**	**0.93**	**116**		**Pn**	**14 56 17.5**	**0.0**
HOM					**Sn**	**14 56 34.9**	**+0.1**
CNPM	**China Poot**	**1.17**	**117**		**Pn**	**14 56 19.6**	**-0.3**
CNPM					**Sn**	**14 56 38.2**	**-0.8**
CKL	**Chakachamna La**	**1.22**	**22**		**Pn**	**14 56 20.4**	**0.0**
BRLK	**Bradley Lake**	**1.25**	**103**		**Pn**	**14 56 20.6**	**0.0**
BRLK					**Sn**	**14 56 39.5**	**-0.8**
SPCR	**Spurr Chakacha**	**1.25**	**25**		**Pn**	**14 56 20.5**	**-0.2**
SPCR					**Sn**	**14 56 40.6**	**+0.2**
SPWE	**Spurr West**	**1.26**	**16**		**Pn**	**14 56 20.9**	**+0.1**
CAPN	**Captain Cook N**	**1.27**	**56**		**Pn**	**14 56 22.1**	**+1.4**
SPBG	**Spurr Blockage**	**1.27**	**20**		**Pn**	**14 56 21.1**	**+0.2**
SPBG					**Sn**	**14 56 41.6**	**+0.7**
FOSS	**Fourpeaked Sta**	**1.29**	**189**		**Pn**	**14 56 20.5**	**-0.6**
SPCP	**Crater Peak Br**	**1.32**	**25**		**Pn**	**14 56 21.5**	**0.0**
SPCP					**Sn**	**14 56 42.5**	**+0.6**
BRSE	**Bradley Lake S**	**1.33**	**103**		**Sn**	**14 56 40.5**	**-1.2**
SPNN	**North Nagishla**	**1.33**	**12**		**Pn**	**14 56 21.4**	**-0.2**
SPNN					**Sn**	**14 56 41.8**	**-0.3**
CGLM	**Capps Glacier**	**1.39**	**26**		**Pn**	**14 56 22.0**	**-0.1**
SLKM	**Skilak Lake**	**1.59**	**73**		**Pn**	**14 56 24.0**	**-0.2**
KAHG	**Katmai Hook Gl**	**1.71**	**203**		**Pn**	**14 56 25.2**	**-0.5**
FIS	**Fire Island**	**1.86**	**53**		**Pn**	**14 56 27.8**	**+0.6**
SUA	**Susitna One**	**1.87**	**41**		**Pn**	**14 56 27.4**	**-0.2**
SEW	**Seward**	**1.92**	**87**		**Pn**	**14 56 27.5**	**-0.5**
RC01	**Rabbit Creek A**	**2.03**	**58**		**Pn**	**14 56 28.6**	**-0.7**
SKT	**Skwentna**	**2.10**	**23**		**Pn**	**14 56 29.9**	**-0.2**
KDAK	**Kodiak Island**	**2.33**	**171**		**Pn**	**14 56 31.0**	**-2.0**
PMR	**Palmer**	**2.54**	**51**		**Pn**	**14 56 34.0**	**-1.6**
PWL	**Port Wells**	**2.58**	**70**		**Pn**	**14 56 34.5**	**-1.6**
KNK	**Knik Glacier**	**2.73**	**58**		**Pn**	**14 56 36.5**	**-1.5**
GHO	**Glory Hole Cre**	**2.73**	**49**		**Pn**	**14 56 36.6**	**-1.5**
PLK2	**Peulik 2**	**2.80**	**216**		**Pn**	**14 56 38.8**	**-0.1**
PLK3	**Peulik 3**	**2.85**	**214**		**Pn**	**14 56 39.4**	**-0.2**
OHAK	**Old Harbor**	**2.86**	**180**		**Pn**	**14 56 37.2**	**-2.5**
PPLA	**Purkeypile**	**2.88**	**10**		**Pn**	**14 56 40.5**	**+0.4**
SML	**Sawmill**	**2.98**	**52**		**Pn**	**14 56 39.7**	**-1.6**
TTA	**Tatalina**	**3.15**	**337**		**Pn**	**14 56 42.4**	**-1.1**
GLI	**Glacier Island**	**3.17**	**73**		**Pn**	**14 56 42.3**	**-1.4**
HUR	**Hurricane**	**3.40**	**29**		**Pn**	**14 56 46.1**	**-0.5**
HIN	**Hinchinbrook I**	**3.40**	**82**		**Pn**	**14 56 46.2**	**-0.5**
SCM	**Sheep Creek Mo**	**3.40**	**56**		**Pn**	**14 56 45.5**	**-1.3**
FID	**Port Fidalgo**	**3.45**	**76**		**Pn**	**14 56 46.5**	**-0.7**
JPK	**Jack Peak**	**3.45**	**70**		**Pn**	**14 56 47.0**	**-0.3**
SII	**Sitkinak Islan**	**3.56**	**188**		**Pn**	**14 56 47.2**	**-1.6**
WAT1	**Susitna Watana**	**3.58**	**37**		**Pn**	**14 56 48.0**	**-1.1**
KTH	**Kantishna Hill**	**3.67**	**17**		**Pn**	**14 56 49.6**	**-0.6**
WAT2	**Susitna Watana**	**3.67**	**36**		**Pn**	**14 56 49.5**	**-0.8**
WAT6	**Susitna Watana**	**3.67**	**44**		**Pn**	**14 56 49.0**	**-1.4**
TRF	**Thorsare Moun**	**3.68**	**22**		**Pn**	**14 56 49.7**	**-0.7**
EYAK	**Cordova Ski Ar**	**3.78**	**79**		**Pn**	**14 56 51.1**	**-0.5**
CHUM	**Lake Minchumin**	**3.85**	**6**		**Pn**	**14 56 52.4**	**-0.1**
RND	**Reindeer**	**3.96**	**30**		**Pn**	**14 56 53.2**	**-0.8**
DHY	**Denali Highway**	**4.13**	**41**		**Pn**	**14 56 55.2**	**-1.2**
BPAW	**Bear Paw Mtn.**	**4.18**	**14**		**Pn**	**14 56 56.2**	**-0.8**
MCK	**McKinley**	**4.21**	**27**		**Pn**	**14 56 57.0**	**-0.4**
GOAT	**Goat Mountain**	**4.29**	**79**		**Pn**	**14 56 58.0**	**-0.4**
PS11	**TAPS Pump St11**	**4.30**	**59**		**Pn**	**14 56 57.8**	**-0.6**
RAGM	**Ragged Mountai**	**4.31**	**82**		**Pn**	**14 56 58.1**	**-0.5**
CHIR	**Chirikof Islan**	**4.44**	**197**		**Pn**	**14 56 57.9**	**-2.4**
BWN	**Browne**	**4.49**	**22**		**Pn**	**14 57 00.5**	**-0.4**
HMT	**Hamilton**	**4.51**	**83**		**Pn**	**14 57 00.6**	**-0.7**
PAX	**Paxson**	**4.74**	**49**		**Pn**	**14 57 03.6**	**-0.8**
GLB	**Gilahina Butte**	**4.85**	**69**		**Pn**	**14 57 04.7**	**-1.1**
PS10	**TAPS Pump St10**	**4.91**	**44**		**Pn**	**14 57 06.0**	**-0.6**
NEA	**Nenana**	**4.93**	**22**		**Pn**	**14 57 05.6**	**-1.2**
VNHG	**Veniaminof 1**	**4.96**	**221**		**Pn**	**14 57 07.1**	**-0.3**
VRDI	**Verde Repeater**	**4.98**	**72**		**Pn**	**14 57 06.5**	**-1.2**
VNSG	**Veniaminof 6**	**5.01**	**220**		**Pn**	**14 57 07.2**	**-0.9**
KHIT	**Khitrov Hills**	**5.01**	**81**		**Pn**	**14 57 07.1**	**-1.0**
WRH	**Wood River Hil**	**5.04**	**27**		**Pn**	**14 57 07.0**	**-1.3**
CRQM	**Cirque**	**5.08**	**78**		**Pn**	**14 57 08.9**	**-0.1**
MLY	**Manley**	**5.12**	**12**		**Pn**	**14 57 08.5**	**-0.8**
MCARA	**McCarthy VSAT**	**5.21**	**71**		**Pn**	**14 57 10.6**	**0.0**
TGL	**Tana Glacier**	**5.23**	**78**		**Pn**	**14 57 10.6**	**-0.4**
CCB	**Clear Creek Bu**	**5.25**	**27**		**Pn**	**14 57 09.7**	**-1.4**
HDA	**Harding Lake**	**5.26**	**32**	P	**Pn**	**14 57 10.3**	**-1.0**
	baz=217						
HDA				S	**Sn**	**14 58 09.1**	**-1.9**
	baz=217						
HDA	**Harding Lake**	**5.26**	**32**		**Pn**	**14 57 10.2**	**-1.1**
KULT	**Kultieth River**	**5.28**	**84**		**Pn**	**14 57 11.3**	**-0.3**
PS08	**TAPS Pump Stn8**	**5.41**	**31**		**Pn**	**14 57 12.1**	**-1.1**
MENT	**Mentasta**	**5.41**	**54**		**Pn**	**14 57 12.1**	**-1.2**
RIDG	**Independent Ri**	**5.43**	**44**		**Pn**	**14 57 13.0**	**-0.5**
MDM	**Murphy Dome**	**5.43**	**23**		**Pn**	**14 57 12.7**	**-0.8**
TCOL	**CIGO, UAF Yank**	**5.43**	**25**	P	**Pn**	**14 57 12.7**	**-0.9**
	baz=210						
TCOL				S	**Sn**	**14 58 14.4**	**-0.6**
	baz=210						
TCOL	**CIGO, UAF Yank**	**5.43**	**25**		**Pn**	**14 57 12.5**	**-1.0**
COLA	**College**	**5.44**	**25**		**Pn**	**14 57 12.5**	**-1.1**
PTPK	**Patty Peak**	**5.45**	**73**		**Pn**	**14 57 13.4**	**-0.6**
KIAG	**Kiagna River**	**5.47**	**76**		**Pn**	**14 57 13.9**	**-0.4**
BALM	**Baldy**	**5.49**	**75**		**Pn**	**14 57 14.3**	**-0.1**
IL31		**5.57**	**29**		**Pn**	**14 57 14.1**	**-1.3**
ILAR	**Eielson Array**	**5.57**	**29**	P	**Pn**	**14 57 13.9**	**-1.5**
	8.4nm,0.3s,baz=215,slow=13,SNR=598						
ILAR				S	**Sn**	**14 58 15.5**	**-2.9**
	1.4nm,0.3s,baz=290,slow=25,SNR=5.3						
DOT	**Dot Lake**	**5.65**	**47**		**Pn**	**14 57 15.4**	**-1.1**
MESA	**MESA**	**5.67**	**84**		**Pn**	**14 57 16.7**	**-0.2**
POKR	**Poker Plat Res**	**5.74**	**26**	P	**Pn**	**14 57 16.7**	**-1.0**
	baz=211						
POKR				S	**Sn**	**14 58 20.4**	**-2.0**
	baz=211						
POKR	**Poker Plat Res**	**5.74**	**26**		**Pn**	**14 57 16.6**	**-1.0**
GRNC	**Granite Creek**	**5.76**	**78**		**Pn**	**14 57 17.9**	**-0.2**
BARN	**Barnard Glacie**	**5.82**	**75**		**Pn**	**14 57 18.7**	**-0.2**
SCRK	**Sand Creek**	**5.87**	**44**		**Pn**	**14 57 18.1**	**-1.4**
RKAV	**Rock Avalanche**	**5.96**	**83**		**Pn**	**14 57 21.4**	**+0.5**
CTGM	**Chitina Glacie**	**5.97**	**76**

ARK	**Arkit**	**2.75**	**359**	⇑*i*P		**Pg**	**15 10 22.4**	**+0.2**
	baz=7.0								
ARK				⇑*i*S		**Sg**	**15 10 55.5**	**-2.3**
	baz=7.0								
ARLS	**Aral**	**3.31**	**31**	⇑*i*P		**Pg**	**15 10 32.9**	**-0.1**
	baz=38								
ARLS				⇑*i*S		**Sg**	**15 11 14.9**	**-1.0**
	baz=38								
AML	**Almayashu**	**3.33**	**22**	⇑*i*P		**Pg**	**15 10 33.1**	**-0.3**
	baz=28								
AML				⇑*i*S		**Sg**	**15 11 14.4**	**-2.1**
	baz=28								
AML	**Almayashu**	**3.33**	**22**	P		**Pg**	**15 10 33.0**	**-0.4**
	SNR=20								
IUG	**luzhnay**	**3.45**	**334**	*e*P		**Pb**	**15 10 32.6**	**+1.8**
	2.7nm,0.2s								
IUG				*e*S		**Sb**	**15 11 14.7**	**+1.9**
	66nm,0.5s								
IUG	**luzhnay**	**3.45**	**334**	Pg		**Pb**	**15 10 32.6**	**+1.8**
	2.7nm,0.2s								
IUG				Lg		Lg	15 11 14.7		
	66nm,0.5s								
UCH	**Uchtor**	**3.70**	**30**	⇓*i*P		**Pg**	**15 10 38.5**	**-1.9**
	baz=36								
UCH				⇓*i*S		**Sg**	**15 11 24.5**	**-3.8**
	baz=36								
UCH	**Uchtor**	**3.70**	**30**	P		**Pg**	**15 10 38.4**	**-1.9**
	SNR=11								
MRKS	**Merke**	**3.80**	**13**	*e*P		**Pb**	**15 10 38.6**	**+1.8**
	12nm,0.5s								
MRKS				*e*S		**Sb**	**15 11 24.9**	**+2.0**
	9.1nm,0.5s								
MRKS	**Merke**	**3.80**	**13**	Pg		**Pb**	**15 10 38.6**	**+1.8**
	12nm,0.5s								
MRKS				Lg		Lg	15 11 24.9		
	9.1nm,0.5s								
EKS2	**Erkin-Say**	**3.85**	**20**	⇑*i*P		**Pb**	**15 10 39.6**	**+2.1**
	baz=25								
EKS2				⇑*i*S		**Sb**	**15 11 25.9**	**+1.7**
	baz=25								
NRN	**Naryn**	**3.86**	**51**	⇑*i*P		**Pg**	**15 10 42.5**	**-1.0**
	baz=55								
NRN				⇑*i*S		**Sg**	**15 11 31.0**	**-2.6**
	baz=55								
DZA	**Taraz**	**3.88**	**352**	*e*P		**Pb**	**15 10 39.6**	**+1.6**
	42nm,0.1s								
DZA				*e*S		**Sb**	**15 11 26.6**	**+1.6**
	55nm,0.2s								
AAK	**Ala-Archa**	**4.04**	**27**	⇓*i*P		**Pb**	**15 10 43.2**	**+2.3**
	baz=32								
AAK				⇓*i*S		**Sb**	**15 11 32.1**	**+2.2**
	baz=32								
AAK	**Ala-Archa**	**4.04**	**27**	P		**Pb**	**15 10 43.3**	**+2.4**
	SNR=8.1								
AAK	**Ala-Archa**	**4.04**	**27**	⇓Pn		**Pb**	**15 10 42.8**	**+1.9**
	4.5nm,0.7s								
AAK				Lg		Lg	15 11 38.2		
	9.4nm,0.9s								
KK31	**Karatay Array**	**4.21**	**345**	⇓Pn		**Pb**	**15 10 41.9**	**-1.8**
	3.1nm,0.3s,baz=169,slow=12,SNR=118								
KK31				⇑Sn		**Sb**	**15 11 28.5**	**-6.1**
	4.2nm,0.6s								
KK31				⇑Lg		Lg	15 11 41.7		
	4.5nm,0.4s,baz=165,slow=30,SNR=7.1								
KBK	**Karagaybulak**	**4.23**	**31**	⇑*i*P		**Pb**	**15 10 46.2**	**+2.1**
	baz=36								
KBK				⇑*i*S		**Sb**	**15 11 37.2**	**+1.9**
	baz=36								
KBK	**Karagaybulak**	**4.23**	**31**	P		**Pb**	**15 10 46.4**	**+2.3**
	SNR=7.5								
BRLS	**Boroldav**	**4.31**	**338**	*e*P		**Pb**	**15 10 45.8**	**+0.4**
	0.5nm,0.2s								
BRLS				*e*S		**Sb**	**15 11 37.6**	**+0.2**
	6.0nm,0.3s								
BRLS	**Boroldav**	**4.31**	**338**	Pg		**Pb**	**15 10 45.8**	**+0.4**
	0.5nm,0.2s								
BRLS				Lg		Lg	15 11 37.6		
	6.0nm,0.3s								
CHMS	**Chumysh**	**4.45**	**27**	P		**Pb**	**15 10 48.6**	**+0.8**
	SNR=10								
BOOM	**Boomskoye usch**	**4.54**	**40**	⇑*e*P		**Pb**	**15 10 50.3**	**+0.9**
	baz=44								
BOOM				⇑*e*S		**Sb**	**15 11 45.0**	**+0.7**
	baz=44								
USP	**Ospenovka**	**4.61**	**23**	P		**Pb**	**15 10 50.1**	**-0.3**
	SNR=12								
TKM2	**Tokmak 2**	**4.72**	**34**	P		**Pb**	**15 10 52.4**	**-0.1**
	SNR=5.9								
TKM2	**Tokmak 2**	**4.72**	**34**	⇓Pn		**Pb**	**15 10 51.7**	**-0.7**
	2.9nm,0.7s								
TKM2				⇑Pg		**Pg**	**15 11 02.4**	**+2.5**
	3.9nm,0.6s								
TKM2				⇑Lg		Lg	15 12 01.5		
	3.2nm,0.6s								
SGDS	**Sogindy**	**4.82**	**23**	Pg		**Pb**	**15 10 57.2**	**+3.1**
	3.9nm,0.6s								
SGDS				Lg		Lg	15 11 56.5		
	5.5nm,0.5s								
KST	**Kastek**	**4.98**	**35**	*e*P		**Pg**	**15 11 01.4**	**-3.5**
	2.2nm,0.5s								
KST				*e*S		**Sg**	**15 12 03.5**	**-5.8**
	3.3nm,0.7s								
KST	**Kastek**	**4.98**	**35**	Pg		**Pg**	**15 11 01.4**	**-3.5**
	2.2nm,0.5s								
KST				Lg		Lg	15 12 03.5		
	3.3nm,0.7s								
DGS	**Degeres**	**5.05**	**33**	*e*P		**Pb**	**15 11 01.9**	**+3.8**
	2.6nm,0.5s								
DGS				*e*S		**Sg**	**15 12 05.2**	**-6.5**
	4.5nm,0.6s								
DGS	**Degeres**	**5.05**	**33**	Pg		**Pb**	**15 11 01.9**	**+3.8**
	2.6nm,0.5s								
DGS				Lg		Lg	15 12 05.2		
	4.5nm,0.6s								

*ISCJB **17** 15:51:05.4±0.2,5.73S±0.04×145.30E±0.04,h100km, mb4.9/30,Error ellipse: s-maj=6.3km s-min=5.1km az=158.0*

*IDC **17** 15:51:05.3±2.3,5.72S×145.37E,h85km±23km,mb4.0/18, mb1 4.1/19,mb1mx4.0/39,mbtmp4.3/19,MS3.4/7, Ms1 3.4/7,ms1mx3.0/32,Error ellipse: s-maj=18.1km s-min=13.3km az=83.0*

*DJA **17** 15:51:06.9±0.4,6°S±3°×14°5E±°,h69km±10km,M4.6/9, mb5.1/2,mb4.6/9,MLv4.6/5,Mw(mB)4.5/2*

*NEIC **17** 15:51:07.4±1.7,5.79S±0.03×145.36E±0.08,h109km±6km, mb4.6/46*

*BJI **17** 15:51:07.4±0.0,5.69S×145.11E,h108km,mb4.8/29, mB5.2/16*

ISC 17 15:51:06.9±0.4,**5.76S**±0.05×**145.25E**±0.07,**h100**km,**n117,** σ1**903**/115,**mb4.6**/51,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.09**	**153**	P	**Pn**	**15 52 07.2**	**-0.1**
	36nm,0.3s,baz=356,slow=6.5,SNR=153						
PMG				S	**Sn**	**15 52 51.6**	**-2.5**
	24nm,0.3s,baz=356,slow=14,SNR=5.2						
PMG				LR	LR	15 53 30.2	
	comp=Z,300nm,18.0s,baz=325,slow=36						
MANU	**Manus Island**	**4.25**	**30**	Pn	**Pn**	**15 52 10.9**	**+1.3**
JAY	**Jayapura**	**5.56**	**305**	P	**Pn**	**15 52 26.2**	**-1.1**
	14nm,0.6s,0.1nm						
GENI	**Genyem**	**5.96**	**302**	P	**Pn**	**15 52 31.6**	**-1.2**
	55nm,0.5s,2µm0.6nm						
KRVT	**Keravat (AS076**	**6.91**	**78**	P	**Pn**	**15 52 48.2**	**+2.7**
	3.0nm,0.3s,baz=197,slow=5.0,SNR=5.4						
KRVT				LR	LR	15 55 18.9	
	comp=Z,67nm,21.7s,baz=270,slow=37						
SMPI	**Sarmi**	**7.52**	**300**	P	**Pn**	**15 52 53.5**	**-0.4**
	32nm,0.5s,0.2nm						
COEN	**Coen**	**8.40**	**194**	Pn	**Pn**	**15 53 07.8**	**+1.9**
CTA	**Charters Tower**	**14.28**	**176**	P	**P**	**15 54 29.3**	**+0.6**
	1.4nm,0.3s,baz=3.0,slow=14,SNR=12						
SWI	**Sorong**	**14.78**	**289**	P	**Pn**	**15 54 31.0**	**0.0**
	86nm,0.9s,745nm						
HNR	**Honiara**	**15.02**	**105**	Pn	**Pn**	**15 54 33.2**	**-0.8**
MTN	**Manton Dam**	**15.60**	**242**	Pn	**P**	**15 54 41.9**	**-1.5**
WRAB	**Tennant Creek**	**17.63**	**216**	P	**Pn**	**15 55 05.3**	**-0.9**
KNRA	**Kununurra**	**18.94**	**237**	P	**Pn**	**15 55 20.9**	**-1.1**
KNRA				IAmb	IAmb	15 55 24.9	
	comp=Z,27nm,1.1s						
EIDS	**Eidsvold**	**20.28**	**165**	P	Pn	15 55 35.6	-2.0
AS31	**Alice Springs**	**20.88**	**210**	P	**P**	**15 55 41.7**	**+0.4**
ASAR	**Alice Springs**	**20.89**	**210**	P	**P**	**15 55 41.4**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=45,slow=8.9,SNR=19						
ASAR				LR	LR	16 05 08.1	
	comp=Z,27nm,20.4s,baz=49,slow=40						
BATI	**Baumata**	**21.82**	**257**	P	**P**	**15 55 51.6**	**+0.2**
	comp=Z,12nm,0.6s,baz=94,slow=7.4,SNR=3.9						
FITZ	**Fitzroy Crossi**	**22.73**	**236**	P	**P**	**15 56 01.2**	**+0.5**
	comp=Z,3.2nm,0.5s,baz=48,slow=9.8,SNR=16						
FITZ	**Fitzroy Crossi**	**22.73**	**236**	P	**P**	**15 56 00.9**	**+0.1**
LUWI	**Luwuk**	**22.91**	**281**	P	**P**	**15 56 02.0**	**-0.6**
MMRI	**Maumere**	**23.00**	**262**	P	**P**	**15 56 03.0**	**-0.5**
MMRI				IAmb	IAmb	15 56 03.4	
	comp=Z,19nm,0.8s						
ARMA	**Armidale**	**25.25**	**167**	P	**P**	**15 56 24.9**	**+0.9**
STKA	**Stephens Creek**	**26.21**	**187**	P	**P**	**15 56 32.8**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=18,slow=12,SNR=5.8						
STKA				LR	LR	16 06 46.0	
	comp=Z,35nm,19.7s,baz=23,slow=36						
STKA	**Stephens Creek**	**26.21**	**187**	P	**P**	**15 56 32.4**	**0.0**
JCJ	**Chichijima**	**32.80**	**355**	LR	LR	16 08 48.1	
	comp=Z,522nm,19.7s,baz=164,slow=32						
YULB	**Yu-li**	**37.24**	**322**	P	**P**	**15 58 08.8**	**-0.3**
TPUB	**Ta-pu**	**37.59**	**321**	P	**P**	**15 58 11.3**	**-0.7**
JNU	**Nakatsue**	**41.01**	**341**	LR	LR	16 14 32.8	
	comp=Z,106nm,18.9s,baz=142,slow=34						
MAJO	**Matsushiro**	**42.59**	**352**	P	**P**	**15 58 51.4**	**-1.8**
MAJO				IAmb	IAmb	15 59 23.7	
	comp=Z,29nm,1.6s						
MJB9	**Matsu-Tunnel**	**42.60**	**352**	P	**P**	**15 58 51.4**	**-1.8**
MJB9				IAmb	IAmb	15 59 23.7	
	comp=Z,29nm,1.6s						
QIZ	**Qiongzhong**	**42.70**	**306**	P	**P**	**15 58 54.3**	**0.0**
NJ2	**Nanjing**	**45.23**	**328**	*e*P	**P**	**15 59 15.1**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KSRS	**Korea Array**	**45.93**	**341**	P	**P**	**15 59 19.4**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=163,slow=9.2,SNR=6.3						
NONG	**Nongkai**	**47.81**	**301**	P	**P**	**15 59 35.4**	**+0.7**
	comp=Z,0.6nm,0.9s						
CHAI	**Chaiyaphum**	**47.93**	**297**	P	**P**	**15 59 35.9**	**+0.3**
	comp=Z,60µm,0.6s,comp=Z,629µm						
SLVN	**Son La**	**48.67**	**305**	P	**P**	**15 59 41.4**	**0.0**
SLVN				IAmb	IAmb	15 59 44.1	
	comp=Z,7.5nm,0.7s						
PBKT	**Sadao Pong**	**49.09**	**298**	P	**P**	**15 59 45.1**	**+0.6**
PBKT				IAmb	IAmb	15 59 46.4	
	comp=Z,12nm,1.4s						
ENH	**Enshi**	**49.57**	**318**	P	**P**	**15 59 48.1**	**0.0**
UTTA	**Uttaradit**	**49.92**	**299**	P	**P**	**15 59 52.4**	**+1.6**
	comp=Z,21µm,0.9s						
UTHA	**Uthaitani**	**50.06**	**296**	P	**P**	**15 59 53.2**	**+1.3**
	comp=Z,23µm,0.7s						
NANT	**Nan**	**50.22**	**300**	P	**P**	**15 59 54.3**	**+1.2**
	comp=Z,291µm,0.8s						
PHRA	**Phrae**	**50.51**	**300**	P	**P**	**15 59 56.9**	**+1.6**
	comp=Z,2.8nm,0.9s,comp=Z,1µm						
USA0B	**Ussuriysk Arra**	**51.15**	**348**	P	**P**	**15 59 59.3**	**-0.3**
USRK	**Ussuriysk Ar.**	**51.15**	**348**	P	**P**	**15 59 59.4**	**-0.2**
	comp=Z,4.3nm,0.6s,baz=176,slow=6.1,SNR=11						
USRK				LR	LR	16 20 03.7	
	comp=Z,96nm,19.0s,baz=357,slow=34						
CM31	**Chiang Mai Arr**	**51.60**	**299**	P	**P**	**16 00 04.6**	**+1.1**
CMAR	**Chiang Mai Arr**	**51.60**	**299**	P	**P**	**16 00 05.0**	**+1.4**
	comp=Z,7.1nm,0.6s,baz=123,slow=5.9,SNR=54						
CMMT	**Chiang Mai**	**51.74**	**299**	P	**P**	**16 00 05.9**	**+1.3**
	comp=Z,5.1nm,0.9s						
CHTO	**Chiang Mai**	**51.75**	**299**	P	**P**	**16 00 05.2**	**+0.6**
CHTO				IAmb	IAmb	16 00 06.6	
	comp=Z,7.3nm,0.8s						
MHMT	**Maesarieng**	**52.38**	**298**	P	**P**	**16 00 10.8**	**+1.5**
	comp=Z,22nm,0.9s						
XAN	**Xi'an**	**52.40**	**322**	P	**P**	**16 00 09.1**	**-0.1**
XAN				pmax	pmax		
	comp=Z,15nm,1.3s						
XAN	**Xi'an**	**52.40**	**322**	P	**P**	**16 00 08.9**	**-0.3**
HHC	**Hu-ho-hao-te**	**55.73**	**329**	*e*P	**P**	**16 00 35.9**	**+2.5**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LZH	**Lanzhou**	**56.90**	**320**	*e*P	**P**	**16 00 43.3**	**+1.4**
LZH				pP	sP	16 01 13.3	-4.2
LZH				sP	PcP	16 01 25.1	-11
LZH				PP	**PP**	**16 02 52.9**	**+3.4**
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
LZH				pmax	pmax		
	comp=Z,140nm,4.3s						
LZH				LR	LR		
	comp=Z,120nm,17.0s						
LZH				LR	LR		
	comp=Z,120nm,16.8s						
LZH				LR	LR		
	comp=Z,180nm,18.5s						
PETK	**Petropavlovsk-**	**59.59**	**9**	P	**P**	**16 01 00.1**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=176,slow=7.5,SNR=8.8						
GTA	**Gaotai**	**61.45**	**321**	*e*P	**P**	**16 01 14.3**	**+1.1**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LSA	**Lhasa**	**62.71**	**308**	P	**P**	**16 01 22.4**	**+0.2**
LSA				IAmb	IAmb	16 01 24.5	
	comp=Z,7.4nm,0.7s						
ULN	**Ulaanbaatar**	**63.07**	**332**	P	**P**	**16 01 24.3**	**+0.5**
ULN				IAmb	IAmb	16 01 24.8	
	comp=Z,5.1nm,0.6s						
SONM	**Songino Array**	**63.36**	**332**	P	**P**	**16 01 25.9**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=156,slow=5.9,SNR=8.6						
TAPN	**Taplejung**	**64.57**	**304**	*e*P	**P**	**16 01 34.9**	**+0.7**
	comp=Z,27nm,1.0s						
ODAN	**Odare**	**64.65**	**303**	*e*P	**P**	**16 01 35.4**	**+0.7**
	comp=Z,25nm,0.7s						
RAMN	**Ramite**	**65.34**	**303**	*e*P	**P**	**16 01 39.8**	**+0.6**
	comp=Z,13nm,0.5s						
JIRN	**Jiri**	**65.94**	**304**	*e*P	**P**	**16 01 43.6**	**+0.4**
	comp=Z,26nm,0.6s						
GUN	**Gumba**	**66.28**	**304**	*e*P	**P**	**16 01 46.1**	**+0.8**
	comp=Z,53nm,0.7s						
PKI	**Pulchoki**	**66.55**	**303**	*e*P	**P**	**16 01 47.4**	**+0.3**
	comp=Z,16nm,0.8s						
PKIN	**Phulchoki**	**66.57**	**303**	*e*P	**P**	**16 01 47.0**	**-0.1**
	comp=Z,14nm,0.8s						
KKN	**Kakani**	**66.74**	**303**	*e*P	**P**	**16 01 48.6**	**+0.5**
	comp=Z,35nm,0.7s						
DMN	**Daman**	**66.82**	**303**	*e*P	**P**	**16 01 49.5**	**+0.8**
	comp=Z,38nm,0.7s						
SEY	**Seymchan**	**68.72**	**3**	P	**P**	**16 01 58.8**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=210,slow=6.3,SNR=8.1						
WMQ	**Urumqi**	**71.48**	**320**	*e*P	**P**	**16 02 18.0**	**+1.1**
VNDA	**Vanda**	**72.26**	**176**	P	**P**	**16 02 21.6**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=338,slow=6.5,SNR=5.5						
MK31	**Makanchi Array**	**76.21**	**321**	P	**P**	**16 02 44.9**	**+0.4**
MKAR	**Makanchi Array**	**76.21**	**321**	P	**P**	**16 02 45.0**	**+0.6**
	comp=Z,1.6nm,0.3s,baz=98,slow=8.5,SNR=52						
MAKZ	**Makanchi**	**76.41**	**321**	P	**P**	**16 02 45.8**	**+0.3**
MAKZ				IAmb	IAmb	16 02 46.4	
	comp=Z,4.5nm,0.6s						
ZALV	**Zalesovo Beam**	**77.89**	**328**	P	**P**	**16 02 53.0**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=123,slow=5.5,SNR=9.1						
KSH	**Kashi**	**77.92**	**312**	P	**P**	**16 02 55.8**	**+1.5**
KSH				S	**S**	**16 12 38.0**	**-1.8**
KSH				sS	sS	16 13 33.4	+9.3
KSH				pmax	pmax		
	comp=Z,380nm,5.9s						
KSH				LR	LR		
	comp=Z,390nm,6.7s						
KSH				LR	LR		
	comp=Z,340nm,12.7s						
KSH				LR	LR		
	comp=Z,590nm,6.9s						
TIXI	**Tiksi**	**78.01**	**355**	P	**P**	**16 02 52.7**	**-1.1**
NIL	**Nilore**	**78.37**	**306**	P	**P**	**16 02 57.2**	**+0.4**
KZA	**Kyzart**	**79.23**	**315**	P	**P**	**16 03 03.3**	**+1.5**
	SNR=6.4						
TKM2	**Tokmak 2**	**79.25**	**315**	P	**P**	**16 03 02.3**	**+0.7**
	SNR=7.0						
UCH	**Uchtor**	**79.80**	**315**	P	**P**	**16 03 06.1**	**+1.2**
	SNR=8.4						
AAK	**Ala-Archa**	**79.94**	**315**	P	**P**	**16 03 05.8**	**+0.5**
AAK				IAmb	IAmb	16 03 06.9	
	comp=Z,13nm,1.6s						
KURK	**Kurchatov**	**79.98**	**324**	P	**P**	**16 03 05.0**	**-0.1**
KURK				IAmb	IAmb	16 03 06.2	
	comp=Z,7.8nm,1.0s						
USP	**Ospenovka**	**80.12**	**316**	P	**P**	**16 03 06.6**	**+0.5**
	SNR=6.4						
AML	**Almayashu**	**80.36**	**314**	P	**P**	**16 03 08.8**	**+0.9**
	SNR=11						
EKS2	**Erkin-Say**	**80.45**	**315**	P	**P**	**16 03 09.1**	**+1.1**
	SNR=6.4						
GAR	**Garm**	**82.01**	**311**	P	**P**	**16 03 16.1**	**-0.2**
GAR				IAmb	IAmb	16 04 31.5	
	comp=Z,18nm,1.6s						
RDOG	**Red Dog Mine**	**82.03**	**17**	P	**P**	**16 03 15.5**	**-0.1**
KK31	**Karatay Array**	**82.88**	**315**	P	**P**	**16 03 20.7**	**+0.1**
KK31				IAmb	IAmb	16 03 21.3	
	comp=Z,3.3nm,0.7s						
KKAR	**Karatay Array**	**82.88**	**315**	P	**P**	**16 03 20.7**	**+0.1**
KKAR				IAmb	IAmb	16 03 21.3	
	comp=Z,3.3nm,0.7s						
QSPA	**South Pole Qui**	**84.20**	**180**	P	**P**	**16 03 27.0**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=316,slow=1.5,SNR=21						
QSPA	**South Pole Qui**	**84.20**	**180**	IAmb	IAmb	16 03 27.9	
	comp=Z,2.7nm,0.8s						
MLY	**Manley**	**84.56**	**23**	P	**P**	**16 03 28.3**	**-0.5**
MLY				IAmb	IAmb	16 03 29.1	
	comp=Z,6.0nm,0.8s						
RND	**Reindeer**	**84.62**	**24**	P	**P**	**16 03 27.7**	**-1.4**
RND				IAmb	IAmb	16 03 28.6	
	comp=Z,6.7nm,0.7s						
MCK	**McKinley**	**84.72**	**24**	P	**P**	**16 03 28.2**	**-1.3**
MCK				IAmb	IAmb	16 03 29.0	
	comp=Z,8.1nm,0.9s						
DHY	**Denali Highway**	**85.10**	**25**	P	**P**	**16 03 30.9**	**-0.8**
DHY				IAmb	IAmb	16 03 32.2	
	comp=Z,5.3nm,0.8s						
WRH	**Wood River Hil**	**85.36**	**24**	P	**P**	**16 03 31.2**	**-1.4**
WRH				IAmb	IAmb	16 03 32.5	
	comp=Z,6.2nm,1.0s						
CCB	**Clear Creek Bu**	**85.54**	**23**	P	**P**	**16 03 31.9**	**-1.6**
CCB				IAmb	IAmb	16 03 32.7	
	comp=Z,5.6nm,0.8s						
IL31		**85.95**	**23**	P	**P**	**16 03 33.5**	**-2.0**
IL31				IAmb	IAmb	16 03 34.8	
	comp=Z,5.0nm,0.7s						
ILAR	**Eielson Array**	**85.95**	**23**	P	**P**	**16 03 33.8**	**-1.9**
	comp=Z,4.4nm,0.7s,baz=251,slow=5.1,SNR=75						
DOT	**Dot Lake**	**86.70**	**25**	P	**P**	**16 03 38.5**	**-0.9**
DOT				IAmb	IAmb	16 03 39.6	
	comp=Z,4.3nm,0.8s						
DAWY	**Dawson**	**88.80**	**25**	P	**P**	**16 03 49.2**	**-0.1**
GEYT	**Alibeck**	**91.24**	**308**	P	**P**	**16 04 01.4**	**0.0**
	comp=Z,3.9nm,0.7s,baz=176,slow=4.0,SNR=7.7						
ABKAR	**Akbulak array**	**91.26**	**319**	P	**P**	**16 03 59.9**	**-1.2**
ABKAR				IAmb	IAmb	16 04 00.5	
	comp=Z,2.4nm,0.8s						
NVAR	**Mina Array Bea**	**98.60**	**52**	P	Pdif	16 04 35.4	+0.2
	comp=Z,0.1nm,0.3s,baz=248,slow=4.8,SNR=2.9						
YKA	**Yellowknife Ar**	**99.77**	**28**	P	**Pdif**	**16 04 39.6**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=270,slow=4.9,SNR=6.3						
KHC	**Kasperske Hory**	**120.64**	**325**	*e*PKP	**PKPdf**	**16 09 46.0**	**-1.2**
GERES	**GERESS Array B**	**120.72**	**325**	PKP	**PKiKP**	**16 09 47.4**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=83,slow=1.4,SNR=12						
PLCA	**Paso Flores**	**123.26**	**148**	PKP	**PKiKP**	**16 09 53.3**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=284,slow=4.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**143.34**	**284**	PKhKP	PKPpre	16 10 27.6	
	comp=Z,1.6nm,0.7s,baz=66,slow=4.5,SNR=12						
SAML	**Samuel**	**148.11**	**117**		**PKPdf**	**16 10 39.4**	**+0.6**
SAML				PKPab	**PKiKP**	**16 10 42.6**	**-1.2**
KIC	**Kosan Boka**	**150.15**	**273**	*e*PKP1	**PKiKP**	**16 10 47.6**	**-0.5**
	comp=Z,13nm,0.8s						
KIC	**Kosan Boka**	**150.15**	**273**		**PKiKP**	**16 10 47.6**	**-0.5**
DBIC	**Dimbokro**	**150.27**	**273**	PKPbc	**PKiKP**	**16 10 48.3**	**0.0**
	comp=Z,10.0nm,0.9s,baz=95,slow=3.9,SNR=8.5						
TIC	**Toumodi**	**150.43**	**273**	*e*PKP1	**PKiKP**	**16 10 48.3**	**-0.4**
	comp=Z,2.8nm,0.3s						
TIC	**Toumodi**	**150.43**	**273**		**PKiKP**	**16 10 48.3**	**-0.4**
LIC	**Lamto**	**150.44**	**272**	*e*PKP1	**PKiKP**	**16 10 48.2**	**-0.5**
	comp=Z,52nm,1.1s						
LIC	**Lamto**	**150.44**	**272**		**PKiKP**	**16 10 48.2**	**-0.5**

*IDC **17** 15:57:43.5±0.8,20.71N×146.77E,h0km,mb4.1/15, mb1 4.2/15,mb1mx4.0/47,mbtmp4.1/15,Error ellipse: s-maj=22.9km s-min=20.7km az=77.0*

*NEIC **17** 15:57:45.1±1.5,20.7N±0.1×146.8E±0.1,h10km±1km, mb4.6/20*

*ISCJB **17** 15:57:47.7±0.5,20.63N±0.07×146.84E±0.09,h44km, mb4.0/15,Error ellipse: s-maj=12.3km s-min=10.4km az=11.2*

ISC 17 15:57:49.6±0.7,**20.7N**±0.1×**146.8E**±0.1,**h44**km,**n44,** σ0**66**/47,**mb4.4**/25,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INU	**Inuyama**	**16.98**	**332**	P	**P**	**16 01 45.5**	**+0.2**
MAJO	**Matsushiro**	**17.52**	**336**		**P**	**16 01 51.6**	**+0.3**
MJB9	**Matsu-Tunnel**	**17.52**	**336**		**P**	**16 01 51.5**	**+0.2**
KSRS	**Korea Array**	**23.43**	**320**	P	**P**	**16 02 53.8**	**-1.1**
	1.5nm,0.6s,baz=148,slow=8.4,SNR=7.8						
USRK	**Ussuriysk Ar.**	**26.51**	**336**	P	**P**	**16 03 23.0**	**+0.1**
	3.1nm,1.0s,baz=144,slow=8.6,SNR=3.2						
WRAB	**Tennant Creek**	**42.15**	**198**	P	**P**	**16 05 37.5**	**-0.5**
WRAB				IAmb	IAmb	16 06 56.5	
	comp=Z,19nm,1.9s						
SONM	**Songino Array**	**42.31**	**320**	P	**P**	**16 05 38.4**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=110,slow=7.4,SNR=4.9						
SONM				PcP	**PcP**	**16 07 32.9**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=135,slow=3.3,SNR=3.

comp=Z,8.9nm,1.0s
ARCES **ARCESS Array B** 80.95 342 P **P** 16 09 59.0 -0.1
comp=Z,3.4nm,0.9s,baz=31,slow=5.7,SNR=3.4
NVAR **Mina Array Bea** 81.11 52 P **P** 16 10 01.9 +1.1
comp=Z,0.8nm,0.7s,baz=282,slow=8.5,SNR=7.5
ELK **Elko** 82.55 49 P **P** 16 10 08.1 -0.2
KBZ **Khabaz** 85.51 315 P **P** 16 10 23.3 +0.3
comp=Z,2.3nm,0.9s,baz=100,slow=3.7,SNR=6.8
FINES **FINESS Array B** 85.55 336 P **P** 16 10 21.4 -1.4
comp=Z,5.8nm,0.8s,baz=90,slow=5.7,SNR=7.6
BRTR **Keskin Array B** 93.49 315 P **P** 16 11 00.0 -1.0
comp=Z,0.8nm,0.9s,baz=90,slow=4.3,SNR=4.2
LPAZ **La Paz** 146.61 88 PKPbc **PKPab** 16 17 29.4 +0.3
comp=Z,3.0nm,0.9s,baz=7.9,slow=2.9,SNR=8.6

IDC ***17*** *16:01:38.6±0.4,20.75N×146.84E,h0km,mb4.3/26, mb1 4.4/29,mb1mx4.3/53,mbtmp4.3/29,ML3.6/3,MS3.7/14, Ms1 3.8/14,ms1mx3.4/48,Error ellipse: s-maj=17.5km s-min=10.5km az=79.0*

NEIC ***17*** *16:01:40.8±1.9,20.81N±0.06×146.9E±0.1,h10km±1km, mb5.0/95*

MOS ***17*** *16:01:42.2±0.9,20.74N×146.76E,h30km,mb5.0/44,Error ellipse: s-maj=10.5km s-min=5.4km az=111.6*

BJI ***17*** *16:01:42.1±0.0,20.44N×147.15E,h51km,mb4.7/46, mB5.1/34,Ms4.7/16,Ms7 4.5/6*

ISCJB ***17*** *16:01:43.9±0.2,20.70N±0.03×146.78E±0.04,h44km, mb4.6/81,MS3.9/20,Error ellipse: s-maj=4.8km s-min=4.2km az=167.6*

GCMT ***17*** *16:01:44.8±0.3,20.77N±0.03×147.09E±0.02,h15km±1km, MW4.8/80,Moment Tensor Solution. s21,c21; s80,c106; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.19±.16; Mθθ=0.73±.09; Mϕϕ=1.45±.10; Mrθ=-0.27±.20; Mθϕ=-0.93±.06; Mϕr=0.54±.18; Best double couple: Mo=2.21500×10¹⁶ NP1:ϕs=338.00000°,δ50.00000°,λ=-74.00000°. NP2: ϕs=134.00000°,δ42.00000°,λ=-108.00000°. Principal axes: T 2.1060, Plg4.0000°, Azm57.0000°; N 0.2120, Plg12.0000°, Azm147.0000°; P -2.3230, Plg77.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 16:01:45.3±0.3,20.74N±0.04×146.89E±0.07,h44km,n241, σ1s27/241,mb4.8/108,MS3.9/20,15C-13D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	4.15	195	Pn	**Pn**	**16 02 46.0**	**-0.2**
ANA2	**Anatahan**	4.51	195		**Pn**	**16 02 50.3**	**-0.9**
GUMO	**Guam**	7.37	196	P	**Pn**	**16 03 31.3**	**+1.0**
GUMO						16 04 54.0	
GUMO	**Guam**	7.37	196	Pn	**Pn**	**16 03 30.7**	**+0.3**
	7.6nm,0.3s,baz=37,slow=20,SNR=3.0						
GUMO				Sn	**Sn**	**16 04 54.0**	**+1.3**
	8.9nm,0.3s,baz=22,slow=23,SNR=1.5						
GUMO	**Guam**	7.37	196	Pn	**Pn**	**16 03 31.3**	**+1.0**
JCJ	**Chichijima**	7.66	327	Pn	**Pn**	**16 03 31.0**	**-3.3**
	5.0nm,0.3s,baz=121,slow=19,SNR=3.4						
JCJ				Sn	**Sn**	**16 04 53.1**	**-6.6**
	2.8nm,0.3s,baz=305,slow=18,SNR=1.4						
INU	**Inuyama**	16.95	331	P	**P**	**16 05 40.1**	**-0.6**
INU				IAmb	IAmb	16 05 47.1	
	comp=Z,145nm,1.5s						
MJAR	**Matsushiro Arr**	17.48	336	P	**Pn**	**16 05 42.9**	**-2.9**
	comp=Z,0.0nm,0.3s,baz=157,slow=13,SNR=3.4						
MAJO	**Matsushiro**	17.48	336	*e*P	**Pn**	**16 05 45.5**	**-0.4**
MAJO	**Matsushiro**	17.48	336	P	**P**	**16 05 46.7**	**+0.1**
MJB9	**Matsu-Tunnel**	17.49	336	P	**P**	**16 05 47.2**	**+0.6**
PATS	**Pohnpei**	17.70	140	P	**P**	**16 05 49.3**	**+0.2**
H11S3	**WAKE ISLAND Hy**	18.78	93	T	T	16 24 13.5	
	baz=280,slow=75,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	18.79	93	T	T	16 24 15.5	
	baz=280,slow=75,SNR=4.8						
H11N1	**WAKE ISLAND Hy**	18.80	90	T	T	16 24 19.3	
	baz=276,slow=74,SNR=3.5						
H11S2	**WAKE ISLAND Hy**	18.80	93	T	T	16 24 13.6	
	baz=280,slow=75,SNR=6.6						
H11N2	**WAKE ISLAND Hy**	18.80	90	T	T	16 24 22.8	
	baz=276,slow=74,SNR=3.8						
H11N3	**WAKE ISLAND Hy**	18.81	90	T	T	16 24 20.3	
	baz=276,slow=74,SNR=3.3						
JNU	**Nakatsue**	18.84	314	P	**P**	**16 05 59.2**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=121,slow=18,SNR=2.8						
JNU	**Nakatsue**	18.84	314	P	**Pn**	**16 06 02.7**	**+0.2**
JNU				IAmb	IAmb	16 06 20.8	
	comp=Z,218nm,1.8s						
ERM	**Erimo**	21.45	352	*de*P	**P**	**16 06 27.6**	**-2.1**
ERM				pmax	pmax		
	comp=Z,133nm,1.6s						
MANU	**Manus Island**	22.64	179	P	**P**	**16 06 41.3**	**-1.5**
TJN	**Taejon**	23.11	317	*de*P	**P**	**16 06 47.3**	**-0.1**
KSRS	**Korea Array**	23.43	319	P	**P**	**16 06 49.3**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=138,slow=7.8,SNR=5.7						
ASAJ	**Asahikawa**	23.59	352	LR	LR	16 18 30.5	
	comp=Z,22nm,18.2s,baz=182,slow=43						
DAV	**Davao City (W)**	24.70	240	LR	LR	16 15 39.1	
	comp=Z,360nm,20.5s,baz=98,slow=34						
KRVT	**Keravat (AS076**	25.39	168	P	**P**	**16 07 07.1**	**-1.6**
	comp=Z,27nm,0.7s,baz=329,slow=4.5,SNR=3.8						
KRVT				LR	LR	16 16 03.4	
	comp=Z,105nm,21.8s,baz=352,slow=34						
TGY	**Tagaytay City**	25.61	259	LR	LR	16 16 20.2	
	comp=Z,237nm,19.8s,baz=48,slow=34						
USA0B	**Ussuriysk Arra**	26.48	335	*e*P	**P**	**16 07 18.7**	**+0.4**
USA0B	**Ussuriysk Arra**	26.48	335	P	**P**	**16 07 18.1**	**-0.2**
USA0B				IAmb	IAmb	16 07 26.2	
	comp=Z,28nm,1.3s						
USRK	**Ussuriysk Ar.**	26.48	335	P	**P**	**16 07 16.1**	**-2.2**
	comp=Z,4.4nm,1.1s,baz=149,slow=9.4,SNR=3.6						
NJ2	**Nanjing**	27.45	300	*e*P	**P**	**16 07 26.4**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KLR	**Kul'dur**	30.90	341	*e*P	**P**	**16 07 58.5**	**+0.9**
KLR				pmax	pmax		
	comp=Z,5.0nm,1.3s						
GRNR	**Gornyy**	31.09	347	*i*P	**P**	**16 08 00.8**	**+1.5**
GRNR				*e*S	**S**	**16 13 05.7**	**+4.1**
GRNR				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GRNR				smax	smax		
	comp=N,3.0nm,1.4s						
HNR	**Honiara**	32.61	156	LR	LR	16 21 17.3	
	comp=N,275nm,19.5s,baz=346,slow=36						
PETK	**Petropavlovsk-**	33.37	12	LR	LR	16 19 32.3	
	comp=N,115nm,21.0s,baz=229,slow=32						
HIA	**Hailar**	35.76	329	*e*P	**P**	**16 08 39.9**	**0.0**
HIA				pmax	pmax		
	comp=Z,33nm,1.0s						
XAN	**Xi'an**	36.02	300	P	**P**	**16 08 45.6**	**+3.2**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.7s						
HHC	**Hu-ho-hao-te**	36.04	312	*e*P	**P**	**16 08 43.1**	**+0.5**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZEA	**Zeya**	36.21	340	*e*P	**P**	**16 08 43.8**	**+0.1**
ZEA				pmax	pmax		
	comp=Z,14nm,1.2s						
GYA	**Guiyang**	37.19	287	*e*P	**P**	**16 08 51.3**	**-1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SBUM	**Sibu**	38.37	246	P	**P**	**16 09 02.8**	**+0.3**
MA2	**Magadan**	38.90	3	*de*P	**P**	**16 09 08.1**	**+1.7**
MA2				pmax	pmax		
	comp=Z,27nm,1.2s						
MA2	**Magadan**	38.90	3	P	**P**	**16 09 05.0**	**-1.4**
	comp=Z,11nm,0.9s,baz=162,slow=13,SNR=3.2						
MA2	**Magadan**	38.90	3	P	**P**	**16 09 07.8**	**+1.4**
CD2	**Chengdu**	39.91	294	*e*P	**P**	**16 09 14.0**	**-1.3**
LZH	**Lanzhou**	40.49	302	*i*P	**P**	**16 09 21.9**	**+1.7**
LZH				pP	sP	16 09 34.6	-0.8
LZH				sP	pwP	16 09 40.8	+3.7
LZH				PP	**PnPn**	**16 11 02.4**	**+4.3**
LZH				pmax	pmax		
	comp=Z,25nm,1.5s						
LZH				pmax	pmax		
	comp=Z,110nm,5.0s						
LZH				LR	LR		
	comp=Z,210nm,14.2s						
LZH				LR	LR		
	comp=Z,230nm,14.4s						
CTA	**Charters Tower**	40.58	181	P	**P**	**16 09 21.6**	**+0.9**
	comp=Z,5.3nm,0.8s,baz=18,slow=9.6,SNR=3.6						
ULN	**Ulaanbaatar**	41.91	320	*e*P	**P**	**16 09 32.3**	**+0.6**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ULN	**Ulaanbaatar**	41.91	320	P	**P**	**16 09 32.1**	**+0.4**
WRAB	**Tennant Creek**	42.24	198	*e*P	**P**	**16 09 33.8**	**-0.6**
WRAB				*i* *PP	**pwP**	**16 09 49.2**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRAB	**Tennant Creek**	42.24	198	P	**P**	**16 09 34.3**	**-0.1**
SONM	**Songino Array**	42.30	319	P	**P**	**16 09 34.4**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=97,slow=5.8,SNR=8.9						
SONM				PcP	**PcP**	**16 11 28.0**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=130,slow=2.4,SNR=3.5						
SEY	**Seymchan**	42.34	4	*e*P	**P**	**16 09 36.3**	**+1.6**
SEY	**Seymchan**	42.34	4	P	**P**	**16 09 35.0**	**+0.3**
	comp=Z,3.9nm,0.9s,baz=143,slow=5.5,SNR=7.2						
YAK	**Yakutsk**	42.95	348	*i*P	**P**	**16 09 40.0**	**+0.3**
YAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
FITZ	**Fitzroy Crossi**	43.86	210	P	**P**	**16 09 46.7**	**-0.8**
	comp=Z,4.2nm,0.7s,baz=28,slow=11,SNR=10						
FITZ				PcP	**PcP**	**16 11 33.0**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=57,slow=6.2,SNR=2.2						
FITZ	**Fitzroy Crossi**	43.86	210	P	**P**	**16 09 46.9**	**-0.6**
FITZ				IAmb	IAmb	16 09 52.6	
	comp=Z,26nm,1.7s						
GTA	**Gaotai**	44.24	306	*e*P	**P**	**16 09 50.8**	**+0.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CMAR	**Chiang Mai Arr**	45.10	276	P	**P**	**16 09 57.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=61,slow=7.3,SNR=6.0						
CMAR				LR	LR	16 26 58.5	
	comp=Z,65nm,21.6s,baz=92,slow=34						
ZAK	**Zakamensk**	45.23	322	*e*P	**P**	**16 09 57.8**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ASAR	**Alice Springs**	45.91	197	P	**P**	**16 10 02.5**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=17,slow=8.3,SNR=19						
ASAR				PcP	**PcP**	**16 11 39.8**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=22,slow=3.7,SNR=4.7						
ASAR				LR	LR	16 29 32.2	
	comp=Z,148nm,20.2s,baz=24,slow=36						
DZM	**Mont Dzumac**	46.63	155	*e*LR	LR	16 23 36.0	
	comp=Z,292nm,24.1s						
DZM	**Mont Dzumac**	46.63	155	P	**P**	**16 10 08.9**	**-0.6**
	comp=Z,11nm,0.9s,baz=330,slow=12,SNR=2.8						
DZM	**Mont Dzumac**	46.63	155	P	**P**	**16 10 09.1**	**-0.5**
MOY	**Mondy**	47.07	322	*e*P	**P**	**16 10 13.9**	**+1.1**
BILL	**Bilibino**	48.83	10	*i*P	**P**	**16 10 26.3**	**+0.3**
BILL				*i*		16 11 50.6	
BILL				*i*		16 12 22.3	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,144nm,19.0s						
BILL	**Bilibino**	48.83	10	P	**P**	**16 10 27.1**	**+1.1**
MSVF	**Nonsavu**	48.94	139	*e*P	**P**	**16 10 28.0**	**+0.5**
MSVF				pmax	pmax		
	comp=Z,16nm,1.0s						
MSVF	**Nonsavu**	48.94	139	P	**P**	**16 10 28.9**	**+1.4**
MSVF				IAmb	IAmb	16 10 30.3	
	comp=Z,18nm,1.0s						
PSA00	**Pilbara Seismi**	49.66	214	P	**P**	**16 10 32.4**	**-0.5**
PSA00				IAmb	IAmb	16 10 38.6	
	comp=Z,25nm,1.4s						
LSA	**Lhasa**	50.81	292	P	**P**	**16 10 43.3**	**+1.1**
LSA				pmax	pmax		
	comp=Z,60nm,1.7s						
LSA	**Lhasa**	50.81	292	P	**P**	**16 10 43.2**	**+1.1**
ARMA	**Armidale**	51.06	175	P	**P**	**16 10 43.7**	**+0.3**
ARMA				IAmb	IAmb	16 10 46.4	
	comp=Z,20nm,1.3s						
TIXI	**Tiksi**	51.99	353	*e*P	**P**	**16 10 50.1**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
STKA	**Stephens Creek**	52.56	186	P	**P**	**16 10 54.2**	**-0.2**
STKA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
STKA	**Stephens Creek**	52.56	186	P	**P**	**16 10 54.0**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=345,slow=11,SNR=5.3						
STKA				LR	LR	16 34 19.7	
	comp=Z,94nm,20.0s,baz=19,slow=37						
STKA	**Stephens Creek**	52.56	186	P	**P**	**16 10 54.2**	**-0.2**
WMQ	**Urumqi**	53.86	310	*e*P	**P**	**16 11 05.8**	**+1.7**
WMQ				pP	pP	16 11 17.3	+2.2
WMQ				sP	pwP	16 11 26.1	+5.1
WMQ				pmax	pmax		
	comp=Z,13nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,110nm,5.3s						
WMQ				LR	LR		
	comp=Z,240nm,29.0s						
WMQ				LR	LR		
	comp=Z,1μm,28.9s						
TAPN	**Taplejung**	54.03	289	*e*P	**P**	**16 11 06.4**	**+0.5**
	comp=Z,72nm,1.2s						
UWB	**Uwekahuna B**	54.08	81	P	**P**	**16 11 05.0**	**-1.1**
SBLHI	**Steaming Bluff**	54.09	81	P	**P**	**16 11 05.8**	**-0.3**
ODAN	**Odare**	54.37	289	*e*P	**P**	**16 11 08.6**	**+0.3**
	comp=Z,47nm,1.0s						
RAMN	**Ramite**	55.06	289	*e*P	**P**	**16 11 13.4**	**+0.1**
	comp=Z,24nm,0.8s						
JIRN	**Jiri**	55.33	290	*e*P	**P**	**16 11 16.2**	**+0.8**
	comp=Z,79nm,0.9s						
GUN	**Gumba**	55.58	290	*e*P	**P**	**16 11 18.1**	**+1.0**
PKI	**Pulchoki**	56.03	290	*e*P	**P**	**16 11 20.4**	**0.0**
	comp=Z,54nm,1.4s						
PKIN	**Phulchoki**	56.04	290	*e*P	**P**	**16 11 20.4**	**0.0**
	comp=Z,14nm,0.9s						
KKN	**Kakani**	56.12	290	*e*P	**P**	**16 11 21.4**	**+0.6**
	comp=Z,21nm,0.8s						
DMN	**Daman**	56.29	290	*e*P	**P**	**16 11 21.9**	**-0.3**
	comp=Z,76nm,1.5s						
ZAA0	**Zalesovo Array**	57.11	322	P	**P**	**16 11 26.4**	**-0.8**
ZAA0				IAmb	IAmb	16 11 27.8	
	comp=Z,9.1nm,0.7s						
ZALV	**Zalesovo Beam**	57.11	322	P	**P**	**16 11 26.6**	**-0.5**
	comp=Z,7.6nm,0.5s,baz=106,slow=7.2,SNR=32						
ZALV				PcP	**PcP**	**16 12 21.1**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=101,slow=5.5,SNR=2.6						
MK31	**Makanchi Array**	57.89	313	P	**P**	**16 11 32.3**	**-0.5**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MK31	**Makanchi Array**	57.89	313	P	**P**	**16 11 32.4**	**-0.4**
MKAR	**Makanchi Array**	57.89	313	*ce*P	**P**	**16 11 32.7**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	**Makanchi Array**	57.89	313	P	**P**	**16 11 32.6**	**-0.2**
	comp=Z,4.7nm,0.7s,baz=89,slow=9.3,SNR=28						
MKAR				PcP	**PcP**	**16 12 24.4**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=100,slow=5.4,SNR=2.1						
MAKZ	**Makanchi**	58.10	313	P	**P**	**16 11 33.8**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,12nm,1.2s						
MAKZ	**Makanchi**	58.10	313	P	**P**	**16 11 34.0**	**-0.3**
CNPM	**China Poot**	58.15	32	P	**P**	**16 11 35.0**	**+0.5**
SKT	**Skwentna**	58.62	29	P	**P**	**16 11 38.4**	**+0.7**
SKT				IAmb	IAmb	16 12 10.2	
	comp=Z,10nm,1.0s						
PDGK	**Podgornoye**	59.79	309	P	**P**	**16 11 45.5**	**-0.8**
PDGK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MLY	**Manley**	59.80	26	P	**P**	**16 11 48.0**	**+2.2**
MLY				IAmb	IAmb	16 12 11.8	
	comp=Z,24nm,1.8s						
KURK	**Kurchatov**	60.53	317	*di*P	**P**	**16 11 51.0**	**0.0**
KURK				pmax	pmax		
	comp=Z,23nm,1.3s						
KURK	**Kurchatov**	60.53	317	P	**P**	**16 11 50.8**	**-0.2**
COLA	**College**	60.95	26	*e*P	**P**	**16 11 55.0**	**+1.4**
COLA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TOLK	**Toolik Lake Re**	61.29	22	P	**P**	**16 11 57.4**	**+1.4**
TOLK				IAmb	IAmb	16 13 10.7	
	comp=Z,25nm,1.7s						
ILAR	**Eielson Array**	61.33	27	P	**P**	**16 11 56.0**	**-0.1**
	comp=Z,2.6nm,1.1s,baz=262,slow=5.1,SNR=11						
SCRK	**Sand Creek**	62.42	28	P	**P**	**16 12 03.9**	**+0.2**
SCRK				IAmb	IAmb	16 12 31.2	
	comp=Z,12nm,1.3s						
NRN	**Naryn**	62.46	307	P	**P**	**16 12 04.5**	**-0.1**
NRN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
NRN	**Naryn**	62.46	307	P	**P**	**16 12 04.5**	**-0.1**
NRN				IAmb	IAmb	16 12 14.7	
	comp=Z,9.0nm,1.2s						
KSH	**Kashi**	62.63	305	P	**P**	**16 12 09.8**	**+4.3**
KSH				pP	pwP	16 12 26.0	+3.5
KSH				PP	**PP**	**16 14 28.5**	**+5.0**
KSH				PcS	**PcS**	**16 16 49.5**	**+1.9**
KSH				S	**S**	**16 20 32.4**	**+1.6**
KSH				SS	**SS**	**16 24 40.5**	**+5.0**
KSH				pmax	pmax		
	comp=Z,65nm,1.6s						
KSH				pmax	pmax		
	comp=Z,390nm,5.2s						
KSH				LR	LR		
	comp=Z,470nm,5.4s						
KSH				LR	LR		
	comp=Z,560nm,5.1s						
KSH				LR	LR		
	comp=Z,580nm,5.0s						
TKM2	**Tokmak 2**	62.66	308	*i* P	**P**	**16 12 05.8**	**0.0**
TKM2				pmax	pmax		
	comp=Z,9.0nm,0.9s						
AAK	**Ala-Archa**	63.49	308	*e*P	**P**	**16 12 11.1**	**-0.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
AAK	**Ala-Archa**	63.49	308	P	**P**	**16 12 09.7**	**-1.5**
AAK				IAmb	IAmb	16 12 30.0	
	comp=Z,21nm,1.9s						
NIL	**Nilore**	65.54	298	P	**P**	**16 12 24.0**	**-0.6**
NIL				pmax	pmax		
	comp=Z,13nm,0.9s						
NIL	**Nilore**	65.54	298	P	**P**	**16 12 24.0**	**-0.6**
NIL				IAmb	IAmb	16 12 31.0	
	comp=Z,12nm,0.9s						
BRVK	**Borovoye**	65.70	320	*c* *i*P	**P**	**16 12 25.9**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,24nm,1.0s						
BRVK	**Borovoye**	65.70	320	P	**P**	**16 12 25.5**	**+0.3**
KK31	**Karatay Array**	66.35	309	P	**P**	**16 12 30.0**	**+0.3**
KK31				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KK31	**Karatay Array**	66.35	309	P	**P**	**16 12 30.0**	**+0.3**
KK31				IAmb	IAmb	16 12 35.7	
	comp=Z,9.4nm,0.9s						
KKAR	**Karatay Array**	66.35	309	P	**P**	**16 12 30.1**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KKAR	**Karatay Array**	66.35	309	P	**P**	**16 12 30.1**	**+0.4**
KKAR				IAmb	IAmb	16 12 35.7	
	comp=Z,9.4nm,0.9s						
GAR	**Garm**	67.05	305	P	**P**	**16 12 34.3**	**0.0**
INK	**Inuvik**	67.07	23	P	**P**	**16 12 35.0**	**+1.3**
INK				pmax	pmax		
	comp=Z,20nm,1.9s						
INK	**Inuvik**	67.07	23	P	**P**	**16 12 33.5**	**-0.1**
	comp=Z,3.5nm,1.0s,baz=276,slow=7.5,SNR=5.6						
INK	**Inuvik**	67.07	23	P	**P**	**16 12 35.0**	**+1.3**
INK				IAmb	IAmb	16 12 40.1	
	comp=Z,20nm,1.9s						
RPZ	**Rata Peaks**	67.86	161	P	**P**	**16 12 39.0**	**+0.1**
	comp=Z,10nm,0.8s,baz=86,slow=22,SNR=3.4						
RPZ	**Rata Peaks**	67.86	161	IAmb	IAmb	16 12 42.4	
	comp=Z,116nm,1.8s						
CHGR	**Chuyangaron**	68.00	304	P	**P**	**16 12 40.4**	**+0.2**
KBL	**Kabul**	68.82	300	P	**P**	**16 12 45.7**	**+0.1**
KBL				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KBL	**Kabul**	68.82	300	P	**P**	**16 12 45.7**	**+0.1**
KBL				IAmb	IAmb	16 12 58.7	
	comp=Z,10nm,1.1s						
SVE	**Sverdlovsk**	70.88	325	*e*P	**P**	**16 12 58.5**	**+1.0**
SVE				pmax	pmax		
	comp=Z,23nm,1.3s						
ARU	**Arti**	72.07	324	*c* *i*P	**P**	**16 13 05.2**	**+0.4**
ARU				*PP	**pP**	**16 13 17.9**	**+2.0**
ARU						16 15 44.4	
ARU				S	**S**	**16 22 25.7**	**+2.4**
ARU				SS	**SS**	**16 27 05.9**	**+5.4**
ARU				pmax	pmax		
	comp=Z,14nm,0.7s						
ARU	**Arti**	72.07	324	P	**P**	**16 13 04.9**	**+0.1**
AB31	**Akbulak array**	72.63	317	*i*P	**P**	**16 13 08.2**	**0.0**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ABKAR	**Akbulak array**	72.63	317	P	**P**	**16 13 08.0**	**-0.2**
ABKAR				IAmb	IAmb	16 13 13.7	
	comp=Z,7.8nm,0.9s						
PPT2	**Papeete2**	73.01	117	*e*LR	LR	16 35 32.8	
	comp=Z,209nm,28.0s						
YKA	**Yellowknife Ar**	75.67	28	P	**P**	**16 13 25.4**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=290,slow=5.6,SNR=16						
TBI	**Tubuai**	75.93	122	*e*LR	LR	16 36 06.2	
	comp=Z,114nm,35.5s						
GEYT	**Alibeck**	76.63	306	P	**P**	**16 13 30.4**	**-1.3**
	comp=Z,2.5nm,0.9s,baz=87,slow=6.1,SNR=7.0						
PRGR	**Permogore**	77.18	331	*e*P	**P**	**16 13 31.9**	**-2.3**
PRGR				pmax	pmax		
	comp=Z,17nm,0.7s						
PINE	**Pine Mountain**	77.46	48	P	**P**	**16 13 37.5**	**+1.0**
PINE				IAmb	IAmb	16 14 14.8	
	comp=Z,29nm,1.7s						
BEKR	**Beckworth**	79.04	52	P	**P**	**16 13 45.9**	**+0.6**
BEKR				IAmb	IAmb	16 14 20.0	
	comp=Z,18nm,1.9s						
WVOR	**Wild Horse Val**	79.48	49	P	**P**	**16 13 48.4**	**+0.9**
WVOR				pmax	pmax		
	comp=Z,16nm,1.8s						
WVOR	**Wild Horse Val**	79.48	49	P	**P**	**16 13 48.4**	**+0.9**
BMO	**Blue Mountains**	79.62	46	P	**P**	**16 13 49.0**	**+0.8**
BMO				pmax	pmax		
	comp=Z,14nm,1.6s						
BMO	**Blue Mountains**	79.62	46	P	**P**	**16 13 49.0**	**+0.8**
OMMB	**Old Mammoth Mi**	80.75	53	P	**P**	**16 13 55.4**	**+0.6**
RYN	**Ryan**	80.78	52	P	**P**	**16 13 55.0**	**+0.3**
ARCES	**ARCESS Array B**	80.91	342	P	**P**	**16 13 54.7**	**+0.2**
	comp=Z,6.0nm,0.9s,baz=50,slow=6.5,SNR=5.4						
ARCES				LR	LR	16 58 09.2	
	comp=Z,99nm,18.7s,baz=3.5,slow=42						
KVN	**Kaiserville**	80.95	52	P	**P**	**16 13 56.2**	**+0.6**
KVN				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KVN	**Kaiserville**	80.95	52	P	**P**	**16 13 56.2**	**+0.6**
NVAR	**Mina Array Bea**	81.

XPFO	**Pion Flat**	**84.06**	**56**	P	**P**	**16 14 10.6**	**-1.3**
XPFO				IAmb	IAmb	16 14 14.1	
	comp=Z,9.5nm,1.4s						
YNR	**Norris Junctio**	**84.08**	**44**	P	**P**	**16 14 11.6**	**-0.3**
LPSR	**Galich'ya Gora**	**84.10**	**324**	*eP*	**P**	**16 14 09.7**	**-1.8**
LPSR				pmax	pmax		
	comp=Z,20nm,1.2s						
OBN	**Obninsk**	**84.19**	**327⇑**	*eP*	**P**	**16 14 12.5**	**+0.7**
OBN				*e*		16 17 26.2	
OBN				*e*SS	SS	16 30 02.1	-0.3
OBN				pmax	pmax		
	comp=Z,33nm,1.3s						
PSUT	**Pine Spring**	**84.24**	**51**	P	**P**	**16 14 12.2**	**-0.6**
DUG	**Dugway, Tooele**	**84.37**	**49**	P	**P**	**16 14 13.8**	**+0.5**
DUG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
DUG	**Dugway, Tooele**	**84.37**	**49**	P	**P**	**16 14 13.8**	**+0.5**
VORD	**Divnogorie**	**84.62**	**323**	*eP*	**P**	**16 14 13.7**	**-0.4**
VORD				pmax	pmax		
	comp=Z,9.0nm,1.2s						
HWUT	**Hardware Ranch**	**84.70**	**48**	P	**P**	**16 14 15.4**	**+0.4**
HWUT				IAmb	IAmb	16 14 17.7	
	comp=Z,9.9nm,1.4s						
FFC	**Flin Flon**	**84.78**	**33**	P	**P**	**16 14 15.2**	**+0.3**
FFC				pmax	pmax		
	comp=Z,22nm,1.5s						
FFC	**Flin Flon**	**84.78**	**33**	P	**P**	**16 14 15.2**	**+0.3**
FFC				IAmb	IAmb	16 14 17.1	
	comp=Z,22nm,1.5s						
RLMT	**Red Lodge**	**84.83**	**44**	P	**P**	**16 14 15.4**	**-0.3**
RLMT				IAmb	IAmb	16 14 19.5	
	comp=Z,20nm,1.6s						
CCUT	**Cedar City**	**84.97**	**52**	P	**P**	**16 14 17.3**	**+0.8**
ZEI	**Tsey**	**85.22**	**314**	*eP*	**P**	**16 14 15.8**	**-1.8**
ZEI				pmax	pmax		
	comp=Z,11nm,1.6s						
LCMT	**Little Creek M**	**85.26**	**52**	P	**P**	**16 14 18.7**	**+0.8**
W13A	**Hualapai Mount**	**85.50**	**54**	P	**P**	**16 14 19.8**	**+0.6**
KBZ	**Khabaz**	**85.51**	**315**	P	**P**	**16 14 18.6**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=65,slow=5.6,SNR=8.0						
FINES	**FINESS Array B**	**85.51**	**336**	P	**P**	**16 14 17.5**	**-0.9**
	comp=Z,4.4nm,0.7s,baz=66,slow=4.9,SNR=13						
KNB	**Kanab**	**85.57**	**52**	P	**P**	**16 14 19.4**	**-0.1**
KNB				pmax	pmax		
	comp=Z,23nm,1.4s						
KNB	**Kanab**	**85.57**	**52**	P	**P**	**16 14 19.4**	**-0.1**
PDAR	**Pinedale Array**	**85.61**	**46**	P	**P**	**16 14 18.2**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=321,slow=1.3,SNR=3.5						
PDAR				LR	LR	16 45 44.9	
	comp=Z,64nm,19.8s,baz=352,slow=31						
U15A	**North Rim**	**86.19**	**53**	P	**P**	**16 14 21.8**	**-0.9**
SRU	**San Rafael Swe**	**86.42**	**50**	P	**P**	**16 14 23.4**	**-0.2**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SRU	**San Rafael Swe**	**86.42**	**50**	P	**P**	**16 14 23.4**	**-0.2**
RDMU	**Red Mountain**	**86.50**	**48**	P	**P**	**16 14 24.2**	**+0.2**
Y14A	**Wickenburg**	**86.61**	**55**	P	**P**	**16 14 24.9**	**+0.4**
Y14A				IAmb	IAmb	16 14 27.2	
	comp=Z,8.2nm,1.3s						
WUAZ	**Wupatki**	**87.23**	**53**	P	**P**	**16 14 27.8**	**+0.2**
WUAZ				IAmb	IAmb	16 14 30.0	
	comp=Z,7.1nm,1.0s						
PV21	**Cone Mtn., Par**	**87.75**	**50**	P	**P**	**16 14 30.6**	**+0.4**
PV21				IAmb	IAmb	16 14 31.9	
	comp=Z,6.9nm,0.9s						
PV23	**Carpenter Ridg**	**87.77**	**50**	P	**P**	**16 14 30.9**	**+0.6**
PV23				IAmb	IAmb	16 14 32.1	
	comp=Z,10.0nm,1.0s						
PV14	**Lion Creek, Pa**	**87.79**	**50**	P	**P**	**16 14 31.0**	**+0.6**
PV20	**West Nyswonger**	**87.84**	**50**	P	**P**	**16 14 31.2**	**+0.6**
PV19	**Morning Glory**	**87.84**	**50**	P	**P**	**16 14 31.0**	**+0.4**
PV04	**Paradox Valley**	**87.87**	**50**	P	**P**	**16 14 30.6**	**-0.1**
PV17	**East Wray Mesa**	**87.88**	**50**	P	**P**	**16 14 30.8**	**0.0**
PV22	**Blue Mesa, Par**	**87.89**	**50**	P	**P**	**16 14 31.0**	**+0.2**
PV22				IAmb	IAmb	16 14 45.1	
	comp=Z,16nm,1.6s						
PV16	**Nyswonger Mesa**	**87.89**	**50**	P	**P**	**16 14 31.3**	**+0.5**
PV03	**Paradox Valley**	**87.97**	**50**	P	**P**	**16 14 31.2**	**+0.1**
PV03				IAmb	IAmb	16 14 34.2	
	comp=Z,13nm,1.3s						
PV12	**Saucer Basin,**	**87.97**	**50**	P	**P**	**16 14 30.3**	**-0.9**
PV13	**Radium Mtn., P**	**88.03**	**50**	P	**P**	**16 14 31.3**	**-0.2**
PV13				IAmb	IAmb	16 14 34.4	
	comp=Z,10nm,1.3s						
S22A	**4UR Ranch, Cre**	**89.62**	**50**	P	**P**	**16 14 39.6**	**+0.5**
S22A				IAmb	IAmb	16 14 42.8	
	comp=Z,13nm,1.5s						
AKASG	**Malin Array Be**	**90.27**	**326**	P	**P**	**16 14 40.2**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=44,slow=5.8,SNR=9.3						
AKBB	**Malin Array Si**	**90.27**	**326⇑**	*eP*	**P**	**16 14 40.3**	**-1.1**
ULM	**Lac du Bonnet**	**90.29**	**35⇑**	*eP*	**P**	**16 14 41.6**	**+0.1**
ULM	**Lac du Bonnet**	**90.29**	**35**	LR	LR	16 54 27.9	
	comp=Z,47nm,19.3s,baz=318,slow=35						
CASY	**Casey**	**90.97**	**194**	P	**P**	**16 14 44.8**	**+0.8**
CASY				IAmb	IAmb	16 14 46.9	
	comp=Z,9.5nm,1.3s						
NOA	**NORSAR Array B**	**91.06**	**340**	LR	LR	17 04 58.2	
	comp=Z,33nm,18.1s,baz=30,slow=42						
ANMO	**Albuquerque**	**91.12**	**52⇑**	*eP*	**P**	**16 14 46.5**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.8s						
ANMO	**Albuquerque**	**91.12**	**52**	P	**P**	**16 14 46.2**	**+0.2**
ANMO				IAmb	IAmb	16 14 50.4	
	comp=Z,18nm,1.9s						
Y22D	**IRIS PASSCAL I**	**91.16**	**53**	P	**P**	**16 14 45.4**	**-0.7**
FRB	**Frobisher Bay**	**91.37**	**15**	LR	LR	16 57 47.8	
	comp=Z,42nm,18.6s,baz=347,slow=37						
RAYN	**Ar Rayn**	**91.72**	**296**	P	**P**	**16 14 47.8**	**-0.9**
RAYN				pmax	pmax		
	comp=Z,21nm,2.0s						
RAYN	**Ar Rayn**	**91.72**	**296**	P	**P**	**16 14 47.8**	**-0.9**
RAYN				IAmb	IAmb	16 14 52.9	
	comp=Z,21nm,1.9s						
MNTX	**Cornudas Mount**	**93.38**	**54**	P	**P**	**16 14 57.1**	**+0.9**
MNTX				IAmb	IAmb	16 14 59.1	
	comp=Z,18nm,1.8s						
BRTR	**Keskin Array B**	**93.49**	**315**	*ce*P	**P**	**16 14 55.9**	**-0.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**93.49**	**315**	P	**P**	**16 14 55.6**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=98,slow=4.4,SNR=4.6						
VYHS	**Vyhne**	**96.95**	**328**	*eP*	**P**	**16 15 12.1**	**-0.2**
VYHS	**Vyhne**	**96.95**	**328**	*eP*	**P**	**16 15 12.0**	**-0.2**
SNAA	**Sanae**	**126.13**	**191**	PKiKP	**PKiKP**	**16 20 43.4**	**+0.8**
VNA2	**Neumayer--Watz**	**127.56**	**190**	PKiKP	**PKiKP**	**16 20 46.2**	**+0.8**
VNA3	**Neumayer Olymp**	**127.65**	**189**	PKPdif	**PKiKP**	**16 20 46.1**	**+0.5**
VNA1	**Neumayer--Stat**	**127.95**	**190**	PKPdif	**PKiKP**	**16 20 46.2**	**0.0**
TORD	**Torodi Ar. Bea**	**132.00**	**312**	PKP	**PKPdif**	**16 20 54.5**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=29,slow=3.6,SNR=2.8						
PLCA	**Paso Flores**	**142.52**	**131**	PKP	**PKPdf**	**16 21 12.2**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=280,slow=6.5,SNR=2.8						
GO04	**Tololo Observa**	**144.83**	**113**		**PKPdf**	**16 21 18.1**	**-0.2**
LPAZ	**La Paz**	**146.54**	**88**	PKIKP	**PKPdf**	**16 21 21.4**	**-0.6**
LPAZ	**La Paz**	**146.54**	**88**	PKPbc	**PKPbc**	**16 21 23.2**	**-0.3**
	comp=Z,8.5nm,1.1s,baz=280,slow=2.7,SNR=10.0						
LPAZ	**La Paz**	**146.54**	**88**		**PKPdf**	**16 21 21.4**	**-0.6**
SAML	**Samuel**	**148.72**	**72**	PKP2	**PKPbc**	**16 21 28.3**	**-0.4**
SAML	**Samuel**	**148.72**	**72**		**PKPbc**	**16 21 28.4**	**-0.4**

ECX ***17*** *16:02:48.6±0.5, 27.52N×112.40W, h2km±3km, MD3.5, ML3.7*
MEX ***17*** *16:02:48.7±0.6, 27.10N×112.40W, h10km±5km, MD3.8*

ISC 17 16:02:50.4±1.0, 27.5N±0.1×112.23W±0.06, h16km±15km, n8, σ0s90/14, 1C-1D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.12**	**184**	*i* P		**Pg**	**16 02 53.5**	**-0.6**
SRIG				*i* S		**Sg**	**16 02 57.6**	**+1.1**
SRIG	**Santa Rosalia**	**0.12**	**184⇑**	*i*P		**Pg**	**16 02 53.5**	**-0.6**
SRIG				*e*S		**Sg**	**16 02 57.4**	**+0.8**
GUYB	**Guaymas**	**1.29**	**69**	*e*P		**Pn**	**16 03 13.5**	**-0.2**
GUYB				*e*S		**Sg**	**16 03 32.2**	**+0.2**
GUYB	**Guaymas**	**1.29**	**69**	*e*P		**Pn**	**16 03 13.2**	**-0.4**
GUYB				*e*S		**Sg**	**16 03 32.6**	**+0.6**
HSIG		**1.93**	**35**	*e*P		**Pn**	**16 03 22.5**	**-0.1**
HSIG				*i* S		**Sb**	**16 03 49.5**	**+0.4**
HSIG		**1.93**	**35**	*e*P		**Pn**	**16 03 22.1**	**-0.5**
HSIG				*e*S		**Sb**	**16 03 48.6**	**-0.6**
SPX	**San Pedro Mart**	**4.56**	**322**	IAML			16 05 14.2	
	comp=E,56nm,1.0s						
SPX				⇓*e*			16 05 19.4	
SPX				IAML			16 05 19.4	
	comp=N,48nm,1.6s						
SPIG	**San Pedro Mart**	**4.57**	**323**	*e*P		**Pn**	**16 03 58.1**	**-1.1**
SPIG				*e*S		**Sn**	**16 04 53.8**	**+1.7**

IDC 17 16:08:40.7±1.2, 3.70N×127.67E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.3/48, mbtmp3.4/5, Error ellipse: s-maj=70.2km s-min=23.6km az=80.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.75**	**185**	P	P	16 13 35.0	+1.1
	0.8nm,0.7s,baz=11,slow=10,SNR=1.3						
ASAR	**Alice Springs**	**27.87**	**168**	P	P	16 14 31.6	-0.8
	0.2nm,0.7s,baz=340,slow=11,SNR=1.5						
SONM	**Songino Array**	**47.63**	**341**	P	P	16 17 19.0	+0.3
	0.2nm,0.3s,baz=142,slow=9.0,SNR=3.0						
MKAR	**Makanchi Array**	**58.12**	**325**	P	P	16 18 35.7	-0.5
	0.2nm,0.4s,baz=120,slow=8.0,SNR=5.8						
ILAR	**Eielson Array**	**84.73**	**25**	P	P	16 21 16.6	+0.1
	0.2nm,0.7s,baz=270,slow=5.0,SNR=2.9						

IDC ***17*** *16:10:44.2±0.8, 20.68N×147.06E, h0km, mb3.7/10, mb1 3.9/11, mb1mx3.7/50, mbtmp3.8/11, ML4.0/1, Error ellipse: s-maj=24.9km s-min=20.0km az=83.0*
NEIC ***17*** *16:10:46.3±1.2, 20.7N±0.1×146.9E±0.1, h10km±1km, mb4.5/11*
ISCJB ***17*** *16:10:48.8±0.5, 20.70N±0.08×146.96E±0.1, h44km, mb3.7/10, Error ellipse: s-maj=15.5km s-min=11.4km az=157.6*

ISC 17 16:10:50.8±0.6, 20.74N±0.10×147.0E±0.1, h44km, n24, σ0s86/26, mb4.2/16, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**7.69**	**326**	Pn	**Pn**	**16 12 39.5**	**-0.7**
	2.4nm,0.3s,baz=315,slow=20,SNR=2.0						
JCJ				Sn	Sn	16 13 57.7	-8.4
	8.2nm,0.3s,baz=93,slow=24,SNR=5.8						
KSRS	**Korea Array**	**23.47**	**319**	P	**P**	**16 15 55.7**	**-0.7**
	1.1nm,0.7s,baz=142,slow=7.8,SNR=3.8						
SONM	**Songino Array**	**42.34**	**319**	P	**P**	**16 18 41.0**	**+0.4**
	0.6nm,0.6s,baz=99,slow=6.8,SNR=3.0						
SONM				PcP	**PcP**	**16 20 33.5**	**0.0**
	0.3nm,0.5s,baz=132,slow=4.0,SNR=2.3						
FITZ	**Fitzroy Crossi**	**43.91**	**210**	P	**P**	**16 18 52.9**	**-0.4**
	1.3nm,0.8s,baz=22,slow=11,SNR=3.3						
FITZ	**Fitzroy Crossi**	**43.91**	**210**	IAmb	IAmb	16 19 04.6	
	comp=Z,5.1nm,1.1s						
ASAR	**Alice Springs**	**45.94**	**197**	P	**P**	**16 19 08.6**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=16,slow=8.0,SNR=5.9						
KNTN	**Kanton**	**46.74**	**115**	P	**P**	**16 19 16.1**	**+0.2**
CISI	**Cisompet, Garu**	**47.66**	**238**		**S**	**16 26 19.3**	**+3.0**
RPSI	**Rantau Prapat**	**50.10**	**256**	P	**P**	**16 19 40.5**	**-1.4**
RPSI				IAmb	IAmb	16 19 52.8	
	comp=Z,11nm,1.2s						
STKA	**Stephens Creek**	**52.58**	**186**	P	**P**	**16 19 59.9**	**-0.1**
SII	**Sitkinak Islan**	**55.85**	**35**	P	**P**	**16 20 24.4**	**+0.7**
ZAA0	**Zalesovo Array**	**57.15**	**322**	P	**P**	**16 20 33.0**	**0.0**
ZAA0				IAmb	IAmb	16 20 34.0	
	comp=Z,3.3nm,0.6s						
ZALV	**Zalesovo Beam**	**57.15**	**322**	P	**P**	**16 20 33.5**	**+0.5**
	comp=Z,3.2nm,0.5s,baz=111,slow=7.6,SNR=16						
ZALV				PcP	**PcP**	**16 21 27.8**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=116,slow=3.4,SNR=2.7						
MK31	**Makanchi Array**	**57.94**	**313**	P	**P**	**16 20 39.4**	**+0.7**
MKAR	**Makanchi Array**	**57.94**	**313**	P	**P**	**16 20 39.2**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=91,slow=8.8,SNR=14						
MKAR				PcP	**PcP**	**16 21 31.2**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=83,slow=4.5,SNR=2.5						
MAKZ	**Makanchi**	**58.16**	**313**	P	**P**	**16 20 40.5**	**+0.3**
MAKZ				IAmb	IAmb	16 20 41.9	
	comp=Z,2.5nm,0.9s						
KURK	**Kurchatov**	**60.58**	**317**	P	**P**	**16 20 56.7**	**0.0**
KURK				IAmb	IAmb	16 20 58.1	
	comp=Z,3.4nm,1.0s						
ILAR	**Eielson Array**	**61.29**	**27**	P	**P**	**16 21 02.1**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=270,slow=4.9,SNR=2.6						
BRVK	**Borovoye**	**65.75**	**320**	P	**P**	**16 21 31.8**	**+0.7**
BRVK				IAmb	IAmb	16 21 32.9	
	comp=Z,4.1nm,0.8s						
ABKAR	**Akbulak array**	**72.68**	**317**	P	**P**	**16 22 14.2**	**+0.2**
ABKAR				IAmb	IAmb	16 22 15.3	
	comp=Z,3.5nm,1.1s						
YKA	**Yellowknife Ar**	**75.63**	**28**	P	**P**	**16 22 30.6**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=286,slow=5.5,SNR=4.5						
NVAR	**Mina Array Bea**	**80.94**	**52**	P	**P**	**16 23 01.0**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=285,slow=7.2,SNR=2.8						
FINES	**FINESS Array B**	**85.53**	**336**	P	**P**	**16 23 23.4**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=83,slow=4.8,SNR=4.3						
LPAZ	**La Paz**	**146.46**	**88**	PKPbc	**PKPdf**	**16 30 27.5**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=315,slow=2.9,SNR=1.7						

NAO ***17*** *16:13:29.9±5.2, 75.90N×8.03E, ML2.8*
BER ***17*** *16:13:32.1±2.7, 75.89N×8.30E, h10km, ML1.7, ML2.8(NAO), Confirmed Earthquake*

ISC 17 16:13:30.4±1.6, 76.00N±0.05×9.4E±0.1, h10km, n13, σ1s95/21, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**1.75**	**52**	Pn	**Pg**	**16 14 04.7**	**+0.8**
HSPB				Sn	**Sg**	**16 14 28.8**	**+2.2**
HSPB	**Hornsund (broa**	**1.75**	**52**	*e*P	**Pg**	**16 14 04.7**	**+0.8**
HSPB				*e*S	**Sg**	**16 14 28.6**	**+2.0**
HSPB				IAML		16 14 49.5	
	comp=Z,7.9nm,0.4s						
BRBA	**Barentsburg A**	**2.33**	**25**	Pn	**Pg**	**16 14 14.1**	**-1.0**
BRBA	**Barentsburg A**	**2.33**	**25**	Pn	**Pg**	**16 14 14.1**	**-1.0**
SPA0	**Spitsbergen Ar**	**2.68**	**32**	Pn	**Pb**	**16 14 17.2**	**-1.2**
	baz=214,slow=12						
SPA0				Sn	**Sb**	**16 14 50.2**	**-1.2**
	baz=233,slow=28						
SPA0	**Spitsbergen Ar**	**2.68**	**32**	Pn	**Pb**	**16 14 17.2**	**-1.2**
	baz=214,slow=12						
SPA0				Sn	**Sb**	**16 14 50.2**	**-1.2**
	baz=233,slow=28						
KBS	**Kingsbay**	**2.99**	**9**	Pn	**Pn**	**16 14 19.1**	**+1.3**
KBS				Sn	**Sn**	**16 14 53.0**	**-0.7**
KBS	**Kingsbay**	**2.99**	**9**	*e*P	**Pn**	**16 14 18.5**	**+0.7**
KBS				*e*S	**Sn**	**16 14 53.3**	**-0.3**
KBS				IAML		16 14 57.1	
	comp=Z,7.1nm,0.8s						
HOPEN	**Hopen**	**3.75**	**75**	Pn	**Pb**	**16 14 33.4**	**-3.2**
ARA0	**ARCESS Array S**	**8.02**	**136**	Pn	**Pn**	**16 15 28.6**	**+1.8**
	baz=328,slow=12						
ARA0				Sn	**Sn**	**16 16 54.7**	**-2.7**
	baz=335,slow=22						
ARA0	**ARCESS Array S**	**8.02**	**136**	Pn	**Pn**	**16 15 28.6**	**+1.8**
	baz=328,slow=12						
ARA0				Sn	**Sn**	**16 16 54.7**	**-2.7**
	baz=335,slow=22						
APA0	**Apatity Array**	**11.07**	**127**	Pn	**Pn**	**16 16 11.4**	**+2.9**
	baz=339,slow=12						
APA0	**Apatity Array**	**11.07**	**127**	Pn	**Pn**	**16 16 11.4**	**+2.9**
	baz=339,slow=12						

NEIC ***17*** *16:44:37.7±2.0, 24.1S±0.1×179.9E±0.1, h506km±7km, mb4.8/39*
ISCJB ***17*** *16:44:38.3±0.3, 24.07S±0.03×179.86E±0.06, h526km, mb3.8/9, Error ellipse: s-maj=7.4km s-min=4.3km az=177.7*
IDC ***17*** *16:44:38.9±2.4, 24.12S×179.81E, h512km±25km, mb3.4/10, mb1 3.6/12, mb1mx3.4/23, mbtmp4.3/12, Error ellipse: s-maj=18.9km s-min=16.4km az=96.0*

ISC 17 16:44:39.2±0.5, 24.19S±0.06×179.94E±0.08, h526km, n133, σ1s90/135, mb4.6/23, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**5.40**	**160**	P	**P**	**16 46 10.9**	**-0.2**
GLKZ				S	**S**	**16 47 26.3**	**0.0**
MSVF	**Nonsavu**	**6.66**	**344**	P	**P**	**16 46 21.5**	**-1.7**
NIUE	**Niue**	**10.71**	**64**	P	**P**	**16 47 03.5**	**-0.7**
OUZ	**Omahuta**	**12.30**	**205**	P	**P**	**16 47 23.8**	**+3.2**
OUZ	**Omahuta**	**12.30**	**205**	P	**P**	**16 47 23.6**	**+3.0**
DZM	**Mont Dzumac**	**12.60**	**277**	P	**P**	**16 47 24.4**	**+0.3**
	0.9nm,0.3s,baz=89,slow=20,SNR=8.0						
GRZ	**Great Barrier**	**12.63**	**197**	P	**P**	**16 47 21.9**	**-2.2**
WCZ	**Waipu Caves**	**12.67**	**201**	P	P	16 47 34.0	+9.4
AFI	**Afiamalu**	**12.87**	**39**	P	P	16 47 22.3	-4.8
KUZ	**Kuaotunu**	**13.03**	**195**	P	**P**	**16 47 31.0**	**+2.6**
WIAZ	**Waiheke Island**	**13.23**	**197**	P	**P**	**16 47 33.1**	**+2.7**
MBAZ	**Motutapu North**	**13.27**	**198**	P	**P**	**16 47 33.8**	**+3.0**
MXZ	**Matakaoa Point**	**13.41**	**186**	P	**P**	**16 47 33.5**	**+1.3**
MXZ	**Matakaoa Point**	**13.41**	**186**	P	**P**	**16 47 32.5**	**+0.3**
MYRZ	**Mayor Island**	**13.43**	**193**	P	P	16 47 37.7	+5.2
ETAZ	**East Tamaki Re**	**13.43**	**198**	P	**P**	**16 47 35.2**	**+2.7**
MKAZ	**Moumakai**	**13.51**	**197**	P	**P**	**16 47 35.7**	**+2.4**
WTAZ	**Waiatarua**	**13.52**	**199**	P	**P**	**16 47 36.1**	**+2.7**
HAZ	**Te Kaha**	**13.65**	**187**	P	**P**	**16 47 36.2**	**+1.5**
WMGZ	**Waiomatatini S**	**13.65**	**185**	P	**P**	**16 47 35.3**	**+0.5**
PKGZ	**Pakihiroa**	**13.75**	**186**	P	**P**	**16 47 36.9**	**+1.0**
RUGZ	**Raukumara Rang**	**13.87**	**187**	P	**P**	**16 47 37.8**	**+0.6**
PUZ	**Puketiti**	**13.92**	**186**	P	**P**	**16 47 36.9**	**-0.6**
TOZ	**Tahuroa Road**	**14.03**	**195**	P	**P**	**16 47 41.0**	**+2.4**
MARZ	**Manawahe**	**14.04**	**191**	P	**P**	**16 47 41.3**	**+2.5**
TWGZ	**Tauwhareparae**	**14.05**	**186**	P	**P**	**16 47 38.9**	**-0.1**
OMRZ	**Omania**	**14.21**	**192**	P	**P**	**16 47 43.2**	**+2.6**
URZ	**Urewera**	**14.23**	**189**	P	**P**	**16 47 40.1**	**-0.8**
	15nm,0.3s,baz=24,slow=1.4,SNR=63						
URZ				S	**S**	**16 50 08.4**	**-2.2**
	2.4nm,0.3s,baz=17,slow=23,SNR=9.9						
URZ	**Urewera**	**14.23**	**189**	P	**P**	**16 47 40.1**	**-0.8**
URZ	**Urewera**	**14.23**	**189**	P	**P**	**16 47 39.5**	**-1.4**
MWZ	**Matawai**	**14.25**	**188**	P	**P**	**16 47 41.0**	**-0.1**
CNGZ	**Carnagh Statio**	**14.33**	**186**	P	**P**	**16 47 43.3**	**+1.4**
RAGZ	**Rawiri**	**14.43**	**188**	P	**P**	**16 47 42.8**	**-0.2**
RIGZ	**Rimuhau**	**14.59**	**187**	P	**P**	**16 47 44.1**	**-0.6**
RTZ	**Ruatahuna**	**14.60**	**189**	P	**P**	**16 47 44.2**	**-0.6**
RTZ				S	**S**	**16 50 15.6**	**-2.2**
KUTZ	**Kaahu Road**	**14.68**	**193**	P	**P**	**16 47 48.9**	**+3.3**
SNGZ	**Shannon Statio**	**14.72**	**188**	P	**P**	**16 47 45.6**	**-0.3**
MTHZ	**Maungataniwha**	**14.86**	**189**	P	**P**	**16 47 47.3**	**-0.1**
MTHZ				S	**S**	**16 50 18.2**	**-4.4**
RAHZ	**Arahi**	**14.88**	**189**	P	**P**	**16 47 47.3**	**-0.4**
WATZ	**Wairara**	**14.91**	**193**	P	**P**	**16 47 50.1**	**+2.2**
KNZ	**Kokohu**	**14.91**	**187**	P	**P**	**16 47 47.4**	**-0.6**
HIZ	**Hauiti**	**14.92**	**196**	P	**P**	**16 47 52.7**	**+4.6**
HIZ	**Hauiti**	**14.92**	**196**	P	**P**	**16 47 47.8**	**-0.3**
MHGZ	**Mahia Peninsul**	**15.02**	**186**	P	**P**	**16 47 48.6**	**-0.5**
RATZ	**Rangitukua**	**15.06**	**193**	P	**P**	**16 47 47.9**	**-1.6**
KATZ	**Kakaramea**	**15.18**	**193**	P	**P**	**16 47 52.9**	**+2.0**
BKZ	**Black Stump Fm**	**15.22**	**190**	P	**P**	**16 47 50.4**	**-0.8**
BKZ	**Black Stump Fm**	**15.22**	**190**	P	**P**	**16 47 49.6**	**-1.6**
BKZ				IAmb	IAmb	16 47 51.0	
	comp=Z,86nm,1.9s						
KRVZ	**Karewarewa**	**15.30**	**193**	P	**P**	**16 47 53.8**	**+1.7**
TWVZ	**Taurewa**	**15.32**	**193**	P	**P**	**16 47 54.3**	**+1.9**
WTVZ	**West Tongariro**	**15.33**	**193**	P	**P**	**16 47 52.4**	**-0.1**
NGZ	**Ngauruhoe**	**15.39**	**193**	P	**P**	**16 47 54.2**	**+1.1**
MCHZ	**McNeill Hill**	**15.46**	**189**	P	**P**	**16 47 53.6**	**-0.1**
TUVZ	**Tukino**	**15.47**	**193**	P	**P**	**16 47 53.8**	**-0.1**
FWVZ	**Far West T-bar**	**15.48**	**193**	P	**P**	**16 47 55.0**	**+0.9**
KWHZ	**Kaweka Forest**	**15.48**	**190**	P	**P**	**16 47 53.6**	**-0.4**
TRVZ	**Turoa**	**15.52**	**193**	P	**P**	**16 47 54.6**	**0.0**
VRZ	**Vera Road**	**15.53**	**195**	P	**P**	**16 47 57.0**	**+2.7**
PKVZ	**Pokaka**	**15.55**	**193**	P	**P**	**16 47 55.4**	**+0.8**
MOVZ	**Moawhango**	**15.58**	**192**	P	**P**	**16 47 54.1**	**-0.9**
KRHZ	**Kereru**	**15.70**	**190**	P	**P**	**16 47 54.9**	**-1.3**
KAHZ	**Kahuranaki**	**15.78**	**189**	P	**P**	**16 47 57.7**	**+0.8**
PNHZ	**Pukenui**	**15.99**	**190**	P	**P**	**16 47 58.2**	**-1.0**
PXZ	**Pawanui**	**16.01**	**189**	P	**P**	**16 47 58.4**	**-0.9**
TSZ	**Takapari Road**	**16.18**	**191**	P	**P**	**16 48 00.2**	**-0.8**
PRHZ	**Porangahau**	**16.27**	**189**	P	**P**	**16 48 01.9**	**0.0**
ANWZ	**Angora Road**	**16.49**	**189**	P	**P**	**16 48 02.6**	**-1.3**
PRWZ	**

NWAO	**Narrogin (SRO)**	**55.07**	**246**	P	**P**	**16 53 21.2**	**-0.3**
NWAO				IAmb	IAmb	16 54 45.8	
	comp=Z,78nm,1.8s						
MORW	**Morawa**	**56.73**	**250**	P	**P**	**16 53 32.6**	**-0.4**
MORW				IAmb	IAmb	16 55 00.9	
	comp=Z,52nm,1.6s						
CASY	**Casey**	**59.83**	**206**	P	**P**	**16 53 53.6**	**+0.2**
QSPA	**South Pole Qui**	**65.90**	**180**	P	**P**	**16 54 34.6**	**+1.9**
PETK	**Petropavlovsk-**	**79.36**	**347**	P	**P**	**16 55 50.8**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=116,slow=6.7,SNR=11						
NVAR	**Mina Array Bea**	**85.00**	**44**	P	**P**	**16 56 20.6**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=224,slow=8.7,SNR=6.0						
TXAR	**Lajitas Array**	**90.63**	**58**	P	**P**	**16 56 47.1**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=218,slow=5.7,SNR=4.7						
ILAR	**Eielson Array**	**92.32**	**14**	P	**P**	**16 56 52.2**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=225,slow=5.1,SNR=5.1						
PDAR	**Pinedale Array**	**92.93**	**44**	P	**P**	**16 56 57.6**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=269,slow=5.3,SNR=3.4						
AKASG	**Malin Array Be**	**145.18**	**327**	PKPbc	**PKPdf**	**17 03 17.3**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=48,slow=3.5,SNR=3.7						
EKA	**Eskdalemuir Ar**	**148.81**	**3**	PKPbc	**PKPbc**	**17 03 27.1**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=348,slow=3.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**168.90**	**189**	PKPab	**PKPab**	**17 05 02.2**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=164,slow=2.8,SNR=2.9						

*ISCJB **17** 16:45:32.2±1.1, 75.89N±0.06×7.6E±0.3, h10km, Error ellipse: s-maj=9.5km s-min=8.6km az=28.3*
*NAO **17** 16:45:37.5±999.0, 75.86N×7.25E, h18km±589km, ML3.0*
*BER **17** 16:45:38.4±3.6, 75.84N×7.98E, h10km, ML2.1, ML3.0(NAO), Confirmed Earthquake*

ISC 17 16:45:32.1±1.1, **75.79N**±0.07×**6.99E**±0.06, **h10**km, **n14, s23/23, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**2.36**	**55**	Pn	**Pn**	**16 46 13.1**	**+2.3**
HSPB				Sn	**Sn**	**16 46 35.0**	**-4.6**
HSPB	**Hornsund (broa**	**2.36**	**55**	*e*P	**Pn**	**16 46 12.8**	**+2.1**
HSPB				*e*S	**Sn**	**16 46 36.0**	**-3.7**
BRBA	**Barentsburg A**	**2.81**	**32**	Pn	**Pn**	**16 46 19.1**	**+2.1**
BRBA	**Barentsburg A**	**2.81**	**32**	Pn	**Pn**	**16 46 19.1**	**+2.1**
SPA0	**Spitsbergen Ar**	**3.20**	**37**	Pn	**Pn**	**16 46 25.1**	**+2.7**
	baz=203,slow=14						
SPA0				Sn	**Sn**	**16 46 58.0**	**-2.5**
	baz=207,slow=28						
SPA0	**Spitsbergen Ar**	**3.20**	**37**	Pn	**Pn**	**16 46 25.1**	**+2.7**
	baz=203,slow=14						
SPA0				Sn	**Sn**	**16 46 58.0**	**-2.5**
	baz=207,slow=28						
KBS	**Kingsbay**	**3.33**	**17**	Pn	**Pn**	**16 46 26.4**	**+2.3**
KBS				Sn	**Sn**	**16 47 00.6**	**-3.1**
KBS	**Kingsbay**	**3.33**	**17**	*e*P	**Pn**	**16 46 26.5**	**+2.3**
KBS				*e*S	**Sn**	**16 47 02.6**	**-1.1**
KBS				IAML		16 47 04.1	
	comp=Z,7.1nm,0.8s						
HOPEN	**Hopen**	**4.38**	**72**	*e*S	**Sn**	**16 47 26.8**	**-2.7**
HOPEN				IAML		16 47 31.2	
	comp=Z,20nm,0.4s						
DAG	**Danmarks Havn**	**6.15**	**291**	*i* P	**Pn**	**16 47 05.7**	**+2.9**
DAG				*i* S	**Sn**	**16 48 07.9**	**-5.1**
ARA0	**ARCESS Array S**	**8.32**	**129**	Pn	**Pn**	**16 47 36.0**	**+3.5**
	baz=324,slow=11						
ARA0				Sn	**Sn**	**16 49 02.2**	**-4.2**
	baz=323,slow=22						
ARA0	**ARCESS Array S**	**8.32**	**129**	Pn	**Pn**	**16 47 36.0**	**+3.5**
	baz=324,slow=11						
ARA0				Sn	**Sn**	**16 49 02.2**	**-4.2**
	baz=323,slow=22						
APA0	**Apatity Array**	**11.44**	**122**	Pn	**Pn**	**16 48 16.8**	**+1.5**
APA0	**Apatity Array**	**11.44**	**122**	Pn	**Pn**	**16 48 16.8**	**+1.5**

MDD 17 16:46:35.6±2.6, **35.35N**×1.90**E**, **h0**km, **mb4.0**/7, **Error ellipse: s-maj=26.8km s-min=15.6km az=176.0, PRXIMO, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKGL	**Djebel Kef Gue**	**1.24**	**304**	P	Pg	16 46 57.7	-1.6
	15nm,0.1s,SNR=7.9						
OKGL				S	Sg	16 47 15.0	-0.4
	1.7nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**3.70**	**353**	P	Pn	16 47 33.2	-0.9
	1.5nm,0.1s,SNR=7.9						
EIBI				S	Sn	16 48 14.7	-3.7
	1.4nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.18**	**293**	P	Pn	16 47 38.1	-2.7
	1.6nm,0.3s,SNR=4.0						
ETOB	**Tobarra**	**4.30**	**321**	P	Pn	16 47 41.6	-0.7
	3.4nm,0.2s,SNR=11						
ETOS	**Mallorca**	**4.47**	**9**	P	Pn	16 47 42.7	-2.0
	0.2nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**4.52**	**309**	P	Pn	16 47 44.9	-0.6
	3.6nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.69**	**303**	P	Pn	16 47 47.6	-0.2
	2.1nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**4.70**	**295**	P	Pn	16 47 46.9	-1.0
	2.6nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**5.35**	**340**	P	Pn	16 47 56.2	-0.7
	0.7nm,0.2s,SNR=7.9						

*NEIC **17** 16:51:17.7±1.4, 40.35N±0.03×125.33W±0.06, h23km±10km*
*NCEDC **17** 16:51:21.2±0.3, 40.36N×124.91W, h5km, ML2.9*
*ANF **17** 16:51:21.4±1.2, 40.62N×124.76W, h8km±12km, ML2.4/3, Error ellipse: s-maj=13.8km s-min=5.1km az=65.0*

ISC 17 16:51:15.6±2.3, **40.38N**±0.04×**125.3W**±0.1, **h13**km±12km, **n67**, σ1**s40/71, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCTM	**Capetown**	**0.76**	**82**		**Pn**	**16 51 33.2**	**+1.1**
KCTM					Sn	16 51 44.3	+0.9
KSMM	**Slide Mountain**	**0.89**	**102**		**Pb**	**16 51 33.6**	**+0.5**
KMPM	**Mount Pierce**	**0.92**	**87**		**Pn**	**16 51 34.8**	**+0.5**
KMPM					**Sn**	**16 51 47.7**	**+0.2**
JCC	**Jacoby Creek,**	**1.07**	**65**		**Pg**	**16 51 36.2**	**-0.2**
JCC	**Jacoby Creek,**	**1.07**	**65**	Pg	**Pg**	**16 51 36.0**	**-0.3**
KCRM	**Chalk Rock**	**1.15**	**87**		**Pb**	**16 51 38.0**	**+0.6**
KMRM	**Mail Ridge**	**1.24**	**97**		**Pb**	**16 51 39.5**	**+0.5**
KHMM	**Horse Mountain**	**1.31**	**67**		**Pg**	**16 51 40.0**	**-0.8**
KCSM	**Cold Springs**	**1.39**	**83**		**Pg**	**16 51 41.8**	**-0.5**
KBSM	**Bell Springs**	**1.40**	**109**		**Pg**	**16 51 41.6**	**-0.9**
KPPM	**Pickett Peak**	**1.49**	**91**		**Pg**	**16 51 43.3**	**-1.0**
KCPM	**Cahto Peak**	**1.50**	**117**		**Pb**	**16 51 43.2**	**-0.2**
KIPM	**Iron Peak**	**1.52**	**111**		**Pb**	**16 51 43.3**	**-0.4**
KRMB	**Red Mountain**	**1.57**	**43**		**Pn**	**16 51 42.6**	**-0.7**
KHBM	**Hayfork Bally**	**1.62**	**79**		**Pn**	**16 51 44.7**	**+0.5**
KFPM	**Farley Peak**	**1.63**	**116**		**Pn**	**16 51 44.9**	**+0.7**
KBNM	**Bluenose Ridge**	**1.70**	**106**		**Pn**	**16 51 46.1**	**+0.9**
KRKM	**Rackout Spring**	**1.83**	**116**		**Pn**	**16 51 47.8**	**+0.9**
LBPM	**Beegum Peak**	**1.86**	**91**		**Pn**	**16 51 48.2**	**+0.8**
GHOM	**Hamilton Openi**	**1.91**	**134**		**Pn**	**16 51 48.9**	**+1.0**
O02D	**Mt. Diablo Mer**	**1.94**	**95**	P	**Pn**	**16 51 49.5**	**+1.0**
	baz=278						
LGPM	**Granite Peak**	**1.97**	**73**		**Pn**	**16 51 49.2**	**+0.4**
KBO	**Bosley Butte**	**2.01**	**24**	Pn	Pn	16 51 48.9	-0.5
GHMM	**Hull Mountain**	**2.04**	**115**		**Pn**	**16 51 50.5**	**+0.7**
GGUM	**Gualala**	**2.07**	**137**		**Pn**	**16 51 49.3**	**-0.9**
N02D	**Trinity Center**	**2.08**	**72**	P	**Pn**	**16 51 50.5**	**+0.2**
	baz=253,SNR=12						
N02D				S	**Sn**	**16 52 13.0**	**-3.0**
	baz=253						
N02D	**Trinity Center**	**2.08**	**72**		**Pn**	**16 51 50.9**	**+0.6**
GVV	**Valley View**	**2.11**	**106**		**Pn**	**16 51 51.9**	**+1.0**
GASB	**Alder Springs**	**2.12**	**109**		**Pn**	**16 51 51.9**	**+0.9**
M02C	**Callahan**	**2.13**	**61**	P	**Pn**	**16 51 50.8**	**-0.2**
	baz=240,SNR=44						
WDC	**Whiskeytown Da**	**2.13**	**84**	Pn	**Pn**	**16 51 51.8**	**+0.9**
LBKM	**Bonanza King**	**2.14**	**70**		**Pn**	**16 51 52.2**	**+1.1**
GSNM	**Snow Mountain**	**2.18**	**130**		**Pn**	**16 51 51.3**	**-0.4**
L02E	**Cave Junction**	**2.20**	**35**	P	**Pn**	**16 51 52.4**	**+0.5**
	baz=212						
L02E				S	**Sn**	**16 52 16.2**	**-2.9**
	baz=212						
HOPS	**Hopland Field**	**2.21**	**128**		**Pn**	**16 51 53.6**	**+1.4**
HOPS	**Hopland Field**	**2.21**	**128**	Pn	**Pn**	**16 51 53.0**	**+0.8**
GHLM	**Highland Sprin**	**2.22**	**126**		**Pn**	**16 51 53.3**	**+1.1**
GDCM	**Dry Creek**	**2.27**	**134**		**Pn**	**16 51 54.5**	**+1.5**
GTSM	**Trough Springs**	**2.34**	**116**		**Pn**	**16 51 55.2**	**+1.2**
GPMM	**Pine Mountain**	**2.38**	**129**		**Pn**	**16 51 55.7**	**+1.2**
YBH	**Yreka Blue Hor**	**2.39**	**55**		**Pn**	**16 51 55.6**	**+0.9**
GHCM	**House Creek**	**2.41**	**136**		**Pn**	**16 51 56.3**	**+1.4**
GACM	**Adobe Creek**	**2.42**	**128**		**Pn**	**16 51 56.6**	**+1.5**
LSHM	**Sage Hen Hill**	**2.53**	**79**		**Pn**	**16 51 58.0**	**+1.5**
NMCNC	**Mill Creek, So**	**2.58**	**133**		**Pn**	**16 51 58.1**	**+1.0**
K02D	**Willamette Mer**	**2.63**	**28**	P	**Pn**	**16 51 58.3**	**+0.4**
	baz=205,SNR=32						
K02D				S	**Sn**	**16 52 26.4**	**-3.4**
	baz=205						
O03E	**Paynes Creek**	**2.69**	**91**	P	**Pn**	**16 51 59.5**	**+0.8**
	baz=274,SNR=7.3						
O03E	**Paynes Creek**	**2.69**	**91**		**Pn**	**16 51 59.5**	**+0.8**
LDBM	**Digger Butte**	**2.70**	**88**		**Pn**	**16 51 59.8**	**+0.9**
HUMO	**Hull Mountain**	**2.85**	**38**	Pn	**Pn**	**16 52 03.6**	**+2.7**
LMEM	**Manzanita Entr**	**2.86**	**86**		**Pn**	**16 52 03.6**	**+2.4**
OSUM	**Sutter Buttes**	**2.89**	**111**		**Pn**	**16 52 02.2**	**+0.8**
LCMM	**Colby Mountain**	**2.91**	**93**		**Pn**	**16 52 03.3**	**+1.4**
L04D	**Klamath Falls**	**2.92**	**50**	Pb	**Pn**	**16 52 05.3**	**+3.3**
	baz=229,SNR=26						
L04D				Sb	**Sn**	**16 52 38.5**	**+1.5**
	baz=229						
MGL	**Magalia**	**2.94**	**100**		**Pn**	**16 52 03.0**	**+0.8**
LRDM	**Redding Peak**	**2.94**	**87**		**Pn**	**16 52 04.1**	**+1.8**
SUTB	**Sutter Butte**	**2.95**	**112**		**Pn**	**16 52 02.8**	**+0.5**
HATC	**Hat Creek Radi**	**2.97**	**80**		**Pn**	**16 52 04.6**	**+2.0**
J01E	**Myrtle Point**	**2.97**	**20**	S	**Sn**	**16 52 37.3**	**-0.7**
	baz=197						
ORV	**Oroville**	**3.05**	**104**	Pn	**Pn**	**16 52 05.1**	**+1.6**
LBCM	**Butte Creek Ri**	**3.06**	**80**		**Pn**	**16 52 05.6**	**+1.8**
I03D	**Drain, OR**	**3.63**	**23**	P	**Pn**	**16 52 13.0**	**+1.5**
	baz=201						
AFDM	**Forest Hills D**	**3.64**	**112**	Pn	**Pn**	**16 52 13.5**	**+1.7**
BEKR	**Beckworth**	**3.83**	**96**		**Pn**	**16 52 16.2**	**+1.6**
CMB	**Columbia Colle**	**4.49**	**120**	Pn	**Pn**	**16 52 25.8**	**+2.4**
PAHR	**Pah Rah Range**	**4.60**	**96**	Pn	**Pn**	**16 52 26.4**	**+1.2**
PINE	**Pine Mountain**	**4.72**	**42**	Pn	**Pn**	**16 52 29.6**	**+2.9**

*BJI **17** 17:01:58.8±0.0, 20.36S×178.31W, h581km, mb5.2/61, mB5.3/36*
*ISCJB **17** 17:01:59.2±0.4, 20.73S±0.02×178.79W±0.02, h581km±5km, mb5.2/158, Error ellipse: s-maj=3.8km s-min=2.6km az=147.2*
*IDC **17** 17:02:00.5±0.8, 20.73S×178.71W, h585km±9km, mb4.7/30, mb1 4.8/33, mb1mx4.8/38, mbtmp5.6/33, Error ellipse: s-maj=9.3km s-min=8.6km az=100.0*
*NEIC **17** 17:02:01.8±2.0, 20.71S±0.08×178.66W±0.08, h602km±4km, mb5.4/417, Mwb5.7, Mwc5.7(GCMT)*
*MOS **17** 17:02:01.1±0.8, 20.67S×178.76W, h603km, mb5.3/16, Error ellipse: s-maj=7.8km s-min=6.3km az=74.8*
*NEIC **17** 17:02:01.8, 20.71S×178.66W, h598km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=4.57; $M_{\theta\theta}$3.90; $M_{\phi\phi}$0.67; $M_{r\theta}$-2.56; $M_{r\phi}$-0.81; $M_{\theta\phi}$-0.23; Fault plane solution: M_o5.06000×10^{17} NP1:ϕ_s94.73000°, δ60.25000°, λ-97.85000°. NP2:ϕ_s290.26000°, δ30.68000°, λ-76.56000°. Principal axes: T 4.7432, Plg15.0000°, Azm190.0000°; N 0.5767, Plg7.0000°, Azm99.0000°; P -5.3199, Plg74.0000°, Azm345.0000°;*
*NEIC **17** 17:02:04, 20.73S×178.65W, h616km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-3.42; $M_{\theta\theta}$3.29; $M_{\phi\phi}$0.13; $M_{r\theta}$-1.85; $M_{r\phi}$-0.94; $M_{\theta\phi}$-0.42; Fault plane solution: M_o4.05000×10^{17} NP1:ϕ_s302.00000°, δ36.00000°, λ-60.00000°. NP2:ϕ_s87.00000°, δ60.00000°, λ-110.00000°. Principal axes: T 3.8942, Plg13.0000°, Azm191.0000°; N 0.2988, Plg17.0000°, Azm97.0000°; P -4.1930, Plg69.0000°, Azm316.0000°;*
*GCMT **17** 17:02:04.8±0.2, 20.64S±0.01×178.75W±0.02, h614km±1km, MW5.7/129, Moment Tensor Solution. s129,c234; Duration: 1s7 Moment tensor: Scale 10^{17} Nm; M_{rr}-3.34±.05; $M_{\theta\theta}$3.12±.08; $M_{\phi\phi}$0.21±.09; $M_{r\theta}$-1.95±.08; $M_{r\phi}$-0.99±.08; $M_{\theta\phi}$-0.88±.09; Best double couple: M_o3.99100×10^{17} NP1:ϕ_s88.00000°, δ61.00000°, λ-110.00000°. NP2:ϕ_s304.00000°, δ35.00000°, λ-59.00000°. Principal axes: T 3.8120, Plg14.0000°, Azm192.0000°; N 0.3560, Plg17.0000°, Azm98.0000°; P -4.1690, Plg68.0000°, Azm318.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 17 17:02:01.3±0.3, **20.76S**±0.04×**178.67W**±0.04, **h602**km±3km, **h603**km**; pP-P, n1848,** σ1**s45**/2057, **mb5.4**/313, **72C-65D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.32**	**314**	*c i* P	**P**	**17 03 30.1**	**+0.7**
MSVF	**Nonsavu**	**4.32**	**314**	P	**P**	**17 03 29.8**	**+0.4**
NIUE	**Niue**	**8.39**	**80**	P	**P**	**17 04 03.8**	**-0.7**
	baz=8.3,SNR=11						
NIUE	**Niue**	**8.39**	**80**	P	**P**	**17 04 03.5**	**-1.0**
RAO	**Raoul Island**	**8.49**	**176**	P	**P**	**17 04 02.7**	**-2.5**
	235nm,0.3s,baz=96,slow=5.0,SNR=11						
RAO				S	S	17 05 34.1	-13
	376nm,0.3s,baz=74,slow=6.5,SNR=7.5						
GLKZ	**Green Lake**	**8.50**	**176**	P	**P**	**17 04 03.3**	**-2.0**
AFI	**Afiamalu**	**9.47**	**45**	P	**P**	**17 04 11.9**	**-3.2**
AFI				S	**S**	**17 05 59.3**	**-5.5**
AFI	**Afiamalu**	**9.47**	**45**	P	**P**	**17 04 12.4**	**-2.7**
	175nm,0.3s,baz=29,slow=1.7,SNR=61						
AFI				S	**S**	**17 05 57.4**	**-7.4**
	28nm,0.3s,baz=4.6,slow=22,SNR=9.2						
AFI	**Afiamalu**	**9.47**	**45**	P	**P**	**17 04 11.9**	**-3.2**
AFI					**S**	**17 05 59.2**	**-5.5**
FUNA	**Funafuti**	**12.33**	**350**	P	**P**	**17 04 42.0**	**-1.5**
DZM	**Mont Dzumac**	**13.93**	**262**	*e*P	**P**	**17 04 59.4**	**-0.2**
	123nm,1.1s						
DZM	**Mont Dzumac**	**13.93**	**262**	P	**P**	**17 04 59.2**	**-0.4**
	6.6nm,0.3s,baz=119,slow=22,SNR=45						
DZM				S	**S**	**17 07 17.4**	**-8.0**
	0.2nm,0.3s,baz=263,slow=24,SNR=1.0						
DZM	**Mont Dzumac**	**13.93**	**262**	P	**P**	**17 04 59.1**	**-0.4**
DZM					**S**	**17 07 23.1**	**-2.3**
NFK	**Norfolk Island**	**14.68**	**233**	P	**P**	**17 05 08.1**	**+1.7**
	baz=15,SNR=12						
OUZ	**Omahuta**	**15.94**	**204**	P	**P**	**17 05 20.2**	**+2.4**
OUZ	**Omahuta**	**15.94**	**204**	P	**P**	**17 05 19.0**	**+1.2**
GRZ	**Great Barrier**	**16.27**	**197**	P	**P**	**17 05 22.0**	**+1.2**
WCZ	**Waipu Caves**	**16.32**	**201**	P	**P**	**17 05 23.6**	**+2.3**
KUZ	**Kuaotunu**	**16.67**	**196**	P	**P**	**17 05 25.7**	**+1.2**
ABAZ	**Army Bay**	**16.78**	**198**	P	**P**	**17 05 27.5**	**+2.0**
WIAZ	**Waiheke Island**	**16.87**	**197**	P	**P**	**17 05 27.9**	**+1.6**
MBAZ	**Motutapu North**	**16.91**	**198**	P	**P**	**17 05 28.7**	**+1.9**
MXZ	**Matakaoa Point**	**16.95**	**188**	P	**P**	**17 05 25.7**	**-1.4**
MXZ	**Matakaoa Point**	**16.95**	**188**	P	**P**	**17 05 26.9**	**-0.2**
MXZ				IAmb	IAmb	17 05 29.9	
	comp=Z,229nm,1.1s						
EPAZ	**Eden Park BICE**	**17.06**	**198**	P	**P**	**17 05 30.1**	**+2.1**
ETAZ	**East Tamaki Re**	**17.08**	**198**	P	**P**	**17 05 30.1**	**+1.8**
MKAZ	**Moumakai**	**17.15**	**197**	P	**P**	**17 05 30.3**	**+1.4**
WTAZ	**Waiatarua**	**17.16**	**199**	P	**P**	**17 05 30.6**	**+1.6**
WMGZ	**Waiomatatini S**	**17.19**	**188**	P	**P**	**17 05 29.6**	**+0.3**
HAZ	**Te Kaha**	**17.22**	**190**	P	**P**	**17 05 29.0**	**-0.5**
KBAZ	**Karaka Road Bo**	**17.22**	**198**	P	**P**	**17 05 32.0**	**+2.5**
PKGZ	**Pakihiroa**	**17.30**	**189**	P	**P**	**17 05 30.6**	**+0.2**
RUGZ	**Raukumara Rang**	**17.44**	**190**	P	**P**	**17 05 29.8**	**-1.9**
WHRZ	**Whale Island**	**17.45**	**192**	P	**P**	**17 05 31.6**	**-0.1**
PUZ	**Puketiti**	**17.46**	**188**	P	**P**	**17 05 31.3**	**-0.5**
PUZ				S	**S**	**17 08 20.0**	**-2.8**
TGRZ	**Tauranga**	**17.48**	**193**	P	**P**	**17 05 33.5**	**+1.6**
OPRZ	**Ohinepanea**	**17.53**	**193**	P	**P**	**17 05 32.8**	**+0.5**
TWGZ	**Tauwhareparae**	**17.60**	**189**	P	**P**	**17 05 32.8**	**-0.2**
TWGZ				S	**S**	**17 08 23.3**	**-1.9**
MARZ	**Manawahe**	**17.64**	**192**	P	**P**	**17 05 33.7**	**+0.3**
RAR	**Rarotonga**	**17.66**	**95**	P	**P**	**17 05 33.8**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=284,slow=4.1,SNR=5.6						
RAR	**Rarotonga**	**17.66**	**95**	P	**P**	**17 05 30.8**	**-2.9**
RAR				IAmb	IAmb	17 06 28.0	
	comp=Z,207nm,1.9s						
TOZ	**Tahuroa Road**	**17.66**	**195**	P	**P**	**17 05 34.8**	**+1.3**
KMRZ	**Kaimai**	**17.66**	**194**	P	**P**	**17 05 35.5**	**+1.9**
EDRZ	**Edgecumbe**	**17.74**	**192**	P	**P**	**17 05 33.8**	**-0.6**
KARZ	**Kaharoa**	**17.76**	**193**	P	**P**	**17 05 36.2**	**+0.7**
OMRZ	**Omania**	**17.82**	**193**	P	**P**	**17 05 36.3**	**+1.2**
URZ	**Urewera**	**17.82**	**191**	P	**P**	**17 05 32.9**	**-2.1**
	comp=Z,47nm,0.3s,baz=270,slow=2.5,SNR=163						
URZ				S	**S**	**17 08 22.0**	**-6.6**
	comp=Z,5.4nm,0.3s,baz=13,slow=23,SNR=6.2						
URZ				ScP	**ScP**	**17 12 18.9**	**+1.4**
	comp=Z,2.6nm,0.3s,baz=318,slow=5.7,SNR=7.0						
URZ				ScS	**ScS**	**17 15 54.8**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=270,slow=24,SNR=9.8						
URZ	**Urewera**	**17.82**	**191**	P	**P**	**17 05 32.2**	**-2.8**
URZ	**Urewera**	**17.82**	**191**	P	**P**	**17 05 32.5**	**-2.5**
URZ					**S**	**17 08 23.3**	**-5.2**
URZ					**ScP**	**17 12 16.9**	**-0.7**
MWZ	**Matawai**	**17.82**	**190**	P	**P**	**17 05 33.5**	**-1.6**
MKRZ	**Makatiti**	**17.83**	**193**	P	**P**	**17 05 36.8**	**+1.6**
CNGZ	**Carnagh Statio**	**17.87**	**188**	P	**P**	**17 05 35.4**	**-0.1**
TKGZ	**Te Karaka**	**17.88**	**189**	P	**P**	**17 05 35.7**	**+0.2**
TARZ	**Mount Tarawera**	**17.91**	**192**	P	**P**	**17 05 36.4**	**+0.4**
UTU	**Utuhina**	**17.92**	**193**	P	**P**	**17 05 38.4**	**+2.5**
HLRZ	**Highlands Stat**	**17.96**	**193**	P	**P**	**17 05 36.8**	**+0.5**
RAGZ	**Rawiri**	**18.00**	**190**	P	**P**	**17 05 36.2**	**-0.5**
RRRZ	**Republican Roa**	**18.01**	**192**	P	**P**	**17 05 36.8**	**0.0**
HSRZ	**Hossack Road**	**18.04**	**193**	P	**P**	**17 05 38.2**	**+1.1**
MUGZ	**Murupara**	**18.10**	**192**	P	**P**	**17 05 35.8**	**-1.7**
GRRZ	**Galatos Road**	**18.11**	**193**	P	**P**	**17 05 38.7**	**+1.0**
HRRZ	**Handcock Road**	**18.11**	**193**	P	**P**	**17 05 37.6**	**-0.1**
RIGZ	**Rimuhau**	**18.15**	**189**	P	**P**	**17 05 36.8**	**-1.3**
RTZ	**Ruatahuna**	**18.19**	**191**	P	**P**	**17 05 36.1**	**-2.4**
TLZ	**Tolley Road**	**18.22**	**195**	P	**P**	**17 05 40.7**	**+2.1**
WPRZ	**Whakapapatarin**	**18.26**	**193**	P	**P**	**17 05 40.8**	**+1.8**
ALRZ	**Allen Road**	**18.26**	**193**	P	**P**	**17 05 38.8**	**-0.2**
SNGZ	**Shannon Statio**	**18.29**	**190**	P	**P**	**17 05 37.8**	**-1.5**
KUTZ	**Kaahu Road**	**18.30**	**194**	P	**P**	**17 05 40.4**	**+1.0**
PRGZ	**Paritu Road**	**18.35**	**189**	P	**P**	**17 05 40.4**	**+0.6**
MTHZ	**Maungataniwha**	**18.45**	**191**	P	**P**	**17 05 39.3**	**-1.5**
RAHZ	**Arahi**	**18.47**	**190**	P	**P**	**17 05 38.9**	**-2.0**
KNZ	**Kokohu**	**18.48**	**189**	P	**P**	**17 05 40.6**	**-0.3**
MRHZ	**Matea Rd**	**18.51**	**192**	P	**P**	**17 05 40.3**	**-1.0**
WATZ	**Wairara**	**18.53**	**194**	P	**P**	**17 05 42.2**	**+0.7**
HIZ	**Hauiti**	**18.56**	**196**	P	**P**	**17 05 43.7**	**+1.9**
HIZ	**Hauiti**	**18.56**	**196**	P	**P**	**17 05 42.4**	**+0.7**
MHGZ	**Mahia Peninsul**	**18.57**	**188**	P	**P**	**17 05 42.0**	**+0.1**
WHHZ	**Waihua**	**18.60**	**190**	P	**P**	**17 05 41.8**	**-0.3**
HATZ	**Hinemaiaia**	**18.63**	**193**	P	**P**	**17 05 42.4**	**0.0**
RATZ	**Rangitukua**	**18.68**	**194**	P	**P**	**17 05 42.9**	**0.0**
RITZ	**Rihia Road**	**18.76**	**193**	P	**P**	**17 05 43.6**	**0.0**
BKZ	**Black Stump Fm**	**18.82**	**192**	P	**P**	**17 05 42.0**	**-2.1**
BKZ	**Black Stump Fm**	**18.82**	**192**	P	**P**	**17 05 41.6**	**-2.5**
BKZ				IAmb	IAmb	17 05 52.3	
	comp=Z,76nm,0.7s						
ARHZ	**Aropaoanui**	**18.82**	**190**	P	**P**	**17 05 43.3**	**-0.8**
KRVZ	**Karewarewa**	**18.92**	**194**	P	**P**	**17 05 45.0**	**-0.1**
TWVZ	**Taurewa**	**18.95**	**194**	P	**P**	**17 05 44.4**	**-1.0**
WTVZ	**West Tongariro**	**18.95**	**194**	P	**P**	**17 05 44.8**	**-0.6**
NGZ	**Ngauruhoe**	**19.01**	**194**	P	**P**	**17 05 45.2**	**-0.8**
MCHZ	**McNeill Hill**	**19.05**	**191**	P	**P**	**17 05 44.6**	**-1.5**
KWHZ	**Kaweka Forest**	**19.08**	**192**	P	**P**	**17 05 44.3**	**-2.2**
TUVZ	**Tukino**	**19.09**	**194**	P	**P**	**17 05 45.9**	**-0.7**
FWVZ	**Far West T-bar**	**19.10**	**194**	P	**P**	**17 05 46.2**	**-0.6**
DRZ	**Dome Shelter**	**19.11**	**194**	P	**P**	**17 05 47.4**	**+0.3**
KNTN	**Kanton**	**19.11**	**22**	P	**P**	**17 05 46.0**	**-1.1**
WHVZ	**Whangaehu Hut**	**19.11**	**194**	P	**P**	**17 05 47.4**	**+0.4**
TRVZ	**Turoa**	**19.14**	**194**	P	**P**	**17 05 47.0**	**-0.3**
VRZ	**Vera Road**	**

KWAJ pmax pmax
comp=Z,266nm,1.0s
KWAJ Kwajalein Atol 32.32 334 P P 17 07 43.7 +0.9
CMSA Cobar Meteorol 33.61 244 P P 17 07 53.9 +0.4
baz=34,SNR=78
QLP Quilpie 34.38 253 P P 17 08 00.3 +0.3
baz=34,SNR=27
PMG Port Moresby 34.79 284 *d iP* **P 17 08 03.5 0.0**
PMG pmax pmax
comp=Z,1µm,0.9s
PMG Port Moresby 34.79 284 P P 17 08 03.8 +0.2
MTSU Mount Surprise 34.95 268 P P 17 08 05.4 +0.5
baz=35,SNR=79
TOO Toolangi 35.24 234 P P 17 08 07.8 +0.8
baz=35,SNR=75
TOO Toolangi 35.24 234 P P 17 08 07.8 +0.8
TOO pmax pmax
comp=Z,95nm,0.9s
TOO Toolangi 35.24 234 P P 17 08 07.8 +0.8
TOO IAmb IAmb 17 08 09.6
comp=Z,95nm,0.9s
PATS Pohnpei 35.54 318 P P 17 08 10.2 +0.4
PATS IAmb IAmb 17 08 12.3
comp=Z,96nm,0.8s
MOO Moorlands 35.88 225 P P 17 08 13.2 +1.0
baz=36,SNR=8.2
TAU Tasmania Unive 36.00 224 P P 17 08 13.9 +0.7
TAU pmax pmax
comp=Z,58nm,0.9s
TAU Tasmania Unive 36.00 224 P P 17 08 13.9 +0.7
COEN Coen 36.97 274 P P 17 08 22.0 +0.5
baz=37,SNR=28
COEN Coen 36.97 274 P P 17 08 21.8 +0.3
COEN IAmb IAmb 17 08 24.3
comp=Z,120nm,0.9s
STKA Stephens Creek 37.11 244 P P 17 08 23.2 +0.7
comp=Z,31nm,0.5s,baz=90,slow=10,SNR=96
STKA PcP **PcP 17 10 26.9 +0.7**
comp=Z,17nm,0.9s,baz=60,slow=6.7,SNR=3.9
STKA ScP **ScP 17 13 19.1 +2.2**
comp=Z,12nm,0.9s,baz=79,slow=5.5,SNR=5.3
STKA P3KPbc 17 38 33.9
comp=Z,5.0nm,0.9s,baz=275,slow=6.0,SNR=9.7
STKA Stephens Creek 37.11 244 P P 17 08 23.1 +0.7
MCQ Macquarie Isla 37.72 201 P P 17 08 29.6 +2.7
baz=38,SNR=3.3
MCQ Macquarie Isla 37.72 201 P P 17 08 29.1 +2.1
MCQ pmax pmax
comp=Z,443nm,1.2s
MCQ Macquarie Isla 37.72 201 P P 17 08 29.1 +2.1
ARPS Mount Arapiles 37.82 236 P P 17 08 28.6 +0.5
baz=38,SNR=27
MANU Manus Island 37.98 295 P P 17 08 30.8 +1.1
MANU IAmb IAmb 17 08 32.7
comp=Z,149nm,0.9s
QIS Mount Isa 38.96 263 P P 17 08 37.1 -0.5
baz=39,SNR=10
TAOE Nuku Hiva Isla 38.97 78 *eP* **P 17 08 38.2 +0.4**
comp=Z,279nm,1.1s
TAOE Nuku Hiva Isla 38.97 78 P P 17 08 37.3 -0.5
TAOE IAmb IAmb 17 08 41.0
comp=Z,138nm,1.0s
HTT Hallett 39.55 242 P P 17 08 42.6 +0.5
baz=40,SNR=66
BBOO Buckleboo 41.87 244 P P 17 09 00.6 +0.2
baz=42,SNR=159
BBOO Buckleboo 41.87 244 P P 17 09 00.6 +0.2
BBOO IAmb IAmb 17 09 02.0
comp=Z,72nm,0.6s
JAY Jayapura 43.53 289 P P 17 09 14.4 +0.8
comp=Z,260nm,1.0s,comp=Z,2µm
AS31 Alice Springs 43.85 257 P P 17 09 16.0 0.0
AS31 PcP **PcP 17 10 48.8 +0.2**
ASAR Alice Springs 43.85 257 P P 17 09 15.9 -0.1
comp=Z,88nm,0.7s,baz=91,slow=8.1,SNR=1892
ASAR PcP **PcP 17 10 49.1 +0.4**
comp=Z,39nm,0.7s,baz=104,slow=3.9,SNR=18
ASAR ScP **ScP 17 13 46.8 +3.0**
comp=Z,4.7nm,0.6s,baz=102,slow=4.1,SNR=4.7
ASAR S **S 17 15 02.1 -2.6**
comp=Z,51nm,0.8s,baz=93,slow=15,SNR=52
ASAR ScS **ScS 17 18 09.9 +1.5**
comp=Z,2.6nm,0.9s,baz=91,slow=8.4,SNR=4.4
ASAR P3KPbc 17 38 06.0
comp=Z,0.7nm,0.8s,baz=287,slow=4.2,SNR=11
ASAR P3KP 17 40 03.5
comp=Z,0.4nm,0.9s,baz=267,slow=1.6,SNR=2.6
WRAB Tennant Creek 43.93 262 *d iP* **P 17 09 15.8 -0.8**
WRAB pmax pmax
comp=Z,113nm,0.9s
WRAB Tennant Creek 43.93 262 P P 17 09 15.9 -0.8
WRAB IAmb IAmb 17 09 18.3
comp=Z,124nm,1.1s
WRAB PcP **PcP 17 10 49.5 +0.5**
GENI Genyem 43.97 289 P P 17 09 17.3 +0.3
comp=Z,413nm,0.8s,comp=Z,4µm
SMPI Sarmi 45.54 289 P P 17 09 27.9 -1.0
comp=Z,175nm,1.0s,comp=Z,2µm
KHU Kahuku 45.72 31 P P 17 09 31.0 +0.5
KHU pmax pmax
comp=Z,245nm,1.8s
KHU Kahuku 45.72 31 P P 17 09 31.0 +0.5
KHU IAmb IAmb 17 10 59.7
comp=Z,244nm,1.8s
KHLU Kahalu`u 45.88 31 P P 17 09 31.3 -0.2
KHLU IAmb IAmb 17 09 34.3
comp=Z,174nm,1.3s
AIN Ainahou 45.90 31 P P 17 09 32.5 +0.7
AIN IAmb IAmb 17 10 47.1
comp=Z,143nm,1.6s
HLP Hilina Pali 45.91 31 P P 17 09 32.7 +1.0
HLP IAmb IAmb 17 09 51.7
comp=Z,137nm,1.2s
MWH Moku'aweowe 45.93 31 P P 17 09 31.9 -0.5
MWH IAmb IAmb 17 11 25.9
comp=Z,125nm,1.4s
MLOA Mauna Loa Obse 45.99 31 P P 17 09 33.0 +0.3
HUH Hualalai 45.99 31 P P 17 09 32.7 +0.2
HUH IAmb IAmb 17 09 41.7
comp=Z,257nm,1.9s
MLH Mauna Loa 46.04 31 P P 17 09 33.9 +1.0
HMH Humu'ula Sheep 46.09 31 P P 17 09 33.5 +0.2
HMH IAmb IAmb 17 09 37.1
comp=Z,121nm,0.9s
POHA Pohakuloa 46.20 31 P P 17 09 34.8 +0.7
KEKH Kekaha 46.34 25 P P 17 09 34.0 -0.7
KEKH IAmb IAmb 17 09 37.6
comp=Z,86nm,0.8s
HPAH Hawaii Prepara 46.35 30 P P 17 09 34.4 -0.6
HPAH IAmb IAmb 17 09 37.4
comp=Z,106nm,0.8s
HON Honolulu 46.45 27 P P 17 09 36.3 +0.7
HON pmax pmax
comp=Z,97nm,0.7s
HON Honolulu 46.45 27 P P 17 09 36.3 +0.7
HON IAmb IAmb 17 09 38.6
comp=Z,97nm,0.7s
KIP Kipapa 46.53 27 ⇑ *eP* **P 17 09 35.9 -0.3**
KIP pmax pmax
comp=Z,42nm,0.9s
HLK Haleakala 46.72 29 P P 17 09 38.6 +0.6
KHLH Kahului Airpor 46.76 29 P P 17 09 37.9 -0.1
KHLH IAmb IAmb 17 09 41.3
comp=Z,175nm,1.3s
OPA Opana 46.76 27 P P 17 09 38.2 +0.2
OPA pmax pmax
comp=Z,98nm,0.9s
OPA Opana 46.76 27 P P 17 09 38.2 +0.2
OPA IAmb IAmb 17 09 40.8
comp=Z,98nm,0.9s
KDU Kakadu 47.33 272 P P 17 09 42.1 -0.3
baz=47,SNR=64
MTN Manton Dam 48.54 271 P P 17 09 51.0 -0.3
baz=49,SNR=14
MTN Manton Dam 48.54 271 P P 17 09 50.0 -1.4
MTN IAmb IAmb 17 09 52.7
comp=Z,125nm,0.7s
MTN PcP **PcP 17 11 06.4 +0.9**
FORT Forrest 48.62 247 P P 17 09 51.5 -0.3
baz=49,SNR=51
FORT Forrest 48.62 247 P P 17 09 51.0 -0.8
FORT IAmb IAmb 17 09 52.3
comp=Z,96nm,0.9s
FORT PcP **PcP 17 11 05.6 0.0**
WRKA Warakurna 48.79 254 P P 17 09 53.1 -0.1
baz=49,SNR=560

GUMO Guam 49.48 311 P P 17 09 58.2 -0.1
GUMO pmax pmax
comp=Z,469nm,1.1s
GUMO Guam 49.48 311 P P 17 09 58.1 -0.1
SAUI Saumlaki 49.90 277 P P 17 10 01.5 +0.1
KNRA Kununurra 50.02 267 P P 17 10 02.1 -0.1
baz=50,SNR=84
KNRA Kununurra 50.02 267 P P 17 10 01.5 -0.7
KNRA IAmb IAmb 17 10 03.8
comp=Z,109nm,0.6s
KNRA PcP **PcP 17 11 09.9 -1.1**
ANA2 Anatahan 50.81 314 P P 17 10 07.8 -0.1
FAKI Fak Fak 50.95 284 P P 17 10 09.3 +0.3
comp=Z,114nm,1.2s,comp=Z,1µm
FAKI Fak Fak 50.95 284 P P 17 10 08.7 -0.3
FAKI IAmb IAmb 17 10 11.1
comp=Z,158nm,1.2s
SARN Sarigan 51.01 314 P P 17 10 09.2 -0.3
FITZ Fitzroy Crossi 52.37 263 P P 17 10 19.3 +0.2
baz=52,SNR=50
FITZ Fitzroy Crossi 52.37 263 P P 17 10 18.8 -0.3
BNDI Bandanaira 52.46 281 P P 17 10 19.9 +0.1
comp=Z,458nm,1.2s,comp=Z,5µm
SWI Sorong 52.70 285 P P 17 10 21.6 0.0
comp=Z,571nm,1.2s,comp=Z,4µm
KMBL Kambalda 53.88 246 P P 17 10 29.4 -0.3
baz=54,SNR=12
AAI Ambon 54.35 281 P P 17 10 32.8 -0.4
comp=Z,208nm,1.3s,comp=Z,2µm
NLAI Namlea 55.53 281 P P 17 10 40.7 -0.7
comp=Z,134nm,1.2s
SOEI Soe 55.88 272 P P 17 10 44.4 +0.4
comp=Z,467nm,1.1s,comp=Z,4µm
SOEI Soe 55.88 272 P P 17 10 44.7 +0.8
LBMI Labuha 56.20 284 P P 17 10 46.8 +0.8
comp=Z,193nm,1.1s,comp=Z,3µm
BATI Baumata 56.30 271 P P 17 10 48.2 +1.4
comp=Z,119nm,0.9s,comp=Z,1µm
TNTI Ternate 56.92 285 P P 17 10 51.3 +0.4
comp=Z,239nm,1.1s,comp=Z,2µm
TNTI Ternate 56.92 285 P P 17 10 50.2 -0.7
TNTI IAmb IAmb 17 10 53.2
comp=Z,226nm,1.0s
PSA00 Pilbara Seismi 57.00 257 P P 17 10 50.7 -0.7
PSA00 PcP **PcP 17 11 38.0 +0.1**
PSA00 **S 17 17 58.8 -2.6**
SANI Sanana 57.02 281 P P 17 10 51.4 -0.2
comp=Z,244nm,1.0s,comp=Z,2µm
MEEK Meekatharra 57.24 251 P P 17 10 52.4 -0.6
baz=57,SNR=18
KLBR Kellerberrin 57.38 245 P P 17 10 53.7 -0.1
baz=58,SNR=22
SBA Scott Base 57.58 184 P P 17 10 56.3 +2.0
SBA pmax pmax
comp=Z,78nm,1.0s
SBA Scott Base 57.58 184 P P 17 10 56.3 +2.0
VNDA Vanda 57.60 185 P P 17 10 56.0 +1.5
VNDA Vanda 57.60 185 P P 17 10 56.0 +1.5
comp=Z,19nm,0.7s,baz=356,slow=7.1,SNR=88
VNDA ScP **ScP 17 14 45.0 +3.0**
comp=Z,21nm,0.9s,baz=360,slow=5.0,SNR=16
VNDA Vanda 57.60 185 P P 17 10 56.0 +1.5
VNDA PcP **PcP 17 11 40.4 +1.2**
NWAO Narrogin (SRO) 57.69 244 P P 17 10 56.2 +0.3
baz=58,SNR=16
NWAO Narrogin (SRO) 57.69 244 P P 17 10 56.0 +0.1
NWAO pmax pmax
comp=Z,47nm,0.9s
NWAO Narrogin (SRO) 57.69 244 P P 17 10 56.0 +0.1
NWAO Narrogin (SRO) 57.69 244 P P 17 10 55.8 -0.1
NWAO IAmb IAmb 17 10 57.6
comp=Z,38nm,0.9s
RKGY Rocky Gully 57.77 242 P P 17 10 57.0 +0.7
baz=58,SNR=19
BLDU Ballidu 58.38 246 P P 17 11 00.3 -0.3
baz=58,SNR=32
MUN Mundaring 58.65 245 P P 17 11 02.4 0.0
baz=59,SNR=18
MORW Morawa 59.15 248 P P 17 11 05.5 -0.2
baz=59,SNR=28
MORW Morawa 59.15 248 P P 17 11 05.0 -0.7
KDI Kendari 59.40 278 P P 17 11 07.2 -0.4
comp=Z,74nm,1.2s,comp=Z,1µm
WSI Waingapu 59.62 271 P P 17 11 09.3 +0.2
comp=Z,677nm,1.1s,comp=Z,6µm
KMSI Cibinong 59.91 283 P P 17 11 10.3 -0.7
comp=Z,109nm,0.9s
LUWI Luwuk 60.36 281 P P 17 11 14.1 +0.1
comp=Z,333nm,1.1s,comp=Z,3µm
LUWI Luwuk 60.36 281 P P 17 11 14.1 +0.1
LUWI IAmb IAmb 17 11 16.8
comp=Z,356nm,1.1s
BKSI Bulukumba 61.23 275 P P 17 11 19.3 -0.3
comp=Z,55nm,0.8s,comp=Z,654nm
APSI Ampana 61.45 281 P P 17 11 21.7 +0.6
comp=Z,154nm,1.2s,comp=Z,1µm
BNSI Bone 61.57 276 P P 17 11 21.6 -0.3
comp=Z,120nm,1.3s,comp=Z,1µm
KAPI Kappang 61.68 276 P P 17 11 22.6 0.0
KAPI pmax pmax
comp=Z,36nm,0.8s
KAPI Kappang 61.68 276 P P 17 11 22.6 0.0
MRSI Marisa 61.73 282 P P 17 11 22.2 -0.7
comp=Z,114nm,1.0s,comp=Z,1µm
KCP Kidapawan 61.73 290 ⇓ *P* **P 17 11 23.0 0.0**
GIRL Giralia 61.88 255 P P 17 11 25.0 +1.3
baz=62,SNR=11
SPSI Sidrap Palu 62.04 277 P P 17 11 24.1 -0.8
comp=Z,96nm,1.0s,comp=Z,888nm
PLAI Plampang 62.25 271 P P 17 11 26.0 -0.3
comp=Z,317nm,1.0s,comp=Z,2µm
CGP Cagayan de Oro 62.76 292 P P 17 11 31.3 +1.8
TWSI Taliwang, Sumb 63.11 271 P P 17 11 31.6 -0.2
comp=Z,253nm,1.0s,comp=Z,2µm
CASY Casey 63.47 205 P P 17 11 33.6 +0.5
CASY **S 17 19 20.0 0.0**
MPSI Mapaga 63.55 281 P P 17 11 34.6 0.0
comp=Z,152nm,0.9s,comp=Z,2µm
DNP Denpasar 64.70 270 P P 17 11 41.7 -0.1
comp=Z,251nm,1.2s
IGBI Denpasar 64.71 270 P P 17 11 41.8 -0.1
comp=Z,224nm,1.1s,comp=Z,2µm
BKB Balikpapan 65.70 278 P P 17 11 48.3 +0.2
BKB IAmb IAmb 17 11 51.8
comp=Z,120nm,1.0s
JAGI Jajag, Banyuwa 65.75 270 P P 17 11 47.2 -1.3
comp=Z,152nm,1.0s,comp=Z,1µm
JAGI Jajag, Banyuwa 65.75 270 P P 17 11 46.8 -1.7
JAGI IAmb IAmb 17 11 49.3
comp=Z,149nm,1.0s
GMJI Gumukmas 66.48 270 P P 17 11 52.5 -0.4
JHJ2 Mitsune 66.63 323 P P 17 11 52.7 -0.7
GRJI Gresik 67.83 271 P P 17 12 01.7 +0.5
comp=Z,130nm,1.2s
PWJI Pagerwojo 68.10 270 P P 17 12 02.3 -0.5
comp=Z,109nm,0.9s,comp=Z,1µm
LQP Lukban 68.19 295 P P 17 12 03.4 -0.1
SPMM Sapulut 68.44 284 P P 17 12 06.0 +1.1
PCJI Pacitan 68.63 269 P P 17 12 06.2 +0.2
comp=Z,501nm,0.9s,comp=Z,4µm
WOJI Wonogiri, Jawa 68.98 269 P P 17 12 08.2 +0.1
comp=Z,118nm,1.2s
KKM Kota Kinabalu 69.22 285 P P 17 12 09.2 -0.5
KKM IAmb IAmb 17 12 11.8
comp=Z,100nm,0.8s
QSPA South Pole Qui 69.31 180 P P 17 12 09.9 +0.6
UGM Wanagama 69.33 269 P P 17 12 10.2 -0.1
comp=Z,201nm,0.9s,comp=Z,2µm
UGM Wanagama 69.33 269 P P 17 12 09.8 -0.5
UGM IAmb IAmb 17 12 11.7
comp=Z,119nm,0.7s
SMRI Semarang 69.69 270 P P 17 12 11.5 -0.9
SMRI IAmb IAmb 17 12 14.9
comp=Z,113nm,0.8s
INU Inuyama 69.85 323 P P 17 12 13.1 +0.4
JOW Kunigami 69.85 310 P P 17 12 13.9 +0.8
MJAR Matsushiro Arr 70.04 324 P P 17 12 13.7 -0.3
comp=Z,36nm,0.7s,baz=145,slow=5.7,SNR=71
MAJO Matsushiro 70.05 324 *d iP* **P 17 12 13.5 -0.5**
MAJO pmax pmax
comp=Z,55nm,1.0s
MAJO Matsushiro 70.05 324 P P 17 12 13.7 -0.3
MAT Matsushiro 70.05 324 P P 17 12 13.7 -0.3
MJB9 Matsu-Tunnel 70.05 324 P P 17 12 14.0 0.0
KPJI Karang Pucung 71.01 269 P P 17 12 20.1 0.0
comp=Z,109nm,1.1s,comp=Z,1µm

STKI Sintang 71.22 277 P P 17 12 22.4 +1.0
comp=Z,162nm,0.9s,comp=Z,6µm
CMJI Cimerak 71.31 269 P P 17 12 20.8 -1.1
comp=Z,120nm,1.0s,comp=Z,1µm
SBUM Sibu 71.43 280 P P 17 12 23.0 +0.4
SBUM Sibu 71.43 280 P P 17 12 22.6 0.0
CISI Cisompet, Garu 71.98 269 P P 17 12 25.1 -0.8
comp=Z,152nm,1.2s,comp=Z,2µm
CISI Cisompet, Garu 71.98 269 P P 17 12 24.6 -1.2
CISI IAmb IAmb 17 12 26.6
comp=Z,101nm,0.7s
JNU Nakatsue 72.03 317 P P 17 12 25.9 +0.2
comp=Z,95nm,0.9s,baz=59,slow=3.5,SNR=12
JNU Nakatsue 72.03 317 P P 17 12 25.6 -0.1
JNU IAmb IAmb 17 12 28.3
comp=Z,181nm,1.1s
YUK Yuzh-Kuril'sk 72.20 334 ⇑ *eP* **P 17 12 25.9 -0.4**
KIWB Kanaga Island 72.31 1 P P 17 12 27.0 +0.3
ADK Adak 72.34 1 P P 17 12 26.3 -0.6
ADK pmax pmax
comp=Z,190nm,0.9s
ADK Adak 72.34 1 P P 17 12 26.3 -0.6
YOJ Yonaguni jima 72.37 306 P P 17 12 28.2 +0.4
YOJ pmax pmax
comp=Z,236nm,1.0s
YOJ Yonaguni jima 72.37 306 P P 17 12 28.1 +0.4
LEM Lembang 72.41 269 P P 17 12 28.1 -0.3
comp=Z,182nm,0.9s,comp=Z,1µm
GSTR Great Sitkin T 72.57 2 P P 17 12 28.8 +0.5
CNJI Cibinong 72.70 269 P P 17 12 29.3 -0.6
comp=Z,190nm,1.0s,comp=Z,2µm
ATKA Atka Island 72.75 3 P P 17 12 29.2 -0.1
KSM Kuching 72.83 278 P P 17 12 31.0 +0.4
KSM Kuching 72.83 278 P P 17 12 30.6 0.0
TWG Pinlang 72.99 303 P P 17 12 29.7 -1.6
YULB Yu-li 73.11 304 P P 17 12 31.0 -1.0
NACB Ninganchiao 73.30 305 P P 17 12 32.4 -0.7
DBJI Dramaga 73.31 269 P P 17 12 31.9 -1.5
comp=Z,231nm,1.1s
SMY Shemya 73.44 355 P P 17 12 34.4 +1.2
SMY pmax pmax
comp=Z,177nm,0.9s
SMY Shemya 73.44 355 P P 17 12 34.4 +1.2
SMY IAmb IAmb 17 12 35.2
comp=Z,177nm,0.9s
TPUB Ta-pu 73.59 303 P P 17 12 33.7 -1.1
SSLB Suanglung 73.59 304 P P 17 12 33.5 -1.3
SSLB IAmb IAmb 17 12 35.9
comp=Z,78nm,0.8s
ASAJ Asahikawa 73.65 332 P P 17 12 36.5 +1.9
comp=Z,89nm,0.8s,baz=213,slow=4.4,SNR=34
YHNB Yeheng 73.73 305 P P 17 12 35.6 0.0
YHNB IAmb IAmb 17 12 37.6
comp=Z,126nm,1.0s
TPI Tanjungpandan 73.76 273 P P 17 12 36.5 +0.5
comp=Z,94nm,1.1s,comp=Z,1µm
TATO Taipei 73.81 305 P P 17 12 35.9 -0.1
TATO IAmb IAmb 17 12 37.8
comp=Z,193nm,0.9s
NIKH Nikolski High 73.91 6 P P 17 12 35.8 -0.1
UNV Unalaska Valle 75.03 7 P P 17 12 41.1 -1.0
UNV IAmb IAmb 17 12 43.7
comp=Z,82nm,0.7s
BLSI Bandar Lampung 75.12 270 P P 17 12 42.7 -0.9
comp=Z,80nm,0.4s
AKUT Akutan 75.41 8 P P 17 12 43.6 -0.6
AKUT IAmb IAmb 17 12 46.6
comp=Z,79nm,0.8s
KASI Kota Agung 75.76 269 P P 17 12 46.5 -0.6
comp=Z,254nm,1.1s
KLSI 75.83 270 P P 17 12 46.5 -1.0
comp=Z,16nm,1.2s
YSS Yuzh-Sakhalins 75.84 334 ⇑ *iP* **P 17 12 48.0 +1.2**
YSS *e* 17 12 54.3
YSS pmax pmax
comp=Z,90nm,1.0s
YSS Yuzh-Sakhalins 75.84 334 P P 17 12 47.1 +0.3
KNMB Chin-men Tao 75.94 303 P P 17 12 48.2 +0.4
KNMB IAmb IAmb 17 12 50.6
comp=Z,90nm,0.9s
QZH Quanzhou 76.03 304 ⇓ *iP* **P 17 12 50.0 +1.7**
QZH pmax pmax
comp=Z,85nm,0.9s
PET Petropavlovsk 76.06 346 *eP* **P 17 12 47.7 -0.1**
PET pmax pmax
comp=Z,77nm,0.9s
PET Petropavlovsk 76.06 346 P P 17 12 47.5 -0.3
TJN Taejon 76.33 318 ⇓ *eP* **P 17 12 50.0 +0.3**
LWLI Luwa 76.35 270 P P 17 12 49.9 -0.6
comp=Z,113nm,0.8s,comp=Z,2µm
PEA0B Petropavlovsk- 76.36 346 *ceP* **P 17 12 49.7 +0.2**
PEA0B Petropavlovsk- 76.36 346 P P 17 12 49.5 0.0
PETK Petropavlovsk 76.36 346 P P 17 12 49.8 +0.3
comp=Z,87nm,0.8s,baz=121,slow=5.5,SNR=80
PMBI Palembang 76.40 272 P P 17 12 51.4 +0.8
MDSI Maura Dua 76.42 270 P P 17 12 49.6 -1.1
comp=Z,143nm,0.9s,comp=Z,1µm
FALS False Pass 76.43 9 P P 17 12 50.0 +0.3
FALS IAmb IAmb 17 12 51.4
comp=Z,119nm,1.0s
KSRS Korea Array 76.66 319 P P 17 12 52.6 +1.1
comp=Z,22nm,0.7s,baz=125,slow=5.8,SNR=46
KS19 Wonju Array Si 76.73 319 P P 17 12 52.3 +0.4
KS19 IAmb IAmb 17 12 55.0
comp=Z,257nm,2.0s
CNBA Chernabura Isl 77.02 11 P P 17 12 54.1 +1.1
LHSI Lahat 77.25 271 P P 17 12 54.7 -0.6
comp=Z,101nm,1.0s,comp=Z,2µm
SDPT Sand Point 77.37 11 P P 17 12 54.5 -0.4
INCN Inchon 77.48 318 P P 17 12 56.9 +0.9
INCN pmax pmax
comp=Z,73nm,1.1s
INCN Inchon 77.48 318 P P 17 12 56.9 +0.9
MNAI Manna 77.60 270 P P 17 12 57.1 -0.1
SNCC San Nicolas Is 77.88 47 P P 17 12 59.9 +1.8
baz=235
SNCC San Nicolas Is 77.88 47 P P 17 12 59.2 +1.0
SPIA Saint Paul Isl 77.95 5 P P 17 12 55.1 -2.8
VLA Vladivostok 78.13 325 ⇓ *eP* **P 17 12 58.6 -0.7**
VLA pmax pmax
comp=Z,48nm,0.8s
KSI Kapahiang 78.19 271 P P 17 12 59.5 -0.9
comp=Z,334nm,1.2s
SCZ2 Santa Cruz Isl 78.23 47 P P 17 13 01.4 +1.3
baz=235
HKPS Hong Kong Po S 78.27 299 P P 17 13 01.1 +0.6
HKPS IAmb IAmb 17 13 03.8
comp=Z,128nm,1.0s
SCI2 San Clemente I 78.41 48 P P 17 13 03.2 +2.2
baz=236,SNR=8.4
MCCM Marconi Confer 78.57 42 P P 17 13 02.9 +1.2
DLV T Lat 78.59 287 P P 17 13 03.1 +0.5
PKM Mcpherson Peak 78.62 46 P P 17 13 05.3 +2.9
baz=235
CHGN Chignik 78.64 11 P P 17 13 01.8 +0.2
CHGN IAmb IAmb 17 13 03.9
comp=Z,168nm,0.9s
SAO San Andreas Ge 78.64 44 P P 17 13 03.5 +1.3
SAO pmax pmax
comp=Z,98nm,0.9s
SAO San Andreas Ge 78.64 44 P P 17 13 03.5 +1.3
BLG Laguna Peak, P 78.68 47 P P 17 13 04.0 +1.5
baz=235
CIS Catalina Islan 78.73 48 P P 17 13 05.1 +2.3
baz=236,SNR=17
PMPB Monarch Peak 78.74 44 P P 17 13 04.3 +1.5
CHIR Chirikof Islan 78.75 13 P P 17 13 02.1 -0.1
CHIR IAmb IAmb 17 13 05.0
comp=Z,234nm,0.9s
SMMC Simmler 78.75 45 P P 17 13 05.0 +2.2
baz=234
PAGB Antelope Grade 78.82 45 P P 17 13 04.0 +0.9
PAGB IAmb IAmb 17 13 08.6
comp=Z,298nm,2.0s
USA0B Ussuriysk Arra 78.82 326 *d iP* **P 17 13 03.3 +0.4**
USA0B Ussuriysk Arra 78.82 326 P P 17 13 03.8 +0.9
USA0B IAmb IAmb 17 13 06.5
comp=Z,117nm,1.0s
USRK Ussuriysk Ar. 78.82 326 P P 17 13 04.5 +1.5
comp=Z,61nm,0.8s,baz=111,slow=3.1,SNR=83
MYKOM Kota Tinggi 78.94 276 P P 17 13 05.0 +0.7
MYKOM Kota Tinggi 78.94 276 P P 17 13 04.3 0.0
MYKOM IAmb IAmb 17 13 07.2
comp=Z,112nm,0.8s
HOPS Hopland Field 78.97 41 P P 17 13 05.6 +1.7

HOPS IAmb IAmb 17 13 08.1
comp=Z,158nm,0.9s
FMP Fort Macarthur 78.99 48 P **P** **17 13 05.9 +1.9**
baz=236
TYV Tymovskoe 79.02 336 *eP* **P** **17 13 05.2 +1.4**
TYV pmax pmax
comp=Z,120nm,1.3s
GDXM Geysers 79.03 41 P **P** **17 13 06.0 +1.7**
KCPM Cahto Peak 79.09 40 P **P** **17 13 06.0 +1.4**
KCPM IAmb IAmb 17 13 09.1
comp=Z,157nm,1.0s
OSI Osito Audit: C 79.20 47 P **P** **17 13 06.5 +1.2**
OSI IAmb IAmb 17 15 35.2
comp=Z,85nm,0.4s
DECC Green Verdugo 79.27 47 P **P** **17 13 07.3 +1.7**
baz=236
PASC Pasadena Art C 79.32 47 P **P** **17 13 06.3 +0.5**
KMRM Mail Ridge 79.35 40 P **P** **17 13 07.6 +1.7**
109C Camp Elliot, M 79.37 49 P **P** **17 13 07.5 +1.5**
baz=237
109C Camp Elliot, M 79.37 49 P **P** **17 13 07.3 +1.3**
ARVC Arvin 79.42 46 P **P** **17 13 08.2 +1.9**
baz=235
MWC Mount Wilson 79.44 47 P **P** **17 13 07.3 +0.6**
MWC pmax pmax
comp=Z,62nm,0.9s
MWC Mount Wilson 79.44 47 P **P** **17 13 07.3 +0.6**
JCC Jacoby Creek, 79.53 39 P **P** **17 13 09.2 +2.5**
JCC IAmb IAmb 17 13 11.3
comp=Z,213nm,1.6s
BAR Barrett 79.56 49 P **P** **17 13 08.3 +1.2**
NJ2 Nanjing 79.56 310 *eP* **P** **17 13 09.1 +2.0**
NJ2 pmax pmax
comp=Z,74nm,1.0s
MURC Murrieta 79.69 48 P **P** **17 13 09.1 +1.3**
baz=237,SNR=14
BFSC Mount Baldy Ra 79.72 47 P **P** **17 13 09.8 +1.8**
baz=236,SNR=21
VOG Valley Oaks Go 79.73 45 P **P** **17 13 09.4 +1.5**
baz=235
SII Sitkinak Islan 79.74 13 P **P** **17 13 07.4 0.0**
KHMM Horse Mountain 79.75 39 P **P** **17 13 09.9 +1.8**
KHMM IAmb IAmb 17 13 12.7
comp=Z,123nm,1.0s
EDW2 Edwards Air Fo 79.85 47 P **P** **17 13 10.0 +1.3**
baz=236,SNR=54
MONP2 Monument Peak 79.85 49 P **P** **17 13 10.5 +1.6**
baz=237,SNR=85
O02D Mt. Diablo Mer 79.88 40 P **P** **17 13 10.4 +1.7**
baz=232
IKP In-Ko-Pah, Jac 79.94 50 P **P** **17 13 10.7 +1.5**
baz=237,SNR=41
ISA Isabella, Lake 79.96 46 P **P** **17 13 10.6 +1.3**
baz=236,SNR=41
ISA Isabella, Lake 79.96 46 P **P** **17 13 10.3 +1.1**
ISA pmax pmax
comp=Z,117nm,1.1s
ISA Isabella, Lake 79.96 46 P **P** **17 13 10.3 +1.1**
KRMB Red Mountain 80.05 39 P **P** **17 13 11.9 +2.3**
KRMB IAmb IAmb 17 13 14.3
comp=Z,164nm,1.2s
CMB Columbia Colle 80.08 43 P **P** **17 13 10.9 +1.2**
CMB pmax pmax
comp=Z,209nm,1.6s
CMB Columbia Colle 80.08 43 P **P** **17 13 10.9 +1.2**
CMB IAmb IAmb 17 13 13.6
comp=Z,209nm,1.6s
LPIG La Paz 80.08 60 P **P** **17 13 11.0 +1.0**
comp=Z,41nm,0.3s,baz=48,slow=3.4,SNR=4.4
SRIG Santa Rosalia 80.09 56 P **P** **17 13 11.2 +1.3**
SRIG IAmb IAmb 17 13 14.1
comp=Z,127nm,1.1s
PFO Pinyon Flats O 80.21 49 P **P** **17 13 11.6 +1.0**
baz=237,SNR=27
PFO Pinyon Flats O 80.21 49*c iP* **P** **17 13 12.1 +1.4**
PFO pmax pmax
comp=Z,117nm,1.6s
PFO Pinyon Flats O 80.21 49 P **P** **17 13 11.7 +1.0**
comp=Z,24nm,0.9s,baz=247,slow=4.5,SNR=37
PFO Pinyon Flats O 80.21 49 P **P** **17 13 11.6 +1.0**
XPFO Pion Flat 80.21 49 P **P** **17 13 11.2 +0.6**
AFDM Forest Hills D 80.25 42 P **P** **17 13 11.8 +1.2**
WDC Whiskeytown Da 80.27 40 P **P** **17 13 11.7 +1.1**
WDC Whiskeytown Da 80.27 40 P **P** **17 13 11.7 +1.1**
WDC IAmb IAmb 17 13 14.9
comp=Z,160nm,1.1s
ORV Oroville 80.28 41 P **P** **17 13 11.3 +0.6**
ORV pmax pmax
comp=Z,95nm,1.1s
ORV Oroville 80.28 41 P **P** **17 13 11.3 +0.6**
KBO Bosley Butte 80.30 38 P **P** **17 13 12.8 +1.9**
KBO IAmb IAmb 17 13 15.7
comp=Z,238nm,1.4s
SWSC Sam W. Stewart 80.32 49 P **P** **17 13 12.5 +1.5**
baz=238,SNR=34
MDJ Mudanjiang 80.37 325 P **P** **17 13 12.3 +1.3**
MDJ S **S** **17 22 30.9 +2.6**
MDJ sS sS 17 26 10.1 -2.8
MDJ pmax pmax
comp=Z,110nm,1.0s
MDJ pmax pmax
comp=Z,720nm,3.2s
MDJ Mudanjiang 80.37 325 P **P** **17 13 11.5 +0.5**
MDJ IAmb IAmb 17 13 14.6
comp=Z,124nm,1.1s
LRMC Laurel Mtn Rad 80.39 46 P **P** **17 13 12.7 +1.1**
baz=236,SNR=24
N02D Trinity Center 80.42 40 P **P** **17 13 13.3 +1.8**
baz=232,SNR=84
OHAK Old Harbor 80.54 14 P **P** **17 13 12.0 +0.5**
OHAK IAmb IAmb 17 13 14.6
comp=Z,293nm,1.6s
O03E Paynes Creek 80.54 40 P **P** **17 13 13.4 +1.2**
baz=232,SNR=83
M02C Callahan 80.59 39 P **P** **17 13 14.3 +1.9**
baz=232,SNR=86
L02E Cave Junction 80.63 38 P **P** **17 13 14.2 +1.8**
baz=231,SNR=16
KEBM Edson Butte 80.66 37 P **P** **17 13 14.0 +1.3**
KEBM IAmb IAmb 17 13 18.6
comp=Z,123nm,1.0s
CWC Cottonwood Cre 80.66 45 P **P** **17 13 14.1 +1.1**
baz=236
MDPB Devils Postpil 80.68 44 P **P** **17 13 14.3 +1.2**
MDPB IAmb IAmb 17 13 17.2
comp=Z,114nm,1.0s
OMMB Old Mammoth Mi 80.72 44 P **P** **17 13 14.6 +1.1**
BELC Belle Mtn. Jos 80.75 48 P **P** **17 13 14.6 +1.2**
baz=237,SNR=59
RUBR Rubicon Trail 80.82 42 P **P** **17 13 14.9 +1.1**
RUBR IAmb IAmb 17 13 17.9
comp=Z,236nm,1.4s
MLAC Mammoth, Mammo 80.84 44 P **P** **17 13 15.5 +1.6**
baz=235,SNR=21
MPMC Manual Prospec 80.85 46 P **P** **17 13 15.1 +1.2**
baz=236,SNR=63
YBH Yreka Blue Hor 80.88 39 P **P** **17 13 15.2 +1.3**
YBH pmax pmax
comp=Z,138nm,1.0s
YBH Yreka Blue Hor 80.88 39 P **P** **17 13 15.1 +1.3**
comp=Z,110nm,0.9s,baz=171,slow=0.8,SNR=141
YBH Yreka Blue Hor 80.88 39 P **P** **17 13 15.2 +1.3**
YBH IAmb IAmb 17 13 18.3
comp=Z,138nm,0.9s
GSC Goldstone, Bar 80.89 47 P **P** **17 13 15.3 +1.2**
baz=237,SNR=55
GSC Goldstone, Bar 80.89 47 P **P** **17 13 14.9 +0.8**
GSC pmax pmax
comp=Z,102nm,1.2s
GSC Goldstone, Bar 80.89 47 P **P** **17 13 14.9 +0.8**
DAC Darwin (Calif) 80.90 46 P **P** **17 13 17.9 +3.7**
DAC pmax pmax
comp=Z,43nm,0.8s
DAC Darwin (Calif) 80.90 46 P **P** **17 13 17.9 +3.7**
TIN Tinemaha, Big 80.91 45 P **P** **17 13 15.5 +1.4**
baz=235,SNR=54
K02D Willamette Mer 80.93 38 P **P** **17 13 15.6 +1.5**
baz=231,SNR=26
BC3 Big Chuckawall 80.94 49 P **P** **17 13 15.9 +1.5**
baz=238,SNR=34
WAKR Walker 80.96 43 P **P** **17 13 15.6 +1.1**
WAKR IAmb IAmb 17 13 18.8
comp=Z,226nm,1.2s
HEC Hector,Ludlow 80.96 48 P **P** **17 13 15.6 +1.2**
baz=237,SNR=74
JRMM Jerantut 80.98 278 P **P** **17 13 15.0 +0.1**

BKNI Bangkinang 81.03 274 P **P** **17 13 14.9 -0.3**
BKNI IAmb IAmb 17 13 18.5
comp=Z,195nm,1.2s
GLA Glamis 81.07 50 P **P** **17 13 16.8 +1.9**
baz=238,SNR=28
GLA Glamis 81.07 50 P **P** **17 13 16.3 +1.3**
GLA pmax pmax
comp=Z,152nm,1.0s
GLA Glamis 81.07 50 P **P** **17 13 16.3 +1.3**
GLA IAmb IAmb 17 13 19.6
comp=Z,152nm,0.9s
J01E Myrtle Point 81.07 37 P **P** **17 13 16.3 +1.6**
baz=231,SNR=13
MAW Mawson 81.11 200 P **P** **17 13 14.8 +0.3**
baz=81,SNR=17
MAW Mawson 81.11 200 P **P** **17 13 15.3 +0.8**
MAW pmax pmax
comp=Z,10.0nm,1.6s
MAW Mawson 81.11 200 P **P** **17 13 14.7 +0.2**
comp=Z,6.7nm,0.5s,baz=124,slow=4.5,SNR=30
MAW Mawson 81.11 200 P **P** **17 13 15.3 +0.8**
BEKR Beckworth 81.17 42 P **P** **17 13 16.6 +1.1**
BEKR IAmb IAmb 17 13 19.5
comp=Z,269nm,1.6s
PNTR Pine Nut 81.19 42 P **P** **17 13 16.7 +1.0**
KDAK Kodiak Island 81.21 14 *i* P **P** **17 13 15.9 +0.9**
KDAK Kodiak Island 81.21 14 P **P** **17 13 15.6 +0.6**
KDAK IAmb IAmb 17 13 18.1
comp=Z,365nm,1.8s
HUMO Hull Mountain 81.28 38 P **P** **17 13 17.7 +1.9**
HUMO IAmb IAmb 17 13 20.5
comp=Z,188nm,1.1s
VCNR Virginia City 81.28 42 P **P** **17 13 17.4 +1.3**
VCNR IAmb IAmb 17 13 20.2
comp=Z,94nm,1.1s
PMSA Palmer Station 81.30 157 P **P** **17 13 16.9 +1.3**
YERR Yerington 81.36 43 P **P** **17 13 17.6 +1.0**
YERR IAmb IAmb 17 13 20.4
comp=Z,205nm,1.2s
GMRC Granite Mounta 81.40 48 P **P** **17 13 18.1 +1.3**
baz=237,SNR=47
L04D Klamath Falls 81.42 39 P **P** **17 13 18.0 +1.4**
baz=232,SNR=83
M04C Macdoel 81.43 39 P **P** **17 13 18.3 +1.6**
baz=232,SNR=46
IRM Iron Mountain 81.43 49 P **P** **17 13 18.2 +1.5**
baz=238,SNR=74
GRNR Gornyy 81.44 333 *i* P **P** **17 13 17.4 +1.0**
GRNR *eS* **S** **17 22 36.6 -2.4**
GRNR pmax pmax
comp=Z,60nm,1.0s
GRNR smax smax
comp=N,3.0nm,1.6s
GRAC Grapevine Rang 81.45 45 P **P** **17 13 18.1 +1.3**
baz=236,SNR=22
DL2 Dalian 81.49 317 P **P** **17 13 18.6 +1.7**
DL2 PP **PP** **17 16 35.0 0.0**
DL2 *eS* **S** **17 22 42.8 +3.0**
DL2 pmax pmax
comp=N,51nm,0.8s
FURC Furnace Creek, 81.49 46 P **P** **17 13 18.2 +1.3**
baz=236,SNR=42
TUQ Turquoise Moun 81.57 47 P **P** **17 13 18.8 +1.2**
baz=237,SNR=54
SHOC Shoshone, Teco 81.58 47 P **P** **17 13 18.6 +1.1**
baz=237,SNR=20
RYN Ryan 81.61 43 P **P** **17 13 18.6 +0.8**
RYN IAmb IAmb 17 13 21.8
comp=Z,267nm,1.7s
NVAR Mina Array Bea 81.64 44 P **P** **17 13 19.3 +1.3**
comp=Z,57nm,0.8s,baz=225,slow=7.6,SNR=196
NVAR PKiKP **PKiKP** **17 18 36.6 +0.5**
comp=Z,1.1nm,0.8s,baz=212,slow=3.2,SNR=3.6
NVAR PKKPbc **PKKPbc** **17 31 48.0 +1.6**
comp=Z,2.0nm,0.7s,baz=72,slow=3.4,SNR=14
NVAR PKPPKP **P'P'df** **17 39 49.2 +0.2**
comp=Z,0.1nm,0.3s,baz=96,slow=2.7,SNR=3.1
Y12C Blythe 81.65 49 P **P** **17 13 19.4 +1.6**
baz=238,SNR=34
Y12C Blythe 81.65 49 P **P** **17 13 19.3 +1.4**
Y12C IAmb IAmb 17 13 22.2
comp=Z,84nm,0.9s
113A Mohawk Valley, 81.68 50 P **P** **17 13 19.0 +1.0**
113A IAmb IAmb 17 13 22.4
comp=Z,109nm,1.0s
PAHR Pah Rah Range 81.69 42 P **P** **17 13 18.8 +0.7**
PAHR IAmb IAmb 17 13 22.0
comp=Z,140nm,1.1s
I02D Swisshome 81.72 37 P **P** **17 13 19.9 +2.0**
baz=231
I03D Drain, OR 81.74 37 P **P** **17 13 19.6 +1.5**
baz=231,SNR=21
81.91 55 P **P** **17 13 20.3 +1.0**
HSIG HSIG IAmb IAmb 17 13 23.3
comp=Z,114nm,1.2s
214A Organ Pipe Nat 81.96 52 P **P** **17 13 21.3 +1.7**
baz=240
214A Organ Pipe Nat 81.96 52 P **P** **17 13 20.8 +1.2**
214A IAmb IAmb 17 13 24.1
comp=Z,112nm,1.1s
K04D Chiloquin, OR 81.99 39 P **P** **17 13 21.1 +1.6**
baz=232,SNR=16
SNY Shenyang 82.00 320 *j* P **P** **17 13 19.6 +0.2**
SNY S **S** **17 22 50.6 +5.8**
SNY pmax pmax
comp=Z,50nm,0.8s
SNY pmax pmax
comp=Z,600nm,4.7s
WHN Wuhan 82.09 307 P **P** **17 13 21.1 +1.0**
WHN pmax pmax
comp=Z,240nm,1.5s
CN2 Changchun 82.12 323 *eP* **P** **17 13 20.5 +0.5**
CN2 epP pwP 17 15 28.8 -0.3
CN2 *eP* **PP** **17 16 39.3 -0.7**
CN2 SKS **S** **17 22 41.3 -4.6**
CN2 pmax pmax
comp=Z,110nm,1.1s
CN2 pmax pmax
comp=Z,200nm,3.0s
KVN Kaiserville 82.12 43 P **P** **17 13 20.9 +0.5**
KVN pmax pmax
comp=Z,153nm,1.1s
KVN Kaiserville 82.12 43 P **P** **17 13 20.9 +0.5**
KVN IAmb IAmb 17 13 24.1
comp=Z,153nm,1.1s
J04D Umpqua Nationa 82.16 38 P **P** **17 13 21.9 +1.4**
baz=232,SNR=63
TPNV Topopah Spring 82.17 46 P **P** **17 13 21.7 +1.0**
baz=237,SNR=148
TPNV Topopah Spring 82.17 46 P **P** **17 13 21.5 +0.9**
TPNV pmax pmax
comp=Z,124nm,0.9s
TPNV Topopah Spring 82.17 46 P **P** **17 13 21.6 +0.9**
TPNV IAmb IAmb 17 13 24.6
comp=Z,124nm,0.8s
COR Corvallis 82.32 36 P **P** **17 13 22.6 +1.6**
COR pmax pmax
comp=Z,91nm,1.0s
COR Corvallis 82.32 36 P **P** **17 13 22.6 +1.6**
COR IAmb IAmb 17 13 25.3
comp=Z,91nm,1.0s
I04A Tendick Farm, 82.33 37 P **P** **17 13 22.6 +1.5**
baz=232,SNR=31
MOD Modoc Plateau 82.42 40 P **P** **17 13 22.8 +1.0**
MOD IAmb IAmb 17 13 25.7
comp=Z,110nm,0.8s
KLR Kul'dur 82.43 330 *c iP* **P** **17 13 21.3 -0.1**
KLR pmax pmax
comp=Z,45nm,0.9s
KLR Kul'dur 82.43 330 P **P** **17 13 22.3 +0.9**
comp=Z,31nm,0.9s,baz=100,slow=2.6,SNR=69
IPM Ipoh 82.54 278 P **P** **17 13 24.0 +1.2**
IPM Ipoh 82.54 278 P **P** **17 13 23.0 +0.1**
IPM IAmb IAmb 17 13 25.8
comp=Z,187nm,1.1s
H04D Lebanon 82.60 37 P **P** **17 13 23.9 +1.5**
baz=231,SNR=28
UBPT Khong Chiam 82.62 289 P **P** **17 13 25.1 +2.0**
comp=Z,29nm,1.0s,comp=Z,1μm
UBPT Khong Chiam 82.62 289 P **P** **17 13 24.4 +1.3**
SHPR Sheep Range 82.67 47 P **P** **17 13 24.2 +1.1**
J05D Fort Rock, OR 82.69 38 P **P** **17 13 24.8 +1.7**
baz=233,SNR=177
G03D McMinnville, O 82.74 36 P **P** **17 13 24.8 +1.7**
baz=231,SNR=7.9
W13A Hualapai Mount 82.80 48 P **P** **17 13 25.1 +1.1**

Y14A Wickenburg 82.83 50 P **P** **17 13 25.2 +1.3**
TIA Tai'an 82.98 313 P **P** **17 13 25.5 +1.0**
TIA pmax pmax
comp=Z,48nm,0.9s
H04A Detroit Lake 83.01 37 P **P** **17 13 24.1 -0.3**
H04A IAmb IAmb 17 13 27.2
comp=Z,268nm,1.4s
CNPM China Poot 83.09 14 P **P** **17 13 24.5 0.0**
CNPM IAmb IAmb 17 13 27.2
comp=Z,140nm,0.9s
HOM Homer 83.12 13 P **P** **17 13 25.1 +0.5**
PINE Pine Mountain 83.17 38 P **P** **17 13 27.0 +1.4**
KULM Kulim 83.18 278 P **P** **17 13 26.5 +0.5**
I05D Terrebonne, OR 83.27 37 P **P** **17 13 27.3 +1.5**
baz=232,SNR=38
R11A Troy Canyon, C 83.37 45 P **P** **17 13 28.3 +1.6**
baz=237,SNR=32
R11A Troy Canyon, C 83.37 45 P **P** **17 13 27.3 +0.7**
BRLK Bradley Lake 83.39 14 P **P** **17 13 26.1 +0.1**
BRLK IAmb IAmb 17 13 28.5
comp=Z,171nm,1.0s
F04D Rainier, OR 83.42 35 P **P** **17 13 28.8 +2.3**
baz=231
RSO Redoubt South 83.62 13 P **P** **17 13 26.9 -0.4**
TUC Tucson 83.63 52 P **P** **17 13 30.1 +2.2**
baz=241
TUC Tucson 83.63 52 P **P** **17 13 29.3 +1.4**
TUC pmax pmax
comp=Z,98nm,1.0s
TUC Tucson 83.63 52 P **P** **17 13 29.3 +1.4**
TUC IAmb IAmb 17 13 32.6
comp=Z,98nm,0.9s
GO10 Punta Arenas 83.65 145 P **P** **17 13 29.9 +2.3**
F04A Amboy 83.65 36 P **P** **17 13 28.4 +0.8**
WVOR Wild Horse Val 83.73 40 P **P** **17 13 29.0 +0.8**
WVOR pmax pmax
comp=Z,109nm,1.0s
WVOR Wild Horse Val 83.73 40 P **P** **17 13 29.0 +0.8**
WVOR IAmb IAmb 17 13 32.3
comp=Z,109nm,1.0s
NLWA Neilton Lookou 83.80 34 P **P** **17 13 29.4 +1.1**
NLWA IAmb IAmb 17 13 32.5
comp=Z,116nm,1.0s
G05D Wamic, OR 83.84 37 P **P** **17 13 30.1 +1.5**
baz=232,SNR=15
RPSI Rantau Prapat 83.85 275 P **P** **17 13 28.3 -1.1**
RPSI IAmb IAmb 17 13 31.4
comp=Z,95nm,0.9s
MA2 Magadan 83.86 345 *de* P **P** **17 13 29.1 +0.8**
MA2 pmax pmax
comp=Z,73nm,1.7s
MA2 Magadan 83.86 345 P **P** **17 13 27.9 -0.4**
comp=Z,45nm,0.8s,baz=145,slow=5.4,SNR=14
MA2 Magadan 83.86 345 P **P** **17 13 28.2 -0.1**
PSI Prapat 83.89 275 P **P** **17 13 28.3 -1.4**
PSI pmax pmax
comp=Z,95nm,0.9s
SKLT Songkhla 83.90 280 P **P** **17 13 31.4 +1.9**
E04D Cinebar 83.96 35 P **P** **17 13 30.8 +1.7**
baz=231,SNR=20
SEW Seward 84.02 14 P **P** **17 13 28.9 -0.1**
SEW IAmb IAmb 17 13 31.3
comp=Z,104nm,0.9s
F05D White Salmon 84.15 36 P **P** **17 13 31.4 +1.3**
baz=232,SNR=7.6
X16A Lo Mia Camp, P 84.19 50 P **P** **17 13 32.2 +1.5**
X16A IAmb IAmb 17 13 35.2
comp=Z,100nm,1.2s
G06A Carlson Farm, 84.22 37 P **P** **17 13 30.6 +0.1**
G06A IAmb IAmb 17 13 34.3
comp=Z,107nm,1.2s
LCMT Little Creek M 84.24 47 P **P** **17 13 31.7 +0.8**
D04E Lakebay 84.24 35 P **P** **17 13 33.1 +2.7**
baz=231,SNR=7.8
D03D Eldon 84.30 34 P **P** **17 13 32.4 +1.6**
baz=231,SNR=28
319A Douglas 84.30 54 P **P** **17 13 32.9 +1.6**
GAMB Gambell 84.43 3 P **P** **17 13 32.1 +1.2**
CCUT Cedar City 84.44 47 P **P** **17 13 32.9 +0.9**
KNB Kanab 84.53 47 P **P** **17 13 33.7 +1.3**
KNB pmax pmax
comp=Z,61nm,0.9s
KNB Kanab 84.53 47 P **P** **17 13 33.7 +1.3**
U15A North Rim 84.60 48 P **P** **17 13 34.0 +1.2**
U15A IAmb IAmb 17 13 37.0
comp=Z,121nm,0.8s
GSI Gunungsitoli 84.61 273 P **P** **17 13 34.3 +1.2**
PSUT Pine Spring 84.62 45 P **P** **17 13 33.5 +0.6**
SZCU Shurtz Canyon 84.65 47 P **P** **17 13 34.0 +1.0**
D05A Enumclaw 84.67 35 P **P** **17 13 34.5 +2.0**
WUAZ Wupatki 84.78 49 P **P** **17 13 35.1 +1.5**
baz=240
WUAZ Wupatki 84.78 49 P **P** **17 13 35.0 +1.3**
WUAZ IAmb IAmb 17 13 37.8
comp=Z,80nm,1.1s
RC01 Rabbit Creek A 84.83 14 P **P** **17 13 33.2 +0.2**
RC01 IAmb IAmb 17 13 35.6
comp=Z,206nm,1.3s
ELK Elko 84.89 43 P **P** **17 13 34.4 +0.3**
ELK pmax pmax
comp=Z,30nm,0.9s
ELK Elko 84.89 43 P **P** **17 13 34.4 +0.3**
SUA Susitna One 84.95 13 P **P** **17 13 33.2 -0.5**
SUA IAmb IAmb 17 13 35.8
comp=Z,100nm,0.8s
HIN Hinchinbrook I 84.98 15 P **P** **17 13 34.4 +0.7**
HIN IAmb IAmb 17 13 36.3
comp=Z,104nm,1.2s
TRTT Trang 85.00 280 P **P** **17 13 36.9 +2.0**
F07A Phinny Hill Vi 85.01 37 P **P** **17 13 35.6 +1.4**
F07A IAmb IAmb 17 13 38.1
comp=Z,111nm,1.3s
PKCU Pink Cliffs 85.10 47 P **P** **17 13 37.3 +2.0**
G08A Pilot Rock 85.20 38 P **P** **17 13 36.2 +0.9**
G08A IAmb IAmb 17 13 39.2
comp=Z,146nm,1.1s
CRAG Craig 85.20 24 P **P** **17 13 37.3 +2.4**
CRAG IAmb IAmb 17 13 38.8
comp=Z,68nm,0.9s
A04D Lummi Island 85.24 33 P **P** **17 13 36.7 +1.5**
baz=231,SNR=14
SKT Skwentna 85.25 12 P **P** **17 13 34.0 -1.1**
GLI Glacier Island 85.25 15 P **P** **17 13 35.2 +0.2**
B05A Bryant 85.28 34 P **P** **17 13 36.7 +1.3**
baz=232,SNR=29
FID Port Fidalgo 85.29 15 P **P** **17 13 36.5 +1.3**
FID IAmb IAmb 17 13 37.6
comp=Z,139nm,1.2s
EYAK Cordova Ski Ar 85.30 16 P **P** **17 13 36.5 +1.3**
EYAK IAmb IAmb 17 13 37.9
comp=Z,101nm,1.1s
TTA Tatalina 85.31 10 P **P** **17 13 36.5 +1.2**
TTA Tatalina 85.31 10 P **P** **17 13 36.5 +1.2**
X18A Snowflake 85.32 51 P **P** **17 13 37.5 +1.3**
KNK Knik Glacier 85.41 14 P **P** **17 13 35.8 0.0**
KNK IAmb IAmb 17 13 37.8
comp=Z,78nm,0.8s
PMR Palmer 85.41 14 P **P** **17 13 35.4 -0.3**
PMR pmax pmax
comp=Z,203nm,1.4s
PMR Palmer 85.41 14 P **P** **17 13 35.4 -0.3**
PMR IAmb IAmb 17 13 38.2
comp=Z,203nm,1.4s
LTY Liberty 85.42 35 P **P** **17 13 36.6 +0.3**
LTY IAmb IAmb 17 13 39.8
comp=Z,91nm,1.1s
RAGM Ragged Mountai 85.44 16 P **P** **17 13 37.6 +1.6**
RAGM IAmb IAmb 17 13 38.9
comp=Z,136nm,1.2s
E07A Sunnyside 85.45 36 P **P** **17 13 37.7 +1.4**
MTPU Mount Pierson 85.49 47 P **P** **17 13 38.3 +1.1**
HMT Hamilton 85.50 16 P **P** **17 13 37.1 +0.8**
HMT IAmb IAmb 17 13 38.7
comp=Z,70nm,0.9s
HAWA Hanford 85.53 37 P **P** **17 13 37.8 +1.1**
TCRU Three Creeks R 85.60 46 P **P** **17 13 39.4 +1.8**
GHO Glory Hole Cre 85.62 14 P **P** **17 13 36.5 -0.3**
BJT Baijiatuau 85.63 316 P **P** **17 13 37.4 +0.1**
BJT pmax pmax
comp=Z,36nm,0.8s
BJT Baijiatuau 85.63 316 P **P** **17 13 37.4 +0.1**
BJI Beijing 85.63 316 P **P** **17 13 37.9 +0.6**
BJI pmax pmax
comp=Z,15nm,0.8s

ENH	Enshi	85.66	304	P		P	17 13 38.2	+0.5
ANM	Nome	85.67	6	P		P	17 13 37.7	+0.8
ANM				pmax		pmax		
	comp=Z,26nm,1.1s							
ANM	Nome	85.67	6	P		P	17 13 37.7	+0.8
C06D	Leavenworth	85.70	35	P		P	17 13 38.4	+0.9
	baz=232,SNR=11							
MSU	Marysvale	85.73	46	P		P	17 13 39.5	+1.3
MSU	Marysvale	85.73	46	P		P	17 13 39.5	+1.3
B06A	Marblemount	85.75	34	P		P	17 13 38.6	+0.9
B06A				IAmb		IAmb	17 13 41.0	
	comp=Z,79nm,1.1s							
W18A	Petrified Fore	85.76	50	P		P	17 13 39.7	+1.4
	baz=241							
W18A	Petrified Fore	85.76	50	P		P	17 13 39.6	+1.3
W18A				IAmb		IAmb	17 13 42.3	
	comp=Z,88nm,1.3s							
NONG	Nongkai	85.77	291	P		P	17 13 39.9	+1.4
SML	Sawmill	85.78	14	P		P	17 13 37.6	0.0
MOIG	Morelia	85.80	67	P		P	17 13 40.1	+1.2
PATY	Pattaya	85.82	285	P		P	17 13 41.8	+3.0
E08A	Dider Farm, El	85.85	37	P		P	17 13 39.6	+1.4
E08A				IAmb		IAmb	17 13 42.1	
	comp=Z,98nm,0.9s							
ZAIG	Zacatecas	85.88	64	P		P	17 13 40.1	+0.8
BMO	Blue Mountains	85.91	39	P		P	17 13 39.3	+0.6
BMO				pmax		pmax		
	comp=Z,450nm,2.0s							
BMO	Blue Mountains	85.91	39	P		P	17 13 39.3	+0.6
CHAI	Chaiyaphum	85.95	289	P		P	17 13 40.5	+1.1
PPLA	Purkeypile	85.96	12	P		P	17 13 38.2	-0.4
121A	Cookes Peak, D	85.97	53	P		P	17 13 41.6	+2.2
	baz=242							
121A	Cookes Peak, D	85.97	53	P		P	17 13 40.4	+1.0
121A				IAmb		IAmb	17 13 44.0	
	comp=Z,91nm,1.2s							
WAX	Waxell Ridge	85.97	17	P		P	17 13 39.0	+0.5
MFID	Camas Ranch	85.99	41	P		P	17 13 39.6	+0.5
MFID				IAmb		IAmb	17 13 43.0	
	comp=Z,94nm,1.1s							
MESA	MESA	86.00	17	P		P	17 13 40.0	+1.1
SCM	Sheep Creek Mo	86.03	14	P		P	17 13 38.9	+0.1
SCM				pmax		pmax		
	comp=Z,187nm,0.8s							
SCM	Sheep Creek Mo	86.03	14	P		P	17 13 38.9	+0.1
CRQM	Cirque	86.15	17	P		P	17 13 39.7	+0.1
CRQM				IAmb		IAmb	17 13 42.5	
	comp=Z,136nm,1.1s							
DUG	Dugway, Tooele	86.17	44	P		P	17 13 41.5	+1.4
	baz=239,SNR=12							
DUG	Dugway, Tooele	86.17	44	P		P	17 13 40.2	+0.1
DUG				pmax		pmax		
	comp=Z,41nm,1.6s							
DUG	Dugway, Tooele	86.17	44	P		P	17 13 40.2	+0.1
WRAK	Wrangell Islan	86.20	24	P		P	17 13 41.0	+1.4
WRAK				IAmb		IAmb	17 13 42.9	
	comp=Z,79nm,0.8s							
DHAK	Deception Hill	86.22	20	P		P	17 13 40.9	+1.2
GYA	Guiyang	86.23	300	⇓ *i* P		P	17 13 41.3	+0.6
GYA				pP		pwP	17 15 51.9	-0.5
GYA				PP		PP	17 17 17.3	+4.0
GYA				SKS		SKSac	17 23 09.4	-1.1
GYA				S		S	17 23 27.5	+0.8
GYA				pmax		pmax		
	comp=Z,10.0nm,0.6s							
GYA				pmax		pmax		
	comp=Z,60nm,4.2s							
SURT	Suratani	86.24	281	P		P	17 13 43.0	+2.2
TGL	Tana Glacier	86.24	17	P		P	17 13 39.9	0.0
TGL				IAmb		IAmb	17 13 42.9	
	comp=Z,155nm,1.2s							
PKDT	Phuket	86.27	280	P		P	17 13 44.2	+3.2
SYO	Syowa Base	86.34	193	⇑ *e* P		P	17 13 37.8	-2.4
SYO	Syowa Base	86.34	193	‖ *e* PcP		P	17 13 40.9	+0.7
SYO	Syowa Base	86.34	193	‖ *e* SKSac		SKSac	17 23 06.0	-3.4
BGU	Big Grassy Mou	86.41	44	P		P	17 13 42.0	+0.8
SLVN	Son La	86.41	294	P		P	17 13 42.3	+0.8
PCA	Pinnacle	86.41	18	P		P	17 13 41.8	+1.2
PCA				IAmb		IAmb	17 13 43.7	
	comp=Z,88nm,1.0s							
VRDI	Verde Repeater	86.47	16	P		P	17 13 41.2	+0.2
BCPM	Bancas Point	86.48	19	P		P	17 13 42.5	+1.7
BCPM				IAmb		IAmb	17 13 44.1	
	comp=Z,107nm,1.0s							
SEY	Seymchan	86.48	347	⇑ *e* P		P	17 13 41.3	+0.5
SEY	Seymchan	86.48	347	P		P	17 13 41.1	+0.3
	comp=Z,75nm,0.8s,baz=147,slow=5.8,SNR=87							
NLU	North Lily Min	86.54	45	P		P	17 13 42.9	+1.0
GLB	Gilahina Butte	86.56	16	P		P	17 13 41.3	0.0
F10A	Beach Ranch, E	86.59	38	P		P	17 13 42.1	+0.3
BALM	Baldy	86.60	17	P		P	17 13 42.2	+0.6
BALM				IAmb		IAmb	17 13 44.5	
	comp=Z,98nm,0.9s							
Q16A	Castle Valley	86.62	46	P		P	17 13 43.4	+1.1
MCARA	McCarthy VSAT	86.71	16	P		P	17 13 42.7	+0.7
MCARA				IAmb		IAmb	17 13 45.7	
	comp=Z,129nm,1.1s							
TMUT	Trail Mountain	86.78	46	P		P	17 13 44.3	+1.1
KTH	Kantishna Hill	86.80	12	P		P	17 13 41.3	-1.1
KTH				IAmb		IAmb	17 13 43.8	
	comp=Z,105nm,0.9s							
B08A	Colville Reser	86.80	35	P		P	17 13 42.7	0.0
PLID	Pearl Lake	86.81	39	P		P	17 13 43.4	+0.4
BARN	Barnard Glacie	86.81	17	P		P	17 13 43.1	+0.5
CTGM	Chitina Glacie	86.82	17	P		P	17 13 43.2	+0.5
CTGM				IAmb		IAmb	17 13 45.7	
	comp=Z,106nm,0.9s							
TRF	Thorofare Moun	86.83	12	P		P	17 13 41.7	-0.9
LLLB	Lillooet	86.84	32	P		P	17 13 43.6	+0.7
LLLB				IAmb		IAmb	17 13 46.4	
	comp=Z,95nm,1.1s							
JIS	Juneau Island	86.85	22	P		P	17 13 43.1	+0.5
JIS				IAmb		IAmb	17 13 46.2	
	comp=Z,116nm,1.3s							
BESE	Bessie Mountai	86.92	21	P		P	17 13 43.9	+0.9
BESE				IAmb		IAmb	17 13 46.8	
	comp=Z,101nm,1.0s							
PHET	Kaeng Krachan	86.93	285	P		P	17 13 46.8	+2.8
TIY	Taiyuan	86.98	312	P		P	17 13 45.8	+1.9
SPUT	South Promonto	86.98	44	P		P	17 13 45.0	+1.0
HVU	Hansel Valley	87.02	43	P		P	17 13 45.1	+1.0
HVU				pmax		pmax		
	comp=Z,70nm,1.1s							
HVU	Hansel Valley	87.02	43	P		P	17 13 45.1	+1.0
C09A	Chrisman Ranch	87.05	36	P		P	17 13 44.4	+0.6
C09A				IAmb		IAmb	17 13 47.4	
	comp=Z,110nm,0.9s							
RND	Reindeer	87.08	13	P		P	17 13 43.3	-0.4
RND				pmax		pmax		
	comp=Z,263nm,0.9s							
RND	Reindeer	87.08	13	P		P	17 13 43.3	-0.4
PBKT	Sadao Pong	87.11	289	P		P	17 13 46.7	+1.9
PBKT	Sadao Pong	87.11	289	P		P	17 13 46.2	+1.4
PBKT				IAmb		IAmb	17 13 48.9	
	comp=Z,80nm,1.1s							
DHY	Denali Highway	87.11	14	P		P	17 13 43.6	-0.4
DHY				IAmb		IAmb	17 13 46.4	
	comp=Z,171nm,1.6s							
SRU	San Rafael Swe	87.15	46	P		P	17 13 45.5	+0.7
SRU				pmax		pmax		
	comp=Z,80nm,0.9s							
SRU	San Rafael Swe	87.15	46	P		P	17 13 45.5	+0.7
P17A	Butcher Ranch,	87.19	46	P		P	17 13 45.9	+1.0
TLIG	Tlapa	87.26	70	P		P	17 13 46.5	+0.8
TLIG				IAmb		IAmb	17 13 50.2	
	comp=Z,138nm,1.5s							
JLU	Jordanelle	87.28	45	P		P	17 13 46.3	+0.9
BPAW	Bear Paw Mtn.	87.28	12	P		P	17 13 44.2	-0.3
Y22D	IRIS PASSCAL I	87.32	52	P		P	17 13 48.0	+2.4
LENM	Lemitar	87.32	52	P		P	17 13 46.2	+0.5
MCK	McKinley	87.36	13	P		P	17 13 44.6	-0.3
MCK				pmax		pmax		
	comp=Z,114nm,0.9s							
MCK	McKinley	87.36	13	P		P	17 13 44.6	-0.3
MNTX	Cornudas Mount	87.41	55	P		P	17 13 47.4	+1.4
	baz=244,SNR=92							
MNTX	Cornudas Mount	87.41	55	P		P	17 13 47.0	+1.0
MNTX				IAmb		IAmb	17 13 50.1	
	comp=Z,90nm,1.1s							
SKAG	Skagway	87.44	21	P		P	17 13 47.2	+1.8
SKAG				IAmb		IAmb	17 13 49.6	
	comp=Z,175nm,1.5s							
PAX	Paxson	87.45	15	P		P	17 13 45.1	-0.4
PAX				pmax		pmax		
	comp=Z,40nm,1.0s							
PAX	Paxson	87.45	15	P		P	17 13 45.1	-0.4
ZEA	Zeya	87.55	331	*e* P		P	17 13 46.4	+0.4
ZEA				*e*			17 23 40.0	
ZEA				pmax		pmax		
	comp=E,21nm,0.8s							
ZEA				pmax		pmax		
	comp=N,47nm,1.0s							
ZEA				pmax		pmax		
	comp=Z,64nm,1.0s							
TCUT	Toone Canyon	87.56	44	P		P	17 13 47.7	+0.9
BNM	Barren Site	87.57	52	P		P	17 13 47.9	+0.9
PV05	Paradox Valley	87.63	48	P		P	17 13 48.6	+1.5
PV05				IAmb		IAmb	17 13 51.1	
	comp=Z,57nm,1.0s							
MVCO	Mesa Verde	87.63	49	P		P	17 13 48.7	+1.5
	baz=242,SNR=9.3							
MVCO	Mesa Verde	87.63	49	P		P	17 13 48.2	+1.0
LPM	Los Pinos Moun	87.64	52	P		P	17 13 48.1	+0.9
BWN	Browne	87.64	12	P		P	17 13 46.4	+0.1
HWUT	Hardware Ranch	87.71	44	P		P	17 13 47.8	+0.5
HWUT				IAmb		IAmb	17 13 50.6	
	comp=Z,82nm,1.4s							
TX31	Lajitas Ar. Si	87.72	58	P		P	17 13 49.3	+1.7
TX32	Lajitas Array	87.72	58	P		P	17 13 49.4	+1.8
TXAR	Lajitas Array	87.72	58	P		P	17 13 49.3	+1.8
	comp=Z,73nm,0.8s,baz=218,slow=6.3,SNR=165							
TXAR				pP		pwP	17 16 00.8	+1.5
	comp=Z,6.5nm,1.1s,baz=237,slow=5.0,SNR=4.5							
TXAR				PKKPbc		PKKPbc	17 31 31.9	+0.4
	comp=Z,2.1nm,0.8s,baz=95,slow=3.0,SNR=13							
SNAA	Sanae	87.77	179	P		P	17 13 46.7	-0.3
SNAA				SKS		SKSac	17 23 18.3	+0.2
SNAA	Sanae	87.77	179	pP		pP	17 15 57.5	+1.5
SNAA	Sanae	87.77	179	*c* *i* P		P	17 13 46.5	-0.5
SNAA	Sanae	87.77	179	PKKPbc		PKKPbc	17 31 28.8	-3.9
	comp=Z,1.1nm,0.7s,baz=54,slow=2.8,SNR=7.3							
SNAA	Sanae	87.77	179	P		P	17 13 47.2	+0.2
SNAA						pP	17 15 59.3	+3.3
XAN	Xi'an	87.79	308	P		P	17 13 48.8	+1.1
XAN				pP		pP	17 15 54.1	-2.2
XAN				pmax		pmax		
	comp=Z,110nm,1.1s							
XAN				pmax		pmax		
	comp=Z,490nm,3.1s							
XAN	Xi'an	87.79	308	P		P	17 13 48.8	+1.1
XAN				pmax		pmax		
	comp=Z,106nm,1.0s							
XAN	Xi'an	87.79	308	P		P	17 13 48.8	+1.1
PV09	Paradox Valley	87.80	47	P		P	17 13 49.0	+1.0
PV19	Morning Glory	87.82	48	P		P	17 13 49.0	+1.1
PV19				IAmb		IAmb	17 13 51.5	
	comp=Z,128nm,1.6s							
PV17	East Wray Mesa	87.82	48	P		P	17 13 49.0	+1.1
PV17				IAmb		IAmb	17 13 51.5	
	comp=Z,129nm,1.6s							
PV14	Lion Creek, Pa	87.82	48	P		P	17 13 49.0	+1.0
PV14				IAmb		IAmb	17 13 51.4	
	comp=Z,54nm,0.9s							
PV18	Skein Mesa, Pa	87.84	48	P		P	17 13 50.2	+2.1
PV20	West Nyswonger	87.84	48	P		P	17 13 49.1	+1.1
MENT	Mentasta	87.85	15	P		P	17 13 47.7	+0.5
PV13	Radium Mtn., P	87.86	48	P		P	17 13 49.2	+1.0
PV16	Nyswonger Mesa	87.86	48	P		P	17 13 50.5	+2.3
PV23	Carpenter Ridg	87.87	47	P		P	17 13 49.4	+1.1
PV23				IAmb		IAmb	17 13 51.8	
	comp=Z,58nm,0.9s							
PV03	Paradox Valley	87.88	48	P		P	17 13 49.3	+1.1
PV11	David Mesa, Pa	87.89	48	P		P	17 13 49.5	+1.2
PV11				IAmb		IAmb	17 13 51.8	
	comp=Z,81nm,1.3s							
PV04	Paradox Valley	87.91	48	P		P	17 13 49.0	+0.7
UTTA	Uttaradit	87.92	290	P		P	17 13 50.7	+2.1
SRDT	SRDT	87.92	286	P		P	17 13 51.6	+3.0
VNA3	Neumayer Olymp	87.93	176	P		P	17 13 47.6	-0.1
VNA3	Neumayer Olymp	87.93	176	PKKP		PKKPbc	17 31 29.2	-3.1
VNA3				SKS		SKSac	17 23 18.7	-0.3
VNA3	Neumayer Olymp	87.93	176	pP		pP	17 15 58.2	+1.8
PV02	Paradox Valley	87.94	48	P		P	17 13 49.0	+0.5
PV02				IAmb		IAmb	17 13 52.0	
	comp=Z,77nm,1.4s							
PV21	Cone Mtn., Par	87.94	47	P		P	17 13 49.6	+1.0
PV12	Saucer Basin,	87.95	48	P		P	17 13 49.6	+1.0
PV12				IAmb		IAmb	17 13 52.2	
	comp=Z,112nm,1.3s							
NEW	Newport	87.95	36	P		P	17 13 49.3	+1.2
	baz=235,SNR=17							
NEW	Newport	87.95	36	P		P	17 13 48.6	+0.5
NEW				pmax		pmax		
	comp=Z,38nm,0.9s							
NEW	Newport	87.95	36	P		P	17 13 48.6	+0.5
ANMO	Albuquerque	88.05	52	P		P	17 13 50.1	+1.0
	baz=243							
ANMO	Albuquerque	88.05	52	P		P	17 13 49.7	+0.6
ANMO				*PP		pwP	17 16 00.4	-0.5
ANMO				pmax		pmax		
	comp=Z,72nm,1.1s							
ANMO	Albuquerque	88.05	52	P		P	17 13 49.7	+0.6
ANMO				IAmb		IAmb	17 13 52.8	
	comp=Z,72nm,1.1s							
ANMO						pwP	17 16 00.4	-0.5
PV22	Blue Mesa, Par	88.06	47	P		P	17 13 49.9	+0.8
PV22				IAmb		IAmb	17 13 52.7	
	comp=Z,58nm,1.1s							
NEA	Nenana	88.08	12	P		P	17 13 47.2	-1.0
NEA				IAmb		IAmb	17 13 49.3	
	comp=Z,44nm,0.8s							
UTHA	Uthaitani	88.08	287	P		P	17 13 51.2	+1.8
PV07	Paradox Valley	88.11	48	P		P	17 13 49.4	+0.1
PV07				IAmb		IAmb	17 13 52.8	
	comp=Z,67nm,1.4s							
MLY	Manley	88.17	11	P		P	17 13 47.6	-1.1
MLY				IAmb		IAmb	17 13 50.3	
	comp=Z,80nm,1.1s							
WRH	Wood River Hil	88.19	13	P		P	17 13 48.1	-0.7
RIDG	Independent Ri	88.26	14	P		P	17 13 49.3	+0.1
RIDG				IAmb		IAmb	17 13 51.8	
	comp=Z,90nm,1.0s							
VNA2	Neumayer--Watz	88.36	177	P		P	17 13 50.0	+0.3
	baz=176,slow=3.4							
VNA2	Neumayer--Watz	88.36	177	PKKP		PKKPbc	17 31 27.6	-3.6
VNA2				SKS		SKSac	17 23 22.2	+0.7
	baz=168,slow=5.0							
VNA2	Neumayer--Watz	88.36	177	pP		pP	17 16 00.6	+1.9
	baz=178,slow=4.2							
DOT	Dot Lake	88.37	15	P		P	17 13 49.7	+0.1
DOT				IAmb		IAmb	17 13 52.3	
	comp=Z,73nm,0.9s							
HDA	Harding Lake	88.37	13	P		P	17 13 49.3	-0.4
	baz=210,SNR=92							
HDA	Harding Lake	88.37	13	P		P	17 13 49.2	-0.4
CCB	Clear Creek Bu	88.40	13	P		P	17 13 49.0	-0.8
GDL2	Guadalupe Moun	88.41	55	P		P	17 13 52.0	+1.3
NVL	N'lazarevskaya	88.43	183	*e* P		P	17 13 50.4	+0.4
NVL				pmax		pmax		
	comp=Z,31nm,0.8s							
PHRA	Phrae	88.49	290	P		P	17 13 53.1	+1.9
RDMU	Red Mountain	88.51	45	P		P	17 13 52.2	+1.1
HIA	Hailar	88.54	325	*de* P		P	17 13 51.0	+0.2
HIA				pmax		pmax		
	comp=Z,206nm,1.0s							
HIA	Hailar	88.54	325	P		P	17 13 51.3	+0.5
MCMT	McKenzie Canyo	88.55	40	P		P	17 13 52.0	+0.7
AHID	Auburn Hatcher	88.59	43	P		P	17 13 52.7	+1.3
MDM	Murphy Dome	88.59	12	P		P	17 13 49.8	-0.8
TCOL	CIGO, UAF Yank	88.59	13	P		P	17 13 49.9	-0.7
	baz=209,SNR=26							
COLA	College	88.59	13	*d* *i* P		P	17 13 49.8	-0.8
COLA				pmax		pmax		
	comp=Z,139nm,0.9s							
COLA	College	88.59	13	P		P	17 13 50.2	-0.4
VNA1	Neumayer--Stat	88.59	177	P		P	17 13 51.1	+0.4
VNA1	Neumayer--Stat	88.59	177	PKKP		PKKPbc	17 31 29.9	-0.7
VNA1	Neumayer--Stat	88.59	177	pP		pP	17 16 01.6	+1.8
SCRK	Sand Creek	88.67	15	P		P	17 13 51.5	+0.4
SCRK				IAmb		IAmb	17 13 53.9	
	comp=Z,58nm,0.9s							
IL31		88.70	13	P		P	17 13 50.4	-0.7
ILAR	Eielson Array	88.70	13	P		P	17 13 50.7	-0.4
	comp=Z,54nm,1.0s,baz=215,slow=4.5,SNR=152							
ILAR				pP		pP	17 16 00.7	+0.4
	comp=Z,1.4nm,0.9s,baz=213,slow=6.5,SNR=2.3							
ILAR				PKiKP		PKiKP	17 18 45.8	-0.8
	comp=Z,2.0nm,0.9s,baz=216,slow=2.9,SNR=9.7							
ILAR				PKKP		PKKPdf	17 31 26.6	+1.2
	comp=Z,0.5nm,0.5s,baz=348,slow=2.1,SNR=8.3							
CLNB	Carlsbad	88.81	55	P		P	17 13 53.1	+0.5
UMPA	Umpang Tak	88.85	288	P		P	17 13 55.8	+2.8
POKR	Poker Plat Res	88.89	13	P		P	17 13 51.2	-0.8
	baz=209,SNR=32							
KMI	Kunming	88.91	297	P		P	17 13 55.3	+2.0
KMI				pmax		pmax		
	comp=Z,79nm,1.0s							
KMI	Kunming	88.91	297	P		P	17 13 54.1	+0.8
KMI				pmax		pmax		
	comp=Z,70nm,0.9s							
KMI	Kunming	88.91	297	P		P	17 13 54.1	+0.8
KMI				IAmb		IAmb	17 13 57.2	
	comp=Z,70nm,0.9s							
MSO	Missoula	88.96	38	P		P	17 13 54.3	+1.3
	baz=238,SNR=16							
MSO	Missoula	88.96	38	P		P	17 13 53.1	+0.1
REDW	Red Top Meadow	89.05	42	P		P	17 13 54.6	+1.0
TPAW	Teton Pass	89.05	42	P		P	17 13 54.3	+0.7
TPAW				IAmb		IAmb	17 13 57.5	
	comp=Z,82nm,1.1s							
S22A	4UR Ranch, Cre	89.06	49	P		P	17 13 54.5	+0.6
	baz=243,SNR=58							
S22A	4UR Ranch, Cre	89.06	49	P		P	17 13 54.5	+0.6
S22A				IAmb		IAmb	17 13 57.8	
	comp=Z,108nm,1.4s							
FXWY	Fox Creek	89.07	42	P		P	17 13 54.8	+1.1
FXWY				IAmb		IAmb	17 13 58.4	
	comp=Z,48nm,1.0s							
HHC	Hu-ho-hao-te	89.08	315	*eP*		P	17 13 54.9	+1.3
HHC				S		S	17 24 00.8	+8.4
HHC				pmax		pmax		
	comp=Z,14nm,0.8s							
HHC				pmax		pmax		
	comp=Z,27nm,4.6s							
SNOW	Snow King Moun	89.16	42	P		P	17 13 55.5	+1.4
O20A	White River Ci	89.19	46	P		P	17 13 55.0	+0.7
	baz=242,SNR=17							
O20A	White River Ci	89.19	46	P		P	17 13 54.8	+0.6
BILL	Bilibino	89.23	354	⇑ *i* P		P	17 13 54.0	+0.5
BILL				*i* S		SKSac	17 23 26.9	+0.9
BILL				pmax		pmax		
	comp=Z,41nm,1.0s							
BILL	Bilibino	89.23	354	P		P	17 13 53.3	-0.2
BILL				IAmb		IAmb	17 13 56.2	
	comp=Z,34nm,0.9s							
JTMT	Jette	89.25	37	P		P	17 13 54.7	+0.4
MOOW	Moose Ponds	89.31	42	P		P	17 13 55.9	+1.1
RDOG	Red Dog Mine	89.31	6	P		P	17 13 53.8	-0.1
RDOG				IAmb		IAmb	17 13 56.7	
	comp=Z,53nm,1.0s							
LRM	Limekiln Ridge	89.31	40	P		P	17 13 55.4	+0.7
QLMT	Earthquake Lak	89.42	41	P		P	17 13 55.6	+0.4
GO06	Curarrehue	89.44	132	P		P	17 13 56.9	+1.4
FLWY	Flagg Ranch	89.50	42	P		P	17 13 57.2	+1.6
YHB	Horse Butte	89.53	41	P		P	17 13 57.1	+1.3
YPP	Pitchstone Pla	89.53	42	P		P	17 13 58.0	+2.2
PLCA	Paso Flores	89.55	134	P		P	17 13 58.0	+2.0
	comp=Z,16nm,0.8s,baz=234,slow=5.3,SNR=33							
PLCA				PKKPbc		PKKPbc	17 31 26.5	-0.9
	comp=Z,4.1nm,1.0s,baz=65,slow=2.9,SNR=5.2							
PLCA	Paso Flores	89.55	134	*eP*		P	17 13 58.1	+2.2
PLCA	Paso Flores	89.55	134	*eP*		P	17 13 58.1	+2.2
PLCA	Paso Flores	89.55	134	P		P	17 13 57.2	+1.2
BW06	Boulder Array	89.58	43	P		P	17 13 56.5	+0.4
	baz=241,SNR=83							
BW06	Boulder Array	89.58	43	P		P	17 13 56.6	+0.6
BW06				IAmb		IAmb	17 13 59.1	
	comp=Z,59nm,0.8s							
PD31	Pinedale Array	89.58	43	P		P	17 13 56.4	+0.3
PD31				IAmb		IAmb	17 13 59.1	
	comp=Z,54nm,0.8s							
PDAR	Pinedale Array	89.58	43	P		P	17 13 56.8	+0.7
	comp=Z,40nm,0.7s,baz=207,slow=2.8,SNR=176							
PDAR				PKKPbc		PKKPbc	17 31 27.9	+0.2
	comp=Z,1.7nm,0.7s,baz=85,slow=4.3,SNR=14							
PDAR				PKPPKP		P'P'df	17 39 35.7	+1.4
	comp=Z,0.6nm,0.9s,baz=98,slow=3.3,SNR=4.3							
YHL	Hebgen Lake	89.58	41	P		P	17 13 57.9	+1.8
CM31	Chiang Mai Arr	89.61	290	P		P	17 13 58.3	+1.9
CMAR	Chiang Mai Arr	89.61	290	P		P	17 13 58.0	+1.6
	comp=Z,60nm,0.9s,baz=118,slow=2.7,SNR=142							
CMAR				PP		PP	17 17 42.8	+2.9
	comp=Z,4.5nm,1.1s,baz=127,slow=6.2,SNR=6.2							
CMAR				PKiKP		PKiKP	17 18 50.5	+1.1
	comp=Z,1.1nm,0.7s,baz=212,slow=1.1,SNR=5.3							
CMAR				PKKPbc		PKKPbc	17 31 27.8	+1.4
	comp=Z,3.7nm,0.8s,baz=285,slow=4.4,SNR=18							
CMAR				PKPPKP		P'P'df	17 39 35.4	-0.5
	comp=Z,0.5nm,0.3s,baz=286,slow=3.9,SNR=4.2							
SMCO	Snowmass	89.61	48	P		P	17 13 57.3	+0.8
SMCO				IAmb		IAmb	17 14 00.0	
	comp=Z,90nm,1.4s							
YMR	Madison River	89.63	41	P		P	17 13 57.7	+1.4
PRP	Porcupine Dome	89.64	13	P		P	17 13 55.8	+0.1
PRP				IAmb		IAmb	17 13 58.6	
	comp=Z,80nm,1.3s							
BOZ	Bozeman (W)	89.69	40	P		P	17 13 57.4	+1.0
	baz=240,SNR=20							
BOZ	Bozeman (W)	89.69	40	P		P	17 13 57.7	+1.3
BOZ				pmax	

comp=Z,15nm,0.9s
ISCO Idaho Springs 90.83 47 P P 17 14 03.0 +1.0
RLMT Red Lodge 90.90 42 P P 17 14 04.1 +2.0
baz=241,SNR=15
RLMT Red Lodge 90.90 42 P P 17 14 03.3 +1.2
GCMT Greycliff 90.98 41 P P 17 14 04.0 +1.7
N23A Red Feather La 91.09 46 P P 17 14 04.2 +1.0
baz=243,SNR=34
N23A Red Feather La 91.09 46 P P 17 14 04.3 +1.2
N23A IAmb IAmb 17 14 06.9
comp=Z,60nm,0.9s
GO05 Huala 91.15 128 P P 17 14 04.8 +1.4
JCT Junction City 91.25 58 P P 17 14 04.5 +0.6
baz=247
JCT Junction City 91.25 58 P P 17 14 04.4 +0.6
JCT pmax pmax
comp=Z,38nm,0.8s
JCT Junction City 91.25 58 P P 17 14 04.4 +0.6
JCT IAmb IAmb 17 14 06.7
comp=Z,38nm,0.8s
K22A Casper 91.50 45 P P 17 14 05.3 +0.4
baz=243,SNR=16
K22A Casper 91.50 45 P P 17 14 05.6 +0.8
K22A IAmb IAmb 17 14 08.1
comp=Z,64nm,1.1s
AMTX Amarillo 91.57 53 P P 17 14 05.3 +0.1
baz=246
AMTX Amarillo 91.57 53 P P 17 14 04.9 -0.4
PHWY Pilot Hill 91.60 46 P P 17 14 05.8 +0.3
PHWY IAmb IAmb 17 14 08.6
comp=Z,29nm,0.9s
TOLK Toolik Lake Re 91.62 10 P P 17 14 05.1 +0.5
baz=207
TOLK Toolik Lake Re 91.62 10 P P 17 14 05.4 +0.8
TOLK IAmb IAmb 17 14 07.5
comp=Z,95nm,1.6s
EGMT Eagleton 92.01 39 P P 17 14 07.9 +1.0
baz=241
EGMT Eagleton 92.01 39 P P 17 14 06.6 -0.3
EGMT IAmb IAmb 17 14 10.2
comp=Z,34nm,1.1s
YAK Yakutsk 92.11 338 *e*P **P 17 14 06.2 -0.7**
YAK pmax pmax
comp=Z,93nm,0.9s
YAK pmax pmax
comp=N,18nm,1.2s
YAK pmax pmax
comp=E,17nm,1.3s
YAK Yakutsk 92.11 338 P P 17 14 06.5 -0.5
comp=E,36nm,0.7s,baz=61,slow=1.6,SNR=46
YAK Yakutsk 92.11 338 P P 17 14 06.1 -0.9
ABTX Abilene, Hawle 92.22 56 P P 17 14 08.6 +0.4
baz=247,SNR=12
ABTX Abilene, Hawle 92.22 56 P P 17 14 08.6 +0.4
ABTX **pwP 17 16 20.7 0.0**
EPYK Eagle Plains 92.40 16 P P 17 14 08.3 0.0
EPYK IAmb IAmb 17 14 10.8
comp=Z,51nm,0.9s
LZH Lanzhou 92.43 308 ⇑P **P 17 14 10.8 +1.5**
LZH sP sP 17 17 15.3 -2.8
LZH pmax pmax
comp=Z,21nm,1.2s
LZH pmax pmax
comp=Z,130nm,6.0s
KSCO Kaye Shedlock' 92.58 49 P P 17 14 09.8 -0.1
435B Jarrell 93.13 58 P P 17 14 13.6 +1.2
baz=248
435B Jarrell 93.13 58 P P 17 14 13.3 +0.9
435B IAmb IAmb 17 14 15.6
comp=Z,29nm,1.0s
LAO LASA Array 93.51 41 P P 17 14 15.1 +1.3
baz=243
LAO LASA Array 93.51 41 P P 17 14 15.0 +1.1
LAO IAmb IAmb 17 14 17.7
comp=Z,50nm,1.0s
WHTX Lake Whitney, 93.69 57 P P 17 14 15.1 +0.2
baz=248
WHTX Lake Whitney, 93.69 57 P P 17 14 15.3 +0.4
WHTX IAmb IAmb 17 14 17.7
comp=Z,20nm,0.9s
WMOK Wichita Mounta 93.70 54 P P 17 14 15.9 +1.0
baz=247
WMOK Wichita Mounta 93.70 54 P P 17 14 15.7 +0.8
WMOK pmax pmax
comp=Z,7.0nm,1.3s
WMOK Wichita Mounta 93.70 54 P P 17 14 15.7 +0.8
RSSD Black Hills 93.77 44 P P 17 14 16.3 +1.0
baz=245
RSSD Black Hills 93.77 44 P P 17 14 15.3 0.0
RSSD pmax pmax
comp=Z,35nm,1.0s
RSSD Black Hills 93.77 44 P P 17 14 15.3 0.0
RSSD IAmb IAmb 17 14 18.0
comp=Z,35nm,0.9s
OGNE Ogallala 93.79 48 P P 17 14 17.0 +1.7
baz=246
OGNE Ogallala 93.79 48 P P 17 14 15.2 -0.1
OGNE IAmb IAmb 17 14 18.3
comp=Z,58nm,1.4s
GO04 Tololo Observa 94.16 124 P P 17 14 19.2 +1.6
HKT Hockley 94.23 60 P P 17 14 17.3 0.0
HKT pmax pmax
comp=Z,42nm,1.6s
HKT Hockley 94.23 60 P P 17 14 17.3 0.0
HKT IAmb IAmb 17 14 21.3
comp=Z,42nm,1.6s
CBKS Cedar Bluff 94.56 50 P P 17 14 20.1 +1.3
baz=247
CBKS Cedar Bluff 94.56 50 P P 17 14 19.4 +0.6
CBKS pmax pmax
comp=Z,43nm,1.1s
CBKS Cedar Bluff 94.56 50 P P 17 14 19.4 +0.6
INK Inuvik 94.68 15 P P 17 14 17.6 -0.9
INK pmax pmax
comp=Z,35nm,1.1s
INK Inuvik 94.68 15 PKiKP PKiKP 17 18 56.6 0.0
comp=Z,2.1nm,0.8s,baz=213,slow=3.5,SNR=4.2
INK PKKPbc **PKKPdf 17 31 12.6 -2.1**
comp=Z,1.1nm,0.7s,baz=351,slow=6.9,SNR=4.9
INK Inuvik 94.68 15 P P 17 14 17.6 -0.9
INK IAmb IAmb 17 14 20.6
comp=Z,35nm,1.1s
ULN Ulaanbaatar 95.14 319⇑ *e*P **P 17 14 21.4 +0.1**
ULN pmax pmax
comp=Z,24nm,1.7s
ULN Ulaanbaatar 95.14 319 P P 17 14 20.9 -0.5
CFA Coronel Fontan 95.45 127 P P 17 14 23.9 +0.8
comp=Z,5.6nm,0.7s,baz=262,slow=4.3,SNR=13
CFA PKKPbc **PKKPbc 17 31 11.5 -0.6**
comp=Z,2.0nm,0.6s,baz=88,slow=2.1,SNR=4.6
DGMT Dagmar 95.52 40 P P 17 14 24.6 +1.8
baz=245
DGMT Dagmar 95.52 40 P P 17 14 23.9 +1.1
SONM Songino Array 95.53 319 P P 17 14 23.5 +0.5
comp=Z,3.3nm,0.9s,baz=83,slow=1.6,SNR=14
SONM PP **PP 17 18 23.1 -2.0**
comp=Z,1.7nm,0.9s,baz=144,slow=5.3,SNR=4.7
SONM PKKP **PKKPbc 17 31 12.7 +0.1**
comp=Z,2.3nm,1.0s,baz=264,slow=2.9,SNR=7.3
SONM PKKPab PKKPab 17 31 49.2
comp=Z,1.9nm,1.0s,baz=294,slow=3.3,SNR=5.1
GTA Gaotai 96.65 310 *e*P **P 17 14 29.1 +0.8**
GTA pmax pmax
comp=Z,13nm,1.4s
BGNE Belgrade 96.67 48 Pdiff P 17 14 29.5 +1.3
baz=248
BGNE Belgrade 96.67 48 P P 17 14 29.8 +1.6
KSU1 Kansas State U 96.93 51 Pdiff P 17 14 29.9 +0.5
baz=249
YKA Yellowknife Ar 97.01 25 P P 17 14 29.2 +0.1
comp=Z,6.2nm,0.7s,baz=245,slow=4.5,SNR=84
YKA PP **PP 17 18 36.4 +0.8**
comp=Z,0.2nm,0.4s,baz=245,slow=7.2,SNR=3.7
YKA PKiKP **PKiKP 17 19 01.4 +0.5**
comp=Z,1.6nm,0.7s,baz=240,slow=1.2,SNR=14
YKA PKKP **PKKPbc 17 31 04.0 -4.8**
comp=Z,0.4nm,0.5s,baz=44,slow=2.4,SNR=4.6
YKA PKPPKP **P'P'df 17 39 18.3 -0.5**
comp=Z,0.1nm,0.2s,baz=60,slow=5.2,SNR=3.8
TEIG Tepich 97.30 71 PKKP PKKPbc 17 31 07.4 +0.7
comp=Z,11nm,0.9s,baz=139,slow=1.6,SNR=3.1
MIAR Mount Ida 97.63 56 Pdiff P 17 14 33.0 +0.5
baz=250
W39A Magazine 97.69 55 Pdiff P 17 14 33.9 +1.1
baz=250
C36M Paulatuk 97.88 17 Pdiff P 17 14 34.8 +1.9
baz=230
ECSD EROS Data Cent 98.57 47 Pdiff P 17 14 38.0 +1.4
baz=250
ECSD EROS Data Cent 98.57 47 P 17 14 37.3 +0.7
ECSD IAmb IAmb 17 14 39.1
comp=Z,15nm,1.1s
U40A Yellville 98.79 55 Pdiff P 17 14 38.5 +0.8
U40A Yellville 98.79 55 P 17 14 38.2 +0.4
TIXI Tiksi 98.83 345 *de*P Pdif 17 14 37.0 0.0
TIXI pmax pmax
comp=Z,11nm,1.2s
TIXI Tiksi 98.83 345 P Pdif 17 14 37.0 0.0
comp=Z,5.9nm,1.1s,baz=155,slow=5.5,SNR=5.8
TIXI Tiksi 98.83 345 Pdif 17 14 36.5 -0.5
LVC Limon Verde 99.08 118 PKKP **PKKPbc 17 31 02.6 +0.1**
comp=Z,7.3nm,0.7s,baz=61,slow=0.7,SNR=7.1
CCM Cathedral Cave 100.55 53 Pdiff **Pdif 17 14 45.7 +0.2**
baz=252
TAPN Taplejung 102.33 295 *e*P **PKiKP 17 19 12.7 +0.7**
comp=Z,28nm,1.1s
ODAN Odare 102.46 294 *e*P **PKiKP 17 19 12.0 -0.1**
comp=Z,37nm,0.9s
LPAZ La Paz 102.54 113 *i* P **Pdif 17 14 57.0 +1.4**
LPAZ La Paz 102.54 113 P **Pdif 17 14 56.5 +0.8**
comp=Z,4.8nm,0.8s,baz=202,slow=3.6,SNR=3.2
LPAZ PKKPbc **PKKPbc 17 30 52.7 -0.2**
comp=Z,2.6nm,0.8s,baz=132,slow=1.4,SNR=4.2
LPAZ La Paz 102.54 113 Pdif 17 14 57.0 +1.4
RAMN Ramite 103.16 294 *e*P **PKiKP 17 19 13.2 -0.2**
comp=Z,31nm,0.8s
JIRN Jiri 103.71 295 *e*P **PKiKP 17 19 13.9 -0.7**
comp=Z,44nm,0.8s
GUN Gumba 104.05 295 *e*P **PKiKP 17 19 14.0 -1.2**
comp=Z,20nm,0.8s
PKI Pulchoki 104.35 294 *e*P **PKiKP 17 19 14.7 -1.0**
comp=Z,24nm,0.8s
PKIN Phulchoki 104.36 294 *e*P **PKiKP 17 19 14.6 -1.0**
comp=Z,16nm,0.7s
KKN Kakani 104.52 294 *e*P **PKiKP 17 19 14.9 -1.0**
comp=Z,27nm,0.9s
DMN Daman 104.62 294 *e*P **PKiKP 17 19 15.2 -0.9**
comp=Z,14nm,0.8s
S49A Springfield 104.99 55 PKiKP PKiKP 17 19 16.0 -0.2
baz=255
T50A Nancy 105.15 56 PKiKP PKiKP 17 19 16.5 0.0
baz=255
V51A Loudon 105.22 57 PKiKP PKiKP 17 19 16.5 -0.1
baz=255
X52A Dahlonega 105.28 58 PKiKP PKiKP 17 19 16.1 -0.7
baz=255
M47A Cromwell 105.63 51 PKiKP PKiKP 17 19 17.0 -0.2
baz=256
S50A Richmond 105.65 55 PKiKP PKiKP 17 19 17.1 -0.3
baz=256
O48A Farmland 105.70 53 PKiKP PKiKP 17 19 17.4 0.0
baz=256
V52A Sevierville 105.82 57 PKiKP PKiKP 17 19 17.9 +0.2
baz=256
T51A Gray 105.83 56 PKiKP PKiKP 17 19 18.1 +0.3
baz=256
155A Kite 105.92 61 PKiKP PKiKP 17 19 18.2 +0.2
baz=255
N48A Decatur 105.94 52 PKiKP PKiKP 17 19 18.2 +0.4
baz=256
W53A Cullowhee 106.00 58 PKiKP PKiKP 17 19 17.9 -0.3
baz=256
Y54A Tignall 106.06 59 PKiKP PKiKP 17 19 18.3 0.0
baz=256
U52A Thorn Hill 106.14 57 PKiKP PKiKP 17 19 18.6 +0.3
baz=256
S51A Beattyville 106.26 55 PKiKP PKiKP 17 19 19.1 +0.6
baz=256
CPUP Villa Florida 106.35 127 PKKPbc PKKPbc 17 30 41.3 +0.1
comp=Z,1.8nm,0.8s,baz=90,slow=4.0,SNR=4.3
N49A Columbus Grove 106.58 52 PKiKP PKiKP 17 19 19.4 +0.4
baz=257
T52A Hallie 106.61 56 PKiKP PKiKP 17 19 19.2 0.0
baz=256
U53A Fall Branch 106.75 57 PKiKP PKiKP 17 19 19.9 +0.4
baz=256
Q51A Peebles 106.77 54 PKiKP PKiKP 17 19 19.6 +0.2
baz=257
O50A Cable 106.82 53 PKiKP PKiKP 17 19 19.9 +0.5
baz=257
T53A Wise 106.93 56 PKiKP PKiKP 17 19 20.7 +0.8
baz=257
K48A Perry 107.05 50 PKiKP PKiKP 17 19 20.3 +0.5
baz=257
V54A Nebo 107.11 58 PKiKP PKiKP 17 19 20.8 +0.6
baz=256
ACSO Alum Creek Sta 107.32 53 PKiKP PKiKP 17 19 20.8 +0.4
baz=257
Z57A Bowman 107.53 60 PKiKP PKiKP 17 19 21.1 +0.1
baz=256
M50A Fremont 107.53 52 PKiKP PKiKP 17 19 20.9 +0.2
baz=258
L50A Kingsville 107.83 51 PKiKP PKiKP 17 19 22.1 +0.8
baz=258
J49A Marlette 107.87 50 PKiKP PKiKP 17 19 22.1 +0.8
baz=258
N51A Ashland 107.92 52 PKiKP PKiKP 17 19 21.6 +0.1
baz=258
U55A TA2, Sparta 107.98 57 PKiKP PKiKP 17 19 22.3 +0.5
baz=257
W56A Indian Trail 108.05 59 PKiKP PKiKP 17 19 22.5 +0.6
baz=257
P53A Whipple 108.36 54 PKiKP PKiKP 17 19 23.1 +0.8
baz=258
E47A Iron Bridge 108.38 46 PKiKP PKiKP 17 19 22.5 +0.4
baz=259
W57A Gilead 108.52 59 PKiKP PKiKP 17 19 23.3 +0.5
baz=257
O53A New Philadelph 108.65 53 PKiKP PKiKP 17 19 24.0 +1.1
baz=258
Q54A Coxs Mills 108.67 55 PKiKP PKiKP 17 19 23.6 +0.7
baz=258
V57A Coltrane Farms 108.85 58 PKiKP PKiKP 17 19 23.9 +0.5
baz=258
N53A Lisbon 109.04 53 PKiKP PKiKP 17 19 23.9 +0.2
baz=259
R55A Marlinton 109.08 55 PKiKP PKiKP 17 19 24.3 +0.4
baz=258
O54A Avella 109.26 53 PKiKP PKiKP 17 19 24.6 +0.6
baz=259
V58A Windy Hill, Pi 109.36 58 PKiKP PKiKP 17 19 24.7 +0.3
baz=258
T57A Hurt 109.49 57 PKiKP PKiKP 17 19 25.0 +0.5
baz=258
R56A Bull Pasture M 109.66 55 PKiKP PKiKP 17 19 25.4 +0.4
baz=259
N54A Moraine State 109.70 53 PKiKP PKiKP 17 19 25.2 +0.4
baz=259
D49A Beulah Townshi 109.82 46 PKiKP PKiKP 17 19 25.6 +0.7
baz=261
SDV Santo Domingo 109.90 88 PKiKP PKiKP 17 19 26.4 +0.2
comp=Z,9.1nm,0.8s,baz=211,slow=3.3,SNR=9.5
ERPA Erie 109.91 51 PKiKP PKiKP 17 19 26.2 +1.0
baz=260
Q56A Snyder Ridge, 109.94 55 PKiKP PKiKP 17 19 25.9 +0.5
baz=259
X60A Albert Glenn T 110.02 60 PKiKP PKiKP 17 19 26.2 +0.6
baz=258
M54A Oil Creek Stat 110.04 52 PKiKP PKiKP 17 19 26.4 +0.9
baz=260
O55A Ligonier 110.07 54 PKiKP PKiKP 17 19 26.5 +0.9
baz=259
P56A Dayton Farm, R 110.30 54 PKiKP PKiKP 17 19 26.3 +0.3
baz=260
ZALV Zalesovo Beam 110.30 321 Pdiff Pdif 17 15 29.5 +1.1
comp=Z,0.5nm,0.6s,baz=104,slow=6.1,SNR=2.4
ZALV PKiKP **PKiKP 17 19 24.3 -1.2**
comp=Z,17nm,0.7s,baz=72,slow=0.5,SNR=63
ZALV PKKPbc **PKKPbc 17 30 29.6 +0.2**
comp=Z,1.5nm,0.7s,baz=261,slow=3.8,SNR=5.6
ZALV SKKPbc SKKPbc 17 33 15.3 -2.6
comp=Z,1.0nm,0.6s,baz=258,slow=3.4,SNR=5.3
N55A Marion Center 110.41 53 PKiKP PKiKP 17 19 26.5 +0.2
baz=260
L54A Sinclairville 110.42 51 PKiKP PKiKP 17 19 26.6 +0.4
baz=260
S58A Poland Farm, P 110.55 56 PKiKP PKiKP 17 19 27.6 +1.1
baz=259
O56A Blue Knob Stat 110.64 54 PKiKP PKiKP 17 19 26.9 +0.2
baz=260
M55A Ridgway 110.70 52 PKiKP PKiKP 17 19 27.4 +0.7
baz=260
D50A G1974 Best Tow 110.83 46 PKiKP PKiKP 17 19 27.0 +0.3
baz=262
MK31 Makanchi Array 110.92 313 PKiKP PKiKP 17 19 25.8 -1.2
MK31 pmax pmax
comp=Z,28nm,1.0s
MKAR Makanchi Array 110.92 313 Pdiff Pdif 17 15 32.0 +0.6
comp=Z,1.7nm,0.7s,baz=95,slow=5.7,SNR=13
MKAR PKiKP **PKiKP 17 19 25.9 -1.1**
comp=Z,11nm,0.6s,baz=122,slow=0.8,SNR=87
MKAR PKKPbc **PKKPbc 17 30 26.5 -0.7**
comp=Z,5.8nm,0.8s,baz=292,slow=3.5,SNR=26
MKAR PKKPab **PKKPab 17 30 38.6 +0.7**
comp=Z,1.2nm,0.7s,baz=289,slow=3.7,SNR=4.5
K54A Basiliko Farm, 110.94 51 PKiKP PKiKP 17 19 27.2 +0.1
baz=261
L55A Hinsdale 111.06 52 PKiKP PKiKP 17 19 27.3 -0.1
baz=261
M56A Emporium 111.13 52 PKiKP PKiKP 17 19 27.9 +0.4
baz=261
MAKZ Makanchi 111.13 313 PKiKP PKiKP 17 19 26.3 -1.1
MAKZ pmax pmax
comp=Z,28nm,0.9s
SSPA Standing Stone 111.21 53 PKiKP PKiKP 17 19 28.2 +0.5
baz=260
O57A Amberson 111.33 54 PKiKP PKiKP 17 19 28.4 +0.4
baz=260
P58A Pank, Wackersv 111.47 55 PKiKP PKiKP 17 19 29.0 +0.8
baz=260
N57A Milroy 111.48 53 PKiKP PKiKP 17 19 28.6 +0.4
baz=261
T60A Surry 111.50 57 PKiKP PKiKP 17 19 28.8 +0.5
baz=260
E52A Mattawa 111.51 47 PKiKP PKiKP 17 19 28.8 +0.7
baz=262
L56A Greenwood 111.69 52 PKiKP PKiKP 17 19 28.8 +0.1
baz=261
O58A Lewisberry 111.86 54 PKiKP PKiKP 17 19 29.6 +0.7
baz=261
M57A Sunshine Farm, 111.89 53 PKiKP PKiKP 17 19 29.7 +0.7
baz=261
N58A Sunbury 112.12 53 PKiKP PKiKP 17 19 30.2 +0.7
baz=261
L57A Andrews Acres 112.20 52 PKiKP PKiKP 17 19 30.1 +0.5
baz=262
E53A Dumoine, Ponti 112.20 47 PKiKP PKiKP 17 19 30.0 +0.6
baz=263
D53A Lac Vacive, Po 112.27 46 PKiKP PKiKP 17 19 29.9 +0.4
baz=263
H55A Tweed 112.31 49 PKiKP PKiKP 17 19 30.2 +0.5
baz=262
J56A Wolcott 112.37 51 PKiKP PKiKP 17 19 30.4 +0.6
baz=262
M58A Price's Panora 112.39 53 PKiKP PKiKP 17 19 30.6 +0.6
baz=262
PDGK Podgornoye 112.39 309 PKiKP PKiKP 17 19 28.7 -1.4
PDGK pmax pmax
comp=Z,12nm,1.0s
O59A Robesonia 112.44 54 PKiKP PKiKP 17 19 30.5 +0.4
baz=261
E54A Lac Daplat, Po 112.54 47 PKiKP PKiKP 17 19 30.3 +0.2
baz=263
K57A Scipio Center 112.54 51 PKiKP PKiKP 17 19 30.3 +0.1
baz=262
MATQ Matagami 112.60 44 PKiKP PKiKP 17 19 30.1 0.0
baz=264
G55A Calabogie 112.72 49 PKiKP PKiKP 17 19 30.6 +0.2
baz=263
P60A Greenville 112.78 54 PKiKP PKiKP 17 19 31.0 +0.2
baz=262
N59A State Game Lan 112.84 53 PKiKP PKiKP 17 19 30.8 0.0
baz=262
BINY Binghamton 112.86 52 PKiKP PKiKP 17 19 30.9 0.0
baz=262
Q61A Milford 112.88 56 PKiKP PKiKP 17 19 30.6 -0.3
baz=261
L58A Harry Jones Me 112.94 52 PKiKP PKiKP 17 19 30.9 -0.1
baz=262
LSQQ Lebel-sur-Quev 112.96 44 PKiKP PKiKP 17 19 30.8 0.0
baz=264
H56A Elgin 112.97 49 PKiKP PKiKP 17 19 30.5 -0.4
baz=263
D54A Lac Fusel, La 112.98 46 PKiKP PKiKP 17 19 30.6 -0.3
baz=264
J57A Williamstown 113.01 51 PKiKP PKiKP 17 19 31.3 +0.2
baz=263
O60A Telford 113.03 54 PKiKP PKiKP 17 19 31.2 0.0
baz=262
F55A Otter Lake 113.05 48 PKiKP PKiKP 17 19 31.0 0.0
baz=264
M59A Waymart 113.18 53 PKiKP PKiKP 17 19 31.7 +0.2
baz=262
K58A Earlville 113.18 51 PKiKP PKiKP 17 19 31.8 +0.4
baz=263
I57A Carthage 113.32 50 PKiKP PKiKP 17 19 32.0 +0.3
baz=263
E55A Montcerf-Lytto 113.32 47 PKiKP PKiKP 17 19 32.0 +0.5
baz=264
N60A Cedar Hill Far 113.34 53 PKiKP PKiKP 17 19 31.9 +0.1
baz=262
J58A Remsen 113.52 51 PKiKP PKiKP 17 19 32.4 +0.3
baz=263
L59A Walton 113.55 52 PKiKP PKiKP 17 19 32.3 +0.1
baz=263
KURK Kurchatov 113.75 317 *di* PKiKP **PKiKP 17 19 30.8 -1.4**
KURK pmax pmax
comp=Z,49nm,1.3s
M60A Port Jervis 113.75 53 PKiKP PKiKP 17 19 33.2 +0.6
baz=263
K59A Cooperstown 113.76 51 PKiKP PKiKP 17 19 33.2 +0.6
baz=263
D55A Sainte-Anne-du 113.77 47 PKiKP PKiKP 17 19 32.9 +0.5
baz=265
I58A Old Forge 113.78 50 PKiKP PKiKP 17 19 33.1 +0.5
baz=264
G57A Newington 113.92 49 PKiKP PKiKP 17 19 32.8 +0.1
baz=264
E56A St. Veronique 114.03 47 PKiKP PKiKP 17 19 33.1 +0.2
baz=265
J59A Piesco 114.10 51 PKiKP PKiKP 17 19 33.5 +0.3
baz=264
LONY Lake Ozonia 114.16 49 PKiKP PKiKP 17 19 33.8 +0.6
baz=264
PAL Palisades 114.25 53 PKiKP PKPdf 17 19 33.2 -0.3
baz=263
D56A ZEC Mazanza, M 114.27 47 PKiKP PKiKP 17 19 33.6 +0.2
baz=265
M61A Granite Spring 114.39 53 PKiKP PKiKP 17 19 34.2 +0.4
baz=263
H58A Gabriels 114.43 50 PKiKP PKiKP 17 19 34.1 +0.3
baz=264
KSH Kashi 114.52 305 *e*PKP **PKiKP 17 19 35.4 +1.1**
G58A Ormstown 114.59 49 PKiKP PKiKP 17 19 34.2 +0.2
baz=265
TULEG Thule 114.64 14 PKPdf 17 19 32.8 -0.5
L61A Hillsdale 1, H 114.65 52 PKiKP PKPdf 17 19 34.1 -0.2
baz=264
CHGQ Chibougamau 114.72 44 PKiKP PKPdf 17 19 34.2 +0.1
baz=267
NRN Naryn 114.73 307 PKiKP PKPdf 17 19 34.4 -0.5
NRN Naryn 114.73 307 PKPdf 17 19 34.4 -0.5
D57A Chemin Vers le 114.86 47 PKiKP PKiKP 17 19 34.8 +0.3
baz=266
J60A Lant Hill Farm 114.86 51 PKiKP PKiKP 17 19 34.8 +0.2
baz=264
K61A Williamstown 114.91 52 PKiKP PKiKP 17 19 35.1 +0.4
baz=264
I60A Shoreham 115.01 50 PKiKP PKiKP 17 19 35.4 +0.6
baz=265
M62A Hamden 115.06 53 PKiKP PKiKP 17 19 35.5 +0.5
baz=264
TKM2 Tokmak 2 115.18 309 PKiKP PKPdf 17 19 34.0 -1.5
TKM2 pmax pmax
comp=Z,16nm,0.8s
TKM2 Tokmak 2 115.18 309 P PKPdf 17 19 35.0 -0.6
SNR=21
E58A La Victoria 115.23 48 PKiKP PKiKP 17 19 35.6 +0.4
baz=266
L61B Northampton 115.32 52 PKiKP PKiKP 17 19 36.2 +0.6
baz=264
KZA Kyzart 115.35 308 P PKiKP 17 19 37.6 +1.5
SNR=5.7
H60A Morristown 115.50 50 PKiKP PKiKP 17 19 36.7 +0.9
baz=266
J61A Chester 115.50 51 PKiKP PKiKP 17 19 36.3 +0.4
baz=265
F59A Saint Guilaume 115.53 48 PKiKP PKiKP 17 19 36.2 +0.4
baz=266
D58A Chemin du LacG 115.55 47 PKiKP PKPdf 17 19 35.9 +0.1
baz=266

KBK	Karagaybulak	115.63	308		P		PKPdf	17 19 35.7	-0.7
	SNR=17								
LATQ	La Tuque	115.63	46		PKiKP		PKiKP	17 19 36.5	+0.6
	baz=267								
K62A	Royalston	115.67	52		PKiKP		PKiKP	17 19 36.5	+0.3
	baz=265								
G60A	Masonville	115.80	49		PKiKP		PKiKP	17 19 37.1	+0.7
	baz=266								
I61A	Oroboro, Fairl	115.80	50		PKiKP		PKiKP	17 19 37.3	+0.9
	baz=266								
CHMS	Chumysh	115.80	309		P		PKPdf	17 19 35.8	-0.7
	SNR=15								
FRU1	Bishkek	115.88	308		PKIKP		PKPdf	17 19 36.2	-0.5
FRU1	Bishkek	115.88	308				PKPdf	17 19 36.1	-0.5
NIL	Nilore	115.88	298		PKIKP		PKPdf	17 19 36.0	-0.9
NIL	Nilore	115.88	298				PKPdf	17 19 36.0	-0.9
UCH	Uchtor	115.91	308		P		PKiKP	17 19 38.5	+1.2
	SNR=17								
AAK	Ala-Archa	115.96	308	*i*	PKPdf		PKPdf	17 19 35.4	-1.6
	SNR=15								
AAK	Ala-Archa	115.96	308	*c*	*i* PKiKP		PKiKP	17 19 36.4	-0.6
AAK					pmax		pmax		
	comp=Z,10.0nm,0.7s								
AAK	Ala-Archa	115.96	308		P		PKiKP	17 19 37.7	+0.7
	SNR=12								
AAK	Ala-Archa	115.96	308				PKPdf	17 19 36.3	-0.6
USP	Ospenovka	116.01	309		P		PKPdf	17 19 36.5	-0.4
	SNR=20								
LBNH	Lisbon	116.02	50		PKiKP		PKiKP	17 19 37.6	+0.8
	baz=266								
J62A	Henniker	116.03	51		PKiKP		PKiKP	17 19 37.6	+0.7
	baz=265								
H61A	Lyndonville	116.04	50		PKiKP		PKiKP	17 19 37.4	+0.5
	baz=266								
L63A	North Scituate	116.06	53		PKiKP		PKiKP	17 19 37.7	+0.7
	baz=265								
F60A	Warwick	116.12	48		PKiKP		PKiKP	17 19 37.7	+0.7
	baz=267								
HRV	Adam Dziewonsk	116.16	52		PKiKP		PKiKP	17 19 37.7	+0.6
	baz=265								
K63A	Dunstable	116.19	52		PKiKP		PKiKP	17 19 37.9	+0.7
	baz=265								
M64A	Tiverton	116.33	53		PKiKP		PKiKP	17 19 37.9	+0.4
	baz=265								
G61A	St-Isidore-de-	116.38	49		PKiKP		PKiKP	17 19 38.4	+0.9
	baz=267								
I62A	Tamworth	116.42	50		PKiKP		PKiKP	17 19 38.1	+0.5
	baz=266								
EKS2	Erkin-Say	116.49	308		P		PKPdf	17 19 37.9	-0.1
	SNR=13								
E60A	Ste Agathe de	116.49	48		PKiKP		PKiKP	17 19 38.2	+0.5
	baz=267								
AML	Almayashu	116.51	308		P		PKPdf	17 19 38.3	0.0
	SNR=30								
J63A	Strafford	116.57	51		PKiKP		PKiKP	17 19 38.5	+0.6
	baz=266								
H62A	Milan	116.60	50		PKiKP		PKiKP	17 19 39.2	+1.2
	baz=266								
L64A	Middleborough	116.64	53		PKiKP		PKiKP	17 19 38.8	+0.7
	baz=265								
SJG	San Juan	116.73	80		PKP		PKiKP	17 19 39.1	+0.2
	comp=Z,12nm,0.4s,baz=7.4,slow=2.3,SNR=8.4								
SJG	San Juan	116.73	80				PKPdf	17 19 38.5	-0.4
F61A	St Evariste	116.79	48		PKiKP		PKiKP	17 19 39.2	+0.9
	baz=267								
D60A	Saint Jean D'O	116.88	47		PKiKP		PKiKP	17 19 39.1	+0.8
	baz=268								
ARSB	Arslanbob	116.98	307				PKPdf	17 19 38.7	-0.3
I63A	Otisfield	116.98	50		PKiKP		PKiKP	17 19 39.5	+0.9
	baz=267								
HUMP	Col San Antoni	117.01	80				PKPdf	17 19 38.6	-0.8
G62A	West of Eustis	117.08	49		PKiKP		PKiKP	17 19 39.3	+0.4
	baz=267								
G62A	West of Eustis	117.08	49				PKPdf	17 19 38.7	-0.1
E61A	Lac Etchemin	117.16	48		PKiKP		PKiKP	17 19 39.7	+0.7
	baz=268								
MTP	Monte Pirata	117.28	80				PKPdf	17 19 39.3	-0.7
D61A	St Aubert, Com	117.39	47		PKiKP		PKiKP	17 19 39.6	+0.3
	baz=268								
I64A	Boothbay	117.65	50		PKiKP		PKiKP	17 19 40.4	+0.4
	baz=267								
G63A	Kingsbury	117.72	49		PKiKP		PKiKP	17 19 40.5	+0.4
	baz=268								
CDVI	St. Croix	117.92	80				PKPdf	17 19 40.3	-0.9
PKME	Peaks-Kenny Pk	117.95	49		PKiKP		PKiKP	17 19 41.1	+0.5
	baz=268								
PKME	Peaks-Kenny Pk	117.95	49				PKiKP	17 19 40.8	+0.3
H64A	Troy	117.98	50		PKiKP		PKiKP	17 19 41.2	+0.6
	baz=268								
KULLO	Kullorsuaq	118.04	15	*i*	PKiKP		PKPdf	17 19 39.2	-0.6
KULLO					pmax		pmax		
	comp=Z,21nm,0.8s								
KULLO	Kullorsuaq	118.04	15	*i*	P		PKPdf	17 19 39.2	-0.6
	comp=Z,21nm,0.8s								
F63A	Nahmakanta, Br	118.10	48		PKiKP		PKiKP	17 19 41.8	+1.0
	baz=268								
F63A	Nahmakanta, Br	118.10	48				PKPdf	17 19 40.7	-0.1
G64A	Maxfield	118.33	49		PKiKP		PKiKP	17 19 41.6	+0.3
	baz=269								
BTK	Batken	118.52	305		PKIKP		PKPdf	17 19 41.0	-0.9
BTK	Batken	118.52	305				PKPdf	17 19 41.0	-0.9
E63A	Oxbow	118.59	48		PKiKP		PKiKP	17 19 41.9	+0.2
	baz=269								
F64A	Sherman	118.63	48		PKiKP		PKiKP	17 19 42.1	+0.3
	baz=269								
H65A	Eastbrook	118.68	50		PKiKP		PKiKP	17 19 42.6	+0.6
	baz=269								
D63A	Stockholm	118.81	47		PKiKP		PKPdf	17 19 42.1	0.0
	baz=270								
GAR	Garm	118.83	304				PKPdf	17 19 41.6	-1.0
PQI	Presque Isle	118.87	47				PKPdf	17 19 41.2	-1.0
BVAR	Borovoye Array	118.87	320		PKKPab		PKKPab	17 30 04.7	+2.2
	comp=Z,1.1nm,0.7s,baz=222,slow=17,SNR=5.1								
KK31	Karatay Array	118.91	309	*i*	PKiKP		PKPdf	17 19 41.9	-0.6
KK31					pmax		pmax		
	comp=Z,21nm,0.8s								
KK31	Karatay Array	118.91	309				PKPdf	17 19 41.7	-0.8
KKAR	Karatay Array	118.91	309		PKiKP		PKPdf	17 19 41.7	-0.8
KKAR	Karatay Array	118.91	309				PKPdf	17 19 41.7	-0.8
BRVK	Borovoye	118.93	320	*d*	*i* PKiKP		PKPdf	17 19 41.1	-1.0
BRVK					pmax		pmax		
	comp=Z,59nm,1.0s								
BRVK	Borovoye	118.93	320				PKPdf	17 19 40.9	-1.2
E64A	Bridgewater	119.00	48		PKiKP		PKPdf	17 19 42.5	0.0
	baz=270								
G65A	Princeton	119.17	49		PKiKP		PKPdf	17 19 42.8	0.0
	baz=269								
G65A	Princeton	119.17	49				PKPdf	17 19 42.6	-0.2
H66A	Whiting	119.34	50		PKiKP		PKiKP	17 19 43.4	+0.1
	baz=269								
KBL	Kabul	119.46	299		PKIKP		PKPdf	17 19 43.8	-0.2
KBL	Kabul	119.46	299				PKPdf	17 19 43.9	-0.2
BDFB	Brasilia	119.54	123		PKP		PKiKP	17 19 45.1	+0.4
	comp=Z,9.5nm,0.7s,baz=122,slow=0.3,SNR=10.0								
BDFB					PKKPbc		PKKPbc	17 29 58.8	+0.8
	comp=Z,7.5nm,0.8s,baz=93,slow=4.7,SNR=8.4								
BDFB	Brasilia	119.54	123				PKPdf	17 19 44.5	-0.1
CHGR	Chuyangaron	119.71	303				PKPdf	17 19 43.7	-0.6
ABPO	Ambohimpanom	120.14	232		PKIKP		PKiKP	17 19 46.3	+0.4
ABPO	Ambohimpanom	120.14	232				PKiKP	17 19 46.3	+0.4
BATG	Bathurst New B	120.20	47				PKPdf	17 19 44.9	+0.1
OPO	Ambohidratompo	120.45	232		PKP		PKiKP	17 19 46.7	+0.2
	comp=Z,13nm,0.7s,baz=243,slow=1.8,SNR=15								
KBS	Kingsbay	121.57	358	⇑	*i* PKiKP		PKiKP	17 19 47.7	+1.0
KBS					pmax		pmax		
	comp=Z,409nm,1.7s								
KBS	Kingsbay	121.57	358	*e*	PKPdf		PKiKP	17 19 46.7	0.0
SPA0	Spitsbergen Ar	122.08	356	*e*	PKPdf		PKPdf	17 19 47.4	-0.2
SPA0	Spitsbergen Ar	122.08	356				PKiKP	17 19 47.8	0.0
ILULI	Ilulissat	122.19	20	*i*	PKIKP		PKPdf	17 19 47.3	-0.6
ILULI					pmax		pmax		
	comp=Z,68nm,0.8s								
ILULI	Ilulissat	122.19	20	*i*	P		PKPdf	17 19 47.3	-0.6
	comp=Z,68nm,0.8s								
ILULI	Ilulissat	122.19	20				PKPdf	17 19 47.1	-0.8
JANB	Januaria	122.77	125	*e*	P		PKiKP	17 19 56.1	+5.1
JANB	Januaria	122.77	125	*e*	P		PKiKP	17 19 56.1	+5.1
BSFB	Barra de Sao F	122.95	131	*e*	P		PKiKP	17 19 54.8	+3.6
BSFB	Barra de Sao F	122.95	131	*e*	P		PKiKP	17 19 54.8	+3.6
DAG	Danmarks Havn	123.05	5	*i*	PKIKP		PKPdf	17 19 48.0	-1.4
DAG					pmax		pmax		
	comp=Z,31nm,1.0s								
DAG	Danmarks Havn	123.05	5	*i*	P		PKPdf	17 19 48.0	-1.4
	comp=Z,31nm,1.0s								
PRPB	Parauapebas	123.10	112	*e*	P		PKiKP	17 19 53.2	+1.5
PRPB	Parauapebas	123.10	112	*e*	P		PKiKP	17 19 53.2	+1.5
HSPB	Hornsund (broa	123.27	356	*e*	PKPdf		PKiKP	17 19 50.4	+0.3
SFJD	Kangerlussuaq	123.41	22		PKIKP		PKPdf	17 19 49.4	-0.9
SFJD	Kangerlussuaq	123.41	22	*i*	P		PKPdf	17 19 49.0	-1.3
SFJD	Kangerlussuaq	123.41	22				PKPdf	17 19 49.4	-0.9
GBN	Guysborough	123.43	49				PKPdf	17 19 51.0	0.0
SUMG	Summit	123.55	13	*i*	PKIKP		PKiKP	17 19 52.5	+1.2
SUMG					pmax		pmax		
	comp=Z,130nm,1.0s								
SUMG	Summit	123.55	13	*i*	P		PKiKP	17 19 52.5	+1.2
	comp=Z,125nm,1.0s								
SUMG	Summit	123.55	13				PKPdf	17 19 50.8	-0.2
SVE	Sverdlovsk	123.84	325	*e*	PKiKP		PKPdf	17 19 51.4	0.0
SVE					pmax		pmax		
	comp=Z,83nm,0.9s								
SUR	Sutherland	123.97	200				PKPdf	17 19 52.8	-0.1
HRA	Herat	125.05	298				PKPdf	17 19 54.2	-0.6
ARU	Arti	125.05	325	*i*	PKIKP		PKPdf	17 19 53.8	0.0
ARU								17 21 52.1	
ARU								17 26 10.2	
ARU	Arti	125.05	325		PKKPab		PKKPab	17 29 38.3	+2.8
	comp=Z,1.1nm,0.5s,baz=26,slow=7.0,SNR=5.3								
ARU	Arti	125.05	325				PKPdf	17 19 53.2	-0.5
MDP	Montagnes des	125.41	99		PKP		PKPdf	17 19 56.0	+0.2
	comp=Z,30nm,1.0s,baz=218,slow=4.9,SNR=3.5								
BOSA	Boshof	125.75	206		PKIKP		PKiKP	17 19 56.7	0.0
BOSA	Boshof	125.75	206		PKP		PKPdf	17 19 56.4	+0.1
	comp=Z,17nm,0.9s,baz=157,slow=1.7,SNR=17								
BOSA					PKKPab		PKKPbc	17 29 35.0	-0.2
	comp=Z,2.9nm,0.7s,baz=45,slow=3.2,SNR=5.1								
BOSA	Boshof	125.75	206				PKiKP	17 19 56.7	0.0
AB31	Akbulak array	125.84	316	*i*	PKIKP		PKPdf	17 19 55.4	-0.1
AB31					pmax		pmax		
	comp=Z,28nm,1.1s								
ABKAR	Akbulak array	125.84	316				PKPdf	17 19 54.7	-0.8
AKTO	Aktyubinsk	126.84	318		PKKPab		PKKPab	17 29 31.0	+2.8
	comp=Z,0.6nm,0.4s,baz=262,slow=3.0,SNR=4.3								
IVI	Ivigtut	127.05	27				PKPdf	17 19 57.4	-0.1
SCO	Scoresbysund	128.37	10	*i*	PKIKP		PKiKP	17 20 00.3	-0.1
SCO					pmax		pmax		
	comp=Z,65nm,1.4s								
SCO	Scoresbysund	128.37	10	*i*	P		PKiKP	17 20 00.3	-0.1
	comp=Z,65nm,1.4s								
SCO	Scoresbysund	128.37	10				PKPdf	17 20 00.1	+0.4
HAMF	Hammerfest	128.37	351	*e*	PKPdf		PKPdf	17 19 60.0	+0.2
GEYT	Alibeck	128.39	302		PKhKP		PKPpre	17 19 49.4	
	comp=Z,3.2nm,0.7s,baz=259,slow=1.5,SNR=5.4								
GEYT					PKP		PKPdf	17 20 00.9	+0.1
	comp=Z,31nm,0.8s,baz=229,slow=1.5,SNR=36								
GEYT					PP		PP	17 22 13.7	-2.0
	comp=Z,12nm,1.1s,baz=95,slow=9.1,SNR=7.7								
GYA0B	ALIBECK ARRAY	128.39	302				PKPdf	17 20 00.8	0.0
LVZ	Lovozero	128.47	345	⇑	*i* PKiKP		PKiKP	17 20 01.2	+0.4
LVZ					pmax		pmax		
	comp=Z,128nm,2.5s								
LBTB	Lobatse	128.75	209		PKIKP		PKPdf	17 20 02.4	+0.4
LBTB	Lobatse	128.75	209				PKPdf	17 20 02.4	+0.4
PRGR	Permogore	129.01	335	*e*	PKiKP		PKPdf	17 19 57.2	-3.9
PRGR					pmax		pmax		
	comp=Z,50nm,0.9s								
ARCES	ARCESS Array B	129.06	349		PKhKP		PKPpre	17 19 48.5	
	comp=Z,5.7nm,0.9s,baz=287,slow=1.3,SNR=8.5								
ARCES					PKP		PKPdf	17 20 00.8	-0.3
	comp=Z,28nm,0.7s,baz=0.2,slow=0.8,SNR=30								
ARCES					SKP			17 22 41.5	
	comp=Z,6.8nm,0.8s,baz=11,slow=2.3,SNR=4.2								
ARE0	ARCESS Array S	129.06	349	*e*	PKPdf		PKPdf	17 20 01.2	+0.1
ARE0	ARCESS Array S	129.06	349				PKPdf	17 20 01.1	+0.1
UOSS	Minazif	129.54	286		PKPdf		PKPdf	17 20 02.7	-0.6
UOSS	Minazif	129.54	286				PKPdf	17 20 02.8	-0.6
HATD	Hatta, Dubai	129.59	286	*i*	PKPdf		PKPdf	17 20 03.0	-0.4
	SNR=12								
MSFE	Esma-Masafi	129.63	286	*i*	PKPdf		PKPdf	17 20 03.1	-0.4
	SNR=7.4								
ASHO	Ashiyiah	129.64	285	*i*	PKPdf		PKPdf	17 20 03.2	-0.4
	SNR=7.9								
ALNE	Al Ain	129.83	284		PKiKP		PKiKP	17 20 04.6	-0.2
KTK1	Kautokeino	129.90	350	*e*	PKPdf		PKPdf	17 20 02.9	+0.2
TRO	Tromso	129.97	352	*e*	PKPdf		PKPdf	17 20 02.7	0.0
NAZ	Nazwa, Dubai	130.03	286		PKiKP		PKPdf	17 20 04.5	+0.3
TMCR	Tamitsa	130.20	340	*e*	PKiKP		PKPdf	17 20 02.7	-0.6
TMCR					pmax		pmax		
	comp=Z,31nm,0.9s								
ASUD	Al Ashush, Dub	130.29	285		PKPdf		PKPdf	17 20 04.9	+0.2
HEF	Hetta	130.37	349	*e*	P		PKPdf	17 20 03.0	-0.6
LOF	Lofoten	132.01	354	*e*	PKPdf		PKiKP	17 20 07.9	+0.1
STEI	Steigen	132.03	353	*e*	PKPdf		PKPdf	17 20 07.0	+0.4
KONS	Konsvik	133.64	353	*e*	PKPdf		PKPdf	17 20 10.5	+0.7
MOR8	Moi Rana	133.81	353	*e*	PKPdf		PKPdf	17 20 10.0	-0.1
LSZ	Lusaka	135.52	218		PKIKP		PKPdf	17 20 15.7	+0.7
LSZ	Lusaka	135.52	218		PKhKP		PKPpre	17 20 03.6	
	comp=Z,2.9nm,0.6s,baz=90,slow=4.1,SNR=1.9								
LSZ					PKP		PKPdf	17 20 15.5	+0.5
	comp=Z,21nm,0.7s,baz=124,slow=8.3,SNR=8.7								
LSZ					SKPbc		SKPbc	17 22 51.4	+0.8
	comp=Z,4.7nm,0.5s,baz=167,slow=3.3,SNR=7.6								
LSZ	Lusaka	135.52	218				PKPdf	17 20 15.7	+0.7
LSZ							SKPbc	17 22 51.1	+0.4
MAK	Makhachkala	135.64	311	⇑	*i* P		Pdif	17 17 16.7	-4.7
MOS	Moscow	135.82	331	*e*	PKiKP		PKPdf	17 20 14.0	-0.1
MOS					pmax		pmax		
	comp=Z,58nm,0.8s								
FINES	FINESS Array B	135.84	343		PKhKP		PKPpre	17 20 02.2	
	comp=Z,2.1nm,0.4s,baz=71,slow=3.7,SNR=9.4								
FINES					SKPbc		SKPbc	17 22 51.7	+1.7
	comp=Z,13nm,0.7s,baz=45,slow=3.0,SNR=8.7								
FINES					SKKPbc		SKKPbc	17 31 48.9	-4.8
	comp=Z,3.8nm,1.0s,baz=204,slow=3.0,SNR=6.4								
AKT	Akhty	135.84	309	*e*	PKiKP		PKPdf	17 20 15.5	+0.7
AKT					*e*			17 22 59.6	
AKT					pmax		pmax		
	comp=Z,43nm,0.9s								
VRH	Novokhopyorsk	136.24	324	*e*	PKiKP		PKPdf	17 20 15.1	0.0
VRH					pmax		pmax		
	comp=Z,80nm,0.7s								
OBN	Obninsk	136.68	331	*c*	*i* PKiKP		PKPdf	17 20 16.7	+1.0
OBN					*e*			17 22 32.1	
OBN					*e*			17 23 06.5	
OBN					*e*SS		SS	17 40 29.9	+6.7
OBN					pmax		pmax		
	comp=Z,54nm,0.9s								
OBN	Obninsk	136.68	331		SKPbc		SKPbc	17 22 53.3	+0.7
	comp=Z,4.3nm,0.5s,baz=53,slow=4.8,SNR=5.0								
OBN	Obninsk	136.68	331				PKPdf	17 20 14.1	-1.6
OBN							SKPbc	17 22 52.6	0.0
GROC	Groznyy	136.78	312	*e*	PKiKP		PKiKP	17 20 17.5	-0.8
GROC					*e*			17 22 31.6	
GROC					*e*			17 23 08.0	
GROC					pmax		pmax		
	comp=Z,38nm,0.7s								
LPSR	Galich'ya Gora	137.01	327	*e*	PKiKP		PKiKP	17 20 17.6	-0.8
LPSR					pmax		pmax		
	comp=Z,70nm,1.1s								
TSUM	Tsumeb	137.22	203				PKPdf	17 20 16.5	-1.6
VSR	Storozhevoye	137.63	325	*e*	PKiKP		PKPdf	17 20 17.4	-0.2
VSR					pmax		pmax		
	comp=Z,60nm,0.9s								
TBLG	Delisi	137.95	310		PKHKP		PKPpre	17 20 09.2	
TBLG								17 20 19.8	
TBLG	Delisi	137.95	310				PKPpre	17 20 09.2	
TBLG					PKPdf		PKiKP	17 20 19.8	-1.0
GOF	Gofitskoye	138.05	315	⇑	*e* PKiKP		PKiKP	17 20 20.1	-0.7
GOF					pmax		pmax		
	comp=Z,36nm,0.9s								
VSU	Vasula	138.08	340	*e*	P		PKPdf	17 20 11.7	-6.5
NCK	Nalchik	138.21	313	⇑	*i* PKiKP		PKPdf	17 20 20.2	+1.2
ZEI	Tsey	138.23	312	*i*	PKHKP		PKPpre	17 20 11.6	
ZEI					pmax		pmax		
	comp=Z,15nm,0.9s								
GNI	Garni	138.36	308		PKPdf		PKPdf	17 20 13.0	-6.5
GNI	Garni	138.36	308	⇓	*i* PKiKP		PKiKP	17 20 22.0	+0.1
GNI	Garni	138.36	308		PKP		PKPdf	17 20 20.6	+1.0
	baz=326,slow=6.5								
GNI	Garni	138.36	308				PKPpre	17 20 11.2	
ONI	Oni	138.60	311		P		PKPdf	17 20 20.5	+0.7
KBZ	Khabaz	138.61	313		PKhKP		PKPpre	17 20 11.3	
	comp=Z,3.5nm,0.7s,baz=86,slow=5.4,SNR=12								
KMBO	Kilima Mbogo	138.66	243		PKPdf		PKPdf	17 20 15.2	-5.8
KMBO	Kilima Mbogo	138.66	243		PKhKP		PKPdf	17 20 13.0	-8.0
	comp=Z,2.8nm,0.6s,baz=65,slow=5.1,SNR=5.2								
KMBO					PKP		PKiKP	17 20 21.8	-1.6
	comp=Z,13nm,0.9s,baz=126,slow=2.4,SNR=12								
KMBO					SKPbc		SKPbc	17 23 01.5	+1.5
	comp=Z,6.6nm,0.7s,baz=106,slow=4.6,SNR=8.0								
KMBO	Kilima Mbogo	138.66	243		PKPpre		PKPdf	17 20 12.1	-9.0
KMBO							PKiKP	17 20 21.7	-1.6
KMBO							SKiKP	17 23 01.7	-1.4
KVAR	Kislovodsk Arr	138.67	314		PKhKP		PKPdf	17 20 13.6	-6.4
	baz=54,slow=19								
KVAR					PKP		PKiKP	17 20 19.8	-2.5
	comp=Z,13nm,0.8s,baz=113,slow=5.7,SNR=4.4								
KIV	Kislovodsk	138.68	314		PKPdf		PKPdf	17 20 12.2	-7.7
KIV	Kislovodsk	138.68	314	*i*	PKiKP		PKPdf	17 20 20.3	+0.4
KIV					pmax		pmax		
	comp=Z,70nm,1.1s								
KIV	Kislovodsk	138.68	314				PKPdf	17 20 12.2	-7.8
KIV							PKiKP	17 20 21.1	-1.1
AKH	Akhalkalaki	138.93	310		PKHKP		PKPdf	17 20 13.0	-7.6
AKH								17 20 20.8	
AKH	Akhalkalaki	138.93	310	⇓	P		PKPdf	17 20 15.6	-5.0
AKH	Akhalkalaki	138.93	310				PKPdf	17 20 13.0	-7.6
AKH					PKPdf		PKiKP	17 20 20.8	-2.2
NC303	NORSAR Array S	138.96	353				PKPdf	17 20 10.9	-8.9
NC303					PKPdf		PKiKP	17 20 18.8	-3.4
NC204	NORSAR Array S	138.98	353				PKPdf	17 20 12.2	-7.7
NC405	NORSAR Array S	139.02	352				PKPdf	17 20 11.6	-8.4
RAYN	Ar Rayn	139.11	282		PKPdf		PKPdf	17 20 14.5	-6.8
RAYN	Ar Rayn	139.11	282		PKHKP		PKPdf	17 20 13.8	-7.5
RAYN								17 20 21.3	
RAYN	Ar Rayn	139.11	282				PKPdf	17 20 13.8	-7.5
RAYN					PKPdf		PKiKP	17 20 21.3	-2.5
NB201	NORSAR Array S	139.14	353				PKPdf	17 20 12.9	-7.3
NB2	NORSAR Subarra	139.16	353		PKP		PKPdf	17 20 11.9	-8.3
	comp=Z,29nm,1.2s,baz=16,slow=3.2								
NOA	NORSAR Array B	139.16	353		PKhKP		PKPdf	17 20 11.7	-8.6
	comp=Z,16nm,0.9s,baz=11,slow=2.3,SNR=30								
NOA					SKPbc		SKiKP	17 23 01.2	-1.2
	comp=Z,5.4nm,0.7s,baz=16,slow=4.2,SNR=6.9								
NOA					SKKPbc		SKKPbc	17 31 40.5	-0.7
	comp=Z,2.7nm,0.9s,baz=163,slow=2.4,SNR=3.4								
ATD	Arta Tunnel	139.18	264		PKhKP		PKPdf	17 20 15.6	-6.0
	comp=Z,7.8nm,0.8s,baz=3.4,slow=17,SNR=4.0								
ATD	Arta Tunnel	139.18	264				PKPdf	17 20 14.4	-7.2
NBO00	NORSAR Array S	139.22	353				PKPdf	17 20 12.6	-7.7
CLDR	Caldiran	139.23	306		P		PKPdf	17 20 14.4	-6.9
NAO01	NORSAR Array S	139.38	353				PKPdf	17 20 12.8	-7.8
NC602	NORSAR Array S	139.41	352	*e*	PKPdf		PKPdf	17 20 15.9	-4.7
NC602	NORSAR Array S	139.41	352				PKPdf	17 20 12.5	-8.1
HYA	Hoyanger	139.48	356	*e*	PKPdf		PKPdf	17 20 20.5	-0.2
SUE	Sulen	139.66	357	*e*	PKPdf		PKPdf	17 20 20.4	-0.6
HFS	Hagfors	139.69	350		SKPbc		SKiKP	17 23 03.0	-0.5
	comp=Z,9.6nm,0.8s,baz=13,slow=2.0,SNR=5.7								
SKAR	Skarslia	139.81	355	*e*	PKPdf		PKPdf	17 20 20.8	-0.7
CUKT	Cukurca	139.90	304		P		PKPdf	17 20 15.1	-7.3
SENK	Senkaya-Erzuru	140.01	309		P		PKPdf	17 20 17.1	-5.5
ASK	Askoy	140

EDI Edinburgh 144.72 4 eP PKPab 17 20 31.2 -0.3
PGBU Glenifferbraes 144.72 6 eP PKPbc 17 20 31.1 +0.4
ESY Stoneypath 144.76 4 eP PKPdf 17 20 30.6 +0.3
EAU Auchinoon 144.78 5 eP PKPbc 17 20 31.1 +0.2
CUSAR Sarkisla-SIVAS 144.81 310 i PA PKPdf 17 20 32.1 +1.0
GAZ Gaziantep 144.85 306 P PKPab 17 20 32.4 -0.4
GAZ Gaziantep 144.85 306 PKPbc 17 20 31.7 -0.1
EBL Broad Law 144.88 4 eP PKPbc 17 20 31.2 0.0
KMRS Kahramanmaras 144.98 306 P PKPbc 17 20 32.2 +0.1
SORM Soroca 145.09 328 ⇑PKIKP PKPdf 17 20 30.3 -0.7
SORM Soroca 145.09 328 ⇑P PKPdf 17 20 30.3 -0.7
BNN Bunyan 145.31 309 P PKPbc 17 20 33.1 -0.1
BZK Bozkurt 145.31 315 P PKPbc 17 20 32.4 -0.5
EKA Eskdalemuir Ar 145.31 5 SKKPbc SKKPbc 17 31 14.7 -1.6
comp=Z,3.8nm,0.7s,baz=170,slow=5.1,SNR=6.3
GKP Gorka Klasztor 145.31 343 ePKP2 PKPbc 17 20 32.7 +0.2
GKP Gorka Klasztor 145.31 343 ePKP PKPbc 17 20 32.7 +0.2
GKP ePKP PKPbc 17 20 32.7 +0.2
ESK Eskdalemuir 145.32 5 eP PKPdf 17 20 31.2 0.0
ESK Eskdalemuir 145.32 5 PKIKP PKPbc 17 20 32.1 -0.4
ESK Eskdalemuir 145.32 5 PKPbc 17 20 32.1 -0.4
YOZ Yozgat 145.39 311 P PKPbc 17 20 33.3 -0.1
BEL Belsk 145.47 339 ePKP2 PKPbc 17 20 33.1 +0.1
BEL Belsk 145.47 339 ePKP PKPbc 17 20 33.0 +0.1
BEL ePKP PKPbc 17 20 33.0 +0.1
GAL1 Galloway 145.64 6 eP PKPbc 17 20 32.7 -0.6
MILM Milestii Mici 145.65 326 ⇓P PKPdf 17 20 32.4 +0.4
KOZT Kozan 145.80 307 P PKPbc 17 20 34.0 -0.5
LVV L'vov 145.86 334 ePKIKP PKPbc 17 20 34.0 -0.2
EDMD Edmundbyers 145.89 3 eP PKPbc 17 20 33.5 -0.6
ILGA Ilgaz 145.91 314 PKPdf 17 20 33.1 +0.1
CEYT Ceyhan 146.01 306 P PKPbc 17 20 35.2 +0.2
IAS Iasi 146.12 327 ⇑PKP2 PKPbc 17 20 36.0 +1.0
IAS Iasi 146.12 327 ⇑P PKPbc 17 20 36.0 +1.0
YURE YUREGIR 146.16 306 P PKPbc 17 20 36.1 +0.6
CANT Cankiri 146.18 313 P PKPbc 17 20 35.6 +0.1
KURC Kurucasile-Bar 146.19 316 P PKPbc 17 20 35.0 -0.4
LEOM Leova 146.24 326 P PKPbc 17 20 35.5 +0.2
IOMK Kirk Michael 146.25 6 eP PKPbc 17 20 34.3 -0.8
GDLE Glaisdale, N Y 146.35 2 eP PKPbc 17 20 34.5 -0.8
WIM Isle of Man 146.35 6 eP PKPbc 17 20 35.0 -0.4
CMRD Camardi-Nigde 146.36 307 P PKPbc 17 20 35.2 -0.9
KRTS Karatas 146.44 305 P PKPbc 17 20 37.3 +1.1
KARA Karaisali 146.45 307 P PKPbc 17 20 35.7 -0.6
BR131 Keskin Array S 146.54 312 d iPKIKP PKPdf 17 20 33.9 0.0
BR131 Keskin Array S 146.54 312 PKPdf 17 20 33.3 -0.6
BRTR Keskin Array B 146.54 312 PKPbc PKPbc 17 20 36.4 -0.2
comp=Z,66nm,0.7s,baz=135,slow=3.4,SNR=88
BRTR pPKPbc pPKPdf 17 22 53.4 +0.7
comp=Z,2.1nm,1.0s,baz=90,slow=5.8,SNR=2.1
BRTR SKKPbc SKKPbc 17 31 08.6 -1.9
comp=Z,1.6nm,0.7s,baz=243,slow=4.6,SNR=6.1
BRTR Keskin Array B 146.54 312 P PKPdf 17 20 34.2 +0.3
KWP Kalwaria Pacla 146.54 335 PKIKP PKPdf 17 20 33.6 +0.1
KWP Kalwaria Pacla 146.54 335 ePKP PKPbc 17 20 36.4 +0.3
KWP ePKP PKPbc 17 20 36.4 +0.3
KWP Kalwaria Pacla 146.54 335 PKPdf 17 20 33.6 +0.1
PRAR RASCA 146.66 329 ⇓P PKPbc 17 20 36.4 -0.1
BIR Birlad 146.70 326 ⇓PKP2 PKIKP 17 20 37.9 -0.6
BIR Birlad 146.70 326 ⇓P PKIKP 17 20 37.9 -0.6
YAYX Yaylak 146.74 310 P PKPdf 17 20 35.0 +0.7
TLCR 146.74 323 ⇑PKIKP PKPbc 17 20 35.6 -1.1
TLCR 146.74 323 ⇑P PKPbc 17 20 35.6 -1.1
HPK Haverah Park 146.78 3 eP PKPbc 17 20 35.9 -0.6
VARL Varlezi 146.82 325 ⇓P PKPbc 17 20 37.6 +0.7
RUE Ruedersdorf 146.89 346 eP PKPbc 17 20 35.8 -1.0
SERE Sereflikochisa 146.91 310 P PKPdf 17 20 35.0 +0.4
HSUJ Al Zarqa 146.93 297 P PKPbc 17 20 38.6 +0.9
GHRR 146.95 326 ⇓P PKPbc 17 20 35.9 -1.4
BUR08 Bucovina Ar. S 146.96 330 PKPdf 17 20 35.2 +0.9
BUR08 PKPbc PKiKP 17 20 39.0 -0.2
JURR Jurilovca 146.97 323 ⇓P PKPdf 17 20 35.5 +1.3
BURAR Bucovina Array 146.97 330 ⇑PKIKP PKPdf 17 20 35.8 +1.5
BURAR Bucovina Array 146.97 330 ⇑P PKPdf 17 20 35.8 +1.5
BHL Bhannes 146.97 301 eP PKPdf 17 20 35.3 +0.5
MERS Mersin 146.99 306 P PKPbc 17 20 37.8 0.0
BIZ Bicaz 147.02 328 ⇓P PKPbc 17 20 36.5 -1.0
DSB Dublin 147.03 9 PKPdf 17 20 34.3 +0.7
DSB PKPbc PKPbc 17 20 37.7 +0.4
SHBL Chebaa 147.04 300 eP PKPdf 17 20 36.1 +1.2
TESR Tescani 147.04 327 ⇑P PKPdf 17 20 35.5 +1.1
AFSR Afar-Bala (An 147.06 311 P PKPbc 17 20 38.5 +0.6
ANTO Ankara 147.07 312 PKIKP PKPdf 17 20 35.3 +0.6
ANTO 17 20 38.5
ANTO Ankara 147.07 312 ⇓P PKPdf 17 20 35.6 +0.9
ANTO Ankara 147.07 312 P PKPbc 17 20 36.8 -1.1
ANTO Ankara 147.07 312 PKPdf 17 20 35.3 +0.6
ANTO PKPbc PKPbc 17 20 38.5 +0.6
LOD Lodumlu 147.08 312 P PKPdf 17 20 36.3 +1.6
BR231 Keskin MP Arra 147.09 312 PKPdf 17 20 35.6 +0.8
CFR Carcaliu 147.12 324 ⇑PKIKP PKPdf 17 20 34.1 -0.4
CFR Carcaliu 147.12 324 ⇑P PKPdf 17 20 34.1 -0.4
KSDI Kefar Szold 147.14 299 P PKiKP 17 20 40.1 +0.2
OJC Ojcow 147.16 338 PKIKP PKPdf 17 20 34.1 -0.4
OJC 17 20 38.3
OJC Ojcow 147.16 338 ePKP PKPbc 17 20 37.9 +0.2
OJC ePKP PKPbc 17 20 37.9 +0.2
OJC Ojcow 147.16 338 PKPdf 17 20 34.1 -0.4
OJC PKPbc PKPbc 17 20 38.3 +0.6
TOPG Topolog 147.18 323 ⇑P PKPdf 17 20 34.2 -0.4
WLF1 Llynfaes 147.22 6 eP PKPbc 17 20 37.6 -0.1
YRC Rhoscolyn 147.25 7 eP PKPbc 17 20 37.5 -0.3
SULT Sultanhani-AKS 147.25 309 P PKPbc 17 20 37.1 -1.3
KOLS Kolonicke sedl 147.27 334 ePKIKP PKPdf 17 20 36.1 +1.4
KOLS e 17 20 39.9
KOLS Kolonicke sedl 147.27 334 ePKP PKPdf 17 20 36.1 +1.4
KOLS e 17 20 39.9
KULU Kulu 147.28 311 P PKPbc 17 20 38.5 0.0
LBWR Ladybower, Pea 147.33 3 eP PKPbc 17 20 36.7 -1.3
ODBI Odobesti 147.33 326 ⇓P PKPbc 17 20 39.1 +0.9
LMK Market Rasen 147.33 2 eP PKPbc 17 20 38.1 +0.1
MMAI Mount Meron Ar 147.39 299 PKPbc PKPbc 17 20 39.2 +0.3
comp=Z,216nm,0.8s,baz=64,slow=4.0,SNR=13
MMAI pPKPbc pPKPdf 17 22 53.9 -0.4
comp=Z,4.8nm,0.9s,baz=56,slow=5.4,SNR=2.0
YLL Llanberis 147.40 6 eP PKPbc 17 20 38.9 +0.8
KIZK Mersin 147.40 306 P PKPbc 17 20 38.1 -0.7
TIRR Tirgusor 147.42 323 PKIKP PKPdf 17 20 35.7 +0.7
TIRR 17 20 38.8
TIRR Tirgusor 147.42 323 ⇓P PKPdf 17 20 36.4 +1.4
TIRR Tirgusor 147.42 323 PKPdf 17 20 35.7 +0.7
TIRR PKPbc PKPbc 17 20 38.8 +0.3
VRI Vrincioaia 147.43 326 ⇑P PKPdf 17 20 34.0 -1.0
VRI Vrincioaia 147.43 326 P PKPbc 17 20 38.3 -0.3
PLOR Plostina 147.48 326 ⇓PKIKP PKPdf 17 20 34.8 -0.4
PLOR Plostina 147.48 326 ⇓P PKPdf 17 20 34.8 -0.4
UZH Uzhgorod 147.50 334 ePKIKP PKPdf 17 20 36.1 +1.1
UZH e 17 20 38.8
MMLI Mount Malkishu 147.50 298 P PKPbc 17 20 38.5 -0.7
MMLI Mount Malkishu 147.50 298 P PKiKP 17 20 40.2 -0.5
HARR Harsova 147.54 323 ⇑PKIKP PKPdf 17 20 36.6 +1.4
HARR Harsova 147.54 323 ⇑P PKPdf 17 20 36.6 +1.4
CHBY Cihanbeyli 147.54 310 P PKPbc 17 20 39.4 +0.2
MFTR Murfatlar 147.58 322 ⇑P PKPdf 17 20 36.1 +0.8
YUVA Yuva-Kibriscik 147.59 314 P PKPbc 17 20 39.6 +0.3
ASCN Ascension 147.59 150 PKPdf PKPdf 17 20 34.6 -1.7
ASCN PKPbc 17 20 40.2 +0.3
STNC Stoke 147.61 4 eP PKPbc 17 20 39.2 +0.4
SILI Silifke-Mersin 147.61 306 P PKPbc 17 20 39.2 -0.1
GRER 147.62 325 ⇓P PKPbc 17 20 39.6 +0.6
NIE Niedzica 147.65 337 ePKP2 PKiKP 17 20 40.0 -0.5
NIE Niedzica 147.65 337 ePKP PKiKP 17 20 40.0 -0.5
NIE ePKP PKiKP 17 20 40.0 -0.5
HSNJ Maan 147.68 294 P PKiKP 17 20 40.1 -0.5
EREN Erenkoy 147.69 304 P PKPbc 17 20 39.3 -0.2
MANR Mangalia 147.70 322 ⇓P PKPdf 17 20 36.9 +1.4
BMR Baia Mare 147.72 331 ⇓PKP2 PKiKP 17 20 40.2 -0.4
BMR Baia Mare 147.72 331 ⇓P PKiKP 17 20 40.2 -0.4
KEBE Keben-Mersin 147.74 306 P PKPbc 17 20 40.3 +0.6
KSP Ksiaz 147.74 342 ePKP2 PKPbc 17 20 39.8 +0.6
KSP Ksiaz 147.74 342 ePKP PKPbc 17 20 39.8 +0.6
KSP ePKP PKPbc 17 20 39.8 +0.6
ARCR ARCALIA 147.76 330 ⇓P PKPdf 17 20 36.9 +1.3
TRPA Tarpa 147.78 333 ⇑P PKPdf 17 20 36.7 +1.2
TRPA Tarpa 147.78 333 ePKiKPd PKPbc 17 20 39.1 -0.3
IKL Isikli 147.83 306 P PKPbc 17 20 39.9 +0.1
TEVE Tevekalti-Mers 147.95 306 P PKPbc 17 20 40.1 -0.2
AKKU Akkuyu-Mersin 147.96 306 P PKPbc 17 20 39.1 -1.1
PSN Preselentsi 148.02 322 eP PKPbc 17 20 40.6 +0.5
ISR Istrita 148.03 325 ⇓P PKPdf 17 20 37.6 +1.5
CHVC Chvalec 148.04 342 ⇑ePKP PKPdf 17 20 37.7 +1.8
CHVC ex x 17 20 40.6
DOPR Dopca 148.05 327 ⇓P PKPdf 17 20 36.8 +0.8
OKC Ostrava-Krasne 148.05 339 ePKPDF PKPdf 17 20 37.5 +1.6
OKC ⇑ePKP PKPbc 17 20 40.3 +0.3
OKC ePKPAB PKPab 17 20 46.3 +1.2
LADK Ladik-KONYA 148.08 310 P PKPbc 17 20 40.1 -0.5
WACR West Acre 148.08 1 eP PKPbc 17 20 39.8 -0.1
MLR Muntele Rosu 148.09 326 PKPbc PKPbc 17 20 40.3 -0.1
comp=Z,136nm,1.0s,baz=24,slow=2.1,SNR=46
MLR Muntele Rosu 148.09 326 ⇑P PKPdf 17 20 36.6 +0.3
MLR Muntele Rosu 148.09 326 PKPdf 17 20 35.7 -0.6
MLR PKPbc PKPbc 17 20 40.9 +0.5
AMAZ Amatzia 148.11 297 P PKiKP 17 20 41.7 -0.3
UPC Upice 148.12 342 ePKPDF PKPdf 17 20 37.8 +1.8
UPC ⇑ePKP PKiKP 17 20 40.9 -0.5
UPC ePKPAB PKPab 17 20 47.0 +1.6
AUSIV SIVRIHISAR 148.12 312 P PKPbc 17 20 40.7 +0.1
HLM1 Long Mynd 148.13 5 eP PKPdf 17 20 35.5 -0.4
KIZT Kizilcal 148.14 311 P PKPbc 17 20 39.5 -1.2
BERE Bereket-Mersin 148.15 306 P PKPbc 17 20 40.9 +0.1
CLL Collm 148.16 346 ePKPdf PKPdf 17 20 37.0 +1.0
comp=Z,37nm,1.2s
CLL i PKPbc PKPbc 17 20 40.4 +0.2
comp=Z,278nm,0.9s
CLL i PKPab PKPab 17 20 46.5 +1.0
comp=Z,116nm,0.9s
CLL epPKPab pPKPab 17 23 00.0 +1.6
CLL eSKPdf SKPdf 17 23 15.0 +1.4
CLL eSKPbc SKPbc 17 23 21.0 -0.1
CLL ePP PP 17 24 13.0 -1.5
CLL ePPP PPP 17 27 27.0
CLL e 17 41 19.0
CLL eSS SS 17 42 41.0 +7.7
CLL eSSS SSS 17 47 36.0
CLL eSSSS 17 52 12.0
CLL Collm 148.16 346 PKPdf 17 20 36.4 +0.4
CLL PKPbc PKiKP 17 20 40.9 -0.5
DPC Dobruska-Polom 148.18 342 ePKPDF PKPdf 17 20 37.8 +1.6
DPC ⇑ePKP PKPbc 17 20 41.0 +0.7
DPC ePKPAB PKPab 17 20 47.2 +1.6
LANS Liptovska Anna 148.18 337 ePKP2 PKiKP 17 20 41.9 +0.3
LANS Liptovska Anna 148.18 337 ePKP PKiKP 17 20 41.9 +0.3
KONT Konya--Tatoy 148.18 309 P PKPbc 17 20 39.5 -1.2
HRFI Mount Harif 148.27 294 P PKPbc 17 20 41.4 +0.2
HRFI Mount Harif 148.27 294 P PKPbc 17 20 41.8 +0.6
KRLC Kraliky 148.28 341 ePKPDF PKPdf 17 20 37.8 +1.5
KRLC ⇑ePKP PKiKP 17 20 41.3 -0.5
KRLC ePKPAB PKPab 17 20 48.3 +2.2
TEKE Tekeli-Mersin 148.30 306 P PKPbc 17 20 39.9 -1.1
MORC Moravsky Berou 148.30 340 ⇓P PKPdf 17 20 38.0 +1.6
MORC Moravsky Berou 148.30 340 ePKP PKPdf 17 20 36.9 +0.5
MORC e 17 20 42.1
MORC Moravsky Berou 148.30 340 PKPdf 17 20 36.6 +0.2
MORC PKPbc PKiKP 17 20 41.8 0.0
SAUV Serdivan-Sakar 148.32 315 P PKPbc 17 20 41.2 +0.3
SECR 148.33 326 ⇓P PKPdf 17 20 38.0 +1.5
KECS Kecovo 148.34 335 ePKP2 PKiKP 17 20 42.4 +0.5
KECS Kecovo 148.34 335 ePKP PKiKP 17 20 42.4 +0.5
KECS e 17 20 47.8
BRG Berggiesshubel 148.34 345 i PKP PKPdf 17 20 36.6 +0.2
comp=Z,125nm,2.0s
BRG Berggiesshubel 148.34 345 i PKP PKPbc 17 20 40.4 -0.2
comp=Z,147nm,0.9s
BRG i pPKP pPKPdf 17 22 43.1 -12
comp=Z,18nm,1.1s
BRG i 17 23 01.8
comp=Z,23nm,1.4s
BRG ePKS PP 17 24 12.8 -2.8
comp=Z,8.5nm,1.2s
GULT Gulveren 148.35 315 P PKPbc 17 20 40.8 -0.3
CJR Cluj-Napoca 148.38 330 ⇑PKP2 PKiKP 17 20 41.7 -0.4
CJR Cluj-Napoca 148.38 330 ⇑P PKiKP 17 20 41.7 -0.4
EIL Elat 148.40 293 P PKPbc 17 20 41.6 +0.1
EIL Elat 148.40 293 P PKiKP 17 20 42.3 -0.3
SRCK Saricakaya, Es 148.47 314 P PKPbc 17 20 39.7 -1.6
CIFT Cifteler, Eski 148.49 313 P PKPbc 17 20 41.1 -0.4
PVCC Panska Ves 148.50 344 ePKPDF PKPdf 17 20 38.2 +1.6
PVCC ⇑ePKP PKPbc 17 20 41.1 0.0
PVCC ePKPAB PKPab 17 20 48.5 +1.6
CSS Mathiatis 148.52 304 P PKPbc 17 20 41.2 -0.4
CSS Mathiatis 148.52 304 P PKPbc 17 20 40.3 -1.3
CSS Mathiatis 148.52 304 P PKPbc 17 20 41.5 -0.1
CSS Mathiatis 148.52 304 PKPbc 17 20 41.0 -0.6
SILT Sile 148.55 317 P PKPbc 17 20 40.9 -0.6
VOIR 148.59 327 ⇑P PKPdf 17 20 38.6 +1.5
LTVH Ltavrtes, Hu 148.63 333 ePKiKP PKPbc 17 20 42.0 +0.6
MCH1 Michaelchurch 148.63 5 eP PKPdf 17 20 37.0 +0.2
BORA Eskisehir 148.66 314 P PKPbc 17 20 40.5 -1.4
HRT Hereke 148.71 316 P PKPbc 17 20 40.8 -1.2
MTUR Matau 148.73 327 ⇓P PKPbc 17 20 41.4 -0.5
DRGR 148.73 331 ⇓PKIKP PKPdf 17 20 35.3 -1.9
DRGR 148.73 331 ⇓P PKPdf 17 20 35.3 -1.9
PRD Provadia 148.76 322 eP PKiKP 17 20 42.6 -0.3
LEF Lefka 148.81 304 P PKPbc 17 20 42.0 -0.3
ARR Arges 148.85 327 ⇑P PKPdf 17 20 39.2 +1.8
ADVT Abdulvahap 148.86 315 P PKPbc 17 20 40.3 -2.0
ROSA Rosais 148.89 48 PKPdf PKPdf 17 20 36.6 -1.0
ROSA PKPbc 17 20 42.9 +0.5
PRA Prague 148.96 344 ePKP2 PKiKP 17 20 42.9 -0.2
PRA MLR MLR
comp=Z,11μm,15.2s
PRA Prague 148.96 344 ⇑ePKP PKiKP 17 20 42.9 -0.2
VYHS Vyhne 148.96 337 ePKP PKPdf 17 20 38.4 +1.0
VYHS e 17 20 43.6
VYHS e 17 20 49.8
KAVV Kandilli-Istan 148.97 317 P PKPbc 17 20 41.6 -0.9
PRU Pruhonice 149.00 343 ePKPDF PKPdf 17 20 38.7 +1.3
PRU ⇑ePKP PKPbc 17 20 42.8 +0.5
PRU ePKPAB PKPab 17 20 48.8 -0.2
GOPC GO Pecny, Ondr 149.00 343 ePKPDF PKPdf 17 20 38.9 +1.4
GOPC ⇑ePKP PKPbc 17 20 42.6 +0.3
GOPC ePKPAB PKPab 17 20 49.8 +0.8
VRAC Vranov 149.01 340 PKP PKPdf 17 20 37.9 +0.5
comp=Z,11nm,1.0s,baz=37,slow=2.1,SNR=4.1
VRAC PKPbc PKPbc 17 20 42.8 +0.4
comp=Z,59nm,1.0s,baz=42,slow=1.0,SNR=41
VRAC Vranov 149.01 340 ⇑P PKPbc 17 20 42.8 +0.4
VRAC Vranov 149.01 340 ePKP PKPdf 17 20 38.4 +0.9
VRAC e 17 20 43.8
PSZ Piszkesteto 149.03 335 ⇓P PKPdf 17 20 39.4 +1.7
PSZ Piszkesteto 149.03 335 ePKiKP PKPbc 17 20 42.1 -0.5
PSZ Piszkesteto 149.03 335 PKPdf 17 20 37.6 0.0
PSZ PKPbc PKiKP 17 20 43.4 -0.1
PSZ PKPab PKPab 17 20 49.9 +0.6
YLV Yalova 149.03 316 P PKPbc 17 20 42.6 -0.2
GOLR 149.04 326 ⇓P PKiKP 17 20 44.8 +1.3
RAZG Razgrad 149.05 323 ⇑P PKPbc 17 20 42.9 +0.3
JAVC Velka Javorina 149.05 339 ePKP PKPdf 17 20 39.2 +1.6
JAVC e 17 20 45.3
BGKT Bogazkoy 149.09 317 P PKPbc 17 20 42.9 +0.1
SHUT Suhut-Afyon 149.21 312 P PKPbc 17 20 43.6 +0.3
LOTT Lotru 149.22 328 ⇑P PKPdf 17 20 38.6 +0.5
CTKS Kestanelik-??a 149.23 318 P PKPbc 17 20 41.2 -1.9
HUMR Humele 149.25 326 ⇓P PKPbc 17 20 42.8 -0.2
KRUC Moravsky 149.29 340 ePKP PKPdf 17 20 38.2 +0.3
KRUC e 17 20 44.5
NKC Novy Kostel 149.29 346 ePKPDF PKPdf 17 20 39.1 +1.2
NKC ⇑ePKP PKPbc 17 20 43.4 +0.4
NKC ePKPAB PKPab 17 20 48.3 -1.9
DEV Deva 149.32 330 ⇓P PKPdf 17 20 39.6 +1.6
TREC Trest 149.36 342 ePKPDF PKPdf 17 20 39.5 +1.4
TREC ⇑ePKP PKPbc 17 20 43.5 +0.3
TREC ePKPAB PKPab 17 20 50.8 +0.3
ARMT Armutlu 149.37 316 P PKPbc 17 20 41.8 -1.7
BSZH Besenyszg 149.38 334 ePKiKP PKPbc 17 20 43.0 -0.2
PBCC Pribram 149.42 344 ⇑ePKP PKPbc 17 20 43.7 +0.4
PBCC ePKPAB PKPab 17 20 52.2 +1.4
SMOL Smolenice 149.43 339 ePKP2 PKiKP 17 20 44.6 +0.5
SMOL Smolenice 149.43 339 ePKP PKiKP 17 20 44.6 +0.5
SMOL e 17 20 53.4
MDNY Mudanya-Bursa 149.46 316 P PKiKP 17 20 44.3 -0.1
SZH Strazhica 149.56 323 eP PKPbc 17 20 43.9 0.0
SIRR Siria 149.60 332 ⇑P PKPdf 17 20 39.8 +1.3
MODS Modra-Piesok 149.60 339 ePKP PKPdf 17 20 39.3 +0.8
MODS e 17 20 44.6
MODS e 17 20 53.1
PHSR Pinarhisar 149.62 319 P PKPbc 17 20 43.3 -0.7
BCK Bucak 149.66 310 P PKPbc 17 20 42.6 -1.8
JMB Yambol 149.69 321 eP PKiKP 17 20 44.7 -0.1
SRO Srobarova 149.72 337 ePKP PKiKP 17 20 44.9 +0.2
SRO e 17 20 53.0
GZR Gura Zlata 149.74 329 ⇑PKIKP PKPdf 17 20 39.4 +0.6
GZR Gura Zlata 149.74 329 ⇑P PKPdf 17 20 39.4 +0.6
GEDZ Gediz 149.77 313 P PKiKP 17 20 45.0 -0.2
CRLT Corlu 149.78 318 P PKPbc 17 20 42.6 -1.8
ELND Elena 149.81 323 ⇓P PKPdf 17 20 39.1 +0.2
HGN Heimansgroeve 149.83 354 ePKPdf PKPdf 17 20 40.2 +1.6
HGN ePKPbc PKPbc 17 20 44.6 +0.4
HGN ePKPab PKPab 17 20 53.7 +1.3
comp=Z,145nm,1.0s
BASM Basmaki-Afyon 149.85 311 P PKPbc 17 20 44.4 -0.4
KCTX Karacabey (Bur 149.85 316 P PKPbc 17 20 42.8 -1.9
VLAD Vladila 149.91 326 ⇑P PKPbc 17 20 45.4 +0.1
UCC Uccle 149.92 356 PKIKP PKPdf 17 20 38.5 -0.3
UCC 17 20 53.6
UCC Uccle 149.92 356 PKPdf PKPdf 17 20 38.5 -0.3
UCC PKPbc 17 20 44.8 +0.4
UCC PKPab 17 20 53.6 +0.9
PVL Pavlikeni 149.93 324 eP PKiKP 17 20 45.7 +0.4
EDRB Edirne 149.97 320 P PKPbc 17 20 43.0 -1.8
EDRB Edirne 149.97 320 P PKPbc 17 20 44.2 -0.6
KORT Korkueli 150.03 309 P PKPbc 17 20 44.6 -0.7
KHC Kasperske Hory 150.04 344 ePKPDF PKPdf 17 20 39.6 +0.5
KHC ⇑ePKP PKPbc 17 20 44.7 -0.1
KHC ePKPAB PKPab 17 20 54.6 +1.2
KHC ex x 17 21 10.5
KHC epPKP pPKPab 17 23 06.5 +1.1
KHC Kasperske Hory 150.04 344 PKPdf 17 20 38.1 -1.0
KHC PKPbc PKPbc 17 20 45.1 +0.2
KHC PKPab PKPab 17 20 55.0 +1.6
SRE Strehaia 150.06 328 ⇑P PKiKP 17 20 45.8 +0.2
GRA1 Grafenberg Arr 150.07 347 PKPdf 17 20 40.6 +1.4
GRA1 PKPbc PKiKP 17 20 45.5 0.0
GRA1 PKPab PKPab 17 20 55.0 +1.5
CSKK Cskako 150.11 337 ePKiKP PKPbc 17 20 44.0 -1.0
BZS Buzias 150.12 331 ⇑PKIKP PKPdf 17 20 38.1 -1.2
BZS Buzias 150.12 331 ⇑P PKPdf 17 20 38.1 -1.2
MRMT Marmara Adasi 150.16 317 P PKPbc 17 20 43.4 -2.0
GEC2 GERESS Array S 150.27 343 PKPdf 17 20 39.6 0.0
GEC2 PKPbc PKPbc 17 20 45.2 -0.2
GERES GERESS Array B 150.27 343 PKP PKPdf 17 20 39.6 0.0
comp=Z,5.2nm,0.8s,baz=48,slow=2.0,SNR=36
GERES PKPbc PKPbc 17 20 45.6 +0.1
comp=Z,57nm,0.8s,baz=29,slow=2.2,SNR=102
SOP Sopron 150.44 339 ePKiKPd PKiKP 17 20 46.0 -0.2
ELL Elmali 150.46 309 PKIKP PKPdf 17 20 40.6 +0.3
ELL 17 20 46.3
ELL Elmali 150.46 309 P PKPbc 17 20 45.2 -1.1
ELL Elmali 150.46 309 PKPdf 17 20 40.6 +0.3
ELL PKPbc PKPbc 17 20 46.3 0.0
UKOP Uzunkopru-Edir 150.46 319 P PKPbc 17 20 44.4 -1.6
CONA Conrad Observa 150.46 340 ePKPdf PKPdf 17 20 39.9 0.0
comp=Z,16nm,1.4s,SNR=39
CONA ePKiKP PKiKP 17 20 46.6 +0.2
comp=Z,108nm,0.8s
CONA SKPdf SKPdf 17 23 10.3 -6.8
comp=Z,17nm,1.2s
BALB Balikesir 150.49 316 P PKPbc 17 20 45.7 -0.4
BANR Banloc 150.52 331 ⇑P PKiKP 17 20 47.0 +0.6
MPLH Magyarpolny 150.54 337 ePKiKP PKPbc 17 20 46.1 +0.1
DIM Dimitrovgrad 150.56 322 eP PKiKP 17 20 46.6 0.0
MANT Manisa 150.62 313 PKPdf PKPdf 17 20 40.7 +0.1
MANT PKPbc 17 20 46.7 -0.1
TIH Tihany 150.64 337 ePKiKPd PKiKP 17 20 46.1 -0.6
MDVR Moldovita 150.70 330 ⇑P PKPdf 17 20 39.7 -0.6
ERIK Erikli-Kesan 150.80 318 P PKPbc 17 20 46.7 -0.1
LPK Lapseki 150.81 318 P PKPbc 17 20 46.5 -0.3
KDZ Kurdzhali 150.88 321 eP PKPbc 17 20 46.8 -0.2
KDZ Kurdzhali 150.88 321 P PKPbc 17 20 46.5 -0.5
AKAS Kas 150.89 308 P PKPbc 17 20 46.5 -0.8
WLF Walferdange 150.90 354 PKIKP PKPdf 17 20 39.1 -1.3
WLF 17 20 57.2
WLF Walferdange 150.90 354 PKPdf 17 20 39.1 -1.3
WLF PKPbc PKiKP 17 20 47.7 +0.6
WLF PKPab PKPab 17 20 57.2 +0.3
MORH Mrgy, Hungar 150.92 335 ⇓iP PKPdf 17 20 40.5 0.0
MORH Mrgy, Hungar 150.92 335 ePKiKP PKPdf 17 20 41.0 +0.5
KSL Kastellorizon 150.94 308 P PKPbc 17 20 47.3 0.0
ALN Alexandroupoli 150.95 319 P PKPbc 17 20 46.3 -0.8
ALN Alexandroupoli 150.95 319 PKIKP PKPbc 17 20 46.1 -1.0
ALN Alexandroupoli 150.95 319 P PKPbc 17 20 46.5 -0.6
ALN Alexandroupoli 150.95 319 PKPbc 17 20 46.1 -1.0
GELI Tayfur-Gelibol 150.98 318 P PKPbc 17 20 46.8 -0.4
PLD Plovdiv 151.00 322 P PKPbc 17 20 47.0 -0.2
PGB Panagyurishte 151.01 324 eP PKPbc 17 20 47.2 -0.1
MOA Molln 151.02 342 ePKPdf PKPdf 17 20 41.7 +1.0
comp=Z,8.2nm,1.1s
MOA ePKiKP PKPbc 17 20 47.3 +0.1
comp=Z,15nm,0.8s,SNR=10
MOA eSKPdf SKPdf 17 23 12.9 -4.9
comp=Z,4.9nm,0.9s
FETY Fethiye 151.10 309 P PKPbc 17 20 47.2 -0.5
FETY Fethiye 151.10 309 P PKPbc 17 20 47.1 -0.6
RDO Rodhopi 151.11 320 P PKiKP 17 20 48.2 +0.4
RDO Rodhopi 151.11 320 P PKPbc 17 20 45.9 -1.6
ARSA Arzberg 151.16 340 ePKPdf PKPdf 17 20 41.6 +0.7
comp=Z,13nm,1.8s
ARSA ePKiKP PKiKP 17 20 48.1 +0.3
comp=Z,32nm,1.1s,SNR=7.7
CMLA Cha da Macela 151.23 48 PKIKP PKiKP 17 20 49.6 +1.4
CMLA Cha da Macela 151.23 48 PKiKP 17 20 49.6 +1.4
FRGS Fruska Gora 151.28 332 ⇓iP PKPdf 17 20 40.9 -0.2
STU Stuttgart 151.34 349 PKIKP PKPdf 17 20 40.7 -0.4
STU 17 20 47.8
STU 17 20 58.8
STU Stuttgart 151.34 349 PKPdf 17 20 40.7 -0.4
STU PKPbc PKPbc 17 20 47.8 0.0
STU PKPab PKPab 17 20 58.8 0.0
AYDB Zeytinkoy-Aydi 151.35 313 P PKPbc 17 20 47.7 -0.6
TURN Turunc 151.35 310 P PKPbc 17 20 47.7 -0.4
EZN Ezine 151.40 317 P PKiKP 17 20 48.6 +0.2
EZN Ezine 151.40 317 P PKPbc 17 20 47.6 -0.6
BEHE Becsehely 151.41 337 eP PKPdf 17 20 42.1 +0.9
BEHE Becsehely 151.41 337 ePKiKPd PKiKP 17 20 48.1 -0.2
YER Yerkesik 151.46 311 P PKPbc 17 20 48.3 -0.2
YER Yerkesik 151.46 311 P PKPbc 17 20 47.5 -1.0
VTS Vitosha 151.48 325 P PKiKP 17 20 48.9 +0.2
VTS Vitosha 151.48 325 eP PKPbc 17 20 48.3 -0.2
VTS Vitosha 151.48 325 ⇑PKIKP PKPdf 17 20 41.4 -0.3
VTS Vitosha 151.48 325 ⇑P PKPdf 17 20 41.4 -0.3
VTS Vitosha 151.48 325 PKPdf 17 20 42.1 +0.5
VTS PKPbc PKPbc 17 20 48.4 -0.1
SMTH Samothraki Isl 151.52 319 P PKPbc 17 20 48.1 -0.4
KOGS Kog 151.62 338 i PKPdf PKPdf 17 20 41.7 +0.1
KOGS i PKPbc PKiKP 17 20 49.0 +0.4
KOGS i PKPab PKPab 17 21 01.2 +1.2
BLCB Balcova 151.71 314 P PKPbc 17 20 46.1 -2.8
KAVA Kavala 151.81 321 P PKPbc 17 20 48.8 -0.3
SOKA Soboth 151.83 340 ePKPdf PKPdf 17 20 42.1 +0.2
comp=Z,16nm,1.4s,SNR=9.3
SOKA ePKiKP PKPbc 17 20 48.7 -0.3
comp=Z,122nm,2.0s
SOKA ePKPab PKPab 17 21 02.6 +1.5
comp=Z,55nm,1.2s
SOKA SKPdf SKPdf 17 23 13.1 -6.0
comp=Z,9.2nm,1.3s
PERS Pernice 151.84 340 i PKPdf PKPdf 17 20 42.0 +0.1
PERS i PKPbc PKiKP 17 20 49.8 +0.6
TEKS Tekeris 151.88 332 eP PKPdf 17 20 42.7 +0.7
MMB Musomiste 151.89 323 eP PKPbc 17 20 48.8 -0.5
BFO Black Forest 151.92 350 PKIKP PKPdf 17 20 41.3 -0.7
BFO 17 20 49.3
BFO 17 21 00.5
BFO Black Forest 151.92 350 PKPdf 17 20 41.3 -0.7
BFO PKPbc PKiKP 17 20 49.3 0.0
BFO PKPab PKPab 17 21 00.5 -0.8
GCAM G?zelcaml? 151.92 313 P PKPbc 17 20 49.4 0.0
NVR Nevrokopi 151.97 322 P PKPbc 17 20 49.5 0.0
KBA Koelnbreinsper 151.98 342 ePKPdf PKPdf 17 20 42.8 +0.5
comp=Z,13nm,1.2s
KBA ePKiKP PKiKP 17 20 50.2 +0.5
comp=Z,60nm,1.0s,SNR=8.5
URLA Izmir 152.02 314 P PKPbc 17 20 48.1

DAT	**Datca**	**152.14**	**310**	P		**PKPbc**	**17 20 48.2**	**-1.9**
MOSL	**Moslavina**	**152.15**	**336**	P		**PKPdf**	**17 20 43.3**	**+0.9**
WATA	**Walderalm**	**152.21**	**345**	*e*PKPdf		**PKPdf**	**17 20 43.0**	**+0.4**
	comp=Z,22nm,1.1s,SNR=6.5							
WATA				*e*PKiKP		**PKPbc**	**17 20 49.8**	**-0.2**
	comp=Z,91nm,1.0s							
WATA				*e*PKPab		**PKPab**	**17 21 04.6**	**+1.8**
	comp=Z,58nm,0.8s							
ZAG	**Zagreb**	**152.25**	**338**	*e*P		**PKiKP**	**17 20 50.8**	**+0.8**
RETA	**Reutte**	**152.26**	**346**	*i* PKPdf		**PKPdf**	**17 20 43.6**	**+1.0**
	comp=Z,14nm,1.2s							
RETA				*e*PKiKP		**PKPbc**	**17 20 50.0**	**+0.1**
	comp=Z,28nm,0.8s,SNR=6.3							
RETA				*e*PKPab		**PKPab**	**17 21 04.4**	**+1.6**
	comp=Z,47nm,0.9s							
WTTA	**Wattenberg**	**152.26**	**345**	*e*PKPdf		**PKPdf**	**17 20 43.4**	**+0.7**
	comp=Z,28nm,1.3s,SNR=6.8							
WTTA				*e*PKiKP		**PKPbc**	**17 20 50.2**	**+0.1**
	comp=Z,114nm,0.9s							
WTTA				*e*PKPab		**PKPab**	**17 21 04.9**	**+1.9**
	comp=Z,57nm,0.8s							
MYKA	**Terra Mystica**	**152.30**	**342**	*e*PKPdf		**PKPdf**	**17 20 43.3**	**+0.6**
	comp=Z,22nm,1.9s,SNR=9.0							
MYKA				*e*PKPbc		**PKPbc**	**17 20 49.4**	**-0.6**
	comp=Z,48nm,1.0s							
MYKA				*e*PKPab		**PKPab**	**17 21 04.1**	**+1.0**
	comp=Z,22nm,0.9s							
MOTA	**Moosalm**	**152.31**	**346**	*e*PKPdf		**PKPdf**	**17 20 43.7**	**+1.0**
	comp=Z,25nm,1.0s,SNR=7.5							
MOTA				*e*PKiKP		**PKiKP**	**17 20 50.9**	**+0.6**
	comp=Z,77nm,0.9s							
MOTA				*e*PKPab		**PKPab**	**17 21 04.9**	**+1.7**
	comp=Z,60nm,0.8s							
SQTA	**Sankt Quirin**	**152.41**	**345**	*e*PKPdf		**PKPdf**	**17 20 43.8**	**+0.9**
	comp=Z,19nm,0.9s,SNR=7.7							
SQTA				*e*PKiKP		**PKPbc**	**17 20 50.4**	**+0.1**
	comp=Z,42nm,0.7s							
SQTA				*e*PKPab		**PKPab**	**17 21 05.3**	**+1.7**
	comp=Z,48nm,1.0s							
CRES	**Cresnjev**	**152.43**	**338**	*e*P		**PKPdf**	**17 20 43.5**	**+0.7**
BBLS	**Lazići**	**152.47**	**331**	⇓*i*P		**PKPdf**	**17 20 43.5**	**+0.5**
HAPS	**Han Pijesak,BI**	**152.50**	**332**	*e*P		**PKPdf**	**17 20 42.8**	**-0.3**
ABTA	**Abfaltersbach**	**152.51**	**343**	*e*PKPdf		**PKPdf**	**17 20 42.3**	**-0.6**
	comp=Z,45nm,1.1s,SNR=13							
ABTA				*e*PKiKP		**PKPbc**	**17 20 50.2**	**-0.4**
	comp=Z,90nm,0.7s							
LJU	**Ljubljana**	**152.55**	**340**	*i* PKPdf		**PKPdf**	**17 20 43.8**	**+0.8**
LJU				*i* PKPbc		**PKiKP**	**17 20 51.6**	**+0.9**
LJU	**Ljubljana**	**152.55**	**340**	*e*P		**PKPdf**	**17 20 43.6**	**+0.6**
DAVA	**Damuels**	**152.64**	**347**	*e*PKPdf		**PKPdf**	**17 20 44.2**	**+1.0**
	comp=Z,7.9nm,0.8s,SNR=7.5							
DAVA				*e*PKiKP		**PKiKP**	**17 20 52.4**	**+1.4**
	comp=Z,63nm,1.1s							
DAVA				*e*PKPab		**PKPab**	**17 21 06.2**	**+1.7**
	comp=Z,46nm,0.8s							
DAVA				*e*SKPdf		**SKPdf**	**17 23 15.6**	**-4.6**
	comp=Z,11nm,1.2s							
STIP	**Stip**	**152.68**	**324**	*i* P		**PKPbc**	**17 20 50.3**	**-0.6**
RUDO	**Rudo**	**152.68**	**331**	*e*P		**PKPdf**	**17 20 42.9**	**-0.3**
FETA	**Feichten**	**152.70**	**346**	*e*PKPdf		**PKPdf**	**17 20 43.4**	**+0.1**
	comp=Z,40nm,1.0s,SNR=17							
FETA				*e*PKiKP		**PKiKP**	**17 20 51.4**	**+0.3**
	comp=Z,71nm,0.9s							
FETA				*e*PKPab		**PKPab**	**17 21 06.8**	**+2.0**
	comp=Z,19nm,0.8s							
FETA				SKPdf		**SKPdf**	**17 23 12.8**	**-7.5**
	comp=Z,5.6nm,1.2s							
BLY	**Banja Luka**	**152.71**	**335**	⇓*i*P		**PKPdf**	**17 20 43.7**	**+0.5**
BLY	**Banja Luka**	**152.71**	**335**			**PKPdf**	**17 20 43.8**	**+0.6**
BLY					PKPbc	**PKiKP**	**17 20 51.0**	**0.0**
BLY					PKPab	**PKPab**	**17 21 05.9**	**+1.1**
VAY	**Valandovo**	**152.72**	**323**	*i* P		**PKiKP**	**17 20 51.3**	**+0.2**
CLF	**Chambon-Foret**	**152.78**	**359**			**PKPdf**	**17 20 44.2**	**+1.0**
CLF					PKPbc	**PKiKP**	**17 20 52.4**	**+1.4**
CLF						**PKPab**	**17 21 05.3**	**+0.4**
CEY	**Cerknica**	**152.85**	**340**	⇓*i*P		**PKPdf**	**17 20 43.5**	**+0.1**
SKO	**Skopje**	**152.88**	**326**	*i* P		**PKiKP**	**17 20 52.3**	**+0.8**
STAL	**STALIGIAL**	**152.91**	**343**			**PKPdf**	**17 20 43.1**	**-0.3**
STAL					PKPbc	**PKPbc**	**17 20 50.6**	**-0.7**
STAL					PKPab	**PKPab**	**17 21 05.6**	**0.0**
KARP	**Karpathos**	**152.98**	**309**	P		**PKiKP**	**17 20 52.0**	**+0.1**
KARP	**Karpathos**	**152.98**	**309**	PKPdf		**PKPdf**	**17 20 43.0**	**-1.0**
KARP						**PKPbc**	**17 20 51.1**	**-0.7**
KARP					PKPab	**PKPab**	**17 21 06.9**	**+0.6**
MGRS	**Mrkonjic Grad**	**153.02**	**335**	*e*P		**PKiKP**	**17 20 52.0**	**+0.3**
FUORN	**Ofenpass-Fuorn**	**153.19**	**346**			**PKPdf**	**17 20 44.9**	**+0.7**
FUORN					PKPbc	**PKiKP**	**17 20 52.2**	**+0.9**
FUORN					PKPab	**PKPab**	**17 21 07.5**	**+0.5**
RIY	**Rijeka**	**153.20**	**339**	P		**PKPbc**	**17 20 51.6**	**-0.3**
RIY	**Rijeka**	**153.20**	**339**	*e*P		**PKPbc**	**17 20 51.6**	**-0.3**
CTI	**Castel Tesino**	**153.39**	**344**	PKIKP		**PKPdf**	**17 20 43.4**	**-0.9**
CTI							17 20 51.8	
CTI							17 21 07.7	
CTI	**Castel Tesino**	**153.39**	**344**			**PKPdf**	**17 20 43.4**	**-0.9**
CTI					PKPbc	**PKPbc**	**17 20 51.9**	**-0.6**
CTI					PKPab	**PKPab**	**17 21 07.7**	**-0.1**
TUE	**Stuetta**	**153.52**	**348**			**PKPdf**	**17 20 44.3**	**-0.3**
TUE					PKPbc	**PKiKP**	**17 20 53.3**	**+0.4**
TUE					PKPab	**PKPab**	**17 21 09.3**	**+0.9**
LIT	**Litokhoron**	**153.57**	**322**	PKIKP		**PKPbc**	**17 20 52.0**	**-1.0**
LIT							17 21 08.6	
LIT	**Litokhoron**	**153.57**	**322**			**PKPbc**	**17 20 52.0**	**-1.0**
LIT						**PKPab**	**17 21 08.5**	**-0.1**
PHP	**Peshkopia**	**153.61**	**327**	P		**PKPbc**	**17 20 53.1**	**+0.1**
BRY	**Bratogost**	**153.62**	**331**	*e*P		**PKPbc**	**17 20 45.0**	**+0.2**
KIJV	**Kijevo**	**153.64**	**335**	P		**PKPdf**	**17 20 42.7**	**-1.9**
PDG	**Podgorica**	**153.65**	**329**	⇓*i*P		**PKiKP**	**17 20 53.6**	**+0.6**
PDG	**Podgorica**	**153.65**	**329**	⇓P		**PKPdf**	**17 20 44.2**	**-0.3**
PDG	**Podgorica**	**153.65**	**329**			**PKPdf**	**17 20 43.8**	**-0.8**
PDG						**PKPbc**	**17 20 51.3**	**-1.7**
NVLJ	**Novalja**	**153.74**	**338**	P		**PKPbc**	**17 20 51.5**	**-1.6**
FNA	**Florina**	**153.75**	**324**	P		**PKPbc**	**17 20 52.9**	**-0.4**
FNA	**Florina**	**153.75**	**324**	PKIKP		**PKPdf**	**17 20 44.5**	**-0.4**
FNA							17 20 52.9	
FNA	**Florina**	**153.75**	**324**	P		**PKPbc**	**17 20 51.4**	**-1.9**
FNA	**Florina**	**153.75**	**324**			**PKPdf**	**17 20 44.5**	**-0.4**
FNA					PKPbc	**PKPbc**	**17 20 52.9**	**-0.4**
RICI	**Ricice**	**153.76**	**333**	P		**PKPdf**	**17 20 43.7**	**-1.1**
BRJN	**Brijuni**	**153.81**	**340**	P		**PKPdf**	**17 20 44.2**	**-0.6**
OHR	**Ohrid**	**153.83**	**325**	*i* P		**PKiKP**	**17 20 54.7**	**+1.2**
TREB	**Trebinje**	**153.85**	**331**	*e*P		**PKPdf**	**17 20 48.9**	**+4.0**
DRME	**Dracevica, Mon**	**153.87**	**329**	*e*P		**PKiKP**	**17 20 54.0**	**+0.5**
MAKA	**Makarska**	**153.98**	**333**	P		**PKPdf**	**17 20 44.4**	**-0.6**
SENIN	**Lac Senin/Sane**	**153.99**	**351**			**PKPdf**	**17 20 45.3**	**+0.1**
SENIN					PKPbc	**PKiKP**	**17 20 54.6**	**+0.7**
SENIN					PKPab	**PKPab**	**17 21 10.0**	**-0.5**
STON	**Ston**	**154.02**	**332**	*e*P		**PKPbc**	**17 20 51.6**	**-2.1**
SALO	**Salr**	**154.07**	**345**	PKPdf		**PKPdf**	**17 20 45.0**	**-0.1**
SALO						**PKiKP**	**17 20 54.3**	**+0.5**
SALO						**PKPab**	**17 21 09.7**	**-0.9**
TIR	**Tirane**	**154.15**	**327**	PKIKP		**PKPdf**	**17 20 45.0**	**-0.3**
TIR							17 20 54.3	
TIR							17 21 11.4	
TIR	**Tirane**	**154.15**	**327**	PKPdf		**PKPdf**	**17 20 45.0**	**-0.3**
TIR						**PKiKP**	**17 20 54.3**	**+0.2**
TIR					PKPab	**PKPab**	**17 21 11.4**	**+0.4**
AGG	**Agios Georgios**	**154.36**	**320**	PKIKP		**PKiKP**	**17 20 53.5**	**-1.2**
AGG	**Agios Georgios**	**154.36**	**320**			**PKiKP**	**17 20 53.5**	**-1.2**
MAKR	**Makrakomi, Fth**	**154.48**	**320**	P		**PKPbc**	**17 20 55.8**	**+0.9**
IDI	**Anoyia**	**154.74**	**310**	PKP		**PKPdf**	**17 20 46.6**	**+0.2**
	comp=Z,29nm,0.9s,baz=118,slow=4.4,SNR=5.1							
IDI					PKPbc	**PKPbc**	**17 20 56.8**	**+1.1**
	comp=Z,17nm,0.7s,baz=6.1,slow=3.8,SNR=7.0							
ZCCA	**Zocca**	**155.14**	**343**			**PKPdf**	**17 20 47.5**	**+0.8**
ZCCA					PKPab	**PKPab**	**17 21 16.4**	**+1.2**
BNI	**Bardonecchia**	**155.37**	**351**	PKIKP		**PKPdf**	**17 20 47.6**	**+0.5**
BNI							17 21 16.5	
BNI	**Bardonecchia**	**155.37**	**351**			**PKPdf**	**17 20 47.6**	**+0.5**
BNI					PKPab	**PKPab**	**17 21 16.5**	**+0.2**
SSB	**Saint Sauveur**	**155.40**	**355**	PKIKP		**PKPdf**	**17 20 47.3**	**+0.3**
SSB							17 21 16.7	
SSB	**Saint Sauveur**	**155.40**	**355**			**PKPdf**	**17 20 47.2**	**+0.3**
SSB					PKPab	**PKPab**	**17 21 16.7**	**+0.4**
VLC	**Villacollemand**	**155.47**	**344**	PKPdf		**PKPdf**	**17 20 46.7**	**-0.4**
VLC					PKPab	**PKPab**	**17 21 15.7**	**-1.0**
MSSA	**Maissana**	**155.54**	**346**			**PKPdf**	**17 20 45.1**	**-2.1**
MSSA						**PKPab**	**17 21 15.1**	**-1.9**
MURB	**Monte Urbino**	**155.68**	**340**			**PKPdf**	**17 20 47.6**	**+0.2**
MURB					PKPab	**PKPab**	**17 21 19.6**	**+2.0**
OSSC	**Osservatorio P**	**155.83**	**342**	PKPdf		**PKPdf**	**17 20 45.9**	**-1.7**
OSSC						**PKPab**	**17 21 17.5**	**-0.7**
NRCA	**Norcia**	**155.86**	**338**			**PKPdf**	**17 20 47.3**	**-0.4**
NRCA					PKPab	**PKPab**	**17 21 19.0**	**+0.6**
AQU	**L'Aquila**	**156.19**	**337**	PKIKP		**PKPdf**	**17 20 48.0**	**-0.1**
AQU							17 21 21.1	
AQU	**L'Aquila**	**156.19**	**337**	*e*P		**PKPab**	**17 21 19.4**	**-0.4**
AQU	**L'Aquila**	**156.19**	**337**	PKPdf		**PKPdf**	**17 20 48.0**	**-0.1**
AQU						**PKPab**	**17 21 21.1**	**+1.3**
INTR	**Introdacqua**	**156.30**	**336**			**PKPdf**	**17 20 47.3**	**-1.0**
INTR						**PKPab**	**17 21 20.1**	**-0.2**
ACER	**Acerenza**	**156.47**	**331**			**PKPab**	**17 21 20.9**	**-0.2**
LATE	**Laterza**	**156.49**	**340**			**PKPdf**	**17 20 46.6**	**-1.8**
LATE						**PKPab**	**17 21 20.4**	**-0.7**
CASP	**Castiglione de**	**156.61**	**342**			**PKPdf**	**17 20 47.7**	**-0.9**
CASP						**PKPab**	**17 21 21.9**	**+0.3**
TIP	**Timpagrande**	**157.35**	**328**			**PKPdf**	**17 20 48.8**	**-0.9**
TIP						**PKPab**	**17 21 25.8**	**+0.8**
PCAB	**Cabril**	**157.66**	**19**	*e*PKPab		**PKPab**	**17 21 27.1**	**+0.9**
PBRG	**Braganca**	**157.93**	**16**	*e*PKPab		**PKPab**	**17 21 27.9**	**+0.5**
POLO	**Lamas de Olo**	**158.04**	**19**	*e*PKPab		**PKPab**	**17 21 29.3**	**+1.4**
PVRL	**Vila Real**	**158.15**	**19**	*e*PKPab		**PKPab**	**17 21 31.0**	**+2.6**
MVO	**Moncorvo**	**158.45**	**17**	*e*PKPdf		**PKPdf**	**17 20 53.1**	**+2.1**
MVO	**Moncorvo**	**158.45**	**17**	*e*PKPab		**PKPab**	**17 21 30.9**	**+1.2**
PVIS	**Viseu**	**158.61**	**20**	*e*PKPdf		**PKPdf**	**17 20 52.8**	**+1.7**
PVIS	**Viseu**	**158.61**	**20**	*e*PKPab		**PKPab**	**17 21 31.2**	**+0.8**
COI	**Coimbra**	**158.90**	**21**	*e*PKPab		**PKPab**	**17 21 33.5**	**+1.9**
COI	**Coimbra**	**158.90**	**21**	PKIKP		**PKPdf**	**17 20 51.2**	**-0.2**
COI							17 21 32.0	
COI	**Coimbra**	**158.90**	**21**	PKPdf		**PKPdf**	**17 20 51.2**	**-0.2**
COI						**PKPab**	**17 21 32.0**	**+0.4**
MTE	**Manteigas**	**159.00**	**19**	*e*PKPdf		**PKPdf**	**17 20 52.1**	**+0.5**
MTE	**Manteigas**	**159.00**	**19**	*e*PKPdf		**PKPdf**	**17 20 53.3**	**+1.7**
MTE	**Manteigas**	**159.00**	**19**			**PKPdf**	**17 20 51.4**	**-0.2**
MTE					PKPab	**PKPab**	**17 21 32.8**	**+0.7**
PTOM	**Tomar**	**159.43**	**22**	*e*PKPdf		**PKPdf**	**17 20 54.0**	**+2.0**
PTOM	**Tomar**	**159.43**	**22**	*e*PKPab		**PKPab**	**17 21 34.1**	**+0.2**
PCBR	**Castelo Branco**	**159.54**	**20**	*e*PKPdf		**PKPdf**	**17 20 53.7**	**+1.6**
PCBR	**Castelo Branco**	**159.54**	**20**	*e*PKPab		**PKPab**	**17 21 34.5**	**+0.1**
PMAFR	**Mafra**	**159.69**	**24**	*e*PKPab		**PKPab**	**17 21 35.9**	**+0.8**
PMRV	**Marv??o**	**159.94**	**20**	*e*PKPdf		**PKPdf**	**17 20 54.5**	**+1.9**
PMRV	**Marv??o**	**159.94**	**20**	*e*PKPab		**PKPab**	**17 21 37.4**	**+1.2**
PMTG	**Montargil**	**159.98**	**22**	*e*PKPab		**PKPab**	**17 21 32.9**	**-3.5**
CORL	**Corleone**	**160.01**	**331**			**PKPdf**	**17 20 52.8**	**0.0**
CORL					PKPab	**PKPab**	**17 21 37.8**	**+1.1**
CLTB	**Caltabellotta**	**160.31**	**331**			**PKPdf**	**17 20 53.2**	**0.0**
CLTB					PKPab	**PKPab**	**17 21 38.1**	**+0.1**
PESTR	**Estremoz**	**160.38**	**21**			**PKPdf**	**17 20 54.3**	**+1.2**
PESTR						**PKPab**	**17 21 37.8**	**-0.4**
EVO	**Evora**	**160.53**	**22**	*e*PKPdf		**PKPdf**	**17 20 54.3**	**+1.0**
EVO	**Evora**	**160.53**	**22**	*e*PKPab		**PKPab**	**17 21 39.3**	**+0.5**
ESBB	**Sonseca Array**	**160.60**	**12**	PKPdf		**PKPdf**	**17 20 53.1**	**-0.3**
ESBB						**PKPab**	**17 21 39.1**	**0.0**
ESDC	**Sonseca Array**	**160.60**	**12**	PKP		**PKPdf**	**17 20 53.8**	**+0.4**
	comp=Z,4.6nm,0.9s,baz=326,slow=3.7,SNR=15							
ESDC					PKPab	**PKPab**	**17 21 39.5**	**+0.3**
	comp=Z,24nm,1.0s,baz=346,slow=4.2,SNR=32							
ESDC					PP	**PP**	**17 25 23.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=347,slow=5.4,SNR=4.8							
PAB	**San Pablo**	**160.65**	**13**	PKIKP		**PKPdf**	**17 20 53.5**	**0.0**
PAB							17 21 40.2	
PAB	**San Pablo**	**160.65**	**13**			**PKPdf**	**17 20 53.5**	**0.0**
PAB						**PKPab**	**17 21 40.2**	**+0.9**
PNCL	**Nicolau / Gran**	**160.71**	**24**	*e*PKPdf		**PKPdf**	**17 20 54.4**	**+0.9**
PNCL	**Nicolau / Gran**	**160.71**	**24**	*e*PKPab		**PKPab**	**17 21 40.2**	**+0.6**
PBEJ	**Beja**	**161.03**	**23**	*e*PKPdf		**PKPdf**	**17 20 55.1**	**+1.3**
PBEJ	**Beja**	**161.03**	**23**	*e*PKPab		**PKPab**	**17 21 41.6**	**+0.6**
MESJ	**Messejana**	**161.07**	**24**	*e*PKPdf		**PKPdf**	**17 20 54.0**	**+0.1**
PTEO	**Sao Teotonio**	**161.13**	**25**	*e*PKPdf		**PKPdf**	**17 20 55.3**	**+1.4**
PTEO	**Sao Teotonio**	**161.13**	**25**	*e*PKPab		**PKPab**	**17 21 42.9**	**+1.5**
PCVE	**Castro Verde**	**161.32**	**24**	*e*PKPdf		**PKPdf**	**17 20 55.2**	**+1.1**
PCVE	**Castro Verde**	**161.32**	**24**	*e*PKPab		**PKPab**	**17 21 43.0**	**+0.7**
MORF	**Marmelete**	**161.36**	**26**	*e*PKPdf		**PKPdf**	**17 20 54.2**	**0.0**
MORF	**Marmelete**	**161.36**	**26**	*e*PKPdf		**PKPdf**	**17 20 55.1**	**+0.8**
MORF	**Marmelete**	**161.36**	**26**	*e*PKPab		**PKPab**	**17 21 43.5**	**+0.9**
PVAQ	**Vaqueiros**	**161.64**	**23**	*e*PKPab		**PKPab**	**17 21 44.6**	**+0.9**
PVAQ	**Vaqueiros**	**161.64**	**23**	PKPdf		**PKPdf**	**17 20 54.8**	**+0.4**
PVAQ						**PKPab**	**17 21 44.3**	**+0.6**
PBDV	**Barranco-do-Ve**	**161.70**	**24**	*e*PKPdf		**PKPdf**	**17 20 56.3**	**+1.7**
PBDV	**Barranco-do-Ve**	**161.70**	**24**	*e*PKPab		**PKPab**	**17 21 46.0**	**+2.0**
KEST	**Kesra**	**163.50**	**336**	PKP		**PKPdf**	**17 20 56.0**	**-0.4**
	comp=Z,8.2nm,0.9s,baz=152,slow=1.8,SNR=8.0							
KEST					PKPab	**PKPab**	**17 21 52.3**	**+0.3**
	comp=Z,25nm,0.9s,baz=321,slow=5.9,SNR=16							
KEST	**Kesra**	**163.50**	**336**			**PKPdf**	**17 20 56.4**	**-0.1**
KEST						**PKPab**	**17 21 51.9**	**-0.1**
LIC	**Lamto**	**164.29**	**156**	*e*PKIKP		**PKPdf**	**17 20 57.2**	**-0.5**
	comp=Z,106nm,0.7s							
LIC	**Lamto**	**164.29**	**156**	*e*P		**PKPab**	**17 21 58.2**	**+2.3**
	comp=Z,76nm,0.9s							
KIC	**Kosan Boka**	**164.53**	**157**	*e*PKIKP		**PKPdf**	**17 20 57.5**	**-0.4**
	comp=Z,113nm,0.9s							
KIC	**Kosan Boka**	**164.53**	**157**	*e*P		**PKPab**	**17 21 59.3**	**+2.4**
	comp=Z,52nm,1.0s							
TIC	**Toumodi**	**164.68**	**155**	*e*PKIKP		**PKPdf**	**17 20 57.1**	**-0.9**
TIC	**Toumodi**	**164.68**	**155**	*e*P		**PKPab**	**17 21 59.9**	**+2.3**
	comp=Z,11nm,0.3s							
DBIC	**Dimbokro**	**164.77**	**156**	PKP		**PKPdf**	**17 20 57.6**	**-0.4**
	comp=Z,27nm,0.8s,baz=149,slow=1.2,SNR=22							
DBIC					PKPab	**PKPab**	**17 21 58.6**	**+0.7**
	comp=Z,10nm,0.7s,baz=172,slow=7.5,SNR=5.7							
DBIC	**Dimbokro**	**164.77**	**156**			**PKPdf**	**17 20 57.2**	**-0.8**
DBIC					PKPab	**PKPab**	**17 21 59.9**	**+1.9**
JBK	**JBK**	**166.04**	**13**	P		**PKPdf**	**17 21 01.1**	**+2.4**
OUK	**Oukaimeden**	**166.72**	**37**	P		**PKPdf**	**17 21 02.2**	**+2.6**
MDT	**Midelt**	**166.88**	**23**	PP	PP		17 25 58.0	+2.3
	comp=Z,5.1nm,1.1s,baz=312,slow=3.4,SNR=4.4							
TISM	**Timmit**	**167.05**	**31**	P		**PKPdf**	**17 21 02.1**	**+2.7**
OUZM	**OUZ**	**167.54**	**34**	P		**PKPdf**	**17 21 02.3**	**+2.4**
TOA0	**Torodi Ar. Sit**	**172.43**	**183**			**PKPdf**	**17 21 02.0**	**-0.9**
TOA0					PKPab	**PKPab**	**17 22 31.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**172.43**	**183**	PKP		**PKPdf**	**17 21 02.0**	**-0.8**
	comp=Z,23nm,0.8s,baz=147,slow=0.3,SNR=87							
TORD					PKPab	**PKPab**	**17 22 32.2**	**+0.5**
	comp=Z,2.9nm,0.8s,baz=173,slow=4.6,SNR=6.4							
TORD					pPKPab	**pPKPab**	**17 24 42.9**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=166,slow=4.9,SNR=3.6							
TORD					PP	**PP**	**17 26 25.0**	**+2.5**
	comp=Z,3.5nm,1.0s,baz=178,slow=5.6,SNR=4.0							
TAM	**Tamanrasset**	**175.61**	**298**	PKIKP		**PKPdf**	**17 21 04.4**	**+0.4**
TAM							17 22 48.0	
TAM	**Tamanrasset**	**175.61**	**298**			**PKPdf**	**17 21 04.4**	**+0.4**
TAM					PKPab	**PKPab**	**17 22 48.0**	**+1.6**

NIED ***17*** *17:13:00,43˚.10N×146˚.10E,h83km,Mw4.8 Best double couple: M₀1.62000×10¹⁶ NP1:φs89.00000°,δ47.00000°, λ27.00000°. NP2:φs339.00000°,δ70.00000°,λ134.00000°.*

BJI ***17*** *17:13:46.8±0.0,43˚.27N×146˚.11E,h66km,mb5.1/63, mB5.2/35,Ms4.7/15,Ms7 4.4/12*

ISCJB ***17*** *17:13:48.6±0.3,43˚.12N±0˚.02×146˚.09E±0˚.02,h80km±1km, mb4.9/148,Error ellipse: s-maj=3.9km s-min=2.4km az=153.0*

IDC ***17*** *17:13:48.9±0.6,43˚.22N×146˚.11E,h67km±4km,mb4.6/38, mb1 4.6/45,mb1mx4.5/65,mbtmp4.8/45,MS3.7/16, Ms1 3.7/16,ms1mx3.5/40,Error ellipse: s-maj=12.2km s-min=9.7km az=166.0*

NEIC ***17*** *17:13:49.0±1.4,43˚.12N±0˚.06×146˚.10E±0˚.10,h69km±4km, mb4.9/236*

MOS ***17*** *17:13:48.2±0.8,43˚.14N×146˚.08E,h77km,mb5.6/29,Error ellipse: s-maj=5.6km s-min=4.2km az=105.1*

MOS Felt (II-III) at Malokuril'skoye; (II) at Golovnino, Goryachiy Plyazh, Lagunnoye, Mendeleevo, Yuzhno-Kuril'sk.

JMA ***17*** *17:13:49.5±0.1,43˚.12N×146˚.13E,h72km±1km,M4.8 Broadband fault plane solution: P waves. NP1: φs266.00000°,δ81.00000°,λ-81.00000°. NP2:φs39.00000°, δ13.00000°,λ-137.00000°. Principal axes: T Plg36.0000°, Azm348.0000°; N Plg9.0000°, Azm85.0000°; P Plg53.0000°, Azm187.0000°;*

JMA Felt III J1.

SKHL ***17*** *17:13:49.0±0.2,43˚.08N×146˚.20E,h77km±1km,mb6.0/5*

SKHL Felt (II) at Yuzhno-kuril'sk, Lagunnoe. Felt (II-III) at Malokuril'skoe; (II) at Golovnino, Mendeleevo,Goryachei Plyazh.

ISC 17 17:13:48.7±0.4,43˚15N±0˚.04×146˚15E±0˚.03,h68km±3km, h68km:pP-P,n621,σ1§19/671,mb4.9/229,40C-40D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.37**	**306**	⇓P		**Pn**	**17 14 01.5**	**+1.4**
NEM2					*e*S	**Sn**	**17 14 09.9**	**+1.4**
NMR	**Nemuro--Hokkai**	**0.38**	**306**	*d* iPN		**Pn**	**17 14 01.5**	**+1.3**
NMR				*i* S		**Sn**	**17 14 09.9**	**+1.3**
NMR	**Nemuro--Hokkai**	**0.38**	**306**	*i* P		**Pn**	**17 14 01.5**	**+1.3**
NMR				*e*S		**Sn**	**17 14 10.0**	**+1.3**
JKHN	**Kushirohamanak**	**0.73**	**265**	⇓P		**Pn**	**17 14 05.1**	**+1.4**
JKHN				*e*S		**Sn**	**17 14 16.6**	**+1.8**
GLVR	**Golovnino**	**0.75**	**322**	⇓*i*PN		**Pn**	**17 14 05.4**	**+1.4**
GLVR				*i* S		**Sn**	**17 14 17.7**	**+2.4**
GLVR				pmax	pmax			
	comp=Z,11μm,0.4s							
GLVR				pmax	pmax			
	comp=N,2μm,0.3s							
GLVR				pmax	pmax			
	comp=E,2μm,0.2s							
GLVR				smax	smax			
	comp=E,29μm,0.3s							
GLVR				smax	smax			
	comp=N,88μm,0.4s							
GLVR				smax	smax			
	comp=E,98μm,1.1s							
GLVR				smax	smax			
	comp=N,130μm,1.2s							
GLVR	**Golovnino**	**0.75**	**322**	*i* P		**Pn**	**17 14 05.4**	**+1.4**
GLVR				AMB	AMB		17 14 06.0	
	comp=N,11μm,0.4s							
GLVR				*i* S		**Sn**	**17 14 17.9**	**+2.6**
GLVR				A	A		17 14 18.0	
	comp=N,88μm,0.7s							
GLVR				A	A		17 14 18.0	
	comp=N,29μm,0.7s							
SHO	**Shikotan**	**0.88**	**34**	*d* iPN		**Pn**	**17 14 06.5**	**+1.0**
SHO				*i* S		**Sn**	**17 14 18.7**	**+0.8**
SHO				pmax	pmax			
	comp=N,1930μm,0.3s							
SHO				pmax	pmax			
	comp=E,3385μm,0.3s							
SHO				pmax	pmax			
	comp=Z,7023μm,0.3s							
SHO				smax	smax			
	comp=E,28μm,0.6s							
SHO				smax	smax			
	comp=N,43μm,0.5s							
SHO	**Shikotan**	**

YSS smax smax
comp=E,300nm,1.2s
YSS MLR MLR
comp=Z,1µm,18.0s
YSS Yuzh-Sakhalins 4.50 329 *i* P **Pn 17 14 56.8 +2.5**
YSS AMB AMB 17 14 57.3
comp=Z,180nm,0.6s
YSS AMB AMB 17 14 57.3
comp=Z,280nm,0.6s
YSS *e*S **Sn 17 15 45.7 +0.3**
YSS A A 17 15 48.4
comp=Z,530nm,1.0s
YSS A A 17 15 48.4
comp=Z,300nm,1.0s
YSS AMS AMS 17 16 46.0
comp=Z,1µm,18.0s
YSS Yuzh-Sakhalins 4.50 329 Pn 17 14 56.1 +1.8
YSS Sn **Sn 17 15 47.0 +1.7**
UGL Uglegorsk 6.58 336‖ *e*PN **Pn 17 15 24.7 +2.1**
UGL *e*S **Sn 17 16 35.6 -0.5**
UGL pmax pmax
comp=Z,364nm,0.8s
UGL smax smax
comp=N,206nm,1.3s
UGL Uglegorsk 6.58 336 *e*P **Pn 17 15 24.7 +2.1**
UGL AMB AMB 17 15 26.6
comp=N,360nm,0.8s
UGL *e*S **Sn 17 16 35.6 -0.5**
UGL A A 17 16 47.8
comp=N,200nm,1.0s
TEY Ternei 7.13 289⇑ *e*PN Pn 17 15 24.3 -5.9
TEY *e* 17 16 51.6
TEY pmax pmax
comp=N,20nm,1.1s
TEY pmax pmax
comp=Z,20nm,1.1s
TEY Ternei 7.13 289 *e*P **Pn 17 15 32.1 +1.9**
TYV Tymovskoe 8.08 344 *e*PN **Pn 17 15 45.9 +2.7**
TYV *e*S **Sn 17 17 14.4 +1.5**
TYV pmax pmax
comp=Z,66nm,0.9s
TYV smax smax
comp=N,20nm,1.1s
TYV Tymovskoe 8.08 344 *e*P **Pn 17 15 45.5 +2.3**
TYV AMB AMB 17 15 47.3
comp=N,70nm,0.9s
TYV *e*S **Sn 17 17 14.4 +1.5**
TYV A A 17 17 15.7
comp=N,200nm,1.0s
MJB9 Matsu-Tunnel 8.98 225 Pn 17 15 54.5 -1.1
MAJO Matsushiro 8.99 225 *d i* PN **Pn 17 15 54.8 -0.8**
MAJO Matsushiro 8.99 225 Pn 17 15 54.7 -1.0
MAT Matsushiro 8.99 225 P **Pn 17 15 54.9 -0.8**
MAT *e*S **Sn 17 17 29.2 -6.1**
MJAR Matsushiro Arr 8.99 225 P **Pn 17 15 54.8 -0.8**
comp=N,0.5nm,0.3s,baz=27,slow=12,SNR=66
MJAR S **Sn 17 17 42.5 +7.3**
comp=N,0.3nm,0.3s,baz=40,slow=16,SNR=2.9
GRNR Gornyy 10.11 322‖ *i* PN **Pn 17 16 12.9 +2.0**
GRNR *e*S **Sn 17 18 07.5 +4.9**
GRNR pmax pmax
comp=Z,20nm,0.6s
GRNR smax smax
comp=E,6.0nm,1.0s
GRNR MLR MLR
comp=Z,240nm,12.0s
GRNR Gornyy 10.11 322 *e*P **Pn 17 16 12.9 +2.0**
GRNR AMB AMB 17 16 14.7
comp=Z,40nm,0.6s
SKR Severo-Kuril's 10.16 39 *e*PN **Pn 17 16 14.4 +2.9**
SKR pmax pmax
comp=Z,76nm,0.8s
SKR MLR MLR
comp=Z,800nm,14.0s
SKR Severo-Kuril's 10.16 39 *e*P **Pn 17 16 14.0 +2.5**
SKR AMB AMB 17 16 15.0
comp=Z,80nm,0.8s
SKR AMS AMS 17 19 49.9
comp=Z,800nm,14.0s
USA0B Ussuriysk Arra 10.32 281 *de*PN **Pn 17 16 13.7 0.0**
USA0B Ussuriysk Arra 10.32 281 Pn 17 16 14.2 +0.5
USRK Ussuriysk Ar. 10.32 281 P **Pn 17 16 14.1 +0.4**
baz=95,slow=10,SNR=14
USRK S **Sn 17 18 03.8 -3.9**
baz=102,slow=28,SNR=1.4
USRK LR LR 17 20 15.6
comp=Z,112nm,20.8s,baz=75,slow=38
VLA Vladivostok 10.43 275‖ *e*PN **Pn 17 16 16.5 +1.2**
VLA Vladivostok 10.43 275 *e*P **Pn 17 16 16.5 +1.2**
INU Inuyama 10.52 225 Pn 17 16 16.0 -0.6
OKH Okha 10.63 350 *de*PN Pn 17 16 27.6 +10
OKH *e*S **Sn 17 18 20.5 +5.4**
OKH pmax pmax
comp=Z,200nm,13.4s
OKH smax smax
comp=N,200nm,16.2s
OKH MLR MLR
comp=Z,200nm,13.0s
OKH Okha 10.63 350 *e*P Pn 17 16 23.1 +5.2
OKH AMB AMB 17 16 34.8
comp=Z,200nm,13.0s
OKH *e*S **Sn 17 18 18.2 +3.1**
JHJ2 Mitsune 11.19 209 Pn **Pn 17 16 25.6 -0.1**
KLR Kul'dur 11.68 306⇑ *e*PN **Pn 17 16 33.2 +0.9**
KLR Kul'dur 11.68 306 P **Pn 17 16 31.5 -0.8**
comp=Z,0.1nm,0.3s,baz=120,slow=13,SNR=2.9
KLR LR LR 17 21 18.1
comp=Z,242nm,20.8s,baz=130,slow=39
KLR Kul'dur 11.68 306 *e*P **Pn 17 16 33.2 +0.9**
MDJ Mudanjiang 12.04 283 P **Pn 17 16 37.8 +0.5**
MDJ pmax pmax
comp=Z,60nm,0.8s
MDJ pmax pmax
comp=Z,420nm,3.0s
MDJ Mudanjiang 12.04 283 Pn 17 16 37.4 +0.1
PEA0B Petropavlovsk- 12.59 34⇑ *e*PN **Pn 17 16 44.4 -0.2**
PEA0B Petropavlovsk- 12.59 34 Pn 17 16 43.7 -1.0
PETK Petropavlovsk- 12.59 34 P **Pn 17 16 43.5 -1.1**
comp=Z,1.1nm,0.3s,baz=195,slow=9.2,SNR=18
PETK LR LR 17 21 42.0
comp=Z,157nm,21.2s,baz=249,slow=38
PET Petropavlovsk 12.92 36 *e*PN **Pn 17 16 49.3 +0.1**
PET pmax pmax
comp=Z,33nm,1.1s
PET Petropavlovsk 12.92 36 *e*P **Pn 17 16 48.8 -0.4**
PET *e*S **Sn 17 19 05.6 -5.4**
PET Petropavlovsk 12.92 36 Pn **Pn 17 16 46.6 -2.6**
EKMR Ekimchan 13.26 323 *e*P **Pn 17 16 53.6 -0.2**
EKMR AMB AMB 17 16 59.5
comp=Z,20nm,0.8s
KSRS Korea Array 15.02 254 P **Pn 17 17 17.3 +0.5**
comp=Z,0.3nm,0.3s,baz=62,slow=14,SNR=5.9
KSRS LR LR 17 22 58.5
comp=Z,194nm,21.8s,baz=60,slow=36
KS19 Wonju Array Si 15.03 254 Pn **Pn 17 17 18.3 +1.2**
CN2 Changchun 15.05 280 *e*P **Pn 17 17 14.3 -2.9**
CN2 *e*PP **PnPn 17 17 28.4 +2.0**
CN2 *e*S **Sn 17 19 58.9 -3.9**
CN2 pmax pmax
comp=Z,40nm,0.8s
CN2 LR LR
comp=Z,440nm,10.0s
CN2 LR LR
comp=Z,230nm,10.0s
JNU Nakatsue 15.62 235 P **Pn 17 17 23.4 -1.2**
comp=Z,0.2nm,0.3s,baz=70,slow=12,SNR=2.4
JNU Nakatsue 15.62 235 P **Pn 17 17 23.6 -1.1**
INCN Inchon 15.91 256 P **Pn 17 17 28.6 +0.3**
INCN pmax pmax
comp=Z,85nm,1.7s
INCN Inchon 15.91 256 P **Pn 17 17 28.6 +0.3**
BMKR Bomnak 16.17 322 *e*P **Pn 17 17 30.2 -1.2**
BMKR AMB AMB 17 17 34.0
comp=Z,10.0nm,1.0s
ZEA Zeya 16.36 317 *e*P **Pn 17 17 31.6 -2.2**
ZEA pmax pmax
comp=E,35nm,1.0s
ZEA pmax pmax
comp=Z,41nm,1.0s
ZEA Zeya 16.36 317 *e*P **Pn 17 17 31.6 -2.2**
ZEA AMB AMB 17 17 36.2
comp=Z,40nm,1.0s
MA2 Magadan 16.70 8 P **Pn 17 17 37.2 -0.7**
comp=Z,0.3nm,0.3s,baz=186,slow=18,SNR=2.4
MA2 Magadan 16.70 8 P **P 17 17 39.3 +0.1**

MA2 lAmb lAmb 17 17 52.1
comp=Z,116nm,1.8s
KROS Kirovskiy 16.89 319 *e*P **Pn 17 17 39.0 -1.3**
KROS AMB AMB 17 17 43.0
comp=Z,10.0nm,0.9s
DL2 Dalian 18.96 265 P **Pn 17 18 06.1 +0.5**
DL2 pmax pmax
comp=Z,52nm,0.9s
HIA Hailar 19.22 298 *de*P **P 17 18 05.3 -1.8**
HIA pmax pmax
comp=Z,115nm,0.9s
HIA Hailar 19.22 298 P **P 17 18 05.2 -1.8**
SEY Seymchan 20.16 8‖ *e*P **P 17 18 15.4 -1.6**
SEY Seymchan 20.16 8 P **P 17 18 14.8 -2.2**
comp=Z,3.2nm,0.5s,baz=209,slow=16,SNR=7.0
SMY Shemya 20.91 53 P **P 17 18 25.9 +0.6**
SMY pmax pmax
comp=Z,184nm,1.1s
SMY Shemya 20.91 53 P **P 17 18 25.9 +0.6**
YAK Yakutsk 21.28 338 *e*P **P 17 18 25.2 -3.9**
YAK *e*S S 17 22 09.9 -12
YAK *e* 17 22 35.0
YAK *e**SS **sS 17 22 40.1 -4.5**
YAK pmax pmax
comp=Z,15nm,1.0s
YAK pmax pmax
comp=N,11nm,1.3s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK smax smax
comp=N,267nm,2.0s
YAK smax smax
comp=E,117nm,2.0s
YAK Yakutsk 21.28 338 *e*P **P 17 18 29.4 +0.3**
YAK Yakutsk 21.28 338 P **P 17 18 25.8 -3.3**
BJI Beijing 22.58 272 P **P 17 18 42.4 -0.9**
BJI pmax pmax
comp=E,43nm,1.4s
BJT Baijiatuau 22.59 272 P **P 17 18 42.0 -1.4**
BJT pmax pmax
comp=Z,41nm,0.9s
BJT Baijiatuau 22.59 272 P **P 17 18 42.0 -1.4**
BJT lAmb lAmb 17 18 45.6
comp=Z,41nm,0.9s
TIA Tai'an 23.31 263 P **P 17 18 50.3 -0.4**
TIA pmax pmax
comp=Z,28nm,1.2s
BOD Bodaibo 24.87 317 *e*P **P 17 18 58.9 -5.7**
BOD pmax pmax
comp=Z,20nm,1.3s
HHC Hu-ho-hao-te 25.70 277 *e*P **P 17 19 13.0 +0.5**
HHC pP pP 17 19 23.3 -5.3
HHC S **S 17 23 39.6 +3.3**
HHC pmax pmax
comp=Z,21nm,1.0s
BTO Baotou 26.89 277 *e*P **P 17 19 22.8 -0.4**
BILL Bilibino 27.14 16 *i* P **P 17 19 25.1 +0.1**
BILL *i* 17 20 13.0
BILL Bilibino 27.14 16 *e*P **P 17 19 25.9 +0.9**
YHNB Yeheng 27.45 236 P **P 17 19 28.1 -0.1**
YHNB lAmb lAmb 17 20 04.2
comp=Z,58nm,1.3s
ULN Ulaanbaatar 27.59 294 *ce*P **P 17 19 29.6 +0.1**
ULN pmax pmax
comp=Z,167nm,1.7s
ULN Ulaanbaatar 27.59 294 *e*P **P 17 19 29.6 +0.1**
ULN Ulaanbaatar 27.59 294 P **P 17 19 29.6 +0.1**
SONM Songino Array 28.04 294 P **P 17 19 34.0 +0.6**
comp=Z,83nm,0.8s,baz=81,slow=8.6,SNR=207
SONM LR LR 17 31 34.9
comp=Z,170nm,19.5s,baz=72,slow=38
WHN Wuhan 28.21 254 P **P 17 19 35.5 +0.6**
H11N2 WAKE ISLAND Hy 29.14 137 T T 17 50 40.4
baz=328,slow=75,SNR=1777
H11N1 WAKE ISLAND Hy 29.15 137 T T 17 50 43.4
baz=328,slow=75,SNR=2107
H11N3 WAKE ISLAND Hy 29.16 137 T T 17 50 43.8
baz=328,slow=75,SNR=1578
ZAK Zakamensk 29.90 299 *e*P **P 17 19 49.3 -0.6**
ZAK pmax pmax
comp=Z,37nm,1.2s
H11S1 WAKE ISLAND Hy 30.08 138 T T 17 51 57.6
baz=330,slow=76,SNR=3193
H11S3 WAKE ISLAND Hy 30.08 138 T T 17 51 53.5
baz=330,slow=76,SNR=3220
H11S2 WAKE ISLAND Hy 30.10 138 T T 17 51 58.9
baz=330,slow=76,SNR=2809
XAN Xi'an 30.28 265 P **P 17 19 53.8 +0.5**
XAN pP pP 17 20 12.5 +2.9
XAN pmax pmax
comp=Z,29nm,0.9s
XAN Xi'an 30.28 265 P **P 17 19 52.7 -0.6**
XAN pmax pmax
comp=Z,22nm,0.8s
XAN Xi'an 30.28 265 P **P 17 19 52.7 -0.6**
XAN lAmb lAmb 17 19 59.9
comp=Z,22nm,0.8s
MOY Mondy 31.29 302 *e*P **P 17 20 02.7 +0.6**
MOY pmax pmax
comp=Z,56nm,2.0s
MOY Mondy 31.29 302 *e*P **P 17 20 02.7 +0.6**
ENH Enshi 31.82 258 P **P 17 20 06.5 -0.5**
ENH lAmb lAmb 17 20 14.1
comp=Z,28nm,1.2s
LZH Lanzhou 33.07 272 ⇑P **P 17 20 18.6 +0.7**
LZH pP pP 17 20 35.5 +1.2
LZH sP sP 17 20 42.5 +0.3
LZH pmax pmax
comp=Z,26nm,1.4s
LZH pmax pmax
comp=Z,97nm,4.9s
LZH LR LR
comp=Z,260nm,12.7s
LZH LR LR
comp=Z,270nm,13.0s
LZH LR LR
comp=Z,370nm,15.2s
ANM Nome 34.50 35 P **P 17 20 31.0 +1.2**
ANM lAmb lAmb 17 20 48.6
comp=Z,10nm,1.2s
GTA Gaotai 34.68 280 *e*P **P 17 20 31.8 0.0**
GTA pmax pmax
comp=Z,14nm,1.0s
CD2 Chengdu 35.62 264 *e*P **P 17 20 38.5 -1.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CHIR Chirikof Islan 38.74 50 P **P 17 21 08.3 +2.4**
KMI Kunming 39.67 257 P **P 17 21 15.0 +0.6**
KMI pP pP 17 21 31.0 -0.1
KMI sP sP 17 21 41.3 +2.4
KMI pmax pmax
comp=Z,15nm,1.0s
OHAK Old Harbor 39.87 48 P **P 17 21 15.8 +0.5**
RSO Redoubt South 39.90 43 P **P 17 21 18.0 +2.2**
PPLA Purkeypile 40.10 39 P **P 17 21 19.6 +2.2**
PPLA lAmb lAmb 17 21 41.5
comp=Z,15nm,1.0s
KDAK Kodiak Island 40.19 47 *i* P **P 17 21 18.3 +0.3**
KDAK Kodiak Island 40.19 47 P **P 17 21 16.9 -1.1**
comp=Z,9.0nm,0.5s,baz=264,slow=4.9,SNR=12
KDAK Kodiak Island 40.19 47 P **P 17 21 18.4 +0.5**
KTH Kantishna Hill 40.67 38 P **P 17 21 23.0 +1.0**
KTH lAmb lAmb 17 21 42.1
comp=Z,15nm,1.0s
CNPM China Poot 40.72 44 P **P 17 21 22.3 -0.1**
MLY Manley 40.76 35 P **P 17 21 23.4 +0.7**
MLY lAmb lAmb 17 21 44.1
comp=Z,24nm,1.6s
ZAA0 Zalesovo Array 40.79 307 P **P 17 21 21.8 -1.1**
ZAA0 lAmb lAmb 17 21 23.7
comp=Z,38nm,1.1s
ZALV Zalesovo Beam 40.79 307 P **P 17 21 22.2 -0.7**
comp=Z,12nm,0.5s,baz=89,slow=7.7,SNR=25
ZALV PcP **PcP 17 23 22.7 -0.1**
comp=Z,10nm,0.7s,baz=71,slow=2.2,SNR=9.5
ZALV LR LR 17 39 09.5
comp=Z,86nm,21.4s,baz=268,slow=37
SUA Susitna One 40.83 41 P **P 17 21 24.3 +1.0**
SUA lAmb lAmb 17 21 58.7
comp=Z,38nm,1.8s
BRLK Bradley Lake 40.88 44 P **P 17 21 23.2 -0.5**
TRF Thorofare Moun 40.96 38 P **P 17 21 24.4 0.0**
COLD Coldfoot 41.05 32 P **P 17 21 25.0 0.0**
SLVN Son La 41.27 252 P **P 17 21 27.3 -0.1**
RC01 Rabbit Creek A 41.34 41 P **P 17 21 28.7 +1.3**

RC01 lAmb lAmb 17 21 48.4
comp=Z,19nm,1.3s
TOLK Toolik Lake Re 41.37 30 P **P 17 21 27.9 +0.3**
TOLK lAmb lAmb 17 21 33.2
comp=Z,33nm,2.0s
NEA Nenana 41.47 36 P **P 17 21 29.4 +1.0**
NEA lAmb lAmb 17 21 31.7
comp=Z,9.8nm,0.6s
MCK McKinley 41.56 37 P **P 17 21 29.1 0.0**
MCK pmax pmax
comp=Z,51nm,1.9s
MCK McKinley 41.56 37 P **P 17 21 29.1 0.0**
MCK lAmb lAmb 17 22 04.6
comp=Z,51nm,1.9s
SEW Seward 41.57 43 P **P 17 21 29.7 +0.5**
SEW lAmb lAmb 17 21 49.5
comp=Z,56nm,1.5s
RND Reindeer 41.61 38 P **P 17 21 29.8 +0.2**
RND pmax pmax
comp=Z,22nm,1.5s
RND Reindeer 41.61 38 P **P 17 21 29.9 +0.2**
RND lAmb lAmb 17 21 47.6
comp=Z,22nm,1.5s
WMQ Urumqi 41.64 292 *e*P **P 17 21 32.8 +2.6**
WMQ Urumqi 41.64 292 P **P 17 21 30.9 +0.7**
WMQ pmax pmax
comp=Z,62nm,1.0s
WMQ Urumqi 41.64 292 P **P 17 21 30.9 +0.7**
GHO Glory Hole Cre 41.67 40 P **P 17 21 31.2 +1.0**
GHO lAmb lAmb 17 21 53.7
comp=Z,24nm,1.4s
MDM Murphy Dome 41.82 36 P **P 17 21 32.7 +1.4**
WRH Wood River Hil 41.90 36 P **P 17 21 32.6 +0.7**
KNK Knik Glacier 41.93 41 P **P 17 21 33.0 +0.8**
KNK lAmb lAmb 17 21 57.0
comp=Z,48nm,1.6s
SML Sawmill 41.95 40 P **P 17 21 33.9 +1.4**
SML lAmb lAmb 17 21 54.7
comp=Z,18nm,0.9s
COLA College 41.99 36⇑ *e*P **P 17 21 32.6 0.0**
COLA pmax pmax
comp=Z,12nm,1.0s
CCB Clear Creek Bu 42.02 36 P **P 17 21 34.4 +1.6**
DHY Denali Highway 42.29 38 P **P 17 21 35.7 +0.3**
DHY lAmb lAmb 17 22 02.7
comp=Z,24nm,1.5s
HDA Harding Lake 42.40 36 P **P 17 21 36.4 +0.4**
HDA lAmb lAmb 17 21 37.1
comp=Z,20nm,1.6s
IL31 42.40 36 P **P 17 21 35.9 -0.1**
ILAR Eielson Array 42.40 36 P **P 17 21 35.5 -0.5**
comp=Z,3.8nm,0.6s,baz=273,slow=5.1,SNR=34
SCM Sheep Creek Mo 42.42 40 P **P 17 21 36.9 +0.6**
SCM pmax pmax
comp=Z,103nm,1.9s
SCM Sheep Creek Mo 42.42 40 P **P 17 21 36.9 +0.6**
PRP Porcupine Dome 42.94 35 P **P 17 21 41.0 +0.5**
PRP lAmb lAmb 17 21 44.0
comp=Z,9.2nm,0.6s
FID Port Fidalgo 42.96 42 P **P 17 21 40.9 +0.4**
FYU Fort Yukon 43.01 33 P **P 17 21 42.4 +1.5**
FYU lAmb lAmb 17 21 43.3
comp=Z,15nm,0.8s
MID Middleton Isla 43.22 44 P **P 17 21 43.9 +1.3**
MID pmax pmax
comp=Z,748nm,1.6s
MID Middleton Isla 43.22 44 P **P 17 21 43.9 +1.3**
RIDG Independent Ri 43.37 37 P **P 17 21 44.0 +0.1**
RIDG lAmb lAmb 17 22 04.7
comp=Z,14nm,1.2s
SCRK Sand Creek 43.72 37 P **P 17 21 46.8 0.0**
DOT Dot Lake 43.73 37 P **P 17 21 46.8 +0.1**
RAGM Ragged Mountai 43.89 42 P **P 17 21 49.8 +1.7**
RAGM lAmb lAmb 17 21 58.8
comp=Z,24nm,1.0s
MENT Mentasta 43.97 38 P **P 17 21 50.7 +2.1**
MENT lAmb lAmb 17 22 30.1
comp=Z,8.1nm,0.7s
NONG Nongkai 44.01 249 P **P 17 21 51.1 +1.6**
comp=Z,0.4nm,1.2s
HMT Hamilton 44.10 42 P **P 17 21 51.0 +1.2**
GLB Gilahina Butte 44.14 40 P **P 17 21 51.5 +1.4**
MK31 Makanchi Array 44.22 298 P **P 17 21 51.1 +0.1**
MK31 pmax pmax
comp=Z,32nm,0.8s
MK31 Makanchi Array 44.22 298 P **P 17 21 51.1 +0.1**
MK31 lAmb lAmb 17 21 52.2
comp=Z,32nm,0.8s
MKAR Makanchi Array 44.22 298 *ce*P **P 17 21 51.2 +0.3**
MKAR pmax pmax
comp=Z,25nm,0.7s
MKAR Makanchi Array 44.22 298 P **P 17 21 51.0 0.0**
comp=Z,25nm,0.7s,baz=82,slow=8.9,SNR=52
MKAR PcP **PcP 17 23 34.3 -0.1**
comp=Z,3.4nm,0.8s,baz=67,slow=3.7,SNR=3.2
MKAR LR LR 17 41 49.1
comp=Z,140nm,18.8s,baz=38,slow=38
MKAR Makanchi Array 44.22 298 *e*P **P 17 21 51.1 +0.2**
VRDI Verde Repeater 44.34 41 P **P 17 21 53.3 +1.4**
SUCK Suckling Hills 44.39 42 P **P 17 21 53.0 +1.0**
MAKZ Makanchi 44.42 298 P **P 17 21 52.2 -0.3**
MAKZ pmax pmax
comp=Z,43nm,0.9s
MAKZ Makanchi 44.42 298 P **P 17 21 52.6 +0.1**
MAKZ lAmb lAmb 17 21 53.8
comp=Z,34nm,0.8s
UBPT Khong Chiam 44.43 244 P **P 17 21 51.9 -0.9**
CRQM Cirque 44.58 41 P **P 17 21 54.7 +1.0**
CRQM lAmb lAmb 17 21 56.1
comp=Z,14nm,0.7s
TGL Tana Glacier 44.73 41 P **P 17 21 56.3 +1.4**
WAX Waxell Ridge 44.77 42 P **P 17 21 56.2 +1.0**
EGAK Eagle 44.85 35 P **P 17 21 55.8 +0.1**
EGAK lAmb lAmb 17 22 01.5
comp=Z,23nm,1.6s
BALM Baldy 44.91 41 P **P 17 21 57.5 +1.2**
BALM lAmb lAmb 17 22 31.4
comp=Z,15nm,1.2s
BARN Barnard Glacie 45.23 41 P **P 17 22 00.4 +1.5**
BARN lAmb lAmb 17 22 23.3
comp=Z,57nm,1.9s
MESA MESA 45.26 42 P **P 17 22 00.7 +1.4**
KURK Kurchatov 45.27 304 *c i* P **P 17 21 58.6 -0.5**
KURK pmax pmax
comp=Z,98nm,0.9s
KURK Kurchatov 45.27 304 *e*P **P 17 21 58.6 -0.5**
KURK Kurchatov 45.27 304 P **P 17 21 59.2 +0.1**
KURK PcP **PcP 17 23 37.2 -0.7**
CTGM Chitina Glacie 45.41 41 P **P 17 22 01.7 +1.5**
CTGM lAmb lAmb 17 22 05.3
comp=Z,44nm,1.8s
LSA Lhasa 45.48 272 P **P 17 22 01.2 -0.5**
LSA pmax pmax
comp=Z,7.0nm,0.8s
LSA Lhasa 45.48 272 P **P 17 22 01.2 -0.5**
DAWY Dawson 45.72 36 P **P 17 22 02.8 +0.3**
DAWY lAmb lAmb 17 22 26.4
comp=Z,14nm,1.5s
PHRA Phrae 45.73 252 P **P 17 22 04.4 +1.3**
comp=Z,3.0nm,0.8s
LAMP Lampang 46.13 253 P **P 17 22 07.7 +1.4**
comp=Z,33µm,0.8s
CHAI Chaiyaphum 46.31 248 P **P 17 22 08.8 +1.0**
comp=Z,30µm,0.8s
CMMT Chiang Mai 46.41 254 P **P 17 22 09.4 +0.8**
comp=Z,8.1nm,1.2s
CHTO Chiang Mai 46.42 254 P **P 17 22 09.4 +0.8**
CHTO pmax pmax
comp=Z,11nm,0.9s
CHTO Chiang Mai 46.42 254 P **P 17 22 09.4 +0.8**
CHTO lAmb lAmb 17 22 10.2
comp=Z,11nm,0.8s
EPYK Eagle Plains 46.42 33 P **P 17 22 09.3 +1.2**
EPYK lAmb lAmb 17 22 18.3
comp=Z,11nm,0.9s
PBKT Sadao Pong 46.54 250 P **P 17 22 11.8 +2.3**
comp=Z,3.2nm,1.3s,comp=Z,600nm
PBKT Sadao Pong 46.54 250 P **P 17 22 09.8 +0.3**
PBKT lAmb lAmb 17 22 12.1
comp=Z,15nm,1.5s
CM31 Chiang Mai Arr 46.66 253 P **P 17 22 10.5 0.0**
CMAR Chiang Mai Arr 46.66 253 P **P 17 22 10.8 +0.3**
comp=Z,3.7nm,0.8s,baz=41,slow=7.5,SNR=27
INK Inuvik 47.29 30 P **P 17 22 15.5 +0.8**
INK pmax pmax

comp=Z,20nm,1.2s
INK Inuvik 47.29 30 P **P 17 22 15.1 +0.4**
comp=Z,4.2nm,0.4s,baz=302,slow=6.6,SNR=23
INK Inuvik 47.29 30 P **P 17 22 15.5 +0.8**
INK IAmb IAmb 17 22 16.8
comp=Z,20nm,1.2s
PDGK Podgornoye 47.35 294 P **P 17 22 15.6 -0.2**
PDGK pmax pmax
comp=Z,28nm,1.0s
MHMT Maesarieng 47.55 254 P **P 17 22 19.2 +1.8**
comp=Z,24nm,0.8s
UTHA Uthaitani 48.29 250 P **P 17 22 26.0 +2.9**
comp=Z,22µm,1.1s
PRZ Przheval'sk 48.43 294 P **P 17 22 25.8 +1.6**
PRZ pmax pmax
comp=Z,47nm,1.0s
PRZ Przheval'sk 48.43 294 P **P 17 22 25.8 +1.6**
TARG Taragay, Kyrgy 49.16 293 P **P 17 22 30.2 +0.2**
TARG IAmb IAmb 17 22 32.8
comp=Z,17nm,0.8s
TARG PcP **PcP 17 23 53.1 +0.7**
TAPN Taplejung 49.30 271 *eP* **P 17 22 30.8 -0.3**
comp=Z,69nm,1.3s
BRVK Borovoye 49.37 310*c iP* **P 17 22 30.6 -0.4**
BRVK pmax pmax
comp=Z,74nm,1.7s
BRVK Borovoye 49.37 310 *eP* **P 17 22 30.6 -0.4**
BRVK Borovoye 49.37 310 P **P 17 22 30.8 -0.2**
KDJ Kajisay 49.40 294 P **P 17 22 31.7 +0.1**
KDJ pmax pmax
comp=Z,27nm,1.0s
KDJ Kajisay 49.40 294 P **P 17 22 31.7 +0.1**
ODAN Odare 49.81 271 *eP* **P 17 22 34.6 -0.4**
comp=Z,88nm,1.5s
PHET Kaeng Krachan 50.03 247 P **P 17 22 38.7 +2.3**
comp=Z,100µm,0.8s,comp=Z,764µm
TKM2 Tokmak 2 50.11 295 *i* P **P 17 22 37.0 0.0**
TKM2 pmax pmax
comp=Z,48nm,0.9s
TKM2 Tokmak 2 50.11 295 P **P 17 22 37.7 +0.7**
SNR=42
JIRN Jiri 50.24 273 *eP* **P 17 22 38.5 +0.2**
comp=Z,143nm,1.1s
GUN Gumba 50.32 273 *eP* **P 17 22 38.8 -0.1**
comp=Z,143nm,0.9s
RAMN Ramite 50.34 272 *eP* **P 17 22 38.7 -0.3**
comp=Z,84nm,0.9s
NRN Naryn 50.50 294 P **P 17 22 40.0 -0.1**
NRN 17 23 57.6
NRN pmax pmax
comp=Z,16nm,1.2s
NRN Naryn 50.50 294 P **P 17 22 40.0 -0.1**
NRN IAmb IAmb 17 23 13.8
comp=Z,16nm,1.1s
NRN PcP **PcP 17 23 57.6 +0.3**
KBK Karagaybulak 50.65 295 P **P 17 22 41.7 +0.6**
SNR=27
USP Ospenovka 50.68 296 P **P 17 22 41.5 +0.4**
SNR=22
KZA Kyzart 50.71 295 P **P 17 22 43.0 +1.2**
SNR=12
FRU1 Bishkek 50.80 296 P **P 17 22 42.2 +0.2**
FRU1 pmax pmax
comp=Z,20nm,0.7s
FRU1 Bishkek 50.80 296 P **P 17 22 42.2 +0.2**
KKN Kakani 50.83 273 *eP* **P 17 22 42.7 +0.1**
comp=Z,96nm,1.0s
PKI Pulchoki 50.86 273 *eP* **P 17 22 42.5 -0.5**
comp=Z,100nm,1.2s
PKIN Phulchoki 50.86 273 *eP* **P 17 22 42.5 -0.4**
comp=Z,70nm,1.2s
AAK Ala-Archa 50.96 296*ceP* **P 17 22 43.5 +0.1**
AAK pmax pmax
comp=Z,27nm,1.5s
AAK Ala-Archa 50.96 296 P **P 17 22 43.7 +0.3**
SNR=8.1
AAK Ala-Archa 50.96 296 *eP* **P 17 22 43.5 +0.1**
AAK Ala-Archa 50.96 296 P **P 17 22 43.2 -0.2**
DMN Daman 51.06 273 *eP* **P 17 22 44.3 -0.1**
comp=Z,142nm,1.2s
KSH Kashi 51.40 291 P **P 17 22 50.3 +3.6**
KSH PP **PP 17 24 48.8 +4.7**
KSH PcS **PcS 17 27 57.1 -1.3**
KSH S **S 17 30 04.1 +2.8**
KSH sS sS 17 30 31.1 +1.0
KSH pmax pmax
comp=Z,52nm,1.0s
KSH pmax pmax
comp=Z,500nm,5.9s
KSH LR LR
comp=Z,380nm,8.9s
KSH LR LR
comp=Z,680nm,7.0s
KSH LR LR
comp=Z,410nm,6.8s
EKS2 Erkin-Say 51.42 296 P **P 17 22 47.1 +0.3**
SNR=15
AML Almayashu 51.72 295 P **P 17 22 50.1 +0.7**
SNR=11
PMG Port Moresby 52.31 179 P **P 17 22 54.6 +1.3**
PMG pmax pmax
comp=Z,15nm,0.9s
PMG Port Moresby 52.31 179 P **P 17 22 54.6 +1.3**
PMG IAmb IAmb 17 22 55.9
comp=Z,15nm,0.9s
KSM Kuching 52.37 228 P **P 17 22 55.1 +1.1**
KSM IAmb IAmb 17 22 57.4
comp=Z,6.2nm,0.9s
ARSB Arslanbob 52.57 295 P **P 17 22 55.3 0.0**
SAUI Saumlaki 52.65 199 P **P 17 22 54.1 -1.8**
SVE Sverdlovsk 53.08 317*d iP* **P 17 22 58.9 +0.2**
SVE pmax pmax
comp=Z,81nm,1.1s
SVE Sverdlovsk 53.08 317 *eP* **P 17 22 58.9 +0.2**
KK31 Karatay Array 53.35 298 *i P* **P 17 23 00.5 -0.4**
KK31 pmax pmax
comp=Z,18nm,0.8s
KK31 Karatay Array 53.35 298 P **P 17 23 00.6 -0.3**
KK31 IAmb IAmb 17 23 01.9
comp=Z,21nm,0.8s
KKAR Karatay Array 53.35 298 P **P 17 23 00.5 -0.4**
KKAR pmax pmax
comp=Z,21nm,0.9s
KKAR Karatay Array 53.35 298 P **P 17 23 00.5 -0.4**
KKAR IAmb IAmb 17 23 01.9
comp=Z,21nm,0.8s
ARU Arti 54.29 317*c iP* **P 17 23 07.1 -0.4**
ARU *PP **pP 17 23 27.0 +2.0**
ARU 17 24 09.0
ARU S **S 17 30 41.2 +1.4**
ARU SS **SS 17 34 24.3 +2.3**
ARU pmax pmax
comp=Z,84nm,1.0s
ARU Arti 54.29 317 P **P 17 23 07.3 -0.2**
comp=Z,19nm,0.8s,baz=42,slow=4.9,SNR=12
ARU LR LR 17 47 05.8
comp=Z,80nm,20.0s,baz=40,slow=37
ARU Arti 54.29 317 *eP* **P 17 23 06.9 -0.6**
ARU Arti 54.29 317 P **P 17 23 06.9 -0.6**
BTK Batken 54.62 294 P **P 17 23 09.8 -0.5**
BTK pmax pmax
comp=Z,55nm,1.5s
BTK Batken 54.62 294 P **P 17 23 09.8 -0.5**
KULM Kulim 55.02 240 P **P 17 23 13.5 +0.2**
KULM IAmb IAmb 17 23 16.1
comp=Z,21nm,1.0s
GAR Garm 55.48 294 P **P 17 23 16.5 -0.1**
NIL Nilore 56.27 287 P **P 17 23 22.1 0.0**
NIL pmax pmax
comp=Z,56nm,1.1s
NIL Nilore 56.27 287 P **P 17 23 22.1 0.0**
SOEI Soe 56.30 206 P **P 17 23 22.3 -0.2**
SOEI IAmb IAmb 17 23 48.8
comp=Z,22nm,1.2s
CHGR Chuyangaron 56.44 294 P **P 17 23 22.9 -0.5**
YKA Yellowknife Ar 56.71 33 P **P 17 23 24.9 +0.1**
comp=Z,1.4nm,0.6s,baz=302,slow=7.1,SNR=17
AB31 Akbulak array 56.87 309 P **P 17 23 26.0 -0.1**
AB31 pmax pmax
comp=Z,37nm,0.8s
ABKAR Akbulak array 56.87 309 P **P 17 23 26.1 -0.1**
AKTO Aktyubinsk 57.38 311 P **P 17 23 29.4 -0.3**
comp=Z,15nm,0.7s,baz=70,slow=6.9,SNR=19
MTN Manton Dam 57.39 197 P **P 17 23 29.9 -0.1**
MTN IAmb IAmb 17 23 30.8
comp=Z,9.3nm,0.7s
KIRV Kirov 57.62 322 P **P 17 23 30.8 -0.4**
comp=Z,30nm,0.6s,baz=54,slow=22,SNR=10.0
PRGR Permogore 57.67 326 *eP* P 17 23 22.3 -9.2
PRGR pmax pmax
comp=Z,91nm,1.0s
LVZ Lovozero 58.05 335⇓ *eP* **P 17 23 34.7 +0.5**
LVZ pmax pmax
comp=Z,98nm,2.5s
TULEG Thule 58.54 9 P **P 17 23 38.2 +0.8**
KBL Kabul 58.71 290 P **P 17 23 38.4 -1.1**
KBL pmax pmax
comp=Z,34nm,0.9s
KBL Kabul 58.71 290 P **P 17 23 38.4 -1.1**
TMCR Tamitsa 59.15 331 *eP* **P 17 23 40.6 -1.2**
TMCR pmax pmax
comp=Z,115nm,1.0s
ARCES ARCESS Array B 59.56 339 P **P 17 23 44.4 -0.1**
comp=Z,8.9nm,0.8s,baz=43,slow=6.6,SNR=13
ARE0 ARCESS Array S 59.56 339 P **P 17 23 45.1 +0.5**
KNRA Kunumurra 60.67 199 P **P 17 23 52.8 +0.1**
KNRA IAmb IAmb 17 23 54.7
comp=Z,37nm,1.9s
LTY Liberty 61.88 50 P **P 17 24 01.6 +0.8**
B08A Colville Reser 62.01 49 P **P 17 24 02.3 +0.7**
B08A IAmb IAmb 17 24 23.2
comp=Z,21nm,1.8s
E07A Sunnyside 62.74 51 P **P 17 24 07.6 +1.1**
E07A IAmb IAmb 17 24 11.9
comp=Z,7.2nm,0.7s
E08A Dider Farm, El 63.23 50 P **P 17 24 10.5 +0.9**
NEW Newport 63.28 48 P **P 17 24 10.6 +0.6**
NEW pmax pmax
comp=Z,10.0nm,1.4s
NEW Newport 63.28 48 P **P 17 24 10.6 +0.6**
NEW IAmb IAmb 17 24 11.9
comp=Z,10nm,1.4s
HRA Herat 63.43 293 P **P 17 24 11.4 0.0**
HRA IAmb IAmb 17 24 12.3
comp=Z,19nm,0.8s
WRAB Tennant Creek 63.70 192*deP* **P 17 24 13.1 +0.2**
WRAB pmax pmax
comp=Z,8.0nm,1.7s
WRAB Tennant Creek 63.70 192 P **P 17 24 13.0 0.0**
WRAB IAmb IAmb 17 24 47.3
comp=Z,11nm,1.4s
PINE Pine Mountain 63.70 54 P **P 17 24 14.4 +1.3**
PINE IAmb IAmb 17 24 35.2
comp=Z,20nm,1.5s
FITZ Fitzroy Crossi 63.79 202 P **P 17 24 13.9 +0.3**
FITZ IAmb IAmb 17 24 31.5
comp=Z,23nm,1.9s
YBH Yreka Blue Hor 63.83 56 P **P 17 24 15.3 +1.5**
YBH pmax pmax
comp=Z,5.0nm,1.0s
YBH Yreka Blue Hor 63.83 56 P **P 17 24 15.3 +1.5**
GEYT Alibeck 64.09 299 P **P 17 24 15.6 0.0**
comp=Z,16nm,0.8s,baz=346,slow=3.1,SNR=18
GEYT LR LR 17 52 03.3
comp=Z,119nm,19.8s,baz=345,slow=36
GYA0B ALIBECK ARRAY 64.09 299 P **P 17 24 15.3 -0.3**
GYA0B IAmb IAmb 17 24 16.7
comp=Z,19nm,0.8s
KCPM Cahto Peak 64.48 59 P **P 17 24 19.0 +0.9**
KCPM IAmb IAmb 17 24 19.6
comp=Z,39nm,1.5s
SUMG Summit 64.53 2 P **P 17 24 18.6 +0.3**
SUMG pmax pmax
comp=Z,99nm,1.6s
SUMG Summit 64.53 2 P **P 17 24 18.6 +0.3**
PUL Pulkovo 64.76 330*ceP* **P 17 24 20.8 +1.4**
PUL pmax pmax
comp=Z,37nm,0.5s
PUL Pulkovo 64.76 330 *eP* **P 17 24 20.8 +1.4**
FIA1 FINESS Array S 65.08 333 P **P 17 24 20.7 -0.8**
FINES FINESS Array B 65.08 333 P **P 17 24 21.2 -0.3**
comp=Z,36nm,0.6s,baz=41,slow=6.5,SNR=33
OBN Obninsk 65.37 323*ceP* **P 17 24 23.0 -0.4**
OBN *e* 17 24 55.4
OBN *e* 17 26 48.6
OBN *eS* **S 17 33 01.7 -0.3**
OBN pmax pmax
comp=Z,85nm,1.7s
OBN Obninsk 65.37 323 P **P 17 24 23.0 -0.4**
comp=Z,5.0nm,0.5s,baz=242,slow=24,SNR=6.5
OBN Obninsk 65.37 323 P **P 17 24 22.5 -1.0**
VRH Novokhopyorsk 65.49 318 *eP* **P 17 24 23.4 -0.9**
VRH pmax pmax
comp=Z,60nm,0.9s
PLID Pearl Lake 65.79 50 P **P 17 24 26.1 -0.6**
PLID IAmb IAmb 17 24 46.8
comp=Z,12nm,1.5s
ORV Oroville 65.86 58 P **P 17 24 27.4 +0.5**
ORV pmax pmax
comp=Z,3.0nm,0.8s
ORV Oroville 65.86 58 P **P 17 24 27.4 +0.5**
MSO Missoula 65.86 48 P **P 17 24 27.4 +0.4**
MSO IAmb IAmb 17 24 54.7
comp=Z,18nm,1.8s
WVOR Wild Horse Val 65.87 54 P **P 17 24 28.0 +0.9**
WVOR pmax pmax
comp=Z,7.0nm,1.4s
WVOR Wild Horse Val 65.87 54 P **P 17 24 28.0 +0.9**
LPSR Galich'ya Gora 65.93 320 *eP* **P 17 24 26.5 -0.7**
LPSR pmax pmax
comp=Z,60nm,0.9s
SCO Scoresbysund 66.36 356 P **P 17 24 29.5 -0.1**
SCO pmax pmax
comp=Z,30nm,1.3s
SCO Scoresbysund 66.36 356 P **P 17 24 29.5 -0.1**
SCO IAmb IAmb 17 24 31.2
comp=Z,30nm,1.3s
AFDM Forest Hills D 66.55 58 P **P 17 24 31.0 -0.4**
FFC Flin Flon 66.62 36 P **P 17 24 31.5 0.0**
FFC pmax pmax
comp=Z,9.0nm,1.2s
FFC Flin Flon 66.62 36 P **P 17 24 31.5 0.0**
FFC IAmb IAmb 17 24 33.6
comp=Z,9.4nm,1.1s
VSR Storozhevoye 66.72 319 *eP* **P 17 24 31.9 -0.3**
VSR pmax pmax
comp=Z,60nm,1.0s
VORD Divnogorie 66.82 319 *eP* **P 17 24 31.9 -0.9**
VORD pmax pmax
comp=Z,50nm,1.2s
RUBR Rubicon Trail 66.99 58 P **P 17 24 34.4 -0.1**
RUBR IAmb IAmb 17 24 56.8
comp=Z,11nm,0.5s
VSU Vasula 67.00 330*ceP* **P 17 24 33.5 -0.3**
VSU pmax pmax
comp=Z,151nm,1.3s
VSU Vasula 67.00 330 *eP* **P 17 24 33.2 -0.6**
VSU IAmb IAmb 17 24 35.9
comp=Z,106nm,0.8s
PAHR Pah Rah Range 67.07 57 P **P 17 24 35.8 +0.9**
PAHR IAmb IAmb 17 24 36.9
comp=Z,10nm,1.2s
LRM Limekiln Ridge 67.30 48 P **P 17 24 34.2 -2.1**
PNTR Pine Nut 67.31 57 P **P 17 24 37.4 +0.9**
AS31 Alice Springs 67.43 192 P **P 17 24 37.2 +0.2**
ASAR Alice Springs 67.43 192 P **P 17 24 37.6 +0.7**
comp=Z,3.7nm,0.6s,baz=9.5,slow=5.5,SNR=84
CMB Columbia Colle 67.47 59 P **P 17 24 38.0 +0.7**
CMB pmax pmax
comp=Z,12nm,1.6s
CMB Columbia Colle 67.47 59 P **P 17 24 38.0 +0.7**
DZM Mont Dzumac 67.53 160 *e*LR LR 17 44 52.7
comp=Z,146nm,32.9s
YERR Yerington 67.60 57 P **P 17 24 39.1 +0.9**
YERR IAmb IAmb 17 24 59.9
comp=Z,20nm,1.4s
WAKR Walker 67.77 58 P **P 17 24 40.2 +0.9**
WAKR IAmb IAmb 17 24 54.0
comp=Z,14nm,1.7s
BOZ Bozeman (W) 67.89 48 P **P 17 24 40.5 +0.6**
BOZ pmax pmax
comp=Z,5.0nm,0.8s
BOZ Bozeman (W) 67.89 48 P **P 17 24 40.5 +0.6**
KVN Kaiserville 68.25 57 P **P 17 24 43.1 +0.7**
KVN pmax pmax
comp=Z,6.0nm,0.7s
KVN Kaiserville 68.25 57 P **P 17 24 43.1 +0.7**
KVN IAmb IAmb 17 24 44.5
comp=Z,6.4nm,0.7s
RYN Ryan 68.26 57 P **P 17 24 43.7 +1.3**
AKT Akhty 68.34 307 *eP* **P 17 24 43.4 +0.6**
AKT *e* 17 25 08.5
AKT pmax pmax
comp=Z,29nm,0.9s
NVAR Mina Array Bea 68.52 57 P **P 17 24 45.2 +1.1**
comp=Z,4.3nm,0.6s,baz=298,slow=6.8,SNR=36
NVAR pP **pP 17 25 01.9 -0.1**
comp=Z,2.1nm,0.8s,baz=301,slow=7.0,SNR=4.2
MDPB Devils Postpil 68.53 58 P **P 17 24 44.8 +0.6**
OMMB Old Mammoth Mi 68.59 58 P **P 17 24 44.8 +0.2**
YHL Hebgen Lake 68.61 48 P **P 17 24 45.7 +1.1**
NV11 Mina Array Sit 68.61 57 P **P 17 24 45.4 +0.9**
YHB Horse Butte 68.66 48 P **P 17 24 45.5 +0.6**
PSAD1 Pilbara Seismi 68.69 206 P **P 17 24 45.3 +0.4**
PSAD1 IAmb IAmb 17 25 23.2
comp=Z,16nm,1.3s
GOF Gofitskoye 68.71 312⇑ *iP* **P 17 24 45.3 +0.4**
GOF pmax pmax
comp=Z,66nm,0.9s
PSAC2 Pilbara Seismi 68.77 206 P **P 17 24 46.0 +0.6**
PSAC2 IAmb IAmb 17 25 03.6
comp=Z,30nm,1.7s
PSA00 Pilbara Seismi 68.80 206 P **P 17 24 45.6 0.0**
PSA00 IAmb IAmb 17 25 17.2
comp=Z,11nm,1.1s
PSAA3 Pilbara Seismi 68.80 206 P **P 17 24 45.5 -0.1**
PSAA3 IAmb IAmb 17 25 17.9
comp=Z,12nm,1.2s
PSAD2 Pilbara Seismi 68.80 206 P **P 17 24 45.0 -0.5**
PSAD2 IAmb IAmb 17 24 58.9
comp=Z,34nm,1.9s
PSAA1 Pilbara Seismi 68.81 206 P **P 17 24 45.8 +0.2**
PSAA1 IAmb IAmb 17 25 18.0
comp=Z,17nm,1.3s
GCMT Greycliff 68.81 47 P **P 17 24 44.0 -1.7**
YHH Holmes Hill 68.83 48 P **P 17 24 46.8 +0.8**
YMR Madison River 68.84 48 P **P 17 24 47.2 +1.2**
PSAD3 Pilbara Seismi 68.89 206 P **P 17 24 46.7 +0.6**
PSAD3 IAmb IAmb 17 24 59.3
comp=Z,46nm,1.8s
ELK Elko 68.91 54 P **P 17 24 47.5 +1.0**
ELK Elko 68.91 54 P **P 17 24 47.5 +1.0**
YNR Norris Junctio 68.97 48 P **P 17 24 48.0 +1.2**
PAGB Antelope Grade 68.97 60 P **P 17 24 46.9 +0.2**
H17A Grant Village 69.23 48 P **P 17 24 49.9 +1.4**
ISAL Salakas 69.34 328 *eP* **P 17 24 48.3 -0.2**
ISAL IAmb IAmb 17 24 52.2
comp=Z,30nm,0.9s
NCK Nalchik 69.42 311⇑ *eP* **P 17 24 49.8 +0.5**
NCK pmax pmax
comp=Z,21nm,0.7s
MICGM Minsk 69.43 327 *e* **P 17 24 49.0 -0.1**
MNK Minsk 69.43 327 *eP* **P 17 24 49.0 -0.1**
SFJD Kangerlussuaq 69.44 7 P **P 17 24 49.7 +0.7**
SFJD pmax pmax
comp=Z,27nm,1.3s
SFJD Kangerlussuaq 69.44 7 P **P 17 24 49.7 +0.7**
SFJD IAmb IAmb 17 24 54.8
comp=Z,27nm,1.2s
RLMT Red Lodge 69.47 47 P **P 17 24 50.8 +0.9**
IIGN Ignalina 69.47 328 *eP* **P 17 24 48.8 -0.5**
IIGN IAmb IAmb 17 24 52.1
comp=Z,49nm,1.2s
FXWY Fox Creek 69.47 49 P **P 17 24 51.4 +1.4**
FXWY PcP **PcP 17 25 10.5 -2.3**
MOOW Moose Ponds 69.56 49 P **P 17 24 51.2 +0.8**
MOOW PcP **PcP 17 25 11.3 -1.9**
NACGM Naroch 69.58 328 *e* **P 17 24 49.0 -1.0**
TPAW Teton Pass 69.61 49 P **P 17 24 51.4 +0.6**
TPAW IAmb IAmb 17 24 53.6
comp=Z,10nm,1.1s
TPAW PcP **PcP 17 25 11.5 -2.0**
KVAR Kislovodsk Arr 69.62 311 P **P 17 24 51.4 +0.7**
comp=Z,40nm,0.9s,baz=260,slow=0.6,SNR=20
KIV Kislovodsk 69.62 311 *eP* **P 17 24 51.1 +0.5**
KIV pmax pmax
comp=Z,151nm,1.1s
KIV MLR MLR
comp=Z,211nm,17.0s
KIV Kislovodsk 69.62 311 *eP* **P 17 24 51.1 +0.5**
KIV Kislovodsk 69.62 311 P **P 17 24 50.6 0.0**
KBZ Khabaz 69.65 311 P **P 17 24 51.2 +0.5**
comp=Z,22nm,0.9s,baz=46,slow=2.8,SNR=20
NC303 NORSAR Array S 69.70 339 P **P 17 24 50.4 -0.3**
ZEI Tsey 69.70 310 *eP* **P 17 24 50.5 -0.8**
ZEI pmax pmax
comp=Z,21nm,0.9s
NC405 NORSAR Array S 69.70 338 P **P 17 24 50.0 -0.7**
NC204 NORSAR Array S 69.82 339 P **P 17 24 51.4 -0.1**
NB201 NORSAR Array S 69.87 338 P **P 17 24 51.2 -0.6**
NB2 NORSAR Subarra 69.90 338 P **P 17 24 51.4 -0.6**
comp=Z,8.9nm,0.6s,baz=32,slow=6.2
NOA NORSAR Array B 69.90 338 P **P 17 24 51.7 -0.3**
comp=Z,13nm,0.7s,baz=34,slow=6.1,SNR=32
NOA LR LR 17 59 22.5
comp=Z,78nm,19.3s,baz=25,slow=39
TBLG Delisi 69.91 309 P **P 17 24 52.7 +0.3**
TBLG pmax pmax
comp=Z,44nm,0.9s
TBLG Delisi 69.91 309 P **P 17 24 52.6 +0.3**
HFS Hagfors 69.96 337 P **P 17 24 52.1 -0.2**
comp=Z,22nm,0.7s,baz=38,slow=6.4,SNR=26
NBO00 NORSAR Array S 70.03 339 P **P 17 24 52.9 +0.2**
NC602 NORSAR Array S 70.07 338 P **P 17 24 52.9 0.0**
ISA Isabella, Lake 70.14 60 P **P 17 24 54.0 0.0**
ISA pmax pmax
comp=Z,7.0nm,1.4s
ISA Isabella, Lake 70.14 60 P **P 17 24 54.0 0.0**
NAO01 NORSAR Array S 70.15 339 P **P 17 24 53.3 -0.2**
SPUT South Promonto 70.18 52 P **P 17 24 53.8 -0.4**
PABE Paberze 70.21 329 *eP* **P 17 24 53.8 0.0**
PABE IAmb IAmb 17 24 55.2
comp=Z,86nm,0.9s
R11A Troy Canyon, C 70.22 56 P **P 17 24 55.0 +0.5**
DUG Dugway, Tooele 70.69 53 P **P 17 24 57.8 +0.5**
DUG pmax pmax
comp=Z,12nm,1.3s
DUG Dugway, Tooele 70.69 53 P **P 17 24 57.8 +0.5**
DUG IAmb IAmb 17 24 59.6
comp=Z,12nm,1.2s
TPNV Topopah Spring 70.71 57 P **P 17 24 58.1 +0.6**
TPNV pmax pmax
comp=Z,6.0nm,1.0s
TPNV Topopah Spring 70.71 57 P **P 17 24 58.1 +0.6**
AKH Akhalkalaki 70.83 309 P **P 17 24 58.9 +0.7**
AKH pmax pmax
comp=Z,34nm,1.5s
AKH Akhalkalaki 70.83 309⇑ P **P 17 24 59.3 +1.1**
AKH Akhalkalaki 70.83 309 P **P 17 24 58.9 +0.7**
AKH IAmb IAmb 17 25 00.7
comp=Z,34nm,1.5s
BW06 Boulder Array 70.85 49 P **P 17 24 59.1 +0.7**
PD31 Pinedale Array 70.86 49 P **P 17 24 58.4 0.0**
PDAR Pinedale Array 70.86 49 P **P 17 24 58.9 +0.5**
comp=Z,1.8nm,0.6s,baz=252,slow=0.9,SNR=23
PDAR pP **pP 17 25 17.1 +0.8**
comp=Z,0.6nm,0.5s,baz=318,slow=2.4,SNR=3.1
PDAR LR LR 17 58 39.1
comp=Z,23nm,18.2s,baz=345,slow=38
GNI Garni 70.94 307 P **P 17 25 00.0 +1.2**
GNI pmax pmax
comp=Z,107nm,1.6s
GNI Garni 70.94 307 P **P 17 24 58.0 -0.8**
comp=Z,16nm,1.0s,baz=270,slow=4.7,SNR=5.6
GNI Garni 70.94 307 P **P 17 24 60.0 +1.2**
NLU North Lily Min 71.27 53 P **P 17 25 01.6 +0.7**
MWC Mount Wilson 71.32 60 P **P 17 25 01.7 +0.4**
MWC pmax pmax
comp=Z,15nm,1.5s
MWC Mount Wilson 71.32 60 P **P 17 25 01.6 +0.4**
MWC IAmb IAmb 17 25 02.3
comp=Z,15nm,1.4s
GSC Goldstone, Bar 71.42 59 P **P 17 25 02.1 +0.4**
GSC pmax pmax
comp=Z,3.0nm,0.5s
GSC Goldstone, Bar 71.42 59 P **P 17 25 02.1 +0.4**
AKASG Malin Array Be 71.63 323*ceP* **P 17 25 02.2 -0.4**
AKASG pmax pmax
comp=Z,20nm,0.9s
AKASG Malin Array Be 71.63 323 P **P 17 25 02.2 -0.4**
comp=Z,12nm,0.7s,baz=41,slow=6.6,SNR=20
AKBB Malin Array Si 71.63 323*ceP* **P 17 25 02.4 -0.2**
AKBB Malin Array Si 71.63 323 P **P 17 25 02.1 -0.5**
SUW Suwalki 71.64 329 P **P 17 25 02.1 -0.5**

SUW pmax pmax
comp=Z,96nm,1.4s
SUW Suwalki 71.64 329 P **P** **17 25 02.1 -0.5**
SHPR Sheep Range 71.67 57 P **P** **17 25 04.6 +1.3**
BATM Batumi 71.72 310 ⇑P **P** **17 25 03.8 +0.5**
CCUT Cedar City 72.08 55 P **P** **17 25 07.2 +1.3**
MSU Marysvale 72.16 54 P **P** **17 25 07.4 +1.1**
MSU Marysvale 72.16 54 P **P** **17 25 07.4 +1.1**
TMUT Trail Mountain 72.21 53 P **P** **17 25 07.4 +0.7**
SZCU Shurtz Canyon 72.22 55 P **P** **17 25 07.2 +0.5**
RDMU Red Mountain 72.31 51 P **P** **17 25 08.2 +1.1**
P17A Butcher Ranch, 72.36 52 P **P** **17 25 08.3 +0.9**
MTPU Mount Pierson 72.46 54 P **P** **17 25 10.0 +1.7**
LCMT Little Creek M 72.50 56 P **P** **17 25 09.4 +1.2**
K22A Casper 72.59 48 P **P** **17 25 09.1 +0.4**
SRU San Rafael Swe 72.73 52 P **P** **17 25 10.2 +0.6**
SRU pmax pmax
comp=Z,9.0nm,1.1s
SRU San Rafael Swe 72.73 52 P **P** **17 25 10.2 +0.6**
KNB Kanab 72.76 55 P **P** **17 25 11.2 +1.4**
KNB pmax pmax
comp=Z,14nm,1.5s
KNB Kanab 72.76 55 P **P** **17 25 11.2 +1.4**
UOSS Minazif 73.36 289 P **P** **17 25 13.2 -0.1**
W13A Hualapai Mount 73.37 57 P **P** **17 25 14.0 +0.5**
SIM Simferopol' 73.45 317 *deP* **P** **17 25 14.2 +0.7**
SIM pmax pmax
comp=Z,18nm,0.9s
U15A North Rim 73.47 56 P **P** **17 25 15.6 +1.5**
Y12C Blythe 73.86 59 P **P** **17 25 17.1 +1.0**
SORM Soroca 73.90 322 ⇓P **P** **17 25 16.1 0.0**
LVV L'vov 74.51 325 *eP* **P** **17 25 19.7 +0.1**
Y14A Wickenburg 74.68 58 P **P** **17 25 21.6 +0.7**
STKA Stephens Creek 74.78 184 P **P** **17 25 21.7 +0.6**
STKA Stephens Creek 74.78 184 P **P** **17 25 21.4 +0.3**
comp=Z,3.3nm,0.9s,baz=349,slow=9.6,SNR=4.6
STKA LR LR 17 56 57.1
comp=Z,27nm,20.7s,baz=23,slow=35
STKA Stephens Creek 74.78 184 P **P** **17 25 21.7 +0.6**
MVCO Mesa Verde 75.19 53 P **P** **17 25 24.4 +0.3**
MVCO IAmb IAmb 17 25 49.1
comp=Z,24nm,1.9s
KWP Kalwaria Pacla 75.20 326 P **P** **17 25 23.5 -0.2**
KWP pmax pmax
comp=Z,642nm,1.1s
KWP Kalwaria Pacla 75.20 326 P **P** **17 25 23.4 -0.2**
X16A Lo Mia Camp, P 75.32 57 P **P** **17 25 25.9 +1.0**
BUR08 Bucovina Ar. S 75.67 323 P **P** **17 25 26.5 0.0**
BUR08 IAmb IAmb 17 25 27.9
comp=Z,14nm,0.9s
BURAR Bucovina Array 75.69 323 ⇑P **P** **17 25 27.1 +0.6**
BURAR mb 17 25 28.1
S22A 4UR Ranch, Cre 75.78 51 P **P** **17 25 28.5 +0.9**
S22A IAmb IAmb 17 25 59.7
comp=Z,19nm,1.9s
BIZ Bicaz 75.81 322 ⇑P **P** **17 25 27.6 +0.4**
KOLS Kolonicke sedl 75.92 326 *eP* **P** **17 25 28.0 +0.2**
KOLS pmax pmax
comp=Z,10.0nm,1.1s
KOLS Kolonicke sedl 75.92 326 *eP* **P** **17 25 28.0 +0.2**
JURR Jurilovca 76.16 319 ⇓P **P** **17 25 29.7 +0.6**
JURR mb 17 25 30.3
CFR Carcaliu 76.20 320 ⇓P **P** **17 25 29.9 +0.5**
TOPG Topolog 76.31 320 ⇑P **P** **17 25 30.5 +0.5**
VRI Vrincioaia 76.34 321 ⇓P **P** **17 25 32.3 +2.2**
TRPA Tarpa 76.44 325 *eP* **P** **17 25 31.0 +0.4**
ARCR ARCALIA 76.47 323 ⇓P **P** **17 25 31.8 +0.9**
OZUR 76.59 322 ⇑P **P** **17 25 33.0 +1.3**
TIRR Tirgusor 76.61 319 ⇓P **P** **17 25 32.4 +0.7**
HARR Harsova 76.66 320 ⇓P **P** **17 25 32.3 +0.3**
HARR mb 17 25 33.2
DOPR Dopca 76.87 322 ⇓P **P** **17 25 34.6 +1.5**
LANS Liptovska Anna 76.89 327 *eP* **P** **17 25 34.9 +1.6**
LANS pmax pmax
comp=Z,21nm,1.6s
LANS Liptovska Anna 76.89 327 *eP* **P** **17 25 34.9 +1.6**
MLR Muntele Rosu 76.98 321 P **P** **17 25 33.9 0.0**
MLR pmax pmax
comp=Z,39nm,1.5s
MLR Muntele Rosu 76.98 321 P **P** **17 25 33.7 -0.3**
comp=Z,7.8nm,0.9s,baz=65,slow=7.4,SNR=3.6
MLR Muntele Rosu 76.98 321 ⇑P **P** **17 25 34.5 +0.5**
MLR Muntele Rosu 76.98 321 P **P** **17 25 33.9 0.0**
MLR IAmb IAmb 17 25 36.3
comp=Z,39nm,1.5s
ISR Istrita 76.99 321 ⇑P **P** **17 25 35.2 +1.3**
DPC Dobruska-Polom 77.12 330 *eP* **P** **17 25 35.2 +0.6**
DPC Dobruska-Polom 77.12 330 *eP* **P** **17 25 35.2 +0.6**
MORC Moravsky Berou 77.13 329 P **P** **17 25 35.1 +0.5**
MORC pmax pmax
comp=Z,24nm,1.3s
MORC Moravsky Berou 77.13 329 ⇑P **P** **17 25 35.2 +0.6**
MORC mb 17 25 37.1
MORC Moravsky Berou 77.13 329 *eP* **P** **17 25 35.1 +0.5**
MORC Moravsky Berou 77.13 329 P **P** **17 25 35.1 +0.5**
MORC IAmb IAmb 17 25 36.3
comp=Z,24nm,1.3s
KRLC Kraliky 77.17 329 *eP* **P** **17 25 34.9 0.0**
KRLC Kraliky 77.17 329 *eP* **P** **17 25 34.9 0.0**
DRGR 77.41 324 ⇑P **P** **17 25 36.8 +0.5**
VOIR 77.43 322 ⇓P **P** **17 25 37.4 +1.0**
BRTR Keskin Array B 77.43 313 *ceP* **P** **17 25 36.9 +0.3**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 77.43 313 P **P** **17 25 36.7 +0.1**
comp=Z,5.5nm,0.9s,baz=70,slow=4.1,SNR=4.8
BRTR PP **PP** **17 28 32.0 +0.8**
comp=Z,1.5nm,0.8s,baz=64,slow=7.8,SNR=3.6
BRTR LR LR 18 05 11.9
comp=Z,60nm,18.3s,baz=16,slow=40
CLL Collm 77.51 332 ⇑ *iP* **P** **17 25 36.1 -0.5**
CLL *e**SP **sP** **17 26 03.0 +0.5**
CLL pmax pmax
comp=Z,16nm,1.0s
CLL Collm 77.51 332 ⇑ *iP* **P** **17 25 36.1 -0.5**
comp=Z,16nm,1.0s
CLL *es*P **sP** **17 26 03.0 +0.5**
CLL *e*PP **PP** **17 28 35.0 +3.6**
CLL Collm 77.51 332 P **P** **17 25 36.1 -0.5**
CLL IAmb IAmb 17 25 39.7
comp=Z,13nm,0.9s
VYHS Vyhne 77.66 327 *eP* **P** **17 25 38.1 +0.5**
VYHS pmax pmax
comp=Z,23nm,1.4s
VYHS Vyhne 77.66 327 *eP* **P** **17 25 38.1 +0.5**
PSZ Piszkesteto 77.70 326 P **P** **17 25 38.3 +0.4**
PSZ pmax pmax
comp=Z,24nm,1.2s
PSZ Piszkesteto 77.70 326 *eP* **P** **17 25 39.0 +1.2**
PSZ Piszkesteto 77.70 326 P **P** **17 25 38.2 +0.4**
PSZ IAmb IAmb 17 25 39.8
comp=Z,24nm,1.2s
JAVC Velka Javorina 77.83 328 *eP* **P** **17 25 40.1 +1.6**
VRAC Vranov 77.87 329 P **P** **17 25 39.1 +0.4**
comp=Z,8.5nm,0.9s,baz=47,slow=5.8,SNR=6.6
VRAC Vranov 77.87 329 ⇓P **P** **17 25 39.8 +1.1**
VRAC mb 17 25 40.8
VRAC Vranov 77.87 329 *eP* **P** **17 25 39.4 +0.7**
ANMO Albuquerque 77.95 53 ⇓ *eP* **P** **17 25 41.0 +1.4**
ANMO pmax pmax
comp=Z,12nm,2.5s
GOPC GO Pecny, Ondr 78.04 330 *eP* **P** **17 25 39.8 +0.1**
GOPC GO Pecny, Ondr 78.04 330 *eP* **P** **17 25 39.8 +0.1**
PRU Pruhonice 78.07 330 *eP* **P** **17 25 39.9 +0.1**
PRU Pruhonice 78.07 330 *eP* **P** **17 25 39.9 +0.1**
KRUC Moravsky 78.15 329 *eP* **P** **17 25 40.7 +0.5**
SMOL Smolenice 78.20 328 *eP* **P** **17 25 41.2 +0.7**
SMOL pmax pmax
comp=Z,6.0nm,0.9s
SMOL Smolenice 78.20 328 *eP* **P** **17 25 41.2 +0.7**
SIRR Siria 78.27 324 ⇑P **P** **17 25 41.4 +0.4**
COPA Copaceanca 78.35 321 ⇓P **P** **17 25 41.7 +0.3**
MODS Modra-Piesok 78.37 328 *eP* **P** **17 25 41.3 -0.2**
MODS Modra-Piesok 78.37 328 *eP* **P** **17 25 41.3 -0.2**
SRO Srobarova 78.42 327 *eP* **P** **17 25 43.0 +1.3**
SRO pmax pmax
comp=Z,76nm,1.8s
SRO Srobarova 78.42 327 *eP* **P** **17 25 43.0 +1.3**
SCHQ Schefferville 78.43 19 P **P** **17 25 41.5 -0.2**
comp=Z,7.1nm,0.9s,baz=0.0,slow=7.1,SNR=4.5
SCHQ Schefferville 78.43 19 IAmb IAmb 17 25 43.2
comp=Z,37nm,1.6s
GZR Gura Zlata 78.47 323 ⇓P **P** **17 25 42.3 +0.1**

EKA Eskdalemuir Ar 78.49 343 P **P** **17 25 41.8 -0.1**
comp=Z,3.4nm,0.6s,baz=34,slow=5.2,SNR=10
EKA pP **pP** **17 26 00.6 +0.1**
comp=Z,2.0nm,0.6s,baz=26,slow=6.6,SNR=2.2
319A Douglas 78.72 58 P **P** **17 25 44.2 +0.4**
319A IAmb IAmb 17 25 46.1
comp=Z,12nm,0.8s
BZS Buzias 78.80 324 ⇓P **P** **17 25 44.1 +0.2**
121A Cookes Peak, D 78.84 56 P **P** **17 25 45.8 +1.3**
KHC Kasperske Hory 79.13 330 ⇓ *eP* **P** **17 25 46.1 +0.4**
KHC pmax pmax
comp=Z,47nm,1.4s
KHC Kasperske Hory 79.13 330 *eP* **P** **17 25 46.0 +0.4**
KHC *e*PCP **PcP** **17 25 52.9 -1.0**
KHC Kasperske Hory 79.13 330 P **P** **17 25 46.2 +0.4**
PLVB Pleven 79.20 321 ⇑P **P** **17 25 46.5 +0.4**
MPLH Magyarpolny 79.25 327 *eP* **P** **17 25 45.0 -1.3**
CONA Conrad Observa 79.28 329 *eP* **P** **17 25 47.4 +0.8**
comp=Z,6.4nm,0.9s,SNR=4.1
GERES GERESS Array B 79.33 330 P **P** **17 25 46.0 -0.8**
comp=Z,0.4nm,0.3s,baz=34,slow=5.3,SNR=5.8
GERES LR LR 18 05 38.4
comp=Z,136nm,18.3s,baz=30,slow=39
MDVR Moldovita 79.42 323 ⇑P **P** **17 25 47.4 +0.1**
MORH Mrgy, Hungar 79.58 326 *eP* **P** **17 25 48.1 0.0**
MOA Molln 79.95 329 *eP* **P** **17 25 50.5 +0.4**
comp=Z,2.5nm,0.7s
ARSA Arzberg 79.97 328 *eP* **P** **17 25 50.5 +0.2**
comp=Z,8.6nm,1.2s
MEM Membach 80.38 336 P **P** **17 25 51.8 -0.5**
comp=Z,8.6nm,1.2s
VTS Vitosha 80.44 321 P **P** **17 25 53.6 +0.6**
VTS pmax pmax
comp=Z,29nm,1.0s
VTS Vitosha 80.44 321 ⇑P **P** **17 25 53.6 +0.6**
VTS mb 17 25 55.0
VTS Vitosha 80.44 321 P **P** **17 25 53.6 +0.6**
VTS IAmb IAmb 17 25 54.9
comp=Z,29nm,1.0s
GROS Grobnik 80.63 328 *i* P **P** **17 25 53.7 -0.2**
SOKA Soboth 80.63 328 *eP* **P** **17 25 54.3 +0.4**
comp=Z,11nm,0.9s,SNR=6.9
BCLA Clavier 80.75 336 P **P** **17 25 52.4 -2.0**
MNTX Cornudas Mount 80.87 55 P **P** **17 25 56.1 +0.8**
KBA Koelnbreinsper 80.94 329 *eP* **P** **17 25 56.2 +0.5**
comp=Z,10nm,0.9s
OBKA Obir 80.96 328 *eP* **P** **17 25 55.5 -0.2**
comp=Z,4.2nm,0.8s,SNR=4.2
BMRD Maredsous 81.02 336 P **P** **17 25 55.6 -0.1**
CSS Mathiatis 81.05 310 P **P** **17 25 56.0 -0.3**
CSS IAmb IAmb 17 25 57.4
comp=Z,22nm,0.8s
PDKS Podkum 81.16 328 *i* P **P** **17 25 56.3 -0.4**
MMAI Mount Meron Ar 81.28 307 P **P** **17 25 58.4 +0.8**
comp=Z,23nm,0.7s,baz=46,slow=6.2,SNR=21
WATA Wanderalm 81.37 331 *eP* **P** **17 25 58.2 +0.3**
comp=Z,7.1nm,1.0s
WTTA Wattenberg 81.41 331 *eP* **P** **17 25 58.5 +0.3**
comp=Z,5.8nm,0.7s,SNR=5.0
MOTA Moosalm 81.53 331 *eP* **P** **17 25 59.0 +0.2**
comp=Z,13nm,0.9s
RAYN Ar Rayn 81.59 294 P **P** **17 25 59.2 -0.1**
RAYN pmax pmax
comp=Z,11nm,0.9s
RAYN Ar Rayn 81.59 294 P **P** **17 25 59.2 -0.1**
RAYN IAmb IAmb 17 26 00.6
comp=Z,11nm,0.9s
SQTA Sankt Quirin 81.60 331 *eP* **P** **17 25 59.4 +0.3**
comp=Z,7.4nm,0.8s
BFO Black Forest 81.63 333 *i* P **P** **17 25 59.3 +0.2**
STAL STALIGIAL 81.86 329 P **P** **17 25 58.9 -1.5**
STAL IAmb IAmb 17 26 01.1
comp=Z,12nm,1.0s
DAVA Damuels 82.01 332 *eP* **P** **17 26 01.3 +0.1**
comp=Z,8.9nm,0.9s
PDG Podgorica 82.37 323 ⇑P **P** **17 26 02.9 -0.2**
PDG mb 17 26 03.9
PDG Podgorica 82.37 323 P **P** **17 26 02.4 -0.6**
FUORN Ofenpass-Fuorn 82.44 331 P **P** **17 26 03.5 -0.1**
FUORN IAmb IAmb 17 26 06.6
comp=Z,12nm,0.9s
FNA Florina 82.74 321 P **P** **17 26 04.7 -0.4**
FNA pmax pmax
comp=Z,13nm,0.9s
FNA Florina 82.74 321 P **P** **17 26 04.7 -0.4**
FNA IAmb IAmb 17 26 05.8
comp=Z,13nm,0.9s
TX31 Lajitas Ar. Si 83.59 56 P **P** **17 26 10.2 +0.5**
TX31 IAmb IAmb 17 26 11.7
comp=Z,8.7nm,1.1s
TXAR Lajitas Array 83.59 56 P **P** **17 26 10.2 +0.5**
comp=Z,4.6nm,0.8s,baz=302,slow=2.8,SNR=22
TXAR pP **pP** **17 26 28.6 +0.4**
comp=Z,2.5nm,0.8s,baz=309,slow=4.0,SNR=6.0
EIL Elat 83.96 305 P **P** **17 26 11.6 +0.1**
comp=Z,17nm,0.8s,baz=360,slow=5.0,SNR=9.4
PPT Papeete 84.34 120 LR LR 18 02 16.1
comp=Z,80nm,18.2s,baz=258,slow=34
PPT2 Papeete2 84.35 120 *e*LR LR 17 52 24.8
comp=Z,317nm,31.5s
U40A Yellville 84.38 44 P **P** **17 26 13.1 -0.4**
U40A IAmb IAmb 17 26 15.1
comp=Z,20nm,1.4s
MURB Monte Urbino 84.47 328 P **P** **17 26 14.5 +0.6**
VLC Villacollemand 84.51 330 P **P** **17 26 14.9 +0.8**
VLC IAmb IAmb 17 26 23.4
comp=Z,10nm,0.9s
NRCA Norcia 84.60 327 P **P** **17 26 14.6 0.0**
OSSC Osservatorio P 84.73 329 P **P** **17 26 14.9 -0.3**
OSSC IAmb IAmb 17 26 15.5
comp=Z,12nm,0.9s
AQU L'Aquila 84.89 327 P **P** **17 26 16.0 0.0**
AQU pmax pmax
comp=Z,16nm,0.9s
AQU L'Aquila 84.89 327 P **P** **17 26 16.1 0.0**
AQU IAmb IAmb 17 26 17.3
comp=Z,16nm,0.9s
INTR Introdacqua 84.97 326 P **P** **17 26 16.1 -0.4**
INTR IAmb IAmb 17 26 17.7
comp=Z,12nm,0.9s
JCT Junction City 85.04 52 P **P** **17 26 17.4 +0.4**
JCT pmax pmax
comp=Z,10.0nm,1.1s
JCT Junction City 85.04 52 P **P** **17 26 17.4 +0.4**
JCT IAmb IAmb 17 26 18.4
comp=Z,9.8nm,1.1s
SIUC Southern Illin 85.11 41 P **P** **17 26 16.8 -0.3**
SIUC IAmb IAmb 17 26 18.4
comp=Z,26nm,1.2s
ACER Acerenza 85.14 324 P **P** **17 26 17.1 -0.2**
WHTX Lake Whitney, 85.25 50 P **P** **17 26 18.6 +0.7**
WHTX IAmb IAmb 17 26 19.5
comp=Z,10nm,1.0s
PBMO Poplar Bluff 85.26 42 P **P** **17 26 17.8 0.0**
PBMO IAmb IAmb 17 26 19.3
comp=Z,22nm,1.2s
LATE Laterza 85.30 328 P **P** **17 26 17.0 -1.0**
LATE IAmb IAmb 17 26 18.5
comp=Z,20nm,1.1s
ITM Ithomi 85.34 319 P **P** **17 26 17.5 -0.8**
IDI Anoyia 85.34 315 P **P** **17 26 17.6 -0.8**
comp=Z,17nm,0.9s,baz=29,slow=9.3,SNR=5.1
MIAR Mount Ida 85.41 46 P **P** **17 26 18.8 +0.1**
MIAR pmax pmax
comp=Z,5.0nm,0.8s
MIAR Mount Ida 85.41 46 P **P** **17 26 18.8 +0.1**
MIAR IAmb IAmb 17 26 19.6
comp=Z,5.2nm,0.8s
WHAR Wooly Hollow 85.50 44 P **P** **17 26 18.9 -0.1**
WHAR IAmb IAmb 17 26 20.1
comp=Z,14nm,1.1s
TIP Timpagrande 86.12 323 P **P** **17 26 22.1 0.0**
TIP IAmb IAmb 17 26 23.2
comp=Z,19nm,1.1s
TBI Tubuai 88.72 124 *eT* T 19 04 41.9
comp=Z,5.3nm,0.2s
Z50A Ashland 90.29 41 P **P** **17 26 41.8 -0.2**
Z50A IAmb IAmb 17 26 43.1
comp=Z,13nm,1.1s
KEST Kesra 92.18 326 P **P** **17 26 50.0 -0.9**
comp=Z,4.0nm,0.8s,baz=208,slow=1.4,SNR=3.7
KEST PP **PP** **17 30 30.6 -0.2**
comp=Z,1.7nm,0.6s,baz=34,slow=7.3,SNR=4.5
ESDC Sonseca Array 93.24 337 P **P** **17 26 55.4 -0.3**
comp=Z,0.5nm,0.6s,baz=21,slow=3.6,SNR=9.1

TORD Torodi Ar. Bea 115.22 321 PP **PP** **17 33 20.4 -2.4**
comp=Z,4.8nm,1.0s,baz=28,slow=6.5,SNR=10.0
VNDA Vanda 120.78 176 PKP **PKPdf** **17 32 30.4 -0.9**
comp=Z,0.6nm,0.7s,baz=354,slow=4.0,SNR=5.7
QSPA South Pole Qui 132.88 180 PKP **PKPdf** **17 32 55.4 +0.6**
comp=Z,4.3nm,1.0s,baz=352,slow=0.4,SNR=11
QSPA South Pole Qui 132.88 180 **PKPdf** **17 32 55.3 +0.4**
NVL N'lazarevskaya 144.33 204 *e*PKIKP **PKPab** **17 33 13.7 0.0**
NVL pmax pmax
comp=Z,23nm,1.1s
LVC Limon Verde 144.50 66 PKIKP **PKPdf** **17 33 17.4 -0.4**
LVC Limon Verde 144.50 66 **PKPdf** **17 33 17.4 -0.4**
GO02 Mina Guanaco 145.74 70 **PKPab** **17 33 20.9 +0.1**
SNAA Sanae 147.66 198 PKPbc **PKPbc** **17 33 24.5 +0.3**
SNAA Sanae 147.66 198 pPKiKP pPKiKP 17 33 46.0 +0.9
SNAA Sanae 147.66 198 PKPbc **PKPbc** **17 33 24.3 +0.2**
comp=Z,10nm,0.9s,baz=167,slow=3.0,SNR=28
GO04 Tololo Observa 147.92 79 **PKPbc** **17 33 26.2 -0.1**
VNA2 Neumayer--Watz 149.20 197 PKPbc **PKiKP** **17 33 28.8 -0.4**
VNA2 Neumayer--Watz 149.20 197 pPKiKP pPKiKP 17 33 51.1 +2.9
baz=109,slow=2.6
VNA3 Neumayer Olymp 149.40 195 PKPbc **PKPbc** **17 33 28.9 +0.3**
VNA3 Neumayer Olymp 149.40 195 pPKiKP pPKiKP 17 33 51.4 +2.8
VNA1 Neumayer--Stat 149.59 197 PKPbc **PKiKP** **17 33 29.8 -0.2**
VNA1 Neumayer--Stat 149.59 197 pPKiKP pPKiKP 17 33 51.4 +2.5
BDFB Brasilia 150.03 28 PKIKP **PKPbc** **17 33 31.4 -0.4**
BDFB Brasilia 150.03 28 PKPbc **PKPbc** **17 33 32.0 +0.2**
comp=Z,4.2nm,0.8s,baz=357,slow=1.7,SNR=3.8
BDFB Brasilia 150.03 28 PKPbc **PKPbc** **17 33 31.4 -0.4**
CFA Coronel Fontan 150.54 78 PKPbc **PKPbc** **17 33 32.5 -0.1**
comp=Z,5.3nm,0.8s,baz=299,slow=2.9,SNR=10
CFA pPKPbc **pPKPbc** **17 33 51.6 +0.1**
comp=Z,7.9nm,0.8s,baz=303,slow=3.7,SNR=7.7
PLCA Paso Flores 152.73 98 PKPbc **PKiKP** **17 33 38.1 +0.5**
comp=Z,1.2nm,0.8s,baz=301,slow=3.5,SNR=3.8
CPUP Villa Florida 154.56 56 PKPab **PKPab** **17 33 55.9 -0.5**
comp=Z,1.3nm,0.4s,baz=308,slow=3.9,SNR=5.1

IDC 17 17:16:06.7±15.0, **20°.98N**×**147°.25E**, **h0**km, **mb3.8/4, mb1 3.8/4, mb1mx3.5/54, mbtmp3.8/4, MS3.6/2, Ms1 3.7/2, ms1mx3.0/37, Error ellipse: s-maj=454.5km s-min=306.2km az=50.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.69**	**198**	LR	LR	17 20 33.3	
comp=Z,392nm,21.9s,baz=306,slow=35							
SONM	**Songino Array**	**42.33**	**319**	P	P	17 24 02.4	-0.1
0.5nm,0.8s,baz=102,slow=7.6,SNR=1.6							
CMAR	**Chiang Mai Arr**	**45.41**	**276**	LR	LR	17 42 56.2	
comp=Z,71nm,20.7s,baz=32,slow=35							
ZALV	**Zalesovo Beam**	**57.13**	**321**	P	P	17 25 54.9	-0.1
1.4nm,0.5s,baz=114,slow=6.8,SNR=4.1							
MKAR	**Makanchi Array**	**57.97**	**313**	P	P	17 26 01.0	-0.1
0.6nm,0.7s,baz=87,slow=6.9,SNR=2.3							
BVAR	**Borovoye Array**	**65.67**	**320**	P	P	17 26 52.8	0.0
1.3nm,0.6s,baz=98,slow=8.3,SNR=4.7							

*ISCJB **17** 17:38:14.4±1.1, 31°.7N±0°.2×104°.1E±0°.3, h15km, mb3.5/7, Error ellipse: s-maj=36.5km s-min=19.8km az=154.1*
*IDC **17** 17:38:14.1±1.2, 31°.77N×104°.15E, h0km, mb3.6/7, mb1 3.6/8, mb1mx3.3/56, mbtmp3.5/8, ML2.7/1, Error ellipse: s-maj=62.6km s-min=21.7km az=58.0*
ISC 17 17:38:16.2±1.0, **31°.7N**±0°.1×**104°.1E**±0°.3, **h15**km, **n9,** σ0**48/9, mb3.4/7, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.97**	**201**	Pn	P	**17 41 41.4**	**-0.4**
0.3nm,0.3s,baz=9.6,slow=9.0,SNR=9.2							
SONM	**Songino Array**	**16.21**	**6**	Pn	**Pn**	**17 42 03.2**	**-0.3**
0.0nm,0.3s,baz=186,slow=12,SNR=2.4							
MKAR	**Makanchi Array**	**22.51**	**318**	P	P	**17 43 16.0**	**+0.7**
0.4nm,0.6s,baz=125,slow=12,SNR=4.3							
ZALV	**Zalesovo Beam**	**26.17**	**334**	P	P	**17 43 49.2**	**-0.7**
0.3nm,0.4s,baz=126,slow=7.3,SNR=3.2							
KURBB	**Kurchatov Arra**	**26.74**	**322**	P	P	**17 43 55.2**	**+0.1**
0.1nm,0.2s,baz=122,slow=8.3,SNR=2.7							
ARCES	**ARCESS Array B**	**56.70**	**336**	P	P	**17 47 58.7**	**0.0**
3.4nm,0.9s,baz=91,slow=7.3,SNR=2.8							
FINES	**FINESS Array B**	**57.05**	**326**	P	P	**17 48 01.5**	**+0.2**
0.9nm,0.5s,baz=94,slow=7.6,SNR=5.1							
ASAR	**Alice Springs**	**62.02**	**149**	P	P	**17 48 36.5**	**+0.5**
0.2nm,0.5s,baz=338,slow=6.8,SNR=8.9							
YKA	**Yellowknife Ar**	**81.13**	**17**	P	P	**17 50 30.7**	**0.0**
0.3nm,0.7s,baz=326,slow=4.3,SNR=5.9							

IDC 17 17:48:46.5±1.9, **31°.95N**×**40°.30W**, **h0**km, **mb3.5/5, mb1 3.7/5, mb1mx3.5/31, mbtmp3.5/5, Error ellipse: s-maj=61.1km s-min=25.4km az=18.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**42.74**	**106**	P	P	17 56 45.5	-0.2
0.6nm,0.7s,baz=317,slow=7.9,SNR=2.1							
GERES	**GERESS Array B**	**43.50**	**51**	P	P	17 56 52.2	+0.5
0.6nm,0.6s,baz=266,slow=6.8,SNR=5.2							
H10N2	**ASCENSION HYDR**	**46.61**	**144**	T	T	18 46 48.2	
baz=329,slow=75,SNR=20							
H10N3	**ASCENSION HYDR**	**46.61**	**144**	T	T	18 46 48.5	
baz=329,slow=75,SNR=23							
H10N1	**ASCENSION HYDR**	**46.62**	**144**	T	T	18 46 48.9	
baz=329,slow=75,SNR=17							
H10S3	**ASCENSION HYDR**	**47.48**	**145**	T	T	18 47 51.8	
baz=328,slow=74,SNR=17							
H10S2	**ASCENSION HYDR**	**47.50**	**145**	T	T	18 47 55.2	
baz=252,slow=74,SNR=21							
AKASG	**Malin Array Be**	**53.45**	**48**	P	P	17 58 07.5	-0.7
0.3nm,0.4s,baz=282,slow=6.3,SNR=4.3							
PDAR	**Pinedale Array**	**54.69**	**302**	P	P	17 58 17.7	0.0
0.7nm,0.8s,baz=87,slow=8.2,SNR=5.4							
YKA	**Yellowknife Ar**	**55.03**	**327**	P	P	17 58 19.4	-0.1
0.1nm,0.4s,baz=83,slow=8.0,SNR=2.8							

*IDC **17** 17:58:52.4±1.3, 20°.38N×146°.84E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/36, mbtmp3.7/6, Error ellipse: s-maj=46.3km s-min=31.2km az=70.0*
*NEIC **17** 17:58:55.3±0.9, 20°.5N±0°.1×146°.9E±0°.3, h16km±7km, mb4.2/7*
ISC 17 17:58:54.4±1.1, **20°.49N**±0°.09×**146°.9E**±0°.3, **h10**km, **n18,** σ0**86/15, mb4.1/10, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**3.91**	**196**		**Pb**	**18 00 04.6**	**+1.0**
MAJO	**Matsushiro**	**17.71**	**336**		**Pn**	**18 03 02.1**	**+0.9**
MJB9	**Matsu-Tunnel**	**17.72**	**336**		**Pn**	**18 03 01.6**	**+0.4**
MJB9				IAmb	IAmb	18 03 12.1	
comp=Z,21nm,1.6s							
H11S3	**WAKE ISLAND Hy**	**18.76**	**93**	T	T	18 21 32.9	
baz=280							
H11S1	**WAKE ISLAND Hy**	**18.77**	**93**	T	T	18 21 38.9	
baz=280							
H11S2	**WAKE ISLAND Hy**	**18.77**	**93**	T	T	18 21 40.1	
baz=280							
SONM	**Songino Array**	**42.49**	**320**	P	**P**	**18 06 49.9**	**-0.1**
comp=Z,0.4nm,0.6s,baz=121,slow=6.2,SNR=2.8							
ASAR	**Alice Springs**	**45.68**	**197**	P	**P**	**18 07 13.8**	**-1.8**
comp=Z,0.4nm,1.0s,baz=22,slow=6.0,SNR=2.0							
ZAA0	**Zalesovo Array**	**57.31**	**322**	P	**P**	**18 08 42.5**	**+0.1**
ZAA0				IAmb	IAmb	18 08 42.7	
comp=Z,1.7nm,0.6s							
ZALV	**Zalesovo Beam**	**57.31**	**322**	P	**P**	**18 08 42.0**	**-0.4**
comp=Z,1.9nm,0.6s,baz=112,slow=7.4,SNR=9.5							
MK31	**Makanchi Array**	**58.06**	**313**	P	**P**	**18 08 48.0**	**+0.2**
MK31				IAmb	IAmb	18 09 15.1	
comp=Z,2.5nm,1.4s							
MKAR	**Makanchi Array**	**58.06**	**313**	P	**P**	**18 08 48.2**	**+0.4**
comp=Z,1.0nm,0.8s,baz=90,slow=7.7,SNR=7.9							
MAKZ	**Makanchi**	**58.28**	**313**	P	**P**	**18 08 49.5**	**+0.2**
MAKZ				IAmb	IAmb	18 08 51.0	
comp=Z,2.5nm,1.2s							
KURK	**Kurchatov**	**60.72**	**317**	P	**P**	**18 09 05.9**	**-0.1**
BRVK	**Borovoye**	**65.90**	**320**	P	**P**	**18 09 40.6**	**+0.3**
BRVK				IAmb	IAmb	18 09 44.7	
comp=Z,2.0nm,0.9s							
YKA	**Yellowknife Ar**	**75.89**	**28**	P	**P**	**18 10 41.1**	**+0.2**
comp=Z,0.1nm,0.4s,baz=280,slow=5.6,SNR=2.2							
FINES	**FINESS Array B**	**85.74**	**336**	P	**P**	**18 11 32.4**	**-1.1**
comp=Z,2.6nm,0.8s,baz=48,slow=6.2,SNR=5.1							

LPAZ	**La Paz**	**146.53**	**89**	PKPbc	**PKPdf**	**18 18 37.6**	**+1.4**	
	comp=Z,1.8nm,1.2s,baz=270,slow=2.0,SNR=2.2							

*IDC **17** 18:10:26.1±0.7,20.60N×146.82E,h0km,mb4.1/17, mb1 4.2/20,mb1mx4.1/47,mbtmp4.1/20,ML3.7/3,MS3.3/3, Ms1 3.3/3,ms1mx2.7/45,Error ellipse: s-maj=20.1km s-min=17.5km az=55.0*

*NEIC **17** 18:10:27.9±1.2,20.72N±0.07×146.78E±0.04,h10km±1km, mb4.5/23*

*ISCJB **17** 18:10:31.1±0.4,20.68N±0.05×146.77E±0.08,h44km, mb4.0/17,MS3.3/2,Error ellipse: s-maj=10.4km s-min=6.4km az=170.5*

ISC 17 18:10:32.8±0.5, 20.72N±0.06×146.71E±0.10, h44km, n68, σ1§10/67, mb4.3/26, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**7.31**	**194**	Pn	**Pn**	**18 12 19.0**	**+1.9**
	3.8nm,0.3s,baz=354,slow=19,SNR=1.8						
GUMO				Sn	**Sn**	**18 13 36.6**	**-2.2**
	0.9nm,0.3s,baz=51,slow=19,SNR=1.7						
GUMO				LR	LR	18 14 43.8	
	comp=Z,148nm,19.4s,baz=66,slow=36						
GUMO	**Guam**	**7.31**	**194**		**Pn**	**18 12 18.4**	**+1.3**
JCJ	**Chichijima**	**7.57**	**328**	Pn	**Pn**	**18 12 18.6**	**-2.0**
	4.7nm,0.3s,baz=135,slow=19,SNR=2.7						
JCJ				Sn	**Sn**	**18 13 40.8**	**-4.3**
	11nm,0.3s,baz=290,slow=19,SNR=7.3						
INU	**Inuyama**	**16.88**	**332**	P	**P**	**18 14 27.5**	**+0.1**
INU				IAmb	IAmb	18 14 30.8	
	comp=Z,23nm,0.8s						
MJAR	**Matsushiro Arr**	**17.42**	**337**	P	**Pn**	**18 14 31.8**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=157,slow=8.7,SNR=3.4						
MAJO	**Matsushiro**	**17.42**	**337**		**Pn**	**18 14 32.7**	**+0.1**
MJB9	**Matsu-Tunnel**	**17.43**	**337**		**Pn**	**18 14 32.7**	**0.0**
PATS	**Pohnpei**	**17.80**	**139**		**Pn**	**18 14 36.3**	**-1.1**
PATS				IAmb	IAmb	18 14 45.4	
	comp=Z,82nm,1.2s						
JNU	**Nakatsue**	**18.72**	**315**	P	**P**	**18 14 48.4**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=167,slow=15,SNR=2.9						
JNU	**Nakatsue**	**18.72**	**315**	P	**P**	**18 14 48.5**	**+0.6**
JNU				IAmb	IAmb	18 15 05.0	
	comp=Z,44nm,1.4s						
H11S3	**WAKE ISLAND Hy**	**18.95**	**93**	T	T	18 34 16.7	
	baz=280						
H11S1	**WAKE ISLAND Hy**	**18.96**	**93**	T	T	18 34 25.4	
	baz=280						
H11N1	**WAKE ISLAND Hy**	**18.97**	**90**	T	T	18 34 11.8	
	baz=279						
H11S2	**WAKE ISLAND Hy**	**18.97**	**93**	T	T	18 34 18.0	
	baz=280						
H11N2	**WAKE ISLAND Hy**	**18.97**	**89**	T	T	18 34 15.8	
	baz=279						
H11N3	**WAKE ISLAND Hy**	**18.99**	**89**	T	T	18 34 11.8	
	baz=279						
MANU	**Manus Island**	**22.64**	**178**	P	**P**	**18 15 28.6**	**-1.6**
MANU				IAmb	IAmb	18 15 44.0	
	comp=Z,14nm,1.1s						
KSRS	**Korea Array**	**23.32**	**320**	P	**P**	**18 15 36.9**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=145,slow=8.4,SNR=8.4						
USRK	**Ussuriysk Ar.**	**26.42**	**336**	P	**P**	**18 16 06.7**	**+1.4**
	comp=Z,2.8nm,0.7s,baz=168,slow=9.8,SNR=5.4						
PETK	**Petropavlovsk-**	**33.42**	**12**	LR	LR	18 30 36.6	
	comp=Z,25nm,19.9s,baz=61,slow=36						
KNRA	**Kununurra**	**40.24**	**207**	P	**P**	**18 18 05.6**	**+0.1**
KNRA				IAmb	IAmb	18 18 33.2	
	comp=Z,13nm,1.4s						
KIWB	**Kanaga Island**	**41.86**	**33**	P	**P**	**18 18 19.4**	**+0.9**
WRAB	**Tennant Creek**	**42.18**	**197**	P	**P**	**18 18 20.7**	**-0.7**
SONM	**Songino Array**	**42.19**	**320**	P	**P**	**18 18 22.4**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=133,slow=7.7,SNR=12						
SONM				PcP	**PcP**	**18 20 15.9**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=133,slow=2.7,SNR=5.4						
SEY	**Seymchan**	**42.36**	**4**	P	**P**	**18 18 23.0**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=184,slow=19,SNR=4.9						
PBKT	**Sadao Pong**	**43.43**	**272**	P	**P**	**18 18 33.5**	**+1.9**
PBKT				IAmb	IAmb	18 18 55.6	
	comp=Z,12nm,1.6s						
CHTO	**Chiang Mai**	**44.86**	**276**	P	**P**	**18 18 43.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**44.93**	**276**	P	**P**	**18 18 43.9**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=96,slow=5.4,SNR=8.3						
AS31	**Alice Springs**	**45.85**	**196**	P	**P**	**18 18 50.7**	**-0.2**
ASAR	**Alice Springs**	**45.85**	**196**	P	**P**	**18 18 49.8**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=17,slow=8.4,SNR=15						
ASAR				PcP	**PcP**	**18 20 25.8**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=20,slow=2.5,SNR=6.1						
LSA	**Lhasa**	**50.65**	**292**	P	**P**	**18 19 28.9**	**+0.4**
LSA				IAmb	IAmb	18 19 32.0	
	comp=Z,5.5nm,0.7s						
TAPN	**Taplejung**	**53.87**	**289**	*e*P	**P**	**18 19 53.7**	**+1.5**
	comp=Z,17nm,0.8s						
ODAN	**Odare**	**54.21**	**289**	*e*P	**P**	**18 19 56.0**	**+1.4**
	comp=Z,9.2nm,0.6s						
RAMN	**Ramite**	**54.90**	**289**	*e*P	**P**	**18 20 00.7**	**+1.1**
	comp=Z,11nm,0.7s						
JIRN	**Jiri**	**55.17**	**290**	*e*P	**P**	**18 20 03.1**	**+1.4**
	comp=Z,37nm,0.7s						
GUN	**Gumba**	**55.42**	**290**	*e*P	**P**	**18 20 05.1**	**+1.6**
	comp=Z,6.0nm,0.4s						
PKI	**Pulchoki**	**55.87**	**290**	*e*P	**P**	**18 20 07.8**	**+1.1**
	comp=Z,12nm,0.9s						
PKIN	**Phulchoki**	**55.88**	**290**	*e*P	**P**	**18 20 07.7**	**+1.0**
KKN	**Kakani**	**55.96**	**290**	*e*P	**P**	**18 20 08.6**	**+1.4**
	comp=Z,17nm,0.8s						
DMN	**Daman**	**56.13**	**290**	*e*P	**P**	**18 20 09.6**	**+1.1**
	comp=Z,17nm,0.8s						
ZAA0	**Zalesovo Array**	**57.01**	**322**	P	**P**	**18 20 14.2**	**+0.3**
ZALV	**Zalesovo Beam**	**57.01**	**322**	P	**P**	**18 20 14.4**	**+0.5**
	comp=Z,9.0nm,0.5s,baz=108,slow=7.6,SNR=50						
ZALV				PcP	**PcP**	**18 21 08.4**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=110,slow=3.7,SNR=2.4						
MK31	**Makanchi Array**	**57.77**	**313**	P	**P**	**18 20 20.1**	**+0.6**
MK31				IAmb	IAmb	18 20 21.4	
	comp=Z,3.4nm,0.9s						
MKAR	**Makanchi Array**	**57.77**	**313**	P	**P**	**18 20 20.6**	**+1.1**
	comp=Z,3.2nm,0.6s,baz=91,slow=9.3,SNR=37						
MKAR				PcP	**PcP**	**18 21 12.5**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=84,slow=5.9,SNR=2.6						
MAKZ	**Makanchi**	**57.98**	**313**	P	**P**	**18 20 21.9**	**+0.9**
MAKZ				IAmb	IAmb	18 20 23.0	
	comp=Z,5.8nm,0.9s						
KURK	**Kurchatov**	**60.42**	**317**	P	**P**	**18 20 38.1**	**+0.4**
ILAR	**Eielson Array**	**61.42**	**27**	P	**P**	**18 20 44.0**	**-0.3**
	comp=Z,0.6nm,1.0s,baz=267,slow=5.4,SNR=3.3						
BRVK	**Borovoye**	**65.60**	**320**	P	**P**	**18 21 11.8**	**-0.3**
KK31	**Karatay Array**	**66.23**	**309**	P	**P**	**18 21 16.4**	**0.0**
KK31				IAmb	IAmb	18 21 18.4	
	comp=Z,4.7nm,1.0s						
KKAR	**Karatay Array**	**66.23**	**309**	P	**P**	**18 21 16.2**	**-0.1**
KKAR				IAmb	IAmb	18 21 18.4	
	comp=Z,4.7nm,1.0s						
INK	**Inuvik**	**67.14**	**23**	P	**P**	**18 21 21.6**	**0.0**
	comp=Z,1.7nm,1.0s,baz=252,slow=3.2,SNR=4.2						
INK	**Inuvik**	**67.14**	**23**	P	**P**	**18 21 21.3**	**-0.3**
INK				IAmb	IAmb	18 21 34.3	
	comp=Z,8.0nm,1.6s						
CHGR	**Chuyangaron**	**67.86**	**304**	P	**P**	**18 21 26.9**	**0.0**
ARU	**Arti**	**71.98**	**324**	P	**P**	**18 21 51.9**	**+0.2**
ABKAR	**Akbulak array**	**72.52**	**317**	P	**P**	**18 21 55.4**	**+0.3**
ABKAR				IAmb	IAmb	18 21 56.5	
	comp=Z,3.0nm,0.9s						
YKA	**Yellowknife Ar**	**75.76**	**28**	P	**P**	**18 22 13.4**	**-0.3**
	comp=Z,1.7nm,1.1s,baz=288,slow=5.5,SNR=7.1						
ARCES	**ARCESS Array B**	**80.86**	**342**	P	**P**	**18 22 42.7**	**+0.9**
	comp=Z,3.5nm,0.9s,baz=65,slow=9.1,SNR=5.3						
NVAR	**Mina Array Bea**	**81.15**	**52**	P	**P**	**18 22 44.5**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=271,slow=5.9,SNR=7.8						
NVAR				LR	LR	18 55 18.7	
	comp=Z,34nm,18.9s,baz=348,slow=33						
KBZ	**Khabaz**	**85.39**	**315**	P	**P**	**18 23 06.7**	**+1.0**
	comp=Z,2.8nm,0.8s,baz=121,slow=4.3,SNR=7.4						
FINES	**FINESS Array B**	**85.45**	**335**	P	**P**	**18 23 05.2**	**-0.4**
	comp=Z,3.2nm,0.6s,baz=60,slow=3.7,SNR=16						
PDAR	**Pinedale Array**	**85.74**	**46**	P	**P**	**18 23 07.8**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=290,slow=4.3,SNR=3.5						
BRTR	**Keskin Array B**	**93.38**	**315**	P	**P**	**18 23 43.4**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=12,slow=6.8,SNR=3.6						
PLCA	**Paso Flores**	**142.64**	**131**	PKP	**PKPdf**	**18 30 00.5**	**-0.9**
	comp=Z,2.7nm,0.9s,baz=33,slow=1.5,SNR=3.8						
PLCA	**Paso Flores**	**142.64**	**131**		**PKPdf**	**18 29 59.8**	**-1.6**
LPAZ	**La Paz**	**146.71**	**88**	PKPbc	**PKPbc**	**18 30 10.7**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=355,slow=3.5,SNR=5.4						
LPAZ	**La Paz**	**146.71**	**88**		**PKPbc**	**18 30 10.9**	**-0.6**
SAML	**Samuel**	**148.89**	**72**		**PKPbc**	**18 30 16.7**	**0.0**
SIV	**San Ignacio**	**153.24**	**85**	PKPbc	**PKiKP**	**18 30 26.9**	**0.0**
	baz=321,slow=6.5						

ISC 17 18:13:45.3±0.9, 49.86N±0.04×18.45E±0.02, h0km, n15, σ0§61/31, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.20**	**264**	*e*PG	**Pg**	**18 13 49.6**	**+0.5**
OKC				*e*SG	**Sg**	**18 13 52.7**	**+1.0**
	comp=Z,60nm,0.4s						
MORC	**Moravsky Berou**	**0.59**	**262**	*e*PG	**Pg**	**18 13 56.8**	**+0.1**
MORC				*e*SG	**Sg**	**18 14 04.9**	**+0.5**
OJC	**Ojcow**	**0.94**	**67**	*e*Pg	**Pg**	**18 14 02.7**	**-0.6**
OJC				*e*Pg	**Pg**	**18 14 02.7**	**-0.6**
OJC				*e*Sg	**Sg**	**18 14 15.6**	**+0.1**
OJC				*e*Sg	**Sg**	**18 14 15.6**	**+0.1**
LANS	**Liptovska Anna**	**0.97**	**137**	*e*PG	**Pg**	**18 14 04.2**	**+0.3**
LANS				*e*SG	**Sb**	**18 14 18.7**	**+0.3**
LANS				*e*LG	Lg	18 14 21.3	
KRLC	**Kraliky**	**1.10**	**282**	*e*PG	**Pg**	**18 14 06.3**	**-0.1**
KRLC				*e*SG	**Sg**	**18 14 20.7**	**+0.1**
	comp=Z,8.2nm,0.4s						
NIE	**Niedzica**	**1.28**	**110**	*e*Pg	**Pg**	**18 14 10.2**	**+0.3**
NIE				*e*Pg	**Pg**	**18 14 10.2**	**+0.3**
NIE				*e*Sg	**Sn**	**18 14 28.9**	**+0.5**
NIE				*e*Sg	**Sn**	**18 14 28.9**	**+0.5**
VRAC	**Vranov**	**1.33**	**246**	*e*PG	**Pg**	**18 14 10.4**	**-0.4**
VRAC				*e*SG	**Sg**	**18 14 27.4**	**-0.6**
VYHS	**Vyhne**	**1.39**	**169**	*e*PG	**Pn**	**18 14 11.3**	**-0.7**
VYHS				*e*SG	**Sg**	**18 14 30.3**	**+0.3**
DPC	**Dobruska-Polom**	**1.46**	**291**	*e*PG	**Pn**	**18 14 12.3**	**-0.6**
DPC				*e*SG	**Sb**	**18 14 32.2**	**-0.2**
	comp=Z,4.1nm,0.6s						
KRUC	**Moravsky**	**1.56**	**240**	*e*PG	**Pn**	**18 14 13.9**	**-0.4**
KRUC				*e*SG	**Sn**	**18 14 34.9**	**-0.4**
UPC	**Upice**	**1.70**	**293**	*e*SG	**Sg**	**18 14 39.9**	**+0.1**
CHVC	**Chvalec**	**1.70**	**296**	*e*PG	**Pn**	**18 14 16.7**	**+0.4**
CHVC				*e*SG	**Sb**	**18 14 39.4**	**-0.1**
GOPC	**GO Pecny, Ondr**	**2.37**	**273**	*e*SG	**Sg**	**18 15 00.3**	**-1.1**
KHC	**Kasperske Hory**	**3.26**	**259**	*e*SG	**Sg**	**18 15 28.8**	**-1.2**
CLL	**Collm**	**3.76**	**295**	*e*	**Sb**	**18 15 40.0**	**+1.3**
CLL				*e*Sg	**Sg**	**18 15 47.0**	**+0.9**

*ISCJB **17** 18:44:48.2±0.9,75.88N±0.05×8.1E±0.3,h10km,mb3.4/2, MS3.5/2,Error ellipse: s-maj=9.5km s-min=6.8km az=179.9*

*IDC **17** 18:44:49.4±1.2,75.39N×6.06E,h0km,mb3.4/2,mb1 3.9/4, mb1mx3.3/39,mbtmp3.7/4,ML2.9/2,MS3.5/2,Ms1 3.5/2, ms1mx2.9/36,Error ellipse: s-maj=65.5km s-min=16.8km az=44.0*

*NAO **17** 18:44:50.6±5.4,75.89N×8.08E,ML3.4*

*BER **17** 18:44:51.8±3.2,75.87N×7.93E,h10km,ML2.2, ML3.4(NAO),Confirmed Earthquake*

*IEPN **17** 18:44:55.0,76.02N×8.42E,h15km*

ISC 17 18:44:50.4±1.1, 75.91N±0.06×8.29E±0.09, h10km, n26, σ2§45/39, 1D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**2.03**	**54**	Pn	**Pn**	**18 45 25.9**	**+1.3**
HSPB				Sn	**Sn**	**18 45 49.3**	**-0.6**
HSPB	**Hornsund (broa**	**2.03**	**54**	*e*P	**Pn**	**18 45 26.1**	**+1.4**
HSPB				*e*S	**Sn**	**18 45 49.2**	**-0.8**
HSPB	**Hornsund (broa**	**2.03**	**54**	*e*P	**Pn**	**18 45 26.0**	**+1.4**
HSPB				*e*S	**Sn**	**18 45 49.3**	**-0.6**
HSPB				IAML		18 45 54.0	
	comp=Z,23nm,0.6s						
SPA0	**Spitsbergen Ar**	**2.92**	**35**	Pn	**Pn**	**18 45 38.3**	**+1.5**
	baz=219,slow=16						
SPA0				Sn	**Sn**	**18 46 11.1**	**-0.8**
	baz=207,slow=16						
SPA0	**Spitsbergen Ar**	**2.92**	**35**	⇓*i*P	**Pn**	**18 45 38.2**	**+1.4**
SPA0				*i* S	**Sn**	**18 46 11.1**	**-0.8**
SPA0	**Spitsbergen Ar**	**2.92**	**35**	*e*P	**Pn**	**18 45 38.2**	**+1.4**
SPA0				*e*S	**Sn**	**18 46 11.0**	**-0.8**
SPA0				IAML		18 46 14.8	
	comp=Z,17nm,0.5s						
BJO1	**Bjornoya**	**3.09**	**112**	*e*P	**Pn**	**18 45 42.6**	**+3.5**
BJO1				*e*S	**Sn**	**18 46 17.0**	**+1.0**
KBS	**Kingsbay**	**3.14**	**13**	Pn	**Pn**	**18 45 39.9**	**+0.1**
KBS				Sn	**Sn**	**18 46 12.8**	**-4.5**
KBS	**Kingsbay**	**3.14**	**13**	*e*P	**Pn**	**18 45 39.4**	**-0.4**
KBS				*e*S	**Sn**	**18 46 12.4**	**-4.8**
KBS	**Kingsbay**	**3.14**	**13**	*e*P	**Pn**	**18 45 39.5**	**-0.3**
KBS				*e*S	**Sn**	**18 46 15.2**	**-2.1**
KBS				IAML		18 46 20.6	
	comp=Z,9.1nm,0.5s						
HOPEN	**Hopen**	**4.04**	**73**	Pn	**Pn**	**18 45 54.4**	**+2.2**
HOPEN				Sn	**Sn**	**18 46 39.6**	**+0.1**
HOPEN	**Hopen**	**4.04**	**73**	*e*P	**Pn**	**18 45 54.3**	**+2.2**
HOPEN				*e*S	**Sn**	**18 46 39.3**	**-0.2**
HOPEN	**Hopen**	**4.04**	**73**	*e*P	**Pn**	**18 45 54.4**	**+2.2**
HOPEN				*e*S	**Sn**	**18 46 39.3**	**-0.2**
HOPEN				IAML		18 46 43.1	
	comp=Z,46nm,0.4s						
DAG	**Danmarks Havn**	**6.41**	**291**	*i* P	Pn	18 46 18.7	-5.9
DAG				*i* S	Sn	18 47 22.7	-15
ARA0	**ARCESS Array S**	**8.15**	**133**	Pn	**Pn**	**18 46 49.2**	**+0.5**
	baz=333,slow=14						
ARA0				Sn	**Sn**	**18 48 15.4**	**-5.3**
	baz=319,slow=22						
ARA0	**ARCESS Array S**	**8.15**	**133**	Pn	**Pn**	**18 46 49.2**	**+0.5**
	baz=333,slow=14						
ARA0				Sn	**Sn**	**18 48 15.4**	**-5.3**
	baz=319,slow=22						
ARCES	**ARCESS Array B**	**8.15**	**133**	Pn	**Pn**	**18 46 49.4**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=328,slow=12,SNR=15						
ARCES				Sn	**Sn**	**18 48 15.4**	**-5.2**
	comp=Z,0.7nm,0.3s,baz=333,slow=18,SNR=6.3						
ZFI2	**Zemlya Franca-**	**9.12**	**40**	*e*P	**Pn**	**18 47 03.3**	**+1.5**
ZFI2				*e*S	**Sn**	**18 48 39.3**	**-5.0**
APA0	**Apatity Array**	**11.24**	**125**	Pn	**Pn**	**18 47 31.2**	**+0.4**
	baz=352,slow=12						
APA0	**Apatity Array**	**11.24**	**125**	Pn	**Pn**	**18 47 31.2**	**+0.4**
	baz=352,slow=12						
FINES	**FINESS Array B**	**15.77**	**147**	Pn	**Pn**	**18 48 30.5**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=339,slow=14,SNR=2.7						
LSH	**Leshukonskoye**	**16.30**	**112**	*e*P	Pn	18 48 31.5	-7.5
	comp=Z,57nm,2.0s						
ILAR	**Eielson Array**	**38.68**	**343**	P	**P**	**18 52 16.7**	**+3.1**
	comp=Z,0.8nm,0.8s,baz=6.5,slow=6.2,SNR=9.6						
MKAR	**Makanchi Array**	**41.34**	**90**	LR	LR	19 15 00.8	
	comp=Z,80nm,18.2s,baz=336,slow=43						
ULM	**Lac du Bonnet**	**45.18**	**299**	LR	LR	19 12 12.9	
	comp=Z,44nm,18.4s,baz=43,slow=37						
TXAR	**Lajitas Array**	**66.89**	**298**	P	**P**	**18 55 41.4**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=38,slow=4.6,SNR=3.4						

*SOME **17** 18:46:46.2,42.95N×80.33E,h15km*

*NNC **17** 18:46:47.5±0.6,43.00N×80.32E,h0km,mb4.1,mpv3.9, Error ellipse: s-maj=4.1km s-min=2.9km az=160.0*

*KRNET **17** 18:46:47.1±0.1,43.00N×80.33E,h14km,mb3.7*

*ISCJB **17** 18:46:49.4±0.7,43.02N±0.03×80.34E±0.05,h10km,Error ellipse: s-maj=5.8km s-min=3.2km az=39.6*

ISC 17 18:46:48.0±1.1, 43.05N±0.04×80.31E±0.04, h10km, n75, σ2§02/124, 47C-29D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**0.40**	**4**	⇓*i*P	**Pb**	**18 46 56.5**	**-0.8**
	90nm,0.1s						
KTMS				⇓*i*S	**Sb**	**18 47 03.3**	**-0.2**
	799nm,0.2s						
KTMS	**Ketmen**	**0.40**	**4**	⇓*i*P	**Pb**	**18 46 56.5**	**-0.8**
	baz=1.0						
KTMS				⇓*i*S	**Sb**	**18 47 03.3**	**-0.2**
	baz=1.0						
KTMS	**Ketmen**	**0.40**	**4**	P	**Pb**	**18 46 56.5**	**-0.8**
	90nm,0.1s						
KTMS				S	**Sb**	**18 47 03.3**	**-0.2**
	799nm,0.2s						
SHLS	**Shalkode**	**0.63**	**280**	⇓*i*P	Pg	18 46 55.6	-4.6
	2μm,0.1s						
SHLS				⇑*i*S	**Sg**	**18 47 02.2**	**-6.4**
	2μm,0.2s						
SHLS	**Shalkode**	**0.63**	**280**	P	Pg	18 46 55.6	-4.6
	1μm,0.1s						
SHLS				S	**Sg**	**18 47 02.2**	**-6.4**
	2μm,0.2s						
PDGK	**Podgornoye**	**0.67**	**295**	P	**Pb**	**18 47 01.1**	**-0.6**
	73nm,0.2s						
PDGK				S	**Sb**	**18 47 11.4**	**+0.3**
	78nm,0.2s						
PDGK	**Podgornoye**	**0.67**	**295**	⇑P	**Pb**	**18 47 01.2**	**-0.6**
	55nm,0.4s						
PDGK				⇑S	**Sb**	**18 47 11.0**	**-0.1**
	173nm,0.7s						
UZB	**Uzunybulak**	**0.95**	**276**	⇓*i*P	**Pg**	**18 47 05.8**	**-0.5**
	105nm,0.3s						
UZB				⇑*i*S	**Sb**	**18 47 19.5**	**+0.1**
	398nm,0.2s						
UZB	**Uzunybulak**	**0.95**	**276**	⇓*i*P	**Pg**	**18 47 05.8**	**-0.5**
	baz=79						
UZB				⇑*i*S	**Sb**	**18 47 19.5**	**+0.1**
	baz=79						
UZB	**Uzunybulak**	**0.95**	**276**	P	**Pg**	**18 47 05.8**	**-0.5**
	94nm,0.1s						
UZB				S	**Sb**	**18 47 19.5**	**+0.1**
	398nm,0.2s						
KPKS	**Kokpek**	**1.26**	**290**	⇓*i*P	**Pn**	**18 47 11.4**	**-0.3**
	196nm,0.2s						
KPKS				⇓*i*S	**Sn**	**18 47 29.4**	**+0.6**
	1μm,0.2s						
KPKS	**Kokpek**	**1.26**	**290**	⇓*i*P	**Pn**	**18 47 11.5**	**-0.3**
	baz=91						
KPKS				⇓*i*S	**Sn**	**18 47 29.4**	**+0.6**
	baz=91						
DJR	**Jarkent**	**1.34**	**344**	⇓*i*P	**Pg**	**18 47 13.6**	**-0.1**
	18nm,0.3s						
DJR				⇑*i*S	**Sg**	**18 47 32.6**	**+1.6**
	270nm,0.3s						
DJR	**Jarkent**	**1.34**	**344**	P	**Pg**	**18 47 13.6**	**-0.1**
	18nm,0.2s						
DJR				S	**Sg**	**18 47 32.5**	**+1.4**
	270nm,0.3s						
SATY	**Saty**	**1.40**	**271**	⇓*i*P	**Pn**	**18 47 13.6**	**0.0**
	160nm,0.1s						
SATY				⇓*i*S	**Sg**	**18 47 33.4**	**+0.5**
	839nm,0.2s						
SATY	**Saty**	**1.40**	**271**	P	**Pn**	**18 47 13.6**	**0.0**
	66nm,0.3s						
SATY				S	**Sg**	**18 47 33.4**	**+0.5**
	276nm,0.2s						
PRZ	**Przheval'sk**	**1.52**	**249**	⇑*i*P	**Pb**	**18 47 15.8**	**-0.5**
	baz=51						
PRZ				⇑*i*S	**Sg**	**18 47 36.7**	**-0.1**
	baz=51						
KURS	**Kuram**	**1.63**	**286**	⇑*i*P	**Pb**	**18 47 18.1**	**0.0**
	31nm,0.5s						
KURS				⇑*i*S	**Sg**	**18 47 40.5**	**+0.3**
	157nm,0.4s						
KURS	**Kuram**	**1.63**	**286**	⇑*i*P	**Pb**	**18 47 18.1**	**0.0**
	baz=88						
KURS				⇑*i*S	**Sg**	**18 47 40.5**	**+0.3**
	baz=88						
KURS	**Kuram**	**1.63**	**286**	P	**Pb**	**18 47 18.2**	**0.0**
	16nm,0.4s						
KURS				S	**Sg**	**18 47 40.7**	**+0.4**
	157nm,0.7s						
ANVS	**Anan'yevo**	**1.96**	**263**	⇑*i*P	**Pb**	**18 47 23.8**	**-0.1**
	baz=65						
ANVS				⇑*i*S	**Sg**	**18 47 50.7**	**-0.3**
	baz=65						
ARXS	**Arharly**	**2.15**	**304**	*e*P	**Pb**	**18 47 26.2**	**-0.8**
	44nm,0.5s						
ARXS				*e*S	**Sb**	**18 47 55.1**	**+1.3**
	315nm,0.4s						
TARG	**Taragay, Kyrgy**	**2.28**	**236**	⇑*i*P	**Pb**	**18 47 28.0**	**-1.4**
	baz=37						
TARG				⇑*i*S	**Sb**	**18 47 58.0**	**+0.2**
	baz=37						
KAPS	**Kapalarasan**	**2.34**	**343**	*e*P	**Pb**	**18 47 29.9**	**-0.3**
	44nm,0.3s						
KAPS				*e*S	**Sg**	**18 48 01.5**	**-1.6**
	133nm,0.3s						
KAPS	**Kapalarasan**	**2.34**	**343**	Pg	**Pb**	**18 47 29.9**	**-0.3**
	25nm,0.1s						
KAPS				Lg	Lg	18 48 01.5	
	133nm,0.3s						
KOTS	**Kotyrbulak**	**2.35**	**276**	*e*P	**Pb**	**18 47 30.3**	**-0.2**
	142nm,0.4s						
KOTS				*e*S	**Sg**	**18 48 03.3**	**-0.2**
	915nm,0.5s						
KOTS	**Kotyrbulak**	**2.35**	**276**	Pg	**Pb**	**18 47 30.3**	**-0.2**
	142nm,0.3s						
KOTS				Lg	Lg	18 48 03.3	
	915nm,0.5s						
TDK	**Taldyqorghan**	**2.39**	**326**	*e*P	**Pb**	**18 47 29.9**	**-1.2**
	131nm,0.6s						
TDK				*e*S	**Sb**	**18 48 00.9**	**+0.3**
	366nm,0.3s						
MDOK	**Medeo**	**2.39**	**274**	*e*P	**Pb**	**18 47 30.8**	**-0.5**
	30nm,0.4s						
MDOK				*e*S	**Sg**	**18 48 03.5**	**-1.3

ULHL	**Ulahol**	**3.11**	**256**	⇑*iP*		**Pn**	**18 47 39.6**	**+2.4**
	baz=57								
ULHL				⇑*iS*		**Sb**	**18 48 18.2**	**-3.3**
	baz=57								
KST	**Kastek**	**3.19**	**271**	*eP*		**Pb**	**18 47 45.5**	**+0.8**
KST	30nm,0.4s			*eS*		**Sg**	**18 48 27.7**	**-2.7**
	237nm,0.6s								
KST	**Kastek**	**3.19**	**271**	Pg		**Pb**	**18 47 45.5**	**+0.8**
KST	237nm,0.6s			Lg		Lg	18 48 27.7		
BOOM	**Boomskoye usch**	**3.27**	**262**	⇑*iP*		**Pn**	**18 47 41.3**	**+1.9**
	baz=63								
BOOM				⇑*iS*		**Sn**	**18 48 21.7**	**+3.3**
	baz=63								
TKM2	**Tokmak 2**	**3.46**	**270**	⇓*iP*		**Pn**	**18 47 44.7**	**+2.6**
TKM2	baz=70			⇓*iS*		**Sn**	**18 48 26.9**	**+3.6**
	baz=70								
TKM2	**Tokmak 2**	**3.46**	**270**	⇑Pg		**Pb**	**18 47 48.6**	**-0.9**
TKM2	8.3nm,0.5s			⇓Lg		Lg	18 48 37.4		
	54nm,0.6s								
NRN	**Naryn**	**3.59**	**245**	⇑*iP*		**Pn**	**18 47 46.3**	**+2.4**
	baz=46								
NRN				⇑*iS*		**Sn**	**18 48 29.8**	**+3.3**
	baz=46								
KZA	**Kyzart**	**3.86**	**257**	⇑*iP*		**Pn**	**18 47 50.3**	**+2.5**
	baz=58								
KZA				⇑*iS*		**Sn**	**18 48 36.6**	**+3.1**
	baz=58								
MAKZ	**Makanchi**	**3.94**	**17**	⇓Pn		**Pn**	**18 47 51.6**	**+3.1**
	1.5nm,0.3s								
MAKZ				⇑Lg		Lg	18 48 53.3		
	9.7nm,0.6s								
KBK	**Karagaybulak**	**3.96**	**266**	⇑*iP*		**Pn**	**18 47 51.5**	**+2.5**
	baz=67								
KBK				⇑*iS*		**Sn**	**18 48 38.9**	**+3.3**
	baz=67								
MK31	**Makanchi Array**	**4.00**	**20**	Pn		**Pn**	**18 47 51.6**	**+2.3**
	1.4nm,0.3s,baz=202,slow=12,SNR=98								
MK31				⇑Pg		**Pg**	**18 48 01.1**	**-3.4**
	5.9nm,0.7s,baz=185,slow=15,SNR=4.7								
MK31				⇓Lg		Lg	18 48 54.5		
	1.4nm,0.2s,baz=204,slow=22,SNR=4.3								
CHMS	**Chumysh**	**4.08**	**271**	⇓*iP*		**Pn**	**18 47 52.9**	**+2.5**
	baz=72								
CHMS				⇓*iS*		**Sn**	**18 48 41.4**	**+3.2**
	baz=72								
SGDS	**Sogindy**	**4.17**	**278**	Pg		**Pb**	**18 48 03.0**	**+1.6**
	5.1nm,0.4s								
SGDS				Lg		Lg	18 48 57.8		
	28nm,0.7s								
FRU1	**Bishkek**	**4.18**	**269**	⇑*iP*		**Pn**	**18 47 54.6**	**+2.8**
	baz=69								
FRU1				⇑*iS*		**Sn**	**18 48 44.0**	**+3.2**
	baz=69								
USP	**Ospenovka**	**4.26**	**275**	⇑*iP*		**Pn**	**18 47 55.6**	**+2.7**
	baz=76								
USP				⇑*iS*		**Sn**	**18 48 45.8**	**+3.1**
	baz=76								
AAK	**Ala-Archa**	**4.30**	**267**	⇑*iP*		**Pn**	**18 47 56.3**	**+2.7**
	baz=67								
AAK				⇑*iS*		**Sn**	**18 48 47.0**	**+3.2**
	baz=67								
AAK	**Ala-Archa**	**4.30**	**267**	Pg		**Pg**	**18 48 08.2**	**-2.1**
	5.0nm,0.5s								
AAK				Lg		Lg	18 49 04.9		
	58nm,0.7s								
UCH	**Uchtor**	**4.36**	**261**	⇑*eP*		**Pn**	**18 47 57.1**	**+2.5**
	baz=62								
UCH				⇑*iS*		**Sn**	**18 48 48.3**	**+2.6**
	baz=62								
ARLS	**Aral**	**4.59**	**257**	⇑*iP*		**Pn**	**18 47 59.6**	**+2.1**
	baz=58								
ARLS				⇑*iS*		**Sn**	**18 48 53.0**	**+2.0**
	baz=58								
EKS2	**Erkin-Say**	**4.82**	**268**	⇓*iP*		**Pn**	**18 48 03.6**	**+2.9**
	baz=68								
EKS2				⇓*iS*		**Sn**	**18 48 59.3**	**+2.7**
	baz=68								
AML	**Almayashu**	**4.97**	**262**	⇓*eP*		**Pn**	**18 48 05.7**	**+2.7**
	baz=62								
AML				⇓*iS*		**Sn**	**18 49 03.2**	**+2.5**
	baz=62								
MRKS	**Merke**	**5.22**	**269**	*eP*		**Pb**	**18 48 22.4**	**+3.1**
	7.5nm,0.5s								
MRKS				*eS*		**Sg**	**18 49 30.4**	**-5.0**
	17nm,0.4s								
MRKS	**Merke**	**5.22**	**269**	Pg		**Pb**	**18 48 22.3**	**+3.1**
	5.0nm,0.3s								
MRKS				Lg		Lg	18 49 30.4		
	17nm,0.3s								
ZSN	**Zaisan**	**5.45**	**35**	*eP*		**Pb**	**18 48 26.0**	**+2.8**
	2.5nm,0.2s								
ZSN				*eS*		**Sg**	**18 49 37.3**	**-5.6**
	14nm,0.8s								
ARSB	**Arslanbob**	**5.71**	**255**	⇓*eP*		**Pn**	**18 48 15.6**	**+2.6**
	baz=55								
ARSB				⇓*iS*		**Sn**	**18 49 20.4**	**+1.8**
	baz=55								
KK31	**Karatay Array**	**7.18**	**274**	⇓Pg		Pg	18 48 59.4	-6.0
	1.4nm,0.7s,baz=81,slow=15,SNR=11								
KK31				⇑Lg		Lg	18 50 37.6		
	7.3nm,0.6s,baz=88,slow=27,SNR=16								
KURBB	**Kurchatov Arra**	**7.68**	**351**	⇑Lg		Lg	18 50 51.5		
	19nm,0.7s								
KURK	**Kurchatov**	**7.76**	**352**	⇑Lg		Lg	18 50 55.9		
	13nm,0.7s								

*IDC **17** 18:55:45.1±1.4,3.°31S×143.°75E, h0km, mb3.3/4, mb1 3.5/6, mb1mx3.4/33, mbtmp3.4/6, ML2.5/2, Error ellipse: s-maj=40.6km s-min=23.1km az=101.0*
*ISCJB **17** 18:55:47.3±1.1,3.°4S±0.°1×143.°8E±0.°2, h25km, mb3.2/4, Error ellipse: s-maj=25.1km s-min=18.0km az=178.0*

ISC 17 18:55:49.0±1.2,3.°4S±0.°1×143.°7E±0.°2, h25km, n6, σ0s16/6, mb3.5/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.88**	**150**	Pn	**Pn**	**18 57 28.3**	**0.0**
	0.6nm,0.3s,baz=318,slow=16,SNR=2.6						
PMG				Sn	Sn	18 58 36.7	-9.2
	0.3nm,0.3s,baz=202,slow=16,SNR=1.6						
WRA	**Warramunga Arr**	**18.83**	**208**	P	**P**	**19 00 07.2**	**0.0**
	0.1nm,0.3s,baz=32,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**22.28**	**204**	P	**P**	**19 00 44.6**	**-0.1**
	0.2nm,0.6s,baz=28,slow=11,SNR=7.8						
FITZ	**Fitzroy Crossi**	**22.97**	**229**	P	**P**	**19 00 52.0**	**+0.1**
	1.2nm,0.6s,baz=56,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**73.43**	**321**	P	**P**	**19 07 19.1**	**-0.2**
	0.3nm,0.7s,baz=125,slow=7.2,SNR=3.2						
ILAR	**Eielson Array**	**84.40**	**24**	P	**P**	**19 08 19.2**	**+0.1**
	0.2nm,0.6s,baz=264,slow=5.3,SNR=4.5						

*IDC **17** 19:01:34.6±3.4,6.°87S×108.°22E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/38, mbtmp3.9/4, Error ellipse: s-maj=166.6km s-min=60.7km az=35.0*
*NEIC **17** 19:01:59.6±1.4,6.°8S±0.°1×109.°19E±0.°06, h181km±7km, mb4.4/10*

ISC 17 19:02:00.9±0.7,6.°9S±0.°1×109.°16E±0.°07, h200km, n19, σ1s98/23, mb4.1/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**1.47**	**245**		**Pn**	**19 02 32.0**	**-2.4**
CISI				Sn	**Sn**	**19 02 55.7**	**-4.8**
UGM	**Wanagama**	**1.67**	**126**		**Pn**	**19 02 36.1**	**0.0**
UGM				Sn	**Sn**	**19 03 01.5**	**-2.0**
JAGI	**Jajag, Banyuwa**	**5.18**	**108**	Pn	**Pn**	**19 03 15.8**	**-1.8**
JAGI				Sn	**Sn**	**19 04 15.4**	**-2.7**
MNAI	**Manna**	**6.68**	**292**	Pn	**Pn**	**19 03 39.4**	**+2.3**
KAPI	**Kappang**	**10.70**	**80**	Pn	**Pn**	**19 04 27.3**	**-2.0**
FITZ	**Fitzroy Crossi**	**19.52**	**126**	P	**P**	**19 06 12.6**	**-0.7**
	2.8nm,0.8s,baz=315,slow=7.1,SNR=6.3						
FITZ	**Fitzroy Crossi**	**19.52**	**126**	P	**P**	**19 06 13.8**	**+0.5**
FITZ				IAmb	IAmb	19 06 26.0	
	comp=Z,5.5nm,1.3s						
KNRA	**Kununurra**	**21.08**	**116**	P	**P**	**19 06 31.4**	**+1.5**
KNRA				IAmb	IAmb	19 06 32.3	
	comp=Z,8.6nm,1.1s						
MORW	**Morawa**	**22.96**	**164**	P	**P**	**19 06 50.1**	**+2.2**
MORW				IAmb	IAmb	19 07 14.4	
	comp=Z,38nm,1.6s						
WRA	**Warramunga Arr**	**27.64**	**120**	P	**P**	**19 07 31.1**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=292,slow=10,SNR=10						
WRAB	**Tennant Creek**	**27.64**	**120**	P	**P**	**19 07 31.6**	**+1.4**
WRAB				IAmb	IAmb	19 07 42.4	
	comp=Z,3.9nm,1.1s						
WR0	**Warramunga Arr**	**27.82**	**120**	P	**P**	**19 07 32.2**	**+0.4**
WR0				IAmb	IAmb	19 07 59.2	
	comp=Z,14nm,1.5s						
AS31	**Alice Springs**	**29.01**	**128**	P	**P**	**19 07 43.7**	**+1.4**
ASAR	**Alice Springs**	**29.01**	**128**	P	**P**	**19 07 43.2**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=301,slow=8.2,SNR=19						
ASAR				PcP	**PcP**	**19 10 46.9**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=281,slow=2.5,SNR=4.8						
HKPS	**Hong Kong Po S**	**29.43**	**9**	P	**P**	**19 07 45.4**	**-0.6**
STKA	**Stephens Creek**	**39.12**	**134**	P	**P**	**19 09 10.3**	**+1.3**
	comp=Z,2.3nm,0.6s,baz=309,slow=8.5,SNR=8.3						
STKA	**Stephens Creek**	**39.12**	**134**	P	**P**	**19 09 10.4**	**+1.3**
MCQ	**Macquarie Isla**	**61.89**	**150**	P	**P**	**19 12 01.4**	**+2.4**
PEA0B	**Petropavlovsk-**	**72.50**	**28**	P	**P**	**19 13 04.1**	**-1.6**
PEA0B				IAmb	IAmb	19 13 17.9	
	comp=Z,54nm,1.5s						

*ISCJB **17** 19:06:32.3±1.0,10.°96S±0.°09×164.°67E±0.°10, h29km, Error ellipse: s-maj=16.3km s-min=8.1km az=139.6*
*IDC **17** 19:06:35.4±3.3,10.°80S×164.°73E, h45km±29km, mb3.5/5, mb1 3.8/7, mb1mx3.5/39, mbtmp3.9/7, ML4.2/2, MS3.1/4, Ms1 3.1/4, ms1mx2.8/18, Error ellipse: s-maj=30.0km s-min=19.1km az=51.0*
*NEIC **17** 19:06:36.3±1.4, 10.°8S±0.°1×164.°7E±0.°1, h54km±11km, mb4.5/5*

ISC 17 19:06:34.1±1.1,10.°8S±0.°1×164.°7E±0.°1, h29km, n22, σ1s48/17, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.91**	**286**	P	**Pn**	**19 07 46.5**	**+0.6**
	18nm,0.3s,baz=61,slow=19,SNR=4.5						
HNR				S	**Sn**	**19 08 42.3**	**+0.5**
	19nm,0.3s,baz=198,slow=20,SNR=3.9						
HNR				LR	LR	19 09 44.4	
	comp=Z,209nm,18.5s,baz=65,slow=39						
HNR	**Honiara**	**4.91**	**286**		**Pn**	**19 07 47.4**	**+1.4**
HNR					**Sn**	**19 08 40.9**	**-0.9**
DZM	**Mont Dzumac**	**11.33**	**172**	P	**Pn**	**19 09 16.6**	**+2.4**
	1.1nm,0.3s,baz=319,slow=22,SNR=58						
DZM				S	**Sn**	**19 11 17.3**	**-2.7**
	0.1nm,0.3s,baz=17,slow=13,SNR=2.1						
DZM				LR	LR	19 12 36.3	
	comp=Z,62nn,18.8s,baz=9.0,slow=32						
DZM	**Mont Dzumac**	**11.33**	**172**		**Pn**	**19 09 16.7**	**+2.5**
KRVT	**Keravat (AS076**	**14.15**	**296**	LR	LR	19 15 23.8	
	comp=Z,68nn,19.6s,baz=53,slow=37						
PMG	**Port Moresby**	**17.36**	**273**	LR	LR	19 17 01.4	
	comp=Z,83nn,18.0s,baz=88,slow=36						
EIDS	**Eidsvold**	**19.43**	**220**	P	**P**	**19 10 56.6**	**-1.7**
EIDS				IAmb	IAmb	19 11 21.0	
	comp=Z,31nm,1.6s						
CTA	**Charters Tower**	**20.05**	**240**	P	**P**	**19 11 05.7**	**+0.6**
	comp=Z,5.1nm,0.8s,baz=40,slow=7.9,SNR=3.2						
H11S2	**WAKE ISLAND Hy**	**29.16**	**4**	T	T	19 42 49.0	
	baz=184,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	**29.17**	**4**	T	T	19 42 50.2	
	baz=184,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**29.18**	**4**	T	T	19 42 50.4	
	baz=184,slow=76,SNR=23						
BKZ	**Black Stump Fm**	**30.14**	**162**	P	**P**	**19 12 41.9**	**+0.4**
H11N1	**WAKE ISLAND Hy**	**30.39**	**4**	T	T	19 44 22.6	
	baz=184,slow=76,SNR=8.3						
H11N3	**WAKE ISLAND Hy**	**30.40**	**4**	T	T	19 44 25.4	
	baz=184,slow=76,SNR=9.6						
H11N2	**WAKE ISLAND Hy**	**30.41**	**4**	T	T	19 44 24.3	
	baz=184,slow=76,SNR=10						
WRAB	**Tennant Creek**	**30.63**	**249**	P	**P**	**19 12 45.4**	**-0.7**
WRA	**Warramunga Arr**	**30.64**	**249**	P	**P**	**19 12 45.3**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=79,slow=9.2,SNR=5.5						
ASAR	**Alice Springs**	**32.02**	**242**	P	**P**	**19 12 57.5**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=62,slow=10,SNR=13						
KNRA	**Kununurra**	**35.32**	**258**	P	**P**	**19 13 26.3**	**-0.8**
KNRA				IAmb	IAmb	19 13 31.0	
	comp=Z,17nm,1.5s						
FITZ	**Fitzroy Crossi**	**38.49**	**255**	P	**P**	**19 13 53.6**	**-0.4**
FITZ				IAmb	IAmb	19 14 10.9	
	comp=Z,10nm,1.6s						
ILAR	**Eielson Array**	**83.59**	**19**	P	**P**	**19 18 57.9**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=231,slow=5.7,SNR=3.3						
MKAR	**Makanchi Array**	**92.66**	**317**	P	**P**	**19 19 43.6**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=98,slow=5.8,SNR=9.1						

*IDC **17** 19:27:45.6±1.0,43.°75N×105.°46W, h0km, mb3.9/1, mb1 3.7/7, mb1mx3.4/59, mbtmp3.4/7, ML3.3/6, Error ellipse: s-maj=23.6km s-min=8.7km az=149.0*
*ISCJB **17** 19:27:46.1±0.3,43.°76N±0.°03×105.°26W±0.°04, h0km, mb3.9/1, Error ellipse: s-maj=4.1km s-min=3.8km az=14.2*
*NEIC **17** 19:27:47.8±1.3,43.°79N±0.°04×105.°29W±0.°08, h0km±2km, ML3.3/76*

ISC 17 19:27:47.0±0.8,43.°80N±0.°06×105.°33W±0.°06, h0km, n76, σ1s23/75, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.99**	**71**		**Pg**	**19 28 06.3**	**+0.4**
K22A	**Casper**	**1.45**	**218**		**Pn**	**19 28 13.0**	**-1.6**
K22A				IAML		19 28 36.1	
	comp=N,454nm,0.3s						
K22A				IAML		19 28 38.3	
	comp=E,339nm,0.3s						
PHWY	**Pilot Hill**	**2.50**	**182**		**Pn**	**19 28 29.2**	**0.0**
RWWY	**Rawlins**	**2.53**	**214**		**Pn**	**19 28 30.7**	**+1.1**
RWWY				IAML		19 29 05.7	
	comp=E,177nm,0.7s						
RWWY				IAML		19 29 08.6	
	comp=E,194nm,0.6s						
N23A	**Red Feather La**	**2.94**	**189**		**Pn**	**19 28 35.8**	**+0.5**
N23A				IAML		19 29 17.9	
	comp=N,136nm,0.6s						
N23A				IAML		19 29 22.2	
	comp=E,81nm,0.6s						
LAO	**LASA Array**	**2.95**	**348**		**Pn**	**19 28 36.1**	**+0.9**
LAO				IAML		19 29 32.0	
	comp=E,133nm,0.8s						
RLMT	**Red Lodge**	**3.11**	**296**		**Pn**	**19 28 37.6**	**+0.1**
RLMT				IAML		19 29 26.3	
	comp=E,62nm,0.7s						
RLMT				IAML		19 29 36.5	
	comp=E,57nm,0.6s						
PD31	**Pinedale Array**	**3.26**	**253**		**Pn**	**19 28 40.3**	**+0.7**
PDAR	**Pinedale Array**	**3.26**	**253**	Pn	**Pn**	**19 28 40.1**	**+0.6**
	comp=E,3.6nm,0.3s,baz=80,slow=15,SNR=80						
PDAR				Lg	Lg	19 29 24.2	
	comp=E,8.3nm,0.3s,baz=76,slow=33,SNR=13						
BW06	**Boulder Array**	**3.26**	**253**		**Pn**	**19 28 40.2**	**+0.7**
BW06				IAML		19 29 28.3	
	comp=E,48nm,0.6s						
BW06				IAML		19 29 32.2	
	comp=N,64nm,0.6s						
YNE	**Yellowstone No**	**3.56**	**291**		**Pn**	**19 28 44.4**	**+0.6**
YMP	**Mirror Lake Pl**	**3.59**	**287**		**Pn**	**19 28 45.3**	**+1.1**
GCMT	**Greycliff**	**3.67**	**304**		**Pn**	**19 28 46.0**	**+0.9**
LKWY	**Lake**	**3.73**	**284**		**Pn**	**19 28 47.9**	**+1.9**
LKWY				IAML		19 29 19.8	
	comp=N,53nm,0.6s						
OGNE	**Ogallala**	**3.76**	**138**		**Pn**	**19 28 47.5**	**+1.1**
H17A	**Grant Village**	**3.83**	**281**		**Pn**	**19 28 49.4**	**+2.0**
H17A				IAML		19 29 51.4	
	comp=N,30nm,0.7s						
YUF	**Upper Falls**	**3.83**	**286**		**Pn**	**19 28 48.9**	**+1.5**
FLWY	**Flagg Ranch**	**3.89**	**276**		**Pn**	**19 28 49.3**	**+1.1**
FLWY				IAML		19 29 57.1	
	comp=N,30nm,2.4s						
FLWY				IAML		19 29 59.1	
	comp=N,26nm,2.4s						
MOOW	**Moose Ponds**	**3.92**	**271**		**Pn**	**19 28 50.7**	**+2.1**
YNR	**Norris Junctio**	**3.95**	**285**		**Pn**	**19 28 51.1**	**+2.0**
SNOW	**Snow King Moun**	**3.95**	**267**		**Pn**	**19 28 50.6**	**+1.5**
SNOW				IAML		19 29 57.9	
	comp=N,35nm,0.6s						
SNOW				IAML		19 30 12.3	
	comp=N,42nm,0.7s						
YPP	**Pitchstone Pla**	**3.98**	**279**		**Pn**	**19 28 51.5**	**+2.0**
ISCO	**Idaho Springs**	**4.01**	**183**		**Pn**	**19 28 50.4**	**+0.5**
REDW	**Red Top Meadow**	**4.04**	**266**		**Pn**	**19 28 51.1**	**+0.8**
REDW				IAML		19 29 58.1	
	comp=N,38nm,0.6s						
YHH	**Holmes Hill**	**4.08**	**286**		**Pn**	**19 28 52.2**	**+1.3**
TPAW	**Teton Pass**	**4.09**	**268**		**Pn**	**19 28 51.9**	**+0.8**
TPAW				IAML		19 30 15.9	
	comp=N,26nm,0.7s						
FXWY	**Fox Creek**	**4.13**	**270**		**Pn**	**19 28 52.5**	**+1.0**
YMR	**Madison River**	**4.14**	**284**		**Pn**	**19 28 53.4**	**+1.8**
O20A	**White River Ci**	**4.26**	**212**		**Pn**	**19 28 53.7**	**+0.4**
O20A				IAML		19 30 17.4	
	comp=N,35nm,0.9s						
YHB	**Horse Butte**	**4.32**	**285**		**Pn**	**19 28 55.2**	**+1.1**
YHL	**Hebgen Lake**	**4.33**	**286**		**Pn**	**19 28 55.5**	**+1.1**
AHID	**Auburn Hatcher**	**4.34**	**258**		**Pn**	**19 28 55.3**	**+0.9**
AHID				IAML		19 30 14.4	
	comp=N,37nm,0.7s						
AHID				IAML		19 30 19.5	
	comp=E,30nm,0.7s						
QLMT	**Earthquake Lak**	**4.50**	**285**		**Pn**	**19 28 57.9**	**+1.4**
RDMU	**Red Mountain**	**4.51**	**226**		**Pn**	**19 28 58.3**	**+1.5**
SUSD	**Miller**	**4.63**	**80**		**Pn**	**19 28 59.1**	**+0.9**
DGMT	**Dagmar**	**4.73**	**9**		**Pn**	**19 29 02.0**	**+2.3**
SMCO	**Snowmass**	**4.79**	**196**		**Pn**	**19 29 00.7**	**0.0**
SMCO				IAML		19 30 24.4	
	comp=E,25nm,0.7s						
SMCO				IAML		19 30 26.3	
	comp=E,19nm,0.7s						
Q24A	**Divide**	**4.84**	**178**		**Pn**	**19 29 00.8**	**-0.5**
Q24A				IAML		19 30 20.6	
	comp=E,27nm,0.6s						
Q24A				IAML		19 30 26.0	
	comp=N,20nm,0.6s						
HWUT	**Hardware Ranch**	**5.09**	**247**		**Pn**	**19 29 05.2**	**+0.5**
HWUT				IAML		19 30 39.5	
	comp=N,26nm,0.7s						
HWUT				IAML		19 30 45.1	
	comp=N,25nm,0.6s						
KSCO	**Kaye Shedlock'**	**5.20**	**156**		**Pn**	**19 29 05.7**	**-0.4**
EGMT	**Eagleton**	**5.23**	**325**		**Pn**	**19 29 06.9**	**+0.4**
TCUT	**Toone Canyon**	**5.24**	**241**		**Pn**	**19 29 09.5**	**+2.7**
MCMT	**McKenzie Canyo**	**5.49**	**283**		**Pn**	**19 29 13.4**	**+3.1**
JLU	**Jordanelle**	**5.56**	**237**		**Pn**	**19 29 12.3**	**+1.1**
MDND	**Maddock**	**5.69**	**43**		**Pn**	**19 29 12.4**	**-0.4**
SPUT	**South Promonto**	**5.82**	**247**		**Pn**	**19 29 15.6**	**+0.9**
P17A	**Butcher Ranch,**	**5.93**	**225**		**Pn**	**19 29 17.3**	**+1.1**
MPU	**Maple Canyon**	**6.04**	**233**		**Pn**	**19 29 18.7**	**+1.0**
SDCO	**Great Sand Dun**	**6.05**	**181**		**Pn**	**19 29 18.8**	**+0.8**
SRU	**San Rafael Swe**	**6.10**	**222**		**Pn**	**19 29 19.1**	**+0.6**
S22A	**4UR Ranch, Cre**	**6.16**	**191**		**Pn**	**19 29 20.3**	**+0.8**
TMUT	**Trail Mountain**	**6.30**	**226**		**Pn**	**19 29 22.2**	**+0.8**
ECSD	**EROS Data Cent**	**6.31**	**88**		**Pn**	**19 29 21.7**	**+0.4**
NLU	**North Lily Min**	**6.33**	**235**		**Pn**	**19 29 23.9**	**+2.1**
CBKS	**Cedar Bluff**	**6.53**	**138**		**Pn**	**19 29 24.6**	**+0.4**
DUG	**Dugway, Tooele**	**6.64**	**240**		**Pn**	**19 29 26.2**	**+0.3**
T25A	**Trinidad**	**6.70**	**174**		**Pn**	**19 29 27.1**	**+0.3**
MVCO	**Mesa Verde**	**7.01**	**201**		**Pn**	**19 29 32.4**	**+1.2**
MSU	**Marysvale**	**7.39**	**227**		**Pn**	**19 29 36.6**	**+0.3**
MTPU	**Mount Pierson**	**7.75**	**224**		**Pn**	**19 29 42.2**	**+0.8**
ELK	**Elko**	**7.96**	**251**	Pn	**Pn**	**19 29 42.8**	**-1.3**
	comp=N,0.1nm,0.3s,baz=15,slow=17,SNR=2.6						
ELK	**Elko**	**7.96**	**251**		**Pn**	**19 29 45.6**	**+1.5**
AGMN	**Agassiz Nation**	**7.97**	**52**		**Pn**	**19 29 46.2**	**+2.1**
PSUT	**Pine Spring**	**8.31**	**234**		**Pn**	**19 29 49.2**	**+1.0**
CCUT	**Cedar City**	**8.73**	**227**		**Pn**	**19 29 55.7**	**+1.0**
I10CA	**LAC DU BONNET**	**9.02**	**42**	*i*		20 31 20.0	
	baz=222,slow=319,SNR=2.0						
U15A	**North Rim**	**9.09**	**218**		**Pn**	**19 29 58.6**	**-1.1**
ULM	**Lac du Bonnet**	**9.12**	**42**	Pn	**Pn**	**19 29 57.8**	**-2.0**
	comp=N,1.1nm,0.3s,baz=231,slow=13,SNR=6.4						
ULM				Pg		19 30 33.6	
	comp=N,1.2nm,0.3s,baz=223,slow=15,SNR=8.2						
ULM				Lg	Lg	19 32 27.9	
	comp=N,0.4nm,0.3s,baz=145,slow=18,SNR=2.3						
ULM	**Lac du Bonnet**	**9.12**	**42**		**Pn**	**19 29 59.6**	**-0.2**
KVN	**Kaiserville**	**10.70**	**248**		**Pn**	**19 30 22.6**	**+0.9**
FFC	**Flin Flon**	**11.15**	**10**		**Pn**	**19 30 26.3**	**-1.2**
NVAR	**Mina Array Bea**	**11.16**	**246**	Pn	**Pn**	**19 30 27.0**	**-1.0**
	comp=N,0.1nm,0.3s,baz=56,slow=12,SNR=7.3						
TXAR	**Lajitas Array**	**14.50**	**174**	Pn	**Pn**	**19 31 13.2**	**-0.4**
	comp=N,0.1nm,0.3s,baz=356,slow=13,SNR=2.8						
YKA	**Yellowknife Ar**	**19.49**	**347**	P	**P**	**19 32 14.5**	**-0.9**
	comp=N,0.1nm,0.3s,baz=162,slow=13,SNR=8.1						
BLA	**Blacksburg**	**20.01**	**101**	P	**P**	**19 32 21.7**	**+0.5**
MKAR	**Makanchi Array**	**89.53**	**355**	P	**P**	**19 40 45.0**	**-1.1**
	comp=N,0.5nm,0.7s,baz=8.3,slow=4.6,SNR=6.5						

*ISCJB **17** 19:34:54.5±0.5,50.°25N±0.°03×18.°95E±0.°03, h0km, Error ellipse: s-maj=4.9km s-min=2.4km az=21.3*
*IDC **17** 19:34:56.5±2.4,50.°19N×19.°01E, h0km, mb1 3.7/3, mb1mx3.1/37, mbtmp3.5/3, ML2.8/3, Error ellipse: s-maj=44.8km s-min=10.6km az=136.0*
*PRU **17** 19:34:56.5±0.0,50.°23N×19.°00E, h0km*
*VIE **17** 19:34:57.7±1.4,50.°30N×18.°84E, h0km, mb2.2/3, ml2.4/4, Error ellipse: s-maj=14.9km s-min=10.9km az=120.0 12 km WNW of Katowice Suspected Mining induced.*

**ISC 17 19:34:55.1±0.7,50.°26N±0.°03

0.5nm,0.3s,baz=70,slow=14,SNR=12
GERES Pg **Pb** 19 36 04.7 +2.6
0.7nm,0.3s,baz=65,slow=18,SNR=14
GERES Lg Lg 19 36 52.1
0.8nm,0.3s,baz=65,slow=30,SNR=6.1
ARSA Arzberg 3.80 219 Pg **Pg** **19 36 10.3 +2.4**
1.0nm,0.4s
CLL Collm 3.96 288 *e*Pg **Pg** **19 36 12.0 +1.0**
CLL *e*Sg **Sg** **19 37 04.0 +1.7**
comp=Z,7.0nm,0.5s
NKC Novy Kostel 4.22 272 *e*SG **Sg** **19 37 10.4 -0.3**
FINES FINESS Array B 11.88 17 Pn **Pn** **19 37 42.1 -3.4**
comp=Z,0.2nm,0.3s,baz=199,slow=13,SNR=5.3
ARCES ARCESS Array B 19.58 7 Pn **P** **19 39 22.5 -1.9**
comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=1.5

*IDC **17** 19:54:06.4±0.8, 8°75S×157°43E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.0/26, mbtmp4.0/11, ML4.0/1, MS3.2/6, Ms1 3.2/6, ms1mx3.0/24, Error ellipse: s-maj=23.2km s-min=19.4km az=97.0*
*NEIC **17** 19:54:06.2±1.5, 8°8S±0°1×157°51E±0°07, h3km±4km, mb4.5/14*
*ISCJB **17** 19:54:07.0±0.5, 8°78S±0°08×157°44E±0°05, h16km, mb3.9/10, MS3.3/4, Error ellipse: s-maj=11.3km s-min=7.3km az=7.8*
ISC 17 19:54:08.6±0.6, **8°8S**±0°1×**157°49E**±0°08, **h16**km, **n33, σ0s92/29, mb4.3**/18, **MS3.4**/4, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.51**	**105**	Pn	**Pn**	**19 54 48.4**	**-0.4**
	30nm,0.3s,baz=210,slow=4.3,SNR=8.9						
HNR				Sn	**Sn**	**19 55 19.1**	**0.0**
	65nm,0.3s,baz=223,slow=16,SNR=6.6						
HNR				LR	LR	19 55 40.1	
	comp=Z,267nm,18.5s,baz=22,slow=36						
HNR	**Honiara**	**2.51**	**105**		**Pn**	**19 54 47.8**	**-1.0**
KRVT	**Keravat (AS076**	**7.01**	**309**	LR	LR	19 58 41.8	
	comp=Z,108nm,18.2s,baz=114,slow=40						
EIDS	**Eidsvold**	**17.59**	**200**		**Pn**	**19 58 12.9**	**-0.3**
ARMA	**Armidale**	**22.22**	**193**	P	**P**	**19 59 04.5**	**-0.2**
ARMA				IAmb	IAmb	19 59 21.8	
	comp=Z,16nm,1.4s						
WR0	**Warramunga Arr**	**24.82**	**241**	P	**P**	**19 59 29.9**	**-0.4**
WR0				IAmb	IAmb	19 59 31.5	
	comp=Z,12nm,0.9s						
WRAB	**Tennant Creek**	**24.97**	**241**	P	**P**	**19 59 31.2**	**-0.5**
WRAB				IAmb	IAmb	19 59 32.5	
	comp=Z,11nm,1.0s						
WRA	**Warramunga Arr**	**24.99**	**241**	P	**P**	**19 59 31.1**	**-0.8**
	comp=Z,9.4nm,0.8s,baz=66,slow=9.3,SNR=34						
SAUI	**Saumlaki**	**25.92**	**270**	P	**P**	**19 59 39.2**	**-1.2**
MTN	**Manton Dam**	**26.20**	**259**	P	**P**	**19 59 42.4**	**-0.4**
MTN				IAmb	IAmb	19 59 46.3	
	comp=Z,9.5nm,1.2s						
ASAR	**Alice Springs**	**26.99**	**234**	P	**P**	**19 59 48.8**	**-1.3**
	comp=Z,2.0nm,0.9s,baz=67,slow=9.1,SNR=14						
ASAR				LR	LR	20 10 02.7	
	comp=Z,38nm,20.8s,baz=67,slow=36						
STKA	**Stephens Creek**	**27.32**	**211**	P	**P**	**19 59 53.5**	**+0.7**
	comp=Z,9.4nm,0.7s,baz=25,slow=12,SNR=26						
STKA				LR	LR	20 10 11.6	
	comp=Z,72nm,18.4s,baz=27,slow=35						
STKA	**Stephens Creek**	**27.32**	**211**	P	**P**	**19 59 53.0**	**+0.2**
H11S3	**WAKE ISLAND Hy**	**28.58**	**18**	T	T	20 28 43.1	
	baz=199,slow=76,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**28.58**	**19**	T	T	20 28 43.1	
	baz=199,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**28.60**	**18**	T	T	20 28 46.5	
	baz=199,slow=76,SNR=4.0						
KNRA	**Kununurra**	**28.88**	**253**	P	**P**	**20 00 06.2**	**-0.7**
KNRA				IAmb	IAmb	20 00 07.3	
	comp=Z,7.8nm,1.0s						
BBOO	**Buckleboo**	**31.06**	**217**	P	**P**	**20 00 27.1**	**+1.0**
BBOO				IAmb	IAmb	20 00 49.8	
	comp=Z,12nm,1.2s						
FITZ	**Fitzroy Crossi**	**32.29**	**250**	P	**P**	**20 00 37.3**	**+0.3**
FITZ				IAmb	IAmb	20 01 06.0	
	comp=Z,7.4nm,1.4s						
BATI	**Baumata**	**33.39**	**265**	LR	LR	20 16 51.2	
	comp=Z,86nm,18.1s,baz=74,slow=41						
LUWI	**Luwuk**	**35.41**	**281**	P	**P**	**20 01 05.2**	**+1.0**
JAGI	**Jajag, Banyuwa**	**42.83**	**267**	P	**P**	**20 02 04.2**	**-2.2**
KSRS	**Korea Array**	**53.67**	**331**	P	**P**	**20 03 30.1**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=145,slow=6.9,SNR=4.0						
KSRS				LR	LR	20 27 11.8	
	comp=Z,38nm,18.1s,baz=330,slow=37						
CMAR	**Chiang Mai Arr**	**63.78**	**295**	P	**P**	**20 04 39.9**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=130,slow=5.2,SNR=8.0						
VNDA	**Vanda**	**79.75**	**179**	P	**P**	**20 05 12.7**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=336,slow=6.5,SNR=5.9						
SONM	**Songino Array**	**72.17**	**327**	P	**P**	**20 05 34.9**	**+2.1**
	comp=Z,0.5nm,0.7s,baz=160,slow=4.7,SNR=4.2						
QSPA	**South Pole Qui**	**81.21**	**180**	P	**P**	**20 06 24.5**	**+0.9**
QSPA				IAmb	IAmb	20 06 26.7	
	comp=Z,10nm,1.4s						
ILAR	**Eielson Array**	**84.13**	**21**	P	**P**	**20 06 37.6**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=233,slow=4.7,SNR=2.7						
MK31	**Makanchi Array**	**86.37**	**318**	P	**P**	**20 06 50.2**	**0.0**
MKAR	**Makanchi Array**	**86.37**	**318**	P	**P**	**20 06 50.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=95,slow=5.7,SNR=8.4						
ZALV	**Zalesovo Beam**	**87.03**	**326**	P	**P**	**20 06 53.1**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=104,slow=4.8,SNR=2.3						
BDFB	**Brasilia**	**144.97**	**134**	PKPbc	**PKPdf**	**20 13 46.4**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=212,slow=6.9,SNR=5.1						
BDFB	**Brasilia**	**144.97**	**134**	PKPdf	**PKPdf**	**20 13 46.1**	**-0.3**

*THR **17** 20:07:40.9, 29°05N×58°22E, h15km, ML3.9*
*TEH **17** 20:07:41.2, 29°02N×58°34E, h14km, ML4.0*
*OMAN **17** 20:07:41.9±0.5, 29°02N×58°94E, h20km, ml3.8/2, Error ellipse: s-maj=12.6km s-min=8.7km az=309.0*
*ISCJB **17** 20:07:42.1±0.4, 29°05N±0°03×58°34E±0°05, h15km, Error ellipse: s-maj=6.3km s-min=3.6km az=4.8*
ISC 17 20:07:42.2±0.9, **28°98N**±0°03×**58°26E**±0°05, **h15**km, **n39, σ2s04/43, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMN	**Cheshme madani**	**1.08**	**325**	*e*Pg	**Pb**	**20 08 01.4**	**-1.4**
CHMN				*e*Sg	**Sb**	**20 08 16.5**	**-0.3**
CHMN				IAMB	IAmb	20 08 19.2	
	comp=Z,0.0nm,0.3s						
KHNJ	**Kahnooj**	**1.14**	**205**	IAMB	IAmb	20 08 19.2	
	comp=Z,0.0nm,0.3s						
KHNJ				*e*Pg	**Pn**	**20 08 02.5**	**-1.1**
NGRK	**Negar Kerman**	**1.49**	**297**	IAMB	IAmb	20 08 31.8	
	comp=Z,0.0nm,0.2s						
NGRK				*e*Pn	**Pn**	**20 08 09.3**	**+0.5**
KRBR	**Kerman**	**1.64**	**308**	*e*Pg	**Pn**	**20 08 09.9**	**-0.9**
KRBR	**Kerman**	**1.64**	**308**	*e*Pg	**Pn**	**20 08 09.9**	**-0.9**
KRBR				eAML	AML	20 08 35.1	
	comp=Z,1μm,0.4s						
KRBR	**Kerman**	**1.64**	**308**	*e*Sg	**Sn**	**20 08 31.1**	**-0.7**
TVBK	**TV Kerman**	**1.65**	**308**	*e*Pn	**Pb**	**20 08 12.0**	**-0.4**
TVBK				IAMB	IAmb	20 08 38.1	
	comp=Z,0.0nm,0.4s						
NIAN	**Nian**	**1.89**	**222**	*e*Pn	**Pb**	**20 08 15.5**	**-0.9**
NIAN				IAMB	IAmb	20 08 56.3	
	comp=Z,0.0nm,0.5s						
KHGB	**Koh Gabri**	**2.08**	**312**	*e*Pn	**Pb**	**20 08 18.7**	**-1.1**
KHGB				IAMB	IAmb	20 08 56.1	
	comp=Z,0.0nm,0.3s						
ZHSF	**Zahedan**	**2.29**	**73**	*e*Pn	**Pn**	**20 08 20.5**	**+0.9**
ZHSF	**Zahedan**	**2.29**	**73**	*e*Pn	**Pn**	**20 08 20.4**	**+0.9**
SZD1	**Zahaedan-tmp**	**2.33**	**77**	*e*Pn	**Pn**	**20 08 19.5**	**-0.7**
GENO	**Geno**	**2.42**	**230**	*e*Pn	**Pb**	**20 08 24.7**	**-0.9**
GENO				IAMB	IAmb	20 09 12.2	
	comp=Z,0.0nm,0.8s						
NHDN	**Nehbandan**	**2.86**	**32**	*e*Pn	**Pn**	**20 08 27.2**	**-0.2**
BSRN	**Basiran**	**3.07**	**14**	*e*Pn	**Pn**	**20 08 30.1**	**-0.2**
BSRN	**Basiran**	**3.07**	**14**	*e*Pn	**Pn**	**20 08 30.1**	**-0.2**
BSRN				*e*Sg	**Sb**	**20 09 14.8**	**+0.9**
IBAF	**Bafgh**	**3.49**	**319**	IAMB	IAmb	20 09 34.5	
	comp=Z,4μm,0.6s						
IKOO	**Kooshah**	**3.49**	**10**	*e*Pn	**Pn**	**20 08 36.2**	**0.0**
BANOM	**Banah**	**3.51**	**210**	P	**Pn**	**20 08 40.1**	**+3.8**
	SNR=15						
ITEG	**Tejag**	**3.92**	**6**	*e*Pn	**Pn**	**20 08 42.2**	**+0.1**
IDAH	**Dahanechah**	**3.99**	**20**	*e*Pn	**Pn**	**20 08 43.7**	**+0.6**
IDAH				IAMB	IAmb	20 08 44.1	
	comp=Z,1μm,0.5s						
JHRM	**Jahrom**	**4.14**	**265**	*e*Pn	**Pn**	**20 08 47.4**	**+2.5**
TPRV	**Parvadeh(Tabas**	**4.25**	**342**	*e*Pn	**Pn**	**20 08 47.5**	**+1.0**
TPRV				IAMB	IAmb	20 10 00.3	
	comp=Z,0.0nm,0.3s						
AFRZ	**Afriz**	**4.48**	**8**	*e*Pn	**Pn**	**20 08 49.4**	**-0.3**
AFRZ				IAMB	IAmb	20 10 15.1	
	comp=Z,0.0nm,0.8s						
ICHK	**Chekchek**	**4.65**	**315**	IAMB	IAmb	20 10 17.2	
	comp=Z,1μm,0.4s						
ASHO	**Ashiyiah**	**4.71**	**205**	P	**Pn**	**20 08 56.9**	**+4.1**
	SNR=7.5						
ASHO				S	**Sb**	**20 09 55.2**	**-5.9**
TKDS	**Koohdasht(Taba**	**4.72**	**348**	*e*Pn	**Pn**	**20 08 53.3**	**+0.4**
TKDS				IAMB	IAmb	20 10 22.8	
	comp=Z,0.0nm,0.7s						
TNSJ	**Nastanj**	**5.16**	**345**	*e*Pn	**Pn**	**20 08 59.7**	**+0.7**
WSAR	**Wadi Sarin**	**5.73**	**177**	P	**Pn**	**20 09 06.7**	**0.0**
	SNR=14						
WSAR				S	**Sn**	**20 10 10.4**	**-1.9**
ARQ	**Araqi**	**5.83**	**196**	P	**Pn**	**20 09 11.6**	**+3.4**
	SNR=10.0						
ARQ				S	**Sn**	**20 10 20.2**	**+5.3**
SMDO	**Samad**	**5.90**	**182**	P	**Pn**	**20 09 09.9**	**+0.7**
SMDO				S	**Sn**	**20 10 19.5**	**+2.9**
KLNJ	**Kolanjah**	**6.12**	**291**	*e*Pn	**Pn**	**20 09 16.5**	**+4.0**
BSY	**Bisya**	**6.28**	**189**	P	**Pn**	**20 09 17.1**	**+2.7**
	SNR=8.0						
WBK	**Wadi Bani Khal**	**6.38**	**174**	P	**Pn**	**20 09 14.9**	**-0.8**
	SNR=42						
SBZV	**Sabzevar**	**7.41**	**356**	*e*Pn	**Pn**	**20 09 30.1**	**+0.1**
IPAY	**Payeh**	**7.47**	**5**	*e*Pn	**Pn**	**20 09 32.4**	**+1.5**
IAKL	**Akhelmad**	**7.61**	**3**	*e*Pn	**Pn**	**20 09 33.5**	**+0.7**
IKRD	**Kardeh**	**7.78**	**2**	*e*Pn	**Pn**	**20 09 36.5**	**+1.4**
ISFR	**Sfrayin**	**8.05**	**359**	*e*Pn	**Pn**	**20 09 39.4**	**+0.5**

*IDC **17** 20:09:39.8±1.9, 6°60S×154°19E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.7/30, mbtmp3.7/7, ML4.0/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/25, Error ellipse: s-maj=48.1km s-min=21.9km az=93.0*
*ISCJB **17** 20:09:45.7±1.7, 6°6S±0°1×154°0E±0°2, h48km, mb3.5/6, MS2.7/1, Error ellipse: s-maj=34.1km s-min=10.9km az=161.9*
ISC 17 20:09:47.2±1.8, **6°6S**±0°1×**154°0E**±0°3, **h48**km, **n8, σ0s73/9, mb3.6**/6, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.03**	**319**	Pn	**Pn**	**20 10 32.4**	**-0.3**
	19nm,0.3s,baz=180,slow=1.8,SNR=35						
KRVT				Sn	**Sn**	**20 11 08.0**	**+0.3**
	14nm,0.3s,baz=222,slow=5.5,SNR=4.2						
WRA	**Warramunga Arr**	**23.27**	**233**	P	**P**	**20 14 49.5**	**-1.3**
	1.6nm,0.8s,baz=55,slow=9.5,SNR=11						
ASAR	**Alice Springs**	**25.73**	**227**	P	**P**	**20 15 13.2**	**-0.2**
	0.4nm,0.5s,baz=55,slow=9.0,SNR=7.9						
STKA	**Stephens Creek**	**27.70**	**203**	P	**P**	**20 15 31.6**	**+0.6**
	0.8nm,0.5s,baz=34,slow=14,SNR=4.5						
FITZ	**Fitzroy Crossi**	**29.95**	**245**	P	**P**	**20 15 51.5**	**+0.4**
	1.0nm,0.7s,baz=57,slow=12,SNR=4.3						
FITZ				LR	LR	20 29 49.3	
	comp=Z,15nm,18.1s,baz=100,slow=40						
SONM	**Songino Array**	**68.49**	**328**	P	**P**	**20 20 44.7**	**+0.1**
	0.3nm,0.7s,baz=136,slow=6.3,SNR=2.8						
MKAR	**Makanchi Array**	**82.48**	**319**	P	**P**	**20 22 05.0**	**+0.3**
	0.3nm,0.5s,baz=93,slow=8.0,SNR=6.3						
TORD	**Torodi Ar. Bea**	**152.00**	**286**	PKPbc	**PKPbc**	**20 29 37.3**	**-0.9**
	0.4nm,0.8s,baz=112,slow=2.0,SNR=3.6						

*IDC **17** 20:11:30.3±0.7, 9°59S×79°23W, h0km, mb4.2/14, mb1 4.4/16, mb1mx4.1/38, mbtmp4.1/16, ML3.7/2, MS3.1/10, Ms1 3.1/10, ms1mx3.0/33, Error ellipse: s-maj=40.3km s-min=14.6km az=57.0*
*ISCJB **17** 20:11:33.7±0.4, 9°84S±0°05×79°48W±0°06, h35km, mb4.2/15, MS3.1/5, Error ellipse: s-maj=10.0km s-min=5.8km az=148.9*
*NEIC **17** 20:11:37.8±2.1, 9°78S±0°07×79°3W±0°1, h56km±1km, mb4.5/20*
ISC 17 20:11:35.5±0.6, **9°81S**±0°07×**79°4W**±0°1, **h35**km, **n56, σ0s99/42, mb4.4/23, MS3.1/5, Off coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.85**	**21**	Pn	**Pn**	**20 12 20.0**	**+1.0**
	24nm,0.3s,baz=191,slow=4.5,SNR=122						
ATAH				Sn	**Sn**	**20 12 53.2**	**+0.8**
	57nm,0.3s,baz=283,slow=20,SNR=6.0						
ATAH				LR	LR	20 13 33.9	
	comp=Z,472nm,18.1s,baz=188,slow=48						
NNA	**Nana**	**3.35**	**320**	Pn	**Pn**	**20 12 25.1**	**-0.3**
	17nm,0.3s,baz=326,slow=9.6,SNR=20						
NNA				Sn	**Sn**	**20 13 04.4**	**+0.4**
	37nm,0.3s,baz=238,slow=20,SNR=5.7						
NNA				LR	LR	20 13 48.4	
	comp=Z,203nm,20.8s,baz=300,slow=41						
OTAV	**Otavalo**	**10.03**	**6**		**Pn**	**20 14 00.3**	**+2.7**
LPAZ	**La Paz**	**12.76**	**121**	LR	LR	20 18 49.8	
	comp=Z,12nm,21.1s,baz=292,slow=35						
ROSC	**El Rosal**	**15.42**	**20**	LR		20 22 16.0	
	comp=Z,208nm,19.5s,baz=238,slow=43						
SAML	**Samuel**	**16.07**	**88**	P	**Pn**	**20 15 18.6**	**-0.3**
LVC	**Limon Verde**	**16.24**	**143**	LR	LR	20 21 31.2	
	comp=Z,30nm,21.0s,baz=325,slow=37						
SIV	**San Ignacio**	**18.92**	**111**	Pn	**P**	**20 15 53.4**	**-0.1**
	0.2nm,0.3s,baz=280,slow=12,SNR=4.8						
SDV	**Santo Domingo**	**20.54**	**26**	LR	LR	20 25 38.6	
	comp=Z,80nm,21.0s,baz=135,slow=42						
JTS	**Las Juntas de**	**20.71**	**345**	LR	LR	20 23 05.7	
	comp=Z,48nm,21.2s,baz=212,slow=34						
CFA	**Coxi Fontan**	**24.05**	**156**	P	**P**	**20 16 48.5**	**+0.9**
	1.6nm,0.4s,baz=350,slow=9.0,SNR=4.6						
CFA				LR	LR	20 23 54.5	
	comp=Z,50nm,21.9s,baz=256,slow=31						
APG	**El Apazote**	**26.97**	**336**	LR	LR	20 26 30.3	
	comp=Z,66nm,19.0s,baz=125,slow=34						
BDFB	**Brasilia**	**31.18**	**104**	LR	LR	20 30 49.5	
	comp=Z,108nm,19.5s,baz=120,slow=37						
PLCA	**Paso Flores**	**31.79**	**167**	P	**P**	**20 17 58.2**	**+1.5**
	4.6nm,1.0s,baz=6.0,slow=9.3,SNR=5.0						
PLCA	**Paso Flores**	**31.79**	**167**	P	**P**	**20 17 57.1**	**+0.3**
PLCA				IAmb	IAmb	20 17 59.1	
	comp=Z,6.1nm,1.0s						
TRQA	**Tornquist**	**32.21**	**154**	P	**P**	**20 18 00.7**	**+0.3**
TRQA				IAmb	IAmb	20 18 24.9	
	comp=Z,14nm,1.4s						
ANMO	**Albuquerque**	**51.34**	**331**	P	**P**	**20 20 36.1**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=158,slow=11,SNR=2.6						
ANMO	**Albuquerque**	**51.34**	**331**	P	**P**	**20 20 35.5**	**-1.4**
HWUT	**Hardware Ranch**	**59.07**	**332**	P	**P**	**20 21 31.8**	**-0.7**
PDAR	**Pinedale Array**	**59.12**	**334**	P	**P**	**20 21 32.6**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=131,slow=7.4,SNR=8.0						
OMMB	**Old Mammoth Mi**	**59.97**	**324**	P	**P**	**20 21 39.4**	**+0.4**
OMMB				IAmb	IAmb	20 21 41.1	
	comp=Z,2.4nm,0.8s						
NVAR	**Mina Array Bea**	**60.13**	**325**	P	**P**	**20 21 39.0**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=142,slow=7.5,SNR=8.0						
ELK	**Elko**	**60.18**	**329**	P	**P**	**20 21 41.1**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=127,slow=4.3,SNR=5.3						
ELK	**Elko**	**60.18**	**329**	P	**P**	**20 21 40.5**	**+0.3**
YHL	**Hebgen Lake**	**61.50**	**335**	P	**P**	**20 21 50.3**	**+1.1**
ULM	**Lac du Bonnet**	**61.51**	**348**	P	**P**	**20 21 47.2**	**-1.5**
	comp=Z,3.9nm,0.8s,baz=144,slow=6.2,SNR=5.7						
ULM	**Lac du Bonnet**	**61.51**	**348**	P	**P**	**20 21 47.4**	**-1.3**
BEKR	**Beckworth**	**62.28**	**325**	P	**P**	**20 21 55.0**	**+0.6**
BEKR				IAmb	IAmb	20 21 57.3	
	comp=Z,6.8nm,1.5s						
MFID	**Camas Ranch**	**62.47**	**331**	P	**P**	**20 21 56.0**	**+0.5**
MFID				IAmb	IAmb	20 21 57.6	
	comp=Z,4.5nm,0.8s						
MOD	**Modoc Plateau**	**63.65**	**327**	P	**P**	**20 22 04.6**	**+1.1**
MOD				IAmb	IAmb	20 22 05.5	
	comp=Z,4.2nm,0.8s						
YBH	**Yreka Blue Hor**	**64.86**	**325**	P	**P**	**20 22 11.7**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=148,slow=11,SNR=5.7						
YBH	**Yreka Blue Hor**	**64.86**	**325**	P	**P**	**20 22 11.4**	**+0.1**
YBH				IAmb	IAmb	20 22 25.1	
	comp=Z,5.5nm,1.4s						
F10A	**Beach Ranch, E**	**65.05**	**332**	P	**P**	**20 22 13.8**	**+1.4**
F10A				IAmb	IAmb	20 22 22.1	
	comp=Z,9.0nm,1.2s						
PINE	**Pine Mountain**	**65.30**	**328**	P	**P**	**20 22 15.3**	**+1.1**
PINE				IAmb	IAmb	20 22 16.7	
	comp=Z,5.9nm,1.1s						
NEW	**Newport**	**66.72**	**334**	P	P	20 22 19.6	-3.5
	comp=Z,2.1nm,0.3s,baz=54,slow=13,SNR=6.4						
NEW	**Newport**	**66.72**	**334**	P	**P**	**20 22 22.9**	**-0.2**
YKA	**Yellowknife Ar**	**77.05**	**344**	P	**P**	**20 23 23.9**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=140,slow=5.9,SNR=32						
DLBC	**Dease Lake**	**79.33**	**336**	P	**P**	**20 23 38.3**	**+0.8**
	comp=Z,17nm,0.8s,baz=276,slow=1.6,SNR=5.6						
DLBC	**Dease Lake**	**79.33**	**336**	P	**P**	**20 23 38.5**	**+1.0**
QSPA	**South Pole Qui**	**80.31**	**180**	P	**P**	**20 23 44.2**	**+1.4**
QSPA				IAmb	IAmb	20 23 45.6	
	comp=Z,12nm,1.4s						
TORD	**Torodi Ar. Bea**	**83.71**	**76**	P	**P**	**20 23 59.9**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=250,slow=5.4,SNR=4.8						
ESDC	**Sonseca Array**	**85.24**	**49**	P	**P**	**20 24 07.9**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=265,slow=5.0,SNR=4.6						
INK	**Inuvik**	**86.69**	**342**	P	**P**	**20 24 13.8**	**-1.5**
	comp=Z,2.8nm,1.0s,baz=106,slow=6.4,SNR=7.2						
INK	**Inuvik**	**86.69**	**342**	P	**P**	**20 24 14.9**	**-0.4**
INK				IAmb	IAmb	20 24 16.4	
	comp=Z,4.2nm,1.1s						
EGAK	**Eagle**	**87.30**	**338**	P	**P**	**20 24 18.1**	**-0.2**
ILAR	**Eielson Array**	**89.48**	**337**	P	**P**	**20 24 28.0**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=153,slow=3.4,SNR=14						
H11N3	**WAKE ISLAND Hy**	**115.42**	**287**	T	T	22 35 57.1	
	baz=92,slow=75,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**115.43**	**287**	T	T	22 35 57.7	
	baz=92,slow=75,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**115.43**	**287**	T	T	22 35 57.1	
	baz=92,slow=75,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**115.57**	**286**	T	T	22 36 06.8	
	baz=94,slow=74,SNR=18						
H11S1	**WAKE ISLAND Hy**	**115.57**	**286**	T	T	22 36 07.3	
	baz=94,slow=74,SNR=5.7						
H11S3	**WAKE ISLAND Hy**	**115.58**	**286**	T	T	22 36 07.7	
	baz=94,slow=74,SNR=11						
ASAR	**Alice Springs**	**133.42**	**224**	PKP	**PKPdf**	**20 30 48.5**	**-0.5**
	comp=Z,0.8nm,1.1s,baz=90,slow=1.9,SNR=3.3						
WRA	**Warramunga Arr**	**135.50**	**228**	PKP	**PKPdf**	**20 30 53.2**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=124,slow=2.2,SNR=9.9						
MKAR	**Makanchi Array**	**140.00**	**20**	PKhKP	PKPpre	20 30 49.8	
	comp=Z,0.1nm,0.6s,baz=29,slow=3.3,SNR=4.5						
KSRS	**Korea Array**	**143.04**	**323**	PKhKP	PKPpre	20 31 02.5	
	comp=Z,1.0nm,0.6s,baz=66,slow=3.2,SNR=3.8						

*ISCJB **17** 20:14:05.5±3.6, 28°1N±0°2×112°2W±0°2, h15km±43km, Error ellipse: s-maj=42.0km s-min=10.6km az=145.3*
*ECX **17** 20:14:07.3±0.3, 28°08N×112°19W, h10km, MD3.2, ML3.3*
*MEX **17** 20:14:08.2±0.4, 28°05N×112°23W, h10km±6km, MD3.7*
ISC 17 20:14:04.7±1.4, **28°13N**±0°04×**112°23W**±0°05, **h18**km±5km, **n9, σ0s35/13, 1C-2D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.80**	**180**	*e*P	**Pg**	**20 14 20.5**	**+0.1**
SRIG				*e*S	**Sb**	**20 14 30.2**	**-0.4**
SRIG	**Santa Rosalia**	**0.80**	**180**	*e*P	**Pg**	**20 14 20.6**	**+0.1**
SRIG				*e*S	**Sg**	**20 14 30.9**	**-0.2**
GUYB	**Guaymas**	**1.23**	**100**	*e*P	**Pb**	**20 14 27.4**	**+0.1**
GUYB				*e*S	**Sb**	**20 14 42.2**	**-0.6**
GUYB	**Guaymas**	**1.23**	**100**	*e*P	**Pb**	**20 14 27.4**	**+0.1**
GUYB				*e*S	**Sn**	**20 14 43.4**	**+0.4**
HSIG		**1.44**	**51**	*e*P	**Pb**	**20 14 30.9**	**-0.1**
HSIG				*i* S	**Sb**	**20 14 49.4**	**+0.4**
HSIG		**1.44**	**51**	*e*P	**Pg**	**20 14 32.1**	**-0.4**
HSIG				*e*S	**Sg**	**20 14 51.6**	**+0.3**
SQX	**San Quintin**	**4.01**	**308**	IAML		20 16 20.7	
	comp=E,52nm,0.8s						
SQX				⇓*e*		20 16 20.7	
SQX				⇑*e*		20 16 25.2	
SQX				IAML		20 16 25.2	
	comp=N,38nm,0.8s						
SPX	**San Pedro Mart**	**4.04**	**317**	IAML		20 16 23.4	
	comp=E,22nm,1.1s						
SPX				⇓*e*		20 16 23.4	
SPIG	**San Pedro Mart**	**4.05**	**317**	*e*P	**Pb**	**20 15 15.7**	**0.0**

*ISK **17** 20:14:42.7, 36°00N×26°83E, h11km, ML3.0/14*
*ATH **17** 20:14:43.0, 36°00N×26°99E, h43km±4km, ML3.1/5, Error ellipse: s-maj=5.8km s-min=1.2km az=90.0*
*ISCJB **17** 20:14:43.1±0.6, 36°00N±0°02×26°87E±0°03, h7km±5km, Error ellipse: s-maj=4

THT2	**Imerovigli**	**1.35**	**290**	PN	**Pn**	**20 15 05.9**	**-0.5**
THR3	**Thira Island,**	**1.35**	**289**	P	**Pn**	**20 15 05.7**	**-0.7**
THR3	**Thira Island,**	**1.35**	**289**	P	**Pb**	**20 15 06.5**	**-0.6**
SAP3	**Santorini-Thir**	**1.41**	**289**	P	**Pn**	**20 15 07.2**	**+0.1**
LAST	**Lasithi**	**1.48**	**237**	P	**Pb**	**20 15 08.8**	**-0.5**
LAST				S	**Sn**	**20 15 26.8**	**-0.7**
	comp=N,70nm,0.5s						
LAST	**Lasithi**	**1.48**	**237**	P	**Pb**	**20 15 08.9**	**-0.5**
LAST				S	**Sn**	**20 15 27.0**	**-0.5**
YER	**Yerkesik**	**1.55**	**42**	P	**Pg**	**20 15 11.2**	**-0.5**
YER	**Yerkesik**	**1.55**	**42**	PN	**Pg**	**20 15 12.3**	**+0.6**
IOSP	**Ios island**	**1.56**	**299**	P	**Pn**	**20 15 09.2**	**-0.1**
TURN	**Turunc**	**1.57**	**55**	*i* P	**Pn**	**20 15 06.9**	**-2.5**
TURN				*i* S	**Sn**	**20 15 25.4**	**-4.2**
TURN				IAML		20 15 31.0	
	comp=E,43nm,0.3s						
TURN				IAML		20 15 32.0	
	comp=N,41nm,0.2s						
TURN	**Turunc**	**1.57**	**55**	PN	**Pn**	**20 15 07.4**	**-2.0**
APE	**Apeiranthos**	**1.60**	**313**	P	**Pn**	**20 15 09.6**	**-0.3**
APE	**Apeiranthos**	**1.60**	**313**	PN	**Pn**	**20 15 09.5**	**-0.3**
GCAM	**G?zelcaml?**	**1.72**	**6**	*i* P	Pg	20 15 19.3	+4.2
GCAM				IAML		20 15 50.0	
	comp=N,29nm,1.2s						
GCAM				IAML		20 15 51.0	
	comp=E,42nm,1.1s						
GCAM	**G?zelcaml?**	**1.72**	**6**	PN	**Pg**	**20 15 13.7**	**-1.4**
SMG	**Samos**	**1.72**	**356**	P	**Pn**	**20 15 11.8**	**+0.2**
FETY	**Fethiye**	**1.81**	**68**	*i* P	**Pg**	**20 15 16.5**	**-0.3**
FETY				IAML		20 15 46.0	
	comp=E,14nm,0.5s						
FETY				IAML		20 15 51.0	
	comp=N,20nm,0.5s						
FETY	**Fethiye**	**1.81**	**68**	PN	**Pg**	**20 15 16.2**	**-0.5**
AYDN	**Tasoluk**	**1.81**	**23**	*i* P	**Pg**	**20 15 17.9**	**+1.0**
IDI	**Anoyia**	**1.85**	**248**	P	**Pn**	**20 15 13.5**	**+0.2**
SIVA	**Sivas**	**2.03**	**242**	P	**Pn**	**20 15 16.6**	**+1.0**
DGB	**zmir**	**2.06**	**358**	*i* P	**Pn**	**20 15 16.2**	**0.0**
DGB				*i* S	**Sg**	**20 15 50.8**	**+2.5**
DGB				IAML		20 15 55.0	
	comp=N,22nm,1.0s						
DGB				IAML		20 16 01.0	
	comp=E,22nm,1.3s						
AYDB	**Zeytinkoy-Aydi**	**2.08**	**20**	PN	**Pb**	**20 15 19.1**	**-0.5**
AKAS	**Kas**	**2.13**	**83**	*i* P	**Pg**	**20 15 20.3**	**-2.6**
AKAS				IAML		20 15 59.0	
	comp=E,13nm,0.7s						
AKAS				IAML		20 15 59.0	
	comp=N,20nm,1.0s						
AKAS	**Kas**	**2.13**	**83**	PN	**Pg**	**20 15 20.5**	**-2.4**
TAVA	**DENIZLI_Tavas**	**2.13**	**46**	*i* P	**Pg**	**20 15 22.6**	**-0.3**
TAVA				IAML		20 15 50.0	
	comp=E,11nm,1.1s						
TAVA				IAML		20 16 00.0	
	comp=N,10nm,0.4s						
GLHS	**Glhisar (BURDU**	**2.33**	**59**	PN	**Pb**	**20 15 23.8**	**0.0**
VAM	**Vamos**	**2.34**	**257**	P	**Pn**	**20 15 21.0**	**+0.9**
GOLH	**Golhisar**	**2.41**	**58**	*i* P	**Pg**	**20 15 25.6**	**-2.8**
VLI	**Veliai**	**3.35**	**284**	P	**Pn**	**20 15 35.1**	**+1.1**

*ISCJB **17** 20:42:44.3±0.8, 23°.91N±0°.03×122°.83E±0°.02, h3^{km}±7^{km}, Error ellipse: s-maj=4.6km s-min=3.3km az=173.1*
*TAP **17** 20:42:45.8, 23°.93N×122°.80E, h105^{km}±1^{km}, ML2.9, D*
*JMA **17** 20:42:46.8±0.2, 24°.05N×122°.84E, h20^{km}±3^{km}, M2.8*
ISC 17 20:42:44.2±1.3**, 23°.91N**±0°.04×**122°.82E**±0°.02**, h5**^{km}±11**km, n45**, σ0**°70/70, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.55**	**12**	P	**Pg**	**20 42 55.1**	**+0.3**
JYNG				*e*S	**Sg**	**20 43 00.9**	**-1.0**
YOJ	**Yonaguni jima**	**0.57**	**17**	P	**Pg**	**20 42 55.8**	**+0.5**
YOJ				*e*S	**Sg**	**20 43 01.6**	**-1.1**
EOS1	**EOS1**	**0.90**	**315**	*e*P	**Pn**	**20 43 04.5**	**+1.1**
	baz=315						
HATJ	**Hateruma jima**	**0.91**	**81**	P	**Pb**	**20 43 02.9**	**+0.4**
IRIF	**Iriomote-Funau**	**0.93**	**63**	P	**Pb**	**20 43 02.9**	**+0.1**
NANB	**Nanao**	**1.11**	**298**	*e*P	**Pn**	**20 43 07.2**	**+0.9**
	baz=303						
NANB				*e*S	**Sg**	**20 43 19.0**	**-0.8**
	baz=303						
ENA	**Nanau**	**1.11**	**298**	*e*P	**Pb**	**20 43 05.2**	**-0.7**
	baz=301						
TWC	**Suao**	**1.13**	**308**	*e*P	**Pn**	**20 43 07.5**	**+0.8**
	baz=313						
JKRS	**Kuro-shima**	**1.13**	**73**	P	**Pn**	**20 43 07.0**	**+0.3**
NACB	**Ninganchiao**	**1.15**	**283**	*e*P	**Pg**	**20 43 06.9**	**+0.6**
	baz=279						
NACB				*e*S	**Sn**	**20 43 23.7**	**+0.5**
	baz=279						
ETLH	**Xiulin Townshi**	**1.26**	**284**	*e*P	**Pn**	**20 43 08.8**	**+0.2**
	baz=283						
ETLH				*e*S	**Sn**	**20 43 25.4**	**-0.5**
	baz=283						
ESL	**Shilin**	**1.28**	**266**	*e*P	**Pn**	**20 43 08.2**	**-0.5**
	baz=265						
JIJ	**Ishigaki jima**	**1.29**	**69**	P	**Pn**	**20 43 09.0**	**+0.2**
JIJ				S	**Sb**	**20 43 24.9**	**-0.9**
NTC	**Toucheng**	**1.30**	**316**	*e*P	**Pg**	**20 43 09.7**	**+0.5**
	baz=316						
TWE	**Neicheng**	**1.33**	**308**	*e*P	**Pb**	**20 43 09.5**	**-0.1**
	baz=313						
TWE				*e*S	**Sg**	**20 43 27.9**	**+1.1**
	baz=313						
HGSD	**Ruisui**	**1.35**	**252**	*e*P	**Pn**	**20 43 09.2**	**-0.5**
	baz=253						
HGSD				*e*S	**Sn**	**20 43 28.0**	**0.0**
	baz=253						
ENTT	**Nioudou**	**1.36**	**303**	*e*P	**Pg**	**20 43 10.2**	**0.0**
	baz=307						
ENTT				*e*S	**Sg**	**20 43 29.0**	**+1.1**
	baz=307						
SLBB	**Yuanshan**	**1.37**	**308**	*e*P	**Pb**	**20 43 10.0**	**-0.4**
	baz=313						
NDT	**Datong Townshi**	**1.38**	**300**	*e*P	**Pb**	**20 43 10.6**	**+0.1**
	baz=303						
NDT				*e*S	**Sg**	**20 43 27.9**	**-0.6**
	baz=303						
TIPB	**Shuangxi**	**1.39**	**319**	*e*P	**Pb**	**20 43 10.4**	**-0.3**
	baz=319						
TIPB				S	**Sg**	**20 43 28.1**	**-0.9**
	baz=319						
NNSH	**Datong**	**1.41**	**292**	*e*P	**Pb**	**20 43 11.3**	**+0.2**
	baz=283						
NNSH				*e*S	**Sg**	**20 43 29.3**	**-0.3**
	baz=283						
NNS	**Nan Shan**	**1.42**	**292**	*e*P	**Pg**	**20 43 11.9**	**+0.4**
	baz=283						
NNS				*e*S	**Sg**	**20 43 29.7**	**-0.3**
	baz=283						
EHY	**Hungye**	**1.43**	**254**	*e*P	**Pn**	**20 43 10.9**	**0.0**
	baz=252						
EHY				*e*S	**Sg**	**20 43 30.6**	**+0.3**
	baz=252						
WHF	**Hehuan Shan**	**1.44**	**280**	*e*P	**Pn**	**20 43 11.6**	**+0.3**
	baz=279						
WHF				*e*S	**Sg**	**20 43 30.5**	**-0.1**
	baz=279						
NWLT	**Wulai**	**1.48**	**306**	*e*P	**Pg**	**20 43 12.5**	**-0.1**
	baz=310						
NWLT				*e*S	**Sg**	**20 43 30.1**	**-1.7**
	baz=310						
YULB	**Yu-li**	**1.49**	**250**	*e*P	**Pn**	**20 43 11.9**	**+0.3**
	baz=248						
YULB				*e*S	**Sn**	**20 43 31.5**	**-0.1**
	baz=248						
TWF1	**Yuli**	**1.51**	**249**	*e*P	**Pn**	**20 43 11.9**	**+0.1**
	baz=243						
TWF1				*e*S	**Sn**	**20 43 31.8**	**-0.1**
	baz=243						
CHGB	**Renai**	**1.52**	**276**	*e*P	**Pn**	**20 43 12.7**	**+0.5**
	baz=280						
CHGB				*e*S	**Sg**	**20 43 32.8**	**-0.2**
	baz=280						
JISG	**Ishigakijimahi**	**1.52**	**63**	P	**Pn**	**20 43 11.9**	**-0.1**
JISG				S	**Sn**	**20 43 31.6**	**-0.5**
YHNB	**Yeheng**	**1.52**	**300**	*e*P	**Pb**	**20 43 13.2**	**+0.3**
	baz=290						
YHNB				*e*S	**Sg**	**20 43 31.6**	**-1.5**
	baz=290						
NSK	**Sanguang**	**1.54**	**300**	*e*P	**Pb**	**20 43 13.5**	**+0.2**
	baz=295						
FULB	**Fuli**	**1.57**	**243**	P	**Pn**	**20 43 12.9**	**+0.1**
	baz=238						
FULB				*e*S	**Sn**	**20 43 33.2**	**-0.3**
	baz=238						
SSLB	**Suanglung**	**1.71**	**266**	*e*P	**Pn**	**20 43 14.9**	**+0.2**
	baz=268						
SSLB				*e*S	**Sb**	**20 43 37.1**	**-1.0**
	baz=268						
WHP	**Taichung City**	**1.75**	**282**	*e*P	**Pb**	**20 43 17.4**	**+0.5**
	baz=278						
SMLT	**Sun Moon Lake**	**1.76**	**269**	*e*P	**Pn**	**20 43 15.7**	**+0.3**
	baz=269						
ELDTW	**Lidau**	**1.81**	**247**	*e*P	**Pn**	**20 43 16.0**	**-0.1**
	baz=250						
JTJ	**Tarama**	**1.86**	**67**	P	**Pn**	**20 43 18.4**	**+1.7**
TWGBT	**Beinan**	**1.94**	**236**	P	**Pn**	**20 43 17.6**	**-0.2**
	baz=243						
TWGBT				*e*S	**Sn**	**20 43 41.4**	**-1.1**
	baz=243						
TWG	**Pinlang**	**1.94**	**236**	*e*P	**Pn**	**20 43 17.9**	**0.0**
	baz=243						
TWG				*e*S	**Sn**	**20 43 41.7**	**-0.9**
	baz=243						
TPUB	**Ta-pu**	**2.10**	**254**	*e*P	**Pb**	**20 43 22.3**	**-0.5**
	baz=253						
SLGT	**Liugui**	**2.20**	**246**	*e*P	**Pn**	**20 43 23.1**	**+1.8**
	baz=245						
SGST	**Jiashian**	**2.22**	**249**	*e*P	**Pn**	**20 43 22.2**	**+0.6**
	baz=247						
CHN1	**Nanshi**	**2.23**	**251**	*e*S	**Sb**	**20 43 54.2**	**+1.4**
	baz=259						
SNST	**Tainan City**	**2.24**	**253**	*e*P	**Pn**	**20 43 23.0**	**+1.1**
	baz=251						
MASBT	**Mashibuluo**	**2.39**	**238**	*e*P	**Pn**	**20 43 24.1**	**0.0**
	baz=237						

*ISCJB **17** 20:45:29.7±1.5, 14°.6N±0°.2×92°.1W±0°.1, h80^{km}±10^{km}, Error ellipse: s-maj=30.6km s-min=6.4km az=32.7*
*GCG **17** 20:45:30.5±1.6, 14°.14N×92°.05W, h79^{km}±27^{km}, MD3.8*
*MEX **17** 20:45:30.0±0.6, 14°.56N×92°.00W, h80^{km}±8^{km}, MD3.7*
ISC 17 20:45:29.9±2.2**, 14°.5N**±0°.2×**92°.2W**±0°.1**, h77**^{km}±13**km, n8, σ1**§**65/14, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.43**	**351**	*i* P	**Pn**	**20 45 41.9**	**-0.9**
THIG				*e*S	**Sn**	**20 45 51.7**	**-0.5**
ERG	**Entre ros, C**	**0.61**	**94**	*e*P	**Pn**	**20 45 43.6**	**-0.7**
ERG				*e*S	**Sn**	**20 45 56.0**	**+0.9**
STG3	**Santiaguito 3,**	**0.65**	**69**	*e*P	**Pn**	**20 45 43.9**	**-1.1**
STG3				*e*S	**Sn**	**20 46 00.4**	**+4.3**
FUG	**Fuego 3**	**1.31**	**91**	*e*P	**Pn**	**20 45 52.7**	**-0.1**
FUG				*e*S	**Sn**	**20 46 09.4**	**-0.7**
PCIG		**1.57**	**321**	*i* P	**Pn**	**20 45 55.7**	**-0.3**
PCIG				*e*S	**Sn**	**20 46 15.8**	**+0.1**
IXG	**Ixpaco**	**1.73**	**100**	*e*P	**Pn**	**20 45 58.4**	**+0.1**
IXG				*e*S	**Sn**	**20 46 18.4**	**-1.3**
TGIG		**2.45**	**339**	*i* P	Pn	20 46 14.9	+7.1
TGIG				*e*S	**Sn**	**20 46 35.9**	**-1.0**
CMIG	**Matias Romero**	**3.67**	**315**	*e*P	**Pn**	**20 46 25.4**	**+1.2**

IDC 17 21:19:58.1±1.0**, 4°.61S**×**149°.93E, h0**^{km}**, mb3.5**/4**, mb1 3.8**/6**, mb1mx3.6**/38**, mbtmpg3.7**/6**, ML3.1**/2**, MS2.8**/2**, Ms1 2.8**/2**, ms1mx2.5**/29**, Error ellipse: s-maj=41.9km s-min=18.1km az=147.0, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.11**	**82**	Pn	Pb	21 20 36.3	-0.9
	52nm,0.3s,baz=237,slow=17,SNR=30						
KRVT				Sn	Sn	21 21 02.1	+0.6
	69nm,0.3s,baz=214,slow=7.9,SNR=10.0						
KRVT				LR	LR	21 21 38.3	
	comp=Z,206nm,18.9s,baz=229,slow=48						
PMG	**Port Moresby**	**5.50**	**210**	Pn	Pn	21 21 21.9	+0.6
	8.5nm,0.3s,baz=33,slow=17,SNR=13						
PMG				Sn	Sn	21 22 20.2	-5.1
	6.8nm,0.3s,baz=62,slow=18,SNR=4.9						
PMG				LR	LR	21 23 24.4	
	comp=Z,101nm,19.9s,baz=200,slow=38						
WRA	**Warramunga Arr**	**21.52**	**224**	P	P	21 24 49.4	+0.5
	0.4nm,0.4s,baz=53,slow=11,SNR=13						
WRA				PcP	PcP	21 28 52.3	+0.3
	0.4nm,0.7s,baz=41,slow=2.2,SNR=3.5						
ASAR	**Alice Springs**	**24.45**	**218**	P	P	21 25 18.0	-0.9
	0.6nm,0.8s,baz=57,slow=9.2,SNR=5.1						
FITZ	**Fitzroy Crossi**	**27.28**	**239**	P	P	21 25 44.3	-0.2
	1.2nm,0.7s,baz=64,slow=9.0,SNR=3.0						
ILAR	**Eielson Array**	**83.07**	**23**	P	P	21 32 24.1	-1.3
	0.2nm,0.3s,baz=256,slow=5.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**147.53**	**287**	PKPbc	PKPbc	21 39 45.2	-0.2
	0.7nm,0.7s,baz=60,slow=2.6,SNR=6.6						

*SKHL **17** 21:31:38.7±0.8, 47°.87N×153°.26E, h135^{km}±14^{km}, mb4.8/5, msh5.6/4*
*ISCJB **17** 21:31:38.6±0.4, 48°.12N±0°.04×152°.86E±0°.06, h132^{km}±4^{km}, mb4.2/60, Error ellipse: s-maj=9.1km s-min=3.2km az=138.9*
*MOS **17** 21:31:39.1±1.1, 48°.21N×152°.73E, h134^{km}, mb4.4/14, Error ellipse: s-maj=9.3km s-min=5.6km az=69.5*
*BJI **17** 21:31:40.0±0.0, 48°.20N×152°.70E, h126^{km}, mb4.7/19, mB5.0/15*
*NEIC **17** 21:31:41.3±1.8, 48°.3N±0°.1×152°.7E±0°.2, h139^{km}±4^{km}, mb4.4/57*
*IDC **17** 21:31:42.1±1.7, 48°.24N×152°.85E, h150^{km}±15^{km}, mb3.8/29, mb1 3.9/34, mb1mx3.8/54, mbtmp4.3/34, MS3.0/1, Ms1 3.0/1, ms1mx2.3/60, Error ellipse: s-maj=13.3km s-min=8.6km az=141.0*
ISC 17 21:31:39.0±0.7**, 48°.01N**±0°.07×**152°.99E**±0°.06**, h128**^{km}±5**km, n246**, σ1**§**65/266**, **mb4.3**/79**, 24C-10D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.36**	**36**	*e*PN	**Pn**	**21 32 31.5**	**+1.3**
SKR				*e*S	**Sn**	**21 33 09.9**	**+0.1**
SKR				pmax	pmax		
	comp=Z,46nm,0.4s						
SKR				smax	smax		
	comp=N,255nm,0.7s						
SKR				smax	smax		
	comp=E,404nm,0.5s						
SKR	**Severo-Kuril's**	**3.36**	**36**	*e*P	**Pn**	**21 32 30.9**	**+0.7**
SKR				AMB	AMB	21 32 31.6	
	comp=E,50nm,0.4s						
SKR				*e*S	**Sn**	**21 33 09.4**	**-0.4**
SKR				A	A	21 33 16.0	
	comp=E,250nm,0.6s						
SKR				A	A	21 33 16.0	
	comp=E,400nm,0.6s						
KUR	**Kuril'sk**	**4.49**	**234**	*e*PN	**Pn**	**21 32 48.6**	**+3.4**
KUR				*i* S	**Sn**	**21 33 41.9**	**+5.3**
KUR				pmax	pmax		
	comp=Z,70nm,0.5s						
KUR				pmax	pmax		
	comp=N,36nm,0.3s						
KUR				pmax	pmax		
	comp=E,54nm,0.5s						
KUR				smax	smax		
	comp=E,25nm,0.2s						
KUR				smax	smax		
	comp=N,128nm,0.3s						
KUR	**Kuril'sk**	**4.49**	**234**	*e*P	**Pn**	**21 32 47.2**	**+2.0**
KUR				AMB	AMB	21 32 50.1	
	comp=N,120nm,1.0s						
KUR				*e*rx	rx	21 33 40.7	
KUR				A	A	21 33 45.4	
	comp=N,90nm,0.6s						
KUR				A	A	21 33 45.4	
	comp=N,140nm,0.6s						
PEA0B	**Petropavlovsk-**	**5.92**	**29**‖	*e*PN	**Pn**	**21 33 05.1**	**+0.9**
PEA0B	**Petropavlovsk-**	**5.92**	**29**	Pn	**Pn**	**21 33 04.9**	**+0.7**
PETK	**Petropavlovsk-**	**5.92**	**29**	P	**Pn**	**21 33 05.2**	**+0.9**
	comp=N,1.7nm,0.3s,baz=185,slow=10,SNR=44						
SHO	**Shikotan**	**5.97**	**228**	PN	**Pn**	**21 33 03.9**	**-1.1**
SHO				*e*S	**Sn**	**21 34 09.2**	**-2.9**
SHO				pmax	pmax		
	comp=Z,56nm,0.3s						
SHO				pmax	pmax		
	comp=N,23nm,0.2s						
SHO				pmax	pmax		
	comp=E,38nm,0.2s						
SHO				smax	smax		
	comp=E,101nm,0.3s						
SHO				smax	smax		
	comp=N,66nm,0.4s						
SHO	**Shikotan**	**5.97**	**228**	*e*P	**Pn**	**21 33 05.6**	**+0.6**
SHO				AMB	AMB	21 33 07.2	
	comp=N,60nm,1.0s						
SHO				*e*S	**Sn**	**21 34 11.2**	**-0.9**
SHO				A	A	21 34 11.9	
	comp=N,60nm,0.3s						
SHO				A	A	21 34 11.9	
	comp=N,90nm,0.3s						
PET	**Petropavlovsk**	**6.18**	**34**	PN	**Pn**	**21 33 08.6**	**+0.9**
PET						21 34 15.8	
PET	**Petropavlovsk**	**6.18**	**34**	*e*P	**Pn**	**21 33 08.3**	**+0.6**
PET				AMB	AMB	21 33 12.6	
	comp=N,40nm,0.4s						
PET				*e*S	**Sn**	**21 34 15.8**	**-1.2**
PET				A	A	21 34 17.8	
	comp=N,90nm,0.5s						
PET	**Petropavlovsk**	**6.18**	**34**	Pn	**Pn**	**21 33 08.6**	**+0.9**
PET				Sn	**Sn**	**21 34 15.8**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**6.36**	**234**	PN	**Pn**	**21 33 11.6**	**+1.4**
YUK				*e*S	**Sn**	**21 34 22.1**	**+0.6**
YUK				pmax	pmax		
	comp=Z,189nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**6.36**	**234**	*e*P	**Pn**	**21 33 11.0**	**+0.8**
GRPR	**Tuman**	**6.44**	**234**	*e*PN	**Pn**	**21 33 11.7**	**+0.4**
GRPR				*e*S	**Sn**	**21 34 25.3**	**+1.9**
GRPR				pmax	pmax		
	comp=Z,99nm,0.5s						
GRPR	**Tuman**	**6.44**	**234**	*e*P	**Pn**	**21 33 12.0**	**+0.7**
GRPR				AMB	AMB	21 33 15.1	
	comp=Z,40nm,0.5s						
GRPR				*e*S	**Sn**	**21 34 25.3**	**+1.9**
GLVR	**Golovnino**	**6.74**	**233**	PN	**Pn**	**21 33 16.9**	**+1.5**
GLVR				*e*S	**Sn**	**21 34 32.8**	**+2.1**
GLVR				pmax	pmax		
	comp=Z,162nm,0.5s						
GLVR	**Golovnino**	**6.74**	**233**	*e*P	**Pn**	**21 33 16.9**	**+1.5**
GLVR				*e*S	**Sn**	**21 34 32.8**	**+2.1**
NEM2	**Nemuro 2**	**6.88**	**230**	P	**Pn**	**21 33 16.3**	**-0.9**
NEM2				*e*S	**Sn**	**21 34 29.2**	**-4.9**
NMR	**Nemuro--Hokkai**	**6.88**	**230**‖	*i*PN	**Pn**	**21 33 16.0**	**-1.3**
NMR				*i* S	**Sn**	**21 34 31.2**	**-3.0**
NMR	**Nemuro--Hokkai**	**6.88**	**230**	*i* P	**Pn**	**21 33 16.0**	**-1.3**
NMR				*i* S	**Sn**	**21 34 31.0**	**-3.2**
YSS	**Yuzh-Sakhalins**	**7.02**	**265**	*i* PN	**Pn**	**21 33 16.5**	**-2.6**
YSS	**Yuzh-Sakhalins**	**7.02**	**265**	*e*P	**Pn**	**21 33 19.2**	**+0.1**
JNK	**Nakash**	**7.28**	**236**	P	**Pn**	**21 33 24.0**	**+1.4**
JTKR	**Abashiri--Toko**	**7.50**	**241**	P	**Pn**	**21 33 28.2**	**+2.5**
JAK	**Akkeshi**	**7.69**	**232**	P	**Pn**	**21 33 27.1**	**-1.0**
JAK				*e*S	**Sn**	**21 34 48.0**	**-5.6**
JMP	**Maruseppu**	**7.81**	**243**	P	**Pn**	**21 33 33.7**	**+3.9**
JAR	**Ashorobuto**	**8.00**	**237**	P	**Pn**	**21 33 34.2**	**+1.9**
JKA	**Kamikawa-asahi**	**8.21**	**245**		**Pn**	**21 33 39.0**	**+3.9**
ASAJ	**Asahikawa**	**8.21**	**246**	P	**Pn**	**21 33 38.8**	**+3.6**
ASAJ	**Asahikawa**	**8.21**	**246**	P	**Pn**	**21 33 39.0**	**+3.9**
	comp=Z,4.3nm,0.3s,baz=65,slow=14,SNR=28						
JOB	**Onbets**	**8.21**	**235**	P	**Pn**	**21 33 35.2**	**0.0**
JOB				*e*S	**Sn**	**21 35 02.5**	**-3.9**
JKK2	**Kamakawa 2**	**8.25**	**244**	P	**Pn**	**21 33 38.7**	**+3.0**
JCH	**Churui**	**8.67**	**235**	P	**Pn**	**21 33 40.3**	**-1.0**
JCH				*e*S	**Sn**	**21 35 11.8**	**-5.5**
JFR	**Furan**	**8.75**	**240**	P	**Pn**	**21 33 45.3**	**+2.8**
JBT2	**Biratori 2**	**9.12**	**239**	P	**Pn**	**21 33 49.0**	**+1.5**
ERM	**Erimo**	**9.19**	**233**‖	*e*PN	**Pn**	**21 33 48.5**	**+0.2**
ERM	**Erimo**	**9.19**	**233**	Pn	**Pn**	**21 33 47.7**	**-0.6**
ERM					**Sn**	**21 35 24.3**	**-5.6**
JEM	**Erimo**	**9.19**	**233**	P	**Pn**	**21 33 46.3**	**-2.0**
JNBK	**Urakawa-nobuka**	**9.23**	**235**	P	**Pn**	**21 33 47.3**	**-1.5**
JNBK				*e*S	**Sn**	**21 35 23.8**	**-7.0**
JNB	**Noboribetsu**	**10.08**	**241**	P	**Pn**	**21 34 00.1**	**-0.3**
JNB				*e*S	**Sn**	**21 35 47.5**	**-4.1**
JKB	**Kayabe**	**10.45**	**239**	P	**Pn**	**21 34 04.1**	**-1.2**
JSH	**Shimam**	**10.57**	**244**	P	**Pn**	**21 34 07.9**	**+1.0**
JYM2	**Yakumo 2**	**10.69**	**241**	P	**Pn**	**21 34 08.6**	**+0.1**
JSR	**Shiriuchi**	**11.03**	**239**	P	**Pn**	**21 34 12.0**	**-1.0**
JTM	**Tenmabayashi**	**11.17**	**234**	*e*S	Sn	21 36 07.0	-11
JANG	**Nango**	**11.22**	**231**	P	**Pn**	**21 34 11.2**	**-4.4**
JANG				*e*S	Sn	21 36 07.7	-12
JOSM	**Okushiri--Mats**	**11.24**	**243**	P	**Pn**	**21 34 15.1**	**-0.7**
EKMR	**Ekimchan**	**13.70**	**299**	*e*P	**Pn**	**21 34 49.2**	**+1.5**
EKMR				AMB	AMB	21 34 58.5	
	comp=Z,20nm,0.8s						
KLR	**Kul'dur**	**14.10**	**283**‖	*e*P	**P**	**21 34 55.3**	**-1.2**
KLR	**Kul'dur**	**14.10**	**283**	P	**P**	**21 34 56.0**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=79,slow=9.1,SNR=12						
KLR				LR	LR	21 40 47.4	
	comp=Z,64nm,20.2s,baz=31,slow=39						
SEY	**Seymchan**	**14.96**	**359**‖	*e*P	**Pn**	**21 35 01.0**	**-2.5**
SEY	**Seymchan**	**14.96**	**359**	P	**Pn**	**21 35 04.0**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=170,slow=9.7,SNR=18						
SEY	**Seymchan**	**14.96**	**359**	*e*P	**Pn**	**21 35 01.0**	**-2.5**
USA0B	**Ussuriysk Arra**	**15.05**	**263**	P	**Pn**	**21 35 05.6**	**+0.8**
USA0B	**Ussuriysk Arra**	**15.05**	**263**	P	**Pn**	**21 35 05.6**	**+0.8**
USRK	**Ussuriysk Ar.**	**15.05**	**263**	P	**P**	**21 35 06.7**	**-0.4**
	baz=62,slow=13,SNR=16						
MJAR	**Matsushiro Arr**	**15.81**	**229**	P	**P**	**21 35 17.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=19,slow=12,SNR=9.3						
MJB9	**Matsu-Tunnel**	**15.81**	**229**	P	**P**	**21 35 18.2**	**+2.5**
MJB9				IAmb	IAmb	21 35 18.9	
	comp=Z,12nm,0.9s						
MAJO	**Matsushiro**	**15.81**	**229**	P	**P**	**21 35 15.6**	**0.0**
MAJO				pmax	pmax		
	comp=Z,12nm,0.9s						
MAJO	**Matsushiro**	**15.81**	**229**	P	**P**	**21 35 15.6**	**0.0**
MAJO				IAmb	IAmb	21 35 18.9	
	comp=Z,12nm,0.9s						
BMKR	**Bomnak**	**16.45**	**303**	*e*P	**P**	**21 35 23.0**	**+0.5**
BM

SKT Skwentna 33.60 45 P **P** **21 38 07.8 +1.2**
SKT IAmb IAmb 21 38 10.2
comp=Z,10nm,1.4s
KTH Kantishna Hill 33.86 42 P **P** **21 38 10.9 +2.0**
KTH IAmb IAmb 21 38 13.9
comp=Z,14nm,1.4s
MLY Manley 33.98 39 P **P** **21 38 10.8 +1.0**
SUA Susitna One 33.99 46 P **P** **21 38 09.8 -0.3**
SUA IAmb IAmb 21 38 24.2
comp=Z,14nm,1.5s
WHN Wuhan 34.19 253 P **P** **21 38 12.0 0.0**
WHN pmax pmax
comp=Z,38nm,0.7s
COLD Coldfoot 34.34 35 P **P** **21 38 13.3 +0.5**
TOLK Toolik Lake Re 34.72 33 P **P** **21 38 17.2 +1.0**
TOLK IAmb IAmb 21 38 18.7
comp=Z,8.7nm,1.5s
RND Reindeer 34.80 42 P **P** **21 38 18.5 +1.6**
RND pmax pmax
comp=Z,6.0nm,1.2s
RND Reindeer 34.80 42 P **P** **21 38 18.5 +1.6**
RND IAmb IAmb 21 38 20.4
comp=Z,5.5nm,1.2s
GHO Glory Hole Cre 34.84 45 P **P** **21 38 19.9 +2.5**
GHO IAmb IAmb 21 38 25.4
comp=Z,8.1nm,1.2s
WRH Wood River Hil 35.11 40 P **P** **21 38 20.7 +1.2**
COLA College 35.21 39⇑*eP* **P** **21 38 20.6 +0.3**
COLA pmax pmax
comp=Z,21nm,3.2s
CCB Clear Creek Bu 35.23 40 P **P** **21 38 21.9 +1.4**
DHY Denali Highway 35.48 43 P **P** **21 38 23.0 +0.1**
DHY IAmb IAmb 21 38 23.9
comp=Z,7.3nm,1.3s
DHY PP **PP** **21 39 44.2 -1.5**
XAN Xi'an 35.56 263 P **P** **21 38 24.1 +0.3**
XAN pmax pmax
comp=Z,9.0nm,0.8s
SCM Sheep Creek Mo 35.59 45 P **P** **21 38 26.3 +2.5**
SCM pmax pmax
comp=Z,13nm,1.4s
SCM Sheep Creek Mo 35.59 45 P **P** **21 38 26.3 +2.5**
SCM IAmb IAmb 21 38 43.2
comp=Z,13nm,1.4s
HDA Harding Lake 35.60 40 P **P** **21 38 24.5 +0.7**
HDA IAmb IAmb 21 38 27.6
comp=Z,2.7nm,0.5s
TPUB Ta-pu 35.62 238 P **P** **21 38 25.6 +1.3**
IL31 35.62 40 P **P** **21 38 25.0 +1.2**
ILAR Eielson Array 35.62 40 *eP* **P** **21 38 24.5 +0.6**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 35.62 40 P **P** **21 38 24.5 +0.6**
comp=Z,1.8nm,0.9s,baz=257,slow=6.1,SNR=18
TWG Pinlang 35.75 237 P **P** **21 38 25.7 +0.3**
SCRK Sand Creek 36.92 41 P **P** **21 38 35.1 0.0**
SCRK IAmb IAmb 21 38 44.2
comp=Z,7.0nm,1.5s
ENH Enshi 37.53 258 P **P** **21 38 40.4 -0.1**
ENH IAmb IAmb 21 38 41.3
comp=Z,11nm,1.0s
ENH PcP **PcP** **21 40 56.9 +1.0**
EGAK Eagle 38.07 39 P **P** **21 38 45.8 +1.2**
EGAK IAmb IAmb 21 38 46.5
comp=Z,3.2nm,0.8s
BALM Baldy 38.08 46 P **P** **21 38 47.0 +2.2**
BALM IAmb IAmb 21 39 03.7
comp=Z,10nm,1.4s
DAWY Dawson 38.92 40 P **P** **21 38 53.2 +1.4**
INK Inuvik 40.63 33 P **P** **21 39 06.8 +1.1**
comp=Z,1.7nm,0.4s,baz=277,slow=5.5,SNR=16
INK Inuvik 40.63 33 P **P** **21 39 06.8 +1.1**
ZAA0 Zalesovo Array 41.81 305 P **P** **21 39 13.4 -2.2**
ZALV Zalesovo Beam 41.81 305 P **P** **21 39 14.3 -1.3**
comp=Z,1.8nm,0.3s,baz=67,slow=7.0,SNR=12
ZALV PcP **PcP** **21 41 09.1 0.0**
comp=Z,2.4nm,0.7s,baz=65,slow=3.0,SNR=11
KMI Kunming 45.41 258 P **P** **21 39 45.8 +0.8**
KMI pmax pmax
comp=Z,11nm,0.7s
MK31 Makanchi Array 46.30 296 *i* P **P** **21 39 50.3 -1.2**
MK31 Makanchi Array 46.30 296 IAmb IAmb 21 39 51.3
comp=Z,3.8nm,0.8s
MK31 PcP **PcP** **21 41 24.9 +0.2**
MKAR Makanchi Array 46.30 296 P **P** **21 39 50.5 -1.0**
comp=Z,3.3nm,0.7s,baz=68,slow=8.0,SNR=36
MKAR PcP **PcP** **21 41 24.5 -0.1**
comp=Z,0.4nm,0.3s,baz=65,slow=5.4,SNR=9.3
MKAR ScP **ScP** **21 45 04.0 -1.8**
comp=Z,0.3nm,0.7s,baz=29,slow=3.6,SNR=2.3
MAKZ Makanchi 46.48 296 P **P** **21 39 52.1 -0.8**
MAKZ pmax pmax
comp=Z,2.0nm,0.6s
MAKZ Makanchi 46.48 296 P **P** **21 39 52.1 -0.8**
KURK Kurchatov 46.60 303*de*P **P** **21 39 52.7 -1.1**
KURK *i* *PP **pP** **21 40 22.8 +0.8**
KURK pmax pmax
comp=Z,11nm,0.6s
KURK Kurchatov 46.60 303 *eP* **P** **21 39 52.7 -1.1**
KURK Kurchatov 46.60 303 P **P** **21 39 52.9 -0.9**
KURBB Kurchatov Arra 46.70 303 P **P** **21 39 53.6 -0.9**
comp=Z,10.0nm,0.5s,baz=68,slow=8.4,SNR=38
KURBB PcP **PcP** **21 41 26.3 +0.4**
comp=Z,0.6nm,0.3s,baz=60,slow=3.7,SNR=3.7
RES Resolute Bay 49.66 19 P **P** **21 40 16.1 -0.8**
comp=Z,2.3nm,0.5s,baz=237,slow=3.9,SNR=16
RES Resolute Bay 49.66 19 IAmb IAmb 21 40 17.9
comp=Z,2.7nm,0.8s
YKA Yellowknife Ar 49.96 37 P **P** **21 40 20.2 +0.9**
comp=Z,1.3nm,0.6s,baz=299,slow=7.2,SNR=18
BVAR Borovoye Array 50.00 309 P **P** **21 40 19.1 -0.7**
comp=Z,4.8nm,0.3s,baz=60,slow=7.7,SNR=83
BVAR PcP **PcP** **21 41 37.6 -0.2**
comp=Z,1.3nm,0.3s,baz=72,slow=2.9,SNR=5.9
BRVK Borovoye 50.04 309⇑*eP* **P** **21 40 19.5 -0.6**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
BRVK Borovoye 50.04 309 *eP* **P** **21 40 19.5 -0.6**
BRVK Borovoye 50.04 309 P **P** **21 40 19.2 -0.9**
BRVK IAmb IAmb 21 40 20.1
comp=Z,4.5nm,0.5s
LSA Lhasa 50.13 272 P **P** **21 40 22.7 +1.0**
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 50.13 272 P **P** **21 40 22.7 +1.0**
LSA IAmb IAmb 21 40 24.2
comp=Z,6.6nm,0.6s
SHL Shillong 52.33 267 P **P** **21 40 38.1 +0.3**
SHL pmax pmax
comp=Z,25nm,0.6s
SHL Shillong 52.33 267 P **P** **21 40 38.1 +0.3**
CMAR Chiang Mai Arr 52.60 255 P **P** **21 40 41.0 +1.4**
comp=Z,2.7nm,0.7s,baz=34,slow=7.1,SNR=19
CMAR PcP **PcP** **21 41 49.0 +1.0**
comp=Z,0.7nm,0.6s,baz=9.2,slow=2.8,SNR=4.4
SVE Sverdlovsk 52.85 316 *eP* **P** **21 40 39.9 -1.1**
SVE Sverdlovsk 52.85 316 *eP* **P** **21 40 43.7 +2.8**
AAK Ala-Archa 53.20 295*c* *iP* **P** **21 40 43.7 -0.3**
AAK pmax pmax
comp=Z,17nm,3.3s
AAK Ala-Archa 53.20 295 P **P** **21 40 43.7 -0.3**
comp=Z,2.5nm,0.4s,baz=163,slow=9.2,SNR=9.4
AAK Ala-Archa 53.20 295 P **P** **21 40 43.7 -0.3**
AAK IAmb IAmb 21 40 44.4
comp=Z,3.4nm,0.5s
TAPN Taplejung 53.96 272 *eP* **P** **21 40 50.8 +1.0**
comp=Z,7.6nm,0.3s
ARU Arti 54.03 317*d* *iP* **P** **21 40 48.2 -1.3**
ARU 21 41 52.1
ARU 21 42 48.9
ARU S **S** **21 48 13.4 -1.9**
ARU SS **SKiKP** **21 51 48.8 +1.2**
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 54.03 317 *eP* **P** **21 40 48.3 -1.3**
ARU Arti 54.03 317 P **P** **21 40 48.3 -1.3**
KSH Kashi 54.10 291 P **P** **21 40 54.4 +3.9**
KSH sP sP 21 41 37.3 +4.1
KSH PcP **PcP** **21 41 56.1 +2.4**
KSH ScP **ScP** **21 45 41.1 +1.5**
KSH PcS **PcS** **21 45 54.4 +1.1**
KSH S **S** **21 48 19.8 +2.7**
KSH sS sS 21 49 12.0 +3.7
KSH pmax pmax
comp=Z,270nm,9.4s
KSH LR LR
comp=Z,490nm,7.5s
KSH LR LR
comp=Z,400nm,5.5s
KSH LR LR
comp=Z,230nm,6.0s
ODAN Odare 54.49 272 *eP* **P** **21 40 54.3 +0.7**
comp=Z,14nm,0.4s
JIRN Jiri 54.77 274 *eP* **P** **21 40 56.1 +0.3**
GUN Gumba 54.82 274 *eP* **P** **21 40 56.0 -0.1**
comp=Z,15nm,0.4s
RAMN Ramite 54.96 273 *eP* **P** **21 40 57.4 +0.4**
comp=Z,38nm,0.4s
KKN Kakani 55.30 274 *eP* **P** **21 40 59.7 +0.3**
comp=Z,18nm,0.5s
PKI Pulchoki 55.35 274 *eP* **P** **21 41 00.1 +0.2**
comp=Z,10.0nm,0.4s
PKIN Phulchoki 55.36 274 *eP* **P** **21 40 59.9 0.0**
comp=Z,9.8nm,0.5s
DMN Daman 55.53 274 *eP* **P** **21 41 01.8 +0.7**
comp=Z,13nm,0.4s
ARCES ARCESS Array B 56.63 340 *eP* **P** **21 41 07.1 -0.9**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 56.63 340 P **P** **21 41 06.8 -1.2**
comp=Z,2.6nm,0.7s,baz=33,slow=6.9,SNR=16
ABKAR Akbulak array 57.56 309 IAmb IAmb 21 41 15.4
comp=Z,6.6nm,1.2s
NVAR Mina Array Bea 61.93 63 P **P** **21 41 45.4 +0.3**
comp=Z,0.7nm,0.7s,baz=301,slow=7.3,SNR=5.0
FINES FINESS Array B 62.86 334 *eP* **P** **21 41 49.1 -1.6**
FINES pmax pmax
comp=Z,2.0nm,0.3s
FINES FINESS Array B 62.86 334 P **P** **21 41 48.9 -1.8**
comp=Z,2.1nm,0.3s,baz=38,slow=7.3,SNR=30
FRB Frobisher Bay 63.88 19 P **P** **21 41 56.1 -1.2**
baz=324,slow=10
GEYT Alibeck 65.89 300 P **P** **21 42 10.7 -0.1**
comp=Z,1.2nm,0.6s,baz=92,slow=7.2,SNR=2.9
NB2 NORSAR Subarra 67.00 341 P **P** **21 42 16.7 -0.9**
comp=Z,1.3nm,0.6s,baz=27,slow=6.5
NOA NORSAR Array B 67.00 341 *eP* **P** **21 42 17.1 -0.5**
NOA pmax pmax
comp=Z,2.0nm,0.5s
NOA NORSAR Array B 67.00 341 P **P** **21 42 16.9 -0.6**
comp=Z,1.8nm,0.5s,baz=31,slow=6.5,SNR=13
WRA Warramunga Arr 69.68 199 P **P** **21 42 35.4 +0.8**
comp=Z,1.5nm,0.7s,baz=23,slow=7.0,SNR=12
KBZ Khabaz 69.93 314*ce* **P** **21 42 36.4 +0.5**
KBZ *i* *PP **pP** **21 43 05.9 -0.4**
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 69.93 314 P **P** **21 42 35.4 -0.5**
comp=Z,2.2nm,0.8s,baz=86,slow=5.1,SNR=8.5
KBZ Khabaz 69.93 314 *eP* **P** **21 42 36.4 +0.5**
AKASG Malin Array Be 70.45 326 *eP* **P** **21 42 37.7 -1.3**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 70.45 326 P **P** **21 42 36.9 -2.1**
comp=Z,3.9nm,0.6s,baz=33,slow=6.2,SNR=14
SCHQ Schefferville 72.18 23 P **P** **21 42 48.5 -0.9**
comp=Z,2.5nm,0.7s,baz=2.8,slow=7.8,SNR=6.6
SCHQ Schefferville 72.18 23 P **P** **21 42 49.2 -0.1**
SCHQ IAmb IAmb 21 43 04.2
comp=Z,13nm,1.4s
ASAR Alice Springs 73.38 198 P **P** **21 42 58.5 +1.7**
comp=Z,1.2nm,0.7s,baz=9.0,slow=5.1,SNR=14
BUR08 Buovina Ar. S 74.47 326 IAmb IAmb 21 43 04.4
comp=Z,7.1nm,1.3s
BURAR Bucovina Array 74.49 326 ⇓P **P** **21 43 02.8 -0.4**
CHVC Chvalec 75.03 333 *eP* **P** **21 43 05.8 -0.3**
LANS Liptovska Anna 75.20 331 *eP* **P** **21 43 08.6 +1.4**
LANS Liptovska Anna 75.20 331 *eP* **P** **21 43 08.6 +1.4**
CLL Collm 75.28 335 *i* P **P** **21 43 07.1 -0.4**
CLL pmax pmax
comp=Z,11nm,0.6s
CLL Collm 75.28 335 *i* P **P** **21 43 07.1 -0.4**
comp=Z,11nm,0.6s
MORC Moravsky Berou 75.28 332 ⇓P **P** **21 43 07.9 +0.3**
MORC mb 21 43 08.4
BRG Berggiesshubel 75.40 335 *e*PKP **P** **21 43 07.6 -0.6**
comp=Z,3.5nm,0.7s
BRG Berggiesshubel 75.40 335 *eP* **P** **21 43 07.6 -0.6**
BRG pmax pmax
comp=Z,4.0nm,0.7s
VYHS Vyhne 75.98 331 *eP* **P** **21 43 11.8 +0.2**
VYHS Vyhne 75.98 331 *eP* **P** **21 43 11.8 +0.2**
MLR Muntele Rosu 75.98 325 ⇓P **P** **21 43 12.7 +0.9**
MLR Muntele Rosu 75.98 325 IAmb IAmb 21 43 14.1
comp=Z,13nm,1.3s
VRAC Vranov 75.99 332 ⇑P **P** **21 43 12.0 +0.4**
PRU Pruonice 76.02 334 *eP* **P** **21 43 11.7 0.0**
PRU Pruhonice 76.02 334 *eP* **P** **21 43 11.7 0.0**
DRGR 76.10 327 ⇓P **P** **21 43 12.4 +0.1**
VOIR 76.37 325 ⇓P **P** **21 43 14.7 +0.7**
SIRR Siria 76.93 328 ⇑P **P** **21 43 17.4 +0.4**
TXAR Lajitas Array 76.94 61 P **P** **21 43 17.3 -0.1**
comp=Z,0.7nm,0.5s,baz=298,slow=6.1,SNR=7.6
KHC Kasperske Hory 77.06 334⇓*eP* **P** **21 43 17.6 -0.1**
KHC pmax pmax
comp=Z,20nm,2.1s
KHC Kasperske Hory 77.06 334 *eP* **P** **21 43 17.5 -0.1**
GZR Gura Zlata 77.27 327 ⇑P **P** **21 43 18.7 -0.2**
GERES GERESS Array B 77.28 334 *eP* **P** **21 43 18.8 -0.2**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 77.28 334 P **P** **21 43 18.5 -0.5**
comp=Z,1.8nm,0.6s,baz=36,slow=5.7,SNR=16
COPA Copaceanca 77.40 324 ⇑P **P** **21 43 19.0 -0.5**
BRTR Keskin Array B 77.41 316 P **P** **21 43 20.4 +0.5**
comp=Z,1.1nm,0.7s,baz=49,slow=2.6,SNR=6.4
CONA Conrad Observa 77.44 332 *eP* **P** **21 43 20.4 +0.6**
comp=Z,3.5nm,0.7s,SNR=4.4
MOA Molln 78.00 333 *eP* **P** **21 43 23.2 +0.3**
comp=Z,3.2nm,1.0s
MORH Mrgy, Hungar 78.03 329⇑*iP* **P** **21 43 22.2 -0.8**
ARSA Arzberg 78.14 332 *eP* **P** **21 43 24.2 +0.5**
comp=Z,2.8nm,0.6s
FRGS Fruska Gora 78.55 328⇑*iP* **P** **21 43 25.3 -0.6**
SOKA Soboth 78.81 332 *eP* **P** **21 43 27.6 +0.2**
comp=Z,5.5nm,0.8s,SNR=8.0
KBA Koelnbreinsper 78.97 333 *eP* **P** **21 43 29.3 +0.9**
comp=Z,10nm,0.5s
OBKA Obir 79.11 332 *eP* **P** **21 43 29.2 +0.2**
comp=Z,3.1nm,0.7s
BFO Black Forest 79.26 337 *i* P **P** **21 43 30.6 +0.8**
WATA Walderalm 79.27 334 *eP* **P** **21 43 30.4 +0.5**
comp=Z,7.7nm,0.5s,SNR=4.4
MYKA Terra Mystica 79.28 333 *i* P **P** **21 43 29.8 -0.2**
comp=Z,3.0nm,0.7s
WTTA Wattenberg 79.31 334 *eP* **P** **21 43 30.9 +0.6**
comp=Z,15nm,0.5s,SNR=14
RETA Reutte 79.36 335 *eP* **P** **21 43 30.8 +0.4**
comp=Z,2.9nm,0.5s
MOTA Moosalm 79.39 335 *eP* **P** **21 43 31.0 +0.3**
comp=Z,7.7nm,0.6s,SNR=12
DIVS Divibare 79.40 328⇑*iP* **P** **21 43 30.1 -0.6**
CRES Cresnjev 79.43 331⇑*iP* **P** **21 43 30.3 -0.4**
VTS Vitosha 79.46 325 ⇑P **P** **21 43 31.3 +0.2**
VTS mb 21 43 31.9
VTS Vitosha 79.46 325 IAmb IAmb 21 43 31.8
comp=Z,9.1nm,0.8s
SQTA Sankt Quirin 79.48 335 *eP* **P** **21 43 31.6 +0.5**
comp=Z,6.8nm,0.7s,SNR=5.7
ABTA Abfaltersbach 79.52 334 *eP* **P** **21 43 31.0 -0.2**
comp=Z,2.2nm,0.6s
HAPS Han Pijesak,Bl 79.78 328 *eP* **P** **21 43 31.4 -1.4**
DAVA Damuels 79.79 335 *eP* **P** **21 43 33.2 +0.4**
comp=Z,7.2nm,0.7s
FETA Feichten 79.79 335 *eP* **P** **21 43 33.4 +0.6**
comp=Z,2.4nm,0.5s
BBLS Lazići 79.81 328⇑*iP* **P** **21 43 32.9 0.0**
CEY Cerknica 79.84 332⇑*iP* **P** **21 43 32.2 -0.7**
MGRS Mrkonjic Grad 80.14 330 *eP* **P** **21 43 37.0 +2.4**
FUORN Ofenpass-Fuorn 80.29 335 IAmb IAmb 21 43 36.9
comp=Z,20nm,1.4s
BRY Bratogost 80.96 328⇑*iP* **P** **21 43 37.9 -1.2**
PDG Podgorica 81.11 327⇑*iP* **P** **21 43 39.0 -0.7**
TREB Trebinje 81.19 328 *eP* **P** **21 43 38.0 -2.2**
STON Ston 81.28 328 *eP* **P** **21 43 38.4 -2.2**
DRME Dracevica, Mon 81.35 327 *eP* **P** **21 43 40.5 -0.5**
HCY Herceg Novi 81.37 328⇑*iP* **P** **21 43 39.8 -1.4**
RAYN Ar Rayn 83.75 298 P **P** **21 43 54.4 +0.6**
RAYN pmax pmax
comp=Z,7.0nm,0.9s
RAYN Ar Rayn 83.75 298 P **P** **21 43 54.4 +0.6**
RAYN IAmb IAmb 21 43 55.0
comp=Z,7.0nm,0.9s
ESDC Sonseca Array 90.32 342 P **P** **21 44 23.3 -2.1**
comp=Z,0.3nm,0.6s,baz=353,slow=3.8,SNR=4.2
KEST Kesra 90.52 331 P **P** **21 44 25.8 -0.7**
comp=Z,3.3nm,0.7s,baz=10.0,slow=4.2,SNR=6.0
KEST Kesra 90.52 331 IAmb IAmb 21 44 27.9
comp=Z,5.0nm,0.9s
CPUP Villa Florida 147.90 58 PKPbc **PKPbc** **21 51 08.2 -0.7**
comp=Z,0.8nm,0.5s,baz=312,slow=4.5,SNR=2.3

*ATH **17** 21:40:28.2, 40.20N×20.37E, h5km±2km, ML1.8/5, Error ellipse: s-maj=2.7km s-min=0.7km az=302.0*
TIR 17 21:40:27.7, 40.16N×20.42E, h6km, Md2.4/7, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPE	**Tepelena**	**0.34**	**293**	*i* PG	Pg	21 40 34.7	+0.3
TPE				*i* SG	Sg	21 40 40.3	+1.4
SRN	**Sarande**	**0.43**	**229**	*i* PG	Pg	21 40 36.4	+0.4
SRN				*i* SG	Sg	21 40 42.6	+1.0
NEST	**Nestorio**	**0.54**	**62**	P	Pb	21 40 39.2	-0.5
NEST				S	Sb	21 40 46.8	-1.1
NEST				AML	AML	21 40 49.3	
	comp=E,137μm,0.3s						
NEST				AML	AML	21 40 50.8	
	comp=N,122μm,0.1s						
PENT	**Pentalofos**	**0.55**	**86**	P	Pb	21 40 39.6	-0.3
KASA	**Kassiopi**	**0.56**	**222**	P	Pb	21 40 39.2	-0.7
KASA				S	Sb	21 40 47.3	-0.8
JAN	**Janina**	**0.60**	**146**	P	Pb	21 40 40.5	-0.2
JAN				S	Sb	21 40 50.2	+0.8
JAN				AML	AML	21 40 53.5	
	comp=E,535μm,0.3s						
JAN				AML	AML	21 40 57.3	
	comp=N,316μm,0.4s						
IGT	**Igoumenitsa**	**0.63**	**186**	*i* PG	Pg	21 40 40.5	+0.6
IGT				*i* SG	Sb	21 40 50.2	0.0
IGT	**Igoumenitsa**	**0.63**	**186**	P	Pb	21 40 40.8	-0.3
IGT				S	Sb	21 40 50.3	+0.1
IGT				AML	AML	21 40 53.6	
	comp=N,192μm,0.3s						
IGT				AML	AML	21 40 55.4	
	comp=E,169μm,0.3s						
KEK	**Kerkira**	**0.65**	**227**	P	Pg	21 40 40.5	+0.2
KEK				S	Sb	21 40 50.2	-0.7
KEK				AML	AML	21 40 55.0	
	comp=N,165μm,0.4s						
KEK				AML	AML	21 40 58.8	
	comp=E,168μm,0.3s						
KPRO	**Kipourio**	**0.75**	**105**	P	Pb	21 40 43.4	+0.1
VLO	**Vlora**	**0.77**	**294**	*i* PG	Pb	21 40 43.2	-0.3
VLO				*i* SG	Sb	21 40 54.5	+0.2
FNA	**Florina**	**0.96**	**49**	*i* PG	Pb	21 40 46.6	-0.2
FNA				*i* SG	Sn	21 41 01.0	-0.8
FNA	**Florina**	**0.96**	**49**	P	Pb	21 40 46.5	-0.3
FNA				S	Sb	21 41 00.3	+0.5
FNA				AML	AML	21 41 05.7	
	comp=N,130μm,0.3s						
FNA				AML	AML	21 41 06.1	
	comp=E,117μm,0.2s						
KZN	**Kozani**	**1.04**	**82**	P	Pn	21 40 48.9	0.0
TSLK	**Tsoukalades, L**	**1.35**	**172**	P	Pg	21 40 54.4	+0.9
THL	**Klokotos Trika**	**1.36**	**115**	P	Pg	21 40 55.0	+1.1
LKD2	**Lefkada island**	**1.38**	**172**	P	Pg	21 40 54.9	+0.7
SCTE	**Santa Cesarea**	**1.50**	**267**	*i* PN	Pg	21 40 56.9	+0.4
SCTE				*i* SN	Sg	21 41 18.3	+2.4
SCTE	**Santa Cesarea**	**1.50**	**267**	P	Pn	21 40 55.4	+0.2
PHP	**Peshkopia**	**1.52**	**1**	*i* PN	Pg	21 40 57.1	+0.1
PHP				*i* SN	Sg	21 41 18.8	+2.1
EVGI	**Lefkada island**	**1.55**	**173**	P	Pg	21 40 57.8	+0.4
LIT	**Litokhoron**	**1.59**	**91**	P	Pg	21 40 59.1	+0.9
EVR	**Evrytania**	**1.64**	**139**	P	Pg	21 40 60.0	+0.8
GRG	**Griva**	**1.71**	**62**	P	Pg	21 41 00.2	-0.3
MAKR	**Makrakomi, Fth**	**1.75**	**130**	P	Pg	21 41 02.4	+1.2
PVO	**Paravola**	**1.76**	**151**	P	Pg	21 41 02.1	+0.6
AGG	**Agios Georgios**	**1.86**	**127**	P	Pg	21 41 04.1	+0.7
HORT	**Hortiatis**	**2.09**	**77**	P	Pb	21 41 06.5	+0.3
KALE	**Kalithea**	**2.21**	**142**	P	Pb	21 41 08.2	0.0
KLV	**Kalavryta, Ach**	**2.51**	**147**	P	Pb	21 41 12.9	-0.2

IDC 17 21:45:32.1±1.3, 6.15S×150.78E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/41, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=61.8km s-min=18.9km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.21**	**34**	Pn	Pn	21 46 11.3	+1.2
	53nm,0.3s,baz=208,slow=1.9,SNR=21						
KRVT				Sn	Sb	21 46 41.1	+0.1
	28nm,0.3s,baz=300,slow=20,SNR=6.7						
WRA	**Warramunga Arr**	**21.05**	**228**	P	P	21 50 18.2	+0.3
	2.5nm,0.7s,baz=53,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.81**	**221**	P	P	21 50 47.5	+0.6
	1.2nm,0.5s,baz=57,slow=8.9,SNR=19						
STKA	**Stephens Creek**	**27.00**	**197**	P	P	21 51 15.3	-0.5
	0.5nm,0.3s,baz=18,slow=20,SNR=2.2						
FITZ	**Fitzroy Crossi**	**27.25**	**242**	P	P	21 51 19.4	+1.1
	0.5nm,0.4s,baz=51,slow=13,SNR=2.0						
TORD	**Torodi Ar. Bea**	**148.77**	**285**	PKPbc	PKPdf	22 05 20.1	+1.3
	0.6nm,0.7s,baz=69,slow=3.1,SNR=4.4						

*GCG **17** 21:46:53.8±2.2, 13.07N×92.94W, h0km±589km, MD4.1*
*IDC **17** 21:47:01.0±2.3, 13.91N×92.82W, h0km, mb3.9/6, mb1 4.2/9, mb1mx3.8/45, mbtmp3.9/9, ML3.7/3, MS3.0/3, Ms1 3.0/3, ms1mx2.6/34, Error ellipse: s-maj=48.2km s-min=23.9km az=6.0*
*NEIC **17** 21:47:09.8±2.6, 14.43N±0.10×92.74W±0.04, h54km±10km*
*MEX **17** 21:47:09.2±0.6, 14.45N×92.69W, h94km±33km, MD4.0*
ISC 17 21:47:14.3±1.0, 14.77N±0.09×92.62W±0.06, h73km±7km, n25, σ3s 0.1/28, mb3.9/7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.37**	**68**	*i* P	**Pn**	**21 47 24.2**	**-2.2**
THIG		**0.37**	**68**		**Pn**	**21 47 24.2**	**-2.2**
STG3	**Santiaguito 3,**	**1.02**	**93**	*eP*	**Pn**	**21 47 29.3**	**-4.2**
STG3				*eS*	Sn	21 48 00.8	+13
ERG	**Entre ros, C**	**1.07**	**108**	*eP*	Pn	21 47 27.6	-6.3
ERG				*eS*	**Sn**	**21 47 52.9**	**+4.4**
PCIG		**1.09**	**328**	*eP*	**Pn**	**21 47 32.3**	**-1.9**
PCIG				*i* S	**Sn**	**21 47 49.7**	**+0.7**
PCIG		**1.09**	**328**		**Pn**	**21 47 32.3**	**-1.9**
PCIG					**Sn**	**21 47 49.7**	**+0.7**
FUG	**Fuego 3**	**1.75**	**100**	*eP*	Pn	21 47 36.7	-6.2
FUG				*eS*	**Sn**	**21 48 07.8**	**+3.2**
TGIG		**2.06**	**347**	*eP*	**Pn**	**21 47 46.1**	**-0.8**
TGIG				*i* S	**Sn**	**21 48 13.2**	**+1.5**
TGIG		**2.06**	**347**		**Pn**	**21 47 46.1**	**-0.8**
TGIG					**Sn**	**21 48 13.2**	**+1.5**
APG	**El Apazote**	**2.10**	**83**	Pn	**Pn**	**21 47 44.7**	**-2.9**
	6.7nm,0.3s,baz=253,slow=6.1,SNR=44						
APG				Sn	**Sn**	**21 48 15.8**	**+2.8**
	8.3nm,0.3s,baz=178,slow=21,SNR=3.6						
APG				LR	LR	21 48 48.1	
	comp=Z,126nm,18.9s,baz=149,slow=42						
CMIG	**Matias Romero**	**3.17**	**317**	Pn	**Pn**	**21 47 59.6**	**-2.3**
	2.4nm,0.3s,baz=134,slow=14,SNR=14						
CMIG				Sn	**Sn**	**21 48 44.6**	**+6.0**
	3.4nm,0.3s,baz=101,slow=16,SNR=3.3						
TEIG	**Tepich**	**6.83**	**37**	Pn	**Pn**	**21 48 53.5**	**+1.6**
	4.4nm,0.3s,baz=233,slow=20,SNR=17						
TEIG	**Tepich**	**6.83**	**37**		**Pn**	**21 48 53.7**	**+1.8**
TEIG				Sn	**Sn**	**21 50 03.3**	**-4.9**
H06E1	**SOCORRO T-PHASE**	**7.97**	**285**	T	T	22 09 38.1	
MNTX	**Cornudas Mount**	**20.50**	**327**	P	**P**	**21 51 39.8**	**-6.7**
MNTX				IAmb	IAmb	21 51 57.3	
	comp=Z,4.1nm,1.3s						
TKL	**Tuckaleechee C**	**22.27**	**19**	LR	LR	22 02 55.7	
	comp=Z,62nm,18.1s,baz=28,slow=41						
SJG	**San Juan**	**25.60**	**79**	LR	LR	22 03 52.7	
	comp=Z,32nm,19.0s,baz=271,slow=39						
WUAZ	**Wupatki**	**26.65**	**324**	P	P	21 52 37.3	-9.1
WUAZ				IAmb	IAmb	21 52 53.0	
	comp=Z,5.1nm,1.3s						
PDAR	**Pinedale Array**	**31.48**	**336**	P	**P**	**21 53 31.5**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=143,slow=9.1,SNR=2.6						
NVAR	**Mina Array Bea**	**32.70**	**321**	P	**P**	**21 53 40.4**	**+0.3**

comp=Z,1.1nm,0.8s,baz=144,slow=8.4,SNR=7.4
YKA Yellowknife Ar 50.15 347 P **P 21 56 03.8 +1.9**
comp=Z,2.7nm,0.8s,baz=149,slow=7.4,SNR=38
INK Inuvik 59.54 344 P **P 21 57 10.9 +1.2**
comp=Z,2.1nm,0.8s,baz=124,slow=7.6,SNR=8.3
ILAR Eielson Array 61.90 337 P **P 21 57 27.2 +1.4**
comp=Z,0.8nm,0.8s,baz=130,slow=6.4,SNR=7.9
ARCES ARCESS Array B 85.60 18 P **P 21 59 43.6 -0.7**
comp=Z,2.1nm,0.9s,baz=289,slow=6.5,SNR=2.6
CMAR Chiang Mai Arr 145.07 341 PKPbc **PKPdf 22 06 42.8 -1.4**
comp=Z,1.2nm,0.4s,baz=337,slow=4.4,SNR=7.1

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*ISCJB **17** 22:03:10.6±0.3,52˚.18N±0˚.06×152˚.52E±0˚.05, h450km, mb3.5/14, Error ellipse: s-maj=8.5km s-min=4.0km az=163.2*
*MOS **17** 22:03:10.8±0.8,52˚.04N×152˚.70E, h469km, mb4.2/2, Error ellipse: s-maj=14.7km s-min=7.5km az=49.8*
*NEIC **17** 22:03:11.6±1.2,52˚.1N±0˚.1×152˚.7E±0˚.2, h462km±10km, mb4.1/21*
*SKHL **17** 22:03:11.4±0.3,52˚.05N×152˚.75E, h483km±5km, mb4.3/2, msh4.6/2*
*KRSC **17** 22:03:13.0±1.8,51˚.84N×153˚.63E, h479km±24km, ML4.4*
*IDC **17** 22:03:12.1±1.4,52˚.19N×152˚.66E, h465km±17km, mb3.0/12, mb1 3.3/15, mb1mx3.0/66, mbtmp3.9/15, Error ellipse: s-maj=17.3km s-min=11.3km az=160.0*

ISC 17 22:03:10.8±0.5, 52˚.06N±0˚.07×152˚.80E±0˚.07, h450km, n123, σ2$15/143, mb3.8/23, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.49**	**122**	*eP*	**P**	**P**	**22 04 15.6**	**+1.3**
SKR				AMB	AMB	AMB	22 04 16.5	
	40nm,0.4s							
SKR				*eS*	**S**	**S**	**22 05 08.5**	**+2.7**
SKR				A	A	A	22 05 10.9	
	30nm,0.4s							
SKR				A	A	A	22 05 10.9	
	50nm,0.4s							
PAU	**Pauzhetka**	**2.56**	**102**	*eP*	**P**	**P**	**22 04 17.1**	**+2.4**
PAU	**Pauzhetka**	**2.56**	**102**	PN	**P**	**P**	**22 04 17.1**	**+2.4**
PAU	**Pauzhetka**	**2.56**	**102**	*eP*	**P**	**P**	**22 04 17.1**	**+2.4**
APC	**Apacha**	**2.80**	**70**	*eP*	**P**	**P**	**22 04 20.2**	**+4.0**
APC	**Apacha**	**2.80**	**70**	PN	**P**	**P**	**22 04 20.2**	**+4.0**
ASAK	**Asacha**	**3.15**	**82**	*i P*	**P**	**P**	**22 04 21.4**	**+2.4**
ASAK	**Asacha**	**3.15**	**82**	PN	**P**	**P**	**22 04 21.4**	**+2.4**
PEA0B	**Petropavlovsk-**	**3.17**	**69**	PN	**P**	**P**	**22 04 21.0**	**+2.0**
PEA0B	**Petropavlovsk-**	**3.17**	**69**	P	**P**	**P**	**22 04 21.0**	**+2.0**
PETK	**Petropavlovsk-**	**3.17**	**69**	P	**P**	**P**	**22 04 20.9**	**+1.9**
	5.0nm,0.3s,baz=230,slow=1.2,SNR=70							
GRL	**Gorelyy**	**3.27**	**79**	*eP*	**P**	**P**	**22 04 23.0**	**+3.0**
GRL	**Gorelyy**	**3.27**	**79**	PN	**P**	**P**	**22 04 23.0**	**+3.0**
KDTR	**Khodutka, Kamc**	**3.27**	**92**	*eP*	**P**	**P**	**22 04 20.9**	**+1.1**
KDTR				*eS*	**S**	**S**	**22 05 14.8**	**-1.2**
KDTR	**Khodutka, Kamc**	**3.27**	**92**	PN	**P**	**P**	**22 04 20.9**	**+1.1**
KDTR				S	**S**	**S**	**22 05 14.8**	**-1.2**
MTVR	**Mutnovka**	**3.33**	**81**	*eP*	**P**	**P**	**22 04 22.7**	**+2.2**
MTVR	**Mutnovka**	**3.33**	**81**	PN	**P**	**P**	**22 04 22.7**	**+2.2**
KRMR	**Karymshinskiy**	**3.35**	**75**	*eP*	**P**	**P**	**22 04 22.5**	**+2.1**
KRMR				*eS*	**S**	**S**	**22 05 17.8**	**+0.7**
KRMR	**Karymshinskiy**	**3.35**	**75**	PN	**P**	**P**	**22 04 22.5**	**+2.1**
KRMR				S	**S**	**S**	**22 05 17.8**	**+0.7**
RUS	**Russkaya**	**3.53**	**82**	*eP*	**P**	**P**	**22 04 23.6**	**+1.8**
RUS				*eS*	**S**	**S**	**22 05 19.7**	**0.0**
RUS	**Russkaya**	**3.53**	**82**	PN	**P**	**P**	**22 04 23.6**	**+1.8**
RUS				S	**S**	**S**	**22 05 19.7**	**0.0**
RUS	**Russkaya**	**3.53**	**82**	*eP*	**P**	**P**	**22 04 23.6**	**+1.8**
RUS				*eS*	**S**	**S**	**22 05 19.7**	**0.0**
PET	**Petropavlovsk**	**3.70**	**73**	PN	**P**	**P**	**22 04 25.2**	**+2.0**
PET				S	**S**	**S**	**22 05 23.0**	**+0.7**
PET	**Petropavlovsk**	**3.70**	**73**	*eP*	**P**	**P**	**22 04 25.2**	**+2.0**
PET				AMB	AMB	AMB	22 04 26.0	
	20nm,0.4s							
PET				A	A	A	22 04 26.0	
	80nm,0.6s							
PET				*eS*	**S**	**S**	**22 05 23.0**	**+0.7**
PET	**Petropavlovsk**	**3.70**	**73**	P	**P**	**P**	**22 04 24.5**	**+1.3**
PET				S	**S**	**S**	**22 05 24.3**	**+2.0**
KOK	**Koryaka**	**3.76**	**69**	*eP*	**P**	**P**	**22 04 26.6**	**+2.7**
KOK	**Koryaka**	**3.76**	**69**	PN	**P**	**P**	**22 04 26.6**	**+2.7**
KOK	**Koryaka**	**3.76**	**69**	*eP*	**P**	**P**	**22 04 26.6**	**+2.7**
KRX	**Arik**	**3.79**	**68**	*eP*	**P**	**P**	**22 04 26.4**	**+2.2**
KRX	**Arik**	**3.79**	**68**	PN	**P**	**P**	**22 04 26.4**	**+2.2**
AVH	**Avacha**	**3.81**	**69**	*eP*	**P**	**P**	**22 04 27.2**	**+2.9**
AVH	**Avacha**	**3.81**	**69**	PN	**P**	**P**	**22 04 27.2**	**+2.9**
AVH	**Avacha**	**3.81**	**69**	*eP*	**P**	**P**	**22 04 27.2**	**+2.9**
KRER	**Koryakskii**	**3.83**	**69**	*eP*	**P**	**P**	**22 04 27.4**	**+2.8**
KRER	**Koryakskii**	**3.83**	**69**	PN	**P**	**P**	**22 04 27.4**	**+2.8**
UGLR	**Uglovaya**	**3.85**	**70**	*eP*	**P**	**P**	**22 04 27.5**	**+2.9**
UGLR	**Uglovaya**	**3.85**	**70**	PN	**P**	**P**	**22 04 27.5**	**+2.9**
SMAR	**Somma**	**3.85**	**69**	*eP*	**P**	**P**	**22 04 26.4**	**+1.6**
SMAR	**Somma**	**3.85**	**69**	PN	**P**	**P**	**22 04 26.4**	**+1.6**
SDLR	**Sedlovina**	**3.90**	**69**	*i P*	**P**	**P**	**22 04 27.1**	**+2.0**
SDLR	**Sedlovina**	**3.90**	**69**	PN	**P**	**P**	**22 04 27.1**	**+2.0**
SPN	**Mys Shipunski**	**4.53**	**74**	*eP*	**P**	**P**	**22 04 30.8**	**+0.3**
SPN				*eS*	**S**	**S**	**22 05 31.2**	**-4.4**
SPN	**Mys Shipunski**	**4.53**	**74**	PN	**P**	**P**	**22 04 30.8**	**+0.3**
SPN	**Mys Shipunski**	**4.53**	**74**	*eP*	**P**	**P**	**22 04 30.8**	**+0.3**
KZV	**Kizimen**	**5.41**	**53**	*eP*	**P**	**P**	**22 04 41.7**	**+2.5**
KZV				*eS*	**S**	**S**	**22 05 51.3**	**-0.1**
KZV	**Kizimen**	**5.41**	**53**	PN	**P**	**P**	**22 04 41.7**	**+2.5**
KZV				S	**S**	**S**	**22 05 51.3**	**-0.1**
TUMR	**Tumrok**	**5.43**	**51**	*eP*	**P**	**P**	**22 04 43.1**	**+3.8**
TUMR				*eS*	**S**	**S**	**22 05 52.0**	**+0.3**
TUMR	**Tumrok**	**5.43**	**51**	PN	**P**	**P**	**22 04 42.4**	**+3.1**
TUMR				S	**S**	**S**	**22 05 52.2**	**+0.5**
TUMD	**Tumrok D**	**5.51**	**52**	*eP*	**P**	**P**	**22 04 42.4**	**+2.4**
TUMD				*eS*	**S**	**S**	**22 05 52.2**	**-0.8**
KMNR	**Kamenistaya**	**5.75**	**47**	*eP*	**P**	**P**	**22 04 45.9**	**+3.4**
KMNR	**Kamenistaya**	**5.75**	**47**	PN	**P**	**P**	**22 04 45.9**	**+3.4**
KPT	**Kopyto**	**5.87**	**45**	*eP*	**P**	**P**	**22 04 47.4**	**+3.7**
KPT	**Kopyto**	**5.87**	**45**	PN	**P**	**P**	**22 04 47.4**	**+3.7**
SRDR	**Sredinnyy**	**5.89**	**41**	*eP*	**P**	**P**	**22 04 46.8**	**+3.0**
SRDR	**Sredinnyy**	**5.89**	**41**	PN	**P**	**P**	**22 04 46.8**	**+3.0**
KIRR	**Kirishev**	**5.91**	**46**	*eP*	**P**	**P**	**22 04 47.1**	**+2.9**
KIRR	**Kirishev**	**5.91**	**46**	PN	**P**	**P**	**22 04 47.1**	**+2.9**
BZWR	**Bezymyannyi-We**	**5.99**	**46**	*eP*	**P**	**P**	**22 04 48.5**	**+3.5**
BZWR	**Bezymyannyi-We**	**5.99**	**46**	PN	**P**	**P**	**22 04 48.5**	**+3.5**
BZGR	**Bezymyannyi-Gr**	**6.06**	**47**	*eP*	**P**	**P**	**22 04 49.2**	**+3.5**
BZGR	**Bezymyannyi-Gr**	**6.06**	**47**	PN	**P**	**P**	**22 04 49.2**	**+3.5**
ZLN	**Zelenaya**	**6.16**	**47**	*eP*	**P**	**P**	**22 04 50.8**	**+4.1**
ZLN	**Zelenaya**	**6.16**	**47**	PN	**P**	**P**	**22 04 50.8**	**+4.1**
CIRR	**Tsirk**	**6.19**	**46**	*eP*	**P**	**P**	**22 04 50.4**	**+3.3**
CIRR	**Tsirk**	**6.19**	**46**	PN	**P**	**P**	**22 04 50.4**	**+3.3**
KBG	**Krutoberegovo**	**7.17**	**50**	*eS*	**S**	**S**	**22 06 19.4**	**-4.9**
KBTR	**Krutoberegovo**	**7.20**	**51**	*eP*	**P**	**P**	**22 04 57.7**	**+0.2**
KBTR				*eS*	**S**	**S**	**22 06 21.4**	**-3.5**
KBTR	**Krutoberegovo**	**7.20**	**51**	PN	**P**	**P**	**22 04 57.7**	**+0.2**
KBTR				S	**S**	**S**	**22 06 21.4**	**-3.5**
BKI	**Bering**	**8.44**	**63**	*eP*	**P**	**P**	**22 05 13.8**	**+3.1**
BKI				*eS*	**S**	**S**	**22 06 46.4**	**-2.8**
BKI	**Bering**	**8.44**	**63**	PN	**P**	**P**	**22 05 13.8**	**+3.1**
BKI				S	**S**	**S**	**22 06 46.4**	**-2.8**
SEY	**Seymchan**	**10.91**	**359**	P	**P**	**P**	**22 05 38.6**	**+1.1**
	1.0nm,0.3s,baz=177,slow=9.6,SNR=21							
ERM	**Erimo**	**12.00**	**217**	PN	**P**	**P**	**22 05 50.6**	**+1.0**
ERM	**Erimo**	**12.00**	**217**	P	**P**	**P**	**22 05 50.6**	**+1.0**
ERM				S	**S**	**S**	**22 07 55.1**	**-5.5**
KLR	**Kul'dur**	**13.65**	**266**	P	**P**	**P**	**22 06 08.8**	**+1.4**
	0.1nm,0.3s,baz=88,slow=8.4,SNR=5.8							
SONM	**Songino Array**	**29.76**	**281**	P	**P**	**P**	**22 08 39.0**	**0.0**
SONM	**Songino Array**	**29.76**	**281**	P	**P**	**P**	**22 08 39.0**	**0.0**
	0.3nm,0.4s,baz=73,slow=7.9,SNR=4.6							
PPLA	**Purkeypile**	**30.52**	**48**	P	**P**	**P**	**22 08 46.8**	**+1.4**
SKT	**Skwentna**	**30.93**	**49**	P	**P**	**P**	**22 08 49.5**	**+0.7**
SKT				IAmb	IAmb	IAmb	22 08 51.1	
	comp=Z,9.1nm,1.4s							
TRF	**Thorofare Moun**	**31.33**	**46**	P	**P**	**P**	**22 08 52.9**	**+0.4**
TRF				IAmb	IAmb	IAmb	22 09 08.5	
	comp=Z,8.3nm,1.2s							
SUA	**Susitna One**	**31.37**	**50**	P	**P**	**P**	**22 08 52.9**	**+0.1**
SUA				IAmb	IAmb	IAmb	22 08 53.2	
	comp=Z,7.0nm,1.1s							
RND	**Reindeer**	**31.97**	**46**	P	**P**	**P**	**22 08 57.9**	**0.0**
RND				pmax	pmax			
	comp=Z,10.0nm,1.4s							
RND	**Reindeer**	**31.97**	**46**	P	**P**	**P**	**22 08 57.9**	**0.0**
RND				IAmb	IAmb	IAmb	22 09 04.1	
	comp=Z,9.7nm,1.4s							
GHO	**Glory Hole Cre**	**32.18**	**49**	P	**P**	**P**	**22 09 00.1**	**+0.4**
GHO				IAmb	IAmb	IAmb	22 09 01.4	
	comp=Z,12nm,1.3s							
WRH	**Wood River Hil**	**32.19**	**44**	P	**P**	**P**	**22 09 00.2**	**+0.6**
WRH				IAmb	IAmb	IAmb	22 09 00.6	
	comp=Z,5.5nm,0.8s							
CCB	**Clear Creek Bu**	**32.29**	**44**	P	**P**	**P**	**22 09 00.6**	**+0.2**
SML	**Sawmill**	**32.45**	**49**	P	**P**	**P**	**22 09 02.1**	**+0.2**
KNK	**Knik Glacier**	**32.46**	**50**	P	**P**	**P**	**22 09 02.2**	**+0.3**
IL31		**32.67**	**44**	P	**P**	**P**	**22 09 04.0**	**+0.3**
IL31				IAmb	IAmb	IAmb	22 09 05.5	
	comp=Z,4.1nm,1.1s							
ILAR	**Eielson Array**	**32.67**	**44**	P	**P**	**P**	**22 09 03.8**	**0.0**
	comp=Z,1.5nm,0.7s,baz=281,slow=12,SNR=25							
DHY	**Denali Highway**	**32.68**	**47**	P	**P**	**P**	**22 09 03.8**	**-0.2**
HDA	**Harding Lake**	**32.69**	**44**	P	**P**	**P**	**22 09 03.7**	**-0.1**
SCRK	**Sand Creek**	**34.03**	**45**	P	**P**	**P**	**22 09 14.8**	**-0.7**
SCRK				IAmb	IAmb	IAmb	22 09 15.0	
	comp=Z,4.5nm,0.4s							
DOT	**Dot Lake**	**34.06**	**45**	P	**P**	**P**	**22 09 14.8**	**-0.8**
DOT				IAmb	IAmb	IAmb	22 09 15.8	
	comp=Z,4.3nm,0.8s							
GLB	**Gilahina Butte**	**34.64**	**49**	P	**P**	**P**	**22 09 21.1**	**+0.6**
BARN	**Barnard Glacie**	**35.74**	**49**	P	**P**	**P**	**22 09 31.0**	**+1.1**
INK	**Inuvik**	**37.37**	**36**	P	**P**	**P**	**22 09 42.7**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=280,slow=8.3,SNR=5.6							
INK	**Inuvik**	**37.37**	**36**	IAmb	IAmb	IAmb	22 09 45.5	
	comp=Z,4.2nm,1.4s							
ZALV	**Zalesovo Beam**	**39.53**	**301**	P	**P**	**P**	**22 09 59.3**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=39,slow=8.7,SNR=3.2							
KURK	**Kurchatov**	**44.42**	**299**	P	**P**	**P**	**22 10 39.1**	**-0.7**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.5s							
KURK	**Kurchatov**	**44.42**	**299**	*eP*	**P**	**P**	**22 10 39.1**	**-0.7**
KURK	**Kurchatov**	**44.42**	**299**	P	**P**	**P**	**22 10 39.1**	**-0.7**
KURK				IAmb	IAmb	IAmb	22 10 39.9	
	comp=Z,3.2nm,0.5s							
MK31	**Makanchi Array**	**44.51**	**293**	P	**P**	**P**	**22 10 40.0**	**-0.6**
MK31	**Makanchi Array**	**44.51**	**293**	P	**P**	**P**	**22 10 40.0**	**-0.6**
MKAR	**Makanchi Array**	**44.51**	**293**	P	**P**	**P**	**22 10 39.7**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=62,slow=6.8,SNR=27							
MAKZ	**Makanchi**	**44.68**	**293**	P	**P**	**P**	**22 10 41.1**	**-0.8**
MAKZ	**Makanchi**	**44.68**	**293**	P	**P**	**P**	**22 10 41.1**	**-0.8**
YKA	**Yellowknife Ar**	**46.86**	**39**	P	**P**	**P**	**22 10 57.6**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=303,slow=7.1,SNR=19							
TAPN	**Taplejung**	**53.79**	**269**	*eP*	**P**	**P**	**22 11 50.6**	**+0.4**
ODAN	**Odare**	**54.34**	**269**	*eP*	**P**	**P**	**22 11 54.4**	**+0.4**
JIRN	**Jiri**	**54.50**	**271**	*eP*	**P**	**P**	**22 11 55.2**	**-0.1**
	comp=Z,4.6nm,0.3s							
GUN	**Gumba**	**54.52**	**271**	*eP*	**P**	**P**	**22 11 55.1**	**-0.3**
	comp=Z,5.3nm,0.4s							
RAMN	**Ramite**	**54.76**	**270**	*eP*	**P**	**P**	**22 11 56.8**	**-0.2**
	comp=Z,24nm,0.5s							
KKN	**Kakani**	**54.97**	**271**	*eP*	**P**	**P**	**22 11 58.5**	**+0.1**
	comp=Z,12nm,0.5s							
PKI	**Pulchoki**	**55.05**	**271**	*eP*	**P**	**P**	**22 11 58.9**	**-0.2**
	comp=Z,3.6nm,0.4s							
PKIN	**Phulchoki**	**55.05**	**271**	*eP*	**P**	**P**	**22 11 59.1**	**0.0**
	comp=Z,5.4nm,0.4s							
DMN	**Daman**	**55.21**	**271**	*eP*	**P**	**P**	**22 12 00.3**	**+0.1**
	comp=Z,14nm,0.5s							
CHGR	**Chuyangaron**	**57.12**	**292**	IAmb	IAmb	IAmb	22 12 13.9	
	comp=Z,12nm,1.0s							
FINES	**FINESS Array B**	**59.17**	**333**	P	**P**	**P**	**22 12 24.8**	**-1.7**
	comp=Z,4.3nm,1.1s,baz=34,slow=8.4,SNR=4.1							
NVAR	**Mina Array Bea**	**60.25**	**65**	P	**P**	**P**	**22 12 34.8**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=304,slow=7.1,SNR=5.7							
PDAR	**Pinedale Array**	**61.85**	**56**	P	**P**	**P**	**22 12 44.9**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=344,slow=1.8,SNR=4.6							
WRA	**Warramunga Arr**	**73.49**	**198**	P	**P**	**P**	**22 13 56.5**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=11,slow=9.1,SNR=3.1							
TXAR	**Lajitas Array**	**75.09**	**61**	P	**P**	**P**	**22 14 06.0**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=300,slow=5.1,SNR=11							
ASAR	**Alice Springs**	**77.20**	**198**	P	**P**	**P**	**22 14 17.6**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=10,slow=5.8,SNR=3.5							

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*ISCJB **17** 22:03:53.0±0.9, 15˚.2S±0˚.1×177˚.5W±0˚.2, h372km, mb3.5/4, Error ellipse: s-maj=25.7km s-min=15.0km az=36.0*
*NEIC **17** 22:03:56.9±1.2, 15˚.1S±0˚.2×177˚.5W±0˚.2, h399km±12km, mb4.1/5*
*IDC **17** 22:03:58.9±3.9, 15˚.09S×177˚.67W, h410km±41km, mb3.3/4, mb1 3.6/4, mb1mx3.1/39, mbtmp4.0/4, Error ellipse: s-maj=33.1km s-min=20.6km az=142.0*

ISC 17 22:03:55.2±1.2, 15˚.05S±0˚.1×177˚.5W±0˚.2, h372km, n13, σ1$77/13, mb4.0/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.02**	**237**	Pn	**Pn**	**Pn**	**22 05 19.3**	**+3.2**
FUNA	**Funafuti**	**7.22**	**333**	Pn	**P**	**P**	**22 05 42.9**	**+1.1**
WRA	**Warramunga Arr**	**46.05**	**257**	P	**P**	**P**	**22 11 42.8**	**-0.8**
	0.5nm,0.6s,baz=90,slow=6.3,SNR=3.9							
AS31	**Alice Springs**	**46.44**	**252**	P	**P**	**P**	**22 11 46.0**	**-0.6**
ASAR	**Alice Springs**	**46.44**	**252**	P	**P**	**P**	**22 11 46.0**	**-0.7**
	7.5nm,0.5s,baz=84,slow=8.3,SNR=60							
ASAR				S	**S**	**S**	**22 18 02.2**	**-3.9**
	0.1nm,0.3s,baz=83,slow=14,SNR=4.2							
VNDA	**Vanda**	**63.36**	**185**	P	**P**	**P**	**22 13 45.4**	**-0.2**
	0.6nm,0.6s,baz=3.7,slow=7.4,SNR=7.3							
SML	**Sawmill**	**80.00**	**14**	P	**P**	**P**	**22 15 22.6**	**-1.1**
KTH	**Kantishna Hill**	**81.01**	**12**	P	**P**	**P**	**22 15 27.9**	**-1.2**
KTH				IAmb	IAmb	IAmb	22 15 30.3	
	comp=Z,4.7nm,1.2s							
TRF	**Thorofare Moun**	**81.04**	**12**	P	**P**	**P**	**22 15 29.2**	**-0.1**
TRF				IAmb	IAmb	IAmb	22 15 48.3	
	comp=Z,3.4nm,1.1s							
RND	**Reindeer**	**81.30**	**13**	P	**P**	**P**	**22 15 29.9**	**-0.7**
RND				IAmb	IAmb	IAmb	22 15 31.7	
	comp=Z,4.0nm,0.9s							
ILAR	**Eielson Array**	**82.92**	**13**	P	**P**	**P**	**22 15 38.7**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=230,slow=6.6,SNR=8.6							
BRTR	**Keskin Array B**	**143.30**	**318**	PKP	PKPab		22 22 43.5	+0.2
	comp=Z,1.2nm,0.9s,baz=318,slow=1.9,SNR=5.6							
GERES	**GERESS Array B**	**145.05**	**347**	PKPbc	**PKPbc**		**22 22 49.1**	**0.0**
	comp=Z,0.4nm,0.4s,baz=28,slow=4.4,SNR=4.5							

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*IDC **17** 22:03:51.3±0.6, 3˚.41N×126˚.93E, h0km, mb4.1/13, mb1 4.3/13, mb1mx4.0/48, mbtmp4.1/13, MS3.5/8, Ms1 3.5/8, ms1mx3.1/47, Error ellipse: s-maj=36.1km s-min=11.6km az=74.0*
*ISCJB **17** 22:03:55.6±0.4, 3˚.54N±0˚.05×127˚.07E±0˚.07, h48km, mb4.1/13, MS3.4/8, Error ellipse: s-maj=11.1km s-min=5.8km az=162.6*
*NEIC **17** 22:03:56.6±1.7, 3˚.46N±0˚.09×126˚.8E±0˚.1, h35km±1km, mb4.3/19*
*DJA **17** 22:03:56.0±0.5, 3˚N±4˚×12˚7E±˚, h10km, M4.3/8, mb4.5/6, mb4.7/1, MLv4.2/8, Mw(mB)4.0/1*

ISC 17 22:03:57.6±0.5, 3˚.52N±0˚.06×127˚.0E±0˚.1, h48km, n51, σ1$58/46, mb4.2/22, MS3.4/8, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.75**	**173**	P	**Pn**	**Pn**	**22 04 39.6**	**+0.4**
TNTI	**Ternate**	**2.75**	**173**		**Pn**	**Pn**	**22 04 38.0**	**-1.2**
KCP	**Kidapawan**	**3.98**	**331**	⇓P	**Pn**	**Pn**	**22 04 58.6**	**+2.4**
MRSI	**Marisa**	**5.92**	**239**	P	**Pn**	**Pn**	**22 05 24.7**	**+1.8**
	68nm,0.6s,0.3nm							
SWI	**Sorong**	**6.06**	**136**	P	**Pn**	**Pn**	**22 05 25.6**	**+0.9**
	41nm,0.9s,0.2nm							
LUWI	**Luwuk**	**6.22**	**223**	P	Pn		22 05 33.3	+6.3
LUWI	**Luwuk**	**6.22**	**223**		**Pn**	**Pn**	**22 05 30.2**	**+3.2**
APSI	**Ampana**	**6.96**	**231**	P	**Pn**	**Pn**	**22 05 39.4**	**+2.4**
FAKI	**Fak Fak**	**8.24**	**141**	Pn	Pn	**Pn**	**22 05 56.1**	**+1.5**
MTN	**Manton Dam**	**16.75**	**166**	Pn	Pn	**Pn**	**22 07 44.1**	**-5.0**
KNRA	**Kununurra**	**19.14**	**175**	P	**P**	**P**	**22 08 15.8**	**-1.3**
GUMO	**Guam**	**20.25**	**59**	LR	LR		22 15 50.6	
	comp=Z,158nm,18.5s,baz=82,slow=35							
YULB	**Yu-li**	**20.53**	**345**	P	**P**	**P**	**22 08 30.1**	**-2.0**
YULB				IAmb	IAmb	IAmb	22 08 46.2	
	comp=Z,21nm,1.2s							
FITZ	**Fitzroy Crossi**	**21.52**	**184**	P	**P**	**P**	**22 08 41.2**	**-1.6**
	comp=Z,4.3nm,0.5s,baz=24,slow=7.3,SNR=20							
FITZ	**Fitzroy Crossi**	**21.52**	**184**	P	**P**	**P**	**22 08 42.3**	**-0.5**
PMG	**Port Moresby**	**23.80**	**123**	LR	LR		22 19 42.3	
	comp=Z,123nm,18.2s,baz=272,slow=40							
WRAB	**Tennant Creek**	**24.38**	**163**	P	**P**	**P**	**22 09 10.0**	**-1.6**
WRAB				IAmb	IAmb	IAmb	22 09 29.1	
	comp=Z,10nm,0.8s							
WRA	**Warramunga Arr**	**24.39**	**163**	P	**P**	**P**	**22 09 10.2**	**-1.4**
	comp=Z,5.5nm,0.5s,baz=336,slow=11,SNR=68							
WRA				PcP	**PcP**	**PcP**	**22 12 51.1**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=322,slow=2.3,SNR=4.4							
WR0	**Warramunga Arr**	**24.46**	**163**	P	**P**	**P**	**22 09 11.6**	**-0.7**
WR0				IAmb	IAmb	IAmb	22 09 15.2	
	comp=Z,7.5nm,0.8s							
PSAD1	**Pilbara Seismi**	**25.80**	**196**	P	**P**	**P**	**22 09 23.6**	**-0.8**
PSAD1				IAmb	IAmb	IAmb	22 09 26.0	
	comp=Z,8.9nm,0.7s							
PSAA1	**Pilbara Seismi**	**25.92**	**195**	P	**P**	**P**	**22 09 24.9**	**-0.5**
PSAA1				IAmb	IAmb	IAmb	22 09 27.1	
	comp=Z,9.6nm,0.7s							
KRVT	**Keravat (AS076**	**26.14**	**107**	LR	LR	LR	22 18 36.5	
	comp=Z,219nm,18.6s,baz=285,slow=34							
ASAR	**Alice Springs**	**27.83**	**166**	P	**P**	**P**	**22 09 42.0**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=343,slow=6.8,SNR=17							
ASAR				PcP	**PcP**	**PcP**	**22 12 59.2**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=349,slow=2.6,SNR=6.3							
ASAR				S	**S**	**S**	**22 14 25.9**	**+3.1**
	comp=Z,0.2nm,0.6s,baz=341,slow=13,SNR=4.1							
PSI	**Prapat**	**28.08**	**269**	LR	LR	LR	22 23 26.5	
	comp=Z,32nm,18.1s,baz=24,slow=42							
GIRL	**Giralia**	**28.85**	**205**	P	**P**	**P**	**22 09 53.8**	**+2.0**
WHN	**Wuhan**	**29.44**	**337**	P	**P**	**P**	**22 10 03.0**	**+6.1**
CMAR	**Chiang Mai Arr**	**31.25**	**300**	P	**P**	**P**	**22 10 13.1**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=120,slow=7.2,SNR=6.8							
CMAR				LR	LR	LR	22 23 41.9	
	comp=Z,24nm,20.0s,baz=105,slow=38							
MJAR	**Matsushiro Arr**	**34.44**	**16**	LR	LR	LR	22 23 56.2	
	comp=Z,94nm,20.3s,baz=205,slow=35							
BJT	**Baijiatuau**	**37.65**	**346**	P	**P**	**P**	**22 11 07.1**	**-0.9**
STKA	**Stephens Creek**	**37.82**	**160**	P	**P**	**P**	**22 11 09.5**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=335,slow=8.2,SNR=25							
STKA				PcP	**PcP**	**PcP**	**22 13 26.6**	**+1.1**
	comp=Z,2.6nm,0.8s,baz=3.8,slow=12,SNR=3.9							
STKA	**Stephens Creek**	**37.82**	**160**	P	**P**	**P**	**22 11 10.1**	**+0.4**
STKA				IAmb	IAmb	IAmb	22 11 11.4	
	comp=Z,2.3nm,0.7s							
SHL	**Shillong**	**40.25**	**306**	P	**P**	**P**	**22 11 27.7**	**-2.6**
LSA	**Lhasa**	**42.81**	**311**	P	**P**	**P**	**22 11 50.8**	**-0.9**
KLR	**Kul'dur**	**45.72**	**4**	P	**P**	**P**	**22 12 14.6**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=168,slow=6.5,

29nm,0.3s,baz=251,slow=24,SNR=3.7
DAV Davao City (W) 3.89 337⇓ *e*P **Pn 22 44 06.3 +0.3**
DAV Davao City (W) 3.89 337 Pn 22 44 05.6 -0.4
DAV Davao City (W) 3.89 337 Pn **Pb 22 44 11.2 -4.0**
SKMP Bagumbayan, Su 3.98 320 P **Pn 22 44 05.7 -1.5**
SKMP S **Sn 22 44 54.8 +1.3**
KCP Kidapawan 4.06 330 ⇓P **Pn 22 44 09.7 +1.4**
LBMI Labuha 4.10 175 P **Pn 22 44 11.9 +3.0**
KMSI Cibinong 4.27 228 P **Pn 22 44 14.6 +3.3**
CTBH Cotabato--PC H 4.70 322 P **Pn 22 44 17.8 +0.6**
CTBH S **Sn 22 45 15.1 +3.7**
BUKP Musuan 4.83 335 P **Pn 22 44 19.8 +0.7**
BUKP S **Sn 22 45 20.1 +5.4**
CGP Cagayan de Oro 5.51 334 ⇓P **Pn 22 44 31.6 +3.3**
SANI Sanana 5.61 192 P **Pn 22 44 30.1 +0.5**
95nm,0.9s,2µm0.5nm
BUTP Butuan 5.66 345 P **Pn 22 44 32.9 +2.6**
PAGZ Pagadian 5.73 319 P **Pn 22 44 30.7 -0.5**
SWI Sorong 5.96 136 P **Pn 22 44 34.1 -0.4**
221nm,1.0s,3µm8µm0.9nm
MRSI Marisa 5.99 240 P **Pn 22 44 36.8 +2.0**
806nm,0.8s,6µm5µm2.8nm
LUWI Luwuk 6.26 224 P **Pn 22 44 42.6 +4.0**
855nm,1.0s,11µm5µm3.4nm
LUWI Luwuk 6.26 224 Pn **Pn 22 44 42.8 +4.2**
NLAI Namlea 6.67 180 P **Pn 22 44 45.5 +1.3**
73nm,0.7s,2µm0.5nm
APSI Ampana 7.00 232 P **Pn 22 44 49.0 +0.2**
395nm,0.7s,4µm3µm1.4nm
MSAI Masohi 7.01 165 P **Pn 22 44 52.9 +4.0**
29nm,0.8s,2µm0.1nm
AAI Ambon 7.20 172 P **Pn 22 44 52.2 +0.8**
62nm,0.6s,2µm5µm0.5nm
MPSI Magaga 7.88 247 P **Pn 22 45 01.8 +1.0**
72nm,0.8s,966nm0.3nm
OCLP Ormoc 7.93 342 P **Pb 22 45 24.2 +0.2**
FAKI Fak Fak 8.15 141 P **Pn 22 45 07.8 +3.2**
127nm,0.9s,1µm5µm
FAKI Fak Fak 8.15 141 Pn 22 45 06.6 +1.9
FAKI Fak Fak 8.15 141 Pn Pn 22 45 10.9 +6.2
BESP Borongan 8.24 348 P Pn 22 45 09.9 +4.0
GUIM Jordan 8.41 328 P **Pn 22 45 10.5 +2.3**
RCP Roxas 9.13 332 ⇑P **Pn 22 45 21.6 +3.5**
CUYO Cuyo Island 9.51 321 P Pn 22 45 31.1 +7.8
TTSI Tana Toraja 9.77 229 P **Pn 22 45 27.2 +0.4**
202nm,1.8s,3µm
OTRP Odiongan 10.18 330 P Pn 22 45 41.0 +8.6
SPSI Sidrap Palu 10.43 225 P **Pn 22 45 37.8 +1.9**
69nm,1.3s,811nm
BNSI Bone 10.52 222 P **Pn 22 45 39.2 +2.2**
78nm,1.4s,1µm
BATP Bataraza 10.68 300 P Pn 22 45 47.2 +7.9
ENPP El Nido 10.83 316 P **Pn 22 45 42.6 +1.2**
KKM Kota Kinabalu 11.18 284 Pn 22 45 42.7 -3.4
KKM Kota Kinabalu 11.18 284 Pn **Pn 22 45 49.2 +3.0**
KAPI Kappang 11.21 221 P Pn 22 45 42.2 -4.3
3.5nm,0.3s,baz=176,slow=17,SNR=1.7
TGY Tagaytay City 12.20 330 P **Pn 22 46 00.7 +0.5**
47nm,0.3s,baz=180,slow=20,SNR=2.5
TGY LR LR 22 51 49.5
comp=Z,3µm,20.7s,baz=142,slow=43
LUBP Lubang 12.25 327 P **Pn 22 46 03.7 +2.9**
BALP Baler 13.36 336 P **P 22 46 22.3 -3.2**
SOEI Soe 13.45 192 Pn 22 46 16.6 -0.7
SOEI Soe 13.45 192 Pn **Pn 22 46 20.6 +3.3**
BATI Baumata 14.03 194 P **Pn 22 46 23.0 -2.1**
1.7nm,0.3s,baz=7.5,slow=1.3,SNR=1.7
SMPP San Manuel, Pa 14.10 334 P **Pn 22 46 27.5 +1.3**
CAUP Cauayan 14.36 339 P **Pn 22 46 26.9 -2.8**
SBUM Sibu 14.93 266 P **P 22 46 41.0 -1.9**
SBUM Sibu 14.93 266 P **Pn 22 46 36.1 -1.3**
SBUM Sibu 14.93 266 Pn **Pn 22 46 40.4 +3.0**
PLAI Plampang 15.38 217 P **Pn 22 46 45.9 +2.6**
2µm,0.8s,11µm
APYP Conner 15.42 338 P **Pn 22 46 45.0 +1.2**
TWSI Taliwang, Sumb 15.87 220 P **Pn 22 46 49.8 +0.1**
234nm,0.8s,2µm
SRBI Singaraja 16.53 226 P **Pn 22 46 58.9 +0.7**
287nm,1.5s,3µm
MTN Manton Dam 16.69 166 P **Pn 22 47 00.1 -0.1**
baz=16,SNR=6.9
MTN Manton Dam 16.69 166 Pn 22 46 59.6 -0.7
MTN Manton Dam 16.69 166 Pn **P 22 47 04.6 +2.1**
MTN IAmb IAmb 22 47 09.3
comp=Z,19nm,0.6s
KDU Kakadu 16.91 162 P **Pn 22 47 03.8 +0.8**
baz=17,SNR=6.6
KSM Kuching 16.93 264 P **P 22 47 06.0 +0.9**
KSM Kuching 16.93 264 Pn 22 46 58.6 -4.7
KSM Kuching 16.93 264 Pn **P 22 47 05.3 +0.2**
KSM IAmb IAmb 22 47 05.7
comp=Z,16nm,0.8s
IGBI Denpasar 17.09 224 P **Pn 22 47 05.4 +0.2**
JAGI Jajag, Banyuwa 17.56 227 Pn 22 47 07.1 -4.0
JAGI Jajag, Banyuwa 17.56 227 P 22 47 13.6 +1.4
JAGI IAmb IAmb 22 47 15.3
comp=Z,20nm,0.7s
KNRA Kununurra 19.10 175 P **P 22 47 29.5 +0.5**
baz=19,SNR=18
KNRA Kununurra 19.10 175 P **P 22 47 28.3 -0.8**
KNRA Kununurra 19.10 175 P **Pn 22 47 32.2 +2.3**
KNRA IAmb IAmb 22 47 36.0
comp=Z,55nm,0.9s
UGM Wanagama 20.07 236 P **P 22 47 35.6 -4.1**
TWG Pinlang 20.11 344 P **P 22 47 35.4 -4.7**
TWG Pinlang 20.11 344 P Pn 22 47 43.1 +1.2
TWG IAmb IAmb 22 47 47.4
comp=Z,228nm,0.9s
GUMO Guam 20.19 59 LR LR 22 54 38.1
comp=Z,1µm,21.8s,baz=246,slow=34
DLV T Lat 20.29 296 P **P 22 47 37.3 -5.0**
YULB Yu-li 20.59 345 P **P 22 47 41.9 -3.4**
YULB IAmb IAmb 22 47 42.8
comp=Z,21nm,0.6s
YULB Yu-li 20.59 345 P Pn 22 47 49.5 +1.9
YULB IAmb IAmb 22 47 49.8
comp=Z,42nm,0.7s
TPUB Ta-pu 20.69 343 P **P 22 47 43.2 -3.2**
TPUB Ta-pu 20.69 343 P Pn 22 47 50.4 +1.6
TPUB IAmb IAmb 22 47 53.0
comp=Z,147nm,0.7s
MANU Manus Island 20.95 105 P **P 22 47 48.8 -0.6**
SSLB Suanglung 21.06 344 P **P 22 47 47.2 -3.2**
SSLB Suanglung 21.06 344 P **P 22 47 54.9 +4.5**
SSLB IAmb IAmb 22 47 58.5
comp=Z,116nm,0.8s
NACB Ninganchiao 21.26 346 P **P 22 47 48.2 -4.3**
NACB IAmb IAmb 22 47 49.1
comp=Z,16nm,0.7s
FITZ Fitzroy Crossi 21.49 184 P **P 22 47 53.2 -1.8**
baz=21,SNR=6.3
FITZ Fitzroy Crossi 21.49 184 P **P 22 47 52.3 -2.7**
comp=Z,4.2nm,0.7s,baz=29,slow=10,SNR=10.0
FITZ S **S 22 51 45.4 -7.5**
comp=Z,3.3nm,0.7s,baz=164,slow=19,SNR=1.8
FITZ Fitzroy Crossi 21.49 184 P 22 47 58.3 +3.3
YHNB Yeheng 21.79 346 P **P 22 47 55.2 -3.0**
YHNB IAmb IAmb 22 47 58.2
comp=Z,13nm,0.7s
YHNB Yeheng 21.79 346 P **P 22 48 01.5 +3.2**
YHNB IAmb IAmb 22 48 05.2
comp=Z,62nm,0.9s
LEM Lembang 22.01 242 P **P 22 47 56.9 -3.9**
comp=Z,8.9nm,0.3s,baz=356,slow=16,SNR=1.9
LEM LR LR 22 59 03.6
comp=Z,599nm,19.0s,baz=58,slow=44
CISI Cisompet, Garu 22.18 240 P **P 22 47 58.9 -3.6**
CISI Cisompet, Garu 22.18 240 P 22 48 03.7 +1.2
CISI IAmb IAmb 22 48 04.0
comp=Z,13nm,0.7s
KNMB Chin-men Tao 22.51 339 P **P 22 48 03.0 -2.8**
KNMB Chin-men Tao 22.51 339 P **P 22 48 10.7 +4.9**
KNMB IAmb IAmb 22 48 13.8
comp=Z,69nm,0.8s
QIZ Qiongzhong 22.91 314 P P 22 48 17.6 +7.4
QIZ S Sn 22 52 27.9 -7.3
QIZ LR LR
comp=N,660nm,13.3s
QIZ LR LR
comp=E,490nm,8.4s
QIZ LR LR
comp=Z,690nm,18.1s
JOW Kunigami 23.25 3 P **P 22 48 14.6 +1.0**
comp=Z,3.9nm,0.9s,baz=133,slow=12,SNR=2.3
JOW Kunigami 23.25 3 P **P 22 48 12.4 -1.2**
JOW IAmb IAmb 22 48 14.2
comp=Z,14nm,0.9s
MYKOM Kota Tinggi 23.32 266 P **P 22 48 20.0 +5.5**
MYKOM Kota Tinggi 23.32 266 P **P 22 48 08.9 -5.6**
COEN Coen 23.52 138 P **P 22 48 14.1 -2.3**
COEN Coen 23.52 138 P **P 22 48 21.8 +5.4**
COEN IAmb IAmb 22 48 22.4
comp=Z,11nm,0.9s
PMG Port Moresby 23.71 123⇑ *e*P **P 22 48 24.2 +6.0**
PMG pmax pmax
comp=Z,48nm,1.0s
PMG Port Moresby 23.71 123 P **P 22 48 18.5 +0.2**
comp=Z,4.0nm,0.3s,baz=306,slow=19,SNR=1.8
PMG LR LR 22 59 00.9
comp=Z,1µm,20.5s,baz=292,slow=40
PMG Port Moresby 23.71 123 IAmb IAmb 22 48 19.0
comp=Z,6.7nm,0.6s
WRAB Tennant Creek 24.32 163 *de*P **P 22 48 29.0 +5.0**
WRAB pmax pmax
comp=Z,66nm,0.9s
WRAB Tennant Creek 24.32 163 P **P 22 48 22.3 -1.7**
WRAB Tennant Creek 24.32 163 P **P 22 48 29.3 +5.4**
WRAB IAmb IAmb 22 48 31.0
comp=Z,69nm,0.6s
WRA Warramunga Arr 24.33 163 *i* P **P 22 48 22.0 -2.0**
WRA pmax pmax
comp=Z,24nm,0.9s
WRA Warramunga Arr 24.33 163 P **P 22 48 21.6 -2.4**
comp=Z,20nm,0.8s,baz=342,slow=10,SNR=69
WRA PcP **PcP 22 52 00.6 -3.2**
comp=Z,1.2nm,0.9s,baz=95,slow=0.9,SNR=1.4
WRA S **S 22 52 41.8 -0.8**
comp=Z,2.6nm,0.9s,baz=337,slow=17,SNR=3.4
UBPT Khong Chiam 24.35 300 P **P 22 48 28.9 +4.7**
comp=Z,49nm,1.9s
UBPT Khong Chiam 24.35 300 P **P 22 48 21.9 -2.4**
UBPT Khong Chiam 24.35 300 P **P 22 48 27.8 +3.6**
UBPT IAmb IAmb 22 48 32.3
comp=Z,18nm,0.7s
WR0 Warramunga Arr 24.40 163 IAmb IAmb 22 48 24.6
comp=Z,22nm,0.9s
WR0 Warramunga Arr 24.40 163 P **P 22 48 29.0 +4.3**
WR0 IAmb IAmb 22 48 31.8
comp=Z,80nm,1.1s
MNAI Manna 25.38 252 P **P 22 48 28.8 -4.9**
PSA00 Pilbara Seismi 25.90 196 IAmb IAmb 22 48 37.7
comp=Z,13nm,0.7s
PSA00 Pilbara Seismi 25.90 196 P **P 22 48 43.6 +5.4**
PSA00 IAmb IAmb 22 48 45.6
comp=Z,79nm,0.7s
KRVT Keravat (AS076 26.05 107 LR LR 22 57 54.4
comp=Z,2µm,18.7s,baz=287,slow=34
IPM Ipoh 26.07 273 P **P 22 48 46.0 +6.1**
IPM Ipoh 26.07 273 P **P 22 48 35.8 -4.1**
BKNI Bangkinang 26.27 264 P **P 22 48 38.0 -3.7**
KULM Kulim 26.47 275 P **P 22 48 48.0 +4.5**
KULM Kulim 26.47 275 P **P 22 48 46.3 +2.8**
QIS Mount Isa 26.84 153 P **P 22 48 48.2 +1.4**
baz=27,SNR=6.6
MTSU Mount Surprise 27.35 142 P **P 22 48 53.5 +2.0**
baz=27,SNR=6.0
JCJ Chichijima 27.55 30 P **P 22 48 54.0 +0.9**
comp=Z,43nm,0.6s,baz=212,slow=19,SNR=2.2
NONG Nongkai 27.61 303 P **P 22 48 58.7 +5.0**
comp=Z,0.9nm,1.1s
CHAI Chaiyaphum 27.65 298 P **P 22 48 57.8 +3.7**
comp=Z,37µm,0.6s,comp=Z,562µm
AS31 Alice Springs 27.77 167 P **P 22 48 58.7 +3.5**
AS31 IAmb IAmb 22 49 02.4
comp=Z,4.0nm,0.7s
ASAR Alice Springs 27.77 167 P **P 22 48 53.0 -2.1**
comp=Z,4.1nm,0.8s,baz=338,slow=6.3,SNR=36
ASAR PcP **PcP 22 52 06.6 -5.1**
comp=Z,1.9nm,0.8s,baz=342,slow=2.1,SNR=2.3
ASAR S **S 22 53 36.5 -0.9**
comp=Z,1.4nm,0.8s,baz=358,slow=25,SNR=3.1
SSE Sheshan 28.04 349 P **P 22 48 53.3 -4.1**
PSI Prapat 28.18 269 P **P 22 48 55.1 -3.9**
comp=Z,6.9nm,0.8s,baz=132,slow=5.2,SNR=4.7
PSI LR LR 23 02 20.5
comp=Z,123nm,19.1s,baz=101,slow=41
RPSI Rantau Prapat 28.18 269 P P 22 48 54.4 -4.5
RPSI IAmb IAmb 22 48 57.7
comp=Z,6.8nm,0.8s
WRKA Warakurna 28.37 178 P **P 22 48 58.8 -1.6**
baz=28,SNR=85
SURT Suratani 28.68 282 P P 22 49 08.5 +5.1
comp=Z,37nm,0.8s
SLVN Son La 28.72 310 P **P 22 48 59.3 -4.5**
PBKT Sadao Pong 28.81 299 P **P 22 49 05.6 +1.1**
PBKT Sadao Pong 28.81 299 P P 22 48 59.3 -5.1
PBKT Sadao Pong 28.81 299 P **P 22 49 05.5 +1.1**
PBKT IAmb IAmb 22 49 10.0
comp=Z,6.9nm,0.7s
GIRL Giralia 28.86 205 P **P 22 49 08.2 +3.4**
baz=29,SNR=5.4
GIRL Giralia 28.86 205 P **P 22 49 02.6 -2.2**
GIRL Giralia 28.86 205 P **P 22 49 07.6 +2.8**
GIRL IAmb IAmb 22 49 09.8
comp=Z,34nm,0.9s
NJ2 Nanjing 29.47 346 *e*P **P 22 49 09.1 -1.0**
NJ2 pmax pmax
comp=Z,24nm,0.8s
GSI Gunungsitoli 29.61 267 P **P 22 49 13.1 +1.5**
GSI IAmb IAmb 22 49 15.4
comp=Z,18nm,0.8s
UTTA Uttaradit 29.66 300 P P 22 49 17.6 +5.6
comp=Z,30µm,0.9s,comp=Z,337µm
JNU Nakatsue 29.70 6 P **P 22 49 10.6 -1.6**
comp=Z,8.4nm,0.9s,baz=198,slow=6.4,SNR=2.3
JNU Nakatsue 29.70 6 IAmb IAmb 22 49 11.2
comp=Z,22nm,1.1s
UTHA Uthaitani 29.78 296 P P 22 49 19.9 +6.8
comp=Z,14µm,0.6s
NANT Nan 30.00 302 P P 22 49 19.7 +4.7
comp=Z,216µm,0.8s
GYA Guiyang 30.12 321 ⇓ *i* P P 22 49 22.6 +6.5
GYA pP pwP 22 49 32.0 +8.6
GYA sP sP 22 49 36.4 +14
GYA S **S 22 54 18.6 +4.2**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,160nm,4.8s
LAMP Lampang 30.78 301 P P 22 49 28.4 +6.4
comp=Z,33µm,0.9s,comp=Z,450µm
MEEK Meekatharra 31.05 195 P **P 22 49 22.8 -1.4**
baz=31,SNR=39
CM31 Chiang Mai Arr 31.35 300 P P 22 49 21.9 -5.1
CM31 IAmb IAmb 22 49 25.4
comp=Z,5.5nm,0.4s
CMAR Chiang Mai Arr 31.35 300 P **P 22 49 24.2 -2.7**
comp=Z,1.8nm,0.4s,baz=117,slow=7.4,SNR=13
CMAR PcP **PcP 22 52 16.0 -4.8**
comp=Z,0.6nm,0.3s,baz=120,slow=3.6,SNR=2.0
CMAR LR LR 23 02 60.0
comp=Z,223nm,20.8s,baz=120,slow=38
ENH Enshi 31.45 330 P **P 22 49 24.3 -3.4**
ENH IAmb IAmb 22 49 26.5
comp=Z,11nm,0.8s
ENH Enshi 31.45 330 P **P 22 49 31.6 +3.9**
ENH IAmb IAmb 22 49 33.9
comp=Z,14nm,0.7s
CHTO Chiang Mai 31.50 301 P **P 22 49 32.0 +3.7**
CHTO pmax pmax
comp=Z,12nm,0.7s
CHTO Chiang Mai 31.50 301 P **P 22 49 25.5 -2.7**
CHTO IAmb IAmb 22 49 26.8
comp=Z,8.3nm,1.1s
CHTO Chiang Mai 31.50 301 P **P 22 49 32.0 +3.7**
CHTO IAmb IAmb 22 49 33.7
comp=Z,12nm,0.7s
KMI Kunming 31.84 315 P P 22 49 37.8 +6.3
KMI pmax pmax
comp=Z,7.0nm,1.3s
MHMT Maesariang 32.11 299 P P 22 49 38.4 +4.8
comp=Z,60nm,0.9s
KSRS Korea Array 33.82 1 P **P 22 49 47.5 -0.8**
comp=Z,2.7nm,0.8s,baz=175,slow=12,SNR=5.5
KSRS PcP **PcP 22 52 26.6 -0.7**
comp=Z,2.4nm,1.1s,baz=181,slow=3.7,SNR=2.2
TIA Tai'an 33.86 345 P **P 22 49 48.1 -0.6**
TIA pmax pmax
comp=Z,10.0nm,0.9s
MORW Morawa 34.07 198 P **P 22 49 49.2 -1.4**
baz=34,SNR=7.0
MORW Morawa 34.07 198 P **P 22 49 54.5 +4.0**
MORW IAmb IAmb 22 49 57.5
comp=Z,19nm,0.8s
FORT Forrest 34.08 179 P **P 22 49 49.4 -1.2**
baz=34,SNR=10
FORT Forrest 34.08 179 P P 22 49 47.1 -3.5
FORT Forrest 34.08 179 P P 22 49 55.6 +5.0
FORT IAmb IAmb 22 50 00.2
comp=Z,48nm,0.7s
QLP Quilpie 34.15 152 P **P 22 49 54.5 +3.1**
baz=34,SNR=4.8
MJAR Matsushiro Arr 34.45 16 P **P 22 49 54.7 +0.8**
comp=Z,3.4nm,1.0s,baz=186,slow=10,SNR=3.1
MJAR PcP **PcP 22 52 28.4 -0.8**
comp=Z,1.6nm,0.6s,baz=198,slow=3.2,SNR=1.9
MJAR LR LR 23 03 13.5
comp=Z,841nm,20.8s,baz=195,slow=35
MAJO Matsushiro 34.45 16⇓ *e*P P 22 49 59.2 +5.3
MAJO pmax pmax
comp=Z,10.0nm,1.1s
XAN Xi'an 34.82 333 P **P 22 49 54.8 -2.4**
XAN pmax pmax
comp=Z,31nm,0.9s
XAN pmax pmax
comp=Z,420nm,5.1s
XAN LR LR
comp=Z,690nm,28.2s
XAN LR LR
comp=Z,670nm,28.2s
XAN LR LR
comp=Z,520nm,24.5s
XAN Xi'an 34.82 333 P **P 22 49 52.6 -4.6**
XAN IAmb IAmb 22 49 54.9
comp=Z,5.0nm,0.9s
KMBL Kambalda 35.01 188 P **P 22 49 57.0 -1.7**
baz=35,SNR=11
BLDU Balidu 35.33 196 P P 22 50 06.4 +4.9
baz=35,SNR=9.6
KLBR Kellerberrin 36.00 194 P **P 22 50 05.8 -1.5**
baz=36,SNR=9.5
MUN Mundaring 36.76 196 P **P 22 50 18.1 +4.4**
baz=37,SNR=6.5
EIDS Eidsvold 36.91 142 P **P 22 50 18.4 +3.4**
baz=37,SNR=6.9
EIDS Eidsvold 36.91 142 P **P 22 50 19.8 +4.8**
EIDS IAmb IAmb 22 50 22.3
comp=Z,22nm,0.8s
BBOO Buckleboo 37.07 167 P **P 22 50 15.0 -1.3**
baz=37,SNR=22
BBOO Buckleboo 37.07 167 P **P 22 50 13.1 -3.2**
BBOO Buckleboo 37.07 167 P **P 22 50 20.4 +4.1**
BBOO IAmb IAmb 22 50 23.5
comp=Z,41nm,0.6s
SIMRM Sittwe 37.26 299 P **P 22 50 20.7 +2.6**
NWAO Narrogin (SRO) 37.40 194 P P 22 50 24.2 +5.0
baz=37,SNR=13
NWAO Narrogin (SRO) 37.40 194 P **P 22 50 23.3 +4.1**
NWAO pmax pmax
comp=Z,12nm,0.7s
NWAO Narrogin (SRO) 37.40 194 P **P 22 50 17.7 -1.4**
NWAO Narrogin (SRO) 37.40 194 P **P 22 50 17.8 -1.4**
NWAO IAmb IAmb 22 50 19.7
comp=Z,1.4nm,0.5s
NWAO Narrogin (SRO) 37.40 194 P **P 22 50 23.3 +4.1**
NWAO IAmb IAmb 22 50 26.3
comp=Z,17nm,0.6s
NWAO Narrogin (SRO) 37.40 194 P **P 22 50 23.3 +4.1**
NWAO IAmb IAmb 22 50 25.9
comp=Z,12nm,0.7s
BJI Beijing 37.73 346 P P 22 50 27.8 +6.0
BJI pmax pmax
comp=Z,82nm,1.0s
STKA Stephens Creek 37.75 160 P P 22 50 27.8 +5.7
STKA pmax pmax
comp=Z,9.0nm,0.8s
STKA Stephens Creek 37.75 160 P **P 22 50 20.1 -2.1**
comp=Z,28nm,0.9s,baz=335,slow=8.5,SNR=41
STKA Stephens Creek 37.75 160 P **P 22 50 21.5 -0.6**
STKA IAmb IAmb 22 50 23.8
comp=Z,6.1nm,0.9s
STKA Stephens Creek 37.75 160 P P 22 50 27.8 +5.7
STKA IAmb IAmb 22 50 30.3
comp=Z,8.8nm,0.8s
HTT Hallett 38.36 164 P **P 22 50 26.7 -0.6**
baz=38,SNR=11
LZH Lanzhou 38.92 329 *e*P **P 22 50 31.1 -1.1**
LZH pP pwP 22 50 41.3 +1.7
LZH sP sP 22 50 45.8 +7.3
LZH PP **PnPn 22 52 03.8 -0.1**
LZH pmax pmax
comp=Z,18nm,1.0s
LZH pmax pmax
comp=Z,68nm,4.9s
LZH LR LR
comp=N,640nm,17.0s
LZH LR LR
comp=E,520nm,17.6s
LZH LR LR
comp=Z,850nm,18.1s
LZH Lanzhou 38.92 329 ⇑P **P 22 50 35.8 +3.6**
LZH pP pwP 22 50 50.4 +11
LZH sP sP 22 50 54.9 +16
LZH pmax pmax
comp=Z,20nm,1.8s
LZH pmax pmax
comp=Z,98nm,4.9s
LZH LR LR
comp=Z,1µm,17.0s
LZH LR LR
comp=Z,920nm,17.6s
LZH LR LR
comp=Z,1µm,18.1s
CMSA Cobar Meteorol 39.05 154 P **P 22 50 33.1 +0.1**
baz=39,SNR=11
RKGY Rocky Gully 39.07 193 P **P 22 50 33.3 +0.1**
baz=39,SNR=8.2
CN2 Changchun 40.18 358 *e*P P 22 50 47.3 +5.0
CN2 pmax pmax
comp=Z,10.0nm,0.9s
SHL Shillong 40.35 306 P **P 22 50 40.8 -3.5**
USA0B Ussuriysk Arra 40.78 5 ⇓ *e*P P 22 50 53.7 +6.4
USRK Ussuriysk Ar. 40.78 5 P **P 22 50 46.4 -0.9**
comp=Z,4.3nm,0.9s,baz=191,slow=8.5,SNR=7.2
MDJ Mudanjiang 41.03 3 P **P 22 50 48.9 -0.4**
MDJ pmax pmax
comp=Z,11nm,0.8s
MDJ pmax pmax
comp=Z,270nm,3.3s
MDJ Mudanjiang 41.03 3 P P 22 50 55.4 +6.1
MDJ IAmb IAmb 22 50 56.9
comp=Z,27nm,0.9s
ARMA Armidale 41.03 147 P **P 22 50 50.4 +0.7**
baz=41,SNR=13
ARMA Armidale 41.03 147 P **P 22 50 49.3 -0.5**
ARMA IAmb IAmb 22 50 52.6
comp=Z,10nm,0.8s
ARPS Mount Arapiles 42.32 162 P **P 22 51 00.2 +0.2**
baz=42,SNR=9.2
ASAJ Asahikawa 42.72 16 P **P 22 51 02.5 -0.6**
comp=Z,15nm,1.0s,baz=144,slow=19,SNR=2.8
ASAJ LR LR 23 07 55.2
comp=Z,641nm,20.8s,baz=195,slow=35
JKA Kamikawa-asahi 42.72 16 P **P 22 51 02.5 -0.6**
LSA Lhasa 42.91 311 P **P 22 51 03.3 -2.2**
LSA IAmb IAmb 22 51 05.0
comp=Z,7.0nm,0.6s
GTA Gaotai 43.52 329 *e*P **P 22 51 07.8 -2.1**
GTA pmax pmax
comp=Z,120nm,5.7s
GTA LR LR
comp=Z,620nm,22.2s
GTA LR LR
comp=Z,580nm,20.9s
GTA LR LR
comp=Z,670nm,19.4s
CAN Canberra 43.71 154 P **P 22 51 10.4 -0.9**
TOO Toolangi 44.26 159 P **P 22 51 19.7 +4.0**
baz=44,SNR=4.0
TAPN Taplejung 44.49 306 *e*P **P 22 51 14.4 -3.7**
comp=Z,49nm,0.9s
ODAN Odare 44.55 305 *e*P **P 22 51 14.2 -4.3**
comp=Z,19nm,0.5s
RAMN Ramite 45.23 305 *e*P **P 22 51 20.3 -3.6**
comp=Z,24nm,0.6s
KLR Kul'dur 45.76 4 *ce*P P 22 51 33.1 +5.7

KLR pmax pmax
comp=Z,15nm,1.0s
KLR Kul'dur 45.76 4 P **P** **22 51 25.9 -1.5**
comp=Z,2.1nm,0.6s,baz=192,slow=3.8,SNR=6.7
JIRN Jiri 45.85 306 *eP* **P** **22 51 25.7 -3.3**
comp=Z,43nm,0.6s
HIA Hailar 46.06 353 *ceP* P 22 51 36.0 +6.2
HIA pmax pmax
comp=Z,134nm,1.0s
HIA Hailar 46.06 353 P P 22 51 35.3 +5.4
HIA IAmb IAmb 22 51 39.3
comp=Z,17nm,1.0s
DZM Mont Dzumac 46.06 125 P **P** **22 51 29.7 -0.7**
comp=Z,3.2nm,0.8s,baz=252,slow=16,SNR=1.8
DZM Mont Dzumac 46.06 125 IAmb IAmb 22 51 30.2
comp=Z,2.8nm,1.0s
GUN Gumba 46.20 306 *eP* **P** **22 51 28.4 -3.3**
comp=Z,43nm,0.6s
PALK Pallekele 46.37 277⇑ *eP* P 22 51 38.8 +6.0
PALK pmax pmax
comp=Z,26nm,1.1s
PKI Pulchoki 46.44 305 *eP* **P** **22 51 29.9 -3.7**
comp=Z,20nm,0.8s
PKIN Phulchoki 46.46 305 *eP* **P** **22 51 29.9 -3.7**
comp=Z,10nm,0.6s
KKN Kakani 46.64 306 *eP* **P** **22 51 31.5 -3.5**
comp=Z,23nm,0.5s
DMN Daman 46.71 305 *eP* **P** **22 51 32.3 -3.3**
ULN Ulaanbaatar 47.48 342 *ceP* P 22 51 46.5 +5.3
ULN pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 47.48 342 P **P** **22 51 39.2 -2.0**
ULN IAmb IAmb 22 51 41.8
comp=Z,6.3nm,1.1s
SONM Songino Array 47.66 341 P **P** **22 51 40.9 -1.7**
comp=Z,2.5nm,0.6s,baz=153,slow=8.2,SNR=15
GRNR Gornyy 47.77 8⇓ *iP* **P** **22 51 42.7 -0.5**
GRNR *i* 22 51 59.4
GRNR *eS* **S** **22 58 34.3 -4.7**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR smax smax
comp=N,3.0nm,1.1s
GRNR MLR MLR
comp=Z,240nm,20.0s
HYB Hyderabad 49.58 290 *i* P **P** **22 51 54.0 -3.7**
ZEA Zeya 50.10 0 *eP* P 22 52 06.2 +5.2
ZEA pmax pmax
comp=Z,20nm,0.8s
ZEA MLR MLR
comp=N,500nm,18.0s
ZEA MLR MLR
comp=Z,600nm,18.0s
ZAK Zakamensk 50.90 341 *eP* **P** **22 52 10.7 +3.5**
ZAK pmax pmax
comp=Z,9.0nm,1.0s
TLY Talaya 51.90 342 *eP* P 22 52 21.9 +7.3
TLY pmax pmax
comp=Z,43nm,0.8s
TLY MLR MLR
comp=Z,1μm,19.0s
TLY Talaya 51.90 342 P **P** **22 52 13.7 -0.9**
comp=Z,4.4nm,0.6s,baz=203,slow=6.0,SNR=2.1
TLY Talaya 51.90 342 P **P** **22 52 12.8 -1.7**
TLY IAmb IAmb 22 52 15.4
comp=Z,6.0nm,0.7s
MOY Mondy 52.76 340 *eP* P 22 52 27.8 +6.7
MOY pmax pmax
comp=Z,57nm,1.7s
WMQ Urumqi 53.16 325 *eP* **P** **22 52 28.0 +3.8**
WMQ sP pwP 22 52 37.1 +5.4
WMQ PcS **PcS** **22 57 29.8 -1.2**
WMQ S S 22 59 45.3 -9.0
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ pmax pmax
comp=Z,110nm,3.9s
WMQ LR LR
comp=Z,530nm,15.5s
WMQ LR LR
comp=Z,2μm,28.9s
WMQ LR LR
comp=Z,250nm,29.1s
MSVF Nonsavu 54.44 115⇑ *eP* **P** **22 52 38.0 +4.1**
MSVF pmax pmax
comp=Z,20nm,1.1s
PEA0B Petropavlovsk- 55.51 22⇓ *eP* P 22 52 47.5 +6.5
PEA0B Petropavlovsk- 55.51 22 P P 22 52 46.8 +5.8
PETK Petropavlovsk- 55.51 22 P **P** **22 52 40.9 -0.1**
comp=Z,12nm,0.9s,baz=191,slow=4.9,SNR=9.7
MK31 Makanchi Array 57.99 325 *iP* **P** **22 53 03.1 +4.3**
MK31 Makanchi Array 57.99 325 P **P** **22 52 56.5 -2.3**
MK31 IAmb IAmb 22 52 57.9
comp=Z,3.8nm,1.1s
MKAR Makanchi Array 57.99 325 P **P** **22 52 56.0 -2.8**
comp=Z,2.0nm,0.5s,baz=122,slow=7.8,SNR=27
MKAR LR LR 23 20 03.9
comp=Z,301nm,18.5s,baz=92,slow=38
MAKZ Makanchi 58.18 325 P **P** **22 52 57.6 -2.5**
MAKZ IAmb IAmb 22 52 59.2
comp=Z,8.3nm,1.1s
TARG Taragay, Kyrgy 58.21 318 P **P** **22 53 04.6 +3.7**
NIL Nilore 58.40 308 P **P** **22 52 58.5 -3.4**
NIL IAmb IAmb 22 53 01.3
comp=Z,4.8nm,1.1s
YAK Yakutsk 58.45 1 *eP* P 22 53 06.1 +4.5
YAK *eS* **S** **23 01 04.7 +0.8**
YAK *eSS* **SS** **23 05 04.1 +7.7**
YAK pmax pmax
comp=Z,57nm,1.0s
YAK pmax pmax
comp=N,21nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,19nm,0.5s
YAK smax smax
comp=N,111nm,18.5s
YAK Yakutsk 58.45 1 P **P** **22 53 00.8 -0.8**
comp=N,8.9nm,0.4s,baz=260,slow=2.0,SNR=5.5
YAK Yakutsk 58.45 1 P **P** **22 52 59.8 -1.8**
YAK Yakutsk 58.45 1 P P 22 53 07.5 +5.9
YAK IAmb IAmb 22 53 08.8
comp=Z,73nm,1.0s
KSH Kashi 58.51 315 P **P** **22 53 03.9 +1.2**
KSH PcP **PcP** **22 53 53.8 +0.7**
KSH S **S** **23 01 03.9 -1.9**
KSH sS sS 23 01 21.0 +7.4
KSH pmax pmax
comp=Z,47nm,1.4s
KSH pmax pmax
comp=Z,570nm,6.1s
KSH LR LR
comp=Z,340nm,5.8s
KSH LR LR
comp=Z,550nm,6.1s
KSH LR LR
comp=Z,540nm,7.8s
MA2 Magadan 58.85 14*de*P P 22 53 11.3 +6.8
MA2 pmax pmax
comp=Z,23nm,1.0s
NRN Naryn 59.29 317 P **P** **22 53 05.3 -3.1**
AAK Ala-Archa 60.82 318⇑ *eP* **P** **22 53 21.2 +2.6**
AAK pmax pmax
comp=Z,5.0nm,1.1s
ZAA0 Zalesovo Array 60.99 333 P **P** **22 53 23.0 +3.7**
ZAA0 IAmb IAmb 22 53 27.0
comp=Z,16nm,1.1s
ZALV Zalesovo Beam 60.99 333 P **P** **22 53 16.6 -2.8**
comp=Z,1.9nm,0.8s,baz=120,slow=5.8,SNR=5.9
LBZ Lake Benmore 61.25 146 P **P** **22 53 20.4 -0.8**
ARSB Arslanbob 61.32 316 P **P** **22 53 19.4 -2.6**
ARSB IAmb IAmb 22 53 22.5
comp=Z,3.3nm,0.8s
URZ Urewera 62.08 137 P **P** **22 53 24.7 -2.2**
comp=Z,4.1nm,0.8s,baz=320,slow=1.2,SNR=2.2
URZ Urewera 62.08 137 IAmb IAmb 22 53 25.6
comp=Z,4.4nm,0.9s
BKZ Black Stump Fm 62.13 138 P P 22 53 32.3 +4.9
BKZ IAmb IAmb 22 53 34.6
comp=Z,14nm,1.1s
KURK Kurchatov 62.17 327 *c iP* **P** **22 53 31.5 +4.2**
KURK pmax pmax
comp=Z,20nm,0.9s
KURK Kurchatov 62.17 327 P **P** **22 53 24.9 -2.5**
SEY Seymchan 62.19 13⇑ *eP* P 22 53 33.9 +6.7
SEY Seymchan 62.19 13 P **P** **22 53 26.4 -0.8**
comp=Z,1.1nm,0.3s,baz=243,slow=7.9,SNR=4.6
BTK Batken 62.39 314 P **P** **22 53 26.7 -2.5**
BTK IAmb IAmb 22 53 28.4
comp=Z,5.2nm,1.1s
GAR Garm 62.39 313 P **P** **22 53 26.0 -3.2**
CHGR Chuyangaron 63.13 312 P **P** **22 53 31.2 -3.0**
KK31 Karatay Array 63.69 317 IAmb IAmb 22 53 36.1
comp=Z,4.3nm,0.9s
KKAR Karatay Array 63.69 317 IAmb IAmb 22 53 36.1
comp=Z,4.3nm,0.9s
HRA Herat 67.41 306 P **P** **22 54 05.4 +3.3**
HRA IAmb IAmb 22 54 07.2
comp=Z,6.1nm,0.8s
BRVK Borovoye 67.82 327⇓ *eP* **P** **22 54 07.9 +3.8**
BRVK pmax pmax
comp=Z,15nm,0.9s
BRVK Borovoye 67.82 327 P **P** **22 54 01.8 -2.3**
BRVK IAmb IAmb 22 54 04.2
comp=Z,7.3nm,0.9s
TIXI Tiksi 68.09 1*de*P P 22 54 11.3 +5.9
TIXI pmax pmax
comp=Z,8.0nm,0.9s
TIXI Tiksi 68.09 1 P **P** **22 54 03.9 -1.5**
comp=Z,2.4nm,0.6s,baz=180,slow=24,SNR=6.6
TIXI Tiksi 68.09 1 P **P** **22 54 03.9 -1.5**
TIXI IAmb IAmb 22 54 05.5
comp=Z,7.5nm,1.1s
BILL Bilibino 69.69 15 *i* P P 22 54 21.8 +6.3
BILL *i* 22 54 28.2
BILL *i* 22 54 43.4
BILL pmax pmax
comp=Z,9.0nm,0.9s
BILL MLR MLR
comp=Z,241nm,22.0s
BILL Bilibino 69.69 15 P P 22 54 21.5 +6.0
BILL IAmb IAmb 22 54 24.9
comp=Z,9.4nm,0.9s
CASY Casey 70.62 187 P **P** **22 54 20.5 -0.5**
GEYT Alibeck 71.37 309 P **P** **22 54 22.4 -4.0**
comp=Z,2.4nm,0.8s,baz=111,slow=8.1,SNR=4.4
GYA0B ALIBECK ARRAY 71.37 309 P P 22 54 21.7 -4.7
GYA0B IAmb IAmb 22 54 24.4
comp=Z,3.1nm,0.8s
ABKAR Akbulak array 72.60 321 IAmb IAmb 22 54 32.6
comp=Z,3.5nm,0.8s
AKTO Aktyubinsk 74.11 322 P **P** **22 54 38.2 -4.1**
comp=Z,3.1nm,0.7s,baz=99,slow=7.1,SNR=18
SVE Sverdlovsk 74.39 328 *eP* P 22 54 48.5 +4.7
SVE pmax pmax
comp=Z,19nm,0.9s
ARU Arti 75.36 328*c iP* P 22 54 54.1 +4.6
ARU 22 57 43.2
ARU S **S** **23 04 34.0 +5.5**
ARU SS **SS** **23 09 26.8 +8.2**
ARU pmax pmax
comp=Z,25nm,1.1s
ARU Arti 75.36 328 P **P** **22 54 46.0 -3.5**
ARU IAmb IAmb 22 54 49.0
comp=Z,6.9nm,0.8s
AKT Akhty 79.77 311 *eP* **P** **22 55 18.9 +4.3**
AKT *e* 22 55 26.3
AKT pmax pmax
comp=Z,11nm,1.2s
KIRV Kirov 80.65 329 P **P** **22 55 16.3 -2.4**
comp=Z,14nm,0.8s,baz=18,slow=2.0,SNR=10.0
RAYN Ar Rayn 80.95 293 P **P** **22 55 18.1 -3.1**
RAYN IAmb IAmb 22 55 19.8
comp=Z,3.4nm,0.8s
ABPO Ambohimpanom 81.61 250 P **P** **22 55 22.6 -2.3**
ABPO IAmb IAmb 22 55 24.5
comp=Z,7.4nm,0.8s
KDAK Kodiak Island 81.89 32 P **P** **22 55 24.7 -0.6**
comp=Z,6.8nm,0.9s,baz=220,slow=8.9,SNR=3.2
KDAK Kodiak Island 81.89 32 IAmb IAmb 22 55 28.2
comp=Z,3.2nm,0.7s
PPLA Purkeypile 82.67 27 P **P** **22 55 29.3 -0.3**
SKT Skwentna 82.87 28 P **P** **22 55 28.5 -1.9**
SKT IAmb IAmb 22 55 30.1
comp=Z,8.0nm,1.0s
PRGR Permogore 82.92 332 *eP* **P** **22 55 34.9 +4.3**
PRGR pmax pmax
comp=Z,34nm,0.9s
VNDA Vanda 83.13 173 P **P** **22 55 28.0 -3.4**
comp=Z,2.8nm,0.8s,baz=311,slow=6.7,SNR=14
VNDA Vanda 83.13 173 P **P** **22 55 30.6 -0.8**
VNDA IAmb IAmb 22 55 31.5
comp=Z,4.5nm,0.9s
SUA Susitna One 83.19 29 P **P** **22 55 31.1 -1.1**
SUA IAmb IAmb 22 55 31.9
comp=Z,6.1nm,0.8s
KTH Kantishna Hill 83.31 27 P **P** **22 55 31.3 -1.4**
KBZ Khabaz 83.45 313⇑ *eP* P 22 55 38.4 +4.6
KBZ Khabaz 83.45 313 P **P** **22 55 31.5 -2.3**
comp=Z,0.3nm,0.5s,baz=150,slow=7.2,SNR=2.0
MLY Manley 83.53 25 P **P** **22 55 33.0 -0.9**
MLY IAmb IAmb 22 55 34.6
comp=Z,4.0nm,0.8s
NEY Neytrino 83.56 313⇑ *eP* P 22 55 39.5 +4.8
NEY pmax pmax
comp=Z,1.0nm,0.9s
TRF Thorofare Moun 83.58 27 P **P** **22 55 32.2 -2.1**
KIV Kislovodsk 83.60 314 *eP* P 22 55 39.4 +4.7
KIV pmax pmax
comp=Z,14nm,0.9s
ATD Arta Tunnel 83.72 281 LR LR 23 31 30.4
comp=Z,48nm,22.0s,baz=88,slow=35
COLD Coldfoot 83.97 23 P P 22 55 40.8 +4.8
COLD IAmb IAmb 22 55 44.8
comp=Z,4.8nm,0.7s
NEA Nenana 84.20 26 P P 22 55 42.0 +4.8
NEA IAmb IAmb 22 55 45.9
comp=Z,13nm,0.8s
MCK McKinley 84.21 26 P **P** **22 55 33.5 -3.8**
MCK IAmb IAmb 22 55 36.6
comp=Z,3.8nm,0.8s
RND Reindeer 84.22 27 P **P** **22 55 34.3 -3.2**
RND IAmb IAmb 22 55 37.0
comp=Z,4.4nm,0.8s
KNK Knik Glacier 84.28 29 P **P** **22 55 35.2 -2.5**
TOLK Toolik Lake Re 84.33 21 P P 22 55 43.9 +6.0
baz=265
TOLK Toolik Lake Re 84.33 21 P **P** **22 55 36.3 -1.5**
TOLK IAmb IAmb 22 55 38.7
comp=Z,4.8nm,1.1s
SML Sawmill 84.36 28 P **P** **22 55 35.7 -2.5**
VRH Novokhopyorsk 84.43 321 *eP* **P** **22 55 42.9 +4.3**
VRH pmax pmax
comp=Z,20nm,0.4s
WRH Wood River Hil 84.62 26 P **P** **22 55 36.7 -2.6**
PPT2 Papeete2 84.65 108 *eS* **S** **23 06 04.6 -3.3**
comp=Z,81nm,26.8s
PPT2 *eSS* **SS** **23 11 33.6 -6.1**
comp=Z,122nm,27.8s
PPT2 Papeete2 84.65 108 *eLR* LR 23 22 05.9
comp=Z,536nm,28.5s
COLA College 84.75 25⇓ *eP* P 22 55 46.1 +6.2
COLA pmax pmax
comp=Z,4.0nm,0.9s
CCB Clear Creek Bu 84.76 26 P **P** **22 55 36.9 -3.1**
SCM Sheep Creek Mo 84.84 28 P **P** **22 55 37.6 -3.0**
POKR Poker Plat Res 84.94 25 P **P** **22 55 43.9 +3.0**
baz=268
HDA Harding Lake 85.12 26 P P 22 55 47.2 +5.3
baz=268
HDA Harding Lake 85.12 26 P **P** **22 55 38.3 -3.6**
HDA IAmb IAmb 22 55 41.8
comp=Z,2.2nm,0.8s
ILAR Eielson Array 85.16 25 P **P** **22 55 40.8 -1.3**
comp=Z,1.0nm,0.9s,baz=229,slow=6.1,SNR=6.7
TBI Tubuai 85.32 114 *eS* **S** **23 06 11.0 -3.1**
comp=Z,68nm,27.0s
TBI *eSS* **SS** **23 11 43.9 -5.2**
comp=Z,127nm,34.5s
TBI Tubuai 85.32 114 *eLR* LR 23 22 25.6
comp=Z,493nm,30.2s
SOC Sochi 85.75 313 *eP* **P** **22 55 47.8 +2.3**
SOC *e* 22 59 11.4
SOC *ePPP* PPP 23 01 02.4
SOC *eS* S 23 06 09.3 -8.4
SOC *eSS* **SS** **23 11 51.6 -2.8**
SOC *eSSS* SSS 23 15 30.5
SOC pmax pmax
comp=Z,19nm,0.6s
VORD Divnogorie 85.96 321 *eP* **P** **22 55 49.8 +3.5**
VORD pmax pmax
comp=Z,30nm,1.0s
VSR Storozhevoye 86.04 321⇓ *eP* P 22 55 51.5 +4.8
VSR pmax pmax
comp=Z,29nm,0.9s
LPSR Galich'ya Gora 86.17 322 *eP* **P** **22 55 51.0 +3.7**
LPSR pmax pmax
comp=Z,50nm,1.0s
MOS Moscow 86.88 326 *eP* P 22 55 55.5 +4.8
MOS pmax pmax
comp=Z,45nm,0.8s
ANN Anapa 87.36 315 *eP* **P** **22 55 57.8 +4.5**
ANN *e*PP pwP 22 56 08.8 +7.7
ANN pmax pmax
comp=Z,56nm,1.1s
OBN Obninsk 87.50 325⇓ *eP* P 22 55 58.4 +4.7
OBN pmax pmax
comp=Z,23nm,0.9s
OBN MLR MLR
comp=Z,275nm,17.0s
OBN Obninsk 87.50 325 P **P** **22 55 57.4 +3.7**
EPYK Eagle Plains 89.31 24 P P 22 56 08.1 +5.9
baz=277
KMBO Kilima Mbogo 89.95 269 P **P** **22 56 03.4 -3.2**
comp=Z,3.3nm,1.0s,baz=87,slow=3.7,SNR=6.7
EIL Elat 90.20 300 P **P** **22 56 04.7 -2.4**
comp=Z,3.0nm,0.8s,baz=9.5,slow=18,SNR=2.4
INK Inuvik 90.25 22 P **P** **22 56 05.7 -0.7**
comp=Z,1.1nm,0.9s,baz=80,slow=1.7,SNR=3.1
INK Inuvik 90.25 22 P **P** **22 56 04.9 -1.5**
BR131 Keskin Array S 90.49 310*ceP* **P** **22 56 12.9 +4.5**
BR131 Keskin Array S 90.49 310 P **P** **22 56 12.0 +3.5**
BR131 IAmb IAmb 22 56 14.7
comp=Z,6.7nm,0.9s
BRTR Keskin Array B 90.49 310 P **P** **22 56 05.4 -3.0**
comp=Z,1.2nm,0.9s,baz=116,slow=5.3,SNR=6.6
SPITS Spitsbergen Ar 90.80 349 P **P** **22 56 07.2 -1.7**
comp=Z,26nm,1.1s,baz=200,slow=3.8,SNR=2.0
ARCES ARCESS Array B 90.82 340 P **P** **22 56 05.9 -3.3**
comp=Z,4.7nm,0.8s,baz=20,slow=7.8,SNR=4.5
FINES FINESS Array B 92.24 332 P **P** **22 56 13.2 -2.6**
comp=Z,1.7nm,0.8s,baz=103,slow=6.0,SNR=2.6
SYO Syowa Base 92.34 201⇑ *iP* P 22 56 20.9 +4.9
SYO Syowa Base 92.34 201⇑ *epP* pP 22 56 31.7 +11
AKASG Malin Array Be 92.34 321 P **P** **22 56 13.4 -3.1**
comp=Z,3.0nm,0.7s,baz=71,slow=4.1,SNR=4.1
TAOE Nuku Hiva Isla 93.21 99 *eLR* LR 23 26 05.8
comp=Z,621nm,23.6s
C36M Paulatuk 93.31 20 P P 22 56 25.9 +5.3
baz=289
QSPA South Pole Qui 93.39 180 P **P** **22 56 19.2 -2.0**
comp=Z,2.2nm,0.9s,baz=296,slow=3.3,SNR=6.5
QSPA South Pole Qui 93.39 180 P **P** **22 56 19.6 -1.5**
TESR Tescani 94.70 317⇑ P **P** **22 56 31.8 +4.3**
VRI Vrincioaia 94.75 316⇓ P P 22 56 32.8 +5.0
VRI Vrincioaia 94.75 316⇓ P P 22 56 32.8 +5.0
PLOR Plostina 94.81 316⇑ P **P** **22 56 32.6 +4.5**
PLOR Plostina 94.81 316⇑ P **P** **22 56 32.6 +4.5**
SUW Suwalki 95.36 325 P P 22 56 35.3 +5.0
SUW pmax pmax
comp=Z,19nm,0.7s
SUW Suwalki 95.36 325 P P 22 56 35.3 +5.0
MLR Muntele Rosu 95.36 316⇓ P **P** **22 56 34.5 +3.7**
MLR Muntele Rosu 95.36 316⇓ P **P** **22 56 34.5 +3.7**
MLR Muntele Rosu 95.36 316 P P **P** **22 56 27.2 -3.6**
BURAR Bucovina Array 95.46 318⇓ P P 22 56 36.0 +4.9
BURAR Bucovina Array 95.46 318⇓ P P 22 56 36.0 +4.9
BUR08 Bucovina Ar. S 95.46 318 P **P** **22 56 26.9 -4.2**
DOPR Dopca 95.66 317⇓ P P 22 56 36.7 +4.8
PLVB Pleven 96.69 314⇓ P **P** **22 56 36.7 0.0**
DAG Danmarks Havn 97.56 352 *iP* **P** **22 56 37.4 -2.4**
comp=Z,16nm,0.9s
RES Resolute Bay 97.99 10 P **P** **22 56 40.4 -1.4**
comp=Z,1.2nm,0.8s,baz=2.0,slow=7.7,SNR=3.9
RES Resolute Bay 97.99 10 IAmb IAmb 22 56 41.9
comp=Z,1.9nm,1.1s
RES Resolute Bay 97.99 10 IAmb IAmb 22 56 50.2
comp=Z,4.0nm,0.9s
SIRR Siria 98.13 318⇓ P Pdif 22 56 47.5 +4.4
NB2 NORSAR Subarra 99.19 334 P **Pdif** **22 56 44.3 -3.3**
comp=Z,6.4nm,1.1s,baz=67,slow=4.6
NB2 NORSAR Subarra 99.19 334 P **Pdif** **22 56 44.3 -3.3**
baz=67,slow=4.6
NOA NORSAR Array B 99.19 334 P **Pdif** **22 56 44.4 -3.1**
comp=Z,1.3nm,0.8s,baz=67,slow=4.6,SNR=3.3
VYHS Vyhne 99.41 320 *eP* **Pdif** **22 56 58.1 +9.3**
VYHS Vyhne 99.41 320 *e*PDIFF **Pdif** **22 56 58.1 +9.3**
YKA Yellowknife Ar 99.56 25 P **Pdif** **22 56 47.4 -1.7**
comp=Z,0.2nm,0.8s,baz=300,slow=4.4,SNR=3.0
YKA PKKP **PKKPbc** **23 13 14.7 +1.0**
comp=Z,0.3nm,0.7s,baz=96,slow=1.4,SNR=5.6
BRG Berggiesshubel 101.68 324 *eP* **Pdif** **22 57 04.4 +5.6**
comp=Z,5.2nm,0.9s
BRG Berggiesshubel 101.68 324 *eP* **Pdif** **22 57 04.4 +5.6**
BRG pmax pmax
comp=Z,5.0nm,0.9s
SCO Scoresbysund 103.36 350 *i* P **Pdif** **22 57 18.0 +12**
comp=Z,7.0nm,0.8s
NVAR Mina Array Bea 106.77 48 PKKP **PKKPdf** **23 12 58.0 -6.0**
comp=Z,0.3nm,0.7s,baz=141,slow=5.8,SNR=3.6
PDAR Pinedale Array 111.28 41 PKKPab PKKPab 23 12 39.9 -7.0
comp=Z,0.6nm,0.6s,baz=119,slow=5.2,SNR=6.2
PDAR PKKP **PKKPdf** **23 12 51.3 -4.4**
comp=Z,0.8nm,0.9s,baz=120,slow=3.6,SNR=4.5
ECSD EROS Data Cent 118.76 35 **PKiKP** **23 02 00.9 +6.2**
TXAR Lajitas Array 121.43 52 PKP **PKPdf** **23 01 58.9 -1.4**
comp=Z,0.4nm,0.8s,baz=247,slow=1.9,SNR=2.4
TOA0 Torodi Ar. Sit 123.38 288 **PKiKP** **23 02 09.7 +5.1**
TORD Torodi Ar. Bea 123.38 288 PKP **PKPdf** **23 02 01.6 -2.6**
comp=Z,1.4nm,0.8s,baz=64,slow=1.8,SNR=6.8
JCT Junction City 123.92 49 **PKPdf** **23 02 02.8 -2.2**
U40A Yellville 125.58 40 **PKiKP** **23 02 14.0 +5.6**
TKL Tuckaleechee C 131.49 34 PKP **PKPdf** **23 02 17.8 -1.5**
comp=Z,3.6nm,0.8s,baz=260,slow=6.8,SNR=3.9
PLCA Paso Flores 139.63 159 PKP **PKPdf** **23 02 31.6 -2.8**
comp=Z,3.3nm,1.0s,baz=134,slow=9.0,SNR=4.4
ACON Acoyapa 144.40 64 **PKiKP** **23 02 47.0 0.0**
TRQA Torquist 144.59 168 **PKPab** **23 02 39.3 -2.3**
PEL Peldehue 146.10 153 **PKPdf** **23 02 41.8 -4.2**
GO04 Tololo Observa 148.49 149 **PKPdf** **23 02 52.6 +2.3**
GO04 PKPbc **sPKPbc** **23 02 58.3 -2.2**
GO02 Mina Guanaco 153.09 145 **PKPdf** **23 02 52.0 -5.6**
CPUP Villa Florida 156.88 170 PKP **PKPdf** **23 03 01.5 -0.8**
comp=Z,0.4nm,0.4s,baz=359,slow=20,SNR=1.5
CPUP PKPab **PKPab** **23 03 31.2 -0.7**
comp=Z,1.9nm,0.7s,baz=160,slow=5.8,SNR=2.1
CPUP Villa Florida 156.88 170 **PKPdf** **23 02 56.5 -5.8**
LPAZ La Paz 160.32 131 PKP **PKPdf** **23 03 05.8 -1.7**
comp=Z,2.9nm,1.2s,baz=0.0,slow=3.0,SNR=3.3
LPAZ PKPab **PKPab** **23 03 47.9 -0.1**
comp=Z,2.2nm,0.9s,baz=228,slow=3.9,SNR=2.1
LPAZ La Paz 160.32 131 PKPdf 23 03 00.4 -7.1
SAML Samuel 168.39 118 PKIKP **PKPdf** **23 03 19.0 +5.0**
SAML Samuel 168.39 118 PKPdf **PKPdf** **23 03 19.0 +5.0**

IDC 17 22:43:09.4±1.1,23.67N×145.97E,h0km,mb3.5/6, mb1 3.7/6,mb1mx3.5/57,mbtmpb3.6/6,Error ellipse: s-maj=33.5km s-min=24.9km az=52.0,North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.69**	**316**	P	P	P	22 47 49.4	-1.7
	1.8nm,0.8s,baz=126,slow=12,SNR=3.6							
SONM	**Songino Array**	**39.54**	**318**	P	P	P	22 50 43.1	+0.8
	0.2nm,0.4s,baz=117,slow=5.2,SNR=3.1							
ZALV	**Zalesovo Beam**	**54.30**	**320**	P	P	P	22 52 38.2	+0.8
	1.2nm,0.5s,baz=110,slow=8.1,SNR=6.5							
MKAR	**Makanchi Array**	**55.29**	**311**	P	P	P	22 52 44.2	-0.6
	0.7nm,0.6s,baz=85,slow=8.0,SNR=11							
STKA	**Stephens Creek**	**55.39**	**185**	P	P	P	22 52 45.3	-0.2
	19nm,0.6s,baz=353,slow=4.7,SNR=7.5							
YKA	**Yellowknife Ar**	**73.51**	**29**	P	P	P	22 54 43.7	-0.1
	0.1nm,0.5s,baz=282,slow=5.7,SNR=3.1							
NVAR	**Mina Array Bea**	**79.91**	**53**	P	P	P	22 55 20.7	0.0
	0.2nm,0.5s,baz=302,slow=5.2,SNR=2.9							

*SJA **17** 22:53:30.2±0.9,21.14S×68.81W,h140km±7km,ML3.1, MW3.2*
*ISCJB **17** 22:53:32.1±0.8,21.26S±0.03×68.83W±0.07,h137km±9km, Error ellipse: s-maj=10.8km s-min=4.5km az=178.5*
*GUC **17** 22:53:32.3±0.8,21.26S×68.75W,h122km±5km,ML3.5*

ISC 17 22:53:32.3±1.6, 21°26S±0°03×68°82W±0°06, h136km±12km, n25, σ0°61/41, 11C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PB09	**IPOC Station P**	**0.67**	**216**	*i*P		**Pn**	**22 53 53.2**	**-0.2**
PB09				*i*S		**Sn**	**22 54 08.4**	**-0.9**
PB09				IAML			22 54 09.6	
	comp=N,1μm,0.3s							
PB09	**IPOC Station P**	**0.67**	**216**	*i*P		**Pn**	**22 53 53.0**	**-0.3**
PB09				*e*S		**Sn**	**22 54 09.4**	**+0.1**
PB07	**IPOC Station P**	**1.10**	**245**	↑*i*P		**Pn**	**22 53 57.3**	**+0.4**
PB07				*i*S		**Sn**	**22 54 15.7**	**0.0**
PB07				IAML			22 54 16.9	
	comp=E,1μm,0.2s							
PB08	**IPOC Station P**	**1.16**	**344**	↓*i*P		**Pn**	**22 53 57.9**	**+0.1**
PB08				*i*S		**Sn**	**22 54 16.4**	**-0.6**
PB08				IAML			22 54 18.7	
	comp=N,819nm,0.2s							
PB03	**IPOC Station P**	**1.17**	**228**	↑*i*P		**Pn**	**22 53 57.9**	**+0.2**
PB03				*i*S		**Sn**	**22 54 16.5**	**-0.4**
PB03				IAML			22 54 17.4	
	comp=N,839nm,0.3s							
LVC	**Limon Verde**	**1.35**	**184**	*e*P		**Pn**	**22 53 59.4**	**-0.3**
LVC				*i*S		**Sn**	**22 54 19.8**	**-0.7**
LVC	**Limon Verde**	**1.35**	**184**	↑*i*P		**Pn**	**22 53 59.4**	**-0.3**
LVC				IAML			22 53 59.6	
	comp=Z,125nm,0.3s							
TA01	**Diego Aracena**	**1.45**	**298**	↑*i*P		**Pn**	**22 54 00.8**	**+0.5**
TA01				*i*S		**Sn**	**22 54 22.0**	**+0.3**
TA01				IAML			22 54 23.7	
	comp=N,898nm,0.3s							
PB06	**IPOC Station P**	**1.60**	**206**	*i*P		**Pn**	**22 54 02.5**	**+0.3**
PB06				*i*S		**Sn**	**22 54 25.1**	**0.0**
PB06				IAML			22 54 26.6	
	comp=E,292nm,0.2s							
PB06	**IPOC Station P**	**1.60**	**206**	*i*P		**Pn**	**22 54 02.5**	**+0.3**
PB06				IAML			22 54 02.7	
	comp=Z,202nm,0.3s							
PB06				*e*S		**Sn**	**22 54 26.2**	**+1.2**
GO01	**Chusmiza**	**1.62**	**347**	↑*i*P		**Pn**	**22 54 02.8**	**0.0**
GO01				*i*S		**Sn**	**22 54 26.2**	**+0.3**
GO01				IAML			22 54 29.2	
	comp=E,1μm,0.2s							
PB04	**IPOC Station P**	**1.64**	**229**	↑*i*P		**Pn**	**22 54 03.1**	**+0.6**
PB04				IAML			22 54 29.5	
	comp=E,286nm,0.1s							
PB04	**IPOC Station P**	**1.64**	**229**	*i*P		**Pn**	**22 54 02.2**	**-0.4**
PB04				*e*S		**Sn**	**22 54 26.7**	**+1.0**
PB11	**IPOC Station P**	**1.68**	**332**	↑*i*P		**Pn**	**22 54 03.0**	**-0.1**
PB11				*i*S		**Sn**	**22 54 26.4**	**-0.2**
PB11				IAML			22 54 27.4	
	comp=E,982nm,0.2s							
PB15	**IPOC Station P**	**2.03**	**197**	↑*i*P		**Pn**	**22 54 07.5**	**+0.2**
PB15				*i*S		**Sn**	**22 54 34.5**	**+0.4**
PB15	**IPOC Station P**	**2.03**	**197**	*i*P		**Pn**	**22 54 07.6**	**+0.3**
PB15				*e*S		**Sn**	**22 54 35.1**	**+1.0**
PB15				IAML			22 54 38.4	
	comp=Z,620nm,0.3s							
PB05	**IPOC Station P**	**2.04**	**219**	↑*i*P		**Pn**	**22 54 07.6**	**+0.3**
PB05				IAML			22 54 47.2	
	comp=E,116nm,0.5s							
PB05	**IPOC Station P**	**2.04**	**219**	*i*P		**Pn**	**22 54 07.8**	**+0.5**
PSGC	**Pisagua**	**2.06**	**323**	↑*i*P		**Pn**	**22 54 07.1**	**-0.4**
PSGC				*i*S		**Sn**	**22 54 33.6**	**-0.8**
PSGC				IAML			22 54 35.5	
	comp=N,202nm,0.2s							
MNMC	**Minye Minye**	**2.24**	**341**	↑*i*P		**Pn**	**22 54 10.1**	**+0.2**
MNMC				*i*S		**Sn**	**22 54 39.4**	**+0.8**
MNMC				IAML			22 54 46.2	
	comp=E,744nm,0.2s							
PB10	**IPOC Station P**	**2.76**	**215**	*i*P		**Pn**	**22 54 15.9**	**-0.2**
YJA	**Yavi**	**3.20**	**107**	*i*P		**Pn**	**22 54 22.0**	**-0.2**
YJA				IAML			22 54 27.3	
	comp=Z,3.0nm,0.6s							
PB14	**IPOC Station P**	**3.66**	**203**	*i*P		**Pn**	**22 54 28.2**	**+0.1**
HJA	**Humahuaca**	**3.71**	**122**	*i*P		**Pn**	**22 54 29.9**	**+1.1**
GO03	**Copiap**	**6.44**	**191**	*i*P		**Pn**	**22 55 02.9**	**-1.9**

*ISCJB **17** 22:58:30.3±0.9, 24°07N±0°02×122°33E±0°03, h15km±6km, Error ellipse: s-maj=4.0km s-min=2.8km az=9.3*
*JMA **17** 22:58:31.1, 24°04N×122°28E, h27km±2km*
*TAP **17** 22:58:31.8, 24°14N×122°27E, h28km±1km, ML2.6, D*

ISC 17 22:58:28.5±1.4, 24°08N±0°03×122°33E±0°04, h2km±10km, n50, σ0°84/85, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
EOS1	**EOS1**	**0.51**	**339**	*e*P		**Pb**	**22 58 40.8**	**+0.7**
	baz=338							
EOS1				*e*S		**Sb**	**22 58 47.8**	**-0.1**
	baz=338							
NANB	**Nanao**	**0.63**	**304**	*e*P		**Pb**	**22 58 43.5**	**+1.1**
	baz=309							
NANB				S		**Sb**	**22 58 51.5**	**-0.1**
	baz=309							
ENA	**Nanau**	**0.64**	**303**	*e*P		**Pb**	**22 58 43.2**	**+0.8**
	baz=309							
ENA				*e*S		**Sb**	**22 58 51.7**	**-0.1**
	baz=309							
NACB	**Ninganchiao**	**0.68**	**279**	*e*P		**Pb**	**22 58 43.3**	**+0.3**
	baz=259							
TWC	**Suao**	**0.69**	**321**	P		**Pb**	**22 58 43.3**	**+0.1**
	baz=321							
TWC				S		**Sg**	**22 58 51.2**	**+0.6**
	baz=321							
ETLH	**Xiulin Townshi**	**0.78**	**280**	*e*P		**Pb**	**22 58 45.3**	**+0.4**
	baz=275							
TWE	**Neicheng**	**0.88**	**317**	*e*P		**Pb**	**22 58 47.2**	**+0.7**
	baz=322							
TWE				*e*S		**Sb**	**22 58 58.3**	**-0.4**
	baz=322							
ENTT	**Nioudou**	**0.89**	**309**	P		**Pn**	**22 58 47.7**	**-0.4**
	baz=307							
ENTT				S		**Sb**	**22 58 58.7**	**-0.5**
	baz=307							
NTC	**Toucheng**	**0.90**	**330**	*e*S		**Sb**	**22 58 59.0**	**-0.3**
	baz=341							
NDT	**Datong Townshi**	**0.91**	**305**	P		**Pn**	**22 58 48.0**	**-0.4**
	baz=313							
NDT				S		**Sb**	**22 58 58.9**	**-0.7**
	baz=313							
EGFH	**Guangfu**	**0.92**	**244**	*e*S		**Sg**	**22 58 59.4**	**+1.3**
	baz=240							
SLBB	**Yuanshan**	**0.93**	**317**	*e*P		**Pb**	**22 58 47.0**	**-0.3**
	baz=321							
SLBB				*e*S		**Sb**	**22 58 59.3**	**-0.8**
	baz=321							
NNSH	**Datong**	**0.93**	**292**	*e*P		**Pb**	**22 58 47.7**	**+0.3**
	baz=289							
NNSH				*e*S		**Sb**	**22 59 00.7**	**+0.4**
	baz=289							
NNS	**Nan Shan**	**0.94**	**293**	*e*P		**Pb**	**22 58 48.2**	**+0.5**
	baz=290							
NNS				*e*S		**Sb**	**22 59 00.3**	**-0.4**
	baz=290							
WHF	**Hehuan Shan**	**0.97**	**274**	*e*P		**Pb**	**22 58 48.6**	**+0.2**
	baz=258							
TIPB	**Shuangxi**	**1.00**	**333**	P		**Pn**	**22 58 49.5**	**-0.2**
	baz=333							
TIPB				S		**Sg**	**22 59 00.8**	**0.0**
	baz=333							
HGSD	**Ruisui**	**1.01**	**235**	*e*P		**Pg**	**22 58 49.0**	**+1.1**
	baz=231							
NWLT	**Wulai**	**1.03**	**313**	*e*P		**Pn**	**22 58 50.0**	**0.0**
	baz=312							
NWLT				*e*S		**Sb**	**22 59 01.7**	**-1.3**
	baz=312							
YHNB	**Yeheng**	**1.05**	**304**	*e*P		**Pb**	**22 58 49.8**	**+0.3**
	baz=291							
YHNB				*e*S		**Sb**	**22 59 02.9**	**-0.9**
	baz=291							
CHGB	**Renai**	**1.05**	**269**	*e*P		**Pg**	**22 58 49.4**	**+0.7**
	baz=254							
CHGB				*e*S		**Sg**	**22 59 02.6**	**+0.2**
	baz=254							
NSK	**Sanguang**	**1.07**	**304**	*e*P		**Pn**	**22 58 50.3**	**-0.2**
	baz=291							
NSK				*e*S		**Sb**	**22 59 03.1**	**-1.1**
	baz=291							
TDCB	**Techi**	**1.08**	**280**	*e*P		**Pb**	**22 58 50.1**	**+0.1**
	baz=265							
VWDT	**VWDT**	**1.13**	**254**	*e*P		**Pg**	**22 58 50.9**	**+0.7**
	baz=239							
VWDT				*e*S		**Sg**	**22 59 04.8**	**-0.2**
	baz=239							
YULB	**Yu-li**	**1.16**	**234**	*e*P		**Pg**	**22 58 51.1**	**+0.3**
	baz=246							
YULB				*e*S		**Sg**	**22 59 05.1**	**-0.9**
	baz=246							
TATO	**Taipei**	**1.18**	**320**	*e*P		**Pn**	**22 58 52.0**	**0.0**
	baz=318							
TATO				*e*S		**Sb**	**22 59 06.3**	**-1.0**
	baz=318							
TWF1	**Yuli**	**1.19**	**233**	*e*S		**Sg**	**22 59 06.6**	**-0.1**
	baz=219							
YM01	**YM01**	**1.27**	**327**	*e*P		**Pg**	**22 58 52.4**	**-0.5**
	baz=326							
YM01				*e*S		**Sb**	**22 59 09.4**	**-0.6**
	baz=326							
WHP	**Taichung City**	**1.28**	**279**	*e*P		**Pn**	**22 58 54.4**	**+0.9**
	baz=266							
WHP				*e*S		**Sb**	**22 59 10.4**	**+0.1**
	baz=266							
DPDB	**Guoxing**	**1.28**	**268**	*e*P		**Pg**	**22 58 53.3**	**+0.2**
	baz=266							
YM10	**YM10**	**1.28**	**327**	*e*P		**Pn**	**22 58 54.0**	**+0.5**
	baz=326							
YM10				*e*S		**Sb**	**22 59 09.9**	**-0.5**
	baz=326							
YM11	**YM11**	**1.28**	**328**	*e*P		**Pn**	**22 58 54.2**	**+0.7**
	baz=342							
YM05	**YM05**	**1.29**	**328**	*e*P		**Pn**	**22 58 53.8**	**+0.2**
	baz=342							
FULB	**Fuli**	**1.29**	**228**	*e*P		**Pg**	**22 58 52.3**	**-0.9**
	baz=212							
FULB				*e*S		**Sg**	**22 59 08.9**	**-1.0**
	baz=212							
SSLB	**Suanglung**	**1.29**	**257**	*e*P		**Pg**	**22 58 50.4**	**-2.9**
	baz=255							
SSLB				*e*S		**Sg**	**22 59 09.2**	**-0.8**
	baz=255							
YM04	**YM04**	**1.29**	**326**	*e*P		**Pg**	**22 58 53.3**	**0.0**
	baz=325							
YM04				*e*S		**Sb**	**22 59 10.3**	**-0.4**
	baz=325							
YM08	**YM08**	**1.30**	**329**	*e*P		**Pn**	**22 58 54.5**	**+0.8**
	baz=342							
LIOB	**Emei**	**1.32**	**296**	*e*P		**Pn**	**22 58 54.6**	**+0.5**
	baz=294							
LIOB				*e*S		**Sn**	**22 59 11.6**	**-0.7**
	baz=294							
TYC	**Yuchr**	**1.36**	**263**	*e*P		**Pn**	**22 58 54.5**	**+0.1**
	baz=260							
ELDTW	**Lidau**	**1.49**	**234**	*e*P		**Pn**	**22 58 55.9**	**-0.6**
	baz=220							
ALS	**Alishan**	**1.50**	**248**	*e*P		**Pn**	**22 58 57.6**	**+0.9**
	baz=246							
ALS				*e*S		**Sb**	**22 59 15.2**	**-1.8**
	baz=246							
CHN5	**Tsauling**	**1.58**	**253**	*e*P		**Pn**	**22 58 58.6**	**+0.9**
	baz=241							
CHN5				*e*S		**Sn**	**22 59 18.2**	**-0.5**
	baz=241							
JIJ	**Ishigaki jima**	**1.68**	**80**	P		**Pn**	**22 59 00.0**	**+1.1**
JIJ				*e*S		**Sn**	**22 59 21.5**	**+0.4**
TPUB	**Ta-pu**	**1.74**	**244**	*e*P		**Pn**	**22 59 00.4**	**+0.7**
	baz=242							
TPUB				*e*S		**Sn**	**22 59 22.7**	**+0.2**
	baz=242							
WTP	**Ta-pu**	**1.77**	**243**	*e*P		**Pn**	**22 59 01.3**	**+1.0**
	baz=241							
WTP				*e*S		**Sn**	**22 59 24.5**	**+1.1**
	baz=241							
TWK	**Hsinying**	**1.87**	**245**	*e*P		**Pn**	**22 59 03.0**	**+1.4**
	baz=243							
TWK				*e*S		**Sn**	**22 59 26.3**	**+0.6**
	baz=243							
CHN1	**Nanshi**	**1.87**	**242**	*e*P		**Pn**	**22 59 03.1**	**+1.5**
	baz=241							
CHN1				*e*S		**Sn**	**22 59 26.9**	**+1.0**
	baz=241							
JISG	**Ishigakijimahi**	**1.88**	**74**	*e*S		**Sn**	**22 59 24.4**	**-1.5**
SLGT	**Liugui**	**1.88**	**235**	*e*P		**Pb**	**22 59 03.4**	**-0.2**
	baz=224							
SLGT				*e*S		**Sn**	**22 59 27.1**	**+1.1**
	baz=224							
SNST	**Tainan City**	**1.88**	**243**	*e*P		**Pn**	**22 59 02.6**	**+0.9**
	baz=242							
SNST				*e*S		**Sn**	**22 59 27.1**	**+1.1**
	baz=242							
EAST	**Anshuo**	**2.17**	**219**	*e*P		**Pn**	**22 59 06.1**	**+0.5**
	baz=219							
EAST				*e*S		**Sn**	**22 59 30.7**	**-2.3**
	baz=219							

IDC 17 22:58:30.3±2.5, 12°87S×70°52W, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.4/38, mbtmp3.4/3, ML2.8/1, Error ellipse: s-maj=100.6km s-min=37.4km az=56.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
LPAZ	**La Paz**	**4.11**	**146**	Pn		Pn	22 59 35.0	0.0
	0.4nm,0.3s,baz=325,slow=8.5,SNR=7.6							
LPAZ				Sn		Sn	23 00 17.5	-6.6
	0.3nm,0.3s,baz=207,slow=22,SNR=1.6							
TORD	**Torodi Ar. Bea**	**76.10**	**73**	P		P	23 10 20.6	+0.1
	0.6nm,0.9s,baz=237,slow=7.5,SNR=2.4							
YKA	**Yellowknife Ar**	**82.57**	**341**	P		P	23 10 54.8	0.0
	0.3nm,0.7s,baz=135,slow=5.0,SNR=5.5							

*IDC **17** 23:00:49.6±1.9, 44°88N×105°66W, h0km, mb4.0/1, mb1 3.9/3, mb1mx3.4/43, mbtmp3.7/3, ML3.4/3, Error ellipse: s-maj=35.1km s-min=15.2km az=147.0*
*ISCJB **17** 23:00:52.6±0.9, 44°53N±0°07×105°84W±0°07, h0km, mb4.0/1, Error ellipse: s-maj=10.8km s-min=7.1km az=168.7*
*NEIC **17** 23:00:52.9±1.7, 44°63N±0°06×105°77W±0°06, h0km±1km, ML2.3/10*

ISC 17 23:00:51.9±1.2, 44°64N±0°08×105°74W±0°06, h0km, n11, σ1°62/13, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
RSSD	**Black Hills**	**1.33**	**112**			**Pn**	**23 01 19.5**	**+1.5**
K22A	**Casper**	**2.07**	**196**			**Pn**	**23 01 26.4**	**-1.7**
K22A				IAML			23 01 47.2	
	comp=N,24nm,0.7s							
K22A				IAML			23 02 25.4	
	comp=E,20nm,3.5s							
RLMT	**Red Lodge**	**2.55**	**282**			**Pn**	**23 01 36.0**	**+1.3**
RLMT				IAML			23 03 00.1	
	comp=E,18nm,4.8s							
GCMT	**Greyclif**	**3.00**	**294**			**Pn**	**23 01 41.7**	**+0.8**
YMP	**Mirror Lake Pl**	**3.15**	**273**	Pn		**Pn**	**23 01 42.6**	**-0.4**
BW06	**Boulder Array**	**3.34**	**237**	Pn		**Pn**	**23 01 46.0**	**+0.4**
BW06				IAML			23 02 20.6	
	comp=E,7.5nm,4.7s							
BW06						**Sg**	**23 02 40.5**	**+1.3**
PD31	**Pinedale Array**	**3.34**	**237**	Pn		**Pn**	**23 01 44.3**	**-1.3**
PD31						**Sg**	**23 02 39.5**	**+0.3**
PDAR	**Pinedale Array**	**3.34**	**237**	Pn		**Pn**	**23 01 47.7**	**+2.1**
	comp=E,0.1nm,0.3s,baz=70,slow=16,SNR=4.4							
PDAR				Lg		Lg	23 02 39.9	
	comp=E,0.7nm,0.3s,baz=69,slow=36,SNR=12							
ANMO	**Albuquerque**	**9.70**	**183**	Pn		**Pn**	**23 03 14.1**	**+1.3**
	comp=E,0.5nm,0.3s,baz=229,slow=16,SNR=6.9							
TXAR	**Lajitas Array**	**15.37**	**173**	Pn		**Pn**	**23 04 31.3**	**+1.1**
	comp=E,0.2nm,0.3s,baz=358,slow=11,SNR=4.6							
BRTR	**Keskin Array B**	**88.40**	**30**	P		**P**	**23 13 43.1**	**-2.8**
	comp=E,0.8nm,0.8s,baz=343,slow=4.5,SNR=3.5							

*IDC **17** 23:22:40.2±0.5, 32°45S×178°06W, h0km, mb4.6/12, mb1 4.7/16, mb1mx4.5/35, mbtmp4.6/16, ML4.1/4, MS4.3/2, Ms1 4.3/2, ms1mx3.8/46, Error ellipse: s-maj=18.0km s-min=17.5km az=125.0*
*BJI **17** 23:22:40.0±0.0, 32°60S×178°10W, h5km, mb5.2/9, Ms4.8/1, Ms7 4.5/1*
*ISCJB **17** 23:22:42.1±0.3, 32°70S±0°03×178°24W±0°06, h20km, mb4.9/18, MS4.0/5, Error ellipse: s-maj=8.2km s-min=3.6km az=19.7*
*NEIC **17** 23:22:42.0±1.6, 32°47S±0°06×178°3W±0°1, h10km±2km, mb4.7/33*

ISC 17 23:22:42.6±0.4, 32°54S±0°04×177°96W±0°07, h20km, n189, σ1°72/199, mb4.8/29, MS3.9/4, 1C-3D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
GLKZ	**Green Lake**	**3.27**	**1**	P		**Pn**	**23 23 29.9**	**-2.9**
GLKZ				S		**Sn**	**23 24 04.9**	**-6.2**
RAO	**Raoul Island**	**3.28**	**1**	Pn		**Pn**	**23 23 29.7**	**-3.2**
	111nm,0.3s,baz=164,slow=9.7,SNR=6.9							
RAO				Sn		**Sn**	**23 24 08.0**	**-3.3**
	525nm,0.3s,baz=69,slow=17,SNR=6.7							
RAO	**Raoul Island**	**3.28**	**1**			**Pn**	**23 23 30.2**	**-2.7**
RIZ	**Raoul Island**	**3.29**	**0**	P		**Pn**	**23 23 30.6**	**-2.4**
RIZ				S		**Sn**	**23 24 09.2**	**-2.4**
MXZ	**Matakaoa Point**	**5.87**	**210**	P		**Pn**	**23 24 05.4**	**-3.0**
MXZ				S		**Sn**	**23 25 11.6**	**-3.6**
MXZ	**Matakaoa Point**	**5.87**	**210**	Pn		**Pn**	**23 24 05.4**	**-3.0**
WMGZ	**Waiomatatini S**	**6.04**	**208**	P		**Pn**	**23 24 09.6**	**-1.2**
WMGZ				S		**Sn**	**23 25 16.3**	**-3.1**
PKGZ	**Pakihiroa**	**6.24**	**210**	P		**Pn**	**23 24 11.1**	**-2.5**
PKGZ				S		**Sn**	**23 25 21.8**	**-2.6**
HAZ	**Te Kaha**	**6.26**	**213**	P		**Pn**	**23 24 11.7**	**-2.1**
HAZ				S		**Sn**	**23 25 24.7**	**-0.1**
PUZ	**Puketiti**	**6.32**	**208**	P		**Pn**	**23 24 10.8**	**-3.9**
PUZ				S		**Sn**	**23 25 23.4**	**-3.0**
RUGZ	**Raukumara Rang**	**6.48**	**212**	P		**Pn**	**23 24 14.6**	**-2.4**
RUGZ				S		**Sn**	**23 25 29.3**	**-1.1**
TWGZ	**Tauwhareparae**	**6.53**	**209**	P		**Pn**	**23 24 15.4**	**-2.1**
KUZ	**Kuaotunu**	**6.69**	**229**	P		**Pn**	**23 24 20.9**	**+1.2**
CNGZ	**Carnagh Statio**	**6.70**	**207**	P		**Pn**	**23 24 17.3**	**-2.6**
MYRZ	**Mayor Island**	**6.71**	**224**	P		**Pn**	**23 24 21.6**	**+1.6**
WHRZ	**Whale Island**	**6.73**	**217**	P		**Pn**	**23 24 21.1**	**+0.8**
TKGZ	**Te Karaka**	**6.80**	**209**	P		**Pn**	**23 24 19.0**	**-2.3**
TKGZ				S		**Sn**	**23 25 31.8**	**-6.4**
MWZ	**Matawai**	**6.85**	**211**	P		**Pn**	**23 24 18.9**	**-3.1**
OPRZ	**Ohinepanea**	**6.94**	**219**	P		**Pn**	**23 24 22.4**	**-0.8**
URZ	**Urewera**	**6.98**	**214**	Pn		**Pn**	**23 24 20.7**	**-3.0**
	8.8nm,0.3s,baz=59,slow=4.2,SNR=26							
URZ				Sn		**Sn**	**23 25 38.6**	**-3.9**
	12nm,0.3s,baz=28,slow=9.9,SNR=3.5							
URZ	**Urewera**	**6.98**	**214**	P		**Pn**	**23 24 21.0**	**-2.7**
URZ	**Urewera**	**6.98**	**214**			**Pn**	**23 24 21.8**	**-1.9**
RAGZ	**Rawiri**	**7.04**	**211**	P		**Pn**	**23 24 21.9**	**-2.6**
RIGZ	**Rimuhau**	**7.07**	**208**	P		**Pn**	**23 24 21.9**	**-3.1**
WCZ	**Waipu Caves**	**7.22**	**240**	P		**Pn**	**23 24 30.8**	**+3.8**
SNGZ	**Shannon Statio**	**7.30**	**210**	P		**Pn**	**23 24 26.2**	**-2.0**
KNZ	**Kokohu**	**7.37**	**208**	P		**Pn**	**23 24 27.1**	**-2.0**
MHGZ	**Mahia Peninsul**	**7.40**	**206**	P		**Pn**	**23 24 25.7**	**-3.8**
TOZ	**Tahuroa Road**	**7.45**	**224**	P		**Pn**	**23 24 30.8**	**+0.7**
OUZ	**Omahuta**	**7.51**	**247**	P		**Pn**	**23 24 33.8**	**+2.8**
OUZ	**Omahuta**	**7.51**	**247**			**Pn**	**23 24 29.2**	**-1.8**
BKZ	**Black Stump Fm**	**8.00**	**213**	P		**Pn**	**23 24 34.3**	**-3.4**
BKZ	**Black Stump Fm**	**8.00**	**213**			**Pn**	**23 24 35.5**	**-2.3**
KHZ	**Kahutara**	**11.94**	**212**			**Pn**	**23 25 29.6**	**-2.0**
OXZ	**Oxford**	**13.34**	**213**			**Pn**	**23 25 49.7**	**-1.0**
RPZ	**Rata Peaks**	**14.10**	**215**	Pn		Pn	23 25 56.1	-5.1
	2.7nm,0.3s,baz=128,slow=2.0,SNR=7.5							
RPZ				Sn		Sn	23 28 21.1	-16
	3.1nm,0.3s,baz=46,slow=20,SNR=8.9							
RPZ	**Rata Peaks**	**14.10**	**215**	Pn		**Pn**	**23 26 00.6**	**-0.5**
MSVF	**Nonsavu**	**15.18**	**345**	Pn		**Pn**	**23 26 14.4**	**-1.6**
MSVF				IAmb		IAmb	23 26 16.1	
	comp=Z,30nm,1.0s							
ODZ	**Otahua Downs**	**15.30**	**212**	Pn		**Pn**	**23 26 14.4**	**-2.9**
ODZ				IAmb		IAmb	23 26 24.5	
	comp=Z,24nm,0.9s							
WKZ	**Wanaka**	**15.91**	**216**	Pn		**Pn**	**23 26 21.9**	**-3.4**
DZM	**Mont Dzumac**	**17.33**	**303**	*e*P		**P**	**23 26 46.9**	**+2.1**
	comp=Z,137nm,1.1s							
DZM				*e*LR		LR	23 30 42.7	
	comp=Z,1μm,22.4s							
DZM	**Mont Dzumac**	**17.33**	**303**	P		**Pn**	**23 26 42.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=103,slow=16,SNR=1.7							
DZM				LR		LR	23 32 18.6	
	comp=Z,2μm,18.4s,baz=144,slow=34							
DZM	**Mont Dzumac**	**17.33**	**303**	Pn		**Pn**	**23 26 38.8**	**-4.7**
DZM				IAmb		IAmb	23 26 51.0	
	comp=Z,53nm,1.0s							
AFI	**Afiamalu**	**19.39**	**18**	P		**P**	**23 27 05.1**	**-2.3**
	comp=Z,1.9nm,0.3s,baz=251,slow=18,SNR=3.0							
AFI	**Afiamalu**	**19.39**	**18**	IAmb		IAmb	23 27 13.3	
	comp=Z,68nm,0.8s							
RAR	**Rarotonga**	**19.73**	**60**	P		**P**	**23 27 11.0**	**0.0**
	comp=Z,1.6nm,0.3s,baz=241,slow=7.6,SNR=4.2							
RAR				LR		LR	23 35 06.0	
	comp=Z,430nm,18.2s,baz=247,slow=38							
RAR	**Rarotonga**	**19.73**	**60**	IAmb		IAmb	23 27 16.7	
	comp=Z,6.2nm,0.5s							
MGCD	**Mangrove Creek**	**25.95**	**260**	P		**P**	**23 28 16.3**	**+2.6**
	baz=26							
ARMA	**Armidale**	**25.98**	**267**	P		**P**	**23 28 16.2**	**+1.9**
	baz=26,SNR=9.9							
ARMA	**Armidale**	**25.98**	**267**	P		**P**	**23 28 13.7**	**-0.5**
ARMA				IAmb		IAmb	23 28 20.8	
	comp=Z,22nm,0.9s							
TBI	**Tubuai**	**26.72**	**77**	*e*LR		LR	23 34 41.0	
	comp=Z,328nm,33.0s							
EIDS	**Eidsvold**	**27.95**	**277**	P		**P**	**23 28 33.1**	**+1.3**
	baz=28,SNR=3.8							
EIDS	**Eidsvold**	**27.95**	**277**	P		**P**	**23 28 32.5**	**+0.7**
EIDS				IAmb		IAmb	23 28 35.6	
	comp=Z,18nm,0.8s							
PPT2	**Papeete2**	**29.59**	**67**	*e*LQ		LQ	23 34 46.9	
	comp=Z,475nm,23.0s							
PPT2				*e*LR		LR	23 36 26.5	
	comp=Z,265nm,22.0s							
CMSA	**Cobar Meteorol**	**30.74**	**262**	P		**P**	**23 28 57.5**	**+1.0**
	baz=31,SNR=11							
ARPS	**Mount Arapiles**	**33.17**	**251**	P		**P**	**23 29 18.9**	**+1.1**
	baz=33,SNR=7.6							
STKA	**Stephens Creek**	**34.09**	**260**	P		**P**	**23 29

QSPA	South Pole Qui	57.57	180	P		P	23 32 32.8	+2.1
SOEI	Soe	57.72	279	P		P	23 32 33.4	+1.0
	comp=Z,62nm,0.9s							
SOEI	Soe	57.72	279	P		P	23 32 32.9	+0.5
BATI	Baumata	57.98	279	P		P	23 32 33.6	-0.6
	comp=Z,30nm,0.7s							
PLAI	Plampang	63.64	276	P		P	23 33 11.6	-1.1
	comp=Z,34nm,0.8s							
TWSI	Taliwang, Sumb	64.44	276	P		P	23 33 16.8	-1.1
MAW	Mawson	70.32	201	P		P	23 33 55.3	+1.0
	comp=Z,4.2nm,0.9s,baz=154,slow=9.7,SNR=3.7							
MAW	Mawson	70.32	201	IAmb		IAmb	23 34 03.6	
	comp=Z,1.3nm,0.9s							
SYO	Syowa Base	75.04	193	eP		P	23 34 22.0	-0.3
SYO	Syowa Base	75.04	193	ePcP		PcP	23 34 34.8	-1.2
SYO	Syowa Base	75.04	193	ePP		PP	23 37 09.0	-0.7
SNAA	Sanae	76.02	178	P		P	23 34 29.2	+1.2
SNAA	Sanae	76.02	178	PcP		PcP	23 34 38.9	-1.4
SNAA	Sanae	76.02	178	P		P	23 34 29.6	+1.5
SNAA				IAmb		IAmb	23 34 40.9	
	comp=Z,14nm,1.0s							
VNA3	Neumayer Olymp	76.17	176	P		P	23 34 29.8	+0.9
VNA3	Neumayer Olymp	76.17	176	PcP		PcP	23 34 40.9	+0.1
VNA2	Neumayer--Watz	76.60	177	P		P	23 34 32.6	+1.3
	baz=176,slow=4.4							
VNA2	Neumayer--Watz	76.60	177	PcP		PcP	23 34 43.6	+0.9
	baz=182,slow=3.3							
VNA1	Neumayer--Stat	76.83	176	P		P	23 34 34.1	+1.6
VNA1	Neumayer--Stat	76.83	176	PcP		PcP	23 34 44.9	+1.2
PLCA	Paso Flores	81.03	133	P		P	23 34 58.3	+2.0
	comp=Z,1.5nm,0.8s,baz=210,slow=2.1,SNR=3.1							
KSRS	Korea Array	86.00	320	P		P	23 35 22.6	+1.2
	comp=Z,2.2nm,0.8s,baz=141,slow=7.6,SNR=5.6							
NJ2	Nanjing	87.67	311	eP		P	23 35 30.9	+1.2
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.6s							
ISA	Isabella, Lake	87.79	45	P		P	23 35 32.2	+1.8
ISA				IAmb		IAmb	23 35 34.2	
	comp=Z,7.0nm,1.1s							
PETK	Petropavlovsk-	87.89	346	P		P	23 35 31.4	+1.2
	comp=Z,6.5nm,0.8s,baz=99,slow=9.2,SNR=5.3							
GSC	Goldstone, Bar	88.55	46	P		P	23 35 35.6	+1.7
GSC				IAmb		IAmb	23 35 45.8	
	comp=Z,5.0nm,1.1s							
AFDM	Forest Hills D	88.64	41	P		P	23 35 36.2	+2.0
AFDM				IAmb		IAmb	23 35 37.3	
	comp=Z,3.1nm,1.1s							
USRK	Ussuriysk Ar.	88.96	327	P		P	23 35 36.7	+1.1
	comp=Z,3.2nm,0.8s,baz=117,slow=6.6,SNR=4.5							
WAKR	Walker	89.19	42	P		P	23 35 39.1	+2.1
WAKR				IAmb		IAmb	23 35 54.0	
	comp=Z,4.3nm,1.2s							
YERR	Yerington	89.64	42	P		P	23 35 40.7	+1.6
YERR				IAmb		IAmb	23 35 42.1	
	comp=Z,3.9nm,1.0s							
NVAR	Mina Array Bea	89.78	43	P		P	23 35 41.6	+1.7
	comp=Z,1.9nm,0.9s,baz=221,slow=7.5,SNR=8.7							
TPNV	Topopah Spring	89.98	45	P		P	23 35 43.4	+2.7
W13A	Hualapai Mount	90.21	48	P		P	23 35 44.4	+2.5
X16A	Lo Mia Camp, P	91.32	49	IAmb		IAmb	23 35 51.3	
	comp=Z,2.3nm,1.1s							
KLR	Kul'dur	92.90	330	P		P	23 35 54.4	+0.7
	comp=Z,2.8nm,1.1s,baz=135,slow=6.6,SNR=4.3							
LZH	Lanzhou	100.02	306	eP		Pdif	23 36 28.6	+2.0
LZH				pP		sP	23 36 33.3	+0.3
LZH				sP		pwP	23 36 36.6	-2.8
LZH				PP		PP	23 40 35.3	+2.9
LZH				pmax		pmax		
	comp=Z,18nm,1.2s							
LZH				LR		LR		
	comp=Z,110nm,17.4s							
LZH				LR		LR		
	comp=Z,120nm,17.3s							
LZH				LR		LR		
	comp=Z,160nm,19.7s							
WMQ	Urumqi	114.57	307	ePKP		PKiKP	23 41 22.1	+0.9
MK31	Makanchi Array	119.16	309			PKPdf	23 41 29.8	-0.1
MKAR	Makanchi Array	119.16	309	PKP		PKPdf	23 41 29.9	0.0
	comp=Z,2.7nm,0.9s,baz=73,slow=1.2,SNR=14							
MAKZ	Makanchi	119.37	309			PKiKP	23 41 30.3	0.0
ZALV	Zalesovo Beam	119.64	318	PKP		PKPdf	23 41 30.1	-0.4
	comp=Z,0.9nm,0.5s,baz=236,slow=1.6,SNR=5.6							
KSH	Kashi	121.34	300	ePKP		PKPdf	23 41 32.6	-1.8
KURK	Kurchatov	122.54	313			PKPdf	23 41 36.0	-0.2
KURBB	Kurchatov Arra	122.58	313	PKP		PKPdf	23 41 36.0	-0.3
	comp=Z,5.4nm,0.8s,baz=110,slow=2.0,SNR=41							
AAK	Ala-Archa	123.31	303	PKP		PKiKP	23 41 38.5	+0.1
	comp=Z,2.0nm,0.7s,baz=3.0,slow=3.6,SNR=6.3							
AAK	Ala-Archa	123.31	303			PKiKP	23 41 39.0	+0.6
KBL	Kabul	125.07	292			PKiKP	23 41 42.5	+0.3
GAR	Garm	125.39	297			PKiKP	23 41 43.1	+0.6
KKAR	Karatay Array	126.27	302			PKiKP	23 41 44.2	+0.1
BVAR	Borovoye Array	127.95	315	PKP		PKiKP	23 41 46.8	-0.2
	comp=Z,3.8nm,0.7s,baz=147,slow=1.9,SNR=16							
GEYT	Alibeck	134.47	293	PKP		PKiKP	23 42 00.2	-0.6
	comp=Z,3.1nm,0.8s,baz=306,slow=4.8,SNR=7.0							
ARU	Arti	134.75	319	PKP		PKiKP	23 42 00.5	-0.1
	comp=Z,0.7nm,0.5s,baz=80,slow=3.3,SNR=7.9							
ARU	Arti	134.75	319			PKiKP	23 42 00.3	-0.3
AKTO	Aktyubinsk	135.55	311	PKP		PKPdf	23 42 01.3	+0.4
	comp=Z,3.0nm,1.0s,baz=117,slow=1.8,SNR=8.3							
RAYN	Ar Rayn	140.82	268			PKPdf	23 42 11.4	-0.2
KBZ	Khabaz	146.29	301	PKPbc		PKPbc	23 42 21.9	+0.3
	comp=Z,8.8nm,0.8s,baz=137,slow=4.1,SNR=28							
KIV	Kislovodsk	146.42	302			PKPdf	23 42 21.2	+0.4
OBN	Obninsk	146.93	323			PKPbc	23 42 23.6	+0.6
FIA1	FINESS Array S	147.16	339			PKPbc	23 42 24.0	+0.5
FINES	FINESS Array B	147.16	339	PKPbc		PKPbc	23 42 23.5	0.0
	comp=Z,40nm,0.8s,baz=61,slow=2.8,SNR=35							
VSU	Vasula	149.18	335	eP		PKPbc	23 42 28.6	-0.3
VSU				IAmb		IAmb	23 42 31.0	
	comp=Z,96nm,0.9s							
NC303	NORSAR Array S	150.67	351			PKPbc	23 42 32.7	+0.2
NB2	NORSAR Subarra	150.87	351	PKP		PKiKP	23 42 33.5	-0.1
	comp=Z,14nm,1.2s,baz=19,slow=3.1							
NOA	NORSAR Array B	150.87	351	PKPbc		PKiKP	23 42 33.5	-0.1
	comp=Z,2.5nm,0.7s,baz=15,slow=4.2,SNR=13							
NOA				PKPab		PKPab	23 42 40.5	+0.2
	comp=Z,5.0nm,0.9s,baz=17,slow=4.0,SNR=12							
GAZ	Gaziantep	150.88	289			PKiKP	23 42 35.1	+0.7
IZAR	Zarasai	151.30	331	eP		PKiKP	23 42 35.3	+0.7
IZAR				IAmb		IAmb	23 42 37.0	
	comp=Z,11nm,1.0s							
ISAL	Salakas	151.47	331	eP		PKiKP	23 42 35.8	+0.8
IIGN	Ignalina	151.59	331	eP		PKiKP	23 42 35.8	+0.6
IIGN				IAmb		IAmb	23 42 37.5	
	comp=Z,11nm,0.8s							
NACGM	Naroch	151.65	329	e		PKPbc	23 42 35.0	+0.1
PABE	Paberze	152.38	333	eP		PKiKP	23 42 36.9	0.0
AKASG	Malin Array Be	153.00	320	PKPbc		PKPbc	23 42 38.1	0.0
	comp=Z,7.5nm,0.9s,baz=53,slow=2.7,SNR=22							
AKASG				PKPab		PKPab	23 42 48.8	-0.7
	comp=Z,6.3nm,0.8s,baz=50,slow=3.3,SNR=11							
AKBB	Malin Array Si	153.00	320			PKiKP	23 42 38.8	+0.5
AKBB						PKPab	23 42 49.2	-0.3
LIC	Lamto	153.00	164	ePKP2		PKPab	23 42 50.2	-0.2
	comp=Z,25nm,0.9s							
KIC	Kosan Boka	153.19	165	ePKP2		PKPab	23 42 51.4	+0.2
	comp=Z,29nm,1.2s							
TIC	Toumodi	153.40	164	ePKP2		PKPab	23 42 50.9	-1.2
BR131	Keskin Array S	153.59	295			PKiKP	23 42 40.6	+0.5
BRTR	Keskin Array B	153.59	295	PKPbc		PKiKP	23 42 40.5	+0.4
	comp=Z,7.6nm,0.9s,baz=134,slow=3.8,SNR=32							
BRTR				PKPab		PKPab	23 42 52.4	-0.2
	comp=Z,3.7nm,0.9s,baz=118,slow=3.5,SNR=6.2							
CHVC	Chvalec	159.21	334	ePKPAB		PKPab	23 43 16.7	+0.5
UPC	Upice	159.29	334	ePKPAB		PKPab	23 43 17.4	+0.9
DPC	Dobruska-Polom	159.30	333	ePKPAB		PKPab	23 43 17.3	+0.7
CLL	Collm	159.60	340	iPKPab		PKPab	23 43 18.0	+0.3
	comp=Z,13nm,1.0s							
CLL	Collm	159.60	340			PKPab	23 43 18.1	+0.4
VYHS	Vyhne	159.66	326	ePKP		PKPab	23 43 18.8	+0.6
BRG	Berggiesshubel	159.69	338	ePKP		PKPab	23 43 19.0	+0.8
	comp=Z,16nm,1.2s							
PVCC	Panska Ves	159.78	336	ePKPAB		PKPab	23 43 19.8	+1.2
SMOL	Smolenice	160.28	328	ePKP		PKPab	23 43 22.0	+1.1
TOA0	Torodi Ar. Sit	160.69	179			PKPab	23 43 24.8	+1.4
TORD	Torodi Ar. Bea	160.69	179	PKP		PKPdf	23 42 41.4	-0.4
	comp=Z,0.5nm,0.9s,baz=351,slow=1.8,SNR=2.9							
TORD				PKPab		PKPab	23 43 24.4	+1.0
	comp=Z,4.5nm,0.9s,baz=166,slow=3.0,SNR=13							
NKC	Novy Kostel	160.71	339	ePKPAB		PKPab	23 43 23.8	+1.1
KHC	Kasperske Hory	161.31	336	ePKPAB		PKPab	23 43 25.6	+0.2
KHC	Kasperske Hory	161.31	336			PKPab	23 43 25.5	+0.1
CONA	Conrad Observa	161.41	330	ePKPab		PKPab	23 43 27.1	+1.2
	comp=Z,4.0nm,0.9s							
GERES	GERESS Array B	161.51	335	PKPab		PKPab	23 43 26.8	+0.5
	comp=Z,2.0nm,0.8s,baz=46,slow=5.8,SNR=13							
ARSA	Arzberg	162.08	329	ePKPab		PKPab	23 43 29.5	+0.7
	comp=Z,4.1nm,0.9s							
SOKA	Soboth	162.73	329	ePKPab		PKPab	23 43 31.7	0.0
	comp=Z,7.9nm,1.3s							
KBA	Koelnbreinsper	163.11	333	ePKPab		PKPab	23 43 33.5	0.0
	comp=Z,4.4nm,1.2s							
WATA	Walderalm	163.54	337	ePKPab		PKPab	23 43 35.9	+0.6
	comp=Z,5.7nm,1.1s							
WTTA	Wattenberg	163.58	336	ePKPab		PKPab	23 43 36.4	+0.8
	comp=Z,4.9nm,0.9s							
RETA	Reutte	163.67	339	ePKPab		PKPab	23 43 37.0	+1.3
	comp=Z,8.1nm,0.9s							
MOTA	Moosalm	163.69	338	ePKPab		PKPab	23 43 36.9	+0.9
	comp=Z,7.1nm,0.9s							
ABTA	Abfaltersbach	163.71	334	ePKPab		PKPab	23 43 35.8	-0.2
	comp=Z,4.8nm,1.0s							
SQTA	Sankt Quirin	163.76	337	ePKPab		PKPab	23 43 37.1	+0.9
	comp=Z,5.8nm,0.8s							
FETA	Feichten	164.09	338	ePKPab		PKPab	23 43 37.7	0.0
	comp=Z,4.7nm,1.0s							
DAVA	Damuels	164.11	340	ePKPab		PKPab	23 43 38.6	+0.8
	comp=Z,12nm,1.1s							
FUORN	Ofenpass-Fuorn	164.59	338			PKPab	23 43 40.4	+0.3

PRU 17 23:29:07.9±0.0, 49.80N×18.40E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	Ostrava-Krasne	0.17	283	ePG	Pg	23 29 10.8	-0.3
OKC				eSG	Sg	23 29 14.0	+0.7
	comp=Z,16nm,0.3s						
LANS	Liptovska Anna	0.95	133	ePG	Pg	23 29 26.2	+0.1
LANS				eSG	Sg	23 29 39.1	+0.6
DPC	Dobruska-Polom	1.45	293	ePG	Pn	23 29 33.7	-1.7
DPC				eSG	Sb	23 29 54.9	+0.2

IDC 17 23:29:40.9±1.1, 20.64N×146.82E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/44, mbtmp3.8/7, Error ellipse: s-maj=32.4km s-min=28.2km az=80.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	42.15	198	P	P	23 37 35.2	-0.1
	0.7nm,0.8s,baz=29,slow=9.4,SNR=3.5						
ZALV	Zalesovo Beam	57.14	322	P	P	23 39 28.9	-0.4
	1.6nm,0.5s,baz=107,slow=7.9,SNR=7.4						
MKAR	Makanchi Array	57.90	313	P	P	23 39 34.5	-0.4
	0.6nm,0.9s,baz=91,slow=8.8,SNR=2.7						
KURBB	Kurchatov Arra	60.60	317	P	P	23 39 53.4	-0.1
	0.4nm,0.4s,baz=90,slow=7.7,SNR=7.2						
BVAR	Borovoye Array	65.67	320	P	P	23 40 27.5	+0.4
	1.2nm,0.5s,baz=90,slow=8.3,SNR=7.2						
YKA	Yellowknife Ar	75.78	28	P	P	23 41 28.0	-0.5
	0.2nm,0.6s,baz=278,slow=5.2,SNR=3.9						
NVAR	Mina Array Bea	81.12	52	P	P	23 41 59.5	+0.8
	0.4nm,0.8s,baz=292,slow=4.8,SNR=2.9						

ISCJB 17 23:37:22.9±0.6, 33.75N±0.03×35.50E±0.06, h6km±5km, Error ellipse: s-maj=7.9km s-min=4.1km az=14.5
GII 17 23:37:22.9±0.0, 33.71N×35.53E, h1km, MD1.5/3
GRAL 17 23:37:23.6±0.3, 33.73N×35.51E, h6km±1km, MD2.7

ISC 17 23:37:23.4±1.1, 33.74N±0.03×35.52E±0.05, h7km±7km, n18, σ0°45/30, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DQRL	Deir Qamar	0.05	130	eP	Pg	23 37 25.1	0.0
DQRL				eS	Sg	23 37 26.4	+0.1
BEYL	Beirut	0.13	349	eP	Pg	23 37 25.8	-0.5
BHL	Bhannes	0.20	34	eP	Pg	23 37 27.6	+0.1
BHL				eS	Sg	23 37 30.4	+0.2
QRWL	Qaraoun	0.23	145	eP	Pg	23 37 27.8	-0.3
QRWL				eS	Sg	23 37 31.1	0.0
RCY	Rachaya	0.36	133	eP	Pg	23 37 30.1	-0.3
RCY				eS	Sg	23 37 35.0	-0.1
GEM	Giv'at Ha'Em	0.54	167	Pg	Pg	23 37 33.8	0.0
GEM				Sg	Sb	23 37 42.6	-0.6
KSDI	Kefar Szold	0.56	168	Pg	Pg	23 37 34.1	-0.1
KSDI				Sg	Sb	23 37 43.0	-0.7
HWQ	Hawqa	0.64	33	eP	Pg	23 37 35.4	-0.4
HNTI	Hanita	0.72	204	Pg	Pg	23 37 36.8	-0.4
HNTI				Sg	Sb	23 37 48.1	-0.2
MMA0B	Mount Meron ar	0.73	188	Pg	Pg	23 37 37.3	-0.1
MMA0B				Sg	Sb	23 37 48.3	-0.4
BLGI	Bet Lehem HaGe	1.04	196	Pg	Pg	23 37 43.7	+0.3
BLGI				Sg	Sb	23 37 58.3	+0.7
OFRI	`Ofer	1.20	202	Pg	Pg	23 37 45.7	-0.8
OFRI				Sg	Sb	23 38 02.9	+0.6
MMLI	Mount Malkishu	1.30	184	Pg	Pg	23 37 47.7	-0.7
MMLI				Sg	Sb	23 38 05.9	+0.8
SLTI	Sal'it	1.55	195	Pn	Pn	23 37 51.6	+0.2
SLTI				Sn	Sb	23 38 12.7	+0.5
DSI	Dead Sea	2.17	183	Pn	Pn	23 37 59.6	-0.3
AMAZ	Amatzia	2.26	193	Pn	Pn	23 38 01.6	+0.4
YTIR	Yattir	2.39	188	Pn	Pn	23 38 03.5	+0.4
MZDA	Masada	2.43	183	Pn	Pn	23 38 03.8	+0.4

IDC 17 23:38:04.8±0.3, 20.74N×146.82E, h0km, mb5.6/64, mb1 5.6/68, mb1mx5.6/71, mbtmp5.6/68, ML4.8/5, MS5.8/41, Ms1 5.8/41, ms1mx5.4/62, Error ellipse: s-maj=9.9km s-min=6.8km az=83.0
ISCJB 17 23:38:05.5±0.6, 20.75N±0.02×146.78E±0.02, h11km±3km, mb5.8/253, MS6.0/110, Error ellipse: s-maj=2.8km s-min=2.6km az=156.0
BJI 17 23:38:05.7±0.0, 20.98N×146.74E, h5km, mb5.7/58, mB6.1/74, Ms6.3/90, Ms7 6.1/83
NEIC 17 23:38:06.8±1.6, 20.77N±0.06×146.79E±0.08, h9km±1km, mb5.8/424, Ms_20 6.2/781, Mwb6.1, Mwc6.4, Mww6.2, Mwc6.2(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^18 Nm; Mrr=1.56; Mθθ=0.57; Mφφ=0.98; Mrθ=-0.07; Mrφ=-1.01; Mθφ=0.18; Fault plane solution: M0=1.71000×10^18 NP1:φs=318.04000°, δ=42.00000°, λ=-93.97000°. NP2:φs=143.38000°, δ=48.13000°, λ=-86.43000°. Principal axes: T 1.8157, Plg3.0000°, Azm231.0000°; N -0.2465, Plg3.0000°, Azm321.0000°; P -1.5692, Plg86.0000°, Azm92.0000°;
MOS 17 23:38:09.0±0.9, 20.70N×146.70E, h36km, mb6.3/68, MS6.0/49 Error ellipse: s-maj=6.6km s-min=3.5km az=114.3
GCMT 17 23:38:10.8±0.0, 20.86N×146.99E, h12km, MW6.2/166, Moment Tensor Solution. s151,c315; s166,c661; Duration: 30 Moment tensor: Scale 10^18 Nm; Mrr=2.39±.01; Mθθ=0.91±.01; Mφφ=1.48±.01; Mrθ=0.02±.03; Mrφ=-1.16±.01; Mθφ=0.34±.03; Best double couple: M0=2.41500×10^18 NP1:φs=147.00000°, δ=48.00000°, λ=-83.00000°. NP2:φs=316.00000°, δ=42.00000°, λ=-98.00000°. Principal axes: T 2.4050, Plg3.0000°, Azm232.0000°; N 0.0250, Plg5.0000°, Azm322.0000°; P -2.4260, Plg84.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function
NEIC 17 23:38:10.20.77N×146.97E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^18 Nm; Mrr=2.06; Mθθ=0.75; Mφφ=1.30; Mrθ=0.29; Mθφ=-1.23; Mφr=0.74; Fault plane solution: M0=2.32000×10^18 NP1:φs=134.00000°, δ=36.00000°, λ=-101.00000°. NP2:φs=328.00000°, δ=55.00000°, λ=-82.00000°. Principal axes: T 2.4209, Plg10.0000°, Azm52.0000°; N -0.2109, Plg7.0000°, Azm143.0000°; P -2.2100, Plg78.0000°, Azm267.0000°;
NEIC 17 23:38:12.20.88N×147.01E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^18 Nm; Mrr=2.51; Mθθ=0.99; Mφφ=1.52; Mrθ=0.26; Mθφ=-1.25; Mφr=0.15; Fault plane solution: M0=2.54000×10^18 NP1:φs=148.00000°, δ=45.00000°, λ=-80.00000°. NP2:φs=314.00000°, δ=46.00000°, λ=-99.00000°. Principal axes: T 2.5331, Plg1.0000°, Azm51.0000°; N 0.0125, Plg7.0000°, Azm321.0000°; P -2.5457, Plg83.0000°, Azm146.0000°;
JMA 17 23:38:12.0±0.4, 21.77N×147.09E, h0km, M6.6

NEIC 17 23:38:21.20.88N×147.11E, h16km, Moment Tensor Solution. Moment tensor: Scale 10^18 Nm; Mrr=2.86; Mθθ=1.01; Mφφ=1.85; Mrθ=2.67; Mθφ=-1.15; Mφr=-2.34; Fault plane solution: M0=4.49000×10^18 NP1:φs=314.45000°, δ=71.28000°, λ=-96.21000°. NP2:φs=153.19000°, δ=19.69000°, λ=-72.29000°. Principal axes: T 4.3479, Plg26.0000°, Azm49.0000°; N 0.2924, Plg6.0000°, Azm316.0000°; P -4.6403, Plg63.0000°, Azm215.0000°;

ISC 17 23:38:08.9±0.4, 20.74N±0.03×146.77E±0.03, h23km±2km, h23km: pP-P, n1663, σ1968/1518, mb5.8/411, MS6.2/484, 43C-81D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	Sarigan	4.12	193		Pn	23 39 11.7	+1.1
ANA2	Anatahan	4.48	193		Pn	23 39 16.3	+0.8
JHH2	Haha-jima-NKT2	7.22	325	P	Pn	23 39 52.6	-0.5
JHH2				eS	Sn	23 41 08.9	-5.5
GUMO	Guam	7.33	195	P	Pn	23 39 56.8	+2.2
GUMO						23 41 17.8	
GUMO	Guam	7.33	195	Pn	Pn	23 39 55.6	+1.0
	97nm,0.3s,baz=78,slow=3.6,SNR=14						
GUMO				Sn	Sn	23 41 17.8	+0.5
	40nm,0.3s,baz=342,slow=20,SNR=2.4						
GUMO	Guam	7.33	195		Pn	23 39 56.9	+2.2
CBIJ	Chichi jima	7.59	327	P	Pn	23 39 57.2	-1.0
CBIJ				S	Sn	23 41 18.3	-5.2
JCJ	Chichijima	7.59	327	Pn	Pn	23 39 57.4	-0.8
	69nm,0.3s,baz=106,slow=22,SNR=27						
JCJ				Sn	Sn	23 41 18.2	-5.3
	441nm,0.3s,baz=131,slow=22,SNR=9.0						
JHJ2	Mitsune	13.79	335	P	Pn	23 41 22.0	-1.0
JHJ2	Mitsune	13.79	335	Pn	Pn	23 41 24.4	+1.4
BSO1	Boso 1	14.78	341	P	Pn	23 41 35.3	-0.6
TTO1	TONANKAI O.B.S	15.59	327	P	Pn	23 41 48.0	+1.0
JOD2	Odawara 2	15.97	337	P	Pn	23 41 51.6	-0.6
JIE	Ise	16.25	329	P	Pn	23 41 55.9	+0.2
JTNC	Tanabenakahech	16.36	325	P	Pn	23 41 55.8	-1.3
JRY	Ryogami san	16.71	337	P	Pn	23 42 00.1	-1.5
INU	Inuyama	16.89	332		Pn	23 42 03.8	-0.1
JTO	Tosashimizu	17.33	317	P	Pn	23 42 09.2	-0.2
MJAR	Matsushiro Arr	17.43	336	P	Pn	23 42 09.2	-1.5
	0.5nm,0.3s,baz=155,slow=10,SNR=26						
MJAR				S	Sn	23 45 17.7	-6.3
	0.6nm,0.3s,baz=110,slow=27,SNR=4.8						
MAJO	Matsushiro	17.43	336	ePKP	Pn	23 42 08.7	-1.9
MAJO	Matsushiro	17.43	336		Pn	23 42 09.9	-0.7
MAT	Matsushiro	17.43	336	P	Pn	23 42 08.9	-1.7
MAT				S	Sn	23 45 11.8	-12
MJB9	Matsu-Tunnel	17.44	336		Pn	23 42 09.8	-0.9
PATS	Pohnpei	17.78	139	Pn	Pn	23 42 13.7	-1.3
PATS				IAmb	IAmb	23 42 29.4	
	comp=Z,991nm,0.9s						
JOW	Kunigami	17.97	293	P	P	23 42 20.0	+2.3
JOW	Kunigami	17.97	293	P	Pn	23 42 16.9	-0.4
	comp=Z,1.8nm,0.3s,baz=129,slow=13,SNR=9.7						
JOW	Kunigami				Pn	23 42 16.1	-1.2
JHS	Saijyo	18.61	323	P	Pn	23 42 26.0	+0.9
WAKE	Wake Island	18.75	91	P	P	23 42 26.4	+0.1
WAKE				IAmb	IAmb	23 42 44.9	
	comp=Z,794nm,1.1s						
JNU	Nakatsue	18.75	314	P	Pn	23 42 27.5	+0.6
	comp=Z,3.9nm,0.3s,baz=112,slow=7.2,SNR=24						
JNU	Nakatsue	18.75	314	P	Pn	23 42 27.2	+0.3
JNU				IAmb	IAmb	23 42 37.7	
	comp=Z,467nm,1.1s						
JSJ	Shimokoshiki	18.76	309	P	Pn	23 42 27.0	+0.1
JMK	Ichinoseki	18.77	346	P	Pn	23 42 28.0	+1.0
H11S3	WAKE ISLAND Hy	18.90	93	T	T	00 01 52.2	
	baz=280,slow=74						
H11S1	WAKE ISLAND Hy	18.91	93	T	T	00 01 50.6	
	baz=280,slow=74						
H11N1	WAKE ISLAND Hy	18.91	90	T	T	00 01 50.6	
	baz=276,slow=74						
H11S2	WAKE ISLAND Hy	18.92	93	T	T	00 01 55.8	
	baz=280,slow=74						
H11N2	WAKE ISLAND Hy	18.92	90	T	T	00 01 57.4	
	baz=276,slow=74						
H11N3	WAKE ISLAND Hy	18.93	90	T	T	00 01 56.6	
	baz=276						
JKE	Kume jima 2	19.14	291	P	Pn	23 42 34.0	+2.5
JOI	OKI	19.49	326	P	P	23 42 34.8	+0.4
JTU	Tsushima	20.58	315	P	P	23 42 47.3	+1.1
ERM	Erimo	21.43	353	eP	P	23 42 58.3	+3.0
ERM				pmax	pmax		
	comp=Z,300nm,1.0s						
ERM				MLR	MLR		
	comp=Z,30μm,19.0s						
ERM	Erimo	21.43	353	P	P	23 42 54.5	-0.8
ERM				IAmb	IAmb	23 43 02.5	
	comp=Z,325nm,1.1s			

SSE S **S** **23 47 56.1 -0.3**
SSE pmax pmax
comp=Z,4μm,6.3s
RKPI Ransiki, Papua 25.32 211 P **P** **23 43 34.8 +0.8**
comp=Z,143nm,0.8s,comp=Z,6μm
KRVT Keravat (AS076 25.42 168 P **P** **23 43 34.7 -0.3**
comp=Z,232nm,0.8s,baz=145,slow=3.0,SNR=22
KRVT LR LR 23 52 40.7
comp=Z,18μm,20.9s,baz=346,slow=34
TGY Tagaytay City 25.49 259 P **P** **23 43 35.5 -0.2**
comp=Z,225nm,0.3s,baz=50,slow=6.9,SNR=6.6
TGY LR LR 23 52 07.8
comp=Z,39μm,21.2s,baz=63,slow=33
VLA Vladivostok 25.56 334‖ *e*P **P** **23 43 36.2 +0.2**
VLA pmax pmax
comp=Z,255nm,0.8s
TEY Ternei 25.65 343↑ *e*P **P** **23 43 39.3 +2.5**
TEY pmax pmax
comp=N,100nm,0.9s
TEY pmax pmax
comp=Z,140nm,0.9s
TEY pmax pmax
comp=E,70nm,1.1s
TEY pmax pmax
comp=Z,1μm,9.5s
TEY pmax pmax
comp=E,400nm,10.2s
TEY pmax pmax
comp=N,700nm,9.9s
QZH Quanzhou 26.28 285↑ *i*P **P** **23 43 42.6 -0.1**
QZH S **S** **23 48 09.5 -4.7**
QZH pmax pmax
comp=N,4μm,8.5s
QZH LR LR
comp=N,16μm,14.2s
QZH LR LR
comp=N,7μm,14.7s
QZH LR LR
comp=N,20μm,17.5s
SWI Sorong 26.29 217 P **P** **23 43 42.8 -0.1**
comp=N,112nm,1.3s,comp=N,4μmcomp=N,21μm
YSS Yuzh-Sakhalins 26.36 354 *d i*P **P** **23 43 44.0 +0.8**
YSS *e**PP **pwP** **23 43 57.4 +1.3**
YSS *e* 23 44 30.1
YSS *e*PPP PPP 23 44 41.5
YSS *e* 23 47 02.9
YSS *e*S **S** **23 48 17.6 +2.6**
YSS *e* 23 48 36.8
YSS *e*SS **SnSn** **23 49 19.5 +3.3**
YSS pmax pmax
comp=Z,210nm,1.0s
YSS pmax pmax
comp=Z,8μm,9.1s
YSS smax smax
comp=N,8μm,8.0s
YSS Yuzh-Sakhalins 26.36 354 P **P** **23 43 43.5 +0.3**
YSS IAmb IAmb 23 43 46.9
comp=Z,183nm,0.9s
USA0B Ussuriysk Arra 26.43 336 P **P** **23 43 44.9 +1.0**
USA0B pmax pmax
comp=Z,442nm,1.1s
USA0B Ussuriysk Arra 26.43 336 P **P** **23 43 44.9 +1.0**
USRK Ussuriysk Ar. 26.43 336 P **P** **23 43 45.1 +1.2**
comp=Z,408nm,1.1s,baz=148,slow=7.3,SNR=50
USRK LR LR 23 56 02.9
comp=Z,14μm,18.0s,baz=133,slow=41
KNMB Chin-men Tao 26.44 283 P **P** **23 43 45.1 +0.9**
NJ2 Nanjing 27.34 300 *e*P **P** **23 43 52.3 0.0**
NJ2 pP **pP** **23 43 55.4 -2.5**
NJ2 S **S** **23 48 29.8 -1.1**
NJ2 sS **sS** **23 48 39.6 -0.6**
NJ2 pmax pmax
comp=Z,4μm,8.5s
NJ2 LR LR
comp=Z,32μm,15.6s
NJ2 LR LR
comp=Z,37μm,15.4s
NJ2 LR LR
comp=Z,60μm,15.4s
TNTI Ternate 27.44 226 P **P** **23 43 54.2 +1.0**
FAKI Fak Fak 27.48 213 P **P** **23 43 52.5 -1.1**
comp=Z,118nm,0.8s,comp=Z,5μmcomp=Z,18μm
FAKI Fak Fak 27.48 213 P **P** **23 43 53.8 +0.2**
FAKI IAMs_20 IAMs_20 23 52 39.5
comp=Z,68μm,22.0s
MDJ Mudanjiang 27.74 333 P **P** **23 43 57.0 +1.3**
MDJ pP pP 23 44 02.3 +1.2
MDJ sP sP 23 44 04.4 +0.9
MDJ PP **PnPn** **23 44 43.8 +1.8**
MDJ S **S** **23 48 40.1 +3.1**
MDJ sS sS 23 48 49.4 +3.6
MDJ SS **SnSn** **23 49 56.3 +6.3**
MDJ pmax pmax
comp=Z,79nm,1.3s
MDJ pmax pmax
comp=Z,8μm,4.9s
MDJ LR LR
comp=Z,26μm,12.8s
MDJ LR LR
comp=Z,22μm,13.5s
MDJ LR LR
comp=Z,22μm,19.9s
MDJ Mudanjiang 27.74 333 P **P** **23 43 56.2 +0.5**
DL2 Dalian 28.20 315 P **P** **23 43 58.3 -1.6**
DL2 S **S** **23 48 41.4 -2.9**
DL2 pmax pmax
comp=Z,160nm,0.8s
DL2 pmax pmax
comp=Z,5μm,6.8s
DL2 LR LR
comp=Z,22μm,15.4s
DL2 LR LR
comp=Z,14μm,16.1s
DL2 LR LR
comp=Z,24μm,15.5s
LBMI Labuha 28.40 224 P **P** **23 43 59.9 -2.0**
comp=Z,94nm,0.7s,comp=Z,4μm
SNY Shenyang 28.73 322‖ P **P** **23 44 04.1 -0.4**
SNY S **S** **23 48 44.3 -8.2**
SNY pmax pmax
comp=Z,4μm,8.4s
SNY LR LR
comp=Z,16μm,15.1s
SNY LR LR
comp=Z,22μm,15.2s
SNY LR LR
comp=Z,36μm,15.0s
CN2 Changchun 29.06 327 *e*P **P** **23 44 07.8 +0.4**
CN2 *e*PP PP 23 45 01.9 -11
CN2 *e*S **S** **23 48 55.1 -2.6**
CN2 *e*SS ScP 23 50 25.0 -31
CN2 pmax pmax
comp=Z,120nm,1.8s
CN2 pmax pmax
comp=Z,4μm,6.0s
CN2 LR LR
comp=Z,28μm,14.0s
CN2 LR LR
comp=Z,28μm,14.0s
CN2 LR LR
comp=Z,34μm,15.0s
MSAI Masohi 29.64 218 P **P** **23 44 14.1 +1.2**
comp=Z,21nm,0.8s,comp=Z,697nm
PMG Port Moresby 29.96 179 P **P** **23 44 15.0 -0.6**
PMG 23 47 17.9
PMG pmax pmax
comp=Z,184nm,1.0s
PMG Port Moresby 29.96 179 P **P** **23 44 14.5 -1.1**
comp=Z,72nm,0.9s,baz=67,slow=8.5,SNR=12
PMG PcP **PcP** **23 47 17.9 -0.1**
comp=Z,27nm,0.7s,baz=327,slow=5.6,SNR=1.9
PMG LR LR 23 56 23.0
comp=Z,12μm,19.5s,baz=342,slow=37
PMG Port Moresby 29.96 179 P **P** **23 44 15.1 -0.6**
PMG IAmb IAmb 23 44 30.3
comp=Z,184nm,1.0s
BNDI Bandanaira 30.07 215 P **P** **23 44 13.2 -3.4**
comp=Z,164nm,1.1s,comp=Z,6μmcomp=Z,14μm
TIA Tai'an 30.12 307 P **P** **23 44 16.8 -0.2**
TIA pP **pP** **23 44 21.9 -0.6**
TIA sP **sP** **23 44 26.3 +1.5**
TIA S **S** **23 49 14.8 +0.2**
TIA sS **pS** **23 49 21.8 +1.1**
TIA LR LR
comp=Z,18μm,17.6s
TIA LR LR
comp=Z,10μm,10.8s
TIA LR LR
comp=Z,7μm,13.4s
TYV Tymovskoe 30.24 355 *e*P **P** **23 44 18.5 +0.7**
TYV *e*S **S** **23 49 20.8 +4.8**
TYV pmax pmax
comp=Z,104nm,1.2s
TYV pmax pmax
comp=Z,3μm,5.1s
TYV smax smax
comp=E,7μm,8.0s
TYV MLR MLR
comp=Z,28μm,14.0s
AAI Ambon 30.35 219 P **P** **23 44 20.5 +1.4**
comp=Z,118nm,0.9s,comp=Z,3μmcomp=Z,17μm
SANI Sanana 30.45 224 P **P** **23 44 19.5 -0.5**
comp=Z,36nm,0.7s,comp=Z,2μmcomp=Z,13μm
NLAI Namlea 30.65 221 P **P** **23 44 23.7 +1.9**
comp=Z,41nm,0.7s,comp=Z,2μm
WHN Wuhan 30.72 295 P **P** **23 44 23.3 +1.0**
WHN pmax pmax
comp=Z,4μm,10.2s
WHN LR LR
comp=Z,19μm,10.5s
WHN LR LR
comp=Z,47μm,13.0s
WHN LR LR
comp=Z,60μm,14.9s
SKR Severo-Kuril's 30.78 12 *e*P **P** **23 44 23.8 +1.2**
SKR *e*S **S** **23 49 28.3 +3.8**
SKR pmax pmax
comp=Z,2μm,7.2s
SKR pmax pmax
comp=Z,100nm,1.2s
SKR MLR MLR
comp=Z,11μm,13.0s
SKR MLR MLR
comp=Z,12μm,16.0s
KLR Kul'dur 30.86 341 *de*P **P** **23 44 23.6 +0.3**
KLR pmax pmax
comp=Z,99nm,1.0s
KLR Kul'dur 30.86 341 P **P** **23 44 23.8 +0.5**
comp=Z,73nm,0.9s,baz=142,slow=9.7,SNR=66
GZH Guangzhou 31.06 281 P **P** **23 44 25.8 +0.4**
GZH S **S** **23 49 28.8 -0.7**
GZH LR LR
comp=Z,8μm,15.7s
GZH LR LR
comp=Z,11μm,15.1s
GRNR Gornyy 31.06 347‖ *i*P **P** **23 44 26.5 +1.4**
GRNR *e*S **S** **23 49 35.4 +6.4**
GRNR pmax pmax
comp=Z,200nm,1.1s
GRNR smax smax
comp=N,6.0nm,1.2s
MRSI Marisa 31.53 233 P **P** **23 44 31.0 +1.5**
comp=N,114nm,1.4s,comp=N,2μmcomp=N,13μm
LUWI Luwuk 31.94 230 P **P** **23 44 37.2 +4.1**
LUWI Luwuk 31.94 230 P **P** **23 44 33.9 +0.7**
LUWI IAmb IAmb 23 44 42.0
comp=Z,92nm,1.0s
TARA Tarawa 31.99 124 P **P** **23 44 33.8 +0.2**
TARA IAmb IAmb 23 44 34.6
comp=Z,126nm,1.1s
SAUI Saumlaki 32.34 210 P **P** **23 44 39.0 +2.4**
comp=Z,273nm,1.2s,comp=Z,8μmcomp=Z,18μm
SAUI Saumlaki 32.34 210 P **P** **23 44 37.3 +0.7**
SAUI IAmb IAmb 23 44 50.5
comp=Z,132nm,0.8s
BJT Baijiatuan 32.42 313 P **P** **23 44 37.1 0.0**
BJT pmax pmax
comp=Z,22nm,0.7s
BJT MLR MLR
comp=Z,14μm,19.0s
BJT Baijiatuan 32.42 313 P **P** **23 44 37.1 0.0**
BJI Beijing 32.42 313 P **P** **23 44 36.5 -0.7**
BJI S **S** **23 49 53.1 +2.7**
BJI LR LR
comp=Z,16μm,15.4s
BJI LR LR
comp=Z,19μm,14.3s
BJI LR LR
comp=Z,11μm,16.6s
HNR Honiara 32.66 155 P **P** **23 44 40.0 +0.6**
HNR pmax pmax
comp=Z,139nm,1.0s
HNR MLR MLR
comp=Z,35μm,20.0s
HNR Honiara 32.66 155 LR LR 23 59 39.8
comp=Z,33μm,18.1s,baz=315,slow=40
HNR Honiara 32.66 155 P **P** **23 44 40.0 +0.6**
HNR IAmb IAmb 23 44 48.1
comp=Z,139nm,1.0s
HNR Honiara 32.66 155 IAMs_20 IAMs_20 23 57 33.1
comp=Z,35μm,20.0s
APSI Ampana 32.66 232 P **P** **23 44 40.1 +0.6**
comp=Z,113nm,1.0s,comp=Z,2μm
NKL Nikolayevsk 32.70 353 *e*P **P** **23 44 39.3 0.0**
NKL *e*S **S** **23 49 57.1 +2.8**
NKL pmax pmax
comp=N,4.0nm,1.1s
NKL pmax pmax
comp=E,64nm,1.1s
NKL pmax pmax
comp=Z,470nm,1.1s
NKL pmax pmax
comp=Z,554nm,1.5s
NKL smax smax
comp=E,717nm,4.3s
NKL smax smax
comp=N,12nm,1.6s
KKM Kota Kinabalu 33.02 248 P **P** **23 44 44.5 +1.7**
KKM IAmb IAmb 23 44 51.0
comp=Z,109nm,1.0s
MPSI Mapaga 33.17 236 P **P** **23 44 45.0 +1.0**
comp=Z,77nm,1.1s,comp=Z,4μmcomp=Z,11μm
PEA0B Petropavlovsk- 33.40 12↑ *e*P **P** **23 44 47.8 +2.3**
PEA0B Petropavlovsk- 33.40 12 P **P** **23 44 46.9 +1.3**
PEA0B IAmb IAmb 23 44 56.2
comp=Z,150nm,1.1s
PETK Petropavlovsk- 33.40 12 P **P** **23 44 46.4 +0.9**
comp=Z,43nm,1.0s,baz=186,slow=5.7,SNR=19
PETK PcP **PcP** **23 47 26.3 -0.4**
comp=Z,42nm,1.0s,baz=176,slow=4.5,SNR=4.9
PETK LR LR 23 55 58.2
comp=Z,20μm,20.3s,baz=191,slow=32
PET Petropavlovsk 33.51 13 *e*P **P** **23 44 48.0 +1.5**
PET *e* 23 46 03.0
PET *e* 23 47 27.4
PET *e*S **S** **23 50 06.8 -0.2**
PET *e*SS **SnSn** **23 52 11.7 +1.6**
PET pmax pmax
comp=Z,8μm,9.1s
PET pmax pmax
comp=Z,140nm,1.3s
PET pmax pmax
comp=Z,4μm,11.2s
PET pmax pmax
comp=Z,3μm,11.8s
PET Petropavlovsk 33.51 13 P **P** **23 44 46.8 +0.3**
PET IAmb IAmb 23 44 49.1
comp=Z,104nm,1.1s
TIY Taiyuan 34.17 307 *e*P **P** **23 44 53.1 +0.6**
TIY S **S** **23 50 19.1 +1.3**
TIY pmax pmax
comp=Z,81nm,1.1s
TIY pmax pmax
comp=Z,3μm,6.7s
TIY LR LR
comp=Z,12μm,15.3s
TIY LR LR
comp=Z,19μm,14.2s
TIY LR LR
comp=Z,28μm,14.9s
COEN Coen 34.66 186 P **P** **23 44 57.8 +1.0**
COEN IAmb IAmb 23 45 05.6
comp=Z,103nm,1.0s
QIZ Qiongzhong 34.72 274 P **P** **23 44 58.0 +0.6**
QIZ PP **PP** **23 46 16.0 -0.3**
QIZ S **S** **23 50 26.3 -0.2**
QIZ pmax pmax
comp=Z,2μm,7.3s
QIZ LR LR
comp=Z,8μm,17.7s
QIZ LR LR
comp=Z,11μm,18.0s
QIZ LR LR
comp=Z,14μm,16.6s
ENH Enshi 34.83 293 P **P** **23 44 58.5 +0.2**
BBSI Bau Bau 35.27 225 P **P** **23 45 04.8 +2.7**
comp=Z,26nm,0.9s,comp=Z,799nm
TTSI Tana Toraja 35.45 231 P **P** **23 45 06.6 +2.9**
comp=Z,221nm,0.8s,comp=Z,4μmcomp=Z,13μm
HIA Hailar 35.69 329 *d i*P **P** **23 45 06.0 +0.5**
HIA pmax pmax
comp=Z,1μm,1.1s
HIA Hailar 35.69 329 P **P** **23 45 05.7 +0.2**
HIA IAmb IAmb 23 45 09.6
comp=Z,191nm,1.0s
SMKI Samarinda 35.76 238 P **P** **23 45 09.4 +3.0**
XAN Xi'an 35.91 300 P **P** **23 45 07.1 -0.5**
XAN S **S** **23 50 41.8 -2.9**
XAN pmax pmax
comp=Z,99nm,1.4s
XAN pmax pmax
comp=Z,3μm,8.3s
XAN LR LR
comp=Z,16μm,14.2s
XAN LR LR
comp=Z,18μm,15.2s
XAN LR LR
comp=Z,20μm,16.2s
XAN Xi'an 35.91 300 P **P** **23 45 06.7 -0.9**
XAN pmax pmax
comp=Z,85nm,0.9s
XAN MLR MLR
comp=Z,13μm,19.0s
XAN Xi'an 35.91 300 P **P** **23 45 06.7 -0.9**
XAN IAmb IAmb 23 45 21.9
comp=Z,85nm,0.9s
SPSI Sidrap Palu 36.11 230 P **P** **23 45 10.1 +0.7**
comp=Z,94nm,0.8s,comp=Z,3μmcomp=Z,11μm
ZEA Zeya 36.17 340 *de*P **P** **23 45 09.6 +0.1**
ZEA *e* 23 46 34.0
ZEA *e*S **S** **23 50 40.0 -8.0**
ZEA pmax pmax
comp=E,120nm,1.6s
ZEA pmax pmax
comp=N,110nm,1.2s
ZEA pmax pmax
comp=Z,410nm,1.4s
ZEA pmax pmax
comp=E,1μm,8.0s
ZEA pmax pmax
comp=Z,4μm,8.0s
ZEA pmax pmax
comp=N,2μm,9.0s
ZEA pmax pmax
comp=Z,4μm,10.0s
ZEA pmax pmax
comp=N,2μm,7.0s
ZEA pmax pmax
comp=E,2μm,7.0s
ZEA smax smax
comp=E,7μm,9.0s
ZEA smax smax
comp=N,6μm,12.0s
BNSI Bone 36.17 229 P **P** **23 45 11.3 +1.4**
comp=N,120nm,1.4s,comp=N,3μmcomp=N,14μm
BKB Balikpapan 36.51 237 P **P** **23 45 15.2 +2.4**
comp=N,308nm,1.4s,comp=N,5μmcomp=N,15μm
MTN Manton Dam 36.74 206 P **P** **23 45 14.5 -0.2**
MTN IAmb IAmb 23 45 17.8
comp=Z,148nm,1.0s
BKSI Bulukumba 36.81 228 P **P** **23 45 16.3 +1.0**
comp=Z,61nm,1.0s,comp=Z,2μmcomp=Z,12μm
KAPI Kappang 36.85 229 P **P** **23 45 17.2 +1.4**
KAPI P **P** **23 45 17.2 +1.4**
KAPI Kappang 36.85 229 P **P** **23 45 16.6 +0.9**
KAPI 23 47 38.7
KAPI pmax pmax
comp=Z,80nm,1.1s
KAPI Kappang 36.85 229 P **P** **23 45 15.7 0.0**
comp=Z,40nm,0.7s,baz=74,slow=5.5,SNR=21
KAPI PcP **PcP** **23 47 38.7 +1.2**
comp=Z,68nm,1.0s,baz=52,slow=3.1,SNR=5.5
KAPI LR LR 23 58 50.6
comp=Z,14μm,20.3s,baz=26,slow=34
KAPI Kappang 36.85 229 P **P** **23 45 16.6 +0.9**
BTO Baotou 36.94 311 *e*P **P** **23 45 15.8 -0.6**
BTO S **S** **23 51 02.9 +2.5**
GYA Guiyang 37.08 287↑ *i*P **P** **23 45 18.1 +0.3**
GYA PP **PnPn** **23 46 45.8 +3.0**
GYA PcP **PcP** **23 47 38.1 -0.1**
GYA S **S** **23 51 05.4 +2.6**
GYA ScP **ScP** **23 51 24.8 +0.8**
GYA ScS **ScS** **23 55 31.8 +0.1**
GYA pmax pmax
comp=Z,40nm,0.6s
GYA pmax pmax
comp=Z,320nm,5.0s
GYA LR LR
comp=Z,8μm,16.4s
GYA LR LR
comp=Z,6μm,18.2s
GYA LR LR
comp=Z,5μm,13.5s
SOEI Soe 37.52 218 P **P** **23 45 21.0 -0.5**
comp=Z,177nm,0.9s,comp=Z,3μmcomp=Z,9μm
SOEI Soe 37.52 218 P **P** **23 45 21.4 -0.1**
SOEI IAmb IAmb 23 45 33.1
comp=Z,110nm,0.9s
DLV T Lat 37.68 263 P **P** **23 45 22.7 -0.3**
DLV IAmb IAmb 23 45 32.0
comp=Z,172nm,1.0s
BATI Baumata 38.23 219 P **P** **23 45 26.2 -1.2**
comp=Z,69nm,0.8s,baz=199,slow=0.4,SNR=16
BATI PcP **PcP** **23 47 42.8 +1.2**
comp=Z,110nm,0.9s,baz=53,slow=5.1,SNR=5.3
SBUM Sibu 38.26 246 P **P** **23 45 28.0 +0.3**
SBUM Sibu 38.26 246 P **P** **23 45 28.3 +0.6**
MA2 Magadan 38.90 3 *de*P **P** **23 45 33.2 +0.7**
MA2 pmax pmax
comp=Z,325nm,1.3s
MA2 Magadan 38.90 3 P **P** **23 45 32.9 +0.4**
comp=Z,241nm,1.0s,baz=176,slow=8.2,SNR=30
MA2 Magadan 38.90 3 P **P** **23 45 32.7 +0.2**
MA2 IAmb IAmb 23 45 37.0
comp=Z,253nm,1.0s
UBPT Khong Chiam 39.57 269 P P 23 45 43.6 +5.0
comp=Z,50nm,1.5s,comp=Z,2μm
CD2 Chengdu 39.81 294‖ P **P** **23 45 40.8 +0.2**
CD2 sP sP 23 45 48.0 -0.4
CD2 PP **PP** **23 47 12.4 +0.2**
CD2 S **S** **23 51 40.0 -3.8**
CD2 sS sS 23 51 53.5 +0.3
CD2 pmax pmax
comp=Z,150nm,0.7s
CD2 pmax pmax
comp=Z,4μm,6.3s
CD2 LR LR
comp=Z,33μm,17.2s
CD2 LR LR
comp=Z,38μm,17.2s
CD2 LR LR
comp=Z,32μm,14.7s
WSI Waingapu 39.88 223 P **P** **23 45 40.5 -0.7**
SLVN Son La 39.92 279 P **P** **23 45 42.0 +0.4**
KNRA Kununurra 40.27 207 P **P** **23 45 44.2 -0.2**
KNRA IAmb IAmb 23 45 47.7
comp=Z,130nm,0.9s
LZH Lanzhou 40.39 302↑ P **P** **23 45 45.8 +0.3**
LZH sP sP 23 45 54.8 +1.4
LZH S **S** **23 51 53.8 +1.1**
LZH sS sS 23 52 03.3 +1.1
LZH pmax pmax
comp=Z,490nm,1.4s
LZH pmax pmax
comp=Z,5μm,5.4s
LZH LR LR
comp=Z,22μm,14.6s
LZH LR LR
comp=Z,12μm,16.3s
LZH LR LR
comp=Z,19μm,14.6s
KSM Kuching 40.40 246 P **P** **23 45 48.0 +2.5**
KSM Kuching 40.40 246 P **P** **23 45 46.7 +1.2**
CIT Chita 40.48 329 *e*P **P** **23 45 47.0 +1.2**
CIT *e* 23 45 55.5
CIT *e* 23 46 04.6
CIT *e*S **S** **23 51 54.6 +1.3**
CIT pmax pmax

comp=Z,925nm,1.5s
CTA Charters Tower 40.58 181 P P 23 45 46.5 -0.4
comp=Z,97nm,1.1s,baz=354,slow=8.2,SNR=24
CTA LR LR 00 02 18.1
comp=Z,8µm,20.9s,baz=5.0,slow=36
KMI Kunming 40.65 285 P P 23 45 48.4 +0.6
KMI pP pP 23 45 52.5 -1.1
KMI sP sP 23 45 55.3 -0.8
KMI PP PP **23 47 22.5 +0.9**
KMI S S **23 51 54.5 -2.4**
KMI sS pS 23 52 02.8 -0.7
KMI SS SS **23 54 50.3 -7.2**
KMI ScS ScS **23 55 55.9 +3.2**
KMI pmax pmax
comp=Z,3µm,8.4s
KMI LR LR
comp=Z,8µm,14.5s
KMI LR LR
comp=Z,14µm,16.4s
KMI LR LR
comp=Z,14µm,17.0s
PLAI Plampang 40.93 227 P P 23 45 48.3 -1.6
comp=Z,121nm,0.8s,comp=Z,3µmcomp=Z,9µm
NONG Nongkai 41.14 274 P P 23 45 54.5 +2.8
comp=Z,2.3nm,1.5s
TWSI Taliwang, Sumb 41.48 228 P P 23 45 54.6 +0.1
comp=Z,172nm,0.8s,comp=Z,3µm
JOHN Johnston Islan 41.49 88 IAms_20 IAms_20 00 05 23.6
comp=Z,23µm,18.0s
ULN Ulaanbaatar 41.84 320 ⇑P P 23 45 57.4 +0.2
ULN ⇑P P **23 45 57.4 +0.2**
ULN Ulaanbaatar 41.84 320 *d* iP P **23 45 57.7 +0.5**
ULN pmax pmax
comp=Z,224nm,2.5s
ULN MLR MLR
comp=Z,19µm,18.0s
ULN Ulaanbaatar 41.84 320 P P 23 45 57.2 0.0
ULN Ulaanbaatar 41.84 320 IAms_20 IAms_20 00 04 33.3
comp=Z,20µm,18.0s
WB9 Warramunga Arr 42.06 198 IAms_20 IAms_20 00 03 19.2
comp=Z,35µm,21.0s
ADK Adak 42.07 33 P P 23 45 59.4 +0.6
ADK pmax pmax
comp=Z,159nm,1.1s
ADK MLR MLR
comp=Z,32µm,22.0s
ADK Adak 42.07 33 P P 23 45 59.4 +0.6
ADK IAmb IAmb 23 46 07.4
comp=Z,159nm,1.1s
ADK Adak 42.07 33 IAms_20 IAms_20 23 59 00.9
comp=Z,32µm,22.0s
WB8 Warramunga Arr 42.09 198 IAms_20 IAms_20 00 03 19.8
comp=Z,35µm,21.0s
WB7 Warramunga Arr 42.11 198 IAms_20 IAms_20 00 03 20.6
comp=Z,31µm,21.0s
WB5 Warramunga Arr 42.15 198 IAms_20 IAms_20 00 03 21.5
comp=Z,36µm,21.0s
WB4 Warramunga Arr 42.18 198 IAms_20 IAms_20 00 03 23.2
comp=Z,36µm,21.0s
WR0 Warramunga Arr 42.18 197 IAms_20 IAms_20 00 03 23.2
comp=Z,32µm,21.0s
WR7 Warramunga Arr 42.19 197 IAms_20 IAms_20 00 03 23.6
comp=Z,34µm,21.0s
WB3 Warramunga Arr 42.20 198 IAms_20 IAms_20 00 03 22.7
comp=Z,37µm,21.0s
WR6 Warramunga Arr 42.20 197 IAms_20 IAms_20 00 03 23.8
comp=Z,35µm,21.0s
WC1 Warramunga Arr 42.20 198 IAms_20 IAms_20 00 03 22.8
comp=Z,36µm,21.0s
WR5 Warramunga Arr 42.20 197 IAms_20 IAms_20 00 03 23.9
comp=Z,35µm,21.0s
WR4 Warramunga Arr 42.21 197 IAms_20 IAms_20 00 03 24.0
comp=Z,35µm,21.0s
WRAB Tennant Creek 42.21 198 *d* iP P **23 45 58.9 -1.4**
WRAB pmax pmax
comp=Z,68nm,0.7s
WRAB MLR MLR
comp=Z,34µm,20.0s
WRAB Tennant Creek 42.21 198 P P 23 45 59.8 -0.4
WRAB Tennant Creek 42.21 198 IAms_20 IAms_20 00 03 23.9
comp=Z,36µm,21.0s
WR3 Warramunga Arr 42.21 197 IAms_20 IAms_20 00 03 24.1
comp=Z,36µm,21.0s
SRBI Singaraja 42.22 230 P P 23 46 02.3 +1.9
comp=Z,96nm,0.9s,comp=Z,4µm
WR2 Warramunga Arr 42.22 198 IAms_20 IAms_20 00 03 23.2
comp=Z,31µm,21.0s
WR1 Warramunga Arr 42.22 198 IAms_20 IAms_20 00 03 23.3
comp=Z,31µm,21.0s
WRA Warramunga Arr 42.22 198 P P 23 45 59.2 -1.2
comp=Z,21nm,0.8s,baz=22,slow=9.0,SNR=6.6
WRA PcP PcP **23 47 54.4 +0.1**
comp=Z,56nm,1.0s,baz=15,slow=3.6,SNR=5.4
WRA ScP ScP **23 51 46.9 +3.3**
comp=Z,5.7nm,0.9s,baz=5.4,slow=4.1,SNR=4.3
WRA LR LR 00 03 45.4
comp=Z,31µm,20.5s,baz=5.0,slow=36
SONM Songino Array 42.22 320 P P 23 46 00.1 -0.2
comp=Z,22nm,0.7s,baz=129,slow=8.7,SNR=52
SONM PcP PcP **23 47 54.1 -0.1**
comp=Z,18nm,0.8s,baz=139,slow=3.0,SNR=5.4
SONM LR LR 00 04 39.7
comp=Z,17µm,18.4s,baz=116,slow=38
WC3 Warramunga Arr 42.23 197 IAms_20 IAms_20 00 03 23.5
comp=Z,36µm,21.0s
WB1 Warramunga Ar. 42.23 198 IAms_20 IAms_20 00 03 24.7
comp=Z,37µm,21.0s
SEY Seymchan 42.34 4⇑ *e*P P **23 46 01.9 +1.0**
SEY Seymchan 42.34 4 P P **23 46 01.6 +0.7**
comp=Z,68nm,0.7s,baz=171,slow=7.6,SNR=54
SEY LR LR 00 01 28.6
comp=Z,15µm,20.2s,baz=190,slow=33
DNP Denpasar 42.62 230 P P 23 46 06.2 +2.5
CHAI Chaiyaphum 42.68 271 P P 23 46 05.6 +1.3
comp=Z,117µm,1.1s
IGBI Denpasar 42.77 230 P P 23 46 05.5 +0.6
comp=Z,106nm,1.3s,comp=Z,3µmcomp=Z,5µm
YAK Yakutsk 42.93 348 *d* iP P **23 46 05.4 -0.2**
YAK *e**PP **pwP 23 46 23.0 +6.1**
YAK *e* 23 47 45.6
YAK *e*S S **23 52 23.9 -5.2**
YAK *e*SS SS **23 55 34.3 -6.6**
YAK pmax pmax
comp=Z,151nm,0.9s
YAK pmax pmax
comp=N,68nm,1.1s
YAK pmax pmax
comp=E,24nm,1.1s
YAK pmax pmax
comp=Z,1µm,4.3s
YAK pmax pmax
comp=E,213nm,2.2s
YAK pmax pmax
comp=N,725nm,2.7s
YAK smax smax
comp=E,721nm,4.2s
YAK smax smax
comp=N,2µm,5.8s
YAK MLR MLR
comp=Z,12µm,17.0s
YAK MLR MLR
comp=N,17µm,18.0s
YAK Yakutsk 42.93 348 LR LR 00 04 36.4
comp=N,7µm,21.1s,baz=153,slow=37
YAK Yakutsk 42.93 348 P P **23 46 05.5 -0.1**
YAK IAmb IAmb 23 46 08.8
comp=Z,180nm,1.0s
FUNA Funafuti 43.15 129 P P 23 46 07.9 -0.2
JAGI Jajag, Banyuwa 43.24 231 P P 23 46 09.8 +1.0
comp=Z,117nm,1.1s,comp=Z,3µmcomp=Z,12µm
GRJI Gresik 43.47 234 P P 23 46 14.0 +3.4
PBKT Sadao Pong 43.48 272 P P 23 46 12.2 +1.5
comp=Z,60nm,1.5s,comp=Z,2µm
PBKT Sadao Pong 43.48 272 IAmb IAmb 23 46 20.8
comp=Z,143nm,1.2s
UTTA Uttaradit 43.62 274 P P 23 46 13.7 +1.8
comp=Z,148µm,1.2s
PHRA Phrae 43.78 275 P P 23 46 17.1 +4.0
comp=Z,11nm,1.6s
FITZ Fitzroy Crossi 43.80 210 P P 23 46 12.7 -0.5
comp=Z,81nm,0.7s,baz=28,slow=9.8,SNR=54
FITZ Fitzroy Crossi 43.80 210 P P 23 46 13.3 +0.1
FITZ IAmb IAmb 23 46 20.4
comp=Z,135nm,0.8s
BOD Bodaibo 44.06 335 *e*P P **23 46 14.0 -0.9**
BOD pmax pmax
comp=Z,98nm,1.4s
GTA Gaotai 44.15 306 P P 23 46 16.3 +0.3
GTA pP pP 23 46 20.9 -0.7
GTA sP sP 23 46 23.6 -0.3
GTA PcP **PcP 23 48 00.3 -0.5**
GTA S S **23 52 47.8 -0.1**
GTA sS sS 23 52 56.6 -0.6
GTA pmax pmax
comp=Z,3µm,7.6s
GTA LR LR
comp=Z,14µm,16.8s
GTA LR LR
comp=Z,16µm,15.6s
GTA LR LR
comp=Z,26µm,15.2s
LAMP Lampang 44.33 276 P P 23 46 21.3 +3.7
comp=Z,99µm,1.3s,comp=Z,809µm
PATY Pattaya 44.49 267 P P 23 46 24.3 +5.4
comp=Z,97µm,0.9s
NGJI Ngawi 44.54 235 P P 23 46 21.5 +2.3
comp=Z,127nm,1.4s,comp=Z,5µmcomp=Z,15µm
TPI Tanjungpandan 44.88 243 P P 23 46 21.2 -0.7
comp=Z,49nm,0.8s,comp=Z,2µm
CMMT Chiang Mai 44.91 276 P P 23 46 24.1 +1.9
comp=Z,42nm,1.6s,comp=Z,1µm
CHTO Chiang Mai 44.92 276 P P 23 46 22.5 +0.3
CHTO pmax pmax
comp=Z,62nm,1.1s
CHTO Chiang Mai 44.92 276 P P 23 46 22.6 +0.3
CM31 Chiang Mai Arr 44.98 276 P P 23 46 24.6 +1.8
CM31 P P **23 46 24.6 +1.8**
CM31 S S **23 53 00.5 +0.2**
CM31 S S **23 53 00.5 +0.2**
CM31 Chiang Mai Arr 44.98 276 P P 23 46 22.9 +0.1
CMAR Chiang Mai Arr 44.98 276 P P 23 46 23.8 +0.9
comp=Z,11nm,0.6s,baz=62,slow=6.4,SNR=36
CMAR PcP PcP **23 48 02.9 -0.9**
comp=Z,6.3nm,0.8s,baz=80,slow=6.0,SNR=2.5
CMAR LR LR 00 03 26.0
comp=Z,8µm,21.3s,baz=94,slow=34
SMRI Semarang 45.12 236 P P 23 46 25.2 +1.3
comp=Z,165nm,1.3s,comp=Z,6µmcomp=Z,14µm
SMRI Semarang 45.12 236 IAmb IAmb 23 46 34.7
comp=Z,66nm,0.8s
UTHA Uthaitani 45.14 272 P P 23 46 26.0 +2.0
comp=Z,144µm,1.2s
ZAK Zakamensk 45.16 322 *e*P P **23 46 24.1 +0.2**
ZAK *e* 23 48 04.8
ZAK pmax pmax
comp=Z,126nm,1.1s
ZAK pmax pmax
comp=Z,76nm,1.0s
ZAK pmax pmax
comp=Z,41nm,1.0s
WOJI Wonogiri, Jawa 45.24 235 P P 23 46 25.4 +0.6
comp=Z,82nm,1.2s,comp=Z,2µm
PCJI Pacitan 45.28 234 P P 23 46 23.1 -2.0
comp=Z,121nm,0.7s,comp=Z,3µm
IRK Irkutsk 45.42 324 *e*P P **23 46 25.8 0.0**
IRK *e*S S **23 53 06.7 +1.0**
IRK pmax pmax
comp=Z,751nm,2.2s
TLY Talaya 45.51 323 P P 23 46 27.6 +1.1
TLY Talaya 45.51 323 *d* iP P **23 46 27.3 +0.7**
TLY *e* 23 48 02.5
TLY *e*PPP PPP 23 48 50.5
TLY *e*S S **23 53 06.2 -0.9**
TLY pmax pmax
comp=Z,711nm,1.3s
TLY MLR MLR
comp=Z,27µm,17.0s
TLY Talaya 45.51 323 LR LR 00 05 20.6
comp=Z,10µm,20.1s,baz=112,slow=36
TLY Talaya 45.51 323 P P 23 46 27.3 +0.7
UMPA Umpang Tak 45.53 273 P P 23 46 30.1 +2.9
comp=Z,278µm,1.0s
UGM Wanagama 45.60 235 P P 23 46 27.9 +0.2
comp=Z,350nm,1.3s,comp=Z,6µmcomp=Z,10µm
PHET Kaeng Krachan 45.65 268 P P 23 46 30.9 +2.8
comp=Z,165µm,0.7s
TPRI Tanjung Pinang 45.70 250 P P 23 46 40.3 +12
YOGI Yogyakarta 45.71 235 P P 23 46 28.9 +0.3
comp=Z,180nm,1.4s,comp=Z,3µmcomp=Z,6µm
SRDT SRDT 45.74 270 P P 23 46 30.8 +2.0
comp=Z,153nm,0.8s,comp=Z,2µm
ASAR Alice Springs 45.88 197 P P 23 46 28.6 -1.2
comp=Z,29nm,0.7s,baz=14,slow=6.3,SNR=49
ASAR PcP PcP **23 48 07.0 +0.3**
comp=Z,14nm,0.8s,baz=19,slow=3.9,SNR=2.5
ASAR LR LR 00 06 00.1
comp=Z,23µm,20.6s,baz=17,slow=36
MYKOM **Kota Tinggi 45.89 251 P P 23 46 33.0 +3.0**
MYKOM **Kota Tinggi 45.89 251** IAmb IAmb 23 46 37.9
comp=Z,92nm,0.9s
MHMT Maesarieng 45.98 276 P P 23 46 33.5 +2.8
comp=Z,235nm,1.8s,comp=Z,4µm
EIDS Eidsvold 46.02 175 P P 23 46 31.7 +1.0
JRMM Jerantut 46.20 255 P P 23 46 37.0 +4.6
DSRI Dabo 46.32 248 P P 23 46 35.8 +2.4
comp=Z,199nm,1.3s,comp=Z,8µmcomp=Z,30µm
KPJI Karang Pucung 46.48 237 P P 23 46 36.1 +1.5
comp=Z,118nm,0.9s,comp=Z,3µmcomp=Z,13µm
SKLT Songkhla 46.60 260 P P 23 46 40.1 +4.5
comp=Z,44nm,0.9s,comp=Z,1µm
DZM Mont Dzumac 46.68 155 *e*P P **23 46 36.7 +0.6**
comp=Z,365nm,1.2s
DZM *e*S S **23 53 28.8 +4.2**
comp=Z,9µm,27.9s
DZM *e*LQ LQ 23 57 54.8
comp=Z,19µm,30.1s
DZM *e*LR LR 23 59 58.7
comp=Z,44µm,24.1s
DZM Mont Dzumac 46.68 155 P P 23 46 35.1 -1.1
comp=Z,81nm,0.9s,baz=12,slow=6.6,SNR=29
DZM LR LR 00 04 16.3
comp=Z,18µm,21.5s,baz=341,slow=34
DZM Mont Dzumac 46.68 155 IAmb IAmb 23 46 42.7
comp=Z,111nm,0.9s
DZM IAMs_20 IAMs_20 00 03 43.5
comp=Z,28µm,19.0s
KNTN Kanton 46.91 115 IAMs_20 IAMs_20 00 07 16.3
comp=Z,19µm,19.0s
MOY Mondy 47.00 322 *e*P P **23 46 38.9 +0.5**
MOY pmax pmax
comp=Z,462nm,3.2s
CMJI Cimerak 47.13 237 P P 23 46 38.2 -1.5
comp=Z,50nm,1.3s,comp=Z,1µm
TRTT Trang 47.21 261 P P 23 46 46.5 +6.1
comp=Z,68nm,1.3s,comp=Z,2µm
LEM Lembang 47.22 239 P P 23 46 40.0 -0.6
LEM Lembang 47.22 239 P P 23 46 40.0 -0.6
comp=Z,47nm,0.7s,baz=332,slow=15,SNR=9.9
IPM Ipoh 47.27 256 IAmb IAmb 23 46 52.7
comp=Z,121nm,1.1s
KULM Kulim 47.28 258 P P 23 46 41.7 +0.8
KULM IAmb IAmb 23 46 53.8
comp=Z,111nm,0.9s
CISI Cisompet, Garu 47.49 238 P P 23 46 41.8 -0.8
comp=Z,116nm,0.6s,comp=Z,5µmcomp=Z,8µm
SURT Suratani 47.66 263 P P 23 46 49.4 +5.6
comp=Z,136nm,1.2s,comp=Z,3µm
DBJI Dramaga 47.75 240 P P 23 46 45.5 +0.9
comp=Z,118nm,1.4s,comp=Z,8µm
CNJI Cibinong 47.89 239 P P 23 46 43.8 -1.8
comp=Z,91nm,1.1s,comp=Z,2µm
SKJI Sukabumi 48.17 239 P P 23 46 57.8 +10
BLSI Bandar Lampung 48.31 242 P P 23 46 49.6 +0.7
comp=Z,107nm,0.5s,comp=Z,4µmcomp=Z,8µm
KLSI 48.37 243 P P 23 46 49.4 +0.1
comp=Z,27nm,1.1s,comp=Z,1µm
KOHI KOHIMA 48.39 286 *e*P P **23 46 48.4 -1.2**
KOHI IAmb IAmb 23 46 53.4
comp=Z,22nm,0.7s
UNV Unalaska Valle 48.42 35 IAmb IAmb 23 47 05.9
comp=Z,112nm,0.9s
UNV IAMs_20 IAMs_20 00 02 53.3
comp=Z,19µm,21.0s
PKDT Phuket 48.45 262 P P 23 46 55.5 +5.5
comp=Z,81nm,0.6s,comp=Z,8µm
MDSI Maura Dua 48.72 244 P P 23 46 50.3 -1.7
comp=Z,39nm,1.5s,comp=Z,2µmcomp=Z,9µm
BILL Bilibino 48.85 10 *d* iP P **23 46 52.2 -0.1**
BILL *i* 23 47 03.8
BILL *i* 23 48 17.9
BILL *i* 23 48 45.3
BILL *i*S S **23 53 58.8 +4.6**
BILL *e*SS SS **23 57 20.4 -4.3**
BILL pmax pmax
comp=Z,217nm,1.3s
BILL Bilibino 48.85 10 P P 23 46 52.5 +0.2
BILL IAMs_20 IAMs_20 00 04 19.1
comp=Z,20µm,21.0s
LHSI Lahat 48.93 245 P P 23 46 56.5 +2.9
AKUT Akutan 48.93 35 IAMs_20 IAMs_20 00 03 09.3
comp=Z,21µm,21.0s
KASI Kota Agung 49.02 242 P P 23 46 53.2 -1.1
comp=Z,153nm,0.8s,comp=Z,2µmcomp=Z,7µm
MSVF Nonsavu 49.02 139 *de*P P **23 46 55.3 +1.0**
MSVF pmax pmax
comp=Z,257nm,1.0s
BKNI Bangkinang 49.05 251 P P 23 46 54.3 -0.3
comp=Z,270nm,1.1s,comp=Z,4µmcomp=Z,10µm
BKNI Bangkinang 49.05 251 IAMs_20 IAMs_20 00 07 00.4
comp=Z,17µm,19.0s
SDSI Sungai Dareh 49.29 250 P P 23 46 58.7 +2.3
comp=Z,76nm,1.6s,comp=Z,4µm
MBWA Marble Bar 49.32 214 P P 23 46 55.8 -0.6
MBWA P P **23 46 55.8 -0.6**
KSI Kapahiang 49.63 246 P P 23 46 59.9 +0.8
comp=Z,168nm,0.8s,comp=Z,9µm
KRJI Kerinci 49.82 248 P P 23 47 04.6 +4.0
PSI Prapat 49.87 256 P P 23 47 00.8 -0.1
comp=Z,9.1nm,0.6s,baz=44,slow=12,SNR=6.6
PSI LR LR 00 07 44.5
comp=Z,7µm,20.9s,baz=66,slow=36
RPSI Rantau Prapat 49.91 255 P P 23 47 00.8 -0.3
RPSI Rantau Prapat 49.91 255 IAmb IAmb 23 47 09.5
comp=Z,90nm,1.1s
RPSI IAMs_20 IAMs_20 00 05 40.2
comp=Z,8µm,20.0s
PDSI Padang 50.13 250 P P 23 47 04.1 +1.2
comp=Z,39nm,0.8s,comp=Z,1µmcomp=Z,5µm
SHL Shillong 50.40 287 P P 23 47 04.9 -0.1
SNR=61
SHL Shillong 50.40 287 ⇓ *i*P P **23 47 03.8 -1.3**
SHL *ex* x 23 47 09.0
SHL IAmb IAmb 23 47 11.7
comp=Z,82nm,0.9s
SHL *e*S S **23 54 20.0 +2.5**
SHL Shillong 50.40 287 IAmb IAmb 23 47 21.7
comp=Z,96nm,0.7s
FALS False Pass 50.48 35 IAMs_20 IAMs_20 00 03 59.2
comp=Z,27µm,22.0s
KCSI Kotacane, Aceh 50.62 257 P P 23 47 07.1 +0.5
comp=Z,92nm,1.3s,comp=Z,2µmcomp=Z,8µm
LSA Lhasa 50.70 292 P P 23 47 08.6 +1.0
LSA Lhasa 50.70 292 P P 23 47 08.5 +1.0
LSA pmax pmax
comp=Z,256nm,1.0s
LSA MLR MLR
comp=Z,8µm,18.0s
LSA Lhasa 50.70 292 P P 23 47 08.5 +1.0
LHMI Lhok Sumawe 50.70 259 P P 23 47 10.0 +2.8
comp=Z,289nm,1.2s,comp=Z,7µmcomp=Z,14µm
ARMA Armidale 51.07 175 P P 23 47 10.2 +0.5
ARMA IAmb IAmb 23 47 29.1
comp=Z,108nm,1.1s
GAMB Gambell 51.20 22 IAmb IAmb 23 47 26.5
comp=Z,145nm,1.2s
OPA Opana 51.26 78 IAMs_20 IAMs_20 00 13 04.0
comp=Z,18µm,18.0s
KIP Kipapa 51.30 79 P P 23 47 12.3 +0.8
KIP pmax pmax
comp=Z,165nm,1.2s
KIP MLR MLR
comp=Z,12µm,18.0s
KIP Kipapa 51.30 79 P P 23 47 12.3 +0.8
KIP IAmb IAmb 23 47 17.1
comp=Z,165nm,1.1s
HON Honolulu 51.33 79 P P 23 47 13.5 +1.7
HON pmax pmax
comp=Z,136nm,0.9s
HON MLR MLR
comp=Z,15µm,18.0s
HON Honolulu 51.33 79 P P 23 47 13.5 +1.7
HON IAmb IAmb 23 47 31.6
comp=Z,136nm,0.9s
HON IAMs_20 IAMs_20 00 12 06.5
comp=Z,15µm,18.0s
SISI Saibi 51.54 251 P P 23 47 13.0 -0.4
comp=Z,86nm,1.0s,comp=Z,3µm
MLSI Meulaboh, Aceh 51.57 259 P P 23 47 15.3 +1.6
comp=Z,80nm,0.9s
GSI Gunungsitoli 51.72 255 P P 23 47 16.8 +2.0
comp=Z,155nm,1.2s,comp=Z,3µmcomp=Z,12µm
GSI Gunungsitoli 51.72 255 P P **23 47 14.8 0.0**
GSI IAmb IAmb 23 47 27.7
comp=Z,92nm,0.7s
DGPR DIGLIPUR 51.85 271 *i* P P **23 47 14.1 -1.6**
DGPR IAmb IAmb 23 47 21.8
comp=Z,195nm,1.2s
TIXI Tiksi 51.98 353 *d* iP P **23 47 15.4 -0.4**
TIXI pmax pmax
comp=Z,113nm,2.5s
TIXI MLR MLR
comp=Z,7µm,15.0s
TIXI Tiksi 51.98 353 P P **23 47 14.2 -1.7**
comp=Z,21nm,0.9s,baz=0.0,slow=24,SNR=26
TIXI Tiksi 51.98 353 P P **23 47 15.1 -0.7**
SDPT Sand Point 52.23 35 IAmb IAmb 23 47 33.7
comp=Z,181nm,1.0s
SNSI Sinabang, Aceh 52.39 257 P P 23 47 29.3 +10
PBA Port Blair 52.46 269 *eP* P 23 47 20.1 -0.2
PBA IAMs_20 IAMs_20 00 09 15.9
comp=Z,11µm,13.0s
PBA Port Blair 52.46 269 IAMs_20 IAMs_20 00 09 22.9
comp=Z,15µm,19.0s
STKA Stephens Creek 52.55 186 P P 23 47 20.2 -0.4
STKA pmax pmax
comp=Z,13nm,0.9s
STKA MLR MLR
comp=Z,4µm,21.0s
STKA Stephens Creek 52.55 186 P P 23 47 19.6 -0.9
comp=Z,18nm,0.7s,baz=342,slow=7.8,SNR=22
STKA LR LR 00 10 57.6
comp=Z,16µm,19.9s,baz=3.2,slow=38
STKA Stephens Creek 52.55 186 P P 23 47 20.2 -0.4
KHLH Kahului Airpor 52.85 79 IAMs_20 IAMs_20 00 12 16.5
comp=Z,20µm,18.0s
HLK Haleakala 53.04 79 IAMs_20 IAMs_20 00 12 30.2
comp=Z,14µm,18.0s
GTK Tadong 53.13 289 *i* P P **23 47 26.2 +0.9**
GTK IAmb IAmb 23 47 32.2
comp=Z,480nm,0.9s
GTK IAMs_20 IAMs_20 00 21 41.7
comp=Z,14µm,16.5s
LHI Lord Howe Isla 53.28 167 IAmb IAmb 23 47 30.1
comp=Z,81nm,0.8s
AFI Afiamalu 53.34 127 P P 23 47 27.3 +0.5
AFI pmax pmax
comp=Z,127nm,0.8s
AFI Afiamalu 53.34 127 P P 23 47 25.8 -1.0
comp=Z,124nm,0.7s,baz=200,slow=2.3,SNR=9.5
AFI LR LR 00 06 52.0
comp=Z,8µm,18.4s,baz=307,slow=32
AFI Afiamalu 53.34 127 P P 23 47 27.3 +0.5
AFI IAmb IAmb 23 47 29.8
comp=Z,127nm,0.8s
GIRL Giralia 53.54 218 P P 23 47 28.6 +0.5
KHLU Kahalu`u 53.59 80 P P 23 47 28.4 -0.3
KHLU IAmb IAmb 23 47 44.4
comp=Z,100nm,1.1s
CHGN Chignik 53.64 34 IAMs_20 IAMs_20 00 06 18.4
comp=Z,21µm,22.0s
WMQ Urumqi 53.77 310 P P 23 47 31.1 +1.5
WMQ pP pP 23 47 34.1 -1.3
WMQ sP sP 23 47 38.3 +0.7
WMQ S S **23 55 03.3 +0.4**
WMQ pmax pmax
comp=Z,110nm,1.5s
WMQ pmax pmax
comp=Z,3µm,3.7s
WMQ LR LR
comp=Z,8µm,18.3s
WMQ LR LR
comp=Z,5µm,29.5s
WMQ LR LR
comp=Z,8µm,22.7s
WMQ Urumqi 53.77 310 P P 23 47 29.7 +0.1
WMQ pmax pmax
comp=Z,327nm,1.2s
WMQ MLR MLR
comp=Z,8µm,18.0s

WMQ	**Urumqi**	**53.77**	**310**	P	**P**	**23 47 29.7**	**+0.1**
POHA	**Pohakuloa**	**53.89**	**80**	P	**P**	**23 47 31.5**	**+0.4**
POHA				IAmb	IAmb	23 47 42.2	
	comp=Z,101nm,0.8s						
MLOA	**Mauna Loa Obse**	**53.90**	**80**	IAmb	IAmb	23 47 42.5	
	comp=Z,99nm,1.0s						
MLOA				IAMs_20	IAMs_20	00 04 01.3	
	comp=Z,18µm,22.0s						
TAPN	**Taplejung**	**53.92**	**289**	*e*P	**P**	**23 47 31.9**	**+0.6**
	comp=Z,959nm,1.1s						
ANM	**Nome**	**53.94**	**23**	IAmb	IAmb	23 47 49.0	
	comp=Z,84nm,1.1s						
ANM				IAMs_20	IAMs_20	00 07 01.3	
	comp=Z,15µm,20.0s						
AIN	**Ainahou**	**54.04**	**81**	P	**P**	**23 47 32.8**	**+0.7**
WRMHI	**West Rim**	**54.18**	**81**	P	**P**	**23 47 33.0**	**-0.1**
BBOO	**Buckleboo**	**54.22**	**191**	P	**P**	**23 47 32.2**	**-0.7**
ODAN	**Odare**	**54.26**	**289**	*e*P	**P**	**23 47 33.9**	**+0.2**
	comp=Z,1µm,1.2s						
FORT	**Forrest**	**54.28**	**200**	P	**P**	**23 47 33.9**	**+0.6**
FORT				IAMs_20	IAMs_20	00 10 52.3	
	comp=Z,15µm,20.0s						
RAMN	**Ramite**	**54.95**	**289**	*e*P	**P**	**23 47 39.1**	**+0.4**
	comp=Z,517nm,0.8s						
JIRN	**Jiri**	**55.22**	**290**	*e*P	**P**	**23 47 41.2**	**+0.4**
	comp=Z,1µm,0.9s						
GUN	**Gumba**	**55.46**	**290**	*e*P	**P**	**23 47 43.1**	**+0.5**
	comp=Z,527nm,0.8s						
CAN	**Canberra**	**55.79**	**178**	P	**P**	**23 47 44.6**	**+0.4**
CAN				pmax	pmax		
	comp=Z,67nm,0.9s						
CAN				MLR	MLR		
	comp=Z,9µm,18.0s						
CAN	**Canberra**	**55.79**	**178**	P	**P**	**23 47 44.6**	**+0.4**
CAN				IAmb	IAmb	23 47 48.7	
	comp=Z,67nm,0.9s						
PKI	**Pulchoki**	**55.92**	**290**	*e*P	**P**	**23 47 45.9**	**+0.1**
	comp=Z,485nm,0.8s						
PKIN	**Phulchoki**	**55.93**	**290**	*e*P	**P**	**23 47 45.8**	**0.0**
	comp=Z,122nm,0.5s						
SII	**Sitkinak Islan**	**55.97**	**35**	IAMs_20	IAMs_20	00 08 29.0	
	comp=Z,16µm,21.0s						
KKN	**Kakani**	**56.01**	**290**	*e*P	**P**	**23 47 46.4**	**+0.1**
	comp=Z,704nm,0.9s						
BOK	**Bokaro**	**56.05**	**285**	⇓*i*P	**P**	**23 47 46.8**	**+0.3**
BOK				IAmb	IAmb	23 47 51.5	
	comp=Z,555nm,1.1s						
ZSN	**Zaisan**	**56.10**	**314**	⇓*e*P	**P**	**23 47 46.4**	**0.0**
	comp=Z,967nm,3.6s						
ZSN				*e*S	**S**	**23 55 35.5**	**+1.3**
ZSN				*e*LR	LR	00 16 41.4	
	comp=Z,8µm,16.6s						
ZSN	**Zaisan**	**56.10**	**314**	*de*P	**P**	**23 47 46.4**	**0.0**
ZSN				*e*S	**S**	**23 55 35.4**	**+1.3**
ZSN				pmax	pmax		
	comp=Z,967nm,3.6s						
DMN	**Daman**	**56.18**	**290**	*e*P	**P**	**23 47 47.9**	**+0.3**
	comp=Z,387nm,0.9s						
OHAK	**Old Harbor**	**56.61**	**34**	IAmb	IAmb	23 48 05.5	
	comp=Z,148nm,1.2s						
OHAK				IAMs_20	IAMs_20	00 08 51.9	
	comp=Z,25µm,22.0s						
BWNR	**Bhubaneshwar**	**56.78**	**281**	*e*P	**P**	**23 47 52.1**	**+0.5**
BWNR				IAmb	IAmb	23 48 01.0	
	comp=Z,285nm,1.6s						
TTA	**Tatalina**	**56.99**	**27**	IAmb	IAmb	23 48 12.3	
	comp=Z,85nm,1.2s						
ZAA0	**Zalesovo Array**	**57.04**	**322**	P	**P**	**23 47 52.2**	**-0.7**
ZALV	**Zalesovo Beam**	**57.04**	**322**	P	**P**	**23 47 52.3**	**-0.6**
	comp=Z,157nm,0.6s,baz=104,slow=7.1,SNR=292						
ZALV				LR	LR	00 12 12.6	
	comp=Z,7µm,21.1s,baz=94,slow=36						
ZALV				PKPPKP	**P'P'df**	**00 17 43.2**	**-4.9**
	comp=Z,1.9nm,1.0s,baz=298,slow=3.2,SNR=4.2						
ZALV				PKP2bc		00 17 53.9	
	comp=Z,3.2nm,0.5s,baz=103,slow=6.9,SNR=12						
KDAK	**Kodiak Island**	**57.11**	**34**	*i*P	**P**	**23 47 54.2**	**+0.8**
KDAK	**Kodiak Island**	**57.11**	**34**	P	**P**	**23 47 52.9**	**-0.5**
	comp=Z,52nm,0.9s,baz=284,slow=6.5,SNR=26						
KDAK	**Kodiak Island**	**57.11**	**34**	P	**P**	**23 47 53.7**	**+0.3**
KDAK				IAmb	IAmb	23 48 02.3	
	comp=Z,72nm,1.1s						
KDAK	**Kodiak Island**	**57.11**	**34**	IAMs_20	IAMs_20	00 08 09.7	
	comp=Z,22µm,22.0s						
XMAS	**Kiritimati**	**57.42**	**101**	P	**P**	**23 47 56.3**	**+0.1**
MORW	**Morawa**	**57.71**	**212**	P	**P**	**23 47 57.8**	**-0.1**
MORW				IAmb	IAmb	23 48 04.5	
	comp=Z,138nm,1.1s						
MK31	**Makanchi Array**	**57.80**	**313**	P	**P**	**23 47 58.2**	**-0.3**
MK31				pmax	pmax		
	comp=Z,122nm,1.0s						
MK31	**Makanchi Array**	**57.80**	**313**	P	**P**	**23 47 58.1**	**-0.3**
MK31				IAmb	IAmb	23 48 02.5	
	comp=Z,122nm,0.9s						
MKAR	**Makanchi Array**	**57.80**	**313**	P	**P**	**23 47 58.4**	**-0.1**
	comp=Z,132nm,0.9s,baz=92,slow=8.9,SNR=261						
MKAR				LR	LR	00 14 22.5	
	comp=Z,7µm,18.6s,baz=87,slow=38						
MKAR				PKPPKP	**P'P'df**	**00 17 42.2**	**-4.9**
	comp=Z,0.6nm,0.7s,baz=265,slow=1.2,SNR=4.1						
MKAR				PKP2bc		00 17 55.2	
	comp=Z,9.3nm,1.1s,baz=336,slow=2.7,SNR=16						
TOO	**Toolangi**	**58.01**	**181**	P	**P**	**23 48 00.4**	**+0.5**
TOO				pmax	pmax		
	comp=Z,102nm,1.0s						
TOO	**Toolangi**	**58.01**	**181**	P	**P**	**23 48 00.4**	**+0.5**
TOO				IAmb	IAmb	23 48 14.8	
	comp=Z,102nm,0.9s						
MAKZ	**Makanchi**	**58.02**	**313**	P	**P**	**23 47 59.9**	**-0.1**
MAKZ				pmax	pmax		
	comp=Z,223nm,1.0s						
MAKZ				MLR	MLR		
	comp=Z,11µm,18.0s						
MAKZ	**Makanchi**	**58.02**	**313**	P	**P**	**23 47 59.9**	**-0.1**
CNPM	**China Poot**	**58.21**	**32**	IAMs_20	IAMs_20	00 08 21.5	
	comp=Z,17µm,22.0s						
BRLK	**Bradley Lake**	**58.44**	**32**	IAmb	IAmb	23 48 20.2	
	comp=Z,79nm,0.9s						
PPLA	**Purkeypile**	**58.64**	**28**	IAMs_20	IAMs_20	00 08 59.7	
	comp=Z,15µm,22.0s						
SKT	**Skwentna**	**58.68**	**29**	IAmb	IAmb	23 48 22.4	
	comp=Z,62nm,1.1s						
SUA	**Susitna One**	**58.91**	**30**	P	**P**	**23 48 06.0**	**-0.1**
RC01	**Rabbit Creek A**	**59.30**	**30**	IAmb	IAmb	23 48 26.8	
	comp=Z,126nm,1.2s						
RC01				IAMs_20	IAMs_20	00 09 30.2	
	comp=Z,18µm,22.0s						
KTH	**Kantishna Hill**	**59.37**	**27**	IAMs_20	IAMs_20	00 08 44.1	
	comp=Z,16µm,22.0s						
BPAW	**Bear Paw Mtn.**	**59.49**	**27**	IAmb	IAmb	23 48 28.6	
	comp=Z,95nm,1.0s						
BPAW				IAMs_20	IAMs_20	00 08 46.3	
	comp=Z,18µm,22.0s						
TRF	**Thorofare Moun**	**59.62**	**28**	IAmb	IAmb	23 48 29.7	
	comp=Z,73nm,0.9s						
TRF				IAMs_20	IAMs_20	00 10 28.6	
	comp=Z,15µm,20.0s						
PMR	**Palmer**	**59.69**	**30**	IAmb	IAmb	23 48 28.3	
	comp=Z,73nm,1.1s						
PMR				IAMs_20	IAMs_20	00 10 30.7	
	comp=Z,18µm,21.0s						
SHLS	**Shalkode**	**59.72**	**309**	⇓*e*P	**P**	**23 48 09.3**	**-2.8**
	comp=Z,827nm,3.5s						
SHLS				*e*S	**S**	**23 56 19.2**	**-2.6**
SHLS				*e*LR	LR	00 18 21.4	
	comp=Z,3µm,15.8s						
SHLS	**Shalkode**	**59.72**	**309**	*de*P	**P**	**23 48 09.3**	**-2.8**
SHLS				*e*S	**S**	**23 56 19.2**	**-2.6**
SHLS				pmax	pmax		
	comp=Z,827nm,3.5s						
MLY	**Manley**	**59.85**	**26**	P	**P**	**23 48 12.2**	**-0.2**
MLY				IAmb	IAmb	23 48 31.3	
	comp=Z,79nm,0.9s						
MLY				IAMs_20	IAMs_20	00 10 36.8	
	comp=Z,16µm,21.0s						
KNK	**Knik Glacier**	**59.97**	**30**	IAmb	IAmb	23 48 30.7	
	comp=Z,79nm,1.0s						
KNK				IAMs_20	IAMs_20	00 09 52.0	
	comp=Z,16µm,22.0s						
UZB	**Uzynbulak**	**60.05**	**309**	⇓*e*P	**P**	**23 48 14.3**	**-0.1**
	comp=Z,662nm,3.5s						
UZB				*e*S	**S**	**23 56 25.3**	**-0.7**
UZB				*e*LR	LR	00 19 12.3	
	comp=Z,3µm,15.7s						
UZB	**Uzynbulak**	**60.05**	**309**	*de*P	**P**	**23 48 14.2**	**-0.1**
UZB				*e*S	**S**	**23 56 25.3**	**-0.7**
UZB				pmax	pmax		
	comp=Z,661nm,3.5s						
BWN	**Browne**	**60.16**	**27**	IAMs_20	IAMs_20	00 09 30.7	
	comp=Z,13µm,21.0s						
RND	**Reindeer**	**60.23**	**28**	IAmb	IAmb	23 48 32.9	
	comp=Z,62nm,1.1s						
RND				IAMs_20	IAMs_20	00 10 24.4	
	comp=Z,18µm,22.0s						
RAO	**Raoul Island**	**60.24**	**144**	P	**P**	**23 48 14.7**	**-0.8**
	comp=Z,248nm,0.4s,baz=284,slow=19,SNR=2.8						
RAO	**Raoul Island**	**60.24**	**144**	P	**P**	**23 48 14.7**	**-0.8**
MCK	**McKinley**	**60.27**	**27**	IAmb	IAmb	23 48 32.6	
	comp=Z,66nm,1.0s						
MCK				IAMs_20	IAMs_20	00 11 07.0	
	comp=Z,15µm,20.0s						
KPKS	**Kokpek**	**60.29**	**309**	*e*P	**P**	**23 48 16.3**	**+0.4**
	comp=Z,1µm,3.7s						
KPKS				*e*S	**S**	**23 56 30.2**	**+1.1**
KPKS				*e*LR	LR	00 20 25.3	
	comp=Z,8µm,15.9s						
KPKS	**Kokpek**	**60.29**	**309**	*e*P	**P**	**23 48 16.2**	**+0.4**
KPKS				*e*S	**S**	**23 56 30.1**	**+1.1**
KPKS				pmax	pmax		
	comp=Z,1µm,3.7s						
NWAO	**Narrogin (SRO)**	**60.36**	**208**	P	**P**	**23 48 17.3**	**+1.0**
NWAO				pmax	pmax		
	comp=Z,75nm,1.0s						
NWAO	**Narrogin (SRO)**	**60.36**	**208**	P	**P**	**23 48 16.4**	**+0.1**
	comp=Z,27nm,0.7s,baz=39,slow=7.9,SNR=20						
NWAO	**Narrogin (SRO)**	**60.36**	**208**	P	**P**	**23 48 17.3**	**+1.0**
NWAO				IAmb	IAmb	23 48 26.0	
	comp=Z,75nm,1.0s						
NEA	**Nenana**	**60.42**	**27**	IAMs_20	IAMs_20	00 09 24.0	
	comp=Z,17µm,22.0s						
KURK	**Kurchatov**	**60.45**	**317**	P	**P**	**23 48 16.7**	**0.0**
KURK	**Kurchatov**	**60.45**	**317**	P	**P**	**23 48 16.4**	**-0.3**
KURK	**Kurchatov**	**60.45**	**317**	IAMs_20	IAMs_20	00 15 52.8	
	comp=Z,17µm,18.0s						
TDK	**Taldyqorghan**	**60.47**	**311**	*e*P	**P**	**23 48 17.3**	**+0.3**
	comp=Z,2µm,3.4s						
TDK				*e*S	**S**	**23 56 29.7**	**-1.5**
TDK				*e*LR	LR	00 23 23.6	
	comp=Z,8µm,15.3s						
TDK	**Taldyqorghan**	**60.47**	**311**	*e*P	**P**	**23 48 17.2**	**+0.3**
TDK				*e*S	**S**	**23 56 29.6**	**-1.5**
TDK				pmax	pmax		
	comp=Z,2µm,3.4s						
ZHN	**Zhinishke**	**60.47**	**309**	⇓*e*P	**P**	**23 48 17.3**	**+0.1**
	comp=Z,478nm,3.3s						
ZHN				*e*S	**S**	**23 56 32.9**	**+1.4**
ZHN	**Zhinishke**	**60.47**	**309**	*de*P	**P**	**23 48 17.3**	**+0.1**
ZHN				*e*S	**S**	**23 56 32.8**	**+1.3**
ZHN				pmax	pmax		
	comp=Z,478nm,3.3s						
SATY	**Saty**	**60.50**	**308**	⇓*i*P	**P**	**23 48 18.0**	**+0.6**
	comp=Z,420nm,1.3s						
SATY				*e*S	**S**	**23 56 33.3**	**+1.5**
SATY				*e*LR	LR	00 19 02.5	
	comp=Z,2µm,14.7s						
SATY	**Saty**	**60.50**	**308**	*d i*P	**P**	**23 48 18.0**	**+0.6**
SATY				*e*S	**S**	**23 56 33.3**	**+1.5**
SATY				pmax	pmax		
	comp=Z,420nm,1.3s						
KURBB	**Kurchatov Arra**	**60.50**	**317**	P	**P**	**23 48 16.7**	**-0.4**
	comp=Z,352nm,1.0s,baz=94,slow=7.5,SNR=353						
PRZ	**Przheval'sk**	**60.52**	**308**	IAMs_20	IAMs_20	00 17 03.4	
	comp=Z,12µm,18.0s						
SCM	**Sheep Creek Mo**	**60.58**	**30**	IAMs_20	IAMs_20	00 10 44.8	
	comp=Z,18µm,21.0s						
MID	**Middleton Isla**	**60.64**	**33**	IAMs_20	IAMs_20	00 10 10.9	
	comp=Z,20µm,22.0s						
HIN	**Hinchinbrook I**	**60.72**	**32**	P	**P**	**23 48 19.3**	**+0.9**
HIN				IAMs_20	IAMs_20	00 11 42.8	
	comp=Z,14µm,20.0s						
FID	**Port Fidalgo**	**60.79**	**31**	IAmb	IAmb	23 48 35.9	
	comp=Z,94nm,1.2s						
FID				IAMs_20	IAMs_20	00 12 20.6	
	comp=Z,13µm,20.0s						
WRH	**Wood River Hil**	**60.81**	**27**	IAMs_20	IAMs_20	00 09 37.1	
	comp=Z,14µm,19.0s						
DHY	**Denali Highway**	**60.81**	**28**	IAmb	IAmb	23 48 36.9	
	comp=Z,58nm,1.1s						
DHY				IAMs_20	IAMs_20	00 11 02.2	
	comp=Z,18µm,22.0s						
CCB	**Clear Creek Bu**	**60.97**	**27**	IAMs_20	IAMs_20	00 09 52.3	
	comp=Z,15µm,21.0s						
TCOL	**CIGO, UAF Yank**	**61.00**	**26**	P	**P**	**23 48 19.5**	**-0.7**
	baz=257						
COLA	**College**	**61.00**	**26**	*d i*P	**P**	**23 48 19.8**	**-0.4**
COLA				pmax	pmax		
	comp=Z,27nm,1.1s						
COLA				MLR	MLR		
	comp=Z,10µm,18.0s						
COLA	**College**	**61.00**	**26**	P	**P**	**23 48 20.9**	**+0.7**
COLA					**pP**	**23 48 21.6**	**-4.4**
COLA				IAmb	IAmb	23 48 39.8	
	comp=Z,49nm,0.9s						
COLA	**College**	**61.00**	**26**	IAMs_20	IAMs_20	00 09 41.1	
	comp=Z,16µm,22.0s						
EYAK	**Cordova Ski Ar**	**61.11**	**31**	IAmb	IAmb	23 48 37.7	
	comp=Z,66nm,1.1s						
EYAK				IAMs_20	IAMs_20	00 10 41.8	
	comp=Z,18µm,22.0s						
OUZ	**Omahuta**	**61.20**	**155**	P	**P**	**23 48 23.3**	**+1.4**
OUZ				IAMs_20	IAMs_20	00 14 26.0	
	comp=Z,15µm,19.0s						
POKR	**Poker Plat Res**	**61.23**	**26**	P	**P**	**23 48 21.4**	**-0.4**
	baz=257						
HDA	**Harding Lake**	**61.28**	**27**	P	**P**	**23 48 21.0**	**-1.1**
	baz=258						
HDA	**Harding Lake**	**61.28**	**27**	IAMs_20	IAMs_20	00 09 52.5	
	comp=Z,15µm,21.0s						
TOLK	**Toolik Lake Re**	**61.34**	**22**	P	**P**	**23 48 22.0**	**-0.5**
	baz=253						
TOLK	**Toolik Lake Re**	**61.34**	**22**	IAmb	IAmb	23 48 31.9	
	comp=Z,84nm,1.0s						
ILAR	**Eielson Array**	**61.38**	**27**	P	**P**	**23 48 21.4**	**-1.4**
	comp=Z,60nm,1.1s,baz=256,slow=5.2,SNR=111						
ILAR				PcP	**PcP**	**23 49 03.9**	**-1.0**
	comp=Z,57nm,0.9s,baz=256,slow=5.8,SNR=8.9						
ILAR				PKPPKP	**P'P'df**	**00 17 36.9**	**-4.3**
	comp=Z,3.6nm,1.1s,baz=43,slow=0.6,SNR=9.2						
MDOK	**Medeo**	**61.49**	**309**	*e*P	**P**	**23 48 24.8**	**+0.7**
MDOK				*e*S	**S**	**23 56 43.8**	**-0.7**
MDOK				*e*LR	LR	00 21 02.0	
	comp=Z,8µm,16.1s						
MDOK	**Medeo**	**61.49**	**309**	*e*P	**P**	**23 48 24.8**	**+0.7**
MDOK				*e*S	**S**	**23 56 43.8**	**-0.7**
CHKK	**Chushkaly**	**61.51**	**309**	*e*P	**P**	**23 48 24.3**	**+0.2**
CHKK	**Chushkaly**	**61.51**	**309**	*e*P	**P**	**23 48 24.2**	**+0.2**
TNSS	**Tian-Shan**	**61.57**	**309**	*e*P	**P**	**23 48 25.6**	**+0.6**
TNSS	**Tian-Shan**	**61.57**	**309**	*e*P	**P**	**23 48 25.5**	**+0.6**
AAA	**Alma-Ata**	**61.58**	**309**	⇓*e*P	**P**	**23 48 25.8**	**+1.1**
	comp=Z,591nm,1.2s						
AAA				*e*S	**S**	**23 56 46.3**	**+0.8**
AAA				*e*LR	LR	00 18 27.2	
	comp=Z,6µm,16.4s						
AAA	**Alma-Ata**	**61.58**	**309**	*de*P	**P**	**23 48 25.7**	**+1.1**
AAA				*e*S	**S**	**23 56 46.3**	**+0.8**
AAA				pmax	pmax		
	comp=Z,591nm,1.3s						
AAA				MLR	MLR		
	comp=Z,6µm,16.0s						
RAGM	**Ragged Mountai**	**61.61**	**32**	IAmb	IAmb	23 48 44.4	
	comp=Z,125nm,1.2s						
PAX	**Paxson**	**61.65**	**29**	P	**P**	**23 48 24.8**	**0.0**
PAX				pmax	pmax		
	comp=Z,58nm,1.2s						
PAX	**Paxson**	**61.65**	**29**	P	**P**	**23 48 24.8**	**0.0**
PAX				IAmb	IAmb	23 48 30.3	
	comp=Z,58nm,1.2s						
PAX				IAMs_20	IAMs_20	00 11 19.8	
	comp=Z,16µm,21.0s						
HMT	**Hamilton**	**61.81**	**32**	IAmb	IAmb	23 48 46.5	
	comp=Z,83nm,1.1s						
HMT				IAMs_20	IAMs_20	00 12 48.3	
	comp=Z,14µm,19.0s						
DDI	**Dehra Dun**	**61.92**	**294**	⇓*i*P	**P**	**23 48 26.5**	**-0.6**
MTBS	**Maitube**	**61.94**	**309**	*e*P	**P**	**23 48 27.4**	**+0.2**
MTBS	**Maitube**	**61.94**	**309**	*e*P	**P**	**23 48 27.3**	**+0.2**
KUU	**Kurty**	**61.97**	**309**	⇓*i*P	**P**	**23 48 27.0**	**-0.2**
	comp=Z,1µm,1.7s						
KUU				*e*S	**S**	**23 56 52.1**	**+1.7**
	comp=Z,1µm,6.0s						
KUU				*e*LR	LR	00 21 21.6	
	comp=Z,9µm,14.6s						
KUU	**Kurty**	**61.97**	**309**	*d i*P	**P**	**23 48 27.0**	**-0.2**
KUU				*e*S	**S**	**23 56 52.0**	**+1.7**
KUU				pmax	pmax		
	comp=Z,1µm,1.7s						
KUU				smax	smax		
	comp=E,1µm,6.0s						
RIDG	**Independent Ri**	**62.06**	**28**	IAmb	IAmb	23 48 45.2	
	comp=Z,87nm,1.0s						
PRP	**Porcupine Dome**	**62.10**	**26**	IAMs_20	IAMs_20	00 12 29.2	
	comp=Z,15µm,22.0s						
ULHL	**Ulahol**	**62.13**	**308**	P	**P**	**23 48 29.4**	**+0.9**
	SNR=34						
GLB	**Gilahina Butte**	**62.18**	**31**	IAmb	IAmb	23 48 45.0	
	comp=Z,76nm,1.2s						
GLB				IAMs_20	IAMs_20	00 11 52.3	
	comp=Z,14µm,21.0s						
VRDI	**Verde Repeater**	**62.32**	**31**	IAmb	IAmb	23 48 45.9	
	comp=Z,56nm,1.1s						
VRDI				IAMs_20	IAMs_20	00 11 08.7	
	comp=Z,17µm,22.0s						
DOT	**Dot Lake**	**62.39**	**28**	IAmb	IAmb	23 48 37.5	
	comp=Z,44nm,1.0s						
DOT				IAMs_20	IAMs_20	00 12 33.7	
	comp=Z,17µm,21.0s						
CRQM	**Cirque**	**62.41**	**31**	IAmb	IAmb	23 48 49.2	
	comp=Z,100nm,1.1s						
FYU	**Fort Yukon**	**62.43**	**25**	P	**P**	**23 48 30.1**	**+0.2**
FYU				IAMs_20	IAMs_20	00 11 44.8	
	comp=Z,17µm,22.0s						
MENT	**Mentasta**	**62.43**	**29**	IAMs_20	IAMs_20	00 10 59.0	
	comp=Z,13µm,22.0s						
SCRK	**Sand Creek**	**62.47**	**28**	IAmb	IAmb	23 48 48.9	
	comp=Z,90nm,1.1s						
SCRK				IAMs_20	IAMs_20	00 12 36.0	
	comp=Z,13µm,20.0s						
WAX	**Waxell Ridge**	**62.52**	**32**	IAMs_20	IAMs_20	00 11 48.4	
	comp=Z,19µm,22.0s						
KSH	**Kashi**	**62.53**	**305**	P	**P**	**23 48 35.1**	**+3.9**
KSH				sP	pwP	23 48 42.9	+0.2
KSH				PcS	**PcS**	**23 53 15.8**	**+2.1**
KSH				S	**S**	**23 57 02.3**	**+4.6**
KSH				ScS	**ScS**	**23 58 24.3**	**+1.7**
KSH				pmax	pmax		
	comp=Z,120nm,1.2s						
KSH				pmax	pmax		
	comp=Z,10µm,7.4s						
KSH				LR	LR		
	comp=Z,18µm,19.6s						
KSH				LR	LR		
	comp=Z,23µm,17.2s						
KSH				LR	LR		
	comp=Z,6µm,16.9s						
MCARA	**McCarthy VSAT**	**62.54**	**31**	IAmb	IAmb	23 48 48.8	
	comp=Z,115nm,1.2s						
MCARA				IAMs_20	IAMs_20	00 11 15.1	
	comp=Z,13µm,22.0s						
SMLA	**Simla**	**62.56**	**295**	⇓*i*P	**P**	**23 48 30.9**	**-0.4**
SMLA				IAmb	IAmb	23 48 36.6	
	comp=Z,108nm,0.8s						
TGL	**Tana Glacier**	**62.56**	**31**	IAmb	IAmb	23 48 51.5	
	comp=Z,89nm,1.2s						
TKM2	**Tokmak 2**	**62.56**	**308**	*i*P	**P**	**23 48 31.4**	**0.0**
TKM2				pmax	pmax		
	comp=Z,236nm,1.1s						
TKM2	**Tokmak 2**	**62.56**	**308**	P	**P**	**23 48 32.0**	**+0.6**
	SNR=166						
NGP	**Nagpur**	**62.77**	**284**	*e*P	**P**	**23 48 32.3**	**-0.5**
NGP				*ex*	x	23 56 58.7	
NGP				*ex*	x	00 08 53.5	
	comp=Z,2µm,18.5s						
BALM	**Baldy**	**62.83**	**31**	IAmb	IAmb	23 48 50.6	
	comp=Z,52nm,1.2s						
BALM				IAMs_20	IAMs_20	00 12 14.7	
	comp=Z,13µm,22.0s						
KZA	**Kyzart**	**62.88**	**308**	P	**P**	**23 48 35.3**	**+1.6**
	SNR=27						
NDI	**New Delhi**	**62.91**	**292**	*e*P	**P**	**23 48 32.0**	**-1.7**
KBK	**Karagaybulak**	**63.06**	**308**	P	**P**	**23 48 35.1**	**+0.5**
	SNR=93						
DHRM	**DHARAMSHALA**	**63.12**	**296**	*e*P	**P**	**23 48 32.4**	**-2.9**
DHRM				IAmb	IAmb	23 48 38.9	
	comp=Z,209nm,1.1s						
CHMS	**Chumysh**	**63.18**	**309**	P	**P**	**23 48 34.7**	**-0.6**
	SNR=64						
SGDS	**Sogindy**	**63.23**	**309**	⇓*e*P	**P**	**23 48 35.7**	**0.0**
	comp=Z,516nm,3.2s						
SGDS				*e*S	**S**	**23 57 05.6**	**-0.7**
SGDS				*e*LR	LR	00 23 32.9	
	comp=Z,5µm,15.7s						
FRU1	**Bishkek**	**63.28**	**308**	P	**P**	**23 48 36.1**	**+0.1**
FRU1				pmax	pmax		
	comp=Z,168nm,1.1s						
FRU1				MLR	MLR		
	comp=Z,11µm,19.0s						
FRU1	**Bishkek**	**63.28**	**308**	P	**P**	**23 48 36.1**	**+0.1**
FRU1				IAMs_20	IAMs_20	00 18 30.4	
	comp=Z,11µm,19.0s						
CTGM	**Chitina Glacie**	**63.31**	**31**	IAmb	IAmb	23 48 55.1	
	comp=Z,43nm,1.0s						
CTGM				IAMs_20	IAMs_20	00 12 26.9	
	comp=Z,19µm,22.0s						
TAU	**Tasmania Unive**	**63.33**	**180**	P	**P**	**23 48 36.8**	**+0.8**
TAU				pmax	pmax		
	comp=Z,107nm,0.8s						
TAU	**Tasmania Unive**	**63.33**	**180**	P	**P**	**23 48 36.8**	**+0.8**
TAU	**Tasmania Unive**	**63.33**	**180**	IAMs_20	IAMs_20	00 14 15.6	
	comp=Z,19µm,20.0s						
USP	**Ospenovka**	**63.34**	**309**	P	**P**	**23 48 36.6**	**+0.2**
	SNR=69						
AAK	**Ala-Archa**	**63.39**	**308**	*i*P	**P**	**23 48 37.1**	**+0.1**
	SNR=93						
AAK	**Ala-Archa**	**63.39**	**308**	P	**P**	**23 48 37.3**	**+0.4**
AAK				P	**P**	**23 48 37.3**	**+0.4**
AAK	**Ala-Archa**	**63.39**	**308**	*d i*P	**P**	**23 48 36.9**	**0.0**
AAK				pmax	pmax		
	comp=Z,104nm,1.1s						
AAK	**Ala-Archa**	**63.39**	**308**	P	**P**	**23 48 37.0**	**+0.1**
	comp

PALK Pallekele 65.10 268 *de*P P 23 48 48.0 -0.4
PALK pmax pmax
comp=Z,20nm,0.9s
PALK Pallekele 65.10 268 P P 23 48 49.0 +0.7
comp=Z,16nm,0.8s,baz=50,slow=5.7,SNR=7.8
PALK Pallekele 65.10 268 P P 23 48 50.1 +1.7
PALK IAmb IAmb 23 48 53.3
comp=Z,59nm,1.1s
MXZ Matakaoa Point 65.15 153 P P 23 48 48.6 +0.5
MXZ IAmb IAmb 23 48 56.4
comp=Z,65nm,1.0s
MXZ IAMs_20 IAMs_20 00 12 55.5
comp=Z,12µm,22.0s
HYT Haines Junctio 65.17 32 IAMs_20 IAMs_20 00 13 11.6
comp=Z,13µm,22.0s
URZ Urewera 65.24 154 P P 23 48 48.1 -0.5
comp=Z,52nm,0.9s,baz=347,slow=5.3,SNR=15
URZ Urewera 65.24 154 IAMs_20 IAMs_20 00 17 36.9
comp=Z,15µm,18.0s
NIL Nilore 65.44 298 P P 23 48 51.3 +1.0
NIL Nilore 65.44 298 P P 23 48 50.7 +0.4
NIL pmax pmax
comp=Z,316nm,1.0s
NIL Nilore 65.44 298 P P 23 48 50.7 +0.4
BVAR Borovoye Array 65.56 320 P P 23 48 50.6 -0.1
comp=Z,281nm,0.9s,baz=96,slow=7.4,SNR=450
BRVK Borovoye 65.63 320 P P 23 48 51.0 -0.1
BRVK P P 23 48 51.0 -0.1
BRVK Borovoye 65.63 320 *d* iP P 23 48 50.9 -0.2
BRVK pmax pmax
comp=Z,499nm,1.0s
BRVK Borovoye 65.63 320 P P 23 48 51.1 0.0
DZA Taraz 65.69 309 *e*P P 23 48 51.2 -0.5
DZA Taraz 65.69 309 *e*P P 23 48 51.2 -0.5
BKZ Black Stump Fm 65.77 155 IAMs_20 IAMs_20 00 13 17.8
comp=Z,15µm,22.0s
EPYK Eagle Plains 65.79 25 P P 23 48 51.7 -0.3
baz=266
EPYK Eagle Plains 65.79 25 IAmb IAmb 23 49 10.9
comp=Z,58nm,1.1s
EPYK IAMs_20 IAMs_20 00 14 32.6
comp=Z,17µm,22.0s
SKAG Skagway 66.25 33 P P 23 48 55.7 +0.8
SKAG IAmb IAmb 23 49 12.2
comp=Z,61nm,1.2s
KK31 Karatay Array 66.26 309 P P 23 48 55.7 +0.3
KK31 pmax pmax
comp=Z,246nm,1.1s
KK31 Karatay Array 66.26 309 P P 23 48 55.7 +0.3
KKAR Karatay Array 66.26 309 P P 23 48 55.2 -0.2
KKAR pmax pmax
comp=Z,246nm,1.1s
KKAR Karatay Array 66.26 309 P P 23 48 55.2 -0.2
JBG Jabagly 66.32 308 *d* iP P 23 48 56.5 +0.6
JBG pmax pmax
comp=Z,417nm,2.8s
BTK Batken 66.42 306 IAmb IAmb 23 49 00.5
comp=Z,68nm,1.1s
BTK IAMs_20 IAMs_20 00 19 25.6
comp=Z,10µm,19.0s
WHY Whitehorse 66.46 32 P P 23 48 56.9 +0.5
BESE Bessie Mountai 66.51 34 IAmb IAmb 23 49 17.8
comp=Z,52nm,1.0s
BESE IAMs_20 IAMs_20 00 14 12.1
comp=Z,11µm,21.0s
THZ Tophouse 66.73 159 IAmb IAmb 23 49 07.1
comp=Z,67nm,0.8s
IUG luzhnay 66.73 308 ||| *i* P P 23 48 58.4 -0.1
IUG *e*S S 23 57 50.3 +0.9
IUG luzhnay 66.73 308 *d* iP P 23 48 58.4 -0.1
IUG *e*S S 23 57 50.3 +0.9
BRLS Borolday 66.76 309 *i* S S 23 57 52.0 +2.4
RAR Rarotonga 66.84 125 P P 23 49 00.3 +1.0
RAR pmax pmax
comp=Z,38nm,0.8s
RAR Rarotonga 66.84 125 P P 23 49 00.3 +1.0
RAR IAmb IAmb 23 49 02.6
comp=Z,38nm,0.8s
RAR Rarotonga 66.84 125 IAMs_20 IAMs_20 00 13 36.1
comp=Z,10µm,19.0s
GAR Garm 66.95 305 IAMs_20 IAMs_20 00 19 35.8
comp=Z,12µm,18.0s
SNZO South Karori 66.95 157 P P 23 48 59.3 -0.2
SNZO South Karori 66.95 157 IAMs_20 IAMs_20 00 22 30.5
comp=Z,11µm,18.0s
BFZ Birch Farm 66.98 156 IAMs_20 IAMs_20 00 18 11.1
comp=Z,12µm,18.0s
CHM Chimkent 67.02 308 *e*P P 23 49 07.2 +6.9
CHM *e*S S 23 57 59.3 +6.5
CHM *e*LR LR 00 26 02.3
comp=Z,1µm,15.4s
CHM Chimkent 67.02 308 *e*P P 23 49 07.1 +6.8
CHM *e*S S 23 57 59.3 +6.5
INK Inuvik 67.11 23 P P 23 48 59.5 -0.8
comp=Z,79nm,1.0s,baz=258,slow=7.2,SNR=96
INK PKPPKP P'P'df 00 17 26.3 -5.3
comp=Z,3.7nm,1.0s,baz=12,slow=2.6,SNR=5.8
INK LR LR 00 18 26.6
comp=Z,3µm,19.3s,baz=256,slow=36
CMWZ Cape Campbell 67.17 158 P P 23 49 02.5 +1.5
LTZ Lake Taylor 67.44 160 IAmb IAmb 23 49 05.7
comp=Z,84nm,1.0s
LTZ IAMs_20 IAMs_20 00 14 20.0
comp=Z,12µm,21.0s
KHZ Kahutara 67.53 159 IAMs_20 IAMs_20 00 15 28.4
comp=Z,12µm,20.0s
CRAG Craig 67.61 37 IAMs_20 IAMs_20 00 11 30.4
comp=Z,13µm,22.0s
CHGR Chuyangaron 67.90 304 IAMs_20 IAMs_20 00 23 31.9
comp=Z,16µm,19.0s
RPZ Rata Peaks 67.90 161 P P 23 49 04.3 -1.2
comp=Z,146nm,1.0s,baz=56,slow=7.4,SNR=37
RPZ Rata Peaks 67.90 161 P P 23 49 05.5 0.0
POO Poona 68.16 282 *i* P P 23 49 06.7 -1.1
POO *e*P P 23 49 07.0 -0.8
comp=Z,100nm,1.2s
POO IAmb IAmb 23 49 12.0
comp=Z,169nm,0.9s
POO *i* x x 23 58 43.0
KAD Karad 68.18 281 *e*P P 23 49 08.1 +0.1
DIB Dawson Inlet, 68.19 40 IAMs_20 IAMs_20 00 11 31.2
comp=Z,13µm,22.0s
WKZ Wanaka 68.34 163 IAMs_20 IAMs_20 00 17 27.9
comp=Z,12µm,18.0s
MQZ McQueen's Vall 68.39 160 IAmb IAmb 23 49 13.3
comp=Z,97nm,1.0s
DCZ Deep Cove 68.45 165 IAmb IAmb 23 49 16.5
comp=Z,72nm,1.0s
MLZ Mavora Lakes 68.60 164 IAmb IAmb 23 49 13.3
comp=Z,79nm,1.2s
KBL Kabul 68.72 300 P P 23 49 11.1 -0.2
KBL S S 23 58 14.1 +0.4
KBL Kabul 68.72 300 P P 23 49 11.1 -0.2
KBL pmax pmax
comp=Z,193nm,1.0s
KBL MLR MLR
comp=Z,4µm,18.0s
KBL Kabul 68.72 300 P P 23 49 11.1 -0.2
ODZ Otahua Downs 68.99 162 IAmb IAmb 23 49 27.2
comp=Z,48nm,1.1s
BOM Bombay 69.01 283 *e*P P 23 49 17.1 +4.0
BOM AMP 23 49 21.7
comp=Z,1µm,4.2s
BOM *e*S S 23 58 22.6 +5.6
BOM AMS AMS 00 14 34.3
comp=Z,398nm,25.7s
GOA Goa 69.01 279 *e*P P 23 49 11.5 -1.6
GOA IAmb IAmb 23 49 22.1
comp=Z,539nm,1.9s
WHZ Wether Hill Ro 69.05 164 IAmb IAmb 23 49 19.3
comp=Z,56nm,1.1s
DLBC Dease Lake 69.05 34 P P 23 49 13.7 +1.0
DLBC IAmb IAmb 23 49 21.8
comp=Z,56nm,1.1s
C36M Paulatuk 70.49 22 P P 23 49 19.7 -1.6
baz=277
C36M S S 23 58 31.7 -1.2
baz=277
SVE Sverdlovsk 70.81 324 *ce*P P 23 49 23.5 0.0
SVE *e* 23 51 57.4
SVE *e*S S 23 58 33.1 -3.9
SVE pmax pmax
comp=Z,402nm,1.4s
SVE pmax pmax
comp=Z,2µm,8.8s
SVE MLR MLR
comp=Z,6µm,15.0s
BBB Bella Bella 70.95 40 LR LR 00 14 46.6
comp=Z,8µm,20.9s,baz=271,slow=31
BBB Bella Bella 70.95 40 IAMs_20 IAMs_20 00 13 12.0
comp=Z,10µm,22.0s
MNCI Minicoy 71.92 272 P P 23 49 31.3 +0.4
ARU Arti 72.00 324 *d* iP P 23 49 30.2 -0.5
ARU 23 49 50.7
ARU 23 52 10.6
ARU PPP PPP 23 53 50.9
ARU S S 23 58 52.7 +1.9
ARU 23 59 32.2
ARU SS SS 00 03 30.2 +2.9
ARU pmax pmax
comp=Z,388nm,1.1s
ARU Arti 72.00 324 P P 23 49 30.3 -0.5
comp=Z,44nm,0.6s,baz=98,slow=2.2,SNR=152
ARU PKPPKP 00 17 20.2
comp=Z,0.4nm,0.3s,baz=54,slow=3.3,SNR=6.3
ARU LR LR 00 21 52.5
comp=Z,2µm,21.1s,baz=75,slow=36
ARU Arti 72.00 324 P P 23 49 30.0 -0.7
HMDM Hanimaadhoo 72.31 271 P P 23 49 34.0 +0.8
ABKAR Akbulak array 72.55 317 P P 23 49 33.2 -0.9
PPT Papeete 73.11 117 P P 23 49 39.0 +1.1
PPT Papeete 73.11 117 P P 23 49 37.8 -0.1
comp=Z,76nm,0.9s,baz=14,slow=5.7,SNR=6.3
PPT LR LR 00 16 26.9
comp=Z,5µm,19.1s,baz=296,slow=32
PPT Papeete 73.11 117 P P 23 49 39.0 +1.1
PPT2 Papeete2 73.12 117 *e*P P 23 49 39.9 +1.9
comp=Z,88nm,1.2s
PPT2 *e*S S 23 59 06.0 +1.2
comp=Z,18µm,27.2s
PPT2 *e*LQ LQ 00 08 25.0
comp=Z,26µm,32.2s
PPT2 *e*LR LR 00 11 43.4
comp=Z,36µm,31.2s,baz=302
PPTF Pamatai, Papee 73.13 117 P P 23 49 38.7 +0.6
PPTF IAmb IAmb 23 49 45.3
comp=Z,95nm,0.9s
PAE Paea 73.15 117 *e*P P 23 49 40.0 +1.9
comp=Z,17nm,1.3s
TVO Taravao 73.48 117 *e*P P 23 49 42.2 +2.1
comp=Z,42nm,1.3s
AKTO Aktyubinsk 73.52 318 P P 23 49 39.3 -0.6
comp=Z,57nm,0.8s,baz=86,slow=6.6,SNR=55
PGC Sidney 74.58 43 P P 23 49 46.6 +0.5
NLWA Neilton Lookou 74.61 45 P P 23 49 47.2 +0.8
NLWA IAMs_20 IAMs_20 00 25 59.6
comp=Z,8µm,18.0s
KAAM Kaadhehdhoo 74.66 265 IAMs_20 IAMs_20 00 21 16.0
comp=Z,10µm,20.0s
E03A Lebam 75.02 46 P P 23 49 49.1 +0.5
E03A IAmb IAmb 23 49 51.2
comp=Z,120nm,1.2s
E03A IAMs_20 IAMs_20 00 15 06.5
comp=Z,9µm,21.0s
A04D Lummi Island 75.05 43 P P 23 49 49.1 +0.4
baz=284
D03D Eldon 75.09 45 P P 23 49 50.0 +0.9
baz=284,SNR=18
LLLB Lillooet 75.10 41 IAMs_20 IAMs_20 00 15 09.6
comp=Z,11µm,22.0s
D04E Lakebay 75.39 45 P P 23 49 52.2 +1.4
baz=285
KEBM Edson Butte 75.42 49 IAmb IAmb 23 50 06.5
comp=Z,79nm,1.1s
KEBM IAMs_20 IAMs_20 00 24 16.1
comp=Z,11µm,18.0s
I02D Swisshome 75.44 48 P P 23 49 51.8 +0.7
baz=285
F04D Rainier, OR 75.51 46 P P 23 49 51.7 +0.2
baz=285
B05A Bryant 75.56 44 P P 23 49 52.4 +0.7
baz=285,SNR=9.4
B05A S S 23 59 31.9 +0.7
baz=285
G03D McMinnville, O 75.56 47 P P 23 49 52.2 +0.4
baz=285
J01E Myrtle Point 75.63 49 P P 23 49 51.7 -0.5
baz=285
KBO Bosley Butte 75.66 50 IAMs_20 IAMs_20 00 22 03.7
comp=Z,9µm,19.0s
E04D Cinebar 75.69 45 P P 23 49 53.1 +0.6
baz=285,SNR=18
COR Corvallis 75.70 48 P P 23 49 53.8 +1.2
COR pmax pmax
comp=Z,79nm,1.1s
COR MLR MLR
comp=Z,11µm,18.0s
COR Corvallis 75.70 48 P P 23 49 53.8 +1.2
COR IAmb IAmb 23 50 11.3
comp=Z,79nm,1.1s
COR Corvallis 75.70 48 IAMs_20 IAMs_20 00 26 23.4
comp=Z,11µm,18.0s
YKA Yellowknife Ar 75.73 28 P P 23 49 51.3 -1.1
comp=Z,49nm,0.9s,baz=290,slow=5.6,SNR=188
YKA PKP2ab 00 16 53.4
comp=Z,0.3nm,0.8s,baz=153,slow=2.3,SNR=4.0
YKA PKPPKP P'P'df 00 17 10.5 -6.1
comp=Z,1.1nm,1.1s,baz=111,slow=1.7,SNR=5.4
B06A Marblemount 75.88 43 P P 23 49 55.5 +1.9
B06A PcP 23 50 07.9 +1.9
B06A IAMs_20 IAMs_20 00 22 46.0
comp=Z,12µm,18.0s
I03D Drain, OR 75.90 48 P P 23 49 53.0 -0.8
baz=285,SNR=12
D05A Enumclaw 75.91 45 IAmb IAmb 23 50 10.4
comp=Z,113nm,1.2s
D05A IAMs_20 IAMs_20 00 25 14.7
comp=Z,10µm,18.0s
K02D Willamette Mer 75.94 49 P P 23 49 54.5 +0.4
baz=285,SNR=8.6
TBI Tubuai 76.03 122 *e*P P 23 49 56.9 +2.2
comp=Z,483nm,1.5s
TBI *e*S S 23 59 37.5 +0.5
comp=Z,10µm,31.0s
TBI Tubuai 76.03 122 *e*LQ LQ 00 09 41.9
comp=Z,16µm,30.5s
TBI *e*LR LR 00 12 34.7
comp=Z,9µm,35.0s,baz=305
H04D Lebanon 76.10 47 P P 23 49 55.6 +0.7
baz=285,SNR=9.0
L02E Cave Junction 76.12 50 P P 23 49 55.6 +0.5
baz=286,SNR=11
JCC Jacoby Creek, 76.17 51 IAMs_20 IAMs_20 00 15 07.9
comp=Z,12µm,21.0s
KIRV Kirov 76.28 328 P P 23 49 55.7 +0.1
comp=Z,210nm,0.7s,baz=64,slow=1.8,SNR=71
KHMM Horse Mountain 76.37 51 IAmb IAmb 23 50 10.5
comp=Z,61nm,1.1s
KHMM IAMs_20 IAMs_20 00 15 26.5
comp=Z,12µm,21.0s
C06D Leavenworth 76.42 44 P P 23 49 56.3 -0.4
baz=286
H04A Detroit Lake 76.44 47 P P 23 49 57.0 +0.1
H04A IAmb IAmb 23 49 58.8
comp=Z,90nm,1.2s
H04A IAMs_20 IAMs_20 00 15 21.1
comp=Z,9µm,20.0s
HUMO Hull Mountain 76.46 49 P P 23 49 57.3 +0.2
HUMO IAMs_20 IAMs_20 00 27 43.8
comp=Z,9µm,18.0s
I04A Tendick Farm, 76.53 48 P P 23 49 57.0 -0.4
baz=286,SNR=26
GEYT Albeck 76.53 306 P P 23 49 58.2 +0.6
comp=Z,114nm,1.1s,baz=73,slow=2.0,SNR=53
KMRM Mail Ridge 76.56 52 IAmb IAmb 23 50 14.3
comp=Z,72nm,1.1s
F05D White Salmon 76.61 46 P P 23 49 58.0 +0.2
baz=286,SNR=11
KCPM Cahto Peak 76.81 52 IAmb IAmb 23 50 12.0
comp=Z,98nm,1.1s
M02C Callahan 76.87 51 P P 23 50 00.0 +0.6
baz=286,SNR=17
YBH Yreka Blue Hor 76.88 50 LR LR 00 16 57.9
comp=Z,8µm,21.3s,baz=273,slow=30
YBH Yreka Blue Hor 76.88 50 IAMs_20 IAMs_20 00 24 30.9
comp=Z,11µm,18.0s
G05D Wamic, OR 76.88 46 P P 23 49 59.8 +0.4
baz=286,SNR=8.2
J04D Umpqua Nationa 76.89 49 P P 23 50 00.1 +0.5
baz=286,SNR=16
HOPEN Hopen 76.91 348 *e*P P 23 50 00.3 +1.4
HOPEN *e*S S 23 59 47.8 +2.6
L04D Klamath Falls 77.03 50 P P 23 50 00.3 -0.2
baz=286,SNR=18
N02D Trinity Center 77.09 51 P P 23 50 01.6 +0.9
baz=286,SNR=28
I05D Terrebonne, OR 77.12 47 P P 23 50 01.4 +0.6
baz=286,SNR=6.5
PRGR Permogore 77.12 331 ⇑ *i* P P 23 49 59.7 -0.6
PRGR pmax pmax
comp=Z,310nm,0.8s
RES Resolute Bay 77.22 14 IAmb IAmb 23 50 02.6
comp=Z,102nm,1.1s
O02D Mt. Diablo Mer 77.25 52 P P 23 50 02.1 +0.5
baz=286,SNR=22
B08A Colville Reser 77.30 43 IAMs_20 IAMs_20 00 23 14.6
comp=Z,11µm,18.0s
K04D Chiloquin, OR 77.31 49 P P 23 50 01.0 -1.0
baz=286
SPA0 Spitsbergen Ar 77.33 351 *e*P P 23 50 01.7 +0.5
SPA0 IVmB_BB 23 50 05.1
comp=Z,2µm,1.6s
SPA0 *e*S S 23 59 51.4 +1.6
SPA0 Spitsbergen Ar 77.33 351 P P 23 50 01.8 +0.5
SPA0 IAmb IAmb 23 50 14.4
comp=Z,101nm,1.2s
G06A Carlson Farm, 77.34 46 IAMs_20 IAMs_20 00 25 45.9
comp=Z,8µm,18.0s
KBS Kingsbay 77.42 352 *de*P P 23 50 02.9 +1.2
KBS pmax pmax
comp=Z,879nm,2.5s
KBS Kingsbay 77.42 352 *e*P P 23 50 01.8 +0.1
KBS IVmB_BB 23 50 05.9
comp=Z,2µm,4.2s
E07A Sunnyside 77.49 45 IAmb IAmb 23 50 17.8
comp=Z,60nm,1.1s
E07A IAMs_20 IAMs_20 00 24 06.6
comp=Z,10µm,19.0s
J05D Fort Rock, OR 77.49 48 P P 23 50 03.1 +0.2
baz=287,SNR=45
M04C Macdoel 77.49 50 P P 23 50 02.7 -0.3
baz=287,SNR=27
PINE Pine Mountain 77.55 48 IAmb IAmb 23 50 05.9
comp=Z,138nm,1.1s
PINE IAMs_20 IAMs_20 00 17 01.5
comp=Z,11µm,22.0s
TAOE Nuku Hiva Isla 77.57 104 IAMs_20 IAMs_20 00 28 57.3
comp=Z,9µm,18.0s
F07A Phinny Hill Vi 77.63 46 IAMs_20 IAMs_20 00 23 19.4
comp=Z,11µm,19.0s
HAWA Hanford 77.75 45 P P 23 50 04.1 0.0
HAWA IAMs_20 IAMs_20 00 24 33.5
comp=Z,9µm,19.0s
MCCM Marconi Confer 77.76 54 IAmb IAmb 23 50 19.4
comp=Z,66nm,1.1s
MCCM IAMs_20 IAMs_20 00 15 32.3
comp=Z,13µm,22.0s
O03E Paynes Creek 77.94 51 P P 23 50 05.4 -0.1
baz=287,SNR=40
E08A Dider Farm, El 78.03 45 IAMs_20 IAMs_20 00 25 18.0
comp=Z,12µm,19.0s
C09A Chrisman Ranch 78.15 43 IAMs_20 IAMs_20 00 23 51.0
comp=Z,10µm,18.0s
HSPB Hornsund (broa 78.28 350 *e*P P 23 50 06.9 +0.4
HSPB IVmBBB 23 50 10.1
comp=Z,4µm,2.4s
HSPB IVmBBB 23 50 10.1
comp=Z,4µm,2.1s
HSPB *e*S S 00 00 02.4 +2.5
ORV Oroville 78.38 52 IAmb IAmb 23 50 20.6
comp=Z,74nm,1.1s
ORV IAMs_20 IAMs_20 00 30 41.9
comp=Z,11µm,18.0s
G08A Pilot Rock 78.46 46 IAMs_20 IAMs_20 00 18 25.4
comp=Z,9µm,20.0s
MOD Modoc Plateau 78.55 50 IAMs_20 IAMs_20 00 17 41.9
comp=Z,11µm,21.0s
NEW Newport 78.74 43 P P 23 50 10.2 +0.5
baz=288
NEW Newport 78.74 43 P P 23 50 09.6 -0.1
NEW pmax pmax
comp=Z,22nm,0.8s
NEW MLR MLR
comp=Z,14µm,18.0s
NEW Newport 78.74 43 P P 23 50 09.6 -0.1
LVZ Lovozero 78.90 339 P P 23 50 10.3 +0.1
LVZ pmax pmax
comp=Z,108nm,1.1s
LVZ MLR MLR
comp=Z,7µm,20.0s
LVZ Lovozero 78.90 339 P P 23 50 10.3 +0.1
LVZ IAmb IAmb 23 50 17.6
comp=Z,108nm,1.1s
AFDM Forest Hills D 78.96 53 IAmb IAmb 23 50 13.7
comp=Z,82nm,1.2s
BEKR Beckworth 79.13 52 IAmb IAmb 23 50 14.6
comp=Z,87nm,1.2s
BJO1 Bjornoya 79.34 348 *e*P P 23 50 16.2 +3.8
BJO1 *e*S S 00 00 14.0 +2.7
BJO1 IVMs_BB IVMs_BB 00 31 01.6
comp=Z,9µm,4.6s
TMCR Tamitsa 79.36 335 *e*P P 23 50 12.8 +0.2
TMCR *e*S S 00 00 16.5 +4.7
TMCR pmax pmax
comp=Z,292nm,0.8s
F10A Beach Ranch, E 79.40 45 IAMs_20 IAMs_20 00 27 03.9
comp=Z,8µm,19.0s
APA Apatity 79.48 339 ||| *i* P P 23 50 12.6 -0.6
APA *i* 23 53 19.0
APA pmax pmax
comp=Z,115nm,1.0s
RUBR Rubicon Trail 79.53 52 IAmb IAmb 23 50 31.7
comp=Z,81nm,1.1s
RUBR IAMs_20 IAMs_20 00 27 01.2
comp=Z,8µm,18.0s
WVOR Wild Horse Val 79.57 49 IAMs_20 IAMs_20 00 27 56.9
comp=Z,10µm,18.0s
CMB Columbia Colle 79.67 53 IAmb IAmb 23 50 17.7
comp=Z,112nm,1.1s
CMB IAMs_20 IAMs_20 00 17 06.8
comp=Z,10µm,22.0s
BMO Blue Mountains 79.71 46 IAMs_20 IAMs_20 00 17 30.5
comp=Z,10µm,22.0s
PAHR Pah Rah Range 79.89 51 P P 23 50 16.0 -0.2
PNTR Pine Nut 79.93 52 IAmb IAmb 23 50 18.8
comp=Z,113nm,1.2s
PNTR IAMs_20 IAMs_20 00 31 31.8
comp=Z,11µm,18.0s
YERR Yerington 80.23 52 IAmb IAmb 23 50 21.0
comp=Z,139nm,1.2s
YERR IAMs_20 IAMs_20 00 27 59.7
comp=Z,10µm,18.0s
WAKR Walker 80.23 53 IAMs_20 IAMs_20 00 19 50.9
comp=Z,9µm,20.0s
WBK Wadi Bani Khal 80.34 291 P P 23 50 19.6 +0.7
SNR=13
WBK P P 23 50 19.6 +0.7
SNR=13
WBK S S 00 00 23.6 -0.2
WBK S S 00 00 23.6 -0.2
WSAR Wadi Sarin 80.44 291 P P 23 50 19.8 +0.5
SNR=7.9
WSAR Wadi Sarin 80.44 291 P P 23 50 18.1 -1.2
comp=Z,18nm,0.9s,baz=130,slow=6.6,SNR=4.5
WALA Waterton Lakes 80.48 41 IAmb IAmb 23 50 39.0
comp=Z,72nm,1.1s
PAGB Antelope Grade 80.50 55 IAmb IAmb 23 50 35.8
comp=Z,81nm,1.1s
PLID Pearl Lake 80.51 45 IAMs_20 IAMs_20 00 27 18.5
comp=Z,9µm,19.0s
HAMF Hammerfest 80.71 344 *e*P P 23 50 19.4 -0.4
HAMF IVmB_BB 23 50 20.7
comp=Z,5µm,4.3s
HAMF *e*S S 00 00 30.2 +4.4
JTMT Jette 80.71 42 IAmb IAmb 23 50 23.1
comp=Z,120nm,1.2s
JTMT IAMs_20 IAMs_20 00 24 08.7
comp=Z,10µm,19.0s
MDPB Devils Postpil 80.78 53 IAMs_20 IAMs_20 00 17 39.1
comp=Z,9µm,21.0s
BIDO Bidbid 80.79 292 P P 23 50 21.5 +0.3
SNR=14
BIDO P P 23 50 21.5 +0.3
SNR=14
BIDO S S 00 00 33.8 +5.4
BIDO S S 00 00 33.8 +5.4
SMMC Simmler 80.83 56 P P 23 50 21.7 +0.4
baz=289,SNR=12
OMMB Old Mammoth Mi 80.85 53 IAMs_20 IAMs_20 00 26 16.2
comp=Z,11µm,18.0s

ARCES	**ARCESS Array B**	80.87	342		P		**P**	23 50 20.1	-0.7	
	comp=Z,38nm,0.8s,baz=48,slow=4.6,SNR=50									
ARCES					PKKPbc		**PKKPbc**	00 08 59.5	-1.2	
	comp=Z,5.0nm,0.8s,baz=293,slow=3.7,SNR=6.0									
ARCES					LR		LR	00 32 02.9		
	comp=Z,4μm,20.0s,baz=64,slow=40									
ARE0	**ARCESS Array S**	80.87	342	*e*	P		**P**	23 50 20.7	-0.1	
ARE0				*e*	S		**S**	00 00 28.6	+0.9	
RYN	**Ryan**	80.87	52		P		**P**	23 50 22.1	+0.5	
RYN					IAmb		IAmb	23 50 23.7		
	comp=Z,110nm,1.2s									
RYN					IAMs_20		IAMs_20	00 17 17.4		
	comp=Z,14μm,22.0s									
MLAC	**Mammoth, Mammo**	80.97	53		P		**P**	23 50 22.4	+0.2	
	baz=289,SNR=11									
VOG	**Valley Oaks Go**	80.98	55		P		**P**	23 50 21.0	-1.0	
	baz=289									
SMDO	**Samad**	81.00	291		P		**P**	23 50 22.7	+0.2	
	SNR=15									
SMDO					P		**P**	23 50 22.7	+0.2	
	SNR=15									
SMDO					S		**S**	00 00 30.0	-0.9	
SMDO					S		**S**	00 00 30.0	-0.9	
KVN	**Kaiserville**	81.05	52		IAmb		IAmb	23 50 25.2		
	comp=Z,88nm,1.1s									
KVN					IAMs_20		IAMs_20	00 18 01.0		
	comp=Z,12μm,22.0s									
NVAR	**Mina Array Bea**	81.10	52		P		**P**	23 50 23.0	+0.1	
	comp=Z,83nm,1.0s,baz=267,slow=5.6,SNR=192									
NVAR					PKKP		**PKKPdf**	00 08 45.2	-3.4	
	comp=Z,1.0nm,0.8s,baz=268,slow=6.2,SNR=4.6									
NVAR					PKKPbc		**PKKPbc**	00 08 59.6	+0.1	
	comp=Z,0.6nm,0.8s,baz=251,slow=4.5,SNR=3.8									
NVAR					LR		LR	00 25 18.2		
	comp=Z,5μm,18.0s,baz=276,slow=35									
PKM	**Mcpherson Peak**	81.11	56		P		**P**	23 50 21.5	-1.5	
	baz=289,SNR=43									
JMDO	**Jabal Madar**	81.17	291		P		**P**	23 50 23.4	+0.1	
	SNR=10									
JMDO					P		**P**	23 50 23.4	+0.1	
	SNR=10									
JMDO					S		**S**	00 00 31.0	-1.5	
JMDO					S		**S**	00 00 31.0	-1.5	
MFID	**Camas Ranch**	81.19	47		IAmb		IAmb	23 50 25.1		
	comp=Z,106nm,1.1s									
MFID					IAMs_20		IAMs_20	00 28 56.8		
	comp=Z,9μm,18.0s									
NV11	**Mina Array Sit**	81.21	52		IAmb		IAmb	23 50 26.2		
	comp=Z,111nm,1.1s									
NV11					IAMs_20		IAMs_20	00 17 36.3		
	comp=Z,13μm,22.0s									
BMN	**Battle Mountai**	81.23	50		IAMs_20		IAMs_20	00 19 51.0		
	comp=Z,10μm,21.0s									
MSO	**Missoula**	81.25	43		P		**P**	23 50 22.2	-1.2	
	baz=291									
MSO	**Missoula**	81.25	43		IAMs_20		IAMs_20	00 27 25.1		
	comp=Z,10μm,18.0s									
SBC	**Santa Barbara**	81.33	57		P		**P**	23 50 23.4	-0.5	
	baz=289									
VES	**Vestal, Richgr**	81.36	55		P		**P**	23 50 23.0	-1.0	
	baz=289,SNR=20									
HOQ	**Hoqain**	81.48	292		P		**P**	23 50 25.2	+0.3	
	SNR=31									
HOQ					S		**S**	00 00 36.0	+0.4	
SCZ2	**Santa Cruz Isl**	81.54	57		P		**P**	23 50 24.0	-1.1	
	baz=289									
BANOM	**Banah**	81.59	294	*i*	P		**P**	23 50 25.7	+0.2	
	SNR=5.5									
TIN	**Tinemaha, Big**	81.61	54		P		**P**	23 50 25.2	-0.3	
	baz=290,SNR=12									
SHME	**Shamm**	81.69	295	*i*	P		**P**	23 50 26.0	0.0	
	SNR=25									
ARVC	**Arvin**	81.80	56		P		**P**	23 50 24.5	-1.9	
	baz=290									
MDH	**Madha**	81.80	294	*i*	P		**P**	23 50 25.7	-0.8	
	SNR=6.1									
KTK1	**Kautokeino**	81.83	342	*e*	P		**P**	23 50 25.8	-0.1	
KTK1				*e*	S		**SKSac**	00 00 42.3	-2.0	
BSY	**Bisya**	81.84	291		P		**P**	23 50 27.3	+0.4	
	SNR=13									
BSY					P		**P**	23 50 27.3	+0.4	
	SNR=13									
BSY					S		**SKSac**	00 00 45.5	-0.7	
BSY					S		**SKSac**	00 00 45.5	-0.7	
SNCC	**San Nicolas Is**	81.88	58		P		**P**	23 50 24.6	-2.2	
	baz=290,SNR=5.6									
SNCC	**San Nicolas Is**	81.88	58		IAmb		IAmb	23 50 28.5		
	comp=Z,104nm,1.1s									
SNCC					IAMs_20		IAMs_20	00 30 50.7		
	comp=Z,9μm,18.0s									
ISA	**Isabella, Lake**	81.89	55		P		**P**	23 50 26.5	-0.4	
	baz=290,SNR=26									
ISA	**Isabella, Lake**	81.89	55		IAMs_20		IAMs_20	00 32 21.0		
	comp=Z,7μm,18.0s									
MSFE	**Esma-Masafi**	81.90	294	*i*	P		**P**	23 50 27.5	+0.4	
	SNR=20									
CWC	**Cottonwood Cre**	81.93	54		P		**P**	23 50 26.3	-1.0	
	baz=290									
BLG	**Laguna Peak, P**	81.95	57		P		**P**	23 50 26.4	-0.8	
	baz=290									
UOSS	**Minazif**	81.99	294	*i*	P		**P**	23 50 27.1	-0.4	
	SNR=24									
UOSS	**Minazif**	81.99	294		P		**P**	23 50 28.1	+0.6	
OSI	**Osito Audit: C**	82.05	56		P		**P**	23 50 27.5	-0.3	
	baz=290									
OSI	**Osito Audit: C**	82.05	56		IAMs_20		IAMs_20	00 31 50.2		
	comp=Z,10μm,18.0s									
HATD	**Hatta, Dubai**	82.09	293	*i*	P		**P**	23 50 28.4	+0.3	
	SNR=25									
HATD	**Hatta, Dubai**	82.09	293		P		**P**	23 50 28.7	+0.6	
	SNR=13									
HATD					P		**P**	23 50 28.7	+0.6	
	SNR=13									
HATD					S		**S**	00 00 41.0	-0.9	
HATD					S		**S**	00 00 41.0	-0.9	
ASHO	**Ashiyiah**	82.20	293	*i*	P		**P**	23 50 29.0	+0.3	
	SNR=38									
ASHO	**Ashiyiah**	82.20	293		P		**P**	23 50 29.0	+0.3	
	SNR=16									
ASHO					P		**P**	23 50 29.0	+0.3	
	SNR=16									
ASHO					S		**S**	00 00 45.8	+2.8	
ASHO					S		**S**	00 00 45.8	+2.8	
ARQ	**Araqi**	82.24	292		P		**P**	23 50 29.8	+0.9	
	SNR=27									
ARQ					P		**P**	23 50 29.8	+0.9	
	SNR=27									
ARQ					S		**S**	00 00 42.6	-0.9	
ARQ					S		**S**	00 00 42.6	-0.9	
UMQ	**Umm Al-Quwin**	82.27	294		P		**P**	23 50 30.3	+1.4	
GRAC	**Grapevine Rang**	82.28	53		P		**P**	23 50 29.0	0.0	
	baz=290,SNR=34									
DAG	**Danmarks Havn**	82.31	357	⇓*i*	P		**P**	23 50 28.0	-0.2	
DAG					pmax		pmax			
	comp=Z,64nm,1.2s									
DAG	**Danmarks Havn**	82.31	357	⇓*i*	P		**P**	23 50 28.0	-0.2	
	comp=Z,64nm,1.2s									
NAZ	**Nazwa, Dubai**	82.44	294	*i*	P		**P**	23 50 30.4	+0.5	
	SNR=18									
NAZ	**Nazwa, Dubai**	82.44	294		P		**P**	23 50 30.0	+0.1	
	SNR=10.0									
NAZ					P		**P**	23 50 30.0	+0.1	
	SNR=10.0									
NAZ					S		**S**	00 00 47.1	+1.7	
NAZ					S		**S**	00 00 47.1	+1.7	
DQM	**DQM**	82.46	288		P		**P**	23 50 30.7	+0.6	
	SNR=16									
DQM					P		**P**	23 50 30.7	+0.6	
	SNR=16									
DQM					S		**S**	00 00 47.2	+1.4	
DQM					S		**S**	00 00 47.2	+1.4	
DECC	**Green Verdugo**	82.47	56		P		**P**	23 50 29.3	-0.6	
	baz=290									
MPMC	**Manual Prospec**	82.51	54		P		**P**	23 50 28.9	-1.4	
	baz=290,SNR=114									
EDW2	**Edwards Air Fo**	82.53	56		P		**P**	23 50 29.0	-1.3	
	baz=290,SNR=48									
ELK	**Elko**	82.53	49		IAmb		IAmb	23 50 33.1		
	comp=Z,109nm,1.1s									
LRMC	**Laurel Mtn Rad**	82.56	55		P		**P**	23 50 30.3	-0.2	
	baz=290,SNR=45									
FAQ	**Al Faqa, Dubai**	82.58	294	*i*	P		**P**	23 50 31.1	+0.5	
	SNR=6.7									
TRO	**Tromso**	82.61	344	*e*	P		**P**	23 50 29.2	-0.6	
TRO					IVmBBB			23 50 33.1		
	comp=Z,3μm,2.5s									
TRO				*e*	SKSac		**SKSac**	00 00 50.0	+0.6	
MAK	**Makhachkala**	82.62	313	*e*	P		**P**	23 50 29.1	-1.4	
MAK				*e*				23 53 35.1		
MAK				*e*	S		**S**	00 00 45.3	-1.3	
MAK				*e*	SS		**SS**	00 06 04.9	-3.0	
MAK				*e*	SSS		SSS	00 09 31.7		
MAK					pmax		pmax			
	comp=Z,2μm,2.1s									
MAK					smax		smax			
	comp=E,4μm,7.7s									
ALNE	**Al Ain**	82.67	293	*i*	P		**P**	23 50 31.6	+0.5	
	SNR=29									
FMP	**Fort Macarthur**	82.69	57		P		**P**	23 50 30.4	-0.6	
	baz=290									
CIS	**Catalina Islan**	82.70	57		P		**P**	23 50 31.0	-0.1	
	baz=290,SNR=31									
MWC	**Mount Wilson**	82.70	56		IAMs_20		IAMs_20	00 29 00.4		
	comp=Z,8μm,18.0s									
SCI2	**San Clemente I**	82.74	58		P		**P**	23 50 30.6	-0.7	
	baz=290									
FURC	**Furnace Creek,**	82.84	54		P		**P**	23 50 31.3	-0.5	
	baz=290,SNR=13									
ASUD	**Al Ashush, Dub**	82.85	294		P		**P**	23 50 32.3	+0.3	
AKT	**Akhty**	83.00	312	*e*	P		**P**	23 50 32.7	0.0	
AKT				*e*				23 50 38.9		
AKT				*e*	S		**S**	00 00 51.0	+0.1	
AKT					pmax		pmax			
	comp=Z,388nm,1.1s									
BFSC	**Mount Baldy Ra**	83.00	56		P		**P**	23 50 31.9	-1.0	
	baz=290,SNR=18									
VRH	**Novokhopyorsk**	83.06	322	*e*	P		**P**	23 50 32.1	-0.5	
VRH				*e*	S		**S**	00 00 48.2	-2.6	
VRH					pmax		pmax			
	comp=Z,460nm,1.0s									
VRH					pmax		pmax			
	comp=Z,1μm,1.8s									
VRH					smax		smax			
	comp=E,2μm,7.5s									
R11A	**Troy Canyon, C**	83.14	52		P		**P**	23 50 33.2	-0.3	
	baz=291									
R11A	**Troy Canyon, C**	83.14	52		IAMs_20		IAMs_20	00 33 45.6		
	comp=Z,11μm,18.0s									
TPNV	**Topopah Spring**	83.14	53		P		**P**	23 50 32.5	-1.0	
	baz=291									
TPNV	**Topopah Spring**	83.14	53		P		**P**	23 50 33.1	-0.4	
TPNV					pmax		pmax			
	comp=Z,85nm,1.0s									
TPNV	**Topopah Spring**	83.14	53		P		**P**	23 50 33.1	-0.4	
TPNV					IAmb		IAmb	23 50 49.3		
	comp=Z,85nm,1.0s									
BOZ	**Bozeman (W)**	83.20	44		P		**P**	23 50 33.3	-0.4	
	baz=293									
BOZ	**Bozeman (W)**	83.20	44		IAMs_20		IAMs_20	00 27 52.6		
	comp=Z,9μm,18.0s									
GSC	**Goldstone, Bar**	83.29	55		P		**P**	23 50 33.7	-0.6	
	baz=291,SNR=62									
GSC	**Goldstone, Bar**	83.29	55		IAmb		IAmb	23 50 36.1		
	comp=Z,80nm,1.1s									
GSC					IAMs_20		IAMs_20	00 27 19.1		
	comp=Z,8μm,18.0s									
RRX	**Edison Barstow**	83.30	55		P		**P**	23 50 33.2	-1.0	
	baz=291									
MOS	**Moscow**	83.30	327	*e*	P		**P**	23 50 33.7	0.0	
MOS				*e*				23 50 42.5		
MOS				*e*				23 53 44.8		
MOS				*e*	PPP		PPP	23 55 39.3		
MOS				*e*	S		**S**	00 00 51.8	-1.2	
MOS				*e*	SS		**SS**	00 06 24.4	+7.2	
MOS					pmax		pmax			
	comp=Z,581nm,1.4s									
MOS					pmax		pmax			
	comp=N,243nm,1.3s									
MOS					pmax		pmax			
	comp=E,200nm,1.2s									
EGMT	**Eagleton**	83.43	41		P		**P**	23 50 33.5	-1.2	
	baz=294									
EGMT	**Eagleton**	83.43	41		IAMs_20		IAMs_20	00 20 23.1		
	comp=Z,12μm,22.0s									
SHOC	**Shoshone, Teco**	83.49	54		P		**P**	23 50 35.3	+0.1	
	baz=291,SNR=12									
BBRC	**Big Bear Solar**	83.57	56		P		**P**	23 50 35.7	-0.2	
	baz=291									
MURC	**Murrieta**	83.59	57		P		**P**	23 50 35.4	-0.4	
	baz=291,SNR=15									
KULLO	**Kullorsuaq**	83.66	6	*i*	P		**P**	23 50 35.7	+0.4	
KULLO					pmax		pmax			
	comp=Z,140nm,1.1s									
KULLO	**Kullorsuaq**	83.66	6	*i*	P		**P**	23 50 35.7	+0.4	
	comp=Z,139nm,1.1s									
GROC	**Groznyy**	83.69	314	*e*	P		**P**	23 50 34.5	-1.5	
GROC				*e*				23 53 42.8		
GROC				*e*	S		**S**	00 00 57.7	+0.2	
GROC					pmax		pmax			
	comp=Z,291nm,1.0s									
HEC	**Hector,Ludlow**	83.82	55		P		**P**	23 50 37.0	+0.1	
	baz=291,SNR=19									
HVU	**Hansel Valley**	83.88	48		P		**P**	23 50 37.6	+0.3	
HVU					pmax		pmax			
	comp=Z,44nm,0.9s									
HVU	**Hansel Valley**	83.88	48		P		**P**	23 50 37.6	+0.3	
109C	**Camp Elliot, M**	83.91	57		P		**P**	23 50 37.3	0.0	
	baz=291,SNR=6.1									
109C	**Camp Elliot, M**	83.91	57		IAmb		IAmb	23 50 39.5		
	comp=Z,97nm,1.1s									
109C					IAMs_20		IAMs_20	00 31 52.5		
	comp=Z,10μm,18.0s									
TUQ	**Turquoise Moun**	83.92	55		P		**P**	23 50 37.2	-0.3	
	baz=291,SNR=40									
LPSR	**Galich'ya Gora**	84.03	324	*e*	P		**P**	23 50 37.1	-0.4	
LPSR				*e*	S		**SKSac**	00 00 56.3	-3.1	
LPSR					pmax		pmax			
	comp=Z,520nm,1.1s									
LPSR					pmax		pmax			
	comp=Z,2μm,1.9s									
LPSR					smax		smax			
	comp=E,2μm,8.7s									
SHPR	**Sheep Range**	84.11	53		IAmb		IAmb	23 50 40.7		
	comp=Z,93nm,1.2s									
SHPR					IAMs_20		IAMs_20	00 28 46.7		
	comp=Z,10μm,18.0s									
OBN	**Obninsk**	84.12	327	*d*	P		**P**	23 50 37.7	-0.2	
OBN				*i*	S		**SKSac**	00 01 04.7	+4.8	
OBN				*e*				00 02 25.3		
OBN					pmax		pmax			
	comp=Z,523nm,1.3s									
OBN	**Obninsk**	84.12	327	⇓	P		**P**	23 50 37.8	-0.1	
OBN	**Obninsk**	84.12	327		P		**P**	23 50 37.2	-0.8	
OBN					IAMs_20		IAMs_20	00 34 09.1		
	comp=Z,9μm,18.0s									
PFO	**Pinyon Flats O**	84.16	56		P		**P**	23 50 38.3	-0.5	
	baz=291,SNR=58									
PFO	**Pinyon Flats O**	84.16	56	*d*	P		**P**	23 50 38.9	+0.1	
PFO					pmax		pmax			
	comp=Z,155nm,1.1s									
PFO	**Pinyon Flats O**	84.16	56		LR		LR	00 20 08.5		
	comp=Z,4μm,20.6s,baz=274,slow=30									
PFO	**Pinyon Flats O**	84.16	56		P		**P**	23 50 38.0	-0.7	
PFO					IAmb		IAmb	23 50 40.9		
	comp=Z,101nm,1.1s									
PFO	**Pinyon Flats O**	84.16	56		IAMs_20		IAMs_20	00 18 34.9		
	comp=Z,8μm,22.0s									
XPFO	**Pion Flat**	84.16	56		P		**P**	23 50 38.0	-0.8	
XPFO	**Pion Flat**	84.16	56		IAMs_20		IAMs_20	00 18 33.9		
	comp=Z,8μm,22.0s									
VORR	**Voronezh**	84.28	323	*e*	P		**P**	23 50 37.0	-1.8	
VORR					pmax		pmax			
	comp=Z,500nm,1.4s									
BAR	**Barrett**	84.32	57		IAmb		IAmb	23 50 40.9		
	comp=Z,69nm,1.1s									
PSUT	**Pine Spring**	84.33	51		P		**P**	23 50 39.1	-0.6	
H17A	**Grant Village**	84.36	45		P		**P**	23 50 41.9	+2.2	
	baz=294									
H17A	**Grant Village**	84.36	45		IAmb		IAmb	23 50 58.8		
	comp=Z,88nm,1.1s									
FXWY	**Fox Creek**	84.36	45		IAMs_20		IAMs_20	00 32 42.4		
	comp=Z,7μm,18.0s									
GMRC	**Granite Mounta**	84.36	55		P		**P**	23 50 39.5	-0.2	
	baz=291									
BELC	**Belle Mtn. Jos**	84.38	56		P		**P**	23 50 39.3	-0.6	
	baz=291,SNR=36									
LKWY	**Lake**	84.40	44		IAmb		IAmb	23 50 52.0		
	comp=Z,78nm,1.1s									
MONP2	**Monument Peak**	84.44	57		P		**P**	23 50 39.9	-0.5	
	baz=291,SNR=84									
DUG	**Dugway, Tooele**	84.46	49		P		**P**	23 50 39.7	-0.5	
	baz=292									
DUG	**Dugway, Tooele**	84.46	49		IAmb		IAmb	23 50 50.9		
	comp=Z,48nm,1.1s									
TPAW	**Teton Pass**	84.47	46		IAmb		IAmb	23 50 50.6		
	comp=Z,47nm,1.1s									
TPAW					IAMs_20		IAMs_20	00 29 53.3		
	comp=Z,7μm,18.0s									
YMP	**Mirror Lake Pl**	84.49	44		P		**P**	23 50 41.0	+0.5	
VSR	**Storozhevoye**	84.51	323	*e*	P		**P**	23 50 39.5	-0.5	
VSR				*e*	S		**S**	00 01 01.5	-3.9	
VSR					pmax		pmax			
	comp=Z,460nm,1.2s									
VSR					pmax		pmax			
	comp=Z,1μm,1.7s									
VSR					smax		smax			
	comp=E,2μm,7.1s									
REDW	**Red Top Meadow**	84.58	46		IAMs_20		IAMs_20	00 29 58.4		
	comp=Z,8μm,18.0s									
SNOW	**Snow King Moun**	84.61	46		IAMs_20		IAMs_20	00 32 59.0		
	comp=Z,7μm,18.0s									
AHID	**Auburn Hatcher**	84.65	46		IAMs_20		IAMs_20	00 29 37.2		
	comp=Z,8μm,19.0s									
PUL	**Pulkovo**	84.68	333	⇓*e*	P		**P**	23 50 40.2	-0.5	
PUL					pmax		pmax			
	comp=Z,332nm,1.3s									
STEI	**Steigen**	84.76	343	*e*	P		**P**	23 50 40.5	-0.4	
STEI					IVmBBB			23 50 44.1		
	comp=Z,4μm,4.1s									
STEI				*e*	SKSac		**SKSac**	00 01 03.8	+0.3	
IKP	**In-Ko-Pah, Jac**	84.78	57		P		**P**	23 50 41.2	-0.6	
	baz=291,SNR=32									
HWUT	**Hardware Ranch**	84.79	48		IAMs_20		IAMs_20	00 34 57.0		
	comp=Z,10μm,18.0s									
SHAO	**Shalim**	84.81	287	*i*	P		**P**	23 50 42.5	+0.3	
	SNR=8.8									
FFC	**Flin Flon**	84.84	33	*i*	P		**P**	23 50 41.7	+0.1	
FFC	**Flin Flon**	84.84	33		P		**P**	23 50 41.4	-0.2	
FFC	**Flin Flon**	84.84	33		IAMs_20		IAMs_20	00 22 36.8		
	comp=Z,8μm,21.0s									
SWSC	**Sam W. Stewart**	84.91	57		P		**P**	23 50 41.7	-0.8	
	baz=291,SNR=13									
RLMT	**Red Lodge**	84.92	44		P		**P**	23 50 42.9	+0.4	
	baz=294									
RLMT	**Red Lodge**	84.92	44		IAmb		IAmb	23 51 00.4		
	comp=Z,66nm,0.9s									
RLMT					IAMs_20		IAMs_20	00 28 05.0		
	comp=Z,10μm,20.0s									
BC3	**Big Chuckawall**	84.92	56		P		**P**	23 50 41.9	-0.7	
	baz=292,SNR=46									
IRM	**Iron Mountain**	84.98	56		P		**P**	23 50 42.5	-0.3	
	baz=292,SNR=34									
TBLG	**Delisi**	84.98	313		P		**P**	23 50 42.6	-0.1	
TBLG					pmax		pmax			
	comp=Z,70nm,1.2s									
TBLG	**Delisi**	84.98	313		P		**P**	23 50 42.6	-0.1	
TBLG					IAmb		IAmb	23 50 53.8		
	comp=Z,70nm,1.2s									
NCK	**Nalchik**	85.05	315	⇓*e*	P		**P**	23 50 42.8	-0.2	
NCK					pmax		pmax			
	comp=Z,109nm,1.0s									
LOF	**Lofoten**	85.06	344	*e*	P		**P**	23 50 42.9	+0.5	
LOF				*e*	SKSac		**SKSac**	00 01 07.1	+1.6	
ZEI	**Tsey**	85.13	314	*e*	P		**P**	23 50 40.0	-3.6	
ZEI					pmax		pmax			
	comp=Z,142nm,1.6s									
NEE2	**Needles Airpor**	85.16	55		P		**P**	23 50 42.9	-0.8	
	baz=292									
KBZ	**Khabaz**	85.42	315		P		**P**	23 50 44.5	-0.2	
	comp=Z,43nm,0.8s,baz=88,slow=3.2,SNR=41									
KBZ					PKKPbc		**PKKPbc**	00 08 50.0	+0.6	
	comp=Z,1.6nm,0.8s,baz=212,slow=9.5,SNR=4.3									
KBZ					LR		LR	00 33 11.1		
	comp=Z,8μm,19.0s,baz=66,slow=39									
KBZ	**Khabaz**	85.42	315		P		**PKKPbc**	00 08 50.0	+0.6	
FIA1	**FINESS Array S**	85.46	336		P		**P**	23 50 43.1	-1.5	
FINES	**FINESS Array B**	85.46	336		P		**P**	23 50 43.0	-1.6	
	comp=Z,54nm,0.6s,baz=71,slow=4.1,SNR=102									
FINES					PKPPKP		**P'P'df**	00 16 55.6	-3.2	
	comp=Z,4.6nm,1.1s,baz=250,slow=24,SNR=3.9									
FINES					LR		LR	00 29 44.7		
	comp=Z,3μm,20.7s,baz=56,slow=36									
KIV	**Kislovodsk**	85.47	315	*i*	P		**P**	23 50 44.7	-0.4	
	SNR=22									
KIV	**Kislovodsk**	85.47	315	*e*	P		**P**	23 50 45.2	+0.1	
KIV				*e*				00 01 09.5		
KIV				*e*	SS		SS	00 06 52.9	+2.7	
KIV					pmax		pmax			
	comp=Z,163nm,1.1s									
KIV					pmax		pmax			
	comp=Z,4μm,4.4s									
KIV	**Kislovodsk**	85.47	315	⇑	P		**P**	23 50 45.3	+0.1	
KIV					mb			23 50 51.0		
KIV	**Kislovodsk**	85.47	315		P		**P**	23 50 44.8	-0.4	
KIV					IAmb		IAmb	23 50 51.0		
	comp=Z,39nm,0.8s									
DMTO	**DMTO**	85.52	287		P		**P**	23 50 45.7	0.0	
	SNR=7.9									
DMTO					P		**P**	23 50 45.7	0.0	
	SNR=7.9									
DMTO					S		**SKSac**	00 01 07.0	-3.2	
DMTO					S		**SKSac**	00 01 07.0	-3.2	
W13A	**Hualapai Mount**	85.59	54		IAMs_20		IAMs_20	00 29 35.9		
	comp=Z,7μm,18.0s

RDMU **Red Mountain** 86.58 48 P P 23 50 50.1 -0.8
DGMT **Dagmar** 86.59 39 P P 23 50 49.4 -1.0
baz=298
DGMT **Dagmar** 86.59 39 IAmb IAmb 23 50 51.7
comp=Z,74nm,1.0s
DGMT **Dagmar** 86.59 39 IAMs_20 IAMs_20 00 22 28.6
comp=Z,11μm,22.0s
CLDR **Caldiran** 86.59 311 P P 23 50 51.0 0.0
Y14A **Wickenburg** 86.71 55 IAmb IAmb 23 50 54.0
comp=Z,89nm,0.9s
Y14A IAMs_20 IAMs_20 00 32 15.5
comp=Z,8μm,18.0s
SUMG **Summit** 86.86 2⇓*i* P P 23 50 52.8 +1.0
SUMG pmax pmax
comp=Z,460nm,1.1s
SUMG **Summit** 86.86 2⇓*i* P P 23 50 52.8 +1.0
comp=Z,460nm,1.1s
JMIC **Jan Mayen** 86.91 352 *e* P P 23 50 52.9 +1.4
VSU **Vasula** 86.95 333 *ce* P P 23 50 51.4 -0.5
VSU pmax pmax
comp=Z,405nm,1.3s
VSU **Vasula** 86.95 333 *e* P P 23 50 50.8 -1.1
JMI **Jan Mayen** 86.99 352 *e* P P 23 50 52.8 +0.8
AGRB **Hanur-Agry** 87.07 311 P P 23 50 53.0 -0.2
SENK **Senkaya-Erzuru** 87.11 312 P P 23 50 53.5 +0.1
ABTO **Aybut** 87.12 287 P P 23 50 54.0 +0.4
SNR=11
ABTO P P 23 50 54.0 +0.4
SNR=11
ABTO S SKSac 00 01 21.5 +1.2
ABTO S SKSac 00 01 21.5 +1.2
WUAZ **Wupatki** 87.33 53 P P 23 50 54.9 +0.3
baz=294
WUAZ **Wupatki** 87.33 53 IAMs_20 IAMs_20 00 36 11.7
comp=Z,7μm,18.0s
MLAZ **Malazgirt-MUS** 87.56 311 P P 23 50 56.6 +1.0
SOC **Sochi** 87.57 316 *d* *i* P P 23 50 53.5 -1.8
SOC *e* 23 54 21.8
SOC *e*S SKSac 00 01 20.3 -1.7
SOC *e*SS SS 00 07 16.3 -4.4
SOC *e*SSS SSS 00 10 52.7
SOC pmax pmax
comp=Z,65nm,0.8s
SOC MLR MLR
comp=Z,7μm,17.0s
CUKT **Cukurca** 87.59 309 P P 23 50 54.8 -0.9
214A **Organ Pipe Nat** 87.62 57 P P 23 50 55.1 -0.7
baz=293
214A **Organ Pipe Nat** 87.62 57 IAMs_20 IAMs_20 00 32 56.9
comp=Z,8μm,18.0s
O20A **White River Ci** 87.69 48 P P 23 50 55.3 -1.0
baz=295
O20A **White River Ci** 87.69 48 IAMs_20 IAMs_20 00 24 20.8
comp=Z,10μm,20.0s
KOPR **Koprukoy-ERZUR** 87.69 312 P P 23 50 55.6 -0.6
X16A **Lo Mia Camp, P** 87.71 54 IAmb IAmb 23 50 58.8
comp=Z,51nm,1.1s
X16A IAMs_20 IAMs_20 00 23 34.0
comp=Z,8μm,21.0s
RWWY **Rawlins** 87.72 46 IAmb IAmb 23 50 59.6
comp=Z,85nm,1.1s
RWWY IAMs_20 IAMs_20 00 30 53.6
comp=Z,8μm,19.0s
K22A **Casper** 87.76 45 P P 23 50 56.1 -0.4
baz=296
K22A **Casper** 87.76 45 IAmb IAmb 23 51 00.0
comp=Z,59nm,1.1s
CHOM **Cayeli-Rize** 87.97 313 P P 23 50 57.4 +0.1
NSS **Namsos** 88.15 342 *e* P P 23 50 58.0 +0.4
NSS *e*SKSac SKSac 00 01 25.3 +0.6
GURO **Guroymak-BITLI** 88.18 311 P P 23 50 58.3 -0.2
SOCY **Socotra** 88.31 282 P P 23 50 59.2 -0.3
VRTB **Varto-Mus** 88.32 311 P P 23 51 01.2 +2.0
SIRT **Sirnak** 88.33 310 P P 23 50 58.4 -0.8
ANN **Anapa** 88.48 318 *d* *i* P P 23 50 58.0 -1.6
ANN *e* 23 54 26.2
ANN *e*S SKSac 00 01 26.5 -0.9
ANN pmax pmax
comp=Z,170nm,1.1s
ANN pmax pmax
comp=N,43nm,1.0s
ANN pmax pmax
comp=E,36nm,1.0s
ANN pmax pmax
comp=N,421nm,6.3s
ANN pmax pmax
comp=E,309nm,6.3s
ANN pmax pmax
comp=Z,2μm,6.3s
ANN smax smax
comp=N,2μm,10.4s
ANN smax smax
comp=E,3μm,10.3s
ANN smax smax
comp=Z,616nm,5.2s
SCO **Scoresbysund** 88.68 356 *i* P P 23 51 00.9 +0.9
SCO pmax pmax
comp=Z,120nm,1.4s
SCO **Scoresbysund** 88.68 356 *i* P P 23 51 00.9 +0.9
comp=Z,120nm,1.4s
SCO **Scoresbysund** 88.68 356 P P 23 50 59.8 -0.2
SCO IAmb IAmb 23 51 02.1
comp=Z,63nm,1.1s
RSSD **Black Hills** 88.71 43 P P 23 51 00.6 -0.4
baz=298
RSSD **Black Hills** 88.71 43 P P 23 51 00.9 -0.1
RSSD pmax pmax
comp=Z,44nm,1.1s
RSSD MLR MLR
comp=Z,7μm,18.0s
RSSD **Black Hills** 88.71 43 P P 23 51 00.9 -0.1
RSSD IAmb IAmb 23 51 04.1
comp=Z,44nm,1.1s
RSSD **Black Hills** 88.71 43 IAMs_20 IAMs_20 00 30 43.4
comp=Z,7μm,18.0s
W18A **Petrified Fore** 88.71 53 P P 23 51 00.9 -0.3
baz=295
W18A **Petrified Fore** 88.71 53 IAmb IAmb 23 51 18.1
comp=Z,54nm,1.0s
W18A IAMs_20 IAMs_20 00 31 53.4
comp=Z,7μm,19.0s
MICGM **Minsk** 88.73 329⇑ *e*P P 23 50 58.0 -2.5
MICGM *e*P P 23 50 58.0 -2.5
MICGM PM 23 50 59.0
comp=Z,0.5nm,1.0s
MICGM *e*SKS SKSac 00 01 30.0 +1.5
MICGM *e*S S 00 01 44.0 -2.2
MICGM *e*PS PS 00 02 32.0 -20
MICGM *e*SS SS 00 07 40.0 +3.2
MICGM *e*SSS SSS 00 11 40.0
MICGM *e*LQ LQ 00 20 12.0
MICGM LQM 00 23 10.0
comp=E,5.5nm,30.0s
MICGM LQM 00 23 10.0
comp=N,7.7nm,28.0s
MICGM *e*LR LR 00 28 00.0
MICGM LRM MLR 00 40 38.0
comp=E,8.3nm,16.0s
MICGM LRM MLR 00 40 42.0
comp=N,7.5nm,16.0s
MICGM LRM MLR 00 40 42.0
comp=Z,14nm,16.0s
MNK **Minsk** 88.73 329⇑ *e*P P 23 50 58.0 -2.5
MNK *e* 00 01 30.0
MNK *e*S S 00 01 44.0 -2.2
MNK *e*SS SS 00 07 40.0 +3.2
MNK pmax pmax
comp=Z,450nm,1.0s
MVCO **Mesa Verde** 88.75 51 P P 23 51 00.8 -0.5
baz=295
IZAR **Zarasai** 88.76 331 *e*P P 23 51 01.1 +0.4
IZAR IAmb IAmb 23 51 04.0
comp=Z,57nm,1.1s
X18A **Snowflake** 88.80 53 IAmb IAmb 23 51 03.9
comp=Z,63nm,1.1s
X18A IAMs_20 IAMs_20 00 30 14.6
comp=Z,8μm,18.0s
YEDI **Yedisu-Bingol** 88.84 312 P P 23 51 01.2 -0.4
ISAL **Salakas** 88.92 331 *e*P P 23 51 01.2 -0.3
ISAL IAmb IAmb 23 51 04.8
comp=Z,45nm,1.0s
N23A **Red Feather La** 88.93 46 P P 23 51 02.9 +0.7
baz=297
N23A **Red Feather La** 88.93 46 IAMs_20 IAMs_20 00 31 32.6
comp=Z,8μm,19.0s
SVAN **Silvan-Diyarba** 88.94 311 P P 23 51 01.3 -0.7

BNGB **Bingl** 88.94 312 P P 23 51 01.7 -0.4
SMCO **Snowmass** 88.98 48 IAmb IAmb 23 51 04.7
comp=Z,87nm,1.1s
IIGN **Ignalina** 89.01 331 *e*P P 23 51 01.3 -0.6
IIGN IAmb IAmb 23 51 05.2
comp=Z,35nm,1.2s
NACGM **Naroch** 89.01 330 *e*P P 23 51 01.0 -0.9
NACGM *e*PP PP 23 54 35.0 +3.9
NACGM *e*PPP PPP 23 56 25.0
NACGM *e*S SKSac 00 01 35.0 +4.8
NACGM *e*SS SS 00 07 10.0 -31
NACGM *e*SSS SSS 00 11 10.0
NACGM *e*LQ LQ 00 20 00.0
NACGM *e*LR LR 00 25 02.0
NACGM LRM MLR 00 29 47.0
comp=N,13nm,18.0s
TUC **Tucson** 89.06 56 P P 23 51 02.9 +0.2
baz=294
TUC **Tucson** 89.06 56 P P 23 51 03.3 +0.6
TUC pmax pmax
comp=Z,45nm,1.1s
TUC MLR MLR
comp=Z,6μm,19.0s
TUC **Tucson** 89.06 56 P P 23 51 03.3 +0.6
TUC IAmb IAmb 23 51 19.8
comp=Z,45nm,1.1s
PHWY **Pilot Hill** 89.08 46 IAmb IAmb 23 51 04.9
comp=Z,77nm,1.1s
PHWY IAMs_20 IAMs_20 00 32 30.4
comp=Z,6μm,18.0s
ERZN **Erzincan** 89.35 312 P P 23 51 04.6 +0.6
ILULI **Ilulissat** 89.38 6 *e*P P 23 51 03.1 -0.2
ILULI **Ilulissat** 89.38 6 *i* P P 23 51 03.1 -0.2
MDND **Maddock** 89.57 38 P P 23 51 03.9 -0.8
baz=301
MDND **Maddock** 89.57 38 IAMs_20 IAMs_20 00 23 49.4
comp=Z,9μm,22.0s
TBLU **Trondheim** 89.62 342 *e*P P 23 51 03.4 -1.2
TBLU IVmBBB 23 51 06.4
comp=Z,5μm,3.5s
TBLU *e*SKSac SKSac 00 01 35.2 +1.7
ISCO **Idaho Springs** 89.65 47 P P 23 51 05.8 +0.2
baz=297
ISCO **Idaho Springs** 89.65 47 IAmb IAmb 23 51 11.8
comp=Z,70nm,1.1s
ISCO IAMs_20 IAMs_20 00 32 53.6
comp=Z,9μm,19.0s
S22A **4UR Ranch, Cre** 89.71 50 P P 23 51 05.7 -0.2
baz=296
S22A **4UR Ranch, Cre** 89.71 50 IAmb IAmb 23 51 08.2
comp=Z,70nm,1.1s
DYBB **Diyarbakir** 89.78 311 P P 23 51 02.5 -3.5
PABE **Paberze** 89.94 331 *e*P P 23 51 05.1 -1.1
AKASG **Malin Array Be** 90.20 326 *i* P P 23 51 06.5 -1.0
AKASG pmax pmax
comp=Z,131nm,1.2s
AKASG **Malin Array Be** 90.20 326 P P 23 51 05.8 -1.8
comp=Z,131nm,1.2s,baz=45,slow=5.8,SNR=82
AKASG PKKPbc PKKPbc 00 08 36.1 -2.0
comp=Z,0.6nm,0.4s,baz=262,slow=2.7,SNR=4.6
AKASG LR LR 00 34 37.6
comp=Z,3μm,21.1s,baz=30,slow=38
AKBB **Malin Array Si** 90.20 326 P P 23 51 05.9 -1.6
AKBB pmax pmax
comp=Z,83nm,1.1s
AKBB **Malin Array Si** 90.20 326 P P 23 51 05.9 -1.6
AKBB IAmb IAmb 23 51 08.6
comp=Z,83nm,1.1s
HSIG 90.26 59 IAmb IAmb 23 51 10.3
comp=Z,84nm,1.1s
HSIG IAMs_20 IAMs_20 00 37 16.9
comp=Z,6μm,18.0s
Q24A **Divide** 90.35 48 P P 23 51 09.0 +0.1
baz=297
Q24A **Divide** 90.35 48 IAmb IAmb 23 51 26.1
comp=Z,46nm,1.1s
Q24A IAMs_20 IAMs_20 00 32 58.2
comp=Z,8μm,20.0s
ULM **Lac du Bonnet** 90.36 35 *d* *i* P P 23 51 07.6 -0.7
ULM **Lac du Bonnet** 90.36 35 P P 23 51 07.1 -1.2
comp=Z,52nm,1.0s,baz=299,slow=5.3,SNR=44
ULM LR LR 00 29 15.2
comp=Z,4μm,21.9s,baz=320,slow=34
ULM **Lac du Bonnet** 90.36 35 IAmb IAmb 23 51 09.6
comp=Z,96nm,1.1s
ULM IAMs_20 IAMs_20 00 26 53.4
comp=Z,10μm,22.0s
SIM **Simferopol'** 90.47 319 *de* P P 23 51 07.8 -1.1
SIM 00 01 42.1
SIM *e*S S 00 01 57.7 -5.1
SIM pmax pmax
comp=Z,63nm,0.9s
PBUR **Paburg** 90.51 333 *e*P P 23 51 06.9 -2.0
RSDY **Resadiye-TOKAT** 90.61 314 P P 23 51 09.3 -0.4
319A **Douglas** 90.61 56 IAmb IAmb 23 51 12.6
comp=Z,71nm,1.0s
319A IAMs_20 IAMs_20 00 34 59.7
comp=Z,9μm,18.0s
SDCO **Great Sand Dun** 90.66 49 P P 23 51 09.9 -0.5
baz=297
SDCO **Great Sand Dun** 90.66 49 P P 23 51 10.1 -0.2
SDCO IAmb IAmb 23 51 12.3
comp=Z,47nm,1.1s
SDCO IAMs_20 IAMs_20 00 26 12.4
comp=Z,9μm,21.0s
NC405 **NORSAR Array S** 90.80 340 IAmb IAmb 23 51 20.9
comp=Z,60nm,1.1s
MALT **Malatya** 90.82 312 P P 23 51 10.3 -0.6
NC303 **NORSAR Array S** 90.83 340 IAmb IAmb 23 51 12.2
comp=Z,46nm,1.1s
HFS **Hagfors** 90.87 339 P P 23 51 08.5 -1.9
comp=Z,17nm,0.6s,baz=79,slow=3.2,SNR=53
DOMB **Dombas** 90.91 342 *e*P P 23 51 10.4 -0.3
DOMB IVmBBB 23 51 18.8
comp=Z,4μm,4.0s
DOMB *e*PP PP 23 54 45.9 -0.1
DOMB *e*SKSac SKSac 00 01 46.3 +5.2
DOMB IVMs_BB IVMs_BB 00 46 37.8
comp=Z,7μm,11.0s
MOL **Molde** 90.93 342 *e*P P 23 51 10.5 -0.1
MOL IVmBBB 23 51 15.8
comp=Z,3μm,3.2s
MOL *e*SKSac SKSac 00 01 42.2 +1.1
MOL *e*SS SS 00 08 12.7 +4.5
CASY **Casey** 90.94 194 P P 23 51 11.4 +1.1
URFA **Urfa** 90.94 311 P P 23 51 11.9 +0.5
SEVA **Sevastopol** 90.94 319 ⇑P P 23 51 10.5 -0.6
SEVA mb 23 51 15.7
NC204 **NORSAR Array S** 90.98 340 P P 23 51 10.5 -0.5
NC204 IAmb IAmb 23 51 13.2
comp=Z,64nm,1.0s
NB201 **NORSAR Array S** 90.98 340 IAmb IAmb 23 51 13.1
comp=Z,54nm,1.0s
NB2 **NORSAR Subarra** 91.02 340 P P 23 51 09.9 -1.3
comp=Z,122nm,1.4s,baz=42,slow=5.1
NB2 **NORSAR Subarra** 91.02 340 P P 23 51 09.9 -1.3
baz=42,slow=5.1
NOA **NORSAR Array B** 91.02 340 P P 23 51 09.9 -1.3
comp=Z,31nm,1.1s,baz=42,slow=4.7,SNR=15
NOA PP PP 23 54 45.4 -1.5
comp=Z,9.2nm,1.1s,baz=39,slow=7.4,SNR=4.1
NOA LR LR 00 41 13.8
comp=Z,2μm,18.7s,baz=35,slow=42
SVSK **Karacayir** 91.06 314 P P 23 51 09.0 -2.7
NC602 **NORSAR Array S** 91.14 340 *e*P P 23 51 11.0 -0.7
NC602 *e*SKSac SKSac 00 01 40.8 -1.6
KVT **Kavak** 91.14 315 P P 23 51 11.8 -0.4
TOKT **Tokat** 91.17 314 P P 23 51 12.0 -0.4
ANMO **Albuquerque** 91.22 52 P P 23 51 12.5 -0.4
baz=296
ANMO **Albuquerque** 91.22 52 *de* P P 23 51 13.7 +0.8
ANMO pmax pmax
comp=Z,90nm,1.5s
ANMO **Albuquerque** 91.22 52 P P 23 51 13.5 +0.6
ANMO IAmb IAmb 23 51 15.1
comp=Z,59nm,1.1s
ANMO **Albuquerque** 91.22 52 IAMs_20 IAMs_20 00 39 33.6
comp=Z,7μm,18.0s
SUW **Suwalki** 91.23 331 *e*P P 23 51 11.3 -1.0
SUW **Suwalki** 91.23 331 *e*P P 23 51 11.3 -1.0
SUW *e*L L 00 27 32.2
comp=Z,5μm,28.9s
SUW *e*L L 00 27 32.2
comp=Z,5μm,28.9s
SUW *e*P P 23 51 11.3 -1.0

SUW **Suwalki** 91.23 331 P P 23 51 10.8 -1.5
SUW IAMs_20 IAMs_20 00 35 45.8
comp=Z,7μm,18.0s
Y22D **IRIS PASSCAL I** 91.26 53 P P 23 51 13.0 0.0
baz=296
NAO01 **NORSAR Array S** 91.27 340 IAmb IAmb 23 51 14.2
comp=Z,34nm,1.0s
121A **Cookes Peak, D** 91.27 55 P P 23 51 14.1 +1.0
baz=296
AKN **Aaknes** 91.40 342 *e*P P 23 51 12.8 -0.1
D32A **Dogwood Acres,** 91.44 38 IAMs_20 IAMs_20 00 29 25.8
comp=Z,9μm,21.0s
AGMN **Agassiz Nation** 91.45 36 P P 23 51 12.8 -0.6
baz=304
OGNE **Ogallala** 91.53 45 P P 23 51 13.4 -0.7
baz=299
OGNE **Ogallala** 91.53 45 IAMs_20 IAMs_20 00 25 06.7
comp=Z,6μm,21.0s
SFJD **Kangerlussuaq** 91.57 7 *i* P P 23 51 13.8 +0.3
SFJD pmax pmax
comp=Z,86nm,1.2s
SFJD **Kangerlussuaq** 91.57 7 *i* P P 23 51 13.8 +0.3
comp=Z,86nm,1.2s
SFJD **Kangerlussuaq** 91.57 7 P P 23 51 13.0 -0.5
RAYN **Ar Rayn** 91.61 296 *i* P P 23 51 13.8 -0.9
SNR=59
RAYN **Ar Rayn** 91.61 296 P P 23 51 13.8 -0.9
RAYN pmax pmax
comp=Z,67nm,1.1s
RAYN **Ar Rayn** 91.61 296 P P 23 51 13.8 -0.9
RAYN IAmb IAmb 23 51 17.6
comp=Z,67nm,1.1s
T25A **Trinidad** 91.70 49 P P 23 51 15.2 +0.1
baz=298
SUSD **Miller** 91.72 41 P P 23 51 13.9 -0.9
baz=302
SUSD **Miller** 91.72 41 IAMs_20 IAMs_20 00 25 23.5
comp=Z,10μm,22.0s
OSL **Oslo** 92.01 340 *e*P P 23 51 15.7 0.0
KSCO **Kaye Shedlock'** 92.06 47 P P 23 51 16.4 -0.2
baz=299
KSCO **Kaye Shedlock'** 92.06 47 IAMs_20 IAMs_20 00 26 14.1
comp=Z,8μm,20.0s
SORM **Soroca** 92.12 324 ⇓P P 23 51 14.8 -1.7
KLNR **Kaliningrad** 92.18 332⇑ *e*P P 23 51 16.9 +0.3
KLNR pmax pmax
comp=Z,215nm,1.5s
SKAR **Skarslia** 92.20 341 *e*P P 23 51 16.4 -0.4
SKAR IVmBBB 23 51 27.6
comp=Z,3μm,4.9s
SKAR *e*PP PP 23 54 58.7 +2.4
SKAR *e*SKSac SKSac 00 01 48.2 -0.3
SKAR *e*PS PS 00 03 32.1 +1.4
GAZ **Gaziantep** 92.20 311 P P 23 51 15.8 -1.4
GAZ **Gaziantep** 92.20 311 P P 23 51 16.8 -0.4
GAZ IAMs_20 IAMs_20 00 37 12.7
comp=Z,6μm,20.0s
KMRS **Kahramanmaras** 92.27 312 P P 23 51 16.7 -0.8
BNN **Bunyan** 92.35 313 P P 23 51 16.8 -1.2
FOO **Floro** 92.42 343 *e*P P 23 51 17.3 -0.3
HYA **Hoyanger** 92.44 342 *e*P P 23 51 17.6 -0.1
KIS **Kishinev** 92.50 323 ⇑*i*P P 23 51 17.0 -1.3
comp=Z,600nm,2.5s
KIS **Kishinev** 92.50 323 *e*PPP PPP 23 55 24.0
KIS *e*SKS SKSac 00 01 25.0 -26
KIS *e*S S 00 02 15.0 -6.1
KIS **Kishinev** 92.50 323 *e*PS PS 00 03 18.0 -16
KIS **Kishinev** 92.50 323 ⇑*i*P P 23 51 17.0 -1.3
KIS *i* 23 55 04.0
KIS *e*S S 00 02 15.0 -6.1
KIS *e*PPS PPS 00 04 08.0
KIS pmax pmax
comp=Z,600nm,2.5s
KIS pmax pmax
comp=Z,1μm,8.0s
KIS pmax pmax
comp=Z,170nm,2.0s
EPT **El Paso** 92.58 55 IAMs_20 IAMs_20 00 41 09.0
comp=Z,7μm,18.0s
KONO **Kongsberg** 92.60 340⇓ *e*P P 23 51 19.1 +0.6
KONO pmax pmax
comp=Z,17nm,1.2s
KONO **Kongsberg** 92.60 340 *e*P P 23 51 18.1 -0.3
KONO *e*PP PP 23 55 01.6 +2.3
KONO *e*SKSac SKSac 00 01 50.2 -0.4
KONO *e*SS SS 00 08 35.2 +2.9
KONO **Kongsberg** 92.60 340 IAMs_20 IAMs_20 00 33 26.3
comp=Z,7μm,21.0s
MSEY **Mahe Island** 92.83 266 P P 23 51 21.5 +1.0
MSEY pmax pmax
comp=Z,81nm,1.0s
MSEY **Mahe Island** 92.83 266 P P 23 51 21.5 +1.0
MSEY **Mahe Island** 92.83 266 IAMs_20 IAMs_20 00 27 06.6
comp=Z,6μm,21.0s
KOZT **Kozan** 93.03 312 P P 23 51 20.2 -0.8
IAS **Iasi** 93.10 323 ⇓P P 23 51 21.8 +0.8
ASK **Askoy** 93.28 342 *e*P P 23 51 21.8 +0.2
CEYT **Ceyhan** 93.31 312 P P 23 51 21.9 -0.3
BER **Bergen** 93.33 342 *e*P P 23 51 19.7 -2.1
BER *e*PP PP 23 55 05.7 +0.8
BER *e*SKSac SKSac 00 01 59.5 +4.9
BR131 **Keskin Array S** 93.41 315 P P 23 51 21.4 -1.4
SNR=13
BR131 **Keskin Array S** 93.41 315 *d* *i* P P 23 51 21.2 -1.7
BR131 **Keskin Array S** 93.41 315 IAmb IAmb 23 51 25.1
comp=Z,27nm,0.9s
BRTR **Keskin Array B** 93.41 315 *i* P P 23 51 21.6 -1.2
BRTR pmax pmax
comp=Z,17nm,0.8s
BRTR **Keskin Array B** 93.41 315 P P 23 51 21.1 -1.7
comp=Z,16nm,0.8s,baz=98,slow=2.5,SNR=37
BRTR PP PP 23 55 04.3 -2.3
comp=Z,7.4nm,1.1s,baz=75,slow=5.4,SNR=3.2
BRTR LR LR 00 37 22.4
comp=Z,3μm,18.1s,baz=19,slow=38
LVV **L'vov** 93.42 327 *e*P P 23 51 22.2 -0.3
LVV *e* 23 55 06.2
LVV *e* 23 57 08.5
LVV *e*S S 00 02 26.2 -3.0
LVV *e* 00 03 40.2
MNTX **Cornudas Mount** 93.47 54 P P 23 51 23.2 +0.1
baz=297
MNTX **Cornudas Mount** 93.47 54 IAmb IAmb 23 51 25.3
comp=Z,60nm,1.1s
MNTX IAMs_20 IAMs_20 00 39 44.5
comp=Z,8μm,18.0s
ECSD **EROS Data Cent** 93.53 40 P P 23 51 21.9 -1.2
baz=303
ECSD **EROS Data Cent** 93.53 40 IAmb IAmb 23 51 24.1
comp=Z,68nm,1.1s
ECSD **EROS Data Cent** 93.53 40 IAMs_20 IAMs_20 00 26 19.2
comp=Z,10μm,22.0s
KARA **Karaisali** 93.67 312 P P 23 51 24.5 +0.6
BEL **Belsk** 93.73 330 *e*P P 23 51 24.8 +0.9
BEL **Belsk** 93.73 330 *e*P P 23 51 24.8 +0.9
BEL *e*P P 23 51 24.8 +0.9
PRAR **RASCA** 93.74 324 ⇓P P 23 51 24.4 +0.4
PRAR mb 23 51 25.9
BLS5 **Blasjo** 93.77 341 *e*P P 23 51 23.7 -0.2
BLS5 *e*PP PP 23 55 10.3 +1.8
BLS5 *e*SKSac SKSac 00 01 58.0 +0.8
BLS5 *e*SS SS 00 08 53.7 +4.6
BGNE **Belgrade** 93.82 43 P P 23 51 22.9 -1.7
baz=302
BGNE **Belgrade** 93.82 43 IAmb IAmb 23 51 24.8
comp=Z,53nm,1.0s
BGNE IAMs_20 IAMs_20 00 34 13.6
comp=Z,7μm,19.0s
ANGG **Ammassalik, Gr** 93.85 2 IAMs_20 IAMs_20 00 30 43.7
comp=Z,7μm,22.0s
ANTO **Ankara** 93.89 315 P P 23 51 24.9 -0.1
ANTO pmax pmax
comp=Z,28nm,1.1s
ANTO **Ankara** 93.89 315 P P 23 51 24.9 -0.1
CFR **Carcaliu** 93.92 322 ⇓P P 23 51 25.0 +0.2
TESR **Tescani** 94.00 323 ⇑P P 23 51 23.9 -1.3
HOMB **Homborsund** 94.03 339 *e*P P 23 51 26.4 +1.4
EYMN **Ely** 94.04 35 P P 23 51 24.5 -0.9
baz=307
EYMN **Ely** 94.04 35 IAmb IAmb 23 51 26.4
comp=Z,52nm,1.1s
EYMN **Ely** 94.04 35 IAMs_20 IAMs_20 00 29 06.3
comp=Z,8μm,22.0s
BSD **Bornholm Skovb** 94.05 335 *i* P P 23 51 24.1 -1.1
BSD pmax pmax

comp=Z,29nm,1.0s
BSD Bornholm Skovb 94.05 335 *i* P **P** **23 51 24.1 -1.1**
comp=Z,29nm,1.0s
BIZ Bicaz 94.06 324 ⇑P **P** **23 51 26.2 +0.7**
CBKS Cedar Bluff 94.12 46 P **P** **23 51 24.8 -1.2**
baz=301
CBKS Cedar Bluff 94.12 46 P **P** **23 51 25.7 -0.3**
CBKS pmax pmax
comp=Z,60nm,1.2s
CBKS Cedar Bluff 94.12 46 P **P** **23 51 25.7 -0.3**
CBKS IAmb IAmb 23 51 26.9
comp=Z,60nm,1.1s
CBKS IAMs_20 IAMs_20 00 26 50.4
comp=Z,10µm,22.0s
BUR08 Bucovina Ar. S 94.13 325 P **P** **23 51 24.9 -1.0**
BURAR Bucovina Array 94.14 325 ⇑P **P** **23 51 24.9 -1.0**
BURAR mb 23 51 29.7
KWP Kalwaria Pacla 94.21 327 *e*P **P** **23 51 26.9 +0.8**
KWP Kalwaria Pacla 94.21 327 *e*P **P** **23 51 26.9 +0.8**
KWP *e*P **P** **23 51 26.9 +0.8**
KWP *e*L L 00 26 37.0
comp=Z,15µm,28.9s
KWP *e*L L 00 26 37.0
comp=Z,15µm,28.9s
MERS Mersin 94.24 312 P **P** **23 51 26.1 -0.5**
HARR Harsova 94.32 321 ⇑P **P** **23 51 25.4 -1.3**
HARR mb 23 51 43.6
VRI Vrincioaia 94.33 323 ⇑P **P** **23 51 26.8 0.0**
MSTX Muleshoe 94.37 51 P **P** **23 51 26.9 -0.4**
baz=299
MSTX Muleshoe 94.37 51 IAmb IAmb 23 51 29.4
comp=Z,57nm,1.1s
MSTX IAMs_20 IAMs_20 00 33 22.0
comp=Z,8µm,19.0s
GKP Gorka Klasztor 94.38 332 *e*P **P** **23 51 27.5 +0.7**
GKP Gorka Klasztor 94.38 332 *e*P **P** **23 51 27.5 +0.7**
GKP *e*L L 00 27 50.7
comp=Z,13µm,23.4s
GKP *e*L L 00 27 50.7
comp=Z,13µm,23.4s
GKP *e*P **P** **23 51 27.5 +0.7**
PLOR Plostina 94.39 323 ⇑P **P** **23 51 27.3 +0.2**
AMTX Amarillo 94.72 50 P **P** **23 51 28.2 -0.7**
baz=299
OZUR 94.73 323 ⇓P **P** **23 51 29.4 +0.8**
KOLS Kolonicke sedl 94.87 327 *e*P **P** **23 51 28.5 -0.7**
KOLS Kolonicke sedl 94.87 327 *e*P **P** **23 51 28.5 -0.7**
SPMN Marine on St. 94.93 38 P **P** **23 51 29.0 -0.5**
baz=306
SPMN Marine on St. 94.93 38 IAMs_20 IAMs_20 00 31 40.3
comp=Z,9µm,21.0s
MLR Muntele Rosu 95.00 323 P **P** **23 51 29.6 -0.4**
MLR pmax pmax
comp=Z,6.0nm,0.9s
MLR MLR MLR
comp=Z,7µm,18.0s
MLR Muntele Rosu 95.00 323 P **P** **23 51 29.1 -0.9**
comp=Z,2.2nm,0.5s,baz=343,slow=11,SNR=7.3
MLR PKKP **PKKPdf** **00 08 24.7 -0.2**
comp=Z,4.1nm,0.9s,baz=206,slow=8.1,SNR=5.5
MLR Muntele Rosu 95.00 323 ⇑P **P** **23 51 30.0 0.0**
MLR Muntele Rosu 95.00 323 P **P** **23 51 29.6 -0.4**
MLR IAMs_20 IAMs_20 00 36 13.3
comp=Z,7µm,18.0s
DOPR Dopca 95.03 323 ⇑P **P** **23 51 29.8 -0.2**
UZH Uzhgorod 95.05 327 *e*P **P** **23 51 26.7 -3.3**
UZH *e* 23 51 37.3
UZH *e* 23 51 44.5
UZH *e*S **S** **00 02 34.7 -8.8**
UZH *e*PS PS 00 04 05.9 +3.5
UZH *e*SS SS 00 09 22.1 +14
RGN Rugen 95.10 335 IAMs_20 IAMs_20 00 35 08.4
comp=Z,7µm,20.0s
MUD Monsted U'grnd 95.22 338 *e*P **P** **23 51 29.6 -0.9**
MUD Monsted U'grnd 95.22 338 *i* P **P** **23 51 29.6 -0.9**
TRPA Tarpa 95.24 326 ⇓P **P** **23 51 30.2 -0.6**
TRPA mb 23 51 35.6
TRPA Tarpa 95.24 326 *e*PP **PP** **23 55 19.0 -1.3**
TRPA Tarpa 95.24 326 *e*P **P** **23 51 29.1 -1.8**
OJC Ojcow 95.27 329 *e*P **P** **23 51 31.1 +0.1**
OJC Ojcow 95.27 329 *e*P **P** **23 51 31.1 +0.1**
OJC *e*L L 00 26 27.4
comp=Z,8µm,27.7s
OJC *e*L L 00 26 27.4
comp=Z,8µm,27.7s
OJC *e*P **P** **23 51 31.1 +0.1**
OJC Ojcow 95.27 329 P **P** **23 51 30.1 -0.8**
OJC IAmb IAmb 23 51 40.9
comp=Z,28nm,1.1s
MMAI Mount Meron Ar 95.48 308 P **P** **23 51 30.9 -1.5**
comp=Z,31nm,1.0s,baz=38,slow=4.2,SNR=18
VOIR 95.54 323 ⇑P **P** **23 51 27.7 -4.7**
NIE Niedzica 95.55 328 *e*P **P** **23 51 32.2 -0.1**
NIE Niedzica 95.55 328 *e*P **P** **23 51 32.2 -0.1**
NIE *e*L L 00 26 38.1
comp=Z,10µm,31.4s
NIE *e*L L 00 26 38.1
comp=Z,10µm,31.4s
NIE *e*P **P** **23 51 32.2 -0.1**
ARR Arges 95.81 323 ⇓P **P** **23 51 32.9 -0.7**
TXAR Lajitas Array 95.86 56 P **P** **23 51 33.9 -0.4**
comp=Z,11nm,1.0s,baz=290,slow=3.7,SNR=55
TXAR PKKP **PKKPbc** **00 08 21.6 -1.5**
comp=Z,3.7nm,1.0s,baz=144,slow=5.2,SNR=10
TXAR LR LR 00 27 26.9
comp=Z,2µm,21.4s,baz=0.0,slow=31
DRGR 95.99 325 ⇑P **P** **23 51 33.7 -0.7**
CSS Mathiatis 96.02 311 P **P** **23 51 33.3 -1.4**
CSS IAmb IAmb 23 51 42.9
comp=Z,32nm,1.0s
KSU1 Kansas State U 96.04 44 P **P** **23 51 33.9 -0.8**
baz=303
LTVH Ltavrtes, Hu 96.05 326 *e*P **P** **23 51 36.1 +1.5**
LTVH *e*PP PP 23 55 15.1 -12
KECS Kecovo 96.07 327 *e*PP **PP** **23 55 28.4 +1.7**
LANS Liptovska Anna 96.14 328 *e*P **P** **23 51 36.0 +1.0**
LANS *e* **PP** **23 55 28.2 +0.9**
LANS Liptovska Anna 96.14 328 *e*PDIFF **P** **23 51 36.0 +1.0**
LANS *e*PP **PP** **23 55 28.2 +0.9**
D41A Chassel 96.15 34 IAMs_20 IAMs_20 00 32 16.0
comp=Z,8µm,22.0s
OKC Ostrava-Krasne 96.32 329 *e*P **P** **23 51 35.0 -0.7**
OKC *e* 23 51 45.3
OKC *e* 23 55 30.3
OKC MLR MLR
comp=Z,9µm,14.8s
OKC Ostrava-Krasne 96.32 329 *e*P **P** **23 51 35.0 -0.7**
OKC *ex* x 23 51 45.3
OKC *e*PP **PP** **23 55 30.3 +1.7**
OKC AMS AMS 00 44 20.0
comp=Z,9µm,14.8s
G40A Rib Lake 96.38 37 P **P** **23 51 35.7 -0.4**
G40A IAMs_20 IAMs_20 00 36 13.4
comp=Z,6µm,19.0s
KSP Ksiaz 96.49 331 *e*P **P** **23 51 36.8 +0.3**
KSP *e*S **SS** **00 09 36.9 +8.8**
KSP Ksiaz 96.49 331 *e*P **P** **23 51 36.8 +0.3**
KSP *e*P **P** **23 51 36.8 +0.3**
KSP *e*S **SS** **00 09 36.9 +8.8**
KSP *e*S **SS** **00 09 36.9 +8.8**
ELND Elena 96.55 321 ⇑P **P** **23 51 36.3 -0.6**
SCIA State Center 96.62 41 P **P** **23 51 36.5 -0.8**
baz=305
SCIA State Center 96.62 41 IAMs_20 IAMs_20 00 28 06.1
comp=Z,10µm,22.0s
MORC Moravsky Berou 96.64 330 P **P** **23 51 36.5 -0.8**
MORC pmax pmax
comp=Z,6.0nm,0.9s
MORC Moravsky Berou 96.64 330 ⇓P **P** **23 51 37.4 +0.1**
MORC mb 23 51 49.5
MORC Moravsky Berou 96.64 330 *e*P **P** **23 51 36.5 -0.8**
MORC *e*PP **PP** **23 55 32.5 +1.3**
MORC Moravsky Berou 96.64 330 P **P** **23 51 36.5 -0.8**
MORC IAMs_20 IAMs_20 00 43 58.1
comp=Z,8µm,18.0s
PSZ Piszkesteto 96.74 327 *e*P **P** **23 51 38.0 +0.2**
PSZ *e*PP **PP** **23 55 28.1 -3.9**
VLAD Vladila 96.77 322 ⇑P **P** **23 51 39.2 +1.3**
CHVC Chvalec 96.77 331 *e*P **P** **23 51 37.1 -0.7**
CHVC *e*PP **PP** **23 55 28.4 -3.7**
CHVC AMS AMS 00 51 10.0
comp=Z,8µm,15.9s
KRLC Kraliky 96.80 330 *e*P **P** **23 51 37.6 -0.4**
KRLC MLR MLR
comp=Z,10µm,16.3s
KRLC Kraliky 96.80 330 *e*P **P** **23 51 37.6 -0.4**
KRLC AMS AMS 00 48 20.0
comp=Z,10µm,16.3s
DPC Dobruska-Polom 96.82 331 *e*P **P** **23 51 37.1 -1.0**
DPC *e* 23 51 52.6
DPC *e* 23 55 30.5
DPC MLR MLR
comp=Z,10µm,16.1s
DPC Dobruska-Polom 96.82 331 *e*P **P** **23 51 37.1 -1.0**
DPC *ex* x 23 51 52.6
DPC *e*PP **PP** **23 55 30.5 -2.0**
DPC *e*SKS **SKSac** **00 02 18.0 +4.2**
DPC AMS AMS 00 43 10.0
comp=Z,10µm,16.1s
GZR Gura Zlata 96.83 324 ⇓P **P** **23 51 36.9 -1.3**
UPC Upice 96.85 331 *e*P **P** **23 51 37.7 -0.4**
UPC MLR MLR
comp=Z,8µm,15.9s
UPC Upice 96.85 331 *e*P **P** **23 51 37.7 -0.4**
UPC *ex* x 23 55 22.0
UPC AMS AMS 00 50 40.0
comp=Z,8µm,15.9s
WMOK Wichita Mounta 96.86 49 P **P** **23 51 37.7 -0.8**
baz=301
WMOK Wichita Mounta 96.86 49 P **P** **23 51 38.1 -0.5**
WMOK pmax pmax
comp=Z,42nm,1.1s
WMOK Wichita Mounta 96.86 49 P **P** **23 51 38.1 -0.5**
WMOK IAmb IAmb 23 51 40.0
comp=Z,42nm,1.1s
WMOK Wichita Mounta 96.86 49 IAMs_20 IAMs_20 00 27 52.3
comp=Z,10µm,22.0s
SIRR Siria 96.89 325 ⇓P **P** **23 51 37.8 -0.6**
VYHS Vyhne 96.89 328 *e*P **P** **23 51 37.5 -0.9**
VYHS *e* 23 55 32.4
VYHS Vyhne 96.89 328 *e*PDIFF **P** **23 51 37.5 -0.9**
VYHS *e*PP **PP** **23 55 32.4 -0.6**
BSZH Besenyszg 96.95 327 *e*P **P** **23 51 41.0 +2.4**
BSZH *e*PP PP 23 55 21.1 -12
KOLL Kolacno 97.04 328 *e*PP **PP** **23 55 35.3 +1.1**
F42A Maple Grove Fa 97.21 35 IAMs_20 IAMs_20 00 42 29.2
comp=Z,5µm,18.0s
JAVC Velka Javorina 97.21 329 *e*P Pdif 23 51 41.5 +1.5
JAVC *e*PP **PP** **23 55 38.1 +2.5**
ABTX Abilene, Hawle 97.31 51 P **P** **23 51 40.5 -0.1**
baz=300
BZS Buzias 97.32 325 ⇑P **P** **23 51 40.4 0.0**
VRAC Vranov 97.42 330 P **P** **23 51 39.6 -1.1**
comp=Z,15nm,1.1s,baz=44,slow=6.0,SNR=10.0
VRAC PP **PP** **23 55 37.4 +0.3**
comp=Z,18nm,1.2s,baz=42,slow=8.9,SNR=6.9
VRAC Vranov 97.42 330 ⇓P **P** **23 51 40.2 -0.5**
VRAC mb 23 51 44.5
VRAC Vranov 97.42 330 *e*P **P** **23 51 40.3 -0.5**
VRAC *e*PP **PP** **23 55 38.5 +1.4**
E43A Lone Tree Farm 97.42 34 IAMs_20 IAMs_20 00 33 15.6
comp=Z,7µm,22.0s
EIL Elat 97.43 305 P **P** **23 51 40.1 -1.1**
comp=Z,23nm,1.1s,baz=102,slow=6.8,SNR=8.6
IVI Ivigtut 97.46 7 IAMs_20 IAMs_20 00 34 28.1
comp=Z,6µm,19.0s
PVCC Panska Ves 97.49 332 *e*P **P** **23 51 41.0 0.0**
PVCC *e* 23 55 37.0
PVCC MLR MLR
comp=Z,11µm,13.9s
PVCC Panska Ves 97.49 332 *e*P **P** **23 51 41.0 0.0**
PVCC *e*PP **PP** **23 55 37.0 -0.5**
PVCC AMS AMS 00 48 10.0
comp=Z,11µm,13.9s
BRG Berggiesshubel 97.52 332 *e*P **P** **23 51 40.3 -0.8**
comp=Z,27nm,1.4s
BRG PP PP 23 55 20.0 -18
BRG SKS **SKSac** **00 02 15.0 -2.3**
BRG S **S** **00 03 03.0 -1.6**
BRG SS **SS** **00 09 42.0 -0.5**
comp=N,6µm,14.1s
comp=E,8µm,15.3s
comp=Z,15µm,15.8s
BRG Berggiesshubel 97.52 332 *e*P **P** **23 51 40.3 -0.8**
BRG 00 02 15.0
BRG S **S** **00 03 03.0 -1.6**
BRG SS **SS** **00 09 42.0 -0.5**
BRG pmax pmax
comp=Z,27nm,1.4s
FNO Franklin 97.56 48 P Pdif 23 51 42.3 +0.5
SMOL Smolenice 97.56 329 *e*P **P** **23 51 41.4 0.0**
SMOL Smolenice 97.56 329 *e*PDIFF **P** **23 51 41.4 0.0**
X34A Smith Ranch, M 97.60 49 IAmb IAmb 23 51 51.6
comp=Z,28nm,1.2s
SRO Srobarova 97.60 328 *e*PP **PP** **23 55 40.6 +2.1**
CLL Collm 97.61 333 *i* P **P** **23 51 40.5 -1.0**
CLL *i* 23 55 40.1
CLL *e* 00 02 15.0
CLL *e*S **S** **00 03 05.0 -0.4**
CLL pmax pmax
comp=Z,52nm,1.5s
CLL pmax pmax
comp=Z,62nm,1.4s
CLL Collm 97.61 333 *i* P **P** **23 51 40.5 -1.0**
comp=Z,52nm,1.5s
CLL *e* 23 54 13.0
CLL *i* PP **PP** **23 55 40.1 +1.7**
comp=Z,62nm,1.4s
CLL *i* 23 55 56.7
CLL *e* 23 56 24.0
CLL *e*SKSac **SKSac** **00 02 15.0 -2.7**
CLL *e*S **S** **00 03 05.0 -0.4**
CLL *e*PS PS 00 04 29.0 -1.2
CLL *e* 00 04 53.0
CLL *e*PKKPbc **PKKPbc** **00 08 18.0 -0.9**
CLL *e*SS **SS** **00 09 48.0 +4.2**
CLL *e*PKPPKPdf 00 16 34.0
CLL *e*SSSS 00 17 00.0
CLL *e* 00 20 06.0
CLL Lmax 00 47 00.0
CLL Collm 97.61 333 P **P** **23 51 40.4 -1.0**
CLL IAmb IAmb 23 51 41.9
comp=Z,21nm,1.1s
CLL IAMs_20 IAMs_20 00 41 40.3
comp=Z,7µm,18.0s
KRUC Moravsky 97.68 330 *e*P **P** **23 51 41.3 -0.6**
KRUC *e*PP **PP** **23 55 39.4 +0.3**
MODS Modra-Piesok 97.73 329 *e*P **P** **23 51 42.2 0.0**
MODS *e* 23 55 42.7
MODS Modra-Piesok 97.73 329 *e*PDIFF **P** **23 51 42.2 0.0**
MODS *e*PP **PP** **23 55 42.7 +3.2**
JFWS Jewell Farm 97.79 38 P **P** **23 51 41.3 -1.3**
baz=308
MDVR Moldovita 97.80 324 ⇓P **P** **23 51 41.0 -1.6**
NRS Narsarsuaq 97.80 6 IAMs_20 IAMs_20 00 32 16.1
comp=Z,8µm,22.0s
GOPC GO Pecny, Ondr 97.83 331 *e*P **P** **23 51 42.5 -0.1**
GOPC *e* 00 03 05.3
GOPC MLR MLR
comp=Z,9µm,15.2s
GOPC GO Pecny, Ondr 97.83 331 *e*P **P** **23 51 42.5 -0.1**
GOPC *ex* x 23 55 21.9
GOPC *e*SKS **S** **00 03 05.3 -2.1**
GOPC AMS AMS 00 47 20.0
comp=Z,9µm,15.2s
PRA Prague 97.88 331 *e*PP **PP** **23 55 35.8 -4.7**
PRA AMS AMS 00 42 10.0
comp=Z,11µm,15.2s
PRU Pruhonice 97.88 331 *e*P **P** **23 51 42.0 -0.8**
PRU *e* 23 51 54.8
PRU *e* 23 55 37.5
PRU MLR MLR
comp=Z,10µm,16.1s
PRU Pruhonice 97.88 331 *e*P **P** **23 51 42.0 -0.8**
PRU *ex* x 23 51 54.8
PRU *e*PP **PP** **23 55 37.5 -3.1**
PRU *e*SKS 00 02 06.6
PRU AMS AMS 00 42 10.0
comp=Z,10µm,16.1s
CSKK Cskako 97.93 328 *e*P **P** **23 51 43.0 -0.1**
CSKK *e*PP **PP** **23 55 39.0 -2.0**
TREC Trest 97.94 330 *e*P **P** **23 51 42.5 -0.6**
TREC *e* 23 51 55.9
TREC *e* 00 03 07.6
TREC MLR MLR
comp=Z,12µm,15.7s
TREC Trest 97.94 330 *e*P **P** **23 51 42.5 -0.6**
TREC *ex* x 23 51 55.9
TREC *ex* x 23 55 28.2
TREC *e*SKS **S** **00 03 07.6 -0.8**
TREC AMS AMS 00 49 10.0
comp=Z,12µm,15.7s
I42A Draeger Farm, 97.95 37 IAMs_20 IAMs_20 00 32 27.0
comp=Z,8µm,22.0s
H43A Windswept, Lux 98.23 36 IAMs_20 IAMs_20 00 38 15.3
comp=Z,6µm,19.0s
JCT Junction City 98.26 53 P **P** **23 51 44.8 -0.2**
baz=300
JCT Junction City 98.26 53 P **P** **23 51 44.8 -0.2**
JCT pmax pmax
comp=Z,61nm,1.1s
JCT MLR MLR
comp=Z,7µm,18.0s
JCT Junction City 98.26 53 P **P** **23 51 44.8 -0.2**
JCT IAMs_20 IAMs_20 00 39 23.2
comp=Z,7µm,18.0s
VTS Vitosha 98.29 322 P **P** **23 51 43.7 -1.3**
VTS pmax pmax
comp=Z,8.0nm,1.1s
VTS Vitosha 98.29 322 ⇓P **P** **23 51 44.6 -0.4**
VTS mb 23 51 56.8
VTS Vitosha 98.29 322 P **P** **23 51 43.7 -1.3**
TUL1 Leonard 98.32 47 P **P** **23 51 44.4 -0.7**
baz=303
TUL1 Leonard 98.32 47 IAMs_20 IAMs_20 00 34 38.0
comp=Z,7µm,21.0s
PBCC Pribram 98.35 331 AMS AMS 00 49 30.0
comp=Z,2µm,15.7s
MPLH Magyarpolny 98.42 328 *e*P **P** **23 51 43.1 -2.2**
MPLH *e*PP **PP** **23 55 41.1 -3.8**
TIH Tihany 98.43 327 *e*PP PP 23 55 30.1 -15
VNDA Vanda 98.45 177 P Pdif 23 51 45.5 +0.9
VNDA pmax pmax
comp=Z,9.0nm,1.1s
VNDA Vanda 98.45 177 P **P** **23 51 44.2 -0.3**
comp=Z,2.9nm,0.9s,baz=334,slow=4.8,SNR=9.7
VNDA Vanda 98.45 177 P Pdif 23 51 45.5 +0.9
MORH Mrgy, Hungar 98.51 326 *e*P **P** **23 51 44.1 -1.6**
MORH *e*PP PP 23 55 36.0 -9.5
SOP Sopron 98.56 329 *e*PP PP 23 55 36.0 -10
D46A Sault St. Mari 98.60 33 P **P** **23 51 45.7 -0.4**
baz=313
NKC Novy Kostel 98.64 332 *e*P **P** **23 51 46.1 -0.1**
NKC *e* 23 51 58.6
NKC MLR MLR
comp=Z,11µm,14.9s
NKC Novy Kostel 98.64 332 *e*P **P** **23 51 46.1 -0.1**
NKC *ex* x 23 51 58.6
NKC *ex* x 23 55 19.6
NKC AMS AMS 00 49 10.0
comp=Z,11µm,14.9s
CONA Conrad Observa 98.72 329 *e*pPdiff **P** **23 51 46.0 -0.8**
comp=Z,13nm,1.3s,SNR=6.0
CONA *e*PP **PP** **23 55 49.2 +2.0**
comp=Z,17nm,1.3s
N41A Harden Midland 98.77 41 IAMs_20 IAMs_20 00 30 06.8
comp=Z,9µm,22.0s
E46A Sault Ste Mari 98.82 33 IAmb IAmb 23 51 54.8
comp=Z,20nm,1.1s
KHC Kasperske Hory 98.94 331 *e*P **P** **23 51 46.1 -1.5**
KHC *e* 23 51 59.3
KHC *e* 00 02 17.0
KHC MLR MLR
comp=Z,10µm,16.5s
KHC Kasperske Hory 98.94 331 *e*P **P** **23 51 46.1 -1.5**
KHC *ex* x 23 51 59.3
KHC *ex* x 23 55 00.0
KHC *ex* x 23 55 31.5
KHC *e*PP **PP** **23 55 42.6 -6.1**
KHC *e*SKS **SKSac** **00 02 17.0 -7.7**
KHC AMS AMS 00 52 10.0
comp=Z,10µm,16.5s
KHC Kasperske Hory 98.94 331 P **P** **23 51 46.8 -0.9**
G45A Suttons Bay 99.00 35 IAMs_20 IAMs_20 00 35 32.6
comp=Z,5µm,20.0s
GEC2 GERESS Array S 99.09 331 IAMs_20 IAMs_20 00 40 19.7
comp=Z,7µm,18.0s
GERES GERESS Array B 99.09 331 P **Pdif** **23 51 46.3 -2.1**
comp=Z,11nm,1.1s,baz=41,slow=4.3,SNR=26
GERES PP **PP** **23 55 47.1 -2.8**
comp=Z,6.7nm,1.0s,baz=64,slow=9.9,SNR=3.7
GERES PKKPbc **PKKPbc** **00 08 12.9 -2.0**
comp=Z,0.5nm,0.7s,baz=213,slow=3.4,SNR=3.2
GERES LR LR 00 40 29.9
comp=Z,3µm,20.2s,baz=48,slow=38
WHTX Lake Whitney, 99.22 51 Pdiff **Pdif** **23 51 48.9 -0.3**
baz=302
WHTX Lake Whitney, 99.22 51 P **Pdif** **23 51 49.9 +0.7**
WHTX IAMs_20 IAMs_20 00 39 25.5
comp=Z,5µm,19.0s
E47A Iron Bridge 99.28 32 Pdiff **Pdif** **23 51 48.2 -1.0**
baz=314
I45A Fountain 99.35 36 IAMs_20 IAMs_20 00 33 56.8
comp=Z,8µm,22.0s
HHAR Hobbs 99.36 46 P **Pdif** **23 51 49.7 0.0**
ARSA Arzberg 99.36 329 pPdiff **Pdif** **23 51 49.0 -0.5**
comp=Z,14nm,1.2s
ARSA PP **PP** **23 55 53.0 +1.0**
comp=Z,16nm,1.4s
SCHQ Schefferville 99.44 19 P **Pdif** **23 51 48.3 -1.4**
comp=Z,11nm,0.9s,baz=280,slow=6.7,SNR=9.4
SCHQ LR LR 00 35 36.1
comp=Z,4µm,21.8s,baz=330,slow=35
SCHQ Schefferville 99.44 19 IAmb IAmb 23 51 51.0
comp=Z,16nm,0.9s
SCHQ IAMs_20 IAMs_20 00 34 41.0
comp=Z,7µm,22.0s
STIP 99.47 321 *i* P **Pdif** **23 51 48.9 -1.2**
VAY Valandovo 99.48 321 *i* P **Pdif** **23 51 50.1 0.0**
MATQ Matagami 99.54 27 Pdiff **Pdif** **23 51 49.4 -0.9**
baz=318
MOA Molln 99.54 330 pPdiff **Pdif** **23 51 49.8 -0.5**
comp=Z,14nm,1.6s
MOA *e*PP **PP** **23 55 55.2 +1.8**
comp=Z,26nm,1.2s
GRA1 Grafenberg Arr 99.57 333 P **Pdif** **23 51 49.5 -0.9**
GRA1 IAmb IAmb 23 51 53.3
comp=Z,33nm,1.1s
GRA1 IAMs_20 IAMs_20 00 39 41.2
comp=Z,5µm,19.0s
GRF Grafenberg Arr 99.57 333 P **Pdif** **23 51 49.5 -0.9**
GRF pmax pmax
comp=Z,33nm,1.1s
GRF MLR MLR
comp=Z,5µm,19.0s
D49A Beulah Townshi 99.66 31 Pdiff **Pdif** **23 51 49.8 -1.0**
baz=315
J45A Montague 99.66 36 IAMs_20 IAMs_20 00 32 31.9
comp=Z,8µm,22.0s
GLMI Grayling 99.70 34 IAMs_20 IAMs_20 00 33 39.8
comp=Z,9µm,22.0s
SKO Skopje 99.73 322 *i* P **Pdif** **23 51 51.7 +0.5**
HDIL Hopedale 99.80 40 Pdiff **Pdif** **23 51 50.7 -0.9**
baz=308
E48A Lockeyer 99.82 32 Pdiff **Pdif** **23 51 50.9 -0.7**
baz=314
I46A Reed City 99.84 35 Pdiff **Pdif** **23 51 50.8 -0.9**
baz=312
G47A Hillman 99.86 34 Pdiff **Pdif** **23 51 51.1 -0.7**
baz=313
MGMO Mountain Grove 99.97 44 IAMs_20 IAMs_20 00 33 45.5
comp=Z,7µm,22.0s
PERS Pernice 99.99 328 *e*Pdiff **Pdif** **23 51 51.5 -0.9**
PERS *e*PP **PP** **23 55 58.6 +1.7**
SOKA Soboth 100.00 329 *e*pPdiff **Pdif** **23 51 51.9 -0.6**
comp=Z,17nm,1.3s,SNR=10
SOKA PP **PP** **23 55 57.3 +0.3**
comp=Z,26nm,1.2s
U40A Yellville 100.04 45 Pdiff **Pdif** **23 51 52.0 -0.8**
baz=305
U40A Yellville 100.04 45 **Pdif** **23 51 53.5 +0.7**
U40A IAMs_20 IAMs_20 00 31 10.1
comp=Z,8µm,22.0s
W39A Magazine 100.08 46 Pdiff **Pdif** **23 51 52.2 -0.8**
baz=304
W39A Magazine 100.08 46 IAMs_20 IAMs_20 00 32 17.1
comp=Z,7µm,22.0s
CCM Cathedral Cave 100.10 43 Pdiff **Pdif** **23 51 52.0 -1.0**
baz=306
CCM Cathedral Cave 100.10 43 IAMs_20 IAMs_20 00 32 11.4
comp=Z,8µm,22.0s
BLY Banja Luka 100.25 326 **Pdif** **23 51 53.1 -0.4**
I47A Gladwin 100.29 35 IAMs_20 IAMs_20 00 34 32.7

comp=Z,6µm,22.0s
LSQQ Lebel-sur-Quev 100.35 28 Pdiff Pdif 23 51 53.1 -0.8
baz=319
OBKA Obir 100.36 329 *e*PP **PP 23 56 00.9 +1.3**
comp=Z,78nm,1.4s
SLM Saint Louis 100.39 42 IAMs_20 IAMs_20 00 36 49.5
comp=Z,6µm,20.0s
KBA Koelnbreinsper 100.53 330 pPdiff **Pdif 23 51 54.0 -0.9**
KBA PP **PP 23 55 58.3 -2.8**
comp=Z,26nm,1.3s
MIAR Mount Ida 100.58 47 Pdiff **Pdif 23 51 54.9 -0.3**
baz=304
MIAR Mount Ida 100.58 47 P **Pdif 23 51 55.1 -0.1**
MIAR Mount Ida 100.58 47 Pdif 23 51 55.1 -0.1
J47A Sunmer 100.65 36 IAMs_20 IAMs_20 00 33 46.1
comp=Z,8µm,22.0s
OHR Ohrid 100.65 322 *i* P **Pdif 23 51 54.9 -0.6**
PDG Podgorica 100.68 323 ⇑P **Pdif 23 51 54.8 -0.6**
PDG Podgorica 100.68 323 IAMs_20 IAMs_20 00 44 40.5
comp=Z,7µm,18.0s
LJU Ljubljana 100.70 328 *e*Pdiff **Pdif 23 51 53.7 -1.8**
LJU *e*PP **PP 23 56 03.4 +1.2**
MYKA Terra Mystica 100.71 329 Pdiff **Pdif 23 51 54.2 -1.4**
comp=Z,8.9nm,1.6s
MYKA *e*PP **PP 23 56 02.8 +0.5**
comp=Z,86nm,1.4s
CHGQ Chibougamau 100.79 26 Pdiff **Pdif 23 51 55.5 -0.3**
baz=321
FCAR Ozark Folk Cen 100.79 45 IAMs_20 IAMs_20 00 31 18.0
comp=Z,8µm,22.0s
VLDQ Val d'Or 100.85 28 IAMs_20 IAMs_20 00 36 17.0
comp=Z,6µm,21.0s
K47A Vermontville 100.93 36 Pdiff **Pdif 23 51 55.7 -0.8**
baz=312
TIR Tirane 101.04 322 IAMs_20 IAMs_20 00 45 51.3
comp=Z,8µm,18.0s
STU Stuttgart 101.13 333 IAMs_20 IAMs_20 00 36 26.1
comp=Z,6µm,21.0s
ABTA Abfaltersbach 101.16 330 *e*Pdiff **Pdif 23 51 55.8 -1.8**
comp=Z,5.6nm,1.0s
ABTA *e*PP **PP 23 56 07.0 +1.3**
comp=Z,31nm,1.2s
WATA Walderalm 101.16 331 pPdiff **Pdif 23 51 58.1 +0.4**
comp=Z,8.0nm,1.2s
WATA PP **PP 23 56 07.1 +1.3**
comp=Z,26nm,1.3s
J48A Bridge Port 101.17 35 IAMs_20 IAMs_20 00 34 48.8
comp=Z,6µm,21.0s
WTTA Wattenberg 101.19 331 PP **PP 23 56 10.4 +4.4**
comp=Z,64nm,2.0s
LCAR Lake Charles 101.33 44 IAMs_20 IAMs_20 00 38 21.5
comp=Z,7µm,19.0s
MOTA Moosalm 101.37 331 *e*pPdiff **Pdif 23 51 59.0 +0.4**
comp=Z,6.1nm,1.1s
PBMO Poplar Bluff 101.38 44 IAMs_20 IAMs_20 00 37 47.5
comp=Z,5µm,19.0s
SQTA Sankt Quirin 101.42 331 *e*pPdiff **Pdif 23 51 59.6 +0.8**
comp=Z,10nm,1.2s
SQTA *e*PP **PP 23 56 10.0 +2.3**
comp=Z,59nm,2.2s
RETA Reutte 101.42 331 *e*pPdiff **Pdif 23 51 59.4 +0.6**
comp=Z,14nm,1.3s
RETA PP **PP 23 56 11.2 +3.6**
comp=Z,27nm,1.5s
STAL STALIGIAL 101.42 329 IAMs_20 IAMs_20 00 39 21.6
comp=Z,7µm,19.0s
UCC Uccle 101.46 337 IAMs_20 IAMs_20 00 39 29.8
comp=Z,8µm,19.0s
SIUC Southern Illin 101.59 42 IAMs_20 IAMs_20 00 40 57.9
comp=Z,7µm,18.0s
WLF Walferdange 101.68 335 IAMs_20 IAMs_20 00 37 40.4
comp=Z,8µm,21.0s
FETA Feichten 101.78 331 *e*pPdiff **Pdif 23 52 00.8 +0.3**
comp=Z,6.9nm,1.0s
FETA *e*PP **PP 23 56 10.4 -0.1**
comp=Z,16nm,1.3s
BFO Black Forest 101.84 333 *i* P **Pdif 23 52 00.6 +0.1**
M48A Edgerton 101.87 37 IAMs_20 IAMs_20 00 33 28.6
comp=Z,9µm,22.0s
PARMO Parma 101.88 43 IAMs_20 IAMs_20 00 38 29.1
comp=Z,6µm,19.0s
HBAR Harrisburg 101.96 45 IAMs_20 IAMs_20 00 33 29.8
comp=Z,6µm,20.0s
DAVA Damuels 101.97 332 *e*pPdiff **Pdif 23 52 00.9 -0.4**
comp=Z,19nm,1.2s
HENM Henderson Moun 102.03 43 IAMs_20 IAMs_20 00 38 32.0
comp=Z,8µm,19.0s
PVMO Portageville 102.07 43 IAMs_20 IAMs_20 00 38 27.0
comp=Z,7µm,19.0s
CTI Castel Tesino 102.08 330 P **Pdif 23 52 02.6 +0.8**
CTI Castel Tesino 102.08 330 Pdif 23 52 02.6 +0.8
CTI IAMs_20 IAMs_20 00 44 59.4
comp=Z,5µm,19.0s
PENMO Penman 102.09 43 IAMs_20 IAMs_20 00 38 36.7
comp=Z,6µm,20.0s
PEBM Pemiscott Bayo 102.14 44 IAMs_20 IAMs_20 00 38 21.1
comp=Z,8µm,19.0s
LPAR Lepanto 102.16 44 IAMs_20 IAMs_20 00 33 06.2
comp=Z,6µm,21.0s
HICK Hickman 102.29 43 IAMs_20 IAMs_20 00 38 48.9
comp=Z,6µm,19.0s
FUORN Ofenpass-Fuorn 102.30 331 Pdif 23 52 03.2 +0.3
USIN University of 102.40 41 IAMs_20 IAMs_20 00 35 56.5
comp=Z,7µm,20.0s
X43A Marvell 102.42 46 IAMs_20 IAMs_20 00 31 23.1
comp=Z,9µm,22.0s
GLAT Glass 102.42 43 IAMs_20 IAMs_20 00 38 47.3
comp=Z,7µm,19.0s
TEOL Teolo 102.58 329 IAMs_20 IAMs_20 00 40 07.1
comp=Z,6µm,18.0s
HALT Halls 102.60 44 IAMs_20 IAMs_20 00 38 43.2
comp=Z,7µm,19.0s
MET Memphis--Engin 102.69 45 IAMs_20 IAMs_20 00 31 44.2
comp=Z,9µm,22.0s
TUE Stuetta 102.82 331 IAMs_20 IAMs_20 00 46 13.4
comp=Z,7µm,18.0s
M50A Fremont 102.86 36 IAMs_20 IAMs_20 00 35 54.6
comp=Z,7µm,21.0s
SALO Salr 102.93 330 IAMs_20 IAMs_20 00 42 25.8
comp=Z,5µm,18.0s
WCI Wyandotte Cave 103.07 40 IAMs_20 IAMs_20 00 36 33.2
comp=Z,7µm,20.0s
SGRT San Giovanni R 103.07 325 IAMs_20 IAMs_20 00 43 46.7
comp=Z,5µm,18.0s
OXF Oxford 103.40 45 Pdiff **Pdif 23 52 06.4 -1.3**
baz=307
OXF Oxford 103.40 45 IAMs_20 IAMs_20 00 33 10.0
comp=Z,7µm,22.0s
WVT Waverly 103.44 43 Pdiff **Pdif 23 52 06.8 -1.1**
baz=308
WVT Waverly 103.44 43 IAMs_20 IAMs_20 00 41 03.2
comp=Z,7µm,18.0s
DELO Deloro Mine 103.45 31 IAMs_20 IAMs_20 00 41 48.0
comp=Z,8µm,19.0s
N51A Ashland 103.56 36 IAMs_20 IAMs_20 00 35 19.1
comp=Z,8µm,22.0s
ACER Acerenza 103.62 324 IAMs_20 IAMs_20 00 43 03.5
comp=Z,5µm,19.0s
PRMA PARMA 103.67 330 IAMs_20 IAMs_20 00 43 35.9
comp=Z,6µm,19.0s
ACSO Alum Creek Sta 103.68 37 IAMs_20 IAMs_20 00 34 55.6
comp=Z,9µm,21.0s
NRCA Norcia 103.70 327 IAMs_20 IAMs_20 00 45 19.1
comp=Z,6µm,20.0s
SENIN Lac Senin/Sane 103.81 332 IAMs_20 IAMs_20 00 48 57.4
comp=Z,7µm,18.0s
J54A Appleton 103.86 32 Pdiff **Pdif 23 52 08.6 -1.0**
baz=317
J54A Appleton 103.86 32 IAMs_20 IAMs_20 00 37 00.4
comp=Z,9µm,21.0s
INTR Introdacqua 103.87 326 IAMs_20 IAMs_20 00 48 58.2
comp=Z,6µm,18.0s
O51A Pataskala 103.95 37 Pdiff **Pdif 23 52 09.3 -0.8**
baz=313
E58A La Victoria 104.02 27 Pdiff **Pdif 23 52 09.5 -0.7**
baz=322
MEDO Medina 104.03 32 IAMs_20 IAMs_20 00 37 04.4
comp=Z,8µm,21.0s
VLC Villacollemand 104.08 329 IAMs_20 IAMs_20 00 37 06.0
comp=Z,6µm,20.0s
OSSC Osservatorio P 104.14 328 IAMs_20 IAMs_20 00 45 42.5
comp=Z,7µm,19.0s
PAOL Paolisi 104.21 325 IAMs_20 IAMs_20 00 44 29.8
comp=Z,7µm,18.0s
T49A Edmonton 104.25 41 IAMs_20 IAMs_20 00 38 40.0
comp=Z,8µm,20.0s
J55A Hilton 104.28 32 IAMs_20 IAMs_20 00 37 43.8
comp=Z,9µm,22.0s
MSSA Maissana 104.38 330 IAMs_20 IAMs_20 00 43 51.7
comp=Z,6µm,20.0s
WVNY West Valley, N 104.51 33 IAMs_20 IAMs_20 00 37 12.0
comp=Z,9µm,22.0s
MMNY Mt. Morris Dam 104.62 32 IAMs_20 IAMs_20 00 37 57.0
comp=Z,7µm,21.0s
J56A Wolcott 104.74 31 IAMs_20 IAMs_20 00 38 16.0
comp=Z,7µm,20.0s
BNI Bardonecchia 105.11 332 IAMs_20 IAMs_20 00 47 29.1
comp=Z,6µm,18.0s
SWET Sewanee 105.21 42 IAMs_20 IAMs_20 00 32 12.7
comp=Z,6µm,22.0s
L56A Greenwood 105.23 33 IAMs_20 IAMs_20 00 38 05.2
comp=Z,8µm,22.0s
J58A Remsen 105.43 30 IAMs_20 IAMs_20 00 46 02.4
comp=Z,6µm,18.0s
TLIG Tlapa 105.49 64 IAMs_20 IAMs_20 00 45 11.9
comp=Z,7µm,18.0s
R53A Hurricane 105.56 38 IAMs_20 IAMs_20 00 34 19.4
comp=Z,9µm,22.0s
W50A Signal Mountai 105.61 42 IAMs_20 IAMs_20 00 32 25.3
comp=Z,8µm,22.0s
K58A Earlville 105.71 31 IAMs_20 IAMs_20 00 43 04.9
comp=Z,8µm,19.0s
J59A Piesco 105.72 30 IAMs_20 IAMs_20 00 47 46.0
comp=Z,6µm,19.0s
F62A Pittston Farm, 105.78 26 IAMs_20 IAMs_20 00 38 40.0
comp=Z,7µm,20.0s
MCWV Mont Chateau 105.82 36 IAMs_20 IAMs_20 00 37 34.0
comp=Z,6µm,22.0s
VT1 Waterbury 105.85 28 IAMs_20 IAMs_20 00 38 50.3
comp=Z,5µm,19.0s
LRAL Lakeview Retre 105.89 45 IAMs_20 IAMs_20 00 34 05.9
comp=Z,7µm,20.0s
P55A Reedsville 105.94 36 PKiKP **PKiKP 23 56 31.3 0.0**
baz=315
CPCT Cooper Cave 105.94 41 IAMs_20 IAMs_20 00 39 14.0
comp=Z,8µm,21.0s
BINY Binghamton 105.97 32 IAMs_20 IAMs_20 00 39 04.6
comp=Z,7µm,20.0s
M57A Sunshine Farm, 106.04 33 IAMs_20 IAMs_20 00 38 09.6
comp=Z,7µm,21.0s
SSPA Standing Stone 106.16 34 IAMs_20 IAMs_20 00 38 19.9
comp=Z,7µm,21.0s
ACCN Adirondack Com 106.17 29 IAMs_20 IAMs_20 00 48 16.9
comp=Z,5µm,19.0s
V52A Sevierville 106.26 41 IAMs_20 IAMs_20 00 35 04.2
comp=Z,7µm,22.0s
LBNH Lisbon 106.28 28 IAMs_20 IAMs_20 00 37 38.5
comp=Z,6µm,22.0s
F63A Nahmakanta, Br 106.29 25 IAMs_20 IAMs_20 00 39 58.4
comp=Z,7µm,19.0s
X51A Calhoun 106.31 42 IAMs_20 IAMs_20 00 36 21.6
comp=Z,7µm,22.0s
H62A Milan 106.35 27 IAMs_20 IAMs_20 00 50 34.4
comp=Z,6µm,18.0s
L59A Walton 106.44 31 IAMs_20 IAMs_20 00 46 33.1
comp=Z,6µm,18.0s
F64A Sherman 106.45 25 IAMs_20 IAMs_20 00 49 06.0
comp=Z,5µm,19.0s
Z50A Ashland 106.46 44 IAMs_20 IAMs_20 00 41 10.3
comp=Z,5µm,19.0s
HNH Hanover 106.55 28 IAMs_20 IAMs_20 00 46 18.7
comp=Z,5µm,19.0s
TRY Troy 106.68 30 IAMs_20 IAMs_20 00 35 44.1
comp=Z,6µm,21.0s
I62A Tamworth 106.83 28 IAMs_20 IAMs_20 00 35 53.0
comp=Z,8µm,21.0s
V53A Saluda 106.85 40 IAMs_20 IAMs_20 00 34 36.3
comp=Z,8µm,22.0s
L60A Shokan 106.98 31 PKiKP **PKiKP 23 56 33.2 +0.1**
baz=320
WVL Waterville 106.99 26 IAMs_20 IAMs_20 00 38 29.1
comp=Z,8µm,22.0s
FFD Franklin Falls 107.01 28 IAMs_20 IAMs_20 00 46 42.1
comp=Z,6µm,18.0s
I63A Otisfield 107.02 27 IAMs_20 IAMs_20 00 38 43.9
comp=Z,7µm,22.0s
N59A State Game Lan 107.04 32 IAMs_20 IAMs_20 00 39 41.0
comp=Z,7µm,21.0s
BG3 Lake Jocassee 107.22 41 IAMs_20 IAMs_20 00 40 53.3
comp=Z,6µm,20.0s
Y52A Lilburn 107.26 42 IAMs_20 IAMs_20 00 41 09.4
comp=Z,6µm,20.0s
CLTB Caltabellotta 107.37 323 IAMs_20 IAMs_20 00 50 41.8
comp=Z,6µm,19.0s
K62A Royalston 107.39 29 IAMs_20 IAMs_20 00 41 54.1
comp=Z,6µm,20.0s
MVL Millersville 107.43 33 IAMs_20 IAMs_20 00 39 04.3
comp=Z,8µm,21.0s
ODNJ Ogdensburg 107.49 32 IAMs_20 IAMs_20 00 50 57.0
comp=Z,4µm,18.0s
SDMD Soldier's Deli 107.61 34 IAMs_20 IAMs_20 00 39 05.2
comp=Z,5µm,21.0s
152A Waverly Hall 107.61 44 IAMs_20 IAMs_20 00 42 13.8
comp=Z,7µm,19.0s
QUA2 Belchertown 107.64 29 IAMs_20 IAMs_20 00 41 22.7
comp=Z,6µm,22.0s
EMMW Ean e Machias 107.76 25 IAMs_20 IAMs_20 00 41 12.5
comp=Z,6µm,20.0s
BRNJ Basking Ridge 107.81 32 IAMs_20 IAMs_20 00 51 07.6
comp=Z,7µm,18.0s
PAL Palisades 107.89 31 IAMs_20 IAMs_20 00 42 36.6
comp=Z,5µm,20.0s
GOGA Godfrey 107.93 43 IAMs_20 IAMs_20 00 41 39.2
comp=Z,6µm,20.0s
PAULI Pauline 108.02 40 IAMs_20 IAMs_20 00 38 47.3
comp=Z,5µm,21.0s
WES Weston 108.02 29 IAMs_20 IAMs_20 00 49 14.8
comp=Z,5µm,19.0s
WSPT Westport, CT 108.04 31 IAMs_20 IAMs_20 00 38 04.4
comp=Z,8µm,22.0s
R58B Mineral 108.10 36 PKiKP **PKiKP 23 56 35.3 0.0**
baz=316
HODGE Hodges 108.15 41 IAMs_20 IAMs_20 00 40 51.7
comp=Z,7µm,19.0s
BRYW Bryn Mawr College 108.30 29 IAMs_20 IAMs_20 00 42 21.1
comp=Z,5µm,19.0s
253A Americus 108.38 44 IAMs_20 IAMs_20 00 42 38.2
comp=Z,6µm,19.0s
P61A Hammonton 108.47 33 IAMs_20 IAMs_20 00 40 37.8
comp=Z,7µm,19.0s
154A Montrose 108.68 43 IAMs_20 IAMs_20 00 39 02.1
comp=Z,7µm,21.0s
M64A Tiverton 108.74 29 PKiKP **PKiKP 23 56 36.1 -0.2**
baz=325
M65A Busby, Falmout 108.98 29 IAMs_20 IAMs_20 00 42 02.1
comp=Z,5µm,21.0s
TIGA Tifton 109.13 44 IAMs_20 IAMs_20 00 35 33.7
comp=Z,8µm,22.0s
GBN Guysborough 109.32 21 IAMs_20 IAMs_20 00 42 24.3
comp=Z,7µm,20.0s
Y57A Sumter 109.43 40 IAMs_20 IAMs_20 00 43 06.6
comp=Z,7µm,20.0s
255A Hazlehurst 109.53 43 IAMs_20 IAMs_20 00 39 27.7
comp=Z,7µm,20.0s
257A Skidaway Islan 110.42 42 IAMs_20 IAMs_20 00 42 34.1
comp=Z,6µm,20.0s
QSPA South Pole Qui 110.54 180 IAMs_20 IAMs_20 00 41 54.3
comp=Z,6µm,21.0s
Z59A Georgetown, SC 110.64 40 PKiKP **PKiKP 23 56 40.1 0.0**
baz=314
KEST Kesra 110.86 324 PKKPbc PKKPbc 00 07 38.5 -0.5
comp=Z,2.6nm,0.8s,baz=6.8,slow=5.9,SNR=4.5
KEST Kesra 110.86 324 IAMs_20 IAMs_20 00 46 54.0
comp=Z,5µm,20.0s
TEIG Tepich 112.50 56 IAMs_20 IAMs_20 00 54 40.7
comp=Z,4µm,18.0s
PBRG Braganca 113.11 339 *e*SS SS 00 13 49.2 +34
PBRG Braganca 113.11 339 *e*LR LR 00 32 26.1
comp=Z,4µm,18.0s
MVO Moncorvo 113.78 339 *e*PKPdf **PKiKP 23 56 46.3 +0.2**
MVO Moncorvo 113.78 339 *e*SS SS 00 13 47.2 +23
MVO Moncorvo 113.78 339 *e*LR LR 00 32 44.5
comp=Z,4µm,16.0s
POLO Lamas de Olo 113.85 339 *e*PKPdf **PKiKP 23 56 49.7 +3.5**
ESBB Sonseca Array 113.97 336 IAMs_20 IAMs_20 00 50 42.6
comp=Z,6µm,22.0s
ESDC Sonseca Array 113.97 336 PKiKP **PKiKP 23 56 45.7 -0.8**
comp=Z,1.0nm,0.8s,baz=353,slow=3.1,SNR=6.9
ESDC PP **PP 23 57 37.9 -1.4**
comp=Z,2.5nm,0.8s,baz=31,slow=7.3,SNR=7.2
ESDC PKKPbc **PKKPbc 00 07 29.4 +0.6**
comp=Z,2.7nm,0.9s,baz=231,slow=1.5,SNR=10
ESDC PKKPab **PKKPab 00 07 37.1 -0.1**
comp=Z,8.4nm,0.9s,baz=207,slow=4.3,SNR=16
ESDC SKKP 00 11 29.8
comp=Z,1.0nm,0.9s,baz=235,slow=3.1,SNR=4.1
PAB San Pablo 114.23 336 IAMs_20 IAMs_20 00 50 49.0
comp=Z,6µm,19.0s
EBNR Beni Rached 114.44 330 P **PP 23 57 45.7 +2.9**
ECHA Ech Chlef 114.64 330 P **PP 23 57 49.0 +5.0**
MTE Manteigas 114.64 339 *e*PKPdf PKPdf 23 56 49.2 +1.5
MTE Manteigas 114.64 339 *e*SS SS 00 13 50.8 +15
MTE Manteigas 114.64 339 *e*LR LR 00 33 39.8
comp=Z,4µm,18.0s
MTE Manteigas 114.64 339 IAMs_20 IAMs_20 00 56 00.0
comp=Z,4µm,19.0s
EANR 'Ain N'Sour 114.92 330 P **PP 23 57 50.0 +3.8**
COI Coimbra 115.10 339 IAMs_20 IAMs_20 00 45 41.7
comp=Z,5µm,20.0s
PCBR Castelo Branco 115.12 338 *e*PKPdf **PKPdf 23 56 50.0 +1.4**
SNET Serv Nac Est T 115.22 63 IAMs_20 IAMs_20 00 46 50.4
comp=Z,4µm,18.0s
ETRT Tiaret 115.28 329 P **PP 23 57 50.0 +1.2**
SYO Syowa Base 115.34 202⇑ *e*X **PKiKP 23 56 45.4 -2.5**
PMRV Marv??o 115.45 338 *e*LR LR 00 35 55.0
comp=Z,5µm,18.0s
PTOM Tomar 115.63 339 *e*PKPdf **PKPdf 23 56 50.2 +0.6**
PMTG Montargil 116.06 339 *e*PKPdf **PKiKP 23 56 47.7 -2.7**
TGUH Tegucigalpa,Un 116.64 61 IAMs_20 IAMs_20 00 39 43.1
comp=Z,4µm,21.0s
PBEJ Beja 116.87 338 *e*PKPdf **PKiKP 23 56 53.4 +1.4**
MESJ Messejana 117.16 338 *e*PP PP 23 58 02.3 +0.7
MESJ *e*SS SS 00 14 12.2 +3.6
MESJ AMS AMS 00 58 58.1
comp=Z,5µm,17.4s
PCVE Castro Verde 117.28 338 *e*PKPdf **PKiKP 23 56 53.1 +0.3**
PVAQ Vaqueiros 117.37 337 *e*LR LR 00 34 41.2
comp=Z,5µm,16.0s
PVAQ Vaqueiros 117.37 337 IAMs_20 IAMs_20 00 52 52.9
comp=Z,5µm,20.0s
PBDV Barranco-do-Ve 117.59 337 *e*PKPdf **PKiKP 23 56 55.4 +1.9**
MORF Marmelete 117.79 338 *e*PP PP 23 58 06.7 +0.6
MORF *e*SS SS 00 14 20.4 +3.4
MORF AMS AMS 01 03 32.1
comp=Z,4µm,14.4s
ESTN Estel 117.89 62 IAMs_20 IAMs_20 00 47 51.3
comp=Z,5µm,20.0s
JBK JBK 117.94 331 P **PKiKP 23 56 56.0 +1.5**
PFVI Vila Bisbo 118.01 338 IAMs_20 IAMs_20 00 45 25.7
comp=Z,5µm,22.0s
FIGM Figuig 119.17 329 P **PKiKP 23 56 58.0 +1.2**
BBSR BB Station 119.21 30 IAMs_20 IAMs_20 00 53 45.2
comp=Z,5µm,19.0s
MDT Midelt 120.13 332 PKKPab PKKPab 00 07 08.5 -1.6
comp=Z,3.8nm,0.8s,baz=200,slow=4.0,SNR=9.6
MDT Midelt 120.13 332 P **PKiKP 23 56 59.3 +0.6**
JTS Las Juntas de 120.54 64 IAMs_20 IAMs_20 00 46 56.7
comp=Z,4µm,20.0s
ARF Arif 121.13 331 P **PKiKP 23 57 02.0 +1.3**
LSZ Lusaka 121.62 264 PKIKP **PKiKP 23 57 02.1 +0.2**
LSZ MLR MLR
comp=Z,3µm,19.0s
LSZ Lusaka 121.62 264 PKiKP 23 57 02.1 +0.2
TISM Timmit 121.86 333 P **PKiKP 23 57 04.0 +2.1**
TZRR Tazzarine 122.29 332 P **PKiKP 23 57 04.0 +1.1**
GTBY Guantanamo Bay 122.44 48 IAMs_20 IAMs_20 00 50 38.2
comp=Z,5µm,20.0s
TAM Tamanrasset 122.55 317 PKIKP **PKPdf 23 57 03.5 0.0**
TAM Tamanrasset 122.55 317 PKPdf 23 57 03.5 0.0
ZGR Zagora 122.88 331 P **PKPdf 23 57 04.0 +0.1**
OUK Oukaimeden 122.90 334 P **PKiKP 23 57 06.0 +1.5**
NVL N'lazarevskaya 123.45 196 *e*PKIKP **PKPdf 23 57 03.7 -0.3**
NVL *e* 23 58 41.7
NVL *e*SP SP 00 08 44.9 +7.0
NVL MLR MLR
comp=Z,6µm,20.0s
TTIG Tnine Tigouga, 123.72 334 P **PKiKP 23 57 07.0 +1.2**
PMOZ Porto Moniz, M 124.58 344 *e*LR LR 00 37 39.4
comp=Z,2µm,18.0s
PMAR Madeira 124.60 343 *e*PKPdf **PKiKP 23 57 08.4 +0.8**
BCIP Isla Barro Col 125.40 62 IAMs_20 IAMs_20 00 45 34.9
comp=Z,4µm,21.0s
SC01 Santiago de Io 125.77 45 IAMs_20 IAMs_20 00 49 18.9
comp=Z,7µm,22.0s
LBTB Lobatse 125.98 254 PKIKP **PKPdf 23 57 10.1 +0.2**
LBTB Lobatse 125.98 254 PKPdf 23 57 10.1 +0.2
SNAA Sanae 126.11 191 PKPdf **PKiKP 23 57 08.9 -0.2**
SNAA Sanae 126.11 191 *d i* PKIKP **PKiKP 23 57 09.4 +0.3**
SNAA Sanae 126.11 191 PKiKP 23 57 09.0 -0.2
SNAA IAMs_20 IAMs_20 00 50 28.0
comp=Z,6µm,22.0s
BOSA Boshof 126.71 249 PKP **PKPdf 23 57 11.1 -0.1**
comp=Z,16nm,0.8s,baz=79,slow=1.7,SNR=18
BOSA Boshof 126.71 249 PKPdf 23 57 10.4 -0.8
VNA2 Neumayer--Wätz 127.54 190 PKPdf **PKiKP 23 57 12.3 +0.4**
VNA3 Neumayer Olymp 127.63 189 PKPdf **PKiKP 23 57 12.2 0.0**
VNA1 Neumayer--Stat 127.93 190 PKPdf **PKiKP 23 57 13.1 +0.4**
SJCC San Jacinto, C 128.75 58 *e*P **PKPdf 23 57 14.2 -1.2**
SJCC San Jacinto, C 128.75 58 *e*P **PKPdf 23 57 14.2 -1.2**
ARGC Ariguani, Magd 129.50 57 *e*P **PKiKP 23 57 18.2 +0.6**
ARGC Ariguani, Magd 129.50 57 *e*P **PKiKP 23 57 18.2 +0.6**
SJG San Juan 129.68 42 IAMs_20 IAMs_20 00 51 42.3
comp=Z,6µm,22.0s
UREC San Jos de Ur 129.71 60 *e*P **PKPdf 23 57 16.7 -0.5**
UREC San Jos de Ur 129.71 60 *e*P **PKPdf 23 57 16.7 -0.5**
PDPR Patillas Dam, 129.83 42 PKPdf 23 57 16.9 -0.4
CODC Agustn Codazz 130.08 56 *e*P **PKiKP 23 57 18.4 -0.3**
CODC Agustn Codazz 130.08 56 *e*P **PKiKP 23 57 18.4 -0.3**
URIC Uribia, Colomb 130.09 53 *e*P **PKPdf 23 57 16.7 -1.2**
URIC Uribia, Colomb 130.09 53 *e*P **PKPdf 23 57 16.7 -1.2**
CBOC Ciudad Bolivar 130.37 62 *e*P **PKiKP 23 57 19.4 -0.2**
CBOC Ciudad Bolivar 130.37 62 *e*P **PKiKP 23 57 19.4 -0.2**
ZARC Zaragoza, Cauc 130.41 60 *e*P **PKPdf 23 57 18.4 -0.1**
ZARC Zaragoza, Cauc 130.41 60 *e*P **PKPdf 23 57 18.4 -0.1**
HELC Santa Helena 130.59 62 *e*P **PKPdf 23 57 18.8 -0.6**
HELC Santa Helena 130.59 62 *e*P **PKPdf 23 57 18.8 -0.6**
PLMC San Jos del P 130.67 64 *e*P **PKPdf 23 57 19.3 +0.2**
PLMC San Jos del P 130.67 64 *e*P **PKPdf 23 57 19.3 +0.2**
YOTC Yotoco, Valle 131.10 65 *e*P **PKPdf 23 57 18.4 -1.6**
YOTC Yotoco, Valle 131.10 65 *e*P **PKPdf 23 57 18.4 -1.6**
OTAV Otavalo 131.14 70 PKIKP **PKPdf 23 57 20.2 -0.3**
OTAV Otavalo 131.14 70 PKPdf 23 57 20.2 -0.3
OTAV Otavalo 131.14 70 IAMs_20 IAMs_20 00 41 09.3
comp=Z,5µm,22.0s
OCAC Ocana 131.20 58 *e*P **PKPdf 23 57 20.2 0.0**
OCAC Ocana 131.20 58 *e*P **PKPdf 23 57 20.2 0.0**
GUY2C Guyana, Caldas 131.26 63 *e*P **PKPdf 23 57 19.5 -1.3**
GUY2C Guyana, Caldas 131.26 63 *e*P **PKPdf 23 57 19.5 -1.3**
PTBC PUERTO BERRIO 131.28 61 *e*P **PKPdf 23 57 13.2 -7.0**
PTBC PUERTO BERRIO 131.28 61 *e*P **PKPdf 23 57 13.2 -7.0**
BBAC Balboa, Cauca 131.33 68 *e*P **PKPdf 23 57 20.9 +0.3**
BBAC Balboa, Cauca 131.33 68 *e*P **PKPdf 23 57 20.9 +0.3**
RREF El Recreo 131.45 63 *e*P **PKPdf 23 57 19.9 -1.4**
RREF El Recreo 131.45 63 *e*P **PKPdf 23 57 19.9 -1.4**
NORC Norcasia 131.48 62 *e*P **PKPdf 23 57 20.3 -0.4**
NORC Norcasia 131.48 62 *e*P **PKPdf 23 57 20.3 -0.4**
PMSA Palmer Station 131.49 163 *e*P **PKPdf 23 57 16.3 -2.7**
PMSA Palmer Station 131.49 163 *e*P **PKPdf 23 57 16.3 -2.7**
PMSA Palmer Station 131.49 163 IAMs_20 IAMs_20 00 55 25.2
comp=Z,3µm,18.0s
BRRC Barranca, Sant 131.55 59 *e*P **PKiKP 23 57 21.4 -0.3**
BRRC Barranca, Sant 131.55 59 *e*P **PKiKP 23 57 21.4 -0.3**
TOA0 Torodi Ar. Sit 131.91 311 PKiKP 23 57 22.3 -0.1
TORD Torodi Ar. Bea 131.91 311 PKhKP PKPpre 23 57 04.6
comp=Z,0.4nm,0.5s,baz=66,slow=2.2,SNR=4.7
TORD PKP **PKPdf 23 57 21.1 -0.2**
comp=Z,7.0nm,0.8s,baz=17,slow=3.0,SNR=21
TORD PP **PP 23 59 43.4 +1.9**
comp=Z,7.0nm,0.9s,baz=50,slow=4.3,SNR=5.7
TORD SKP 00 00 57.3
comp=Z,7.5nm,0.8s,baz=15,slow=5.6,SNR=2.8
ORTC Ortega, Tolima 132.07 64 *e*P **PKPdf 23 57 21.2 -0.5**
ORTC Ortega, Tolima 132.07 64 *e*P **PKPdf 23 57 21.2 -0.5**
SPBC San Pablo de B 132.09 61 *e*P **PKPdf 23 57 18.9 -3.0**
SPBC San Pablo de B 132.09 61 *e*P **PKPdf 23 57 18.9 -3.0**
ROSC El Rosal 132.34 62 *e*P **PKPdf 23 57 21.7 -1.0**
ROSC El Rosal 132.34 62 *e*P **PKPdf 23 57 21.7 -1.0**
RUSC La Rusia 132.76 60 *e*P **PKPdf 23 57 20.1 -3.5**
RUSC La Rusia 132.76 60 *e*P **PKPdf 23 57 20.1 -3.5**
FLOC Florencia 132.93 67 *e*P **PKPdf 23 57 23.1 -0.3**
FLOC Florencia 132.93 67 *e*P **PKPdf 23 57 23.1 -0.3**
CHIC Chingaza 132.94 62 *e*P **PKPdf 23 57 23.7 -0.2**
CHIC Chingaza 132.94 62 *e*P **PKPdf 23 57 23.7 -0.2**
PTLC Puerto Leguiza 134.37 68 *e*P **PKPdf 23 57 25.3 -0.8**
PTLC Puerto Leguiza 134.37 68 *e*P **PKPdf 23 57 25.3 -0.8**
PTGC Puerto Gaitan, 134.50 61 *e*P PKPdf 23 57 13.7 -13
PTGC Puerto Gaitan, 134.50 61 *e*P PKPdf 23 57 13.7 -13
NNA Nana 137.37 85⇑ *i* PKIKP **PKPdf 23 57 31.9 +0.3**

NNA	Nana	137.37	85			PKPdf	23 57 32.1	+0.5
DBIC	Dimbokro	141.02	311	PKIKP		PKPdf	23 57 37.7	-0.5
DBIC	Dimbokro	141.02	311	PKhKP	PKPpre		23 57 31.6	
	comp=Z,12nm,0.7s,baz=30,slow=4.0,SNR=17							
DBIC	Dimbokro	141.02	311	PKPdf		PKPdf	23 57 37.7	-0.5
TIC	Toumodi	141.16	312	*e*PKP1		PKPdf	23 57 30.5	-8.0
	comp=Z,1.8nm,0.2s							
KIC	Kosan Boka	141.16	311	*e*PKP1		PKPdf	23 57 31.3	-7.2
	comp=Z,91nm,1.1s							
LIC	Lamto	141.46	311	*e*PKP1		PKPdf	23 57 31.6	-7.5
	comp=Z,65nm,1.1s							
GO06	Curarrehue	142.33	128			PKPdf	23 57 40.6	+0.6
PLCA	Paso Flores	142.61	131	PKIKP		PKPdf	23 57 38.3	-2.1
PLCA	Paso Flores	142.61	131	PKP		PKPdf	23 57 37.9	-2.6
	comp=Z,27nm,1.0s,baz=233,slow=4.2,SNR=20							
PLCA	Paso Flores	142.61	131	PKPdf		PKPdf	23 57 38.3	-2.1
GO05	Huala	143.20	121			PKPdf	23 57 40.5	-1.0
EFI	East Falkland	143.55	154	PKIKP		PKPdf	23 57 41.2	-0.4
EFI				MLR	MLR			
	comp=Z,4μm,19.0s							
EFI	East Falkland	143.55	154			PKPdf	23 57 41.2	-0.4
EFI	East Falkland	143.55	154	IAMs_20	IAMs_20		01 01 13.6	
	comp=Z,4μm,19.0s							
PEL	Peldehue	144.58	118	PKIKP		PKPbc	23 57 43.1	+0.3
PEL	Peldehue	144.58	118			PKPbc	23 57 43.1	+0.3
GO04	Tololo Observa	144.94	113			PKPdf	23 57 44.7	-0.3
PB10	IPOC Station P	145.38	102			PKPab	23 57 45.7	0.0
GO03	Copiap	145.65	109			PKPab	23 57 46.7	0.0
GO03				IAMs_20	IAMs_20		00 51 43.4	
	comp=Z,4μm,20.0s							
PB04	IPOC Station P	145.68	100			PKPab	23 57 47.2	+0.1
PB04				IAMs_20	IAMs_20		00 57 16.2	
	comp=Z,3μm,19.0s							
MNMC	Minye Minye	145.82	94			PKPab	23 57 48.3	+0.4
PB11	IPOC Station P	145.86	95			PKPab	23 57 47.9	0.0
GO01	Chusmiza	146.28	95	PKPbc		PKPbc	23 57 48.9	-0.2
GO02	Mina Guanaco	146.30	104	PKPbc		PKPab	23 57 49.9	+0.3
HOPE	Hope Point	146.42	177	PKP2		PKPab	23 57 48.7	+0.1
HOPE	Hope Point	146.42	177			PKPab	23 57 48.7	+0.1
HOPE	Hope Point	146.42	177	IAMs_20	IAMs_20		00 59 48.9	
	comp=Z,5μm,22.0s							
LPAZ	La Paz	146.66	88	PKPbc		PKPdf	23 57 49.3	+0.5
	comp=Z,32nm,0.6s,baz=262,slow=2.6,SNR=67							
LPAZ	La Paz	146.66	88	*e*P		PKPdf	23 57 49.0	+0.2
LPAZ	La Paz	146.66	88	*e*P		PKPdf	23 57 49.0	+0.2
LPAZ	La Paz	146.66	88	PKPbc		PKPab	23 57 51.4	-0.1
LVC	Limon Verde	146.84	100	PKP2		PKPbc	23 57 50.1	-0.3
LVC	Limon Verde	146.84	100	*e*P		PKPdf	23 57 49.5	+0.8
LVC	Limon Verde	146.84	100	*e*P		PKPdf	23 57 49.5	+0.8
LVC	Limon Verde	146.84	100	PKPbc		PKPbc	23 57 50.1	-0.3
LVC	Limon Verde	146.84	100	IAMs_20	IAMs_20		00 58 36.0	
	comp=Z,4μm,18.0s							
SAML	Samuel	148.83	72	PKIKP		PKPdf	23 57 50.9	-0.8
SAML							23 57 55.8	
SAML				MLR	MLR			
	comp=Z,6μm,18.0s							
SAML	Samuel	148.83	72	*e*P		PKPdf	23 57 51.7	0.0
SAML	Samuel	148.83	72	*e*P		PKPdf	23 57 51.7	0.0
SAML	Samuel	148.83	72			PKPdf	23 57 50.9	-0.8
SAML				PKPbc		PKPbc	23 57 55.8	+0.2
TRQA	Tornquist	149.76	131	*e*P		PKPdf	23 57 52.3	-0.2
TRQA	Tornquist	149.76	131	*e*P		PKPdf	23 57 52.3	-0.2
TRQA	Tornquist	149.76	131			PKPdf	23 57 52.8	+0.2
TRQA				PKPbc		pPKPdf	23 58 00.1	+1.2
LPA	La Plata	154.08	128	PKIKP		PKPdf	23 57 57.3	-1.7
LPA				pPP			00 01 53.4	
LPA				SKIKS			00 05 04.8	
LPA				SDIFF			00 10 56.9	
LPA				PPP	PPP		00 11 21.4	
CLDB	Colider	156.21	69	*e*P		PKPdf	23 58 03.6	+1.1
CLDB	Colider	156.21	69	*e*P		PKPdf	23 58 03.6	+1.1
ITQB	Itaqui	157.08	117	*e*P		PKPdf	23 58 03.8	+0.6
ITQB	Itaqui	157.08	117	*e*P		PKPdf	23 58 03.8	+0.6
CPUP	Villa Florida	157.23	109	PKIKP		PKPdf	23 58 03.0	-0.5
CPUP	Villa Florida	157.23	109	PKP		PKPdf	23 58 03.0	-0.5
	comp=Z,10nm,1.0s,baz=244,slow=2.2,SNR=16							
CPUP				PKPab		PKPab	23 58 34.4	-0.1
	comp=Z,6.2nm,0.8s,baz=268,slow=4.3,SNR=6.2							
CPUP	Villa Florida	157.23	109	*e*P		PKPdf	23 58 03.6	+0.1
CPUP	Villa Florida	157.23	109	*e*P		PKPdf	23 58 03.6	+0.1
CPUP	Villa Florida	157.23	109			PKPdf	23 58 03.1	-0.4
ASCN	Ascension	157.75	302	IAMs_20	IAMs_20		01 14 08.9	
	comp=Z,3μm,22.0s							
PRPB	Paraupebas	158.37	50	*e*P		PKPdf	23 58 06.8	+1.4
PRPB	Paraupebas	158.37	50	*e*P		PKPdf	23 58 06.8	+1.4
PLTB	Pedras Altas	158.72	125	*e*P		PKPdf	23 58 06.9	+1.7
PLTB	Pedras Altas	158.72	125	*e*P		PKPdf	23 58 06.9	+1.7
AQDB	Aquidauana	158.97	93	*e*P		PKPdf	23 58 06.3	+0.5
AQDB	Aquidauana	158.97	93	*e*P		PKPdf	23 58 06.3	+0.5
PP1B	Ponte de Pedra	159.32	85	*e*P		PKPdf	23 58 07.2	+0.9
PP1B	Ponte de Pedra	159.32	85	*e*P		PKPdf	23 58 07.2	+0.9
NBMO	Morrinhos-CE	161.45	22	*e*P		PKPdf	23 58 10.9	+2.1
NBMO	Morrinhos-CE	161.45	22	*e*P		PKPdf	23 58 10.9	+2.1
ITAB	Concordia	161.57	114	*e*P		PKPdf	23 58 08.1	-0.4
ITAB	Concordia	161.57	114	*e*P		PKPdf	23 58 08.1	-0.4
ARAG	Araguaiana, MT	161.66	77	*e*P		PKPdf	23 58 10.5	+1.6
ARAG	Araguaiana, MT	161.66	77	*e*P		PKPdf	23 58 10.5	+1.6
SMTB	Santa Maria do	161.80	52	*e*P		PKPdf	23 58 10.9	+1.8
SMTB	Santa Maria do	161.80	52	*e*P		PKPdf	23 58 10.9	+1.8
TRCB	Terra Rica	161.86	100	*e*P		PKPdf	23 58 09.2	+0.2
TRCB	Terra Rica	161.86	100	*e*P		PKPdf	23 58 09.2	+0.2
NBPS	Pedro II - PI	161.90	27	*e*P		PKPdf	23 58 10.9	+1.6
NBPS	Pedro II - PI	161.90	27	*e*P		PKPdf	23 58 10.9	+1.6
CNLB	Canela	161.91	122	*e*P		PKPdf	23 58 08.3	-0.6
CNLB	Canela	161.91	122	*e*P		PKPdf	23 58 08.3	-0.6
PTGB	Pitanga	162.19	106	*e*P		PKPdf	23 58 09.8	+0.4
PTGB	Pitanga	162.19	106	*e*P		PKPdf	23 58 09.8	+0.4
NBCL	Cascavel-CE	162.87	17	*e*P		PKPdf	23 58 11.8	+1.6
NBCL	Cascavel-CE	162.87	17	*e*P		PKPdf	23 58 11.8	+1.6
PCMB	Pacaembu	163.16	96	*e*P		PKPdf	23 58 11.1	+0.8
PCMB	Pacaembu	163.16	96	*e*P		PKPdf	23 58 11.1	+0.8
NBPB	Pedra_Branca-C	163.69	23	*e*P		PKPdf	23 58 12.2	+1.1
NBPB	Pedra_Branca-C	163.69	23	*e*P		PKPdf	23 58 12.2	+1.1
ITRB	Iturama	163.89	89	*e*P		PKPdf	23 58 12.0	+1.0
ITRB	Iturama	163.89	89	*e*P		PKPdf	23 58 12.0	+1.0
NBPA	Parau_RN	164.63	15	*e*P		PKPdf	23 58 12.6	+0.7
NBPA	Parau_RN	164.63	15	*e*P		PKPdf	23 58 12.6	+0.7
FRTB	Fartura	164.64	103	*e*P		PKPdf	23 58 12.3	+0.7
FRTB	Fartura	164.64	103	*e*P		PKPdf	23 58 12.3	+0.7
RCBR	Riachuelo	164.96	10	PKIKP		PKPdf	23 58 11.8	-0.4
RCBR							23 59 08.4	
RCBR	Riachuelo	164.96	10	*e*P		PKPdf	23 58 13.8	+1.6
RCBR	Riachuelo	164.96	10	*e*P		PKPdf	23 58 13.8	+1.6
RCBR	Riachuelo	164.96	10			PKPdf	23 58 11.8	-0.4
RCBR				PKPab		PKPab	23 59 08.4	+0.1
BDFB	Brasilia	165.07	73	PKP		PKPdf	23 58 12.3	0.0
	comp=Z,23nm,0.9s,baz=121,slow=1.1,SNR=22							
BDFB				PKPab		PKPab	23 59 08.9	-0.3
	comp=Z,31nm,1.1s,baz=316,slow=2.0,SNR=4.9							
IPMB	Ipameri, GO	165.60	82	*e*P		PKPdf	23 58 13.9	+1.3
IPMB	Ipameri, GO	165.60	82	*e*P		PKPdf	23 58 13.9	+1.3
NBPV	Pedro Velho	165.63	8	*e*P		PKPdf	23 58 14.1	+1.4
NBPV	Pedro Velho	165.63	8	*e*P		PKPdf	23 58 14.1	+1.4
NBMA	Muriti-CE	165.67	23	*e*P		PKPdf	23 58 13.9	+1.2
NBMA	Muriti-CE	165.67	23	*e*P		PKPdf	23 58 13.9	+1.2
BB19B	Bebedouro	165.70	94	*e*P		PKPdf	23 58 13.8	+1.2
BB19B	Bebedouro	165.70	94	*e*P		PKPdf	23 58 13.8	+1.2
NBLI	Livramento-PB	166.23	16	*e*P		PKPdf	23 58 14.2	+1.0
NBLI	Livramento-PB	166.23	16	*e*P		PKPdf	23 58 14.2	+1.0
SPB	Sao Paulo	166.54	105	*e*P		PKPdf	23 58 13.6	+0.5
SPB	Sao Paulo	166.54	105	*e*P		PKPdf	23 58 13.6	+0.5
SPB	Sao Paulo	166.54	105			PKPdf	23 58 13.4	+0.3
RCLB	Rio Claro- Sao	166.59	100	*e*P		PKPdf	23 58 15.1	+1.9
RCLB	Rio Claro- Sao	166.59	100	*e*P		PKPdf	23 58 15.1	+1.9
VAO	Valinhos	167.05	103	*e*P		PKPdf	23 58 14.7	+1.0
VAO	Valinhos	167.05	103	*e*P		PKPdf	23 58 14.7	+1.0
PMNB	Patos De Minas	167.37	82	*e*P		PKPdf	23 58 15.1	+1.1
PMNB	Patos De Minas	167.37	82	*e*P		PKPdf	23 58 15.1	+1.1
NBRF	Rio Formoso -	167.88	9	*e*P		PKPdf	23 58 14.8	+0.5
NBRF	Rio Formoso -	167.88	9	*e*P		PKPdf	23 58 14.8	+0.5
JANB	Januaria	168.04	64	*e*P		PKPdf	23 58 16.0	+1.5
JANB	Januaria	168.04	64	*e*P		PKPdf	23 58 16.0	+1.5
NBPN	Ponto Novo - B	168.10	35	*e*P		PKPdf	23 58 14.3	-0.3
NBPN	Ponto Novo - B	168.10	35	*e*P		PKPdf	23 58 14.3	-0.3
NBAN	Anadia - AL	168.61	15	*e*P		PKPdf	23 58 14.0	-0.9
NBAN	Anadia - AL	168.61	15	*e*P		PKPdf	23 58 14.0	-0.9
NBLA	Lagarto - SE	169.37	25	*e*P		PKPdf	23 58 14.8	-0.5
NBLA	Lagarto - SE	169.37	25	*e*P		PKPdf	23 58 14.8	-0.5
NBIT	Itapeh - BA	171.74	47	*e*P		PKPdf	23 58 16.6	+0.1
NBIT	Itapeh - BA	171.74	47	*e*P		PKPdf	23 58 16.6	+0.1
SJMB	Sao Joao De Ma	172.24	76	*e*P		PKPdf	23 58 16.9	+0.2
SJMB	Sao Joao De Ma	172.24	76	*e*P		PKPdf	23 58 16.9	+0.2
BSFB	Barra de Sao F	172.59	76	*e*P		PKPdf	23 58 16.9	+0.1
BSFB	Barra de Sao F	172.59	76	*e*P		PKPdf	23 58 16.9	+0.1

IDC 17 23:41:11.0±3.9, 4°26S×139°35E, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.7/43, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=170.3km s-min=29.5km az=90.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	16.34	197	Pn	Pn	23 45 01.7	-0.3
	0.5nm,0.3s,baz=19,slow=12,SNR=5.0						
ASAR	Alice Springs	20.00	195	P	P	23 45 45.5	+0.1
	1.3nm,0.5s,baz=23,slow=9.6,SNR=23						
SONM	Songino Array	59.38	335	P	P	23 51 15.3	-0.1
	3.6nm,1.0s,baz=127,slow=7.6,SNR=3.0						

IDC 17 23:43:21.1±7.0, 21°32N×146°88E, h0km, mb4.3/7, mb1 4.5/7, mb1mx4.0/63, mbtmp4.3/7, Error ellipse: s-maj=221.4km s-min=33.2km az=7.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	Zalesovo Beam	56.65	321	P	P	23 53 06.8	+0.8
	3.4nm,0.5s,baz=104,slow=8.2,SNR=5.0						
MKAR	Makanchi Array	57.49	313	P	P	23 53 12.3	+0.2
	3.3nm,0.8s,baz=76,slow=6.3,SNR=3.9						
KURBB	Kurchatov Arra	60.15	317	P	P	23 53 30.9	+0.4
	4.9nm,0.9s,baz=93,slow=7.6,SNR=3.7						
YKA	Yellowknife Ar	75.17	28	P	P	23 55 05.5	+0.4
	0.6nm,0.7s,baz=291,slow=5.4,SNR=2.4						
ARCES	ARCESS Array B	80.35	342	P	P	23 55 32.6	-1.3
	4.1nm,1.0s,baz=52,slow=5.8,SNR=2.8						
NVAR	Mina Array Bea	80.66	52	P	P	23 55 36.8	+0.3
	1.3nm,0.8s,baz=271,slow=6.0,SNR=1.9						
FINES	FINESS Array B	84.98	336	P	P	23 55 57.3	-0.8
	2.9nm,0.6s,baz=64,slow=6.3,SNR=4.3						

IDC 17 23:49:20.6±4.1, 20°67N×147°18E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.7/61, mbtmp4.0/7, Error ellipse: s-maj=136.6km s-min=29.7km az=88.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	Songino Array	42.52	319	P	P	23 57 17.6	-0.4
	0.4nm,0.5s,baz=120,slow=7.7,SNR=3.7						
FITZ	Fitzroy Crossi	43.94	210	P	P	23 57 29.4	-0.2
	4.1nm,1.1s,baz=27,slow=9.0,SNR=2.2						
ZALV	Zalesovo Beam	57.33	322	P	P	23 59 10.2	-0.2
	1.7nm,0.5s,baz=111,slow=7.7,SNR=6.3						
MKAR	Makanchi Array	58.13	313	P	P	23 59 16.3	+0.2
	0.7nm,0.7s,baz=90,slow=8.8,SNR=5.6						
KURBB	Kurchatov Arra	60.81	317	P	P	23 59 34.4	-0.1
	0.5nm,0.6s,baz=97,slow=7.6,SNR=5.1						
BVAR	Borovoye Array	65.86	320	P	P	00 00 08.3	+0.3
	1.3nm,0.5s,baz=94,slow=6.8,SNR=7.6						
FINES	FINESS Array B	85.68	336	P	P	00 02 01.0	-0.2
	4.1nm,1.1s,baz=108,slow=4.5,SNR=4.1						

IDC 17 23:53:35.4±17.0, 20°24N×145°61E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.4/74, mbtmp3.9/4, Error ellipse: s-maj=566.8km s-min=159.7km az=11.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	Zalesovo Beam	56.76	322	P	P	00 03 21.2	+0.2
	0.7nm,0.4s,baz=99,slow=6.9,SNR=3.3						
MKAR	Makanchi Array	57.35	313	P	P	00 03 25.6	+0.1
	0.3nm,0.7s,baz=90,slow=8.8,SNR=3.5						
KURBB	Kurchatov Arra	60.13	317	P	P	00 03 44.2	-0.4
	0.2nm,0.3s,baz=92,slow=7.8,SNR=3.9						
FINES	FINESS Array B	85.46	335	P	P	00 06 14.8	0.0
	6.0nm,1.1s,baz=50,slow=2.2,SNR=2.4						

ISCJB 17 23:56:16.5±0.6, 21°.06N±0°.09×146°.3E±0°.1, h10km, mb4.1/14, Error ellipse: s-maj=19.8km s-min=10.3km az=152.8

IDC 17 23:56:16.4±0.8, 21°.00N×146°.40E, h0km, mb4.0/13, mb1 4.2/14, mb1mx3.9/73, mbtmp4.1/14, ML4.0/1, Error ellipse: s-maj=25.8km s-min=20.8km az=86.0

NEIC 17 23:56:17.9±1.1, 20°.98N±0°.06×146°.4E±0°.1, h10km±2km, mb4.5/7

ISC 17 23:56:18.2±0.8, 21°.0N±0°.1×146°.4E±0°.2, h10km, n23, σ0°93/24, mb4.3/16, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	Chichijima	7.16	328	Pn	Pn	23 58 03.6	+0.5
	2.4nm,0.3s,baz=288,slow=20,SNR=1.9						
JCJ				Sn	Sn	23 59 22.7	-1.8
	4.3nm,0.3s,baz=305,slow=23,SNR=1.3						
SONM	Songino Array	41.77	319	P	P	00 04 09.7	+1.7
	0.3nm,0.5s,baz=106,slow=7.5,SNR=2.6						
SONM				PcP	PcP	00 06 05.5	+1.4
	0.5nm,0.6s,baz=118,slow=2.2,SNR=3.3						
WRA	Warramunga Arr	42.39	197	P	P	00 04 11.0	-2.0
	0.5nm,0.6s,baz=12,slow=8.5,SNR=2.7						
WRA				PcP	PcP	00 06 06.2	-0.1
	0.8nm,0.7s,baz=342,slow=2.7,SNR=3.2						
ASAR	Alice Springs	46.05	196	P	P	00 04 43.0	+0.6
	0.2nm,0.4s,baz=8.2,slow=8.4,SNR=3.6						
ZAA0	Zalesovo Array	56.59	321	P	P	00 06 01.0	-0.1
ZALV	Zalesovo Beam	56.59	321	P	P	00 06 00.2	-0.9
	4.0nm,0.5s,baz=109,slow=8.4,SNR=11						
MK31	Makanchi Array	57.35	313	P	P	00 06 06.8	+0.2
MKAR	Makanchi Array	57.35	313	P	P	00 06 06.1	-0.6
	1.9nm,0.8s,baz=87,slow=8.3,SNR=14						
MAKZ	Makanchi	57.56	313	P	P	00 06 08.3	+0.2
MAKZ				IAmb	IAmb	00 06 13.6	
	comp=Z,3.3nm,0.9s						
KURK	Kurchatov	60.00	317	P	P	00 06 24.6	-0.3
KURK				IAmb	IAmb	00 06 30.3	
	comp=Z,4.8nm,1.0s						
KURBB	Kurchatov Arra	60.05	317	P	P	00 06 24.6	-0.7
	comp=Z,3.8nm,0.8s,baz=94,slow=7.6,SNR=12						
ILAR	Eielson Array	61.28	27	P	P	00 06 33.0	-0.5
	comp=Z,0.5nm,0.8s,baz=243,slow=5.9,SNR=3.2						
BRVK	Borovoye	65.18	320	P	P	00 06 59.7	+0.1
DLBC	Dease Lake	69.01	34	P	P	00 07 23.8	-0.1
	comp=Z,19nm,0.8s,baz=72,slow=0.9,SNR=4.4						
DLBC	Dease Lake	69.01	34	IAmb	IAmb	00 07 24.9	
	comp=Z,25nm,0.9s						
ARU	Arti	71.56	324	P	P	00 07 38.3	-1.1
	comp=Z,1.6nm,0.6s,baz=84,slow=1.9,SNR=4.5						
ARU	Arti	71.56	324	IAmb	IAmb	00 07 43.8	
	comp=Z,5.9nm,0.7s						
YKA	Yellowknife Ar	75.64	28	P	P	00 08 03.4	+0.1
	comp=Z,0.8nm,0.7s,baz=268,slow=5.4,SNR=8.7						
ARCES	ARCESS Array B	80.49	342	P	P	00 08 30.0	-0.1
	comp=Z,2.9nm,1.0s,baz=46,slow=7.7,SNR=3.1						
ARCES	ARCESS Array B	80.49	342	P	P	00 08 30.0	-0.1
NVAR	Mina Array Bea	81.21	52	P	P	00 08 34.5	-0.4
	comp=Z,1.2nm,0.8s,baz=261,slow=6.0,SNR=6.6						
FINES	FINESS Array B	85.05	335	P	P	00 08 54.8	+0.9
	comp=Z,2.5nm,0.6s,baz=74,slow=5.9,SNR=5.4						
HFS	Hagfors	90.47	338	P	P	00 09 20.8	+0.7
	comp=Z,2.6nm,0.9s,baz=45,slow=4.3,SNR=3.3						

IDC 18 00:04:22.2±0.8, 20°.65N×146°.83E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.7/54, mbtmp3.8/10, Error ellipse: s-maj=29.8km s-min=21.1km az=90.0

ISCJB 18 00:04:27.0±0.8, 20°.6N±0°.1×146°.7E±0°.2, h44km, mb3.7/10, Error ellipse: s-maj=26.7km s-min=18.3km az=0.1

ISC 18 00:04:28.5±1.0, 20°.6N±0°.2×146°.8E±0°.2, h44km, n10, σ0°60/10, mb3.7/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	42.12	198	P	P	00 12 16.3	-0.3
	0.5nm,0.7s,baz=10,slow=8.5,SNR=3.1						
SONM	Songino Array	42.33	320	P	P	00 12 18.6	+0.3
	0.2nm,0.5s,baz=119,slow=5.1,SNR=2.7						
ASAR	Alice Springs	45.77	197	P	P	00 12 46.2	+0.3
	0.3nm,0.7s,baz=13,slow=7.9,SNR=3.3						
ZALV	Zalesovo Beam	57.15	322	P	P	00 14 10.1	-0.6
	2.0nm,0.6s,baz=110,slow=7.4,SNR=9.5						
MKAR	Makanchi Array	57.90	313	P	P	00 14 16.2	+0.1
	0.8nm,0.9s,baz=90,slow=9.7,SNR=5.8						
ARU	Arti	72.11	324	P	P	00 15 49.0	+0.8
	0.7nm,0.7s,baz=99,slow=3.1,SNR=4.7						
YKA	Yellowknife Ar	75.82	28	P	P	00 16 09.3	-0.4
	0.4nm,0.8s,baz=288,slow=5.6,SNR=4.7						
NVAR	Mina Array Bea	81.15	52	P	P	00 16 40.4	+0.4
	0.8nm,0.8s,baz=264,slow=4.5,SNR=6.3						
ELK	Elko	82.59	49	P	P	00 16 47.9	+0.4
	1.4nm,1.0s,baz=253,slow=5.1,SNR=4.8						
FINES	FINESS Array B	85.58	336	P	P	00 17 01.1	-0.9
	2.1nm,0.7s,baz=82,slow=4.0,SNR=6.0						

BJI 18 00:20:25.0±0.0, 20°.59N×146°.93E, h5km, mb4.9/43, mB5.1/3, Ms5.0/1, Ms7 4.9/1

IDC 18 00:20:27.4±0.4, 20°.78N×146°.82E, h0km, mb4.5/30, mb1 4.6/34, mb1mx4.6/42, mbtmp4.5/34, ML4.6/3, MS4.7/3, Ms1 4.7/3, ms1mx3.9/59, Error ellipse: s-maj=16.4km s-min=9.6km az=85.0

NEIC 18 00:20:29.5±1.1, 20°.79N±0°.06×146°.7E±0°.1, h10km±2km, mb4.7/96

MOS 18 00:20:30.5±1.0, 20°.73N×146°.69E, h28km, mb5.3/42, Error ellipse: s-maj=10.6km s-min=5.3km az=111.8

ISCJB 18 00:20:32.0±0.2, 20°.76N±0°.03×146°.76E±0°.05, h40km, mb4.8/89, Error ellipse: s-maj=6.8km s-min=4.0km az=177.1

GCMT 18 00:20:33.5±0.4, 20°.85N±0°.03×147°.15E±0°.03, h24km±1km, MW5.2/63, Moment Tensor Solution. s26,c28; s63,c89; Duration: 1ŝ0 Moment tensor: Scale 10^17 Nm; Mrr-0.84±.08; Mθθ0.32±.05; Mφφ0.51±.05; Mrθ0.00±.05; Mθφ-0.44±.03; Mφr-0.31±.06; Best double couple: M=0.90500×10^17 NP1:φ≈333.00000°, δ≈54.00000°, λ=-76.00000°. NP2:φ≈130.00000°, δ≈38.00000°, λ=-109.00000°. Principal axes: T 0.9000, Plg8.0000°, Azm53.0000°; N 0.0110, Plg12.0000°, Azm145.0000°; P -0.9110, Plg76.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 18 00:20:33.6±0.3, 20°.81N±0°.04×146°.81E±0°.07, h40km, n217, σ1ŝ26/208, mb4.8/114, 13C-10D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	Sarigan	4.20	194	Pn	Pn	00 21 35.3	+0.1
ANA2	Anatahan	4.56	193		Pn	00 21 38.1	-2.1
GUMO	Guam	7.41	195	Pn	Pn	00 22 17.4	-2.0
	5.8nm,0.3s,baz=115,slow=18,SNR=2.4						
GUMO				Sn	Sn	00 23 43.4	+1.2
	20nm,0.3s,baz=197,slow=19,SNR=2.7						
JCJ	Chichijima	7.56	327	Pn	Pn	00 22 19.6	-1.7
	9.2nm,0.3s,baz=311,slow=20,SNR=4.6						
JCJ				Sn	Sn	00 23 39.7	-5.9
	63nm,0.3s,baz=127,slow=23,SNR=9.1						
INU	Inuyama	16.85	331	Pn	Pn	00 24 21.3	-5.3
INU				IAmb	IAmb	00 24 34.6	
	comp=Z,66nm,1.0s						
MJAR	Matsushiro Arr	17.39	336	P	Pn	00 24 32.6	-0.6
	comp=Z,0.1nm,0.3s,baz=165,slow=10.0,SNR=5.2						
MAJO	Matsushiro	17.39	336	*e*P	Pn	00 24 32.0	-1.2
MAJO	Matsushiro	17.39	336		Pn	00 24 33.0	-0.2
MAT	Matsushiro	17.39	336	P	Pn	00 24 32.8	-0.4
MJB9	Matsu-tunnel	17.39	336	Pn	Pn	00 24 29.2	-4.1
JNU	Nakatsue	18.74	314	P	Pn	00 24 50.0	+0.2

WRA Warramunga Arr 42.30 198 P P 00 28 22.6 -1.0
comp=Z,5.4nm,0.7s,baz=19,slow=8.5,SNR=39
WRA PcP PcP 00 30 17.6 +0.7
comp=Z,5.4nm,0.8s,baz=16,slow=3.7,SNR=8.3
YAK Yakutsk 42.87 348⇓ eP P 00 28 27.9 +0.2
YAK pmax pmax
comp=Z,13nm,0.8s
PBKT Sadao Pong 43.52 272 P P 00 28 33.3 -0.3
PBKT IAmb IAmb 00 28 46.6
comp=Z,9.1nm,1.1s
FITZ Fitzroy Crossi 43.88 210 P P 00 28 36.1 -0.3
FITZ IAmb IAmb 00 28 38.2
comp=Z,20nm,1.1s
BOD Bodaibo 44.02 335 eP P 00 28 36.2 -0.9
BOD pmax pmax
comp=Z,11nm,2.1s
GTA Gaotai 44.14 306 eP P 00 28 38.9 +0.4
GTA pP pP 00 28 43.3 -5.4
GTA sP sP 00 28 46.3 -6.7
GTA pmax pmax
comp=Z,5.0nm,1.2s
CMAR Chiang Mai Arr 45.02 276 ceP P 00 28 46.7 +1.0
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 45.02 276 P P 00 28 45.1 -0.5
comp=Z,1.8nm,0.4s,baz=74,slow=6.5,SNR=7.0
CMAR PcP PcP 00 30 26.8 +0.5
comp=Z,0.8nm,0.3s,baz=47,slow=4.0,SNR=4.3
ZAK Zakamensk 45.13 322 eP P 00 28 43.8 -2.4
ZAK pmax pmax
comp=Z,8.0nm,1.0s
TLY Talaya 45.48 323 eP P 00 28 49.7 +0.8
TLY pmax pmax
comp=Z,71nm,1.4s
UGM Wanagama 45.67 235 P P 00 28 49.7 -1.1
UGM IAmb IAmb 00 28 57.9
comp=Z,22nm,1.0s
SRDT SRDT 45.78 270 P P 00 28 53.2 +1.5
comp=Z,17nm,0.7s
AS31 Alice Springs 45.96 197 P P 00 28 52.5 -0.4
ASAR Alice Springs 45.96 197 P P 00 28 51.8 -1.1
comp=Z,2.7nm,0.6s,baz=17,slow=7.5,SNR=28
ASAR PcP PcP 00 30 29.8 +0.4
comp=Z,1.9nm,0.6s,baz=16,slow=3.0,SNR=8.2
DZM Mont Dzumac 46.73 155 P P 00 28 59.3 +0.2
comp=Z,12nm,0.9s,baz=213,slow=7.1,SNR=3.2
DZM Mont Dzumac 46.73 155 IAmb IAmb 00 29 01.6
comp=Z,20nm,1.0s
BILL Bilibino 48.78 10⇓ eP P 00 29 16.1 +1.8
BILL *PP **pP** 00 29 24.0 +0.3
BILL *SP **sP** 00 29 26.4 -1.2
BILL 00 30 41.0
BILL pmax pmax
comp=Z,11nm,1.3s
BILL MLR MLR
comp=Z,2μm,15.0s
BILL Bilibino 48.78 10 P P 00 29 15.4 +1.1
BILL IAmb IAmb 00 29 19.2
comp=Z,6.7nm,0.9s
PSA00 Pilbara Seismi 49.68 214 P P 00 29 20.4 -1.3
PSA00 IAmb IAmb 00 29 22.9
comp=Z,16nm,1.0s
SHL Shillong 50.42 286 P P 00 29 27.1 -0.6
SHL pmax pmax
comp=Z,18nm,0.5s
SHL Shillong 50.42 286 P P 00 29 27.1 -0.6
KCSI Kotacane, Aceh 50.67 257 P P 00 29 32.6 +3.1
comp=Z,12nm,1.1s
LSA Lhasa 50.71 292 P P 00 29 30.0 -0.2
LSA pmax pmax
comp=Z,22nm,0.7s
LSA Lhasa 50.71 292 P P 00 29 30.0 -0.2
ARMA Armidale 51.14 175 P P 00 29 33.4 +0.6
ARMA IAmb IAmb 00 29 35.0
comp=Z,18nm,1.1s
TIXI Tiksi 51.91 353 deP P 00 29 38.7 +0.8
TIXI pmax pmax
comp=Z,8.0nm,1.7s
STKA Stephens Creek 52.62 186 P P 00 29 42.5 -1.2
STKA pmax pmax
comp=Z,1.0nm,0.8s
STKA Stephens Creek 52.62 186 P P 00 29 42.5 -1.2
comp=Z,2.9nm,0.6s,baz=357,slow=8.9,SNR=11
STKA Stephens Creek 52.62 186 IAmb IAmb 00 29 44.1
comp=Z,0.8nm,0.8s
WMQ Urumqi 53.75 310 eP P 00 29 53.8 +1.7
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ Urumqi 53.75 310 P P 00 29 51.8 -0.3
WMQ pmax pmax
comp=Z,19nm,1.0s
WMQ Urumqi 53.75 310 P P 00 29 51.8 -0.3
WMQ IAmb IAmb 00 29 54.8
comp=Z,19nm,1.0s
TAPN Taplejung 53.93 289 eP P 00 29 54.2 +0.3
comp=Z,44nm,0.6s
ODAN Odare 54.28 289 eP P 00 29 56.5 +0.1
comp=Z,60nm,0.6s
RAMN Ramite 54.97 289 eP P 00 30 01.4 0.0
comp=Z,54nm,0.6s
JIRN Jiri 55.24 290 eP P 00 30 03.9 +0.4
comp=Z,122nm,0.7s
GUN Gumba 55.48 290 eP P 00 30 05.5 +0.3
comp=Z,49nm,0.5s
PKI Pulchoki 55.94 290 eP P 00 30 08.1 -0.3
comp=Z,46nm,0.6s
PKIN Phulchoki 55.95 290 eP P 00 30 08.3 -0.1
comp=Z,31nm,0.6s
KKN Kakani 56.02 290 eP P 00 30 09.0 +0.1
comp=Z,79nm,1.0s
DMN Daman 56.20 290 eP P 00 30 10.1 -0.1
comp=Z,25nm,0.5s
ZALV Zalesovo Beam 57.01 322 P P 00 30 14.8 -0.5
comp=Z,22nm,0.5s,baz=108,slow=7.7,SNR=99
KDAK Kodiak Island 57.03 34 P P 00 30 16.0 +0.7
KDAK pmax pmax
comp=Z,7.0nm,1.1s
KDAK Kodiak Island 57.03 34 P P 00 30 16.0 +0.7
comp=Z,3.0nm,0.6s,baz=242,slow=17,SNR=2.7
KDAK LR LR 00 49 39.0
comp=Z,1μm,22.0s,baz=261,slow=31
KDAK Kodiak Island 57.03 34 IAmb IAmb 00 30 16.0
comp=Z,6.9nm,1.1s
MK31 Makanchi Array 57.78 313 P P 00 30 20.9 0.0
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK31 Makanchi Array 57.78 313 P P 00 30 20.9 0.0
MK31 IAmb IAmb 00 30 22.5
comp=Z,9.1nm,0.8s
MKAR Makanchi Array 57.78 313 P P 00 30 20.8 -0.1
comp=Z,13nm,0.7s,baz=86,slow=8.2,SNR=157
MAKZ Makanchi 58.00 313 P P 00 30 22.5 +0.1
MAKZ pmax pmax
comp=Z,17nm,0.8s
MAKZ Makanchi 58.00 313 P P 00 30 22.5 +0.1
TOO Toolangi 58.08 181 P P 00 30 23.2 +0.3
TOO pmax pmax
comp=Z,6.0nm,1.1s
TOO Toolangi 58.08 181 P P 00 30 23.2 +0.3
TOO IAmb IAmb 00 30 34.5
comp=Z,5.9nm,1.1s
PDGK Podgornoye 59.69 309 P P 00 30 33.3 -1.0
PDGK pmax pmax
comp=Z,19nm,0.7s
KURK Kurchatov 60.43 317⇓ eP P 00 30 38.6 -0.4
KURK pmax pmax
comp=Z,29nm,0.8s
KURK Kurchatov 60.43 317 P P 00 30 38.3 -0.7
TOLK Toolik Lake Re 61.26 22 P P 00 30 45.8 +1.3
TOLK IAmb IAmb 00 30 54.1
comp=Z,3.6nm,1.0s
IL31 61.30 27 P P 00 30 44.6 -0.1
ILAR Eielson Array 61.30 27 P P 00 30 44.8 0.0
comp=Z,1.7nm,1.0s,baz=259,slow=5.6,SNR=9.9
KDJ Kajisay 61.43 307 P P 00 30 47.0 +0.8
KDJ pmax pmax
comp=Z,12nm,0.8s
KDJ Kajisay 61.43 307 P P 00 30 47.0 +0.8
KDJ IAmb IAmb 00 30 48.5
comp=Z,12nm,0.8s
BOOM Boomskoye usch 62.33 308 P P 00 30 51.7 -0.6
BOOM pmax pmax
comp=Z,14nm,0.7s
BOOM Boomskoye usch 62.33 308 P P 00 30 51.7 -0.6
NRN Naryn 62.35 307 IAmb IAmb 00 31 05.9
comp=Z,6.5nm,1.0s

KSH Kashi 62.53 305 P P 00 30 56.9 +3.3
KSH S **S 00 39 22.9 +4.3**
KSH pmax pmax
comp=Z,32nm,1.1s
TKM2 Tokmak 2 62.55 308 i P P 00 30 52.9 -0.9
TKM2 pmax pmax
comp=Z,17nm,1.0s
TKM2 Tokmak 2 62.55 308 P P 00 30 54.5 +0.7
SNR=12
KBK Karagaybulak 63.05 308 P P 00 30 59.1 +2.0
SNR=10
CHMS Chumysh 63.17 309 P P 00 30 59.3 +1.6
SNR=5.5
FRU1 Bishkek 63.27 308 P P 00 30 59.2 +0.8
FRU1 pmax pmax
comp=Z,13nm,0.9s
FRU1 Bishkek 63.27 308 P P 00 30 59.2 +0.8
FRU1 IAmb IAmb 00 31 01.0
comp=Z,13nm,0.9s
USP Ospenovka 63.33 309 P P 00 31 00.3 +1.5
SNR=7.3
AAK Ala-Archa 63.38 308⇑ eP P 00 30 59.7 +0.4
AAK pmax pmax
comp=Z,5.0nm,0.7s
AAK Ala-Archa 63.38 308 P P 00 30 58.9 -0.4
AAK IAmb IAmb 00 31 01.2
comp=Z,4.9nm,0.7s
UCH Uchtor 63.40 308 P P 00 31 00.6 +0.8
SNR=14
AML Almayashu 64.02 308 P P 00 31 06.2 +2.4
SNR=11
NIL Nilore 65.44 298 P P 00 31 12.6 -0.1
NIL pmax pmax
comp=Z,26nm,0.9s
NIL Nilore 65.44 298 P P 00 31 12.6 -0.1
BRVK Borovoye 65.60 320⇓ eP P 00 31 12.8 -0.6
BRVK pmax pmax
comp=Z,45nm,1.1s
BRVK Borovoye 65.60 320 P P 00 31 13.2 -0.1
BKZ Black Stump Fm 65.81 155 P P 00 31 15.1 +0.2
KK31 Karatay Array 66.25 309 i P P 00 31 17.8 0.0
KK31 pmax pmax
comp=Z,11nm,0.7s
KKAR Karatay Array 66.25 309 P P 00 31 17.6 -0.2
KKAR pmax pmax
comp=Z,18nm,0.9s
KKAR Karatay Array 66.25 309 P P 00 31 17.6 -0.2
INK Inuvik 67.03 23 P P 00 31 21.8 -0.5
comp=Z,1.5nm,0.6s,baz=257,slow=11,SNR=8.2
INK Inuvik 67.03 23 IAmb IAmb 00 31 35.1
comp=Z,5.2nm,1.1s
KBL Kabul 68.72 300 P P 00 31 33.6 -0.2
KBL pmax pmax
comp=Z,17nm,0.9s
KBL Kabul 68.72 300 P P 00 31 33.6 -0.2
SVE Sverdlovsk 70.77 324 eP P 00 31 46.0 +0.3
SVE pmax pmax
comp=Z,25nm,1.0s
ARU Arti 71.97 324 c i P P 00 31 53.0 +0.1
ARU 00 34 30.8
ARU S **S 00 41 15.9 +4.6**
ARU SS **SS 00 45 52.9 +4.9**
ARU pmax pmax
comp=Z,25nm,0.7s
ARU Arti 71.97 324 P P 00 31 52.8 -0.2
AB31 Akbulak array 72.53 317 P P 00 31 55.6 -0.8
AB31 pmax pmax
comp=Z,10.0nm,0.8s
ABKAR Akbulak array 72.53 317 P P 00 31 56.0 -0.4
ABKAR IAmb IAmb 00 31 58.1
comp=Z,12nm,0.8s
HRA Herat 74.23 301 P P 00 32 06.7 -0.3
HRA IAmb IAmb 00 32 08.8
comp=Z,6.4nm,0.8s
YKA Yellowknife Ar 75.65 28 P P 00 32 13.7 -0.6
comp=Z,1.6nm,0.7s,baz=288,slow=5.6,SNR=16
GEYT Alibeck 76.53 306 P P 00 32 19.8 -0.2
comp=Z,4.9nm,1.0s,baz=64,slow=6.8,SNR=9.5
GYA0B ALIBECK ARRAY 76.53 306 P P 00 32 20.4 +0.5
GYA0B IAmb IAmb 00 32 33.5
comp=Z,7.3nm,1.1s
PRGR Permogore 77.08 331 eP P 00 32 22.0 -0.5
PRGR e 00 32 33.1
PRGR pmax pmax
comp=Z,40nm,0.9s
TMCR Tamitsa 79.31 335 eP P 00 32 35.5 +0.7
TMCR pmax pmax
comp=Z,22nm,0.6s
BMO Blue Mountains 79.63 46 P P 00 32 37.7 +0.6
BMO pmax pmax
comp=Z,3.0nm,1.1s
BMO Blue Mountains 79.63 46 P P 00 32 37.7 +0.6
ARCES ARCESS Array B 80.82 342 P P 00 32 42.9 0.0
comp=Z,3.2nm,0.7s,baz=64,slow=7.2,SNR=13
KVN Kaiserville 80.97 52 P P 00 32 45.6 +1.1
KVN pmax pmax
comp=Z,5.0nm,1.1s
KVN Kaiserville 80.97 52 P P 00 32 45.6 +1.1
NVAR Mina Array Bea 81.03 52 P P 00 32 45.1 +0.2
comp=Z,2.2nm,0.7s,baz=263,slow=6.3,SNR=13
NV11 Mina Array Sit 81.13 52 IAmb IAmb 00 32 51.9
comp=Z,5.3nm,1.1s
ELK Elko 82.46 49 IAmb IAmb 00 32 58.4
comp=Z,5.0nm,1.0s
AKT Akhty 82.99 312 eP P 00 32 54.8 -0.2
AKT e 00 32 59.1
AKT pmax pmax
comp=Z,12nm,0.6s
VRH Novokhopyorsk 83.03 322 eP P 00 32 55.0 +0.2
VRH pmax pmax
comp=Z,30nm,0.8s
TPNV Topopah Spring 83.06 53 P P 00 32 56.6 +1.1
TPNV pmax pmax
comp=Z,6.0nm,1.1s
TPNV Topopah Spring 83.06 53 P P 00 32 56.6 +1.1
TPNV IAmb IAmb 00 32 58.0
comp=Z,6.1nm,1.1s
MOS Moscow 83.26 327 eP P 00 32 55.8 -0.1
MOS pmax pmax
comp=Z,60nm,1.6s
GROC Groznyy 83.67 314 eP P 00 32 58.3 0.0
GROC e 00 33 02.4
GROC e 00 36 10.2
GROC pmax pmax
comp=Z,11nm,0.6s
LPSR Galich'ya Gora 84.00 324 eP P 00 32 59.9 +0.2
LPSR pmax pmax
comp=Z,40nm,1.0s
PFO Pinyon Flats O 84.08 56⇓ eP P 00 33 01.3 +0.5
PFO pmax pmax
comp=Z,8.0nm,1.4s
OBN Obninsk 84.08 327⇑ eP P 00 33 00.9 +0.8
OBN e*SP **pP 00 33 11.4 +0.5**
OBN pmax pmax
comp=Z,41nm,1.3s
OBN Obninsk 84.08 327 P P 00 33 00.3 +0.2
DUG Dugway, Tooele 84.38 49 IAmb IAmb 00 33 15.2
comp=Z,3.1nm,0.9s
VSR Storozhevoye 84.48 323⇑ eP P 00 33 02.0 -0.2
VSR pmax pmax
comp=Z,33nm,0.8s
VORD Divnogorie 84.52 323 eP P 00 33 03.3 +0.9
VORD pmax pmax
comp=Z,20nm,1.1s
FFC Flin Flon 84.76 33 i P P 00 33 05.6 +2.0
FFC Flin Flon 84.76 33 P P 00 33 04.3 +0.7
FFC IAmb IAmb 00 33 06.1
comp=Z,6.9nm,1.0s
NCK Nalchik 85.03 315⇑ eP P 00 33 06.8 +1.6
NCK pmax pmax
comp=Z,9.0nm,1.4s
ZEI Tsey 85.12 314 eP P 00 32 55.7 -10
ZEI pmax pmax
comp=Z,6.0nm,0.8s
LCMT Little Creek M 85.28 52 P P 00 33 07.0 +0.3
KBZ Khabaz 85.40 315⇑ eP P 00 33 07.5 +0.5
KBZ Khabaz 85.40 315 P P 00 33 06.3 -0.7
comp=Z,7.8nm,0.9s,baz=92,slow=4.1,SNR=20
FINES FINESS Array B 85.42 336 P P 00 33 05.4 -1.3
comp=Z,9.0nm,0.5s,baz=68,slow=5.1,SNR=50
KIV Kislovodsk 85.45 315 eP P 00 33 08.9 +1.5
KIV pmax pmax
comp=Z,18nm,1.0s
KIV Kislovodsk 85.45 315 P P 00 33 07.4 0.0
KIV IAmb IAmb 00 33 11.0

comp=Z,4.9nm,0.8s
PDAR Pinedale Array 85.61 46 P P 00 33 07.3 -1.1
comp=Z,0.4nm,0.6s,baz=180,slow=4.0,SNR=4.9
FCC Fort Churchill 86.32 27 P P 00 33 12.1 +0.9
FCC pmax pmax
comp=Z,9.0nm,1.1s
FCC Fort Churchill 86.32 27 P P 00 33 12.1 +0.9
FCC IAmb IAmb 00 33 12.6
comp=Z,8.5nm,1.1s
Y14A Wickenburg 86.63 55 IAmb IAmb 00 33 16.0
comp=Z,3.4nm,0.9s
SUMG Summit 86.79 2 P P 00 33 14.7 +0.9
SUMG pmax pmax
comp=Z,3.0nm,0.9s
SUMG Summit 86.79 2 P P 00 33 14.7 +0.9
SUMG IAmb IAmb 00 33 31.9
comp=Z,3.1nm,0.9s
MVCO Mesa Verde 88.67 51 IAmb IAmb 00 33 25.9
comp=Z,4.5nm,1.1s
SMCO Snowmass 88.91 48 IAmb IAmb 00 33 30.9
comp=Z,3.8nm,1.0s
S22A 4UR Ranch, Cre 89.64 50 IAmb IAmb 00 33 30.1
comp=Z,3.2nm,1.1s
AKASG Malin Array Be 90.17 326 i P P 00 33 29.7 0.0
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 90.17 326 P P 00 33 28.3 -1.4
comp=Z,0.8nm,0.4s,baz=44,slow=4.5,SNR=12
AKBB Malin Array Si 90.17 326 P P 00 33 28.7 -1.0
AKBB pmax pmax
comp=Z,6.0nm,1.0s
AKBB Malin Array Si 90.17 326 P P 00 33 28.7 -1.0
AKBB IAmb IAmb 00 33 33.1
comp=Z,5.7nm,0.9s
NOA NORSAR Array B 90.96 340 P P 00 33 31.6 -1.7
comp=Z,1.1nm,0.8s,baz=41,slow=4.9,SNR=2.6
CASY Casey 91.02 194 P P 00 33 34.0 +0.9
CASY IAmb IAmb 00 33 38.9
comp=Z,7.2nm,1.1s
ANMO Albuquerque 91.14 52⇓ eP P 00 33 36.4 +1.5
ANMO pmax pmax
comp=Z,8.0nm,1.9s
SUW Suwalki 91.19 331 P P 00 33 35.0 +0.6
SUW pmax pmax
comp=Z,19nm,0.8s
SUW Suwalki 91.19 331 P P 00 33 35.0 +0.6
RAYN Ar Rayn 91.62 296 P P 00 33 36.8 -0.3
RAYN Ar Rayn 91.62 296 P P 00 33 36.8 -0.3
RAYN IAmb IAmb 00 33 37.7
comp=Z,3.9nm,0.9s
BRTR Keskin Array B 93.39 315 i P P 00 33 44.5 -0.6
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 93.39 315 P P 00 33 43.5 -1.7
comp=Z,1.5nm,0.8s,baz=111,slow=2.3,SNR=8.3
TXAR Lajitas Array 95.79 56 P P 00 33 55.0 -1.2
comp=Z,0.2nm,0.5s,baz=272,slow=3.5,SNR=3.4
LSZ Lusaka 121.67 264 PKIKP PKiKP 00 39 24.6 +0.4
LSZ Lusaka 121.67 264 PKiKP PKiKP 00 39 24.6 +0.4
NVL N'lazarevskaya 123.53 196 ePKIKP PKPdf 00 39 23.4 -2.5
NVL pmax pmax
comp=Z,13nm,0.8s
SNAA Sanae 126.19 191 PKPdf PKPdf 00 39 31.1 -0.1
VNA2 Neumayer--Watz 127.62 190 PKPdf PKiKP 00 39 34.2 -0.1
baz=292,slow=0.2
VNA3 Neumayer Olymp 127.71 189 PKPdf PKPdf 00 39 33.4 -0.6
TORD Torodi Ar. Bea 131.90 312 PKP PKPdf 00 39 42.4 -1.2
comp=Z,0.7nm,0.7s,baz=44,slow=1.3,SNR=6.8
TORD PP PP 00 42 03.2 -0.6
comp=Z,1.2nm,1.1s,baz=38,slow=8.1,SNR=4.2
PLCA Paso Flores 142.62 131 PKP PKPdf 00 40 01.4 -1.3
comp=Z,2.2nm,0.8s,baz=249,slow=4.9,SNR=4.9
GO04 Tololo Observa 144.93 113 PKPbc 00 40 06.8 +0.2
MNMC Minye Minye 145.79 94 PKPab 00 40 10.1 +0.1
PB11 IPOC Station P 145.82 95 PKPab 00 40 10.7 +0.7
LPAZ La Paz 146.61 88 PKPbc PKPab 00 40 13.1 -0.5
comp=Z,6.4nm,0.7s,baz=345,slow=2.6,SNR=26
SAML Samuel 148.77 72 PKP2 PKPbc 00 40 18.2 +0.5
SAML Samuel 148.77 72 PKPbc 00 40 18.2 +0.5

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*IDC **18** 00:33:00.6±0.4, 20.71N×146.80E, h0km, mb4.8/47, mb1 4.9/51, mb1mx4.8/58, mbtmp4.8/51, ML4.1/5, MS4.6/17, Ms1 4.6/17, ms1mx4.3/54, Error ellipse: s-maj=12.8km s-min=8.8km az=90.0*

*BJI **18** 00:33:00.7±0.0, 20.83N×146.86E, h10km, mb4.9/45, mB5.5/10, Ms5.4/14, Ms7 5.2/15*

*ISCJB **18** 00:33:01.2±0.1, 20.73N±0.02×146.74E±0.03, h10km, mb4.9/124, MS4.7/23, Error ellipse: s-maj=3.6km s-min=3.3km az=31.9*

*NEIC **18** 00:33:02.7±1.4, 20.80N±0.06×146.76E±0.05, h10km±2km, mb5.0/227*

*MOS **18** 00:33:04.5±0.8, 20.69N×146.70E, h34km, mb5.2/60, Error ellipse: s-maj=8.4km s-min=4.7km az=113.3*

*GCMT **18** 00:33:05.7±0.2, 20.81N±0.02×147.00E±0.02, h12km, MW5.2/112, Moment Tensor Solution. s24,c32; s112,c169; Duration: 1$0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.83±.02; $M_{\theta\theta}$0.33±.02; $M_{\phi\phi}$0.50±.02; $M_{r\theta}$-0.16±.08; $M_{r\phi}$-0.42±.01; $M_{\theta\phi}$-0.11±.07; Best double couple: $M_0$0.86100×10^{17} NP1:ϕ_s129.00000°, δ47.00000°, λ-107.00000°. NP2:ϕ_s333.00000°, δ46.00000°, λ-72.00000°. Principal axes: T 0.8440, Plg1.0000°, Azm231.0000°; N 0.0350, Plg13.0000°, Azm141.0000°; P -0.8780, Plg77.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 00:33:01.2±1.1, 20.78N±0.04×146.77E±0.05, h2km±6km, n509, σ1$09/455, mb5.0/200, MS4.7/23, 22C-14D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SARN	**Sarigan**	**4.16**	**193**			**Pn**	**00 34 07.1**	**+1.2**
ANA2	**Anatahan**	**4.53**	**193**			**Pn**	**00 34 11.2**	**+0.2**
GUMO	**Guam**	**7.38**	**195**	Pn		**Pn**	**00 34 50.0**	**0.0**
	9.8nm,0.3s,baz=349,slow=19,SNR=1.7							
GUMO				Sn		**Sn**	**00 36 14.7**	**+0.2**
	14nm,0.3s,baz=354,slow=19,SNR=1.9							
JCJ	**Chichijima**	**7.56**	**327**	Pn		**Pn**	**00 34 54.0**	**+1.4**
	21nm,0.3s,baz=89,slow=23,SNR=9.6							
JCJ				Sn		**Sn**	**00 36 14.2**	**-4.7**
	95nm,0.3s,baz=264,slow=21,SNR=14							
INU	**Inuyama**	**16.86**	**331**			**P**	**00 36 58.8**	**-1.9**
INU				IAmb		IAmb	00 37 15.1	
	comp=Z,140nm,0.8s							
MJAR	**Matsushiro Arr**	**17.40**	**336**	P		**P**	**00 37 05.2**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=149,slow=9.7,SNR=7.8							
MAJO	**Matsushiro**	**17.40**	**336⇑**	*eP*		**P**	**00 37 06.6**	**-0.1**
MAJO	**Matsushiro**	**17.40**	**336**	Pn		**Pn**	**00 37 04.5**	**-0.8**
MAT	**Matsushiro**	**17.40**	**336**	P		**P**	**00 37 05.5**	**-1.2**
MAT				eS		**Sn**	**00 40 12.5**	**-7.0**
MJB9	**Matsu-Tunnel**	**17.40**	**336**	Pn		**Pn**	**00 37 02.9**	**-2.4**
PATS	**Pohnpei**	**17.81**	**139**			**P**	**00 37 10.7**	**-0.6**
PATS				IAmb		IAmb	00 37 16.8	
	comp=Z,183nm,1.1s							
JOW	**Kunigami**	**17.96**	**293**	P		**P**	**00 37 13.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=132,slow=12,SNR=2.5							
JNU	**Nakatsue**	**18.73**	**314**	P		**Pn**	**00 37 23.3**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=113,slow=5.6,SNR=9.4							
JNU	**Nakatsue**	**18.73**	**314**	P		**Pn**	**00 37 20.7**	**-1.0**
H11S3	**WAKE ISLAND Hy**	**18.90**	**93**	T		T	00 56 56.7	
	baz=280,slow=75							
H11S1	**WAKE ISLAND Hy**	**18.91**	**93**	T		T	00 56 54.8	
	baz=280,slow=75							
H11N1	**WAKE ISLAND Hy**	**18.91**	**90**	T		T	00 56 51.9	
	baz=273,slow=74							
H11N2	**WAKE ISLAND Hy**	**18.91**	**90**	T		T	00 56 47.1	
	baz=273,slow=74							
H11S2	**WAKE ISLAND Hy**	**18.91**	**93**	T		T	00 56 57.0	
	baz=280,slow=75							
H11N3	**WAKE ISLAND Hy**	**18.93**	**90**	T		T	00 56 48.8	
	baz=273							
MANU	**Manus Island**	**22.69**	**178**	P		**P**	**00 38 02.9**	**-1.5**
KSRS	**Korea Array**	**23.32**	**320**	P		**P**	**00 38 11.0**	**+0.3**
	comp=Z,6.9nm,0.6s,baz=147,slow=8.4,SNR=22							
KSRS				LR		LR	00 46 53.3	
	comp=Z,1μm,19.9s,baz=140,slow=36							
KS19	**Wonju Array Si**	**23.39**	**320**	P		**P**	**00 38 12.0**	**+0.5**
ASAJ	**Asahikawa**	**23.53**	**352**	P		**P**	**00 38 13.8**	**+0.9**
	comp=Z,50nm,1.0s,baz=244,slow=12,SNR=5.5							
ASAJ				LR		LR	00 49 36.9	
	comp=Z,771nm,18.1s,baz=188,slow=42							

SSLB Suanglung 24.07 282 P P 00 38 19.0 +0.7
SSLB IAmb IAmb 00 38 28.5
comp=Z,45nm,1.1s
INCN Inchon 24.14 318 P P 00 38 19.6 +0.8
INCN pmax pmax
comp=Z,43nm,0.8s
INCN Inchon 24.14 318 P P 00 38 19.6 +0.8
INCN IAmb IAmb 00 38 30.1
comp=Z,42nm,0.8s
DAV Davao City (W) 24.63 239 LR LR 00 45 54.9
comp=Z,2µm,20.0s,baz=68,slow=31
KCP Kidapawan 25.06 240 ⇑P P 00 38 29.5 +2.1
KRVT Keravat (AS076 25.46 168 P P 00 38 29.8 -1.1
comp=Z,55nm,0.8s,baz=166,slow=8.2,SNR=9.0
KRVT LR LR 00 46 20.1
comp=Z,656nm,21.0s,baz=336,slow=32
TGY Tagaytay City 25.50 259 P P 00 38 31.5 +0.1
comp=Z,142nm,0.3s,baz=220,slow=12,SNR=3.3
TGY LR LR 00 46 48.9
comp=Z,2µm,19.6s,baz=63,slow=32
TEY Ternei 25.61 343⇓ *eP* **P 00 38 33.5 +1.5**
TEY *e* 00 38 46.3
TEY pmax pmax
comp=Z,20nm,1.4s
YSS Yuzh-Sakhalins 26.32 354 *eP* **P 00 38 36.5 -1.9**
USA0B Ussuriysk Arra 26.39 336⇑ *eP* **P 00 38 40.6 +1.5**
USA0B Ussuriysk Arra 26.39 336 P P 00 38 40.5 +1.5
USA0B IAmb IAmb 00 38 53.7
comp=Z,34nm,0.9s
USRK Ussuriysk Ar. 26.39 336 P P 00 38 40.9 +1.8
comp=Z,7.5nm,0.5s,baz=151,slow=8.6,SNR=21
USRK LR LR 00 50 57.8
comp=Z,366nm,18.0s,baz=79,slow=41
NJ2 Nanjing 27.33 300 *eP* **P 00 38 49.6 +1.9**
NJ2 pmax pmax
comp=Z,16nm,0.5s
MDJ Mudanjiang 27.71 333 P P 00 38 52.9 +2.0
MDJ pmax pmax
comp=Z,2µm,13.5s
PMG Port Moresby 30.00 179⇑ *eP* **P 00 39 09.2 -2.3**
PMG pmax pmax
comp=Z,104nm,1.0s
PMG Port Moresby 30.00 179 P P 00 39 11.1 -0.4
comp=Z,9.9nm,0.3s,baz=248,slow=5.4,SNR=3.3
PMG Port Moresby 30.00 179 IAmb IAmb 00 39 22.2
comp=Z,36nm,0.9s
WHN Wuhan 30.71 295 P P 00 39 12.3 -5.4
KLR Kul'dur 30.82 341⇑ *iP* **P 00 39 19.5 +1.0**
KLR pmax pmax
comp=Z,8.0nm,0.8s
KLR Kul'dur 30.82 341 LR LR 00 51 20.8
comp=Z,507nm,21.4s,baz=122,slow=36
GRNR Gornyy 31.02 347⇓ *iP* **P 00 39 21.8 +1.5**
GRNR *eS* **S 00 44 30.0 +4.0**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR smax smax
comp=N,4.0nm,0.7s
HNR Honiara 32.70 155 LR LR 00 50 45.8
comp=N,1µm,19.3s,baz=332,slow=33
MPSI Mapaga 33.20 236 P P 00 39 41.2 +1.4
comp=N,8.0nm,0.6s
PETK Petropavlovsk- 33.35 12 P P 00 39 41.7 +1.0
comp=N,4.3nm,0.9s,baz=169,slow=9.7,SNR=3.2
TTSI Tana Toraja 35.48 231 P P 00 40 01.5 +1.9
comp=N,18nm,0.7s
HIA Hailar 35.66 329 P P 00 40 01.5 +0.7
HIA pmax pmax
comp=Z,17nm,0.8s
HIA Hailar 35.66 329 P P 00 40 01.5 +0.7
HIA IAmb IAmb 00 40 13.2
comp=Z,17nm,0.8s
XAN Xi'an 35.90 300 P P 00 40 03.8 +0.7
XAN pmax pmax
comp=Z,15nm,1.4s
XAN pmax pmax
comp=Z,740nm,7.8s
XAN Xi'an 35.90 300 P P 00 40 03.0 -0.1
XAN pmax pmax
comp=Z,19nm,1.2s
XAN Xi'an 35.90 300 P P 00 40 03.0 -0.1
XAN IAmb IAmb 00 40 06.2
comp=Z,20nm,1.2s
ZEA Zeya 36.13 340 *eP* **P 00 40 05.2 +0.4**
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=Z,50nm,1.2s
SPSI Sidrap Palu 36.14 230 P P 00 40 04.9 -0.4
comp=Z,20nm,0.8s
MTN Manton Dam 36.78 206 P P 00 40 10.9 +0.2
MTN IAmb IAmb 00 40 20.2
comp=Z,15nm,0.8s
KAPI Kappang 36.88 229 P P 00 40 10.8 -0.8
KAPI pmax pmax
comp=Z,8.0nm,0.8s
KAPI Kappang 36.88 229 P P 00 40 10.8 -0.8
comp=Z,4.8nm,0.5s,baz=65,slow=1.6,SNR=3.6
GYA Guiyang 37.07 287⇓ *iP* **P 00 40 15.6 +2.3**
GYA PcP **PcP 00 42 36.8 +2.7**
GYA S **S 00 46 00.6 +0.2**
GYA ScP **ScP 00 46 23.9 +1.6**
GYA SS **SnSn 00 48 29.6 -4.0**
GYA ScS **ScS 00 50 30.0 0.0**
GYA pmax pmax
comp=Z,30nm,0.4s
GYA pmax pmax
comp=Z,870nm,8.9s
GYA LR LR
comp=Z,870nm,12.4s
GYA LR LR
comp=Z,2µm,13.2s
GYA LR LR
comp=Z,2µm,15.0s
SOEI Soe 37.55 218 P P 00 40 16.9 -0.5
SOEI IAmb IAmb 00 40 28.9
comp=Z,22nm,0.7s
BATI Baumata 38.27 219 P P 00 40 21.8 -1.5
comp=Z,23nm,0.5s,baz=82,slow=14,SNR=2.5
SBUM Sibu 38.28 246 P P 00 40 23.6 +0.2
MA2 Magadan 38.86 3⇑ *iP* **P 00 40 29.5 +1.7**
MA2 pmax pmax
comp=Z,54nm,1.3s
MA2 Magadan 38.86 3 P P 00 40 28.3 +0.5
MA2 IAmb IAmb 00 40 41.0
comp=Z,37nm,0.8s
CD2 Chengdu 39.79 294 *eP* **P 00 40 34.5 -1.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
SLVN Son La 39.92 279 P P 00 40 37.2 0.0
KNRA Kununurra 40.31 207 P P 00 40 39.6 -0.7
KNRA IAmb IAmb 00 40 45.1
comp=Z,22nm,0.8s
LZH Lanzhou 40.38 302 *eP* **P 00 40 41.8 +0.8**
LZH pP pwP 00 40 47.8 +1.2
LZH sP sP 00 40 50.4 +11
LZH pmax pmax
comp=Z,35nm,1.1s
LZH LR LR
comp=Z,2µm,10.8s
LZH LR LR
comp=Z,2µm,11.8s
LZH LR LR
comp=Z,3µm,13.2s
KSM Kuching 40.42 246 P P 00 40 40.3 -1.0
KMI Kunming 40.65 285 P P 00 40 44.8 +1.4
KMI pmax pmax
comp=Z,9.0nm,0.7s
NONG Nongkai 41.14 274 P P 00 40 58.7 +11
comp=Z,0.4nm,0.7s,comp=Z,446nm
ULN Ulaanbaatar 41.81 320⇑ *iP* **P 00 40 53.4 +0.8**
ULN pmax pmax
comp=Z,19nm,1.7s
ULN Ulaanbaatar 41.81 320 P P 00 40 52.9 +0.3
SONM Songino Array 42.19 319 P P 00 40 56.4 +0.7
comp=Z,2.8nm,0.5s,baz=135,slow=7.7,SNR=13
SONM PcP **PcP 00 42 50.5 +0.5**
comp=Z,1.9nm,0.6s,baz=128,slow=2.6,SNR=4.5
SONM LR LR 00 59 51.5
comp=Z,750nm,18.1s,baz=344,slow=38
WRAB Tennant Creek 42.25 198⇑ *iP* **P 00 40 55.3 -0.9**
WRAB pmax pmax
comp=Z,12nm,0.6s
WRAB Tennant Creek 42.25 198 P P 00 40 55.7 -0.6
WRAB IAmb IAmb 00 41 00.4
comp=Z,17nm,0.7s

WRA Warramunga Arr 42.26 198 P P 00 40 55.1 -1.2
comp=Z,14nm,0.7s,baz=19,slow=8.4,SNR=53
WRA PcP **PcP 00 42 50.5 +0.1**
comp=Z,4.5nm,0.6s,baz=14,slow=3.4,SNR=5.3
WRA LR LR 00 58 38.8
comp=Z,1µm,19.4s,baz=20,slow=36
SEY Seymchan 42.30 4⇓ *iP* **P 00 40 57.3 +1.1**
SEY Seymchan 42.30 4 P P 00 40 57.0 +0.9
comp=Z,9.2nm,0.6s,baz=186,slow=6.9,SNR=15
YAK Yakutsk 42.89 348 *eP* P 00 41 09.5 +8.6
YAK pmax pmax
comp=Z,21nm,0.8s
YAK Yakutsk 42.89 348 P P 00 41 00.9 0.0
YAK IAmb IAmb 00 41 13.5
comp=Z,26nm,0.7s
PBKT Sadao Pong 43.48 272 P P 00 41 16.0 +10
comp=Z,7.6nm,1.5s
PBKT Sadao Pong 43.48 272 P P 00 41 07.1 +0.7
UTTA Uttaradit 43.62 274 P P 00 41 13.0 +5.5
comp=Z,18µm,0.6s
FITZ Fitzroy Crossi 43.84 210 P P 00 41 08.6 -0.5
comp=Z,33nm,1.2s,baz=31,slow=8.9,SNR=22
FITZ Fitzroy Crossi 43.84 210 P P 00 41 08.2 -0.9
FITZ IAmb IAmb 00 41 13.7
comp=Z,17nm,0.8s
BOD Bodaibo 44.03 335 *eP* **P 00 41 10.5 +0.3**
BOD pmax pmax
comp=Z,14nm,1.7s
GTA Gaotai 44.13 306 *eP* **P 00 41 11.5 0.0**
GTA pP pwP 00 41 18.9 +1.8
GTA sP sP 00 41 22.3 +12
GTA pmax pmax
comp=Z,9.0nm,1.4s
LAMP Lampang 44.33 276 P P 00 41 27.2 +14
CMMT Chiang Mai 44.91 276 P P 00 41 28.1 +10
comp=Z,5.8nm,1.2s
CHTO Chiang Mai 44.92 276 P P 00 41 18.7 +0.8
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CHTO Chiang Mai 44.92 276 P P 00 41 18.7 +0.8
CMAR Chiang Mai Arr 44.99 276 *ceP* **P 00 41 20.2 +1.7**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 44.99 276 P P 00 41 19.1 +0.7
comp=Z,1.7nm,0.3s,baz=85,slow=5.7,SNR=8.0
CMAR LR LR 00 58 29.8
comp=Z,344nm,21.5s,baz=74,slow=34
ZAK Zakamensk 45.13 322 *eP* **P 00 41 19.1 -0.2**
ZAK pmax pmax
comp=Z,14nm,1.5s
UTHA Uthaitani 45.14 272 P P 00 41 30.2 +10
comp=Z,20µm,1.2s
TLY Talaya 45.48 323 *c iP* **P 00 41 23.4 +1.5**
TLY pmax pmax
comp=Z,29nm,1.3s
TLY Talaya 45.48 323 P P 00 41 22.8 +0.9
comp=Z,7.7nm,0.7s,baz=170,slow=7.2,SNR=4.4
TLY Talaya 45.48 323 P P 00 41 22.8 +0.9
TLY IAmb IAmb 00 41 36.8
comp=Z,26nm,1.1s
SRDT SRDT 45.75 270 P P 00 41 25.8 +1.3
AS31 Alice Springs 45.92 197 P P 00 41 24.5 -1.2
ASAR Alice Springs 45.92 197 P P 00 41 24.4 -1.3
comp=Z,4.9nm,0.7s,baz=19,slow=8.1,SNR=34
ASAR PcP **PcP 00 43 03.2 +0.4**
comp=Z,2.0nm,0.5s,baz=21,slow=2.9,SNR=6.4
ASAR LR LR 01 00 53.3
comp=Z,1µm,19.2s,baz=34,slow=36
DZM Mont Dzumac 46.72 155 P P 00 41 32.4 +0.4
DZM IAmb IAmb 00 41 33.0
comp=Z,24nm,1.0s
MOY Mondy 46.97 322 *eP* **P 00 41 34.0 +0.2**
MOY pmax pmax
comp=Z,31nm,2.0s
LEM Lembang 47.24 239 P P 00 41 35.5 -0.9
comp=Z,13nm,0.4s,baz=356,slow=19,SNR=2.6
BILL Bilibino 48.81 10⇓ *iP* **P 00 41 48.0 +0.4**
BILL *e* 00 41 55.8
BILL *i* 00 42 01.6
BILL *e* 00 43 13.7
BILL S **S 00 48 55.0 +3.6**
BILL pmax pmax
comp=Z,27nm,1.0s
BILL MLR MLR
comp=Z,2µm,15.0s
BILL Bilibino 48.81 10 P P 00 41 48.0 +0.4
BILL IAmb IAmb 00 41 52.6
comp=Z,28nm,1.1s
MSVF Nonsavu 49.05 139 P P 00 41 50.9 +0.7
MSVF pmax pmax
comp=Z,32nm,1.1s
MSVF Nonsavu 49.05 139 P P 00 41 50.9 +0.7
BKNI Bangkinang 49.07 251 P P 00 41 49.6 -0.8
PSA00 Pilbara Seismi 49.64 214 P P 00 41 55.0 +0.4
PSA00 IAmb IAmb 00 41 58.9
comp=Z,20nm,1.1s
PSI Prapat 49.88 256 P P 00 41 56.4 -0.4
comp=Z,3.0nm,0.4s,baz=102,slow=13,SNR=3.3
RPSI Rantau Prapat 49.93 255 P P 00 41 56.4 -0.6
SHL Shillong 50.40 286 P P 00 42 00.2 -0.5
SHL pmax pmax
comp=Z,23nm,1.0s
SHL Shillong 50.40 286 P P 00 42 00.2 -0.5
SHL IAmb IAmb 00 42 07.9
comp=Z,22nm,1.0s
LSA Lhasa 50.69 292 P P 00 42 03.9 +0.8
LSA pmax pmax
comp=Z,22nm,0.7s
LSA Lhasa 50.69 292 P P 00 42 03.9 +0.8
LSA IAmb IAmb 00 42 06.7
comp=Z,22nm,0.7s
ARMA Armidale 51.12 175 P P 00 42 06.1 +0.4
GSI Gunungsitoli 51.73 255 P P 00 42 11.5 +0.8
TIXI Tiksi 51.93 353⇓ *eP* **P 00 42 10.7 -0.5**
TIXI pmax pmax
comp=Z,5.0nm,1.3s
TIXI Tiksi 51.93 353 P P 00 42 11.4 +0.1
STKA Stephens Creek 52.59 186 P P 00 42 15.9 -0.7
STKA pmax pmax
comp=Z,2.0nm,0.7s
STKA Stephens Creek 52.59 186 P P 00 42 15.2 -1.4
comp=Z,6.6nm,0.7s,baz=348,slow=10.0,SNR=7.5
STKA Stephens Creek 52.59 186 P P 00 42 15.9 -0.7
WMQ Urumqi 53.74 310 *eP* **P 00 42 26.4 +1.2**
WMQ pP pwP 00 42 32.9 +2.1
WMQ PcP **PcP 00 43 34.9 +3.6**
WMQ pmax pmax
comp=Z,27nm,1.7s
WMQ LR LR
comp=Z,1µm,16.1s
WMQ LR LR
comp=Z,210nm,28.8s
WMQ LR LR
comp=Z,1µm,20.5s
TAPN Taplejung 53.91 289 *eP* **P 00 42 27.7 +0.8**
comp=Z,71nm,0.8s
ODAN Odare 54.25 289 *eP* **P 00 42 29.0 -0.3**
comp=Z,111nm,1.0s
FORT Forrest 54.32 200 P P 00 42 29.6 +0.3
RAMN Ramite 54.94 289 *eP* **P 00 42 33.2 -1.2**
comp=Z,54nm,0.8s
JIRN Jiri 55.21 290 *eP* **P 00 42 37.3 +0.8**
comp=Z,177nm,0.8s
GUN Gumba 55.45 290 *eP* **P 00 42 39.7 +1.5**
comp=Z,262nm,1.3s
CAN Canberra 55.83 178 P P 00 42 40.4 +0.2
CAN pmax pmax
comp=Z,16nm,1.1s
CAN Canberra 55.83 178 P P 00 42 40.4 +0.2
CAN IAmb IAmb 00 42 54.2
comp=Z,16nm,1.1s
PKI Pulchoki 55.91 290 *eP* **P 00 42 41.4 -0.1**
comp=Z,46nm,0.8s
PKIN Phulchoki 55.92 290 *eP* **P 00 42 41.8 +0.3**
comp=Z,28nm,0.6s
KKN Kakani 56.00 290 *eP* **P 00 42 42.6 +0.7**
comp=Z,82nm,0.9s
DMN Daman 56.17 290 *eP* **P 00 42 43.6 +0.3**
comp=Z,50nm,0.7s
ZAA0 Zalesovo Array 57.01 322 P P 00 42 48.2 -0.2
ZALV Zalesovo Beam 57.01 322 P P 00 42 48.3 -0.1
comp=Z,37nm,0.5s,baz=109,slow=7.7,SNR=231
KDAK Kodiak Island 57.08 34 *i P* **P 00 42 51.1 +2.3**
MK31 Makanchi Array 57.78 313 P P 00 42 54.3 +0.3
MK31 pmax pmax
comp=Z,13nm,0.8s

MK31 Makanchi Array 57.78 313 P P 00 42 54.3 +0.3
MK31 IAmb IAmb 00 43 06.5
comp=Z,13nm,0.8s
MKAR Makanchi Array 57.78 313 P P 00 42 54.4 +0.3
comp=Z,4.9nm,0.5s,baz=88,slow=7.9,SNR=59
MAKZ Makanchi 57.99 313 P P 00 42 56.1 +0.5
MAKZ pmax pmax
comp=Z,25nm,0.8s
MAKZ Makanchi 57.99 313 P P 00 42 56.1 +0.5
TOO Toolangi 58.05 181 P P 00 42 56.7 +0.8
TOO pmax pmax
comp=Z,14nm,1.2s
TOO Toolangi 58.05 181 P P 00 42 56.7 +0.8
TOO IAmb IAmb 00 43 08.8
comp=Z,14nm,1.1s
PPLA Purkeypile 58.60 28 P P 00 42 59.9 +0.3
RC01 Rabbit Creek A 59.26 30 P P 00 43 03.6 -0.4
RC01 IAmb IAmb 00 43 11.1
comp=Z,12nm,1.0s
TRF Thorofare Moun 59.58 28 IAmb IAmb 00 43 19.5
comp=Z,15nm,0.9s
PDGK Podgornoye 59.68 309 P P 00 43 07.4 -0.1
PDGK pmax pmax
comp=Z,36nm,1.4s
MLY Manley 59.81 26 IAmb IAmb 00 43 12.2
comp=Z,17nm,1.2s
NWAO Narrogin (SRO) 60.40 208 LR LR 01 09 22.7
comp=Z,815nm,18.2s,baz=82,slow=36
KURK Kurchatov 60.42 317 *d iP* **P 00 43 12.2 0.0**
KURK pmax pmax
comp=Z,81nm,1.7s
KURK Kurchatov 60.42 317 P P 00 43 12.3 +0.1
KURBB Kurchatov Arra 60.47 317 P P 00 43 12.8 +0.2
comp=Z,23nm,0.6s,baz=92,slow=7.7,SNR=117
WRH Wood River Hil 60.77 27 IAmb IAmb 00 43 27.4
comp=Z,11nm,1.2s
DHY Denali Highway 60.77 28 IAmb IAmb 00 43 30.0
comp=Z,7.4nm,0.5s
COLA College 60.96 26⇓ *eP* **P 00 43 16.3 +0.6**
COLA pmax pmax
comp=Z,3.0nm,1.4s
TARG Taragay, Kyrgy 60.97 307 P P 00 43 17.1 +0.4
TARG IAmb IAmb 00 43 29.7
comp=Z,18nm,1.1s
POKR Poker Plat Res 61.19 26 P P 00 43 17.5 +0.2
baz=257
OUZ Omahuta 61.23 155 P P 00 43 18.5 +0.7
HDA Harding Lake 61.24 27 P P 00 43 17.3 -0.3
baz=258
TOLK Toolik Lake Re 61.30 22 P P 00 43 19.0 +1.0
baz=253
TOLK Toolik Lake Re 61.30 22 IAmb IAmb 00 43 19.6
comp=Z,13nm,0.9s
IL31 61.34 27 IAmb IAmb 00 43 21.0
comp=Z,13nm,1.1s
ILAR Eielson Array 61.34 27 P P 00 43 17.5 -0.8
comp=Z,4.3nm,0.9s,baz=264,slow=5.4,SNR=22
ILAR LR LR 01 06 43.5
comp=Z,539nm,21.5s,baz=294,slow=33
RIDG Independent Ri 62.02 28 IAmb IAmb 00 43 42.0
comp=Z,11nm,0.9s
BOOM Boomskoye usch 62.31 308 P P 00 43 25.8 +0.3
BOOM pmax pmax
comp=Z,15nm,0.8s
BOOM Boomskoye usch 62.31 308 P P 00 43 25.8 +0.3
NRN Naryn 62.34 307 P P 00 43 25.6 -0.2
NRN pmax pmax
comp=Z,14nm,1.1s
NRN Naryn 62.34 307 P P 00 43 25.6 -0.2
NRN IAmb IAmb 00 43 32.4
comp=Z,14nm,1.1s
DOT Dot Lake 62.35 28 P P 00 43 25.4 +0.3
DOT IAmb IAmb 00 43 42.0
comp=Z,6.9nm,0.8s
FYU Fort Yukon 62.39 25 P P 00 43 25.7 +0.4
FYU IAmb IAmb 00 43 37.8
comp=Z,20nm,1.2s
SCRK Sand Creek 62.43 28 IAmb IAmb 00 43 26.3
comp=Z,15nm,1.2s
MCARA McCarthy VSAT 62.50 31 IAmb IAmb 00 43 29.5
comp=Z,17nm,1.0s
KSH Kashi 62.51 305 P P 00 43 30.3 +3.5
KSH S **S 00 51 56.3 +0.9**
KSH sS sS 00 52 04.3 +11
KSH SS **SS 00 56 03.9 +4.8**
TKM2 Tokmak 2 62.54 308 *i P* **P 00 43 27.7 +0.7**
TKM2 pmax pmax
comp=Z,16nm,0.8s
BALM Baldy 62.79 31 IAmb IAmb 00 43 39.2
comp=Z,11nm,1.1s
AAK Ala-Archa 63.37 308⇓ *eP* **P 00 43 31.9 -0.6**
AAK pmax pmax
comp=Z,12nm,1.2s
AAK Ala-Archa 63.37 308 P P 00 43 33.0 +0.5
comp=Z,3.1nm,0.7s,baz=101,slow=10.0,SNR=6.9
AAK Ala-Archa 63.37 308 P P 00 43 33.1 +0.6
AAK IAmb IAmb 00 43 44.2
comp=Z,7.7nm,0.8s
HYB Hyderabad 64.12 280 *i P* **P 00 43 37.0 -0.7**
DAWY Dawson 64.45 28 P P 00 43 39.6 +0.5
ARSB Arslanbob 64.61 307 P P 00 43 41.2 +0.6
HYT Haines Junctio 65.13 32 P P 00 43 44.6 +0.9
HYT IAmb IAmb 00 43 58.1
comp=Z,13nm,1.1s
NIL Nilore 65.42 298 P P 00 43 46.4 +0.5
NIL pmax pmax
comp=Z,28nm,0.8s
NIL Nilore 65.42 298 P P 00 43 46.4 +0.5
BVAR Borovoye Array 65.53 320 P P 00 43 46.6 +0.3
comp=Z,22nm,0.6s,baz=87,slow=7.5,SNR=114
BRVK Borovoye 65.60 320 *de* **P 00 43 46.8 +0.1**
BRVK pmax pmax
comp=Z,84nm,1.7s
BRVK Borovoye 65.60 320 P P 00 43 46.8 +0.1
EPYK Eagle Plains 65.75 25 P P 00 43 47.5 0.0
baz=266
EPYK Eagle Plains 65.75 25 P P 00 43 48.2 +0.7
EPYK IAmb IAmb 00 43 51.6
comp=Z,9.7nm,1.1s
BKZ Black Stump Fm 65.80 155 P P 00 43 47.8 -0.3
QRZ Quartz Range 65.80 159 P P 00 43 49.1 +1.1
KK31 Karatay Array 66.24 309 *i P* **P 00 43 51.1 +0.1**
KK31 pmax pmax
comp=Z,10.0nm,0.7s
KKAR Karatay Array 66.24 309 P P 00 43 50.7 -0.3
KKAR pmax pmax
comp=Z,22nm,0.7s
KKAR Karatay Array 66.24 309 P P 00 43 50.7 -0.3
WHY Whitehorse 66.42 32 P P 00 43 52.4 +0.4
INK Inuvik 67.07 23 IAmb IAmb 00 43 56.2
comp=Z,11nm,1.1s
RPZ Rata Peaks 67.94 161 P P 00 44 01.9 +0.4
KBL Kabul 68.70 300 P P 00 44 06.6 -0.4
KBL pmax pmax
comp=Z,16nm,0.7s
KBL Kabul 68.70 300 P P 00 44 06.6 -0.4
C36M Paulatuk 70.45 22 P P 00 44 16.8 0.0
baz=277,SNR=6.1
SVE Sverdlovsk 70.77 324⇑ *eP* **P 00 44 19.5 +0.4**
SVE pmax pmax
comp=Z,48nm,1.5s
ARU Arti 71.97 324 *d iP* **P 00 44 26.2 -0.1**
ARU PPP PPP 00 48 44.6
ARU S **S 00 53 48.7 +0.2**
ARU SS **SS 00 58 26.3 +1.8**
ARU pmax pmax
comp=Z,104nm,1.8s
ARU Arti 71.97 324 P P 00 44 26.3 -0.1
comp=Z,9.6nm,0.6s,baz=101,slow=2.6,SNR=59
ARU Arti 71.97 324 P P 00 44 26.2 -0.1
AB31 Akbulak array 72.52 317 *i P* **P 00 44 29.5 -0.2**
AB31 pmax pmax
comp=Z,8.0nm,0.7s
ABKAR Akbulak array 72.52 317 P P 00 44 29.5 -0.3
ABKAR IAmb IAmb 00 44 32.4
comp=Z,14nm,0.8s
PPT Papeete 73.12 117 LR LR 01 10 13.3
comp=Z,432nm,19.4s,baz=351,slow=31
AKTO Aktyubinsk 73.49 318 P P 00 44 34.9 -0.6
comp=Z,5.2nm,0.6s,baz=80,slow=9.1,SNR=18
I02D Swisehome 75.41 48 P P 00 44 45.7 -1.0
baz=285
B05A Bryant 75.52 44 P P 00 44 47.5 +0.2
baz=285
G03D McMinnville, O 75.53 47 P P 00 44 48.9 +1.5

baz=285
J01E Myrtle Point 75.59 49 P P 00 44 49.2 +1.4
baz=285
E04D Cinebar 75.65 45 P P 00 44 48.7 +0.6
baz=285
YKA Yellowknife Ar 75.69 28 P P 00 44 47.6 -0.4
comp=Z,5.8nm,0.8s,baz=289,slow=5.6,SNR=80
I03D Drain, OR 75.86 48 P P 00 44 49.8 +0.5
baz=285
K02D Willamette Mer 75.90 49 P P 00 44 48.5 -1.2
baz=285
F04A Amboy 75.92 46 IAmb IAmb 00 44 53.2
comp=Z,17nm,1.1s
H04D Lebanon 76.07 47 P P 00 44 50.5 -0.1
baz=286
L02E Cave Junction 76.09 50 P P 00 44 51.5 +0.7
baz=286
KIRV Kirov 76.25 328 P P 00 44 51.2 0.0
comp=Z,30nm,0.6s,baz=44,slow=1.2,SNR=13
H04A Detroit Lake 76.41 47 IAmb IAmb 00 44 53.4
comp=Z,16nm,1.1s
I04A Tendick Farm, 76.49 48 P P 00 44 52.8 -0.2
baz=286
GEYT Alibeck 76.51 306 P P 00 44 53.6 +0.3
comp=Z,4.6nm,1.0s,baz=87,slow=11,SNR=7.3
F05D White Salmon 76.57 46 P P 00 44 53.4 0.0
baz=286
M02C Callahan 76.84 51 P P 00 44 55.2 +0.1
baz=286
G05D Wamic, OR 76.85 46 P P 00 44 55.2 +0.2
baz=286
YBH Yreka Blue Hor 76.85 50 P P 00 44 55.7 +0.6
YBH pmax pmax
comp=Z,11nm,1.2s
YBH Yreka Blue Hor 76.85 50 P P 00 44 55.7 +0.6
YBH IAmb IAmb 00 44 58.6
comp=Z,11nm,1.1s
J04D Umpqua Nationa 76.86 49 P P 00 44 55.6 +0.3
baz=286
L04D Klamath Falls 77.00 50 P P 00 44 56.0 -0.1
baz=286
N02D Trinity Center 77.06 51 P P 00 44 56.2 -0.2
baz=286
I05D Terrebonne, OR 77.08 47 P P 00 44 56.0 -0.4
baz=286
PRGR Permogore 77.08 331 ⇓*i* P P 00 44 56.2 +0.3
PRGR *i* 00 45 06.4
PRGR pmax pmax
comp=Z,44nm,0.6s
RES Resolute Bay 77.17 14 IAmb IAmb 00 44 58.8
comp=Z,20nm,1.1s
O02D Mt. Diablo Mer 77.22 52 P P 00 44 57.9 +0.6
baz=286,SNR=7.4
B08A Colville Reser 77.27 43 IAmb IAmb 00 44 58.3
comp=Z,12nm,1.0s
WDC Whiskeytown Da 77.29 51 P P 00 44 57.8 +0.2
WDC pmax pmax
comp=Z,4.0nm,0.9s
WDC Whiskeytown Da 77.29 51 P P 00 44 57.8 +0.2
E07A Sunnyside 77.45 45 IAmb IAmb 00 45 09.8
comp=Z,13nm,1.1s
J05D Fort Rock, OR 77.46 48 P P 00 44 58.7 +0.1
baz=287
M04C Macdoel 77.46 50 P P 00 44 59.0 +0.4
baz=287
GDXM Geysers 77.61 53 IAmb IAmb 00 45 04.1
comp=Z,12nm,1.1s
HAWA Hanford 77.71 45 P P 00 45 00.2 +0.4
O03E Paynes Creek 77.91 51 P P 00 45 01.0 -0.2
baz=287,SNR=6.2
E08A Dider Farm, El 78.00 45 IAmb IAmb 00 45 02.5
comp=Z,9.9nm,1.1s
C09A Chrisman Ranch 78.11 43 IAmb IAmb 00 45 05.3
comp=Z,12nm,1.1s
ORV Oroville 78.35 52 IAmb IAmb 00 45 06.6
comp=Z,22nm,1.1s
NEW Newport 78.70 43 P P 00 45 05.2 0.0
baz=288
NEW Newport 78.70 43 P P 00 45 05.3 0.0
NEW Newport 78.70 43 P P 00 45 05.3 0.0
NEW P 00 45 05.5 +0.2
NEW IAmb IAmb 00 45 06.1
comp=Z,14nm,1.1s
AFDM Forest Hills D 78.93 53 IAmb IAmb 00 45 10.1
comp=Z,13nm,1.1s
BEKR Beckworth 79.10 52 IAmb IAmb 00 45 11.0
comp=Z,14nm,1.0s
TMCR Tamitsa 79.32 335 *e*P P 00 45 07.1 -1.1
TMCR pmax pmax
comp=Z,154nm,1.7s
APA Apatity 79.44 339 ⇑*i* P P 00 45 08.4 -0.5
APA pmax pmax
comp=Z,17nm,0.7s
APA MLR MLR
comp=Z,3μm,14.0s
WVOR Wild Horse Val 79.53 49 IAmb IAmb 00 45 11.0
comp=Z,12nm,1.1s
CMB Columbia Colle 79.64 53 IAmb IAmb 00 45 11.6
comp=Z,17nm,1.1s
BMO Blue Mountains 79.68 46 IAmb IAmb 00 45 11.7
comp=Z,12nm,0.9s
PMPB Monarch Peak 79.90 55 IAmb IAmb 00 45 27.5
comp=Z,13nm,1.1s
PNTR Pine Nut 79.90 52 P P 00 45 12.7 +0.5
PNTR IAmb IAmb 00 45 15.9
comp=Z,12nm,0.8s
YERR Yerington 80.20 52 IAmb IAmb 00 45 17.3
comp=Z,22nm,1.2s
WSAR Wadi Sarin 80.43 291 P P 00 45 14.5 -0.6
comp=Z,7.7nm,1.0s,baz=85,slow=7.4,SNR=2.1
PAGB Antelope Grade 80.47 55 P P 00 45 15.2 0.0
TULEG Thule 80.53 8 P P 00 45 14.6 0.0
TULEG IAmb IAmb 00 45 15.6
comp=Z,24nm,0.9s
JTMT Jette 80.67 43 IAmb IAmb 00 45 19.4
comp=Z,15nm,1.1s
ARCES ARCESS Array B 80.83 342 P P 00 45 16.3 -0.1
comp=Z,5.5nm,0.6s,baz=55,slow=5.8,SNR=27
RYN Ryan 80.84 52 IAmb IAmb 00 45 20.8
comp=Z,17nm,1.1s
KVN Kaiserville 81.02 52 P P 00 45 17.8 -0.4
KVN pmax pmax
comp=Z,14nm,1.0s
KVN Kaiserville 81.02 52 P P 00 45 17.8 -0.4
KVN IAmb IAmb 00 45 19.2
comp=Z,14nm,1.0s
NVAR Mina Array Bea 81.07 52 P P 00 45 19.0 +0.4
comp=Z,13nm,0.8s,baz=263,slow=6.4,SNR=90
NVAR LR LR 01 15 11.3
comp=Z,308nm,20.5s,baz=331,slow=31
PKM Mcpherson Peak 81.08 56 P P 00 45 19.4 +0.7
baz=289,SNR=7.9
MFID Camas Ranch 81.16 47 IAmb IAmb 00 45 22.2
comp=Z,20nm,1.1s
NV11 Mina Array Sit 81.18 52 IAmb IAmb 00 45 22.5
comp=Z,14nm,1.0s
MSO Missoula 81.22 43 P P 00 45 18.4 -0.7
baz=291
VES Vestal, Richgr 81.33 55 P P 00 45 19.7 -0.1
baz=289
TIN Tinemaha, Big 81.58 54 P P 00 45 21.4 +0.2
baz=290
ISA Isabella, Lake 81.86 55 P P 00 45 22.2 -0.4
baz=290
CWC Cottonwood Cre 81.90 54 P P 00 45 22.9 0.0
baz=290
DAG Danmarks Havn 82.26 357 *i* P P 00 45 23.3 -0.5
DAG Danmarks Havn 82.26 357 *i* P P 00 45 23.3 -0.5
comp=Z,0.2nm,0.5s
DAC Darwin (Calif) 82.33 54 IAmb IAmb 00 45 28.4
comp=Z,10nm,1.1s
MPMC Manual Prospec 82.48 54 P P 00 45 26.4 +0.4
baz=290,SNR=22
EDW2 Edwards Air Fo 82.50 56 P P 00 45 26.2 +0.2
baz=290,SNR=11
LRMC Laurel Mtn Rad 82.53 55 P P 00 45 26.3 +0.1
baz=290,SNR=11
CIS Catalina Islan 82.67 57 P P 00 45 27.1 +0.3
baz=290
FURC Furnace Creek, 82.81 54 P P 00 45 27.6 +0.2
baz=290,SNR=11
BFSC Mount Baldy Ra 82.98 56 P P 00 45 28.5 -0.1
baz=290
AKT Akhty 82.98 312 *e*P P 00 45 28.9 +0.5
AKT pmax pmax
comp=Z,50nm,1.5s
VRH Novokhopyorsk 83.03 322 *e*P P 00 45 27.6 -0.7
VRH pmax pmax
comp=Z,90nm,1.6s
R11A Troy Canyon, C 83.10 52 P P 00 45 29.4 +0.2
baz=291
R11A Troy Canyon, C 83.10 52 IAmb IAmb 00 45 30.1
comp=Z,10nm,1.1s
TPNV Topopah Spring 83.11 53 P P 00 45 29.6 +0.4
baz=291
TPNV Topopah Spring 83.11 53 P P 00 45 29.2 0.0
TPNV pmax pmax
comp=Z,24nm,1.2s
TPNV Topopah Spring 83.11 53 P P 00 45 29.2 0.0
BOZ Bozeman (W) 83.16 44 P P 00 45 29.0 -0.3
baz=293
MOS Moscow 83.26 327 *e*P P 00 45 28.2 -1.2
MOS pmax pmax
comp=Z,134nm,1.6s
GSC Goldstone, Bar 83.27 55 P P 00 45 30.0 0.0
baz=291,SNR=11
GSC Goldstone, Bar 83.27 55 IAmb IAmb 00 45 33.8
comp=Z,7.0nm,0.9s
SHOC Shoshone, Teco 83.46 54 P P 00 45 31.2 +0.3
baz=291
MURC Murrieta 83.56 57 P P 00 45 31.5 +0.1
baz=291
GROC Groznyy 83.67 314 *e*P P
GROC *e*S S 00 55 51.2 -4.1
GROC pmax pmax
comp=Z,19nm,0.7s
HEC Hector,Ludlow 83.79 55 P P 00 45 32.8 +0.1
baz=291,SNR=8.5
109C Camp Elliot, M 83.88 57 P P 00 45 32.9 -0.1
baz=291
TUQ Turquoise Moun 83.89 55 P P 00 45 33.1 -0.2
baz=291,SNR=9.8
LPSR Galich'ya Gora 84.00 324 *e*P P 00 45 32.6 -0.6
LPSR pmax pmax
comp=Z,100nm,1.6s
SHPR Sheep Range 84.08 53 IAmb IAmb 00 45 37.9
comp=Z,14nm,1.1s
OBN Obninsk 84.09 327 *c i* P P 00 45 33.5 -0.1
OBN *i* 00 45 40.7
OBN S S 00 55 58.0 -1.1
OBN SS SS 01 01 28.0 +1.4
OBN pmax pmax
comp=Z,134nm,1.7s
OBN MLR MLR
comp=Z,701nm,15.0s
OBN Obninsk 84.09 327 P P 00 45 33.2 -0.4
comp=Z,4.9nm,0.6s,baz=75,slow=5.5,SNR=16
OBN Obninsk 84.09 327 P P 00 45 33.4 -0.2
PFO Pinyon Flats O 84.13 56 P P 00 45 34.3 -0.2
baz=291,SNR=7.1
PFO Pinyon Flats O 84.13 56 ⇓*e*P P 00 45 34.1 -0.4
PFO pmax pmax
comp=Z,23nm,1.0s
PFO Pinyon Flats O 84.13 56 P P 00 45 34.1 -0.4
PFO IAmb IAmb 00 45 34.9
comp=Z,13nm,1.1s
XPFO Pion Flat 84.13 56 P P 00 45 34.1 -0.4
XPFO IAmb IAmb 00 45 34.9
comp=Z,13nm,1.1s
BAR Barrett 84.29 57 IAmb IAmb 00 45 37.9
comp=Z,7.3nm,0.8s
PSUT Pine Spring 84.30 51 P P 00 45 35.0 -0.4
H17A Grant Village 84.32 45 P P 00 45 37.3 +1.9
baz=294
GMRC Granite Mounta 84.33 55 P P 00 45 35.4 0.0
baz=291,SNR=9.0
BELC Belle Mtn. Jos 84.35 56 P P 00 45 35.1 -0.5
baz=291,SNR=9.8
MONP2 Monument Peak 84.42 57 P P 00 45 36.2 +0.1
baz=291,SNR=12
DUG Dugway, Tooele 84.42 49 P P 00 45 35.9 0.0
baz=292
DUG Dugway, Tooele 84.42 49 IAmb IAmb 00 45 39.1
comp=Z,14nm,1.1s
TPAW Teton Pass 84.43 46 IAmb IAmb 00 45 39.0
comp=Z,15nm,1.1s
YNE Yellowstone No 84.45 44 P P 00 45 36.1 +0.1
VSR Storozhevoye 84.48 323 *de*P P 00 45 35.4 -0.3
VSR pmax pmax
comp=Z,48nm,1.1s
AHID Auburn Hatcher 84.62 46 IAmb IAmb 00 45 37.7
comp=Z,8.6nm,0.9s
IKP In-Ko-Pah, Jac 84.75 57 P P 00 45 37.6 0.0
baz=291
HWUT Hardware Ranch 84.75 48 IAmb IAmb 00 45 38.4
comp=Z,14nm,1.1s
FFC Flin Flon 84.81 33 *i* P P 00 45 37.7 +0.4
FFC Flin Flon 84.81 33 P P 00 45 37.4 +0.1
RLMT Red Lodge 84.88 44 P P 00 45 39.3 +1.1
baz=294
SWSC Sam W. Stewart 84.89 57 P P 00 45 38.0 -0.1
baz=291
BC3 Big Chuckawall 84.90 56 P P 00 45 38.3 0.0
baz=292,SNR=8.7
IRM Iron Mountain 84.95 56 P P 00 45 38.5 0.0
baz=292,SNR=8.3
TBLG Delisi 84.96 313 P P 00 45 38.3 -0.1
TBLG pmax pmax
comp=Z,16nm,1.1s
TBLG Delisi 84.96 313 P P 00 45 38.3 -0.1
TBLG IAmb IAmb 00 45 41.6
comp=Z,16nm,1.1s
NCK Nalchik 85.03 315 ⇑*e*P P 00 45 39.3 +0.6
NCK pmax pmax
comp=Z,11nm,1.2s
CCUT Cedar City 85.03 52 P P 00 45 38.7 -0.4
ZEI Tsey 85.11 314 *e*P P 00 45 37.9 -1.4
ZEI pmax pmax
comp=Z,10.0nm,0.8s
KBZ Khabaz 85.40 315 ⇑*e*P P 00 45 41.3 +0.9
KBZ Khabaz 85.40 315 P P 00 45 40.1 -0.3
comp=Z,5.3nm,0.7s,baz=94,slow=3.7,SNR=14
FIA1 FINESS Array S 85.42 336 P P 00 45 39.3 -0.9
FINES FINESS Array B 85.42 336 P P 00 45 39.1 -1.1
comp=Z,14nm,0.6s,baz=70,slow=4.8,SNR=80
KVAR Kislovodsk Arr 85.44 315 P P 00 45 42.3 +1.4
comp=Z,5.0nm,0.8s,baz=248,slow=1.4,SNR=5.3
KVAR LR LR 01 25 30.3
comp=Z,261nm,19.9s,baz=296,slow=37
KIV Kislovodsk 85.44 315 *e*P P 00 45 41.3 +0.5
KIV pmax pmax
comp=Z,21nm,0.9s
MSU Marysvale 85.53 51 P P 00 45 41.7 +0.1
MSU Marysvale 85.53 51 P P 00 45 41.7 +0.1
Y12C Blythe 85.58 56 P P 00 45 42.0 +0.3
baz=292
Y12C Blythe 85.58 56 IAmb IAmb 00 45 42.3
comp=Z,8.0nm,1.0s
GNI Garni 85.58 311 P P 00 45 42.5 +0.8
GNI pmax pmax
comp=Z,14nm,1.2s
GNI Garni 85.58 311 P P 00 45 42.5 +0.8
comp=Z,5.4nm,0.9s,baz=313,slow=6.8,SNR=3.8
GNI Garni 85.58 311 IAmb IAmb 00 45 60.0
comp=Z,14nm,1.1s
GLA Glamis 85.61 56 P P 00 45 42.1 +0.2
baz=292
BW06 Boulder Array 85.66 46 P P 00 45 41.5 -0.6
baz=294
PDAR Pinedale Array 85.66 46 P P 00 45 41.5 -0.6
comp=Z,2.5nm,0.8s,baz=253,slow=2.2,SNR=22
NEY Neytrino 85.71 315 ⇑*e*P P 00 45 42.4 +0.1
NEY pmax pmax
comp=Z,1.0nm,0.8s
TMUT Trail Mountain 85.91 50 P P 00 45 43.3 -0.2
AKH Akhalkalaki 85.94 313 P P 00 45 43.2 -0.3
AKH pmax pmax
comp=Z,5.0nm,1.0s
AKH Akhalkalaki 85.94 313 P P 00 45 43.2 -0.3
LAO LASA Array 86.13 41 P P 00 45 44.4 +0.2
baz=296
U15A North Rim 86.25 53 P P 00 45 45.1 -0.1
U15A IAmb IAmb 00 45 46.5
comp=Z,9.8nm,1.0s
DGMT Dagmar 86.55 39 P P 00 45 45.7 -0.4
baz=298
Y14A Wickenburg 86.68 55 IAmb IAmb 00 45 48.5
comp=Z,17nm,1.0s
SUMG Summit 86.81 2 *i* P P 00 45 48.0 +0.6
SUMG pmax pmax
comp=Z,19nm,0.8s
SUMG Summit 86.81 2 *i* P P 00 45 48.0 +0.6
comp=Z,19nm,0.8s
SUMG Summit 86.81 2 P P 00 45 47.4 -0.1
SUMG IAmb IAmb 00 45 48.8
comp=Z,17nm,1.1s
WUAZ Wupatki 87.30 53 P P 00 45 51.2 +0.9
baz=294,SNR=16
WUAZ Wupatki 87.30 53 P P 00 45 51.0 +0.7
214A Organ Pipe Nat 87.60 57 P P 00 45 52.2 +0.6
baz=293
214A Organ Pipe Nat 87.60 57 IAmb IAmb 00 45 53.2
comp=Z,13nm,0.9s
O20A White River Ci 87.66 48 P P 00 45 51.7 -0.2
baz=295
X16A Lo Mia Camp, P 87.68 54 IAmb IAmb 00 45 55.1
comp=Z,9.4nm,1.1s
K22A Casper 87.73 45 P P 00 45 52.2 0.0
baz=296
RSSD Black Hills 88.67 43 P P 00 45 56.6 -0.1
baz=298
RSSD Black Hills 88.67 43 P P 00 45 56.8 +0.1
RSSD pmax pmax
comp=Z,3.0nm,1.0s
RSSD Black Hills 88.67 43 P P 00 45 56.8 +0.1
MICGM Minsk 88.69 329 *e* P 00 45 53.0 -3.3
MNK Minsk 88.69 329 *e*P P 00 45 53.0 -3.3
MVCO Mesa Verde 88.72 51 P P 00 45 57.3 +0.2
baz=295,SNR=11
MVCO Mesa Verde 88.72 51 IAmb IAmb 00 46 06.7
comp=Z,7.2nm,0.9s
X18A Snowflake 88.77 53 IAmb IAmb 00 45 58.5
comp=Z,10.0nm,1.1s
N23A Red Feather La 88.90 46 P P 00 45 58.2 +0.3
baz=297
TUC Tucson 89.03 56 P P 00 45 59.0 +0.5
baz=294
TUC Tucson 89.03 56 P P 00 45 59.3 +0.8
baz=298
TUC pmax pmax
comp=Z,12nm,1.2s
TUC Tucson 89.03 56 P P 00 45 59.3 +0.8
TUC IAmb IAmb 00 46 02.2
comp=Z,12nm,1.1s
PHWY Pilot Hill 89.04 46 IAmb IAmb 00 45 59.4
comp=Z,9.5nm,1.1s
ISCO Idaho Springs 89.62 47 P P 00 46 02.0 +0.7
baz=297,SNR=9.3
ISCO Idaho Springs 89.62 47 IAmb IAmb 00 46 16.0
comp=Z,7.5nm,0.9s
S22A 4UR Ranch, Cre 89.68 50 P P 00 46 02.3 +0.6
baz=296,SNR=17
S22A 4UR Ranch, Cre 89.68 50 IAmb IAmb 00 46 02.7
comp=Z,11nm,1.1s
AKASG Malin Array Be 90.17 326 *ce*P P 00 46 02.0 -1.3
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 90.17 326 P P 00 46 01.6 -1.6
comp=Z,1.5nm,0.6s,baz=44,slow=5.3,SNR=19
AKBB Malin Array Si 90.17 326 ⇑*e*P P 00 46 02.2 -1.1
AKBB Malin Array Si 90.17 326 P P 00 46 02.1 -1.1
AKBB IAmb IAmb 00 46 02.9
comp=Z,13nm,1.1s
Q24A Divide 90.32 48 P P 00 46 04.7 +0.1
baz=297
ULM Lac du Bonnet 90.32 35 ⇑*e*P P 00 46 03.6 -0.4
ULM Lac du Bonnet 90.32 35 P P 00 46 02.7 -1.3
comp=Z,9.9nm,1.1s,baz=312,slow=4.2,SNR=9.0
ULM Lac du Bonnet 90.32 35 IAmb IAmb 00 46 15.9
comp=Z,7.0nm,0.9s
319A Douglas 90.58 56 IAmb IAmb 00 46 09.0
comp=Z,15nm,1.1s
SDCO Great Sand Dun 90.62 49 P P 00 46 06.4 +0.4
baz=297,SNR=10.0
SDCO Great Sand Dun 90.62 49 P P 00 46 05.5 -0.6
SDCO IAmb IAmb 00 46 06.9
comp=Z,8.9nm,1.1s
HFS Hagfors 90.83 339 P P 00 46 04.4 -1.8
comp=Z,2.9nm,0.4s,baz=90,slow=4.4,SNR=25
NB2 NORSAR Subarra 90.98 340 P P 00 46 05.9 -1.0
comp=Z,3.9nm,0.9s,baz=42,slow=5.3
NOA NORSAR Array B 90.98 340 P P 00 46 04.9 -1.9
comp=Z,0.9nm,0.7s,baz=42,slow=4.8,SNR=5.1
CASY Casey 90.98 194 P P 00 46 07.2 +0.7
ANMO Albuquerque 91.19 52 P P 00 46 09.0 +0.4
baz=296
ANMO Albuquerque 91.19 52 *ce*P P 00 46 08.8 +0.2
ANMO pmax pmax
comp=Z,16nm,1.4s
ANMO Albuquerque 91.19 52 P P 00 46 08.9 +0.4
SUW Suwalki 91.19 331 P P 00 46 07.0 -1.0
SUW pmax pmax
comp=Z,35nm,0.9s
SUW Suwalki 91.19 331 P P 00 46 07.0 -1.0
121A Cookes Peak, D 91.25 55 P P 00 46 09.4 +0.5
baz=296
RAYN Ar Rayn 91.60 296 P P 00 46 09.8 -0.7
RAYN pmax pmax
comp=Z,5.0nm,1.0s
RAYN Ar Rayn 91.60 296 P P 00 46 09.8 -0.7
RAYN IAmb IAmb 00 46 22.8
comp=Z,5.3nm,1.0s
T25A Trinidad 91.67 49 P P 00 46 11.6 +0.7
baz=298,SNR=6.3
T25A Trinidad 91.67 49 IAmb IAmb 00 46 12.0
comp=Z,12nm,1.1s
KSCO Kaye Shedlock' 92.03 47 P P 00 46 12.8 +0.4
baz=299
BR131 Keskin Array S 93.38 315 ⇑*e*P P 00 46 17.2 -1.3
BR131 Keskin Array S 93.38 315 P P 00 46 17.7 -0.9
BRTR Keskin Array B 93.38 315 *ce*P P 00 46 17.3 -1.4
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 93.38 315 P P 00 46 16.8 -1.8
comp=Z,1.1nm,0.6s,baz=74,slow=3.3,SNR=7.7
MNTX Cornudas Mount 93.44 54 P P 00 46 19.4 +0.5
baz=297
MNTX Cornudas Mount 93.44 54 P P 00 46 19.1 +0.2
MNTX IAmb IAmb 00 46 20.0
comp=Z,8.2nm,0.9s
ECSD EROS Data Cent 93.49 40 P P 00 46 17.4 -1.4
baz=303,SNR=6.6
ECSD EROS Data Cent 93.49 40 IAmb IAmb 00 46 28.9
comp=Z,5.4nm,1.0s
CBKS Cedar Bluff 94.08 46 P P 00 46 21.2 -0.6
baz=301
KWP Kalwaria Pacla 94.18 327 P P 00 46 21.5 -0.4
KWP Kalwaria Pacla 94.18 327 P P 00 46 21.5 -0.4
MSTX Muleshoe 94.34 51 P P 00 46 23.3 +0.2
baz=299
AMTX Amarillo 94.69 50 P P 00 46 25.3 +0.6
baz=299
SPMN Marine on St. 94.90 38 P P 00 46 25.1 -0.1
baz=306
MMAI Mount Meron Ar 95.46 308 P P 00 46 26.9 -1.3
comp=Z,1.7nm,0.8s,baz=62,slow=6.7,SNR=3.4
TXAR Lajitas Array 95.84 56 P P 00 46 29.6 -0.4
comp=Z,0.7nm,0.5s,baz=290,slow=3.6,SNR=9.7
KSU1 Kansas State U 96.01 44 P P 00 46 29.8 -0.7
baz=303
MORC Moravsky Berou 96.61 330 *e*PP PP 00 50 27.2 +0.6
WMOK Wichita Mounta 96.83 49 P P 00 46 34.4 +0.1
baz=301
WMOK Wichita Mounta 96.83 49 IAmb IAmb 00 46 34.6
comp=Z,6.1nm,1.0s
VYHS Vyhne 96.85 328 *e*P P 00 46 34.0 -0.1
VYHS Vyhne 96.85 328 *e*P P 00 46 34.0 -0.1
JAVC Velka Javorina 97.18 329 *e*PP PP 00 50 33.1 +2.1
ABTX Abilene, Hawle 97.28 51 P Pdif 00 46 36.4 -0.1
baz=300
VRAC Vranov 97.38 330 *e*PP PP 00 50 35.6 +3.1
CLL Collm 97.57 333 *e*PP PP 00 50 36.0 +2.2
KRUC Moravsky 97.65 330 *e*PP PP 00 50 35.8 +1.3
JCT Junction City 98.23 53 P Pdif 00 46 40.9 +0.2
baz=300
GERES GERESS Array B 99.05 331 P Pdif 00 46 42.9 -1.2
comp=Z,0.4nm,0.7s,baz=46,slow=3.9,SNR=3.9
SCHQ Schefferville 99.39 19 P Pdif 00 46 45.0 -0.3
comp=Z,3.7nm,1.0s,baz=339,slow=17,SNR=1.8
SCHQ Schefferville 99.39 19 IAmb IAmb 00 46 55.3
comp=Z,7.5nm,1.1s
D54A Lac Fusel, La 101.89 29 P Pdif 00 46 56.7 +0.1
baz=319
H55A Tweed 103.59 31 P Pdif 00 47 03.6 -0.6
baz=318
LSZ Lusaka 121.63 264 PKIKP PKiKP 00 51 58.2 +0.3
LSZ Lusaka 121.63 264 PKiKP PKiKP 00 51 58.2 +0.3
SNAA Sanae 126.15 191 PKPdf PKiKP 00 52 04.7 -0.5
BOSA Boshof 126.73 249 PKP PKiKP 00 52 06.3 -1.4
comp=Z,2.4nm,0.9s,baz=308,slow=2.7,SNR=3.0

VNA2	**Neumayer--Watz**	**127.59**	**190**	PKPdf	**PKiKP**	**00 52 08.1**	**+0.1**	
	baz=329,slow=0.9							
VNA3	**Neumayer Olymp**	**127.68**	**189**	PKPdf	**PKiKP**	**00 52 07.0**	**-1.2**	
TORD	**Torodi Ar. Bea**	**131.89**	**311**	PKP	**PKPdf**	**00 52 16.2**	**-1.0**	
	comp=Z,1.2nm,0.7s,baz=51,slow=1.4,SNR=12							
SDV	**Santo Domingo**	**132.87**	**55**		**PKiKP**	**00 52 19.7**	**-0.9**	
PLCA	**Paso Flores**	**142.63**	**131**	PKP	**PKPdf**	**00 52 33.4**	**-3.1**	
	comp=Z,4.3nm,0.8s,baz=162,slow=2.7,SNR=6.1							
ROC1	**El Roble**	**144.36**	**119**		**PKPdf**	**00 52 40.2**	**+0.3**	
GO04	**Tololo Observa**	**144.95**	**113**		**PKPdf**	**00 52 39.9**	**-1.2**	
GO03	**Copiap**	**145.66**	**109**		**PKPab**	**00 52 42.1**	**-0.5**	
PB11	**IPOC Station P**	**145.86**	**95**		**PKPab**	**00 52 43.3**	**-0.4**	
GO01	**Chusmiza**	**146.28**	**95**	PKPbc	**PKPab**	**00 52 45.0**	**-0.7**	
GO02	**Mina Guanaco**	**146.30**	**104**	PKPbc	**PKPab**	**00 52 45.2**	**-0.3**	
LPAZ	**La Paz**	**146.65**	**88**	PKP2	**PKPab**	**00 52 46.3**	**-1.1**	
LPAZ	**La Paz**	**146.65**	**88**	PKPbc	**PKPab**	**00 52 46.9**	**-0.5**	
	comp=Z,9.6nm,0.7s,baz=359,slow=5.8,SNR=28							
LPAZ	**La Paz**	**146.65**	**88**	*eP*	**PKPab**	**00 52 46.5**	**-0.8**	
LPAZ	**La Paz**	**146.65**	**88**	*eP*	**PKPab**	**00 52 46.5**	**-0.8**	
LPAZ	**La Paz**	**146.65**	**88**	PKPbc	**PKPab**	**00 52 46.3**	**-1.1**	
LVC	**Limon Verde**	**146.84**	**100**	PKP2	**PKPab**	**00 52 47.0**	**-0.7**	
LVC	**Limon Verde**	**146.84**	**100**	*eP*	**PKiKP**	**00 52 47.8**	**-1.3**	
LVC	**Limon Verde**	**146.84**	**100**	*eP*	**PKiKP**	**00 52 47.8**	**-1.3**	
LVC	**Limon Verde**	**146.84**	**100**		**PKPab**	**00 52 47.0**	**-0.7**	
SAML	**Samuel**	**148.82**	**72**	PKIKP	**PKPdf**	**00 52 47.0**	**-0.6**	
SAML						00 52 51.8		
SAML	**Samuel**	**148.82**	**72**	*eP*	**PKiKP**	**00 52 51.4**	**-1.5**	
SAML	**Samuel**	**148.82**	**72**	*eP*	**PKiKP**	**00 52 51.4**	**-1.5**	
SAML	**Samuel**	**148.82**	**72**		**PKPdf**	**00 52 47.0**	**-0.6**	
SAML				PKPbc	**pPKPbc**	**00 52 51.8**	**+1.5**	
TRQA	**Tornquist**	**149.78**	**131**	PKP2	**PKiKP**	**00 52 52.6**	**-1.6**	
TRQA	**Tornquist**	**149.78**	**131**	*eP*	**PKiKP**	**00 52 54.9**	**+0.7**	
TRQA	**Tornquist**	**149.78**	**131**	*eP*	**PKiKP**	**00 52 54.9**	**+0.7**	
TRQA	**Tornquist**	**149.78**	**131**		**PKiKP**	**00 52 52.6**	**-1.6**	
TRIS	**Tristan da Cun**	**155.62**	**224**		**PKPab**	**00 53 24.1**	**+1.0**	
CLDB	**Colider**	**156.19**	**69**	*eP*	**PKPdf**	**00 52 59.6**	**+1.1**	
CLDB	**Colider**	**156.19**	**69**	*eP*	**PKPdf**	**00 52 59.6**	**+1.1**	
CPUP	**Villa Florida**	**157.24**	**109**	PKP	**PKPdf**	**00 52 58.2**	**-1.3**	
	comp=Z,1.8nm,0.9s,baz=210,slow=16,SNR=2.6							
CPUP				PKPab	**PKPab**	**00 53 30.1**	**-0.3**	
	comp=Z,1.5nm,0.8s,baz=323,slow=7.8,SNR=3.8							
PRPB	**Parauapebas**	**158.33**	**50**	*eP*	**PKPdf**	**00 53 00.9**	**-0.4**	
PRPB	**Parauapebas**	**158.33**	**50**	*eP*	**PKPdf**	**00 53 00.9**	**-0.4**	
NBMO	**Morrinhos-CE**	**161.41**	**22**	*eP*	**PKPdf**	**00 53 03.9**	**-0.9**	
NBMO	**Morrinhos-CE**	**161.41**	**22**	*eP*	**PKPdf**	**00 53 03.9**	**-0.9**	
ARAG	**Araguaiana, MT**	**161.65**	**77**	*eP*	**PKPdf**	**00 53 06.8**	**+2.0**	
ARAG	**Araguaiana, MT**	**161.65**	**77**	*eP*	**PKPdf**	**00 53 06.8**	**+2.0**	
SMTB	**Santa Maria do**	**161.77**	**52**	*eP*	**PKPdf**	**00 53 05.0**	**-0.1**	
SMTB	**Santa Maria do**	**161.77**	**52**	*eP*	**PKPdf**	**00 53 05.0**	**-0.1**	
NBCL	**Cascavel-CE**	**162.82**	**17**	*eP*	**PKPdf**	**00 53 03.7**	**-2.4**	
NBCL	**Cascavel-CE**	**162.82**	**17**	*eP*	**PKPdf**	**00 53 03.7**	**-2.4**	
PCMB	**Pacaembu**	**163.16**	**96**	*eP*	**PKPdf**	**00 53 09.0**	**+2.7**	
PCMB	**Pacaembu**	**163.16**	**96**	*eP*	**PKPdf**	**00 53 09.0**	**+2.7**	
NBPB	**Pedra_Branca-C**	**163.65**	**23**	*eP*	**PKPdf**	**00 53 06.1**	**-0.8**	
NBPB	**Pedra_Branca-C**	**163.65**	**23**	*eP*	**PKPdf**	**00 53 06.1**	**-0.8**	
NBPA	**Parau_RN**	**164.59**	**15**	*eP*	**PKPdf**	**00 53 07.4**	**-0.4**	
NBPA	**Parau_RN**	**164.59**	**15**	*eP*	**PKPdf**	**00 53 07.4**	**-0.4**	
RCBR	**Riachuelo**	**164.91**	**10**	*eP*	**PKPdf**	**00 53 06.8**	**-1.3**	
RCBR	**Riachuelo**	**164.91**	**10**	*eP*	**PKPdf**	**00 53 06.8**	**-1.3**	
BDFB	**Brasilia**	**165.06**	**72**	PKIKP	**PKPdf**	**00 53 08.4**	**+0.2**	
BDFB						00 54 04.3		
BDFB	**Brasilia**	**165.06**	**72**	PKP	**PKPdf**	**00 53 09.0**	**+0.7**	
	comp=Z,3.8nm,0.7s,baz=196,slow=7.0,SNR=5.1							
BDFB				PKPab	**PKPab**	**00 54 04.3**	**-0.6**	
	comp=Z,4.1nm,0.8s,baz=240,slow=9.7,SNR=3.6							
BDFB	**Brasilia**	**165.06**	**72**		**PKPdf**	**00 53 08.4**	**+0.2**	

*IDC **18** 00:37:33.4±2.4,31°14N×66°93E, h0km, mb3.6/5, mb1 3.8/8, mb1mx3.4/62, mbtmp3.7/8, ML3.7/3, MS4.3/2, Ms1 4.3/2, ms1mx3.8/37, Error ellipse: s-maj=39.7km s-min=25.4km az=154.0*

*ISCJB **18** 00:37:36.0±1.0, 31°2N±0°1×67°0E±0°1, h33km, mb3.6/4, MS4.3/2, Error ellipse: s-maj=18.9km s-min=8.6km az=32.9*

ISC 18 00:37:37.0±1.2, 31°1N±0°2×67°0E±0°1, h35km, n19, σ1s00/17, mb3.7/4, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**10.00**	**315**	Pn	**Pn**	**00 39 55.9**	**-2.3**
	0.6nm,0.3s,baz=120,slow=14,SNR=4.8						
GEYT				Lg	Lg	00 42 49.2	
	0.7nm,0.3s,baz=159,slow=25,SNR=3.5						
AAK	**Ala-Archa**	**12.98**	**25**	Pn	**Pn**	**00 40 39.6**	**+0.7**
	0.3nm,0.3s,baz=204,slow=9.9,SNR=6.1						
DMN	**Daman**	**16.17**	**98**	*eP*	**Pn**	**00 41 22.0**	**+0.2**
KKN	**Kakani**	**16.26**	**97**	*eP*	**Pn**	**00 41 23.2**	**+0.2**
	6.9nm,0.4s						
PKIN	**Phulchoki**	**16.42**	**98**	*eP*	**Pn**	**00 41 25.1**	**0.0**
	7.0nm,0.4s						
PKI	**Pulchoki**	**16.43**	**98**	*eP*	**Pn**	**00 41 25.4**	**+0.1**
	13nm,0.6s						
GUN	**Gumba**	**16.74**	**96**	*eP*	**P**	**00 41 29.9**	**-1.3**
	44nm,0.5s						
JIRN	**Jiri**	**17.07**	**97**	*eP*	**P**	**00 41 34.4**	**-0.5**
	15nm,0.3s						
RAMN	**Ramite**	**17.63**	**99**	*eP*	**Pn**	**00 41 39.9**	**-0.3**
	12nm,0.6s						
ODAN	**Odare**	**18.33**	**98**	*eP*	**P**	**00 41 47.6**	**-1.0**
	4.8nm,0.5s						
TAPN	**Taplejung**	**18.46**	**96**	*eP*	**Pn**	**00 41 50.5**	**+0.2**
	7.3nm,0.6s						
MKAR	**Makanchi Array**	**19.62**	**33**	P	**Pn**	**00 42 03.6**	**-0.2**
	0.3nm,0.3s,baz=207,slow=9.3,SNR=13						
AKTO	**Aktyubinsk**	**20.45**	**343**	P	**P**	**00 42 12.0**	**+0.7**
	1.5nm,1.0s,baz=159,slow=12,SNR=4.1						
KURBB	**Kurchatov Arra**	**21.32**	**21**	P	**P**	**00 42 20.8**	**+0.2**
	3.0nm,0.8s,baz=211,slow=12,SNR=10						
BVAR	**Borovoye Array**	**22.05**	**5**	P	**P**	**00 42 30.0**	**+1.5**
	2.3nm,0.8s,baz=179,slow=8.9,SNR=9.0						
KBZ	**Khabaz**	**22.82**	**310**	P	**P**	**00 42 37.7**	**+0.9**
	0.9nm,0.7s,baz=121,slow=5.9,SNR=3.8						
TLY	**Talaya**	**33.83**	**42**	LR	LR	01 00 17.4	
	comp=Z,845nm,20.6s,baz=91,slow=40						
KAPI	**Kappang**	**61.80**	**116**	LR	LR	01 16 09.6	
	comp=Z,152nm,21.5s,baz=1.0,slow=37						
TORD	**Torodi Ar. Bea**	**62.27**	**269**	P	**P**	**00 47 57.1**	**+1.3**
	0.5nm,0.7s,baz=50,slow=6.1,SNR=4.0						

IDC 18 00:38:49.7±1.8, 0°77N×123°83E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/56, mbtmp3.6/3, Error ellipse: s-maj=210.5km s-min=26.2km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.02**	**154**	P	P	00 43 56.0	-0.7
	1.3nm,0.6s,baz=332,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**26.19**	**159**	P	P	00 44 26.9	+0.6
	0.3nm,0.3s,baz=341,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**58.40**	**328**	P	P	00 48 47.0	-0.2
	0.4nm,0.6s,baz=123,slow=7.1,SNR=4.9						

*IDC **18** 00:39:28.9±0.7, 20°73N×146°76E, h0km, mb4.1/14, mb1 4.2/15, mb1mx3.9/60, mbtmp4.1/15, ML4.8/1, Error ellipse: s-maj=24.8km s-min=16.6km az=82.0*

*ISCJB **18** 00:39:29.0±0.6, 20°73N±0°09×146°6E±0°1, h10km, mb4.0/14, Error ellipse: s-maj=19.4km s-min=12.4km az=169.5*

*NEIC **18** 00:39:30.6±1.2, 20°7N±0°1×146°7E±0°1, h10km±2km, mb4.4/12*

ISC 18 00:39:30.5±0.7, 20°8N±0°1×146°7E±0°2, h10km, n30, σ1s26/29, mb4.1/19, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**7.50**	**328**	Pn	**Pn**	**00 41 19.4**	**-0.5**
	13nm,0.3s,baz=276,slow=19,SNR=6.1						
JCJ				Sn	**Sn**	**00 42 42.5**	**-2.5**
	5.5nm,0.3s,baz=258,slow=20,SNR=2.8						
USRK	**Ussuriysk Ar.**	**26.34**	**336**	P	**P**	**00 45 07.6**	**+1.0**
	2.8nm,0.8s,baz=156,slow=11,SNR=2.7						
SONM	**Songino Array**	**42.12**	**320**	P	**P**	**00 47 22.5**	**-0.5**
	0.2nm,0.5s,baz=134,slow=8.3,SNR=1.7						
WRA	**Warramunga Arr**	**42.24**	**197**	P	**P**	**00 47 22.9**	**-1.2**
	1.2nm,0.7s,baz=15,slow=8.4,SNR=5.4						
FITZ	**Fitzroy Crossi**	**43.80**	**210**	P	**P**	**00 47 36.7**	**-0.1**
	2.3nm,1.0s,baz=216,slow=19,SNR=3.3						
FITZ	**Fitzroy Crossi**	**43.80**	**210**	IAmb	IAmb	00 47 40.6	
	comp=Z,3.3nm,1.1s						

ASAR	**Alice Springs**	**45.91**	**196**	P	**P**	**00 47 52.8**	**-0.7**	
	comp=Z,0.3nm,0.5s,baz=16,slow=7.5,SNR=3.1							
ZAA0	**Zalesovo Array**	**56.94**	**322**	P	**P**	**00 49 16.6**	**+0.9**	
ZALV	**Zalesovo Beam**	**56.94**	**322**	P	**P**	**00 49 16.8**	**+1.0**	
	comp=Z,5.4nm,0.5s,baz=108,slow=7.7,SNR=22							
MK31	**Makanchi Array**	**57.70**	**313**	P	**P**	**00 49 22.9**	**+1.6**	
MK31				IAmb	IAmb	00 49 34.6		
	comp=Z,1.8nm,0.9s							
MKAR	**Makanchi Array**	**57.70**	**313**	P	**P**	**00 49 22.8**	**+1.4**	
	comp=Z,1.1nm,0.5s,baz=88,slow=7.5,SNR=8.3							
MAKZ	**Makanchi**	**57.91**	**313**	P	**P**	**00 49 24.0**	**+1.1**	
MAKZ				IAmb	IAmb	00 49 25.1		
	comp=Z,3.3nm,1.0s							
KURK	**Kurchatov**	**60.35**	**317**	P	**P**	**00 49 41.4**	**+1.8**	
KURK	**Kurchatov**	**60.35**	**317**	IAmb	IAmb	00 49 41.4		
	comp=Z,4.2nm,0.7s							
KURBB	**Kurchatov Arra**	**60.40**	**317**	P	**P**	**00 49 41.4**	**+1.4**	
	comp=Z,3.9nm,0.6s,baz=103,slow=7.8,SNR=4.3							
NIL	**Nilore**	**65.33**	**298**	P	**P**	**00 50 14.6**	**+1.4**	
BVAR	**Borovoye Array**	**65.46**	**320**	P	**P**	**00 50 15.0**	**+1.3**	
	comp=Z,4.1nm,0.5s,baz=90,slow=7.4,SNR=19							
BRVK	**Borovoye**	**65.53**	**320**	P	**P**	**00 50 15.4**	**+1.3**	
KK31	**Karatay Array**	**66.16**	**309**	P	**P**	**00 50 19.3**	**+1.0**	
KK31				IAmb	IAmb	00 50 20.5		
	comp=Z,2.8nm,0.8s							
KKAR	**Karatay Array**	**66.16**	**309**	P	**P**	**00 50 19.0**	**+0.7**	
KKAR				IAmb	IAmb	00 50 20.6		
	comp=Z,2.8nm,0.8s							
KBL	**Kabul**	**68.61**	**300**	P	**P**	**00 50 34.5**	**+0.2**	
ARU	**Arti**	**71.91**	**324**	P	**P**	**00 50 54.9**	**+1.1**	
	comp=Z,1.8nm,0.6s,baz=79,slow=4.4,SNR=9.9							
ARU	**Arti**	**71.91**	**324**	P	**P**	**00 50 54.5**	**+0.7**	
YKA	**Yellowknife Ar**	**75.72**	**28**	P	**P**	**00 51 15.1**	**-0.9**	
	comp=Z,0.7nm,0.9s,baz=285,slow=5.7,SNR=6.2							
RES	**Resolute Bay**	**77.18**	**14**	P	**P**	**00 51 25.4**	**+1.3**	
RES				IAmb	IAmb	00 51 29.6		
	comp=Z,3.6nm,0.8s							
NVAR	**Mina Array Bea**	**81.14**	**52**	P	**P**	**00 51 47.3**	**+0.6**	
	comp=Z,1.0nm,0.7s,baz=270,slow=5.3,SNR=6.5							
FINES	**FINESS Array B**	**85.37**	**335**	P	**P**	**00 52 07.1**	**-0.7**	
	comp=Z,4.2nm,0.9s,baz=90,slow=9.5,SNR=5.3							
PDAR	**Pinedale Array**	**85.71**	**46**	P	**P**	**00 52 09.9**	**-0.3**	
	comp=Z,0.3nm,0.6s,baz=274,slow=2.6,SNR=3.2							
LPAZ	**La Paz**	**146.74**	**88**	PKPbc	**PKiKP**	**00 59 14.8**	**-2.3**	
	comp=Z,1.3nm,0.6s,baz=345,slow=3.2,SNR=7.2							
SAML	**Samuel**	**148.90**	**72**		**PKiKP**	**00 59 19.7**	**-1.1**	

*ISCJB **18** 00:51:42.9±0.6, 67°84N±0°03×20°3E±0°1, h0km, Error ellipse: s-maj=5.8km s-min=3.7km az=169.8*

*UPP **18** 00:51:43.2±0.0, 67°85N×20°20E, h0km, ML2.6, Explosion*

*HEL **18** 00:51:44.5, 67°85N×20°29E, h0km, ML1.4, Explosion*

ISC 18 00:51:43.1±0.9, 67°83N±0°02×20°24E±0°03, h0km, n25, σ0s59/35, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**17**	P	**Pg**	**00 51 45.8**	**+0.2**
KUA				S	**Sg**	**00 51 47.2**	**+0.1**
KUA	**Kurravaara**	**0.13**	**17**	*i* P	**Pg**	**00 51 45.8**	**+0.2**
KUA				*i* S	**Sg**	**00 51 47.2**	**+0.1**
RATU	**Laukkuluspa**	**0.25**	**268**	P	**Pg**	**00 51 47.9**	**0.0**
RATU	**Laukkuluspa**	**0.25**	**268**	*i* P	**Pg**	**00 51 47.9**	**0.0**
KOVU	**Salmi**	**0.39**	**356**	P	**Pg**	**00 51 50.5**	**-0.1**
KOVU				S	**Sg**	**00 51 55.6**	**-0.1**
KOVU	**Salmi**	**0.39**	**356**	*i* P	**Pg**	**00 51 50.5**	**-0.1**
KOVU				*i* S	**Sg**	**00 51 55.6**	**-0.1**
LANU	**Lannavaara**	**0.69**	**71**	P	**Pg**	**00 51 56.6**	**+0.2**
LANU				S	**Sg**	**00 52 05.9**	**+0.5**
LANU	**Lannavaara**	**0.69**	**71**	*eP*	**Pg**	**00 51 56.4**	**0.0**
LANU				*eS*	**Sg**	**00 52 05.8**	**+0.5**
DUNU	**Dundret**	**0.73**	**170**	P	**Pg**	**00 51 57.1**	**+0.1**
DUNU	**Dundret**	**0.73**	**170**	*i* P	**Pg**	**00 51 57.1**	**+0.1**
MASU	**Masugnsbyn**	**0.77**	**119**	P	**Pg**	**00 51 58.2**	**+0.3**
MASU	**Masugnsbyn**	**0.77**	**119**	*i* P	**Pg**	**00 51 58.2**	**+0.3**
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*PB	**Pg**	**00 52 06.6**	**+0.6**
	baz=189						
KIF				MSG		00 52 21.3	
	comp=Z,5.0nm,0.2s						
KIF				*e*SB	**Sg**	**00 52 21.6**	**+0.2**
KIF	**Kilpisjarvi**	**1.19**	**10**	*eP*	**Pg**	**00 52 06.6**	**+0.6**
PAJU	**Pajala**	**1.38**	**125**	P	**Pg**	**00 52 08.8**	**-0.6**
PAJU	**Pajala**	**1.38**	**125**	*eP*	**Pg**	**00 52 08.8**	**-0.6**
HEF	**Hetta**	**1.41**	**64**	*eP*	**Pn**	**00 52 09.1**	**-0.8**
HEF				MSG		00 52 26.0	
	comp=Z,2.2nm,0.2s						
HEF				*e*SB	**Sg**	**00 52 27.5**	**-0.7**
HEF	**Hetta**	**1.41**	**64**	*eP*	**Pn**	**00 52 09.1**	**-0.9**
ERTU	**Ertsjaerv**	**1.49**	**149**	P	**Pn**	**00 52 10.9**	**-0.3**
ERTU	**Ertsjaerv**	**1.49**	**149**	*e*PN	**Pn**	**00 52 11.5**	**+0.4**
ERTU				*e*SB	**Sg**	**00 52 31.4**	**+0.4**
HARU	**Harads**	**1.70**	**170**	P	**Pn**	**00 52 14.4**	**+0.4**
HARU	**Harads**	**1.70**	**170**	*eP*	**Pn**	**00 52 14.4**	**+0.4**
TOF	**Tornio**	**2.38**	**136**	*e*PG	**Pb**	**00 52 26.7**	**-0.2**
TOF				MSG		00 52 55.0	
	comp=Z,1.5nm,0.2s						
SGF	**Sodankyl**	**2.44**	**96**	*e*PB	**Pn**	**00 52 26.2**	**+2.1**
RNF	**Rovaniemi**	**2.56**	**116**	*e*PB	**Pb**	**00 52 28.8**	**-1.1**
RNF				*e*SG	**Sb**	**00 53 02.2**	**+0.3**

UPP 18 00:52:03.3±0.2, 67°86N×20°25E, h18km±314km, ML1.8, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.10**	**20**	P	Pg	00 52 05.3	-1.7
KUA				S	Sg	00 52 06.7	-2.7
RATU	**Laukkuluspa**	**0.25**	**262**	P	Pg	00 52 08.1	-0.9
KOVU	**Salmi**	**0.36**	**355**	P	Pg	00 52 10.2	-0.8
KOVU				S	Sg	00 52 14.9	-1.2

*NNC **18** 00:55:33.7±6.3, 46°72N×90°50E, h0km±23km, mb3.1, mpv2.7, Error ellipse: s-maj=63.0km s-min=32.9km az=154.0*

*ASRS **18** 00:55:40.1±1.4, 47°N±6°×97°0E±°, h10km, MLh3.3/5, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

ISC 18 00:55:38.0±2.6, 47°01N±0°08×90°4E±0°1, h10km, n12, σ1s80/19, 6C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGZ	**Jazzator, Alta**	**3.33**	**325**	Pg	**Pg**	**00 56 40.4**	**-1.3**
DGZ				Sg	**Sg**	**00 57 25.0**	**+0.2**
AKAR	**Aktash**	**3.78**	**332**	Pg	**Pg**	**00 56 49.4**	**-1.0**
AKAR				Sg	**Sg**	**00 57 39.2**	**-0.1**
CHBI	**Chibit, Altay**	**3.81**	**331**	Pg	**Pg**	**00 56 50.4**	**-0.6**
CHBI				Sg	**Sg**	**00 57 40.8**	**+0.5**
ULGR	**Ulagan, Altay**	**3.95**	**337**	Pg	**Pg**	**00 56 52.2**	**-1.5**
ULGR				Sg	**Sg**	**00 57 44.8**	**0.0**
TEL	**Teeli**	**4.02**	**359**	Sg	**Sg**	**00 57 46.6**	**-0.4**
ARTR	**Artybash**	**5.20**	**338**	Pg	**Pg**	**00 57 14.9**	**-2.6**
ARTR				Sg	**Sg**	**00 58 24.5**	**-0.2**
UKR	**Ust'-Kan**	**5.38**	**319**	Pg	**Pg**	**00 57 19.1**	**-1.9**
UKR				Sg	**Sg**	**00 58 32.4**	**+1.7**
MK31	**Makanchi Array**	**5.53**	**271**	⇑Pn	**Pn**	**00 57 00.3**	**-0.1**
	0.1nm,0.3s,baz=89,slow=14,SNR=5.6						
MK31				⇓Pg	**Pb**	**00 57 17.6**	**+3.0**
	0.3nm,0.3s,baz=89,slow=16,SNR=3.9						
MK31				⇑Lg	Lg	00 58 31.7	
	1.7nm,0.3s,baz=103,slow=31,SNR=4.7						
MKAR	**Makanchi Array**	**5.53**	**271**	Pg	**Pb**	**00 57 18.2**	**+3.6**
MKAR				Sg	**Sg**	**00 58 32.7**	**-2.7**
MAKZ	**Makanchi**	**5.74**	**271**	⇓Pn	Pn	00 57 00.0	-3.3
	0.5nm,0.8s						
MAKZ				⇑Pg	**Pb**	**00 57 19.6**	**+1.4**
	3.2nm,1.1s						
MAKZ				⇑Lg	Lg	00 58 39.7	
	4.6nm,0.5s						
PDGK	**Podgornoye**	**8.51**	**248**	⇑Sn	**Sn**	**00 59 16.2**	**-1.2**
	4.5nm,0.9s						
PDGK				⇑Lg	Lg	01 00 04.4	
	4.0nm,1.0s						
KURBB	**Kurchatov Arra**	**8.60**	**299**	⇓Lg	Lg	01 00 15.3	
	15nm,0.8s						

*ISCJB **18** 01:08:43.5±0.3, 37°38N±0°02×78°73E±0°04, h10km, mb3.7/18, Error ellipse: s-maj=4.4km s-min=3.0km az=156.4*

*IDC **18** 01:08:44.0±0.7, 37°38N×78°72E, h0km, mb3.8/18, mb1 3.9/25, mb1mx3.8/53, mbtmp3.8/25, ML3.4/7, Error ellipse: s-maj=17.3km s-min=13.1km az=33.0*

*BJI **18** 01:08:47.3±0.0, 37°44N×78°65E, h5km, mb3.7/2, ML4.2/7*

*NEIC **18** 01:08:49.5±1.6, 37°43N±0°07×78°64E±0°09, h39km±6km, mb4.2/13*

*NNC **18** 01:08:50.7±1.8, 37°75N×78°83E, h8km±6km, mb4.6, mpv4.2, Error ellipse: s-maj=12.2km s-min=10.7km az=144.0*

ISC 18 01:08:45.6±0.4, 37°36N±0°03×78°75E±0°03, h10km, n99, σ2s07/113, mb3.9/21, 15C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.06**	**315**	Pn	**Pn**	**01 09 35.4**	**+1.2**
KSH				Sn	**Sn**	**01 10 11.4**	**+0.5**
KSH				smax	smax		
	comp=N,7μm,0.6s						
KSH				smax	smax		
	comp=E,10μm,0.6s						
NRN	**Naryn**	**4.59**	**333**		**Pn**	**01 09 56.0**	**+0.7**
NRN				Sn	**Sn**	**01 10 47.0**	**-1.9**
ULHL	**Ulahol**	**5.25**	**339**	P	**Pb**	**01 10 18.1**	**+0.6**
	SNR=6.9						
KZA	**Kyzart**	**5.43**	**331**	P	**Pn**	**01 10 08.5**	**+1.6**
	SNR=5.4						
DHRM	**DHARAMSHALA**	**5.48**	**202**	*eP*	Pn	01 10 12.6	+5.1
DHRM				*eS*	**Sn**	**01 11 14.6**	**+3.8**
DHRM				IAML		01 11 16.8	
	comp=E,188nm,0.3s						
SATY	**Saty**	**5.70**	**357**	Pg	**Pb**	**01 10 28.7**	**+3.6**
	comp=E,90nm,0.5s						
SATY				Lg	Lg	01 11 41.5	
	comp=E,250nm,1.4s						
UZB	**Uzynbulak**	**5.78**	**2**	Pg	**Pb**	**01 10 25.3**	**-1.3**
	comp=E,8.5nm,0.4s						
UZB				Lg	Lg	01 11 35.3	
	comp=E,83nm,0.8s						
NIL	**Nilore**	**5.81**	**232**		**Pn**	**01 10 13.4**	**+1.5**
NIL				Sn	**Sn**	**01 11 18.2**	**-0.4**
SHLS	**Shalkode**	**5.81**	**5**	Pg	**Pb**	**01 10 29.1**	**+2.0**
	comp=E,32nm,0.4s						
SHLS				Lg	Lg	01 11 42.0	
	comp=E,156nm,0.9s						
TNSS	**Tian-Shan**	**5.83**	**347**	Pg	Pb	01 10 32.3	+4.6
	comp=E,98nm,0.7s						
TNSS				Lg	Lg	01 11 47.2	
	comp=E,116nm,0.6s						
UCH	**Uchtor**	**5.85**	**327**	P	**Pn**	**01 10 14.4**	**+1.6**
	SNR=15						
IZV	**Izvestkoviy**	**5.90**	**345**	Pg	**Pb**	**01 10 31.8**	**+3.2**
	comp=E,16nm,0.8s						
IZV				Lg	Lg	01 11 46.5	
	comp=E,156nm,1.0s						
MDOK	**Medeo**	**5.94**	**348**	⇑Pn	**Pn**	**01 10 15.8**	**+2.1**
MDOK				⇑Pg	**Pb**	**01 10 32.6**	**+3.3**
	comp=E,36nm,0.6s						
MDOK				⇑Lg	Lg	01 11 50.3	
	comp=E,159nm,0.8s						
MDOK	**Medeo**	**5.94**	**348**	Pg	Pb	01 10 33.3	+4.0
MDOK				Lg	Lg	01 11 49.1	
ARSB	**Arslanbob**	**5.97**	**313**		**Pn**	**01 10 14.4**	**+0.2**
ARSB				Sn	**Sn**	**01 11 22.0**	**-0.6**
PDGK	**Podgornoye**	**5.99**	**5**	Pg	**Pb**	**01 10 30.8**	**+0.8**
	comp=E,11nm,0.6s						
PDGK				Lg	Lg	01 11 44.9	
	comp=E,64nm,0.7s						
PDGK	**Podgornoye**	**5.99**	**5**	⇓Pn	**Pn**	**01 10 15.2**	**+0.8**
	comp=E,9.3nm,0.4s						
PDGK				⇑Pg	**Pb**	**01 10 31.7**	**+1.6**
	comp=E,20nm,0.8s						

MAKZ	**Makanchi**	**9.74**	**13**		**Pn**	**01 11 05.6**	**-0.1**
MAKZ				Sn	**Sn**	**01 12 51.7**	**-3.4**
MAKZ	**Makanchi**	**9.74**	**13**	⇑Pn	**Pn**	**01 11 05.4**	**-0.3**
	comp=N,20nm,0.4s						
MAKZ				⇑Sn	**Sn**	**01 12 53.0**	**-2.2**
	comp=N,9.0nm,0.6s						
MK31	**Makanchi Array**	**9.79**	**14**		**Pn**	**01 11 06.4**	**0.0**
MK31				Sn	**Sn**	**01 12 52.7**	**-3.5**
MK31	**Makanchi Array**	**9.79**	**14**	⇑Pn	**Pn**	**01 11 06.3**	**0.0**
	comp=N,2.9nm,0.3s,baz=194,slow=13,SNR=16s						
MK31				⇓Sn	**Sn**	**01 12 53.2**	**-3.0**
	comp=N,4.9nm,0.4s,baz=196,slow=22,SNR=7.4						
MKAR	**Makanchi Array**	**9.79**	**14**	Pn	**Pn**	**01 11 06.7**	**+0.3**
	comp=N,1.3nm,0.3s,baz=194,slow=13,SNR=40						
MKAR				Sn	**Sn**	**01 12 51.5**	**-4.8**
	comp=N,3.1nm,0.3s,baz=235,slow=20,SNR=7.0						
KKN	**Kakani**	**11.02**	**148**	*e*P	**Pn**	**01 11 23.7**	**+0.3**
	comp=N,21nm,0.4s						
DMN	**Daman**	**11.10**	**149**	*e*P	**Pn**	**01 11 25.5**	**+0.8**
	comp=N,26nm,0.5s						
GUN	**Gumba**	**11.17**	**145**	*e*P	**Pn**	**01 11 26.4**	**+0.7**
	comp=N,36nm,0.4s						
PKIN	**Phulchoki**	**11.25**	**148**	*e*P	**Pn**	**01 11 27.1**	**+0.4**
	comp=N,27nm,0.5s						
PKI	**Pulchoki**	**11.26**	**148**	*e*P	**Pn**	**01 11 26.9**	**0.0**
	comp=N,33nm,0.5s						
JIRN	**Jiri**	**11.53**	**145**	*e*P	**Pn**	**01 11 31.5**	**+0.9**
	comp=N,157nm,0.4s						
RAMN	**Ramite**	**12.32**	**145**	*e*P	**Pn**	**01 11 40.5**	**-0.8**
	comp=N,64nm,0.5s						
TAPN	**Taplejung**	**12.52**	**140**	*e*P	**Pn**	**01 11 42.7**	**-1.4**
	comp=N,10nm,0.5s						
ODAN	**Odare**	**12.77**	**143**	*e*P	Pn	01 11 45.7	-1.7
	comp=N,13nm,0.4s						
KURBB	**Kurchatov Arra**	**13.26**	**359**	Pn	**Pn**	**01 11 53.1**	**-0.7**
	comp=N,0.0nm,0.3s,baz=16,slow=20,SNR=4.7						
KURBB				Lg	Lg	01 15 44.5	
	comp=N,0.0nm,0.3s,baz=196,slow=32,SNR=4.3						
KURK	**Kurchatov**	**13.35**	**360**		**Pn**	**01 11 54.8**	**-0.2**
KURK				Sn	**Sn**	**01 14 19.6**	**-3.8**
GEYT	**Alibeck**	**16.35**	**278**	Pn	**Pn**	**01 12 34.9**	**-0.4**
	comp=N,1.1nm,0.3s,baz=103,slow=9.9,SNR=15						
GEYT				Sn	**Sn**	**01 15 29.6**	**-7.1**
	comp=N,0.6nm,0.3s,baz=110,slow=17,SNR=2.9						
GYA0B	**ALIBECK ARRAY**	**16.35**	**278**	P	**Pn**	**01 12 36.0**	**+0.7**
GYA0B				IAmb	IAmb	01 12 39.1	
	comp=Z,8.7nm,0.7s						
GTA	**Gaotai**	**16.64**	**76**	*e*P	**P**	**01 12 44.4**	**+2.9**
GTA				pP	sP	01 12 48.8	+2.6
GTA				sP	pP	01 12 52.0	+7.3
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BVAR	**Borovoye Array**	**16.71**	**342**	Pn	**Pn**	**01 12 37.2**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=150,slow=9.7,SNR=3.3						
BRVK	**Borovoye**	**16.77**	**342**		**Pn**	**01 12 40.4**	**0.0**
BRVK				IAmb	IAmb	01 12 59.6	
	comp=Z,3.9nm,0.7s						
ZAA0	**Zalesovo Array**	**17.11**	**12**	P	**Pn**	**01 12 42.3**	**-2.4**
ZALV	**Zalesovo Beam**	**17.11**	**12**	P	**Pn**	**01 12 45.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=206,slow=9.9,SNR=5.9						
ABKAR	**Akbulak array**	**18.07**	**317**		**Pn**	**01 12 55.8**	**-0.8**
AKTO	**Aktyubinsk**	**19.76**	**318**	P	**P**	**01 13 16.1**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=143,slow=5.1,SNR=4.5						
SONM	**Songino Array**	**22.77**	**54**	P	**P**	**01 13 46.7**	**-1.5**
	comp=Z,1.1nm,0.7s,baz=249,slow=10.0,SNR=5.3						
UOSS	**Minazif**	**22.86**	**244**	P	**P**	**01 13 48.2**	**-0.9**
UOSS				IAmb	IAmb	01 13 52.5	
	comp=Z,8.6nm,0.9s						
ARU	**Arti**	**23.38**	**331**	P	**P**	**01 13 54.0**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=145,slow=12,SNR=4.4						
ARU	**Arti**	**23.38**	**331**	P	**P**	**01 13 53.9**	**-0.3**
ARU				IAmb	IAmb	01 14 00.9	
	comp=Z,5.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**25.85**	**131**	P	**P**	**01 14 18.8**	**+1.5**
	comp=Z,1.0nm,0.4s,baz=304,slow=12,SNR=8.9						
GNI	**Garni**	**26.57**	**287**	P	**P**	**01 14 23.9**	**0.0**
	comp=Z,4.7nm,0.8s,baz=209,slow=19,SNR=2.5						
GNI	**Garni**	**26.57**	**287**	P	**P**	**01 14 22.7**	**-1.2**
GNI				IAmb	IAmb	01 14 30.6	
	comp=Z,12nm,1.1s						
KBZ	**Khabaz**	**27.82**	**295**	P	**P**	**01 14 35.6**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=108,slow=19,SNR=2.5						
BRTR	**Keskin Array B**	**35.08**	**288**	P	**P**	**01 15 37.5**	**-1.5**
	comp=Z,0.9nm,0.8s,baz=94,slow=6.7,SNR=5.6						
AKASG	**Malin Array Be**	**37.32**	**307**	P	**P**	**01 15 57.4**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=78,slow=7.3,SNR=4.2						
KLR	**Kul'dur**	**39.59**	**55**	P	**P**	**01 16 17.2**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=142,slow=4.2,SNR=3.5						
MLR	**Muntele Rosu**	**39.80**	**299**	P	**P**	**01 16 18.7**	**-0.1**
MLR				IAmb	IAmb	01 16 26.5	
	comp=Z,7.1nm,1.0s						
FINES	**FINESS Array B**	**40.35**	**324**	P	**P**	**01 16 23.1**	**0.0**
	comp=Z,2.4nm,0.8s,baz=101,slow=9.9,SNR=6.1						
ARCES	**ARCESS Array B**	**42.83**	**336**	P	**P**	**01 16 43.4**	**0.0**
	comp=Z,3.2nm,0.9s,baz=96,slow=7.4,SNR=6.3						
PDG	**Podgorica**	**45.12**	**296**	P	**P**	**01 17 00.9**	**-1.1**
PDG				IAmb	IAmb	01 17 18.3	
	comp=Z,6.9nm,1.1s						
NC405	**NORSAR Array S**	**47.22**	**322**	P	**P**	**01 17 18.1**	**-0.2**
NC602	**NORSAR Array S**	**47.32**	**322**	P	**P**	**01 17 17.9**	**-1.1**
NC303	**NORSAR Array S**	**47.38**	**323**	P	**P**	**01 17 19.5**	**-0.1**
NB2	**NORSAR Subarra**	**47.46**	**322**	P	**P**	**01 17 19.8**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=88,slow=7.9						
NOA	**NORSAR Array B**	**47.46**	**322**	P	**P**	**01 17 20.2**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=81,slow=9.0,SNR=5.4						
GERES	**GERESS Array B**	**47.49**	**306**	P	**P**	**01 17 21.2**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=74,slow=7.1,SNR=8.8						
KHC	**Kasperske Hory**	**47.52**	**306**	P	**P**	**01 17 20.6**	**-0.3**
NAO01	**NORSAR Array S**	**47.63**	**322**	P	**P**	**01 17 20.6**	**-0.9**
NC204	**NORSAR Array S**	**47.67**	**323**	P	**P**	**01 17 21.4**	**-0.6**
ESDC	**Sonseca Array**	**62.47**	**300**	P	**P**	**01 19 08.3**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=54,slow=6.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**71.91**	**273**	P	**P**	**01 20 08.2**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=46,slow=5.3,SNR=20						
ILAR	**Eielson Array**	**72.11**	**19**	P	**P**	**01 20 09.3**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=287,slow=3.5,SNR=4.6						
WRA	**Warramunga Arr**	**77.37**	**127**	P	**P**	**01 20 40.9**	**0.0**
	comp=Z,0.5nm,0.7s,baz=324,slow=5.2,SNR=5.0						
ASAR	**Alice Springs**	**79.85**	**130**	P	**P**	**01 20 54.6**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=314,slow=5.9,SNR=5.4						
YKA	**Yellowknife Ar**	**79.91**	**6**	P	**P**	**01 20 53.7**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=343,slow=5.6,SNR=9.4						

*TEH **18** 01:16:07.9, 34˚.42N×45˚.55E, h21km, ML3.0*
*ISN **18** 01:16:07.5±1.6, 34˚.43N×45˚.52E, h7km±9km, ML3.1*
*ISCJB **18** 01:16:08.2±1.0, 34˚.40N±0˙.03×45˚.60E±0˙.05, h6km±7km, Error ellipse: s-maj=6.3km s-min=5.4km az=3.8*
ISC 18 01:16:08.4±1.2, 34.42N±0˙.04×45.56E±0˙.04, h11km±12km, n22, σ1°25/28, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.73**	**68**	*e*Pg	**Pg**	**01 16 22.4**	**-0.2**
IDHR				*e*Sg	**Sb**	**01 16 33.4**	**-0.1**
IDHR				IAMB	IAmb	01 16 35.7	
	comp=Z,0.0nm,0.3s						
IGHG	**Ghaleghazi**	**0.84**	**96**	*e*Pg	**Pg**	**01 16 24.1**	**-0.5**
IGHG				IAMB	IAmb	01 16 26.4	
	comp=Z,9μm,0.1s						
KCHF	**Cheshme Sefid,**	**1.23**	**96**	*e*Pg	**Pn**	**01 16 31.6**	**-0.2**
KCHF				IAMB	IAmb	01 16 52.6	
	comp=Z,0.0nm,0.2s						
IBDR	**Badra**	**1.34**	**167**	*e*Pg	**Pg**	**01 16 34.0**	**-0.2**
IBDR				AML	AML	01 16 42.5	
	comp=Z,296nm,0.2s						
IBDR				*e*Sg	**Sg**	**01 16 53.0**	**+1.3**
IKRK	**Kirkuk**	**1.40**	**315**	*e*Pn	**Pb**	**01 16 34.0**	**-0.6**
IKRK				AML	AML	01 16 36.3	
	comp=Z,80nm,0.2s						
IKRK				*e*Sn	**Sg**	**01 16 55.0**	**+1.5**
BHD	**Baghdad**	**1.51**	**221**	*e*Pn	**Pb**	**01 16 36.0**	**-0.5**
BHD				AML	AML	01 16 42.4	
	comp=Z,3μm,0.4s						
BHD				*e*Sn	**Sg**	**01 16 57.5**	**+0.4**
IKOM	**Komasi**	**1.63**	**98**	*e*Pn	**Pn**	**01 16 37.7**	**+0.4**
IKOM				IAMB	IAmb	01 16 43.1	
	comp=Z,0.0nm,0.2s						
IBZA	**Bozab**	**1.90**	**88**	*e*Pn	**Pb**	**01 16 42.2**	**-1.1**
IKFM	**Kafar-mosalman**	**2.10**	**115**	*e*Pn	**Pn**	**01 16 43.4**	**-0.1**
IDOB	**Doab**	**2.26**	**106**	*e*Pn	**Pn**	**01 16 45.7**	**-0.3**
HSRG	**Sareghieh**	**2.38**	**69**	*e*Pn	**Pn**	**01 16 49.3**	**+1.6**
HSRG				IAMB	IAmb	01 16 56.2	
	comp=Z,0.0nm,0.3s						
IKMR	**Kamar-syah**	**2.51**	**110**	*e*Pn	**Pn**	**01 16 49.1**	**-0.1**
HSAM	**Samen**	**2.52**	**94**	*e*Pn	**Pn**	**01 16 50.0**	**+0.3**
BDRS	**Dareh Seyedi**	**2.79**	**99**	*e*Pn	**Pn**	**01 16 53.3**	**0.0**
BDRS				IAMB	IAmb	01 17 00.4	
	comp=Z,0.0nm,0.3s						
MSL	**Mosul**	**2.81**	**315**	*e*Pn	**Pn**	**01 16 54.0**	**+0.7**
MSL				*e*Sn	**Sb**	**01 17 30.0**	**-3.1**
HAGD	**Aghdareh**	**2.98**	**81**	*e*Pn	**Pn**	**01 16 56.9**	**+1.1**
HAGD				IAMB	IAmb	01 17 09.2	
	comp=Z,0.0nm,0.3s						
NSR	**Nassriya**	**3.44**	**172**	*e*Pn	**Pn**	**01 17 03.0**	**+1.1**
NSR				*e*Sn	**Sn**	**01 17 44.4**	**+1.7**
IRAZ	**Razeghan**	**3.72**	**73**	*e*Pn	**Pn**	**01 17 09.1**	**+3.1**
IPIR	**Pirpir**	**4.78**	**110**	*e*Pn	**Pn**	**01 17 19.1**	**-1.5**
JHBN	**Jahan bin**	**4.80**	**116**	*e*Pn	**Pn**	**01 17 20.6**	**-0.4**
QAM	**Ghamsar**	**4.92**	**96**	*e*Pn	**Pn**	**01 17 23.4**	**+0.8**
IKLH	**Kolahrood**	**5.12**	**101**	*e*Pn	**Pn**	**01 17 25.0**	**-0.4**

*THE **18** 01:32:16.9, 35˚.45N×27˚.59E, h0km±1km, ML2.4/2, Error ellipse: s-maj=2.2km s-min=0.8km az=145.0*
*ISCJB **18** 01:32:17.9±1.2, 35˚.48N±0˙.09×27˚.62E±0˙.09, h18km, Error ellipse: s-maj=16.2km s-min=5.2km az=145.2*
*ATH **18** 01:32:17.3, 35˚.31N×27˚.56E, h12km±3km, ML2.7/1, Error ellipse: s-maj=7.4km s-min=2.4km az=271.0*
ISC 18 01:32:17.7±1.7, 35.43N±0˙.09×27.58E±0˙.08, h18km, n12, σ0°80/17, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.36**	**289**	P	**Pg**	**01 32 25.2**	**0.0**
KARP				S	**Sg**	**01 32 31.0**	**+0.6**
	1μm,0.3s						
KARP	**Karpathos**	**0.36**	**289**	P	**Pg**	**01 32 25.2**	**0.0**
KARP				S	**Sg**	**01 32 31.1**	**+0.6**
KARP				AML	AML	01 32 32.0	
	comp=E,3042μm,0.4s						
KARP				AML	AML	01 32 32.2	
	comp=N,2352μm,0.2s						
ZKR	**Zakros**	**1.16**	**255**	P	**Pn**	**01 32 38.6**	**-0.4**
ZKR				S	**Sg**	**01 32 56.2**	**+1.0**
	comp=N,110nm,0.6s						
ZKR	**Zakros**	**1.16**	**255**	P	**Pn**	**01 32 38.5**	**-0.4**
STIA	**Sitia Lasithi**	**1.24**	**260**	P	**Pn**	**01 32 40.2**	**+0.2**
STIA				S	**Sg**	**01 32 58.0**	**+0.3**
NPS	**Neapolis**	**1.61**	**265**	P	**Pb**	**01 32 47.1**	**+0.1**
BODT	**Bodrum**	**1.64**	**353**	P	**Pn**	**01 32 44.7**	**-1.0**
FETY	**Fethiye**	**1.71**	**45**	P	**Pn**	**01 32 46.2**	**-0.5**
LAST	**Lasithi**	**1.74**	**262**	P	**Pb**	**01 32 48.9**	**-0.2**
YER	**Yerkesik**	**1.79**	**18**	P	**Pn**	**01 32 48.1**	**+0.3**
YER				S	**Sn**	**01 33 11.6**	**+1.4**
SIVA	**Sivas**	**2.30**	**261**	P	**Pb**	**01 32 57.2**	**-1.4**
SMG	**Samos**	**2.35**	**346**	P	**Pn**	**01 32 54.2**	**-1.2**

ISK 18 01:33:11.1, 35.71N×27.29E, h11km, ML2.7/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**1.05**	**13**	PG	Pb	01 33 31.4	+0.1
DAT				SG	Sn	01 33 46.9	+0.3
DATC	**Datca-Mugla**	**1.09**	**16**	PN	Pn	01 33 32.6	+0.2
DATC				SN	Sn	01 33 47.9	+0.4
MRSB	**Marmaris-Mugla**	**1.25**	**36**	PN	Pg	01 33 34.9	-0.2
BODT	**Bodrum**	**1.35**	**1**	PN	Pb	01 33 36.6	+0.1
BODT				SN	Sg	01 33 54.9	+0.1
TURN	**Turunc**	**1.58**	**42**	PN	Pn	01 33 36.0	-3.0
TURN				SN	Sn	01 33 53.9	-5.5
YER	**Yerkesik**	**1.64**	**29**	PN	Pb	01 33 40.8	-0.5
FETY	**Fethiye**	**1.72**	**57**	PN	Pn	01 33 41.9	+0.8

*IDC **18** 01:44:27.4±1.0, 40˚.84N×78˚.77E, h0km, mb3.7/10, mb1 3.8/16, mb1mx3.6/54, mbtmp3.7/16, ML3.2/6, Error ellipse: s-maj=17.6km s-min=15.5km az=128.0*
*SOME **18** 01:44:28.3, 41˚.07N×78˚.67E, h5km, MS3.4*
*BJI **18** 01:44:29.7±0.0, 41˚.06N×78˚.68E, h7km, mb3.9/3, ML4.0/8*
*KRNET **18** 01:44:29.3±0.1, 41˚.02N×78˚.73E, h16km, mb4.4*
*NNC **18** 01:44:31.0±0.8, 41˚.13N×78˚.68E, h0km, mb4.8, mpv4.4, Error ellipse: s-maj=5.5km s-min=3.7km az=162.0*
ISC 18 01:44:30.0±0.7, 41˚.03N±0˙.04×78˚.66E±0˙.03, h10km, n102, σ2°08/145, mb3.6/9, 36C-20D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.47**	**352**	⇓*i*P	**Pg**	**01 44 57.1**	**-1.2**
	baz=51						
PRZ				⇓*i*S	**Sg**	**01 45 16.9**	**-0.5**
	baz=51						
KDJ	**Kajisay**	**1.57**	**315**	⇑*i*P	**Pb**	**01 44 58.7**	**-0.5**
	baz=14						
KDJ				⇑*i*S	**Sg**	**01 45 19.7**	**-0.8**
	baz=14						
ANVS	**Anan'yevo**	**1.91**	**337**	⇑*i*P	**Pg**	**01 45 05.3**	**-1.3**
	baz=36						
ANVS				⇑*i*S	**Sg**	**01 45 30.6**	**-0.8**
	baz=36						
SATY	**Saty**	**2.04**	**355**	*e*P	**Pb**	**01 45 06.8**	**-0.5**
SATY	689nm,0.6s			*e*S	**Sg**	**01 45 35.2**	**-0.5**
	2μm,0.4s						
SATY	**Saty**	**2.04**	**355**	Pg	**Pb**	**01 45 06.8**	**-0.5**
SATY	689nm,0.6s			Lg	Lg	01 45 34.8	
	2μm,0.4s						
NRN	**Naryn**	**2.05**	**282**	⇑*i*P	**Pb**	**01 45 07.7**	**+0.2**
	baz=82						
NRN				⇑*i*S	**Sg**	**01 45 35.1**	**-0.8**
	baz=82						
UZB	**Uzynbulak**	**2.14**	**7**	*e*P	**Pb**	**01 45 08.2**	**-0.7**
UZB	116nm,0.4s			*e*S	**Sg**	**01 45 37.1**	**-1.6**
	926nm,0.3s						
UZB	**Uzynbulak**	**2.14**	**7**	Pg	**Pb**	**01 45 08.2**	**-0.7**
UZB	116nm,0.4s			Lg	Lg	01 45 37.1	
	926nm,0.3s						
ZHN	**Zhinishke**	**2.15**	**356**	*e*P	**Pb**	**01 45 08.8**	**-0.4**
ZHN	284nm,0.3s			*e*S	**Sg**	**01 45 38.1**	**-1.0**
	539nm,0.3s						
ZHN	**Zhinishke**	**2.15**	**356**	Pg	**Pb**	**01 45 08.7**	**-0.4**
ZHN	284nm,0.3s			Lg	Lg	01 45 38.1	
	539nm,0.3s						
ULHL	**Ulahol**	**2.19**	**305**	⇓*i*P	**Pb**	**01 45 09.2**	**-0.6**
	baz=4.0						
ULHL				⇓*i*S	**Sb**	**01 45 37.7**	**+0.7**
	baz=4.0						
ULHL	**Ulahol**	**2.19**	**305**	P	**Pb**	**01 45 09.9**	**+0.1**
	SNR=317						
SHLS	**Shalkode**	**2.21**	**15**	*e*P	**Pg**	**01 45 10.8**	**-1.7**
SHLS	320nm,0.3s			*e*S	**Sg**	**01 45 41.3**	**+0.2**
	1μm,0.5s						
SHLS	**Shalkode**	**2.21**	**15**	Pg	**Pg**	**01 45 10.8**	**-1.7**
SHLS	320nm,0.3s			Lg	Lg	01 45 41.8	
	1μm,0.5s						
PDGK	**Podgornoye**	**2.38**	**15**	Pg	**Pb**	**01 45 11.4**	**-1.7**
PDGK	29nm,0.7s			Lg	Lg	01 45 42.7	
	733nm,0.5s						
PDGK	**Podgornoye**	**2.38**	**15**	⇓Pn	**Pb**	**01 45 11.3**	**-1.9**
PDGK	149nm,0.8s			⇑Lg	Lg	01 45 43.0	
	796nm,0.5s						
TNSS	**Tian-Shan**	**2.38**	**328**	*e*P	**Pb**	**01 45 13.3**	**0.0**
TNSS	644nm,0.3s			*e*S	**Sg**	**01 45 46.0**	**-0.6**
	756nm,0.5s						
TNSS	**Tian-Shan**	**2.38**	**328**	Pg	**Pb**	**01 45 13.3**	**0.0**
TNSS	954nm,0.3s			Lg	Lg	01 45 46.0	
	756nm,0.5s						
KPKS	**Kokpek**	**2.44**	**0**	*e*P	**Pb**	**01 45 12.7**	**-1.3**
KPKS	458nm,0.9s			*e*S	**Sb**	**01 45 44.7**	**+0.5**
	3μm,0.7s						
MDOK	**Medeo**	**2.45**	**331**	*e*P	**Pb**	**01 45 13.1**	**-1.1**
MDOK	537nm,0.7s			*e*S	**Sb**	**01 45 45.4**	**+0.8**
	638nm,0.6s						
MDOK	**Medeo**	**2.45**	**331**	⇓Pn	**Pb**	**01 45 13.2**	**-1.1**
	508nm,0.7s						
MDOK				⇑Lg	Lg	01 45 45.8	
	682nm,0.6s						
MDOK	**Medeo**	**2.45**	**331**	Pg	**Pb**	**01 45 13.1**	**-1.1**
	537nm,0.7s						
MDOK				Lg	Lg	01 45 45.4	
	638nm,0.6s						
KURS	**Kuram**	**2.49**	**352**	*e*P	**Pb**	**01 45 14.3**	**-0.5**
	408nm,0.7s						
KURS				*e*S	**Sg**	**01 45 47.4**	**-2.5**
	647nm,1.1s						
KURS	**Kuram**	**2.49**	**352**	Pg	**Pb**	**01 45 14.3**	**-0.5**
	408nm,0.7s						
KURS				Lg	Lg	01 45 47.4	
	647nm,1.1s						
KOTS	**Kotyrbulak**	**2.49**	**333**	*e*P	**Pb**	**01 45 15.3**	**+0.3**
	1μm,0.6s						
KOTS				*e*S	**Sg**	**01 45 49.0**	**-1.1**
	1μm,0.4s						
KOTS	**Kotyrbulak**	**2.49**	**333**	Pg	**Pb**	**01 45 15.3**	**+0.3**
	1μm,0.6s						
KOTS				Lg	Lg	01 45 49.0	
	1μm,0.4s						
BOOM	**Boomskoye usch**	**2.51**	**307**	⇓*i*P	**Pb**	**01 45 13.4**	**-1.9**
	baz=6.0						
BOOM				⇓*e*S	**Sb**	**01 45 45.2**	**-1.1**
	baz=6.0						
IZV	**Izvestkoviy**	**2.52**	**323**	*e*P	**Pb**	**01 45 15.2**	**-0.3**
	439nm,0.7s						
IZV				*e*S	**Sg**	**01 45 48.9**	**-2.3**
	553nm,0.8s						
IZV	**Izvestkoviy**	**2.52**	**323**	Pg	**Pb**	**01 45 15.2**	**-0.3**
	439nm,0.7s						
IZV				Lg	Lg	01 45 48.8	
	553nm,0.8s						
KNDC	**Almaty**	**2.53**	**331**	⇑Pg	**Pb**	**01 45 15.0**	**-0.6**
	530nm,0.6s						
KNDC				⇓Lg	Lg	01 45 48.5	
	887nm,0.6s						
AAA	**Alma-Ata**	**2.54**	**330**	*e*P	**Pg**	**01 45 16.7**	**-2.0**
	950nm,0.4s						
AAA				*e*S	**Sg**	**01 45 51.4**	**-0.2**
	679nm,0.4s						
AAA	**Alma-Ata**	**2.54**	**330**	Pg	**Pg**	**01 45 16.7**	**-2.0**
	950nm,0.4s						
AAA				Lg	Lg	01 45 51.4	
	679nm,0.4s						
MTBS	**Maitube**	**2.68**	**322**	*e*P	**Pb**	**01 45 18.2**	**+0.1**
	89nm,0.3s						
MTBS				*e*S	**Sg**	**01 45 54.4**	**-1.8**
	255nm,0.4s						
MTBS	**Maitube**	**2.68**	**322**	Pg	**Pb**	**01 45 18.2**	**+0.1**
	89nm,0.3s						
MTBS				Lg	Lg	01 45 54.4	
	255nm,0.4s						
KTMS	**Ketmen**	**2.73**	**27**	*e*P	**Pb**	**01 45 18.2**	**-0.7**
	70nm,0.6s						
KTMS				*e*S	**Sg**	**01 45 54.5**	**-3.0**
	1μm,0.4s						
KTMS	**Ketmen**	**2.73**	**27**	Pg	**Pb**	**01 45 18.2**	**-0.7**
	70nm,0.6s						
KTMS				Lg	Lg	01 45 54.5	
	1μm,0.4s						
KZA	**Kyzart**	**2.77**	**293**	⇑*i*P	**Pb**	**01 45 17.6**	**-2.3**
	baz=93						
KZA				⇑*i*S	**Sb**	**01 45 52.1**	**-1.9**
	baz=93						
KZA	**Kyzart**	**2.77**	**293**	P	**Pb**	**01 45 17.4**	**-2.5**
	SNR=119						
KST	**Kastek**	**2.85**	**316**	*e*P	**Pb**	**01 45 21.4**	**+0.4**
	179nm,0.3s						
KST				*e*S	**Sg**	**01 46 00.0**	**-1.5**
	496nm,0.5s						
KST	**Kastek**	**2.85**	**316**	Pg	**Pb**	**01 45 21.4**	**+0.4**
	179nm,0.3s						
KST				Lg	Lg	01 46 00.0	
	496nm,0.5s						
TKM2	**Tokmak 2**	**2.97**	**311**	⇓*e*P	**Pb**	**01 45 20.3**	**-2.9**
	baz=10.0						
TKM2				⇓*i*S	**Sb**	**01 45 56.5**	**-3.1**
	baz=10.0						
TKM2	**Tokmak 2**	**2.97**	**311**	P	**Pb**	**01 45 20.8**	**-2.4**
	SNR=30						
TKM2	**Tokmak 2**	**2.97**	**311**	⇑Pn	**Pb**	**01 45 20.8**	**-2.4**
	26nm,0.7s						
TKM2				⇑Pg	Pg	01 45 23.3	-3.7
	57nm,0.4s						
TKM2				⇑Lg	Lg	01 46 02.4	
	334nm,0.6s						
KTBS	**Karatobe**	**3.06**	**332**	*e*P	**Pb**	**01 45 25.2**	**+0.6**
	153nm,0.5s						
KTBS				*e*S	**Sg**	**01 46 06.2**	**-2.1**
	786nm,0.6s						
KTBS	**Karatobe**	**3.06**	**332**	Pg	**Pb**	**01 45 25.2**	**+0.6**
	153nm,0.5s						
KTBS				Lg	Lg	01 46 06.2	
	786nm,0.6s						
CHKK	**Chushkaly**	**3.09**	**337**	*e*P	**Pb**	**01 45 25.5**	**+0.4**
	86nm,0.3s						
CHKK				*e*S	**Sg**	**01 46 06.6**	**-2.6**
	1μm,0.6s						
CHKK	**Chushkaly**	**3.09**	**337**	Pg	**Pb**	**01 45 25.5**	**+0.4**
	86nm,0.3s						
CHKK				Lg	Lg	01 46 06.6	
	1μm,0.6s						
DGS	**Degeres**	**3.09**	**317**	*e*P	**Pb**	**01 45 25.5**	**+0.4**
	186nm,0.7s						
DGS				*e*S	**Sg**	**01 46 06.2**	**-3.0**

AAK				⇑Pg		Pg	01 45 33.1	-4.1	
	114nm,0.9s								
AAK				⇓Lg		Lg	01 46 20.7		
	240nm,0.9s								
CHMS	**Chumysh**	**3.52**	**305**	⇑*i*P		**Pn**	**01 45 27.7**	**+2.9**	
	baz=5.0								
CHMS				⇑*i*S		**Sn**	**01 46 09.6**	**+3.1**	
	baz=5.0								
CHMS	**Chumysh**	**3.52**	**305**	P		**Pb**	**01 45 32.3**	**-0.2**	
	SNR=45								
USP	**Ospenovka**	**3.82**	**307**	P		**Pb**	**01 45 37.2**	**-0.4**	
	SNR=9.8								
SGDS	**Sogindy**	**3.85**	**310**	Pg		**Pb**	**01 45 38.8**	**+0.7**	
	40nm,0.6s								
SGDS				Lg		Lg	01 46 29.4		
	96nm,1.1s								
AML	**Almayashu**	**3.89**	**288**	P		**Pb**	**01 45 41.0**	**+2.1**	
	SNR=77								
EKS2	**Erkin-Say**	**4.00**	**296**	P		**Pb**	**01 45 43.3**	**+2.6**	
	SNR=23								
KAPS	**Kapalarasan**	**4.29**	**7**	*e*P		**Pb**	**01 45 45.9**	**+0.4**	
	6.8nm,0.5s								
KAPS				*e*S		**Sg**	**01 46 41.8**	**-5.9**	
	222nm,0.5s								
KAPS	**Kapalarasan**	**4.29**	**7**	Pg		**Pb**	**01 45 45.9**	**+0.4**	
	6.8nm,0.5s								
KAPS				Lg		Lg	01 46 41.8		
	222nm,0.5s								
ARSB	**Arslanbob**	**4.30**	**276**	⇑*i*P		**Pn**	**01 45 39.1**	**+3.5**	
	baz=76								
ARSB				⇑*i*S		**Sn**	**01 46 29.4**	**+3.5**	
	baz=76								
MRKS	**Merke**	**4.41**	**295**	*e*P		**Pb**	**01 45 49.0**	**+1.4**	
	60nm,0.5s								
MRKS				*e*S		**Sg**	**01 46 46.8**	**-4.8**	
	48nm,1.0s								
MRKS	**Merke**	**4.41**	**295**	Pg		**Pb**	**01 45 49.0**	**+1.4**	
	60nm,0.5s								
MRKS				Lg		Lg	01 46 46.8		
	48nm,1.0s								
BTLS	**Baital**	**5.25**	**321**	*e*P		**Pb**	**01 46 03.0**	**+1.2**	
	9.6nm,0.4s								
BTLS				*e*S		**Sb**	**01 47 11.3**	**+6.4**	
	48nm,0.8s								
BTLS	**Baital**	**5.25**	**321**	Pg		**Pb**	**01 46 04.4**	**+2.6**	
	9.6nm,0.4s								
BTLS				Lg		Lg	01 47 14.1		
	48nm,0.8s								
MAKZ	**Makanchi**	**6.26**	**21**	⇑Pn		**Pn**	**01 46 04.2**	**+1.8**	
	3.9nm,0.8s								
MAKZ				⇑Pg		Pb	01 46 22.7	+3.7	
	4.7nm,0.5s								
MAKZ				⇓Sn		**Sn**	**01 47 13.7**	**-0.2**	
	8.1nm,0.6s								
MAKZ				⇑Lg		Lg	01 47 48.6		
	30nm,0.8s								
MK31	**Makanchi Array**	**6.33**	**23**	⇓Pn		**Pn**	**01 46 04.4**	**+0.9**	
	1.3nm,0.3s,baz=205,slow=13,SNR=104								
MK31				⇑Pg		Pg	01 46 25.3	-6.0	
	8.2nm,0.6s,baz=200,slow=14,SNR=6.0								
MK31				⇑Sn		**Sn**	**01 47 17.2**	**+1.4**	
	8.1nm,0.5s								
MK31				⇓Lg		Lg	01 47 48.4		
	69nm,0.9s,baz=186,slow=27,SNR=3.5								
MKAR	**Makanchi Array**	**6.33**	**23**	Pn		**Pn**	**01 46 04.8**	**+1.4**	
	0.8nm,0.3s,baz=206,slow=14,SNR=21								
MKAR				Sn		**Sn**	**01 47 18.1**	**+2.3**	
	2.3nm,0.3s,baz=205,slow=23,SNR=3.3								
MKAR				Lg		Lg	01 47 44.7		
	3.9nm,0.3s,baz=202,slow=28,SNR=5.4								
KK31	**Karatay Array**	**6.41**	**292**	⇑Pg		**Pb**	**01 46 25.5**	**+3.8**	
	11nm,0.7s,baz=108,slow=15,SNR=47								
KK31				⇓Lg		Lg	01 47 55.0		
	24nm,0.7s,baz=100,slow=24,SNR=8.5								
WMQ	**Urumqi**	**7.24**	**64**	*e*Pn		**Pn**	**01 46 17.4**	**+1.4**	
WMQ				Sn		**Sn**	**01 47 41.3**	**+3.0**	
WMQ				smax		smax			
	comp=N,13nm,0.7s								
WMQ				smax		smax			
	comp=E,23nm,0.9s								
KURBB	**Kurchatov Arra**	**9.60**	**359**	Pn		**Pn**	**01 46 49.9**	**+1.7**	
	0.1nm,0.3s,baz=186,slow=12,SNR=14								
KURBB				Lg		Lg	01 49 29.1		
	0.3nm,0.3s,baz=286,slow=20,SNR=5.4								
KURBB	**Kurchatov Arra**	**9.60**	**359**	⇑Pn		**Pn**	**01 46 48.1**	**-0.1**	
	2.1nm,0.6s								
KURBB				⇑Lg		Lg	01 49 31.5		
	100nm,0.9s								
BVAR	**Borovoye Array**	**13.25**	**338**	Pn		**Pn**	**01 47 37.9**	**-0.2**	
	0.4nm,0.3s,baz=143,slow=15,SNR=13								
BVAR				Lg		Lg	01 51 25.8		
	0.2nm,0.3s,baz=145,slow=21,SNR=4.0								
BRVK	**Borovoye**	**13.31**	**338**	⇓Pn		**Pn**	**01 47 38.1**	**-0.8**	
	7.1nm,1.0s								
BRVK				⇑Lg		Lg	01 51 31.6		
	28nm,1.0s								
ZALV	**Zalesovo Beam**	**13.57**	**16**	Pn		**Pn**	**01 47 43.5**	**+1.0**	
	0.1nm,0.3s,baz=207,slow=12,SNR=2.7								
ZALV				Sn		**Sn**	**01 50 17.9**	**+4.6**	
	0.4nm,0.3s,baz=196,slow=21,SNR=3.9								
ZALV				Lg		Lg	01 51 43.5		
	0.2nm,0.3s,baz=194,slow=30,SNR=3.0								
AB31	**Akbulak array**	**15.53**	**308**	⇑Pn		**Pn**	**01 48 08.4**	**-0.6**	
	2.5nm,0.9s,baz=101,slow=9.0,SNR=9.4								
AKTO	**Aktyubinsk**	**17.16**	**310**	P		**Pn**	**01 48 29.5**	**-0.3**	
	0.1nm,0.3s,baz=103,slow=9.6,SNR=7.3								
AKTO	**Aktyubinsk**	**17.16**	**310**	⇑Pn		**P**	**01 48 30.3**	**-1.2**	
	1.8nm,0.8s								
ARU	**Arti**	**20.21**	**326**	P		Pn	01 49 05.6	-1.2	
	0.8nm,0.4s,baz=32,slow=6.7,SNR=4.4								
SONM	**Songino Array**	**20.87**	**62**	P		Pn	01 49 12.9	-1.9	
	10.0nm,0.8s,baz=262,slow=11,SNR=48								
XAN	**Xi'an**	**24.91**	**96**	P		**P**	**01 49 56.4**	**+3.2**	
XAN				pP		sP	01 50 09.3	+11	
XAN				pmax		pmax			
	comp=Z,10.0nm,2.6s								
BRTR	**Keskin Array B**	**34.04**	**283**	P		**P**	**01 51 14.5**	**+0.1**	
	comp=Z,0.5nm,0.7s,baz=86,slow=7.5,SNR=3.5								
FINES	**FINESS Array B**	**37.41**	**321**	P		**P**	**01 51 43.3**	**+0.5**	
	comp=Z,1.8nm,0.7s,baz=106,slow=4.5,SNR=3.2								
ARCES	**ARCESS Array B**	**39.50**	**334**	P		**P**	**01 51 59.8**	**-0.5**	
	comp=Z,2.0nm,0.8s,baz=99,slow=7.6,SNR=6.2								
NOA	**NORSAR Array B**	**44.57**	**320**	P		**P**	**01 52 43.6**	**+1.7**	
	comp=Z,0.3nm,0.5s,baz=86,slow=7.9,SNR=2.2								
ILAR	**Eielson Array**	**68.67**	**19**	P		**P**	**01 55 31.5**	**-1.6**	
	comp=Z,0.4nm,0.8s,baz=311,slow=3.6,SNR=5.4								
TORD	**Torodi Ar. Bea**	**71.70**	**272**	P		**P**	**01 55 52.0**	**-0.5**	
	comp=Z,1.1nm,1.1s,baz=49,slow=7.9,SNR=3.3								
YKA	**Yellowknife Ar**	**76.28**	**6**	P		**P**	**01 56 16.6**	**-1.8**	
	comp=Z,0.2nm,0.7s,baz=344,slow=5.2,SNR=4.6								
WRA	**Warramunga Ar**	**79.65**	**128**	P		**P**	**01 56 36.8**	**-1.0**	
	comp=Z,0.7nm,1.0s,baz=327,slow=6.0,SNR=2.9								

*IDC **18** 01:55:31.8±1.0, 19.37N×121.40E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/54, mbtmp3.6/7, ML3.8/1, Error ellipse: s-maj=51.8km s-min=18.7km az=70.0*
*ISCJB **18** 01:55:36.7±0.8, 19.5N±0.1×121.5E±0.3, h52km, mb3.5/6, Error ellipse: s-maj=35.8km s-min=14.9km az=165.6*

ISC 18 01:55:38.5±1.1, 19.4N±0.2×121.4E±0.3, h52km, n13, σ0.98/7, mb3.5/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KSRS	**Korea Array**	**18.86**	**16**	P	**P**		**01 59 53.7**	**-0.6**
	0.3nm,0.3s,baz=197,slow=11,SNR=3.8							
SONM	**Songino Array**	**30.88**	**340**	P	**P**		**02 01 49.0**	**-1.0**
	0.7nm,0.8s,baz=109,slow=6.8,SNR=3.7							
WRA	**Warramunga Arr**	**41.11**	**161**	P	**P**		**02 03 17.1**	**-0.5**
	0.2nm,0.5s,baz=344,slow=9.3,SNR=3.6							
MKAR	**Makanchi Array**	**42.00**	**320**	P	**P**		**02 03 25.1**	**+0.4**
	1.4nm,0.9s,baz=110,slow=9.0,SNR=8.6							
H11S3	**WAKE ISLAND Hy**	**42.74**	**83**	T	T		02 49 17.9	
	baz=274							
H11S1	**WAKE ISLAND Hy**	**42.75**	**83**	T	T		02 49 16.2	
	baz=274							
H11N1	**WAKE ISLAND Hy**	**42.76**	**82**	T	T		02 49 12.6	
	baz=277,slow=75,SNR=6.5							
H11S2	**WAKE ISLAND Hy**	**42.76**	**83**	T	T		02 49 20.3	
	baz=274							
H11N2	**WAKE ISLAND Hy**	**42.76**	**82**	T	T		02 49 14.7	
	baz=277,slow=75,SNR=6.6							
H11N3	**WAKE ISLAND Hy**	**42.78**	**82**	T	T		02 49 15.4	
	baz=277,slow=75,SNR=3.9							
ASAR	**Alice Springs**	**44.51**	**164**	P	**P**		**02 03 45.0**	**-0.1**
	0.2nm,0.3s,baz=345,slow=6.8,SNR=3.1							
KURBB	**Kurchatov Arra**	**45.96**	**323**	P	**P**		**02 03 56.8**	**+0.5**
	1.7nm,0.8s,baz=122,slow=7.7,SNR=11							
YKA	**Yellowknife Ar**	**87.28**	**23**	P	**P**		**02 08 20.6**	**+1.3**
	0.2nm,0.5s,baz=307,slow=4.6,SNR=5.9							

IDC 18 02:05:21.7±1.5, 20.57N×145.77E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/49, mbtmp3.5/4, Error ellipse: s-maj=54.2km s-min=29.6km az=89.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**41.79**	**196**	P	P		02 13 13.0	-0.2
	0.4nm,0.7s,baz=16,slow=8.7,SNR=3.2							
ZALV	**Zalesovo Beam**	**56.59**	**322**	P	P		02 15 05.5	-0.6
	0.6nm,0.4s,baz=104,slow=8.2,SNR=3.4							
MKAR	**Makanchi Array**	**57.23**	**313**	P	P		02 15 11.4	+0.5
	0.2nm,0.5s,baz=81,slow=8.9,SNR=5.4							
YKA	**Yellowknife Ar**	**76.32**	**28**	P	P		02 17 12.4	+0.1
	0.2nm,0.8s,baz=281,slow=5.5,SNR=4.2							

*ISCJB **18** 02:08:44.0±0.7, 23.92S±0.08×179.7E±0.1, h526km, mb3.8/5, Error ellipse: s-maj=13.1km s-min=10.5km az=168.1*
*IDC **18** 02:08:43.0±2.0, 23.99S×179.91E, h504km±19km, mb3.3/5, mb1 3.8/6, mb1mx3.3/29, mbtmp4.3/6, Error ellipse: s-maj=49.3km s-min=18.2km az=160.0*
*NEIC **18** 02:08:45.8±1.3, 24.1S±0.2×179.8E±0.2, h541km±7km, mb4.2/16*

ISC 18 02:08:44.8±0.7, 24.07S±0.10×179.9E±0.1, h526km, n29, σ1.25/32, mb4.1/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
URZ	**Urewera**	**14.35**	**189**	P	**P**		**02 11 46.9**	**-0.8**
	3.8nm,0.3s,baz=27,slow=2.4,SNR=19							
URZ				S	**S**		**02 14 16.6**	**-1.8**
	1.2nm,0.3s,baz=80,slow=23,SNR=7.5							
URZ	**Urewera**	**14.35**	**189**	P	**P**		**02 11 48.2**	**+0.6**
URZ					**S**		**02 14 19.6**	**+1.2**
BKZ	**Black Stump Fm**	**15.33**	**190**	P	**P**		**02 11 57.8**	**-0.1**
BFZ	**Birch Farm**	**16.85**	**190**	P	**P**		**02 12 12.3**	**-0.7**
THZ	**Tophouse**	**18.58**	**197**	P	**P**		**02 12 30.4**	**+1.3**
KHZ	**Kahutara**	**19.04**	**195**	P	**P**		**02 12 34.0**	**+0.9**
KHZ				IAmb	IAmb		02 12 34.2	
	comp=Z,7.5nm,1.0s							
ARMA	**Armidale**	**25.86**	**250**	P	**P**		**02 13 36.0**	**+1.4**
ARMA				IAmb	IAmb		02 13 37.1	
	comp=Z,2.1nm,0.6s							
EIDS	**Eidsvold**	**26.17**	**261**	P	**P**		**02 13 37.5**	**+0.2**
EIDS				IAmb	IAmb		02 13 38.6	
	comp=Z,6.7nm,0.8s							
BBOO	**Buckleboo**	**39.27**	**247**	P	**P**		**02 15 28.3**	**+0.1**
BBOO				IAmb	IAmb		02 15 31.3	
	comp=Z,6.3nm,1.1s							
AS31	**Alice Springs**	**41.89**	**261**	P	**P**		**02 15 48.5**	**-0.8**
AS31				IAmb	IAmb		02 15 50.5	
	comp=Z,2.1nm,0.3s							
ASAR	**Alice Springs**	**41.89**	**261**	P	**P**		**02 15 49.5**	**+0.2**
	comp=Z,3.0nm,0.6s,baz=99,slow=8.0,SNR=30							
ASAR				ScP	**ScP**		**02 20 36.6**	**+3.6**
	comp=Z,1.5nm,0.8s,baz=108,slow=4.1,SNR=7.8							
WR0	**Warramunga Arr**	**42.09**	**266**	P	**P**		**02 15 49.9**	**-1.0**
WR0				IAmb	IAmb		02 15 58.1	
	comp=Z,3.6nm,0.7s							
WRA	**Warramunga Arr**	**42.28**	**266**	P	**P**		**02 15 51.8**	**-0.5**
	comp=Z,3.4nm,0.4s,baz=93,slow=8.4,SNR=61							
WRA				ScP	**ScP**		**02 20 37.8**	**+3.2**
	comp=Z,1.0nm,0.8s,baz=103,slow=3.7,SNR=5.6							
FORT	**Forrest**	**46.15**	**250**	P	**P**		**02 16 22.1**	**0.0**
MTN	**Manton Dam**	**47.35**	**275**	P	**P**		**02 16 29.9**	**-1.4**
MTN				IAmb	IAmb		02 16 47.7	
	comp=Z,6.2nm,1.0s							
KNRA	**Kununurra**	**48.57**	**270**	P	**P**		**02 16 39.9**	**-0.5**
KNRA				IAmb	IAmb		02 16 41.1	
	comp=Z,13nm,1.1s							
FITZ	**Fitzroy Crossi**	**50.70**	**266**	P	**P**		**02 16 55.6**	**-0.5**
PSA00	**Pilbara Seismi**	**55.02**	**260**	P	**P**		**02 17 25.8**	**-1.2**
MORW	**Morawa**	**56.71**	**250**	P	**P**		**02 17 38.4**	**-0.2**
QSPA	**South Pole Qui**	**66.02**	**180**	P	**P**		**02 18 38.7**	**-0.3**
NVAR	**Mina Array Bea**	**84.95**	**44**	P	**P**		**02 20 24.5**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=218,slow=6.6,SNR=4.7							
JLU	**Jordanelle**	**90.56**	**45**		pP		02 22 49.1	+2.2
TXAR	**Lajitas Array**	**90.62**	**58**	P	**P**		**02 20 52.2**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=217,slow=6.7,SNR=12							
PDAR	**Pinedale Array**	**92.89**	**44**	P	**P**		**02 21 01.4**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=207,slow=1.7,SNR=3.9							
HFS	**Hagfors**	**142.69**	**349**	PKhKP	PKPpre		02 27 13.6	
	comp=Z,1.4nm,0.4s,baz=45,slow=2.9,SNR=14							
AKASG	**Malin Array Be**	**145.05**	**327**	PKPbc	**PKPdf**		**02 27 21.6**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=37,slow=4.2,SNR=5.9							
AKASG				SKPbc	**SKiKP**		**02 30 13.0**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=51,slow=2.6,SNR=4.1							
BRTR	**Keskin Array B**	**147.59**	**307**	PKPbc	**PKPbc**		**02 27 29.7**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=106,slow=3.9,SNR=2.4							
EKA	**Eskdalemuir Ar**	**148.69**	**3**	PKPbc	**PKPbc**		**02 27 31.0**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=346,slow=2.3,SNR=3.0							
EKA	**Eskdalemuir Ar**	**148.69**	**3**		**PKPbc**		**02 27 31.0**	**-1.3**

*NIC **18** 02:10:14.9±0.0, 36.24N×31.29E, h75km±6km, MI3.1/5*
*DDA **18** 02:10:14.9, 36.41N×31.23E, h52km±6km, MW3.8*
*ISK **18** 02:10:15.0, 36.55N×31.42E, h24km, ML2.6/17*
*GII **18** 02:10:18.1±0.0, 36.08N×31.60E, h30km, MD3.0/2*

ISC 18 02:10:13.4±1.1, 36.37N±0.03×31.34E±0.02, h31km±12km, n73, σ2.04/102, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KEPZ	**Antalya-Kepez**	**0.57**	**22**	*i* PA	**Pn**		**02 10 29.2**	**+3.7**
KEPZ				IAML			02 10 42.0	
	comp=E,52nm,0.6s							
KEPZ				IAML			02 10 43.0	
	comp=N,56nm,0.4s							
GAZI	**Gazipasa**	**0.80**	**99**	*i* PA	**Pn**		**02 10 32.5**	**+3.9**
GAZI				*i* S	**Sn**		**02 10 45.8**	**+6.4**
GAZI				IAML			02 10 47.0	
	comp=N,180nm,0.3s							
GAZI				IAML			02 10 47.0	
	comp=E,141nm,0.4s							
GAZI	**Gazipasa**	**0.80**	**99**	PG	**Pn**		**02 10 31.7**	**+3.1**
AKUM	**Antalya-Kumluc**	**0.81**	**267**	*i* P	**Pb**		**02 10 31.0**	**+2.0**
AKUM				IAML			02 10 52.0	
	comp=N,84nm,0.7s							
AKUM				IAML			02 10 53.0	
	comp=E,90nm,0.6s							
KORT	**Korkueli**	**1.02**	**309**	*i* P	**Pn**		**02 10 34.0**	**+2.3**
KORT				*i* S	**Sn**		**02 10 49.0**	**+4.0**
KORT				IAML			02 10 53.0	
	comp=N,80nm,0.4s							
KORT				IAML			02 10 54.0	
	comp=E,93nm,0.5s							
KORT	**Korkueli**	**1.02**	**309**	PG	**Pn**		**02 10 33.9**	**+2.3**
KORT				SG	**Sn**		**02 10 47.1**	**+2.1**
ELL	**Elmali**	**1.21**	**289**	P	**Pn**		**02 10 36.5**	**+2.2**
ELL				S	**Sb**		**02 10 53.8**	**+2.5**
ERMK	**Ermenek**	**1.30**	**77**	*i* PA	**Pn**		**02 10 39.0**	**+3.5**
ERMK				*i* S	**Sb**		**02 10 56.8**	**+3.1**
ERMK				IAML			02 10 59.0	
	comp=N,92nm,0.4s							
ERMK				IAML			02 11 00.0	
	comp=E,89nm,0.4s							
AKAS	**Kas**	**1.41**	**265**	*i* PA	**Pn**		**02 10 37.6**	**+0.5**
AKAS				*i* S	**Sn**		**02 10 55.6**	**+1.0**
AKAS				IAML			02 10 57.0	
	comp=N,48nm,0.3s							
AKAS				IAML			02 10 57.0	
	comp=E,35nm,0.3s							
KSL	**Kastellorizon**	**1.44**	**262**	P	**Pn**		**02 10 38.2**	**+0.9**
KSL				S	**Sn**		**02 10 57.2**	**+2.1**
TEKE	**Tekeli-Mersin**	**1.45**	**98**	PN	**Pn**		**02 10 39.6**	**+2.1**
TEKE				SN	**Sb**		**02 10 58.5**	**+0.6**
BERE	**Bereket-Mersin**	**1.52**	**90**	PN	**Pn**		**02 10 40.8**	**+2.2**
AKMS	**Akamas**	**1.57**	**149**	P	**Pn**		**02 10 40.5**	**+1.3**
AKMS				S	**Sn**		**02 10 59.5**	**+1.1**
AKMS				AML	AML		02 11 01.6	
	comp=E,1.1nm,0.4s							
AKMS				AML	AML		02 11 01.6	
	comp=E,1.1nm,0.4s							
AKMS				AML	AML		02 11 01.8	
	comp=E,0.4nm,0.3s							
AKMS				AML	AML		02 11 01.8	
	comp=E,0.4nm,0.3s							
ALFC	**Alefka**	**1.58**	**139**	P	**Pn**		**02 10 41.0**	**+1.6**
ALFC				S	**Sn**		**02 10 59.4**	**+0.6**
ALFC				AML	AML		02 11 01.0	
	comp=E,0.6nm,0.1s							
ALFC				AML	AML		02 11 01.0	
	comp=E,0.6nm,0.1s							
ALFC				AML	AML		02 11 01.6	
	comp=E,0.6nm,0.2s							
ALFC				AML	AML		02 11 01.6	
	comp=E,0.6nm,0.2s							
ISP	**Isparta**	**1.59**	**336**	PN	**Pb**		**02 10 40.8**	**-1.5**
ISP				SN	**Sb**		**02 10 59.3**	**-2.8**
KMER	**Konya-Meram**	**1.62**	**30**	*i* P	**Pb**		**02 10 41.7**	**-1.1**
KMER				IAML			02 11 02.0	
	comp=E,27nm,0.5s							
KMER				IAML			02 11 03.0	
	comp=N,37nm,0.7s							
GOLH	**Golhisar**	**1.67**	**302**	*i* P	**Pn**		**02 10 42.8**	**+2.1**
GOLH				IAML			02 11 03.0	
	comp=E,47nm,1.0s							
GOLH				*i* S	**Sn**		**02 11 03.8**	**+2.7**
GOLH				IAML			02 11 09.0	
	comp=N,78nm,0.4s							
BRDR	**BURDUR-Merkez**	**1.68**	**323**	*i* P	**Pn**		**02 10 42.3**	**+1.6**
BRDR				IAML			02 11 04.0	
	comp=E,28nm,0.4s							
BRDR				IAML			02 11 07.0	
	comp=N,22nm,0.6s							
BAGO	**Egridir - ISPA**	**1.68**	**345**	*i* P	**Pb**		**02 10 42.0**	**-1.8**
BAGO				*i* S	**Sb**		**02 11 02.3**	**-2.2**
TEVE	**Tevekalti-Mers**	**1.70**	**87**	PN	**Pb**		**02 10 43.5**	**-0.5**
TEVE				SN	**Sn**		**02 11 03.7**	**+2.0**
DOGA	**KONYA_Doganhis**	**1.76**	**8**	*i* PA	**Pn**		**02 10 43.2**	**+1.3**
DOGA				IAML			02 11 10.0	
	comp=N,14nm,0.4s							
DOGA				IAML			02 11 10.0	
	comp=E,15nm,0.4s							
KONT	**Konya--Tatoy**	**1.77**	**27**	*i* P	**Pb**		**02 10 43.5**	**-1.8**
KONT				IAML			02 11 06.0	
	comp=E,14nm,0.2s							
KONT	**Konya--Tatoy**	**1.77**	**27**	PN	**Pb**		**02 10 43.1**	**-2.2**
GULN	**MERSIN_Gulnar**	**1.79**	**95**	*i* P	**Pn**		**02 10 43.9**	**+1.7**
GULN				*i* S	**Sn**		**02 11 06.0**	**+2.2**
GULN				IAML			02 11 09.0	
	comp=N,14nm,0.7s							
GULN				IAML			02 11 10.0	
	comp=E,11nm,0.2s							
FETY	**Fethiye**	**1.84**	**279**	*i* PA	**Pn**		**02 10 43.0**	**+0.1**
FETY				IAML			02 11 06.0	
	comp=N,13nm,0.6s							
FETY				IAML			02 11 06.0	
	comp=E,11nm,0.4s							
BASM	**Basmaki-Afyon**	**1.86**	**327**	PN	**Pn**		**02 10 44.4**	**+1.2**
YESI	**Yesilovacik-Me**	**1.87**	**95**	PN	**Pn**		**02 10 44.9**	**+1.7**
NATA	**Nata**	**1.87**	**147**	P	**Pn**		**02 10 44.6**	**+1.2**
NATA				S	**Sn**		**02 11 07.1**	**+1.1**
NATA				AML	AML		02 11 20.2	
	comp=E,1.4nm,0.6s							
NATA				AML	AML		02 11 20.2	
	comp=E,1.4nm,0.6s							
NATA				AML	AML		02 11 21.2	
	comp=E,0.8nm,0.8s							
NATA				AML	AML		02 11 21.2	
	comp=E,0.8nm,0.8s							
IKL	**Isikli**	**1.90**	**93**	PN	**Pn**		**02 10 45.6**	**+2.0**
KEBE	**Keben-Mersin**	**1.92**	**87**	PN	**Pn**		**02 10 46.6**	**+2.6**
LADK	**Ladik-KONYA**	**2.00**	**24**	PN	**Pn**		**02 10 46.1**	**+0.9**
SZAC	**Souni**	**2.04**	**142**	P	**Pn**		**02 10 46.9**	**+1.2**
SZAC				S	**Sn**		**02 11 11.2**	**+1.1**
SZAC				AML	AML		02 11 14.8	
	comp=E,0.3nm,0.2s							
SZAC				AML	AML		02 11 14.8	
	comp=E,0.3nm,0.2s							
SZAC				AML	AML		02 11 25.2	
	comp=E,0.3nm,0.4s							
SZAC				AML	AML		02 11 25.2	
	comp=E,0.3nm,0.4s							
ATHAL	**Athalassa**	**2.07**	**126**	S	**Sn**		**02 11 12.0**	**+1.2**
KZIL	**AFYON_Kizioren**	**2.12**	**334**	*i* P	**Pn**		**02 10 47.5**	**+0.8**
KZIL				*i* S	**Sb**		**02 11 13.5**	**-3.6**
KZIL				IAML			02 11 14.0	
	comp=E,23nm,0.4s							
KZIL				IAML			02 11 15.0	
	comp=N,24nm,0.6s							
CSS	**Mathiatis**	**2.14**	**130**	Pn	**Pn**		**02 10 47.0**	**0.0**
ASGA	**Asgata**	**2.21**	**135**	P	**Pn**		**02 10 49.2**	**+1.2**
ASGA				S	**Sn**		**02 11 15.4**	**+1.1**
ASGA				AML	AML		02 11 19.2	
	comp=N,0.2nm,0.2s							
ASGA				AML	AML		02 11 19.2	
	comp=N,0.2nm,0.2s							
ASGA				AML	AML		02 11 20.3	
	comp=N,0.3nm,0.3s							
ASGA				AML	AML		02 11 20.3	
	comp=N,0.3nm,0.3s							
TAVA	**DENIZLI_Tavas**	**2.23**	**300**	*i* P	**Pn**		**02

KIRS					IAML			02 13 02.0		
	comp=E,4.8nm,2.5s									
BBAL	**Bala**	**3.47**	**23**	*i*	PA		**Pn**	**02 11 05.5**	**+0.1**	
BBAL					IAML			02 12 12.0		
	comp=N,5.4nm,1.9s									
BBAL					IAML			02 12 27.0		
	comp=E,8.4nm,3.4s									
YAHY	**KAYSERI_Yahyal**	**3.65**	**61**	*i*	P		**Pn**	**02 11 09.3**	**+1.5**	
YAHY					IAML			02 12 11.0		
	comp=N,4.7nm,2.5s									
YAHY					IAML			02 12 53.0		
	comp=E,2.8nm,1.9s									
SRCK	**Saricakaya, Es**	**3.71**	**352**	*i*	P		**Pn**	**02 11 08.6**	**0.0**	
SRCK					IAML			02 12 32.0		
	comp=N,8.3nm,2.2s									
SRCK					IAML			02 12 54.0		
	comp=E,10nm,2.0s									
BRTR	**Keskin Array B**	**3.81**	**28**		PN		**Pn**	**02 11 10.3**	**+0.2**	
HNTI	**Hanita**	**4.55**	**135**		Pn		**Pn**	**02 11 19.7**	**-0.4**	
HNTI					Sn		**Sn**	**02 12 08.9**	**-3.0**	
MMA0B	**Mount Meron ar**	**4.73**	**134**		Pn		**Pn**	**02 11 22.5**	**-0.2**	
MMA0B					Sn		**Sn**	**02 12 13.4**	**-3.1**	
GEM	**Giv'at Ha'Em**	**4.75**	**130**		Pn		**Pn**	**02 11 23.1**	**+0.2**	
GEM					Sn		**Sn**	**02 12 13.1**	**-3.8**	
KSDI	**Kefar Szold**	**4.76**	**130**		Pn		**Pn**	**02 11 22.8**	**-0.2**	
KSDI					Sn		**Sn**	**02 12 13.9**	**-3.2**	
NATI	**Neve Ativ**	**4.76**	**129**		Pn		**Pn**	**02 11 25.7**	**+2.7**	
NATI					Sn		**Sn**	**02 12 13.6**	**-3.5**	
OFRI	**`Ofer**	**4.80**	**140**		Pn		**Pn**	**02 11 23.8**	**+0.2**	
OFRI					Sn		Sn	02 12 13.9	-4.2	
SLTI	**Sal'it**	**5.13**	**142**		Pn		**Pn**	**02 11 28.3**	**+0.2**	
MMLI	**Mount Malkishu**	**5.17**	**138**		Pn		**Pn**	**02 11 29.3**	**+0.6**	
MMLI					Sn		**Sn**	**02 12 23.6**	**-3.7**	
AMAZ	**Amatzia**	**5.66**	**147**		Pn		**Pn**	**02 11 35.3**	**-0.1**	
AMAZ					Sn		Sn	02 12 35.6	-3.8	
MZDA	**Masada**	**6.05**	**145**		Pn		**Pn**	**02 11 41.0**	**+0.3**	
MZDA					Sn		**Sn**	**02 12 45.6**	**-3.3**	

IDC 18 02:14:37.2±0.9, 15°.61S×175°.94W, h0km, mb3.9/3, mb1 4.3/3, mb1mx3.7/35, mbtmp3.9/3, Error ellipse: s-maj=407.1km s-min=34.6km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**47.41**	**257**	P		P	02	23	13.7	-0.1
	1.3nm,0.7s,baz=91,slow=8.3,SNR=15									
ASAR	**Alice Springs**	**47.72**	**252**	P		P	02	23	16.1	-0.1
	3.0nm,0.4s,baz=87,slow=8.0,SNR=51									
ILAR	**Eielson Array**	**83.14**	**12**	P		P	02	27	04.7	0.0
	0.1nm,0.4s,baz=203,slow=5.1,SNR=3.1									

*SJA **18** 02:17:27.3±0.6, 35°.81S×74°.19W, h12km, ML4.0, MW4.3*
*ISCJB **18** 02:17:34.2±1.1, 35°.75S±0°.03×73°.53W±0°.07, h19km±8km, mb4.3/10, Error ellipse: s-maj=9.9km s-min=4.5km az=8.7*
*NEIC **18** 02:17:34.3±1.9, 35°.76S±0°.05×73°.6W±0°.1, h22km±5km*
*IDC **18** 02:17:34.7±0.8, 35°.84S×73°.30W, h0km, mb4.1/9, mb1 4.2/11, mb1mx4.0/27, mbtmp4.1/11, ML3.9/2, MS3.1/2, Ms1 3.1/2, ms1mx3.0/23, Error ellipse: s-maj=29.0km s-min=19.6km az=95.0*
*GUC **18** 02:17:35.0±0.7, 35°.76S×73°.59W, h30km±13km, ML4.4*

ISC 18 02:17:35.5±1.9, 35°.78S±0°.04×73°.53W±0°.07, h17km±10km, n75, σ1°68/90, mb4.4/10, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
COCH	**Cobquecura**	**0.70**	**120**	↑*iP*		**Pg**	**02**	**17**	**48.4**	**-0.8**
COCH				*i*	S	**Sg**	**02**	**17**	**58.0**	**-0.6**
COCH					IAML		02	17	58.9	
	comp=E,33μm,0.6s									
CCSP	**San Pedro de C**	**1.11**	**162**	↓*iP*		**Pb**	**02**	**17**	**54.0**	**-2.3**
CCSP				*i*	S	**Sb**	**02**	**18**	**09.1**	**-1.5**
CCSP					IAML		02	18	11.4	
	comp=E,10μm,0.4s									
CCHI	**Chillan**	**1.44**	**125**	*i*	P	**Pn**	**02**	**17**	**59.8**	**-0.9**
CCHI				*i*	S	**Sn**	**02**	**18**	**18.9**	**-0.3**
CCHI					IAML		02	18	29.3	
	comp=N,9μm,0.4s									
CCHI	**Chillan**	**1.44**	**125**	*i*	P	**Pn**	**02**	**18**	**00.9**	**+0.1**
CCHI				*e*	S	**Sg**	**02**	**18**	**26.7**	**+4.8**
GO05	**Huala**	**1.52**	**60**	↑*iP*		**Pn**	**02**	**18**	**01.0**	**-0.9**
GO05				*i*	S	**Sn**	**02**	**18**	**20.3**	**-1.1**
GO05					IAML		02	18	28.0	
	comp=E,7μm,0.5s									
GO05	**Huala**	**1.52**	**60**			**Pn**	**02**	**18**	**01.1**	**-0.9**
GO05					Sn	**Sn**	**02**	**18**	**19.9**	**-1.4**
GO05	**Huala**	**1.52**	**60**	*i*	P	**Pb**	**02**	**18**	**03.1**	**-0.2**
CANA	**Caviahue**	**2.89**	**137**	*i*	P	**Pn**	**02**	**18**	**21.0**	**+0.1**
ROC1	**El Roble**	**3.49**	**37**			**Pn**	**02**	**18**	**27.8**	**-1.5**
ROC1					Sn	**Sn**	**02**	**19**	**07.6**	**-2.6**
ROC1	**El Roble**	**3.49**	**37**	*i*	P	**Pn**	**02**	**18**	**30.2**	**+0.9**
ROC1	**El Roble**	**3.49**	**37**	*i*	P	**Pn**	**02**	**18**	**29.8**	**+0.6**
ROC1				*i*	S	Sg	02	19	39.6	+12
PEL	**Peldehue**	**3.53**	**43**			**Pn**	**02**	**18**	**27.3**	**-2.3**
PEL					Sn	**Sn**	**02**	**19**	**09.4**	**-1.6**
PEL	**Peldehue**	**3.53**	**43**	*i*	P	**Pn**	**02**	**18**	**30.7**	**+1.1**
PEL				*e*	S	**Sb**	**02**	**19**	**18.1**	**-2.1**
GO06	**Curarrehue**	**4.13**	**157**			**Pn**	**02**	**18**	**36.7**	**-1.3**
GO06					Sn	**Sn**	**02**	**19**	**24.8**	**-1.2**
GO06	**Curarrehue**	**4.13**	**157**	*i*	P	**Pn**	**02**	**18**	**37.1**	**-0.9**
AAGR	**Agrelo**	**4.73**	**57**	*i*	P	**Pn**	**02**	**18**	**48.8**	**+2.6**
AAGR	**Agrelo**	**4.73**	**57**	*i*	P	**Pn**	**02**	**18**	**48.1**	**+2.0**
ARCO	**CERRO ARCO**	**4.81**	**54**	*i*	P	**Pn**	**02**	**18**	**49.3**	**+2.1**
ARCO					IAML		02	19	21.9	
	comp=Z,70nm,0.5s									
ARCO	**CERRO ARCO**	**4.81**	**54**	*i*	P	**Pn**	**02**	**18**	**49.2**	**+1.9**
ARCO					IAML		02	19	22.0	
	comp=Z,70nm,0.5s									
UTNM	**Universidad Te**	**4.83**	**55**	*i*	P	**Pn**	**02**	**18**	**49.9**	**+2.5**
ASAL	**Salagasta**	**5.03**	**52**	*i*	P	**Pn**	**02**	**18**	**52.3**	**+2.0**
ASAL	**Salagasta**	**5.03**	**52**	*i*	P	**Pn**	**02**	**18**	**51.9**	**+1.7**
CO02	**Combarbal**	**5.03**	**26**	*i*	P	**Pn**	**02**	**18**	**50.3**	**0.0**
CO02				*i*	S	**Sn**	**02**	**19**	**45.6**	**-2.6**
RTLS	**Leoncito**	**5.31**	**43**	↑*iP*		**Pn**	**02**	**18**	**56.4**	**+2.1**
RTLS					IAML		02	18	57.1	
	comp=Z,76nm,0.5s									
RTLS	**Leoncito**	**5.31**	**43**	*i*	P	**Pn**	**02**	**18**	**55.5**	**+1.1**
RTLS					IAML		02	18	57.0	
	comp=Z,76nm,0.5s									
PLCA	**Paso Flores**	**5.47**	**155**		Pn	**Pn**	**02**	**18**	**57.1**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=346,slow=11,SNR=23									
PLCA					Lg	Lg	02	20	19.8	
	comp=Z,1.0nm,0.3s,baz=253,slow=19,SNR=1.6									
PLCA					LR	LR	02	20	39.7	
	comp=Z,124nm,18.1s,baz=2.0,slow=35									
PLCA	**Paso Flores**	**5.47**	**155**			**Pn**	**02**	**18**	**54.6**	**-1.7**
PLCA	**Paso Flores**	**5.47**	**155**	*i*	P	**Pn**	**02**	**18**	**55.1**	**-1.2**
RTCV	**Cerro Valdivia**	**5.71**	**48**	*i*	P	**Pn**	**02**	**19**	**00.5**	**+1.0**
GO04	**Tololo Observa**	**6.05**	**23**			**Pn**	**02**	**19**	**03.5**	**-0.9**
GO04					Sn	**Sn**	**02**	**20**	**10.9**	**-2.5**
CFA	**Coronel Fontan**	**6.07**	**48**		Pn	**Pn**	**02**	**19**	**05.3**	**+0.7**
	comp=Z,7.1nm,0.3s,baz=218,slow=12,SNR=50									
CFA					Sn	**Sn**	**02**	**20**	**14.0**	**+0.4**
	comp=Z,6.3nm,0.3s,baz=228,slow=19,SNR=5.3									
ACAN	**Cantantal**	**6.32**	**58**	*i*	P	**Pn**	**02**	**19**	**09.2**	**+1.1**
ACAN	**Cantantal**	**6.32**	**58**	*i*	P	**Pn**	**02**	**19**	**09.2**	**+1.1**
AMOG	**MOGNA**	**6.41**	**43**	*i*	P	**Pn**	**02**	**19**	**10.3**	**+1.0**
AMOG	**MOGNA**	**6.41**	**43**	*i*	P	**Pn**	**02**	**19**	**09.3**	**0.0**
MRA	**San Martin**	**7.30**	**65**	↑*iP*		**Pn**	**02**	**19**	**19.3**	**-2.2**
AGUA	**GUANDACOL**	**7.58**	**36**	*i*	P	**Pn**	**02**	**19**	**24.1**	**-1.3**
APLL	**PUNTA DE LOS L**	**7.96**	**50**	*i*	P	**Pn**	**02**	**19**	**29.4**	**-1.1**
ACLC	**CERRO LA CRUZ**	**8.42**	**43**	*i*	P	**Pn**	**02**	**19**	**36.3**	**-0.7**
GO03	**Copiap**	**8.63**	**20**			**Pn**	**02**	**19**	**38.1**	**-1.7**
GO03					Sn	**Sn**	**02**	**21**	**13.7**	**-3.1**
TRQA	**Tornquist**	**9.53**	**107**			**Pn**	**02**	**19**	**51.2**	**-0.7**
GO02	**Mina Guanaco**	**11.12**	**19**		Pn	**Pn**	**02**	**20**	**10.4**	**-3.6**
PB11	**IPOC Station P**	**16.32**	**13**			**Pn**	**02**	**21**	**24.7**	**+0.6**
PB11					IAmb	IAmb	02	21	38.2	
	comp=Z,18nm,0.9s									
CPUP	**Villa Florida**	**16.76**	**60**		Pn	**P**	**02**	**21**	**33.4**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=240,slow=14,SNR=5.1									
CPUP					LR	LR	02	28	08.7	
	comp=Z,101nm,18.6s,baz=184,slow=38									
CPUP	**Villa Florida**	**16.76**	**60**	P		**Pn**	**02**	**21**	**28.6**	**-0.9**
MNMC	**Minye Minye**	**16.95**	**13**			**Pn**	**02**	**21**	**31.2**	**-1.0**
MNMC					IAmb	IAmb	02	21	48.7	
	comp=Z,12nm,0.9s									
LPAZ	**La Paz**	**20.00**	**15**	P		**Pn**	**02**	**22**	**11.3**	**+1.6**
	comp=Z,1.6nm,0.7s,baz=200,slow=2.7,SNR=6.2									
LPAZ	**La Paz**	**20.00**	**15**	P		**P**	**02**	**22**	**06.0**	**-2.0**
SIV	**San Ignacio**	**22.63**	**33**	P		**P**	**02**	**22**	**36.2**	**+0.5**
	comp=Z,6.9nm,0.9s,baz=223,slow=12,SNR=15									
BDFB	**Brasilia**	**30.36**	**55**	P		**P**	**02**	**23**	**47.0**	**+0.3**
	comp=Z,5.0nm,0.9s,baz=196,slow=3.9,SNR=3.0									
BDFB	**Brasilia**	**30.36**	**55**	IAmb		IAmb	02	23	53.4	
	comp=Z,8.1nm,1.0s									
VNA3	**Neumayer Olymp**	**48.19**	**157**	P		**P**	**02**	**26**	**16.0**	**+1.4**
VNA2	**Neumayer--Watz**	**48.86**	**156**	P		**P**	**02**	**26**	**20.6**	**+0.9**
	baz=278,slow=7.5									
SNAA	**Sanae**	**50.41**	**157**	P		**P**	**02**	**26**	**33.0**	**+1.4**
SNAA	**Sanae**	**50.41**	**157**	P		**P**	**02**	**26**	**30.1**	**-1.5**
QSPA	**South Pole Qui**	**54.46**	**180**	P		**P**	**02**	**27**	**03.0**	**+1.3**
	comp=Z,4.1nm,0.8s,baz=142,slow=2.2,SNR=9.5									
QSPA	**South Pole Qui**	**54.46**	**180**	P		**P**	**02**	**26**	**59.4**	**-2.4**
QSPA					IAmb	IAmb	02	27	04.6	
	comp=Z,6.1nm,1.1s									
TXAR	**Lajitas Array**	**70.71**	**332**	P		**P**	**02**	**28**	**53.0**	**+2.4**
	comp=Z,0.4nm,0.6s,baz=154,slow=7.8,SNR=6.1									
LIC	**Lamto**	**76.50**	**72**	*e*P		**P**	**02**	**29**	**25.7**	**+0.8**
	comp=Z,13nm,0.7s									
LIC	**Lamto**	**76.50**	**72**	P		**P**	**02**	**29**	**25.7**	**+0.8**
TIC	**Toumodi**	**76.77**	**72**	*e*P		**P**	**02**	**29**	**27.0**	**+0.6**
TIC	**Toumodi**	**76.77**	**72**	P		**P**	**02**	**29**	**27.0**	**+0.6**
KIC	**Kosan Boka**	**76.80**	**72**	*e*P		**P**	**02**	**29**	**27.4**	**+0.8**
	comp=Z,13nm,0.7s									
KIC	**Kosan Boka**	**76.80**	**72**	P		**P**	**02**	**29**	**27.4**	**+0.8**
DBIC	**Dimbokro**	**76.91**	**72**	P		**P**	**02**	**29**	**28.3**	**+1.1**
	comp=Z,4.6nm,0.7s,baz=217,slow=4.9,SNR=9.2									
DBIC	**Dimbokro**	**76.91**	**72**	P		**P**	**02**	**29**	**24.6**	**-2.6**
DBIC					IAmb	IAmb	02	29	29.5	
	comp=Z,6.3nm,0.9s									
BOSA	**Boshof**	**80.32**	**118**	P		**P**	**02**	**29**	**47.0**	**+1.0**
	comp=Z,4.0nm,0.9s,baz=183,slow=13,SNR=4.3									
BOSA	**Boshof**	**80.32**	**118**	P		**P**	**02**	**29**	**42.8**	**-3.3**
NVAR	**Mina Array Bea**	**84.66**	**326**	P		**P**	**02**	**30**	**11.5**	**+3.2**
	comp=Z,0.3nm,0.7s,baz=146,slow=5.0,SNR=3.0									
TORD	**Torodi Ar. Bea**	**85.97**	**71**	P		**P**	**02**	**30**	**15.6**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=243,slow=3.6,SNR=4.7									
BVAR	**Borovoye Array**	**149.42**	**44**	PKPbc		**PKiKP**	**02**	**37**	**24.4**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=325,slow=2.3,SNR=4.0									
ZALV	**Zalesovo Beam**	**156.39**	**33**	PKP		**PKPdf**	**02**	**37**	**29.8**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=338,slow=2.3,SNR=2.9									
ZALV				PKPab		**PKPab**	**02**	**37**	**59.1**	**+2.0**
	comp=Z,0.8nm,0.6s,baz=327,slow=4.0,SNR=2.9									
MKAR	**Makanchi Array**	**158.85**	**51**	PKP		**PKPdf**	**02**	**37**	**33.4**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=259,slow=1.0,SNR=3.0									
MKAR				PKPab		**PKPab**	**02**	**38**	**08.9**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=299,slow=3.0,SNR=3.7									
WMQ	**Urumqi**	**163.51**	**55**	*e*P		**PKPdf**	**02**	**37**	**35.6**	**-1.6**
HHC	**Hu-ho-hao-te**	**173.55**	**323**	*e*P		**PKPdf**	**02**	**37**	**40.8**	**-3.1**

IDC 18 02:38:46.9±1.9, 7°.49S×129°.81E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.5/40, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=138.6km s-min=30.6km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**13.13**	**161**	P		Pn	02	41	53.8	-1.0
	0.3nm,0.3s,baz=343,slow=13,SNR=8.7									
WRA						Sn	Sn	02	44	20.9 -0.9
	0.3nm,0.3s,baz=328,slow=22,SNR=6.0									
ASAR	**Alice Springs**	**16.55**	**167**	P		Pn	Pn	02	42	41.7 +1.0
	0.2nm,0.3s,baz=342,slow=9.2,SNR=11									
ASAR						Sn	Sn	02	45	42.1 -3.1
	0.1nm,0.3s,baz=350,slow=25,SNR=5.2									
MKAR	**Makanchi Array**	**68.53**	**327**	P		P	P	02	49	51.2 -0.1
	0.5nm,0.6s,baz=125,slow=7.2,SNR=4.3									
KURBB	**Kurchatov Arra**	**72.83**	**329**	P		P	P	02	50	17.6 +0.1
	0.5nm,0.6s,baz=122,slow=4.4,SNR=4.6									

IDC 18 03:11:45.8±1.5, 20°.85N×146°.91E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/41, mbtmp3.7/4, Error ellipse: s-maj=54.3km s-min=30.2km az=91.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**42.36**	**198**	P		P	03	19	41.8	-0.2
	0.4nm,0.6s,baz=17,slow=8.3,SNR=3.9									
ZALV	**Zalesovo Beam**	**57.04**	**321**	P		P	03	21	33.0	-0.4
	1.3nm,0.5s,baz=88,slow=7.0,SNR=4.5									
MKAR	**Makanchi Array**	**57.83**	**313**	P		P	03	21	39.5	+0.2
	0.4nm,0.5s,baz=90,slow=7.2,SNR=6.5									
YKA	**Yellowknife Ar**	**75.57**	**28**	P		P	03	23	32.1	0.0
	0.2nm,0.5s,baz=287,slow=5.1,SNR=4.2									

*IDC **18** 03:15:13.9±0.4, 11°.08S×166°.05E, h0km, mb4.5/24, mb1 4.7/28, mb1mx4.6/40, mbtmp4.6/28, ML4.9/2, MS4.4/25, Ms1 4.4/25, ms1mx4.3/33, Error ellipse: s-maj=15.3km s-min=12.8km az=121.0*
*BJI **18** 03:15:15.9±0.0, 10°.77S×166°.88E, h37km, mb4.9/43, mB5.3/36, Ms5.2/20, Ms7 4.8/18*
*NEIC **18** 03:15:15.4±1.2, 11°.12S±0°.07×165°.98E±0°.09, h13km±3km, mb4.9/98*
*MOS **18** 03:15:16.9±1.0, 11°.13S×165°.91E, h31km, mb5.0/21, Error ellipse: s-maj=9.3km s-min=8.5km az=12.7*
*ISCJB **18** 03:15:17.8±0.1, 11°.20S±0°.03×165°.94E±0°.03, h35km, mb5.0/84, MS4.5/30, Error ellipse: s-maj=4.1km s-min=3.8km az=145.8*
*GCMT **18** 03:15:20.4±0.1, 11°.05S±0°.01×165°.86E±0°.01, h21km, MW5.2/123, Moment Tensor Solution. s62,c88; s123,c208; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr-0.50±.20; Mθθ 1.92±.16; Mϕϕ-1.42±.16; Mrθ-2.21±.30; Mϕϕ-7.73±.15; Mϕr-0.21±.28; Best double couple: Mo8.21600×10^16 NP1:ϕs84.00000°, δ89.00000°, λ-164.00000°. NP2:ϕs354.00000°, δ74.00000°, λ-1.00000°. Principal axes: T 8.4440, Plg10.0000°, Azm218.0000°; N -0.4530, Plg74.0000°, Azm88.0000°; P -7.9870, Plg12.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 03:15:19.9±0.3, 11°.20S±0°.05×165°.93E±0°.05, h35km, n288, σ1°55/264, mb4.9/117, MS4.4/30, 10C-7D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
HNR	**Honiara**	**6.14**	**286**	P		**Pn**	**03**	**16**	**46.5**	**-1.7**
HNR							03	17	56.4	
HNR	**Honiara**	**6.14**	**286**	Pn		**Pn**	**03**	**16**	**48.5**	**+0.3**
	115nm,0.3s,baz=141,slow=3.2,SNR=22									
HNR						Sn	**Sn**	**03**	**17**	**56.9** **-0.3**
	baz=180,slow=20,SNR=2.4									
HNR					LR	LR	03	18	53.4	
	comp=Z,4μm,18.9s,baz=120,slow=35									
HNR	**Honiara**	**6.14**	**286**	*e*P		**Pn**	**03**	**16**	**48.0**	**-0.2**
HNR				*e*S		**Sn**	**03**	**17**	**57.0**	**-0.3**
HNR	**Honiara**	**6.14**	**286**			**Pn**	**03**	**16**	**46.5**	**-1.7**
HNR					Sn	**Sn**	**03**	**17**	**56.4**	**-0.8**
DZM	**Mont Dzumac**	**10.82**	**177**	*e*Pn		**Pn**	**03**	**17**	**53.6**	**+1.1**
	52nm,0.3s									
DZM				*e*Sn		**Sn**	**03**	**19**	**48.3**	**-4.2**
	9.1nm,0.3s									
DZM				*e*LR		LR	03	20	27.3	
	comp=Z,6μm,24.9s									
DZM	**Mont Dzumac**	**10.82**	**177**	Pn		**Pn**	**03**	**17**	**53.6**	**+1.1**
	9.5nm,0.3s,baz=15,slow=19,SNR=57									
DZM						Sn	**Sn**	**03**	**19**	**51.5** **-1.0**
	1.3nm,0.3s,baz=294,slow=20,SNR=2.6									
DZM	**Mont Dzumac**	**10.82**	**177**			**Pn**	**03**	**17**	**51.0**	**-1.5**
DZM						Sn	**Sn**	**03**	**19**	**53.3** **+0.8**
MSVF	**Nonsavu**	**13.41**	**120**	P		**Pn**	**03**	**18**	**26.9**	**-1.1**
MSVF	**Nonsavu**	**13.41**	**120**	Pn		**Pn**	**03**	**18**	**26.9**	**-1.1**
TARA	**Tarawa**	**14.28**	**30**			Pn	03	18	35.1	-4.7
KRVT	**Keravat (AS076**	**15.38**	**295**	Pn		**Pn**	**03**	**18**	**54.8**	**+0.3**
	5.0nm,0.3s,baz=68,slow=19,SNR=7.9									
KRVT					LR	LR	03	25	07.0	
	comp=Z,3μm,18.2s,baz=130,slow=38									
PMG	**Port Moresby**	**18.55**	**274**	P		**P**	**03**	**19**	**31.5**	**-2.3**
PMG					pmax	pmax				
	comp=Z,28nm,1.1s									
PMG	**Port Moresby**	**18.55**	**274**	P		**P**	**03**	**19**	**34.9**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=86,slow=13,SNR=2.6									
PMG					LR	LR	03	25	50.5	
	comp=Z,714nm,20.6s,baz=100,slow=34									
PMG	**Port Moresby**	**18.55**	**274**	P		**P**	**03**	**19**	**31.5**	**-2.3**
PATS	**Pohnpei**	**19.45**	**337**	P		**P**	**03**	**19**	**45.3**	**+1.6**
	baz=20,SNR=6.0									
PATS	**Pohnpei**	**19.45**	**337**	P		**P**	**03**	**19**	**41.0**	**-2.8**
EIDS	**Eidsvold**	**19.90**	**223**	P		**Pn**	**03**	**19**	**51.5**	**+1.1**
	baz=20,SNR=13									
EIDS	**Eidsvold**	**19.90**	**223**	P		**P**	**03**	**19**	**48.0**	**-0.6**
EIDS					IAmb	IAmb	03	19	55.8	
	comp=Z,62nm,1.1s									
MANU	**Manus Island**	**20.54**	**295**	P		**P**	**03**	**19**	**54.6**	**-1.1**
MANU					IAmb	IAmb	03	20	04.8	
	comp=Z,69nm,0.8s									
CTA	**Charters Tower**	**20.88**	**243**	P		**P**	**03**	**20**	**01.1**	**+1.8**
	comp=Z,16nm,0.7s,baz=72,slow=12,SNR=13									
CTA					LR	LR	03	27	34.3	
	comp=Z,1μm,19.3s,baz=64,slow=35									
LHI	**Lord Howe Isla**	**21.19**	**196**	P		**P**	**03**	**20**	**05.6**	**+3.1**
	baz=21,SNR=4.0									
AFI	**Afiamalu**	**21.93**	**99**	LR		LR	03	26	33.1	
	comp=Z,2μm,20.7s,baz=272,slow=31									
MTSU	**Mount Surprise**	**22.00**	**249**	P		**P**	**03**	**20**	**13.5**	**+2.1**
	baz=22,SNR=16									
RMQ	**Roma**	**22.21**	**224**	P		**P**	**03**	**20**	**15.4**	**+2.0**
	baz=22,SNR=50									
COEN	**Coen**	**22.37**	**261**	P		**P**	**03**	**20**	**14.9**	**-0.4**
	baz=22,SNR=5.5									
COEN	**Coen**	**22.37**	**261**	P		**P**	**03**	**20**	**14.7**	**-0.7**
ARMA	**Armidale**	**23.28**	**213**	P		**P**	**03**	**20**	**26.7**	**+1.9**
	baz=24,SNR=26									
ARMA	**Armidale**	**23.28**	**213**	P		**P**	**03**	**20**	**23.9**	**-0.9**
RAO	**Raoul Island**	**23.45**	**142**	LR		LR	03	27	55.6	
	comp=Z,1μm,19.3s,baz=332,slow=32									
OUZ	**Omahuta**	**24.91**	**165**	P		**P**	**03**	**20**	**38.7**	**-1.0**
OUZ					IAmb	IAmb	03	20	56.3	
	comp=Z,24nm,1.0s									
QLP	**Quilpie**	**25.53**	**230**	P		**P**	**03**	**20**	**46.9**	**+1.4**
	baz=26,SNR=7.6									
MGCD	**Mangrove Creek**	**25.78**	**210**	P		**P**	**03**	**20**	**49.8**	**+2.1**
	baz=26,SNR=4.5									
QIS	**Mount Isa**	**26.93**	**247**	P		**P**	**03**	**20**	**58.0**	**-0.3**
	baz=27,SNR=5.0									
CMSA	**Cobar Meteorol**	**27.56**	**220**	P		**P**	**03**	**21**	**04.8**	**+1.1**
	baz=28,SNR=29									
YNG	**Young**	**28.01**	**212**	P		**P**	**03**	**21**	**09.5**	**+1.7**
	baz=28,SNR=8.0									
CNB	**Canberra Magne**	**28.33**	**209**	P		**P**	**03**	**21**	**12.5**	**+1.8**
	baz=28,SNR=14									
HIZ	**Hauiti**	**28.34**	**165**	P		**P**	**03**	**21**	**10.4**	**-0.2**
HIZ					IAmb	IAmb	03	21	25.2	
	comp=Z,32nm,1.0s									
SMPI	**Sarmi**	**28.51**	**287**	P		**P**	**03**	**21**	**12.9**	**+0.5**
	comp=Z,72nm,1.4s									
SMPI					pP	**pP**	**03**	**21**	**20.8**	**-0.8**
	com

FORT Forrest 40.10 235 P **P** **03 22 52.6 +0.3**
FORT IAmb IAmb 03 23 01.1
comp=Z,24nm,0.8s
SANI Sanana 40.65 280 P **P** **03 22 57.2 +0.1**
comp=Z,37nm,1.8s
SOEI Soe 40.97 268 P **P** **03 23 00.5 +0.6**
comp=Z,42nm,1.0s
SOEI Soe 40.97 268 IAmb IAmb 03 23 09.4
comp=Z,31nm,1.0s
PPT Papeete 43.49 104 LR LR 03 36 53.1
comp=Z,555nm,21.6s,baz=276,slow=30
PPT2 Papeete2 43.49 104 *e*S **S** **03 29 52.7 +5.6**
comp=Z,235nm,26.2s
PPT2 *e*LQ LQ 03 33 38.5
comp=Z,3µm,28.0s
PPT2 *e*LR LR 03 35 23.5
comp=Z,916nm,22.5s,baz=277
LUWI Luwuk 44.01 280 P **P** **03 23 25.2 +0.7**
comp=Z,101nm,1.3s
TBI Tubuai 44.11 112 *e*S **S** **03 30 01.9 +6.0**
comp=Z,267nm,27.2s
TBI *e*LQ LQ 03 33 54.4
comp=Z,2µm,31.5s
TBI *e*LR LR 03 35 43.5
comp=Z,2µm,28.2s,baz=277
KCP Kidapawan 44.48 292 ⇓P **P** **03 23 29.7 +1.3**
APSI Ampana 45.13 280 P **P** **03 23 34.3 +0.8**
comp=Z,56nm,1.5s,comp=Z,919nm
PSA00 Pilbara Seismi 45.25 251 P **P** **03 23 34.1 -0.2**
PSA00 IAmb IAmb 03 23 47.4
comp=Z,14nm,0.8s
BKSI Bulukumba 45.66 273 P **P** **03 23 36.7 -1.0**
comp=Z,21nm,1.1s
BKSI pP **pP** **03 23 45.5 -1.4**
comp=Z,21nm,1.1s
BNSI Bone 45.85 275 P **P** **03 23 40.3 +1.1**
comp=Z,154nm,0.9s,comp=Z,1µm
BNSI pP **pP** **03 23 46.7 -1.7**
comp=Z,154nm,0.9s,comp=Z,1µm
KAPI Kappang 46.08 274 P **P** **03 23 39.9 -1.1**
KAPI pmax pmax
comp=Z,56nm,0.9s
KAPI Kappang 46.08 274 P **P** **03 23 39.9 -1.1**
SPSI Sidrap Palu 46.27 275 P **P** **03 23 42.2 -0.2**
comp=Z,47nm,0.8s
TTSI Tana Toraja 46.41 276 P **P** **03 23 44.6 +1.0**
comp=Z,42nm,1.1s
MEEK Meekatharra 47.04 244 P **P** **03 23 49.2 +0.8**
baz=47,SNR=33
MPSI Mapaga 47.15 281 P **P** **03 23 49.1 -0.2**
comp=Z,52nm,1.2s
PLAI Plampang 47.44 268 P **P** **03 23 51.3 -0.3**
comp=Z,88nm,1.1s,comp=Z,1µm
TWSI Taliwang, Sumb 48.32 268 P **P** **03 23 58.5 0.0**
comp=Z,74nm,0.9s,comp=Z,789nm
MORW Morawa 49.70 241 P **P** **03 24 10.1 +1.2**
baz=50,SNR=5.8
MORW Morawa 49.70 241 P **P** **03 24 07.9 -1.0**
IGBI Denpasar 50.02 268 P **P** **03 24 11.6 +0.2**
comp=Z,86nm,1.1s,comp=Z,3µm
JAGI Jajag, Banyuwa 51.03 268 P **P** **03 24 18.5 -0.7**
comp=Z,89nm,0.9s,comp=Z,962nm
TAOE Nuku Hiva Isla 53.10 93 *e*LR LR 03 39 48.5
comp=Z,323nm,24.3s
NGJI Ngawi 53.83 269 P **P** **03 24 40.4 +0.6**
comp=Z,48nm,1.2s
PCJI Pacitan 53.99 268 P **P** **03 24 41.8 +0.8**
comp=Z,194nm,1.1s,comp=Z,2µm
MJAR Matsushiro Arr 54.19 332 P **P** **03 24 40.0 -2.1**
comp=Z,3.1nm,0.7s,baz=169,slow=9.2,SNR=7.6
MAT Matsushiro 54.19 332 P P 03 24 39.7 -2.4
WOJI Wonogiri, Jawa 54.29 268 P **P** **03 24 43.8 +0.6**
comp=Z,34nm,1.0s
UGM Wanagama 54.67 268 P **P** **03 24 46.6 +0.6**
comp=Z,56nm,1.2s
SMRI Semarang 54.88 269 P **P** **03 24 48.7 +1.2**
comp=Z,113nm,1.1s
YOGI Yogyakarta 54.91 268 P **P** **03 24 48.3 +0.6**
comp=Z,79nm,1.0s
SBUM Sibu 55.10 281 P **P** **03 24 49.0 -0.1**
SBUM Sibu 55.10 281 P **P** **03 24 47.0 -2.1**
SBUM IAmb IAmb 03 24 51.2
comp=Z,8.2nm,1.1s
JNU Nakatsue 55.31 324 LR LR 03 44 45.0
comp=Z,253nm,21.3s,baz=118,slow=32
KPJI Karang Pucung 56.31 269 P **P** **03 24 58.4 +0.6**
comp=Z,58nm,1.0s
CMJI Cimerak 56.72 268 P **P** **03 25 00.5 -0.2**
comp=Z,57nm,0.8s
CISI Cisompet, Garu 57.38 268 P **P** **03 25 05.8 +0.4**
comp=Z,84nm,1.1s,comp=Z,3µm
LEM Lembang 57.68 269 P **P** **03 25 08.6 +0.9**
comp=Z,97nm,0.8s,baz=171,slow=4.1,SNR=8.2
CNJI Cibinong 58.09 268 P **P** **03 25 10.2 -0.1**
comp=Z,99nm,1.0s,comp=Z,17um
TPI Tanjungpandan 58.36 274 P **P** **03 25 13.2 +0.9**
comp=Z,42nm,1.1s,comp=Z,376nm
JKA Kamikawa-asahi 59.00 341 P **P** **03 25 15.4 -0.7**
ASAJ Asahikawa 59.00 341 P **P** **03 25 15.4 -0.7**
comp=Z,7.9nm,0.7s,baz=188,slow=11,SNR=4.2
ASAJ LR LR 03 44 44.0
comp=Z,512nm,20.6s,baz=165,slow=30
KSRS Korea Array 60.10 326 P **P** **03 25 22.8 -1.0**
comp=Z,1.9nm,0.8s,baz=131,slow=7.3,SNR=4.4
KSRS LR LR 03 49 59.3
comp=Z,262nm,18.9s,baz=138,slow=35
MDSI Maura Dua 61.44 271 P **P** **03 25 32.4 -1.1**
NJ2 Nanjing 62.25 315 *e*P **P** **03 25 40.8 +2.3**
NJ2 pmax pmax
comp=Z,14nm,0.5s
USA0B Ussuriysk Arra 63.16 333⇑ *e*P **P** **03 25 44.0 -0.4**
USRK Ussuriysk Ar. 63.16 333 P **P** **03 25 43.9 -0.4**
comp=Z,5.5nm,0.7s,baz=134,slow=5.6,SNR=10.0
USRK LR LR 03 52 09.8
comp=Z,168nm,19.5s,baz=130,slow=35
PETK Petropavlovsk- 64.44 355 P **P** **03 25 51.8 -0.7**
comp=Z,3.3nm,0.8s,baz=168,slow=7.4,SNR=3.1
MDJ Mudanjiang 64.57 332 P **P** **03 25 54.0 +0.4**
MDJ pmax pmax
comp=Z,14nm,1.1s
MDJ pmax pmax
comp=Z,430nm,8.2s
BKNI Bangkinang 65.46 276 P **P** **03 26 01.3 +1.2**
comp=Z,122nm,1.1s
CASY Casey 66.30 201 P **P** **03 26 03.8 -0.7**
CASY IAmb IAmb 03 26 06.2
comp=Z,15nm,1.0s
IPM Ipoh 66.42 280 P P 03 26 03.2 -3.0
SBA Scott Base 66.64 180 P **P** **03 26 04.6 -1.9**
SBA pmax pmax
comp=Z,17nm,1.1s
SBA Scott Base 66.64 180 P **P** **03 26 04.6 -1.9**
KLR Kul'dur 67.27 336⇓ *e*P **P** **03 26 10.7 -0.2**
KLR pmax pmax
comp=Z,7.0nm,1.0s
KLR Kul'dur 67.27 336 LR LR 03 49 45.8
comp=Z,212nm,21.9s,baz=144,slow=31
RPSI Rantau Prapat 68.04 278 P **P** **03 26 14.6 -1.9**
PSI Prapat 68.07 278 P **P** **03 26 14.6 -2.2**
PSI pmax pmax
comp=Z,21nm,1.1s
NONG Nongkai 68.44 295 P **P** **03 26 22.5 +3.6**
comp=Z,0.5nm,1.0s
GYA Guiyang 68.65 304⇓ *i*P **P** **03 26 22.6 +2.4**
GYA pP pP 03 26 32.9 +2.8
GYA sP pwP 03 26 36.9 +2.9
GYA PP **PP** **03 28 57.5 +5.3**
GYA S **S** **03 35 22.1 +1.0**
GYA pmax pmax
comp=Z,10.0nm,0.7s
GYA pmax pmax
comp=Z,100nm,5.2s
GYA LR LR
comp=Z,240nm,18.2s
GYA LR LR
comp=Z,220nm,18.2s
PBKT Sadao Pong 69.90 292 P **P** **03 26 32.1 +4.1**
comp=Z,9.1nm,1.2s
PBKT Sadao Pong 69.90 292 IAmb IAmb 03 26 31.7
comp=Z,14nm,1.0s
XAN Xi'an 70.36 312 P **P** **03 26 30.0 -0.5**
XAN pP pP 03 26 44.3 +3.9
XAN pmax pmax
comp=Z,13nm,0.9s
UTHA Uthaitani 70.98 291 P **P** **03 26 38.6 +4.0**
comp=Z,21µm,1.1s
KMI Kunming 71.35 301 P **P** **03 26 37.9 +0.9**
KMI pP sP 03 26 52.1 +1.5
KMI sP pwP 03 26 55.3 +4.6
KMI pmax pmax
comp=Z,21nm,1.5s
HHC Hu-ho-hao-te 72.06 320 *e*P **P** **03 26 41.0 +0.2**
HHC pmax pmax
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 72.34 294 *ce*P **P** **03 26 43.5 +0.8**
CMAR pmax pmax
comp=Z,10.0nm,1.0s
CMAR Chiang Mai Arr 72.34 294 P **P** **03 26 43.3 +0.6**
comp=Z,9.6nm,1.0s,baz=112,slow=4.2,SNR=14
CMAR LR LR 03 56 00.7
comp=Z,88nm,21.4s,baz=114,slow=34
CMMT Chiang Mai 72.44 294 P **P** **03 26 46.8 +3.4**
comp=Z,9.0nm,1.3s
CHTO Chiang Mai 72.45 294 P **P** **03 26 41.6 -1.8**
CHTO pmax pmax
comp=Z,18nm,1.2s
CHTO Chiang Mai 72.45 294 P **P** **03 26 41.6 -1.8**
CHTO IAmb IAmb 03 26 47.6
comp=Z,18nm,1.1s
ZEA Zeya 72.55 337 *e*P **P** **03 26 43.1 -0.2**
ZEA pmax pmax
comp=Z,28nm,1.2s
HIA Hailar 72.59 330⇑ *e*P **P** **03 26 42.9 -0.7**
HIA pmax pmax
comp=Z,168nm,2.8s
CD2 Chengdu 72.84 307 *e*P **P** **03 26 45.0 -0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LZH Lanzhou 74.99 312 *e*P **P** **03 26 58.9 +0.7**
LZH pP pP 03 27 04.9 -3.3
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,170nm,4.1s
LZH LR LR
comp=Z,390nm,13.6s
LZH LR LR
comp=Z,410nm,12.5s
LZH LR LR
comp=Z,500nm,13.8s
YAK Yakutsk 78.30 343⇑ *e*P **P** **03 27 14.6 -1.4**
ULN Ulaanbaatar 78.53 324 *ce*P **P** **03 27 17.4 -0.5**
ULN pmax pmax
comp=Z,7.0nm,0.9s
ULN Ulaanbaatar 78.53 324 P **P** **03 27 15.8 -2.1**
ULN IAmb IAmb 03 27 18.2
comp=Z,7.5nm,0.9s
QSPA South Pole Qui 78.80 180 P **P** **03 27 17.3 -1.8**
QSPA IAmb IAmb 03 27 34.0
comp=Z,25nm,1.1s
SONM Songino Array 78.90 324 P **P** **03 27 18.4 -1.4**
comp=Z,2.8nm,1.0s,baz=125,slow=5.0,SNR=9.9
SONM LR LR 04 01 20.1
comp=Z,214nm,18.8s,baz=62,slow=35
BILL Bilibino 79.03 0 *ce*P **P** **03 27 18.7 -1.3**
BILL 03 27 28.0
BILL *PP **PcP** **03 27 31.0 +2.6**
BILL *e*SP **pP** **03 27 33.0 +2.8**
BILL pmax pmax
comp=Z,14nm,1.3s
BILL MLR MLR
comp=Z,169nm,19.0s
BILL Bilibino 79.03 0 P **P** **03 27 18.6 -1.4**
BILL IAmb IAmb 03 27 20.6
comp=Z,9.0nm,0.9s
GTA Gaotai 79.29 314 *e*P **P** **03 27 22.5 +0.3**
GTA pP PcP 03 27 32.8 +2.4
GTA sP sP 03 27 36.9 +0.9
GTA pmax pmax
comp=Z,9.0nm,1.3s
GTA pmax pmax
comp=Z,91nm,7.6s
GTA LR LR
comp=Z,370nm,15.5s
GTA LR LR
comp=Z,350nm,16.8s
GTA LR LR
comp=Z,500nm,19.2s
SHL Shillong 80.75 298 IAmb IAmb 03 27 47.8
comp=Z,7.8nm,1.1s
ZAK Zakamensk 81.93 325 *e*P P 03 27 32.1 -4.0
ZAK pmax pmax
comp=Z,5.0nm,1.1s
RND Reindeer 82.03 19 IAmb IAmb 03 27 57.2
comp=Z,8.6nm,1.0s
MCK McKinley 82.23 19 P **P** **03 27 35.8 -1.5**
MCK pmax pmax
comp=Z,6.0nm,0.9s
MCK McKinley 82.23 19 P **P** **03 27 35.8 -1.5**
WRH Wood River Hil 83.02 18 P **P** **03 27 39.5 -1.8**
WRH IAmb IAmb 03 27 48.0
comp=Z,6.2nm,0.9s
O02D Mt. Diablo Mer 83.27 47 P **P** **03 27 42.8 -0.5**
baz=249
HDA Harding Lake 83.33 19 P **P** **03 27 41.2 -1.7**
baz=226
HDA Harding Lake 83.33 19 IAmb IAmb 03 27 44.4
comp=Z,14nm,1.0s
COLA College 83.38 18⇑ *e*P **P** **03 27 42.9 -0.2**
COLA pmax pmax
comp=Z,9.0nm,0.8s
RIDG Independent Ri 83.56 20 IAmb IAmb 03 27 49.7
comp=Z,11nm,1.2s
K02D Willamette Mer 83.56 44 P **P** **03 27 44.5 -0.2**
baz=248
IL31 83.60 18 IAmb IAmb 03 27 46.7
comp=Z,5.1nm,1.0s
ILAR Eielson Array 83.60 18 P P 03 27 42.0 -2.3
comp=Z,2.2nm,0.7s,baz=238,slow=4.3,SNR=35
ILAR LR LR 04 03 04.8
comp=Z,112nm,18.4s,baz=242,slow=34
N02D Trinity Center 83.61 46 P **P** **03 27 44.0 -1.0**
baz=249
M02C Callahan 83.65 46 P **P** **03 27 44.3 -0.9**
baz=249
POKR Poker Plat Res 83.68 18 P **P** **03 27 44.3 -0.4**
baz=226
PKM Mcpherson Peak 83.75 53 P **P** **03 27 44.6 -1.3**
baz=252
DOT Dot Lake 83.76 20 IAmb IAmb 03 27 46.3
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 83.88 46 P **P** **03 27 46.0 -0.3**
comp=Z,3.6nm,0.9s,baz=270,slow=3.0,SNR=3.5
SCRK Sand Creek 84.00 20 P **P** **03 27 44.8 -1.8**
SCRK IAmb IAmb 03 27 52.8
comp=Z,8.9nm,1.1s
HUMO Hull Mountain 84.02 45 IAmb IAmb 03 27 49.5
comp=Z,6.5nm,1.1s
O03E Paynes Creek 84.02 47 P **P** **03 27 45.8 -1.3**
baz=250
AFDM Forest Hills D 84.17 49 P P 03 27 45.1 -2.7
AFDM IAmb IAmb 03 27 49.8
comp=Z,4.8nm,0.9s
L04D Klamath Falls 84.33 45 P **P** **03 27 48.1 -0.7**
baz=249
M04C Macdoel 84.50 46 P **P** **03 27 50.1 +0.5**
baz=250
MAW Mawson 84.64 202 P **P** **03 27 50.4 +0.8**
comp=Z,15nm,1.2s,baz=86,slow=8.4,SNR=5.3
MAW LR LR 04 01 08.9
comp=Z,211nm,20.1s,baz=71,slow=32
I04A Tendick Farm, 84.81 44 P **P** **03 27 49.8 -1.2**
baz=249
J04D Umpqua Nationa 84.82 44 P **P** **03 27 50.7 -0.5**
baz=249
BEKR Beckworth 84.92 48 IAmb IAmb 03 27 53.3
comp=Z,5.0nm,1.1s
ISA Isabella, Lake 85.03 52 P **P** **03 27 52.0 -0.3**
baz=252
MDPB Devils Postpil 85.16 50 IAmb IAmb 03 28 02.1
comp=Z,4.5nm,0.9s
EDW2 Edwards Air Fo 85.17 53 P **P** **03 27 53.0 0.0**
baz=253
BFSC Mount Baldy Ra 85.25 54 P **P** **03 27 52.2 -1.3**
baz=253
J05D Fort Rock, OR 85.44 44 P **P** **03 27 53.4 -0.8**
baz=250
EGAK Eagle 85.46 20 IAmb IAmb 03 28 11.6
comp=Z,11nm,0.9s
CWC Cottonwood Cre 85.56 52 P **P** **03 27 54.5 -0.6**
baz=253
LRMC Laurel Mtn Rad 85.59 53 P **P** **03 27 54.8 -0.4**
baz=253
TOLK Toolik Lake Re 85.60 15 P **P** **03 27 54.0 -0.4**
baz=224
MOD Modoc Plateau 85.62 46 IAmb IAmb 03 28 13.3
comp=Z,5.7nm,1.1s
D03D Eldon 85.72 40 P **P** **03 27 54.5 -0.8**
baz=248
I05D Terrebonne, OR 85.72 43 P **P** **03 27 55.0 -0.5**
baz=250
PINE Pine Mountain 85.81 44 IAmb IAmb 03 27 59.0
comp=Z,5.1nm,0.8s
MONP2 Monument Peak 85.86 55 P **P** **03 27 55.9 -0.8**
baz=254
MPMC Manual Prospec 85.91 52 P **P** **03 27 56.0 -0.8**
baz=253
NVAR Mina Array Bea 85.99 50 P **P** **03 27 56.1 -1.1**
comp=Z,3.4nm,1.0s,baz=236,slow=7.7,SNR=14
NVAR LR LR 03 57 12.8
comp=Z,217nm,21.9s,baz=259,slow=29
PFO Pinyon Flats O 86.03 55 P **P** **03 27 57.1 -0.3**
baz=254
PFO Pinyon Flats O 86.03 55⇓ *e*P **P** **03 27 56.4 -1.0**
PFO pmax pmax
comp=Z,3.0nm,0.9s
PFO Pinyon Flats O 86.03 55 P **P** **03 27 57.3 -0.1**
comp=Z,1.4nm,0.7s,baz=314,slow=1.9,SNR=5.1
PFO Pinyon Flats O 86.03 55 IAmb IAmb 03 27 58.9
comp=Z,1.9nm,0.8s
GSC Goldstone, Bar 86.22 53 P **P** **03 27 58.6 +0.3**
baz=254
TIXI Tiksi 86.28 349⇑ *e*P **P** **03 27 55.7 -1.9**
TIXI pmax pmax
comp=Z,9.0nm,1.7s
TIXI Tiksi 86.28 349 P **P** **03 27 56.4 -1.2**
KVN Kaiserville 86.33 49 P P 03 27 55.6 -3.2
KVN pmax pmax
comp=Z,4.0nm,1.0s
KVN Kaiserville 86.33 49 P P 03 27 55.6 -3.2
HEC Hector,Ludlow 86.46 54 P **P** **03 27 59.1 -0.4**
baz=254
BELC Belle Mtn. Jos 86.50 55 P **P** **03 27 59.2 -0.5**
baz=254
FURC Furnace Creek, 86.51 52 P **P** **03 27 59.5 0.0**
baz=253
TUQ Turquoise Moun 86.95 53 P **P** **03 28 01.3 -0.6**
baz=254
GMRC Granite Mounta 86.98 54 P **P** **03 28 01.1 -1.0**
baz=254
TPNV Topopah Spring 87.12 52 P **P** **03 28 02.3 -0.5**
baz=254
IRM Iron Mountain 87.23 55 P **P** **03 28 02.8 -0.4**
baz=254
EPYK Eagle Plains 87.89 20 P **P** **03 28 05.9 +0.3**
baz=236
R11A Troy Canyon, C 88.01 50 P **P** **03 28 06.9 -0.1**
baz=254
214A Organ Pipe Nat 88.56 57 P **P** **03 28 09.9 +0.4**
baz=256
214A Organ Pipe Nat 88.56 57 IAmb IAmb 03 28 13.6
comp=Z,4.5nm,0.9s
LPIG La Paz 88.91 65 LR LR 04 01 08.6
comp=Z,103nm,18.1s,baz=248,slow=31
ELK Elko 88.92 48 P **P** **03 28 11.2 -0.1**
comp=Z,0.9nm,0.9s,baz=268,slow=6.3,SNR=3.9
WMQ Urumqi 89.33 315 *e*P **P** **03 28 12.8 -0.1**
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ pmax pmax
comp=Z,43nm,4.7s
WMQ LR LR
comp=Z,420nm,28.8s
WMQ LR LR
comp=Z,640nm,29.1s
WMQ LR LR
comp=Z,350nm,22.1s
U15A North Rim 90.06 53 IAmb IAmb 03 28 19.0
comp=Z,6.4nm,0.9s
TUC Tucson 90.32 57 P **P** **03 28 17.3 -0.6**
baz=257
DUG Dugway, Tooele 90.57 49 P **P** **03 28 18.2 -0.7**
baz=256
WUAZ Wupatki 90.57 54 P **P** **03 28 18.6 -0.4**
baz=257
WUAZ Wupatki 90.57 54 IAmb IAmb 03 28 38.8
comp=Z,5.3nm,1.1s
SYO Syowa Base 91.69 197⇓ *e*X P 03 28 35.8 +12
121A Cookes Peak, D 92.85 58 P **P** **03 28 30.3 +0.6**
baz=259
H17A Grant Village 93.15 46 P **P** **03 28 32.1 +1.2**
baz=257
PDAR Pinedale Array 93.53 47 P **P** **03 28 32.1 -0.6**
comp=Z,0.9nm,0.9s,baz=243,slow=1.7,SNR=6.1
PDAR LR LR 04 05 55.0
comp=Z,69nm,18.3s,baz=278,slow=33
MK31 Makanchi Array 93.76 317 P **P** **03 28 31.5 -1.9**
MK31 pmax pmax
comp=Z,7.0nm,1.2s
MK31 Makanchi Array 93.76 317 P **P** **03 28 31.4 -1.9**
MK31 IAmb IAmb 03 28 36.3
comp=Z,6.6nm,1.1s
MKAR Makanchi Array 93.76 317 P **P** **03 28 31.9 -1.5**
comp=Z,4.4nm,0.8s,baz=98,slow=6.3,SNR=34
ZAA0 Zalesovo Array 93.78 324 P **P** **03 28 31.0 -2.2**
ZAA0 IAmb IAmb 03 28 35.0
comp=Z,5.8nm,1.1s
ZALV Zalesovo Beam 93.78 324 *i* P **P** **03 28 31.6 -1.6**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 93.78 324 P **P** **03 28 31.0 -2.2**
comp=Z,1.8nm,0.6s,baz=104,slow=6.3,SNR=7.8
ANMO Albuquerque 94.39 55 LR LR 04 04 06.6
comp=Z,179nm,19.6s,baz=271,slow=31
S22A 4UR Ranch, Cre 94.60 53 P **P** **03 28 38.7 +0.9**
baz=259
MNTX Cornudas Mount 94.69 59 P **P** **03 28 37.5 -0.5**
baz=260
YKA Yellowknife Ar 95.03 27 P P 03 28 35.9 -2.9
comp=Z,0.5nm,0.5s,baz=257,slow=4.6,SNR=11
TXAR Lajitas Array 95.75 61 P **P** **03 28 42.1 -0.9**
comp=Z,0.1nm,0.5s,baz=225,slow=3.7,SNR=2.6
TXAR LR LR 04 06 10.1
comp=Z,74nm,18.8s,baz=0.0,slow=32
KURK Kurchatov 96.87 320⇓ *e*P **P** **03 28 49.9 +2.5**
KURK pmax pmax
comp=Z,4.0nm,1.2s
KSH Kashi 96.99 309 P **P** **03 28 52.3 +3.9**
KSH pP sP 03 29 04.0 +1.7
KSH S **S** **03 40 13.4 +4.5**
KSH sS sS 03 40 31.6 +5.9
VNA2 Neumayer--Watz 97.94 182 P **P** **03 28 50.9 -1.1**
baz=192,slow=2.6
BRVK Borovoye 102.25 322⇑ *e*P **Pdif** **03 29 10.2 -1.2**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
ARCES ARCESS Array B 116.53 345 PKP **PKPdf** **03 33 57.2 -2.5**
comp=Z,2.8nm,0.7s,baz=1.9,slow=3.6,SNR=6.9
OBN Obninsk 121.03 329⇑ *i*PKIKP **PKPdf** **03 34 09.5 +0.9**
OBN *e* 03 41 17.9
OBN *e*SSS SSS 03 56 37.9
OBN pmax pmax
comp=Z,7.0nm,0.5s
KIV Kislovodsk 121.46 315 *i* PKIKP **PKPdf** **03 34 08.5 -1.5**
KIV pmax pmax
comp=Z,13nm,1.1s
FINES FINESS Array B 121.98 339 PKP **PKPdf** **03 34 08.4 -1.9**
comp=Z,2.5nm,0.9s,baz=0.0,slow=0.1,SNR=3.6
BOSA Boshof 125.12 223 PKIKP **PKPdf** **03 34 16.6 -1.0**
BOSA Boshof 125.12 223 PKP **PKPdf** **03 34 17.0 -0.6**
comp=Z,2.3nm,0.8s,baz=115,slow=1.8,SNR=7.1
BOSA Boshof 125.12 223 **PKPdf** **03 34 16.6 -1.0**
NOA NORSAR Array B 126.90 345 PKP **PKPdf** **03 34 19.7 -0.2**
comp=Z,0.5nm,0.6s,baz=40,slow=2.7,SNR=2.7
BRTR Keskin Array B 129.20 313 PKP **PKPdf** **03 34 24.2 -0.8**
comp=Z,0.9nm,1.0s,baz=90,slow=0.3,SNR=3.5
CLL Collm 134.32 336 *e*PKIKP **PKPdf** **03 34 36.0 +1.9**
GERES GERESS Array B 135.92 334 PKP **PKPdf** **03 34 36.5 -0.8**
comp=Z,0.9nm,0.9s,baz=8.5,slow=2.7,SNR=6.0
BCLA Clavier 137.77 342 PKIKP **PKPdf** **03 34 39.3 -1.3**
KEST Kesra 147.65 323 PKPbc **PKPdf** **03 35 00.9 +2.3**
comp=Z,12nm,1.0s,baz=320,slow=3.4,SNR=8.7
KEST Kesra 147.65 323 **PKPdf** **03 34 59.7 +1.1**
POLO Lamas de Olo 149.44 351 *e*PKPbc **PKPdf** **03 35 04.3 +2.9**
MVO Moncorvo 149.52 349 *e*PKPbc **PKPdf** **03 35 05.3 +3.8**
PVRL Vila Real 149.53 351 *e*PKPbc **PKPbc** **03 35 06.5 +0.5**
PVIS Viseu 150.10 351 *e*PKPbc **PKPbc** **03 35 07.7 +0.3**
ESDC Sonseca Array 150.25 344 PKPbc **PKPdf** **03 35 06.8 +4.1**
comp=Z,1.4nm,0.8s,baz=17,slow=2.3,SNR=8.4
PTOM Tomar 151.25 351 *e*PKPbc **PKPbc** **03 35 10.4 +0.3**
PMRV Marv??o 151.27 349 *e*PKPbc **PKPbc** **03 35 10.7 +0.5**

TORD **Torodi Ar. Bea** **164.46 279** PKP **PKPdf** **03 35 20.0 -1.0**
comp=Z,1.9nm,0.9s,baz=52,slow=0.9,SNR=7.3
TORD PKPab **PKPab** **03 36 15.2 -0.6**
comp=Z,3.1nm,1.0s,baz=88,slow=4.2,SNR=7.1

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*MEX **18** 03:25:50.7±0.4, 13°.85N×92°.79W, h5km, MD3.9*
*IDC **18** 03:25:52.0±4.2, 14°.29N×92°.68W, h0km, mb3.6/3, mb1 3.9/7, mb1mx3.6/47, mbtmp3.5/7, ML3.3/4, MS2.6/1, Ms1 2.6/1, ms1mx2.3/32, Error ellipse: s-maj=81.8km s-min=27.4km az=7.0*
ISC 18 03:25:52.1±1.6, 14°.1N±0°.1×92°.77W±0°.07, h10km, n11, σ1$01/14, mb3.5/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THIG		**0.95**	**31**	*eP*		**Pb**	**03 26 10.3**	**-0.4**
THIG				*i* S		**Sb**	**03 26 24.2**	**+0.9**
PCIG		**1.67**	**345**	*e*P		**Pn**	**03 26 20.1**	**-1.3**
APG	**El Apazote**	**2.41**	**67**	Pn		**Pn**	**03 26 30.9**	**-0.9**
	3.3nm,0.3s,baz=255,slow=4.7,SNR=41							
APG				LR		LR	03 27 44.2	
	comp=Z,135nm,21.8s,baz=310,slow=50							
TGIG		**2.70**	**353**	*eP*		**Pn**	**03 26 35.2**	**-0.4**
CMIG	**Matias Romero**	**3.62**	**326**	Pn		**Pn**	**03 26 46.9**	**-1.3**
	1.4nm,0.3s,baz=139,slow=14,SNR=12							
CMIG				Sn		**Sn**	**03 27 30.9**	**-0.1**
	3.0nm,0.3s,baz=205,slow=21,SNR=6.9							
CMIG	**Matias Romero**	**3.62**	**326**	*e*P		**Pn**	**03 26 47.5**	**-0.7**
TEIG	**Tepich**	**7.47**	**34**	Pn		**Pn**	**03 27 40.3**	**-0.8**
	2.1nm,0.3s,baz=233,slow=20,SNR=11							
TEIG				Sn		**Sn**	**03 29 06.1**	**+0.2**
	0.2nm,0.3s,baz=319,slow=20,SNR=2.4							
TXAR	**Lajitas Array**	**18.22**	**328**	P		**P**	**03 30 06.1**	**+0.5**
	0.0nm,0.3s,baz=161,slow=12,SNR=3.2							
NVAR	**Mina Array Bea**	**33.14**	**322**	P		**P**	**03 32 30.0**	**+1.1**
	0.4nm,0.6s,baz=134,slow=9.1,SNR=3.6							
YKA	**Yellowknife Ar**	**50.77**	**347**	P		**P**	**03 34 50.8**	**-1.4**
	2.1nm,0.8s,baz=151,slow=7.4,SNR=28							
ILAR	**Eielson Array**	**62.47**	**337**	P		**P**	**03 36 16.6**	**+1.2**
	0.2nm,0.6s,baz=114,slow=6.2,SNR=4.1							

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*IDC **18** 03:39:48.9±0.9, 45°.49N×147°.19E, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.6/44, mbtmp3.6/9, ML3.5/1, MS4.1/4, Ms1 4.1/4, ms1mx3.3/41, Error ellipse: s-maj=47.9km s-min=17.4km az=131.0*
*SKHL **18** 03:39:49.9±0.4, 45°.06N×148°.80E, h35km±4km, mb4.0/3*
*ISCJB **18** 03:39:52.7±1.0, 45°.59N±0°.08×147°.26E±0°.07, h36km±12km, mb3.5/8, MS4.1/4, Error ellipse: s-maj=13.0km s-min=8.2km az=1.2*
*MOS **18** 03:39:52.2±1.7, 45°.59N×147°.33E, h33km, mb4.2/1, Error ellipse: s-maj=22.3km s-min=11.8km az=73.0*
ISC 18 03:39:53.2±1.6, 45°.59N±0°.06×147°.34E±0°.06, h25km±12km, n29, σ1$51/27, mb3.6/8, MS4.1/4, 1C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**0.52**	**134**	*d* iPN		**Pb**	**03 40 02.4**	**-1.3**
KUR				*i* S		**Sn**	**03 40 13.4**	**+0.4**
KUR				pmax	pmax			
	comp=Z,198μm,0.3s							
KUR				pmax	pmax			
	comp=N,112nm,0.2s							
KUR				pmax	pmax			
	comp=E,72nm,0.2s							
KUR				smax	smax			
	comp=N,1μm,0.3s							
KUR				smax	smax			
	comp=E,737nm,0.4s							
KUR	**Kuril'sk**	**0.52**	**134**	*i* P		**Pb**	**03 40 02.6**	**-1.1**
KUR				AMB	AMB		03 40 02.8	
	comp=E,40nm,0.4s							
KUR				AMB	AMB		03 40 02.8	
	comp=E,170nm,0.4s							
KUR				*i* S		**Sn**	**03 40 12.4**	**-0.6**
KUR				A	A		03 40 14.7	
	comp=E,1μm,0.4s							
KUR				A	A		03 40 14.7	
	comp=E,730nm,0.4s							
SHO	**Shikotan**	**1.76**	**192**	*c* iPN		**Pn**	**03 40 22.0**	**-0.1**
SHO				*i* S		**Sb**	**03 40 49.2**	**+2.8**
SHO				pmax	pmax			
	comp=Z,267nm,0.4s							
SHO				pmax	pmax			
	comp=E,33nm,0.3s							
SHO				pmax	pmax			
	comp=N,139nm,0.5s							
SHO				smax	smax			
	comp=N,669nm,0.6s							
SHO				smax	smax			
	comp=E,436nm,0.5s							
SHO	**Shikotan**	**1.76**	**192**	*i* P		**Pn**	**03 40 20.1**	**-2.0**
SHO				AMB	AMB		03 40 22.0	
	comp=E,30nm,0.4s							
SHO				*i* S		**Sn**	**03 40 42.5**	**-1.1**
SHO				A	A		03 40 50.0	
	comp=E,670nm,0.6s							
SHO				A	A		03 40 50.0	
	comp=E,440nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**1.88**	**215**	*d* iPN		**Pn**	**03 40 23.9**	**+0.3**
YUK				*i* S		**Sb**	**03 40 52.4**	**+2.6**
YUK				pmax	pmax			
	comp=Z,311nm,0.3s							
YUK				pmax	pmax			
	comp=N,163nm,0.2s							
YUK				pmax	pmax			
	comp=E,148nm,0.2s							
YUK				smax	smax			
	comp=N,397nm,0.5s							
YUK				smax	smax			
	comp=E,457nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.88**	**215**	*i* P		**Pn**	**03 40 24.0**	**+0.3**
YUK				AMB	AMB		03 40 26.0	
	comp=E,30nm,0.3s							
YUK				*i* S		**Sb**	**03 40 52.6**	**+2.8**
YUK				A	A		03 40 53.0	
	comp=E,400nm,0.5s							
YUK				A	A		03 40 53.0	
	comp=E,460nm,0.5s							
NMR	**Nemuro--Hokkai**	**2.50**	**208**	*d* iPN		**Pn**	**03 40 32.1**	**-0.2**
NMR				S		**Sb**	**03 41 07.7**	**-0.1**
NMR	**Nemuro--Hokkai**	**2.50**	**208**	*i* P		**Pn**	**03 40 32.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**3.46**	**295**	*e*PN		**Pn**	**03 40 45.1**	**-0.3**
YSS				pmax	pmax			
	comp=Z,50nm,0.3s							
ASAJ	**Asahikawa**	**3.68**	**248**	Pn		**Pn**	**03 40 46.3**	**-2.2**
	comp=Z,3.0nm,0.3s,baz=53,slow=13,SNR=16							
ASAJ				Sn		**Sn**	**03 41 30.6**	**-0.5**
	comp=Z,2.4nm,0.3s,baz=66,slow=19,SNR=4.0							
H11N2	**WAKE ISLAND Hy**	**30.43**	**141**	T		T	04 17 06.2	
	baz=334,slow=75,SNR=12							
H11N1	**WAKE ISLAND Hy**	**30.45**	**142**	T		T	04 17 08.8	
	baz=334,slow=75,SNR=8.4							
H11N3	**WAKE ISLAND Hy**	**30.45**	**141**	T		T	04 17 10.4	
	baz=334,slow=75,SNR=10							
H11S1	**WAKE ISLAND Hy**	**31.43**	**143**	T		T	04 18 27.9	
	baz=335,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy**	**31.44**	**143**	T		T	04 18 24.9	
	baz=335,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**31.45**	**143**	T		T	04 18 25.8	
	baz=335,slow=76,SNR=13							
ILAR	**Eielson Array**	**39.93**	**38**	P		**P**	**03 47 24.2**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=283,slow=7.3,SNR=8.5							
INK	**Inuvik**	**44.75**	**31**	P		**P**	**03 48 03.6**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=317,slow=6.6,SNR=7.9							
RES	**Resolute Bay**	**53.17**	**17**	LR		LR	04 11 24.3	
	comp=Z,158nm,19.6s,baz=280,slow=36							
YKA	**Yellowknife Ar**	**54.20**	**35**	P		**P**	**03 49 16.0**	**-0.1**
YKA	**Yellowknife Ar**	**54.20**	**35**	P		**P**	**03 49 16.0**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=304,slow=7.1,SNR=9.2							
GEYT	**Alibeck**	**63.68**	**298**	LR		LR	04 20 54.5	
	comp=Z,181nm,19.6s,baz=100,slow=39							
WRA	**Warramunga Ar**	**66.28**	**193**	P		**P**	**03 50 36.9**	**-2.4**
	comp=Z,0.4nm,0.8s,baz=8.5,slow=6.9,SNR=5.1							
NVAR	**Mina Array Bea**	**66.50**	**59**	P		**P**	**03 50 42.2**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=302,slow=8.4,SNR=2.9							
PDAR	**Pinedale Array**	**68.62**	**50**	P		**P**	**03 50 55.7**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=284,slow=3.6,SNR=4.3							
ASAR	**Alice Springs**	**70.00**	**193**	P		**P**	**03 51 01.4**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=19,slow=9.0,SNR=4.0							
BRTR	**Keskin Array B**	**76.37**	**313**	LR		LR	04 29 24.1	
	comp=Z,73nm,18.1s,baz=50,slow=39							
TXAR	**Lajitas Array**	**81.52**	**57**	P		**P**	**03 52 10.9**	**+2.2**
	comp=Z,0.5nm,0.7s,baz=300,slow=4.7,SNR=7.0							
KEST	**Kesra**	**90.60**	**327**	LR		LR	04 39 38.5	
	comp=Z,82nm,18.1s,baz=338,slow=40							

IDC 18 03:43:10.7±1.1, 20°.57N×146°.85E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.6/35, mbtmp3.7/8, Error ellipse: s-maj=32.3km s-min=27.6km az=76.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**42.09**	**198**	P		P	03 51 04.5	-0.2
	0.6nm,0.8s,baz=17,slow=8.6,SNR=3.4							
SONM	**Songino Array**	**42.40**	**320**	P		P	03 51 08.6	+1.5
	0.3nm,0.4s,baz=111,slow=7.9,SNR=2.8							
ZALV	**Zalesovo Beam**	**57.21**	**322**	P		P	03 52 58.7	-0.9
	1.2nm,0.5s,baz=103,slow=8.3,SNR=6.0							
MKAR	**Makanchi Array**	**57.97**	**313**	P		P	03 53 05.4	+0.3
	0.5nm,0.7s,baz=89,slow=8.3,SNR=3.3							
KURBB	**Kurchatov Arra**	**60.67**	**317**	P		P	03 53 23.4	-0.3
	0.5nm,0.7s,baz=100,slow=7.9,SNR=4.4							
YKA	**Yellowknife Ar**	**75.83**	**28**	P		P	03 54 57.7	-0.9
	0.1nm,0.5s,baz=285,slow=5.6,SNR=3.0							
NVAR	**Mina Array Bea**	**81.14**	**52**	P		P	03 55 29.9	+1.3
	0.3nm,0.7s,baz=264,slow=5.3,SNR=3.0							
FINES	**FINESS Array B**	**85.64**	**336**	P		P	03 55 49.6	-1.4
	3.0nm,0.9s,baz=46,slow=6.4,SNR=3.4							

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*IDC **18** 03:47:47.7±3.1, 6°.53S×129°.14E, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.5/22, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=300.6km s-min=32.2km az=68.0*
*DJA **18** 03:48:01.7±0.4, 7°.5S×13°.0E±°, h227km±12km, M4.1/6, mb3.8/5, mB4.5/1, MLv4.3/6, Mw(mB)3.7/1*
*ISCJB **18** 03:48:02.6±0.8, 6°.85S±0°.06×129°.7E±0°.1, h200km, mb3.3/1, Error ellipse: s-maj=17.3km s-min=8.7km az=176.1*
ISC 18 03:48:03.7±1.0, 6°.91S±0°.07×129°.8E±0°.1, h200km, n9, σ3$27/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SAUI	**Saumlaki**	**1.85**	**125**	P		**Pn**	**03 48 42.0**	**+1.2**
BNDI	**Bandanaira**	**2.38**	**3**	P		**Pn**	**03 48 44.7**	**-1.6**
MSAI	**Masohi**	**3.64**	**347**	P		**Pn**	**03 49 00.1**	**-1.0**
FAKI	**Fak Fak**	**4.67**	**32**	P		**Pn**	**03 49 12.0**	**-2.0**
SOEI	**Soe**	**6.14**	**242**	P		**Pn**	**03 49 30.2**	**-2.7**
	24nm,0.9s,0.1nm							
RKPI	**Ransiki, Papua**	**6.93**	**40**	P		**Pn**	**03 49 41.7**	**-1.5**
WRA	**Warramunga Arr**	**13.69**	**162**	Pn		**P**	**03 51 10.4**	**-1.8**
	0.2nm,0.3s,baz=335,slow=13,SNR=8.5							
WRA				Sn		**S**	**03 53 36.6**	**-5.9**
	1.0nm,0.3s,baz=342,slow=23,SNR=9.7							
ASAR	**Alice Springs**	**17.13**	**167**	P		**Pn**	**03 51 55.6**	**+4.0**
	0.2nm,0.3s,baz=352,slow=12,SNR=7.9							
ASAR				S		**S**	**03 54 59.5**	**+1.2**
	0.2nm,0.3s,baz=348,slow=26,SNR=4.5							
MKAR	**Makanchi Array**	**68.03**	**327**	P		**P**	**03 58 44.9**	**+3.4**
	0.4nm,0.5s,baz=126,slow=7.3,SNR=4.5							

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*SNET **18** 03:48:20.8±1.0, 12°.09N×87°.84W, h11km±7km, ML3.6*
*UCR **18** 03:48:20.7±1.9, 12°.06N×87°.85W, h14km±7km, ML3.6, mb4.3(NEIC)*
*ISCJB **18** 03:48:22.6±0.4, 12°.12N±0°.04×87°.72W±0°.04, h62km±3km, mb4.1/10, Error ellipse: s-maj=8.5km s-min=3.1km az=40.6*
*NEIC **18** 03:48:24.2±1.0, 12°.19N±0°.05×87°.69W±0°.04, h58km±7km, mb4.3/58*
*IDC **18** 03:48:24.1±2.2, 12°.32N×87°.47W, h51km±21km, mb3.8/10, mb1 4.0/13, mb1mx3.8/32, mbtmp4.0/13, ML3.2/3, MS3.2/4, Ms1 3.2/4, ms1mx2.9/40, Error ellipse: s-maj=32.4km s-min=14.9km az=54.0*
ISC 18 03:48:23.9±1.1, 12°.14N±0°.05×87°.74W±0°.05, h55km±10km, n100, σ1$22/109, mb4.3/32, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CRIN	**San Cristobal**	**0.87**	**50**	*e*P		**Pn**	**03 48 39.5**	**-0.6**
CRIN				*e*S		**Sn**	**03 48 55.6**	**+3.6**
CRIN				IAML			03 48 58.4	
	comp=E,5μm,0.5s							
MOMN	**Momotombo**	**1.20**	**77**	*e*P		**Pn**	**03 48 43.2**	**-1.2**
JUCU	**Jucuarɲn**	**1.21**	**336**	*e*P		**Pn**	**03 48 43.5**	**-1.1**
JUCU				*e*S		**Sn**	**03 48 59.6**	**-0.5**
ALJI	**Alcalda de J**	**1.43**	**326**	*e*P		**Pn**	**03 48 45.6**	**-1.9**
ALJI				*e*S		**Sn**	**03 49 05.5**	**+0.3**
ALJI				IAML			03 49 07.0	
	comp=Z,514nm,0.2s							
MGAN	**Managua**	**1.46**	**90**	*e*P		**Pn**	**03 48 47.1**	**-0.8**
BRAN	**Las Pilas**	**1.47**	**67**	*e*P		**Pn**	**03 48 46.0**	**-2.1**
TECA	**Tecapa**	**1.54**	**331**	*e*P		**Pn**	**03 48 47.5**	**-1.6**
TECA	**Tecapa**	**1.54**	**331**	*e*P		**Pn**	**03 48 47.5**	**-1.6**
COEB	**Comit de Eme**	**1.55**	**330**	*e*P		**Pn**	**03 48 48.1**	**-1.2**
COEB				*e*S		**Sn**	**03 49 09.7**	**+1.3**
COEB				IAML			03 49 11.2	
	comp=Z,656nm,0.3s							
FAGO	**Alcalda de S**	**1.58**	**347**	*e*P		**Pn**	**03 48 48.9**	**-0.7**
FAGO				*e*S		**Sn**	**03 49 10.3**	**+1.2**
FAGO				IAML			03 49 14.7	
	comp=Z,429nm,0.5s							
ESTN	**Estel**	**1.64**	**54**	*e*P		**Pn**	**03 48 50.0**	**-0.4**
ESTN	**Estel**	**1.64**	**54**	Pn		**Pn**	**03 48 50.1**	**-0.4**
ESTN				Sn		**Sn**	**03 49 09.4**	**-1.1**
UESV	**Universidad de**	**1.80**	**326**	*e*P		**Pn**	**03 48 51.2**	**-1.4**
UESV				*e*S		**Sn**	**03 49 14.6**	**+0.2**
UESV				IAML			03 49 23.9	
	comp=Z,1μm,0.7s							
UESV	**Universidad de**	**1.80**	**326**	*e*P		**Pn**	**03 48 51.2**	**-1.4**
UESV				*e*S		**Sn**	**03 49 14.6**	**+0.2**
UESV				IAML			03 49 23.9	
	comp=Z,1μm,0.7s							
COEG	**Centro de Oper**	**1.84**	**323**	*e*P		**Pn**	**03 48 51.6**	**-1.6**
COEG				*e*S		**Sn**	**03 49 16.4**	**+0.9**
MATN	**Matagalpa**	**1.94**	**66**	*e*P		**Pn**	**03 48 54.2**	**-0.3**
MATN				*e*S		**Sn**	**03 49 21.3**	**+3.5**
PAVA	**Las Pavas**	**1.95**	**323**	*e*P		**Pn**	**03 48 53.7**	**-1.0**
PAVA				*e*S		**Sn**	**03 49 19.1**	**+1.0**
PAVA				IAML			03 49 22.6	
	comp=Z,540nm,0.4s							
PAVA	**Las Pavas**	**1.95**	**323**	*e*P		**Pn**	**03 48 53.7**	**-1.0**
PAVA				*e*S		**Sn**	**03 49 19.1**	**+1.0**
PAVA				IAML			03 49 22.6	
	comp=Z,540nm,0.4s							
TGUH	**Tegucigalpa,Un**	**1.96**	**13**	*e*P		**Pn**	**03 48 54.8**	**0.0**
TGUH	**Tegucigalpa,Un**	**1.96**	**13**	*i*P		**Pn**	**03 48 54.8**	**0.0**
TGUH	**Tegucigalpa,Un**	**1.96**	**13**			**Pn**	**03 48 54.6**	**-0.2**
TGUH				Sn		**Sn**	**03 49 17.7**	**-0.6**
LFRS	**El Faro**	**1.96**	**319**	*e*S		**Sn**	**03 49 19.4**	**+1.1**
VICT	**Victoria**	**2.01**	**334**	*e*P		**Pn**	**03 48 54.6**	**-0.9**
VICT				*e*S		**Sn**	**03 49 21.9**	**+2.4**
VICT	**Victoria**	**2.01**	**334**	*e*P		**Pn**	**03 48 54.6**	**-0.9**
VICT				*e*S		**Sn**	**03 49 21.9**	**+2.4**
LBRS	**Las Brisas**	**2.03**	**321**	*e*P		**Pn**	**03 48 55.0**	**-0.9**
SNET	**Serv Nac Est T**	**2.12**	**317**			**Pn**	**03 48 56.8**	**-0.1**
SNET				Sn		**Sn**	**03 49 22.8**	**+0.6**
CONN	**Concepcion**	**2.15**	**105**	*e*P		**Pn**	**03 48 56.3**	**-1.0**
BOQS	**Boqueron**	**2.18**	**317**	*e*P		**Pn**	**03 48 57.0**	**-1.0**
ACON	**Acoyapa**	**2.52**	**94**	*e*P		**Pn**	**03 49 01.7**	**-0.6**
ACON	**Acoyapa**	**2.52**	**94**			**Pn**	**03 49 02.1**	**-0.2**
BUEV	**Buena Vista**	**2.65**	**120**	*e*P		**Pn**	**03 49 04.5**	**+0.3**
CUI	**Cuipilapa**	**2.92**	**120**	*e*P		**Pn**	**03 49 07.5**	**-0.5**
PLVR	**Palo Verde**	**2.94**	**127**	*e*P		**Pn**	**03 49 07.1**	**-1.3**
JTS	**Las Juntas de**	**3.29**	**124**	P		**Pn**	**03 49 12.6**	**-0.5**
	comp=Z,3.2nm,0.3s,baz=14,slow=21,SNR=15							
JTS				S		**Sn**	**03 49 49.9**	**-1.1**
	comp=Z,8.6nm,0.3s,baz=349,slow=18,SNR=4.0							
JTS				LR		LR	03 50 43.8	
	comp=Z,209nm,20.8s,baz=346,slow=44							
JTS	**Las Juntas de**	**3.29**	**124**	*e*P		**Pn**	**03 49 12.8**	**-0.3**
JTS	**Las Juntas de**	**3.29**	**124**			**Pn**	**03 49 13.7**	**+0.6**
JTS						**Sn**	**03 49 51.2**	**+0.1**
ESPN	**Las Esperanzas**	**3.36**	**89**	*e*P		**Pn**	**03 49 18.1**	**+4.1**
ESPN	**Las Esperanzas**	**3.36**	**89**	Pn		**Pn**	**03 49 14.1**	**+0.2**
ARE1	**Arenal 1**	**3.40**	**119**	*e*P		**Pn**	**03 49 14.7**	**+0.2**
CEDE	**Laguna Cedeo**	**3.40**	**119**	*e*P		**Pn**	**03 49 14.9**	**+0.4**
APG	**El Apazote**	**3.89**	**317**	P		**Pn**	**03 49 22.2**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=73,slow=19,SNR=9.2							
APG				LR		LR	03 51 15.5	
	comp=Z,181nm,20.4s,baz=88,slow=43							
LCR2	**La Lucha 2**	**4.38**	**123**	*e*P		**Pn**	**03 49 29.2**	**+1.2**
CVTR	**Volcan Turrial**	**4.44**	**118**	*e*P		**Pn**	**03 49 29.6**	**+0.6**
TEIG	**Tepich**	**8.06**	**356**	Pn		**Pn**	**03 50 17.7**	**-0.6**
BCIP	**Isla Barro Col**	**8.31**	**110**	Pn		**Pn**	**03 50 21.2**	**-0.5**
CMIG	**Matias Romero**	**8.49**	**306**	P		**Pn**	**03 50 24.8**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=127,slow=10,SNR=5.2							
CMIG				LR		LR	03 54 09.0	
	comp=Z,200nm,19.5s,baz=92,slow=40							
833A	**Chaparral WMA,**	**19.44**	**328**	P		**P**	**03 52 46.3**	**+0.4**
435B	**Jarrell**	**20.67**	**335**	P		**P**	**03 52 59.2**	**0.0**
435B				IAmb		IAmb	03 53 04.5	
	comp=Z,8.8nm,0.8s							
LRAL	**Lakeview Retre**	**20.81**	**2**	P		**P**	**03 53 01.1**	**+0.3**
154A	**Montrose**	**20.82**	**11**	P		**P**	**03 53 00.9**	**+0.1**
JCT	**Junction City**	**21.40**	**330**	P		**P**	**03 53 07.0**	**-0.2**
GOGA	**Godfrey**	**21.53**	**10**	P		**P**	**03 53 08.3**	**-0.1**
GOGA				IAmb		IAmb	03 53 13.6	
	comp=Z,16nm,1.1s							
Y49A	**Blount Mountai**	**21.65**	**3**	P		**P**	**03 53 09.6**	**-0.2**
Y49A				IAmb		IAmb	03 53 12.9	
	comp=Z,7.6nm,0.7s							
Y52A	**Lilburn**	**21.88**	**8**	P		**P**	**03 53 13.4**	**+1.2**
Y52A				IAmb		IAmb	03 53 16.7	
	comp=Z,8.9nm,0.8s							
CBYP	**Canovanas**	**21.97**	**71**	P		**P**	**03 53 12.4**	**-0.9**
CBYP				IAmb		IAmb	03 53 24.0	
	comp=Z,12nm,0.9s							
TXAR	**Lajitas Array**	**22.64**	**321**	P		**P**	**03 53 21.3**	**+0.8**
	comp=Z,11nm,0.7s,baz=136,slow=10.0,SNR=122							
TXAR				PcP		**PcP**	**03 57 12.9**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=144,slow=5.2,SNR=3.8							
TX31	**Lajitas Ar. Si**	**22.64**	**321**	P		**P**	**03 53 20.4**	**-0.1**
TX31				IAmb		IAmb	03 53 22.8	
	comp=Z,11nm,0.8s							
TX32	**Lajitas Array**	**22.64**	**321**	P		**P**	**03 53 20.4**	**-0.1**
TX32				IAmb		IAmb	03 53 22.8	
	comp=Z,12nm,0.8s							
MIAR	**Mount Ida**	**22.93**	**348**	P		**P**	**03 53 22.9**	**-0.4**
ABTX	**Abilene, Hawle**	**23.13**	**334**	P		**P**	**03 53 25.1**	**-0.3**
ABTX				IAmb		IAmb	03 53 27.3	
	comp=Z,9.6nm,0.8s							
BIRD	**Birdtown, Kers**	**23.36**	**15**	P		**P**	**03 53 27.3**	**-0.3**
BIRD				IAmb		IAmb	03 53 29.5	
	comp=Z,8.9nm,0.7s							
KMSC	**Kings Mountain**	**23.62**	**13**	IAmb		IAmb	03 53 32.2	
	comp=Z,6.8nm,0.7s							
TKL	**Tuckaleechee C**	**23.69**	**8**	P		**P**	**03 53 31.0**	**+0.4**
	comp=Z,7.7nm,0.8s,baz=177,slow=12,SNR=8.0							
TKL	**Tuckaleechee C**	**23.69**	**8**	IAmb		IAmb	03 53 33.6	
	comp=Z,1.1nm,0.9s							
V51A	**Loudon**	**23.76**	**7**	IAmb		IAmb	03 53 35.6	
	comp=Z,7.6nm,0.8s							
V53A	**Saluda**	**23.84**	**10**	IAmb		IAmb	03 53 40.8	
	comp=Z,11nm,1.1s							
X34A	**Smith Ranch, M**	**24.17**	**339**	P		**P**	**03 53 34.8**	**-0.3**
FNO	**Franklin**	**24.62**	**341**	P		**P**	**03 53 39.2**	**0.0**
PBMO	**Poplar Bluff**	**24.65**	**355**	IAmb		IAmb	03 53 41.2	
	comp=Z,5.8nm,0.8s							
V58A	**Windy Hill, Pi**	**24.81**	**17**	IAmb		IAmb	03 53 43.5	
	comp=Z,18nm,1.1s							
AMTX	**Amarillo**	**25.94**	**333**	IAmb		IAmb	03 53 55.0	
	comp=Z,6.9nm,0.7s							
CCM	**Cathedral Cave**	**26.00**	**354**	P		**P**	**03 53 50.9**	**-0.7**
WCI	**Wyandotte Cave**	**26.01**	**3**	P		**P**	**03 53 51.4**	**-0.4**
WCI				IAmb		IAmb	03 53 53.6	
	comp=Z,7.8nm,0.8s							
121A	**Cookes Peak, D**	**27.39**	**321**	IAmb		IAmb	03 54 10.7	
	comp=Z,6.3nm,0.9s							
SAML	**Samuel**	**32.17**	**130**	P		**P**	**03 54 46.1**	**-0.6**
SAML				IAmb		IAmb	03 54 47.6	
	comp=Z,3.5nm,0.8s							
ECSD	**EROS Data Cent**	**32.40**	**348**	IAmb		IAmb	03 54 48.7	
	comp=Z,4.4nm,0.8s							
O20A	**White River Ci**	**33.24**	**331**	IAmb		IAmb	03 55 01.0	
	comp=Z,6.2nm,0.9s							
PDAR	**Pinedale Array**	**35.91**	**332**	P		**P**	**03 55 19.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=127,slow=11,SNR=9.0							
HWUT	**Hardware Ranch**	**35.99**	**329**	P		**P**	**03 55 19.9**	**+0.1**
HWUT				IAmb		IAmb	03 55 25.6	
	comp=Z,3.2nm,0.8s							
AHID	**Auburn Hatcher**	**36.63**	**331**	P		**P**	**03 55 25.2**	**0.0**
REDW	**Red Top Meadow**	**36.97**	**332**	P		**P**	**03 55 27.9**	**-0.3**
MOOW	**Moose Ponds**	**37.22**	**332**	IAmb		IAmb	03 55 34.7	
	comp=Z,5.3nm,0.9s							
NVAR	**Mina Array Bea**	**37.75**	**319**	P		**P**	**03 55 37.2**	**+2.4**
	comp=Z,0.5nm,0.7s,baz=137,slow=7.0,SNR=5.4

comp=N,652μm,0.5s
VLC AML AML
comp=N,648μm,0.5s
VLC AML AML
comp=E,854μm,0.4s
VLC END
NOVE Novellara 0.46 46 P **Pb** 04 00 54.5 +0.5
NOVE AML AML
comp=E,7145μm,0.3s
NOVE AML AML
comp=N,7505μm,0.3s
NOVE AML AML
comp=E,7140μm,0.3s
CARD Cardoso 0.48 160 P **Pb** 04 00 55.1 +0.7
CARD S **Sn** 04 01 03.7 +0.3
CARD AML AML
comp=E,1230μm,0.5s
CARD AML AML
comp=N,1052μm,0.8s
CARD AML AML
comp=N,1053μm,0.8s
BDI Bagni Di Lucca 0.49 149 P **Pb** 04 00 55.0 +0.5
BDI S **Sn** 04 01 03.8 +0.2
BDI AML AML
comp=N,757μm,0.4s
BDI AML AML
comp=E,816μm,0.5s
PLMA Palmaria, Port 0.52 214 P **Pb** 04 00 54.8 -0.2
PLMA AML AML
comp=E,760μm,0.4s
PLMA AML AML
comp=N,607μm,0.6s
MSSA Maissana 0.55 253 S **Sb** 04 01 03.0 -0.2
POPM Popiglio 0.57 140 P **Pb** 04 00 56.2 +0.4
POPM AML AML
comp=E,917μm,0.4s
POPM AML AML
comp=N,760μm,1.3s
MAIM Mastiano 0.59 163 P **Pn** 04 00 57.0 -0.3
MAIM AML AML
comp=E,533μm,0.8s
MAIM AML AML
comp=N,542μm,0.5s
BOB Bobbio (Coli) 0.64 297 P **Pb** 04 00 56.2 -0.9
CAVE Cavezzo 0.66 54 P **Pn** 04 00 58.4 +0.2
CAVE AML AML
comp=E,2995μm,0.4s
CAVE AML AML
comp=N,2780μm,0.4s
GORR Gorreto 0.70 281 P **Pb** 04 00 57.3 -0.8
MTCR Monte La Croce 0.70 130 P **Pn** 04 00 59.2 +0.3
MTCR AML AML
comp=E,570μm,0.4s
MTCR AML AML
comp=N,810μm,1.0s
GAZZ Gazzo Veronese 0.87 43 *e*Pg **Pn** 04 01 01.6 +0.5
SEI Scarperia 0.90 118 P **Pn** 04 01 03.8 +2.3
SEI AML AML
comp=N,1065μm,0.5s
SEI AML AML
comp=E,520μm,0.5s
GROG Isola di Gorgo 1.09 194 P **Pn** 04 01 04.4 +0.3
GROG AML AML
comp=N,255μm,0.6s
GROG AML AML
comp=E,296μm,0.4s
SALO Salr 1.15 10 P **Pn** 04 01 05.0 0.0
OSSC Osservatorio P 1.20 143 P **Pb** 04 01 07.3 +0.8
PCP Piancastagn 1.22 273 P **Pn** 04 01 06.1 +0.1
CSNT Castellina Chi 1.26 143 P **Pb** 04 01 07.8 +0.3
BALD Monte Baldo 1.27 18 *e*Pg **Pn** 04 01 06.5 -0.3
SFI Santa Sofia 1.28 116 P **Pb** 04 01 10.0 +2.0
ASQU Asqua 1.30 121 P **Pb** 04 01 09.1 +0.8
ROVR Rover Verones 1.30 26 P **Pn** 04 01 06.7 -0.5
TEOL Teolo 1.34 48 P **Pb** 04 01 08.7 -0.2
TEOL Teolo 1.34 48 *e*Pg **Pn** 04 01 07.5 -0.1
MARN Marana (Italy) 1.34 30 *e*Pg **Pn** 04 01 07.1 -0.5
FINB Finale Ligure 1.42 258 P **Pn** 04 01 08.4 -0.2
FROS Frosini 1.43 152 P **Pb** 04 01 10.2 -0.3
TRIF Trifonti 1.45 161 P **Pb** 04 01 10.8 +0.1
CRE Caprese Michel 1.50 125 P **Pb** 04 01 12.0 +0.4
SSP9 Sansepolcro 1.63 123 S **Pn** 04 01 09.0 -2.6
ATVO AVT- Monte Val 1.91 124 P **Pb** 04 01 17.5 -1.1
ATTE AVT- Monte Tez 1.99 129 P **Pb** 04 01 18.8 -1.3
ATFO Monte Foce - G 2.01 123 P **Pn** 04 01 18.4 +1.5
MURB Monte Urbino 2.04 126 AML AML
comp=E,180μm,0.3s
MURB AML AML
comp=N,238μm,0.3s
SSFR Montelago di S 2.10 119 P **Pb** 04 01 20.8 -1.2
TURF col de Turini 2.12 257 P **Pn** 04 01 18.9 +0.5
SBF Sospel 2.12 254 *e*Pn **Pn** 04 01 18.4 0.0
SNR=1.0
SBF *e*Sn **Sn** 04 01 44.6 +0.7
comp=N,34nm,0.3s,SNR=1.0
PGF Pioggiola 2.14 206 *e*Pn **Pn** 04 01 18.7 +0.1
SNR=1.0
PGF *e*Sn **Sn** 04 01 44.5 +0.1
comp=N,5.4nm,0.3s
PGF Pioggiola 2.14 206 P **Pn** 04 01 18.9 +0.3
ATCC AVT- Casa Cast 2.16 126 P **Pb** 04 01 21.1 -1.8
ISO Isola 2.32 264 P **Pn** 04 01 22.7 +1.6
MBDF Montbardon 2.50 277 *e*Pn **Pn** 04 01 24.8 +1.1
SNR=1.0
MBDF *e*Sn **Sn** 04 01 53.7 +0.3
comp=N,8.8nm,0.4s,SNR=1.0
CALF Calern 2.51 254 P **Pn** 04 01 24.1 +0.3
FETA Feichten 2.56 7 Pn **Pn** 04 01 25.8 +1.3
comp=N,0.8nm,0.2s
LPG La Plagne 2.68 293 *e*Pn **Pn** 04 01 27.1 +0.8
SNR=1.0
LPG *e*Sn **Sn** 04 01 58.2 0.0
comp=N,15nm,0.5s,SNR=1.0
LPL La Plagne 2.70 294 *e*Pn **Pn** 04 01 27.0 +0.5
SNR=1.0
LPL *e*Sn **Sn** 04 01 58.1 -0.4
comp=N,4.4nm,0.3s,SNR=1.0
FRF La Foret Royal 2.76 252 *e*Pn **Pn** 04 01 27.2 +0.1
SNR=1.0
FRF *e*Sn **Sn** 04 01 58.8 -0.8
comp=N,9.4nm,0.3s,SNR=1.0
ABTA Abfaltersbach 2.77 34 Pn **Pn** 04 01 28.7 +1.5
comp=N,0.4nm,0.2s
DAVA Damuels 2.82 355 Pn **Pn** 04 01 29.3 +1.3
comp=N,4.2nm,0.3s,SNR=13
SQTA Sankt Quirin 2.82 13 Pn **Pn** 04 01 29.5 +1.5
comp=N,2.4nm,0.2s,SNR=7.2
SQTA Sn **Sb** 04 02 15.1 +6.8
comp=N,33nm,0.4s
SKDS Skadanscina 2.87 67 *i* Pn **Pn** 04 01 27.8 -0.8
SKDS *e*Sn **Sn** 04 01 59.9 -2.5
MOTA Moosalm 2.92 11 Pn **Pn** 04 01 31.1 +1.6
comp=N,2.4nm,0.2s,SNR=7.0
MOTA Sn **Sb** 04 02 17.0 +5.6
comp=N,9.0nm,0.3s
LMR La Mourre 2.94 248 *e*Pn **Pn** 04 01 29.3 -0.2
SNR=1.0
LMR *e*Sn **Sn** 04 02 03.2 -0.8
comp=N,3.8nm,0.3s,SNR=1.0
WTTA Wattenberg 2.95 19 Pn **Pn** 04 01 30.9 +1.0
comp=N,5.1nm,0.2s,SNR=14
VOJS Vojsko 3.00 58 *i* Pn **Pn** 04 01 29.8 -0.7
VOJS *i* Sn **Sn** 04 02 04.5 -1.0
WATA Walderalm 3.00 17 Pn **Pn** 04 01 31.9 +1.3
comp=N,1.8nm,0.2s
WATA Sn **Sb** 04 02 18.5 +5.0
comp=N,13nm,0.4s
RETA Reutte 3.03 7 Pn **Pn** 04 01 29.4 -1.4
comp=N,0.5nm,0.2s
RETA *e*Sn **Sb** 04 02 18.4 +4.2
comp=N,13nm,0.5s
JAVS Javornik 3.04 61 *i* Pn **Pn** 04 01 30.3 -0.8
JAVS *i* Sn **Sn** 04 02 05.1 -1.6
BLAF les Blancs 3.07 262 Pn **Pn** 04 01 33.1 +1.7
KNDS Knezji Dol 3.11 69 *i* Pn **Pn** 04 01 31.4 -0.6
ORIF Oris-en-Rattie 3.15 280 *e*Pn **Pn** 04 01 33.1 +0.6
SNR=1.0
ORIF *e*Sn **Sn** 04 02 09.3 0.0
comp=N,7.1nm,0.4s
ORIF Oris-en-Rattie 3.15 280 Pn **Pn** 04 01 35.6 +3.0
MYKA Terra Mystica 3.21 47 *e*Pn **Pb** 04 01 43.3 +2.6
comp=N,0.8nm,0.2s
MYKA *e*Sn **Sb** 04 02 21.6 +2.3
comp=N,3.1nm,0.2s
GBAS Gorenja Brezov 3.30 62 *i* Pn **Pn** 04 01 35.1 +0.6

ARTF Artigues 3.33 256 Pn **Pn** 04 01 36.6 +1.6
KBA Koelnbreinsper 3.38 39 *e*Pn **Pb** 04 01 46.9 +3.1
comp=N,2.7nm,0.3s
SMRF Simiane la Rot 3.40 263 *e*Pn **Pn** 04 01 37.3 +1.4
SNR=1.0
SMRF *e*Sn **Sn** 04 02 15.2 -0.3
comp=N,3.4nm,0.4s
RUSF Rustrel 3.47 263 Pn **Pn** 04 01 38.5 +1.6
VISS Visnje 3.50 66 *i* Pn **Pn** 04 01 37.2 -0.1
VISS *i* Sn **Sn** 04 02 16.8 -1.2
CABF La Chapelle 3.62 308 *e*Pn **Pn** 04 01 38.7 -0.3
SNR=1.0
CABF *e*Sn **Sn** 04 02 20.5 -0.4
comp=N,8.6nm,0.6s,SNR=1.0
OBKA Obir 3.64 55 Pn **Pb** 04 01 49.0 +0.9
comp=N,0.8nm,0.2s
OBKA Sn **Sb** 04 02 31.9 +0.1
comp=N,18nm,0.6s
VIVF Saint-Julien-I 4.00 277 *e*Pn **Pn** 04 01 44.3 +0.1
SNR=1.0
VIVF Saint-Julien-I 4.00 277 *e*Pg Pb 04 01 59.6 +5.4
SOKA Soboth 4.01 55 *e*Pn **Pb** 04 01 53.8 -0.7
comp=N,1.1nm,0.3s
SOKA Sn **Sb** 04 02 39.2 -3.4
comp=N,2.0nm,0.3s
HINF Hinteralfeld 4.09 326 *e*Pn **Pn** 04 01 44.9 -0.5
SNR=1.0
HINF *e*Sn **Sn** 04 02 30.8 -1.6
comp=N,3.0nm,0.2s,SNR=1.0
MOA Molln 4.37 38 *e*Pn **Pn** 04 01 49.7 +0.4
comp=N,0.6nm,0.2s
MOA *e*Sn **Sb** 04 02 49.4 -3.4
comp=N,5.2nm,0.3s
CDF Champ du Feu 4.44 333 *e*Pn **Pn** 04 01 49.4 -0.8
SNR=1.0
CDF *e*Sn **Sn** 04 02 38.6 -2.5
comp=N,4.3nm,0.3s,SNR=1.0
HAU Haudompre 4.45 324 *e*Pn **Pn** 04 01 49.7 -0.6
SNR=1.0
HAU *e*Sn **Sn** 04 02 38.8 -2.4
comp=N,12nm,0.4s,SNR=1.0
LASF Ste Croix 4.61 267 *e*Pn **Pn** 04 01 52.7 +0.1
LASF *e*Sn **Sn** 04 02 44.3 -1.0
comp=N,0.9nm,0.3s,SNR=1.0
SMF Signal de Mont 5.00 298 *e*Pn **Pn** 04 01 57.7 -0.1
SNR=1.0
SMF *e*Sn **Sn** 04 02 53.0 -1.7
comp=N,0.8nm,0.3s,SNR=1.0
KHC Kasperske Hory 5.18 25 *e*PN **Pn** 04 01 59.2 -1.2
KHC *e*SN Sn 04 02 49.5 -10
KHC *ex* x 04 02 55.1
SFTF Sexfontaines 5.19 318 *e*Pn **Pn** 04 02 00.2 -0.2
baz=138
CONA Conrad Observa 5.20 46 *e*Pn **Pb** 04 02 10.5 -4.2
comp=N,0.2nm,0.2s
LOR Lormes 5.26 304 *e*Pn **Pn** 04 02 01.5 0.0
baz=122,SNR=1.0
LOR *e*Sn **Sn** 04 02 59.5 -1.8
comp=N,3.3nm,0.3s,baz=129,SNR=1.0
AVF Avril sur Loir 5.36 298 *e*Pn **Pn** 04 02 02.5 -0.3
SNR=1.0
AVF *e*Sn **Sn** 04 03 01.7 -2.0
comp=N,0.7nm,0.3s,SNR=1.0
SSF Saint Saulge 5.38 301 *e*Sn **Sn** 04 03 02.3 -1.9
comp=N,3.0nm,0.3s,SNR=1.0
BGF Bois d'Agland 5.60 294 *e*Pn **Pn** 04 02 06.6 +0.4
BGF *e*Sn **Sn** 04 03 07.8 -1.9
comp=N,1.6nm,0.3s
MTLF Montolieu 5.92 262 *e*Pn **Pn** 04 02 10.8 +0.3
BAIF Baives 6.93 326 *e*Pn **Pn** 04 02 23.8 -0.5
SNR=1.0
CLL Collm 7.08 14 *e*(Sn) **Sn** 04 03 43.0 -2.9
CLL *e*Sg Sb 04 04 29.0 +19
CLL Lm MLR 04 37 00.0
comp=N,200nm,18.3s
CLL Lm MLR 04 37 00.0
comp=E,200nm,18.9s

*STR **18** 04:00:51.6±0.5, 44°N±14°×1°0E±°, h33km, MLv2.8/6*
*LDG **18** 04:00:53.6±0.2, 44°50N×10°23E, h25km, Ml3.1/16, Error ellipse: s-maj=4.3km s-min=3.0km az=53.0*
*ISCJB **18** 04:00:54.2±0.3, 44°50N±0°03×10°25E±0°03, h32km±3km, Error ellipse: s-maj=4.5km s-min=2.8km az=163.3*
*ROM **18** 04:00:54.3±0.1, 44°521N±0°007×10°20E±0°01, h25km±1km, ML3.4/5, Error ellipse: s-maj=1.1km s-min=0.5km az=229.0*
*GEN **18** 04:00:55.2, 44°50N×10°18E, h23km±4km, Ml2.7*
ISC 18 04:00:53.5±0.9, **44°52N**±0°02×**10°21E**±0°02, **h29**km±5km, **n72**, σ2**s04**/106, **Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GRAM	**Graiana**	**0.10**	**257**	P		**Pb**	**04 00 58.7**	**-0.1**
GRAM				S		**Sb**	**04 01 02.5**	**+0.1**
GRAM	**Graiana**	**0.10**	**257**	P		**Pb**	**04 00 58.7**	**-0.1**
GRAM				S		**Sb**	**04 01 02.5**	**+0.1**
GRAM				AML	AML			
	comp=E,28700μm,0.2s							
GRAM				AML	AML			
	comp=N,27600μm,0.6s							
GRAM				AML	AML			
	comp=E,28700μm,0.2s							
GRAM				AML	AML			
	comp=N,27600μm,0.6s							
EQUI	**Equi**	**0.35**	**186**	P		**Pb**	**04 01 00.0**	**-1.6**
EQUI				S		**Sb**	**04 01 07.5**	**+0.5**
EQUI	**Equi**	**0.35**	**186**	P		**Pb**	**04 01 02.1**	**+0.5**
EQUI				S		**Sn**	**04 01 08.1**	**-0.7**
SARO	**Sassorosso**	**0.36**	**157**	P		**Pb**	**04 01 00.0**	**-1.8**
SARO				S		**Sb**	**04 01 08.1**	**+0.7**
SARO	**Sassorosso**	**0.36**	**157**	P		**Pn**	**04 01 03.0**	**+0.1**
CARD	**Cardoso**	**0.53**	**158**	P		**Pb**	**04 01 00.0**	**-4.3**
CARD				S		**Sn**	**04 01 13.7**	**+0.6**
CARD	**Cardoso**	**0.53**	**158**	P		**Pn**	**04 01 04.8**	**-0.3**
PLMA	**Palmaria, Port**	**0.53**	**209**	P		**Pn**	**04 01 05.1**	**0.0**
BDI	**Bagni Di Lucca**	**0.53**	**148**	P		**Pn**	**04 01 04.9**	**-0.4**
MSSA	**Maissana**	**0.53**	**248**	P		**Pn**	**04 01 05.3**	**0.0**
BOB	**Bobbio (Coli)**	**0.60**	**295**	P		**Pn**	**04 01 06.1**	**0.0**
BOB				S		**Sn**	**04 01 14.9**	**-0.1**
BOB	**Bobbio (Coli)**	**0.60**	**295**	S		**Pb**	**04 01 05.8**	**+0.3**
POPM	**Popiglio**	**0.61**	**140**	P		**Pn**	**04 01 06.6**	**+0.3**
POPM				S		**Sn**	**04 01 16.4**	**+1.2**
POPM	**Popiglio**	**0.61**	**140**	S		**Pn**	**04 01 06.4**	**+0.1**
MAIM	**Mastiano**	**0.63**	**161**	P		Pb	04 01 00.0	-6.1
MAIM				S		**Sn**	**04 01 15.6**	**-0.1**
MAIM	**Mastiano**	**0.63**	**161**	P		**Pb**	**04 01 06.3**	**+0.2**
MAIM				S		**Sn**	**04 01 16.3**	**+0.6**
GORR	**Gorreto**	**0.66**	**278**	P		**Pn**	**04 01 07.0**	**0.0**
GORR				S		**Sn**	**04 01 16.8**	**+0.3**
GORR	**Gorreto**	**0.66**	**278**	P		**Pn**	**04 01 07.2**	**+0.2**
FNVD	**Fontana Vidola**	**0.74**	**118**	P		**Pn**	**04 01 08.8**	**+0.7**
MTRZ	**Monterenzio**	**0.91**	**98**	P		**Pb**	**04 01 11.9**	**+1.1**
SALO	**Salr**	**1.13**	**11**	P		**Pb**	**04 01 15.1**	**+0.7**
SALO				S		**Sb**	**04 01 31.1**	**+2.4**
SALO				AML	AML			
	comp=E,1078μm,1.1s							
SALO				AML	AML			
	comp=N,2250μm,0.6s							
ROVR	**Rover Verones**	**1.29**	**28**	P		**Pb**	**04 01 17.1**	**-0.1**
ROVR				S		**Sb**	**04 01 34.0**	**+0.7**
ROVR				AML	AML			
	comp=E,1220μm,0.5s							
ROVR				AML	AML			
	comp=N,2925μm,0.3s							
ROVR				AML	AML			
	comp=E,498μm,0.5s							
ROVR				AML	AML			
	comp=E,1225μm,0.5s							
ROVR				AML	AML			
	comp=N,1169μm,0.3s							
ZOVE	**Zovencedo**	**1.31**	**44**	P		**Pb**	**04 01 17.1**	**-0.3**
ASQU	**Asqua**	**1.35**	**122**	P		**Pb**	**04 01 19.7**	**+1.6**
MABI	**Malga Bissina**	**1.56**	**8**	P		**Pb**	**04 01 20.5**	**-1.3**
MABI				AML	AML			
	comp=E,237μm,0.5s							
MABI				AML	AML			
	comp=N,158μm,0.5s							
CGRP	**Cima Grappa**	**1.77**	**39**	P		**Pb**	**04 01 24.2**	**-1.2**
SAOF	**Saorge**	**1.98**	**255**	P		Pn	04 01 17.3	-7.8
SAOF				Pg		**Pb**	**04 01 27.2**	**-1.7**
SAOF				Sg		**Sb**	**04 01 51.3**	**-1.7**
TURF	**col de Turini**	**2.09**	**256**	Pg		**Pb**	**04 01 29.1**	**-1.9**
TURF				Sg		**Sn**	**04 01 54.2**	**+2.3**

SBF Sospel 2.10 253 *e*P **Pn** 04 01 28.2 +1.4
SBF *e*Sn **Sn** 04 01 49.9 -2.0
comp=N,68nm,0.3s
KOSI Kohlern 2.12 22 P **Pn** 04 01 28.7 +1.6
MOSI Grossmontoni 2.12 6 P **Pb** 04 01 29.6 -1.7
ESCA l'Escarene 2.15 252 Pg **Pn** 04 01 29.2 +1.7
ESCA Sg **Sn** 04 01 54.5 +1.4
MON Monaco 2.15 250 Pg **Pn** 04 01 29.4 +1.9
PGF Pioggiola 2.15 205 *e*Pn **Pn** 04 01 26.5 -1.1
PGF *e*Sn **Sn** 04 01 51.2 -2.2
comp=N,12nm,0.3s
DAVOX Davos/Dischmat 2.28 354 P **Pb** 04 01 32.1 -2.0
ISO Isola 2.29 263 Pg **Pb** 04 01 32.3 -1.9
ISO Sg **Sb** 04 02 00.9 -1.2
EILF Villa Eilenroc 2.42 248 Pg **Pn** 04 01 32.1 +1.0
EILF Sg **Sn** 04 02 01.2 +1.4
MBDF Montbardon 2.46 276 *e*Pn **Pn** 04 01 30.7 -1.2
MBDF Montbardon 2.46 276 *e*Pg **Pb** 04 01 39.7 +2.5
MBDF *e*Sn **Sn** 04 01 58.6 -2.5
comp=N,14nm,0.3s
MBDF *e*Sg **Sb** 04 02 12.1 +5.0
comp=N,21nm,0.4s
CALF Calern 2.48 253 Pg **Pn** 04 01 34.1 +1.9
ROSI Rosskopf 2.56 19 P **Pn** 04 01 35.6 +2.4
PLONS Plons/SG 2.60 347 P **Pb** 04 01 37.3 -2.2
LPG La Plagne 2.64 293 *e*Sn **Sn** 04 02 03.0 -2.7
comp=N,12nm,0.3s
LPL La Plagne 2.66 293 *e*Sn **Sn** 04 02 03.5 -2.5
LPL *e*Sg **Sb** 04 02 18.3 +5.4
comp=N,23nm,0.5s
FRF La Foret Royal 2.74 251 *e*P **Pn** 04 01 37.0 +1.5
FRF *e*Sn **Sn** 04 02 05.2 -2.5
comp=N,25nm,0.3s
SKDS Skadanscina 2.89 68 *i* Pn **Pn** 04 01 37.6 0.0
SKDS *i* Sn **Sn** 04 02 10.2 -1.2
LMR La Mourre 2.92 247 *e*P **Pn** 04 01 39.3 +1.3
LMR *e*Sn **Sn** 04 02 09.5 -2.6
comp=N,22nm,0.2s
WTTA Wattenberg 2.92 19 P **Pn** 04 01 41.0 +2.7
VOJS Vojsko 3.01 58 *i* Pn **Pn** 04 01 39.7 +0.4
VOJS *i* Sn **Sn** 04 02 14.5 +0.2
JAVS Javornik 3.06 62 *i* Pn **Pn** 04 01 40.3 +0.3
JAVS *e*Sn **Sn** 04 02 14.9 -0.7
ORIF Oris-en-Rattie 3.11 279 *e*P **Pn** 04 01 44.4 +3.7
ORIF *e*Sn **Sn** 04 02 14.0 -3.0
comp=N,25nm,0.4s
KNDS Knezji Dol 3.13 70 *i* Pn **Pn** 04 01 41.0 +0.1
BSTF la Bastide-des 3.34 261 Pg **Pn** 04 01 47.1 +3.3
SMRF Simiane la Rot 3.37 262 *e*P **Pn** 04 01 46.9 +2.6
SMRF *e*Sn **Sn** 04 02 20.9 -2.4
comp=N,14nm,0.6s
GBRS Gornja Briga 3.42 71 *i* Pn **Pn** 04 01 46.0 +1.1
VISS Visnje 3.52 67 *i* Pn **Pn** 04 01 47.2 +0.9
CABF La Chapelle 3.57 307 *e*P **Pn** 04 01 49.1 +2.0
VIVF Saint-Julien-I 3.96 277 *e*P **Pn** 04 01 54.6 +2.2
VIVF *e*Sn **Sn** 04 02 34.8 -3.1
comp=N,3.0nm,0.3s
HINF Hinteralfeld 4.04 326 *e*P **Pn** 04 01 54.8 +1.3
HINF *e*Sn **Sn** 04 02 36.2 -3.6
comp=N,11nm,0.3s
CDF Champ du Feu 4.39 334 *e*Pn **Pn** 04 01 56.8 -1.5
CDF *e*Sn **Sn** 04 02 44.5 -4.0
comp=N,7.5nm,0.3s
HAU Haudompre 4.40 324 *e*Sn **Sn** 04 02 44.8 -3.8
comp=N,38nm,0.4s
SMF Signal de Mont 4.95 298 *e*P **Pn** 04 02 08.8 +2.9
SMF *e*Sn **Sn** 04 02 58.2 -4.0
comp=N,2.3nm,0.2s
MSAG Monte S. Angel 5.03 122 P **Pn** 04 02 08.4 +1.4
SFTF Sexfontaines 5.14 318 *e*P **Pn** 04 02 10.4 +1.9
baz=141
KHC Kasperske Hory 5.16 25 *e*SG **Sn** 04 03 05.0 -2.5
comp=N,9.3nm,0.7s
KHC Kasperske Hory 5.16 25 *e*PG **Pn** 04 02 09.3 +0.4
LOR Lormes 5.22 304 *e*P **Pn** 04 02 11.1 +1.5
baz=117
BGF Bois d'Agland 5.56 294 *e*P **Pn** 04 02 17.5 +3.2
BGF *e*Sn **Sn** 04 03 13.1 -4.1
comp=N,6.8nm,0.3s
CAF Calviac 5.82 277 *e*P **Pn** 04 02 20.5 +2.6
MTLF Montolieu 5.89 261 *e*P **Pn** 04 02 21.6 +2.8
VYHS Vyhne 7.16 53 *e*SN **Sn** 04 03 53.1 -3.5

*ISCJB **18** 04:04:44.5±1.4, 50°93N±0°10×138°73W±0°08, h10km, Error ellipse: s-maj=14.1km s-min=7.0km az=12.3*
*PGC **18** 04:04:44.8±9.9, 50°79N×138°92W, h10km, MLSn3.8/3, Mw4.5/3, 558km Wsw of Sandspit, Bc West Of Vancouver Island*
*NEIC **18** 04:04:45.4±2.4, 50°8N±0°1×138°9W±0°2, h14km±8km*
ISC 18 04:04:44.9±2.3, **50°8N**±0°1×**138°79W**±0°09, **h10**km, **n39**, σ1**s84**/47, **West of Vancouver Island**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
DIB	**Dawson Inlet,**	**4.61**	**56**	Pn		**Pn**	**04 05 54.1**	**-0.4**
DIB				Sn		**Sn**	**04 06 45.7**	**-2.2**
DIB	**Dawson Inlet,**	**4.61**	**56**	Pn		**Pn**	**04 05 54.1**	**-0.4**
DIB				Sn		**Sn**	**04 06 45.7**	**-2.2**
DIB	**Dawson Inlet,**	**4.61**	**56**	Pn		**Pn**	**04 05 54.2**	**-0.2**
DIB				Sn		**Sn**	**04 06 48.5**	**+0.6**
MOBC	**Moresby Island**	**4.85**	**58**	Pn		**Pn**	**04 05 58.6**	**+0.7**
MOBC				Sn		**Sn**	**04 06 52.8**	**-1.2**
MOBC	**Moresby Island**	**4.85**	**58**	Pn		**Pn**	**04 05 58.6**	**+0.7**
MOBC				Sn		**Sn**	**04 06 52.8**	**-1.2**
MOBC	**Moresby Island**	**4.85**	**58**	Pn		**Pn**	**04 05 57.6**	**-0.3**
MOBC				Sn		**Sn**	**04 06 54.7**	**+0.7**
HG3B	**Hotspring**	**4.92**	**66**	Sn		**Sn**	**04 06 54.1**	**-1.6**
HG3B	**Hotspring**	**4.92**	**66**	Sn		**Sn**	**04 06 54.1**	**-1.6**
CRAG	**Craig**	**5.82**	**34**	Pn		**Pn**	**04 06 10.9**	**-0.2**
WRAK	**Wrangell Islan**	**6.84**	**32**	Pn		**Pn**	**04 06 24.3**	**-0.8**
PLBC	**Pleasant Camp**	**8.82**	**8**	Pn		**Pn**	**04 06 54.1**	**+1.8**
PLBC				Sn		**Sn**	**04 08 30.9**	**-0.7**
PLBC	**Pleasant Camp**	**8.82**	**8**	Pn		**Pn**	**04 06 54.1**	**+1.8**
PLBC				Sn		**Sn**	**04 08 30.9**	**-0.7**
SKAG	**Skagway**	**8.94**	**11**	Pn		**Pn**	**04 06 53.6**	**-0.2**
SUCK	**Suckling Hills**	**9.75**	**345**	Pn		**Pn**	**04 07 04.2**	**-0.8**
YUK7	**Dusty Glacier**	**9.80**	**2**	Pn		**Pn**	**04 07 07.8**	**+2.0**
YUK7	**Dusty Glacier**	**9.80**	**2**	Pn		**Pn**	**04 07 07.8**	**+2.0**
HYT	**Haines Junctio**	**10.11**	**4**	Pn		**Pn**	**04 07 12.1**	**+2.0**
HYT	**Haines Junctio**	**10.11**	**4**	Pn		**Pn**	**04 07 12.1**	**+2.0**
HYT	**Haines Junctio**	**10.11**	**4**	Pn		**Pn**	**04 07 08.7**	**-1.9**
WHY	**Whitehorse**	**10.16**	**11**	Pn		**Pn**	**04 07 13.6**	**+2.8**
WHY	**Whitehorse**	**10.16**	**11**	Pn		**Pn**	**04 07 11.0**	**+0.3**
KIAG	**Kiagna River**	**10.38**	**350**	Pn		**Pn**	**04 07 14.2**	**+0.5**
KIAG	**Kiagna River**	**10.38**	**350**	Pn		**Pn**	**04 07 14.2**	**+0.5**
YUK5	**Granite Creek**	**10.40**	**3**	Pn		**Pn**	**04 07 16.7**	**+2.6**
YUK5	**Granite Creek**	**10.40**	**3**	Pn		**Pn**	**04 07 16.7**	**+2.6**
BALM	**Baldy**	**10.48**	**350**	Pn		**Pn**	**04 07 14.1**	**-1.1**
YUK4	**Talbot Arm**	**10.61**	**0**	Pn		**Pn**	**04 07 20.8**	**+3.8**
YUK4	**Talbot Arm**	**10.61**	**0**	Pn		**Pn**	**04 07 20.8**	**+3.8**
GLB	**Gilahina Butte**	**11.06**	**347**	Pn		**Pn**	**04 07 21.7**	**-1.3**
YUK3	**Moose Creek**	**11.08**	**356**	Pn		**Pn**	**04 07 25.4**	**+2.0**
YUK3	**Moose Creek**	**11.08**	**356**	Pn		**Pn**	**04 07 25.4**	**+2.0**
YUK2	**White River**	**11.11**	**355**	Pn		**Pn**	**04 07 25.8**	**+2.1**
YUK2	**White River**	**11.11**	**355**	Pn		**Pn**	**04 07 25.8**	**+2.1**
GHO	**Glory Hole Cre**	**12.37**	**337**	Pn		**Pn**	**04 07 38.9**	**-2.0**
SUA	**Susitna One**	**12.60**	**333**	Pn		**Pn**	**04 07 40.8**	**-3.3**
SKT	**Skwentna**	**13.24**	**333**	Pn		**Pn**	**04 07 49.7**	**-3.0**
DAWY	**Dawson**	**13.34**	**359**	Pn		**Pn**	**04 07 56.5**	**+2.4**
DAWY	**Dawson**	**13.34**	**359**	Pn		**Pn**	**04 07 53.7**	**-0.4**
N23A	**Red Feather La**	**24.74**	**101**	P		**P**	**04 10 07.2**	**+0.6**
N23A				IAmb		IAmb	04 10 09.3	
	comp=Z,1.4nm,0.8s							

*ISCJB **18** 04:19:27.8±1.0, 43°86N±0°07×147°22E±0°09, h56km±9km, Error ellipse: s-maj=14.6km s-min=6.4km az=140.7*
*JMA **18** 04:19:28.5±0.2, 43°76N×147°23E, h45km, M3.9*
*SKHL **18** 04:19:29.6±0.3, 43°93N×147°21E, h45km±4km, mb3.8/4*
ISC 18 04:19:27.6±1.9, **43°82N**±0°09×**147°32E**±0°09, **h51**km±14km, **n18**, σ0**s90**/32, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SHO	**Shikotan**	**0.36**	**278**	*i* P		**Pn**	**04 19 38.0**	**+0.6**
SHO				AMB		AMB	04 19 39.0	
	30nm,0.2s							
SHO				*i* S		**Sn**	**04 19 44.5**	**+0.2**
SHO				A		A	04 19 45.0	
	2μm,0.2s							
SHO				A		A	04 19 45.0	

500nm,0.2s
YUK Yuzh-Kuril'sk 1.07 282 *i* P **Pn 04 19 46.0 -0.3**
YUK AMB AMB 04 19 48.0
20nm,0.2s
YUK AMB AMB 04 19 48.0
50nm,0.2s
YUK *i* S **Sn 04 19 58.0 -2.2**
YUK A A 04 19 59.0
800nm,0.4s
YUK A A 04 19 59.0
1μm,0.4s
GRPR Tuman 1.13 279 *e*P **Pn 04 19 47.0 -0.1**
GRPR AMB AMB 04 19 49.0
20nm,0.2s
GRPR *i* S **Sn 04 20 00.0 -1.6**
GRPR A A 04 20 02.0
1μm,0.4s
GRPR A A 04 20 02.0
480nm,0.4s
NEM2 Nemuro 2 1.23 249 P **Pn 04 19 48.6 +0.1**
NEM2 *e*S **Sn 04 20 03.5 -0.5**
NMR Nemuro--Hokkai 1.24 249 *i* P **Pn 04 19 48.0 -0.6**
KUR Kuril'sk 1.46 15 *e*P **Pn 04 19 52.0 +0.4**
KUR AMB AMB 04 19 53.0
20nm,0.2s
KUR *i* S **Sn 04 20 08.7 -0.9**
KUR A A 04 20 10.4
700nm,0.4s
KUR A A 04 20 10.4
240nm,0.4s
JRA Rausu 1.59 275 P **Pn 04 19 54.0 +0.6**
JRA *e*S **Sn 04 20 13.0 +0.2**
JNSB Nemuroshibetsu 1.68 269 P **Pn 04 19 55.3 +0.8**
JNSB *e*S **Sn 04 20 14.9 +0.1**
JKHN Kushirohamanak 1.74 245 P **Pn 04 19 55.8 +0.4**
JKHN *e*S **Sn 04 20 16.1 -0.2**
JNK Nakash 1.90 264 P **Pn 04 19 58.0 +0.4**
JNK *e*S **Sn 04 20 19.6 -0.8**
JAK Akkeshi 2.08 247 P **Pn 04 20 00.4 +0.3**
JAK *e*S **Sn 04 20 24.0 -0.8**
JTKR Abashiri--Toko 2.47 275 P **Pn 04 20 06.3 +0.9**
JAR Ashorobuto 2.63 260 P **Pn 04 20 08.8 +1.2**
JAR *e*S **Sn 04 20 39.0 +0.7**
JOB Onbets 2.70 251 P **Pn 04 20 09.5 +0.9**
JOB *e*S **Sn 04 20 39.9 -0.1**
JMP Maruseppu 2.87 275 P **Pn 04 20 11.9 +1.0**
JCH Churui 3.13 249 P **Pn 04 20 14.9 +0.4**
JCH *e*S **Sn 04 20 49.9 -0.8**
JKK2 Kamakawa 2 3.31 272 P **Pn 04 20 18.4 +1.5**
JNBK Urakawa-nobuka 3.69 247 P **Pn 04 20 22.4 +0.4**
JNBK *e*S **Sn 04 21 02.6 -1.6**

NIED ***18*** *04:36:00.37˝20N×142˚10E.h26km.Mw3.5 Best double couple: M₀1.91000×10¹⁴ NP1:φ₀141.00000°,δ31.00000°, λ50.00000°. NP2:φ₀6.00000°,δ67.00000°,λ111.00000°.*

IDC ***18*** *04:36:44.6±2.7,37˚27N×142˚55E,h0km,mb3.5/2, mb1 3.7/3,mb1mx3.4/32,mbtmp3.5/3,ML2.8/1,Error ellipse: s-maj=54.4km s-min=36.9km az=37.0*

ISCJB ***18*** *04:36:47.8±1.0,37˚26N±0˝.06×142˚27E±0˝.08,h21km, mb3.6/2,Error ellipse: s-maj=9.6km s-min=8.4km az=166.0*

JMA ***18*** *04:36:49.2±0.2,37˚22N×142˚14E,h35km,M3.8*

ISC 18 04:36:48.6±1.5,37˚34N±0˝.07×142˚23E±0˝.09,h21km,n24, σ1ᵍ75/24,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.08**	**272**	P	**Pn**	**04 37 07.4**	**-1.1**
JMST	**Minamisoumatoc**	**1.13**	**290**	P	**Pb**	**04 37 08.8**	**-0.7**
JMST				*e*S	**Sn**	**04 37 22.8**	**-1.3**
JIKH	**Ishinomakikobu**	**1.14**	**328**	P	**Pb**	**04 37 10.0**	**+0.3**
ONAJ	**Iwakimizuishiy**	**1.16**	**259**	P	**Pn**	**04 37 08.0**	**-1.7**
JMM	**Marumori**	**1.25**	**295**	P	**Pb**	**04 37 10.9**	**-0.7**
JMM				*e*S	**Sn**	**04 37 26.2**	**-0.9**
JIO	**Ouri**	**1.31**	**328**	P	**Pb**	**04 37 12.6**	**0.0**
JFFD	**Fukushimafurud**	**1.35**	**260**	P	**Pn**	**04 37 11.0**	**-1.3**
JFT	**Otama**	**1.51**	**277**	P	**Pb**	**04 37 14.8**	**-1.2**
JOU	**Okura**	**1.61**	**310**	P	**Pb**	**04 37 17.0**	**-0.6**
JOU				*e*S	**Sb**	**04 37 37.9**	**+0.5**
JMK	**Ichinoseki**	**1.80**	**334**	P	**Pb**	**04 37 20.5**	**-0.3**
JYS	**Shirataka**	**1.93**	**298**	P	**Pb**	**04 37 22.7**	**-0.3**
JYS				S	**Sb**	**04 37 46.3**	**-0.3**
JFY	**Yanaizu**	**2.01**	**273**	P	**Pb**	**04 37 22.2**	**-2.3**
JYK	**Kaneyama**	**2.16**	**318**	P	**Pb**	**04 37 25.6**	**-1.4**
JAG	**Ashikaga**	**2.40**	**249**	P	**Pn**	**04 37 25.7**	**-1.0**
MJAR	**Matsushiro Arr**	**3.31**	**257**	Pn	**Pn**	**04 37 41.6**	**+2.3**
MJAR	0.8nm,0.3s,baz=88,slow=15,SNR=16			Sn	**Sn**	**04 38 22.5**	**+4.5**
MAT	**Matsushiro**	**3.31**	**257**	P	**Pn**	**04 37 41.2**	**+1.9**
MAT	0.9nm,0.3s,baz=65,slow=11,SNR=6.5			S	**Sn**	**04 38 21.7**	**+3.6**
H11N2	**WAKE ISLAND Hy 27.75 122**			T	T	05 11 48.4	
	baz=314,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy 27.76 122**			T	T	05 11 49.6	
	baz=314,slow=75,SNR=8.3						
H11N3	**WAKE ISLAND Hy 27.77 122**			T	T	05 11 46.6	
	baz=314,slow=75,SNR=9.1						
H11S1	**WAKE ISLAND Hy 28.49 124**			T	T	05 12 40.1	
	baz=316,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy 28.49 125**			T	T	05 12 44.6	
	baz=316,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy 28.50 125**			T	T	05 12 37.4	
	baz=316,slow=76,SNR=15						
MKAR	**Makanchi Array**	**44.51**	**302**	P	**P**	**04 44 59.5**	**+1.0**
	0.5nm,0.7s,baz=85,slow=9.2,SNR=3.8						
WRA	**Warramunga Arr**	**57.45**	**189**	P	**P**	**04 46 34.9**	**-1.1**
	0.5nm,0.7s,baz=4.7,slow=7.2,SNR=4.8						

IDC ***18*** *05:04:59.2±1.0,20˚79N×146˚66E,h0km,mb4.0/6, mb1 4.2/6,mb1mx3.7/38,mbtmp4.0/6,MS3.0/1,Ms1 3.0/1, ms1mx2.4/53,Error ellipse: s-maj=35.2km s-min=29.0km az=81.0*

NEIC ***18*** *05:05:00.8±2.6,20˚8N±0˚.1×146˚.7E±0˚.1,h10km±4km, mb4.2/8*

ISCJB ***18*** *05:05:02.9±0.7,20˚69N±0˚.07×146˚.6E±0˚.1,h37km, mb3.9/6,MS2.8/1,Error ellipse: s-maj=19.6km s-min=10.0km az=6.0*

ISC 18 05:05:04.6±0.8,20˚72N±0˚.10×146˚.6E±0˚.2,h37km,n19, σ1ᵍ13/17,mb4.1/10,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**4.45**	**191**	Pn	**Pn**	**05 06 10.4**	**+0.9**
GUMO	**Guam**	**7.29**	**194**	Pn	**Pn**	**05 06 48.9**	**+0.3**
YOJ	**Yonaguni jima**	**22.11**	**284**	P	**P**	**05 09 57.3**	**+0.4**
DAV	**Davao City (W)**	**24.48**	**239**	LR	LR	05 18 55.2	
	comp=Z,32nm,20.1s,baz=8.0,slow=34						
MTN	**Manton Dam**	**36.67**	**206**	P	**P**	**05 12 06.9**	**-1.1**
KAPI	**Kappang**	**36.75**	**229**	P	**P**	**05 12 10.1**	**+1.3**
SLVN	**Son La**	**39.79**	**279**	P	**P**	**05 12 33.5**	**-1.0**
WRAB	**Tennant Creek**	**42.16**	**197**	P	**P**	**05 12 50.8**	**-3.0**
WRAB				IAmb	IAmb	05 12 55.2	
	comp=Z,3.9nm,0.9s						
WRA	**Warramunga Arr**	**42.17**	**197**	P	**P**	**05 12 53.9**	**0.0**
	comp=Z,1.1nm,0.7s,baz=14,slow=8.5,SNR=6.4						
FITZ	**Fitzroy Crossi**	**43.73**	**210**	P	P	05 13 01.7	-4.7
FITZ				IAmb	IAmb	05 13 09.7	
	comp=Z,3.8nm,0.9s						
ZALV	**Zalesovo Beam**	**56.97**	**322**	P	**P**	**05 14 46.3**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=108,slow=7.0,SNR=14						
MKAR	**Makanchi Array**	**57.72**	**313**	P	**P**	**05 14 52.0**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=96,slow=7.6,SNR=8.0						
KURK	**Kurchatov**	**60.37**	**317**	P	**P**	**05 15 10.8**	**+0.9**
KURK				IAmb	IAmb	05 15 11.0	
	comp=Z,3.4nm,0.9s						
PRP	**Porcupine Dome**	**62.17**	**26**		**S**	**05 23 45.7**	**+0.9**
ABKAR	**Akbulak array**	**72.47**	**317**	P	**P**	**05 16 27.8**	**+0.4**
ABKAR				IAmb	IAmb	05 16 28.4	
	comp=Z,1.8nm,0.8s						
YKA	**Yellowknife Ar**	**75.80**	**28**	P	**P**	**05 16 45.6**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=292,slow=5.4,SNR=5.2						
NVAR	**Mina Array Bea**	**81.21**	**52**	P	**P**	**05 17 17.7**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=268,slow=4.8,SNR=4.5						
FINES	**FINESS Array B**	**85.42**	**335**	P	**P**	**05 17 37.0**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=89,slow=4.4,SNR=6.3						
LPAZ	**La Paz**	**146.78**	**88**	PKPbc	**PKPbc**	**05 24 44.9**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=20,slow=5.0,SNR=4.7						

BJI ***18*** *05:27:23.1±0.0,7˚16S×130˚50E,h155km,mb5.0/49, mB5.1/33*

MOS ***18*** *05:27:28.8±0.9,6˚51S×130˚08E,h156km,mb4.9/28,Error ellipse: s-maj=13.1km s-min=6.4km az=112.9*

NEIC ***18*** *05:27:31.5±1.9,6˚55S±0˚.05×129˚.94E±0˚.06,h161km±6km, mb4.9/53*

ISCJB ***18*** *05:27:31.4±0.1,6˚56S±0˚.02×129˚.95E±0˚.02,h175km, mb4.9/72,Error ellipse: s-maj=3.4km s-min=2.7km az=145.4*

KLM ***18*** *05:27:31.0,6˚63S×129˚.93E,h147km,mb5.1*

DJA ***18*** *05:27:32.7±0.2,7˚S±2˚×13˚0E±˚,h164km±2km,M4.8/65, mB5.3/26,mb5.0/65,MLv5.4/13,Mw(mB)4.7/26,Mwp4.8/1*

IDC ***18*** *05:27:33.2±2.0,6˚51S×129˚89E,h175km±19km,mb4.4/24, mb1 4.4/28,mb1mx4.2/58,mbtmp4.9/28,MS3.0/1, Ms1 3.0/1,ms1mx2.5/42,Error ellipse: s-maj=13.2km s-min=9.1km az=57.0*

ISC 18 05:27:32.5±0.3,6˚60S±0˝.04×129˚97E±0˝.04,h175km,n249, σ1ᵍ68/255,mb4.8/82,3C-3D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.91**	**136**	P	**Pn**	**05 28 08.8**	**+0.5**
SAUI				S	**Sn**	**05 28 35.9**	**-0.2**
SAUI	**Saumlaki**	**1.91**	**136**		**Pn**	**05 28 09.0**	**+0.7**
SAUI				Sn	**Sn**	**05 28 30.1**	**-5.9**
BNDI	**Bandanaira**	**2.06**	**358**	P	**Pn**	**05 28 10.0**	**0.0**
BNDI				S	**Sn**	**05 28 38.1**	**-1.1**
AAI	**Ambon**	**3.39**	**329**	P	**Pn**	**05 28 26.0**	**+0.2**
MSAI	**Masohi**	**3.39**	**342**	P	**Pn**	**05 28 26.3**	**+0.4**
MSAI				S	**Sn**	**05 29 06.5**	**-1.0**
FAKI	**Fak Fak**	**4.31**	**32**	P	**Pn**	**05 28 35.0**	**-2.5**
FAKI	**Fak Fak**	**4.31**	**32**		**Pn**	**05 28 35.1**	**-2.5**
FAKI				Sn	**Sn**	**05 29 21.4**	**-6.9**
NLAI	**Namlea**	**4.39**	**319**	P	**Pn**	**05 28 39.1**	**+0.5**
KMPI	**Kaimana, Papua**	**4.73**	**52**	P	**Pn**	**05 28 41.9**	**-1.1**
SWI	**Sorong**	**5.84**	**13**	P	**Pn**	**05 28 54.7**	**-2.8**
SANI	**Sanana**	**6.01**	**319**	P	**Pn**	**05 28 59.6**	**-0.1**
	224nm,1.0s,2μm0.9nm						
MTN	**Manton Dam**	**6.31**	**170**	P	**Pn**	**05 29 02.6**	**-1.0**
	baz=6.3,SNR=318						
MTN	**Manton Dam**	**6.31**	**170**		**Pn**	**05 29 03.1**	**-0.6**
MTN				Sn	**Sn**	**05 30 10.2**	**-5.2**
LBMI	**Labuha**	**6.41**	**337**	P	**Pn**	**05 29 05.0**	**0.0**
	1μm,0.9s,11μm3.2nm						
SOEI	**Soe**	**6.45**	**241**	P	**Pn**	**05 29 04.7**	**-0.9**
	292nm,0.8s,4μm3.9nm						
SOEI	**Soe**	**6.45**	**241**		**Pn**	**05 29 05.2**	**-0.4**
SOEI				Sn	**Sn**	**05 30 19.8**	**+0.9**
KDU	**Kakadu**	**6.54**	**158**	P	**Pn**	**05 29 05.6**	**-0.9**
	baz=6.6,SNR=129						
RKPI	**Ransiki, Papua**	**6.57**	**40**	P	**Pn**	**05 29 06.1**	**-1.0**
	2μm,0.6s,30μm14nm						
BATI	**Baumata**	**7.19**	**240**	P	**Pn**	**05 29 14.9**	**-0.3**
	92nm,0.3s,baz=48,slow=0.9,SNR=32						
BATI				S	**Sn**	**05 30 32.3**	**-4.1**
	42nm,0.3s,baz=228,slow=4.3,SNR=21						
BATI				LR	LR	05 32 22.8	
	comp=Z,104nm,18.4s,baz=70,slow=40						
BBSI	**Bau Bau**	**7.44**	**278**	P	**Pn**	**05 29 18.6**	**+0.1**
	54nm,1.0s,0.2nm						
TNTI	**Ternate**	**7.77**	**340**	P	**Pn**	**05 29 21.9**	**-1.0**
	108nm,0.5s,0.4nm						
TNTI	**Ternate**	**7.77**	**340**		**Pn**	**05 29 21.2**	**-1.7**
KDI	**Kendari**	**7.77**	**289**	P	**Pn**	**05 29 22.9**	**0.0**
	59nm,0.9s,0.3nm						
MMRI	**Maumere**	**7.92**	**255**		**Pn**	**05 29 25.8**	**+0.9**
LUWI	**Luwuk**	**9.05**	**307**	P	Pn	05 29 48.8	+9.0
KNRA	**Kununurra**	**9.10**	**187**	P	**Pn**	**05 29 38.4**	**-2.0**
	baz=9.1,SNR=157						
KNRA	**Kununurra**	**9.10**	**187**		**Pn**	**05 29 38.9**	**-1.5**
KNRA				Sn	**Sn**	**05 31 15.7**	**-6.1**
SMPI	**Sarmi**	**9.85**	**63**	P	**Pn**	**05 29 50.4**	**+0.1**
	42nm,0.6s						
BKSI	**Bulukumba**	**9.87**	**277**	P	**Pn**	**05 29 50.7**	**+0.1**
	51nm,1.0s						
APSI	**Ampana**	**10.04**	**304**	P	**Pn**	**05 29 56.0**	**+3.3**
WSI	**Waingapu**	**10.04**	**252**	P	**Pn**	**05 29 51.6**	**-1.2**
	543nm,0.6s,14μm						
BNSI	**Bone**	**10.05**	**282**	P	**Pn**	**05 29 55.2**	**+2.3**
KAPI	**Kappang**	**10.28**	**278**	P	**Pn**	**05 29 54.2**	**-1.7**
KAPI	**Kappang**	**10.28**	**278**	P	**Pn**	**05 29 56.7**	**+0.8**
	2.4nm,0.3s,baz=154,slow=12,SNR=4.2						
KAPI	**Kappang**	**10.28**	**278**		**Pn**	**05 29 54.2**	**-1.7**
SPSI	**Sidrap Palu**	**10.48**	**284**	P	**Pn**	**05 29 59.0**	**+0.4**
	152nm,0.7s,1μm						
MRSI	**Marisa**	**10.65**	**311**	P	**Pn**	**05 30 01.5**	**+0.7**
	330nm,0.9s,3μm						
TTSI	**Tana Toraja**	**10.71**	**289**	P	**P**	**05 30 10.7**	**+1.4**
MPSI	**Mapaga**	**12.18**	**304**	P	**Pn**	**05 30 20.0**	**-0.5**
	33nm,1.0s						
FITZ	**Fitzroy Crossi**	**12.18**	**200**	P	**Pn**	**05 30 17.6**	**-2.9**
	baz=12,SNR=142						
FITZ	**Fitzroy Crossi**	**12.18**	**200**	P	**Pn**	**05 30 17.6**	**-2.9**
	6.1nm,0.3s,baz=31,slow=9.9,SNR=117						
FITZ				S	Sn	05 32 26.0	-10
	15nm,0.3s,baz=110,slow=12,SNR=7.7						
FITZ	**Fitzroy Crossi**	**12.18**	**200**	P	**Pn**	**05 30 19.1**	**-1.5**
PLAI	**Plampang**	**12.28**	**259**	P	**Pn**	**05 30 18.9**	**-2.9**
TWSI	**Taliwang, Sumb**	**13.14**	**260**	P	Pn	05 30 26.0	-6.7
WRAB	**Tennant Creek**	**13.92**	**163**	P	**Pn**	**05 30 39.9**	**-2.6**
WRAB	**Tennant Creek**	**13.92**	**163**		**Pn**	**05 30 39.9**	**-2.6**
WRA	**Warramunga Arr**	**13.93**	**163**	P	Pn	05 30 39.5	-3.1
	1.0nm,0.3s,baz=343,slow=13,SNR=55						
WRA				S	Sn	05 33 05.6	-12
	5.4nm,0.3s,baz=338,slow=23,SNR=5.8						
WR0	**Warramunga Arr**	**14.01**	**162**		**Pn**	**05 30 41.9**	**-1.7**
BKB	**Balikpapan**	**14.07**	**292**	P	**P**	**05 30 48.9**	**+2.0**
KCP	**Kidapawan**	**14.37**	**340**	⇑P	**Pn**	**05 30 48.2**	**+0.1**
SRBI	**Singaraja**	**14.71**	**263**	P	**Pn**	**05 30 52.2**	**-0.1**
	77nm,0.5s,3μm						
IGBI	**Denpasar**	**14.85**	**261**	P	**Pn**	**05 30 51.5**	**-2.6**
COEN	**Coen**	**14.91**	**120**	P	**Pn**	**05 30 55.2**	**+0.4**
	baz=15,SNR=70						
COEN	**Coen**	**14.91**	**120**	P	**Pn**	**05 30 55.8**	**+1.0**
JAGI	**Jajag, Banyuwa**	**15.79**	**262**	P	**Pn**	**05 31 03.8**	**-1.8**
	55nm,0.7s,1μm						
JAGI	**Jajag, Banyuwa**	**15.79**	**262**	P	**Pn**	**05 31 03.2**	**-2.4**
JAGI				IAmb	IAmb	05 31 10.9	
	comp=Z,43nm,0.8s						
GMJI	**Gumukmas**	**16.47**	**263**	P	**P**	**05 31 13.1**	**-0.3**
	comp=Z,42nm,0.6s,comp=Z,931nm						
QIS	**Mount Isa**	**16.73**	**147**	P	**P**	**05 31 16.8**	**+0.5**
	baz=17,SNR=105						
PMG	**Port Moresby**	**17.25**	**100**	P	**Pn**	**05 31 26.1**	**+2.9**
PMG				pmax	pmax		
	comp=Z,80nm,1.1s						
PMG	**Port Moresby**	**17.25**	**100**	P	**Pn**	**05 31 25.4**	**+2.2**
	comp=Z,1.8nm,0.3s,baz=269,slow=19,SNR=9.0						
PMG				S	**S**	**05 34 28.0**	**-4.9**
	comp=Z,3.4nm,0.3s,baz=156,slow=22,SNR=6.3						
PMG	**Port Moresby**	**17.25**	**100**	P	**Pn**	**05 31 26.1**	**+2.9**
PMG				IAmb	IAmb	05 31 26.7	
	comp=Z,80nm,1.1s						
GRJI	**Gresik**	**17.37**	**268**	P	**Pn**	**05 31 24.3**	**-0.3**
	comp=Z,107nm,0.8s						
AS31	**Alice Springs**	**17.39**	**168**	IAmb	IAmb	05 31 27.8	
	comp=Z,34nm,0.6s						
ASAR	**Alice Springs**	**17.39**	**168**	P	**P**	**05 31 25.1**	**+1.6**
	comp=Z,10nm,0.3s,baz=348,slow=9.6,SNR=672						
ASAR				S	**S**	**05 34 34.0**	**-1.4**
	comp=Z,6.7nm,0.3s,baz=343,slow=21,SNR=6.6						
MBWA	**Marble Bar**	**17.54**	**213**	P	**P**	**05 31 25.9**	**+0.8**
MBWA				IAmb	IAmb	05 31 31.5	
	comp=Z,27nm,0.5s						
PSA00	**Pilbara Seismi**	**17.81**	**212**	P	**P**	**05 31 29.3**	**+1.2**
PSA00				IAmb	IAmb	05 31 29.8	
	comp=Z,45nm,0.6s						
MANU	**Manus Island**	**17.93**	**76**	P	**P**	**05 31 31.5**	**+2.0**
MANU				IAmb	IAmb	05 31 33.7	
	comp=Z,58nm,0.8s						
PWJI	**Pagerwojo**	**18.07**	**264**	P	**P**	**05 31 29.2**	**-1.7**
MTSU	**Mount Surprise**	**18.09**	**131**	P	**P**	**05 31 33.2**	**+2.0**
	baz=18,SNR=57						
NGJI	**Ngawi**	**18.38**	**267**	P	**Pn**	**05 31 35.4**	**-1.1**
	comp=Z,67nm,1.1s						
WRKA	**Warakurna**	**18.40**	**185**	P	**P**	**05 31 35.8**	**+1.2**
	baz=18,SNR=254						
KKM	**Kota Kinabalu**	**18.60**	**312**	P	**P**	**05 31 37.0**	**+0.1**
KKM				IAmb	IAmb	05 31 47.1	
	comp=Z,29nm,0.8s						
PBKI	**Pangkalan Bun**	**18.64**	**281**	P	**Pn**	**05 31 38.2**	**-1.4**
	comp=Z,396nm,0.9s,comp=Z,8μm						
PCJI	**Pacitan**	**18.70**	**264**	P	**P**	**05 31 34.4**	**-3.4**
WOJI	**Wonogiri, Jawa**	**18.93**	**265**	P	**P**	**05 31 36.5**	**-3.8**
UGM	**Wanagama**	**19.33**	**265**	P	**P**	**05 31 45.7**	**+1.0**
	comp=Z,39nm,0.8s						
SMRI	**Semarang**	**19.39**	**268**	P	**P**	**05 31 46.4**	**+1.1**
STKI	**Sintang**	**19.60**	**289**	P	**P**	**05 31 48.7**	**+1.1**
SBUM	**Sibu**	**19.86**	**296**	P	**Pn**	**05 31 52.0**	**-2.1**
SBUM	**Sibu**	**19.86**	**296**	P	**P**	**05 31 51.6**	**+1.2**
SBUM				IAmb	IAmb	05 31 53.3	
	comp=Z,34nm,0.8s						
CTA	**Charters Tower**	**20.73**	**132**	P	**P**	**05 32 01.7**	**+2.1**
	comp=Z,78nm,0.7s,baz=314,slow=11,SNR=54						
KPJI	**Karang Pucung**	**20.89**	**267**	P	**P**	**05 31 59.8**	**-1.5**
	comp=Z,60nm,0.9s						
KSM	**Kuching**	**21.20**	**292**	P	**P**	**05 32 05.0**	**+0.4**
KSM				IAmb	IAmb	05 32 06.3	
	comp=Z,17nm,0.6s						
CMJI	**Cimerak**	**21.38**	**266**	P	**P**	**05 32 03.8**	**-2.8**
CISI	**Cisompet, Garu**	**22.00**	**266**	P	**P**	**05 32 11.8**	**-1.2**
	comp=Z,315nm,0.9s,comp=Z,3μm						
CISI	**Cisompet, Garu**	**22.00**	**266**	P	**P**	**05 32 10.8**	**-2.3**
GIRL	**Giralia**	**22.01**	**222**	P	**P**	**05 32 14.0**	**+1.0**
	baz=22,SNR=6.7						
GIRL	**Giralia**	**22.01**	**222**	P	**P**	**05 32 13.3**	**+0.4**
LEM	**Lembang**	**22.20**	**268**	P	**P**	**05 32 15.3**	**+0.2**
	comp=Z,138nm,0.9s,baz=68,slow=9.7,SNR=8.8						
TGY	**Tagaytay City**	**22.43**	**336**	P	**P**	**05 32 17.0**	**-0.1**
TGY	**Tagaytay City**	**22.43**	**336**	P	**P**	**05 32 16.9**	**-0.1**
	comp=Z,125nm,0.3s,baz=139,slow=13,SNR=5.6						
TPI	**Tanjungpandan**	**22.56**	**279**	P	**P**	**05 32 20.2**	**+2.0**
	comp=Z,54nm,0.8s,comp=Z,502nm						
MEEK	**Meekatharra**	**22.67**	**207**	P	**P**	**05 32 20.2**	**+1.0**
	baz=23,SNR=6.3						
CNJI	**Cibinong**	**22.68**	**267**	P	**P**	**05 32 17.6**	**-1.7**
DBJI	**Dramaga**	**23.06**	**269**	P	**P**	**05 32 23.6**	**+0.8**
	comp=Z,54nm,0.8s						
QLP	**Quilpie**	**24.08**	**147**	P	**P**	**05 32 33.6**	**+1.7**
	baz=24,SNR=28						
CGJI	**Cibinong**	**24.11**	**269**	P	**P**	**05 32 30.8**	**-1.6**
FORT	**Forrest**	**24.12**	**184**	P	**P**	**05 32 33.4**	**+1.2**
	baz=24,SNR=16						
FORT	**Forrest**	**24.12**	**184**	P	**P**	**05 32 33.5**	**+1.2**
KLSI		**25.18**	**273**	P	**P**	**05 32 43.6**	**+1.5**
	comp=Z,11nm,2.5s						
MDSI	**Maura Dua**	**25.75**	**273**	P	**P**	**05 32 48.6**	**+1.4**
	comp=Z,14nm,1.1s						
KMBL	**Kambalda**	**25.78**	**196**	P	**P**	**05 32 48.2**	**+1.0**
	baz=26,SNR=20						
MORW	**Morawa**	**25.93**	**209**	P	**P**	**05 32 48.8**	**+0.1**
	baz=26,SNR=3.3						
MORW	**Morawa**	**25.93**	**209**	P	**P**	**05 32 48.7**	**0.0**
LHSI	**Lahat**	**26.47**	**275**	P	**P**	**05 32 58.5**	**+4.8**
RMQ	**Roma**	**26.68**	**140**	P	**P**	**05 32 57.1**	**+1.7**
	baz=27,SNR=6.4						
BBOO	**Buckleboo**	**26.69**	**169**	P	**P**	**05 32 56.1**	**+0.7**
	baz=27,SNR=63						
BBOO	**Buckleboo**	**26.69**	**169**	P	**P**	**05 32 56.2**	**+0.7**
STKA	**Stephens Creek**	**27.40**	**158**	P	**P**	**05 33 02.8**	**+1.1**
STKA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
STKA	**Stephens Creek**	**27.40**	**158**	P	**P**	**05 33 02.9**	**+1.1**
	comp=Z,20nm,0.4s,baz=339,slow=8.5,SNR=41						
STKA	**Stephens Creek**	**27.40**	**158**	P	**P**	**05 33 02.8**	**+1.1**
EIDS	**Eidsvold**	**27.50**	**135**	P	**P**	**05 33 03.1**	**+0.4**
HTT	**Hallett**	**27.96**	**164**	P	**P**	**05 33 08.0**	**+1.2**
	baz=28,SNR=19						
CMSA	**Cobar Meteorol**	**28.84**	**151**	P	**P**	**05 33 16.2**	**+1.6**
	baz=29,SNR=42						
SDSI	**Sungai Dareh**	**29.01**	**280**	P	**P**	**05 33 16.3**	**0.0**
	comp=Z,16nm,0.5s						
PDSI	**Padang**	**29.96**	**280**	P	**P**	**05 33 24.7**	**-0.1**
	comp=Z,25nm,0.7s						
ARMA	**Armidale**	**31.23**	**142**	P	**P**	**05 33 37.8**	**+2.0**
	baz=31,SNR=11						
ARMA	**Armidale**	**31.23**	**142**	P	**P**	**05 33 37.8**	**+2.0**
ARMA				IAmb	IAmb	05 33 38.9	
	comp=Z,19nm,0.9s						
ARPS	**Mount Arapiles**	**31.93**	**162**	P	**P**	**05 33 43.7**	**+2.0**
	baz=32,SNR=40						
PSI	**Prapat**	**32.37**	**286**	P	**P**	**05 33 44.2**	**-1.8**
	comp=Z,36nm,0.9s,baz=158,slow=4.2,SNR=13						
YNG	**Young**	**32.40**	**151**	P	**P**	**05 33 47.8**	**+2.0**
	baz=32,SNR=27						
MGCD	**Mangrove Creek**	**32.96**	**146**	P	**P**	**05 33 53.6**	**+2.9**
	baz=33,SNR=9.1						
GSI	**Gunungsitoli**	**33.27**	**283**	P	**P**	**05 33 53.1**	**-0.6**
	comp=Z,52nm,1.0s						
CAN	**Canberra**	**33.52**	**151**	P	**P**	**05 33 57.9**	**+2.3**
CAN				pmax	pmax		
	comp=Z,49nm,0.8s						
CAN	**Canberra**	**33.52**	**151**	P	**P**	**05 33 57.9**	**+2.3**
CNB	**Canberra Magne**	**33.69**	**151**	P	**P**	**05 33 59.3**	**+2.2**
	baz=34,SNR=9.0						
TOO	**Toolangi**	**33.91**	**158**	P	**P**	**05 34 01.8**	**+2.9**
	baz=34,SNR=8.8						
TOO	**Toolangi**	**33.91**	**158**	IAmb	IAmb	05 34 02.7	
	comp=Z,17nm,0.8s						
**MLSI

ERM pmax pmax
comp=Z,563nm,0.8s
HHC Hu-ho-hao-te 50.15 342 *eP* **P 05 36 10.5 +0.2**
HHC pmax pmax
comp=Z,5.0nm,1.0s
USA0B Ussuriysk Arra 50.60 2 P **P 05 36 13.5 +0.1**
USA0B pmax pmax
comp=Z,8.0nm,0.7s
USA0B Ussuriysk Arra 50.60 2 P **P 05 36 13.5 +0.1**
USRK Ussuriysk Ar. 50.60 2 P **P 05 36 13.5 +0.1**
comp=Z,7.6nm,0.6s,baz=174,slow=7.2,SNR=20
PALK Pallekele 51.04 285 *eP* **P 05 36 18.0 +0.7**
PALK pmax pmax
comp=Z,19nm,0.8s
LBZ Lake Benmore 51.43 144 P **P 05 36 21.6 +1.9**
LBZ IAmb IAmb 05 36 22.0
comp=Z,14nm,0.8s
LSA Lhasa 51.89 316 P **P 05 36 23.5 -0.4**
LSA pmax pmax
comp=Z,15nm,0.7s
LSA Lhasa 51.89 316 P **P 05 36 23.5 -0.4**
LSA IAmb IAmb 05 36 25.2
comp=Z,15nm,0.7s
KHZ Kahutara 52.43 140 P **P 05 36 28.6 +1.5**
KHZ IAmb IAmb 05 36 35.0
comp=Z,35nm,1.3s
BHW Baring Head 52.81 138 P **P 05 36 30.3 +0.4**
BKZ Black Stump Fm 52.90 135 P **P 05 36 31.7 +1.0**
ODAN Odare 52.97 311 *eP* **P 05 36 31.2 -0.4**
TAPN Taplejung 53.00 312 *eP* **P 05 36 31.2 -0.7**
comp=Z,37nm,0.5s
GTA Gaotai 53.61 331 *eP* **P 05 36 35.8 -0.1**
GTA pP pP 05 37 12.3 -1.9
GTA sP sP 05 37 30.0 -3.0
GTA pmax pmax
comp=Z,14nm,0.8s
RAMN Ramite 53.61 310 *eP* **P 05 36 36.2 -0.1**
comp=Z,87nm,0.5s
JIRN Jiri 54.30 311 *eP* **P 05 36 41.0 -0.4**
comp=Z,42nm,0.6s
GUN Gumba 54.66 311 *eP* **P 05 36 43.5 -0.5**
comp=Z,47nm,0.5s
PKI Pulchoki 54.84 310 *eP* **P 05 36 44.5 -0.8**
comp=Z,2.1nm,0.5s
PKIN Phulchoki 54.85 310 *eP* **P 05 36 44.3 -1.0**
comp=Z,14nm,0.4s
KKN Kakani 55.05 311 *eP* **P 05 36 46.1 -0.6**
comp=Z,23nm,0.6s
DMN Daman 55.09 310 *eP* **P 05 36 46.5 -0.5**
comp=Z,22nm,0.5s
KLR Kul'dur 55.62 1 *eP* **P 05 36 49.8 -0.2**
KLR pmax pmax
comp=Z,12nm,1.1s
AFI Afiamalu 57.67 102 P **P 05 37 05.0 -0.2**
AFI pmax pmax
comp=Z,55nm,1.0s
AFI Afiamalu 57.67 102 P **P 05 37 05.0 -0.2**
ULN Ulaanbaatar 57.88 342 *ce* **P P 05 37 06.9 +0.8**
ULN pmax pmax
comp=Z,14nm,0.7s
SONM Songino Array 58.05 341 P **P 05 37 07.9 +0.6**
comp=Z,2.8nm,0.6s,baz=158,slow=6.2,SNR=15
MNCI Minicoy 58.63 284 P **P 05 37 11.5 -0.3**
ZEA Zeya 60.15 358 *eP* **P 05 37 21.9 +0.4**
ZEA pmax pmax
comp=Z,29nm,1.0s
POO Poona 60.70 295 *ex* **P 05 37 24.0 -1.9**
WMQ Urumqi 63.04 327 *eP* **P 05 37 41.8 +0.7**
WMQ pmax pmax
comp=Z,29nm,0.9s
WMQ pmax pmax
comp=Z,120nm,3.7s
WMQ LR LR
comp=Z,420nm,28.9s
WMQ LR LR
comp=Z,2μm,28.8s
WMQ LR LR
comp=Z,200nm,29.3s
MOY Mondy 63.13 340 *eP* **P 05 37 42.3 +0.7**
MOY pmax pmax
comp=Z,16nm,1.4s
PETK Petropavlovsk- 63.96 18 P **P 05 37 47.6 +0.7**
comp=Z,4.4nm,0.6s,baz=192,slow=5.5,SNR=3.4
BOD Bodaibo 65.50 351 *eP* **P 05 37 56.7 0.0**
BOD pmax pmax
comp=Z,8.0nm,1.0s
PDGK Podgornoye 67.46 322 P **P 05 38 09.8 +0.1**
PDGK pmax pmax
comp=Z,23nm,1.0s
KSH Kashi 67.70 317 P **P 05 38 12.3 +1.1**
KSH S **S 05 46 54.0 -0.7**
KSH pmax pmax
comp=Z,19nm,0.7s
KSH pmax pmax
comp=Z,320nm,5.0s
KSH LR LR
comp=Z,260nm,6.4s
KSH LR LR
comp=Z,450nm,5.8s
KSH LR LR
comp=Z,290nm,11.9s
MK31 Makanchi Array 67.87 327 *eP* **P 05 38 12.6 +0.6**
MK31 pmax pmax
comp=Z,31nm,0.6s
MKAR Makanchi Array 67.87 327 P **P 05 38 12.6 +0.6**
comp=Z,44nm,0.5s,baz=115,slow=8.6,SNR=480
MAKZ Makanchi 68.05 327 P **P 05 38 13.5 +0.4**
MAKZ pmax pmax
comp=Z,29nm,0.6s
MAKZ Makanchi 68.05 327 P **P 05 38 13.7 +0.6**
KDJ Kajisay 68.24 320 IAmb IAmb 05 38 16.5
comp=Z,20nm,0.8s
YAK Yakutsk 68.43 360 *eP* **P 05 38 13.2 -1.9**
YAK pmax pmax
comp=Z,37nm,0.7s
NRN Naryn 68.64 319 IAmb IAmb 05 38 18.7
comp=Z,12nm,0.9s
BOOM Boomskoye usch 69.22 320 IAmb IAmb 05 38 22.5
comp=Z,31nm,0.8s
KZA Kyzart 69.45 320 P **P 05 38 23.4 +1.0**
SNR=16
TKM2 Tokmak 2 69.65 320 *i* P **P 05 38 23.9 +0.5**
TKM2 pmax pmax
comp=Z,28nm,0.6s
TKM2 Tokmak 2 69.65 320 P **P 05 38 24.2 +0.9**
SNR=35
KBK Karagaybulak 69.93 320 P **P 05 38 26.2 +1.1**
SNR=17
UCH Uchtor 70.00 319 P **P 05 38 27.0 +1.2**
SNR=25
AAK Ala-Archa 70.22 320 P **P 05 38 27.8 +1.1**
AAK pmax pmax
comp=Z,26nm,0.7s
AAK Ala-Archa 70.22 320 P **P 05 38 27.9 +1.2**
SNR=18
AAK Ala-Archa 70.22 320 P **P 05 38 27.8 +1.1**
CHMS Chumysh 70.23 320 P **P 05 38 27.3 +0.7**
SNR=9.9
AML Almayashu 70.49 319 P **P 05 38 30.1 +1.4**
SNR=5.0
USP Ospenovka 70.52 320 P **P 05 38 29.2 +0.8**
SNR=40
EKS2 Erkin-Say 70.69 320 P **P 05 38 31.0 +1.4**
SNR=22
ZALV Zalesovo Beam 71.21 334 P **P 05 38 31.7 -0.5**
comp=Z,8.8nm,0.6s,baz=121,slow=5.2,SNR=29
SEY Seymchan 71.42 11 P **P 05 38 33.6 +0.3**
comp=Z,12nm,0.8s,baz=189,slow=5.3,SNR=8.1
BTK Batken 71.47 316 IAmb IAmb 05 38 35.3
comp=Z,11nm,0.8s
KURBB Kurchatov Arra 72.15 328 P **P 05 38 38.1 +0.2**
comp=Z,13nm,0.6s,baz=128,slow=5.1,SNR=101
KURK Kurchatov 72.16 329 P **P 05 38 38.3 +0.3**
KURK pmax pmax
comp=Z,14nm,0.7s
KURK Kurchatov 72.16 329 P **P 05 38 38.3 +0.3**
KURK IAmb IAmb 05 38 38.7
comp=Z,14nm,0.7s
RER Riviere de l'E 72.95 250 P **P 05 38 44.5 +1.1**
RER IAmb IAmb 05 38 46.4
comp=Z,40nm,1.0s
KK31 Karatay Array 73.02 319 *i* P **P 05 38 43.5 +0.2**
KK31 pmax pmax
comp=Z,41nm,1.4s
KK31 Karatay Array 73.02 319 P **P 05 38 43.2 -0.1**
KK31 IAmb IAmb 05 38 44.7
comp=Z,27nm,1.1s
KKAR Karatay Array 73.02 319 P **P 05 38 43.3 0.0**
KKAR pmax pmax
comp=Z,27nm,1.1s
KKAR Karatay Array 73.02 319 P **P 05 38 43.3 0.0**
KKAR IAmb IAmb 05 38 44.8
comp=Z,27nm,1.1s
WSAR Wadi Sarin 75.66 296 P **P 05 38 59.3 +0.4**
comp=Z,15nm,0.8s,baz=172,slow=4.4,SNR=7.3
HRA Herat 75.68 308 P **P 05 38 59.7 +0.6**
BVAR Borovoye Array 77.71 328 P **P 05 39 09.8 +0.1**
comp=Z,8.5nm,0.8s,baz=138,slow=6.9,SNR=31
BRVK Borovoye 77.78 328 P **P 05 39 10.1 -0.1**
BRVK pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 77.78 328 P **P 05 39 10.1 -0.1**
BRVK IAmb IAmb 05 39 11.2
comp=Z,12nm,0.8s
TIXI Tiksi 78.09 360 ↓ *eP* **P 05 39 10.8 -0.7**
TIXI pmax pmax
comp=Z,7.0nm,0.7s
TIXI Tiksi 78.09 360 P **P 05 39 11.1 -0.4**
comp=Z,6.2nm,0.4s,baz=180,slow=24,SNR=17
TIXI Tiksi 78.09 360 P **P 05 39 11.1 -0.4**
GEYT Alibeck 79.93 310 P **P 05 39 22.4 +0.1**
comp=Z,818nm,0.5s,baz=132,slow=4.2,SNR=8.0
AB31 Akbulak array 82.17 322 *i* P **P 05 39 33.2 -0.6**
AB31 pmax pmax
comp=Z,3.0nm,0.6s
QSPA South Pole Qui 83.38 180 P **P 05 39 40.5 +0.6**
comp=Z,2.1nm,0.6s,baz=283,slow=1.0,SNR=20
QSPA South Pole Qui 83.38 180 IAmb IAmb 05 39 41.1
comp=Z,2.4nm,0.7s
AKTO Aktyubinsk 83.74 322 P **P 05 39 41.6 -0.2**
comp=Z,6.8nm,0.9s,baz=110,slow=7.0,SNR=11
ARU Arti 85.35 328 *d i* P **P 05 39 49.5 -0.2**
ARU S **S 05 49 59.6 -5.9**
ARU SS **SS 05 55 45.7 +1.1**
ARU pmax pmax
comp=Z,17nm,1.0s
ARU Arti 85.35 328 P **P 05 39 49.6 -0.2**
comp=Z,2.2nm,0.4s,baz=224,slow=1.0,SNR=11
RAYN Ar Rayn 87.55 294 P **P 05 40 01.3 0.0**
RAYN pmax pmax
comp=Z,23nm,0.9s
RAYN Ar Rayn 87.55 294 P **P 05 40 01.3 0.0**
RAYN IAmb IAmb 05 40 02.7
comp=Z,23nm,0.8s
KMBO Kilima Mbogo 92.57 269 P **P 05 40 25.6 +0.4**
comp=Z,1.4nm,0.8s,baz=2.6,slow=1.6,SNR=4.5
ILAR Eielson Array 93.00 25 P **P 05 40 24.5 -1.2**
comp=Z,1.4nm,0.8s,baz=266,slow=4.5,SNR=15
ARCES ARCESS Array B 101.19 340 P **Pdif 05 41 01.5 -1.1**
comp=Z,3.0nm,0.9s,baz=72,slow=5.8,SNR=3.8
YKA Yellowknife Ar 107.41 26 PKiKP **PKiKP 05 45 36.7 -1.2**
comp=Z,0.3nm,0.8s,baz=296,slow=1.4,SNR=4.1
BMRD Maredsous 117.05 324 PKPdf **PKPdf 05 45 56.5 -0.1**
BMRD pPKP pPKPdf 05 46 36.9 -4.8
TORD Torodi Ar. Bea 128.70 282 PKP **PKPdf 05 46 20.4 +0.4**
comp=Z,1.9nm,0.7s,baz=84,slow=1.9,SNR=9.6
DBIC Dimbokro 135.14 273 PKP **PKPdf 05 46 32.1 -0.1**
comp=Z,3.0nm,0.9s,baz=175,slow=3.2,SNR=3.5
CPUP Villa Florida 146.51 168 PKPbc **PKPdf 05 46 53.9 +1.6**
comp=Z,2.3nm,0.9s,baz=168,slow=4.1,SNR=5.3
MNMC Minye Minye 147.98 143 PKPdf **PKPdf 05 46 54.4 -0.8**
LPAZ La Paz 151.05 142 PKPbc **PKiKP 05 47 09.1 +2.0**
comp=Z,1.5nm,0.7s,baz=208,slow=5.0,SNR=5.9

IDC ***18*** *05:29:34.0±2.4,24.°15N×121.°84E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/67, mbtmp3.8/9, ML3.6/1, MS3.4/2, Ms1 3.5/2, ms1mx2.8/38, Error ellipse: s-maj=52.9km s-min=34.9km az=174.0*
JMA ***18*** *05:29:35.1±0.1,24.°16N×121.°78E, h0km, M3.9*
ISCJB ***18*** *05:29:35.4±0.3,24.°191N±0.°009×121.°82E±0.°01, h1km±2km, mb3.7/8, MS3.4/2, Error ellipse: s-maj=2.1km s-min=1.4km az=25.4*
NEIC ***18*** *05:29:35.3±1.0,24.°15N±0.°02×121.°84E±0.°03, h8km±6km, mb4.4/1*
TAP ***18*** *05:29:35.5,24.°19N×121.°79E, h11km, ML4.2, C*
ASIES ***18*** *05:29:36.7,24.°24N×121.°71E, h16km, MW3.7*

ISC 18 05:29:35.5±0.9, 24.°18N±0.°01×121.°81E±0.°02, h8km±6km, n150, ₙ0 8 7/252, mb3.7/9, 2C-25D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao** baz=268	**0.20**	**269**	↓P	**Pg**	**05 29 39.4**	**-0.2**
NACB				S	**Sg**	**05 29 42.2**	**-0.1**
NACB	**Ninganchiao** baz=268	**0.20**	**269**	Pg	**Pg**	**05 29 39.3**	**-0.2**
NACB				Sg	**Sg**	**05 29 42.6**	**+0.3**
TWD	**Chiawan** baz=246	**0.22**	**244**	P	**Pg**	**05 29 40.1**	**+0.1**
TWD				S	**Sg**	**05 29 43.2**	**+0.3**
NANB	**Nanao** baz=352	**0.26**	**347**	↓*i*P	**Pg**	**05 29 40.6**	**0.0**
NANB				*i* S	**Sg**	**05 29 44.5**	**+0.3**
ENA	**Nanau** baz=351	**0.26**	**346**	P	**Pg**	**05 29 40.6**	**-0.1**
ENA				S	**Sg**	**05 29 44.5**	**+0.3**
HWA	**Hwalien** baz=230	**0.27**	**224**	*e*P	**Pg**	**05 29 42.3**	**+1.3**
ETLH	**Xiulin Townshi** baz=276	**0.30**	**276**	↓*e*P	**Pg**	**05 29 41.4**	**-0.1**
ETLH				*e*S	**Sg**	**05 29 45.1**	**-0.5**
ENLB	**Shoufeng** baz=225	**0.33**	**215**	↓P	**Pb**	**05 29 43.2**	**-0.4**
ENLB				*e*S	**Sb**	**05 29 50.4**	**+1.3**
TWC	**Suao** baz=6.0	**0.43**	**5**	↓*i*P	**Pg**	**05 29 44.0**	**+0.1**
TWC				*i* S	**Sg**	**05 29 50.1**	**+0.5**
NNSH	**Datong** baz=304	**0.47**	**303**	↓P	**Pg**	**05 29 44.6**	**0.0**
NNSH				S	**Sg**	**05 29 50.2**	**-0.5**
EOS1	**EOS1** baz=24	**0.47**	**38**	P	**Pb**	**05 29 45.7**	**-0.3**
EOS1				S	**Sb**	**05 29 53.3**	**+0.2**
NNS	**Nan Shan** baz=305	**0.48**	**303**	↓*i*P	**Pg**	**05 29 44.8**	**-0.1**
NNS				S	**Sg**	**05 29 51.2**	**0.0**
ESL	**Shilin** baz=232	**0.50**	**224**	*e*P	**Pg**	**05 29 44.7**	**-0.5**
WHF	**Hehuan Shan** baz=267	**0.50**	**267**	↓P	**Pg**	**05 29 45.2**	**-0.1**
WHF				S	**Sg**	**05 29 51.8**	**-0.1**
NDT	**Datong Townshi** baz=329	**0.50**	**327**	↓*e*P	**Pg**	**05 29 45.5**	**+0.2**
NDT				S	**Sg**	**05 29 52.5**	**+0.6**
ENTT	**Nioudou** baz=337	**0.51**	**334**	↓*e*P	**Pg**	**05 29 45.5**	**+0.1**
ENTT				S	**Sg**	**05 29 52.7**	**+0.5**
TWE	**Neicheng** baz=350	**0.56**	**346**	↓P	**Pg**	**05 29 46.5**	**+0.2**
TWE				S	**Sg**	**05 29 54.1**	**+0.5**
TWT	**Tachien** baz=278	**0.58**	**278**	↑*e*P	**Pb**	**05 29 47.6**	**-0.5**
TWT				*e*S	**Sg**	**05 29 54.4**	**-0.2**
ILA	**Ilan** baz=351	**0.59**	**354**	*e*P	**Pg**	**05 29 47.0**	**+0.1**
ILA				S	**Sb**	**05 29 56.2**	**-0.3**
CHGB	**Renai** baz=251	**0.59**	**259**	P	**Pb**	**05 29 47.2**	**-1.0**
CHGB				S	**Sb**	**05 29 55.2**	**-1.7**
SLBB	**Yuanshan** baz=346	**0.60**	**344**	*e*P	**Pg**	**05 29 46.6**	**-0.5**
SLBB				S	**Sg**	**05 29 55.4**	**+0.5**
TDCB	**Techi** baz=278	**0.60**	**277**	*e*P	**Pb**	**05 29 47.5**	**-0.9**
TDCB				S	**Sg**	**05 29 54.5**	**-0.6**
EGFH	**Guangfu** baz=222	**0.61**	**215**	*e*P	**Pb**	**05 29 48.2**	**-0.3**
EGFH				*e*S	**Sb**	**05 29 58.0**	**+0.8**
OWD	**Renai** baz=250	**0.62**	**249**	*e*P	**Pb**	**05 29 48.6**	**-0.1**
YHNB	**Yeheng** baz=323	**0.63**	**321**	↓P	**Pg**	**05 29 48.0**	**+0.3**
YHNB				S	**Sg**	**05 29 55.6**	**-0.4**
YHNB	**Yeheng** baz=323	**0.63**	**321**		**Pg**	**05 29 48.0**	**+0.3**
YHNB				Sg	**Sg**	**05 29 56.7**	**+0.7**
NSK	**Sanguang** baz=322	**0.65**	**320**	↓*i*P	**Pg**	**05 29 48.2**	**+0.2**
NSK				S	**Sg**	**05 29 56.7**	**+0.2**
NWLT	**Wulai** baz=336	**0.66**	**335**	↓P	**Pg**	**05 29 48.6**	**+0.3**
NWLT				S	**Sg**	**05 29 57.2**	**+0.3**
EGS	baz=10.0	**0.68**	**9**	↓P	**Pb**	**05 29 49.2**	**-0.3**
NTC	**Toucheng** baz=2.0	**0.68**	**1**	*e*P	**Pg**	**05 29 48.6**	**0.0**
NTC				*e*S	**Sg**	**05 29 58.4**	**+1.0**
VWDT	**VWDT** baz=236	**0.74**	**236**	P	**Pb**	**05 29 50.2**	**-0.4**
VWDT				*e*S	**Sb**	**05 30 01.4**	**+0.4**
HGSD	**Ruisui** baz=199	**0.77**	**208**	↓P	**Pn**	**05 29 51.6**	**-1.0**
HGSD				*e*S	**Sn**	**05 30 04.0**	**-0.3**
TIPB	**Shuangxi** baz=1.0	**0.79**	**1**	↓*i*P	**Pg**	**05 29 51.3**	**+0.5**
TIPB				*i* S	**Sg**	**05 30 00.9**	**-0.2**
WHP	**Taichung City** baz=278	**0.80**	**277**	*e*P	**Pb**	**05 29 51.4**	**-0.2**
WHP				*e*S	**Sg**	**05 30 01.1**	**-0.2**
EHY	**Hungye** baz=226	**0.80**	**214**	*e*P	**Pb**	**05 29 51.0**	**-0.6**
DPDB	**Guoxing** baz=261	**0.82**	**260**	↓P	**Pb**	**05 29 51.7**	**-0.4**
DPDB				*e*S	**Sb**	**05 30 02.3**	**-1.0**
NHDH	**Xindian Distri** baz=343	**0.83**	**342**	*e*P	**Pb**	**05 29 51.8**	**-0.2**
NHDH				*e*S	**Sg**	**05 30 02.2**	**0.0**
TWA	**Mucha** baz=336	**0.83**	**346**	P	**Pb**	**05 29 51.8**	**-0.3**
TWA				S	**Sg**	**05 30 02.4**	**+0.2**
TWB1	**Santiao Chiao** baz=10.0	**0.84**	**11**	*e*P	**Pg**	**05 29 51.9**	**+0.1**
TWB1				*e*S	**Sg**	**05 30 02.5**	**-0.2**
WLTB	**Daxi** baz=324	**0.84**	**323**	*e*P	**Pn**	**05 29 52.9**	**-0.7**
WLTB				*e*S	**Sb**	**05 30 03.2**	**-0.7**
TATO	**Taipei** baz=341	**0.85**	**340**	↓P	**Pb**	**05 29 52.2**	**-0.3**
TATO				S	**Sg**	**05 30 02.9**	**0.0**
TATO	**Taipei** baz=341	**0.85**	**340**		**Pb**	**05 29 52.6**	**+0.2**
TATO				Sg	**Sg**	**05 30 03.5**	**+0.6**
LIOB	**Emei** baz=304	**0.86**	**303**	P	**Pb**	**05 29 53.0**	**+0.3**
LIOB				S	**Sb**	**05 30 03.6**	**-0.9**
NSTT	**Nanjuang** baz=303	**0.87**	**302**	P	**Pb**	**05 29 52.9**	**+0.1**
NSTT				S	**Sb**	**05 30 03.7**	**-0.8**
SSLB	**Suanglung** baz=254	**0.87**	**244**	P	**Pb**	**05 29 52.4**	**-0.5**
SSLB				S	**Sg**	**05 30 03.0**	**-0.7**
SSLB	**Suanglung** baz=254	**0.87**	**244**		**Pb**	**05 29 52.4**	**-0.5**
SSLB				Sg	**Sn**	**05 30 05.8**	**-1.2**
SMLT	**Sun Moon Lake** baz=251	**0.88**	**251**	P	**Pb**	**05 29 52.6**	**-0.5**
SMLT				S	**Sb**	**05 30 04.1**	**-1.0**
NWF	**Wu-fen Shan** baz=352	**0.89**	**358**	P	**Pb**	**05 29 53.3**	**0.0**
NWF				S	**Sg**	**05 30 04.7**	**+0.4**
WFSB	**Wu-fen Shan** baz=352	**0.89**	**358**	P	**Pb**	**05 29 53.3**	**+0.1**
WFSB				S	**Sg**	**05 30 04.3**	**+0.1**
TAP1	**Taipei** baz=344	**0.90**	**343**	P	**Pn**	**05 29 53.9**	**-0.5**
TAP1				*e*S	**Sg**	**05 30 04.8**	**+0.3**
TAP	**Taipei** baz=344	**0.90**	**342**	*e*P	**Pb**	**05 29 53.4**	**0.0**
TAP				*e*S	**Sg**	**05 30 04.9**	**+0.2**
YULB	**Yu-li** baz=223	**0.91**	**211**	P	**Pg**	**05 29 52.6**	**-0.4**
YULB	**Yu-li**	**0.91**	**211**		**Pg**	**05 29 52.7**	**-0.4**
TYC	**Yuchr** baz=254	**0.91**	**253**	P	**Pb**	**05 29 53.3**	**-0.3**
TYC				*e*S	**Sb**	**05 30 05.1**	**-0.7**
TWF1	**Yuli** baz=224	**0.95**	**210**	*e*P	**Pg**	**05 29 53.1**	**-0.6**
TWF1				*e*S	**Sn**	**05 30 07.7**	**-1.0**
TWQ1	**Liyutan** baz=282	**0.96**	**280**	*e*P	**Pn**	**05 29 55.5**	**+0.2**
SBCB	**Hsinchu** baz=311	**0.97**	**309**	*e*P	**Pn**	**05 29 55.6**	**+0.2**
SBCB				*e*S	**Sn**	**05 30 08.3**	**-1.0**
NCUH	**Zhongli** baz=326	**0.97**	**324**	*e*P	**Pn**	**05 29 55.5**	**+0.1**
NCUH				*e*S	**Sn**	**05 30 08.9**	**-0.5**
NCU	**National Centr** baz=326	**0.97**	**324**	*e*P	**Pn**	**05 29 55.4**	**-0.1**
NCU				*e*S	**Sb**	**05 30 08.2**	**+0.5**
HSN	**Hsinchu** baz=304	**0.99**	**309**	*e*P	**Pb**	**05 29 55.0**	**+0.2**
HSN				*e*S	**Sn**	**05 30 08.8**	**-1.0**
NSY	**Sanyi** baz=285	**0.99**	**284**	*e*P	**Pn**	**05 29 55.8**	**+0.2**
NSY				*e*S	**Sn**	**05 30 08.4**	**-1.4**
TWS1	**Kuangyinshan** baz=340	**0.99**	**339**	P	**Pn**	**05 29 55.4**	**-0.2**
TWS1				*e*S	**Sb**	**05 30 08.3**	**+0.3**
YM01	**YM01** baz=348	**0.99**	**347**	P	**Pb**	**05 29 55.4**	**+0.4**
YM01				S	**Sg**	**05 30 07.9**	**+0.4**
NMLH	**Miaoli** baz=292	**1.00**	**291**	*e*P	**Pn**	**05 29 57.0**	**+1.3**
NMLH				*e*S	**Sn**	**05 30 09.1**	**-0.9**
WHYT	**Xinyi Township** baz=249	**1.00**	**242**	*e*P	**Pn**	**05 29 55.7**	**-0.1**
WHYT				*e*S	**Sn**	**05 30 08.8**	**-1.3**
YM10	**YM10** baz=348	**1.00**	**347**	↓*i*P	**Pb**	**05 29 55.3**	**+0.2**
YM10				S	**Sg**	**05 30 07.8**	**0.0**
YM04	**YM04** baz=347	**1.00**	**346**	↓P	**Pb**	**05 29 55.4**	**+0.2**
YM04				*e*S	**Sb**	**05 30 08.5**	**0.0**
YM05	**YM05** baz=348	**1.01**	**347**	↓P	**Pn**	**05 29 55.7**	**-0.3**
YM05				*e*S	**Sg**	**05 30 07.8**	**-0.2**
YM11	**YM11**	**1.01**	**348**	↓P	**Pn**	**05 29 55.7**	**-0.3**

	baz=349								
YM11					*e*S		**Sb**	**05 30 09.2**	**+0.4**
	baz=349								
YM08	**YM08**	**1.03**	**349**	P			**Pb**	**05 29 55.5**	**0.0**
	baz=350								
YM08					*e*S		**Sg**	**05 30 08.7**	**0.0**
	baz=350								
TCU	**Taichung**	**1.04**	**269**	*e*P			**Pn**	**05 29 57.2**	**+0.9**
	baz=271								
NTST	**Danshui**	**1.04**	**342**	*e*P			**Pn**	**05 29 56.2**	**-0.1**
	baz=343								
ANP	**Anpu**	**1.04**	**345**	*e*P			**Pg**	**05 29 54.7**	**-0.8**
	baz=347								
YUS	**Yu-Shan**	**1.04**	**229**	*e*P			**Pn**	**05 29 55.9**	**-0.9**
	baz=231								
YUS					*e*S		**Sn**	**05 30 10.8**	**-1.0**
	baz=231								
PTSB	**Yuanli**	**1.04**	**285**	*e*P			**Pn**	**05 29 57.4**	**+1.0**
	baz=286								
PTSB					*e*S		**Sn**	**05 30 11.3**	**+0.2**
	baz=286								
WJS	**Zhushan**	**1.05**	**251**	*e*P			**Pn**	**05 29 57.3**	**+0.8**
	baz=252								
WJS					*e*S		**Sn**	**05 30 12.0**	**+0.7**
	baz=252								
WNT	**Mingjian**	**1.07**	**254**	*e*P			**Pn**	**05 29 57.6**	**+0.9**
	baz=251								
WNT					*e*S		**Sn**	**05 30 13.1**	**+1.3**
	baz=251								
FULB	**Fuli**	**1.08**	**206**	P			**Pn**	**05 29 56.5**	**-0.5**
	baz=223								
FULB					*e*S		**Sn**	**05 30 14.3**	**+2.1**
	baz=223								
WDJ	**Dajia District**	**1.08**	**279**	*e*P			**Pn**	**05 29 57.9**	**+1.0**
	baz=289								
WDJ					*e*S		**Sn**	**05 30 12.4**	**+0.3**
	baz=289								
YOJ	**Yonaguni jima**	**1.13**	**75**	P			**Pg**	**05 29 57.4**	**+0.2**
YOJ					*e*S		**Sn**	**05 30 13.5**	**+0.2**
YOJ	**Yonaguni jima**	**1.13**	**75**	*e*P			**Pn**	**05 29 58.2**	**+0.7**
	baz=64								
YOJ					*e*S		**Sn**	**05 30 14.5**	**+1.2**
	baz=64								
YOJ	**Yonaguni jima**	**1.13**	**75**	Pg			**Pg**	**05 29 56.5**	**-0.7**
ALS	**Alishan**	**1.14**	**234**	P			**Pn**	**05 29 57.7**	**-0.2**
	baz=236								
ALS					*e*S		**Sn**	**05 30 15.1**	**+1.3**
	baz=236								
CHKT	**Chengkung**	**1.15**	**201**	*e*P			**Pb**	**05 29 57.1**	**-0.4**
	baz=204								
CHKT					*e*S		**Sn**	**05 30 15.1**	**+1.5**
	baz=204								
WCHH	**Zhanghua**	**1.15**	**265**	*e*P			**Pn**	**05 29 59.2**	**+1.4**
	baz=267								
WCHH					*e*S		**Sn**	**05 30 16.3**	**+2.6**
	baz=267								
CHN5	**Tsauling**	**1.19**	**241**	*e*P			**Pn**	**05 29 59.2**	**+0.8**
	baz=243								
CHN5					S		**Sn**	**05 30 16.7**	**+1.9**
	baz=243								
ELDTW	**Lidau**	**1.22**	**217**	*e*P			**Pg**	**05 29 58.0**	**-0.9**
	baz=209								
ELDTW					*e*S		**Sn**	**05 30 14.8**	**-1.0**
	baz=209								
WGK	**Gukeng**	**1.24**	**247**	*e*P			**Pg**	**05 29 59.8**	**+0.5**
	baz=250								
WDLH	**Douliu**	**1.26**	**248**	*e*P			**Pg**	**05 30 00.7**	**+1.0**
	baz=250								
WDLH					*e*S		**Sn**	**05 30 18.8**	**+2.3**
	baz=250								
RLNB	**Erlin**	**1.36**	**258**	*e*P			**Pg**	**05 30 01.8**	**+0.2**
	baz=261								
RLNB					*e*S		**Sg**	**05 30 20.2**	**+1.1**
	baz=261								
CHN2	**Minshiung**	**1.38**	**243**	*e*P			**Pg**	**05 30 02.4**	**+0.4**
	baz=246								
CHN2					*e*S		**Sg**	**05 30 23.2**	**+3.3**
	baz=246								
CHN4	**Tsaushan**	**1.39**	**234**	⇓P			**Pg**	**05 30 02.2**	**+0.1**
	baz=237								
CHN4					*e*S		**Sg**	**05 30 22.9**	**+2.8**
	baz=237								
TPUB	**Ta-pu**	**1.39**	**231**	⇓P			**Pg**	**05 30 02.1**	**0.0**
	baz=222								
TPUB					S		**Sg**	**05 30 21.3**	**+1.0**
	baz=222								
TPUB	**Ta-pu**	**1.39**	**231**				**Pg**	**05 30 02.3**	**+0.1**
TPUB				Sn			**Sg**	**05 30 23.3**	**+3.0**
STYT	**Tauyuan**	**1.40**	**224**	P			**Pg**	**05 30 01.8**	**-0.5**
	baz=227								
STYT					*e*S		**Sg**	**05 30 20.6**	**+0.1**
	baz=227								
WTCT	**Ta-ch'eng**	**1.43**	**258**	*e*P			**Pb**	**05 30 01.7**	**-0.7**
	baz=260								
WTCT					*e*S		**Sg**	**05 30 23.2**	**+1.5**
	baz=260								
WTP	**Ta-pu**	**1.44**	**230**	*e*P			**Pg**	**05 30 02.8**	**-0.3**
	baz=233								
WTP					*e*S		**Sg**	**05 30 23.1**	**+1.4**
	baz=233								
CHY	**Chiayi**	**1.44**	**242**	*e*P			**Pg**	**05 30 03.3**	**+0.2**
	baz=246								
TWG	**Pinlang**	**1.51**	**207**	*e*P			**Pn**	**05 30 01.1**	**-1.7**
	baz=211								
TWG					S		**Sn**	**05 30 22.0**	**-0.7**
	baz=211								
TWG	**Pinlang**	**1.51**	**207**				**Pn**	**05 30 01.1**	**-1.7**
TWGBT	**Beinan**	**1.51**	**207**	*e*P			**Pn**	**05 30 01.3**	**-1.5**
	baz=211								
TWGBT					*e*S		**Sn**	**05 30 21.7**	**-0.9**
	baz=211								
TWK	**Hsinying**	**1.51**	**234**	P			**Pg**	**05 30 04.5**	**0.0**
	baz=236								
TWK					S		**Sg**	**05 30 26.3**	**+2.1**
	baz=236								
CHN1	**Nanshi**	**1.54**	**230**	⇑P			**Pg**	**05 30 04.9**	**0.0**
	baz=223								
CHN1					*e*S		**Sg**	**05 30 26.2**	**+1.4**
	baz=223								
SNST	**Tainan City**	**1.54**	**232**	*e*P			**Pg**	**05 30 04.4**	**-0.6**
	baz=236								
WLGB	**Puzi**	**1.55**	**244**	*e*P			**Pn**	**05 30 02.5**	**-0.8**
	baz=247								
WLGB					*e*S		**Sg**	**05 30 27.4**	**+2.1**
	baz=247								
WSF	**Szhu**	**1.55**	**250**	*e*P			**Pg**	**05 30 05.0**	**-0.3**
	baz=253								
WSF					*e*S		**Sg**	**05 30 27.1**	**+1.8**
	baz=253								
SGST	**Jiashian**	**1.57**	**226**	*e*P			**Pb**	**05 30 04.2**	**-0.5**
	baz=229								
SGST					*e*S		**Sg**	**05 30 27.5**	**+1.6**
	baz=229								
SLGT	**Liugui**	**1.59**	**222**	*e*P			**Pb**	**05 30 04.6**	**-0.5**
	baz=226								
SLGT					*e*S		**Sg**	**05 30 26.6**	**0.0**
	baz=226								
CHN8	**Yiju**	**1.68**	**241**	*e*P			**Pb**	**05 30 05.8**	**-0.9**
	baz=244								
CHN8					*e*S		**Sg**	**05 30 30.9**	**+1.3**
	baz=244								
ECL	**Taimali**	**1.76**	**207**	*e*P			**Pn**	**05 30 05.2**	**-1.1**
	baz=195								
IRIF	**Iriomote-Funau**	**1.76**	**84**	P			**Pb**	**05 30 07.3**	**-0.7**
IRIF					*e*S		**Sb**	**05 30 30.9**	**+0.7**
SSD	**Sandimen**	**1.79**	**217**	*e*P			**Pb**	**05 30 08.1**	**-0.4**
	baz=211								
TWM1	**Shoushan**	**1.85**	**224**	*e*P			**Pg**	**05 30 09.9**	**-1.1**
	baz=227								
MASBT	**Mashibuluo**	**1.90**	**215**	*e*P			**Pn**	**05 30 08.5**	**+0.4**
	baz=218								
MASBT					*e*S		**Sb**	**05 30 33.7**	**-0.5**
	baz=218								
JKRS	**Kuro-shima**	**2.01**	**88**	P			**Pb**	**05 30 11.3**	**-0.9**
JKRS					S		**Sb**	**05 30 38.0**	**+0.6**
WSSB	**Gushan**	**2.09**	**223**	*e*P			**Pb**	**05 30 11.9**	**-1.7**
	baz=226								
SCZT	**Fangliau**	**2.10**	**212**	*e*P			**Pn**	**05 30 11.3**	**+0.4**
	baz=214								
SCZT					*e*S		**Sb**	**05 30 39.9**	**-0.3**
	baz=214								
JIJ	**Ishigaki jima**	**2.14**	**85**	P			**Pn**	**05 30 12.3**	**+0.9**
LAY	**Lan-yu**	**2.14**	**186**	*e*P			**Pn**	**05 30 09.0**	**-2.5**
	baz=189								
PNG	**Penghu**	**2.15**	**254**	*e*P			**Pn**	**05 30 12.1**	**+0.5**
	baz=258								
PNG					*e*S		**Sb**	**05 30 39.3**	**-2.2**
	baz=258								
WDGT	**Dungji**	**2.17**	**246**	*e*P			**Pb**	**05 30 13.3**	**-1.7**
	baz=249								
VWUC	**VWUC**	**2.30**	**291**	*e*P			**Pn**	**05 30 13.4**	**-0.2**
	baz=282								
JISG	**Ishigakijimahi**	**2.31**	**79**	P			**Pn**	**05 30 14.7**	**+0.8**
JISG					S		**Sb**	**05 30 45.2**	**-1.0**
VCHM	**Qimei**	**2.39**	**247**	*e*P			**Pn**	**05 30 15.4**	**+0.5**
	baz=235								
TWK1	**Hengchun**	**2.41**	**203**	*e*P			**Pn**	**05 30 15.7**	**+0.5**
	baz=193								
TWKBT	**Hengchun**	**2.41**	**203**	*e*P			**Pn**	**05 30 16.3**	**+1.2**
	baz=193								
MATB	**Ma-tsu**	**2.59**	**320**	*e*P			**Pn**	**05 30 17.7**	**0.0**
	baz=320								
PTMZ	**Houxiangcun**	**2.60**	**290**	*e*P			**Pn**	**05 30 18.0**	**+0.3**
	baz=292								
PTMZ					*e*S		**Sn**	**05 30 49.3**	**-0.1**
	baz=292								
JTJ	**Tarama**	**2.68**	**79**	P			**Pb**	**05 30 22.2**	**-1.4**
LYJJ	**Jianjiangzhen**	**3.00**	**322**	*e*P			**Pn**	**05 30 23.0**	**-0.3**
	baz=323								
KNM	**Kinmen**	**3.09**	**275**	*e*P			**Pn**	**05 30 26.5**	**+1.9**
	baz=278								
XPSS	**Dashiqiu**	**3.11**	**332**	*e*P			**Pn**	**05 30 24.7**	**-0.1**
	baz=332								
KNMB	**Chin-men Tao**	**3.14**	**276**	*e*P			**Pn**	**05 30 25.1**	**-0.1**
	baz=279								
KNMB	**Chin-men Tao**	**3.14**	**276**	Pn			**Pn**	**05 30 25.4**	**+0.3**
MHZQ	**Yeshan**	**3.17**	**308**	*e*P			**Pn**	**05 30 25.3**	**-0.3**
	baz=309								
AXDP	**Jialang**	**3.57**	**282**	*e*P			**Pn**	**05 30 31.7**	**+0.5**
	baz=284								
AXDP					*e*S		**Sn**	**05 31 12.7**	**-0.8**
	baz=284								
ZPLA	**Ao Xicun**	**3.72**	**267**	*e*P			**Pn**	**05 30 33.9**	**+0.7**
	baz=271								
ZPLA					*e*S		**Sn**	**05 31 17.3**	**+0.1**
	baz=271								
ZZJH	**Jiuhuzhen**	**3.83**	**275**	*e*P			**Pn**	**05 30 34.9**	**+0.2**
	baz=278								
KSRS	**Korea Array**	**14.23**	**20**	Pn			**Pn**	**05 32 58.5**	**+1.2**
	0.3nm,0.3s,baz=199,slow=12,SNR=4.1								
KLR	**Kul'dur**	**26.20**	**15**	P			**P**	**05 35 10.1**	**-0.4**
	1.5nm,0.7s,baz=298,slow=5.8,SNR=3.8								
SONM	**Songino Array**	**26.60**	**336**	P			**P**	**05 35 14.5**	**+0.2**
	1.1nm,0.8s,baz=147,slow=7.0,SNR=7.2								
LEM	**Lembang**	**33.78**	**206**	LR			LR	05 50 15.0	
	comp=Z,26nm,19.8s,baz=258,slow=37								
MKAR	**Makanchi Array**	**38.74**	**316**	P			**P**	**05 37 00.6**	**+0.4**
	1.4nm,0.7s,baz=103,slow=9.9,SNR=6.7								
ZALV	**Zalesovo Beam**	**40.56**	**327**	P			**P**	**05 37 15.0**	**-0.2**
	0.6nm,0.4s,baz=128,slow=6.0,SNR=4.9								
ZALV						PcP	**PcP**	**05 39 17.0**	**-0.4**
	3.6nm,0.7s,baz=121,slow=4.6,SNR=5.0								
KURBB	**Kurchatov Arra**	**42.48**	**320**	P			**P**	**05 37 31.3**	**+0.3**
	0.7nm,0.9s,baz=107,slow=8.1,SNR=4.1								
KURBB						PcP	**PcP**	**05 39 23.5**	**-0.3**
	7.3nm,0.8s,baz=128,slow=5.3,SNR=7.9								
TIXI	**Tiksi**	**47.67**	**3**	P			**P**	**05 38 10.4**	**-1.6**
	0.9nm,0.3s,baz=348,slow=6.5,SNR=3.5								
ABKAR	**Akbulak array**	**53.86**	**314**	P			**P**	**05 38 59.2**	**+0.3**
ABKAR						IAmb	IAmb	05 39 02.3	
	comp=Z,6.4nm,1.5s								
ILAR	**Eielson Array**	**68.96**	**27**	P			**P**	**05 40 42.6**	**+1.7**
	comp=Z,0.6nm,1.1s,baz=275,slow=4.6,SNR=3.9								
NOA	**NORSAR Array B**	**78.50**	**332**	LR			LR	06 21 14.7	
	comp=Z,54nm,20.7s,baz=315,slow=40								
YKA	**Yellowknife Ar**	**82.75**	**23**	P			**P**	**05 41 58.7**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=310,slow=5.0,SNR=8.1								

NIED ***18*** *05:33:00,44.˚50N×148.˚90E,h20km,Mw4.3 Best double couple: M≈3.18000×10¹⁵ NP1:φ≈238.00000°,δ≈23.00000°, λ≈114.00000°. NP2:φ≈32.00000°,δ≈69.00000°,λ≈80.00000°.*
ISCJB ***18*** *05:33:21.8±0.5,44.˚35N±0.˚04×149.˚05E±0.˚04,h45km±4km, mb4.4/68,MS3.9/10,Error ellipse: s-maj=6.5km s-min=4.1km az=148.9*
MOS ***18*** *05:33:21.9±1.0,44.˚38N×149.˚03E,h47km,mb4.8/22,Error ellipse: s-maj=6.8km s-min=6.3km az=102.7*
SKHL ***18*** *05:33:21.2±0.3,44.˚32N×149.˚25E,h52km±1km,mb4.9/1*
JMA ***18*** *05:33:23.8±0.6,44.˚50N×148.˚90E,h30km,M4.7*
IDC ***18*** *05:33:24.4±2.4,44.˚47N×149.˚01E,h53km±20km,mb4.0/32, mb1 4.2/37,mb1mx4.0/64,mbtmp4.3/37,ML3.7/5,MS3.6/10, Ms1 3.7/10,ms1mx3.2/42,Error ellipse: s-maj=16.9km s-min=11.0km az=162.0*
NEIC ***18*** *05:33:25.6±1.4,44.˚45N±0.˚09×148.˚97E±0.˚08,h62km±4km, mb4.5/62*
ISC 18 05:33:22.4±0.7,44˚27N±0˙05×149˚15E±0˙05,h40km±5km, n278,σ1$43/299,mb4.5/92,MS3.7/10,15C-14D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.33**	**317**	*d*	iPN	**Pn**	**05 33 42.4**	**-2.0**
KUR					*i* S	**Sn**	**05 33 58.0**	**-2.8**
KUR					pmax	pmax		
	comp=E,2μm,0.5s							
KUR					pmax	pmax		
	comp=N,2μm,0.4s							
KUR					pmax	pmax		
	comp=E,1μm,0.3s							
KUR					smax	smax		
	comp=N,3μm,0.2s							
KUR					smax	smax		
	comp=E,4μm,0.2s							
KUR	**Kuril'sk**	**1.33**	**317**	*i*	P	**Pn**	**05 33 42.3**	**-2.1**
KUR					AMB	AMB	05 33 42.9	
	comp=E,230nm,0.5s							
KUR					AMB	AMB	05 33 42.9	
	comp=E,180nm,0.5s							
KUR					AMB	AMB	05 33 42.9	
	comp=E,2μm,0.5s							
KUR					*i* S	**Sn**	**05 33 58.1**	**-2.8**
KUR					A	A	05 34 02.4	
	comp=E,3μm,0.2s							
KUR					A	A	05 34 02.4	
	comp=E,4μm,0.2s							
SHO	**Shikotan**	**1.72**	**257**	*d*	iPN	**Pn**	**05 33 49.1**	**-0.7**
SHO					*i* S	**Sn**	**05 34 09.7**	**-0.8**
SHO					pmax	pmax		
	comp=Z,256nm,0.4s							
SHO					pmax	pmax		
	comp=N,69nm,0.3s							
SHO					pmax	pmax		
	comp=E,67nm,0.3s							
SHO					smax	smax		
	comp=N,2μm,0.5s							
SHO					smax	smax		
	comp=E,851nm,0.3s							
SHO	**Shikotan**	**1.72**	**257**	*i*	P	**Pn**	**05 33 49.2**	**-0.6**
SHO					AMB	AMB	05 33 53.0	
	comp=E,280nm,0.3s							
SHO					*i* S	**Sn**	**05 34 10.5**	**0.0**
SHO					A	A	05 34 20.7	
	comp=E,2μm,0.5s							
SHO					A	A	05 34 20.7	
	comp=E,3μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.38**	**265**	*d*	iPN	**Pn**	**05 33 59.0**	**+0.1**
YUK					*i* S	**Sn**	**05 34 27.2**	**+0.4**
YUK					pmax	pmax		
	comp=N,183nm,0.2s							
YUK					pmax	pmax		
	comp=E,142nm,0.2s							
YUK					pmax	pmax		
	comp=Z,1μm,0.2s							
YUK					smax	smax		
	comp=N,1μm,0.4s							
YUK					smax	smax		
	comp=E,2μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.38**	**265**	*i*	P	**Pn**	**05 33 58.6**	**-0.3**
YUK					AMB	AMB	05 34 01.0	
	comp=E,470nm,0.4s							
YUK					AMB	AMB	05 34 01.0	
	comp=E,660nm,0.4s							
YUK					AMB	AMB	05 34 01.0	
	comp=E,1μm,0.4s							
YUK					*i* S	**Sn**	**05 34 26.5**	**-0.3**
YUK					A	A	05 34 30.0	
	comp=E,3μm,0.6s							
YUK					A	A	05 34 30.0	
	comp=E,4μm,0.6s							
GRPR	**Tuman**	**2.45**	**265**	⇓	iPN	**Pn**	**05 33 59.9**	**+0.1**
GRPR					*i* S	**Sn**	**05 34 29.5**	**+1.0**
GRPR					pmax	pmax		
	comp=N,244nm,0.3s							
GRPR					pmax	pmax		
	comp=E,122nm,0.3s							
GRPR					pmax	pmax		
	comp=Z,645nm,0.3s							
GRPR					smax	smax		
	comp=N,1μm,0.4s							
GRPR					smax	smax		
	comp=E,3μm,0.4s							
GRPR	**Tuman**	**2.45**	**265**	*i*	P	**Pn**	**05 33 59.0**	**-0.8**
GRPR					AMB	AMB	05 34 02.0	
	comp=E,240nm,0.3s							
GRPR					AMB	AMB	05 34 02.0	
	comp=E,120nm,0.3s							
GRPR					AMB	AMB	05 34 02.0	
	comp=E,650nm,0.3s							
GRPR					*i* S	**Sn**	**05 34 29.0**	**+0.5**
GRPR					A	A	05 34 37.0	
	comp=E,1μm,0.4s							
GRPR					A	A	05 34 37.0	
	comp=E,3μm,0.4s							
NEM2	**Nemuro 2**	**2.63**	**251**	P		**Pn**	**05 34 02.0**	**-0.3**
NEM2					*e*S	**Sn**	**05 34 30.8**	**-2.1**
NMR	**Nemuro--Hokkai**	**2.64**	**251**	*c*	iPN	**Pn**	**05 34 02.5**	**+0.1**
NMR					*i* S	**Sn**	**05 34 36.1**	**+3.0**
NMR	**Nemuro--Hokkai**	**2.64**	**251**	*i*	P	**Pn**	**05 34 02.0**	**-0.4**
NMR					*e*rx	rx	05 34 36.0	
GLVR	**Golovnino**	**2.67**	**260**	⇓	iPN	**Pn**	**05 34 04.0**	**+1.1**
GLVR					*i* S	**Sn**	**05 34 36.6**	**+2.6**
GLVR					pmax	pmax		
	comp=Z,493nm,0.4s							
GLVR					pmax	pmax		
	comp=N,251nm,0.2s							
GLVR					pmax	pmax		
	comp=E,116nm,0.2s							
GLVR					smax	smax		
	comp=E,1μm,0.3s							
GLVR					smax	smax		
	comp=N,3μm,0.4s							
GLVR	**Golovnino**	**2.67**	**260**	*i*	P	**Pn**	**05 34 04.0**	**+1.1**
GLVR					AMB	AMB	05 34 10.0	
	comp=N,250nm,0.4s							
GLVR					AMB	AMB	05 34 10.0	
	comp=N,120nm,0.4s							
GLVR					AMB	AMB	05 34 10.0	
	comp=N,490nm,0.4s							
GLVR					*i* S	**Sn**	**05 34 36.0**	**+2.0**
GLVR					A	A	05 34 46.0	
	comp=N,3μm,0.4s							
GLVR					A	A	05 34 46.0	
	comp=N,1μm,0.4s							
JRA	**Rausu**	**2.92**	**265**		P	**Pn**	**05 34 06.9**	**+0.6**
JRA					*e*S	**Sn**	**05 34 39.8**	**-0.3**
JNK	**Nakash**	**3.27**	**259**		P	**Pn**	**05 34 11.4**	**+0.2**
JAK	**Akkeshi**	**3.48**	**250**		P	**Pn**	**05 34 13.8**	**-0.1**
JAR	**Ashorobuto**	**4.02**	**258**		P	**Pn**	**05 34 22.3**	**+0.9**
JMP	**Maruseppu**	**4.18**	**268**		P	**Pn**	**05 34 24.9**	**+1.3**
JCH	**Churui**	**4.53**	**251**		P	**Pn**	**05 34 29.1**	**+0.7**
JCH					*e*S	**Sn**	**05 35 18.4**	**-1.4**
JKK2	**Kamakawa 2**	**4.63**	**267**		P	**Pn**	**05 34 32.0**	**+2.2**
JKA	**Kamikawa-asahi**	**4.71**	**270**	*i*	P	**Pn**	**05 34 33.3**	**+2.4**
JKA	**Kamikawa-asahi**	**4.71**	**270**			**Pn**	**05 34 33.3**	**+2.4**
JKA						Sn	05 35 43.3	+19
ASAJ	**Asahikawa**	**4.71**	**270**		P	**Pn**	**05 34 32.7**	**+1.7**
ASAJ	**Asahikawa**	**4.71**	**270**		P	**Pn**	**05 34 33.3**	**+2.3**
	comp=N,5.9nm,0.3s,baz=74,slow=20,SNR=12							
ASAJ					S	Sn	05 35 43.3	+19
	comp=N,5.5nm,0.3s,baz=81,slow=22,SNR=2.6							
ASAJ					LR	LR	05 36 34.0	
	comp=N,916nm,18.6s,baz=88,slow=41							
JFR	**Furan**	**4.88**	**259**		P	**Pn**	**05 34 35.9**	**+2.6**
ERM	**Erimo**	**4.93**	**245**		PN	**Pn**	**05 34 35.8**	**+1.9**
ERM	**Erimo**	**4.93**	**245**			**Pn**	**05 34 35.8**	**+1.9**
JNBK	**Urakawa-nobuka**	**5.08**	**249**		P	**Pn**	**05 34 36.1**	**+0.2**
JBT2	**Biratori 2**	**5.16**	**256**		P	**Pn**	**05 34 37.7**	**+0.7**
YSS	**Yuzh-Sakhalins**	**5.23**	**303**	*e*	PN	**Pn**	**05 34 37.8**	**-0.2**
YSS					pmax	pmax		
	comp=Z,50nm,0.4s							
YSS					MLR	MLR		
	comp=Z,800nm,16.0s							
YSS					MLR	MLR		
	comp=E,800nm,18.0s							
YSS	**Yuzh-Sakhalins**	**5.23**	**303**	*e*	P	**Pn**	**05 34 38.6**	**+0.6**
YSS					AMB	AMB	05 34 39.0	
	comp=E,50nm,0.4s							
YSS					*e*S	**Sn**	**05 35 35.5**	**-1.4**
YSS					A	A	05 35 36.0	
	comp=E,70nm,0.7s							
YSS					A	A	05 35 36.0	
	comp=E,40nm,0.7s							
YSS	**Yuzh-Sakhalins**	**5.23**	**303**			**Pn**	**05 34 37.4**	**-0.6**
JSS	**Shosan**	**5.24**	**274**		P	**Pn**	**05 34 41.1**	**+3.0**
JWK2	**Keihoku**	**5.27**	**284**		P	**Pn**	**05 34 40.7**	**+2.2**
JEW	**Eniwo**	**5.78**	**258**		P	**Pn**	**05 34 48.0**	**+2.5**
JRBN	**Rebuntou**	**5.86**	**284**		P	**Pn**	**05 34 48.9**	**+2.2**
JNB	**Noboribetsu**	**6.18**	**256**		P	**Pn**	**05 34 52.0**	**+0.9**
JNB					*e*S	**Sn**	**05 35 59.3**	**-1.1**
JKB	**Kayabe**	**6.40**	**251**		P	**Pn**	**05 34 54.5**	**+0.4**
JKB					*e*S	**Sn**	**05 36 02.6**	**-3.3**
JYM2	**Yakumo 2**	**6.77**	**254**		P	**Pn**	**05 34 59.3**	**+0.1**
UGL	**Uglegorsk**	**6.84**	**317**	*e*	P	**Pn**	**05 35 00.7**	**+0.6**
JANG	**Nango**	**6.87**	**238**		P	**Pn**	**05 34 59.4**	**-1.1**
JANG					*e*S	**Sn**	**05 36 11.3**	**-6.1**
JTM	**Tenmabayashi**	**6.91**	**243**		P	**Pn**	**05 35 00.8**	**-0.3**
JTM					*e*S	**Sn**	**05 36 12.5**	**-5.9**
JSR	**Shiriuchi**	**6.97**	**250**		P	**Pn**	**05 35 01.9**	**0.0**
JOSM	**Okushiri--Mats**	**7.40**	**256**		P	**Pn**	**05 35 08.6**	**+0.8**
TYV	**Tymovskoe**	**7.92**	**329**	*e*	PN	**Pn**	**05 35 17.0**	**+2.1**
TYV					pmax	pmax		
	comp=Z,24nm,0.7s							
TYV					pmax	pmax		
	comp=Z,100nm,2.5s							
TYV	**Tymovskoe**	**7.92**	**329**	*e*	P	**Pn**	**05 35 15.8**	**+0.9**
TYV					AMB	AMB	05 35 17.4	
	comp=Z,20nm,0.7s							
TYV					AMB	AMB	05 35 17.8	
	comp=Z,100nm,3.0s							
TYV					*e*S	**Sn**	**05 36 40.4**	**-2.7**
TYV					A	A	05 36 46.2	
	comp=Z,2μm,6.0s							
SKR	**Severo-Kuril's**	**7.96**	**34**	*e*	PN	**Pn**	**05 35 17.0**	**+1.6**
SKR					pmax	pmax		
	comp=Z,58nm,0.7s							
SKR	**Severo-Kuril's**	**7.96**	**34**	*e*	P	**Pn**	**05 35 15.8**	**+0.4**
SKR					AMB	AMB	05 35 17.

KROS AMB AMB 05 37 27.6
comp=Z,10.0nm,0.8s
SEY Seymchan 18.79 5 *i* P **P 05 37 35.5 -2.5**
SEY Seymchan 18.79 5 P **P 05 37 36.0 -2.0**
comp=Z,0.7nm,0.3s,baz=177,slow=6.5,SNR=12
SEY Seymchan 18.79 5 *e*P **P 05 37 35.5 -2.5**
YAK Yakutsk 21.12 334 *e*P **P 05 38 06.3 +3.0**
YAK pmax pmax
comp=Z,38nm,0.9s
YAK pmax pmax
comp=E,11nm,1.2s
YAK pmax pmax
comp=N,14nm,1.1s
YAK Yakutsk 21.12 334 *e*P **P 05 38 01.9 -1.4**
BILL Bilibino 25.47 15 *e*P **P 05 38 46.2 -0.1**
BILL *PP **pP 05 38 57.0 +1.0**
BILL *SP **sP 05 39 02.0 +1.6**
BILL PPP PPP 05 39 30.0
BILL 05 42 18.0
BILL S **S 05 43 15.0 +4.7**
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,153nm,19.0s
BILL Bilibino 25.47 15 *e*P **P 05 38 46.2 -0.1**
NJ2 Nanjing 26.61 253 *e*P **P 05 38 57.3 +0.4**
NJ2 pmax pmax
comp=Z,21nm,0.7s
HHC Hu-ho-hao-te 27.73 276 *e*P **P 05 39 07.6 +0.5**
HHC pmax pmax
comp=Z,6.0nm,0.8s
HHC pmax pmax
comp=Z,10.0nm,4.6s
H11N2 WAKE ISLAND Hy 28.60 143 T T 06 10 13.1
baz=334,slow=76,SNR=390
H11N1 WAKE ISLAND Hy 28.61 143 T T 06 10 09.3
baz=334,slow=76,SNR=162
H11N3 WAKE ISLAND Hy 28.62 143 T T 06 10 14.4
baz=334,slow=76,SNR=140
ULN Ulaanbaatar 29.16 292 *i* P **P 05 39 19.1 -0.7**
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 29.16 292 *e*P **P 05 39 19.1 -0.7**
SONM Songino Array 29.61 292 P **P 05 39 23.1 -0.5**
comp=Z,1.6nm,0.6s,baz=66,slow=8.4,SNR=6.1
H11S1 WAKE ISLAND Hy 29.61 145 T T 06 11 30.2
baz=335,slow=76,SNR=634
H11S3 WAKE ISLAND Hy 29.61 145 T T 06 11 24.9
baz=335,slow=76,SNR=363
H11S2 WAKE ISLAND Hy 29.62 145 T T 06 11 20.9
baz=335,slow=76,SNR=214
WHN Wuhan 30.61 255 P **P 05 39 36.5 +4.0**
TLY Talaya 30.93 300 LR LR 05 53 13.0
comp=Z,145nm,18.1s,baz=41,slow=39
GTA Gaotai 36.63 280 *e*P **P 05 40 25.8 +0.9**
GTA pP pwP 05 40 38.3 -1.6
GTA sP sP 05 40 42.8 +3.4
GTA pmax pmax
comp=Z,8.0nm,0.8s
KDAK Kodiak Island 37.83 48 P **P 05 40 34.7 +0.1**
comp=Z,3.7nm,0.6s,baz=257,slow=8.2,SNR=6.7
KDAK Kodiak Island 37.83 48 P **P 05 40 35.1 +0.4**
PPLA Purkeypile 37.86 40 P **P 05 40 34.6 -0.5**
PPLA IAmb IAmb 05 40 45.9
comp=Z,10nm,1.2s
BPAW Bear Paw Mtn. 38.43 38 P **P 05 40 38.8 -0.9**
BPAW IAmb IAmb 05 40 57.3
comp=Z,4.6nm,0.7s
KTH Kantishna Hill 38.44 39 P **P 05 40 41.1 +1.2**
KTH IAmb IAmb 05 40 57.0
comp=Z,8.9nm,1.2s
SUA Susitna One 38.54 42 P **P 05 40 41.5 +0.6**
SUA IAmb IAmb 05 40 47.0
comp=Z,4.8nm,0.8s
BRLK Bradley Lake 38.56 45 P **P 05 40 42.6 +1.7**
MLY Manley 38.57 36 P **P 05 40 42.0 +1.0**
MLY IAmb IAmb 05 40 58.5
comp=Z,4.2nm,1.0s
TRF Thorofare Moun 38.73 39 P **P 05 40 43.6 +1.2**
COLD Coldfoot 38.93 33 P **P 05 40 44.7 +0.8**
RC01 Rabbit Creek A 39.05 42 P **P 05 40 45.4 +0.5**
NEA Nenana 39.27 37 P **P 05 40 47.7 +1.0**
NEA IAmb IAmb 05 40 49.5
comp=Z,4.7nm,0.6s
TOLK Toolik Lake Re 39.31 30 P **P 05 40 47.4 +0.4**
TOLK IAmb IAmb 05 40 49.7
comp=Z,4.7nm,0.8s
GHO Glory Hole Cre 39.40 41 P **P 05 40 48.4 +0.5**
GHO IAmb IAmb 05 40 57.3
comp=Z,5.6nm,1.0s
KNK Knik Glacier 39.64 42 P **P 05 40 51.0 +1.1**
KNK IAmb IAmb 05 41 05.5
comp=Z,4.5nm,0.8s
WRH Wood River Hil 39.70 37 P **P 05 40 50.9 +0.6**
WRH IAmb IAmb 05 41 08.1
comp=Z,6.2nm,1.2s
COLA College 39.80 36 *i* P **P 05 40 49.4 -1.6**
COLA pmax pmax
comp=Z,6.0nm,0.9s
CCB Clear Creek Bu 39.82 37 P **P 05 40 52.7 +1.5**
DHY Denali Highway 40.05 39 P **P 05 40 54.3 +0.8**
SCM Sheep Creek Mo 40.15 41 P **P 05 40 55.5 +1.3**
SCM pmax pmax
comp=Z,17nm,1.2s
SCM Sheep Creek Mo 40.15 41 P **P 05 40 55.5 +1.3**
HDA Harding Lake 40.19 37 P **P 05 40 54.6 +0.2**
HDA IAmb IAmb 05 40 56.8
comp=Z,5.2nm,0.8s
IL31 40.21 37 P **P 05 40 54.9 +0.4**
IL31 IAmb IAmb 05 41 07.1
comp=Z,4.9nm,0.9s
ILAR Eielson Array 40.21 37 P **P 05 40 54.5 0.0**
comp=Z,3.5nm,1.0s,baz=268,slow=9.0,SNR=16
FYU Fort Yukon 40.87 34 P **P 05 41 01.4 +1.5**
FYU IAmb IAmb 05 41 04.3
comp=Z,7.6nm,0.8s
DOT Dot Lake 41.50 38 P **P 05 41 07.0 +1.8**
SCRK Sand Creek 41.51 38 P **P 05 41 05.4 0.0**
SCRK IAmb IAmb 05 41 13.7
comp=Z,7.0nm,1.2s
ZALV Zalesovo Beam 41.84 307 P **P 05 41 06.0 -2.0**
comp=Z,0.7nm,0.4s,baz=100,slow=7.5,SNR=2.6
ZALV PcP **PcP 05 43 03.1 -0.2**
comp=Z,2.5nm,0.6s,baz=94,slow=2.9,SNR=7.5
ZALV LR LR 05 58 17.8
comp=Z,43nm,18.6s,baz=81,slow=36
CRQM Cirque 42.28 42 P **P 05 41 11.9 +0.1**
CRQM IAmb IAmb 05 41 25.0
comp=Z,12nm,0.9s
WMQ Urumqi 43.24 292 *e*P **P 05 41 21.8 +2.1**
WMQ pmax pmax
comp=Z,9.0nm,0.9s
WMQ pmax pmax
comp=Z,200nm,5.5s
WMQ LR LR
comp=N,410nm,29.2s
WMQ LR LR
comp=E,2μm,29.0s
WMQ LR LR
comp=Z,130nm,23.3s
DAWY Dawson 43.51 37 P **P 05 41 22.4 +0.8**
EPYK Eagle Plains 44.29 34 P **P 05 41 28.3 +0.5**
EPYK IAmb IAmb 05 41 31.3
comp=Z,8.4nm,0.9s
HYT Haines Junctio 44.98 42 P **P 05 41 35.4 +2.0**
HYT IAmb IAmb 05 41 47.2
comp=Z,9.3nm,1.0s
INK Inuvik 45.22 31 P **P 05 41 35.2 +0.2**
comp=Z,3.8nm,0.6s,baz=278,slow=9.4,SNR=16
INK Inuvik 45.22 31 IAmb IAmb 05 41 45.3
comp=Z,7.5nm,1.1s
MK31 Makanchi Array 45.62 298 P **P 05 41 38.3 -0.3**
MK31 pmax pmax
comp=Z,3.0nm,1.0s
MK31 Makanchi Array 45.62 298 P **P 05 41 38.3 -0.3**
MKAR Makanchi Array 45.62 298 P **P 05 41 38.0 -0.6**
comp=Z,1.4nm,0.6s,baz=82,slow=9.6,SNR=4.7
MKAR PcP **PcP 05 43 16.4 +0.1**
comp=Z,1.2nm,0.6s,baz=64,slow=3.9,SNR=4.5
MKAR LR LR 06 01 58.9
comp=Z,143nm,19.5s,baz=46,slow=38
MKAR Makanchi Array 45.62 298 *e*P **P 05 41 38.0 -0.6**
KURK Kurchatov 46.43 304 P **P 05 41 44.0 -0.8**
KURK 05 43 19.3
KURK Kurchatov 46.43 304 *e*P **P 05 41 43.6 -1.2**
KURK Kurchatov 46.43 304 P **P 05 41 43.4 -1.4**
KURBB Kurchatov Arra 46.52 304 P **P 05 41 44.0 -1.5**
comp=Z,1.2nm,0.3s,baz=75,slow=8.3,SNR=9.1
KURBB PcP **PcP 05 43 19.3 0.0**
comp=Z,1.7nm,0.5s,baz=82,slow=3.2,SNR=7.1
CMAR Chiang Mai Arr 49.06 255 P **P 05 42 06.6 +1.0**
comp=Z,0.8nm,0.3s,baz=41,slow=7.4,SNR=5.4
CMAR LR LR 06 05 00.2
comp=Z,60nm,18.0s,baz=8.0,slow=39
BVAR Borovoye Array 50.28 310 P **P 05 42 14.2 -0.3**
comp=Z,0.8nm,0.4s,baz=99,slow=4.7,SNR=3.6
BVAR PcP **PcP 05 43 32.9 0.0**
comp=Z,0.9nm,0.6s,baz=132,slow=4.2,SNR=3.6
KDJ Kajisay 50.92 294 P **P 05 42 19.7 0.0**
KDJ pmax pmax
comp=Z,11nm,1.1s
KDJ Kajisay 50.92 294 P **P 05 42 19.7 0.0**
TAPN Taplejung 51.44 272 *e*P **P 05 42 24.3 +0.4**
comp=Z,11nm,0.5s
BOOM Boomskoye usch 51.56 295 P **P 05 42 25.0 +0.5**
BOOM pmax pmax
comp=Z,9.0nm,0.9s
BOOM Boomskoye usch 51.56 295 P **P 05 42 25.1 +0.5**
TKM2 Tokmak 2 51.58 296 P **P 05 42 24.7 0.0**
SNR=5.7
USP Ospenovka 52.12 297 P **P 05 42 28.7 +0.3**
SNR=5.9
KBK Karagaybulak 52.12 296 P **P 05 42 28.9 +0.3**
SNR=5.8
KZA Kyzart 52.21 295 P **P 05 42 30.7 +1.1**
SNR=6.2
JIRN Jiri 52.34 274 *e*P **P 05 42 31.1 +0.4**
comp=Z,32nm,0.6s
GUN Gumba 52.42 274 *e*P **P 05 42 31.4 +0.1**
comp=Z,28nm,0.4s
AAK Ala-Archa 52.43 296 P **P 05 42 30.4 -0.5**
AAK pmax pmax
comp=Z,10.0nm,1.3s
AAK Ala-Archa 52.43 296 LR LR 06 06 37.3
comp=Z,66nm,19.0s,baz=30,slow=38
AAK Ala-Archa 52.43 296 *e*P **P 05 42 30.1 -0.8**
AAK Ala-Archa 52.43 296 P **P 05 42 30.4 -0.5**
AAK IAmb IAmb 05 42 31.5
comp=Z,10nm,1.3s
RAMN Ramite 52.47 273 *e*P **P 05 42 31.6 +0.1**
comp=Z,39nm,0.4s
KKN Kakani 52.92 274 *e*P **P 05 42 35.4 +0.6**
comp=Z,21nm,0.7s
PKI Pulchoki 52.96 274 *e*P **P 05 42 35.2 0.0**
comp=Z,1.8nm,0.6s
PKIN Phulchoki 52.96 274 *e*P **P 05 42 35.1 -0.1**
comp=Z,6.9nm,0.5s
KSH Kashi 53.01 292 P **P 05 42 38.6 +3.4**
KSH PP **PP 05 44 38.5 +3.6**
KSH pmax pmax
comp=Z,41nm,1.4s
KSH pmax pmax
comp=Z,460nm,7.0s
DMN Daman 53.15 274 *e*P **P 05 42 36.9 +0.4**
comp=Z,23nm,0.6s
AML Almayashu 53.19 296 P **P 05 42 37.3 +0.4**
SNR=6.0
YKA Yellowknife Ar 54.56 35 P **P 05 42 46.5 +0.6**
comp=Z,1.9nm,0.7s,baz=299,slow=6.9,SNR=24
KK31 Karatay Array 54.74 298 P **P 05 42 47.5 -0.2**
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KK31 Karatay Array 54.74 298 P **P 05 42 47.5 -0.2**
KK31 IAmb IAmb 05 42 47.9
comp=Z,5.5nm,0.7s
KKAR Karatay Array 54.74 298 P **P 05 42 47.5 -0.2**
KKAR pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 54.74 298 P **P 05 42 47.5 -0.2**
KKAR IAmb IAmb 05 42 47.9
comp=Z,5.5nm,0.7s
ARU Arti 54.95 317 *c i* P **P 05 42 47.6 -1.3**
ARU 05 43 48.0
ARU S **S 05 50 27.1 -0.4**
ARU SS **SS 05 54 11.2 +0.5**
ARU pmax pmax
comp=Z,10.0nm,1.5s
ARU Arti 54.95 317 P **P 05 42 47.6 -1.3**
comp=Z,2.0nm,0.4s,baz=110,slow=7.7,SNR=5.0
ARU Arti 54.95 317 *e*P **P 05 42 47.7 -1.2**
ABKAR Akbulak array 57.85 309 P **P 05 43 09.1 -0.6**
CHGR Chuyangaron 57.96 295 P **P 05 43 10.7 -0.1**
AKTO Aktyubinsk 58.28 311 P **P 05 43 11.5 -1.2**
comp=Z,2.0nm,0.6s,baz=54,slow=5.7,SNR=6.0
SUMG Summit 63.33 3 P **P 05 43 46.3 -0.9**
SUMG pmax pmax
comp=Z,1.0nm,0.5s
SUMG Summit 63.33 3 P **P 05 43 46.3 -0.9**
PLID Pearl Lake 63.38 52 P **P 05 43 48.7 +1.0**
PLID IAmb IAmb 05 44 06.4
comp=Z,4.8nm,1.1s
FCC Fort Churchill 64.84 31 P **P 05 43 56.8 +0.1**
FCC pmax pmax
comp=Z,4.0nm,1.0s
FCC Fort Churchill 64.84 31 P **P 05 43 56.8 +0.1**
FCC IAmb IAmb 05 44 09.8
comp=Z,4.2nm,1.0s
FIA1 FINESS Array S 65.06 334 P **P 05 43 56.4 -1.7**
FINES FINESS Array B 65.06 334 *e*P **P 05 43 57.7 -0.4**
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 65.06 334 P **P 05 43 56.5 -1.6**
comp=Z,4.3nm,0.7s,baz=60,slow=7.5,SNR=6.8
WRA Warramunga Arr 65.32 195 P **P 05 44 00.9 +0.7**
comp=Z,1.0nm,0.6s,baz=15,slow=7.3,SNR=3.6
GEYT Alibeck 65.44 300 P **P 05 44 00.8 -0.2**
comp=Z,6.3nm,0.7s,baz=45,slow=2.9,SNR=8.1
GEYT LR LR 06 14 04.2
comp=Z,40nm,18.2s,baz=20,slow=37
NVAR Mina Array Bea 66.08 59 P **P 05 44 06.6 +1.3**
comp=Z,0.3nm,0.5s,baz=289,slow=6.6,SNR=5.9
VSR Storozhevoye 67.27 320 *i* P **P 05 44 11.2 -1.2**
VSR pmax pmax
comp=Z,22nm,1.1s
R11A Troy Canyon, C 67.79 58 P **P 05 44 17.1 +0.9**
TPNV Topopah Spring 68.27 59 P **P 05 44 20.6 +1.3**
TPNV pmax pmax
comp=Z,2.0nm,0.9s
TPNV Topopah Spring 68.27 59 P **P 05 44 20.6 +1.3**
PDAR Pinedale Array 68.47 51 P **P 05 44 21.1 +0.6**
comp=Z,0.6nm,0.7s,baz=252,slow=0.9,SNR=6.4
ASAR Alice Springs 69.03 195 P **P 05 44 25.6 +1.8**
comp=Z,0.7nm,0.7s,baz=18,slow=6.8,SNR=3.1
NC405 NORSAR Array S 69.44 339 P **P 05 44 24.3 -1.6**
NC204 NORSAR Array S 69.53 340 P **P 05 44 25.6 -0.9**
NB201 NORSAR Array S 69.60 340 P **P 05 44 26.4 -0.5**
NB2 NORSAR Subarra 69.62 340 P **P 05 44 26.2 -0.8**
comp=Z,1.2nm,0.6s,baz=28,slow=6.2
NOA NORSAR Array B 69.62 340 *e*P **P 05 44 26.3 -0.8**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 69.62 340 P **P 05 44 26.1 -1.0**
comp=Z,2.9nm,0.8s,baz=31,slow=6.7,SNR=11
HFS Hagfors 69.76 338 P **P 05 44 26.1 -1.8**
comp=Z,3.0nm,0.6s,baz=51,slow=4.7,SNR=11
ULM Lac du Bonnet 70.20 38 P **P 05 44 29.8 -1.0**
comp=Z,2.1nm,0.5s,baz=325,slow=7.3,SNR=6.6
ULM Lac du Bonnet 70.20 38 P **P 05 44 30.3 -0.5**
ULM IAmb IAmb 05 44 44.0
comp=Z,12nm,1.4s
KVAR Kislovodsk Arr 70.47 313 P **P 05 44 32.8 +0.2**
comp=Z,7.0nm,0.6s,baz=29,slow=10,SNR=4.5
KIV Kislovodsk 70.48 313 *e*P **P 05 44 32.9 +0.2**
KIV pmax pmax
comp=Z,31nm,1.1s
KIV MLR MLR
comp=Z,236nm,18.0s
KIV Kislovodsk 70.48 313 *e*P **P 05 44 32.9 +0.2**
KBZ Khabaz 70.52 312 P **P 05 44 32.9 +0.1**
comp=Z,8.0nm,0.9s,baz=40,slow=2.6,SNR=15
KBZ LR LR 06 18 25.7
comp=Z,96nm,19.2s,baz=32,slow=38
AKASG Malin Array Be 72.00 325 P **P 05 44 40.7 -0.9**
comp=Z,4.5nm,0.5s,baz=38,slow=6.2,SNR=22
AKBB Malin Array Si 72.00 325 P **P 05 44 40.4 -1.2**
AKBB pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 72.00 325 P **P 05 44 40.4 -1.2**
SORM Soroca 74.33 323 ⇓P **P 05 44 54.7 -0.7**
SORM Soroca 74.33 323 ⇓P **P 05 44 54.7 -0.7**
KWP Kalwaria Pacla 75.46 327 P **P 05 45 02.3 +0.3**
KWP pmax pmax
comp=Z,121nm,0.8s
KWP Kalwaria Pacla 75.46 327 P **P 05 45 02.3 +0.3**
BUR08 Bucovina Ar. S 76.04 325 P **P 05 45 05.5 0.0**
BUR08 IAmb IAmb 05 45 06.4
comp=Z,9.4nm,1.2s
BURAR Bucovina Array 76.06 325 ⇑P **P 05 45 05.3 -0.2**
BURAR Bucovina Array 76.06 325 ⇑P **P 05 45 05.3 -0.2**
OJC Ojcow 76.08 329 IAmb IAmb 05 45 20.0
comp=Z,3.9nm,0.9s
TESR Tescani 76.32 323 ⇓P **P 05 45 06.8 -0.1**
SCHQ Schefferville 76.64 20 P **P 05 45 08.5 -0.1**
comp=Z,2.6nm,0.7s,baz=341,slow=6.7,SNR=3.6
SCHQ Schefferville 76.64 20 IAmb IAmb 05 45 26.5
comp=Z,9.1nm,1.1s
TRPA Tarpa 76.73 326 ⇑P **P 05 45 09.6 +0.5**
TOPG Topolog 76.83 321 ⇑P **P 05 45 10.2 +0.4**
OZUR 77.02 323 ⇓P **P 05 45 11.6 +0.7**
LANS Liptovska Anna 77.08 329 *e*P **P 05 45 12.3 +1.1**
LANS pmax pmax
comp=Z,5.0nm,0.9s
LANS Liptovska Anna 77.08 329 *e*P **P 05 45 12.3 +1.1**
DPC Dobruska-Polom 77.21 331 *e*P **P 05 45 12.2 +0.3**
DPC Dobruska-Polom 77.21 331 *e*P **P 05 45 12.2 +0.3**
MORC Moravsky Berou 77.27 330 ⇑P **P 05 45 12.4 +0.2**
MORC Moravsky Berou 77.27 330 ⇑P **P 05 45 12.4 +0.2**
MORC Moravsky Berou 77.27 330 *e*P **P 05 45 12.1 -0.1**
MLR Muntele Rosu 77.42 323 ⇓P **P 05 45 14.7 +1.4**
MLR Muntele Rosu 77.42 323 P **P 05 45 12.8 -0.5**
comp=Z,2.2nm,0.4s,baz=345,slow=16,SNR=11
MLR Muntele Rosu 77.42 323 ⇓P **P 05 45 14.7 +1.4**
MLR Muntele Rosu 77.42 323 IAmb IAmb 05 45 22.1
comp=Z,8.3nm,1.2s
CLL Collm 77.50 334 *i* P **P 05 45 12.9 -0.5**
CLL *e*PP **PcP 05 45 24.0 +0.3**
CLL pmax pmax
comp=Z,11nm,0.8s
CLL Collm 77.50 334 *i* P **P 05 45 12.9 -0.5**
comp=Z,11nm,0.8s
CLL *e* 05 45 18.0
CLL *e*PcP **PcP 05 45 24.0 +0.3**
VOIR 77.85 323 ⇑P **P 05 45 16.1 +0.5**
VOIR 77.85 323 ⇑P **P 05 45 16.1 +0.5**
VYHS Vyhne 77.86 329 *e*P **P 05 45 15.6 +0.1**
VYHS pmax pmax
comp=Z,7.0nm,1.0s
VYHS Vyhne 77.86 329 *e*P **P 05 45 15.6 +0.1**
JAVC Velka Javorina 77.99 330 *e*P **P 05 45 16.9 +0.6**
VRAC Vranov 78.00 330 ⇑P **P 05 45 16.8 +0.5**
VRAC Vranov 78.00 330 P **P 05 45 15.8 -0.5**
comp=Z,3.9nm,0.8s,baz=339,slow=5.9,SNR=3.9
VRAC Vranov 78.00 330 ⇑P **P 05 45 16.8 +0.5**
VRAC Vranov 78.00 330 *e*P **P 05 45 16.3 0.0**
EKA Eskdalemuir Ar 78.03 344 P **P 05 45 15.4 -0.9**
comp=Z,1.9nm,0.6s,baz=16,slow=4.9,SNR=5.9
ARR Arges 78.08 324 ⇓P **P 05 45 17.7 +0.8**
GOPC GO Pecny, Ondr 78.11 332 *e*P **P 05 45 16.8 -0.1**
GOPC GO Pecny, Ondr 78.11 332 *e*P **P 05 45 16.8 -0.1**
BRTR Keskin Array B 78.22 315 P **P 05 45 17.9 +0.1**
comp=Z,1.2nm,0.7s,baz=65,slow=3.6,SNR=6.0
KRUC Moravsky 78.27 330 *e*P **P 05 45 17.6 -0.2**
MODS Modra-Piesok 78.54 330 *e*P **P 05 45 19.5 +0.2**
MODS pmax pmax
comp=Z,14nm,1.3s
MODS Modra-Piesok 78.54 330 *e*P **P 05 45 19.5 +0.2**
SIRR Siria 78.59 326 ⇑P **P 05 45 20.2 +0.6**
GZR Gura Zlata 78.85 325 ⇓P **P 05 45 20.9 -0.2**
GZR Gura Zlata 78.85 325 ⇓P **P 05 45 20.9 -0.2**
BZS Buzias 79.14 325 ⇑P **P 05 45 22.8 +0.2**
BZS Buzias 79.14 325 ⇑P **P 05 45 22.8 +0.2**
KHC Kasperske Hory 79.19 332 *e*P **P 05 45 23.0 +0.1**
KHC Kasperske Hory 79.19 332 *e*P **P 05 45 23.0 +0.1**
GEC2 GERESS Array S 79.39 332 P **P 05 45 23.1 -1.0**
GERES GERESS Array B 79.39 332 P **P 05 45 23.7 -0.3**
comp=Z,1.2nm,0.4s,baz=41,slow=5.7,SNR=18
CONA Conrad Observa 79.42 330 *e*P **P 05 45 24.6 +0.4**
comp=Z,3.9nm,0.7s
MOA Molln 80.05 331 *e*P **P 05 45 27.5 -0.1**
comp=Z,3.0nm,0.8s
ARSA Arzberg 80.12 330 *e*P **P 05 45 27.9 -0.1**
comp=Z,3.5nm,1.2s
SOKA Soboth 80.78 330 *e*P **P 05 45 31.5 -0.1**
comp=Z,7.7nm,1.3s
KBA Koelnbreinsper 81.03 331 *e*P **P 05 45 33.4 +0.3**
comp=Z,6.8nm,0.8s
TX31 Lajitas Ar. Si 81.15 58 P **P 05 45 34.9 +1.0**
TX32 Lajitas Array 81.16 58 P **P 05 45 34.4 +0.5**
TXAR Lajitas Array 81.16 58 P **P 05 45 34.6 +0.7**
comp=Z,1.5nm,0.6s,baz=299,slow=4.1,SNR=24
WATA Walderalm 81.41 332 *i* P **P 05 45 35.1 +0.1**
comp=Z,4.0nm,0.5s
WTTA Wattenberg 81.46 332 *e*P **P 05 45 35.4 +0.2**
comp=Z,2.4nm,0.4s
RETA Reutte 81.55 333 *e*P **P 05 45 35.8 +0.1**
comp=Z,12nm,1.5s
MOTA Moosalm 81.56 333 *e*PcP **P 05 45 36.6 +0.8**
comp=Z,5.5nm,0.7s
SQTA Sankt Quirin 81.64 333 *e*P **P 05 45 36.0 -0.1**
comp=Z,3.3nm,0.6s
STAL STALIGIAL 81.96 331 P **P 05 45 35.1 -2.7**
STAL IAmb IAmb 05 45 41.3
comp=Z,12nm,1.4s
FETA Feichten 81.97 333 *e*P **P 05 45 36.3 -1.6**
comp=Z,2.3nm,0.8s
DAVA Damuels 82.01 333 PcP **P 05 45 38.9 +0.7**
comp=Z,3.5nm,0.7s
MMAI Mount Meron Ar 82.29 309 P **P 05 45 40.5 +0.7**
baz=46,slow=8.3
DAVOX Davos/Dischmat 82.46 333 P **P 05 45 40.7 +0.1**
comp=Z,2.6nm,0.5s,baz=337,slow=8.7,SNR=6.7
FUORN Ofenpass-Fuorn 82.47 333 P **P 05 45 40.4 -0.4**
FUORN IAmb IAmb 05 45 46.3
comp=Z,6.7nm,1.1s
PDG Podgorica 82.73 325 P **P 05 45 40.9 -0.9**
KARP Karpathos 84.70 316 P **P 05 45 51.0 -1.1**
TORD Torodi Ar. Bea 115.64 324 PKP **PKiKP 05 51 58.0 -2.6**
comp=Z,0.5nm,0.5s,baz=16,slow=1.8,SNR=7.3
BDFB Brasilia 147.96 32 PKPbc **PKPbc 05 53 03.4 -0.3**
comp=Z,3.1nm,0.8s,baz=239,slow=4.0,SNR=4.1
PLCA Paso Flores 150.72 97 PKPbc **PKiKP 05 53 10.8 +0.3**
comp=Z,1.8nm,0.8s,baz=242,slow=5.1,SNR=6.4
VNA2 Neumayer--Watz 150.89 196 PKPdf **PKiKP 05 53 10.5 +0.7**
baz=44,slow=0.7
VNA3 Neumayer Olymp 151.04 194 PKPdf **PKiKP 05 53 10.4 +0.3**
CPUP Villa Florida 152.12 59 PKPbc **PKPbc 05 53 13.3 -0.1**
comp=Z,0.9nm,0.8s,baz=0.0,slow=4.0,SNR=2.8

PGC 18 05:43:03.2±0.9, 50°51N×130°26W, h10km, MLSn3.1/23, Mw3.7/23, 202km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.37**	**84**	Pn	Pn	05 43 26.1	-2.2
HOLB				Sn	Sb	05 43 42.6	-3.7
BPBC	**Brooks Peninsu**	**1.64**	**101**	Pn	Pn	05 43 29.6	-2.5
BPBC				Sn	Sn	05 43 48.5	-4.6
PACB	**Port Alice, BC**	**1.77**	**91**	Pn	Pn	05 43 31.8	-2.1
PACB				Sn	Sn	05 43 51.9	-4.5
PHC	**Port Hardy**	**1.81**	**83**	Pn	Pn	05 43 32.7	-1.7
PHC				Sn	Sn	05 43 53.6	-3.8
MAYB	**Maynard**	**1.98**	**92**	Pn	Pn	05 43 35.0	-1.9
MAYB				Sn	Sn	05 43 57.4	-4.3
EDB	**Eliza Dome**	**2.12**	**106**	Pn	Pn	05 43 36.9	-1.7
EDB				Sn	Sn	05 44 01.4	-3.6
BBB	**Bella Bella**	**2.15**	**38**	Pn	Pn	05 43 37.0	-2.1
BBB				Sn	Sn	05 44 02.3	-3.5
TLCB	**Telegraph Cove**	**2.19**	**88**	Pn	Pn	05 43 38.3	-1.3
TLCB				Sn	Sn	05 44 03.8	-2.9
HG3B	**Hotspring**	**2.20**	**341**	Pn	Pn	05 43 37.3	-2.4
HG3B				Sn	Sn	05 44 02.8	-4.1
WOSB	**Woss**	**2.39**	**97**	Pn	Pn	05 43 41.1	-1.3
NCRB	**Newcastle Ridg**	**2.69**	**91**	Pn	Pn	05 43 45.1	-1.5
MOBC	**Moresby Island**	**2.85**	**339**	Pn	Pn	05 43 47.3	-1.4
MOBC				Sn	Sn	05 44 18.7	-4.3
BCBC	**Bella Coola**	**2.88**	**48**	Pn	Pn	05 43 49.4	+0.3
BCBC				Sn	Sn	05 44 20.6	-3.1
SPLB	**Strathcona Par**	**3.03**	**100**	Pn	Pn	05 43 50.1	-1.0
DIB	**Dawson Inlet,**	**3.03**	**334**	Pn	Pn	05 43 50.2	-0.9
DIB				Sn	Sn	05 44 23.4	-4.0
TOFB	**Tofino**	**3.13**	**114**	Pn	Pn	05 43 50.8	-1.7
CBB	**Campbell River**	**3.18**	**97**	Pn	Pn	05 43 52.3	-0.9
CBB				Sn	Sn	05 44 28.0	-3.1

BTB	**Buttle Lake**	**3.23**	**107**	Pn	Pn	05 43 52.9	-1.2
OZB	**Mount Ozzard**	**3.46**	**115**	Pn	Pn	05 43 56.0	-1.1
OZB				Sn	Sn	05 44 34.3	-3.9
RUBB	**Prince Rupert**	**3.83**	**0**	Pn	Pn	05 44 00.9	-1.2
TXB	**Texada**	**3.84**	**100**	Pn	Pn	05 44 01.7	-0.6
MGB	**Mount Grey**	**3.91**	**111**	Pn	Pn	05 44 02.0	-1.4
SHB	**Sechelt**	**4.22**	**100**	Pn	Pn	05 44 06.6	-1.0
NLLB	**Nanaimo Lost L**	**4.26**	**105**	Pn	Pn	05 44 08.6	+0.6
PFB	**Port Renfrew**	**4.26**	**115**	Pn	Pn	05 44 07.2	-0.9
UBRB	**Upper Baezaeko**	**4.53**	**56**	Pn	Pn	05 44 12.2	+0.4
UBRB				Sn	Sn	05 45 01.2	-3.3
WPB	**Watts Point**	**4.62**	**98**	Pn	Pn	05 44 12.8	-0.2
BIB	**Bowen Island**	**4.62**	**101**	Pn	Pn	05 44 12.2	-0.8
GOBB	**Galiano Island**	**4.65**	**107**	Pn	Pn	05 44 13.3	0.0
OBC	**Olympics--Boni**	**4.74**	**119**	Pn	Pn	05 44 15.7	+0.9
HNBB	**Haney**	**5.12**	**101**	Pn	Pn	05 44 20.0	+0.2
MCW	**Mount Constitu**	**5.17**	**108**	Pn	Pn	05 44 21.4	+0.9
LLLB	**Lillooet**	**5.34**	**86**	Pn	Pn	05 44 22.6	-0.4
FSB	**Fort Saint Jam**	**5.38**	**40**	Pn	Pn	05 44 23.1	-0.4
VDB	**Vedder Mountai**	**5.49**	**103**	Pn	Pn	05 44 25.9	+0.9
MBW	**Mount Baker**	**5.70**	**104**	Pn	Pn	05 44 29.2	+1.2
CMW	**Cultus Mountai**	**5.70**	**108**	Pn	Pn	05 44 28.9	+0.9
JCW	**Jim Creek**	**5.92**	**110**	Pn	Pn	05 44 31.9	+1.1
B06A	**Marblemount**	**6.05**	**106**	Pn	Pn	05 44 33.9	+1.2
GPW	**Glacier Peak**	**6.43**	**108**	Pn	Pn	05 44 39.4	+1.3
FMW	**Mount Fremont**	**6.71**	**119**	Pn	Pn	05 44 43.8	+1.8
LON	**Longmire**	**6.75**	**121**	Pn	Pn	05 44 44.3	+2.1
LTY	**Liberty**	**7.11**	**114**	Pn	Pn	05 44 49.2	+2.0
NBC5	**NorthernBC 5**	**8.32**	**29**	Pn	Pn	05 45 04.6	+0.7

*ISCJB **18** 05:47:49.0±0.4, 6°.62S±0°.04×129°.95E±0°.05, h200km, mb3.9/8, Error ellipse: s-maj=7.4km s-min=5.7km az=165.2*

*NEIC **18** 05:47:48.4±2.7, 6°.53S±0°.06×129°.94E±0°.07, h169km±9km, mb4.4/10*

*DJA **18** 05:47:48.2±0.2, 7°.5S±3°×13°.0E±°, h179km±5km, M4.6/9, mB5.3/3, mb4.3/9, MLv4.7/9, Mw(mB)4.7/3*

*IDC **18** 05:47:52.2±3.2, 6°.76S×129°.59E, h200km±31km, mb3.7/9, mb1 3.8/12, mb1mx3.5/39, mbtmp4.3/12, Error ellipse: s-maj=30.2km s-min=12.3km az=53.0*

ISC 18 05:47:49.5±0.6, **6°.59S**±0°.05×**129°.97E**±0°.05, **h200**km, **n45,** σ**3**s**28**/49, **mb4.1**/11, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.91**	**137**	P	**Pn**	**05 48 25.6**	**-1.6**
SAUI				S	**Sn**	**05 48 54.3**	**-2.2**
SAUI	**Saumlaki**	**1.91**	**137**		**Pn**	**05 48 25.5**	**-1.7**
SAUI				Sn	**Sn**	**05 48 48.3**	**-8.2**
BNDI	**Bandanaira**	**2.05**	**358**	P	**Pn**	**05 48 24.8**	**-3.8**
FAKI	**Fak Fak**	**4.29**	**32**	P	**Pn**	**05 48 52.2**	**-2.9**
FAKI	**Fak Fak**	**4.29**	**32**		**Pn**	**05 48 52.6**	**-2.5**
FAKI				Sn	**Sn**	**05 49 38.7**	**-7.9**
KMPI	**Kaimana, Papua**	**4.72**	**52**	P	**Pn**	**05 48 57.9**	**-2.5**
SWI	**Sorong**	**5.83**	**13**	P	**Pn**	**05 49 11.3**	**-3.4**
	18nm,0.6s,0.4nm						
SANI	**Sanana**	**6.01**	**318**	P	**Pn**	**05 49 14.7**	**-2.3**
	24nm,0.6s,0.1nm						
MTN	**Manton Dam**	**6.32**	**170**		**Pn**	**05 49 20.3**	**-0.7**
MTN				Sn	**Sn**	**05 50 27.9**	**-5.6**
SOEI	**Soe**	**6.46**	**240**		**Pn**	**05 49 22.4**	**-0.6**
SOEI					**Sn**	**05 50 31.8**	**-5.2**
RKPI	**Ransiki, Papua**	**6.56**	**40**	P	**Pn**	**05 49 23.0**	**-1.1**
	154nm,0.9s,30μm1.5nm						
BATI	**Baumata**	**7.20**	**240**	P	**Pn**	**05 49 30.4**	**-2.1**
	21nm,0.3s,baz=82,slow=2.5,SNR=13						
BATI				S	**Sn**	**05 50 47.6**	**-6.6**
	27nm,0.3s,baz=95,slow=1.0,SNR=6.0						
KNRA	**Kununurra**	**9.11**	**187**		**Pn**	**05 49 55.8**	**-1.5**
KNRA				Sn	**Sn**	**05 51 32.2**	**-7.2**
FITZ	**Fitzroy Crossi**	**12.20**	**200**	P	**Pn**	**05 50 35.5**	**-1.5**
	0.7nm,0.3s,baz=27,slow=9.1,SNR=23						
FITZ				S	Sn	05 52 43.0	-10
	2.8nm,0.3s,baz=273,slow=20,SNR=8.2						
FITZ	**Fitzroy Crossi**	**12.20**	**200**	Pn	**Pn**	**05 50 36.2**	**-0.8**
FITZ					**Sn**	**05 52 47.5**	**-5.6**
PLAI	**Plampang**	**12.29**	**259**	P	**Pn**	**05 50 36.4**	**-1.8**
	17nm,0.7s						
TWSI	**Taliwang, Sumb**	**13.15**	**260**	P	**Pn**	**05 50 48.8**	**-0.2**
	7.0nm,1.0s						
WRAB	**Tennant Creek**	**13.93**	**163**		**Pn**	**05 50 58.8**	**+0.1**
WRA	**Warramunga Arr**	**13.94**	**163**	P	**Pn**	**05 50 56.2**	**-2.6**
	0.8nm,0.3s,baz=342,slow=12,SNR=22						
WRA				S	S	05 53 22.0	-12
	3.2nm,0.3s,baz=336,slow=22,SNR=13						
WR0	**Warramunga Arr**	**14.01**	**162**	Pn	**P**	**05 51 01.6**	**0.0**
COEN	**Coen**	**14.91**	**120**		**P**	**05 51 12.1**	**+0.6**
ASAR	**Alice Springs**	**17.40**	**168**	P	**Pn**	**05 51 41.9**	**+1.2**
	0.9nm,0.3s,baz=358,slow=14,SNR=32						
ASAR				S	**S**	**05 54 48.9**	**-0.6**
	0.7nm,0.3s,baz=352,slow=20,SNR=5.8						
PCJI	**Pacitan**	**18.71**	**264**	P	**P**	**05 51 52.0**	**-1.2**
CTA	**Charters Tower**	**20.73**	**132**	P	Pn	05 52 19.6	-1.0
	8.9nm,0.6s,baz=306,slow=11,SNR=9.8						
GIRL	**Giralia**	**22.02**	**222**	P	**P**	**05 52 30.6**	**+2.5**
CNJI	**Cibinong**	**22.69**	**267**	P	**P**	**05 52 35.2**	**+0.9**
FORT	**Forrest**	**24.13**	**184**	P	**P**	**05 52 50.5**	**+3.3**
FORT				IAmb	IAmb	05 52 53.9	
	comp=Z,17nm,1.1s						
BBOO	**Buckleboo**	**26.70**	**169**	P	**P**	**05 53 13.1**	**+2.8**
BBOO				IAmb	IAmb	05 53 17.0	
	comp=Z,16nm,1.5s						
STKA	**Stephens Creek**	**27.40**	**158**	P	**P**	**05 53 19.5**	**+2.9**
	comp=Z,1.5nm,0.3s,baz=341,slow=11,SNR=7.8						
STKA	**Stephens Creek**	**27.40**	**158**	P	**P**	**05 53 19.0**	**+2.4**
NWAO	**Narrogin (SRO)**	**28.76**	**203**	P	**P**	**05 53 31.2**	**+2.5**
NWAO	**Narrogin (SRO)**	**28.76**	**203**	P	**P**	**05 53 31.1**	**+2.4**
NWAO				IAmb	IAmb	05 53 46.0	
	comp=Z,33nm,1.4s						
CMAR	**Chiang Mai Arr**	**39.45**	**310**	P	**P**	**05 55 01.7**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=128,slow=7.3,SNR=4.4						
SONM	**Songino Array**	**58.04**	**341**	P	**P**	**05 57 24.4**	**+2.7**
	comp=Z,0.4nm,0.5s,baz=144,slow=6.5,SNR=3.7						
MK31	**Makanchi Array**	**67.87**	**327**	P	P	05 58 29.4	+3.0
MK31				IAmb	IAmb	05 58 30.1	
	comp=Z,5.0nm,0.7s						
MKAR	**Makanchi Array**	**67.87**	**327**	P	P	05 58 29.4	+3.0
	comp=Z,7.3nm,0.5s,baz=114,slow=8.7,SNR=149						
MAKZ	**Makanchi**	**68.05**	**327**	P	**P**	**05 58 30.1**	**+2.6**
AAK	**Ala-Archa**	**70.21**	**320**	P	**P**	**05 58 43.2**	**+2.1**
	comp=Z,2.1nm,0.4s,baz=102,slow=8.9,SNR=7.9						
AAK	**Ala-Archa**	**70.21**	**320**	IAmb	IAmb	05 58 45.4	
	comp=Z,3.6nm,0.6s						
ZALV	**Zalesovo Beam**	**71.20**	**334**	P	**P**	**05 58 48.2**	**+1.6**
	comp=Z,1.2nm,0.5s,baz=130,slow=4.6,SNR=5.8						
KURBB	**Kurchatov Arra**	**72.15**	**328**	P	**P**	**05 58 54.5**	**+2.3**
	comp=Z,2.0nm,0.6s,baz=129,slow=5.0,SNR=11						
KURK	**Kurchatov**	**72.15**	**329**	P	**P**	**05 58 54.5**	**+2.3**
KURK	**Kurchatov**	**72.15**	**329**	IAmb	IAmb	05 58 55.7	
	comp=Z,7.7nm,1.3s						
BVAR	**Borovoye Array**	**77.70**	**328**	P	**P**	**05 59 26.2**	**+2.2**
	comp=Z,0.9nm,0.7s,baz=87,slow=9.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**128.70**	**282**	PKP	**PKiKP**	**06 06 36.3**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=92,slow=2.1,SNR=3.9						

*IDC **18** 05:59:29.3±0.8, 20°.66N×146°.68E, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.7/42, mbtmp3.7/10, Error ellipse: s-maj=28.7km s-min=21.6km az=85.0*

*ISCJB **18** 05:59:32.7±0.8, 20°.6N±0°.1×146°.5E±0°.2, h34km, mb3.7/10, Error ellipse: s-maj=27.3km s-min=18.5km az=1.8*

ISC 18 05:59:34.1±0.9, **20°.6N**±0°.2×**146°.7E**±0°.2, **h34**km, **n11,** σ**0**s**77**/11, **mb3.6**/10, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.09**	**197**	P	**P**	**06 07 23.3**	**+0.2**
	0.4nm,0.7s,baz=14,slow=8.7,SNR=5.5						
ASAR	**Alice Springs**	**45.76**	**196**	P	**P**	**06 07 52.3**	**-0.2**
	0.2nm,0.4s,baz=20,slow=8.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**57.06**	**322**	P	**P**	**06 09 17.1**	**+0.4**
	1.0nm,0.5s,baz=101,slow=8.7,SNR=5.0						
MKAR	**Makanchi Array**	**57.80**	**313**	P	**P**	**06 09 23.2**	**+1.0**
	0.4nm,0.8s,baz=79,slow=6.9,SNR=3.5						
KURBB	**Kurchatov Arra**	**60.51**	**317**	P	**P**	**06 09 39.7**	**-1.1**
	0.6nm,0.6s,baz=92,slow=7.5,SNR=4.8						
BVAR	**Borovoye Array**	**65.58**	**320**	P	**P**	**06 10 15.5**	**+1.0**
	1.3nm,0.5s,baz=92,slow=6.3,SNR=10						
YKA	**Yellowknife Ar**	**75.86**	**28**	P	**P**	**06 11 16.4**	**-0.3**
	0.1nm,0.3s,baz=292,slow=5.7,SNR=5.2						
NVAR	**Mina Array Bea**	**81.24**	**52**	P	**P**	**06 11 48.1**	**+0.9**
	0.6nm,0.8s,baz=266,slow=5.5,SNR=5.9						
FINES	**FINESS Array B**	**85.52**	**335**	P	**P**	**06 12 08.1**	**-0.4**
	1.6nm,0.8s,baz=66,slow=4.6,SNR=5.6						
PDAR	**Pinedale Array**	**85.83**	**46**	P	**P**	**06 12 10.4**	**-0.3**
	0.2nm,0.5s,baz=198,slow=0.5,SNR=3.5						
LPAZ	**La Paz**	**146.75**	**88**	PKPbc	**PKPab**	**06 19 15.3**	**-0.2**
	0.7nm,0.6s,baz=217,slow=5.1,SNR=4.1						

IDC 18 06:14:09.7±3.8, **49°.38S**×**124°.55E**, **h0**km, **mb3.8**/3, **mb1 4.0**/3, **mb1mx3.7**/26, **mbtmp3.8**/3, **MS3.3**/7, **Ms1 3.3**/7, **ms1mx3.1**/23, **Error ellipse: s-maj=112.9km s-min=68.1km az=112.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.38**	**328**	T	T	06 35 02.8	
	baz=155,slow=77,SNR=18						
H01W2	**Cape Leeuwin H**	**16.38**	**328**	T	T	06 35 04.1	
	baz=155,slow=77,SNR=16						
H01W3	**Cape Leeuwin H**	**16.39**	**328**	T	T	06 35 05.3	
	baz=155,slow=77,SNR=15						
STKA	**Stephens Creek**	**21.66**	**42**	P	P	06 19 01.8	+0.1
	4.2nm,0.8s,baz=206,slow=11,SNR=10						
STKA				LR	LR	06 25 39.7	
	comp=Z,99nm,20.8s,baz=205,slow=32						
ASAR	**Alice Springs**	**26.70**	**19**	P	P	06 19 50.5	0.0
	1.8nm,0.8s,baz=190,slow=9.6,SNR=13						
ASAR				LR	LR	06 29 27.5	
	comp=Z,67nm,19.9s,baz=190,slow=34						
WRA	**Warramunga Arr**	**30.40**	**18**	P	P	06 20 23.5	0.0
	0.6nm,0.8s,baz=200,slow=8.7,SNR=2.6						
WRA				LR	LR	06 32 28.0	
	comp=Z,70nm,18.1s,baz=195,slow=36						
FITZ	**Fitzroy Crossi**	**31.22**	**2**	LR	LR	06 31 39.5	
	comp=Z,24nm,20.8s,baz=143,slow=34						
MAW	**Mawson**	**35.12**	**216**	LR	LR	06 33 22.8	
	comp=Z,33nm,18.6s,baz=60,slow=33						
DZM	**Mont Dzumac**	**42.77**	**66**	LR	LR	06 38 03.9	
	comp=Z,50nm,18.7s,baz=57,slow=34						
HNR	**Honiara**	**49.54**	**49**	LR	LR	06 40 39.1	
	comp=Z,54nm,21.0s,baz=266,slow=32						
YKA	**Yellowknife Ar**	**145.68**	**45**	PKPbc	PKPdf	06 33 48.1	-0.5
	0.2nm,0.5s,baz=266,slow=2.9,SNR=5.6						

IDC 18 06:28:50.7±6.4, **20°.08S**×**178°.05W**, **h552**km±70km, **mb2.9**/6, **mb1 3.3**/6, **mb1mx3.0**/28, **mbtmp3.7**/6, **Error ellipse: s-maj=98.1km s-min=24.6km az=154.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.56**	**256**	P	P	06 36 14.3	+0.1
	0.4nm,0.5s,baz=94,slow=7.7,SNR=7.7						
ASAR				PcP	PcP	06 37 44.1	-1.2
	0.8nm,0.7s,baz=104,slow=4.1,SNR=8.1						
WRA	**Warramunga Arr**	**44.61**	**262**	P	P	06 36 14.2	-0.3
	0.3nm,0.3s,baz=95,slow=7.9,SNR=13						
NVAR	**Mina Array Bea**	**80.76**	**43**	P	P	06 40 07.4	+0.2
	0.2nm,0.7s,baz=231,slow=9.2,SNR=4.4						
TXAR	**Lajitas Array**	**86.88**	**57**	P	P	06 40 37.6	+0.2
	0.5nm,0.7s,baz=212,slow=6.9,SNR=7.4						
ILAR	**Eielson Array**	**87.92**	**13**	P	P	06 40 40.5	-0.8
	0.8nm,0.7s,baz=218,slow=5.2,SNR=7.7						
PDAR	**Pinedale Array**	**88.69**	**43**	P	P	06 40 45.5	-0.4
	0.4nm,0.6s,baz=209,slow=2.7,SNR=5.0						
ARCES	**ARCESS Array B**	**128.50**	**350**	PKP	PKPdf	06 46 54.0	-0.4
	5.0nm,1.0s,baz=355,slow=4.1,SNR=4.7						
BRTR	**Keskin Array B**	**146.52**	**313**	PKPbc	PKPbc	06 47 30.8	0.0
	0.9nm,0.5s,baz=125,slow=3.7,SNR=5.1						
GERES	**GERESS Array B**	**149.79**	**344**	PKPbc	PKPbc	06 47 38.6	0.0
	0.8nm,0.6s,baz=192,slow=1.2,SNR=7.6						

*IDC **18** 06:47:23.8±0.4, 20°.64N×146°.86E, h0km, mb4.5/31, mb1 4.6/35, mb1mx4.5/49, mbtmp4.5/35, ML3.9/4, MS3.3/13, Ms1 3.4/13, ms1mx3.1/48, Error ellipse: s-maj=16.1km s-min=10.3km az=93.0*

*BJI **18** 06:47:24.4±0.0, 20°.80N×146°.89E, h9km, mb4.7/37, mB5.2/31, Ms4.9/5, Ms7 4.7/3*

*NEIC **18** 06:47:25.9±1.5, 20°.68N±0°.06×146°.87E±0°.10, h11km±1km, mb4.7/96*

*MOS **18** 06:47:26.1±1.0, 20°.65N×146°.82E, h25km, mb4.9/20, Error ellipse: s-maj=12.8km s-min=6.2km az=107.8*

*ISCJB **18** 06:47:28.5±0.3, 20°.64N±0°.03×146°.81E±0°.05, h44km, mb4.6/61, MS3.5/16, Error ellipse: s-maj=7.2km s-min=4.8km az=178.4*

ISC 18 06:47:30.4±0.4, **20°.65N**±0°.05×**146°.90E**±0°.07, **h44**km, **n169,** σ**1**s**82**/143, **mb4.6**/91, **MS3.4**/16, **8C, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**4.07**	**195**	Pn	**Pn**	**06 48 30.1**	**-0.1**
GUMO	**Guam**	**7.28**	**196**	P	**Pn**	**06 49 14.7**	**+0.4**
GUMO						06 50 35.4	
GUMO	**Guam**	**7.28**	**196**	Pn	**Pn**	**06 49 11.7**	**-2.6**
	7.7nm,0.3s,baz=41,slow=20,SNR=1.3						
GUMO				Sn	**Sn**	**06 50 35.4**	**-0.3**
	5.1nm,0.3s,baz=70,slow=17,SNR=1.2						
GUMO				LR	LR	06 51 13.7	
	comp=Z,76nm,19.2s,baz=68,slow=32						
GUMO	**Guam**	**7.28**	**196**	Pn	**Pn**	**06 49 14.7**	**+0.4**
JCJ	**Chichijima**	**7.73**	**327**	Pn	**Pn**	**06 49 18.9**	**-1.5**
	9.4nm,0.3s,baz=80,slow=18,SNR=1.9						
JCJ				Sn	**Sn**	**06 50 38.2**	**-8.4**
	11nm,0.3s,baz=129,slow=22,SNR=6.9						
INU	**Inuyama**	**17.03**	**331**		**Pn**	**06 51 25.4**	**+0.1**
INU				IAmb	IAmb	06 51 28.4	
	comp=Z,53nm,0.7s						
MJAR	**Matsushiro Arr**	**17.56**	**336**	P	**Pn**	**06 51 28.9**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=155,slow=10,SNR=6.2						
MAJO	**Matsushiro**	**17.56**	**336**	*i* P	**Pn**	**06 51 30.0**	**-1.9**
MAT	**Matsushiro**	**17.56**	**336**	P	**Pn**	**06 51 29.6**	**-2.3**
PATS	**Pohnpei**	**17.63**	**140**		**Pn**	**06 51 32.8**	**-0.1**
H11S3	**WAKE ISLAND Hy**	**18.77**	**93**	T	T	07 10 00.1	
	baz=276						
H11S1	**WAKE ISLAND Hy**	**18.78**	**93**	T	T	07 10 00.9	
	baz=276						
H11S2	**WAKE ISLAND Hy**	**18.79**	**93**	T	T	07 10 03.0	
	baz=276						
H11N1	**WAKE ISLAND Hy**	**18.79**	**89**	T	T	07 10 01.3	
	baz=274						
H11N2	**WAKE ISLAND Hy**	**18.80**	**89**	T	T	07 10 01.5	
	baz=274						
H11N3	**WAKE ISLAND Hy**	**18.81**	**89**	T	T	07 10 00.4	
	baz=274						
JNU	**Nakatsue**	**18.90**	**314**	P	**P**	**06 51 46.7**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=153,slow=2.6,SNR=4.7						
JNU	**Nakatsue**	**18.90**	**314**	IAmb	IAmb	06 52 01.7	
	comp=Z,55nm,1.2s						
KSRS	**Korea Array**	**23.50**	**320**	P	**P**	**06 52 35.5**	**-0.8**
	comp=Z,6.9nm,0.9s,baz=146,slow=9.1,SNR=14						
KSRS				LR	LR	07 02 22.4	
	comp=Z,92nm,18.4s,baz=130,slow=38						
JKA	**Kamikawa-asahi**	**23.67**	**352**	P	**P**	**06 52 37.9**	**0.0**
ASAJ	**Asahikawa**	**23.67**	**352**	P	**P**	**06 52 37.9**	**0.0**
	comp=Z,23nm,1.1s,baz=235,slow=12,SNR=3.4						
YULB	**Yu-li**	**23.88**	**281**	P	**P**	**06 52 37.3**	**-2.8**
YULB				IAmb	IAmb	06 52 45.6	
	comp=Z,25nm,1.1s						
TPUB	**Ta-pu**	**24.49**	**281**	P	**P**	**06 52 46.7**	**+1.0**
TPUB				IAmb	IAmb	06 52 54.6	
	comp=Z,27nm,1.0s						
DAV	**Davao City**	**24.66**	**240**	LR	LR	07 01 11.9	
	comp=Z,156nm,20.7s,baz=350,slow=34						
TGY	**Tagaytay City**	**25.60**	**259**	LR	LR	07 02 30.7	
	comp=Z,59nm,18.5s,baz=194,slow=36						
USA0B	**Ussuriysk Arra**	**26.56**	**336**	P	**P**	**06 53 03.9**	**-0.2**
USA0B				pmax	pmax		
	comp=Z,29nm,1.3s						
USA0B	**Ussuriysk Arra**	**26.56**	**336**	P	**P**	**06 53 03.9**	**-0.2**
USA0B				IAmb	IAmb	06 53 10.2	
	comp=Z,29nm,1.3s						
USRK	**Ussuriysk Ar.**	**26.56**	**336**	P	**P**	**06 53 04.2**	**+0.1**
	comp=Z,7.5nm,0.7s,baz=133,slow=9.3,SNR=12						
NJ2	**Nanjing**	**27.50**	**300**	*eP*	**P**	**06 53 13.4**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WHN	**Wuhan**	**30.87**	**295**	P	**P**	**06 53 41.1**	**-1.5**
KLR	**Kul'dur**	**30.98**	**341**	P	**P**	**06 53 42.8**	**-0.6**
	comp=Z,4.0nm,0.6s,baz=158,slow=7.6,SNR=13						
KLR				PcP	**PcP**	**06 56 39.3**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=241,slow=2.0,SNR=4.0						
GRNR	**Gornyy**	**31.17**	**347**	*eP*	**P**	**06 53 40.6**	**-4.5**
PETK	**Petropavlovsk-**	**33.45**	**12**	P	**P**	**06 54 05.2**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=204,slow=2.8,SNR=2.3						
PETK				LR	LR	07 10 45.1	
	comp=Z,18nm,18.5s,baz=240,slow=42						
COEN	**Coen**	**34.59**	**186**	P	**P**	**06 54 14.9**	**-0.3**
COEN				IAmb	IAmb	06 54 33.8	
	comp=Z,19nm,1.2s						
HHC	**Hu-ho-hao-te**	**36.10**	**312**	*eP*	**P**	**06 54 28.6**	**+0.4**
HHC				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZEA	**Zeya**	**36.30**	**340**	*eP*	**P**	**06 54 28.9**	**-0.6**
ZEA				pmax	pmax		
	comp=Z,23nm,1.0s						
KAPI	**Kappang**	**36.89**	**229**	LR	LR	07 08 26.5	
	comp=Z,45nm,19.9s,baz=3.0,slow=34						
BATI	**Baumata**	**38.24**	**219**	LR	LR	07 08 21.9	
	comp=Z,53nm,18.4s,baz=66,slow=33						
MA2	**Magadan**	**38.98**	**3**	P	**P**	**06 54 52.5**	**+0.3**
MA2				pmax	pmax		
	comp=Z,12nm,0.8s						
MA2	**Magadan**	**38.98**	**3**	P	**P**	**06 54 52.5**	**+0.3**
	comp=Z,10nm,0.7s,baz=162,slow=7.4,SNR=5.8						
MA2	**Magadan**	**38.98**	**3**	IAmb	IAmb	06 54 54.1	
	comp=Z,12nm,0.8s						
CTA	**Charters Tower**	**40.49**	**181**	P	**P**	**06 55 04.9**	**-0.2**
	comp=Z,5.1nm,0.7s,baz=8.1,slow=7.1,SNR=2.4						
LZH	**Lanzhou**	**40.54**	**302**	*eP*	**P**	**06 55 05.3**	**-0.4**
LZH				pP	pP	06 55 10.5	-5.9
LZH				sP	sP	06 55 13.6	-7.4
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
ULN	**Ulaanbaatar**	**41.98**	**320**	*ce*P	**P**	**06 55 16.8**	**-0.5**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.3s						
WRAB	**Tennant Creek**	**42.16**	**198**	*ce*P	**P**	**06 55 17.9**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,17nm,2.5s						
WRA	**Warramunga Arr**	**42.17**	**198**	P	**P**	**06 55 18.1**	**-0.8**
	comp=Z,4.2nm,0.8s,baz=17,slow=8.6,SNR=33						
WRA				PcP	**PcP**	**06 57 13.2**	**+0.4**
	comp=Z,4.0nm,0.7s,baz=12,slow=3.4,SNR=10						
SONM	**Songino Array**	**42.37**	**320**	P	**P**	**06 55 20.1**	**-0.3**
	comp=Z,4.1nm,0.7s,baz=131,slow=8.8,SNR=22						
SONM				PcP	**PcP**	**06 57 13.8**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=132,slow=2.5,SNR=6.6						
SEY	**Seymchan**	**42.42**	**4**	P	**P**	**06 55 21.0**	**+0.5**
	comp=Z,3.6nm,0.6s,baz=174,slow=7.8,SNR=9.9						
FITZ	**Fitzroy Crossi**	**43.79**	**210**	P	**P**	**06 55 31.2**	**-0.7**
	comp=Z,6.1nm,0.6s,baz=33,slow=9.8,SNR=26						
FITZ				LR	LR	07 13 03.1	
	comp=Z,24nm,20.3s,baz=25,slow=35						
FITZ	**Fitzroy Crossi**	**43.79**	**210**	P	**P**	**06 55 31.7**	**-0.3**
BOD	**Bodaibo**	**44.19**	**335**	*eP*	**P**	**06 55 33.7**	**-1.1**
BOD				pmax	pmax		
	comp=Z,9.0nm,2.0s						
CMAR	**Chiang Mai Arr**	**45.12**	**276**	*i* P	**P**	**06 55 43.7**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**45.12**	**276**	P	**P**	**06 55 42.8**	**0.0**
	comp=Z,1.6nm,0.4s,baz=66,slow=7.8,SNR=8.6						
CMAR				LR	LR	07 12 31.8	
	comp=Z,29nm,21.9s,baz=126,slow=33						
ZAK	**Zakamensk**	**45.30**	**322**	*eP*	**P**	**06 55 42.9**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TLY	**Talaya**	**45.65**	**323**	*eP*	**P**	**06 55 47.3**	**+0.7**
TLY				pmax	pmax		
	comp=Z,25nm,0.9s						
ASAR	**Alice Springs**	**45.83**	**197**	P	**P**	**06 55 47.2**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=16,slow=7.5,SNR=25						
ASAR				PcP	**PcP**	**06 57 25.9**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=20,slow=3.0,SNR=8.1						
ASAR				LR	LR	07 15 24.9	
	comp=Z,65nm,19.9s,baz=38,slow=37

comp=Z,26nm,21.1s,baz=294,slow=32
NRN **Naryn** **62.51 307** P **P** **06 57 51.8 +1.8**
NRN pmax pmax
comp=Z,6.0nm,1.1s
NRN **Naryn** **62.51 307** P **P** **06 57 51.8 +1.8**
NRN IAmb IAmb 06 57 53.9
comp=Z,6.2nm,1.1s
KSH **Kashi** **62.68 305** P P 06 57 55.8 +4.9
KSH PP **PP** **07 00 15.4 +6.4**
KSH PcS **PcS** **07 02 34.4 +1.5**
KSH S **S** **07 06 23.8 +7.3**
KSH SS **SS** **07 10 30.8 +9.4**
KSH pmax pmax
comp=Z,320nm,7.3s
KSH LR LR
comp=Z,410nm,6.3s
KSH LR LR
comp=Z,360nm,7.2s
KSH LR LR
comp=Z,460nm,8.2s
AAK **Ala-Archa** **63.54 308**⇑ *eP* **P** **06 57 56.2 -0.5**
AAK pmax pmax
comp=Z,4.0nm,1.5s
NIL **Nilore** **65.59 298** P **P** **06 58 10.8 +0.8**
NIL pmax pmax
comp=Z,23nm,1.1s
NIL **Nilore** **65.59 298** P **P** **06 58 10.8 +0.8**
BRVK **Borovoye** **65.77 320** *ce* **P** **06 58 10.6 -0.2**
BRVK pmax pmax
comp=Z,34nm,1.3s
BRVK **Borovoye** **65.77 320** P **P** **06 58 10.8 +0.1**
INK **Inuvik** **67.14 23** P **P** **06 58 18.9 -0.3**
comp=Z,3.6nm,1.0s,baz=252,slow=7.7,SNR=8.4
SVE **Sverdlovsk** **70.95 325**⇑ *eP* **P** **06 58 43.0 -0.1**
SVE pmax pmax
comp=Z,21nm,0.9s
ARU **Arti** **72.14 324** *c i* P **P** **06 58 49.9 -0.4**
ARU 07 01 26.7
ARU S **S** **07 08 14.6 +5.3**
ARU SS **SS** **07 12 45.2 -1.5**
ARU pmax pmax
comp=Z,24nm,0.7s
ARU **Arti** **72.14 324** P **P** **06 58 49.4 -0.9**
ABKAR **Akbulak array** **72.70 317** IAmb IAmb 06 58 54.1
comp=Z,7.0nm,0.9s
PPT **Papeete** **72.96 117** LR LR 07 23 00.1
comp=Z,44nm,19.7s,baz=238,slow=29
PPT2 **Papeete2** **72.97 117** *e* LR LR 07 21 02.6
comp=Z,113nm,30.2s
YKA **Yellowknife Ar** **75.74 28** P **P** **06 59 11.0 -0.2**
YKA **Yellowknife Ar** **75.74 28** P **P** **06 59 11.0 -0.2**
comp=Z,2.4nm,0.7s,baz=288,slow=5.6,SNR=31
KIRV **Kirov** **76.42 328** P **P** **06 59 15.5 +0.4**
baz=102,slow=3.2
GEYT **Alibeck** **76.68 306** P **P** **06 59 16.8 -0.3**
comp=Z,289nm,0.3s,baz=35,slow=11,SNR=4.3
PRGR **Permogore** **77.25 331** *eP* **P** **06 59 18.1 -1.6**
PRGR pmax pmax
comp=Z,31nm,0.7s
TAOE **Nuku Hiva Isla** **77.43 105** *e* LR LR 07 23 13.9
comp=Z,50nm,25.0s
PINE **Pine Mountain** **77.52 48** IAmb IAmb 06 59 23.5
comp=Z,6.8nm,0.9s
BEKR **Beckworth** **79.08 52** IAmb IAmb 06 59 32.0
comp=Z,9.8nm,1.4s
CMB **Columbia Colle** **79.63 53** IAmb IAmb 06 59 35.2
comp=Z,8.7nm,1.3s
BMO **Blue Mountains** **79.68 46** IAmb IAmb 06 59 35.3
comp=Z,15nm,1.5s
YERR **Yerington** **80.18 52** IAmb IAmb 06 59 38.4
comp=Z,15nm,1.5s
TULEG **Thule** **80.64 8** IAmb IAmb 06 59 38.9
comp=Z,11nm,0.8s
RYN **Ryan** **80.83 52** IAmb IAmb 06 59 41.9
comp=Z,9.9nm,1.4s
ARCES **ARCESS Array B** **80.99 342** P **P** **06 59 40.0 -0.1**
ARCES **ARCESS Array B** **80.99 342** P **P** **06 59 40.0 -0.1**
comp=Z,6.6nm,0.9s,baz=70,slow=5.0,SNR=10
KVN **Kaiserville** **81.00 52** IAmb IAmb 06 59 42.7
comp=Z,8.4nm,1.2s
NVAR **Mina Array Bea** **81.06 52** P **P** **06 59 41.9 +0.6**
comp=Z,4.6nm,0.8s,baz=270,slow=6.1,SNR=30
ELK **Elko** **82.50 49** IAmb IAmb 06 59 50.5
comp=Z,7.0nm,1.1s
TPNV **Topopah Spring** **83.09 53** IAmb IAmb 06 59 53.5
comp=Z,8.5nm,1.1s
R11A **Troy Canyon, C** **83.09 52** IAmb IAmb 06 59 53.7
comp=Z,8.3nm,1.3s
VRH **Novokhopyorsk** **83.21 322** *eP* **P** **06 59 50.6 -1.4**
VRH pmax pmax
comp=Z,20nm,0.7s
SHPR **Sheep Range** **84.06 53** IAmb IAmb 06 59 58.9
comp=Z,5.4nm,1.1s
PFO **Pinyon Flats O** **84.10 56** *i* P **P** **06 59 57.9 +0.8**
PFO **Pinyon Flats O** **84.10 56** P **P** **06 59 57.2 0.0**
PFO IAmb IAmb 06 59 58.3
comp=Z,6.4nm,1.1s
XPFO **Pion Flat** **84.11 56** P **P** **06 59 57.2 0.0**
XPFO IAmb IAmb 06 59 58.3
comp=Z,5.8nm,1.1s
OBN **Obninsk** **84.26 327**⇑ *i* P **P** **06 59 57.4 +0.1**
OBN PPP PPP 07 05 11.0
OBN *e* SSS SSS 07 19 16.7
OBN pmax pmax
comp=Z,48nm,1.3s
OBN **Obninsk** **84.26 327** P **P** **06 59 57.0 -0.2**
comp=Z,7.9nm,0.4s,baz=10,slow=8.1,SNR=4.0
OBN **Obninsk** **84.26 327** IAmb IAmb 06 59 57.7
comp=Z,42nm,0.5s
VSR **Storozhevoye** **84.65 323** *eP* **P** **06 59 57.7 -1.7**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD **Divnogorie** **84.69 323** *eP* **P** **06 59 58.0 -1.6**
VORD pmax pmax
comp=Z,20nm,1.2s
HWUT **Hardware Ranch** **84.75 48** IAmb IAmb 07 00 01.9
comp=Z,6.6nm,1.1s
FFC **Flin Flon** **84.85 33** P **P** **07 00 00.9 +0.6**
FFC pmax pmax
comp=Z,7.0nm,0.9s
FFC **Flin Flon** **84.85 33** P **P** **07 00 00.9 +0.6**
FFC IAmb IAmb 07 00 01.1
comp=Z,6.6nm,0.9s
KBZ **Khabaz** **85.57 315** P **P** **07 00 03.2 -0.9**
comp=Z,6.3nm,0.8s,baz=64,slow=3.6,SNR=14
FINES **FINESS Array B** **85.59 336** P **P** **07 00 02.8 -1.0**
comp=Z,8.7nm,0.6s,baz=67,slow=3.9,SNR=23
PDAR **Pinedale Array** **85.66 46** P **P** **07 00 05.0 0.0**
comp=Z,0.8nm,0.6s,baz=235,slow=1.3,SNR=8.4
PDAR LR LR 07 31 39.5
comp=Z,32nm,20.9s,baz=360,slow=31
U15A **North Rim** **86.24 53** IAmb IAmb 07 00 09.4
comp=Z,5.0nm,1.1s
Y14A **Wickenburg** **86.66 55** IAmb IAmb 07 00 11.4
comp=Z,8.8nm,1.1s
214A **Organ Pipe Nat** **87.57 57** IAmb IAmb 07 00 16.0
comp=Z,4.8nm,0.8s
MVCO **Mesa Verde** **88.70 51** IAmb IAmb 07 00 22.0
comp=Z,6.9nm,1.2s
SMCO **Snowmass** **88.95 48** IAmb IAmb 07 00 22.7
comp=Z,6.1nm,0.9s
TUC **Tucson** **89.01 56** P **P** **07 00 22.5 +1.4**
TUC pmax pmax
comp=Z,3.0nm,1.1s
TUC **Tucson** **89.01 56** P **P** **07 00 22.5 +1.4**
S22A **4UR Ranch, Cre** **89.67 50** IAmb IAmb 07 00 26.4
comp=Z,3.5nm,0.9s
AKASG **Malin Array Be** **90.34 326** *i* P **P** **07 00 25.5 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG **Malin Array Be** **90.34 326** P **P** **07 00 25.1 -1.7**
comp=Z,0.5nm,0.4s,baz=42,slow=4.6,SNR=5.2
ULM **Lac du Bonnet** **90.36 35** P **P** **07 00 26.1 -0.8**
comp=Z,3.3nm,0.9s,baz=322,slow=5.5,SNR=5.6
ULM **Lac du Bonnet** **90.36 35** IAmb IAmb 07 00 27.6
comp=Z,6.6nm,1.1s
NOA **NORSAR Array B** **91.14 340** P **P** **07 00 29.5 -0.9**
comp=Z,1.2nm,0.8s,baz=45,slow=4.1,SNR=3.0
ANMO **Albuquerque** **91.17 52** P **P** **07 00 32.4 +1.1**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
ANMO **Albuquerque** **91.17 52** P **P** **07 00 32.4 +1.1**
ANMO IAmb IAmb 07 00 33.2
comp=Z,4.2nm,1.1s
MNTX **Cornudas Mount** **93.42 54** IAmb IAmb 07 00 43.0
comp=Z,3.5nm,0.8s

BRTR **Keskin Array B** **93.56 315** P **P** **07 00 41.1 -1.0**
comp=Z,1.3nm,0.8s,baz=109,slow=4.0,SNR=7.0
TXAR **Lajitas Array** **95.81 56** P **P** **07 00 53.0 +0.4**
TXAR **Lajitas Array** **95.81 56** P **P** **07 00 53.0 +0.4**
comp=Z,0.5nm,0.8s,baz=256,slow=5.0,SNR=5.0
LSZ **Lusaka** **121.73 264** PKIKP **PKiKP** **07 06 21.8 +1.2**
LSZ **Lusaka** **121.73 264** **PKiKP** **07 06 21.8 +1.2**
VNA2 **Neumayer--Watz** **127.48 190** PKPdf **PKiKP** **07 06 30.6 +0.3**
baz=33,slow=2.0
VNA3 **Neumayer Olymp** **127.57 189** PKPdf **PKiKP** **07 06 30.8 +0.3**
TORD **Torodi Ar. Bea** **132.06 312** PKP **PKPdf** **07 06 40.2 +0.1**
comp=Z,0.9nm,0.8s,baz=63,slow=0.6,SNR=3.8
PLCA **Paso Flores** **142.46 131** PKhKP PKPpre 07 06 55.8
comp=Z,1.6nm,0.9s,baz=232,slow=5.4,SNR=5.2
LPAZ **La Paz** **146.53 88** PKPbc **PKPab** **07 07 09.8 +0.2**
comp=Z,8.2nm,1.0s,baz=278,slow=3.2,SNR=27
SAML **Samuel** **148.74 73** PKP2 **PKPbc** **07 07 14.1 +0.2**
SAML **Samuel** **148.74 73** **PKPbc** **07 07 14.1 +0.2**

IDC ***18*** *07:02:27.8±1.4, 8.°64S×105.°46E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.6/46, mbtmp3.7/10, ML4.2/1, Error ellipse: s-maj=48.8km s-min=17.9km az=49.0*
ISCJB ***18*** *07:02:30.7±0.5, 8.°63S±0.°05×105.°64E±0.°04, h33km, mb3.7/9, Error ellipse: s-maj=7.6km s-min=5.1km az=31.9*
DJA ***18*** *07:02:30.2±0.4, 9.°S×10.°6E, h10km, M4.2/13, mb4.7/7, mB5.0/1, MLv4.0/13, Mw(mB)4.3/1*
NEIC ***18*** *07:02:33.6±1.3, 8.°63S±0.°09×105.°69E±0.°10, h35km±8km, mb4.2/6*
ISC 18 07:02:33.2±0.9, 8.°60S±0.°09×105.°67E±0.°08, h35km, n47, σ0s99/46, mb3.9/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**1.82**	**29**	P	**Pn**	**07 03 01.4**	**-0.6**
CNJI	**Cibinong**	**1.94**	**49**	P	**Pn**	**07 03 02.3**	**-1.4**
CGJI	**Cibinong**	**1.98**	**1**	P	**Pn**	**07 03 03.1**	**-1.1**
DBJI	**Dramaga**	**2.30**	**28**	P	**Pn**	**07 03 08.6**	**-0.1**
CISI	**Cisompet, Garu**	**2.37**	**64**	P	**Pn**	**07 03 08.9**	**-0.8**
CISI	**Cisompet, Garu**	**2.37**	**64**		**Pn**	**07 03 09.1**	**-0.5**
CISI				Sn	**Sn**	**07 03 35.7**	**-1.8**
SBJI	**Serang**	**2.51**	**11**	P	**Pn**	**07 03 11.5**	**0.0**
LEM	**Lembang**	**2.62**	**48**	Pn	**Pn**	**07 03 13.9**	**+0.8**
	35nm,0.3s,baz=191,slow=21,SNR=20						
LEM				Sn	**Sn**	**07 03 45.2**	**+1.4**
	61nm,0.3s,baz=343,slow=20,SNR=10						
LEM	**Lembang**	**2.62**	**48**	P	**Pn**	**07 03 13.1**	**-0.1**
CMJI	**Cimerak**	**2.87**	**74**	P	**Pn**	**07 03 15.9**	**-0.6**
KASI	**Kota Agung**	**3.27**	**339**	P	**Pn**	**07 03 21.5**	**-0.5**
KPJI	**Karang Pucung**	**3.47**	**69**	P	**Pn**	**07 03 25.3**	**+0.5**
LWLI	**Liwa**	**3.90**	**336**	P	**Pn**	**07 03 28.5**	**-2.3**
KLSI		**4.00**	**346**	P	**Pn**	**07 03 31.5**	**-0.5**
MDSI	**Maura Dua**	**4.35**	**340**	P	**Pn**	**07 03 35.6**	**-1.3**
UGM	**Wanagama**	**4.86**	**82**	P	**Pn**	**07 03 42.9**	**-0.9**
UGM	**Wanagama**	**4.86**	**82**		**Pn**	**07 03 43.2**	**-0.6**
MNAI	**Manna**	**5.00**	**327**	P	**Pn**	**07 03 44.2**	**-1.7**
WOJI	**Wonogiri, Jawa**	**5.26**	**82**	P	**Pn**	**07 03 47.7**	**-1.7**
PCJI	**Pacitan**	**5.47**	**86**	P	**Pn**	**07 03 51.7**	**-0.5**
	43nm,0.8s,1μm0.3nm						
PWJI	**Pagerwojo**	**6.10**	**85**	P	**Pn**	**07 04 00.7**	**-0.2**
	44nm,0.7s,0.3nm						
GMJI	**Gumukmas**	**7.70**	**88**	P	**Pn**	**07 04 23.8**	**+0.9**
JAGI	**Jajag, Banyuwa**	**8.39**	**90**	P	**Pn**	**07 04 32.1**	**-0.4**
	34nm,0.6s						
JAGI	**Jajag, Banyuwa**	**8.39**	**90**		**Pn**	**07 04 32.8**	**+0.3**
JAGI				Sn	**Sn**	**07 06 03.8**	**-2.2**
IGBI	**Denpasar**	**9.37**	**92**	P	**Pn**	**07 04 45.6**	**-0.3**
	28nm,0.8s						
SRBI	**Singaraja**	**9.46**	**88**	P	**Pn**	**07 04 47.3**	**+0.2**
	45nm,0.8s						
TWSI	**Taliwang, Sumb**	**11.09**	**92**	P	**Pn**	**07 05 09.7**	**+0.3**
	22nm,1.0s						
PLAI	**Plampang**	**11.97**	**92**	P	**Pn**	**07 05 21.2**	**-0.3**
GIRL	**Giralia**	**16.20**	**150**	Pn	**Pn**	**07 06 17.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**21.58**	**118**	P	**P**	**07 07 21.5**	**+1.4**
	1.6nm,0.9s,baz=300,slow=7.6,SNR=2.3						
FITZ	**Fitzroy Crossi**	**21.58**	**118**	P	**P**	**07 07 20.1**	**0.0**
FITZ				IAmb	IAmb	07 07 34.1	
	comp=Z,5.8nm,1.2s						
MTN	**Manton Dam**	**25.37**	**102**	P	**P**	**07 07 58.2**	**+0.9**
MTN				IAmb	IAmb	07 08 12.4	
	comp=Z,13nm,1.1s						
WRA	**Warramunga Arr**	**29.93**	**115**	P	**P**	**07 08 39.8**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=286,slow=11,SNR=2.0						
ASAR	**Alice Springs**	**30.89**	**122**	P	**P**	**07 08 47.2**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=298,slow=8.5,SNR=4.8						
H08S2	**Diego Garcia H**	**32.85**	**269**	T	T	07 43 50.5	
	baz=93,slow=74,SNR=9.6						
H08S3	**Diego Garcia H**	**32.86**	**269**	T	T	07 43 43.9	
	baz=93,slow=74,SNR=8.8						
H08S1	**Diego Garcia H**	**32.87**	**269**	T	T	07 43 49.9	
	baz=93,slow=74,SNR=6.1						
STKA	**Stephens Creek**	**40.59**	**130**	P	**P**	**07 10 10.2**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=314,slow=14,SNR=2.2						
STKA	**Stephens Creek**	**40.59**	**130**	IAmb	IAmb	07 10 12.0	
	comp=Z,0.9nm,1.1s						
SONM	**Songino Array**	**56.19**	**1**	P	**P**	**07 12 09.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=143,slow=3.6,SNR=3.6						
MK31	**Makanchi Array**	**58.96**	**341**	P	**P**	**07 12 29.7**	**+0.6**
MK31				IAmb	IAmb	07 12 46.1	
	comp=Z,2.1nm,1.0s						
MKAR	**Makanchi Array**	**58.96**	**341**	P	**P**	**07 12 29.9**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=151,slow=8.7,SNR=6.0						
KURBB	**Kurchatov Arra**	**63.51**	**341**	P	**P**	**07 12 59.9**	**0.0**
	comp=Z,0.5nm,0.6s,baz=157,slow=5.6,SNR=4.8						
ZALV	**Zalesovo Beam**	**64.76**	**347**	P	**P**	**07 13 08.2**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=150,slow=6.1,SNR=1.4						
BVAR	**Borovoye Array**	**68.33**	**338**	P	**P**	**07 13 29.4**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=117,slow=8.5,SNR=4.4						
ABKAR	**Akbulak array**	**70.12**	**330**	P	**P**	**07 13 43.0**	**+1.0**
ABKAR				IAmb	IAmb	07 13 57.7	
	comp=Z,4.4nm,1.3s						
TXAR	**Lajitas Array**	**145.61**	**49**	PKPbc	**PKPab**	**07 22 09.1**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=222,slow=1.7,SNR=4.1						

IDC 18 07:05:50.1±6.5, 21.°06N×104.°88W, h0km, mb2.9/2, mb1 3.4/3, mb1mx3.2/39, mbtmp2.9/3, ML3.2/1, Error ellipse: s-maj=110.3km s-min=45.2km az=116.0, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**8.31**	**7**	P	Pn	07 07 53.7	+1.7
	0.1nm,0.3s,baz=194,slow=14,SNR=5.8						
TXAR				Lg	Lg	07 10 11.7	
	0.3nm,0.3s,baz=184,slow=30,SNR=5.7						
NVAR	**Mina Array Bea**	**20.83**	**329**	P	P	07 10 32.9	-0.6
	0.3nm,0.6s,baz=144,slow=11,SNR=2.0						
PDAR	**Pinedale Array**	**22.00**	**351**	P	P	07 10 46.4	+0.3
	0.5nm,0.8s,baz=165,slow=12,SNR=4.6						

SJA ***18*** *07:10:30.0±0.6, 21.°19S×68.°25W, h168km±9km, ML2.4, MW2.9*
ISCJB ***18*** *07:10:33.8±1.0, 21.°47S±0.°04×68.°29W±0.°05, h153km±12km, Error ellipse: s-maj=8.3km s-min=6.4km az=139.0*
GUC ***18*** *07:10:34.4±0.7, 21.°44S×68.°42W, h153km±6km, ML3.4*
ISC 18 07:10:34.4±2.0, 21.°45S±0.°05×68.°26W±0.°05, h147km±20km, n17, σ0s83/28, 3C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.98**	**249**⇑	*i* P	**Pn**	**07 10 58.9**	**-0.1**
PB09				*i* S	**Sn**	**07 11 17.6**	**0.0**
PB09	**IPOC Station P**	**0.98**	**249**	*i* P	**Pn**	**07 10 58.2**	**-0.8**
PB09				IAML		07 11 19.3	
	comp=Z,78nm,0.7s						
LVC	**Limon Verde**	**1.31**	**207**	*i* P	**Pn**	**07 11 01.8**	**-0.4**
LVC				IAML		07 11 27.8	
	comp=Z,12nm,0.3s						
PB03	**IPOC Station P**	**1.51**	**246**⇓	*i* P	**Pn**	**07 11 04.0**	**-0.1**
PB03				*i* S	**Sn**	**07 11 25.9**	**-0.9**
PB03				IAML		07 11 26.8	
	comp=E,272nm,0.2s						
PB07	**IPOC Station P**	**1.54**	**259**⇑	*i* P	**Pn**	**07 11 04.2**	**-0.2**
PB07				*i* S	**Sn**	**07 11 26.6**	**-0.7**
PB07				IAML		07 11 28.0	
	comp=N,530nm,0.2s						
PB08	**IPOC Station P**	**1.54**	**327**⇓	*i* P	**Pn**	**07 11 05.3**	**+0.6**
PB08				*i* S	**Sn**	**07 11 28.7**	**+0.9**

PB06 **IPOC Station P** **1.75 224** *i* P **Pn** **07 11 06.3 -0.3**
PB06 IAML 07 11 36.1
comp=Z,39nm,0.2s
PB04 **IPOC Station P** **1.97 243** *i* P **Pn** **07 11 08.4 -0.8**
GO01 **Chusmiza** **1.97 333**⇓ *i* P **Pn** **07 11 09.9 +0.3**
GO01 *i* S **Sn** **07 11 37.8 +1.2**
GO01 IAML 07 11 41.3
comp=E,279nm,0.1s
TA01 **Diego Aracena** **2.00 296**⇑ *i* P **Pn** **07 11 09.2 -0.2**
TA01 *i* S **Sn** **07 11 35.2 -0.9**
TA01 IAML 07 11 35.8
comp=E,332nm,0.2s
PB15 **IPOC Station P** **2.08 212**⇓ *i* P **Pn** **07 11 11.1 +0.5**
PB15 *i* S **Sn** **07 11 39.1 +0.7**
PB15 **IPOC Station P** **2.08 212** *i* P **Pn** **07 11 10.8 +0.2**
PB15 *i* S **Sn** **07 11 41.1 +2.7**
PB11 **IPOC Station P** **2.13 322**⇓ *i* P **Pn** **07 11 10.8 -0.3**
PB11 *i* S **Sn** **07 11 38.7 -0.5**
PB11 IAML 07 11 40.7
comp=N,342nm,0.6s
PB05 **IPOC Station P** **2.28 232** *i* P **Pn** **07 11 12.5 -0.4**
PB05 IAML 07 11 48.4
comp=Z,24nm,0.6s
YJA **Yavi** **2.65 106** *i* P **Pn** **07 11 16.9 -0.8**
YJA *i* S **Sn** **07 11 51.0 0.0**
YJA IAML 07 11 51.6
comp=Z,4.1nm,1.2s
HJA **Humahuaca** **3.17 124** *i* P **Pn** **07 11 23.6 -0.6**
HJA IAML 07 12 03.3
comp=Z,4.1nm,0.6s
HJA *i* S **Sn** **07 12 03.5 +0.8**
SLA **San Lorenzo** **4.13 143** *i* P **Pn** **07 11 36.0 -0.4**
SLA IAML 07 13 14.1
comp=Z,4.7nm,2.6s

IDC 18 07:15:40.5±4.8, 4.°98S×145.°62E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.5/28, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=146.5km s-min=33.5km az=106.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.49**	**215**	P	Pn	07 19 58.6	+0.3
	0.2nm,0.3s,baz=36,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**21.74**	**210**	P	P	07 20 33.5	-0.3
	0.4nm,0.6s,baz=45,slow=7.4,SNR=5.8						
FITZ	**Fitzroy Crossi**	**23.48**	**235**	P	P	07 20 51.7	-0.3
	1.1nm,0.5s,baz=46,slow=9.7,SNR=8.5						
ZALV	**Zalesovo Beam**	**77.43**	**328**	P	P	07 27 37.7	+0.3
	0.7nm,0.3s,baz=131,slow=7.3,SNR=1.9						

ISK ***18*** *07:20:12.9, 37.°51N×38.°73E, h6km, ML2.7/8*
ISCJB ***18*** *07:20:13.5±0.6, 37.°50N±0.°03×38.°72E±0.°02, h4km±4km, Error ellipse: s-maj=4.4km s-min=3.0km az=3.1*
DDA ***18*** *07:20:13.1, 37.°50N×38.°69E, h17km±1km, ML2.8*
ISC 18 07:20:13.0±0.9, 37.°50N±0.°03×38.°71E±0.°02, h8km±7km, n26, σ0s75/45, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.10**	**123**	PG	**Pg**	**07 20 15.4**	**-0.1**
URFA				SG	**Sg**	**07 20 17.7**	**+0.5**
ATAB	**Bozova**	**0.33**	**265**	*i* PA	**Pb**	**07 20 20.3**	**-1.0**
ATAB				*i* S	**Sb**	**07 20 25.3**	**-1.5**
SANL	**SANLIURFA_Merk**	**0.39**	**146**	*i* PA	**Pb**	**07 20 21.9**	**-0.4**
SANL				*i* S	**Sb**	**07 20 27.6**	**-1.0**
SANL				IAML		07 20 30.0	
	comp=N,605nm,0.5s						
SANL				IAML		07 20 31.0	
	comp=E,1μm,0.4s						
MALT	**Malatya**	**0.84**	**345**	PG	**Pg**	**07 20 29.1**	**-0.2**
MALT				SG	**Sb**	**07 20 41.8**	**+0.1**
AKCD	**Akcadag**	**1.01**	**322**	*i* PA	**Pb**	**07 20 32.4**	**-0.6**
AKCD				*i* S	**Sb**	**07 20 46.3**	**-0.2**
AKCD				IAML		07 20 49.0	
	comp=N,363nm,0.5s						
AKCD				IAML		07 20 50.0	
	comp=E,292nm,0.3s						
ELZG	**Elazig**	**1.02**	**12**	*i* PA	**Pb**	**07 20 32.4**	**-0.7**
ELZG				*i* S	**Sb**	**07 20 46.8**	**0.0**
ELZG				IAML		07 20 52.0	
	comp=E,245nm,0.4s						
ELZG				IAML		07 20 53.0	
	comp=N,302nm,0.4s						
DIYA	**Diyarbakir**	**1.20**	**69**	*i* P	**Pn**	**07 20 36.7**	**+0.5**
DIYA				*i* S	**Sn**	**07 20 53.5**	**+0.8**
DIYA				IAML		07 21 00.0	
	comp=E,152nm,0.4s						
DYBB	**Diyarbakir**	**1.22**	**68**	PN	**Pn**	**07 20 36.6**	**+0.1**
DYBB				SN	**Sn**	**07 20 53.7**	**+0.4**
GAZ	**Gaziantep**	**1.24**	**255**	PN	**Pg**	**07 20 36.8**	**0.0**
GAZ				SN	**Sn**	**07 20 55.5**	**+1.7**
KHMN	**Narli-Kahraman**	**1.24**	**266**	PN	**Pg**	**07 20 37.6**	**+0.7**
MAZI	**Mazidag**	**1.38**	**91**	PN	**Pn**	**07 20 38.3**	**-0.5**
MAZI				SN	**Sg**	**07 20 58.4**	**+1.0**
HCB	**Kahramanmara**	**1.44**	**264**	*i* P	**Pn**	**07 20 39.3**	**-0.3**
HCB				*i* S	**Sg**	**07 20 59.1**	**-0.4**
DARE	**Darende-Malaty**	**1.45**	**318**	PN	**Pg**	**07 20 40.5**	**-0.3**
DARE				SN	**Sg**	**07 21 00.4**	**+0.8**
KUZU	**Kuzuini**	**1.50**	**242**	*i* P	**Pg**	**07 20 42.2**	**+0.5**
KUZU				*i* S	**Sg**	**07 21 02.3**	**+1.2**
ELBS	**KAHRAMANMARAS**	**1.50**	**304**	*i* P	**Pg**	**07 20 41.6**	**-0.2**
ELBS				*i* S	**Sg**	**07 21 01.1**	**-0.1**
HEKM	**Malatya_Hekimh**	**1.50**	**337**	*i* P	**Pb**	**07 20 41.1**	**-0.2**
HEKM				*i* S	**Sg**	**07 21 02.3**	**+1.0**
HEKM				IAML		07 21 07.0	
	comp=E,100nm,0.6s						
AYKD	**Aykdinkavak**	**1.52**	**267**	*i* P	**Pn**	**07 20 40.4**	**-0.2**
AYKD				*i* S	**Sn**	**07 20 59.8**	**-0.8**
AYKD				IAML		07 21 04.0	
	comp=N,167nm,0.5s						
AYKD				IAML		07 21 09.0	
	comp=E,148nm,0.5s						
HANI	**Diyarbakir_Han**	**1.62**	**55**	*i* P	**Pn**	**07 20 42.1**	**+0.1**
ARPR	**Arapgir-MALATY**	**1.62**	**350**	PN	**Pb**	**07 20 42.8**	**-0.5**
MARD	**Mardin**	**1.66**	**96**	*i* P	**Pb**	**07 20 43.3**	**-0.6**
MARD				*i* S	**Sn**	**07 21 04.4**	**+0.3**
KEMA	**Kemaliye**	**1.78**	**355**	*i* P	**Pn**	**07 20 44.6**	**+0.4**
KEMA				*i* S	**Sg**	**07 21 09.8**	**-0.4**
ANDN	**Andirin**	**1.88**	**273**	*i* P	**Pg**	**07 20 48.7**	**-0.5**
ANDN				*i* S	**Sb**	**07 21 10.6**	**-0.9**
SVAN	**Silvan-Diyarba**	**2.07**	**71**	PN	**Pn**	**07 20 49.1**	**+0.9**
SAIM	**ADANA**	**2.14**	**284**	*i* P	**Pn**	**07 20 50.0**	**+0.8**
KOZT	**Kozan**	**2.29**	**270**	PN	**Pn**	**07 20 52.8**	**+1.6**
MUSM	**Mu-Merkez**	**2.52**	**60**	*i* P	**Pb**	**07 20 57.6**	**-1.1**

ISCJB ***18*** *07:27:32.6±0.5, 24.°80N±0.°03×122.°28E±0.°03, h7km±3km, Error ellipse: s-maj=4.4km s-min=3.9km az=16.2*
TAP ***18*** *07:27:32.9, 24.°82N×122.°22E, h7km, ML3.1, C*
JMA ***18*** *07:27:33.3±0.1, 24.°76N×122.°27E, h14km, ML2.4*
ISC 18 07:27:32.7±1.1, 24.°79N±0.°03×122.°26E±0.°03, h11km±10km, n39, σ0s98/62, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.27**	**207**	P	**Pb**	**07 27 39.5**	**-0.1**
	baz=207						
EOS1				*e* S	**Sb**	**07 27 44.2**	**0.0**
	baz=207						
TWB1	**Santiao Chiao**	**0.33**	**311**	P	**Pg**	**07 27 39.1**	**-0.3**
	baz=310						
TWB1				S	**Sg**	**07 27 43.4**	**-0.5**
	baz=310						
NTC	**Toucheng**	**0.40**	**279**	*e* P	**Pg**	**07 27 41.1**	**+0.5**
	baz=275						
NTC				*e* S	**Sb**	**07 27 47.0**	**-1.1**
	baz=275

SLBB	**Yuanshan**	**0.57**	**267**	*eP*	**Pg**	**07 27 43.2**	**-0.7**
	baz=253						
NANB	**Nanao**	**0.59**	**233**	*eP*	**Pg**	**07 27 44.4**	**+0.2**
	baz=227						
NANB				*eS*	**Sg**	**07 27 52.1**	**+0.1**
	baz=227						
ENA	**Nanau**	**0.60**	**233**	P	**Pg**	**07 27 44.6**	**+0.2**
	baz=227						
ENA				*eS*	**Sg**	**07 27 52.6**	**+0.3**
	baz=227						
ENTT	**Nioudou**	**0.65**	**257**	P	**Pg**	**07 27 45.7**	**+0.3**
	baz=252						
ENTT				*eS*	**Sb**	**07 27 55.0**	**-0.3**
	baz=252						
NWLT	**Wulai**	**0.69**	**269**	*eP*	**Pg**	**07 27 46.4**	**+0.3**
	baz=266						
NWLT				*eS*	**Sg**	**07 27 55.4**	**+0.2**
	baz=266						
NHDH	**Xindian Distri**	**0.69**	**285**	*eP*	**Pb**	**07 27 47.6**	**+0.7**
	baz=272						
NHDH				*eS*	**Sb**	**07 27 57.2**	**+0.7**
	baz=272						
NDT	**Datong Townshi**	**0.71**	**255**	*eP*	**Pg**	**07 27 46.6**	**+0.1**
	baz=251						
NDT				*eS*	**Sb**	**07 27 56.6**	**-0.3**
	baz=251						
YM01	**YM01**	**0.72**	**300**	*eP*	**Pb**	**07 27 47.2**	**-0.2**
	baz=289						
TATO	**Taipei**	**0.73**	**285**	*eP*	**Pb**	**07 27 47.7**	**+0.2**
	baz=274						
YM11	**YM11**	**0.73**	**301**	*eP*	**Pg**	**07 27 47.2**	**+0.3**
	baz=291						
YM05	**YM05**	**0.73**	**301**	*eP*	**Pb**	**07 27 47.5**	**-0.2**
	baz=290						
YM10	**YM10**	**0.73**	**300**	*eP*	**Pb**	**07 27 47.4**	**-0.2**
	baz=289						
YM04	**YM04**	**0.75**	**299**	*eP*	**Pg**	**07 27 47.7**	**+0.3**
	baz=297						
YOJ	**Yonaguni jima**	**0.75**	**116**	P	**Pg**	**07 27 47.4**	**+0.1**
YOJ				*eS*	**Sg**	**07 27 57.1**	**-0.1**
YHNB	**Yeheng**	**0.82**	**262**	*eP*	**Pg**	**07 27 48.2**	**-0.3**
	baz=251						
YHNB				*eS*	**Sb**	**07 28 00.5**	**+0.4**
	baz=251						
NSK	**Sanguang**	**0.83**	**262**	*eP*	**Pg**	**07 27 48.4**	**-0.4**
	baz=251						
NSK				*eS*	**Sg**	**07 27 59.0**	**-0.7**
	baz=251						
NACB	**Ninganchiao**	**0.86**	**225**	*eP*	**Pg**	**07 27 49.6**	**+0.1**
	baz=222						
NACB				*eS*	**Sg**	**07 28 00.8**	**+0.1**
	baz=222						
NNSH	**Datong**	**0.88**	**246**	*eP*	**Pg**	**07 27 49.8**	**0.0**
	baz=233						
NNSH				*eS*	**Sb**	**07 28 02.1**	**+0.2**
	baz=233						
NNS	**Nan Shan**	**0.88**	**247**	*eP*	**Pg**	**07 27 49.8**	**0.0**
	baz=233						
NNS				*eS*	**Sb**	**07 28 01.6**	**-0.4**
	baz=233						
ETLH	**Xiulin Townshi**	**0.92**	**231**	*eP*	**Pg**	**07 27 50.6**	**+0.1**
	baz=235						
TWD	**Chiawan**	**0.93**	**221**	*eP*	**Pg**	**07 27 50.9**	**+0.1**
	baz=228						
TWD				*eS*	**Sb**	**07 28 03.3**	**-0.1**
	baz=228						
WHF	**Hehuan Shan**	**1.11**	**235**	P	**Pg**	**07 27 54.3**	**+0.1**
	baz=233						
WHF				*eS*	**Sb**	**07 28 09.1**	**0.0**
	baz=233						
TWT	**Tachien**	**1.13**	**242**	*eP*	**Pn**	**07 27 54.8**	**+0.1**
	baz=232						
TWT				*eS*	**Sb**	**07 28 09.2**	**0.0**
	baz=232						
TDCB	**Techi**	**1.14**	**242**	*eP*	**Pn**	**07 27 54.9**	**+0.1**
	baz=232						
CHGB	**Renai**	**1.23**	**234**	*eP*	**Pn**	**07 27 56.4**	**+0.2**
	baz=233						
CHGB				*eS*	**Sb**	**07 28 12.1**	**-0.1**
	baz=233						
ESL	**Shilin**	**1.23**	**218**	*eP*	**Pn**	**07 27 56.0**	**0.0**
	baz=225						
IRIF	**Iriomote-Funau**	**1.41**	**108**	P	**Pn**	**07 27 58.5**	**+0.1**
DPDB	**Guoxing**	**1.43**	**239**	*eP*	**Pn**	**07 27 59.3**	**+0.5**
	baz=238						
SSLB	**Suanglung**	**1.56**	**230**	*eP*	**Pb**	**07 28 02.2**	**+0.5**
	baz=230						
SSLB				*eS*	**Sb**	**07 28 21.9**	**+0.5**
	baz=230						
YULB	**Yu-li**	**1.65**	**213**	*eP*	**Pn**	**07 28 01.2**	**-0.5**
	baz=217						
TPUB	**Ta-pu**	**2.10**	**226**	*eP*	**Pb**	**07 28 10.8**	**-0.2**
	baz=227						
TPUB				*eS*	**Sg**	**07 28 39.2**	**-1.2**
	baz=227						

PAS ***18*** *07:45:21.9±0.9,33°.964N±0°.007×118°.39W±0°.02, h11km±2km, ML2.0*

NEIC 18 07:45:21.6±0.8,33°.97N±0°.02×118°.40W±0°.02,h13km±1km, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCGC	**La Cienega, Cu**	**0.04**	**31**		Pg	07 45 24.0	0.0
LCGC					Sg	07 45 26.1	+0.4
BHPC	**Baldwin Hills**	**0.04**	**55**		Pg	07 45 23.9	-0.1
BHPC					Sg	07 45 26.1	+0.4
DJJ	**Donna J Jenkin**	**0.15**	**343**		Pg	07 45 25.1	-0.1
DJJ	**Donna J Jenkin**	**0.15**	**343**		Pg	07 45 25.1	-0.1
RPV	**Rancho Palos V**	**0.22**	**180**		Pg	07 45 26.3	-0.1
FMP	**Fort Macarthur**	**0.27**	**160**		Pg	07 45 26.9	-0.3
PASC	**Pasadena Art C**	**0.27**	**41**		Pg	07 45 26.9	-0.4
MWC	**Mount Wilson**	**0.39**	**48**		Pg	07 45 29.0	-0.4
CIAC	**Catalina I. Ai**	**0.56**	**181**		Pg	07 45 32.4	-0.2
SSK	**Sunset Peak**	**0.64**	**67**		Pg	07 45 34.2	+0.2
SBI	**Santa Barbara**	**0.71**	**227**		Pg	07 45 35.4	0.0
HYS	**Haystack Butte**	**1.13**	**37**		Pb	07 45 42.2	-0.8
POB	**Polly Butte**	**1.26**	**102**		Pn	07 45 43.5	-1.4
GSC	**Goldstone, Bar**	**1.87**	**44**	Pn	Pb	07 45 55.2	-0.5
GSC				Sn	Sb	07 46 18.3	-0.8
BAR	**Barrett**	**1.94**	**131**	Pn	Pn	07 45 55.3	+1.2
BAR					Sn	07 46 16.5	-1.9
HAY	**Hayfield**	**2.28**	**96**		Pn	07 45 59.8	+0.9

IDC ***18*** *07:51:03.2±0.8,32°.98S×179°.15W, h0km, mb4.3/8, mb1 4.4/9,mb1mx4.1/36,mbtmp4.3/9,ML4.4/1,MS3.3/1, Ms1 3.3/1,ms1mx2.7/39,Error ellipse: s-maj=26.1km s-min=21.1km az=33.0*

WEL ***18*** *07:51:07.7±0.8,33°.S×17°.8W×1°.3,h33km,MA4.6/26, mB5.2/12,ML5.0/22,MLv4.7/26,Mw(mB)4.6/12,Error ellipse: s-maj=0.0km s-min=0.0km az=109.1*

ISCJB ***18*** *07:51:08.6±0.5,33°.37S±0°.04×179°.19W±0°.08,h48km, mb4.2/8,MS3.1/2,Error ellipse: s-maj=9.5km s-min=4.7km az=17.8*

NEIC ***18*** *07:51:08.7±2.5,33°.25S±0°.09×179°.1W±0°.1,h37km±7km, mb4.6/7*

ISC 18 07:51:09.6±0.6,33°.36S±0°.06×178°.97W±0°.08,h48km, n100,σ1s87/100,mb4.4/12,1C-1D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.18**	**13**	P	**Pn**	**07 52 10.1**	**-0.8**
GLKZ				S	**Sn**	**07 52 56.4**	**-1.9**
MXZ	**Matakaoa Point**	**4.75**	**207**	P	**Pn**	**07 52 18.6**	**0.0**
MXZ	**Matakaoa Point**	**4.75**	**207**	Pn	**Pn**	**07 52 19.0**	**+0.4**
MXZ				Sn	**Sn**	**07 53 13.2**	**+0.9**
WMGZ	**Waiomatatini S**	**4.94**	**205**	P	**Pn**	**07 52 21.2**	**0.0**
PKGZ	**Pakihiroa**	**5.12**	**207**	P	**Pn**	**07 52 23.3**	**-0.5**
HAZ	**Te Kaha**	**5.13**	**210**	P	**Pn**	**07 52 24.5**	**+0.7**
HAZ				S	**Sn**	**07 53 22.2**	**+0.5**
PUZ	**Puketiti**	**5.22**	**205**	P	**Pn**	**07 52 24.7**	**-0.4**
RUGZ	**Raukumara Rang**	**5.35**	**210**	P	**Pn**	**07 52 27.0**	**0.0**
RUGZ				S	**Sn**	**07 53 26.4**	**-0.9**
GRZ	**Great Barrier**	**5.42**	**236**	P	**Pn**	**07 52 29.6**	**+1.8**
CNGZ	**Carnagh Statio**	**5.61**	**203**	P	**Pn**	**07 52 30.6**	**+0.2**
TKGZ	**Te Karaka**	**5.69**	**206**	P	**Pn**	**07 52 30.8**	**-0.7**
TKGZ				S	**Sn**	**07 53 33.8**	**-1.8**
MWZ	**Matawai**	**5.72**	**209**	P	**Pn**	**07 52 31.7**	**-0.3**
MWZ				S	**Sn**	**07 53 36.2**	**-0.2**
OPRZ	**Ohinepanea**	**5.77**	**218**	P	**Pn**	**07 52 35.0**	**+2.3**
URZ	**Urewera**	**5.84**	**212**	Pn	**Pn**	**07 52 32.6**	**-0.9**
	8.9nm,0.3s,baz=275,slow=3.4,SNR=42						
URZ				Sn	**Sn**	**07 53 35.8**	**-3.3**
	7.8nm,0.3s,baz=4.9,slow=6.2,SNR=3.6						
URZ	**Urewera**	**5.84**	**212**	P	**Pn**	**07 52 32.6**	**-0.9**
URZ	**Urewera**	**5.84**	**212**		**Pn**	**07 52 33.4**	**-0.2**
URZ					**Sn**	**07 53 37.6**	**-1.5**
TGRZ	**Tauranga**	**5.84**	**220**	P	**Pn**	**07 52 36.2**	**+2.6**
RAGZ	**Rawiri**	**5.91**	**209**	P	**Pn**	**07 52 34.6**	**0.0**
WIAZ	**Waiheke Island**	**5.93**	**233**	P	**Pn**	**07 52 37.5**	**+2.7**
RIGZ	**Rimuhau**	**5.96**	**205**	P	**Pn**	**07 52 34.4**	**-0.8**
KARZ	**Kaharoa**	**6.07**	**219**	P	**Pn**	**07 52 40.8**	**+4.1**
WCZ	**Waipu Caves**	**6.08**	**243**	P	**Pn**	**07 52 38.7**	**+1.8**
MKAZ	**Moumakai**	**6.09**	**230**	P	**Pn**	**07 52 40.0**	**+3.0**
PRGZ	**Paritu Road**	**6.11**	**204**	P	**Pn**	**07 52 36.5**	**-0.8**
ETAZ	**East Tamaki Re**	**6.15**	**233**	P	**Pn**	**07 52 41.1**	**+3.2**
MUGZ	**Murupara**	**6.17**	**213**	P	**Pn**	**07 52 37.4**	**-0.7**
SNGZ	**Shannon Statio**	**6.18**	**208**	P	**Pn**	**07 52 38.3**	**-0.1**
KNZ	**Kokohu**	**6.27**	**205**	P	**Pn**	**07 52 37.5**	**-2.0**
TOZ	**Tahuroa Road**	**6.27**	**224**	P	**Pn**	**07 52 41.8**	**+2.3**
MHGZ	**Mahia Peninsul**	**6.31**	**203**	P	**Pn**	**07 52 37.9**	**-2.2**
OUZ	**Omahuta**	**6.43**	**251**		**Pn**	**07 52 43.0**	**+1.4**
OUZ				Sn	**Sn**	**07 53 50.1**	**-3.5**
WHHZ	**Waihua**	**6.48**	**207**	P	**Pn**	**07 52 43.4**	**+1.0**
HATZ	**Hinemaiaia**	**6.81**	**214**	P	**Pn**	**07 52 46.7**	**-0.3**
BKZ	**Black Stump Fm**	**6.86**	**211**	P	**Pn**	**07 52 46.6**	**-1.0**
BKZ	**Black Stump Fm**	**6.86**	**211**		**Pn**	**07 52 46.4**	**-1.2**
MCHZ	**McNeill Hill**	**7.01**	**209**	P	**Pn**	**07 52 49.7**	**+0.1**
CKHZ	**Cape Kidnapper**	**7.05**	**206**	P	**Pn**	**07 52 47.9**	**-2.2**
HIZ	**Hauiti**	**7.18**	**222**	P	**Pn**	**07 52 54.8**	**+2.9**
HIZ	**Hauiti**	**7.18**	**222**	Pn	**Pn**	**07 52 53.6**	**+1.6**
KAHZ	**Kahuranaki**	**7.24**	**206**	P	**Pn**	**07 52 52.2**	**-0.6**
NGZ	**Ngauruhoe**	**7.28**	**215**	P	**Pn**	**07 52 54.0**	**+0.6**
TWVZ	**Taurewa**	**7.28**	**217**	P	**Pn**	**07 52 54.2**	**+0.8**
BHHZ	**Black Hill Sta**	**7.31**	**212**	P	**Pn**	**07 52 52.9**	**-0.9**
TUVZ	**Tukino**	**7.32**	**215**	P	**Pn**	**07 52 54.8**	**+0.8**
FWVZ	**Far West T-bar**	**7.36**	**215**	P	**Pn**	**07 52 54.8**	**+0.2**
TRVZ	**Turoa**	**7.40**	**215**	P	**Pn**	**07 52 56.0**	**+0.8**
PXZ	**Pawanui**	**7.45**	**205**	P	**Pn**	**07 52 52.5**	**-3.2**
PKVZ	**Pokaka**	**7.49**	**216**	P	**Pn**	**07 52 55.3**	**-0.9**
PNHZ	**Pukenui**	**7.61**	**209**	P	**Pn**	**07 52 55.4**	**-2.4**
BFZ	**Birch Farm**	**8.25**	**206**	P	**Pn**	**07 53 03.3**	**-3.3**
BFZ	**Birch Farm**	**8.25**	**206**	Pn	**Pn**	**07 53 04.5**	**-2.1**
MSWZ	**Moikau Station**	**9.26**	**208**	Pn	**Pn**	**07 53 21.6**	**+1.1**
PLWZ	**Palliser**	**9.39**	**208**	Pn	**Pn**	**07 53 22.6**	**+0.3**
SNZO	**South Karori**	**9.40**	**211**	Pn	**Pn**	**07 53 21.8**	**-0.5**
BHW	**Baring Head**	**9.41**	**210**	Pn	**Pn**	**07 53 21.3**	**-1.2**
TUWZ	**Tuamarina**	**9.83**	**213**		**Sn**	**07 55 11.1**	**-6.1**
NNZ	**Nelson**	**9.93**	**216**	Pn	**Pn**	**07 53 29.1**	**-0.5**
QRZ	**Quartz Range**	**10.08**	**220**	Pn	**Pn**	**07 53 32.4**	**+0.7**
BSWZ	**Blackbirch Sta**	**10.09**	**212**	Pn	**Pn**	**07 53 32.5**	**+0.7**
THZ	**Tophouse**	**10.58**	**215**	Pn	**Pn**	**07 53 34.9**	**-3.7**
THZ					**Sn**	**07 55 33.4**	**-2.2**
KHZ	**Kahutara**	**10.80**	**211**	Pn	**Pn**	**07 53 37.0**	**-4.5**
LTZ	**Lake Taylor**	**11.66**	**214**	Pn	**Pn**	**07 53 52.7**	**-0.7**
DZM	**Mont Dzumac**	**17.10**	**307**	*e*LR	LR	07 59 00.4	
	comp=Z,165nm,26.4s						
DZM	**Mont Dzumac**	**17.10**	**307**	LR	LR	07 59 52.9	
	comp=Z,107nm,18.6s,baz=162,slow=32						
TBI	**Tubuai**	**27.73**	**77**	*e*LR	LR	08 03 57.0	
	comp=Z,80nm,34.8s						
TBI	**Tubuai**	**27.73**	**77**	*eT*	T	08 26 04.9	
	19nm,0.3s						
PPT2	**Papeete2**	**30.69**	**67**	*e*LR	LR	08 05 11.2	
	comp=Z,64nm,30.5s						
CTA	**Charters Tower**	**33.59**	**284**	P	**P**	**07 57 45.1**	**-0.2**
	2.6nm,0.5s,baz=133,slow=7.9,SNR=5.2						
BBOO	**Buckleboo**	**37.46**	**258**	P	**P**	**07 58 17.3**	**-1.2**
BBOO				IAmb	IAmb	07 58 19.9	
	comp=Z,12nm,1.4s						
COEN	**Coen**	**39.40**	**290**	P	**P**	**07 58 34.1**	**-0.9**
COEN				IAmb	IAmb	07 58 45.1	
	comp=Z,16nm,1.2s						
ASAR	**Alice Springs**	**42.22**	**271**	P	**P**	**07 58 57.2**	**-1.0**
	comp=Z,3.2nm,0.4s,baz=111,slow=7.7,SNR=36						
WR0	**Warramunga Arr**	**43.30**	**276**	P	**P**	**07 59 05.7**	**-1.2**
WRAB	**Tennant Creek**	**43.47**	**276**	P	**P**	**07 59 07.0**	**-1.3**
WRAB				IAmb	IAmb	07 59 08.7	
	comp=Z,4.6nm,0.7s						
WRA	**Warramunga Arr**	**43.48**	**276**	P	**P**	**07 59 07.2**	**-1.2**
	comp=Z,3.8nm,0.6s,baz=116,slow=7.6,SNR=29						
FORT	**Forrest**	**44.56**	**258**	P	**P**	**07 59 15.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**51.60**	**273**	P	**P**	**08 00 10.3**	**-1.0**
	comp=Z,2.7nm,0.8s,baz=148,slow=8.8,SNR=6.4						
QSPA	**South Pole Qui**	**56.76**	**180**	P	**P**	**08 00 52.0**	**+3.6**
	comp=Z,2.7nm,0.5s,baz=15,slow=0.8,SNR=40						
QSPA	**South Pole Qui**	**56.76**	**180**	P	**P**	**08 00 52.1**	**+3.6**
QSPA				IAmb	IAmb	08 00 52.9	
	comp=Z,13nm,1.4s						
MAW	**Mawson**	**69.26**	**201**	P	**P**	**08 02 12.6**	**+1.5**
	comp=Z,1.3nm,0.5s,baz=146,slow=11,SNR=2.3						
SYO	**Syowa Base**	**74.06**	**194**	⇑*eP*	**P**	**08 02 39.0**	**-0.9**
SYO	**Syowa Base**	**74.06**	**194**	⇓*ep*	pP	08 02 50.0	-2.6
SNAA	**Sanae**	**75.23**	**179**	P	**P**	**08 02 48.4**	**+1.6**
SNAA	**Sanae**	**75.23**	**179**	P	**P**	**08 02 48.7**	**+1.9**
SNAA				IAmb	IAmb	08 02 58.5	
	comp=Z,6.8nm,1.5s						
VNA3	**Neumayer Olymp**	**75.42**	**176**	P	**P**	**08 02 49.7**	**+1.8**
VNA2	**Neumayer--Watz**	**75.84**	**177**	P	**P**	**08 02 52.7**	**+2.4**
	baz=172,slow=4.1						
VNA1	**Neumayer--Stat**	**76.08**	**177**	P	**P**	**08 02 53.2**	**+1.6**
PLCA	**Paso Flores**	**81.10**	**133**	P	**P**	**08 03 24.0**	**+4.1**
	comp=Z,1.2nm,0.6s,baz=256,slow=6.1,SNR=9.9						
NVAR	**Mina Array Bea**	**90.96**	**43**	P	**P**	**08 04 09.0**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=233,slow=7.5,SNR=2.3						
KURBB	**Kurchatov Arra**	**122.50**	**312**	PKP	**PKPdf**	**08 09 57.5**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=115,slow=1.7,SNR=4.2						
BVAR	**Borovoye Array**	**127.91**	**314**	PKP	**PKPdf**	**08 10 09.0**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=116,slow=3.4,SNR=2.5						
AKTO	**Aktyubinsk**	**135.43**	**310**	PKP	**PKiKP**	**08 10 24.3**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=117,slow=11,SNR=4.0						
H10N3	**ASCENSION HYDR**	**136.45**	**157**	T	T	10 43 55.1	
	baz=204,slow=75,SNR=5.2						
H10N1	**ASCENSION HYDR**	**136.45**	**157**	T	T	10 43 54.9	
	baz=204,slow=75,SNR=6.6						
H10N2	**ASCENSION HYDR**	**136.47**	**157**	T	T	10 43 58.8	
	baz=204,slow=75,SNR=4.8						
ARCES	**ARCESS Array B**	**141.28**	**347**	PKhKP	PKPpre	08 10 29.8	
	comp=Z,3.5nm,0.9s,baz=18,slow=1.0,SNR=6.0						
FINES	**FINESS Array B**	**147.60**	**338**	PKPbc	**PKPbc**	**08 10 46.7**	**-1.1**
	comp=Z,3.4nm,0.6s,baz=45,slow=3.1,SNR=26						
NB2	**NORSAR Subarra**	**151.52**	**350**	PKP	**PKPbc**	**08 10 57.1**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=16,slow=2.7						
NOA	**NORSAR Array B**	**151.52**	**350**	PKPbc	**PKPbc**	**08 10 57.0**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=22,slow=4.6,SNR=9.4						
BRTR	**Keskin Array B**	**153.14**	**293**	PKPbc	**PKPbc**	**08 11 00.4**	**-1.7**
	comp=Z,1.0nm,0.8s,baz=142,slow=6.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**159.87**	**182**	PKPab	**PKPab**	**08 11 44.4**	**+1.4**
	comp=Z,3.0nm,0.7s,baz=172,slow=3.8,SNR=14						

NNC ***18*** *07:55:57.6±0.4,42°.87N×79°.24E, h1km±1km,mb3.0, mpv2.8,Error ellipse: s-maj=3.2km s-min=1.3km az=161.0*

SOME ***18*** *07:55:57.4,42°.85N×79°.22E,h5km*

KRNET ***18*** *07:55:59.9±0.1,42°.45N×79°.69E,mb2.5*

ISC 18 07:55:58.8±1.4,42°.91N±0°.05×79°.18E±0°.03,h4km±11km, n35,σ1s28/63,16C-2D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.27**	**334**	*eP*	**Pg**	**07 56 03.9**	**-0.1**
	8.8nm,0.1s						
UZB				*eS*	**Sg**	**07 56 08.9**	**+1.4**
	24nm,0.1s						
UZB	**Uzynbulak**	**0.27**	**334**	P	**Pg**	**07 56 03.9**	**-0.1**
	8.8nm,0.1s						
UZB				S	**Sg**	**07 56 08.9**	**+1.4**
	24nm,0.1s						
SHLS	**Shalkode**	**0.32**	**40**	*eP*	**Pn**	**07 56 08.7**	**-1.7**
	25nm,0.1s						
SHLS				*eS*	**Sb**	**07 56 17.1**	**+4.2**
	46nm,0.3s						
SHLS	**Shalkode**	**0.32**	**40**	P	**Pn**	**07 56 08.7**	**-1.7**
	25nm,0.1s						
SHLS				S	**Sb**	**07 56 17.1**	**+4.2**
	46nm,0.3s						
PDGK	**Podgornoye**	**0.48**	**28**	P	**Pg**	**07 56 07.2**	**-0.9**
	5.6nm,0.2s						
PDGK				S	**Sg**	**07 56 14.2**	**0.0**
	12nm,0.2s						
PDGK	**Podgornoye**	**0.48**	**28**	⇓P	**Pg**	**07 56 07.0**	**-1.0**
	3.9nm,0.4s						
PDGK				⇓S	**Sg**	**07 56 14.3**	**+0.1**
	21nm,0.7s						
SATY	**Saty**	**0.59**	**285**	*eP*	**Pg**	**07 56 09.8**	**-0.3**
	5.6nm,0.2s						
SATY				*eS*	**Sg**	**07 56 19.1**	**+1.3**
	18nm,0.2s						
SATY	**Saty**	**0.59**	**285**	P	**Pg**	**07 56 09.8**	**-0.3**
	5.6nm,0.2s						
SATY				S	**Sg**	**07 56 19.1**	**+1.3**
	18nm,0.2s						
ZHN	**Zhinishke**	**0.60**	**296**	*eP*	**Pg**	**07 56 10.4**	**-0.1**
	2.6nm,0.3s						
ZHN				*eS*	**Sb**	**07 56 19.9**	**-1.0**
	4.6nm,0.3s						
ZHN	**Zhinishke**	**0.60**	**296**	P	**Pg**	**07 56 10.4**	**-0.1**
	2.6nm,0.3s						
ZHN				S	**Sb**	**07 56 19.9**	**-1.0**
	4.6nm,0.3s						
KPKS	**Kokpek**	**0.67**	**327**	*eP*	**Pg**	**07 56 11.4**	**-0.2**
	5.8nm,0.1s						
KPKS				*eS*	**Sg**	**07 56 21.6**	**+1.3**
	27nm,0.3s						
PRZ	**Przheval'sk**	**0.71**	**234**	⇑*iP*	**Pn**	**07 56 18.1**	**+2.3**
	baz=72						
PRZ				⇑*iS*	**Sn**	**07 56 31.1**	**+3.7**
	baz=72						
DJR	**Jarkent**	**1.49**	**17**	*eP*	**Pn**	**07 56 25.9**	**-0.6**
	0.6nm,0.1s						
DJR				*eS*	**Sb**	**07 56 46.4**	**0.0**
	8.6nm,0.3s						
DJR	**Jarkent**	**1.49**	**17**	P	**Pn**	**07 56 25.9**	**-0.6**
	0.6nm,0.1s						
DJR				S	**Sb**	**07 56 46.4**	**0.0**
	8.6nm,0.3s						
KOTS	**Kotyrbulak**	**1.55**	**283**	*eP*	**Pn**	**07 56 26.9**	**-0.4**
	4.7nm,0.2s						
KOTS				*eS*	**Sg**	**07 56 48.3**	**-0.3**
	5.1nm,0.3s						
KOTS	**Kotyrbulak**	**1.55**	**283**	P	**Pn**	**07 56 26.9**	**-0.4**
	4.7nm,0.2s						
KOTS				S	**Sg**	**07 56 48.3**	**-0.3**
	5.1nm,0.3s						
TARG	**Taragay, Kyrgy**	**1.56**	**221**	⇑*iP*	**Pn**	**07 56 26.7**	**-0.9**
	baz=43						
TARG				⇑*iS*	**Sn**	**07 56 46.3**	**-2.2**
	baz=43						
MDOK	**Medeo**	**1.58**	**280**	*eP*	**Pb**	**07 56 27.8**	**-0.9**
	3.6nm,0.3s						
MDOK				*eS*	**Sg**	**07 56 49.7**	**0.0**
	4.6nm,0.7s						
MDOK	**Medeo**	**1.58**	**280**	Pg	**Pb**	**07 56 27.8**	**-0.9**
	3.6nm,0.3s						
MDOK				Lg	Lg	07 56 49.7	
	4.6nm,0.7s						
TNSS	**Tian-Shan**	**1.64**	**275**	*eP*	**Pb**	**07 56 29.0**	**-0.9**
	0.7nm,0.2s						
TNSS				*eS*	**Sg**	**07 56 52.1**	**+0.5**
	3.4nm,0.3s						
TNSS	**Tian-Shan**	**1.64**	**275**	P	**Pb**	**07 56 29.0**	**-0.9**
	0.7nm,0.2s						
TNSS				S	**Sg**	**07 56 52.1**	**+0.5**
	3.4nm,0.3s						
CHKK	**Chushkaly**	**1.86**	**301**	*eP*	**Pb**	**07 56 32.9**	**-0.4**
CHKK				*eS*	**Sg**	**07 56 58.4**	**0.0**
CHKK	**Chushkaly**	**1.86**	**301**	Pg	**Pb**	**07 56 32.9**	**-0.4**
CHKK				Lg	Lg	07 56 58.4	
ULHL	**Ulahol**	**2.27**	**254**	⇑*iP*	**Pb**	**07 56 39.9**	**-0.5**
	baz=67						
ULHL				⇑*iS*	**Sg**	**07 57 10.0**	**-1.7**
	baz=67						
KUU	**Kurty**	**2.29**	**296**	*eP*	**Pb**	**07 56 40.7**	**0.0**
	1.3nm,0.2s						
KUU				*eS*	**Sg**	**07 57 11.8**	**-0.6**
	5.0nm,0.2s						
KUU	**Kurty**	**2.29**	**296**	Pg	**Pb**	**07 56 40.7**	**0.0**
	1.3nm,0.2s						
KUU				Lg	Lg	07 57 11.8	
	5.0nm,0.2s						
KST	**Kastek**	**2.37**	**274**	*eP*	**Pb**	**07 56 41.8**	**-0.2**
	1.8nm,0.2s						
KST				*eS*	**Sg**	**07 57 13.8**	**-0.9**
	3.4nm,0.7s						
KST	**Kastek**	**2.37**	**274**	Pg	**Pb**	**07 56 41.8**	**-0.2**
	1.8nm,0.2s						
KST				Lg	Lg	07 57 13.8	
	3.4nm,0.7s						
KAPS	**Kapalarasan**	**2.38**	**3**	*eP*	**Pb**	**07 56 42.3**	**0.0**
	0.9nm,0.1s						
KAPS				*eS*	**Sg**	**07 57 14.4**	**-0.9**
	6.9nm,0.4s						
KAPS	**Kapalarasan**	**2.38**	**3**	Pg	**Pb**	**07 56 42.3**	**0.0**
	0.9nm,0.1s						
KAPS				Lg	Lg	07 57 14.4	
	6.9nm,0.4s						
BOOM	**Boomskoye usch**	**2.42**	**261**	⇑*iP*

az=162.6
*DJA **18** 08:07:04.5±0.3,11°S×3°×12°0E±°,h10km,M4.1/10, mb4.1/6,mB5.1/1,MLv4.1/10,Mw(mB)4.5/1*
*IDC **18** 08:07:06.0±5.9,11°.80S×120°.12E,h0km,mb4.0/1, mb1 3.8/5,mb1mx3.5/51,mbtmp3.7/5,ML3.4/4,Error ellipse: s-maj=77.6km s-min=36.1km az=112.0*
*NEIC **18** 08:07:07.1±2.5,11°.81S±0°.08×119°.92E±0°.09,h26km±10km, mb4.1/2*
ISC 18 08:07:03.2±0.8,11°.66S±0°.06×119°.59E±0°.06,h35km,n34,
σ3§01/46,South of Sumba

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**2.10**	**19**	P	**Pn**	**08 07 33.9**	**-1.9**
PLAI	**Plampang**	**3.33**	**327**	P	**Pn**	**08 07 52.8**	**0.0**
PLAI				S	**Sn**	**08 08 26.6**	**-4.6**
TWSI	**Taliwang, Sumb**	**3.94**	**317**	P	**Pn**	**08 08 01.5**	**+0.3**
MMRI	**Maumere**	**3.98**	**41**	P	**Pn**	**08 07 59.1**	**-2.6**
MMRI	**Maumere**	**3.98**	**41**		**Pn**	**08 07 59.3**	**-2.4**
BATI	**Baumata**	**4.25**	**71**	Pn	**Pn**	**08 08 06.9**	**+1.4**
	7.0nm,0.3s,baz=243,slow=2.5,SNR=6.7						
BATI				Sn	**Sn**	**08 08 52.6**	**-1.4**
	7.5nm,0.3s,baz=210,slow=20,SNR=4.2						
BATI	**Baumata**	**4.25**	**71**	P	**Pn**	**08 08 07.6**	**+2.1**
SOEI	**Soe**	**4.97**	**68**	P	**Pn**	**08 08 17.2**	**+1.7**
SOEI	**Soe**	**4.97**	**68**		**Pn**	**08 08 16.8**	**+1.3**
IGBI	**Denpasar**	**5.21**	**302**	P	**Pn**	**08 08 17.5**	**-1.1**
SRBI	**Singaraja**	**5.59**	**309**	P	**Pn**	**08 08 25.1**	**+1.3**
	40nm,1.0s,0.2nm						
JAGI	**Jajag, Banyuwa**	**6.22**	**300**	P	**Pn**	**08 08 32.9**	**+0.3**
	12nm,0.9s,2µm0.3nm						
BKSI	**Bulukumba**	**6.32**	**5**	P	**Pn**	**08 08 33.5**	**-0.4**
	24nm,0.9s,0.1nm						
GMJI	**Gumukmas**	**6.92**	**299**	P	**Pn**	**08 08 43.2**	**+1.0**
	11nm,1.3s,0.1nm						
FITZ	**Fitzroy Crossi**	**8.67**	**138**	Pn	**Pn**	**08 09 08.2**	**+2.1**
	0.2nm,0.3s,baz=333,slow=15,SNR=12						
FITZ				Sn	**Sn**	**08 10 40.7**	**-2.1**
	0.8nm,0.3s,baz=154,slow=18,SNR=7.2						
FITZ	**Fitzroy Crossi**	**8.67**	**138**		**Pn**	**08 09 08.0**	**+1.9**
FITZ					**Sn**	**08 10 40.0**	**-2.8**
PCJI	**Pacitan**	**8.97**	**292**	P	**Pn**	**08 09 12.0**	**+1.7**
	17nm,1.3s						
PSAD1	**Pilbara Seismi**	**9.74**	**179**	Pn	**Pn**	**08 09 24.2**	**+3.3**
PSAD1				Sn	**Sn**	**08 11 04.2**	**-5.0**
KNRA	**Kununurra**	**9.77**	**115**	Pn	**Pn**	**08 09 21.7**	**+0.4**
KNRA				Sn	**Sn**	**08 11 04.7**	**-5.1**
PSAC1	**Pilbara Seismi**	**9.82**	**179**	Pn	**Pn**	**08 09 24.9**	**+2.9**
PSAC1				Sn	**Sn**	**08 11 06.6**	**-4.5**
PSAB2	**Pilbara Seismi**	**9.85**	**179**	Pn	**Pn**	**08 09 25.1**	**+2.8**
PSAB2				Sn	**Sn**	**08 11 06.8**	**-4.9**
PSAA2	**Pilbara Seismi**	**9.85**	**179**	Pn	**Pn**	**08 09 25.9**	**+3.5**
PSAC2	**Pilbara Seismi**	**9.85**	**178**	Pn	**Pn**	**08 09 25.8**	**+3.4**
PSAC2				Sn	**Sn**	**08 11 06.6**	**-5.3**
PSAB1	**Pilbara Seismi**	**9.86**	**179**	Pn	**Pn**	**08 09 25.5**	**+3.0**
PSA00	**Pilbara Seismi**	**9.86**	**179**	Pn	**Pn**	**08 09 24.9**	**+2.4**
PSA00					**Sn**	**08 11 08.2**	**-3.9**
PSAA1	**Pilbara Seismi**	**9.87**	**179**	Pn	**Pn**	**08 09 25.4**	**+2.9**
PSAA1				Sn	**Sn**	**08 11 07.7**	**-4.4**
PSAA3	**Pilbara Seismi**	**9.87**	**179**	Pn	**Pn**	**08 09 25.6**	**+3.0**
PSAA3				Sn	**Sn**	**08 11 06.5**	**-5.7**
GIRL	**Giralia**	**12.06**	**204**	Pn	**Pn**	**08 09 56.2**	**+3.6**
CISI	**Cisompet, Garu**	**12.30**	**288**	Pn	**P**	**08 10 06.9**	**-0.9**
WRA	**Warramunga Arr**	**16.40**	**122**	Pn	**Pn**	**08 10 50.2**	**-0.6**
	0.1nm,0.3s,baz=300,slow=13,SNR=8.4						
WRA				Sn	Sn	08 13 41.3	-11
	0.2nm,0.3s,baz=304,slow=26,SNR=8.3						
WR0	**Warramunga Arr**	**16.58**	**122**	Pn	**Pn**	**08 10 51.5**	**-1.5**
WR0				IAmb	IAmb	08 11 46.4	
	comp=Z,6.8nm,1.2s						
ASAR	**Alice Springs**	**18.11**	**133**	P	**Pn**	**08 11 14.3**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=318,slow=13,SNR=13						
ASAR				S	Sn	08 14 23.6	-10
	comp=Z,0.1nm,0.3s,baz=313,slow=25,SNR=3.7						
BBOO	**Buckleboo**	**25.92**	**147**	P	**P**	**08 12 35.3**	**+3.1**
BBOO				IAmb	IAmb	08 13 09.1	
	comp=Z,34nm,1.9s						
STKA	**Stephens Creek**	**28.57**	**138**	P	**P**	**08 12 59.1**	**+3.1**
	comp=Z,0.7nm,0.4s,baz=313,slow=7.9,SNR=4.6						

*ISCJB **18** 08:10:09.1±0.4,49°.13S±0°.05×123°.4E±0°.2,h13km, mb4.1/11,MS3.8/10,Error ellipse: s-maj=15.8km s-min=7.5km az=8.1*
*IDC **18** 08:10:09.2±0.8,49°.07S×123°.60E,h0km,mb4.1/9, mb1 4.3/10,mb1mx4.1/34,mbtmp4.2/10,ML2.4/1,MS3.9/10, Ms1 3.9/10,ms1mx3.7/24,Error ellipse: s-maj=43.2km s-min=15.7km az=97.0*
*NEIC **18** 08:10:11.1±0.8,49°.16S±0°.05×123°.5E±0°.2,h10km±1km, mb4.5/11*
ISC 18 08:10:10.8±0.6,49°.09S±0°.07×123°.3E±0°.1,h13km,n42,
σ0§97/28,mb4.2/10,MS3.7/10,2C,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**15.71**	**331**	T	T	08 29 56.1	
	baz=155,slow=74,SNR=72						
H01W2	**Cape Leeuwin H**	**15.72**	**331**	T	T	08 29 56.0	
	baz=155,slow=74,SNR=63						
H01W3	**Cape Leeuwin H**	**15.73**	**331**	T	T	08 29 58.9	
	baz=155,slow=74,SNR=60						
NWAO	**Narrogin (SRO)**	**16.77**	**342**	Pn	**Pn**	**08 14 04.3**	**-1.0**
	0.7nm,0.3s,baz=161,slow=11,SNR=6.9						
NWAO				LR	LR	08 18 53.1	
	comp=Z,931nm,22.0s,baz=145,slow=31						
NWAO	**Narrogin (SRO)**	**16.77**	**342**		**P**	**08 14 07.4**	**-0.1**
NWAO				IAmb	IAmb	08 14 09.6	
	comp=Z,88nm,1.4s						
NWAO	**Narrogin (SRO)**	**16.77**	**342**		**P**	**08 14 07.5**	**-0.1**
NWAO				IAmb	IAmb	08 14 09.6	
	comp=Z,71nm,1.4s						
CASY	**Casey**	**18.47**	**196**	P	**Pn**	**08 14 26.3**	**+0.3**
FORT	**Forrest**	**18.64**	**13**		**Pn**	**08 14 29.6**	**+1.2**
FORT				IAmb	IAmb	08 14 42.6	
	comp=Z,26nm,0.8s						
BBOO	**Buckleboo**	**18.86**	**35**	P	**Pn**	**08 14 32.1**	**+1.1**
BBOO				IAmb	IAmb	08 14 45.3	
	comp=Z,20nm,0.9s						
MORW	**Morawa**	**20.75**	**342**	P	**P**	**08 14 52.8**	**+1.6**
MORW				IAmb	IAmb	08 14 55.0	
	comp=Z,30nm,1.1s						
STKA	**Stephens Creek**	**22.02**	**45**	P	**P**	**08 15 03.8**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=202,slow=13,SNR=3.8						
STKA				LR	LR	08 22 49.1	
	comp=Z,157nm,18.1s,baz=208,slow=35						
STKA	**Stephens Creek**	**22.02**	**45**	P	**P**	**08 15 05.4**	**+0.6**
ASAR	**Alice Springs**	**26.71**	**22**	P	**P**	**08 15 48.5**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=193,slow=8.5,SNR=13						
ASAR				LR	LR	08 25 52.0	
	comp=Z,172nm,18.1s,baz=193,slow=35						
WRA	**Warramunga Arr**	**30.40**	**21**	P	**P**	**08 16 22.7**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=195,slow=10.0,SNR=4.0						
WRA				LR	LR	08 27 30.2	
	comp=Z,183nm,20.4s,baz=205,slow=34						
FITZ	**Fitzroy Crossi**	**30.97**	**4**	P	**P**	**08 16 28.1**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=178,slow=10,SNR=3.7						
FITZ				LR	LR	08 27 58.0	
	comp=Z,242nm,19.8s,baz=194,slow=34						
VNDA	**Vanda**	**32.08**	**165**	P	**P**	**08 16 37.0**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=323,slow=11,SNR=4.6						
VNDA				LR	LR	08 28 28.3	
	comp=Z,446nm,20.0s,baz=328,slow=34						
MAW	**Mawson**	**34.88**	**216**	LR	LR	08 28 55.0	
	comp=Z,67nm,18.4s,baz=52,slow=32						
BKZ	**Black Stump Fm**	**38.72**	**96**	P	**P**	**08 17 34.4**	**0.0**
BATI	**Baumata**	**38.76**	**1**	LR	LR	08 34 08.3	
	comp=Z,408nm,18.0s,baz=192,slow=37						
QSPA	**South Pole Qui**	**41.03**	**180**	P	**P**	**08 17 53.7**	**+0.2**
	comp=Z,3.8nm,0.9s,baz=324,slow=2.6,SNR=9.1						
QSPA	**South Pole Qui**	**41.03**	**180**	P	**P**	**08 17 53.7**	**+0.2**
QSPA				IAmb	IAmb	08 18 02.1	
	comp=Z,14nm,1.2s						
WOJI	**Wonogiri, Jawa**	**42.42**	**342**	P	**P**	**08 18 05.7**	**+0.7**
	comp=Z,8.1nm,0.5s						
KMMI	**Kalianget**	**42.63**	**346**	P	**P**	**08 18 04.1**	**-2.7**
SYO	**Syowa Base**	**43.21**	**212**‖	*eP*	**P**	**08 18 10.4**	**-0.5**
SYO	**Syowa Base**	**43.21**	**212**‖	*ep*P	pP	08 18 15.6	+1.7
DZM	**Mont Dzumac**	**43.41**	**67**	eLR	LR	08 30 04.9	
	comp=Z,126nm,22.0s						
DZM	**Mont Dzumac**	**43.41**	**67**	LR	LR	08 33 16.4	
	comp=Z,138nm,18.8s,baz=210,slow=32						
KAPI	**Kappang**	**44.02**	**355**	LR	LR	08 35 16.4	
	comp=Z,88nm,21.5s,baz=225,slow=34						
SPSI	**Sidrap Palu**	**45.06**	**355**	P	**P**	**08 18 26.8**	**+0.5**
	comp=Z,21nm,1.1s						
SNAA	**Sanae**	**53.69**	**198**	P	**P**	**08 19 32.5**	**+0.8**
SNAA	**Sanae**	**53.69**	**198**	P	**P**	**08 19 32.7**	**+1.0**
	comp=Z,4.8nm,0.8s,baz=140,slow=9.2,SNR=18						
SNAA	**Sanae**	**53.69**	**198**	P	**P**	**08 19 32.2**	**+0.5**
VNA2	**Neumayer--Watz**	**55.20**	**198**	P	**P**	**08 19 41.1**	**-1.5**
	baz=144,slow=6.0						
VNA3	**Neumayer Olymp**	**55.39**	**197**	P	**P**	**08 19 44.4**	**+0.4**
H08S2	**Diego Garcia H**	**59.25**	**297**	T	T	09 24 23.1	
	baz=144,slow=76,SNR=6.0						
H08S1	**Diego Carcia H**	**59.26**	**297**	T	T	09 24 23.7	
	baz=144,slow=76,SNR=5.0						
H08S3	**Diego Garcia H**	**59.27**	**297**	T	T	09 24 25.9	
	baz=144,slow=76,SNR=4.7						
RAR	**Rarotonga**	**65.80**	**95**	P	**P**	**08 20 55.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**70.65**	**335**	P	**P**	**08 21 27.1**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=179,slow=5.4,SNR=5.7						
PPT2	**Papeete2**	**75.06**	**100**	eLR	LR	08 44 58.9	
	comp=Z,43nm,22.5s						
SONM	**Songino Array**	**97.65**	**349**	P	Pdif	08 23 45.8	+1.2
	comp=Z,0.6nm,0.9s,baz=144,slow=5.2,SNR=3.9						
TXAR	**Lajitas Array**	**139.37**	**101**	PKhKP	PKPpre	08 29 31.3	
	comp=Z,0.2nm,0.8s,baz=176,slow=2.4,SNR=3.1						
TXAR				PKP	**PKPdf**	**08 29 37.2**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=187,slow=3.5,SNR=2.9						

*ISCJB **18** 08:11:28.4±0.5,31°.68N±0°.03×45°.82E±0°.05,h10km, mb3.8/10,MS3.0/2,Error ellipse: s-maj=6.7km s-min=3.9km az=150.8*
*IDC **18** 08:11:28.3±1.7,31°.84N×45°.83E,h0km,mb3.8/11, mb1 3.9/12,mb1mx3.7/55,mbtmp3.8/12,ML3.1/1,MS2.9/5, Ms1 2.9/5,ms1mx2.6/50,Error ellipse: s-maj=37.7km s-min=21.7km az=168.0*
*TEH **18** 08:11:29.0,31°.72N×45°.89E,h11km,ML3.4*
*ISN **18** 08:11:29.4±1.0,31°.67N×45°.88E,h15km±8km,ML3.8*
ISC 18 08:11:29.5±0.6,31°.70N±0°.04×45°.87E±0°.06,h10km,n45,
σ1§08/46,mb3.8/10,Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NSR	**Nassriya**	**0.73**	**161**	*e*Pg	**Pg**	**08 11 43.0**	**-0.5**
NSR				*e*Sg	**Sg**	**08 11 53.0**	**0.0**
NSR				AML	AML	08 12 11.7	
	comp=Z,8µm,0.2s						
NSR	**Nassriya**	**0.73**	**161**	*e*Pg	**Pg**	**08 11 43.0**	**-0.5**
IBDR	**Badra**	**1.41**	**2**	*e*Pg	**Pg**	**08 11 56.0**	**-0.5**
IBDR				AML	AML	08 12 06.2	
	comp=Z,540nm,0.8s						
IBDR				*e*Sg	**Sg**	**08 12 15.0**	**+0.2**
IBDR	**Badra**	**1.41**	**2**	*e*Pg	**Pg**	**08 11 56.0**	**-0.5**
BHD	**Baghdad**	**2.01**	**322**	*e*Pn	**Pb**	**08 12 05.0**	**-1.1**
BHD				*e*Sn	**Sb**	**08 12 31.0**	**-0.1**
BHD	**Baghdad**	**2.01**	**322**	*e*Pn	**Pb**	**08 12 05.0**	**-1.1**
IKFM	**Kafar-mosalman**	**2.47**	**42**	*e*Pn	**Pn**	**08 12 10.9**	**+1.1**
IGHG	**Ghaleghazi**	**2.69**	**12**	*e*Pn	**Pn**	**08 12 13.8**	**+0.8**
IKOM	**Komasi**	**2.83**	**29**	*e*Pn	**Pn**	**08 12 15.3**	**+0.4**
IDOB	**Doab**	**2.85**	**42**	*e*Pn	**Pn**	**08 12 16.5**	**+1.3**
IDOB				IAMB	IAmb	08 13 28.3	
	comp=Z,0.0nm,1.0s						
IDHR	**Dehrash**	**3.02**	**8**	*e*Pn	**Pn**	**08 12 18.3**	**+0.7**
BMDN	**Meydan**	**3.18**	**51**	*e*Pn	**Pn**	**08 12 20.5**	**+0.8**
BMDN				IAMB	IAmb	08 13 28.2	
	comp=Z,0.0nm,0.9s						
IBZA	**Bozab**	**3.23**	**31**	*e*Pn	**Pn**	**08 12 22.0**	**+1.5**
BDRS	**Dareh Seyedi**	**3.39**	**48**	*e*Pn	**Pn**	**08 12 23.5**	**+0.8**
BDRS				IAMB	IAmb	08 12 35.9	
	comp=Z,0.0nm,0.7s						
HSAM	**Samen**	**3.40**	**42**	*e*Pn	**Pn**	**08 12 23.7**	**+0.9**
HSAM				IAMB	IAmb	08 12 59.7	
	comp=Z,0.0nm,1.3s						
IKRK	**Kirkuk**	**3.90**	**341**	*e*Pn	**Pn**	**08 12 31.0**	**+1.5**
IKRK				AML	AML	08 12 36.5	
	comp=Z,851nm,0.5s						
IKRK				*e*Sn	**Sn**	**08 13 17.0**	**+1.6**
HSRG	**Sareghieh**	**4.07**	**29**	*e*Pn	**Pn**	**08 12 33.4**	**+1.4**
HSRG				IAMB	IAmb	08 12 39.5	
	comp=Z,0.0nm,0.3s						
JHBN	**Jahan bin**	**4.11**	**81**	*e*Pn	**Pn**	**08 12 34.1**	**+1.4**
JHBN				IAMB	IAmb	08 14 05.1	
	comp=Z,0.0nm,0.8s						
IPIR	**Pirpir**	**4.37**	**76**	*e*Pn	**Pn**	**08 12 38.0**	**+1.8**
ROKH	**ROKH**	**4.44**	**80**	*e*Pn	**Pn**	**08 12 38.3**	**+1.2**
IRAZ	**Razeghan**	**5.01**	**41**	*e*Pn	**Pn**	**08 12 46.7**	**+1.7**
MAHB	**Mahabad**	**5.06**	**359**	*e*Pn	**Pn**	**08 12 46.3**	**+0.8**
IKLH	**Kolahrood**	**5.09**	**70**	*e*Pn	**Pn**	**08 12 46.4**	**+0.4**
MSL	**Mosul**	**5.22**	**335**	*e*Pn	**Pn**	**08 12 49.0**	**+1.4**
MSL				AML	AML	08 13 17.2	
	comp=Z,447nm,1.1s						
MSL				*e*Sn	**Sn**	**08 13 49.0**	**+1.2**
MSL	**Mosul**	**5.22**	**335**	*e*Pn	**Pn**	**08 12 49.0**	**+1.4**
IKAZ	**Kazeroun**	**5.49**	**109**	*e*Pn	**Pn**	**08 12 53.7**	**+2.1**
IRAM	**Ramesheh**	**5.55**	**87**	*e*Pn	**Pn**	**08 12 53.2**	**+0.8**
IZEF	**Zefreh**	**5.60**	**76**	*e*Pn	**Pn**	**08 12 53.8**	**+0.7**
KRSH	**Karshahi**	**5.74**	**65**	*e*Pn	**Pn**	**08 12 55.8**	**+0.9**
GNI	**Garni**	**8.48**	**354**	LR	LR	08 17 33.4	
	comp=Z,43nm,21.0s,baz=168,slow=44						
EIL	**Elat**	**9.61**	**261**	LR	LR	08 17 40.2	
	comp=Z,30nm,18.8s,baz=62,slow=39						
KBZ	**Khabaz**	**12.23**	**350**	LR	LR	08 19 59.1	
	comp=Z,98nm,18.8s,baz=132,slow=42						
BRTR	**Keskin Array B**	**12.75**	**312**	Pn	**Pn**	**08 14 32.9**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=137,slow=13,SNR=5.2						
AKTO	**Aktyubinsk**	**20.79**	**22**	P	**P**	**08 16 09.2**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=240,slow=11,SNR=5.8						
AKTO				LR	LR	08 25 47.3	
	comp=Z,51nm,18.2s,baz=300,slow=42						
AKASG	**Malin Array Be**	**22.65**	**332**	P	**P**	**08 16 29.1**	**-1.5**
	comp=Z,3.4nm,0.8s,baz=139,slow=11,SNR=11						
AAK	**Ala-Archa**	**25.18**	**56**	LR	LR	08 28 44.7	
	comp=Z,43nm,19.6s,baz=318,slow=41						
BVAR	**Borovoye Array**	**27.73**	**33**	P	**P**	**08 17 17.4**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=215,slow=9.0,SNR=6.1						
MKAR	**Makanchi Array**	**31.66**	**51**	P	**P**	**08 17 53.0**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=246,slow=7.4,SNR=9.1						
FINES	**FINESS Array B**	**32.44**	**342**	P	**P**	**08 17 58.9**	**-0.6**
	comp=Z,5.0nm,1.0s,baz=147,slow=11,SNR=3.8						
ZALV	**Zalesovo Beam**	**35.55**	**40**	P	**P**	**08 18 26.1**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=257,slow=9.4,SNR=10						
ARCES	**ARCESS Array B**	**39.59**	**349**	P	**P**	**08 19 00.2**	**-0.5**
	comp=Z,2.9nm,1.0s,baz=158,slow=9.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**44.46**	**256**	P	**P**	**08 19 41.3**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=42,slow=5.8,SNR=4.8						
SONM	**Songino Array**	**48.01**	**52**	P	**P**	**08 20 08.9**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=281,slow=7.7,SNR=3.0						
ILAR	**Eielson Array**	**83.33**	**5**	P	**P**	**08 23 56.1**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=327,slow=4.0,SNR=7.4						
YKA	**Yellowknife Ar**	**84.83**	**351**	P	**P**	**08 24 03.4**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=17,slow=5.3,SNR=7.6						

*SJA **18** 08:21:00.5±0.5,33°.82S×77°.88W,h10km,ML3.9*
*GUC **18** 08:21:37.3±0.8,35°.79S×73°.48W,h30km±13km,ML3.2*
ISC 18 08:21:35.3±2.0,35°.90S±0°.05×73°.6W±0°.1,h10km,n14,
σ2§06/16,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.73**	**109**	*i* P	**Pg**	**08 21 49.3**	**-0.1**
COCH				*i* S	**Sg**	**08 21 57.9**	**-1.0**
COCH				IAML		08 21 59.0	
	comp=E,2µm,0.4s						
CCSP	**San Pedro de C**	**1.03**	**156**	*i* P	**Pb**	**08 21 56.3**	**+1.0**
CCSP				*i* S	**Sg**	**08 22 09.6**	**+0.9**
CCSP				IAML		08 22 12.2	
	comp=E,1µm,0.4s						
CCHI	**Chillan**	**1.45**	**119**	*i* P	**Pn**	**08 22 02.4**	**+0.9**
CCHI				*i* S	**Sn**	**08 22 18.8**	**-1.8**
CCHI				IAML		08 22 23.7	
	comp=E,539nm,0.4s						
GO05	**Huala**	**1.66**	**58**	*i* P	**Pn**	**08 22 02.0**	**-2.5**
EDS3	**Malargue**	**3.45**	**89**	*i* P	Pg	08 22 50.0	+8.6
ROC1	**El Roble**	**3.64**	**37**	*i* P	**Pn**	**08 22 30.0**	**-1.9**
ROC1				*i* S	**Sg**	**08 23 37.0**	**+4.9**
ROCH	**El Roble**	**3.64**	**37**	*i* P	**Pn**	**08 22 30.3**	**-1.6**
ASAL	**Salagasta**	**5.17**	**52**	*e*P	**Pn**	**08 22 54.0**	**+1.1**
RTLS	**Leoncito**	**5.46**	**43**	*i* P	**Pn**	**08 22 54.2**	**-2.8**
RTLS				IAML		08 22 57.7	
	comp=Z,12nm,0.7s						
RTCV	**Cerro Valdivia**	**5.85**	**48**	*i* P	**Pn**	**08 23 01.6**	**-0.6**
RTLL	**Cerro Villicun**	**6.28**	**45**	IAML		08 23 07.5	
	comp=Z,12nm,0.4s						
ACAN	**Cantantal**	**6.46**	**58**	*e*P	**Pn**	**08 23 09.8**	**-0.7**
ACAN				IAML		08 23 10.3	
	comp=Z,3.7nm,0.3s						
AMOG	**MOGNA**	**6.56**	**42**	*e*P	**Pn**	**08 23 10.8**	**-1.1**
AMOG				IAML		08 23 11.6	
	comp=Z,14nm,0.2s						
AGUA	**GUANDACOL**	**7.73**	**36**	*e*P	**Pn**	**08 23 26.9**	**-1.0**
AGUA				IAML		08 23 28.1	
	comp=Z,7.2nm,0.2s						

*BJI **18** 08:22:13.2±0.0,76°.03N×7°.53E,h5km,mb4.6/9,mB4.9/1, Ms4.7/1,Ms7 4.5/1*
*ISCJB **18** 08:22:16.7±0.2,75°.98N±0°.02×8°.2E±0°.1,h10km,mb3.9/23, MS4.8/5,Error ellipse: s-maj=4.2km s-min=3.4km az=170.4*
*BER **18** 08:22:17.8±2.1,76°.03N×7°.18E,h10km,ML3.6, ML4.5(NAO),Confirmed Earthquake*
*IDC **18** 08:22:17.2±0.5,75°.92N×7°.53E,h0km,mb3.8/19, mb1 4.1/24,mb1mx3.9/55,mbtmp3.9/24,ML3.2/4,Error ellipse: s-maj=14.1km s-min=9.6km az=60.0*
*NEIC **18** 08:22:18.8±2.2,75°.95N±0°.07×7°.4E±0°.3,h10km±1km, mb4.2/34*
*IEPN **18** 08:22:19.0,75°.91N×8°.17E,h15km*
ISC 18 08:22:18.2±0.4,76°.03N±0°.04×7°.95E±0°.04,h10km,n135,
σ2§28/137,mb4.1/36,MS4.8/5,1C-1D,Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**2.03**	**57**	Pn	**Pn**	**08 22 51.9**	**-0.5**
HSPB	**Hornsund (broa**	**2.03**	**57**	*e*P	**Pn**	**08 22 51.9**	**-0.5**
HSPB				*e*S	**Sn**	**08 23 17.3**	**-0.4**
HSPB	**Hornsund (broa**	**2.03**	**57**	*e*Pn	**Pn**	**08 22 51.9**	**-0.5**
HSPB				*e*Pn	Pn	**08 22 51.9**	**-0.5**
HSPB				*e*Pb	**Pb**	**08 22 52.2**	**-2.9**
HSPB				*e*Pb	**Pb**	**08 22 52.2**	**-2.9**
HSPB				*e*		08 22 54.4	
HSPB				*e*		08 22 54.4	
HSPB				*e*		08 23 20.6	
HSPB				*e*		08 23 20.6	
HSPB	**Hornsund (broa**	**2.03**	**57**	*e*P	**Pn**	**08 22 52.0**	**-0.5**
HSPB				*e*S	**Sn**	**08 23 16.3**	**-1.4**
SPA0	**Spitsbergen Ar**	**2.87**	**37**	Pn	**Pn**	**08 23 04.3**	**+0.3**
	baz=201,slow=12						
SPA0	**Spitsbergen Ar**	**2.87**	**37**	*e*P	**Pn**	**08 23 04.2**	**+0.3**
SPA0				*e*S	**Sn**	**08 23 37.6**	**-0.8**
SPA0	**Spitsbergen Ar**	**2.87**	**37**‖	*i*P	**Pn**	**08 23 04.1**	**+0.3**
SPA0	**Spitsbergen Ar**	**2.87**	**37**		**Pn**	**08 23 04.5**	**+0.5**
SPITS	**Spitsbergen Ar**	**2.87**	**37**	Pn	**Pn**	**08 23 04.4**	**+0.5**
	baz=198,slow=13,SNR=498						
KBS	**Kingsbay**	**3.04**	**15**	Pn	**Pn**	**08 23 06.0**	**-0.3**
KBS	**Kingsbay**	**3.04**	**15**	*e*P	**Pn**	**08 23 05.7**	**-0.6**
KBS				*e*S	**Sn**	**08 23 41.9**	**-0.8**
KBS	**Kingsbay**	**3.04**	**15**	*e*P	**Pn**	**08 23 05.2**	**-1.0**
KBS	**Kingsbay**	**3.04**	**15**		**Pn**	**08 23 05.6**	**-0.6**
BJO1	**Bjornoya**	**3.21**	**113**	Pn	**Pn**	**08 23 06.3**	**-2.3**
BJO1	**Bjornoya**	**3.21**	**113**	*e*P	**Pn**	**08 23 08.5**	**-0.1**
BJO1				*e*S	**Sn**	**08 23 44.4**	**-2.4**
BJO1	**Bjornoya**	**3.21**	**113**	*e*P	**Pn**	**08 23 08.7**	**+0.1**
HOPEN	**Hopen**	**4.09**	**75**	Pn	**Pn**	**08 23 20.4**	**-0.3**
HOPEN	**Hopen**	**4.09**	**75**‖	*i*P	**Pn**	**08 23 20.3**	**-0.4**
HOPEN				*e*S	**Sn**	**08 24 06.1**	**-2.4**
HOPEN	**Hopen**	**4.09**	**75**	*e*P	**Pn**	**08 23 20.4**	**-0.3**
DAG	**Danmarks Havn**	**6.29**	**290**	*i* P	Pn	08 23 44.7	-6.0
DAG				*i*		08 24 50.7	
DAG	**Danmarks Havn**	**6.29**	**290**	*e*P	Pn	08 23 44.8	-6.0
DAG				*i*		08 24 50.7	
DAG				IAML		08 25 14.0	
	comp

KRUC	Moravsky	27.28	168	*e*P		P	08 28 06.5	+4.2
GEC2	GERESS Array S	27.38	172	P		P	08 28 04.1	+0.8
GEC2				IAmb		IAmb	08 28 13.0	
	comp=Z,3.6nm,1.1s							
GERES	GERESS Array B	27.38	172	P		P	08 28 04.1	+0.8
	comp=Z,1.4nm,0.9s,baz=10,slow=8.1,SNR=7.8							
JAVC	Velka Javorina	27.55	166	*e*P		P	08 28 06.7	+1.9
BFO	Black Forest	27.80	179	P		P	08 28 12.9	+5.9
BFO				IAmb		IAmb	08 28 21.5	
	comp=Z,3.2nm,1.0s							
CLF	Chambon-Foret	28.20	188	P		P	08 28 08.6	-1.9
TIXI	Tiksi	28.30	35	P		P	08 28 18.2	+7.1
	comp=Z,0.9nm,0.3s,baz=330,slow=8.7,SNR=3.9							
TIXI	Tiksi	28.30	35	P		P	08 28 13.3	+2.2
TIXI				IAmb		IAmb	08 28 21.7	
	comp=Z,2.1nm,0.7s							
STAL	STALIGIAL	29.93	173	P		P	08 28 27.1	+1.2
BVAR	Borovoye Array	32.76	98	P		P	08 28 52.5	+1.8
	comp=Z,0.5nm,0.6s,baz=327,slow=11,SNR=3.9							
MURB	Monte Urbino	32.92	174	P		P	08 28 55.3	+3.0
NRCA	Norcia	33.37	173	P		P	08 28 57.0	+0.8
INK	Inuvik	33.92	335	P		P	08 29 00.6	-0.1
INK				IAmb		IAmb	08 29 02.8	
	comp=Z,4.9nm,1.0s							
ZAA0	Zalesovo Array	35.41	83	P		P	08 29 15.6	+1.9
ZAA0				IAmb		IAmb	08 29 22.7	
	comp=Z,3.5nm,1.1s							
ZALV	Zalesovo Beam	35.41	83	P		P	08 29 15.4	+1.8
	comp=Z,0.4nm,0.4s,baz=316,slow=10,SNR=2.3							
KBZ	Khabaz	35.65	135	P		P	08 29 17.3	+1.5
	comp=Z,2.1nm,0.8s,baz=290,slow=12,SNR=2.5							
COLD	Coldfoot	36.32	346	IAmb		IAmb	08 29 24.2	
	comp=Z,3.8nm,0.8s							
FYU	Fort Yukon	36.65	342	P		P	08 29 22.1	-2.0
ESDC	Sonseca Array	36.84	195	P		P	08 29 26.1	0.0
	comp=Z,0.2nm,0.3s,baz=359,slow=9.1,SNR=3.4							
YKA	Yellowknife Ar	37.02	319	P		P	08 29 27.3	0.0
	comp=Z,0.4nm,0.6s,baz=13,slow=8.6,SNR=11							
YKA				PcP		PcP	08 31 47.5	-0.2
	comp=Z,0.6nm,0.6s,baz=12,slow=3.3,SNR=6.9							
ILAR	Eielson Array	38.54	343	P		P	08 29 42.1	+1.9
	comp=Z,3.3nm,0.8s,baz=3.4,slow=7.0,SNR=51							
DAWY	Dawson	38.62	338	P		P	08 29 40.9	0.0
WRH	Wood River Hil	38.92	344	P		P	08 29 44.9	+1.5
WRH				IAmb		IAmb	08 29 46.2	
	comp=Z,4.0nm,0.9s							
SCRK	Sand Creek	39.11	341	P		P	08 29 46.2	+1.1
KTH	Kantishna Hill	40.02	345	P		P	08 29 52.1	-0.5
KTH				IAmb		IAmb	08 29 57.5	
	comp=Z,4.6nm,1.0s							
DHY	Denali Highway	40.26	343	P		P	08 29 53.7	-1.0
DHY				IAmb		IAmb	08 29 56.8	
	comp=Z,5.7nm,0.9s							
PPLA	Purkeypile	40.75	346	P		P	08 30 00.1	+1.4
MK31	Makanchi Array	41.42	90	P		P	08 30 03.7	-0.6
MKAR	Makanchi Array	41.42	90	P		P	08 30 06.2	+1.8
	comp=Z,1.6nm,0.8s,baz=357,slow=7.3,SNR=6.3							
SKT	Skwentna	41.62	346	IAmb		IAmb	08 30 07.0	
	comp=Z,7.0nm,0.8s							
GHO	Glory Hole Cre	41.66	344	P		P	08 30 07.2	+1.0
GHO				IAmb		IAmb	08 30 09.1	
	comp=Z,7.3nm,1.0s							
RC01	Rabbit Creek A	42.39	344	P		P	08 30 13.5	+1.5
RC01				IAmb		IAmb	08 30 19.4	
	comp=Z,6.5nm,1.2s							
GEYT	Alibeck	44.20	119	P		P	08 30 28.6	+1.6
	comp=Z,0.6nm,0.4s,baz=298,slow=9.6,SNR=2.7							
WMQ	Urumqi	45.52	87	*e*P		P	08 30 39.1	+1.6
WMQ				pmax		pmax		
	comp=Z,7.0nm,0.8s							
WMQ				LR		LR		
	comp=Z,180nm,29.1s							
WMQ				LR		LR		
	comp=Z,660nm,17.3s							
WMQ				LR		LR		
	comp=Z,700nm,26.7s							
SONM	Songino Array	46.15	68	P		P	08 30 44.4	+1.9
	comp=Z,0.4nm,0.7s,baz=327,slow=6.9,SNR=3.2							
KSH	Kashi	46.76	100	P		P	08 30 49.3	+2.0
KSH				sP		pwP	08 30 56.5	+3.7
KSH				PcS		PcS	08 36 15.8	+0.5
KSH				S		S	08 37 39.4	+2.5
HHC	Hu-ho-hao-te	53.94	66	*e*P		P	08 31 42.5	+0.9
HHC				pmax		pmax		
	comp=Z,6.0nm,1.1s							
PDAR	Pinedale Array	55.00	307	P		P	08 31 49.5	+0.2
	comp=Z,0.6nm,0.8s,baz=28,slow=6.7,SNR=4.0							
O20A	White River Ci	57.28	305	P		P	08 32 04.2	-1.5
ELK	Elko	58.02	311	P		P	08 32 11.2	+0.3
	comp=Z,1.4nm,0.9s,baz=312,slow=8.4,SNR=5.3							
PSUT	Pine Spring	59.91	310	P		P	08 32 24.5	+0.5
NVAR	Mina Array Bea	60.82	313	P		P	08 32 30.6	+0.4
	comp=Z,0.5nm,0.8s,baz=31,slow=3.8,SNR=5.0							
TORD	Torodi Ar. Bea	62.96	187	P		P	08 32 44.5	-0.1
	comp=Z,2.6nm,0.9s,baz=358,slow=6.6,SNR=12							
CMAR	Chiang Mai Arr	72.47	84	P		P	08 33 46.6	+2.0
	comp=Z,1.0nm,0.3s,baz=331,slow=7.2,SNR=2.5							
TAOE	Nuku Hiva Isla	110.62	326	*e*LR		LR	09 13 39.6	
	comp=Z,388nm,24.9s							
WRA	Warramunga Arr	117.68	59	PKP		PKiKP	08 41 03.9	0.0
	comp=Z,0.4nm,0.7s,baz=315,slow=2.4,SNR=4.4							
PPT2	Papeete2	120.37	335	*e*LR		LR	09 18 07.8	
	comp=Z,331nm,24.2s							
ASAR	Alice Springs	121.20	60	PKP		PKPdf	08 41 09.9	-0.6
	comp=Z,1.2nm,0.7s,baz=352,slow=1.7,SNR=19							
DZM	Mont Dzumac	124.90	24	*e*LR		LR	09 20 17.5	
	comp=Z,215nm,23.4s							
TBI	Tubuai	126.05	334	*e*LR		LR	09 20 46.7	
	comp=Z,432nm,38.8s							
VNA1	Neumayer--Stat	146.80	190	PKPdf		PKiKP	08 42 00.8	-0.1
	baz=76,slow=7.6							
VNA2	Neumayer--Watz	147.04	189	PKPdf		PKPbc	08 41 59.4	+0.4
	baz=9.1,slow=5.3							
MAW	Mawson	147.40	144	PKPbc		PKPbc	08 42 00.3	+0.3
	comp=Z,4.1nm,0.8s,baz=321,slow=6.5,SNR=6.0							
VNA3	Neumayer Olymp	147.45	190	PKPdf		PKPbc	08 41 59.9	-0.3
	baz=76,slow=7.6							
SNAA	Sanae	147.63	186	PKPdf		PKPbc	08 42 01.5	+0.8
	baz=76,slow=7.6							

IDC ***18*** *08:22:38.1±0.3, 75.87N×7.23E, h0km, mb4.4/36, mb1 4.5/42, mb1mx4.5/56, mbtmp4.4/42, ML3.5/5, MS4.9/12, Ms1 4.9/12, ms1mx4.6/20, Error ellipse: s-maj=10.2km s-min=7.5km az=42.0*

ISCJB ***18*** *08:22:38.3±0.2, 75.96N±0.02×7.4E±0.1, h10km, mb4.7/70, MS4.8/20, Error ellipse: s-maj=4.6km s-min=3.3km az=171.0*

GCMT ***18*** *08:22:38.5±0.1, 75.92N±0.01×6.95E±0.02, h12km, MW5.3/149, Moment Tensor Solution. s98,c133; s149,c291; Duration: 1s1 Moment tensor: Scale 1017 Nm; Mrr=0.97±.01; Mθθ=0.26±.01; Mϕϕ=0.71±.01; Mrθ=0.12±.04; Mrϕ=0.45±.01; Mθϕ=0.34±.03; Best double couple: M0=1.04400×1017 NP1:ϕ=27.00000°, δ=55.00000°, λ=-95.00000°. NP2:ϕ=216.00000°, δ=35.00000°, λ=-83.00000°. Principal axes: T 1.0530, Plg10.0000°, Azm121.0000°; N -0.0170, Plg4.0000°, Azm30.0000°; P -1.0350, Plg79.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BER ***18*** *08:22:40.0±3.6, 75.92N×7.87E, h10km, ML3.6, MS4.4, ML4.6(NAO), Confirmed Earthquake*

NEIC ***18*** *08:22:40.5±2.3, 75.85N±0.06×7.2E±0.3, h14km±3km, mb4.9/155, Mwc5.3(GCMT), Moment Tensor Solution. Moment tensor: Scale 1017 Nm; Mrr=1.01; Mθθ=0.23; Mϕϕ=0.77; Mrθ=0.10; Mθϕ=0.46; Mϕr=0.38; Fault plane solution: M0=1.09000×1017 NP1:ϕ=25.00000°, δ=55.00000°, λ=-96.00000°. NP2:ϕ=215.00000°, δ=35.00000°, λ=-82.00000°. Principal axes: T 1.1042, Plg10.0000°, Azm119.0000°; N -0.0202, Plg5.0000°, Azm28.0000°; P -1.0841, Plg79.0000°, Azm273.0000°;*

IEPN ***18*** *08:22:42.0, 76.03N×8.28E, h15km*

ISC 18 08:22:39.8±0.3, 75.92N±0.04×7.53E±0.0, h10km, n318, σ=2.36/292, mb4.8/134, MS4.7/21, 11C-8D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSPB	Hornsund (broa	2.17	56	Pn	Pn	08 23 14.0	-1.9
HSPB				Sn	Sn	08 23 37.1	-5.8
HSPB	Hornsund (broa	2.17	56	*e*P	Pn	08 23 13.7	-2.3
HSPB				*e*S	Sn	08 23 36.8	-6.0
HSPB	Hornsund (broa	2.17	56	*e*P	Pn	08 23 13.8	-2.1
HSPB				*e*S	Sn	08 23 37.1	-5.8
HSPB	Hornsund (broa	2.17	56	*e*	Pn	08 23 13.8	-2.1
HSPB				*e*	Pn	08 23 13.8	-2.1
HSPB				*e*	Sn	08 23 36.8	-6.0
HSPB				*e*	Sn	08 23 36.8	-6.0
SPA0	Spitsbergen Ar	3.01	37	Pn	Pn	08 23 26.4	-1.1
	baz=205,slow=14						
SPA0				Sn	Sn	08 23 59.6	-4.0
	baz=219,slow=18						
SPA0	Spitsbergen Ar	3.01	37	*e*P	Pn	08 23 26.0	-1.5
SPA0				*e*S	Sn	08 23 59.8	-3.8
SPA0	Spitsbergen Ar	3.01	37	Pn	Pn	08 23 26.4	-1.1
	baz=205,slow=14						
SPA0				Sn	Sn	08 23 59.6	-4.0
	baz=219,slow=18						
SPA0				IVMs_BB	IVMs_BB	08 25 42.7	
	comp=Z,15μm,6.4s						
SPA0	Spitsbergen Ar	3.01	37	Pn	Pn	08 23 26.4	-1.1
SPITS	Spitsbergen Ar	3.01	37	Pn	Pn	08 23 26.2	-1.3
	baz=188,slow=11,SNR=22						
SPITS				Sn	Sn	08 24 00.8	-2.8
	baz=226,slow=25,SNR=6.7						
KBS	Kingsbay	3.17	16	Pn	Pn	08 23 29.1	-0.5
KBS				Sn	Sn	08 24 02.7	-4.7
KBS	Kingsbay	3.17	16	*e*P	Pn	08 23 28.0	-1.6
KBS				*e*S	Sn	08 24 03.2	-4.2
KBS	Kingsbay	3.17	16	*e*P	Pn	08 23 28.4	-1.2
KBS				*e*S	Sn	08 24 01.2	-6.1
KBS				IVMs_BB	IVMs_BB	08 25 33.5	
	comp=Z,9μm,7.2s						
KBS	Kingsbay	3.17	16	Pn	Pn	08 23 28.6	-1.1
BJO1	Bjornoya	3.27	110	Pn	Pn	08 23 30.3	-0.7
BJO1				Sn	Sn	08 24 01.7	-8.1
BJO1	Bjornoya	3.27	110	*e*P	Pn	08 23 30.4	-0.5
BJO1				*e*S	Sn	08 24 03.8	-6.1
BJO1	Bjornoya	3.27	110	*e*P	Pn	08 23 30.6	-0.4
HOPEN	Hopen	4.22	74	Pn	Pn	08 23 41.9	-2.1
HOPEN				Sn	Sn	08 24 27.6	-5.5
HOPEN	Hopen	4.22	74	*e*P	Pn	08 23 41.7	-2.3
HOPEN				*e*S	Sn	08 24 27.2	-6.0
HOPEN	Hopen	4.22	74	*e*P	Pn	08 23 41.8	-2.3
HOPEN				Sn	Sn	08 24 27.6	-5.5
JMIC	Jan Mayen	6.72	231	Pn	Pn	08 24 14.6	-3.7
JMIC	Jan Mayen	6.72	231	Pn	Pn	08 24 14.7	-3.7
	comp=Z,62nm,0.3s,baz=41,slow=5.2,SNR=7.9						
JMIC				Sn	Sn	08 25 20.6	-14
	comp=Z,11nm,0.3s,baz=209,slow=19,SNR=2.4						
JMIC	Jan Mayen	6.72	231	*e*P	Pn	08 24 14.6	-3.7
JMIC	Jan Mayen	6.72	231		Pn	08 24 14.7	-3.7
JMIC					Sn	08 25 20.6	-14
NOR	Nord	7.31	332	*i* P	Pn	08 24 22.1	-4.3
KIF	Kilpisjarvi	8.00	143	Pn	Pn	08 24 34.4	-1.4
KIF				Sn	Sn	08 25 57.6	-8.5
KIF	Kilpisjarvi	8.00	143	*e*P	Pn	08 24 35.1	-0.7
KIF				Sn	Sn	08 25 57.6	-8.5
ARA0	ARCESS Array S	8.30	131	Pn	Pn	08 24 36.5	-3.6
	baz=330,slow=14						
ARA0				Sn	Sn	08 26 02.9	-11
	baz=330,slow=22						
ARA0	ARCESS Array S	8.30	131	Pn	Pn	08 24 36.5	-3.6
	baz=330,slow=14						
ARA0				Sn	Sn	08 26 02.9	-11
	baz=330,slow=22						
ARCES	ARCESS Array B	8.30	131	Pn	Pn	08 24 37.5	-2.5
	comp=Z,5.0nm,0.3s,baz=326,slow=12,SNR=11						
ARCES				Sn	Sn	08 26 04.0	-10
	comp=Z,11nm,0.3s,baz=330,slow=20,SNR=9.5						
ARCES	ARCESS Array B	8.30	131		Pn	08 24 37.5	-2.5
ARCES					Sn	08 26 04.0	-10
ARE0	ARCESS Array S	8.30	131	Pn	Pn	08 24 38.7	-1.4
STEI	Steigen	8.37	160	*e*P	Pn	08 24 41.4	+0.4
HEF	Hetta	8.98	139	*e*P	Pn	08 24 47.2	-2.1
ZFI2	Zemlya Franca-	9.23	40	*e*P	Pn	08 24 52.4	-0.3
ZFI2				*e*S	Sn	08 26 27.6	-8.7
SCO	Scoresbysund	10.00	252	*i* P	Pn	08 24 58.8	-4.5
SCO	Scoresbysund	10.00	252	Pn	Pn	08 24 59.2	-4.0
APA0	Apatity Array	11.40	124	Pn	Pn	08 25 19.2	-3.2
	baz=329,slow=10						
APA0	Apatity Array	11.40	124	Pn	Pn	08 25 19.2	-3.2
	baz=329,slow=10						
LVZ	Lovozero	11.50	120	Pn	Pn	08 25 22.0	-1.8
SUMG	Summit	12.64	278	*i* P	Pn	08 25 35.4	-4.2
SUMG				*i*	Pn	08 25 36.0	-3.6
SUMG	Summit	12.64	278	Pn	Pn	08 25 37.0	-2.6
SUMG	Summit	12.64	278	*i*	Pn	08 25 36.0	-3.6
SUMG	Summit	12.64	278	*i*	Pn	08 25 36.0	-3.6
SLVR	Solovky	14.19	125	*e*P	P	08 26 07.5	-0.5
	comp=Z,154nm,2.2s						
SLVR				*e*S	Sn	08 28 35.0	-2.7
NC204	NORSAR Array S	14.76	174	Pn	Pn	08 26 07.4	-1.0
NC405	NORSAR Array S	14.95	172	P	Pn	08 26 13.2	+2.3
NB2	NORSAR Subarra	15.01	173	P	Pn	08 26 11.1	-0.6
	comp=Z,207nm,2.5s,baz=356,slow=11						
NOA	NORSAR Array B	15.01	173	Pn	Pn	08 26 11.3	-0.4
	comp=Z,0.0nm,0.3s,baz=352,slow=12,SNR=3.9						
NAO01	NORSAR Array S	15.20	174	P	P	08 26 19.6	+0.4
NAO01				IAmb	IAmb	08 26 31.4	
	comp=Z,113nm,1.4s						
NC602	NORSAR Array S	15.33	173	P	Pn	08 26 17.4	+1.5
TMCR	Tamitsa	15.43	123	*e*P	P	08 26 20.5	-1.2
	comp=Z,56nm,0.4s						
FIA1	FINESS Array S	15.88	146	P	P	08 26 25.4	-1.4
FINES	FINESS Array B	15.88	146	Pn	Pn	08 26 19.8	-3.3
	comp=Z,0.3nm,0.3s,baz=345,slow=12,SNR=3.5						
FINES				LR	LR	08 32 22.6	
	comp=Z,4μm,21.9s,baz=345,slow=37						
FINES	FINESS Array B	15.88	146		Pn	08 26 19.8	-3.3
HFS	Hagfors	16.01	169	Pn	Pn	08 26 24.5	-0.2
	comp=Z,0.2nm,0.3s,baz=9.2,slow=12,SNR=3.7						
HFS	Hagfors	16.01	169		Pn	08 26 24.5	-0.2
KONO	Kongsberg	16.37	176	P	P	08 26 31.9	-0.3
KONO				IAmb	IAmb	08 26 34.2	
	comp=Z,131nm,1.3s						
LSH	Leshukonskoye	16.48	111	*e*P	Pn	08 26 25.6	-5.1
	comp=Z,77nm,1.2s						
LSH				*e*S	Sn	08 29 16.4	-17
KLMR	Klimovskoe	18.72	126	*e*P	P	08 26 55.3	-2.8
	comp=Z,158nm,1.7s						
KLMR				*e*S	Sn	08 30 10.9	-17
PRGR	Permogore	19.29	117	*e*P	P	08 27 04.3	0.0
	comp=Z,81nm,1.0s						
PRGR				*e*S	Sn	08 30 22.8	-18
SFJD	Kangerlussuaq	19.55	274	P	P	08 27 06.0	-1.1
	comp=Z,0.6nm,0.3s,baz=41,slow=6.6,SNR=4.7						
EKA	Eskdalemuir Ar	21.07	197	P	P	08 27 22.8	-0.9
	comp=Z,15nm,1.1s,baz=9.9,slow=10,SNR=6.2						
EKA	Eskdalemuir Ar	21.07	197	P	P	08 27 22.8	-0.9
MICGM	Minsk	22.86	149	*e*P	P	08 27 49.0	+6.1
MICGM				*e*PP	pwP	08 28 18.0	+30
MICGM				*e*S	Sn	08 32 16.0	+8.9
MICGM				eLR	LR	08 35 20.0	
KIRV	Kirov	22.87	116	P	P	08 27 42.6	-0.2
	comp=Z,28nm,0.7s,baz=343,slow=12,SNR=10						
KIRV				LR	LR	08 36 57.2	
	comp=Z,3μm,19.5s,baz=342,slow=38						
KIRV	Kirov	22.87	116	P	P	08 27 42.6	-0.2
RES	Resolute Bay	22.97	318	P	P	08 27 43.5	-0.2
	comp=Z,7.9nm,0.9s,baz=36,slow=10,SNR=11						
OBN	Obninsk	23.58	136	P	P	08 27 55.1	+5.1
	comp=Z,10nm,0.4s,baz=355,slow=4.8,SNR=9.2						
CLL	Collm	24.81	172	*i* P	P	08 28 01.0	-0.6
	comp=Z,23nm,1.3s						
CLL				*i*		08 28 16.5	
CLL				*e*S	S	08 32 25.0	+1.3
CLL				*e*SS	SnSn	08 33 10.0	-0.2
CLL				Lm	MLR	08 37 00.0	
	comp=N,1μm,19.9s						
CLL				Lm	MLR	08 37 00.0	
	comp=E,600nm,19.1s						
CLL				Lm	MLR	08 37 00.0	
	comp=Z,2μm,19.8s						
BRG	Berggiesshubel	25.28	170	*e*P	P	08 28 05.7	-0.2
	comp=Z,18nm,1.3s						
BRG				S	S	08 32 41.0	+10
	comp=N,2μm,19.7s						
	comp=E,846nm,21.5s						
	comp=Z,2μm,22.2s						
KSP	Ksiaz	25.42	167	*e*P	P	08 28 07.2	+0.1
KSP				*e*P	P	08 28 07.2	+0.1
PVCC	Panska Ves	25.65	170	*e*P	P	08 28 11.0	+1.8
PVCC				AMS	AMS	08 37 10.0	
	comp=Z,1μm,18.7s						
CHVC	Chvalec	25.66	167	*e*P	P	08 28 11.1	+1.7
UPC	Upice	25.74	167	AMS	AMS	08 37 50.0	
	comp=Z,2μm,20.8s						
NKC	Novy Kostel	25.86	173	*e*P	P	08 28 11.8	+0.6
NKC				*ex*	x	08 28 18.1	
DPC	Dobruska-Polom	25.91	167	*e*P	P	08 28 14.7	+3.0
DPC				AMS	AMS	08 38 10.0	
	comp=Z,1μm,17.5s						
PRU	Pruhonice	26.19	170	*e*P	P	08 28 17.1	+3.0
PRU				*ex*	x	08 28 21.8	
PRU				AMS	AMS	08 37 20.0	
	comp=Z,1μm,18.8s						
KRLC	Kraliky	26.21	166	AMS	AMS	08 37 40.0	
	comp=Z,2μm,22.1s						
OJC	Ojcow	26.27	162	*e*P	P	08 28 17.4	+2.5
OJC				*e*P	P	08 28 17.4	+2.5
PBCC	Pribram	26.47	171	*e*P	P	08 28 18.0	+1.4
FRB	Frobisher Bay	26.54	285	P	P	08 28 16.5	-0.6
	comp=Z,7.2nm,0.9s,baz=36,slow=14,SNR=8.3						
FRB				LR	LR	08 38 28.9	
	comp=Z,4μm,20.8s,baz=32,slow=36						
FRB	Frobisher Bay	26.54	285	P	P	08 28 16.5	-0.6
MORC	Moravsky Berou	26.56	165	⇑P	P	08 28 19.3	+1.8
MORC				mb		08 28 26.1	
MORC	Moravsky Berou	26.56	165	*es*P	P	08 28 16.1	-1.4
AKASG	Malin Array Be	26.76	149	P	P	08 28 18.9	-0.3
	comp=Z,2.5nm,0.6s,baz=349,slow=9.6,SNR=9.3						
AKASG				PcP	PcP	08 31 41.4	-0.3
	comp=Z,0.3nm,0.3s,baz=321,slow=2.4,SNR=4.8						
AKASG				LR	LR	08 39 36.5	
	comp=Z,2μm,19.1s,baz=345,slow=38						
AKASG	Malin Array Be	26.76	149	P	P	08 28 18.9	-0.3
ARU	Arti	26.91	107	P	P	08 28 22.7	+2.1
	comp=Z,1.3nm,0.3s,baz=332,slow=16,SNR=6.0						
TREC	Trest	26.93	168	AMS	AMS	08 37 30.0	
	comp=Z,2μm,22.2s						
VRAC	Vranov	26.97	167	P	P	08 28 21.5	+0.3
	comp=Z,8.6nm,1.0s,baz=356,slow=8.4,SNR=8.9						
VRAC	Vranov	26.97	167	⇓P	P	08 28 22.5	+1.4
VRAC				mb		08 28 37.3	
VRAC	Vranov	26.97	167	*es*P	P	08 28 21.6	+0.5
VRAC	Vranov	26.97	167	P	P	08 28 21.5	+0.3
KHC	Kasperske Hory	27.01	171	*e*P	P	08 28 22.3	+0.8
KHC				*ex*	x	08 28 27.4	
KHC				*ex*	x	08 28 40.0	
KHC				AMS	AMS	08 38 00.0	
	comp=Z,2μm,21.7s						
NIE	Niedzica	27.11	162	*e*P	P	08 28 33.7	+11
NIE				*e*P	P	08 28 33.7	+11
KRUC	Moravsky	27.20	167	*es*P	P	08 28 24.0	+0.8
GERES	GERESS Array B	27.30	171	P	P	08 28 24.7	+0.5
	comp=Z,5.7nm,0.9s,baz=2.9,slow=8.0,SNR=18						
GERES	GERESS Array B	27.30	171	P	P	08 28 24.7	+0.5
LANS	Liptovska Anna	27.31	163	*e*P	P	08 28 27.9	+3.6
KOLS	Kolonicke sedl	27.75	159	*e*P	P	08 28 29.9	+1.7
MODS	Modra-Piesok	27.94	166	*e*P	P	08 28 29.8	-0.1
CONA	Conrad Observa	28.31	168	*i* P	P	08 28 32.2	-1.0
	comp=Z,16nm,1.2s						
MOA	Molln	28.31	170	*i* P	P	08 28 32.7	-0.5
	comp=Z,20nm,1.7s						
TIXI	Tiksi	28.44	35	P	P	08 28 37.8	+3.7
	comp=Z,2.1nm,0.3s,baz=341,slow=7.4,SNR=7.6						
PSZ	Piszkesteto	28.57	162	⇓P	P	08 28 37.3	+1.8
PSZ				mb		08 28 44.8	
PSZ	Piszkesteto	28.57	162	*e*P	P	08 28 38.1	+2.6
RETA	Reutte	28.57	175	*i* P	P	08 28 35.5	-0.1
	comp=Z,13nm,1.4s						
TRPA	Tarpa	28.57	159	⇑P	P	08 28 37.4	+2.0
TRPA				mb		08 28 45.5	
TRPA	Tarpa	28.57	159	*e*P	P	08 28 41.0	+5.6
SOP	Sopron	28.59	167	*e*P	P	08 28 42.0	+6.4
MOTA	Moosalm	28.72	175	*i* P	P	08 28 37.3	+0.3
	comp=Z,18nm,1.1s						
WATA	Walderalm	28.74	174	*i* P	P	08 28 36.7	-0.4
	comp=Z,19nm,1.2s						
DAVA	Damuels	28.75	177	*i* pP	P	08 28 37.9	+0.6
	comp=Z,18nm,1.6s						
WTTA	Wattenberg	28.81	174	*i* P	P	08 28 37.9	+0.1
	comp=Z,22nm,1.6s						
SQTA	Sankt Quirin	28.84	175	*i* pP	P	08 28 38.6	+0.5
	comp=Z,19nm,1.5s						
ARSA	Arzberg	28.97	169	*i* P	P	08 28 36.2	-2.8
	comp=Z,12nm,1.7s						
FETA	Feichten	29.04	175	*i* pP	P	08 28 41.0	+1.2
	comp=Z,4.9nm,1.0s						
KBA	Koelnbreinsper	29.05	172	*i* pP	P	08 28 40.8	+0.9
	comp=Z,12nm,1.3s						
MPLH	Magyarpolny	29.16	166	*e*P	P	08 28 41.1	+0.4
SORM	Soroca	29.17	151	⇑P	P	08 28 43.5	+2.8
BURAR	Bucovina Array	29.34	155	⇑P	P	08 28 44.4	+2.0
BURAR				mb		08 28 51.2	
ABTA	Abfaltersbach	29.35	173	*i* pP	P	08 28 43.2	+0.7
	comp=Z,13nm,1.2s						
MYKA	Terra Mystica	29.51	171	*i* pP	P	08 28 45.1	+1

comp=Z,3.0nm,0.8s,baz=11,slow=8.8,SNR=24
YKA PcP **PcP** **08 32 09.1 -0.3**
comp=Z,1.7nm,0.8s,baz=12,slow=3.0,SNR=11
YKA Yellowknife Ar 37.03 319 P **P** **08 29 48.8 -0.3**
TIP Timpagrande 37.08 168 ⇑P **P** **08 29 50.6 +0.8**
TIP mb 08 30 00.2
PTOM Tomar 37.10 201 *eP* **P** **08 29 50.6 +0.7**
comp=Z,71nm,1.3s
PMRV Marv??o 37.20 199 *eP* **P** **08 29 51.3 +0.5**
comp=Z,77nm,1.4s
PMTG Montargil 37.63 200 *eP* **P** **08 29 50.4 -4.0**
comp=Z,56nm,1.7s
PRP Porcupine Dome 37.77 342 IAmb IAmb 08 30 04.7
comp=Z,15nm,0.9s
AKH Akhalkalaki 38.01 134 ⇓P **P** **08 30 00.9 +3.1**
AKH Akhalkalaki 38.01 134 P **P** **08 29 57.7 -0.1**
BRTR Keskin Array B 38.12 147 P **P** **08 29 58.4 -0.3**
comp=Z,1.1nm,0.7s,baz=3.7,slow=6.5,SNR=4.3
BRTR Keskin Array B 38.12 147 P **P** **08 29 58.4 -0.3**
EGAK Eagle 38.14 339 P **P** **08 29 59.6 +1.2**
EGAK IAmb IAmb 08 30 10.5
comp=Z,15nm,0.8s
EVO Evora 38.14 200 *eP* **P** **08 29 59.9 +1.2**
CORL Corleone 38.22 173 P **P** **08 29 59.3 -0.1**
COLA College 38.58 343 P **P** **08 30 03.4 +1.3**
ILAR Eielson Array 38.61 343 P **P** **08 30 03.1 +0.8**
comp=Z,5.0nm,0.7s,baz=3.5,slow=6.1,SNR=23
ILAR PcP **PcP** **08 32 14.2 0.0**
comp=Z,1.2nm,0.8s,baz=350,slow=4.0,SNR=4.5
ILAR LR LR 08 48 58.6
comp=Z,166nm,18.0s,baz=28,slow=41
ILAR Eielson Array 38.61 343 P **P** **08 30 03.1 +0.8**
PBEJ Beja 38.63 200 *eP* **P** **08 30 03.4 +0.5**
comp=Z,70nm,1.5s
DAWY Dawson 38.68 337 P **P** **08 30 03.5 +0.4**
MESJ Messejana 38.85 200 *eP* **P** **08 30 03.6 -1.0**
MESJ AMb AMB 08 30 07.1
comp=Z,39nm,2.0s
PCVE Castro Verde 39.04 200 *eP* **P** **08 30 05.4 -0.9**
comp=Z,30nm,1.4s
SCRK Sand Creek 39.17 341 P **P** **08 30 09.1 +1.8**
PVAQ Vaqueiros 39.24 199 *eP* **P** **08 30 08.9 +1.0**
MORF Marmelete 39.41 200 *eP* **P** **08 30 08.2 -1.3**
MORF AMb AMB 08 30 10.8
comp=Z,50nm,1.9s
MORF Marmelete 39.41 200 *eP* **P** **08 30 09.8 +0.3**
comp=Z,50nm,1.3s
PBDV Barranco-do-Ve 39.42 200 *eP* **P** **08 30 10.3 +0.9**
comp=Z,105nm,1.7s
KEST Kesra 40.29 178 P **P** **08 30 16.4 -0.4**
comp=Z,7.4nm,0.9s,baz=301,slow=5.9,SNR=10
PALE Palemas 41.15 194 P **P** **08 30 25.0 +1.2**
MKAR Makanchi Array 41.52 90 P **P** **08 30 27.0 +0.2**
comp=Z,4.8nm,0.7s,baz=345,slow=7.8,SNR=21
MKAR LR LR 08 50 27.1
comp=Z,3μm,21.3s,baz=336,slow=40
MKAR Makanchi Array 41.52 90 P **P** **08 30 27.0 +0.2**
GLB Gilahina Butte 41.66 340 P **P** **08 30 31.3 +3.5**
SKT Skwentna 41.69 345 IAmb IAmb 08 30 34.9
comp=Z,18nm,0.9s
JBK JBK 41.95 193 P **P** **08 30 31.0 +0.4**
FFC Flin Flon 42.07 305 P **P** **08 30 30.6 -0.5**
FFC IAmb IAmb 08 30 39.0
comp=Z,33nm,1.1s
SUA Susitna One 42.16 345 P **P** **08 30 32.9 +1.0**
SUA IAmb IAmb 08 30 40.2
comp=Z,34nm,0.9s
TDRA Tendrara 43.21 192 P **P** **08 30 42.1 +1.3**
MDT Midelt 43.58 195 P **P** **08 30 44.0 +0.3**
BOOM Boomskoye usch 44.02 98 IAmb IAmb 08 30 55.6
comp=Z,16nm,1.1s
GEYT Alibeck 44.24 119 P **P** **08 30 49.6 +0.7**
comp=Z,11nm,0.8s,baz=313,slow=9.3,SNR=15
GEYT LR LR 08 51 19.7
comp=Z,2μm,19.6s,baz=340,slow=39
GEYT Alibeck 44.24 119 P **P** **08 30 49.6 +0.7**
GYA0B ALIBECK ARRAY 44.24 119 IAmb IAmb 08 30 57.0
comp=Z,13nm,0.8s
TISM Timmit 44.79 197 P **P** **08 30 53.0 -0.2**
ULM Lac du Bonnet 45.01 298 P **P** **08 30 53.9 -1.0**
comp=Z,5.9nm,0.9s,baz=13,slow=7.1,SNR=8.1
ULM LR LR 08 50 00.5
comp=Z,2μm,20.1s,baz=22,slow=36
ULM Lac du Bonnet 45.01 298 P **P** **08 30 53.9 -1.0**
ULM IAmb IAmb 08 31 02.4
comp=Z,14nm,1.1s
NRN Naryn 45.03 99 P **P** **08 30 54.6 -0.9**
BTK Batken 45.09 105 IAmb IAmb 08 31 05.0
comp=Z,12nm,0.9s
OUK Oukaimeden 45.41 199 P **P** **08 30 59.1 +0.5**
KDAK Kodiak Island 45.94 345 P **P** **08 31 03.6 +1.5**
CHGR Chuyangaron 46.03 107 IAmb IAmb 08 31 16.6
comp=Z,20nm,0.9s
SONM Songino Array 46.28 67 P **P** **08 31 06.2 +1.0**
comp=Z,25nm,0.9s,baz=335,slow=8.5,SNR=6.9
SONM Songino Array 46.28 67 P **P** **08 31 06.2 +1.0**
ULN Ulaanbaatar 46.40 66 P **P** **08 31 09.9 +3.9**
ULN IAmb IAmb 08 31 13.9
comp=Z,18nm,1.0s
LLLB Lillooet 49.59 320 IAmb IAmb 08 31 39.1
comp=Z,34nm,1.4s
JTMT Jette 51.07 312 IAmb IAmb 08 31 49.4
comp=Z,40nm,1.4s
NEW Newport 51.07 315 P **P** **08 31 41.7 -0.1**
comp=Z,1.9nm,0.7s,baz=30,slow=8.0,SNR=3.7
NEW Newport 51.07 315 IAmb IAmb 08 31 50.5
comp=Z,16nm,1.4s
NIL Nilore 51.78 105 P **P** **08 31 49.6 +2.4**
NIL IAmb IAmb 08 31 51.4
comp=Z,18nm,1.3s
GTA Gaotai 52.73 77 *eP* **P** **08 31 57.4 +3.0**
GTA pP pwP 08 32 01.8 +2.0
GTA sP sP 08 32 05.1 +7.3
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA pmax pmax
comp=Z,180nm,5.8s
GTA LR LR
comp=N,820nm,17.9s
GTA LR LR
comp=E,600nm,17.2s
GTA LR LR
comp=Z,1μm,16.1s
P48A Milroy 52.84 284 IAmb IAmb 08 31 59.1
comp=Z,30nm,1.3s
TAM Tamanrasset 53.19 182 P **P** **08 31 59.3 +1.4**
TAM IAmb IAmb 08 31 59.7
comp=Z,14nm,1.1s
F10A Beach Ranch, E 53.30 314 IAmb IAmb 08 32 09.4
comp=Z,19nm,1.5s
MOOW Moose Ponds 54.26 308 IAmb IAmb 08 32 20.4
comp=Z,23nm,1.4s
G08A Pilot Rock 54.27 316 IAmb IAmb 08 32 13.2
comp=Z,24nm,1.4s
SNOW Snow King Moun 54.54 308 IAmb IAmb 08 32 15.9
comp=Z,26nm,1.4s
TPAW Teton Pass 54.55 308 IAmb IAmb 08 32 15.2
comp=Z,28nm,1.4s
USRK Ussuriysk Ar. 54.97 46 P **P** **08 32 10.5 0.0**
comp=Z,1.8nm,0.8s,baz=298,slow=3.1,SNR=4.5
USRK Ussuriysk Ar. 54.97 46 P **P** **08 32 10.5 0.0**
PDAR Pinedale Array 54.98 307 P **P** **08 32 10.6 -0.3**
comp=Z,8.5nm,1.1s,baz=35,slow=5.4,SNR=18
PDAR LR LR 08 55 48.0
comp=Z,2μm,20.3s,baz=13,slow=36
PDAR Pinedale Array 54.98 307 P **P** **08 32 10.6 -0.3**
RAYN Ar Rayn 55.81 137 P **P** **08 32 18.0 +1.2**
RAYN IAmb IAmb 08 32 29.6
comp=Z,17nm,1.4s
TKL Tuckaleechee C 56.07 281 P **P** **08 32 18.1 -0.5**
comp=Z,8.7nm,0.9s,baz=117,slow=6.8,SNR=3.8
TKL Tuckaleechee C 56.07 281 P **P** **08 32 18.1 -0.5**
TKL Tuckaleechee C 56.07 281 IAmb IAmb 08 32 23.0
comp=Z,16nm,1.1s
HWUT Hardware Ranch 56.48 308 IAmb IAmb 08 32 33.3
comp=Z,26nm,1.4s
BG3 Lake Jocassee 56.50 280 P **P** **08 32 22.2 +0.6**
BG3 IAmb IAmb 08 32 28.7
comp=Z,14nm,1.3s
ISCO Idaho Springs 57.04 302 IAmb IAmb 08 32 34.3
comp=Z,24nm,1.2s
Y52A Lilburn 57.85 281 IAmb IAmb 08 32 31.0
comp=Z,15nm,1.0s
ELK Elko 58.01 311 P **P** **08 32 32.6 +0.1**
comp=Z,3.8nm,0.9s,baz=344,slow=4.7,SNR=7.1
ELK Elko 58.01 311 P **P** **08 32 33.0 +0.5**
ELK IAmb IAmb 08 32 41.5
comp=Z,16nm,1.2s
GOGA Godfrey 58.14 280 P **P** **08 32 32.9 -0.3**
SDCO Great Sand Dun 58.99 302 IAmb IAmb 08 32 48.9
comp=Z,10nm,1.2s
S22A 4UR Ranch, Cre 59.27 303 IAmb IAmb 08 32 48.6
comp=Z,27nm,1.4s
PAHR Pah Rah Range 59.76 314 IAmb IAmb 08 32 56.5
comp=Z,19nm,1.5s
BEKR Beckworth 59.78 315 IAmb IAmb 08 32 49.5
comp=Z,12nm,1.4s
XAN Xi'an 59.99 70 P **P** **08 32 47.4 +1.3**
XAN pP pwP 08 32 57.3 +5.7
XAN S **S** **08 41 01.8 +3.6**
XAN pmax pmax
comp=Z,10.0nm,1.3s
XAN LR LR
comp=N,1μm,16.2s
XAN LR LR
comp=E,540nm,12.8s
XAN LR LR
comp=Z,1μm,16.7s
KVN Kaiserville 60.17 313 IAmb IAmb 08 32 52.4
comp=Z,9.4nm,1.3s
X34A Smith Ranch, M 60.36 294 IAmb IAmb 08 32 49.3
comp=Z,11nm,0.8s
WMOK Wichita Mounta 60.44 295 IAmb IAmb 08 32 50.9
comp=Z,7.1nm,0.8s
YERR Yerington 60.44 314 IAmb IAmb 08 33 03.2
comp=Z,12nm,1.2s
RYN Ryan 60.66 313 IAmb IAmb 08 32 59.7
comp=Z,20nm,1.4s
KSRS Korea Array 60.75 52 P **P** **08 32 51.6 +0.4**
comp=Z,0.9nm,0.6s,baz=351,slow=7.2,SNR=3.7
KSRS Korea Array 60.75 52 P **P** **08 32 51.6 +0.4**
NV11 Mina Array Sit 60.79 313 IAmb IAmb 08 33 03.5
comp=Z,9.3nm,1.2s
NVAR Mina Array Bea 60.81 313 P **P** **08 32 51.7 -0.1**
comp=Z,1.5nm,0.9s,baz=26,slow=5.2,SNR=8.5
NVAR Mina Array Bea 60.81 313 P **P** **08 32 51.7 -0.1**
WAKR Walker 60.94 314 IAmb IAmb 08 33 04.2
comp=Z,19nm,1.5s
U15A North Rim 61.63 307 IAmb IAmb 08 33 05.0
comp=Z,14nm,1.2s
OMMB Old Mammoth Mi 61.73 314 IAmb IAmb 08 33 09.1
comp=Z,10.0nm,1.4s
TPNV Topopah Spring 61.88 311 IAmb IAmb 08 33 05.6
comp=Z,6.2nm,0.9s
ANMO Albuquerque 61.89 302 P **P** **08 32 58.6 -0.6**
comp=Z,2.1nm,0.8s,baz=8.2,slow=6.0,SNR=4.7
ANMO Albuquerque 61.89 302 P **P** **08 32 59.1 -0.1**
ANMO IAmb IAmb 08 33 05.9
comp=Z,20nm,1.5s
MSTX Muleshoe 62.05 298 IAmb IAmb 08 33 04.2
comp=Z,15nm,1.0s
ABTX Abilene, Hawle 62.66 295 IAmb IAmb 08 33 12.1
comp=Z,14nm,1.1s
DAC Darwin (Calif) 62.78 312 IAmb IAmb 08 33 15.3
comp=Z,23nm,1.4s
TOA0 Torodi Ar. Sit 62.85 186 P **P** **08 33 05.0 -0.5**
TORD Torodi Ar. Bea 62.85 186 P **P** **08 33 05.2 -0.3**
comp=Z,21nm,1.1s,baz=352,slow=6.3,SNR=44
TORD Torodi Ar. Bea 62.85 186 P **P** **08 33 05.2 -0.3**
MJAR Matsushiro Arr 63.49 43 P **P** **08 33 10.4 +0.8**
comp=Z,4.5nm,1.0s,baz=326,slow=7.8,SNR=6.0
MJAR Matsushiro Arr 63.49 43 P **P** **08 33 10.4 +0.8**
ISA Isabella, Lake 63.54 313 IAmb IAmb 08 33 15.1
comp=Z,15nm,1.3s
GSC Goldstone, Bar 63.58 311 IAmb IAmb 08 33 18.0
comp=Z,7.0nm,1.1s
HKT Hockley 64.37 291 P **P** **08 33 15.3 -0.1**
HKT IAmb IAmb 08 33 28.1
comp=Z,13nm,1.4s
WHN Wuhan 64.58 66 P P 08 33 28.0 +11
Y12C Blythe 64.66 309 IAmb IAmb 08 33 25.0
comp=Z,15nm,1.2s
PFO Pinyon Flats O 65.16 310 P **P** **08 33 20.5 -0.2**
comp=Z,1.8nm,0.8s,baz=16,slow=9.4,SNR=5.1
PFO Pinyon Flats O 65.16 310 P **P** **08 33 20.6 -0.2**
TUC Tucson 65.33 305 P **P** **08 33 22.3 +0.6**
TUC IAmb IAmb 08 33 32.8
comp=Z,13nm,1.3s
TXAR Lajitas Array 66.72 298 P **P** **08 33 29.9 -0.8**
comp=Z,6.0nm,1.0s,baz=38,slow=6.3,SNR=14
TXAR LR LR 09 03 53.6
comp=Z,965nm,18.3s,baz=0.0,slow=37
TXAR Lajitas Array 66.72 298 P **P** **08 33 29.9 -0.8**
DBIC Dimbokro 69.55 193 P **P** **08 33 47.5 -1.0**
comp=Z,6.0nm,0.9s,baz=340,slow=9.3,SNR=5.5
TIC Toumodi 69.59 193 *eP* **P** **08 33 47.4 -1.3**
KIC Kosan Boka 69.85 193 *eP* **P** **08 33 49.0 -1.4**
comp=Z,40nm,1.1s
LIC Lamto 70.00 193 *eP* **P** **08 33 50.1 -1.2**
comp=Z,66nm,1.0s
LIC Lamto 70.00 193 P **P** **08 33 50.1 -1.2**
CMMT Chiang Mai 72.24 84 P P 08 34 11.0 +6.2
comp=Z,3.6nm,1.3s,comp=Z,399nm
CMAR Chiang Mai Arr 72.58 84 P **P** **08 34 07.1 +0.2**
comp=Z,1.5nm,0.3s,baz=325,slow=6.5,SNR=7.4
CMAR Chiang Mai Arr 72.58 84 P **P** **08 34 07.1 +0.2**
ZAIG Zacatecas 72.81 295 IAmb IAmb 08 34 10.4
comp=Z,18nm,1.4s
NONG Nongkai 73.98 80 P P 08 34 21.6 +6.5
comp=Z,0.5nm,1.1s,comp=Z,93nm
UTHA Uthaitani 75.49 84 P P 08 34 33.0 +9.1
comp=Z,17μm,0.9s
CHAI Chaiyaphum 75.78 82 P P 08 34 33.4 +7.9
comp=Z,10μm,0.8s
SRDT SRDT 76.57 85 P P 08 34 39.2 +9.2
TLIG Tlapa 76.94 290 IAmb IAmb 08 34 40.0
comp=Z,19nm,1.3s
MBAR Mbarara 77.60 156 P **P** **08 34 37.1 +1.2**
MBAR IAmb IAmb 08 34 45.3
comp=Z,27nm,1.4s
SDV Santo Domingo 78.56 261 P **P** **08 34 41.3 -0.1**
SDV IAmb IAmb 08 34 52.0
comp=Z,14nm,1.1s
ROSC El Rosal 83.35 263 P **P** **08 35 07.4 +0.2**
comp=Z,5.9nm,0.7s,baz=73,slow=19,SNR=4.1
ROSC El Rosal 83.35 263 P **P** **08 35 07.4 +0.2**
ROSC El Rosal 83.35 263 IAmb IAmb 08 35 15.1
comp=Z,6.7nm,1.1s
OTAV Otavalo 88.79 266 P **P** **08 35 35.1 +1.0**
WRA Warramunga Arr 117.82 58 PKP **PKPdf** **08 41 24.9 -0.9**
comp=Z,0.7nm,0.7s,baz=333,slow=2.4,SNR=5.3
WRA Warramunga Arr 117.82 58 **PKPdf** **08 41 24.9 -0.9**
ASAR Alice Springs 121.34 60 PKP **PKPdf** **08 41 31.7 -0.7**
comp=Z,1.8nm,0.6s,baz=9.6,slow=1.7,SNR=19
ASAR Alice Springs 121.34 60 **PKPdf** **08 41 31.7 -0.7**
PLCA Paso Flores 126.29 247 PKP **PKPdf** **08 41 41.4 -0.1**
comp=Z,1.2nm,0.8s,baz=19,slow=4.8,SNR=5.5
PLCA Paso Flores 126.29 247 **PKPdf** **08 41 41.4 -0.1**
SYO Syowa Base 146.07 160 ⇑*i*PKPdf **PKPdf** **08 42 16.6 -0.2**
SYO Syowa Base 146.07 160 ⇓*i*PKPbc **PKPab** **08 42 18.4 0.0**
SYO Syowa Base 146.07 160 ⇓*i*pPKPab **PKiKP** **08 42 25.2 +4.2**
MAW Mawson 147.38 144 PKPbc **PKPbc** **08 42 21.7 +0.1**
comp=Z,9.9nm,0.8s,baz=354,slow=2.9,SNR=9.9
MAW Mawson 147.38 144 **PKPbc** **08 42 22.5 +0.9**
PMSA Palmer Station 147.45 229 PKPbc **PKPdf** **08 42 20.4 +1.2**
comp=Z,9.2nm,0.8s,baz=80,slow=2.4,SNR=5.8
PMSA Palmer Station 147.45 229 **PKPdf** **08 42 20.4 +1.2**
SNAA Sanae 147.52 186 **PKPbc** **08 42 21.4 -0.7**
QSPA South Pole Qui 165.89 180 **PKPab** **08 43 42.1 -0.9**

*ISCJB **18** 08:23:41.2±1.4, 6.°52S±0.°08×147.°9E±0.°2, h51km, mb4.0/4, MS3.2/3, Error ellipse: s-maj=30.2km s-min=10.2km az=11.3*
*NEIC **18** 08:23:45±1.4, 6.°7S±0.°1×148.°2E±0.°3, h78km±13km, mb4.0/5*
*IDC **18** 08:23:45.3±2.3, 6.°72S×148.°14E, h77km±22km, mb3.9/4, mb1 4.0/6, mb1mx3.6/41, mbtmp4.1/6, MS3.2/4, Ms1 3.2/4, ms1mx2.9/33, Error ellipse: s-maj=53.6km s-min=15.4km az=111.0*

ISC 18 08:23:43.1±1.5, 6.°6S±0.°1×148.°1E±0.°3, h51km, n16,
σ0°95/17, mb4.0/4, MS3.2/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.96**	**197**	P		**Pn**		**08 24 27.5**	**-0.1**
	11nm,0.3s,baz=11,slow=12,SNR=16								
PMG				S		**Sn**		**08 25 03.0**	**+1.2**
	5.3nm,0.3s,baz=327,slow=7.9,SNR=3.6								
PMG				LR		LR		08 25 58.8	
	comp=Z,196nm,18.9s,baz=36,slow=47								
PMG	**Port Moresby**	**2.96**	**197**			**Pn**		**08 24 28.0**	**+0.4**
PMG						**Sn**		**08 25 02.8**	**+0.9**
COEN	**Coen**	**8.77**	**213**	Pn		**Pn**		**08 25 47.3**	**-0.1**
COEN				Sn		**Sn**		**08 27 26.7**	**+1.8**
WR0	**Warramunga Arr**	**18.69**	**223**	P		**P**		**08 27 57.1**	**-0.2**
WR0				IAmb	IAmb			08 27 58.8	
	comp=Z,12nm,1.4s								
WRAB	**Tennant Creek**	**18.80**	**224**	P		**P**		**08 27 58.4**	**-0.1**
WRAB				IAmb	IAmb			08 27 59.9	
	comp=Z,16nm,1.4s								
WRA	**Warramunga Arr**	**18.82**	**224**	P		**P**		**08 27 57.8**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=50,slow=11,SNR=22								
GUMO	**Guam**	**20.27**	**351**	LR		LR		08 34 46.7	
	comp=Z,70nm,18.4s,baz=148,slow=32								
KNRA	**Kununurra**	**20.96**	**243**	P		**P**		**08 28 21.3**	**-0.7**
KNRA				IAmb	IAmb			08 28 28.4	
	comp=Z,11nm,1.2s								
ASAR	**Alice Springs**	**21.77**	**217**	P		**P**		**08 28 30.2**	**-0.5**
	comp=Z,4.8nm,0.7s,baz=53,slow=9.4,SNR=71								
ASAR				S		**S**		**08 32 27.5**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=31,slow=22,SNR=3.7								
FITZ	**Fitzroy Crossi**	**24.68**	**240**	P		**P**		**08 28 59.1**	**-0.2**
	comp=Z,5.0nm,0.4s,baz=54,slow=8.6,SNR=34								
FITZ	**Fitzroy Crossi**	**24.68**	**240**	P		**P**		**08 28 59.2**	**-0.2**
STKA	**Stephens Creek**	**25.90**	**193**	P		**P**		**08 29 08.8**	**-1.6**
	comp=Z,2.3nm,0.7s,baz=354,slow=10,SNR=5.4								
STKA				LR		LR		08 40 37.0	
	comp=Z,84nm,18.5s,baz=23,slow=39								
STKA	**Stephens Creek**	**25.90**	**193**	IAmb	IAmb			08 29 11.4	
	comp=Z,0.9nm,0.9s								
URZ	**Urewera**	**41.09**	**144**	LR		LR		08 47 21.0	
	comp=Z,32nm,18.8s,baz=289,slow=35								
MJAR	**Matsushiro Arr**	**43.86**	**349**	P		**P**		**08 31 45.3**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=166,slow=6.3,SNR=4.4								
TORD	**Torodi Ar. Bea**	**146.24**	**284**	PKPbc		**PKPdf**		**08 43 18.2**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=92,slow=4.8,SNR=3.6								

*IDC **18** 08:52:23.5±1.5, 31.°56N×78.°08E, h0km, mb3.8/5, mb1 3.8/7, mb1mx3.4/50, mbtmp3.6/7, ML3.1/2, MS4.0/3, Ms1 4.0/3, ms1mx3.1/56, Error ellipse: s-maj=49.5km s-min=24.1km az=64.0*
*NDI **18** 08:52:24.2±2.2, 31.°48N×78.°09E, h5km, ML3.5*

ISC 18 08:52:24.1±1.9, 31.°56N±0.°04×78.°08E±0.°08, h11km±13km, n19, σ2°09/23, mb3.7/5, MS4.1/3, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMLA	**Simla**	**0.89**	**242**	*eP*		**Pg**		**08 52 39.8**	**-1.5**
SMLA				*eS*		**Sg**		**08 52 52.3**	**-0.5**
SMLA				IAML				08 53 00.4	
	comp=N,695nm,0.4s								
SMLA				IAML				08 53 02.2	
	comp=E,940nm,0.3s								
DDI	**Dehra Dun**	**1.23**	**181**	*eP*		**Pg**		**08 52 47.6**	**-0.2**
DDI				*eS*		**Sn**		**08 53 02.9**	**-1.0**
DDI				IAML				08 53 05.8	
	comp=N,649nm,0.5s								
DDI				IAML				08 53 07.0	
	comp=E,960nm,0.5s								
BHK	**Bhakra**	**1.43**	**265**	*eP*		**Pb**		**08 52 50.0**	**-0.7**
BHK				*eS*		**Sg**		**08 53 12.6**	**+2.6**
DHRM	**DHARAMSHALA**	**1.66**	**295**	*i P*		**Pg**		**08 52 55.4**	**-0.7**
DHRM				*eS*		**Sg**		**08 53 18.3**	**+0.6**
DHRM				IAML				08 53 21.7	
	comp=E,2μm,0.4s								
DHRM				IAML				08 53 22.0	
	comp=N,684nm,0.2s								
THN	**Thein Dam**	**2.19**	**294**	*eP*		**Pg**		**08 53 05.3**	**-0.8**
THN				*eS*		**Sg**		**08 53 34.5**	**0.0**
NDI	**New Delhi**	**2.96**	**195**	*eP*		**Pb**		**08 53 17.0**	**+0.1**
NDI				*eS*		**Sb**		**08 53 50.5**	**-2.5**
CHCP	**Chirah Chowk**	**4.57**	**299**	P		**Pn**		**08 53 35.7**	**+2.4**
THW	**Thamme Wali**	**5.51**	**285**	P		**Pn**		**08 53 46.9**	**+0.7**
CEP	**Cherat**	**5.67**	**295**	P		**Pn**		**08 53 49.2**	**+0.7**
MKAR	**Makanchi Array**	**15.56**	**11**	Pn		**Pn**		**08 56 03.1**	**-0.3**
	comp=N,0.1nm,0.3s,baz=194,slow=13,SNR=3.4								
MKAR				Sn		**Sn**		**08 58 48.7**	**-7.0**
	comp=N,0.3nm,0.3s,baz=188,slow=23,SNR=7.9								
KURBB	**Kurchatov Arra**	**19.05**	**1**	P		**Pn**		**08 56 46.1**	**-0.9**
	comp=N,0.1nm,0.3s,baz=192,slow=9.5,SNR=4.4								
ZALV	**Zalesovo Beam**	**22.90**	**10**	P		**P**		**08 57 29.2**	**+1.4**
	comp=N,0.5nm,0.5s,baz=200,slow=14,SNR=2.8								
AKTO	**Aktyubinsk**	**24.05**	**327**	P		**P**		**08 57 40.1**	**+0.9**
	comp=N,0.8nm,0.3s,baz=138,slow=10,SNR=5.6								
FINES	**FINESS Array B**	**44.83**	**328**	P		**P**		**09 00 38.7**	**+0.9**
	comp=N,3.8nm,1.0s,baz=126,slow=9.7,SNR=4.4								
ARCES	**ARCESS Array B**	**47.93**	**338**	P		**P**		**09 01 03.6**	**+1.4**
	comp=N,1.7nm,0.9s,baz=106,slow=8.9,SNR=6.2								
MA2	**Magadan**	**54.72**	**37**	LR		LR		09 27 27.8	
	comp=N,155nm,20.2s,baz=288,slow=38								
WRA	**Warramunga Arr**	**74.37**	**126**	P		**P**		**09 04 03.4**	**+1.3**
	comp=N,1.0nm,1.2s,baz=305,slow=5.9,SNR=4.1								
ASAR	**Alice Springs**	**76.60**	**129**	LR		LR		09 42 36.3	
	comp=N,83nm,20.5s,baz=324,slow=39								
STKA	**Stephens Creek**	**87.12**	**130**	LR		LR		09 49 50.1	
	comp=N,77nm,20.6s,baz=339,slow=40								

*IDC **18** 08:53:45.2±0.9, 20.°64N×146.°86E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.7/48, mbtmp3.8/10, Error ellipse: s-maj=32.8km s-min=21.1km az=84.0*
*ISCJB **18** 08:53:49.9±0.8, 20.°6N±0.°1×146.°7E±0.°2, h44km, mb3.8/10, Error ellipse: s-maj=30.1km s-min=18.1km az=175.3*

ISC 18 08:53:51.5±1.0, 20.°6N±0.°2×146.°8E±0.°2, h44km, n10,
σ0°64/10, mb3.7/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.11**	**198**	P		**P**		**09 01 39.6**	**+0.1**
	0.5nm,0.7s,baz=15,slow=8.5,SNR=6.0								
SONM	**Songino Array**	**42.36**	**320**	P		**P**		**09 01 42.6**	**+1.1**
	0.3nm,0.4s,baz=113,slow=3.3,SNR=2.7								
ASAR	**Alice Springs**	**45.77**	**197**	P		**P**		**09 02 08.9**	**0.0**
	0.3nm,0.7s,baz=20,slow=6.1,SNR=3.7								
ZALV	**Zalesovo Beam**	**57.18**	**322**	P		**P**		**09 03 33.4**	**-0.5**
	1.7nm,0.5s,baz=100,slow=8.1,SNR=5.3								
MKAR	**Makanchi Array**	**57.94**	**313**	P		**P**		**09 03 39.4**	**0.0**
	0.4nm,0.6s,baz=96,slow=8.1,SNR=3.1								
KURBB	**Kurchatov Arra**	**60.64**	**317**	P		**P**		**09 03 57.5**	**-0.4**
	0.8nm,0.6s,baz=93,slow=7.6,SNR=6.4								
BVAR	**Borovoye Array**	**65.70**	**320**	P		**P**		**09 04 30.9**	**-0.6**
	1.3nm,0.5s,baz=89,slow=9.3,SNR=7.5								
YKA	**Yellowknife Ar**	**75.82**	**28**	P		**P**		**09 05 32.5**	**-0.2**
	0.3nm,0.7s,baz=288,slow=5.5,SNR=4.7								
NVAR	**Mina Array Bea**	**81.14**	**52**	P		**P**		**09 06 03.4**	**+0.5**
	0.9nm,0.9s,baz=277,slow=5.3,SNR=6.2								
FINES	**FINESS Array B**	**85.61**	**336**	P		**P**		**09 06 24.4**	**-0.7**
	2.8nm,0.8s,baz=69,slow=4.6,SNR=3.6								

*SJA **18** 08:56:37.8±0.7, 24.°29S×70.°87W, h5km, ML3.5, MW4.5*
*GUC **18** 08:56:44.3±0.6, 24.°32S×70.°44W, h23km±3km, ML3.4*

ISC 18 08:56:40.5±2.0, 24.°27S±0.°03×70.°7W±0.°1, h5km±14km, n15,
σ2°12/23, 3C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.44**	**144**	⇑*iP*		**Pb**		**08 56 51.5**	**+0.4**
PB14				*i* S		**Sb**		**08 56 56.9**	**-1.3**
PB14				IAML				08 56 57.2	
	comp=E,4μm,0.1s								
PB10	**IPOC Station P**	**0.76**	**10**	⇑*iP*		**Pn**		**08 56 58.5**	**+0.6**
PB10				*i* S		**Sn**		**08 57 09.4**	**-0.4**
PB10				IAML				08 57 14.0	
	comp=E,2μm,0.7s								
GO02	**Mina Guanaco**	**1.34**	**132**	⇓*iP*		**Pn**		**08 57 04.6**	**-1.6**
GO02				*i* S		**Sb**		**08 57 19.9**	**-4.0**
GO02				IAML				08 57 22.7	
	comp=N,3μm,0.4s								
PB05	**IPOC Station P**	**1.48**	**18**	⇑*iP*		**Pg**		**08 57 09.0**	**+0.2**
PB05				*i* S		**Sg**		**08 57 28.8**	**+0.8**
PB05				IAML				08 57 39.8	
	comp=E,988nm,0.4s								
PB15	**IPOC Station P**	**1.54**	**47**	*i P*		**Pb**		**08 57 08.9**	**-0.7**
PB15				*i* S		**Sb**		**08 57 28.0**	**-1.4**
PB06	**IPOC Station P**	**1.86**	**34**	⇓*iP*		**Pb**		**08 57 14.7**	**-0.5**
PB06				*i* S		**Sb**		**08 57 37.9**

LVC				*i* S		**Sg**	**08 57 53.9**	**-1.3**
LVC				IAML			08 57 55.8	
	comp=Z,349nm,0.6s							
PB03	**IPOC Station P**	**2.37**	**22**	*i* P		**Pn**	**08 57 21.3**	**+1.0**
PB03				IAML			08 57 57.4	
	comp=Z,524nm,0.3s							
PB09	**IPOC Station P**	**2.80**	**29**	*i* P		**Pn**	**08 57 27.2**	**+1.1**
PB09				IAML			08 58 13.1	
	comp=Z,428nm,0.6s							
HJA	**Humahuaca**	**4.95**	**79**	*i* P		**Pn**	**08 57 59.7**	**+3.7**
HJA				IAML			08 58 12.9	
	comp=Z,42nm,0.6s							
VCA	**Vinchina**	**4.98**	**154**	*i* P		**Pn**	**08 57 58.1**	**+2.0**
VCA				IAML			08 59 21.1	
	comp=Z,35nm,0.3s							
AZAP	**Zapla**	**5.13**	**91**	*i* P		**Pn**	**08 58 01.9**	**+3.5**
AZAP				IAML			08 58 13.9	
	comp=Z,19nm,0.5s							
YJA	**Yavi**	**5.20**	**67**	*i* P		**Pn**	**08 58 02.8**	**+3.4**
AHML	**Horco Molle**	**5.45**	**119**	*i* P		**Pn**	**08 58 05.4**	**+2.9**

*ISCJB **18** 08:58:06.3±1.0,38°.54N±0°.09×69°.46E±0°.09,h12^{km}, mb3.6/6, Error ellipse: s-maj=13.9km s-min=9.3km az=156.5*

*NNC **18** 08:58:06.6±3.1,38°.26N×69°.13E,h8^{km}±12^{km}, mb4.0, mpv3.6, Error ellipse: s-maj=20.9km s-min=12.9km az=23.0*

*IDC **18** 08:58:21.6±3.7,38°.77N×69°.75E,h123^{km}±23^{km}, mb3.3/6, mb1 3.4/12,mb1mx3.2/50,mbtmp3.7/12, Error ellipse: s-maj=55.2km s-min=16.5km az=152.0*

ISC 18 08:58:08.1±1.2,38°.4N±0°.1×69°.46E±0°.08,h12^{km},n21, σ2^{s}20/24,mb3.8/6,4C-3D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRLS	**Borolday**	**4.60**	**3**	Pg	**Pb**	**08 59 30.3**	**+1.6**
	0.7nm,0.2s						
BRLS				Lg	Lg	09 00 35.0	
	21nm,0.8s						
KK31	**Karatay Array**	**4.73**	**9**	Pn	**Pn**	**08 59 21.0**	**+1.7**
	2.2nm,0.5s,baz=200,slow=15,SNR=13						
KK31				⇑Pg	**Pg**	**08 59 36.7**	**-2.0**
	2.5nm,0.3s,baz=192,slow=18,SNR=7.4						
KK31				⇓Lg	Lg	09 00 41.9	
	19nm,0.6s,baz=191,slow=26,SNR=7.8						
MRKS	**Merke**	**5.17**	**32**	Pg	**Pg**	**08 59 45.2**	**-1.9**
	8.5nm,0.5s						
MRKS				Lg	Lg	09 01 00.4	
	16nm,0.7s						
AAK	**Ala-Archa**	**5.69**	**41**	P	**Pn**	**08 59 36.9**	**+4.3**
	0.9nm,0.3s,baz=219,slow=5.1,SNR=8.1						
AAK				S	**Sn**	**09 00 39.4**	**+1.6**
	0.6nm,0.3s,baz=174,slow=8.3,SNR=2.4						
AAK	**Ala-Archa**	**5.69**	**41**	⇓Pn	**Pn**	**08 59 35.8**	**+3.2**
	3.4nm,0.6s						
AAK				⇑Pg	**Pg**	**08 59 56.2**	**-0.8**
	12nm,1.1s						
AAK				⇑Lg	Lg	09 01 14.8	
	13nm,0.6s						
TKM2	**Tokmak 2**	**6.47**	**44**	⇑Pn	**Pn**	**08 59 47.3**	**+4.0**
	1.5nm,0.4s						
DGS	**Degeres**	**6.78**	**43**	Pg	**Pg**	**09 00 14.8**	**-3.1**
	3.1nm,0.6s						
DGS				Lg	Lg	09 01 52.1	
	12nm,0.7s						
GEYT	**Alibeck**	**8.95**	**270**	P	Pn	09 00 32.4	+15
	0.6nm,0.3s,baz=96,slow=7.4,SNR=3.0						
AB31	**Akbulak array**	**12.80**	**331**	P	**Pn**	**09 01 08.2**	**-1.5**
	0.7nm,0.3s,baz=164,slow=12,SNR=46						
AB31				Sn	**Sn**	**09 03 32.3**	**+0.2**
	0.8nm,0.4s,baz=155,slow=25,SNR=5.8						
KURBB	**Kurchatov Arra**	**13.78**	**25**	P	**Pn**	**09 01 25.7**	**+2.5**
	baz=216,slow=10,SNR=2.6						
AKTO	**Aktyubinsk**	**14.49**	**330**	P	**P**	**09 01 39.5**	**-0.1**
	0.9nm,0.3s,baz=145,slow=13,SNR=16						
AKTO	**Aktyubinsk**	**14.49**	**330**	⇓Pn	**Pn**	**09 01 33.0**	**+0.1**
	6.8nm,0.8s						
BVAR	**Borovoye Array**	**14.61**	**2**	P	**P**	**09 01 39.3**	**-1.6**
	0.5nm,0.3s,baz=192,slow=9.5,SNR=7.4						
ZALV	**Zalesovo Beam**	**18.74**	**29**	P	**P**	**09 02 26.8**	**+0.2**
	0.4nm,0.3s,baz=223,slow=9.4,SNR=3.6						
KBZ	**Khabaz**	**20.66**	**293**	P	**P**	**09 02 48.1**	**+0.5**
	2.7nm,0.8s,baz=96,slow=14,SNR=4.6						
AKASG	**Malin Array Be**	**30.79**	**307**	P	**P**	**09 04 23.9**	**+0.5**
	0.1nm,0.3s,baz=81,slow=7.8,SNR=7.9						
TIXI	**Tiksi**	**44.46**	**23**	P	**P**	**09 06 16.7**	**-1.8**
	0.8nm,0.5s,baz=310,slow=7.9,SNR=5.0						
TORD	**Torodi Ar. Bea**	**64.57**	**267**	P	**P**	**09 08 47.6**	**+2.2**
	1.3nm,0.6s,baz=43,slow=6.4,SNR=6.4						
INK	**Inuvik**	**72.19**	**9**	P	**P**	**09 09 30.8**	**-1.5**
	0.7nm,0.7s,baz=348,slow=6.5,SNR=4.6						
ILAR	**Eielson Array**	**73.25**	**15**	P	**P**	**09 09 36.6**	**-2.1**
	0.4nm,0.8s,baz=345,slow=4.1,SNR=4.5						
YKA	**Yellowknife Ar**	**79.36**	**2**	P	**P**	**09 10 11.5**	**-1.9**
	0.5nm,0.7s,baz=352,slow=5.5,SNR=9.7						

*IDC **18** 09:12:17.0±0.7,20°.67N×146°.83E,h0^{km},mb4.0/14, mb1 4.1/14,mb1mx3.9/57,mbtmp4.0/14, Error ellipse: s-maj=24.2km s-min=16.4km az=77.0*

*NEIC **18** 09:12:18.3±2.2,20°.70N±0°.09×146°.7E±0°.1,h10^{km}±1^{km}, mb4.6/29*

*ISCJB **18** 09:12:21.4±0.4,20°.68N±0°.05×146°.67E±0°.07,h44^{km}, mb4.9/14, Error ellipse: s-maj=9.7km s-min=7.2km az=158.4*

ISC 18 09:12:23.1±0.5,20°.74N±0°.07×146°.68E±0°.09,h44^{km},n48, σ1^{s}44/51,mb4.3/26,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**7.54**	**328**	Pn	**Pn**	**09 14 13.4**	**+2.8**
	3.5nm,0.3s,baz=322,slow=9.3,SNR=3.5						
JCJ				Sn	**Sn**	**09 15 29.4**	**-5.4**
	15nm,0.3s,baz=283,slow=23,SNR=6.8						
INU	**Inuyama**	**16.85**	**332**	Pn	**Pn**	**09 16 13.7**	**-2.2**
MAJO	**Matsushiro**	**17.40**	**337**	P	**Pn**	**09 16 21.7**	**-1.0**
PATS	**Pohnpei**	**17.83**	**139**	P	**Pn**	**09 16 25.5**	**-2.6**
PATS				IAmb	IAmb	09 16 34.3	
	comp=Z,91nm,1.2s						
JOW	**Kunigami**	**17.89**	**293**	P	**Pn**	**09 16 28.6**	**-0.2**
JOW				IAmb	IAmb	09 16 39.5	
	comp=Z,120nm,1.5s						
ERM	**Erimo**	**21.42**	**353**	P	**P**	**09 17 05.5**	**-1.7**
YOJ	**Yonaguni jima**	**22.15**	**284**	P	**P**	**09 17 14.1**	**-1.3**
MANU	**Manus Island**	**22.65**	**178**	P	**P**	**09 17 20.5**	**-0.2**
MANU				IAmb	IAmb	09 17 23.5	
	comp=Z,30nm,1.2s						
KSRS	**Korea Array**	**23.29**	**320**	P	**P**	**09 17 29.9**	**+2.9**
	comp=Z,1.0nm,0.7s,baz=144,slow=8.8,SNR=3.3						
KS19	**Wonju Array Si**	**23.36**	**320**	P	**P**	**09 17 26.1**	**-1.6**
KS19				IAmb	IAmb	09 17 35.5	
	comp=Z,14nm,1.1s						
NACB	**Ninganchiao**	**23.42**	**283**	P	**P**	**09 17 28.0**	**-0.4**
YULB	**Yu-li**	**23.66**	**281**	P	**P**	**09 17 29.8**	**-0.9**
YULB				IAmb	IAmb	09 17 30.6	
	comp=Z,44nm,1.4s						
KNMB	**Chin-men Tao**	**26.36**	**283**	P	**P**	**09 17 54.9**	**-0.4**
USRK	**Ussuriysk Ar.**	**26.39**	**336**	P	**P**	**09 17 57.1**	**+1.8**
	comp=Z,2.9nm,0.9s,baz=115,slow=13,SNR=4.5						
TNTI	**Ternate**	**27.38**	**226**	P	**P**	**09 18 03.5**	**-1.0**
KLR	**Kul'dur**	**30.83**	**341**	P	**P**	**09 18 35.6**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=139,slow=7.3,SNR=5.0						
SBUM	**Sibu**	**38.19**	**246**	P	**P**	**09 19 38.7**	**-0.1**
SONM	**Songino Array**	**42.16**	**320**	P	**P**	**09 20 13.5**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=120,slow=8.5,SNR=2.3						
WRAB	**Tennant Creek**	**42.18**	**197**	P	**P**	**09 20 11.0**	**-0.8**
WRA	**Warramunga Arr**	**42.20**	**197**	P	**P**	**09 20 11.4**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=17,slow=8.3,SNR=6.7						
WRA				PcP	**PcP**	**09 22 06.7**	**+1.1**
	comp=Z,1.9nm,1.1s,baz=13,slow=3.9,SNR=5.0						
SEY	**Seymchan**	**42.35**	**4**	P	**P**	**09 20 13.6**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=188,slow=8.5,SNR=5.2						
FITZ	**Fitzroy Crossi**	**43.76**	**210**	P	**P**	**09 20 25.7**	**+1.2**
ASAR	**Alice Springs**	**45.86**	**196**	P	**P**	**09 20 40.2**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=19,slow=8.1,SNR=6.6						
ASAR				PcP	**PcP**	**09 22 18.9**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=30,slow=2.5,SNR=4.3						
LSA	**Lhasa**	**50.62**	**292**	P	**P**	**09 21 17.7**	**-0.8**
LSA				IAmb	IAmb	09 21 34.0	
	comp=Z,4.9nm,0.9s						
KKH	**Kailua Kona**	**53.54**	**80**	P	**P**	**09 21 39.1**	**-0.8**
ZAA0	**Zalesovo Array**	**56.98**	**322**	P	**P**	**09 22 04.2**	**+0.1**
ZAA0				IAmb	IAmb	09 22 04.9	
	comp=Z,3.4nm,0.6s						
ZALV	**Zalesovo Beam**	**56.98**	**322**	P	**P**	**09 22 04.4**	**+0.3**
	comp=Z,4.5nm,0.5s,baz=106,slow=6.9,SNR=12						
MKAR	**Makanchi Array**	**57.74**	**313**	P	**P**	**09 22 10.1**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=86,slow=9.1,SNR=9.6						
MAKZ	**Makanchi**	**57.95**	**313**	P	**P**	**09 22 12.8**	**+1.6**
MAKZ				IAmb	IAmb	09 22 12.8	
	comp=Z,3.5nm,0.9s						
KURK	**Kurchatov**	**60.39**	**317**	P	**P**	**09 22 28.6**	**+0.8**
KURK				IAmb	IAmb	09 22 29.1	
	comp=Z,4.4nm,0.8s						
BRVK	**Borovoye**	**65.57**	**320**	P	**P**	**09 23 03.3**	**+1.0**
BRVK				IAmb	IAmb	09 23 03.9	
	comp=Z,5.4nm,0.8s						
BKZ	**Black Stump Fm**	**65.80**	**155**	P	**P**	**09 23 04.4**	**+0.6**
KK31	**Karatay Array**	**66.20**	**309**	P	**P**	**09 23 08.3**	**+1.9**
KK31				IAmb	IAmb	09 23 17.5	
	comp=Z,6.5nm,1.4s						
KKAR	**Karatay Array**	**66.20**	**309**	P	**P**	**09 23 08.3**	**+1.9**
KKAR				IAmb	IAmb	09 23 17.5	
	comp=Z,6.5nm,1.4s						
INK	**Inuvik**	**67.14**	**23**	P	**P**	**09 23 12.4**	**+0.4**
ARU	**Arti**	**71.95**	**324**	P	**P**	**09 23 42.5**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=157,slow=2.3,SNR=9.5						
ARU	**Arti**	**71.95**	**324**	P	**P**	**09 23 42.9**	**+1.0**
ARU				IAmb	IAmb	09 23 43.1	
	comp=Z,7.0nm,0.8s						
ABKAR	**Akbulak array**	**72.49**	**317**	P	**P**	**09 23 45.8**	**+0.6**
ABKAR				IAmb	IAmb	09 23 46.4	
	comp=Z,2.3nm,0.8s						
YKA	**Yellowknife Ar**	**75.76**	**28**	P	**P**	**09 24 03.7**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=289,slow=5.5,SNR=11						
NVAR	**Mina Array Bea**	**81.17**	**52**	P	**P**	**09 24 35.1**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=267,slow=6.6,SNR=11						
TPNV	**Topopah Spring**	**83.20**	**53**	P	**P**	**09 24 46.0**	**+0.7**
TPNV				IAmb	IAmb	09 24 46.3	
	comp=Z,2.3nm,1.0s						
FIA1	**FINESS Array S**	**85.42**	**335**	P	**P**	**09 24 55.4**	**-0.3**
FINES	**FINESS Array B**	**85.42**	**335**	P	**P**	**09 24 55.1**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=60,slow=4.6,SNR=8.4						
PDAR	**Pinedale Array**	**85.75**	**46**	P	**P**	**09 24 57.7**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=257,slow=3.6,SNR=3.2						
RDMU	**Red Mountain**	**86.64**	**48**	P	**P**	**09 25 03.4**	**+0.9**
LPAZ	**La Paz**	**146.74**	**88**	PKPbc	**PKPab**	**09 32 02.7**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=14,slow=3.8,SNR=9.4						
LPAZ	**La Paz**	**146.74**	**88**		**PKiKP**	**09 32 03.8**	**-0.8**
SIV	**San Ignacio**	**153.26**	**84**	PKPbc	**PKiKP**	**09 32 17.4**	**0.0**
	comp=Z,0.3nm,0.5s,baz=309,slow=3.6,SNR=4.8						

*NAO **18** 09:22:32.1±3.1,75°.84N×6°.63E, ML3.8*

*IDC **18** 09:22:37.0±0.5,75°.90N×8°.39E,h0^{km},mb3.7/13, mb1 3.9/17,mb1mx3.7/56,mbtmp3.7/17,ML3.2/4,MS3.7/19, Ms1 3.7/19,ms1mx3.5/45, Error ellipse: s-maj=12.9km s-min=8.7km az=63.0*

*BER **18** 09:22:37.2±3.1,75°.86N×7°.56E,h23^{km}±44^{km}, ML2.5, ML3.8(NAO), Confirmed Earthquake*

*NEIC **18** 09:22:38.6±2.6,75°.97N±0°.04×9°.1E±0°.4,h10^{km}±1^{km}, mb4.4/17*

*IEPN **18** 09:22:40.0,75°.86N×8°.73E,h15^{km}*

ISC 18 09:22:40.3±2.7,75°.97N±0°.05×9°.15E±0°.06,h24^{km}±20^{km}, n79, σ2^{s}05/80,mb3.9/18,MS3.7/12,2C-1D,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**1.83**	**52**	⇓*i*P	**Pn**	**09 23 10.6**	**+0.5**
HSPB				*e*S	**Sn**	**09 23 34.0**	**+1.6**
HSPB	**Hornsund (broa**	**1.83**	**52**	*e*P	**Pn**	**09 23 10.6**	**+0.5**
HSPB				*e*S	**Sb**	**09 23 35.1**	**-0.2**
HSPB				IAML		09 23 39.2	
	comp=Z,14nm,0.4s						
SPA0	**Spitsbergen Ar**	**2.75**	**33**	Pn	**Pn**	**09 23 23.0**	**+0.1**
	baz=215,slow=12						
SPA0				Sn	**Sn**	**09 23 56.1**	**+0.9**
	baz=217,slow=14						
SPA0	**Spitsbergen Ar**	**2.75**	**33**	⇑*i*P	**Pn**	**09 23 23.0**	**+0.1**
SPA0				*i* S	**Sn**	**09 23 55.8**	**+0.6**
SPA0	**Spitsbergen Ar**	**2.75**	**33**	Pn	**Pn**	**09 23 23.0**	**+0.1**
	baz=215,slow=12						
SPA0				Sn	**Sn**	**09 23 56.1**	**+0.9**
	baz=217,slow=14						
SPA0				IAML		09 24 06.5	
	comp=Z,37nm,0.6s						
SPA0	**Spitsbergen Ar**	**2.75**	**33**		**Pn**	**09 23 22.9**	**0.0**
SPITS	**Spitsbergen Ar**	**2.75**	**33**	Pn	**Pn**	**09 23 23.1**	**+0.2**
	baz=198,slow=13,SNR=162						
SPITS				Sn	**Sn**	**09 23 57.9**	**+2.6**
	baz=203,slow=22,SNR=3.6						
BJO1	**Bjornoya**	**2.92**	**115**	Pn	**Pn**	**09 23 27.7**	**+2.6**
BJO1	**Bjornoya**	**2.92**	**115**	*e*P	**Pn**	**09 23 26.9**	**+1.8**
BJO1				*e*S	**Sn**	**09 24 01.0**	**+1.6**
BJO1	**Bjornoya**	**2.92**	**115**	*e*P	**Pn**	**09 23 26.3**	**+1.2**
BJO1				IAML		09 24 08.0	
	comp=Z,28nm,0.6s						
KBS	**Kingsbay**	**3.04**	**10**	Pn	**Pn**	**09 23 24.8**	**-2.0**
KBS	**Kingsbay**	**3.04**	**10**	*e*P	**Pn**	**09 23 24.0**	**-2.7**
KBS				*e*S	**Sn**	**09 24 01.6**	**-0.6**
KBS	**Kingsbay**	**3.04**	**10**	*e*P	**Pn**	**09 23 24.0**	**-2.7**
KBS				IAML		09 24 04.0	
	comp=Z,16nm,0.6s						
KBS	**Kingsbay**	**3.04**	**10**		**Pn**	**09 23 24.9**	**-1.8**
HOPEN	**Hopen**	**3.83**	**74**	Pn	**Pn**	**09 23 39.2**	**+1.6**
HOPEN				Sn	**Sn**	**09 24 24.8**	**+3.1**
HOPEN	**Hopen**	**3.83**	**74**	⇑*i*P	**Pn**	**09 23 38.9**	**+1.4**
HOPEN				*i* S	**Sn**	**09 24 24.0**	**+2.4**
HOPEN	**Hopen**	**3.83**	**74**	*e*P	**Pn**	**09 23 39.2**	**+1.6**
HOPEN				*e*S	**Sn**	**09 24 24.6**	**+3.0**
HOPEN				IAML		09 24 31.4	
	comp=Z,51nm,0.3s						
DAG	**Danmarks Havn**	**6.58**	**290**	*i* P	Pn	09 24 03.6	-12
DAG				*i* S	Sn	09 25 07.1	-22
DAG	**Danmarks Havn**	**6.58**	**290**	*e*	Pn	09 24 01.1	-14
	baz=92,slow=16						
DAG				*i* P	Pn	09 24 03.7	-12
DAG				*i* S	Sn	09 25 07.1	-22
DAG				IAML		09 25 14.3	
	comp=Z,24nm,0.4s						
JMIC	**Jan Mayen**	**7.06**	**234**	LR	LR	09 26 06.8	
	comp=Z,309nm,18.6s,baz=234,slow=30						
NOR	**Nord**	**7.46**	**330**	*e*P	Pn	09 24 20.9	-6.5
DBG	**Daneborg**	**7.67**	**272**	*e*P	Pn	09 24 18.1	-12
DBG				IAML		09 25 38.2	
	comp=Z,22nm,0.7s						
ARA0	**ARCESS Array S**	**8.04**	**135**	Pn	**Pn**	**09 24 34.4**	**-1.1**
	baz=333,slow=14						
ARA0				Sn	**Sn**	**09 26 00.9**	**-4.5**
	baz=330,slow=18						
ARA0	**ARCESS Array S**	**8.04**	**135**	Pn	**Pn**	**09 24 34.4**	**-1.1**
	baz=333,slow=14						
ARA0				Sn	**Sn**	**09 26 00.9**	**-4.5**
	baz=330,slow=18						
ARCES	**ARCESS Array B**	**8.04**	**135**	Pn	**Pn**	**09 24 34.3**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=332,slow=12,SNR=28						
ARCES				Sn	**Sn**	**09 26 02.0**	**-3.5**
	comp=Z,1.3nm,0.3s,baz=325,slow=20,SNR=5.1						
ARCES				LR	LR	09 27 55.4	
	comp=Z,345nm,21.4s,baz=338,slow=39						
ARE0	**ARCESS Array S**	**8.04**	**135**	Pn	**Pn**	**09 24 34.7**	**-0.8**
ARE0				Sn	**Sn**	**09 26 03.3**	**-2.2**
ZFI2	**Zemlya Franca-**	**8.94**	**40**	*e*P	**Pn**	**09 24 47.9**	**+0.3**
ZFI2				*e*S	**Sn**	**09 26 24.5**	**-2.8**
	comp=Z,14nm,0.8s						
SCO	**Scoresbysund**	**10.39**	**254**	*i* P	Pn	09 24 57.5	-10
SCO	**Scoresbysund**	**10.39**	**254**	*i* P	Pn	09 24 57.5	-10
SCO	**Scoresbysund**	**10.39**	**254**		Pn	09 24 56.8	-11
APA0	**Apatity Array**	**11.11**	**126**	Pn	**Pn**	**09 25 16.1**	**-1.2**
	baz=317,slow=9.3						
APA0				Sn	**Sn**	**09 27 14.5**	**-6.0**
	baz=320,slow=37						
APA0	**Apatity Array**	**11.11**	**126**	Pn	**Pn**	**09 25 16.1**	**-1.2**
	baz=317,slow=9.3						
APA0				Sn	**Sn**	**09 27 14.5**	**-6.0**
	baz=320,slow=37						
LVZ	**Lovozero**	**11.19**	**123**	Pn	**Pn**	**09 25 17.0**	**-1.5**
SUMG	**Summit**	**13.02**	**279**	*i* P	Pn	09 25 34.3	-9.5
SUMG	**Summit**	**13.02**	**279**	*i* P	Pn	09 25 34.4	-9.4
SUMG	**Summit**	**13.02**	**279**		Pn	09 25 35.4	-8.4
NC204	**NORSAR Array S**	**14.78**	**177**	Pn	**Pn**	**09 26 08.8**	**+1.3**
BORG	**Borgarnes**	**14.93**	**238**	LR	LR	09 29 47.0	
	comp=Z,212nm,19.3s,baz=13,slow=29						
NOA	**NORSAR Array B**	**15.02**	**176**	LR	LR	09 31 26.5	
	comp=Z,156nm,18.6s,baz=0.0,slow=35						
NC602	**NORSAR Array S**	**15.33**	**176**	Pn	**Pn**	**09 26 15.0**	**+0.2**
FIA1	**FINESS Array S**	**15.71**	**149**	Pn	**Pn**	**09 26 19.2**	**-0.4**
FIA1				IAmb	IAmb	09 26 24.6	
	comp=Z,20nm,1.1s						
FINES	**FINESS Array B**	**15.71**	**149**	Pn	**Pn**	**09 26 18.9**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=2.3,slow=14,SNR=4.2						
FINES				LR	LR	09 32 32.2	
	comp=Z,314nm,19.1s,baz=347,slow=38						
HFS	**Hagfors**	**15.99**	**172**	Pn	**Pn**	**09 26 22.5**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=10,slow=10,SNR=2.2						
HFS				LR	LR	09 32 00.7	
	comp=Z,245nm,18.4s,baz=347,slow=35						
SFJD	**Kangerlussuaq**	**19.95**	**275**	LR	LR	09 33 47.1	
	comp=Z,216nm,19.7s,baz=46,slow=34						
KIRV	**Kirov**	**22.54**	**118**	LR	LR	09 36 35.2	
	comp=Z,291nm,20.2s,baz=292,slow=37						
RES	**Resolute Bay**	**23.20**	**319**	P	**P**	**09 27 43.2**	**-1.4**
	comp=Z,1.5nm,0.8s,baz=36,slow=9.0,SNR=4.5						
RES				LR	LR	09 36 21.5	
	comp=Z,192nm,18.9s,baz=338,slow=36						
RES	**Resolute Bay**	**23.20**	**319**	P	**P**	**09 27 44.5**	**-0.1**
RES				IAmb	IAmb	09 27 53.4	
	comp=Z,12nm,1.4s						
OBN	**Obninsk**	**23.34**	**138**	LR	LR	09 37 08.5	
	comp=Z,22nm,21.1s,baz=345,slow=37						
AKASG	**Malin Array Be**	**26.60**	**151**	P	**P**	**09 28 17.9**	**+1.7**
	comp=Z,0.5nm,0.4s,baz=347,slow=10,SNR=4.7						
AKASG				LR	LR	09 38 12.0	
	comp=Z,236nm,18.7s,baz=350,slow=35						
GERES	**GERESS Array B**	**27.29**	**173**	P	**P**	**09 28 23.8**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=349,slow=12,SNR=3.6						
GERES				LR	LR	09 39 13.2	
	comp=Z,146nm,18.2s,baz=349,slow=37						
INK	**Inuvik**	**34.09**	**336**	P	**P**	**09 29 22.4**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=16,slow=12,SNR=7.4						
INK	**Inuvik**	**34.09**	**336**	P	**P**	**09 29 23.0**	**+0.8**
ZALV	**Zalesovo Beam**	**35.12**	**85**	P	**P**	**09 29 33.4**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=324,slow=7.1,SNR=2.0						
ZALV				LR	LR	09 48 37.0	
	comp=Z,122nm,18.1s,baz=321,slow=44						
KBZ	**Khabaz**	**35.41**	**136**	LR	LR	09 44 28.3	
	comp=Z,104nm,21.6s,baz=354,slow=37						
KURK	**Kurchatov**	**36.59**	**93**	P	**P**	**09 29 43.7**	**-0.1**
KURK				IAmb	IAmb	09 29 54.6	
	comp=Z,7.1nm,1.3s						
ESDC	**Sonseca Array**	**36.86**	**197**	P	**P**	**09 29 46.6**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=350,slow=6.5,SNR=2.3						
YKA	**Yellowknife Ar**	**37.25**	**320**	P	**P**	**09 29 48.5**	**-0.9**
	comp=Z,1.1nm,1.0s,baz=16,slow=8.5,SNR=11						
YKA				PcP	**PcP**	**09 32 09.2**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=15,slow=3.3,SNR=5.2						
IL31		**38.68**	**344**	P	**P**	**09 30 02.2**	**+0.9**
ILAR	**Eielson Array**	**38.68**	**344**	P	**P**	**09 30 02.0**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=6.6,slow=6.8,SNR=10						
MKAR	**Makanchi Array**	**41.13**	**91**	P	**P**	**09 30 24.7**	**+2.8**
	comp=Z,0.4nm,0.7s,baz=327,slow=4.3,SNR=3.5						
MKAR				LR	LR	09 50 25.1	
	comp=Z,240nm,20.9s,baz=330,slow=40						
SKT	**Skwentna**	**41.75**	**346**	P	**P**	**09 30 28.8**	**+2.0**
GEYT	**Alibeck**	**43.92**	**121**	LR	LR	09 51 08.7	
	comp=Z,201nm,18.2s,baz=210,slow=39						
MSO	**Missoula**	**52.15**	**313**	P	**P**	**09 31 49.0**	**+0.7**
RLMT	**Red Lodge**	**52.94**	**309**		**PcP**	**09 33 03.5**	**+0.6**
MCMT	**McKenzie Canyo**	**53.89**	**312**	P	**P**	**09 32 04.0**	**+2.7**
MOOW	**Moose Ponds**	**54.54**	**310**	P	**P**	**09 32 09.8**	**+3.8**
MOOW				IAmb	IAmb	09 32 10.2	
	comp=Z,5.7nm,1.3s						
BMO	**Blue Mountains**	**54.65**	**315**	P	**P**	**09 32 09.6**	**+2.9**
BMO				IAmb	IAmb	09 32 12.1	
	comp=Z,5.3nm,1.4s						
REDW	**Red Top Meadow**	**54.93**	**309**	P	**P**	**09 32 12.8**	**+3.9**
BW06	**Boulder Array**	**55.26**	**308**	P	**P**	**09 32 11.5**	**+0.2**
PD31	**Pinedale Array**	**55.26**	**308**	P	**P**	**09 32 11.9**	**+0.6**
PD31				IAmb	IAmb	09 32 17.2	
	comp=Z,8.3nm,1.4s						
PDAR	**Pinedale Array**	**55.26**	**308**	P	**P**	**09 32 11.2**	**-0.1**
	comp=Z,2.5nm,1.1s,baz=46

HOPEN				IAML		09 49 22.7		
	comp=Z,37nm,0.3s							
DAG	**Danmarks Havn**	**6.32 291**	*i* P	Pn	09 48 57.0	-5.1		
DAG			*i*		09 48 59.2			
DAG			*i* S	Sn	09 50 00.2	-14		
DAG	**Danmarks Havn**	**6.32 291**	*e*	Pn	09 48 55.2	-7.0		
	baz=84,slow=16							
DAG			*i* P	Pn	09 48 57.0	-5.1		
DAG			*i*		09 48 59.3			
DAG			*i* S	Sn	09 50 00.3	-14		
DAG			IAML		09 50 04.6			
	comp=Z,28nm,0.4s							
NOR	**Nord**	**7.39 332**	*i* P	**Pn**	**09 49 12.6**	**-4.2**		
NOR			*e*S	Sn	09 50 31.3	-9.2		
KIF	**Kilpisjarvi**	**7.91 144**	*e*P	**Pn**	**09 49 25.6**	**+1.7**		
ARA0	**ARCESS Array S**	**8.21 132**	Pn	**Pn**	**09 49 27.8**	**-0.3**		
	baz=334,slow=12							
ARA0			Sn	**Sn**	**09 50 54.8**	**-6.0**		
	baz=328,slow=22							
ARA0	**ARCESS Array S**	**8.21 132**	Pn	**Pn**	**09 49 27.8**	**-0.3**		
	baz=334,slow=12							
ARA0			Sn	**Sn**	**09 50 54.8**	**-6.0**		
	baz=328,slow=22							
ARCES	**ARCESS Array B**	**8.21 132**	Pn	**Pn**	**09 49 28.2**	**0.0**		
	comp=Z,0.8nm,0.3s,baz=326,slow=11,SNR=19							
ARCES			Sn	**Sn**	**09 50 54.1**	**-6.7**		
	comp=Z,0.6nm,0.3s,baz=330,slow=23,SNR=3.2							
ARCES			LR	LR	09 52 22.9			
	comp=Z,217nm,20.1s,baz=318,slow=36							
ARE0	**ARCESS Array S**	**8.21 132**	Pn	**Pn**	**09 49 29.0**	**+0.9**		
ARE0			Sn	**Sn**	**09 50 56.3**	**-4.5**		
KTK1	**Kautokeino**	**8.28 138**	*e*P	**Pn**	**09 49 31.4**	**+2.4**		
HEF	**Hetta**	**8.89 139**	*e*P	**Pn**	**09 49 38.7**	**+1.3**		
ZFI2	**Zemlya Franca-**	**9.21 40**	*e*P	**Pn**	**09 49 42.8**	**+1.1**		
ZFI2			*e*S	**Sn**	**09 51 19.3**	**-5.8**		
	comp=Z,15nm,1.4s							
SCO	**Scoresbysund**	**10.07 253**	*i* P	**Pn**	**09 49 50.0**	**-3.5**		
SCO	**Scoresbysund**	**10.07 253**	*i* P	**Pn**	**09 49 50.0**	**-3.5**		
SCO	**Scoresbysund**	**10.07 253**	Pn	**Pn**	**09 49 50.7**	**-2.8**		
SCO			Sn	Sn	09 51 35.0	-11		
APA0	**Apatity Array**	**11.31 124**	Pn	**Pn**	**09 50 10.2**	**-0.3**		
	baz=324,slow=12							
APA0	**Apatity Array**	**11.31 124**	Pn	**Pn**	**09 50 10.2**	**-0.3**		
	baz=324,slow=12							
LVZ	**Lovozero**	**11.41 120**	Pn	**Pn**	**09 50 12.8**	**+0.9**		
SUMG	**Summit**	**12.73 278**		**Pn**	**09 50 27.9**	**-2.2**		
BORG	**Borgarnes**	**14.62 236**	LR	LR	09 55 09.4			
	comp=Z,23nm,19.3s,baz=353,slow=32							
NOA	**NORSAR Array B**	**14.96 174**	Pn	**P**	**09 51 04.2**	**-1.7**		
	comp=Z,0.0nm,0.3s,baz=352,slow=12,SNR=2.6							
NOA			LR	LR	09 56 20.1			
	comp=Z,55nm,20.5s,baz=340,slow=35							
FINES	**FINESS Array B**	**15.80 147**	Pn	**Pn**	**09 51 11.8**	**+0.4**		
	comp=Z,0.2nm,0.3s,baz=355,slow=12,SNR=6.1							
FINES			LR	LR	09 57 36.8			
	comp=Z,186nm,18.3s,baz=352,slow=38							
HFS	**Hagfors**	**15.95 169**	Pn	**P**	**09 51 15.6**	**-1.3**		
	comp=Z,0.1nm,0.3s,baz=6.6,slow=12,SNR=2.4							
HFS			LR	LR	09 56 21.0			
	comp=Z,143nm,18.5s,baz=29,slow=33							
KONO	**Kongsberg**	**16.32 177**	Pn	**Pn**	**09 51 18.2**	**+0.3**		
KONO			IAmb	IAmb	09 51 20.8			
	comp=Z,27nm,1.2s							
KLMR	**Klimovskoe**	**18.63 126**	*i* P	**Pn**	**09 51 46.4**	**-0.2**		
	comp=Z,12nm,1.1s							
PRGR	**Permogore**	**19.19 117**	*e*P	**Pn**	**09 51 54.5**	**+1.0**		
	comp=Z,18nm,1.1s							
KIRV	**Kirov**	**22.78 116**	LR	LR	10 01 42.0			
	comp=Z,91nm,18.5s,baz=207,slow=37							
RES	**Resolute Bay**	**23.06 319**	P	**P**	**09 52 36.1**	**+2.0**		
	comp=Z,0.6nm,0.8s,baz=26,slow=12,SNR=2.5							
RES			LR	LR	10 00 49.7			
	comp=Z,76nm,18.2s,baz=216,slow=35							
FRB	**Frobisher Bay**	**26.63 285**	LR	LR	10 03 07.6			
	comp=Z,98nm,20.5s,baz=24,slow=35							
ARU	**Arti**	**26.82 108**	LR	LR	10 04 20.7			
	comp=Z,64nm,18.2s,baz=270,slow=38							
GERES	**GERESS Array B**	**27.24 172**	P	**P**	**09 53 15.1**	**+2.1**		
	comp=Z,0.9nm,0.8s,baz=19,slow=6.2,SNR=4.3							
INK	**Inuvik**	**34.05 336**	P	**P**	**09 54 14.3**	**+1.6**		
INK			IAmb	IAmb	09 54 20.0			
	comp=Z,5.8nm,1.3s							
SCHQ	**Schefferville**	**34.09 275**	LR	LR	10 06 17.9			
	comp=Z,90nm,18.9s,baz=310,slow=33							
ZALV	**Zalesovo Beam**	**35.44 83**	P	**P**	**09 54 26.9**	**+1.9**		
	comp=Z,0.3nm,0.3s,baz=313,slow=11,SNR=3.5							
COLD	**Coldfoot**	**36.46 346**	P	**P**	**09 54 35.7**	**+2.2**		
YKA	**Yellowknife Ar**	**37.12 320**	P	**P**	**09 54 39.7**	**+0.6**		
	comp=Z,0.2nm,0.7s,baz=22,slow=8.3,SNR=8.2							
YKA			PcP	**PcP**	**09 57 00.0**	**+1.0**		
	comp=Z,0.1nm,0.5s,baz=20,slow=3.2,SNR=4.5							
ILAR	**Eielson Array**	**38.68 343**	P	**P**	**09 54 53.5**	**+1.3**		
	comp=Z,0.9nm,0.8s,baz=3.5,slow=6.7,SNR=14							
MKAR	**Makanchi Array**	**41.44 90**	P	**P**	**09 55 18.0**	**+2.6**		
	comp=Z,0.7nm,0.8s,baz=2.9,slow=7.3,SNR=5.0							
SUA	**Susitna One**	**42.22 345**	P	**P**	**09 55 22.4**	**+0.6**		
SUA			IAmb	IAmb	09 55 24.1			
	comp=Z,5.2nm,0.9s							
KDAK	**Kodiak Island**	**46.00 346**	P	**P**	**09 55 53.4**	**+1.5**		
	comp=Z,4.0nm,0.7s,baz=348,slow=9.3,SNR=4.7							
AKUT	**Akutan**	**50.19 355**	P	**P**	**09 56 25.9**	**+1.7**		
D05A	**Enumclaw**	**53.02 319**	P	**P**	**09 56 46.0**	**+0.5**		
PVMO	**Portageville**	**56.85 287**	P	**P**	**09 57 12.1**	**-1.3**		
TORD	**Torodi Ar. Bea**	**62.81 187**	P	**P**	**09 57 56.4**	**+1.8**		
	comp=Z,0.6nm,0.8s,baz=358,slow=6.5,SNR=3.2							
TXAR	**Lajitas Array**	**66.81 298**	P	**P**	**09 58 20.8**	**+0.2**		
	comp=Z,0.6nm,0.9s,baz=55,slow=4.3,SNR=5.4							
ASAR	**Alice Springs**	**121.29 60**	PKP	**PKiKP**	**10 06 22.7**	**+0.8**		
	comp=Z,0.2nm,0.6s,baz=6.2,slow=1.9,SNR=3.8							

*IPEC **18** 09:55:58.7±0.2,50.0′09N×18.°43E, h0km, ML1.9/3, Error ellipse: s-maj=2.9km s-min=1.1km az=154.0*

PRU 18 09:55:59.4±0.0, 50.°04N×18.°42E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.15**	**287**	*e*Pg	Pg	09 56 02.9	+0.6
RAC				*e*Pg	Pg	09 56 02.9	+0.6
RAC				*e*Sg	Sg	09 56 06.2	+1.9
RAC				*e*Sg	Sg	09 56 06.2	+1.9
OKC	**Ostrava-Krasne**	**0.27**	**221**	*e*PG	Pg	09 56 05.0	+0.5
OKC				*e*SG	Sg	09 56 09.1	+1.1
	comp=Z,64nm,0.6s						
MORC	**Moravsky Berou**	**0.63**	**245**	*e*PG	Pg	09 56 11.2	-0.2
MORC				*e*SG	Sg	09 56 19.4	-0.1
MORC	**Moravsky Berou**	**0.63**	**245**	*e*Pg	Pg	09 56 11.1	-0.3
	baz=61						
MORC				*e*Sg	Sg	09 56 19.3	-0.2
	18nm,0.2s,baz=61						
OJC	**Ojcow**	**0.91**	**78**	*e*Pg	Pg	09 56 15.7	-1.1
OJC				*e*Pg	Pg	09 56 15.7	-1.1
OJC				*e*Sg	Sg	09 56 26.9	-1.6
OJC				*e*Sg	Sg	09 56 26.9	-1.6
KRLC	**Kraliky**	**1.06**	**273**	*e*PG	Pg	09 56 18.6	-1.0
KRLC				*e*SG	Sg	09 56 32.7	-0.6
	comp=Z,44nm,0.4s						
LANS	**Liptovska Anna**	**1.12**	**142**	*e*PG	Pg	09 56 21.0	+0.1
LANS				*e*SG	Sb	09 56 37.6	+0.8
LANS				*e*LG	Lg	09 56 42.0	
JAVC	**Velka Javorina**	**1.28**	**203**	*e*PG	Pg	09 56 24.0	+0.1
NIE	**Niedzica**	**1.37**	**116**	*e*PG	Pg	09 56 25.4	-0.2
NIE				*e*Pg	Pg	09 56 25.4	-0.2
NIE				*e*Sg	Sb	09 56 44.1	+0.1
NIE				*e*Sg	Sb	09 56 44.1	+0.1
DPC	**Dobruska-Polom**	**1.38**	**284**	*e*PG	Pg	09 56 24.2	-1.7
DPC				*e*SG	Sg	09 56 43.3	-0.5
	comp=Z,36nm,0.5s						
VRAC	**Vranov**	**1.39**	**239**	*e*PG	Pg	09 56 25.1	-1.0
VRAC				*e*SG	Sg	09 56 43.2	-1.0
VRAC	**Vranov**	**1.39**	**239**	*e*Pg	Pg	09 56 25.0	-1.1
	baz=56						
VRAC				*e*Sg	Sg	09 56 43.2	-1.0
	16nm,0.3s,baz=56						
VYHS	**Vyhne**	**1.57**	**170**	*e*PG	Pn	09 56 28.2	-0.4
VYHS				*e*SG	Sg	09 56 49.8	0.0
KSP	**Ksiaz**	**1.58**	**301**	*e*Pg	Pg	09 56 29.7	+0.1
KSP				*e*Pg	Pg	09 56 29.7	+0.1
KSP				*e*Sg	Sn	09 56 49.5	-0.3
KSP				*e*Sg	Sn	09 56 49.5	-0.3
CHVC	**Chvalec**	**1.61**	**291**	*e*PG	Pn	09 56 28.2	-0.9
CHVC				*e*SG	Sn	09 56 48.6	-2.1
UPC	**Upice**	**1.61**	**288**	*e*SG	Sn	09 56 50.7	0.0
KRUC	**Moravsky**	**1.64**	**234**	*e*PG	Pn	09 56 28.9	-0.6
KRUC				*e*SG	Sn	09 56 51.4	+0.1
	12nm,0.2s,baz=51						
STHS	**Stebnicka Huta**	**1.94**	**108**	*e*PN	Pb	09 56 35.3	-0.2
PRU	**Pruhonice**	**2.50**	**270**	*e*SG	Sb	09 57 16.7	+0.2
KHC	**Kasperske Hory**	**3.28**	**256**	*e*PG	Pb	09 57 00.0	+1.5
KHC				*e*SG	Sb	09 57 41.4	+2.5
	comp=Z,7.0nm,0.6s						
KHC	**Kasperske Hory**	**3.28**	**256**		Sb	09 57 41.4	+2.4

*IDC **18** 09:59:28.0±0.9,20.°66N×146.°92E, h0km, mb4.5/14, mb1 4.6/18, mb1mx4.4/64, mbtmp4.5/18, ML3.8/4, MS3.8/1, Ms1 3.8/1, ms1mx3.0/43, Error ellipse: s-maj=37.1km s-min=13.3km az=76.0*

*NEIC **18** 09:59:28.2±1.8,20.°69N±0.°07×147.°1E±0.°1, h10km±1km, mb4.7/30*

*ISCJB **18** 09:59:31.4±0.4,20.°64N±0.°04×147.°02E±0.°08, h44km, mb4.5/14, MS3.7/1, Error ellipse: s-maj=10.7km s-min=5.3km az=170.1*

ISC 18 09:59:33.2±0.5, 20.°71N±0.°06×146.°97E±0.°09, h44km, n73, σ1°35/73, mb4.6/21, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**4.15**	**196**	Pn	**Pn**	**10 00 33.0**	**-1.1**
ANA2	**Anatahan**	**4.51**	**196**	Pn	**Pn**	**10 00 36.0**	**-3.0**
GUMO	**Guam**	**7.36**	**196**	Pn	**Pn**	**10 01 16.6**	**-1.6**
	2.4nm,0.3s,baz=36,slow=19,SNR=2.0						
GUMO				Sn	**Sn**	**10 02 41.2**	**+0.8**
	5.5nm,0.3s,baz=169,slow=19,SNR=2.2						
GUMO	**Guam**	**7.36**	**196**	Pn	**Pn**	**10 01 15.8**	**-2.3**
JCJ	**Chichijima**	**7.72**	**326**	Pn	**Pn**	**10 01 23.0**	**0.0**
	12nm,0.3s,baz=342,slow=20,SNR=4.3						
JCJ				Sn	**Sn**	**10 02 43.0**	**-6.1**
	35nm,0.3s,baz=113,slow=22,SNR=10						
INU	**Inuyama**	**17.01**	**331**		**Pn**	**10 03 27.3**	**-0.5**
INU				IAmb	IAmb	10 03 35.2	
	comp=Z,55nm,0.9s						
MJAR	**Matsushiro Arr**	**17.54**	**336**	P	**Pn**	**10 03 33.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=149,slow=10,SNR=4.4						
PATS	**Pohnpei**	**17.63**	**140**	P	**Pn**	**10 03 33.2**	**-2.5**
H11S3	**WAKE ISLAND Hy**	**18.70**	**93**	T	T	10 23 22.5	
	baz=280						
H11S1	**WAKE ISLAND Hy**	**18.71**	**93**	T	T	10 23 14.4	
	baz=280						
H11S2	**WAKE ISLAND Hy**	**18.72**	**93**	T	T	10 23 19.1	
	baz=280						
JNU	**Nakatsue**	**18.91**	**314**	P	**Pn**	**10 03 50.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=174,slow=1.2,SNR=4.3						
JNU	**Nakatsue**	**18.91**	**314**	P	**P**	**10 03 49.9**	**-0.3**
JNU				IAmb	IAmb	10 04 06.0	
	comp=Z,74nm,1.4s						
YOJ	**Yonaguni jima**	**22.43**	**284**	P	**P**	**10 04 26.4**	**-2.0**
KWAJ	**Kwajalein Atol**	**23.17**	**118**	P	**P**	**10 04 34.1**	**-2.0**
KSRS	**Korea Array**	**23.50**	**319**	P	**P**	**10 04 39.7**	**+0.7**
	comp=Z,4.7nm,0.9s,baz=143,slow=9.7,SNR=8.3						
TATO	**Taipei**	**23.85**	**285**	P	**P**	**10 04 42.0**	**-0.6**
TGY	**Tagaytay City**	**25.68**	**259**	LR	LR	10 13 05.9	
	comp=Z,200nm,19.3s,baz=80,slow=32						
HIA	**Hailar**	**35.82**	**329**	P	**P**	**10 06 26.7**	**-1.7**
XAN	**Xi'an**	**36.10**	**300**	P	**P**	**10 06 30.4**	**-0.6**
XAN				IAmb	IAmb	10 06 34.0	
	comp=Z,9.1nm,1.2s						
MTN	**Manton Dam**	**36.80**	**206**	P	**P**	**10 06 36.3**	**-0.7**
KNRA	**Kununurra**	**40.34**	**208**	P	**P**	**10 07 07.4**	**+0.7**
ULN	**Ulaanbaatar**	**41.98**	**320**	P	**P**	**10 07 19.4**	**-0.7**
ULN				IAmb	IAmb	10 07 33.5	
	comp=Z,19nm,1.2s						
ADK	**Adak**	**41.99**	**33**	P	**P**	**10 07 21.0**	**+1.1**
WRAB	**Tennant Creek**	**42.24**	**198**	P	**P**	**10 07 22.0**	**-0.2**
WRA	**Warramunga Arr**	**42.25**	**198**	P	**P**	**10 07 22.4**	**0.0**
	comp=Z,3.2nm,0.8s,baz=11,slow=8.7,SNR=22						
WRA				PcP	**PcP**	**10 09 17.5**	**+1.7**
	comp=Z,2.9nm,0.8s,baz=8.9,slow=3.4,SNR=9.4						
SONM	**Songino Array**	**42.37**	**319**	P	**P**	**10 07 24.2**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=122,slow=7.0,SNR=8.2						
SONM				PcP	**PcP**	**10 09 17.4**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=132,slow=3.7,SNR=2.7						
FITZ	**Fitzroy Crossi**	**43.88**	**210**	P	**P**	**10 07 35.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**45.18**	**276**	P	**P**	**10 07 46.6**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=61,slow=7.1,SNR=4.3						
ASAR	**Alice Springs**	**45.91**	**197**	P	**P**	**10 07 51.7**	**0.0**
	comp=Z,1.1nm,0.7s,baz=16,slow=7.7,SNR=15						
ASAR				PcP	**PcP**	**10 09 29.9**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=22,slow=3.8,SNR=6.1						
SHL	**Shillong**	**50.60**	**287**	P	**P**	**10 08 28.6**	**+0.5**
SHL				IAmb	IAmb	10 08 29.3	
	comp=Z,7.9nm,1.0s						
LSA	**Lhasa**	**50.89**	**292**	P	**P**	**10 08 32.5**	**+1.8**
GSI	**Gunungsitoli**	**51.90**	**255**	P	**P**	**10 08 38.5**	**+0.7**
STKA	**Stephens Creek**	**52.54**	**186**	P	**P**	**10 08 42.4**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=15,slow=8.2,SNR=4.7						
STKA	**Stephens Creek**	**52.54**	**186**	P	**P**	**10 08 42.0**	**-0.2**
WMQ	**Urumqi**	**53.93**	**310**	P	**P**	**10 08 54.0**	**+1.5**
TAPN	**Taplejung**	**54.11**	**289**	*e*P	**P**	**10 08 55.4**	**+1.1**
	comp=Z,53nm,1.1s						
ODAN	**Odare**	**54.45**	**289**	*e*P	**P**	**10 08 57.8**	**+1.1**
RAMN	**Ramite**	**55.14**	**289**	*e*P	**P**	**10 09 02.7**	**+1.0**
	comp=Z,19nm,0.9s						
JIRN	**Jiri**	**55.41**	**290**	*e*P	**P**	**10 09 05.2**	**+1.4**
	comp=Z,94nm,1.2s						
GUN	**Gumba**	**55.66**	**290**	*e*P	**P**	**10 09 06.8**	**+1.2**
	comp=Z,80nm,1.3s						
PKI	**Pulchoki**	**56.11**	**290**	*e*P	**P**	**10 09 09.4**	**+0.6**
	comp=Z,2.2nm,0.8s						
PKIN	**Phulchoki**	**56.12**	**290**	*e*P	**P**	**10 09 09.3**	**+0.5**
	comp=Z,24nm,1.0s						
KKN	**Kakani**	**56.20**	**290**	*e*P	**P**	**10 09 10.2**	**+0.9**
	comp=Z,22nm,0.7s						
DMN	**Daman**	**56.37**	**290**	*e*P	**P**	**10 09 11.6**	**+1.0**
	comp=Z,33nm,1.0s						
GKN	**Gorkha**	**56.73**	**291**	*e*P	**P**	**10 09 14.0**	**+1.0**
	comp=Z,85nm,1.1s						
ZALV	**Zalesovo Beam**	**57.18**	**322**	P	**P**	**10 09 16.1**	**+0.6**
	comp=Z,13nm,0.7s,baz=88,slow=6.7,SNR=11						
DANN	**Dangsing**	**57.46**	**291**	*e*P	**P**	**10 09 19.7**	**+1.4**
	comp=Z,134nm,1.1s						
KOLN	**Koldanda**	**57.68**	**290**	*e*P	**P**	**10 09 20.6**	**+0.9**
	comp=Z,27nm,0.9s						
MK31	**Makanchi Array**	**57.96**	**313**	P	**P**	**10 09 21.8**	**+0.5**
MK31				IAmb	IAmb	10 09 26.0	
	comp=Z,4.9nm,0.8s						
MKAR	**Makanchi Array**	**57.96**	**313**	P	**P**	**10 09 22.3**	**+1.1**
	comp=Z,4.9nm,0.8s,baz=93,slow=9.0,SNR=31						
MAKZ	**Makanchi**	**58.18**	**313**	P	**P**	**10 09 23.8**	**+1.1**
KURBB	**Kurchatov Arra**	**60.65**	**317**	P	**P**	**10 09 40.7**	**+1.1**
	comp=Z,4.4nm,0.4s,baz=96,slow=7.8,SNR=28						
NIL	**Nilore**	**65.62**	**298**	P	**P**	**10 10 14.4**	**+1.4**
BVAR	**Borovoye Array**	**65.71**	**320**	P	**P**	**10 10 14.3**	**+1.1**
	comp=Z,8.6nm,0.4s,baz=71,slow=6.2,SNR=29						
KK31	**Karatay Array**	**66.43**	**309**	P	**P**	**10 10 18.9**	**+0.9**
KK31				IAmb	IAmb	10 10 23.0	
	comp=Z,6.9nm,1.1s						
KKAR	**Karatay Array**	**66.43**	**309**	P	**P**	**10 10 18.6**	**+0.6**
KKAR				IAmb	IAmb	10 10 23.0	
	comp=Z,6.9nm,1.1s						
CHGR	**Chuyangaron**	**68.08**	**304**	P	**P**	**10 10 29.9**	**+1.2**
KBL	**Kabul**	**68.90**	**300**	P	**P**	**10 10 33.8**	**-0.2**
ABKAR	**Akbulak array**	**72.70**	**317**	P	**P**	**10 10 57.0**	**+0.5**
GYA0B	**ALIBECK ARRAY**	**76.70**	**306**	P	**P**	**10 11 20.1**	**+0.1**
GYA0B				IAmb	IAmb	10 11 26.7	
	comp=Z,4.8nm,0.9s						
FINES	**FINESS Array B**	**85.56**	**336**	P	**P**	**10 12 07.6**	**+1.1**
	comp=Z,6.7nm,0.6s,baz=49,slow=5.8,SNR=4.8						
KBZ	**Khabaz**	**85.58**	**315**	P	**P**	**10 12 08.3**	**+1.4**
	comp=Z,3.3nm,0.9s,baz=265,slow=0.2,SNR=7.0						
KVAR	**Kislovodsk Arr**	**85.62**	**315**	P	**P**	**10 12 08.8**	**+1.5**
	comp=Z,8.1nm,0.4s,baz=0.0,slow=1.0,SNR=4.0						
KIV	**Kislovodsk**	**85.62**	**315**	P	**P**	**10 12 06.3**	**-1.0**
BRTR	**Keskin Array B**	**93.57**	**315**	P	**P**	**10 12 45.2**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=54,slow=6.3,SNR=4.5						
X34A	**Smith Ranch, M**	**97.47**	**49**	P	**P**	**10 13 01.7**	**-1.0**
PLCA	**Paso Flores**	**142.44**	**131**	PKP	**PKPdf**	**10 19 01.9**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=341,slow=3.8,SNR=4.5						
PLCA	**Paso Flores**	**142.44**	**131**		**PKPdf**	**10 19 01.1**	**-0.3**
GO04	**Tololo Observa**	**144.75**	**113**		PKPbc	10 19 05.2	+0.1
LPAZ	**La Paz**	**146.46**	**88**	PKPbc	**PKPab**	**10 19 12.5**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=295,slow=4.2,SNR=9.2						
LPAZ	**La Paz**	**146.46**	**88**		**PKPdf**	**10 19 08.5**	**-1.2**
SAML	**Samuel**	**148.66**	**73**		**PKiKP**	**10 19 19.0**	**+1.1**

*BJI **18** 10:01:10.1±0.0,48.°89N×155.°42E, h44km, mb5.2/65, mB5.2/54, Ms5.1/68, Ms7 5.0/67*

*KRSC **18** 10:01:11.4±2.1,48.°70N×155.°38E, h70km±35km, ML5.6*

*ISCJB **18** 10:01:12.7±0.3,48.°82N±0.°02×154.°98E±0.°02, h43km±2km, mb5.3/221, MS4.8/63, Error ellipse: s-maj=3.3km s-min=1.7km az=148.4*

*NEIC **18** 10:01:13.4±1.5,48.°81N±0.°07×155.°0E±0.°1, h33km±3km, mb5.4/411, Mwb5.2, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr5.96; Mθθ0.15; Mφφ-6.10; Mrθ0.15; Mθφ-3.97; Mφr5.62; Fault plane solution: Mo9.15000×10^16^ NP1:φs227.86000°, δ30.49000°, λ125.58000°. NP2:φs8.16000°, δ65.63000°, λ71.09000°. Principal axes: T 8.4008, Plg64.0000°, Azm246.0000°; N 1.3490, Plg17.0000°, Azm16.0000°; P -9.7498, Plg19.0000°, Azm112.0000°;*

*IDC **18** 10:01:14.6±0.5,48.°91N×154.°92E, h43km±3km, mb4.8/48, mb1 4.9/50, mb1mx4.8/61, mbtmp5.0/50, ML5.6/1, MS4.7/41, Ms1 4.7/41, ms1mx4.6/47 Error ellipse: s-maj=8.8km s-min=7.8km az=155.0*

*MOS **18** 10:01:14.0±1.1,48.°89N×154.°93E, h56km, mb5.4/99, MS4.5/15, Error ellipse: s-maj=5.7km s-min=2.7km az=73.7*

*SKHL **18** 10:01:14.9±0.3,48.°75N×155.°22E, h74km±1km, mb5.6/13, Ms5.0/10*

*GCMT **18** 10:01:16.4±0.1,48.°82N±0.°01×155.°36E±0.°01, h44km, MW5.4/142, Moment Tensor Solution. s128,c240; s142,c263; Duration: 1s2 Moment tensor: Scale 10^17^ Nm; Mrr1.15±.02; Mθθ0.27±.02; Mφφ-1.43±.02; Mrθ-0.37±.02; Mθφ-0.49±.01; Mφr0.68±.02; Best double couple: Mo1.59500×10^17^ NP1:φs352.00000°, δ61.00000°, λ62.00000°. NP2:φs220.00000°, δ39.00000°, λ130.00000°. Principal axes: T 1.5090, Plg63.0000°, Azm216.0000°; N 0.1640, Plg24.0000°, Azm7.0000°; P -1.6800, Plg12.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 10:01:15.3±0.3, 48.°79N±0.°03×155.°16E±0.°03, h57km±2km, h57km:pP-P, n1319, σ1°50/1402, mb5.3/373, MS4.8/65, 57C-22D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.99**	**18**	*e*P	**Pn**	**10 01 45.5**	**-1.1**
SKR				*e*S	**Sn**	**10 02 08.5**	**-1.9**
SKR	**Severo-Kuril's**	**1.99**	**18**	*i* PN	**Pn**	**10 01 45.8**	**-0.8**
SKR				*e*S	**Sn**	**10 02 09.2**	**-1.2**
SKR				pmax	pmax		
	comp=Z,4μm,1.1s						
SKR				pmax	pmax		
	comp=Z,3μm,0.6s						
SKR				smax	smax		
	comp=N,7μm,0.4s						
SKR				smax	smax		
	comp=E,15μm,0.7s						
SKR	**Severo-Kuril's**	**1.99**	**18**	*i* P	**Pn**	**10 01 45.8**	**-0.8**
SKR				AMB	AMB	10 01 49.3	
	comp=E,3μm,0.6s						
SKR				*e*S	**Sn**	**10 02 09.2**	**-1.2**
SKR				A	A	10 02 19.5	
	comp=E,7μm,0.7s						
SKR				A	A	10 02 19.5	
	comp=E,15μm,0.7s						
SKR				AMS	AMS	10 02 37.7	
	comp=E,21μm,12.0s						
SKR				AMS	AMS	10 02 37.7	
	comp=E,23μm,12.0s						
SKR				AMS	AMS	10 02 37.7	
	comp=E,14μm,12.0s						
PAU	**Pauzhetka**	**2.88**	**21**	*e*P	**Pn**	**10 01 58.1**	**-0.6**
PAU				*e*S	**Sn**	**10 02 30.3**	**-1.9**
PAU	**Pauzhetka**	**2.88**	**21**	PN	**Pn**	**10 01 58.1**	**-0.6**
PAU				S	**Sn**	**10 02 30.3**	**-1.9**
PAU	**Pauzhetka**	**2.88**	**21**	*e*P	**Pn**	**10 01 58.1**	**-0.6**
PAU				*e*S	**Sn**	**10 02 30.3**	**-1.9**
KDTR	**Khodutka, Kamc**	**3.55**	**31**	*e*P	**Pn**	**10 02 06.8**	**-1.1**
KDTR				*e*S	**Sn**	**10 02 45.9**	**-2.7**
KDTR	**Khodutka, Kamc**	**3.55**	**31**	PN	**Pn**	**10 02 06.8**	**-1.1**
KDTR				S	**Sn**	**10 02 45.9**	**-2.7**
ASAK	**Asacha**

SDLR Sedlovina 5.07 26 PN **Pn 10 02 28.9 +0.1**
SDLR S **Sn 10 03 28.5 +2.5**
KRX Arik 5.08 24 *e*P **Pn 10 02 30.2 +1.3**
KRX Arik 5.08 24 PN **Pn 10 02 30.2 +1.3**
NLC Nalytchevo 5.12 29 *e*P **Pn 10 02 27.7 -1.6**
NLC *e*S **Sn 10 03 22.7 -4.4**
NLC Nalytchevo 5.12 29 PN **Pn 10 02 27.7 -1.6**
GNL Ganaly 5.21 18 *e*P **Pn 10 02 32.4 +1.6**
GNL Ganaly 5.21 18 PN **Pn 10 02 32.4 +1.6**
SPN Mys Shipunski 5.29 34 *e*P **Pn 10 02 30.4 -1.4**
SPN Mys Shipunski 5.29 34 PN **Pn 10 02 30.4 -1.4**
KUR Kuril'sk 6.13 237*c i*PN **Pn 10 02 45.5 +2.3**
KUR *i* S **Sn 10 03 55.2 +3.4**
KUR pmax pmax
comp=Z,14µm,1.1s
KUR pmax pmax
comp=Z,2µm,0.9s
KUR pmax pmax
comp=N,1µm,0.5s
KUR pmax pmax
comp=E,723nm,0.5s
KUR smax smax
comp=N,23µm,2.1s
KUR smax smax
comp=E,18µm,2.1s
KUR MLR MLR
comp=Z,12µm,15.0s
KUR MLR MLR
comp=N,9µm,12.0s
KUR MLR MLR
comp=E,5µm,11.0s
KUR Kuril'sk 6.13 237 *i* P **Pn 10 02 43.3 +0.1**
KUR AMB AMB 10 02 53.1
comp=E,2µm,0.9s
KUR *i* S **Sn 10 03 51.0 -0.8**
KUR AMS AMS 10 04 46.6
comp=E,18µm,16.0s
KUR AMS AMS 10 04 46.6
comp=E,14µm,16.0s
KUR AMS AMS 10 04 46.6
comp=E,16µm,16.0s
KZV Kizimen 7.08 25 *e*P **Pn 10 02 56.2 -0.1**
KZV Kizimen 7.08 25 PN **Pn 10 02 56.2 -0.1**
TUMD Tumrok D 7.19 25 *e*P **Pn 10 02 57.6 -0.1**
TUMR Tumrok 7.19 23 *e*P **Pn 10 02 58.5 +0.7**
TUMR Tumrok 7.19 23 PN **Pn 10 02 58.5 +0.7**
ESO Esso 7.47 15 *e*P **Pn 10 03 01.8 +0.3**
ESO Esso 7.47 15 PN **Pn 10 03 01.8 +0.3**
SHO Shikotan 7.58 233*c i*PN **Pn 10 03 00.8 -2.3**
SHO pmax pmax
comp=Z,699nm,1.2s
SHO pmax pmax
comp=Z,528nm,0.6s
SHO pmax pmax
comp=N,249nm,0.4s
SHO pmax pmax
comp=E,241nm,0.3s
SHO MLR MLR
comp=Z,5µm,19.0s
SHO MLR MLR
comp=N,5µm,16.0s
SHO MLR MLR
comp=E,2µm,12.0s
SHO Shikotan 7.58 233 *i* P **Pn 10 03 00.8 -2.3**
SHO AMB AMB 10 03 28.0
comp=E,250nm,0.6s
SHO AMB AMB 10 03 28.0
comp=E,240nm,0.6s
SHO AMB AMB 10 03 28.0
comp=E,530nm,0.6s
SHO *i* S **Sn 10 04 23.0 -4.5**
SHO AMS AMS 10 04 51.9
comp=E,7µm,16.0s
SHO AMS AMS 10 04 51.9
comp=E,6µm,16.0s
SHO AMS AMS 10 04 51.9
comp=E,6µm,16.0s
KMNR Kamenistaya 7.64 22 *e*P **Pn 10 03 04.6 +0.7**
KMNR Kamenistaya 7.64 22 PN **Pn 10 03 04.6 +0.7**
KPT Kopyto 7.82 21 *e*P **Pn 10 03 06.8 +0.3**
KPT Kopyto 7.82 21 PN **Pn 10 03 06.8 +0.3**
KOZ Kozyrevsk 7.83 20 *e*P **Pn 10 03 06.7 +0.3**
KOZ Kozyrevsk 7.83 20 PN **Pn 10 03 06.7 +0.3**
KIRR Kirishev 7.84 22 *e*P **Pn 10 03 06.7 0.0**
KIRR Kirishev 7.84 22 PN **Pn 10 03 06.7 0.0**
YUK Yuzh-Kuril'sk 7.99 237*c i*PN **Pn 10 03 09.2 +0.5**
YUK *i* S **Sn 10 04 38.0 +0.4**
YUK pmax pmax
comp=E,2µm,0.5s
YUK pmax pmax
comp=Z,3µm,0.5s
YUK pmax pmax
comp=N,689nm,0.3s
YUK pmax pmax
comp=Z,6µm,1.0s
YUK smax smax
comp=E,2µm,1.0s
YUK smax smax
comp=N,4µm,1.5s
YUK MLR MLR
comp=Z,10µm,16.0s
YUK MLR MLR
comp=N,5µm,12.0s
YUK MLR MLR
comp=E,5µm,13.0s
YUK Yuzh-Kuril'sk 7.99 237 *i* P **Pn 10 03 09.0 +0.3**
YUK AMB AMB 10 03 13.5
comp=E,300nm,0.6s
YUK *i* S **Sn 10 04 36.5 -1.1**
YUK AMS AMS 10 05 57.0
comp=E,14µm,16.0s
YUK AMS AMS 10 05 57.0
comp=E,12µm,16.0s
YUK AMS AMS 10 05 57.0
comp=E,13µm,16.0s
ZLN Zelenaya 8.02 23 *e*P **Pn 10 03 10.1 +1.0**
ZLN Zelenaya 8.02 23 PN **Pn 10 03 10.1 +1.0**
SRDR Sredinnyy 8.03 18 *e*P **Pn 10 03 09.9 +0.6**
SRDR Sredinnyy 8.03 18 PN **Pn 10 03 09.9 +0.6**
LGNR Loginova 8.04 23 *e*P **Pn 10 03 10.6 +0.9**
LGNR Loginova 8.04 23 PN **Pn 10 03 10.6 +0.9**
GRPR Tuman 8.07 237⇑*i*PN **Pn 10 03 10.2 +0.4**
GRPR *i* S **Sn 10 04 40.0 +0.5**
GRPR pmax pmax
comp=Z,3µm,1.1s
GRPR pmax pmax
comp=N,1µm,0.4s
GRPR pmax pmax
comp=Z,2µm,0.4s
GRPR pmax pmax
comp=E,2µm,0.3s
GRPR smax smax
comp=N,2µm,1.6s
GRPR smax smax
comp=E,1µm,0.8s
GRPR Tuman 8.07 237 *i* P **Pn 10 03 10.2 +0.4**
GRPR AMB AMB 10 03 14.0
comp=E,230nm,0.6s
GRPR *i* S **Sn 10 04 38.0 -1.5**
GRPR A A 10 04 54.0
comp=E,1µm,1.6s
KRSR Krestovskiy 8.13 22 *e*P **Pn 10 03 10.7 0.0**
KRSR Krestovskiy 8.13 22 PN **Pn 10 03 10.7 0.0**
KLY Klyuchi 8.24 22 *e*P **Pn 10 03 12.8 +0.7**
KLY Klyuchi 8.24 22 PN **Pn 10 03 12.8 +0.7**
TYV Tymovskoe 8.35 289 *e*PN **Pn 10 03 17.2 +3.6**
TYV *e*S **Sn 10 04 49.0 +2.7**
TYV pmax pmax
comp=Z,2µm,1.7s
TYV pmax pmax
comp=Z,410nm,1.1s
TYV smax smax
comp=E,92nm,0.8s
TYV smax smax
comp=N,2µm,8.9s
TYV Tymovskoe 8.35 289 *e*P **Pn 10 03 15.5 +1.9**
TYV AMB AMB 10 03 18.5
comp=N,2µm,2.0s
TYV AMB AMB 10 03 19.5
comp=N,410nm,1.0s
TYV *e*S **Sn 10 04 45.0 -1.3**
TYV AMS AMS 10 06 43.0
comp=N,4µm,19.0s
TYV AMS AMS 10 06 43.0
comp=N,7µm,19.0s
TYV AMS AMS 10 06 43.0
comp=N,10µm,19.0s
GLVR Golovnino 8.37 236⇑*i*PN **Pn 10 03 13.7 -0.2**
GLVR pmax pmax
comp=Z,2µm,1.8s
GLVR pmax pmax
comp=E,449nm,0.2s
GLVR pmax pmax
comp=N,1µm,0.4s
GLVR Golovnino 8.37 236 *i* P **Pn 10 03 14.0 +0.1**
GLVR AMB AMB 10 03 20.0
comp=N,2µm,2.0s
GLVR *i* S **Sn 10 04 45.3 -1.6**
GLVR A A 10 04 52.0
comp=N,2µm,2.0s
GLVR A A 10 04 52.0
comp=N,2µm,2.0s
NMR Nemuro--Hokkai 8.51 234*c i*PN **Pn 10 03 13.3 -2.4**
NMR Nemuro--Hokkai 8.51 234 *i* P **Pn 10 03 13.0 -2.7**
YSS Yuzh-Sakhalins 8.54 262K *i*PN **Pn 10 03 18.8 +2.6**
YSS *e* 10 05 00.1
YSS pmax pmax
comp=Z,900nm,2.0s
YSS pmax pmax
comp=N,300nm,2.2s
YSS pmax pmax
comp=E,600nm,2.2s
YSS pmax pmax
comp=Z,390nm,0.7s
YSS MLR MLR
comp=Z,3µm,16.0s
YSS MLR MLR
comp=N,1µm,15.0s
YSS MLR MLR
comp=E,1µm,10.0s
YSS Yuzh-Sakhalins 8.54 262 *i* P **Pn 10 03 17.5 +1.3**
YSS AMB AMB 10 03 19.4
comp=E,900nm,2.0s
YSS AMB AMB 10 03 19.6
comp=E,390nm,0.7s
YSS *e*S **Sn 10 04 48.8 -2.3**
YSS AMS AMS 10 07 30.0
comp=E,2µm,16.0s
YSS AMS AMS 10 07 30.0
comp=E,1µm,16.0s
YSS AMS AMS 10 07 30.0
comp=E,3µm,16.0s
YSS Yuzh-Sakhalins 8.54 262 Pn **Pn 10 03 15.4 -0.8**
UGL Uglegorsk 8.63 277 *e*PN **Pn 10 03 14.4 -3.0**
UGL pmax pmax
comp=Z,1µm,1.0s
UGL MLR MLR
comp=Z,7µm,13.0s
UGL MLR MLR
comp=N,5µm,15.0s
UGL MLR MLR
comp=E,8µm,15.0s
UGL Uglegorsk 8.63 277 *e*P **Pn 10 03 18.4 +1.0**
UGL AMB AMB 10 03 23.0
comp=E,140nm,1.0s
UGL *e*S **Sn 10 04 51.1 -2.1**
UGL A A 10 05 01.0
comp=E,2µm,5.0s
UGL A A 10 05 01.0
comp=E,300nm,0.8s
UGL AMS AMS 10 07 10.0
comp=E,5µm,15.0s
UGL AMS AMS 10 07 10.0
comp=E,8µm,15.0s
UGL AMS AMS 10 07 10.0
comp=E,7µm,15.0s
KBTR Krutoberegovo 8.77 29 *e*P **Pn 10 03 17.6 -1.7**
KBTR Krutoberegovo 8.77 29 PN **Pn 10 03 17.6 -1.7**
KBG Krutoberegovo 8.77 29 *e*P **Pn 10 03 19.2 -0.1**
KBG Krutoberegovo 8.77 29 PN **Pn 10 03 19.2 -0.1**
OKH Okha 9.04 306*de*PN **Pn 10 03 26.5 +3.6**
OKH pmax pmax
comp=Z,300nm,9.3s
OKH Okha 9.04 306 *e*P **Pn 10 03 25.5 +2.6**
OKH AMB AMB 10 03 33.6
comp=Z,300nm,9.0s
OKH AMS AMS 10 06 51.4
comp=Z,4µm,20.0s
BKI Bering 9.25 42 *e*P **Pn 10 03 22.3 -3.5**
BKI Bering 9.25 42 PN **Pn 10 03 22.3 -3.5**
JKA Kamikawa-asahi 9.85 246 **Pn 10 03 37.1 +3.0**
JKA **Sn 10 05 27.6 +4.6**
ASAJ Asahikawa 9.85 246 P **Pn 10 03 37.1 +3.0**
comp=Z,164nm,0.3s,baz=73,slow=14,SNR=684
ASAJ S **Sn 10 05 27.6 +4.6**
comp=Z,1.7nm,0.3s,baz=345,slow=20,SNR=1.6
ASAJ LR LR 10 06 58.3
comp=Z,8µm,20.4s,baz=64,slow=35
NKL Nikolayevsk 10.12 301 *e*PN **Pn 10 03 40.2 +2.5**
NKL pmax pmax
comp=N,9.0nm,0.7s
NKL pmax pmax
comp=E,230nm,1.3s
NKL pmax pmax
comp=Z,320nm,1.3s
NKL MLR MLR
comp=E,2µm,22.0s
NKL MLR MLR
comp=Z,5µm,21.0s
NKL Nikolayevsk 10.12 301 *e*P **Pn 10 03 39.0 +1.3**
NKL AMB AMB 10 03 43.3
comp=Z,50nm,0.8s
NKL AMS AMS 10 07 07.0
comp=Z,2µm,16.0s
NKL AMS AMS 10 07 07.0
comp=Z,5µm,16.0s
ERM Erimo 10.81 236*ce*PN **Pn 10 03 45.4 -1.9**
ERM pmax pmax
comp=Z,268nm,1.0s
ERM Erimo 10.81 236 **Pn 10 03 46.1 -1.2**
MA2 Magadan 11.11 348 P **Pn 10 03 52.2 +1.0**
comp=Z,6.5nm,0.3s,baz=167,slow=11,SNR=46
MA2 LR LR 10 08 22.5
comp=Z,2µm,19.7s,baz=172,slow=39
MA2 Magadan 11.11 348 **Pn 10 03 51.3 +0.1**
GRNR Gornyy 12.28 286⇓*i*PN **Pn 10 04 11.1 +3.9**
GRNR pmax pmax
comp=Z,50nm,1.0s
GRNR Gornyy 12.28 286 *e*rx rx 10 04 11.1
GRNR AMB AMB 10 04 19.3
comp=Z,50nm,1.0s
GRNR AMS AMS 10 09 03.5
comp=Z,1µm,19.0s
GRNR AMS AMS 10 09 03.5
comp=Z,3µm,19.0s
GRNR AMS AMS 10 09 03.5
comp=Z,4µm,19.0s
SMY Shemya 12.61 65 PN **Pn 10 04 09.8 -1.9**
SMY Shemya 12.61 65 **Pn 10 04 09.8 -1.9**
SEY Seymchan 14.26 355 *i* P **Pn 10 04 35.2 +1.2**
SEY Seymchan 14.26 355 P **Pn 10 04 35.6 +1.6**
comp=Z,1.2nm,0.3s,baz=162,slow=12,SNR=18
SEY LR LR 10 10 51.8
comp=Z,1µm,18.4s,baz=166,slow=41
SEY Seymchan 14.26 355 *e*P **Pn 10 04 35.2 +1.2**
EKMR Ekimchan 14.63 295 *e*P **Pn 10 04 37.1 -1.8**
EKMR AMB AMB 10 04 49.8
comp=Z,20nm,0.8s
KMSK Kamenskaya 15.02 20 *e*P **Pn 10 04 42.2 -1.7**
KMSK Kamenskaya 15.02 20 P **Pn 10 04 42.2 -1.7**
KLR Kul'dur 15.36 280*c i*P **P 10 04 50.4 -1.6**
KLR pmax pmax
comp=Z,89nm,1.3s
KLR Kul'dur 15.36 280 P **Pn 10 04 49.9 +1.6**
comp=Z,4.3nm,0.3s,baz=80,slow=11,SNR=76
KLR PcP **PcP 10 09 50.0 +0.7**
comp=Z,0.5nm,0.3s,baz=340,slow=3.3,SNR=5.0
KLR LR LR 10 11 13.1
comp=Z,5µm,18.7s,baz=98,slow=39
USA0B Ussuriysk Arra 16.58 263 *i* P **Pn 10 05 03.0 -0.8**
USA0B Ussuriysk Arra 16.58 263 **Pn 10 05 02.4 -1.4**
USRK Ussuriysk Ar. 16.58 263 P **Pn 10 05 03.2 -0.6**
baz=64,slow=12,SNR=53
USRK LR LR 10 11 10.2
comp=Z,2µm,19.4s,baz=61,slow=36
BMKR Bomnak 17.28 300 *e*P **Pn 10 05 11.0 -1.4**
BMKR AMB AMB 10 05 18.5
comp=Z,10.0nm,0.8s
MJB9 Matsu-Tunnel 17.42 232 P **Pn 10 05 11.2 -3.1**
MJB9 IAmb IAmb 10 05 25.5
comp=Z,348nm,0.9s
MAJO Matsushiro 17.42 232 P **Pn 10 05 10.9 -3.4**
MAJO pmax pmax
comp=Z,329nm,0.9s
MAJO Matsushiro 17.42 232 **Pn 10 05 10.9 -3.4**
MAJO IAmb IAmb 10 05 25.5
comp=Z,329nm,0.9s
MAT Matsushiro 17.42 232 P **Pn 10 05 11.0 -3.3**
MAT *e*S **Sn 10 08 20.8 -6.6**
MJAR Matsushiro Arr 17.42 232 P **Pn 10 05 11.5 -2.8**
comp=Z,0.5nm,0.3s,baz=31,slow=14,SNR=65
MJAR LR LR 10 12 45.2
comp=Z,3µm,20.2s,baz=65,slow=40
MDJ Mudanjiang 18.00 266 P **P 10 05 19.9 -1.2**
MDJ pP pP 10 05 28.9 -4.4
MDJ PP **PnPn 10 05 31.0 -2.4**
MDJ sP sP 10 05 33.6 -6.9
MDJ S **S 10 08 46.3 +2.1**
MDJ sS Sn 10 08 50.8 +10
MDJ PcP **PcP 10 09 52.1 -1.4**
MDJ ScP **ScP 10 13 26.3 +2.7**
MDJ PcS **PcS 10 13 31.8 +2.0**
MDJ ScS **ScS 10 16 59.0 -5.1**
MDJ pmax pmax
comp=Z,100nm,1.2s
MDJ pmax pmax
comp=Z,1µm,9.7s
MDJ LR LR
comp=Z,2µm,20.7s
MDJ LR LR
comp=Z,3µm,19.2s
MDJ LR LR
comp=Z,4µm,20.6s
MDJ Mudanjiang 18.00 266 P **P 10 05 20.3 -0.8**
ZEA Zeya 18.09 296 *e*P **P 10 05 22.0 -0.1**
ZEA pmax pmax
comp=E,130nm,1.2s
ZEA pmax pmax
comp=Z,380nm,1.8s
ZEA pmax pmax
comp=Z,2µm,12.0s
ZEA pmax pmax
comp=E,2µm,10.0s
ZEA MLR MLR
comp=N,600nm,16.0s
ZEA Zeya 18.09 296 *e*P **P 10 05 22.0 -0.1**
ZEA AMB AMB 10 05 37.6
comp=N,40nm,2.0s
ZEA AMS AMS 10 12 42.0
comp=N,600nm,17.0s
ADK Adak 18.19 70 P **P 10 05 23.2 0.0**
ADK pmax pmax
comp=Z,147nm,1.1s
ADK Adak 18.19 70 P **P 10 05 23.2 0.0**
KROS Kirovskiy 18.32 299 *e*P **P 10 05 24.6 -0.1**
KROS AMB AMB 10 05 29.2
comp=Z,10.0nm,1.0s
KROS AMB AMB 10 05 29.2
comp=Z,20nm,1.0s
INU Inuyama 18.96 232 P **P 10 05 31.0 -0.7**
INU IAmb IAmb 10 05 34.8
comp=Z,424nm,1.2s
YAK Yakutsk 19.45 322 *e*P **P 10 05 35.3 -1.5**
YAK *e*S **S 10 09 11.5 -1.8**
YAK pmax pmax
comp=Z,37nm,1.0s
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,30nm,1.4s
YAK pmax pmax
comp=Z,360nm,0.9s
YAK pmax pmax
comp=E,581nm,1.9s
YAK pmax pmax
comp=N,437nm,1.6s
YAK smax smax
comp=N,436nm,1.5s
YAK smax smax
comp=E,314nm,1.8s
YAK MLR MLR
comp=Z,2µm,20.0s
YAK MLR MLR
comp=N,1µm,17.0s
YAK MLR MLR
comp=E,800nm,17.0s
YAK Yakutsk 19.45 322 P **P 10 05 35.7 -1.1**
comp=E,0.7nm,0.3s,baz=269,slow=2.2,SNR=14
YAK S **S 10 09 11.2 -2.1**
comp=E,0.2nm,0.3s,baz=188,slow=23,SNR=7.0
YAK LR LR 10 13 26.8
comp=E,2µm,18.2s,baz=106,slow=38
YAK Yakutsk 19.45 322 P **P 10 05 35.7 -1.1**
YAK IAmb IAmb 10 05 51.3
comp=Z,267nm,1.0s
ATKA Atka Island 19.71 68 P **P 10 05 37.8 -2.0**
ATKA IAmb IAmb 10 05 42.5
comp=Z,289nm,1.4s
BILL Bilibino 20.10 12*de*P **P 10 05 42.5 -1.4**
BILL *e* 10 06 00.3
BILL *e* 10 06 04.7
BILL *e**SP **sP 10 06 10.6 +7.1**
BILL *i* 10 09 52.8
BILL pmax pmax
comp=Z,32nm,1.2s
BILL MLR MLR
comp=Z,3µm,20.0s
BILL Bilibino 20.10 12 P **P 10 05 42.6 -1.3**
BILL IAmb IAmb 10 05 56.2
comp=Z,114nm,0.9s
CN2 Changchun 21.05 268 *e*P **P 10 05 50.8 -3.6**
CN2 *e*S S 10 09 33.0 -13
CN2 pmax pmax
comp=Z,40nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,2µm,22.0s
CN2 LR LR
comp=Z,2µm,22.0s
CN2 LR LR
comp=Z,2µm,23.0s
SPIA Saint Paul Isl 22.24 55 P **P 10 06 03.2 -3.7**
KSRS Korea Array 22.76 250 P **P 10 06 12.4 -0.3**
comp=Z,128nm,0.9s,baz=49,slow=9.9,SNR=82
KSRS PcP **PcP 10 10 03.5 +1.0**
comp=Z,9.0nm,0.9s,baz=15,slow=1.4,SNR=7.2
KSRS LR LR 10 14 29.4
comp=Z,4µm,19.5s,baz=55,slow=35
KS19 Wonju Array Si 22.76 250 P **P 10 06 12.6 -0.2**
KS19 IAmb IAmb 10 06 15.2
comp=Z,139nm,0.8s
HIA Hailar 23.11 285 P **P 10 06 14.2 -2.0**
HIA pmax pmax
comp=Z,22nm,0.8s
HIA Hailar 23.11 285 P **P 10 06 14.2 -2.0**
SNY Shenyang 23.16 264⇑P **P 10 06 15.3 -1.4**
SNY S **S 10 10 26.1 +2.4**
SNY pmax pmax
comp=Z,37nm,0.8s
SNY pmax pmax
comp=Z,400nm,6.3s
SNY LR LR
comp=Z,2µm,20.4s
SNY LR LR
comp=Z,2µm,16.7s
SNY LR LR
comp=Z,3µm,18.6s
GAMB Gambell 23.36 38 P **P 10 06 17.6 -0.7**
GAMB IAmb IAmb 10 06 32.3
comp=Z,152nm,1.4s
INCN Inchon 23.55 252 P **P 10 06 19.9 -0.6**
INCN pmax pmax
comp=Z,152nm,1.0s
INCN Inchon 23.55 252 P **P 10 06 19.9 -0.6**
INCN IAmb IAmb 10 06 22.1
comp=Z,152nm,1.0s
TJN Taejon 23.79 249*ce*P **P 10 06 22.9 +0.3**
JCJ Chichijima 23.89 210 P **P 10 06 24.4 +0.9**
comp=Z,238nm,1.1s,baz=32,slow=7.5,SNR=5.3
JCJ LR LR 10 18 01.1
comp=Z,370nm,18.5s,baz=109,slow=42
JNU Nakatsue 23.96 238 P **P 10 06 24.8 +0.5**
comp=Z,161nm,0.9s,baz=18,slow=2.0,SNR=34
JNU LR LR 10 16 42.1
comp=Z,890nm,20.5s,baz=42,slow=39
JNU Nakatsue 23.96 238 P **P 10 06 24.8 +0.5**

UNV Unalaska Valle 24.27 63 P **P** **10 06 27.0 +0.2**
UNV IAmb IAmb 10 06 38.7
comp=Z,122nm,1.2s
BOD Bodaibo 25.83 306 *e*P **P** **10 06 38.1 -2.9**
BOD *e* 10 06 54.3
DL2 Dalian 25.94 260 P **P** **10 06 42.5 +0.4**
DL2 S **S** **10 11 08.8 +0.6**
DL2 pmax pmax
comp=Z,72nm,1.0s
DL2 pmax pmax
comp=Z,490nm,9.2s
DL2 LR LR
comp=Z,960nm,15.2s
DL2 LR LR
comp=Z,2µm,19.6s
DL2 LR LR
comp=Z,2µm,27.7s
TIXI Tiksi 25.94 341 *c i*P **P** **10 06 39.7 -2.1**
TIXI pmax pmax
comp=Z,49nm,1.0s
TIXI Tiksi 25.94 341 P **P** **10 06 40.2 -1.6**
comp=Z,17nm,0.5s,baz=180,slow=24,SNR=41
TIXI LR LR 10 18 06.6
comp=Z,1µm,18.2s,baz=143,slow=39
TIXI Tiksi 25.94 341 *e*P **P** **10 06 39.7 -2.1**
TIXI Tiksi 25.94 341 P **P** **10 06 39.8 -2.1**
ANM Nome 26.23 38 P **P** **10 06 46.0 +1.5**
ANM pmax pmax
comp=Z,205nm,1.3s
ANM Nome 26.23 38 P **P** **10 06 46.0 +1.5**
ANM IAmb IAmb 10 07 01.8
comp=Z,205nm,1.3s
CNBA Chernabura Isl 28.22 60 P **P** **10 07 02.0 -0.4**
CNBA IAmb IAmb 10 07 15.5
comp=Z,64nm,1.0s
RDOG Red Dog Mine 28.35 32 P **P** **10 07 04.5 +1.0**
RDOG IAmb IAmb 10 07 17.2
comp=Z,95nm,0.9s
BJT Baijiatuau 28.94 267 P **P** **10 07 07.8 -1.1**
BJT pmax pmax
comp=Z,22nm,1.1s
BJT Baijiatuau 28.94 267 P **P** **10 07 07.8 -1.1**
JOW Kunigami 30.25 233 P **P** **10 07 20.3 -0.4**
comp=Z,17nm,1.0s,baz=102,slow=16,SNR=7.4
TIA Tai'an 30.41 260 P **P** **10 07 22.0 -0.1**
TIA S **S** **10 12 25.5 +6.8**
TIA pmax pmax
comp=Z,11nm,0.6s
TIA pmax pmax
comp=Z,190nm,4.5s
TIA LR LR
comp=Z,850nm,17.1s
TIA LR LR
comp=Z,810nm,17.1s
TIA LR LR
comp=Z,750nm,18.5s
H11N2 WAKE ISLAND Hy 30.49 158 T T 10 39 48.4
baz=344,slow=76,SNR=948
H11N1 WAKE ISLAND Hy 30.51 158 T T 10 39 17.4
baz=344,slow=76,SNR=1120
H11N3 WAKE ISLAND Hy 30.51 158 T T 10 39 28.2
baz=344,slow=76,SNR=632
OHAK Old Harbor 31.45 55 P **P** **10 07 31.1 +0.1**
OHAK IAmb IAmb 10 07 31.6
comp=Z,67nm,1.0s
RSO Redoubt South 31.47 48 P **P** **10 07 32.6 +1.3**
HHC Hu-ho-hao-te 31.57 272 *e*P **P** **10 07 31.6 -0.7**
HHC pP pP 10 07 44.1 -2.2
HHC sP sP 10 07 47.6 -5.3
HHC PP **PnPn** **10 08 38.3 +0.9**
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,43nm,4.2s
ULN Ulaanbaatar 31.58 287 P **P** **10 07 30.8 -1.7**
ULN pmax pmax
comp=Z,19nm,1.2s
ULN Ulaanbaatar 31.58 287 *e*P **P** **10 07 31.2 -1.2**
ULN Ulaanbaatar 31.58 287 P **P** **10 07 30.8 -1.7**
H11S1 WAKE ISLAND Hy 31.62 159 T T 10 40 43.4
baz=345,slow=76,SNR=5332
H11S3 WAKE ISLAND Hy 31.63 159 T T 10 40 43.8
baz=345,slow=76
H11S2 WAKE ISLAND Hy 31.64 159 T T 10 40 41.2
baz=345,slow=76,SNR=4627
PPLA Purkeypile 31.73 44 P **P** **10 07 35.5 +1.9**
PPLA IAmb IAmb 10 07 51.9
comp=Z,97nm,1.2s
KDAK Kodiak Island 31.76 54 P **P** **10 07 32.8 -0.9**
KDAK pmax pmax
comp=Z,42nm,0.9s
KDAK Kodiak Island 31.76 54 P **P** **10 07 33.5 -0.2**
comp=Z,38nm,0.9s,baz=268,slow=4.7,SNR=16
KDAK Kodiak Island 31.76 54 P **P** **10 07 32.8 -0.9**
KDAK IAmb IAmb 10 07 34.2
comp=Z,42nm,0.9s
NJ2 Nanjing 31.93 252 *e*P **P** **10 07 35.5 +0.1**
NJ2 pmax pmax
comp=Z,61nm,1.1s
NJ2 LR LR
comp=Z,2µm,19.9s
NJ2 LR LR
comp=Z,2µm,21.3s
NJ2 LR LR
comp=Z,3µm,17.5s
SONM Songino Array 32.01 287 P **P** **10 07 34.7 -1.5**
comp=Z,1.8nm,0.3s,baz=58,slow=8.9,SNR=11
SONM PcP **PcP** **10 10 25.3 +0.6**
comp=Z,12nm,0.9s,baz=112,slow=1.8,SNR=11
SONM ScP **ScP** **10 14 04.4 +1.3**
comp=Z,0.4nm,0.6s,baz=8.5,slow=3.0,SNR=3.6
SONM pScP 10 14 28.1
comp=Z,4.4nm,1.1s,baz=71,slow=3.1,SNR=5.8
SONM LR LR 10 21 51.7
comp=Z,4µm,18.6s,baz=84,slow=39
SKT Skwentna 32.03 46 P **P** **10 07 37.3 +1.3**
SKT IAmb IAmb 10 07 51.0
comp=Z,46nm,1.0s
CNPM China Poot 32.29 50 P **P** **10 07 39.0 +0.7**
CNPM IAmb IAmb 10 07 53.5
comp=Z,42nm,0.7s
BPAW Bear Paw Mtn. 32.30 42 P **P** **10 07 39.7 +1.2**
BPAW IAmb IAmb 10 07 53.1
comp=Z,68nm,0.9s
KTH Kantishna Hill 32.32 43 P **P** **10 07 39.8 +1.2**
SUA Susitna One 32.41 47 P **P** **10 07 39.7 +0.2**
SUA IAmb IAmb 10 07 53.5
comp=Z,44nm,1.0s
BRLK Bradley Lake 32.45 50 P **P** **10 07 39.3 -0.4**
BRLK IAmb IAmb 10 07 52.3
comp=Z,32nm,1.0s
MLY Manley 32.46 40 P **P** **10 07 41.4 +1.6**
MLY IAmb IAmb 10 07 54.5
comp=Z,60nm,0.9s
TLY Talaya 32.52 295 *e*P **P** **10 07 40.0 -0.5**
TLY *e* 10 09 01.7
TLY *e*S **S** **10 12 57.1 +5.7**
TLY pmax pmax
comp=Z,40nm,1.0s
TLY MLR MLR
comp=Z,4µm,16.0s
TLY Talaya 32.52 295 P **P** **10 07 39.4 -1.1**
comp=Z,7.3nm,0.5s,baz=72,slow=3.4,SNR=11
TLY PcP **PcP** **10 10 27.3 +1.4**
comp=Z,15nm,0.9s,baz=322,slow=3.8,SNR=5.0
TLY LR LR 10 22 07.5
comp=Z,2µm,18.3s,baz=44,slow=39
TLY Talaya 32.52 295 *e*P **P** **10 07 40.0 -0.5**
TLY Talaya 32.52 295 P **P** **10 07 39.6 -0.9**
TRF Thorofare Moun 32.60 43 P **P** **10 07 42.4 +1.2**
TIY Taiyuan 32.63 266 P **P** **10 07 41.8 +0.2**
TIY S **S** **10 13 01.4 +7.9**
TIY pmax pmax
comp=Z,120nm,1.1s
TIY LR LR
comp=Z,1µm,14.4s
TIY LR LR
comp=Z,640nm,15.9s
TIY LR LR
comp=Z,1µm,20.5s
BTO Baotou 32.71 273 *e*P **P** **10 07 40.3 -2.0**
BTO S S 10 13 04.1 +9.5
COLD Coldfoot 32.87 36 P **P** **10 07 44.4 +1.1**
SARN Sarigan 32.91 197 P **P** **10 07 43.1 -1.0**
RC01 Rabbit Creek A 32.92 47 P **P** **10 07 44.7 +0.9**
RC01 IAmb IAmb 10 07 58.0
comp=Z,79nm,1.3s
BWN Browne 32.97 41 P **P** **10 07 45.9 +1.6**
ZAK Zakamensk 33.12 293 *e*P **P** **10 07 43.9 -1.9**
ZAK *e* 10 10 26.9
ZAK pmax pmax
comp=Z,13nm,1.1s
SEW Seward 33.13 49 P **P** **10 07 46.0 +0.3**
SEW IAmb IAmb 10 08 05.0
comp=Z,69nm,1.0s
NEA Nenana 33.15 41 P **P** **10 07 47.1 +1.3**
PMR Palmer 33.18 46 P **P** **10 07 47.0 +1.0**
PMR pmax pmax
comp=Z,26nm,0.8s
PMR Palmer 33.18 46 P **P** **10 07 47.0 +1.0**
PMR IAmb IAmb 10 08 00.1
comp=Z,26nm,0.8s
MCK McKinley 33.20 42 P **P** **10 07 47.0 +0.7**
MCK pmax pmax
comp=Z,100nm,0.9s
MCK McKinley 33.20 42 P **P** **10 07 47.0 +0.7**
RND Reindeer 33.24 43 P **P** **10 07 47.1 +0.4**
RND pmax pmax
comp=Z,147nm,1.0s
RND Reindeer 33.24 43 P **P** **10 07 47.1 +0.4**
GHO Glory Hole Cre 33.27 46 P **P** **10 07 47.6 +0.7**
GHO IAmb IAmb 10 08 06.8
comp=Z,54nm,1.0s
TOLK Toolik Lake Re 33.28 33 P **P** **10 07 47.9 +1.0**
baz=262,SNR=6.3
TOLK Toolik Lake Re 33.28 33 P **P** **10 07 48.0 +1.0**
TOLK IAmb IAmb 10 08 00.5
comp=Z,50nm,0.8s
KNK Knik Glacier 33.51 47 P **P** **10 07 50.0 +1.0**
MDM Murphy Dome 33.52 40 P **P** **10 07 50.5 +1.5**
SML Sawmill 33.55 46 P **P** **10 07 50.3 +1.0**
WRH Wood River Hil 33.58 41 P **P** **10 07 50.5 +1.0**
TCOL CIGO, UAF Yank 33.68 40 P **P** **10 07 51.7 +1.4**
baz=270,SNR=17
COLA College 33.68 40 ⇑*i*P **P** **10 07 52.0 +1.6**
COLA pmax pmax
comp=Z,49nm,0.9s
COLA College 33.68 40 P **P** **10 07 51.9 +1.5**
CCB Clear Creek Bu 33.70 41 P **P** **10 07 51.6 +1.0**
POKR Poker Plat Res 33.86 40 P **P** **10 07 53.4 +1.4**
baz=270,SNR=26
DHY Denali Highway 33.92 43 P **P** **10 07 53.2 +0.5**
SCM Sheep Creek Mo 34.02 46 P **P** **10 07 54.0 +0.5**
SCM pmax pmax
comp=Z,150nm,0.9s
SCM Sheep Creek Mo 34.02 46 P **P** **10 07 54.0 +0.5**
HDA Harding Lake 34.07 41 P **P** **10 07 54.5 +0.7**
baz=271,SNR=15
HDA Harding Lake 34.07 41 P **P** **10 07 54.1 +0.3**
HDA IAmb IAmb 10 08 06.9
comp=Z,63nm,0.8s
IL31 34.09 40 P **P** **10 07 54.6 +0.6**
ILAR Eielson Array 34.09 40 P **P** **10 07 54.7 +0.7**
comp=Z,7.6nm,0.8s,baz=255,slow=7.9,SNR=79
ILAR pP **pP** **10 08 05.9 -2.3**
comp=Z,39nm,0.8s,baz=266,slow=4.5,SNR=42
ILAR LR LR 10 21 31.6
comp=Z,555nm,21.2s,baz=261,slow=36
GLI Glacier Island 34.22 47 P **P** **10 07 55.5 +0.4**
GLI IAmb IAmb 10 07 56.3
comp=Z,42nm,0.9s
FID Port Fidalgo 34.53 48 P **P** **10 07 58.4 +0.6**
FID IAmb IAmb 10 08 11.8
comp=Z,89nm,1.2s
HIN Hinchinbrook I 34.56 48 P **P** **10 07 59.2 +1.0**
HIN IAmb IAmb 10 08 11.2
comp=Z,52nm,0.8s
PRP Porcupine Dome 34.66 39 P **P** **10 08 00.7 +1.6**
FYU Fort Yukon 34.78 37 P **P** **10 08 01.8 +1.9**
PAX Paxson 34.80 44 P **P** **10 08 01.5 +1.3**
PAX pmax pmax
comp=Z,31nm,0.9s
PAX Paxson 34.80 44 P **P** **10 08 01.5 +1.3**
PAX IAmb IAmb 10 08 16.1
comp=Z,31nm,0.9s
EYAK Cordova Ski Ar 34.91 48 P **P** **10 08 01.8 +0.7**
EYAK IAmb IAmb 10 08 02.9
comp=Z,31nm,1.0s
RIDG Independent Ri 35.02 42 P **P** **10 08 01.7 -0.4**
DOT Dot Lake 35.38 42 P **P** **10 08 05.2 +0.1**
DOT IAmb IAmb 10 08 18.2
comp=Z,45nm,0.8s
SCRK Sand Creek 35.39 42 P **P** **10 08 05.7 +0.4**
RAGM Ragged Mountai 35.47 48 P **P** **10 08 07.6 +1.7**
MENT Mentasta 35.60 43 P **P** **10 08 08.4 +1.4**
MENT IAmb IAmb 10 08 25.1
comp=Z,49nm,0.9s
HMT Hamilton 35.68 48 P **P** **10 08 08.5 +0.8**
HMT IAmb IAmb 10 08 10.1
comp=Z,70nm,1.1s
GLB Gilahina Butte 35.73 46 P **P** **10 08 08.8 +0.6**
GLB IAmb IAmb 10 08 24.1
comp=Z,38nm,1.2s
WHN Wuhan 35.80 255 ⇑P **P** **10 08 08.6 -0.4**
WHN LR LR
comp=Z,7µm,20.7s
WHN LR LR
comp=Z,4µm,18.9s
WHN LR LR
comp=Z,4µm,26.6s
VRDI Verde Repeater 35.93 46 P **P** **10 08 10.1 0.0**
VRDI IAmb IAmb 10 08 25.1
comp=Z,86nm,1.3s
MCARA McCarthy VSAT 36.12 46 P **P** **10 08 12.5 +1.1**
MCARA IAmb IAmb 10 08 29.9
comp=Z,50nm,0.9s
GUMO Guam 36.12 197 LR LR 10 20 26.5
comp=Z,579nm,20.7s,baz=36,slow=32
CRQM Cirque 36.16 47 P **P** **10 08 13.2 +1.2**
TGL Tana Glacier 36.31 47 P **P** **10 08 14.1 +1.0**
TGL IAmb IAmb 10 08 34.2
comp=Z,46nm,0.8s
BALM Baldy 36.49 47 P **P** **10 08 16.3 +1.5**
BALM IAmb IAmb 10 08 29.9
comp=Z,104nm,1.4s
EGAK Eagle 36.54 40 P **P** **10 08 15.6 +0.6**
SSLB Suanglung 36.69 240 P **P** **10 08 16.3 -0.4**
SSLB IAmb IAmb 10 08 19.2
comp=Z,63nm,1.2s
YULB Yu-li 36.81 239 P **P** **10 08 18.0 +0.3**
YULB IAmb IAmb 10 08 32.0
comp=Z,37nm,0.9s
BARN Barnard Glacie 36.82 46 P **P** **10 08 19.6 +1.9**
MESA MESA 36.84 48 P **P** **10 08 19.8 +2.0**
CTGM Chitina Glacie 36.99 47 P **P** **10 08 20.9 +1.8**
XAN Xi'an 37.08 264 P **P** **10 08 19.3 -0.8**
XAN pP pP 10 08 32.1 -2.1
XAN PP **PnPn** **10 09 50.5 +4.4**
XAN pmax pmax
comp=Z,20nm,1.5s
XAN pmax pmax
comp=Z,190nm,5.5s
XAN LR LR
comp=Z,2µm,25.5s
XAN LR LR
comp=Z,2µm,23.0s
XAN LR LR
comp=Z,2µm,23.5s
XAN Xi'an 37.08 264 P **P** **10 08 19.2 -0.8**
XAN pmax pmax
comp=Z,31nm,1.2s
XAN Xi'an 37.08 264 P **P** **10 08 19.2 -0.8**
QZH Quanzhou 37.18 244 P **P** **10 08 21.4 +0.6**
QZH pmax pmax
comp=Z,84nm,1.4s
TPUB Ta-pu 37.26 239 P **P** **10 08 21.1 -0.4**
TWG Pinlang 37.38 238 P **P** **10 08 21.9 -0.7**
DAWY Dawson 37.39 41 P **P** **10 08 23.8 +1.5**
DAWY IAmb IAmb 10 08 37.0
comp=Z,61nm,1.1s
KNMB Chin-men Tao 37.66 243 P **P** **10 08 23.6 -1.2**
EPYK Eagle Plains 38.20 37 P **P** **10 08 30.7 +1.6**
baz=277,SNR=10.0
EPYK Eagle Plains 38.20 37 P **P** **10 08 30.8 +1.8**
HYT Haines Junctio 38.85 46 P **P** **10 08 37.1 +2.5**
HYT IAmb IAmb 10 08 50.2
comp=Z,64nm,0.9s
ENH Enshi 39.11 259 P **P** **10 08 35.6 -1.4**
ENH IAmb IAmb 10 08 36.8
comp=Z,59nm,1.1s
INK Inuvik 39.19 34 P **P** **10 08 38.8 +1.6**
comp=Z,4.9nm,0.5s,baz=274,slow=5.9,SNR=34
INK pP **pP** **10 08 49.5 -2.1**
comp=Z,89nm,0.8s,baz=277,slow=6.6,SNR=60
INK Inuvik 39.19 34 P **P** **10 08 38.7 +1.6**
INK IAmb IAmb 10 08 51.5
comp=Z,95nm,0.8s
LZH Lanzhou 39.23 271 ⇑P **P** **10 08 37.5 -0.6**
LZH pP pP 10 08 50.3 -2.1
LZH sP sP 10 08 56.1 -2.9
LZH PP **PnPn** **10 10 14.4 +2.5**
LZH pmax pmax
comp=Z,52nm,1.0s
LZH pmax pmax
comp=Z,300nm,4.9s
LZH LR LR
comp=Z,1µm,13.6s
LZH LR LR
comp=Z,1µm,14.6s
LZH LR LR
comp=Z,1µm,14.8s
GTA Gaotai 40.04 278 *e*P **P** **10 08 44.5 -0.3**
GTA pP pP 10 08 56.6 -2.6
GTA sP sP 10 09 01.8 -3.9
GTA PcP **PcP** **10 10 49.6 +0.9**
GTA pmax pmax
comp=Z,27nm,1.2s
GTA pmax pmax
comp=Z,150nm,10.7s
GTA LR LR
comp=Z,910nm,15.1s
GTA LR LR
comp=Z,2µm,17.5s
GTA LR LR
comp=Z,4µm,17.2s
WHY Whitehorse 40.14 46 P **P** **10 08 47.9 +2.5**
WHY IAmb IAmb 10 09 01.9
comp=Z,117nm,1.4s
SKAG Skagway 40.26 48 P **P** **10 08 48.7 +2.5**
SKAG IAmb IAmb 10 09 03.0
comp=Z,74nm,1.1s
JIS Juneau Island 41.08 49 P **P** **10 08 54.9 +1.9**
JIS IAmb IAmb 10 09 10.3
comp=Z,76nm,1.1s
C36M Paulatuk 42.36 31 P **P** **10 09 04.6 +1.3**
baz=284,SNR=18
CD2 Chengdu 42.44 265 P **P** **10 09 03.4 -1.1**
CD2 S **S** **10 15 21.6 -0.5**
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 pmax pmax
comp=Z,420nm,5.7s
CD2 LR LR
comp=Z,1µm,19.1s
CD2 LR LR
comp=Z,1µm,18.6s
CD2 LR LR
comp=Z,2µm,20.6s
ZAA0 Zalesovo Array 42.56 305 P **P** **10 09 02.2 -2.9**
ZALV Zalesovo Beam 42.56 305 P **P** **10 09 03.1 -2.0**
comp=Z,2.5nm,0.4s,baz=51,slow=6.6,SNR=3.7
ZALV PcP **PcP** **10 10 57.0 +0.5**
comp=Z,3.5nm,0.4s,baz=48,slow=2.2,SNR=9.3
ZALV LR LR 10 27 57.0
comp=Z,1µm,18.9s,baz=72,slow=38
WRAK Wrangell Islan 42.76 51 P **P** **10 09 05.9 -0.8**
WRAK IAmb IAmb 10 09 23.2
comp=Z,62nm,1.2s
DLBC Dease Lake 43.19 48 P **P** **10 09 12.8 +2.5**
comp=Z,31nm,0.9s,baz=288,slow=7.6,SNR=12
DLBC Dease Lake 43.19 48 P **P** **10 09 12.7 +2.4**
DLBC IAmb IAmb 10 09 28.2
comp=Z,59nm,1.2s
GYA Guiyang 43.51 257 ⇑*i*P **P** **10 09 13.3 0.0**
GYA pP pP 10 09 25.3 -2.5
GYA sP sP 10 09 29.9 -4.4
GYA PP **PP** **10 10 56.8 +1.6**
GYA ScP **ScP** **10 14 47.9 +1.2**
GYA S **S** **10 15 37.6 -0.5**
GYA SS **SS** **10 18 45.4 -8.6**
GYA pmax pmax
comp=Z,110nm,0.9s
GYA pmax pmax
comp=Z,110nm,4.9s
GYA LR LR
comp=Z,450nm,15.7s
GYA LR LR
comp=Z,520nm,15.7s
GYA LR LR
comp=Z,400nm,15.0s
TGY Tagaytay City 44.59 231 P **P** **10 09 23.6 +1.6**
comp=Z,115nm,0.3s,baz=80,slow=1.7,SNR=12
WMQ Urumqi 45.49 290 *e*P **P** **10 09 30.0 +1.1**
WMQ pP pP 10 09 39.3 -4.1
WMQ PcP **PcP** **10 11 07.8 +1.0**
WMQ pmax pmax
comp=Z,160nm,6.1s
WMQ LR LR
comp=Z,1µm,16.5s
WMQ LR LR
comp=Z,730nm,19.1s
WMQ LR LR
comp=Z,1µm,17.9s
WMQ Urumqi 45.49 290 P **P** **10 09 27.9 -1.0**
WMQ pmax pmax
comp=Z,27nm,1.3s
WMQ Urumqi 45.49 290 P **P** **10 09 27.9 -1.0**
OPA Opana 45.86 109 P **P** **10 09 34.1 +2.2**
OPA pmax pmax
comp=Z,158nm,1.2s
OPA Opana 45.86 109 P **P** **10 09 34.1 +2.2**
QIZ Qiongzhong 46.92 247 P **P** **10 09 39.4 -0.8**
QIZ S **S** **10 16 27.8 +0.7**
QIZ LR LR
comp=Z,830nm,12.1s
QIZ LR LR
comp=Z,1µm,16.0s
QIZ LR LR
comp=Z,1µm,17.6s
KMI Kunming 46.98 259 P **P** **10 09 40.9 0.0**
KMI pP pP 10 09 53.0 -2.5
KMI sP sP 10 09 58.3 -3.7
KMI S **S** **10 16 30.4 +2.1**
KMI pmax pmax
comp=Z,99nm,1.2s
KMI pmax pmax
comp=Z,380nm,6.3s
KMI LR LR
comp=Z,660nm,11.0s
KMI LR LR
comp=Z,610nm,16.8s
KMI LR LR
comp=Z,810nm,17.4s
KMI Kunming 46.98 259 P **P** **10 09 40.8 -0.1**
KMI pmax pmax
comp=Z,169nm,1.3s
KMI Kunming 46.98 259 P **P** **10 09 40.8 -0.1**
MK31 Makanchi Array 47.25 297 P **P** **10 09 38.8 -3.7**
MK31 pmax pmax
comp=Z,9.0nm,1.0s
MK31 Makanchi Array 47.25 297 P **P** **10 09 38.8 -3.7**
MKAR Makanchi Array 47.25 297 P **P** **10 09 41.2 -1.3**
comp=Z,4.4nm,0.4s,baz=74,slow=9.5,SNR=56
MKAR PcP **PcP** **10 11 13.3 +0.4**
comp=Z,3.9nm,0.7s,baz=75,slow=1.6,SNR=3.2
MKAR ScP **ScP** **10 15 02.3 +0.5**
comp=Z,1.8nm,0.9s,baz=66,slow=3.5,SNR=3.2
MKAR LR LR 10 30 56.8
comp=Z,2µm,19.2s,baz=46,slow=38
KURK Kurchatov 47.40 303 *i*P **P** **10 09 42.1 -1.5**
KURK pmax pmax
comp=Z,9.0nm,0.4s
KURK Kurchatov 47.40 303 *e*P **P** **10 09 42.1 -1.5**
KURK Kurchatov 47.40 303 P **P** **10 09 40.6 -3.0**
KURK IAmb IAmb 10 09 45.9
comp=Z,19nm,0.7s
MAKZ Makanchi 47.43 297 P **P** **10 09 42.5 -1.4**
MAKZ pmax pmax
comp=Z,18nm,1.3s
MAKZ Makanchi 47.43 297 P **P** **10 09 42.5 -1.4**
KURBB Kurchatov Arra 47.50 303 P **P** **10 09 43.5 -0.8**
comp=Z,10nm,0.5s,baz=67,slow=8.4,SNR=18
RES Resolute Bay 48.46 19 P **P** **10 09 51.8 +0.4**
comp=Z,7.2nm,0.8s,baz=294,slow=7.5,SNR=21
RES pP **pP** **10 10 04.5 -1.8**
comp=Z,30nm,0.9s,baz=306,slow=8.2,SNR=26
RES Resolute Bay 48.46 19 P **P** **10 09 52.1 +0.7**

RES IAmb IAmb 10 10 05.5
comp=Z,37nm,0.9s
YKA Yellowknife Ar 48.46 38 P P 10 09 52.7 +1.1
comp=Z,6.5nm,0.8s,baz=297,slow=7.5,SNR=50
YKA pP **pP 10 10 03.2 -3.3**
comp=Z,20nm,0.7s,baz=297,slow=7.3,SNR=21
HPAH Hawaii Prepara 48.53 108 P **P 10 09 53.4 +0.6**
KCP Kidapawan 48.78 221 ⇑P **P 10 09 55.8 +1.1**
POHA Pohakuloa 48.84 108 P **P 10 09 55.4 +0.1**
SLVN Son La 48.92 255 P **P 10 09 54.8 -0.9**
BVAR Borovoye Array 50.64 309 P **P 10 10 06.9 -1.5**
comp=Z,5.5nm,0.3s,baz=58,slow=7.0,SNR=60
BVAR PcP **PcP 10 11 25.4 +0.4**
comp=Z,4.6nm,0.4s,baz=60,slow=1.7,SNR=6.4
BRVK Borovoye 50.68 309 ⇑*i*P **P 10 10 07.0 -1.6**
BRVK pmax pmax
comp=Z,3.0nm,0.3s
BRVK Borovoye 50.68 309 *e*P **P 10 10 07.0 -1.6**
BRVK Borovoye 50.68 309 P **P 10 10 07.4 -1.2**
SPA0 Spitsbergen Ar 50.85 350 *e*P **P 10 10 07.7 -1.9**
LLLB Lillooet 50.96 54 P **P 10 10 11.3 +0.5**
MANU Manus Island 51.08 190 P **P 10 10 12.4 +0.4**
MANU IAmb IAmb 10 10 13.6
comp=Z,59nm,0.9s
LSA Lhasa 51.55 273 *i*P **P 10 10 16.3 +0.3**
SNR=6.9
LSA Lhasa 51.55 273 P **P 10 10 16.4 +0.3**
LSA pmax pmax
comp=Z,30nm,0.6s
LSA Lhasa 51.55 273 P **P 10 10 16.4 +0.3**
LSA IAmb IAmb 10 10 19.6
comp=Z,30nm,0.6s
NLWA Neilton Lookou 51.62 59 P **P 10 10 17.5 +1.7**
NLWA IAmb IAmb 10 10 30.7
comp=Z,43nm,0.9s
NONG Nongkai 51.80 253 P **P 10 10 18.5 +1.1**
comp=Z,2.5nm,1.2s,comp=Z,143nm
TULEG Thule 51.85 12 P **P 10 10 16.3 -0.7**
TULEG IAmb IAmb 10 10 29.5
comp=Z,28nm,0.9s
D03D Eldon 51.98 58 P **P 10 10 20.1 +1.7**
baz=304,SNR=5.6
SKNT Sakolnakorn 52.09 251 P **P 10 10 20.8 +1.2**
comp=Z,116nm,1.1s
B05A Bryant 52.13 57 P **P 10 10 20.4 +0.9**
baz=304
B06A Marblemount 52.32 57 P **P 10 10 22.1 +1.2**
D04E Lakebay 52.36 59 P **P 10 10 23.1 +1.9**
baz=304
UBPT Khong Chiam 52.46 248 P **P 10 10 23.9 +1.6**
comp=Z,41nm,1.3s
UBPT Khong Chiam 52.46 248 P **P 10 10 22.6 +0.3**
D05A Enumclaw 52.79 58 P **P 10 10 26.3 +1.9**
D05A IAmb IAmb 10 10 45.2
comp=Z,33nm,1.0s
GENI Genyem 52.81 199 P **P 10 10 26.7 +1.8**
comp=Z,174nm,0.9s
E04D Cinebar 52.82 59 P **P 10 10 26.4 +1.7**
baz=305,SNR=7.0
LON Longmire 53.14 59 P **P 10 10 28.2 +1.1**
LON pmax pmax
comp=Z,7.0nm,1.0s
LON Longmire 53.14 59 P **P 10 10 28.2 +1.1**
F04A Amboy 53.27 60 P **P 10 10 29.5 +1.6**
F04A IAmb IAmb 10 10 42.8
comp=Z,29nm,1.0s
SVE Sverdlovsk 53.28 317 *e*P **P 10 10 26.5 -1.4**
SVE Sverdlovsk 53.28 317 *e*P **P 10 10 26.5 -1.4**
PHRA Phrae 53.34 256 P **P 10 10 30.0 +1.2**
comp=Z,39nm,1.1s
BOOM Boomskoye usch 53.40 295 P **P 10 10 28.2 -1.0**
BOOM pmax pmax
comp=Z,17nm,1.2s
BOOM Boomskoye usch 53.40 295 P **P 10 10 28.2 -1.0**
TNTI Ternate 53.49 215 P **P 10 10 28.2 -1.6**
TNTI IAmb IAmb 10 10 32.6
comp=Z,35nm,0.8s
LTY Liberty 53.49 57 P **P 10 10 30.1 +0.4**
I02D Swisshome 53.50 62 P **P 10 10 31.5 +1.9**
baz=306
COR Corvallis 53.53 62 P **P 10 10 31.4 +1.5**
COR pmax pmax
comp=Z,49nm,1.1s
COR Corvallis 53.53 62 P **P 10 10 31.4 +1.5**
COR IAmb IAmb 10 10 44.9
comp=Z,49nm,1.1s
UTTA Uttaradit 53.69 255 P **P 10 10 32.2 +0.9**
comp=Z,126μm,1.0s
LAMP Lampang 53.70 256 P **P 10 10 32.5 +1.0**
comp=Z,298μm,1.0s
SHL Shillong 53.81 269 P **P 10 10 31.5 -0.9**
SHL Shillong 53.81 269 *ex* **P 10 10 30.0 -2.4**
SHL Shillong 53.81 269 P **P 10 10 31.5 -0.9**
SHL IAmb IAmb 10 10 35.1
comp=Z,43nm,1.0s
KKM Kota Kinabalu 53.85 231 P **P 10 10 33.5 +0.8**
KKM IAmb IAmb 10 10 34.9
comp=Z,72nm,1.2s
H04D Lebanon 53.90 61 P **P 10 10 34.7 +2.1**
baz=306
CMMT Chiang Mai 53.93 257 P **P 10 10 33.7 +0.5**
comp=Z,119nm,1.1s,comp=Z,1μm
CHTO Chiang Mai 53.93 257 P **P 10 10 34.2 +1.0**
CHTO pmax pmax
comp=Z,203nm,1.0s
CHTO Chiang Mai 53.93 257 P **P 10 10 34.2 +1.0**
KEBM Edson Butte 53.93 64 P **P 10 10 34.9 +1.9**
KEBM IAmb IAmb 10 10 36.3
comp=Z,71nm,1.3s
J01E Myrtle Point 54.00 63 P **P 10 10 35.5 +2.1**
baz=306
I03D Drain, OR 54.03 62 P **P 10 10 35.4 +1.9**
baz=306
H04A Detroit Lake 54.12 61 P **P 10 10 36.1 +1.8**
H04A IAmb IAmb 10 10 51.0
comp=Z,30nm,1.1s
CHAI Chaiyaphum 54.15 252 P **P 10 10 35.2 +0.4**
comp=Z,235μm,0.9s
AAK Ala-Archa 54.17 296 *i*P **P 10 10 34.1 -0.7**
SNR=5.9
AAK Ala-Archa 54.17 296 *i*P **P 10 10 33.3 -1.5**
AAK pmax pmax
comp=Z,10.0nm,1.4s
AAK Ala-Archa 54.17 296 P **P 10 10 34.0 -0.9**
comp=Z,3.2nm,0.4s,baz=76,slow=5.6,SNR=12
AAK PcP **PcP 10 11 39.8 +1.0**
comp=Z,10nm,1.1s,baz=94,slow=3.7,SNR=4.3
AAK Ala-Archa 54.17 296 *e*P **P 10 10 33.3 -1.5**
AAK Ala-Archa 54.17 296 P **P 10 10 33.9 -0.9**
CM31 Chiang Mai Arr 54.19 257 P **P 10 10 36.4 +1.3**
CMAR Chiang Mai Arr 54.19 257 P **P 10 10 36.2 +1.1**
comp=Z,79nm,0.8s,baz=31,slow=7.4,SNR=210
CMAR ScP **ScP 10 15 33.1 +1.1**
comp=Z,0.8nm,0.3s,baz=28,slow=4.1,SNR=5.2
CMAR LR LR 10 35 06.3
comp=Z,1μm,19.3s,baz=51,slow=38
G05D Wamic, OR 54.30 60 P **P 10 10 37.4 +1.9**
baz=306
E07A Sunnyside 54.35 58 P **P 10 10 37.2 +1.3**
K02D Willamette Mer 54.44 64 P **P 10 10 38.2 +1.6**
baz=307,SNR=7.5
ARU Arti 54.45 317 *c i*P **P 10 10 34.5 -1.9**
ARU *PP **pP 10 10 52.8 +1.4**
ARU 10 11 37.4
ARU 10 12 34.6
ARU S **S 10 18 08.9 -1.6**
ARU SS **SKiKP 10 21 44.1 +3.8**
ARU pmax pmax
comp=Z,62nm,1.3s
ARU Arti 54.45 317 *e*P **P 10 10 34.6 -1.9**
ARU Arti 54.45 317 P **P 10 10 34.4 -1.9**
C09A Chrisman Ranch 54.50 56 P **P 10 10 38.1 +1.1**
I04A Tendick Farm, 54.52 62 P **P 10 10 38.7 +1.5**
baz=307,SNR=17
HAWA Hanford 54.63 58 P **P 10 10 39.2 +1.3**
DAG Danmarks Havn 54.65 358 *i*P **P 10 10 36.0 -1.6**
DAG Danmarks Havn 54.65 358 *i*P **P 10 10 36.0 -1.6**
F07A Phinny Hill Vi 54.70 58 P **P 10 10 40.0 +1.6**
F07A IAmb IAmb 10 10 52.7
comp=Z,27nm,0.9s
L02E Cave Junction 54.79 64 P **P 10 10 41.2 +2.0**
baz=307,SNR=7.7
I05D Terrebonne, OR 54.82 61 P **P 10 10 40.8 +1.5**
baz=307,SNR=7.4
E08A Dider Farm, El 54.84 57 P **P 10 10 40.7 +1.3**

NEW Newport 54.85 55 P **P 10 10 40.5 +1.0**
baz=306,SNR=9.6
NEW Newport 54.85 55 P **P 10 10 39.8 +0.3**
comp=Z,6.3nm,1.0s,baz=303,slow=7.9,SNR=12
NEW Newport 54.85 55 P **P 10 10 40.1 +0.5**
HUMO Hull Mountain 54.91 63 P **P 10 10 42.0 +1.9**
KULLO Kullorsuaq 55.02 10 *i*P **P 10 10 39.8 -0.5**
KULLO pmax pmax
comp=Z,39nm,0.8s
KULLO Kullorsuaq 55.02 10 *i*P **P 10 10 39.8 -0.5**
comp=Z,39nm,0.8s
J04D Umpqua Nationa 55.03 62 P **P 10 10 42.9 +1.8**
baz=307,SNR=14
MHMT Maesarieng 55.05 257 P **P 10 10 42.6 +1.4**
comp=Z,216nm,1.2s,comp=Z,2μm
KSH Kashi 55.16 292 P **P 10 10 46.3 +4.3**
KSH ScP **ScP 10 15 39.8 +3.7**
KSH S **S 10 18 25.6 +4.8**
KSH sS sS 10 18 47.3 +2.2
KSH pmax pmax
comp=Z,310nm,6.8s
KSH LR LR
comp=Z,3μm,17.7s
KSH LR LR
comp=Z,2μm,14.5s
KSH LR LR
comp=Z,4μm,15.3s
FAKI Fak Fak 55.22 208 P **P 10 10 41.8 -0.7**
comp=Z,153nm,1.1s,comp=Z,1μm
FAKI Fak Fak 55.22 208 P **P 10 10 41.8 -0.7**
E09A Wood Farm, Sta 55.33 57 P **P 10 10 44.5 +1.6**
E09A IAmb IAmb 10 10 59.2
comp=Z,31nm,1.1s
JCC Jacoby Creek, 55.35 66 P **P 10 10 44.2 +1.1**
JCC IAmb IAmb 10 10 46.6
comp=Z,40nm,1.0s
TAPN Taplejung 55.37 273 *e*P **P 10 10 43.6 -0.2**
comp=Z,27nm,0.5s
TAPN Taplejung 55.37 273 *e*P **P 10 10 43.8 0.0**
comp=Z,14nm,0.3s
PINE Pine Mountain 55.38 61 P **P 10 10 45.6 +2.0**
PINE IAmb IAmb 10 10 59.5
comp=Z,31nm,0.9s
KHMM Horse Mountain 55.49 65 P **P 10 10 46.0 +1.6**
KHMM IAmb IAmb 10 10 59.6
comp=Z,51nm,1.1s
J05D Fort Rock, OR 55.51 62 P **P 10 10 46.8 +2.3**
baz=307,SNR=39
L04D Klamath Falls 55.53 63 P **P 10 10 46.3 +1.7**
baz=308,SNR=22
YBH Yreka Blue Hor 55.58 64 P **P 10 10 47.4 +2.4**
YBH pmax pmax
comp=Z,33nm,0.9s
YBH Yreka Blue Hor 55.58 64 P **P 10 10 47.6 +2.6**
comp=Z,26nm,1.0s,baz=325,slow=2.9,SNR=35
YBH LR LR 10 30 33.5
comp=Z,613nm,21.9s,baz=311,slow=32
YBH Yreka Blue Hor 55.58 64 P **P 10 10 47.4 +2.4**
YBH IAmb IAmb 10 11 00.6
comp=Z,33nm,0.9s
K04D Chiloquin, OR 55.60 63 P **P 10 10 47.3 +2.2**
baz=306
G08A Pilot Rock 55.61 59 P **P 10 10 46.4 +1.3**
M02C Callahan 55.70 64 P **P 10 10 48.2 +2.4**
baz=308,SNR=16
ARSB Arslanbob 55.86 296 P **P 10 10 46.4 -0.6**
HAMF Hammerfest 55.87 342 *e*P **P 10 10 44.4 -2.0**
ODAN Odare 55.91 273 *e*P **P 10 10 48.1 +0.5**
comp=Z,24nm,0.4s
ODAN Odare 55.91 273 *e*P **P 10 10 48.1 +0.5**
comp=Z,24nm,0.4s
UMPA Umpang Tak 55.91 255 P **P 10 10 50.1 +2.7**
comp=Z,149μm,1.0s
MRSI Marisa 55.98 221 P **P 10 10 48.1 +0.2**
comp=Z,141nm,1.2s,comp=Z,2μm
APA Apatity 56.01 337 ⇓*i*P P 10 10 56.7 +9.2
APA pmax pmax
comp=Z,9.0nm,1.5s
UTHA Uthaitani 56.02 254 P **P 10 10 49.6 +1.4**
comp=Z,89μm,1.0s,comp=Z,922μm
N02D Trinity Center 56.05 65 P **P 10 10 50.4 +2.1**
baz=308,SNR=12
M04C Macdoel 56.07 63 P **P 10 10 50.6 +2.1**
baz=308,SNR=10
WALA Waterton Lakes 56.09 52 P **P 10 10 49.3 +0.8**
WALA IAmb IAmb 10 11 06.3
comp=Z,25nm,0.7s
JIRN Jiri 56.16 275 *e*P **P 10 10 49.7 +0.1**
comp=Z,115nm,0.4s
JIRN Jiri 56.16 275 *e*P **P 10 10 49.8 +0.1**
comp=Z,115nm,0.4s
F10A Beach Ranch, E 56.16 57 P **P 10 10 50.3 +1.3**
GUN Gumba 56.20 275 *e*P **P 10 10 49.7 -0.1**
comp=Z,48nm,0.4s
GUN Gumba 56.20 275 *e*P **P 10 10 49.8 -0.1**
comp=Z,48nm,0.4s
KCPM Cahto Peak 56.31 66 P **P 10 10 51.2 +1.0**
KCPM IAmb IAmb 10 11 06.1
comp=Z,46nm,1.2s
RAMN Ramite 56.37 274 *e*P **P 10 10 50.4 -0.5**
comp=Z,70nm,0.5s
RAMN Ramite 56.37 274 *e*P **P 10 10 50.7 -0.2**
ARCES ARCESS Array B 56.38 341 P **P 10 10 48.4 -1.7**
comp=Z,3.7nm,0.4s,baz=33,slow=7.3,SNR=47
ARCES LR LR 10 38 26.9
comp=Z,924nm,20.7s,baz=32,slow=40
ARE0 ARCESS Array S 56.38 341 *e*P **P 10 10 48.6 -1.5**
WDC Whiskeytown Da 56.39 65 P **P 10 10 52.2 +1.6**
WDC pmax pmax
comp=Z,29nm,1.1s
WDC Whiskeytown Da 56.39 65 P **P 10 10 52.2 +1.6**
WDC IAmb IAmb 10 11 09.2
comp=Z,29nm,1.1s
PRGR Permogore 56.40 327 *e*P P 10 10 44.7 -5.6
PRGR pmax pmax
comp=Z,63nm,1.1s
O02D Mt. Diablo Mer 56.49 66 P **P 10 10 53.7 +2.3**
baz=308,SNR=9.3
SANI Sanana 56.60 216 P **P 10 10 51.4 -0.9**
comp=Z,135nm,1.0s,comp=Z,1μm
KKN Kakani 56.67 275 *e*P **P 10 10 53.4 +0.3**
comp=Z,225nm,1.0s
KKN Kakani 56.67 275 *e*P **P 10 10 53.4 +0.3**
comp=Z,225nm,1.0s
JTMT Jette 56.69 54 P **P 10 10 54.0 +1.2**
PKI Pulchoki 56.74 275 *e*P **P 10 10 53.6 0.0**
comp=Z,4.2nm,0.5s
PKI Pulchoki 56.74 275 *e*P **P 10 10 53.6 0.0**
comp=Z,9.0nm,0.8s
PKIN Phulchoki 56.74 275 *e*P **P 10 10 53.5 -0.1**
comp=Z,111nm,1.1s
PKIN Phulchoki 56.74 275 *e*P **P 10 10 53.6 -0.1**
BMO Blue Mountains 56.80 58 P **P 10 10 55.0 +1.4**
BMO pmax pmax
comp=Z,16nm,1.0s
BMO Blue Mountains 56.80 58 P **P 10 10 55.0 +1.4**
MOD Modoc Plateau 56.90 63 P **P 10 10 55.8 +1.4**
MOD IAmb IAmb 10 10 57.4
comp=Z,27nm,0.9s
DMN Daman 56.91 275 *e*P **P 10 10 54.7 -0.1**
DMN Daman 56.91 275 *e*P **P 10 10 54.9 +0.1**
comp=Z,78nm,0.5s
GKN Gorkha 56.96 276 *e*P **P 10 10 54.7 -0.3**
GKN Gorkha 56.96 276 *e*P **P 10 10 54.7 -0.3**
comp=Z,154nm,0.6s
LUWI Luwuk 56.99 220 P **P 10 10 54.5 -0.6**
comp=Z,115nm,0.9s
LUWI Luwuk 56.99 220 P **P 10 10 54.1 -1.0**
O03E Paynes Creek 57.01 65 P **P 10 10 56.2 +1.1**
baz=309,SNR=26
MPSI Mapaga 57.02 223 P **P 10 10 56.5 +1.2**
comp=Z,36nm,0.9s
PATY Pattaya 57.11 251 P **P 10 10 58.5 +2.5**
comp=Z,68μm,1.0s
SRDT SRDT 57.13 253 P **P 10 10 57.5 +1.4**
comp=Z,31nm,1.5s
TMCR Tamitsa 57.17 332 *e*P **P 10 10 53.8 -1.9**
TMCR pmax pmax
comp=Z,61nm,1.3s
KTK1 Kautokeino 57.28 341 *e*P **P 10 10 55.0 -1.5**
DANN Dangsing 57.30 277 *e*P **P 10 10 57.8 +0.2**
comp=Z,93nm,0.5s
DANN Dangsing 57.30 277 *e*P **P 10 10 57.9 +0.3**
comp=Z,93nm,0.5s
GDXM Geysers 57.34 67 P **P 10 10 59.9 +2.4**
APSI Ampana 57.35 221 P **P 10 10 57.7 +0.1**

comp=Z,110nm,1.1s,comp=Z,918nm
PLID Pearl Lake 57.39 57 P **P 10 10 59.4 +1.5**
PLID IAmb IAmb 10 11 14.7
comp=Z,38nm,0.8s
MSO Missoula 57.44 55 P **P 10 10 59.1 +1.0**
baz=308,SNR=23
MSO Missoula 57.44 55 P **P 10 10 59.7 +1.6**
MSO IAmb IAmb 10 11 01.1
comp=Z,45nm,1.5s
BNDI Bandanaira 57.49 210 P **P 10 10 59.1 +0.6**
comp=Z,215nm,1.1s
WVOR Wild Horse Val 57.54 61 P **P 10 11 00.1 +1.2**
WVOR pmax pmax
comp=Z,25nm,0.9s
WVOR Wild Horse Val 57.54 61 P **P 10 11 00.1 +1.2**
WVOR IAmb IAmb 10 11 13.7
comp=Z,25nm,0.9s
TRO Tromso 57.63 343 *e*P **P 10 10 57.7 -1.1**
ORV Oroville 57.65 65 P **P 10 11 00.2 +0.7**
ORV pmax pmax
comp=Z,17nm,1.0s
ORV Oroville 57.65 65 P **P 10 11 00.2 +0.7**
KOLN Koldanda 57.79 277 *e*P **P 10 11 00.5 -0.4**
KOLN Koldanda 57.79 277 *e*P **P 10 11 00.8 -0.1**
PHET Kaeng Krachan 57.90 252 P **P 10 11 03.2 +1.7**
comp=Z,106μm,1.0s
BTK Batken 57.94 296 P **P 10 11 00.8 -0.8**
BTK pmax pmax
comp=Z,14nm,0.9s
BTK Batken 57.94 296 P **P 10 11 00.8 -0.8**
BEKR Beckworth 58.14 64 P **P 10 11 04.2 +1.0**
BEKR IAmb IAmb 10 11 05.6
comp=Z,21nm,1.0s
AB31 Akbulak array 58.18 310 *i*P **P 10 11 01.1 -2.0**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
FFC Flin Flon 58.29 42 P **P 10 11 05.3 +1.5**
FFC pmax pmax
comp=Z,37nm,1.0s
FFC Flin Flon 58.29 42 P **P 10 11 05.3 +1.5**
FFC IAmb IAmb 10 11 18.9
comp=Z,37nm,0.9s
AFDM Forest Hills D 58.35 66 P **P 10 11 05.6 +1.1**
PMG Port Moresby 58.37 189 P **P 10 11 04.8 +0.1**
PMG pmax pmax
comp=Z,32nm,0.9s
PMG Port Moresby 58.37 189 P **P 10 11 04.8 +0.1**
PMG IAmb IAmb 10 11 06.3
comp=Z,32nm,0.9s
AKTO Aktyubinsk 58.40 312 P **P 10 11 02.6 -2.0**
AKTO pmax pmax
comp=Z,11nm,0.9s
MFID Camas Ranch 58.53 59 P **P 10 11 07.5 +1.7**
SUMG Summit 58.56 5 *i*P **P 10 11 06.0 +0.1**
SUMG pmax pmax
comp=Z,51nm,0.6s
SUMG Summit 58.56 5 *i*P **P 10 11 06.0 +0.1**
comp=Z,51nm,0.6s
SUMG Summit 58.56 5 P **P 10 11 06.2 +0.3**
RUBR Rubicon Trail 58.78 65 P **P 10 11 09.5 +1.8**
RUBR IAmb IAmb 10 11 22.9
comp=Z,19nm,0.9s
FCC Fort Churchill 58.80 35 P **P 10 11 07.8 +0.6**
FCC pmax pmax
comp=Z,51nm,1.0s
FCC Fort Churchill 58.80 35 P **P 10 11 07.8 +0.6**
PAHR Pah Rah Range 58.82 64 P **P 10 11 09.6 +1.7**
PAHR IAmb IAmb 10 11 10.4
comp=Z,19nm,1.0s
EGMT Eagleton 58.89 51 P **P 10 11 09.5 +1.3**
baz=310,SNR=6.6
EGMT Eagleton 58.89 51 P **P 10 11 09.6 +1.4**
EGMT IAmb IAmb 10 11 23.3
comp=Z,42nm,1.1s
GAR Garm 58.91 295 P **P 10 11 07.3 -1.2**
GAR IAmb IAmb 10 11 22.5
comp=Z,56nm,1.2s
VCNR Virginia City 58.92 65 P **P 10 11 09.4 +0.7**
VCNR IAmb IAmb 10 11 23.6
comp=Z,22nm,0.9s
SBUM Sibu 58.97 233 P **P 10 11 09.8 +0.9**
PNTR Pine Nut 59.08 65 P **P 10 11 11.5 +1.7**
PNTR IAmb IAmb 10 11 30.8
comp=Z,27nm,0.9s
DLMT Dillon 59.09 55 P **P 10 11 11.2 +1.5**
CMB Columbia Colle 59.29 66 P **P 10 11 12.5 +1.5**
CMB pmax pmax
comp=Z,18nm,1.1s
CMB Columbia Colle 59.29 66 P **P 10 11 12.5 +1.5**
MCMT McKenzie Canyo 59.29 56 P **P 10 11 12.0 +0.8**
YERR Yerington 59.37 65 P **P 10 11 13.4 +1.6**
YERR IAmb IAmb 10 11 14.5
comp=Z,23nm,0.9s
BOZ Bozeman (W) 59.46 54 P **P 10 11 13.6 +1.4**
baz=310
WAKR Walker 59.56 65 P **P 10 11 14.6 +1.5**
WAKR IAmb IAmb 10 11 28.2
comp=Z,27nm,0.9s
BMN Battle Mountai 59.63 62 P **P 10 11 15.1 +1.6**
BMN pmax pmax
comp=Z,26nm,0.9s
BMN Battle Mountai 59.63 62 P **P 10 11 15.1 +1.6**
BMN IAmb IAmb 10 11 29.1
comp=Z,26nm,0.9s
KDI Kendari 59.69 218 P **P 10 11 15.7 +1.8**
comp=Z,63nm,0.9s,comp=Z,2μm
STEI Steigen 59.79 344 *e*P **P 10 11 12.0 -1.9**
BKB Balikpapan 59.82 226 P **P 10 11 15.2 +0.5**
CHGR Chuyangaron 59.82 295 P **P 10 11 13.0 -1.8**
CHGR IAmb IAmb 10 11 29.9
comp=Z,34nm,0.8s
KVN Kaiserville 60.00 64 P **P 10 11 17.5 +1.4**
KVN pmax pmax
comp=Z,31nm,0.9s
KVN Kaiserville 60.00 64 P **P 10 11 17.5 +1.4**
KVN IAmb IAmb 10 11 31.1
comp=Z,31nm,0.9s
RYN Ryan 60.02 64 P **P 10 11 17.5 +1.3**
RYN IAmb IAmb 10 11 31.6
comp=Z,31nm,0.9s
QLMT Earthquake Lak 60.06 55 P **P 10 11 16.9 +0.4**
YHL Hebgen Lake 60.18 55 P **P 10 11 18.3 +0.9**
YHB Horse Butte 60.24 55 P **P 10 11 19.6 +1.9**
NVAR Mina Array Bea 60.28 65 P **P 10 11 19.9 +1.8**
comp=Z,11nm,0.7s,baz=294,slow=7.2,SNR=92
NVAR pP **pP 10 11 31.3 -1.9**
comp=Z,21nm,0.9s,baz=287,slow=5.6,SNR=22
SAUI Saumlaki 60.30 207 P **P 10 11 18.7 +0.7**
MDPB Devils Postpil 60.34 66 P **P 10 11 19.8 +1.3**
NV11 Mina Array Sit 60.37 64 P **P 10 11 20.1 +1.5**
OMMB Oid Mammoth Mi 60.40 66 P **P 10 11 20.9 +1.9**
YHH Holmes Hill 60.40 55 P **P 10 11 20.6 +1.7**
YMR Madison River 60.42 55 P **P 10 11 21.4 +2.5**
MLAC Mammoth, Mammo 60.48 66 P **P 10 11 21.6 +2.1**
baz=311
YNR Norris Junctio 60.54 55 P **P 10 11 22.6 +2.9**
NIL Nilore 60.57 289 P **P 10 11 19.4 -0.5**
NIL pmax pmax
comp=Z,27nm,0.8s
NIL Nilore 60.57 289 P **P 10 11 19.4 -0.5**
NIL IAmb IAmb 10 11 23.5
comp=Z,27nm,0.8s
ELK Elko 60.58 61 P **P 10 11 21.9 +1.8**
ELK pmax pmax
comp=Z,25nm,0.9s
ELK Elko 60.58 61 LR LR 10 34 50.2
comp=Z,445nm,21.7s,baz=318,slow=33
ELK Elko 60.58 61 P **P 10 11 21.9 +1.8**
ELK IAmb IAmb 10 11 35.5
comp=Z,25nm,0.9s
YUF Upper Falls 60.63 55 P **P 10 11 22.7 +2.3**
YNE Yellowstone No 60.71 54 P **P 10 11 22.7 +1.8**
ILULI Ilulissat 60.73 10 *i*P **P 10 11 19.8 -0.5**
ILULI pmax pmax
comp=Z,26nm,0.9s
ILULI Ilulissat 60.73 10 *i*P **P 10 11 19.8 -0.5**
comp=Z,26nm,0.9s
YPP Pitchstone Pla 60.77 55 P **P 10 11 24.4 +3.1**
LKWY Lake 60.79 55 P **P 10 11 23.2 +1.7**
LKWY pmax pmax
comp=Z,35nm,1.2s
LKWY Lake 60.79 55 P **P 10 11 23.2 +1.7**
LKWY IAmb IAmb 10 11 40.6
comp=Z,35nm,1.2s
KSM Kuching 60.80 234 P **P 10 11 22.8 +1.3**

H17A	Grant Village	60.81	55	P		P	10 11 24.9	+3.3
	baz=311,SNR=18							
H17A	Grant Village	60.81	55	P		P	10 11 25.4	+3.8
H17A				lAmb		lAmb	10 11 40.9	
	comp=Z,30nm,1.0s							
YMP	Mirror Lake Pl	60.81	54	P		P	10 11 23.1	+1.4
PAGB	Antelope Grade	60.87	68	P		P	10 11 23.4	+1.6
SPSI	Sidrap Palu	60.90	221	P		P	10 11 22.2	0.0
	comp=Z,65nm,1.1s,comp=Z,900nm							
FLWY	Flagg Ranch	60.95	55	P		P	10 11 23.5	+1.0
FLWY				lAmb		lAmb	10 11 38.2	
	comp=Z,16nm,0.8s							
RLMT	Red Lodge	61.03	54	P		P	10 11 25.4	+2.3
	baz=311							
RLMT	Red Lodge	61.03	54	P		P	10 11 25.4	+2.3
RLMT				lAmb		lAmb	10 11 39.9	
	comp=Z,34nm,0.9s							
FXWY	Fox Creek	61.06	56	P		P	10 11 25.6	+2.3
MOOW	Moose Ponds	61.14	56	P		P	10 11 26.0	+2.2
BNSI	Bone	61.14	221	P		P	10 11 24.9	+1.1
	comp=Z,117nm,1.1s							
TPAW	Teton Pass	61.20	56	P		P	10 11 25.3	+1.1
TPAW				lAmb		lAmb	10 11 42.2	
	comp=Z,28nm,0.8s							
TIN	Tinemaha, Big	61.23	66	P		P	10 11 26.1	+1.7
	baz=311							
SMMC	Simmler	61.30	68	P		P	10 11 26.2	+1.4
	baz=312,SNR=5.4							
HVU	Hansel Valley	61.31	58	P		P	10 11 27.0	+2.1
HVU				pmax		pmax		
	comp=Z,27nm,1.1s							
HVU	Hansel Valley	61.31	58	P		P	10 11 27.1	+2.1
SNOW	Snow King Moun	61.32	56	P		P	10 11 27.9	+2.8
SNOW				lAmb		lAmb	10 11 37.0	
	comp=Z,21nm,0.9s							
REDW	Red Top Meadow	61.34	56	P		P	10 11 27.2	+2.1
REDW				lAmb		lAmb	10 11 44.3	
	comp=Z,33nm,1.0s							
DGMT	Dagmar	61.41	48	P		P	10 11 26.8	+1.5
	baz=312,SNR=9.9							
DGMT	Dagmar	61.41	48	P		P	10 11 27.2	+1.9
MOR8	Moi Rana	61.48	343	*eP*		P	10 11 22.4	-3.1
VES	Vestal, Richgr	61.51	67	P		P	10 11 26.9	+0.8
	baz=312							
LAO	LASA Array	61.58	51	P		P	10 11 28.6	+2.0
	baz=312,SNR=15							
LAO	LASA Array	61.58	51	P		P	10 11 29.1	+2.5
AHID	Auburn Hatcher	61.59	57	P		P	10 11 25.7	-1.2
AHID				lAmb		lAmb	10 11 44.0	
	comp=Z,21nm,0.8s							
PKM	Mcpherson Peak	61.69	68	P		P	10 11 28.9	+1.3
	baz=312,SNR=7.7							
CWC	Cottonwood Cre	61.72	66	P		P	10 11 28.9	+1.1
	baz=312							
BGU	Big Grassy Mou	61.73	59	P		P	10 11 29.1	+1.3
TRTT	Trang	61.77	248	P		P	10 11 30.2	+2.1
	comp=Z,29nm,1.9s							
GRAC	Grapevine Rang	61.78	65	P		P	10 11 29.7	+1.6
	baz=312,SNR=5.4							
SPUT	South Promonto	61.80	59	P		P	10 11 29.7	+1.4
KAPI	Kappang	61.85	221	P		P	10 11 28.7	+0.2
KAPI				pmax		pmax		
	comp=Z,74nm,1.2s							
KAPI	Kappang	61.85	221	P		P	10 11 28.7	+0.2
R11A	Troy Canyon, C	61.95	63	P		P	10 11 30.5	+1.2
	baz=312,SNR=33							
R11A	Troy Canyon, C	61.95	63	P		P	10 11 30.6	+1.3
R11A				lAmb		lAmb	10 11 44.5	
	comp=Z,23nm,0.9s							
BKSI	Bulukumba	61.96	220	P		P	10 11 29.6	+0.3
	comp=Z,56nm,0.9s							
ISA	Isabella, Lake	61.99	67	P		P	10 11 29.9	+0.4
	baz=312,SNR=5.7							
ISA	Isabella, Lake	61.99	67	P		P	10 11 30.1	+0.6
ISA				pmax		pmax		
	comp=Z,8.0nm,0.9s							
ISA	Isabella, Lake	61.99	67	P		P	10 11 30.1	+0.6
SBC	Santa Barbara	62.05	69	P		P	10 11 31.1	+1.4
	baz=312							
HWUT	Hardware Ranch	62.10	58	P		P	10 11 32.3	+2.0
HWUT				lAmb		lAmb	10 11 49.2	
	comp=Z,15nm,0.8s							
DAC	Darwin (Calif)	62.12	66	P		P	10 11 33.9	+3.4
DAC				pmax		pmax		
	comp=Z,8.0nm,1.1s							
DAC	Darwin (Calif)	62.12	66	P		P	10 11 33.9	+3.4
ARVC	Arvin	62.13	68	P		P	10 11 31.4	+1.0
	baz=312							
MPMC	Manual Prospec	62.33	66	P		P	10 11 33.0	+1.1
	baz=312,SNR=20							
DUG	Dugway, Tooele	62.33	60	P		P	10 11 33.7	+1.9
	baz=312,SNR=31							
DUG	Dugway, Tooele	62.33	60	P		P	10 11 33.5	+1.7
DUG				pmax		pmax		
	comp=Z,40nm,1.0s							
DUG	Dugway, Tooele	62.33	60	P		P	10 11 33.5	+1.7
DUG				lAmb		lAmb	10 11 46.7	
	comp=Z,40nm,0.9s							
SCZ2	Santa Cruz Isl	62.39	69	P		P	10 11 33.0	+0.9
	baz=312							
FURC	Furnace Creek,	62.44	65	P		P	10 11 33.6	+1.3
	baz=312,SNR=45							
BW06	Boulder Array	62.44	56	P		P	10 11 34.0	+1.4
	baz=312,SNR=20							
BW06	Boulder Array	62.44	56	P		P	10 11 34.1	+1.5
BW06				lAmb		lAmb	10 11 43.4	
	comp=Z,25nm,0.9s							
PD31	Pinedale Array	62.44	56	P		P	10 11 34.5	+1.8
PD31				lAmb		lAmb	10 11 43.3	
	comp=Z,22nm,0.9s							
PDAR	Pinedale Array	62.44	56	P		P	10 11 34.4	+1.8
	comp=Z,12nm,0.8s,baz=303,slow=2.0,SNR=100							
PDAR				LR		LR	10 40 25.4	
	comp=Z,168nm,19.7s,baz=340,slow=38							
TPNV	Topopah Spring	62.48	65	P		P	10 11 34.1	+1.3
	baz=312,SNR=26							
TPNV	Topopah Spring	62.48	65	P		P	10 11 34.5	+1.6
TPNV	Topopah Spring	62.48	65	P		P	10 11 34.5	+1.6
TCUT	Toone Canyon	62.52	58	P		P	10 11 35.4	+2.3
OSI	Osito Audit: C	62.54	68	P		P	10 11 34.2	+1.1
	baz=312							
KBL	Kabul	62.59	292	P		P	10 11 31.1	-2.6
KBL				pmax		pmax		
	comp=Z,22nm,1.2s							
KBL	Kabul	62.59	292	P		P	10 11 31.1	-2.6
KBL				lAmb		lAmb	10 11 36.1	
	comp=Z,22nm,1.1s							
LRMC	Laurel Mtn Rad	62.60	67	P		P	10 11 34.4	+0.8
	baz=312,SNR=10.0							
BLG	Laguna Peak, P	62.67	69	P		P	10 11 34.3	+0.3
	baz=312							
FIA1	FINESS Array S	62.77	335	P		P	10 11 32.9	-1.3
FIA1				lAmb		lAmb	10 11 34.8	
	comp=Z,27nm,1.1s							
FINES	FINESS Array B	62.78	335	P		P	10 11 33.0	-1.2
	comp=Z,7.3nm,0.4s,baz=32,slow=7.4,SNR=68							
FINES				LR		LR	10 41 41.7	
	comp=Z,993nm,19.9s,baz=34,slow=39							
EDW2	Edwards Air Fo	62.81	67	P		P	10 11 36.0	+1.0
	baz=312,SNR=18							
JLU	Jordanelle	62.84	59	P		P	10 11 37.5	+2.2
PSUT	Pine Spring	62.84	62	P		P	10 11 37.1	+1.9
SFJD	Kangerlussuaq	62.89	11	*i* P		P	10 11 34.4	-0.4
SFJD	Kangerlussuaq	62.89	11	*i* P		P	10 11 34.4	-0.4
NLU	North Lily Min	62.92	60	P		P	10 11 37.6	+1.8
SNCC	San Nicolas Is	62.96	70	P		P	10 11 36.8	+1.0
	baz=312							
DECC	Green Verdugo	63.02	68	P		P	10 11 37.4	+1.1
	baz=312							
PASC	Pasadena Art C	63.17	68	P		P	10 11 37.6	+0.3
SHOC	Shoshone, Teco	63.17	65	P		P	10 11 38.5	+1.2
	baz=312,SNR=10							
KULM	Kulim	63.19	245	P		P	10 11 38.2	+0.6
MWC	Mount Wilson	63.21	68	P		P	10 11 38.5	+0.8
MWC				pmax		pmax		
	comp=Z,21nm,1.0s							
MWC	Mount Wilson	63.21	68	P		P	10 11 38.5	+0.8
MWC				lAmb		lAmb	10 11 51.9	
	comp=Z,21nm,1.0s							
GSC	Goldstone, Bar	63.25	66	P		P	10 11 39.0	+1.1
	baz=312,SNR=13							
GSC	Goldstone, Bar	63.25	66	P		P	10 11 39.1	+1.2
GSC				pmax		pmax		
	comp=Z,15nm,0.9s							
GSC	Goldstone, Bar	63.25	66	P		P	10 11 39.1	+1.2
COEN	Coen	63.37	193	P		P	10 11 39.0	+0.4
SHPR	Sheep Range	63.43	64	P		P	10 11 41.1	+1.9
BFSC	Mount Baldy Ra	63.44	68	P		P	10 11 40.1	+0.8
	baz=313,SNR=7.7							
MOS	Moscow	63.53	326	*eP*		P	10 11 38.1	-1.2
MOS				*e*			10 12 13.1	
MOS				MLR		MLR		
	comp=Z,600nm,21.0s							
CIS	Catalina Islan	63.54	69	P		P	10 11 40.8	+1.0
	baz=313							
TCRU	Three Creeks R	63.61	61	P		P	10 11 42.2	+1.8
IPM	Ipoh	63.61	244	P		P	10 11 40.3	-0.1
IPM				lAmb		lAmb	10 11 41.9	
	comp=Z,53nm,1.1s							
TUQ	Turquoise Moun	63.69	66	P		P	10 11 42.0	+1.1
	baz=313,SNR=26							
SCI2	San Clemente I	63.75	69	P		P	10 11 42.2	+1.1
	baz=313							
CCUT	Cedar City	63.79	62	P		P	10 11 42.6	+1.0
MSU	Marysvale	63.83	61	P		P	10 11 44.1	+2.3
MSU	Marysvale	63.83	61	P		P	10 11 44.1	+2.3
HEC	Hector,Ludlow	63.85	66	P		P	10 11 43.1	+1.2
	baz=313,SNR=11							
TMUT	Trail Mountain	63.85	60	P		P	10 11 43.8	+1.7
BBRC	Big Bear Solar	63.88	67	P		P	10 11 43.3	+1.0
	baz=313,SNR=8.9							
SZCU	Shurtz Canyon	63.92	62	P		P	10 11 42.8	+0.3
MDND	Maddock	64.06	46	P		P	10 11 43.1	+0.2
	baz=315							
MDND	Maddock	64.06	46	P		P	10 11 45.4	+2.4
ULM	Lac du Bonnet	64.08	42	P		P	10 11 43.7	+0.7
ULM				pmax		pmax		
	comp=Z,28nm,0.9s							
ULM	Lac du Bonnet	64.08	42	P		P	10 11 44.0	+1.0
	comp=Z,6.2nm,0.8s,baz=325,slow=7.0,SNR=9.7							
ULM				pP		pP	10 11 56.4	-2.0
	comp=Z,21nm,0.9s,baz=318,slow=6.7,SNR=16							
ULM				LR		LR	10 40 20.2	
	comp=Z,608nm,21.5s,baz=309,slow=37							
ULM	Lac du Bonnet	64.08	42	P		P	10 11 43.7	+0.7
ULM				lAmb		lAmb	10 11 57.6	
	comp=Z,28nm,0.9s							
MMRI	Maumere	64.09	217	P		P	10 11 43.7	+0.3
	comp=Z,135nm,1.2s							
MMRI	Maumere	64.09	217	P		P	10 11 42.8	-0.6
Q16A	Castle Valley	64.13	60	P		P	10 11 45.8	+2.0
MTPU	Mount Pierson	64.14	61	P		P	10 11 45.6	+1.5
MURC	Murrieta	64.16	68	P		P	10 11 44.7	+0.9
	baz=313,SNR=5.6							
K22A	Casper	64.16	54	P		P	10 11 44.9	+1.0
	baz=314							
K22A	Casper	64.16	54	P		P	10 11 44.0	+0.1
K22A				lAmb		lAmb	10 11 59.2	
	comp=Z,28nm,1.3s							
LCMT	Little Creek M	64.22	63	P		P	10 11 46.0	+1.7
GMRC	Granite Mounta	64.29	66	P		P	10 11 45.7	+0.9
	baz=313,SNR=11							
SOEI	Soe	64.33	214	P		P	10 11 45.4	+0.3
	comp=Z,111nm,1.0s							
SOEI	Soe	64.33	214	P		P	10 11 45.0	-0.1
SRU	San Rafael Swe	64.37	59	P		P	10 11 46.8	+1.5
SRU				pmax		pmax		
	comp=Z,40nm,0.9s							
SRU	San Rafael Swe	64.37	59	P		P	10 11 46.8	+1.5
OBN	Obninsk	64.40	326	*eP*		P	10 11 43.7	-1.3
OBN					*PP	sP	10 12 04.0	-2.7
OBN				*i*			10 12 18.5	
OBN				S		S	10 20 20.0	+1.2
OBN					*SS	sS	10 20 49.0	+4.2
OBN				pmax		pmax		
	comp=Z,10.0nm,0.4s							
OBN				MLR		MLR		
	comp=Z,684nm,20.0s							
OBN	Obninsk	64.40	326	*eP*		P	10 11 43.4	-1.6
RWWY	Rawlins	64.45	55	P		P	10 11 45.5	-0.4
RWWY				lAmb		lAmb	10 11 56.8	
	comp=Z,21nm,0.8s							
RSSD	Black Hills	64.46	52	P		P	10 11 47.0	+1.1
	baz=314							
RSSD	Black Hills	64.46	52	P		P	10 11 46.8	+0.9
RSSD				pmax		pmax		
	comp=Z,63nm,1.0s							
RSSD	Black Hills	64.46	52	P		P	10 11 46.8	+0.9
KNB	Kanab	64.47	62	P		P	10 11 47.9	+1.9
KNB				pmax		pmax		
	comp=Z,32nm,0.9s							
KNB	Kanab	64.47	62	P		P	10 11 47.9	+1.9
PKCU	Pink Cliffs	64.47	62	P		P	10 11 47.9	+1.7
PFO	Pinyon Flats O	64.60	67	P		P	10 11 47.4	+0.6
	baz=313,SNR=5.3							
PFO	Pinyon Flats O	64.60	67	*i* P		P	10 11 48.0	+1.2
PFO	Pinyon Flats O	64.60	67	LR		LR	10 34 54.8	
	comp=Z,570nm,21.8s,baz=300,slow=31							
PFO	Pinyon Flats O	64.60	67	P		P	10 11 48.0	+1.2
XPFO	Pion Flat	64.60	67	P		P	10 11 48.0	+1.2
BELC	Belle Mtn. Jos	64.62	67	P		P	10 11 47.5	+0.5
	baz=313,SNR=8.5							
109C	Camp Elliot, M	64.70	68	P		P	10 11 48.1	+0.8
	baz=313							
109C	Camp Elliot, M	64.70	68	P		P	10 11 48.4	+1.1
MTN	Manton Dam	64.95	206	P		P	10 11 49.4	+0.5
O20A	White River Ci	64.95	57	P		P	10 11 50.3	+1.1
	baz=314,SNR=6.9							
O20A	White River Ci	64.95	57	P		P	10 11 50.6	+1.5
O20A				lAmb		lAmb	10 12 08.4	
	comp=Z,19nm,0.9s							
BATI	Baumata	64.97	215	P		P	10 11 51.4	+2.2
IRM	Iron Mountain	65.03	66	P		P	10 11 50.6	+1.1
	baz=313,SNR=20							
BAR	Barrett	65.11	68	P		P	10 11 51.2	+1.2
MONP2	Monument Peak	65.11	68	P		P	10 11 51.0	+0.7
	baz=313,SNR=5.6							
W13A	Hualapai Mount	65.14	65	P		P	10 11 52.0	+1.5
U15A	North Rim	65.18	63	P		P	10 11 52.5	+1.7
U15A				lAmb		lAmb	10 12 07.2	
	comp=Z,27nm,1.1s							
BC3	Big Chuckawall	65.18	67	P		P	10 11 51.4	+0.8
	baz=314,SNR=9.8							
VRH	Novokhopyorsk	65.32	321	*eP*		P	10 11 48.7	-2.3
VRH				pmax		pmax		
	comp=Z,40nm,1.4s							
LPSR	Galich'ya Gora	65.41	323	*eP*		P	10 11 49.8	-1.8
LPSR				pmax		pmax		
	comp=Z,20nm,1.0s							
SWSC	Sam W. Stewart	65.46	68	P		P	10 11 53.0	+0.7
	baz=314							
IKP	In-Ko-Pah, Jac	65.47	68	P		P	10 11 53.4	+1.0
	baz=314,SNR=9.2							
AGMN	Agassiz Nation	65.50	44	P		P	10 11 55.5	+3.3
AGMN				lAmb		lAmb	10 12 07.4	
	comp=Z,42nm,1.0s							
Y12C	Blythe	65.68	66	P		P	10 11 54.8	+1.1
	baz=314,SNR=6.6							
Y12C	Blythe	65.68	66	P		P	10 11 55.4	+1.7
N23A	Red Feather La	65.69	55	P		P	10 11 55.9	+1.9
	baz=314,SNR=12							
N23A	Red Feather La	65.69	55	P		P	10 11 56.0	+2.1
GLA	Glamis	65.98	67	P		P	10 11 56.4	+0.7
	baz=314							
GLA	Glamis	65.98	67	P		P	10 11 57.0	+1.3
GLA				pmax		pmax		
	comp=Z,19nm,1.0s							
GLA	Glamis	65.98	67	P		P	10 11 57.0	+1.3
MOL	Molde	66.03	344	*eP*		P	10 11 55.1	-0.3
PLAI	Plampang	66.11	221	P		P	10 11 55.4	-1.1
	comp=Z,81nm,1.1s,comp=Z,896nm							
PSI	Prapat	66.20	245	P		P	10 11 57.4	+0.1
PSI				pmax		pmax		
	comp=Z,45nm,0.8s							
DOMB	Dombas	66.24	343	*eP*		P	10 11 56.1	-0.8
RPSI	Rantau Prapat	66.29	245	P		P	10 11 57.4	-0.3
SMCO	Snowmass	66.32	57	P		P	10 11 60.0	+1.7
WUAZ	Wupatki	66.34	63	P		P	10 11 59.6	+1.5
	baz=314,SNR=15							
WUAZ	Wupatki	66.34	63	P		P	10 11 59.9	+1.7
VSR	Storozhevoye	66.37	322	*eP*		P	10 11 56.6	-1.2
VSR				pmax		pmax		
	comp=Z,30nm,1.2s							
TWSI	Taliwang, Sumb	66.42	222	P		P	10 11 58.7	+0.2
	comp=Z,50nm,1.1s							
Y14A	Wickenburg	66.47	65	P		P	10 12 00.2	+1.5
VORD	Divnogorie	66.51	322	*eP*		P	10 11 57.1	-1.6
VORD				pmax		pmax		
	comp=Z,20nm,1.1s							
NC303	NORSAR Array S	66.53	342	*eP*		P	10 11 57.8	-0.9
NC303	NORSAR Array S	66.53	342	P		P	10 11 57.7	-0.9
NC405	NORSAR Array S	66.56	342	P		P	10 11 58.5	-0.4
NC405				lAmb		lAmb	10 12 02.2	
	comp=Z,42nm,1.1s							
MLSI	Meulaboh, Aceh	66.58	248	P		P	10 11 59.6	0.0
	comp=Z,120nm,0.9s							
SRBI	Singaraja	66.60	224	P		P	10 12 00.8	+1.2
	comp=Z,112nm,0.9s,comp=Z,1μm							
NC204	NORSAR Array S	66.61	342	P		P	10 11 58.6	-0.6
NC204				lAmb		lAmb	10 12 06.7	
	comp=Z,30nm,1.2s							
ISCO	Idaho Springs	66.64	56	P		P	10 12 02.1	+2.0
	baz=315,SNR=27							
ISCO	Idaho Springs	66.64	56	P		P	10 12 02.3	+2.2
ISCO				pmax		pmax		
	comp=Z,22nm,1.0s							
ISCO	Idaho Springs	66.64	56	P		P	10 12 02.2	+2.2
ISCO				lAmb		lAmb	10 12 14.7	
	comp=Z,22nm,0.9s							
NB201	NORSAR Array S	66.71	342	P		P	10 11 59.0	-0.8
NB2	NORSAR Subarra	66.73	342	P		P	10 11 58.7	-1.3
	comp=Z,6.8nm,0.6s,baz=24,slow=6.5							
NB2	NORSAR Subarra	66.73	342	P		P	10 11 58.7	-1.3
	baz=24,slow=6.5							
NOA	NORSAR Array B	66.73	342	P		P	10 11 58.7	-1.3
	comp=Z,4.6nm,0.5s,baz=25,slow=6.4,SNR=27							
NOA				LR		LR	10 45 58.5	
	comp=Z,510nm,19.6s,baz=25,slow=40							
GEYT	Alibeck	66.73	301	P		P	10 11 59.7	-0.7
	comp=Z,2.2nm,0.5s,baz=15,slow=6.2,SNR=3.7							
GEYT				LR		LR	10 43 18.9	
	comp=Z,808nm,19.2s,baz=70,slow=38							
HRA	Herat	66.81	296	P		P	10 12 00.9	-0.2
113A	Mohawk Valley,	66.82	66	P		P	10 12 02.4	+1.4
MVCO	Mesa Verde	66.83	60	P		P	10 12 02.8	+1.5
	baz=315,SNR=18							
MVCO	Mesa Verde	66.83	60	P		P	10 12 02.6	+1.3
MVCO				lAmb		lAmb	10 12 17.5	
	comp=Z,26nm,1.1s							
BKNI	Bangkinang	66.93	242	P		P	10 12 03.6	+1.8
	comp=Z,159nm,0.6s,comp=Z,4μm							
BKNI	Bangkinang	66.93	242	P		P	10 12 02.8	+1.0
HFS	Hagfors	67.02	340	P		P	10 12 01.0	-0.8
	comp=Z,9.4nm,0.4s,baz=46,slow=4.3,SNR=51							
X16A	Lo Mia Camp, P	67.07	64	P		P	10 12 04.9	+2.2
S22A	4UR Ranch, Cre	67.40	58	P		P	10 12 06.9	+2.0
	baz=315,SNR=22							
S22A	4UR Ranch, Cre	67.40	58	P		P	10 12 07.4	+2.4
S22A				lAmb		lAmb	10 12 15.7	
	comp=Z,32nm,1.2s							
Q24A	Divide	67.48	56	P		P	10 12 06.6	+1.2
	baz=315							
Q24A	Divide	67.48	56	P		P	10 12 07.8	+2.4
EYMN	Ely	67.72	42	P		P	10 12 07.3	+0.8
	baz=319,SNR=5.3							
EYMN	Ely	67.72	42	P		P	10 12 09.9	+3.4
EYMN				lAmb		lAmb	10 12 21.5	
	comp=Z,51nm,0.9s							
SDSI	Sungai Dareh	67.73	241	P		P	10 12 09.5	+2.7
OGNE	Ogallala	67.75	53	P		P	10 12 08.3	+1.5
	baz=316,SNR=13							
OGNE	Ogallala	67.75	53	P		P	10 12 08.5	+1.7
NGJI	Ngawi	67.75	228	P		P	10 12 09.6	+2.7
X18A	Snowflake	67.87	63	P		P	10 12 10.0	+2.2
MICGM	Minsk	67.94	330	*e*		P	10 12 08.0	+0.4
MNK	Minsk	67.94	330	*eP*		P	10 12 08.0	+0.4
214A	Organ Pipe Nat	67.96	66	P		P	10 12 09.6	+1.4
	baz=315,SNR=9.9							
214A	Organ Pipe Nat	67.96	66	P		P	10 12 10.2	+1.9
SDCO	Great Sand Dun	68.15	57	P		P	10 12 11.2	+1.5
	baz=316,SNR=8.6							
SDCO	Great Sand Dun	68.15	57	P		P	10 12 11.3	+1.6
PWJI	Pagerwojo	68.15	227	P		P	10 12 08.6	-0.8
	comp=Z,58nm,1.0s,comp=Z,2μm							
GSI	Gunungsitoli	68.20	245	P		P	10 12 12.2	+2.4
PDSI	Padang	68.27	241	P		P	10 12 12.8	+2.5
HYB	Hyderabad	68.32	272	*i* P		P	10 12 10.0	-0.7
KNRA	Kununurra	68.33	207	P		P	10 12 11.0	+0.5
WOJI	Wonogiri, Jawa	68.42	228	P		P	10 12 12.0	+0.9
	comp=Z,19nm,1.0s							
ECSD	EROS Data Cent	68.48	48	P		P	10 12 11.9	+0.6
	baz=318,SNR=17							
ECSD	EROS Data Cent	68.48	48	P		P	10 12 12.1	+0.8
ECSD				lAmb		lAmb	10 12 14.3	
	comp=Z,26nm,0.9s							
UGM	Wanagama	68.68	228	P		P	10 12 13.0	+0.2
	comp=Z,123nm,1.3s							
UGM	Wanagama	68.68	228	P		P	10 12 11.8	-1.1
KSCO	Kaye Shedlock'	68.82	55	P		P	10 12 14.4	+0.8
	baz=316							
KSCO	Kaye Shedlock'	68.82	55	P		P	10 12 15.8	+2.2
LHSI	Lahat	68.91	237	P		P	10 12 14.9	+0.7
	comp=Z,109nm,1.0s							
TUC	Tucson	68.94	65	P		P	10 12 15.5	+1.1
	baz=315							
TUC	Tucson	68.94	65	P		P	10 12 16.2	+1.8
TUC				pmax		pmax		
	comp=Z,8.0nm,1.0s							
TUC	Tucson	68.94	65	P		P	10 12 16.2	+1.8
KLSI		68.97	235	P		P	10 12 14.6	0.0
	comp=Z,38nm,1.1s							
MASI	Maura Aman, Be	69.07	239	P		P	10 12 16.4	+1.1
	comp=Z,349nm,1.1s							
MDSI	Maura Dua	69.10	236	P		P	10 12 15.2	-0.2
	comp=Z,36nm,1.0s							
SPMN	Marine on St.	69.18	44	P		P	10 12 15.9	+0.3
	baz=319,SNR=5.6							
SPMN	Marine on St.	69.18	44	P		P	10 12 17.2	+1.6
SPMN				lAmb		lAmb	10 12 30.8	
	comp=Z,43nm,1.0s							
T25A	Trinidad	69.19	57	P		P	10 12 17.5	+1.4
	baz=316,SNR=10							
T25A	Trinidad	69.19	57	P		P	10 12 17.9	+1.9
T25A				lAmb		lAmb	10 12 33.8	
	comp=Z,32nm,1.2s							
MSVF	Nonsav

AKASG LR LR 10 46 00.2
comp=Z,697nm,19.5s,baz=35,slow=38
AKBB Malin Array Si 70.61 327 P **P** **10 12 22.5 -1.7**
AKBB pmax pmax
comp=Z,12nm,0.8s
AKBB Malin Array Si 70.61 327 P **P** **10 12 22.6 -1.7**
POO Poona 70.63 276 ⇓*ix* P **10 12 24.0 -0.9**
ZEI Tsey 70.66 313 *eP* **P** **10 12 22.7 -2.3**
ZEI pmax pmax
comp=Z,13nm,1.2s
WR0 Warramunga Arr 70.87 201 P **P** **10 12 26.2 +0.1**
SCHQ Schefferville 70.89 24 P **P** **10 12 26.6 +0.7**
comp=Z,5.6nm,0.5s,baz=326,slow=5.1,SNR=26
SCHQ LR LR 10 47 46.0
comp=Z,337nm,19.8s,baz=344,slow=39
SCHQ Schefferville 70.89 24 P **P** **10 12 27.1 +1.3**
SCHQ IAmb IAmb 10 12 40.2
comp=Z,41nm,0.9s
WRAB Tennant Creek 70.89 201 P **P** **10 12 26.3 +0.1**
WRAB pmax pmax
comp=Z,90nm,1.1s
WRAB Tennant Creek 70.89 201 P **P** **10 12 26.3 +0.1**
WRA Warramunga Arr 70.90 201 P **P** **10 12 26.4 +0.1**
comp=Z,52nm,0.9s,baz=16,slow=6.4,SNR=99
WRA LR LR 10 43 48.6
comp=Z,120nm,19.7s,baz=50,slow=36
DZM Mont Dzumac 71.25 169 *eP* **P** **10 12 29.7 +1.3**
comp=Z,138nm,1.1s
DZM *eS* **S** **10 21 36.0 -5.4**
comp=Z,209nm,27.3s
DZM *eLQ* LQ 10 31 04.5
comp=Z,2µm,33.6s
DZM *eLR* LR 10 34 02.5
comp=Z,707nm,27.1s
DZM Mont Dzumac 71.25 169 P **P** **10 12 30.6 +2.1**
comp=Z,40nm,1.0s,baz=45,slow=7.5,SNR=10
DZM Mont Dzumac 71.25 169 P **P** **10 12 29.8 +1.4**
KAD Karad 71.29 275 *ex* **P** **10 12 29.2 +0.3**
SCIA State Center 71.50 47 P **P** **10 12 30.7 +0.9**
baz=320
SCIA State Center 71.50 47 P **P** **10 12 31.1 +1.3**
SCIA IAmb IAmb 10 12 44.7
comp=Z,42nm,0.8s
FITZ Fitzroy Crossi 71.59 210 P **P** **10 12 31.3 +0.8**
FITZ IAmb IAmb 10 12 32.6
comp=Z,43nm,0.8s
D46A Sault St. Mari 71.72 38 P **P** **10 12 31.8 +0.7**
baz=324
AKH Akhalkalaki 71.91 313 P **P** **10 12 34.5 +2.0**
AKH pmax pmax
comp=Z,20nm,1.0s
AKH Akhalkalaki 71.91 313 ⇑P **P** **10 12 34.4 +2.0**
AKH Akhalkalaki 71.91 313 P **P** **10 12 34.5 +2.0**
KSU1 Kansas State U 71.93 51 P **P** **10 12 33.1 +0.7**
baz=319
SOC Sochi 72.01 316 *eP* **P** **10 12 32.9 +0.1**
SOC *e* 10 15 07.4
SOC *e*PPP PPP 10 16 55.2
SOC *eS* **S** **10 21 50.8 +1.0**
SOC *eSS* **SS** **10 26 21.1 -5.4**
SOC pmax pmax
comp=Z,15nm,0.5s
SOC MLR MLR
comp=Z,531nm,20.0s
ANN Anapa 72.08 319 *eP* **P** **10 12 31.3 -1.9**
ANN *e**PP **pP** **10 12 48.6 -0.2**
ANN pmax pmax
comp=Z,33nm,1.5s
L40A Anamosa 72.34 46 P **P** **10 12 35.4 +0.5**
L40A IAmb IAmb 10 12 49.0
comp=Z,39nm,1.1s
AMTX Amarillo 72.34 57 P **P** **10 12 36.7 +1.6**
baz=318
AMTX Amarillo 72.34 57 P **P** **10 12 37.4 +2.3**
MSTX Muleshoe 72.40 58 P **P** **10 12 36.6 +1.2**
baz=318,SNR=13
MSTX Muleshoe 72.40 58 P **P** **10 12 37.0 +1.6**
MSTX IAmb IAmb 10 12 45.1
comp=Z,42nm,1.3s
MNTX Cornudas Mount 72.56 62 P **P** **10 12 37.9 +1.6**
baz=317,SNR=18
MNTX Cornudas Mount 72.56 62 P **P** **10 12 38.3 +1.9**
LSQQ Lebel-sur-Quev 72.66 33 P **P** **10 12 36.5 -0.2**
baz=327
U32A Winter Ranch, 72.70 54 P **P** **10 12 38.5 +1.4**
U32A IAmb IAmb 10 12 52.6
comp=Z,37nm,1.1s
MDO Dochfour 72.78 349 *eP* **P** **10 12 36.9 -0.3**
KPL Plockton 73.05 349 *eP* **P** **10 12 38.7 0.0**
LVV L'vov 73.16 329 *eP* **P** **10 12 39.4 -0.2**
VLDQ Val d'Or 73.28 34 P **P** **10 12 40.2 0.0**
VLDQ IAmb IAmb 10 12 53.9
comp=Z,52nm,1.2s
N41A Harden Midland 73.56 46 P **P** **10 12 46.2 +4.1**
KWP Kalwaria Pacla 73.76 330 P **P** **10 12 43.2 +0.1**
KWP Kalwaria Pacla 73.76 330 *eP* **P** **10 12 44.0 +0.9**
KWP *eP* **P** **10 12 44.0 +0.9**
KWP Kalwaria Pacla 73.76 330 P **P** **10 12 43.2 +0.1**
EIDS Eidsvold 73.91 184 P **P** **10 12 45.4 +1.3**
EIDS IAmb IAmb 10 12 46.6
comp=Z,46nm,1.1s
WMOK Wichita Mounta 74.05 55 P **P** **10 12 46.0 +1.0**
baz=319,SNR=20
WMOK Wichita Mounta 74.05 55 P **P** **10 12 46.3 +1.2**
WMOK pmax pmax
comp=Z,18nm,1.0s
WMOK Wichita Mounta 74.05 55 P **P** **10 12 46.2 +1.2**
LAWE Loch Awe, Argy 74.07 349 *eP* **P** **10 12 44.8 +0.1**
LAWE IAmb IAmb 10 12 46.5
comp=Z,49nm,1.1s
OJC Ojcow 74.18 332 P **P** **10 12 45.6 0.0**
OJC pmax pmax
comp=Z,64nm,1.3s
OJC Ojcow 74.18 332 *eP* **P** **10 12 45.3 -0.2**
OJC *eP* **P** **10 12 45.3 -0.2**
OJC Ojcow 74.18 332 P **P** **10 12 45.6 0.0**
OJC IAmb IAmb 10 12 47.5
comp=Z,64nm,1.3s
J47A Sunmer 74.32 41 P **P** **10 12 47.2 +0.7**
baz=324
J47A Sunmer 74.32 41 P **P** **10 12 49.2 +2.7**
J47A IAmb IAmb 10 13 02.1
comp=Z,61nm,0.9s
PALK Pallekele 74.33 263 P **P** **10 12 47.1 +0.2**
PALK Pallekele 74.33 263 P **P** **10 12 47.7 +0.7**
PALK Pallekele 74.33 263 P **P** **10 12 47.7 +0.7**
K46A Dorr 74.34 42 P **P** **10 12 48.1 +1.5**
baz=323
PGBU Glenifferbraes 74.39 348 *eP* **P** **10 12 46.9 +0.3**
PGBU IAmb IAmb 10 12 48.3
comp=Z,322nm,1.4s
FNO Franklin 74.40 54 P **P** **10 12 50.6 +3.5**
HDIL Hopedale 74.42 46 P **P** **10 12 48.4 +1.3**
baz=322
HDIL Hopedale 74.42 46 P **P** **10 12 48.8 +1.7**
STHS Stebnicka Huta 74.43 331 *eP* **P** **10 12 46.7 -0.3**
STHS Stebnicka Huta 74.43 331 *eP* **P** **10 12 46.7 -0.3**
KOLS Kolonicke sedl 74.51 330 *eP* **P** **10 12 47.6 +0.1**
KOLS pmax pmax
comp=Z,23nm,1.1s
KOLS Kolonicke sedl 74.51 330 *eP* **P** **10 12 47.6 +0.1**
ASAR Alice Springs 74.59 200 P **P** **10 12 49.1 +1.0**
comp=Z,24nm,0.8s,baz=13,slow=5.2,SNR=198
ASAR LR LR 10 45 13.3
comp=Z,146nm,20.1s,baz=12,slow=35
BUR08 Bucovina Ar. S 74.61 327 P **P** **10 12 47.8 -0.4**
BUR08 IAmb IAmb 10 12 49.8
comp=Z,20nm,1.2s
BUR08 Bucovina Ar. S 74.61 327 P **P** **10 12 47.8 -0.4**
BURAR Bucovina Array 74.63 327 ⇑P **P** **10 12 48.2 -0.1**
BURAR Bucovina Array 74.63 327 ⇑P **P** **10 12 48.2 -0.1**
E53A Dumoine, Ponti 74.66 35 P **P** **10 12 49.0 +0.7**
baz=327
X34A Smith Ranch, M 74.66 55 P **P** **10 12 51.6 +3.0**
X34A IAmb IAmb 10 13 08.1
comp=Z,38nm,1.2s
EKA Eskdalemuir Ar 74.67 347 P **P** **10 12 48.3 +0.1**
comp=Z,7.2nm,0.4s,baz=19,slow=5.2,SNR=44
KSP Ksiaz 74.68 334 *eP* **P** **10 12 48.7 +0.3**
KSP *eP* **P** **10 12 48.7 +0.3**
ESK Eskdalemuir 74.69 347 *eP* **P** **10 12 47.9 -0.4**
J48A Bridge Port 74.72 40 P **P** **10 12 49.4 +0.6**
baz=324
NIE Niedzica 74.73 331 *eP* **P** **10 12 49.9 +1.1**
NIE Niedzica 74.73 331 *eP* **P** **10 12 49.9 +1.1**
NIE *eP* **P** **10 12 49.9 +1.1**
TUL1 Leonard 74.76 53 P **P** **10 12 50.1 +1.0**
baz=320,SNR=9.1
TUL1 Leonard 74.76 53 P **P** **10 12 50.2 +1.0**
TUL1 IAmb IAmb 10 13 05.6
comp=Z,41nm,1.1s
W35A Tecumseh 74.76 54 P **P** **10 12 51.4 +2.2**
UZH Uzhgorod 74.77 330 *deP* **P** **10 12 48.5 -0.4**
UZH *e**PP **PcP** **10 13 02.1 -0.7**
UZH *e* 10 13 07.0
UZH *eS* **S** **10 22 17.5 -3.2**
UZH *eSP* **SKSac** **10 22 43.3 -9.0**
BIZ Bicaz 74.88 327 ⇓P **P** **10 12 50.0 +0.3**
D55A Sainte-Anne-du 74.93 33 P **P** **10 12 50.1 +0.2**
baz=328
CHVC Chvalec 74.97 334 *eP* **P** **10 12 50.1 0.0**
CHVC *ex* x 10 12 56.7
EDMD Edmundbyers 74.97 347 *eP* **P** **10 12 49.7 -0.3**
K48A Perry 74.98 41 P **P** **10 12 50.9 +0.6**
baz=324
OKC Ostrava-Krasne 75.03 333 *eP* **P** **10 12 50.8 +0.4**
OKC Ostrava-Krasne 75.03 333 *eP* **P** **10 12 50.8 +0.4**
TESR Tescani 75.05 326 ⇑P **P** **10 12 50.4 -0.2**
DPC Dobruska-Polom 75.11 334 *eP* **P** **10 12 51.2 +0.2**
DPC *e* 10 12 57.8
DPC Dobruska-Polom 75.11 334 *eP* **P** **10 12 51.2 +0.2**
DPC *ex* x 10 12 57.8
TRPA Tarpa 75.11 329 ⇑P **P** **10 12 51.6 +0.7**
TRPA Tarpa 75.11 329 *eP* **P** **10 12 51.0 +0.1**
ABTX Abilene, Hawle 75.16 57 P **P** **10 12 52.7 +1.1**
baz=319,SNR=7.9
ABTX Abilene, Hawle 75.16 57 P **P** **10 12 52.9 +1.4**
D56A ZEC Mazanza, M 75.16 33 P **P** **10 12 51.2 0.0**
baz=329
CLL Collm 75.16 337 ⇓*iP* **P** **10 12 51.2 0.0**
CLL *e**SP **sP** **10 13 16.0 +2.7**
CLL pmax pmax
comp=Z,30nm,1.2s
CLL MLR MLR
comp=Z,600nm,20.8s
CLL Collm 75.16 337 ⇓*iP* **P** **10 12 51.2 0.0**
comp=Z,30nm,1.2s
CLL *e* 10 13 16.0
CLL *e* 10 13 26.0
CLL *eSS* SS 10 27 42.0 +28
CLL LmV 10 49 00.0
comp=N,400nm,21.9s
CLL LmV 10 49 00.0
comp=E,400nm,19.9s
CLL LmV 10 49 00.0
comp=Z,600nm,20.8s
CLL Collm 75.16 337 P **P** **10 12 51.0 -0.1**
CLL IAmb IAmb 10 12 52.0
comp=Z,33nm,1.2s
L47A Sherwood 75.17 42 P **P** **10 12 51.8 +0.4**
baz=324
E55A Montcerf-Lytto 75.19 34 P **P** **10 12 51.4 0.0**
baz=328
KRLC Kraliky 75.22 334 *eP* **P** **10 12 51.9 +0.3**
KRLC Kraliky 75.22 334 *eP* **P** **10 12 51.9 +0.3**
LANS Liptovska Anna 75.22 332 *eP* **P** **10 12 52.7 +1.1**
LANS pmax pmax
comp=Z,27nm,1.2s
LANS Liptovska Anna 75.22 332 *eP* **P** **10 12 52.7 +1.1**
H52A Wyevale 75.23 37 P **P** **10 12 52.8 +1.1**
baz=326
MORC Moravsky Berou 75.26 333 ⇑P **P** **10 12 52.5 +0.7**
MORC Moravsky Berou 75.26 333 ⇑P **P** **10 12 52.5 +0.7**
MORC Moravsky Berou 75.26 333 *eP* **P** **10 12 52.1 +0.3**
MORC Moravsky Berou 75.26 333 P **P** **10 12 51.9 0.0**
MORC IAmb IAmb 10 12 54.0
comp=Z,37nm,1.1s
K49A Clarkson 75.28 41 P **P** **10 12 52.6 +0.6**
baz=324
TX31 Lajitas Ar. Si 75.30 62 P **P** **10 12 54.1 +1.6**
TX32 Lajitas Array 75.30 62 P **P** **10 12 54.0 +1.5**
TXAR Lajitas Array 75.30 62 P **P** **10 12 53.8 +1.3**
comp=Z,12nm,0.7s,baz=301,slow=4.5,SNR=175
BRG Berggiesshubel 75.30 336 *eP* **P** **10 12 51.9 -0.1**
comp=Z,7.2nm,0.9s
comp=N,687nm,19.9s
comp=E,373nm,25.1s
comp=Z,989nm,18.9s
BRG Berggiesshubel 75.30 336 *eP* **P** **10 12 51.9 -0.1**
BRG MLR MLR
comp=E,687nm,25.1s
BRG MLR MLR
comp=Z,373nm,18.9s
CLGH Cloghs, Cushen 75.31 349 *eP* **P** **10 12 51.9 0.0**
TLCR 75.34 324 ⇑P **P** **10 12 52.2 -0.1**
TLCR 75.34 324 ⇑P **P** **10 12 52.2 -0.1**
G53A Haliburton 75.34 36 P **P** **10 12 53.0 +0.7**
baz=327
KESW Keswick, Cumbr 75.38 347 *eP* **P** **10 12 52.8 +0.4**
KESW IAmb IAmb 10 12 52.8
comp=Z,151nm,1.1s
ARCR ARCALIA 75.39 328 ⇑P **P** **10 12 54.4 +1.9**
CCM Cathedral Cave 75.43 48 P **P** **10 12 54.2 +1.2**
baz=322
CCM Cathedral Cave 75.43 48 P **P** **10 12 54.1 +1.2**
CCM pmax pmax
comp=Z,28nm,1.2s
CCM Cathedral Cave 75.43 48 P **P** **10 12 54.1 +1.2**
HHAR Hobbs 75.44 51 P **P** **10 12 54.3 +1.2**
PVCC Panska Ves 75.44 335 AMS AMS 10 48 40.0
comp=Z,1µm,18.9s
KECS Kecovo 75.49 331 *eP* **P** **10 12 53.5 +0.4**
KECS pmax pmax
comp=Z,13nm,1.2s
KECS Kecovo 75.49 331 *eP* **P** **10 12 53.5 +0.4**
D57A Chemin Vers le 75.50 32 P **P** **10 12 53.7 +0.5**
baz=329
L48A N Adams 75.53 42 P **P** **10 12 53.9 +0.4**
baz=324
VRI Vrincioaia 75.56 326 ⇑P **P** **10 12 53.7 +0.1**
VRI Vrincioaia 75.56 326 ⇑P **P** **10 12 53.7 +0.1**
LATQ La Tuque 75.57 31 P **P** **10 12 53.4 -0.1**
baz=330
PLOR Plostina 75.60 326 ⇑P **P** **10 12 53.8 -0.1**
PLOR Plostina 75.60 326 ⇑P **P** **10 12 53.8 -0.1**
CFR Carcaliu 75.61 324 ⇓P **P** **10 12 53.6 -0.2**
CFR Carcaliu 75.61 324 ⇓P **P** **10 12 53.6 -0.2**
MGMO Mountain Grove 75.62 50 P **P** **10 12 54.2 +0.1**
K50A Casco 75.64 40 P **P** **10 12 54.7 +0.6**
baz=325
OZUR 75.72 326 ⇑P **P** **10 12 55.2 +0.6**
HPK Haverah Park 75.76 346 *eP* **P** **10 12 54.7 +0.2**
HPK IAmb IAmb 10 12 56.8
comp=Z,130nm,1.1s
TOPG Topolog 75.77 324 ⇑P **P** **10 12 54.9 +0.2**
N47A Urbana 75.83 43 P **P** **10 12 55.5 +0.3**
baz=324
PRA Prague 75.90 335 AMS AMS 10 49 00.0
comp=Z,2µm,23.8s
GOPC GO Pecny, Ondr 75.94 335 *eP* **P** **10 12 56.0 +0.3**
GOPC MLR MLR
comp=Z,2µm,22.4s
GOPC GO Pecny, Ondr 75.94 335 *eP* **P** **10 12 56.0 +0.3**
GOPC AMS AMS 10 49 20.0
comp=Z,2µm,22.4s
PRU Pruhonice 75.94 335 *eP* **P** **10 12 56.1 +0.5**
PRU MLR MLR
comp=Z,2µm,23.4s
PRU Pruhonice 75.94 335 *eP* **P** **10 12 56.1 +0.5**
PRU AMS AMS 10 49 00.0
comp=Z,2µm,23.4s
U40A Yellville 75.94 51 P **P** **10 12 56.1 +0.2**
baz=321,SNR=21
U40A Yellville 75.94 51 P **P** **10 12 56.5 +0.5**
U40A IAmb IAmb 10 13 04.3
comp=Z,47nm,1.0s
G55A Calabogie 75.96 35 P **P** **10 12 56.0 +0.1**
baz=328
VRAC Vranov 75.96 333 P **P** **10 12 56.6 +0.8**
comp=Z,11nm,0.5s,baz=25,slow=5.8,SNR=16
VRAC Vranov 75.96 333 *eP* **P** **10 12 56.3 +0.5**
DOPR Dopca 75.97 326 ⇓P **P** **10 12 56.7 +0.7**
CJR Cluj-Napoca 75.97 328 ⇑P **P** **10 12 57.4 +1.4**
CJR Cluj-Napoca 75.97 328 ⇑P **P** **10 12 57.4 +1.4**
VYHS Vyhne 76.00 332 *eP* **P** **10 12 56.5 +0.4**
VYHS pmax pmax
comp=Z,28nm,1.3s
VYHS Vyhne 76.00 332 *eP* **P** **10 12 56.5 +0.4**
JAVC Velka Javorina 76.04 333 *eP* **P** **10 12 57.7 +1.4**
TIRR Tirgusor 76.10 324 P **P** **10 12 56.8 +0.2**
TIRR pmax pmax
comp=Z,114nm,1.5s
TIRR Tirgusor 76.10 324 P **P** **10 12 56.8 +0.2**
P46A Rosedale 76.14 45 P **P** **10 12 57.3 +0.4**
baz=323
N48A Decatur 76.14 43 P **P** **10 12 57.4 +0.4**
baz=324
MLR Muntele Rosu 76.17 326 ⇑P **P** **10 12 58.1 +0.9**
MLR Muntele Rosu 76.17 326 P **P** **10 12 57.6 +0.4**
comp=Z,7.9nm,0.4s,baz=336,slow=10,SNR=20
MLR Muntele Rosu 76.17 326 ⇑P **P** **10 12 58.1 +0.9**
MLR Muntele Rosu 76.17 326 P **P** **10 12 57.2 0.0**
PSZ Piszkesteto 76.17 331 ⇓P **P** **10 12 58.7 +1.6**
PSZ Piszkesteto 76.17 331 ⇓P **P** **10 12 58.7 +1.6**
PSZ Piszkesteto 76.17 331 *eP* **P** **10 12 57.0 -0.1**
PSZ Piszkesteto 76.17 331 P **P** **10 12 58.0 +0.9**
F57A Harrington 76.24 33 P **P** **10 12 57.6 +0.2**
baz=329
KRUC Moravsky 76.24 333 *eP* **P** **10 12 57.8 +0.4**
E58A La Victoria 76.27 32 P **P** **10 12 57.7 +0.2**
baz=330,SNR=5.6
NKC Novy Kostel 76.29 336 *eP* **P** **10 12 58.1 +0.4**
NKC Novy Kostel 76.29 336 *eP* **P** **10 12 58.1 +0.4**
TREC Trest 76.30 334 *eP* **P** **10 12 58.3 +0.6**
TREC Trest 76.30 334 *eP* **P** **10 12 58.3 +0.6**
LBWR Ladybower, Pea 76.32 346 *eP* **P** **10 12 58.0 +0.3**
LBWR IAmb IAmb 10 12 59.3
comp=Z,82nm,0.9s
W39A Magazine 76.36 52 P **P** **10 12 59.2 +0.9**
baz=321,SNR=6.6
W39A Magazine 76.36 52 P **P** **10 12 59.8 +1.5**
SMOL Smolenice 76.42 333 *eP* **P** **10 12 59.5 +1.1**
SMOL pmax pmax
comp=Z,18nm,1.4s
SMOL Smolenice 76.42 333 *eP* **P** **10 12 59.5 +1.1**
BANOM Banah 76.44 294 P **P** **10 12 58.5 -0.4**
SHME Shamm 76.45 294 P **P** **10 12 58.3 -0.7**
VOIR 76.55 326 ⇑P **P** **10 12 59.9 +0.6**
VOIR 76.55 326 ⇑P **P** **10 12 59.9 +0.6**
O48A Farmland 76.57 43 P **P** **10 13 00.1 +0.6**
baz=324
MODS Modra-Piesok 76.59 333 *eP* **P** **10 12 59.4 0.0**
MODS pmax pmax
comp=Z,39nm,1.4s
MODS Modra-Piesok 76.59 333 *eP* **P** **10 12 59.4 0.0**
D61A St Aubert, Com 76.60 30 P **P** **10 12 59.7 +0.3**
baz=331
D60A Saint Jean D'O 76.61 31 P **P** **10 12 59.8 +0.3**
baz=331
JCT Junction City 76.67 59 P **P** **10 13 00.9 +0.7**
baz=319,SNR=13
JCT Junction City 76.67 59 P **P** **10 13 01.3 +1.1**
JCT pmax pmax
comp=Z,52nm,1.5s
JCT Junction City 76.67 59 P **P** **10 13 01.3 +1.1**
JCT IAmb IAmb 10 13 09.1
comp=Z,52nm,1.4s
H56A Elgin 76.69 35 P **P** **10 13 00.2 +0.2**
baz=328
WME Myndd Eilian 76.71 348 *eP* **P** **10 12 59.8 -0.1**
ARR Arges 76.76 327 ⇑P **P** **10 13 02.4 +1.9**
PSA00 Pilbara Seismi 76.82 214 P **P** **10 13 01.2 +0.4**
PSA00 IAmb IAmb 10 13 02.5
comp=Z,72nm,1.4s
PBMO Poplar Bluff 76.83 49 P **P** **10 13 02.6 +1.7**
PBMO IAmb IAmb 10 13 15.9
comp=Z,30nm,1.1s
WHTX Lake Whitney, 76.84 56 P **P** **10 13 01.7 +0.7**
baz=320,SNR=6.0
WHTX Lake Whitney, 76.84 56 P **P** **10 13 03.2 +2.1**
WHTX IAmb IAmb 10 13 18.0
comp=Z,27nm,1.1s
F59A Saint Guilaume 76.89 32 P **P** **10 13 01.1 0.0**
baz=330
CWF Charnwood Fore 76.89 346 *eP* **P** **10 13 01.0 +0.1**
E60A Ste Agathe de 76.90 31 P **P** **10 13 01.7 +0.5**
baz=331
MDH Madha 76.91 293 P **P** **10 12 59.8 -1.7**
MIAR Mount Ida 76.97 52 P **P** **10 13 02.2 +0.4**
baz=321,SNR=12
MIAR Mount Ida 76.97 52 P **P** **10 13 02.5 +0.8**
MIAR Mount Ida 76.97 52 P **P** **10 13 02.5 +0.8**
KHC Kasperske Hory 76.98 335 *eP* **P** **10 13 02.4 +0.7**
KHC *e* 10 13 07.2
KHC MLR MLR
comp=Z,2µm,22.9s
KHC Kasperske Hory 76.98 335 *eP* **P** **10 13 02.4 +0.7**
KHC *ex* x 10 13 07.2
KHC *ex* x 10 13 34.0
KHC AMS AMS 10 49 50.0
comp=Z,2µm,22.9s
KHC Kasperske Hory 76.98 335 P **P** **10 13 02.3 +0.7**
O49A Covington 77.00 43 P **P** **10 13 02.5 +0.6**
baz=324
M51A Elyria 77.01 41 P **P** **10 13 02.5 +0.6**
baz=325
LCAR Lake Charles 77.03 50 P **P** **10 13 03.2 +1.2**
SIRR Siria 77.03 329 ⇓P **P** **10 13 02.5 +0.6**
G58A Ormstown 77.04 33 P **P** **10 13 02.9 +0.9**
baz=329
FOEL Foel Wylfa 77.04 347 *eP* **P** **10 13 02.2 +0.3**
FOEL IAmb IAmb 10 13 02.8
comp=Z,132nm,1.4s
N50A Nevada 77.05 42 P **P** **10 13 03.4 +1.3**
baz=325
WHAR Wooly Hollow 77.06 51 P **P** **10 13 03.1 +0.9**
WHAR IAmb IAmb 10 13 18.5
comp=Z,88nm,1.5s
P48A Milroy 77.09 44 P **P** **10 13 03.5 +1.1**
baz=324
H57A Richville 77.13 35 P **P** **10 13 03.5 +1.1**
baz=329
W41B Gary Mavity, V 77.17 51 P **P** **10 13 03.4 +0.5**
baz=322,SNR=13
W41B Gary Mavity, V 77.17 51 P **P** **10 13 03.9 +1.1**
W41B IAmb IAmb 10 13 19.2
comp=Z,24nm,0.8s
E61A Lac Etchemin 77.17 30 P **P** **10 13 03.5 +0.8**
baz=331
CSKK Cskako 77.18 332 *eP* **P** **10 13 03.1 +0.3**
M52A Chesterland 77.19 40 P **P** **10 13 04.1 +1.2**
baz=326
GEC2 GERESS Array S 77.21 335 P **P** **10 13 03.5 +0.5**
GERES GERESS Array B 77.21 335 P **P** **10 13 03.1 +0.1**
comp=Z,4.4nm,0.4s,baz=35,slow=8.5,SNR=54
GERES LR LR 10 50 50.9
comp=Z,1µm,19.6s,baz=20,slow=39
UOSS Minazif 77.22 293 P **P** **10 13 02.4 -0.9**
UOSS Minazif 77.22 293 P **P** **10 13 03.1 -0.2**
UOSS IAmb IAmb 10 13 04.0
comp=Z,39nm,1.4s
PARMO Parma 77.26 48 P **P** **10 13 05.9 +2.6**
N51A Ashland 77.27 41 P **P** **10 13 03.8 +0.5**
baz=325
N51A Ashland 77.27 41 P **P** **10 13 06.8 +3.5**
N51A IAmb IAmb 10 13 18.6
comp=Z,38nm,1.0s
O50A Cable 77.35 42 P **P** **10 13 04.1 +0.3**
baz=325
HATD Hatta, Dubai 77.36 293 P **P** **10 13 04.0 -0.1**
Q48A North Vernon 77.38 44 P **P** **10 13 04.7 +0.7**
baz=324
BEBN Eben Emael 77.40 341 P **P** **10 13 03.9 +0.1**
X40A Basin Creek Fa 77.40 52 P **P** **10 13 04.7 +0.5**
baz=321
X40A Basin Creek Fa 77.40 52 P **P** **10 13 05.2 +1.1**
X40A IAmb IAmb 10 13 20.0
comp=Z,47nm,1.5s
F61A St Evariste 77.40 31 P **P** **10 13 04.4 +0.4**
baz=331
GZR Gura Zlata 77.40 328 ⇑P **P** **10 13 04.2 +0.1**
GZR Gura Zlata 77.40 328 ⇑P **P** **10 13 04.2 +0.1**
CONA Conrad Observa 77.41 333 *iP* **P** **10 13 05.3 +1.2**
comp=Z,17nm,0.7s,SNR=14
D63A Stockholm 77.42 29 P **P** **10 13 04.2 +0.2**
baz=332
BTNL Ternell 77.50 340 P **P** **10 13 04.6 +0.1**
MEM Membach 77.50 340 P **P** **10 13 04.9 +0.4**
ASHO Ashiyiah 77.51 293 P **P** **10 13 04.6 -0.3**
M53A WI Miller and 77.56 40 P **P** **10 13 05.1 +0.2**
baz=326
MPLH Magyarpolny 77.58 332 *eP* **P** **10 13 05.0 +0.1**
COPA Copaceanca 77.60 326 ⇑P **P** **10 13 04.6 -0.5**
BZS Buzias 77.61 329 ⇑P **P** **10 13 05.1 -0.1**

BZS Buzias 77.61 329 ⇑P **P** **10 13 05.1 -0.1**
BSTI Sart Tilman 77.63 341 P **P** **10 13 05.8 +0.7**
WCI Wyandotte Cave 77.68 45 P **P** **10 13 06.5 +0.8**
baz=324
WCI Wyandotte Cave 77.68 45 P **P** **10 13 06.8 +1.1**
WCI pmax pmax
comp=Z,47nm,1.0s
WCI Wyandotte Cave 77.68 45 P **P** **10 13 06.8 +1.1**
WCI IAmb IAmb 10 13 20.6
comp=Z,47nm,0.9s
Q49A Aurora 77.70 44 P **P** **10 13 06.3 +0.6**
baz=324
P50A Jamestown 77.71 43 P **P** **10 13 06.1 +0.3**
baz=325
BHOU Houvegnez 77.75 340 P **P** **10 13 06.2 +0.4**
FAQ Al Faqa, Dubai 77.75 293 P **P** **10 13 05.1 -1.1**
O51A Pataskala 77.80 42 P **P** **10 13 07.0 +0.7**
baz=325
G61A St-Isidore-de- 77.82 32 P **P** **10 13 06.3 0.0**
baz=331
BRTR Keskin Array B 77.83 318 P **P** **10 13 07.2 +0.5**
comp=Z,15nm,1.0s,baz=62,slow=2.9,SNR=30
BCLA Clavier 77.84 341 P **P** **10 13 06.6 +0.3**
MCH1 Michaelchurch 77.88 346 *e*P **P** **10 13 06.5 0.0**
WLAR White Oak Lake 77.88 52 P **P** **10 13 09.3 +2.5**
WLAR IAmb IAmb 10 13 22.1
comp=Z,76nm,1.4s
MOA Molln 77.95 334 *i* P **P** **10 13 07.8 +0.8**
comp=Z,15nm,1.2s
SNF Seneffe 77.97 341 P **P** **10 13 07.5 +0.5**
ASUD Al Ashush, Dub 77.99 294 P **P** **10 13 07.2 -0.4**
N53A Lisbon 78.02 40 P **P** **10 13 07.7 +0.2**
baz=326
BMRD Maredsous 78.06 341 P **P** **10 13 07.3 -0.3**
MORH Mrgy, Hungar 78.08 331 *e*P **P** **10 13 07.0 -0.7**
ANTO Ankara 78.09 318 P **P** **10 13 09.0 +1.0**
ANTO pmax pmax
comp=Z,52nm,1.5s
ANTO Ankara 78.09 318 P **P** **10 13 09.0 +1.0**
ANTO IAmb IAmb 10 13 09.8
comp=Z,52nm,1.5s
ARSA Arzberg 78.12 333 *e*P **P** **10 13 08.8 +0.8**
comp=Z,24nm,1.3s
P51A Williamsport 78.14 42 P **P** **10 13 08.2 0.0**
baz=325
SWN1 Swindon 78.15 346 *e*P **P** **10 13 08.8 +0.8**
SWN1 IAmb IAmb 10 13 10.0
comp=Z,199nm,0.7s
O52A Adamsville 78.16 41 P **P** **10 13 08.7 +0.4**
baz=326
O52A Adamsville 78.16 41 P **P** **10 13 11.2 +2.9**
O52A IAmb IAmb 10 13 23.6
comp=Z,50nm,1.1s
GAZ Gaziantep 78.25 314 P **P** **10 13 10.9 +2.0**
GAZ IAmb IAmb 10 13 11.2
comp=Z,40nm,1.3s
Q50A Georgetown 78.25 43 P **P** **10 13 09.6 +0.8**
baz=325
WOL Wolverton 78.25 345 *e*P **P** **10 13 08.7 +0.1**
WOL IAmb IAmb 10 13 09.3
comp=Z,88nm,0.8s
F63A Nahmakanta, Br 78.27 30 P **P** **10 13 09.1 +0.2**
baz=332
DOU Dourbes 78.30 341 P **P** **10 13 09.3 +0.4**
MDVR Moldovita 78.31 328 ⇑P **P** **10 13 08.6 -0.5**
J59A Piesco 78.32 35 P **P** **10 13 09.7 +0.5**
baz=329
H61A Lyndonville 78.33 32 P **P** **10 13 09.2 0.0**
baz=331
M55A Ridgway 78.33 38 P **P** **10 13 09.6 +0.4**
baz=327
M55A Ridgway 78.33 38 P **P** **10 13 12.5 +3.2**
M55A IAmb IAmb 10 13 24.9
comp=Z,48nm,1.1s
Z41A Richland Creek 78.37 52 P **P** **10 13 10.8 +1.3**
baz=322
ELND Elena 78.38 325 ⇑P **P** **10 13 09.6 +0.2**
X43A Marvell 78.38 50 P **P** **10 13 11.3 +1.8**
baz=322
Q51A Peebles 78.39 43 P **P** **10 13 10.3 +0.7**
baz=325
Q51A Peebles 78.39 43 P **P** **10 13 12.0 +2.4**
Q51A IAmb IAmb 10 13 24.4
comp=Z,38nm,1.2s
PLVB Pleven 78.46 326 ⇑P **P** **10 13 09.9 0.0**
S49A Springfield 78.51 45 P **P** **10 13 10.8 +0.5**
baz=324
H06N1 SOCORRO T-PHAS 78.52 75 T T 11 40 05.0
SNR=17
NATX Nacogdoches 78.55 55 P **P** **10 13 11.9 +1.3**
baz=321
NATX Nacogdoches 78.55 55 P **P** **10 13 13.0 +2.5**
R50A Paris 78.55 44 P **P** **10 13 11.2 +0.8**
baz=325
M56A Emporium 78.56 38 P **P** **10 13 11.6 +1.1**
baz=327
H06E1 SOCORRO T-PHAS 78.62 75 T T 11 40 08.4
SNR=32
WVT Waverly 78.63 47 P **P** **10 13 12.9 +2.0**
WVT pmax pmax
comp=Z,20nm,0.9s
WVT Waverly 78.63 47 P **P** **10 13 12.9 +2.0**
O54A Avella 78.73 40 P **P** **10 13 12.4 +0.9**
baz=326
K59A Cooperstown 78.78 35 P **P** **10 13 12.2 +0.6**
baz=329
SOKA Soboth 78.78 333 *i* P **P** **10 13 12.1 +0.4**
comp=Z,39nm,1.0s,SNR=18
PERS Pernice 78.80 333 *i* P **P** **10 13 11.9 +0.2**
N55A Marion Center 78.82 39 P **P** **10 13 11.5 -0.4**
baz=327
GROS Grobnik 78.84 333 *i* P **P** **10 13 11.7 -0.3**
R51A Hillsboro 78.87 43 P **P** **10 13 12.8 +0.5**
baz=325
P53A Whipple 78.87 41 P **P** **10 13 12.2 -0.1**
baz=326
ARMA Armidale 78.91 183 P **P** **10 13 14.0 +1.6**
ARMA IAmb IAmb 10 13 15.2
comp=Z,41nm,0.9s
KBA Koelnbreinsper 78.91 334 *e*P **P** **10 13 13.6 +1.1**
comp=Z,114nm,1.4s,SNR=34
Q52A Bidwell 78.92 42 P **P** **10 13 12.7 +0.2**
baz=326
T49A Edmonton 78.94 45 P **P** **10 13 13.7 +1.1**
baz=324
T49A Edmonton 78.94 45 P **P** **10 13 15.4 +2.7**
T49A IAmb IAmb 10 13 27.7
comp=Z,31nm,1.2s
S50A Richmond 79.00 44 P **P** **10 13 13.8 +0.8**
baz=325
L58A Harry Jones Me 79.01 36 P **P** **10 13 13.3 +0.3**
baz=329
OBKA Obir 79.08 333 *e*P **P** **10 13 13.8 +0.4**
comp=Z,9.6nm,0.6s,SNR=7.2
BFO Black Forest 79.09 338 *i* P **P** **10 13 13.7 +0.4**
BFO Black Forest 79.09 338 P **P** **10 13 13.8 +0.5**
BFO IAmb IAmb 10 13 14.6
comp=Z,60nm,1.4s
M57A Sunshine Farm, 79.11 37 P **P** **10 13 13.6 +0.1**
baz=328
OXF Oxford 79.13 49 P **P** **10 13 14.9 +1.2**
baz=323
OXF Oxford 79.13 49 P **P** **10 13 15.8 +2.1**
OXF pmax pmax
comp=Z,55nm,1.0s
OXF Oxford 79.13 49 P **P** **10 13 15.8 +2.1**
OXF IAmb IAmb 10 13 28.6
comp=Z,54nm,1.0s
P54A Burton 79.17 40 P **P** **10 13 14.6 +0.7**
baz=326
WATA Walderalm 79.17 336 *i* P **P** **10 13 14.8 +0.9**
comp=Z,92nm,1.3s,SNR=14
L59A Walton 79.20 36 P **P** **10 13 13.3 -0.8**
baz=329
WTTA Wattenberg 79.22 336 *e*P **P** **10 13 15.0 +0.8**
comp=Z,69nm,1.0s,SNR=22
MYKA Terra Mystica 79.24 334 *i* P **P** **10 13 14.7 +0.5**
comp=Z,8.5nm,0.6s,SNR=6.9
RETA Reutte 79.25 336 *e*P **P** **10 13 15.0 +0.7**
comp=Z,29nm,1.3s,SNR=7.0
R52A Catlettsburg 79.27 43 P **P** **10 13 14.9 +0.5**
baz=326
MOTA Moosalm 79.29 336 *e*P **P** **10 13 15.3 +0.8**
comp=Z,80nm,1.1s,SNR=18
HKT Hockley 79.30 57 P **P** **10 13 18.2 +3.6**
HKT pmax pmax
comp=Z,11nm,1.3s
HKT Hockley 79.30 57 P **P** **10 13 18.2 +3.6**
U49A Red Boiling Sp 79.30 46 P **P** **10 13 15.4 +0.7**
baz=324,SNR=5.8
Q53A Leroy 79.33 42 P **P** **10 13 15.5 +0.7**
baz=326
T50A Nancy 79.33 45 P **P** **10 13 15.6 +0.8**
baz=325
M58A Price's Panora 79.34 37 P **P** **10 13 15.2 +0.3**
baz=328
SQTA Sankt Quirin 79.38 336 *e*P **P** **10 13 15.7 +0.7**
comp=Z,72nm,1.2s,SNR=15
MCWV Mont Chateau 79.39 40 P **P** **10 13 15.5 +0.4**
baz=327
O56A Blue Knob Stat 79.42 39 P **P** **10 13 16.4 +1.1**
baz=327
CRES Cresnjev 79.42 333 *i* P **P** **10 13 14.9 -0.2**
N57A Milroy 79.43 38 P **P** **10 13 15.9 +0.7**
baz=328
ABTA Abfaltersbach 79.45 335 *e*P **P** **10 13 15.5 +0.2**
comp=Z,40nm,1.4s,SNR=12
ECH Echery 79.48 339 P **P** **10 13 15.4 0.0**
ECH pmax pmax
comp=Z,59nm,1.3s
ECH Echery 79.48 339 P **P** **10 13 15.4 0.0**
ECH IAmb IAmb 10 13 16.7
comp=Z,59nm,1.3s
P55A Reedsville 79.53 40 P **P** **10 13 16.2 +0.4**
baz=327
R53A Hurricane 79.58 42 P **P** **10 13 16.3 +0.2**
baz=326
M59A Waymart 79.61 36 P **P** **10 13 15.8 -0.5**
baz=329
VTS Vitosha 79.64 326 ⇑P **P** **10 13 16.6 0.0**
VTS Vitosha 79.64 326 ⇑P **P** **10 13 16.6 0.0**
VTS Vitosha 79.64 326 P **P** **10 13 15.8 -0.7**
VTS IAmb IAmb 10 13 18.4
comp=Z,47nm,1.0s
DAVA Daniels 79.67 337 *e*P **P** **10 13 17.3 +0.7**
comp=Z,48nm,1.1s,SNR=9.1
FETA Feichten 79.69 336 *e*P **P** **10 13 17.5 +0.8**
comp=Z,33nm,1.1s,SNR=10
N58A Sunbury 79.69 37 P **P** **10 13 17.9 +1.2**
baz=328
U50A Jamestown 79.82 45 P **P** **10 13 18.8 +1.3**
baz=325
STAL STALIGIAL 79.84 335 P **P** **10 13 16.8 -0.6**
STAL IAmb IAmb 10 13 17.6
comp=Z,37nm,1.3s
Q55A Buckhannon 79.85 41 P **P** **10 13 18.0 +0.4**
baz=327
P56A Dayton Farm, R 79.95 39 P **P** **10 13 18.5 +0.4**
baz=327,SNR=5.3
KNDS Knezji Dol 80.02 333 *e*P **P** **10 13 17.6 -0.8**
ALN Alexandroupoli 80.04 323 P **P** **10 13 18.9 +0.3**
ALN pmax pmax
comp=Z,36nm,1.2s
ALN Alexandroupoli 80.04 323 P **P** **10 13 18.9 +0.3**
ALN IAmb IAmb 10 13 19.6
comp=Z,36nm,1.2s
K63A Dunstable 80.08 33 P **P** **10 13 19.6 +0.9**
baz=331
T52A Hallie 80.12 44 P **P** **10 13 20.1 +1.0**
baz=326
R54A Victor 80.13 42 P **P** **10 13 19.5 +0.4**
baz=326
DAVOX Davos/Dischmat 80.14 337 P **P** **10 13 20.0 +0.8**
DAVOX Davos/Dischmat 80.14 337 P **P** **10 13 20.0 +0.8**
comp=Z,14nm,0.5s,baz=15,slow=4.3,SNR=19
DAVOX LR LR 10 53 51.4
comp=Z,514nm,18.2s,baz=11,slow=40
FUORN Ofenpass-Fuorn 80.18 336 P **P** **10 13 20.6 +1.0**
FUORN IAmb IAmb 10 13 21.6
comp=Z,65nm,1.2s
Q56A Snyder Ridge, 80.19 40 P **P** **10 13 20.4 +0.9**
baz=327
W49A Belvidere 80.19 47 P **P** **10 13 20.4 +0.9**
baz=324
O58A Lewisberry 80.22 38 P **P** **10 13 20.4 +0.9**
baz=328
SWET Sewanee 80.28 47 P **P** **10 13 20.6 +0.6**
SWET IAmb IAmb 10 13 34.5
comp=Z,31nm,0.9s
S54A Dingess, Beckl 80.30 42 P **P** **10 13 21.8 +1.7**
baz=326
CTI Castel Tesino 80.33 335 P **P** **10 13 20.0 -0.2**
CTI pmax pmax
comp=Z,47nm,1.3s
CTI Castel Tesino 80.33 335 P **P** **10 13 20.0 -0.2**
CTI IAmb IAmb 10 13 21.3
comp=Z,47nm,1.3s
R55A Marlinton 80.42 41 P **P** **10 13 21.9 +1.2**
baz=327
R55A Marlinton 80.42 41 P **P** **10 13 23.1 +2.3**
R55A IAmb IAmb 10 13 35.9
comp=Z,70nm,1.4s
TAOE Nuku Hiva Isla 80.52 115 *e*LR LR 10 38 02.2
comp=Z,2µm,22.8s,baz=328
Q57A Strasburg 80.52 39 P **P** **10 13 22.1 +0.9**
baz=328
TUE Stuetta 80.56 337 P **P** **10 13 21.7 +0.2**
CLF Chambon-Foret 80.75 342 P **P** **10 13 23.0 +0.8**
T54A Tazewell 80.79 43 P **P** **10 13 24.0 +1.2**
baz=326
V52A Sevierville 80.87 45 P **P** **10 13 23.9 +0.8**
baz=325
W51A Cleveland 80.88 46 P **P** **10 13 24.0 +0.8**
baz=325
Q58A Fox Den Farm, 80.91 39 P **P** **10 13 24.2 +1.0**
baz=328
TKL Tuckaleechee C 80.94 45 P **P** **10 13 23.5 0.0**
TKL pmax pmax
comp=Z,30nm,1.4s
TKL Tuckaleechee C 80.94 45 P **P** **10 13 23.5 0.0**
SALO Salr 81.04 336 P **P** **10 13 23.4 -0.5**
SALO IAmb IAmb 10 13 24.9
comp=Z,68nm,1.1s
R57A Stanardsville 81.10 40 P **P** **10 13 24.7 +0.5**
baz=328
U54A Nelsons Funny 81.13 43 P **P** **10 13 25.2 +0.7**
baz=326
S56A Natural Bridge 81.17 41 P **P** **10 13 25.9 +1.2**
baz=327
SENIN Lac Senin/Sane 81.18 338 P **P** **10 13 24.1 -0.8**
SENIN IAmb IAmb 10 13 26.4
comp=Z,51nm,1.4s
DUGI Dugi Otok 81.20 332 *i* P **P** **10 13 24.0 -0.7**
MAKA Makarska 81.21 330 *i* P **P** **10 13 23.7 -1.0**
STKA Stephens Creek 81.22 192 P **P** **10 13 25.3 +0.7**
STKA pmax pmax
comp=Z,6.0nm,1.0s
STKA Stephens Creek 81.22 192 P **P** **10 13 25.4 +0.7**
comp=Z,21nm,0.9s,baz=350,slow=7.9,SNR=38
STKA LR LR 10 47 25.5
comp=Z,282nm,22.0s,baz=17,slow=34
STKA Stephens Creek 81.22 192 P **P** **10 13 25.4 +0.7**
PDG Podgorica 81.22 329 ⇑P **P** **10 13 24.4 -0.4**
PDG Podgorica 81.22 329 P **P** **10 13 24.5 -0.4**
ZIRJ Zirje 81.32 332 *i* P **P** **10 13 24.6 -0.7**
W52A Murphy 81.33 45 P **P** **10 13 26.6 +1.0**
baz=326
S57A Dark Hollow, R 81.36 41 P **P** **10 13 25.9 +0.2**
baz=327
U55A TA2, Sparta 81.49 43 P **P** **10 13 27.9 +1.5**
baz=326
LRAL Lakeview Retre 81.51 49 P **P** **10 13 27.7 +1.2**
baz=324
X52A Dahlonega 81.75 46 P **P** **10 13 27.6 -0.2**
baz=325
Y51A Rockmart 81.76 47 P **P** **10 13 28.2 +0.4**
baz=325,SNR=5.8
Z50A Ashland 81.87 48 P **P** **10 13 29.1 +0.6**
baz=324,SNR=5.4
Z50A Ashland 81.87 48 P **P** **10 13 29.2 +0.8**
CSS Mathiatis 81.87 315 P **P** **10 13 28.2 -0.2**
CSS IAmb IAmb 10 13 29.4
comp=Z,79nm,1.4s
T57A Hurt 81.87 41 P **P** **10 13 28.8 +0.5**
baz=327
FNA Florina 81.92 326 P **P** **10 13 28.3 -0.3**
FNA pmax pmax
comp=Z,52nm,1.3s
FNA Florina 81.92 326 P **P** **10 13 28.3 -0.3**
FNA IAmb IAmb 10 13 29.0
comp=Z,52nm,1.3s
ELL Elmali 81.94 319 P **P** **10 13 29.0 +0.1**
ELL pmax pmax
comp=Z,153nm,1.2s
ELL Elmali 81.94 319 P **P** **10 13 29.0 +0.1**
TIR Tirane 81.97 328 ⇑P **P** **10 13 28.7 -0.1**
TIR Tirane 81.97 328 ⇑P **P** **10 13 28.7 -0.1**
TIR Tirane 81.97 328 P **P** **10 13 28.7 -0.1**
ZCCA Zocca 82.08 335 P **P** **10 13 30.7 +1.3**
X53A Estanollee 82.11 45 P **P** **10 13 31.0 +1.4**
baz=326
PPT Papeete 82.27 128 LR LR 10 43 04.0
comp=Z,446nm,19.5s,baz=328,slow=30
PPT2 Papeete2 82.29 128 *e*S **S** **10 23 33.9 -8.0**
comp=Z,580nm,29.0s
PPT2 Papeete2 82.29 128 *e*LR LR 10 38 54.2
comp=Z,796nm,23.0s,baz=327
PPT2 Papeete2 82.29 128 *e*T T 11 44 05.8
comp=Z,5.4nm,0.3s
PAE Paea 82.35 128 *e*T T 11 44 09.4
comp=Z,2.0nm,0.3s
S60A Water View 82.38 39 P **P** **10 13 31.2 +0.2**
baz=329
VLC Villacollemand 82.42 335 P **P** **10 13 31.3 +0.1**
VLC IAmb IAmb 10 13 41.0
comp=Z,59nm,1.0s
MMAI Mount Meron Ar 82.47 313 P **P** **10 13 32.5 +0.8**
comp=Z,24nm,0.6s,baz=202,slow=6.3,SNR=12
X54A Belton 82.50 45 P **P** **10 13 33.1 +1.3**
baz=326
MSSA Maissana 82.51 336 P **P** **10 13 31.2 -0.5**
MSSA IAmb IAmb 10 13 33.1
comp=Z,52nm,1.0s
BNI Bardonecchia 82.56 338 P **P** **10 13 33.0 +1.0**
BNI pmax pmax
comp=Z,63nm,1.4s
BNI Bardonecchia 82.56 338 P **P** **10 13 33.0 +1.0**
BNI IAmb IAmb 10 13 34.2
comp=Z,63nm,1.4s
TVO Taravao 82.62 128 *e*T T 11 44 29.1
comp=Z,1.0nm,0.4s
MURB Monte Urbino 82.63 333 P **P** **10 13 31.8 -0.5**
U58A Oxford 82.69 41 P **P** **10 13 32.8 +0.2**
baz=328
OSSC Osservatorio P 82.76 334 P **P** **10 13 33.2 +0.2**
FORT Forrest 82.83 203 P **P** **10 13 33.3 +0.2**
NRCA Norcia 82.85 333 P **P** **10 13 33.9 +0.4**
SSB Saint Sauveur 82.86 340 P **P** **10 13 33.8 +0.4**
SSB pmax pmax
comp=Z,79nm,1.3s
SSB Saint Sauveur 82.86 340 P **P** **10 13 33.8 +0.4**
Y54A Tignall 82.92 45 P **P** **10 13 34.5 +0.6**
baz=326,SNR=7.2
SGRT San Giovanni R 83.00 331 P **P** **10 13 33.6 -0.7**
SGRT IAmb IAmb 10 13 34.8
comp=Z,83nm,1.5s
BBOO Buckleboo 83.01 196 P **P** **10 13 34.4 +0.4**
BBOO IAmb IAmb 10 13 35.7
comp=Z,66nm,1.2s
W57A Gilead 83.09 43 P **P** **10 13 35.8 +1.1**
baz=327
X56A White Oak 83.17 44 P **P** **10 13 36.5 +1.3**
baz=327
AQU L'Aquila 83.20 332 P **P** **10 13 36.1 +0.8**
AQU pmax pmax
comp=Z,96nm,1.3s
AQU L'Aquila 83.20 332 P **P** **10 13 36.1 +0.8**
Y55A Saluda 83.25 45 P **P** **10 13 35.9 +0.3**
baz=326
INTR Introdacqua 83.35 332 P **P** **10 13 35.4 -0.7**
LATE Laterza 83.44 334 P **P** **10 13 36.4 -0.1**
MATE Matera 83.68 329 ⇑P **P** **10 13 37.3 -0.3**
154A Montrose 83.75 46 P **P** **10 13 38.5 +0.4**
baz=326
352A Blakely 83.80 48 P **P** **10 13 39.6 +1.2**
baz=325
ACER Acerenza 83.81 330 P **P** **10 13 38.7 +0.3**
CAN Canberra 83.92 185 P **P** **10 13 39.8 +1.1**
CAN pmax pmax
comp=Z,15nm,0.9s
CAN Canberra 83.92 185 P **P** **10 13 39.8 +1.1**
PAOL Paolisi 84.03 331 P **P** **10 13 39.4 -0.1**
PAOL IAmb IAmb 10 13 41.6
comp=Z,36nm,1.2s
KARP Karpathos 84.14 320 P **P** **10 13 39.9 -0.3**
353A Camilla 84.25 48 P **P** **10 13 41.7 +1.0**
baz=325,SNR=6.3
RAYN Ar Rayn 84.64 300 *i* P **P** **10 13 43.1 +0.2**
SNR=39
RAYN Ar Rayn 84.64 300 P **P** **10 13 43.0 +0.1**
RAYN pmax pmax
comp=Z,90nm,1.3s
RAYN Ar Rayn 84.64 300 P **P** **10 13 43.0 +0.1**
ITM Ithomi 84.86 324 P **P** **10 13 42.9 -0.9**
TIP Timpagrande 84.98 329 ⇑P **P** **10 13 44.5 +0.2**
TIP Timpagrande 84.98 329 P **P** **10 13 44.3 -0.1**
MORW Morawa 85.03 214 P **P** **10 13 44.6 +0.2**
MORW IAmb IAmb 10 13 45.9
comp=Z,30nm,1.1s
IDI Anoyia 85.32 321 P **P** **10 13 44.3 -1.8**
comp=Z,34nm,1.0s,baz=23,slow=9.5,SNR=7.8
EIL Elat 85.42 311 P **P** **10 13 46.9 +0.3**
comp=Z,45nm,1.0s,baz=11,slow=3.7,SNR=20
EIL LR LR 10 55 47.1
comp=Z,419nm,21.5s,baz=60,slow=38
TOO Toolangi 86.41 188 P **P** **10 13 52.4 +1.3**
TOO pmax pmax
comp=Z,47nm,1.1s
TOO Toolangi 86.41 188 P **P** **10 13 52.4 +1.3**
656A Willston 86.70 48 P **P** **10 13 54.7 +1.7**
baz=326
TBI Tubuai 87.15 131 *e*LQ LQ 10 37 08.3
comp=Z,542nm,35.5s
TBI *e*LR LR 10 41 04.7
comp=Z,1µm,23.8s,baz=330
TBI Tubuai 87.15 131 *e*T T 11 50 06.5
comp=Z,8.2nm,0.3s
VAE Valguarnera 87.30 330 LR LR 10 57 30.7
comp=Z,410nm,18.1s,baz=17,slow=39
CLTB Caltabellotta 87.61 331 P **P** **10 13 57.3 -0.1**
CLTB IAmb IAmb 10 14 00.0
comp=Z,36nm,1.1s
NWAO Narrogin (SRO) 88.11 211 P **P** **10 13 59.4 0.0**
NWAO pmax pmax
comp=Z,46nm,1.0s
NWAO Narrogin (SRO) 88.11 211 P **P** **10 13 59.4 0.0**
NWAO Narrogin (SRO) 88.11 211 P **P** **10 13 59.8 +0.4**
NWAO IAmb IAmb 10 14 00.7
comp=Z,31nm,0.9s
SOCY Socotra 88.17 286 P **P** **10 13 58.9 -1.4**
ESDC Sonseca Array 90.00 344 P **P** **10 14 07.8 -0.7**
comp=Z,1.6nm,0.6s,baz=3.6,slow=4.5,SNR=14
ESDC LR LR 10 59 43.4
comp=Z,492nm,20.0s,baz=15,slow=39
KEST Kesra 90.52 333 P **P** **10 14 11.2 +0.2**
comp=Z,7.1nm,0.7s,baz=347,slow=3.3,SNR=7.9
KEST LR LR 11 00 01.0
comp=Z,628nm,19.1s,baz=346,slow=39
KEST Kesra 90.52 333 P **P** **10 14 11.1 +0.1**
KEST IAmb IAmb 10 14 12.4
comp=Z,22nm,1.2s
MSEY Mahe Island 99.88 274 P **Pdif** **10 14 55.7 +1.8**
TORD Torodi Ar. Bea 114.01 332 PKiKP **PKiKP** **10 19 47.4 -0.8**
comp=Z,1.7nm,0.8s,baz=19,slow=2.1,SNR=6.4
TORD PKKPbc **PKKPab** **10 30 36.2 -2.6**
comp=Z,1.4nm,1.0s,baz=198,slow=4.2,SNR=4.2
DBIC Dimbokro 122.06 336 PKP **PKPdf** **10 20 02.6 -1.0**
comp=Z,5.9nm,1.0s,baz=334,slow=6.4,SNR=3.8
DBIC Dimbokro 122.06 336 **PKiKP** **10 20 03.9 +0.1**
VNDA Vanda 126.10 178 PKP **PKPdf** **10 20 09.4 0.0**
comp=Z,3.5nm,0.9s,baz=301,slow=4.3,SNR=11
VNDA Vanda 126.10 178 **PKPdf** **10 20 09.8 +0.3**
LPAZ La Paz 132.17 63 PKiKP **PKPdf** **10 20 24.0 +0.4**
LPAZ La Paz 132.17 63 PKP **PKiKP** **10 20 24.5 -0.2**
comp=Z,4.5nm,0.9s,baz=25,slow=5.1,SNR=5.5
LPAZ SKPbc **SKPab** **10 23 46.5 +0.5**
comp=Z,2.5nm,1.1s,baz=347,slow=6.7,SNR=4.2
LPAZ La Paz 132.17 63 **PKPdf** **10 20 23.9 +0.4**
MNMC Minye Minye 133.50 67 **PKiKP** **10 20 26.9 0.0**
LBTB Lobatse 134.24 283 PKiKP **PKPdf** **10 20 26.8 +0.2**
LBTB Lobatse 134.24 283 **PKPdf** **10 20 26.8 +0.2**
MAW Mawson 134.67 213 PKP **PKPdf** **10 20 24.6 -1.3**
comp=Z,7.0nm,1.0s,baz=324,slow=3.9,SNR=6.7
MAW Mawson 134.67 213 **PKiKP** **10 20 27.0 -0.3**
LVC Limon Verde 136.53 69 PKiKP **PKPdf** **10 20 31.2 -0.1**
LVC Limon Verde 136.53 69 **PKPdf** **10 20 31.2 -0.1**
BOSA Boshof 136.92 279 PKP **PKPdf** **10 20 31.5 0.0**

comp=Z,1.9nm,0.5s,baz=354,slow=5.6,SNR=4.6
BOSA Boshof 136.92 279 PKPdf 10 20 31.7 +0.2
GO02 Mina Guanaco 137.97 72 PKiKP 10 20 35.2 -0.6
BDFB Brasilia 141.88 38 PKIKP PKPdf 10 20 40.1 -0.8
BDFB Brasilia 141.88 38 PKP PKPdf 10 20 41.0 +0.2
comp=Z,5.1nm,0.9s,baz=343,slow=8.6,SNR=3.9
BDFB Brasilia 141.88 38 PKPdf 10 20 40.1 -0.8
SYO Syowa Base 143.38 213 *e*X PKPab 10 20 37.4 -0.5
GO06 Curarrehue 145.79 92 PKPbc 10 20 48.1 +0.4
CPUP Villa Florida 146.25 60 PKP2 PKPdf 10 20 48.8 +0.7
CPUP Villa Florida 146.25 60 PKPbc PKPbc 10 20 49.1 -0.2
comp=Z,6.2nm,0.5s,baz=335,slow=3.4,SNR=18
CPUP Villa Florida 146.25 60 PKPdf 10 20 48.8 +0.7
PLCA Paso Flores 146.98 93 PKIKP PKPdf 10 20 49.7 +0.7
PLCA Paso Flores 146.98 93 PKPbc **PKPdf 10 20 50.0 +1.0**
comp=Z,16nm,1.0s,baz=332,slow=3.1,SNR=23
PLCA pPKPbc **pPKPdf 10 21 05.3 -0.4**
comp=Z,46nm,1.0s,baz=326,slow=4.7,SNR=22
PLCA Paso Flores 146.98 93 PKPdf 10 20 49.6 +0.7
NVL N'lazarevskaya 152.07 205 *e*PKIKP **PKPbc 10 21 01.8 -0.8**
NVL pmax pmax
comp=Z,47nm,1.1s
PMSA Palmer Station 153.81 142 PKiKP 10 21 07.3 +0.7
SNAA Sanae 154.90 196 PKPdf PKPbc 10 21 08.1 -0.8
SNAA Sanae 154.90 196 PKIKP PKPdf 10 21 00.3 +0.2
SNAA Sanae 154.90 196 PKPdf 10 21 00.3 +0.2
VNA2 Neumayer--Watz 156.32 194 PKPdf **PKPdf 10 21 05.4 +3.4**
baz=139,slow=4.4
VNA3 Neumayer Olymp 156.38 192 PKPdf **PKPdf 10 21 08.1 +6.1**

NIED **18** *10:14:00, 38˚.70N× 142˚.40E, h44km, Mw4.6 Best double couple: M₀8.17000×10¹⁵ NP1:φs14.00000°, δ38.00000°, λ78.00000°. NP2:φs209.00000°, δ53.00000°, λ99.00000°.*
MOS **18** *10:14:07.8±0.9, 38˚.80N× 142˚.34E, h39km, mb4.7/45, Error ellipse: s-maj=7.2km s-min=4.7km az=88.6*
BJI **18** *10:14:07.7±0.0, 38˚.76N× 142˚.55E, h43km, mb4.8/44, mB5.0/20, Ms4.8/4, Ms7 4.6/3*
NEIC **18** *10:14:08.9±1.7, 38˚.62N±0˚.05× 142˚.4E±0˚.1, h36km±4km, mb4.7/154*
ISCJB **18** *10:14:08.9±0.4, 38˚.68N±0˚.02× 142˚.34E±0˚.03, h49km±3km, mb4.5/89, MS4.0/4, Error ellipse: s-maj=4.8km s-min=3.1km az=37.1*
IDC **18** *10:14:09.5±0.6, 38˚.60N× 142˚.22E, h44km±4km, mb4.1/29, mb1 4.3/33, mb1mx4.3/42, mbtmp4.4/33, ML3.9/4, MS3.7/5, Ms1 3.7/5, ms1mx3.3/50, Error ellipse: s-maj=11.9km s-min=9.7km az=95.0*
JMA **18** *10:14:09.0, 38˚.70N× 142˚.36E, h41km±1km, M4.7*
JMA Felt III J1.
ISC 18 10:14:09.1±0.4, 38˚.67N±0˚.03× 142˚.47E±0˚.04, h41km±3km, h41km:pP-P, n349, σ1§48/373, mb4.6/139, MS4.0/4, 5C-13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.75**	**304**	⇓P			**Pn**	**10 14 22.0**	**-1.2**
OFUJ				S			**Sn**	**10 14 31.2**	**-2.1**
JKMT	**Kesennumamotoy**	**0.79**	**281**	⇓P			**Pn**	**10 14 22.5**	**-1.2**
JKMT				S			**Sn**	**10 14 32.0**	**-2.3**
JIKH	**Ishinomakikobu**	**0.86**	**246**	⇑P			**Pn**	**10 14 23.8**	**-0.9**
JIKH				S			**Sn**	**10 14 34.4**	**-1.7**
JIO	**Ouri**	**0.90**	**257**	⇓P			**Pn**	**10 14 24.2**	**-1.0**
JIO				S			**Sn**	**10 14 34.9**	**-2.2**
JMK	**Ichinoseki**	**1.01**	**287**	⇓P			**Pn**	**10 14 25.8**	**-1.0**
JMK				S			**Sn**	**10 14 37.9**	**-2.0**
JOM	**Ohasama**	**1.22**	**312**	⇓P			**Pn**	**10 14 29.0**	**-0.6**
JOM				S			**Sn**	**10 14 43.6**	**-1.3**
JTH	**Tanohata**	**1.35**	**340**	P			**Pn**	**10 14 30.9**	**-0.6**
JTH				*e*S			**Sn**	**10 14 47.6**	**-0.6**
JOU	**Okura**	**1.45**	**259**	⇓P			**Pn**	**10 14 32.2**	**-0.5**
JOU				S			**Sn**	**10 14 49.9**	**-0.6**
JMM	**Marumori**	**1.54**	**239**	⇓P			**Pn**	**10 14 33.4**	**-0.6**
JMM				S			**Sn**	**10 14 51.3**	**-1.5**
JRG	**Rokugo**	**1.60**	**298**	⇓P			**Pn**	**10 14 34.4**	**-0.5**
JRG				*e*S			**Sn**	**10 14 52.8**	**-1.6**
JYK	**Kaneyama**	**1.67**	**279**	⇓P			**Pn**	**10 14 35.2**	**-0.6**
JYK				*e*S			**Sn**	**10 14 55.4**	**-0.5**
ERM	**Erimo**	**3.39**	**9**	P			**Pn**	**10 14 59.9**	**+0.5**
ERM								10 15 42.1	
ERM	**Erimo**	**3.39**	**9**				**Pn**	**10 14 59.9**	**+0.5**
ERM						Sn	**Sn**	**10 15 42.1**	**+3.8**
MJAR	**Matsushiro Arr**	**3.99**	**239**	P			**Pn**	**10 15 09.5**	**+1.7**
	7.4nm,0.3s,baz=37,slow=15,SNR=140								
MJAR				S			**Sn**	**10 15 55.4**	**+2.1**
	2.4nm,0.3s,baz=236,slow=16,SNR=5.0								
MAJO	**Matsushiro**	**3.99**	**239**	*d*	*i*	P	**Pn**	**10 15 09.2**	**+1.5**
MAJO	**Matsushiro**	**3.99**	**239**				**Pn**	**10 15 09.4**	**+1.7**
MAT	**Matsushiro**	**3.99**	**239**	P			**Pn**	**10 15 09.6**	**+1.9**
MAT				S			**Sn**	**10 15 54.1**	**+0.8**
MJB9	**Matsu-Tunnel**	**3.99**	**239**				**Pn**	**10 15 09.4**	**+1.7**
NMR	**Nemuro--Hokkai**	**5.31**	**27**	*c*	*i*	P	**Pn**	**10 15 24.3**	**-1.4**
NMR					*i*	S	**Sn**	**10 16 20.5**	**-5.1**
ASAJ	**Asahikawa**	**5.45**	**1**	P			**Pn**	**10 15 28.3**	**+0.7**
	3.5nm,0.3s,baz=236,slow=13,SNR=12								
ASAJ				S			**Sn**	**10 16 33.2**	**+4.2**
	8.4nm,0.3s,baz=339,slow=32,SNR=4.5								
ASAJ				LR			LR	10 17 57.0	
	comp=Z,825nm,21.0s,baz=170,slow=41								
JKA	**Kamikawa-asahi**	**5.45**	**1**				**Pn**	**10 15 28.3**	**+0.7**
INU	**Inuyama**	**5.47**	**234**				**Pn**	**10 15 29.8**	**+1.7**
GLVR	**Golovnino**	**5.57**	**23**	*e*P			**Pn**	**10 15 28.3**	**-1.0**
GLVR				*i* S			**Sn**	**10 16 27.9**	**-4.0**
GLVR				pmax			pmax		
	comp=Z,267nm,0.5s								
GLVR				pmax			pmax		
	comp=N,80nm,0.3s								
GLVR				pmax			pmax		
	comp=E,179nm,0.3s								
GLVR				smax			smax		
	comp=N,1μm,0.3s								
GLVR				smax			smax		
	comp=E,784nm,0.3s								
GLVR				smax			smax		
	comp=N,2μm,1.3s								
GLVR				smax			smax		
	comp=E,2μm,1.1s								
GRPR	**Tuman**	**5.88**	**24**	*e*P			**Pn**	**10 15 31.6**	**-1.9**
GRPR				*i* S			**Sn**	**10 16 33.9**	**-5.6**
GRPR				pmax			pmax		
	comp=Z,229nm,0.2s								
GRPR				pmax			pmax		
	comp=N,54nm,0.1s								
GRPR				pmax			pmax		
	comp=E,42nm,0.1s								
GRPR				smax			smax		
	comp=N,942nm,0.4s								
GRPR				smax			smax		
	comp=E,478nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**5.94**	**24**	P			**Pn**	**10 15 33.6**	**-0.8**
YUK				*i* S			**Sn**	**10 16 36.5**	**-4.7**
YUK				pmax			pmax		
	comp=Z,293nm,0.3s								
YUK				pmax			pmax		
	comp=N,79nm,0.2s								
YUK				pmax			pmax		
	comp=E,108nm,0.2s								
YUK				pmax			pmax		
	comp=Z,498nm,1.3s								
YUK				smax			smax		
	comp=N,984nm,0.3s								
YUK				smax			smax		
	comp=E,514nm,0.2s								
YUK				smax			smax		
	comp=E,864nm,1.3s								
YUK				smax			smax		
	comp=N,877nm,1.2s								
JHJ2	**Mitsune**	**5.94**	**202**	Pn			**Pn**	**10 15 35.4**	**+0.9**
JHJ2							**Sn**	**10 16 40.1**	**-1.2**
SHO	**Shikotan**	**6.15**	**31**	*e*P			**Pn**	**10 15 35.6**	**-1.7**
SHO				*i* S			**Sn**	**10 16 39.9**	**-6.4**
SHO				pmax			pmax		
	comp=Z,43nm,0.5s								
SHO				pmax			pmax		
	comp=E,17nm,0.2s								
SHO				pmax			pmax		
	comp=N,20nm,0.3s								
SHO				pmax			pmax		
	comp=Z,221nm,1.7s								
SHO				smax			smax		
	comp=E,261nm,0.3s								
SHO				smax			smax		
	comp=N,436nm,0.5s								
SHO				smax			smax		
	comp=N,422nm,1.1s								
SHO				smax			smax		
	comp=E,596nm,1.2s								
KUR	**Kuril'sk**	**7.70**	**30**	*e*P			**Pn**	**10 15 58.2**	**-0.3**
KUR				*i* S			**Sn**	**10 17 19.5**	**-4.8**
KUR				pmax			pmax		
	comp=Z,201nm,1.4s								
KUR				pmax			pmax		
	comp=Z,51nm,0.4s								
KUR				pmax			pmax		
	comp=N,22nm,0.2s								
KUR				pmax			pmax		
	comp=E,22nm,0.2s								
KUR				smax			smax		
	comp=E,272nm,1.4s								
KUR				smax			smax		
	comp=N,146nm,1.0s								
TEY	**Ternei**	**7.72**	**327**	⇑	*i*	P	Pn	10 16 04.2	+5.3
TEY				pmax			pmax		
	comp=E,70nm,0.7s								
TEY				pmax			pmax		
	comp=N,100nm,0.8s								
TEY				pmax			pmax		
	comp=Z,130nm,0.7s								
YSS	**Yuzh-Sakhalins**	**8.29**	**1**	*e*P			**Pn**	**10 16 06.4**	**-0.1**
YSS				*e*S			**Sn**	**10 17 35.3**	**-3.5**
YSS				pmax			pmax		
	comp=Z,40nm,0.9s								
YSS				MLR			MLR		
	comp=Z,700nm,15.0s								
YSS	**Yuzh-Sakhalins**	**8.29**	**1**	Pn			**Pn**	**10 16 06.5**	**-0.1**
USA0B	**Ussuriysk Arra**	**9.61**	**308**	*i* P			**Pn**	**10 16 25.6**	**+0.8**
USA0B	**Ussuriysk Arra**	**9.61**	**308**				**Pn**	**10 16 25.1**	**+0.3**
USRK	**Ussuriysk Ar.**	**9.61**	**308**	P			**Pn**	**10 16 25.2**	**+0.4**
	baz=123,slow=14,SNR=38								
USRK				LR			LR	10 19 37.0	
	comp=Z,509nm,20.3s,baz=69,slow=34								
JNU	**Nakatsue**	**10.90**	**243**	P			**Pn**	**10 16 42.7**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=16,slow=5.8,SNR=12								
JNU	**Nakatsue**	**10.90**	**243**				**Pn**	**10 16 44.5**	**+1.9**
MDJ	**Mudanjiang**	**11.31**	**306**	P			Pn	10 16 52.1	+4.0
MDJ				pmax			pmax		
	comp=Z,58nm,1.0s								
MDJ				pmax			pmax		
	comp=Z,650nm,13.2s								
MDJ	**Mudanjiang**	**11.31**	**306**				**Pn**	**10 16 48.9**	**+0.8**
KSRS	**Korea Array**	**11.53**	**268**	P			Pn	10 16 54.9	+3.9
	comp=Z,0.8nm,0.3s,baz=79,slow=14,SNR=21								
JCJ	**Chichijima**	**11.54**	**181**	P			**Pn**	**10 16 49.3**	**-1.9**
	comp=Z,6.9nm,0.3s,baz=276,slow=22,SNR=5.5								
JCJ				S			Sn	10 18 47.5	-11
	comp=Z,17nm,0.3s,baz=301,slow=22,SNR=5.7								
KS19	**Wonju Array Si**	**11.57**	**269**	Pn			**Pn**	**10 16 49.2**	**-2.4**
GRNR	**Gornyy**	**12.84**	**342**	*e*P			Pn	10 17 01.3	-7.5
GRNR				pmax			pmax		
	comp=Z,4.0nm,0.7s								
KLR	**Kul'dur**	**13.07**	**327**	*i* P			**Pn**	**10 17 10.0**	**-2.0**
KLR	**Kul'dur**	**13.07**	**327**	P			**Pn**	**10 17 11.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=136,slow=13,SNR=8.7								
KLR				LR			LR	10 21 51.2	
	comp=Z,475nm,19.6s,baz=140,slow=35								
CN2	**Changchun**	**13.79**	**297**	*e*P			**Pn**	**10 17 23.4**	**+1.5**
CN2				pmax			pmax		
	comp=Z,10.0nm,1.0s								
JOW	**Kunigami**	**16.76**	**229**				**Pn**	**10 18 00.5**	**-0.3**
JOW				IAmb			IAmb	10 18 11.2	
	comp=Z,101nm,1.4s								
PETK	**Petropavlovsk-**	**17.86**	**31**	LR			LR	10 24 40.1	
	comp=Z,166nm,21.2s,baz=243,slow=35								
PET	**Petropavlovsk**	**18.19**	**33**	P			**P**	**10 18 17.9**	**-0.3**
PET				pmax			pmax		
	comp=Z,25nm,1.0s								
PET	**Petropavlovsk**	**18.19**	**33**	P			**P**	**10 18 17.9**	**-0.3**
ZEA	**Zeya**	**18.33**	**330**	*e*P			**P**	**10 18 18.6**	**-1.1**
ZEA				pmax			pmax		
	comp=N,31nm,0.8s								
ZEA				pmax			pmax		
	comp=E,21nm,0.8s								
ZEA				pmax			pmax		
	comp=Z,41nm,1.0s								
HIA	**Hailar**	**19.41**	**310**	*i* P			**P**	**10 18 28.4**	**-3.3**
NJ2	**Nanjing**	**20.33**	**258**	*e*P			Pn	10 18 43.4	-0.6
NJ2				pmax			pmax		
	comp=Z,16nm,0.7s								
BJT	**Baijiatuau**	**20.36**	**282**	P			Pn	10 18 42.1	-2.2
BJT				pmax			pmax		
	comp=Z,14nm,1.0s								
BJT	**Baijiatuau**	**20.36**	**282**	P			Pn	10 18 42.1	-2.2
MA2	**Magadan**	**21.59**	**12**	*i* P			**P**	**10 18 54.4**	**-0.6**
MA2				pmax			pmax		
	comp=Z,13nm,1.0s								
MA2	**Magadan**	**21.59**	**12**	P			**P**	**10 18 55.8**	**+0.7**
	comp=Z,10nm,0.7s,baz=175,slow=11,SNR=4.0								
MA2				LR			LR	10 27 45.5	
	comp=Z,165nm,19.3s,baz=165,slow=38								
MA2	**Magadan**	**21.59**	**12**				**P**	**10 18 54.8**	**-0.3**
MA2				IAmb			IAmb	10 19 07.9	
	comp=Z,19nm,0.9s								
SARN	**Sarigan**	**22.07**	**172**	P			**P**	**10 18 59.0**	**-1.6**
YHNB	**Yeheng**	**22.66**	**238**	P			**P**	**10 19 07.3**	**+0.3**
YHNB				IAmb			IAmb	10 19 22.0	
	comp=Z,68nm,1.3s								
HHC	**Hu-ho-hao-te**	**23.80**	**285**	*e*P			**P**	**10 19 18.3**	**+0.2**
HHC				pmax			pmax		
	comp=Z,5.0nm,0.8s								
TPUB	**Ta-pu**	**24.10**	**237**	P			**P**	**10 19 17.5**	**-3.4**
WHN	**Wuhan**	**24.45**	**259**	P			**P**	**10 19 27.6**	**+3.6**
YAK	**Yakutsk**	**24.68**	**346**	*e*P			**P**	**10 19 25.7**	**-0.1**
YAK				*e**PP			**pP**	**10 19 35.2**	**-1.4**
YAK				*e*				10 19 59.7	
YAK				*e*S			**S**	**10 23 45.1**	**+0.6**
YAK				*e**SS			**sS**	**10 24 00.8**	**-1.5**
YAK				*e*SS			**SnSn**	**10 24 35.6**	**+2.8**
YAK				*e*SSS			SSS	10 24 59.4	
YAK				pmax			pmax		
	comp=Z,15nm,0.9s								
YAK				pmax			pmax		
	comp=E,2.0nm,0.8s								
YAK				pmax			pmax		
	comp=N,16nm,0.9s								
YAK				pmax			pmax		
	comp=Z,20nm,0.8s								
YAK				smax			smax		
	comp=E,96nm,2.3s								
YAK				smax			smax		
	comp=N,105nm,2.2s								
YAK	**Yakutsk**	**24.68**	**346**	P			**P**	**10 19 25.9**	**+0.2**
	comp=N,9.3nm,0.6s,baz=269,slow=1.6,SNR=4.9								
YAK	**Yakutsk**	**24.68**	**346**	P			**P**	**10 19 26.4**	**+0.6**
SEY	**Seymchan**	**25.03**	**11**	*i* P			**P**	**10 19 28.3**	**-0.7**
SEY	**Seymchan**	**25.03**	**11**	P			**P**	**10 19 30.6**	**+1.6**
	comp=N,9.2nm,0.9s,baz=183,slow=8.1,SNR=12								
BOD	**Bodaibo**	**26.63**	**325**	*e*P			**P**	**10 19 42.7**	**-0.8**
BOD				pmax			pmax		
	comp=Z,10.0nm,1.2s								
ULN	**Ulaanbaatar**	**27.17**	**301**	P			**P**	**10 19 48.3**	**-0.5**
ULN				pmax			pmax		
	comp=Z,5.0nm,1.1s								
ULN	**Ulaanbaatar**	**27.17**	**301**	P			**P**	**10 19 48.2**	**-0.5**
XAN	**Xi'an**	**27.32**	**271**	P			**P**	**10 19 53.0**	**+3.0**
XAN				pmax			pmax		
	comp=Z,10.0nm,0.9s								
XAN				LR			LR		
	comp=Z,230nm,15.2s								
XAN				LR			LR		
	comp=Z,500nm,15.7s								
XAN	**Xi'an**	**27.32**	**271**	P			**P**	**10 19 50.0**	**0.0**
XAN				pmax			pmax		
	comp=Z,14nm,1.2s								
XAN	**Xi'an**	**27.32**	**271**	P			**P**	**10 19 50.0**	**0.0**
XAN				IAmb			IAmb	10 19 53.7	
	comp=Z,14nm,1.2s								
SONM	**Songino Array**	**27.61**	**301**	P			**P**	**10 19 52.3**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=90,slow=8.1,SNR=11								
H11N2	**WAKE ISLAND Hy**	**28.33**	**125**	T			T	10 50 28.5	
	baz=317,slow=76,SNR=230								
ENH	**Enshi**	**28.33**	**263**	P			**P**	**10 19 58.4**	**-0.7**
H11N1	**WAKE ISLAND Hy**	**28.34**	**125**	T			T	10 50 30.4	
	baz=317,slow=76,SNR=206								
H11N3	**WAKE ISLAND Hy**	**28.35**	**125**	T			T	10 50 30.9	
	baz=317,slow=76,SNR=181								
H11S1	**WAKE ISLAND Hy**	**29.11**	**127**	T			T	10 51 24.3	
	baz=318,slow=76,SNR=59								
H11S3	**WAKE ISLAND Hy**	**29.11**	**127**	T			T	10 51 27.2	
	baz=318,slow=76,SNR=83								
H11S2	**WAKE ISLAND Hy**	**29.12**	**127**	T			T	10 51 28.1	
	baz=318,slow=76,SNR=65								
TLY	**Talaya**	**29.93**	**309**	*e*P			**P**	**10 20 12.2**	**-0.8**
TLY				pmax			pmax		
	comp=Z,31nm,1.1s								
TLY	**Talaya**	**29.93**	**309**	P			**P**	**10 20 13.0**	**-0.1**
	comp=Z,4.5nm,0.6s,baz=233,slow=11,SNR=4.4								
TLY	**Talaya**	**29.93**	**309**	P			**P**	**10 20 12.0**	**-1.0**
TLY				IAmb			IAmb	10 20 13.4	
	comp=Z,13nm,1.1s								
ZAK	**Zakamensk**	**29.95**	**306**	*e*P			**P**	**10 20 12.0**	**-1.3**
ZAK				pmax			pmax		
	comp=Z,6.0nm,1.0s								
LZH	**Lanzhou**	**30.65**	**277**	*e*P			**P**	**10 20 19.8**	**+0.1**
LZH				pP			pP	10 20 29.9	-0.8
LZH				sP			sP	10 20 36.3	+0.8
LZH				pmax			pmax		
	comp=Z,19nm,1.0s								
MOY	**Mondy**	**31.56**	**308**	*e*P			**P**	**10 20 27.5**	**0.0**
BILL	**Bilibino**	**32.23**	**17**	⇑	*e*P		**P**	**10 20 33.5**	**+0.4**
BILL				*PP			**pP**	**10 20 42.0**	**-1.9**
BILL				*SP			**sP**	**10 20 51.0**	**+2.4**
BILL				SS			SS	10 27 35.0	-27
BILL				pmax			pmax		
	comp=Z,4.0nm,1.1s								
BILL				MLR			MLR		
	comp=Z,134nm,17.0s								
BILL	**Bilibino**	**32.23**	**17**	P			**P**	**10 20 34.0**	**+0.9**
BILL				IAmb			IAmb	10 20 48.4	
	comp=Z,9.8nm,1.2s								
CD2	**Chengdu**	**32.53**	**268**	P			**P**	**10 20 36.5**	**+0.3**
GTA	**Gaotai**	**32.91**	**285**	*e*P			**P**	**10 20 41.3**	**+1.7**
GTA				pP			sP	10 20 52.8	-2.5
GTA				sP			pP	10 20 58.4	+7.9
GTA				pmax			pmax		
	comp=Z,5.0nm,0.8s								
TIXI	**Tiksi**	**33.78**	**352**	*i* P			**P**	**10 20 45.4**	**-1.1**
TIXI				pmax			pmax		
	comp=Z,2.0nm,0.9s								
TIXI	**Tiksi**	**33.78**	**352**	P			**P**	**10 20 47.6**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=103,slow=3.4,SNR=4.6								
TIXI	**Tiksi**	**33.78**	**352**	P			**P**	**10 20 47.2**	**+0.7**
KMI	**Kunming**	**36.05**	**260**	P			**P**	**10 21 06.2**	**-0.7**
KMI				pmax			pmax		
	comp=Z,10.0nm,0.7s								
KMI	**Kunming**	**36.05**	**260**	P			**P**	**10 21 06.2**	**-0.7**
KMI				IAmb			IAmb	10 21 10.1	
	comp=Z,10nm,0.7s								
WMQ	**Urumqi**	**40.87**	**295**	*e*P			**P**	**10 21 49.0**	**+2.0**
WMQ				pP			sP	10 22 01.0	-2.0
WMQ				pmax			pmax		
	comp=Z,14nm,0.7s								
WMQ				pmax			pmax		
	comp=Z,120nm,6.7s								
WMQ				LR			LR		
	comp=Z,520nm,29.0s								
WMQ				LR			LR		
	comp=Z,950nm,29.1s								
WMQ				LR			LR		
	comp=Z,400nm,21.3s								
WMQ	**Urumqi**	**40.87**	**295**	P			**P**	**10 21 47.3**	**+0.3**
WMQ				pmax			pmax		
	comp=Z,32nm,1.3s								
WMQ	**Urumqi**	**40.87**	**295**	P			**P**	**10 21 47.4**	**+0.3**
WMQ				IAmb			IAmb	10 21 54.3	
	comp=Z,32nm,1.3s								
ZAA0	**Zalesovo Array**	**41.45**	**311**	P			**P**	**10 21 50.7**	**-0.8**
ZAA0				IAmb			IAmb	10 22 08.1	
	comp=Z,8.3nm,0.7s								
ZALV	**Zalesovo Beam**	**41.45**	**311**	P			**P**	**10 21 50.9**	**-0.6**
	comp=Z,12nm,0.5s,baz=89,slow=8.2,SNR=23								
FAKI	**Fak Fak**	**42.44**	**195**	P			**P**	**10 22 00.9**	**+0.9**
FAKI				IAmb			IAmb	10 22 02.8	
	comp=Z,24nm,1.0s								
CMMT	**Chiang Mai**	**42.51**	**255**	P			P	10 22 12.8	+12
CMAR	**Chiang Mai Arr**	**42.73**	**254**	P			**P**	**10 22 00.6**	**-1.8**
	comp=Z,1.1nm,0.7s,baz=46,slow=8.1,SNR=4.9								
LSA	**Lhasa**	**42.91**	**274**	P			**P**	**10 22 05.1**	**+0.8**
LSA				pmax			pmax		
	comp=Z,6.0nm,0.6s								
LSA	**Lhasa**	**42.91**	**274**	P			**P**	**10 22 05.1**	**+0.8**
MK31	**Makanchi Array**	**43.98**	**301**	P			**P**	**10 22 11.8**	**-0.4**
MK31				pmax			pmax		
	comp=Z,7.0nm,0.8s								
MK31	**Makanchi Array**	**43.98**	**301**	P			**P**	**10 22 11.8**	**-0.4**
MK31				IAmb			IAmb	10 22 30.7	
	comp=Z,7.2nm,0.8s								
MKAR	**Makanchi Array**	**43.98**	**301**	P			**P**	**10 22 11.4**	**-0.8**
	comp=Z,2.3nm,0.5s,baz=81,slow=8.9,SNR=29								
MAKZ	**Makanchi**	**44.19**	**301**	P			**P**	**10 22 13.4**	**-0.5**
MAKZ				pmax			pmax		
	comp=Z,9.0nm,0.8s								
MAKZ	**Makanchi**	**44.19**	**301**	P			**P**	**10 22 13.4**	**-0.5**
MAKZ				IAmb			IAmb	10 22 32.5	
	comp=Z,8.6nm,0.8s								
OHAK	**Old Harbor**	**45.00**	**44**	P			**P**	**10 22 21.7**	**+1.6**
KDAK	**Kodiak Island**	**45.33**	**43**	P			**P**	**10 22 23.8**	**+1.0**
KDAK				pmax			pmax		
	comp=Z,21nm,1.4s								
KDAK	**Kodiak Island**	**45.33**	**43**	P			**P**	**10 22 23.8**	**+1.0**
KDAK				IAmb			IAmb	10 22 29.9	
	comp=Z,21nm,1.4s								
KURK	**Kurchatov**	**45.60**	**307**	P			**P**	**10 22 24.8**	**-0.2**
KURK				pmax			pmax		
	comp=Z,22nm,0.7s								
KURK	**Kurchatov**	**45.60**	**307**	P			**P**	**10 22 24.8**	**-0.2**
PHET	**Kaeng Krachan**	**45.74**	**248**	P			**P**	**10 22 27.5**	**+1.0**
	comp=Z,45μm,0.6s								
KTH	**Kantishna Hill**	**45.93**	**35**	P			**P**	**10 22 29.6**	**+2.0**
KTH				IAmb			IAmb	10 22 44.1	
	comp=Z,13nm,0.9s								
MLY	**Manley**	**46.03**	**33**	P			**P**	**10 22 30.5**	**+2.2**
MLY				IAmb			IAmb	10 22 45.2	
	comp=Z,12nm,0.8s								
SUA	**Susitna One**	**46.06**	**38**	P			**P**	**10 22 30.0**	**+1.4**
SUA				IAmb			IAmb	10 22 35.2	
	comp=Z,14nm,1.4s								
TRF

KOLN	Koldanda	49.68	276	*e*P		P		10 22 57.1	-0.1
	comp=Z,8.3nm,0.4s								
BRVK	Borovoye	50.16	312	P		P		10 23 00.5	+0.3
BRVK				pmax		pmax			
	comp=Z,7.0nm,0.6s								
BRVK	Borovoye	50.16	312	P		P		10 23 00.5	+0.3
BRVK				IAmb		IAmb		10 23 15.1	
	comp=Z,6.5nm,0.6s								
KULM	Kulim	50.36	240	P		P		10 23 02.4	+0.2
AAK	Ala-Archa	50.46	298	P		P		10 23 03.0	+0.1
AAK				pmax		pmax			
	comp=Z,4.0nm,1.1s								
AAK	Ala-Archa	50.46	298	P		P		10 23 03.0	+0.1
BARN	Barnard Glacie	50.46	38	P		P		10 23 05.4	+2.8
BARN				IAmb		IAmb		10 23 07.2	
	comp=Z,14nm,1.4s								
KSH	Kashi	50.52	293	P		P		10 23 08.3	+5.0
KSH				pmax		pmax			
	comp=Z,250nm,4.8s								
IPM	Ipoh	50.70	239	P		P		10 23 04.5	-0.3
EPYK	Eagle Plains	51.70	30	P		P		10 23 14.1	+2.4
ARSB	Arslanbob	51.98	296	P		P		10 23 15.1	+0.8
ARSB				IAmb		IAmb		10 23 20.5	
	comp=Z,6.0nm,0.8s								
MTN	Manton Dam	52.32	194	P		P		10 23 16.8	0.0
COEN	Coen	52.35	179	P		P		10 23 17.5	+0.5
INK	Inuvik	52.55	28	P		P		10 23 19.3	+1.4
INK				pmax		pmax			
	comp=Z,14nm,1.3s								
INK	Inuvik	52.55	28	P		P		10 23 19.3	+1.4
INK				IAmb		IAmb		10 23 34.9	
	comp=Z,14nm,1.2s								
KKAR	Karatay Array	53.04	299⇑	*e*P		P		10 23 23.0	+1.0
SVE	Sverdlovsk	54.48	318	*e*P		P		10 23 35.0	+2.8
SVE				pmax		pmax			
	comp=Z,20nm,0.8s								
JIS	Juneau Island	54.72	40	P		P		10 23 37.5	+3.6
GAR	Garm	54.76	295	P		P		10 23 34.0	-0.7
GAR				IAmb		IAmb		10 23 48.2	
	comp=Z,12nm,1.2s								
NIL	Nilore	54.91	288	P		P		10 23 36.7	+1.0
NIL				pmax		pmax			
	comp=Z,15nm,0.6s								
NIL	Nilore	54.91	288	P		P		10 23 36.7	+1.0
KNRA	Kununurra	55.56	196	P		P		10 23 40.9	+0.6
ARU	Arti	55.70	318	*d* iP		P		10 23 41.7	+0.7
ARU				*PP		pP		10 23 53.7	+1.1
ARU				S		S		10 31 28.5	+4.2
ARU				SS		SS		10 35 13.6	+4.2
ARU				pmax		pmax			
	comp=Z,13nm,1.4s								
ARU	Arti	55.70	318	P		P		10 23 41.2	+0.2
CHGR	Chuyangaron	55.73	295	P		P		10 23 41.1	-0.5
ABKAR	Akbulak array	57.53	310	P		P		10 23 53.1	-1.0
ABKAR				IAmb		IAmb		10 24 08.5	
	comp=Z,9.4nm,0.7s								
FITZ	Fitzroy Crossi	58.63	199	P		P		10 24 02.6	+0.6
WRAB	Tennant Creek	58.78	189	*d* iP		P		10 24 01.7	-1.4
WRAB				pmax		pmax			
	comp=Z,25nm,0.9s								
WRAB	Tennant Creek	58.78	189	P		P		10 24 02.7	-0.4
WR0	Warramunga Arr	58.79	189	P		P		10 24 02.9	-0.3
WRA	Warramunga Arr	58.79	189	P		P		10 24 02.6	-0.6
	comp=Z,19nm,0.7s,baz=4.7,slow=7.1,SNR=132								
WRA				pP		pP		10 24 15.6	+0.9
	comp=Z,6.1nm,0.7s,baz=4.9,slow=7.3,SNR=6.2								
PRGR	Permogore	59.86	327	*e*P		P		10 24 06.2	-3.9
PRGR				pmax		pmax			
	comp=Z,11nm,0.4s								
RES	Resolute Bay	60.81	15	P		P		10 24 16.5	+0.1
RES				pmax		pmax			
	comp=Z,6.0nm,1.0s								
RES	Resolute Bay	60.81	15	P		P		10 24 16.5	+0.1
RES				IAmb		IAmb		10 24 31.1	
	comp=Z,6.4nm,0.9s								
YKA	Yellowknife Ar	61.98	31	P		P		10 24 24.8	+0.3
	comp=Z,0.8nm,0.6s,baz=303,slow=6.7,SNR=13								
YKA				pP		pP		10 24 38.0	+2.0
	comp=Z,2.3nm,0.8s,baz=301,slow=6.7,SNR=15								
ASAR	Alice Springs	62.52	189	P		P		10 24 28.4	-0.2
	comp=Z,8.3nm,0.7s,baz=9.4,slow=5.3,SNR=127								
ARCES	ARCESS Array B	62.77	339	P		P		10 24 29.4	-0.3
	comp=Z,1.8nm,0.8s,baz=51,slow=7.9,SNR=5.9								
TULEG	Thule	63.38	8	P		P		10 24 33.7	+0.1
TULEG				IAmb		IAmb		10 24 47.8	
	comp=Z,7.9nm,0.8s								
PSAD1	Pilbara Seismi	63.46	204	P		P		10 24 34.6	-0.2
PSAD1				IAmb		IAmb		10 24 40.0	
	comp=Z,4.3nm,0.8s								
PSAC2	Pilbara Seismi	63.54	204	P		P		10 24 35.1	-0.2
PSAC1	Pilbara Seismi	63.54	204	P		P		10 24 35.4	+0.1
PSAC1				IAmb		IAmb		10 24 53.0	
	comp=Z,15nm,1.4s								
PSAB2	Pilbara Seismi	63.55	204	P		P		10 24 35.3	-0.1
PSAB2				IAmb		IAmb		10 24 38.7	
	comp=Z,16nm,1.4s								
PSAA2	Pilbara Seismi	63.56	204	P		P		10 24 35.2	-0.2
GEYT	Alibeck	63.78	299	P		P		10 24 36.0	-1.0
	comp=Z,1.5nm,0.6s,baz=77,slow=6.7,SNR=4.6								
EIDS	Eidsvold	64.21	171	P		P		10 24 40.8	+1.2
DAG	Danmarks Havn	64.22	355	*i* P		P		10 24 52.0	+13
DAG				pmax		pmax			
	comp=Z,6.0nm,0.8s								
DAG	Danmarks Havn	64.22	355	*i* P		P		10 24 52.0	+13
	comp=Z,6.3nm,0.8s								
NLWA	Neilton Lookou	65.00	48	P		P		10 24 47.6	+2.8
LON	Longmire	66.54	48	P		P		10 24 56.2	+1.5
LON				pmax		pmax			
	comp=Z,5.0nm,1.1s								
LON	Longmire	66.54	48	P		P		10 24 56.2	+1.5
LON				IAmb		IAmb		10 25 10.4	
	comp=Z,5.2nm,1.1s								
LTY	Liberty	66.93	47	P		P		10 24 58.9	+1.6
LTY				IAmb		IAmb		10 25 13.9	
	comp=Z,10nm,1.4s								
OBN	Obninsk	67.29	323⇓	*e*P		P		10 24 57.8	-1.4
OBN				*PP		pP		10 25 11.0	+0.1
OBN				*SP		sP		10 25 17.0	+1.5
OBN				S		S		10 33 46.0	-5.1
OBN				*SS		SKSac		10 34 33.0	-20
OBN				pmax		pmax			
	comp=Z,7.0nm,0.9s								
H04A	Detroit Lake	67.42	50	P		P		10 25 02.4	+2.0
H04A				IAmb		IAmb		10 25 16.5	
	comp=Z,7.4nm,1.0s								
FINES	FINESS Array B	67.76	332	P		P		10 25 01.4	-0.7
	comp=Z,2.1nm,0.6s,baz=96,slow=1.9,SNR=7.3								
FINES				pP		pP		10 25 13.8	-0.1
	comp=Z,6.8nm,0.6s,baz=54,slow=7.4,SNR=6.5								
VSR	Storozhevoye	68.25	319	*i* P		P		10 25 04.6	-0.8
VSR				pmax		pmax			
	comp=Z,10.0nm,1.1s								
NEW	Newport	68.38	45	P		P		10 25 07.7	+1.3
NEW				pmax		pmax			
	comp=Z,4.0nm,0.9s								
NEW	Newport	68.38	45	P		P		10 25 07.7	+1.3
NEW				IAmb		IAmb		10 25 08.3	
	comp=Z,4.2nm,0.9s								
KHMM	Horse Mountain	68.52	54	P		P		10 25 10.0	+2.5
PINE	Pine Mountain	68.65	51	P		P		10 25 10.7	+2.4
PINE				IAmb		IAmb		10 25 11.4	
	comp=Z,8.1nm,0.9s								
YBH	Yreka Blue Hor	68.69	53	P		P		10 25 10.8	+2.3
YBH				pmax		pmax			
	comp=Z,3.0nm,0.8s								
YBH	Yreka Blue Hor	68.69	53	P		P		10 25 10.3	+1.9
	comp=Z,2.7nm,0.8s,baz=336,slow=4.6,SNR=6.7								
YBH	Yreka Blue Hor	68.69	53	P		P		10 25 10.8	+2.3
AKT	Akhty	68.78	307	*e*P		P		10 25 08.1	-0.9
AKT				*e*				10 25 33.1	
AKT				pmax		pmax			
	comp=Z,6.0nm,0.8s								
ARMA	Armidale	69.26	172	P		P		10 25 12.8	+1.0
ARMA				IAmb		IAmb		10 25 13.8	
	comp=Z,10.0nm,1.1s								
MOD	Modoc Plateau	70.10	52	P		P		10 25 19.0	+1.8
STKA	Stephens Creek	70.19	181	P		P		10 25 17.9	+0.5
STKA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
STKA	Stephens Creek	70.19	181	P		P		10 25 17.3	-0.1
	comp=Z,3.2nm,0.7s,baz=330,slow=6.4,SNR=11								
STKA	Stephens Creek	70.19	181	P		P		10 25 17.9	+0.5
BMO	Blue Mountains	70.22	48	P		P		10 25 19.6	+1.8
BMO				pmax		pmax			
	comp=Z,2.0nm,0.9s								
BMO	Blue Mountains	70.22	48	P		P		10 25 19.6	+1.8
JTMT	Jette	70.24	44	P		P		10 25 19.6	+1.6
JTMT				IAmb		IAmb		10 25 21.1	
	comp=Z,7.2nm,1.1s								
FORT	Forrest	70.38	193	P		P		10 25 19.2	+0.6
KIV	Kislovodsk	70.47	311	*e*P		P		10 25 18.0	-1.3
KIV				pmax		pmax			
	comp=Z,43nm,1.0s								
KBZ	Khabaz	70.47	311	P		P		10 25 19.3	+0.1
	comp=Z,3.1nm,0.6s,baz=192,slow=2.9,SNR=8.3								
ORV	Oroville	70.67	55	P		P		10 25 21.7	+1.2
ORV				pmax		pmax			
	comp=Z,6.0nm,1.4s								
ORV	Oroville	70.67	55	P		P		10 25 21.7	+1.2
ORV				IAmb		IAmb		10 25 22.3	
	comp=Z,6.0nm,1.4s								
BEKR	Beckworth	71.22	54	P		P		10 25 26.1	+2.0
BEKR				IAmb		IAmb		10 25 26.2	
	comp=Z,5.0nm,0.9s								
BBOO	Buckleboo	71.36	186	P		P		10 25 25.1	+0.6
MORW	Morawa	71.76	204	P		P		10 25 27.8	+0.7
VCNR	Virginia City	71.99	54	P		P		10 25 31.5	+2.7
FCC	Fort Churchill	72.17	27	P		P		10 25 29.5	+0.3
FCC				pmax		pmax			
	comp=Z,8.0nm,1.0s								
FCC	Fort Churchill	72.17	27	P		P		10 25 29.5	+0.3
FCC				IAmb		IAmb		10 25 44.4	
	comp=Z,8.5nm,0.9s								
CMB	Columbia Colle	72.25	55	P		P		10 25 31.0	+0.8
CMB				pmax		pmax			
	comp=Z,4.0nm,1.0s								
CMB	Columbia Colle	72.25	55	P		P		10 25 31.0	+0.8
YERR	Yerington	72.43	54	P		P		10 25 32.5	+1.0
YERR				IAmb		IAmb		10 25 33.9	
	comp=Z,6.1nm,0.9s								
NB2	NORSAR Subarra	73.00	338	P		P		10 25 33.6	-0.6
	comp=Z,1.2nm,0.6s,baz=39,slow=6.2								
NOA	NORSAR Array B	73.00	338	P		P		10 25 33.1	-1.1
	comp=Z,1.1nm,0.5s,baz=38,slow=6.0,SNR=9.4								
NOA				pP		pP		10 25 47.0	+1.0
	comp=Z,1.7nm,0.6s,baz=39,slow=5.8,SNR=5.8								
RYN	Ryan	73.09	54	P		P		10 25 36.4	+1.1
KVN	Kaiserville	73.11	53	P		P		10 25 36.8	+1.4
KVN				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KVN	Kaiserville	73.11	53	P		P		10 25 36.8	+1.4
KVN				IAmb		IAmb		10 25 37.9	
	comp=Z,6.7nm,1.0s								
MDPB	Devils Postpil	73.33	55	P		P		10 25 37.2	+0.4
NVAR	Mina Array Bea	73.35	54	P		P		10 25 38.4	+1.5
	comp=Z,3.4nm,0.9s,baz=288,slow=6.3,SNR=21								
NV11	Mina Array Sit	73.44	54	P		P		10 25 38.5	+1.1
AKASG	Malin Array Be	73.52	322	P		P		10 25 36.4	-0.9
	comp=Z,2.0nm,0.5s,baz=44,slow=6.4,SNR=10.0								
AKBB	Malin Array Si	73.52	322	P		P		10 25 36.3	-1.0
AKBB	Malin Array Si	73.52	322	P		P		10 25 36.3	-1.0
AKBB				IAmb		IAmb		10 25 51.7	
	comp=Z,4.5nm,0.8s								
QLMT	Earthquake Lak	73.58	45	P		P		10 25 38.5	+0.4
PAGB	Antelope Grade	73.68	57	P		P		10 25 39.8	+1.1
PAGB				IAmb		IAmb		10 25 42.4	
	comp=Z,8.8nm,1.1s								
ELK	Elko	73.87	51	P		P		10 25 41.1	+1.2
	comp=Z,1.4nm,0.8s,baz=291,slow=6.3,SNR=7.5								
ELK	Elko	73.87	51	P		P		10 25 41.0	+1.2
H17A	Grant Village	74.33	45	P		P		10 25 44.5	+1.9
H17A				IAmb		IAmb		10 25 46.6	
	comp=Z,6.5nm,1.0s								
FXWY	Fox Creek	74.55	46	P		P		10 25 44.9	+1.0
MOOW	Moose Ponds	74.64	46	P		P		10 25 45.5	+1.2
TPAW	Teton Pass	74.69	46	P		P		10 25 45.0	+0.3
REDW	Red Top Meadow	74.82	46	P		P		10 25 46.3	+0.9
REDW				IAmb		IAmb		10 25 48.1	
	comp=Z,6.4nm,1.1s								
ISA	Isabella, Lake	74.88	56	P		P		10 25 46.2	+0.5
ISA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
ISA	Isabella, Lake	74.88	56	P		P		10 25 46.2	+0.5
R11A	Troy Canyon, C	75.11	53	P		P		10 25 48.3	+1.2
SPUT	South Promonto	75.19	49	P		P		10 25 49.1	+1.6
HWUT	Hardware Ranch	75.52	48	P		P		10 25 51.0	+1.6
HWUT				IAmb		IAmb		10 25 52.0	
	comp=Z,9.0nm,1.1s								
TPNV	Topopah Spring	75.54	54	P		P		10 25 50.6	+1.0
TPNV				pmax		pmax			
	comp=Z,8.0nm,1.1s								
TPNV	Topopah Spring	75.54	54	P		P		10 25 50.6	+1.0
TPNV				IAmb		IAmb		10 25 51.9	
	comp=Z,7.9nm,1.1s								
DUG	Dugway, Tooele	75.66	50	P		P		10 25 51.7	+1.5
DUG				pmax		pmax			
	comp=Z,6.0nm,1.0s								
DUG	Dugway, Tooele	75.66	50	P		P		10 25 51.7	+1.5
DUG				IAmb		IAmb		10 25 52.7	
	comp=Z,5.9nm,0.9s								
TOO	Toolangi	75.92	178	P		P		10 25 50.7	-0.5
TOO				pmax		pmax			
	comp=Z,10.0nm,1.3s								
TOO	Toolangi	75.92	178	P		P		10 25 50.7	-0.5
TOO				IAmb		IAmb		10 25 53.8	
	comp=Z,10nm,1.2s								
BW06	Boulder Array	75.93	46	P		P		10 25 52.0	+0.2
BW06				IAmb		IAmb		10 25 53.4	
	comp=Z,3.3nm,0.7s								
PD31	Pinedale Array	75.93	46	P		P		10 25 51.8	0.0
PDAR	Pinedale Array	75.93	46	P		P		10 25 52.5	+0.7
	comp=Z,2.7nm,0.6s,baz=268,slow=1.7,SNR=32								
PSUT	Pine Spring	76.06	52	P		P		10 25 54.0	+1.4
GSC	Goldstone, Bar	76.19	56	P		P		10 25 53.9	+0.7
GSC				pmax		pmax			
	comp=Z,2.0nm,0.9s								
GSC	Goldstone, Bar	76.19	56	P		P		10 25 53.9	+0.7
NLU	North Lily Min	76.25	50	P		P		10 25 54.2	+0.5
SHPR	Sheep Range	76.50	54	P		P		10 25 56.4	+1.4
SHPR				IAmb		IAmb		10 25 57.6	
	comp=Z,6.0nm,1.1s								
CCUT	Cedar City	76.98	52	P		P		10 25 58.0	+0.2
MSU	Marysvale	77.10	51	P		P		10 25 59.5	+1.0
MSU	Marysvale	77.10	51	P		P		10 25 59.5	+1.0
SZCU	Shurtz Canyon	77.12	52	P		P		10 25 59.8	+1.1
KWP	Kalwaria Pacla	77.29	325	P		P		10 25 59.5	+0.5
KWP				pmax		pmax			
	comp=Z,232nm,1.3s								
KWP	Kalwaria Pacla	77.29	325	P		P		10 25 59.5	+0.5
RDMU	Red Mountain	77.34	48	P		P		10 26 00.7	+0.9
P17A	Butcher Ranch,	77.36	49	P		P		10 26 01.2	+1.4
LCMT	Little Creek M	77.39	53	P		P		10 26 00.6	+0.5
MTPU	Mount Pierson	77.40	51	P		P		10 26 02.1	+1.8
PFO	Pinyon Flats O	77.45	57	P		P		10 26 01.3	+0.9
PFO				pmax		pmax			
	comp=Z,4.0nm,1.2s								
PFO	Pinyon Flats O	77.45	57	P		P		10 26 01.2	+0.9
	comp=Z,1.6nm,0.8s,baz=291,slow=5.6,SNR=5.0								
PFO	Pinyon Flats O	77.45	57	P		P		10 26 01.3	+0.9
XPFO	Pion Flat	77.45	57	P		P		10 26 01.2	+0.8
Q16A	Castle Valley	77.45	50	P		P		10 26 01.4	+1.0
BUR08	Bucovina Ar. S	77.53	322	P		P		10 26 00.2	-0.4
KNB	Kanab	77.65	52	P		P		10 26 01.1	-0.4
KNB				pmax		pmax			
	comp=Z,8.0nm,1.2s								
KNB	Kanab	77.65	52	P		P		10 26 01.1	-0.4
MDND	Maddock	77.71	38	P		P		10 26 01.1	-0.4
SRU	San Rafael Swe	77.72	50	P		P		10 26 02.9	+1.0
SRU				pmax		pmax			
	comp=Z,10.0nm,0.9s								
SRU	San Rafael Swe	77.72	50	P		P		10 26 02.9	+1.0
RSSD	Black Hills	78.06	42	P		P		10 26 04.3	+0.6
RSSD				pmax		pmax			
	comp=Z,2.0nm,0.7s								
RSSD	Black Hills	78.06	42	P		P		10 26 04.3	+0.6
U15A	North Rim	78.35	53	P		P		10 26 06.7	+1.2
BRTR	Keskin Array B	78.39	312	P		P		10 26 04.8	-0.7
	comp=Z,1.0nm,0.5s,baz=100,slow=3.2,SNR=7.4								
Y12C	Blythe	78.62	56	P		P		10 26 08.2	+1.5
Y12C				IAmb		IAmb		10 26 08.5	
	comp=Z,4.6nm,0.8s								
N23A	Red Feather La	79.20	46	P		P		10 26 10.6	+0.5
N23A				IAmb		IAmb		10 26 13.1	
	comp=Z,8.9nm,1.2s								
CHVC	Chvalec	79.44	329	*e*P		P		10 26 12.7	+1.8
MORC	Moravsky Berou	79.44	327	P		P		10 26 11.0	0.0
MORC				pmax		pmax			
	comp=Z,3.0nm,0.7s								
MORC	Moravsky Berou	79.44	327	P		P		10 26 11.0	0.0
Y14A	Wickenburg	79.48	55	P		P		10 26 12.6	+1.1
Y14A				IAmb		IAmb		10 26 13.7	
	comp=Z,4.7nm,0.8s								
WUAZ	Wupatki	79.51	53	P		P		10 26 13.2	+1.5
WUAZ				IAmb		IAmb		10 26 13.7	
	comp=Z,4.8nm,0.9s								
PSZ	Piszkesteto	79.81	325	P		P		10 26 13.0	0.0
PSZ				pmax		pmax			
	comp=Z,5.0nm,0.8s								
PSZ	Piszkesteto	79.81	325	P		P		10 26 13.0	0.0
PSZ				IAmb		IAmb		10 26 28.9	
	comp=Z,5.1nm,0.8s								
CLL	Collm	80.09	331	*e*P		P		10 26 14.0	-0.4
CLL				*e*				10 26 27.0	
CLL	Collm	80.09	331	*e*P		P		10 26 14.0	-0.4
CLL				*e*pP		pP		10 26 27.0	+0.6
X16A	Lo Mia Camp, P	80.17	54	P		P		10 26 16.8	+1.4
S22A	4UR Ranch, Cre	80.80	49	P		P		10 26 19.5	+0.7
RAYN	Ar Rayn	80.80	293	P		P		10 26 18.1	-0.7
RAYN				pmax		pmax			
	comp=Z,3.0nm,0.8s								
RAYN	Ar Rayn	80.80	293	P		P		10 26 18.1	-0.7
CONA	Conrad Observa	81.57	327	*i* P		P		10 26 22.9	+0.4
	comp=Z,5.8nm,1.0s								
KHC	Kasperske Hory	81.58	329	*e*P		P		10 26 22.3	-0.2
KHC				*e*				10 26 34.6	
KHC	Kasperske Hory	81.58	329	*e*P		P		10 26 22.3	-0.2
KHC				*e*pP		pP		10 26 34.6	+0.1
GERES	GERESS Array B	81.76	329	P		P		10 26 23.1	-0.3
	comp=Z,1.1nm,0.6s,baz=27,slow=6.3,SNR=8.0								
TUC	Tucson	81.96	55	P		P		10 26 24.5	-0.3
TUC				pmax		pmax			
	comp=Z,2.0nm,1.0s								
TUC	Tucson	81.96	55	P		P		10 26 24.5	-0.3
ECSD	EROS Data Cent	82.12	39	P		P		10 26 25.9	+0.5
ECSD				IAmb		IAmb		10 26 26.5	
	comp=Z,5.9nm,0.9s								
T25A	Trinidad	82.62	48	P		P		10 26 28.7	+0.3
T25A				IAmb		IAmb		10 26 30.4	
	comp=Z,4.4nm,0.8s								
SOKA	Soboth	82.90	327	*i* P		P		10 26 28.9	-0.5
	comp=Z,4.8nm,0.7s								
ANMO	Albuquerque	82.90	51	P		P		10 26 31.9	+2.0
	comp=Z,2.7nm,0.9s,baz=302,slow=5.6,SNR=9.0								
ANMO	Albuquerque	82.90	51	P		P		10 26 30.1	+0.3
ANMO				IAmb		IAmb		10 26 33.0	
	comp=Z,4.8nm,1.1s								
LENM	Lemitar	83.12	51	P		P		10 26 30.8	-0.1
OBKA	Obir	83.24	327	*i* P		P		10 26 30.7	-0.5
	comp=Z,4.6nm,1.0s								
KBA	Koelnbreinsper	83.30	328	*i* P		P		10 26 31.0	-0.7
	comp=Z,6.0nm,1.3s								
BNM	Barren Site	83.34	51	P		P		10 26 33.4	+1.2
BLY	Banja Luka	83.43	324	P		P		10 26 33.0	+0.9
BLY				IAmb		IAmb		10 26 37.5	
	comp=Z,4.3nm,0.5s								
319A	Douglas	83.53	55	P		P		10 26 34.6	+1.6
319A				IAmb		IAmb		10 26 36.6	
	comp=Z,9.4nm,0.9s								
MYKA	Terra Mystica	83.53	327	*i* P		P		10 26 30.4	-2.3
	comp=Z,3.8nm,0.6s								
ABTA	Abfaltersbach	83.91	328	*i* P		P		10 26 33.5	-1.1
	comp=Z,1.5nm,0.5s								
MOTA	Moosalm	84.01	329	*i* P		P		10 26 34.8	-0.5
	comp=Z,4.7nm,1.0s								
RETA	Reutte	84.03	329	*i* P		P		10 26 34.8	-0.5
	comp=Z,6.3nm,1.0s								
SQTA	Sankt Quirin	84.07	329	*i* PcP		P		10 26 35.4	-0.1
	comp=Z,2.3nm,0.6s								
STAL	STALIGIAL	84.22	328	P		P		10 26 34.6	-1.6
STAL				IAmb		IAmb		10 26 35.1	
	comp=Z,5.6nm,0.6s								
FETA	Feichten	84.42	329	*i* P		P		10 26 36.3	-1.0
	comp=Z,6.3nm,1.5s								
DAVA	Damuels	84.54	330	*i* P		P		10 26 37.2	-0.7
	comp=Z,3.4nm,0.9s								
MNTX	Cornudas Mount	85.77	52	P		P		10 26 45.1	+0.9
MNTX				IAmb		IAmb		10 26 46.5	
	comp=Z,3.4nm,1.1s								
AMTX	Amarillo	85.78	48	P		P		10 26 45.2	+1.0
AMTX				IAmb		IAmb		10 26 45.8	
	comp=Z,5.4nm,0.7s								
TX31	Lajitas Ar. Si	88.47	53	P		P		10 26 57.2	-0.3
TX32	Lajitas Array	88.47	53	P		P		10 26 57.2	-0.3
TXAR	Lajitas Array	88.47	53	P		P		10 26 58.3	+0.9
	comp=Z,1.9nm,0.6s,baz=300,slow=3.4,SNR=7.3								
ABTX	Abilene, Hawle	88.58	48	P		P		10 26 56.5	-1.2
CCM	Cathedral Cave	89.07	40	P		P		10 27 00.2	+0.3
CCM				pmax		pmax			
	comp=Z,8.0nm,0.8s								
CCM	Cathedral Cave	89.07	40	P		P		10 27 00.2	+0.3
U40A	Yellville	89.56	42	P		P		10 27 02.3	0.0
TORD	Torodi Ar. Bea	116.75	316	PKP	

ISCJB ***18*** *10:23:41.4±1.3, 18.8N±0.2×108.3W±0.1, h33km, mb3.3/4, Error ellipse: s-maj=25.1km s-min=14.5km az=3.6*

ISC 18 10:23:43.5±1.4, **18.9N**±0.2×**108.4W**±0.1, **h35**km, **n9, σ1f49/7, mb3.3/4, Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H06E1	**SOCORRO T-PHAS**	**2.41**	**268**	Pn	**Pn**	**10 24 19.4**	**-1.0**
H06E1				T	T	10 26 54.1	
	SNR=269						
H06S1	**SOCORRO T**	**2.44**	**267**	T	T	10 26 56.3	
	SNR=42						
H06N1	**SOCORRO T-PHAS**	**2.46**	**270**	T	T	10 26 55.0	
	SNR=31						
TXAR	**Lajitas Array**	**11.26**	**22**	Pn	**Pn**	**10 26 20.6**	**-1.5**
	baz=199,slow=13,SNR=3.4						
CMIG	**Matias Romero**	**12.97**	**96**	Pn	**Pn**	**10 26 45.6**	**+0.2**
	0.2nm,0.3s,baz=275,slow=12,SNR=6.4						
CMIG				LR	LR	10 32 00.9	
	comp=Z,86nm,21.3s,baz=184,slow=39						
NVAR	**Mina Array Bea**	**21.31**	**338**	P	**P**	**10 28 29.3**	**+1.9**
	1.2nm,0.9s,baz=167,slow=14,SNR=7.5						
PDAR	**Pinedale Array**	**23.84**	**358**	P	**P**	**10 28 53.3**	**-0.3**
	0.4nm,0.7s,baz=146,slow=12,SNR=3.3						
YKA	**Yellowknife Ar**	**43.79**	**356**	P	**P**	**10 31 45.5**	**0.0**
	0.4nm,0.7s,baz=168,slow=7.9,SNR=11						
ILAR	**Eielson Array**	**52.54**	**340**	P	**P**	**10 32 54.5**	**+1.4**
	0.7nm,0.7s,baz=151,slow=6.1,SNR=12						

STR ***18*** *10:58:45.8±1.3, 43°N±7°×1°3E±°, h0km, mb4.0/3, MLv3.9/6*

ISCJB ***18*** *10:58:51.7±0.2, 43.37N±0.01×12.51E±0.01, h13km±1km, mb3.8/9, MS3.6/2, Error ellipse: s-maj=1.8km s-min=1.3km az=26.0*

ROM ***18*** *10:58:51.2±0.1, 43.372N±0.003×12.533E±0.004, h6km, ML3.9/79, Mw3.7, Error ellipse: s-maj=0.3km s-min=0.2km az=226.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-4.08; $M_{\theta\theta}$0.25; $M_{\phi\phi}$3.82; $M_{r\theta}$-1.53; $M_{\theta\phi}$-2.30; $M_{\phi r}$1.43; Fault plane solution: M_o4.99215×10^{14} NP1:ϕ_s346.00000°, δ34.00000°, λ-71.00000°. NP2:ϕ_s144.00000°, δ58.00000°, λ-102.00000°.*

LDG ***18*** *10:58:51.6±0.1, 43.40N×12.52E, h10km, Md3.6/1, Ml3.6/17 Error ellipse: s-maj=2.5km s-min=1.7km az=13.0*

PDG ***18*** *10:58:51.8±0.5, 43.38N×12.52E, h12km, ML3.9/12, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*

PRU ***18*** *10:58:52.7±0.0, 43.47N×12.35E, h0km*

BEO ***18*** *10:58:53.2±0.9, 43.04N×12.57E, h0km, ML3.8/5*

IDC ***18*** *10:58:53.0±1.0, 43.54N×12.53E, h0km, mb3.8/8, mb1 3.9/13, mb1mx3.8/48, mbtmp3.7/13, ML3.5/5, MS3.6/3, Ms1 3.6/3, ms1mx2.9/56, Error ellipse: s-maj=21.7km s-min=13.9km az=101.0*

TIR ***18*** *10:58:56.8, 42.90N×13.13E, h7km, Md4.0/7*

ISC 18 10:58:52.7±0.8, **43.36N**±0.01×**12.53E**±0.01, **h5**km±5km, **n287, σ1f87/375, mb4.0**/9, **14C-14D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.03**	**81**	*i* P	**Pg**	**10 58 53.0**	**-0.9**
ATFO				S	**Sg**	**10 58 54.0**	**-0.8**
ATVO	**AVT- Monte Val**	**0.09**	**283**	*i* P	**Pg**	**10 58 54.0**	**-0.6**
ATVO				S	**Sg**	**10 58 55.6**	**-0.4**
ATVO				AML	AML		
ATVO				AML	AML		
MURB	**Monte Urbino**	**0.10**	**181**	*i* P	**Pg**	**10 58 54.7**	**-0.1**
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
ATPI	**Pietralunga -**	**0.13**	**315**	*i* P	**Pg**	**10 58 54.6**	**-0.8**
ATPI				S	**Sg**	**10 58 56.9**	**-0.2**
ATPI				AML	AML		
ATPI				AML	AML		
ATPI				AML	AML		
PIEI	**Pieia**	**0.17**	**2**	*i* P	**Pg**	**10 58 55.3**	**-0.9**
PIEI				S	**Sg**	**10 58 58.2**	**-0.3**
PIEI				AML	AML		
PIEI				AML	AML		
ATMI	**Monte Miggiano**	**0.19**	**262**	*i* P	**Pg**	**10 58 56.0**	**-0.4**
ATMI				AML	AML		
	comp=E,53450μm,0.7s						
ATMI				AML	AML		
	comp=N,68700μm,1.3s						
ATMI				AML	AML		
	comp=E,53450μm,0.7s						
ATMI				AML	AML		
	comp=N,68700μm,1.3s						
ATCC	**AVT- Casa Cast**	**0.20**	**155**	*i* P	**Pg**	**10 58 56.5**	**-0.1**
ATCC				S	**Sg**	**10 59 00.6**	**+1.5**
ATCC				AML	AML		
ATCC				AML	AML		
SSFR	**Montelago di S**	**0.20**	**68**	*i* P	**Pg**	**10 58 55.9**	**-0.8**
SSFR				AML	AML		
SSFR				AML	AML		
SSFR				AML	AML		
SSFR				AML	AML		
SSFR				AML	AML		
SSFR				AML	AML		
ATTE	**AVT- Monte Tez**	**0.21**	**218**	*i* P	**Pg**	**10 58 56.4**	**-0.4**
ATTE				AML	AML		
	comp=N,37250μm,1.6s						
ATTE				AML	AML		
	comp=E,30500μm,0.3s						
ATTE				AML	AML		
	comp=N,37250μm,1.6s						
FRON	**Frontone**	**0.21**	**43**	*i* P	**Pg**	**10 58 56.0**	**-0.9**
FRON				S	**Sg**	**10 58 59.5**	**-0.2**
FRON				AML	AML		
	comp=E,97800μm,0.8s						
FRON				AML	AML		
FRON				AML	AML		
FRON				AML	AML		
	comp=E,97750μm,0.8s						
CDCA	**Citt' di Caste**	**0.23**	**295**	*i* P	**Pg**	**10 58 56.6**	**-0.6**
CDCA				AML	AML		
CDCA				AML	AML		
CDCA				AML	AML		
	comp=N,45800μm,1.5s						
CDCA				AML	AML		
CDCA				AML	AML		
	comp=E,53900μm,0.6s						
CDCA				AML	AML		
	comp=N,45850μm,1.5s						
CDCA				AML	AML		
	comp=E,54000μm,0.6s						
CDCA				AML	AML		
	comp=N,45650μm,1.5s						
CDCA				AML	AML		
	comp=N,45650μm,1.5s						
NARO	**Abbazia di Nar**	**0.25**	**9**	*i* P	**Pg**	**10 58 56.5**	**-1.1**
NARO				S	**Sg**	**10 59 00.5**	**-0.4**
NARO				AML	AML		
	comp=E,32800μm,0.9s						
NARO				AML	AML		
	comp=N,29900μm,1.4s						
NARO				AML	AML		
	comp=E,32800μm,0.9s						
NARO				AML	AML		
	comp=N,29900μm,1.4s						
MPAG	**Monte Paganucc**	**0.32**	**32**	*i* P	**Pg**	**10 58 57.9**	**-1.0**
MPAG				S	**Sg**	**10 59 03.0**	**-0.1**
MPAG				AML	AML		
	comp=N,31300μm,1.3s						
MPAG				AML	AML		
	comp=N,31700μm,1.3s						
MPAG				AML	AML		
	comp=E,31450μm,0.7s						
MPAG				AML	AML		
	comp=N,31300μm,1.3s						
MPAG				AML	AML		
	comp=E,31750μm,0.7s						
MPAG				AML	AML		
	comp=N,31750μm,1.3s						
MPAG				AML	AML		
	comp=E,31750μm,0.7s						
SNTG	**Esanatoglia**	**0.32**	**109**	*i* P	**Pg**	**10 58 58.2**	**-0.7**
SNTG				S	**Sg**	**10 59 03.8**	**+0.6**
SNTG				AML	AML		
	comp=N,9935μm,0.3s						
SNTG				AML	AML		
	comp=E,69050μm,0.2s						
SNTG				AML	AML		
	comp=N,77150μm,0.2s						
SNTG				AML	AML		
	comp=N,9940μm,0.3s						
SNTG				AML	AML		
	comp=E,8380μm,0.2s						
SNTG				AML	AML		
	comp=E,69050μm,0.2s						
SNTG				AML	AML		
	comp=N,77150μm,0.2s						
ARVD	**Arcevia**	**0.33**	**66**	*i* P	**Pg**	**10 58 58.3**	**-0.8**
ARVD				S	**Sg**	**10 59 03.6**	**+0.1**
ARVD				AML	AML		
	comp=E,40300μm,0.5s						
ARVD				AML	AML		
	comp=N,20650μm,1.4s						
ARVD				AML	AML		
	comp=E,40300μm,0.5s						
ARVD				AML	AML		
	comp=N,20650μm,1.4s						
ASSB	**Assisi San Ben**	**0.33**	**163**	*i* P	**Pg**	**10 58 58.7**	**-0.5**
ASSB				S	**Sg**	**10 59 04.5**	**+0.9**
ASSB				AML	AML		
	comp=N,45350μm,0.1s						
ASSB				AML	AML		
	comp=N,45350μm,0.1s						
ASSB				AML	AML		
	comp=E,29500μm,1.1s						
FIU1	**Fiuminata**	**0.34**	**120**	*i* P	**Pg**	**10 58 58.7**	**-0.6**
FIU1				S	**Sg**	**10 59 04.6**	**+0.8**
FIU1				AML	AML		
	comp=E,35300μm,0.3s						
FIU1				AML	AML		
	comp=N,33500μm,0.3s						
FIU1				AML	AML		
	comp=N,33550μm,0.3s						
FIU1				AML	AML		
	comp=E,35250μm,0.3s						
MMUR	**Monte Murano**	**0.35**	**77**	*i* P	**Pg**	**10 58 58.7**	**-0.9**
MMUR				S	**Sg**	**10 59 04.4**	**+0.2**
MMUR				AML	AML		
	comp=E,56000μm,0.3s						
MMUR				AML	AML		
	comp=N,62550μm,1.5s						
MMUR				AML	AML		
	comp=N,62500μm,1.5s						
MMUR				AML	AML		
	comp=E,56000μm,0.3s						
MMUR				AML	AML		
	comp=N,62500μm,1.5s						
PARC	**Parchiule**	**0.35**	**324**	*i* P	**Pg**	**10 58 58.7**	**-0.9**
PARC				S	**Sg**	**10 59 04.4**	**+0.1**
PARC				AML	AML		
	comp=E,21700μm,1.1s						
PARC				AML	AML		
	comp=N,22300μm,0.4s						
PARC				AML	AML		
	comp=N,22300μm,0.4s						
PARC				AML	AML		
	comp=E,21700μm,1.1s						
SSP9	**Sansepolcro**	**0.36**	**307**	*e*P	**Pg**	**10 58 58.8**	**-0.8**
SSP9				S	**Sg**	**10 59 04.5**	**+0.2**
SSP9				AML	AML		
	comp=E,18000μm,1.6s						
SSP9				AML	AML		
	comp=N,23400μm,1.2s						
SSP9				AML	AML		
	comp=N,23450μm,1.2s						
SSP9				AML	AML		
	comp=E,18050μm,1.6s						
SSP9				AML	AML		
	comp=N,23450μm,1.2s						
MTL1	**Matelica**	**0.37**	**106**	*i* P	**Pg**	**10 58 59.1**	**-0.7**
MTL1				S	**Sg**	**10 59 05.0**	**+0.4**
MTL1				AML	AML		
	comp=E,53250μm,0.4s						
MTL1				AML	AML		
	comp=N,74400μm,0.4s						
MTL1				AML	AML		
	comp=E,53300μm,0.4s						
MTL1				AML	AML		
	comp=N,74350μm,0.4s						
MTL1				AML	AML		
	comp=E,53300μm,0.4s						
MTL1				AML	AML		
	comp=N,74350μm,0.4s						
SEF1	**Sefro**	**0.38**	**125**	P	**Pg**	**10 58 59.3**	**-0.6**
SEF1				S	**Sg**	**10 59 05.8**	**+1.0**
SEF1				AML	AML		
	comp=E,90200μm,0.2s						
SEF1				AML	AML		
	comp=N,75550μm,0.2s						
SEF1				AML	AML		
	comp=N,75500μm,0.2s						
SEF1				AML	AML		
	comp=E,90500μm,0.2s						
FSSB	**Fossombrone**	**0.38**	**29**	*i* P	**Pg**	**10 58 59.0**	**-1.0**
FSSB				S	**Sg**	**10 59 04.6**	**-0.4**
FSSB				AML	AML		
	comp=E,42950μm,0.3s						
FSSB				AML	AML		
	comp=N,38000μm,0.4s						
FSSB				AML	AML		
	comp=E,42950μm,0.3s						
CAFI	**Castiglion Fio**	**0.41**	**266**	*i* P	**Pg**	**10 58 60.0**	**-0.6**
CAFI				AML	AML		
	comp=E,7275μm,0.7s						
CAFI				AML	AML		
	comp=N,11900μm,0.6s						
CAFI				AML	AML		
	comp=E,7455μm,0.7s						
CAFI				AML	AML		
	comp=N,12150μm,0.6s						
CRM1	**Catelraimondo**	**0.42**	**111**	*i* P	**Pg**	**10 59 00.0**	**-0.7**
CRM1				S	**Sg**	**10 59 07.2**	**+1.0**
CRM1				AML	AML		
	comp=E,48800μm,0.6s						
CRM1				AML	AML		
	comp=N,64000μm,1.0s						
CRM1				AML	AML		
	comp=E,48800μm,0.6s						
CRM1				AML	AML		
	comp=N,63950μm,1.0s						
CRM1				AML	AML		
	comp=N,63950μm,1.0s						
CRM1				AML	AML		
	comp=E,48800μm,0.6s						
EL6	**Elcito**	**0.42**	**94**	*i* P	**Pg**	**10 59 00.0**	**-0.8**
EL6				S	**Sg**	**10 59 07.0**	**+0.6**
EL6				AML	AML		
	comp=E,31400μm,1.4s						
EL6				AML	AML		
	comp=E,31450μm,1.4s						
EL6				AML	AML		
	comp=N,42050μm,0.4s						
EL6				AML	AML		
	comp=E,31450μm,1.4s						
EL6				AML	AML		
	comp=N,42050μm,0.4s						
COR1	**Corinaldo**	**0.44**	**52**	*i* P	**Pg**	**10 59 00.8**	**-0.4**
COR1				S	**Sb**	**10 59 08.5**	**-1.3**
COR1				AML	AML		
	comp=E,54450μm,0.7s						
COR1				AML	AML		
	comp=N,42950μm,1.0s						
COR1				AML	AML		
	comp=E,54450μm,0.7s						
COR1				AML	AML		
	comp=N,42950μm,1.0s						
CESI	**CESI - Serrava**	**0.45**	**142**	*e*P	**Pg**	**10 59 00.7**	**-0.7**
CESI				S	**Sg**	**10 59 07.9**	**+0.7**
CESI				AML	AML		
	comp=E,3920μm,0.3s						
CESI				AML	AML		
	comp=E,3915μm,0.3s						
CESI				AML	AML		
	comp=N,11650μm,0.2s						
CPGN	**Carpegna, Ital**	**0.46**	**341**	*i* P	**Pg**	**10 59 01.3**	**-0.4**
CPGN				S	**Sb**	**10 59 10.0**	**-0.8**
CPGN				AML	AML		
	comp=E,15300μm,1.1s						
CPGN				AML	AML		
	comp=E,14600μm,1.0s						
CPGN				AML	AML		
	comp=N,17800μm,0.7s						
CPGN				AML	AML		
	comp=E,15350μm,1.1s						
CPGN				AML	AML		
	comp=N,18950μm,0.7s						
CPGN				AML	AML		
	comp=E,14695μm,1.0s						
CPGN				AML	AML		
	comp=N,17650μm,0.7s						
CPGN				AML	AML		
	comp=E,15350μm,1.1s						
CPGN				AML	AML		
	comp=N,18950μm,0.7s						
CPGN				AML	AML		
	comp=N,17650μm,0.7s						
MDAR	**Monte D'Aria**	**0.48**	**110**	P	**Pg**	**10 59 01.1**	**-0.8**
MDAR				AML	AML		
	comp=E,16850μm,1.4s						
MDAR				AML	AML		
	comp=N,14200μm,1.2s						
MDAR				AML	AML		
	comp=E,16850μm,1.4s						
MDAR				AML	AML		
	comp=N,14200μm,1.2s						
MDAR				AML	AML		
	comp=E,16850μm,1.4s						
CING	**Cingoli**	**0.49**	**88**	*i* P	**Pg**	**10 59 01.2**	**-0.9**
CING				S	**Sg**	**10 59 09.2**	**+0.8**
CING				AML	AML		
	comp=N,20750μm,1.2s						
CING				AML	AML		
	comp=E,10260μm,0.8s						
CRE	**Caprese Michel**	**0.49**	**302**	*i* P	**Pg**	**10 59 01.1**	**-1.1**
CRE				AML	AML		
	comp=E,7750μm,0.5s						
CRE				AML	AML		
	comp=N,9985μm,0.7s						
FDMO	**Fiordimonte**	**0.52**	**128**	*i* P	**Pg**	**10 59 01.9**	**-0.9**
FDMO				S	**Sg**	**10 59 10.6**	**+1.0**
FDMO				AML	AML		
	comp=N,16450μm,0.2s						
FDMO				AML	AML		
	comp=E,10230μm,0.3s						
FDMO				AML	AML		
	comp=N,16450μm,0.2s						
MGAB	**Montegabbione**	**0.54**	**214**	*i* P	**Pg**	**10 59 02.6**	**-0.5**
MGAB				AML	AML		
	comp=E,32050μm,0.5s						
MGAB				AML	AML		
	comp=N,25900μm,0.5s						
MGAB				AML	AML		
	comp=E,32050μm,0.5s						
MGAB				AML	AML		
	comp=N,25850μm,0.5s						
FEMA	**Monte Fema**	**0.55**	**136**	P	**Pg**	**10 59 02.6**	**-0.8**
FEMA				S	**Sg**	**10 59 11.7**	**+1.2**
MOMA	**Monte Martano**	**0.56**	**177**	*i* P	**Pg**	**10 59 02.6**	**-0.8**
MOMA				S	**Sg**	**10 59 11.7**	**+1.0**
MOMA				AML	AML		
	comp=E,13230μm,1.5s						
MOMA				AML	AML		
	comp=N,14800μm,0.3s						
MOMA				AML	AML		
	comp=E,13560μm,1.5s						
MOMA				AML	AML		
	comp=E,13230μm,1.6s						
MOMA				AML	AML		
	comp=E,13560μm,1.5s						
MOMA				AML	AML		
	comp=N,14850μm,0.3s						
MOMA				AML	AML		
	comp=N,15000μm,0.3s						
CSP1	**Cessapalombo**	**0.56**	**118**	*i* P	**Pg**	**10 59 02.7**	**-0.9**
CSP1				S	**Sb**	**10 59 12.3**	**-1.3**
CSP1				AML	AML		
	comp=E,15150μm,1.2s						
CSP1				AML	AML		
	comp=N,20200μm,0.4s						
CSP1				AML	AML		
	comp=E,15150μm,1.2s						
CSP1				AML	AML		
	comp=N,20150μm,0.4s						
CSP1				AML	AML		
	comp=N,20150μm,0.4s						
PESA	**Pesaro**	**0.62**	**21**	*i* P	**Pg**	**10 59 03.7**	**-0.9**
PESA				S	**Sg**	**10 59 13.8**	**+1.0**
PESA				AML	AML		
	comp=N,22850μm,0.7s						
PESA				AML	AML		
	comp=E,21000μm,0.5s						
PESA				AML	AML		
	comp=N,22850μm,0.7s						
NRCA	**Norcia**	**0.68**	**141**	*e*P	**Pg**	**10 59 04.6**	**-1.1**
NRCA				S	**Sg**	**10 59 15.6**	**+1.0**
NRCA				AML	AML		
	comp=N,16800μm,0.3s						
NRCA				AML	AML		
	comp=N,17650μm,0.3s						
NRCA				AML	AML		
	comp=E,12650μm,0.7s						
NRCA				AML	AML		
	comp=N,16800μm,0.3s						
NRCA				AML	AML		
	comp=E,13200μm,0.6s						
NRCA				AML	AML		
	comp=N,17650μm,0.3s						
SACS	**San Casciano d**	**0.68**	**222**	*i* P	**Pg**	**10 59 05.0**	**-0.8**
SACS				AML	AML		
	comp=N,10935μm,0.5s						
SACS				AML	AML		
	comp=E,6825μm,0.7s						
SACS				AML	AML		
	comp=N,11275μm,0.5s						
SACS				AML	AML		
	comp=E,7495μm,0.5s						
ASQU	**Asqua**	**0.69**	**309**	*e*P	**Pg**	**10 59 04.6**	**-1.3**
ASQU				AML	AML		
	comp=E,5355μm,0.5s						
ASQU				AML	AML		
	comp=N,7670μm,0.8s						
SFI	**Santa Sofia**	**0.73**	**318**	*e*P	**Pg**	**10 59 05.4**	**-1.4**
SFI				AML	AML		
	comp=E,4950μm,0.6s						
SFI				AML	AML		
	comp=N,5370μm,0.8s						
SFI				AML	AML		
	comp=N,5845μm,0.6s						
SFI				AML	AML		
	comp=E,4955μm,0.6s						
SFI				AML	AML		
	comp=E,5100μm,0.6s						
SFI				AML	AML		
	comp=N,5840μm,0.6s						
SFI				AML	AML		
	comp=N,5370μm,0.8s						
CESX	**Cesi**	**0.75**	**177**	*e*P	**Pg**	**10 59 06.0**	**-1.1**
CESX				AML	AML		
	comp=E,8730μm,0.8s						
CESX				AML	AML		
	comp=N,8710μm,0.7s						
ARRO	**Arrone**	**0.80**	**167**	P	**Pg**	**10 59 07.0**	**-1.1**
ARRO				AML	AML		
	comp=N,4855μm,1.2s						
ARRO				AML	AML		
	comp=E,5425μm,0.6s						
AOI	**Ancona**	**0.81**	**76**	P	**Pg**	**10 59 07.0**	**-1.2**
AOI				AML	AML		
	comp=E,5010μm,0.8s						
AOI				AML	AML		
	comp=N,7970μm,0.4s						
LNSS	**Leonessa**	**0.85**	**153**	*e*P	**Pg**	**10 59 07.6**	**-1.3**
LNSS				AML	AML		
	comp=N,12630μm,0.4s						
LNSS				AML	AML		
	comp=N,12625μm,0.4s						
LNSS				AML	AML		
	comp=E,11085μm,0.5s						
MCIV	**Monte Civitell**	**0.85**	**227**	P	**Pg**	**10 59 07.7**	**-1.4**
MCIV				AML	AML		
	comp=E,2375μm,0.6s						
MCIV				AML	AML		
	comp=N,2700μm,0.6s						
RUFI	**Rufina**	**0.88**	**303**	P	**Pg**	**10 59 08.1**	**-1.5**
RUFI				S	**Sg**	**10 59 20.5**	**-0.5**
RUFI				AML	AML		
	comp=N,4785μm,1.2s						
RUFI				AML	AML		
	comp=E,4520μm,1.4s						
CSNT	**Castellina Chi**	**0.91**	**277**	P	**Pg**	**10 59 08.6**	**-1.4**

CSNT AML AML
comp=N,5615µm,0.9s
CSNT AML AML
comp=E,3755µm,0.8s
LATE Laterza 0.92 216 *e*P **Pg 10 59 09.2 -1.0**
OSSC Osservatorio P 0.95 280 *e*P **Pg 10 59 09.5 -1.3**
OSSC AML AML
comp=E,5575µm,0.9s
OSSC AML AML
comp=N,3990µm,0.6s
OSSC AML AML
comp=N,3990µm,0.6s
OSSC AML AML
comp=E,5690µm,0.9s
OFFI Offida 0.95 116 *e*P **Pg 10 59 10.7 -0.2**
OFFI AML AML
comp=E,13250µm,1.1s
OFFI AML AML
comp=N,20000µm,0.4s
FROS Frosini 1.01 262 P **Pg 10 59 10.9 -1.2**
FROS AML AML
comp=E,4170µm,0.8s
FROS AML AML
comp=N,4600µm,1.6s
CAMP Campotosto 1.05 142 *e*P **Pg 10 59 11.1 -1.7**
CAMP AML AML
comp=E,3260µm,0.6s
CAMP AML AML
comp=N,4790µm,0.9s
GUMA Gualdo di Mace 1.07 106 P Pg 10 59 04.7 -8.5
GUMA S **Pn 10 59 15.4 +1.0**
GUMA AML AML
comp=E,23300µm,1.3s
GUMA AML AML
comp=N,21550µm,0.7s
GUMA AML AML
comp=E,25300µm,0.3s
GUMA AML AML
comp=N,24050µm,0.5s
GUMA AML AML
comp=E,23300µm,1.3s
GUMA AML AML
comp=N,24050µm,0.5s
GUMA AML AML
comp=N,21550µm,0.7s
BRIS BRISIGHELLA 1.08 317 P **Pg 10 59 13.0 -0.3**
BRIS AML AML
comp=N,4830µm,1.2s
BRIS AML AML
comp=E,3305µm,0.7s
TERO Teramo 1.08 133 P **Pg 10 59 11.6 -1.9**
TERO AML AML
comp=N,5150µm,0.7s
TERO AML AML
comp=N,2115µm,0.7s
TERO AML AML
comp=E,1645µm,0.6s
TERO AML AML
comp=E,4395µm,0.6s
SEI Scarperia 1.09 310 P **Pg 10 59 12.8 -0.9**
SEI AML AML
comp=E,4795µm,0.5s
SEI AML AML
comp=N,7735µm,0.6s
T0104 Madonna delle 1.17 149 P **Pg 10 59 13.4 -1.6**
T0104 AML AML
comp=N,5055µm,1.1s
T0104 AML AML
comp=N,4990µm,1.1s
T0104 AML AML
comp=E,6210µm,0.4s
T0104 AML AML
comp=E,6120µm,0.4s
AQU L'Aquila 1.20 147 *e*Pn **Pg 10 59 14.2 -1.4**
CRMI Carmignano 1.21 291 P **Pg 10 59 14.4 -1.5**
CRMI AML AML
comp=E,830µm,0.8s
CRMI AML AML
comp=N,975µm,0.8s
TRIF Trifonti 1.21 259 P **Pg 10 59 14.2 -1.8**
TRIF AML AML
comp=E,1760µm,0.7s
TRIF AML AML
comp=N,1615µm,0.9s
FAGN Fagnano 1.34 144 P **Pn 10 59 16.6 -1.5**
FAGN AML AML
comp=N,4890µm,0.4s
FAGN AML AML
comp=E,6800µm,0.6s
CASP Castiglione de 1.34 245 P **Pn 10 59 15.6 -2.6**
CASP AML AML
comp=E,852µm,0.9s
CASP AML AML
comp=N,722µm,1.6s
MTCE Montecelio 1.35 173 P **Pn 10 59 17.1 -1.1**
MTCE AML AML
comp=N,1475µm,1.0s
MTCE AML AML
comp=E,2305µm,0.7s
TOLF Tolfa 1.35 197 P **Pn 10 59 16.5 -1.8**
VCEL Villa Celiera 1.37 135 P **Pn 10 59 16.9 -1.7**
VCEL AML AML
comp=E,8430µm,0.7s
VCEL AML AML
comp=N,5725µm,0.5s
MAON Monte Argentar 1.39 228 P **Pn 10 59 16.4 -2.3**
MAON AML AML
comp=E,690µm,0.7s
MAON AML AML
comp=N,492µm,1.0s
CERT Cerreto 1.45 166 P **Pn 10 59 18.8 -0.8**
POPM Popiglio 1.45 299 P **Pn 10 59 17.5 -2.1**
POPM AML AML
comp=N,1765µm,1.6s
POPM AML AML
comp=E,1700µm,1.1s
MAIM Mastiano 1.58 291 P **Pn 10 59 19.1 -2.3**
MAIM AML AML
comp=E,1510µm,0.9s
MAIM AML AML
comp=N,1155µm,0.9s
VLC Villacollemand 1.74 298 P **Pn 10 59 21.3 -2.3**
VLC AML AML
comp=N,1455µm,0.9s
VLC AML AML
comp=E,743µm,1.0s
VLC AML AML
comp=E,768µm,1.0s
VLC AML AML
comp=N,1455µm,0.9s
BRJN Brijuni 1.78 29 *e*Pn **Pn 10 59 23.7 -0.4**
BRJN Sn **Sn 10 59 46.8 -0.3**
POFI Posta Fibreno 1.86 152 P **Pn 10 59 25.1 -0.2**
EQUI Equi 1.90 296 P **Pn 10 59 23.6 -2.2**
EQUI AML AML
comp=E,542µm,1.4s
EQUI AML AML
comp=N,710µm,0.8s
GROG Isola di Gorgo 1.92 273 P **Pn 10 59 24.1 -1.9**
GROG AML AML
comp=N,286µm,0.8s
GROG AML AML
comp=E,314µm,0.7s
DUGI Dugi Otok 1.94 70 *e*Pn **Pn 10 59 25.2 -1.1**
DUGI Sn **Sn 10 59 50.5 -0.6**
PLMA Palmaria, Port 2.06 290 P **Pn 10 59 25.7 -2.2**
PLMA AML AML
comp=N,346µm,1.0s
PLMA AML AML
comp=E,304µm,1.0s
NVLJ Novalja 2.08 54 *i* Pn **Pn 10 59 27.0 -1.1**
NVLJ Sn **Sn 10 59 54.0 -0.4**
TEOL Teolo 2.09 343 P **Pn 10 59 28.2 -0.2**
GRAM Graiana 2.11 303 P **Pn 10 59 27.8 -0.9**
ZIRJ Zirje 2.29 82 *i* Pn **Pn 10 59 30.4 -0.7**
ZIRJ Sn **Sn 10 59 59.6 0.0**
MORI Morici 2.36 77 *i* Pn **Pn 10 59 31.8 -0.4**
RIY Rijeka 2.41 35 *e*Pn **Pn 10 59 32.2 -0.6**
SKDS Skadanscina 2.43 25 *i* Pn **Pn 10 59 31.6 -1.5**
TRI Trieste 2.51 20 P **Pn 10 59 32.3 -1.8**
TRI AML AML
comp=E,867µm,0.8s
TRI AML AML
comp=N,531µm,0.8s
KNDS Knezji Dol 2.54 31 *i* Pn **Pn 10 59 33.4 -1.2**
CGRP Cima Grappa 2.57 349 P **Pn 10 59 34.2 -0.9**

CGRP AML AML
comp=N,1870µm,0.9s
CGRP AML AML
comp=E,1445µm,0.5s
UDBI Udbina 2.61 62 *e*Pn **Pn 10 59 35.7 0.0**
UDBI Sn **Sn 11 00 09.3 +1.5**
POLC Polcenigo 2.67 360 P **Pn 10 59 35.5 -0.8**
POLC P Pb 10 59 35.6 -5.3
POLC AML AML
comp=E,2390µm,0.7s
POLC AML AML
comp=N,2470µm,0.6s
SMPL Sampolo 2.70 243 P **Pn 10 59 35.6 -1.2**
SMPL S **Sn 11 00 09.0 -0.9**
PGF Pioggiola 2.71 254 *e*Pn **Pn 10 59 35.2 -1.8**
PGF *e*Sn **Sn 11 00 05.0 -5.3**
comp=N,19nm,0.4s
PGF Pioggiola 2.71 254 P **Pn 10 59 35.7 -1.3**
SABO M.te Sabotino 2.73 16 P **Pn 10 59 36.1 -1.1**
SABO P Pb 10 59 36.1 -5.8
SABO AML AML
comp=E,1555µm,1.6s
SABO AML AML
comp=N,2195µm,0.9s
CEY Cerknica 2.74 29 *i* Pn **Pn 10 59 36.0 -1.3**
CEY Cerknica 2.74 29 *e*Pn **Pn 10 59 35.9 -1.4**
JAVS Javornik 2.76 23 *i* Pn **Pn 10 59 36.0 -1.7**
MAGA Magasa 2.77 331 S **Pn 10 59 37.6 -0.2**
MAGA P **Pn 10 59 37.7 -0.1**
SGRT San Giovanni R 2.87 123 *i* PN **Pn 10 59 37.6 -1.5**
SGRT *i* SN **Sn 11 00 09.6 -4.5**
SGRT San Giovanni R 2.87 123 P **Pn 10 59 38.8 -0.3**
SGRT AML AML
comp=E,515µm,0.9s
SGRT AML AML
comp=N,482µm,1.0s
HVAR Hvar 2.87 92 *e*Pn **Pn 10 59 38.4 -0.7**
HVAR Sn **Sn 11 00 13.4 -0.6**
KIJV Kijevo 2.89 76 *e*Pn **Pn 10 59 39.8 +0.4**
KIJV Sn **Sn 11 00 15.4 +1.0**
BOJS Bojanci 2.90 41 P **Pn 10 59 39.9 +0.5**
STAL STALIGIAL 2.90 3 P **Pn 10 59 38.2 -1.3**
STAL P Pb 10 59 38.3 -6.7
STAL AML AML
comp=E,766µm,0.7s
STAL AML AML
comp=E,1012µm,0.7s
STAL AML AML
comp=N,713µm,0.8s
STAL AML AML
comp=N,660µm,0.7s
CADS Cadrg 2.99 16 *i* Pn **Pn 10 59 39.5 -1.4**
MSAG Monte S. Angel 3.00 122 P **Pn 10 59 40.7 -0.2**
MSAG AML AML
comp=E,808µm,0.7s
MSAG AML AML
comp=N,1023µm,0.9s
LJU Ljubljana 3.04 27 *e*Pn **Pn 10 59 39.9 -1.5**
LJU Ljubljana 3.04 27 P **Pn 10 59 40.3 -1.1**
LJU AML AML
comp=N,2355µm,0.8s
LJU AML AML
comp=E,1740µm,0.8s
MABI Malga Bissina 3.05 333 S **Pn 10 59 41.6 -0.1**
MABI P **Pn 10 59 41.7 0.0**
OZLJ Ozalj 3.08 42 *e*Pn **Pn 10 59 41.7 -0.3**
PTCC Patocco-Chiusa 3.10 11 P **Pn 10 59 40.7 -1.6**
PTCC P Pb 10 59 40.8 -7.5
PTCC AML AML
comp=N,622µm,0.6s
PTCC AML AML
comp=E,517µm,1.0s
KOSI Kohlern 3.21 346 P **Pn 10 59 43.7 -0.2**
KOSI P Pb 10 59 43.7 -6.5
CRES Cresnjev 3.23 39 *e*Pn **Pn 10 59 43.7 -0.4**
MAKA Makarska 3.28 90 *e*Pn **Pn 10 59 44.8 +0.1**
MAKA Sn **Sn 11 00 24.1 +0.1**
RICI Ricice 3.36 86 ePn **Pn 10 59 46.3 +0.5**
MYKA Terra Mystica 3.36 13 *i* Pn **Pn 10 59 43.1 -2.8**
comp=E,8.2nm,0.3s,SNR=11
MYKA *i* Sn **Sn 11 00 26.2 -0.1**
comp=E,57nm,0.7s
ABTA Abfaltersbach 3.39 360 *i* Pn **Pn 10 59 46.6 +0.4**
comp=E,50nm,0.6s,SNR=32
ABTA *i* Sn **Sn 11 00 28.0 +1.2**
comp=E,132nm,0.7s
MGRS Mrkonjic Grad 3.46 71 *e*Pn **Pn 10 59 48.7 +1.5**
OBKA Obir 3.46 24 *i* Pn **Pn 10 59 45.8 -1.5**
comp=E,9.1nm,0.5s,SNR=11
GBOS Grotte di Boss 3.50 286 AML AML
comp=N,79µm,1.4s
GBOS AML AML
comp=E,61µm,1.1s
PTJ Puntijarka 3.54 43 ePn **Pn 10 59 48.1 -0.2**
MRVN Minervino Murg 3.56 129 *i* PN **Pn 10 59 49.2 +0.5**
MRVN *i* SN **Sn 11 00 26.3 -4.9**
BLY Banja Luka 3.63 66 *e*Pn **Pn 10 59 52.2 +2.6**
BLY *e*Sn **Sn 11 00 36.6 +3.8**
BLY Banja Luka 3.63 66 *e*Pn **Pb 10 59 54.6 -2.8**
BLY Banja Luka 3.63 66 ⇓P **Pn 10 59 50.4 +0.9**
BLY AML AML 11 01 01.9
SAOF Saorge 3.66 282 P **Pn 10 59 49.3 -0.7**
VARE Varese 3.67 314 AML AML
comp=E,332µm,1.2s
VARE AML AML
comp=N,240µm,0.8s
SBF Sospel 3.73 279 *e*Pn **Pn 10 59 47.9 -3.1**
SBF Sospel 3.73 279 *e*P **Pn 10 59 50.9 -0.1**
KBA Koelnbreinsper 3.76 9 *i* Pn **Pn 10 59 51.1 -0.4**
comp=N,1.8nm,0.2s,SNR=36
KBA *i* Sn **Sn 11 00 36.2 -0.1**
comp=N,54nm,0.5s
SOKA Soboth 3.76 27 *i* Pn **Pn 10 59 50.8 -0.6**
comp=N,1.0nm,0.2s
MOSL Moslavina 3.77 52 *e*Pn **Pn 10 59 50.0 -1.5**
TURF col de Turini 3.77 281 P **Pn 10 59 50.9 -0.8**
TURF S **Sn 11 00 38.3 +1.7**
STON Ston 3.82 96 *e*Pn **Pn 10 59 51.0 -1.1**
STON Sn **Sn 11 00 36.5 -0.9**
STON Ston 3.82 96 *e*Pn **Pn 10 59 49.9 -2.2**
FETA Feichten 3.87 341 *i* Pn **Pn 10 59 51.6 -1.4**
SNR=22
FETA Feichten 3.87 341 Pn **Sn 11 00 37.6 -1.4**
DAVOX Davos/Dischmat 3.90 332 Pn **Pn 10 59 54.8 +1.4**
comp=N,8.2nm,0.3s,baz=148,slow=16,SNR=38
DAVOX Sn **Sn 11 00 40.8 +1.1**
comp=N,5.5nm,0.3s,baz=115,slow=20,SNR=8.5
KALN Kalnik 3.94 44 *e*Pn **Pn 10 59 51.8 -2.0**
WTTA Wattenberg 3.95 351 *i* Pn **Pn 10 59 51.9 -2.3**
comp=N,6.1nm,0.2s,SNR=14
SQTA Sankt Quirin 3.97 347 *i* Pn **Pn 10 59 56.2 +1.9**
comp=N,2.2nm,0.2s,SNR=22
SQTA *i* Sn **Sn 11 00 39.1 -2.2**
comp=N,96nm,0.6s
WATA Walderalm 4.03 351 *i* Pn **Pn 10 59 56.7 +1.5**
comp=N,12nm,0.2s,SNR=15
WATA *i* Sn **Sn 11 00 42.2 -0.6**
comp=N,34nm,0.5s
ISO Isola 4.05 284 P **Pn 10 59 54.5 -0.8**
CALF Calern 4.09 277 P **Pn 10 59 55.4 -0.6**
MOTA Moosalm 4.11 346 *i* Pn **Pn 10 59 57.1 +0.9**
comp=N,0.7nm,0.1s,SNR=18
MOTA *i* Sn **Sn 11 00 47.5 +2.7**
comp=N,101nm,0.7s
MATE Matera 4.13 130 ⇑P **Pn 10 59 59.4 +3.0**
MATE AML AML 11 01 38.6
NOCI Noci 4.24 126 *i* PN **Pn 10 59 57.7 -0.3**
NOCI *i* SN **Sn 11 00 44.0 -4.0**
SURF Saint Ours 4.28 287 P **Pn 10 59 57.5 -1.1**
FRF La Foret Royal 4.29 275 *e*Pn **Pn 10 59 56.3 -2.2**
FRF *e*Sn **Sn 11 00 42.1 -6.8**
comp=N,32nm,0.6s,SNR=1.0
RETA Reutte 4.31 344 *i* Pn **Pn 11 00 00.2 +1.2**
comp=N,23nm,0.4s,SNR=21
RETA *i* Sn **Sn 11 00 47.6 -2.0**
comp=N,21nm,0.6s
TREB Trebinje 4.32 97 *e*Pn **Pn 10 59 58.7 -0.3**
BEHE Becsehely 4.33 43 *e*Pn **Pn 11 00 03.7 +4.5**
BEHE Becsehely 4.33 43 *e*Pn **Pn 11 00 01.0 +1.8**
BEHE Sn **Sn 11 00 50.0 0.0**
DAVA Damuels 4.35 335 *i* Pn **Pn 11 00 01.3 +1.8**
comp=N,14nm,0.5s,SNR=40
DAVA *i* Sn **Sn 11 00 53.1 +2.5**
comp=N,154nm,0.7s

MBDF Montbardon 4.37 290 *e*Pn **Pn 10 59 56.8 -3.0**
MBDF Montbardon 4.37 290 *e*P **Pn 11 00 00.4 +0.6**
MBDF Montbardon 4.37 290 *e*Pg **Pb 11 00 11.6 +1.6**
SNR=1.0
MBDF *e*Sn **Sn 11 00 44.5 -6.7**
comp=N,56nm,0.8s,SNR=1.0
MBDF *e*Sg **Sb 11 01 08.1 +5.1**
comp=N,51nm,0.7s,SNR=1.0
LMR La Mourre 4.39 272 *e*Pn **Pn 10 59 58.3 -1.7**
LMR *e*Sn **Sn 11 00 45.2 -6.2**
comp=N,5.9nm,0.4s,SNR=1.0
ORI Oriolo Calabro 4.41 137 AML AML
comp=N,182µm,0.5s
ORI AML AML
comp=E,285µm,0.1s
BRY Bratogost 4.42 94 *e*Pn **Pn 11 00 00.4 -0.2**
BRY Bratogost 4.42 94 ⇓*i*Pn **Pn 11 00 00.1 -0.5**
BRY *e*Sn **Sn 11 00 51.9 -0.6**
ARSA Arzberg 4.43 27 *i* Pn **Pn 11 00 00.5 0.0**
comp=E,3.4nm,0.3s
OGAG Argentiere 4.46 286 P **Pn 11 00 02.7 +1.6**
HCY Herceg Novi 4.48 100 *e*Pn **Pn 11 00 01.2 0.0**
HCY Herceg Novi 4.48 100 ⇓*i*Pn **Pn 11 00 01.1 -0.1**
HCY *e*Sn **Sn 11 00 54.3 +0.6**
MOA Molln 4.65 15 *i* Pn **Pn 11 00 03.4 -0.2**
comp=E,5.9nm,0.2s,SNR=9.7
MOA *i* Sn **Sn 11 00 56.5 -1.5**
comp=E,20nm,0.4s
LPG La Plagne 4.66 299 *e*P **Pn 11 00 04.3 +0.4**
UPM Unac-Piva 4.66 90 *e*Pn **Pn 11 00 05.0 +1.1**
UPM Unac-Piva 4.66 90 ⇓*i*Pn **Pn 11 00 03.5 -0.4**
UPM *e*Sn **Sn 11 00 58.0 -0.4**
LPL La Plagne 4.67 299 *e*Pn **Pn 11 00 02.6 -1.5**
LPL *e*Sn **Sn 11 00 51.7 -7.1**
comp=E,19nm,0.5s
HAPS Han Pijesak,Bl 4.71 79 *e*Pn **Pn 11 00 04.8 +0.3**
HAPS *e*Sn **Sn 11 01 00.3 +0.7**
HAPS Han Pijesak,Bl 4.71 79 *e*Pn **Pn 11 00 01.1 -3.4**
NKME Niksic 4.75 95 ⇑*i*Pn **Pn 11 00 04.5 -0.4**
NKME *e*Sn **Sn 11 01 00.2 -0.1**
CEME Cevo 4.76 98 ⇑*i*Pn **Pn 11 00 05.1 0.0**
CEME *e*Sn **Sn 11 01 00.3 -0.4**
NKY Niksic 4.77 94 ⇑*i*Pn **Pn 11 00 04.8 -0.5**
NKY *e*Sn **Sn 11 01 00.3 -0.7**
BUM Brajici-Budva 4.80 101 ⇓*i*Pn **Pn 11 00 05.4 -0.3**
BUM *e*Sn **Sn 11 01 01.4 -0.3**
RSL Roselend 4.82 301 P **Pn 11 00 06.3 +0.3**
PLE Pljevlja 5.00 88 ⇓*i*Pn **Pn 11 00 08.6 +0.1**
PLE *e*Sn **Sn 11 01 06.2 -0.6**
BBLS Lazi?i 5.02 82 *e*Pn **Pn 11 00 08.9 +0.2**
BBLS Lazi?i 5.02 82 *e*Pn **Pn 11 00 08.1 -0.6**
ORIF Oris-en-Rattie 5.03 290 *e*Pn **Pn 11 00 06.0 -2.9**
ORIF Oris-en-Rattie 5.03 290 *e*Pg **Pb 11 00 23.8 +2.6**
SNR=1.0
ORIF Oris-en-Rattie 5.03 290 P **Pn 11 00 09.5 +0.7**
PDG Podgorica 5.03 98 *e*Pn **Pn 11 00 10.2 +1.4**
PDG Podgorica 5.03 98 ⇑P **Pn 11 00 10.5 +1.8**
PDG AML AML 11 01 11.6
TTG Podgorica 5.03 98 ⇓*i*Pn **Pn 11 00 08.8 0.0**
TTG *e*Sn **Sn 11 01 07.1 -0.1**
DRME Dracevica, Mon 5.04 101 *e*Pn **Pn 11 00 09.0 +0.1**
DRME Dracevica, Mon 5.04 101 ⇓*i*Pn **Pn 11 00 09.0 +0.1**
DRME *e*Sn **Sn 11 01 06.9 -0.6**
SMRF Simiane la Rot 5.08 279 *e*Pn **Pn 11 00 09.2 -0.3**
SNR=1.0
SMRF Simiane la Rot 5.08 279 *e*P **Pn 11 00 09.3 -0.3**
CONA Conrad Observa 5.13 26 *i* Pn **Pn 11 00 09.3 -0.9**
comp=E,2.4nm,0.3s
CONA *i* Sn **Sn 11 01 10.3 +0.4**
comp=E,17nm,0.4s
KOME Kolasin 5.14 93 ⇓*i*Pn **Pn 11 00 10.7 +0.3**
KOME *e*Sn **Sn 11 01 09.6 -0.6**
ULC Ulcinj 5.15 103 ⇓*i*Pn **Pn 11 00 09.9 -0.5**
ULC *e*Sn **Sn 11 01 09.2 -1.0**
SOP Sopron 5.17 32 *e*Pn **Pn 11 00 10.0 -0.6**
SOP Sn **Sn 11 01 09.1 -1.5**
TIH Tihany 5.19 45 *e*Pn **Pn 11 00 15.0 +4.1**
TIH Sn **Sn 11 01 12.0 +0.9**
TEKS Tekeris 5.19 74 *e*Pn **Pn 11 00 12.6 +1.6**
MPLH Magyarpolny 5.20 41 *e*Pn **Pn 11 00 10.1 -1.0**
MPLH Sn **Sn 11 01 08.0 -3.3**
MORH Mrgy, Hungar 5.21 55 *e*Pn **Pn 11 00 14.5 +3.4**
MORH Mrgy, Hungar 5.21 55 *e*Pg **Pg 11 00 30.1 -2.3**
MORH Mrgy, Hungar 5.21 55 *e*Pn **Pn 11 00 09.1 -2.1**
MORH Sn **Sn 11 01 10.0 -1.5**
TIP Timpagrande 5.26 141 ⇑P Pn 11 00 16.9 +5.0
TIP AML AML 11 01 47.2
IVA Berane 5.42 93 ⇑*i*Pn **Pn 11 00 14.4 +0.3**
IVA *e*Sn **Sn 11 01 16.2 -0.7**
DIVS Divibare 5.46 80 *e*Pn **Pn 11 00 14.9 +0.1**
DIVS Divibare 5.46 80 *e*Pn Pn 11 00 08.9 -5.9
PVY Plav 5.51 95 ⇓*i*Pn **Pn 11 00 15.6 +0.2**
PVY *e*Sn **Sn 11 01 18.5 -0.7**
FRGS Fruska Gora 5.53 69 *e*Pn **Pn 11 00 17.4 +1.7**
GERES GERESS Array B 5.54 8 Pn **Pn 11 00 14.5 -1.4**
comp=E,1.7nm,0.3s,baz=178,slow=11,SNR=77
GERES Sn **Sn 11 01 16.0 -4.1**
comp=E,4.6nm,0.3s,baz=173,slow=23,SNR=7.9
GERES Lg Lg 11 01 46.6
comp=E,0.4nm,0.3s,baz=185,slow=30,SNR=2.2
IVAS Ivanjica 5.55 85 *e*Pn **Pn 11 00 15.6 -0.4**
IVAS *e*Sn **Sn 11 01 18.9 -1.4**
CABF La Chapelle 5.60 308 *e*P **Pn 11 00 16.6 -0.1**
KIZ Kirchzarten 5.62 327 P **Pn 11 00 16.4 -0.4**
BCI Bajram Curri 5.63 98 *i* SN **Sn 11 01 24.1 +1.9**
CHMF Charmoille 5.68 315 P **Pn 11 00 17.4 -0.4**
CSKK Cskako 5.69 43 *e*Pn **Pn 11 00 19.0 +1.3**
CSKK Sn **Sn 11 01 23.0 -0.4**
TRUS Trudelj 5.77 79 *e*Pn **Pn 11 00 20.5 +1.6**
TIR Tirane 5.80 108 ⇑P **Pn 11 00 20.5 +1.2**
TIR AML AML 11 01 29.8
KHC Kasperske Hory 5.82 7 *e*PN **Pn 11 00 18.2 -1.4**
KHC *e*SN **Sn 11 01 23.6 -3.1**
KHC *ex* x 11 02 00.0
VIVF Saint-Julien-l 5.85 287 *e*Pn **Pn 11 00 17.9 -2.2**
MOF Molkenrain 5.87 322 P **Pn 11 00 20.6 +0.2**
OPP Oppenau 5.96 331 P **Pn 11 00 21.5 0.0**
GRUS Gruza 5.97 82 *e*Pn **Pn 11 00 21.8 +0.2**
HINF Hinteralfeld 5.97 320 *e*Pn **Pn 11 00 17.9 -3.9**
SNR=1.0
HINF Hinteralfeld 5.97 320 *e*P **Pn 11 00 21.1 -0.7**
HINF Hinteralfeld 5.97 320 *e*Pg **Pb 11 00 40.4 +3.1**
HINF *e*Sn **Sn 11 01 22.6 -8.0**
comp=E,24nm,0.5s,SNR=1.0
MODS Modra-Piesok 6.01 32 *e*PN **Pn 11 00 22.4 +0.2**
MODS Modra-Piesok 6.01 32 *e*PN **Pn 11 00 23.0 +0.8**
PHP Peshkopia 6.08 103 *i* SN **Sn 11 01 33.9 +0.6**
SMOL Smolenice 6.18 32 *e*PN **Pn 11 00 26.2 +1.6**
WLS Welschbruch 6.21 326 P **Pn 11 00 24.7 -0.3**
CDF Champ du Feu 6.24 326 *e*Pn **Pn 11 00 24.1 -1.4**
SNR=1.0
CDF *e*Sn Sn 11 01 27.3 -10
comp=E,117nm,1.1s
CDF *e*Sg **Sb 11 02 02.5 +5.7**
comp=E,45nm,0.8s,SNR=1.0
SELS Selova 6.27 88 *e*Pn **Pn 11 00 26.3 +0.4**
SELS *e*Sn **Sn 11 01 35.5 -2.4**
KRUC Moravsky 6.30 24 *e*SG **Sg 11 02 15.8 +0.9**
LASF Ste Croix 6.32 279 *e*Pn **Pn 11 00 25.2 -1.4**
SNR=1.0
LASF Ste Croix 6.32 279 *e*P **Pn 11 00 26.3 -0.3**
HAU Haudompre 6.35 319 *e*Pn **Pn 11 00 22.5 -4.4**
SNR=1.0
HAU Haudompre 6.35 319 *e*P **Pn 11 00 26.2 -0.7**
HAU *e*Sn **Sn 11 01 31.6 -8.1**
comp=E,34nm,0.4s,SNR=1.0
PBCC Pribram 6.41 9 *e*PN **Pn 11 00 27.0 -0.7**
PBCC *e*SN **Sn 11 01 36.9 -4.3**
VRAC Vranov 6.58 24 Pn **Pn 11 00 29.2 -0.9**
comp=E,0.8nm,0.3s,baz=65,slow=12,SNR=3.2
VRAC Vranov 6.58 24 ⇑P **Pn 11 00 34.6 +4.5**
SRN Sarande 6.59 119 *i* SN **Sn 11 01 46.1 +0.4**
BOVS Bovan 6.68 85 *e*Pn **Pn 11 00 31.7 +0.3**
GOPC GO Pecny, Ondr 6.74 13 *e*Pn **Pn 11 00 31.2 -1.0**
MDVR Moldovita 6.77 75 ⇑P **Pn 11 00 32.9 +0.2**
PRU Pruhonice 6.77 11 *e*PN **Pn 11 00 32.1 -0.6**
PRU *e*SN **Sn 11 01 44.5 -5.6**
BARS Barje 6.82 91 *e*Pn **Pn 11 00 33.8 +0.4**
NKC Novy Kostel 6.88 360 *e*PN **Pn 11 00 33.4 -0.7**
NKC *e*SN **Sn 11 01 49.2 -3.5**
BZS Buzias 6.88 68 ⇑P **Pn 11 00 36.4 +2.2**
PSZ Piszkesteto 6.89 46 ⇑P **Pn 11 00 35.6 +1.3**

PSZ	**Piszkesteto**	**6.89**	**46**	*e*Pn	**Pn**	**11 00 32.0**	**-2.3**
PSZ				Sn	Sn	11 01 42.1	-11
SMF	**Signal de Mont**	**6.98**	**301**	*e*Pn	**Pn**	**11 00 30.9**	**-4.6**
SMF	**Signal de Mont**	**6.98**	**301**	*e*P	**Pn**	**11 00 35.6**	**+0.1**
SMF				*e*Sn	Sn	11 01 45.9	-9.3
	comp=E,22nm,0.8s						
PAGF	**Fort de Pagny**	**7.03**	**320**	*e*P	**Pn**	**11 00 36.6**	**+0.4**
PAGF				*e*Sn	Sn	11 01 46.6	-10
ZAGS	**Zajecar**	**7.06**	**83**	*e*Pn	**Pn**	**11 00 36.7**	**0.0**
FNA	**Florina**	**7.07**	**108**	*i* SN	**Sn**	**11 01 56.6**	**-1.0**
SFTF	**Sexfontaines**	**7.13**	**315**	*e*P	**Pn**	**11 00 37.4**	**-0.2**
	baz=134						
LOR	**Lormes**	**7.25**	**306**	*e*Pn	**Pn**	**11 00 38.1**	**-1.2**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**11 01 53.2**	**-8.8**
	comp=E,18nm,0.7s						
MEZF	**Maizieres J'vi**	**7.32**	**317**	*e*Pn	**Pn**	**11 00 35.6**	**-4.6**
	baz=136						
MEZF	**Maizieres J'vi**	**7.32**	**317**	*e*P	**Pn**	**11 00 40.9**	**+0.7**
AVF	**Avril sur Loir**	**7.34**	**301**	*e*P	**Pn**	**11 00 41.1**	**+0.6**
AVF				*e*Sn	Sn	11 01 55.0	-9.2
	comp=E,14nm,0.8s						
ZAPS	**Zavoj**	**7.37**	**87**	*e*Pn	**Pn**	**11 00 41.3**	**+0.3**
ZAPS				*e*Sn	**Sn**	**11 02 01.8**	**-3.2**
MTLF	**Montolieu**	**7.51**	**273**	*e*Pn	**Pn**	**11 00 42.1**	**-0.8**
	SNR=1.0						
MTLF	**Montolieu**	**7.51**	**273**	*e*P	**Pn**	**11 00 43.9**	**+1.0**
MTLF				*e*Sn	Sn	11 01 59.2	-9.3
	comp=E,3.3nm,0.5s						
BGF	**Bois d'Agland**	**7.57**	**298**	*e*Pn	**Pn**	**11 00 39.3**	**-4.4**
	SNR=1.0						
BGF	**Bois d'Agland**	**7.57**	**298**	*e*P	**Pn**	**11 00 44.2**	**+0.5**
GZR	**Gura Zlata**	**7.62**	**71**	⇑P	**Pn**	**11 00 44.8**	**+0.4**
CAF	**Calviac**	**7.69**	**285**	*e*P	**Pn**	**11 00 45.4**	**+0.1**
VTS	**Vitosha**	**7.89**	**92**	⇑P	**Pn**	**11 00 49.2**	**+1.0**
TCF	**Toulx Ste Croi**	**7.90**	**295**	*e*Sg	Sg	11 02 57.0	-9.0
	comp=E,5.1nm,0.2s,SNR=1.0						
KEST	**Kesra**	**8.01**	**199**	Pn	**Pn**	**11 00 53.0**	**+3.3**
	comp=E,0.3nm,0.3s,baz=196,slow=3.9,SNR=5.8						
VOIR		**9.20**	**73**	⇓P	**Pn**	**11 01 07.7**	**+1.6**
DOPR	**Dopca**	**9.53**	**70**	⇓P	**Pn**	**11 01 11.5**	**+1.0**
BURAR	**Bucovina Array**	**9.87**	**60**	⇓P	**Pn**	**11 01 16.5**	**+1.2**
LDF	**La Druitiere**	**10.24**	**305**	*e*Pg	Pn	11 01 59.1	+39
	SNR=1.0						
LDF				*e*Sn	Sn	11 03 03.9	-11
	comp=E,5.9nm,0.8s,SNR=1.0						
AKASG	**Malin Array Be**	**13.53**	**51**	Pn	**Pn**	**11 02 04.4**	**-0.7**
	comp=E,0.5nm,0.3s,baz=241,slow=14,SNR=4.5						
MDT	**Midelt**	**17.08**	**238**	LR	LR	11 08 22.8	
	comp=E,200nm,20.0s,baz=9.0,slow=33						
FINES	**FINESS Array B**	**19.83**	**19**	P	**Pn**	**11 03 25.0**	**-0.6**
	comp=E,0.1nm,0.3s,baz=225,slow=4.9,SNR=3.2						
KBZ	**Khabaz**	**21.96**	**79**	P	**P**	**11 03 48.8**	**+1.7**
	comp=E,4.5nm,1.0s,baz=293,slow=7.6,SNR=5.8						
TORD	**Torodi Ar. Bea**	**31.52**	**200**	P	**P**	**11 05 15.1**	**-0.6**
	comp=E,1.5nm,0.7s,baz=16,slow=9.1,SNR=9.0						
ARU	**Arti**	**31.77**	**49**	P	**P**	**11 05 16.6**	**-1.0**
	comp=E,0.9nm,0.3s,baz=328,slow=13,SNR=3.4						
AAK	**Ala-Archa**	**44.38**	**69**	LR	LR	11 28 19.5	
	comp=E,59nm,18.8s,baz=306,slow=40						
ZALV	**Zalesovo Beam**	**46.92**	**50**	P	**P**	**11 07 24.5**	**+0.6**
	comp=E,0.5nm,0.4s,baz=270,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**47.90**	**60**	P	**P**	**11 07 32.6**	**+0.9**
	comp=E,0.5nm,0.6s,baz=308,slow=6.0,SNR=3.8						
TLY	**Talaya**	**58.23**	**47**	LR	LR	11 35 12.9	
	comp=E,57nm,18.9s,baz=330,slow=38						
SONM	**Songino Array**	**61.81**	**50**	P	**P**	**11 09 13.7**	**+1.2**
	comp=E,1.4nm,1.0s,baz=289,slow=9.0,SNR=5.9						
YKA	**Yellowknife Ar**	**66.33**	**336**	P	**P**	**11 09 41.6**	**-0.1**
	comp=E,1.3nm,0.8s,baz=41,slow=6.0,SNR=25						
ILAR	**Eielson Array**	**71.00**	**351**	P	**P**	**11 10 12.2**	**+1.3**
	comp=E,0.5nm,0.8s,baz=3.9,slow=6.3,SNR=7.6						
TXAR	**Lajitas Array**	**87.00**	**308**	P	**P**	**11 11 39.9**	**+0.6**
	comp=E,0.2nm,0.5s,baz=54,slow=4.2,SNR=4.8						
ASAR	**Alice Springs**	**128.41**	**87**	PKP	**PKPdf**	**11 17 59.8**	**-0.8**
	comp=E,0.3nm,0.6s,baz=308,slow=1.6,SNR=4.0						

TEH ***18*** *10:59:55.8,29.25N×51.30E,h5km,ML3.7*
ISCJB ***18*** *10:59:56.8±0.9,29.18N±0.08×51.23E±0.04,h10km, mb3.5/4,Error ellipse: s-maj=11.7km s-min=5.3km az=7.4*
THR ***18*** *10:59:56.3,29.25N×51.23E,h6km,ML3.6*
IDC ***18*** *10:59:57.3±3.1,29.12N×51.02E,h0km,mb3.5/4, mb1 3.6/5,mb1mx3.4/51,mbtmp3.5/5,ML3.3/1,Error ellipse: s-maj=68.4km s-min=37.0km az=132.0*

ISC 18 10:59:57.9±1.0,29.22N±0.08×51.24E±0.05,h10km,n26, σ1§42/28,mb3.5/4,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**0.76**	**43**	*e*Pg	**Pg**	**11 00 10.7**	**-1.9**
IKAZ				IAMB	IAmb	11 00 28.1	
	comp=Z,43μm,0.6s						
SHI	**Shiraz**	**1.18**	**69**	*e*Pg	**Pn**	**11 00 19.5**	**-1.2**
SHI				*e*Sg	**Sn**	**11 00 36.7**	**-0.2**
ISRV	**Sarvestan**	**1.64**	**84**	*e*Pn	**Pb**	**11 00 26.9**	**-1.5**
ISRV				IAMB	IAmb	11 00 33.0	
	comp=Z,5μm,0.2s						
ISRV				*e*Sg	**Sg**	**11 00 53.7**	**+3.0**
KLNJ	**Kolanjah**	**1.80**	**10**	*e*Pn	**Pb**	**11 00 29.8**	**-1.4**
KLNJ				IAMB	IAmb	11 00 58.5	
	comp=Z,0.0nm,0.7s						
JHRM	**Jahrom**	**2.17**	**109**	*e*Pn	**Pn**	**11 00 33.7**	**-0.4**
JHRM				IAMB	IAmb	11 01 32.5	
	comp=Z,0.0nm,0.4s						
IBRJ	**Brojen**	**2.67**	**0**	*e*Pn	**Pb**	**11 00 42.3**	**-3.7**
IRAM	**Ramesheh**	**2.76**	**21**	*e*Pn	**Pn**	**11 00 42.8**	**+0.5**
JHBN	**Jahan bin**	**3.04**	**351**	*e*Pn	**Pn**	**11 00 47.1**	**+0.8**
ROKH	**ROKH**	**3.12**	**357**	*e*Pn	**Pn**	**11 00 48.2**	**+0.9**
IGAR	**Gharneh**	**3.24**	**12**	*e*Pn	**Pn**	**11 00 49.9**	**+0.9**
ISAD	**Sadrabad**	**3.41**	**38**	*e*Pn	**Pn**	**11 00 52.4**	**+1.0**
SHGR	**Shooshtar-Gavs**	**3.56**	**324**	*e*Pn	**Pn**	**11 00 53.7**	**+0.5**
SHGR	**Shooshtar-Gavs**	**3.56**	**324**	*e*Pn	**Pn**	**11 00 53.7**	**+0.5**
IMEH	**Mehriz**	**3.63**	**53**	*e*Pn	**Pn**	**11 00 55.3**	**+1.0**
YZKH	**Yazd**	**4.27**	**42**	*e*Pn	**Pn**	**11 01 04.0**	**+1.0**
YZKH	**Yazd**	**4.27**	**42**	*e*Pn	**Pn**	**11 01 04.0**	**+1.0**
IBAF	**Bafgh**	**4.42**	**57**	*e*Pn	**Pn**	**11 01 05.5**	**+0.4**
KHMZ	**Khomeyn**	**4.63**	**347**	*e*Pn	**Pn**	**11 01 08.7**	**+0.6**
KHMZ	**Khomeyn**	**4.63**	**347**	*e*Pn	**Pn**	**11 01 08.7**	**+0.6**
ASAO	**Ashtian**	**5.41**	**349**	*e*Pn	**Pn**	**11 01 19.5**	**+0.7**
ASAO	**Ashtian**	**5.41**	**349**	*e*Pn	**Pn**	**11 01 19.5**	**+0.7**
ASAO				*e*AML	AML	11 02 24.0	
	comp=Z,26nm,0.5s						
ASAO				*e*AML	AML	11 02 24.4	
	comp=Z,34nm,0.6s						
BRTR	**Keskin Array B**	**17.87**	**311**	P	**P**	**11 04 08.3**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=134,slow=15,SNR=4.3						
AKTO	**Aktyubinsk**	**21.80**	**12**	P	**P**	**11 04 51.0**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=205,slow=12,SNR=4.2						
AKASG	**Malin Array Be**	**27.10**	**328**	P	**P**	**11 05 41.1**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=142,slow=8.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**48.53**	**262**	P	**P**	**11 08 40.1**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=59,slow=7.3,SNR=4.8						
YKA	**Yellowknife Ar**	**87.90**	**353**	P	**P**	**11 12 49.8**	**+2.4**
	comp=Z,0.1nm,0.6s,baz=18,slow=5.9,SNR=2.8						

ROM 18 11:04:15.4±0.1,43.381N±0.003×12.536E±0.004, h6km,Md1.3/5,Error ellipse: s-maj=0.3km s-min=0.1km az=64.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.03**	**118**	P	Pg	11 04 16.6	0.0
ATFO				S	Sg	11 04 17.6	0.0
ATFO				AML	AML		
	comp=E,809μm,0.2s						
ATFO				AML	AML		
	comp=N,669μm,0.4s						
ATFO				AML	AML		
	comp=E,9300μm,0.2s						
ATFO				AML	AML		
	comp=N,8070μm,0.3s						
ATFO				END			
ATVO	**AVT- Monte Val**	**0.09**	**271**	P	Pg	11 04 17.7	+0.2
ATVO				S	Sg	11 04 19.4	+0.4
ATVO				AML	AML		
	comp=E,95μm,0.2s						
ATVO				AML	AML		
	comp=N,60μm,1.5s						
ATVO				AML	AML		
	comp=E,796μm,0.3s						
ATVO				AML	AML		
	comp=N,742μm,0.5s						
ATVO				END			
MURB	**Monte Urbino**	**0.12**	**184**	P	Pg	11 04 18.4	+0.5
MURB				S	Sg	11 04 20.6	+0.9
MURB				AML	AML		
	comp=E,1540μm,1.3s						
MURB				AML	AML		
	comp=N,1705μm,0.2s						
MURB				AML	AML		
	comp=E,1635μm,1.3s						
MURB				AML	AML		
	comp=N,1685μm,0.2s						
MURB				END			
ATPI	**Pietralunga -**	**0.12**	**306**	P	Pg	11 04 18.3	+0.3
ATPI				S	Sg	11 04 20.6	+0.9
ATPI				AML	AML		
	comp=E,61μm,0.4s						
ATPI				AML	AML		
	comp=N,66μm,0.4s						
ATPI				AML	AML		
	comp=E,342μm,0.6s						
ATPI				AML	AML		
	comp=N,532μm,0.4s						
ATPI				END			
PIEI	**Pieia**	**0.15**	**360**	P	Pg	11 04 19.1	+0.4
PIEI				S	Sg	11 04 22.0	+1.2
PIEI				AML	AML		
	comp=E,74μm,0.2s						
PIEI				AML	AML		
	comp=N,58μm,0.3s						
PIEI				AML	AML		
	comp=E,1630μm,0.3s						
PIEI				AML	AML		
	comp=N,1275μm,0.2s						
PIEI				END			
SSFR	**Montelago di S**	**0.19**	**73**	P	Pg	11 04 19.6	+0.4
SSFR				S	Sg	11 04 23.0	+1.2
SSFR				AML	AML		
	comp=E,2275μm,0.2s						
SSFR				AML	AML		
	comp=N,1325μm,0.2s						
MCIV	**Monte Civitell**	**0.87**	**227**	AML	AML		
	comp=N,138μm,0.3s						
MCIV				AML	AML		
	comp=E,270μm,0.1s						

ROM 18 11:04:50.5±0.1,43.385N±0.003×12.534E±0.004, h8km,ML2.0/19,Error ellipse: s-maj=0.3km s-min=0.2km az=348.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.03**	**124**	P	Pg	11 04 52.1	-0.1
ATFO				S	Sg	11 04 53.0	-0.4
ATFO				AML	AML		
	comp=E,9300μm,0.2s						
ATFO				AML	AML		
	comp=N,8070μm,0.3s						
ATFO				AML	AML		
	comp=E,18850μm,0.2s						
ATFO				AML	AML		
	comp=N,15700μm,0.4s						
ATFO				AML	AML		
	comp=N,15700μm,0.4s						
ATFO				AML	AML		
	comp=E,18850μm,0.2s						
ATVO	**AVT- Monte Val**	**0.09**	**268**	P	Pg	11 04 53.2	+0.3
ATVO				S	Sg	11 04 54.7	+0.1
ATVO				AML	AML		
	comp=E,796μm,0.3s						
ATVO				AML	AML		
	comp=N,742μm,0.5s						
ATVO				AML	AML		
	comp=E,2005μm,0.3s						
ATVO				AML	AML		
	comp=N,1225μm,0.4s						
ATPI	**Pietralunga -**	**0.12**	**304**	P	Pg	11 04 53.7	+0.5
ATPI				S	Sg	11 04 56.0	+0.9
ATPI				AML	AML		
	comp=E,342μm,0.6s						
ATPI				AML	AML		
	comp=N,532μm,0.4s						
ATPI				AML	AML		
	comp=N,1440μm,0.4s						
ATPI				AML	AML		
	comp=E,1272μm,0.3s						
MURB	**Monte Urbino**	**0.12**	**183**	*i* P	Pg	11 04 53.9	+0.5
MURB				S	Sg	11 04 56.3	+1.1
MURB				AML	AML		
	comp=E,1540μm,1.3s						
MURB				AML	AML		
	comp=N,1705μm,0.2s						
MURB				AML	AML		
	comp=E,1635μm,1.3s						
MURB				AML	AML		
	comp=N,1685μm,0.2s						
MURB				AML	AML		
	comp=N,4005μm,0.3s						
MURB				AML	AML		
	comp=E,3145μm,0.3s						
MURB				AML	AML		
	comp=E,2880μm,0.3s						
MURB				AML	AML		
	comp=N,4390μm,0.8s						
PIEI	**Pieia**	**0.15**	**0**	P	Pg	11 04 54.5	+0.7
PIEI				S	Sg	11 04 57.4	+1.3
PIEI				AML	AML		
	comp=E,1630μm,0.3s						
PIEI				AML	AML		
	comp=N,1275μm,0.2s						
PIEI				AML	AML		
	comp=N,1790μm,0.3s						
PIEI				AML	AML		
	comp=E,2020μm,0.3s						
SSFR	**Montelago di S**	**0.19**	**74**	*i* P	Pg	11 04 55.0	+0.6
SSFR				S	Sg	11 04 58.2	+1.1
SSFR				AML	AML		
	comp=E,4345μm,0.2s						
SSFR				AML	AML		
	comp=N,2795μm,0.2s						
SSFR				AML	AML		
	comp=N,2935μm,0.2s						
SSFR				AML	AML		
	comp=E,4885μm,0.2s						
FOSV	**Fossato di Vic**	**0.19**	**118**	P	Pg	11 04 55.1	+0.7
FOSV				S	Sg	11 04 58.6	+1.6
FOSV				AML	AML		
	comp=E,291μm,0.3s						
FOSV				AML	AML		
	comp=N,508μm,0.9s						
FRON	**Frontone**	**0.19**	**46**	*i* P	Pg	11 04 55.1	+0.6
FRON				S	Sg	11 04 58.6	+1.3
FRON				AML	AML		
	comp=E,546μm,0.4s						
FRON				AML	AML		
	comp=N,965μm,1.4s						
ATMI	**Monte Miggiano**	**0.20**	**255**	P	Pg	11 04 55.8	+1.1
ATMI				S	Sg	11 04 58.7	+1.3
ATCC	**AVT- Casa Cast**	**0.21**	**159**	P	Pg	11 04 55.6	+0.8
ATCC				S	Sg	11 04 59.8	+1.9
ATCC				AML	AML		
	comp=E,465μm,1.1s						
ATCC				AML	AML		
	comp=N,640μm,0.2s						
ATCC				AML	AML		
	comp=N,1070μm,0.3s						
ATCC				AML	AML		
	comp=E,894μm,0.5s						
ATTE	**AVT- Monte Tez**	**0.23**	**215**	*i* P	Pg	11 04 55.6	+0.4
ATTE				S	Sg	11 04 59.9	+1.6
ATTE				AML	AML		
	comp=E,146μm,0.3s						
ATTE				AML	AML		
	comp=N,88μm,1.6s						
ATTE				AML	AML		
	comp=E,305μm,0.3s						
ATTE				AML	AML		
	comp=N,231μm,0.9s						
MPAG	**Monte Paganucc**	**0.29**	**34**	P	Pg	11 04 57.2	+0.8
MPAG				S	Sb	11 05 02.1	-1.1
MPAG				AML	AML		
	comp=E,188μm,0.7s						
MPAG				AML	AML		
	comp=N,199μm,0.5s						
PE3	**Peglio**	**0.31**	**355**	P	Pg	11 04 57.4	+0.6
PE3				AML	AML		
	comp=N,219μm,0.4s						
PE3				AML	AML		
	comp=E,236μm,0.5s						
ARVD	**Arcevia**	**0.32**	**69**	P	Pg	11 04 57.5	+0.6
ARVD				S	Sb	11 05 02.6	-1.2
ARVD				AML	AML		
	comp=E,295μm,0.8s						
ARVD				AML	AML		
	comp=N,154μm,1.0s						
SNTG	**Esanatoglia**	**0.32**	**113**	P	Pg	11 04 57.4	+0.5
SNTG				S	Sb	11 05 02.9	-1.0
SNTG				AML	AML		
	comp=E,180μm,0.2s						
SNTG				AML	AML		
	comp=N,198μm,0.2s						
SNTG				AML	AML		
	comp=E,634μm,0.2s						
SNTG				AML	AML		
	comp=N,572μm,0.3s						
PARC	**Parchiule**	**0.34**	**321**	P	Pg	11 04 58.0	+0.8
PARC				S	Sb	11 05 03.8	-0.6
PARC				AML	AML		
	comp=N,321μm,0.3s						
PARC				AML	AML		
	comp=E,215μm,0.2s						
ASSB	**Assisi San Ben**	**0.35**	**165**	P	Pg	11 04 57.8	+0.3
ASSB				S	Sb	11 05 03.9	-1.0
ASSB				AML	AML		
	comp=E,284μm,0.2s						
ASSB				AML	AML		
	comp=N,476μm,0.2s						
FSSB	**Fossombrone**	**0.35**	**30**	P	Pg	11 04 58.2	+0.7
FSSB				S	Sb	11 05 04.2	-0.6
FSSB				AML	AML		
	comp=E,357μm,0.3s						
FSSB				AML	AML		
	comp=N,444μm,0.3s						
CAFI	**Castiglion Fio**	**0.42**	**263**	P	Pg	11 04 59.3	+0.7
CAFI				S	Sb	11 05 05.6	-1.1
CAFI				AML	AML		
	comp=N,73μm,1.2s						
CAFI				AML	AML		
	comp=E,69μm,1.6s						
EL6	**Elcito**	**0.42**	**97**	P	Pg	11 04 59.4	+0.7
EL6				S	Sb	11 05 06.1	-0.6
CPGN	**Carpegna, Ital**	**0.44**	**340**	P	Pb	11 05 00.6	-0.1
CRE	**Caprese Michel**	**0.48**	**299**	P	Pb	11 05 00.8	-0.6
CRE				S	Sb	11 05 08.3	-0.4
CRE				AML	AML		
	comp=N,118μm,0.3s						
CRE				AML	AML		
	comp=E,70μm,1.3s						
FDMO	**Fiordimonte**	**0.53**	**131**	P	Pg	11 05 01.3	+0.4
FDMO				S	Sb	11 05 10.0	0.0
MGAB	**Montegabbione**	**0.56**	**213**	P	Pg	11 05 01.8	+0.4
MGAB				S	Sb	11 05 10.8	0.0
MGAB				AML	AML		
	comp=E,249μm,0.5s						
MGAB				AML	AML		
	comp=N,191μm,0.8s						
CSP1	**Cessapalombo**	**0.57**	**121**	P	Pg	11 05 02.2	+0.6
CSP1				S	Sb	11 05 11.4	+0.2

ROM 18 11:05:41.9±0.1,43.374N±0.004×12.538E±0.004, h7km,ML2.0/24,Error ellipse: s-maj=0.3km s-min=0.3km az=359.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.03**	**107**	*i* P	Pg	11 05 43.5	+0.1
ATFO				S	Sg	11 05 44.4	-0.1
ATVO	**AVT- Monte Val**	**0.10**	**275**	*i* P	Pg	11 05 44.6	+0.4
ATVO				S	Sg	11 05 46.4	+0.6
ATVO				AML	AML		
	comp=N,1225μm,0.4s						
ATVO				AML	AML		
	comp=E,2005μm,0.3s						
MURB	**Monte Urbino**	**0.11**	**185**	*i* P	Pg	11 05 45.2	+0.8
MURB				S	Sg	11 05 47.0	+0.8
MURB				AML	AML		
	comp=N,4390μm,0.8s						
MURB				AML	AML		
	comp=N,4005μm,0.3s						
MURB				AML	AML		
	comp=N,4005μm,0.3s						
MURB				AML	AML		
	comp=E,3145μm,0.3s						
MURB				AML	AML		
	comp=E,2880μm,0.3s						
ATPI	**Pietralunga -**	**0.12**	**308**	P	Pg	11 05 45.1	+0.5
ATPI				S	Sg	11 05 47.4	+0.8
ATPI				AML	AML		
	comp=E,1270μm,0.3s						
ATPI				AML	AML		
	comp=N,1440μm,0.4s						
ATPI				AML	AML		
	comp=E,1272μm,0.3s						
PIEI	**Pieia**	**0.16**	**359**	*e*P	Pg	11 05 45.9	+0.6
PIEI				S	Sg	11 05 48.7	+1.1
PIEI				AML	AML		
	comp=E,2020μm,0.3s						
PIEI				AML	AML		
	comp=N,1790μm,0.3s						
FOSV	**Fossato di Vic**	**0.18**	**116**	P	Pg	11 05 46.3	+0.8
FOSV				S	Sg	11 05 48.8	+0.7
FOSV				AML	AML		
	comp=E,290μm,0.3s						
FOSV				AML	AML		
	comp=N,508μm,0.9s						
FOSV				AML	AML		
	comp=E,291μm,0.3s						
FOSV				AML	AML		
	comp=N,508μm,0.9s						
SSFR	**Montelago di S**	**0.19**	**71**	*i* P	Pg	11 05 46.4	+0.7
SSFR				S	Sg	11 05 49.8	+1.4
SSFR				AML	AML		
	comp=E,4345μm,0.2s						
SSFR				AML	AML		
	comp=E,4885μm,0.2s						
SSFR				AML	AML		
	comp=E,4345μm,0.2s						
SSFR				AML	AML		
	comp=N,2795μm,0.2s						
SSFR				AML	AML		
	comp=N,2935μm,0.2s						
FRON	**Frontone**	**0.20**	**44**	*i* P	Pg	11 05 46.5	+0.6
FRON				S	Sg	11 05 50.0	+1.3
FRON				AML	AML		
	comp=E,545μm,0.4s						
FRON				AML	AML		
	comp=N,969μm,1.4s						
FRON				AML	AML		
	comp=E,546μm,0.4s						
FRON				AML	AML		
	comp=N,965μm,1.4s						
ATMI	**Monte Miggiano**	**0.20**	**259**	P	Pg	11 05 46.6	+0.7
ATMI				AML	AML		
	comp=N,308μm,0.4s						
ATMI				AML	AML		
	comp=E,440μm,0.3s						
ATCC	**AVT- Casa Cast**	**0.20**	**158**	P	Pg	11 05 47.0	+1.0
ATCC				S	Sg	11 05 50.9	+2.2
ATCC				AML	AML		
	comp=E,893μm,0.5s						
ATCC				AML	AML		
	comp=N,1070μm,0.3s						
ATCC				AML	AML		
	comp=E,894μm,0.5s						
ATTE	**AVT- Monte Tez**	**0.22**	**217**	*i* P	Pg	11 05 46.9	+0.6
ATTE				AML	AML		
	comp=E,305μm,0.3s						
ATTE				AML	AML		
	comp=N,231μm,0.9s						
MPAG	**Monte Paganucc**	**0.30**	**32**	P	Pg	11 05 48.5	+0.7
MPAG				S	Sg	11 05 53.4	+1.5
MPAG				AML	AML		
	comp=E,188μm,0.7s						
MPAG				AML	AML		
	comp=N,199μm,0.5s						
SNTG	**Esanatoglia**	**0.32**	**112**	P	Pg	11 05 48.9	+0.7
SNTG				S	Sb	11 05 54.2	-1.0
SNTG				AML	AML		
	comp=E,634μm,0.2s						
SNTG				AML	AML		
	comp=N,572μm,0.3s						
ARVD	**Arcevia**	**0.32**	**67**	P	Pg	11 05 48.9	+0.7

ARVD					S	Sb	11 05 54.0	-1.3
ARVD					AML	AML		
	comp=E,295µm,0.8s							
ARVD					AML	AML		
	comp=N,154µm,1.0s							
ASSB	**Assisi San Ben**	**0.34**	**165**		P	Pg	11 05 49.3	+0.7
ASSB					S	Sb	11 05 54.8	-1.1
ASSB					AML	AML		
	comp=E,284µm,0.2s							
ASSB					AML	AML		
	comp=N,476µm,0.2s							
PARC	**Parchiule**	**0.35**	**322**		P	Pg	11 05 49.5	+0.7
PARC					S	Sb	11 05 54.9	-1.4
PARC					AML	AML		
	comp=E,214µm,0.2s							
PARC					AML	AML		
	comp=E,215µm,0.2s							
PARC					AML	AML		
	comp=N,321µm,0.3s							
FSSB	**Fossombrone**	**0.36**	**29**		P	Pg	11 05 49.7	+0.7
FSSB					S	Sb	11 05 55.4	-1.2
FSSB					AML	AML		
	comp=N,444µm,0.3s							
FSSB					AML	AML		
	comp=E,357µm,0.3s							
EL6	**Elcito**	**0.41**	**96**		P	Pg	11 05 50.5	+0.5
EL6					S	Sb	11 05 57.2	-0.8
EL6					AML	AML		
	comp=E,228µm,0.6s							
EL6					AML	AML		
	comp=N,396µm,0.4s							
CAFI	**Castiglion Fio**	**0.42**	**264**		P	Pg	11 05 50.7	+0.6
CAFI					AML	AML		
	comp=E,69µm,1.6s							
CAFI					AML	AML		
	comp=N,73µm,1.2s							
CAFI					AML	AML		
	comp=N,73µm,1.2s							
CAFI					AML	AML		
	comp=E,69µm,1.6s							
COR1	**Corinaldo**	**0.42**	**52**		P	Pb	11 05 51.9	+0.2
COR1					S	Sb	11 05 59.3	+1.0
COR1					AML	AML		
	comp=N,315µm,1.0s							
COR1					AML	AML		
	comp=E,191µm,0.9s							
CPGN	**Carpegna, Ital**	**0.46**	**340**		P	Pb	11 05 52.0	-0.3
CING	**Cingoli**	**0.48**	**90**		P	Pb	11 05 52.2	-0.4
CING					S	Sb	11 05 59.7	-0.2
CING					AML	AML		
	comp=E,100µm,0.2s							
CING					AML	AML		
	comp=N,206µm,0.3s							
CING					AML	AML		
	comp=E,100µm,0.2s							
CING					AML	AML		
	comp=N,206µm,0.3s							
CRE	**Caprese Michel**	**0.49**	**300**		P	Pg	11 05 51.8	+0.3
CRE					S	Sb	11 05 59.9	-0.5
CRE					AML	AML		
	comp=E,70µm,1.3s							
CRE					AML	AML		
	comp=N,118µm,0.3s							
FDMO	**Fiordimonte**	**0.53**	**130**		P	Pg	11 05 52.5	+0.5
FDMO					S	Sb	11 06 00.6	-0.5
FDMO					AML	AML		
	comp=E,111µm,0.2s							
FDMO					AML	AML		
	comp=E,111µm,0.2s							
FDMO					AML	AML		
	comp=N,145µm,0.2s							
MGAB	**Montegabbione**	**0.56**	**214**		P	Pg	11 05 53.1	+0.5
MGAB					S	Sb	11 06 01.7	-0.4
MGAB					AML	AML		
	comp=E,249µm,0.5s							
MGAB					AML	AML		
	comp=N,191µm,0.8s							
CSP1	**Cessapalombo**	**0.56**	**120**		P	Pg	11 05 53.4	+0.6
CSP1					S	Sb	11 06 02.4	0.0
MOMA	**Monte Martano**	**0.57**	**178**		S	Sb	11 06 03.0	+0.4
ASQU	**Asqua**	**0.69**	**308**		P	Pg	11 05 55.6	+0.5
ASQU					S	Sb	11 06 06.6	+0.6
ASQU					AML	AML		
	comp=E,36µm,0.5s							
ASQU					AML	AML		
	comp=N,49µm,0.5s							
ASQU					AML	AML		
	comp=E,36µm,0.5s							
CESX	**Cesi**	**0.76**	**178**		P	Pg	11 05 54.6	-2.0

ROM 18 11:06:40.8±0.1, 43°370N±0'.007×12°524E±0'.010, h10km, ML1.5/5, Error ellipse: s-maj=1.0km s-min=0.7km az=227.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.04**	**96**	P	Pg	11 06 41.1	-1.7
ATVO	**AVT- Monte Val**	**0.09**	**278**	P	Pg	11 06 43.5	+0.3
ATVO				S	Sg	11 06 45.3	+0.2
ATVO				AML	AML		
	comp=E,141µm,0.2s						
ATVO				AML	AML		
	comp=N,107µm,0.5s						
ATVO				AML	AML		
	comp=E,469µm,0.3s						
ATVO				AML	AML		
	comp=N,294µm,0.4s						
MURB	**Monte Urbino**	**0.11**	**180**	P	Pg	11 06 44.2	+0.7
MURB				AML	AML		
	comp=E,155µm,0.8s						
MURB				AML	AML		
	comp=N,188µm,0.2s						
MURB				AML	AML		
	comp=N,649µm,0.3s						
MURB				AML	AML		
	comp=E,678µm,0.3s						
ATPI	**Pietralunga -**	**0.12**	**312**	P	Pg	11 06 44.0	+0.3
ATPI				AML	AML		
	comp=E,75µm,0.4s						
ATPI				AML	AML		
	comp=N,73µm,0.8s						
ATPI				AML	AML		
	comp=E,202µm,0.5s						
ATPI				AML	AML		
	comp=N,214µm,0.4s						
PIEI	**Pieia**	**0.17**	**3**	P	Pg	11 06 44.9	+0.4
PIEI				AML	AML		
	comp=E,68µm,1.5s						
PIEI				AML	AML		
	comp=N,79µm,0.3s						
PIEI				AML	AML		
	comp=E,442µm,0.3s						
PIEI				AML	AML		
	comp=N,332µm,0.3s						
FOSV	**Fossato di Vic**	**0.19**	**113**	P	Pg	11 06 45.3	+0.5
FOSV				AML	AML		
	comp=E,55µm,1.1s						
FOSV				AML	AML		
	comp=N,75µm,0.4s						
PARC	**Parchiule**	**0.35**	**323**	P	Pb	11 06 48.5	-0.6
PARC				S	Sb	11 06 54.0	-0.6
MTL1	**Matelica**	**0.37**	**108**	S	Sb	11 06 55.0	-0.4

ROM 18 11:07:07.8±0.1, 43°384N±0'.004×12°528E±0'.005, h8km, ML1.5/11, Error ellipse: s-maj=0.4km s-min=0.2km az=179.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.04**	**119**	*i* P	Pg	11 07 09.6	0.0
ATFO				S	Sg	11 07 10.5	-0.3
ATVO	**AVT- Monte Val**	**0.09**	**269**	*i* P	Pg	11 07 10.5	+0.3
ATVO				S	Sg	11 07 12.1	+0.4
ATVO				AML	AML		
	comp=E,469µm,0.3s						
ATVO				AML	AML		
	comp=N,268µm,0.5s						
ATVO				AML	AML		
	comp=N,294µm,0.4s						
ATPI	**Pietralunga -**	**0.11**	**306**	P	Pg	11 07 11.0	+0.5
ATPI				S	Sg	11 07 13.1	+0.8
ATPI				AML	AML		
	comp=E,176µm,0.1s						
ATPI				AML	AML		
	comp=N,215µm,0.4s						
ATPI				AML	AML		
	comp=E,202µm,0.5s						
ATPI				AML	AML		
	comp=N,214µm,0.4s						
MURB	**Monte Urbino**	**0.12**	**181**	P	Pg	11 07 11.2	+0.6
MURB				AML	AML		
	comp=E,387µm,0.2s						
MURB				AML	AML		
	comp=N,369µm,0.2s						
MURB				AML	AML		
	comp=E,678µm,0.3s						
MURB				AML	AML		
	comp=E,679µm,0.3s						
MURB				AML	AML		
	comp=N,649µm,0.3s						
PIEI	**Pieia**	**0.15**	**2**	P	Pg	11 07 11.8	+0.7
PIEI				S	Sg	11 07 14.5	+1.1
PIEI				AML	AML		
	comp=E,288µm,0.2s						
PIEI				AML	AML		
	comp=N,157µm,0.3s						
PIEI				AML	AML		
	comp=E,442µm,0.3s						
PIEI				AML	AML		
	comp=N,332µm,0.3s						
PIEI				AML	AML		
	comp=N,332µm,0.3s						
SSFR	**Montelago di S**	**0.19**	**74**	*i* P	Pg	11 07 12.4	+0.6
SSFR				S	Sg	11 07 15.7	+1.2
SSFR				AML	AML		
	comp=E,752µm,0.2s						
SSFR				AML	AML		
	comp=N,656µm,0.2s						
SSFR				AML	AML		
	comp=E,752µm,0.2s						
FRON	**Frontone**	**0.20**	**47**	*e*P	Pg	11 07 12.5	+0.6
FRON				S	Sg	11 07 16.0	+1.3
FRON				AML	AML		
	comp=N,170µm,1.4s						
FRON				AML	AML		
	comp=E,110µm,1.1s						
FRON				AML	AML		
	comp=E,110µm,1.1s						
ATCC	**AVT- Casa Cast**	**0.21**	**158**	P	Pg	11 07 13.1	+0.9
ATCC				S	Sg	11 07 17.1	+1.9
ATCC				AML	AML		
	comp=E,97µm,0.6s						
ATCC				AML	AML		
	comp=N,94µm,0.9s						
ATCC				AML	AML		
	comp=N,298µm,0.1s						
ATCC				AML	AML		
	comp=E,350µm,0.5s						
ATTE	**AVT- Monte Tez**	**0.23**	**214**	P	Pg	11 07 12.9	+0.5
MPAG	**Monte Paganucc**	**0.30**	**34**	P	Pg	11 07 14.5	+0.7
PARC	**Parchiule**	**0.34**	**322**	P	Pb	11 07 15.6	-0.5
PARC				AML	AML		
	comp=N,41µm,0.3s						
PARC				AML	AML		
	comp=E,43µm,0.3s						
ASSB	**Assisi San Ben**	**0.35**	**164**	P	Pg	11 07 15.6	+0.7
ASSB				S	Sb	11 07 21.4	-0.8
ASSB				AML	AML		
	comp=E,94µm,0.2s						
ASSB				AML	AML		
	comp=N,148µm,0.1s						
FSSB	**Fossombrone**	**0.36**	**30**	P	Pb	11 07 15.8	-0.7
FSSB				S	Sb	11 07 21.5	-0.8
FSSB				AML	AML		
	comp=E,52µm,0.1s						
FSSB				AML	AML		
	comp=N,66µm,0.4s						
FSSB				AML	AML		
	comp=E,78µm,0.3s						
FSSB				AML	AML		
	comp=N,117µm,0.2s						
CAFI	**Castiglion Fio**	**0.41**	**263**	*i* P	Pg	11 07 16.6	+0.7
CAFI				S	Sb	11 07 22.9	-1.0
CAFI				AML	AML		
	comp=E,16µm,0.9s						
CAFI				AML	AML		
	comp=N,18µm,1.3s						
EL6	**Elcito**	**0.42**	**97**	P	Pg	11 07 15.1	-1.1
EL6				S	Sb	11 07 23.7	-0.4
IMOL	**Imola, Italy**	**1.13**	**330**	P	Pn	11 07 30.9	+1.0
IMOL				AML	AML		
	comp=E,3340µm,0.1s						
IMOL				AML	AML		
	comp=N,3755µm,0.1s						

ROM 18 11:07:33.4±0.1, 43°383N±0'.004×12°537E±0'.005, h8km, ML1.5/10, Error ellipse: s-maj=0.4km s-min=0.1km az=226.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.03**	**124**	*i* P	Pg	11 07 34.9	0.0
ATFO				S	Sg	11 07 35.8	-0.3
ATFO				AML	AML		
	comp=E,3030µm,0.2s						
ATFO				AML	AML		
	comp=N,2475µm,0.4s						
ATVO	**AVT- Monte Val**	**0.10**	**269**	*i* P	Pg	11 07 36.0	+0.3
ATVO				S	Sg	11 07 37.8	+0.5
ATVO				AML	AML		
	comp=N,294µm,0.4s						
ATVO				AML	AML		
	comp=E,282µm,0.3s						
ATPI	**Pietralunga -**	**0.12**	**304**	P	Pg	11 07 36.6	+0.5
ATPI				S	Sg	11 07 38.9	+0.9
ATPI				AML	AML		
	comp=E,202µm,0.5s						
ATPI				AML	AML		
	comp=N,214µm,0.4s						
ATPI				AML	AML		
	comp=N,214µm,0.4s						
MURB	**Monte Urbino**	**0.12**	**184**	*i* P	Pg	11 07 36.7	+0.6
MURB				S	Sg	11 07 38.7	+0.8
PIEI	**Pieia**	**0.15**	**359**	P	Pg	11 07 37.3	+0.7
PIEI				AML	AML		
	comp=E,442µm,0.3s						
PIEI				AML	AML		
	comp=N,332µm,0.3s						
PIEI				AML	AML		
	comp=N,332µm,0.3s						
SSFR	**Montelago di S**	**0.19**	**73**	P	Pg	11 07 37.8	+0.6
SSFR				S	Sg	11 07 41.2	+1.4
SSFR				AML	AML		
	comp=E,752µm,0.2s						
SSFR				AML	AML		
	comp=N,656µm,0.2s						
SSFR				AML	AML		
	comp=E,752µm,0.2s						
FRON	**Frontone**	**0.19**	**46**	*i* P	Pg	11 07 38.0	+0.6
FRON				S	Sg	11 07 41.4	+1.4
FRON				AML	AML		
	comp=E,110µm,1.1s						
FRON				AML	AML		
	comp=E,110µm,1.1s						
FRON				AML	AML		
	comp=N,170µm,1.4s						
ATCC	**AVT- Casa Cast**	**0.21**	**159**	P	Pg	11 07 38.5	+0.9
ATCC				S	Sg	11 07 42.7	+2.1
ATCC				AML	AML		
	comp=N,298µm,0.1s						
ATCC				AML	AML		
	comp=E,350µm,0.5s						
ATTE	**AVT- Monte Tez**	**0.23**	**216**	P	Pg	11 07 38.6	+0.6
ATTE				AML	AML		
	comp=N,46µm,1.4s						
ATTE				AML	AML		
	comp=E,65µm,0.5s						
MPAG	**Monte Paganucc**	**0.29**	**33**	P	Pg	11 07 40.1	+0.8
SNTG	**Esanatoglia**	**0.32**	**113**	P	Pg	11 07 40.3	+0.6
SNTG				S	Sb	11 07 45.8	-1.1
SNTG				AML	AML		
	comp=N,87µm,0.2s						
SNTG				AML	AML		
	comp=E,85µm,0.3s						
PARC	**Parchiule**	**0.34**	**321**	P	Pb	11 07 41.1	-0.7
PARC				S	Sb	11 07 47.0	-0.5
ASSB	**Assisi San Ben**	**0.35**	**165**	P	Pg	11 07 40.9	+0.5
ASSB				S	Sb	11 07 46.7	-1.0
ASSB				AML	AML		
	comp=N,148µm,0.1s						
ASSB				AML	AML		
	comp=E,94µm,0.2s						
FSSB	**Fossombrone**	**0.35**	**29**	P	Pg	11 07 41.0	+0.6
FSSB				S	Sb	11 07 47.0	-0.8
EL6	**Elcito**	**0.41**	**97**	P	Pg	11 07 42.3	+0.8
CRM1	**Catelraimondo**	**0.42**	**114**	P	Pg	11 07 41.8	+0.3
CAFI	**Castiglion Fio**	**0.42**	**263**	P	Pg	11 07 42.3	+0.7
CRE	**Caprese Michel**	**0.49**	**299**	S	Sb	11 07 54.0	+2.3
FDMO	**Fiordimonte**	**0.53**	**131**	P	Pg	11 07 44.1	+0.4
FDMO				S	Sb	11 07 52.9	0.0
MGAB	**Montegabbione**	**0.56**	**214**	P	Pg	11 07 44.8	+0.5
MGAB				S	Sb	11 07 53.7	-0.1
CSP1	**Cessapalombo**	**0.57**	**121**	P	Pg	11 07 44.9	+0.5
CSP1				S	Sb	11 07 54.4	+0.4
CSP1				AML	AML		
	comp=E,85µm,1.6s						
CSP1				AML	AML		
	comp=N,263µm,1.6s						
MCIV	**Monte Civitell**	**0.87**	**227**	S	Sn	11 08 05.0	-0.1
CSNT	**Castellina Chi**	**0.91**	**276**	P	Pn	11 07 53.1	+0.5
AQU	**L'Aquila**	**1.21**	**148**	S	Sg	11 08 12.0	-0.3
MAIM	**Mastiano**	**1.58**	**290**	S	Sg	11 08 26.0	+1.9
TEOL	**Teolo**	**2.07**	**343**	S	Sb	11 08 38.0	+0.8

*IDC **18** 11:08:03.4±1.0, 25°.59N×127°.34E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/35, mbtmp3.8/8, ML4.2/1, Error ellipse: s-maj=26.1km s-min=17.7km az=96.0*
*JMA **18** 11:08:06.5±0.5, 25°.51N×127°.57E, h40km, M3.6*
ISC 18 11:08:03.1±2.0, 25°.47N±0'.06×127°.70E±0'.05, h6km±12km, n20, σ1°81/29, mb3.6/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JJT3	**Tamagusuku3**	**0.68**	**6**	P	**Pn**	**11 08 19.5**	**+0.2**
JJT3				S	**Sn**	**11 08 29.3**	**-0.9**
JNTH	**Nagotoyohara**	**1.09**	**15**	P	**Pn**	**11 08 25.1**	**+0.2**
JNTH				*e*S	**Sb**	**11 08 39.0**	**+0.2**
JKE	**Kume jima 2**	**1.19**	**316**	P	**Pb**	**11 08 25.9**	**-0.1**
JKE				S	**Sb**	**11 08 40.2**	**-1.5**
JAGN	**Aguni-jima**	**1.19**	**340**	P	**Pn**	**11 08 26.4**	**+0.1**
JAGN				S	**Sn**	**11 08 42.0**	**-0.9**
JOW	**Kunigami**	**1.45**	**21**	P	**Pn**	**11 08 30.4**	**+0.4**
JOW				S	**Sg**	**11 08 48.5**	**-1.4**
JOW	**Kunigami**	**1.45**	**21**	Pn	**Pb**	**11 08 30.6**	**-0.1**
	7.9nm,0.3s,baz=136,slow=13,SNR=32						
JOW				Sn	**Sn**	**11 08 53.9**	**+4.5**
	18nm,0.3s,baz=234,slow=27,SNR=9.8						
JIH	**Iheya**	**1.58**	**9**	P	**Pb**	**11 08 32.6**	**-0.1**
JIH				S	**Sn**	**11 08 51.2**	**-1.3**
JYRO	**Yoronjima**	**1.69**	**23**	P	**Pg**	**11 08 36.0**	**+0.5**
JOKE	**Okinoerabujima**	**2.04**	**22**	P	**Pb**	**11 08 41.0**	**+0.4**
JMJ2	**Miyako jima3**	**2.27**	**252**	P	**Pn**	**11 08 42.2**	**+1.0**
JMJZ	**Minamidaito 2**	**3.20**	**83**	P	**Pn**	**11 08 54.3**	**+0.4**
JMJZ				*e*S	**Sn**	**11 09 28.7**	**-3.7**
JKDJ	**Kitadaitoujima**	**3.28**	**81**	P	**Pn**	**11 08 55.5**	**+0.4**
JKDJ				S	**Sn**	**11 09 30.9**	**-3.6**
JNU	**Nakatsue**	**8.12**	**19**	Pn	**Pn**	**11 10 03.8**	**+2.3**
	2.6nm,0.3s,baz=216,slow=11,SNR=28						
SONM	**Songino Array**	**27.94**	**329**	P	**P**	**11 13 52.5**	**-1.8**
	0.7nm,0.6s,baz=149,slow=10,SNR=5.9						
MKAR	**Makanchi Array**	**41.69**	**313**	P	**P**	**11 15 51.3**	**-1.4**
	0.7nm,0.6s,baz=96,slow=9.4,SNR=12						
ZALV	**Zalesovo Beam**	**42.57**	**324**	P	**P**	**11 15 58.4**	**-1.3**
	0.5nm,0.4s,baz=99,slow=8.9,SNR=2.9						
WRA	**Warramunga Arr**	**45.60**	**171**	P	**P**	**11 16 26.8**	**+2.5**
	0.5nm,0.7s,baz=352,slow=8.5,SNR=5.8						
ASAR	**Alice Springs**	**49.21**	**172**	P	**P**	**11 16 54.7**	**+2.3**
	0.2nm,0.6s,baz=360,slow=13,SNR=4.8						
FINES	**FINESS Array B**	**73.29**	**331**	P	**P**	**11 19 34.8**	**-0.4**
	0.9nm,0.5s,baz=52,slow=7.5,SNR=4.4						
YKA	**Yellowknife Ar**	**79.42**	**25**	P	**P**	**11 20 11.2**	**+1.3**
	0.4nm,0.6s,baz=300,slow=5.4,SNR=8.5						

*IDC **18** 11:25:40.9±2.1, 6°.08N×73°.71W, h134km±25km, mb1 2.9/1, mb1mx2.7/30, mbtmp3.5/1, Error ellipse: s-maj=164.2km s-min=9.8km az=131.0*
*RSNC **18** 11:25:42.3±1.2, 5°.88N×73°.61W, h125km±5km, ML2.9, Mw3.1*
ISC 18 11:25:40.5±1.1, 5°.90N±0'.03×73°.61W±0'.03, h139km±7km, n32, σ1°29/61, 3C-4D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUSC	**La Rusia**	**0.52**	**90** ⇓	*i*P	**Pn**	**11 26 01.6**	**+0.3**
RUSC				*e*S	**Sn**	**11 26 15.6**	**-1.4**
RUSC				*i*		11 26 17.1	
	comp=Z,62nm,0.4s						
SPBC	**San Pablo de B**	**0.52**	**243** ⇓	*i*P	**Pn**	**11 26 00.8**	**-0.1**
SPBC				*e*S	**Sn**	**11 26 14.8**	**-1.5**
SPBC				*i*		11 26 15.8	
	comp=Z,162nm,0.2s						
BARC	**Barichara**	**0.81**	**31** ⇑	*i*P	**Pn**	**11 26 03.5**	**+0.6**
BARC				*e*S	**Sn**	**11 26 19.5**	**-0.6**
BARC				*i*		11 26 20.6	
	comp=Z,443nm,0.4s						
BARC				*i*		11 26 21.0	
	comp=Z,503nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.06**	**307**	*e*P	**Pn**	**11 26 04.2**	**-0.6**
PTBC				*e*S	**Sn**	**11 26 21.7**	**-1.7**
PTBC				*i*		11 26 25.8	
	comp=Z,107nm,0.1s						
BRRC	**Barranca, Sant**	**1.21**	**355** ⇓	*i*P	**Pn**	**11 26 06.8**	**+0.6**
BRRC				*e*S	**Sn**	**11 26 25.5**	**-0.4**
BRRC				*i*		11 26 27.4	
	comp=Z,102nm,0.1s						
CHIC	**Chingaza**	**1.26**	**186** ⇑	*i*P	**Pn**	**11 26 07.4**	**+0.1**
CHIC				*e*S	**Sn**	**11 26 26.9**	**-0.7**
CHIC				*i*		11 26 29.3	
	comp=Z,84nm,0.3s						
ROSC	**El Rosal**	**1.27**	**214** ⇑	*i*P	**Pn**	**11 26 08.4**	**+1.2**
ROSC				*e*S	**Sn**	**11 26 28.5**	**+0.9**
ROSC				*i*		11 26 31.9	
	comp=Z,74nm,0.3s						
ROSC	**El Rosal**	**1.27**	**214**	P	**Pn**	**11 26 08.4**	**+1.2**
	comp=Z,15nm,0.3s,baz=0.0,slow=16,SNR=16						
ROSC				S	**Sn**	**11 26 29.1**	**+1.6**
	comp=Z,34nm,0.3s,baz=87,slow=18,SNR=10						
NORC	**Norcasia**	**1.30**	**255**	*e*P	**Pn**	**11 26 07.1**	**-0.1**
NORC				*e*S	**Sn**	**11 26 27.0**	**-0.5**
NORC				*i*		11 26 30.8	
	comp=Z,141nm,0.2s						
CVER	**Cruz Verde, Cu**	**1.44**	**199**	*e*P	**Pn**	**11 26 11.1**	**+1.9**
CVER				*i*		11 26 35.7	
	comp=Z,348nm,0.2s						
CVER				*i*		11 26 36.3	
	comp=Z,450nm,1.0s						
PAMC	**Pamplona, Colo**	**1.69**	**32**	*e*P	**Pn**	**11 26 12.8**	**+0.9**
PAMC				*e*S	**Sn**	**11 26 35.6**	**-0.3**
PAMC				*i*		11 26 39.3	
	comp=Z,30nm,0.3s						
PAMC				*i*		11 26 45.6	
	comp=Z,36nm,0.3s						
VILC	**Villavicencio,**	**1.77**	**183**	*e*P	**Pn**	**11 26 12.5**	**0.0**
VILC				*e*S	**Sn**	**11 26 36.2**	**-0.8**
VILC				*i*		11 26 40.4	
	comp=Z,41nm,0.2s						
VILC				*i*		11 26 41.5	
	comp=Z,44nm,0.4s						
GUY2C	**Guyana, Caldas**	**1.87**	**249**	*e*P	**Pn**	**11 26 14.6**	**+0.7**
GUY2C				*e*S	**Sn**	**11 26 40.5**	**+1.0**
GUY2C				*i*		11 26 46.9	
	comp=Z,44nm,0.3s						
TAMC	**Tame, Arauca**	**1.88**	**73** ⇓	*i*P	**Pn**	**11 26 14.8**	**+1.2**
TAMC				*i*		11 26 38.5	
	comp=Z,38nm,0.2s						
TAMC				*e*S	**Sn**	**11 26 38.8**	**-0.2**
HELC	**Santa Helena**	**1.94**	**279**	*e*P	**Pn**	**11 26 15.6**	**+1.0**
HELC				*e*S	**Sn**	**11 26 39.7**	**-0.9**
HELC				*i*		11 26 45.1	
	comp=Z,61nm,0.4s						
RREF	**El Recreo**	**2.00**	**240**	*e*P	**Pn**	**11 26 16.2**	**+0.7**
RREF				*e*S	**Sn**	**11 26 41.9**	**-0.4**
RREF				*i*		11 26 48.3	
	comp=Z,45nm,0.6s						
ZARC	**Zaragoza, Cauc**	**2.02**	**322**	*e*P	**Pn**	**11 26 15.3**	**+0.1**
ZARC				*e*S	**Sn**	**11 26 41.7**	**-0.1**
ZARC				*i*		11 26 46.4	
	comp=Z,85nm,0.3s						
TOLC	**Tolima**	**2.15**	**233**	*e*P	**Pn**	**11 26 17.6**	**+0.6**
TOLC				*e*S	**Sn**	**11 26 45.6**	**+0.5**

TOLC				*i*			11 26 53.4		
	comp=Z,15nm,0.1s								
PTGC	**Puerto Gaitan,**	**2.23**	**139**	*eP*		**Pn**	**11 26 17.8**	**0.0**	
PTGC				*eS*		**Sn**	**11 26 45.2**	**-1.3**	
PTGC				*i*			11 27 04.5		
	comp=Z,35nm,0.3s								
OCAC	**Ocana**	**2.35**	**7**	*eP*		**Pn**	**11 26 20.8**	**+1.4**	
OCAC				*eS*		**Sn**	**11 26 49.3**	**+0.1**	
OCAC				*i*			11 26 57.5		
	comp=Z,67nm,0.3s								
CBOC	**Ciudad Bolivar**	**2.39**	**269**	*eP*		**Pn**	**11 26 21.1**	**+1.1**	
CBOC				*eS*		**Sn**	**11 26 49.7**	**-0.5**	
CBOC				*i*			11 26 55.0		
	comp=Z,15nm,0.6s								
ORTC	**Ortega, Tolima**	**2.56**	**220**	*eP*		**Pn**	**11 26 21.9**	**0.0**	
ORTC				*eS*		**Sn**	**11 26 53.7**	**-0.2**	
ORTC				*i*			11 26 58.2		
	comp=Z,22nm,0.7s								
UREC	**San Jos de Ur**	**2.66**	**314**	*eP*		**Pn**	**11 26 22.4**	**-0.7**	
UREC				*eS*		**Sn**	**11 26 53.2**	**-2.7**	
UREC				*i*			11 27 06.6		
	comp=Z,48nm,0.2s								
DBBC	**Dabeiba**	**2.82**	**293**	*eP*		**Pn**	**11 26 25.8**	**+0.6**	
DBBC				*eS*		**Sn**	**11 26 56.7**	**-3.0**	
DBBC				*i*			11 27 03.1		
	comp=Z,44nm,0.4s								
DBBC				*i*			11 27 03.5		
	comp=Z,42nm,0.5s								
PLMC	**San Jos del P**	**2.84**	**250**	*eP*		**Pn**	**11 26 25.7**	**+0.2**	
PLMC				*eS*		**Sn**	**11 27 03.8**	**+3.6**	
PLMC				*i*			11 27 14.3		
	comp=Z,374nm,0.1s								
SMLC	**San Martn de**	**2.92**	**351**	*eP*		**Pn**	**11 26 26.8**	**+0.3**	
SMLC				*eS*		**Sn**	**11 27 02.8**	**+0.8**	
SMLC				*i*			11 27 10.2		
	comp=Z,75nm,0.1s								
MACC	**Macarena, Meta**	**3.73**	**184**	*eP*		**Pn**	**11 26 36.0**	**-1.1**	
MACC				*eS*		**Sn**	**11 27 16.8**	**-4.0**	
MACC				*i*			11 27 25.8		
	comp=Z,8.1nm,0.3s								
CODC	**Agustn Codazz**	**4.02**	**2**	*eP*		**Pn**	**11 26 41.8**	**+1.1**	
CODC				*eS*		**Sn**	**11 27 28.4**	**+0.9**	
CODC				*i*			11 27 44.0		
	comp=Z,11nm,0.4s								
SDV	**Santo Domingo**	**4.19**	**45**	P		**Pn**	**11 26 44.2**	**+1.1**	
	comp=Z,1.3nm,0.3s,baz=212,slow=11,SNR=8.7								
SDV				S		**Sn**	**11 27 30.5**	**-1.2**	
	comp=Z,2.4nm,0.3s,baz=55,slow=21,SNR=11								
SJCC	**San Jacinto, C**	**4.27**	**339**	*eP*		**Pn**	**11 26 43.1**	**-1.1**	
SJCC				*eS*		**Sn**	**11 27 30.8**	**-2.8**	
SJCC				*i*			11 27 35.9		
	comp=Z,20nm,1.6s								
ASAR	**Alice Springs**	**148.18**	**233**	PKPbc		**PKPbc**	**11 45 11.5**	**+0.5**	
	comp=Z,0.2nm,0.9s,baz=93,slow=4.6,SNR=3.3								
WRA	**Warramunga Arr**	**149.47**	**240**	PKPbc		**PKPbc**	**11 45 14.7**	**+0.4**	
	comp=Z,0.2nm,0.4s,baz=107,slow=3.1,SNR=6.6								

*ISCJB **18** 11:32:57.3±1.6, 13°.2N×0°.2×87°.7W±0°.1, h171km±11km, Error ellipse: s-maj=38.6km s-min=14.2km az=19.2*
*SNET **18** 11:32:57.2±1.1, 13°.23N×87°.78W, h174km±6km, ML3.2*
*UCR **18** 11:32:57.3±1.1, 13°.26N×87°.76W, h173km±6km, ML3.0*
ISC 18 11:32:57.7±3.1, 13°.2N±0°.2×87°.7W±0°.1, h171km±18km, n18, σ0§39/23, 1C, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.12**	**310**	*eP*		**Pn**		**11 33 20.4**	**-0.2**
CNCH	**Conchagua**	**0.12**	**310**	*eP*		**Pn**		**11 33 20.4**	**-0.2**
LCND	**La Caada**	**0.19**	**307**	*eS*		**Sn**		**11 33 38.9**	**+0.8**
LCND	**La Caada**	**0.19**	**307**	*eS*		**Sn**		**11 33 38.9**	**+0.8**
JUCU	**Jucuar¡n**	**0.50**	**277**	⇑*iP*		**Pn**		**11 33 20.9**	**-0.7**
JUCU				*eS*		**Sn**		**11 33 39.8**	**-0.1**
FAGO	**Alcalda de S**	**0.61**	**324**	*eP*		**Pn**		**11 33 21.9**	**-0.3**
FAGO				*eS*		**Sn**		**11 33 40.8**	**-0.1**
TECA	**Tecapa**	**0.80**	**292**	*eP*		**Pn**		**11 33 23.3**	**-0.1**
TECA	**Tecapa**	**0.80**	**292**	*eP*		**Pn**		**11 33 23.3**	**-0.1**
ALJI	**Alcalda de J**	**0.82**	**279**	*eS*		**Sn**		**11 33 43.6**	**+0.7**
COEB	**Comit de Eme**	**0.83**	**291**	*eP*		**Pn**		**11 33 23.3**	**-0.2**
COEB				IAML				11 33 24.5	
	comp=Z,244nm,0.3s								
VICT	**Victoria**	**1.16**	**311**	*eP*		**Pn**		**11 33 26.0**	**0.0**
VICT				*eS*		**Sn**		**11 33 47.8**	**-0.1**
VICT	**Victoria**	**1.16**	**311**	*eP*		**Pn**		**11 33 26.0**	**0.0**
VICT				*eS*		**Sn**		**11 33 47.8**	**-0.1**
COEG	**Centro de Oper**	**1.19**	**291**	*eP*		**Pn**		**11 33 26.1**	**-0.1**
COEG				IAML				11 33 26.5	
	comp=Z,235nm,0.3s								
COEG				*eS*		**Sn**		**11 33 48.4**	**+0.3**
PAVA	**Las Pavas**	**1.28**	**294**	*eS*		**Sn**		**11 33 49.2**	**-0.4**
PAVA				*eS*				11 33 50.4	
PAVA	**Las Pavas**	**1.28**	**294**	*eS*		**Sn**		**11 33 49.2**	**-0.4**
PAVA				*eS*				11 33 50.4	
ESTN	**Estel**	**1.33**	**94**	*eP*		**Pn**		**11 33 27.4**	**-0.1**
ESTN				IAML				11 33 51.5	
	comp=N,56nm,0.7s								
RTR	**El Retiro**	**1.98**	**291**	*eP*		**Pn**		**11 33 34.4**	**+0.2**
RTR	**El Retiro**	**1.98**	**291**	*eP*		**Pn**		**11 33 34.4**	**+0.2**

*NNC **18** 11:42:13.2±1.6, 39°.61N×74°.82E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=11.0km s-min=7.5km az=159.0*
*SOME **18** 11:42:14.9, 39°.67N×74°.60E, h5km*
*KRNET **18** 11:42:15.9±0.1, 39°.58N×75°.46E, mb2.8*
ISC 18 11:42:14.2±2.2, 39°.65N±0°.08×75°.02E±0°.05, h2km±18km, n33, σ1§84/52, 16C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.94**	**22**	⇓*iP*			**Pb**	**11 42 51.2**	**+0.8**
	baz=12								
NRN				⇓*iS*			**Sb**	**11 43 17.0**	**+1.9**
	baz=12								
ARLS	**Aral**	**2.27**	**347**	⇑*iP*			**Pg**	**11 42 59.2**	**+1.4**
	baz=40								
ARLS				⇑*iS*			**Sg**	**11 43 31.1**	**+3.8**
	baz=40								
ARSB	**Arslanbob**	**2.29**	**318**	⇓*iP*			**Pg**	**11 43 00.1**	**+2.1**
	baz=14								
ARSB				⇓*iS*			**Sg**	**11 43 33.3**	**+5.7**
	baz=14								
KZA	**Kyzart**	**2.44**	**4**	⇑*iP*			**Pg**	**11 43 00.4**	**-0.5**
	baz=56								
KZA				⇑*iS*			**Sg**	**11 43 33.0**	**+0.5**
	baz=56								
UCH	**Uchtor**	**2.61**	**352**	⇑*iP*			**Pg**	**11 43 03.6**	**-0.6**
	baz=45								
UCH				⇑*iS*			**Sg**	**11 43 39.3**	**+1.3**
	baz=45								
AML	**Almayashu**	**2.68**	**338**	⇑*iP*			**Pg**	**11 43 05.1**	**-0.4**
	baz=33								
AML				⇑*iS*			**Sg**	**11 43 41.6**	**+1.4**
	baz=33								
BOOM	**Boomskoye usch**	**2.93**	**13**	⇑*iP*			**Pb**	**11 43 05.9**	**-1.3**
	baz=7.0								
BOOM				⇑*iS*			**Sb**	**11 43 42.8**	**-0.6**
	baz=7.0								
AAK	**Ala-Archa**	**3.02**	**353**	⇑Pg			**Pb**	**11 43 09.0**	**+0.3**
	3.5nm,0.8s								
AAK				⇑Lg		Lg		11 43 50.0	
	5.3nm,0.7s								
ARK	**Arkit**	**3.16**	**314**	⇓*iP*			**Pg**	**11 43 13.5**	**-1.3**
	baz=11								
ARK				⇓*iS*			**Sg**	**11 43 55.5**	**-0.3**
	baz=11								
BTK	**Batken**	**3.26**	**279**	⇓*iP*			**Pg**	**11 43 15.6**	**-1.0**
	baz=79								
BTK				⇓*iS*			**Sg**	**11 43 59.2**	**+0.3**
	baz=79								
TKM2	**Tokmak 2**	**3.30**	**7**	⇑*iP*			**Pb**	**11 43 12.1**	**-1.5**
	baz=2.0								
TKM2				⇑*iS*			**Sb**	**11 43 52.4**	**-1.9**
	baz=2.0								
TKM2	**Tokmak 2**	**3.30**	**7**	⇓Pg			**Pb**	**11 43 12.9**	**-0.7**
	2.5nm,0.4s								
TKM2				⇑Lg		Lg		11 44 00.4	
	5.1nm,0.5s								
MRKS	**Merke**	**3.38**	**337**	*eP*			**Pg**	**11 43 16.5**	**-2.4**
	3.2nm,0.4s								
MRKS				*eS*			**Sg**	**11 43 59.1**	**-3.6**
	4.1nm,0.5s								
MRKS	**Merke**	**3.38**	**337**	Pg			**Pb**	**11 43 14.3**	**-0.5**
	3.2nm,0.4s								
MRKS				Lg		Lg		11 43 59.1	
	4.1nm,0.5s								
KST	**Kastek**	**3.47**	**12**	*eP*			**Pg**	**11 43 18.9**	**-1.8**
	3.4nm,0.6s								
KST				*eS*			**Sg**	**11 44 02.9**	**-2.6**
	13nm,0.8s								
KST	**Kastek**	**3.47**	**12**	Pg			**Pb**	**11 43 16.6**	**+0.3**
	4.8nm,0.7s								
KST				Lg		Lg		11 44 03.1	
	15nm,0.8s								
IZV	**Izvestkoviy**	**3.59**	**19**	*eP*			**Pg**	**11 43 23.4**	**+0.3**
	2.6nm,0.4s								
IZV				*eS*			**Sg**	**11 44 10.6**	**+1.0**
	17nm,0.5s								
IZV	**Izvestkoviy**	**3.59**	**19**	Pg			**Pg**	**11 43 21.2**	**-1.9**
	3.2nm,0.4s								
IZV				Lg		Lg		11 44 11.0	
	17nm,0.5s								
DGS	**Degeres**	**3.64**	**9**	*eP*			**Pg**	**11 43 23.6**	**-0.3**
	4.4nm,0.6s								
DGS				*eS*			**Sg**	**11 44 11.3**	**+0.3**
	4.4nm,0.8s								
DGS	**Degeres**	**3.64**	**9**	Pg			**Pb**	**11 43 21.3**	**+2.1**
	4.4nm,0.6s								
DGS				Lg		Lg		11 44 11.3	
	4.4nm,0.8s								
TNSS	**Tian-Shan**	**3.69**	**23**	*eP*			**Pg**	**11 43 24.0**	**-0.8**
	2.5nm,0.4s								
TNSS				*eS*			**Sg**	**11 44 12.5**	**-0.1**
	8.5nm,0.6s								
TNSS	**Tian-Shan**	**3.69**	**23**	Pg			**Pb**	**11 43 22.7**	**+2.4**
	2.7nm,0.2s								
TNSS				Lg		Lg		11 44 13.5	
	8.5nm,0.6s								
SGDS	**Sogindy**	**3.81**	**356**	Pg			**Pg**	**11 43 25.0**	**-2.3**
	2.3nm,0.7s								
SGDS				Lg		Lg		11 44 17.6	
	1.9nm,0.6s								
MDOK	**Medeo**	**3.83**	**23**	*eP*			**Pg**	**11 43 26.6**	**-1.0**
	1.3nm,0.4s								
MDOK				*eS*			**Sg**	**11 44 16.6**	**-0.7**
	4.8nm,0.6s								
MDOK	**Medeo**	**3.83**	**23**	Pg			**Pb**	**11 43 25.3**	**+2.7**
	1.5nm,0.3s								
MDOK				Lg		Lg		11 44 18.0	
	4.3nm,0.8s								
KOTS	**Kotyrbulak**	**3.92**	**23**	*eP*			**Pg**	**11 43 28.0**	**-1.2**
	4.5nm,0.8s								
KOTS				*eS*			**Sg**	**11 44 18.3**	**-1.7**
	8.4nm,0.7s								
KOTS	**Kotyrbulak**	**3.92**	**23**	Pg			**Pb**	**11 43 25.8**	**+1.8**
	6.7nm,0.4s								
KOTS				Lg		Lg		11 44 19.2	
	8.4nm,0.7s								
KTBS	**Karatobe**	**4.25**	**17**	*eP*			**Pg**	**11 43 34.8**	**-0.8**
	1.6nm,0.8s								
KTBS				*eS*			**Sg**	**11 44 30.9**	**+0.2**
	8.7nm,0.7s								
KTBS	**Karatobe**	**4.25**	**17**	Pg			**Pb**	**11 43 32.7**	**+3.1**
	2.6nm,0.6s								
KTBS				Lg		Lg		11 44 30.9	
	8.7nm,0.7s								
KUU	**Kurty**	**4.36**	**13**	*eP*			**Pg**	**11 43 36.2**	**-1.5**
	1.7nm,0.1s								
KUU				*eS*			**Sg**	**11 44 33.1**	**-1.0**
	4.3nm,0.7s								
KUU	**Kurty**	**4.36**	**13**	Pg			**Pb**	**11 43 34.4**	**+2.9**
	3.5nm,0.6s								
KUU				Lg		Lg		11 44 33.5	
	11nm,0.5s								
IUG	**Iuzhnay**	**4.53**	**305**	Pg			**Pb**	**11 43 33.9**	**-0.6**
	0.6nm,0.3s								
IUG				Lg		Lg		11 44 32.8	
	13nm,1.4s								
KK31	**Karatay Array**	**4.84**	**317**	Pg			**Pb**	**11 43 38.8**	**-0.9**
	1.6nm,1.0s,baz=146,slow=77,SNR=3.5								
KK31				⇑Lg		Lg		11 44 45.4	
	1.1nm,0.6s								

*SJA **18** 11:43:50.6±0.7, 29°.63S×72°.11W, h40km, ML3.0, MW3.4*
*GUC **18** 11:43:52.2±0.5, 29°.85S×71°.64W, h29km±3km, ML3.2*
ISC 18 11:43:44.7±2.1, 29°.67S±0°.05×72°.01W±0°.10, h15km±14km, n12, σ0§83/17, 4C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.71**	**110**	⇑*iP*			**Pn**	**11 44 00.4**	**+0.1**
LSCH				*eS*			**Sg**	**11 44 06.6**	**-1.3**
GO04	**Tololo Observa**	**1.17**	**116**	⇑*iP*			**Pg**	**11 44 08.3**	**+1.0**
GO04				*eS*			**Sb**	**11 44 20.6**	**-1.2**
GO04				IAML				11 44 24.2	
	comp=N,1μm,0.5s								
GO04	**Tololo Observa**	**1.17**	**116**	*eP*			**Pg**	**11 44 08.3**	**+1.0**
GO04				*i S*			**Sb**	**11 44 20.9**	**-0.9**
CO02	**Combarbal**	**1.76**	**151**	⇑*iP*			**Pg**	**11 44 18.9**	**+0.2**
CO02				*eS*			**Sb**	**11 44 38.4**	**-0.5**
CO02				IAML				11 44 41.8	
	comp=N,955nm,0.3s								
GO03	**Copiap**	**2.59**	**38**	⇑*iP*			**Pg**	**11 44 34.5**	**+0.1**
GO03				*eS*			**Sg**	**11 45 07.3**	**-0.7**
GO03				IAML				11 45 12.2	
	comp=E,98nm,0.6s								
AGUA	**GUANDACOL**	**3.07**	**88**	*i* P			**Pb**	**11 44 39.8**	**+0.6**
RTLS	**Leoncito**	**3.16**	**133**	*i* P			**Pb**	**11 44 40.3**	**-0.4**
RTLS				*eS*			**Sb**	**11 45 20.4**	**+1.2**
RTLS				IAML				11 45 34.9	
	comp=Z,33nm,0.8s								
AMOG	**MOGNA**	**3.30**	**113**	*eP*			**Pb**	**11 44 43.3**	**+0.3**
ROC1	**El Roble**	**3.41**	**166**	*i* P			**Pb**	**11 44 44.9**	**-0.1**
VCA	**Vinchina**	**3.46**	**75**	*i* P			**Pb**	**11 44 46.1**	**+0.4**
VCA				IAML				11 45 51.9	
	comp=Z,36nm,0.4s								
ASAL	**Salagasta**	**3.99**	**138**	*eP*			**Pb**	**11 44 55.0**	**+0.3**
ASAL				IAML				11 46 00.3	
	comp=Z,18nm,0.5s								
APLL	**PUNTA DE LOS L**	**4.81**	**100**	*eP*			Pb	11 45 03.3	-5.5

WEL 18 11:44:39.5, 43°S±1°×17°3E±°, h10km±1km, M3.5/20, ML3.7/13, MLv3.5/20, Error ellipse: s-maj=0.0km s-min=0.0km az=43.1, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRLZ	**Canterbury Las**	**0.13**	**223**	P			Pg	11 44 44.8	+2.3
CRLZ				S			Sg	11 44 47.8	+3.2
MQZ	**McQueen's Vall**	**0.24**	**197**	P			Pg	11 44 46.3	+2.1
MQZ				S			Sg	11 44 50.4	+2.8
AMCZ	**Amberley**	**0.31**	**347**	P			Pb	11 44 47.5	+0.4
AMCZ				S			Sb	11 44 52.8	+0.5
OKCZ	**Okains Bay**	**0.33**	**137**	P			Pb	11 44 47.8	+0.2
AKCZ	**Akaroa Harbour**	**0.41**	**163**	P			Pb	11 44 49.4	+0.6
OXZ	**Oxford**	**0.54**	**286**	P			Pn	11 44 52.2	-1.1
GVZ	**Greta Valley S**	**0.55**	**22**	P			Pb	11 44 51.7	+0.4
LTZ	**Lake Taylor**	**0.78**	**333**	P			Pn	11 44 56.3	-0.3
KHZ	**Kahutara**	**1.21**	**29**	P			Pn	11 45 01.7	-0.8
INZ	**Inchbonnie**	**1.22**	**308**	P			Pg	11 45 03.1	+0.3
RPZ	**Rata Peaks**	**1.25**	**259**	P			Pg	11 45 03.9	+0.4
WVZ	**Waitaha Valley**	**1.52**	**285**	P			Pb	11 45 08.1	+0.3
THZ	**Tophouse**	**1.72**	**4**	P			Pn	11 45 09.6	+0.1
DSZ	**Denniston Nort**	**1.87**	**338**	P			Pn	11 45 12.5	+0.9
BSWZ	**Blackbirch Sta**	**1.95**	**26**	P			Pn	11 45 12.8	+0.1
LBZ	**Lake Benmore**	**2.06**	**243**	P			Pb	11 45 16.1	-0.9
FOZ	**Fox Glacier**	**2.13**	**268**	P			Pb	11 45 17.8	-0.4
ODZ	**Otahua Downs**	**2.17**	**223**	P			Pn	11 45 16.8	+1.0
TUWZ	**Tuamarina**	**2.23**	**24**	P			Pn	11 45 16.2	-0.3
NNZ	**Nelson**	**2.31**	**12**	P			Pn	11 45 18.1	+0.5
BHW	**Baring Head**	**2.60**	**38**	P			Pn	11 45 20.6	-1.0
QRZ	**Quartz Range**	**2.66**	**356**	P			Pn	11 45 23.3	+0.9
HHSZ	**Highcliff Hill**	**2.85**	**212**	P			Pn	11 45 25.9	+0.8
CAW	**Cannon Point**	**2.93**	**37**	P			Pn	11 45 25.0	-1.1
JCZ	**Jackson Bay**	**2.93**	**257**	P			Pn	11 45 28.4	+2.1
WKZ	**Wanaka**	**3.00**	**242**	P			Pn	11 45 29.4	+2.2
EAZ	**Earnscleugh**	**3.02**	**233**	P			Pn	11 45 28.4	+1.0
KIW	**Kapiti Island**	**3.07**	**32**	P			Pn	11 45 27.5	-0.6
OGWZ	**Otaki Gorge**	**3.21**	**35**	P			Pn	11 45 29.3	-0.8
TUZ	**Tuapeka**	**3.32**	**221**	P			Pn	11 45 33.2	+1.6
MRZ	**Mangatainoka R**	**3.52**	**38**	P			Pn	11 45 33.1	-1.1
MSZ	**Milford Sound**	**3.67**	**249**	P			Pn	11 45 39.3	+3.0
MLZ	**Mavora Lakes**	**3.81**	**239**	P			Pn	11 45 39.0	+0.7
BFZ	**Birch Farm**	**3.82**	**44**	P			Pn	11 45 36.6	-1.8
SYZ	**Scrubby Hill**	**3.99**	**219**	P			Pn	11 45 42.0	+1.4
KHEZ	**Kahui Hut**	**4.29**	**13**	P			Pn	11 45 47.2	+2.3
NBEZ	**Newall Road No**	**4.29**	**12**	P			Pn	11 45 47.0	+2.1
PKE	**Pukeiti**	**4.38**	**13**	P			Pn	11 45 47.9	+1.8
DREZ	**Durham Road**	**4.42**	**15**	P			Pn	11 45 48.4	+1.7
MHEZ	**Mangahewa**	**4.56**	**16**	P			Pn	11 45 50.9	+2.4
VRZ	**Vera Road**	**4.61**	**20**	P			Pn	11 45 50.2	+1.0
PKVZ	**Pokaka**	**4.62**	**26**	P			Pn	11 45 50.6	+1.2
MOVZ	**Moawhango**	**4.65**	**30**	P			Pn	11 45 50.0	+0.1
TRVZ	**Turoa**	**4.68**	**28**	P			Pn	11 45 51.4	+1.0
WHVZ	**Whangaehu Hut**	**4.71**	**28**	P			Pn	11 45 51.8	+1.1
FWVZ	**Far West T-bar**	**4.72**	**28**	P			Pn	11 45 51.6	+0.6
TUVZ	**Tukino**	**4.74**	**28**	P			Pn	11 45 52.1	+0.9
NGZ	**Ngauruhoe**	**4.81**	**28**	P			Pn	11 45 52.5	+0.4
KAHZ	**Kahuranaki**	**4.81**	**41**	P			Pn	11 45 51.0	-1.1
WTVZ	**West Tongariro**	**4.86**	**27**	P			Pn	11 45 53.3	+0.6
BKZ	**Black Stump Fm**	**5.15**	**34**	P			Pn	11 45 55.4	-1.4
HIZ	**Hauiti**	**5.21**	**19**	P			Pn	11 45 58.1	+0.6
TLZ	**Tolley Road**	**5.56**	**23**	P			Pn	11 46 02.9	+0.6
MUGZ	**Murupara**	**5.85**	**33**	P			Pn	11 46 04.5	-1.8
PRGZ	**Paritu Road**	**5.98**	**42**	P			Pn	11 46 05.7	-2.4
URZ	**Urewera**	**6.17**	**34**	P			Pn	11 46 08.6	-2.1
MWZ	**Matawai**	**6.29**	**37**	P			Pn	11 46 09.7	-2.6
AWAZ	**Awhitu Peninsu**	**6.57**	**13**	P			Pn	11 46 16.9	+0.8
MKAZ	**Moumakai**	**6.63**	**17**	P			Pn	11 46 16.7	-0.3
RUGZ	**Raukumara Rang**	**6.66**	**36**	P			Pn	11 46 15.6	-1.9
ETAZ	**East Tamaki Re**	**6.73**	**15**	P			Pn	11 46 18.8	+0.5
WIAZ	**Waiheke Island**	**6.92**	**16**	P			Pn	11 46 21.7	+0.7

*ISCJB **18** 12:14:05.3±0.5, 19°.08S±0°.07×172°.55W±0°.06, h35km, mb4.2/5, Error ellipse: s-maj=10.9km s-min=7.0km az=160.0*
*NEIC **18** 12:14:07.5±1.9, 19°.2S±0°.1×172°.5W±0°.1, h38km±9km, mb4.6/14*
*IDC **18** 12:14:07.9±4.7, 18°.83S×173°.46W, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.8/44, mbtmp4.1/6, ML3.6/1, Error ellipse: s-maj=161.2km s-min=27.5km az=136.0*
ISC 18 12:14:07.8±0.7, 19°.23S±0°.08×172°.51W±0°.08, h35km, n22, σ1§74/23, mb4.5/11, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.44**	**87**				**Pn**	**12 14 44.9**	**-0.3**
NIUE						Sn	**Sn**	**12 15 12.9**	**-0.9**
AFI	**Afiamalu**	**5.34**	**8**	Pn			**Pn**	**12 15 27.2**	**+2.0**
	2.2nm,0.3s,baz=126,slow=17,SNR=4.0								
AFI				Sn			**Sn**	**12 16 22.0**	**-3.5**
	2.3nm,0.3s,baz=162,slow=19,SNR=2.2								
AFI	**Afiamalu**	**5.34**	**8**				**Pn**	**12 15 27.4**	**+2.2**
AFI							**Sn**	**12 16 21.8**	**-3.7**
DZM	**Mont Dzumac**	**19.90**	**258**	P			**P**	**12 18 37.1**	**+0.6**
THZ	**Tophouse**	**25.66**	**206**	P			P	12 19 42.1	+7.7
THZ				IAmb			IAmb	12 19 43.8	
	comp=Z,30nm,1.3s								
LTZ	**Lake Taylor**	**26.77**	**205**	P			P	12 19 52.7	+8.4
ARMA	**Armidale**	**34.27**	**244**	P			**P**	**12 20 49.8**	**-1.1**
ARMA				IAmb			IAmb	12 20 54.2	
	comp=Z,8.2nm,1.1s								
CAN	**Canberra**	**37.51**	**237**	P			**P**	**12 21 18.6**	**0.0**
CAN				IAmb			IAmb	12 21 31.5	
	comp=Z,9.7nm,1.1s								
CTA	**Charters Tower**	**38.77**	**262**	P			**P**	**12 21 28.1**	**-1.2**
	comp=Z,2.4nm,0.4s,baz=82,slow=9.1,SNR=5.8								
TOO	**Toolangi**	**40.82**	**234**	P			**P**	**12 21 46.3**	**+0.2**
TOO				IAmb			IAmb	12 22 04.7	
	comp=Z,13nm,1.4s								
BBOO	**Buckleboo**	**47.73**	**243**	P			**P**	**12 22 40.8**	**-0.7**
WR0	**Warramunga Arr**	**49.71**	**260**	P			**P**	**12 22 55.9**	**-1.0**
WR0				IAmb			IAmb	12 23 11.8	
	comp=Z,12nm,1.4s								
ASAR	**Alice Springs**	**49.84**	**255**	P			**P**	**12 22 57.0**	**-0.9**
	comp=Z,4.4nm,0.8s,baz=86,slow=8.7,SNR=34								
WRAB	**Tennant Creek**	**49.90**	**260**	P			**P**	**12 22 57.5**	**-0.8**
WRAB				IAmb			IAmb	12 22 57.8	
	comp=Z,4.6nm,0.8s								
WRA	**Warramunga Arr**	**49.90**	**260**	P			**P**	**12 22 57.1**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=98,slow=8.6,SNR=22								
MTN	**Manton Dam**	**54.35**	**268**	P			**P**	**12 23 31.8**	**+0.3**
FORT	**Forrest**	**54.53**	**245**	P			**P**	**12 23 32.4**	**-0.1**
KNRA	**Kununurra**	**55.92**	**264**	P			**P**	**12 23 43.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**58.33**	**260**	P			**P**	**12 23

comp=Z,0.6nm,0.7s,baz=12,slow=8.6,SNR=7.3
WRA PcP **PcP** **12 30 25.5 +1.5**
comp=Z,0.9nm,0.8s,baz=8.6,slow=3.6,SNR=4.6
SONM Songino Array 42.30 320 P **P** **12 28 31.6 +0.4**
comp=Z,0.7nm,0.6s,baz=107,slow=6.1,SNR=5.8
FITZ Fitzroy Crossi 43.67 210 P **P** **12 28 43.5 +1.1**
comp=Z,2.1nm,0.9s,baz=45,slow=10.0,SNR=4.3
FITZ Fitzroy Crossi 43.67 210 P **P** **12 28 42.5 +0.1**
ATKA Atka Island 43.67 34 P **P** **12 28 41.1 -1.0**
ASAR Alice Springs 45.74 197 P **P** **12 28 59.3 +0.4**
comp=Z,0.4nm,0.8s,baz=15,slow=7.4,SNR=5.5
ASAR PcP **PcP** **12 30 38.3 +1.9**
comp=Z,0.2nm,0.6s,baz=25,slow=3.3,SNR=4.2
EIDS Eidsvold 45.89 175 P **P** **12 28 58.2 -1.8**
MSVF Nonsavu 48.94 139 P **P** **12 29 22.9 -1.1**
BBOO Buckleboo 54.08 191 P **P** **12 30 02.2 0.0**
ZALV Zalesovo Beam 57.12 322 P **P** **12 30 24.5 +0.8**
comp=Z,2.2nm,0.6s,baz=106,slow=7.4,SNR=10
ZALV PcP **PcP** **12 31 18.6 +0.3**
comp=Z,0.6nm,0.4s,baz=146,slow=3.9,SNR=3.5
MKAR Makanchi Array 57.87 313 P **P** **12 30 30.5 +1.3**
comp=Z,0.8nm,0.7s,baz=80,slow=9.0,SNR=5.0
NWAO Narrogin (SRO) 60.23 208 P **P** **12 30 46.1 +0.5**
SML Sawmill 60.25 30 P **P** **12 30 45.7 +0.2**
KURK Kurchatov 60.52 317 P **P** **12 30 46.0 -1.5**
KURK IAmb IAmb 12 30 53.7
comp=Z,3.3nm,1.1s
TOLK Toolik Lake Re 61.48 22 P **P** **12 30 55.6 +1.9**
TOLK IAmb IAmb 12 31 02.5
comp=Z,7.3nm,1.4s
YKA Yellowknife Ar 75.86 28 P **P** **12 32 22.9 -0.5**
comp=Z,0.4nm,0.6s,baz=292,slow=5.4,SNR=6.3
NVAR Mina Array Bea 81.21 52 P **P** **12 32 54.3 +0.6**
comp=Z,0.6nm,0.7s,baz=270,slow=5.4,SNR=5.3
FINES FINESS Array B 85.57 336 P **P** **12 33 15.0 -0.2**
comp=Z,1.8nm,0.8s,baz=90,slow=4.3,SNR=3.4

IDC ***18*** *12:37:02.1±0.7,3.˚43N×126.˚81E,h0km,mb4.1/10, mb1 4.3/11,mb1mx3.9/38,mbtmp4.1/11,ML4.3/1,MS3.4/9, Ms1 3.4/9,ms1mx3.1/42,Error ellipse: s-maj=35.3km s-min=14.0km az=69.0*
DJA ***18*** *12:37:04.3±1.0,4˚N±9˚×12˚7E±˚,h11km±9km,M4.3/7, mb4.4/7,mB5.0/2,MLv4.3/6,Mw(mB)4.3/2*
NEIC ***18*** *12:37:07.2±1.6,3.˚40N±0.˚07×126.˚85E±0.˚08,h35km±3km, mb4.4/23*
ISC 18 12:37:04.0±0.5,3˚56N±0.˚05×127˚11E±0.˚07,h10km,n56, σ2s37/50,mb4.4/19,MS3.4/7,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.78**	**175**	P	**Pn**	**12 37 50.8**	**+2.2**
TNTI	**Ternate**	**2.78**	**175**	Pn	**Pn**	**12 37 47.1**	**-1.5**
TNTI				Sn	**Sn**	**12 38 17.6**	**-4.6**
KCP	**Kidapawan**	**3.98**	**330**	⇑P	**Pn**	**12 38 09.7**	**+4.6**
KCP				S	**Sn**	**12 38 56.9**	**+5.1**
KMSI	**Cibinong**	**4.30**	**227**	P	**Pg**	**12 38 31.2**	**+4.7**
CTBH	**Cotabato--PC H**	**4.62**	**322**	P	**Pn**	**12 38 17.0**	**+3.1**
CTBH				S	**Sb**	**12 39 16.0**	**-5.0**
SANI	**Sanana** 14nm,0.4s,0.1nm	**5.68**	**191**	P	**Pn**	**12 38 30.2**	**+1.7**
MRSI	**Marisa** 48nm,0.7s,612nm0.2nm	**6.00**	**239**	P	**Pn**	**12 38 35.2**	**+2.3**
SIJI	**Sorong** 6.5nm,0.3s,baz=333,slow=23,SNR=11	**6.05**	**136**	Pn	**Pn**	**12 38 36.5**	**+2.8**
SIJI				Sn	**Sn**	**12 39 46.6**	**+3.6**
LUWI	**Luwuk** 1.5nm,0.3s,baz=198,slow=20,SNR=2.8	**6.29**	**224**	Pn	Pn	12 38 32.5	-4.4
NLAI	**Namlea** 18nm,1.2s,2µm0.1nm	**6.75**	**180**	P	**Pn**	**12 38 46.5**	**+3.3**
FAKI	**Fak Fak**	**8.23**	**141**	Pn	**Pn**	**12 39 03.8**	**+0.2**
TGY	**Tagaytay City** comp=Z,44nm,18.2s,baz=136,slow=37	**12.12**	**330**	LR	LR	12 44 24.5	
GENI	**Genyem**	**14.41**	**115**	P	P	12 40 46.4	+11
JAY	**Jayapura** comp=Z,180nm,18.2s,baz=196,slow=38	**14.87**	**114**	LR	LR	12 46 35.4	
SBUM	**Sibu**	**14.90**	**266**		**Pn**	**12 40 31.4**	**-3.6**
PLAI	**Plampang** 51nm,1.1s	**15.42**	**217**	P	**P**	**12 40 47.7**	**+1.3**
TWSI	**Taliwang, Sumb** 16nm,0.9s	**15.91**	**220**	P	**Pn**	**12 40 52.9**	**+4.8**
MTN	**Manton Dam**	**16.78**	**166**	Pn	**Pn**	**12 40 58.4**	**-0.8**
KSM	**Kuching**	**16.91**	**263**	Pn	**Pn**	**12 40 58.0**	**-3.0**
KNRA	**Kununurra**	**19.18**	**175**	P	**P**	**12 41 27.0**	**-0.9**
KNRA				IAmb	IAmb	12 41 36.3	
GUMO	**Guam** comp=Z,26nm,1.4s	**20.18**	**59**	LR	LR	12 49 00.7	
FITZ	**Fitzroy Crossi** comp=Z,62nm,19.9s,baz=86,slow=35	**21.56**	**184**	P	**P**	**12 41 53.2**	**-0.6**
FITZ	**Fitzroy Crossi** comp=Z,2.0nm,0.4s,baz=14,slow=12,SNR=14	**21.56**	**184**	P	**P**	**12 41 53.3**	**-0.5**
YHNB	**Yeheng**	**21.71**	**346**	P	**P**	**12 41 56.7**	**+1.2**
LEM	**Lembang** comp=Z,56nm,19.4s,baz=220,slow=44	**22.02**	**242**	LR	LR	12 53 03.6	
COEN	**Coen**	**23.60**	**138**	P	**P**	**12 42 15.6**	**+0.4**
COEN				IAmb	IAmb	12 42 31.6	
PMG	**Port Moresby** comp=Z,11nm,1.0s comp=Z,112nm,18.9s,baz=322,slow=40	**23.77**	**123**	LR	LR	12 52 55.9	
WRAB	**Tennant Creek**	**24.40**	**163**	P	**P**	**12 42 21.4**	**-1.4**
WRAB				IAmb	IAmb	12 42 23.7	
WRA	**Warramunga Arr** comp=Z,9.5nm,0.7s comp=Z,7.4nm,0.8s,baz=335,slow=11,SNR=73	**24.41**	**163**	P	**P**	**12 42 21.3**	**-1.5**
WR0	**Warramunga Ar** comp=Z,6.7nm,0.7s	**24.48**	**163**	P	**P**	**12 42 22.7**	**-0.8**
WR0				IAmb	IAmb	12 42 24.4	
PSAD1	**Pilbara Seismi** comp=Z,24nm,1.5s	**25.86**	**196**	P	**P**	**12 42 34.9**	**-1.0**
PSAD1				IAmb	IAmb	12 42 38.3	
PSAC2	**Pilbara Seismi** comp=Z,23nm,1.4s	**25.94**	**195**	P	**P**	**12 42 33.8**	**-2.9**
PSAC2				IAmb	IAmb	12 42 41.8	
PSAA2	**Pilbara Seismi** comp=Z,19nm,1.4s	**25.95**	**196**	P	**P**	**12 42 36.8**	**-0.1**
PSAA2				IAmb	IAmb	12 42 37.0	
PSA00	**Pilbara Seismi** comp=Z,18nm,1.3s	**25.96**	**196**	P	**P**	**12 42 36.9**	**-0.1**
PSA00				IAmb	IAmb	12 42 47.6	
ASAR	**Alice Springs** comp=Z,1.9nm,0.6s,baz=349,slow=7.0,SNR=50	**27.86**	**167**	P	**P**	**12 42 53.1**	**-0.9**
PSI	**Prapat** comp=Z,48nm,21.5s,baz=85,slow=39	**28.15**	**269**	LR	LR	12 55 03.6	
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.5s,baz=123,slow=6.6,SNR=4.4	**31.28**	**300**	P	**P**	**12 43 22.8**	**-1.6**
FORT	**Forrest**	**34.15**	**179**	P	**P**	**12 43 48.2**	**-1.2**
BBOO	**Buckleboo**	**37.15**	**167**	P	**P**	**12 44 14.5**	**-0.6**
BJT	**Baijiatuao**	**37.62**	**346**	P	**P**	**12 44 19.4**	**+0.3**
STKA	**Stephens Creek** comp=Z,12nm,0.8s,baz=337,slow=9.0,SNR=31	**37.84**	**160**	P	**P**	**12 44 20.1**	**-0.8**
STKA	**Stephens Creek** comp=Z,2.4nm,0.8s	**37.84**	**160**	P	**P**	**12 44 20.8**	**-0.1**
STKA				IAmb	IAmb	12 44 21.5	
ARMA	**Armidale** comp=Z,10nm,1.2s	**41.12**	**147**	P	**P**	**12 44 47.2**	**-1.3**
ARMA				IAmb	IAmb	12 44 50.3	
SONM	**Songino Array** comp=Z,0.7nm,0.6s,baz=156,slow=7.3,SNR=4.4	**47.58**	**341**	P	**P**	**12 45 40.4**	**+0.3**
PETK	**Petropavlovsk-** comp=Z,3.1nm,0.8s,baz=179,slow=4.4,SNR=4.1	**55.45**	**22**	P	**P**	**12 46 40.2**	**+1.4**
PETK				LR	LR	13 06 49.9	
MKAR	**Makanchi Array** comp=Z,105nm,21.4s,baz=240,slow=32 comp=Z,0.6nm,0.4s,baz=122,slow=7.2,SNR=17	**57.91**	**325**	P	**P**	**12 46 55.4**	**-1.1**
MAKZ	**Makanchi** comp=Z,4.4nm,1.3s	**58.10**	**325**	P	**P**	**12 46 57.2**	**-0.5**
MAKZ				IAmb	IAmb	12 46 57.5	
NIL	**Nilore**	**58.33**	**308**	P	**P**	**12 46 56.1**	**-3.5**
WHZ	**Wether Hill Ro**	**61.10**	**149**	P	**P**	**12 47 17.2**	**-1.2**
KURK	**Kurchatov**	**62.09**	**327**	P	**P**	**12 47 24.2**	**-0.7**
TIXI	**Tiksi** comp=Z,41nm,20.2s,slow=37	**68.01**	**1**	LR	LR	13 18 59.9	
ABKAR	**Akbulak array**	**72.52**	**321**	P	**P**	**12 48 31.0**	**-0.2**
CNPM	**China Poot**	**82.72**	**31**	P	**P**	**12 49 27.4**	**-0.6**
PPT	**Papeete** comp=Z,37nm,20.1s,baz=288,slow=34	**84.70**	**108**	LR	LR	13 24 24.4	
ILAR	**Eielson Array B** comp=Z,0.8nm,1.1s,baz=248,slow=4.8,SNR=3.5	**85.10**	**25**	P	**P**	**12 49 41.0**	**+1.0**
ARCES	**ARCESS Array B** comp=Z,3.4nm,1.0s,baz=76,slow=5.7,SNR=2.7	**90.74**	**340**	P	**P**	**12 50 06.3**	**-0.6**

NIED ***18*** *12:54:00,30.˚20N×139.˚00E,h420km,Mw5.1 Best double couple: M0 4.24000×10^16 NP1:φs77.00000°,*
δ31.00000°,λ-152.00000°. NP2:φs323.00000°,
δ76.00000°,λ-62.00000°.
MOS ***18*** *12:54:36.6±0.8,30.˚22N×138.˚57E,h422km,mb5.2/96, Error ellipse: s-maj=6.0km s-min=3.8km az=99.3*
BJI ***18*** *12:54:36.2±0.0,30.˚28N×138.˚61E,h421km,mb5.3/70, mB5.0/41*
JMA ***18*** *12:54:36.1±0.2,30.˚18N×138.˚95E,h452km±3km,M5.3 Broadband fault plane solution: P waves. NP1: φs127.00000°,δ90.00000°,λ50.00000°. NP2:φs37.00000°, δ40.00000°,λ180.00000°. Principal axes: T Plg33.0000°, Azm4.0000°; N Plg40.0000°, Azm126.0000°; P Plg33.0000°, Azm249.0000°;*
JMA Felt I J1.
ISCJB ***18*** *12:54:37.1±0.2,30.˚20N±0.˚02×138.˚60E±0.˚02, h427km±1km,mb5.2/223 Error ellipse: s-maj=2.9km s-min=1.9km az=135.8*
NEIC ***18*** *12:54:38.3±1.4,30.˚16N±0.˚08×138.˚64E±0.˚09, h431km±5km,mb5.2/361*
IDC ***18*** *12:54:39.3±0.8,30.˚24N×138.˚60E,h439km±7km,mb4.6/42, mb1 4.6/49,mb1mx4.5/58,mbtmp5.3/49,Error ellipse: s-maj=7.9km s-min=5.8km az=105.0*
GCMT ***18*** *12:54:40.3±0.4,30.˚27N±0.˚03×138.˚48E±0.˚05, h435km±3km,MW5.2/53,Moment Tensor Solution. s53,c69; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr-2.24±.27; Mθθ4.05±.32; Mφφ-1.81±.36; Mrθ2.95±.40; Mθφ-1.36±.28; Mrφ-6.41±.37; Best double couple: M0 7.92400×10^16 NP1:φs326.00000°,δ82.00000°, λ-65.00000°. NP2:φs72.00000°,δ26.00000°, λ-162.00000°. Principal axes: T 7.2940, Plg33.0000°, Azm35.0000°; N 1.2610, Plg25.0000°, Azm142.0000°; P -8.5550, Plg47.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 18 12:54:37.7±0.3,30˚22N±0.˚03×138˚69E±0.˚03,h427km±3km, h427km:pP-P,n1040,σ1s27/1151,mb5.2/351,81C-18D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.42**	**22**	S	**S**	**12 56 29.4**	**+1.2**
JHCJ	**Hachijojimakas**	**3.00**	**18**	⇓P	**P**	**12 55 43.7**	**+0.9**
JHCJ				*eS*	**S**	**12 56 35.3**	**-0.5**
JHJ2	**Mitsune**	**3.04**	**18**	⇓P	**P**	**12 55 43.9**	**+0.8**
JHJ2				*eS*	**S**	**12 56 36.0**	**-0.4**
JHJ2	**Mitsune**	**3.04**	**18**	P	**P**	**12 55 44.4**	**+1.3**
JHJ2				S	**S**	**12 56 36.3**	**-0.1**
TK01	**Tokai 1**	**3.65**	**346**	P	**P**	**12 55 50.7**	**+2.9**
JMKN	**Mikurajimanish**	**3.74**	**12**	⇓P	**P**	**12 55 49.3**	**+0.4**
TTO1	**TONANKAI O.B.S**	**3.76**	**335**	P	**P**	**12 55 51.3**	**+2.6**
TK02	**Tokai 2**	**3.80**	**348**	⇓P	**P**	**12 55 51.5**	**+2.3**
CBIJ	**Chichi jima**	**4.38**	**135**	P	**P**	**12 55 53.3**	**-1.6**
CBIJ				*eS*	**S**	**12 56 53.5**	**-4.3**
JCJ	**Chichijima** 443nm,0.3s,baz=344,slow=3.2,SNR=112	**4.38**	**135**	P	**P**	**12 55 53.7**	**-1.2**
JCJ				S	**S**	**12 56 53.9**	**-3.9**
JTNC	**Tanabenakahech** 3µm,0.3s,baz=292,slow=19,SNR=31	**4.44**	**325**	⇑P	**P**	**12 55 57.5**	**+2.2**
JTNC				*eS*	**S**	**12 57 00.4**	**+1.7**
JIE	**Ise**	**4.48**	**339**	P	**P**	**12 55 58.0**	**+2.3**
JIE				*eS*	**S**	**12 57 02.2**	**+2.8**
JIZS	**Izushimoda**	**4.49**	**2**	⇓P	**P**	**12 55 56.7**	**+1.0**
JIZS				S	**S**	**12 56 58.6**	**-0.9**
JKN2	**Miekihoku**	**4.50**	**334**	*eS*	**S**	**12 57 01.8**	**+2.1**
JKKS	**Kakegawashinom**	**4.55**	**353**	*eS*	**S**	**12 57 02.5**	**+1.8**
JAA	**Atsumi**	**4.59**	**344**	S	**S**	**12 57 02.3**	**+1.1**
BSO1	**Boso 1**	**4.83**	**23**	P	**P**	**12 55 58.6**	**+0.2**
BSO1				*eS*	**S**	**12 56 59.7**	**-4.8**
SHZ3	**Shizuoka 3**	**4.85**	**355**	P	**P**	**12 56 01.1**	**+1.8**
BSO4	**Boso 4**	**4.96**	**16**	⇑P	**P**	**12 56 00.2**	**0.0**
JOD2	**Odawara 2**	**5.04**	**4**	⇓P	**P**	**12 56 01.1**	**-0.1**
JOD2				*eS*	**S**	**12 57 06.2**	**-3.2**
JAO	**Obara**	**5.17**	**347**	⇑P	**P**	**12 56 04.6**	**+2.1**
INU	**Inuyama**	**5.30**	**345**	P	**P**	**12 56 05.7**	**+1.9**
JYTA	**Yamagatataniai**	**5.60**	**343**	⇑P	**P**	**12 56 08.7**	**+1.9**
JNT	**Takato**	**5.66**	**355**	⇑P	**P**	**12 56 08.6**	**+1.1**
JTO	**Tosashimizu**	**5.67**	**299**	P	**P**	**12 56 10.0**	**+2.4**
JTO				*eS*	**S**	**12 57 24.0**	**+2.8**
JRY	**Ryogami san**	**5.78**	**2**	⇑P	**P**	**12 56 09.0**	**+0.3**
JRY				*eS*	**S**	**12 57 19.3**	**-4.0**
JNG	**Nsakai**	**6.19**	**356**	⇑P	**P**	**12 56 13.6**	**+0.6**
JAG	**Ashikaga**	**6.22**	**6**	⇑P	**P**	**12 56 12.2**	**-1.1**
MJAR	**Matsushiro Arr** 5.0nm,0.3s,baz=178,slow=12,SNR=162	**6.32**	**356**	P	**P**	**12 56 14.4**	**+0.1**
MJAR				S	**S**	**12 57 31.9**	**-1.7**
MAJO	**Matsushiro** 3.5nm,0.3s,baz=338,slow=37,SNR=5.7	**6.32**	**356**	*c iP*	**P**	**12 56 14.5**	**+0.2**
MAJO	**Matsushiro**	**6.32**	**356**	P	**P**	**12 56 14.3**	**0.0**
MAJO				S	**S**	**12 57 33.4**	**-0.2**
MAT	**Matsushiro**	**6.32**	**356**	P	**P**	**12 56 14.3**	**0.0**
MAT				S	**S**	**12 57 30.4**	**-3.2**
MAT	**Matsushiro**	**6.32**	**356**	P	**P**	**12 56 14.5**	**+0.1**
MJB9	**Matsu-Tunnel**	**6.32**	**356**	P	**P**	**12 56 14.5**	**+0.1**
JTSN	**Tsuno**	**6.47**	**290**	S	**S**	**12 57 41.0**	**+4.3**
JNAR	**Kushima--Naru**	**6.51**	**283**	S	**S**	**12 57 41.7**	**+4.4**
JHS	**Saijyo**	**6.69**	**317**	P	**P**	**12 56 20.5**	**+1.8**
JHS				*eS*	**S**	**12 57 41.3**	**+0.3**
JTZ	**Takazaki**	**6.73**	**286**	S	**S**	**12 57 46.2**	**+4.4**
JTSR	**Tashiro 2**	**6.75**	**280**	S	**S**	**12 57 45.5**	**+3.2**
JJN	**Nakama**	**6.88**	**356**	P	**P**	**12 56 20.3**	**-0.3**
JHK	**Hiroka**	**7.01**	**2**	P	**P**	**12 56 21.0**	**-1.1**
JFFD	**Fukushimafurud**	**7.03**	**12**	⇑P	**P**	**12 56 21.1**	**-1.2**
JZO	**Okuchi**	**7.19**	**287**	P	**P**	**12 56 26.5**	**+2.3**
JZO				S	**S**	**12 57 54.9**	**+3.9**
JFY	**Yanaizu**	**7.22**	**6**	⇑P	**P**	**12 56 23.3**	**-1.0**
JNU	**Nakatsue**	**7.26**	**295**	P	**P**	**12 56 27.2**	**+2.3**
JNU				S	**S**	**12 57 56.5**	**+4.2**
JNU	**Nakatsue** 6.9nm,0.3s,baz=110,slow=4.5,SNR=54	**7.26**	**295**	P	**P**	**12 56 26.9**	**+2.0**
JNU				S	**S**	**12 57 56.4**	**+4.1**
JNU	**Nakatsue** baz=334,slow=19,SNR=6.0	**7.26**	**295**	P	**P**	**12 56 26.9**	**+2.0**
JNU				S	**S**	**12 57 53.2**	**+0.9**
JOI	**OKI**	**7.57**	**324**	P	**P**	**12 56 30.4**	**+2.2**
JMM	**Marumori**	**7.82**	**12**	P	**P**	**12 56 30.6**	**-0.3**
JSJ	**Shimokoshiki**	**7.84**	**283**	P	**P**	**12 56 32.9**	**+1.7**
JSJ				*eS*	**S**	**12 58 05.3**	**+1.2**
JMZ	**Minamidaito 2**	**7.92**	**238**	P	**P**	**12 56 33.3**	**+1.1**
JAMN	**Amaminishikomi**	**8.54**	**259**	P	**P**	**12 56 40.1**	**+1.2**
JAMN				*eS*	**S**	**12 58 18.9**	**+0.5**
JYK	**Kaneyama**	**8.78**	**9**	P	**P**	**12 56 41.8**	**+0.5**
JKMT	**Kesennumamotoy**	**8.87**	**14**	P	**P**	**12 56 43.0**	**+0.7**
JTU	**Tsushima**	**8.95**	**301**	P	**P**	**12 56 45.0**	**+1.8**
JTU				*eS*	**S**	**12 58 28.0**	**+1.3**
JMK	**Ichinoseki**	**8.96**	**13**	P	**P**	**12 56 42.8**	**-0.4**
JMK				*eS*	**S**	**12 58 20.8**	**-5.9**
OFUJ	**Ofunato**	**9.17**	**15**	P	**P**	**12 56 46.3**	**+0.7**
JSZI	**Iwateshizukuis**	**9.68**	**10**	P	**P**	**12 56 52.6**	**+1.4**
JOW	**Kunigami**	**9.76**	**252**	P	**P**	**12 56 54.4**	**+2.1**
JOW				*eS*	**S**	**12 58 45.7**	**+2.4**
JOW	**Kunigami** 2.2nm,0.3s,baz=119,slow=14,SNR=20	**9.76**	**252**	P	**P**	**12 56 54.8**	**+2.5**
JOW				S	**S**	**12 58 45.0**	**+1.6**
JOW	**Kunigami** 0.1nm,0.3s,baz=230,slow=26,SNR=13	**9.76**	**252**	P	**P**	**12 56 52.1**	**-0.2**
JOW				S	**S**	**12 58 44.5**	**+1.2**
JKZ	**Kuzumaki**	**9.98**	**12**	P	**P**	**12 56 55.5**	**+1.0**
JTH	**Tanohata**	**10.04**	**14**	P	**P**	**12 56 56.0**	**+0.9**
JAH	**Hinai**	**10.07**	**9**	P	**P**	**12 56 56.9**	**+1.4**
JIW	**Iwasaki**	**10.40**	**6**	P	**P**	**12 57 00.7**	**+1.5**
JHHS	**Hirosakihyakuz**	**10.50**	**7**	P	**P**	**12 57 02.2**	**+2.0**
JKE	**Kume jima 2**	**11.18**	**253**	P	**P**	**12 57 09.3**	**+1.4**
JKE				*eS*	**S**	**12 59 12.4**	**+0.4**
TJN	**Taejon**	**11.28**	**306**	*ceP*	**P**	**12 57 10.3**	**+1.4**
JOT	**Ohata**	**11.30**	**9**	P	**P**	**12 57 10.1**	**+1.1**
JOT				*eS*	**S**	**12 59 13.2**	**-0.7**
KSRS	**Korea Array** 12nm,0.3s,baz=126,slow=10,SNR=312	**11.49**	**312**	P	**P**	**12 57 12.8**	**+1.7**
KSRS				S	**S**	**12 59 19.2**	**+1.5**
KSRS	baz=117,slow=22,SNR=6.9			ScP	**ScP**	**13 05 15.7**	**+0.4**
KS19	**Wonju Array Si** 0.5nm,0.3s,baz=159,slow=1.0,SNR=19	**11.55**	**312**	P	**P**	**12 57 12.1**	**+0.2**
JKB	**Kayabe**	**11.79**	**9**	P	**P**	**12 57 15.2**	**+0.8**
JKB				*eS*	**S**	**12 59 22.1**	**-1.6**
JOSM	**Okushiri--Mats**	**11.85**	**3**	P	**P**	**12 57 16.1**	**+1.1**
JOSM				*eS*	**S**	**12 59 21.6**	**-3.3**
ERM	**Erimo**	**12.31**	**16**	*ceP*	**P**	**12 57 21.8**	**+1.8**
ERM	comp=Z,470nm,0.8s			pmax	pmax		
ERM	**Erimo**	**12.31**	**16**	P	**P**	**12 57 21.8**	**+1.8**
ERM					**S**	**12 59 35.1**	**+1.1**
INCN	**Inchon**	**12.36**	**309**	P	**P**	**12 57 21.1**	**+0.5**
INCN	**Inchon**	**12.36**	**309**	P	**P**	**12 57 21.1**	**+0.5**
JBT2	**Biratori 2**	**12.87**	**12**	P	**P**	**12 57 27.5**	**+1.3**
JCH	**Churui**	**12.92**	**16**	P	**P**	**12 57 28.2**	**+1.5**
JAB	**Ashibetsu**	**13.55**	**11**	P	**P**	**12 57 35.4**	**+1.9**
JAR	**Ashorobuto**	**13.67**	**16**	P	**P**	**12 57 36.4**	**+1.6**
JHR	**Hokuryu**	**13.71**	**9**	P	**P**	**12 57 36.6**	**+1.4**
JHR				*eS*	**S**	**13 00 01.3**	**-0.7**
JNK	**Nakash**	**14.18**	**18**	P	**P**	**12 57 41.6**	**+1.3**
ASAJ	**Asahikawa** comp=Z,15nm,0.3s,baz=226,slow=11,SNR=105	**14.21**	**12**	P	**P**	**12 57 42.4**	**+1.8**
ASAJ				ScP	**ScP**	**13 05 18.8**	**-0.7**
JKA	**Kamikawa-asahi** comp=Z,0.7nm,0.3s,baz=335,slow=5.4,SNR=5.4	**14.21**	**12**	P	**P**	**12 57 42.4**	**+1.8**
NEM2	**Nemuro 2**	**14.28**	**21**	P	**P**	**12 57 42.2**	**+0.9**
NEM2				*eS*	S	13 00 23.9	+11
NMR	**Nemuro--Hokkai**	**14.28**	**21**	⇑*iP*	**P**	**12 57 42.8**	**+1.5**
JSS	**Shosan**	**14.37**	**9**	P	**P**	**12 57 44.7**	**+2.3**
GLVR	**Golovnino** comp=Z,487nm,0.4s	**14.55**	**20**	⇓*iP*	**P**	**12 57 46.3**	**+2.1**
GLVR				pmax	pmax		
GLVR	comp=N,349nm,0.8s			pmax	pmax		
GLVR	comp=E,138nm,0.4s			pmax	pmax		
GRPR	**Tuman**	**14.85**	**20**	*d iP*	**P**	**12 57 49.3**	**+1.7**
GRPR	comp=E,221nm,0.4s			pmax	pmax		
GRPR	comp=Z,750nm,0.4s			pmax	pmax		
GRPR	comp=N,296nm,0.3s			pmax	pmax		
GRPR	comp=Z,1µm,1.0s			pmax	pmax		
TEY	**Ternei**	**14.88**	**354**	⇑*iP*	**P**	**12 57 48.8**	**+1.0**
TEY	comp=Z,220nm,0.7s			pmax	pmax		
TEY	comp=N,180nm,0.7s			pmax	pmax		
TEY	comp=E,50nm,0.7s			pmax	pmax		
TEY	comp=N,200nm,3.0s			pmax	pmax		
TEY	comp=Z,300nm,2.6s			pmax	pmax		
YUK	**Yuzh-Kuril'sk**	**14.92**	**20**	*c iP*	**P**	**12 57 50.3**	**+2.0**
YUK	comp=Z,797nm,0.4s			pmax	pmax		
YUK	comp=E,512nm,0.7s			pmax	pmax		
YUK	comp=N,430nm,0.5s			pmax	pmax		
YUK	comp=Z,1µm,1.5s			pmax	pmax		
USA0B	**Ussuriysk Arra**	**14.93**	**341**	*c iP*	**P**	**12 57 49.1**	**+0.7**
USA0B	**Ussuriysk Arra**	**14.93**	**341**	P	**P**	**12 57 49.4**	**+1.0**
USRK	**Ussuriysk Ar.** baz=160,slow=11,SNR=57	**14.93**	**341**	P	**P**	**12 57 48.9**	**+0.5**
USRK				ScP	**ScP**	**13 05 20.2**	**-0.6**
YOJ	**Yonaguni jima**	**15.06**	**251**	P	**P**	**12 57 47.0**	**-3.1**
YOJ	**Yonaguni jima**	**15.06**	**251**	P	**P**	**12 57 47.0**	**-3.1**
SHO	**Shikotan**	**15.08**	**23**	*c iP*	**P**	**12 57 51.1**	**+1.1**
SHO	comp=Z,346nm,0.7s			pmax	pmax		
SHO	comp=Z,147nm,0.5s			pmax	pmax		
SHO	comp=N,45nm,0.2s			pmax	pmax		
SHO	comp=E,137nm,0.4s			pmax	pmax		
MDJ	**Mudanjiang**	**16.07**	**336**	P	**P**	**12 58 01.3**	**+0.7**
MDJ				S	**S**	**13 00 47.6**	**-0.7**
MDJ				PcP	**PcP**	**13 02 29.5**	**-0.1**
MDJ				ScP	**ScP**	**13 05 23.3**	**+0.3**
MDJ				PcS	**PcS**	**13 06 05.0**	**-0.3**
MDJ				ScS	**ScS**	**13 09 01.0**	**-1.0**
MDJ	comp=E,48nm,0.8s			pmax	pmax		
MDJ	comp=E,230nm,4.3s			pmax	pmax		
MDJ	**Mudanjiang**	**16.07**	**336**	P	**P**	**12 58 00.4**	**-0.1**
TATO	**Taipei**	**16.11**	**255**	P	**P**	**12 58 00.8**	**-0.5**
YHNB	**Yeheng**	**16.33**	**254**	P	**P**	**12 58 01.8**	**-1.9**
NACB	**Ninganchiao**	**16.35**	**252**	P	**P**	**12 58 01.4**	**-2.5**
DL2	**Dalian**	**16.49**	**306**	P	**P**	**12 58 01.4**	**-3.7**
DL2				S	**S**	**13 00 49.5**	**-7.2**
DL2	comp=E,270nm,5.3s			pmax	pmax		
KUR	**Kuril'sk**	**16.63**	**23**	*c iP*	**P**	**12 58 07.8**	**+1.3**
KUR	comp=Z,254nm,0.7s			pmax	pmax		
KUR	comp=E,47nm,0.6s			pmax	pmax		
KUR	comp=N,37nm,0.3s			pmax	pmax		
KUR	comp=Z,535nm,1.5s			pmax	pmax		
YULB	**Yu-li**	**16.94**	**250**	P	**P**	**12 58 08.6**	**-1.5**
YSS	**Yuzh-Sakhalins**	**17.00**	**10**	*ceP*	**P**	**12 58 11.3**	**+0.9**
YSS				*eS*	**S**	**13 01 08.6**	**+2.2**
YSS	comp=Z,200nm,0.9s			pmax	pmax		
YSS	comp=N,200nm,1.1s			pmax	pmax		
YSS	comp=E,1µm,0.7s			pmax	pmax		
YSS	comp=Z,500nm,3.0s			pmax	pmax		
YSS	comp=N,70nm,1.3s			smax	smax		
YSS	comp=E,1.0nm,1.5s			smax	smax		
YSS	comp=N,400nm,4.0s			smax	smax		
YSS	comp=E,700nm,6.4s			smax	smax		
YSS	**Yuzh-Sakhalins**	**17.00**	**10**	P	**P**	**12 58 11.0**	**+0.5**
SSLB	**Suanglung**	**17.04**	**252**	P	**P**	**12 58 10.8**	**-0.

BJI pmax pmax
comp=Z,85nm,1.5s
TYV Tymovskoe 20.83 7 *e*P **P 12 58 49.1 +1.4**
TYV *e*S **S 13 02 12.4 +1.0**
TYV pmax pmax
comp=Z,400nm,2.4s
TYV pmax pmax
comp=Z,155nm,0.8s
TYV smax smax
comp=E,14nm,1.2s
TYV smax smax
comp=N,900nm,5.7s
WHN Wuhan 20.99 277 P **P 12 58 49.6 +0.1**
WHN S **S 13 02 17.1 +2.6**
TGY Tagaytay City 22.92 229 P **P 12 59 08.2 +1.1**
comp=N,405nm,0.5s,baz=332,slow=3.0,SNR=8.9
TIY Taiyuan 22.97 296 *e*P **P 12 59 07.9 +0.5**
TIY sP **sP 13 01 03.5 -4.9**
TIY S **S 13 02 46.3 +0.3**
TIY pmax pmax
comp=N,170nm,0.5s
TIY pmax pmax
comp=N,510nm,5.6s
HIA Hailar 23.84 328 P **P 12 59 15.1 +0.1**
HIA pmax pmax
comp=Z,24nm,0.7s
HIA Hailar 23.84 328 P **P 12 59 15.1 +0.1**
HHC Hu-ho-hao-te 24.40 303 *e*P **P 12 59 20.5 +0.3**
HHC S **S 13 03 17.3 +8.9**
HHC pmax pmax
comp=Z,37nm,0.9s
HHC pmax pmax
comp=Z,82nm,4.1s
ZEA Zeya 24.93 344 *e*P **P 12 59 25.4 +0.8**
ZEA *e*S **S 13 03 14.0 -2.2**
ZEA pmax pmax
comp=N,71nm,1.0s
ZEA pmax pmax
comp=Z,97nm,0.8s
ZEA smax smax
comp=E,400nm,6.0s
ZEA MLR MLR
comp=Z,400nm,14.0s
ENH Enshi 25.20 278 P **P 12 59 26.2 -1.2**
XAN Xi'an 25.45 286 P **P 12 59 29.3 -0.4**
XAN S **S 13 03 23.3 -1.8**
XAN pmax pmax
comp=Z,390nm,0.8s
XAN Xi'an 25.45 286 P **P 12 59 29.2 -0.4**
XAN pmax pmax
comp=Z,294nm,0.7s
XAN Xi'an 25.45 286 P **P 12 59 29.2 -0.4**
BTO Baotou 25.45 302 *e*P **P 12 59 30.3 +0.7**
KCP Kidapawan 26.39 212 ⇑P **P 12 59 38.2 +0.1**
PEA0B Petropavlovsk- 26.76 26 *i*P **P 12 59 42.0 +1.2**
PEA0B Petropavlovsk- 26.76 26 P **P 12 59 40.5 -0.4**
PEA0B IAmb IAmb 12 59 43.7
comp=Z,67nm,0.8s
PETK Petropavlovsk- 26.76 26 P **P 12 59 41.8 +0.9**
comp=Z,56nm,0.8s,baz=194,slow=4.7,SNR=44
PETK ScP **ScP 13 05 47.9 -1.7**
comp=Z,10nm,0.8s,baz=183,slow=3.5,SNR=9.9
PET Petropavlovsk 27.06 27 P **P 12 59 44.2 +0.8**
PET pmax pmax
comp=Z,97nm,0.8s
PET Petropavlovsk 27.06 27 P **P 12 59 44.2 +0.8**
PET IAmb IAmb 12 59 45.1
comp=Z,97nm,0.8s
GYA Guiyang 28.38 270 ⇓*i*P **P 12 59 55.4 -0.3**
GYA pP pP 13 01 08.4 -2.1
GYA sP sP 13 01 58.0 -1.6
GYA PcP **PcP 13 02 55.4 0.0**
GYA S **S 13 04 08.6 -2.7**
GYA ScP **ScP 13 05 56.8 +1.5**
GYA pmax pmax
comp=Z,100nm,0.9s
GYA pmax pmax
comp=Z,90nm,4.5s
LZH Lanzhou 29.65 291 ⇓P **P 13 00 06.8 +0.1**
LZH ScP **ScP 13 05 59.4 +0.1**
LZH pmax pmax
comp=Z,26nm,1.1s
LZH pmax pmax
comp=Z,120nm,4.1s
ULN Ulaanbaatar 29.95 315*d i*P **P 13 00 09.5 +0.4**
ULN pmax pmax
comp=Z,95nm,1.4s
ULN Ulaanbaatar 29.95 315 P **P 13 00 08.6 -0.5**
ULN IAmb IAmb 13 00 10.9
comp=Z,119nm,1.4s
CD2 Chengdu 30.01 280 P **P 13 00 09.3 -0.5**
CD2 S **S 13 04 35.5 -1.0**
CD2 sS sS 13 06 57.4 +0.6
CD2 SS **SS 13 07 07.4 +1.2**
SONM Songino Array 30.34 315 P **P 13 00 12.7 +0.2**
comp=Z,14nm,0.4s,baz=123,slow=8.6,SNR=191
SONM ScP **ScP 13 06 00.5 -0.8**
comp=Z,6.2nm,0.7s,baz=132,slow=2.9,SNR=14
MA2 Magadan 30.47 12*c i*P **P 13 00 14.3 +1.0**
MA2 pmax pmax
comp=Z,459nm,0.9s
MA2 Magadan 30.47 12 P **P 13 00 14.4 +1.1**
MA2 Magadan 30.47 12 P **P 13 00 14.4 +1.1**
TNTI Ternate 31.20 202 P **P 13 00 20.8 +0.6**
comp=Z,90nm,1.1s,comp=Z,939nm
TNTI Ternate 31.20 202 P **P 13 00 19.9 -0.3**
TNTI IAmb IAmb 13 00 22.0
comp=Z,65nm,0.9s
SWI Sorong 31.71 194 P **P 13 00 25.1 +0.5**
comp=Z,102nm,0.9s
RKPI Ransiki, Papua 31.85 189 P **P 13 00 26.1 +0.4**
comp=Z,90nm,0.8s,comp=Z,3μm
KKM Kota Kinabalu 32.02 226 P **P 13 00 28.1 +0.7**
SMPI Sarmi 32.03 180 P **P 13 00 27.9 +0.6**
comp=Z,50nm,0.8s
KMI Kunming 32.15 270 P **P 13 00 28.5 -0.1**
KMI pmax pmax
comp=Z,56nm,0.8s
KMI Kunming 32.15 270 P **P 13 00 27.7 -0.9**
KMI pmax pmax
comp=Z,49nm,0.9s
KMI Kunming 32.15 270 P **P 13 00 27.7 -0.9**
YAK Yakutsk 32.36 352*c i*P **P 13 00 29.1 -0.4**
YAK *e* 13 02 00.0
YAK *e* 13 03 03.3
YAK *e*S **S 13 05 07.6 -4.1**
YAK *e*SS **SS 13 07 58.6 +5.8**
YAK *e* 13 10 01.6
YAK pmax pmax
comp=Z,61nm,0.9s
YAK pmax pmax
comp=N,44nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,5.0nm,0.5s
YAK smax smax
comp=E,100nm,1.4s
YAK smax smax
comp=N,34nm,0.8s
YAK Yakutsk 32.36 352 P **P 13 00 29.3 -0.2**
comp=N,34nm,0.8s,baz=152,slow=3.2,SNR=25
YAK Yakutsk 32.36 352 P **P 13 00 29.1 -0.4**
YAK IAmb IAmb 13 00 30.3
comp=Z,88nm,1.1s
YAK **pP 13 01 39.6 -6.6**
BOD Bodaibo 32.44 335 *e*P **P 13 00 30.6 +0.3**
BOD pmax pmax
comp=Z,17nm,1.1s
SLVN Son La 32.44 262 P **P 13 00 30.6 -0.3**
SLVN IAmb IAmb 13 00 32.6
comp=Z,91nm,0.9s
KMSI Cibinong 32.63 208 P **P 13 00 33.1 +0.6**
comp=Z,142nm,0.9s,comp=Z,2μm
GENI Genyem 32.66 177 P **P 13 00 34.2 +1.5**
comp=Z,98nm,0.9s
GTA Gaotai 32.99 297 ⇓P **P 13 00 35.3 -0.2**
GTA pP pP 13 01 51.3 -0.2
GTA sP sP 13 02 40.3 -0.1
GTA S **S 13 05 18.1 -4.3**
GTA ScP **ScP 13 06 10.3 -0.2**
GTA pmax pmax
comp=Z,210nm,1.0s
MANU Manus Island 33.14 164 P **P 13 00 37.1 +0.3**
ZAK Zakamensk 33.24 317 *e*P **P 13 00 36.1 -1.3**
ZAK pmax pmax
comp=Z,36nm,1.2s
ZAK pmax pmax
comp=Z,10.0nm,1.1s
DLV T Lat 33.38 243 P **P 13 00 39.1 0.0**
DLV IAmb IAmb 13 00 41.1
comp=Z,190nm,1.5s
FAKI Fak Fak 33.52 192 P **P 13 00 40.9 +0.8**
comp=Z,99nm,0.7s,comp=Z,1μm
FAKI Fak Fak 33.52 192 P **P 13 00 40.3 +0.2**
FAKI IAmb IAmb 13 00 41.6
comp=Z,62nm,0.7s
TLY Talaya 33.58 320*d i*P **P 13 00 40.7 +0.5**
TLY pmax pmax
comp=Z,58nm,1.7s
TLY Talaya 33.58 320 P **P 13 00 40.6 +0.5**
MRSI Marisa 33.60 211 P **P 13 00 41.7 +1.0**
comp=Z,206nm,1.3s,comp=Z,2μm
SEY Seymchan 33.90 11 P **P 13 00 43.9 +1.2**
comp=Z,86nm,0.8s,baz=202,slow=6.4,SNR=153
SEY ScP **ScP 13 06 12.2 -0.8**
comp=Z,6.7nm,0.9s,baz=163,slow=2.3,SNR=6.4
UBPT Khong Chiam 33.90 251 P **P 13 00 44.5 +1.2**
comp=Z,61nm,1.3s
UBPT Khong Chiam 33.90 251 P **P 13 00 43.9 +0.6**
UBPT IAmb IAmb 13 00 45.3
comp=Z,123nm,1.1s
SKNT Sakolnakorn 34.28 255 P **P 13 00 47.3 +0.7**
comp=Z,404nm,1.0s,comp=Z,4μm
SANI Sanana 34.30 203 P **P 13 00 45.8 -0.9**
comp=Z,149nm,1.0s,comp=Z,2μm
NONG Nongkai 34.48 258 P **P 13 00 48.9 +0.7**
comp=Z,5.7nm,1.3s,comp=Z,178nm
LUWI Luwuk 34.59 209 P **P 13 00 46.5 -2.7**
LUWI IAmb IAmb 13 00 49.8
comp=Z,63nm,0.5s
MSAI Masohi 34.66 197 P **P 13 00 52.4 +2.7**
comp=Z,32nm,1.2s,comp=Z,353nm
MPSI Mapaga 34.68 214 P **P 13 00 51.6 +1.7**
comp=Z,28nm,0.8s,comp=Z,942nm
APSI Ampana 34.96 211 P **P 13 00 52.4 +0.2**
comp=Z,189nm,1.2s,comp=Z,2μm
NLAI Namlea 35.07 200 P **P 13 00 56.0 +2.9**
comp=Z,42nm,0.7s
MOY Mondy 35.08 318 *e*P **P 13 00 53.1 +0.2**
MOY pmax pmax
comp=Z,31nm,1.9s
AAI Ambon 35.18 198 P **P 13 00 55.2 +1.1**
comp=Z,361nm,0.7s,comp=Z,3μm
BNDI Bandanaira 35.56 195 P **P 13 00 57.4 +0.2**
comp=Z,278nm,0.9s,comp=Z,3μm
CHAI Chaiyaphum 36.48 255 P **P 13 01 05.0 0.0**
comp=Z,831μm,0.8s
PHRA Phrae 36.76 260 P **P 13 01 07.7 +0.4**
comp=Z,59nm,0.8s,comp=Z,1μm
UTTA Uttaradit 36.82 259 P **P 13 01 07.9 +0.1**
comp=Z,315μm,0.9s
LAMP Lampang 37.26 261 P **P 13 01 11.9 +0.4**
comp=Z,427μm,0.7s
SBUM Sibu 37.31 227 P **P 13 01 13.0 +1.1**
SBUM Sibu 37.31 227 P **P 13 01 11.0 -0.9**
BKB Balikpapan 37.57 217 P **P 13 01 12.4 -1.6**
TTSI Tana Toraja 37.68 212 P **P 13 01 15.3 +0.4**
comp=Z,24nm,0.6s
CMMT Chiang Mai 37.72 262 P **P 13 01 15.3 0.0**
comp=Z,150nm,0.8s,comp=Z,1μm
CHTO Chiang Mai 37.73 262 P **P 13 01 15.0 -0.3**
CHTO pmax pmax
comp=Z,201nm,0.8s
CHTO Chiang Mai 37.73 262 P **P 13 01 15.1 -0.3**
CM31 Chiang Mai Arr 37.88 261 P **P 13 01 16.7 +0.2**
CM31 IAmb IAmb 13 01 18.0
comp=Z,93nm,0.7s
CMAR Chiang Mai Arr 37.88 261 P **P 13 01 17.1 +0.5**
comp=Z,56nm,0.7s,baz=54,slow=6.7,SNR=58
CMAR PcP **sP 13 03 23.4 +0.6**
comp=Z,6.6nm,0.5s,baz=38,slow=2.8,SNR=6.6
CMAR ScP **ScP 13 06 29.2 +0.6**
comp=Z,13nm,1.0s,baz=32,slow=4.1,SNR=26
SPSI Sidrap Palu 38.51 211 P **P 13 01 21.5 -0.2**
comp=Z,64nm,1.1s
BNSI Bone 38.75 211 P **P 13 01 24.4 +0.7**
comp=Z,162nm,1.1s,comp=Z,1μm
UTHA Uthaitani 38.78 257 P **P 13 01 24.6 +0.7**
comp=Z,426μm,0.8s
MHMT Maesarieng 38.87 262 P **P 13 01 25.2 +0.6**
comp=Z,174nm,1.1s,comp=Z,2μm
PATY Pattaya 38.93 252 P **P 13 01 26.1 +0.9**
comp=Z,240μm,0.8s
UMPA Umpang Tak 38.96 258 P **P 13 01 27.0 +1.5**
comp=Z,282μm,0.9s
KSM Kuching 39.28 229 P **P 13 01 30.0 +2.0**
KSM Kuching 39.28 229 P **P 13 01 28.5 +0.5**
KSM IAmb IAmb 13 01 31.0
comp=Z,125nm,0.9s
KAPI Kappang 39.45 211 P **P 13 01 30.2 +0.8**
comp=Z,55nm,0.9s,baz=40,slow=8.3,SNR=14
KAPI Kappang 39.45 211 P **P 13 01 29.5 +0.1**
KAPI IAmb IAmb 13 01 31.9
comp=Z,112nm,1.1s
BKSI Bulukumba 39.57 210 P **P 13 01 30.4 +0.1**
comp=Z,56nm,1.1s,comp=Z,821nm
STKI Sintang 39.62 226 P **P 13 01 31.9 +1.1**
SRDT SRDT 39.64 255 P **P 13 01 31.6 +0.6**
comp=Z,172nm,0.8s,comp=Z,2μm
PHET Kaeng Krachan 39.96 253 P **P 13 01 34.6 +1.1**
comp=Z,292μm,0.8s
ATKA Atka Island 40.78 44 P **P 13 01 40.1 +0.4**
LSA Lhasa 40.95 282 P **P 13 01 42.9 +1.0**
LSA Lhasa 40.95 282 P **P 13 01 42.4 +0.4**
LSA pmax pmax
comp=Z,32nm,0.8s
LSA Lhasa 40.95 282 P **P 13 01 42.4 +0.4**
BILL Bilibino 41.18 15*c i*P **P 13 01 43.5 +0.8**
BILL *e* 13 03 31.0
BILL *e* 13 03 36.2
BILL *e*S **S 13 07 23.3 -0.3**
BILL *SS **sS 13 09 49.0 -0.4**
BILL pmax pmax
comp=Z,191nm,1.0s
BILL Bilibino 41.18 15 P **P 13 01 43.6 +0.9**
SHL Shillong 41.40 275 P **P 13 01 44.7 -0.6**
SHL pmax pmax
comp=Z,129nm,1.0s
SHL Shillong 41.40 275 P **P 13 01 44.7 -0.6**
SHL IAmb IAmb 13 01 46.5
comp=Z,128nm,1.0s
MMRI Maumere 41.74 205 P **P 13 01 48.0 +0.2**
comp=Z,117nm,1.0s,comp=Z,2μm
MMRI Maumere 41.74 205 P **P 13 01 47.0 -0.8**
MMRI IAmb IAmb 13 01 48.7
comp=Z,100nm,1.0s
TIXI Tiksi 41.83 355*c i*P **P 13 01 47.5 -0.2**
TIXI pmax pmax
comp=Z,45nm,0.7s
TIXI Tiksi 41.83 355 P **P 13 01 47.5 -0.2**
comp=Z,47nm,0.7s
TIXI ScP **ScP 13 06 41.1 -2.0**
TIXI Tiksi 41.83 355 P **P 13 01 47.4 -0.2**
SOEI Soe 42.10 201 P **P 13 01 50.5 -0.3**
comp=Z,138nm,0.8s,comp=Z,1μm
SOEI Soe 42.10 201 P **P 13 01 50.3 -0.5**
SOEI IAmb IAmb 13 02 08.4
comp=Z,136nm,0.9s
WMQ Urumqi 42.28 303 *e*P **P 13 01 52.6 +0.7**
WMQ PcP **PcP 13 03 36.6 +0.3**
WMQ PP **PP 13 03 43.8 +3.1**
WMQ sP sP 13 04 00.5 +0.7
WMQ ScP **ScP 13 06 45.0 -0.6**
WMQ S **S 13 07 39.3 -1.0**
WMQ pmax pmax
comp=Z,110nm,1.3s
WMQ pmax pmax
comp=Z,250nm,3.8s
WMQ Urumqi 42.28 303 P **P 13 01 52.5 +0.7**
WMQ pmax pmax
comp=Z,235nm,1.2s
WMQ Urumqi 42.28 303 P **P 13 01 52.5 +0.6**
SIMRM Sittwe 42.41 267 P **P 13 01 53.5 +0.4**
SIMRM IAmb IAmb 13 01 55.0
comp=Z,76nm,0.8s
SKLT Songkhla 42.41 245 P **P 13 01 54.4 +1.2**
comp=Z,97nm,0.8s,comp=Z,796nm
BATI Baumata 42.72 202 P **P 13 01 55.1 -0.5**
comp=Z,111nm,0.9s,comp=Z,868nm
TRTT Trang 42.75 247 P **P 13 01 56.8 +0.9**
comp=Z,102nm,1.2s
SURT Suratani 42.81 249 P **P 13 01 57.0 +0.6**
comp=Z,203nm,1.1s,comp=Z,2μm
JRMM Jerantut 43.07 240 P **P 13 01 59.0 +0.6**
MTN Manton Dam 43.43 191 P **P 13 02 00.3 -0.8**
MTN IAmb IAmb 13 02 01.7
comp=Z,89nm,0.7s
MYKOM Kota Tinggi 43.48 236 P **P 13 02 03.0 +1.4**
MYKOM Kota Tinggi 43.48 236 P **P 13 02 02.0 +0.4**
MYKOM IAmb IAmb 13 02 03.6
comp=Z,74nm,0.7s
KULM Kulim 43.55 243 P **P 13 02 03.0 +0.8**
KULM Kulim 43.55 243 P **P 13 02 02.5 +0.3**
KULM IAmb IAmb 13 02 03.8
comp=Z,122nm,0.9s
TPRI Tanjung Pinang 43.61 234 P **P 13 02 04.2 +1.6**
comp=Z,104nm,0.9s
PLAI Plampang 43.72 211 P **P 13 02 02.3 -1.2**
comp=Z,207nm,0.8s,comp=Z,2μm
IPM Ipoh 43.78 242 P **P 13 02 04.0 0.0**
IPM Ipoh 43.78 242 P **P 13 02 03.2 -0.8**
PKDT Phuket 43.80 248 P **P 13 02 04.8 +0.7**
comp=Z,266nm,0.9s,comp=Z,3μm
TWSI Taliwang, Sumb 44.04 212 P **P 13 02 05.4 -0.6**
comp=Z,151nm,1.3s,comp=Z,2μm
NIKH Nikolski High 44.12 44 P **P 13 02 06.2 0.0**
TPI Tanjungpandan 44.20 228 P **P 13 02 08.2 +0.9**
comp=Z,113nm,1.2s,comp=Z,1μm
SRBI Singaraja 44.26 214 P **P 13 02 08.3 +0.6**
comp=Z,277nm,0.9s,comp=Z,3μm
TAPN Taplejung 44.47 279 *e*P **P 13 02 09.7 +0.1**
comp=Z,233nm,0.4s
GRJI Gresik 44.67 219 P **P 13 02 11.5 +0.6**
comp=Z,175nm,0.9s,comp=Z,2μm
DNP Denpasar 44.78 214 P **P 13 02 11.7 0.0**
comp=Z,567nm,0.9s
ODAN Odare 44.88 279 *e*P **P 13 02 12.9 +0.1**
IGBI Denpasar 44.93 214 P **P 13 02 11.7 -1.2**
comp=Z,186nm,0.7s,comp=Z,2μm
TBJI Tambak Boyo 44.94 219 P **P 13 02 14.7 +1.7**
comp=Z,243nm,1.1s,comp=Z,2μm
JAGI Jajag, Banyuwa 45.12 215 P **P 13 02 13.4 -1.0**
comp=Z,104nm,0.9s,comp=Z,925nm
JAGI Jajag, Banyuwa 45.12 215 P **P 13 02 12.8 -1.6**
JAGI IAmb IAmb 13 02 14.5
comp=Z,81nm,0.9s
ZAA0 Zalesovo Array 45.12 318 P **P 13 02 13.1 -0.8**
ZALV Zalesovo Beam 45.12 318 P **P 13 02 13.4 -0.4**
comp=Z,17nm,0.5s,baz=101,slow=7.2,SNR=81
ZALV PcP **PcP 13 03 45.4 -0.4**
comp=Z,10.0nm,0.5s,baz=121,slow=2.9,SNR=8.5
ZALV ScP **ScP 13 06 55.5 -1.4**
comp=Z,10nm,0.7s,baz=110,slow=4.3,SNR=12
GMJI Gumukmas 45.31 216 P **P 13 02 15.3 -0.5**
comp=Z,29nm,0.9s
RAMN Ramite 45.53 279 *e*P **P 13 02 17.9 +0.1**
comp=Z,560nm,0.6s
NGJI Ngawi 45.61 219 P **P 13 02 19.3 +1.2**
comp=Z,84nm,1.0s
JIRN Jiri 45.68 280 *e*P **P 13 02 19.7 +0.6**
comp=Z,709nm,0.3s
GUN Gumba 45.87 281 *e*P **P 13 02 20.9 +0.4**
comp=Z,667nm,0.5s
SMRI Semarang 45.91 221 P **P 13 02 21.5 +1.0**
comp=Z,245nm,0.9s
SMRI Semarang 45.91 221 P **P 13 02 19.3 -1.2**
PWJI Pagerwojo 45.96 219 P **P 13 02 19.4 -1.5**
comp=Z,303nm,0.7s,comp=Z,3μm
MK31 Makanchi Array 46.13 307 P **P 13 02 21.5 -0.4**
MK31 pmax pmax
comp=Z,33nm,0.8s
MK31 Makanchi Array 46.13 307 P **P 13 02 21.5 -0.4**
MKAR Makanchi Array 46.13 307 P **P 13 02 21.6 -0.2**
comp=Z,27nm,0.6s,baz=92,slow=9.2,SNR=226
MKAR ScP **ScP 13 07 00.3 -1.0**
comp=Z,11nm,0.9s,baz=86,slow=5.6,SNR=10
WOJI Wonogiri, Jawa 46.29 220 P **P 13 02 23.0 -0.4**
comp=Z,31nm,0.6s
MAKZ Makanchi 46.35 307 P **P 13 02 23.4 -0.1**
MAKZ pmax pmax
comp=Z,133nm,1.5s
MAKZ Makanchi 46.35 307 P **P 13 02 23.4 -0.1**
MAKZ IAmb IAmb 13 02 24.7
comp=Z,132nm,1.4s
PBA Port Blair 46.36 257 P P 13 02 22.9 -1.0
PKI Pulchoki 46.37 281 *e*P **P 13 02 24.1 -0.2**
comp=Z,19nm,0.5s
PKIN Phulchoki 46.38 281 *e*P **P 13 02 24.1 -0.2**
comp=Z,108nm,0.4s
KKN Kakani 46.42 281 *e*P **P 13 02 24.7 +0.1**
comp=Z,200nm,0.4s
PCJI Pacitan 46.45 219 P **P 13 02 23.9 -0.7**
comp=Z,96nm,0.9s,comp=Z,1μm
PSI Prapat 46.46 242 P **P 13 02 24.6 -0.3**
PSI pmax pmax
comp=Z,109nm,1.1s
LHMI Lhok Sumawe 46.49 246 P **P 13 02 28.0 +3.1**
comp=Z,326nm,0.8s,comp=Z,3μm
LHMI Lhok Sumawe 46.49 246 P **P 13 02 25.0 0.0**
BKNI Bangkinang 46.52 237 P **P 13 02 26.0 +0.8**
comp=Z,248nm,1.1s,comp=Z,4μm
BKNI Bangkinang 46.52 237 P **P 13 02 25.0 -0.2**
RPSI Rantau Prapat 46.53 242 P **P 13 02 24.6 -0.6**
RPSI IAmb IAmb 13 02 25.9
comp=Z,109nm,1.1s
UGM Wanagama 46.58 220 P **P 13 02 25.2 -0.4**
comp=Z,475nm,1.3s,comp=Z,5μm
UGM Wanagama 46.58 220 P **P 13 02 24.9 -0.7**
DMN Daman 46.62 281 *e*P **P 13 02 26.2 +0.1**
comp=Z,215nm,0.4s
KNRA Kununurra 46.62 193 P **P 13 02 24.5 -1.3**
YOGI Yogyakarta 46.62 220 P **P 13 02 25.7 -0.2**
comp=Z,426nm,1.0s,comp=Z,4μm
GKN Gorkha 46.90 281 *e*P **P 13 02 28.2 0.0**
comp=Z,313nm,0.3s
KPJI Karang Pucung 47.01 222 P **P 13 02 28.6 -0.3**
comp=Z,376nm,0.8s,comp=Z,3μm
SDSI Sungai Dareh 47.10 236 P **P 13 02 30.1 +0.5**
comp=Z,120nm,0.7s
LEM Lembang 47.39 224 P **P 13 02 32.0 +0.1**
comp=Z,394nm,0.8s,comp=Z,3μm
MLSI Meulaboh, Aceh 47.50 246 P **P 13 02 31.4 -1.2**
comp=Z,332nm,0.5s,comp=Z,5μm
TPTI 47.51 244 P **P 13 02 30.4 -2.3**
CBJI Citeko 47.53 225 P **P 13 02 34.0 +1.1**
comp=Z,235nm,1.1s,comp=Z,16μm
DANN Dangsing 47.55 282 *e*P **P 13 02 33.8 +0.5**
comp=Z,622nm,0.4s
KLSI 47.55 229 P **P 13 02 33.1 +0.1**
comp=Z,210nm,0.8s,comp=Z,2μmcomp=Z,33μm
CMJI Cimerak 47.66 222 P **P 13 02 31.8 -2.0**
comp=Z,57nm,0.8s
DBJI Dramaga 47.70 225 P **P 13 02 34.1 0.0**
comp=Z,170nm,1.2s,comp=Z,4μm
LHSI Lahat 47.71 231 P **P 13 02 35.0 +0.8**
comp=Z,506nm,0.9s,comp=Z,5μm
BLSI Bandar Lampung 47.73 228 P **P 13 02 34.1 -0.3**
comp=Z,726nm,0.6s,comp=Z,7μm
MDSI Maura Dua 47.77 230 P **P 13 02 34.5 -0.1**
comp=Z,511nm,0.9s,comp=Z,5μm
PDSI Padang 47.78 237 P **P 13 02 34.9 +0.1**
comp=Z,61nm,1.0s,comp=Z,1μm
CISI Cisompet, Garu 47.85 223 P **P 13 02 34.7 -0.6**
comp=Z,233nm,1.0s,comp=Z,2μm
CISI Cisompet, Garu 47.85 223 P **P 13 02 33.6 -1.7**
KOLN Koldanda 47.85 281 *e*P **P 13 02 35.8 +0.4**
comp=Z,793nm,0.8s
KRJI Kerinci 47.89 235 P **P 13 02 37.2 +1.5**
comp=Z,478nm,0.8s,comp=Z,6μm
CNJI Cibinong 48.06 224 P **P 13 02 36.3 -0.5**
comp=Z,120nm,0.9s
KSI Kapahiang 48.22 232 P **P 13 02 37.9 -0.2**
comp=Z,215nm,0.7s
LWLI Liwa 48.24 229 P **P 13 02 37.5 -0.8**
comp=Z,202nm,0.7s
PDGK Podgornoye 48.25 303 P **P 13 02 37.6 -0.5**
PDGK pmax pmax
comp=Z,150nm,0.9s
KASI Kota Agung 48.33 228 P **P 13 02 37.4 -1.5**
comp=Z,199nm,1.1s,comp=Z,1μm
CGJI Cibinong 48.40 226 P **P 13 02 37.3 -2.1**
comp=Z,164nm,0.5s,comp=Z,3μm
GSI Gunungsitoli 48.45 241 P **P 13 02 39.5 -0.3**
comp=Z,1μm,0.6s,comp=Z,13μm
GSI Gunungsitoli 48.45 241 P **P 13 02 38.0 -1.9**
MNAI Manna 48.49 231 P **P 13 02 39.7 -0.4**
comp=Z,487nm,0.5s

KURK Kurchatov 48.61 313 P **P** 13 02 40.5 0.0
KURK Kurchatov 48.61 313 P **P** 13 02 39.9 -0.6
KURK IAmb IAmb 13 02 41.3
comp=Z,77nm,1.0s
ANM Nome 48.62 28 P **P** 13 02 41.7 +1.3
ANM pmax pmax
comp=Z,73nm,0.8s
ANM Nome 48.62 28 P **P** 13 02 41.7 +1.3
ANM IAmb IAmb 13 02 43.1
comp=Z,73nm,0.8s
KURBB Kurchatov Arra 48.67 313 P **P** 13 02 40.5 -0.5
comp=Z,46nm,0.5s,baz=92,slow=7.6,SNR=559
FITZ Fitzroy Crossi 49.66 196 ScP **ScP** 13 07 16.1 -0.3
comp=Z,4.5nm,0.9s,baz=346,slow=3.9,SNR=4.3
FITZ Fitzroy Crossi 49.66 196 P **P** 13 02 48.9 +0.3
TARG Taragay, Kyrgy 49.66 301 P **P** 13 02 49.3 +0.3
TARG IAmb IAmb 13 02 50.8
comp=Z,74nm,0.9s
WRAB Tennant Creek 50.04 185 *ce*P **P** 13 02 51.6 +0.1
WRAB pmax pmax
comp=Z,104nm,1.3s
WRAB Tennant Creek 50.04 185 P **P** 13 02 51.0 -0.5
WRAB IAmb IAmb 13 02 52.3
comp=Z,66nm,0.8s
WRA Warramunga Arr 50.05 185 P **P** 13 02 51.3 -0.2
comp=Z,73nm,0.6s,baz=5.0,slow=8.0,SNR=421
WRA PcP **PcP** 13 04 04.5 +0.4
comp=Z,6.6nm,0.4s,baz=1.5,slow=3.8,SNR=5.7
WRA S **S** 13 09 27.6 -2.2
comp=Z,5.5nm,1.0s,baz=6.6,slow=15,SNR=9.8
WR0 Warramunga Arr 50.05 185 P **P** 13 02 50.7 -0.9
WR0 IAmb IAmb 13 02 52.3
comp=Z,74nm,0.6s
KDJ Kajisay 50.07 302 P **P** 13 02 51.3 -0.5
KDJ pmax pmax
comp=Z,35nm,0.6s
KDJ Kajisay 50.07 302 P **P** 13 02 51.3 -0.5
RDOG Red Dog Mine 50.61 24 P **P** 13 02 56.5 +1.3
RDOG IAmb IAmb 13 02 57.7
comp=Z,80nm,0.9s
ULHL Ulahol 50.74 302 P **P** 13 02 57.7 +0.9
SNR=12
NRN Naryn 51.04 301 P **P** 13 02 59.2 +0.1
NRN pmax pmax
comp=Z,55nm,1.1s
NRN Naryn 51.04 301 P **P** 13 02 59.2 +0.1
TKM2 Tokmak 2 51.13 303 *i* P **P** 13 02 59.8 +0.2
TKM2 pmax pmax
comp=Z,41nm,0.6s
TKM2 Tokmak 2 51.13 303 P **P** 13 02 59.8 +0.2
SNR=52
KSH Kashi 51.37 298 P **P** 13 03 05.1 +3.8
KSH PcP **PcP** 13 04 12.5 +3.5
KSH S **S** 13 09 52.4 +4.7
KSH pmax pmax
comp=Z,190nm,0.6s
KSH pmax pmax
comp=Z,530nm,6.3s
KZA Kyzart 51.50 302 P **P** 13 03 04.1 +1.5
SNR=12
KBK Karagaybulak 51.64 302 P **P** 13 03 03.5 +0.2
SNR=66
CHMS Chumysh 51.73 303 P **P** 13 03 03.9 +0.1
SNR=22
USP Ospenovka 51.88 303 P **P** 13 03 04.8 -0.1
SNR=29
AAK Ala-Archa 51.97 303 *i* P **P** 13 03 05.9 +0.2
SNR=50
AAK Ala-Archa 51.97 303 P **P** 13 03 05.7 0.0
comp=Z,39nm,0.6s,baz=91,slow=5.9,SNR=106
AAK Ala-Archa 51.97 303 P **P** 13 03 06.0 +0.4
SNR=8.6
AAK Ala-Archa 51.97 303 P **P** 13 03 05.4 -0.3
UCH Uchtor 52.02 302 P **P** 13 03 07.3 +0.9
SNR=53
CHIR Chirikof Islan 52.08 41 P **P** 13 03 06.3 +0.3
TTA Tatalina 52.35 32 P **P** 13 03 08.8 +0.8
TTA pmax pmax
comp=Z,43nm,0.9s
TTA Tatalina 52.35 32 P **P** 13 03 08.8 +0.8
EKS2 Erkin-Say 52.49 303 P **P** 13 03 09.6 +0.2
SNR=6.3
AML Almayashu 52.63 302 P **P** 13 03 11.6 +0.9
SNR=131
SII Sitkinak Islan 52.89 40 P **P** 13 03 12.3 +0.4
NDI New Delhi 52.96 285 *ex* **P** 13 03 13.0 +0.2
ARSB Arslanbob 53.30 301 P **P** 13 03 15.7 +0.4
ARSB IAmb IAmb 13 03 16.9
comp=Z,190nm,1.3s
OHAK Old Harbor 53.39 39 P **P** 13 03 15.8 +0.5
OHAK IAmb IAmb 13 03 16.8
comp=Z,137nm,1.3s
RSO Redoubt South 53.72 35 P **P** 13 03 18.6 +0.6
BRVK Borovoye 53.73 316 *i* P **P** 13 03 17.7 -0.2
BRVK pmax pmax
comp=Z,37nm,0.6s
BRVK Borovoye 53.73 316 P **P** 13 03 17.7 -0.2
KDAK Kodiak Island 53.76 38 P **P** 13 03 18.7 +0.6
comp=Z,86nm,0.6s,baz=256,slow=1.8,SNR=192
KDAK Kodiak Island 53.76 38 P **P** 13 03 18.7 +0.6
KDAK IAmb IAmb 13 03 19.7
comp=Z,170nm,1.1s
ASAR Alice Springs 53.78 185 P **P** 13 03 18.9 +0.3
comp=Z,22nm,0.4s,baz=358,slow=5.9,SNR=777
ASAR PcP **PcP** 13 04 19.4 +1.2
comp=Z,4.4nm,0.7s,baz=6.2,slow=4.4,SNR=6.6
ASAR S **S** 13 10 19.6 -0.2
comp=Z,2.1nm,0.7s,baz=18,slow=21,SNR=11
NGP Nagpur 53.98 275 *e*P **P** 13 03 20.3 +0.1
NGP *ex* x 13 03 27.5
comp=E,160nm,0.2s
PPLA Purkeypile 54.09 32 P **P** 13 03 22.4 +1.8
PPLA IAmb IAmb 13 03 23.3
comp=Z,136nm,0.8s
SKT Skwentna 54.36 33 P **P** 13 03 22.7 +0.5
SKT IAmb IAmb 13 03 24.0
comp=Z,81nm,0.6s
CNPM China Poot 54.46 36 P **P** 13 03 22.9 -0.1
CNPM IAmb IAmb 13 03 26.0
comp=Z,104nm,0.6s
PSAD1 Pilbara Seismi 54.49 202 P **P** 13 03 23.6 0.0
PSAD1 IAmb IAmb 13 03 24.7
comp=Z,94nm,0.9s
PSA00 Pilbara Seismi 54.59 202 P **P** 13 03 23.7 -0.7
PSA00 IAmb IAmb 13 03 25.4
comp=Z,61nm,0.8s
BRLK Bradley Lake 54.64 36 P **P** 13 03 24.8 +0.5
BPAW Bear Paw Mtn. 54.70 30 P **P** 13 03 25.9 +1.3
BPAW IAmb IAmb 13 03 27.2
comp=Z,76nm,0.8s
KTH Kantishna Hill 54.70 31 P **P** 13 03 25.9 +1.2
SUA Susitna One 54.72 34 P **P** 13 03 25.0 +0.1
SUA IAmb IAmb 13 03 27.0
comp=Z,114nm,0.6s
KK31 Karatay Array 54.78 304 P **P** 13 03 25.7 +0.1
KK31 pmax pmax
comp=Z,132nm,0.9s
KK31 Karatay Array 54.78 304 P **P** 13 03 25.6 +0.1
KK31 IAmb IAmb 13 03 26.8
comp=Z,132nm,0.8s
KKAR Karatay Array 54.78 304 P **P** 13 03 25.5 -0.1
KKAR pmax pmax
comp=Z,132nm,0.9s
KKAR Karatay Array 54.78 304 P **P** 13 03 25.5 -0.1
KKAR IAmb IAmb 13 03 26.8
comp=Z,132nm,0.8s
NIL Nilore 54.80 292 P **P** 13 03 26.4 +0.5
NIL pmax pmax
comp=Z,179nm,0.8s
NIL Nilore 54.80 292 P **P** 13 03 26.4 +0.5
MLY Manley 54.85 29 P **P** 13 03 27.3 +1.5
MLY IAmb IAmb 13 03 28.5
comp=Z,94nm,1.0s
TRF Thorofare Moun 54.98 31 P **P** 13 03 27.5 +0.7
RC01 Rabbit Creek A 55.20 34 P **P** 13 03 28.6 +0.3
RC01 IAmb IAmb 13 03 29.8
comp=Z,124nm,0.8s
COLD Coldfoot 55.22 27 P **P** 13 03 29.3 +1.1
SEW Seward 55.36 35 P **P** 13 03 29.8 +0.5
PMR Palmer 55.49 34 P **P** 13 03 30.9 +0.7
PMR pmax pmax
comp=Z,183nm,1.0s
PMR Palmer 55.49 34 P **P** 13 03 30.9 +0.7
PMR IAmb IAmb 13 03 31.7
comp=Z,183nm,1.0s

NEA Nenana 55.55 30 P **P** 13 03 31.9 +1.3
NEA IAmb IAmb 13 03 32.9
comp=Z,191nm,1.1s
TOLK Toolik Lake Re 55.57 25 P **P** 13 03 31.9 +1.2
baz=265
TOLK Toolik Lake Re 55.57 25 P **P** 13 03 31.8 +1.0
GHO Glory Hole Cre 55.59 33 P **P** 13 03 31.4 +0.4
GHO IAmb IAmb 13 03 32.8
comp=Z,128nm,1.0s
MCK McKinley 55.59 31 P **P** 13 03 31.7 +0.8
MCK pmax pmax
comp=Z,175nm,0.9s
MCK McKinley 55.59 31 P **P** 13 03 31.7 +0.8
RND Reindeer 55.62 31 P **P** 13 03 31.7 +0.5
RND pmax pmax
comp=Z,170nm,0.7s
RND Reindeer 55.62 31 P **P** 13 03 31.7 +0.5
GAR Garm 55.77 299 P **P** 13 03 32.8 0.0
KNK Knik Glacier 55.82 34 P **P** 13 03 33.4 +0.9
SML Sawmill 55.87 33 P **P** 13 03 33.7 +0.8
HYB Hyderabad 55.91 271 *i* P **P** 13 03 33.0 -0.9
HYB *e*PcP **PcP** 13 04 25.0 -1.7
MDM Murphy Dome 55.92 29 P **P** 13 03 34.1 +0.9
MDM IAmb IAmb 13 03 36.2
comp=Z,98nm,1.1s
WRH Wood River Hil 55.97 30 P **P** 13 03 33.8 +0.3
TCOL CIGO, UAF Yank 56.07 30 P **P** 13 03 34.8 +0.6
baz=270,SNR=28
COLA College 56.08 30 *c i* P **P** 13 03 35.5 +1.3
COLA pmax pmax
comp=Z,52nm,0.8s
COLA College 56.08 30 P **P** 13 03 34.9 +0.7
COLA IAmb IAmb 13 03 37.1
comp=Z,56nm,0.7s
CCB Clear Creek Bu 56.09 30 P **P** 13 03 34.5 +0.2
POKR Poker Plat Res 56.26 29 P **P** 13 03 36.4 +0.9
baz=270,SNR=60
DHY Denali Highway 56.29 32 P **P** 13 03 36.4 +0.4
SCM Sheep Creek Mo 56.35 33 P **P** 13 03 37.4 +1.1
SCM pmax pmax
comp=Z,315nm,0.9s
SCM Sheep Creek Mo 56.35 33 P **P** 13 03 37.4 +1.1
HDA Harding Lake 56.47 30 P **P** 13 03 37.1 +0.1
baz=271,SNR=106
HDA Harding Lake 56.47 30 P **P** 13 03 37.1 +0.1
HDA IAmb IAmb 13 03 38.0
comp=Z,113nm,0.8s
IL31 56.49 30 P **P** 13 03 37.1 0.0
ILAR Eielson Array 56.49 30 P **P** 13 03 37.0 -0.2
comp=Z,30nm,0.7s,baz=258,slow=4.5,SNR=437
GLI Glacier Island 56.50 34 P **P** 13 03 37.9 +0.6
FID Port Fidalgo 56.81 35 P **P** 13 03 39.9 +0.5
HIN Hinchinbrook I 56.82 35 P **P** 13 03 40.5 +1.0
KIP Kipapa 57.03 83 *ce*P **P** 13 03 43.0 +1.4
KIP pmax pmax
comp=Z,198nm,2.5s
KIP Kipapa 57.03 83 P **P** 13 03 42.0 +0.5
KIP IAmb IAmb 13 03 44.3
comp=Z,114nm,1.1s
PRP Porcupine Dome 57.06 29 P **P** 13 03 41.2 -0.1
FYU Fort Yukon 57.16 28 P **P** 13 03 43.1 +1.4
FYU IAmb IAmb 13 03 44.8
comp=Z,144nm,1.4s
PAX Paxson 57.16 32 P **P** 13 03 42.9 +0.9
PAX pmax pmax
comp=Z,83nm,0.9s
PAX Paxson 57.16 32 P **P** 13 03 42.9 +0.9
PAX IAmb IAmb 13 03 44.0
comp=Z,83nm,0.9s
EYAK Cordova Ski Ar 57.18 35 P **P** 13 03 42.7 +0.8
EYAK IAmb IAmb 13 03 43.7
comp=Z,50nm,0.6s
RIDG Independent Ri 57.41 31 P **P** 13 03 43.9 +0.3
RIDG IAmb IAmb 13 03 46.1
comp=Z,99nm,0.8s
RAGM Ragged Mountai 57.72 35 P **P** 13 03 47.0 +1.2
RAGM IAmb IAmb 13 03 48.3
comp=Z,75nm,1.2s
DOT Dot Lake 57.76 31 P **P** 13 03 46.4 +0.4
SCRK Sand Creek 57.78 31 P **P** 13 03 46.8 +0.6
KBL Kabul 57.91 294 P **P** 13 03 46.8 -0.9
KBL pmax pmax
comp=Z,57nm,0.8s
KBL Kabul 57.91 294 P **P** 13 03 46.8 -0.9
KBL IAmb IAmb 13 03 48.5
comp=Z,57nm,0.8s
HMT Hamilton 57.93 35 P **P** 13 03 47.9 +0.7
MENT Mentasta 57.97 32 P **P** 13 03 48.9 +1.5
GLB Gilahina Butte 58.05 34 P **P** 13 03 49.2 +1.2
GLB IAmb IAmb 13 03 50.4
comp=Z,130nm,1.2s
SUCK Suckling Hills 58.20 35 P **P** 13 03 50.4 +1.4
SUCK IAmb IAmb 13 03 51.5
comp=Z,175nm,1.4s
VRDI Verde Repeater 58.24 34 P **P** 13 03 50.1 +0.6
VRDI IAmb IAmb 13 03 51.1
comp=Z,44nm,0.6s
MCARA McCarthy VSAT 58.43 34 P **P** 13 03 51.7 +1.1
CRQM Cirque 58.44 34 P **P** 13 03 51.5 +0.7
CRQM IAmb IAmb 13 03 53.1
comp=Z,167nm,1.3s
TGL Tana Glacier 58.59 34 P **P** 13 03 52.4 +0.6
TGL IAmb IAmb 13 03 53.8
comp=Z,62nm,0.6s
PALK Pallekele 58.79 260 *i* P **P** 13 03 54.0 +0.2
SNR=9.2
PALK Pallekele 58.79 260 P **P** 13 03 54.0 +0.2
PALK pmax pmax
comp=Z,50nm,0.8s
PALK Pallekele 58.79 260 P **P** 13 03 54.0 +0.2
PALK IAmb IAmb 13 03 55.0
comp=Z,50nm,0.8s
BALM Baldy 58.79 34 P **P** 13 03 53.9 +0.7
BALM IAmb IAmb 13 03 54.9
comp=Z,48nm,0.7s
SVE Sverdlovsk 58.88 321 *e*P **P** 13 03 54.2 +0.6
SVE pmax pmax
comp=Z,34nm,0.8s
EGAK Eagle 58.94 30 P **P** 13 03 54.4 +0.5
EGAK IAmb IAmb 13 03 56.6
comp=Z,42nm,0.7s
BARN Barnard Glacie 59.12 34 P **P** 13 03 56.1 +0.6
BARN IAmb IAmb 13 03 57.5
comp=Z,40nm,0.6s
CTGM Chitina Glacie 59.29 34 P **P** 13 03 57.4 +0.8
POO Poona 59.51 275 *i x* P **P** 13 03 57.5 -1.1
KHLU Kahalu`u 59.58 84 P **P** 13 04 00.5 +1.4
KHLU IAmb IAmb 13 04 01.5
comp=Z,53nm,0.7s
KAD Karad 59.73 273 *ex* **P** 13 03 59.9 -0.2
DAWY Dawson 59.78 30 P **P** 13 04 00.8 +1.1
MWH Moku'aweowe 59.88 84 P **P** 13 04 01.5 -0.1
MWH IAmb IAmb 13 04 16.5
comp=Z,89nm,1.0s
HMH Humu'ula Sheep 59.92 84 P **P** 13 04 02.5 +0.8
HMH IAmb IAmb 13 04 05.0
comp=Z,76nm,0.6s
KHU Kahuku 59.96 84 P **P** 13 04 01.4 -0.4
KHU pmax pmax
comp=Z,177nm,1.0s
KHU Kahuku 59.96 84 P **P** 13 04 01.4 -0.4
ARU Arti 60.07 321 *c i* P **P** 13 04 01.5 -0.2
ARU 13 04 41.2
ARU 13 06 16.0
ARU S **S** 13 11 42.7 +2.3
ARU SS **SS** 13 15 43.5 -2.0
ARU pmax pmax
comp=Z,57nm,0.7s
ARU Arti 60.07 321 P **P** 13 04 00.9 -0.8
ARU IAmb IAmb 13 04 02.4
comp=Z,60nm,0.6s
BCPM Bancas Point 60.27 35 P **P** 13 04 04.0 +1.0
BCPM IAmb IAmb 13 04 05.4
comp=Z,115nm,0.9s
EPYK Eagle Plains 60.58 27 P **P** 13 04 06.3 +1.3
baz=278
EPYK Eagle Plains 60.58 27 P **P** 13 04 06.4 +1.5
AB31 Akbulak array 60.72 313 *i* P **P** 13 04 05.9 -0.3
AB31 pmax pmax
comp=Z,42nm,0.5s
ABKAR Akbulak array 60.72 313 P **P** 13 04 06.1 0.0
ABKAR IAmb IAmb 13 04 07.0
comp=Z,80nm,0.8s
MSVF Nonsavu 60.91 136 *i* P **P** 13 04 09.2 +1.3

MSVF Nonsavu 60.91 136 P **P** 13 04 07.3 -0.6
HYT Haines Junctio 61.16 34 P **P** 13 04 10.0 +1.0
HYT IAmb IAmb 13 04 11.9
comp=Z,87nm,0.9s
INK Inuvik 61.49 25 P **P** 13 04 11.4 +0.5
comp=Z,27nm,0.5s,baz=292,slow=5.7,SNR=275
INK Inuvik 61.49 25 P **P** 13 04 11.4 +0.5
INK IAmb IAmb 13 04 12.4
comp=Z,64nm,1.1s
FORT Forrest 61.50 190 P **P** 13 04 12.0 +0.6
AKTO Aktyubinsk 61.66 314 P **P** 13 04 11.8 -0.5
AKTO pmax pmax
comp=Z,52nm,0.8s
STKA Stephens Creek 61.82 177 P **P** 13 04 14.1 +0.6
comp=Z,34nm,0.8s,baz=351,slow=7.1,SNR=82
STKA Stephens Creek 61.82 177 P **P** 13 04 13.3 -0.3
WHY Whitehorse 62.46 34 P **P** 13 04 19.1 +1.6
WHY IAmb IAmb 13 04 20.2
comp=Z,89nm,0.8s
SKAG Skagway 62.51 35 P **P** 13 04 19.2 +1.5
SKAG IAmb IAmb 13 04 20.4
comp=Z,112nm,1.1s
BBOO Buckleboo 62.74 182 P **P** 13 04 19.6 +0.1
MORW Morawa 62.79 202 P **P** 13 04 19.2 -0.7
MORW IAmb IAmb 13 04 20.9
comp=Z,46nm,0.9s
JIS Juneau Island 63.28 36 P **P** 13 04 24.4 +1.7
HRA Herat 63.30 296 P **P** 13 04 23.9 +0.3
HRA IAmb IAmb 13 04 24.9
comp=Z,49nm,0.9s
C36M Paulatuk 64.56 23 P **P** 13 04 31.4 +0.7
baz=288
GEYT Alibeck 65.25 301 P **P** 13 04 36.0 +0.2
comp=Z,24nm,0.8s,baz=64,slow=3.4,SNR=37
GYA0B ALIBECK ARRAY 65.25 301 P **P** 13 04 35.8 0.0
GYA0B IAmb IAmb 13 04 37.0
comp=Z,34nm,0.9s
PRGR Permogore 65.29 328 *e*P **P** 13 04 34.1 -1.4
PRGR pmax pmax
comp=Z,18nm,0.6s
DLBC Dease Lake 65.44 35 P **P** 13 04 38.1 +1.5
comp=Z,32nm,0.9s,baz=293,slow=7.0,SNR=11
DLBC Dease Lake 65.44 35 P **P** 13 04 37.9 +1.3
DLBC IAmb IAmb 13 04 39.5
comp=Z,61nm,1.1s
DIB Dawson Inlet, 65.75 41 P **P** 13 04 38.0 -0.6
NWAO Narrogin (SRO) 66.01 200 P **P** 13 04 39.2 -1.2
NWAO pmax pmax
comp=Z,79nm,0.7s
NWAO Narrogin (SRO) 66.01 200 P **P** 13 04 39.2 -1.2
NWAO Narrogin (SRO) 66.01 200 P **P** 13 04 39.1 -1.2
NWAO IAmb IAmb 13 04 41.5
comp=Z,63nm,0.7s
XMAS Kiritimati 66.50 102 P **P** 13 04 43.0 -0.9
XMAS IAmb IAmb 13 04 46.3
comp=Z,62nm,0.8s
SPA0 Spitsbergen Ar 66.76 349 *e*P **P** 13 04 45.4 +0.9
SPA0 Spitsbergen Ar 66.76 349 P **P** 13 04 45.2 +0.7
SPITS Spitsbergen Ar 66.76 349 P **P** 13 04 45.1 +0.5
comp=Z,14nm,0.7s,baz=94,slow=10,SNR=22
KBS Kingsbay 66.97 350 *e*P **P** 13 04 46.7 +0.9
HSPB Hornsund (broa 67.62 348 *e*P **P** 13 04 50.9 +1.0
TMCR Tamitsa 67.66 332 *e*P **P** 13 04 51.5 +1.2
TMCR pmax pmax
comp=Z,20nm,0.9s
TOO Toolangi 67.74 174 P **P** 13 04 50.8 -0.3
TOO pmax pmax
comp=Z,14nm,0.7s
TOO Toolangi 67.74 174 P **P** 13 04 50.8 -0.3
BBB Bella Bella 68.60 41 P **P** 13 04 57.0 +0.8
comp=Z,32nm,0.8s,baz=301,slow=5.9,SNR=10
BBB Bella Bella 68.60 41 P **P** 13 04 56.6 +0.4
BBB IAmb IAmb 13 04 58.0
comp=Z,40nm,0.9s
ARCES ARCESS Array B 69.57 340 P **P** 13 05 02.4 +0.5
comp=Z,10nm,0.5s,baz=66,slow=8.8,SNR=109
ARE0 ARCESS Array S 69.57 340 *e*P **P** 13 05 02.6 +0.8
RES Resolute Bay 69.74 13 P **P** 13 05 03.5 +0.7
comp=Z,24nm,0.6s,baz=316,slow=7.0,SNR=39
RES Resolute Bay 69.74 13 P **P** 13 05 03.2 +0.4
RES IAmb IAmb 13 05 04.3
comp=Z,29nm,0.7s
KTK1 Kautokeino 70.54 340 *e*P **P** 13 05 07.8 +0.2
YKA Yellowknife Ar 70.85 28 P **P** 13 05 09.8 +0.2
comp=Z,32nm,0.7s,baz=295,slow=6.0,SNR=374
VRH Novokhopyorsk 71.14 319 *e*P **P** 13 05 10.6 -0.9
VRH *e*S **S** 13 13 49.9 -3.0
VRH pmax pmax
comp=Z,50nm,0.6s
VRH smax smax
comp=E,70nm,1.0s
BANOM Banah 71.28 290 *i* P **P** 13 05 13.2 +0.3
SNR=8.0
SHME Shamm 71.35 290 *i* P **P** 13 05 13.8 +0.5
SNR=24
AKT Akhty 71.36 308 *e*P **P** 13 05 13.0 -0.2
AKT *e* 13 05 29.3
AKT pmax pmax
comp=Z,100nm,0.6s
TRO Tromso 71.42 341 *e*P **P** 13 05 11.7 -1.0
MDH Madha 71.54 289 P **P** 13 05 13.7 -0.7
MSFE Esma-Masafi 71.63 289 P **P** 13 05 15.6 +0.6
UOSS Minazif 71.77 289 *i* P **P** 13 05 15.7 -0.1
SNR=7.3
UOSS Minazif 71.77 289 P **P** 13 05 15.3 -0.4
UOSS IAmb IAmb 13 05 16.5
comp=Z,39nm,0.8s
HATD Hatta, Dubai 71.88 289 *i* P **P** 13 05 16.9 +0.5
SNR=15
ASHO Ashiyiah 72.00 288 *i* P **P** 13 05 17.2 +0.1
SNR=9.9
LPSR Galich'ya Gora 72.10 321 *e*P **P** 13 05 16.3 -0.8
LPSR *e*S **S** 13 14 00.2 -3.5
LPSR pmax pmax
comp=Z,30nm,0.9s
LPSR smax smax
comp=E,30nm,0.7s
TULEG Thule 72.12 7 P **P** 13 05 17.4 +0.5
TULEG IAmb IAmb 13 05 18.3
comp=Z,78nm,0.9s
OBN Obninsk 72.21 324 *ce*P **P** 13 05 18.0 +0.3
OBN *e*S **S** 13 14 03.8 -1.0
OBN pmax pmax
comp=Z,35nm,0.7s
OBN Obninsk 72.21 324 P **P** 13 05 18.1 +0.3
comp=Z,5.6nm,0.4s,baz=133,slow=5.7,SNR=5.3
OBN Obninsk 72.21 324 P **P** 13 05 17.7 0.0
OBN IAmb IAmb 13 05 18.7
comp=Z,36nm,0.6s
DAG Danmarks Havn 72.34 355 *i* P **P** 13 05 18.5 +0.4
DAG pmax pmax
comp=Z,27nm,0.8s
DAG Danmarks Havn 72.34 355 *i* P **P** 13 05 18.5 +0.4
comp=Z,27nm,0.8s
FAQ Al Faqa, Dubai 72.36 289 P **P** 13 05 18.9 -0.3
ALNE Al Ain 72.52 288 *i* P **P** 13 05 20.6 +0.4
SNR=8.9
VSR Storozhevoye 72.58 319 *e*P **P** 13 05 19.4 -0.6
VSR *e*S **SKiKP** 13 14 05.5 -2.8
VSR pmax pmax
comp=Z,70nm,0.8s
VSR smax smax
comp=N,90nm,0.9s
VORD Divnogorie 72.62 319 *e*P **P** 13 05 19.6 -0.6
VORD *e*S **SKiKP** 13 14 05.3 -3.0
VORD pmax pmax
comp=Z,40nm,0.9s
VORD smax smax
comp=N,80nm,0.8s
ASUD Al Ashush, Dub 72.62 289 *i* P **P** 13 05 21.1 +0.4
SNR=5.9
PGC Sidney 72.76 43 P **P** 13 05 22.3 +1.2
LLLB Lillooet 72.80 41 P **P** 13 05 22.4 +1.0
LLLB IAmb IAmb 13 05 23.6
comp=Z,35nm,0.8s
GOF Gofitskoye 72.96 312 *e*P **P** 13 05 22.5 +0.2
GOF pmax pmax
comp=Z,57nm,0.8s
NLWA Neilton Lookou 73.06 45 P **P** 13 05 24.7 +1.8
NLWA IAmb IAmb 13 05 26.0
comp=Z,52nm,0.8s
A04D Lummi Island 73.17 43 P **P** 13 05 25.0 +1.6
baz=297
TBLG Delisi 73.29 309 P **P** 13 05 24.8 +0.5
TBLG pmax pmax

comp=Z,23nm,0.6s
TBLG Delisi 73.29 309 P P 13 05 24.8 +0.5
ZEI Tsey 73.39 310 *e*P **P 13 05 22.4 -2.7**
ZEI pmax pmax
comp=Z,32nm,0.6s
D03D Eldon 73.47 44 P P 13 05 27.2 +2.0
baz=297,SNR=39
STEI Steigen 73.54 341 *e*P **P 13 05 25.4 +0.3**
E03A Lebam 73.63 45 P **P 13 05 27.8 +1.7**
E03A lAmb lAmb 13 05 28.9
comp=Z,83nm,1.0s
KBZ Khabaz 73.64 311 *d i*P **P 13 05 26.3 +0.1**
KBZ Khabaz 73.64 311 P **P 13 05 26.4 +0.2**
comp=Z,69nm,0.8s,baz=79,slow=4.5,SNR=139
KIV Kislovodsk 73.68 312 *i*P **P 13 05 27.3 +0.7**
SNR=6.3
KIV Kislovodsk 73.68 312 ⇑P **P 13 05 27.4 +0.8**
KIV Kislovodsk 73.68 312 ⇑P **P 13 05 27.4 +0.8**
KIV mb 13 05 28.9
KIV Kislovodsk 73.68 312 P **P 13 05 26.9 +0.3**
KIV lAmb lAmb 13 05 28.9
comp=Z,53nm,0.8s
B05A Bryant 73.74 43 P **P 13 05 28.2 +1.5**
baz=297,SNR=12
FIA1 FINESS Array S 73.78 332 P **P 13 05 26.1 -0.5**
FINES FINESS Array B 73.78 332 P **P 13 05 26.4 -0.2**
comp=Z,14nm,0.5s,baz=62,slow=5.5,SNR=79
D04E Lakebay 73.83 45 P **P 13 05 29.4 +2.2**
baz=297
GNI Garni 73.98 307 *i*P **P 13 05 29.5 +1.1**
SNR=7.0
GNI Garni 73.98 307 *ce*P **P 13 05 29.2 +0.7**
GNI pmax pmax
comp=Z,117nm,1.1s
GNI Garni 73.98 307 P **P 13 05 28.9 +0.4**
GNI lAmb lAmb 13 05 30.5
comp=Z,62nm,1.1s
B06A Marblemount 73.99 43 P **P 13 05 28.6 +0.5**
B06A lAmb lAmb 13 05 30.4
comp=Z,68nm,1.1s
F04D Rainier, OR 74.18 46 P **P 13 05 30.9 +1.7**
baz=297
E04D Cinebar 74.24 45 P **P 13 05 31.5 +1.9**
baz=297,SNR=22
AKH Akhalkalaki 74.27 309 P **P 13 05 30.9 +0.7**
AKH pmax pmax
comp=Z,43nm,1.2s
AKH Akhalkalaki 74.27 309 ⇑P **P 13 05 31.4 +1.2**
AKH Akhalkalaki 74.27 309 P **P 13 05 30.9 +0.7**
D05A Enumclaw 74.30 44 P **P 13 05 31.8 +1.8**
G03D McMinnville, O 74.42 47 P **P 13 05 32.5 +1.8**
baz=297,SNR=6.8
I02D Swisshome 74.55 48 P **P 13 05 33.4 +1.9**
baz=297
LON Longmire 74.61 45 P **P 13 05 31.9 +0.1**
LON pmax pmax
comp=Z,36nm,1.4s
LON Longmire 74.61 45 P **P 13 05 31.9 +0.1**
C06D Leavenworth 74.61 43 P **P 13 05 33.0 +1.2**
baz=298
F04A Amboy 74.62 46 P **P 13 05 32.7 +1.0**
COR Corvallis 74.68 47 P **P 13 05 33.4 +1.2**
COR pmax pmax
comp=Z,98nm,1.0s
COR Corvallis 74.68 47 P **P 13 05 33.4 +1.2**
KEBM Edson Butte 74.80 49 P **P 13 05 33.8 +0.8**
J01E Myrtle Point 74.93 49 P **P 13 05 35.2 +1.7**
baz=297,SNR=11
KULLO Kullorsuaq 74.94 4 *i*P **P 13 05 33.6 +0.6**
KULLO pmax pmax
comp=Z,87nm,0.9s
KULLO Kullorsuaq 74.94 4 *i*P **P 13 05 33.6 +0.6**
comp=Z,87nm,0.9s
MOR8 Moi Rana 74.95 340 *e*P **P 13 05 32.3 -0.9**
I03D Drain, OR 75.06 48 P **P 13 05 36.3 +2.0**
baz=298,SNR=32
LTY Liberty 75.06 44 P **P 13 05 35.1 +0.8**
LTY lAmb lAmb 13 05 36.4
comp=Z,40nm,1.1s
H04D Lebanon 75.07 47 P **P 13 05 36.2 +1.8**
baz=298,SNR=15
KBO Bosley Butte 75.17 50 P **P 13 05 37.0 +1.9**
F05D White Salmon 75.23 45 P **P 13 05 36.7 +1.4**
baz=298,SNR=9.6
SHAO Shalim 75.31 282 P **P 13 05 36.4 +0.2**
K02D Willamette Mer 75.32 49 P **P 13 05 37.5 +1.5**
baz=298,SNR=18
BATM Batumi 75.39 310 ⇑P **P 13 05 36.2 0.0**
L02E Cave Junction 75.61 50 P **P 13 05 39.3 +1.8**
baz=298,SNR=11
I04A Tendick Farm, 75.62 48 P **P 13 05 38.9 +1.3**
baz=298,SNR=56
G05D Wamic, OR 75.62 46 P **P 13 05 39.2 +1.7**
baz=298,SNR=14
SOC Sochi 75.76 312 *e*P **P 13 05 37.2 -1.0**
SOC *e**PP **pP 13 07 11.3 +0.5**
SOC *e**SP **sP 13 07 56.2 +0.9**
SOC *e*PPP PPP 13 10 24.2
SOC *e*S **S 13 14 44.5 +0.1**
SOC *e*SS **SS 13 19 45.0 -1.3**
SOC *e*SSS SSS 13 23 15.7
SOC pmax pmax
comp=Z,51nm,0.6s
HUMO Hull Mountain 75.82 49 P **P 13 05 40.1 +1.4**
E07A Sunnyside 75.89 44 P **P 13 05 40.4 +1.5**
E07A lAmb lAmb 13 05 41.5
comp=Z,74nm,1.1s
I05D Terrebonne, OR 76.04 47 P **P 13 05 41.3 +1.4**
baz=299,SNR=28
G06A Carlson Farm, 76.05 46 P **P 13 05 41.2 +1.3**
G06A lAmb lAmb 13 05 42.4
comp=Z,58nm,1.1s
J04D Umpqua Nationa 76.07 48 P **P 13 05 42.0 +1.7**
baz=298,SNR=68
KHMM Horse Mountain 76.12 51 P **P 13 05 42.0 +1.5**
KHMM lAmb lAmb 13 05 43.5
comp=Z,110nm,1.4s
HAWA Hanford 76.16 44 P **P 13 05 41.5 +1.1**
HAWA lAmb lAmb 13 05 42.9
comp=Z,60nm,1.2s
F07A Phinny Hill Vi 76.17 45 P **P 13 05 41.8 +1.4**
F07A lAmb lAmb 13 05 43.0
comp=Z,53nm,0.8s
C09A Chrisman Ranch 76.22 43 P **P 13 05 41.9 +1.1**
C09A lAmb lAmb 13 05 42.9
comp=Z,76nm,0.9s
YBH Yreka Blue Hor 76.39 50 P **P 13 05 42.8 +0.9**
YBH pmax pmax
comp=Z,34nm,1.0s
YBH Yreka Blue Hor 76.39 50 P **P 13 05 42.8 +0.9**
YBH lAmb lAmb 13 05 44.7
comp=Z,34nm,0.9s
E08A Dider Farm, El 76.40 44 P **P 13 05 43.0 +1.3**
E08A lAmb lAmb 13 05 44.0
comp=Z,50nm,0.9s
L04D Klamath Falls 76.43 49 P **P 13 05 43.6 +1.4**
baz=299,SNR=16
KMRM Mail Ridge 76.44 51 P **P 13 05 43.5 +1.3**
KMRM lAmb lAmb 13 05 45.1
comp=Z,46nm,1.0s
M02C Callahan 76.46 50 P **P 13 05 44.0 +1.7**
baz=298,SNR=18
PINE Pine Mountain 76.55 47 P **P 13 05 44.8 +1.8**
K04D Chiloquin, OR 76.59 48 P **P 13 05 44.7 +1.6**
baz=299,SNR=16
J05D Fort Rock, OR 76.61 48 P **P 13 05 45.1 +1.9**
baz=299,SNR=92
ANN Anapa 76.62 314 *e*P **P 13 05 42.7 -0.3**
ANN *e**PP **pP 13 07 15.3 -0.4**
ANN *e*S **S 13 14 49.7 -3.9**
ANN pmax pmax
comp=Z,115nm,1.0s
NEW Newport 76.65 42 P **P 13 05 44.4 +1.1**
baz=300,SNR=56
NEW Newport 76.65 42 P **P 13 05 44.3 +1.1**
comp=Z,54nm,0.8s,baz=301,slow=4.8,SNR=108
NEW Newport 76.65 42 P **P 13 05 44.2 +1.0**
NEW lAmb lAmb 13 05 45.2
comp=Z,58nm,0.8s
N02D Trinity Center 76.76 50 P **P 13 05 45.6 +1.6**
baz=299,SNR=25
KCPM Cahto Peak 76.78 52 P **P 13 05 45.4 +1.2**
NSS Namsos 76.83 339 *e*P **P 13 05 44.5 +0.7**
E09A Wood Farm, Sta 76.94 44 P **P 13 05 45.8 +1.1**
E09A lAmb lAmb 13 05 47.1
comp=Z,80nm,1.1s
M04C Macdoel 76.94 49 P **P 13 05 46.5 +1.5**
baz=299,SNR=50
G08A Pilot Rock 77.05 45 P **P 13 05 46.9 +1.3**
WDC Whiskeytown Da 77.06 51 P **P 13 05 46.2 +0.7**
WDC pmax pmax
comp=Z,43nm,1.2s
WDC Whiskeytown Da 77.06 51 P **P 13 05 46.2 +0.7**
WDC lAmb lAmb 13 05 47.9
comp=Z,43nm,1.2s
ISAL Salakas 77.08 327 *e*P **P 13 05 45.9 +0.6**
ISAL lAmb lAmb 13 05 46.9
comp=Z,21nm,0.5s
O02D Mt. Diablo Mer 77.08 51 P **P 13 05 47.5 +1.7**
baz=299,SNR=19
IIGN Ignalina 77.16 327 *e*P **P 13 05 45.9 +0.2**
IIGN lAmb lAmb 13 05 47.3
comp=Z,12nm,0.6s
HOPS Hopland Field 77.46 52 P **P 13 05 48.7 +0.9**
SUMG Summit 77.46 359 *i*P **P 13 05 48.6 +1.0**
SUMG pmax pmax
comp=Z,82nm,0.8s
SUMG Summit 77.46 359 *i*P **P 13 05 48.6 +1.0**
comp=Z,82nm,0.8s
SUMG Summit 77.46 359 P **P 13 05 48.6 +1.0**
SUMG lAmb lAmb 13 05 50.6
comp=Z,57nm,1.1s
O03E Paynes Creek 77.69 51 P **P 13 05 49.7 +0.6**
baz=299,SNR=17
GDXM Geysers 77.74 52 P **P 13 05 50.5 +1.1**
GDXM lAmb lAmb 13 05 52.1
comp=Z,36nm,1.0s
F10A Beach Ranch, E 77.76 44 P **P 13 05 50.2 +0.8**
MOD Modoc Plateau 77.89 49 P **P 13 05 51.0 +0.8**
MOD lAmb lAmb 13 05 52.4
comp=Z,40nm,0.8s
MCCM Marconi Confer 78.00 53 P **P 13 05 51.3 +0.7**
MCCM lAmb lAmb 13 05 52.7
comp=Z,47nm,0.8s
PABE Paberze 78.11 328 *e*P **P 13 05 50.9 0.0**
PABE lAmb lAmb 13 05 52.2
comp=Z,56nm,0.7s
ORV Oroville 78.25 51 P **P 13 05 52.6 +0.5**
ORV pmax pmax
comp=Z,37nm,1.0s
ORV Oroville 78.25 51 P **P 13 05 52.6 +0.5**
ORV lAmb lAmb 13 05 53.7
comp=Z,37nm,0.9s
AKASG Malin Array Be 78.28 322 P **P 13 05 51.4 -0.6**
comp=Z,7.3nm,0.4s,baz=52,slow=5.8,SNR=43
AKBB Malin Array Si 78.28 322 P **P 13 05 51.8 -0.1**
AKBB pmax pmax
comp=Z,18nm,0.5s
AKBB Malin Array Si 78.28 322 P **P 13 05 51.8 -0.1**
AKBB lAmb lAmb 13 05 52.0
comp=Z,18nm,0.5s
BMO Blue Mountains 78.29 45 P **P 13 05 53.5 +1.2**
BMO pmax pmax
comp=Z,35nm,0.9s
BMO Blue Mountains 78.29 45 P **P 13 05 53.5 +1.2**
BMO lAmb lAmb 13 05 54.4
comp=Z,35nm,0.8s
SIM Simferopol' 78.58 315 *de*P **P 13 05 53.5 -0.2**
SIM pmax pmax
comp=Z,32nm,0.8s
WVOR Wild Horse Val 78.69 47 P **P 13 05 55.6 +1.1**
WVOR pmax pmax
comp=Z,37nm,1.0s
WVOR Wild Horse Val 78.69 47 P **P 13 05 55.6 +1.1**
WVOR lAmb lAmb 13 05 56.9
comp=Z,37nm,0.9s
BEKR Beckworth 78.86 50 P **P 13 05 56.4 +0.8**
BEKR lAmb lAmb 13 05 57.5
comp=Z,58nm,0.9s
AFDM Forest Hills D 78.91 51 P **P 13 05 56.2 +0.6**
PLID Pearl Lake 78.96 44 P **P 13 05 56.4 +0.3**
SEVA Sevastopol 79.06 315 ⇑P **P 13 05 57.4 +1.1**
SEVA mb 13 05 58.3
MSO Missoula 79.24 42 P **P 13 05 57.7 +0.3**
baz=303,SNR=10.0
MSO Missoula 79.24 42 P **P 13 05 57.6 +0.3**
HFS Hagfors 79.33 335 P **P 13 05 56.9 -0.5**
comp=Z,15nm,0.7s,baz=83,slow=4.6,SNR=30
NC405 NORSAR Array S 79.34 337 P **P 13 05 56.9 -0.6**
NC405 lAmb lAmb 13 05 58.7
comp=Z,35nm,0.7s
RUBR Rubicon Trail 79.41 51 P **P 13 05 59.7 +1.2**
RUBR lAmb lAmb 13 06 00.8
comp=Z,64nm,0.9s
SOCY Socotra 79.44 278 P **P 13 05 57.1 -1.9**
DOMB Dombas 79.54 338 *e*P **P 13 05 58.9 +0.4**
NC204 NORSAR Array S 79.54 337 P **P 13 05 58.2 -0.4**
NC204 lAmb lAmb 13 05 59.9
comp=Z,101nm,1.4s
NB2 NORSAR Subarra 79.56 337 P **P 13 05 58.3 -0.4**
comp=Z,8.6nm,0.6s,baz=44,slow=5.3
NB2 NORSAR Subarra 79.56 337 P **P 13 05 58.3 -0.4**
baz=44,slow=5.3
NOA NORSAR Array B 79.56 337 P **P 13 05 58.5 -0.1**
comp=Z,6.3nm,0.6s,baz=49,slow=4.8,SNR=30
PAHR Pah Rah Range 79.59 50 P **P 13 05 59.9 +0.5**
VCNR Virginia City 79.62 51 P **P 13 06 00.6 +0.9**
NC602 NORSAR Array S 79.67 337 *e*P **P 13 05 58.5 -0.7**
SAO San Andreas Ge 79.67 54 P **P 13 05 59.7 0.0**
SAO pmax pmax
comp=Z,35nm,1.1s
SAO San Andreas Ge 79.67 54 P **P 13 05 59.7 0.0**
PNTR Pine Nut 79.76 51 P **P 13 06 01.3 +0.9**
PNTR lAmb lAmb 13 06 02.8
comp=Z,36nm,0.9s
CMB Columbia Colle 79.76 52 P **P 13 06 01.0 +0.8**
CMB pmax pmax
comp=Z,77nm,1.2s
CMB Columbia Colle 79.76 52 P **P 13 06 01.1 +0.8**
CMB lAmb lAmb 13 06 02.2
comp=Z,77nm,1.2s
MFID Camas Ranch 79.94 45 P **P 13 06 02.2 +1.0**
MFID lAmb lAmb 13 06 03.6
comp=Z,85nm,1.4s
YERR Yerington 80.05 51 P **P 13 06 03.0 +1.1**
YERR lAmb lAmb 13 06 04.1
comp=Z,50nm,1.1s
WAKR Walker 80.17 51 P **P 13 06 03.5 +0.9**
SORM Soroca 80.19 320 ⇑P **P 13 06 02.0 -0.2**
SORM Soroca 80.19 320 ⇑P **P 13 06 02.0 -0.2**
BZK Bozkurt 80.21 313 mb 13 06 03.3
BZK ⇑P **P 13 06 03.3 +0.9**
PMPB Monarch Peak 80.39 54 P **P 13 06 04.8 +1.2**
PMPB lAmb lAmb 13 06 05.9
comp=Z,33nm,0.9s
GAZ Gaziantep 80.58 307 P **P 13 06 04.9 +0.3**
GAZ lAmb lAmb 13 06 06.1
comp=Z,37nm,0.8s
BMN Battle Mountai 80.64 49 P **P 13 06 06.2 +1.3**
BMN Battle Mountai 80.64 49 P **P 13 06 06.2 +1.3**
LRM Limekiln Ridge 80.66 42 P **P 13 06 05.6 +0.6**
FFC Flin Flon 80.68 31 *i*P **P 13 06 04.9 +0.2**
FFC Flin Flon 80.68 31 P **P 13 06 04.8 +0.2**
FFC lAmb lAmb 13 06 05.9
comp=Z,46nm,0.8s
RYN Ryan 80.72 51 P **P 13 06 06.7 +1.3**
RYN lAmb lAmb 13 06 07.7
comp=Z,39nm,0.9s
KVN Kaiserville 80.78 50 P **P 13 06 06.8 +1.1**
KVN pmax pmax
comp=Z,49nm,1.0s
KVN Kaiserville 80.78 50 P **P 13 06 06.8 +1.1**
KVN lAmb lAmb 13 06 07.9
comp=Z,48nm,1.0s
SKAR Skarslia 80.80 338 *e*P **P 13 06 05.4 +0.2**
DLMT Dillon 80.83 43 P **P 13 06 06.2 +0.4**
DLMT lAmb lAmb 13 06 08.0
comp=Z,64nm,0.8s
MDPB Devils Postpil 80.86 52 P **P 13 06 07.2 +1.0**
ILGA Ilgaz 80.88 312 P **P 13 06 06.1 -0.2**
ILGA lAmb lAmb 13 06 08.1
comp=Z,37nm,1.0s
OMMB Old Mammoth Mi 80.92 52 P **P 13 06 06.8 +0.1**
EGMT Eagleton 80.93 39 P **P 13 06 07.0 +0.9**
baz=306
EGMT Eagleton 80.93 39 P **P 13 06 07.1 +0.9**
NVAR Mina Array Bea 80.97 51 P **P 13 06 07.9 +1.1**
comp=Z,22nm,0.7s,baz=291,slow=5.8,SNR=219
MCMT McKenzie Canyo 80.98 43 P **P 13 06 06.7 -0.1**
MLAC Mammoth, Mammo 81.02 52 P **P 13 06 08.4 +1.3**
baz=301,SNR=13
PAGB Antelope Grade 81.02 54 P **P 13 06 08.1 +1.3**
NV11 Mina Array Sit 81.07 51 P **P 13 06 08.0 +0.8**
RAYN Ar Rayn 81.11 292 *i*P **P 13 06 07.6 +0.1**
SNR=12
RAYN Ar Rayn 81.11 292 P **P 13 06 07.3 -0.2**
RAYN pmax pmax
comp=Z,67nm,1.0s
RAYN Ar Rayn 81.11 292 P **P 13 06 07.3 -0.2**
RAYN lAmb lAmb 13 06 08.7
comp=Z,67nm,0.9s
HYA Hoyanger 81.11 339 *e*P **P 13 06 07.2 +0.5**
FCC Fort Churchill 81.11 25 P **P 13 06 06.6 -0.1**
FCC pmax pmax
comp=Z,39nm,1.3s
FCC Fort Churchill 81.11 25 P **P 13 06 06.6 -0.1**
BOZ Bozeman (W) 81.26 42 P **P 13 06 09.0 +0.9**
baz=305,SNR=15
VOG Valley Oaks Go 81.32 53 P **P 13 06 09.1 +0.8**
baz=301
SMMC Simmler 81.41 54 P **P 13 06 10.1 +1.2**
baz=301
LVV L'vov 81.51 323 *e*P **P 13 06 09.3 +0.3**
TLCR 81.60 318 ⇑P **P 13 06 10.0 +0.4**
TLCR 81.60 318 ⇑P **P 13 06 10.0 +0.4**
TLCR mb 13 06 16.4
BR131 Keskin Array S 81.63 311 *d i*P **P 13 06 10.0 0.0**
BR131 Keskin Array S 81.63 311 P **P 13 06 09.9 -0.2**
BR131 lAmb lAmb 13 06 11.2
comp=Z,41nm,0.8s
BRTR Keskin Array B 81.63 311 *i*P **P 13 06 10.1 0.0**
BRTR pmax pmax
comp=Z,40nm,0.8s
BRTR Keskin Array B 81.63 311 P **P 13 06 10.1 0.0**
comp=Z,38nm,0.8s,baz=100,slow=3.9,SNR=165
TIN Tinemaha, Big 81.73 52 P **P 13 06 11.8 +1.2**
baz=302
ELK Elko 81.75 48 P **P 13 06 11.3 +0.5**
ELK pmax pmax
comp=Z,57nm,1.4s
ELK Elko 81.75 48 P **P 13 06 11.3 +0.5**
ELK lAmb lAmb 13 06 13.3
comp=Z,57nm,1.4s
PKM Mcpherson Peak 81.76 54 P **P 13 06 12.4 +1.5**
baz=301
VES Vestal, Richgr 81.78 53 P **P 13 06 11.0 +0.3**
baz=301,SNR=26
JURR Jurilovca 81.81 317 ⇑P **P 13 06 11.2 +0.6**
JURR mb 13 06 11.6
PRAR RASCA 81.81 321 ⇑P **P 13 06 11.0 +0.3**
QLMT Earthquake Lak 81.81 43 P **P 13 06 11.7 +0.7**
YHL Hebgen Lake 81.94 42 P **P 13 06 13.2 +1.4**
YHB Horse Butte 81.99 43 P **P 13 06 13.4 +1.4**
CFR Carcaliu 82.00 318 ⇑P **P 13 06 12.1 +0.5**
CFR Carcaliu 82.00 318 ⇑P **P 13 06 12.1 +0.5**
TOPG Topolog 82.03 318 ⇑P **P 13 06 12.7 +0.8**
SBC Santa Barbara 82.06 55 P **P 13 06 13.5 +1.4**
baz=301
TESR Tescani 82.07 320 ⇑P **P 13 06 12.5 +0.5**
ANTO Ankara 82.11 312 ⇑P **P 13 06 13.2 +0.8**
ANTO Ankara 82.11 312 ⇑P **P 13 06 13.2 +0.8**
ANTO mb 13 06 13.8
ANTO Ankara 82.11 312 P **P 13 06 12.7 +0.3**
ANTO lAmb lAmb 13 06 13.7
comp=Z,39nm,0.8s
BIZ Bicaz 82.12 320 ⇑P **P 13 06 13.1 +0.8**
CWC Cottonwood Cre 82.16 52 P **P 13 06 13.6 +0.8**
baz=302
YHH Holmes Hill 82.17 42 P **P 13 06 14.1 +1.1**
YMR Madison River 82.18 42 P **P 13 06 14.8 +1.9**
BUR08 Bucovina Ar. S 82.20 321 P **P 13 06 12.7 -0.1**
BURAR Bucovina Array 82.21 321 P **P 13 06 14.2 +1.4**
BURAR Bucovina Array 82.21 321 ⇑P **P 13 06 13.7 +0.9**
BURAR mb 13 06 14.2
TIRR Tirgusor 82.25 317 ⇑P **P 13 06 13.5 +0.5**
TIRR Tirgusor 82.25 317 ⇑P **P 13 06 13.5 +0.5**
TIRR Tirgusor 82.25 317 P **P 13 06 13.3 +0.4**
GCMT Greycliff 82.27 41 P **P 13 06 14.3 +1.0**
ODBI Odobesti 82.28 319 ⇑P **P 13 06 14.8 +1.7**
ISA Isabella, Lake 82.30 53 P **P 13 06 13.6 +0.1**
baz=302,SNR=22
ISA Isabella, Lake 82.30 53 P **P 13 06 13.6 +0.1**
ISA pmax pmax
comp=Z,28nm,1.1s
ISA Isabella, Lake 82.30 53 P **P 13 06 13.6 +0.1**
YNM Yellowstone No 82.30 42 P **P 13 06 15.9 +2.4**
KWP Kalwaria Pacla 82.30 324 P **P 13 06 13.5 +0.4**
KWP pmax pmax
comp=Z,446nm,1.2s
KWP Kalwaria Pacla 82.30 324 *e*P **P 13 06 13.8 +0.7**
KWP *e*P **P 13 06 13.8 +0.7**
KWP Kalwaria Pacla 82.30 324 P **P 13 06 13.5 +0.4**
YNR Norris Junctio 82.32 42 P **P 13 06 15.9 +2.2**
ARVC Arvin 82.33 54 P **P 13 06 14.4 +0.9**
baz=302,SNR=13
SCZ2 Santa Cruz Isl 82.35 55 P **P 13 06 14.4 +0.7**
baz=301
GRAC Grapevine Rang 82.35 52 P **P 13 06 15.0 +1.3**
baz=302,SNR=5.3
HARR Harsova 82.40 318 ⇑P **P 13 06 14.5 +0.8**
HARR Harsova 82.40 318 ⇑P **P 13 06 14.5 +0.8**
HARR mb 13 06 14.8
VRI Vrincioaia 82.41 319 ⇑P **P 13 06 15.4 +1.6**
VRI Vrincioaia 82.41 319 ⇑P **P 13 06 15.4 +1.6**
YUF Upper Falls 82.42 42 P **P 13 06 15.2 +1.0**
PLOR Plostina 82.46 319 ⇑P **P 13 06 14.6 +0.6**
PLOR Plostina 82.46 319 ⇑P **P 13 06 14.6 +0.6**
YPP Pitchstone Pla 82.50 43 P **P 13 06 16.4 +1.8**
YNP Yellowstone No 82.54 42 P **P 13 06 15.9 +1.2**
H17A Grant Village 82.56 43 P **P 13 06 18.0 +3.1**
baz=305,SNR=73
H17A Grant Village 82.56 43 P **P 13 06 17.9 +3.1**
LKWY Lake 82.56 42 P **P 13 06 17.9 +3.0**
LKWY pmax pmax
comp=Z,94nm,0.9s
LKWY Lake 82.56 42 P **P 13 06 17.9 +3.0**
DAC Darwin (Calif) 82.58 52 P **P 13 06 18.2 +3.2**
DAC pmax pmax
comp=Z,36nm,0.9s
DAC Darwin (Calif) 82.58 52 P **P 13 06 18.2 +3.2**
DAC lAmb lAmb 13 06 19.3
comp=Z,36nm,0.8s
YMP Mirror Lake Pl 82.61 42 P **P 13 06 17.1 +1.9**
FLWY Flagg Ranch 82.67 43 P **P 13 06 17.4 +2.0**
FLWY lAmb lAmb 13 06 18.7
comp=Z,66nm,0.9s
OSI Osito Audit: C 82.67 54 P **P 13 06 16.4 +1.1**
baz=302
OSI Osito Audit: C 82.67 54 P **P 13 06 16.4 +1.1**
OSI lAmb lAmb 13 06 17.7
comp=Z,60nm,0.8s
BLG Laguna Peak, P 82.69 55 P **P 13 06 16.1 +0.7**
baz=302
HVU Hansel Valley 82.73 46 P **P 13 06 17.4 +1.7**
HVU pmax pmax
comp=Z,63nm,0.9s
HVU Hansel Valley 82.73 46 P **P 13 06 17.4 +1.7**
FXWY Fox Creek 82.73 43 P **P 13 06 17.3 +1.6**
MPMC Manual Prospec 82.77 52 P **P 13 06 17.0 +1.0**
baz=302,SNR=72
OZUR 82.80 320 ⇑P **P 13 06 17.1 +1.3**
ICOR Ion Corvin 82.81 317 ⇑P **P 13 06 17.0 +1.2**
SNCC San Nicolas Is 82.81 56 P **P 13 06 16.9 +0.8**
baz=302
R11A Troy Canyon, C 82.82 50 P **P 13 06 17.3 +1.1**
baz=303
R11A Troy Canyon, C 82.82 50 P **P 13 06 17.3 +1.1**
R11A lAmb lAmb 13 06 18.5
comp=Z,33nm,0.9s
SFJD Kangerlussuaq 82.83 4 P **P 13 06 15.7 +0.3**
comp=Z,14nm,0.6s,baz=36,slow=0.7,SNR=11
SFJD Kangerlussuaq 82.83 4 P **P 13 06 15.1 -0.3**
SFJD lAmb lAmb 13 06 16.8
comp=Z,55nm,1.2s
MOOW Moose Ponds 82.83 43 P **P 13 06 17.7 +1.5**
TPAW Teton Pass 82.86 43 P **P 13 06 18.1 +1.6**
TPAW lAmb lAmb 13 06 19.1
comp=Z,35nm,0.7s
RLMT Red Lodge 82.89 41 P **P 13 06 18.0 +1.5**
baz=306,SNR=24
RLMT Red Lodge 82.89 41 P **P 13 06 17.4 +0.9**
LRMC Laurel Mtn Rad 82.94 53 P **P 13 06 17.6 +0.8**
baz=302,SNR=49
FURC Furnace Creek, 82.98 52 P **P 13 06 18.0 +1.2**

baz=302,SNR=106
REDW Red Top Meadow 82.99 44 P **P** **13 06 18.1 +1.0**
REDW IAmb IAmb 13 06 19.6
comp=Z,54nm,1.5s
SNOW Snow King Moun 82.99 43 P **P** **13 06 18.2 +1.1**
SNOW IAmb IAmb 13 06 19.7
comp=Z,26nm,0.8s
EDW2 Edwards Air Fo 83.04 54 P **P** **13 06 18.4 +1.2**
baz=302,SNR=72
BGU Big Grassy Mou 83.05 46 P **P** **13 06 18.4 +1.1**
MLR Muntele Rosu 83.07 319 P **P** **13 06 17.5 +0.2**
comp=Z,5.0nm,0.5s,baz=343,slow=10,SNR=12
MLR Muntele Rosu 83.07 319 ⇑P **P** **13 06 17.7 +0.4**
MLR mb 13 06 19.2
MLR Muntele Rosu 83.07 319 P **P** **13 06 16.6 -0.7**
DOPR Dopca 83.10 320 ⇑P **P** **13 06 18.3 +1.1**
DECC Green Verdugo 83.13 54 P **P** **13 06 18.4 +0.7**
baz=302
TPNV Topopah Spring 83.13 51 P **P** **13 06 18.9 +1.0**
baz=303,SNR=92
TPNV Topopah Spring 83.13 51 P **P** **13 06 18.8 +1.0**
TPNV pmax pmax
comp=Z,83nm,0.9s
TPNV Topopah Spring 83.13 51 P **P** **13 06 18.8 +1.0**
UZH Uzhgorod 83.14 323 *c* iP **P** **13 06 15.7 -1.6**
AHID Auburn Hatcher 83.19 44 P **P** **13 06 19.2 +1.2**
SPUT South Promonto 83.19 46 P **P** **13 06 19.4 +1.4**
SECR 83.27 319 ⇑P **P** **13 06 18.9 +0.7**
SECR mb 13 06 19.4
PASC Pasadena Art C 83.28 54 P **P** **13 06 19.1 +0.7**
PASC IAmb IAmb 13 06 20.2
comp=Z,50nm,1.0s
TRPA Tarpa 83.32 323 ⇑P **P** **13 06 19.1 +0.8**
TRPA mb 13 06 19.6
MWC Mount Wilson 83.34 54 P **P** **13 06 19.5 +0.6**
MWC pmax pmax
comp=Z,46nm,0.8s
MWC Mount Wilson 83.34 54 P **P** **13 06 19.6 +0.6**
MWC IAmb IAmb 13 06 20.8
comp=Z,46nm,0.8s
OJC Ojcow 83.39 326 *e*P **P** **13 06 18.8 +0.2**
OJC Ojcow 83.39 326 *e*P **P** **13 06 18.8 +0.2**
OJC *e*P **P** **13 06 18.8 +0.2**
FMP Fort Macarthur 83.44 55 P **P** **13 06 20.1 +0.9**
baz=302,SNR=5.1
CIS Catalina Islan 83.52 55 P **P** **13 06 20.4 +0.7**
baz=302,SNR=13
HWUT Hardware Ranch 83.57 45 P **P** **13 06 21.4 +1.4**
DUG Dugway, Tooele 83.59 47 P **P** **13 06 21.4 +1.3**
baz=304
DUG Dugway, Tooele 83.59 47 P **P** **13 06 21.3 +1.3**
DUG pmax pmax
comp=Z,114nm,1.3s
DUG Dugway, Tooele 83.59 47 P **P** **13 06 21.3 +1.3**
VOIR 83.61 320 ⇑P **P** **13 06 20.7 +0.8**
VOIR 83.61 320 ⇑P **P** **13 06 20.7 +0.8**
DGMT Dagmar 83.61 37 P **P** **13 06 20.2 +0.4**
baz=309
DGMT Dagmar 83.61 37 P **P** **13 06 20.6 +0.8**
DGMT IAmb IAmb 13 06 21.3
comp=Z,62nm,1.1s
BFSC Mount Baldy Ra 83.61 54 P **P** **13 06 20.8 +0.6**
baz=302,SNR=25
GSC Goldstone, Bar 83.64 53 P **P** **13 06 21.3 +1.0**
baz=303,SNR=73
GSC Goldstone, Bar 83.64 53 P **P** **13 06 21.1 +0.8**
GSC pmax pmax
comp=Z,64nm,0.9s
GSC Goldstone, Bar 83.64 53 P **P** **13 06 21.1 +0.8**
LAO LASA Array 83.65 39 P **P** **13 06 21.2 +1.1**
baz=308
LAO LASA Array 83.65 39 P **P** **13 06 20.3 +0.2**
LAO IAmb IAmb 13 06 22.2
comp=Z,38nm,0.9s
SCI2 San Clemente I 83.65 56 P **P** **13 06 20.9 +0.7**
baz=302
SHOC Shoshone, Teco 83.68 52 P **P** **13 06 21.4 +1.0**
baz=303,SNR=25
RRX Edison Barstow 83.74 53 P **P** **13 06 21.8 +1.2**
baz=303
PSUT Pine Spring 83.85 49 P **P** **13 06 22.2 +0.8**
ARR Arges 83.89 320 ⇑P **P** **13 06 22.2 +0.9**
FRB Frobisher Bay 83.90 12 P **P** **13 06 21.1 +0.3**
comp=Z,71nm,0.7s,baz=337,slow=5.3,SNR=144
TCUT Toone Canyon 83.95 46 P **P** **13 06 23.3 +1.3**
SHPR Sheep Range 84.11 51 P **P** **13 06 23.8 +1.1**
SHPR IAmb IAmb 13 06 25.0
comp=Z,39nm,1.0s
BW06 Boulder Array 84.11 43 P **P** **13 06 23.2 +0.6**
baz=306,SNR=27
BW06 Boulder Array 84.11 43 P **P** **13 06 23.0 +0.3**
BW06 IAmb IAmb 13 06 24.3
comp=Z,22nm,0.8s
PD31 Pinedale Array 84.11 43 P **P** **13 06 23.0 +0.3**
PDAR Pinedale Array 84.11 43 P **P** **13 06 23.1 +0.5**
comp=Z,19nm,0.8s,baz=294,slow=2.1,SNR=139
BBRC Big Bear Solar 84.12 54 P **P** **13 06 23.6 +0.7**
baz=303,SNR=36
TUQ Turquoise Moun 84.17 52 P **P** **13 06 24.1 +1.1**
baz=303,SNR=64
NLU North Lily Min 84.20 47 P **P** **13 06 23.9 +0.8**
JLU Jordanelle 84.22 46 P **P** **13 06 24.1 +0.8**
HEC Hector,Ludlow 84.22 53 P **P** **13 06 24.3 +1.1**
baz=303,SNR=67
MURC Murrieta 84.28 54 P **P** **13 06 24.2 +0.8**
baz=303,SNR=14
CSS Mathiatis 84.41 307 P **P** **13 06 23.6 -0.4**
CSS IAmb IAmb 13 06 24.4
comp=Z,24nm,0.6s
ELND Elena 84.64 317 ⇑P **P** **13 06 25.2 +0.2**
KSP Ksiaz 84.65 327 *e*P **P** **13 06 25.1 +0.3**
KSP *e*P **P** **13 06 25.1 +0.3**
GMRC Granite Mounta 84.71 53 P **P** **13 06 26.7 +1.0**
baz=303,SNR=30
TCRU Three Creeks R 84.72 48 P **P** **13 06 26.1 +0.3**
CCUT Cedar City 84.72 49 P **P** **13 06 26.1 +0.3**
109C Camp Elliot, M 84.73 55 P **P** **13 06 26.4 +0.8**
baz=303,SNR=5.0
109C Camp Elliot, M 84.73 55 P **P** **13 06 26.3 +0.7**
109C IAmb IAmb 13 06 27.5
comp=Z,59nm,1.2s
PFO Pinyon Flats O 84.79 54 P **P** **13 06 27.1 +1.0**
baz=303,SNR=65
PFO Pinyon Flats O 84.79 54 *i* P **P** **13 06 26.8 +0.7**
PFO Pinyon Flats O 84.79 54 P **P** **13 06 26.9 +0.9**
XPFO Pion Flat 84.80 54 P **P** **13 06 27.0 +0.9**
PSZ Piszkesteto 84.83 324 *e*P **P** **13 06 25.1 -0.8**
SZCU Shurtz Canyon 84.88 49 P **P** **13 06 26.2 -0.3**
BELC Belle Mtn. Jos 84.90 54 P **P** **13 06 27.2 +0.6**
baz=303,SNR=55
MSU Marysvale 84.95 48 P **P** **13 06 28.4 +1.5**
MSU Marysvale 84.95 48 P **P** **13 06 28.4 +1.5**
DPC Dobruska-Polom 84.97 327 *e*P **P** **13 06 26.6 +0.1**
DPC Dobruska-Polom 84.97 327 *e*P **P** **13 06 26.6 +0.1**
VYHS Vyhne 84.99 325 *e*P **P** **13 06 26.9 +0.3**
VYHS Vyhne 84.99 325 *e*P **P** **13 06 26.9 +0.3**
LCMT Little Creek M 85.11 50 P **P** **13 06 28.8 +1.3**
TMUT Trail Mountain 85.12 47 P **P** **13 06 27.8 0.0**
BAR Barrett 85.14 55 P **P** **13 06 28.6 +0.9**
BAR IAmb IAmb 13 06 29.6
comp=Z,37nm,0.9s
MONP2 Monument Peak 85.21 55 P **P** **13 06 29.1 +0.9**
baz=303,SNR=41
MTPU Mount Pierson 85.22 48 P **P** **13 06 29.5 +1.1**
P17A Butcher Ranch, 85.31 47 P **P** **13 06 29.7 +1.1**
Q16A Castle Valley 85.36 47 P **P** **13 06 30.1 +1.2**
KNB Kanab 85.38 50 P **P** **13 06 30.3 +1.3**
KNB pmax pmax
comp=Z,58nm,1.0s
KNB Kanab 85.38 50 P **P** **13 06 30.3 +1.3**
BZS Buzias 85.39 321 ⇑P **P** **13 06 28.2 -0.4**
BZS Buzias 85.39 321 ⇑P **P** **13 06 28.2 -0.4**
RDMU Red Mountain 85.40 45 P **P** **13 06 30.0 +0.9**
IRM Iron Mountain 85.41 53 P **P** **13 06 30.1 +1.1**
baz=304,SNR=28
NEE2 Needles Airpor 85.43 52 P **P** **13 06 29.8 +0.8**
baz=304
BC3 Big Chuckawall 85.47 54 P **P** **13 06 30.4 +1.0**
baz=304,SNR=36
PKCU Pink Cliffs 85.47 49 P **P** **13 06 30.4 +0.7**
IKP In-Ko-Pah, Jac 85.56 55 P **P** **13 06 30.8 +1.0**
baz=303,SNR=30
SWSC Sam W. Stewart 85.62 54 P **P** **13 06 30.7 +0.7**
baz=303,SNR=14

SRU San Rafael Swe 85.66 47 P **P** **13 06 30.9 +0.6**
SRU pmax pmax
comp=Z,33nm,0.6s
SRU San Rafael Swe 85.66 47 P **P** **13 06 30.9 +0.6**
W13A Hualapai Mount 85.75 52 P **P** **13 06 31.3 +0.4**
CLL Collm 85.82 329 *e*P **P** **13 06 30.0 -0.5**
CLL pmax pmax
comp=Z,17nm,1.6s
CLL Collm 85.82 329 *e*P **P** **13 06 30.0 -0.5**
comp=Z,17nm,1.6s
CLL *e*pP **pwP** **13 08 14.0 +3.1**
comp=Z,8.0nm,0.9s
CLL *e* 13 08 37.0
MODS Modra-Piesok 85.84 325 *e*P **P** **13 06 31.0 +0.2**
MODS Modra-Piesok 85.84 325 *e*P **P** **13 06 31.0 +0.2**
MDVR Moldovita 85.87 320 ⇑P **P** **13 06 30.7 -0.4**
K22A Casper 85.97 42 P **P** **13 06 32.3 +0.5**
baz=308,SNR=22
K22A Casper 85.97 42 P **P** **13 06 32.2 +0.5**
K22A IAmb IAmb 13 06 33.3
comp=Z,36nm,0.8s
Y12C Blythe 86.06 53 P **P** **13 06 33.1 +1.0**
baz=304,SNR=13
Y12C Blythe 86.06 53 P **P** **13 06 32.9 +0.8**
Y12C IAmb IAmb 13 06 34.4
comp=Z,38nm,1.4s
U15A North Rim 86.07 50 P **P** **13 06 33.5 +1.0**
RWWY Rawlins 86.15 43 P **P** **13 06 32.7 0.0**
RWWY IAmb IAmb 13 06 34.5
comp=Z,67nm,1.0s
GLA Glamis 86.24 54 P **P** **13 06 34.1 +1.1**
baz=304,SNR=6.0
GLA Glamis 86.24 54 P **P** **13 06 34.0 +1.0**
GLA pmax pmax
comp=Z,69nm,1.4s
GLA Glamis 86.24 54 P **P** **13 06 34.0 +1.0**
GLA IAmb IAmb 13 06 35.9
comp=Z,69nm,1.4s
MDND Maddock 86.35 35 P **P** **13 06 34.0 +0.8**
baz=313
MDND Maddock 86.35 35 P **P** **13 06 32.4 -0.8**
VTS Vitosha 86.37 318 ⇓P **P** **13 06 33.7 +0.1**
VTS Vitosha 86.37 318 ⇓P **P** **13 06 33.7 +0.1**
VTS mb 13 06 35.1
VTS Vitosha 86.37 318 P **P** **13 06 33.3 -0.3**
DAMY Dhamar 86.42 285 P **P** **13 06 33.9 -0.5**
DAMY IAmb IAmb 13 06 36.6
comp=Z,32nm,0.9s
ULM Lac du Bonnet 86.46 32 P **P** **13 06 33.5 -0.2**
comp=Z,19nm,0.9s,baz=318,slow=5.5,SNR=28
ULM Lac du Bonnet 86.46 32 P **P** **13 06 33.4 -0.2**
RSSD Black Hills 86.46 40 P **P** **13 06 34.5 +0.4**
baz=310
RSSD Black Hills 86.46 40 P **P** **13 06 34.4 +0.4**
RSSD pmax pmax
comp=Z,25nm,0.8s
RSSD Black Hills 86.46 40 P **P** **13 06 34.4 +0.4**
RSSD IAmb IAmb 13 06 36.5
comp=Z,25nm,0.8s
O20A White River Ci 86.47 45 P **P** **13 06 35.0 +0.8**
baz=307,SNR=17
O20A White River Ci 86.47 45 P **P** **13 06 34.6 +0.4**
O20A IAmb IAmb 13 06 36.0
comp=Z,28nm,0.8s
MSEY Mahe Island 86.47 263 P **P** **13 06 34.5 +0.1**
MORH Mrgy, Hungar 86.59 323 *e*P **P** **13 06 33.1 -1.2**
CONA Conrad Observa 86.84 326 *i* PcP **P** **13 06 35.7 +0.1**
comp=Z,5.2nm,1.0s
Y14A Wickenburg 87.00 52 P **P** **13 06 37.3 +0.7**
KHC Kasperske Hory 87.10 327 *e*P **P** **13 06 35.8 -0.9**
KHC Kasperske Hory 87.10 327 *e*P **P** **13 06 35.8 -0.9**
113A Mohawk Valley, 87.14 54 P **P** **13 06 37.3 +0.1**
WUAZ Wupatki 87.20 50 P **P** **13 06 38.6 +0.9**
baz=306
WUAZ Wupatki 87.20 50 P **P** **13 06 37.7 0.0**
GERES GERESS Array B 87.24 327 P **P** **13 06 36.4 -1.1**
comp=Z,1.6nm,0.6s,baz=36,slow=5.2,SNR=13
N23A Red Feather La 87.39 43 P **P** **13 06 40.1 +1.5**
baz=309,SNR=41
N23A Red Feather La 87.39 43 P **P** **13 06 40.2 +1.5**
X16A Lo Mia Camp, P 87.79 51 P **P** **13 06 41.3 +0.8**
SMCO Snowmass 87.83 45 P **P** **13 06 41.8 +0.9**
AGMN Agassiz Nation 87.85 33 P **P** **13 06 40.3 +0.1**
baz=315
AGMN Agassiz Nation 87.85 33 P **P** **13 06 39.9 -0.3**
MVCO Mesa Verde 88.07 47 P **P** **13 06 42.5 +0.7**
baz=307
MVCO Mesa Verde 88.07 47 P **P** **13 06 41.5 -0.3**
SOKA Soboth 88.11 325 *i* PcP **P** **13 06 41.1 -0.5**
comp=Z,8.1nm,1.3s
214A Organ Pipe Nat 88.26 54 P **P** **13 06 43.7 +1.1**
baz=305
214A Organ Pipe Nat 88.26 54 P **P** **13 06 43.1 +0.5**
ISCO Idaho Springs 88.27 44 P **P** **13 06 44.0 +1.2**
baz=309,SNR=20
ISCO Idaho Springs 88.27 44 P **P** **13 06 42.6 -0.2**
ISCO pmax pmax
comp=Z,20nm,0.9s
ISCO Idaho Springs 88.27 44 P **P** **13 06 42.6 -0.2**
W18A Petrified Fore 88.52 50 P **P** **13 06 45.0 +1.1**
baz=306
W18A Petrified Fore 88.52 50 P **P** **13 06 43.9 0.0**
X18A Snowflake 88.72 50 P **P** **13 06 45.8 +0.9**
PDG Podgorica 88.75 320 ⇑P **P** **13 06 44.0 -0.5**
S22A 4UR Ranch, Cre 88.80 46 P **P** **13 06 46.6 +1.3**
baz=308,SNR=22
S22A 4UR Ranch, Cre 88.80 46 P **P** **13 06 46.1 +0.8**
MYKA Terra Mystica 88.83 326 *i* P **P** **13 06 43.1 -1.9**
comp=Z,2.8nm,0.5s
SUSD Miller 88.99 37 P **P** **13 06 46.2 +0.5**
Q24A Divide 89.08 44 P **P** **13 06 47.5 +1.0**
baz=309,SNR=11
Q24A Divide 89.08 44 P **P** **13 06 47.2 +0.6**
ABTA Abfaltersbach 89.30 326 *i* PcP **P** **13 06 46.2 -0.9**
comp=Z,5.7nm,0.7s
WTTA Wattenberg 89.34 327 *i* PcP **P** **13 06 46.3 -1.1**
comp=Z,2.1nm,0.6s
TUC Tucson 89.46 52 P **P** **13 06 49.4 +1.2**
baz=306
TUC Tucson 89.46 52 P **P** **13 06 49.0 +0.8**
TUC pmax pmax
comp=Z,7.0nm,0.9s
TUC Tucson 89.46 52 P **P** **13 06 49.0 +0.8**
MOTA Moosalm 89.53 327 *i* P **P** **13 06 47.0 -1.3**
comp=Z,5.2nm,1.0s
STAL STALIGIAL 89.55 326 P **P** **13 06 47.0 -1.3**
SDCO Great Sand Dun 89.62 46 P **P** **13 06 50.4 +1.3**
baz=309,SNR=30
SDCO Great Sand Dun 89.62 46 P **P** **13 06 50.0 +0.8**
SDCO IAmb IAmb 13 06 51.4
comp=Z,22nm,0.8s
OGNE Ogallala 89.64 41 P **P** **13 06 49.4 +0.5**
baz=311
FETA Feichten 89.94 327 *i* PcP **P** **13 06 49.8 -0.4**
comp=Z,5.5nm,0.9s
EYMN Ely 90.11 31 P **P** **13 06 51.3 +0.5**
baz=318
EYMN Ely 90.11 31 P **P** **13 06 51.5 +0.7**
EYMN IAmb IAmb 13 06 52.4
comp=Z,31nm,1.1s
DAVA Damuels 90.14 328 *i* PcP **P** **13 06 50.8 -0.4**
comp=Z,12nm,1.3s
DAVOX Davos/Dischmat 90.51 328 P **P** **13 06 52.4 -0.5**
comp=Z,4.3nm,0.5s,baz=208,slow=12,SNR=7.1
KSCO Kaye Shedlock' 90.56 43 P **P** **13 06 53.7 +0.5**
baz=311
KSCO Kaye Shedlock' 90.56 43 P **P** **13 06 53.5 +0.2**
KSCO IAmb IAmb 13 06 55.5
comp=Z,27nm,0.9s
T25A Trinidad 90.68 45 P **P** **13 06 55.2 +1.3**
baz=310,SNR=25
T25A Trinidad 90.68 45 P **P** **13 06 54.7 +0.8**
T25A IAmb IAmb 13 06 56.1
comp=Z,35nm,0.8s
ECSD EROS Data Cent 90.70 37 P **P** **13 06 54.0 +0.3**
baz=315
ECSD EROS Data Cent 90.70 37 P **P** **13 06 53.2 -0.4**
ANMO Albuquerque 90.76 48 P **P** **13 06 55.6 +1.2**
baz=308
ANMO Albuquerque 90.76 48 *ce*P **P** **13 06 55.7 +1.4**
ANMO pmax pmax
comp=Z,29nm,0.8s
ANMO Albuquerque 90.76 48 P **P** **13 06 55.5 +1.2**
ANMO IAmb IAmb 13 06 57.1
comp=Z,28nm,0.8s

Y22D IRIS PASSCAL I 91.00 49 P **P** **13 06 56.8 +1.5**
baz=308
319A Douglas 91.05 52 P **P** **13 06 57.2 +1.6**
319A IAmb IAmb 13 06 58.0
comp=Z,38nm,0.8s
BNM Barren Site 91.14 49 P **P** **13 06 57.2 +1.1**
HSIG 91.27 55 P **P** **13 06 56.9 +0.4**
HSIG IAmb IAmb 13 06 58.9
comp=Z,32nm,0.8s
121A Cookes Peak, D 91.36 51 P **P** **13 06 58.7 +1.6**
baz=308
121A Cookes Peak, D 91.36 51 P **P** **13 06 58.7 +1.6**
121A IAmb IAmb 13 06 59.8
comp=Z,35nm,0.9s
BGNE Belgrade 91.50 39 P **P** **13 06 57.6 +0.2**
baz=314
BGNE Belgrade 91.50 39 P **P** **13 06 57.0 -0.4**
SPMN Marine on St. 91.52 34 P **P** **13 06 57.7 +0.3**
baz=318
CBKS Cedar Bluff 92.38 42 P **P** **13 07 01.5 0.0**
baz=313
CBKS Cedar Bluff 92.38 42 P **P** **13 07 00.9 -0.6**
CBKS pmax pmax
comp=Z,24nm,1.0s
CBKS Cedar Bluff 92.38 42 P **P** **13 07 00.9 -0.6**
CBKS IAmb IAmb 13 07 03.6
comp=Z,24nm,0.9s
SCHQ Schefferville 92.49 14 P **P** **13 07 01.6 -0.1**
comp=Z,3.9nm,0.7s,baz=309,slow=3.7,SNR=6.3
SCHQ Schefferville 92.49 14 P **P** **13 07 01.1 -0.5**
MNTX Cornudas Mount 93.48 50 P **P** **13 07 07.7 +1.0**
baz=309,SNR=17
MNTX Cornudas Mount 93.48 50 P **P** **13 07 07.1 +0.4**
MSTX Muleshoe 93.73 47 P **P** **13 07 07.8 -0.1**
baz=310
AMTX Amarillo 93.82 46 P **P** **13 07 09.2 +0.9**
baz=311
AMTX Amarillo 93.82 46 P **P** **13 07 08.8 +0.5**
AMTX IAmb IAmb 13 07 10.1
comp=Z,23nm,0.8s
KSU1 Kansas State U 93.95 40 P **P** **13 07 08.9 +0.3**
baz=315
D46A Sault St. Mari 94.11 28 P **P** **13 07 09.2 0.0**
baz=324
FURI Furi 94.11 283 P **P** **13 07 08.0 -2.2**
JFWS Jewell Farm 94.47 34 P **P** **13 07 11.0 +0.1**
baz=319
D48A Paudash Townsh 94.75 26 P **P** **13 07 12.1 0.0**
baz=326
E47A Iron Bridge 94.77 28 P **P** **13 07 12.5 +0.3**
baz=325
D49A Beulah Townshi 94.84 26 P **P** **13 07 12.6 0.0**
baz=326
LSQQ Lebel-sur-Quev 94.90 23 P **P** **13 07 12.7 0.0**
baz=330
G45A Suttons Bay 94.91 30 P **P** **13 07 11.9 -1.0**
baz=323
CHGQ Chibougamau 94.98 21 P **P** **13 07 13.0 -0.1**
baz=332
D50A G1974 Best Tow 95.50 25 P **P** **13 07 15.4 -0.2**
baz=327
WMOK Wichita Mounta 95.70 44 P **P** **13 07 17.4 +0.7**
baz=313
WMOK Wichita Mounta 95.70 44 P **P** **13 07 16.6 -0.1**
WMOK pmax pmax
comp=Z,6.0nm,1.2s
WMOK Wichita Mounta 95.70 44 P **P** **13 07 16.6 -0.1**
D51A Lot 18 Range I 95.74 25 P **P** **13 07 16.5 -0.1**
baz=328
TX31 Lajitas Ar. Si 96.12 51 P **P** **13 07 19.6 +0.8**
TX32 Lajitas Array 96.12 51 P **P** **13 07 19.4 +0.6**
TXAR Lajitas Array 96.12 51 P **P** **13 07 19.7 +0.9**
comp=Z,6.3nm,0.6s,baz=290,slow=3.4,SNR=56
KMBO Kilima Mbogo 100.45 275 *i* P **Pdif** **13 07 39.4 +0.9**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
QSPA South Pole Qui 119.98 180 **PKPdf** **13 12 37.2 -0.6**
TORD Torodi Ar. Bea 120.22 310 PKP **PKPdf** **13 12 39.3 -0.4**
comp=Z,2.0nm,0.5s,baz=71,slow=0.8,SNR=18
SYO Syowa Base 121.10 205 ⇑ *e*Pdiff **Pdif** **13 09 09.4 +0.7**
LBTB Lobatse 121.24 257 PKIKP **PKiKP** **13 12 41.9 +0.2**
LBTB Lobatse 121.24 257 **PKiKP** **13 12 41.9 +0.2**
BOSA Boshof 122.77 254 PKP **PKiKP** **13 12 44.5 -0.1**
comp=Z,6.4nm,0.6s,baz=90,slow=1.8,SNR=9.3
BOSA Boshof 122.77 254 **PKPdf** **13 12 43.6 -0.8**
TSUM Tsumeb 125.89 267 **PKPdf** **13 12 50.4 -0.2**
DBIC Dimbokro 129.33 310 PKP **PKPdf** **13 12 57.2 0.0**
comp=Z,4.6nm,0.6s,baz=26,slow=2.0,SNR=7.7
DBIC Dimbokro 129.33 310 **PKPdf** **13 12 56.8 -0.5**
TIC Toumodi 129.45 310 *e*PKIKP **PKPdf** **13 12 57.7 +0.2**
TIC Toumodi 129.45 310 PKIKP **PKPdf** **13 12 57.7 +0.2**
TIC Toumodi 129.45 310 **PKPdf** **13 12 57.7 +0.2**
KIC Kosan Boka 129.48 310 *e*PKIKP **PKPdf** **13 12 57.9 +0.4**
comp=Z,14nm,0.8s
KIC Kosan Boka 129.48 310 **PKPdf** **13 12 57.9 +0.4**
LIC Lamto 129.77 310 *e*PKIKP **PKPdf** **13 12 58.3 +0.2**
comp=Z,28nm,0.9s
LIC Lamto 129.77 310 **PKPdf** **13 12 58.3 +0.2**
SHEL Horse Pasture 144.50 286 PKIKP **PKPdf** **13 12 25.6 +0.6**
SHEL Horse Pasture 144.50 286 **PKPdf** **13 12 25.6 +0.6**
SAML Samuel 150.57 49 PKIKP **PKiKP** **13 12 41.2 -0.2**
SAML 13 12 48.6
SAML Samuel 150.57 49 **PKiKP** **13 12 41.2 -0.2**
SAML PKPab **PKPab** **13 12 48.6 -0.7**
LPAZ La Paz 151.82 67 PKIKP **PKiKP** **13 12 45.4 +0.8**
LPAZ 13 12 55.4
LPAZ La Paz 151.82 67 PKPbc **PKiKP** **13 12 46.1 +1.5**
comp=Z,8.3nm,0.8s,baz=335,slow=2.3,SNR=27
LPAZ La Paz 151.82 67 **PKiKP** **13 12 45.4 +0.8**
LPAZ PKPab **PKPab** **13 12 55.4 +0.1**
MNMC Minye Minye 152.10 73 **PKiKP** **13 12 45.5 +0.8**
MNMC PKPab **PKPab** **13 12 56.5 +0.4**
PB11 IPOC Station P 152.35 74 **PKiKP** **13 12 45.6 +0.5**
PB11 PKPab **PKPab** **13 12 58.4 +1.4**
GO01 Chusmiza 152.69 74 **PKiKP** **13 12 47.2 +1.0**
PLCA Paso Flores 154.09 122 PKPbc **PKiKP** **13 12 48.9 +0.9**
comp=Z,1.7nm,0.9s,baz=312,slow=5.2,SNR=3.4
PLCA PKPab **PKPab** **13 14 05.7 +1.9**
comp=Z,3.5nm,0.7s,baz=265,slow=4.5,SNR=12
LVC Limon Verde 154.19 80 PKIKP **PKPdf** **13 13 39.5 -1.0**
LVC Limon Verde 154.19 80 **PKPdf** **13 13 39.5 -1.0**
LVC **PKPab** **13 14 07.3 +2.3**
GO02 Mina Guanaco 154.49 86 **PKPab** **13 14 07.7 +1.5**
GO04 Tololo Observa 154.54 97 **PKPbc** **13 13 51.9 +2.4**
GO04 **PKPab** **13 14 07.7 +1.5**
BDFB Brasilia 164.24 24 PKPab **PKPab** **13 14 48.2 -0.1**
comp=Z,6.4nm,0.7s,baz=299,slow=4.6,SNR=6.2
CPUP Villa Florida 165.37 79 PKPab **PKPab** **13 14 53.7 +0.4**
comp=Z,2.5nm,0.7s,baz=270,slow=4.9,SNR=7.8
CPUP Villa Florida 165.37 79 **PKPab** **13 14 52.5 -0.7**

IDC ***18*** *13:09:41.0±1.8,2˚.15N×124˚.47E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/41, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/28, Error ellipse: s-maj=191.3km s-min=25.1km az=64.0*
ISCJB ***18*** *13:09:42.0±2.0, 4˚.0N±0˚.3× 128˚.4E±0˚.5, h71km, mb3.3/3, Error ellipse: s-maj=80.5km s-min=10.8km az=143.0*
ISC 18 13:09:44.2±2.2, 3˚.9N±0˚.4×128˚.2E±0˚.6, h71km, n4, σ1§59/5, mb3.4/3, 1C, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**4.37**	**315**	⇑P	**Pn**	**13 10 46.7**	**-1.6**
KCP				S	**Sn**	**13 11 39.4**	**+1.4**
WRA	**Warramunga Arr**	**24.47**	**166**	P	**P**	**13 14 57.0**	**+0.3**
	0.7nm,0.4s,baz=334,slow=11,SNR=15						
ASAR	**Alice Springs**	**27.98**	**169**	P	**P**	**13 15 28.5**	**+0.1**
	0.2nm,0.5s,baz=345,slow=7.4,SNR=5.1						
ASAR				LR	LR	13 26 34.7	
	comp=Z,60nm,18.5s,baz=54,slow=37						
MKAR	**Makanchi Array**	**58.25**	**325**	P	**P**	**13 19 32.1**	**+0.7**
	0.2nm,0.4s,baz=116,slow=7.6,SNR=6.7						

IDC ***18*** *13:11:18.4±0.9, 20˚.59N×146˚.80E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.6/51, mbtmp3.7/9, Error ellipse: s-maj=34.9km s-min=20.1km az=96.0*
NEIC ***18*** *13:11:20.3±0.6, 20˚.6N±0˚.1×146˚.7E±0˚.2, h10km±1km, mb4.4/3*
ISCJB ***18*** *13:11:23.1±0.6, 20˚.6N±0˚.1×146˚.6E±0˚.2, h44km, mb3.6/9, Error ellipse: s-maj=22.5km s-min=13.2km az=160.5*
ISC 18 13:11:24.7±0.8, 20˚.6N±0˚.1×146˚.7E±0˚.2, h44km, n12,

σ0ˢ54/11, **mb3.7**/10, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATS	**Pohnpei**	**17.70**	**139**	P	**P**	**13 15 28.8**	**+0.2**
PATS				IAmb	IAmb	13 16 03.1	
	comp=Z,157nm,1.5s						
WRA	**Warramunga Arr**	**42.06**	**198**	P	**P**	**13 19 12.6**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=19,slow=8.8,SNR=5.6						
SONM	**Songino Array**	**42.30**	**320**	P	**P**	**13 19 14.4**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=127,slow=9.5,SNR=3.0						
FITZ	**Fitzroy Crossi**	**43.65**	**210**	P	**P**	**13 19 24.6**	**-0.6**
	comp=Z,1.8nm,1.0s,baz=23,slow=7.7,SNR=3.2						
FITZ	**Fitzroy Crossi**	**43.65**	**210**	IAmb	IAmb	13 19 58.8	
	comp=Z,8.5nm,1.4s						
ASAR	**Alice Springs**	**45.72**	**196**	P	**P**	**13 19 41.7**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=12,slow=9.5,SNR=3.5						
ZAA0	**Zalesovo Array**	**57.12**	**322**	P	**P**	**13 21 06.8**	**+0.1**
ZAA0				IAmb	IAmb	13 21 07.2	
	comp=Z,1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**57.12**	**322**	P	**P**	**13 21 06.9**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=97,slow=9.0,SNR=5.6						
MKAR	**Makanchi Array**	**57.86**	**313**	P	**P**	**13 21 13.0**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=97,slow=8.8,SNR=3.2						
YKA	**Yellowknife Ar**	**75.88**	**28**	P	**P**	**13 23 05.9**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=290,slow=5.4,SNR=5.5						
NVAR	**Mina Array Bea**	**81.23**	**52**	P	**P**	**13 23 37.1**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=263,slow=7.3,SNR=5.7						
FINES	**FINESS Array B**	**85.57**	**336**	P	**P**	**13 23 57.3**	**-0.8**
	comp=Z,2.2nm,0.9s,baz=103,slow=4.4,SNR=3.8						

*LVSN **18** 13:18:16.3±12.0, 59˚.20N×26˚.49E, h0km±189km, ML1.9*
HEL 18 13:18:44.4±0.5, 60˚.03N×23˚.26E, h0km, ML1.4, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.60**	**72**	*e*S	Sg	13 19 00.9	-2.7
MEF				AML	AML	13 19 03.5	
	comp=N,25nm,0.6s						
MEF				AML	AML	13 19 05.6	
	comp=E,19nm,0.6s						
MEF				AML	AML	13 19 05.8	
	comp=Z,32nm,0.7s						
NUR	**Nurmijrvi**	**0.84**	**55**	PB	Pg	13 19 00.4	-0.1
	baz=236						
RAF	**Rauma**	**1.24**	**324**	*e*P	Pn	13 19 11.3	+2.4
RAF				AML	AML	13 19 35.8	
	comp=N,8.0nm,0.7s						
RAF				AML	AML	13 19 35.9	
	comp=Z,11nm,0.7s						
RAF				AML	AML	13 19 36.1	
	comp=E,7.0nm,0.7s						
RAF	**Rauma**	**1.24**	**324**	PN	Pb	13 19 08.7	+0.1
RAF				MSG		13 19 21.7	
	comp=Z,1.1nm,0.2s						
RAF				SN	Sn	13 19 26.1	-0.1
PVF	**Pernaja**	**1.40**	**67**	PG	Pn	13 19 09.3	-1.8
	baz=255						
PVF				MSG		13 19 26.4	
	comp=Z,3.4nm,0.2s						
PVF				SG	Sg	13 19 27.5	-1.7
FIA0	**FINESS Array S**	**1.98**	**43**	PG	Pn	13 19 19.7	+0.6
	baz=216						
FIA0				SG	Sg	13 19 47.5	-0.4
VJF	**Virojoki**	**2.20**	**75**	MSG		13 19 49.5	
	comp=Z,2.0nm,0.2s						
VJF				SG	Sb	13 19 51.5	-1.3
KEF	**Keuruu**	**2.28**	**19**	PG	Pb	13 19 25.9	-0.5
KEF				MSG		13 19 51.8	
	comp=Z,1.4nm,0.2s						

*ISCJB **18** 13:26:14.2±2.4, 4˚.1N±0˚.4×128˚.5E±0˚.7, h35km, mb3.2/3, MS2.9/1, Error ellipse: s-maj=111.7km s-min=16.4km az=148.3*
*IDC **18** 13:26:14.2±2.3, 3˚.27N×126˚.64E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/37, mbtmp3.4/3, MS2.9/1, Ms1 3.1/1, ms1mx2.2/27, Error ellipse: s-maj=206.7km s-min=25.7km az=66.0*
ISC 18 13:26:16.6±2.6, 4˚.0N±0˚.5×128˚.4E±0˚.8, h35km, n5, σ0ˢ04/4, mb3.3/3, 1D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**4.42**	**312**	⇓P	**Pn**	**13 27 21.3**	**0.0**
WRA	**Warramunga Arr**	**24.53**	**166**	P	**P**	**13 31 33.0**	**0.0**
	0.6nm,0.4s,baz=340,slow=10,SNR=19						
ASAR	**Alice Springs**	**28.05**	**169**	P	**P**	**13 32 04.8**	**0.0**
	0.2nm,0.4s,baz=347,slow=7.3,SNR=9.4						
CMAR	**Chiang Mai Arr**	**32.16**	**299**	LR	LR	13 45 16.3	
	comp=Z,24nm,21.3s,baz=145,slow=37						
MKAR	**Makanchi Array**	**58.27**	**324**	P	**P**	**13 36 07.8**	**0.0**
	0.1nm,0.4s,baz=122,slow=7.4,SNR=6.0						

IDC 18 13:34:40.0±3.0, 6˚.81S×147˚.28E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/32, mbtmp3.5/5, ML3.2/1, Error ellipse: s-maj=66.8km s-min=31.2km az=93.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.59**	**183**	Pn	Pn	13 35 24.0	+0.9
	3.0nm,0.3s,baz=7.1,slow=8.1,SNR=8.4						
PMG				Sn	Sg	13 36 03.1	-0.1
	3.9nm,0.3s,baz=40,slow=20,SNR=6.0						
WRA	**Warramunga Arr**	**18.12**	**223**	P	P	13 38 53.8	+0.1
	0.1nm,0.3s,baz=46,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**21.12**	**216**	P	P	13 39 26.1	-0.5
	1.4nm,0.8s,baz=52,slow=9.3,SNR=27						
FITZ	**Fitzroy Crossi**	**23.89**	**240**	P	P	13 39 54.6	-1.0
	1.8nm,0.4s,baz=66,slow=10,SNR=16						
MKAR	**Makanchi Array**	**78.29**	**321**	P	P	13 46 42.8	+0.8
	0.4nm,0.8s,baz=129,slow=5.2,SNR=2.8						

*DSN **18** 14:03:56.4±1.5, 27˚.44N×57˚.74E, h10km, ML3.4/3, Error ellipse: s-maj=32.3km s-min=9.3km az=143.0*
*ISCJB **18** 14:03:58.5±1.4, 27˚.21N±0˚.05×57˚.8E±0˚.1, h10km, Error ellipse: s-maj=18.4km s-min=5.2km az=15.7*
*TEH **18** 14:04:00.2, 27˚.33N×57˚.69E, h7km, ML3.0*
ISC 18 14:03:59.6±1.2, 27˚.29N±0˚.04×57˚.73E±0˚.09, h10km, n12, σ1ˢ68/14, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.65**	**358**	*e*Pg	**Pg**	**14 04 11.8**	**-0.4**
KHNJ				*e*Sg	**Sb**	**14 04 22.1**	**-0.2**
NIAN	**Nian**	**0.84**	**289**	*e*Pg	**Pg**	**14 04 17.1**	**+1.3**
NIAN				IAMB	IAmb	14 04 35.0	
	comp=Z,0.0nm,0.3s						
GENO	**Geno**	**1.39**	**275**	*e*Pn	**Pn**	**14 04 24.9**	**-0.3**
GENO				IAMB	IAmb	14 04 48.8	
	comp=Z,0.0nm,0.3s						
JSK1	**Jask**	**1.65**	**179**	*e*Pn	**Pb**	**14 04 31.7**	**+1.6**
BANOM	**Banah**	**1.87**	**224**	*e*P	**Pn**	**14 04 29.6**	**-2.2**
	SNR=9.5						
BANOM				S	**Sn**	**14 04 55.7**	**+0.2**
SHME	**Shamm**	**1.89**	**229**	P	**Pn**	**14 04 30.2**	**-1.8**
SHME				S	**Sn**	**14 04 56.6**	**+0.7**
NGRK	**Negar Kerman**	**2.50**	**340**	*e*Pn	**Pb**	**14 04 43.7**	**-1.2**
NGRK				IAMB	IAmb	14 04 48.3	
	comp=Z,0.0nm,0.2s						
CHMN	**Cheshme madani**	**2.56**	**356**	*e*Pn	**Pb**	**14 04 44.2**	**-1.7**
CHMN				IAMB	IAmb	14 05 28.6	
	comp=Z,0.0nm,0.3s						
UOSS	**Minazif**	**2.71**	**211**	P	**Pn**	**14 04 41.4**	**-1.9**
TVBK	**TV Kerman**	**2.81**	**343**	IAMB	IAmb	14 05 39.8	
	comp=Z,0.0nm,0.6s						
ASHO	**Ashiyiah**	**3.00**	**210**	P	**Pn**	**14 04 47.0**	**-0.3**
KHGB	**Koh Gabri**	**3.26**	**341**	*e*Pn	**Pn**	**14 04 54.2**	**+3.2**

DJA 18 14:14:28.9±0.2, 7˚.5±.2˚×107˚.7E±.˚, h10km, M4.6/18, mb5.2/2, mB5.6/2, MLv4.3/18, Mw(mB)5.0/2, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBJI	**Dramaga**	**0.30**	**345**	P	Pg	14 14 34.9	-0.1
DBJI				S	Sg	14 14 39.9	+0.8
SKJI	**Sukabumi**	**0.31**	**240**	P	Pg	14 14 35.3	+0.1
SKJI				S	Sg	14 14 40.3	+0.9
CNJI	**Cibinong**	**0.54**	**147**	P	Pg	14 14 38.7	-0.8
CNJI				S	Sg	14 14 46.8	+0.1
TNG	**Tangerang**	**0.70**	**345**	P	Pg	14 14 42.2	-0.2
LEM	**Lembang**	**0.78**	**88**	P	Pg	14 14 44.1	+0.1
LEM				S	Sg	14 14 54.7	+0.4
SBJI	**Serang**	**1.00**	**316**	P	Pg	14 14 48.0	-0.3
CGJI	**Cibinong**	**1.15**	**282**	P	Pb	14 14 49.6	-1.3
CISI	**Cisompet, Garu**	**1.20**	**126**	P	Pb	14 14 50.1	-1.7
CISI				S	Sb	14 15 06.0	-1.5
CMJI	**Cimerak**	**1.85**	**120**	P	Pn	14 15 00.8	0.0
CMJI				S	Sb	14 15 25.5	-0.7
KPJI	**Karang Pucung**	**2.14**	**103**	P	Pn	14 15 05.8	+1.1
BLSI	**Bandar Lampung**	**2.16**	**313**	P	Pb	14 15 07.3	-0.8
KASI	**Kota Agung**	**2.67**	**299**	P	Pn	14 15 12.1	+0.1
KLSI		**3.00**	**316**	P	Pn	14 15 19.0	+2.5
LWLI	**Liwa**	**3.30**	**303**	P	Pn	14 15 21.5	+0.7
MDSI	**Maura Dua**	**3.53**	**312**	P	Pn	14 15 25.5	+1.6
SMRI	**Semarang**	**3.59**	**93**	P	Pn	14 15 26.8	+2.1
UGM	**Wanagama**	**3.81**	**106**	P	Pn	14 15 28.6	+0.8
UGM				S	Sn	14 16 12.6	-0.1
TPI	**Tanjungpandan**	**4.15**	**11**	P	Pn	14 15 33.3	+1.0
WOJI	**Wonogiri, Jawa**	**4.18**	**104**	P	Pn	14 15 34.4	+1.7
LHSI	**Lahat**	**4.46**	**312**	P	Pn	14 15 41.3	+4.7
PCJI	**Pacitan**	**4.51**	**107**	P	Pn	14 15 38.5	+1.2
NGJI	**Ngawi**	**4.62**	**97**	P	Pb	14 15 50.2	0.0
PWJI	**Pagerwojo**	**5.07**	**104**	P	Pn	14 15 46.9	+1.9
	105nm,1.0s,1μm0.8nm						
KSI	**Kapahiang**	**5.28**	**307**	P	Pn	14 15 48.7	+0.7
GMJI	**Gumukmas**	**6.71**	**103**	P	Pn	14 16 03.8	-3.7

*IDC **18** 14:16:43.9±1.4, 11˚.55S×122˚.39E, h0km, mb3.6/3, mb1 4.2/8, mb1mx3.8/40, mbtmp4.1/8, ML4.1/5, MS2.9/2, Ms1 2.9/2, ms1mx2.5/35, Error ellipse: s-maj=28.7km s-min=22.3km az=65.0*
*ISCJB **18** 14:16:45.7±0.3, 11˚.59S±0˚.02×122˚.33E±0˚.04, h33km, mb3.7/4, MS3.0/1, Error ellipse: s-maj=5.1km s-min=3.4km az=16.3*
*DJA **18** 14:16:46.9±1.3, 12˚.5±.3˚×12˚.2E±.˚, h23km±12km, M4.4/13, mb4.4/11, mB4.9/5, MLv4.4/13, Mw(mB)4.2/5*
*NEIC **18** 14:16:49.0±0.8, 11˚.57S±0˚.01×122˚.5E±0˚.1, h77km±8km, mb4.4/2*
ISC 18 14:16:47.7±0.6, 11˚.65S±0˚.05×122˚.44E±0˚.06, h35km, n46, σ2ˢ29/52, mb3.8/4, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.87**	**40**	Pn	**Pn**	**14 17 17.6**	**+0.2**
	baz=239,slow=5.0						
BATI				Sn	**Sn**	**14 17 39.6**	**-0.2**
	36nm,0.3s,baz=238,slow=19,SNR=2.9						
BATI	**Baumata**	**1.87**	**40**	P	**Pn**	**14 17 17.5**	**+0.2**
BATI				S	**Sn**	**14 17 40.5**	**+0.8**
SOEI	**Soe**	**2.60**	**44**	P	**Pn**	**14 17 28.1**	**+0.6**
SOEI				S	**Sn**	**14 17 58.4**	**+0.5**
SOEI	**Soe**	**2.60**	**44**		**Pn**	**14 17 28.2**	**+0.8**
MMRI	**Maumere**	**3.00**	**356**	P	**Pn**	**14 17 31.2**	**-1.7**
MMRI	**Maumere**	**3.00**	**356**	Pn	**Pn**	**14 17 30.8**	**-2.1**
PLAI	**Plampang**	**5.38**	**301**	P	**Pn**	**14 18 04.9**	**-0.7**
	97nm,0.7s,1μm0.4nm						
TWSI	**Taliwang, Sumb**	**6.19**	**297**	P	**Pn**	**14 18 15.5**	**-1.2**
	39nm,0.8s,738nm0.3nm						
BKSI	**Bulukumba**	**6.69**	**340**	P	**Pn**	**14 18 21.0**	**-2.6**
	30nm,1.2s,1μm0.1nm						
KAPI	**Kappang**	**7.11**	**338**	Pn	**Pn**	**14 18 28.3**	**-1.0**
	1.7nm,0.3s,baz=163,slow=8.8,SNR=10						
KAPI				LR	LR	14 21 37.8	
	comp=Z,59nm,20.7s,baz=258,slow=42						
KAPI	**Kappang**	**7.11**	**338**		**Pn**	**14 18 28.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**7.12**	**155**	Pn	**Pn**	**14 18 32.2**	**+2.8**
	1.0nm,0.3s,baz=341,slow=13,SNR=41						
FITZ				Sn	**Sn**	**14 19 51.0**	**+2.0**
	3.7nm,0.3s,baz=211,slow=18,SNR=12						
KNRA	**Kununurra**	**7.33**	**124**		**Pn**	**14 18 35.0**	**+2.6**
BNSI	**Bone**	**7.57**	**342**	P	**Pn**	**14 18 32.6**	**-3.0**
	16nm,0.9s,0.1nm						
IGBI	**Denpasar**	**7.71**	**291**	P	**Pn**	**14 18 34.2**	**-3.4**
MTN	**Manton Dam**	**8.58**	**99**		**Pn**	**14 18 50.0**	**+0.5**
JAGI	**Jajag, Banyuwa**	**8.75**	**290**	P	**Pn**	**14 18 51.0**	**-0.9**
	14nm,0.9s						
JAGI	**Jajag, Banyuwa**	**8.75**	**290**	Pn	**Pn**	**14 18 47.9**	**-4.1**
PSAD1	**Pilbara Seismi**	**10.06**	**194**	Pn	**Pn**	**14 19 12.0**	**+2.1**
PSAC1	**Pilbara Seismi**	**10.15**	**194**	Pn	**Pn**	**14 19 13.2**	**+2.2**
PSAC2	**Pilbara Seismi**	**10.15**	**194**	Pn	**Pn**	**14 19 13.4**	**+2.3**
PSAB2	**Pilbara Seismi**	**10.15**	**194**	Pn	**Pn**	**14 19 13.2**	**+2.1**
PSAA2	**Pilbara Seismi**	**10.16**	**194**	Pn	**Pn**	**14 19 13.3**	**+2.0**
PSA00	**Pilbara Seismi**	**10.18**	**194**		**Pn**	**14 19 13.4**	**+2.1**
PSAB1	**Pilbara Seismi**	**10.18**	**194**	Pn	**Pn**	**14 19 13.5**	**+2.1**
PSAA3	**Pilbara Seismi**	**10.18**	**194**	Pn	**Pn**	**14 19 13.8**	**+2.4**
PSAA1	**Pilbara Seismi**	**10.18**	**194**	Pn	**Pn**	**14 19 13.7**	**+2.2**
PSAD2	**Pilbara Seismi**	**10.19**	**193**	Pn	**Pn**	**14 19 14.2**	**+2.6**
PSAB3	**Pilbara Seismi**	**10.19**	**194**	Pn	**Pn**	**14 19 13.9**	**+2.2**
PSAC3	**Pilbara Seismi**	**10.23**	**194**	Pn	**Pn**	**14 19 14.1**	**+2.0**
PSAD3	**Pilbara Seismi**	**10.26**	**194**	Pn	**Pn**	**14 19 14.7**	**+2.1**
PCJI	**Pacitan**	**11.62**	**286**	P	**Pn**	**14 19 28.9**	**-2.3**
	15nm,1.1s						
GIRL	**Giralia**	**13.45**	**215**	Pn	**Pn**	**14 19 57.5**	**+1.3**
SIJI	**Sorong**	**13.84**	**40**	Pn	**Pn**	**14 20 01.1**	**-0.4**
	0.7nm,0.3s,baz=198,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**14.10**	**127**	Pn	**Pn**	**14 20 04.5**	**-0.7**
	2.4nm,0.3s,baz=299,slow=14,SNR=105						
WRA				Sn	Sn	14 22 30.1	-10
	1.8nm,0.3s,baz=291,slow=24,SNR=12						
WRAB	**Tennant Creek**	**14.10**	**127**		**Pn**	**14 20 04.0**	**-1.2**
WR0	**Warramunga Arr**	**14.27**	**127**		**Pn**	**14 20 06.9**	**-0.5**
ASAR	**Alice Springs**	**16.18**	**139**	Pn	**Pn**	**14 20 33.8**	**+1.3**
	1.1nm,0.3s,baz=320,slow=13,SNR=126						
ASAR				Sn	**Sn**	**14 23 23.2**	**-7.7**
	0.6nm,0.3s,baz=316,slow=24,SNR=14						
MORW	**Morawa**	**18.33**	**198**	P	**P**	**14 20 58.3**	**-0.8**
MORW				IAmb	IAmb	14 21 22.9	
	comp=Z,88nm,1.9s						
KKM	**Kota Kinabalu**	**18.64**	**340**	P	**P**	**14 21 00.1**	**-2.6**
KKM				IAmb	IAmb	14 21 01.2	
	comp=Z,17nm,1.3s						
NWAO	**Narrogin (SRO)**	**21.71**	**192**	P	P	14 21 46.5	+11
	comp=Z,6.5nm,0.7s,baz=21,slow=12,SNR=11						
NWAO				S	**S**	**14 25 30.9**	**-3.4**
	comp=Z,3.3nm,0.4s,baz=59,slow=10,SNR=5.2						
NWAO				LR	LR	14 30 04.9	
	comp=Z,58nm,21.5s,baz=107,slow=37						
SONM	**Songino Array**	**60.92**	**348**	P	**P**	**14 26 57.7**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=154,slow=8.0,SNR=4.7						
KSH	**Kashi**	**66.75**	**322**	P	**P**	**14 27 38.8**	**+3.0**
KSH				ScP		14 32 08.4	
KSH				S	**S**	**14 36 29.4**	**+3.8**
KSH				ScS	**ScS**	**14 37 31.8**	**+1.3**
KSH	**Kashi**	**66.75**	**322**	SS	SS	14 40 48.4	+4.2
KSH				pmax	pmax		
	comp=Z,560nm,5.8s						
KSH				LR	LR		
	comp=N,420nm,6.8s						
KSH				LR	LR		
	comp=E,320nm,5.4s						
KSH				LR	LR		
	comp=Z,510nm,5.5s						
MKAR	**Makanchi Array**	**68.37**	**332**	P	**P**	**14 27 45.4**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=140,slow=7.0,SNR=5.2						
KURBB	**Kurchatov Arra**	**72.85**	**332**	P	**P**	**14 28 14.9**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=149,slow=5.0,SNR=3.4						

*ISCJB **18** 14:35:19.0±1.1, 49˚.92S±0˚.09×119˚.4E±0˚.3, h10km, mb3.5/3, MS2.8/1, Error ellipse: s-maj=27.3km s-min=13.0km az=173.7*
*IDC **18** 14:35:20.9±4.8, 49˚.88S×119˚.49E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/33, mbtmp3.7/3, MS3.0/1, Ms1 2.9/1, ms1mx2.6/19, Error ellipse: s-maj=237.8km s-min=28.2km az=96.0*
*NEIC **18** 14:35:21.9±1.9, 49˚.9S±0˚.1×119˚.5E±0˚.4, h15km±4km, mb4.6/8*
ISC 18 14:35:20.8±1.2, 49˚.9S±0˚.1×119˚.3E±0˚.2, h10km, n13, σ1ˢ36/12, mb4.2/5, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.04**	**354**	Pn	**Pn**	**14 39 18.5**	**-0.5**
NWAO				IAmb	IAmb	14 39 46.9	
	comp=Z,75nm,1.6s						
STKA	**Stephens Creek**	**24.49**	**51**	LR	LR	14 49 21.7	
	comp=Z,32nm,18.6s,baz=187,slow=34						
CAN	**Canberra**	**26.04**	**67**	P	**P**	**14 40 52.8**	**-1.3**
ASAR	**Alice Springs**	**28.57**	**29**	P	**P**	**14 41 17.6**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=191,slow=9.0,SNR=5.3						
VNDA	**Vanda**	**31.98**	**164**	P	**P**	**14 41 48.4**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=314,slow=7.8,SNR=6.8						
VNDA	**Vanda**	**31.98**	**164**	P	**P**	**14 41 48.2**	**+1.7**
VNDA				IAmb	IAmb	14 42 37.7	
	comp=Z,13nm,1.9s						
DCZ	**Deep Cove**	**32.06**	**101**	P	**P**	**14 41 47.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**32.13**	**11**	P	**P**	**14 41 48.0**	**-0.4**
FITZ				IAmb	IAmb	14 42 35.4	
	comp=Z,7.3nm,1.4s						
WRA	**Warramunga Arr**	**32.20**	**27**	P	**P**	**14 41 50.8**	**+1.8**
	comp=Z,0.6nm,0.9s,baz=195,slow=8.1,SNR=3.1						
WRAB	**Tennant Creek**	**32.21**	**27**	P	**P**	**14 41 49.8**	**+0.7**
WRAB				IAmb	IAmb	14 42 58.6	
	comp=Z,25nm,1.8s						
RPZ	**Rata Peaks**	**35.33**	**100**	P	**P**	**14 42 15.7**	**-0.4**
QSPA	**South Pole Qui**	**40.22**	**180**	P	**P**	**14 42 55.4**	**-1.8**
YKA	**Yellowknife Ar**	**148.47**	**46**	PKPbc	**PKPbc**	**14 55 06.5**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=271,slow=3.0,SNR=8.6						

*MAN **18** 14:46:08.0, 16˚.00N×120˚.81E, h12km, MS4.9*
MAN Intensity III - Caloocan City; Baguio City; Mandaluyong City; Binalonan Pangasinan; Dagupan City; Intensity II - quezon city; Pasig City; Gapan City; Pantabangan Nueva Ecija; Intensity I - Lucban Quezon.
*ISCJB **18** 14:46:09.3±0.3, 16˚.04N±0˚.02×120˚.85E±0˚.02, h52km±3km, mb4.5/42, MS4.0/16, Error ellipse: s-maj=4.1km s-min=3.0km az=159.8*
*BJI **18** 14:46:10.3±0.0, 15˚.89N×120˚.86E, h62km, mb4.5/31, mB4.9/32, Ms4.5/31, Ms7 4.2/24*
*NEIC **18** 14:46:10.5±2.0, 16˚.02N±0˚.05×120˚.89E±0˚.09, h51km±7km, mb4.9/60*
*GCMT **18** 14:46:10.5±0.3, 16˚.12N±0˚.02×120˚.90E±0˚.02, h30km±1km, MW4.9/87, Moment Tensor Solution. s17,c20; s87,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r=0.29±.19; $M_{\theta\theta}$=2.73±.12; $M_{\phi\phi}$=-3.03±.13; M_{rt}=-0.73±.16; $M_{\theta\phi}$=-0.33±.10; M_{tr}=-0.40±.20; Best double couple: M=3.02300×10^{16} NP1:ϕs227.00000°, δ85.00000°, λ164.00000°. NP2: ϕs319.00000°, δ74.00000°, λ5.00000°. Principal axes: T 2.9380, Plg15.0000°, Azm182.0000°; N 0.1600, Plg73.0000°, Azm30.0000°; P -3.1070, Plg8.0000°, Azm274.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **18** 14:46:11.8±1.6, 16˚.00N×120˚.94E, h65km±16km, mb4.0/29, mb1 4.2/31, mb1mx4.1/49, mbtmp4.3/31, MS3.9/14, Ms1 3.9/14, ms1mx3.7/32 Error ellipse: s-maj=15.7km s-min=9.4km az=75.0*
*KLM **18** 14:46:14.0, 15˚.93N×120˚.90E, h84km, mb4.8*
ISC 18 14:46:09.0±0.8, 16˚.04N±0˚.02×120˚.82E±0˚.03, h31km±5km, n194, σ1ˢ89/193, mb4.8/66, MS4.1/16, 6C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPP	**San Manuel, Pa**	**0.18**	**308**	P	**Pb**	**14 46 13.5**	**-1.6**
SMPP				S	**Sb**	**14 46 17.3**	**-2.0**
PCPH	**Palayan**	**0.54**	**151**	⇑P	**Pb**	**14 46 19.0**	**-1.2**
PCPH				S	**Sb**	**14 46 26.6**	**-1.2**
BALP	**Baler**	**0.78**	**112**	P	**Pb**	**14 46 22.6**	**-1.6**
BALP				S	**Sb**	**14 46 34.1**	**-0.4**
SCZP	**Santa Cruz**	**0.92**	**253**	P	**Pn**	**14 46 24.5**	**-1.3**
SCZP				S	**Sn**	**14 46 38.7**	**+0.8**
BOLP	**Bolinao**	**0.94**	**291**	P	**Pn**	**14 46 25.5**	**-0.6**
BOLP				S	**Sb**	**14 46 34.0**	**-4.9**
CAUP	**Cauayan**	**1.31**	**47**	P	**Pn**	**14 46 31.9**	**+0.6**
CAUP				S	**Sn**	**14 46 48.1**	**+0.4**
POLP	**Polilio Island**	**1.69**	**140**	P	**Pn**	**14 46 36.5**	**0.0**
POLP				S	**Sb**	**14 46 59.6**	**-0.8**
PALP	**Palanan**	**1.84**	**56**	P	**Pn**	**14 46 38.9**	**+0.4**
PALP				S	**Sb**	**14 47 06.5**	**+1.8**
APYP	**Conner**	**1.86**	**12**	P	**Pn**	**14 46 40.1**	**+1.4**
APYP				S	**Sb**	**14 47 03.9**	**-1.2**
SIPP	**Brgy, Tapao**	**1.91**	**349**	⇑P	**Pb**	**14 46 42.0**	**-1.1**
SIPP				S	Sb	14 47 20.2	+14
TGY	**Tagaytay City**	**1.93**	**177**	P	**Pn**	**14 46 41.0**	**+1.2**
	964nm,0.3s,baz=11,slow=1.8,SNR=83						
TGY				S	**Sb**	**14 47 05.2**	**-2.1**
	4μm,0.3s,baz=304,slow=2.7,SNR=7.3						
TGY				LR	LR	14 47 36.0	
	comp=Z,2μm,21.6s,baz=84,slow=45						
TGY	**Tagaytay City**	**1.93**	**177**	⇑P	**Pb**	**14 46 41.9**	**-1.7**
TGY				S	**Sb**	**14 47 12.0**	**+4.7**
LQP	**Lukban**	**2.04**	**160**	P	**Pn**	**14 46 41.9**	**+0.5**
LQP				S	**Sn**	**14 47 04.4**	**-1.5**
GQP	**Guinayangan**	**2.64**	**143**	⇑P	**Pn**	**14 46 50.3**	**+0.8**
GQP				S	**Sb**	**14 47 24.6**	**-3.0**
OTRP	**Odiongan**	**3.84**	**162**	P	**Pn**	**14 47 05.9**	**-0.1**
RCP	**Roxas**	**4.83**	**157**	⇑P	**Pn**	**14 47 20.7**	**+1.1**
TWG	**Pinlang**	**6.75**	**2**		**Pn**	**14 47 46.6**	**+0.6**
SSLB	**Suanglung**	**7.71**	**1**		**Pn**	**14 48 02.0**	**+2.8**
NACB	**Ninganchiao**	**8.12**	**5**	Pn	**Pn**	**14 48 07.4**	**+2.5**
YHNB	**Yeheng**	**8.60**	**3**	Pn	**Pn**	**14

KMI				LR	LR		
	comp=Z,290nm,4.7s						
KMI				LR	LR		
	comp=Z,420nm,10.4s						
KMI				LR	LR		
	comp=Z,380nm,11.5s						
JNU	**Nakatsue**	**19.29**	**26**	P	**P**	**14 50 30.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=176,slow=19,SNR=2.2						
JNU				LR	LR	14 58 40.2	
	comp=Z,189nm,19.9s,baz=212,slow=39						
JNU	**Nakatsue**	**19.29**	**26**	IAmb	IAmb	14 50 52.9	
	comp=Z,84nm,1.4s						
NANT	**Nan**	**19.40**	**281**	P	**Pn**	**14 50 38.2**	**+4.2**
	comp=Z,258μm,1.1s						
UTTA	**Uttaradit**	**19.47**	**278**	P	Pn	14 50 46.8	+12
SWI	**Sorong**	**19.70**	**148**	P	**Pn**	**14 50 38.4**	**+0.8**
	comp=Z,44nm,0.9s,comp=Z,908nm						
SIJI	**Sorong**	**19.71**	**148**	P	**P**	**14 50 36.8**	**+0.6**
	comp=Z,2.5nm,0.3s,baz=325,slow=10,SNR=15						
PHRA	**Phrae**	**19.82**	**280**	P	**Pn**	**14 50 40.2**	**+1.2**
	comp=Z,3.8nm,1.3s						
SPSI	**Sidrap Palu**	**19.90**	**183**	P	**P**	**14 50 39.1**	**+0.9**
	comp=Z,54nm,0.9s,comp=Z,765nm						
KDI	**Kendari**	**19.95**	**175**	P	**Pn**	**14 50 41.6**	**+1.1**
	comp=Z,61nm,1.0s						
NLAI	**Namlea**	**20.14**	**162**	P	Pn	14 50 43.1	+0.4
	comp=Z,41nm,1.0s						
BNSI	**Bone**	**20.32**	**182**	P	Pn	14 50 44.7	-0.2
	comp=Z,162nm,1.2s,comp=Z,1μm						
LAMP	**Lampang**	**20.39**	**280**	P	Pn	14 50 59.3	+14
	comp=Z,34μm,1.0s						
UTHA	**Uthaitani**	**20.58**	**272**	P	Pn	14 50 53.6	+5.7
	comp=Z,42μm,1.1s,comp=Z,360μm						
MSAI	**Masohi**	**20.86**	**157**	P	Pn	14 50 51.9	+0.7
	comp=Z,13nm,0.7s,comp=Z,657nm						
XAN	**Xi'an**	**20.88**	**331**	P	Pn	14 50 52.0	+0.6
XAN				pP	sP	14 51 08.9	+7.6
XAN				S	**S**	**14 54 40.6**	**+0.5**
XAN				pmax	pmax		
	comp=Z,29nm,1.2s						
XAN				pmax	pmax		
	comp=Z,250nm,3.5s						
XAN				LR	LR		
	comp=Z,640nm,17.9s						
XAN				LR	LR		
	comp=Z,530nm,16.8s						
XAN				LR	LR		
	comp=Z,520nm,15.2s						
XAN	**Xi'an**	**20.88**	**331**	P	**P**	**14 50 48.3**	**-0.5**
XAN				IAmb	IAmb	14 50 56.2	
	comp=Z,59nm,1.4s						
AAI	**Ambon**	**20.91**	**159**	P	Pn	14 50 52.1	+0.3
	comp=Z,104nm,1.2s						
KAPI	**Kappang**	**20.95**	**183**	P	**P**	**14 50 49.1**	**-0.4**
	comp=Z,53nm,0.8s,baz=344,slow=6.5,SNR=21						
KAPI	**Kappang**	**20.95**	**183**	P	**P**	**14 50 49.1**	**-0.4**
KAPI				IAmb	IAmb	14 50 50.6	
	comp=Z,61nm,0.8s						
SRDT	**SRDT**	**21.01**	**268**	P	P	14 51 07.5	+17
CM31	**Chiang Mai Arr**	**21.03**	**280**	P	**P**	**14 50 50.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**21.03**	**280**	P	**P**	**14 50 52.8**	**+2.3**
	comp=Z,10nm,1.0s,baz=83,slow=9.4,SNR=49						
CMAR				LR	LR	14 59 27.5	
	comp=Z,302nm,19.5s,baz=90,slow=38						
CMMT	**Chiang Mai**	**21.05**	**281**	P	**P**	**14 50 52.9**	**+2.2**
	comp=Z,11nm,1.4s						
CHTO	**Chiang Mai**	**21.06**	**281**	P	**P**	**14 50 50.5**	**-0.2**
BKSI	**Bulukumba**	**21.24**	**182**	P	**P**	**14 50 52.5**	**-0.1**
	comp=Z,76nm,1.0s,comp=Z,610nm						
CD2	**Chengdu**	**21.50**	**317**	P	**P**	**14 50 56.4**	**+1.0**
CD2				S	**S**	**14 54 52.8**	**+0.5**
CD2				pmax	pmax		
	comp=Z,50nm,0.6s						
CD2				LR	LR		
	comp=Z,1μm,18.1s						
CD2				LR	LR		
	comp=Z,1μm,18.1s						
CD2				LR	LR		
	comp=Z,520nm,14.7s						
RKPI	**Ransiki, Papua**	**21.87**	**142**	P	**P**	**14 51 01.1**	**+1.7**
	comp=Z,198nm,1.1s,comp=Z,2μm						
MHMT	**Maesarieng**	**21.98**	**279**	P	P	14 51 15.4	+15
KSRS	**Korea Array**	**22.24**	**15**	P	**P**	**14 51 02.5**	**-0.6**
	comp=Z,3.9nm,1.0s,baz=186,slow=11,SNR=6.3						
KSRS				LR	LR	15 00 31.1	
	comp=Z,288nm,18.8s,baz=192,slow=39						
KMPI	**Kaimana, Papua**	**23.36**	**146**	P	**P**	**14 51 15.3**	**+0.3**
	comp=Z,153nm,0.7s,comp=Z,2μm						
ANA2	**Anatahan**	**23.90**	**86**	P	**P**	**14 51 18.4**	**-1.9**
SARN	**Sarigan**	**23.95**	**85**	P	**P**	**14 51 19.4**	**-1.3**
INU	**Inuyama**	**24.07**	**34**	P	**P**	**14 51 20.3**	**-1.4**
INU				IAmb	IAmb	14 51 33.3	
	comp=Z,84nm,1.6s						
BJT	**Baijiatuan**	**24.23**	**351**	P	**P**	**14 51 22.8**	**-0.3**
BJT				IAmb	IAmb	14 51 25.5	
	comp=Z,30nm,1.0s						
MMRI	**Maumere**	**24.56**	**177**	P	**P**	**14 51 30.2**	**+4.0**
SRBI	**Singaraja**	**24.61**	**193**	P	**P**	**14 51 28.4**	**+1.7**
	comp=Z,66nm,0.9s,comp=Z,8μm						
PLAI	**Plampang**	**24.89**	**187**	P	**P**	**14 51 30.3**	**+1.0**
	comp=Z,84nm,0.9s,comp=Z,771nm						
TWSI	**Taliwang, Sumb**	**24.93**	**189**	P	**P**	**14 51 30.5**	**+0.9**
	comp=Z,42nm,1.0s,comp=Z,539nm						
LZH	**Lanzhou**	**25.05**	**326**	*e*P	**P**	**14 51 32.1**	**+1.3**
LZH				pP	sP	14 51 43.4	-0.2
LZH				SS		14 56 58.0	
LZH				pmax	pmax		
	comp=Z,24nm,1.2s						
LZH				pmax	pmax		
	comp=Z,160nm,4.3s						
LZH				LR	LR		
	comp=Z,1μm,12.5s						
LZH				LR	LR		
	comp=Z,820nm,10.3s						
LZH				LR	LR		
	comp=Z,910nm,13.0s						
SMPI	**Sarmi**	**25.17**	**134**	P	**P**	**14 51 35.1**	**+3.3**
JAGI	**Jajag, Banyuwa**	**25.23**	**196**	P	**P**	**14 51 37.1**	**+4.7**
JAGI	**Jajag, Banyuwa**	**25.23**	**196**	P	**P**	**14 51 31.6**	**-0.8**
JAGI				IAmb	IAmb	14 52 05.9	
	comp=Z,48nm,1.0s						
GMJI	**Gumukmas**	**25.24**	**197**	P	P	14 51 46.4	+14
PSI	**Prapat**	**25.25**	**241**	P	**P**	**14 51 34.0**	**+1.3**
	comp=Z,3.6nm,0.6s,baz=131,slow=11,SNR=4.0						
RPSI	**Rantau Prapat**	**25.31**	**241**	P	**P**	**14 51 34.0**	**+0.9**
IGBI	**Denpasar**	**25.33**	**193**	P	**P**	**14 51 36.6**	**+3.4**
PWJI	**Pagerwojo**	**25.52**	**201**	P	P	14 51 43.2	+8.2
SOEI	**Soe**	**25.86**	**172**	P	**P**	**14 51 37.0**	**-1.2**
	comp=Z,57nm,0.9s						
SOEI	**Soe**	**25.86**	**172**	P	**P**	**14 51 36.7**	**-1.4**
HHC	**Hu-ho-hao-te**	**25.99**	**344**	*e*P	**P**	**14 51 40.5**	**+1.3**
SAUI	**Saumlaki**	**26.02**	**156**	P	**P**	**14 51 41.1**	**+1.5**
	comp=Z,215nm,1.2s						
SAUI	**Saumlaki**	**26.02**	**156**	P	P	**14 51 38.7**	**-0.8**
KLSI		**26.04**	**219**	P	P	14 51 52.2	+13
KPJI	**Karang Pucung**	**26.04**	**208**	P	P	14 51 54.3	+15
BATI	**Baumata**	**26.23**	**174**	P	**P**	**14 51 39.0**	**-2.4**
	comp=Z,75nm,0.8s,baz=9.3,slow=2.1,SNR=16						
BATI	**Baumata**	**26.23**	**174**	P	**P**	**14 51 38.4**	**-3.0**
MDJ	**Mudanjiang**	**29.44**	**13**	P	**P**	**14 52 10.3**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,250nm,4.7s						
USRK	**Ussuriysk Ar.**	**29.62**	**16**	LR	LR	15 05 15.9	
	comp=Z,138nm,18.0s,baz=200,slow=39						
LSA	**Lhasa**	**30.43**	**302**	P	**P**	**14 52 17.9**	**-1.5**
MTN	**Manton Dam**	**30.46**	**160**	P	**P**	**14 52 18.1**	**-1.0**
MTN				IAmb	IAmb	14 52 19.4	
	comp=Z,28nm,1.1s						
KNRA	**Kununurra**	**32.48**	**166**	P	**P**	**14 52 36.0**	**-0.9**
TAPN	**Taplejung**	**32.66**	**296**	*e*P	**P**	**14 52 39.0**	**+0.1**
ODAN	**Odare**	**32.83**	**295**	*e*P	**P**	**14 52 40.5**	**+0.2**
RAMN	**Ramite**	**33.54**	**295**	*e*P	**P**	**14 52 46.8**	**+0.3**
	comp=Z,18nm,0.7s						
ULN	**Ulaanbaatar**	**33.71**	**343**	P	**P**	**14 52 48.0**	**+0.4**
SONM	**Songino Arbay**	**33.87**	**342**	P	**P**	**14 52 48.7**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=166,slow=10,SNR=6.9						
SONM				LR	LR	15 08 49.2	
	comp=Z,245nm,18.6s,baz=156,slow=40						
JIRN	**Jiri**	**34.05**	**296**	*e*P	**P**	**14 52 51.3**	**+0.2**
	comp=Z,39nm,0.8s						
FITZ	**Fitzroy Crossi**	**34.25**	**172**	P	**P**	**14 52 51.0**	**-1.3**
FITZ				IAmb	IAmb	14 52 54.5	
	comp=Z,19nm,0.9s						
KLR	**Kul'dur**	**34.28**	**13**	P	**P**	**14 52 52.3**	**0.0**
	comp=Z,3.1nm,0.8s,baz=233,slow=7.8,SNR=9.5						
GUN	**Gumba**	**34.37**	**296**	*e*P	**P**	**14 52 54.0**	**+0.2**
	comp=Z,39nm,0.9s						
PKI	**Pulchoki**	**34.71**	**295**	*e*P	**P**	**14 52 56.2**	**-0.5**
PKIN	**Phulchoki**	**34.72**	**295**	*e*P	**P**	**14 52 56.2**	**-0.6**
KKN	**Kakani**	**34.86**	**296**	*e*P	**P**	**14 52 57.6**	**-0.3**
DMN	**Daman**	**34.98**	**295**	*e*P	**P**	**14 52 58.7**	**-0.3**
	comp=Z,27nm,1.1s						
GKN	**Gorkha**	**35.47**	**296**	*e*P	**P**	**14 53 02.4**	**-0.7**
	comp=Z,36nm,0.9s						
KOLN	**Koldanda**	**36.32**	**295**	*e*P	**P**	**14 53 10.1**	**-0.3**
	comp=Z,21nm,1.0s						
PSA00	**Pilbara Seismi**	**37.39**	**182**	P	**P**	**14 53 16.8**	**-2.4**
PSA00				IAmb	IAmb	14 53 21.0	
	comp=Z,20nm,1.0s						
WRAB	**Tennant Creek**	**38.14**	**159**	P	**P**	**14 53 23.6**	**-2.0**
WRA	**Warramunga Arr**	**38.15**	**159**	P	**P**	**14 53 23.9**	**-1.8**
	comp=Z,25nm,1.0s,baz=333,slow=9.7,SNR=65						
WRA				LR	LR	15 10 36.3	
	comp=Z,53nm,20.4s,baz=330,slow=38						
WR0	**Warramunga Arr**	**38.23**	**159**	P	**P**	**14 53 24.3**	**-2.0**
WMQ	**Urumqi**	**39.44**	**321**	*e*P	**P**	**14 53 37.3**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,140nm,6.9s						
WMQ				LR	LR		
	comp=Z,610nm,24.1s						
WMQ				LR	LR		
	comp=Z,430nm,21.5s						
WMQ				LR	LR		
	comp=Z,410nm,18.7s						
ASAR	**Alice Springs**	**41.48**	**162**	P	**P**	**14 53 52.1**	**-1.3**
	comp=Z,18nm,0.7s,baz=340,slow=6.9,SNR=272						
ASAR				LR	LR	15 12 44.3	
	comp=Z,46nm,21.7s,baz=6.5,slow=38						
CTA	**Charters Tower**	**43.74**	**144**	P	**P**	**14 54 11.7**	**-0.1**
	comp=Z,15nm,1.1s,baz=310,slow=10,SNR=3.8						
MK31	**Makanchi Array**	**44.25**	**322**	P	**P**	**14 54 15.3**	**-0.3**
MKAR	**Makanchi Array**	**44.25**	**322**	P	**P**	**14 54 15.9**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=116,slow=9.6,SNR=19						
MAKZ	**Makanchi**	**44.44**	**322**	P	**P**	**14 54 16.9**	**-0.2**
MORW	**Morawa**	**45.08**	**186**	P	**P**	**14 54 20.3**	**-2.0**
KSH	**Kashi**	**45.47**	**310**	P	**P**	**14 54 27.8**	**+2.2**
KSH				PcP	**PcP**	**14 56 05.5**	**+1.2**
KSH				pmax	pmax		
	comp=Z,340nm,4.4s						
KSH				LR	LR		
	comp=Z,590nm,5.7s						
KSH				LR	LR		
	comp=Z,470nm,5.5s						
KSH				LR	LR		
	comp=Z,580nm,6.1s						
NIL	**Nilore**	**46.16**	**301**	P	**P**	**14 54 30.1**	**-0.9**
NIL				IAmb	IAmb	14 54 32.2	
	comp=Z,19nm,1.2s						
PETK	**Petropavlovsk-**	**46.94**	**30**	P	**P**	**14 54 36.5**	**-0.2**
	comp=Z,3.8nm,0.8s,baz=147,slow=3.0,SNR=4.8						
ZAA0	**Zalesovo Array**	**47.06**	**332**	P	**P**	**14 54 36.7**	**-0.9**
ZALV	**Zalesovo Beam**	**47.06**	**332**	P	**P**	**14 54 35.5**	**-2.1**
	comp=Z,1.7nm,0.7s,baz=108,slow=9.5,SNR=7.1						
ZALV				LR	LR	15 14 31.4	
	comp=Z,138nm,19.5s,baz=128,slow=36						
FORT	**Forrest**	**47.07**	**171**	P	**P**	**14 54 36.0**	**-1.9**
AAK	**Ala-Archa**	**47.52**	**314**	P	**P**	**14 54 42.5**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=170,slow=17,SNR=2.2						
AAK	**Ala-Archa**	**47.52**	**314**	IAmb	IAmb	14 55 41.5	
	comp=Z,18nm,1.8s						
KURK	**Kurchatov**	**48.34**	**325**	P	**P**	**14 54 46.6**	**-1.0**
KURK				IAmb	IAmb	14 55 01.7	
	comp=Z,14nm,0.9s						
KURBB	**Kurchatov Arra**	**48.34**	**325**	P	**P**	**14 54 46.8**	**-0.8**
	comp=Z,4.5nm,0.8s,baz=122,slow=8.1,SNR=25						
GAR	**Garm**	**49.56**	**308**	P	**P**	**14 54 55.3**	**-2.1**
KBL	**Kabul**	**49.76**	**302**	P	**P**	**14 54 58.7**	**-0.4**
KBL				IAmb	IAmb	14 55 38.0	
	comp=Z,5.9nm,0.7s						
CHGR	**Chuyangaron**	**50.37**	**307**	P	**P**	**14 55 02.9**	**-0.7**
KK31	**Karatay Array**	**50.45**	**313**	P	**P**	**14 55 03.4**	**-0.6**
KK31				IAmb	IAmb	14 55 36.4	
	comp=Z,9.3nm,1.1s						
KKAR	**Karatay Array**	**50.45**	**313**	P	**P**	**14 55 03.5**	**-0.5**
KKAR				IAmb	IAmb	14 55 36.4	
	comp=Z,9.3nm,1.1s						
BBOO	**Buckleboo**	**50.71**	**163**	P	**P**	**14 55 04.1**	**-1.9**
STKA	**Stephens Creek**	**51.64**	**157**	P	**P**	**14 55 10.7**	**-2.2**
	comp=Z,13nm,0.9s,baz=340,slow=8.1,SNR=24						
STKA	**Stephens Creek**	**51.64**	**157**	P	**P**	**14 55 11.4**	**-1.5**
SEY	**Seymchan**	**51.76**	**18**	P	**P**	**14 55 14.3**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=239,slow=18,SNR=4.4						
BVAR	**Borovoye Array**	**53.93**	**325**	P	**P**	**14 55 29.3**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=139,slow=12,SNR=7.3						
BRVK	**Borovoye**	**54.00**	**325**	P	**P**	**14 55 30.1**	**0.0**
TIXI	**Tiksi**	**55.80**	**3**	P	**P**	**14 55 41.7**	**-1.1**
	comp=Z,7.8nm,1.0s,baz=180,slow=24,SNR=18						
TIXI	**Tiksi**	**55.80**	**3**	P	**P**	**14 55 41.2**	**-1.7**
TIXI				IAmb	IAmb	14 55 42.9	
	comp=Z,10nm,1.1s						
TOO	**Toolangi**	**58.16**	**157**	P	**P**	**14 55 59.2**	**-0.8**
TOO				IAmb	IAmb	14 56 04.6	
	comp=Z,10nm,0.8s						
GEYT	**Alibeck**	**58.89**	**305**	P	**P**	**14 56 06.2**	**+1.0**
	comp=Z,4.8nm,0.7s,baz=111,slow=2.5,SNR=11						
GEYT				LR	LR	15 23 05.3	
	comp=Z,144nm,19.9s,baz=45,slow=38						
GYA0B	**ALIBECK ARRAY**	**58.89**	**305**	P	**P**	**14 56 05.8**	**+0.6**
GYA0B				IAmb	IAmb	14 56 20.9	
	comp=Z,11nm,0.8s						
ABKAR	**Akbulak array**	**59.07**	**318**	P	**P**	**14 56 05.8**	**-0.5**
ABKAR				IAmb	IAmb	14 56 37.0	
	comp=Z,12nm,1.2s						
BILL	**Bilibino**	**59.46**	**18**	P	**P**	**14 56 07.7**	**-0.9**
BILL				IAmb	IAmb	14 56 26.0	
	comp=Z,6.3nm,0.9s						
ARU	**Arti**	**61.51**	**326**	P	**P**	**14 56 21.8**	**-1.0**
ARU				IAmb	IAmb	14 56 54.6	
	comp=Z,10nm,0.9s						
KIRV	**Kirov**	**66.77**	**327**	P	**P**	**14 56 57.0**	**-0.3**
	comp=Z,12nm,0.7s,baz=149,slow=5.9,SNR=5.0						
KBZ	**Khabaz**	**70.43**	**311**	P	**P**	**14 57 20.1**	**-0.3**
	comp=Z,5.1nm,1.0s,baz=175,slow=1.1,SNR=8.2						
KBZ				LR	LR	15 32 26.2	
	comp=Z,117nm,18.1s,baz=81,slow=39						
RAYN	**Ar Rayn**	**70.57**	**290**	P	**P**	**14 57 21.4**	**-0.4**
RAYN				IAmb	IAmb	14 57 35.5	
	comp=Z,12nm,1.0s						
BPAW	**Bear Paw Mtn.**	**74.93**	**27**	P	**P**	**14 57 46.4**	**-0.4**
BPAW				IAmb	IAmb	14 57 59.4	
	comp=Z,17nm,1.2s						
MLY	**Manley**	**74.94**	**26**	P	**P**	**14 57 46.8**	**-0.1**
MCK	**McKinley**	**75.87**	**27**	P	**P**	**14 57 51.4**	**-0.9**
MCK				IAmb	IAmb	14 58 06.9	
	comp=Z,12nm,1.0s						
RND	**Reindeer**	**75.95**	**28**	P	**P**	**14 57 51.1**	**-1.6**
RND				IAmb	IAmb	14 58 06.6	
	comp=Z,10nm,1.0s						
PMR	**Palmer**	**76.07**	**30**	P	**P**	**14 57 52.4**	**-0.9**
PMR				IAmb	IAmb	14 58 05.5	
	comp=Z,15nm,1.2s						
ILAR	**Eielson Array**	**76.61**	**26**	P	**P**	**14 57 54.4**	**-2.0**
	comp=Z,2.0nm,1.1s,baz=266,slow=5.9,SNR=6.9						
SCM	**Sheep Creek Mo**	**76.88**	**29**	P	**P**	**14 57 57.4**	**-0.7**
ARCES	**ARCESS Array B**	**76.95**	**339**	P	**P**	**14 57 57.2**	**-1.1**
	comp=Z,6.2nm,1.0s,baz=79,slow=6.3,SNR=4.7						
ARCES				LR	LR	15 33 53.5	
	comp=Z,131nm,18.4s,baz=119,slow=37						
RIDG	**Independent Ri**	**77.66**	**27**	P	**P**	**14 58 02.0**	**-0.4**
RIDG				IAmb	IAmb	14 58 16.9	
	comp=Z,15nm,1.0s						
BRTR	**Keskin Array B**	**77.81**	**308**	P	**P**	**14 58 03.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=103,slow=4.6,SNR=2.9						
SCRK	**Sand Creek**	**77.99**	**27**	P	**P**	**14 58 04.3**	**0.0**
SCRK				IAmb	IAmb	14 58 31.3	
	comp=Z,32nm,2.0s						
FINES	**FINESS Array B**	**78.31**	**331**	P	**P**	**14 58 05.0**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=48,slow=2.8,SNR=5.3						
FINES				LR	LR	15 33 32.5	
	comp=Z,134nm,18.9s,baz=88,slow=36						
AKASG	**Malin Array Be**	**78.76**	**320**	P	**P**	**14 58 07.0**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=61,slow=5.7,SNR=4.9						
DAWY	**Dawson**	**79.94**	**26**	P	**P**	**14 58 14.6**	**-0.3**
INK	**Inuvik**	**80.88**	**21**	P	**P**	**14 58 18.6**	**-1.1**
DAG	**Danmarks Havn**	**84.33**	**351**	*i* P	P	14 58 43.3	+5.7
	comp=Z,7.4nm,1.0s						
NB2	**NORSAR Subarra**	**85.25**	**333**	P	**P**	**14 58 40.4**	**-2.2**
	comp=Z,3.6nm,0.8s,baz=67,slow=4.8						
NOA	**NORSAR Array B**	**85.25**	**333**	P	**P**	**14 58 40.0**	**-2.6**
	comp=Z,3.2nm,1.0s,baz=66,slow=4.9,SNR=4.2						
NOA				LR	LR	15 41 35.6	
	comp=Z,128nm,18.9s,baz=70,slow=39						
VYHS	**Vyhne**	**85.86**	**319**	*e*P	**P**	**14 58 46.3**	**+0.5**
JAVC	**Velka Javorina**	**86.46**	**320**	*e*P	**P**	**14 58 50.0**	**+1.1**
RES	**Resolute Bay**	**86.72**	**9**	P	**P**	**14 58 48.6**	**-0.9**
RES				IAmb	IAmb	14 58 59.1	
	comp=Z,5.8nm,0.9s						
GERES	**GERESS Array B**	**88.90**	**321**	P	**P**	**14 59 00.0**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=92,slow=3.1,SNR=3.8						
YKA	**Yellowknife Ar**	**90.58**	**22**	P	**P**	**14 59 07.6**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=309,slow=4.4,SNR=15						

*ISCJB **18** 15:17:06.2±0.8, 7.°02S±0.°05×130.°0E±0.°1, h104km, mb3.6/1, Error ellipse: s-maj=18.5km s-min=7.6km az=2.8*
*IDC **18** 15:17:09.7±2.2, 7.°09S×129.°82E, h116km×26km, mb3.4/1, mb1 3.5/6, mb1mx3.2/36, mbtmp3.9/6, MS3.8/2, Ms1 3.8/2, ms1mx3.1/15, Error ellipse: s-maj=37.4km s-min=21.0km az=95.0*

ISC 18 15:17:07.9±0.9, 7.°15S±0.°06×130.°1E±0.°1, h104km, n8, σ3$23/9, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.34**	**10**	P	**Pn**	**15 18 40.6**	**+1.7**
	0.5nm,0.3s,baz=182,slow=23,SNR=11						
SIJI				S	**Sn**	**15 19 46.8**	**-3.3**
	2.7nm,0.3s,baz=106,slow=24,SNR=15						
BATI	**Baumata**	**7.07**	**244**	P	**Pn**	**15 18 48.5**	**-0.4**
	5.6nm,0.3s,baz=72,slow=4.2,SNR=7.8						
KAPI	**Kappang**	**10.52**	**281**	LR	LR	15 23 44.1	
	comp=Z,408nm,18.4s,baz=300,slow=39						
FITZ	**Fitzroy Crossi**	**11.73**	**201**	P	**Pn**	**15 19 51.5**	**-0.4**
	0.3nm,0.3s,baz=21,slow=12,SNR=20						
WRA	**Warramunga Arr**	**13.36**	**163**	P	**Pn**	**15 20 15.3**	**+1.8**
	0.6nm,0.3s,baz=339,slow=13,SNR=27						
WRA				S	**Sn**	**15 22 36.0**	**-4.6**
	0.6nm,0.3s,baz=339,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**16.82**	**168**	P	**P**	**15 21 01.6**	**+4.0**
	0.4nm,0.3s,baz=343,slow=9.6,SNR=43						
ASAR				S	**Sn**	**15 24 01.6**	**-2.7**
	baz=343,slow=12,SNR=2.1						
LEM	**Lembang**	**22.34**	**269**	LR	LR	15 32 23.9	
	comp=Z,25nm,18.1s,baz=44,slow=42						
MKAR	**Makanchi Array**	**68.41**	**327**	P	**P**	**15 27 57.6**	**-1.0**
	0.4nm,0.4s,baz=113,slow=7.0,SNR=11						

*NEIC **18** 15:18:25.0±1.7, 6.°89S±0.°06×128.°33E±0.°06, h10km±1km, mb5.0/61*
*ISCJB **18** 15:18:26.6±0.1, 6.°89S±0.°02×128.°37E±0.°02, h33km, mb4.7/59, MS4.0/10, Error ellipse: s-maj=3.3km s-min=3.0km az=159.3*
*IDC **18** 15:18:26.8±5.7, 6.°94S×128.°34E, h21km±36km, mb4.4/21, mb1 4.5/28, mb1mx4.4/40, mbtmp4.6/28, ML4.4/6, MS3.7/11, Ms1 3.7/11, ms1mx3.5/29, Error ellipse: s-maj=14.8km s-min=10.1km az=66.0*
*GCMT **18** 15:18:26.0±0.3, 6.°84S±0.°02×128.°23E±0.°04, h23km±1km, MW4.8/57, Moment Tensor Solution. s16,c21; s57,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.94±.23; $M_{\theta\theta}$-2.10±.13; $M_{\phi\phi}$0.15±.13; $M_{r\theta}$-0.45±.15; $M_{\theta\phi}$-0.71±.07; $M_{\phi r}$-0.38±.24; Best double couple: M_o2.20700×10^{16} NP1:ϕ246.00000°, δ53.00000°, λ80.00000°. NP2: ϕ82.00000°, δ39.00000°, λ103.00000°. Principal axes: T 2.0410, Plg79.0000°, Azm114.0000°; N 0.3280, Plg8.0000°, Azm252.0000°; P -2.3730, Plg7.0000°, Azm343.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*KLM **18** 15:18:27.0, 6.°93S×128.°57E, h16km, mb4.9*
*MOS **18** 15:18:27.0±0.9, 6.°91S×128.°27E, h36km, mb5.0/25, Error ellipse: s-maj=12.1km s-min=6.8km az=117.3*
*DJA **18** 15:18:28.4±0.3, 7.°S±2.°×12.°8E±.°, h28km±2km, M4.7/47, mB5.2/19, mb4.9/47, MLv4.8/13, Mw(mB)4.6/19, Mwp4.8/1*
*BJI **18** 15:18:29.1±0.0, 6.°90S×128.°40E, h45km, mb4.7/35, mB5.2/22, Ms5.2/11, Ms7 4.9/11*

ISC 18 15:18:28.5±0.3, 6.°96S±0.°03×128.°43E±0.°04, h35km, n249, σ1$76/262, mb4.8/75, MS3.9/10, 11C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.83**	**31**	P	**Pn**	**15 19 08.5**	**-2.8**
BNDI				S	**Sn**	**15 19 39.5**	**-4.7**
SAUI	**Saumlaki**	**3.02**	**110**	P	**Pn**	**15 19 17.4**	**+3.5**
SAUI	**Saumlaki**	**3.02**	**110**			**15 19 17.8**	**+3.9**
AAI	**Ambon**	**3.26**	**356**	P	**Pn**	**15 19 14.1**	**-3.0**
AAI				S	**Sn**	**15 19 48.3**	**-6.4**
MSAI	**Masohi**	**3.62**	**8**	P	**Pn**	**15 19 20.7**	**-1.5**
NLAI	**Namlea**	**3.92**	**340**	P	**Pn**	**15 19 25.0**	**-1.3**
SOEI	**Soe**	**4

GENI Genyem 12.47 70 P Pn 15 21 25.2 +1.5
78nm,1.2s
JAY Jayapura 13.00 71 Pn Pn 15 21 30.4 -0.6
0.5nm,0.3s,baz=349,slow=5.3,SNR=4.2
JAY Jayapura 13.00 71 P Pn 15 21 30.3 -0.7
19nm,1.1s
WRAB Tennant Creek 14.12 157 *ce*P Pn 15 21 42.6 -3.6
WRAB pmax pmax
comp=Z,38nm,1.7s
WRAB Tennant Creek 14.12 157 Pn 15 21 42.5 -3.7
WRA Warramunga Arr 14.13 157 *i* P Pn 15 21 45.2 -1.1
WRA pmax pmax
comp=Z,16nm,0.9s
WRA Warramunga Arr 14.13 157 Pn Pn 15 21 42.9 -3.3
comp=Z,1.3nm,0.3s,baz=338,slow=12,SNR=31
WRA Sn Sn 15 24 14.2 -7.7
comp=Z,1.5nm,0.3s,baz=339,slow=21,SNR=8.3
WRA LR LR 15 27 25.6
comp=Z,841nm,21.1s,baz=325,slow=38
DAV Davao City (W) 14.22 348 LR LR 15 28 44.5
comp=Z,294nm,18.3s,baz=154,slow=44
WR0 Warramunga Arr 14.22 156 Pn Pn 15 21 43.6 -4.0
KCP Kidapawan 14.27 346 ⇑P Pn 15 21 46.8 -1.4
COEN Coen 16.08 117 P Pn 15 22 11.2 -0.9
baz=16,SNR=12
COEN Coen 16.08 117 Pn Pn 15 22 10.6 -1.5
PWJI Pagerwojo 16.52 265 P P 15 22 24.8 +4.9
PSA00 Pilbara Seismi 16.73 209 Pn 15 22 17.4 -2.9
PCJI Pacitan 17.14 265 P P 15 22 30.0 +3.1
QIS Mount Isa 17.32 142 P Pn 15 22 26.7 -1.1
baz=17,SNR=9.0
WOJI Wonogiri, Jawa 17.38 266 P P 15 22 34.1 +4.6
ASAR Alice Springs 17.43 163 P Pn 15 22 28.6 -0.5
comp=Z,1.7nm,0.3s,baz=345,slow=12,SNR=23
ASAR S Sn 15 25 34.5 -7.6
comp=Z,0.4nm,0.3s,baz=323,slow=19,SNR=5.3
ASAR LR LR 15 29 26.5
comp=Z,472nm,20.7s,baz=332,slow=38
KKM Kota Kinabalu 17.76 316 Pn Pn 15 22 29.4 -3.9
WRKA Warakurna 17.98 180 P Pn 15 22 33.6 -2.3
baz=18,SNR=6.2
STKI Sintang 18.29 292 P Pn 15 22 41.0 +1.3
comp=Z,27nm,0.5s,comp=Z,18µm
PMG Port Moresby 18.70 99 *ce*P Pn 15 22 47.0 +2.3
PMG pmax pmax
comp=Z,216nm,0.8s
PMG Port Moresby 18.70 99 P Pn 15 22 45.7 +1.1
comp=Z,1.3nm,0.3s,baz=256,slow=1.3,SNR=10
PMG LR LR 15 31 25.7
comp=Z,229nm,18.2s,baz=266,slow=42
PMG Port Moresby 18.70 99 P Pn 15 22 47.0 +2.3
MTSU Mount Surprise 19.06 127 P Pn 15 22 49.9 +0.9
baz=19,SNR=13
MANU Manus Island 19.50 76 P Pn 15 22 55.6 +1.4
KSM Kuching 19.93 294 P Pn 15 22 59.0 -0.4
KSM Kuching 19.93 294 P P 15 22 57.3 -0.3
GIRL Giralia 20.74 220 P P 15 23 07.4 +1.2
baz=21,SNR=3.7
GIRL Giralia 20.74 220 P P 15 23 07.1 +0.8
CBJI Citeko 21.44 270 P P 15 23 24.9 +11
CTA Charters Tower 21.66 129 P P 15 23 18.2 +1.9
comp=Z,13nm,0.9s,baz=307,slow=14,SNR=5.7
MEEK Meekatharra 21.69 204 P P 15 23 16.3 -0.2
baz=22,SNR=13
TGY Tagaytay City 22.20 340 P P 15 23 26.5 +4.4
comp=Z,212nm,0.3s,baz=150,slow=8.1,SNR=5.6
TGY LR LR 15 34 03.5
comp=Z,81nm,19.5s,baz=216,slow=42
CGJI Cibinong 22.58 270 P P 15 23 33.7 +7.6
FORT Forrest 23.70 181 P P 15 23 38.2 +0.9
baz=24,SNR=9.3
FORT Forrest 23.70 181 P P 15 23 37.5 +0.2
FORT IAmb IAmb 15 24 09.3
comp=Z,65nm,0.8s
QLP Quilpie 24.64 144 P P 15 23 47.3 +1.4
baz=25,SNR=17
MORW Morawa 24.91 206 P P 15 23 49.2 +0.8
baz=25,SNR=4.9
MORW Morawa 24.91 206 P P 15 23 48.5 +0.2
MORW IAmb IAmb 15 23 57.3
comp=Z,37nm,0.9s
KMBL Kambalda 25.05 193 P P 15 23 50.4 +0.8
baz=25,SNR=6.9
BLDU Ballidu 25.98 204 P P 15 23 59.4 +1.4
baz=26,SNR=7.8
MYKOM Kota Tinggi 26.02 289 P P 15 24 01.0 +2.4
KLBR Kellerberrin 26.46 201 P P 15 24 02.6 +0.2
baz=27,SNR=6.8
BBOO Buckleboo 26.68 166 P P 15 24 05.2 +0.8
baz=27,SNR=17
BBOO Buckleboo 26.68 166 P P 15 24 04.3 -0.1
BBOO IAmb IAmb 15 24 13.1
comp=Z,27nm,0.9s
RMQ Roma 27.42 137 P P 15 24 13.3 +2.2
baz=28,SNR=5.1
SDSI Sungai Dareh 27.58 281 P P 15 24 12.7 0.0
comp=Z,27nm,0.8s,comp=Z,5µm
STKA Stephens Creek 27.67 155 P P 15 24 13.5 +0.2
STKA pmax pmax
comp=Z,6.0nm,1.4s
STKA Stephens Creek 27.67 155 P P 15 24 14.1 +0.8
comp=Z,6.9nm,0.9s,baz=322,slow=10,SNR=14
STKA LR LR 15 35 52.7
comp=Z,401nm,20.5s,baz=343,slow=38
STKA Stephens Creek 27.67 155 P P 15 24 13.5 +0.2
NWAO Narrogin (SRO) 27.86 200 P P 15 24 14.6 -0.3
NWAO pmax pmax
comp=Z,83nm,1.7s
NWAO Narrogin (SRO) 27.86 200 P P 15 24 15.2 +0.3
comp=Z,11nm,0.7s,baz=52,slow=6.2,SNR=6.4
NWAO Narrogin (SRO) 27.86 200 P P 15 24 14.6 -0.3
NWAO IAmb IAmb 15 24 25.4
comp=Z,83nm,1.6s
NWAO Narrogin (SRO) 27.86 200 P P 15 24 14.7 -0.2
NWAO IAmb IAmb 15 24 25.4
comp=Z,67nm,1.6s
JRMM Jerantut 28.05 292 P P 15 24 17.0 +0.1
HTT Hallett 28.08 161 P P 15 24 17.7 +0.7
baz=28,SNR=5.8
CMSA Cobar Meteorol 29.30 149 P P 15 24 29.1 +1.4
baz=29,SNR=18
RPSI Rantau Prapat 30.97 287 P P 15 24 41.4 -1.4
RPSI IAmb IAmb 15 24 44.7
comp=Z,26nm,0.9s
RPSI Rantau Prapat 30.97 287 P P 15 24 41.1 -1.7
PSI Prapat 31.00 287 P P 15 24 41.1 -2.1
comp=Z,19nm,0.8s,baz=136,slow=3.2,SNR=11
TPUB Ta-pu 31.02 346 P P 15 24 41.6 -1.5
HNR Honiara 31.29 97 LR LR 15 37 54.1
comp=Z,34nm,19.6s,baz=252,slow=37
ARMA Armidale 31.92 140 P P 15 24 52.9 +1.8
ARMA IAmb IAmb 15 25 04.9
comp=Z,44nm,1.9s
ARPS Mount Arapiles 32.10 159 P P 15 24 54.6 +2.2
baz=32,SNR=9.2
YHNB Yeheng 32.18 348 P P 15 24 53.0 -0.3
YNG Young 32.87 149 P P 15 24 59.5 +0.2
baz=33,SNR=5.7
CAN Canberra 33.97 149 P P 15 25 10.8 +1.9
CAN pmax pmax
comp=Z,58nm,1.7s
CAN Canberra 33.97 149 P P 15 25 10.8 +1.9
CAN IAmb IAmb 15 25 45.4
comp=Z,58nm,1.7s
TOO Toolangi 34.20 155 P P 15 25 10.8 0.0
baz=34,SNR=4.9
TOO Toolangi 34.20 155 P P 15 25 12.7 +1.9
TOO pmax pmax
comp=Z,12nm,1.0s
TOO Toolangi 34.20 155 P P 15 25 12.7 +1.9
CMAR Chiang Mai Arr 38.52 311 P P 15 25 48.2 +0.3
comp=Z,1.3nm,0.7s,baz=145,slow=7.3,SNR=11
CMAR PcP PcP 15 28 01.9 +1.5
comp=Z,1.6nm,0.8s,baz=163,slow=3.2,SNR=5.6
CMMT Chiang Mai 38.74 312 P P 15 25 51.9 +2.2
comp=Z,3.7nm,0.8s
CHTO Chiang Mai 38.74 312 P P 15 25 48.2 -1.5
CHTO pmax pmax
comp=Z,6.0nm,1.0s
CHTO Chiang Mai 38.74 312 P P 15 25 48.2 -1.5
GYA Guiyang 39.36 328 ⇓ *i* P P 15 25 55.4 +0.5
GYA pP sP 15 26 07.8 -0.1
GYA sP pwP 15 26 13.0 +4.4
GYA PP PnPn 15 27 30.5 +1.8
GYA S S 15 31 53.6 -0.6
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.6s
DZM Mont Dzumac 39.61 116 P P 15 25 57.4 +0.3
comp=Z,16nm,1.1s,baz=291,slow=14,SNR=3.8
DZM Mont Dzumac 39.61 116 P P 15 25 58.4 +1.3
DZM IAmb IAmb 15 27 08.2
comp=Z,38nm,1.4s
WHN Wuhan 39.66 341 P P 15 26 00.3 +3.1
KMI Kunming 40.52 323 P P 15 26 06.3 +1.6
KMI pmax pmax
comp=Z,9.0nm,0.6s
KSRS Korea Array 44.18 359 P P 15 26 35.3 +1.3
comp=Z,2.4nm,0.7s,baz=173,slow=9.0,SNR=5.3
MJAR Matsushiro Arr 44.23 11 P P 15 26 33.8 -0.7
comp=Z,1.9nm,0.7s,baz=190,slow=8.9,SNR=5.2
MAJO Matsushiro 44.23 11 P P 15 26 33.3 -1.2
MAJO pmax pmax
comp=Z,11nm,0.8s
MAJO Matsushiro 44.23 11 P P 15 26 33.3 -1.2
MAT Matsushiro 44.23 11 P P 15 26 33.8 -0.7
MJB9 Matsu-Tunnel 44.23 11 P P 15 26 33.1 -1.4
CD2 Chengdu 44.45 329 *eP* P 15 26 35.6 -0.8
XAN Xi'an 44.77 337 P P 15 26 44.3 +5.4
XAN S S 15 33 21.0 +7.3
XAN pmax pmax
comp=Z,8.0nm,0.6s
XAN pmax pmax
comp=Z,130nm,3.5s
XAN LR LR
comp=Z,1µm,11.4s
XAN LR LR
comp=Z,1µm,10.3s
XAN LR LR
comp=Z,840nm,10.8s
LZH Lanzhou 48.65 333 *eP* P 15 27 11.6 +2.2
LZH pP pwP 15 27 24.6 +1.3
LZH sP sP 15 27 29.6 +7.1
LZH pmax pmax
comp=Z,18nm,0.9s
HHC Hu-ho-hao-te 50.04 343 *eP* P 15 27 19.8 0.0
HHC pmax pmax
comp=Z,11nm,1.0s
USRK Ussuriysk Ar. 51.02 3 P P 15 27 27.6 +0.6
comp=Z,2.5nm,0.7s,baz=201,slow=7.2,SNR=5.3
USRK PcP PcP 15 28 41.7 -1.0
comp=Z,1.8nm,0.9s,baz=324,slow=22,SNR=4.4
LSA Lhasa 51.10 317 P P 15 27 28.2 -0.3
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA Lhasa 51.10 317 P P 15 27 28.2 -0.3
MDJ Mudanjiang 51.34 1 P P 15 27 31.3 +1.8
MDJ pmax pmax
comp=Z,270nm,5.1s
ODAN Odare 52.06 312 *eP* P 15 27 35.9 +0.5
comp=Z,16nm,0.8s
TAPN Taplejung 52.10 313 *eP* P 15 27 35.2 -0.6
comp=Z,34nm,1.1s
RPZ Rata Peaks 52.23 142 P P 15 27 36.9 +0.7
comp=Z,27nm,0.8s,baz=347,slow=1.3,SNR=6.5
RPZ Rata Peaks 52.23 142 P P 15 27 37.9 +1.7
RAMN Ramite 52.69 312 *eP* P 15 27 39.8 -0.4
comp=Z,24nm,0.7s
TUWZ Tuamarina 52.96 138 P P 15 27 42.6 +1.0
KHZ Kahutara 53.15 139 P P 15 27 44.7 +1.7
GTA Gaotai 53.20 332 *eP* P 15 27 43.8 +0.3
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA pmax pmax
comp=Z,93nm,5.8s
GTA LR LR
comp=Z,1µm,11.3s
GTA LR LR
comp=Z,2µm,11.7s
JIRN Jiri 53.39 312 *eP* P 15 27 44.9 -0.5
comp=Z,21nm,0.8s
BKZ Black Stump Fm 53.74 134 P P 15 27 48.8 +1.2
GUN Gumba 53.76 312 *eP* P 15 27 47.5 -0.6
comp=Z,25nm,0.8s
URZ Urewera 53.83 133 P P 15 27 49.0 +0.9
URZ IAmb IAmb 15 29 23.7
comp=Z,33nm,1.3s
KKN Kakani 54.13 312 *eP* P 15 27 50.0 -0.7
DMN Daman 54.17 311 *eP* P 15 27 50.4 -0.6
BFZ Birch Farm 54.19 136 P P 15 27 52.2 +1.5
GKN Gorkha 54.73 311 *eP* P 15 27 54.2 -0.8
comp=Z,24nm,0.8s
YSS Yuzh-Sakhalins 55.16 12 *eP* P 15 28 10.0 +13
KOLN Koldanda 55.38 311 *eP* P 15 27 59.3 -0.4
comp=Z,24nm,0.9s
KLR Kul'dur 56.03 3 *i* P P 15 28 04.8 +1.1
KLR pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 57.76 343 *ce*P P 15 28 16.1 -0.1
ULN pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 57.76 343 P P 15 28 16.2 0.0
GRNR Gornyy 57.91 6 ⇓ *i* P P 15 28 17.2 +0.2
GRNR *e*S S 15 36 18.4 +3.9
GRNR pmax pmax
comp=Z,6.0nm,1.2s
GRNR smax smax
comp=E,3.0nm,1.2s
SONM Songino Array 57.92 343 P P 15 28 18.0 +0.7
comp=E,2.1nm,1.0s,baz=156,slow=5.4,SNR=11
SONM PcP PcP 15 29 09.5 +0.2
comp=E,2.7nm,1.0s,baz=150,slow=4.6,SNR=4.4
ZEA Zeya 60.47 359 *eP* P 15 28 42.0 +7.3
ZEA pmax pmax
comp=Z,10.0nm,0.8s
WMQ Urumqi 62.52 328 *eP* P 15 28 49.9 +1.1
WMQ pP sP 15 29 01.3 -0.9
WMQ sP pwP 15 29 12.0 +9.3
WMQ pmax pmax
comp=Z,12nm,0.9s
WMQ pmax pmax
comp=Z,90nm,6.1s
WMQ LR LR
comp=Z,270nm,5.9s
WMQ LR LR
comp=Z,160nm,7.5s
WMQ LR LR
comp=Z,150nm,11.9s
PETK Petropavlovsk- 64.78 19 P P 15 29 04.2 +0.7
comp=Z,5.0nm,0.8s,baz=178,slow=8.2,SNR=3.8
BOD Bodaibo 65.61 352 *eP* P 15 29 09.0 +0.3
BOD pmax pmax
comp=Z,9.0nm,1.8s
NIL Nilore 66.01 311 P P 15 29 11.2 -0.7
NIL pmax pmax
comp=Z,8.0nm,0.7s
NIL Nilore 66.01 311 P P 15 29 11.2 -0.7
NIL IAmb IAmb 15 29 14.1
comp=Z,7.6nm,0.7s
KSH Kashi 66.94 318 P P 15 29 19.3 +1.5
KSH PcP PcP 15 29 48.3 +2.1
KSH PcS 15 33 51.1
KSH S S 15 38 08.0 -0.8
KSH sS sS 15 38 30.9 +6.8
KSH pmax pmax
comp=Z,36nm,1.0s
KSH LR LR
comp=Z,410nm,7.4s
KSH LR LR
comp=Z,810nm,6.3s
MK31 Makanchi Array 67.34 328 P P 15 29 19.4 -0.7
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MK31 Makanchi Array 67.34 328 P P 15 29 19.4 -0.7
MK31 IAmb IAmb 15 29 39.5
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 67.34 328 *ce*P P 15 29 20.6 +0.5
MKAR pmax pmax
comp=Z,9.0nm,0.9s
MKAR Makanchi Array 67.34 328 P P 15 29 20.1 +0.1
comp=Z,9.7nm,1.0s,baz=126,slow=7.5,SNR=33
MKAR LR LR 16 00 24.4
comp=Z,32nm,19.5s,baz=158,slow=37
MAKZ Makanchi 67.52 327 P P 15 29 20.7 -0.5
MAKZ pmax pmax
comp=Z,11nm,1.2s
MAKZ Makanchi 67.52 327 P P 15 29 20.7 -0.5
MAKZ IAmb IAmb 15 29 22.9
comp=Z,11nm,1.2s
YAK Yakutsk 68.79 1 *eP* P 15 29 28.4 -0.3
YAK pmax pmax
comp=Z,10.0nm,0.8s
YAK Yakutsk 68.79 1 P P 15 29 28.5 -0.3
YAK IAmb IAmb 15 29 37.0
comp=Z,13nm,0.8s
AAK Ala-Archa 69.51 320 *ce*P P 15 29 32.2 -1.7
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 69.51 320 P P 15 29 33.0 -0.8
comp=Z,5.6nm,0.8s,baz=146,slow=4.9,SNR=14
KBL Kabul 69.55 311 P P 15 29 33.6 -0.8
KBL pmax pmax
comp=Z,6.0nm,0.8s
KBL Kabul 69.55 311 P P 15 29 33.6 -0.8
KBL IAmb IAmb 15 29 42.2
comp=Z,6.3nm,0.8s
ARSB Arslanbob 69.82 319 P P 15 29 35.7 -0.2
ARSB IAmb IAmb 15 29 37.4
comp=Z,14nm,0.9s
GAR Garm 70.53 315 P P 15 29 39.5 -0.8
BTK Batken 70.67 317 P P 15 29 40.2 -0.8
BTK pmax pmax
comp=Z,21nm,1.6s
BTK Batken 70.67 317 P P 15 29 40.2 -0.8
BTK IAmb IAmb 15 29 42.5
comp=Z,21nm,1.6s
ZAA0 Zalesovo Array 70.86 334 P P 15 29 40.9 -0.8
ZAA0 IAmb IAmb 15 29 49.1
comp=Z,10nm,0.9s
ZALV Zalesovo Beam 70.86 334 *i* P P 15 29 41.5 -0.2
ZALV pmax pmax
comp=Z,7.0nm,0.8s
ZALV Zalesovo Beam 70.86 334 P P 15 29 41.2 -0.5
comp=Z,8.0nm,0.9s,baz=124,slow=4.1,SNR=22
CHGR Chuyangaron 71.20 315 P P 15 29 43.6 -0.6
KURBB Kurchatov Arra 71.67 329 P P 15 29 46.4 -0.2
comp=Z,8.9nm,0.9s,baz=131,slow=5.1,SNR=7.7
KURK Kurchatov 71.67 329 *ce*P P 15 29 47.2 +0.5
KURK pmax pmax
comp=Z,18nm,1.0s
KURK Kurchatov 71.67 329 P P 15 29 46.8 +0.1
KURK IAmb IAmb 15 30 06.1
comp=Z,19nm,0.8s
VNDA Vanda 72.68 173 P P 15 29 52.6 +0.3
comp=Z,1.8nm,0.7s,baz=305,slow=6.5,SNR=10
VNDA LR LR 15 59 22.9
comp=Z,119nm,21.9s,baz=348,slow=34
VNDA Vanda 72.68 173 P P 15 29 53.0 +0.7
MAW Mawson 74.42 201 P P 15 30 03.7 +1.0
baz=74,SNR=7.4
MAW Mawson 74.42 201 P P 15 30 03.6 +1.0
comp=Z,1.4nm,0.4s,baz=68,slow=16,SNR=6.6
MAW LR LR 16 01 27.6
comp=Z,41nm,18.1s,baz=58,slow=35
BVAR Borovoye Array 77.20 328 P P 15 30 18.7 -0.1
comp=Z,7.3nm,0.9s,baz=130,slow=5.8,SNR=4.5
BRVK Borovoye 77.27 328 *ce*P P 15 30 18.7 -0.5
BRVK pmax pmax
comp=Z,19nm,1.3s
BRVK Borovoye 77.27 328 P P 15 30 18.9 -0.3
BRVK IAmb IAmb 15 30 27.3
comp=Z,17nm,1.1s
TIXI Tiksi 78.44 0 *ce*P P 15 30 25.4 +0.1
TIXI pmax pmax
comp=Z,4.0nm,1.7s
GEYT Alibeck 79.00 311 P P 15 30 28.8 -0.3
comp=Z,6.4nm,0.8s,baz=150,slow=4.5,SNR=12
GYA0B ALIBECK ARRAY 79.00 311 P P 15 30 28.9 -0.2
GYA0B IAmb IAmb 15 30 38.1
comp=Z,10nm,0.9s
PPT2 Papeete2 80.33 107 *e*LR LR 15 29 47.1
comp=Z,66nm,26.2s
ABKAR Akbulak array 81.51 322 P P 15 30 42.0 -0.3
ABKAR IAmb IAmb 15 30 45.6
comp=Z,12nm,0.9s
QSPA South Pole Qui 83.02 180 P P 15 30 50.2 +0.1
QSPA IAmb IAmb 15 30 51.5
comp=Z,7.4nm,0.9s
SYO Syowa Base 83.14 201 ⇑ *eP* P 15 30 50.0 -0.5
SVE Sverdlovsk 83.93 329 *eP* P 15 30 55.0 +0.2
SVE pmax pmax
comp=Z,21nm,1.4s
ARU Arti 84.85 328 *c i* P P 15 30 59.3 -0.1
ARU 15 34 12.7
ARU S S 15 41 20.9 -4.3
ARU SS SS 15 46 59.3 +1.2
ARU pmax pmax
comp=Z,18nm,1.1s
ARU Arti 84.85 328 P P 15 30 58.8 -0.6
ARU IAmb IAmb 15 31 00.4
comp=Z,13nm,1.0s
RAYN Ar Rayn 86.30 294 P P 15 31 06.3 -1.2
RAYN pmax pmax
comp=Z,7.0nm,0.9s
RAYN Ar Rayn 86.30 294 P P 15 31 06.3 -1.2
RAYN IAmb IAmb 15 31 15.8
comp=Z,6.9nm,0.9s
TTA Tatalina 89.64 26 P P 15 31 23.2 +0.6
TTA Tatalina 89.64 26 P P 15 31 23.2 +0.6
MLY Manley 92.40 25 P P 15 31 35.6 +0.3
MLY IAmb IAmb 15 31 54.5
comp=Z,8.1nm,1.2s
KNK Knik Glacier 92.77 29 P P 15 31 37.5 +0.4
SML Sawmill 92.89 28 P P 15 31 37.5 -0.2
RND Reindeer 92.91 27 P P 15 31 37.0 -0.8
RND pmax pmax
comp=Z,13nm,1.0s
RND Reindeer 92.91 27 P P 15 31 37.0 -0.8
MCK McKinley 92.93 26 P P 15 31 36.9 -0.9
MCK pmax pmax
comp=Z,11nm,1.2s
MCK McKinley 92.93 26 P P 15 31 36.9 -0.9
MCK IAmb IAmb 15 31 38.3
comp=Z,11nm,1.2s
VRH Novokhopyorsk 93.30 321 *eP* P 15 31 37.0 -2.7
VRH pmax pmax
comp=Z,10.0nm,0.4s
SCM Sheep Creek Mo 93.36 28 P P 15 31 40.4 +0.5
SCM pmax pmax
comp=Z,39nm,1.5s
SCM Sheep Creek Mo 93.36 28 P P 15 31 40.4 +0.5
WRH Wood River Hil 93.42 26 P P 15 31 39.5 -0.5
DHY Denali Highway 93.52 27 P P 15 31 40.9 +0.2
DHY IAmb IAmb 15 31 51.2
comp=Z,7.6nm,0.8s
CCB Clear Creek Bu 93.57 25 P P 15 31 39.5 -1.1
CCB IAmb IAmb 15 31 40.8
comp=Z,8.8nm,1.0s
IL31 93.97 25 P P 15 31 41.4 -1.0
IL31 IAmb IAmb 15 31 52.3
comp=Z,15nm,1.6s
ILAR Eielson Array 93.97 25 P P 15 31 41.0 -1.6
ILAR Eielson Array 93.97 25 P P 15 31 41.0 -1.6
comp=Z,1.7nm,0.9s,baz=273,slow=4.4,SNR=15
VSR Storozhevoye 94.90 321 *eP* P 15 31 46.7 -0.4
VSR pmax pmax
comp=Z,4.0nm,1.1s
DOT Dot Lake 95.07 27 P P 15 31 46.1 -1.5
SNAA Sanae 95.34 194 P P 15 31 49.0 +0.2
VNA2 Neumayer--Watz 96.92 193 P P 15 31 55.2 -0.7
baz=50,slow=3.9
DAWY Dawson 97.16 26 P P 15 31 57.1 -0.1
DAWY IAmb IAmb 15 32 05.3
comp=Z,5.8nm,1.1s
YKA Yellowknife Ar 108.40 26 Pdiff Pdif 15 32 48.1 +1.0
comp=Z,0.1nm,0.4s,baz=296,slow=5.7,SNR=3.3
PDAR Pinedale Array 117.97 45 PKP PKiKP 15 37 13.1 +0.9
comp=Z,0.4nm,0.8s,baz=343,slow=4.6,SNR=3.4
MNTX Cornudas Mount 124.23 56 PKiKP 15 37 25.2 +0.6
TXAR Lajitas Array 126.24 59 PKP PKPdf 15 37 26.3 -2.0
comp=Z,0.2nm,0.3s,baz=260,slow=0.8,SNR=3.5
ESDC Sonseca Array 126.37 315 PKP PKPdf 15 37 28.0 -0.1
comp=Z,0.3nm,0.4s,baz=10,slow=8.0,SNR=3.4
TORD Torodi Ar. Bea 127.27 281 PKP PKPdf 15 37 29.1 -1.4
comp=Z,1.8nm,1.1s,baz=134,slow=4.2,SNR=4.2
G40A Rib Lake 129.26 35 PKiKP 15 37 34.6 +0.5
PLCA Paso Flores 129.43 161 PKP PKiKP 15 37 35.2 +0.4
comp=Z,2.4nm,0.8s,baz=212,slow=3.1,SNR=5.3
LVC Limon Verde 146.06 150 PKP2 PKPbc 15 38 06.0 -0.2
LVC Limon Verde 146.06 150 PKPbc 15 38 06.0 -0.2
CPUP Villa Florida 146.44 171 PKP2 PKPdf 15 38 05.4 0.0
CPUP Villa Florida 146.44 171 PKPbc PKPbc 15 38 06.7 0.0
comp=Z,8.9nm,1.0s,baz=192,slow=3.6,SNR=16
CPUP Villa Florida 146.44 171 PKPdf 15 38 05.4 0.0
CPUP PKPbc PKPab 15 38 07.2 -0.3
PB11 IPOC Station P 148.03 146 PKPdf 15 38 08.2 -0.2

MNMC	**Minye Minye**	**148.58 146**			**PKPdf**	**15 38 09.8**	**+0.4**
NNA	**Nana**	**148.60 127**	PKP2		**PKPbc**	**15 38 12.9**	**-0.1**
NNA	**Nana**	**148.60 127**			**PKPbc**	**15 38 12.9**	**-0.1**
LPAZ	**La Paz**	**151.68 145**	PKP		**PKPdf**	**15 38 16.6**	**+1.8**
	comp=Z,2.7nm,1.0s,baz=250,slow=4.2,SNR=5.9						
LPAZ			PKPbc		**PKiKP**	**15 38 22.1**	**+0.6**
	comp=Z,5.2nm,0.8s,baz=167,slow=1.3,SNR=16						
LPAZ			PKPab		**PKPab**	**15 38 28.6**	**-1.2**
	comp=Z,5.6nm,0.7s,baz=249,slow=5.5,SNR=13						

IDC ***18*** *15:30:08.6±0.6, 33.°10N×92.°86E, h0km, mb4.0/20, mb1 4.1/24, mb1mx4.0/45, mbtmp4.0/24, ML3.4/4, MS4.0/19, Ms1 3.9/19, ms1mx3.7/35, Error ellipse: s-maj=19.3km s-min=13.7km az=53.0*

BJI ***18*** *15:30:10.4±0.0, 33.°05N×92.°81E, h15km, mb4.5/32, mB4.7/13, ML4.6/3, Ms4.5/34, Ms7 4.4/29*

ISCJB ***18*** *15:30:12.2±0.2, 33.°16N±0.°02×92.°74E±0.°03, h33km, mb4.3/30, MS4.0/19, Error ellipse: s-maj=3.8km s-min=3.2km az=3.4*

MOS ***18*** *15:30:13.7±1.1, 33.°09N×92.°78E, h53km, mb4.4/10, Error ellipse: s-maj=9.4km s-min=5.9km az=109.4*

NDI ***18*** *15:30:13.4±1.1, 33.°43N×93.°18E, h80km±313km, ML3.9*

NEIC ***18*** *15:30:14.8±1.6, 33.°15N±0.°06×92.°75E±0.°08, h42km±4km, mb4.4/38*

ISC 18 15:30:14.3±0.3, 33.°16N±0.°04×92.°73E±0.°04, h35km, n144, σ1§66/147, mb4.3/33, MS4.0/19, 7C-2D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LSA	**Lhasa**	**3.71**	**202**	Pg		**Pn**	**15 31 12.8**	**+3.3**
LSA				Sg		Sn	15 32 02.4	+10
LSA				smax		smax		
	comp=N,2μm,1.1s							
LSA				smax		smax		
	comp=E,2μm,1.4s							
LSA	**Lhasa**	**3.71**	**202**	P		**Pn**	**15 31 12.4**	**+2.9**
LSA	**Lhasa**	**3.71**	**202**			**Pn**	**15 31 12.4**	**+2.9**
ZIRO	**ZIRO**	**5.70**	**170**	*e*P		**Pn**	**15 31 38.6**	**+1.9**
ZIRO				*e*S		**Sn**	**15 32 40.1**	**-0.8**
ZIRO				⇓*ex*		x	15 32 56.7	
ZIRO				IAML			15 32 56.7	
	comp=E,1μm,0.6s							
GTK	**Tadong**	**6.83**	**213**	*e*P		Pn	15 32 06.1	+14
GTK				*e*S		**Sn**	**15 33 11.4**	**+2.7**
GTK				IAML			15 33 23.5	
	comp=N,49nm,0.2s							
GTK				IAML			15 33 23.6	
	comp=E,51nm,0.2s							
TAPN	**Taplejung**	**7.24**	**218**	*e*P		**Pn**	**15 31 59.0**	**+1.1**
	comp=E,18nm,0.4s							
KOHI	**KOHIMA**	**7.51**	**170**	*e*P		**Pn**	**15 32 03.6**	**+2.1**
KOHI				*e*S		**Sn**	**15 33 23.0**	**-2.5**
KOHI				IAML			15 33 28.3	
	comp=N,318nm,0.9s							
KOHI				IAML			15 33 34.1	
	comp=Z,53nm,0.3s							
SHL	**Shillong**	**7.61**	**186**	P		**Pn**	**15 32 02.8**	**0.0**
SHL	**Shillong**	**7.61**	**186**	*e*P		**Pn**	**15 32 05.0**	**+2.2**
SHL				*e*P			15 32 05.2	
SHL				*e*S		**Sn**	**15 33 27.9**	**+0.1**
SHL				*i* S			15 33 29.0	
SHL				IAML			15 33 56.5	
	comp=N,30nm,0.9s							
SHL				IAML			15 33 57.6	
	comp=E,46nm,0.8s							
SHL	**Shillong**	**7.61**	**186**			**Pn**	**15 32 02.8**	**0.0**
ODAN	**Odare**	**7.80**	**218**	*e*P		**Pn**	**15 32 07.1**	**+1.6**
	comp=E,35nm,0.4s							
JIRN	**Jiri**	**7.87**	**228**	*e*P		**Pn**	**15 32 07.5**	**+0.9**
	comp=E,52nm,0.7s							
GUN	**Gumba**	**7.89**	**230**	*e*P		**Pn**	**15 32 07.9**	**+1.0**
	comp=E,40nm,0.5s							
RAMN	**Ramite**	**8.15**	**222**	*e*P		**Pn**	**15 32 10.4**	**0.0**
	comp=E,36nm,0.4s							
KKN	**Kakani**	**8.36**	**232**	*e*P		**Pn**	**15 32 14.8**	**+1.6**
	comp=E,50nm,0.7s							
PKI	**Pulchoki**	**8.43**	**231**	*e*P		**Pn**	**15 32 15.2**	**+1.0**
	comp=E,4.3nm,0.6s							
PKIN	**Phulchoki**	**8.43**	**231**	*e*P		**Pn**	**15 32 15.3**	**+1.1**
	comp=E,30nm,0.4s							
GTA	**Gaotai**	**8.46**	**41**	*e*P		**Pn**	**15 32 15.4**	**+1.0**
GTA				pP			15 32 19.8	
GTA				sP			15 32 23.0	
DMN	**Daman**	**8.60**	**232**	*e*P		**Pn**	**15 32 17.6**	**+1.1**
	comp=E,30nm,0.5s							
GKN	**Gorkha**	**8.66**	**236**	*e*P		**Pn**	**15 32 18.4**	**+1.1**
	comp=E,48nm,0.5s							
KOLN	**Koldanda**	**9.53**	**238**	*e*P		**Pn**	**15 32 29.8**	**+0.5**
	comp=E,63nm,0.7s							
LZH	**Lanzhou**	**9.61**	**69**	*e*P		**Pn**	**15 32 33.8**	**+3.5**
LZH				sP			15 32 39.4	
LZH				pmax		pmax		
	comp=E,21nm,1.2s							
LZH				pmax		pmax		
	comp=E,89nm,4.9s							
LZH				LR		LR		
	comp=E,2μm,8.0s							
LZH				LR		LR		
	comp=E,2μm,9.6s							
CD2	**Chengdu**	**9.63**	**101**	*e*P		**Pn**	**15 32 29.0**	**-1.4**
CD2				S		**Sn**	**15 34 17.5**	**+0.1**
CD2				LR		LR		
	comp=E,2μm,7.8s							
CD2				LR		LR		
	comp=E,3μm,10.2s							
BRDH	**Bariadhala**	**10.49**	**186**	Pn		**Pn**	**15 32 43.7**	**+1.5**
	comp=E,0.1nm,0.3s,baz=287,slow=20,SNR=3.6							
BRDH				Sn		**Sn**	**15 34 37.5**	**-1.0**
	comp=E,0.0nm,0.3s,baz=323,slow=20,SNR=3.8							
WMQ	**Urumqi**	**11.35**	**341**	*e*P		**Pn**	**15 32 55.1**	**+1.2**
WMQ				pP			15 33 04.5	
WMQ				sP			15 33 07.4	
WMQ				pmax		pmax		
	comp=E,14nm,0.7s							
WMQ				pmax		pmax		
	comp=E,25nm,3.9s							
WMQ				LR		LR		
	comp=E,810nm,12.9s							
WMQ				LR		LR		
	comp=E,1μm,14.7s							
KMI	**Kunming**	**11.86**	**130**	P		**Pn**	**15 33 04.3**	**+3.2**
KMI				pmax		pmax		
	comp=E,11nm,0.6s							
XAN	**Xi'an**	**13.53**	**82**	P		**Pn**	**15 33 24.0**	**+0.3**
XAN	**Xi'an**	**13.53**	**82**	Pn		**Pn**	**15 33 24.1**	**+0.3**
GYA	**Guiyang**	**13.81**	**115**	⇑*iP*		**Pn**	**15 33 24.3**	**-3.4**
GYA				PP		**PnPn**	**15 33 35.1**	**-0.5**
GYA				S		**Sn**	**15 35 56.5**	**-3.5**
GYA				pmax		pmax		
	comp=E,10.0nm,0.5s							
GYA				pmax		pmax		
	comp=E,90nm,5.6s							
GYA				LR		LR		
	comp=E,840nm,8.9s							
GYA				LR		LR		
	comp=E,2μm,12.2s							
ENH	**Enshi**	**14.55**	**97**			**Pn**	**15 33 39.2**	**+1.5**
KSH	**Kashi**	**14.91**	**300**	P		**P**	**15 33 46.9**	**-0.9**
KSH				S		**Sn**	**15 36 31.3**	**+4.8**
KSH				sS		S	15 36 44.3	+0.6
KSH				LR		LR		
	comp=E,760nm,8.1s							
KSH				LR		LR		
	comp=E,2μm,13.1s							
KSH				LR		LR		
	comp=E,2μm,12.0s							
CHTO	**Chiang Mai**	**15.34**	**157**	P		**P**	**15 33 53.3**	**+0.8**
CHTO				pmax		pmax		
	comp=Z,21nm,1.9s							
CHTO	**Chiang Mai**	**15.34**	**157**	P		**P**	**15 33 53.4**	**+0.8**
SLVN	**Son La**	**15.40**	**137**	P		**P**	**15 33 53.5**	**+0.3**
MHMT	**Maesarieng**	**15.64**	**161**	P		**P**	**15 33 57.6**	**+1.7**
	comp=Z,20nm,0.9s							
NRN	**Naryn**	**15.65**	**307**	P		**P**	**15 33 57.2**	**+1.0**
NRN				pmax		pmax		
	comp=Z,16nm,1.1s							
NRN	**Naryn**	**15.65**	**307**	P		**P**	**15 33 57.2**	**+1.0**
NRN				IAmb		IAmb	15 34 00.3	
	comp=Z,16nm,1.1s							
CM31	**Chiang Mai Arr**	**15.67**	**158**	Pn		**Pn**	**15 33 52.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**15.67**	**158**	Pn		**Pn**	**15 33 49.2**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=335,slow=13,SNR=9.8							
MK31	**Makanchi Array**	**15.77**	**333**	P		**P**	**15 33 55.9**	**-1.3**
MK31				pmax		pmax		
	comp=Z,5.0nm,1.1s							
MK31	**Makanchi Array**	**15.77**	**333**	P		**P**	**15 33 55.9**	**-1.3**
MKAR	**Makanchi Array**	**15.77**	**333**	Pn		**Pn**	**15 33 51.9**	**-1.7**
	comp=Z,0.0nm,0.3s,baz=134,slow=12,SNR=3.5							
MKAR				LR		LR	15 40 04.2	
	comp=Z,260nm,21.1s,baz=148,slow=38							
MAKZ	**Makanchi**	**15.90**	**332**	P		**Pn**	**15 33 55.7**	**+0.3**
MAKZ				pmax		pmax		
	comp=Z,7.0nm,1.0s							
MAKZ	**Makanchi**	**15.90**	**332**	Pn		**Pn**	**15 33 55.7**	**+0.3**
PHRA	**Phrae**	**16.08**	**153**	P		**P**	**15 34 06.1**	**+5.4**
	comp=Z,1.3nm,1.4s,comp=Z,2μm							
NIL	**Nilore**	**16.27**	**277**	P		**Pn**	**15 33 57.7**	**-2.5**
NIL				pmax		pmax		
	comp=Z,32nm,1.0s							
NIL	**Nilore**	**16.27**	**277**			**Pn**	**15 33 57.7**	**-2.5**
NIL				IAmb		IAmb	15 34 00.3	
	comp=Z,32nm,0.9s							
HHC	**Hu-ho-hao-te**	**16.87**	**58**	*e*P		**Pn**	**15 34 07.0**	**-0.7**
HHC				pmax		pmax		
	comp=Z,9.0nm,0.9s							
AAK	**Ala-Archa**	**17.19**	**309**	*ce*P		**P**	**15 34 14.6**	**+1.5**
AAK				pmax		pmax		
	comp=Z,14nm,1.3s							
AAK	**Ala-Archa**	**17.19**	**309**	P		**P**	**15 34 12.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=110,slow=6.5,SNR=7.2							
AAK				LR		LR	15 42 08.3	
	comp=Z,788nm,18.7s,baz=90,slow=42							
AAK	**Ala-Archa**	**17.19**	**309**	P		**P**	**15 34 12.8**	**-0.4**
SONM	**Songino Array**	**17.93**	**31**	P		**Pn**	**15 34 20.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=222,slow=13,SNR=30							
SONM				LR		LR	15 41 56.8	
	comp=Z,683nm,19.4s,baz=208,slow=40							
ULN	**Ulaanbaatar**	**18.24**	**32**	*ce*P		**P**	**15 34 24.6**	**0.0**
ULN				pmax		pmax		
	comp=Z,6.0nm,1.3s							
ULN	**Ulaanbaatar**	**18.24**	**32**	P		**P**	**15 34 23.5**	**-1.1**
ULN						**Pn**	**15 34 23.7**	**-1.0**
BTK	**Batken**	**18.86**	**298**	P		**Pn**	**15 34 32.0**	**-0.2**
BTK				pmax		pmax		
	comp=Z,23nm,0.8s							
BTK	**Batken**	**18.86**	**298**	P		**Pn**	**15 34 32.0**	**-0.2**
BTK				IAmb		IAmb	15 34 36.5	
	comp=Z,23nm,0.8s							
ZAK	**Zakamensk**	**18.89**	**21**	*e*P		**Pn**	**15 34 33.0**	**+0.6**
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.0s							
GAR	**Garm**	**19.01**	**294**	P		**P**	**15 34 33.3**	**+0.2**
GAR				IAmb		IAmb	15 34 34.4	
	comp=Z,26nm,0.9s							
MOY	**Mondy**	**19.45**	**16**	*e*P		**Pn**	**15 34 40.4**	**+1.2**
MOY				pmax		pmax		
	comp=Z,29nm,2.1s							
KBL	**Kabul**	**19.71**	**281**	P		**P**	**15 34 40.8**	**-0.2**
KBL				pmax		pmax		
	comp=Z,18nm,0.9s							
KBL	**Kabul**	**19.71**	**281**	P		**P**	**15 34 40.8**	**-0.2**
KBL				IAmb		IAmb	15 34 42.5	
	comp=Z,18nm,0.8s							
CHGR	**Chuyangaron**	**19.84**	**293**	P		**P**	**15 34 41.5**	**-0.7**
CHGR				IAmb		IAmb	15 34 46.1	
	comp=Z,24nm,0.9s							
KK31	**Karatay Array**	**20.04**	**306**	P		**P**	**15 34 44.4**	**+0.1**
KK31				pmax		pmax		
	comp=Z,23nm,1.3s							
KK31	**Karatay Array**	**20.04**	**306**	P		**P**	**15 34 44.4**	**+0.1**
KK31				IAmb		IAmb	15 34 47.3	
	comp=Z,23nm,1.3s							
KKAR	**Karatay Array**	**20.04**	**306**	P		**P**	**15 34 44.3**	**0.0**
KKAR				pmax		pmax		
	comp=Z,23nm,1.3s							
KKAR	**Karatay Array**	**20.04**	**306**	P		**P**	**15 34 44.3**	**0.0**
KKAR				IAmb		IAmb	15 34 47.3	
	comp=Z,23nm,1.3s							
TLY	**Talaya**	**20.14**	**20**	LR		LR	15 43 09.1	
	comp=Z,407nm,20.4s,baz=190,slow=39							
HYB	**Hyderabad**	**20.21**	**223**	*i* P		**P**	**15 34 46.0**	**-0.3**
TAS	**Tashkent**	**20.32**	**300**	P		**P**	**15 34 48.3**	**+1.0**
TAS				pmax		pmax		
	comp=Z,87nm,0.7s							
KURBB	**Kurchatov Arra**	**20.34**	**333**	P		**P**	**15 34 47.0**	**-0.3**
	comp=Z,7.6nm,0.9s,baz=144,slow=11,SNR=33							
KURK	**Kurchatov**	**20.38**	**334**	*ce*P		**P**	**15 34 48.7**	**+0.9**
KURK				pmax		pmax		
	comp=Z,24nm,1.3s							
KURK	**Kurchatov**	**20.38**	**334**	P		**P**	**15 34 48.3**	**+0.5**
KURK				IAmb		IAmb	15 34 49.4	
	comp=Z,19nm,1.1s							
QIZ	**Qiongzhong**	**20.80**	**128**	P		**P**	**15 34 53.1**	**+0.5**
QIZ				S		**S**	**15 38 44.0**	**+1.1**
QIZ				LR		LR		
	comp=Z,990nm,12.1s							
QIZ				LR		LR		
	comp=Z,840nm,10.4s							
QIZ				LR		LR		
	comp=Z,1μm,13.6s							
PHET	**Kaeng Krachan**	**21.12**	**161**	P		**P**	**15 34 59.0**	**+2.9**
	comp=Z,31μm,0.9s							
UBPT	**Khong Chiam**	**21.22**	**144**	P		**P**	**15 34 57.3**	**+0.1**
	comp=Z,26nm,1.3s							
UBPT	**Khong Chiam**	**21.22**	**144**	P		**P**	**15 34 56.5**	**-0.7**
ZAA0	**Zalesovo Array**	**21.53**	**347**	P		**P**	**15 35 00.1**	**0.0**
ZALV	**Zalesovo Beam**	**21.53**	**347**	P		**P**	**15 35 00.3**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=169,slow=11,SNR=6.1							
ZALV				LR		LR	15 43 57.9	
	comp=Z,161nm,21.4s,baz=170,slow=38							
NJ2	**Nanjing**	**22.02**	**86**	*e*P		**P**	**15 35 06.3**	**+0.7**
NJ2				pmax		pmax		
	comp=Z,11nm,0.8s							
BVAR	**Borovoye Array**	**25.51**	**328**	P		**P**	**15 35 40.3**	**+1.1**
	comp=Z,5.5nm,0.7s,baz=138,slow=9.2,SNR=24							
BRVK	**Borovoye**	**25.58**	**328**	*ce*P		**P**	**15 35 41.4**	**+1.6**
BRVK				pmax		pmax		
	comp=Z,14nm,1.3s							
BRVK	**Borovoye**	**25.58**	**328**	P		**P**	**15 35 39.5**	**-0.4**
BRVK				IAmb		IAmb	15 35 44.3	
	comp=Z,14nm,1.2s							
TATO	**Taipei**	**26.37**	**101**	P		**P**	**15 35 47.7**	**+0.4**
GEYT	**Alibeck**	**28.46**	**290**	LR		LR	15 49 41.3	
	comp=Z,565nm,20.4s,baz=60,slow=41							
ABKAR	**Akbulak array**	**29.15**	**313**	P		**P**	**15 36 12.6**	**+0.6**
USRK	**Ussuriysk Ar.**	**32.29**	**58**	LR		LR	15 49 59.3	
	comp=Z,233nm,18.9s,baz=250,slow=37							
KLR	**Kul'dur**	**33.03**	**49**	*i* P		**P**	**15 36 45.9**	**-0.3**
KLR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ARU	**Arti**	**33.04**	**325**	P		**P**	**15 36 45.4**	**-0.7**
KKM	**Kota Kinabalu**	**34.71**	**136**	P		**P**	**15 37 01.0**	**-0.1**
GRNR	**Gornyy**	**36.32**	**48**	⇓*iP*		**P**	**15 37 15.3**	**+0.8**
GRNR				*e*S		**S**	**15 42 54.6**	**+1.6**
GRNR				pmax		pmax		
	comp=Z,3.0nm,1.0s							
GRNR				smax		smax		
	comp=E,5.0nm,1.0s							
GRNR				MLR		MLR		
	comp=Z,260nm,14.0s							
MJAR	**Matsushiro Arr**	**37.21**	**72**	LR		LR	15 51 51.5	
	comp=Z,132nm,19.1s,baz=240,slow=35							
GNI	**Garni**	**38.74**	**294**	P		**P**	**15 37 33.7**	**-1.6**
GNI				pmax		pmax		
	comp=Z,9.0nm,1.2s							
GNI	**Garni**	**38.74**	**294**	P		**P**	**15 37 33.7**	**-1.6**
GNI				IAmb		IAmb	15 38 15.1	
	comp=Z,8.5nm,1.1s							
KBZ	**Khabaz**	**39.89**	**300**	LR		LR	15 56 17.9	
	comp=Z,86nm,19.4s,baz=47,slow=39							
SOC	**Sochi**	**42.20**	**300**	*e*P		**P**	**15 38 00.7**	**-3.0**
SOC				*e**SP		**sP**	**15 38 25.4**	**+5.1**
SOC				*e*			15 39 41.2	
SOC				*e*PPP		PPP	15 40 12.6	
SOC				*e*S		**S**	**15 44 17.4**	**-4.1**
SOC				*e*SS		**SS**	**15 47 21.9**	**-8.2**
SOC				*e*SSS		SSS	15 48 15.8	
SOC				MLR		MLR		
	comp=Z,111nm,11.0s							
TIXI	**Tiksi**	**43.03**	**16**	P		**P**	**15 38 09.3**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=241,slow=3.7,SNR=8.3							
TIXI	**Tiksi**	**43.03**	**16**	P		**P**	**15 38 10.7**	**+0.7**
TIXI				IAmb		IAmb	15 39 08.3	
	comp=Z,7.4nm,1.5s							
BRTR	**Keskin Array B**	**47.24**	**296**	*ce*P		**P**	**15 38 44.7**	**+0.6**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
BRTR	**Keskin Array B**	**47.24**	**296**	P		**P**	**15 38 44.2**	**+0.1**
	comp=Z,1.6nm,1.1s,baz=106,slow=6.6,SNR=5.9							
AKASG	**Malin Array Be**	**48.84**	**311**	*ce*P		**P**	**15 38 56.7**	**+0.6**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**48.84**	**311**	P		**P**	**15 38 55.7**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=73,slow=7.1,SNR=6.2							
AKASG				LR		LR	16 01 36.7	
	comp=Z,147nm,20.2s,baz=60,slow=39							
PETK	**Petropavlovsk-**	**49.58**	**46**	P		**P**	**15 39 00.6**	**-1.2**
	comp=Z,2.0nm,0.9s,baz=304,slow=4.5,SNR=2.9							
FINES	**FINESS Array B**	**50.42**	**325**	P		**P**	**15 39 08.5**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=72,slow=8.2,SNR=5.5							
FINES				LR		LR	16 02 40.8	
	comp=Z,342nm,20.6s,baz=91,slow=39							
ARCES	**ARCESS Array B**	**51.40**	**335**	P		**P**	**15 39 16.4**	**+1.1**
	comp=Z,2.8nm,0.8s,baz=74,slow=8.9,SNR=4.2							
ARCES				LR		LR	16 04 00.8	
	comp=Z,196nm,18.1s,baz=128,slow=40							
MLR	**Muntele Rosu**	**51.72**	**305**	P		**P**	**15 39 19.2**	**+1.1**
MLR				pmax		pmax		
	comp=Z,12nm,1.1s							
MLR	**Muntele Rosu**	**51.72**	**305**	P		**P**	**15 39 19.1**	**+1.1**
MLR				IAmb		IAmb	15 39 21.0	
	comp=Z,12nm,1.1s							
KARP	**Karpathos**	**53.27**	**292**	P		**P**	**15 39 29.6**	**-0.1**
VYHS	**Vyhne**	**55.85**	**309**	*e*P		**P**	**15 39 49.6**	**+1.4**
VYHS	**Vyhne**	**55.85**	**309**	*e*P		**P**	**15 39 49.5**	**+1.4**
MORC	**Moravsky Berou**	**56.39**	**311**	P		**P**	**15 39 52.5**	**+0.5**
MORC				pmax		pmax		
	comp=Z,4.0nm,0.9s							
MORC	**Moravsky Berou**	**56.39**	**311**	P		**P**	**15 39 52.5**	**+0.5**
MORC				IAmb		IAmb	15 39 54.1	
	comp=Z,4.0nm,0.9s							
NC405	**NORSAR Array S**	**57.34**	**325**	P		**P**	**15 39 59.0**	**+0.4**
NB2	**NORSAR Subarra**	**57.60**	**325**	P		**P**	**15 40 00.5**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=80,slow=7.9							
NOA	**NORSAR Array B**	**57.60**	**325**	P		**P**	**15 40 00.5**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=79,slow=7.1,SNR=6.4							
NOA				LR		LR	16 05 40.8	
	comp=Z,116nm,18.3s,baz=90,slow=37							
NC204	**NORSAR Array S**	**57.77**	**326**	P		**P**	**15 40 01.8**	**+0.1**
RGN	**Rugen**	**57.84**	**317**	P		**P**	**15 40 02.4**	**+0.3**
CONA	**Conrad Observa**	**57.92**	**309**	*i* P		**P**	**15 40 04.0**	**+1.1**
	comp=Z,8.1nm,0.9s							
SOKA	**Soboth**	**58.81**	**308**	*i* P		**P**	**15 40 09.9**	**+0.7**
	comp=Z,5.0nm,0.8s							
CLL	**Collm**	**58.82**	**314**	*e*P		**P**	**15 40 09.0**	**0.0**
CLL	**Collm**	**58.82**	**314**	*e*P		**P**	**15 40 09.0**	**0.0**
CLL	**Collm**	**58.82**	**314**	P		**P**	**15 40 07.9**	**-1.1**
GERES	**GERESS Array B**	**59.05**	**311**	P		**P**	**15 40 11.8**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=75,slow=5.7,SNR=12							
GERES				LR		LR	16 09 21.4	
	comp=Z,178nm,19.2s,baz=78,slow=40							
KBA	**Koelnbreinsper**	**59.80**	**309**	*i* P		**P**	**15 40 16.6**	**+0.5**
	comp=Z,3.5nm,1.1s							
TRI	**Trieste**	**59.94**	**307**	P		**P**	**15 40 14.9**	**-1.9**
TRI				pmax		pmax		
	comp=Z,11nm,0.9s							
TRI	**Trieste**	**59.94**	**307**	P		**P**	**15 40 14.9**	**-1.9**
TRI				IAmb		IAmb	15 40 17.6	
	comp=Z,11nm,0.9s							
KMBO	**Kilima Mbogo**	**62.31**	**248**	P		**P**	**15 40 33.3**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=7.6,slow=15,SNR=3.4							
KMBO	**Kilima Mbogo**	**62.31**	**248**	IAmb		IAmb	15 40 59.2	
	comp=Z,2.6nm,0.9s							
SENIN	**Lac Senin/Sane**	**63.96**	**310**	P		**P**	**15 40 44.4**	**+0.3**
WRA	**Warramunga Arr**	**66.08**	**137**	*i* P		**P**	**15 40 57.7**	**-0.2**
WRA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
WRA	**Warramunga Arr**	**66.08**	**137**	P		**P**	**15 40 57.5**	**-0.4**
	comp=Z,1.6nm,1.0s,baz=329,slow=7.3,SNR=6.5							
ASAR	**Alice Springs**	**68.80**	**140**	P		**P**	**15 41 14.4**	**-0.7**
	comp=Z,2.2nm,0.9s,baz=329,slow=8.5,SNR=15							
ILAR	**Eielson Array**	**71.94**	**23**	P		**P**	**15 41 32.0**	**-1.7**
	comp=Z,0.8nm,0.9s,baz=272,slow=4.5,SNR=7.5							
INK	**Inuvik**	**73.16**	**16**	P		**P**	**15 41 41.1**	**+0.3**
	comp=Z,2.2nm,1.0s,baz=339,slow=8.9,SNR=4.1							
INK	**Inuvik**	**73.16**	**16**	IAmb		IAmb	15 42 14.9	
	comp=Z,11nm,1.6s							
ESDC	**Sonseca Array**	**74.29**	**307**	P		**P**	**15 41 49.1**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=52,slow=7.9,SNR=5.1							
STKA	**Stephens Creek**	**79.44**	**139**	P		**P**	**15 42 16.0**	**-1.0**
STKA	**Stephens Creek**	**79.44**	**139**	P		**P**	**15 42 16.0**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=330,slow=8.9,SNR=4.0							
STKA				LR		LR	16 24 32.0	
	comp=Z,36nm,18.4s,baz=21,slow=41							
STKA	**Stephens Creek**	**79.44**	**139**	IAmb		IAmb	15 44 20.7	
	comp=Z,4.8nm,2.0s							
YKA	**Yellowknife Ar**	**82.17**	**12**	P		**P**	**15 42 31.2**	**0.0**
	comp=Z,0.7nm,0.7s,baz=327,slow=5.1,SNR=9.8							
TOA0	**Torodi Ar. Sit**	**83.78**	**282**	P		**P**	**15 42 40.0**	**-0.4**
TOA0				IAmb		IAmb	15 42 41.2	
	comp=Z,5.1nm,0.8s							
TORD	**Torodi Ar. Bea**	**83.78**	**282**	P		**P**	**15 42 40.2**	**-0.1**
	comp=Z,5.5nm,0.9s,baz=49,slow=4.5,SNR=19							
TORD				LR		LR	16 24 53.8	
	comp=Z,65nm,18.4s,baz=340,slow=39							
BOSA	**Boshof**	**88.67**	**234**	LR		LR	16 21 48.6	
	comp=Z,49nm,18.2s,baz=32,slow=35							
DBIC	**Dimbokro**	**92.70**	**280**	LR		LR	16 30 04.2	
	comp=Z

*SJA **18** 16:15:06.1±1.0,21˚.42S×66˚.82W,h220km±8km,ML3.0, MW3.1*
*ISCJB **18** 16:15:07.2±0.8,21˚.53S±0˚.04×66˚.94W±0˚.04,h217km±9km, Error ellipse: s-maj=7.5km s-min=4.8km az=36.8*
*GUC **18** 16:15:07.8±0.6,21˚.48S×67˚.39W,h250km±9km,ML3.7*

ISC 18 16:15:05.7±2.0,**21˚.51S**±0˚.05×**66˚.90W**±0˚.05, **h232**km±16km,**n26,**σ1°**39**/47,**5C-2D,Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**1.45**	**117**	*i* P	**Pn**	**16 15 42.6**	**+0.2**
YJA				*i* S	**S**	**16 16 08.6**	**-2.4**
YJA				IAML		16 16 09.7	
	comp=Z,39nm,0.4s						
LVC	**Limon Verde**	**2.16**	**239**	*i* P	**Pn**	**16 15 50.0**	**+1.4**
LVC				*i* S	**S**	**16 16 22.2**	**0.0**
HJA	**Humahuaca**	**2.18**	**141**	*i* P	**Pn**	**16 15 49.9**	**+1.1**
HJA				IAML		16 15 50.0	
	comp=Z,38nm,0.2s						
HJA				*i* S	**S**	**16 16 21.7**	**-0.9**
PB09	**IPOC Station P**	**2.20**	**262**	*e*P	**Pn**	**16 15 49.9**	**+1.1**
PB09				*i* S	**S**	**16 16 22.1**	**-0.3**
PB09	**IPOC Station P**	**2.20**	**262**	*i* P	**Pn**	**16 15 50.2**	**+1.5**
PB09				*i* S	**S**	**16 16 24.3**	**+1.8**
PB09				IAML		16 16 30.9	
	comp=Z,24nm,0.2s						
PB08	**IPOC Station P**	**2.51**	**303**↑	*i*P	**Pn**	**16 15 53.5**	**+1.2**
PB08				*i* S	**S**	**16 16 28.7**	**+0.1**
PB03	**IPOC Station P**	**2.71**	**258**↑	*i*P	**Pn**	**16 15 55.2**	**+1.2**
PB03				*i* S	**S**	**16 16 30.4**	**-1.5**
PB03				IAML		16 16 31.9	
	comp=E,153nm,0.2s						
PB06	**IPOC Station P**	**2.75**	**244**	*e*P	**Pn**	**16 15 55.9**	**+1.4**
PB06				*i* S	**S**	**16 16 32.2**	**-0.5**
PB06				IAML		16 16 33.5	
	comp=E,75nm,0.2s						
PB06	**IPOC Station P**	**2.75**	**244**	*i* P	**Pn**	**16 15 55.8**	**+1.4**
PB06				*i* S	**S**	**16 16 32.4**	**-0.3**
PB06				IAML		16 16 34.5	
	comp=Z,37nm,0.2s						
PB07	**IPOC Station P**	**2.79**	**265**↓	*i*P	**Pn**	**16 15 55.8**	**+0.8**
PB07				*i* S	**S**	**16 16 31.9**	**-1.6**
PB07				IAML		16 16 32.7	
	comp=E,192nm,0.4s						
PB02	**IPOC Station P**	**2.80**	**273**↑	*i*P	**Pn**	**16 15 56.0**	**+1.0**
PB02				*i* S	**S**	**16 16 31.9**	**-1.7**
PB02				IAML		16 16 32.6	
	comp=N,316nm,0.4s						
PB15	**IPOC Station P**	**2.92**	**234**	*i* P	**Pn**	**16 15 57.8**	**+1.4**
PB15				*i* S	**S**	**16 16 36.5**	**+0.4**
PB15	**IPOC Station P**	**2.92**	**234**	*i* P	**Pn**	**16 15 57.9**	**+1.4**
PB11	**IPOC Station P**	**3.12**	**304**↑	*i*P	**Pn**	**16 15 59.0**	**+0.4**
PB11				*i* S	**S**	**16 16 38.6**	**-1.5**
PB11				IAML		16 16 40.9	
	comp=N,204nm,0.2s						
PB04	**IPOC Station P**	**3.13**	**254**	*e*P	**Pn**	**16 15 59.7**	**+1.0**
PB04				*i* S	**S**	**16 16 38.5**	**-1.8**
PB04	**IPOC Station P**	**3.13**	**254**	*i* P	**Pn**	**16 15 59.8**	**+1.2**
PB04				*i* S	**S**	**16 16 38.7**	**-1.6**
PB04				IAML		16 16 39.3	
	comp=Z,53nm,0.2s						
AZAP	**Zapla**	**3.18**	**148**	*i* P	**Pn**	**16 16 00.1**	**+0.7**
AZAP				*i* S	**S**	**16 16 41.2**	**-0.5**
TA01	**Diego Aracena**	**3.21**	**286**↑	*i*P	**Pn**	**16 15 59.8**	**+0.4**
TA01				*i* S	**S**	**16 16 38.8**	**-2.8**
TA01				IAML		16 16 40.2	
	comp=E,56nm,0.1s						
ASTB	**Santa Barbara**	**3.31**	**137**↓	*i*P	Pn	16 15 57.2	-3.5
PB05	**IPOC Station P**	**3.34**	**246**	*i* P	**Pn**	**16 16 02.5**	**+1.4**
PB05				*i* S	**S**	**16 16 42.9**	**-1.7**
MNMC	**Minye Minye**	**3.47**	**313**	*e*P	**Pn**	**16 16 04.0**	**+1.3**
MNMC				*i* S	**S**	**16 16 47.1**	**-0.5**
MNMC				IAML		16 16 49.5	
	comp=N,100nm,0.3s						
PSGC	**Pisagua**	**3.57**	**302**	*e*P	**Pn**	**16 16 03.7**	**-0.1**
PSGC				*i* S	**S**	**16 16 46.6**	**-2.9**
PSGC				IAML		16 16 49.6	
	comp=N,33nm,0.5s						
PB10	**IPOC Station P**	**3.92**	**239**	*i* P	**Pn**	**16 16 06.5**	**-1.2**
PB10				*i* S	**S**	**16 16 54.6**	**-2.2**
PB16	**IPOC Station P**	**4.00**	**322**	*e*P	**Pn**	**16 16 11.2**	**+1.8**
PB16				*i* S	**S**	**16 16 59.5**	**+0.1**
PB14	**IPOC Station P**	**4.47**	**225**	*i* P	**Pn**	**16 16 16.1**	**+1.3**
APLL	**PUNTA DE LOS L**	**8.85**	**178**	*i* P	**Pn**	**16 17 10.7**	**+0.8**

*IDC **18** 16:21:35.6±9.1,19˚.56S×178˚.45W,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.6/26,mbtmp3.5/3,Error ellipse: s-maj=404.9km s-min=42.1km az=144.0*
*NEIC **18** 16:21:36.1±1.3,19˚.8S±0˚.2×178˚.6W±0˚.1,h10km±2km, mb4.6/5*
*ISCJB **18** 16:21:37.4±0.8,19˚.9S±0˚.2×178˚.4W±0˚.1,h33km,mb3.5/3, Error ellipse: s-maj=32.6km s-min=14.0km az=164.4*

ISC 18 16:21:39.8±1.0,**19˚.9S**±0˚.2×**178˚.5W**±0˚.1,**h35**km,**n9,** σ1°**26**/9,**mb3.7**/4,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**8.10**	**86**	Pn	**Pn**	**16 23 35.1**	**+0.1**
LHI	**Lord Howe Isla**	**23.26**	**236**	P	**P**	**16 26 43.5**	**-0.7**
DCZ	**Deep Cove**	**28.12**	**202**	P	**P**	**16 27 28.4**	**0.0**
ASAR	**Alice Springs**	**44.23**	**256**	P	**P**	**16 29 48.3**	**+2.3**
	0.3nm,0.6s,baz=92,slow=7.7,SNR=14						
WRA	**Warramunga Arr**	**44.25**	**262**	P	**P**	**16 29 46.7**	**+0.6**
	1.0nm,1.2s,baz=97,slow=8.2,SNR=2.0						
PSAB1	**Pilbara Seismi**	**57.39**	**257**	P	**P**	**16 31 24.1**	**-1.1**
PSAD1	**Pilbara Seismi**	**57.41**	**257**	P	**P**	**16 31 24.8**	**-0.5**
PSAD3	**Pilbara Seismi**	**57.42**	**257**	P	**P**	**16 31 24.0**	**-1.4**
PSAD3				IAmb	IAmb	16 31 24.2	
	comp=Z,5.3nm,0.9s						
ILAR	**Eielson Array**	**87.84**	**13**	P	**P**	**16 34 24.8**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=201,slow=4.8,SNR=3.2						

*ISCJB **18** 16:41:29.5±0.6,22˚.1S±0˚.1×174˚.36W±0˚.10,h27km, mb4.2/5,Error ellipse: s-maj=21.7km s-min=11.2km az=157.6*
*IDC **18** 16:41:29.6±17.0,22˚.18S×174˚.62W,h0km,mb4.2/5, mb1 4.3/5,mb1mx3.8/36,mbtmp4.2/5,Error ellipse: s-maj=327.6km s-min=141.5km az=83.0*
*NEIC **18** 16:41:33.9±1.3,22˚.2S±0˚.2×174˚.3W±0˚.2,h54km±7km, mb4.8/9*

ISC 18 16:41:31.2±0.9,**22˚.0S**±0˚.2×**174˚.3W**±0˚.1,**h27**km,**n16,** σ0°**72**/16,**mb4.5**/8,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**7.89**	**204**	Pn	**Pn**	**16 43 24.6**	**+0.5**
PPT	**Papeete**	**23.69**	**84**	P	**P**	**16 46 40.4**	**-0.5**
PPTF	**Pamatai, Papee**	**23.69**	**84**	P	**P**	**16 46 40.5**	**-0.6**
EIDS	**Eidsvold**	**31.80**	**257**	P	**P**	**16 47 53.2**	**-0.5**
EIDS				IAmb	IAmb	16 48 11.7	
	comp=Z,22nm,1.2s						
CTA	**Charters Tower**	**36.78**	**266**	P	**P**	**16 48 37.2**	**+0.3**
	comp=Z,6.3nm,0.7s,baz=80,slow=12,SNR=6.7						
TOO	**Toolangi**	**37.85**	**237**	P	**P**	**16 48 46.7**	**+0.9**
TOO				IAmb	IAmb	16 49 10.7	
	comp=Z,20nm,1.5s						
STKA	**Stephens Creek**	**40.27**	**246**	P	**P**	**16 49 05.8**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=105,slow=16,SNR=6.2						
STKA	**Stephens Creek**	**40.27**	**246**	P	**P**	**16 49 06.0**	**-0.1**
BBOO	**Buckleboo**	**44.98**	**245**	P	**P**	**16 49 43.5**	**-0.9**
SDHHI	**Sand Hill**	**45.17**	**26**	P	**P**	**16 49 46.7**	**+0.6**
ASAR	**Alice Springs**	**47.53**	**258**	P	**P**	**16 50 04.0**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=90,slow=7.6,SNR=46						
WRAB	**Tennant Creek**	**47.79**	**263**	P	**P**	**16 50 05.8**	**-0.8**
WRAB				IAmb	IAmb	16 50 45.4	
	comp=Z,22nm,1.7s						
WRA	**Warramunga Arr**	**47.80**	**263**	P	**P**	**16 50 06.1**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=102,slow=8.0,SNR=30						
KNRA	**Kununurra**	**53.99**	**266**	P	**P**	**16 50 54.1**	**+0.8**
FITZ	**Fitzroy Crossi**	**56.23**	**262**	P	**P**	**16 51 10.5**	**+1.0**
	comp=Z,1.6nm,0.9s,baz=114,slow=10.0						
FITZ	**Fitzroy Crossi**	**56.23**	**262**	P	**P**	**16 51 10.0**	**+0.5**
FITZ				IAmb	IAmb	16 51 27.9	
	comp=Z,14nm,1.6s						

*ISK **18** 17:15:41.3,40˚.46N×34˚.64E,h5km,ML3.8/22*
*DDA **18** 17:15:41.9,40˚.44N×34˚.62E,h16km,MW3.9*

ISC 18 17:15:42.7±1.0,**40˚.45N**±0˚.02×**34˚.62E**±0˚.01,**h8**km±9km, **n75,**σ1°**13**/112,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTAK	**Corum_Osmancik**	**0.24**	**34**	*i* PA	**Pg**	**17 15 47.7**	**+0.2**
CTAK				*i* S	**Sg**	**17 15 51.5**	**+0.8**
CTAK				IAML		17 15 52.0	
	comp=N,14μm,0.4s						
CTAK				IAML		17 15 52.0	
	comp=E,13μm,0.5s						
COAL	**Corum-Alaca**	**0.34**	**125**	*i* PA	**Pg**	**17 15 49.3**	**-0.2**
COAL				*i* S	**Sg**	**17 15 54.1**	**+0.1**
COAL				IAML		17 15 55.0	
	comp=N,2μm,0.4s						
COAL				IAML		17 15 55.0	
	comp=E,3μm,0.3s						
KAGI	**orum-Kargı**	**0.69**	**351**	*i* PA	**Pg**	**17 15 55.8**	**-0.3**
KAGI				*i* S	**Sg**	**17 16 05.4**	**+0.3**
KAGI				IAML		17 16 06.0	
	comp=N,1μm,0.3s						
KAGI				IAML		17 16 08.0	
	comp=E,679nm,0.3s						
DELI	**KIRIKKALE**	**0.70**	**230**	*i* PA	**Pg**	**17 15 55.8**	**-0.3**
DELI				*i* S	**Sg**	**17 16 05.7**	**+0.4**
DELI				IAML		17 16 07.0	
	comp=N,1μm,0.2s						
DELI				IAML		17 16 07.0	
	comp=E,1μm,0.5s						
TOS	**Tosya**	**0.74**	**323**	PG	**Pg**	**17 15 56.1**	**-0.8**
TOS				SG	**Sb**	**17 16 07.3**	**-0.9**
CDAG	**Cicekdag**	**0.85**	**193**	*i* PA	**Pg**	**17 15 58.5**	**-0.4**
CDAG				*i* S	**Sg**	**17 16 10.3**	**+0.4**
CDAG				IAML		17 16 11.0	
	comp=N,3μm,0.5s						
CDAG				IAML		17 16 12.0	
	comp=E,4μm,0.6s						
ELDT	**Eldivan**	**0.91**	**273**	*i* PA	**Pg**	**17 15 59.8**	**-0.3**
ELDT				*i* S	**Sg**	**17 16 11.8**	**-0.2**
ELDT				IAML		17 16 13.0	
	comp=N,2μm,0.5s						
ILGA	**Ilgaz**	**0.91**	**312**	*i* PA	**Pg**	**17 15 60.0**	**-0.2**
ILGA				IAML		17 16 18.0	
	comp=E,729nm,0.3s						
ILGA				IAML		17 16 20.0	
	comp=N,753nm,0.8s						
AMSY	**Amasya-Merkez**	**0.95**	**78**	*i* PA	**Pg**	**17 15 59.6**	**-1.3**
AMSY				*i* S	**Sb**	**17 16 14.2**	**0.0**
AMSY				IAML		17 16 18.0	
	comp=N,2μm,0.6s						
AMSY				IAML		17 16 19.0	
	comp=E,2μm,0.4s						
YOZ	**Yozgat**	**0.97**	**146**	PG	**Pg**	**17 16 00.8**	**-0.6**
YOZ				SG	**Sb**	**17 16 15.2**	**+0.2**
BRTR	**Keskin Array B**	**1.04**	**226**	PG	**Pg**	**17 16 02.1**	**-0.6**
HAVZ	**Havza**	**1.04**	**53**	*i* PA	**Pg**	**17 16 01.6**	**-1.1**
HAVZ				*i* S	**Sb**	**17 16 16.6**	**-0.3**
HAVZ				IAML		17 16 19.0	
	comp=E,2μm,0.7s						
HAVZ				IAML		17 16 20.0	
	comp=N,2μm,0.5s						
KMON	**Kastamonu**	**1.12**	**326**	PN	**Pb**	**17 16 03.9**	**-0.4**
KMON				SN	**Sn**	**17 16 20.6**	**+0.2**
KAST	**KASTAMONU**	**1.16**	**334**	*i* PA	**Pg**	**17 16 04.5**	**-0.5**
KAST				*i* S	**Sn**	**17 16 20.8**	**-0.7**
KAST				IAML		17 16 28.0	
	comp=E,965nm,0.6s						
SIRC	**Yozgat**	**1.19**	**160**	*i* PA	**Pg**	**17 16 05.0**	**-0.4**
SIRC				*i* S	**Sb**	**17 16 20.5**	**-0.6**
SIRC				IAML		17 16 23.0	
	comp=E,1μm,0.7s						
SIRC				IAML		17 16 24.0	
	comp=N,1μm,0.6s						
KVT	**Kavak**	**1.25**	**59**	PN	**Pn**	**17 16 05.4**	**-1.2**
KVT				SN	**Sn**	**17 16 23.8**	**+0.1**
DIKM	**Dikmen**	**1.29**	**22**	PN	**Pn**	**17 16 06.9**	**-0.2**
DIKM				SN	**Sg**	**17 16 25.3**	**+1.1**
KIRS	**Kırehir-Merke**	**1.42**	**202**	*i* PA	**Pg**	**17 16 08.0**	**-1.9**
KIRS				*i* S	**Sn**	**17 16 27.3**	**-0.6**
KIRS				IAML		17 16 31.0	
	comp=E,1μm,0.8s						
KIRS				IAML		17 16 32.0	
	comp=N,464nm,0.9s						
TOKA	**Tokat**	**1.43**	**95**	*i* PA	**Pg**	**17 16 09.0**	**-1.0**
TOKA				*i* S	**Sb**	**17 16 28.1**	**+0.1**
TOKA				IAML		17 16 35.0	
	comp=N,983nm,0.6s						
BBAL	**Bala**	**1.46**	**232**	*i* PA	**Pg**	**17 16 09.5**	**-1.3**
BBAL				*i* S	**Sg**	**17 16 30.8**	**+1.1**
BBAL				IAML		17 16 35.0	
	comp=N,735nm,0.9s						
BBAL				IAML		17 16 35.0	
	comp=E,533nm,0.3s						
TOKT	**Tokat**	**1.48**	**94**	PN	**Pn**	**17 16 09.2**	**-0.5**
SAMS	**Samsun-Alacam**	**1.50**	**52**	*i* PA	**Pg**	**17 16 10.3**	**-1.1**
SAMS				*i* S	**Sg**	**17 16 31.6**	**+0.7**
SAMS				IAML		17 16 34.0	
	comp=N,2μm,0.3s						
SAMS				IAML		17 16 35.0	
	comp=E,1μm,0.3s						
LOD	**Lodumlu**	**1.53**	**249**	PN	**Pb**	**17 16 11.2**	**-0.1**
LOD				SN	**Sg**	**17 16 33.4**	**+1.7**
AFSR	**Afar-Bala (An**	**1.56**	**230**	PN	**Pb**	**17 16 11.2**	**-0.6**
AFSR				SN	**Sg**	**17 16 33.9**	**+1.3**
BZK	**Bozkurt**	**1.58**	**343**	PN	**Pb**	**17 16 11.9**	**-0.2**
CUSAR	**Sarkisla-SIVAS**	**1.62**	**129**	*i* PA	**Pg**	**17 16 12.0**	**-1.7**
CUSAR				*i* S	**Sg**	**17 16 34.7**	**-0.1**
CUSAR				IAML		17 16 37.0	
	comp=E,799nm,0.4s						
CUSAR				IAML		17 16 43.0	
	comp=N,943nm,0.5s						
SINO	**SINOP_Merkez**	**1.63**	**16**	*i* P	**Pb**	**17 16 12.9**	**-0.1**
SINO				*i* S	**Sg**	**17 16 35.0**	**0.0**
SINO				IAML		17 16 41.0	
	comp=E,601nm,1.0s						
SINO				IAML		17 16 46.0	
	comp=N,448nm,0.9s						
YAYX	**Yaylak**	**1.63**	**203**	PN	**Pn**	**17 16 12.1**	**+0.2**
CMDR	**Camlidere-ANKA**	**1.63**	**272**	*i* PA	**Pg**	**17 16 12.4**	**-1.6**
CMDR				*i* S	**Sg**	**17 16 36.3**	**+1.1**
CMDR				IAML		17 16 44.0	
	comp=E,616nm,0.7s						
CMDR				IAML		17 16 45.0	
	comp=N,831nm,1.3s						
ERBA	**Erbaa**	**1.65**	**81**	*i* PA	**Pg**	**17 16 13.1**	**-1.1**
ERBA				*i* S	**Sb**	**17 16 34.5**	**+0.3**
ERBA				IAML		17 16 45.0	
	comp=N,215nm,0.9s						
AVNS	**Nevsehir-Avano**	**1.65**	**174**	*i* PA	**Pg**	**17 16 12.8**	**-1.5**
AVNS				*i* S	**Sb**	**17 16 35.0**	**+0.5**
AVNS				IAML		17 16 36.0	
	comp=N,3μm,0.8s						
AVNS				IAML		17 16 36.0	
	comp=E,3μm,0.4s						
SAFT	**Safranbolu**	**1.66**	**299**	PN	**Pb**	**17 16 13.4**	**-0.2**
SERE	**Sereflikochisa**	**1.71**	**209**	PN	**Pb**	**17 16 14.0**	**-0.4**
KKUL	**Konya-Kulu**	**1.83**	**226**	*i* P	**Pb**	**17 16 15.5**	**-1.0**
KKUL				*i* S	**Sg**	**17 16 40.6**	**-0.8**
KKUL				IAML		17 16 45.0	
	comp=N,1μm,0.9s						
KKUL				IAML		17 16 51.0	
	comp=E,554nm,0.7s						
BNN	**Bunyan**	**1.86**	**149**	PN	**Pb**	**17 16 15.9**	**-1.1**
KULU	**Kulu**	**1.88**	**222**	PN	**Pb**	**17 16 16.2**	**-1.1**
SVSK	**Karacayir**	**1.90**	**106**	PN	**Pn**	**17 16 16.4**	**+1.0**
AKSY	**AKSARAY - Alti**	**1.92**	**200**	*i* P	**Pn**	**17 16 16.4**	**+0.7**
AKSY				*i* S	**Sg**	**17 16 43.4**	**-0.9**
AKSY				IAML		17 16 51.0	
	comp=E,405nm,0.8s						
AKSY				IAML		17 16 54.0	
	comp=N,438nm,0.7s						
BCAM	**Yenicaga**	**1.98**	**281**	*i* P	**Pn**	**17 16 16.9**	**+0.3**
BCAM				*i* S	**Sg**	**17 16 45.6**	**-0.5**
BCAM				IAML		17 16 59.0	
	comp=E,137nm,1.0s						
BCAM				IAML		17 17 09.0	
	comp=N,154nm,0.9s						
SCER	**sogukcermik**	**2.01**	**106**	*i* PA	**Pn**	**17 16 18.2**	**+1.1**
SCER				*i* S	**Sg**	**17 16 46.3**	**-1.0**
SCER				IAML		17 16 48.0	
	comp=N,954nm,0.8s						
SCER				IAML		17 16 53.0	
	comp=E,765nm,0.8s						
CUALT	**Altinyayla-SIV**	**2.02**	**125**	*i* P	**Pb**	**17 16 19.1**	**-0.7**
CUALT				*i* S	**Sg**	**17 16 48.0**	**+0.4**
CUALT				IAML		17 16 50.0	
	comp=N,334nm,0.6s						
CUALT				IAML		17 16 54.0	
	comp=E,552nm,0.6s						
RSDY	**Resadiye-TOKAT**	**2.07**	**91**	PN	**Pn**	**17 16 18.7**	**+0.9**
KIBS	**BOLU**	**2.11**	**270**	*i* P	**Pn**	**17 16 19.1**	**+0.7**
KIBS				*i* S	**Sg**	**17 16 50.5**	**0.0**
KIBS				IAML		17 16 57.0	
	comp=N,365nm,1.2s						
KIBS				IAML		17 16 57.0	
	comp=E,396nm,1.5s						
CHBY	**Cihanbeyli**	**2.29**	**216**	PN	**Pn**	**17 16 22.2**	**+1.3**
NIG	**Nigde**	**2.34**	**180**	PN	**Pn**	**17 16 22.7**	**+1.0**
SULT	**Sultanhani-AKS**	**2.41**	**201**	PN	**Pn**	**17 16 24.2**	**+1.7**
YAHY	**KAYSERI_Yahyal**	**2.42**	**166**	*e*P	**Pb**	**17 16 25.6**	**-1.0**
YAHY				*i* S	**Sb**	**17 16 58.5**	**+1.8**
YIGI	**Dzce**	**2.46**	**283**	*i* P	**Pb**	**17 16 26.6**	**-0.6**
CUKAN	**kangal_SIVAS**	**2.47**	**116**	*i* P	**Pb**	**17 16 25.4**	**-2.0**
CUKAN				*i* S	**Sg**	**17 17 01.4**	**-0.5**
CUKAN				IAML		17 17 07.0	
	comp=E,185nm,0.6s						
CUKAN				IAML		17 17 11.0	
	comp=N,155nm,0.7s						
CUZAR	**Zara_SIVAS**	**2.48**	**102**	*i* P	**Pb**	**17 16 25.5**	**-2.1**
CUZAR				*i* S	**Sb**	**17 17 00.0**	**+1.6**
CUZAR				IAML		17 17 04.0	
	comp=N,214nm,0.9s						
CUZAR				IAML		17 17 18.0	
	comp=E,169nm,0.9s						
ORDU	**Ordu-Boztepe**	**2.52**	**77**	*i* P	**Pb**	**17 16 27.7**	**-0.5**
ORDU				*i* S	**Sb**	**17 17 00.8**	**+1.4**
AUSIV	**SIVRIHISAR**	**2.57**	**248**	*i* P	**Pn**	**17 16 25.0**	**+0.3**
SAIM	**ADANA**	**2.72**	**155**	*i* P	**Pn**	**17 16 28.0**	**+1.2**
SUSE	**Susehri**	**2.75**	**94**	*i* P	**Pn**	**17 16 29.0**	**+1.8**
SUSE				*i* S	**Sb**	**17 17 07.9**	**+1.7**
SUSE				IAML		17 17 20.0	
	comp=E,104nm,0.9s						
SUSE				IAML		17 17 21.0	
	comp=N,140nm,1.6s						
BTAS	**Taskesti**	**2.76**	**274**	*i* P	**Pn**	**17 16 28.0**	**+0.7**
CMRD	**Camardi-Nigde**	**2.80**	**174**	PN	**Pn**	**17 16 29.3**	**+1.4**
ELBS	**KAHRAMANMARAS**	**2.88**	**137**	*i* P	**Pn**	**17 16 30.8**	**+1.8**
SAHE	**Sakarya_HENDEK**	**2.89**	**279**	*i* P	**Pn**	**17 16 29.7**	**+0.6**
DARE	**Darende-Malaty**	**2.91**	**129**	PN	**Pn**	**17 16 30.6**	**+1.3**
CIFT	**Cifteler, Eski**	**2.94**	**249**	*i* P	**Pn**	**17 16 29.8**	**0.0**
HEKM	**Malatya_Hekimh**	**3.02**	**120**	*i* P	**Pn**	**17 16 33.0**	**+2.0**
AKO	**Adana**	**3.05**	**168**	*i* P	**Pb**	**17 16 38.2**	**+0.9**
KONT	**Konya--Tatoy**	**3.06**	**216**	*i* P	**Pn**	**17 16 31.2**	**-0.1**
KERG	**Konya-Eregli**	**3.06**	**187**	*i* P	**Pb**	**17 16 34.8**	**-2.6**
SRCK	**Saricakaya, Es**	**3.08**	**264**	*i* P	**Pn**	**17 16 31.2**	**-0.4**
KOZT	**Kozan**	**3.11**	**162**	PN	**Pn**	**17 16 33.9**	**+1.8**
GULE	**Gulek**	**3.17**	**178**	*i* P	**Pn**	**17 16 35.2**	**+2.3**
ANDN	**Andirin**	**3.17**	**154**	*i* P	**Pb**	**17 16 40.4**	**+1.1**
KARA	**Karaisali**	**3.20**	**174**	PN	**Pn**	**17 16 35.2**	**+1.8**
KEMA	**Kemaliye**	**3.21**	**110**	*i* P	**Pn**	**17 16 36.6**	**+3.1**
BORA	**Eskisehir**	**3.24**	**261**	*i* P	**Pn**	**17 16 34.5**	**+0.6**
GEYV	**SAKARYA_Geyve**	**3.30**	**272**	*i* P	**Pn**	**17 16 36.8**	**+2.2**
AKCD	**Akcadag**	**3.35**	**129**	*i* P	**Pn**	**17 16 38.1**	**+2.6**
REFA	**Refahiye_ERZN**	**3.36**	**107**	*i* P	**Pn**	**17 16 37.1**	**+1.4**
CEYT	**Ceyhan**	**3.55**	**165**	PN	**Pn**	**17 16 40.0**	**+1.9**

*ROM **18** 18:11:19.8±0.1,43˚.385N±0˚.003×12˚.529E±0˚.004, h9km,Md0.9/5,Error ellipse: s-maj=0.3km s-min=0.2km az=107.0*

ISC 18 18:11:20.7±1.2,**43˚.38N**±0˚.02×**12˚.51E**±0˚.03,**h6**km±8km, **n24,**σ1°**25**/31,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.05**	**102**	P	**Pg**	**18 11 21.5**	**-0.8**
ATFO				END			
ATVO	**AVT- Monte Val**	**0.07**	**274**	P	**Pg**	**18 11 22.4**	**-0.1**
ATVO				AML	AML		
	comp=E,6805μm,0.4s						
ATVO				AML	AML		
	comp=N,5960μm,0.5s						
ATVO				END			
ATPI	**Pietralunga -**	**0.11**	**314**	P	**Pg**	**18 11 22.9**	**-0.1**
ATPI				S	**Sg**	**18 11 25.1**	**+0.4**
ATPI				AML	AML		
	comp=E,4135μm,0.3s						
ATPI				AML	AML		
	comp=E,4130μm,0.3s						
ATPI				AML	AML		
	comp=N,4100μm,0.5s						
ATPI				END			
MURB	**Monte Urbino**	**0.11**	**174**	P	**Pg**	**18 11 23.2**	**+0.1**
MURB				S	**Sg**	**18 11 25.8**	**+0.9**
MURB				AML	AML		
	comp=E,12350μm,0.9s						
MURB				AML	AML		
	comp=N,17150μm,0.3s						
MURB				AML	AML		
	comp=N,17300μm,0.3s						
MURB				AML	AML		
	comp=E,12400μm,0.9s						
MURB				AML	AML		
	comp=N,17100μm,0.3s						
MURB				AML	AML		
	comp=E,13250μm,0.3s						
MURB				END			
PIEI	**Pieia**	**0.16**	**7**	P	**Pg**	**18 11 23.7**	**-0.3**
PIEI				S	**Sg**	**18 11 26.8**	**+0.6**
PIEI				AML	AML		
	comp=E,11450μm,0.3s						
PIEI				AML	AML		
	comp=N,9020μm,0.3s						
PIEI				END			
FOSV	**Fossato di Vic**	**0.20**	**114**	P	**Pg**	**18 11 24.5**	**-0.2**
FOSV				S	**Sg**	**18 11 27.8**	**+0.4**
FOSV				AML	AML		
	comp=N,1450μm,0.2s						
FOSV				AML	AML		
	comp=E,1190μm,0.3s						
SSFR	**Montelago di S**	**0.21**	**73

SNTG				AML	AML			
	comp=N,2540μm,0.3s							
FSSB	**Fossombrone**	**0.37**	**32**	P	**Pg**	**18 11 27.7**	**-0.2**	
FSSB				S	**Sb**	**18 11 33.6**	**-2.2**	
FSSB				AML	AML			
	comp=E,1355μm,1.5s							
FSSB				AML	AML			
	comp=N,1900μm,0.5s							
EL6	**Elcito**	**0.43**	**96**	S	**Sb**	**18 11 36.0**	**-1.6**	
FDMO	**Fiordimonte**	**0.54**	**129**	P	**Pg**	**18 11 30.7**	**-0.4**	
FDMO				AML	AML			
	comp=E,426μm,0.2s							
FDMO				AML	AML			
	comp=N,420μm,0.5s							
CESX	**Cesi**	**0.77**	**176**	P	**Pg**	**18 11 33.5**	**-2.0**	
RICI	**Ricice**	**3.37**	**86**	ePn	**Pg**	**18 12 28.7**	**+3.5**	
ABTA	**Abfaltersbach**	**3.37**	**0**	*i* Pn	**Pg**	**18 12 27.5**	**+2.3**	
	comp=N,1.7nm,0.7s							
OBKA	**Obir**	**3.45**	**24**	*e*Pn	Pg	18 12 33.7	+7.0	
	comp=N,1.8nm,0.5s							
FETA	**Feichten**	**3.86**	**342**	*i* Pn	**Pg**	**18 12 35.2**	**+0.6**	
	comp=N,7.4nm,1.6s							
SQTA	**Sankt Quirin**	**3.95**	**347**	*i* Pn	**Pg**	**18 12 36.8**	**+0.5**	
	comp=N,1.2nm,0.4s							
WATA	**Walderalm**	**4.01**	**351**	*i* Pn	**Pg**	**18 12 35.2**	**-2.4**	
	comp=N,5.3nm,1.0s							
MOTA	**Moosalm**	**4.09**	**346**	*i* Pn	**Pg**	**18 12 40.2**	**+1.2**	
	comp=N,5.9nm,1.2s							

*ROM **18** 18:11:34.6±0.1, 43°.383N±0°.003×12°.539E±0°.004, h8km, ML2.5/30, Error ellipse: s-maj=0.3km s-min=0.2km az=236.0*
*ISCJB **18** 18:11:35.4±0.2, 43°.37N±0°.01×12°.53E±0°.02, h8km±2km, Error ellipse: s-maj=2.7km s-min=2.1km az=135.4*
ISC 18 18:11:34.9±0.8, 43°.39N±0°.02×12°.55E±0°.02, h7km±5km, n44, σ0s83/72, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.03**	**135**	*i* P	**Pg**	**18 11 36.2**	**-0.2**
ATFO				S	**Sg**	**18 11 37.0**	**-0.5**
ATFO				AML	AML		
	comp=E,48050μm,0.5s						
ATFO				AML	AML		
	comp=N,54950μm,0.5s						
ATFO				AML	AML		
	comp=N,54950μm,0.5s						
ATFO				AML	AML		
	comp=E,48050μm,0.5s						
ATVO	**AVT- Monte Val**	**0.10**	**268**	*i* P	**Pg**	**18 11 37.3**	**0.0**
ATVO				S	**Sg**	**18 11 39.1**	**+0.1**
ATVO				AML	AML		
	comp=N,5960μm,0.5s						
ATVO				AML	AML		
	comp=E,6805μm,0.4s						
MURB	**Monte Urbino**	**0.12**	**187**	P	**Pg**	**18 11 38.0**	**+0.4**
MURB				AML	AML		
	comp=E,12350μm,0.9s						
MURB				AML	AML		
	comp=E,13250μm,0.3s						
MURB				AML	AML		
	comp=E,12400μm,0.9s						
MURB				AML	AML		
	comp=N,17100μm,0.3s						
MURB				AML	AML		
	comp=N,17300μm,0.3s						
MURB				AML	AML		
	comp=N,17150μm,0.3s						
ATPI	**Pietralunga -**	**0.12**	**302**	P	**Pg**	**18 11 37.8**	**+0.2**
ATPI				S	**Sg**	**18 11 40.1**	**+0.5**
ATPI				AML	AML		
	comp=N,4100μm,0.5s						
ATPI				AML	AML		
	comp=E,4135μm,0.3s						
ATPI				AML	AML		
	comp=E,4130μm,0.3s						
ATPI				AML	AML		
	comp=N,4095μm,0.5s						
PIEI	**Pieia**	**0.15**	**357**	P	**Pg**	**18 11 38.6**	**+0.5**
PIEI				S	**Sg**	**18 11 41.5**	**+1.1**
PIEI				AML	AML		
	comp=E,11450μm,0.3s						
PIEI				AML	AML		
	comp=N,9020μm,0.3s						
FOSV	**Fossato di Vic**	**0.18**	**120**	*e*P	**Pg**	**18 11 39.1**	**+0.5**
FOSV				AML	AML		
	comp=E,1190μm,0.3s						
FOSV				AML	AML		
	comp=N,1450μm,0.2s						
FOSV				AML	AML		
	comp=E,1195μm,0.3s						
ATMI	**Monte Miggiano**	**0.21**	**256**	*e*P	**Pg**	**18 11 39.4**	**+0.2**
ATMI				AML	AML		
	comp=N,1890μm,0.9s						
ATMI				AML	AML		
	comp=E,1730μm,1.6s						
ATCC	**AVT- Casa Cast**	**0.21**	**161**	*e*P	**Pg**	**18 11 39.9**	**+0.7**
ATCC				S	**Sg**	**18 11 44.1**	**+2.1**
ATCC				AML	AML		
	comp=N,6995μm,0.7s						
ATCC				AML	AML		
	comp=E,7480μm,0.1s						
ATCC				AML	AML		
	comp=N,7000μm,0.7s						
ATCC				AML	AML		
	comp=E,7475μm,0.1s						
NARO	**Abbazia di Nar**	**0.23**	**6**	*i* P	**Pg**	**18 11 39.8**	**+0.3**
NARO				S	**Sg**	**18 11 43.6**	**+1.1**
NARO				AML	AML		
	comp=N,1077μm,0.6s						
NARO				AML	AML		
	comp=E,1016μm,0.2s						
ATTE	**AVT- Monte Tez**	**0.23**	**217**	*i* P	**Pg**	**18 11 39.8**	**+0.1**
ATTE				AML	AML		
	comp=N,1135μm,0.3s						
ATTE				AML	AML		
	comp=E,1580μm,0.4s						
CDCA	**Citt' di Caste**	**0.24**	**288**	*e*P	**Pg**	**18 11 40.0**	**+0.3**
CDCA				S	**Sg**	**18 11 44.1**	**+1.2**
CDCA				AML	AML		
	comp=E,940μm,0.7s						
CDCA				AML	AML		
	comp=N,1486μm,0.8s						
CDCA				AML	AML		
	comp=N,4370μm,1.2s						
CDCA				AML	AML		
	comp=E,2475μm,0.8s						
MPAG	**Monte Paganucc**	**0.29**	**32**	*i* P	**Pg**	**18 11 41.2**	**+0.5**
MPAG				S	**Sb**	**18 11 46.2**	**-1.3**
MPAG				AML	AML		
	comp=E,828μm,1.5s						
MPAG				AML	AML		
	comp=N,788μm,1.1s						
MPAG				AML	AML		
	comp=E,803μm,1.5s						
MPAG				AML	AML		
	comp=N,746μm,1.2s						
MPAG				AML	AML		
	comp=N,784μm,1.1s						
MPAG				AML	AML		
	comp=N,744μm,1.2s						
MPAG				AML	AML		
	comp=E,802μm,1.5s						
MPAG				AML	AML		
	comp=N,786μm,1.2s						
MPAG				AML	AML		
	comp=N,744μm,1.2s						
ARVD	**Arcevia**	**0.31**	**68**	*i* P	**Pg**	**18 11 41.6**	**+0.6**
ARVD				S	**Sb**	**18 11 47.1**	**-1.0**
ARVD				AML	AML		
	comp=E,1195μm,0.8s						
ARVD				AML	AML		
	comp=N,900μm,0.8s						
PE3	**Peglio**	**0.31**	**353**	*e*P	**Pb**	**18 11 41.9**	**-1.0**
PE3				S	**Sb**	**18 11 47.1**	**-1.1**
PE3				AML	AML		
	comp=E,1485μm,1.6s						
PE3				AML	AML		
	comp=N,1970μm,0.9s						
PE3				AML	AML		
	comp=N,1975μm,0.9s						
SNTG	**Esanatoglia**	**0.32**	**114**	*e*P	**Pg**	**18 11 41.6**	**+0.4**
SNTG				S	**Sb**	**18 11 47.2**	**-1.1**
SNTG				AML	AML		
	comp=E,227μm,0.3s						
SNTG				AML	AML		
	comp=N,328μm,0.3s						
SNTG				AML	AML		
	comp=N,2540μm,0.3s						
SNTG				AML	AML		
	comp=E,1940μm,0.3s						
SNTG				AML	AML		
	comp=E,227μm,0.2s						
SNTG				AML	AML		
	comp=N,328μm,0.3s						
PARC	**Parchiule**	**0.35**	**320**	*e*P	**Pg**	**18 11 42.1**	**+0.4**
PARC				S	**Sb**	**18 11 47.5**	**-1.6**
PARC				AML	AML		
	comp=E,821μm,1.2s						
PARC				AML	AML		
	comp=E,822μm,1.2s						
PARC				AML	AML		
	comp=N,1028μm,0.2s						
FSSB	**Fossombrone**	**0.35**	**29**	*i* P	**Pg**	**18 11 42.3**	**+0.5**
FSSB				S	**Sb**	**18 11 48.3**	**-1.0**
FSSB				AML	AML		
	comp=E,1355μm,1.5s						
FSSB				AML	AML		
	comp=N,1895μm,0.5s						
FSSB				AML	AML		
	comp=N,1900μm,0.5s						
ASSB	**Assisi San Ben**	**0.35**	**166**	*e*P	**Pg**	**18 11 42.1**	**+0.2**
ASSB				S	**Sb**	**18 11 47.9**	**-1.4**
ASSB				AML	AML		
	comp=E,2175μm,0.7s						
ASSB				AML	AML		
	comp=N,2490μm,1.6s						
EL6	**Elcito**	**0.41**	**98**	*e*P	**Pg**	**18 11 43.4**	**+0.4**
EL6				S	**Sb**	**18 11 50.1**	**-0.9**
CRM1	**Catelraimondo**	**0.41**	**115**	S	**Sb**	**18 11 50.0**	**-1.0**
CAFI	**Castiglion Fio**	**0.43**	**263**	*e*P	**Pg**	**18 11 43.4**	**+0.1**
CAFI				S	**Sb**	**18 11 49.8**	**-1.7**
CAFI				AML	AML		
	comp=N,318μm,0.4s						
CAFI				AML	AML		
	comp=E,276μm,0.2s						
CPGN	**Carpegna, Ital**	**0.45**	**339**	P	**Pb**	**18 11 44.5**	**-0.7**
CPGN				S	**Sb**	**18 11 53.1**	**+1.0**
CPGN				AML	AML		
	comp=E,435μm,1.5s						
CPGN				AML	AML		
	comp=N,451μm,0.6s						
CPGN				AML	AML		
	comp=E,398μm,1.0s						
CPGN				AML	AML		
	comp=N,388μm,0.6s						
CESI	**CESI - Serrava**	**0.46**	**145**	*e*P	**Pg**	**18 11 44.2**	**+0.3**
CESI				S	**Sb**	**18 11 51.8**	**-0.7**
CESI				AML	AML		
	comp=N,256μm,0.7s						
CESI				AML	AML		
	comp=E,130μm,0.3s						
CING	**Cingoli**	**0.47**	**91**	P	**Pg**	**18 11 44.6**	**+0.4**
CING				S	**Sb**	**18 11 52.3**	**-0.5**
CING				AML	AML		
	comp=E,501μm,0.3s						
CING				AML	AML		
	comp=N,778μm,0.8s						
CRE	**Caprese Michel**	**0.49**	**299**	P	**Pg**	**18 11 44.5**	**+0.1**
CRE				S	**Sb**	**18 11 52.6**	**-0.8**
CRE				AML	AML		
	comp=E,506μm,0.5s						
CRE				AML	AML		
	comp=N,454μm,0.3s						
FDMO	**Fiordimonte**	**0.53**	**131**	P	**Pg**	**18 11 45.2**	**+0.1**
FDMO				S	**Sb**	**18 11 54.0**	**-0.4**
FDMO				AML	AML		
	comp=N,421μm,0.5s						
FDMO				AML	AML		
	comp=N,420μm,0.5s						
FDMO				AML	AML		
	comp=E,426μm,0.2s						
CSP1	**Cessapalombo**	**0.56**	**121**	P	**Pb**	**18 11 46.4**	**-0.8**
MGAB	**Montegabbione**	**0.57**	**214**	*i* P	**Pg**	**18 11 46.0**	**+0.1**
MGAB				S	**Sb**	**18 11 55.7**	**+0.2**
MGAB				AML	AML		
	comp=E,1170μm,0.4s						
MGAB				AML	AML		
	comp=N,1006μm,0.3s						
MGAB				AML	AML		
	comp=N,926μm,0.3s						
MGAB				AML	AML		
	comp=E,1175μm,0.4s						
MGAB				AML	AML		
	comp=E,1180μm,0.4s						
MOMA	**Monte Martano**	**0.58**	**178**	*e*P	**Pg**	**18 11 46.1**	**0.0**
MOMA				S	**Sb**	**18 11 55.0**	**-0.9**
MOMA				AML	AML		
	comp=E,607μm,0.2s						
MOMA				AML	AML		
	comp=N,630μm,0.3s						
MOMA				AML	AML		
	comp=E,608μm,0.2s						
MOMA				AML	AML		
	comp=N,630μm,0.3s						
ASQU	**Asqua**	**0.69**	**307**	P	**Pb**	**18 11 48.4**	**-0.8**
ASQU				S	**Sb**	**18 11 58.9**	**-0.1**
ASQU				AML	AML		
	comp=E,192μm,0.4s						
ASQU				AML	AML		
	comp=N,192μm,0.9s						
LNSS	**Leonessa**	**0.86**	**155**	*e*P	**Pg**	**18 11 51.1**	**-0.4**
LNSS				S	**Sb**	**18 12 04.8**	**+0.8**
LNSS				AML	AML		
	comp=E,342μm,1.4s						
LNSS				AML	AML		
	comp=N,440μm,1.0s						
RUFI	**Rufina**	**0.88**	**302**	P	**Pb**	**18 11 51.8**	**-0.7**
RUFI				S	**Sb**	**18 12 04.5**	**+0.1**
RUFI				AML	AML		
	comp=E,156μm,1.0s						
RUFI				AML	AML		
	comp=N,145μm,0.5s						
GUMA	**Gualdo di Mace**	**1.06**	**107**	P	Pg	18 11 48.0	-7.4
GUMA				S	Sg	18 11 59.0	-10
GUMA				AML	AML		
	comp=N,719μm,0.5s						
GUMA				AML	AML		
	comp=E,909μm,1.5s						
GUMA				AML	AML		
	comp=N,664μm,0.4s						
GUMA				AML	AML		
	comp=E,852μm,1.5s						
TERO	**Teramo**	**1.09**	**134**	P	**Pg**	**18 11 55.1**	**-0.7**
TERO				AML	AML		
	comp=E,50μm,0.3s						
TERO				AML	AML		
	comp=N,63μm,0.5s						
BRJN	**Brijuni**	**1.75**	**29**	*e*Pn	**Pn**	**18 12 06.0**	**+0.4**
BRJN				Sn	**Sg**	**18 12 30.8**	**-0.4**
DUGI	**Dugi Otok**	**1.92**	**71**	*e*Pn	**Pn**	**18 12 08.4**	**+0.4**
NVLJ	**Novalja**	**2.05**	**54**	*e*Pn	**Pn**	**18 12 10.5**	**+0.7**
NVLJ				Sn	**Sb**	**18 12 37.4**	**-0.8**
ZIRJ	**Zirje**	**2.27**	**82**	*e*Pn	**Pn**	**18 12 13.7**	**+0.9**
MORI	**Morici**	**2.34**	**77**	*e*Pn	**Pn**	**18 12 14.9**	**+1.0**
UDBI	**Udbina**	**2.59**	**63**	*e*Pn	**Pn**	**18 12 17.7**	**+0.4**
UDBI				Sn	**Sb**	**18 12 52.3**	**-1.5**
HVAR	**Hvar**	**2.86**	**93**	*e*Pn	**Pn**	**18 12 21.6**	**+0.7**
KIJV	**Kijevo**	**2.87**	**76**	*e*Pn	**Pn**	**18 12 22.9**	**+1.9**
MAKA	**Makarska**	**3.27**	**90**	*e*Pn	**Pn**	**18 12 27.6**	**+1.2**
STON	**Ston**	**3.81**	**96**	*e*Pn	**Pn**	**18 12 34.4**	**+0.5**

KRSC 18 18:51:34.2±0.9, 50°.96N×157°.91E, h40km±13km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**0.86**	**7**	*e*P	Pn	18 51 50.9	+1.2
KDTR				*e*S	Sn	18 52 02.3	+1.3
SKR	**Severo-Kuril's**	**1.17**	**257**	*e*P	Pn	18 51 55.4	+1.4
SKR				*e*S	Sn	18 52 10.4	+1.6
ASAK	**Asacha**	**1.42**	**360**	*e*P	Pn	18 51 59.3	+1.7
ASAK				*e*S	Sn	18 52 16.8	+1.6
RUS	**Russkaya**	**1.52**	**14**	*e*P	Pn	18 52 00.1	+1.3
RUS				*e*S	Sn	18 52 18.5	+1.1
MTVR	**Mutnovka**	**1.53**	**6**	*e*P	Pn	18 52 00.9	+1.7
MTVR				*e*S	Sn	18 52 20.6	+2.7
GRL	**Gorelyy**	**1.60**	**4**	*e*P	Pn	18 52 02.1	+2.1
GRL				*e*S	Sn	18 52 22.2	+2.7
KRMR	**Karymshinskiy**	**1.88**	**4**	*e*P	Pn	18 52 06.3	+2.6
KRMR				*e*S	Sn	18 52 29.4	+3.2
APC	**Apacha**	**2.02**	**347**	*e*P	Pn	18 52 08.6	+2.9
PET	**Petropavlovsk**	**2.12**	**12**	*e*P	Pn	18 52 08.9	+1.9
PET				*e*S	Sn	18 52 34.3	+2.3
DALK	**Dalny**	**2.14**	**14**	*e*P	Pn	18 52 09.1	+1.8
DALK				*e*S	Sn	18 52 34.6	+2.0
UGLR	**Uglovaya**	**2.32**	**14**	*e*P	Pn	18 52 12.4	+2.5
AVH	**Avacha**	**2.36**	**12**	*e*P	Pn	18 52 13.5	+3.0
AVH				*e*S	Sn	18 52 41.8	+3.5
SMAR	**Somma**	**2.37**	**13**	*e*P	Pn	18 52 13.3	+2.6
KOK	**Koryaka**	**2.38**	**11**	*e*P	Pn	18 52 13.9	+3.2
SDLR	**Sedlovina**	**2.40**	**14**	*e*P	Pn	18 52 12.9	+1.9
KRER	**Koryakskii**	**2.40**	**12**	*e*P	Pn	18 52 13.9	+2.7
KRX	**Arik**	**2.44**	**10**	*e*P	Pn	18 52 14.8	+3.1
KRX				*e*S	Sn	18 52 44.2	+3.8
SPN	**Mys Shipunski**	**2.51**	**31**	*e*P	Pn	18 52 14.4	+2.0
KZV	**Kizimen**	**4.40**	**18**	*e*P	Pn	18 52 43.0	+4.5
TUMD	**Tumrok D**	**4.51**	**18**	*e*P	Pn	18 52 46.0	+6.2
ESO	**Esso**	**5.00**	**5**	*e*P	Pn	18 52 50.4	+3.8
KMNR	**Kamenistaya**	**5.00**	**15**	*e*P	Pn	18 52 50.8	+4.1

*MDD **18** 18:52:22.0±1.2, 36°.20N×9°.40W, h25km, mbLg2.5/28, Error ellipse: s-maj=11.1km s-min=8.6km az=57.0, PRXIMO*
*IGIL **18** 18:52:22.0, 36°.27N×9°.36W, h8km, ML2.1*
*CNRM **18** 18:52:22.1, 35°.83N×9°.44W, h158km, ml3.2*
*INMG **18** 18:52:22.4±1.0, 36°.28N×9°.37W, h12km±4km, ML2.2, Error ellipse: s-maj=4.9km s-min=3.2km az=64.0*
ISC 18 18:52:18.6±1.9, 36°.17N±0°.04×9°.41W±0°.06, h23km±16km, n70, σ1s82/118, 2C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.07**	**26**	*e*P	**Pn**	**18 52 39.9**	**+1.8**
PFVI				*e*S	**Sb**	**18 52 52.5**	**+0.5**
PFVI				A	A	18 52 53.1	
	24nm,0.1s						
PFVI	**Vila Bisbo**	**1.07**	**26**	P	Pb	18 52 51.7	+13
PFVI				S	Sn	18 53 14.6	+22
PFVI	**Vila Bisbo**	**1.07**	**26**	P	**Pn**	**18 52 39.9**	**+1.8**
	1.5nm,0.1s,SNR=11						
PFVI				S	**Sb**	**18 52 52.6**	**+0.6**
	59nm,0.2s,SNR=26						
MORF	**Marmelete**	**1.29**	**28**	*e*P	**Pn**	**18 52 42.8**	**+1.6**
MORF				*e*S	**Sn**	**18 52 58.0**	**+0.3**
MORF				AML	AML	18 52 59.4	
	comp=N,35nm,0.2s						
MORF	**Marmelete**	**1.29**	**28**	P	**Pn**	**18 52 42.8**	**+1.6**
MORF				S	**Sn**	**18 52 58.0**	**+0.3**
	comp=N,35nm,0.2s						
PTEO	**Sao Teotonio**	**1.48**	**22**	*e*P	**Pn**	**18 52 45.5**	**+1.7**
PTEO				*e*S	**Sn**	**18 53 02.7**	**+0.3**
PTEO				A	A	18 53 07.2	
	comp=N,14nm,0.4s						
PTEO	**Sao Teotonio**	**1.48**	**22**	P	**Pn**	**18 52 45.5**	**+1.7**
PTEO				S	**Sn**	**18 53 02.7**	**+0.3**
	comp=N,7.0nm,0.4s						
PBDV	**Barranco-do-Ve**	**1.60**	**47↑**	*e*P	**Pn**	**18 52 47.5**	**+2.1**
PBDV				*e*S	**Sn**	**18 53 06.1**	**+0.7**
PBDV				A	A	18 53 07.0	
	comp=N,8.4nm,0.6s						
PBDV	**Barranco-do-Ve**	**1.60**	**47**	P	**Pn**	**18 52 47.5**	**+2.1**
PBDV				S	**Sn**	**18 53 06.1**	**+0.7**
	comp=N,8.4nm,0.6s						
PCVE	**Castro Verde**	**1.83**	**37**	*e*P	**Pn**	**18 52 50.7**	**+2.2**
PCVE				*e*S	**Sn**	**18 53 12.0**	**+1.1**
PCVE				A	A	18 53 15.3	
	comp=N,5.9nm,0.1s						
PCVE	**Castro Verde**	**1.83**	**37**	P	**Pn**	**18 52 50.7**	**+2.2**
PCVE				S	**Sn**	**18 53 12.0**	**+1.1**
	comp=N,5.9nm,0.1s						
PVAQ	**Vaqueiros**	**1.83**	**47↑**	*e*P	**Pn**	**18 52 50.6**	**+2.0**
PVAQ				*e*S	**Sn**	**18 53 11.8**	**+0.7**
PVAQ				A	A	18 53 14.1	
	comp=N,14nm,0.1s						
PVAQ	**Vaqueiros**	**1.83**	**47**	P	Pb	18 52 58.2	+6.8
PVAQ				S	Sb	18 53 26.4	+12
PVAQ	**Vaqueiros**	**1.83**	**47**	P	**Pn**	**18 52 50.6**	**+2.0**
PVAQ				S	**Sn**	**18 53 11.8**	**+0.7**
	comp=N,14nm,0.1s						
MESJ	**Messejana**	**1.92**	**29**	*e*P	**Pn**	**18 52 51.7**	**+1.9**
MESJ				*e*S	**Sn**	**18 53 13.4**	**+0.1**
MESJ				AML	AML	18 53 15.1	
	comp=N,15nm,0.1s						
MESJ	**Messejana**	**1.92**	**29**	P	**Pn**	**18 52 51.7**	**+1.9**
MESJ				S	**Sn**	**18 53 13.4**	**+0.1**
	comp=N,15nm,0.1s						
EGRO	**El Granado**	**2.06**	**48**	P	**Pn**	**18 52 53.8**	**+2.0**
	comp=N,1.9nm,0.1s,SNR=17						
EGRO				S	**Sn**	**18 53 17.9**	**+1.2**
	comp=N,9.1nm,0.1s,SNR=11						
PNCL	**Nicolau / Gran**	**2.06**	**20**	*e*P	**Pn**	**18 52 53.5**	**+1.7**
PNCL				*e*S	**Sn**	**18 53 16.6**	**-0.1**
PNCL				A	A	18 53 19.0	
	comp=N,13nm,0.1s						
PNCL	**Nicolau / Gran**	**2.06**	**20**	P	**Pn**	**18 52 53.5**	**+1.7**
PNCL				S	**Sn**	**18 53 16.6**	**-0.1**
	comp=N,13nm,0.1s						
PBEJ	**Beja**	**2.23**	**33**	*e*S	**Sn**	**18 53 21.1**	**+0.3**
PBEJ				A	A	18 53 24.6	
	comp=N,7.6nm,0.1s						
PBEJ	**Beja**	**2.23**	**33**	S	**Sn**	**18 53 21.1**	**+0.3**
	comp=N,3.8nm,0.1s						
EVO	**Evora**	**2.61**	**25**	*e*P	**Pn**	**18 53 01.0**	**+1.7**
EVO				*e*S	**Sn**	**18 53 30.2**	**0.0**
EVO				A	A	18 53 31.0	
	comp=N,9.1nm,0.1s						
EVO	**Evora**	**2.61**	**25**	P	**Pn**	**18 53 01.0**	**+1.7**
EVO				S	**Sn**	**18 53 30.2**	**0.0**
	comp=N,9.1nm,0.1s						
EMIN	**Mina Concepcio**	**2.71**	**53**	P	**Pn**	**18 53 02.5**	**+1.8**
	comp=N,1.1nm,0.1s,SNR=16						
EMIN				S	**Sn**	**18 53 32.9**	**+0.1**
	comp=N,1.5nm,0.1s						
PBAR	**Barrancos**	**2.75**	**43**	*e*S	**Sn**	**18 53 33.9**	**+0.1**
PBAR	**Barrancos**	**2.75**	**43**	S	**Sn**	**18 53 33.9**	**+0.1**
PMAFR	**Mafra**	**2.78**	**2**	*e*P	**Pn**	**18 53 03.3**	**+1.6**
PMAFR				*e*S	**Sn**	**18 53 34.4**	**-0.2**
PMAFR				A	A	18 53 38.0	
	comp=N,15nm,0.1s						
PMAFR	**Mafra**	**2.78**	**2**	P	**Pn**	**18 53 03.4**	**+1.6**
	comp=N,6.0nm,0.1s,SNR=13						
PMAFR				S	**Sn**	**18 53 34.9**	**+0.4**
	comp=N,25nm,0.1s,SNR=7.6						
PMTG	**Montargil**	**3.04**	**18**	*e*P	Pn	18 53 03.1	-2.2
PMTG				*e*S	**Sn**	**18 53 36.3**	**-4.7**
PMTG				A	A	18 53 39.4	
	comp=N,5.7nm,0.4s						
PMTG	**Montargil**	**3.04**	**18**	P	Pn	18 53 03.1	-2.2
PMTG				S	**Sn**	**18 53 36.3**	**-4.7**
	comp=N,5.7nm,0.4s						
PESTR	**Estremoz**	**3.06**	**28**	*e*S	**Sn**	**18 53 40.8**	**-0.5**
EBAD	**Badajoz**	**3.21**	**36**	P	**Pn**	**18 53 09.3**	**+1.7**
	comp=N,0.8nm,0.1s,SNR=7.6						
EBAD				S	**Sn**	**18 53 45.1**	**+0.1**
	comp=N,4.4nm,0.1s						
PTOM	**Tomar**	**3.53**	**13**	*e*P	**Pn**	**18 53 13.8**	**+1.8**
PTOM				*e*S	**Sn**	**18 53 52.6**	**-0.4**
PTOM				A	A	18 53 56.0	
	comp=N,7.2nm,0.2s						
PTOM	**Tomar**	**3.53**	**13**	P	**Pn**	**18 53 13.8**	**+1.8**
PTOM				S	**Sn**	**18 53 52.6**	**-0.4**
	comp=N,3.6nm,0.2s						
ZHG	**ZHG**	**3.54**	**139**	P	**Pn**	**18 53 13.3**	**+1.1**
ZHG				S	**Sn**	**18 53 54.5**	**+1.1**
PMRV	**Marv??o**	**3.62**	**26**	*e*P	**Pn**	**18 53 14.9**	**+1.6**
PMRV				*e*S	**Sn**	**18 53 54.5**	**-0.8**
PMRV				A	A	18 53 56.4	
	comp=N,9.7nm,0.5s						
PMRV	**Marv??o**	**3.62**	**26**	P	**Pn**	**18 53 14.9**	**+1.6**
PMRV				S	**Sn**	**18 53 54.5**	**-0.8**
	comp=N,9.7nm,0.5s						
ECAB	**El Cabril**	**3.71**	**58**	P	**Pn**	**18 53 16.5**	**+2.0**
	comp=N,2.8nm,0.1s,SNR=44						
ECAB				S	**Sn**	**18 53 56.1**	**-1.4**
	comp=N,2.1nm,0.2s,SNR=6.9						
HORN	**Hornachuelos**	**3.72**	**62**	P	**Pb**	**18 53 22.4**	**-1.1**
HORN				S	**Sb**	**18 54 07.0**	**-1.2**
EMIJ	**Mijas**	**3.76**	**83**	P	**Pn**	**18 53 16.7**	**+1.5**
	comp=N,0.4nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**18 53 57.4**	**-1.4**

	comp=N,11nm,0.9s,SNR=7.9								
PCBR	**Castelo Branco**	**3.97**	**22**	*e*S		**Sn**	**18 54 01.9**	**-1.9**	
PCBR				A		A	18 54 05.7		
	comp=N,4.6nm,0.4s								
PCBR	**Castelo Branco**	**3.97**	**22**	S		**Sn**	**18 54 01.9**	**-1.9**	
	comp=N,2.3nm,0.4s								
EADA	**Adamuz**	**4.34**	**61**	P		**Pn**	**18 53 25.3**	**+2.2**	
	comp=N,10nm,0.2s,SNR=52								
EADA				S		**Sn**	**18 54 12.0**	**-1.0**	
	comp=N,2.2nm,0.1s,SNR=7.9								
MTE	**Manteigas**	**4.47**	**19**	*e*S		**Sn**	**18 54 14.5**	**-1.8**	
MTE	**Manteigas**	**4.47**	**19**	S		**Sn**	**18 54 14.5**	**-1.8**	
EPLA	**Plasencia**	**4.69**	**33**	S		**Sn**	**18 54 20.4**	**-1.3**	
	comp=N,2.5nm,0.2s,SNR=8.2								
PVIS	**Viseu**	**4.69**	**14**	*e*P		**Pn**	**18 53 29.6**	**+1.6**	
PVIS				*e*S		**Sn**	**18 54 19.9**	**-1.8**	
PVIS	**Viseu**	**4.69**	**14**	P		**Pn**	**18 53 29.6**	**+1.6**	
PVIS				S		**Sn**	**18 54 19.9**	**-1.8**	
ELGU	**Los Guajares,**	**4.71**	**80**	P		**Pn**	**18 53 31.3**	**+3.0**	
	comp=N,0.5nm,0.1s,SNR=7.9								
ELGU				S		**Sn**	**18 54 20.5**	**-1.6**	
	comp=N,2.4nm,0.3s,SNR=7.9								
AKLM	**AKL**	**4.83**	**108**	P		**Pn**	**18 53 31.6**	**+1.8**	
AKLM				S		**Sn**	**18 54 27.3**	**+2.2**	
EQUE	**Quentar**	**4.91**	**76**	P		**Pn**	**18 53 33.7**	**+2.7**	
	comp=N,0.3nm,0.1s,SNR=7.9								
EQUE				S		**Sn**	**18 54 25.6**	**-1.5**	
	comp=N,0.6nm,0.2s,SNR=7.9								
MD31	**MD31**	**5.06**	**129**	P		**Pn**	**18 53 34.2**	**+1.2**	
MD31				S		**Sn**	**18 54 29.9**	**-0.9**	
TISM	**Timmit**	**5.08**	**150**	P		**Pn**	**18 53 31.6**	**-1.6**	
TISM				S		**Sn**	**18 54 29.2**	**-1.8**	
OUK	**Oukaimeden**	**5.11**	**165**	P		**Pn**	**18 53 33.6**	**-0.5**	
OUK				S		**Sn**	**18 54 31.2**	**-1.3**	
MDT	**Midelt**	**5.19**	**129**	P		**Pn**	**18 53 36.2**	**+1.4**	
MDT				S		**Sn**	**18 54 31.9**	**-2.1**	
PAB	**San Pablo**	**5.23**	**48**	P		**Pn**	**18 53 37.3**	**+1.8**	
	comp=N,0.6nm,0.1s,SNR=7.9								
PAB				S		**Sn**	**18 54 31.9**	**-3.1**	
	comp=N,1.2nm,0.3s,SNR=7.9								
MVO	**Moncorvo**	**5.32**	**20**	*e*P		**Pn**	**18 53 38.3**	**+1.6**	
MVO				*e*S		**Sn**	**18 54 35.1**	**-2.2**	
MVO				A		A	18 54 36.1		
	comp=N,7.9nm,0.7s								
MVO	**Moncorvo**	**5.32**	**20**	S		**Sn**	**18 54 34.2**	**-3.1**	
	comp=N,3.4nm,0.4s,SNR=7.9								
EQES	**Quesada**	**5.33**	**70**	P		**Pn**	**18 53 38.3**	**+1.6**	
	comp=N,0.2nm,0.1s,SNR=7.9								
EQES				S		**Sn**	**18 54 36.1**	**-1.4**	
	comp=N,0.8nm,0.3s,SNR=7.9								
PCAB	**Cabril**	**5.64**	**11**	*e*P		**Pn**	**18 53 42.5**	**+1.6**	
PCAB				*e*S		**Sn**	**18 54 42.3**	**-2.6**	
PCAB	**Cabril**	**5.64**	**11**	P		**Pn**	**18 53 42.5**	**+1.6**	
PCAB				S		**Sn**	**18 54 42.3**	**-2.6**	
TTIG	**Tnine Tigouga,**	**5.67**	**172**	P		**Pn**	18 53 38.8	-2.6	
TTIG				S		**Sn**	**18 54 41.7**	**-4.1**	
OUZM	**OUZ**	**5.69**	**156**	P		**Pn**	**18 53 42.1**	**+0.3**	
OUZM				S		**Sn**	**18 54 45.0**	**-1.5**	
ELOB	**Lobios**	**5.79**	**10**	S		**Sn**	**18 54 45.1**	**-3.6**	
	comp=N,1.2nm,0.2s,SNR=7.9								
PBRG	**Braganca**	**6.00**	**19**	*e*S		**Sn**	**18 54 52.1**	**-1.8**	
PBRG	**Braganca**	**6.00**	**19**	S		**Sn**	**18 54 52.1**	**-1.8**	
ECAL	**Calabor**	**6.13**	**19**	P		**Pn**	**18 53 50.4**	**+2.7**	
	comp=N,2.7nm,0.4s,SNR=7.9								
ECAL				S		**Sn**	**18 54 55.0**	**-2.1**	
	comp=N,1.4nm,0.2s,SNR=7.9								
TZRR	**Tazzarine**	**6.25**	**148**	P		**Pn**	**18 53 49.3**	**-0.2**	
TZRR				S		**Sn**	**18 54 57.4**	**-2.9**	
ETOB	**Tobarra**	**6.73**	**66**	P		**Pn**	**18 53 57.3**	**+1.4**	
	comp=N,0.2nm,0.1s,SNR=7.9								
ETOB				S		**Sn**	**18 55 09.4**	**-2.4**	
	comp=N,1.4nm,0.3s,SNR=7.9								
ETOR	**Torete**	**7.40**	**49**	P		**Pn**	**18 54 08.0**	**+2.8**	
	comp=N,1.0nm,0.4s,SNR=7.9								
ETOR				S		**Sn**	**18 55 24.5**	**-4.0**	
	comp=N,1.4nm,0.3s,SNR=7.9								

IDC 18 19:03:21.7±9.7, 20°89N×147°98E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/40, mbtmp3.6/3, Error ellipse: s-maj=357.2km s-min=36.5km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.72**	**199**	P	P	19 11 20.6	-0.1
	0.5nm,0.8s,baz=21,slow=8.6,SNR=3.1						
ZALV	**Zalesovo Beam**	**57.62**	**321**	P	P	19 13 13.5	+0.1
	0.7nm,0.6s,baz=107,slow=5.9,SNR=3.6						
MKAR	**Makanchi Array**	**58.53**	**313**	P	P	19 13 19.8	-0.2
	0.5nm,0.7s,baz=106,slow=6.8,SNR=3.9						

*ISCJB **18** 19:19:40.6±0.6,26°28S±0°05×27°85E±0°03, h10km±5km, Error ellipse: s-maj=8.8km s-min=4.7km az=164.4*
*EAF **18** 19:19:41.0±1.1,26°34S×27°88E, h0km±12km, MD3.4*
*PRE **18** 19:19:41.1±1.5,26°26S×27°82E, h2km, ML2.5*

ISC 18 19:19:40.6±1.2, 26°28S±0°04×27°86E±0°03, h7km±9km, n14, σ1°29/28, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.23**	**253**	*e*P	**Pg**	**19 19 44.7**	**-0.6**
KLOF				*e*S	**Sg**	**19 19 47.5**	**-0.9**
KLOF				AML	AML	19 19 48.2	
	comp=Z,3μm,0.2s						
ERPM	**east rand prop**	**0.35**	**100**	*e*P	**Pb**	**19 19 49.1**	**-0.3**
ERPM				*e*S	**Sg**	**19 19 53.9**	**+1.7**
ERPM				AML	AML	19 19 54.4	
	comp=Z,253nm,0.2s						
WDLM	**Western Deep L**	**0.41**	**250**	*e*P	**Pg**	**19 19 48.4**	**-0.3**
WDLM				*e*S	**Sg**	**19 19 55.2**	**+1.0**
WDLM				AML	AML	19 19 59.4	
	comp=Z,338nm,0.1s						
KSR	**Koster**	**0.96**	**296**	*e*P	**Pg**	**19 19 58.2**	**-0.9**
KSR				*e*S	**Sg**	**19 20 12.5**	**+0.8**
KSR				AML	AML	19 20 16.9	
	comp=Z,51nm,0.2s						
LBTB	**Lobatse**	**2.40**	**301**	*i* P	**Pn**	**19 20 21.3**	**+0.8**
LBTB				*i* S	**Sn**	**19 20 51.9**	**+1.6**
LBTB	**Lobatse**	**2.40**	**301**	*e*P	**Pn**	**19 20 21.0**	**+0.5**
LBTB				*e*S	**Sn**	**19 20 50.9**	**+0.6**
LBTB				AML	AML	19 20 53.2	
	comp=Z,83nm,0.3s						
LBTB	**Lobatse**	**2.40**	**301**	*i* P	**Pn**	**19 20 21.3**	**+0.8**
LBTB				*i* S	**Sn**	**19 20 51.9**	**+1.6**
SWZ	**Schweizer**	**2.43**	**248**	*e*P	**Pn**	**19 20 21.0**	**0.0**
SWZ				*e*S	**Sn**	**19 20 52.6**	**+1.6**
SWZ				AML	AML	19 21 04.5	
	comp=Z,31nm,0.2s						
BOSA	**Boshof**	**3.27**	**224**	*i* P	**Pn**	**19 20 32.5**	**0.0**
BOSA				*i* S	**Sn**	**19 21 11.0**	**-0.9**
BOSA	**Boshof**	**3.27**	**224**	*i* P	**Pn**	**19 20 32.5**	**0.0**
BOSA				*i* S	**Sn**	**19 21 11.0**	**-0.9**
MSNA	**Messina**	**4.39**	**27**	*i* P	**Pn**	**19 20 49.7**	**+1.9**
MSNA				*i* S	**Sn**	**19 21 38.3**	**-1.0**
MSNA	**Messina**	**4.39**	**27**	*i* P	**Pn**	**19 20 49.7**	**+1.9**
MSNA				*i* S	**Sn**	**19 21 38.3**	**-1.0**
MATP	**Matopo**	**5.86**	**6**	*i* P	**Pn**	**19 21 08.3**	**+0.1**
MATP				*i* S	**Sn**	**19 22 13.2**	**-2.5**
MATP	**Matopo**	**5.86**	**6**	*i* P	**Pn**	**19 21 08.3**	**+0.1**
MATP				*i* S	**Sn**	**19 22 13.2**	**-2.5**

*IDC **18** 19:45:30.9±1.0,28°56N×51°58E, h0km, mb3.9/15, mb1 4.0/19, mb1mx3.8/44, mbtmp3.9/19, ML3.5/4, MS3.0/4, Ms1 3.0/4, ms1mx2.7/47, Error ellipse: s-maj=22.4km s-min=17.2km az=166.0*
*THR **18** 19:45:31.9,28°56N×51°59E, h7km, ML4.0*
*ISCJB **18** 19:45:32.5±0.3,28°46N±0°02×51°53E±0°03, h24km, mb3.8/16, MS3.5/2, Error ellipse: s-maj=4.7km s-min=2.3km az=146.1*
*TEH **18** 19:45:32.5,28°59N×51°58E, h10km, ML4.0*
*NEIC **18** 19:45:35.4±1.1,28°51N±0°08×51°61E±0°09, h32km±5km*
*OMAN **18** 19:45:37.4±1.2,28°33N×51°48E, h34km, ml3.9/6, ms2.5/3, Error ellipse: s-maj=23.8km s-min=9.9km az=26.0*
*DSN **18** 19:45:38.5±0.9,28°48N×52°00E, h10km, ML4.1/8, Error ellipse: s-maj=19.5km s-min=5.9km az=19.0*

ISC 18 19:45:34.3±0.5, 28°52N±0°05×51°54E±0°05, h24km, n122, σ1°15/130, mb4.0/20, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**1.28**	**12**	*e*Pg	**Pn**	**19 45 55.4**	**-1.7**
IKAZ				IAMB	IAmb	19 46 21.0	
	comp=Z,29μm,0.3s						
SHI	**Shiraz**	**1.41**	**37**	*e*Pg	**Pn**	**19 45 58.7**	**+0.1**
SHI				*e*Sg	**Sb**	**19 46 18.0**	**+0.4**
JHRM	**Jahrom**	**1.79**	**90**	IAMB	IAmb	19 46 39.7	
	comp=Z,0.0nm,0.5s						
JHRM				*e*Pn	**Pb**	**19 46 05.7**	**-0.8**
LMD1	**Lamerd**	**1.85**	**129**	IAMB	IAmb	19 46 42.9	
	comp=Z,0.0nm,0.4s						
LMD1				*e*Pn	**Pb**	**19 46 07.0**	**-0.5**
KLNJ	**Kolanjah**	**2.48**	**1**	*e*Pn	**Pn**	**19 46 14.2**	**+0.6**
IRAM	**Ramesheh**	**3.36**	**12**	*e*Pn	**Pn**	**19 46 26.0**	**+0.5**
IBRJ	**Brojen**	**3.39**	**356**	*e*Pn	**Pn**	**19 46 26.6**	**+0.6**
JHBN	**Jahan bin**	**3.78**	**349**	*e*Pn	**Pn**	**19 46 32.5**	**+1.1**
ROKH	**ROKH**	**3.84**	**354**	*e*Pn	**Pn**	**19 46 33.4**	**+1.2**
ISAD	**Sadrabad**	**3.86**	**28**	*e*Pn	**Pn**	**19 46 33.9**	**+1.4**
IGAR	**Gharneh**	**3.90**	**6**	*e*Pn	**Pn**	**19 46 33.7**	**+0.8**
IMEH	**Mehriz**	**3.91**	**42**	*e*Pn	**Pn**	**19 46 34.6**	**+1.5**
IPIR	**Pirpir**	**4.19**	**352**	*e*Pn	**Pn**	**19 46 36.5**	**-0.5**
GENO	**Geno**	**4.24**	**104**	*e*Pn	**Pn**	**19 46 38.8**	**+1.2**
SHGR	**Shooshtar-Gavs**	**4.29**	**327**	*e*Pn	**Pn**	**19 46 39.5**	**+1.3**
SHGR	**Shooshtar-Gavs**	**4.29**	**327**	*e*Pn	**Pn**	**19 46 39.5**	**+1.3**
IZEF	**Zefreh**	**4.42**	**9**	*e*Pn	**Pn**	**19 46 41.0**	**+0.9**
ICHK	**Chekchek**	**4.46**	**33**	*e*Pn	**Pn**	**19 46 41.6**	**+0.9**
IBAF	**Bafgh**	**4.64**	**48**	*e*Pn	**Pn**	**19 46 44.5**	**+1.4**
YZKH	**Yazd**	**4.67**	**34**	*e*Pn	**Pn**	**19 46 44.4**	**+1.0**
YZKH	**Yazd**	**4.67**	**34**	*e*Pn	**Pn**	**19 46 44.4**	**+1.0**
NGRK	**Negar Kerman**	**4.68**	**75**	*e*Pn	**Pn**	**19 46 45.1**	**+1.3**
NGRK				IAMB	IAmb	19 46 49.3	
	comp=Z,0.0nm,0.3s						
KHGB	**Koh Gabri**	**4.68**	**66**	*e*Pn	**Pn**	**19 46 44.6**	**+0.9**
KHGB				IAMB	IAmb	19 47 05.9	
	comp=Z,0.0nm,0.9s						
SHME	**Shamm**	**4.77**	**120**	*i* P	**Pn**	**19 46 45.4**	**+0.6**
	SNR=9.3						
SHME	**Shamm**	**4.77**	**120**	*e*Pn	**Pn**	**19 46 45.2**	**+0.4**
IKLH	**Kolahroud**	**4.79**	**0**	*e*Pn	**Pn**	**19 46 44.9**	**-0.3**
TVBK	**TV Kerman**	**4.79**	**71**	*e*Pn	**Pn**	**19 46 46.3**	**+1.0**
TVBK				IAMB	IAmb	19 46 47.7	
	comp=Z,0.0nm,0.3s						
BANOM	**Banah**	**4.96**	**120**	*i* P	**Pn**	**19 46 48.0**	**+0.7**
	SNR=91						
BANOM				S	**Sn**	**19 47 42.5**	**-1.5**
BANOM	**Banah**	**4.96**	**120**	P	**Pn**	**19 46 48.2**	**+0.9**
	SNR=91						
BANOM				S	**Sn**	**19 47 44.3**	**+0.3**
ANAR	**Anarak**	**5.02**	**21**	*e*Pn	**Pn**	**19 46 49.6**	**+1.3**
NAZ	**Nazwa, Dubai**	**5.09**	**133**	*i* P	**Pn**	**19 46 51.2**	**+2.1**
	SNR=9.9						
NAZ	**Nazwa, Dubai**	**5.09**	**133**	P	**Pn**	**19 46 51.5**	**+2.4**
	SNR=9.9						
NAZ				S	**Sn**	**19 47 47.4**	**+0.2**
NAZ	**Nazwa, Dubai**	**5.09**	**133**	*e*Pn	**Pn**	**19 46 51.1**	**+2.0**
ASUD	**Al Ashush, Dub**	**5.15**	**138**	*i* P	**Pn**	**19 46 51.8**	**+1.9**
	SNR=54						
ASUD	**Al Ashush, Dub**	**5.15**	**138**	P	**Pn**	**19 46 52.4**	**+2.5**
	SNR=54						
ASUD	**Al Ashush, Dub**	**5.15**	**138**	*e*Pn	**Pn**	**19 46 52.3**	**+2.4**
MSFE	**Esma-Masafi**	**5.18**	**126**	*i* P	**Pn**	**19 46 51.6**	**+1.2**
	SNR=14						
MSFE	**Esma-Masafi**	**5.18**	**126**	*e*Pn	**Pn**	**19 46 51.8**	**+1.4**
QAM	**Ghamsar**	**5.23**	**359**	*e*Pn	**Pn**	**19 46 51.2**	**0.0**
MDH	**Madha**	**5.32**	**126**	*i* P	**Pn**	**19 46 53.2**	**+1.0**
	SNR=9.6						
MDH	**Madha**	**5.32**	**126**	P	**Pn**	**19 46 53.3**	**+1.0**
	SNR=9.6						
MDH				S	**Sn**	**19 47 52.9**	**+0.1**
MDH	**Madha**	**5.32**	**126**	*e*Pn	**Pn**	**19 46 53.3**	**+1.0**
KHMZ	**Khomeyn**	**5.38**	**346**	*e*Pn	**Pn**	**19 46 54.4**	**+1.1**
KHMZ	**Khomeyn**	**5.38**	**346**	*e*Pn	**Pn**	**19 46 54.4**	**+1.1**
CHMN	**Cheshme madani**	**5.41**	**74**	*e*Pn	**Pn**	**19 46 55.1**	**+1.3**
KRSH	**Karshahi**	**5.46**	**5**	*e*Pn	**Pn**	**19 46 54.8**	**+0.5**
KHNJ	**Kahnooj**	**5.47**	**94**	*e*Pn	**Pn**	**19 46 54.8**	**+0.5**
UOSS	**Minazif**	**5.48**	**129**	*i* P	**Pn**	**19 46 55.3**	**+0.9**
	SNR=26						
UOSS	**Minazif**	**5.48**	**129**	P	**Pn**	**19 46 55.1**	**+0.7**
UOSS	**Minazif**	**5.48**	**129**	*e*Pn	**Pn**	**19 46 55.4**	**+0.9**
UOSS	**Minazif**	**5.48**	**129**		**Pn**	**19 46 55.2**	**+0.7**
HATD	**Hatta, Dubai**	**5.51**	**131**	*i* P	**Pn**	**19 46 56.5**	**+1.5**
	SNR=11						
HATD	**Hatta, Dubai**	**5.51**	**131**	P	**Pn**	**19 46 56.3**	**+1.5**
	SNR=11						
HATD				S	**Sn**	**19 47 57.5**	**0.0**
HATD	**Hatta, Dubai**	**5.51**	**131**	*e*Pn	**Pn**	**19 46 56.4**	**+1.5**
ASHO	**Ashiyiah**	**5.56**	**132**	*i* P	**Pn**	**19 46 57.0**	**+1.3**
	SNR=82						
ASHO	**Ashiyiah**	**5.56**	**132**	P	**Pn**	**19 46 56.8**	**+1.3**
	SNR=7.7						
ASHO				S	**Sn**	**19 47 59.6**	**+0.8**
ASHO	**Ashiyiah**	**5.56**	**132**	*e*Pn	**Pn**	**19 46 56.9**	**+1.3**
BMDN	**Meydan**	**5.64**	**336**	*e*Pn	**Pn**	**19 46 58.5**	**+1.6**
IKMR	**Kamar-syah**	**5.68**	**332**	*e*Pn	**Pn**	**19 46 58.2**	**+1.1**
ALNE	**Al Ain**	**5.83**	**139**	*i* P	**Pn**	**19 47 00.7**	**+1.4**
	SNR=8.4						
ALNE	**Al Ain**	**5.83**	**139**	*e*Pn	**Pn**	**19 47 01.3**	**+2.0**
ISFB	**Sefidab**	**5.85**	**6**	*e*Pn	**Pn**	**19 46 59.3**	**-0.3**
BDRS	**Dareh Seyedi**	**5.88**	**338**	*e*Pn	**Pn**	**19 47 02.2**	**+2.0**
IKFM	**Kafar-mosalman**	**5.91**	**328**	*e*Pn	**Pn**	**19 47 02.0**	**+1.6**
IDOB	**Doab**	**5.99**	**332**	*e*Pn	**Pn**	**19 47 03.3**	**+1.6**
ASAO	**Ashtian**	**6.15**	**348**	*e*Pn	**Pn**	**19 47 05.1**	**+1.2**
ASAO	**Ashtian**	**6.15**	**348**	*e*Pn	**Pn**	**19 47 05.0**	**+1.2**
HSAM	**Samen**	**6.21**	**337**	*e*Pn	**Pn**	**19 47 05.8**	**+1.1**
TPRV	**Parvadeh(Tabas**	**6.31**	**43**	*e*Pn	**Pn**	**19 47 07.0**	**+1.1**
IQOM	**Qom**	**6.32**	**356**	*e*Pn	**Pn**	**19 47 05.6**	**-0.6**
IKOM	**Komasi**	**6.61**	**330**	*e*Pn	**Pn**	**19 47 11.6**	**+1.5**
IBZA	**Bozab**	**6.72**	**333**	*e*Pn	**Pn**	**19 47 12.9**	**+1.2**
ARQ	**Araqi**	**6.83**	**138**	P	**Pn**	**19 47 14.0**	**+0.9**
	SNR=6.9						
TNSJ	**Nastanj**	**6.95**	**37**	*e*Pn	**Pn**	**19 47 15.4**	**+0.7**
TKDS	**Koohdasht(Taba**	**6.98**	**42**	*e*Pn	**Pn**	**19 47 15.7**	**+0.6**
IRAZ	**Rasghan**	**7.00**	**349**	*e*Pn	**Pn**	**19 47 16.5**	**+0.9**
HOQ	**Hoqain**	**7.14**	**132**	P	**Pn**	**19 47 17.5**	**+0.2**
	SNR=7.2						
HOQ				S	**Sn**	**19 48 36.6**	**-1.2**
IGHG	**Ghaleghazi**	**7.19**	**325**	*e*Pn	**Pn**	**19 47 20.8**	**+2.7**
HSRG	**Sareghieh**	**7.26**	**338**	*e*Pn	**Pn**	**19 47 21.5**	**+2.4**
RAYN	**Ar Rayn**	**7.37**	**229**		**Pn**	**19 47 21.3**	**+0.9**
IKOO	**Kooshah**	**7.52**	**57**	*e*Pn	**Pn**	**19 47 24.0**	**+1.2**
IDHR	**Dehrash**	**7.57**	**326**	*e*Pn	**Pn**	**19 47 23.9**	**+0.5**
ITEG	**Tejag**	**7.58**	**53**	*e*Pn	**Pn**	**19 47 23.5**	**0.0**
BSY	**Bisya**	**7.69**	**137**	P	**Pn**	**19 47 25.9**	**+1.1**
	SNR=86						
NHDN	**Nehbandan**	**7.92**	**67**	*e*Pn	**Pn**	**19 47 28.4**	**+0.3**
SMDO	**Samad**	**7.99**	**131**	P	**Pn**	**19 47 30.0**	**+0.9**
	SNR=7.6						
WSAR	**Wadi Sarin**	**8.27**	**128**	P	**Pn**	**19 47 33.0**	**+0.2**
	SNR=33						
WSAR	**Wadi Sarin**	**8.27**	**128**	Pn	**Pn**	**19 47 31.9**	**-0.9**
	comp=Z,2.3nm,0.3s,baz=315,slow=8.3,SNR=32						
WSAR				Sn	**Sn**	**19 49 02.0**	**-3.4**
	comp=Z,1.4nm,0.3s,baz=60,slow=10.0,SNR=1.7						
WSAR				LR	LR	19 51 20.4	
	comp=Z,27nm,19.2s,baz=326,slow=42						
JMDO	**Jabal Madar**	**8.52**	**134**	P	**Pn**	**19 47 36.3**	**0.0**
	SNR=13						
WBK	**Wadi Bani Khal**	**8.92**	**130**	P	**Pn**	**19 47 41.5**	**-0.2**
	SNR=30						
WBK				S	**Sn**	**19 49 21.3**	**-0.1**
DQM	**DQM**	**10.15**	**146**	P	**Pn**	**19 47 58.3**	**-0.2**
	SNR=12						
WHFO	**Wadi Hawf**	**10.74**	**169**	P	**Pn**	**19 48 06.2**	**-0.6**
	SNR=40						
GEYT	**Allbeck**	**10.88**	**29**	LR	LR	19 53 20.6	
	comp=Z,20nm,21.4s,baz=355,slow=43						
DMTO	**DMTO**	**11.20**	**163**	P	**Pn**	**19 48 12.3**	**-0.6**
	SNR=35						
MMAI	**Mount Meron Ar**	**14.58**	**292**	Pn	**Pn**	**19 48 56.7**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=96,slow=15,SNR=1.3						
KBZ	**Khabaz**	**16.69**	**338**	Pn	**Pn**	**19 49 26.7**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=146,slow=18,SNR=2.5						
BR131	**Keskin Array S**	**18.53**	**312**	P	**P**	**19 49 50.0**	**+0.8**
BRTR	**Keskin Array B**	**18.53**	**312**	P	**P**	**19 49 50.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=132,slow=11,SNR=12						
GAR	**Garm**	**18.75**	**51**	P	**P**	**19 49 51.1**	**-0.6**
BTK	**Batken**	**19.61**	**49**	P	**P**	**19 50 00.6**	**-0.3**
KK31	**Karatay Array**	**21.11**	**41**	P	**P**	**19 50 17.1**	**0.0**
KK31				IAmb	IAmb	19 50 23.3	
	comp=Z,7.8nm,1.1s						
KKAR	**Karatay Array**	**21.11**	**41**	P	**P**	**19 50 17.1**	**-0.1**
KKAR				IAmb	IAmb	19 50 23.3	
	comp=Z,7.8nm,1.1s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**21.66**	**48**	P	**P**	**19 50 23.5**	**+0.2**
ABKAR	**Akbulak array**	**21.69**	**15**	P	**P**	**19 50 23.0**	**-0.3**
ABKAR				IAmb	IAmb	19 50 47.9	
	comp=Z,8.7nm,1.5s						
AKTO	**Aktyubinsk**	**22.43**	**11**	P	**P**	**19 50 31.4**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=214,slow=17,SNR=2.4						
AAK	**Ala-Archa**	**23.29**	**47**	P	**P**	**19 50 41.3**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=221,slow=19,SNR=1.7						
AKASG	**Malin Array Be**	**27.84**	**329**	P	**P**	**19 51 21.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=147,slow=8.6,SNR=1.4						
BVAR	**Borovoye Array**	**28.17**	**24**	P	**P**	**19 51 24.7**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=194,slow=5.6,SNR=6.5						
KURBB	**Kurchatov Arra**	**30.05**	**35**	P	**P**	**19 51 40.4**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=236,slow=8.9,SNR=5.9						
MKAR	**Makanchi Array**	**30.15**	**44**	P	**P**	**19 51 41.6**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=226,slow=8.8,SNR=8.4						
ZAA0	**Zalesovo Array**	**35.12**	**34**	P	**P**	**19 52 25.1**	**-0.6**
ZAA0				IAmb	IAmb	19 52 26.2	
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**35.12**	**34**	P	**P**	**19 52 25.4**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=249,slow=9.7,SNR=9.8						
FINES	**FINESS Array B**	**37.03**	**340**	P	**P**	**19 52 41.8**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=153,slow=9.0,SNR=18						
GTA	**Gaotai**	**41.05**	**62**	*e*P	**P**	**19 53 17.0**	**+0.9**
GTA				pP	pP	19 53 21.4	-2.0
GTA				sP	sP	19 53 24.5	-1.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
NOA	**NORSAR Array B**	**42.15**	**332**	P	**P**	**19 53 23.3**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=126,slow=8.5,SNR=1.5						
ARCES	**ARCESS Array B**	**43.72**	**347**	P	**P**	**19 53 37.5**	**+0.3**
	comp=Z,2.5nm,1.0s,baz=156,slow=6.9,SNR=8.3						
TLY	**Talaya**	**44.91**	**44**	LR	LR	20 16 14.9	
	comp=Z,54nm,18.1s,baz=118,slow=41						
TORD	**Torodi Ar. Bea**	**48.69**	**262**	P	**P**	**19 54 17.9**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=60,slow=7.4,SNR=9.9						
DBIC	**Dimbokro**	**57.42**	**259**	P	**P**	**19 55 22.2**	**+0.9**
	comp=Z,4.1nm,0.8s,baz=40,slow=9.6,SNR=5.1						
DBIC				LR	LR	20 21 31.2	
	comp=Z,46nm,19.7s,baz=356,slow=38						
SCHQ	**Schefferville**	**81.64**	**329**	P	**P**	**19 57 50.5**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=61,slow=7.7,SNR=1.7						
YKA	**Yellowknife Ar**	**88.63**	**354**	P	**P**	**19 58 25.6**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=11,slow=5.0,SNR=8.8						
WRA	**Warramunga Arr**	**93.28**	**111**	P	**P**	**19 58 47.4**	**0.0**
	comp=Z,0.2nm,0.6s,baz=310,slow=4.3,SNR=5.2						

IDC 18 20:00:03.7±8.3, 20°63N×146°68E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/50, mbtmp3.6/5, Error ellipse: s-maj=314.4km s-min=23.5km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.10**	**197**	P	P	20 07 57.5	-0.2
	0.1nm,0.4s,baz=20,slow=11,SNR=5.1						
SONM	**Songino Array**	**42.25**	**320**	P	P	20 07 59.0

ISC 18 21:08:58.4±0.4, 20°78'N±0'.06×146°90'E±0'.08, h10km, n126, σ1$32/118, mb4.7/52, MS3.4/21, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**4.19**	**195**	Pn	**Pn**	**21 10 01.6**	**-0.8**
ANA2	**Anatahan**	**4.55**	**195**	Pn	**Pn**	**21 10 05.3**	**-2.2**
GUMO	**Guam**	**7.41**	**196**	Pn	**Pn**	**21 10 46.4**	**-0.3**
	4.0nm,0.3s,baz=18,slow=9.6,SNR=1.9						
GUMO				Sn	**Sn**	**21 12 10.9**	**+0.1**
	5.3nm,0.3s,baz=202,slow=19,SNR=2.8						
GUMO	**Guam**	**7.41**	**196**		**Pn**	**21 10 46.7**	**0.0**
JCJ	**Chichijima**	**7.63**	**326**	Pn	**Pn**	**21 10 50.3**	**+0.7**
	9.2nm,0.3s,baz=287,slow=19,SNR=2.4						
JCJ				Sn	**Sn**	**21 12 12.4**	**-3.8**
	23nm,0.3s,baz=310,slow=24,SNR=5.7						
JHJ2	**Mitsune**	**13.81**	**334**	Pn	**Pn**	**21 12 11.9**	**-2.4**
INU	**Inuyama**	**16.92**	**331**	Pn	**Pn**	**21 12 54.0**	**-1.3**
INU				IAmb	IAmb	21 13 01.9	
	comp=Z,52nm,0.8s						
MJAR	**Matsushiro Arr**	**17.45**	**336**	P	**Pn**	**21 13 00.7**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=159,slow=10,SNR=6.9						
MAJO	**Matsushiro**	**17.45**	**336**	Pn	**Pn**	**21 12 58.9**	**-3.0**
MAT	**Matsushiro**	**17.45**	**336**	P	**P**	**21 13 03.0**	**-0.2**
MJB9	**Matsu-Tunnel**	**17.45**	**336**	Pn	**Pn**	**21 12 58.9**	**-3.1**
JOW	**Kunigami**	**18.07**	**295**	Pn	**Pn**	**21 13 06.6**	**-3.1**
WAKE	**Wake Island**	**18.62**	**91**	P	**P**	**21 13 16.3**	**+0.1**
JNU	**Nakatsue**	**18.82**	**314**	P	**Pn**	**21 13 20.1**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=117,slow=9.0,SNR=2.4						
KSRS	**Korea Array**	**23.40**	**319**	P	**P**	**21 14 08.9**	**+1.4**
	comp=Z,3.6nm,0.8s,baz=143,slow=10,SNR=8.1						
KSRS				LR	LR	21 23 21.5	
	comp=Z,60nm,19.2s,baz=127,slow=37						
JKA	**Kamikawa-asahi**	**23.55**	**352**	P	**P**	**21 14 10.1**	**+1.2**
ASAJ	**Asahikawa**	**23.55**	**352**	P	**P**	**21 14 10.1**	**+1.2**
	comp=Z,25nm,0.9s,baz=202,slow=13,SNR=6.2						
TWG	**Pinlang**	**24.06**	**280**	P	**P**	**21 14 13.3**	**-0.7**
DAV	**Davao City (W)**	**24.73**	**240**	LR	LR	21 22 44.7	
	comp=Z,130nm,20.2s,baz=47,slow=34						
TGY	**Tagaytay City**	**25.62**	**259**	LR	LR	21 22 55.9	
	comp=Z,113nm,20.4s,baz=67,slow=33						
USA0B	**Ussuriysk Arra**	**26.44**	**335**	P	**P**	**21 14 35.8**	**+0.3**
USA0B				IAmb	IAmb	21 14 52.0	
	comp=Z,18nm,1.1s						
USRK	**Ussuriysk Ar.**	**26.44**	**335**	P	**P**	**21 14 37.6**	**+2.2**
	comp=Z,7.4nm,0.8s,baz=137,slow=8.5,SNR=11						
NJ2	**Nanjing**	**27.43**	**300**	*eP*	**P**	**21 14 44.9**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,26nm,0.5s						
PMG	**Port Moresby**	**30.00**	**179**	LR	LR	21 29 14.6	
	comp=Z,55nm,18.2s,baz=199,slow=41						
HNR	**Honiara**	**32.65**	**156**	LR	LR	21 28 11.7	
	comp=Z,89nm,20.0s,baz=342,slow=35						
PETK	**Petropavlovsk-**	**33.33**	**12**	LR	LR	21 28 24.3	
	comp=Z,52nm,18.9s,baz=240,slow=35						
HIA	**Hailar**	**35.72**	**329**	P	**P**	**21 15 57.4**	**+0.2**
HHC	**Hu-ho-hao-te**	**36.02**	**312**	*eP*	**P**	**21 16 02.0**	**+2.1**
KAPI	**Kappang**	**36.98**	**229**	LR	LR	21 29 59.8	
	comp=Z,50nm,20.9s,baz=115,slow=34						
BATI	**Baumata**	**38.34**	**219**	LR	LR	21 29 44.7	
	comp=Z,63nm,18.4s,baz=68,slow=33						
MA2	**Magadan**	**38.86**	**3**	P	**P**	**21 16 24.4**	**+0.8**
	comp=Z,8.8nm,0.5s,baz=201,slow=11,SNR=4.5						
MA2	**Magadan**	**38.86**	**3**	IAmb	IAmb	21 16 27.3	
	comp=Z,14nm,0.8s						
CD2	**Chengdu**	**39.91**	**294**	*eP*	**P**	**21 16 33.0**	**+0.1**
LZH	**Lanzhou**	**40.48**	**302**	*eP*	**P**	**21 16 38.5**	**+0.8**
LZH				pP	pwP	21 16 43.3	-3.0
LZH				sP	sP	21 16 46.3	+6.6
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
SONM	**Songino Array**	**42.27**	**319**	P	**P**	**21 16 52.8**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=113,slow=6.9,SNR=9.8						
SONM				PcP	**PcP**	**21 18 47.2**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=153,slow=2.5,SNR=4.4						
SONM				LR	LR	21 33 46.1	
	comp=Z,36nm,20.8s,baz=24,slow=35						
SEY	**Seymchan**	**42.29**	**4**	P	**P**	**21 16 51.0**	**-1.0**
	comp=Z,5.0nm,0.8s,baz=90,slow=20,SNR=2.9						
WRA	**Warramunga Arr**	**42.30**	**198**	P	**P**	**21 16 51.8**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=18,slow=8.6,SNR=19						
WRA				PcP	**PcP**	**21 18 46.8**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=5.7,slow=3.5,SNR=5.8						
FITZ	**Fitzroy Crossi**	**43.90**	**210**	P	**P**	**21 17 04.3**	**-1.1**
	comp=Z,2.7nm,0.7s,baz=18,slow=11,SNR=7.1						
FITZ				LR	LR	21 34 25.3	
	comp=Z,19nm,21.1s,baz=28,slow=35						
FITZ	**Fitzroy Crossi**	**43.90**	**210**	P	**P**	**21 17 05.0**	**-0.5**
GTA	**Gaotai**	**44.23**	**306**	*eP*	**P**	**21 17 11.8**	**+3.7**
GTA				pP	pwP	21 17 16.9	+0.1
GTA				sP	sP	21 17 20.3	+10
CMAR	**Chiang Mai Arr**	**45.11**	**276**	P	**P**	**21 17 15.2**	**0.0**
	comp=Z,0.9nm,0.8s,baz=70,slow=6.5,SNR=3.2						
CMAR				LR	LR	21 33 53.7	
	comp=Z,27nm,21.9s,baz=182,slow=33						
ASAR	**Alice Springs**	**45.95**	**197**	P	**P**	**21 17 21.1**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=18,slow=7.7,SNR=8.6						
ASAR				LR	LR	21 36 47.3	
	comp=Z,73nm,20.5s,baz=26,slow=36						
BILL	**Bilibino**	**48.79**	**10**	P	**P**	**21 17 44.9**	**+1.5**
BILL				IAmb	IAmb	21 17 46.6	
	comp=Z,6.3nm,0.8s						
TIXI	**Tiksi**	**51.95**	**353**	P	**P**	**21 18 06.4**	**-0.8**
STKA	**Stephens Creek**	**52.60**	**186**	LR	LR	21 41 34.6	
	comp=Z,60nm,20.1s,baz=22,slow=37						
WMQ	**Urumqi**	**53.84**	**310**	*eP*	**P**	**21 18 23.8**	**+2.1**
WMQ				pP	pwP	21 18 26.3	-4.0
WMQ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
WMQ				LR	LR		
	comp=Z,410nm,28.9s						
WMQ				LR	LR		
	comp=Z,950nm,29.1s						
TAPN	**Taplejung**	**54.02**	**289**	*eP*	**P**	**21 18 25.0**	**+1.4**
	comp=Z,35nm,1.1s						
ODAN	**Odare**	**54.37**	**289**	*eP*	**P**	**21 18 27.3**	**+1.3**
	comp=Z,14nm,0.8s						
RAMN	**Ramite**	**55.05**	**289**	*eP*	**P**	**21 18 32.2**	**+1.2**
	comp=Z,10nm,0.7s						
JIRN	**Jiri**	**55.33**	**290**	*eP*	**P**	**21 18 34.8**	**+1.7**
	comp=Z,43nm,0.8s						
GUN	**Gumba**	**55.57**	**290**	*eP*	**P**	**21 18 36.4**	**+1.6**
PKI	**Pulchoki**	**56.03**	**290**	*eP*	**P**	**21 18 38.6**	**+0.5**
	comp=Z,2.7nm,1.0s						
PKIN	**Phulchoki**	**56.04**	**290**	*eP*	**P**	**21 18 38.9**	**+0.8**
	comp=Z,4.3nm,0.5s						
KKN	**Kakani**	**56.11**	**290**	*eP*	**P**	**21 18 39.8**	**+1.2**
	comp=Z,24nm,0.9s						
DMN	**Daman**	**56.29**	**290**	*eP*	**P**	**21 18 41.1**	**+1.2**
	comp=Z,30nm,1.1s						
GKN	**Gorkha**	**56.65**	**290**	*eP*	**P**	**21 18 43.7**	**+1.4**
	comp=Z,53nm,1.0s						
ZAA0	**Zalesovo Array**	**57.08**	**322**	P	**P**	**21 18 44.8**	**0.0**
ZALV	**Zalesovo Beam**	**57.08**	**322**	P	**P**	**21 18 45.1**	**+0.3**
	comp=Z,7.9nm,0.6s,baz=108,slow=7.2,SNR=34						
ZALV				PcP	**PcP**	**21 19 39.9**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=105,slow=3.7,SNR=4.4						
KOLN	**Koldanda**	**57.59**	**290**	*eP*	**P**	**21 18 50.3**	**+1.2**
	comp=Z,26nm,1.0s						
MK31	**Makanchi Array**	**57.87**	**313**	P	**P**	**21 18 49.9**	**-0.6**
MKAR	**Makanchi Array**	**57.87**	**313**	P	**P**	**21 18 51.3**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=92,slow=9.0,SNR=25						
MAKZ	**Makanchi**	**58.08**	**313**	P	**P**	**21 18 53.1**	**+1.1**
MAKZ				IAmb	IAmb	21 18 54.1	
	comp=Z,7.4nm,0.9s						
BPAW	**Bear Paw Mtn.**	**59.40**	**27**	P	**P**	**21 19 03.1**	**+2.2**
BPAW				IAmb	IAmb	21 19 07.1	
	comp=Z,9.8nm,1.2s						
KURK	**Kurchatov**	**60.51**	**317**	P	**P**	**21 19 08.9**	**+0.3**
ILAR	**Eielson Array**	**61.29**	**27**	P	**P**	**21 19 13.8**	**0.0**
	comp=Z,2.4nm,1.1s,baz=249,slow=5.9,SNR=9.8						
ILAR				LR	LR	21 45 35.8	
	comp=Z,18nm,18.9s,baz=260,slow=36						
SCRK	**Sand Creek**	**62.38**	**28**	P	**P**	**21 19 21.1**	**-0.2**
SCRK				IAmb	IAmb	21 19 26.7	
	comp=Z,6.2nm,1.2s						
KSH	**Kashi**	**62.61**	**305**	P	P	21 19 27.5	+4.3
KSH				ScP	**ScP**	**21 24 06.3**	**+1.8**
KSH				S	**S**	**21 27 54.6**	**+3.0**
KSH				ScS	**ScS**	**21 29 15.9**	**-0.3**
KSH				LR	LR		
	comp=Z,470nm,10.6s						
NIL	**Nilore**	**65.53**	**298**	P	**P**	**21 19 42.2**	**-0.2**
KK31	**Karatay Array**	**66.34**	**309**	P	**P**	**21 19 47.0**	**-0.5**
KK31				IAmb	IAmb	21 19 52.5	
	comp=Z,6.6nm,1.1s						
KKAR	**Karatay Array**	**66.34**	**309**	P	**P**	**21 19 47.0**	**-0.5**
KKAR				IAmb	IAmb	21 19 52.5	
	comp=Z,6.6nm,1.1s						
INK	**Inuvik**	**67.02**	**23**	P	**P**	**21 19 52.4**	**+1.2**
	comp=Z,4.1nm,0.9s,baz=250,slow=6.6,SNR=7.5						
INK	**Inuvik**	**67.02**	**23**	P	**P**	**21 19 51.8**	**+0.5**
INK				IAmb	IAmb	21 19 53.7	
	comp=Z,9.3nm,1.1s						
CHGR	**Chuyangaron**	**67.98**	**304**	P	**P**	**21 19 57.7**	**-0.3**
KBL	**Kabul**	**68.81**	**300**	P	**P**	**21 20 03.2**	**-0.2**
KBL				IAmb	IAmb	21 20 14.9	
	comp=Z,7.1nm,0.9s						
ARU	**Arti**	**72.04**	**324**	P	**P**	**21 20 23.4**	**+0.9**
	comp=Z,4.3nm,0.7s,baz=87,slow=3.5						
ARU	**Arti**	**72.04**	**324**	IAmb	IAmb	21 20 24.4	
	comp=Z,17nm,0.8s						
ABKAR	**Akbulak array**	**72.61**	**317**	P	**P**	**21 20 25.1**	**-0.9**
ABKAR				IAmb	IAmb	21 20 27.7	
	comp=Z,8.8nm,1.2s						
AKTO	**Aktyubinsk**	**73.58**	**318**	P	**P**	**21 20 32.0**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=66,slow=8.7,SNR=3.2						
YKW3	**Yellowknife Ar**	**75.61**	**28**	P	**P**	**21 20 43.6**	**+0.3**
YKA	**Yellowknife Ar**	**75.63**	**28**	P	**P**	**21 20 44.2**	**+0.8**
	comp=Z,3.5nm,0.8s,baz=290,slow=5.5,SNR=33						
YKA				LR	LR	21 51 39.8	
	comp=Z,6.7nm,21.6s,baz=276,slow=34						
KIRV	**Kirov**	**76.32**	**328**	P	**P**	**21 20 48.2**	**+0.9**
	comp=Z,21nm,0.6s,baz=284,slow=0.6,SNR=5.7						
GEYT	**Alibeck**	**76.61**	**306**	LR	LR	21 59 06.4	
	comp=Z,26nm,18.1s,baz=25,slow=39						
RES	**Resolute Bay**	**77.15**	**14**	P	**P**	**21 20 51.3**	**-0.5**
RES				IAmb	IAmb	21 20 54.4	
	comp=Z,7.4nm,1.1s						
PINE	**Pine Mountain**	**77.43**	**48**	P	**P**	**21 20 53.7**	**-0.6**
PINE				IAmb	IAmb	21 20 57.2	
	comp=Z,9.5nm,1.1s						
ORV	**Oroville**	**78.26**	**52**	P	**P**	**21 20 57.6**	**-1.1**
ORV				IAmb	IAmb	21 21 03.2	
	comp=Z,8.3nm,1.2s						
BEKR	**Beckworth**	**79.00**	**52**	P	**P**	**21 21 02.2**	**-0.9**
CMB	**Columbia Colle**	**79.55**	**53**	P	**P**	**21 21 07.0**	**+1.1**
CMB				IAmb	IAmb	21 21 08.8	
	comp=Z,10nm,1.2s						
BMO	**Blue Mountains**	**79.59**	**46**	P	**P**	**21 21 05.6**	**-0.5**
YERR	**Yerington**	**80.10**	**52**	P	**P**	**21 21 08.6**	**-0.5**
YERR				IAmb	IAmb	21 21 12.0	
	comp=Z,10nm,1.2s						
TULEG	**Thule**	**80.51**	**8**	P	**P**	**21 21 09.8**	**-0.5**
RYN	**Ryan**	**80.75**	**52**	P	**P**	**21 21 12.1**	**-0.4**
ARCES	**ARCESS Array B**	**80.87**	**342**	P	**P**	**21 21 12.9**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=62,slow=8.4,SNR=5.1						
KVN	**Kaiserville**	**80.92**	**52**	P	**P**	**21 21 12.1**	**-1.4**
KVN				IAmb	IAmb	21 21 16.3	
	comp=Z,7.8nm,1.1s						
NVAR	**Mina Array Bea**	**80.97**	**52**	P	**P**	**21 21 15.2**	**+1.4**
	comp=Z,6.0nm,0.9s,baz=266,slow=6.3,SNR=26						
NVAR				LR	LR	21 50 54.4	
	comp=Z,42nm,19.9s,baz=272,slow=31						
MFID	**Camas Ranch**	**81.07**	**47**	P	**P**	**21 21 14.0**	**-0.1**
MFID				IAmb	IAmb	21 21 17.0	
	comp=Z,8.6nm,1.1s						
NV11	**Mina Array Sit**	**81.08**	**52**	P	**P**	**21 21 14.1**	**-0.2**
NV11				IAmb	IAmb	21 21 17.3	
	comp=Z,8.4nm,1.1s						
ELK	**Elko**	**82.41**	**49**	P	**P**	**21 21 20.6**	**-0.7**
ELK				IAmb	IAmb	21 21 24.2	
	comp=Z,8.5nm,1.1s						
R11A	**Troy Canyon, C**	**83.01**	**52**	P	**P**	**21 21 24.0**	**-0.5**
R11A				IAmb	IAmb	21 21 27.4	
	comp=Z,8.2nm,1.2s						
SHPR	**Sheep Range**	**83.99**	**53**	P	**P**	**21 21 29.0**	**-0.5**
SHPR				IAmb	IAmb	21 21 32.5	
	comp=Z,6.7nm,1.1s						
YNR	**Norris Junctio**	**84.04**	**44**	P	**P**	**21 21 28.5**	**-1.2**
PSUT	**Pine Spring**	**84.21**	**51**	P	**P**	**21 21 29.9**	**-0.8**
DUG	**Dugway, Tooele**	**84.33**	**49**	P	**P**	**21 21 29.8**	**-1.3**
FFC	**Flin Flon**	**84.74**	**33**	P	**P**	**21 21 32.5**	**-0.3**
CCUT	**Cedar City**	**84.94**	**52**	P	**P**	**21 21 34.0**	**-0.4**
LCMT	**Little Creek M**	**85.23**	**52**	P	**P**	**21 21 35.5**	**-0.3**
MSU	**Marysvale**	**85.43**	**51**	P	**P**	**21 21 36.3**	**-0.6**
FINES	**FINESS Array B**	**85.48**	**336**	P	**P**	**21 21 36.1**	**-0.1**
	comp=Z,6.5nm,0.7s,baz=53,slow=5.1,SNR=16						
KBZ	**Khabaz**	**85.48**	**315**	P	**P**	**21 21 37.4**	**+0.7**
	comp=Z,4.0nm,0.9s,baz=129,slow=4.0,SNR=7.3						
KNB	**Kanab**	**85.54**	**52**	P	**P**	**21 21 35.7**	**-1.7**
PDAR	**Pinedale Array**	**85.57**	**46**	LR	LR	21 54 02.6	
	comp=Z,34nm,19.8s,baz=358,slow=32						
Q16A	**Castle Valley**	**86.00**	**50**	P	**P**	**21 21 38.6**	**-1.0**
U15A	**North Rim**	**86.16**	**53**	P	**P**	**21 21 38.7**	**-1.8**
U15A				IAmb	IAmb	21 21 43.6	
	comp=Z,6.3nm,1.1s						
FCC	**Fort Churchill**	**86.30**	**27**	IAmb	IAmb	21 21 43.0	
	comp=Z,7.1nm,1.1s						
SRU	**San Rafael Swe**	**86.38**	**50**	P	**P**	**21 21 40.3**	**-1.2**
RDMU	**Red Mountain**	**86.46**	**48**	P	**P**	**21 21 40.2**	**-1.7**
Y14A	**Wickenburg**	**86.58**	**55**	P	**P**	**21 21 40.5**	**-1.9**
Y14A				IAmb	IAmb	21 21 45.1	
	comp=Z,7.8nm,1.1s						
X16A	**Lo Mia Camp, P**	**87.59**	**54**	IAmb	IAmb	21 21 52.2	
	comp=Z,5.0nm,1.2s						
TUC	**Tucson**	**88.93**	**56**	P	**P**	**21 21 53.7**	**-0.1**
AKASG	**Malin Array Be**	**90.24**	**326**	P	**P**	**21 21 58.4**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=47,slow=4.2,SNR=5.4						
ULM	**Lac du Bonnet**	**90.25**	**35**	P	**P**	**21 21 59.1**	**-0.3**
	comp=Z,3.6nm,0.9s,baz=324,slow=7.0,SNR=5.2						
MNTX	**Cornudas Mount**	**93.34**	**54**	IAmb	IAmb	21 22 17.0	
	comp=Z,2.8nm,0.8s						
TXAR	**Lajitas Array**	**95.73**	**56**	LR	LR	21 56 58.4	
	comp=Z,9.1nm,21.0s,baz=0.0,slow=30						
MNMC	**Minye Minye**	**145.70**	**94**		**PKPdf**	**21 28 35.4**	**-2.9**
PB11	**IPOC Station P**	**145.74**	**95**		**PKPdf**	**21 28 34.8**	**-3.4**
PB11				PKPbc	**PKPbc**	**21 28 40.8**	**+2.1**
LPAZ	**La Paz**	**146.53**	**88**	PKPbc	**PKPbc**	**21 28 41.8**	**+0.1**
	comp=Z,4.7nm,1.0s,baz=330,slow=3.5,SNR=8.4						
SAML	**Samuel**	**148.70**	**72**		**PKiKP**	**21 28 47.8**	**-0.5**

*BEO **18** 21:19:41.0±0.7, 38°.77N×27°.63E, h0km, ML4.9/7*
*SOF **18** 21:20:00.9, 39°.63N×25°.65E, h1km, MD3.6*
*TIR **18** 21:20:03.1, 39°.88N×22°.54E, h14km, Md4.1/9*
*IDC **18** 21:20:05.2±0.7, 39°.77N×25°.28E, h0km, mb3.7/15, mb1 3.8/22, mb1mx3.7/61, mbtmp3.7/22, ML3.9/7, MS3.3/10, Ms1 3.3/10, ms1mx3.0/47, Error ellipse: s-maj=12.6km s-min=11.2km az=20.0*
*ISK **18** 21:20:05.8, 39°.84N×25°.39E, h5km, ML4.4/40*
*ISCJB **18** 21:20:06.3±0.3, 39°.85N±0°.01×25°.38E±0°.01, h12km±2km, mb3.8/21, MS3.5/6, Error ellipse: s-maj=1.8km s-min=1.4km az=25.7*
*ATH **18** 21:20:06.5, 39°.83N×25°.39E, h30km±1km, ML4.2/31, Error ellipse: s-maj=1.4km s-min=0.7km az=59.0*
*THE **18** 21:20:06.9, 39°.83N×25°.42E, h6km±1km, ML4.2/9, Error ellipse: s-maj=1.4km s-min=0.4km az=90.0*
*MOS **18** 21:20:06.0±0.9, 39°.88N×25°.40E, h12km, mb4.2/3, Error ellipse: s-maj=6.4km s-min=3.6km az=85.7*
*NEIC **18** 21:20:07.2±2.0, 39°.79N±0°.05×25°.38E±0°.07, h10km±2km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr0.30; Mθθ1.16; Mϕϕ-1.46; Mrθ0.38; Mθϕ-0.41; Mϕr0.04; Fault plane solution: M0 1.45000×10^15^ NP1:ϕs51.85000°, δ78.56000°, λ163.62000°. NP2:ϕs145.19000°, δ73.95000°, λ11.91000°. Principal axes: T 1.3525, Plg20.0000°, Azm8.0000°; N 0.1704, Plg70.0000°, Azm198.0000°; P -1.5228, Plg3.0000°, Azm99.0000°;*
*DDA **18** 21:20:07.9, 39°.88N×25°.52E, h17km±1km, MW4.1*

ISC 18 21:20:06.3±1.0, 39°.82N±0°.01×25°.38E±0°.01, h3km±7km, n427, σ1$45/513, mb3.9/22, MS3.5/6, 50C-32D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFSA	**Agios Efstrati**	**0.41**	**228**	P	**Pb**	**21 20 16.8**	**+0.6**
EFSA				S	**Sb**	**21 20 22.6**	**-0.2**
EFSA				AML	AML	21 20 23.4	
EFSA				AML	AML	21 20 25.8	
BOZC	**Bozcaada**	**0.52**	**87**	*i* PA	**Pb**	**21 20 16.6**	**-1.5**
BOZC				*i* S	**Sg**	**21 20 22.8**	**-0.3**
BOZC				IAML		21 20 30.0	
	comp=N,5μm,0.8s						
BOZC				IAML		21 20 30.0	
	comp=E,4μm,0.3s						
BOZC	**Bozcaada**	**0.52**	**87**	PG	**Pb**	**21 20 16.6**	**-1.5**
GADA	**Gvkgeada**	**0.55**	**47**	P	**Pg**	**21 20 17.3**	**+0.4**
GADA				S	**Sg**	**21 20 24.4**	**+0.4**
GADA	**Gvkgeada**	**0.55**	**47**	PG	**Pg**	**21 20 17.2**	**+0.4**
GADA				SG	**Sg**	**21 20 24.7**	**+0.7**
GOKC	**Gokceada-Canak**	**0.56**	**47**	PG	**Pg**	**21 20 17.1**	**-0.1**
GOKC				SG	**Sg**	**21 20 25.1**	**+0.6**
SMTH	**Samothraki Isl**	**0.67**	**10**	P	**Pg**	**21 20 19.8**	**+0.6**
SMTH				S	**Sg**	**21 20 28.6**	**+0.8**
	comp=E,9μm,0.5s						
SMTH	**Samothraki Isl**	**0.67**	**10**	P	**Pg**	**21 20 19.7**	**+0.6**
SMTH				S	**Sg**	**21 20 29.1**	**+1.3**
SMTH				AML	AML	21 20 30.8	
	comp=N,18349μm,0.6s						
SMTH				AML	AML	21 20 30.9	
	comp=E,19022μm,0.5s						
SIGR	**SIGRI**	**0.71**	**148**	P	**Pg**	**21 20 20.7**	**+0.8**
SIGR				S	**Sg**	**21 20 30.8**	**+1.8**
	comp=E,29μm,0.7s						
SIGR	**SIGRI**	**0.71**	**148**	P	**Pg**	**21 20 20.7**	**+0.8**
SIGR				S	**Sg**	**21 20 30.1**	**+1.1**
SIGR				AML	AML	21 20 31.6	
	comp=N,76080μm,0.7s						
SIGR				AML	AML	21 20 31.6	
	comp=E,40972μm,0.7s						
SIGR	**SIGRI**	**0.71**	**148**	PG	**Pg**	**21 20 20.5**	**+0.6**
SIGR				SG	**Sg**	**21 20 30.8**	**+1.8**
EZN	**Ezine**	**0.73**	**89**	P	**Pg**	**21 20 20.2**	**-0.1**
EZN				S	**Sg**	**21 20 30.0**	**+0.2**
	comp=E,6μm,0.3s						
EZN	**Ezine**	**0.73**	**89**	⇑P	**Pg**	**21 20 21.0**	**+0.7**
EZN						21 20 31.8	
EZN	**Ezine**	**0.73**	**89**	⇑P	**Pg**	**21 20 21.0**	**+0.7**
EZN				AML	AML	21 20 31.8	
EZN	**Ezine**	**0.73**	**89**	PG	**Pg**	**21 20 20.2**	**-0.1**
PRK	**Paraskevi**	**0.89**	**129**	P	**Pb**	**21 20 25.1**	**+0.6**
PRK				S	**Sb**	**21 20 36.9**	**+0.2**
PRK				AML	AML	21 20 45.5	
	comp=N,38403μm,0.8s						
PRK				AML	AML	21 20 47.7	
	comp=E,40932μm,0.6s						
BAYC	**CANAKKALE_Bayr**	**0.90**	**94**	*i* PA	**Pn**	**21 20 23.5**	**-2.5**
BAYC				*i* S	**Sg**	**21 20 35.0**	**-0.3**
BAYC				IAML		21 20 36.0	
	comp=N,2μm,0.2s						
BAYC				IAML		21 20 37.0	
	comp=E,3μm,0.3s						
THAS	**Thassos island**	**0.94**	**328**	P	**Pg**	**21 20 25.1**	**+0.8**
THAS				S	**Sb**	**21 20 37.7**	**-0.4**
	comp=E,25μm,0.5s						
THAS	**Thassos island**	**0.94**	**328**	P	**Pg**	**21 20 25.0**	**+0.6**
THAS				S	**Sg**	**21 20 37.2**	**+0.7**
THAS				AML	AML	21 20 39.3	
	comp=N,56008μm,0.6s						
THAS				AML	AML	21 20 39.8	
	comp=E,44631μm,0.3s						
ENZZ	**Sultanice-Enez**	**0.98**	**36**	PG	**Pg**	**21 20 25.0**	**-0.2**
ENZZ				SG	**Sg**	**21 20 38.7**	**+0.8**
GELI	**Tayfur-Gelibol**	**1.02**	**55**	PG	**Pg**	**21 20 25.5**	**-0.4**
GELI				SG	**Sg**	**21 20 40.1**	**+0.9**
AYVA	**Ayvalik**	**1.13**	**116**	*i* PA	**Pn**	**21 20 28.1**	**-1.0**
AYVA				*i* S	**Sb**	**21 20 42.3**	**-1.4**
AYVA				IAML		21 20 44.0	
	comp=E,4μm,0.7s						
AYVA				IAML		21 20 51.0	
	comp=N,17μm,0.8s						
SKY	**Skiros Island**	**1.14**	**215**	P	**Pb**	**21 20 28.3**	**-0.3**
SKY				S	**Sn**	**21 20 45.2**	**0.0**
	comp=N,19μm,0.6s						
SKY	**Skiros Island**	**1.14**	**215**	P	**Pb**	**21 20 28.1**	**-0.5**
SKY				S	**Sb**	**21 20 43.6**	**-0.2**
SKY				AML	AML	21 20 46.8	
	comp=N,27063μm,0.6s						
SKY				AML	AML	21 20 47.5	
	comp=E,47548μm,0.6s						
OUR	**Ouranopolis**	**1.19**	**296**	P	**Pb**	**21 20 29.4**	**-0.1**
OUR				S	**Sn**	**21 20 47.0**	**+0.4**
	comp=E,17μm,0.7s						
OUR	**Ouranopolis**	**1.19**	**296**	P	**Pb**	**21 20 29.1**	**-0.5**
OUR				S	**Sb**	**21 20 43.9**	**-1.4**
OUR				AML	AML	21 20 49.7	
	comp=N,37920μm,0.7s						
OUR				AML	AML	21 20 51.0	
	comp=E,30143μm,0.6s						
OUR	**Ouranopolis**	**1.19**	**296**	PN	**Pb**	**21 20 29.1**	**-0.5**
OUR				SN	**Sn**	**21 20 46.

ZEDA	**zmir-Bergama**	**1.56**	**122**	*i*	P	**Pn**	**21 20 34.8**	**-0.2**
ZEDA				*i*	S	**Sn**	**21 20 53.6**	**-2.2**
ZEDA					IAML		21 20 58.0	
	comp=E,2µm,0.7s							
ZEDA					IAML		21 21 06.0	
	comp=N,3µm,0.6s							
KRBG	**Karabiga-Canak**	**1.58**	**68**		PN	**Pn**	**21 20 34.8**	**-0.4**
PLG	**Polygyros**	**1.58**	**291**		P	**Pn**	**21 20 35.2**	**-0.2**
PLG	**Polygyros**	**1.58**	**291**		P	**Pn**	**21 20 34.6**	**-0.7**
PLG					AML	AML	21 20 59.8	
	comp=N,15188µm,0.4s							
PLG					AML	AML	21 21 00.3	
	comp=E,8724µm,0.3s							
SKIA	**Skiathos**	**1.62**	**247**		P	**Pn**	**21 20 34.9**	**-0.8**
UKOP	**Uzunkopru-Edir**	**1.62**	**36**		PN	**Pn**	**21 20 35.2**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.63**	**57**		PN	**Pn**	**21 20 35.7**	**-0.3**
SART	**Tekirdag**	**1.63**	**57**	*i*	P	**Pn**	**21 20 35.4**	**-0.6**
SART				*i*	S	**Sn**	**21 20 56.5**	**-1.1**
SART					IAML		21 21 08.0	
	comp=N,2µm,0.8s							
SART					IAML		21 21 12.0	
	comp=E,1µm,1.2s							
CESE	**eme**	**1.65**	**154**		PN	**Pn**	**21 20 36.5**	**+0.4**
KNL	**Balıkesir**	**1.71**	**74**	*i*	P	**Pn**	**21 20 35.0**	**-2.0**
KNL				*i*	S	**Sn**	**21 20 58.4**	**-1.0**
KNL					IAML		21 21 01.0	
	comp=N,5µm,0.9s							
KNL					IAML		21 21 01.0	
	comp=E,7µm,0.7s							
BALY	**Balya**	**1.73**	**92**	*i*	PA	**Pn**	**21 20 36.9**	**-0.5**
BALY				*i*	S	**Sn**	**21 20 59.0**	**-0.9**
BALY					IAML		21 21 07.0	
	comp=N,3µm,0.7s							
BALY					IAML		21 21 10.0	
	comp=E,2µm,0.5s							
URLA	**Izmir**	**1.73**	**147**	*i*	P	**Pn**	**21 20 36.5**	**-0.9**
URLA				*i*	S	**Sn**	**21 20 56.2**	**-3.8**
URLA					IAML		21 21 14.0	
	comp=E,775nm,1.0s							
URLA					IAML		21 21 18.0	
	comp=N,1µm,0.7s							
URLA	**Izmir**	**1.73**	**147**		PN	**Pn**	**21 20 36.7**	**-0.7**
NEO	**Neokhori**	**1.74**	**254**		P	**Pn**	**21 20 36.4**	**-1.1**
NEO					AML	AML	21 21 06.4	
	comp=E,4417µm,0.7s							
NEO					AML	AML	21 21 13.3	
	comp=N,5454µm,0.6s							
XOR	**Xorichti**	**1.75**	**256**		P	**Pn**	**21 20 36.4**	**-1.2**
XOR					AML	AML	21 21 11.1	
	comp=E,2465µm,0.7s							
XOR					AML	AML	21 21 13.6	
	comp=N,4362µm,0.5s							
MRKA	**Markates**	**1.78**	**232**		P	**Pn**	**21 20 37.4**	**-0.6**
MRKA	**Markates**	**1.78**	**232**		P	**Pn**	**21 20 37.2**	**-0.8**
MRKA					AML	AML	21 21 08.2	
	comp=E,8273µm,0.5s							
MRKA					AML	AML	21 21 14.1	
	comp=N,9802µm,0.5s							
GONE	**Gonen-Balikesi**	**1.79**	**82**		PN	**Pn**	**21 20 38.1**	**0.0**
EREA	**Eretria**	**1.79**	**219**		P	**Pn**	**21 20 37.5**	**-0.7**
EREA	**Eretria**	**1.79**	**219**		P	**Pn**	**21 20 37.4**	**-0.7**
EREA					AML	AML	21 21 10.0	
	comp=E,14494µm,0.4s							
EREA					AML	AML	21 21 14.0	
	comp=N,10865µm,0.6s							
ZEY	**zmir**	**1.80**	**151**	*i*	P	**Pn**	**21 20 37.3**	**-0.9**
ZEY				*i*	S	**Sn**	**21 20 58.8**	**-2.8**
ZEY					IAML		21 21 08.0	
	comp=N,1µm,0.6s							
ZEY					IAML		21 21 08.0	
	comp=E,2µm,0.8s							
KDZ	**Kurdzhali**	**1.83**	**1**	*i*	P	**Pn**	**21 20 37.3**	**-1.5**
KDZ	**Kurdzhali**	**1.83**	**1**		PN	**Pn**	**21 20 37.4**	**-1.4**
SOH	**Sokhos**	**1.85**	**304**		P	**Pn**	**21 20 38.7**	**-0.3**
SOH	**Sokhos**	**1.85**	**304**		P	**Pn**	**21 20 38.6**	**-0.3**
SOH					AML	AML	21 21 10.1	
	comp=E,13978µm,0.5s							
SOH					AML	AML	21 21 11.9	
	comp=N,9625µm,0.6s							
STEP	**BALIKESIR_Sava**	**1.86**	**103**	*i*	PA	**Pn**	**21 20 38.9**	**-0.2**
STEP					IAML		21 21 12.0	
	comp=E,1µm,0.9s							
STEP					IAML		21 21 22.0	
	comp=N,2µm,0.8s							
MRMT	**Marmara Adasi**	**1.87**	**64**		PN	**Pn**	**21 20 39.2**	**-0.1**
HORT	**Hortiatis**	**1.91**	**295**		P	**Pn**	**21 20 39.7**	**-0.2**
HORT	**Hortiatis**	**1.91**	**295**		P	**Pn**	**21 20 39.3**	**-0.6**
HORT					AML	AML	21 21 13.1	
	comp=N,3357µm,0.6s							
HORT					AML	AML	21 21 13.4	
	comp=E,3991µm,0.5s							
HORT	**Hortiatis**	**1.91**	**295**		PN	**Pn**	**21 20 39.6**	**-0.3**
NVR	**Nevrokopi**	**1.92**	**323**		P	**Pn**	**21 20 39.7**	**-0.2**
NVR					S	**Sn**	**21 21 01.8**	**-2.8**
NVR					AML	AML	21 21 13.6	
	comp=E,5505µm,0.5s							
NVR					AML	AML	21 21 15.4	
	comp=N,6177µm,0.5s							
BLCB	**Balcova**	**1.93**	**137**		PN	**Pn**	**21 20 40.5**	**+0.5**
BAB	**Balikesir**	**1.94**	**94**		PN	**Pn**	**21 20 39.7**	**-0.4**
RZN	**Rozhen**	**1.94**	**345**	*i*	P	**Pn**	**21 20 39.9**	**-0.4**
EDC	**Edincik**	**1.98**	**74**		PN	**Pn**	**21 20 40.7**	**0.0**
THE	**Thessaloniki**	**2.02**	**295**		P	**Pn**	**21 20 41.3**	**0.0**
THE	**Thessaloniki**	**2.02**	**295**	*i*	PN	**Pn**	**21 20 41.8**	**+0.5**
THE				*i*	SN	**Sg**	**21 21 10.5**	**-0.8**
THE	**Thessaloniki**	**2.02**	**295**		P	**Pn**	**21 20 40.3**	**-1.0**
THE					AML	AML	21 21 18.5	
	comp=E,1526µm,0.5s							
THE					AML	AML	21 21 20.3	
	comp=N,1793µm,0.7s							
TKR	**Tekirdag**	**2.02**	**54**		PN	**Pn**	**21 20 41.2**	**-0.1**
AKHS	**Akhisar**	**2.11**	**116**	*i*	P	**Pn**	**21 20 41.8**	**-0.7**
AKHS				*i*	S	**Sb**	**21 21 11.6**	**-0.1**
AKHS					IAML		21 21 17.0	
	comp=E,646nm,0.8s							
AKHS					IAML		21 21 39.0	
	comp=N,0.6nm,0.7s							
AKS	**Akhisar**	**2.11**	**116**		PN	**Pn**	**21 20 42.7**	**+0.2**
DGB	**zmir**	**2.12**	**146**	*i*	PA	**Pn**	**21 20 41.9**	**-0.7**
DGB				*i*	S	**Sb**	**21 21 11.1**	**-0.8**
DGB					IAML		21 21 25.0	
	comp=N,668nm,0.7s							
DGB					IAML		21 21 27.0	
	comp=E,568nm,0.7s							
MMB	**Musomiste**	**2.17**	**325**	*i*	P	**Pn**	**21 20 42.7**	**-0.7**
CRLT	**Corlu**	**2.23**	**53**		PN	**Pn**	**21 20 44.1**	**0.0**
DIM	**Dimitrovgrad**	**2.24**	**3**	*i*	P	**Pn**	**21 20 43.6**	**-0.7**
LIT	**Litokhoron**	**2.24**	**278**		P	**Pn**	**21 20 43.8**	**-0.5**
LIT	**Litokhoron**	**2.24**	**278**			**Pn**	**21 20 43.8**	**-0.5**
ATH	**Athens Observa**	**2.25**	**216**		P	**Pn**	**21 20 43.5**	**-0.9**
ATH					AML	AML	21 21 23.2	
	comp=E,4620µm,0.7s							
ATH					AML	AML	21 21 23.9	
	comp=N,4509µm,0.8s							
GOMA	**Golmarmara-Man**	**2.26**	**118**		PN	**Pn**	**21 20 45.1**	**+0.5**
EDRB	**Edirne**	**2.28**	**27**		PN	**Pn**	**21 20 44.9**	**0.0**
BOTS	**Marmara Eregli**	**2.31**	**59**		PN	**Pn**	**21 20 45.3**	**+0.1**
VLY	**Voula,Athens**	**2.32**	**213**		P	**Pn**	**21 20 44.8**	**-0.6**
VLY					AML	AML	21 21 24.6	
	comp=N,4801µm,0.7s							
VLY					AML	AML	21 21 27.1	
	comp=E,3951µm,0.6s							
KNT	**Kendrikon**	**2.32**	**306**		P	**Pn**	**21 20 45.6**	**+0.1**
KNT					AML	AML	21 21 22.5	
	comp=E,8631µm,0.8s							
KNT					AML	AML	21 21 23.3	
	comp=N,11227µm,0.7s							
KCTX	**Karacabey (Bur**	**2.33**	**78**		PN	**Pn**	**21 20 45.6**	**0.0**
PLD	**Plovdiv**	**2.34**	**348**	*i*	P	**Pn**	**21 20 45.7**	**0.0**
PLD	**Plovdiv**	**2.34**	**348**		PN	**Pn**	**21 20 45.8**	**0.0**
KIRK	**Kırklareli**	**2.36**	**33**	*i*	P	**Pn**	**21 20 44.3**	**-1.6**
KIRK				*i*	S	**Sn**	**21 21 14.4**	**-1.0**
KIRK					IAML		21 21 24.0	
	comp=N,464nm,0.7s							
KIRK					IAML		21 22 06.0	
	comp=E,0.2nm,0.8s							
SMG	**Samos**	**2.39**	**151**		P	**Pn**	**21 20 45.6**	**-0.8**
SMG	**Samos**	**2.39**	**151**		P	**Pn**	**21 20 45.6**	**-0.8**
SMG					S	**Sn**	**21 21 14.9**	**-1.3**
SMG					AML	AML	21 21 26.8	
	comp=E,4570µm,0.6s							
SMG					AML	AML	21 21 27.2	
	comp=N,3679µm,0.6s							
DURS	**Dursunbey**	**2.40**	**94**	*i*	P	**Pn**	**21 20 45.8**	**-0.7**
DURS						**Sb**	**21 21 19.3**	**-0.9**
DURS					IAML		21 21 24.0	
	comp=E,1µm,0.5s							
DURS					IAML		21 21 33.0	
	comp=N,730nm,0.8s							
PHSR	**Pinarhisar**	**2.44**	**41**	⇑	P	**Pn**	**21 20 46.7**	**-0.3**
PHSR					AML	AML	21 21 25.7	
PHSR	**Pinarhisar**	**2.44**	**41**		PN	**Pn**	**21 20 47.4**	**+0.3**
AGG	**Agios Georgios**	**2.49**	**252**		P	**Pn**	**21 20 47.6**	**-0.2**
AGG	**Agios Georgios**	**2.49**	**252**		P	**Pn**	**21 20 47.4**	**-0.4**
AGG					AML	AML	21 21 31.6	
	comp=E,1437µm,0.7s							
AGG					AML	AML	21 21 38.5	
	comp=N,905µm,1.7s							
AGG	**Agios Georgios**	**2.49**	**252**			**Pn**	**21 20 47.6**	**-0.2**
GRG	**Griva**	**2.54**	**298**		P	**Pn**	**21 20 48.7**	**+0.1**
GRG					AML	AML	21 21 34.0	
	comp=N,3957µm,1.3s							
GRG					AML	AML	21 21 35.2	
	comp=E,2676µm,0.5s							
GCAM	**G?zelcaml?**	**2.56**	**145**	*i*	P	**Pn**	**21 20 47.9**	**-0.8**
GCAM				*i*	S	**Sn**	**21 21 22.1**	**+1.7**
GCAM					IAML		21 21 37.0	
	comp=N,806nm,0.6s							
GCAM					IAML		21 21 38.0	
	comp=E,510nm,0.8s							
GCAM	**G?zelcaml?**	**2.56**	**145**		PN	**Pn**	**21 20 49.5**	**+0.8**
SLVT	**Silivri**	**2.58**	**56**		PN	**Pn**	**21 20 49.4**	**+0.4**
VAY	**Valandovo**	**2.62**	**306**	*e*	Pn	**Pb**	**21 20 53.0**	**-0.8**
ELBA	**Catalca**	**2.68**	**59**	*i*	P	**Pn**	**21 20 49.5**	**-0.9**
ELBA					IAML		21 21 40.0	
	comp=N,274nm,0.5s							
KKB	**Krupnik**	**2.69**	**320**	*i*	P	**Pn**	**21 20 50.7**	**+0.2**
DEMI	**Demirci**	**2.70**	**106**	*i*	P	**Pn**	**21 20 50.6**	**0.0**
DEMI				*i*	S	**Sb**	**21 21 31.0**	**+2.2**
DEMI					IAML		21 21 40.0	
	comp=N,568nm,0.6s							
DEMI					IAML		21 21 49.0	
	comp=E,781nm,0.6s							
AYDB	**Zeytinkoy-Aydi**	**2.71**	**133**		PN	**Pn**	**21 20 50.6**	**-0.2**
APE	**Apeiranthos**	**2.74**	**177**	⇓	P	**Pb**	**21 20 54.1**	**-2.0**
APE	**Apeiranthos**	**2.74**	**177**		P	**Pn**	**21 20 51.2**	**-0.1**
APE	**Apeiranthos**	**2.74**	**177**	⇓	P	**Pb**	**21 20 54.1**	**-2.0**
APE					AML	AML	21 21 38.4	
MDNY	**Mudanya-Bursa**	**2.75**	**77**		PN	**Pn**	**21 20 51.6**	**+0.4**
CTYL	**Yalikoy Yolu**	**2.77**	**52**	⇑	P	**Pn**	**21 20 52.4**	**+0.9**
CTYL					AML	AML	21 21 47.8	
CTYL	**Yalikoy Yolu**	**2.77**	**52**		PN	**Pn**	**21 20 52.1**	**+0.6**
CTKS	**Kestenelik-??a**	**2.77**	**58**		PN	**Pn**	**21 20 52.3**	**+0.7**
JMB	**Yambol**	**2.80**	**19**	*e*	Pn	Pn	21 20 40.8	-11
MANT	**Manisa**	**2.80**	**117**	*i*	P	**Pn**	**21 20 52.1**	**-0.1**
MANT				*i*	S	**Sb**	**21 21 31.3**	**-0.6**
MANT					IAML		21 21 36.0	
	comp=N,631nm,0.6s							
MANT					IAML		21 21 36.0	
	comp=E,588nm,0.7s							
MANT	**Manisa**	**2.80**	**117**			**Pn**	**21 20 52.0**	**-0.3**
ULDT	**Uludag**	**2.91**	**82**	*i*	P	**Pn**	**21 20 52.9**	**-0.8**
ULDT				*i*	S	**Sb**	**21 21 34.0**	**-0.9**
ULDT					IAML		21 21 46.0	
	comp=E,875nm,0.7s							
ULDT					IAML		21 21 52.0	
	comp=N,841nm,0.6s							
AYDN	**Tasoluk**	**2.91**	**137**	*i*	PA	**Pn**	**21 20 53.3**	**-0.3**
AYDN				*i*	S	**Sg**	**21 21 39.4**	**-0.3**
AYDN					IAML		21 21 48.0	
	comp=N,530nm,0.8s							
AYDN					IAML		21 21 55.0	
	comp=E,361nm,0.6s							
BGKT	**Bogazkoy**	**2.92**	**61**		PN	**Pn**	**21 20 54.4**	**+0.7**
IGD	**Bursa**	**2.97**	**80**	*i*	P	**Pn**	**21 20 53.9**	**-0.4**
IGD				*i*	S	**Sb**	**21 21 37.0**	**+0.5**
IGD					IAML		21 21 54.0	
	comp=E,324nm,0.7s							
IGD					IAML		21 21 58.0	
	comp=N,320nm,1.1s							
GEMT	**Gemlik**	**2.99**	**77**		PN	**Pn**	**21 20 55.4**	**+0.8**
USAK	**Uak-Merkez**	**3.03**	**110**	*i*	P	**Pn**	**21 20 55.4**	**+0.1**
USAK				*i*	S	**Sb**	**21 21 38.4**	**+0.1**
USAK					IAML		21 21 48.0	
	comp=N,238nm,0.8s							
USAK					IAML		21 21 51.0	
	comp=E,148nm,0.6s							
BUY	**Buyukada**	**3.04**	**69**	*i*	P	**Pn**	**21 20 54.9**	**-0.4**
BUY				*i*	S	**Sb**	**21 21 40.1**	**+1.6**
BUY					IAML		21 21 52.0	
	comp=N,893nm,0.7s							
BUY					IAML		21 21 52.0	
	comp=E,803nm,0.6s							
KAVV	**Kandilli-Istan**	**3.07**	**65**		PN	**Pn**	**21 20 56.4**	**+0.6**
ISK	**Istanbul-Kandi**	**3.07**	**65**		PN	**Pn**	**21 20 56.2**	**+0.4**
SHAP	**Saphane-Kutahy**	**3.08**	**104**		PN	**Pn**	**21 20 56.6**	**+0.6**
ELND	**Elena**	**3.13**	**7**	⇑	P	**Pn**	**21 20 56.4**	**-0.2**
ELND					AML	AML	21 21 51.3	
KLYT	**Kilyos**	**3.14**	**62**	⇓	P	**Pn**	**21 20 57.3**	**+0.6**
KLYT					AML	AML	21 21 53.8	
KLYT	**Kilyos**	**3.14**	**62**		PN	**Pn**	**21 20 57.4**	**+0.7**
YLV	**Yalova**	**3.15**	**75**		PN	**Pn**	**21 20 57.8**	**+0.9**
YLVH	**Yalova**	**3.18**	**73**		PN	**Pn**	**21 20 57.8**	**+0.6**
FNA	**Florina**	**3.21**	**289**	*e*	Pn	**Pn**	**21 20 58.6**	**+0.9**
FNA	**Florina**	**3.21**	**289**		P	**Pn**	**21 20 58.4**	**+0.7**
FNA	**Florina**	**3.21**	**289**	*i*	PN	**Pn**	**21 20 58.6**	**+0.9**
FNA				*i*	SN	**Sb**	**21 21 41.0**	**-2.6**
FNA	**Florina**	**3.21**	**289**			**Pn**	**21 20 58.4**	**+0.7**
VTS	**Vitosha**	**3.23**	**331**	*e*	Pn	**Pn**	**21 20 58.8**	**+0.7**
VTS				*e*	Sn	**Sg**	**21 21 55.0**	**+4.8**
VTS	**Vitosha**	**3.23**	**331**	*i*	P	**Pn**	**21 20 58.3**	**+0.2**
VTS	**Vitosha**	**3.23**	**331**	⇑	P	**Pn**	**21 20 58.5**	**+0.4**
VTS	**Vitosha**	**3.23**	**331**	⇑	P	**Pn**	**21 20 58.5**	**+0.4**
VTS					AML	AML	21 21 54.4	
VTS	**Vitosha**	**3.23**	**331**			**Pn**	**21 20 58.5**	**+0.4**
GDZ	**Gediz**	**3.26**	**102**	*i*	P	**Pn**	**21 20 58.7**	**+0.2**
GDZ				*i*	S	**Sb**	**21 21 42.0**	**-3.0**
GDZ					IAML		21 22 11.0	
	comp=E,141nm,1.1s							
GDZ					IAML		21 22 24.0	
	comp=N,161nm,0.9s							
SANT	**Santorini**	**3.44**	**179**		Pn	**Pn**	**21 21 00.8**	**-0.1**
KHAL	**Karahalli**	**3.51**	**113**	*i*	P	**Pn**	**21 21 02.1**	**+0.3**
KHAL					IAML		21 22 03.0	
	comp=N,243nm,0.8s							
KHAL					IAML		21 22 07.0	
	comp=E,187nm,1.0s							
SILT	**Sile**	**3.52**	**66**	⇑	P	**Pn**	**21 21 02.1**	**+0.3**
SILT					AML	AML	21 22 06.9	
DAT	**Datca**	**3.53**	**150**	*i*	P	**Pn**	**21 21 01.5**	**-0.7**
DAT				*i*	S	**Sb**	**21 21 55.4**	**+2.5**
DAT					IAML		21 22 14.0	
	comp=E,50nm,1.2s							
DAT					IAML		21 22 25.0	
	comp=N,48nm,1.2s							
PLVB	**Pleven**	**3.61**	**351**	⇑	P	**Pn**	**21 21 03.3**	**+0.1**
PLVB					AML	AML	21 22 04.1	
TAVA	**DENIZLI_Tavas**	**3.63**	**129**	*i*	P	**Pn**	**21 21 03.5**	**+0.1**
TAVA				*i*	S	**Sb**	**21 21 57.7**	**+2.2**
TAVA					IAML		21 22 04.0	
	comp=N,144nm,1.1s							
TAVA					IAML		21 22 13.0	
	comp=E,118nm,0.8s							
SKO	**Skopje**	**3.68**	**307**	*e*	Pn	**Pn**	**21 21 05.4**	**+1.2**
ITM	**Ithomi**	**3.78**	**227**			**Pn**	**21 21 06.3**	**+0.9**
LKD2	**Lefkada island**	**3.80**	**256**	*i*	PN	**Pn**	**21 21 08.5**	**+2.7**
LKD2				*i*	SN	**Sb**	**21 21 57.6**	**-2.9**
GEYV	**SAKARYA_Geyve**	**3.83**	**78**	*i*	P	**Pn**	**21 21 05.8**	**-0.3**
GEYV				*i*	S	**Sb**	**21 22 01.4**	**+0.2**
GEYV					IAML		21 22 18.0	
	comp=N,434nm,0.9s							
GEYV					IAML		21 22 23.0	
	comp=E,364nm,0.8s							
RAZG	**Razgrad**	**3.84**	**12**	⇑	P	**Pn**	**21 21 05.8**	**-0.5**
RAZG					AML	AML	21 22 16.7	
TURN	**Turunc**	**3.88**	**138**	*i*	P	**Sg**	**21 22 08.4**	**-2.5**
KAND	**Kocaeli-Kandir**	**3.89**	**69**	*i*	P	**Pn**	**21 21 06.5**	**-0.4**
KAND				*i*	S	**Sb**	**21 22 01.5**	**-1.5**
KAND					IAML		21 22 19.0	
	comp=N,270nm,0.8s							
KAND					IAML		21 22 27.0	
	comp=E,192nm,1.0s							
IGT	**Igoumenitsa**	**3.91**	**267**	*e*	Pn	**Pn**	**21 21 07.9**	**+0.7**
IGT	**Igoumenitsa**	**3.91**	**267**	*i*	PN	**Pn**	**21 21 09.7**	**+2.5**
IGT				*i*	SN	**Sb**	**21 21 59.6**	**-3.9**
BORA	**Eskisehir**	**3.91**	**87**	*i*	PA	**Pn**	**21 21 07.7**	**+0.3**
BORA				*i*	S	**Sb**	**21 22 06.1**	**+2.5**
BORA					IAML		21 22 22.0	
	comp=N,0.6nm,0.5s							
BORA					IAML		21 22 24.0	
	comp=E,78nm,0.5s							
AFYO	**Afyonkarahisar**	**3.95**	**103**	*i*	P	**Pn**	**21 21 09.9**	**+1.9**
AFYO				*i*	S	**Sg**	**21 22 10.4**	**-2.9**
AFYO					IAML		21 22 19.0	
	comp=E,432nm,0.8s							
AFYO					IAML		21 22 31.0	
	comp=N,565nm,1.2s							
AUKIR	**Kırka- Seyitga**	**4.02**	**96**	*i*	P	**Pn**	**21 21 10.2**	**+1.3**
AUKIR				*i*	S	**Sb**	**21 22 10.4**	**+3.6**
AUKIR					IAML		21 22 33.0	
	comp=E,439nm,1.3s							
AUKIR					IAML		21 22 45.0	
	comp=N,448nm,1.5s							
KZIL	**AFYON_Kizioren**	**4.02**	**111**	*i*	P	**Pn**	**21 21 09.3**	**+0.4**
KZIL					IAML		21 22 26.0	
	comp=N,136nm,0.8s							
KZIL					IAML		21 22 51.0	
	comp=E,120nm,1.6s							
ZAPS	**Zavoj**	**4.02**	**330**	*e*	Pn	**Pn**	**21 21 10.0**	**+1.1**
ZAPS				*e*	Sn	**Sg**	**21 22 14.2**	**-1.4**
BARS	**Barje**	**4.02**	**319**	*e*	Pn	**Pn**	**21 21 09.2**	**+0.3**
BARS				*e*	Sn	**Sg**	**21 22 16.7**	**+1.1**
SRCK	**Saricakaya, Es**	**4.04**	**85**	*i*	P	**Pn**	**21 21 08.8**	**-0.3**
SRCK				*i*	S	**Sb**	**21 22 10.6**	**+3.2**
SRCK					IAML		21 22 31.0	
	comp=N,282nm,1.1s							
SRCK					IAML		21 22 31.0	
	comp=E,323nm,1.4s							
SRN	**Sarande**	**4.14**	**273**	*i*	PN	**Pn**	**21 21 13.2**	**+2.8**
SRN				*i*	SN	**Sb**	**21 22 06.2**	**-4.1**
TPE	**Tepelena**	**4.15**	**278**	*i*	PN	**Pn**	**21 21 13.1**	**+2.5**
GOLH	**Golhisar**	**4.17**	**127**	*i*	P	**Pn**	**21 21 12.1**	**+1.2**
GOLH				*i*	S	**Sb**	**21 22 15.3**	**+4.2**
GOLH					IAML		21 22 48.0	
	comp=N,215nm,2.4s							
GOLH					IAML		21 23 39.0	
	comp=E,74nm,5.1s							
PHP	**Peshkopia**	**4.19**	**298**	*i*	PN	**Pn**	**21 21 13.4**	**+2.2**
PHP				*i*	SN	**Sb**	**21 22 06.3**	**-5.4**
BRDR	**BURDUR-Merkez**	**4.23**	**119**	*i*	P	**Pn**	**21 21 11.8**	**+0.1**
BRDR				*i*	S	**Sb**	**21 22 09.8**	**-3.0**
BRDR					IAML		21 22 29.0	
	comp=N,96nm,1.1s							
BRDR					IAML		21 22 47.0	
	comp=E,115nm,0.9s							
VLAD	**Vladila**	**4.24**	**350**	⇓	P	**Pn**	**21 21 11.7**	**-0.2**
VLAD					AML	AML	21 22 36.6	
FETY	**Fethiye**	**4.31**	**136**	*i*	P	**Pn**	**21 21 13.9**	**+1.1**
FETY					IAML		21 22 32.0	
	comp=E,49nm,1.0s							
FETY					IAML		21 22 38.0	
	comp=N,40nm,0.9s							
SAHE	**Sakarya_HENDEK**	**4.31**	**74**	*i*	P	**Pn**	**21 21 13.1**	**+0.3**
SAHE				*i*	S	**Sg**	**21 22 21.6**	**-3.2**
SAHE					IAML		21 22 38.0	
	comp=E,177nm,1.1s							
SAHE					IAML		21 22 40.0	
	comp=N,197nm,0.9s							
BTAS	**Taskesti**	**4.37**	**78**	*i*	P	**Pn**	**21 21 13.2**	**-0.5**
BTAS					IAML		21 22 34.0	
	comp=N,434nm,1.5s							
BTAS					IAML		21 22 41.0	
	comp=E,214nm,0.9s							
CIFT	**Cifteler, Eski**	**4.41**	**94**	*i*	P	**Pn**	**21 21 14.6**	**+0.3**
CIFT					IAML		21 22 35.0	
	comp=E,323nm,0.6s							
CIFT					IAML		21 22 39.0	
	comp=N,281nm,0.6s							
SGRR	**Singureni**	**4.43**	**6**	⇑	P	**Pn**	**21 21 14.1**	**-0.3**
SGRR					AML	AML	21 22 37.6	
BOLV	**Bolvadin**	**4.46**	**102**	*i*	P	**Pn**	**21 21 16.0**	**+1.1**
BOLV					IAML		21 22 51.0	
	comp=E,155nm,0.7s							
BOLV					IAML		21 22 56.0	
	comp=N,107nm,0.7s							
TIR	**Tirane**	**4.47**	**292**		P	**Pn**	**21 21 15.2**	**+0.3**
TIR	**Tirane**	**4.47**	**292**	*i*	PN	**Pn**	**21 21 17.7**	**+2.8**
TIR				*i*	SN	**Sn**	**21 22 12.7**	**+5.3**
TIR	**Tirane**	**4.47**	**292**			**Pn**	**21 21 15.2**	**+0.3**
KARP	**Karpathos**	**4.49**	**161**			**Pn**	**21 21 15.1**	**-0.2**
IDI	**Anoyia**	**4.54**	**185**		Pn	**Pn**	**21 21 15.0**	**-1.0**
	comp=N,1.6nm,0.3s,baz=347,slow=14,SNR=10							
IDI					Sn	**Sn**	**21 22 05.3**	**-3.9**
	comp=N,1.8nm,0.3s,baz=198,slow=12,SNR=3.7							
IDI					LR	LR	21 22 33.1	
	comp=N,45nm,21.6s,baz=71,slow=33							
BAGO	**Egridir - ISPA**	**4.60**	**112**	*i*	P	**Pn**	**21 21 20.8**	**+4.0**
BAGO					IAML		21 22 53.0	
	comp=N,47nm,1.4s							
BAGO					IAML		21 22 56.0	
	comp=E,65nm,1.7s							
ZAGS	**Zajecar**	**4.63**	**331**	*e*	Pn	**Pn**	**21 21 17.0**	**-0.2**
ZAGS				*e*	Sn	**Sb**	**21 22 28.7**	**

AKUM IAML 21 23 29.0
comp=N,58nm,2.8s
DRME Dracevica, Mon 5.25 299 *e*Pn **Pn 21 21 28.3 +2.6**
PDG Podgorica 5.31 301 *e*Pn **Pn 21 21 28.8 +2.3**
PDG Podgorica 5.31 301 ⇑P **Pn 21 21 27.7 +1.2**
PDG AML AML 21 23 06.9
PDG Podgorica 5.31 301 Pn 21 21 29.0 +2.5
SCTE Santa Cesarea 5.32 275 Pn **Pn 21 21 27.8 +1.2**
KUBS Kucevo 5.36 330 *e*Pn **Pn 21 21 26.5 -0.7**
GRUS Gruza 5.36 321 *e*Pn **Pn 21 21 27.0 -0.1**
GRUS eSn **Sb 21 22 48.5 +3.3**
ISR Istrita 5.37 9 ⇓P **Pn 21 21 28.5 +1.1**
ISR Istrita 5.37 9 ⇓P **Pn 21 21 28.5 +1.1**
ISR AML AML 21 23 36.5
KDHN Kadinhani 5.39 102 *i* P **Pn 21 21 28.8 +1.0**
KDHN IAML 21 22 28.0
comp=E,35nm,1.5s
KDHN IAML 21 22 56.0
comp=N,0.3nm,0.7s
MTUR Matau 5.41 358 ⇓P **Pn 21 21 28.2 +0.2**
MTUR Matau 5.41 358 ⇓P **Pn 21 21 28.2 +0.2**
IVAS Ivanjica 5.42 316 *e*Pn **Pn 21 21 28.2 +0.1**
IVAS *e*Sn **Sb 21 22 51.6 +4.4**
CMDR Camlidere-ANKA 5.48 81 *i* P **Pn 21 21 29.4 +0.4**
CMDR IAML 21 23 23.0
comp=N,177nm,1.6s
CMDR IAML 21 23 24.0
comp=E,153nm,0.9s
TOPG Topolog 5.52 23 ⇓P **Pn 21 21 29.6 +0.2**
ARR Arges 5.58 355 ⇑P **Pn 21 21 29.7 -0.5**
VOIR 5.62 358 ⇓P **Pn 21 21 30.8 -0.1**
VOIR 5.62 358 ⇓P **Pn 21 21 30.8 -0.1**
MDVR Moldovita 5.66 332 ⇓P **Pn 21 21 31.4 +0.1**
GRER 5.69 11 ⇑P **Pn 21 21 31.2 -0.5**
MLR Muntele Rosu 5.69 4 ⇓P **Pn 21 21 32.7 +0.9**
MLR Muntele Rosu 5.69 4 Pn **Pn 21 21 32.2 +0.4**
comp=E,6.9nm,0.3s,baz=211,slow=4.0,SNR=75
MLR Lg Lg 21 23 09.3
baz=82,slow=18,SNR=2.0
MLR LR LR 21 24 04.0
comp=E,217nm,19.1s,baz=248,slow=42
MLR Muntele Rosu 5.69 4 ⇓P **Pn 21 21 32.7 +0.9**
MLR Muntele Rosu 5.69 4 Pn 21 21 32.4 +0.6
BR231 Keskin MP Arra 5.69 87 Pn 21 21 31.9 0.0
ANTO Ankara 5.71 87 ⇑P **Pn 21 21 32.1 +0.1**
ANTO Ankara 5.71 87 ⇑P **Pn 21 21 32.1 +0.1**
ANTO Ankara 5.71 87 Pn **Pn 21 21 31.9 -0.1**
LOT Lotru 5.75 349 ⇑P **Pn 21 21 32.5 -0.2**
TRUS Trudelj 5.75 322 *e*Pn **Pn 21 21 32.3 -0.3**
DIVS Divibare 5.87 319 *e*Pn **Pn 21 21 33.9 -0.3**
DIVS Divibare 5.87 319 *e*Pn **Pn 21 21 34.0 -0.3**
RUDO Rudo 5.89 312 *e*Pn **Pn 21 21 34.1 -0.3**
GZR Gura Zlata 5.90 342 ⇑P **Pn 21 21 34.5 -0.1**
GZR Gura Zlata 5.90 342 ⇑P **Pn 21 21 34.5 -0.1**
UPM Unac-Piva 5.92 307 *e*Pn **Pn 21 21 36.8 +1.7**
TLCR 5.94 24 ⇓P **Pn 21 21 34.6 -0.5**
TLCR 5.94 24 ⇓P **Pn 21 21 34.6 -0.5**
BBAL Bala 5.98 90 *i* P **Pn 21 21 36.2 +0.4**
BBAL IAML 21 23 32.0
comp=E,50nm,1.4s
BBAL IAML 21 23 39.0
comp=N,64nm,1.5s
BRY Bratogost 6.00 303 *e*Pn **Pn 21 21 38.4 +2.3**
BBLS Lazići 6.02 314 *e*Pn **Pn 21 21 38.0 +1.6**
BBLS Lazići 6.02 314 *e*Pn **Pn 21 21 37.7 +1.3**
TREB Trebinje 6.04 301 *e*Pn **Pn 21 21 38.8 +2.3**
ODBI Odobesti 6.07 11 ⇑P **Pn 21 21 37.7 +0.8**
PLOR Plostina 6.11 8 ⇑P **Pn 21 21 37.9 +0.4**
PLOR Plostina 6.11 8 ⇑P **Pn 21 21 37.9 +0.4**
VRI Vrincioaia 6.13 9 ⇓P **Pn 21 21 38.4 +0.6**
VRI Vrincioaia 6.13 9 ⇓P **Pn 21 21 38.4 +0.6**
DOPR Dopca 6.15 0 ⇓P **Pn 21 21 38.9 +0.9**
ELDT Eldivan 6.20 81 *i* P **Pn 21 21 38.9 0.0**
ELDT IAML 21 23 32.0
comp=N,68nm,1.3s
ELDT IAML 21 24 20.0
comp=E,0.4nm,0.8s
OZUR 6.29 3 ⇓P **Pn 21 21 40.3 +0.4**
DEV Deva 6.33 344 ⇑P **Pn 21 21 41.0 +0.5**
DEV Deva 6.33 344 ⇑P **Pn 21 21 41.0 +0.5**
MASS Massafra 6.36 280 *e*Pn **Pn 21 21 41.6 +0.7**
BR131 Keskin Array S 6.36 88 P **Pn 21 21 41.3 +0.2**
BR131 Keskin Array S 6.36 88 Pn 21 21 41.3 +0.2
BRTR Keskin Array B 6.36 88 Pn **Pn 21 21 41.8 +0.7**
comp=E,3.7nm,0.3s,baz=262,slow=12,SNR=161
BRTR Sn **Sn 21 22 49.9 -4.5**
baz=274,slow=19,SNR=2.0
BRTR Lg Lg 21 23 29.9
comp=E,0.1nm,0.3s,baz=281,slow=22,SNR=4.1
MDB Medias 6.37 354 ⇑P **Pn 21 21 42.1 +1.1**
MDB Medias 6.37 354 ⇑P **Pn 21 21 42.1 +1.1**
HAHS Han Pijesak,BI 6.42 314 *e*Pn **Pn 21 21 41.1 -0.7**
GHRR 6.42 13 ⇑P **Pn 21 21 42.2 +0.5**
TEKS Tekeris 6.42 319 *e*Pn **Pn 21 21 42.6 +0.8**
ILGA Ilgaz 6.48 76 Pn 21 21 41.9 -0.9
DELI KIRIKKALE 6.57 86 *i* P **Pn 21 21 43.8 -0.1**
DELI IAML 21 23 45.0
comp=E,22nm,1.6s
DELI IAML 21 23 47.0
comp=N,24nm,1.3s
BAI Bari 6.61 284 ⇑*i*Pn **Pn 21 21 44.6 +0.3**
KIRS Kırehir-Merke 6.64 93 *i* P **Pn 21 21 45.5 +0.6**
KIRS IAML 21 23 57.0
comp=E,14nm,1.2s
KIRS IAML 21 23 58.0
comp=N,21nm,1.9s
BIR Birlad 6.66 14 ⇑P **Pn 21 21 44.8 -0.2**
BIR Birlad 6.66 14 ⇑P **Pn 21 21 44.8 -0.2**
MATE Matera 6.69 280 ⇓P **Pn 21 21 46.2 +0.7**
TIP Timpagrande 6.70 267 ⇑P **Pn 21 21 46.8 +1.2**
SG1 Sgolgore (BA) 6.73 282 ⇑*i*Pn **Pn 21 21 46.2 +0.2**
FRGS Fruska Gora 6.74 324 *e*Pn **Pn 21 21 45.5 -0.7**
FRGS Fruska Gora 6.74 324 *e*Pn **Pb** 21 21 56.2 -7.9
TESR Tescani 6.76 7 ⇓P **Pn 21 21 47.0 +0.6**
CDAG Cicekdag 6.94 89 *i* P **Pn 21 21 49.1 +0.1**
CDAG IAML 21 23 15.0
comp=E,25nm,0.9s
CDAG IAML 21 24 01.0
comp=N,46nm,1.2s
LEOM Leova 6.98 17 ⇑P **Pn 21 21 49.6 +0.3**
LEOM Leova 6.98 17 ⇑P **Pn 21 21 49.6 +0.3**
SIRR Siria 7.00 338 ⇑P **Pn 21 21 49.5 -0.2**
BIZ Bicaz 7.14 4 ⇑P **Pn 21 21 52.3 +0.7**
MAKA Makarska 7.17 302 P **Pn 21 21 52.9 +1.0**
RICI Ricice 7.19 303 P **Pn 21 21 54.2 +1.9**
ARCR ARCALIA 7.31 354 ⇑P **Pn 21 21 54.6 +0.7**
MILM Milestii Mici 7.53 18 ⇑P **Pn 21 21 56.4 -0.6**
SGRT San Giovanni R 7.56 288 Pn 21 21 57.2 -0.4
PRAR RASCA 7.57 4 ⇓P **Pn 21 21 58.5 +1.0**
KIS Kishinev 7.60 18 *e*P **Pn 21 21 58.0 0.0**
KIS Kishinev 7.60 18 *e*P **Pn 21 21 58.0 0.0**
MGRS Mrkonjic Grad 7.69 309 *e*Pn **Pn 21 22 02.3 +3.1**
SEVA Sevastopol 7.76 50 ⇓P **Pn 21 21 59.5 -0.6**
SEV Sevastopol' 7.76 50 *e*P **Pn 21 21 57.3 -2.5**
SEV eS **Sn 21 23 32.2 -5.2**
BURAR Bucovina Array 7.80 359 ⇑P **Pn 21 22 01.9 +1.2**
BURAR Bucovina Array 7.80 359 ⇑P **Pn 21 22 01.9 +1.2**
BLY Banja Luka 7.82 312 *e*Pn **Pn 21 22 02.2 +1.2**
BLY Banja Luka 7.82 312 Pn **Pn 21 22 02.3 +1.2**
BUR08 Bucovina Ar. S 7.83 359 Pn 21 22 01.5 +0.4
KIJV Kijevo 7.89 305 P **Pn 21 22 04.0 +2.1**
CSS Mathiatis 7.97 125 Pn **Pn 21 22 05.0 +2.0**
YAL Yalta 8.02 52 *e*P **Pn 21 22 04.0 +0.4**
YAL eS **Sn 21 23 33.1 -1.7**
MORH Mrgy, Hungar 8.08 325 *e*Pn **Pn 21 22 03.7 -0.7**
MORH Mrgy, Hungar 8.08 325 *e*Pn **Pn 21 22 04.0 -0.4**
MORH Sn **Sn 21 23 34.0 -2.2**
ZIRJ Zirje 8.23 301 P **Pn 21 22 06.3 -0.2**
SIM Simferopol' 8.25 49 P **Pn 21 22 07.2 +0.3**
SIM S **Sn 21 23 37.0 -3.6**
SIM pmax pmax
comp=Z,13nm,0.5s
SIM smax smax
comp=N,32nm,0.7s
ALU Alushta 8.27 51 *e*P **Pn 21 22 08.2 +1.1**
ALU eS **Sn 21 23 41.7 +0.7**
MORI Morici 8.28 302 P **Pn 21 22 08.1 +0.9**
UDBI Udbina 8.55 307 P **Pn 21 22 13.4 +2.3**
TRPA Tarpa 8.56 347 ⇓P **Pn 21 22 11.2 +0.1**
TRPA Tarpa 8.56 347 *e*Pn **Pn 21 22 09.1 -2.0**
SORM Soroca 8.59 13 ⇑P **Pn 21 22 10.2 -1.3**
SORM Soroca 8.59 13 ⇑P **Pn 21 22 10.2 -1.3**

MOSL Moslavina 8.59 315 P **Pn 21 22 17.1 +5.5**
SUDU Sudak 8.74 51 *e*P **Pn 21 22 12.9 -0.7**
SUDU *e*S **Sn 21 23 53.8 +1.2**
DUGI Dugi Otok 8.75 302 P **Pn 21 22 13.7 0.0**
VAE Valguarnera 8.89 258 Pn **Pn 21 22 14.9 -0.8**
comp=N,1.2nm,0.3s,baz=196,slow=3.7,SNR=3.7
RAFF Raffo Rosso 9.01 257 Pn 21 22 16.5 -0.9
PSZ Piszkesteto 9.02 336 P **Pn 21 22 18.8 +1.4**
PSZ Piszkesteto 9.02 336 *e*Pn Pn 21 22 22.0 +4.6
PSZ Sn **Sn 21 23 53.1 -6.3**
PSZ Piszkesteto 9.02 336 Pn 21 22 18.9 +1.4
UZH Uzhgorod 9.09 347 *d* iP **Pn 21 22 17.2 -1.1**
MPLH Magyarpolny 9.36 325 *e*Pn Pn 21 22 02.1 -19
OZLJ Ozalj 9.31 312 P **Pn 21 22 23.1 +1.7**
KOLS Kolonicke sedl 9.38 347 *e*P **Pn 21 22 24.9 +2.5**
KOLS Kolonicke sedl 9.38 347 *e*PN **Pn 21 22 24.9 +2.5**
AQU L'Aquila 9.39 290 P **Pn 21 22 20.4 -2.2**
AQU L'Aquila 9.39 290 Pn 21 22 20.4 -2.2
CRES Cresnjev 9.44 313 *e*Pn **Pn 21 22 24.6 +1.4**
CORL Corleone 9.61 262 Pn 21 22 25.7 +0.1
GAZ Gaziantep 9.64 102 Pn **Pn 21 22 25.6 -0.4**
CLTB Caltabellotta 9.77 261 Pn 21 22 28.0 +0.3
VYHS Vyhne 9.86 334 *e*P **Pn 21 22 30.7 +1.7**
VYHS Vyhne 9.86 334 *e*PN **Pn 21 22 30.7 +1.7**
CEY Cerknica 9.99 310 *e*Pn **Pn 21 22 32.9 +2.2**
SOKA Soboth 10.19 316 *i* Pn **Pn 21 22 35.0 +1.4**
comp=N,1.9nm,0.7s
MURB Monte Urbino 10.23 294 Pn **Pn 21 22 35.3 +1.2**
ARSA Arzberg 10.31 319 *i* Pn **Pn 21 22 36.5 +1.3**
comp=N,0.8nm,0.4s
OBKA Obir 10.36 314 *i* Pn **Pn 21 22 36.1 +0.3**
comp=N,0.1nm,0.1s
MMAI Mount Meron Ar 10.54 127 Pn **Pn 21 22 36.9 -1.5**
comp=N,1.1nm,0.3s,baz=308,slow=12,SNR=10
MMAI LR LR 21 27 45.7
comp=N,75nm,19.0s,baz=350,slow=44
LATE Laterza 10.60 290 Pn **Pn 21 22 38.2 -0.9**
CONA Conrad Observa 10.62 323 *i* Pn **Pn 21 22 39.1 -0.3**
comp=N,0.8nm,0.3s
MYKA Terra Mystica 10.94 312 *i* Pn **Pn 21 22 43.5 -0.2**
comp=N,1.1nm,0.5s
AKASG Malin Array Be 11.22 13 *i* P **Pn 21 22 48.5 +1.1**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 11.22 13 Pn **Pn 21 22 45.8 -1.6**
comp=Z,1.8nm,0.3s,baz=198,slow=11,SNR=8.2
AKBB Malin Array Si 11.22 13 P **Pn 21 22 46.5 -1.0**
AKBB Malin Array Si 11.22 13 Pn 21 22 46.5 -1.0
KBA Koelnbreinsper 11.36 314 *i* Pn **Pn 21 22 50.1 +0.4**
comp=Z,0.8nm,0.4s
VRAC Vranov 11.37 330 LR LR 21 28 12.2
comp=Z,148nm,18.5s,baz=142,slow=43
TEOL Teolo 11.52 303 Pn **Pn 21 22 52.1 +0.4**
ABTA Abfaltersbach 11.65 311 *i* Pn **Pn 21 22 54.5 +0.9**
comp=Z,3.8nm,0.6s,SNR=6.8
CTI Castel Tesino 11.83 306 P **Pn 21 22 55.9 -0.1**
CTI Castel Tesino 11.83 306 Pn 21 22 55.9 -0.1
GERES GERESS Array B 12.29 321 Pn **Pn 21 23 02.1 -0.2**
comp=Z,0.0nm,0.3s,baz=138,slow=13,SNR=2.0
GERES LR LR 21 28 45.8
comp=Z,210nm,18.5s,baz=300,slow=42
WTTA Wattenberg 12.43 311 *i* Pn **Pn 21 23 04.5 +0.2**
comp=Z,1.2nm,0.4s
WATA Walderalm 12.51 311 Pn **Pn 21 23 04.5 -0.7**
comp=Z,1.1nm,0.3s
KHC Kasperske Hory 12.55 322 *i* P **Pn 21 23 04.3 -1.4**
MSSA Maissana 12.61 296 Pn **Pn 21 23 07.5 +0.9**
SQTA Sankt Quirin 12.66 310 *i* Pn **Pn 21 23 06.9 -0.5**
comp=Z,1.4nm,0.3s
MOTA Moosalm 12.79 311 *i* Pn **Pn 21 23 09.8 +0.7**
comp=Z,0.8nm,0.4s
FETA Feichten 12.85 309 *i* Pn **Pn 21 23 10.4 +0.5**
comp=Z,0.4nm,0.4s
FUORN Ofenpass-Fuorn 12.94 307 Pn **Pn 21 23 12.3 +1.0**
KEST Kesra 13.32 257 Pn **Pn 21 23 15.5 -0.9**
comp=Z,0.2nm,0.3s,baz=45,slow=4.3,SNR=3.4
KIV Kislovodsk 13.54 67 *e*P **Pn 21 23 19.0 -0.3**
KIV pmax pmax
comp=Z,1.0nm,1.1s
CLL Collm 14.37 327 *e*PP **Pn 21 23 33.0 +2.4**
SENIN Lac Senin/Sane 14.73 302 Pn **Pn 21 23 36.7 +1.1**
BNI Bardonecchia 14.76 297 P **Pn 21 23 36.6 +0.6**
BNI Bardonecchia 14.76 297 Pn **Pn 21 23 36.6 +0.6**
VSR Storozhevoye 14.92 36 *i* P **Pn 21 23 37.8 -0.2**
LPSR Galich'ya Gora 15.82 32 *e*P **Pn 21 23 50.9 +1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
MOS Moscow 17.89 23 *e*P **P 21 24 18.9 +2.3**
VSU Vasula 18.68 2 *i* P **Pn 21 24 26.0 +0.3**
HFS Hagfors 21.62 344 P **P 21 24 58.0 +0.7**
comp=Z,1.8nm,0.8s,baz=152,slow=13,SNR=3.9
FINES FINESS Array B 21.66 1 P **P 21 24 58.8 +1.1**
comp=Z,2.2nm,0.6s,baz=172,slow=9.3,SNR=7.4
FINES LR LR 21 34 18.5
comp=Z,187nm,19.4s,baz=230,slow=39
ESDC Sonseca Array 22.52 279 P **P 21 25 06.4 -0.9**
comp=Z,0.6nm,0.5s,baz=79,slow=11,SNR=4.9
NC602 NORSAR Array S 22.64 342 P **P 21 25 08.5 +0.2**
NC602 IAmb IAmb 21 25 13.5
comp=Z,2.4nm,0.6s
NAO01 NORSAR Array S 22.89 342 P **P 21 25 10.8 -0.2**
NB2 NORSAR Subarra 22.98 342 P **P 21 25 13.0 +1.1**
comp=Z,1.1nm,0.5s,baz=146,slow=9.3
NOA NORSAR Array B 22.98 342 P **P 21 25 11.8 -0.1**
comp=Z,2.6nm,0.7s,baz=147,slow=9.2,SNR=8.1
NOA LR LR 21 34 58.3
comp=Z,62nm,18.1s,baz=245,slow=39
NBO00 NORSAR Array S 23.08 342 P **P 21 25 13.1 +0.2**
EKA Eskdalemuir Ar 24.49 319 P **P 21 25 24.6 -1.9**
comp=Z,2.8nm,0.8s,baz=130,slow=9.7,SNR=3.6
PRGR Permogore 25.12 23 *e*P **P 21 25 28.7 -3.4**
PRGR pmax pmax
comp=Z,19nm,1.5s
AKTO Aktyubinsk 25.16 54 P **P 21 25 33.2 +0.5**
comp=Z,0.8nm,0.8s,baz=236,slow=6.6,SNR=2.8
GEYT Alibeck 25.48 84 P **P 21 25 37.4 +1.6**
comp=Z,4.4nm,0.8s,baz=296,slow=7.9,SNR=3.0
ARU Arti 27.32 41 P **P 21 25 53.2 +1.1**
ARU S **S** 21 26 36.1
ARU S **S 21 30 37.1 +4.9**
ARU SS **SnSn 21 31 48.4 +8.3**
ARU Arti 27.32 41 P **P 21 25 52.7 +0.5**
comp=Z,0.2nm,0.3s,baz=239,slow=12,SNR=1.9
ARU LR LR 21 38 55.6
comp=Z,78nm,20.1s,baz=205,slow=41
ARU Arti 27.32 41 P **P 21 25 51.6 -0.5**
ARU IAmb IAmb 21 26 03.6
comp=Z,7.7nm,1.2s
BRVK Borovoye 33.09 51 *i* P **P 21 26 44.0 +0.8**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
TORD Torodi Ar. Bea 33.77 225 P **P 21 26 48.0 -1.5**
comp=Z,1.3nm,0.7s,baz=31,slow=9.1,SNR=8.2
BORG Borgarnes 36.61 328 P **P 21 27 12.0 -1.4**
comp=Z,30nm,1.0s,baz=72,slow=3.2,SNR=4.3
KURK Kurchatov 38.25 55 *i* P **P 21 27 27.4 0.0**
KURK pmax pmax
comp=Z,2.0nm,1.2s
MKAR Makanchi Array 41.21 61 P **P 21 27 53.8 +1.6**
comp=Z,0.9nm,0.7s,baz=284,slow=5.3,SNR=8.8
MKAR LR LR 21 47 55.0
comp=Z,54nm,18.1s,baz=340,slow=40
ZALV Zalesovo Beam 41.76 50 P **P 21 27 56.2 -0.4**
comp=Z,0.3nm,0.3s,baz=270,slow=9.7,SNR=3.0
WMQ Urumqi 45.65 64 *e*P **P 21 28 29.9 +1.8**
WMQ pmax pmax
comp=Z,5.0nm,0.8s
WMQ pmax pmax
comp=Z,100nm,3.7s
WMQ LR LR
comp=N,590nm,28.9s
WMQ LR LR
comp=E,2μm,29.3s
WMQ LR LR
comp=Z,190nm,28.9s
SONM Songino Array 56.47 53 P **P 21 29 48.3 -1.2**
comp=Z,0.3nm,0.8s,baz=296,slow=7.7,SNR=2.1
SONM LR LR 21 57 11.1
comp=Z,46nm,18.4s,baz=65,slow=39
HHC Hu-ho-hao-te 62.97 58 *e*P **P 21 30 34.0 -0.4**
HHC pmax pmax
comp=E,5.0nm,1.2s
HHC pmax pmax
comp=Z,9.0nm,5.5s
CMAR Chiang Mai Arr 65.95 86 P **P 21 30 53.5 -0.5**
comp=Z,1.2nm,0.9s,baz=303,slow=9.1,SNR=6.4
YKA Yellowknife Ar 73.08 342 P **P 21 31 35.5 -1.9**
comp=Z,0.1nm,0.4s,baz=36,slow=5.2,SNR=3.2
ULM Lac du Bonnet 76.56 326 P **P 21 31 57.2 -0.6**
comp=Z,1.7nm,0.5s,baz=355,slow=4.4,SNR=4.0
ULM Lac du Bonnet 76.56 326 IAmb IAmb 21 32 02.2
comp=Z,8.0nm,1.2s

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*IDC **18** 21:23:32.9±1.1,50°.73N×171°.63W,h0km,mb3.8/15, mb1 4.0/17,mb1mx3.8/60,mbtmp3.8/17,ML3.1/2, Error ellipse: s-maj=32.8km s-min=15.7km az=8.0*
*ISCJB **18** 21:23:35.2±0.5,50°.95N±0°.06×171°.60W±0°.03,h22km, mb3.8/15,Error ellipse: s-maj=8.2km s-min=2.9km az=171.9*
*NEIC **18** 21:23:35.1±2.6,50°.8N±0°.1×171°.63W±0°.07,h15km±4km*
*AEIC **18** 21:23:38±2.8,50°.96N±0°.09×171°.71W±0°.07,h20km±1km, ML3.4,mb4.1/33(NEIC)*

ISC 18 21:23:36.6±0.8, 50°.9N±0°.1×171°.65W±0°.04, h22km, n76, σ1§41/83, mb4.0/18, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**2.08**	**311**			**Pn**	**21 24 09.8**	**-0.3**
ATKA						**Sn**	**21 24 34.3**	**-1.0**
KOFP	**Korovin Flat P**	**2.08**	**314**			**Pn**	**21 24 10.2**	**0.0**
KOFP						**Sn**	**21 24 35.5**	**+0.1**
KOKL	**Mount Kliuchef**	**2.16**	**313**			**Pn**	**21 24 11.4**	**+0.1**
KOWE	**Korovin West**	**2.21**	**314**			**Pn**	**21 24 12.2**	**+0.2**
NIKH	**Nikolski High**	**2.73**	**38**			**Pn**	**21 24 18.2**	**-0.8**
NIKH					Sn	**Sn**	**21 24 49.7**	**-1.6**
GSIG	**Igitkin Island**	**2.90**	**294**			**Pn**	**21 24 20.9**	**-0.6**
GSIG						**Sn**	**21 24 54.1**	**-1.6**
GSMY	**Great Sitkin M**	**3.00**	**295**			**Pn**	**21 24 22.3**	**-0.5**
GSTD	**Great Sitkin T**	**3.05**	**295**			**Pn**	**21 24 23.4**	**-0.3**
GSTD						**Sn**	**21 24 57.5**	**-2.1**
ADK	**Adak**	**3.32**	**290**			**Pn**	**21 24 26.7**	**-0.4**
ADK	**Adak**	**3.32**	**290**		Sn	**Sn**	**21 25 02.9**	**-2.9**
OKTU	**Okmok Mt. Tuli**	**3.36**	**40**			**Pn**	**21 24 27.5**	**-0.3**
OKFG	**Magazine Ridge**	**3.43**	**41**			**Pn**	**21 24 28.6**	**-0.1**
OKFG						**Sn**	**21 25 08.2**	**-0.5**
KIWB	**Kanaga Island**	**3.59**	**288**	Pn		**Pn**	**21 24 31.3**	**+0.4**
KIWB				Sn		**Sn**	**21 25 10.7**	**-1.8**
TAFP	**Tanaga Falls P**	**4.10**	**287**			**Pn**	**21 24 38.0**	**0.0**
TASE	**Tanaga Southea**	**4.12**	**286**			**Pn**	**21 24 38.3**	**0.0**
MREP	**Makushin Rep't**	**4.21**	**44**			**Pn**	**21 24 39.5**	**0.0**
MSW	**Makushin Switc**	**4.26**	**42**			**Pn**	**21 24 40.1**	**-0.1**
MSW						**Sn**	**21 25 27.6**	**-1.6**
UNV	**Unalaska Valle**	**4.34**	**45**			**Pn**	**21 24 40.8**	**-0.4**
UNV	**Unalaska Valle**	**4.34**	**45**		Sn	**Sn**	**21 25 29.0**	**-2.1**
AKUT	**Akutan**	**4.86**	**45**	Pn		**Pn**	**21 24 47.7**	**-1.2**
AKUT				Sn		**Sn**	**21 25 43.1**	**-0.7**
FALS	**False Pass**	**6.39**	**48**	Pn		**Pn**	**21 25 08.4**	**-0.8**
CHIR	**Chirikof Islan**	**10.78**	**56**	Pn		**Pn**	**21 26 08.6**	**-0.9**
OHAK	**Old Harbor**	**12.50**	**52**	Pn		**Pn**	**21 26 30.7**	**-2.3**
KDAK	**Kodiak Island**	**13.07**	**51**	Pn		**Pn**	**21 26 37.8**	**-3.0**
	0.7nm,0.3s,baz=313,slow=1.4,SNR=13							
KDAK					Sn	Sn	21 28 52.8	-13
	0.2nm,0.3s,baz=302,slow=15,SNR=1.9							
CNPM	**China Poot**	**14.47**	**45**	Pn		**Pn**	**21 26 57.5**	**-2.4**
BRLK	**Bradley Lake**	**14.74**	**45**	Pn		**Pn**	**21 27 01.1**	**-2.5**
SEW	**Seward**	**15.54**	**45**	Pn		**Pn**	**21 27 10.3**	**-3.8**
SUA	**Susitna One**	**15.67**	**39**	Pn		**Pn**	**21 27 14.4**	**-1.5**
RC01	**Rabbit Creek A**	**15.89**	**41**	Pn		**Pn**	**21 27 15.5**	**-3.1**
RC01				IAmb		IAmb	21 27 25.8	
	comp=Z,14nm,1.2s							
PPLA	**Purkeypile**	**15.98**	**34**	Pn		**Pn**	**21 27 20.9**	**+0.9**
PPLA				IAmb		IAmb	21 27 26.9	
	comp=Z,20nm,1.2s							
GHO	**Glory Hole Cre**	**16.57**	**40**	Pn		**Pn**	**21 27 25.3**	**-2.1**
GHO				IAmb		IAmb	21 27 41.2	
	comp=Z,14nm,1.4s							
KNK	**Knik Glacier**	**16.58**	**42**	Pn		**Pn**	**21 27 24.5**	**-3.0**
KNK				IAmb		IAmb	21 27 29.7	
	comp=Z,12nm,1.0s							
KTH	**Kantishna Hill**	**16.84**	**33**	Pn		**Pn**	**21 27 31.0**	**+0.2**
HIN	**Hinchinbrook I**	**17.00**	**46**	Pn		**Pn**	**21 27 29.9**	**-2.8**
TRF	**Thorofare Moun**	**17.00**	**34**	Pn		**Pn**	**21 27 33.4**	**+0.5**
BPAW	**Bear Paw Mtn.**	**17.18**	**32**	P		**P**	**21 27 36.9**	**+0.5**
SCM	**Sheep Creek Mo**	**17.26**	**41**	Pn		**Pn**	**21 27 33.9**	**-2.2**
SCM				IAmb		IAmb	21 27 47.8	
	comp=Z,22nm,1.2s							
DHY	**Denali Highway**	**17.87**	**38**	Pn		**Pn**	**21 27 43.2**	**-0.4**
MLY	**Manley**	**17.88**	**30**	P		**P**	**21 27 45.6**	**+1.4**
GLB	**Gilahina Butte**	**18.61**	**45**	P		**P**	**21 27 50.9**	**-1.4**
GLB				IAmb		IAmb	21 28 06.6	
	comp=Z,6.7nm,0.8s							
CRQM	**Cirque**	**18.68**	**47**	P		**P**	**21 27 52.8**	**-0.4**
CRQM				IAmb		IAmb	21 28 09.5	
	comp=Z,10.0nm,1.0s							
VRDI	**Verde Repeater**	**18.70**	**45**	P		**P**	**21 27 52.2**	**-1.1**
VRDI				IAmb		IAmb	21 27 58.4	
	comp=Z,8.7nm,0.9s							
WAX	**Waxell Ridge**	**18.71**	**48**	P		**P**	**21 27 52.7**	**-0.7**
WAX				IAmb		IAmb	21 28 11.8	
	comp=Z,11nm,0.8s							
TGL	**Tana Glacier**	**18.82**	**47**	P		**P**	**21 27 54.4**	**-0.3**
TGL				IAmb		IAmb	21 28 10.7	
	comp=Z,13nm,0.8s							
PETK	**Petropavlovsk-**	**18.94**	**289**	P		**P**	**21 27 56.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=89,slow=14,SNR=2.8							
MCARA	**McCarthy VSAT**	**18.94**	**45**	P		**Pn**	**21 27 57.0**	**+0.4**
MCARA				IAmb		IAmb	21 28 11.3	
	comp=Z,15nm,1.0s							
IL31		**18.99**	**33**	P		**P**	**21 27 54.4**	**-1.9**
ILAR	**Eielson Array**	**18.99**	**33**	P		**P**	**21 27 55.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=226,slow=10,SNR=13							
BALM	**Baldy**	**19.14**	**47**	P		**P**	**21 27 58.0**	**-0.1**
BALM				IAmb		IAmb	21 28 12.5	
	comp=Z,8.6nm,0.8s							
BARN	**Barnard Glacie**	**19.46**	**47**	P		**Pn**	**21 28 02.7**	**-0.3**
CTGM	**Chitina Glacie**	**19.58**	**47**	P		**Pn**	**21 28 05.2**	**+0.8**
SCRK	**Sand Creek**	**19.64**	**38**	P		**P**	**21 28 03.6**	**0.0**
SCRK				IAmb		IAmb	21 28 14.5	
	comp=Z,7.7nm,1.2s							
TOLK	**Toolik Lake Re**	**20.78**	**23**	P		Pn	21 28 17.7	-0.7
HYT	**Haines Junctio**	**21.36**	**49**	P		**P**	**21 28 25.7**	**+3.5**
SEY	**Seymchan**	**22.70**	**316**	P		**P**	**21 28 37.3**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=122,slow=9.5,SNR=4.4							
EPYK	**Eagle Plains**	**23.45**	**35**	P		**P**	**21 28 45.1**	**+1.0**
EPYK				IAmb		IAmb	21 29 01.9	
	comp=Z,6.3nm,0.9s							
INK	**Inuvik**	**25.38**	**32**	P		**P**	**21 29 02.1**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=228,slow=9.2,SNR=10							
INK	**Inuvik**	**25.38**	**32**	P		**P**	**21 29 03.0**	**+1.3**
INK				IAmb		IAmb	21 29 15.1	
	comp=Z,4.0nm,0.7s							
YKA	**Yellowknife Ar**	**32.30**	**47**	P		**P**	**21 30 04.6**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=270,slow=8.7,SNR=13							
YKA				PcP		**PcP**	**21 32 48.4**	**-2.6**
	comp=Z,0.4nm,0.7s,baz=288,slow=2.5,SNR=3.8							
NVAR	**Mina Array Bea**	**39.11**	**87**	P		**P**	**21 31 02.7**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=316,slow=7.7,SNR=2.9							
NVAR				PcP		**P

GERES	**GERESS Array B**	**80.56**	**356**	P		**P**	**21 35 47.8**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=350,slow=5.7,SNR=3.8							

IDC 18 21:29:23.7±2.1, 7.49S×129.33E, h129km±26km, mb3.3/1, mb1 3.7/6, mb1mx3.4/29, mbtmp4.1/6, Error ellipse: s-maj=36.0km s-min=20.8km az=95.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.21**	**244**	P	Pn	21 30 54.0	+0.8
	12nm,0.3s,baz=102,slow=4.8,SNR=13						
BATI				S	Sn	21 31 56.1	-6.9
	5.4nm,0.3s,baz=76,slow=4.2,SNR=3.4						
SIJI	**Sorong**	**6.85**	**16**	P	Pn	21 31 01.6	-0.2
	1.4nm,0.3s,baz=234,slow=23,SNR=18						
SIJI				S	Sn	21 32 12.4	-6.1
	baz=253,slow=19,SNR=1.7						
FITZ	**Fitzroy Crossi**	**11.14**	**198**	P	Pn	21 31 58.1	-1.3
	1.5nm,0.3s,baz=26,slow=11,SNR=38						
FITZ				S	Sn	21 33 51.9	-10
	0.2nm,0.3s,baz=47,slow=18,SNR=2.3						
WRA	**Warramunga Arr**	**13.30**	**159**	P	Pn	21 32 27.2	-0.5
	1.4nm,0.3s,baz=331,slow=14,SNR=59						
WRA				S	Sn	21 34 48.1	-6.4
	1.5nm,0.3s,baz=334,slow=22,SNR=10						
ASAR	**Alice Springs**	**16.68**	**165**	P	P	21 33 11.2	+1.1
	0.3nm,0.3s,baz=337,slow=10,SNR=18						
ASAR				S	Sn	21 36 07.9	-7.9
	0.2nm,0.3s,baz=325,slow=16,SNR=3.6						
MKAR	**Makanchi Array**	**68.27**	**327**	P	P	21 40 10.8	0.0
	0.3nm,0.4s,baz=119,slow=8.6,SNR=8.8						

LSZ 18 21:53:54.4±0.3, 14.08S×25.94E, h10km, MD2.8, Zambia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITZ	**Itezhi-Tezhi**	**1.65**	**177**	*i* P	Pn	21 54 23.4	-0.3
ITZ				*i*		21 54 23.7	
	baz=357,slow=6.5						
ITZ				*i* S	Sn	21 54 44.5	-0.6
ITZ	**Itezhi-Tezhi**	**1.65**	**177**	*i* P	Pn	21 54 23.4	-0.3
ITZ				*i*		21 54 23.6	
	baz=323,slow=22						
ITZ				*i* S	Sn	21 54 44.3	-0.7

*SOME **18** 22:00:35.9, 42.08N×81.30E, h5km*
*NNC **18** 22:00:37.0±0.9, 42.12N×81.36E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=6.6km s-min=4.6km az=163.0*
ISC 18 22:00:38.1±2.3, 42.13N±0.08×81.17E±0.06, h7km±12km, n44, σ1§56/70, 7C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.45**	**336**	*eP*	**Pn**	**22 01 05.0**	**+0.1**
	5.5nm,0.2s						
KTMS				*eS*	**Sn**	**22 01 26.3**	**+2.2**
	65nm,0.3s						
KTMS	**Ketmen**	**1.45**	**336**	P	**Pn**	**22 01 05.0**	**+0.1**
	5.5nm,0.2s						
KTMS				S	**Sn**	**22 01 26.3**	**+2.2**
	65nm,0.3s						
SHLS	**Shalkode**	**1.62**	**310**	*eP*	**Pn**	**22 01 05.4**	**-1.9**
	5.7nm,0.2s						
SHLS				*eS*	**Sn**	**22 01 26.7**	**-1.8**
	148nm,0.3s						
SHLS	**Shalkode**	**1.62**	**310**	P	**Pn**	**22 01 05.4**	**-1.9**
	5.7nm,0.2s						
SHLS				S	**Sn**	**22 01 26.7**	**-1.8**
	148nm,0.3s						
PDGK	**Podgornoye**	**1.72**	**315**	P	**Pg**	**22 01 10.5**	**-0.6**
	4.9nm,0.2s						
PDGK				S	**Sg**	**22 01 35.4**	**+2.0**
	17nm,0.5s						
PDGK	**Podgornoye**	**1.72**	**315**	⇑P	**Pg**	**22 01 11.1**	**0.0**
	6.3nm,0.5s						
PDGK				⇑S	**Sg**	**22 01 35.2**	**+1.7**
	44nm,0.7s						
UZB	**Uzynbulak**	**1.88**	**303**	*eP*	**Pg**	**22 01 13.7**	**-0.5**
	12nm,0.4s						
UZB				*eS*	**Sg**	**22 01 41.1**	**+2.6**
	26nm,0.2s						
UZB	**Uzynbulak**	**1.88**	**303**	Pg	**Pg**	**22 01 13.7**	**-0.5**
	12nm,0.4s						
UZB				Lg	Lg	22 01 41.1	
	26nm,0.2s						
SATY	**Saty**	**2.24**	**295**	*eP*	**Pg**	**22 01 20.9**	**-0.1**
	16nm,0.4s						
SATY				*eS*	**Sg**	**22 01 53.5**	**+3.5**
	36nm,0.3s						
SATY	**Saty**	**2.24**	**295**	Pg	**Pg**	**22 01 20.9**	**-0.1**
	16nm,0.4s						
SATY				Lg	Lg	22 01 53.5	
	36nm,0.3s						
KPKS	**Kokpek**	**2.26**	**307**	*eP*	**Pg**	**22 01 20.4**	**-1.1**
	10nm,0.2s						
KPKS				*eS*	**Sg**	**22 01 52.3**	**+1.5**
	89nm,0.4s						
ZHN	**Zhinishke**	**2.27**	**298**	*eP*	**Pg**	**22 01 21.4**	**-0.1**
	6.0nm,0.2s						
ZHN				*eS*	**Sg**	**22 01 54.3**	**+3.4**
	16nm,0.2s						
ZHN	**Zhinishke**	**2.27**	**298**	Pg	**Pg**	**22 01 21.4**	**-0.1**
	6.0nm,0.2s						
ZHN				Lg	Lg	22 01 54.3	
	16nm,0.2s						
DJR	**Jarkent**	**2.42**	**336**	*eP*	**Pb**	**22 01 22.2**	**+0.1**
	0.5nm,0.1s						
DJR				*eS*	**Sg**	**22 01 55.4**	**-0.4**
	32nm,0.3s						
DJR	**Jarkent**	**2.42**	**336**	Pg	**Pb**	**22 01 22.2**	**+0.1**
	0.5nm,0.1s						
DJR				Lg	Lg	22 01 55.4	
	32nm,0.3s						
KURS	**Kuram**	**2.59**	**303**	*eP*	**Pb**	**22 01 25.6**	**+0.7**
	8.5nm,0.6s						
KURS				*eS*	**Sg**	**22 02 01.4**	**+0.2**
	10nm,0.6s						
KURS	**Kuram**	**2.59**	**303**	Pg	**Pb**	**22 01 25.6**	**+0.7**
	8.5nm,0.6s						
KURS				Lg	Lg	22 02 01.4	
	10nm,0.6s						
KOTS	**Kotyrbulak**	**3.19**	**292**	*eP*	**Pb**	**22 01 36.6**	**+1.4**
	8.5nm,0.5s						
KOTS				*eS*	**Sg**	**22 02 20.4**	**-0.1**
	19nm,0.4s						
KOTS	**Kotyrbulak**	**3.19**	**292**	Pg	**Pb**	**22 01 36.6**	**+1.4**
	8.5nm,0.5s						
KOTS				Lg	Lg	22 02 20.4	
	19nm,0.4s						
MDOK	**Medeo**	**3.21**	**290**	*eP*	**Pb**	**22 01 36.6**	**+1.1**
	3.1nm,0.3s						
MDOK				*eS*	**Sg**	**22 02 20.3**	**-0.9**
	7.8nm,0.5s						
MDOK	**Medeo**	**3.21**	**290**	Pg	**Pb**	**22 01 36.5**	**+1.1**
MDOK				⇑Lg	Lg	22 02 19.9	
MDOK	**Medeo**	**3.21**	**290**	Pg	**Pb**	**22 01 36.6**	**+1.1**
	3.1nm,0.3s						
MDOK				Lg	Lg	22 02 20.3	
	7.8nm,0.5s						
ARXS	**Arharly**	**3.21**	**312**	*eP*	**Pg**	**22 01 38.2**	**-1.4**
	1.1nm,0.4s						
ARXS				*eS*	**Sg**	**22 02 22.9**	**+1.8**
	11nm,0.4s						
ARXS	**Arharly**	**3.21**	**312**	Pg	**Pg**	**22 01 38.2**	**-1.4**
	1.1nm,0.4s						
ARXS				Lg	Lg	22 02 23.0	
	11nm,0.4s						
TNSS	**Tian-Shan**	**3.24**	**288**	*eP*	**Pg**	**22 01 38.9**	**-1.4**
	1.7nm,0.1s						
TNSS				*eS*	**Sg**	**22 02 24.3**	**+1.9**
	7.3nm,0.4s						
TNSS	**Tian-Shan**	**3.24**	**288**	Pg	**Pg**	**22 01 38.9**	**-1.4**
	1.7nm,0.1s						
TNSS				Lg	Lg	22 02 24.3	
	7.3nm,0.4s						
KAPS	**Kapalarasan**	**3.42**	**338**	*eP*	**Pb**	**22 01 39.5**	**+0.5**
	1.8nm,0.3s						
KAPS				*eS*	**Sg**	**22 02 25.4**	**-2.4**
	7.5nm,0.2s						
KAPS	**Kapalarasan**	**3.42**	**338**	Pg	**Pb**	**22 01 39.5**	**+0.5**
	1.8nm,0.3s						
KAPS				Lg	Lg	22 02 25.4	
	7.5nm,0.2s						
IZV	**Izvestkoviy**	**3.48**	**287**	*eP*	**Pb**	**22 01 42.0**	**+1.8**
	2.0nm,0.2s						
IZV				*eS*	**Sg**	**22 02 29.5**	**-0.4**
	8.3nm,0.5s						
IZV	**Izvestkoviy**	**3.48**	**287**	Pg	**Pb**	**22 01 42.0**	**+1.8**
	2.0nm,0.2s						
IZV				Lg	Lg	22 02 29.5	
	8.3nm,0.5s						
TDK	**Taldyqorghan**	**3.50**	**326**	*eP*	**Pb**	**22 01 41.4**	**+1.0**
	9.6nm,0.2s						
TDK				*eS*	**Sg**	**22 02 28.7**	**-1.8**
	32nm,0.3s						
TDK	**Taldyqorghan**	**3.50**	**326**	Pg	**Pb**	**22 01 41.4**	**+1.0**
	9.6nm,0.2s						
TDK				Lg	Lg	22 02 28.7	
	32nm,0.3s						
CHKK	**Chushkaly**	**3.52**	**301**	*eP*	**Pb**	**22 01 42.8**	**+2.1**
	0.8nm,0.1s						
CHKK				*eS*	**Sg**	**22 02 30.8**	**-0.2**
	11nm,0.3s						
CHKK	**Chushkaly**	**3.52**	**301**	Pg	**Pb**	**22 01 42.8**	**+2.1**
	0.8nm,0.1s						
CHKK				Lg	Lg	22 02 30.8	
	11nm,0.3s						
KTBS	**Karatobe**	**3.65**	**297**	*eP*	**Pg**	**22 01 46.1**	**-2.0**
	2.6nm,0.5s						
KTBS				*eS*	**Sg**	**22 02 36.2**	**+0.8**
	15nm,0.3s						
KTBS	**Karatobe**	**3.65**	**297**	Pg	**Pg**	**22 01 46.1**	**-2.0**
	2.6nm,0.5s						
KTBS				Lg	Lg	22 02 36.2	
	15nm,0.3s						
KST	**Kastek**	**3.95**	**285**	*eP*	**Pg**	**22 01 51.2**	**-2.6**
	4.8nm,0.3s						
KST				*eS*	**Sg**	**22 02 45.4**	**+0.5**
	8.7nm,1.5s						
KST	**Kastek**	**3.95**	**285**	Pg	**Pg**	**22 01 51.2**	**-2.6**
	4.8nm,0.3s						
KST				Lg	Lg	22 02 45.4	
	8.7nm,1.5s						
KUU	**Kurty**	**3.95**	**298**	*eP*	**Pg**	**22 01 51.2**	**-2.7**
	0.9nm,0.5s						
KUU				*eS*	**Sg**	**22 02 44.8**	**-0.3**
	6.3nm,0.6s						
KUU	**Kurty**	**3.95**	**298**	Pg	**Pg**	**22 01 51.2**	**-2.7**
	0.9nm,0.5s						
KUU				Lg	Lg	22 02 44.7	
	6.3nm,0.6s						
TKM2	**Tokmak 2**	**4.19**	**283**	⇑Pg	**Pg**	**22 01 56.9**	**-1.6**
TKM2				⇓Lg	Lg	22 02 56.1	
	5.3nm,0.8s						
MAKZ	**Makanchi**	**4.71**	**7**	⇑Pn	**Pn**	**22 01 49.5**	**-0.1**
	1.6nm,0.6s						
MAKZ				⇑Sn	**Sn**	**22 02 45.7**	**+1.2**
	2.3nm,0.9s						
MAKZ				⇓Lg	Lg	22 03 06.6	
	2.0nm,0.6s						
MK31	**Makanchi Array**	**4.73**	**9**	Pn	**Pn**	**22 01 49.4**	**-0.6**
	0.2nm,0.2s,baz=186,slow=13,SNR=36						
MK31				⇑Pg	**Pb**	**22 02 01.6**	**+0.2**
	0.6nm,0.5s,baz=182,slow=14,SNR=5.2						
MK31				⇓Sn	**Sn**	**22 02 44.7**	**-0.3**
	0.3nm,0.3s,baz=223,slow=52,SNR=4.3						
MK31				⇓Lg	Lg	22 03 03.7	
	3.7nm,0.5s,baz=187,slow=30,SNR=9.2						
ZSN	**Zaisan**	**5.94**	**25**	Pg	**Pb**	**22 02 24.0**	**+2.1**
	1.3nm,0.2s						
ZSN				Lg	Lg	22 03 41.4	
	5.7nm,0.8s						

IDC 18 22:11:38.9±1.5, 2.99S×128.18E, h0km, mb3.2/2, mb1 3.4/4, mb1mx3.2/45, mbtmp3.3/4, ML3.1/2, Error ellipse: s-maj=43.6km s-min=26.6km az=74.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.73**	**56**	Pn	Pn	22 12 37.5	-0.4
	2.8nm,0.3s,baz=221,slow=18,SNR=10						
SIJI				Sn	Sn	22 13 16.9	-5.6
	1.1nm,0.3s,baz=163,slow=19,SNR=4.5						
WRA	**Warramunga Arr**	**17.89**	**161**	P	Pn	22 15 49.0	-0.5
	0.1nm,0.3s,baz=338,slow=13,SNR=5.2						
ASAR	**Alice Springs**	**21.29**	**165**	P	P	22 16 28.2	+0.9
	0.3nm,0.3s,baz=346,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**63.90**	**327**	P	P	22 22 13.5	-0.2
	0.2nm,0.6s,baz=125,slow=7.6,SNR=2.5						

IDC 18 22:11:56.5±3.7, 6.08S×150.41E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.2/42, mbtmp3.3/2, MS4.0/1, Ms1 4.0/1, ms1mx2.6/17, Error ellipse: s-maj=142.1km s-min=48.4km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.83**	**227**	P	P	22 16 40.2	+0.3
	0.5nm,0.5s,baz=54,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**23.62**	**221**	P	P	22 17 09.4	0.0
	0.3nm,0.4s,baz=49,slow=9.5,SNR=5.6						
JNU	**Nakatsue**	**43.17**	**336**	LR	LR	22 37 20.9	
	comp=Z,184nm,18.6s,baz=315,slow=35						
TORD	**Torodi Ar. Bea**	**148.39**	**285**	PKPbc	PKPbc	22 31 45.2	-0.8
	0.4nm,0.8s,baz=82,slow=2.8,SNR=2.4						

IDC 18 22:38:37.2±3.7, 20.81N×147.31E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/49, mbtmp3.8/5, Error ellipse: s-maj=151.5km s-min=25.8km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.45**	**198**	P	P	22 46 34.0	-0.1
	0.4nm,0.6s,baz=18,slow=8.5,SNR=4.8						
ASAR	**Alice Springs**	**46.10**	**197**	P	P	22 47 03.1	-0.3
	0.5nm,0.9s,baz=19,slow=6.9,SNR=4.0						
ZALV	**Zalesovo Beam**	**57.29**	**321**	P	P	22 48 26.6	-0.1
	1.0nm,0.6s,baz=109,slow=7.0,SNR=5.2						
MKAR	**Makanchi Array**	**58.12**	**313**	P	P	22 48 32.7	+0.1
	0.7nm,0.7s,baz=81,slow=7.8,SNR=7.7						
FINES	**FINESS Array B**	**85.60**	**336**	P	P	22 51 17.2	-0.1
	2.8nm,0.9s,baz=52,slow=9.1,SNR=3.4						

*NAO **18** 22:41:00.3±3.0, 75.85N×6.87E, ML3.5*
*ISCJB **18** 22:41:02.3±0.7, 75.87N±0.05×8.4E±0.2, h10km, mb3.3/3, MS3.1/3, Error ellipse: s-maj=8.0km s-min=6.6km az=163.8*
*IDC **18** 22:41:03.2±1.0, 75.84N×8.24E, h0km, mb3.3/3, mb1 3.7/6, mb1mx3.3/55, mbtmp3.5/6, ML3.2/3, MS3.3/3, Ms1 3.3/3, ms1mx2.7/38, Error ellipse: s-maj=18.3km s-min=10.7km az=62.0*
*BER **18** 22:41:04.1±4.3, 75.90N×7.76E, h10km, ML2.1, ML3.5(NAO), Confirmed Earthquake*
*IEPN **18** 22:41:08.0, 76.10N×8.16E, h15km*
ISC 18 22:41:03.7±1.0, 75.92N±0.06×8.44E±0.08, h10km, n30, σ2§40/45, mb3.4/3, MS3.2/3, 2C-2D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**1.99**	**54**	Pn	**Pb**	**22 41 39.0**	**-0.9**
HSPB				Sn	**Sn**	**22 42 02.1**	**-0.2**
HSPB	**Hornsund (broa**	**1.99**	**54**	⇓*i*P	**Pb**	**22 41 38.9**	**-0.9**
HSPB				*i* S	**Sn**	**22 42 02.3**	**0.0**
HSPB	**Hornsund (broa**	**1.99**	**54**	*eP*	**Pb**	**22 41 39.0**	**-0.9**
HSPB				*eS*	**Sn**	**22 42 02.2**	**0.0**
HSPB				IAML		22 42 07.0	
	comp=Z,16nm,0.6s						
BRBB	**Barentsburg B**	**2.54**	**28**	Pn	**Pn**	**22 41 45.4**	**+0.5**
BRBB	**Barentsburg B**	**2.54**	**28**	Pn	**Pn**	**22 41 45.4**	**+0.5**
SPA0	**Spitsbergen Ar**	**2.88**	**34**	Pn	**Pn**	**22 41 51.4**	**+1.7**
	baz=200,slow=14						
SPA0				Sn	**Sn**	**22 42 24.6**	**+0.3**
	baz=229,slow=22						
SPA0	**Spitsbergen Ar**	**2.88**	**34**	⇓*i*P	**Pn**	**22 41 51.2**	**+1.6**
SPA0				*i* S	**Sn**	**22 42 23.9**	**-0.4**
SPA0	**Spitsbergen Ar**	**2.88**	**34**	Pn	**Pn**	**22 41 51.4**	**+1.7**
	baz=200,slow=14						
SPA0				Sn	**Sn**	**22 42 24.6**	**+0.3**
	baz=229,slow=22						
SPA0				IAML		22 42 30.2	
	comp=Z,14nm,0.2s						
SPITS	**Spitsbergen Ar**	**2.88**	**34**	Pn	**Pn**	**22 41 51.1**	**+1.6**
	baz=210,slow=15,SNR=117						
SPITS				Sn	**Sn**	**22 42 23.6**	**-0.6**
	baz=217,slow=21,SNR=12						
BJO1	**Bjornoya**	**3.06**	**113**	Pn	**Pn**	**22 41 54.2**	**+2.2**
BJO1	**Bjornoya**	**3.06**	**113**	*eP*	**Pn**	**22 41 53.8**	**+1.8**
BJO1				*eS*	**Sn**	**22 42 28.3**	**-0.2**
KBS	**Kingsbay**	**3.12**	**13**	Pn	**Pn**	**22 41 52.6**	**-0.2**
KBS				Sn	**Sn**	**22 42 26.1**	**-3.8**
KBS	**Kingsbay**	**3.12**	**13**	⇑*i*P	**Pn**	**22 41 52.2**	**-0.5**
KBS				*eS*	**Sn**	**22 42 24.4**	**-5.5**
KBS	**Kingsbay**	**3.12**	**13**	*eP*	**Pn**	**22 41 52.4**	**-0.3**
KBS				*eS*	**Sn**	**22 42 23.9**	**-6.0**
KBS				IAML		22 42 31.3	
	comp=Z,10nm,0.4s						
HOPEN	**Hopen**	**4.00**	**74**	Pn	**Pn**	**22 42 07.3**	**+2.4**
HOPEN				Sn	**Sn**	**22 42 53.1**	**+1.3**
HOPEN	**Hopen**	**4.00**	**74**	⇑*i*P	**Pn**	**22 42 07.2**	**+2.2**
HOPEN				*i* S	**Sn**	**22 42 52.5**	**+0.7**
HOPEN	**Hopen**	**4.00**	**74**	*eP*	**Pn**	**22 42 07.3**	**+2.4**
HOPEN				*eS*	**Sn**	**22 42 52.6**	**+0.9**
HOPEN				IAML		22 42 54.9	
	comp=Z,31nm,0.4s						
ARA0	**ARCESS Array S**	**8.14**	**133**	Pn	**Pn**	**22 43 02.0**	**+0.4**
	baz=333,slow=12						
ARA0				Sn	**Sn**	**22 44 28.1**	**-5.4**
	baz=317,slow=28						
ARA0	**ARCESS Array S**	**8.14**	**133**	Pn	**Pn**	**22 43 02.0**	**+0.4**
	baz=333,slow=12						
ARA0				Sn	**Sn**	**22 44 28.1**	**-5.4**
	baz=317,slow=28						
ARCES	**ARCESS Array B**	**8.14**	**133**	Pn	**Pn**	**22 43 00.9**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=334,slow=12,SNR=27						
ARCES				Sn	**Sn**	**22 44 28.0**	**-5.5**
	comp=Z,0.4nm,0.3s,baz=326,slow=21,SNR=3.2						
ZFI2	**Zemlya Franca-**	**9.08**	**40**	*eP*	**Pn**	**22 43 15.7**	**+1.1**
ZFI2				*eS*	**Sn**	**22 44 52.0**	**-4.6**
	comp=Z,10nm,1.1s						
APA0	**Apatity Array**	**11.22**	**125**	Pn	**Pn**	**22 43 44.4**	**+0.6**
	baz=326,slow=8.6						
APA0	**Apatity Array**	**11.22**	**125**	Pn	**Pn**	**22 43 44.4**	**+0.6**
	baz=326,slow=8.6						
FINES	**FINESS Array B**	**15.76**	**148**	Pn	**Pn**	**22 44 45.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=350,slow=15,SNR=4.8						
AKASG	**Malin Array Be**	**26.64**	**150**	LR	LR	22 57 42.2	
	comp=Z,64nm,20.2s,baz=325,slow=38						
FRB	**Frobisher Bay**	**26.76**	**286**	LR	LR	22 57 38.2	
	comp=Z,68nm,19.0s,baz=276,slow=37						
DAVOX	**Davos/Dischmat**	**29.25**	**178**	LR	LR	22 58 57.9	
	comp=Z,47nm,21.5s,slow=37						
YKA	**Yellowknife Ar**	**37.18**	**320**	P	**P**	**22 48 14.2**	**0.0**
	comp=Z,0.1nm,0.5s,baz=14,slow=9.2,SNR=3.3						
ILAR	**Eielson Array**	**38.68**	**343**	P	**P**	**22 48 29.0**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=1.4,slow=6.3,SNR=12						
NVAR	**Mina Array Bea**	**60.98**	**314**	P	**P**	**22 51 17.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=19,slow=6.1,SNR=3.2						

SJA 18 22:41:07.4±0.8, 29.63S×72.63W, h32km±24km, ML2.9, MW3.5, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO04	**Tololo Observa**	**1.68**	**109**	*eP*	Pn	22 41 33.2	-1.7
GO04				*eS*	Sn	22 41 49.4	-6.0
GO03	**Copiap**	**2.93**	**47**	*i* P	Pn	22 41 55.0	+3.2
RTLS	**Leoncito**	**3.59**	**128**	⇓*i*P	Pn	22 42 05.2	+4.0
RTLS				*i* S	Sn	22 42 47.1	+4.4
RTLS				IAML		22 42 57.2	
	comp=Z,26nm,0.8s						
ROC1	**El Roble**	**3.61**	**158**	*eP*	Pn	22 42 04.5	+3.1
ROC1				*eS*	Sn	22 42 43.5	+0.4
AGUA	**GUANDACOL**	**3.61**	**89**	*i* P	Pn	22 42 04.5	+3.3
AGUA				*eS*	Sn	22 42 44.2	+1.4
AGUA				IAML		22 42 59.9	
	comp=Z,20nm,0.5s						
AMOG	**MOGNA**	**3.81**	**111**	*i* P	Pn	22 42 06.5	+2.6
AMOG				IAML		22 43 13.5	
	comp=Z,21nm,0.4s						
RTLL	**Cerro Villicun**	**3.97**	**116**	*eS*	Sb	22 43 02.1	-2.1
RTLL				IAML		22 43 07.2	
	comp=Z,15nm,0.5s						
VCA	**Vinchina**	**3.97**	**78**	*eP*	Pn	22 42 09.8	+3.5
VCA				IAML		22 43 14.9	
	comp=Z,16nm,0.7s						
CFA	**Coronel Fontan**	**4.27**	**119**	*i* P	Pn	22 42 13.8	+3.5
ASAL	**Salagasta**	**4.39**	**133**	*i* P	Pn	22 42 16.9	+4.9
ASAL				*eS*	Sb	22 43 21.1	+4.6
ASAL				IAML		22 43 29.4	
	comp=Z,14nm,0.9s						
ACLC	**CERRO LA CRUZ**	**4.95**	**89**	*i* P	Pn	22 42 23.1	+3.3
ACLC				*eS*	Sn	22 43 19.9	+3.7
MRA	**San Martin**	**6.55**	**117**	*eP*	Pn	22 42 43.5	+1.8
MRA				IAML		22 44 40.3	
	comp=Z,4.0nm,0.7s						

*NNC **18** 22:47:52.3±4.2, 36.74N×70.93E, h104km±116km, mb3.3, mpv3.9, Error ellipse: s-maj=40.9km s-min=33.9km az=72.0*
*IDC **18** 22:48:11.1±38.0, 37.23N×71.80E, h274km±180km, mb3.3/2, mb1 3.0/4, mb1mx2.6/45, mbtmp3.7/4, Error ellipse: s-maj=772.2km s-min=91.6km az=160.0*
ISC 18 22:47:51.5±2.3, 36.71N±0.12×71.1E±0.1, h100km, n16, σ1§00/18, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.81**	**19**	P	**Pn**	**22 49 16.1**	**+0.6**
	SNR=19						
UCH	**Uchtor**	**6.14**	**24**	P	**Pn**	**22 49 20.7**	**+0.6**
	SNR=10						
KZA	**Kyzart**	**6.28**	**29**	P	**Pn**	**22 49 22.0**	**+0.1**
	SNR=6.9						
EKS2	**Erkin-Say**	**6.33**	**18**	P	**Pn**	**22 49 23.3**	**+1.0**
	SNR=16						
KK31	**Karatay Array**	**6.45**	**356**	P	**Pn**	**22 49 24.5**	**+0.7**
	5.5nm,0.3s,baz=178,slow=12,SNR=102						
KK31				⇓S	**Sn**	**22 50 34.7**	**-1.2**
	1.7nm,0.5s,baz=186,slow=14,SNR=4.1						
AAK	**Ala-Archa**	**6.51**	**23**	P	**Pn**	**22 49 25.4**	**+0.7**
	SNR=8.4						
AAK	**Ala-Archa**	**6.51**	**23**	⇑P	**Pn**	**22 49 25.2**	**+0.4**
	3.5nm,0.3s						
AAK				⇑S	**Sn**	**22 50 39.3**	**+1.7**
	2.9nm,0.7s						
CHMS	**Chumysh**	**6.91**	**23**	P	**Pn**	**22 49 30.7**	**+0.5**
	SNR=5.0						
USP	**Ospenovka**	**7.08**	**20**	P	**Pn**	**22 49 32.3**	**-0.2**
	SNR=19						
TKM2	**Tokmak 2**	**7.13**	**28**	P	**Pn**	**22 49 33.8**	**+0.4**
	SNR=5.4						
TKM2	**Tokmak 2**	**7.13**	**28**	⇓P	**Pn**	**22 49 33.5**	**+0.2**
	1.9nm,0.5s						
MKAR	**Makanchi Array**	**13.10**	**36**	P	**P**	**22 50 58.5**	**-1.5**
	0.1nm,0.3

TCA	**Tanti**	**11.12**	**57**	*i* P		Pn	22 53 38.8	+1.5

IDC 18 23:18:58.1±71.0, 19°83S×178°54W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/32, mbtmp3.8/3, Error ellipse: s-maj=1285.0km s-min=174.1km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.62**	**243**	P	P	23 26 14.8	-0.1
	0.9nm,0.6s,baz=84,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**44.18**	**256**	P	P	23 27 08.9	-0.2
	1.1nm,0.7s,baz=93,slow=8.4,SNR=11						
WRA	**Warramunga Arr**	**44.19**	**261**	P	P	23 27 09.1	-0.1
	0.4nm,0.3s,baz=94,slow=8.4,SNR=16						

*ISCJB **18** 23:33:29.7±0.6, 15°.22N±0°.08×44°.9W±0°.1, h14km, mb3.9/11, MS3.3/14, Error ellipse: s-maj=18.3km s-min=11.2km az=15.7*

*IDC **18** 23:33:29.3±0.8, 15°.24N×44°.89W, h0km, mb3.9/11, mb1 4.2/12, mb1mx3.8/53, mbtmp4.0/12, ML3.7/1, MS3.3/15, Ms1 3.3/15, ms1mx3.2/32, Error ellipse: s-maj=25.1km s-min=16.6km az=110.0*

*NEIC **18** 23:33:30.9±2.1, 15°.2N±0°.1×44°.88W±0°.07, h10km±1km, mb4.3/8*

ISC 18 23:33:31.5±0.7, 15°.2N±0°.1×44°.9W±0°.1, h14km, n30, σ0°70/18, mb4.1/12, MS3.3/14, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.62**	**218**	Pn	**Pn**	**23 36 30.7**	**+0.1**
	0.5nm,0.3s,baz=29,slow=14,SNR=5.8						
MDP				LR	LR	23 40 33.4	
	comp=Z,80nm,19.5s,baz=75,slow=34						
BBGH	**Gun Hill**	**14.36**	**264**	P	**P**	**23 37 01.0**	**-0.6**
SJG	**San Juan**	**20.55**	**281**	LR	LR	23 44 42.4	
	comp=Z,87nm,21.3s,baz=90,slow=33						
SDV	**Santo Domingo**	**25.92**	**259**	LR	LR	23 48 23.7	
	comp=Z,40nm,21.3s,baz=92,slow=34						
SAML	**Samuel**	**30.09**	**218**	P	**P**	**23 39 41.4**	**+0.7**
SAML				IAmb	IAmb	23 39 42.0	
	comp=Z,3.0nm,0.9s						
ROSC	**El Rosal**	**30.71**	**253**	LR	LR	23 51 40.4	
	comp=Z,84nm,21.9s,baz=48,slow=36						
BDFB	**Brasilia**	**30.83**	**186**	LR	LR	23 51 06.3	
	comp=Z,44nm,20.0s,baz=337,slow=34						
SIV	**San Ignacio**	**34.89**	**208**	P	**P**	**23 40 23.0**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=25,slow=7.6,SNR=5.4						
SIV				LR	LR	23 54 07.8	
	comp=Z,55nm,19.3s,baz=98,slow=36						
LPAZ	**La Paz**	**38.82**	**217**	P	**P**	**23 40 57.2**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=13,slow=7.0,SNR=10.0						
LPAZ				LR	LR	23 56 35.2	
	comp=Z,44nm,18.3s,baz=49,slow=36						
LPAZ	**La Paz**	**38.82**	**217**	P	**P**	**23 40 57.6**	**+0.7**
ATAH	**Atahualpa**	**39.94**	**239**	LR	LR	23 56 32.5	
	comp=Z,81nm,20.9s,baz=27,slow=35						
DBIC	**Dimbokro**	**40.17**	**98**	LR	LR	23 54 05.6	
	comp=Z,56nm,20.2s,baz=275,slow=31						
NNA	**Nana**	**41.61**	**231**	LR	LR	23 58 10.2	
	comp=Z,58nm,19.3s,baz=28,slow=36						
CPUP	**Villa Florida**	**43.04**	**196**	P	**P**	**23 41 31.6**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=23,slow=8.7,SNR=3.7						
CPUP	**Villa Florida**	**43.04**	**196**	IAmb	IAmb	23 41 33.7	
	comp=Z,9.0nm,1.4s						
ESDC	**Sonseca Array**	**43.22**	**48**	P	**P**	**23 41 33.4**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=253,slow=9.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**45.16**	**86**	P	**P**	**23 41 47.0**	**-1.2**
	comp=Z,3.6nm,1.0s,baz=280,slow=6.1,SNR=9.4						
TORD				LR	LR	23 59 01.4	
	comp=Z,55nm,18.1s,baz=345,slow=34						
CFA	**Coronel Fontan**	**51.67**	**206**	P	**P**	**23 42 37.2**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=17,slow=6.4,SNR=3.6						
ULM	**Lac du Bonnet**	**53.81**	**322**	P	**P**	**23 42 53.4**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=128,slow=8.2,SNR=5.6						
ULM				LR	LR	00 03 42.4	
	comp=Z,30nm,20.1s,baz=121,slow=34						
ULM	**Lac du Bonnet**	**53.81**	**322**	IAmb	IAmb	23 42 54.1	
	comp=Z,6.1nm,1.4s						
TXAR	**Lajitas Array**	**55.64**	**295**	LR	LR	00 05 23.9	
	comp=Z,15nm,20.8s,baz=0.0,slow=34						
PLCA	**Paso Flores**	**60.55**	**202**	P	**P**	**23 43 41.5**	**0.0**
	comp=Z,2.8nm,1.0s,baz=15,slow=12,SNR=3.5						
PLCA	**Paso Flores**	**60.55**	**202**	IAmb	IAmb	23 43 54.1	
	comp=Z,2.9nm,1.1s						
PDAR	**Pinedale Array**	**61.26**	**311**	P	**P**	**23 43 47.0**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=87,slow=9.1,SNR=4.3						
PDAR				LR	LR	00 07 17.7	
	comp=Z,27nm,22.0s,baz=31,slow=33						
HWUT	**Hardware Ranch**	**62.65**	**309**	P	**P**	**23 43 56.9**	**+0.9**
SPUT	**South Promonto**	**63.29**	**309**	P	**P**	**23 43 59.8**	**-0.4**
BGU	**Big Grassy Mou**	**63.71**	**308**	P	**P**	**23 44 02.9**	**-0.1**
YKA	**Yellowknife Ar**	**67.25**	**332**	P	**P**	**23 44 24.6**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=101,slow=7.8,SNR=3.9						
NVAR	**Mina Array Bea**	**67.78**	**306**	LR	LR	00 10 44.9	
	comp=Z,18nm,21.0s,baz=322,slow=33						
ILAR	**Eielson Array**	**81.38**	**335**	P	**P**	**23 45 48.2**	**+0.7**
	comp=Z,1.4nm,1.0s,baz=67,slow=4.7,SNR=7.6						

*IDC **18** 23:51:46.8±1.2, 30°.07S×72°.20W, h0km, mb4.0/4, mb1 4.1/10, mb1mx3.9/30, mbtmp3.9/10, ML3.8/6, MS3.0/4, Ms1 3.0/4, ms1mx2.8/19, Error ellipse: s-maj=31.6km s-min=22.7km az=47.0*

*NEIC **18** 23:51:46.0±2.9, 30°.09S±0°.06×72°.2W±0°.1, h1km±5km*

*ISCJB **18** 23:51:47.2±0.6, 30°.12S±0°.04×72°.26W±0°.06, h25km, MS3.1/1, Error ellipse: s-maj=7.0km s-min=5.5km az=172.5*

*GUC **18** 23:51:49.4±0.4, 30°.14S×71°.99W, h58km±5km, ML4.1*

ISC 18 23:51:48.9±0.8, 30°.15S±0°.05×72°.20W±0°.06, h25km, n33, σ1°91/37, 1C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.86**	**74**	⇓*i* P	**Pb**	**23 52 03.9**	**-1.3**
LSCH				*i* S	**Sb**	**23 52 15.4**	**-1.1**
GO04	**Tololo Observa**	**1.21**	**91**	⇓*i* P	**Pn**	**23 52 09.5**	**-1.0**
GO04				*i* S	**Sn**	**23 52 24.9**	**-1.4**
GO04	**Tololo Observa**	**1.21**	**91**	Pn	**Pn**	**23 52 09.8**	**-0.7**
CO02	**Combarbal**	**1.47**	**136**	⇓*i* P	**Pn**	**23 52 13.7**	**-0.3**
CO02				*i* S	**Sn**	**23 52 32.3**	**-0.2**
ROCH	**El Roble**	**2.99**	**160**	IAML		23 53 28.9	
	comp=N,696nm,0.5s						
ROC1	**El Roble**	**2.99**	**161**	Pn	**Pn**	**23 52 35.7**	**+0.7**
GO03	**Copiap**	**3.08**	**35**	*i* P	**Pn**	**23 52 36.0**	**-0.1**
GO03				IAML		23 53 32.6	
	comp=N,299nm,0.5s						
GO03	**Copiap**	**3.08**	**35**		**Pn**	**23 52 36.6**	**+0.6**
PEL	**Peldehue**	**3.25**	**157**	*i* P	**Pn**	**23 52 39.4**	**+1.0**
PEL				*i* S	**Sb**	**23 53 24.5**	**-0.6**
PEL				IAML		23 53 35.0	
	comp=N,379nm,0.7s						
PEL				IAML		23 53 35.7	
	comp=E,378nm,0.5s						
PEL	**Peldehue**	**3.25**	**157**		**Pn**	**23 52 39.5**	**+1.1**
FCH	**Farellones**	**3.56**	**153**	⇑*i* P	**Pn**	**23 52 44.0**	**+1.1**
FCH				IAML		23 53 53.0	
	comp=E,247nm,0.8s						
CFA	**Coronel Fontan**	**3.70**	**114**	Pn	**Pn**	**23 52 47.5**	**+2.9**
	comp=E,27nm,0.3s,baz=305,slow=14,SNR=11						
CFA				Sn	**Sn**	**23 53 29.9**	**+2.5**
	comp=E,15nm,0.3s,baz=125,slow=22,SNR=5.0						
CFA				LR	LR	23 54 06.6	
	comp=E,218nm,21.4s,baz=278,slow=37						
LMEL	**Las Melosas**	**4.05**	**156**	IAML		23 53 59.9	
	comp=E,183nm,0.6s						
GO05	**Huala**	**4.85**	**177**		**Pn**	**23 52 59.5**	**-0.8**
GO05				Sn	**Sn**	**23 53 50.3**	**-5.4**
GO02	**Mina Guanaco**	**5.48**	**26**		**Pn**	**23 53 07.8**	**-1.5**
PB10	**IPOC Station P**	**6.78**	**13**	Pn	**Pn**	**23 53 23.4**	**-3.4**
PB04	**IPOC Station P**	**8.00**	**14**	Pn	**Pn**	**23 53 41.7**	**-2.1**
LVC	**Limon Verde**	**8.07**	**22**	Pn	**Pn**	**23 53 42.5**	**-2.4**
	comp=E,0.5nm,0.3s,baz=201,slow=14,SNR=4.8						
LVC				Sn	**Sn**	**23 55 11.8**	**-3.8**
	comp=E,0.4nm,0.3s,baz=148,slow=19,SNR=1.9						
LVC				Lg	Lg	23 55 51.2	
	comp=E,1.1nm,0.3s,baz=140,slow=16,SNR=4.9						
LVC				LR	LR	23 56 32.3	
	comp=E,54nm,20.2s,baz=206,slow=36						
LVC	**Limon Verde**	**8.07**	**22**		Sn	23 55 02.1	-13
GO06	**Curarrehue**	**9.43**	**177**	Pn	**Pn**	**23 54 02.4**	**-0.9**
PLCA	**Paso Flores**	**10.64**	**173**	Pn	**Pn**	**23 54 20.5**	**+0.7**
	comp=E,0.2nm,0.3s,baz=358,slow=11,SNR=10						
TRQA	**Tornquist**	**11.56**	**136**	Pn	**Pn**	**23 54 32.2**	**-0.2**
TRQA				Sn	**Sn**	**23 56 37.5**	**-3.3**
CPUP	**Villa Florida**	**13.65**	**77**	Pn	**Pn**	**23 55 02.5**	**+1.5**
	comp=E,0.1nm,0.3s,baz=266,slow=16,SNR=1.7						
CPUP				LR	LR	23 59 56.6	
	comp=E,60nm,20.6s,baz=252,slow=36						
LPAZ	**La Paz**	**14.30**	**16**	Pn	**Pn**	**23 55 10.3**	**-0.1**
	comp=E,0.2nm,0.3s,baz=197,slow=9.7,SNR=11						
LPAZ	**La Paz**	**14.30**	**16**		**Pn**	**23 55 09.5**	**-0.9**
SIV	**San Ignacio**	**17.40**	**38**	P	**P**	**23 55 51.0**	**-0.3**
	comp=E,0.3nm,0.3s,baz=238,slow=13,SNR=16						
BDFB	**Brasilia**	**26.47**	**62**	LR	LR	00 08 48.4	
	comp=E,51nm,19.2s,baz=134,slow=39						
TXAR	**Lajitas Array**	**66.33**	**330**	P	**P**	**00 02 37.4**	**+1.9**
	comp=E,0.4nm,0.8s,baz=144,slow=7.8,SNR=4.4						
DBIC	**Dimbokro**	**74.11**	**72**	P	**P**	**00 03 24.9**	**+1.4**
	comp=E,6.9nm,0.9s,baz=205,slow=7.1,SNR=6.6						
PDAR	**Pinedale Array**	**80.28**	**333**	P	**P**	**00 03 58.6**	**+0.9**
	comp=E,0.1nm,0.3s,baz=146,slow=6.6,SNR=2.1						
TORD	**Torodi Ar. Bea**	**83.05**	**71**	P	**P**	**00 04 14.1**	**+1.4**
	comp=E,3.7nm,0.8s,baz=256,slow=3.9,SNR=16						
ZALV	**Zalesovo Beam**	**150.98**	**28**	PKPbc	**PKiKP**	**00 11 41.5**	**+1.9**
	comp=E,2.0nm,0.5s,baz=298,slow=3.8,SNR=14						
MKAR	**Makanchi Array**	**154.19**	**43**	PKPbc	**PKiKP**	**00 11 48.3**	**+1.8**
	comp=E,0.2nm,0.7s,baz=296,slow=4.3,SNR=2.7						

IDC 18 23:58:19.1±5.6, 2°.11S×133°.59E, h242km±63km, mb3.3/3, mb1 3.5/4, mb1mx3.1/26, mbtmp4.0/4, MS3.2/2, Ms1 3.2/2, ms1mx2.8/12, Error ellipse: s-maj=116.6km s-min=17.3km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**15.31**	**119**	LR	LR	00 08 24.4	
	comp=Z,87nm,18.7s,baz=93,slow=40						
WRA	**Warramunga Arr**	**17.73**	**178**	P	P	00 02 08.1	-1.4
	0.8nm,0.3s,baz=359,slow=12,SNR=59						
WRA				S	S	00 05 21.1	+0.2
	0.1nm,0.3s,baz=359,slow=23,SNR=3.5						
WRA				LR	LR	00 10 11.4	
	comp=Z,75nm,18.0s,baz=50,slow=40						
ASAR	**Alice Springs**	**21.43**	**179**	P	P	00 02 49.6	+1.0
	4.0nm,0.5s,baz=1.7,slow=9.6,SNR=61						
STKA	**Stephens Creek**	**30.55**	**167**	P	P	00 04 10.2	-0.1
	1.2nm,0.6s,baz=319,slow=9.3,SNR=4.1						
MKAR	**Makanchi Array**	**66.26**	**324**	P	P	00 08 41.3	-0.1
	0.4nm,0.5s,baz=117,slow=8.0,SNR=7.3						

*IDC **19** 00:03:11.5±0.9, 14°.84S×172°.38W, h0km, mb4.0/7, mb1 4.3/7, mb1mx4.0/25, mbtmp4.0/7, MS3.0/2, Ms1 3.0/2, ms1mx2.7/35, Error ellipse: s-maj=49.8km s-min=16.7km az=132.0*

*ISCJB **19** 00:03:14.9±0.8, 14°.8S±0°.2×172°.5W±0°.2, h35km, mb3.9/7, MS2.9/1, Error ellipse: s-maj=41.5km s-min=9.0km az=40.5*

ISC 19 00:03:16.7±0.9, 14°.8S±0°.2×172°.4W±0°.3, h35km, n31, σ0°95/24, mb3.9/7, 5C-3D, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.02**	**34**	Pn	**Pn**	**00 03 33.2**	**-1.4**
	470nm,0.3s,baz=140,slow=1.1,SNR=302						
AFI				Sn	**Sn**	**00 03 47.3**	**-0.5**
	842nm,0.3s,baz=18,slow=20,SNR=17						
AFI				LR	LR	00 03 48.0	
	comp=Z,202nm,19.7s,baz=106,slow=33						
RAR	**Rarotonga**	**13.58**	**120**	LR	LR	00 11 09.2	
	comp=Z,58nm,18.9s,baz=275,slow=35						
PPT	**Papeete**	**22.06**	**100**	LR	LR	00 14 52.2	
	comp=Z,45nm,18.0s,baz=238,slow=32						
URZ	**Urewera**	**25.19**	**200**	P	**P**	**00 08 38.0**	**-0.8**
	16nm,0.5s,baz=43,slow=3.8,SNR=12						
H11S2	**WAKE ISLAND Hy**	**38.95**	**327**	T	T	00 51 10.6	
	baz=146,slow=76						
H11S3	**WAKE ISLAND Hy**	**38.97**	**327**	T	T	00 51 12.6	
	baz=146,slow=76						
H11S1	**WAKE ISLAND Hy**	**38.97**	**327**	T	T	00 51 15.9	
	baz=146,slow=76						
H11N3	**WAKE ISLAND Hy**	**39.88**	**329**	T	T	00 52 17.9	
	baz=147,slow=76						
H11N1	**WAKE ISLAND Hy**	**39.88**	**329**	T	T	00 52 04.1	
	baz=147,slow=76						
H11N2	**WAKE ISLAND Hy**	**39.89**	**329**	T	T	00 52 02.1	
	baz=147,slow=76						
WRA	**Warramunga Arr**	**50.96**	**256**	P	**P**	**00 12 14.5**	**-0.8**
	1.1nm,0.8s,baz=91,slow=7.1,SNR=7.8						
ASAR	**Alice Springs**	**51.26**	**251**	P	**P**	**00 12 16.5**	**-1.0**
	1.6nm,0.6s,baz=87,slow=8.3,SNR=17						
NVAR	**Mina Array Bea**	**73.19**	**42**	P	**P**	**00 14 44.6**	**+0.3**
	0.6nm,0.7s,baz=223,slow=8.9,SNR=5.6						
PDAR	**Pinedale Array**	**81.13**	**42**	P	**P**	**00 15 29.4**	**+0.5**
	0.4nm,0.7s,baz=191,slow=3.7,SNR=4.6						
ILAR	**Eielson Array**	**81.64**	**11**	P	**P**	**00 15 32.0**	**+1.3**
	0.6nm,0.8s,baz=225,slow=6.2,SNR=6.9						
YKA	**Yellowknife Ar**	**89.12**	**23**	P	**P**	**00 16 08.9**	**+0.8**
	0.6nm,0.8s,baz=239,slow=5.1,SNR=7.7						
BURAR	**Bucovina Array**	**144.14**	**340**	⇓P	**PKPdf**	**00 22 49.6**	**+0.6**
TRPA	**Tarpa**	**144.52**	**343**	⇑P	**PKPdf**	**00 22 50.2**	**+0.7**
VRI	**Vrancioaia**	**145.08**	**336**	⇑P	**PKPdf**	**00 22 52.2**	**+1.7**
TOPG	**Tonga**	**145.22**	**334**	⇑P	**PKiKP**	**00 22 53.0**	**-1.7**
GERES	**GERESS Array B**	**145.65**	**353**	PKPbc	**PKPab**	**00 22 53.0**	**+0.9**
	1.6nm,1.1s,baz=38,slow=2.4,SNR=6.4						
MLR	**Muntele Rosu**	**145.69**	**337**	⇓P	**PKiKP**	**00 22 54.6**	**-1.2**
VOIR		**146.07**	**338**	⇑P	**PKiKP**	**00 22 56.0**	**-0.6**
CONA	**Conrad Observa**	**146.24**	**350**	*i* PKPab	**PKPab**	**00 22 55.1**	**+0.7**
	2.7nm,0.9s						
BRTR	**Keskin Array B**	**146.28**	**322**	PKPbc	**PKPab**	**00 22 55.0**	**+0.1**
	2.5nm,1.1s,baz=72,slow=4.0,SNR=5.7						
ARR	**Arges**	**146.28**	**338**	⇑P	**PKiKP**	**00 22 57.2**	**+0.3**
MOA	**Molln**	**146.56**	**352**	*i* PKiKP	**PKiKP**	**00 22 58.6**	**+1.2**
	8.1nm,1.4s						
BZS	**Buzias**	**147.06**	**342**	⇓P	**PKiKP**	**00 22 58.2**	**-0.2**
WTTA	**Wattenberg**	**147.43**	**355**	*i* PKPab	**PKPab**	**00 22 58.7**	**-0.4**
	3.8nm,0.9s						
SOKA	**Soboth**	**147.59**	**350**	*i* PKPbc	**PKPbc**	**00 22 57.3**	**-0.2**
	4.2nm,1.5s						
ABTA	**Abfaltersbach**	**147.85**	**354**	*i* PKPdf	**PKPdf**	**00 22 55.0**	**-0.3**
	7.0nm,1.7s						

*MAN **19** 00:22:21.1, 3°.76N×127°.17E, h17km, MS4.2*

*DJA **19** 00:22:22.4±0.5, 4°.N±4°×12°.7E±°, h10km, M4.6/12, mB5.3/5, mb4.7/7, MLv4.5/12, Mw(mB)4.7/5*

*NEIC **19** 00:22:23.3±1.9, 3°.69N±0°.06×127°.0E±0°.1, h35km±2km, mb4.4/15*

*IDC **19** 00:22:25.4±1.7, 3°.55N×126°.98E, h56km±18km, mb3.9/10, mb1 4.1/13, mb1mx3.8/40, mbtmp4.2/13, ML4.5/3, MS3.3/4, Ms1 3.4/4, ms1mx2.9/41, Error ellipse: s-maj=34.8km s-min=9.2km az=66.0*

ISC 19 00:22:20.3±0.5, 3°.64N±0°.04×127°.17E±0°.07, h10km, n57, σ2°36/59, mb4.3/18, MS3.8/5, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.84**	**329**	P	**Pn**	**00 23 06.0**	**+0.2**
DDMP				S	**Sg**	**00 23 56.5**	**+4.7**
TNTI	**Ternate**	**2.86**	**176**	P	**Pn**	**00 23 09.7**	**+3.7**
TNTI				S	**Sn**	**00 23 44.5**	**+4.0**
TNTI	**Ternate**	**2.86**	**176**		**Pn**	**00 23 09.4**	**+3.4**
MATI	**Mati**	**3.41**	**345**	P	**Pb**	**00 23 19.9**	**-0.9**
MATI				S	**Sg**	**00 24 14.8**	**+5.0**
DAV	**Davao City (W)**	**3.75**	**335**	P	**Pn**	**00 23 21.7**	**+3.3**
	46nm,0.3s,baz=234,slow=8.7,SNR=1.7						
DAV				S	**Sn**	**00 24 04.5**	**+1.8**
	13nm,0.3s,baz=286,slow=20,SNR=2.8						
DAV	**Davao City (W)**	**3.75**	**335**	Pn	**Pn**	**00 23 19.1**	**+0.7**
DAV					**Sn**	**00 23 58.4**	**-4.3**
SKMP	**Bagumbayan, Su**	**3.87**	**318**	P	**Pn**	**00 23 19.4**	**-0.6**
SKMP				S	**Sn**	**00 24 06.5**	**+0.9**
KCP	**Kidapawan**	**3.93**	**328**	⇓P	**Pn**	**00 23 22.8**	**+1.9**
KCP				S	**Sb**	**00 24 19.3**	**+1.7**
LBMI	**Labuha**	**4.26**	**176**	P	**Pn**	**00 23 28.2**	**+2.8**
KMSI	**Cibinong**	**4.41**	**226**	P	**Pn**	**00 23 30.6**	**+3.3**
CTBH	**Cotabato--PC H**	**4.59**	**321**	⇑P	Pn	00 23 34.4	+4.5
CTBH				S	Sn	00 24 10.4	-13
BUKP	**Musuan**	**4.70**	**334**	P	**Pn**	**00 23 33.2**	**+1.7**
BUKP				S	**Sn**	**00 24 29.2**	**+3.1**
SANI	**Sanana**	**5.78**	**192**	P	**Pn**	**00 23 46.4**	**+0.3**
	31nm,0.6s,2µm0.3nm						
SIJI	**Sorong**	**6.07**	**137**	P	**Pn**	**00 23 54.1**	**+3.9**
	9.1nm,0.3s,baz=98,slow=23,SNR=12						
SIJI				S	**Sn**	**00 25 02.5**	**+2.7**
	1.3nm,0.3s,baz=66,slow=20,SNR=3.3						
MRSI	**Marisa**	**6.10**	**239**	P	**Pn**	**00 23 53.7**	**+3.2**
	79nm,0.6s,1µm0.4nm						
LUWI	**Luwuk**	**6.40**	**223**	P	**Pb**	**00 24 09.6**	**-2.2**
LUWI	**Luwuk**	**6.40**	**223**	Pn	**Pn**	**00 23 54.6**	**-0.1**
NLAI	**Namlea**	**6.83**	**181**	P	**Pn**	**00 24 03.7**	**+3.0**
	45nm,0.6s,2µm0.3nm						
APSI	**Ampana**	**7.13**	**231**	P	Pn	00 24 13.2	+8.4
MPSI	**Mapaga**	**7.97**	**246**	P	Pn	00 24 22.4	+6.1
FAKI	**Fak Fak**	**8.26**	**142**	P	**Pn**	**00 24 24.5**	**+4.2**
	50nm,1.6s						
FAKI	**Fak Fak**	**8.26**	**142**	Pn	**Pn**	**00 24 22.7**	**+2.4**
KAPI	**Kappang**	**11.35**	**221**	P	**Pn**	**00 25 02.6**	**0.0**
	2.6nm,0.3s,baz=30,slow=20,SNR=3.4						
PLAI	**Plampang**	**15.53**	**217**	P	**P**	**00 26 04.8**	**+0.9**
TWSI	**Taliwang, Sumb**	**16.01**	**220**	P	**P**	**00 26 11.0**	**+1.7**
MTN	**Manton Dam**	**16.84**	**167**		**Pn**	**00 26 14.6**	**-1.8**
JAGI	**Jajag, Banyuwa**	**17.70**	**227**	P	**Pn**	**00 26 29.0**	**+1.9**
JAGI				IAmb	IAmb	00 26 30.9	
	comp=Z,12nm,0.7s						
KNRA	**Kununurra**	**19.26**	**175**	P	**P**	**00 26 45.8**	**+0.7**
KNRA				IAmb	IAmb	00 26 59.2	
	comp=Z,28nm,0.9s						
TPUB	**Ta-pu**	**20.54**	**343**	P	**P**	**00 26 57.2**	**-1.9**
TPUB				IAmb	IAmb	00 27 04.4	
	comp=Z,33nm,1.0s						
FITZ	**Fitzroy Crossi**	**21.65**	**184**	P	**P**	**00 27 09.3**	**-1.9**
	comp=Z,4.1nm,0.4s,baz=15,slow=8.6,SNR=18						
FITZ	**Fitzroy Crossi**	**21.65**	**184**	P	**P**	**00 27 10.5**	**-0.6**
PMBI	**Palembang**	**23.31**	**254**	P	**P**	**00 27 33.7**	**+4.9**
UBPT	**Khong Chiam**	**24.29**	**300**	P	**P**	**00 27 36.2**	**-2.0**
WRAB	**Tennant Creek**	**24.47**	**164**	P	**P**	**00 27 39.6**	**-0.1**
WRA	**Warramunga Arr**	**24.47**	**164**	P	**P**	**00 27 39.1**	**-0.7**
	comp=Z,14nm,0.6s,baz=342,slow=10,SNR=116						
WR0	**Warramunga Arr**	**24.55**	**163**	P	**P**	**00 27 39.8**	**-0.6**
WR0				IAmb	IAmb	00 27 41.8	
	comp=Z,12nm,0.7s						
PSA00	**Pilbara Seismi**	**26.06**	**196**	P	**P**	**00 27 51.5**	**-2.7**
PSA00				IAmb	IAmb	00 28 10.4	
	comp=Z,6.4nm,0.8s						
AS31	**Alice Springs**	**27.92**	**167**	P	**P**	**00 28 09.8**	**-1.1**
AS31				IAmb	IAmb	00 28 17.1	
	comp=Z,2.4nm,0.4s						
ASAR	**Alice Springs**	**27.93**	**167**	P	**P**	**00 28 09.9**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=338,slow=7.1,SNR=14						
CMAR	**Chiang Mai Arr**	**31.29**	**300**	LR	LR	00 42 54.2	
	comp=Z,20nm,18.1s,baz=85,slow=39						
KSRS	**Korea Array**	**33.66**	**1**	LR	LR	00 47 27.6	
	comp=Z,18nm,18.2s,baz=200,slow=44						
STKA	**Stephens Creek**	**37.90**	**160**	P	**P**	**00 29 37.5**	**-0.2**
	comp=Z,4.9nm,0.6s,baz=340,slow=8.2,SNR=14						
STKA	**Stephens Creek**	**37.90**	**160**	P	**P**	**00 29 36.7**	**-1.1**
HHC	**Hu-ho-hao-te**	**39.62**	**341**	*e*P	**P**	**00 29 53.0**	**+0.7**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,7.0nm,6.6s						
SONM	**Songino Array**	**47.52**	**341**	P	**P**	**00 30 55.3**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=158,slow=7.2,SNR=12						
WMQ	**Urumqi**	**53.05**	**325**	*e*P	**P**	**00 31 39.3**	**+1.5**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,98nm,5.7s						
WMQ				LR	LR		
	comp=N,640nm,29.0s						
WMQ				LR	LR		
	comp=E,2µm,29.3s						
WMQ				LR	LR		
	comp=Z,210nm,29.2s						
MK31	**Makanchi Array**	**57.88**	**325**	P	**P**	**00 32 11.1**	**-1.4**
MK31				IAmb	IAmb	00 32 28.9	
	comp=Z,2.3nm,1.1s						
MKAR	**Makanchi Array**	**57.88**	**325**	P	**P**	**00 32 11.3**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=117,slow=8.3,SNR=23						
AAK	**Ala-Archa**	**60.72**	**318**	LR	LR	01 01 01.6	
	comp=Z,59nm,18.4s,baz=72,slow=38						
ZALV	**Zalesovo Beam**	**60.87**	**333**	P	**P**	**00 32 31.6**	**-1.4**
	comp=Z,0.5nm

comp=Z,260nm,0.3s
SKR A A 00 50 32.6
comp=Z,290nm,0.3s
PAU Pauzhetka 2.93 21 *e*P **Pn 00 50 19.2 +0.3**
PAU *e*S **Sn 00 50 52.8 0.0**
PAU Pauzhetka 2.93 21 PN **Pn 00 50 19.2 +0.3**
PAU Pauzhetka 2.93 21 *e*P **Pn 00 50 19.2 +0.3**
KDTR Khodutka, Kamc 3.60 30 *e*S **Sn 00 51 08.3 -0.9**
ASAK Asacha 4.04 25 *e*P **Pn 00 50 34.9 +0.6**
ASAK Asacha 4.04 25 PN **Pn 00 50 34.9 +0.6**
MTVR Mutnovka 4.21 26 *e*P **Pn 00 50 37.2 +0.6**
MTVR *e*S **Sn 00 51 24.8 +0.2**
MTVR Mutnovka 4.21 26 PN **Pn 00 50 37.2 +0.6**
RUS Russkaya 4.27 29 *e*S **Sn 00 51 24.3 -1.4**
APC Apacha 4.38 16 *e*P **Pn 00 50 41.2 +2.5**
APC Apacha 4.38 16 PN **Pn 00 50 41.2 +2.5**
KRMR Karymshinskiy 4.51 24 *e*P **Pn 00 50 41.7 +1.2**
KRMR *e*S **Sn 00 51 31.9 +0.3**
KRMR Karymshinskiy 4.51 24 PN **Pn 00 50 41.7 +1.2**
PETK Petropavlovsk- 4.66 19 PN **Pn 00 50 44.0 +1.3**
PETK Petropavlovsk- 4.66 19 P **Pn 00 50 44.0 +1.3**
comp=Z,2.7nm,0.3s,baz=181,slow=11,SNR=60
PETK S Sn 00 51 48.9 +14
baz=340,slow=1.7,SNR=2.8
PET Petropavlovsk 4.83 26 *e*S **Sn 00 51 40.2 +0.8**
PET Petropavlovsk 4.83 26 *e*PN **Pn 00 50 46.4 +1.5**
PET Petropavlovsk 4.83 26 *e*P **Pn 00 50 46.0 +1.1**
PET *e*S **Sn 00 51 38.8 -0.6**
PET A A 00 51 49.7
comp=Z,60nm,0.4s
UGLR Uglovaya 5.04 26 *e*P **Pn 00 50 49.0 +1.1**
UGLR Uglovaya 5.04 26 PN **Pn 00 50 49.0 +1.1**
KOK Koryaka 5.06 24 *e*P **Pn 00 50 49.9 +1.7**
KOK Koryaka 5.06 24 PN **Pn 00 50 49.9 +1.7**
KOK Koryaka 5.06 24 *e*P **Pn 00 50 49.9 +1.7**
AVH Avacha 5.06 25 *e*P **Pn 00 50 49.9 +1.7**
AVH Avacha 5.06 25 PN **Pn 00 50 49.9 +1.7**
AVH Avacha 5.06 25 *e*P **Pn 00 50 49.9 +1.7**
SMAR Somma 5.08 26 *e*P **Pn 00 50 50.3 +1.7**
SMAR Somma 5.08 26 PN **Pn 00 50 50.3 +1.7**
KRER Koryakskii 5.10 25 *e*P **Pn 00 50 50.5 +1.7**
KRER Koryakskii 5.10 25 PN **Pn 00 50 50.5 +1.7**
KRX Arik 5.12 24 *e*P **Pn 00 50 50.5 +1.4**
KRX Arik 5.12 24 PN **Pn 00 50 50.5 +1.4**
GNL Ganaly 5.26 18 *e*P **Pn 00 50 52.6 +1.6**
GNL Ganaly 5.26 18 PN **Pn 00 50 52.6 +1.6**
KUR Kuril'sk 6.10 238 *e*PN **Pn 00 51 05.5 +3.2**
KUR *e*S **Sn 00 52 15.0 +4.3**
KUR pmax pmax
comp=N,22nm,0.4s
KUR pmax pmax
comp=Z,63nm,0.4s
KUR pmax pmax
comp=E,67nm,0.2s
KUR Kuril'sk 6.10 238 *e*P **Pn 00 51 04.0 +1.7**
KUR AMB AMB 00 51 07.0
comp=E,30nm,0.4s
KUR *e*S **Sn 00 52 09.4 -1.3**
KUR A A 00 52 11.8
comp=E,80nm,0.8s
KZV Kizimen 7.13 24 *e*P **Pn 00 51 19.1 +2.5**
KZV Kizimen 7.13 24 PN **Pn 00 51 19.1 +2.5**
TUMR Tumrok 7.24 23 *e*P **Pn 00 51 19.2 +1.2**
TUMR Tumrok 7.24 23 PN **Pn 00 51 19.2 +1.2**
SHO Shikotan 7.55 233 *e*PN **Pn 00 51 21.7 -0.5**
SHO pmax pmax
comp=N,10.0nm,0.2s
SHO pmax pmax
comp=Z,24nm,0.2s
SHO Shikotan 7.55 233 *e*P **Pn 00 51 24.3 +2.1**
SHO AMB AMB 00 51 26.0
comp=Z,10.0nm,0.6s
SHO *e*S **Sn 00 52 44.0 -2.3**
YUK Yuzh-Kuril'sk 7.96 237 PN **Pn 00 51 29.9 +2.0**
YUK pmax pmax
comp=N,34nm,0.3s
YUK pmax pmax
comp=Z,215nm,0.3s
YUK pmax pmax
comp=E,58nm,0.2s
YUK Yuzh-Kuril'sk 7.96 237 *e*P **Pn 00 51 29.0 +1.1**
YUK AMB AMB 00 51 32.0
comp=E,20nm,0.5s
YUK *e*S **Sn 00 52 54.2 -2.3**
GRPR Tuman 8.04 237 PN **Pn 00 51 30.3 +1.3**
GRPR pmax pmax
comp=Z,62nm,0.2s
GRPR Tuman 8.04 237 *e*P **Pn 00 51 30.0 +1.0**
GRPR AMB AMB 00 51 32.0
comp=Z,3.0nm,0.5s
GRPR *e*S **Sn 00 52 56.5 -1.9**
GLVR Golovnino 8.34 237 *e*PN **Pn 00 51 34.2 +1.1**
GLVR Golovnino 8.34 237 *e*P **Pn 00 51 34.0 +0.9**
GLVR *e*S **Sn 00 53 04.0 -1.9**
NMR Nemuro--Hokkai 8.47 234 *e*PN **Pn 00 51 33.6 -1.3**
NMR Nemuro--Hokkai 8.47 234 *e*P **Pn 00 51 33.0 -1.9**
NMR *e*rx rx 00 53 04.0
JKA Kamikawa-asahi 9.83 247 *e*P **Pn 00 51 56.9 +3.5**
ASAJ Asahikawa 9.83 247 P **Pn 00 51 56.9 +3.5**
comp=Z,4.5nm,0.3s,baz=71,slow=16,SNR=18
KLR Kul'dur 15.37 281 P **Pn 00 53 09.2 +1.0**
comp=Z,0.0nm,0.3s,baz=50,slow=8.5,SNR=1.8
USRK Ussuriysk Ar. 16.57 263 P **Pn 00 53 25.4 +1.8**
baz=62,slow=16,SNR=3.5
KSRS Korea Array 22.74 250 P **P 00 54 32.9 +0.5**
comp=Z,1.6nm,0.6s,baz=49,slow=9.7,SNR=3.7
H11N2 WAKE ISLAND Hy 30.45 158 T T 01 28 08.2
baz=342,slow=76,SNR=11
H11N1 WAKE ISLAND Hy 30.46 158 T T 01 28 12.5
baz=342,slow=76,SNR=5.7
H11N3 WAKE ISLAND Hy 30.46 158 T T 01 28 11.1
baz=342,slow=76,SNR=7.4
H11S1 WAKE ISLAND Hy 31.57 159 T T 01 29 20.6
baz=345,slow=76
H11S3 WAKE ISLAND Hy 31.58 159 T T 01 29 21.1
baz=345,slow=76
H11S2 WAKE ISLAND Hy 31.59 159 T T 01 29 24.2
baz=345,slow=76
MKAR Makanchi Array 47.27 297 P **P 00 58 01.2 -1.7**
comp=Z,0.2nm,0.5s,baz=62,slow=7.2,SNR=4.6
CMAR Chiang Mai Arr 54.18 257 P **P 00 58 54.9 -0.3**
comp=Z,0.7nm,0.3s,baz=27,slow=6.8,SNR=4.6
FINES FINESS Array B 62.82 335 P **P 00 59 52.2 -2.5**
comp=Z,1.5nm,0.9s,baz=77,slow=8.8,SNR=3.0
WRA Warramunga Arr 70.85 201 P **P 01 00 46.1 -0.1**
comp=Z,0.4nm,0.7s,baz=14,slow=7.7,SNR=3.4
ASAR Alice Springs 74.54 200 P **P 01 01 08.6 +0.6**
comp=Z,0.3nm,0.5s,baz=10,slow=5.5,SNR=3.6
TXAR Lajitas Array 75.33 62 P **P 01 01 13.3 +0.5**
comp=Z,0.1nm,0.4s,baz=258,slow=3.6,SNR=3.8

*LDG **19** 00:58:10.1±0.1,48.˚58N×7.˚71E,h10km,Md1.4/1,Ml1.5/2, Error ellipse: s-maj=1.4km s-min=1.0km az=156.0*

STR 19 00:58:09.7±0.5**,49.˚N**±2.˚×±.˚**,h14**km±4km**,MLv0.9/7, France**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STR	**Strasbourg**	**0.03**	**96**	Pg		Pg	00 58 12.6	+0.3
STR				Sg		Sg	00 58 14.4	+0.4
WLS	**Welschbruch**	**0.30**	**234**	Pg		Pg	00 58 16.0	0.0
WLS				Sg		Sg	00 58 20.1	-0.1
OPP	**Oppenau**	**0.33**	**106**	Pg		Pg	00 58 16.3	-0.1
OPP				Sg		Sg	00 58 20.7	-0.3
SUBF	**Surbourg**	**0.34**	**15**	Pg		Pg	00 58 16.7	+0.1
SUBF				Sg		Sg	00 58 21.8	+0.4
CDF	**Champ du Feu**	**0.34**	**239**	*e*Pg		Pg	00 58 16.6	-0.1
CDF				*e*Sg		Sg	00 58 21.2	-0.3
	3.3nm,0.3s							
ECH	**Echery**	**0.53**	**225**	Pg		Pg	00 58 20.2	+0.2
ECH				Sg		Sg	00 58 26.9	-0.3
KIZ	**Kirchzarten**	**0.65**	**168**	Pg		Pb	00 58 22.7	-0.1
KIZ				Sg		Sg	00 58 30.8	-0.1
HINF	**Hinteralfeld**	**0.96**	**217**	*e*Pg		Pn	00 58 28.6	-0.2
HINF				*e*Sg		Sb	00 58 40.4	-0.4
	1.3nm,0.2s							
HAU	**Haudompre**	**1.08**	**238**	*e*Pg		Pn	00 58 30.4	-0.1
HAU				*e*Sg		Sb	00 58 44.0	-0.2
	1.0nm,0.2s							

*HEL **19** 00:59:10.4,67.˚86N×20.˚01E,h0km,ML2.0, Explosion*

UPP 19 00:59:11.3±0.1**,67.˚82N×20.˚21E,h0km,ML2.6, Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUA	**Kurravaara**	**0.15**	**20**	P		Pg	00 59 14.4	+0.2
KUA				S		Sg	00 59 16.3	+0.3
KUA	**Kurravaara**	**0.15**	**20**	*i* P		Pg	00 59 14.4	+0.2
KUA				*i* S		Sg	00 59 16.3	+0.3
RATU	**Laukkuluspa**	**0.23**	**272**	P		Pg	00 59 16.0	+0.2
RATU	**Laukkuluspa**	**0.23**	**272**	*i* P		Pg	00 59 16.0	+0.2
KOVU	**Salmi**	**0.41**	**358**	P		Pg	00 59 19.2	+0.1
KOVU	**Salmi**	**0.41**	**358**	*i* P		Pg	00 59 19.2	+0.1
DUNU	**Dundret**	**0.71**	**168**	P		Pg	00 59 24.7	-0.2
DUNU	**Dundret**	**0.71**	**168**	*i* P		Pg	00 59 24.7	-0.2
LANU	**Lannavaara**	**0.71**	**70**	P		Pg	00 59 24.8	-0.1
LANU	**Lannavaara**	**0.71**	**70**	*e*P		Pg	00 59 24.5	-0.4
	baz=257							
LANU				*e*S		Sg	00 59 34.1	-0.1
KIF	**Kilpisjarvi**	**1.22**	**10**	*e*PB		Pg	00 59 34.6	0.0
KIF				MSG			00 59 47.5	
	comp=Z,13nm,0.2s							
KIF				*e*SB		Sb	00 59 50.9	-0.4
KIF	**Kilpisjarvi**	**1.22**	**10**	*e*P		Pg	00 59 34.2	-0.4
PAJU	**Pajala**	**1.38**	**124**	P		Pg	00 59 36.6	-1.1
PAJU	**Pajala**	**1.38**	**124**	*e*P		Pg	00 59 36.6	-1.1
HEF	**Hetta**	**1.43**	**64**	*e*P		Pn	00 59 37.3	-1.1
	baz=246							
HEF				MSG			00 59 54.7	
	comp=Z,11nm,0.2s							
HEF	**Hetta**	**1.43**	**64**	*e*P		Pn	00 59 37.1	-1.3
ERTU	**Ertsjaerv**	**1.48**	**148**	*e*PG		Pn	00 59 38.5	-0.7
ERTU				*e*SN		Sb	00 59 59.1	+0.1
KALU	**Kalix**	**2.33**	**146**	*e*PB		Pn	00 59 51.8	+1.1
KALU				*e*SG		Sb	01 00 23.5	+0.3
TOF	**Tornio**	**2.38**	**135**	*e*PB		Pn	00 59 53.0	+1.5
TOF				MSG			01 00 23.2	
	comp=Z,6.7nm,0.2s							
TOF				*e*SG		Sb	01 00 24.5	-0.3
SGF	**Sodankyl**	**2.45**	**96**	*e*PB		Pn	00 59 53.7	+1.3
	baz=287							
SGF				*e*SG		Sb	01 00 27.7	+1.0
RNF	**Rovaniemi**	**2.56**	**115**	*e*PB		Pn	00 59 55.8	+1.8
RNF				*e*SG		Sb	01 00 30.1	0.0
ARE0	**ARCESS Array S**	**2.60**	**46**	*e*SB		Sb	01 00 29.8	-1.2
KEV	**Kevo**	**3.15**	**49**	*e*S		Sn	01 00 40.8	+0.6
KEV				MSG			01 00 43.7	
	comp=Z,5.7nm,0.2s							
BURU	**Burvik**	**3.28**	**171**	*e*PG		Pb	01 00 11.2	+1.0
	baz=349							
OUL	**Oulu**	**3.57**	**138**	*e*PG		Pb	01 00 15.6	+0.4
VRF	**Varrio**	**3.57**	**87**	*e*PG		Pb	01 00 15.9	+0.6
	baz=275							
MSF	**Maaselka**	**3.98**	**115**	*e*P		Pn	01 00 15.4	+2.0
KU6	**Riekki**	**4.21**	**111**	*e*PG		Pb	01 00 26.7	+0.5

UPP 19 00:59:16.9±0.2**,67.˚82N×20.˚20E,h0km,ML2.1, Explosion,Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUA	**Kurravaara**	**0.15**	**20**	P		Pg	00 59 20.0	+0.3
KUA				S		Sg	00 59 21.7	+0.1
RATU	**Laukkuluspa**	**0.23**	**272**	P		Pg	00 59 21.6	+0.3
RATU				S		Sg	00 59 24.8	+0.4
PAJU	**Pajala**	**1.38**	**124**	P		Pg	00 59 42.2	-1.1

IDC 19 01:08:29.4±10.0**,20.˚11N×143.˚26E,h0km,mb3.6/4, mb1 3.7/4,mb1mx3.4/39,mbtmp3.6/4,Error ellipse: s-maj=428.1km s-min=28.8km az=78.0,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.75**	**193**	P		P	01 16 12.0	-0.3
	0.8nm,1.0s,baz=1.7,slow=8.4,SNR=3.8							
ZALV	**Zalesovo Beam**	**55.50**	**322**	P		P	01 18 04.0	-2.0
	0.4nm,0.4s,baz=101,slow=7.5,SNR=2.8							
MKAR	**Makanchi Array**	**55.83**	**313**	P		P	01 18 10.5	+1.9
	0.4nm,0.7s,baz=95,slow=7.5,SNR=3.8							
KURBB	**Kurchatov Arra**	**58.73**	**318**	P		P	01 18 28.8	-0.1
	0.6nm,0.7s,baz=88,slow=5.6							

*IDC **19** 01:13:21.7±0.4,28.˚51S×177.˚25W,h0km,mb4.7/19, mb1 4.8/21,mb1mx4.7/28,mbtmp4.6/21,ML3.4/2,MS3.9/25, Ms1 3.9/25,ms1mx3.8/38,Error ellipse: s-maj=17.3km s-min=14.6km az=86.0*

*ISCJB **19** 01:13:24.4±0.3,28.˚89S±0.˚03×177.˚14W±0.˚06,h35km, mb4.9/40,MS4.1/26,Error ellipse: s-maj=7.4km s-min=3.6km az=20.1*

*NEIC **19** 01:13:26.0±1.8,28.˚56S±0.˚06×177.˚07W±0.˚08,h35km±1km, mb4.8/72*

*MOS **19** 01:13:27.8±2.1,28.˚73S×177.˚19W,h57km,mb5.0/11, Error ellipse: s-maj=12.5km s-min=11.1km az=85.9*

*GCMT **19** 01:13:30.0±0.4,28.˚56S±0.˚03×177.˚01W±0.˚03,h47km±1km, MW5.0/62,Moment Tensor Solution. s47,c58; s62,c72; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}3.23±.18; $M_{\theta\theta}$-0.08±.15; $M_{\phi\phi}$-3.15±.12; $M_{r\theta}$0.51±.09; $M_{r\phi}$-0.76±.11; $M_{\theta\phi}$1.28±.09; Best double couple: M_o3.55700×10¹⁶ NP1:ϕ_s17.00000°,δ56.00000°,λ94.00000°. NP2: ϕ_s190.00000°,δ34.00000°,λ84.00000°. Principal axes: T 3.5140, Plg78.0000°, Azm300.0000°; N 0.0860, Plg3.0000°, Azm194.0000°; P -3.6000, Plg11.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **19** 01:13:40.0±0.0,28.˚50S×177.˚30W,h142km,mb5.2/9*

ISC 19 01:13:26.5±0.3**,28.˚73S**±0.˚05×**177.˚02W**±0.˚06**,h35**km**, n370,σ1°72/**331**,mb4.9**/64**,MS4.1**/26**,32C-10D,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**0.95**	**236**	P		**Pn**	**01 13 43.5**	**+0.2**
RAO							01 13 58.8	
RAO	**Raoul Island**	**0.95**	**236**	Pn		**Pn**	**01 13 45.9**	**+2.6**
	2μm,0.3s,baz=335,slow=5.2,SNR=79							
RAO				Sn		**Sn**	**01 13 59.4**	**+3.8**
	22μm,0.3s,baz=102,slow=20,SNR=69							
RAO				LR		LR	01 14 10.6	
	comp=Z,3μm,20.4s,baz=174,slow=52							
RAO	**Raoul Island**	**0.95**	**236**			**Pn**	**01 13 43.5**	**+0.2**
RAO				Sn		**Sn**	**01 13 58.8**	**+3.2**
RIZ	**Raoul Island**	**0.95**	**237**	P		**Pn**	**01 13 46.1**	**+2.7**
RIZ				S		**Sn**	**01 13 59.3**	**+3.6**
GLKZ	**Green Lake**	**0.95**	**236**	P		**Pn**	**01 13 46.5**	**+3.2**
GLKZ				S		**Sn**	**01 13 57.3**	**+1.6**
MXZ	**Matakaoa Point**	**9.64**	**203**	P		Pn	01 15 38.0	-4.6
MXZ	**Matakaoa Point**	**9.64**	**203**	Pn		**Pn**	**01 15 43.4**	**+0.8**
WMGZ	**Waiomatatini S**	**9.84**	**202**	P		**Pn**	**01 15 42.1**	**-3.3**
HAZ	**Te Kaha**	**10.00**	**204**	P		**Pn**	**01 15 44.3**	**-3.3**
HAZ				S		**Sn**	**01 17 37.0**	**-1.5**
PKGZ	**Pakihiroa**	**10.01**	**203**	P		**Pn**	**01 15 43.9**	**-3.9**
PKGZ				S		**Sn**	**01 17 32.3**	**-6.7**
PKGZ	**Pakihiroa**	**10.01**	**203**	P		**Sn**	**01 17 32.3**	**-6.7**
PUZ	**Puketiti**	**10.12**	**202**	P		Pn	01 15 41.7	-7.5
PUZ	**Puketiti**	**10.12**	**202**	P		**Sn**	**01 17 38.7**	**-2.8**
RUGZ	**Raukumara Rang**	**10.22**	**204**	P		Pn	01 15 46.4	-4.4
RUGZ				S		**Sn**	**01 17 41.1**	**-3.1**
WCZ	**Waipu Caves**	**10.25**	**223**	P		Pn	01 16 01.7	+11
TWGZ	**Tauwhareparae**	**10.31**	**203**	P		Pn	01 15 47.2	-4.6
CNGZ	**Carnagh Statio**	**10.51**	**201**	P		Pn	01 15 50.0	-4.6
MWZ	**Matawai**	**10.60**	**204**	P		**Pn**	**01 15 52.5**	**-3.4**
MWZ				S		**Sn**	**01 17 48.8**	**-4.6**
URZ	**Urewera**	**10.69**	**206**	Pn		Pn	01 15 52.3	-4.7
	0.6nm,0.3s,baz=274,slow=5.5,SNR=7.4							
URZ				Sn		**Sn**	**01 17 51.3**	**-4.2**
	7.5nm,0.3s,baz=167,slow=19,SNR=8.5							
URZ	**Urewera**	**10.69**	**206**	P		Pn	01 15 52.4	-4.6
URZ	**Urewera**	**10.69**	**206**			**Pn**	**01 15 56.5**	**-0.5**
URZ						**Sn**	**01 17 54.1**	**-1.4**
RTZ	**Ruatahuna**	**11.05**	**205**	P		Pn	01 15 57.4	-4.7
MTHZ	**Maungataniwha**	**11.31**	**205**	P		**Pn**	**01 16 02.3**	**-3.4**
NIUE	**Niue**	**11.59**	**36**	P		Pn	01 16 06.2	-3.2
	baz=12,SNR=8.3							
NIUE	**Niue**	**11.59**	**36**	Pn		**Pn**	**01 16 06.5**	**-3.0**
BKZ	**Black Stump Fm**	**11.72**	**206**	P		**Pn**	**01 16 09.8**	**-1.3**
BKZ	**Black Stump Fm**	**11.72**	**206**	Pn		**Pn**	**01 16 10.1**	**-1.1**
MSVF	**Nonsavu**	**11.84**	**336**↑	*e*P		Pn	01 16 18.8	+5.8
MSVF	**Nonsavu**	**11.84**	**336**			**Pn**	**01 16 12.3**	**-0.7**
HIZ	**Hauiti**	**11.87**	**213**	P		**Pn**	**01 16 17.1**	**+3.9**
OTVZ	**Oturere**	**12.05**	**208**	P		**Pn**	**01 16 15.0**	**-0.8**
KAHZ	**Kahuranaki**	**12.13**	**203**	P		**Pn**	**01 16 14.4**	**-2.4**
BHHZ	**Black Hill Sta**	**12.16**	**206**	P		**Pn**	**01 16 16.7**	**-0.6**
BFZ	**Birch Farm**	**13.14**	**203**	Pn		**Pn**	**01 16 28.3**	**-2.2**
PAWZ	**Paruwai Farm**	**14.05**	**204**	P		**P**	**01 16 49.1**	**-1.2**
MSWZ	**Moikau Station**	**14.14**	**204**	P		**Pn**	**01 16 46.7**	**+2.5**
PLWZ	**Palliser**	**14.28**	**204**	P		**Pn**	**01 16 44.9**	**-1.2**
TCW	**Tory Channel**	**14.34**	**207**	P		Pn	01 16 42.8	-4.1
TUWZ	**Tuamarina**	**14.66**	**208**	P		**Pn**	**01 16 49.3**	**-1.9**
NNZ	**Nelson**	**14.72**	**210**	P		**Pn**	**01 16 50.7**	**-1.4**
THZ	**Tophouse**	**15.38**	**210**	P		**Pn**	**01 16 56.9**	**-3.9**
THZ	**Tophouse**	**15.38**	**210**	Pn		**Pn**	**01 17 00.1**	**-0.7**
KHZ	**Kahutara**	**15.65**	**207**	P		**Pn**	**01 16 59.8**	**-4.5**
KHZ	**Kahutara**	**15.65**	**207**			**Pn**	**01 17 00.3**	**-4.0**
KHZ				lAmb		lAmb	01 17 10.1	
	comp=Z,38nm,0.7s							
GVZ	**Greta Valley S**	**16.32**	**207**	P		**Pn**	**01 17 08.4**	**-4.4**
DZM	**Mont Dzumac**	**16.34**	**290**	*e*P		**P**	**01 17 17.8**	**+1.8**
	comp=Z,101nm,1.4s							
DZM				*e*LR		LR	01 20 53.0	
	comp=Z,2μm,25.4s							
DZM	**Mont Dzumac**	**16.34**	**290**	Pn		**Pn**	**01 17 09.3**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=136,slow=17,SNR=2.4							
DZM				LR		LR	01 22 06.9	
	comp=Z,1μm,20.8s,baz=154,slow=33							
DZM	**Mont Dzumac**	**16.34**	**290**			**Pn**	**01 17 11.3**	**-2.0**
LTZ	**Lake Taylor**	**16.48**	**209**	P		**Pn**	**01 17 10.3**	**-4.6**
AMCZ	**Amberley**	**16.65**	**207**	P		**Pn**	**01 17 13.1**	**-3.9**
INZ	**Inchbonnie**	**16.79**	**211**	P		**Pn**	**01 17 16.3**	**-2.5**
OXZ	**Oxford**	**17.02**	**208**	P		**Pn**	**01 17 19.5**	**-2.2**
OXZ	**Oxford**	**17.02**	**208**	P		**Pn**	**01 17 19.5**	**-2.2**
OXZ				lAmb		lAmb	01 17 23.4	
	comp=Z,24nm,0.4s							
RAR	**Rarotonga**	**17.32**	**68**	P		**Pn**	**01 17 25.9**	**+0.4**
RAR				pmax		pmax		
	comp=Z,19nm,1.2s							
RAR	**Rarotonga**	**17.32**	**68**	P		**Pn**	**01 17 25.6**	**+0.1**
	comp=Z,2.7nm,0.3s,baz=215,slow=12,SNR=3.6							
RAR				LR		LR	01 22 43.9	
	comp=Z,377nm,19.3s,baz=262,slow=32							
RAR	**Rarotonga**	**17.32**	**68**	P		**Pn**	**01 17 25.9**	**+0.4**
RPZ	**Rata Peaks**	**17.75**	**209**	P		**Pn**	**01 17 28.4**	**-2.4**
	comp=Z,3.3nm,0.3s,baz=224,slow=0.7,SNR=7.6							
RPZ				LR		LR	01 24 29.0	
	comp=Z,265nm,21.4s,baz=37,slow=37							
RPZ	**Rata Peaks**	**17.75**	**209**	P		**Pn**	**01 17 26.1**	**-4.8**
RPZ	**Rata Peaks**	**17.75**	**209**	P		**Pn**	**01 17 28.9**	**-1.9**
WKZ	**Wanaka**	**19.53**	**211**	P		**P**	**01 17 48.1**	**-2.8**
WKZ				lAmb		lAmb	01 18 04.0	
	comp=Z,46nm,1.2s							
LHI	**Lord Howe Isla**	**20.87**	**256**	P		Pn	01 18 09.9	+1.8
	baz=21,SNR=4.6							
LHI	**Lord Howe Isla**	**20.87**	**256**	P		**P**	**01 18 04.5**	**-1.0**
TBI	**Tubuai**	**25.30**	**84**	*e*S		S	01 23 28.6	+15
	comp=Z,312nm,30.8s							
TBI				*e*LR		LR	01 25 17.7	
	comp=Z,1μm,26.8s,baz=246							
TBI	**Tubuai**	**25.30**	**84**	*e*T		T	01 45 30.3	
	comp=Z,38nm,0.3s							
ARMA	**Armidale**	**27.28**	**259**	P		**P**	**01 19 09.9**	**+2.1**
	baz=27,SNR=4.5							
PAE	**Paea**	**27.45**	**72**	*e*T		T	01 47 52.2	
	comp=Z,18nm,0.3s							
PPT2	**Papeete2**	**27.49**	**72**	*e*S		S	01 24 01.4	+13
	comp=Z,119nm,25.0s							
PPT2				*e*LR		LR	01 26 12.0	
	comp=Z,1μm,25.8s,baz=238							
PPT2	**Papeete2**	**27.49**	**72**	*e*T		T	01 47 56.8	
	comp=Z,7.5nm,0.3s							
PPT	**Papeete**	**27.50**	**72**	LR		LR	01 27 17.5	
	comp=Z,203nm,21.3s,baz=238,slow=30							
TVO	**Taravao**	**27.67**	**73**	*e*T		T	01 48 10.7	
	comp=Z,3.2nm,0.3s							
CAN	**Canberra**	**29.45**	**248**	P		**P**	**01 19 28.3**	**+1.2**
	baz=29							
RMQ	**Roma**	**30.35**	**266**	P		**P**	**01 19 37.3**	**+2.2**
	baz=30,SNR=6.4							
CMSA	**Cobar Meteorol**	**32.28**	**256**	P		**P**	**01 19 52.6**	**+0.7**
	baz=32,SNR=11							
TOO	**Toolangi**	**32.43**	**244**	P		**P**	**01 19 54.3**	**+1.0**
	baz=32,SNR=5.5							
TOO	**Toolangi**	**32.43**	**244**	P		**P**	**01 19 52.4**	**-0.9**
TOO				pmax		pmax		
	comp=Z,14nm,1.0s							
TOO	**Toolangi**	**32.43**	**244**	P		**P**	**01 19 52.4**	**-0.9**
TOO				lAmb		lAmb	01 19 56.2	
	comp=Z,14nm,1.0s							
ARPS	**Mount Arapiles**	**35.31**	**246**	P		**P**	**01 20 18.3**	**0.0**
	baz=35,SNR=6.8							
STKA	**Stephens Creek**	**35.72**	**254**	P		**P**	**01 20 21.5**	**-0.4**
STKA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
STKA	**Stephens Creek**	**35.72**	**254**	P		**P**	**01 20 21.2**	**-0.6**
	comp=Z,15nm,0.8s,baz=94,slow=9.1,SNR=35							
STKA				LR		LR	01 34 15.0	
	comp=Z,332nm,18.0s,baz=60,slow=35							
STKA	**Stephens Creek**	**35.72**	**254**	P		**P**	**01 20 21.4**	**-0.4**
MTSU	**Mount Surprise**	**36.87**	**278**	P		**P**	**01 20 32.1**	**+0.3**
	baz=37,SNR=4.0							
HTT	**Hallett**	**37.82**	**252**	P		**P**	**01 20 39.2**	**-0.6**
	baz=38,SNR=19							
COEN	**Coen**	**39.68**	**283**	P		**P**	**01 20 55.4**	**-0.1**
	baz=40,SNR=5.2							
COEN	**Coen**	**39.68**	**283**	P		**P**	**01 20 53.5**	**-1.9**
COEN				lAmb		lAmb	01 20 56.7	
	comp=Z,19nm,1.1s							
TAOE	**Nuku Hiva Isla**	**39.87**	**68**	*e*LR		LR	01 31 53.1	
	comp=Z,562nm,25.3s							
QIS	**Mount Isa**	**40.08**	**272**	P		**P**	**01 20 58.8**	**0.0**
	baz=40,SNR=4.0							
BBOO	**Buckleboo**	**40.27**	**252**	P		**P**	**01 20 59.0**	**-1.3**
	baz=40,SNR=17							
BBOO	**Buckleboo**	**40.27**	**252**	P		**P**	**01 20

FITZ **Fitzroy Crossi** 53.24 268 P P 01 22 40.7 -1.2
KLBR **Kellerberrin** 55.72 250 P P 01 22 57.8 -1.9
baz=56,SNR=7.2
MEEK **Meekatharra** 56.41 256 P P 01 22 57.9 -6.9
baz=56,SNR=3.8
CASY **Casey** 57.01 207 P P 01 23 08.5 +0.2
PSA00 **Pilbara Seismi** 57.03 262 P P 01 23 07.7 -1.5
MORW **Morawa** 57.84 252 P P 01 23 12.9 -1.9
baz=58,SNR=4.6
MORW **Morawa** 57.84 252 P P 01 23 13.0 -1.9
SOEI **Soe** 57.99 277 P P 01 23 16.9 +0.7
comp=Z,42nm,1.0s
QSPA **South Pole Qui** 61.38 180 P P 01 23 42.0 +3.3
comp=Z,19nm,1.1s,baz=36,slow=1.4,SNR=28
QSPA **South Pole Qui** 61.38 180 P P 01 23 40.0 +1.3
PLAI **Plampang** 64.09 274 P P 01 23 56.2 -1.3
comp=Z,66nm,0.9s
KAPI **Kappang** 64.18 279 *ce*P P 01 23 57.6 -0.4
KAPI pmax pmax
comp=Z,26nm,2.5s
TWSI **Taliwang, Sumb** 64.92 274 P P 01 24 01.7 -1.1
comp=Z,26nm,1.0s
IGBI **Denpasar** 66.41 273 P P 01 24 12.4 0.0
comp=Z,22nm,0.8s
SRBI **Singaraja** 66.68 274 P P 01 24 13.6 -0.6
comp=Z,36nm,1.3s
JAGI **Jajag, Banyuwa** 67.44 273 P P 01 24 17.6 -1.4
comp=Z,42nm,1.0s
JAGI **Jajag, Banyuwa** 67.44 273 P P 01 24 17.2 -1.8
GMJI **Gumukmas** 68.15 272 P P 01 24 22.8 -0.7
comp=Z,26nm,1.1s
PCJI **Pacitan** 70.17 271 P P 01 24 34.4 -1.6
comp=Z,77nm,1.2s
PMSA **Palmer Station** 73.43 156 P P 01 24 55.8 +1.1
comp=Z,1.5nm,0.3s,baz=1.9,slow=9.0,SNR=6.7
PMSA **Palmer Station** 73.43 156 P P 01 24 55.4 +0.6
MAW **Mawson** 74.17 200 P P 01 25 00.5 +1.5
baz=74,SNR=11
MAW **Mawson** 74.17 200 P P 01 24 59.5 +0.5
MAW pmax pmax
comp=Z,4.0nm,1.2s
MAW **Mawson** 74.17 200 P P 01 25 00.3 +1.3
comp=Z,8.1nm,0.7s,baz=118,slow=8.1,SNR=19
MAW LR LR 01 56 03.2
comp=Z,62nm,21.4s,baz=64,slow=34
MAW **Mawson** 74.17 200 P P 01 24 59.5 +0.5
MJAR **Matsushiro Arr** 77.37 324 P P 01 25 16.4 -1.3
comp=Z,7.9nm,0.8s,baz=147,slow=5.4,SNR=12
MJAR LR LR 01 54 30.9
comp=Z,44nm,21.8s,baz=85,slow=32
MAJO **Matsushiro** 77.37 324 P P 01 25 16.5 -1.2
MAJO pmax pmax
comp=Z,13nm,1.0s
MAJO **Matsushiro** 77.37 324 P P 01 25 16.5 -1.2
MAJO IAmb IAmb 01 25 20.9
comp=Z,13nm,1.0s
MJB9 **Matsu-Tunnel** 77.38 324 P P 01 25 16.2 -1.6
MJB9 IAmb IAmb 01 25 20.9
comp=Z,13nm,1.0s
JNU **Nakatsue** 78.89 318 LR LR 01 54 09.5
comp=Z,116nm,19.3s,baz=130,slow=31
SYO **Syowa Base** 78.93 193 *i*P P 01 25 25.9 0.0
NMR **Nemuro--Hokkai** 79.48 333 *e*P P 01 25 25.9 -3.2
NMR *e*S pP 01 25 44.8 +5.7
SNAA **Sanae** 79.80 178 P P 01 25 32.3 +1.6
SNAA **Sanae** 79.80 178 ⇓ *e*P P 01 25 32.6 +1.9
SNAA **Sanae** 79.80 178 P P 01 25 32.1 +1.4
comp=Z,11nm,0.9s,baz=206,slow=5.4,SNR=22
SNAA **Sanae** 79.80 178 P P 01 25 32.0 +1.3
SNAA IAmb IAmb 01 25 33.6
comp=Z,19nm,1.1s
VNA3 **Neumayer Olymp** 79.51 176 P P 01 25 32.8 +1.6
VNA2 **Neumayer--Watz** 80.35 177 P P 01 25 35.7 +2.0
baz=165,slow=4.2
VNA1 **Neumayer--Stat** 80.58 176 P P 01 25 36.9 +2.1
ASAJ **Asahikawa** 81.37 332 LR LR 01 55 49.1
comp=Z,186nm,20.5s,baz=194,slow=31
LPIG **La Paz** 82.92 58 LR LR 01 53 06.8
comp=Z,85nm,21.8s,baz=218,slow=29
PLCA **Paso Flores** 83.01 133 P P 01 25 48.3 -0.1
PLCA pmax pmax
comp=Z,4.0nm,1.1s
PLCA **Paso Flores** 83.01 133 P P 01 25 50.8 +2.4
comp=Z,0.8nm,0.7s,baz=236,slow=21,SNR=3.2
PLCA LR LR 01 54 26.2
comp=Z,52nm,18.8s,baz=303,slow=30
PLCA **Paso Flores** 83.01 133 P P 01 25 48.3 -0.1
YSS **Yuzh-Sakhalins** 83.63 334 ⇓ *e*P P 01 25 52.2 +1.2
YSS *e* 01 26 05.1
YSS *e* 01 26 11.2
YSS pmax pmax
comp=Z,40nm,0.8s
YSS pmax pmax
comp=Z,300nm,2.9s
YSS MLR MLR
comp=Z,300nm,10.0s
KSRS **Korea Array** 83.64 319 P P 01 25 51.2 -0.1
comp=Z,4.2nm,0.8s,baz=146,slow=6.5,SNR=9.1
PEA0B **Petropavlovsk-** 84.42 345 P P 01 25 54.3 -0.6
PEA0B pmax pmax
comp=Z,18nm,0.8s
PEA0B **Petropavlovsk-** 84.42 345 P P 01 25 54.3 -0.6
PETK **Petropavlovsk-** 84.42 345 P P 01 25 54.7 -0.2
comp=Z,25nm,0.8s,baz=134,slow=7.3,SNR=24
PFO **Pinyon Flats O** 84.44 47 LR LR 01 54 00.0
comp=Z,139nm,21.6s,baz=226,slow=29
ISA **Isabella, Lake** 84.51 44 IAmb IAmb 01 25 59.5
comp=Z,8.9nm,1.1s
CMB **Columbia Colle** 84.95 41 IAmb IAmb 01 26 01.1
comp=Z,6.1nm,1.0s
AFDM **Forest Hills D** 85.23 40 IAmb IAmb 01 26 02.9
comp=Z,5.3nm,1.0s
GSC **Goldstone, Bar** 85.31 45 IAmb IAmb 01 26 19.4
comp=Z,7.8nm,1.1s
ORV **Oroville** 85.35 40 IAmb IAmb 01 26 02.9
comp=Z,5.1nm,1.1s
WAKR **Walker** 85.82 42 IAmb IAmb 01 26 06.0
comp=Z,12nm,1.1s
YBH **Yreka Blue Hor** 86.19 38 LR LR 01 55 51.7
comp=Z,73nm,19.8s,baz=232,slow=30
USRK **Ussuriysk Ar.** 86.25 326 P P 01 26 04.6 +0.4
comp=Z,6.6nm,0.8s,baz=114,slow=4.5,SNR=9.5
NVAR **Mina Array Bea** 86.43 42 P P 01 26 07.3 +1.7
comp=Z,5.7nm,0.9s,baz=221,slow=7.8,SNR=26
NVAR LR LR 01 56 23.3
comp=Z,114nm,21.7s,baz=239,slow=30
NV11 **Mina Array Sit** 86.52 42 IAmb IAmb 01 26 08.9
comp=Z,6.3nm,1.0s
PAHR **Pah Rah Range** 86.65 41 IAmb IAmb 01 26 09.4
comp=Z,4.7nm,1.0s
TPNV **Topopah Spring** 86.71 44 IAmb IAmb 01 26 10.4
comp=Z,7.3nm,1.1s
KVN **Kaiserville** 86.96 42 IAmb IAmb 01 26 26.9
comp=Z,6.2nm,1.0s
TUC **Tucson** 87.40 51 P P 01 26 08.4 -1.9
TUC pmax pmax
comp=Z,4.0nm,1.0s
TUC **Tucson** 87.40 51 P P 01 26 08.4 -1.9
TUC IAmb IAmb 01 26 26.2
comp=Z,3.6nm,0.9s
MOD **Modoc Plateau** 87.61 39 P P 01 26 10.6 -0.5
MOD IAmb IAmb 01 26 13.9
comp=Z,3.9nm,0.8s
WHN **Wuhan** 88.04 306 ⇓ P Px 01 26 47.0
X16A **Lo Mia Camp, P** 88.21 49 P P 01 26 12.6 -1.7
X16A IAmb IAmb 01 26 30.9
comp=Z,3.2nm,0.8s
PINE **Pine Mountain** 88.56 37 P P 01 26 14.7 -0.9
PINE IAmb IAmb 01 26 19.0
comp=Z,7.4nm,1.1s
U15A **North Rim** 88.87 47 P P 01 26 16.7 -0.7
U15A IAmb IAmb 01 26 21.4
comp=Z,10nm,1.1s
WUAZ **Wupatki** 88.92 48 IAmb IAmb 01 26 21.4
comp=Z,10nm,1.1s
GRNR **Gornyy** 89.19 333 *e*P P 01 26 16.7 -1.5
GRNR pmax pmax
comp=Z,20nm,0.9s
G06A **Carlson Farm,** 89.70 36 IAmb IAmb 01 26 23.8
comp=Z,12nm,1.1s
ELK **Elko** 89.73 42 LR LR 01 58 14.3
comp=Z,141nm,21.0s,baz=244,slow=30
KLR **Kul'dur** 90.03 329 ⇓ *i*P P 01 26 22.0 -0.2
KLR pmax pmax
comp=Z,12nm,1.1s
TXAR **Lajitas Array** 90.76 57 P P 01 26 28.2 +2.0
comp=Z,0.6nm,0.9s,baz=211,slow=7.0,SNR=6.8
TXAR LR LR 02 02 24.7
comp=Z,21nm,18.1s,baz=0.0,slow=32
MFID **Camas Ranch** 91.09 40 IAmb IAmb 01 26 30.9
comp=Z,6.7nm,1.1s
BMO **Blue Mountains** 91.20 38 P P 01 26 27.7 -0.2
BMO pmax pmax
comp=Z,2.0nm,0.9s
BMO **Blue Mountains** 91.20 38 P P 01 26 27.7 -0.2
ANMO **Albuquerque** 91.86 51 ⇑ *e*P P 01 26 33.7 +2.4
ANMO pmax pmax
comp=Z,2.0nm,1.2s
ANMO **Albuquerque** 91.86 51 LR LR 01 58 46.6
comp=Z,65nm,21.8s,baz=228,slow=30
ANMO **Albuquerque** 91.86 51 P P 01 26 30.2 -1.1
NEW **Newport** 93.52 35 LR LR 01 59 43.3
comp=Z,126nm,20.6s,baz=210,slow=30
MCMT **McKenzie Canyo** 93.65 40 P P 01 26 37.7 -1.7
CMAR **Chiang Mai Arr** 93.67 289 P P 01 26 41.1 +1.4
comp=Z,1.6nm,0.7s,baz=140,slow=2.7,SNR=7.7
CMAR LR LR 02 07 50.2
comp=Z,25nm,20.8s,baz=135,slow=35
XAN **Xi'an** 93.80 307 P P 01 26 41.6 +1.6
XAN pmax pmax
comp=Z,9.0nm,1.0s
XAN **Xi'an** 93.80 307 P P 01 26 38.3 -1.7
XAN **Xi'an** 93.80 307 P P 01 26 38.3 -1.7
REDW **Red Top Meadow** 93.92 42 IAmb IAmb 01 26 43.4
comp=Z,7.6nm,1.1s
TPAW **Teton Pass** 93.93 42 IAmb IAmb 01 26 43.7
comp=Z,5.0nm,1.0s
SNOW **Snow King Moun** 94.03 42 IAmb IAmb 01 26 44.6
comp=Z,9.7nm,1.1s
PDAR **Pinedale Array** 94.33 43 P P 01 26 43.0 +0.5
comp=Z,1.1nm,0.8s,baz=202,slow=4.7,SNR=4.8
PDAR PKKPbc PKKPbc 01 43 43.2 -0.4
comp=Z,0.5nm,0.7s,baz=75,slow=4.2,SNR=5.9
PDAR LR LR 02 01 06.4
comp=Z,109nm,21.3s,baz=240,slow=30
QLMT **Earthquake Lak** 94.45 41 P P 01 26 43.0 -0.1
SEY **Seymchan** 94.55 346 *i* P P 01 26 42.0 -0.7
SEY **Seymchan** 94.55 346 P P 01 26 42.5 -0.3
comp=Z,9.3nm,0.9s,baz=82,slow=19,SNR=11
ILAR **Eielson Array** 96.11 12 P P 01 26 49.6 -0.2
comp=Z,0.4nm,0.7s,baz=226,slow=4.5,SNR=5.5
ILAR LR LR 02 09 04.3
comp=Z,28nm,18.4s,baz=180,slow=35
BILL **Bilibino** 97.28 354 *e*P P 01 26 54.5 -0.5
BILL *e* 01 30 50.7
BILL pmax pmax
comp=Z,2.0nm,1.0s
LPAZ **La Paz** 98.03 113 LR LR 02 03 13.4
comp=Z,40nm,20.7s,baz=274,slow=30
RSSD **Black Hills** 98.43 44 P P 01 27 00.5 -0.6
RSSD pmax pmax
comp=Z,6.0nm,1.1s
RSSD **Black Hills** 98.43 44 P P 01 27 00.5 -0.6
RSSD IAmb IAmb 01 27 03.9
comp=Z,6.0nm,1.1s
SONM **Songino Array** 102.48 318 P Pdif 01 27 19.7 +0.8
comp=Z,0.4nm,0.9s,baz=95,slow=7.2,SNR=2.6
YKA **Yellowknife Ar** 103.57 25 PKKPbc PKKPbc 01 43 16.8 -0.9
comp=Z,0.8nm,0.8s,baz=42,slow=2.8,SNR=6.8
MKAR **Makanchi Array** 117.35 311 PKP PKPdf 01 32 06.4 -1.7
comp=Z,2.2nm,0.8s,baz=67,slow=3.2,SNR=17
ZALV **Zalesovo Beam** 117.35 319 PKP PKPdf 01 32 06.0 -1.7
comp=Z,0.9nm,0.5s,baz=152,slow=9.5,SNR=5.6
BOSA **Boshof** 119.13 202 PKIKP PKPdf 01 32 12.4 +0.1
BOSA **Boshof** 119.13 202 PKP PKPdf 01 32 12.5 +0.2
comp=Z,2.7nm,0.9s,baz=198,slow=2.6,SNR=5.4
BOSA **Boshof** 119.13 202 PKPdf 01 32 12.4 +0.1
KSH **Kashi** 120.12 301 PKP PKPdf 01 32 13.3 -0.4
KSH SS SS 01 49 54.0 -11
KURK **Kurchatov** 120.51 314 *c i*PKIKP PKPdf 01 32 11.4 -2.5
KURK pmax pmax
comp=Z,50nm,1.0s
KURK **Kurchatov** 120.51 314 PKPdf 01 32 13.4 -0.5
BRVK **Borovoye** 125.86 317 PKIKP PKPdf 01 32 23.8 -0.4
BRVK **Borovoye** 125.86 317 PKPdf 01 32 23.8 -0.4
LSZ **Lusaka** 129.92 212 PKP PKPdf 01 32 34.7 +1.4
comp=Z,1.6nm,0.6s,baz=190,slow=5.2,SNR=4.2
ARU **Arti** 132.33 322 *i* PKIKP PKPdf 01 32 34.7 -1.6
ABKAR **Akbulak array** 132.45 312 PKPdf 01 32 35.3 -1.5
GEYT **Alibeck** 133.61 296 PKP PKPdf 01 32 39.2 -0.2
comp=Z,2.5nm,0.8s,baz=325,slow=9.0,SNR=3.4
KMBO **Kilima Mbogo** 135.75 234 PKP PKPdf 01 32 43.4 -1.0
comp=Z,3.7nm,1.0s,baz=40,slow=3.8,SNR=5.7
PRGR **Permogore** 136.77 332 *e*PKIKP PKPdf 01 32 42.0 -2.5
PRGR pmax pmax
comp=Z,7.0nm,1.1s
ARCES **ARCESS Array B** 137.13 349 PKhKP PKPpre 01 32 37.6
comp=Z,3.2nm,0.9s,baz=15,slow=5.0,SNR=3.6
ARCES PKP PKPdf 01 32 44.4 -0.6
comp=Z,3.3nm,0.8s,baz=5.7,slow=1.8,SNR=4.8
VRH **Novokhopyorsk** 143.39 319 *e*PKIKP PKiKP 01 33 00.2 +0.1
VRH pmax pmax
comp=Z,10.0nm,0.6s
TBLG **Delisi** 143.85 302 PKIKP PKPab 01 32 55.8 +0.7
TBLG **Delisi** 143.85 302 *e*P PKiKP 01 33 05.4 +3.9
TBLG **Delisi** 143.85 302 PKPab 01 32 55.9 +0.7
FINES **FINESS Array B** 143.86 341 PKhKP PKPab 01 32 54.2 -0.2
comp=Z,5.4nm,0.9s,baz=56,slow=4.8,SNR=13
FINES PKP PKPdf 01 32 58.5 +1.2
comp=Z,3.4nm,0.6s,baz=98,slow=2.8,SNR=15
OBN **Obninsk** 144.27 327 *e*PKIKP PKPab 01 32 55.8 -0.3
OBN *e* 01 36 09.2
OBN pmax pmax
comp=Z,38nm,1.1s
LPSR **Galich'ya Gora** 144.35 322 *e*PKHKP PKPab 01 32 53.6 -3.0
LPSR pmax pmax
comp=Z,8.0nm,0.7s
NCK **Nalchik** 144.41 306 *c i*PKIKP PKPab 01 32 58.0 +0.9
GOF **Gofitskoye** 144.47 308 ⇑ *i*PKIKP PKPab 01 32 57.5 +0.2
GOF pmax pmax
comp=Z,34nm,0.7s
ONI **Oni** 144.67 304 *e*P PKPab 01 32 59.5 +1.3
CLDR **Caldiran** 144.75 298 *e*P PKPab 01 32 59.7 +0.9
AKH **Akhalkalaki** 144.82 302 PKIKP PKPab 01 32 59.7 +0.7
AKH **Akhalkalaki** 144.82 302 ⇑ P PKPab 01 32 59.9 +0.9
AKH **Akhalkalaki** 144.82 302 *e*P PKPbc 01 33 00.3 +1.3
AKH **Akhalkalaki** 144.82 302 PKPab 01 32 59.6 +0.7
VSR **Storozhevoye** 144.85 320 *e*PKIKP PKPab 01 32 56.7 -1.7
VSR pmax pmax
comp=Z,30nm,0.7s
KBZ **Khabaz** 144.86 306 PKP PKPab 01 32 58.5 -0.2
comp=Z,5.4nm,0.8s,baz=82,slow=2.4,SNR=17
KIV **Kislovodsk** 144.96 307 *e*PKIKP PKPbc 01 32 59.7 +0.4
KIV pmax pmax
comp=Z,39nm,1.0s
KIV **Kislovodsk** 144.96 307 ⇓ P PKPbc 01 32 59.2 0.0
KIV **Kislovodsk** 144.96 307 PKPbc 01 32 58.9 -0.4
NEY **Neytrino** 145.08 305 *c i*PKIKP PKPab 01 33 01.1 +1.3
CUKT **Cukurca** 145.10 295 *e*P PKPbc 01 33 00.1 +0.1
VANB **Van** 145.20 297 *e*P PKiKP 01 33 05.3 +0.8
AGRB **Hanur-Agry** 145.42 299 *e*P PKPdf 01 33 02.2 +1.2
AKDM **Akdamar-Van** 145.54 297 *e*P PKPdf 01 33 02.5 +1.3
SENK **Senkaya-Erzuru** 145.79 301 *e*P PKPbc 01 33 03.4 +1.2
MLAZ **Malazgirt-MUS** 145.81 298 *e*P PKPdf 01 33 02.8 +1.2
VSU **Vasula** 146.03 338 *e*P PKPdf 01 33 01.7 +0.6
VSU IAmb IAmb 01 33 03.2
comp=Z,242nm,0.8s
GURO **Guroymak-BITLI** 146.26 297 *e*P PKPbc 01 33 04.4 +0.8
VRTB **Varto-Mus** 146.65 298 *e*P PKPab 01 33 07.3 +1.4
SVAN **Silvan-Diyarba** 146.95 297 *e*P PKPbc 01 33 06.1 +0.6
NB2 **NORSAR Subarra** 147.22 353 PKP PKPdf 01 33 04.4 +1.2
comp=Z,23nm,1.4s,baz=10,slow=3.2
NOA **NORSAR Array B** 147.22 353 PKPbc PKPdf 01 33 04.0 +0.9
comp=Z,0.7nm,0.5s,baz=160,slow=19,SNR=13
BNGB **Bingl** 147.27 298 *e*P PKPbc 01 33 07.4 +1.0
IZAR **Zarasai** 148.28 335 *e*P PKPdf 01 33 06.6 +1.6
IZAR IAmb IAmb 01 33 10.6
comp=Z,24nm,1.1s
ANN **Anapa** 148.37 310 *i* PKIKP PKPdf 01 33 04.7 -0.8
ANN *e* 01 36 34.1
ANN pmax pmax
comp=Z,46nm,1.0s
ISAL **Salakas** 148.46 335 *e*P PKPdf 01 33 06.6 +1.3
MNK **Minsk** 148.55 332 *e*PKP2 PKPbc 01 33 10.0 +0.9
IIGN **Ignalina** 148.59 334 *e*P PKPdf 01 33 06.3 +0.7
IIGN IAmb IAmb 01 33 11.3
comp=Z,15nm,1.0s
URFA **Urfa** 148.89 296 *e*P PKPbc 01 33 11.6 +0.9
PABE **Paberze** 149.29 336 *e*P PKPbc 01 33 10.1 -0.8
DARE **Darende-Malaty** 149.80 298 *e*P PKPbc 01 33 14.3 +1.3
SVSK **Karacayir** 149.94 301 *e*P PKPbc 01 33 14.4 +1.3
GAZ **Gaziantep** 150.19 295 *e*P PKPbc 01 33 14.9 +1.0
KVT **Kavak** 150.40 303 *e*P PKPbc 01 33 15.7 +1.5
KMRS **Kahramanmaras** 150.40 296 *e*P PKPbc 01 33 15.6 +1.2
AKASG **Malin Array Be** 150.46 325 PKPbc PKPbc 01 33 13.6 -0.4
comp=Z,24nm,0.9s,baz=44,slow=2.8,SNR=52
AKBB **Malin Array Si** 150.46 325 PKIKP PKPbc 01 33 14.1 +0.1
AKBB **Malin Array Si** 150.46 325 PKPbc 01 33 14.1 +0.1
SIM **Simferopol'** 150.52 312 *ce*PKIKP PKPbc 01 33 14.7 +0.4
SIM pmax pmax
comp=Z,22nm,0.8s
SUW **Suwalki** 150.75 335 *e*PKIKP PKPbc 01 33 14.9 +0.3
SUW **Suwalki** 150.75 335 *e*PKP PKPbc 01 33 14.8 +0.3
SUW *e*PKP PKPbc 01 33 14.8 +0.3
SEVA **Sevastopol** 150.97 311 ⇑ P PKPbc 01 33 16.6 +1.2
BNN **Bunyan** 151.02 299 *e*P PKPbc 01 33 16.8 +0.9
CMRD **Camardi-Nigde** 151.88 297 *e*P PKPbc 01 33 18.8 +0.9
ILGA **Ilgaz** 152.10 304 PKPbc 01 33 18.5 0.0
BSD **Bornholm Skovb** 152.26 345 *i* P PKPab 01 33 25.1 -2.8
SORM **Soroca** 152.45 322 ⇑ PKIKP PKPbc 01 33 18.9 +0.2
SORM **Soroca** 152.45 322 ⇑ P PKPbc 01 33 18.9 +0.2
BRTR **Keskin Array B** 152.51 302 PKPbc PKPbc 01 33 18.4 -0.9
comp=Z,4.4nm,0.5s,baz=127,slow=3.3,SNR=21
BRTR **Keskin Array B** 152.51 302 *e*P PKPbc 01 33 19.0 -0.3
ANTO **Ankara** 153.10 302 PKIKP PKPbc 01 33 20.1 -0.4
ANTO **Ankara** 153.10 302 PKPbc 01 33 20.1 -0.4
TLCR 153.78 316 ⇓ P PKPbc 01 33 22.4 +0.8
TOPG **Topolog** 154.21 316 ⇑ P PKPbc 01 33 22.9 +0.3
TESR **Tescani** 154.34 320 ⇓ P PKPab 01 33 37.1 +0.1
BIZ **Bicaz** 154.39 322 ⇑ P PKPbc 01 33 22.6 -0.4
BURAR **Bucovina Array** 154.44 324 ⇑ P PKPbc 01 33 24.3 +1.1
VRI **Vrincioaia** 154.66 319 ⇑ P PKPbc 01 33 23.1 -0.5
PLOR **Plostina** 154.72 319 ⇑ P PKPbc 01 33 24.5 +0.7
KOLS **Kolonicke sedl** 154.97 329 *e*PKP PKiKP 01 33 25.9 +1.8
KOLS *e* 01 33 38.9
OZUR 155.07 320 ⇑ P PKPab 01 33 41.0 +0.7
UZH **Uzhgorod** 155.19 328 *e*PKP2 PKPab 01 33 39.9 -0.6
MLR **Muntele Rosu** 155.33 319 ⇑ P PKPdf 01 33 25.8 +10
TRPA **Tarpa** 155.43 327 ⇓ P PKPdf 01 33 25.4 +9.4
KSP **Ksiaz** 155.74 339 *e*PKP2 PKPab 01 33 43.3 +0.5
KSP **Ksiaz** 155.74 339 *e*PKP PKPab 01 33 43.3 +0.5
KSP *e*PKP PKPab 01 33 43.3 +0.5
VOIR 155.87 320 ⇑ PKP2 PKPab 01 33 42.1 -1.6
VOIR 155.87 320 ⇑ P PKPab 01 33 42.1 -1.6
OKC **Ostrava-Krasne** 155.96 335 *e*PKP2 PKPab 01 33 43.4 -0.4
OKC **Ostrava-Krasne** 155.96 335 *e*PKPAB PKPab 01 33 43.4 -0.4
OSTC **Ostas** 156.01 339 *e*PKPAB PKPab 01 33 44.4 +0.4
OSTC *ex* x 01 33 52.5
CHVC **Chvalec** 156.03 339 *e*PKPAB PKPab 01 33 44.1 0.0
CHVC *ex* x 01 33 48.6
UPC **Upice** 156.12 339 *e*PKP2 PKPab 01 33 45.1 +0.6
UPC **Upice** 156.12 339 *e*PKPAB PKPab 01 33 45.1 +0.6
ARR **Arges** 156.15 320 ⇑ P PKPdf 01 33 31.6 +14
DPC **Dobruska-Polom** 156.15 339 *e*PKP2 PKPab 01 33 44.8 +0.1
DPC **Dobruska-Polom** 156.15 339 *e*PKPAB PKPab 01 33 44.8 +0.1
DPC *ex* x 01 33 50.0
CLL **Collm** 156.22 344 *e*PKPdiff PKPdf 01 33 28.0 +11
CLL ⇓ *i*PKPab PKPab 01 33 44.6 -0.2
comp=Z,13nm,0.9s
MORC **Moravsky Berou** 156.23 336 ⇑ PKP2 PKPab 01 33 45.3 +0.3
MORC **Moravsky Berou** 156.23 336 ⇑ P PKPab 01 33 45.3 +0.3
MORC **Moravsky Berou** 156.23 336 *e*PKP PKPab 01 33 45.0 0.0
BRG **Berggiesshubel** 156.39 343 *i* PKP PKPab 01 33 46.0 +0.4
comp=Z,8.0nm,1.0s
BRG **Berggiesshubel** 156.39 343 *i* PKP2 PKPab 01 33 46.0 +0.4
BRG pmax pmax
comp=Z,20nm,1.0s
PVCC **Panska Ves** 156.53 341 *e*PKP2 PKPab 01 33 46.7 +0.5
PVCC **Panska Ves** 156.53 341 *e*PKPAB PKPab 01 33 46.7 +0.5
ELND **Elena** 156.75 314 ⇑ P PKPab 01 33 48.2 +0.8
VYHS **Vyhne** 156.79 333 *e*PKP2 PKPab 01 33 46.9 -0.5
VYHS **Vyhne** 156.79 333 *e*PKP PKPab 01 33 46.9 -0.5
JAVC **Velka Javorina** 156.95 335 *e*PKP PKPab 01 33 49.2 +1.0
VRAC **Vranov** 156.96 337 ⇑ PKP2 PKPab 01 33 48.6 +0.5
VRAC **Vranov** 156.96 337 ⇑ P PKPab 01 33 48.6 +0.5
VRAC **Vranov** 156.96 337 *e*PKP PKPab 01 33 48.4 +0.3
PRA **Prague** 156.98 341 *e*PKP2 PKPab 01 33 48.7 +0.6
PRA **Prague** 156.98 341 *e*PKPAB PKPab 01 33 48.7 +0.6
GOPC **GO Pecny, Ondr** 157.01 340 *e*PKP2 PKPab 01 33 48.7 +0.4
GOPC **GO Pecny, Ondr** 157.01 340 *e*PKPAB PKPab 01 33 48.7 +0.4
PRU **Pruhonice** 157.02 341 *e*PKP2 PKPab 01 33 48.2 -0.1
PRU **Pruhonice** 157.02 341 *e*PKPAB PKPab 01 33 48.2 -0.1
PRU *ex* x 01 33 51.7
VLAD **Vladila** 157.08 317 ⇓ P PKPab 01 33 48.6 -0.3
KRUC **Moravsky** 157.24 337 *e*PKP PKPab 01 33 49.4 +0.1
TREC **Trest** 157.34 338 *e*PKP2 PKPab 01 33 50.0 +0.2
TREC **Trest** 157.34 338 *e*PKPAB PKPab 01 33 50.0 +0.2
NKC **Novy Kostel** 157.35 344 *e*PKP2 PKPab 01 33 50.3 +0.5
NKC **Novy Kostel** 157.35 344 *e*PKPAB PKPab 01 33 50.3 +0.5
PBCC **Pribram** 157.45 341 *e*PKPAB PKPab 01 33 50.8 +0.6
MODS **Modra-Piesok** 157.49 335 *e*PKP2 PKPab 01 33 50.2 -0.3
MODS **Modra-Piesok** 157.49 335 *e*PKP PKPab 01 33 50.2 -0.3
KHC **Kasperske Hory** 158.06 341 *e*PKP2 PKPab 01 33 52.7 -0.2
KHC **Kasperske Hory** 158.06 341 *e*PKPAB PKPab 01 33 52.7 -0.2
KHC *ex* x 01 33 56.6
GERES **GERESS Array B** 158.29 341 PKPab PKPab 01 33 53.4 -0.6
comp=Z,2.2nm,0.8s,baz=31,slow=3.1,SNR=9.2
CONA **Conrad Observa** 158.39 336 *i* PKPab PKPab 01 33 54.9 +0.5
comp=Z,11nm,1.0s,SNR=6.8
VTS **Vitosha** 158.56 316 ⇑ PKP2 PKPab 01 33 55.8 +0.3
VTS **Vitosha** 158.56 316 ⇑ P PKPab 01 33 55.8 +0.3
VTS **Vitosha** 158.56 316 PKPab 01 33 55.5 0.0
MOA **Molln** 159.00 338 *i* PKPab PKPab 01 33 57.4 +0.4
comp=Z,8.3nm,1.0s,SNR=4.6
ARSA **Arzberg** 159.08 336 *i* PKPab PKPab 01 33 57.5 +0.1
comp=Z,5.3nm,1.1s
SOKA **Soboth** 159.75 335 *i* PKPab PKPab 01 33 59.1 -1.3
comp=Z,9.0nm,1.1s,SNR=6.0
KBA **Koelnbreinsper** 159.97 339 *i* PKPab PKPab 01 34 02.9 +1.4
comp=Z,6.3nm,1.3s
OBKA **Obir** 160.06 336 *i* PKPab PKPab 01 34 00.8 -1.0
comp=Z,4.5nm,1.0s
WATA **Walderalm** 160.25 342 *i* PKPab PKPab 01 34 01.6 -1.0
comp=Z,9.9nm,1.3s
MYKA **Terra Mystica** 160.27 338 *i* PKPab PKPab 01 34 01.8 -0.8
comp=Z,7.1nm,0.9s
WTTA **Wattenberg** 160.30 342 *i* PKPab PKPab 01 34 02.0 -0.8
comp=Z,12nm,1.0s,SNR=5.2
RETA **Reutte** 160.32 344 *i* PKPab PKPab 01 34 02.8 0.0
comp=Z,7.4nm,1.1s
MOTA **Moosalm** 160.37 343 *i* PKPab PKPab 01 34 02.4 -0.8
comp=Z,8.7nm,1.0s,SNR=5.4
SQTA **Sankt Quirin** 160.46 343 *i* PKPab PKPab 01 34 01.4 -2.1
comp=Z,5.9nm,1.0s
ABTA **Abfaltersbach** 160.53 340 *i* PKPab PKPab 01 34 03.1 -0.6
comp=Z,11nm,1.0s,SNR=7.5
DAVA **Damuels** 160.71 346 *i* PKPab PKPab 01 34 04.5 -0.1
comp=Z,8.5nm,0.8s,SNR=6.3
PDG **Podgorica** 161.02 320 ⇑ P PKPab 01 34 06.2 +0.3
FUORN **Ofenpass-Fuorn** 161.25 344 PKPab 01 34 06.2 -0.9
CTI **Castel Tesino** 161.41 341 PKP2 PKPab 01 34 07.5 -0.2
CTI **Castel Tesino** 161.41 341 PKPab 01 34 07.5 -0.2
TOA0 **Torodi Ar. Sit** 164.45 175 PKPdf 01 33 28.1 +1.0
TORD **Torodi Ar. Bea** 164.45 175 PKP PKPdf 01 33 27.2 +0.1
comp=Z,4.3nm,1.0s,baz=72,slow=0.4,SNR=16
TORD PKPab PKPab 01 34 23.1 +1.6
comp=Z,2.9nm,0.8s,baz=179,slow=4.2,SNR=8.9
TORD PKKPab 01 39 39.8
comp=Z,1.2nm,1.2s,baz=309,slow=9.4,SNR=3.5
ESDC **Sonseca Array** 167.67 26 PKP PKPdf 01 33 29.8 +0.7
comp=Z,0.4nm,0.7s,baz=190,slow=22,SNR=3.8
ESDC PKPab PKPab 01 34 36.0 +0.7
comp=Z,0.7nm,0.6s,baz=325,slow=6.1,SNR=4.5

ISCJB **19** *01:16:33.3±0.4,36°.29N±0°.07×137°.06E±0°.09, h273km±4km, mb3.2/8, Error ellipse: s-maj=13.4km s-min=9.0km az=37.7*
IDC **19** *01:16:33.9±0.8,36°.25N×136°.96E, h265km±6km, mb3.2/8, mb1 3.4/11, mb1mx3.1/46, mbtmp3.9/11, Error ellipse: s-maj=21.8km s-min=16.8km az=78.0*
JMA **19** *01:16:34.6±0.2,36°.24N×137°.08E, h266km±2km, M3.2*
ISC 19 01:16:34.0±0.7, 36°.27N±0°.08×137°.06E±0°.08, h267km±6km**, n27,σ0°79/34, mb3.3/8, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	0.21	102	P	Pn	01 17 08.7	+0.3
JKG	**Kaga**	0.58	271	P	Pn	01 17 09.8	+0.7
JYTA	**Yamagatataniai**	0.72	201	P	Pn	01 17 10.1	+0.4
JYTA				*e*S	S	01 17 37.2	-0.6
MAT	**Matsushiro**	0.97	73	P	Pn	01 17 11.3	+0.6
MAT				S	S	01 17 39.6	-0.1

MAT	**Matsushiro**	**0.97**	**73**	P	**Pn**	**01 17 11.3**	**+0.6**
MAT				*e*S	**S**	**01 17 40.0**	**+0.3**
MJAR	**Matsushiro Arr**	**0.97**	**73**	P	**Pn**	**01 17 11.2**	**+0.5**
	1.2nm,0.3s,baz=259,slow=8.1,SNR=34						
MJAR				S	**S**	**01 17 40.4**	**+0.7**
	0.1nm,0.3s,baz=37,slow=6.0,SNR=8.4						
JYN	**Shimob**	**1.43**	**122**	P	**Pn**	**01 17 13.6**	**0.0**
JRY	**Ryogami san**	**1.52**	**99**	P	**Pn**	**01 17 14.6**	**+0.5**
JRY				*e*S	**S**	**01 17 45.7**	**-0.1**
JWT	**Wachi**	**1.67**	**234**	P	**Pn**	**01 17 15.5**	**+0.3**
JIE	**Ise**	**1.90**	**189**	P	**Pn**	**01 17 17.8**	**+0.7**
JIE				*e*S	**S**	**01 17 51.0**	**-0.2**
JOD2	**Odawara 2**	**1.93**	**121**	P	**Pn**	**01 17 17.9**	**+0.5**
JAG	**Ashikaga**	**1.94**	**85**	P	**Pn**	**01 17 17.5**	**+0.1**
JAG				*e*S	**S**	**01 17 50.4**	**-1.4**
JSD	**Sado**	**2.01**	**28**	P	**Pn**	**01 17 18.7**	**+0.8**
JWY	**Kouya**	**2.37**	**211**	P	**Pn**	**01 17 22.0**	**+0.6**
JTNC	**Tanabenakahech**	**2.72**	**206**	P	**Pn**	**01 17 25.0**	**+0.2**
JAW	**Awa shima**	**2.80**	**38**	P	**Pn**	**01 17 26.2**	**+0.8**
USRK	**Ussuriysk Ar.**	**8.82**	**336**	P	**Pn**	**01 18 38.3**	**+0.9**
	baz=140,slow=12,SNR=6.5						
ASAJ	**Asahikawa**	**8.91**	**27**	P	**Pn**	**01 18 37.3**	**-1.3**
	7.1nm,0.3s,baz=226,slow=8.5,SNR=20						
KLR	**Kul'dur**	**13.52**	**345**	P	**Pn**	**01 19 34.1**	**-1.5**
	0.7nm,0.3s,baz=163,slow=8.3,SNR=21						
MKAR	**Makanchi Array**	**41.56**	**302**	P	**P**	**01 23 56.2**	**+0.5**
	0.1nm,0.3s,baz=81,slow=9.6,SNR=4.0						
KURBB	**Kurchatov Arra**	**43.71**	**308**	P	**P**	**01 24 12.5**	**-0.4**
	0.6nm,0.7s,baz=80,slow=7.3,SNR=3.3						
ILAR	**Eielson Array**	**52.00**	**32**	P	**P**	**01 25 16.6**	**+0.6**
	0.2nm,0.6s,baz=266,slow=6.1,SNR=5.1						
WRA	**Warramunga Arr**	**55.97**	**183**	P	**P**	**01 25 44.3**	**-0.6**
	0.3nm,0.3s,baz=1.4,slow=7.6,SNR=5.8						
INK	**Inuvik**	**56.65**	**26**	P	**P**	**01 25 50.1**	**+1.0**
	0.5nm,0.4s,baz=264,slow=4.5,SNR=4.7						
ARCES	**ARCESS Array B**	**63.45**	**339**	P	**P**	**01 26 33.6**	**-1.5**
	3.5nm,0.8s,baz=57,slow=6.8,SNR=3.7						
FINES	**FINESS Array B**	**67.82**	**331**	P	**P**	**01 27 02.9**	**-0.2**
	1.8nm,0.8s,baz=82,slow=3.1,SNR=4.4						
TXAR	**Lajitas Array**	**93.33**	**50**	P	**P**	**01 29 20.6**	**+1.5**
	0.4nm,0.6s,baz=303,slow=4.2,SNR=4.9						

ISCJB ***19*** *01:27:54.3±0.3,24˚.29N±0˚.03×122˚.97E±0˚.02,h46km±6km, Error ellipse: s-maj=4.6km s-min=2.7km az=0.7*
JMA ***19*** *01:27:54.7±0.1,24˚.35N×122˚.99E,h48km±1km,M3.1*
TAP ***19*** *01:27:54.4,24˚.30N×122˚.91E,h43km±1km,ML3.5,D*

ISC 19 01:27:54.8±1.2,24˚30N±0˚.04×122˚98E±0˚.02,h44km±7km, n61,σ1§09/102,1C-3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.16**	**350**	P	**Pn**	**01 28 02.2**	**-0.1**
JYNG				S	**Sn**	**01 28 07.5**	**0.0**
YOJ	**Yonaguni jima**	**0.17**	**11**	P	**Pn**	**01 28 02.4**	**0.0**
YOJ				S	**Sn**	**01 28 07.6**	**0.0**
YOJ	**Yonaguni jima**	**0.17**	**11**	⇑P	**Pn**	**01 28 02.4**	**0.0**
	baz=25						
YOJ				S	**Sn**	**01 28 07.9**	**+0.2**
	baz=25						
IRIF	**Iriomote-Funau**	**0.69**	**87**	P	**Pn**	**01 28 08.0**	**-0.2**
IRIF				S	**Sn**	**01 28 17.7**	**-0.2**
HATJ	**Hateruma jima**	**0.79**	**107**	P	**Pn**	**01 28 09.7**	**+0.1**
HATJ				*e*S	**Sn**	**01 28 20.8**	**+0.4**
EOS1	**EOS1**	**0.81**	**288**	⇓P	**Pn**	**01 28 09.4**	**-0.5**
	baz=289						
EOS1				*e*S	**Sn**	**01 28 20.5**	**-0.3**
	baz=289						
JKRS	**Kuro-shima**	**0.94**	**93**	P	**Pn**	**01 28 12.0**	**+0.3**
JKRS				S	**Sn**	**01 28 24.9**	**+0.9**
JIJ	**Ishigaki jima**	**1.07**	**86**	P	**Pn**	**01 28 13.0**	**-0.4**
JIJ				S	**Sn**	**01 28 26.5**	**-0.5**
TWC	**Suao**	**1.07**	**287**	P	**Pn**	**01 28 12.5**	**-0.9**
	baz=287						
TWC				*e*S	**Sn**	**01 28 25.9**	**-1.3**
	baz=287						
NANB	**Nanao**	**1.13**	**277**	P	**Pn**	**01 28 14.0**	**-0.2**
	baz=277						
NANB				*e*S	**Sn**	**01 28 28.3**	**-0.2**
	baz=277						
ENA	**Nanau**	**1.14**	**277**	P	**Pn**	**01 28 14.1**	**-0.2**
	baz=276						
TWB1	**Santiao Chiao**	**1.15**	**309**	*e*P	**Pn**	**01 28 13.9**	**-0.6**
	baz=310						
TWB1				*e*S	**Sn**	**01 28 28.5**	**-0.5**
	baz=310						
NTC	**Toucheng**	**1.18**	**298**	*e*S	**Sn**	**01 28 28.8**	**-1.1**
	baz=299						
TIPB	**Shuangxi**	**1.25**	**303**	⇓*i*P	**Pn**	**01 28 15.4**	**-0.5**
	baz=304						
TIPB				*e*S	**Sn**	**01 28 30.7**	**-0.8**
	baz=304						
JISG	**Ishigakijimahi**	**1.25**	**76**	P	**Pn**	**01 28 15.4**	**-0.5**
JISG				*e*S	**Sn**	**01 28 31.1**	**-0.4**
TWE	**Neicheng**	**1.27**	**290**	*e*P	**Pn**	**01 28 16.2**	**+0.1**
	baz=290						
TWE				*e*S	**Sn**	**01 28 30.6**	**-1.3**
	baz=290						
NACB	**Ninganchiao**	**1.27**	**265**	*e*P	**Pn**	**01 28 15.9**	**-0.2**
	baz=264						
NACB				*e*S	**Sn**	**01 28 31.2**	**-0.8**
	baz=264						
SLBB	**Yuanshan**	**1.30**	**291**	P	**Pn**	**01 28 15.6**	**-1.0**
	baz=291						
ENLB	**Shoufeng**	**1.31**	**253**	S	**Sn**	**01 28 32.8**	**-0.3**
	baz=251						
ENTT	**Nioudou**	**1.33**	**285**	P	**Pn**	**01 28 16.6**	**-0.4**
	baz=285						
WFSB	**Wu-fen Shan**	**1.33**	**306**	*e*P	**Pn**	**01 28 16.8**	**-0.2**
	baz=306						
WFSB				*e*S	**Sn**	**01 28 32.6**	**-1.0**
	baz=306						
ETLH	**Xiulin Townshi**	**1.37**	**267**	*e*P	**Pn**	**01 28 17.5**	**-0.1**
	baz=266						
NDT	**Datong Townshi**	**1.37**	**283**	*e*P	**Pn**	**01 28 18.1**	**+0.6**
	baz=283						
NWLT	**Wulai**	**1.43**	**290**	*e*P	**Pn**	**01 28 18.5**	**+0.2**
	baz=290						
NWLT				*e*S	**Sn**	**01 28 35.9**	**0.0**
	baz=290						
NNSH	**Datong**	**1.46**	**276**	*e*P	**Pn**	**01 28 19.4**	**+0.5**
	baz=275						
ESL	**Shilin**	**1.49**	**252**	⇓P	**Pn**	**01 28 18.3**	**-0.9**
	baz=250						
YHNB	**Yeheng**	**1.51**	**285**	*e*P	**Pn**	**01 28 19.2**	**-0.3**
	baz=284						
YHNB				*e*S	**Sn**	**01 28 37.0**	**-0.9**
	baz=284						
TATO	**Taipei**	**1.52**	**297**	*e*S	**Sn**	**01 28 37.4**	**-0.6**
	baz=297						
NSK	**Sanguang**	**1.52**	**285**	*e*P	**Pn**	**01 28 21.0**	**+1.3**
	baz=284						
YM01	**YM01**	**1.54**	**304**	*e*S	**Sn**	**01 28 37.6**	**-1.0**
	baz=304						
EGFH	**Guangfu**	**1.55**	**247**	*e*P	**Pn**	**01 28 19.8**	**-0.1**
	baz=245						
EGFH				*e*S	**Sn**	**01 28 39.1**	**+0.2**
	baz=245						
YM05	**YM05**	**1.55**	**304**	*e*S	**Sn**	**01 28 39.1**	**+0.1**
	baz=305						
YM04	**YM04**	**1.56**	**303**	*e*P	**Pn**	**01 28 19.7**	**-0.5**
	baz=304						
WHF	**Hehuan Shan**	**1.57**	**265**	*e*P	**Pn**	**01 28 20.8**	**+0.2**
	baz=264						
JTJ	**Tarama**	**1.61**	**77**	P	**Pn**	**01 28 21.0**	**+0.2**
JTJ				*e*S	**Sn**	**01 28 40.4**	**0.0**
HGSD	**Ruisui**	**1.63**	**241**	*e*P	**Pn**	**01 28 20.3**	**-0.8**
	baz=239						
HGSD				*e*S	**Sn**	**01 28 39.1**	**-1.8**
	baz=239						
TDCB	**Techi**	**1.66**	**269**	*e*P	**Pn**	**01 28 22.6**	**+0.9**
	baz=268						
EHY	**Hungye**	**1.71**	**243**	P	**Pn**	**01 28 21.5**	**-0.6**
	baz=241						
EHY				*e*S	**Sn**	**01 28 42.0**	**-0.8**
	baz=241						
VWDT	**VWDT**	**1.76**	**253**	*e*P	**Pn**	**01 28 23.2**	**+0.3**
	baz=251						
VWDT				*e*S	**Sn**	**01 28 44.2**	**+0.1**
	baz=251						
YULB	**Yu-li**	**1.78**	**240**	*e*P	**Pn**	**01 28 22.6**	**-0.6**
	baz=238						
YULB				*e*S	**Sn**	**01 28 43.8**	**-0.8**
	baz=238						
TWF1	**Yuli**	**1.80**	**239**	P	**Pn**	**01 28 23.1**	**-0.4**
	baz=237						
TWF1				*e*S	**Sn**	**01 28 44.3**	**-0.8**
	baz=237						
LIOB	**Emei**	**1.82**	**281**	*e*P	**Pn**	**01 28 25.3**	**+1.6**
	baz=281						
WHP	**Taichung City**	**1.85**	**270**	*e*P	**Pn**	**01 28 25.9**	**+1.6**
	baz=269						
WHP				*e*S	**Sn**	**01 28 48.0**	**+1.5**
	baz=269						
FULB	**Fuli**	**1.89**	**235**	P	**Pn**	**01 28 23.5**	**-1.1**
	baz=233						
FULB				*e*S	**Sn**	**01 28 46.9**	**-0.4**
	baz=233						
DPDB	**Guoxing**	**1.89**	**263**	P	**Pn**	**01 28 25.6**	**+0.9**
	baz=261						
DPDB				*e*S	**Sn**	**01 28 45.0**	**-2.4**
	baz=261						
CHKT	**Chengkung**	**1.90**	**231**	*e*S	**Sn**	**01 28 44.8**	**-2.7**
	baz=229						
SSLB	**Suanglung**	**1.92**	**255**	*e*P	**Pn**	**01 28 25.3**	**+0.3**
	baz=254						
SSLB				*e*S	**Sn**	**01 28 48.2**	**+0.2**
	baz=254						
TYC	**Yuchr**	**1.98**	**259**	P	**Pn**	**01 28 26.6**	**+0.8**
	baz=258						
TYC				*e*S	**Sn**	**01 28 50.4**	**+1.0**
	baz=258						
WHYT	**Xinyi Township**	**2.03**	**253**	*e*P	**Pn**	**01 28 27.6**	**+0.9**
	baz=252						
ELDTW	**Lidau**	**2.11**	**239**	P	**Pn**	**01 28 27.1**	**-0.6**
	baz=237						
ELDTW				*e*S	**Sn**	**01 28 51.2**	**-1.5**
	baz=237						
CHN5	**Tsauling**	**2.21**	**252**	*e*P	**Pn**	**01 28 30.8**	**+1.6**
	baz=251						
CHN5				*e*S	**Sn**	**01 28 57.7**	**+2.3**
	baz=251						
TWGBT	**Beinan**	**2.28**	**230**	*e*P	**Pn**	**01 28 29.8**	**-0.2**
	baz=228						
TWGBT				*e*S	**Sn**	**01 28 55.2**	**-1.6**
	baz=228						
TWG	**Pinlang**	**2.28**	**230**	*e*P	**Pn**	**01 28 29.7**	**-0.3**
	baz=228						
TWG				*e*S	**Sn**	**01 28 55.0**	**-2.0**
	baz=228						
WDLH	**Douliu**	**2.31**	**255**	*e*P	**Pn**	**01 28 32.2**	**+1.8**
	baz=254						
WDLH				*e*S	**Sn**	**01 28 59.3**	**+1.7**
	baz=254						
TPUB	**Ta-pu**	**2.37**	**246**	*e*P	**Pn**	**01 28 32.6**	**+1.4**
	baz=244						
TPUB				*e*S	**Sn**	**01 29 00.9**	**+1.8**
	baz=244						
WTP	**Ta-pu**	**2.40**	**245**	*e*P	**Pn**	**01 28 33.2**	**+1.4**
	baz=243						
WTP				*e*S	**Sn**	**01 29 02.5**	**+2.5**
	baz=243						
RLNB	**Erlin**	**2.42**	**261**	*e*S	**Sn**	**01 29 03.8**	**+3.3**
	baz=260						
SNST	**Tainan City**	**2.51**	**245**	*e*P	**Pn**	**01 28 35.1**	**+1.9**
	baz=244						
SNST				*e*S	**Sn**	**01 29 05.2**	**+2.6**
	baz=244						
MASBT	**Mashibuluo**	**2.73**	**233**	*e*P	**Pn**	**01 28 36.2**	**0.0**
	baz=231						
MASBT				*e*S	**Sn**	**01 29 09.4**	**+1.5**
	baz=231						
EAST	**Anshuo**	**2.73**	**226**	*e*P	**Pn**	**01 28 35.6**	**-0.6**
	baz=224						
EAST				S	**Sn**	**01 29 05.9**	**-2.1**
	baz=224						
PHUB	**P'eng-hu**	**3.21**	**257**	*e*P	**Pn**	**01 28 42.8**	**+0.1**
	baz=255						
PHUB				*e*S	**Sn**	**01 29 20.3**	**+0.5**
	baz=255						

IDC 19 01:46:35.9±3.7,3˚47S×149˚17E,h0km,mb3.9/3, mb1 4.2/3,mb1mx3.6/36,mbtmp4.0/3,MS3.3/4,Ms1 3.3/4, ms1mx2.9/24,Error ellipse: s-maj=120.5km s-min=47.0km az=112.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**12.24**	**119**	LR	LR	01 54 09.0	
	comp=Z,97nm,18.1s,baz=328,slow=37						
WRA	**Warramunga Arr**	**21.85**	**220**	P	P	01 51 29.8	-0.5
	5.5nm,0.9s,baz=44,slow=12,SNR=20						
WRA				LR	LR	01 59 46.5	
	comp=Z,67nm,21.1s,baz=35,slow=36						
ASAR	**Alice Springs**	**24.92**	**215**	P	P	01 52 00.6	-0.4
	3.1nm,0.9s,baz=51,slow=8.0,SNR=7.7						
DZM	**Mont Dzumac**	**24.96**	**139**	LR	LR	02 00 42.8	
	comp=Z,69nm,21.0s,baz=170,slow=34						
FITZ	**Fitzroy Crossi**	**27.25**	**236**	P	P	01 52 22.8	+0.8
	3.0nm,0.8s,baz=90,slow=8.9,SNR=6.8						
FITZ				LR	LR	02 04 05.9	
	comp=Z,68nm,18.5s,baz=42,slow=38						
H11S3	**WAKE ISLAND Hy**	**27.82**	**38**	T	T	02 21 05.8	
	baz=220,slow=76						
H11S2	**WAKE ISLAND Hy**	**27.83**	**38**	T	T	02 21 30.1	
	baz=220						
H11S1	**WAKE ISLAND Hy**	**27.84**	**38**	T	T	02 21 24.9	
	baz=220,slow=76						
H11N1	**WAKE ISLAND Hy**	**28.88**	**36**	T	T	02 22 37.6	
	baz=214						
H11N3	**WAKE ISLAND Hy**	**28.89**	**36**	T	T	02 22 37.6	
	baz=214						
H11N2	**WAKE ISLAND Hy**	**28.90**	**36**	T	T	02 22 28.1	
	baz=214,SNR=5.5						
TORD	**Torodi Ar. Bea**	**146.45**	**289**	PKPbc	PKPdf	02 06 19.2	+0.4
	0.5nm,0.8s,baz=96,slow=2.9,SNR=3.1						

CNRM ***19*** *01:50:51.5,36˚.25N×6˚.14W,h5km*
ISCJB ***19*** *01:50:53.2±0.5,36˚.44N±0˚.03×5˚.95W±0˚.03,h64km±6km, Error ellipse: s-maj=4.9km s-min=3.6km az=29.8*
MDD ***19*** *01:50:55.8±0.9,36˚.41N×5˚.96W,h46km±6km,mb3.8/5, Error ellipse: s-maj=9.0km s-min=4.2km az=178.0, PRXIMO*
IGIL ***19*** *01:50:55.8,36˚.42N×5˚.93W,h30km,ML1.7*
SFS ***19*** *01:50:55.0,36˚.41N×5˚.93W,h32km,ML1.8, MEDINA-SIDONIA (CADIZ)*
INMG ***19*** *01:50:56.2±1.0,36˚.48N×5˚.95W,h31km±8km,ML1.8,Error ellipse: s-maj=4.5km s-min=3.2km az=166.0*

ISC 19 01:50:54.2±1.2,36˚40N±0˚.03×5˚98W±0˚.03,h54km±6km, n52,σ1§56/84,3D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNIL	**Conil**	**0.07**	**244**	*e*P	**Pn**	**01 51 02.9**	**+0.6**
CNIL				*e*S	**Sn**	**01 51 07.1**	**-1.1**
CNIL	**Conil**	**0.07**	**244**	P	**Pn**	**01 51 02.9**	**+0.6**
CNIL				S	**Sn**	**01 51 07.1**	**-1.1**
ALJ	**Aljibe**	**0.29**	**64**	*e*P	**Pn**	**01 51 04.0**	**+0.3**
ALJ				*e*S	**Sn**	**01 51 10.8**	**+0.3**
ALJ	**Aljibe**	**0.29**	**64**	P	**Pn**	**01 51 04.0**	**+0.3**
ALJ				S	**Sn**	**01 51 10.8**	**+0.3**
LIJA	**Lijar**	**0.68**	**42**	*e*P	**Pn**	**01 51 08.9**	**+0.9**
LIJA				*e*S	**Sn**	**01 51 17.8**	**-0.2**
LIJA	**Lijar**	**0.68**	**42**	P	**Pn**	**01 51 08.9**	**+0.9**
LIJA				S	**Sn**	**01 51 17.8**	**-0.2**
EMIJ	**Mijas**	**0.98**	**80**	P	**Pn**	**01 51 12.2**	**+0.4**
	0.3nm,0.1s,SNR=5.7						
EMIJ				S	**Sn**	**01 51 23.1**	**-1.7**
	1.2nm,0.2s						
EMIN	**Mina Concepcio**	**1.47**	**338**	⇓P	**Pn**	**01 51 19.0**	**+0.6**
	1.1nm,0.1s,SNR=18						
EMIN				S	**Sn**	**01 51 36.7**	**+0.2**
	1.7nm,0.1s						
HORN	**Hornachuelos**	**1.55**	**21**	P	**Pn**	**01 51 23.7**	**+4.2**
HORN				S	**Sn**	**01 51 44.9**	**+6.4**
EGRO	**El Granado**	**1.66**	**314**	⇓P	**Pn**	**01 51 21.9**	**+1.1**
	0.6nm,0.1s,SNR=18						
EGRO				S	**Sn**	**01 51 41.0**	**+0.1**
	2.4nm,0.1s,SNR=7.9						
PVAQ	**Vaqueiros**	**1.72**	**306**	*e*P	**Pn**	**01 51 22.8**	**+1.1**
PVAQ				*e*S	**Sn**	**01 51 42.3**	**-0.2**
PVAQ				A	A	01 51 43.4	
	6.2nm,0.5s						
PVAQ	**Vaqueiros**	**1.72**	**306**	P	**Pn**	**01 51 24.0**	**+2.3**
PVAQ				S	**Sn**	**01 51 43.2**	**+0.7**
PVAQ	**Vaqueiros**	**1.72**	**306**	P	**Pn**	**01 51 22.8**	**+1.1**
PVAQ				S	**Sn**	**01 51 42.3**	**-0.2**
	6.2nm,0.5s						
ECAB	**El Cabril**	**1.73**	**15**	P	**Pn**	**01 51 22.1**	**+0.2**
	1.5nm,0.4s,SNR=7.9						
ECAB				S	**Sn**	**01 51 41.2**	**-1.6**
	0.2nm,0.0s,SNR=7.6						
PBDV	**Barranco-do-Ve**	**1.78**	**299**	*e*S	**Sn**	**01 51 44.3**	**+0.2**
PBDV	**Barranco-do-Ve**	**1.78**	**299**	S	**Sn**	**01 51 44.3**	**+0.2**
PCVE	**Castro Verde**	**2.06**	**307**	*e*S	**Sn**	**01 51 50.0**	**-0.8**
PCVE				A	A	01 51 58.9	
	2.5nm,0.8s						
PCVE	**Castro Verde**	**2.06**	**307**	S	**Sn**	**01 51 50.0**	**-0.8**
	2.5nm,0.8s						
EADA	**Adamuz**	**2.09**	**32**	S	**Sn**	**01 51 49.5**	**-2.1**
	1.1nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**2.22**	**318**	*e*S	**Sn**	**01 51 53.9**	**-0.8**
PBEJ				A	A	01 51 54.9	
	2.0nm,0.1s						
PBEJ	**Beja**	**2.22**	**318**	S	**Sn**	**01 51 53.9**	**-0.8**
	1.0nm,0.1s						
MESJ	**Messejana**	**2.30**	**309**	*e*P	**Pn**	**01 51 30.7**	**+1.1**
MESJ				*e*S	**Sn**	**01 51 55.9**	**-0.8**
MESJ				AML	AML	01 51 58.0	
	comp=E,3.5nm,0.2s						
MESJ	**Messejana**	**2.30**	**309**	P	**Pn**	**01 51 30.7**	**+1.1**
MESJ				S	**Sn**	**01 51 55.9**	**-0.8**
	comp=E,3.5nm,0.2s						
MORF	**Marmelete**	**2.33**	**294**	*e*P	**Pn**	**01 51 30.9**	**+0.8**
MORF				*e*S	**Sn**	**01 51 57.1**	**-0.5**
MORF				AML	AML	01 51 58.7	
	comp=E,3.7nm,0.2s						
MORF	**Marmelete**	**2.33**	**294**	P	**Pn**	**01 51 30.9**	**+0.8**
MORF				S	**Sn**	**01 51 57.1**	**-0.5**
	comp=E,3.7nm,0.2s						
PFVI	**Vila Bisbo**	**2.40**	**289**	*e*S	**Sn**	**01 51 59.5**	**+0.2**
PFVI				A	A	01 52 14.5	
	comp=E,9.5nm,0.6s						
PFVI	**Vila Bisbo**	**2.40**	**289**	S	**Sn**	**01 51 58.8**	**-0.4**
	SNR=7.9						
PTEO	**Sao Teotonio**	**2.48**	**298**	*e*S	**Sn**	**01 52 01.5**	**+0.4**
PTEO	**Sao Teotonio**	**2.48**	**298**	S	**Sn**	**01 52 01.5**	**+0.4**
EBAD	**Badajoz**	**2.49**	**341**	⇓P	**Pn**	**01 51 33.1**	**+0.9**
	comp=E,1.3nm,0.1s,SNR=18						
EBAD				S	**Sn**	**01 52 00.6**	**-0.8**
	comp=E,0.7nm,0.0s						
PNCL	**Nicolau / Gran**	**2.66**	**311**	*e*P	**Pn**	**01 51 35.7**	**+1.2**
PNCL				*e*S	**Sn**	**01 52 04.7**	**-0.8**
PNCL				A	A	01 52 06.3	
	comp=E,2.9nm,0.2s						
PNCL	**Nicolau / Gran**	**2.66**	**311**	P	**Pn**	**01 51 35.7**	**+1.2**
PNCL				S	**Sn**	**01 52 04.7**	**-0.8**
	comp=E,2.9nm,0.2s						
EVO	**Evora**	**2.67**	**323**	*e*S	**Sn**	**01 52 05.0**	**-0.9**
EVO				A	A	01 52 06.7	
	comp=E,8.3nm,0.1s						
EVO	**Evora**	**2.67**	**323**	S	**Sn**	**01 52 05.0**	**-0.9**
	comp=E,8.3nm,0.1s						
EQES	**Quesada**	**2.71**	**58**	P	**Pn**	**01 51 36.2**	**+0.9**
	comp=E,2.3nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**01 52 06.2**	**-0.9**
	comp=E,0.5nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**2.78**	**333**	*e*S	**Sn**	**01 52 07.2**	**-1.3**
PMTG	**Montargil**	**3.21**	**327**	*e*P	**Pn**	**01 51 39.2**	**-2.8**
PMTG				*e*S	**Sn**	**01 52 14.7**	**-4.3**
PMTG	**Montargil**	**3.21**	**327**	P	**Pn**	**01 51 39.2**	**-2.8**
PMTG				S	**Sn**	**01 52 14.7**	**-4.3**
PMRV	**Marv??o**	**3.22**	**340**	*e*P	**Pn**	**01 51 43.4**	**+1.1**
PMRV				*e*S	**Sn**	**01 52 17.5**	**-1.9**
PMRV				A	A	01 52 20.2	
	comp=E,1.8nm,0.8s						
PMRV	**Marv??o**	**3.22**	**340**	P	**Pn**	**01 51 43.4**	**+1.1**
PMRV				S	**Sn**	**01 52 17.5**	**-1.9**
	comp=E,1.8nm,0.8s						
PCBR	**Castelo Branco**	**3.63**	**341**	*e*P	**Pn**	**01 51 48.7**	**+0.8**
PCBR				*e*S	**Sn**	**01 52 28.0**	**-1.4**
PCBR				A	A	01 52 31.4	
	comp=E,1.7nm,0.8s						
PCBR	**Castelo Branco**	**3.63**	**341**	P	**Pn**	**01 51 48.7**	**+0.8**
PCBR				S	**Sn**	**01 52 28.0**	**-1.4**
	comp=E,0.9nm,0.8s						
EPLA	**Plasencia**	**3.66**	**359**	P	**Pn**	**01 51 50.0**	**+1.8**
	comp=E,3.1nm,0.1s,SNR=19						
EPLA				S	**Sn**	**01 52 28.8**	**-1.3**
	comp=E,2.2nm,0.1s						
MD31	**MD31**	**3.67**	**164**	P	**Pn**	**01 51 49.8**	**+1.4**
MD31				S	**Sn**	**01 52 30.2**	**-0.3**
PTOM	**Tomar**	**3.74**	**330**	*e*S	**Sn**	**01 52 30.7**	**-1.5**
PTOM				A	A	01 52 32.0	
	comp=E,4.8nm,0.9s						
PTOM	**Tomar**	**3.74**	**330**	S	**Sn**	**01 52 30.7**	**-1.5**
	comp=E,2.4nm,0.9s						
MDT	**Midelt**	**3.75**	**162**	P	**Pn**	**01 51 50.1**	**+0.5**
MDT				S	**Sn**	**01 52 31.5**	**-1.1**
ETOB	**Tobarra**	**4.17**	**56**	P	**Pn**	**01 51 55.6**	**+0.2**
	comp=E,0.1nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**01 52 40.3**	**-2.5**
	comp=E,0.7nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**4.56**	**341**	*e*P	**Pn**	**01 52 01.2**	**+0.5**
PVIS	**Viseu**	**4.56**	**341**	P	**Pn**	**01 52 01.2**	**+0.5**
MVO	**Moncorvo**	**4.83**	**351**	*e*P	**Pn**	**01 52 05.7**	**+1.4**
MVO	**Moncorvo**	**4.83**	**351**	P	**Pn**	**01 52 05.7**	**+1.4**
	comp=E,0.0nm,0.2s,SNR=7.9						

IDC ***19*** *02:03:32.1±0.8,35˚.02N×28˚.90E,h0km,mb4.0/14, mb1 4.2/26,mb1mx4.0/47,mbtmp4.1/26,ML4.0/11,MS2.7/2, Ms1 2.7/2,ms1mx2.4/38,Error ellipse: s-maj=16.8km s-min=11.8km az=167.0*
ATH ***19*** *02:03:35.6,34˚.98N×28˚.91E,h41km±6km,ML3.9/12,Error ellipse: s-maj=6.1km s-min=1.3km az=170.0*
ISK ***19*** *02:03:35.9,34˚.98N×28˚.86E,h84km,ML4.1/36*
DDA ***19*** *02:03:36.3,34˚.90N×28˚.75E,h42km±6km,MW4.2*
HLW ***19*** *02:03:37.5,34˚.79N×28˚.71E,h40km±24km,Ml4.3*
NEIC ***19*** *02:03:37.2±1.6,34˚.95N±0˚.06×28˚.89E±0˚.05,h39km±4km*
NIC ***19*** *02:03:37.3±0.0,34˚.95N×28˚.92E,h32km±18km,Md4.9/7, Ml4.8/6*
THE ***19*** *02:03

FETY					IAML		02 04 25.0				
	comp=E,447nm,0.4s										
FETY	**Fethiye**	**1.72**	**5**	PN	**Pn**	**02 04 03.9**	**-0.2**				
FETY	**Fethiye**	**1.72**	**5**	Pn	**Pn**	**02 04 03.9**	**-0.2**				
AKUM	**Antalya-Kumluc**	**1.83**	**39**⇓	*iP*	**Pn**	**02 04 06.1**	**+0.6**				
AKUM				*iS*	**Sn**	**02 04 25.8**	**-1.8**				
MRSB	**Marmaris-Mugla**	**1.89**	**342**	PN	**Pn**	**02 04 06.7**	**+0.4**				
MRSB	**Marmaris-Mugla**	**1.89**	**342**	Pn	**Pn**	**02 04 07.3**	**+0.9**				
TURN	**Turunc**	**1.97**	**353**⇑	*iP*	**Pn**	**02 04 07.0**	**-0.5**				
TURN				*iS*	**Sn**	**02 04 28.6**	**-2.4**				
TURN				IAML		02 04 29.0					
	comp=N,369nm,0.3s										
TURN				IAML		02 04 30.0					
	comp=E,407nm,0.5s										
TURN	**Turunc**	**1.97**	**353**	PN	**Pn**	**02 04 07.3**	**-0.1**				
TURN				SN	**Sn**	**02 04 29.2**	**-1.9**				
ELL	**Elmali**	**2.00**	**24**	PN	**Pn**	**02 04 08.9**	**+0.9**				
ELL	**Elmali**	**2.00**	**24**		**Pn**	**02 04 08.1**	**+0.1**				
ELL				Sn	**Sn**	**02 04 32.8**	**+0.7**				
ELL	**Elmali**	**2.00**	**24**	Pn	**Pn**	**02 04 09.0**	**+0.9**				
DATC	**Datca-Mugla**	**2.10**	**332**	PN	**Pn**	**02 04 09.5**	**+0.3**				
DATC				SN	**Sn**	**02 04 33.9**	**-0.4**				
DATC	**Datca-Mugla**	**2.10**	**332**	Pn	**Pn**	**02 04 09.3**	**+0.1**				
DAT	**Datca**	**2.11**	**330**	*iP*	**Pn**	**02 04 09.4**	**0.0**				
DAT				*iS*	**Sn**	**02 04 33.1**	**-1.6**				
DAT				IAML		02 04 36.0					
	comp=E,179nm,0.2s										
DAT	**Datca**	**2.11**	**330**	PN	**Pn**	**02 04 09.4**	**0.0**				
DAT	**Datca**	**2.11**	**330**	Pn	**Pn**	**02 04 09.5**	**0.0**				
ZKR	**Zakros**	**2.22**	**276**	P	**Pn**	**02 04 12.2**	**+1.3**				
ZKR				S	**Sn**	**02 04 38.1**	**+1.0**				
	comp=E,1µm,0.5s										
ZKR	**Zakros**	**2.22**	**276**	P	**Pn**	**02 04 12.0**	**+1.1**				
ZKR				S	**Sn**	**02 04 37.7**	**+0.5**				
ZKR				AML	AML	02 04 38.6					
	comp=E,2795µm,0.4s										
ZKR				AML	AML	02 04 40.7					
	comp=N,1680µm,0.5s										
ZKR	**Zakros**	**2.22**	**276**	PN	**Pn**	**02 04 12.1**	**+1.3**				
ZKR	**Zakros**	**2.22**	**276**	P	**Pn**	**02 04 12.1**	**+1.3**				
ZKR				S	**Sn**	**02 04 37.8**	**+0.7**				
NISR	**Nisiros**	**2.23**	**320**	P	**Pn**	**02 04 10.7**	**-0.2**				
YER	**Yerkesik**	**2.27**	**347**	P	**Pn**	**02 04 12.1**	**+0.4**				
YER	**Yerkesik**	**2.27**	**347**	PN	**Pn**	**02 04 12.5**	**+0.8**				
YER	**Yerkesik**	**2.27**	**347**	Pn	**Pn**	**02 04 12.5**	**+0.8**				
GLHS	**Glhisar (BURDU**	**2.29**	**12**	PN	**Pn**	**02 04 12.3**	**+0.4**				
GLHS	**Glhisar (BURDU**	**2.29**	**12**	Pn	**Pn**	**02 04 13.3**	**+1.4**				
STIA	**Sitia Lasithi**	**2.33**	**278**	P	**Pn**	**02 04 14.1**	**+1.8**				
STIA				S	**Sn**	**02 04 40.4**	**+0.5**				
GOLH	**Golhisar**	**2.38**	**13**⇑	*iP*	**Pn**	**02 04 14.9**	**+1.8**				
GOLH				*iS*	**Sn**	**02 04 41.5**	**+0.2**				
GOLH				IAML		02 04 43.0					
	comp=N,642nm,0.6s										
KORT	**Korkueli**	**2.39**	**29**⇓	*iP*	**Pn**	**02 04 14.9**	**+1.5**				
KORT				*iS*	**Sn**	**02 04 43.5**	**+1.9**				
KORT				IAML		02 04 47.0					
	comp=E,382nm,0.4s										
KORT				IAML		02 04 48.0					
	comp=N,244nm,0.6s										
KORT	**Korkueli**	**2.39**	**29**	PN	**Pn**	**02 04 14.7**	**+1.4**				
BDRM	**Kayabasi**	**2.45**	**332**	*iP*	**Pn**	**02 04 13.9**	**-0.1**				
BDRM				*iS*	**Sn**	**02 04 40.8**	**-2.2**				
BODT	**Bodrum**	**2.50**	**329**	P	**Pn**	**02 04 14.4**	**-0.4**				
BODT				S	**Sn**	**02 04 41.2**	**-3.1**				
BODT	**Bodrum**	**2.50**	**329**	PN	**Pn**	**02 04 14.4**	**-0.4**				
BODT	**Bodrum**	**2.50**	**329**	Pn	**Pn**	**02 04 14.4**	**-0.4**				
TAVA	**DENIZLI_Tavas**	**2.55**	**0**⇑	*iP*	**Pn**	**02 04 16.1**	**+0.6**				
TAVA				*iS*	**Sn**	**02 04 40.4**	**-5.1**				
FRMA	**Ierapetra Chan**	**2.61**	**273**	P	**Pn**	**02 04 16.2**	**0.0**				
FRMA				S	**Sn**	**02 04 44.9**	**-1.9**				
NPS	**Neapolis**	**2.72**	**278**	P	**Pn**	**02 04 19.6**	**+1.8**				
NPS				S	**Sn**	**02 04 50.8**	**+1.1**				
	comp=N,1µm,0.3s										
NPS	**Neapolis**	**2.72**	**278**	P	**Pn**	**02 04 19.6**	**+1.8**				
NPS				AML	AML	02 04 51.5					
	comp=E,1779µm,0.4s										
NPS				AML	AML	02 04 52.1					
	comp=N,2622µm,0.3s										
MNVG	**Manavgat-Antal**	**2.77**	**47**	PN	**Pn**	**02 04 19.5**	**+1.1**				
MNVG	**Manavgat-Antal**	**2.77**	**47**	Pn	**Pn**	**02 04 19.5**	**+1.1**				
AKMS	**Akamas**	**2.82**	**87**	P	**Pn**	**02 04 20.2**	**+1.1**				
AKMS				S	**Sn**	**02 04 52.4**	**+0.4**				
AKMS				AML	AML	02 04 53.0					
	comp=N,9.5nm,0.4s										
AKMS				AML	AML	02 04 53.0					
	comp=N,9.5nm,0.4s										
AKMS				AML	AML	02 04 53.0					
	comp=N,4.8nm,0.2s										
AKMS				AML	AML	02 04 53.0					
	comp=N,4.8nm,0.2s										
AKMS				AMd		02 06 10.6					
AKMS				AMd		02 06 10.6					
LAST	**Lasithi**	**2.82**	**276**	P	**Pn**	**02 04 20.9**	**+1.7**				
LAST				S	**Sn**	**02 04 53.3**	**+1.1**				
	comp=N,728nm,0.7s										
LAST	**Lasithi**	**2.82**	**276**	P	**Pn**	**02 04 20.9**	**+1.7**				
LAST				S	**Sn**	**02 04 52.9**	**+0.6**				
LAST				AML	AML	02 04 53.8					
	comp=E,651µm,0.8s										
LAST				AML	AML	02 04 56.5					
	comp=N,508µm,0.6s										
DENT	**Denizli**	**2.84**	**2**	PN	**Pn**	**02 04 19.8**	**+0.5**				
DENT	**Denizli**	**2.84**	**2**	Pn	**Pn**	**02 04 19.9**	**+0.5**				
AYDN	**Tasoluk**	**2.86**	**343**⇑	*iP*	**Pn**	**02 04 20.1**	**+0.3**				
AYDN				*iS*	**Sn**	**02 04 52.1**	**-1.1**				
AYDN				IAML		02 04 54.0					
	comp=N,287nm,0.3s										
AYDN				IAML		02 04 54.0					
	comp=E,434nm,0.4s										
BCK	**Bucak**	**2.88**	**28**	PN	**Pn**	**02 04 21.4**	**+1.3**				
ANAF	**Anafi Island**	**2.93**	**300**	P	**Pn**	**02 04 20.6**	**-0.1**				
ANAF				S	**Sn**	**02 04 52.5**	**-2.3**				
ANAF	**Anafi Island**	**2.93**	**300**	P	**Pn**	**02 04 20.6**	**-0.1**				
BRDR	**BURDUR-Merkez**	**2.93**	**18**⇓	*iP*	**Pn**	**02 04 22.4**	**+1.6**				
BRDR				*iS*	**Sn**	**02 04 55.2**	**+0.3**				
BRDR				IAML		02 05 00.0					
	comp=N,151nm,0.4s										
BRDR				IAML		02 05 00.0					
	comp=E,170nm,0.4s										
KEPZ	**Antalya-Kepez**	**2.96**	**47**	*iP*	**Pn**	**02 04 22.1**	**+1.1**				
KEPZ				*iS*	**Sn**	**02 04 55.4**	**0.0**				
KEPZ				IAML		02 04 56.0					
	comp=E,92nm,0.5s										
KEPZ				IAML		02 05 08.0					
	comp=N,94nm,0.7s										
NATA	**Nata**	**3.02**	**92**	P	**Pn**	**02 04 23.3**	**+1.5**				
NATA				S	**Sn**	**02 04 56.9**	**0.0**				
NATA				AML	AML	02 04 59.4					
	comp=N,8.4nm,0.3s										
NATA				AML	AML	02 04 59.4					
	comp=N,8.4nm,0.3s										
NATA				AMd		02 06 25.2					
NATA				AMd		02 06 25.2					
ALAN	**Alanya-ANTALYA**	**3.03**	**56**	PN	**Pn**	**02 04 22.5**	**+0.6**				
ALAN	**Alanya-ANTALYA**	**3.03**	**56**	Pn	**Pn**	**02 04 22.5**	**+0.6**				
ALFC	**Alefka**	**3.04**	**84**	P	**Pn**	**02 04 23.1**	**+0.9**				
ALFC				S	**Sn**	**02 04 57.5**	**-0.1**				
ALFC				AML	AML	02 04 58.0					
	comp=N,6.0nm,0.3s										
ALFC				AML	AML	02 04 58.0					
	comp=N,6.0nm,0.3s										
ALFC				AML	AML	02 05 01.2					
	comp=N,5.0nm,0.2s										
ALFC				AML	AML	02 05 01.2					
	comp=N,5.0nm,0.2s										
ALFC				AMd		02 06 17.6					
ALFC				AMd		02 06 17.6					
GAZI	**Gazipasa**	**3.08**	**64**⇓	*iP*	**Pn**	**02 04 22.6**	**-0.1**				
GAZI				*iS*	**Sn**	**02 04 55.3**	**-3.1**				
GAZI				IAML		02 04 59.0					
	comp=E,178nm,0.6s										
GAZI				IAML		02 04 59.0					
	comp=N,244nm,0.3s										
GAZI	**Gazipasa**	**3.08**	**64**	PN	**Pn**	**02 04 23.5**	**+0.8**				
GCAM	**G?zelcaml?**	**3.09**	**335**⇑	*iP*	**Pn**	**02 04 22.5**	**-0.3**				
GCAM				*iS*	**Sn**	**02 04 56.4**	**-2.3**				
GCAM				IAML		02 05 02.0					
	comp=N,146nm,0.5s										
GCAM				IAML		02 05 06.0					
	comp=E,140nm,0.4s										
GCAM	**G?zelcaml?**	**3.09**	**335**	PN	**Pn**	**02 04 22.5**	**-0.3**				
AMGA	**Amorgos Island**	**3.11**	**309**	P	**Pn**	**02 04 22.6**	**-0.5**				
AMGA				S	**Sn**	**02 04 55.9**	**-3.2**				
AMGA	**Amorgos Island**	**3.11**	**309**	P	**Pn**	**02 04 22.9**	**-0.2**				
AYDB	**Zeytinkoy-Aydi**	**3.14**	**345**	PN	**Pn**	**02 04 23.4**	**-0.2**				
AYDB	**Zeytinkoy-Aydi**	**3.14**	**345**	Pn	**Pn**	**02 04 23.7**	**+0.1**				
BASM	**Basmaki-Afyon**	**3.14**	**17**	PN	**Pn**	**02 04 24.6**	**+1.0**				
SANT	**Santorini**	**3.16**	**298**	P	**Pn**	**02 04 24.2**	**+0.4**				
SANT	**Santorini**	**3.16**	**298**	P	**Pn**	**02 04 24.1**	**+0.2**				
SANT				AML	AML	02 04 59.1					
	comp=N,445µm,0.2s										
SANT				AML	AML	02 04 59.7					
	comp=E,1098µm,0.2s										
SANT	**Santorini**	**3.16**	**298**	⇑P	**Pn**	**02 04 22.6**	**-1.2**				
SANT				⇑S	**Sn**	**02 04 58.3**	**-2.2**				
SANT	**Santorini**	**3.16**	**298**	PN	**Pn**	**02 04 24.1**	**+0.2**				
SANT	**Santorini**	**3.16**	**298**	Pn	**Pn**	**02 04 24.1**	**+0.2**				
SANT					**Sn**	**02 04 58.0**	**-2.5**				
KSTL	**Kastelli Herak**	**3.17**	**278**	P	**Pn**	**02 04 23.0**	**-0.9**				
KSTL				S	**Sn**	**02 04 55.8**	**-4.8**				
SAP2K	**Karterados**	**3.19**	**299**	P	**Pn**	**02 04 24.5**	**+0.3**				
THR6	**Thira Island,**	**3.20**	**298**	P	**Pn**	**02 04 24.8**	**+0.5**				
SAP1	**Santorini-Akro**	**3.20**	**298**	P	**Pn**	**02 04 24.8**	**+0.4**				
SAP1				S	**Sn**	**02 04 59.1**	**-2.3**				
SFIR	**Foira Santorin**	**3.21**	**299**	P	**Pn**	**02 04 24.8**	**+0.4**				
THR7	**Fira-Santorini**	**3.21**	**299**	P	**Pn**	**02 04 24.9**	**+0.5**				
THT2	**Imerovigli**	**3.22**	**299**	P	**Pn**	**02 04 24.9**	**+0.4**				
THT2				S	**Sn**	**02 04 59.4**	**-2.5**				
	comp=E,498nm,0.2s										
THT2	**Imerovigli**	**3.22**	**299**	PN	**Pn**	**02 04 25.0**	**+0.4**				
THT2	**Imerovigli**	**3.22**	**299**	Pn	**Pn**	**02 04 25.1**	**+0.5**				
THR3	**Thira Island,**	**3.22**	**299**	P	**Pn**	**02 04 24.7**	**+0.1**				
SMG	**Samos**	**3.25**	**330**	P	**Pn**	**02 04 24.3**	**-0.8**				
SMG				S	**Sn**	**02 04 58.6**	**-4.1**				
	comp=E,342nm,0.3s										
SMG	**Samos**	**3.25**	**330**	P	**Pn**	**02 04 24.7**	**-0.3**				
THR5	**Thira Island,**	**3.26**	**298**	P	**Pn**	**02 04 25.6**	**+0.4**				
SZAC	**Souni**	**3.27**	**92**	P	**Pn**	**02 04 26.7**	**+1.3**				
SZAC				S	**Sn**	**02 05 04.9**	**+1.6**				
SZAC				AML	AML	02 05 05.4					
	comp=E,4.3nm,0.3s										
SZAC				AML	AML	02 05 05.4					
	comp=E,4.3nm,0.3s										
SZAC				AML	AML	02 05 07.0					
	comp=E,5.6nm,0.3s										
SZAC				AML	AML	02 05 07.0					
	comp=E,5.6nm,0.3s										
SZAC				AMd		02 06 25.5					
SZAC				AMd		02 06 25.5					
LEF	**Lefka**	**3.28**	**85**⇓	*iP*	**Pn**	**02 04 25.4**	**+0.1**				
LEF				*iS*	**Sn**	**02 05 00.5**	**-2.8**				
LEF	**Lefka**	**3.28**	**85**	⇑P	**Pn**	**02 04 25.9**	**+0.6**				
LEF				⇑S	**Sn**	**02 05 02.2**	**-1.1**				
LEF				AML	AML	02 05 05.6					
LEF	**Lefka**	**3.28**	**85**	PN	**Pn**	**02 04 26.1**	**+0.7**				
LEF	**Lefka**	**3.28**	**85**	Pn	**Pn**	**02 04 26.0**	**+0.6**				
IDI	**Anoyia**	**3.31**	**278**	Pn	**Pn**	**02 04 27.2**	**+1.3**				
	comp=E,18nm,0.3s,baz=47,slow=5.9,SNR=389										
IDI				Sn	**Sn**	**02 05 02.5**	**-1.8**				
	comp=E,73nm,0.3s,baz=172,slow=21,SNR=18										
IDI	**Anoyia**	**3.31**	**278**	P	**Pn**	**02 04 27.3**	**+1.3**				
IDI				S	**Sn**	**02 05 03.8**	**-0.5**				
IDI				AML	AML	02 05 06.7					
	comp=N,1592µm,0.5s										
IDI				AML	AML	02 05 07.2					
	comp=E,886µm,0.2s										
SIVA	**Sivas**	**3.37**	**273**	P	**Pn**	**02 04 28.2**	**+1.6**				
SIVA				S	**Sn**	**02 05 05.7**	**+0.2**				
	comp=E,1µm,0.6s										
SIVA	**Sivas**	**3.37**	**273**	P	**Pn**	**02 04 28.1**	**+1.5**				
SIVA				S	**Sn**	**02 05 05.8**	**+0.3**				
SIVA				AML	AML	02 05 09.3					
	comp=E,2863µm,0.7s										
SIVA				AML	AML	02 05 14.1					
	comp=N,1878µm,0.5s										
TMBK	**Timbaki Herakl**	**3.40**	**274**	P	**Pn**	**02 04 29.1**	**+2.0**				
TMBK				S	**Sn**	**02 05 08.0**	**+1.6**				
	comp=N,470nm,0.6s										
BAGO	**Egridir - ISPA**	**3.42**	**26**	*iP*	**Pn**	**02 04 30.6**	**+3.0**				
BAGO				*iS*	**Sn**	**02 05 07.1**	**0.0**				
IOSP	**Ios island**	**3.45**	**303**	P	**Pn**	**02 04 28.1**	**+0.3**				
APE	**Apeiranthos**	**3.48**	**309**	P	**Pn**	**02 04 28.2**	**0.0**				
APE	**Apeiranthos**	**3.48**	**309**	P	**Pn**	**02 04 28.3**	**0.0**				
APE	**Apeiranthos**	**3.48**	**309**	⇑P	**Pn**	**02 04 28.2**	**0.0**				
APE				⇑S	**Sn**	**02 05 07.0**	**-1.4**				
APE	**Apeiranthos**	**3.48**	**309**	PN	**Pn**	**02 04 28.3**	**0.0**				
APE	**Apeiranthos**	**3.48**	**309**	P	**Pn**	**02 04 28.2**	**0.0**				
KHAL	**Karahalli**	**3.48**	**8**⇑	*iP*	**Pn**	**02 04 28.4**	**+0.1**				
KHAL				*iS*	**Sn**	**02 05 05.5**	**-3.1**				
KHAL				IAML		02 05 08.0					
	comp=N,70nm,0.4s										
KHAL				IAML		02 05 09.0					
	comp=E,84nm,0.3s										
DGB	**zmir**	**3.53**	**333**⇑	*iP*	**Pn**	**02 04 28.1**	**-0.7**				
DGB				*iS*	**Sn**	**02 05 05.5**	**-4.0**				
ASGA	**Asgata**	**3.57**	**91**	P	**Pn**	**02 04 30.5**	**+1.0**				
ASGA				AML	AML	02 05 15.2					
	comp=E,7.1nm,0.5s										
ASGA				AML	AML	02 05 15.3					
	comp=E,9.9nm,0.4s										
ASGA				AMd		02 06 20.8					
MANT	**Manisa**	**3.58**	**356**		**Pn**	**02 04 29.4**	**-0.4**				
MANT				Sn	**Sn**	**02 05 06.4**	**-4.7**				
CSS	**Mathiatis**	**3.63**	**88**	Pn	**Pn**	**02 04 31.2**	**+0.9**				
CSS				Sn	**Sn**	**02 05 11.1**	**-1.1**				
CSS	**Mathiatis**	**3.63**	**88**	P	**Pn**	**02 04 31.7**	**+1.4**				
CSS				S	**Sn**	**02 05 11.5**	**-0.7**				
CSS				AML	AML	02 05 12.6					
	comp=E,590µm,0.7s										
CSS				AML	AML	02 05 17.4					
	comp=N,675µm,0.6s										
CSS	**Mathiatis**	**3.63**	**88**	PN	**Pn**	**02 04 31.6**	**+1.2**				
CSS	**Mathiatis**	**3.63**	**88**	P	**Pn**	**02 04 31.5**	**+1.2**				
CSS				S	**Sn**	**02 05 12.0**	**-0.2**				
CSS				AMd		02 06 23.8					
CSS				AMd		02 06 23.8					
CSS	**Mathiatis**	**3.63**	**88**		**Pn**	**02 04 30.6**	**+0.3**				
CSS				Sn	**Sn**	**02 05 11.1**	**-1.1**				
PRNS	**Prines Rethymn**	**3.64**	**278**	P	**Pn**	**02 04 33.5**	**+3.2**				
PRNS				S	**Sn**	**02 05 13.2**	**+1.0**				
TEKE	**Tekeli-Mersin**	**3.65**	**69**	PN	**Pn**	**02 04 31.0**	**+0.6**				
TEKE	**Tekeli-Mersin**	**3.65**	**69**	Pn	**Pn**	**02 04 31.7**	**+1.3**				
ERMK	**Ermenek**	**3.69**	**61**	*iP*	**Pn**	**02 04 33.4**	**+2.2**				
ERMK				*iS*	**Sn**	**02 05 12.0**	**-1.7**				
ERMK				IAML		02 05 21.0					
	comp=N,231nm,0.3s										
ERMK				IAML		02 05 31.0					
	comp=E,138nm,0.7s										
ATHAL	**Athalassa**	**3.69**	**85**	P	**Pn**	**02 04 32.4**	**+1.3**				
ATHAL				S	**Sn**	**02 05 14.1**	**+0.6**				
BLCB	**Balcova**	**3.77**	**337**	PN	**Pn**	**02 04 32.2**	**0.0**				
BLCB	**Balcova**	**3.77**	**337**	Pn	**Pn**	**02 04 32.0**	**-0.2**				
USAK	**Uak-Merkez**	**3.79**	**1**⇑	*iP*	**Pn**	**02 04 32.5**	**-0.1**				
USAK				*iS*	**Sn**	**02 05 12.6**	**-3.5**				
BERE	**Bereket-Mersin**	**3.80**	**67**	PN	**Pn**	**02 04 33.7**	**+1.0**				
BERE	**Bereket-Mersin**	**3.80**	**67**	Pn	**Pn**	**02 04 33.6**	**+1.0**				
MATC	**Matruh**	**3.83**	**202**	P	**Pn**	**02 04 35.0**	**+2.1**				
	baz=201										
MATC				AMP		02 05 00.0					
	baz=201										
MATC				S	**Sn**	**02 05 09.4**	**-7.4**				
	baz=201										
ZEY	**zmir**	**3.84**	**330**	*iP*	**Pn**	**02 04 32.3**	**-0.9**				
ZEY				*iS*	**Sn**	**02 05 12.5**	**-4.7**				
SHUT	**Suhut-Afyon**	**3.87**	**20**	PN	**Pn**	**02 04 34.3**	**+0.7**				
SHUT	**Suhut-Afyon**	**3.87**	**20**	Pn	**Pn**	**02 04 34.3**	**+0.7**				
YORU	**Yoruktepe-Mers**	**3.87**	**70**	PN	**Pn**	**02 04 34.9**	**+1.3**				
YORU	**Yoruktepe-Mers**	**3.87**	**70**	Pn	**Pn**	**02 04 34.8**	**+1.2**				
MVOU	**Mavrovouni**	**3.88**	**87**	P	**Pn**	**02 04 35.3**	**+1.6**				
MVOU				S	**Sn**	**02 05 20.0**	**+1.7**				
MVOU				AML	AML	02 05 22.5					
	comp=E,1.6nm,0.3s										
MVOU				AML	AML	02 05 22.5					
	comp=E,1.6nm,0.3s										
MVOU				AML	AML	02 05 23.2					
	comp=E,1.7nm,0.3s										
MVOU				AML	AML	02 05 23.2					
	comp=E,1.7nm,0.3s										
MVOU				AMd		02 06 29.0					
MVOU				AMd		02 06 29.0					
DOGA	**KONYA_Doganhis**	**3.89**	**34**⇓	*iP*	**Pn**	**02 04 36.4**	**+2.5**				
DOGA				IAML		02 05 23.0					
	comp=N,311nm,0.5s										
DOGA				IAML		02 05 25.0					
	comp=E,159nm,0.5s										
VAM	**Vamos**	**3.89**	**279**	P	**Pn**	**02 04 34.2**	**+0.4**				
VAM	**Vamos**	**3.89**	**279**	P	**Pn**	**02 04 34.6**	**+0.8**				
VAM				AML	AML	02 05 19.8					
	comp=N,1447µm,0.3s										
VAM				AML	AML	02 05 21.1					
	comp=E,917µm,0.4s										
URLA	**Izmir**	**3.91**	**332**	*iP*	**Pn**	**02 04 33.6**	**-0.6**				
URLA				*iS*	**Sn**	**02 05 15.0**	**-4.0**				
URLA	**Izmir**	**3.91**	**332**	PN	**Pn**	**02 04 33.5**	**-0.6**				
OREN	**Orenkoy-Mersin**	**3.93**	**70**	PN	**Pn**	**02 04 35.7**	**+1.4**				
OREN	**Orenkoy-Mersin**	**3.93**	**70**	Pn	**Pn**	**02 04 35.7**	**+1.4**				
GVDS	**Gavdos**	**3.96**	**270**	P	**Pn**	**02 04 36.2**	**+1.4**				
GVD	**Gavdhos**	**3.96**	**270**	P	**Pn**	**02 04 35.7**	**+0.9**				
GVD	**Gavdhos**	**3.96**	**270**	P	**Pn**	**02 04 36.1**	**+1.3**				
GVD				AML	AML	02 05 22.5					
	comp=E,1846µm,0.6s										
GVD				AML	AML	02 05 22.8					
	comp=N,1790µm,0.5s										
AKK1	**Akkuyu-Mersin**	**3.97**	**71**	PN	**Pn**	**02 04 36.3**	**+1.4**				
AKK1	**Akkuyu-Mersin**	**3.97**	**71**	Pn	**Pn**	**02 04 36.3**	**+1.4**				
AKK2	**Akkuyu-Mersin**	**3.98**	**71**	PN	**Pn**	**02 04 36.3**	**+1.3**				
AKK2	**Akkuyu-Mersin**	**3.98**	**71**	Pn	**Pn**	**02 04 36.3**	**+1.3**				
AKKU	**Akkuyu-Mersin**	**3.99**	**71**	PN	**Pn**	**02 04 36.0**	**+0.9**				
AKKU	**Akkuyu-Mersin**	**3.99**	**71**	Pn	**Pn**	**02 04 36.0**	**+0.9**				
GULN	**MERSIN_Gulnar**	**3.99**	**70**	*iP*	**Pn**	**02 04 35.8**	**+0.7**				
KMER	**Konya-Meram**	**3.99**	**43**	*iP*	**Pn**	**02 04 37.3**	**+2.0**				
KMER				IAML		02 05 24.0					
	comp=N,86nm,0.4s										
KMER				IAML		02 05 24.0					
	comp=E,70nm,0.9s										
TEVE	**Tevekalti-Mers**	**3.99**	**66**	PN	**Pn**	**02 04 36.8**	**+1.5**				
TEVE	**Tevekalti-Mers**	**3.99**	**66**	Pn	**Pn**	**02 04 36.8**	**+1.5**				
TEPE	**Tepekoy-Mersin**	**4.01**	**70**	PN	**Pn**	**02 04 37.3**	**+1.8**				
TEPE	**Tepekoy-Mersin**	**4.01**	**70**	Pn	**Pn**	**02 04 37.3**	**+1.8**				
AFYO	**Afyonkarahisar**	**4.02**	**16**	*iP*	**Pn**	**02 04 38.7**	**+2.9**				
AFYO				*iS*	**Sn**	**02 05 21.6**	**-0.3**				
AKHS	**Akhisar**	**4.05**	**348**	*iP*	**Pn**	**02 04 35.4**	**-0.7**				
YESI	**Yesilovacik-Me**	**4.07**	**70**	PN	**Pn**	**02 04 37.3**	**+1.1**				
YESI	**Yesilovacik-Me**	**4.07**	**70**	Pn	**Pn**	**02 04 37.5**	**+1.2**				
IMMV	**Iera Moni Meta**	**4.07**	**279**	P	**Pn**	**02 04 37.4**	**+1.1**				
IMMV	**Iera Moni Meta**	**4.07**	**279**	P	**Pn**	**02 04 37.8**	**+1.5**				
IMMV				AML	AML	02 05 23.9					
	comp=E,2665µm,0.5s										
IMMV				AML	AML	02 05 25.1					
	comp=N,2423µm,0.3s										
TISA	**Tisan-

MMLI	**Mount Malkishu**	**5.97**	**113**	P	**Pn**	**02 05 02.9 +0.5**
MMLI				S	**Sn**	**02 06 06.9 -2.9**
KSHT	**Keshet**	**6.05**	**107**	Pn	**Pn**	**02 05 04.8 +1.2**
AMAZ	**Amatzia**	**6.06**	**122**	Pn	**Pn**	**02 05 04.6 +0.9**
AMAZ				Sn	**Sn**	**02 06 08.8 -3.2**
AMAZ	**Amatzia**	**6.06**	**122**	P	**Pn**	**02 05 04.8 +1.1**
AMAZ				S	**Sn**	**02 06 09.6 -2.4**
ITM	**Ithomi**	**6.09**	**294**	P	**Pn**	**02 05 04.6 +0.5**
ITM	**Ithomi**	**6.09**	**294**		**Pn**	**02 05 04.4 +0.3**
ITM				Sn	**Sn**	**02 06 10.8 -1.8**
BR131	**Keskin Array S**	**6.11**	**37**		**Pn**	**02 05 05.0 +0.6**
BR131				Sn	**Sn**	**02 06 11.1 -2.1**
BRTR	**Keskin Array B**	**6.11**	**37**	Pn	**Pn**	**02 05 05.1 +0.6**
	comp=E,2.8nm,0.3s,baz=217,slow=15,SNR=87					
BRTR				Sn	**Sn**	**02 06 10.4 -2.8**
	comp=E,3.2nm,0.3s,baz=159,slow=24,SNR=17					
PYL	**PYLOS**	**6.14**	**291**	P	**Pn**	**02 05 03.8 -1.0**
AVNS	**Nevsehir-Avano**	**6.15**	**49**	*e*P	**Pn**	**02 05 06.4 +1.4**
CMDR	**Camlidere-ANKA**	**6.25**	**26**	*i* P	**Pn**	**02 05 09.1 +2.8**
KLV	**Kalavryta, Ach**	**6.28**	**302**	P	**Pn**	**02 05 07.3 +0.7**
YTIR	**Yattir**	**6.30**	**122**	Pn	**Pn**	**02 05 08.0 +1.0**
YTIR				Sn	**Sn**	**02 06 14.9 -3.0**
DSI	**Dead Sea**	**6.37**	**120**	Pn	**Pn**	**02 05 09.0 +1.1**
DSI				Sn	**Sn**	**02 06 16.0 -3.5**
AMT	**Artemida-Makis**	**6.38**	**296**	P	**Pn**	**02 05 08.7 +0.7**
CDAG	**Cicekdag**	**6.41**	**41**	*i* P	**Pn**	**02 05 10.1 +1.5**
KALE	**Kalithea**	**6.45**	**305**	P	**Pn**	**02 05 10.2 +1.1**
DELI	**KIRIKKALE**	**6.45**	**37**	*i* P	**Pn**	**02 05 09.8 +0.7**
ZNM	**Zenema**	**6.46**	**148**	P	**Pn**	**02 05 11.1 +1.8**
	baz=145					
TRIZ	**Trizonia**	**6.48**	**304**	P	**Pn**	**02 05 10.9 +1.5**
MZDA	**Masada**	**6.50**	**122**	Pn	**Pn**	**02 05 11.0 +1.4**
SERG	**Sergoula**	**6.52**	**304**	P	**Pn**	**02 05 11.3 +1.3**
SERG				S	**Sn**	**02 06 21.6 -1.6**
DRO	**Drossia**	**6.54**	**300**	P	**Pn**	**02 05 12.2 +1.9**
RMNI	**Mount Ramon**	**6.55**	**129**	Pn	**Pn**	**02 05 11.3 +0.9**
NBNS	**Bani Suef**	**6.59**	**161**	P	**Pn**	**02 05 12.1 +1.1**
	baz=159					
NBNS				AMP		02 06 00.0
	baz=159					
EFP	**Efpalio**	**6.63**	**304**	P	**Pn**	**02 05 12.6 +1.2**
AGG	**Agios Georgios**	**6.67**	**310**	P	**Pn**	**02 05 13.9 +1.8**
AGG	**Agios Georgios**	**6.67**	**310**		**Pn**	**02 05 12.3 +0.2**
AGG				Sn	**Sn**	**02 06 24.2 -2.8**
MAKR	**Makrakomi, Fth**	**6.79**	**309**	P	**Pn**	**02 05 16.1 +2.4**
ZFRI	**Zfri**	**6.84**	**128**	Pn	**Pn**	**02 05 14.9 +0.5**
ZFRI				Sn	**Sn**	**02 06 27.1 -4.1**
KRMI	**Paran Flat**	**6.86**	**133**	Pn	**Pn**	**02 05 14.5 -0.1**
PRNI	**Paran**	**6.87**	**130**	Pn	**Pn**	**02 05 15.0 +0.2**
HCB	**Kahramanmara**	**6.92**	**67**	*i* P	**Pn**	**02 05 15.2 -0.2**
PVO	**Paravola**	**6.98**	**304**	P	**Pn**	**02 05 19.2 +2.9**
GAZ	**Gaziantep**	**7.10**	**69**	Pn	**Pn**	**02 05 18.7 +0.8**
GAZ					**Sn**	**02 06 36.2 -1.4**
HRFI	**Mount Harif**	**7.10**	**132**	Pn	**Pn**	**02 05 18.0 0.0**
HRFI				Sn	**Sn**	**02 06 33.8 -3.9**
THL	**Klokotos Trika**	**7.19**	**312**	P	**Pn**	**02 05 21.4 +2.2**
MBRI	**Mt Berech**	**7.20**	**133**	Pn	**Pn**	**02 05 20.3 +0.9**
MBRI				Sn	**Sn**	**02 06 36.7 -3.5**
LIT	**Litokhoron**	**7.26**	**317**		**Pn**	**02 05 20.9 +0.7**
EIL	**Elat**	**7.32**	**134**	Pn	**Pn**	**02 05 21.0 +0.1**
EIL				Sn	**Sn**	**02 06 39.0 -3.9**
EIL	**Elat**	**7.32**	**134**	Pn	**Pn**	**02 05 21.6 +0.7**
	comp=E,12nm,0.3s,baz=298,slow=5.3,SNR=118					
EIL				Sn	**Sn**	**02 06 39.9 -3.0**
	comp=E,14nm,0.3s,baz=307,slow=1.4,SNR=12					
EIL				LR	LR	02 09 42.4
	comp=E,55nm,20.4s,baz=296,slow=50					
VLS	**Valsamata**	**7.44**	**298**	P	**Pn**	**02 05 21.4 -1.2**
HBST	**Basata**	**7.53**	**137**	P	**Pn**	**02 05 24.2 +0.4**
	baz=135					
FSK	**Fiskardo**	**7.58**	**300**	P	**Pn**	**02 05 24.2 -0.3**
EVGI	**Lefkada island**	**7.58**	**302**	P	**Pn**	**02 05 24.2 -0.3**
LKD2	**Lefkada island**	**7.66**	**303**	P	**Pn**	**02 05 25.3 -0.3**
TSLK	**Tsoukalades, L**	**7.68**	**303**	P	**Pn**	**02 05 25.9 +0.1**
HFRF	**Wahat Farafira**	**7.76**	**184**	P	**Pn**	**02 05 28.0 +1.0**
	baz=183					
HFRF				AMP		02 06 00.0
	baz=183					
HFRF				S	**Sn**	**02 06 46.7 -7.1**
	baz=183					
KPRO	**Kipourio**	**7.83**	**312**	P	**Pn**	**02 05 30.3 +2.3**
AKCD	**Akcadag**	**8.00**	**62**	*e*P	**Pn**	**02 05 30.6 +0.3**
PENT	**Pentalofos**	**8.11**	**313**	P	**Pn**	**02 05 34.2 +2.3**
IGT	**Igoumenitsa**	**8.25**	**306**	P	**Pn**	**02 05 32.7 -0.9**
NEST	**Nestorio**	**8.30**	**314**	P	**Pn**	**02 05 37.1 +2.6**
ELND	**Elena**	**8.34**	**344**	⇑P	**Pn**	**02 05 35.7 +0.7**
FNA	**Florina**	**8.35**	**317**	P	**Pn**	**02 05 37.8 +2.7**
FNA	**Florina**	**8.35**	**317**		**Pn**	**02 05 35.3 +0.1**
SRN	**Sarande**	**8.65**	**308**	P	**Pn**	**02 05 38.3 -0.8**
KEK	**Kerkira**	**8.69**	**306**	P	**Pn**	**02 05 38.9 -0.8**
VTS	**Vitosha**	**8.87**	**332**	⇑P	**Pn**	**02 05 44.1 +1.7**
VTS	**Vitosha**	**8.87**	**332**		**Pn**	**02 05 42.8 +0.4**
TIRR	**Tirgusor**	**9.54**	**358**	⇑P	**Pn**	**02 05 51.9 +0.6**
TIRR				⇑P	**Pn**	**02 05 51.9 +0.6**
TIR	**Tirane**	**9.59**	**315**	⇓P	**Pn**	**02 05 52.5 +0.5**
TIR	**Tirane**	**9.59**	**315**		**Pn**	**02 05 52.4 +0.3**
DRME	**Dracevica, Mon**	**10.52**	**317**	*e*Pn	**Pn**	**02 06 04.0 -0.7**
TIP	**Timpagrande**	**10.60**	**297**	⇓P	**Pn**	**02 06 03.5 -2.4**
PDG	**Podgorica**	**10.63**	**318**	*e*Pn	**Pn**	**02 06 06.1 -0.2**
PDG	**Podgorica**	**10.63**	**318**	⇓P	**Pn**	**02 06 06.4 +0.1**
CGL1	**Ceglie Messapi**	**10.70**	**306**	⇓*i*P	**Pn**	**02 06 04.8 -2.5**
TAR1	**Taranto**	**10.77**	**305**	⇓*i*P	**Pn**	**02 06 05.5 -2.7**
MLR	**Muntele Rosu**	**10.80**	**349**	Pn	**Pn**	**02 06 09.5 +0.7**
	comp=E,0.1nm,0.3s,baz=207,slow=5.1,SNR=4.2					
MLR	**Muntele Rosu**	**10.80**	**349**	⇑P	**Pn**	**02 06 10.1 +1.3**
MLR	**Muntele Rosu**	**10.80**	**349**		**Pn**	**02 06 08.5 -0.3**
MASS	**Massafra**	**10.92**	**305**	*e*P	**Pn**	**02 06 07.3 -2.9**
CEL	**Celeste**	**10.98**	**291**	Pn	**Pn**	**02 06 10.2 -0.9**
HCY	**Herceg Novi**	**11.07**	**316**	*e*Pn	**Pn**	**02 06 10.2 -2.2**
MATE	**Matera**	**11.22**	**304**	⇑P	**Pn**	**02 06 11.3 -3.1**
MDVR	**Moldovita**	**11.29**	**333**	⇑P	**Pn**	**02 06 16.3 +0.9**
BAI	**Bari**	**11.32**	**307**	⇓*i*P	**Pn**	**02 06 13.0 -2.7**
SG1	**Sgolgore (BA)**	**11.32**	**305**	⇓*i*P	**Pn**	**02 06 12.8 -3.0**
TRBJ	**Trebinje**	**11.33**	**317**	*e*Pn	**Pn**	**02 06 13.7 -2.1**
BRY	**Bratogost**	**11.34**	**318**	*e*Pn	**Pn**	**02 06 15.6 -0.6**
UPM	**Unac-Piva**	**11.35**	**320**	*e*Pn	**Pn**	**02 06 16.8 +0.5**
DOPR	**Dopca**	**11.36**	**347**	⇑P	**Pn**	**02 06 17.7 +1.4**
RUDO	**Rudo**	**11.40**	**323**	*e*Pn	**Pn**	**02 06 17.3 +0.4**
DIVS	**Divibare**	**11.46**	**326**	*e*Pn	**Pn**	**02 06 18.9 +1.2**
BBLS	**Lazići**	**11.56**	**323**	*e*Pn	**Pn**	**02 06 20.1 +1.0**
STON	**Ston**	**11.80**	**316**	*e*Pn	**Pn**	**02 06 19.5 -2.8**
STON	**Ston**	**11.80**	**316**	*e*Pn	**Pn**	**02 06 18.9 -3.3**
ACER	**Acerenza**	**11.80**	**304**		**Pn**	**02 06 19.1 -3.3**
HAPS	**Han Pijesak,BI**	**11.95**	**323**	*e*Pn	**Pn**	**02 06 24.0 -0.4**
VAE	**Valguarnera**	**11.99**	**287**	Pn	**Pn**	**02 06 24.9 -0.1**
	comp=E,1.3nm,0.3s,baz=129,slow=6.3,SNR=9.2					
VAE				Sn	Sn	02 08 23.8 -14
	comp=E,3.7nm,0.3s,baz=317,slow=4.3,SNR=10					
RAFF	**Raffo Rosso**	**11.99**	**285**		**Pn**	**02 06 22.2 -2.8**
MILM	**Milestii Mici**	**11.99**	**360**	⇑P	**Pn**	**02 06 25.6 +0.7**
BZS	**Buzias**	**12.05**	**335**	⇑P	**Pn**	**02 06 26.2 +0.5**
SGRT	**San Giovanni R**	**12.38**	**307**		**Pn**	**02 06 26.5 -3.8**
MAKA	**Makarska**	**12.45**	**316**	*e*Pn	**Pn**	**02 06 28.1 -3.0**
RICI	**Ricice**	**12.51**	**317**	*e*Pn	**Pn**	**02 06 29.9 -2.2**
HVAR	**Hvar**	**12.71**	**314**	*e*Pn	**Pn**	**02 06 31.3 -3.4**
CORL	**Corleone**	**12.92**	**288**	Pn	**Pn**	**02 06 36.0 -1.7**
CLTB	**Caltabellotta**	**12.94**	**286**		**Pn**	**02 06 37.0 -1.0**
BURAR	**Bucovina Array**	**12.99**	**349**	⇓P	P	02 06 53.6 +4.9
KIJV	**Kijevo**	**13.24**	**317**	*e*Pn	**Pn**	**02 06 39.5 -2.5**
BLY	**Banja Luka**	**13.31**	**321**	*e*Pn	**Pn**	**02 06 40.9 -2.0**
BLY	**Banja Luka**	**13.31**	**321**	⇑P	**Pn**	**02 06 41.9 -1.0**
BLY	**Banja Luka**	**13.31**	**321**		**Pn**	**02 06 40.7 -2.2**
ZIRJ	**Zirje**	**13.47**	**314**	*e*Pn	**Pn**	**02 06 41.5 -3.5**
MORI	**Morici**	**13.55**	**315**	*e*Pn	**Pn**	**02 06 44.0 -2.2**
MORH	**Mrgy, Hungar**	**13.71**	**329**	*e*Pn	**Pn**	**02 06 47.4 -0.9**
MORH	**Mrgy, Hungar**	**13.71**	**329**	*e*Pn	**Pn**	**02 06 47.0 -1.2**
INTR	**Introdacqua**	**13.71**	**306**		**Pn**	**02 06 47.2 -1.3**
UDBI	**Udbina**	**13.93**	**318**	*i* Pn	**Pn**	**02 06 49.4 -2.0**
KBZ	**Khabaz**	**13.94**	**47**	Pn	**Pn**	**02 06 53.6 +2.2**
	comp=E,0.1nm,0.3s,baz=264,slow=11,SNR=4.5					
KIV	**Kislovodsk**	**13.95**	**46**	P	**Pn**	**02 06 52.2 +0.6**
KVAR	**Kislovodsk Arr**	**13.95**	**46**	Pn	**Pn**	**02 06 53.0 +1.3**
	baz=262,slow=19,SNR=2.0					
DUGI	**Dugi Otok**	**14.01**	**314**	*e*Pn	**Pn**	**02 06 49.6 -2.9**
TRPA	**Tarpa**	**14.03**	**342**	*e*Pn	Pn	02 06 45.1 -7.6
MOSL	**Moslavina**	**14.13**	**323**	*i* Pn	**Pn**	**02 06 53.2 -0.9**
AQU	**L'Aquila**	**14.20**	**306**	Pn	**Pn**	**02 06 53.5 -1.6**
NVLJ	**Novalja**	**14.45**	**316**	*i* Pn	**Pn**	**02 06 55.6 -2.9**
NRCA	**Norcia**	**14.61**	**307**		**Pn**	**02 06 56.8 -3.9**
PSZ	**Piszkesteto**	**14.63**	**335**	*e*Pn	**Pn**	**02 07 03.1 +2.1**
PSZ	**Piszkesteto**	**14.63**	**335**	Pn	**Pn**	**02 07 01.5 +0.6**
KOLS	**Kolonicke sedl**	**14.84**	**343**	*e*P	**P**	**02 07 10.0 +0.8**
CRES	**Cresnjev**	**14.94**	**321**	*e*Pn	**Pn**	**02 07 01.4 -3.7**
RIY	**Rijeka**	**15.14**	**318**	*e*Pn	**Pn**	**02 07 04.7 -3.0**
MURB	**Monte Urbino**	**15.19**	**308**	Pn	**Pn**	**02 07 07.1 -1.4**
MURB				IAmb	IAmb	02 07 19.8
	comp=Z,9.7nm,1.1s					
CEY	**Cerknica**	**15.43**	**319**	*e*Pn	**Pn**	**02 07 08.4 -3.1**
VYHS	**Vyhne**	**15.49**	**334**	*e*P	**P**	**02 07 15.8 -0.6**
LJU	**Ljubljana**	**15.57**	**320**	*e*Pn	**Pn**	**02 07 10.3 -3.0**
SOKA	**Soboth**	**15.73**	**322**	Pn	**Pn**	**02 07 15.0 -0.6**
	comp=Z,2.1nm,0.6s,SNR=4.1					
AKASG	**Malin Array Be**	**15.78**	**1**	Pn	**Pn**	**02 07 16.8 +0.8**
	comp=Z,1.4nm,0.3s,baz=191,slow=11,SNR=5.7					
OBKA	**Obir**	**15.87**	**321**	*i* Pn	**Pn**	**02 07 16.6 -0.7**
	comp=Z,3.9nm,0.7s					
ARSA	**Arzberg**	**15.90**	**325**	*i* Pn	**Pn**	**02 07 19.2 +1.6**
	comp=Z,2.1nm,0.8s					
KEST	**Kesra**	**15.99**	**279**	Pn	**Pn**	**02 07 20.1 +1.2**
	comp=Z,0.5nm,0.3s,baz=58,slow=5.8,SNR=12					
KEST	**Kesra**	**15.99**	**279**		**Pn**	**02 07 18.7 -0.2**
KEST				IAmb	IAmb	02 07 24.3
	comp=Z,10.0nm,0.8s					
JAVC	**Velka Javorina**	**16.23**	**333**	*e*P	**P**	**02 07 24.6 0.0**
CONA	**Conrad Observa**	**16.24**	**327**	*i* Pn	**P**	**02 07 24.2 -0.6**
	comp=Z,7.1nm,1.6s					
TEOL	**Teolo**	**16.77**	**314**		**Pn**	**02 07 26.6 -2.1**
KBA	**Koelnbreinsper**	**16.86**	**321**	*i* Pn	**Pn**	**02 07 28.9 -1.1**
	comp=Z,7.5nm,1.3s					
KRUC	**Moravsky**	**16.89**	**331**	*e*P	**Pn**	**02 07 31.0 +0.9**
VRAC	**Vranov**	**17.00**	**331**	Pn	**Pn**	**02 07 30.8 -0.8**
	comp=Z,0.5nm,0.3s,baz=132,slow=10,SNR=10					
VRAC	**Vranov**	**17.00**	**331**	*e*P	**Pn**	**02 07 32.4 +0.8**
MORC	**Moravsky Berou**	**17.03**	**334**	*e*P	**Pn**	**02 07 32.5 +0.6**
ABTA	**Abfaltersbach**	**17.10**	**319**	*i* Pn	**Pn**	**02 07 30.9 -1.9**
	comp=Z,4.5nm,0.8s,SNR=5.8					
CTI	**Castel Tesino**	**17.17**	**316**		**Pn**	**02 07 31.5 -2.2**
CTI				IAmb	IAmb	02 07 47.5
	comp=Z,6.9nm,0.8s					
PRMA	**PARMA**	**17.30**	**310**		**Pn**	**02 07 34.2 -1.1**
WTTA	**Wattenberg**	**17.89**	**319**	*i* Pn	**P**	**02 07 43.4 +0.2**
	comp=Z,4.1nm,0.8s					
GEC2	**GERESS Array S**	**17.89**	**326**	P	**Pn**	**02 07 41.6 -1.0**
GEC2				IAmb	IAmb	02 07 42.9
	comp=Z,7.2nm,0.9s					
GERES	**GERESS Array B**	**17.89**	**326**	P	**Pn**	**02 07 42.2 -0.5**
	comp=Z,0.7nm,0.3s,baz=137,slow=12,SNR=31					
DPC	**Dobruska-Polom**	**17.95**	**333**	*e*P	**P**	**02 07 44.4 +0.7**
WATA	**Walderalm**	**17.96**	**319**	*i* Pn	**P**	**02 07 44.2 +0.2**
	comp=Z,4.5nm,0.6s					
SQTA	**Sankt Quirin**	**18.09**	**318**	*i* Pn	**Pn**	**02 07 45.3 +0.1**
	comp=Z,12nm,0.7s,SNR=5.7					
KHC	**Kasperske Hory**	**18.16**	**326**	*e*P	**Pn**	**02 07 45.6 -0.2**
KHC				*e*pP	**pP**	**02 07 52.6 -0.8**
KHC	**Kasperske Hory**	**18.16**	**326**		**Pn**	**02 07 43.5 -2.3**
OSTC	**Ostas**	**18.16**	**333**	*e*P	**Pn**	**02 07 45.1 -0.7**
OSTC				*ex*	x	02 07 54.7
MOTA	**Moosalm**	**18.23**	**318**	*i* P	**P**	**02 07 47.9 +1.1**
	comp=Z,14nm,1.1s					
FETA	**Feichten**	**18.24**	**317**	*i* P	**P**	**02 07 48.1 +1.0**
	comp=Z,7.5nm,0.8s					
CHVC	**Chvalec**	**18.24**	**333**	*e*P	**Pn**	**02 07 45.7 -1.2**
CHVC				*ex*	x	02 07 55.6
FUORN	**Ofenpass-Fuorn**	**18.28**	**315**	Pn	**P**	**02 07 47.6 0.0**
PRU	**Pruhonice**	**18.37**	**329**	*e*P	**P**	**02 07 47.5 -0.7**
PRA	**Prague**	**18.48**	**329**	*e*P	**P**	**02 07 49.3 -0.1**
RETA	**Reutte**	**18.50**	**318**	*i* P	**P**	**02 07 49.2 -0.5**
	comp=Z,7.1nm,1.1s					
DAVOX	**Davos/Dischmat**	**18.59**	**315**	P	**P**	**02 07 51.2 +0.3**
PVCC	**Panska Ves**	**18.77**	**331**	*e*P	**P**	**02 07 52.1 -0.5**
DAVA	**Damuels**	**18.87**	**317**	P	**P**	**02 07 53.3 -0.6**
	comp=Z,4.8nm,0.5s,SNR=6.2					
BRG	**Berggiesshubel**	**19.29**	**330**	*e*(P)	**P**	**02 07 59.0 +0.6**
	comp=Z,6.5nm,1.1s					
BNI	**Bardonecchia**	**19.76**	**308**	P	**P**	**02 08 02.8 -0.8**
BNI				IAmb	IAmb	02 08 12.2
	comp=Z,5.1nm,0.5s					
SENIN	**Lac Senin/Sane**	**19.92**	**312**	P	**P**	**02 08 04.9 -0.6**
CLL	**Collm**	**20.01**	**330**	*e*P	**P**	**02 08 05.0 -1.1**
CLL				*i*		02 08 09.1
BFO	**Black Forest**	**20.32**	**318**	P	**P**	**02 08 09.7 +0.1**
BFO				IAmb	IAmb	02 08 17.6
	comp=Z,3.9nm,0.8s					
ECH	**Echery**	**20.92**	**316**	P	**P**	**02 08 15.7 -0.4**
GEYT	**Alibeck**	**23.66**	**74**	P	**P**	**02 08 45.3 +0.4**
	comp=Z,0.7nm,0.4s,baz=264,slow=8.8,SNR=4.3					
AKTO	**Aktyubinsk**	**26.21**	**45**	P	**P**	**02 09 07.9 -0.1**
	comp=Z,1.3nm,0.4s,baz=249,slow=7.5,SNR=12					
ESBB	**Sonseca Array**	**26.49**	**290**	P	**P**	**02 09 10.5 -0.2**
ESBB				IAmb	IAmb	02 09 17.1
	comp=Z,3.2nm,0.8s					
ESDC	**Sonseca Array**	**26.49**	**290**	P	**P**	**02 09 10.5 -0.2**
	comp=Z,2.0nm,0.6s,baz=80,slow=9.1,SNR=22					
FINES	**FINESS Array B**	**26.61**	**357**	P	**P**	**02 09 10.3 -1.2**
	comp=Z,5.9nm,1.0s,baz=174,slow=8.9,SNR=8.4					
FIA1	**FINESS Array S**	**26.61**	**357**	P	**P**	**02 09 10.6 -0.9**
FIA1				IAmb	IAmb	02 09 11.3
	comp=Z,3.7nm,0.8s					
PAB	**San Pablo**	**26.79**	**290**	P	**P**	**02 09 13.2 -0.3**
ABKAR	**Akbulak array**	**26.90**	**48**	P	**P**	**02 09 13.9 -0.4**
HFS	**Hagfors**	**27.11**	**343**	P	**P**	**02 09 14.9 -1.1**
	comp=Z,2.4nm,0.7s,baz=153,slow=10.0,SNR=14					
NOA	**NORSAR Array B**	**28.50**	**342**	P	**P**	**02 09 28.0 -0.5**
	comp=Z,1.5nm,1.0s,baz=156,slow=11,SNR=3.0					
TOA0	**Torodi Ar. Sit**	**32.78**	**235**	P	**P**	**02 10 07.5 +0.9**
TOA0				IAmb	IAmb	02 10 08.6
	comp=Z,1.8nm,1.0s					
TORD	**Torodi Ar. Bea**	**32.78**	**235**	P	**P**	**02 10 07.6 +1.0**
	comp=Z,0.6nm,0.7s,baz=36,slow=7.9,SNR=16					
ARCES	**ARCESS Array B**	**34.73**	**358**	P	**P**	**02 10 22.3 -0.7**
	comp=Z,1.9nm,0.8s,baz=179,slow=8.0,SNR=7.8					
AAK	**Ala-Archa**	**36.01**	**64**	P	**P**	**02 10 34.0 -0.6**
AAK				IAmb	IAmb	02 10 37.0
	comp=Z,2.3nm,0.8s					
KSH	**Kashi**	**37.43**	**69**	P	**P**	**02 10 47.8 +1.1**
KSH				PP	**PnPn**	**02 12 15.3 +2.2**
KSH				PcP	**PcP**	**02 13 06.1 +1.2**
KSH				pmax	pmax	
	comp=Z,37nm,1.7s					
KSH				pmax	pmax	
	comp=Z,370nm,6.2s					
KSH				LR	LR	
	comp=N,670nm,7.5s					
KSH				LR	LR	
	comp=E,500nm,8.0s					
KSH				LR	LR	
	comp=Z,350nm,11.3s					
MAKZ	**Makanchi**	**41.13**	**57**	P	**P**	**02 11 17.7 +0.4**
MK31	**Makanchi Array**	**41.34**	**57**	P	**P**	**02 11 18.5 -0.6**
MK31				IAmb	IAmb	02 11 20.3
	comp=Z,1.3nm,0.7s					
MKAR	**Makanchi Array**	**41.34**	**57**	P	**P**	**02 11 19.6 +0.5**
	comp=Z,1.6nm,0.6s,baz=280,slow=6.7,SNR=21					
DBIC	**Dimbokro**	**41.89**	**236**	P	**P**	**02 11 24.2 +0.4**
	comp=Z,3.1nm,1.1s,baz=25,slow=14,SNR=3.5					
DBIC	**Dimbokro**	**41.89**	**236**	P	**P**	**02 11 22.7 -1.2**
DBIC				IAmb	IAmb	02 11 29.7
	comp=Z,4.9nm,1.1s					
ZALV	**Zalesovo Beam**	**42.96**	**46**	P	**P**	**02 11 31.7 -0.4**
	comp=Z,1.5nm,0.3s,baz=262,slow=9.2,SNR=4.9					
SONM	**Songino Array**	**57.25**	**51**	P	**P**	**02 13 21.6 +0.8**
	comp=Z,1.0nm,0.8s,baz=290,slow=9.9,SNR=7.1					
LBTB	**Lobatse**	**59.68**	**183**	P	**P**	**02 13 39.8 +2.1**
LBTB				IAmb	IAmb	02 13 48.9
	comp=Z,1.8nm,1.0s					
SCHQ	**Schefferville**	**65.34**	**321**	P	**P**	**02 14 14.8 -0.4**
	comp=Z,5.9nm,0.6s,baz=62,slow=4.0,SNR=16					
SCHQ	**Schefferville**	**65.34**	**321**	P	**P**	**02 14 14.6 -0.7**
YKA	**Yellowknife Ar**	**78.59**	**344**	P	**P**	**02 15 34.2 -0.2**
	comp=Z,0.2nm,0.6s,baz=34,slow=5.2,SNR=3.7					

IDC 19 02:43:29.3±5.8, 30.60S×178.47W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/24, mbtmp3.8/2, Error ellipse: s-maj=226.9km s-min=56.3km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.70**	**267**	P	P	02 51 27.8	-0.4
	0.5nm,0.4s,baz=106,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**43.70**	**273**	P	P	02 51 36.5	+0.1
	0.6nm,0.4s,baz=113,slow=7.7,SNR=14						
FINES	**FINESS Array B**	**145.20**	**340**	PKPbc	PKPbc	03 03 06.9	-0.8
	2.8nm,0.8s,baz=47,slow=2.5,SNR=6.5						

*ISCJB **19** 02:43:47.4±0.3, 17.67N×0.05×94.97W×0.03, h131km±5km, mb3.9/9, Error ellipse: s-maj=8.4km s-min=4.3km az=18.9*
*NEIC **19** 02:43:48.4±2.0, 17.68N×0.08×94.98W×0.05, h129km±6km*
*IDC **19** 02:43:48.1±0.5, 17.75N×94.79W, h121km±7km, mb3.6/11, mb1 3.8/15, mb1mx3.6/42, mbtmp4.1/15, MS2.5/1, Ms1 2.5/1, ms1mx2.2/36, Error ellipse: s-maj=17.0km s-min=10.4km az=31.0*
*MEX **19** 02:43:50.0±0.7, 17.62N×95.00W, h133km±5km, MD4.3*
ISC 19 02:43:48.3±0.7, 17.60N±0.06×94.99W±0.03, h130km±7km, n64, σ1°34/84, mb3.9/14, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.52**	**169**	P	**Pn**	**02 44 08.4**	**+1.0**
	728nm,0.3s,baz=327,slow=2.7,SNR=7009						
CMIG				S	**Sn**	**02 44 22.7**	**+0.8**
	baz=86,slow=19						
CMIG	**Matias Romero**	**0.52**	**169**	*i* P	**Pn**	**02 44 08.4**	**+1.0**
CMIG				*i* S	**Sn**	**02 44 22.7**	**+0.8**
OXBJ	**Oaxaca**	**1.74**	**252**	*e*P	**Pn**	**02 44 20.3**	**+1.0**
OXBJ				*i* S	**Sn**	**02 44 43.4**	**+0.3**
OXBJ	**Oaxaca**	**1.74**	**252**		**Pn**	**02 44 20.3**	**+1.0**
OXBJ					**Sn**	**02 44 43.4**	**+0.3**
VHO	**Vista Hermosa**	**1.75**	**253**	*e*P	**Pn**	**02 44 20.4**	**+1.0**
VHO				*i* S	**Sn**	**02 44 43.1**	**-0.1**
TGIG		**1.96**	**114**	*e*P	**Pn**	**02 44 22.5**	**+0.7**
TGIG				*i* S	**Sn**	**02 44 47.7**	**+0.2**
TGIG		**1.96**	**114**		**Pn**	**02 44 22.5**	**+0.7**
TGIG					**Sn**	**02 44 47.7**	**+0.2**
HUIG	**Huatulco**	**2.12**	**211**	*e*P	**Pn**	**02 44 23.2**	**-0.6**
HUIG				*i* S	**Sn**	**02 44 51.1**	**+0.2**
HUIG	**Huatulco**	**2.12**	**211**		**Pn**	**02 44 23.2**	**-0.6**
HUIG					**Sn**	**02 44 51.1**	**+0.2**
PCIG		**2.54**	**138**	*e*P	**Pn**	**02 44 30.2**	**+1.3**
PCIG				*i* S	**Sn**	**02 45 01.3**	**+1.1**
PCIG		**2.54**	**138**		**Pn**	**02 44 30.2**	**+1.3**
PCIG					**Sn**	**02 45 01.3**	**+1.1**
PNIG	**Pinotepa**	**3.24**	**249**	*e*P	**Pn**	**02 44 36.2**	**-1.8**
PNIG				*i* S	**Sn**	**02 45 14.7**	**-1.8**
PNIG	**Pinotepa**	**3.24**	**249**		**Pn**	**02 44 36.2**	**-1.8**
PNIG					**Sn**	**02 45 14.7**	**-1.8**
TLIG	**Tlapa**	**3.42**	**270**	*e*P	**Pn**	**02 44 40.5**	**+0.1**
TLIG				*i* S	**Sn**	**02 45 20.0**	**-0.8**

baz=276,slow=75,SNR=8.5
H11S1 WAKE ISLAND Hy 18.59 93 T T 03 27 57.2
baz=276,slow=75,SNR=12
H11N1 WAKE ISLAND Hy 18.60 90 T T 03 28 01.5
baz=274,slow=75,SNR=25
H11S2 WAKE ISLAND Hy 18.60 93 T T 03 27 55.9
baz=276,slow=75,SNR=8.8
H11N2 WAKE ISLAND Hy 18.60 90 T T 03 28 00.1
baz=274,slow=75,SNR=18
H11N3 WAKE ISLAND Hy 18.61 90 T T 03 28 02.9
baz=274,slow=75,SNR=18
KSRS Korea Array 23.57 319 LR LR 03 18 09.2
comp=Z,53nm,18.9s,baz=49,slow=37
CTAO Charters Tower 40.56 181 P **P** **03 11 10.0 -1.3**
WRA Warramunga Arr 42.29 198 P **P** **03 11 26.2 +0.8**
0.9nm,0.7s,baz=20,slow=8.7,SNR=4.0
FITZ Fitzroy Crossi 43.94 210 P **P** **03 11 39.3 +0.5**
CHTO Chiang Mai 45.23 276 P **P** **03 11 49.0 -0.2**
CHTO IAmb IAmb 03 12 02.6
comp=Z,2.5nm,0.6s
ASAR Alice Springs 45.95 197 P **P** **03 11 55.5 +0.8**
comp=Z,0.6nm,0.9s,baz=15,slow=7.7,SNR=4.3
ZALV Zalesovo Beam 57.25 322 P **P** **03 13 18.4 -0.5**
comp=Z,1.2nm,0.6s,baz=95,slow=8.8,SNR=5.3
MKAR Makanchi Array 58.05 313 P **P** **03 13 24.9 +0.2**
comp=Z,0.5nm,0.6s,baz=85,slow=8.0,SNR=6.2
KURK Kurchatov 60.68 317 P **P** **03 13 42.3 -0.3**
KURK IAmb IAmb 03 13 54.5
comp=Z,2.4nm,1.1s
KURBB Kurchatov Arra 60.73 317 P **P** **03 13 42.9 -0.1**
comp=Z,1.3nm,0.4s,baz=94,slow=7.6,SNR=4.3
BVAR Borovoye Array 65.78 320 P **P** **03 14 16.9 +0.5**
comp=Z,1.1nm,0.5s,baz=74,slow=5.8,SNR=8.4
NVAR Mina Array Bea 80.86 52 P **P** **03 15 46.1 +0.3**
comp=Z,0.5nm,0.9s,baz=270,slow=3.6,SNR=2.3
VNDA Vanda 98.41 177 LR LR 03 55 46.1
comp=Z,21nm,20.9s,baz=54,slow=32

*ISCJB **19** 03:05:06.9±0.3, 8˚.28N±0˚.03×83˚.03W±0˚.02, h48km±3km, mb3.8/16, MS3.6/6, Error ellipse: s-maj=5.5km s-min=2.5km az=38.9*
*NEIC **19** 03:05:06.8±1.6, 8˚.20N±0˚.07×83˚.09W±0˚.06, h37km±6km, mb4.4/20, Mwr4.9(UCR)*
*UPA **19** 03:05:07.0±1.9, 8˚.27N×82˚.99W, h11km±4km, MW5.0*
*UCR **19** 03:05:07.3±1.9, 8˚.27N×83˚.01W, h23km±3km, mb4.9(NEIC)*
*IDC **19** 03:05:08.6±1.4, 8˚.35N×82˚.93W, h45km±14km, mb3.7/16, mb1 4.0/22, mb1mx3.8/46, mbtmp4.0/22, ML3.5/7, MS3.5/10, Ms1 3.5/10, ms1mx3.3/28, Error ellipse: s-maj=20.9km s-min=9.1km az=49.0*
ISC 19 03:05:07.8±0.8, 8˚.28N±0˚.04×83˚.02W±0˚.03, h41km±7km, n226, σ1§57/230, mb4.2/22, MS3.5/6, 19C-25D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LESP3	**La Esperanza,**	**0.26**	**61**	**⇓eP**	**Pn**	**03 05 13.5**	**-2.3**
LESP3				AMPG		03 05 19.6	
	comp=Z,80μm,0.1s						
BAGA3	**Bagala, Chiriq**	**0.53**	**69**	**⇑iP**	**Pn**	**03 05 17.7**	**-1.3**
BAGA3				eS	**Sn**	**03 05 25.2**	**-1.6**
EDSV	**San Vito**	**0.54**	**5**	**eP**	**Pn**	**03 05 18.0**	**-1.3**
EDSV				eS	**Sn**	**03 05 27.3**	**-0.1**
DVD	**David**	**0.59**	**74**	**⇓iP**	**Pn**	**03 05 18.2**	**-1.3**
DVD				eS	**Sn**	**03 05 27.0**	**-1.3**
DVD	**David**	**0.59**	**74**	**⇓iP**	**Pn**	**03 05 18.2**	**-1.6**
DVD				eS	**Sn**	**03 05 27.0**	**-1.3**
PEDE3	**Pedregal, Chir**	**0.60**	**80**	**⇑iP**	**Pn**	**03 05 18.5**	**-1.5**
BRU2	**Volcan**	**0.61**	**32**	**⇓iP**	**Pn**	**03 05 19.1**	**-1.1**
	baz=203,slow=1.8						
BRU2				eS	**Sn**	**03 05 28.6**	**-0.4**
BRU2	**Volcan**	**0.61**	**32**	**⇓iP**	**Pn**	**03 05 19.1**	**-1.1**
	baz=203,slow=1.8						
BRU2				eS	**Sn**	**03 05 28.6**	**-0.4**
LOCO3	**Loma Colorada,**	**0.61**	**77**	**⇑iP**	**Pn**	**03 05 18.6**	**-1.5**
LOCO3				eS	**Sn**	**03 05 27.4**	**-1.4**
LOCO3				AMPG		03 05 28.9	
	comp=Z,22μm,0.2s						
LOMA3	**Las Lomas, Chi**	**0.64**	**76**	**⇑iP**	**Pn**	**03 05 19.1**	**-1.5**
LOMA3				eS	**Sn**	**03 05 27.9**	**-1.7**
BCO2	**Palmira**	**0.66**	**48**	**⇓iP**	**Pn**	**03 05 19.8**	**-1.1**
BCO2				eS	**Sn**	**03 05 30.0**	**-0.2**
CHIR3	**Chiriqui UPA,**	**0.69**	**80**	**⇑iP**	**Pn**	**03 05 19.8**	**-1.5**
CHIR3				eS	**Sn**	**03 05 30.2**	**-0.6**
EDPN	**Palmar Norte**	**0.81**	**328**	**eP**	**Pn**	**03 05 21.4**	**-1.4**
EDBA	**Buenos Aires**	**0.92**	**344**	**eP**	**Pn**	**03 05 23.6**	**-0.7**
CHGR2	**Aguacate**	**1.09**	**53**	**⇓iP**	**Pn**	**03 05 25.8**	**-0.8**
CHGR2				eS	**Sn**	**03 05 40.2**	**-0.4**
EDLM	**Las Mercedes**	**1.14**	**331**	**eP**	**Pn**	**03 05 27.3**	**-0.2**
REME3	**Remedios, Chir**	**1.18**	**92**	**⇑iP**	**Pn**	**03 05 27.0**	**-0.9**
REME3				eS	**Sn**	**03 05 43.3**	**+0.6**
CNI2	**El Empalme, Bo**	**1.26**	**25**	**⇓iP**	**Pn**	**03 05 28.9**	**-0.1**
CNI2				eS	**Sn**	**03 05 46.7**	**+1.9**
NANC3	**Nancito, Chiri**	**1.28**	**92**	**⇑iP**	**Pn**	**03 05 28.3**	**-1.0**
NANC3				eS	**Sn**	**03 05 43.7**	**-1.5**
EDDO	**Dominical**	**1.28**	**319**	**eP**	**Pn**	**03 05 28.6**	**-0.6**
RGM0	**Gandoca**	**1.37**	**17**	**⇓iP**	**Pn**	**03 05 32.2**	**+1.8**
LCR2	**La Lucha 2**	**1.75**	**326**	**eP**	**Pn**	**03 05 35.9**	**0.0**
CNAZ3	**Canazas, Verag**	**1.80**	**88**	**⇓eP**	**Pn**	**03 05 36.4**	**+0.1**
MESA3	**La Mesa, Verag**	**1.82**	**94**	**eP**	**Pn**	**03 05 36.0**	**-0.7**
MESA3				eS	**Sn**	**03 06 00.8**	**+2.1**
GMAL	**Guarumal, Vera**	**1.84**	**106**	**⇑iP**	**Pn**	**03 05 35.8**	**-1.2**
GMAL				eS	**Sn**	**03 05 59.3**	**+0.2**
RSUS3	**Rio de Jesus,**	**1.87**	**99**	**⇑eP**	**Pn**	**03 05 36.2**	**-1.1**
CVTR	**Volcan Turrial**	**1.88**	**337**	**eP**	**Pn**	**03 05 38.6**	**+0.7**
HDC	**Heredia**	**2.03**	**328**	**eP**	**Pn**	**03 05 40.6**	**+1.0**
HDC				eS	**Sn**	**03 06 05.5**	**+1.7**
HDC	**Heredia**	**2.03**	**328**	**⇑eP**	**Pn**	**03 05 41.0**	**+1.4**
HDC				eS	**Sn**	**03 06 05.5**	**+1.7**
HDC	**Heredia**	**2.03**	**328**		**Pn**	**03 05 39.3**	**-0.4**
HDC				Sn	**Sn**	**03 06 03.0**	**-0.8**
SFRA3	**San Francisco,**	**2.03**	**91**	**⇑iP**	**Pn**	**03 05 39.6**	**0.0**
SFRA3				eS	**Sn**	**03 06 05.0**	**+1.4**
STIA3	**Santiago, Vera**	**2.04**	**95**	**⇑eP**	**Pn**	**03 05 39.9**	**+0.2**
STIA3				*i* S	**Sn**	**03 06 03.8**	**-0.1**
PONU3	**Ponuga, Veragu**	**2.06**	**101**	**⇓eP**	**Pn**	**03 05 40.8**	**+0.8**
CALO3	**Calobre, Verag**	**2.16**	**89**	**⇑eP**	**Pn**	**03 05 41.9**	**+0.5**
CALO3				eS	**Sn**	**03 06 09.2**	**+2.3**
OCU3	**Ocu, Herrera**	**2.25**	**98**	**⇓eP**	**Pn**	**03 05 43.2**	**+0.7**
SRA1	**San Ramn**	**2.30**	**321**	**eP**	**Pn**	**03 05 45.3**	**+1.8**
CACAO	**El Cacao, Vera**	**2.33**	**113**	**⇑iP**	**Pn**	**03 05 42.9**	**-0.8**
CACAO				eS	**Sn**	**03 06 12.8**	**+1.6**
CRIS3	**El Cristo, Coc**	**2.38**	**90**	**⇑iP**	**Pn**	**03 05 44.7**	**+0.3**
PESE3	**Pese, Herrera**	**2.41**	**99**	**⇓eP**	**Pn**	**03 05 45.4**	**+0.5**
CHIT3	**Chitre**	**2.60**	**97**	**⇓eP**	**Pn**	**03 05 48.4**	**+1.0**
CHIT3				eS	**Sn**	**03 06 19.2**	**+1.5**
TOSI3	**Tonosi**	**2.70**	**108**	**⇓eP**	**Pn**	**03 05 49.5**	**+0.7**
ARE1	**Arenal 1**	**2.74**	**322**	**eP**	**Pn**	**03 05 51.4**	**+2.0**
AZU	**Azuero**	**2.76**	**100**	**eP**	**Pn**	**03 05 49.8**	**+0.2**
AZU	**Azuero**	**2.76**	**100**	**⇑iP**	**Pn**	**03 05 50.1**	**+0.5**
	baz=271,slow=12						
AZU				eS	**Sn**	**03 06 25.7**	**+3.9**
JTS	**Las Juntas de**	**2.76**	**317**	**P**	**Pn**	**03 05 51.1**	**+1.4**
	comp=Z,38nm,0.3s,baz=163,slow=22,SNR=122						
JTS				LR	LR	03 06 21.9	
	comp=Z,406nm,19.1s,baz=110,slow=26						
JTS				S	**Sn**	**03 06 23.2**	**+1.3**
	comp=Z,44nm,0.3s,baz=173,slow=13,SNR=3.7						
JTS	**Las Juntas de**	**2.76**	**317**	**eP**	**Pn**	**03 05 50.4**	**+0.7**
JTS	**Las Juntas de**	**2.76**	**317**	**⇓eP**	**Pn**	**03 05 50.0**	**+0.3**
JTS				eP		03 05 50.4	
JTS				eS	**Sn**	**03 06 27.4**	**+5.5**
JTS	**Las Juntas de**	**2.76**	**317**		**Pn**	**03 05 49.2**	**-0.5**
JTS					**Sn**	**03 06 19.1**	**-2.8**
VTON	**El Valle, Cocl**	**2.90**	**83**	**⇑eP**	**Pn**	**03 05 53.5**	**+2.0**
VTON				eS	**Sn**	**03 06 31.5**	**+6.3**
ACHO3	**Achotines, Los**	**2.95**	**107**	**⇓iP**	**Pn**	**03 05 52.2**	**0.0**
ACHO3				eS	**Sn**	**03 06 31.2**	**+4.8**
PINA	**Piqa, Costa Ab**	**3.08**	**71**	**⇑eP**	**Pn**	**03 05 56.2**	**+2.2**
PINA	**Piqa, Costa Ab**	**3.08**	**71**	**⇑eP**	**Pn**	**03 05 56.2**	**+2.2**
BCIP	**Isla Barro Col**	**3.27**	**74**	**eP**	**Pn**	**03 05 57.7**	**+1.1**
BCIP	**Isla Barro Col**	**3.27**	**74**	**eP**	**Pn**	**03 05 57.7**	**+1.1**
BCIP	**Isla Barro Col**	**3.27**	**74**	**eP**	**Pn**	**03 05 57.8**	**+1.1**
BCIP	**Isla Barro Col**	**3.27**	**74**	**⇓eP**	**Pn**	**03 05 57.8**	**+1.2**
BCIP	**Isla Barro Col**	**3.27**	**74**		**Pn**	**03 05 57.3**	**+0.7**
BCIP				Sn	**Sn**	**03 06 34.5**	**+0.2**
MLIR	**Monte Lirio**	**3.27**	**73**	**eP**	**Pn**	**03 05 58.4**	**+1.7**
CHOR3	**La Chorrera**	**3.28**	**79**	**⇓eP**	**Pn**	**03 05 58.2**	**+1.4**
FRIJ	**El Hiral**	**3.39**	**74**	**⇓eP**	**Pn**	**03 05 59.6**	**+1.4**
FRIJ	**El Hiral**	**3.39**	**74**	**⇓eP**	**Pn**	**03 05 59.6**	**+1.4**
BUEV	**Buena Vista**	**3.44**	**317**	**eP**	**Pn**	**03 06 00.8**	**+1.8**
FLAM	**Flamenco Islan**	**3.50**	**79**	**eP**	**Pn**	**03 06 01.7**	**+1.8**
FLAM	**Flamenco Islan**	**3.50**	**79**	**⇓eP**	**Pn**	**03 06 01.7**	**+1.8**
UPA	**Univ. de Panam**	**3.52**	**78**	**⇓eP**	**Pn**	**03 06 01.5**	**+1.4**
UPA	**Univ. de Panam**	**3.52**	**78**	**⇓eP**	**Pn**	**03 06 01.5**	**+1.4**
CHPO	**Chepo, Panama**	**3.96**	**77**	**⇓eP**	**Pn**	**03 06 07.3**	**+1.1**
ESPN	**Las Esperanzas**	**4.09**	**342**		**Pn**	**03 06 07.9**	**0.0**
ESPN				Sn	**Sn**	**03 06 55.1**	**+0.5**
ACON	**Acoyapa**	**4.24**	**330**	**eP**	**Pn**	**03 06 11.1**	**+1.2**
ACON	**Acoyapa**	**4.24**	**330**		**Pn**	**03 06 08.8**	**-1.1**
UPD2	**Meteti**	**4.96**	**87**	**eP**	**Pn**	**03 06 21.0**	**+1.2**
UPD2	**Meteti**	**4.96**	**87**	**eP**	**Pn**	**03 06 21.0**	**+1.2**
PRVC	**Isla de Provid**	**5.32**	**18**	**eP**	**Pn**	**03 06 24.7**	**-0.2**
PRVC	**Isla de Provid**	**5.32**	**18**	**eP**	**Pn**	**03 06 24.7**	**-0.2**
ESTN	**Estel**	**5.81**	**326**		**Pn**	**03 06 30.1**	**-1.6**
SOLC	**Bahia Solano**	**5.93**	**110**	**eP**	**Pn**	**03 06 31.7**	**-1.5**
SOLC	**Bahia Solano**	**5.93**	**110**	**eP**	**Pn**	**03 06 31.7**	**-1.5**
LCBC	**Los crdobas,**	**6.61**	**84**	**eP**	Pn	03 06 52.4	+10
LCBC	**Los crdobas,**	**6.61**	**84**	**eP**	Pn	03 06 52.4	+10
DBBC	**Dabeiba**	**6.87**	**100**	**eP**	**Pn**	**03 06 47.1**	**+0.9**
DBBC	**Dabeiba**	**6.87**	**100**	**eP**	**Pn**	**03 06 47.1**	**+0.9**
MALC	**Bahia Malaga**	**7.06**	**127**	**eP**	**Pn**	**03 06 48.5**	**-0.3**
MALC	**Bahia Malaga**	**7.06**	**127**	**eP**	**Pn**	**03 06 48.5**	**-0.3**
TGUH	**Tegucigalpa,Un**	**7.10**	**324**		**Pn**	**03 06 48.1**	**-1.3**
CBOC	**Ciudad Bolivar**	**7.36**	**109**	**eP**	**Pn**	**03 06 52.6**	**-0.4**
CBOC	**Ciudad Bolivar**	**7.36**	**109**	**eP**	**Pn**	**03 06 52.6**	**-0.4**
UREC	**San Jos de Ur**	**7.43**	**93**	**eP**	**Pn**	**03 06 54.8**	**+1.0**
UREC	**San Jos de Ur**	**7.43**	**93**	**eP**	**Pn**	**03 06 54.8**	**+1.0**
PLMC	**San Jos del P**	**7.49**	**116**	**eP**	**Pn**	**03 06 53.8**	**-0.8**
PLMC	**San Jos del P**	**7.49**	**116**	**eP**	**Pn**	**03 06 53.8**	**-0.8**
HELC	**Santa Helena**	**7.72**	**105**	**eP**	**Pn**	**03 06 58.8**	**+0.7**
HELC	**Santa Helena**	**7.72**	**105**	**eP**	**Pn**	**03 06 58.8**	**+0.7**
HELC	**Santa Helena**	**7.72**	**105**	**⇓eP**	**Pn**	**03 06 59.1**	**+1.1**
YOTC	**Yotoco, Valle**	**7.89**	**122**	**eP**	**Pn**	**03 06 59.3**	**-0.9**
YOTC	**Yotoco, Valle**	**7.89**	**122**	**eP**	**Pn**	**03 06 59.3**	**-0.9**
SJCC	**San Jacinto, C**	**7.91**	**78**	**eP**	**Pn**	**03 07 01.7**	**+1.3**
SJCC	**San Jacinto, C**	**7.91**	**78**	**eP**	**Pn**	**03 07 01.7**	**+1.3**
SJCC	**San Jacinto, C**	**7.91**	**78**	**eP**	**Pn**	**03 07 02.1**	**+1.7**
SJCC	**San Jacinto, C**	**7.91**	**78**	**eP**	**Pn**	**03 07 02.1**	**+1.7**
ZARC	**Zaragoza, Cauc**	**8.12**	**95**	**eP**	**Pn**	**03 07 03.8**	**+0.5**
ZARC	**Zaragoza, Cauc**	**8.12**	**95**	**eP**	**Pn**	**03 07 03.8**	**+0.5**
GUY2C	**Guyana, Caldas**	**8.19**	**111**	**eP**	**Pn**	**03 07 06.1**	**+1.5**
GUY2C	**Guyana, Caldas**	**8.19**	**111**	**eP**	**Pn**	**03 07 06.1**	**+1.5**
RREF	**El Recreo**	**8.33**	**113**	**eP**	**Pn**	**03 07 08.3**	**+1.6**
RREF	**El Recreo**	**8.33**	**113**	**eP**	**Pn**	**03 07 08.3**	**+1.6**
ANIL	**Santa Ana**	**8.45**	**116**	**eP**	**Pn**	**03 07 11.0**	**+2.9**
ANIL	**Santa Ana**	**8.45**	**116**	**eP**	**Pn**	**03 07 11.0**	**+2.9**
BBAC	**Balboa, Cauca**	**8.46**	**137**	**eP**	**Pn**	**03 07 09.2**	**+1.0**
BBAC	**Balboa, Cauca**	**8.46**	**137**	**eP**	**Pn**	**03 07 09.2**	**+1.0**
TOLC	**Tolima**	**8.48**	**115**	**eP**	**Pn**	**03 07 10.4**	**+1.8**
TOLC	**Tolima**	**8.48**	**115**	**eP**	**Pn**	**03 07 10.4**	**+1.8**
NORC	**Norcasia**	**8.53**	**108**	**eP**	**Pn**	**03 07 11.4**	**+2.4**
NORC	**Norcasia**	**8.53**	**108**	**eP**	**Pn**	**03 07 11.4**	**+2.4**
PTBC	**PUERTO BERRIO,**	**8.67**	**101**	**eP**	**Pn**	**03 07 11.5**	**+0.7**
PTBC	**PUERTO BERRIO,**	**8.67**	**101**	**eP**	**Pn**	**03 07 11.5**	**+0.7**
SOTA	**Rioblanco**	**8.83**	**133**	**eP**	**Pn**	**03 07 15.2**	**+1.7**
SOTA	**Rioblanco**	**8.83**	**133**	**eP**	**Pn**	**03 07 15.2**	**+1.7**
PCON	**Cinco Dias**	**8.85**	**132**	**eP**	**Pn**	**03 07 17.4**	**+3.5**
PCON	**Cinco Dias**	**8.85**	**132**	**eP**	**Pn**	**03 07 17.4**	**+3.5**
ORTC	**Ortega, Tolima**	**8.86**	**119**	**eP**	**Pn**	**03 07 15.8**	**+2.2**
ORTC	**Ortega, Tolima**	**8.86**	**119**	**eP**	**Pn**	**03 07 15.8**	**+2.2**
CRUC	**La Cruz**	**9.00**	**137**	**eP**	**Pn**	**03 07 17.4**	**+1.8**
CRUC	**La Cruz**	**9.00**	**137**	**eP**	**Pn**	**03 07 17.4**	**+1.8**
GCUF	**Volcan Galeras**	**9.00**	**141**	**eP**	**Pn**	**03 07 17.9**	**+2.1**
GCUF	**Volcan Galeras**	**9.00**	**141**	**eP**	**Pn**	**03 07 17.9**	**+2.1**
OTAV	**Otavalo**	**9.19**	**150**	**eP**	**Pn**	**03 07 20.1**	**+1.7**
OTAV	**Otavalo**	**9.19**	**150**	**eP**	**Pn**	**03 07 20.1**	**+1.7**
OTAV	**Otavalo**	**9.19**	**150**		**Pn**	**03 07 17.0**	**-1.4**
SPBC	**San Pablo de B**	**9.26**	**106**	**eP**	**Pn**	**03 07 21.6**	**+2.6**
SPBC	**San Pablo de B**	**9.26**	**106**	**eP**	**Pn**	**03 07 21.6**	**+2.6**
ROSC	**El Rosal**	**9.29**	**111**	**eP**	Pn	03 07 24.0	+4.3
ROSC	**El Rosal**	**9.29**	**111**	**eP**	Pn	03 07 24.0	+4.3
ROSC	**El Rosal**	**9.29**	**111**	P	**Pn**	**03 07 20.1**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=355,slow=17,SNR=2.3						
ROSC				LR	LR	03 10 41.8	
	comp=Z,442nm,20.4s,baz=272,slow=36						
BETC	**Betania**	**9.37**	**126**	**eP**	Pn	03 07 24.6	+4.2
BETC	**Betania**	**9.37**	**126**	**eP**	Pn	03 07 24.6	+4.2
OCAC	**Ocana**	**9.60**	**90**	**eP**	**Pn**	**03 07 24.6**	**+0.8**
OCAC	**Ocana**	**9.60**	**90**	**eP**	**Pn**	**03 07 24.6**	**+0.8**
APG	**El Apazote**	**9.89**	**313**	P	**Pn**	**03 07 29.7**	**+1.9**
	comp=Z,1.3nm,0.3s,baz=274,slow=15,SNR=9.4						
APG				S	Sn	03 09 27.7	+10
	comp=Z,0.3nm,0.3s,baz=17,slow=22,SNR=1.0						
APG				LR	LR	03 11 41.9	
	comp=Z,220nm,19.4s,baz=129,slow=40						
BARC	**Barichara**	**9.90**	**99**	**eP**	**Pn**	**03 07 30.9**	**+3.1**
BARC	**Barichara**	**9.90**	**99**	**eP**	**Pn**	**03 07 30.9**	**+3.1**
FLOC	**Florencia**	**9.90**	**132**	**eP**	**Pn**	**03 07 30.5**	**+2.8**
FLOC	**Florencia**	**9.90**	**132**	**eP**	**Pn**	**03 07 30.5**	**+2.8**
CHIC	**Chingaza**	**9.91**	**111**	**eP**	**Pn**	**03 07 32.2**	**+3.9**
CHIC	**Chingaza**	**9.91**	**111**	**eP**	**Pn**	**03 07 32.2**	**+3.9**
RUSC	**La Rusia**	**10.14**	**103**	**eP**	**Pn**	**03 07 33.4**	**+2.0**
RUSC	**La Rusia**	**10.14**	**103**	**eP**	**Pn**	**03 07 33.4**	**+2.0**
VILC	**Villavicencio,**	**10.15**	**113**	**eP**	Pn	03 07 35.5	+4.2
VILC	**Villavicencio,**	**10.15**	**113**	**eP**	Pn	03 07 35.5	+4.2
PAMC	**Pamplona, Colo**	**10.27**	**94**	**eP**	**Pn**	**03 07 34.5**	**+1.3**
PAMC	**Pamplona, Colo**	**10.27**	**94**	**eP**	**Pn**	**03 07 34.5**	**+1.3**
MACC	**Macarena, Meta**	**10.98**	**123**	**eP**	**Pn**	**03 07 43.5**	**+1.0**
MACC	**Macarena, Meta**	**10.98**	**123**	**eP**	**Pn**	**03 07 43.5**	**+1.0**
PTLC	**Puerto Leguiza**	**11.49**	**134**	**eP**	Pn	03 07 54.2	+4.7
PTLC	**Puerto Leguiza**	**11.49**	**134**	**eP**	Pn	03 07 54.2	+4.7
SDV	**Santo Domingo**	**12.27**	**86**	**eP**	**Pn**	**03 08 02.7**	**+2.4**
SDV	**Santo Domingo**	**12.27**	**86**	**eP**	**Pn**	**03 08 02.7**	**+2.4**
SDV	**Santo Domingo**	**12.27**	**86**	P	**Pn**	**03 07 59.5**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=266,slow=10,SNR=12						
SDV				S	**Sn**	**03 10 15.2**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=85,slow=20,SNR=1.6						
SDV	**Santo Domingo**	**12.27**	**86**		**Pn**	**03 08 00.5**	**+0.3**
SDV				Sn	**Sn**	**03 10 15.7**	**-0.1**
TEIG	**Tepich**	**12.92**	**337**	Pn	**Pn**	**03 08 07.8**	**-1.2**
GTBY	**Guantanamo Bay**	**13.89**	**33**		**Pn**	**03 08 22.9**	**+0.8**
CMIG	**Matias Romero**	**14.51**	**308**	P	**Pn**	**03 08 32.2**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=112,slow=11,SNR=5.9						
CMIG				LR	LR	03 13 16.0	
	comp=Z,87nm,19.2s,baz=124,slow=34						
SDDR	**Presa de Saban**	**15.59**	**46**	Pn	**Pn**	**03 08 44.7**	**-0.2**
SDDR				IAmb	IAmb	03 09 02.3	
	comp=Z,28nm,0.8s						
ATAH	**Atahualpa**	**15.99**	**163**	P	**Pn**	**03 08 51.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=306,slow=19,SNR=2.8						
PCRV	**Puerto La Cruz**	**18.25**	**83**	P	**P**	**03 09 17.3**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=258,slow=2.5,SNR=2.3						
SJG	**San Juan**	**19.10**	**58**	P	**Pn**	**03 09 30.7**	**+2.3**
	comp=Z,0.9nm,0.3s,baz=200,slow=2.8,SNR=4.3						
NNA	**Nana**	**21.05**	**163**	P	**P**	**03 09 49.6**	**+1.1**
	comp=Z,24nm,0.8s,baz=330,slow=8.7,SNR=17						
NNA	**Nana**	**21.05**	**163**	P	**P**	**03 09 47.3**	**-1.3**
154A	**Montrose**	**24.22**	**360**	P	**P**	**03 10 20.2**	**-0.6**
LRAL	**Lakeview Retre**	**24.91**	**352**	P	**P**	**03 10 27.3**	**+0.2**
LRAL				IAmb	IAmb	03 10 32.5	
	comp=Z,11nm,0.9s						
GOGA	**Godfrey**	**25.02**	**359**	P	**P**	**03 10 28.0**	**0.0**
Y52A	**Lilburn**	**25.48**	**358**	P	**P**	**03 10 32.2**	**-0.1**
HODGE	**Hodges**	**25.84**	**1**	P	**P**	**03 10 37.3**	**+1.8**
HODGE				IAmb	IAmb	03 10 38.1	
	comp=Z,12nm,0.9s						
SAML	**Samuel**	**26.14**	**130**	P	**P**	**03 10 36.9**	**-1.5**
MIAR	**Mount Ida**	**27.89**	**341**	P	**P**	**03 10 53.3**	**-0.6**
LPAZ	**La Paz**	**28.51**	**149**	P	**P**	**03 10 59.8**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=354,slow=8.9,SNR=7.1						
LPAZ				LR	LR	03 23 49.7	
	comp=Z,113nm,18.6s,baz=306,slow=39						
LPAZ	**La Paz**	**28.51**	**149**	IAmb	IAmb	03 11 07.3	
	comp=Z,3.3nm,1.0s						
TXAR	**Lajitas Array**	**28.55**	**320**	P	**P**	**03 11 01.2**	**+1.2**
	comp=Z,0.2nm,0.8s,baz=131,slow=6.3,SNR=3.4						
TXAR				LR	LR	03 22 48.5	
	comp=Z,56nm,19.2s,baz=0.0,slow=37						
LCAR	**Lake Charles**	**28.64**	**346**	P	**P**	**03 10 59.4**	**-1.2**
LCAR				IAmb	IAmb	03 11 14.2	
	comp=Z,8.3nm,0.9s						
CCM	**Cathedral Cave**	**30.57**	**347**	P	**P**	**03 11 17.4**	**-0.2**
CCM				IAmb	IAmb	03 11 20.9	
	comp=Z,6.9nm,1.0s						
GO01	**Chusmiza**	**30.93**	**154**	P	**P**	**03 11 22.0**	**+0.5**
GO01				IAmb	IAmb	03 11 27.7	
	comp=Z,6.1nm,0.8s						
113A	**Mohawk Valley,**	**37.47**	**315**	P	**P**	**03 12 16.2**	**-1.4**
113A				IAmb	IAmb	03 12 28.5	
	comp=Z,5.0nm,1.1s						
Y14A	**Wickenburg**	**37.61**	**317**		pP	03 12 29.7	-0.6
GLA	**Glamis**	**38.37**	**315**		pP	03 12 34.1	-2.5
PDAR	**Pinedale Array**	**41.51**	**330**	P	**P**	**03 12 50.4**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=116,slow=10,SNR=2.3						
PDAR				LR	LR	03 31 33.6	
	comp=Z,54nm,20.1s,baz=150,slow=38						
BDFB	**Brasilia**	**42.04**	**124**	P	**P**	**03 12 55.9**	**0.0**
	comp=Z,3.5nm,0.9s,baz=283,slow=15,SNR=5.2						
BDFB				LR	LR	03 31 12.2	
	comp=Z,102nm,18.7s,baz=324,slow=37						
BDFB	**Brasilia**	**42.04**	**124**	P	**P**	**03 12 55.1**	**-0.8**
BDFB				IAmb	IAmb	03 13 01.5	
	comp=Z,7.3nm,1.1s						
CPUP	**Villa Florida**	**42.50**	**145**	P	**P**	**03 12 59.3**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=338,slow=12,SNR=6.0						
CPUP	**Villa Florida**	**42.50**	**145**	P	**P**	**03 12 57.3**	**-2.1**
ROC1	**El Roble**	**42.59**	**165**	P	**P**	**03 12 59.4**	**-0.9**
ELK	**Elko**	**43.18**	**324**	P	**P**	**03 13 05.3**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=350,slow=10,SNR=2.5						
ELK	**Elko**	**43.18**	**324**	P	**P**	**03 13 04.1**	**-1.0**
ULM	**Lac du Bonnet**	**43.19**	**348**	P	**P**	**03 13 04.2**	**-0.5**
	comp=Z,4.8nm,0.8s,baz=165,slow=7.2,SNR=8.1						
ULM	**Lac du Bonnet**	**43.19**	**348**	P	**P**	**03 13 04.0**	**-0.7**
ULM				IAmb	IAmb	03 13 11.0	
	comp=Z,5.2nm,0.8s						
NVAR	**Mina Array Bea**	**43.69**	**319**	P	**P**	**03 13 09.2**	**0.0**
	comp=Z,0.4nm,0.6s,baz=126,slow=5.7,SNR=3.2						
**MDP

*ISCJB **19** 03:53:21.9±0.9, 9°.9S±0°.1×74°.8W±0°.1, h10km, mb3.4/3, Error ellipse: s-maj=18.5km s-min=14.0km az=31.1*
*IDC **19** 03:53:22.2±1.2, 9°.87S×74°.81W, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/41, mbtmp3.3/5, ML3.1/2, MS2.3/1, Ms1 2.3/1, ms1mx2.1/16, Error ellipse: s-maj=22.2km s-min=16.4km az=129.0*

ISC 19 03:53:23.7±0.9, **9°.9S**±0°.1×**74°.86W**±0°.10, **h10**km, **n6, σ0s51/8, mb3.4/3, Central Peru**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.81**	**223**	Pn		**Pn**		**03 54 08.6**	**-0.2**
	baz=22,slow=11								
NNA				Pg		**Pb**		**03 54 14.3**	**+0.2**
	baz=44,slow=16								
NNA				Sn		**Sb**		**03 54 48.3**	**-0.3**
	5.8nm,0.3s,baz=208,slow=9.1,SNR=1.0								
NNA				Lg		Lg		03 54 55.4	
	18nm,0.3s,baz=330,slow=23,SNR=2.6								
NNA				LR		LR		03 55 37.5	
	comp=Z,56nm,21.4s,baz=26,slow=47								
LPAZ	**La Paz**	**9.10**	**135**	Pn		**Pn**		**03 55 36.2**	**+0.5**
	0.1nm,0.3s,baz=307,slow=15,SNR=2.4								
LPAZ				Lg		Lg		03 58 13.3	
	0.4nm,0.3s,baz=7.3,slow=20,SNR=2.7								
SIV	**San Ignacio**	**14.72**	**116**	Pn		**Pn**		**03 56 52.3**	**+0.1**
	0.2nm,0.3s,baz=300,slow=16,SNR=2.9								
SIV				Lg		Lg		04 01 01.9	
	0.2nm,0.3s,baz=260,slow=19,SNR=1.9								
TXAR	**Lajitas Array**	**47.91**	**325**	P		**P**		**04 02 02.8**	**+0.3**
	0.3nm,0.5s,baz=150,slow=10.0,SNR=5.8								
PDAR	**Pinedale Array**	**61.28**	**331**	P		**P**		**04 03 39.8**	**+0.2**
	0.1nm,0.4s,baz=134,slow=10,SNR=3.1								
TORD	**Torodi Ar. Bea**	**79.38**	**75**	P		**P**		**04 05 29.8**	**-0.8**
	0.2nm,0.5s,baz=240,slow=5.5,SNR=2.9								

*ISCJB **19** 04:03:32.9±0.8, 36°.69N±0°.03×13°.12W±0°.05, h10km, Error ellipse: s-maj=6.4km s-min=4.4km az=23.4*
*CNRM **19** 04:03:37.5, 36°.68N×13°.17W, h98km*
*MDD **19** 04:03:41.8±1.9, 37°.17N×13°.09W, h0km, mb4.0/6, Error ellipse: s-maj=16.0km s-min=14.6km az=48.0, PRXIMO*
*INMG **19** 04:03:43.3±0.9, 37°.00N×13°.47W, h10km, ML2.7, Error ellipse: s-maj=4.6km s-min=4.1km az=81.0*

ISC 19 04:03:35.5±1.2, **36°.87N**±0°.04×**13°.02W**±0°.07, **h10**km, **n68, σ3s03/97, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.37**	**84**	*eP*		**Pb**		**04 04 34.4**	**-0.8**
PFVI				*eS*		**Sb**		**04 05 13.2**	**-3.0**
PFVI				A		A		04 05 14.5	
	14nm,0.3s								
PFVI	**Vila Bisbo**	**3.37**	**84**	P		**Pn**		**04 04 30.0**	**+1.9**
PFVI				S		**Sn**		**04 05 11.0**	**+2.9**
PFVI	**Vila Bisbo**	**3.37**	**84**	P		**Pb**		**04 04 34.4**	**-0.8**
	2.5nm,0.1s,SNR=6.3								
PFVI				S		**Sb**		**04 05 13.1**	**-3.1**
	16nm,0.1s,SNR=7.6								
PTEO	**Sao Teotonio**	**3.50**	**78**	*eS*		**Sn**		**04 05 15.8**	**+4.5**
PTEO				A		A		04 05 18.9	
	14nm,1.0s								
PTEO	**Sao Teotonio**	**3.50**	**78**	S		**Sn**		**04 05 15.8**	**+4.5**
	7.1nm,1.0s								
PMAFR	**Mafra**	**3.62**	**54**	*eP*		**Pb**		**04 04 36.5**	**-3.0**
PMAFR				*eS*		**Sn**		**04 05 16.6**	**+2.3**
PMAFR				A		A		04 05 20.5	
	21nm,0.3s								
PMAFR	**Mafra**	**3.62**	**54**	P		**Pb**		**04 04 36.4**	**-3.0**
	3.9nm,0.2s,SNR=7.9								
PMAFR				S		**Sn**		**04 05 16.8**	**+2.5**
	14nm,0.1s,SNR=7.2								
PNCL	**Nicolau / Gran**	**3.78**	**69**	*eP*		**Pb**		**04 04 39.8**	**-2.5**
PNCL				*eS*		**Sn**		**04 05 22.1**	**+3.8**
PNCL				A		A		04 05 24.2	
	8.2nm,0.4s								
PNCL	**Nicolau / Gran**	**3.78**	**69**	P		**Pb**		**04 04 39.8**	**-2.5**
PNCL				S		**Sn**		**04 05 22.1**	**+3.8**
	8.2nm,0.4s								
PCVE	**Castro Verde**	**4.05**	**78**	*eS*		**Sn**		**04 05 29.2**	**+4.3**
PCVE				A		A		04 05 37.9	
	5.4nm,0.6s								
PCVE	**Castro Verde**	**4.05**	**78**	S		**Sn**		**04 05 29.2**	**+4.3**
	5.4nm,0.6s								
PBDV	**Barranco-do-Ve**	**4.09**	**83**	*eP*		**Pb**		**04 04 44.9**	**-2.6**
PBDV				*eS*		**Sn**		**04 05 30.9**	**+5.0**
PBDV				A		A		04 05 34.8	
	6.9nm,0.4s								
PBDV	**Barranco-do-Ve**	**4.09**	**83**	P		**Pb**		**04 04 44.9**	**-2.6**
PBDV				S		**Sn**		**04 05 30.9**	**+5.0**
	6.9nm,0.4s								
PBEJ	**Beja**	**4.26**	**73**	*eS*		**Sn**		**04 05 33.8**	**+3.6**
PBEJ				A		A		04 05 42.4	
	4.9nm,0.5s								
PBEJ	**Beja**	**4.26**	**73**	S		**Sn**		**04 05 33.8**	**+3.6**
	2.5nm,0.5s								
PVAQ	**Vaqueiros**	**4.27**	**81**	*eP*		**Pb**		**04 04 47.5**	**-3.1**
PVAQ				*eS*		**Sn**		**04 05 34.2**	**+3.8**
PVAQ				A		A		04 05 39.7	
	11nm,0.6s								
PVAQ	**Vaqueiros**	**4.27**	**81**	P		**Pn**		**04 04 42.4**	**+1.8**
PVAQ				S		**Sn**		**04 05 32.6**	**+2.2**
PVAQ	**Vaqueiros**	**4.27**	**81**	P		**Pb**		**04 04 47.5**	**-3.1**
PVAQ				S		**Sn**		**04 05 34.2**	**+3.8**
	11nm,0.6s								
EVO	**Evora**	**4.30**	**66**	*eS*		**Sn**		**04 05 33.7**	**+2.5**
EVO				A		A		04 05 37.0	
	7.6nm,0.4s								
EVO	**Evora**	**4.30**	**66**	*eP*		**Pb**		**04 04 53.1**	**+1.9**
EVO				*eS*		**Sn**		**04 05 33.7**	**+2.5**
EVO	**Evora**	**4.30**	**66**	P		**Pb**		**04 04 53.1**	**+1.9**
EVO				S		**Sn**		**04 05 33.7**	**+2.5**
PMTG	**Montargil**	**4.38**	**58**	*eP*		**Pn**		**04 04 42.9**	**+0.9**
PMTG				*eS*		**Sn**		**04 05 30.8**	**-2.3**
PMTG				A		A		04 05 39.6	
	4.4nm,0.6s								
PMTG	**Montargil**	**4.38**	**58**	P		**Pn**		**04 04 42.9**	**+0.9**
PMTG				S		**Sn**		**04 05 30.8**	**-2.3**
	4.4nm,0.6s								
EGRO	**El Granado**	**4.47**	**80**	P		**Pb**		**04 04 50.5**	**-3.5**
	0.2nm,0.1s,SNR=6.5								
EGRO				S		**Sn**		**04 05 40.0**	**+4.7**
	1.6nm,0.1s,SNR=8.7								
PTOM	**Tomar**	**4.55**	**51**	*eP*		Pn		04 04 49.3	+4.9
PTOM				*eS*		**Sn**		**04 05 38.4**	**+1.1**
PTOM				A		A		04 05 42.0	
	8.8nm,0.4s								
PTOM	**Tomar**	**4.55**	**51**	P		Pn		04 04 49.3	+4.9
PTOM				S		**Sn**		**04 05 38.4**	**+1.1**
	4.4nm,0.4s								
PESTR	**Estremoz**	**4.74**	**63**	*eS*		**Sn**		**04 05 44.3**	**+2.4**
PESTR	**Estremoz**	**4.74**	**63**	P		**Pn**		**04 04 49.5**	**+2.6**
PBAR	**Barrancos**	**4.93**	**73**	*eS*		**Sn**		**04 05 51.3**	**+4.6**
PBAR	**Barrancos**	**4.93**	**73**	S		**Sn**		**04 05 51.3**	**+4.6**
EBAD	**Badajoz**	**5.12**	**67**	P		Pn		04 04 57.8	+5.7
	0.3nm,0.1s,SNR=6.3								
EBAD				S		**Sn**		**04 05 52.6**	**+1.4**
	4.4nm,0.1s,SNR=7.9								
PMRV	**Marv??o**	**5.12**	**58**	*eP*		Pn		04 04 57.3	+5.1
PMRV				*eS*		**Sn**		**04 05 52.2**	**+0.8**
PMRV				A		A		04 05 58.5	
	4.2nm,0.2s								
PMRV	**Marv??o**	**5.12**	**58**	P		Pn		04 04 57.3	+5.1
PMRV				S		**Sn**		**04 05 52.2**	**+0.8**
	4.2nm,0.2s								
EMIN	**Mina Concepcio**	**5.14**	**78**	P		Pn		04 04 59.0	+6.5
	0.2nm,0.1s,SNR=7.9								
EMIN				S		**Sn**		**04 05 55.5**	**+3.7**
	4.4nm,0.2s,SNR=13								
PMAR	**Madeira**	**5.23**	**219**	P		Pn		04 04 50.1	-3.7
PCBR	**Castelo Branco**	**5.27**	**54**	*eP*		Pn		04 04 59.0	+4.7
PCBR				*eS*		**Sn**		**04 05 55.7**	**+0.7**
PCBR				A		A		04 05 58.5	
	3.7nm,0.7s								
PCBR	**Castelo Branco**	**5.27**	**54**	P		Pn		04 04 59.0	+4.7
PCBR				S		**Sn**		**04 05 55.7**	**+0.7**
	1.9nm,0.7s								
PVIS	**Viseu**	**5.55**	**45**	*eP*		**Pn**		**04 05 01.9**	**+3.8**
PVIS				*eS*		**Sn**		**04 06 01.1**	**-0.9**
PVIS	**Viseu**	**5.55**	**45**	P		**Pn**		**04 05 01.9**	**+3.8**
PVIS				S		**Sn**		**04 06 01.1**	**-0.9**
MTE	**Manteigas**	**5.55**	**49**	*eS*		**Sn**		**04 06 02.3**	**+0.2**
MTE				A		A		04 06 05.6	
	8.3nm,0.4s								
MTE	**Manteigas**	**5.55**	**49**	S		**Sn**		**04 06 02.3**	**+0.2**
	4.2nm,0.4s								
PVRL	**Vila Real**	**6.03**	**42**	*eS*		**Sn**		**04 06 12.8**	**-1.1**
PVRL	**Vila Real**	**6.03**	**42**	S		**Sn**		**04 06 12.8**	**-1.1**
POLO	**Lamas de Olo**	**6.06**	**40**	*eS*		**Sn**		**04 06 13.2**	**-1.5**
POLO	**Lamas de Olo**	**6.06**	**40**	S		**Sn**		**04 06 13.2**	**-1.5**
SRHM	**Skhour des Reh**	**6.08**	**135**	P		**Pn**		**04 05 05.0**	**-0.5**
SRHM				S		**Sn**		**04 06 15.9**	**+0.7**
ECAB	**El Cabril**	**6.16**	**76**	P		Pn		04 05 13.0	+6.4
	0.2nm,0.1s,SNR=7.9								
ECAB				S		**Sn**		**04 06 20.3**	**+3.2**
	2.1nm,0.2s,SNR=5.6								
PCAB	**Cabril**	**6.20**	**37**	*eS*		**Sn**		**04 06 14.8**	**-3.1**
PCAB	**Cabril**	**6.20**	**37**	S		**Sn**		**04 06 14.8**	**-3.1**
EZAM	**Zamans**	**6.25**	**31**	S		**Sn**		**04 06 11.1**	**-8.0**
	1.4nm,0.1s,SNR=7.9								
HORN	**Hornachuelos**	**6.26**	**79**	P		**Pn**		**04 05 08.7**	**+0.8**
HORN				S		**Sn**		**04 06 21.9**	**+2.5**
ELOB	**Lobios**	**6.30**	**36**	P		**Pn**		**04 05 11.6**	**+3.2**
	0.5nm,0.1s,SNR=7.9								
ELOB				S		**Sn**		**04 06 16.4**	**-4.1**
	1.4nm,0.1s,SNR=7.9								
EPLA	**Plasencia**	**6.31**	**58**	P		Pn		04 05 14.3	+5.7
	1.2nm,0.4s,SNR=7.9								
EPLA				S		**Sn**		**04 06 21.1**	**+0.3**
	0.8nm,0.2s,SNR=5.8								
MVO	**Moncorvo**	**6.34**	**46**	*eP*		**Pn**		**04 05 12.5**	**+3.5**
MVO				*eS*		**Sn**		**04 06 20.3**	**-1.1**
MVO				A		A		04 06 22.6	
	4.8nm,0.5s								
MVO	**Moncorvo**	**6.34**	**46**	P		**Pn**		**04 05 12.5**	**+3.5**
	2.3nm,0.3s,SNR=7.9								
MVO				S		**Sn**		**04 06 20.2**	**-1.3**
	9.1nm,0.2s,SNR=7.9								
EMAZ	**Mazaricos**	**6.82**	**26**	S		**Sn**		**04 06 25.5**	**-7.8**
	3.1nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**6.83**	**77**	P		Pn		04 05 22.1	+6.3
	0.3nm,0.2s,SNR=7.9								
EADA				S		**Sn**		**04 06 35.6**	**+2.0**
	4.7nm,0.2s,SNR=7.9								
PBRG	**Braganca**	**6.93**	**43**	*eS*		**Sn**		**04 06 34.7**	**-1.2**
PBRG	**Braganca**	**6.93**	**43**	S		**Sn**		**04 06 34.7**	**-1.2**
ECAL	**Calabor**	**7.02**	**42**	P		**Pn**		**04 05 21.4**	**+3.0**
	1.1nm,0.2s,SNR=7.9								
ECAL				S		**Sn**		**04 06 37.3**	**-1.1**
	0.6nm,0.1s,SNR=7.9								
EAGO	**Agolada(Pontev**	**7.04**	**31**	P		**Pn**		**04 05 20.7**	**+2.2**
	1.1nm,0.2s,SNR=7.9								
EAGO				S		**Sn**		**04 06 32.0**	**-6.6**
	1.4nm,0.1s,SNR=7.9								
OUK	**Oukaimeden**	**7.08**	**141**	P		**Pn**		**04 05 22.9**	**+3.4**
OUK				S		**Sn**		**04 06 37.4**	**-2.8**
IFR	**Ifrane**	**7.27**	**115**	*eS*		**Sn**		**04 06 46.9**	**+2.3**
PAB	**San Pablo**	**7.33**	**66**	S		**Sn**		**04 06 47.1**	**+1.1**
	1.4nm,0.3s,SNR=7.9								
TTIG	**Tnine Tigouga,**	**7.37**	**148**	P		**Pn**		**04 05 21.3**	**-1.9**
TTIG				S		**Sn**		**04 06 41.7**	**-5.1**
TISM	**Timmit**	**7.48**	**131**	P		**Pn**		**04 05 23.7**	**-0.9**
TISM				S		**Sn**		**04 06 47.2**	**-2.3**
MDT	**Midelt**	**8.01**	**118**	P		**Pn**		**04 05 30.8**	**-1.2**
MDT				S		**Sn**		**04 07 01.0**	**-1.7**
TZRR	**Tazzarine**	**8.67**	**132**	P		Pn		04 05 37.8	-3.2
TZRR				S		**Sn**		**04 07 17.1**	**-1.8**

*IDC **19** 04:13:02.9±0.6, 3°.47N×126°.83E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.1/50, mbtmp4.3/16, ML4.3/1, Error ellipse: s-maj=33.6km s-min=11.8km az=76.0*
*NEIC **19** 04:13:03.7±1.6, 3°.77N±0°.05×127°.8E±0°.1, h35km±2km, mb4.5/28*
*ISCJB **19** 04:13:04.7±0.3, 3°.67N±0°.03×127°.45E±0°.05, h45km, mb4.3/17, MS4.4/5, Error ellipse: s-maj=7.6km s-min=3.3km az=167.1*
*DJA **19** 04:13:07.1±0.6, 4°.N±2°×12°.7E±°, h23km±5km, M4.7/19, mB5.3/13, mb4.7/19, MLv4.8/15, Mw(mB)4.7/13, Mwp5.4/3*
*MAN **19** 04:13:09.1, 3°.36N×126°.49E, h170km, MS4.7*

ISC 19 04:13:07.8±0.4, **3°.57N**±0°.04×**127°.26E**±0°.07, **h45**km, **n92, σ2s02/96, mb4.5/28, MS4.4/5, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.78**	**178**	P		**Pn**		**04 13 51.2**	**+1.3**
TNTI				S		**Sn**		**04 14 25.1**	**+2.9**
TNTI	**Ternate**	**2.78**	**178**			**Pn**		**04 13 50.3**	**+0.5**
TNTI					Sn	**Sn**		**04 14 25.0**	**+2.7**
DAV	**Davao City (W)**	**3.86**	**334**		Pn	**Pn**		**04 14 03.9**	**-0.8**
DAV					Sn	**Sn**		**04 14 48.5**	**-0.3**
SKMP	**Bagumbayan, Su**	**3.99**	**317**	P		**Pn**		**04 14 06.1**	**-0.4**
SKMP				S		**Sn**		**04 14 51.9**	**-0.2**
KCP	**Kidapawan**	**4.04**	**328**	↑↑P		**Pn**		**04 14 10.7**	**+3.5**
KCP				S		**Sn**		**04 14 54.9**	**+1.4**
LBMI	**Labuha**	**4.19**	**177**	P		**Pn**		**04 14 12.5**	**+3.3**
KMSI	**Cibinong**	**4.43**	**228**	P		**Pn**		**04 14 13.8**	**+1.3**
BUKP	**Musuan**	**4.81**	**333**	P		**Pn**		**04 14 18.6**	**+0.8**
CGP	**Cagayan de Oro**	**5.48**	**332**	P		**Sn**		**04 15 30.5**	**+1.7**
SANI	**Sanana**	**5.73**	**193**	P		**Pn**		**04 14 31.6**	**+1.3**
SWI	**Sorong**	**5.95**	**138**	P		**Pn**		**04 14 37.3**	**+3.9**
	38nm,0.9s,1μm0.4nm								
SIJI	**Sorong**	**5.96**	**138**	Pn		**Pn**		**04 14 37.3**	**+3.8**
	7.2nm,0.3s,baz=340,slow=20,SNR=9.1								
MRSI	**Marisa**	**6.14**	**240**	P		**Pn**		**04 14 36.6**	**+0.6**
	81nm,0.6s,2μm0.6nm								
LUWI	**Luwuk**	**6.41**	**224**	P		**Pn**		**04 14 42.3**	**+2.5**
	86nm,0.9s,5μm1.4nm								
LUWI	**Luwuk**	**6.41**	**224**	Pn		**Pn**		**04 14 42.5**	**+2.7**
NLAI	**Namlea**	**6.77**	**181**	P		**Pn**		**04 14 47.0**	**+2.4**
	35nm,0.5s,0.2nm								
MSAI	**Masohi**	**7.07**	**166**	P		**Pn**		**04 14 51.0**	**+2.2**
APSI	**Ampana**	**7.16**	**232**	P		**Pn**		**04 14 52.0**	**+2.0**
	56nm,0.7s,2μm0.7nm								
MPSI	**Mapaga**	**8.03**	**247**	P		**Pn**		**04 15 03.2**	**+1.3**
	8.6nm,0.6s,0.1nm								
KKM	**Kota Kinabalu**	**11.28**	**283**	Pn		**Pn**		**04 15 50.3**	**+3.7**
MMRI	**Maumere**	**13.12**	**202**	P		**Pn**		**04 16 13.0**	**+1.4**
	32nm,0.5s,4μm								
SOEI	**Soe**	**13.57**	**193**	P		**Pn**		**04 16 19.6**	**+1.7**
	21nm,0.9s								
SOEI	**Soe**	**13.57**	**193**	Pn		**Pn**		**04 16 17.9**	**0.0**
GENI	**Genyem**	**14.28**	**115**	P		**P**		**04 16 31.8**	**-1.8**
	43nm,0.6s								
WSI	**Waingapu**	**14.87**	**208**	P		**Pn**		**04 16 36.5**	**+1.2**
	222nm,0.5s,33μm126μm								
SBUM	**Sibu**	**15.06**	**266**	Pn		**P**		**04 16 42.1**	**-0.2**
PLAI	**Plampang**	**15.53**	**217**	P		**Pn**		**04 16 44.2**	**+0.4**
	69nm,1.1s,2μm								
TWSI	**Taliwang, Sumb**	**16.02**	**220**	P		**P**		**04 16 52.2**	**-0.8**
	26nm,1.5s,793nm								
STKI	**Sintang**	**16.15**	**258**	P		**Pn**		**04 16 52.8**	**+0.9**
SRBI	**Singaraja**	**16.69**	**226**	P		**Pn**		**04 16 59.4**	**+0.8**
	32nm,0.9s,797nm								
MTN	**Manton Dam**	**16.75**	**167**	Pn		**Pn**		**04 16 55.9**	**-3.5**
MTN				IAmb		IAmb		04 17 05.1	
	comp=Z,16nm,0.5s								
PBKI	**Pangkalan Bun**	**16.78**	**248**	P		**Pn**		**04 16 58.3**	**-1.5**
	comp=Z,124nm,0.5s,comp=Z,8μm								
KMMI	**Kalianget**	**16.95**	**232**	P		**P**		**04 17 03.2**	**-0.1**
	comp=Z,32nm,0.8s								
KNRA	**Kununurra**	**19.18**	**176**	P		**P**		**04 17 26.2**	**-1.6**
YULB	**Yu-li**	**20.53**	**344**	P		**P**		**04 17 39.6**	**-2.9**
TPUB	**Ta-pu**	**20.64**	**342**	P		**P**		**04 17 40.9**	**-2.8**
TPUB				IAmb		IAmb		04 17 45.7	
	comp=Z,37nm,0.9s								
SSLB	**Suanglung**	**21.00**	**344**	P		**P**		**04 17 44.3**	**-3.3**
SSLB				IAmb		IAmb		04 17 50.8	
	comp=Z,21nm,0.6s								
FITZ	**Fitzroy Crossi**	**21.59**	**184**	P		**P**		**04 17 53.5**	**-0.4**
	comp=Z,5.0nm,0.4s,baz=14,slow=8.5,SNR=34								
FITZ	**Fitzroy Crossi**	**21.59**	**184**	P		**P**		**04 17 52.8**	**-1.1**
YHNB	**Yeheng**	**21.73**	**345**	P		**P**		**04 17 52.8**	**-2.7**
YHNB				IAmb		IAmb		04 17 59.7	
	comp=Z,20nm,0.7s								
QIZ	**Qiongzhong**	**22.93**	**313**	P		**P**		**04 18 08.8**	**+0.5**
QIZ				S		**S**		**04 22 20.1**	**+4.8**
QIZ				LR		LR			
	comp=N,470nm,20.6s								
QIZ				LR		LR			
	comp=E,460nm,20.1s								
QIZ				LR		LR			
	comp=Z,520nm,21.6s								
BLSI	**Bandar Lampung**	**23.72**	**248**	P		**P**		**04 18 15.0**	**-1.0**
WRAB	**Tennant Creek**	**24.37**	**164**	P		**P**		**04 18 18.8**	**-3.1**
WRAB				IAmb		IAmb		04 18 24.1	
	comp=Z,29nm,1.1s								
WRA	**Warramunga Arr**	**24.38**	**164**	P		**P**		**04 18 22.5**	**+0.5**
	comp=Z,7.1nm,0.4s,baz=336,slow=11,SNR=102								
WR0	**Warramunga Arr**	**24.45**	**163**	P		**P**		**04 18 19.1**	**-3.6**
WR0				IAmb		IAmb		04 18 25.0	
	comp=Z,12nm,0.7s								
PSA00	**Pilbara Seismi**	**26.02**	**196**	P		**P**		**04 18 36.6**	**-0.3**
PSA00				IAmb		IAmb		04 18 37.6	
	comp=Z,14nm,0.7s								
AS31	**Alice Springs**	**27.83**	**167**	P		**P**		**04 18 51.2**	**-2.0**
ASAR	**Alice Springs**	**27.84**	**167**	P		**P**		**04 18 53.8**	**+0.6**
	comp=Z,4.4nm,0.6s,baz=349,slow=7.1,SNR=66								
KMI	**Kunming**	**31.87**	**315**	P		**P**		**04 19 27.8**	**-1.3**
FORT	**Forrest**	**34.16**	**179**	P		**P**		**04 19 47.1**	**-1.7**
BBOO	**Buckleboo**	**37.13**	**168**	P		**P**		**04 20 12.1**	**-2.2**
NWAO	**Narrogin (SRO)**	**37.52**	**194**	P		**P**		**04 20 17.4**	**-0.1**
	comp=Z,6.8nm,0.7s,baz=15,slow=7.9,SNR=5.5								
NWAO	**Narrogin (SRO)**	**37.52**	**194**	P		**P**		**04 20 17.6**	**0.0**
NWAO	**Narrogin (SRO)**	**37.52**	**194**	P		**P**		**04 20 16.9**	**-0.7**
NWAO				IAmb		IAmb		04 20 22.4	
	comp=Z,12nm,0.9s								
STKA	**Stephens Creek**	**37.80**	**160**	P		**P**		**04 20 21.5**	**+1.6**
	comp=Z,19nm,0.7s,baz=335,slow=8.0,SNR=47								
STKA	**Stephens Creek**	**37.80**	**160**	P		**P**		**04 20 17.3**	**-2.6**
STKA				IAmb		IAmb		04 20 22.4	
	comp=Z,4.0nm,0.8s								
HHC	**Hu-ho-hao-te**	**39.72**	**341**	*eP*		**P**		**04 20 35.1**	**-0.9**
HHC				pmax		pmax			
	comp=Z,7.0nm,0.8s								
HHC				pmax		pmax			
	comp=Z,9.0nm,6.6s								
CN2	**Changchun**	**40.09**	**358**	*eP*		**P**		**04 20 37.4**	**-1.6**
SHL	**Shillong**	**40.40**	**306**	P		**P**		**04 20 41.2**	**-0.8**
ARMA	**Armidale**	**41.04**	**147**	P		**P**		**04 20 43.4**	**-3.7**
ARMA				IAmb		IAmb		04 20 50.5	
	comp=Z,8.8nm,0.8s								
LSA	**Lhasa**	**42.94**	**311**	P		**P**		**04 21 01.3**	**-1.9**
LSA				IAmb		IAmb		04 21 05.0	
	comp=Z,5.9nm,0.6s								
TAPN	**Taplejung**	**44.54**	**306**	*eP*		**P**		**04 21 15.3**	**-0.5**
RAMN	**Ramite**	**45.27**	**305**	*eP*		**P**		**04 21 20.4**	**-1.2**
	comp=Z,6.7nm,0.6s								
KLR	**Kul'dur**	**45.65**	**4**	P		**P**		**04 21 26.3**	**+2.4**
	comp=Z,0.7nm,0.4s,baz=190,slow=11,SNR=5.4								
JIRN	**Jiri**	**45.90**	**306**	*eP*		**P**		**04 21 25.2**	**-1.4**
	comp=Z,12nm,0.6s								
DZM	**Mont Dzumac**	**46.01**	**125**	P		P		04 21 20.8	-6.4
GUN	**Gumba**	**46.25**	**306**	*eP*		**P**		**04 21 28.7**	**-0.7**
	comp=Z,14nm,0.7s								
ULN	**Ulaanbaatar**	**47.44**	**342**	P		**P**		**04 21 34.5**	**-3.6**
ULN				IAmb		IAmb		04 21 41.7	
	comp=Z,3.0nm,0.7s								
SONM	**Songino Array**	**47.62**	**341**	P		**P**		**04 21 41.0**	**+1.5**
	comp=Z,1.4nm,0.7s,baz=158,slow=6.9,SNR=12								
KOLN	**Koldanda**	**48.05**	**305**	*eP*		**P**		**04 21 42.6**	**-0.7**
DANN	**Dangsing**	**48.14**	**305**	*eP*		**P**		**04 21 42.6**	**-1.5**
WMQ	**Urumqi**	**53.16**	**325**	*eP*		**P**		**04 22 21.9**	**+0.5**
WMQ				pmax		pmax			
	comp=Z,7.0nm,0.6s								
WMQ				pmax		pmax			
	comp=Z,220nm,5.5s								
WMQ				LR		LR			
	comp=N,870nm,29.3s								
WMQ				LR		LR			
	comp=E,2μm,29.0s								
WMQ				LR		LR			
	comp=Z,150nm,29.2s								
PETK	**Petropavlovsk-**	**55.38**	**22**	P		**P**		**04 22 40.9**	**+3.6**
	comp=Z,2.3nm,0.6s,baz=189,slow=5.3,SNR=12								
MK31	**Makanchi Array**	**57.99**	**325**	P		**P**		**04 22 54.3**	**-1.7**
MKAR	**Makanchi Array**	**57.99**	**325**	P		**P**		**04 22 56.4**	**+0.4**
	comp=Z,1.3nm,0.4s,baz=122,slow=8.0,SNR=17								
MAKZ	**Mak

BNSI Bone 10.59 221 P Pn 04 16 32.3 +10
KAPI Kappang 11.28 221 Pn **Pn** **04 16 27.4 -4.7**
0.4nm,0.3s,baz=26,slow=16,SNR=1.8
KAPI Kappang 11.28 221 **Pn** **04 16 27.4 -4.7**
SBUM Sibu 14.91 266 P **P** **04 17 26.1 0.0**
MTN Manton Dam 16.82 166 **PcP** **04 22 30.3 -1.5**
KSM Kuching 16.91 263 P **P** **04 17 48.5 +0.2**
JAGI Jajag, Banyuwa 17.63 227 P **P** **04 17 56.1 -0.1**
GMJI Gumukmas 18.03 229 P Pn 04 18 07.7 +7.1
PWJI Pagerwojo 19.14 233 P **Pn** **04 18 20.1 +6.0**
KNRA Kununurra 19.23 175 P **P** **04 18 12.9 -0.8**
KNRA IAmb IAmb 04 18 26.5
comp=Z,49nm,1.1s
PCJI Pacitan 19.75 234 P **Pn** **04 18 25.0 +3.8**
TWG Pinlang 19.98 344 P **P** **04 18 21.2 -0.7**
YULB Yu-li 20.46 345 P **P** **04 18 24.9 -2.2**
YULB IAmb IAmb 04 18 28.5
comp=Z,36nm,1.0s
TPUB Ta-pu 20.56 343 P **P** **04 18 26.3 -1.9**
SSLB Suanglung 20.93 344 P **P** **04 18 30.5 -1.6**
SSLB IAmb IAmb 04 18 34.7
comp=Z,61nm,0.9s
KPJI Karang Pucung 21.14 239 P sP 04 18 51.8 +0.6
FITZ Fitzroy Crossi 21.61 184 P **P** **04 18 36.6 -2.9**
comp=Z,8.3nm,0.6s,baz=23,slow=6.1,SNR=8.2
FITZ Fitzroy Crossi 21.61 184 P **P** **04 18 38.2 -1.3**
TPRI Tanjung Pinang 22.72 264 P sP 04 19 09.2 +1.3
CGJI Cibinong 23.67 245 P **P** **04 19 03.1 +2.3**
KLSI 23.83 250 P **P** **04 19 01.9 -0.4**
UBPT Khong Chiam 24.26 300 P **P** **04 19 05.6 -0.6**
comp=Z,22nm,1.4s
UBPT Khong Chiam 24.26 300 P **P** **04 19 05.1 -1.1**
UBPT IAmb IAmb 04 19 05.9
comp=Z,40nm,1.1s
MDSI Maura Dua 24.28 251 P **P** **04 19 06.6 +0.2**
KASI Kota Agung 24.34 248 P **P** **04 19 09.6 +2.7**
WRA Warramunga Arr 24.46 163 P **P** **04 19 05.9 -2.1**
comp=Z,29nm,0.9s,baz=342,slow=10,SNR=10
WRA PcP **PcP** **04 22 46.5 +0.4**
comp=Z,0.7nm,0.5s,baz=342,slow=2.5,SNR=3.1
WRA S **S** **04 23 28.7 +3.7**
comp=Z,4.2nm,1.2s,baz=341,slow=17,SNR=4.0
WRA Warramunga Arr 24.46 163 P **P** **04 19 05.9 -2.1**
WRA **PcP** **04 22 46.5 +0.4**
WRA **S** **04 23 28.7 +3.7**
PSA00 Pilbara Seismi 26.01 196 P **P** **04 19 20.5 -1.5**
PSA00 IAmb IAmb 04 19 30.5
comp=Z,24nm,1.1s
IPM Ipoh 26.03 273 P **P** **04 19 26.4 +4.0**
IPM IAmb IAmb 04 19 31.1
comp=Z,21nm,1.0s
KULM Kulim 26.43 275 pP 04 19 32.5 -5.4
ASAR Alice Springs 27.91 167 P **P** **04 19 37.0 -2.1**
comp=Z,5.1nm,0.5s,baz=349,slow=7.1,SNR=15
ASAR PcP **PcP** **04 22 54.2 +0.2**
comp=Z,1.0nm,0.5s,baz=0.3,slow=2.9,SNR=4.2
ASAR S **S** **04 24 28.0 +8.4**
comp=Z,0.7nm,0.8s,baz=352,slow=2.0,SNR=2.5
ASAR Alice Springs 27.91 167 P **P** **04 19 37.0 -2.1**
ASAR **PcP** **04 22 54.2 +0.2**
ASAR **S** **04 24 28.0 +8.4**
PHRA Phrae 30.17 301 P **P** **04 20 00.4 +1.1**
comp=Z,2.0nm,1.3s
CMAR Chiang Mai Arr 31.26 300 P **P** **04 20 06.1 -2.8**
comp=Z,1.2nm,0.4s,baz=123,slow=7.3,SNR=7.5
CMAR Chiang Mai Arr 31.26 300 P **P** **04 20 06.1 -2.8**
CMMT Chiang Mai 31.40 301 P **P** **04 20 11.5 +1.3**
KSRS Korea Array 33.70 1 P **P** **04 20 29.0 -0.9**
comp=Z,1.4nm,0.6s,baz=182,slow=10,SNR=3.0
KSRS Korea Array 33.70 1 P **P** **04 20 29.0 -0.9**
FORT Forrest 34.20 179 P **P** **04 20 32.6 -1.8**
XAN Xi'an 34.70 333 P **P** **04 20 37.8 -1.0**
XAN pP sP 04 21 20.1 +23
XAN S S 04 26 21.6 +16
XAN SS SS 04 29 10.4 +33
XAN pmax pmax
comp=Z,11nm,1.0s
XAN pmax pmax
comp=Z,180nm,5.9s
XAN LR LR
comp=N,340nm,31.4s
XAN LR LR
comp=E,410nm,30.4s
XAN LR LR
comp=Z,380nm,20.6s
XAN Xi'an 34.70 333 P **P** **04 20 38.2 -0.5**
XAN IAmb IAmb 04 20 45.8
comp=Z,9.8nm,0.8s
EIDS Eidsvold 37.02 142 pP 04 21 06.8 -4.0
BBOO Buckleboo 37.20 167 P **P** **04 20 58.5 -1.6**
BBOO IAmb IAmb 04 20 58.9
comp=Z,14nm,0.6s
NWAO Narrogin (SRO) 37.52 194 P **P** **04 21 00.8 -2.0**
comp=Z,6.3nm,0.6s,baz=21,slow=8.8,SNR=6.1
BJT Baijiatuan 37.58 346 P **P** **04 21 04.5 +1.3**
STKA Stephens Creek 37.88 160 P **P** **04 21 04.8 -1.1**
comp=Z,14nm,0.6s,baz=335,slow=9.7,SNR=11
STKA Stephens Creek 37.88 160 P **P** **04 21 04.8 -1.1**
LZH Lanzhou 38.80 329 eP **P** **04 21 14.3 +0.5**
LZH pP sP 04 21 29.8 -1.9
LZH sP pP 04 21 34.3 +8.1
LZH pmax pmax
comp=Z,23nm,1.1s
SHL Shillong 40.25 306 eP **P** **04 21 24.0 -2.1**
SHL Shillong 40.25 306 P **P** **04 21 24.2 -1.8**
USRK Ussuriysk Ar. 40.66 5 P **P** **04 21 29.1 +0.3**
comp=Z,2.6nm,0.8s,baz=207,slow=3.8,SNR=4.7
USRK Ussuriysk Ar. 40.66 5 P **P** **04 21 29.1 +0.3**
ARMA Armidale 41.16 147 P **P** **04 21 33.7 +0.3**
KLR Kul'dur 45.63 4 P **P** **04 22 09.1 +0.1**
comp=Z,3.5nm,0.9s,baz=190,slow=5.2,SNR=4.8
KLR Kul'dur 45.63 4 P **P** **04 22 09.1 +0.1**
ULN Ulaanbaatar 47.35 342 P **P** **04 22 23.6 +0.8**
ULN IAmb IAmb 04 22 39.9
comp=Z,13nm,1.1s
SONM Songino Array 47.53 341 P **P** **04 22 24.1 0.0**
comp=Z,2.0nm,0.5s,baz=164,slow=8.1,SNR=8.3
SONM LR LR 04 44 09.7
comp=Z,656nm,18.4s,baz=150,slow=38
SONM Songino Array 47.53 341 P **P** **04 22 24.1 0.0**
PETK Petropavlovsk- 55.40 22 P **P** **04 23 23.9 +1.2**
comp=Z,3.5nm,0.6s,baz=188,slow=2.9,SNR=8.9
PETK Petropavlovsk- 55.40 22 P **P** **04 23 23.9 +1.2**
MKAR Makanchi Array 57.87 325 P **P** **04 23 39.9 -0.5**
comp=Z,3.8nm,0.4s,baz=122,slow=7.8,SNR=14
MKAR Makanchi Array 57.87 325 P **P** **04 23 39.9 -0.5**
ZALV Zalesovo Beam 60.87 333 P **P** **04 23 60.0 -0.9**
comp=Z,1.6nm,0.5s,baz=123,slow=7.3,SNR=5.9
ZALV Zalesovo Beam 60.87 333 P **P** **04 23 60.0 -0.9**
KURBB Kurchatov Arra 62.05 327 P **P** **04 24 08.3 -0.6**
comp=Z,9.7nm,0.8s,baz=124,slow=5.9,SNR=9.6
KURK Kurchatov 62.05 327 P **P** **04 24 08.7 -0.2**
GAR Garm 62.28 313 P **P** **04 24 10.0 -1.0**
CHGR Chuyangaron 63.03 312 P **P** **04 24 16.8 +1.0**
CHGR IAmb IAmb 04 24 28.4
comp=Z,9.9nm,1.0s
KK31 Karatay Array 63.58 317 P **P** **04 24 18.9 -0.4**
KK31 IAmb IAmb 04 24 20.2
comp=Z,9.6nm,1.1s
KKAR Karatay Array 63.58 317 P **P** **04 24 18.9 -0.4**
KKAR IAmb IAmb 04 24 20.2
comp=Z,9.6nm,1.1s
BVAR Borovoye Array 67.63 327 P **P** **04 24 44.5 -0.7**
comp=Z,7.4nm,0.9s,baz=123,slow=5.5,SNR=10
BRVK Borovoye 67.70 327 P **P** **04 24 45.7 0.0**
BRVK IAmb IAmb 04 24 49.9
comp=Z,7.9nm,0.7s
TIXI Tiksi 67.96 1 P **P** **04 24 47.4 +0.4**
TIXI IAmb IAmb 04 24 55.8
comp=Z,6.8nm,1.1s
ABKAR Akbulak array 72.48 321 P **P** **04 25 14.2 -0.8**
ABPO Ambohimpanom 81.62 250 P **P** **04 26 06.2 -1.0**
ABPO IAmb IAmb 04 26 12.5
comp=Z,10nm,1.0s
BPAW Bear Paw Mtn. 83.23 26 P **P** **04 26 16.8 +2.3**
BPAW IAmb IAmb 04 26 27.6
comp=Z,14nm,1.1s
VNDA Vanda 83.26 173 P **P** **04 26 13.9 -0.4**
comp=Z,2.4nm,0.9s,baz=290,slow=6.0,SNR=4.2
VNDA Vanda 83.26 173 P **P** **04 26 14.6 +0.2**
MLY Manley 83.43 25 P **P** **04 26 17.9 +2.4**
MLY IAmb IAmb 04 26 28.1
comp=Z,11nm,1.1s
TRF Thorofare Moun 83.48 27 pP 04 26 25.2 -4.1

PMR Palmer 83.87 29 pP 04 26 29.1 -2.0
MCK McKinley 84.11 26 pP 04 26 28.2 -4.1
RND Reindeer 84.12 27 P P 04 26 24.4 +5.2
KNK Knik Glacier 84.19 29 pP 04 26 29.7 -3.0
WRH Wood River Hil 84.52 26 pP 04 26 32.3 -2.1
HDA Harding Lake 85.01 26 pP 04 26 34.2 -2.7
ILAR Eielson Array 85.05 25 P **P** **04 26 23.9 +0.2**
comp=Z,0.4nm,0.5s,baz=254,slow=4.8,SNR=11
ILAR Eielson Array 85.05 25 P **P** **04 26 23.9 +0.2**
PAX Paxson 85.64 27 pP 04 26 37.2 -2.9
KMBO Kilima Mbogo 89.92 269 P **P** **04 26 47.8 -0.8**
comp=Z,1.6nm,0.6s,baz=78,slow=7.5,SNR=4.6
KMBO Kilima Mbogo 89.92 269 P **P** **04 26 48.4 -0.2**
KMBO IAmb IAmb 04 26 48.9
comp=Z,5.7nm,1.1s
BR131 Keskin Array S 90.39 310 P **P** **04 26 49.4 -0.8**
BRTR Keskin Array B 90.39 310 P **P** **04 26 49.0 -1.2**
comp=Z,1.8nm,1.0s,baz=117,slow=4.3,SNR=6.3
BRTR Keskin Array B 90.39 310 P **P** **04 26 49.0 -1.2**
ARCES ARCESS Array B 90.69 340 P **P** **04 26 50.0 -0.7**
comp=Z,1.6nm,0.7s,baz=83,slow=5.0,SNR=5.6
ARCES ARCESS Array B 90.69 340 P **P** **04 26 50.0 -0.7**
FINES FINESS Array B 92.12 332 P **P** **04 26 56.1 -1.4**
comp=Z,1.7nm,0.8s,baz=96,slow=1.4,SNR=3.1
FINES FINESS Array B 92.12 332 P **P** **04 26 56.1 -1.4**
AKASG Malin Array Be 92.22 321 P **P** **04 26 56.7 -1.4**
comp=Z,0.5nm,0.5s,baz=68,slow=5.2,SNR=4.4
AKASG Malin Array Be 92.22 321 P **P** **04 26 56.7 -1.4**
QSPA South Pole Qui 93.51 180 P **P** **04 27 04.8 +0.9**
QSPA IAmb IAmb 04 27 05.6
comp=Z,3.4nm,1.1s
MLR Muntele Rosu 95.25 316 P **P** **04 27 12.1 -0.3**
MLR IAmb IAmb 04 27 13.9
comp=Z,6.9nm,1.1s
BUR08 Bucovina Ar. S 95.35 318 P **P** **04 27 13.6 +0.8**
TXAR Lajitas Array 121.38 52 PKP **PKiKP** **04 32 42.9 +0.5**
comp=Z,0.2nm,0.7s,baz=333,slow=0.4,SNR=4.2
TXAR Lajitas Array 121.38 52 **PKiKP** **04 32 42.9 +0.5**
TORD Torodi Ar. Bea 123.31 288 PKP **PKPdf** **04 32 45.4 -0.7**
comp=Z,1.1nm,0.9s,baz=32,slow=1.7,SNR=3.9
TORD Torodi Ar. Bea 123.31 288 **PKPdf** **04 32 45.4 -0.7**
LPAZ La Paz 160.43 131 PKP **PKPdf** **04 33 49.8 +0.2**
comp=Z,1.7nm,1.1s,baz=315,slow=1.4,SNR=3.0
LPAZ La Paz 160.43 131 **PKPdf** **04 33 49.8 +0.2**

*CNRM **19** 04:21:10.5, 36°.34N×7°.66W, h8km, ml1.9*
*INMG **19** 04:21:14.7±1.1, 36°.53N×7°.73W, h23km±3km, ML2.2, Error ellipse: s-maj=3.8km s-min=2.4km az=40.0*
*MDD **19** 04:21:15.2±0.8, 36°.55N×7°.70W, h31km±19km, mbLg2.3/29, Error ellipse: s-maj=9.3km s-min=4.2km az=30.0, PRXIMO*
*IGIL **19** 04:21:15.1, 36°.52N×7°.72W, h30km, ML2.3*
*SFS **19** 04:21:15.0, 36°.55N×7°.70W, h28km, ML2.5, GOLFO DE CADIZ*

ISC 19 04:21:10.4±1.2, 36°.48N±0°.03×7°.68W±0°.03, h16km±9km, n69, σ1°81/132, 1C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.78**	**345**	*i* P		**Pn**	**04 21 28.2**	**+1.4**
PBDV					*e*S	**Sn**	**04 21 38.3**	**+0.1**
PBDV					A	A	04 21 40.0	
	28nm,0.2s							
PBDV	**Barranco-do-Ve**	**0.78**	**345**	P		**Pn**	**04 21 28.2**	**+1.4**
PBDV					S	**Sn**	**04 21 38.3**	**+0.1**
	28nm,0.2s							
PVAQ	**Vaqueiros**	**0.92**	**358**	⇓*e*P		**Pn**	**04 21 30.1**	**+1.5**
PVAQ					*e*S	**Sb**	**04 21 41.0**	**+1.1**
PVAQ					A	A	04 21 50.2	
	57nm,0.3s							
PVAQ	**Vaqueiros**	**0.92**	**358**	P		**Pn**	**04 21 30.7**	**+2.1**
PVAQ					S	**Sn**	**04 21 43.2**	**+1.7**
PVAQ	**Vaqueiros**	**0.92**	**358**	P		**Pn**	**04 21 30.1**	**+1.5**
PVAQ					S	**Sb**	**04 21 41.0**	**+1.1**
	57nm,0.3s							
EGRO	**El Granado**	**1.06**	**9**	⇓P		**Pn**	**04 21 32.3**	**+1.7**
	5.4nm,0.0s,SNR=18							
EGRO					S	**Sg**	**04 21 44.2**	**-0.6**
	26nm,0.1s,SNR=14							
PFVI	**Vila Bisbo**	**1.12**	**306**	⇑*e*P		**Pn**	**04 21 32.9**	**+1.5**
PFVI					*e*S	**Sb**	**04 21 46.2**	**+0.4**
PFVI					A	A	04 21 52.3	
	29nm,0.2s							
PFVI	**Vila Bisbo**	**1.12**	**306**	P		**Pn**	**04 21 35.3**	**+3.9**
PFVI					S	**Sn**	**04 21 50.4**	**+3.8**
PFVI	**Vila Bisbo**	**1.12**	**306**	P		**Pn**	**04 21 32.9**	**+1.5**
	2.2nm,0.1s,SNR=10							
PFVI					S	**Sg**	**04 21 45.1**	**-1.8**
	20nm,0.1s,SNR=7.8							
MORF	**Marmelete**	**1.13**	**317**	*e*P		**Pn**	**04 21 32.8**	**+1.2**
MORF					*e*S	**Sg**	**04 21 45.9**	**-1.1**
MORF					AML	AML	04 21 52.1	
	comp=N,58nm,0.4s							
MORF	**Marmelete**	**1.13**	**317**	P		**Pn**	**04 21 32.8**	**+1.2**
MORF					S	**Sg**	**04 21 45.9**	**-1.1**
	comp=N,58nm,0.4s							
PCVE	**Castro Verde**	**1.18**	**346**	*e*P		**Pg**	**04 21 34.0**	**+0.8**
PCVE					*e*S	**Sb**	**04 21 48.0**	**+0.6**
PCVE					A	A	04 21 48.9	
	comp=N,26nm,0.2s							
PCVE	**Castro Verde**	**1.18**	**346**	P		**Pg**	**04 21 34.0**	**+0.8**
PCVE					S	**Sb**	**04 21 48.0**	**+0.6**
	comp=N,26nm,0.2s							
PTEO	**Sao Teotonio**	**1.35**	**322**	*e*P		**Pg**	**04 21 36.1**	**-0.3**
PTEO					*e*S	**Sb**	**04 21 51.8**	**-0.4**
PTEO					A	A	04 22 01.9	
	comp=N,18nm,0.5s							
PTEO	**Sao Teotonio**	**1.35**	**322**	P		**Pg**	**04 21 36.1**	**-0.3**
PTEO					S	**Sb**	**04 21 51.8**	**-0.4**
	comp=N,8.9nm,0.5s							
MESJ	**Messejana**	**1.42**	**343**	*e*P		**Pb**	**04 21 37.1**	**+0.6**
MESJ					*e*S	**Sn**	**04 21 52.9**	**-0.9**
MESJ					AML	AML	04 21 55.1	
	comp=N,29nm,0.1s							
MESJ	**Messejana**	**1.42**	**343**	P		**Pb**	**04 21 37.1**	**+0.6**
MESJ					S	**Sn**	**04 21 52.9**	**-0.9**
	comp=N,29nm,0.1s							
EMIN	**Mina Concepcio**	**1.51**	**32**	P		**Pb**	**04 21 38.5**	**+0.4**
	comp=N,0.4nm,0.0s,SNR=14							
EMIN					S	**Sn**	**04 21 55.1**	**-1.1**
	comp=N,14nm,0.1s,SNR=14							
PBEJ	**Beja**	**1.55**	**355**	*e*P		**Pb**	**04 21 38.9**	**+0.3**
PBEJ					*e*S	**Sn**	**04 21 56.4**	**-0.6**
PBEJ					A	A	04 22 07.2	
	comp=N,16nm,0.4s							
PBEJ	**Beja**	**1.55**	**355**	P		**Pb**	**04 21 38.9**	**+0.3**
PBEJ					S	**Sn**	**04 21 56.4**	**-0.6**
	comp=N,8.0nm,0.4s							
PNCL	**Nicolau / Gran**	**1.76**	**338**	*e*P		**Pb**	**04 21 41.7**	**-0.5**
PNCL					*e*S	**Sn**	**04 22 01.8**	**-0.4**
PNCL					A	A	04 22 13.5	
	comp=N,14nm,0.4s							
PNCL	**Nicolau / Gran**	**1.76**	**338**	P		**Pb**	**04 21 41.7**	**-0.5**
PNCL					S	**Sn**	**04 22 01.8**	**-0.4**
	comp=N,14nm,0.4s							
PBAR	**Barrancos**	**1.76**	**17**	*e*P		**Pb**	**04 21 42.1**	**-0.2**
PBAR					A	A	04 22 09.9	
	comp=N,27nm,0.6s							
PBAR	**Barrancos**	**1.76**	**17**	P		**Pb**	**04 21 42.1**	**-0.2**
ECEU	**Ceuta**	**1.96**	**107**	P		**Pb**	**04 21 46.2**	**+0.6**
	comp=N,2.8nm,0.1s,SNR=7.9							
EVO	**Evora**	**2.06**	**353**	*e*P		**Pn**	**04 21 46.0**	**+1.6**
EVO					*e*S	**Sn**	**04 22 08.9**	**-0.8**
EVO					A	A	04 22 14.9	
	comp=N,9.1nm,0.1s							
EVO	**Evora**	**2.06**	**353**	*e*P		**Pn**	**04 21 45.9**	**+1.6**
EVO					*e*S	**Sn**	**04 22 08.8**	**-0.9**
EVO	**Evora**	**2.06**	**353**	P		**Pn**	**04 21 45.9**	**+1.6**
EVO					S	**Sn**	**04 22 08.8**	**-0.9**
EBAD	**Badajoz**	**2.33**	**13**	P		**Pn**	**04 21 49.4**	**+1.4**
	comp=N,0.7nm,0.1s,SNR=33							
EBAD					S	**Sn**	**04 22 15.2**	**-1.1**
	comp=N,5.2nm,0.1s,SNR=6.9							
EMIJ	**Mijas**	**2.34**	**87**	P		**Pb**	**04 21 51.1**	**-1.1**
	comp=N,0.2nm,0.1s,SNR=7.9							
EMIJ					S	**Sn**	**04 22 16.6**	**-0.1**
	comp=N,2.7nm,0.3s,SNR=7.9							
HORN	**Hornachuelos**	**2.37**	**54**	P		**Pb**	**04 21 52.3**	**-0.3**
HORN					S	**Sb**	**04 22 22.4**	**+0.9**
PESTR	**Estremoz**	**2.38**	**2**	*e*P		**Pn**	**04 21 50.4**	**+1.7**
PESTR					*e*S	**Sn**	**04 22 17.0**	**-0.6**
ECAB	**El Cabril**	**2.41**	**48**	P		**Pn**	**04 21 51.1**	**+2.0**
	comp=N,0.2nm,0.0s,SNR=11							
ECAB					S	**Sn**	**04 22 16.2**	**-2.0**

PMTG Montargil 2.62 351 *e*P **Pn** **04 21 49.5 -2.4**
PMTG *e*S **Sn** **04 22 19.1 -4.2**
PMTG A A 04 22 22.5
comp=N,5.2nm,0.1s
PMTG Montargil 2.62 351 P **Pn** **04 21 49.5 -2.4**
PMTG S **Sn** **04 22 19.1 -4.2**
comp=N,5.2nm,0.1s
EMAL Malaga-Limoner 2.63 83 eS **Sn** **04 22 24.4 +0.7**
PMAFR Mafra 2.77 333 *e*P **Pn** **04 21 56.2 +2.0**
PMAFR *e*S **Sn** **04 22 26.3 -1.0**
PMAFR A A 04 22 27.8
comp=N,16nm,0.3s
PMAFR Mafra 2.77 333 P **Pn** **04 21 56.1 +2.0**
comp=N,12nm,0.1s,SNR=8.1
PMAFR S **Sn** **04 22 26.6 -0.7**
comp=N,19nm,0.2s,SNR=8.2
EGOR Sierra Gorda, 2.94 77 P **Pn** **04 21 58.7 +2.2**
comp=N,0.2nm,0.1s,SNR=7.9
EGOR S **Sn** **04 22 32.2 +0.8**
comp=N,4.7nm,0.2s,SNR=7.9
PMRV Marv??o 2.95 4 *e*P **Pn** **04 21 58.1 +1.6**
PMRV *e*S **Sn** **04 22 30.2 -1.4**
PMRV A A 04 22 32.0
comp=N,3.4nm,0.2s
PMRV Marv??o 2.95 4 P **Pn** **04 21 58.1 +1.6**
PMRV S **Sn** **04 22 30.2 -1.4**
comp=N,3.4nm,0.2s
EADA Adamuz 2.99 55 P **Pn** **04 21 59.1 +1.9**
comp=N,0.5nm,0.1s,SNR=7.9
EADA S **Sn** **04 22 31.3 -1.4**
comp=N,2.2nm,0.1s,SNR=7.9
PTOM Tomar 3.18 350 *e*P **Pn** **04 22 01.6 +1.9**
PTOM *e*S **Sn** **04 22 36.6 -0.7**
PTOM A A 04 22 59.1
comp=N,5.8nm,0.8s
PTOM Tomar 3.18 350 P **Pn** **04 22 01.6 +1.9**
PTOM S **Sn** **04 22 36.6 -0.7**
comp=N,2.9nm,0.8s
ELGU Los Guajares, 3.28 82 S **Sn** **04 22 39.6 -0.3**
comp=N,2.5nm,0.3s,SNR=7.9
PCBR Castelo Branco 3.35 3 *e*P **Pn** **04 22 03.8 +1.7**
PCBR *e*S **Sn** **04 22 40.1 -1.5**
PCBR A A 04 22 41.5
comp=N,4.2nm,0.2s
PCBR Castelo Branco 3.35 3 P **Pn** **04 22 03.8 +1.7**
PCBR S **Sn** **04 22 40.1 -1.5**
comp=N,2.1nm,0.2s
EQUE Quentar 3.48 77 P **Pn** **04 22 06.8 +2.9**
comp=N,0.2nm,0.1s,SNR=7.9
EQUE S **Sn** **04 22 45.6 +0.8**
comp=N,2.9nm,0.2s,SNR=4.8
IFR Ifrane 3.63 144 *e*P **Pn** **04 22 07.1 +1.1**
IFR *e*S **Sn** **04 22 45.1 -3.4**
EPLA Plasencia 3.79 19 P **Pn** **04 22 09.9 +1.8**
comp=N,0.9nm,0.1s,SNR=8.7
EPLA S **Sn** **04 22 50.0 -2.3**
comp=N,1.0nm,0.1s,SNR=6.5
GORA Gorafe 3.85 74 S **Sn** **04 22 53.5 -0.3**
comp=N,2.0nm,0.2s,SNR=7.9
EBER Berja 3.87 82 P **Pn** **04 22 12.8 +3.4**
comp=N,0.2nm,0.1s,SNR=7.9
EBER S **Sn** **04 22 55.2 +0.6**
comp=N,0.8nm,0.2s,SNR=7.9
MTE Manteigas 3.91 2 *e*P **Pn** **04 22 11.2 +1.4**
MTE *e*S **Sn** **04 22 53.2 -2.2**
MTE Manteigas 3.91 2 P **Pn** **04 22 11.2 +1.4**
MTE S **Sn** **04 22 53.2 -2.2**
EQES Quesada 3.91 69 P **Pn** **04 22 12.1 +2.2**
comp=N,0.3nm,0.1s,SNR=7.9
EQES S **Sn** **04 22 55.1 -0.4**
comp=N,1.6nm,0.2s,SNR=7.9
PAB San Pablo 4.03 40 P **Pn** **04 22 13.1 +1.6**
comp=N,0.2nm,0.1s,SNR=7.9
PAB S **Sn** **04 22 54.5 -4.0**
comp=N,0.1nm,0.1s,SNR=7.9
MD31 MD31 4.34 145 P **Pn** **04 22 17.2 +1.5**
MD31 S **Sn** **04 23 04.4 -1.6**
MDT Midelt 4.45 144 P **Pn** **04 22 19.2 +1.9**
MDT S **Sn** **04 23 05.7 -3.2**
JBK JBK 4.70 116 P **Pn** **04 22 21.1 +0.4**
JBK S **Sn** **04 23 13.5 -1.4**
MVO Moncorvo 4.70 6 *e*P **Pn** **04 22 22.0 +1.3**
MVO *e*S **Sn** **04 23 11.6 -3.3**
MVO A A 04 23 14.6
comp=N,3.5nm,0.7s
MVO Moncorvo 4.70 6 P **Pn** **04 22 21.6 +0.9**
comp=N,1.4nm,0.2s,SNR=6.5
MVO S **Sn** **04 23 10.8 -4.0**
comp=N,3.1nm,0.3s
PVRL Vila Real 4.79 360 *e*P **Pn** **04 22 22.9 +1.1**
PVRL *e*S **Sn** **04 23 13.7 -3.2**
PVRL A A 04 23 16.8
comp=N,5.7nm,0.3s
PVRL Vila Real 4.79 360 P **Pn** **04 22 22.9 +1.1**
PVRL S **Sn** **04 23 13.7 -3.2**
comp=N,2.8nm,0.3s
TISM Timmit 4.86 167 P **Pn** **04 22 22.4 -0.4**
TISM S **Sn** **04 23 14.2 -4.5**
OUK Oukaimeden 5.27 182 P **Pn** **04 22 27.7 -1.0**
OUK S **Sn** **04 23 27.3 -1.9**
ETOB Tobarra 5.33 64 P **Pn** **04 22 30.7 +1.4**
comp=N,0.6nm,0.1s,SNR=6.8
ETOB S **Sn** **04 23 28.3 -2.1**
comp=N,2.8nm,0.1s,SNR=6.5
PBRG Braganca 5.36 8 *e*P **Pn** **04 22 30.8 +1.1**
PBRG *e*S **Sn** **04 23 27.7 -3.5**
PBRG A A 04 23 28.8
comp=N,3.0nm,0.6s
PBRG Braganca 5.36 8 P **Pn** **04 22 30.8 +1.1**
PBRG S **Sn** **04 23 27.7 -3.5**
comp=N,1.5nm,0.6s
TTIG Tnine Tigouga, 5.96 186 P **Pn** **04 22 36.9 -1.1**
TTIG S **Sn** **04 23 49.5 +3.6**

*JMA **19** 04:21:57.9±0.2, 39°.35N×143°.86E, h19km±5km, M3.7*
*ISCJB **19** 04:21:58.7±0.9, 39°.42N±0°.04×143°.81E±0°.08, h16km, mb3.4/5, MS2.7/1, Error ellipse: s-maj=10.1km s-min=4.7km az=25.6*
*IDC **19** 04:22:15.8±4.2, 39°.03N×142°.63E, h112km±38km, mb3.1/5, mb1 3.3/6, mb1mx3.1/47, mbtmp3.4/6, MS2.9/1, Ms1 2.9/1, ms1mx2.5/15, Error ellipse: s-maj=35.0km s-min=24.0km az=77.0*

ISC 19 04:22:01.1±1.3, 39°.44N±0°.07×143°.71E±0°.09, h16km, n21, σ0°92/24, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.47**	**276**	P		**Pn**	**04 22 25.6**	**-1.3**
MIYJ					*e*S	**Sn**	**04 22 46.2**	**+0.4**
JTH	**Tanohata**	**1.51**	**290**	P		**Pn**	**04 22 26.2**	**-1.3**
OFUJ	**Ofunato**	**1.62**	**258**	P		**Pn**	**04 22 27.6**	**-1.4**
JOM	**Ohasama**	**1.87**	**272**	P		**Pn**	**04 22 31.7**	**-0.7**
JOM					*e*S	**Sn**	**04 22 56.0**	**+0.3**
JANG	**Nango**	**1.93**	**300**	P		**Pn**	**04 22 32.1**	**-1.2**
JMK	**Ichinoseki**	**1.99**	**257**	P		**Pn**	**04 22 33.0**	**-1.1**
JYK	**Kaneyama**	**2.65**	**260**	P		**Pn**	**04 22 42.7**	**-0.5**
JNBK	**Urakawa-nobuka**	**2.93**	**346**	P		**Pn**	**04 22 47.4**	**+0.4**
JNBK					*e*S	**Sn**	**04 23 22.8**	**+0.9**
JCH	**Churui**	**3.19**	**355**	P		**Pn**	**04 22 50.2**	**-0.3**
JCH					*e*S	**Sn**	**04 23 27.7**	**-0.5**
JFT	**Otama**	**3.27**	**235**	P		**Pn**	**04 22 50.8**	**-0.8**
JAK	**Akkeshi**	**3.63**	**12**	*e*S		**Sn**	**04 23 37.8**	**-1.4**
JEW	**Eniwo**	**3.80**	**334**	*e*S		**Sn**	**04 23 43.7**	**+0.3**
JFR	**Furan**	**3.82**	**348**	*e*S		**Sn**	**04 23 44.5**	**+0.7**
JAR	**Ashorobuto**	**3.86**	**1**	P		**Pn**	**04 22 59.5**	**-0.3**
JAR					*e*S	**Sn**	**04 23 43.1**	**-1.7**
MJAR	**Matsushiro Arr**	**5.21**	**238**	P		**Pn**	**04 23 19.0**	**+0.6**
	0.3nm,0.3s,baz=42,slow=13,SNR=12							
MA2	**Magadan**	**20.65**	**10**	LR		LR	04 35 32.3	
	comp=Z,39nm,21.7s,baz=114,slow=38							
SONM	**Songino Array**	**28.05**	**300**	P		**P**	**04 27 52.2**	**+0.4**
	0.2nm,0.5s,baz=100,slow=10,SNR=2.6							
ZALV	**Zalesovo Beam**	**41.68**	**310**	P		**P**	**04 29 49.5**	**+0.8**
	0.5nm,0.3s,baz=79,slow=7.5,SNR=2.7							
MKAR	**Makanchi Array**	**44.42**	**300**	P		**P**	**04 30 11.4**	**+0.4**
	0.4nm,0.7s,baz=81,slow=9.1,SNR=3.0							
ILAR	**Eielson Array**	**46.50**	**34**	P		P	04 30 37.5	+10
	0.4nm,0.8s,baz=246,slow=6.8,SNR=4.0							
WRA	**Warramunga Arr**	**59.71**	**190**	P		**P**	**04 32 04.8**	**-0.1**
	0.3nm,0.5s,ba

*IDC **19** 04:23:59.0±1.7,3.47N×126.87E,h0km,mb4.0/5, mb1 4.2/5,mb1mx3.7/45,mbtmp4.0/5,Error ellipse: s-maj=104.3km s-min=22.3km az=68.0*

*ISCJB **19** 04:24:03.3±1.0,3.5N±0.2×127.2E±0.3,h48km,mb3.9/5, Error ellipse: s-maj=47.5km s-min=7.7km az=152.0*

ISC 19 04:24:05.2±1.2,3.5N±0.2×127.2E±0.3,h48km,n9, σ1§34/10,mb3.9/5,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.95**	**331**	P	**Pn**	**04 24 48.9**	**-0.7**
SKMP	**Bagumbayan, Su**	**3.96**	**319**	P	**Pn**	**04 25 02.5**	**-1.0**
SKMP				S	Sn	04 25 49.6	+0.8
KCP	**Kidapawan**	**4.04**	**329**	⇓P	**Pn**	**04 25 07.0**	**+2.4**
KCP				S	Sn	04 26 04.8	+14
BUKP	**Musuan**	**4.81**	**334**	P	**Pn**	**04 25 13.3**	**-1.9**
FITZ	**Fitzroy Crossi**	**21.53**	**184**	P	**P**	**04 28 49.7**	**-0.7**
	1.6nm,0.5s,baz=352,slow=8.9,SNR=11						
WRA	**Warramunga Arr**	**24.36**	**163**	P	**P**	**04 29 19.1**	**+0.2**
	2.6nm,0.5s,baz=341,slow=9.5,SNR=37						
ASAR	**Alice Springs**	**27.80**	**167**	P	**P**	**04 29 50.3**	**+0.3**
	1.1nm,0.5s,baz=344,slow=6.9,SNR=15						
STKA	**Stephens Creek**	**37.78**	**160**	P	**P**	**04 31 17.3**	**+0.5**
	4.5nm,0.7s,baz=325,slow=10.0,SNR=11						
MKAR	**Makanchi Array**	**57.98**	**325**	P	**P**	**04 33 52.8**	**-0.2**
	0.4nm,0.4s,baz=129,slow=7.0,SNR=8.1						

*NIED **19** 04:25:00,39.40N×143.80E,h14km,Mw4.4 Best double couple: M₀4.54000×10¹⁵ NP1:φ₈187.00000°,δ34.00000°, λ82.00000°. NP2:φ16.00000°,δ56.00000°,λ96.00000°.*

*IDC **19** 04:25:53.4±0.7,39.27N×143.58E,h0km,mb4.1/21, mb1 4.3/28,mb1mx4.2/54,mbtmp4.1/28,ML3.3/7,MS3.9/4, Ms1 3.9/4,ms1mx3.3/43,Error ellipse: s-maj=17.3km s-min=13.9km az=142.0*

*JMA **19** 04:25:53.9±0.1,39.41N×143.77E,h25km,M4.6*

JMA Felt I J1.

*ISCJB **19** 04:25:54.8±1.2,39.43N±0.03×143.64E±0.04,h20km±8km, mb4.2/31,MS4.2/4,Error ellipse: s-maj=6.0km s-min=3.7km az=31.0*

*BJI **19** 04:25:56.5±0.0,39.45N×143.21E,h16km,mb4.8/31, mB5.1/17,Ms4.4/13,Ms7 4.3/12*

*NEIC **19** 04:25:56.8±1.4,39.38N±0.07×143.5E±0.1,h21km±5km, mb4.7/27*

ISC 19 04:25:53.9±2.7,39.46N±0.05×143.58E±0.06,h0km±17km, n115,σ1§10/124,mb4.6/47,MS4.2/5,1C,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.37**	**275**	P	**Pn**	**04 26 20.1**	**-0.1**
MIYJ				eS	Sn	04 26 39.1	0.0
JTH	**Tanohata**	**1.41**	**290**	P	**Pn**	**04 26 20.7**	**-0.1**
JTH				eS	Sn	04 26 40.1	0.0
OFUJ	**Ofunato**	**1.53**	**256**	P	**Pn**	**04 26 22.1**	**-0.4**
OFUJ				eS	Sn	04 26 42.4	-0.7
JOM	**Ohasama**	**1.77**	**271**	P	**Pn**	**04 26 26.2**	**+0.4**
JOM				S	Sn	04 26 49.2	+0.1
JANG	**Nango**	**1.83**	**300**	P	**Pn**	**04 26 26.2**	**-0.4**
JMK	**Ichinoseki**	**1.91**	**255**	P	**Pn**	**04 26 27.7**	**+0.1**
JMK				eS	Sn	04 26 52.0	-0.3
JYK	**Kaneyama**	**2.56**	**259**	P	**Pn**	**04 26 37.3**	**+0.6**
ERM	**Erimo**	**2.57**	**353**		**Pn**	**04 26 38.0**	**+1.2**
ERM				Sn	Sn	04 27 07.8	-0.9
JOT	**Ohata**	**2.73**	**316**	P	**Pn**	**04 26 39.6**	**+0.7**
JOT				S	Sn	04 27 12.9	+0.4
JNBK	**Urakawa-nobuka**	**2.89**	**348**	P	**Pn**	**04 26 42.1**	**+1.0**
JNBK				eS	Sn	04 27 17.1	+0.6
JKB	**Kayabe**	**3.11**	**322**	P	**Pn**	**04 26 45.9**	**+1.8**
JCH	**Churui**	**3.16**	**357**	P	**Pn**	**04 26 44.9**	**+0.1**
JCH				eS	Sn	04 27 21.2	-1.9
JFT	**Otama**	**3.20**	**234**	P	**Pn**	**04 26 45.1**	**-0.4**
JFT				eS	Sn	04 27 24.6	+0.3
JAW	**Awa shima**	**3.52**	**255**	P	**Pn**	**04 26 50.7**	**+0.8**
JAK	**Akkeshi**	**3.63**	**13**	P	**Pn**	**04 26 50.6**	**-0.7**
JAK				S	Sn	04 27 32.6	-2.2
JNS	**Sasagawa**	**3.72**	**245**	P	**Pn**	**04 26 52.9**	**+0.3**
JEW	**Eniwo**	**3.74**	**335**	P	**Pn**	**04 26 54.3**	**+1.4**
JEW				eS	Sn	04 27 38.4	+0.8
JKA	**Kamikawa-asahi**	**4.71**	**351**		**Pn**	**04 27 08.6**	**+2.5**
JKA					Sn	04 28 00.7	-0.8
ASAJ	**Asahikawa**	**4.71**	**351**	Pn	**Pn**	**04 27 08.6**	**+2.4**
	3.2nm,0.3s,baz=216,slow=12,SNR=6.6						
ASAJ				Sn	Sn	04 28 00.7	-0.8
	6.7nm,0.3s,baz=302,slow=32,SNR=6.2						
ASAJ				LR	LR	04 29 28.1	
	comp=Z,227nm,18.8s,baz=92,slow=44						
MAJO	**Matsushiro**	**5.15**	**237**		**Pn**	**04 27 12.5**	**+0.3**
MJAR	**Matsushiro Arr**	**5.15**	**237**	Pn	**Pn**	**04 27 12.2**	**-0.1**
	1.4nm,0.3s,baz=42,slow=12,SNR=100						
MAT	**Matsushiro**	**5.15**	**237**	P	**Pn**	**04 27 13.4**	**+1.2**
MAT				S	Sn	04 28 16.6	+4.3
MJB9	**Matsu-Tunnel**	**5.15**	**237**		**Pn**	**04 27 12.7**	**+0.5**
INU	**Inuyama**	**6.64**	**234**		**Pn**	**04 27 32.8**	**0.0**
USA0B	**Ussuriysk Arra**	**9.86**	**302**		**Pn**	**04 28 18.6**	**+1.7**
USRK	**Ussuriysk Ar.**	**9.86**	**302**	Pn	**Pn**	**04 28 19.5**	**+2.6**
	baz=114,slow=13,SNR=18						
JNU	**Nakatsue**	**12.04**	**242**	Pn	**Pn**	**04 28 45.2**	**-1.5**
	0.4nm,0.3s,baz=39,slow=6.5,SNR=3.2						
JNU	**Nakatsue**	**12.04**	**242**		**Pn**	**04 28 45.9**	**-0.8**
KSRS	**Korea Array**	**12.44**	**266**	Pn	**Pn**	**04 28 52.5**	**+0.4**
	0.3nm,0.3s,baz=76,slow=13,SNR=9.5						
KLR	**Kul'dur**	**12.91**	**323**	Pn	**Pn**	**04 28 59.6**	**+1.1**
	0.1nm,0.3s,baz=135,slow=14,SNR=9.4						
PETK	**Petropavlovsk-**	**16.73**	**31**	Pn	**Pn**	**04 29 50.8**	**+1.3**
	0.1nm,0.3s,baz=230,slow=11,SNR=3.4						
HIA	**Hailar**	**19.59**	**308**	P	**P**	**04 30 22.3**	**-1.1**
BJT	**Baijiatuan**	**21.06**	**280**	P	**P**	**04 30 37.5**	**-2.0**
SEY	**Seymchan**	**24.10**	**10**	P	**P**	**04 31 12.2**	**+1.4**
	7.8nm,1.0s,baz=180,slow=5.9,SNR=5.4						
YAK	**Yakutsk**	**24.14**	**344**	P	**P**	**04 31 10.6**	**-0.6**
YAK				IAmb	IAmb	04 31 14.9	
	comp=Z,26nm,0.8s						
WHN	**Wuhan**	**25.46**	**259**	⇑P	**P**	**04 31 22.8**	**-0.7**
WHN				pmax	pmax		
	comp=Z,98nm,0.9s						
ULN	**Ulaanbaatar**	**27.52**	**300**	P	**P**	**04 31 42.0**	**-0.2**
ULN				IAmb	IAmb	04 31 52.6	
	comp=Z,12nm,1.0s						
SONM	**Songino Array**	**27.96**	**300**	P	**P**	**04 31 46.9**	**+0.8**
	comp=Z,4.1nm,0.7s,baz=89,slow=8.6,SNR=21						
H11N2	**WAKE ISLAND Hy**	**28.10**	**128**	T	T	05 01 03.8	
	baz=320						
H11N1	**WAKE ISLAND Hy**	**28.11**	**128**	T	T	05 01 06.5	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**28.11**	**128**	T	T	05 01 05.8	
	baz=320						
XAN	**Xi'an**	**28.18**	**270**	P	**P**	**04 31 48.5**	**+0.4**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
XAN				LR	LR		
	comp=Z,260nm,20.6s						
XAN				LR	LR		
	comp=Z,340nm,15.2s						
XAN				LR	LR		
	comp=Z,410nm,13.2s						
XAN	**Xi'an**	**28.18**	**270**	P	**P**	**04 31 47.1**	**-1.0**
XAN				IAmb	IAmb	04 31 48.9	
	comp=Z,7.1nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**28.91**	**130**	T	T	05 02 13.6	
	baz=322						
H11S3	**WAKE ISLAND Hy**	**28.92**	**130**	T	T	05 02 09.7	
	baz=322						
H11S2	**WAKE ISLAND Hy**	**28.93**	**130**	T	T	05 02 15.5	
	baz=322						
ENH	**Enshi**	**29.30**	**262**	P	**P**	**04 31 57.2**	**-0.8**
ENH				IAmb	IAmb	04 32 10.3	
	comp=Z,20nm,0.9s						
LZH	**Lanzhou**	**31.42**	**277**	*e*P	P	04 32 21.3	+4.4
LZH				pP		04 32 25.1	
LZH				sP		04 32 28.1	
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
GTA	**Gaotai**	**33.56**	**284**	*e*P	**P**	**04 32 35.4**	**-0.2**
GTA				pP		04 32 42.4	
GTA				sP		04 32 45.4	
GTA				pmax	pmax		
	comp=Z,18nm,1.0s						
GTA				pmax	pmax		
	comp=Z,180nm,5.2s						
GTA				LR	LR		
	comp=Z,320nm,18.9s						
GTA				LR	LR		
	comp=Z,490nm,16.5s						
GTA				LR	LR		
	comp=Z,610nm,15.5s						
WMQ	**Urumqi**	**41.32**	**295**	P	**P**	**04 33 40.7**	**-0.6**
WMQ				IAmb	IAmb	04 33 53.3	
	comp=Z,22nm,0.8s						
ZAA0	**Zalesovo Array**	**41.59**	**310**	P	**P**	**04 33 43.3**	**0.0**
ZAA0				IAmb	IAmb	04 33 53.2	
	comp=Z,8.9nm,0.8s						
ZALV	**Zalesovo Beam**	**41.59**	**310**	P	**P**	**04 33 43.8**	**+0.5**
	comp=Z,6.9nm,0.6s,baz=88,slow=7.8,SNR=24						
CMAR	**Chiang Mai Arr**	**43.78**	**255**	P	**P**	**04 34 00.5**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=43,slow=6.7,SNR=4.3						
MK31	**Makanchi Array**	**44.32**	**300**	P	**P**	**04 34 05.3**	**-0.2**
MK31				IAmb	IAmb	04 34 15.6	
	comp=Z,10nm,0.8s						
MKAR	**Makanchi Array**	**44.32**	**300**	P	**P**	**04 34 05.5**	**0.0**
	comp=Z,7.3nm,0.8s,baz=81,slow=9.2,SNR=33						
MAKZ	**Makanchi**	**44.53**	**300**	P	**P**	**04 34 06.7**	**-0.4**
MAKZ				IAmb	IAmb	04 34 12.6	
	comp=Z,10nm,0.8s						
KURK	**Kurchatov**	**45.82**	**307**	P	**P**	**04 34 17.4**	**+0.1**
ILAR	**Eielson Array**	**46.53**	**34**	P	**P**	**04 34 23.1**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=258,slow=6.3,SNR=11						
TAPN	**Taplejung**	**47.50**	**273**	*e*P	**P**	**04 34 31.6**	**+0.4**
	comp=Z,35nm,1.2s						
ODAN	**Odare**	**47.99**	**273**	*e*P	**P**	**04 34 35.2**	**+0.3**
JIRN	**Jiri**	**48.52**	**274**	*e*P	**P**	**04 34 39.5**	**+0.3**
	comp=Z,16nm,0.5s						
RAMN	**Ramite**	**48.56**	**273**	*e*P	**P**	**04 34 39.2**	**-0.1**
	comp=Z,37nm,0.8s						
GUN	**Gumba**	**48.64**	**275**	*e*P	**P**	**04 34 40.2**	**+0.2**
	comp=Z,71nm,0.8s						
KKN	**Kakani**	**49.16**	**275**	*e*P	**P**	**04 34 44.0**	**+0.1**
	comp=Z,45nm,0.7s						
PKI	**Pulbochi**	**49.17**	**275**	*e*P	**P**	**04 34 43.9**	**-0.2**
	comp=Z,4.1nm,0.8s						
PKIN	**Phulchoki**	**49.18**	**275**	*e*P	**P**	**04 34 43.9**	**-0.2**
DMN	**Daman**	**49.38**	**275**	*e*P	**P**	**04 34 45.7**	**+0.1**
GKN	**Gorkha**	**49.55**	**275**	*e*P	**P**	**04 34 46.7**	**-0.1**
DANN	**Dangsing**	**50.06**	**276**	*e*P	**P**	**04 34 51.1**	**+0.3**
	comp=Z,191nm,0.8s						
BRVK	**Borovoye**	**50.29**	**311**	P	**P**	**04 34 51.8**	**0.0**
BRVK				IAmb	IAmb	04 35 02.2	
	comp=Z,12nm,0.9s						
KOLN	**Koldanda**	**50.47**	**276**	*e*P	**P**	**04 34 53.9**	**+0.1**
	comp=Z,44nm,0.9s						
AAK	**Ala-Archa**	**50.87**	**297**	LR	LR	04 57 45.0	
	comp=Z,152nm,18.3s,baz=90,slow=38						
AAK	**Ala-Archa**	**50.87**	**297**	P	**P**	**04 34 56.1**	**-0.5**
KSH	**Kashi**	**51.00**	**293**	P	**P**	**04 35 01.3**	**+3.7**
KSH				PcP	**PcP**	**04 36 16.4**	**+2.6**
KSH				PcS	**PcS**	**04 40 13.9**	**+2.5**
KSH				S	**S**	**04 42 16.3**	**+0.5**
KSH				SS	**SS**	**04 45 49.4**	**-0.9**
KSH				pmax	pmax		
	comp=Z,430nm,7.9s						
KSH				LR	LR		
	comp=Z,200nm,9.4s						
KSH				LR	LR		
	comp=Z,780nm,7.4s						
KSH				LR	LR		
	comp=Z,500nm,8.1s						
INK	**Inuvik**	**51.45**	**28**	P	**P**	**04 35 01.9**	**+1.5**
	comp=Z,1.1nm,0.5s,baz=286,slow=6.6,SNR=9.1						
INK	**Inuvik**	**51.45**	**28**	P	**P**	**04 35 01.5**	**+1.1**
ARSB	**Arslanbob**	**52.41**	**296**	P	**P**	**04 35 08.2**	**+0.1**
KK31	**Karatay Array**	**53.41**	**299**	P	**P**	**04 35 15.1**	**-0.2**
KK31				IAmb	IAmb	04 35 25.2	
	comp=Z,4.8nm,0.9s						
KKAR	**Karatay Array**	**53.41**	**299**	P	**P**	**04 35 14.7**	**-0.6**
KKAR				IAmb	IAmb	04 35 25.2	
	comp=Z,4.8nm,0.9s						
NIL	**Nilore**	**55.50**	**288**	P	**P**	**04 35 30.2**	**-0.5**
ARU	**Arti**	**55.69**	**318**	P	**P**	**04 35 30.9**	**-0.7**
CHGR	**Chuyangaron**	**56.19**	**295**	P	**P**	**04 35 35.2**	**-0.4**
ABKAR	**Akbulak array**	**57.70**	**310**	P	**P**	**04 35 45.8**	**-0.2**
ABKAR				IAmb	IAmb	04 35 56.1	
	comp=Z,8.6nm,0.8s						
AKTO	**Aktyubinsk**	**58.34**	**311**	LR	LR	05 03 34.1	
	comp=Z,294nm,19.8s,baz=101,slow=39						
WRA	**Warramunga Arr**	**59.72**	**190**	P	**P**	**04 35 58.0**	**-2.3**
	comp=Z,0.6nm,0.5s,baz=9.1,slow=7.2,SNR=8.7						
RES	**Resolute Bay**	**59.82**	**15**	P	**P**	**04 36 00.6**	**+0.2**
YKA	**Yellowknife Ar**	**60.85**	**31**	P	**P**	**04 36 08.4**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=301,slow=6.4,SNR=4.4						
ARCES	**ARCESS Array B**	**62.33**	**339**	P	**P**	**04 36 18.1**	**+0.5**
	comp=Z,6.1nm,1.2s,baz=58,slow=8.6,SNR=2.2						
ASAR	**Alice Springs**	**63.45**	**190**	P	**P**	**04 36 23.8**	**-1.7**
	comp=Z,0.7nm,0.9s,baz=8.5,slow=8.1,SNR=6.1						
GEYT	**Pulbeck**	**64.16**	**299**	P	**P**	**04 36 29.2**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=329,slow=1.7,SNR=3.9						
FINES	**FINESS Array B**	**67.46**	**333**	P	**P**	**04 36 51.2**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=356,slow=5.7,SNR=5.9						
KIV	**Kislovodsk**	**70.60**	**311**	P	**P**	**04 37 10.6**	**-0.4**
KBZ	**Khabaz**	**70.61**	**311**	P	**P**	**04 37 11.6**	**+0.7**
	comp=Z,5.4nm,0.9s,baz=64,slow=4.5,SNR=11						
KBZ				LR	LR	05 10 48.0	
	comp=Z,115nm,20.1s,baz=76,slow=38						
KVN	**Kaiserville**	**71.94**	**54**	P	**P**	**04 37 19.4**	**+0.1**
NVAR	**Mina Array Bea**	**72.18**	**55**	P	**P**	**04 37 21.1**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=301,slow=4.9,SNR=5.0						
NB2	**NORSAR Subarra**	**72.60**	**338**	P	**P**	**04 37 22.7**	**0.0**
	comp=Z,2.1nm,0.8s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**72.60**	**338**	P	**P**	**04 37 22.9**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=39,slow=6.0,SNR=5.6						
AKASG	**Malin Array Be**	**73.41**	**323**	P	**P**	**04 37 27.4**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=47,slow=6.3,SNR=8.2						
PDAR	**Pinedale Array**	**74.76**	**47**	P	**P**	**04 37 36.5**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=219,slow=0.4,SNR=7.9						
SRU	**Sao Rafael Swe**	**76.54**	**50**	P	**P**	**04 37 45.6**	**-0.6**
BUR08	**Bucovina Ar. S**	**77.44**	**322**	P	**P**	**04 37 49.9**	**-1.0**
BUR08				IAmb	IAmb	04 38 04.0	
	comp=Z,5.6nm,1.1s						
BRTR	**Keskin Array B**	**78.50**	**312**	P	**P**	**04 37 57.4**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=100,slow=5.4,SNR=4.4						
KHC	**Kasperske Hory**	**81.35**	**329**	*e*P	**P**	**04 38 12.0**	**-0.2**
CONA	**Conrad Observa**	**81.38**	**327**	*i* P	**P**	**04 38 11.0**	**-1.4**
	comp=Z,6.4nm,1.7s						
GERES	**GERESS Array B**	**81.53**	**329**	P	**P**	**04 38 13.6**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=39,slow=5.1,SNR=4.0						
ARSA	**Arzberg**	**82.05**	**327**	*i* P	P	04 38 11.0	-4.9
	comp=Z,5.9nm,1.3s						
SOKA	**Soboth**	**82.71**	**327**	*e*PcP	**P**	**04 38 19.5**	**+0.1**
	comp=Z,3.7nm,0.8s						
OBKA	**Obir**	**83.05**	**327**	*i* P	**P**	**04 38 18.9**	**-2.3**
	comp=Z,3.8nm,1.1s						
KBA	**Koelnbreinsper**	**83.09**	**328**	*i* PcP	**P**	**04 38 21.9**	**+0.4**
	comp=Z,3.9nm,1.1s						
MYKA	**Terra Mystica**	**83.33**	**328**	*i* P	**P**	**04 38 21.9**	**-0.7**
	comp=Z,2.2nm,1.6s						
WTTA	**Wattenberg**	**83.62**	**329**	*i* PcP	**P**	**04 38 23.6**	**-0.6**
	comp=Z,2.5nm,0.6s						
MOTA	**Moosalm**	**83.77**	**330**	*i* P	**P**	**04 38 23.6**	**-1.4**
	comp=Z,8.7nm,1.2s						
SQTA	**Sankt Quirin**	**83.83**	**330**	*i* P	**P**	**04 38 23.1**	**-2.1**
	comp=Z,7.1nm,1.3s						
FUORN	**Ofenpass-Fuorn**	**84.69**	**330**	P	**P**	**04 38 29.6**	**-0.2**
FUORN				IAmb	IAmb	04 38 44.5	
	comp=Z,7.2nm,0.8s						
TXAR	**Lajitas Array**	**87.30**	**54**	P	**P**	**04 38 43.9**	**+1.0**
	comp=Z,0.1nm,0.5s,baz=295,slow=2.8,SNR=3.6						

*ISK **19** 04:33:23.9,35.60N×32.03E,h12km,ML2.5/10*

*ISCJB **19** 04:33:24.3±0.8,35.64N±0.03×32.01E±0.06,h7km±5km, Error ellipse: s-maj=8.0km s-min=4.3km az=167.9*

*NIC **19** 04:33:24.6±0.0,35.63N×32.01E,h4km±3km,Md2.8/4, Ml2.5/5*

ISC 19 04:33:24.0±1.5,35.62N±0.03×32.01E±0.06,h5km±12km, n18,σ0§97/27,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.66**	**22**	PG	**Pb**	**04 33 37.8**	**-0.2**
GAZI				SG	**Sb**	**04 33 48.2**	**+0.7**
AKMS	**Akamas**	**0.66**	**156**	P	**Pb**	**04 33 37.8**	**-0.3**
AKMS				S	**Sb**	**04 33 48.0**	**+0.5**
AKMS				AML	AML	04 33 49.6	
	0.8nm,0.2s						
AKMS				AML	AML	04 33 49.6	
	0.8nm,0.2s						
AKMS				AML	AML	04 33 53.6	
	0.5nm,0.4s						
AKMS				AMd		04 34 24.2	
AKMS				AMd		04 34 24.2	
ALFC	**Alefka**	**0.67**	**134**	P	**Pb**	**04 33 38.0**	**-0.2**
ALFC				S	**Sb**	**04 33 47.6**	**-0.3**
ALFC				AML	AML	04 33 49.6	
	1.0nm,0.2s						
ALFC				AML	AML	04 33 49.6	
	1.0nm,0.2s						
ALFC				AML	AML	04 33 49.7	
	1.4nm,0.2s						
ALFC				AML	AML	04 33 49.7	
	1.4nm,0.2s						
ALFC				AMd		04 34 18.5	
ALFC				AMd		04 34 18.5	
LEF	**Lefka**	**0.88**	**125**	PG	**Pg**	**04 33 40.7**	**-0.2**
LEF				SG	**Sg**	**04 33 51.8**	**-0.4**
ALAN	**Alanya-ANTALYA**	**0.93**	**1**	PG	**Pg**	**04 33 41.6**	**-0.3**
NATA	**Nata**	**0.96**	**151**	P	**Pn**	**04 33 43.6**	**-0.6**
NATA				AML	AML	04 34 04.0	
	1.1nm,0.4s						
NATA				AML	AML	04 34 06.9	
	0.7nm,0.4s						
NATA				AMd		04 34 36.4	
TEKE	**Tekeli-Mersin**	**1.03**	**60**	PG	**Pg**	**04 33 44.2**	**+0.3**
TEKE				SG	**Sb**	**04 33 58.9**	**+0.6**
SZAC	**Souni**	**1.12**	**140**	P	**Pn**	**04 33 46.3**	**-0.2**
SZAC				AML	AML	04 34 11.7	
	0.4nm,0.5s						
SZAC				AMd		04 34 30.6	
BERE	**Bereket-Mersin**	**1.22**	**53**	PN	**Pb**	**04 33 47.5**	**-0.2**
BERE				SN	**Sb**	**04 34 04.0**	**+0.2**
ATHAL	**Athalassa**	**1.23**	**113**	P	**Pb**	**04 33 45.9**	**-1.8**
ATHAL				S	**Sb**	**04 34 03.0**	**-0.9**
CSS	**Mathiatis**	**1.27**	**121**	PN	**Pg**	**04 33 48.3**	**0.0**
CSS	**Mathiatis**	**1.27**	**121**	P	**Pg**	**04 33 52.0**	**+3.7**
CSS				S	**Sn**	**04 34 06.9**	**+1.1**
ASGA	**Asgata**	**1.31**	**129**	P	**Pg**	**04 33 49.5**	**+0.3**
ASGA				AML	AML	04 34 13.0	
	0.3nm,0.8s						
ASGA				AML	AML	04 34 13.5	
	0.3nm,0.4s						
TEVE	**Tevekalti-Mers**	**1.42**	**55**	PN	**Pn**	**04 33 50.2**	**-0.3**
TEVE				SN	**Sn**	**04 34 09.5**	**-0.1**
IKL	**Isikli**	**1.49**	**65**	PN	**Pn**	**04 33 51.1**	**-0.4**
KEBE	**Keben-Mersin**	**1.61**	**59**	PN	**Pn**	**04 33 53.3**	**+0.2**
KORT	**Korkueli**	**1.92**	**316**	PN	**Pn**	**04 33 57.6**	**+0.1**
KONT	**Konya--Tatoy**	**2.33**	**7**	PN	**Pn**	**04 34 03.2**	**+0.1**

*ISCJB **19** 04:39:50.3±1.2,24.00S±0.05×177.11W±0.06, h54km±11km,mb4.5/14,MS3.3/4,Error ellipse: s-maj=10.2km s-min=7.3km az=28.8*

*NEIC **19** 04:39:52.9±1.4,23.98S±0.10×177.1W±0.1,h65km±5km, mb4.7/42*

*IDC **19** 04:39:58.2±3.3,23.98S×177.07W,h104km±28km, mb4.1/13,mb1 4.3/13,mb1mx4.0/26,mbtmp4.4/13,MS3.3/6, Ms1 3.4/6,ms1mx3.2/24,Error ellipse: s-maj=19.0km s-min=13.6km az=155.0*

ISC 19 04:39:53.3±1.3,23.97S±0.07×177.10W±0.07, h68km±11km,n123,σ1§40/135,mb4.7/29,14C-7D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.26**	**55**		**Pn**	**04 41 50.9**	**+0.4**
AFI	**Afiamalu**	**11.20**	**28**	P	**Pn**	**04 42 29.2**	**-1.5**
	12nm,0.3s,baz=240,slow=4.9,SNR=11						
AFI				S	Sn	04 44 22.6	-12
	2.6nm,0.3s,baz=90,slow=20,SNR=4.5						
AFI				LR	LR	04 46 35.4	
	comp=Z,201nm,20.8s,baz=1.5,slow=36						
AFI	**Afiamalu**	**11.20**	**28**	Pn	**Pn**	**04 42 28.9**	**-1.8**
URZ	**Urewera**	**15.08**	**198**	Pn	**Pn**	**04 43 21.9**	**-0.4**
URZ				IAmb	IAmb	04 43 29.4	
	comp=Z,19nm,0.4s						
DZM	**Mont Dzumac**	**15.27**	**274**	P	**Pn**	**04 43 24.6**	**-0.4**
DZM				IAmb	IAmb	04 43 38.5	
	comp=Z,48nm,0.9s						
RAR	**Rarotonga**	**16.23**	**84**	P	**Pn**	**04 43 36.3**	**-0.8**
	comp=Z,2.7nm,0.3s,baz=274,slow=13,SNR=4.7						
RAR				S	Sn	04 46 23.0	-14
	comp=Z,6.2nm,0.3s,baz=247,slow=23,SNR=6.0						
RAR				LR	LR	04 48 54.2	
	comp=Z,212nm,21.4s,baz=281,slow=33						
RAR	**Rarotonga**	**16.23**	**84**	Pn	**Pn**	**04 43 36.6**	**-0.6**
MSWZ	**Moikau Station**	**18.54**	**198**	P	**P**	**04 44 04.3**	**-0.1**
SNZO	**South Karori**	**18.60**	**200**	P	**P**	**04 44 03.5**	**-1.6**
SNZO				IAmb	IAmb	04 44 17.3	
	comp=Z,42nm,1.0s						
QRZ	**Quartz Range**	**18.93**	**205**	P	**P**	**04 44 08.3**	**-0.3**
QRZ				IAmb	IAmb	04 44 11.9	
	comp=Z,60nm,1.2s						
NNZ	**Nelson**	**18.96**	**203**	P	**Pn**	**04 44 10.2**	**0.0**
NNZ				IAmb	IAmb	04 44 23.6	
	comp=Z,25nm,0.9s						
THZ	**Tophouse**	**19.60**	**203**	P	**P**	**04 44 14.6**	**-1.4**
LTZ	**Lake Taylor**	**20.72**	**203**	P	**P**	**04 44 25.6**	**-2.5**
OXZ	**Oxford**	**21.28**	**202**	P	**P**	**04 44 33.3**	**-0.9**
RPZ	**Rata Peaks**

FITZ				IAmb	IAmb	04 49 10.1		
	comp=Z,5.3nm,1.1s							
SARN	**Sarigan**	**54.29**	**315**	P	**P**	**04 49 13.0**	**+0.1**	
SBA	**Scott Base**	**54.48**	**184**	P	**P**	**04 49 13.9**	**+0.4**	
SBA				IAmb	IAmb	04 49 17.1		
	comp=Z,8.0nm,1.1s							
VNDA	**Vanda**	**54.55**	**186**	P	**P**	**04 49 15.3**	**+1.4**	
	comp=Z,1.3nm,0.8s,baz=7.9,slow=8.6,SNR=5.7							
VNDA	**Vanda**	**54.55**	**186**	P	**P**	**04 49 13.4**	**-0.5**	
NWAO	**Narrogin (SRO)**	**57.62**	**245**	P	**P**	**04 49 37.1**	**+0.5**	
	comp=Z,5.5nm,0.7s,baz=129,slow=13,SNR=2.5							
NWAO	**Narrogin (SRO)**	**57.62**	**245**	P	**P**	**04 49 36.5**	**0.0**	
NWAO				IAmb	IAmb	04 49 51.4		
	comp=Z,9.3nm,1.0s							
PSA00	**Pilbara Seismi**	**57.76**	**259**	P	**P**	**04 49 37.2**	**-0.5**	
PSA00				IAmb	IAmb	04 49 54.6		
	comp=Z,8.7nm,1.1s							
MORW	**Morawa**	**59.34**	**249**	P	**P**	**04 49 48.4**	**-0.2**	
CASY	**Casey**	**61.21**	**206**	P	**P**	**04 50 00.7**	**0.0**	
QSPA	**South Pole Qui**	**66.12**	**180**	P	**P**	**04 50 34.1**	**+0.9**	
	comp=Z,9.5nm,1.0s,baz=23,slow=3.2,SNR=20							
QSPA	**South Pole Qui**	**66.12**	**180**	P	**P**	**04 50 33.0**	**-0.2**	
UGM	**Wanagama**	**70.76**	**270**	P	**P**	**04 51 02.5**	**-0.4**	
MJAR	**Matsushiro Arr**	**73.49**	**324**	LR	LR	05 22 54.3		
	comp=Z,28nm,18.8s,baz=55,slow=35							
ADK	**Adak**	**75.52**	**0**	P	**P**	**04 51 30.0**	**0.0**	
TWG	**Pinlang**	**75.95**	**303**	P	**P**	**04 51 32.2**	**-1.0**	
SSLB	**Suanglung**	**76.58**	**304**	P	**P**	**04 51 36.7**	**0.0**	
SSLB				IAmb	IAmb	04 51 41.6		
	comp=Z,8.9nm,0.9s							
MAW	**Mawson**	**78.60**	**200**	P	**P**	**04 51 48.5**	**+1.3**	
	comp=Z,5.1nm,0.9s,baz=137,slow=5.8,SNR=4.5							
PEA0B	**Petropavlovsk-**	**79.82**	**345**	P	**P**	**04 51 53.0**	**-0.9**	
PEA0B				IAmb	IAmb	04 52 02.4		
	comp=Z,12nm,1.1s							
PETK	**Petropavlovsk-**	**79.82**	**345**	P	**P**	**04 51 54.9**	**+0.9**	
	comp=Z,1.3nm,0.4s,baz=126,slow=5.3,SNR=7.0							
NVAR	**Mina Array Bea**	**82.98**	**43**	P	**P**	**04 52 12.7**	**+1.4**	
	comp=Z,0.5nm,0.6s,baz=223,slow=7.4,SNR=5.8							
SYO	**Syowa Base**	**83.54**	**193**	*e*P	**P**	**04 52 12.4**	**-1.1**	
SNAA	**Sanae**	**84.53**	**178**	P	**P**	**04 52 18.5**	**-0.1**	
SNAA	**Sanae**	**84.53**	**178**	P	**P**	**04 52 18.2**	**-0.4**	
SNAA				IAmb	IAmb	04 52 19.4		
	comp=Z,12nm,1.1s							
VNA3	**Neumayer Olymp**	**84.64**	**176**	P	**P**	**04 52 18.8**	**-0.3**	
VNA2	**Neumayer--Watz**	**85.09**	**177**	P	**P**	**04 52 21.3**	**0.0**	
	baz=182,slow=4.8							
VNA1	**Neumayer--Stat**	**85.31**	**176**	P	**P**	**04 52 22.7**	**+0.3**	
PSI	**Prapat**	**85.63**	**275**	LR	LR	05 32 00.8		
	comp=Z,17nm,19.7s,baz=44,slow=36							
TXAR	**Lajitas Array**	**88.23**	**57**	P	**P**	**04 52 37.5**	**+0.1**	
	comp=Z,0.5nm,0.9s,baz=216,slow=6.2,SNR=5.3							
ILAR	**Eielson Array**	**91.50**	**12**	P	**P**	**04 52 52.5**	**+0.7**	
	comp=Z,0.9nm,0.9s,baz=216,slow=5.4,SNR=10.0							
CMAR	**Chiang Mai Arr**	**92.05**	**289**	P	**P**	**04 52 58.0**	**+2.7**	
	comp=Z,3.2nm,0.6s,baz=181,slow=1.1,SNR=6.9							
CMAR				LR	LR	05 32 04.7		
	comp=Z,5.3nm,21.7s,baz=330,slow=34							
MKAR	**Makanchi Array**	**114.16**	**312**	PKiKP	PKPdf	04 58 23.8	-1.0	
	comp=Z,1.3nm,0.4s,baz=174,slow=0.6,SNR=9.4							
KURK	**Kurchatov**	**117.08**	**316**		**PKPdf**	**04 58 29.7**	**-0.6**	
KURBB	**Kurchatov Arra**	**117.13**	**316**	PKP	**PKPdf**	**04 58 29.7**	**-0.7**	
	comp=Z,0.8nm,0.4s,baz=113,slow=1.8,SNR=5.7							
KSH	**Kashi**	**117.52**	**303**	PKP	**PKiKP**	**04 58 34.8**	**+3.1**	
KSH				PP	PP	04 59 57.4	+13	
KSH				PKS	**PKSdf**	**05 02 10.5**	**+2.1**	
KSH				SKS	**SKSdf**	**05 05 35.4**	**-2.5**	
KSH	**Kashi**	**117.52**	**303**	SS	SS	05 16 01.6	+10	
KSH				AMB	AMB			
	comp=Z,440nm,8.5s							
KSH				LR	LR			
	comp=N,570nm,6.6s							
KSH				LR	LR			
	comp=E,350nm,6.5s							
KSH				LR	LR			
	comp=Z,570nm,6.6s							
BVAR	**Borovoye Array**	**122.24**	**319**	PKP	**PKPdf**	**04 58 40.1**	**0.0**	
	comp=Z,2.8nm,0.4s,baz=127,slow=1.9,SNR=37							
ARU	**Arti**	**128.50**	**324**	PKP	**PKPdf**	**04 58 51.8**	**-0.2**	
	comp=Z,2.2nm,0.3s,baz=270,slow=12,SNR=5.6							
AKTO	**Aktyubinsk**	**130.18**	**317**	PKP	**PKPdf**	**04 58 55.7**	**+0.3**	
	comp=Z,0.7nm,0.4s,baz=121,slow=6.7,SNR=5.6							
ARCES	**ARCESS Array B**	**132.47**	**349**	PKhKP	PKPpre	04 58 51.0		
	comp=Z,2.3nm,0.9s,baz=77,slow=1.6,SNR=5.7							
ARCES				PKP	**PKPdf**	**04 58 59.2**	**0.0**	
	comp=Z,1.3nm,0.4s,baz=344,slow=1.4,SNR=16							
FINES	**FINESS Array B**	**139.32**	**343**	PKhKP	PKPpre	04 59 05.0		
	comp=Z,3.6nm,0.9s,baz=55,slow=4.2,SNR=7.3							
FINES				PKP	**PKPdf**	**04 59 12.9**	**+0.9**	
	comp=Z,1.4nm,0.5s,baz=41,slow=4.3,SNR=8.5							
NB2	**NORSAR Subarra**	**142.51**	**353**	PKP	**PKPdf**	**04 59 13.7**	**-4.2**	
	comp=Z,0.3nm,0.4s,baz=10,slow=3.2							
NOA	**NORSAR Array A**	**142.51**	**353**	PKhKP	**PKPdf**	**04 59 14.2**	**-3.7**	
	comp=Z,0.5nm,0.4s,baz=20,slow=2.4,SNR=7.1							
SUW	**Suwalki**	**146.36**	**338**	*e*PKP	**PKPdf**	**04 59 24.4**	**-0.3**	
SUW				*e*PKP	**PKPdf**	**04 59 24.4**	**-0.3**	
AKASG	**Malin Array Be**	**146.42**	**329**	PKPbc	**PKPbc**	**04 59 26.3**	**-0.1**	
	comp=Z,6.8nm,0.4s,baz=44,slow=4.2,SNR=52							
SORM	**Soroca**	**148.57**	**326**	↓P	**PKPbc**	**04 59 32.7**	**+0.4**	
BRTR	**Keskin Array B**	**149.72**	**309**	PKPbc	**PKPbc**	**04 59 35.9**	**+0.2**	
	comp=Z,1.7nm,0.4s,baz=147,slow=4.2,SNR=32							
KWP	**Kalwaria Pacla**	**150.06**	**334**	*e*PKP	**PKiKP**	**04 59 36.9**	**0.0**	
KWP				*e*PKP	**PKiKP**	**04 59 36.9**	**0.0**	
TLCR		**150.17**	**322**	↓P	**PKiKP**	**04 59 37.1**	**-0.1**	
JURR	**Jurilovca**	**150.38**	**321**	↑P	**PKPbc**	**04 59 35.7**	**-1.2**	
BURAR	**Bucovina Array**	**150.46**	**329**	↓P	**PKiKP**	**04 59 38.4**	**+0.5**	
TESR	**Tescani**	**150.51**	**326**	↑P	**PKPbc**	**04 59 37.2**	**0.0**	
TOPG	**Topolog**	**150.60**	**321**	↑P	**PKPbc**	**04 59 37.4**	**-0.1**	
KOLS	**Kolonicke sedl**	**150.78**	**333**	*e*PKP	**PKiKP**	**04 59 39.2**	**+0.8**	
TIRR	**Tirgusor**	**150.83**	**321**	↓P	**PKPbc**	**04 59 38.1**	**+0.2**	
HARR	**Harsova**	**150.97**	**322**	↑P	**PKPbc**	**04 59 38.4**	**+0.1**	
MANR	**Mangalia**	**151.10**	**320**	↑P	**PKiKP**	**04 59 39.0**	**-0.1**	
NIE	**Niedzica**	**151.16**	**336**	*e*PKP	**PKiKP**	**04 59 40.0**	**+0.9**	
NIE				*e*PKP	**PKiKP**	**04 59 40.0**	**+0.9**	
KSP	**Ksiaz**	**151.23**	**342**	*e*PKP	**PKiKP**	**04 59 40.0**	**+0.7**	
KSP				*e*PKP	**PKiKP**	**04 59 40.0**	**+0.7**	
OSTC	**Ostas**	**151.51**	**342**	*e*PKP	**PKiKP**	**04 59 40.6**	**+0.7**	
DOPR	**Dopca**	**151.52**	**326**	↑P	**PKiKP**	**04 59 40.8**	**+0.7**	
CHVC	**Chvalec**	**151.53**	**342**	*e*PKP	**PKPbc**	**04 59 38.6**	**-0.9**	
CHVC				*ex*	x	04 59 40.7		
CHVC				*ex*	x	04 59 47.6		
MLR	**Muntele Rosu**	**151.55**	**325**	↓P	**PKPbc**	**04 59 39.7**	**-0.1**	
CLL	**Collm**	**151.61**	**347**	↓P	**PKiKP**	**04 59 40.4**	**+0.4**	
	comp=Z,18nm,1.2s							
CLL				*e*PKPab	**PKPab**	**04 59 48.0**	**-0.3**	
UPC	**Upice**	**151.61**	**342**	*e*PKP	**PKiKP**	**04 59 40.7**	**+0.7**	
DPC	**Dobruska-Polom**	**151.67**	**342**	*e*PKP	**PKiKP**	**04 59 41.0**	**+0.8**	
DPC				*ex*	x	04 59 49.8		
SECR		**151.78**	**324**	↓P	**PKiKP**	**04 59 40.7**	**+0.1**	
PVCC	**Panska Ves**	**151.98**	**344**	*e*PKP	**PKiKP**	**04 59 41.6**	**+0.8**	
PVCC				*e*PKPAB	**PKPab**	**04 59 48.8**	**-1.1**	
VOIR		**152.06**	**325**	↑P	**PKPbc**	**04 59 39.9**	**-1.0**	
ARR	**Arges**	**152.32**	**326**	↑P	**PKiKP**	**04 59 42.6**	**+0.9**	
GOPC	**GO Pecny, Ondr**	**152.49**	**343**	*e*PKPAB	**PKPab**	**04 59 49.2**	**-2.9**	
KHC	**Kasperske Hory**	**153.52**	**344**	*e*PKP	**PKiKP**	**04 59 44.7**	**+0.6**	
KHC				*e*PKPAB	**PKPab**	**04 59 51.9**	**-4.6**	
GERES	**GERESS Array B**	**153.75**	**344**	PKPbc	**PKiKP**	**04 59 45.2**	**+0.5**	
	comp=Z,0.5nm,0.5s,baz=29,slow=3.0,SNR=4.9							
CONA	**Conrad Observa**	**153.96**	**340**	*i* pPKPbc	**PKPab**	**05 00 00.6**	**+2.1**	
	comp=Z,12nm,1.5s							
MOA	**Molln**	**154.51**	**342**	*i* PKPab	**PKPab**	**05 00 01.1**	**+0.4**	
	comp=Z,4.6nm,1.1s							
ARSA	**Arzberg**	**154.67**	**340**	*i* PKPab	**PKPab**	**04 59 57.9**	**-3.5**	
	comp=Z,6.5nm,1.2s							
SOKA	**Soboth**	**155.33**	**340**	*i* pPKPbc	**PKPab**	**05 00 05.4**	**+1.1**	
	comp=Z,10nm,1.3s							
KBA	**Koelnbreinsper**	**155.47**	**343**	*i* pPKiKP	**PKPab**	**05 00 06.7**	**+1.6**	
	comp=Z,3.4nm,0.6s							
RETA	**Reutte**	**155.71**	**347**	*i* PKPab	**PKPab**	**05 00 07.3**	**+1.4**	
	comp=Z,10nm,1.3s							
WTTA	**Wattenberg**	**155.73**	**345**	*i* PKPab	**PKPab**	**05 00 04.5**	**-1.7**	
	comp=Z,4.5nm,0.7s							
MOTA	**Moosalm**	**155.77**	**346**	*i* PKPab	**PKPab**	**05 00 07.5**	**+1.2**	
	comp=Z,8.8nm,1.1s							
MYKA	**Terra Mystica**	**155.79**	**342**	*i* PKPab	**PKPab**	**05 00 06.9**	**+0.6**	
	comp=Z,1.3nm,0.4s							
SQTA	**Sankt Quirin**	**155.86**	**346**	*i* pPKPdf	**PKPab**	**04 59 59.7**	**-6.9**	
	comp=Z,7.3nm,1.0s							
ABTA	**Abfaltersbach**	**156.00**	**344**	*i* PKPab	**PKPab**	**05 00 08.0**	**+0.9**	
	comp=Z,3.2nm,0.6s							
FETA	**Feichten**	**156.16**	**347**	*i* pPKPdf	PKPab	04 59 57.4	-11	
	comp=Z,11nm,2.0s							
TORD	**Torodi Ar. Bea**	**169.18**	**174**	PKP	**PKPdf**	**04 59 52.1**	**-1.4**	
	comp=Z,1.1nm,1.0s,baz=234,slow=1.6,SNR=4.2							
TORD				PKPab	**PKPab**	**05 01 05.4**	**0.0**	

comp=Z,2.2nm,0.9s,baz=194,slow=4.2,SNR=8.0

WEL 19 04:39:58.7±1.1, 32°S±25″×18°0W±6″4, h476km±18km, M4.3/12, mB4.4/3, MLv4.4/12, Mw(mB)3.6/3, Error ellipse: s-maj=0.1km s-min=0.0km az=111.2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.67**	**30**	P	P	04 41 12.4	-0.5
GLKZ				S	S	04 42 14.4	+1.2
MXZ	**Matakaoa Point**	**5.25**	**195**	P	P	04 41 26.9	+0.3
MXZ				S	S	04 42 38.2	-0.2
WMGZ	**Waiomatatini S**	**5.48**	**193**	P	P	04 41 29.0	+0.3
WMGZ				S	S	04 42 43.5	+1.1
HAZ	**Te Kaha**	**5.56**	**199**	P	P	04 41 28.0	-1.6
PKGZ	**Pakihiroa**	**5.62**	**196**	P	P	04 41 31.4	+1.2
PKGZ				S	S	04 42 42.5	-2.4
PUZ	**Puketiti**	**5.75**	**194**	P	P	04 41 32.0	+0.6
RUGZ	**Raukumara Rang**	**5.79**	**199**	P	P	04 41 30.4	-1.5
RUGZ				S	S	04 42 48.8	+0.6
TWGZ	**Tauwhareparae**	**5.92**	**196**	P	P	04 41 33.3	+0.2
CNGZ	**Carnagh Statio**	**6.16**	**193**	P	P	04 41 35.9	+0.5
MWZ	**Matawai**	**6.18**	**198**	P	P	04 41 35.1	-0.5
TKGZ	**Te Karaka**	**6.20**	**196**	P	P	04 41 33.5	-2.3
URZ	**Urewera**	**6.23**	**202**	P	P	04 41 34.4	-1.7
URZ				S	S	04 42 59.1	+3.2
RIGZ	**Rimuhau**	**6.47**	**196**	P	P	04 41 38.3	-0.3
SNGZ	**Shannon Statio**	**6.65**	**198**	P	P	04 41 41.2	+0.9
KNZ	**Kokohu**	**6.79**	**196**	P	P	04 41 42.6	+0.9
RAHZ	**Arahi**	**6.84**	**200**	P	P	04 41 43.4	+1.1
MHGZ	**Mahia Peninsul**	**6.87**	**194**	P	P	04 41 44.6	+2.1
MRHZ	**Matea Rd**	**6.97**	**204**	P	P	04 41 45.3	+1.6
BKZ	**Black Stump Fm**	**7.25**	**202**	P	P	04 41 47.8	+1.2

MEX 19 04:45:04.4±0.8, 14°.66N×92°.05W, h90km±12km, MD3.4
ISCJB 19 04:45:05.4±0.9, 15°.37N±0°.07×91°.85W±0°.05, h10km, Error ellipse: s-maj=10.4km s-min=5.1km az=24.2
GCG 19 04:45:05.0±0.7, 15°.43N×91°.92W, h32km±912km, MD3.4
ISC 19 04:45:03.5±1.2, 15°.47N±0°.08×91°.87W±0°.07, h10km, n6, σ1$33/11, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.68**	**215**	*e*P	**Pg**	**04 45 16.8**	**+0.2**
THIG				*e*S	**Sb**	**04 45 26.2**	**-0.6**
STG3	**Santiaguito 3,**	**0.81**	**159**	*e*P	**Pg**	**04 45 20.5**	**+1.4**
PCIG		**1.32**	**280**	*e*P	**Pg**	**04 45 29.8**	**+0.9**
PCIG				*e*S	**Sg**	**04 45 48.2**	**+2.0**
FUG	**Fuego 3**	**1.42**	**136**	*e*P	**Pn**	**04 45 28.8**	**-0.7**
FUG				*e*S	**Sn**	**04 45 48.3**	**0.0**
IXG	**Ixpaco**	**1.89**	**133**	*e*P	**Pn**	**04 45 36.3**	**+0.3**
IXG				*e*S	**Sn**	**04 45 59.8**	**-0.1**
CMIG	**Matias Romero**	**3.32**	**300**	*e*P	**Pb**	**04 46 00.2**	**-2.3**
CMIG				*i* S	**Sb**	**04 46 44.0**	**+1.1**

IDC 19 05:00:43.6±11.0, 17°.67S×178°.11W, h516km±131km, mb2.7/4, mb1 3.1/4, mb1mx2.8/22, mbtmp3.6/4, Error ellipse: s-maj=116.2km s-min=43.9km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.96**	**259**	P	P	05 08 12.3	-0.3
	0.6nm,1.0s,baz=97,slow=7.6,SNR=6.7						
ASAR	**Alice Springs**	**45.13**	**254**	P	P	05 08 14.1	+0.1
	0.4nm,0.6s,baz=88,slow=8.7,SNR=6.1						
ILAR	**Eielson Array**	**85.60**	**13**	P	P	05 12 26.8	+0.1
	0.3nm,0.4s,baz=218,slow=4.8,SNR=12						
TXAR	**Lajitas Array**	**85.63**	**58**	P	P	05 12 27.7	-0.1
	0.3nm,0.8s,baz=208,slow=5.1,SNR=4.1						
BRTR	**Keskin Array B**	**144.82**	**315**	PKP	PKPdf	05 19 21.7	-0.4
	0.6nm,0.8s,baz=17,slow=1.5,SNR=3.4						
GERES	**GERESS Array B**	**147.46**	**345**	PKPbc	PKPbc	05 19 28.6	-0.9
	0.5nm,0.6s,baz=20,slow=4.3,SNR=4.6						

IDC 19 05:19:16.1±2.0, 3°.74N×127°.54E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/43, mbtmp3.7/4, MS2.9/3, Ms1 2.9/3, ms1mx2.6/39, Error ellipse: s-maj=115.0km s-min=24.2km az=70.0
ISC 19 05:19:23.4±1.7, 3°.5N±0°.2×127°.3E±0°.4, h45km, n9, σ1$78/7, mb3.7/4, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**4.04**	**318**	P	**Pn**	**05 20 20.7**	**-2.0**
SKMP				S	**Sn**	**05 21 10.1**	**+1.4**
KCP	**Kidapawan**	**4.09**	**328**	↑P	**Pn**	**05 20 25.0**	**+1.5**
KAPI	**Kappang**	**11.34**	**222**	LR	LR	05 26 60.0	
	comp=Z,19nm,19.8s,baz=305,slow=40						
GUMO	**Guam**	**20.04**	**59**	LR	LR	05 29 04.6	
	comp=Z,74nm,20.6s,baz=254,slow=30						
FITZ	**Fitzroy Crossi**	**21.55**	**184**	P	**P**	**05 24 10.7**	**+1.7**
	1.0nm,0.4s,baz=3.6,slow=9.5,SNR=12						
LEM	**Lembang**	**22.16**	**242**	LR	LR	05 32 46.0	
	comp=Z,56nm,21.1s,baz=226,slow=36						
WRA	**Warramunga Arr**	**24.33**	**164**	P	**P**	**05 24 36.7**	**-0.4**
	1.8nm,0.5s,baz=341,slow=8.1,SNR=30						
ASAR	**Alice Springs**	**27.79**	**167**	P	**P**	**05 25 08.1**	**-0.3**
	0.5nm,0.5s,baz=348,slow=7.1,SNR=7.0						
MKAR	**Makanchi Array**	**58.04**	**325**	P	**P**	**05 29 10.8**	**-1.1**
	0.4nm,0.5s,baz=122,slow=7.2,SNR=6.9						

IDC 19 05:23:10.7±5.7, 15°.45S×173°.41W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.7/35, mbtmp4.0/3, ML4.3/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/33, Error ellipse: s-maj=308.1km s-min=25.2km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.20**	**46**	Pn	Pn	05 23 47.5	-1.1
	98nm,0.3s,baz=187,slow=1.9,SNR=47						
AFI				Sn	Sn	05 24 07.2	-9.3
	538nm,0.3s,baz=230,slow=23,SNR=31						
AFI				LR	LR	05 24 46.8	
	comp=Z,152nm,18.5s,baz=134,slow=44						
H11S2	**WAKE ISLAND Hy**	**38.99**	**329**	T	T	06 11 24.5	
	baz=146,slow=76,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**39.01**	**329**	T	T	06 11 28.2	
	baz=146,slow=76,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**39.01**	**329**	T	T	06 11 24.9	
	baz=146,slow=76,SNR=6.0						
WRA	**Warramunga Arr**	**49.82**	**257**	P	P	05 32 05.6	-0.4
	0.4nm,0.3s,baz=90,slow=7.0,SNR=11						
ASAR	**Alice Springs**	**50.09**	**252**	P	P	05 32 07.2	-0.7
	1.6nm,0.6s,baz=86,slow=8.1,SNR=27						
BRTR	**Keskin Array B**	**146.18**	**321**	PKPbc	PKPbc	05 42 53.8	+0.2
	0.8nm,0.8s,baz=29,slow=3.3,SNR=5.3						
GERES	**GERESS Array B**	**146.18**	**352**	PKPbc	PKPbc	05 42 52.9	-0.3
	0.6nm,0.7s,baz=353,slow=4.0,SNR=3.1						

NIED 19 05:30:00, 39°.40N×143°.70E, h20km, Mw3.5 Best double couple: M0 2.21000×10^14 NP1:φs 200.00000°, δ41.00000°, λ104.00000°. NP2:φs 3.00000°, δ50.00000°, λ78.00000°.
JMA 19 05:30:33.6±0.1, 39°.38N×143°.74E, h25km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.50**	**278**	P	Pn	05 30 59.4	+0.5
MIYJ				*e*S	Sn	05 31 18.1	+0.4
JTH	**Tanohata**	**1.55**	**292**	P	Pb	05 31 00.7	-0.9
OFUJ	**Ofunato**	**1.64**	**260**	P	Pn	05 31 01.5	+0.7
OFUJ				*e*S	Sn	05 31 22.1	+1.1
JOM	**Ohasama**	**1.90**	**274**	P	Pn	05 31 05.6	+1.2
JOM				*e*S	Sn	05 31 28.8	+1.3
JANG	**Nango**	**1.98**	**301**	P	Pn	05 31 06.1	+0.6
JANG				*e*S	Sn	05 31 30.4	+0.9
JMK	**Ichinoseki**	**2.00**	**258**	P	Pn	05 31 07.0	+1.2
JMK				*e*S	Sn	05 31 31.2	+1.1
JYK	**Kaneyama**	**2.67**	**261**	P	Pn	05 31 16.5	+1.5
JYK				*e*S	Sn	05 31 48.8	+2.3
JNBK	**Urakawa-nobuka**	**2.99**	**346**	P	Pn	05 31 21.7	+2.3
JNBK				*e*S	Sn	05 31 56.7	+2.2
JCH	**Churui**	**3.24**	**355**	P	Pn	05 31 24.7	+1.8
JCH				*e*S	Sn	05 32 01.2	+0.5
JFT	**Otama**	**3.25**	**236**	P	Pn	05 31 24.7	+1.6
JFT				*e*S	Sn	05 32 02.6	+1.6
JAK	**Akkeshi**	**3.68**	**11**	P	Pn	05 31 30.8	+1.9
JAK				*e*S	Sn	05 32 12.2	+0.7
MAT	**Matsushiro**	**5.21**	**239**	P	Pn	05 31 52.6	+2.7
MAT				*e*S	Sn	05 32 49.4	+0.2

ISCJB 19 06:03:47.9±0.9, 2°.61N±0°.07×124°.9E±0°.4, h10km, mb3.8/4, MS3.3/1, Error ellipse: s-maj=52.9km s-min=7.7km az=172.5
IDC 19 06:03:49.2±1.6, 2°.33N×124°.64E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/49, mbtmp3.9/4, MS3.3/2, Ms1 3.3/2, ms1mx2.6/50, Error ellipse: s-maj=181.8km s-min=22.6km az=63.0
ISC 19 06:03:49.8±1.1, 2°.6N±0°.1×125°.0E±0°.4, h10km, n8, σ1$37/7, mb4.0/4, 1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**3.93**	**354**	P	**Pn**	**06 04 49.8**	**-0.4**
SKMP				S	**Sn**	**06 05 34.6**	**-1.8**
KCP	**Kidapawan**	**4.39**	**2**	↓P	Pn	06 04 53.7	-2.9
KCP				S	**Sn**	**06 05 49.5**	**+1.6**
BATI	**Baumata**	**12.78**	**186**	LR	LR	06 11 58.2	
	comp=Z,113nm,20.3s,baz=264,slow=39						
WRA	**Warramunga Arr**	**24.21**	**158**	P	**P**	**06 09 06.6**	**-0.3**
	2.4nm,0.4s,baz=334,slow=11,SNR=13						
ASAR	**Alice Springs**	**27.51**	**162**	P	**P**	**06 09 37.5**	**+0.8**
	0.6nm,0.6s,baz=347,slow=7.0,SNR=14						
STKA	**Stephens Creek**	**37.74**	**157**	P	**P**	**06 11 05.4**	**-0.6**
	2.8nm,0.6s,baz=341,slow=9.1,SNR=8.8						
KLR	**Kul'dur**	**46.83**	**6**	LR	LR	06 35 13.6	
	comp=Z,33nm,18.5s,baz=189,slow=40						
MKAR	**Makanchi Array**	**57.50**	**326**	P	**P**	**06 13 40.2**	**+0.8**
	0.4nm,0.4s,baz=123,slow=8.1,SNR=9.2						

ISCJB 19 06:05:11.8±0.6, 10°.63S±0°.04×116°.47E±0°.04, h38km±7km, mb4.1/8, MS3.1/2, Error ellipse: s-maj=7.5km s-min=5.7km az=29.5
NEIC 19 06:05:14.0±1.6, 10°.64S±0°.07×116°.38E±0°.05, h41km±9km, mb4.4/12
DJA 19 06:05:15.5±0.7, 10°S±6″×11°6E±″, h10km, M4.2/13, mb4.3/4, MLv4.1/13
IDC 19 06:05:16.7±1.1, 10°.34S×116°.34E, h44km±8km, mb3.9/8, mb1 4.0/10, mb1mx3.7/53, mbtmp4.1/10, ML3.5/2, MS3.1/6, Ms1 3.2/6, ms1mx2.9/44, Error ellipse: s-maj=22.4km s-min=18.6km az=48.0
ISC 19 06:05:13.0±0.8, 10°.64S±0°.05×116°.43E±0°.05, h23km±5km, h23km:pP-P, n46, σ2$45/58, mb4.2/10, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWSI	**Taliwang, Sumb**	**1.94**	**13**	P	**Pn**	**06 05 42.0**	**-2.6**
IGBI	**Denpasar**	**2.21**	**325**	P	**Pn**	**06 05 47.0**	**-1.3**
PLAI	**Plampang**	**2.24**	**36**	P	**Pn**	**06 05 46.7**	**-2.0**
DNP	**Denpasar**	**2.29**	**328**	P	**Pn**	**06 05 49.1**	**-0.3**
SRBI	**Singaraja**	**2.81**	**335**	P	**Pn**	**06 05 56.8**	**+0.2**
JAGI	**Jajag, Banyuwa**	**3.12**	**314**	P	**Pn**	**06 05 59.6**	**-1.2**
JAGI	**Jajag, Banyuwa**	**3.12**	**314**		**Pn**	**06 06 00.1**	**-0.7**
JAGI				Sn	**Sn**	**06 06 34.3**	**-3.0**
GMJI	**Gumukmas**	**3.77**	**308**	P	**Pn**	**06 06 09.2**	**-0.6**
PWJI	**Pagerwojo**	**5.26**	**299**	P	**Pn**	**06 06 33

comp=Z,1.3nm,0.8s,baz=103,slow=5.3,SNR=6.6

IDC 19 06:37:12.7±4.3, 54.75N×88.39E, h0km, mb1 3.3/3, mb1mx3.1/39, mbtmp3.3/3, ML2.5/3, Error ellipse: s-maj=44.4km s-min=27.7km az=18.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**2.24**	**251**	Pn	Pn	06 37 51.0	+0.1
	2.4nm,0.3s,baz=64,slow=15,SNR=14						
ZALV				Lg	Lg	06 38 23.5	
	4.8nm,0.3s,baz=68,slow=28,SNR=19						
KURBB	**Kurchatov Arra**	**7.27**	**239**	Pn	Pn	06 39 00.1	+0.1
	0.1nm,0.3s,baz=52,slow=14,SNR=2.9						
MKAR	**Makanchi Array**	**8.85**	**208**	Pn	Pn	06 39 22.3	+0.6
	0.1nm,0.3s,baz=24,slow=14,SNR=4.3						
I34MN	**SONGINO INFRAS**	**13.23**	**114**	*i*		07 55 10.0	
	baz=311,slow=337,SNR=1.5						

WEL 19 06:57:13.8±1.4, 34.5S±8.1×17.9E±1.5, h33km, M4.3/14, mB4.8/2, ML4.4/13, MLv4.3/14, Mw(mB)4.0/2, Error ellipse: s-maj=0.0km s-min=0.0km az=86.4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.90**	**194**	P	Pn	06 58 10.3	-1.0
WMGZ	**Waiomatatini S**	**4.13**	**192**	P	Pn	06 58 14.5	+0.1
WMGZ				S	Sn	06 59 03.4	+1.8
GRZ	**Great Barrier**	**4.13**	**232**	P	Pn	06 58 15.8	+1.3
HAZ	**Te Kaha**	**4.21**	**199**	P	Pn	06 58 17.0	+1.5
PKGZ	**Pakihiroa**	**4.26**	**195**	P	Pn	06 58 16.5	+0.1
PKGZ				S	Sn	06 59 04.9	0.0
KUZ	**Kuaotunu**	**4.28**	**225**	P	Pn	06 58 16.5	0.0
PUZ	**Puketiti**	**4.40**	**193**	P	Pn	06 58 13.5	-4.8
RUGZ	**Raukumara Rang**	**4.43**	**199**	P	Pn	06 58 18.9	+0.1
WCZ	**Waipu Caves**	**4.75**	**242**	P	Pn	06 58 22.6	-0.4
MWZ	**Matawai**	**4.82**	**199**	P	Pn	06 58 23.8	-0.2
MWZ				S	Sn	06 59 21.1	+2.4
TKGZ	**Te Karaka**	**4.84**	**195**	P	Pn	06 58 24.4	+0.1
URZ	**Urewera**	**4.87**	**203**	P	Pn	06 58 24.4	-0.3
URZ				S	Sn	06 59 18.4	-1.5
RAGZ	**Rawiri**	**5.00**	**199**	P	Pn	06 58 26.1	-0.5
TOZ	**Tahuroa Road**	**5.11**	**218**	P	Pn	06 58 33.2	+5.3
RIGZ	**Rimuhau**	**5.11**	**195**	P	Pn	06 58 26.7	-1.3
MUGZ	**Murupara**	**5.18**	**204**	P	Pn	06 58 30.0	+1.0
RTZ	**Ruatahuna**	**5.24**	**202**	P	Pn	06 58 29.2	-0.6
SNGZ	**Shannon Statio**	**5.29**	**199**	P	Pn	06 58 30.8	+0.3
RAHZ	**Arahi**	**5.48**	**200**	P	Pn	06 58 33.3	+0.1
KWHZ	**Kaweka Forest**	**6.15**	**203**	P	Pn	06 58 41.7	-0.7

NNC 19 07:07:57.1±0.5, 50.00N×78.69E, h0km, mb3.5, mpv3.1, 13C-10D, Error ellipse: s-maj=5.1km s-min=2.4km az=65.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.59**	**349**	⇓P	Pg	07 08 08.8	+0.3
KUR07				⇓S	Sg	07 08 17.8	+1.6
KUR06	**Kurchatov Arra**	**0.61**	**350**	⇑P	Pg	07 08 09.0	+0.1
KUR06				⇓S	Sg	07 08 18.1	+1.3
KUR14	**Kurchatov Arra**	**0.62**	**354**	⇓P	Pg	07 08 08.9	0.0
KUR14				⇓S	Sg	07 08 17.9	+0.9
KUR15	**Kurchatov Arra**	**0.62**	**353**	⇑P	Pg	07 08 09.2	+0.1
KUR15				⇑S	Sg	07 08 18.5	+1.3
KURBB	**Kurchatov Arra**	**0.63**	**351**	⇑P	Pg	07 08 09.4	+0.2
	22nm,0.3s						
KURBB				⇑S	Sg	07 08 18.4	+1.0
	57nm,0.4s						
KUR16	**Kurchatov Arra**	**0.64**	**349**	⇓P	Pg	07 08 09.6	+0.2
KUR16				⇓S	Sg	07 08 18.9	+1.2
KUR17	**Kurchatov Arra**	**0.65**	**348**	⇑P	Pg	07 08 09.8	+0.3
KUR17				⇓S	Sb	07 08 19.4	-1.5
KUR05	**Kurchatov Arra**	**0.65**	**351**	⇑P	Pg	07 08 09.7	+0.1
KUR05				⇓S	Sg	07 08 18.5	+0.5
KUR04	**Kurchatov Arra**	**0.67**	**352**	⇑P	Pg	07 08 10.1	+0.2
KUR04				⇑S	Sg	07 08 19.3	+0.7
KURK	**Kurchatov**	**0.72**	**357**	⇑P	Pg	07 08 10.7	-0.2
	8.8nm,0.3s						
KURK				⇑S	Sg	07 08 20.8	+0.6
	40nm,0.6s						
SEM	**Semipalatinsk**	**1.08**	**67**	P	Pg	07 08 17.5	-0.4
	4.9nm,0.4s						
SEM				S	Sg	07 08 32.7	+0.8
	87nm,0.4s						
MAKZ	**Makanchi**	**3.87**	**144**	⇓Lg	Lg	07 09 56.9	
	4.0nm,0.5s						
MK31	**Makanchi Array**	**4.01**	**142**	Pn	Pn	07 09 01.6	+1.9
	0.1nm,0.1s,baz=322,slow=9.9,SNR=20						
MK31				⇑Pg	Pb	07 09 11.2	+2.6
	0.6nm,0.3s,baz=308,slow=14,SNR=9.3						
MK31				⇑Lg	Lg	07 10 03.0	
	2.6nm,0.3s,baz=334,slow=27,SNR=10						
KAPS	**Kapalarasan**	**4.74**	**174**	Pg	Pb	07 09 22.6	+1.5
	1.4nm,0.4s						
KAPS				Lg	Lg	07 10 25.0	
	9.1nm,0.6s						
ZSN	**Zaisan**	**4.82**	**120**	Pg	Pb	07 09 23.7	+1.2
	4.3nm,0.3s						
ZSN				Lg	Lg	07 10 28.4	
	14nm,0.5s						
ARXS	**Arharly**	**5.82**	**186**	Pg	Pb	07 09 43.9	+4.4
	1.4nm,0.4s						
ARXS				Lg	Lg	07 11 01.1	
	7.5nm,0.5s						
KTBS	**Karatobe**	**6.44**	**193**	Pg	Pg	07 09 56.1	-4.4
	1.3nm,0.6s						
KTBS				Lg	Lg	07 11 22.5	
	13nm,0.6s						
DGS	**Degeres**	**7.05**	**198**	Pg	Pb	07 10 04.8	+4.2
	2.5nm,0.4s						
DGS				Lg	Lg	07 11 37.1	
	6.3nm,0.7s						

*SJA **19** 07:10:09.4±0.7, 20.87S×69.53W, h95km±8km, ML3.2, MW3.5*
*GUC **19** 07:10:09.3±0.6, 20.75S×69.33W, h83km±3km, ML3.2*
*ISCJB **19** 07:10:10.4±0.7, 20.76S±0.02×69.41W±0.06, h84km±9km, Error ellipse: s-maj=9.9km s-min=3.6km az=2.5*
ISC 19 07:10:11.5±1.4, 20.77S±0.03×69.42W±0.06, h70km±14km, n24, σ0=99/40, 10C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.67**	**21**	*e*P	**Pn**	**07 10 25.4**	**-1.1**
PB08				*e*S	**Sn**	**07 10 37.8**	**+0.3**
PB08				IAML		07 10 39.2	
	comp=E,571nm,0.3s						
TA01	**Diego Aracena**	**0.74**	**286**	⇑*i*P	**Pn**	**07 10 27.2**	**+0.3**
TA01				*e*S	**Sn**	**07 10 39.7**	**+1.4**
TA01				IAML		07 10 42.0	
	comp=E,520nm,0.4s						
PB11	**IPOC Station P**	**1.03**	**347**	*i* P	**Pn**	**07 10 29.9**	**-0.7**
PB11				*e*S	**Sn**	**07 10 44.7**	**0.0**
PB11				IAML		07 10 46.3	
	comp=N,1μm,0.4s						
PB09	**IPOC Station P**	**1.03**	**171**	*e*P	**Pn**	**07 10 29.9**	**-0.7**
PB09				*e*S	**Sn**	**07 10 45.3**	**+0.5**
PB09				IAML		07 10 47.4	
	comp=E,926nm,0.2s						
PB09	**IPOC Station P**	**1.03**	**171**	*i* P	**Pn**	**07 10 29.9**	**-0.7**
PB09				*i* S	**Sn**	**07 10 45.6**	**+0.8**
PB09				IAML		07 10 46.9	
	comp=Z,1μm,0.4s						
PB07	**IPOC Station P**	**1.05**	**205**	⇑*i*P	**Pn**	**07 10 30.3**	**-0.5**
PB07				*e*S	**Sn**	**07 10 46.5**	**+1.4**
PB07				IAML		07 10 47.1	
	comp=N,1μm,0.3s						
GO01	**Chusmiza**	**1.12**	**11**	⇓*e*P	**Pn**	**07 10 30.7**	**-1.3**
GO01				*e*S	**Sn**	**07 10 46.9**	**-0.2**
GO01				IAML		07 10 49.6	
	comp=E,1μm,0.3s						
PB03	**IPOC Station P**	**1.31**	**194**	⇑*i*P	**Pn**	**07 10 33.2**	**-0.9**
PB03				*e*S	**Sn**	**07 10 51.9**	**+0.8**
PB03				IAML		07 10 56.2	
	comp=E,528nm,0.3s						
PSGC	**Pisagua**	**1.34**	**330**	⇑*i*P	**Pn**	**07 10 33.7**	**-0.8**
PSGC				*e*S	**Sn**	**07 10 52.0**	**+0.2**
PSGC				IAML		07 10 55.0	
	comp=N,362nm,0.2s						
MNMC	**Minye Minye**	**1.64**	**354**	⇑*i*P	**Pn**	**07 10 37.6**	**-1.0**
MNMC				*e*S	**Sn**	**07 10 59.0**	**0.0**
MNMC				IAML		07 11 08.1	
	comp=E,368nm,0.3s						
PB04	**IPOC Station P**	**1.70**	**204**	⇑*i*P	**Pn**	**07 10 38.9**	**-0.3**
PB04				*e*S	**Sn**	**07 11 01.6**	**+1.3**
PB04				IAML		07 11 05.0	
	comp=N,334nm,0.4s						
PB04	**IPOC Station P**	**1.70**	**204**	*i* P	**Pn**	**07 10 37.8**	**-1.5**
LVC	**Limon Verde**	**1.89**	**166**	⇑*i*P	**Pn**	**07 10 41.2**	**-0.8**
LVC				*e*S	**Sn**	**07 11 05.2**	**+0.1**
LVC	**Limon Verde**	**1.89**	**166**	*i* P	**Pn**	**07 10 41.0**	**-1.0**
PB06	**IPOC Station P**	**1.93**	**184**	⇑*i*P	**Pn**	**07 10 41.6**	**-0.7**
PB06				*e*S	**Sn**	**07 11 06.2**	**+0.4**
PB06				IAML		07 11 09.6	
	comp=N,303nm,0.2s						
PB06	**IPOC Station P**	**1.93**	**184**	*i* P	**Pn**	**07 10 40.9**	**-1.5**
PB06				IAML		07 11 13.5	
	comp=Z,239nm,0.3s						
PB05	**IPOC Station P**	**2.20**	**199**	⇑*i*P	**Pn**	**07 10 45.2**	**-0.7**
PB05				*e*S	**Sn**	**07 11 13.4**	**+1.2**
PB05				IAML		07 11 21.9	
	comp=N,165nm,0.5s						
PB05	**IPOC Station P**	**2.20**	**199**	*i* P	**Pn**	**07 10 44.2**	**-1.7**
PB05				IAML		07 11 18.0	
	comp=Z,127nm,0.4s						
PB16	**IPOC Station P**	**2.42**	**358**	*e*P	**Pn**	**07 10 49.1**	**-0.3**
PB16				*e*S	**Sn**	**07 11 18.9**	**+0.5**
PB15	**IPOC Station P**	**2.43**	**181**	⇑*i*P	**Pn**	**07 10 48.6**	**-0.5**
PB15				*e*S	**Sn**	**07 11 18.3**	**+0.4**
PB15	**IPOC Station P**	**2.43**	**181**	*i* P	**Pn**	**07 10 48.3**	**-0.8**
PB10	**IPOC Station P**	**2.93**	**201**	*i* P	**Pn**	**07 10 53.4**	**-2.3**
PB10				IAML		07 11 46.2	
	comp=Z,38nm,0.5s						
HJA	**Humahuaca**	**4.44**	**124**	*i* P	**Pn**	**07 11 17.3**	**+0.7**
LPAZ	**La Paz**	**4.62**	**15**	*i* P	**Pn**	**07 11 20.8**	**+1.4**

TEH 19 07:14:11.0, 28.19N×51.75E, h16km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LMD1	**Lamerd**	**1.51**	**124**	*e*Pn	Pb	07 14 38.5	-0.2
LMD1				IAMB	IAmb	07 15 14.4	
	comp=Z,0.0nm,0.6s						
IKAZ	**Kazeroun**	**1.58**	**3**	*e*Pn	Pb	07 14 39.8	-0.3
IKAZ				IAMB	IAmb	07 15 12.5	
	comp=Z,8μm,0.9s						
SHI	**Shiraz**	**1.59**	**25**	*e*Pg	Pb	07 14 40.7	+0.6
SHI				*e*Sg	Sg	07 15 03.4	+1.1
JHRM	**Jahrom**	**1.64**	**79**	*e*Pn	Pb	07 14 41.6	+0.7
JHRM				IAMB	IAmb	07 15 17.3	
	comp=Z,0.0nm,0.6s						
KLNJ	**Kolanjah**	**2.81**	**357**	*e*Pn	Pn	07 14 56.5	+0.9
IRAM	**Ramesheh**	**3.64**	**8**	*e*Pn	Pn	07 15 08.0	+1.0
IMEH	**Mehriz**	**4.04**	**37**	*e*Pn	Pn	07 15 16.1	+3.7
JHBN	**Jahan bin**	**4.13**	**347**	*e*Pn	Pn	07 15 16.9	+3.1
KHGB	**Koh Gabri**	**4.66**	**61**	*e*Pn	Pn	07 15 23.2	+2.2
IZEF	**Zefreh**	**4.71**	**6**	*e*Pn	Pn	07 15 22.8	+1.1
TVBK	**TV Kerman**	**4.73**	**67**	*e*Pn	Pn	07 15 23.4	+1.4
TVBK				IAMB	IAmb	07 15 27.4	
	comp=Z,0.0nm,0.5s						
IBAF	**Bafgh**	**4.74**	**43**	*e*Pn	Pn	07 15 24.4	+2.5
TPRV	**Parvadeh(Tabas**	**6.42**	**40**	*e*Pn	Pn	07 15 47.2	+2.1

*NEIC **19** 07:20:02.6±1.6, 61.15N±0.01×140.03W±0.02, h1km±7km*
*AEIC **19** 07:20:02.5±2.0, 61.16N±0.01×140.04W±0.02, h1km±6km*
*PGC **19** 07:20:03.3, 61.15N×140.00W, h1km, ML2.6/12, 140km west of Haines Jct., Yt Southern Yukon Territory, Canada*
ISC 19 07:20:02.2±1.1, 61.15N±0.01×140.00W±0.01, h4km±9km, n107, σ1s17/173, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK3	**Moose Creek**	**0.66**	**341**	P	**Pg**	**07 20 15.1**	**+0.1**
YUK3				S	**Sg**	**07 20 24.1**	**+0.6**
YUK3	**Moose Creek**	**0.66**	**341**		**Pg**	**07 20 15.0**	**+0.1**
YUK3					**Sg**	**07 20 24.3**	**+0.8**
YUK3	**Moose Creek**	**0.66**	**341**		**Pg**	**07 20 15.1**	**+0.1**
YUK3					**Sg**	**07 20 24.1**	**+0.6**
CTGM	**Chitina Glacie**	**0.68**	**254**	P	**Pg**	**07 20 15.2**	**+0.1**
CTGM				S	**Sg**	**07 20 24.2**	**+0.3**
CTGM	**Chitina Glacie**	**0.68**	**254**		**Pg**	**07 20 15.3**	**+0.1**
CTGM					**Sg**	**07 20 24.4**	**+0.5**
YUK4	**Talbot Arm**	**0.68**	**73**	P	**Pb**	**07 20 16.9**	**+0.1**
YUK4				S	**Sb**	**07 20 27.0**	**+0.3**
YUK4	**Talbot Arm**	**0.68**	**73**		**Pb**	**07 20 16.9**	**+0.1**
YUK4					**Sb**	**07 20 27.0**	**+0.3**
YUK2	**White River**	**0.75**	**328**	P	**Pg**	**07 20 16.6**	**0.0**
YUK2				S	**Sg**	**07 20 25.6**	**-0.8**
YUK2	**White River**	**0.75**	**328**		**Pg**	**07 20 16.6**	**0.0**
YUK2					**Sg**	**07 20 27.3**	**+0.9**
YUK2	**White River**	**0.75**	**328**		**Pg**	**07 20 16.6**	**0.0**
YUK2					**Sg**	**07 20 25.6**	**-0.8**
BARN	**Barnard Glacie**	**0.81**	**264**		**Pg**	**07 20 17.5**	**-0.2**
BARN				Sg	**Sg**	**07 20 28.6**	**+0.3**
YUK6	**Outpost Mounta**	**0.82**	**104**	P	**Pg**	**07 20 18.1**	**+0.1**
YUK6				S	**Sg**	**07 20 28.5**	**-0.2**
YUK6	**Outpost Mounta**	**0.82**	**104**		**Pg**	**07 20 18.1**	**+0.1**
YUK6					**Sg**	**07 20 29.8**	**+1.2**
YUK6	**Outpost Mounta**	**0.82**	**104**		**Pg**	**07 20 18.1**	**+0.1**
YUK6					**Sg**	**07 20 28.5**	**-0.2**
GRNC	**Granite Creek**	**0.95**	**244**	P	**Pg**	**07 20 20.0**	**-0.5**
GRNC				S	**Sg**	**07 20 33.0**	**+0.2**
GRNC	**Granite Creek**	**0.95**	**244**		**Pg**	**07 20 20.1**	**-0.4**
GRNC					**Sg**	**07 20 33.0**	**+0.2**
GRNC	**Granite Creek**	**0.95**	**244**		**Pg**	**07 20 20.0**	**-0.5**
GRNC					**Sg**	**07 20 33.0**	**+0.2**
YUK1	**Sand Pete Hill**	**1.03**	**346**	P	**Pg**	**07 20 21.6**	**-0.4**
YUK1				S	**Sg**	**07 20 35.7**	**+0.3**
YUK1	**Sand Pete Hill**	**1.03**	**346**		**Pg**	**07 20 21.9**	**-0.1**
YUK1	**Sand Pete Hill**	**1.03**	**346**		**Pg**	**07 20 21.6**	**-0.4**
YUK1					**Sg**	**07 20 35.7**	**+0.3**
YUK5	**Granite Creek**	**1.04**	**90**	P	**Pg**	**07 20 21.9**	**-0.2**
YUK5				S	**Sg**	**07 20 35.4**	**-0.2**
YUK5	**Granite Creek**	**1.04**	**90**		**Pg**	**07 20 21.9**	**-0.2**
YUK5	**Granite Creek**	**1.04**	**90**		**Pg**	**07 20 21.9**	**-0.2**
YUK5					**Sg**	**07 20 35.4**	**-0.2**
PCA	**Pinnacle**	**1.07**	**187**		**Pb**	**07 20 23.3**	**0.0**
PCA				Sg	**Sn**	**07 20 38.2**	**-1.2**
RKAV	**Rock Avalanche**	**1.08**	**218**	P	**Pg**	**07 20 22.2**	**-0.7**
RKAV				S	**Sg**	**07 20 36.0**	**-0.9**
RKAV	**Rock Avalanche**	**1.08**	**218**		**Pg**	**07 20 22.2**	**-0.7**
RKAV					**Sg**	**07 20 36.6**	**-0.4**
RKAV	**Rock Avalanche**	**1.08**	**218**		**Pg**	**07 20 22.2**	**-0.7**
RKAV					**Sg**	**07 20 36.0**	**-0.9**
SAMH	**Samovar Hills**	**1.10**	**201**	P	**Pg**	**07 20 23.2**	**0.0**
SAMH				S	**Sg**	**07 20 37.5**	**+0.1**
SAMH	**Samovar Hills**	**1.10**	**201**		**Pb**	**07 20 23.8**	**-0.1**
SAMH	**Samovar Hills**	**1.10**	**201**		**Pg**	**07 20 23.2**	**0.0**
SAMH					**Sg**	**07 20 37.5**	**+0.1**
YUK7	**Dusty Glacier**	**1.10**	**124**	P	**Pg**	**07 20 23.2**	**-0.2**
YUK7				S	**Sg**	**07 20 37.8**	**+0.2**
YUK7	**Dusty Glacier**	**1.10**	**124**		**Pg**	**07 20 23.1**	**-0.2**
BALM	**Baldy**	**1.15**	**265**	P	**Pb**	**07 20 23.5**	**-1.2**
BALM				S	**Sg**	**07 20 38.0**	**+0.1**
BALM	**Baldy**	**1.15**	**265**		**Pb**	**07 20 23.7**	**-0.9**
BALM				Sg	**Sb**	**07 20 39.6**	**-0.3**
YAH	**Yahtse**	**1.17**	**228**		**Pb**	**07 20 24.2**	**-0.8**
YAH					**Sb**	**07 20 40.0**	**-0.6**
KIAG	**Kiagna River**	**1.17**	**260**	P	**Pb**	**07 20 23.7**	**-1.5**
KIAG				S	**Sg**	**07 20 39.6**	**-0.1**
KIAG	**Kiagna River**	**1.17**	**260**		**Pb**	**07 20 23.6**	**-1.5**
KIAG	**Kiagna River**	**1.17**	**260**		**Pb**	**07 20 23.7**	**-1.5**
KIAG					**Sg**	**07 20 39.6**	**-0.1**
PTPK	**Patty Peak**	**1.20**	**273**	P	**Pb**	**07 20 24.6**	**-1.0**
PTPK				S	**Sn**	**07 20 41.2**	**-1.5**
PTPK	**Patty Peak**	**1.20**	**273**		**Pb**	**07 20 24.8**	**-0.8**
PTPK	**Patty Peak**	**1.20**	**273**		**Pb**	**07 20 24.6**	**-1.0**
PTPK					**Sn**	**07 20 41.2**	**-1.5**
BCPM	**Bancas Point**	**1.22**	**171**		**Pn**	**07 20 25.3**	**-0.7**
BCPM				Sg	**Sb**	**07 20 41.6**	**-0.3**
CHX	**Chaix Hills**	**1.23**	**207**		**Pb**	**07 20 25.8**	**-0.2**
HYT	**Haines Junctio**	**1.26**	**104**	P	**Pn**	**07 20 25.4**	**-1.4**
HYT				S	**Sb**	**07 20 42.1**	**-1.2**
HYT	**Haines Junctio**	**1.26**	**104**		**Pn**	**07 20 25.6**	**-1.1**
HYT				Sg	**Sb**	**07 20 43.3**	**0.0**
HYT	**Haines Junctio**	**1.26**	**104**		**Pn**	**07 20 25.4**	**-1.4**
HYT					**Sb**	**07 20 42.1**	**-1.2**
BVCY	**Beaver Creek**	**1.33**	**342**	P	**Pn**	**07 20 27.0**	**-0.6**
BVCY				S	**Sg**	**07 20 45.1**	**+0.2**
BVCY	**Beaver Creek**	**1.33**	**342**		**Pn**	**07 20 27.1**	**-0.6**
BVCY	**Beaver Creek**	**1.33**	**342**		**Pn**	**07 20 27.0**	**-0.6**
BVCY					**Sg**	**07 20 45.1**	**+0.2**
MESA	**MESA**	**1.37**	**225**	Pn	**Pg**	**07 20 28.7**	**+0.3**
MESA				Sg	**Sg**	**07 20 47.4**	**+1.2**
MESA	**MESA**	**1.37**	**225**	Pn	**Pg**	**07 20 29.0**	**+0.5**
MESA				Sn	**Sg**	**07 20 47.5**	**+1.3**
MESA	**MESA**	**1.37**	**225**	Pn	**Pg**	**07 20 28.7**	**+0.3**
MESA				Sg	**Sg**	**07 20 47.4**	**+1.2**
TGL	**Tana Glacier**	**1.44**	**255**		**Pn**	**07 20 28.2**	**-0.9**
TGL	**Tana Glacier**	**1.44**	**255**	Sn	**Sb**	**07 20 47.8**	**-0.5**
MCARA	**McCarthy VSAT**	**1.48**	**280**		**Pb**	**07 20 30.0**	**-0.3**
MCARA					**Sg**	**07 20 51.0**	**+1.4**
PNL	**Peninsula**	**1.52**	**168**	Pn	**Pb**	**07 20 30.8**	**-0.1**
PNL				Sg	**Sb**	**07 20 50.8**	**+0.2**
PNL	**Peninsula**	**1.52**	**168**	Pn	**Pb**	**07 20 30.8**	**-0.1**
PNL				Sg	**Sb**	**07 20 50.8**	**+0.2**
WAX	**Waxell Ridge**	**1.57**	**244**	Pn	**Pb**	**07 20 31.1**	**-0.7**
WAX				Sn	**Sg**	**07 20 52.8**	**+0.3**
CRQM	**Cirque**	**1.58**	**257**		**Pn**	**07 20 30.3**	**-1.0**
CRQM				Sn	**Sn**	**07 20 50.9**	**-1.4**
KULT	**Kultieth River**	**1.62**	**237**		**Pb**	**07 20 32.8**	**+0.1**
YKU2	**Yakutat**	**1.66**	**174**	Pn	**Pb**	**07 20 33.0**	**-0.2**
VRDI	**Verde Repeater**	**1.67**	**274**		**Pb**	**07 20 33.0**	**-0.7**
KHIT	**Khitrov Hills**	**1.75**	**247**		**Pb**	**07 20 33.9**	**-1.0**
GRIN	**Grindle Hills**	**1.85**	**243**		**Pb**	**07 20 35.9**	**-0.7**
GLB	**Gilahina Butte**	**1.86**	**281**		**Pb**	**07 20 36.6**	**-0.2**
GLB				Sn	**Sb**	**07 21 00.7**	**+0.2**
BC03		**2.09**	**337**		**Pn**	**07 20 38.4**	**-0.4**
NICHA	**Nichawak Mount**	**2.16**	**246**		**Pn**	**07 20 39.8**	**+0.8**
DHAK	**Deception Hill**	**2.25**	**156**	Pn	**Pn**	**07 20 40.6**	**+0.3**
DHAK				Sn	**Sb**	**07 21 09.9**	**-1.9**
GOAT	**Goat Mountain**	**2.38**	**258**		**Pn**	**07 20 43.3**	**+1.2**
PLBC	**Pleasant Camp**	**2.48**	**132**	Pg	**Pb**	**07 20 47.6**	**+0.2**
PLBC				Sg	**Sb**	**07 21 20.3**	**+2.0**
PLBC	**Pleasant Camp**	**2.48**	**132**		**Pb**	**07 20 46.5**	**-0.8**
PLBC	**Pleasant Camp**	**2.48**	**132**	Pg	**Pb**	**07 20 47.6**	**+0.2**
PLBC				Sg	**Sb**	**07 21 20.3**	**+2.0**
MENT	**Mentasta**	**2.50**	**317**		**Pn**	**07 20 44.8**	**+1.0**
MENT				Sn	**Sn**	**07 21 15.1**	**+0.3**
WHY	**Whitehorse**	**2.55**	**99**	Pn	**Pn**	**07 20 45.2**	**+0.7**
WHY				Sg	**Sb**	**07 21 21.3**	**+1.0**
WHY	**Whitehorse**	**2.55**	**99**		**Pn**	**07 20 44.9**	**+0.4**
WHY				Sn	**Sn**	**07 21 16.9**	**+0.9**
WHY	**Whitehorse**	**2.55**	**99**	Pn	**Pn**	**07 20 45.2**	**+0.7**
WHY				Sg	**Sb**	**07 21 21.1**	**+1.0**
EYAK	**Cordova Ski Ar**	**2.88**	**260**	Pn	**Pn**	**07 20 49.4**	**+0.6**
EYAK				Sn	**Sn**	**07 21 23.8**	**-0.1**
SKAG	**Skagway**	**2.88**	**124**	Pn	**Pn**	**07 20 50.9**	**+2.0**
SKAG				Sn	**Sn**	**07 21 24.6**	**+0.7**
DAWY	**Dawson**	**2.94**	**5**	Pn	**Pn**	**07 20 50.4**	**+0.7**
DAWY				Sg	**Sg**	**07 21 34.7**	**-1.7**
DAWY	**Dawson**	**2.94**	**5**		**Pn**	**07 20 49.0**	**-0.7**
DOT	**Dot Lake**	**3.14**	**325**	Pn	**Pn**	**07 20 53.2**	**+0.8**
DOT				Sg	**Sg**	**07 21 39.9**	**-3.0**
DOT	**Dot Lake**	**3.14**	**325**		**Pn**	**07 20 52.8**	**+0.4**
DOT				Sn	**Sn**	**07 21 31.1**	**+0.7**
PAX	**Paxson**	**3.15**	**308**	Pg	**Pb**	**07 20 57.7**	**-1.1**
SCRK	**Sand Creek**	**3.38**	**329**		**Pn**	**07 20 56.4**	**+0.6**
SCM	**Sheep Creek Mo**	**3.58**	**284**	Pn	**Pn**	**07 21 00.7**	**+2.1**
EGAK	**Eagle**	**3.68**	**352**		**Pn**	**07 21 01.5**	**+1.8**
EGAK				Sn	**Sn**	**07 21 43.3**	**-0.3**
SML	**Sawmill**	**4.05**	**283**	Pn	**Pn**	**07 21 07.9**	**+2.9**
JIS	**Juneau Island**	**4.05**	**133**	Pn	**Pn**	**07 21 06.4**	**+1.5**
KNK	**Knik Glacier**	**4.09**	**277**	Pn	**Pn**	**07 21 09.2**	**+3.6**
GHO	**Glory Hole Cre**	**4.33**	**282**	Pn	**Pn**	**07 21 12.1**	**+3.3**
PMR	**Palmer**	**4.42**	**280**	Pn	**Pn**	**07 21 10.9**	**+0.9**
HDA	**Harding Lake**	**4.56**	**319**	Pn	**Pn**	**07 21 12.9**	**+0.9**
RND	**Reindeer**	**4.71**	**303**	Pn	**Pn**	**07 21 17.9**	**+3.8**
RC01	**Rabbit Creek A**	**4.72**	**273**	Pn	**Pn**	**07 21 15.7**	**+1.6**
RC01				Sn	**Sn**	**07 22 09.5**	**+0.2**

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.19**	**141**	*e*Sg	**Sg**	**07 58 10.9**	**-2.0**
IHRS				*e*Pg	**Pg**	**07 58 07.8**	**-2.2**
IHRS	**Heris**	**0.19**	**141**	Pg	**Pg**	**07 58 07.9**	**-2.1**
IHRS				Sg	**Sg**	**07 58 10.9**	**-2.0**
ITBZ	**Tabriz**	**0.63**	**248**	*e*Pg	**Pg**	**07 58 15.6**	**-2.3**
ITBZ	**Tabriz**	**0.63**	**248**	Pg	**Pg**	**07 58 15.7**	**-2.2**
ORD	**Ordubad** SNR=454	**0.83**	**304**	P	**Pg**	**07 58 19.7**	**-2.1**
ORD				S	**Sb**	**07 58 32.2**	**-1.5**
GRMI	**Germi**	**0.86**	**66**	*e*Pg	**Pg**	**07 58 20.6**	**-1.7**
GRMI	**Germi** comp=N,2μm,0.2s	**0.86**	**66**	*e*AML	AML	07 58 35.8	
GRMI				*e*AML	AML	07 58 36.8	
GRMI	**Germi** comp=E,2μm,0.3s	**0.86**	**66**	*e*Pg	**Pg**	**07 58 20.6**	**-1.7**
GRMI	**Germi**	**0.86**	**66**	Pg	**Pg**	**07 58 20.0**	**-2.3**
ISRB	**Sarab**	**0.89**	**136**	*e*Pg	**Pg**	**07 58 19.9**	**-3.0**
ISRB	comp=Z,60μm,0.2s			IAMB	IAmb	07 58 35.1	
ISRB	**Sarab**	**0.89**	**136**	Pg	**Pg**	**07 58 20.0**	**-3.0**
IMRD	**Marand**	**0.96**	**285**	*e*Pg	**Pg**	**07 58 21.8**	**-2.4**
IMRD	comp=Z,19μm,0.4s			IAMB	IAmb	07 58 39.9	
IMRD	**Marand**	**0.96**	**285**	Pg	**Pg**	**07 58 21.9**	**-2.3**
QRD	**Qoradiz**	**1.05**	**19**	*e*Pg	**Pn**	**07 58 25.3**	**-1.2**
QRD	**Qoradiz** SNR=21	**1.05**	**19**	P	**Pn**	**07 58 25.4**	**-1.2**
QRD				S	**Sn**	**07 58 41.2**	**0.0**
YRD	**Yardimli**	**1.15**	**67**	*e*Pg	**Pb**	**07 58 26.1**	**-1.7**
YRD	**Yardimli** SNR=198	**1.15**	**67**	P	**Pb**	**07 58 26.2**	**-1.7**
YRD				S	**Sn**	**07 58 42.9**	**-1.1**
LRK	**Lerik**	**1.15**	**81**	*e*Pg	**Pb**	**07 58 26.2**	**-1.7**
LRK	**Lerik** SNR=100	**1.15**	**81**	P	**Pb**	**07 58 26.2**	**-1.7**
LRK				S	**Sb**	**07 58 42.8**	**-0.2**
NAX	**Nakhchivan** SNR=91	**1.29**	**303**	P	**Pn**	**07 58 28.2**	**-1.7**
NAX				S	**Sn**	**07 58 46.9**	**-0.5**
BLQ	**Beylaqan**	**1.36**	**23**	*e*Pg	**Pg**	**07 58 30.9**	**-0.8**
BLQ	**Beylaqan** SNR=45	**1.36**	**23**	P	**Pg**	**07 58 31.0**	**-0.8**
BLQ				S	**Sg**	**07 58 51.2**	**+1.8**
SBZ	**Shahbuz**	**1.39**	**312**	*e*Pg	**Pn**	**07 58 29.9**	**-1.4**
SBZ	**Shahbuz** SNR=252	**1.39**	**312**	P	**Pn**	**07 58 30.0**	**-1.4**
SBZ				S	**Sg**	**07 58 50.3**	**-0.2**
GLBA	**Clilabad**	**1.41**	**56**	*e*Pg	**Pg**	**07 58 31.9**	**-0.8**
GLBA	**Clilabad** SNR=89	**1.41**	**56**	P	**Pg**	**07 58 32.0**	**-0.8**
GLBA				S	**Sg**	**07 58 52.7**	**+1.7**
ASTR	**Astara**	**1.50**	**86**	*e*Pg	**Pb**	**07 58 32.6**	**-1.0**
ASTR	**Astara** SNR=41	**1.50**	**86**	P	**Pb**	**07 58 32.7**	**-1.0**
ASTR				S	**Sg**	**07 58 53.8**	**-0.1**
LKRN	**Lenkeran, Azer**	**1.50**	**80**	*e*Pg	**Pb**	**07 58 32.9**	**-0.8**
LKRN	**Lenkeran, Azer** SNR=11	**1.50**	**80**	P	**Pb**	**07 58 33.0**	**-0.8**
LKRN				S	**Sg**	**07 58 53.8**	**-0.3**
AGDM	**Agdam** SNR=32	**1.65**	**6**	P	**Pb**	**07 58 34.8**	**-1.4**
AGDM				S	**Sg**	**07 58 59.6**	**+0.9**
BRDA	**Brd**	**1.81**	**7**	*e*Pn	**Pb**	**07 58 36.9**	**-2.0**
BRDA	**Brd** SNR=9.7	**1.81**	**7**	P	**Pb**	**07 58 36.9**	**-2.0**
BRDA				S	**Sg**	**07 59 02.6**	**-1.2**
SAAT	**Saatly**	**1.83**	**40**	*e*Pn	**Pb**	**07 58 37.9**	**-1.4**
SAAT	**Saatly** SNR=12	**1.83**	**40**	P	**Pb**	**07 58 38.0**	**-1.4**
SAAT				S	**Sg**	**07 59 03.5**	**-1.2**
ZRD	**Zardab**	**1.91**	**19**	*e*Pn	**Pb**	**07 58 38.5**	**-2.1**
ZRD	**Zardab** SNR=32	**1.91**	**19**	P	**Pb**	**07 58 38.6**	**-2.1**
ZRD				S	**Sg**	**07 59 04.7**	**-2.5**
MAKU	**Maku**	**1.93**	**298**	*e*Pn	**Pn**	**07 58 38.6**	**-0.2**
MAKU	**Maku** comp=N,343nm,0.2s	**1.93**	**298**	*e*AML	AML	07 59 06.5	
MAKU	**Maku** comp=E,357nm,0.6s	**1.93**	**298**	*e*AML	AML	07 59 12.9	
MAKU	**Maku**	**1.93**	**298**	Pn	**Pn**	**07 58 38.0**	**-0.8**
HYR	**Heyderabad** SNR=37	**2.02**	**309**	P	**Pn**	**07 58 38.9**	**-1.0**
KDMR	**Kurdemir**	**2.15**	**27**	*e*Pn	**Pn**	**07 58 42.0**	**+0.3**
KDMR	**Kurdemir** SNR=6.3	**2.15**	**27**	P	**Pn**	**07 58 42.0**	**+0.3**
KDMR				S	**Sg**	**07 59 12.0**	**-3.0**
GANJ	**Ganja**	**2.22**	**349**	*e*Pn	**Pn**	**07 58 42.5**	**-0.1**
GANJ	**Ganja** SNR=69	**2.22**	**349**	P	**Pn**	**07 58 42.6**	**-0.1**
GANJ				S	**Sb**	**07 59 11.9**	**-1.6**
ALIB	**Äli-Bayra**	**2.22**	**47**	*e*Pn	**Pn**	**07 58 42.8**	**+0.3**
ALIB	**Äli-Bayra** SNR=13	**2.22**	**47**	P	**Pn**	**07 58 42.9**	**+0.3**
ALIB				S	**Sb**	**07 59 13.2**	**-0.3**
YOVA	**Hakkari_Yksek**	**2.23**	**248**	*i* PA	**Pn**	**07 58 44.4**	**+1.5**
YOVA				*i* S	**Sg**	**07 59 16.2**	**-1.2**
YOVA	comp=N,182nm,0.6s			IAML		07 59 27.0	
YOVA	comp=E,211nm,0.7s			IAML		07 59 35.0	
YOVA	**Hakkari_Yksek**	**2.23**	**248**	*e*Pn	**Pb**	**07 58 45.0**	**-1.3**
ZNJK	**Zanjan**	**2.29**	**141**	*e*Pn	**Pn**	**07 58 42.9**	**-1.0**
ZNJK	**Zanjan** comp=E,309nm,0.4s	**2.29**	**141**	*e*AML	AML	07 59 22.3	
ZNJK	comp=N,255nm,0.5s			*e*AML	AML	07 59 21.5	
ZNJK	**Zanjan**	**2.29**	**141**	*e*Pn	**Pn**	**07 58 42.9**	**-1.0**
ZNJK	**Zanjan**	**2.29**	**141**	*e*Sg	**Sb**	**07 59 14.9**	**-1.0**
ZNJK	**Zanjan**	**2.29**	**141**	Pn	**Pn**	**07 58 42.0**	**-1.9**
ZNJK					LR	07 59 14.0	
MNGR	**Mingechevir, A**	**2.31**	**4**	*e*Pn	**Pn**	**07 58 43.4**	**-0.4**
MNGR	**Mingechevir, A** SNR=5.3	**2.31**	**4**	P	**Pn**	**07 58 43.4**	**-0.4**
MNGR				S	**Sb**	**07 59 14.5**	**-1.5**
NRKZ	**NAREK**	**2.31**	**312**	*i* P	**Pb**	**07 58 45.6**	**-1.9**
NRKZ				*i* S	**Sb**	**07 59 16.2**	**+0.1**
GNI	**Garni**	**2.36**	**316**	*e*Pn	**Pb**	**07 58 47.5**	**-1.0**
GNI	**Garni**	**2.36**	**316**	⇑*i* P	**Pb**	**07 58 47.3**	**-1.2**
GNI				⇑*i* S	**Sg**	**07 59 19.2**	**-2.4**
GNI	**Garni** comp=N,45nm,0.3s,baz=155,slow=5.8,SNR=67	**2.36**	**316**	Pn	**Pb**	**07 58 47.3**	**-1.2**
GNI	comp=N,38nm,0.3s,baz=260,slow=22,SNR=5.7			Lg	Lg	07 59 21.9	
GNI	comp=N,65nm,20.6s,baz=350,slow=38			LR	LR	07 59 32.2	
GNI	**Garni**	**2.36**	**316**	P	**Pb**	**07 58 47.8**	**-0.7**
GNI	**Garni**	**2.36**	**316**		**Pn**	**07 58 44.7**	**-0.1**
GNI				Sn	**Sn**	**07 59 13.8**	**-0.1**
GDB	**GEDABAY**	**2.41**	**339**	*e*Pn	**Pn**	**07 58 44.5**	**-0.9**
GDB	**GEDABAY** SNR=43	**2.41**	**339**	P	**Pn**	**07 58 44.6**	**-0.9**
GDB				S	**Sb**	**07 59 16.6**	**-2.6**
CLDR	**Caldiran**	**2.42**	**287**	*i* P	**Pn**	**07 58 45.8**	**+0.3**
CLDR				*i* S	**Sg**	**07 59 24.1**	**+0.7**
CLDR	**Caldiran**	**2.42**	**287**	*e*Pn	**Pb**	**07 58 46.9**	**-2.5**
CLDR	**Caldiran**	**2.42**	**287**	P	**Pb**	**07 58 47.1**	**-2.3**
KAPZ	**Kaputan**	**2.51**	**318**	⇑*i* P	**Pb**	**07 58 50.9**	**-0.1**
KAPZ				⇑*i* S	**Sg**	**07 59 25.2**	**-1.1**
IML	**Ismayilli**	**2.53**	**23**	*e*Pn	**Pn**	**07 58 46.5**	**-0.4**
IML	**Ismayilli**	**2.53**	**23**	P	**Pn**	**07 58 46.6**	**-0.4**
IML				S	**Sb**	**07 59 21.2**	**-1.3**
TASB	**TASBURUN-IGDIR**	**2.55**	**307**	*e*Pn	**Pb**	**07 58 49.7**	**-2.0**
TASB	**TASBURUN-IGDIR**	**2.55**	**307**	P	**Pb**	**07 58 49.4**	**-2.3**
QBL	**Gabala**	**2.58**	**16**	*e*Pn	**Pn**	**07 58 47.2**	**-0.4**
QBL	**Gabala** SNR=9.1	**2.58**	**16**	P	**Pn**	**07 58 47.2**	**-0.4**
IGDI	**IGDIR**	**2.59**	**304**	*i* P	**Pb**	**07 58 50.2**	**-2.1**
IGDI	**IGDIR**	**2.59**	**304**	*e*Pn	**Pb**	**07 58 50.1**	**-2.2**
GBS	**Qobustan**	**2.61**	**37**	*e*Pn	**Pn**	**07 58 47.5**	**-0.5**
GBS	**Qobustan** SNR=4.1	**2.61**	**37**	P	**Pn**	**07 58 47.5**	**-0.5**
GBS				S	**Sb**	**07 59 23.6**	**-1.1**
VMUR	**Van-Muradiye**	**2.64**	**282**	*i* PA	**Pb**	**07 58 53.1**	**-0.1**
VMUR	**Van-Muradiye**	**2.64**	**282**	*e*Pn	**Pb**	**07 58 53.2**	**-0.1**
PQL	**Pirkuli**	**2.67**	**29**	*e*Pn	**Pn**	**07 58 48.4**	**-0.5**
PQL	**Pirkuli** SNR=26	**2.67**	**29**	P	**Pn**	**07 58 48.4**	**-0.5**
PQL				S	**Sb**	**07 59 24.8**	**-1.7**
HAKT	**HAKKARI**	**2.67**	**251**	*i* P	**Pb**	**07 58 52.3**	**-1.4**
HAKT				*i* S	**Sg**	**07 58 34.9**	**+3.4**
HAKT	comp=E,93nm,2.1s			IAML		07 59 39.0	
HAKT	comp=N,76nm,1.6s			IAML		07 59 50.0	
HAKT	**HAKKARI**	**2.67**	**251**	*e*Pn	**Pb**	**07 58 52.3**	**-1.4**
DYDN	**Diyadin**	**2.71**	**294**	*e*Pn	**Pb**	**07 58 55.2**	**+0.7**
TVAN	**Van**	**2.73**	**272**	*i* P	**Pb**	**07 58 53.3**	**-1.5**
TVAN				*i* S	**Sg**	**07 59 36.4**	**+2.9**
TVAN	comp=N,162nm,0.8s			IAML		07 59 44.0	
TVAN	comp=E,157nm,1.0s			IAML		07 59 50.0	
TVAN	**Van**	**2.73**	**272**	*e*Pn	**Pb**	**07 58 52.7**	**-2.1**
VANB	**Van**	**2.75**	**274**	*e*Pn	**Pb**	**07 58 53.9**	**-1.1**
VANB	**Van**	**2.75**	**274**	P	**Pb**	**07 58 52.4**	**-2.6**
METS	**Metsamor**	**2.75**	**309**	*e*P	**Pb**	**07 58 53.7**	**-1.3**
METS				*e*S	**Sg**	**07 59 30.9**	**-3.1**
SEKA	**Sheki**	**2.75**	**5**	*e*Pn	**Pn**	**07 58 49.3**	**-0.6**
SEKA	**Sheki** SNR=33	**2.75**	**5**	P	**Pn**	**07 58 49.3**	**-0.6**
SEKA				S	**Sb**	**07 59 26.1**	**-2.7**
ARUZ	**Aruch**	**2.82**	**311**	*i* P	**Pb**	**07 58 56.4**	**+0.1**
ARUZ				*i* S	**Sg**	**07 59 35.2**	**-1.2**
QZX	**Qazax, Azerbai**	**2.84**	**336**	*e*Pn	**Pn**	**07 58 49.9**	**-1.2**
QZX	**Qazax, Azerbai** SNR=26	**2.84**	**336**	P	**Pn**	**07 58 50.0**	**-1.2**
QZX				S	**Sn**	**07 59 26.8**	**+1.4**
CUKT	**Cukurca**	**2.87**	**246**	*i* P	**Pb**	**07 58 54.3**	**-2.7**
CUKT				*i* S	**Sg**	**07 59 39.8**	**+2.0**
CUKT	comp=N,274nm,0.9s			IAML		07 59 45.0	
CUKT	comp=E,611nm,0.8s			IAML		07 59 48.0	
CUKT	**Cukurca**	**2.87**	**246**	*e*Pn	**Pb**	**07 58 56.7**	**-0.4**
CUKT	**Cukurca**	**2.87**	**246**	P	**Pb**	**07 58 55.5**	**-1.6**
ATGJ	**Altiaghaj**	**2.87**	**33**	*e*Pn	**Pn**	**07 58 51.3**	**-0.3**
ATGJ	**Altiaghaj** SNR=9.4	**2.87**	**33**	P	**Pn**	**07 58 51.3**	**-0.3**
ATGJ				S	**Sb**	**07 59 30.3**	**-1.9**
XNQ	**Khinaliq**	**2.87**	**19**	*e*Pn	**Pn**	**07 58 51.2**	**-0.5**
XNQ	**Khinaliq** SNR=20	**2.87**	**19**	P	**Pn**	**07 58 51.3**	**-0.5**
XNQ				S	**Sb**	**07 59 30.3**	**-2.0**
GOBA	**Gobu**	**2.93**	**48**	S	**Sb**	**07 59 31.8**	**-2.2**
GEVA	**Gevas**	**3.01**	**268**	*i* P	**Pn**	**07 58 55.9**	**+2.2**
GEVA				*i* S	**Sg**	**07 59 41.8**	**-0.6**
GEVA	comp=N,81nm,0.8s			IAML		07 59 49.0	
GEVA	comp=E,76nm,0.8s			IAML		07 59 51.0	
GEVA	**Gevas**	**3.01**	**268**	*e*Pn	**Pb**	**07 58 56.1**	**-3.4**
SIZA	**Siyzn**	**3.03**	**30**	*e*Pn	**Pn**	**07 58 53.3**	**-0.5**
SIZA	**Siyzn** SNR=23	**3.03**	**30**	P	**Pn**	**07 58 53.3**	**-0.5**
SIZA				S	**Sb**	**07 59 33.3**	**-3.6**
AKDM	**Akdamar-Van**	**3.07**	**269**	*e*Pn	**Pb**	**07 59 00.1**	**-0.5**
AKDM	**Akdamar-Van**	**3.07**	**269**	P	**Pn**	**07 58 56.7**	**+2.2**
QUB	**Quba**	**3.12**	**21**	*e*Pn	**Pn**	**07 58 54.7**	**-0.4**
QUBA	**Quba, Azerbaij** SNR=10	**3.14**	**23**	P	**Pn**	**07 58 54.7**	**-0.5**
QUBA				S	**Sn**	**07 59 34.9**	**+2.1**
ZKTA	**Zakatala** SNR=7.3	**3.17**	**356**	P	**Pn**	**07 58 55.3**	**-0.5**
ZKTA				S	**Sb**	**07 59 37.1**	**-3.8**
ZKT	**Zaqatala**	**3.19**	**357**	*e*Pn	**Pn**	**07 58 55.2**	**-0.7**
QSAR	**Qusar**	**3.22**	**19**	*e*Pn	**Pn**	**07 58 56.1**	**-0.3**
QSAR	**Qusar** SNR=19	**3.22**	**19**	P	**Pn**	**07 58 56.2**	**-0.3**
AGRB	**Hanur-Agry**	**3.23**	**291**	*e*Pn	**Pb**	**07 59 01.5**	**-1.8**
AGRB	**Hanur-Agry**	**3.23**	**291**	P	**Pb**	**07 59 00.5**	**-2.8**
TUTA	**Tutak**	**3.31**	**288**	*i* P	**Pb**	**07 59 05.7**	**+1.1**
TUTA	**Tutak**	**3.31**	**288**	*e*Pn	**Pb**	**07 59 03.8**	**-0.9**
DIGO	**Kars**	**3.34**	**307**	*i* P	**Pb**	**07 59 04.9**	**-0.4**
DIGO	**Kars**	**3.34**	**307**	*e*Pn	**Pb**	**07 59 04.4**	**-0.8**
EAK	**Akyaka**	**3.37**	**312**	*i* P	**Pb**	**07 59 06.1**	**+0.5**
HSRG	**Sareghieh**	**3.41**	**160**	*e*Pn	**Pn**	**07 58 59.3**	**+0.1**
MLAZ	**Malazgirt-MUS**	**3.45**	**283**	P	**Pb**	**07 59 06.5**	**-0.6**
KZRT	**Kazreti**	**3.48**	**328**	*i* P	**Pb**	**07 59 06.5**	**-1.1**
KZRT	**Kazreti**	**3.48**	**328**	*e*Pn	**Pb**	**07 59 05.8**	**-1.8**
QABG	**Abgarm-Qazvin**	**3.50**	**141**	*e*Pn	**Pn**	**07 59 00.1**	**-0.3**
QABG	comp=Z,0.0nm,0.6s			IAMB	IAmb	07 59 10.9	
QALM	**Alamut, Qazvin** comp=Z,0.0nm,0.5s	**3.62**	**123**	IAMB	IAmb	07 59 16.7	
QALM				*e*Pn	**Pn**	**07 59 02.2**	**+0.1**
SIRT	**Sirnak**	**3.64**	**256**	P	**Pb**	**07 59 07.7**	**-2.6**
KARS	**Kars**	**3.65**	**307**	P	**Pg**	**07 59 17.7**	**+2.1**
TBLG	**Delisi**	**3.65**	**334**	*i* P	**Pb**	**07 59 08.5**	**-1.9**
TBLG	**Delisi**	**3.65**	**334**	P	**Pb**	**07 59 08.4**	**-1.9**
TBLG	**Delisi**	**3.65**	**334**	Pn	**Pb**	**07 59 06.0**	**-4.4**
TBLG				Sn	**Sb**	**07 59 49.0**	**-5.7**
IDHR	**Dehrash**	**3.78**	**186**	*e*Pn	**Pn**	**07 59 04.3**	**0.0**
IDHR	comp=Z,0.0nm,0.8s			IAMB	IAmb	08 00 12.2	
GURO	**Guroymak-BITLI**	**3.81**	**273**	*e*Pn	**Pn**	**07 59 07.5**	**+2.9**
GURO	**Guroymak-BITLI**	**3.81**	**273**	P	**Pb**	**07 59 10.3**	**-2.8**
IRAZ	**Razeghan**	**3.91**	**141**	*e*Pn	**Pn**	**07 59 05.5**	**-0.6**
AKH	**Akhalkalaki**	**3.93**	**319**	P	**Pb**	**07 59 15.3**	**+0.1**
AKH	**Akhalkalaki**	**3.93**	**319**	Pn	**Pn**	**07 59 06.7**	**+0.4**
AKH				Sn	**Sb**	**07 59 57.3**	**-5.5**
HAGD	**Aghdareh**	**4.07**	**153**	*e*Pn	**Pn**	**07 58 58.1**	**-0.1**
IBZA	**Bozab**	**4.07**	**169**	*e*Pn	**Pn**	**07 59 08.4**	**+0.1**
SENK	**Senkaya-Erzuru**	**4.08**	**302**	P	**Pb**	**07 59 19.5**	**+1.7**
IMHD	**Mahdasht**	**4.11**	**131**	*e*Pn	**Pn**	**07 59 09.4**	**-0.7**
IGHG	**Ghaleghazi**	**4.14**	**184**	*e*Pn	**Pn**	**07 59 09.5**	**+0.3**
IGHG	comp=Z,1μm,0.7s			IAMB	IAmb	08 00 23.7	
KCHF	**Cheshme Sefid,**	**4.19**	**178**	*e*Pn	**Pn**	**07 59 10.6**	**+0.8**
KOPR	**Koprukoy-ERZUR**	**4.19**	**293**	P	**Pb**	**07 59 17.3**	**-2.4**
CHTH	**Charan**	**4.24**	**126**	*e*Pn	**Pn**	**07 59 09.7**	**-1.0**
CHTH	**Charan**	**4.24**	**126**	*e*Pn	**Pn**	**07 59 09.7**	**-1.0**
CHTH	**Charan**	**4.24**	**126**	Pn	**Pn**	**07 59 09.0**	**-1.7**
IKOM	**Komasi**	**4.32**	**173**	*e*Pn	**Pn**	**07 59 12.0**	**+0.4**
HSAM	**Samen**	**4.47**	**161**	*e*Pn	**Pn**	**07 59 15.3**	**+1.5**
SVAN	**Silvan-Diyarba**	**4.48**	**268**	*e*Pn	**Pb**	**07 59 21.2**	**-3.4**
SVAN	**Silvan-Diyarba**	**4.48**	**268**	P	**Pb**	**07 59 23.8**	**-0.8**
ASAO	**Ashtian**	**4.66**	**146**	*e*Pn	**Pn**	**07 59 15.2**	**-1.2**
ASAO	**Ashtian**	**4.66**	**146**	*e*Pn	**Pn**	**07 59 15.2**	**-1.2**
ASAO	**Ashtian**	**4.66**	**146**	Pn	**Pn**	**07 59 15.0**	**-1.4**
BDRS	**Dareh Seyedi**	**4.79**	**160**	*e*Pn	**Pn**	**07 59 19.7**	**+1.5**
IDOB	**Doab**	**4.79**	**167**	*e*Pn	**Pn**	**07 59 18.8**	**+0.7**
IPRN	**Peran**	**4.88**	**115**	*e*Pn	**Pn**	**07 59 19.1**	**-0.2**
BNGB	**Bingl**	**4.88**	**278**	P	**Pb**	**07 59 28.6**	**-2.8**
YEDI	**Yedisu-Bingol**	**5.04**	**283**	P	**Pg**	**07 59 39.2**	**-3.0**
MAZI	**Mazidag**	**5.19**	**261**	*e*Pn	**Pn**	**07 59 28.6**	**+5.1**
IALA	**Alasht**	**5.29**	**115**	*e*Pn	**Pn**	**07 59 26.6**	**+1.5**
IGLO	**Ghaloghah**	**5.86**	**107**	*e*Pn	**Pn**	**07 59 33.3**	**+0.4**
IKIA	**Kiasar**	**5.87**	**111**	*e*Pn	**Pn**	**07 59 33.7**	**+0.7**
KBZ	**Khabaz** comp=Z,0.5nm,0.3s,baz=144,slow=9.5,SNR=11	**6.06**	**331**	Pg	**Pb**	**07 59 54.9**	**+3.6**
KBZ	comp=Z,0.2nm,0.3s,baz=155,slow=14,SNR=2.7			Lg	Lg	08 01 17.1	
KIV	**Kislovodsk**	**6.33**	**331**	Pn	**Pn**	**07 59 41.3**	**+2.1**
KIV				Sn	**Sn**	**08 00 52.7**	**+1.2**
IKLH	**Kolahrood**	**6.40**	**142**	*e*Pn	**Pn**	**07 59 41.7**	**+1.4**
GEYT	**Alibeck** comp=Z,1.0nm,0.3s,baz=276,slow=17,SNR=5.6	**8.86**	**90**	Pn	**Pn**	**08 00 12.7**	**-1.1**
GEYT	comp=Z,0.6nm,0.3s,baz=296,slow=30,SNR=3.1			Sn	**Sn**	**08 01 54.3**	**+0.5**
GEYT	comp=Z,103nm,18.7s,baz=350,slow=47			LR	LR	08 05 14.2	
GYA0B	**ALIBECK ARRAY**	**8.86**	**90**	Pn	**Pn**	**08 00 13.4**	**-0.5**
BRTR	**Keskin Array B** comp=Z,0.1nm,0.3s,baz=102,slow=14,SNR=3.0	**10.37**	**281**	Pn	**Pn**	**08 00 38.4**	**+3.7**
EIL	**Elat** comp=Z,46nm,20.4s,baz=306,slow=40	**13.21**	**232**	LR	LR	08 06 55.3	
ABKAR	**Akbulak array**	**14.29**	**37**		**Pn**	**08 01 27.7**	**-0.4**
AKTO	**Aktyubinsk** comp=Z,0.6nm,0.3s,baz=224,slow=12,SNR=9.7	**14.34**	**30**	Pn	**Pn**	**08 01 29.0**	**+0.2**
KK31	**Karatay Array**	**18.46**	**68**	P	**Pn**	**08 02 22.4**	**+0.7**
KK31	comp=Z,5.2nm,0.8s			IAmb	IAmb	08 02 24.5	
KKAR	**Karatay Array**	**18.46**	**68**	P	**Pn**	**08 02 22.4**	**+0.8**
ARU	**Arti**	**19.58**	**20**	P	**Pn**	**08 02 34.9**	**-0.1**
ARU	comp=Z,39nm,1.8s			IAmb	IAmb	08 02 36.3	
FNA	**Florina**	**19.77**	**285**	P	**P**	**08 02 34.6**	**-1.3**
FNA	comp=Z,5.9nm,1.2s			IAmb	IAmb	08 02 44.7	
KIRV	**Kirov** comp=Z,16nm,0.7s,baz=159,slow=14,SNR=3.9	**20.20**	**4**	P	Pn	08 02 43.5	+1.2
AAK	**Ala-Archa**	**21.35**	**70**	P	**P**	**08 02 58.2**	**+5.0**
	comp=Z,5.5nm,1.0s,baz=232,slow=7.6,SNR=6.8						
AAK	**Ala-Archa**	**21.35**	**70**	P	**P**	**08 02 52.3**	**-0.9**
AAK	comp=Z,5.6nm,0.9s			IAmb	IAmb	08 03 01.2	
BRVK	**Borovoye**	**21.75**	**40**	P	**P**	**08 03 00.0**	**+2.8**
BRVK	comp=Z,5.5nm,0.7s			IAmb	IAmb	08 03 04.2	
BVAR	**Borovoye Array** comp=Z,4.6nm,0.8s,baz=254,slow=7.8,SNR=17	**21.79**	**40**	P	**P**	**08 03 00.6**	**+3.0**
KURBB	**Kurchatov Arra** comp=Z,1.8nm,0.6s,baz=260,slow=9.6,SNR=4.7	**25.41**	**51**	P	**P**	**08 03 37.6**	**+4.3**
GERES	**GERESS Array B** comp=Z,0.2nm,0.3s,baz=92,slow=9.3,SNR=4.7	**25.96**	**304**	P	**P**	**08 03 41.0**	**+2.6**
MKAR	**Makanchi Array** comp=Z,1.7nm,0.9s,baz=263,slow=6.7,SNR=8.4	**27.16**	**61**	P	P	08 03 55.7	+6.6
GRA1	**Grafenberg Arr**	**27.71**	**305**	P	**P**	**08 03 55.5**	**+1.4**

IDC 19 08:13:52.8±2.0, 2°.16N×126°.19E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/50, mbtmp3.6/4, MS3.4/2, Ms1 3.4/2, ms1mx2.5/36, Error ellipse: s-maj=213.8km s-min=23.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City** comp=Z,104nm,19.0s,baz=138,slow=38	**12.95**	**337**	LR	LR	08 22 09.3	
WRA	**Warramunga Arr** 1.8nm,0.8s,baz=338,slow=11,SNR=20	**23.38**	**160**	P	P	08 19 03.8	+0.4
ASAR	**Alice Springs** 0.3nm,0.7s,baz=344,slow=7.0,SNR=6.8	**26.75**	**164**	P	P	08 19 34.9	+0.5
STKA	**Stephens Creek** 0.7nm,0.6s,baz=336,slow=9.7,SNR=4.0	**36.88**	**158**	P	P	08 21 02.1	-1.1
KLR	**Kul'dur** comp=Z,51nm,19.7s,baz=108,slow=36	**47.14**	**5**	LR	LR	08 41 48.4	
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=126,slow=7.3,SNR=2.9	**58.54**	**326**	P	P	08 23 51.2	0.0

IDC 19 08:20:51.5±2.0, 5°.84S×151°.09E, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.6/45, mbtmp3.8/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/32, Error ellipse: s-maj=125.8km s-min=28.2km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 2.6nm,0.3s,baz=354,slow=10,SNR=3.9	**5.27**	**227**	Sn	Sn	08 23 10.7	-2.3
PMG	comp=Z,112nm,18.9s,baz=7.5,slow=36			LR	LR	08 23 58.9	
WRA	**Warramunga Arr** 2.3nm,0.8s,baz=54,slow=11,SNR=9.2	**21.49**	**228**	P	P	08 25 41.7	-0.3
ASAR	**Alice Springs** 2.9nm,0.7s,baz=55,slow=9.0,SNR=34	**24.25**	**221**	P	P	08 26 10.4	0.0
ILAR	**Eielson Array** 0.3nm,0.6s,baz=245,slow=5.8,SNR=6.9	**83.76**	**22**	P	P	08 33 22.0	-0.2
TORD	**Torodi Ar. Bea** 0.7nm,0.6s,baz=90,slow=3.2,SNR=5.5	**148.97**	**286**	PKPbc	PKPbc	08 40 42.4	-0.1

*MAN **19** 08:28:39.8, 5°.83N×126°.22E, h54km, MS3.2*
*ISCJB **19** 08:28:41.7±0.5, 5°.93N±0°.05×126°.05E±0°.07, h97km±6km, mb4.0/6, Error ellipse: s-maj=11.9km s-min=6.9km az=161.9*
*NEIC **19** 08:28:41.5±1.3, 6°.1N±0°.1×126°.4E±0°.2, h91km±7km, mb4.1/8*
*IDC **19** 08:28:42.6±1.6, 6°.10N×126°.27E, h99km±13km, mb3.8/6, mb1 4.1/8, mb1mx3.5/45, mbtmp4.3/8, MS2.7/1, Ms1 2.7/1, ms1mx2.3/36, Error ellipse: s-maj=59.2km s-min=13.6km az=72.0*

ISC 19 08:28:42.7±0.8, 5°.93N±0°.04×126°.02E±0°.06, h86km±7km, n35, σ2s08/50, mb4.0/9, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.36**	**299**	P	**Pn**	**08 28 54.4**	**-1.6**
DDMP				S	**Sn**	**08 29 04.3**	**-1.6**
MATI	**Mati**	**1.04**	**13**	P	**Pn**	**08 28 59.1**	**-3.5**
M

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**3.45**	**280**	Pn	Pn	08 39 53.4	+2.0
	0.8nm,0.3s,baz=93,slow=15,SNR=6.4						
ZALV				Lg	Lg	08 40 45.0	
	1.0nm,0.3s,baz=92,slow=24,SNR=8.4						
MKAR	**Makanchi Array**	**8.56**	**222**	Pn	Pn	08 41 02.1	+0.4
	0.1nm,0.3s,baz=30,slow=14,SNR=3.2						
MKAR				Lg	Lg	08 43 29.2	
	0.0nm,0.3s,baz=22,slow=23,SNR=3.8						
SONM	**Songino Array**	**11.52**	**113**	Lg	Lg	08 44 55.5	
	baz=300,slow=27,SNR=6.1						
I34MN	**SONGINO INFRAS**	**11.55**	**113**	*i*		09 46 20.0	
	baz=309,slow=333,SNR=0.9						

JMA 19 08:41:48.5±0.1, 39°.35N×143°.63E, h36km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.42**	**280**	P	Pn	08 42 12.5	+0.8
MIYJ				*e*S	Sn	08 42 30.0	+0.8
JTH	**Tanohata**	**1.48**	**294**	P	Pn	08 42 13.6	+1.0
JTH				*e*S	Sn	08 42 32.1	+1.3
OFUJ	**Ofunato**	**1.55**	**261**	P	Pn	08 42 14.6	+1.1
OFUJ				*e*S	Sn	08 42 33.4	+1.1
JOM	**Ohasama**	**1.81**	**275**	P	Pn	08 42 18.7	+1.5
JOM				*e*S	Sn	08 42 40.9	+2.0
JMK	**Ichinoseki**	**1.92**	**259**	P	Pn	08 42 20.1	+1.6
JMK				*e*S	Sn	08 42 43.3	+1.9
JIO	**Ouri**	**1.99**	**244**	P	Pn	08 42 20.8	+1.2
JIO				S	Sn	08 42 44.6	+1.3
JYK	**Kaneyama**	**2.58**	**261**	P	Pn	08 42 29.8	+2.1
JNBK	**Urakawa-nobuka**	**3.00**	**347**	P	Pn	08 42 35.2	+1.7
JNBK				*e*S	Sn	08 43 10.0	+1.8
JFT	**Otama**	**3.17**	**236**	P	Pn	08 42 37.7	+1.9
JFT				*e*S	Sn	08 43 14.7	+2.4
JCH	**Churui**	**3.27**	**357**	P	Pn	08 42 37.8	+0.7
JCH				*e*S	Sn	08 43 14.1	-0.6
MAT	**Matsushiro**	**5.12**	**239**	P	Pn	08 43 06.0	+3.4

PAS 19 08:54:04.2±1.2, 34°.58N×0°.04×120°.43W±0°.04, h8km±6km, ML2.1

NEIC 19 08:54:03.5±0.5, 34°.57N±0°.04×120°.44W±0°.03, h16km±3km, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GATR	**Gnd/Air Tx Cnt**	**0.06**	**248**		Pg	08 54 06.4	-0.2
SYP	**Santa Ynez Pea**	**0.38**	**97**		Pg	08 54 11.5	0.0
FIGC	**Figueroa Mtn.**	**0.40**	**67**		Pg	08 54 11.9	+0.1
FIGC					Sb	08 54 18.2	-0.1
BCH	**Branch Mountai**	**0.68**	**26**		Pg	08 54 16.5	-0.3
DPD	**Davis Peak**	**0.72**	**337**		Pb	08 54 18.0	+0.3
DCD	**Diablo Creek**	**0.72**	**333**		Pb	08 54 18.0	+0.3
VPDC	**Valencia Peak**	**0.75**	**332**		Pg	08 54 18.2	0.0
SMMC	**Simmler**	**0.82**	**26**		Pb	08 54 19.4	-0.1
CAMC	**Carrizo Plain**	**0.88**	**33**		Pb	08 54 20.5	+0.1
BLDC	**Black Mountain**	**1.03**	**338**		Pb	08 54 22.4	-0.6
PAGB	**Antelope Grade**	**1.17**	**8**	Pg	Pg	08 54 26.4	+0.4
PAGB				Sg	Sn	08 54 41.0	+0.2
PASC	**Pasadena Art C**	**1.91**	**101**	Pn	Pn	08 54 36.1	+0.7
PASC				Sn	Sb	08 55 00.7	-0.8
ISA	**Isabella, Lake**	**1.94**	**55**	Pn	Pn	08 54 36.0	0.0
ISA				Sn	Sn	08 55 00.5	+0.4
MWC	**Mount Wilson**	**2.00**	**99**	Pn	Pn	08 54 36.7	-0.1
MWC				Sn	Sn	08 55 02.1	+0.5
XPFO	**Pion Flat**	**3.44**	**105**	Pn	Pn	08 54 56.8	+0.2
XPFO				Sn	Sn	08 55 37.2	0.0

ISCJB 19 09:00:46.5±0.5, 10°.68N±0°.10×141°.08E±0°.10, h40km, mb4.1/7, MS3.3/4, Error ellipse: s-maj=17.1km s-min=8.8km az=136.1
NEIC 19 09:00:48.5±1.9, 10°.71N±0°.04×141°.0E±0°.1, h40km±8km, mb4.5/13
IDC 19 09:00:49.0±3.1, 10°.71N×141°.08E, h48km±31km, mb3.8/7, mb1 4.1/8, mb1mx3.7/43, mbtmp4.1/8, ML4.5/1, MS3.3/6, Ms1 3.3/6, ms1mx3.0/36, Error ellipse: s-maj=29.7km s-min=16.2km az=107.0

ISC 19 09:00:48.5±0.8, 10°.7N±0°.1×141°.0E±0°.1, h40km, n34, σ0s95/26, mb4.4/14, MS3.3/4, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.72**	**52**	P	**Pn**	**09 01 59.0**	**+1.9**
	24nm,0.3s,baz=168,slow=11,SNR=6.9						
GUMO				S	**Sn**	**09 02 50.2**	**-0.5**
	24nm,0.3s,baz=138,slow=22,SNR=6.8						
GUMO	**Guam**	**4.72**	**52**		**Pn**	**09 01 58.6**	**+1.5**
GUMO					**Sn**	**09 02 48.7**	**-2.0**
JAY	**Jayapura**	**13.14**	**181**	LR	LR	09 07 56.0	
	comp=Z,126nm,18.7s,baz=26,slow=32						
SIJI	**Sorong**	**15.06**	**221**	LR	LR	09 09 52.5	
	comp=Z,62nm,18.9s,baz=244,slow=36						
JNU	**Nakatsue**	**24.18**	**339**	P	**P**	**09 06 01.0**	**-0.2**
H11S3	**WAKE ISLAND Hy**	**25.98**	**70**	T	T	09 35 08.1	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**26.00**	**70**	T	T	09 34 51.3	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**26.00**	**70**	T	T	09 35 08.9	
	baz=253						
KAPI	**Kappang**	**26.32**	**235**	P	**P**	**09 06 22.0**	**+1.2**
H11N1	**WAKE ISLAND Hy**	**26.48**	**67**	T	T	09 35 31.5	
	baz=248						
H11N2	**WAKE ISLAND Hy**	**26.49**	**67**	T	T	09 35 57.2	
	baz=248						
H11N3	**WAKE ISLAND Hy**	**26.50**	**67**	T	T	09 35 36.6	
	baz=248						
BATI	**Baumata**	**27.02**	**220**	LR	LR	09 16 41.1	
	comp=Z,42nm,19.3s,baz=70,slow=35						
KSRS	**Korea Array**	**29.12**	**338**	LR	LR	09 17 24.3	
	comp=Z,66nm,18.3s,baz=157,slow=34						
WRA	**Warramunga Arr**	**31.16**	**192**	P	**P**	**09 07 03.0**	**-0.8**
	1.5nm,0.8s,baz=9.0,slow=9.6,SNR=10						
WRA				LR	LR	09 19 22.6	
	comp=Z,68nm,21.0s,baz=80,slow=36						
ASAR	**Alice Springs**	**34.87**	**191**	P	**P**	**09 07 35.8**	**-0.4**
	0.6nm,0.6s,baz=18,slow=12,SNR=22						
ASAR				LR	LR	09 21 49.1	
	comp=Z,74nm,20.0s,baz=60,slow=36						
SONM	**Songino Array**	**47.06**	**328**	P	**P**	**09 09 16.3**	**-0.1**
	2.1nm,0.6s,baz=142,slow=6.9,SNR=13						
MKAR	**Makanchi Array**	**61.02**	**318**	P	**P**	**09 10 58.1**	**0.0**
	1.0nm,0.8s,baz=99,slow=8.7,SNR=7.9						
KURK	**Kurchatov**	**64.41**	**321**	P	**P**	**09 11 20.4**	**-0.2**
KURK				IAmb	IAmb	09 11 20.5	
	comp=Z,3.0nm,0.8s						
RDOG	**Red Dog Mine**	**67.83**	**20**	P	**P**	**09 11 42.1**	**-0.1**
RDOG				IAmb	IAmb	09 11 43.2	
	comp=Z,3.7nm,0.8s						
TRF	**Thorofare Moun**	**71.00**	**26**	P	**P**	**09 12 01.3**	**-0.8**
MLY	**Manley**	**71.22**	**25**	P	**P**	**09 12 03.5**	**+0.3**
MLY				IAmb	IAmb	09 12 04.9	
	comp=Z,9.0nm,1.3s						
RND	**Reindeer**	**71.62**	**26**	P	**P**	**09 12 04.9**	**-0.8**
RND				IAmb	IAmb	09 12 09.8	
	comp=Z,6.7nm,1.3s						
COLD	**Coldfoot**	**72.02**	**22**	P	**P**	**09 12 08.9**	**+1.0**
MDM	**Murphy Dome**	**72.24**	**25**	P	**P**	**09 12 10.3**	**+1.0**
MDM				IAmb	IAmb	09 12 28.2	
	comp=Z,7.0nm,1.1s						
TOLK	**Toolik Lake Re**	**72.63**	**21**	P	**P**	**09 12 12.3**	**+0.7**
TOLK				IAmb	IAmb	09 12 13.2	
	comp=Z,5.6nm,0.8s						
IL31		**72.76**	**25**	P	**P**	**09 12 11.0**	**-1.3**
ILAR	**Eielson Array**	**72.76**	**25**	P	**P**	**09 12 11.0**	**-1.4**
	comp=Z,1.9nm,0.6s,baz=247,slow=6.0,SNR=38						
FYU	**Fort Yukon**	**73.78**	**24**	P	**P**	**09 12 18.8**	**+0.5**
FYU				IAmb	IAmb	09 12 25.1	
	comp=Z,5.3nm,1.0s						
SCRK	**Sand Creek**	**73.86**	**26**	P	**P**	**09 12 19.1**	**+0.1**
DAWY	**Dawson**	**75.88**	**26**	P	**P**	**09 12 30.8**	**+0.2**
YKA	**Yellowknife Ar**	**87.11**	**27**	P	**P**	**09 13 30.1**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=289,slow=5.0,SNR=17						
ARCES	**ARCESS Array B**	**88.63**	**341**	P	**P**	**09 13 36.1**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=72,slow=6.8,SNR=4.2						
LPAZ	**La Paz**	**151.13**	**104**	PKPbc	**PKiKP**	**09 20 39.4**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=249,slow=4.8,SNR=5.7						

NNC 19 09:19:51.2±2.1, 0.4°.69N×82°.13E, h0km, mb2.8, mpv2.7, Error ellipse: s-maj=10.0km s-min=3.7km az=124.0
SOME 19 09:19:51.0, 44°.73N×82°.20E, h20km
ISCJB 19 09:19:54.0±2.0, 44°.76N±0°.09×82°.3E±0°.2, h10km, Error ellipse: s-maj=20.2km s-min=7.0km az=35.3

ISC 19 09:19:50.2±2.3, 44°.70N±0°.08×82°.2E±0°.1, h10km, n6, σ1s33/10, 2C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.10**	**1**	⇓P	**Pb**	**09 20 28.2**	**-0.1**
	1.4nm,0.3s,baz=186,slow=14,SNR=38						
MK31				S	**Sb**	**09 20 55.1**	**+0.6**
	0.2nm,0.1s,baz=181,slow=26,SNR=12						
KAPS	**Kapalarasan**	**2.11**	**287**	*e*P	**Pb**	**09 20 29.4**	**+0.8**
	1.0nm,0.1s						
KAPS				*e*S	**Sg**	**09 20 57.3**	**-0.7**
	3.7nm,0.4s						
KAPS	**Kapalarasan**	**2.11**	**287**	Pg	**Pb**	**09 20 29.4**	**+0.8**
	1.8nm,0.1s						
KAPS				Lg	Lg	09 20 57.3	
	3.8nm,0.4s						
MAKZ	**Makanchi**	**2.12**	**356**	⇑P	**Pb**	**09 20 28.5**	**-0.2**
	0.3nm,0.2s						
MAKZ				⇑S	**Sb**	**09 20 55.9**	**+0.9**
	1.9nm,0.5s						
PDGK	**Podgornoye**	**2.40**	**236**	Pg	**Pb**	**09 20 34.2**	**+0.7**
	0.8nm,0.2s						
PDGK				Lg	Lg	09 21 05.4	
	2.4nm,0.6s						
KPKS	**Kokpek**	**2.83**	**245**	*e*P	**Pb**	**09 20 41.8**	**+1.0**
	2.8nm,0.3s						
KPKS				*e*S	**Sg**	**09 21 18.2**	**-2.8**
	5.6nm,0.2s						

IDC 19 09:26:48.1±2.6, 5°.56N×126°.31E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/38, mbtmp3.4/3, Error ellipse: s-maj=214.1km s-min=27.8km az=66.0
ISCJB 19 09:26:50.1±1.1, 5°.9N±0°.1×127°.1E±0°.1, h35km, mb3.3/3, Error ellipse: s-maj=25.5km s-min=10.5km az=37.6

ISC 19 09:26:52.1±1.4, 5°.7N±0°.2×127°.1E±0°.1, h35km, n6, σ2s94/8, mb3.3/3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.45**	**326**	P	**Pn**	**09 27 13.9**	**-1.9**
MATI				S	Sn	09 27 47.2	+13
KCP	**Kidapawan**	**2.35**	**303**	⇓P	**Pn**	**09 27 27.5**	**-0.8**
KCP				S	**Sn**	**09 28 00.9**	**+4.9**
SKMP	**Bagumbayan, Su**	**2.64**	**287**	P	**Pn**	**09 27 29.1**	**-3.2**
SKMP				S	**Sn**	**09 28 03.4**	**+0.2**
WRA	**Warramunga Arr**	**26.50**	**165**	P	**P**	**09 32 27.5**	**+1.0**
	0.5nm,0.6s,baz=342,slow=10,SNR=7.8						
ASAR	**Alice Springs**	**29.98**	**167**	P	**P**	**09 32 59.0**	**+1.5**
	0.4nm,0.8s,baz=344,slow=6.9,SNR=3.4						
MKAR	**Makanchi Array**	**56.13**	**324**	P	**P**	**09 36 27.2**	**-0.9**
	0.2nm,0.4s,baz=117,slow=7.7,SNR=4.1						

ISCJB 19 09:30:12.5±0.6, 75°.87N±0°.04×8°.3E±0°.2, h10km, mb3.6/5, MS3.4/6, Error ellipse: s-maj=6.7km s-min=5.9km az=144.7
BER 19 09:30:13.6±3.5, 75°.90N×7°.33E, h10km, ML2.3, ML3.3(NAO), Confirmed Earthquake
NAO 19 09:30:13.4±5.2, 75°.91N×7°.83E, ML3.3
IDC 19 09:30:14.0±0.8, 75°.88N×8°.03E, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.5/45, mbtmp3.6/7, ML3.3/2, MS3.3/8, Ms1 3.3/8, ms1mx3.0/35, Error ellipse: s-maj=15.8km s-min=11.3km az=60.0
NEIC 19 09:30:15.8±2.2, 75°.89N±0°.07×8°.6E±0°.3, h16km±5km, mb4.2/1
IEPN 19 09:30:18.0, 76°.09N×7°.91E, h15km

ISC 19 09:30:14.7±0.8, 75°.94N±0°.05×8°.37E±0°.07, h10km, n46, σ1s81/57, mb3.7/6, MS3.3/6, 4C-1D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**2.00**	**54**	Pn	**Pn**	**09 30 49.4**	**+1.1**
HSPB				Sn	**Sn**	**09 31 13.1**	**-0.3**
HSPB	**Hornsund (broa**	**2.00**	**54**	*i*P	**Pn**	**09 30 49.5**	**+1.1**
HSPB				*e*S	**Sn**	**09 31 14.0**	**+0.6**
HSPB	**Hornsund (broa**	**2.00**	**54**	⇑*i*P	**Pn**	**09 30 49.5**	**+1.1**
HSPB				*e*S	**Sn**	**09 31 13.0**	**-0.4**
HSPB				IAML		09 31 25.3	
	comp=Z,21nm,0.7s						
BRBA	**Barentsburg A**	**2.51**	**29**	Pn	**Pn**	**09 30 55.2**	**-0.2**
BRBA	**Barentsburg A**	**2.51**	**29**	Pn	**Pn**	**09 30 55.2**	**-0.2**
BRBB	**Barentsburg B**	**2.53**	**29**	Pn	**Pn**	**09 30 55.8**	**0.0**
BRBB	**Barentsburg B**	**2.53**	**29**	Pn	**Pn**	**09 30 55.8**	**0.0**
SPA0	**Spitsbergen Ar**	**2.88**	**35**	Pn	**Pn**	**09 31 01.5**	**+0.9**
	baz=202,slow=12						
SPA0				Sn	**Sn**	**09 31 35.1**	**-0.1**
	baz=239,slow=28						
SPA0	**Spitsbergen Ar**	**2.88**	**35**	⇓*i*P	**Pn**	**09 31 01.7**	**+1.1**
SPA0				*i*S	**Sn**	**09 31 34.4**	**-0.7**
SPA0	**Spitsbergen Ar**	**2.88**	**35**	Pn	**Pn**	**09 31 01.5**	**+0.9**
	baz=202,slow=12						
SPA0				Sn	**Sn**	**09 31 35.1**	**-0.1**
	baz=239,slow=28						
SPA0	**Spitsbergen Ar**	**2.88**	**35**		**Pn**	**09 31 01.7**	**+1.1**
SPA0				Sn	**Sn**	**09 31 35.5**	**+0.3**
SPITS	**Spitsbergen Ar**	**2.88**	**35**	Pn	**Pn**	**09 31 01.7**	**+1.1**
	baz=206,slow=13,SNR=300						
SPITS				Sn	**Sn**	**09 31 34.5**	**-0.7**
	baz=218,slow=23,SNR=12						
BJO1	**Bjornoya**	**3.08**	**113**	Pn	**Pn**	**09 31 05.5**	**+2.2**
BJO1	**Bjornoya**	**3.08**	**113**	*e*P	**Pn**	**09 31 04.3**	**+1.0**
BJO1				*e*S	**Sn**	**09 31 41.3**	**+1.1**
BJO1	**Bjornoya**	**3.08**	**113**	*e*P	**Pn**	**09 31 04.8**	**+1.4**
BJO1				*e*S	**Sn**	**09 31 39.7**	**-0.5**
BJO1				IAML		09 31 53.7	
	comp=Z,14nm,0.8s						
KBS	**Kingsbay**	**3.10**	**13**	Pn	**Pn**	**09 31 03.1**	**-0.5**
KBS	**Kingsbay**	**3.10**	**13**	*e*P	**Pn**	**09 31 03.0**	**-0.6**
KBS				*e*S	**Sn**	**09 31 35.8**	**-4.9**
KBS	**Kingsbay**	**3.10**	**13**	*e*P	**Pn**	**09 31 02.9**	**-0.7**
KBS				*e*S	**Sn**	**09 31 36.2**	**-4.5**
KBS				IAML		09 31 38.6	
	comp=Z,10nm,0.5s						
KBS	**Kingsbay**	**3.10**	**13**	Pn	**Pn**	**09 31 03.1**	**-0.5**
HOPEN	**Hopen**	**4.01**	**74**	Pn	**Pn**	**09 31 17.6**	**+1.5**
HOPEN				Sn	**Sn**	**09 32 03.3**	**+0.1**
HOPEN	**Hopen**	**4.01**	**74**	⇑*i*P	**Pn**	**09 31 17.7**	**+1.5**
HOPEN				*e*S	**Sn**	**09 32 03.4**	**+0.3**
HOPEN	**Hopen**	**4.01**	**74**	⇑*i*P	**Pn**	**09 31 17.7**	**+1.5**
HOPEN				*e*S	**Sn**	**09 32 03.5**	**+0.3**
HOPEN				IAML		09 32 09.2	
	comp=Z,16nm,0.4s						
DAG	**Danmarks Havn**	**6.41**	**290**	*i*P	Pn	09 31 42.0	-7.0
DAG				*i*S	Sn	09 32 46.7	-15
DAG	**Danmarks Havn**	**6.41**	**290**	*i*P	Pn	09 31 42.0	-7.0
DAG				*i*S	Sn	09 32 46.8	-15
DAG				IAML		09 32 50.0	
	comp=Z,12nm,0.4s						
NOR	**Nord**	**7.39**	**331**	*e*P	**Pn**	**09 32 01.9**	**-0.5**
DBG	**Daneborg**	**7.49**	**272**	*i*P	Pn	09 31 57.8	-5.9
DBG				*i*S	Sn	09 33 11.7	-17
DBG				IAML		09 33 14.8	
	comp=Z,5.3nm,0.3s						
ARA0	**ARCESS Array S**	**8.16**	**133**	Pn	**Pn**	**09 32 12.7**	**-0.4**
	baz=330,slow=12						
ARA0				Sn	**Sn**	**09 33 40.7**	**-4.5**
	baz=335,slow=22						
ARA0	**ARCESS Array S**	**8.16**	**133**	Pn	**Pn**	**09 32 12.7**	**-0.4**
	baz=330,slow=12						
ARA0				Sn	**Sn**	**09 33 40.7**	**-4.5**
	baz=335,slow=22						
ARCES	**ARCESS Array B**	**8.16**	**133**	Pn	**Pn**	**09 32 12.9**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=332,slow=13,SNR=16						
ARCES				Sn	**Sn**	**09 33 40.5**	**-4.7**
	comp=Z,0.3nm,0.3s,baz=330,slow=20,SNR=3.9						
ARCES				LR	LR	09 35 21.8	
	comp=Z,88nm,19.7s,baz=299,slow=38						
ARE0	**ARCESS Array S**	**8.16**	**133**	Pn	**Pn**	**09 32 12.4**	**-0.6**
ZFI2	**Zemlya Franca-**	**9.08**	**40**	*e*P	**Pn**	**09 32 26.4**	**+0.8**
ZFI2				*e*S	**Sn**	**09 34 02.4**	**-5.2**
	comp=Z,5.6nm,1.0s						
APA0	**Apatity Array**	**11.24**	**125**	Pn	**Pn**	**09 32 54.1**	**-1.1**
APA0	**Apatity Array**	**11.24**	**125**	Pn	**Pn**	**09 32 54.1**	**-1.1**
LVZ	**Lovozero**	**11.34**	**122**	Pn	**Pn**	**09 32 55.7**	**-0.8**
NOA	**NORSAR Array B**	**15.01**	**175**	LR	LR	09 38 32.9	
	comp=Z,56nm,19.2s,baz=355,slow=33						
KIRV	**Kirov**	**22.70**	**117**	LR	LR	09 43 46.6	
	comp=Z,96nm,18.1s,baz=262,slow=36						
FRB	**Frobisher Bay**	**26.73**	**286**	LR	LR	09 45 24.4	
	comp=Z,62nm,20.3s,baz=13,slow=34						
COLD	**Coldfoot**	**36.43**	**346**	P	**P**	**09 37 20.2**	**+1.4**
COLD				IAmb	IAmb	09 37 21.8	
	comp=Z,4.4nm,1.1s						
YKA	**Yellowknife Ar**	**37.15**	**320**	P	**P**	**09 37 24.7**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=11,slow=8.7,SNR=5.4						
YKA				PcP	**PcP**	**09 39 45.3**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=19,slow=2.8,SNR=6.0						
ILAR	**Eielson Array**	**38.65**	**343**	P	**P**	**09 37 39.9**	**+2.2**
	comp=Z,1.3nm,0.8s,baz=4.7,slow=6.9,SNR=16						
MKAR	**Makanchi Array**	**41.32**	**91**	LR	LR	09 58 01.9	
	comp=Z,42nm,21.4s,baz=330,slow=40						
GEYT	**Allbeck**	**44.07**	**120**	LR	LR	09 56 33.2	
	comp=Z,31nm,19.9s,baz=310,slow=36						
PDAR	**Pinedale Array**	**55.13**	**308**	P	**P**	**09 39 47.2**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=15,slow=7.5,SNR=3.9						
PDAR				LR	LR	10 03 14.5	
	comp=Z,40nm,18.8s,baz=0.5,slow=36						
ASAJ	**Asahikawa**	**56.64**	**38**	LR	LR	10 08 17.9	
	comp=Z,72nm,19.6s,baz=180,slow=40						
TORD	**Torodi Ar. Bea**	**62.89**	**187**	P	**P**	**09 40 41.6**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=343,slow=2.9,SNR=3.6						
TXAR	**Lajitas Array**	**66.89**	**298**	P	**P**	**09 41 06.1**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=43,slow=4.9,SNR=5.2						

KRSC 19 09:31:39.8±0.8, 52°.03N×159°.33E, h58km±14km, ML3.7
ISCJB 19 09:31:41.3±0.8, 52°.04N±0°.05×159°.35E±0°.10, h51km±12km, mb3.5/2, Error ellipse: s-maj=11.5km s-min=5.1km az=35.1
IDC 19 09:31:48.1±4.2, 52°.74N×158°.65E, h103km±83km, mb3.1/2, mb1 3.6/2, mb1mx2.9/42, mbtmp3.4/2, Error ellipse: s-maj=208.5km s-min=23.0km az=122.0

ISC 19 09:31:42.2±1.4, 52°.06N±0°.06×159°.32E±0°.07, h44km±18km, n31, σ0s83/40, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.62**	**308**	*e*P	**Pn**	**09 31 54.4**	**-0.3**
RUS				*e*S	**Sn**	**09 32 03.6**	**0.0**
KDTR	**Khodutka, Kamc**	**0.81**	**253**	*e*P	**Pn**	**09 31 56.8**	**-0.3**
KDTR				*e*S	**Sn**	**09 32 07.6**	**-0.4**
MTVR	**Mutnovka**	**0.82**	**302**	*e*P	**Pn**	**09 31 57.4**	**0.0**
MTVR				*e*S	**Sn**	**09 32 08.9**	**+0.4**
GRL	**Gorelyy**	**0.91**	**304**	*e*P	**Pn**	**09 31 59.2**	**+0.5**
ASAK	**Asacha**	**0.93**	**291**	*e*P	**Pn**	**09 31 59.3**	**+0.4**
ASAK				*e*S	**Sn**	**09 32 12.0**	**+0.8**
DALK	**Dalny**	**1.04**	**341**	*e*P	**Pn**	**09 31 59.9**	**-0.3**
DALK				*e*S	**Sn**	**09 32 13.3**	**-0.3**
PET	**Petropavlovsk**	**1.05**	**338**	*e*P	**Pn**	**09 32 00.2**	**-0.3**
PET				*e*S	**Sn**	**09 32 14.1**	**+0.2**
KRMR	**Karymshinskiy**	**1.06**	**317**	*e*P	**Pn**	**09 32 00.6**	**0.0**
KRMR				*e*S	**Sn**	**09 32 14.8**	**+0.6**
NLC	**Nalytchevo**	**1.12**	**1**	*e*P	**Pn**	**09 32 00.6**	**-0.8**
NLC				*e*S	**Sn**	**09 32 14.9**	**-0.6**
SPN	**Mys Shipunski**	**1.13**	**22**	*e*P	**Pn**	**09 32 01.5**	**0.0**
SPN				*e*S	**Sn**	**09 32 16.0**	**+0.2**
UGLR	**Uglovaya**	**1.19**	**346**	*e*P	**Pn**	**09 32 02.5**	**0.0**
UGLR				*e*S	**Sn**	**09 32 18.2**	**+0.6**
SMAR	**Somma**	**1.25**	**346**	*e*P	**Pn**	**09 32 03.0**	**-0.4**
SDLR	**Sedlovina**	**1.25**	**348**	*e*P	**Pn**	**09 32 02.9**	**-0.4**
AVH	**Avacha**	**1.26**	**344**	*e*P	**Pn**	**09 32 03.6**	**+0.2**
AVH				*e*S	**Sn**	**09 32 20.2**	**+1.0**
KRER	**Koryakskii**	**1.30**	**345**	*e*P	**Pn**	**09 32 03.9**	**-0.1**
KRER				*e*S	**Sn**	**09 32 20.8**	**+0.5**
KOK	**Koryaka**	**1.31**	**342**	*e*P	**Pn**	**09 32 04.3**	**+0.2**
KRX	**Arik**	**1.37**	**343**	*e*P	**Pn**	**09 32 04.9**	**0.0**
PETK	**Petropavlovsk-**	**1.45**	**317**	P	**Pn**	**09 32 06.1**	**+0.3**
	29nm,0.3s,baz=120,slow=19,SNR=951						
PETK				S	**Sn**	**09 32 20.1**	**-3.6**
	6.0nm,0.3s,baz=125,slow=18,SNR=6.2						
APC	**Apacha**	**1.58**	**304**	*e*P	**Pn**	**09 32 08.2**	**+0.5**
APC				*e*S	**Sn**	**09 32 27.8**	**+0.9**
PAU	**Pauzhetka**	**1.67**	**250**	*e*P	**Pn**	**09 32 10.0**	**+1.1**
SKR	**Severo-Kuril's**	**2.43**	**237**	*e*P	**Pn**	**09 32 19.6**	**+0.2**
SKR				*e*S	**Sn**	**09 32 47.2**	**-0.6**
TUMD	**Tumrok D**	**3.22**	**11**	*e*P	**Pn**	**09 32 31.1**	**+0.9**
TUMR	**Tumrok**	**3.27**	**8**	*e*P	**Pn**	**09 32 32.7**	**+1.7**
H11N2	**WAKE ISLAND Hy**	**32.80**	**167**	T	T	10 13 15.7	
	baz=351,slow=76,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**32.82**	**167**	T	T	10 13 08.6	
	baz=351,slow=76,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**32.82**	**167**	T	T	10 13 16.0	
	baz=351,slow=76,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**33.98**	**167**	T	T	10 14 38.0	
	baz=352,slow=74,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**33.99**	**167**	T	T	10 14 34.8	
	baz=352,slow=74,SNR=5.0						

*THE **19** 10:19:50.5,34.06N×25.03E,h0km±2km,ML3.1/4,Error ellipse: s-maj=4.2km s-min=1.0km az=175.0*
*ATH **19** 10:19:52.0,34.16N×24.97E,h36km±5km,ML3.1/5,Error ellipse: s-maj=7.0km s-min=1.9km az=358.0*
*IDC **19** 10:19:54.9±2.8,34.26N×24.91E,h56km±22km,mb3.7/7, mb1 3.8/9,mb1mx3.5/40,mbtmp3.9/9,ML3.8/2,Error ellipse: s-maj=33.3km s-min=21.8km az=147.0*
*HLW **19** 10:19:58.0,33.56N×25.54E,h10km±26km,Md3.4,Ml3.9*

ISC 19 10:19:48.5±1.4,33.98N±0.04×24.96E±0.05,h12km±9km, n46,σt=50/52,mb4.1/7,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.04**	**353**	P	**Pg**	**10 20 09.0**	**+0.4**
SIVA				S	**Sn**	**10 20 24.3**	**+0.9**
	4μm,0.6s						
SIVA	**Sivas**	**1.04**	**353**	P	**Pg**	**10 20 08.9**	**+0.4**
SIVA				S	**Sg**	**10 20 21.5**	**-0.7**
SIVA				AML	AML	10 20 31.5	
	comp=N,5917μm,0.8s						
SIVA				AML	AML	10 20 31.6	
	comp=E,6738μm,0.5s						
TMBK	**Timbaki Herakl**	**1.10**	**352**	P	**Pb**	**10 20 10.3**	**+0.8**
GVD	**Gavdhos**	**1.12**	**320**	P	**Pn**	**10 20 11.4**	**+1.5**
GVD	**Gavdhos**	**1.12**	**320**	P	**Pn**	**10 20 11.5**	**+1.5**
GVD				S	**Sg**	**10 20 23.9**	**-0.8**
GVD				AML	AML	10 20 40.1	
	comp=E,3109μm,0.5s						
GVD				AML	AML	10 20 42.5	
	comp=N,2795μm,0.8s						
GVDS	**Gavdos**	**1.12**	**320**	P	**Pn**	**10 20 11.6**	**+1.6**
GVDS				S	**Sn**	**10 20 28.8**	**+3.5**
	comp=N,702nm,0.4s						
FRMA	**Ierapetra Chan**	**1.22**	**32**	P	**Pn**	**10 20 12.6**	**+1.3**
LAST	**Lasithi**	**1.25**	**20**	P	**Pn**	**10 20 12.1**	**+0.2**
LAST				S	**Sg**	**10 20 29.7**	**+0.7**
	comp=N,612nm,0.6s						
LAST	**Lasithi**	**1.25**	**20**	P	**Pn**	**10 20 12.2**	**+0.2**
LAST				AML	AML	10 20 38.5	
	comp=E,1147μm,0.7s						
LAST				AML	AML	10 20 42.4	
	comp=N,1244μm,0.6s						
IDI	**Anoyia**	**1.31**	**358**	P	**Pn**	**10 20 13.0**	**+0.4**
	comp=N,17nm,0.3s,baz=201,slow=8.4,SNR=74						
IDI				LR	LR	10 21 00.3	
	comp=N,206nm,18.9s,baz=230,slow=64						
IDI	**Anoyia**	**1.31**	**358**	P	**Pn**	**10 20 13.2**	**+0.6**
IDI				AML	AML	10 20 37.0	
	comp=E,974μm,0.8s						
IDI				AML	AML	10 20 42.6	
	comp=N,764μm,0.7s						
NPS	**Neapolis**	**1.39**	**23**	P	**Pn**	**10 20 14.7**	**+1.0**
NPS				S	**Sb**	**10 20 32.9**	**+0.8**
	comp=N,520nm,0.6s						
NPS	**Neapolis**	**1.39**	**23**	P	**Pn**	**10 20 14.4**	**+0.7**
NPS				AML	AML	10 20 43.4	
	comp=E,1215μm,0.6s						
NPS				AML	AML	10 20 44.1	
	comp=N,828μm,0.7s						
PRNS	**Prines Rethymn**	**1.43**	**345**	P	**Pn**	**10 20 15.3**	**+1.0**
ZKR	**Zakros**	**1.54**	**42**	P	**Pn**	**10 20 16.7**	**+0.9**
ZKR	**Zakros**	**1.54**	**42**	P	**Pn**	**10 20 16.6**	**+0.9**
VAM	**Vamos**	**1.56**	**337**	P	**Pb**	**10 20 17.3**	**+0.1**
VAM	**Vamos**	**1.56**	**337**	P	**Pn**	**10 20 16.9**	**+0.9**
IMMV	**Iera Moni Meta**	**1.68**	**332**	P	**Pb**	**10 20 19.2**	**-0.2**
IMMV	**Iera Moni Meta**	**1.68**	**332**	P	**Pn**	**10 20 19.1**	**+1.4**
KARP	**Karpathos**	**2.40**	**49**	P	**Pn**	**10 20 29.1**	**+1.6**
KARP	**Karpathos**	**2.40**	**49**	P	**Pn**	**10 20 29.1**	**+1.6**
ANAF	**Anafi Island**	**2.46**	**15**	P	**Pn**	**10 20 28.5**	**0.0**
SLUM	**Salum**	**2.49**	**175**	P	**Pb**	**10 20 32.5**	**-0.7**
	baz=188						
SWA2		**4.74**	**175**	P	**Pn**	**10 21 02.7**	**+3.0**
	baz=182						
SWA2				S	**Sn**	**10 21 53.2**	**-1.4**
	baz=182						
SWA2				AMP		10 22 00.0	
	baz=182						
HFRF	**Wahat Farafira**	**7.40**	**156**	P	**Pn**	**10 21 37.5**	**+1.2**
	baz=158						
NBNS	**Bani Suef**	**7.61**	**133**	P	**Pn**	**10 21 41.0**	**+1.9**
	baz=133						
SUZ	**Suez**	**7.86**	**120**	P	**Pn**	**10 21 44.0**	**+1.4**
	baz=118						
ZAF	**Zafarana**	**7.99**	**124**	P	**Pn**	**10 21 44.8**	**+0.5**
	baz=123						
HDK1	**Dakhla**	**9.25**	**154**	P	**Pn**	**10 22 04.0**	**+2.2**
	baz=156						
HKAT	**Jabal Katrina**	**9.45**	**123**	P	**Pn**	**10 22 05.1**	**+0.5**
	baz=122						
MAKA	**Makarska**	**11.17**	**329**	Sn	Sn	10 24 20.9	-12
KIJV	**Kijevo**	**12.01**	**329**	*e*Pn	**Pn**	**10 22 36.4**	**-3.1**
KIJV				Sn	Sn	10 24 40.2	-13
ZIRJ	**Zirje**	**12.08**	**326**	*i*Pn	**Pn**	**10 22 37.6**	**-2.7**
ZIRJ				Sn	Sn	10 24 41.2	-14
MORI	**Morici**	**12.21**	**327**	*e*Pn	**Pn**	**10 22 39.3**	**-2.8**
DUGI	**Dugi Otok**	**12.61**	**325**	*e*Pn	**Pn**	**10 22 45.2**	**-2.4**
KBZ	**Khabaz**	**17.00**	**50**	P	**P**	**10 23 48.8**	**+1.0**
	comp=N,0.1nm,0.3s,baz=236,slow=15,SNR=3.1						
AKASG	**Malin Array Be**	**17.00**	**9**	P	**Pn**	**10 23 45.6**	**-0.3**
	comp=N,0.9nm,0.3s,baz=204,slow=10,SNR=4.3						
GERES	**GERESS Array B**	**17.05**	**334**	P	**P**	**10 23 48.5**	**0.0**
	comp=N,0.2nm,0.3s,baz=144,slow=12,SNR=23						
HFS	**Hagfors**	**27.19**	**348**	P	**P**	**10 25 31.0**	**-0.6**
	comp=N,3.5nm,0.9s,baz=153,slow=9.7,SNR=5.0						
EKA	**Eskdalemuir Ar**	**28.92**	**326**	P	**P**	**10 25 46.8**	**-0.3**
	comp=N,4.6nm,1.0s,baz=142,slow=11,SNR=3.5						
TORD	**Torodi Ar. Bea**	**29.61**	**231**	P	**P**	**10 25 56.1**	**+2.5**
	comp=N,0.4nm,0.3s,baz=35,slow=9.3,SNR=6.2						
ARCES	**ARCESS Array B**	**35.61**	**0**	P	**P**	**10 26 43.0**	**-2.6**
	comp=N,2.8nm,1.0s,baz=172,slow=9.7,SNR=4.1						
MKAR	**Makanchi Array**	**44.57**	**56**	P	**P**	**10 27 59.9**	**-0.3**
	comp=N,1.4nm,0.5s,baz=270,slow=7.8,SNR=21						
ZALV	**Zalesovo Beam**	**45.95**	**45**	P	**P**	**10 28 09.9**	**-1.1**
	comp=N,1.0nm,0.5s,baz=270,slow=10,SNR=4.1						
SONM	**Songino Array**	**60.37**	**50**	P	**P**	**10 29 57.8**	**+0.4**
	comp=N,0.4nm,0.6s,baz=289,slow=9.0,SNR=3.1						

*ISCJB **19** 10:20:07.3±0.3,37.03N±0.02×31.08E±0.02,h102km±3km, mb3.5/5,Error ellipse: s-maj=3.8km s-min=2.6km az=36.0*
*IDC **19** 10:20:08.1±2.3,37.08N×31.01E,h103km±20km,mb3.3/5, mb1 3.4/9,mb1mx3.2/43,mbtmp3.6/9,Error ellipse: s-maj=27.5km s-min=15.9km az=93.0*
*DDA **19** 10:20:08.8,37.04N×31.04E,h55km±5km,MW3.5*
*ISK **19** 10:20:08.3,37.09N×31.11E,h87km,ML3.3/29*
*NIC **19** 10:20:10.0±0.0,36.96N×31.41E,h24km±2km,Ml3.5/4*

ISC 19 10:20:08.1±0.7,37.04N±0.03×31.13E±0.02,h99km±6km, n80,σt=45/118,mb3.5/5,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNVG	**Manavgat-Antal**	**0.33**	**137**	PG	**Pn**	**10 20 22.5**	**-0.2**
MNVG				SG	**Sn**	**10 20 32.9**	**-0.7**
KEPZ	**Antalya-Kepez**	**0.40**	**109**	*i* PA	**Pn**	**10 20 23.2**	**+0.1**
KEPZ				*i* S	**Sn**	**10 20 34.2**	**-0.2**
BCK	**Bucak**	**0.60**	**315**	PG	**Pn**	**10 20 23.8**	**-0.9**
BCK				SG	**Sn**	**10 20 35.0**	**-2.1**
ALAN	**Alanya-ANTALYA**	**0.87**	**123**	PG	**Pn**	**10 20 27.4**	**+0.4**
ALAN				SG	**Sn**	**10 20 41.4**	**+0.1**
AKUM	**Antalya-Kumluc**	**0.95**	**222**	*i* PA	**Pn**	**10 20 27.9**	**0.0**
AKUM				*i* S	**Sn**	**10 20 46.3**	**+3.6**
AKUM				IAML		10 20 52.0	
	comp=E,942nm,0.3s						
BAGO	**Egridir - ISPA**	**0.99**	**344**	*i* PA	**Pn**	**10 20 28.5**	**+0.1**
BAGO				*i* S	**Sn**	**10 20 42.5**	**-1.2**
ELL	**Elmali**	**1.02**	**254**	PG	**Pn**	**10 20 29.3**	**+0.5**
ELL	**Elmali**	**1.02**	**254**	P	**Pn**	**10 20 30.3**	**+1.6**
ELL				S	**Sn**	**10 20 48.1**	**+3.8**
BRDR	**BURDUR-Merkez**	**1.08**	**308**	*i* P	**Pn**	**10 20 28.4**	**-1.0**
BRDR				*i* S	**Sn**	**10 20 43.8**	**-1.6**
DOGA	**KONYA_Doganhis**	**1.15**	**22**	*i* PA	**Pn**	**10 20 31.0**	**+0.7**
DOGA				*i* S	**Sn**	**10 20 46.4**	**-0.5**
DOGA				IAML		10 20 48.0	
	comp=N,345nm,0.2s						
KMER	**Konya-Meram**	**1.23**	**53**	*i* PA	**Pn**	**10 20 32.1**	**+1.0**
KMER				*i* S	**Sn**	**10 20 49.5**	**+1.0**
BASM	**Basmaki-Afyon**	**1.23**	**316**	PN	**Pn**	**10 20 30.8**	**-0.3**
BASM				SN	**Sn**	**10 20 47.5**	**-1.0**
GAZI	**Gazipasa**	**1.25**	**130**	*i* PA	**Pn**	**10 20 31.0**	**-0.2**
GAZI				*i* S	**Sn**	**10 20 48.4**	**-0.3**
GAZI				IAML		10 20 55.0	
	comp=E,464nm,0.2s						
DEMR	**Demre-Antalya**	**1.27**	**231**	PN	**Pn**	**10 20 31.6**	**+0.2**
DEMR				SN	**Sn**	**10 20 50.0**	**+0.9**
GOLH	**Golhisar**	**1.27**	**280**	*i* P	**Pn**	**10 20 31.9**	**+0.3**
GOLH				*i* S	**Sn**	**10 20 49.7**	**+0.3**
GLHS	**Glhisar (BURDU**	**1.31**	**276**	PN	**Pn**	**10 20 32.3**	**+0.2**
GLHS				SN	**Sn**	**10 20 50.2**	**0.0**
KONT	**Konya--Tatoy**	**1.33**	**47**	*i* PA	**Pn**	**10 20 33.2**	**+0.9**
KONT				*i* S	**Sn**	**10 20 52.4**	**+1.7**
KONT	**Konya--Tatoy**	**1.33**	**47**	PN	**Pn**	**10 20 32.9**	**+0.6**
KZIL	**AFYON_Kizioren**	**1.45**	**328**	*i* P	**Pn**	**10 20 33.4**	**-0.4**
KZIL				*i* S	**Sn**	**10 20 52.6**	**-0.6**
AKAS	**Kas**	**1.47**	**237**	*i* PA	**Pn**	**10 20 33.7**	**-0.3**
AKAS				*i* S	**Sn**	**10 20 53.1**	**-0.5**
AKAS				IAML		10 21 00.0	
	comp=E,226nm,0.3s						
ERMK	**Ermenek**	**1.48**	**105**	*i* PA	**Pn**	**10 20 35.9**	**+1.7**
ERMK				*i* S	**Sn**	**10 20 54.9**	**+0.8**
ERMK				IAML		10 20 56.0	
	comp=E,689nm,0.7s						
LADK	**Ladik-KONYA**	**1.52**	**40**	PN	**Pn**	**10 20 34.9**	**+0.3**
LADK				SN	**Sn**	**10 20 54.4**	**-0.3**
KSL	**Kastellorizon**	**1.53**	**235**	P	**Pn**	**10 20 37.8**	**+3.2**
KSL				S	**Sn**	**10 20 59.7**	**+5.0**
SHUT	**Suhut-Afyon**	**1.58**	**343**	PN	**Pn**	**10 20 35.5**	**+0.1**
BOLV	**Bolvadin**	**1.69**	**355**	*i* PA	**Pn**	**10 20 37.1**	**+0.4**
BOLV				*i* S	**Sn**	**10 20 57.5**	**-1.0**
FETY	**Fethiye**	**1.69**	**257**	*i* PA	**Pn**	**10 20 36.3**	**-0.3**
FETY				*i* S	**Sn**	**10 20 56.8**	**-1.6**
DENT	**Denizli**	**1.82**	**294**	PN	**Pn**	**10 20 38.3**	**0.0**
BERE	**Bereket-Mersin**	**1.82**	**112**	PN	**Pn**	**10 20 40.6**	**+2.2**
TAVA	**DENIZLI_Tavas**	**1.82**	**284**	*i* PA	**Pn**	**10 20 38.2**	**-0.1**
TAVA				*i* S	**Sn**	**10 21 00.2**	**-1.2**
TEKE	**Tekeli-Mersin**	**1.83**	**119**	PN	**Pn**	**10 20 39.9**	**+1.5**
KHAL	**Karahalli**	**1.86**	**316**	*i* P	**Pn**	**10 20 38.3**	**-0.6**
KHAL				*i* S	**Sn**	**10 21 00.3**	**-2.1**
AFYO	**Afyonkarahisar**	**1.87**	**340**	*i* PA	**Pn**	**10 20 38.9**	**0.0**
AFYO				*i* S	**Sn**	**10 21 01.9**	**-0.7**
KIZT	**Kizilcal**	**1.93**	**18**	PN	**Pn**	**10 20 39.9**	**+0.1**
TEVE	**Tevekalti-Mers**	**1.95**	**107**	PN	**Pn**	**10 20 41.9**	**+1.9**
TURN	**Turunc**	**2.03**	**266**	*i* PA	**Pn**	**10 20 44.1**	**+3.1**
TURN				*i* S	**Sn**	**10 21 09.5**	**+3.4**
YORU	**Yoruktepe-Mers**	**2.03**	**115**	PN	**Pn**	**10 20 42.5**	**+1.5**
OREN	**Orenkoy-Mersin**	**2.05**	**113**	PN	**Pn**	**10 20 42.7**	**+1.5**
CHBY	**Cihanbeyli**	**2.08**	**42**	PN	**Pn**	**10 20 42.6**	**+0.9**
TEPE	**Tepekoy-Mersin**	**2.12**	**112**	PN	**Pn**	**10 20 43.8**	**+1.6**
GULN	**MERSIN_Gulnar**	**2.12**	**113**	*i* P	**Pn**	**10 20 43.7**	**+1.6**
GULN				*i* S	**Sn**	**10 21 09.0**	**+0.6**
AKKU	**Akkuyu-Mersin**	**2.14**	**113**	PN	**Pn**	**10 20 44.1**	**+1.8**
KEBE	**Keben-Mersin**	**2.16**	**105**	PN	**Pn**	**10 20 44.4**	**+1.7**
IKL	**Isikli**	**2.20**	**110**	PN	**Pn**	**10 20 44.9**	**+1.7**
SULT	**Sultanhani-AKS**	**2.22**	**58**	PN	**Pn**	**10 20 44.7**	**+1.2**
ALFC	**Alefka**	**2.22**	**147**	P	**Pn**	**10 20 42.9**	**-0.6**
ALFC				S	**Sn**	**10 21 08.4**	**-2.3**
ALFC				AML	AML	10 21 16.1	
	comp=E,1.3nm,0.2s						
ALFC				AML	AML	10 21 16.1	
	comp=E,1.3nm,0.2s						
ALFC				AML	AML	10 21 17.8	
	comp=E,0.8nm,0.3s						
ALFC				AML	AML	10 21 17.8	
	comp=E,0.8nm,0.3s						
TISA	**Tisan-Mersin**	**2.23**	**112**	PN	**Pn**	**10 20 44.9**	**+1.4**
AKMS	**Akamas**	**2.24**	**154**	P	**Pn**	**10 20 43.1**	**-0.6**
AKMS				S	**Sn**	**10 21 09.5**	**-1.5**
AKMS				AML	AML	10 21 22.2	
	comp=E,0.9nm,0.4s						
AKMS				AML	AML	10 21 22.2	
	comp=E,0.9nm,0.4s						
AKMS				AML	AML	10 21 22.6	
	comp=E,1.4nm,0.4s						
AKMS				AML	AML	10 21 22.6	
	comp=E,1.4nm,0.4s						
SILI	**Silifke-Mersin**	**2.34**	**106**	PN	**Pn**	**10 20 46.7**	**+1.7**
USAK	**Uak-Merkez**	**2.37**	**316**	*i* P	**Pn**	**10 20 45.2**	**-0.2**
LEF	**Lefka**	**2.39**	**143**	*i* P	**Pn**	**10 20 44.3**	**-1.3**
LEF				*i* S	**Sn**	**10 21 09.6**	**-4.8**
LEF				IAML		10 21 15.0	
	comp=E,110nm,0.3s						
KERG	**Konya-Eregli**	**2.42**	**80**	*i* P	**Pn**	**10 20 47.0**	**+0.8**
KERG				*i* S	**Sn**	**10 21 16.0**	**+0.5**
GDZ	**Gediz**	**2.43**	**328**	*i* P	**Pn**	**10 20 45.8**	**-0.5**
KIZK	**Mersin**	**2.48**	**102**	*i* P	**Pn**	**10 20 49.1**	**+2.2**
KIZK				*i* S	**Sn**	**10 21 15.8**	**-0.9**
KIZK				IAML		10 21 22.0	
	comp=E,159nm,0.6s						
KULU	**Kulu**	**2.49**	**36**	PN	**Pn**	**10 20 47.9**	**+0.8**
KKUL	**Konya-Kulu**	**2.56**	**33**	*i* PA	**Pn**	**10 20 48.3**	**+0.4**
AYDN	**Tasoluk**	**2.66**	**285**	*i* P	**Pn**	**10 20 48.6**	**-0.7**
SZAC	**Souni**	**2.69**	**147**	P	**Pn**	**10 20 49.7**	**+0.1**
SZAC				S	**Sn**	**10 21 20.0**	**-1.6**
SZAC				AML	AML	10 21 34.1	
	comp=E,0.5nm,0.6s						
SZAC				AML	AML	10 21 34.1	
	comp=E,0.5nm,0.6s						
SZAC				AML	AML	10 21 38.8	
	comp=E,0.6nm,0.3s						
SZAC				AML	AML	10 21 38.8	
	comp=E,0.6nm,0.3s						
MERS	**Mersin**	**2.72**	**93**	PN	**Pn**	**10 20 51.5**	**+1.4**
CSS	**Mathiatis**	**2.73**	**139**	P	**Pn**	**10 20 50.0**	**-0.3**
CSS				S	**Sn**	**10 21 20.8**	**-1.9**
ASGA	**Asgata**	**2.83**	**142**	P	**Pn**	**10 20 52.0**	**+0.6**
ASGA				AML	AML	10 21 35.8	
	comp=E,0.4nm,0.4s						
ASGA				AML	AML	10 21 40.4	
	comp=E,0.4nm,0.4s						
YAYX	**Yaylak**	**2.84**	**47**	PN	**Pn**	**10 20 52.5**	**+0.7**
AFSR	**Afar-Bala (An**	**2.85**	**32**	PN	**Pn**	**10 20 53.1**	**+1.2**
MVOU	**Mavrovouni**	**2.86**	**134**	P	**Pn**	**10 20 51.1**	**-0.8**
MVOU				S	**Sn**	**10 21 23.7**	**-1.9**
GULE	**Gulek**	**2.92**	**84**	*i* P	**Pn**	**10 20 54.7**	**+1.8**
SRCK	**Saricakaya, Es**	**3.03**	**353**	PN	**Pn**	**10 20 54.2**	**+0.1**
KIRS	**Kırehir-Merke**	**3.04**	**46**	*i* P	**Pn**	**10 20 55.3**	**+1.0**
CMRD	**Camardi-Nigde**	**3.14**	**77**	PN	**Pn**	**10 20 57.6**	**+1.9**
KARA	**Karaisali**	**3.14**	**85**	PN	**Pn**	**10 20 57.6**	**+1.9**
BRTR	**Keskin Array B**	**3.33**	**36**	P	**Pn**	**10 20 58.7**	**+0.4**
	comp=E,3.3nm,0.3s,baz=214,slow=15,SNR=74						
BRTR				S	**Sn**	**10 21 38.4**	**+1.3**
	comp=E,2.6nm,0.3s,baz=211,slow=24,SNR=13						
BRTR	**Keskin Array B**	**3.33**	**36**	PN	**Pn**	**10 20 58.9**	**+0.6**
YUVA	**Yuva-Kibriscik**	**3.38**	**7**	PN	**Pn**	**10 20 59.6**	**+0.7**
MMAI	**Mount Meron Ar**	**5.33**	**138**	P	**Pn**	**10 21 25.0**	**-0.3**
	comp=E,2.8nm,0.3s,baz=310,slow=12,SNR=6.5						
EIL	**Elat**	**8.01**	**155**	P	**Pn**	**10 22 04.3**	**+2.6**
	comp=E,1.0nm,0.3s,baz=311,slow=3.9,SNR=14						
MORH	**Mrgy, Hungar**	**13.07**	**318**	*e*Pg	**Pn**	**10 23 10.0**	**+0.2**
MORH				*e*Sg	**P**	**10 23 18.0**	**+1.7**
GERES	**GERESS Array B**	**17.33**	**318**	P	**P**	**10 24 02.2**	**-1.4**
	comp=E,0.2nm,0.3s,baz=144,slow=12,SNR=3.9						
FINES	**FINESS Array B**	**24.64**	**354**	P	**P**	**10 25 18.2**	**-0.8**
	comp=E,0.8nm,0.5s,baz=152,slow=15,SNR=2.5						
ARCES	**ARCESS Array B**	**32.70**	**356**	P	**P**	**10 26 29.9**	**-0.7**
	comp=E,2.3nm,0.9s,baz=168,slow=8.8,SNR=2.7						
MKAR	**Makanchi Array**	**38.69**	**59**	P	**P**	**10 27 22.1**	**0.0**
	comp=E,0.6nm,0.5s,baz=266,slow=8.2,SNR=6.4						
SONM	**Songino Array**	**54.53**	**53**	P	**P**	**10 29 25.8**	**0.0**
	comp=E,0.2nm,0.4s,baz=288,slow=8.8,SNR=2.5						
YKA	**Yellowknife Ar**	**77.05**	**344**	P	**P**	**10 31 48.8**	**-1.0**
	comp=E,0.1nm,0.5s,baz=31,slow=5.5,SNR=3.6						

*ISCJB **19** 10:46:56.5±0.2,6.85N±0.02×73.10W±0.02,h155km±2km, mb3.8/8,Error ellipse: s-maj=4.2km s-min=2.8km az=26.9*
*IDC **19** 10:46:57.4±0.7,6.74N×72.93W,h163km±7km,mb3.6/8, mb1 4.0/11,mb1mx3.6/31,mbtmp4.2/11,Error ellipse: s-maj=18.4km s-min=7.8km az=133.0*
*NEIC **19** 10:46:58.2±1.2,6.9N±0.1×73.1W±0.1,h156km±10km, mb4.4/69*
*RSNC **19** 10:46:58.5±1.0,6.81N×73.16W,h145km±6km,ML4.1, Mw4.1,Fault plane solution: NP1:φ=21.00000°, δ=88.00000°,λ=-2.00000°.*

ISC 19 10:46:57.1±0.6,6.84N±0.03×73.09W±0.03,h156km±5km, n144,σt=93/225,mb4.4/38,20C-13D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAMC	**Pamplona, Colo**	**0.63**	**38**	*i*P	**Pn**	**10 47 21.4**	**+0.9**
PAMC				*e*S	**Sn**	**10 47 37.9**	**-0.4**
PAMC				*i*		10 47 41.1	
	comp=Z,2μm,0.4s						
BRRC	**Barranca, Sant**	**0.67**	**293**	*i*	**Sn**	**10 47 40.6**	**+2.9**
	comp=Z,3μm,0.3s						
RUSC	**La Rusia**	**0.94**	**180**	*i*P	**Pn**	**10 47 22.4**	**-0.2**
RUSC				*e*S	**Sn**	**10 47 40.5**	**-1.6**
RUSC				*i*		10 47 42.3	
	comp=Z,1μm,0.2s						
RUSC				*i*		10 47 42.3	
	comp=Z,2μm,0.7s						
RUSC					Sn	Sn	10 47 45.3 +3.2
TAMC	**Tame, Arauca**	**1.35**	**107**	*i*P	**Pn**	**10 47 27.0**	**+1.3**
TAMC				*i*		10 47 47.9	
	comp=Z,1μm,0.4s						
TAMC				*e*S	**Sn**	**10 47 48.2**	**+0.5**
TAMC				*i*		10 47 58.3	
	comp=Z,1μm,1.1s						
PTBC	**PUERTO BERRIO,**	**1.39**	**258**	*i*P	**Pn**	**10 47 25.0**	**-1.1**
PTBC				*e*S	**Sn**	**10 47 45.7**	**-2.5**
PTBC				*i*		10 47 53.4	
	comp=Z,2μm,0.2s						
PTBC				*i*		10 47 53.7	
	comp=Z,2μm,0.5s						
OCAC	**Ocana**	**1.41**	**351**	*i*P	**Pn**	**10 47 26.6**	**+0.1**
OCAC				*e*S	**Sn**	**10 47 48.2**	**-0.8**
OCAC				*i*		10 47 56.8	
	comp=Z,2μm,0.4s						
OCAC				*i*		10 47 57.1	
	comp=Z,2μm,0.2s						
SPBC	**San Pablo de B**	**1.53**	**220**	*i*P	**Pn**	**10 47 27.3**	**-0.3**
SPBC				*e*S	**Sn**	**10 47 49.6**	**-1.5**
SPBC				*i*		10 47 53.9	
	comp=Z,3μm,0.4s						
SPBC				*i*		10 47 54.2	
	comp=Z,3μm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.87**	**290**	*e*P	**Pn**	**10 47 30.9**	**-0.2**
ZARC				*e*S	**Sn**	**10 47 55.7**	**-1.7**
ZARC				*i*		10 48 01.7	
	comp=Z,2μm,0.3s						
ZARC				*i*		10 48 01.9	
	comp=Z,2μm,0.5s						
CTAU	**Tausa, Cundina**	**1.88**	**210**	*i*P	**Pn**	**10 47 33.4**	**+1.5**
CTAU				*e*S	**Sn**	**10 47 57.8**	**-0.7**
CTAU				*i*		10 48 12.2	
	comp=Z,2μm,2.3s						
SMLC	**San Martn de**	**2.18**	**334**	*i*P	**Pn**	**10 47 34.5**	**-0.1**
SMLC				*e*S	**Sn**	**10 48 04.5**	**+0.8**
SMLC				*i*		10 48 05.5	
	comp=Z,1μm,0.3s						
SMLC				*i*		10 48 07.9	
	comp=Z,1μm,0.3s						
NORC	**Norcasia**	**2.18**	**234**	*i*P	**Pn**	**10 47 34.3**	**-0.4**
NORC				*e*S	**Sn**	**10 48 02.8**	**-1.0**
NORC				*i*		10 48 11.8	
	comp=Z,1μm,0.3s						
NORC				*i*		10 48 12.2	
	comp=Z,1μm,0.5s						
CHIC	**Chingaza**	**2.29**	**196**	*i*P	**Pn**	**10 47 36.4**	**0.0**
CHIC				*e*S	**Sn**	**10 48 05.0**	**-1.8**
CHIC				*i*		10 48 11.3	
	comp=Z,1μm,0.3s						
CHIC				*i*		10 48 11.5	
	comp=Z,1μm,0.3s						
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**10 47 38.5**	**+1.5**
	comp=Z,221nm,0.3s,baz=309,slow=21,SNR=260						
ROSC				S	**Sn**	**10 48 09.0**	**+1.3**
	comp=Z,1μm,0.3s,baz=85,slow=22,SNR=25						
ROSC	**El Rosal**	**2.33**	**212**		**Pn**	**10 47 38.5**	**+1.5**
ROSC				Sn	**Sn**	**10 48 08.3**	**+0.6**
CVER	**Cruz Verde, Cu**	**2.50**	**203**	*i*P	**Pn**	**10 47 40.0**	**+0.9**
CVER				*e*S	**Sn**	**10 48 09.3**	**-2.2**
CVER				*i*		10 48 17.9	
	comp=Z,15μm,0.3s						
HELC	**Santa Helena**	**2.51**	**255**	*e*P	**Pn**	**10 47 38.4**	**-0.6**
HELC				*e*S	**Sn**	**10 48 10.5**	**-0.8**
HELC				*i*		10 48 16.8	
	comp=Z,1μm,0.5s						
HELC				*i*		10 48 17.1	
	comp=Z,1μm,0.4s						
UREC	**San Jos de Ur**	**2.59**	**291**	*e*P	**Pn**	**10 47 38.3**	**-1.3**
UREC				*e*S	**Sn**	**10 48 08.6**	**-3.9**
UREC				*i*		10 48 17.7	
	comp=Z,1μm,0.2s						
UREC				*i*		10 48 17.8	
	comp=Z,1μm,0.2s						
GUY2C	**Guyana, Caldas**	**2.77**	**235**	*e*P	**Pn**	**10 47 42.5**	**+0.1**
GUY2C				*e*S	**Sn**	**10 48 18.7**	**+1.4**
GUY2C				*i*		10 48 24.6	
	comp=Z,1μm,0.4s						
GUY2C				*i*		10 48 25.1	
	comp=Z,1μm,0.6s						
VILC	**Villavicencio,**	**2.78**	**193**	*e*P	**

	comp=Z,594nm,0.2s							
ORTC			*i*			10 48 40.0		
	comp=Z,594nm,0.2s							
SJCC	**San Jacinto, C**	**3.67**	**326**	⇓*i*P	**Pn**	**10 47 52.1**	**-1.3**	
SJCC				⇓*i*P	**Pn**	**10 47 52.1**	**-1.3**	
SJCC				*e*S	**Sn**	**10 48 32.9**	**-4.2**	
SJCC				*e*S	**Sn**	**10 48 32.9**	**-4.2**	
SJCC				*i*		10 48 47.7		
	comp=Z,310nm,0.6s							
SJCC				*i*		10 48 47.7		
	comp=Z,310nm,0.6s							
SJCC				*i*		10 48 48.5		
	comp=Z,316nm,0.4s							
SJCC				*i*		10 48 48.5		
	comp=Z,316nm,0.4s							
PLMC	**San Jos del P**	**3.71**	**239**	⇑*i*P	**Pn**	**10 47 54.0**	**+0.1**	
PLMC				⇑*i*P	**Pn**	**10 47 54.0**	**+0.1**	
PLMC				*e*S	**Sn**	**10 48 36.5**	**-1.5**	
PLMC				*e*S	**Sn**	**10 48 36.5**	**-1.5**	
PLMC				*i*		10 48 43.8		
	comp=Z,264nm,0.2s							
PLMC				*i*		10 48 43.8		
	comp=Z,264nm,0.2s							
PLMC				*i*		10 48 47.7		
	comp=Z,271nm,0.2s							
PLMC				*i*		10 48 47.7		
	comp=Z,271nm,0.2s							
LCBC	**Los crdobas,**	**3.81**	**302**	*e*P	**Pn**	**10 47 54.2**	**-0.9**	
LCBC				*e*P	**Pn**	**10 47 54.2**	**-0.9**	
LCBC				*e*S	**Sn**	**10 48 37.8**	**-2.5**	
LCBC				*e*S	**Sn**	**10 48 37.8**	**-2.5**	
GUVC	**San Jose del G**	**4.29**	**174**	*e*P	**Pn**	**10 48 00.5**	**-0.9**	
GUVC				*e*P	**Pn**	**10 48 00.5**	**-0.9**	
GUVC				*e*S	**Sn**	**10 48 49.5**	**-2.1**	
GUVC				*e*S	**Sn**	**10 48 49.5**	**-2.1**	
GUVC				*i*		10 48 52.8		
	comp=Z,336nm,0.5s							
GUVC				*i*		10 48 52.8		
	comp=Z,336nm,0.5s							
YOTC	**Yotoco, Valle**	**4.31**	**229**	*e*P	**Pn**	**10 48 00.4**	**-1.3**	
YOTC				*e*P	**Pn**	**10 48 00.4**	**-1.3**	
YOTC				*e*S	**Sn**	**10 48 53.2**	**+1.2**	
YOTC				*e*S	**Sn**	**10 48 53.2**	**+1.2**	
YOTC				*i*		10 49 00.1		
	comp=Z,47nm,0.5s							
YOTC				*i*		10 49 00.1		
	comp=Z,47nm,0.5s							
YOTC				*i*		10 49 03.7		
	comp=Z,76nm,0.7s							
YOTC				*i*		10 49 03.7		
	comp=Z,76nm,0.7s							
SOLC	**Bahia Solano**	**4.33**	**262**	*e*P	**Pn**	**10 48 01.5**	**-0.4**	
SOLC				*e*P	**Pn**	**10 48 01.5**	**-0.4**	
SOLC				*e*S	**Sn**	**10 48 51.8**	**-0.5**	
SOLC				*e*S	**Sn**	**10 48 51.8**	**-0.5**	
SOLC				*i*		10 48 53.6		
	comp=Z,71nm,0.4s							
SOLC				*i*		10 48 53.6		
	comp=Z,71nm,0.4s							
SMRC	**Santa Marta, M**	**4.44**	**345**	*e*P	**Pn**	**10 48 03.2**	**-0.1**	
SMRC				*e*P	**Pn**	**10 48 03.2**	**-0.1**	
SMRC				*e*S	**Sn**	**10 48 50.7**	**-4.2**	
SMRC				*e*S	**Sn**	**10 48 50.7**	**-4.2**	
SMRC				*i*		10 48 54.3		
	comp=Z,196nm,0.5s							
SMRC				*i*		10 48 54.3		
	comp=Z,196nm,0.5s							
SMRC				*i*		10 48 55.6		
	comp=Z,233nm,0.5s							
SMRC				*i*		10 48 55.6		
	comp=Z,233nm,0.5s							
MACC	**Macarena, Meta**	**4.73**	**189**	⇓*i*P	**Pn**	**10 48 05.5**	**-1.6**	
MACC				⇓*i*P	**Pn**	**10 48 05.5**	**-1.6**	
MACC				*e*S	**Sn**	**10 48 56.1**	**-5.6**	
MACC				*e*S	**Sn**	**10 48 56.1**	**-5.6**	
MACC				*i*		10 49 00.4		
	comp=Z,257nm,0.9s							
MACC				*i*		10 49 00.4		
	comp=Z,257nm,0.9s							
MACC				*i*		10 49 03.0		
	comp=Z,200nm,0.7s							
MACC				*i*		10 49 03.0		
	comp=Z,200nm,0.7s							
BETC	**Betania**	**4.75**	**210**	*e*P	**Pn**	**10 48 06.4**	**-1.0**	
BETC				*e*P	**Pn**	**10 48 06.4**	**-1.0**	
BETC				*e*S	Sn	10 48 52.8	-10	
BETC				*e*S	Sn	10 48 52.8	-10	
BETC				*i*		10 49 03.7		
	comp=Z,32nm,0.8s							
BETC				*i*		10 49 03.7		
	comp=Z,32nm,0.8s							
URIC	**Uribia, Colomb**	**4.95**	**13**	*e*P	**Pn**	**10 48 08.8**	**-1.1**	
URIC				*e*P	**Pn**	**10 48 08.8**	**-1.1**	
URIC				*e*S	**Sn**	**10 49 00.8**	**-6.1**	
URIC				*e*S	**Sn**	**10 49 00.8**	**-6.1**	
URIC				*i*		10 49 09.5		
	comp=Z,87nm,0.5s							
URIC				*i*		10 49 09.5		
	comp=Z,87nm,0.5s							
URIC				*i*		10 49 11.6		
	comp=Z,81nm,0.4s							
URIC				*i*		10 49 11.6		
	comp=Z,81nm,0.4s							
MALC	**Bahia Malaga**	**5.08**	**237**	⇓*i*P	**Pn**	**10 48 12.6**	**+1.0**	
MALC				⇓*i*P	**Pn**	**10 48 12.6**	**+1.0**	
MALC				*e*S	**Sn**	**10 49 11.8**	**+1.9**	
MALC				*e*S	**Sn**	**10 49 11.8**	**+1.9**	
MALC				*i*		10 49 23.7		
	comp=Z,99nm,1.3s							
MALC				*i*		10 49 23.7		
	comp=Z,99nm,1.3s							
PCON	**Cinco Dias**	**5.56**	**216**	*e*P	**Pn**	**10 48 19.0**	**+0.3**	
PCON				*e*P	**Pn**	**10 48 19.0**	**+0.3**	
PCON				*e*S	**Sn**	**10 49 15.2**	**-7.1**	
PCON				*e*S	**Sn**	**10 49 15.2**	**-7.1**	
PCON				*i*		10 49 27.8		
	comp=Z,63nm,0.5s							
PCON				*i*		10 49 27.8		
	comp=Z,63nm,0.5s							
PCON				*i*		10 49 58.2		
	comp=Z,91nm,0.7s							
PCON				*i*		10 49 58.2		
	comp=Z,91nm,0.7s							
FLOC	**Florencia**	**5.81**	**206**	⇑*i*P	**Pn**	**10 48 20.9**	**-0.6**	
FLOC				⇑*i*P	**Pn**	**10 48 20.9**	**-0.6**	
FLOC				*e*S	**Sn**	**10 49 23.6**	**-4.0**	
FLOC				*e*S	**Sn**	**10 49 23.6**	**-4.0**	
FLOC				*i*		10 49 31.5		
	comp=Z,74nm,0.3s							
FLOC				*i*		10 49 31.5		
	comp=Z,74nm,0.3s							
FLOC				*i*		10 49 33.0		
	comp=Z,109nm,1.3s							
FLOC				*i*		10 49 33.0		
	comp=Z,109nm,1.3s							
SOTA	**Rioblanco**	**5.84**	**217**	⇑*i*P	**Pn**	**10 48 22.7**	**+0.4**	
SOTA				⇑*i*P	**Pn**	**10 48 22.7**	**+0.4**	
SOTA				*e*S	**Sn**	**10 49 22.3**	**-6.6**	
SOTA				*e*S	**Sn**	**10 49 22.3**	**-6.6**	
SOTA				*i*		10 49 39.7		
	comp=Z,67nm,0.6s							
SOTA				*i*		10 49 39.7		
	comp=Z,67nm,0.6s							
SOTA				*i*		10 49 40.2		
	comp=Z,42nm,0.5s							
SOTA				*i*		10 49 40.2		
	comp=Z,42nm,0.5s							
BBAC	**Balboa, Cauca**	**6.33**	**221**	*e*P	**Pn**	**10 48 29.1**	**+0.6**	
BBAC				*e*P	**Pn**	**10 48 29.1**	**+0.6**	
BBAC				*e*S	**Sn**	**10 49 36.7**	**-3.5**	
BBAC				*e*S	**Sn**	**10 49 36.7**	**-3.5**	
BBAC				*i*		10 49 41.0		
	comp=Z,21nm,0.5s							
BBAC				*i*		10 49 41.0		
	comp=Z,21nm,0.5s							
BBAC				*i*		10 49 50.7		
	comp=Z,34nm,1.1s							
BBAC				*i*		10 49 50.7		
	comp=Z,34nm,1.1s							
CRUC	**La Cruz**	**6.50**	**216**	*e*P	**Pn**	**10 48 31.9**	**+1.0**	
CRUC				*e*P	**Pn**	**10 48 31.9**	**+1.0**	
CRUC				*i*		10 49 57.0		
	comp=Z,37nm,0.9s							
CRUC				*i*		10 49 57.0		
	comp=Z,37nm,0.9s							

PTLC	**Puerto Leguiza**	**6.84**	**194**	*e*P	**Pn**	**10 48 31.8**	**-3.3**	
PTLC				*e*P	**Pn**	**10 48 31.8**	**-3.3**	
PTLC				*e*S	Sn	10 50 14.6	+23	
PTLC				*e*S	Sn	10 50 14.6	+23	
PTLC				*i*		10 50 37.9		
	comp=Z,63nm,0.5s							
PTLC				*i*		10 50 37.9		
	comp=Z,63nm,0.5s							
PTLC				*i*		10 50 38.4		
	comp=Z,64nm,0.5s							
PTLC				*i*		10 50 38.4		
	comp=Z,64nm,0.5s							
GCUF	**Volcan Galeras**	**7.01**	**217**	*e*P	**Pn**	**10 48 38.0**	**+0.2**	
GCUF				*e*P	**Pn**	**10 48 38.0**	**+0.2**	
GCUF				*e*S	Sn	10 49 46.0	-11	
GCUF				*e*S	Sn	10 49 46.0	-11	
GCUF				*i*		10 50 02.9		
	comp=Z,12nm,0.4s							
GCUF				*i*		10 50 02.9		
	comp=Z,12nm,0.4s							
GCUF				*i*		10 50 18.5		
	comp=Z,24nm,3.7s							
GCUF				*i*		10 50 18.5		
	comp=Z,24nm,3.7s							
OTAV	**Otavalo**	**8.46**	**219**	*e*P	**Pn**	**10 48 58.0**	**+0.8**	
OTAV				*e*P	**Pn**	**10 48 58.0**	**+0.8**	
OTAV				*e*S	Sn	10 50 22.6	-9.1	
OTAV				*e*S	Sn	10 50 22.6	-9.1	
OTAV	**Otavalo**	**8.46**	**219**		**Pn**	**10 48 57.5**	**+0.4**	
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	**Pn**	**10 49 04.7**	**+0.9**	
	comp=Z,3.6nm,0.3s,baz=323,slow=4.4,SNR=13							
PLCV	**Puerto La Cruz**	**9.03**	**68**		**Pn**	**10 49 04.7**	**+0.5**	
ICMP	**Isla Caja de M**	**12.71**	**30**	Pn	**Pn**	**10 49 51.4**	**-1.0**	
PDPR	**Patillas Dam,**	**13.07**	**31**	Pn	**Pn**	**10 49 56.3**	**-0.8**	
GCPR	**Guaynabo City**	**13.29**	**30**	Pn	**Pn**	**10 49 59.1**	**-0.6**	
CBYP	**Canovanas**	**13.37**	**31**	Pn	**Pn**	**10 50 00.4**	**-0.6**	
MTP	**Monte Pirata**	**13.38**	**33**	Pn	**Pn**	**10 50 01.2**	**+0.2**	
STVI	**Saint Thomas**	**13.92**	**34**	Pn	**Pn**	**10 50 08.5**	**+0.7**	
PAYG	**Puerto Ayora**	**18.71**	**247**	P	**Pn**	**10 51 06.4**	**+0.3**	
TEIG	**Tepich**	**19.85**	**314**	P	**P**	**10 51 12.5**	**-3.6**	
TEIG				IAmb	IAmb	10 51 27.6		
	comp=Z,26nm,1.1s							
GOGA	**Godfrey**	**28.14**	**341**	P	**P**	**10 52 36.8**	**+2.2**	
GOGA				IAmb	IAmb	10 52 40.8		
	comp=Z,9.8nm,1.5s							
HODGE	**Hodges**	**28.54**	**344**	P	**P**	**10 52 39.3**	**+1.2**	
HODGE				IAmb	IAmb	10 52 45.4		
	comp=Z,6.6nm,1.2s							
Z50A	**Ashland**	**28.86**	**337**	P	**P**	**10 52 41.8**	**+0.9**	
Z50A				IAmb	IAmb	10 52 43.9		
	comp=Z,7.3nm,0.7s							
Y49A	**Blount Mountai**	**29.58**	**337**	P	**P**	**10 52 48.9**	**+1.5**	
Y49A				IAmb	IAmb	10 52 50.0		
	comp=Z,5.5nm,0.7s							
X48A	**Hartselle**	**30.35**	**337**	P	**P**	**10 52 54.6**	**+0.5**	
X48A				IAmb	IAmb	10 52 56.9		
	comp=Z,7.0nm,0.7s							
CPCT	**Cooper Cave**	**30.35**	**341**	P	**P**	**10 52 56.1**	**+2.0**	
W50A	**Signal Mountai**	**30.38**	**340**	P	**P**	**10 52 55.8**	**+1.4**	
W50A				IAmb	IAmb	10 52 57.5		
	comp=Z,4.7nm,0.8s							
V51A	**Loudon**	**30.62**	**342**	P	**P**	**10 52 58.7**	**+2.2**	
V51A				IAmb	IAmb	10 53 16.3		
	comp=Z,13nm,1.5s							
S57A	**Dark Hollow, R**	**31.24**	**351**	P	**P**	**10 53 03.8**	**+1.9**	
S57A				IAmb	IAmb	10 53 04.7		
	comp=Z,7.4nm,1.1s							
V48A	**Smith Brothers**	**31.40**	**338**	P	**P**	**10 53 04.8**	**+1.4**	
V48A				IAmb	IAmb	10 53 06.3		
	comp=Z,12nm,0.9s							
T52A	**Hallie**	**31.45**	**345**	P	**P**	**10 53 04.9**	**+1.1**	
WVT	**Waverly**	**32.12**	**337**	P	**P**	**10 53 11.2**	**+1.5**	
WVT				IAmb	IAmb	10 53 11.8		
	comp=Z,10nm,1.1s							
W41B	**Gary Mavity, V**	**33.25**	**331**	P	**P**	**10 53 20.1**	**+0.6**	
WHAR	**Wooly Hollow**	**33.36**	**331**	P	**P**	**10 53 21.3**	**+0.8**	
WHAR				IAmb	IAmb	10 53 22.6		
	comp=Z,5.7nm,0.9s							
LCAR	**Lake Charles**	**33.47**	**333**	P	**P**	**10 53 22.9**	**+1.5**	
PBMO	**Poplar Bluff**	**33.74**	**334**	P	**P**	**10 53 24.5**	**+0.8**	
PBMO				IAmb	IAmb	10 53 25.9		
	comp=Z,10nm,0.7s							
FCAR	**Ozark Folk Cen**	**33.77**	**332**	P	**P**	**10 53 24.6**	**+0.6**	
FCAR				IAmb	IAmb	10 53 25.1		
	comp=Z,5.9nm,0.5s							
S44A	**Carbondale**	**34.04**	**337**	P	**P**	**10 53 27.7**	**+1.4**	
S44A				IAmb	IAmb	10 53 28.3		
	comp=Z,6.9nm,0.6s							
SIUC	**Southern Illin**	**34.05**	**337**	P	**P**	**10 53 27.6**	**+1.2**	
U40A	**Yellville**	**34.49**	**331**	P	**P**	**10 53 31.5**	**+1.2**	
KSPA	**Keystone Colle**	**34.65**	**356**	P	**P**	**10 53 34.0**	**+2.4**	
KSPA				IAmb	IAmb	10 53 49.4		
	comp=Z,9.4nm,1.5s							
M56A	**Emporium**	**34.79**	**353**	P	**P**	**10 53 35.4**	**+2.7**	
M56A				IAmb	IAmb	10 53 41.1		
	comp=Z,20nm,1.4s							
CCM	**Cathedral Cave**	**35.17**	**335**	P	**P**	**10 53 37.3**	**+1.3**	
SFIN	**Lafayette**	**35.67**	**342**	P	**P**	**10 53 41.7**	**+1.4**	
TXAR	**Lajitas Array**	**36.47**	**312**	P	**P**	**10 53 48.4**	**+1.0**	
	comp=Z,1.1nm,0.4s,baz=126,slow=8.9,SNR=26							
TXAR				PcP	**PcP**	**10 56 09.6**	**+1.6**	
	comp=Z,0.3nm,0.5s,baz=144,slow=5.4,SNR=4.2							
TX31	**Lajitas Ar. Si**	**36.47**	**312**	P	**P**	**10 53 48.4**	**+1.1**	
TX32	**Lajitas Array**	**36.47**	**312**	P	**P**	**10 53 48.2**	**+0.8**	
L46A	**Eue Claire**	**36.93**	**344**	P	**P**	**10 53 52.6**	**+1.6**	
J47A	**Sunmer**	**37.69**	**346**	P	**P**	**10 53 58.9**	**+1.6**	
DELO	**Deloro Mine**	**37.74**	**355**	P	**P**	**10 53 59.7**	**+2.0**	
DELO				IAmb	IAmb	10 54 00.2		
	comp=Z,7.4nm,0.8s							
L42A	**Oliver, Polo**	**37.98**	**340**	P	**P**	**10 54 00.0**	**+0.3**	
G65A	**Princeton**	**38.51**	**6**	P	**P**	**10 54 06.5**	**+2.4**	
L40A	**Anamosa**	**38.59**	**338**	P	**P**	**10 54 05.1**	**+0.3**	
MNTX	**Cornudas Mount**	**38.98**	**314**	P	**P**	**10 54 09.6**	**+1.3**	
JFWS	**Jewell Farm**	**38.99**	**340**	P	**P**	**10 54 08.9**	**+0.7**	
I42A	**Draeger Farm,**	**39.42**	**342**	P	**P**	**10 54 12.6**	**+0.8**	
D53A	**Lac Vacive, Po**	**40.29**	**355**	P	**P**	**10 54 20.6**	**+1.7**	
E46A	**Sault Ste Mari**	**40.55**	**348**	P	**P**	**10 54 22.3**	**+1.3**	
BATG	**Bathurst New B**	**40.74**	**7**	P	**P**	**10 54 24.1**	**+1.6**	
VLDQ	**Val d'Or**	**41.29**	**356**	P	**P**	**10 54 28.8**	**+1.8**	
VLDQ				IAmb	IAmb	10 54 29.7		
	comp=Z,15nm,1.4s							
ECSD	**EROS Data Cent**	**42.14**	**334**	P	**P**	**10 54 34.6**	**+0.6**	
ECSD				IAmb	IAmb	10 54 38.9		
	comp=Z,10nm,1.5s							
S22A	**4UR Ranch, Cre**	**43.39**	**320**	P	**P**	**10 54 45.5**	**+1.0**	
EYMN	**Ely**	**43.86**	**342**	P	**P**	**10 54 48.4**	**+0.6**	
EYMN				IAmb	IAmb	10 54 56.5		
	comp=Z,12nm,1.2s							
U15A	**North Rim**	**46.33**	**315**	P	**P**	**10 55 09.9**	**+2.1**	
ULM	**Lac du Bonnet**	**47.28**	**340**	P	**P**	**10 55 14.5**	**-0.1**	
	comp=Z,6.4nm,0.4s,baz=149,slow=7.4,SNR=19							
ULM	**Lac du Bonnet**	**47.28**	**340**	P	**P**	**10 55 14.4**	**-0.1**	
ULM				IAmb	IAmb	10 55 15.8		
	comp=Z,8.7nm,0.8s							
NLU	**North Lily Min**	**48.01**	**319**	P	**P**	**10 55 21.2**	**+0.6**	
PDAR	**Pinedale Array**	**48.08**	**324**	P	**P**	**10 55 21.9**	**+0.7**	
	comp=Z,1.2nm,0.6s,baz=124,slow=9.1,SNR=15							
SCHQ	**Schefferville**	**48.12**	**5**	P	**P**	**10 55 22.1**	**+1.1**	
	comp=Z,4.7nm,0.7s,baz=176,slow=6.0,SNR=8.9							
HWUT	**Hardware Ranch**	**48.60**	**322**	P	**P**	**10 55 25.7**	**+0.5**	
DGMT	**Dagmar**	**49.15**	**333**	P	**P**	**10 55 30.6**	**+1.6**	
BGU	**Big Grassy Mou**	**49.15**	**320**	P	**P**	**10 55 30.6**	**+1.3**	
REDW	**Red Top Meadow**	**49.20**	**324**	IAmb	IAmb	10 55 32.1		
	comp=Z,12nm,1.3s							
TPAW	**Teton Pass**	**49.33**	**324**	IAmb	IAmb	10 55 33.2		
	comp=Z,13nm,1.5s							
RLMT	**Red Lodge**	**49.38**	**327**	P	**P**	**10 55 32.2**	**+1.2**	
GCMT	**Greycliff**	**50.02**	**327**	P	**P**	**10 55 36.2**	**+0.4**	
YMR	**Madison River**	**50.05**	**325**	P	**P**	**10 55 37.4**	**+1.3**	
YHH	**Holmes Hill**	**50.05**	**325**	P	**P**	**10 55 37.7**	**+1.4**	
YHL	**Hebgen Lake**	**50.28**	**325**	P	**P**	**10 55 39.3**	**+1.3**	
BOZ	**Bozeman (W)**	**50.98**	**326**	P	**P**	**10 55 44.0**	**+1.0**	
MCMT	**McKenzie Canyo**	**51.22**	**324**	P	**P**	**10 55 45.8**	**+0.9**	
NVAR	**Mina Array Bea**	**51.49**	**315**	P	**P**	**10 55 48.3**	**+1.3**	
	comp=Z,8.8nm,0.7s,baz=137,slow=7.2,SNR=5.0							
MFID	**Camas Ranch**	**52.23**	**321**	IAmb	IAmb	10 55 53.6		
	comp=Z,7.9nm,1.3s							
WVOR	**Wild Horse Val**	**53.53**	**319**	P	**P**	**10 56 03.1**	**+1.2**	
WVOR				IAmb	IAmb	10 56 18.3		
	comp=Z,10nm,1.5s							
PINE	**Pine Mountain**	**55.66**	**319**	P	**P**	**10 56 18.5**	**+1.3**	
PINE				IAmb	IAmb	10 56 20.6		
	comp=Z,8.5nm,1.1s							
LON	**Longmire**	**57.56**	**322**	P	**P**	**10 56 32.2**	**+1.7**	

YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**10 57 09.0**	**+0.3**	
	comp=Z,3.5nm,0.5s,baz=133,slow=6.6,SNR=128							
YKW3	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**10 57 09.3**	**+0.3**	
YKW3				IAmb	IAmb	10 57 10.1		
	comp=Z,3.6nm,0.7s							
TULEG	**Thule**	**69.69**	**1**	P	**P**	**10 57 46.3**	**-3.0**	
TULEG				IAmb	IAmb	10 57 51.9		
	comp=Z,7.1nm,1.0s							
INK	**Inuvik**	**73.02**	**340**	P	**P**	**10 58 10.4**	**+0.9**	
TORD	**Torodi Ar. Bea**	**73.70**	**78**	P	**P**	**10 58 12.3**	**-2.1**	
	comp=Z,0.1nm,0.3s,baz=289,slow=7.7,SNR=2.8							
SCRK	**Sand Creek**	**75.55**	**335**	P	**P**	**10 58 25.7**	**+1.4**	
ILAR	**Eielson Array**	**76.96**	**335**	P	**P**	**10 58 32.5**	**+0.4**	
	comp=Z,0.6nm,0.7s,baz=96,slow=3.7,SNR=4.9							
GHO	**Glory Hole Cre**	**77.31**	**332**	P	**P**	**10 58 35.7**	**+1.4**	
RND	**Reindeer**	**77.55**	**333**	P	**P**	**10 58 37.4**	**+1.9**	
RND				IAmb	IAmb	10 58 51.0		
	comp=Z,12nm,1.3s							
SUA	**Susitna One**	**78.13**	**331**	P	**P**	**10 58 39.8**	**+1.0**	
SUA				IAmb	IAmb	10 58 40.9		
	comp=Z,18nm,1.4s							
TRF	**Thorofare Moun**	**78.19**	**333**	P	**P**	**10 58 40.7**	**+1.5**	
TRF				IAmb	IAmb	10 58 41.0		
	comp=Z,7.1nm,1.1s							
KTH	**Kantishna Hill**	**78.49**	**333**	P	**P**	**10 58 41.9**	**+1.2**	
PPLA	**Purkeypile**	**78.98**	**333**	P	**P**	**10 58 44.4**	**+0.9**	
MKAR	**Makanchi Array**	**122.29**	**20**	PKP	**PKPdf**	**11 05 33.2**	**-0.6**	
	comp=Z,0.2nm,0.3s,baz=308,slow=2.5,SNR=5.0							
KSH	**Kashi**	**125.72**	**29**	PKP	**PKPdf**	**11 05 39.1**	**-1.6**	
KSH				PKS	**PKSdf**	**11 09 16.0**	**-1.4**	
KSH				SKKS		11 14 12.3		
KSH				LR	LR			
	comp=N,350nm,5.9s							
KSH				LR	LR			
	comp=E,330nm,7.5s							
KSH				LR	LR			
	comp=Z,1μm,6.8s							
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPbc**	**11 06 27.1**	**-0.9**	
	comp=Z,0.4nm,0.4s,baz=120,slow=3.0,SNR=11							
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	**PKPbc**	**11 06 30.5**	**-0.5**	
	comp=Z,0.6nm,0.3s,baz=106,slow=3.1,SNR=24							

ISC 19 10:52:40.9±1.2, **48°.96N**±0°.04×**18°.06E**±0°.04, **h10**km, **n8,** σ0°.63/12, **Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAVC	**Velka Javorina**	**0.27**	**249**	*e*PG	**Pg**	**10 52 46.5**	**+0.1**
JAVC				*e*SG	**Sb**	**10 52 53.1**	**+0.5**
KOLL	**Kolacno**	**0.44**	**149**	*e*PG	**Pg**	**10 52 49.3**	**-0.3**
VYHS	**Vyhne**	**0.69**	**132**	*e*PG	**Pg**	**10 52 53.5**	**-0.8**
MODS	**Modra-Piesok**	**0.78**	**222**	*e*PG	**Pb**	**10 52 57.3**	**+0.7**
MODS				*e*SG	**Sn**	**10 53 09.4**	**-0.3**
MORC	**Moravsky Berou**	**0.89**	**338**	*e*PG	**Pg**	**10 52 57.9**	**-0.1**
MORC				*e*SG	**Sn**	**10 53 12.2**	**-0.2**
LANS	**Liptovska Anna**	**0.95**	**78**	*e*PG	**Pg**	**10 52 59.5**	**+0.3**
VRAC	**Vranov**	**1.02**	**291**	*e*PG	**Pg**	**10 53 00.0**	**-0.5**
VRAC				*e*SG	**Sb**	**10 53 15.1**	**+0.9**
KRUC	**Moravsky**	**1.10**	**276**	*e*PG	**Pb**	**10 53 01.2**	**-0.8**

*ISCJB **19** 11:09:42.8±0.3, 20°.69S±0°.04×178°.36W±0°.07, h550km, mb3.7/13, Error ellipse: s-maj=8.3km s-min=4.6km az=8.7*
*IDC **19** 11:09:42.6±2.1, 20°.79S×178°.29W, h536km±25km, mb3.4/13, mb1 3.7/15, mb1mx3.5/28, mbtmp4.3/15, Error ellipse: s-maj=25.1km s-min=13.5km az=147.0*
*NEIC **19** 11:09:43.3±1.9, 20°.8S±0°.1×178°.3W±0°.1, h549km±7km, mb4.5/35*

ISC 19 11:09:43.7±0.5, **20°.72S**±0°.08×**178°.23W**±0°.09, **h550**km, **n102,** σ1§39/103, **mb4.2**/30, **1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ISC	Time	Res
				Op		h m s	ISC
MSVF	**Nonsavu**	**4.61**	**310**	P	**P**	**11 11 13.2**	**+2.7**
GLKZ	**Green Lake**	**8.51**	**178**	S	**S**	**11 13 25.0**	**-2.0**
AFI	**Afiamalu**	**9.15**	**43**	P	**P**	**11 11 52.7**	**-0.4**
	7.0nm,0.3s,baz=185,slow=2.8,SNR=9.7						
AFI				S	**S**	**11 13 36.6**	**-2.8**
	3.7nm,0.3s,baz=46,slow=23,SNR=4.9						
AFI	**Afiamalu**	**9.15**	**43**	P	**P**	**11 11 53.0**	**-0.1**
OUZ	**Omahuta**	**16.14**	**205**	P	**P**	**11 13 05.7**	**+1.4**
OUZ				IAmb	IAmb	11 13 08.6	
	comp=Z,12nm,0.9s						
WCZ	**Waipu Caves**	**16.50**	**202**	P	**P**	**11 13 09.6**	**+1.9**
KUZ	**Kuaotunu**	**16.82**	**197**	P	**P**	**11 13 12.1**	**+1.6**
WIAZ	**Waiheke Island**	**17.03**	**198**	P	**P**	**11 13 14.0**	**+1.5**
MXZ	**Matakaoa Point**	**17.05**	**189**	P	**P**	**11 13 12.8**	**+0.1**
MXZ	**Matakaoa Point**	**17.05**	**189**	P	**P**	**11 13 12.7**	**+0.1**
MBAZ	**Motutapu North**	**17.08**	**199**	P	**P**	**11 13 12.6**	**-0.3**
ETAZ	**East Tamaki Re**	**17.24**	**199**	P	**P**	**11 13 16.2**	**+1.8**
WMGZ	**Waiomatatini S**	**17

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOO				IAmb	IAmb	11 15 56.2	
	comp=Z,4.9nm,0.8s						
COEN	Coen	37.39	274	P	P	11 16 10.8	+0.4
	baz=37,SNR=6.3						
COEN	Coen	37.39	274	P	P	11 16 10.4	0.0
COEN				IAmb	IAmb	11 16 27.3	
	comp=Z,13nm,1.1s						
STKA	Stephens Creek	37.50	244	P	P	11 16 11.3	+0.1
	comp=Z,0.9nm,0.4s,baz=110,slow=13,SNR=5.5						
STKA	Stephens Creek	37.50	244	IAmb	IAmb	11 16 12.0	
	comp=Z,0.7nm,1.1s						
BBOO	Buckleboo	42.26	244	P	P	11 16 48.4	-0.8
	baz=42,SNR=6.1						
BBOO	Buckleboo	42.26	244	P	P	11 16 48.4	-0.8
BBOO				IAmb	IAmb	11 16 55.3	
	comp=Z,8.0nm,1.1s						
WR0	Warramunga Arr	44.17	262	P	P	11 17 03.4	-0.8
AS31	Alice Springs	44.26	257	P	P	11 17 04.8	-0.2
ASAR	Alice Springs	44.26	257	P	P	11 17 04.2	-0.8
	comp=Z,0.8nm,0.5s,baz=91,slow=8.1,SNR=26						
ASAR				S	S	11 22 55.6	-3.5
	comp=Z,0.6nm,0.7s,baz=92,slow=16,SNR=6.3						
WRAB	Tennant Creek	44.35	262	P	P	11 17 04.8	-0.9
WRA	Warramunga Arr	44.36	262	P	P	11 17 04.6	-1.2
	comp=Z,1.7nm,0.6s,baz=97,slow=7.4,SNR=39						
KDU	Kakadu	47.74	272	P	P	11 17 30.7	-0.7
	baz=48,SNR=6.3						
MTN	Manton Dam	48.95	271	P	P	11 17 39.1	-1.3
MTN				IAmb	IAmb	11 17 53.3	
	comp=Z,8.6nm,1.1s						
WRKA	Warakurna	49.20	254	P	P	11 17 41.7	-0.5
	baz=49,SNR=9.7						
KNRA	Kununurra	50.43	266	P	P	11 17 50.7	-0.6
	baz=50,SNR=6.1						
KNRA	Kununurra	50.43	266	P	P	11 17 50.8	-0.6
FITZ	Fitzroy Crossi	52.79	263	P	P	11 18 07.8	-0.4
	baz=53,SNR=5.3						
FITZ	Fitzroy Crossi	52.79	263	P	P	11 18 08.0	-0.3
SBA	Scott Base	57.63	184	P	P	11 18 43.9	+2.9
QSPA	South Pole Qui	69.34	180	P	P	11 19 57.1	+1.0
MJAR	Matsushiro Arr	70.27	324	P	P	11 20 01.5	-0.4
	comp=Z,2.1nm,0.6s,baz=140,slow=5.6,SNR=7.7						
ADK	Adak	72.31	1	P	P	11 20 13.0	-0.4
SSLB	Suanglung	73.92	304	P	P	11 20 22.3	-1.1
SSLB				IAmb	IAmb	11 20 31.3	
	comp=Z,12nm,0.9s						
TPUB	Ta-pu	73.92	303	P	P	11 20 22.3	-1.1
TPUB				IAmb	IAmb	11 20 25.5	
	comp=Z,19nm,0.9s						
UNV	Unalaska Valle	74.95	7	P	P	11 20 28.3	-0.1
UNV				IAmb	IAmb	11 20 35.4	
	comp=Z,8.3nm,0.9s						
PEA0B	Petropavlovsk-	76.43	345	P	P	11 20 37.3	+0.6
PETK	Petropavlovsk-	76.43	345	P	P	11 20 36.8	+0.1
	comp=Z,3.0nm,0.6s,baz=130,slow=10.0,SNR=5.9						
KSRS	Korea Array	76.92	319	P	P	11 20 40.5	+0.9
	comp=Z,1.0nm,0.6s,baz=124,slow=5.4,SNR=5.0						
USRK	Ussuriysk Ar.	79.03	326	P	P	11 20 52.0	+1.1
	comp=Z,1.9nm,0.7s,baz=74,slow=6.3,SNR=5.1						
NVAR	Mina Array Bea	81.33	43	P	P	11 21 04.8	+1.4
	comp=Z,1.0nm,0.5s,baz=224,slow=8.1,SNR=7.4						
TXAR	Lajitas Array	87.35	57	P	P	11 21 34.7	+1.8
	comp=Z,0.9nm,0.9s,baz=216,slow=6.1,SNR=8.8						
ILAR	Eielson Array	88.58	13	P	P	11 21 37.0	-0.6
	comp=Z,1.3nm,0.5s,baz=221,slow=5.5,SNR=20						
PD31	Pinedale Array	89.27	43	P	P	11 21 41.0	-0.7
PDAR	Pinedale Array	89.27	43	P	P	11 21 42.5	+0.8
	comp=Z,1.3nm,0.6s,baz=212,slow=3.9,SNR=15						
CMAR	Chiang Mai Arr	89.99	290	P	P	11 21 46.4	+1.1
	comp=Z,1.6nm,0.6s,baz=121,slow=3.4,SNR=9.7						
YKA	Yellowknife Ar	96.80	25	P	P	11 22 15.2	-0.1
	comp=Z,0.4nm,0.9s,baz=242,slow=4.6,SNR=4.1						
ARCES	ARCESS Array B	129.10	349	PKP	PKPdf	11 27 47.8	-0.9
	comp=Z,3.1nm,1.0s,baz=355,slow=1.5,SNR=11						
AKASG	Malin Array Be	143.11	331	PKhKP	PKPab	11 28 11.8	-1.0
	comp=Z,5.4nm,0.4s,baz=42,slow=4.3,SNR=33						
BR131	Keskin Array S	146.83	312		PKPbc	11 28 23.6	-1.2
BRTR	Keskin Array B	146.83	312	PKPbc	PKPbc	11 28 24.1	-0.7
	comp=Z,1.4nm,0.6s,baz=141,slow=4.7,SNR=8.2						
CLL	Collm	148.23	347⇓	*i*PKPbc	PKiKP	11 28 27.6	-1.4
	comp=Z,6.0nm,0.7s						
GERES	GERESS Array B	150.36	344	PKPbc	PKiKP	11 28 32.7	-0.9
	comp=Z,1.3nm,0.6s,baz=37,slow=3.3,SNR=11						
GERES				PKPab	PKPab	11 28 41.9	-0.1
	comp=Z,0.5nm,0.6s,baz=23,slow=5.3,SNR=3.7						

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*SJA **19** 11:16:55.9±0.9, 31°.89S×69°.61W, h110^{km}±4^{km}, ML3.5, MW3.4*
*ISCJB **19** 11:16:56.0±0.5, 31°.90S±0°.03×69°.61W±0°.04, h118^{km}±5^{km}, mb3.5/1, Error ellipse: s-maj=6.0km s-min=4.0km az=37.2*
*IDC **19** 11:16:56.9±2.9, 32°.03S×69°.53W, h113^{km}±58^{km}, mb3.3/1, mb1 3.5/3, mb1mx3.2/19, mbtmp3.5/3, Error ellipse: s-maj=102.3km s-min=26.2km az=109.0*
*GUC **19** 11:16:56.3±0.8, 31°.92S×69°.86W, h152^{km}±7^{km}, ML3.8*
ISC 19 11:16:56.4±1.0**, 31°.94S**±0°.04×**69°.60W**±0°.04**, h119**^{km}±8^{km}**, n27, σ1^{s}55**/46**, 7C, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTLS	Leoncito	0.29	62	*i* P	Pn	11 17 13.2	-0.3
RTLS				IAML		11 17 13.3	
	comp=Z,1μm,0.2s						
RTLS				*i* S	Sn	11 17 25.5	-0.9
RTCV	Cerro Valdivia	0.90	86	*i* P	Pn	11 17 17.4	0.0
RTCV				*e*S	Sn	11 17 32.8	-0.5
RTLL	Cerro Villicun	1.13	58	*i* P	Pn	11 17 19.5	-0.3
RTLL				*i* S	Sn	11 17 37.0	-0.5
RTLL				IAML		11 17 38.4	
	comp=Z,764nm,0.3s						
CFA	Coronel Fontan	1.21	74	P	Pn	11 17 20.2	-0.3
	comp=Z,43nm,0.3s,baz=258,slow=9.0,SNR=346						
CFA				S	Sn	11 17 38.0	-0.7
	comp=Z,112nm,0.3s,baz=350,slow=22,SNR=110						
CFA	Coronel Fontan	1.21	74	*i* P	Pn	11 17 20.2	-0.3
CFA				*i* S	Sn	11 17 37.9	-0.9
AMOG	MOGNA	1.37	44	*i* P	Pn	11 17 22.5	+0.1
AMOG				*i* S	Sn	11 17 40.9	-1.2
CO02	Combarbal	1.40	301⇑	*i*P	Pn	11 17 22.6	-0.1
CO02				*e*S	Sn	11 17 42.8	0.0
CO02				IAML		11 17 44.9	
	comp=E,2μm,0.4s						
FCH	Farellones	1.50	203⇑	*i*P	Pn	11 17 25.4	+1.3
FCH				*e*S	Sn	11 17 47.3	+2.0
FCH				IAML		11 17 48.3	
	comp=E,1μm,0.3s						
PEL	Peldehue	1.51	217⇑	*i*P	Pn	11 17 24.4	+0.4
PEL				*e*S	Sn	11 17 45.6	+0.6
PEL				IAML		11 17 47.4	
	comp=E,1μm,0.4s						
PEL	Peldehue	1.51	217	*i* P	Pn	11 17 24.3	+0.4
PEL				*i* S	Sn	11 17 45.5	+0.6
ROCH	El Roble	1.58	229⇑	*i*P	Pn	11 17 24.9	0.0
ROCH				*e*S	Sn	11 17 46.8	+0.2
ROCH				IAML		11 17 48.0	
	comp=E,1μm,0.4s						
ROC1	El Roble	1.58	229	*i* P	Pn	11 17 25.0	0.0
ROC1				*i* S	Sn	11 17 46.8	0.0
CLCH	Cerro Calan	1.66	208⇑	*i*P	Pn	11 17 26.6	+0.9
CLCH				*e*S	Sn	11 17 49.4	+1.4
CLCH				IAML		11 17 51.4	
	comp=E,2μm,0.6s						
GO04	Tololo Observa	2.04	329⇑	*i*P	Pn	11 17 30.2	-0.3
GO04				*e*S	Sn	11 17 56.0	-0.6
GO04				IAML		11 18 00.7	
	comp=N,1μm,0.5s						
GO04	Tololo Observa	2.04	329	*i* P	Pn	11 17 30.3	-0.3
GO04				*i* S	Sn	11 17 55.6	-1.0
VA01	Torpederas	2.04	237	*i* Pg	Pn	11 17 29.4	-0.9
VA01				*i* S	Sn	11 17 54.1	-2.1
ACAN	Cantantal	2.07	100	*i* P	Pn	11 17 31.1	+0.3
LSCH	La Serena	2.47	325⇑	*i*P	Pn	11 17 34.7	-1.0
LSCH				*e*S	Sn	11 18 03.8	-2.1
LSCH				IAML		11 18 07.2	
	comp=N,183nm,0.3s						
COIS	El Sosneado	3.16	180	*i* P	Pn	11 17 46.3	+1.4
ACLC	CERRO LA CRUZ	3.38	43	*i* P	Pn	11 17 47.7	-0.2
VCA	Vinchina	3.41	21	*i* P	Pn	11 17 49.2	+0.9
VCA				IAML		11 18 06.3	
	comp=Z,86nm,0.4s						
VCA				*i* S	Sn	11 18 28.0	-0.2
PUMA	Malargue	3.55	178	*i* P	Pn	11 17 51.0	+1.0
PUMA				*i* S	Sn	11 18 23.6	-7.8
GO05	Huala	3.63	212	*i* P	Pn	11 17 49.1	-2.0
GO03	Copiap	4.36	353	*i* P	Pn	11 18 00.4	-0.4
PLCA	Paso Flores	8.81	185	P	Pn	11 18 59.8	-1.1
	comp=Z,0.1nm,0.3s,baz=13,slow=12,SNR=5.2						
LPAZ	La Paz	15.64	5	P	P	11 20 32.3	-0.3
	comp=Z,0.1nm,0.3s,baz=188,slow=13,SNR=5.1						
TXAR	Lajitas Array	69.00	328	P	P	11 27 51.1	+2.0
	comp=Z,0.8nm,1.1s,baz=163,slow=9.8,SNR=4.0						

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*ISCJB **19** 11:19:39.5±1.7, 4°.9S±0°.3×152°.1E±0°.3, h70^{km}, mb3.4/5, Error ellipse: s-maj=59.6km s-min=11.9km az=36.2*
*IDC **19** 11:19:46.8±5.1, 5°.10S×151°.94E, h124^{km}±41^{km}, mb3.2/5, mb1 3.5/6, mb1mx3.3/25, mbtmp3.7/6, Error ellipse: s-maj=59.6km s-min=26.0km az=112.0*
ISC 19 11:19:40.8±1.9**, 4°.9S**±0°.3×**152°.2E**±0°.4**, h70**^{km}**, n7, σ1^{s}95**/8**, mb3.4**/5**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.68	228	P	Pn	11 21 18.9	+2.5
	5.5nm,0.3s,baz=58,slow=8.8,SNR=11						
PMG				S	Sn	11 22 30.3	-0.7
	5.5nm,0.3s,baz=18,slow=23,SNR=9.1						
WRA	Warramunga Arr	22.90	228	P	P	11 24 36.6	-2.4
	1.0nm,0.4s,baz=53,slow=9.7,SNR=23						
ASAR	Alice Springs	25.64	222	P	P	11 25 03.0	-1.2
	0.5nm,0.4s,baz=54,slow=9.1,SNR=15						
SONM	Songino Array	66.10	328	P	P	11 30 20.5	-0.2
	0.7nm,0.4s,baz=136,slow=4.9,SNR=8.8						
MKAR	Makanchi Array	80.01	319	P	P	11 31 43.1	+0.3
	0.2nm,0.6s,baz=110,slow=5.9,SNR=3.0						
ILAR	Eielson Array	82.51	22	P	P	11 31 56.5	+0.9
	0.2nm,0.7s,baz=242,slow=6.2,SNR=3.6						
TORD	Torodi Ar. Bea	149.75	288	PKPbc	PKPbc	11 39 21.9	-2.0
	0.5nm,0.3s,baz=92,slow=2.4,SNR=8.7						

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*ISCJB **19** 11:59:49.3±0.5, 21°.39S±0°.03×68°.84W±0°.04, h135^{km}±6^{km}, mb3.3/1, Error ellipse: s-maj=6.9km s-min=4.2km az=174.5*
*SJA **19** 11:59:49.1±0.7, 21°.43S×68°.77W, h134^{km}±4^{km}, ML2.9, MW3.1*
*GUC **19** 11:59:49.2±0.7, 21°.35S×68°.93W, h133^{km}±4^{km}, ML3.4*
*IDC **19** 12:00:19.4±3.6, 18°.31S×67°.61W, h289^{km}±22^{km}, mb3.1/1, mb1 3.1/4, mb1mx2.8/35, mbtmp3.6/4, Error ellipse: s-maj=92.1km s-min=39.8km az=48.0*
ISC 19 11:59:50.2±1.0**, 21°.38S**±0°.03×**68°.84W**±0°.05**, h130**^{km}±8^{km}**, n26, σ0^{s}79**/43**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.56	223	*e*P	Pn	12 00 09.6	-0.2
PB09				*i* S	Sn	12 00 24.8	+0.1
PB09				IAML		12 00 25.6	
	comp=E,663nm,0.1s						
PB09	IPOC Station P	0.56	223	*i* P	Pn	12 00 09.7	-0.2
PB09				*i* S	Sn	12 00 24.9	+0.1
PB09				IAML		12 00 25.1	
	comp=Z,958nm,0.2s						
PB07	IPOC Station P	1.04	251	*e*P	Pn	12 00 13.8	+0.1
PB07				*i* S	Sn	12 00 31.3	-0.1
PB07				IAML		12 00 31.8	
	comp=N,1μm,0.2s						
PB03	IPOC Station P	1.08	232	*e*P	Pn	12 00 13.9	-0.1
PB03				*i* S	Sn	12 00 31.9	-0.3
PB03				IAML		12 00 34.1	
	comp=N,490nm,0.2s						
LVC	Limon Verde	1.22	183	*i* P	Pn	12 00 15.4	-0.3
LVC				*i* S	Sn	12 00 34.3	-0.8
PB08	IPOC Station P	1.27	346	*e*P	Pn	12 00 15.9	-0.3
PB08				*i* S	Sn	12 00 35.8	-0.2
PB08				IAML		12 00 37.5	
	comp=N,312nm,0.2s						
PB06	IPOC Station P	1.48	207	*e*P	Pn	12 00 18.4	+0.1
PB06				*i* S	Sn	12 00 39.7	0.0
TA01	Diego Aracena	1.50	303	*e*P	Pn	12 00 18.0	-0.2
TA01				*i* S	Sn	12 00 39.2	-0.4
TA01				IAML		12 00 41.0	
	comp=E,1μm,0.3s						
PB04	IPOC Station P	1.54	232	*i* P	Pn	12 00 19.1	+0.1
PB04				*i* S	Sn	12 00 41.9	+1.0
PB04				IAML		12 00 47.7	
	comp=Z,202nm,0.1s						
GO01	Chusmiza	1.74	349	*e*P	Pn	12 00 21.0	-0.6
GO01				*i* S	Sn	12 00 45.2	-0.2
PB11	IPOC Station P	1.79	334	*e*P	Pn	12 00 21.1	-0.6
PB11				*i* S	Sn	12 00 45.4	-0.5
PB11				IAML		12 00 46.9	
	comp=E,563nm,0.5s						
PB15	IPOC Station P	1.91	198	*e*P	Pn	12 00 23.2	-0.1
PB15				*i* S	Sn	12 00 49.2	+0.6
PB15	IPOC Station P	1.91	198	*i* P	Pn	12 00 23.4	+0.1
PB05	IPOC Station P	1.94	221	*i* P	Pn	12 00 23.6	+0.1
PB05				*i* S	Sn	12 00 49.6	+0.6
PSGC	Pisagua	2.15	326	*e*P	Pn	12 00 25.0	-1.1
PSGC				*i* S	Sn	12 00 52.2	-1.4
PSGC				IAML		12 00 53.9	
	comp=E,124nm,0.3s						
MNMC	Minye Minye	2.35	342	*e*P	Pn	12 00 28.3	-0.5
MNMC				*i* S	Sn	12 00 58.7	+0.3
MNMC				IAML		12 01 00.5	
	comp=E,325nm,0.6s						
PB10	IPOC Station P	2.65	217	*i* P	Pn	12 00 32.0	-0.3
PB10				*i* S	Sn	12 01 02.5	-2.2
YJA	Yavi	3.19	105	*i* P	Pn	12 00 39.2	-0.4
YJA				*i* S	Sn	12 01 16.9	-0.9
YJA				IAML		12 01 19.8	
	comp=Z,4.5nm,0.6s						
PB14	IPOC Station P	3.54	204	*i* P	Pn	12 00 43.7	-0.4
HJA	Humahuaca	3.66	120	*i* P	Pn	12 00 45.6	-0.1
HJA				IAML		12 00 47.4	
	comp=Z,9.2nm,0.5s						
HJA				*i* S	Sn	12 01 28.1	-0.6
LPAZ	La Paz	5.11	8	P	Pn	12 01 06.5	+1.2
	comp=Z,0.5nm,0.3s,baz=185,slow=6.1,SNR=11						
LPAZ	La Paz	5.11	8	*i* P	Pn	12 01 06.7	+1.3
GO03	Copiap	6.31	191	*i* P	Pn	12 01 18.5	-2.5
CPUP	Villa Florida	11.62	117	P	P	12 03 07.2	+27
	comp=Z,0.1nm,0.3s,baz=284,slow=4.2,SNR=3.7						
BDFB	Brasilia	20.54	77	P	P	12 04 19.8	+1.2
	comp=Z,0.8nm,0.3s,baz=210,slow=8.7,SNR=4.2						
TORD	Torodi Ar. Bea	77.25	70	P	P	12 11 30.8	+0.2
	comp=Z,0.5nm,0.6s,baz=240,slow=6.9,SNR=3.8						

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*IDC **19** 12:00:22.3±1.5, 22°.87N×12°.43W, h0^{km}, mb3.6/6, mb1 3.8/7, mb1mx3.6/51, mbtmp3.7/7, ML3.8/1, Error ellipse: s-maj=43.0km s-min=32.7km az=81.0*
*ISCJB **19** 12:00:25.2±1.1, 23°.00N±0°.06×11°.4W±0°.2, h10^{km}, mb3.5/6, Error ellipse: s-maj=24.5km s-min=7.4km az=12.5*
ISC 19 12:00:26.6±1.1**, 22°.90N**±0°.08×**11°.6W**±0°.2**, h10**^{km}**, n19, σ2^{s}95**/23**, mb3.7**/6**, Mauritania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TTIG	Tnine Tigouga,	8.11	19	P	Pn	12 02 25.5	+1.0
TTIG				S	Sn	12 04 03.0	+6.6
OUK	Oukaimeden	8.90	21	P	Pn	12 02 36.2	+0.5
OUK				S	Sn	12 04 20.0	+3.8
ZGR	Zagora	8.94	35	P	Pn	12 02 35.6	-0.4
ZGR				S	Sn	12 04 16.0	-0.9
OUZM	OUZ	9.05	27	P	Pn	12 02 35.0	-2.5
OUZM				S	Sn	12 04 17.6	-2.0
TZRR	Tazzarine	9.50	33	P	Pn	12 02 41.4	-2.2
TZRR				S	Sn	12 04 29.8	-0.7
TISM	Timmit	9.89	26	P	Pn	12 02 47.3	-1.6
TISM				S	Sn	12 04 39.7	-0.3
MDT	Midelt	11.63	30	Pn	Pn	12 03 07.0	-5.8
	0.5nm,0.3s,baz=240,slow=8.0,SNR=8.9						
MDT				Lg	Lg	12 06 38.9	
	0.3nm,0.3s,baz=149,slow=18,SNR=3.6						
MDT	Midelt	11.63	30	P	Pn	12 03 07.6	-5.2
MDT				S	Sn	12 05 16.0	-6.8
FIGM	Figuig	12.96	43	P	Pn	12 03 21.1	-10
FIGM				S	Sn	12 05 41.1	-14
TORD	Torodi Ar. Bea	15.89	125	Pn	Pn	12 04 11.9	+1.3
	0.2nm,0.3s,baz=312,slow=14,SNR=5.2						
DBIC	Dimbokro	17.38	157	P	Pn	12 04 28.3	-1.1
	0.3nm,0.3s,baz=329,slow=13,SNR=3.7						
GERES	GERESS Array B	32.71	31	P	P	12 07 00.2	+0.8
	0.6nm,0.8s,baz=220,slow=9.0,SNR=3.6						
BRTR	Keskin Array B	41.63	55	P	P	12 08 19.4	+4.1
	0.3nm,0.4s,baz=268,slow=7.3,SNR=2.5						
FINES	FINESS Array B	46.35	24	P	P	12 08 52.1	-0.5
	1.3nm,0.6s,baz=245,slow=9.0,SNR=3.4						
KURBB	Kurchatov Arra	72.70	42	P	P	12 11 53.9	-0.9
	0.7nm,0.6s,baz=280,slow=6.0,SNR=4.3						
YKA	Yellowknife Ar	75.76	332	P	P	12 12 07.9	-4.4
	0.1nm,0.6s,baz=69,slow=7.0,SNR=3.4						
MKAR	Makanchi Array	76.20	45	P	P	12 12 15.8	+0.6
	0.4nm,0.5s,baz=277,slow=6.4,SNR=3.2						
WRA	Warramunga Arr	148.16	91	PKPbc	PKPdf	12 20 12.8	+2.5
	0.7nm,0.8s,baz=293,slow=2.4,SNR=4.9						
ASAR	Alice Springs	148.31	98	PKPbc	PKPbc	12 20 13.6	-0.2
	0.5nm,0.7s,baz=299,slow=1.9,SNR=7.8						

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*IDC **19** 12:03:12.0±2.3, 31°.69S×177°.96W, h0^{km}, mb3.8/2, mb1 4.1/4, mb1mx3.8/27, mbtmp4.0/4, ML4.0/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/20, Error ellipse: s-maj=60.1km s-min=28.8km az=119.0*
ISC 19 12:03:12.1±2.4**, 31°.8S**±0°.2×**177°.9W**±0°.4**, h10**^{km}**, n7, σ1^{s}51**/7**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.53	359	Pn	Pn	12 03 51.8	-1.4
	128nm,0.3s,baz=180,slow=20,SNR=4.3						
URZ	Urewera	7.65	211	Pn	Pn	12 05 03.8	+0.2
	0.6nm,0.3s,baz=252,slow=3.2,SNR=9.6						
URZ				Sn	Sn	12 06 28.4	-1.8
	1.9nm,0.3s,baz=197,slow=15,SNR=9.2						
DZM	Mont Dzumac	16.99	301	LR	LR	12 12 30.4	
	comp=Z,124nm,18.4s,baz=40,slow=33						
ASAR	Alice Springs	43.16	268	P	P	12 11 14.0	+0.9
	0.7nm,0.4s,baz=107,slow=7.2,SNR=24						
WRA	Warramunga Arr	44.27	274	P	P	12 11 23.0	+0.9
	0.8nm,0.4s,baz=114,slow=7.5,SNR=20						
FINES	FINESS Array B	146.49	339	PKPbc	PKPab	12 22 53.8	+0.1
	1.5nm,0.5s,baz=66,slow=3.4,SNR=6.5						
BRTR	Keskin Array B	153.33	296	PKPbc	PKiKP	12 23 12.2	+1.5
	1.0nm,0.8s,baz=97,slow=4.1,SNR=5.1						

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*ISCJB **19** 12:08:43.5±0.8, 18°.96N±0°.05×67°.60W±0°.03, h19^{km}±7^{km}, Error ellipse: s-maj=8.9km s-min=4.4km az=13.0*
*NEIC **19** 12:08:44.3±1.6, 18°.94N±0°.03×67°.58W±0°.04, h20^{km}±9^{km}*
*RSPR **19** 12:08:45.4, 18°.98N×67°.67W, h46^{km}±7^{km}, MD3.2/9*
ISC 19 12:08:43.4±3.1**, 18°.93N**±0°.06×**67°.60W**±0°.03**, h11**^{km}±23^{km}**, n54, σ0^{s}60**/74**, 10C-14D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.65	135		Pb	12 08 56.9	+0.2
AGPR					Sn	12 09 11.2	+2.5
MPR	Mayaguez	0.83	148	Pn	Pb	12 09 00.2	+0.4
PCDR	Punta Cana, DR	0.85	241⇓	*e*P	Pb	12 09 00.0	0.0
PCDR	Punta Cana, DR	0.85	241⇓	*e*P	Pb	12 09 00.1	0.0
PCDR	Punta Cana, DR	0.85	241⇓	*e*P	Pb	12 09 00.0	0.0
PCDR				*e*S	Sb	12 09 10.7	-0.8
PCDR	Punta Cana, DR	0.85	241		Sb	12 09 10.7	-0.8
PCDR	Punta Cana, DR	0.85	241		Pb	12 09 00.1	0.0
PCDR	Punta Cana, DR	0.85	241		Sb	12 09 11.1	-0.4
LSP	Las Mesas	0.89	147⇑	*e*P	Pb	12 09 01.3	+0.4
LSP	Las Mesas	0.89	147⇑	*e*P	Pb	12 09 01.3	+0.4
LSP				*e*S	Sn	12 09 14.6	-0.2
LSP	Las Mesas	0.89	147		Pb	12 09 01.3	+0.4
LSP					Sn	12 09 14.6	-0.2
AOPR	Arecibo Observ	0.99	126⇓	*e*P	Pb	12 09 02.0	-0.5
AOPR	Arecibo Observ	0.99	126⇓	*e*P	Pb	12 09 02.0	-0.5
AOPR				*e*S	Sb	12 09 16.2	+0.7
AOPR	Arecibo Observ	0.99	126		Pb	12 09 02.0	-0.5
AOPR					Sb	12 09 16.2	+0.7
CRPR	Cabo Rojo, PR	1.03	153⇓	*e*P	Pb	12 09 03.3	+0.2
CRPR	Cabo Rojo, PR	1.03	153⇓	*e*P	Pb	12 09 03.3	+0.2
CRPR				*e*S	Sn	12 09 17.9	-0.1
CRPR	Cabo Rojo, PR	1.03	153		Pb	12 09 03.3	+0.2
CRPR					Sn	12 09 17.9	-0.1
MLPR	Magueyes Islan	1.09	151⇑	*e*P	Pn	12 09 03.8	-0.7
MLPR	Magueyes Islan	1.09	151	*e*S	Sn	12 09 19.4	-0.2
MLPR	Magueyes Islan	1.09	151		Pn	12 09 03.8	-0.7
MLPR					Sn	12 09 19.4	-0.2
EMPR	Esperanza - Ma	1.11	114⇑	*e*P	Pn	12 09 04.4	-0.4
EMPR	Esperanza - Ma	1.11	114	*e*S	Sn	12 09 19.8	-0.2
EMPR	Esperanza - Ma	1.11	114		Pn	12 09 04.4	-0.4
EMPR					Sn	12 09 19.8	-0.2
GBPR	Guanica, Bosqu	1.17	144⇓	*e*P	Pn	12 09 05.3	-0.3
GBPR	Guanica, Bosqu	1.17	144⇓	*e*P	Pn	12 09 05.3	-0.3
GBPR				*e*S	Sn	12 09 21.7	+0.2
GBPR	Guanica, Bosqu	1.17	144		Pn	12 09 05.3	-0.3
GBPR					Sn	12 09 21.7	+0.2
CELP	Cerrillos	1.28	131⇓	*e*P	Pn	12 09 07.0	-0.3
CELP				*e*S	Sn	12 09 24.0	-0.5
CELP	Cerrillos	1.28	131⇓	*e*P	Pn	12 09 07.0	-0.3
CELP				*e*S	Sn	12 09 24.0	-0.5
CELP	Cerrillos	1.28	131		Pn	12 09 07.0	-0.3
CELP					Sn	12 09 24.0	-0.5
OBIP	Obispado Ponce	1.29	133⇓	*e*P	Pn	12 09 06.6	-0.7
OBIP	Obispado Ponce	1.29	133⇓	*e*P	Pn	12 09 06.6	-0.7
OBIP				*e*S	Sn	12 09 24.0	-0.5
OBIP	Obispado Ponce	1.29	133		Pn	12 09 06.6	-0.7
OBIP					Sn	12 09 24.0	-0.5
ICMP	Isla Caja de M	1.45	135		Pn	12 09 10.2	+0.7
GCPR	Guaynabo City	1.56	113		Pn	12 09 11.0	-0.1
SJG	San Juan	1.59	120		Pn	12 09 09.8	-1.8
DR12	Loma Pena Alta	1.69	266		Pb	12 09 14.2	-0.4
IGPR	InterUniversit	1.71	124⇑	*e*P	Pn	12 09 13.1	0.0
IGPR	InterUniversit	1.71	124	*e*S	Sn	12 09 34.6	-0.3
IGPR	InterUniversit	1.71	124		Pn	12 09 14.0	+0.9
PDPR	Patillas Dam,	1.75	121⇓	*e*P	Pn	12 09 13.8	+0.1
PDPR	Patillas Dam,	1.75	121	*e*S	Sn	12 09 35.5	-0.4
PDPR	Patillas Dam,	1.75	121		Sn	12 09 35.5	-0.4
CBYP	Canovanas	1.77	111⇑	*e*P	Pn	12 09 14.1	0.0
CBYP	Canovanas	1.77	111⇑	*e*P	Pn	12 09 14.1	0.0
CBYP	Canovanas	1.77	111		Pn	12 09 14.1	0.0
HUMP	Col San Antoni	1.83	115⇑	*e*P	Pn	12 09 15.3	+0.5
HUMP	Col San Antoni	1.83	115⇑	*e*P	Pn	12 09 15.3	+0.5
HUMP				*e*S	Sn	12 09 38.4	+0.3
HUMP	Col San Antoni	1.83	115		Pn	12 09 15.3	+0.5
HUMP					Sn	12 09 38.4	+0.3
MTP	Monte Pirata	2.11	113		Pn	12 09 18.8	+0.1
CUPR	Culebra, Puert	2.28	105⇑	*e*P	Pn	12 09 21.1	+0.1
CUPR	Culebra, Puert	2.28	105	*e*S	Sn	12 09 49.0	0.0
CUPR	Culebra, Puert	2.28	105		Pn	12 09 21.1	+0.1
CUPR					Sn	12 09 49.0	0.0
SDDR	Presa de Saban	3.49	272		Pn	12 09 39.8	+2.1
GRTK	Grand Turk	4.20	308	Pn	Pn	12 09 46.9	-0.4

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*PRE **19** 12:14:55.6±1.6, 23°.00S×24°.06E, h5^{km}, ML2.4*
*ISCJB **19** 12:15:02.1±0.8, 23°.67S±0°.08×27°.3E±0°.1, h10^{km}, Error ellipse: s-maj=18.7km s-min=5.6km az=35.6*
*EAF **19** 12:15:02.0±0.9, 23°.80S×27°.27E, h10^{km}, MD3.4*
ISC 19 12:15:01.4±1.0**, 23°.77S**±0°.05×**27°.30E**±0°.07**, h10**^{km}**, n14, σ2^{s}73**/25**, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LBTB	Lobatse	1.98	231	*i* P	Pn	12 15 34.2	-0.9
LBTB	Lobatse	1.98	231	*e*P	Pn	12 15 35.8	+0.7
LBTB				*e*S	Sg	12 16 07.5	+2.3
LBTB				AML	AML	12 16 13.7	
	comp=Z,19nm,0.2s						
LBTB	Lobatse	1.98	231	*i* P	Pn	12 15 34.2	-0.9
MSNA	Messina	2.88	61	*i* P	Pn	12 15 47.6	+0.1
MSNA				*i* S	Sn	12 16 21.9	-0.3
MSNA	Messina	2.88	61	*i* P	Pn	12 15 50.8	+3.4
MSNA				*i* S	Sn	12 16 21.2	-1.0
MSNA	Messina	2.88	61	*i* P	Pn	12 15 47.6	+0.1
MSNA				*i* S	Sn	12 16 21.9	-0.3
MATP	Matopo	3.51	19	*i* P	Pn	12 15 57.2	+1.0
MATP				*i* S	Sn	12 16 37.2	-0.6
MATP	Matopo	3.51	19	*i* P	Pb	12 16 01.8	-1.9
MATP				*i* S	Sn	12 16 43.0	+5.2
MATP	Matopo	3.51	19	*i* P	Pn	12 15 57.2	+1.0
MATP				*i* S	Sn	12 16 37.2	-0.6
SWZ	Schweizer	3.83	207	*e*P	Pn	12 16 03.5	+2.9
SWZ				*e*S	Sb	12 16 52.4	-3.3
SWZ				AML	AML	12 17 10.5	
	comp=Z,15nm,0.3s						
BOSA	Boshof	5.16	200	*i* P	Pn	12 16 18.8	0.0
BOSA				*i* S	Sn	12 17 14.6	-3.9
BOSA	Boshof	5.16	200	*i* P	Pb	12 16 26.0	-5.8

BOSA				*i* S		**Sn**	12 17 23.1	**+4.6**
BOSA	**Boshof**	**5.16**	**200**	*e*P		**Pn**	12 16 22.2	**+3.5**
BOSA				*e*S		**Sn**	12 17 23.7	**+5.3**
BOSA				AML		AML	12 18 03.6	
	comp=Z,6.6nm,0.3s							
BOSA	**Boshof**	**5.16**	**200**	*i* P		**Pn**	12 16 18.8	**0.0**
BOSA				*i* S		**Sn**	12 17 14.6	**-3.9**

ISCJB ***19*** *13:10:01.6±0.6,58°.49N±0°.03×11°.45E±0°.09,h0km, Error ellipse: s-maj=7.0km s-min=3.2km az=160.9*
UPP ***19*** *13:10:03.0±0.2,58°.47N×11°.52E,h0km,ML2.5,Explosion*
BER ***19*** *13:10:04.2±1.7,58°.47N×11°.30E,h0km±9km,ML1.7*
ISC 19 13:10:02.1±1.0**,58°.48N**±0°.03×**11°.49E**±0°.05**,h0km,n15,** σ0°**59**/24**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANU	**Vaenersborg**	**0.30**	**88**	P	**Pg**	**13 10 08.8**	**+0.8**
VANU				S	**Sg**	**13 10 12.7**	**+0.8**
TJOU	**Tjoern**	**0.46**	**171**	P	**Pg**	**13 10 11.5**	**+0.7**
TJOU				S	**Sg**	**13 10 17.3**	**+0.5**
STRU	**Stroemstad**	**0.57**	**344**	*e*P	**Pg**	**13 10 13.3**	**+0.2**
STRU				*e*S	**Sg**	**13 10 21.3**	**+0.7**
NASU	**Vaermlandsnaes**	**0.99**	**63**	P	**Pg**	**13 10 21.3**	**+0.2**
FINU	**Finntorp**	**1.05**	**29**	P	**Pb**	**13 10 22.8**	**-0.4**
FINU				S	**Sb**	**13 10 37.4**	**-0.2**
BORU	**Boraas**	**1.09**	**141**	P	**Pg**	**13 10 22.7**	**-0.3**
BORU				S	**Sg**	**13 10 37.1**	**+0.1**
ONAU	**Onsala**	**1.11**	**168**	P	**Pg**	**13 10 23.3**	**-0.1**
FKPU	**Falk**	**1.22**	**105**	P	**Pb**	**13 10 25.0**	**-0.5**
ASKU	**Askersund**	**1.79**	**75**	P	**Pb**	**13 10 35.1**	**-0.6**
UDD	**Uddeholm**	**1.94**	**33**	P	**Pn**	**13 10 37.0**	**+0.6**
NC602	**NORSAR Array S**	**2.26**	**1**	*e*P	**Pn**	**13 10 40.8**	**+0.2**
NC602				*e*S	**Sn**	**13 11 08.3**	**-0.9**
NAO01	**NORSAR Array S**	**2.39**	**353**	*e*P	**Pn**	**13 10 42.4**	**-0.1**
NAO01				*e*S	**Sn**	**13 11 11.9**	**-0.5**
NAO01				IAML		13 11 19.2	
	comp=Z,16nm,0.9s						
NB201	**NORSAR Array S**	**2.58**	**358**	*e*P	**Pn**	**13 10 45.7**	**+0.6**
NB201				*e*S	**Sn**	**13 11 16.2**	**-0.9**
NB201				IAML		13 11 23.6	
	comp=Z,5.0nm,0.6s						
NBO00	**NORSAR Array S**	**2.58**	**352**	*e*P	**Pn**	**13 10 45.3**	**+0.2**
NBO00				*e*S	**Sn**	**13 11 16.9**	**-0.3**
NBO00				IAML		13 11 25.2	
	comp=Z,4.4nm,0.7s						
NC204	**NORSAR Array S**	**2.83**	**353**	*e*P	**Pn**	**13 10 49.5**	**+1.0**
NC204				IAML		13 11 37.8	
	comp=Z,9.4nm,0.9s						

ISCJB ***19*** *13:10:22.8±0.3,42°.92N±0°.02×21°.06E±0°.02,h4km±2km, Error ellipse: s-maj=2.8km s-min=1.8km az=159.2*
TIR ***19*** *13:10:22.8,42°.80N×21°.12E,h5km,Md2.8/3*
BEO ***19*** *13:10:24.4±0.3,42°.88N×21°.06E,h9km±3km,ML3.0/17*
PDG ***19*** *13:10:24.0±0.3,42°.93N×20°.98E,h8km,MD2.9/1, ML2.8/13,Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*
SIK ***19*** *13:10:24.8,42°.86N×21°.09E,h6km,M3.0*
SOF ***19*** *13:10:26.9,42°.73N×21°.36E,h5km*
ISC 19 13:10:23.8±1.0**,42°.89N**±0°.02×**21°.03E**±0°.01**,h13**km±8km**,**
n82, σ0°**97**/126**,26C-10D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	**Selova**	**0.33**	**11**	*e*Pg	**Pg**	**13 10 30.3**	**-0.3**
SELS				*e*Sg	**Sg**	**13 10 34.9**	**-0.3**
BARS	**Barje**	**0.58**	**97**	*e*Pg	**Pg**	**13 10 34.8**	**-0.3**
BARS				*e*Sg	**Sg**	**13 10 42.9**	**+0.1**
IVA	**Berane**	**0.84**	**269**	⇓*i*Pg	**Pg**	**13 10 39.1**	**-1.0**
IVA				*e*Sg	**Sb**	**13 10 51.7**	**+0.2**
PVY	**Plav**	**0.85**	**250**	⇑*i*Pg	**Pg**	**13 10 39.5**	**-0.7**
PVY				*e*Sg	**Sb**	**13 10 52.4**	**+0.7**
SJES	**Sjenica**	**0.86**	**296**	*e*Pg	**Pg**	**13 10 39.2**	**-1.3**
SJES				*e*Sg	**Sb**	**13 10 52.7**	**+0.6**
BCI	**Bajram Curri**	**0.89**	**234**	*i* PG	**Pg**	**13 10 40.4**	**-0.5**
BCI				*i* SG	**Sn**	**13 10 55.2**	**+0.5**
BOVS	**Bovan**	**0.89**	**33**	*e*Pg	**Pg**	**13 10 40.9**	**-0.1**
BOVS				*e*Sg	**Sn**	**13 10 55.0**	**+0.2**
IVAS	**Ivanjica**	**0.94**	**317**	*e*Pg	**Pb**	**13 10 40.8**	**-1.2**
IVAS				*e*Sg	**Sn**	**13 10 56.2**	**+0.1**
GRUS	**Gruza**	**1.02**	**347**	*e*Pg	**Pn**	**13 10 44.4**	**+0.6**
GRUS				*e*Sg	**Sn**	**13 10 58.3**	**+0.3**
KOME	**Kolasin**	**1.12**	**268**	⇑*i*Pg	**Pb**	**13 10 43.6**	**-1.4**
KOME				*e*Sg	**Sn**	**13 11 01.0**	**+0.5**
BOSS	**Bosilegrad**	**1.14**	**110**	*e*Pg	**Pb**	**13 10 44.5**	**-0.8**
BOSS				*e*Sg	**Sg**	**13 11 00.6**	**+0.1**
ZAPS	**Zavoj**	**1.23**	**71**	*e*Pg	**Pb**	**13 10 47.2**	**+0.2**
ZAPS				*e*Sg	**Sb**	**13 11 03.1**	**+0.3**
ZAGS	**Zajecar**	**1.27**	**43**	*e*Pg	**Pn**	**13 10 47.5**	**+0.3**
ZAGS				*e*Sg	**Sg**	**13 11 05.0**	**+0.3**
PLE	**Pljevlja**	**1.28**	**290**	⇑*i*Pg	**Pn**	**13 10 46.8**	**-0.7**
PLE				*e*Sg	**Sg**	**13 11 06.1**	**+0.9**
PHP	**Peshkopia**	**1.28**	**200**	*i* PN	**Pn**	**13 10 46.1**	**-1.4**
PHP				*i* SN	**Sg**	**13 11 05.0**	**-0.2**
SVIS	**Svilajnac**	**1.38**	**5**	*e*Pg	**Pb**	**13 10 49.5**	**+0.1**
SVIS				*e*Sg	**Sg**	**13 11 09.3**	**+1.1**
PDG	**Podgorica**	**1.39**	**251**	*e*Pn	**Pn**	**13 10 49.1**	**+0.2**
PDG	**Podgorica**	**1.39**	**251**	⇑P	**Pb**	**13 10 49.5**	**-0.1**
PDG				⇓S	**Sg**	**13 11 08.5**	**-0.1**
PDG				AML	AML	13 11 15.0	
TTG	**Podgorica**	**1.39**	**251**	⇓*i*Pg	**Pb**	**13 10 49.5**	**-0.1**
TTG				*e*Sg	**Sg**	**13 11 11.0**	**+2.4**
BLKB	**Belogradchik**	**1.40**	**58**	⇑S	**Sb**	**13 11 08.3**	**+0.6**
BLKB				AML	AML	13 11 11.5	
TRUS	**Trudelj**	**1.41**	**341**	*e*Pg	**Pn**	**13 10 49.6**	**+0.5**
TRUS				*e*Sg	**Sg**	**13 11 11.5**	**+2.4**
RUDO	**Rudo**	**1.42**	**301**	*e*Pn	**Pn**	**13 10 47.8**	**-1.5**
DIVS	**Divibare**	**1.42**	**328**	*e*Pg	**Pn**	**13 10 49.7**	**+0.3**
DIVS				*e*Sg	**Sg**	**13 11 10.9**	**+1.2**
DIVS	**Divibare**	**1.42**	**328**	⇑*i*Pn	**Pn**	**13 10 49.3**	**-0.1**
NKY	**Niksic**	**1.50**	**268**	⇑*i*Pg	**Pb**	**13 10 51.1**	**-0.5**
NKY				*e*Sg	**Sg**	**13 11 13.4**	**+1.2**
BBLS	**Lazići**	**1.54**	**310**	*e*Pg	**Pb**	**13 10 51.9**	**-0.2**
BBLS				*e*Sg	**Sg**	**13 11 15.1**	**+1.9**
BBLS	**Lazići**	**1.54**	**310**	⇑*i*Pn	**Pn**	**13 10 51.4**	**+0.4**
NKME	**Niksic**	**1.54**	**266**	⇑*i*Pg	**Pb**	**13 10 51.8**	**-0.3**
NKME				*e*Sg	**Sg**	**13 11 14.6**	**+1.3**
DRME	**Dracevica, Mon**	**1.54**	**243**	*e*Pn	**Pb**	**13 10 52.0**	**-0.1**
DRME	**Dracevica, Mon**	**1.54**	**243**	⇑*i*Pg	**Pb**	**13 10 52.1**	**-0.1**
DRME				*e*Sg	**Sg**	**13 11 15.6**	**+2.3**
KUBS	**Kucevo**	**1.59**	**17**	*e*Pg	**Pb**	**13 10 52.6**	**-0.4**
KUBS				*e*Sg	**Sg**	**13 11 15.4**	**+0.5**
UPM	**Unac-Piva**	**1.59**	**282**	*e*Pn	**Pb**	**13 10 52.6**	**-0.6**
UPM	**Unac-Piva**	**1.59**	**282**	⇑*i*Pg	**Pb**	**13 10 52.7**	**-0.5**
UPM				*e*Sg	**Sg**	**13 11 15.9**	**+0.8**
CEME	**Cevo**	**1.60**	**258**	⇑*i*Pg	**Pn**	**13 10 52.2**	**+0.4**
CEME				*e*Sg	**Sg**	**13 11 16.3**	**+1.1**
ULC	**Ulcinj**	**1.62**	**236**	⇑*i*Pn	**Pb**	**13 10 53.8**	**+0.3**
ULC				*e*Sn	**Sg**	**13 11 17.3**	**+1.4**
VTS	**Vitosha**	**1.64**	**99**	*i* P	**Pn**	**13 10 52.9**	**+0.4**
VTS	**Vitosha**	**1.64**	**99**	⇑P	**Pn**	**13 10 53.1**	**+0.5**
VTS				⇓S	**Sb**	**13 11 15.3**	**+0.5**
VTS				AML	AML	13 11 20.5	
BUM	**Brajici-Budva**	**1.69**	**250**	⇑*i*Pn	**Pb**	**13 10 55.0**	**+0.3**
BUM				*e*Sn	**Sg**	**13 11 19.0**	**+0.9**
KKB	**Krupnik**	**1.83**	**123**	*i* P	**Pb**	**13 10 57.9**	**+0.7**
BRY	**Bratogost**	**1.83**	**271**	*e*Pn	**Pb**	**13 10 56.3**	**-1.0**
BRY	**Bratogost**	**1.83**	**271**	*e*Pn	**Pb**	**13 10 56.5**	**-0.8**
BRY				*e*Sn	**Sg**	**13 11 21.8**	**-1.0**
HCY	**Herceg Novi**	**1.93**	**257**	*e*Pn	**Pn**	**13 10 57.2**	**+0.9**
HCY	**Herceg Novi**	**1.93**	**257**	⇓*i*Pn	**Pb**	**13 10 58.2**	**-0.5**
HCY				*e*Sn	**Sg**	**13 11 24.3**	**-1.4**
HAPS	**Han Pijesak,BI**	**1.93**	**309**	⇑*i*Pn	**Pn**	**13 10 55.7**	**-0.7**
MDVR	**Moldovita**	**1.95**	**14**	⇑P	**Pn**	**13 10 56.6**	**0.0**
MDVR				⇑S	**Sn**	**13 11 21.8**	**+0.8**
MDVR				AML	AML	13 11 31.4	
TEKS	**Tekeris**	**1.98**	**327**	*e*Pg	**Pg**	**13 11 01.4**	**-0.4**
TEKS				*e*Sg	**Sg**	**13 11 28.3**	**+0.7**
TEKS	**Tekeris**	**1.98**	**327**	*e*Pn	**Pb**	**13 11 00.3**	**+0.5**
TREB	**Trebinje**	**1.98**	**266**	*e*Pn	**Pb**	**13 10 59.3**	**-0.4**
DJES	**Djerdap**	**2.07**	**31**	*e*Pg	**Pb**	**13 11 01.4**	**+0.1**
DJES				*e*Sg	**Sg**	**13 11 29.8**	**-0.7**
FNA	**Florina**	**2.12**	**173**	*i* PN	**Pb**	**13 11 01.9**	**-0.2**
FNA				*i* SN	**Sg**	**13 11 31.8**	**-0.3**
PGB	**Panagyurishte**	**2.33**	**97**	*e*P	**Pn**	**13 11 03.1**	**+1.2**
SRE	**Strehaia**	**2.37**	**41**	⇑P	**Pn**	**13 11 02.3**	**0.0**
SRE				⇓S	**Sn**	**13 11 29.8**	**-1.4**
SRE				AML	AML	13 11 43.3	
MMB	**Musomiste**	**2.39**	**122**	*i* P	**Pg**	**13 11 08.3**	**-1.3**
FRGS	**Fruska Gora**	**2.43**	**339**	*e*Pn	**Pn**	**13 11 03.6**	**+0.4**
FRGS				*e*Sn	**Sn**	**13 11 33.3**	**+0.5**
FRGS	**Fruska Gora**	**2.43**	**339**	*e*Pn	**Pn**	**13 11 02.9**	**-0.3**
STON	**Ston**	**2.45**	**271**	*e*Pn	**Pn**	**13 11 05.1**	**+1.7**
STON				Sn	**Sb**	**13 11 37.1**	**-0.6**
STON	**Ston**	**2.45**	**271**	*e*Pn	**Pn**	**13 11 05.1**	**+1.7**
PLVB	**Pleven**	**2.67**	**78**	⇓P	**Pn**	**13 11 06.2**	**-0.2**
PLVB				⇓S	**Sn**	**13 11 39.5**	**+0.8**
PLVB				AML	AML	13 11 59.9	
BZS	**Buzias**	**2.75**	**9**	⇓P	**Pn**	**13 11 07.5**	**-0.2**
BZS				AML	AML	13 11 58.0	
GZR	**Gura Zlata**	**2.80**	**26**	⇑P	**Pn**	**13 11 08.2**	**-0.1**
GZR				AML	AML	13 11 54.7	
RICI	**Ricice**	**2.92**	**283**	iPn		13 11 12.1	
RICI				Sn	**Sb**	**13 11 48.8**	**-2.4**
MAKA	**Makarska**	**2.97**	**279**	*e*Pn	**Pn**	**13 11 12.6**	**+2.1**
LOT	**Lotru**	**3.23**	**37**	⇑P	**Pn**	**13 11 13.7**	**-0.5**
LOT				AML	AML	13 12 18.4	
BLY	**Banja Luka**	**3.35**	**305**	*e*Pn	**Pn**	**13 11 15.7**	**-0.1**
BLY	**Banja Luka**	**3.35**	**305**	⇑P	**Pn**	**13 11 16.1**	**+0.3**
BLY				⇓S	**Sn**	**13 11 55.0**	**-0.4**
BLY				AML	AML	13 11 59.0	
HVAR	**Hvar**	**3.37**	**276**	*e*Pn	**Pn**	**13 11 17.6**	**+1.4**
KIJV	**Kijevo**	**3.55**	**290**	*e*Pn	**Pn**	**13 11 21.0**	**+2.4**
ARR	**Arges**	**3.58**	**45**	⇑P	**Pn**	**13 11 19.4**	**+0.3**
ARR				AML	AML	13 12 31.7	
MORH	**Mrgy, Hungar**	**3.73**	**334**	*e*Pn	**Pn**	**13 11 21.0**	**-0.1**
MORH	**Mrgy, Hungar**	**3.73**	**334**	*e*Pn	**Pn**	**13 11 19.1**	**-2.0**
MORH				Sn	**Sn**	**13 12 03.0**	**-1.9**
VOIR		**3.85**	**47**	⇑P	**Pn**	**13 11 22.4**	**-0.4**
VOIR				AML	AML	13 12 52.9	
MORI	**Morici**	**4.00**	**286**	*e*Pn	**Pn**	**13 11 26.1**	**+1.3**
ZIRJ	**Zirje**	**4.01**	**283**	*i* Pn	**Pn**	**13 11 26.1**	**+1.3**
DRGR		**4.08**	**16**	⇑P	**Pn**	**13 11 26.2**	**+0.3**
DRGR				AML	AML	13 12 38.1	
MOSL	**Moslavina**	**4.11**	**313**	*e*Pn	**Pn**	**13 11 26.9**	**+0.7**
DUGI	**Dugi Otok**	**4.49**	**286**	*e*Pn	**Pn**	**13 11 33.2**	**+1.8**
NVLJ	**Novalja**	**4.77**	**293**	*e*Pn	**Pn**	**13 11 35.7**	**+0.4**
CRES	**Cresnjev**	**4.96**	**308**	*e*Pn	**Pn**	**13 11 38.6**	**+0.7**
PSZ	**Piszkesteto**	**5.09**	**351**	AML	AML	13 11 37.6	
PSZ				⇑S	**Sn**	**13 12 39.4**	**+1.0**
PSZ	**Piszkesteto**	**5.09**	**351**	*e*Pn	**Pn**	**13 11 40.1**	**+0.3**
PSZ				Sn	**Sn**	**13 12 38.0**	**-0.4**
VYHS	**Vyhne**	**5.81**	**345**	*e*PN	**Pn**	**13 11 50.8**	**+1.2**
VYHS				*e*SN	**Sn**	**13 12 56.1**	**0.0**
MODS	**Modra-Piesok**	**6.08**	**336**	*e*SN	**Sn**	**13 13 00.0**	**-2.8**

ISCJB ***19*** *13:43:50.3±0.9, 19°.37N±0°.08×64°.82W±0°.05, h49km±18km, Error ellipse: s-maj=12.8km s-min=8.0km az=178.6*
NEIC ***19*** *13:43:51.5±1.5, 19°.32N±0°.09×64°.82W±0°.05, h46km±21km*
RSPR ***19*** *13:43:52.7, 19°.21N×64°.77W, h63km±10km, MD3.3/4*
ISC 19 13:43:51.0±1.5**,19°.31N**±0°.09×**64°.84W**±0°.07**, h31**km±14km**,**
n37, σ0°**90**/47**, 6C-8D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.75**	**141**	⇑*e*P	**Pb**	**13 44 05.2**	**-0.4**
ABV	**Anegada**	**0.75**	**141**	⇑*e*P	**Pb**	**13 44 05.2**	**-0.4**
ABV				*e*S	**Sb**	**13 44 16.0**	**+0.4**
ABVI	**Anegada Island**	**0.75**	**141**		**Pb**	**13 44 05.2**	**-0.4**
ABVI					**Sb**	**13 44 16.0**	**+0.4**
TBVI	**Tortola**	**0.92**	**167**	⇓*e*P	**Pn**	**13 44 08.0**	**+0.3**
TBVI	**Tortola**	**0.92**	**167**	⇓*e*P	**Pn**	**13 44 08.0**	**+0.3**
TBVI				*e*S	**Sn**	**13 44 19.5**	**-0.4**
TBVI	**Tortola**	**0.92**	**167**		**Pn**	**13 44 08.0**	**+0.3**
TBVI					**Sn**	**13 44 19.5**	**-0.4**
STVI	**Saint Thomas**	**0.96**	**187**	⇑*e*P	**Pn**	**13 44 07.9**	**-0.5**
STVI	**Saint Thomas**	**0.96**	**187**	⇑*e*P	**Pn**	**13 44 07.9**	**-0.5**
STVI				*e*S	**Sn**	**13 44 20.7**	**-0.4**
STVI	**Saint Thomas**	**0.96**	**187**		**Pn**	**13 44 07.9**	**-0.5**
STVI					**Sn**	**13 44 20.7**	**-0.4**
CUPR	**Culebra, Puert**	**1.09**	**203**	*e*S	**Sn**	**13 44 23.9**	**-0.2**
CUPR	**Culebra, Puert**	**1.09**	**203**	⇑*e*P	**Pn**	**13 44 09.7**	**-0.4**
CUPR	**Culebra, Puert**	**1.09**	**203**		**Pn**	**13 44 09.7**	**-0.4**
CUPR					**Sn**	**13 44 23.9**	**-0.2**
CBYP	**Canovanas**	**1.42**	**223**	⇓*e*P	**Pn**	**13 44 14.9**	**+0.1**
CBYP	**Canovanas**	**1.42**	**223**	⇓*e*P	**Pn**	**13 44 14.9**	**+0.1**
CBYP	**Canovanas**	**1.42**	**223**		**Pn**	**13 44 14.9**	**+0.1**
HUMP	**Col San Antoni**	**1.51**	**220**	Pn	**Pn**	**13 44 15.4**	**-0.5**
HUMP					**Sn**	**13 44 35.2**	**+0.6**
CDVI	**St. Croix**	**1.56**	**178**	Pn	**Pn**	**13 44 18.2**	**+1.7**
CDVI					**Sn**	**13 44 37.7**	**+2.1**
PDPR	**Patillas Dam,**	**1.71**	**221**	Pn	**Pn**	**13 44 19.4**	**+0.7**
SJG	**San Juan**	**1.73**	**226**	Pn	**Pn**	**13 44 17.5**	**-1.4**
SJG					**Sn**	**13 44 41.1**	**+1.2**
AOPR	**Arecibo Observ**	**2.06**	**242**	⇓*e*P	**Pn**	**13 44 24.6**	**+1.1**
AOPR	**Arecibo Observ**	**2.06**	**242**	⇓*e*P	**Pn**	**13 44 24.6**	**+1.1**
AOPR	**Arecibo Observ**	**2.06**	**242**		**Pn**	**13 44 23.6**	**+0.1**
CELP	**Cerrillos**	**2.06**	**234**	⇓*e*P	**Pn**	**13 44 24.6**	**+1.0**
CELP	**Cerrillos**	**2.06**	**234**	⇓*e*P	**Pn**	**13 44 24.6**	**+1.0**
CELP	**Cerrillos**	**2.06**	**234**		**Pn**	**13 44 24.6**	**+1.0**
OBIP	**Obispado Ponce**	**2.10**	**233**	Pn	**Pn**	**13 44 24.7**	**+0.6**
ICMP	**Isla Caja de M**	**2.14**	**229**	Pn	**Pn**	**13 44 26.0**	**+1.4**
MLPR	**Magueyes Islan**	**2.48**	**238**	⇑*e*P	**Pn**	**13 44 30.6**	**+1.2**
MLPR	**Magueyes Islan**	**2.48**	**238**		**Pn**	**13 44 30.6**	**+1.2**
CRPR	**Cabo Rojo, PR**	**2.52**	**239**	Pn	**Pn**	**13 44 30.5**	**+0.7**
PCDR	**Punta Cana, DR**	**3.45**	**257**	Pn	**Pn**	**13 44 43.5**	**+1.0**
SDD	**Santo Domingo**	**4.88**	**261**	Pn	**Pn**	**13 45 03.0**	**+0.7**
MCLT	**Moule a Chique**	**6.71**	**146**	Pn	**Pn**	**13 45 29.9**	**+2.5**
FSCY	**Frank Sound, G**	**15.43**	**273**	Pn	**Pn**	**13 47 26.5**	**-0.1**
061Z	**Ochoppi**	**16.20**	**297**	Pn	**Pn**	**13 47 35.9**	**-0.6**
BCIP	**Isla Barro Col**	**17.68**	**237**		**Pn**	**13 47 54.4**	**-0.7**
RGRS	**Roger Stewart**	**19.29**	**318**	P	**P**	**13 48 12.5**	**-0.9**

SOME ***19*** *13:45:41.1,39°.53N×75°.95E,h20km*
NNC ***19*** *13:45:43.3±1.7,39°.67N×75°.98E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=11.8km s-min=9.6km az=154.0*
KRNET ***19*** *13:45:50.2±0.1,39°.92N×76°.13E,mb2.9*
ISC 19 13:45:45.6±2.4**,39°.8N**±0°.1×**75°.93E**±0°.04**,h10**km**,n40,** σ1°**11**/62**,18C-11D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn** baz=55	**1.67**	**2**	⇓*i*P	**Pg**	**13 46 18.8**	**+1.2**
NRN				⇓*i*S	**Sg**	**13 46 39.7**	**+0.4**
KZA	**Kyzart** baz=43	**2.37**	**348**	⇑*i*P	**Pg**	**13 46 31.6**	**+0.6**
KZA				⇑*i*S	**Sg**	**13 47 01.4**	**-0.3**
KZA	**Kyzart** SNR=24	**2.37**	**348**	P	**Pg**	**13 46 31.9**	**+0.9**
ARLS	**Aral** baz=26	**2.42**	**330**	⇑*i*P	**Pg**	**13 46 32.6**	**+0.5**
ARLS				⇑*i*S	**Sg**	**13 47 03.9**	**+0.4**
TARG	**Taragay, Kyrgy** baz=34	**2.42**	**35**	⇓*i*P	**Pg**	**13 46 30.7**	**-1.4**
TARG				⇓*i*S	**Sb**	**13 47 00.1**	**+0.5**
ULHL	**Ulahol** baz=2.0	**2.49**	**5**	⇑*i*P	**Pg**	**13 46 32.3**	**-1.0**
ULHL				⇑*i*S	**Sb**	**13 47 02.7**	**+1.4**
ULHL	**Ulahol** SNR=5.5 baz=2.0	**2.49**	**5**	P	**Pg**	**13 46 33.5**	**+0.1**
KDJ	**Kajisay** baz=20	**2.54**	**21**	⇑*i*P	**Pb**	**13 46 32.2**	**+0.7**
KDJ				⇑*i*S	**Sb**	**13 47 03.1**	**+0.2**
UCH	**Uchtor** baz=33	**2.68**	**337**	⇑*i*P	**Pg**	**13 46 36.5**	**-0.6**
UCH				⇑*i*S	**Sg**	**13 47 09.8**	**-2.1**
UCH	**Uchtor** SNR=12 baz=33	**2.68**	**337**	P	**Pg**	**13 46 36.8**	**-0.3**
BOOM	**Boomskoye usch** baz=57	**2.72**	**0**	⇓*i*P	**Pb**	**13 46 35.3**	**+0.8**
BOOM				⇓*i*S	**Sb**	**13 47 08.6**	**+0.6**
ARSB	**Arslanbob** baz=1.0	**2.73**	**306**	⇑*i*P	**Pg**	**13 46 38.2**	**+0.2**
ARSB				⇑*i*S	**Sg**	**13 47 13.6**	**+0.2**
AML	**Almayashu** baz=21	**2.91**	**325**	⇑*i*P	**Pg**	**13 46 40.0**	**-1.4**
AML				⇑*i*S	**Sg**	**13 47 16.6**	**-2.5**
AML	**Almayashu** SNR=10 baz=21	**2.91**	**325**	P	**Pg**	**13 46 39.8**	**-1.6**
KBK	**Karagaybulak** baz=42	**2.98**	**346**	⇓*i*P	**Pb**	**13 46 39.7**	**+0.8**
KBK				⇓*i*S	**Sb**	**13 47 15.9**	**+0.4**
KBK	**Karagaybulak** SNR=7.5 baz=42	**2.98**	**346**	P	**Pg**	**13 46 41.2**	**-1.5**
AAK	**Ala-Archa** baz=36	**3.07**	**340**	⇑*i*P	**Pb**	**13 46 41.4**	**+1.0**
AAK				⇑*i*S	**Sb**	**13 47 18.5**	**+0.6**
AAK	**Ala-Archa** SNR=14 baz=36	**3.07**	**340**	P	**Pg**	**13 46 42.1**	**-2.3**
AAK	**Ala-Archa** 5.9nm,0.5s	**3.07**	**340**	Pg	**Pb**	**13 46 42.0**	**+1.6**
AAK	13nm,0.5s			Lg	Lg	13 47 23.8	
TKM2	**Tokmak 2** 2.9nm,0.5s	**3.16**	**356**	⇑Pg	**Pb**	**13 46 42.9**	**+0.9**
TKM2	8.2nm,0.6s			⇑Lg	Lg	13 47 26.2	
KST	**Kastek** 8.4nm,0.4s	**3.27**	**0**	*e*P	**Pb**	**13 46 44.8**	**+0.9**
KST	9.8nm,0.5s			*e*S	**Sg**	**13 47 31.1**	**+0.3**
KST	**Kastek** 8.8nm,0.4s	**3.27**	**0**	Pg	**Pb**	**13 46 44.8**	**+0.9**
KST	10.0nm,0.5s			Lg	Lg	13 47 30.6	
EKS2	**Erkin-Say** baz=28	**3.32**	**331**	⇓*i*P	**Pb**	**13 46 45.0**	**+0.4**
EKS2	14nm,0.5s baz=28			⇓*i*S	**Sb**	**13 47 25.0**	**-0.1**
TNSS	**Tian-Shan** 6.9nm,0.6s	**3.36**	**13**	*e*P	**Pb**	**13 46 46.1**	**+0.6**
TNSS	6.3nm,0.6s			*e*S	**Sg**	**13 47 33.3**	**-0.1**
TNSS	**Tian-Shan** 6.2nm,0.6s	**3.36**	**13**	Pg	**Pb**	**13 46 46.1**	**+0.6**
TNSS	7.5nm,0.6s			Lg	Lg	13 47 33.7	
DGS	**Degeres** 8.0nm,0.5s	**3.48**	**358**	*e*P	**Pb**	**13 46 48.2**	**+0.9**
DGS	14nm,0.5s			*e*S	**Sg**	**13 47 36.9**	**-0.3**
DGS	**Degeres** 7.5nm,0.6s	**3.48**	**358**	Pg	**Pb**	**13 46 48.2**	**+0.9**
DGS	12nm,0.5s			Lg	Lg	13 47 36.9	
MDOK	**Medeo** 2.5nm,0.6s	**3.50**	**14**	*e*P	**Pb**	**13 46 48.0**	**+0.4**
MDOK	5.7nm,0.8s			*e*S	**Sg**	**13 47 36.2**	**-1.7**
KOTS	**Kotyrbulak** 5.9nm,0.8s	**3.58**	**14**	*e*P	**Pb**	**13 46 49.8**	**+0.7**
KOTS	33nm,0.5s			*e*S	**Sg**	**13 47 39.7**	**-0.7**
KOTS	**Kotyrbulak** 9.0nm,0.4s	**3.58**	**14**	Pg	**Pb**	**13 46 49.8**	**+0.7**
KOTS	35nm,0.5s			Lg	Lg	13 47 39.7	
MRKS	**Merke** 4.6nm,0.4s	**3.61**	**326**	*e*P	**Pb**	**13 46 51.0**	**+1.4**
MRKS	5.1nm,0.7s			*e*S	**Sg**	**13 47 41.7**	**+0.2**
MRKS	**Merke** 4.8nm,0.5s	**3.61**	**326**	Pg	**Pb**	**13 46 51.0**	**+1.4**
MRKS	5.1nm,0.5s			Lg	Lg	13 47 41.7	
USP	**Ospenovka** SNR=8.6	**3.66**	**343**	P	**Pb**	**13 46 50.3**	**-0.1**
SATY	**Saty** 5.6nm,0.6s	**3.78**	**29**	*e*P	**Pb**	**13 46 53.5**	**+1.0**
SATY	9.6nm,0.9s			*e*S	**Sg**	**13 47 46.0**	**-1.0**
SATY	**Saty** 3.3nm,0.5s	**3.78**	**29**	Pg	**Pb**	**13 46 53.5**	**+1.0**
SATY	8.5nm,0.4s			Lg	Lg	13 47 46.0	
SGDS	**Sogindy** 2.3nm,0.5s	**3.81**	**346**	Pg	**Pb**	**13 46 53.3**	**+0.3**
SGDS	5.7nm,0.4s			Lg	Lg	13 47 46.1	
KTBS	**Karatobe** 2.8nm,0.5s	**3.98**	**

XAN	**Xi'an**	**17.90**	**299**	P	**P**	**14 00 03.4**	**+1.4**		
XAN				pmax	pmax				
	comp=Z,10.0nm,0.7s								
XAN	**Xi'an**	**17.90**	**299**	P	**Pn**	**14 00 01.4**	**-0.4**		
MDJ	**Mudanjiang**	**18.06**	**4**	P	P	13 59 52.3	-11		
MDJ				pmax	pmax				
	comp=Z,12nm,1.0s								
MDJ				pmax	pmax				
	comp=Z,250nm,3.1s								
HHC	**Hu-ho-hao-te**	**19.58**	**321**	*eP*	**Pn**	**14 00 22.3**	**+0.3**		
CD2	**Chengdu**	**21.51**	**287**	*eP*	**P**	**14 00 40.0**	**-1.2**		
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
LZH	**Lanzhou**	**22.50**	**301**	*eP*	**P**	**14 00 52.1**	**+0.1**		
LZH				pP	pP	14 01 01.3	-1.8		
LZH				sP	sP	14 01 05.0	-4.1		
LZH				pmax	pmax				
	comp=Z,18nm,1.3s								
KMI	**Kunming**	**22.59**	**272**	P	**P**	**14 00 53.0**	**-0.1**		
KMI				pmax	pmax				
	comp=Z,78nm,4.9s								
ULN	**Ulaanbaatar**	**26.76**	**328**	P	**P**	**14 01 32.5**	**+0.9**		
PBKT	**Sadao Pong**	**26.81**	**254**	P	**P**	**14 01 33.2**	**+1.0**		
PBKT				IAmb	IAmb	14 01 34.5			
	comp=Z,9.2nm,0.8s								
SONM	**Songino Array**	**27.05**	**327**	P	**P**	**14 01 33.9**	**-0.3**		
	comp=Z,3.0nm,0.5s,baz=137,slow=9.8,SNR=14								
SONM				LR	LR	14 13 21.9			
	comp=Z,134nm,18.6s,baz=98,slow=39								
MPSI	**Mapaga**	**27.18**	**198**	P	**P**	**14 01 34.1**	**-1.3**		
CHTO	**Chiang Mai**	**27.68**	**260**	P	**P**	**14 01 40.4**	**+0.5**		
CHTO				IAmb	IAmb	14 01 41.0			
	comp=Z,8.0nm,0.9s								
CMAR	**Chiang Mai Arr**	**27.81**	**259**	P	**P**	**14 01 41.8**	**+0.7**		
	comp=Z,2.7nm,0.8s,baz=51,slow=8.5,SNR=14								
CMAR				PcP	**PcP**	**14 04 57.9**	**+1.4**		
	comp=Z,0.8nm,0.8s,baz=28,slow=2.5,SNR=4.1								
CMAR				LR	LR	14 12 39.8			
	comp=Z,54nm,18.7s,baz=2.0,slow=36								
PEA0B	**Petropavlovsk-**	**34.61**	**32**		**P**	**14 02 38.7**	**-1.8**		
TAPN	**Taplejung**	**35.64**	**281**	*eP*	**P**	**14 02 50.3**	**+0.2**		
	comp=Z,12nm,0.5s								
ODAN	**Odare**	**35.99**	**280**	*eP*	**P**	**14 02 52.7**	**-0.3**		
	comp=Z,51nm,0.5s								
WMQ	**Urumqi**	**36.60**	**309**	*eP*	**P**	**14 02 59.5**	**+1.7**		
WMQ				pmax	pmax				
	comp=Z,7.0nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,140nm,6.7s								
WMQ				LR	LR				
	comp=Z,410nm,29.1s								
WMQ				LR	LR				
	comp=Z,390nm,29.2s								
WMQ				LR	LR				
	comp=Z,310nm,28.1s								
RAMN	**Ramite**	**36.67**	**280**	*eP*	**P**	**14 02 58.3**	**-0.6**		
	comp=Z,12nm,0.5s								
JIRN	**Jiri**	**36.93**	**281**	*eP*	**P**	**14 03 00.8**	**-0.4**		
	comp=Z,12nm,0.4s								
GUN	**Gumba**	**37.17**	**282**	*eP*	**P**	**14 03 03.0**	**-0.2**		
PKI	**Pulchoki**	**37.63**	**281**	*eP*	**P**	**14 03 06.0**	**-1.0**		
	comp=Z,2.1nm,0.4s								
PKIN	**Phulchoki**	**37.64**	**281**	*eP*	**P**	**14 03 06.0**	**-1.1**		
	comp=Z,16nm,0.4s								
KKN	**Kakani**	**37.71**	**282**	*eP*	**P**	**14 03 07.1**	**-0.5**		
	comp=Z,18nm,0.4s								
DMN	**Daman**	**37.89**	**282**	*eP*	**P**	**14 03 08.6**	**-0.6**		
GKN	**Gorkha**	**38.24**	**282**	*eP*	**P**	**14 03 11.4**	**-0.6**		
	comp=Z,24nm,0.4s								
DANN	**Dangsing**	**38.96**	**283**	*eP*	**P**	**14 03 18.0**	**-0.2**		
	comp=Z,36nm,0.5s								
KOLN	**Koldanda**	**39.18**	**282**	*eP*	**P**	**14 03 19.5**	**-0.5**		
MK31	**Makanchi Array**	**41.02**	**312**	P	**P**	**14 03 31.8**	**-2.9**		
MK31				IAmb	IAmb	14 03 35.8			
	comp=Z,5.9nm,0.8s								
MKAR	**Makanchi Array**	**41.02**	**312**	P	**P**	**14 03 33.6**	**-1.1**		
	comp=Z,4.1nm,0.5s,baz=87,slow=9.2,SNR=47								
MAKZ	**Makanchi**	**41.23**	**312**	P	**P**	**14 03 35.6**	**-0.9**		
MAKZ				IAmb	IAmb	14 03 37.3			
	comp=Z,12nm,1.1s								
ZAA0	**Zalesovo Array**	**41.74**	**323**	P	**P**	**14 03 39.4**	**-1.1**		
ZAA0				IAmb	IAmb	14 03 41.2			
	comp=Z,5.0nm,0.7s								
ZALV	**Zalesovo Beam**	**41.74**	**323**	P	**P**	**14 03 39.4**	**-1.1**		
	comp=Z,5.0nm,0.5s,baz=114,slow=7.9,SNR=18								
ZALV				LR	LR	14 21 42.0			
	comp=Z,83nm,18.1s,baz=91,slow=37								
KNRA	**Kununurra**	**42.01**	**179**	P	**P**	**14 03 43.5**	**+0.6**		
KNRA				IAmb	IAmb	14 03 44.2			
	comp=Z,9.7nm,0.9s								
KURK	**Kurchatov**	**44.30**	**316**	P	**P**	**14 04 00.2**	**-1.0**		
KURK				IAmb	IAmb	14 04 01.1			
	comp=Z,15nm,1.1s								
KSH	**Kashi**	**44.75**	**300**	P	**P**	**14 04 09.0**	**+3.8**		
KSH				PP	**PP**	**14 05 56.0**	**+5.7**		
KSH				S	**S**	**14 10 45.8**	**+6.9**		
KSH				SS	**ScS**	**14 13 58.6**	**-0.2**		
KSH				pmax	pmax				
	comp=Z,420nm,9.1s								
KSH				LR	LR				
	comp=Z,320nm,4.7s								
KSH				LR	LR				
	comp=Z,710nm,8.5s								
KSH				LR	LR				
	comp=Z,310nm,5.5s								
TIXI	**Tiksi**	**45.12**	**0**	P	**P**	**14 04 06.0**	**-1.4**		
TKM2	**Tokmak 2**	**45.16**	**305**	P	**P**	**14 04 08.7**	**+0.2**		
	SNR=5.4								
KZA	**Kyzart**	**45.37**	**304**	P	**P**	**14 04 11.4**	**+1.0**		
	SNR=6.2								
KBK	**Karagaybulak**	**45.62**	**305**	P	**P**	**14 04 12.1**	**0.0**		
	SNR=6.7								
CHMS	**Chumysh**	**45.79**	**305**	P	**P**	**14 04 13.4**	**+0.1**		
	SNR=6.6								
UCH	**Uchtor**	**45.93**	**304**	P	**P**	**14 04 15.7**	**+0.8**		
	SNR=19								
AAK	**Ala-Archa**	**45.96**	**305**	P	**P**	**14 04 14.5**	**-0.2**		
AML	**Almayashu**	**46.53**	**304**	P	**P**	**14 04 20.0**	**+0.5**		
	SNR=5.3								
WRA	**Warramunga Arr**	**46.67**	**172**	P	**P**	**14 04 20.3**	**0.0**		
	comp=Z,2.7nm,0.6s,baz=353,slow=8.6,SNR=20								
WRA				LR	LR	14 25 11.0			
	comp=Z,18nm,18.9s,baz=220,slow=38								
NIL	**Nilore**	**47.26**	**292**	P	**P**	**14 04 23.6**	**-1.3**		
NIL				IAmb	IAmb	14 04 25.8			
	comp=Z,15nm,1.0s								
BTK	**Batken**	**48.72**	**301**	P	**P**	**14 04 35.4**	**-0.7**		
BTK				IAmb	IAmb	14 04 38.4			
	comp=Z,4.0nm,1.0s								
KK31	**Karatay Array**	**48.90**	**305**	P	**P**	**14 04 37.1**	**-0.2**		
KK31				IAmb	IAmb	14 04 38.6			
	comp=Z,4.8nm,0.9s								
KKAR	**Karatay Array**	**48.90**	**305**	P	**P**	**14 04 37.1**	**-0.3**		
KKAR				IAmb	IAmb	14 04 38.6			
	comp=Z,4.8nm,0.9s								
GAR	**Garm**	**49.16**	**300**	P	**P**	**14 04 37.2**	**-2.4**		
BRVK	**Borovoye**	**49.83**	**318**	P	**P**	**14 04 43.2**	**-1.1**		
CHGR	**Chuyangaron**	**50.08**	**299**	P	**P**	**14 04 45.3**	**-1.3**		
ASAR	**Alice Springs**	**50.30**	**173**	P	**P**	**14 04 48.7**	**+0.6**		
	comp=Z,2.4nm,0.6s,baz=1.0,slow=12,SNR=51								
KBL	**Kabul**	**50.61**	**294**	P	**P**	**14 04 50.5**	**-0.3**		
KBL				IAmb	IAmb	14 04 51.8			
	comp=Z,13nm,0.8s								
ABKAR	**Akbulak array**	**56.13**	**313**	P	**P**	**14 05 30.1**	**-0.6**		
ABKAR				IAmb	IAmb	14 05 30.8			
	comp=Z,6.7nm,0.7s								
GEYT	**Alibeck**	**58.78**	**300**	P	**P**	**14 05 49.9**	**+0.2**		
	comp=Z,3.5nm,0.8s,baz=191,slow=0.8,SNR=5.3								
GEYT				LR	LR	14 33 41.3			
	comp=Z,50nm,19.3s,baz=345,slow=39								
STKA	**Stephens Creek**	**59.60**	**166**	P	**P**	**14 05 55.8**	**+0.7**		
	comp=Z,1.2nm,0.5s,baz=327,slow=7.3,SNR=4.4								
STKA				LR	LR	14 33 08.6			
	comp=Z,40nm,19.0s,baz=26,slow=38								
STKA	**Stephens Creek**	**59.60**	**166**	P	**P**	**14 05 55.2**	**0.0**		
ILAR	**Eielson Array**	**64.31**	**28**	P	**P**	**14 06 26.8**	**+0.3**		
	comp=Z,0.6nm,0.8s,baz=255,slow=4.1,SNR=8.2								
KBZ	**Khabaz**	**68.64**	**309**	P	**P**	**14 06 54.6**	**+0.2**		
	comp=Z,10nm,0.9s,baz=108,slow=2.9,SNR=23								
INK	**Inuvik**	**68.72**	**23**	P	**P**	**14 06 55.6**	**+1.1**		
	comp=Z,3.3nm,1.0s,baz=310,slow=6.5,SNR=5.4								
ARCES	**ARCESS Array B**	**69.54**	**338**	P	**P**	**14 06 58.8**	**-0.9**		
	comp=Z,2.4nm,0.8s,baz=58,slow=7.3,SNR=9.2								
FINES	**FINESS Array B**	**72.37**	**330**	P	**P**	**14 07 16.1**	**-0.8**		
	comp=Z,3.3nm,0.5s,baz=65,slow=5.1,SNR=25								
FINES				LR	LR	14 43 56.3			
	comp=Z,132nm,18.6s,baz=1.5,slow=40								
AKASG	**Malin Array Be**	**75.02**	**319**	P	**P**	**14 07 31.7**	**-0.9**		
	comp=Z,5.3nm,0.8s,baz=57,slow=6.4,SNR=12								
RES	**Resolute Bay**	**75.28**	**11**	P	**P**	**14 07 34.1**	**+0.5**		
	comp=Z,2.1nm,0.7s,baz=323,slow=5.1,SNR=6.9								
RES	**Resolute Bay**	**75.28**	**11**	P	**P**	**14 07 33.9**	**+0.2**		
BR131	**Keskin Array S**	**76.52**	**308**	P	**P**	**14 07 40.8**	**-0.8**		
BR131				IAmb	IAmb	14 07 42.6			
	comp=Z,4.0nm,0.8s								
BRTR	**Keskin Array B**	**76.52**	**308**	P	**P**	**14 07 41.3**	**-0.3**		
	comp=Z,5.1nm,0.9s,baz=98,slow=5.1,SNR=23								
HFS	**Hagfors**	**78.34**	**332**	P	**P**	**14 07 50.2**	**-1.0**		
	comp=Z,4.2nm,0.7s,baz=72,slow=4.8,SNR=6.9								
HFS				LR	LR	14 45 35.3			
	comp=Z,99nm,20.1s,baz=352,slow=38								
YKA	**Yellowknife Ar**	**78.37**	**25**	P	**P**	**14 07 51.7**	**+0.4**		
	comp=Z,1.5nm,1.0s,baz=300,slow=5.4,SNR=14								
BUR08	**Bucovina Ar. S**	**78.71**	**318**	IAmb	IAmb	14 07 54.8			
	comp=Z,3.8nm,1.0s								
NB2	**NORSAR Subarra**	**78.83**	**334**	P	**P**	**14 07 52.8**	**-1.2**		
	comp=Z,1.7nm,0.8s,baz=54,slow=5.6								
NOA	**NORSAR Array B**	**78.83**	**334**	P	**P**	**14 07 53.0**	**-1.0**		
	comp=Z,2.3nm,0.8s,baz=52,slow=5.7,SNR=5.0								
NOA				LR	LR	14 49 57.0			
	comp=Z,64nm,18.8s,baz=265,slow=41								
EIL	**Elat**	**79.61**	**298**	LR	LR	14 50 54.6			
	comp=Z,17nm,20.2s,baz=112,slow=42								
VYHS	**Vyhne**	**82.03**	**321**	*eP*	**P**	**14 08 11.4**	**+0.1**		
CLL	**Collm**	**83.65**	**325**	*eP*	**P**	**14 08 19.0**	**-0.6**		
GERES	**GERESS Array B**	**84.69**	**323**	P	**P**	**14 08 25.1**	**0.0**		
	comp=Z,1.4nm,0.7s,baz=52,slow=3.8,SNR=9.6								
ITM	**Ithomi**	**85.86**	**310**	P	**P**	**14 08 29.2**	**-1.9**		
DAVOX	**Davos/Dischmat**	**87.99**	**323**	P	**P**	**14 08 42.1**	**+0.6**		
	comp=Z,1.9nm,0.5s,baz=90,slow=9.5,SNR=4.0								

ISCJB ***19*** *14:05:59.7±1.0, 76.1°N±0.1×6.9°E±0.3, h9km, MS3.3/5, Error ellipse: s-maj=16.6km s-min=7.2km az=151.3*
BER ***19*** *14:06:02.5±2.2, 75.92°N×7.08°E, h10km, ML2.0, Confirmed Earthquake*
IDC ***19*** *14:06:03.1±1.1, 75.89°N×7.99°E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.4/37, mbtmp3.5/5, ML3.4/2, MS3.3/6, Ms1 3.3/6, ms1mx2.9/39, Error ellipse: s-maj=20.7km s-min=13.9km az=86.0*
IEPN ***19*** *14:06:05.0, 76.02°N×7.86°E, h15km*
ISC 19 14:05:59.8±0.8, 76°23'N±0'.07×6°.94E±0'.05, h9km, n21, σ2.8 30/25, MS3.4/5, 1C-2D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**2.15**	**65**	↑*P*		*iP*	**Pb**	**14 06 38.0**	**-0.8**
HSPB						*eS*	**Sn**	**14 07 02.2**	**-0.1**
HSPB	**Hornsund (broa**	**2.15**	**65**	*eP*		*eP*	**Pb**	**14 06 38.1**	**-0.6**
HSPB						*eS*	**Sn**	**14 07 02.7**	**+0.4**
HSPB						IAML		14 07 09.9	
	comp=Z,17nm,0.6s								
SPA0	**Spitsbergen Ar**	**2.87**	**42**	↓*P*		*iP*	**Pb**	**14 06 50.3**	**-0.8**
SPA0						*i* S	**Sb**	**14 07 24.1**	**-2.1**
SPA0	**Spitsbergen Ar**	**2.87**	**42**	↓*P*		*iP*	**Pb**	**14 06 50.2**	**-0.8**
SPA0						*eS*	**Sb**	**14 07 24.2**	**-2.1**
SPA0						IAML		14 07 41.4	
	comp=Z,15nm,0.6s								
SPA0	**Spitsbergen Ar**	**2.87**	**42**	P		P	**Pb**	**14 06 50.5**	**-0.6**
SPITS	**Spitsbergen Ar**	**2.87**	**42**	Pn		Pn	**Pb**	**14 06 50.3**	**-0.8**
	baz=202,slow=13,SNR=263								
SPITS						Sn	**Sb**	**14 07 24.7**	**-1.6**
	baz=217,slow=22,SNR=6.4								
KBS	**Kingsbay**	**2.92**	**19**	*eP*		P	**Pn**	**14 06 47.7**	**+1.4**
KBS						*eS*	**Sn**	**14 07 21.7**	**+0.2**
KBS	**Kingsbay**	**2.92**	**19**	*eP*		P	**Pb**	**14 06 51.5**	**-0.4**
KBS						*eS*	**Sb**	**14 07 27.3**	**-0.5**
KBS						IAML		14 07 33.4	
	comp=Z,6.9nm,0.6s								
DAG	**Danmarks Havn**	**5.99**	**288**	*i* P			**Pn**	**14 07 30.1**	**+1.7**
DAG				*i* S			**Sn**	**14 08 34.7**	**-2.3**
DAG	**Danmarks Havn**	**5.99**	**288**	*i* P			**Pn**	**14 07 30.2**	**+1.7**
DAG				*i* S			**Sn**	**14 08 34.8**	**-2.3**
DAG						IAML		14 08 41.8	
	comp=Z,4.0nm,0.4s								
DBG	**Daneborg**	**7.14**	**268**	*i* P			**Pn**	**14 07 46.1**	**+1.9**
DBG						*eS*	**Sn**	**14 08 58.5**	**-6.8**
DBG						IAML		14 09 07.8	
	comp=Z,1.4nm,0.4s								
ARCES	**ARCESS Array B**	**8.61**	**132**	Pn			**Pn**	**14 08 01.4**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=322,slow=9.7,SNR=12								
ARCES				Sn			Sn	14 09 27.6	-14
	comp=Z,0.9nm,0.3s,baz=326,slow=20,SNR=5.3								
ARCES				LR			LR	14 11 18.4	
	comp=Z,118nm,18.1s,baz=337,slow=38								
ZFI2	**Zemlya Franca-**	**9.09**	**42**	*eP*			**Pn**	**14 08 14.7**	**+3.8**
ZFI2				*eS*			**Sn**	**14 09 51.9**	**-1.2**
	comp=Z,4.9nm,0.9s								
RES	**Resolute Bay**	**22.65**	**318**	LR			LR	14 19 25.9	
	comp=Z,54nm,20.4s,baz=306,slow=35								
FRB	**Frobisher Bay**	**26.33**	**284**	LR			LR	14 21 17.1	
	comp=Z,48nm,21.9s,baz=22,slow=34								
SCHQ	**Schefferville**	**33.84**	**274**	LR			LR	14 25 18.8	
	comp=Z,85nm,18.2s,baz=53,slow=34								
YKA	**Yellowknife Ar**	**36.71**	**319**	P			P	14 13 13.1	+6.7
	comp=Z,0.2nm,0.7s,baz=9.0,slow=9.4,SNR=4.1								
ILAR	**Eielson Array**	**38.28**	**342**	P			P	14 13 28.5	+8.8
	comp=Z,1.0nm,0.9s,baz=1.6,slow=8.0,SNR=11								
MKAR	**Makanchi Array**	**41.66**	**90**	LR			LR	14 34 24.2	
	comp=Z,55nm,19.5s,baz=355,slow=41								
PDAR	**Pinedale Array**	**54.68**	**306**	LR			LR	14 39 01.5	
	comp=Z,56nm,19.2s,baz=348,slow=36								
TORD	**Torodi Ar. Bea**	**63.14**	**186**	P			**P**	**14 16 30.6**	**+3.0**
	comp=Z,0.7nm,0.7s,baz=15,slow=5.2,SNR=3.6								

ISCJB ***19*** *14:33:58.3±0.4, 51.51°N±0.02×16.09°E±0.02, h0km, mb3.4/1, MS3.4/1, Error ellipse: s-maj=2.9km s-min=1.9km az=20.9*
BGR ***19*** *14:34:00.7±0.3, 51.53°N×16.11°E, h1km, ML3.2/24, Error ellipse: s-maj=3.3km s-min=1.1km az=29.0*
IDC ***19*** *14:34:01.1±0.9, 51.51°N×15.99°E, h0km, mb3.3/1, mb1 3.5/6, mb1mx3.3/52, mbtmp3.3/6, ML3.1/5, MS3.5/1, Ms1 3.5/1, ms1mx2.4/32, Error ellipse: s-maj=15.1km s-min=9.3km az=106.0*
LDG ***19*** *14:34:01.3±0.4, 51.40°N×15.99°E, h1km, Ml3.2/4, Error ellipse: s-maj=8.7km s-min=3.0km az=20.0, Suspected Mining induced.*
ISC 19 14:33:58.4±0.7, 51°60'N±0'.03×16°.11E±0'.02, h0km, n69, σ1.9 77/153, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.77**	**171**	*eP*		*g*	**Pg**	**14 34 13.8**	**+0.8**
KSP						*eSg*	**Sg**	**14 34 23.3**	**+0.3**
KSP	**Ksiaz**	**0.77**	**171**	*i* P		*g*	**Pg**	**14 34 13.8**	**+0.8**
KSP				*i* P		*g*	**Pg**	**14 34 13.8**	**+0.8**
KSP				*i* Sg		*g*	**Sg**	**14 34 23.1**	**+0.2**
KSP				*i* Sg		*g*	**Sg**	**14 34 23.1**	**+0.2**
CHVC	**Chvalec**	**1.01**	**182**	*eP*		*G*	**Pg**	**14 34 18.3**	**+0.6**
CHVC				*eSG*		*G*	**Sg**	**14 34 29.9**	**-0.9**
	comp=Z,90nm,0.4s								
OSTC	**Ostas**	**1.05**	**176**	*eP*		*G*	**Pg**	**14 34 19.0**	**+0.6**
OSTC				*eSG*		*G*	**Sg**	**14 34 30.9**	**-1.0**
	comp=Z,118nm,0.3s								
UPC	**Upice**	**1.09**	**183**	*eP*		*G*	**Pg**	**14 34 19.9**	**+0.6**
UPC				*eSG*		*G*	**Sg**	**14 34 32.4**	**-1.1**
	comp=Z,218nm,0.2s								
DPC	**Dobruska-Polom**	**1.26**	**174**	*eP*		*g*	**Pg**	**14 34 22.6**	**+0.2**
DPC				*eSg*		*g*	**Sg**	**14 34 38.2**	**-0.5**
DPC	**Dobruska-Polom**	**1.26**	**174**	*eP*		*G*	**Pg**	**14 34 22.5**	**+0.1**
DPC				*eSG*		*G*	**Sg**	**14 34 37.8**	**-0.9**
	comp=Z,89nm,0.6s								
PVCC	**Panska Ves**	**1.45**	**223**	*eP*		*n*	**Pn**	**14 34 26.4**	**+0.7**
PVCC				*eP*		*g*	**Pb**	**14 34 27.1**	**+1.0**
PVCC				*eSg*		*n*	**Sn**	**14 34 46.5**	**+1.1**
PVCC	**Panska Ves**	**1.45**	**223**	*eP*		*G*	**Pn**	**14 34 26.5**	**+0.7**
PVCC				*eSG*		*G*	**Sg**	**14 34 45.3**	**+0.6**
	comp=Z,203nm,0.2s								
BRG	**Berggiesshubel**	**1.54**	**243**	PN		*n*	**Pn**	**14 34 27.3**	**+0.3**
BRG				PG		*g*	**Pg**	**14 34 29.2**	**+1.3**
BRG				SG		*g*	**Sg**	**14 34 49.0**	**+1.2**
	272nm,0.4s								
BRG	**Berggiesshubel**	**1.54**	**243**	*eP*		*n*	**Pn**	**14 34 27.9**	**+0.8**
BRG				*eP*		*g*	**Pg**	**14 34 28.7**	**+0.9**
BRG				*eSg*		*g*	**Sg**	**14 34 49.4**	**+1.5**
KRLC	**Kraliky**	**1.58**	**164**	*eP*		*G*	**Pn**	**14 34 28.1**	**+0.4**
KRLC				*eSG*		*G*	**Sn**	**14 34 48.3**	**-0.6**
	comp=Z,103nm,0.2s								
RUE	**Ruedersdorf**	**1.69**	**302**	*eP*		*n*	**Pb**	**14 34 30.4**	**+0.2**
RUE				*eSg*		*g*	**Sg**	**14 34 55.5**	**+3.0**
FBE	**Freiberg**	**1.86**	**250**	*eP*		*g*	**Pg**	**14 34 34.6**	**+0.7**
FBE				*eSg*		*g*	**Sg**	**14 34 59.1**	**+1.2**
PRA	**Prague**	**1.86**	**215**	*eP*		*n*	**Pn**	**14 34 32.0**	**+0.5**
PRA				*eP*		*G*	**Pb**	**14 34 33.9**	**+0.7**
PRA				*eSG*		*G*	**Sn**	**14 34 57.2**	**+1.5**
	comp=Z,90nm,1.0s								
GOPC	**GO Pecny, Ondr**	**1.88**	**207**	*eP*		*n*	**Pn**	**14 34 32.5**	**+0.7**
GOPC				*eSG*		*G*	**Sb**	**14 34 58.0**	**+0.3**
	comp=Z,45nm,0.5s								
PRU	**Pruhonice**	**1.89**	**212**	*eP*		*n*	**Pn**	**14 34 32.2**	**+0.3**
PRU				*eSg*		*g*	**Sb**	**14 34 58.8**	**+0.8**
PRU	**Pruhonice**	**1.89**	**212**	*eP*		*n*	**Pn**	**14 34 32.4**	**+0.5**
PRU				*eP*		*G*	**Pb**	**14 34 34.0**	**+0.2**
PRU				*eSG*		*G*	**Sb**	**14 34 58.4**	**+0.5**
	comp=Z,66nm,0.3s								
CLL	**Collm**	**1.96**	**263**	*eP*		*n*	**Pn**	**14 34 33.0**	**+0.1**
CLL				*eP*		*G*	**Pb**	**14 34 36.0**	**+1.1**
CLL				*i*				14 34 39.4	
CLL				*eSg*		*g*	**Sg**	**14 35 02.0**	**+0.6**
	comp=Z,70nm,0.4s								
CLL				*i*				14 35 08.0	
CLL	**Collm**	**1.96**	**263**	*eP*		*n*	**Pn**	**14 34 33.4**	**+0.5**
CLL				*eP*		*g*	**Pg**	**14 34 36.4**	**+0.5**
CLL				*eSg*		*g*	**Sg**	**14 35 03.2**	**+1.8**
MORC	**Moravsky Berou**	**2.04**	**153**	*eP*		*n*	**Pn**	**14 34 34.2**	**+0.2**
MORC				*eSg*		*g*	**Sb**	**14 35 02.8**	**+0.6**
MORC	**Moravsky Berou**	**2.04**	**153**	*eP*		*n*	**Pn**	**14 34 33.9**	**-0.1**
MORC				*eSG*		*G*	**Sb**	**14 35 02.8**	**+0.6**
OKC	**Ostrava-Krasne**	**2.19**	**143**	*eP*		*g*	**Pg**	**14 34 41.4**	**+1.1**
OKC				*eSg*		*g*	**Sg**	**14 35 08.9**	**+0.2**
OKC	**Ostrava-Krasne**	**2.19**	**143**	*eP*		*G*	**Pb**	**14 34 39.9**	**+1.1**
OKC				*eSG*		*G*	**Sg**	**14 35 08.4**	**-0.3**
	comp=Z,64nm,0.5s								
VRAC	**Vranov**	**2.31**	**172**	*eP*		*n*	**Pn**	**14 34 38.8**	**+1.0**
VRAC				*eSg*		*g*	**Sb**	**14 35 11.2**	**+1.1**
VRAC	**Vranov**	**2.31**	**172**	*P*		*n*	**Pn**	**14 34 38.7**	**+1.0**
	comp=Z,2.1nm,0.3s,baz=348,slow=16,SNR=14								
VRAC				Lg		Lg	Lg	14 35 11.4	
	comp=Z,6.9nm,0.3s,baz=96,slow=16,SNR=10								
VRAC	**Vranov**	**2.31**	**172**	*eP*		*n*	**Pn**	**14 34 38.6**	**+0.9**
VRAC				*eSG*		*G*	**Sb**	**14 35 10.1**	**0.0**
PBCC	**Pribram**	**2.34**	**216**	*eP*		*n*	**Pn**	**14 34 38.8**	**+0.7**
PBCC				*eP*		*G*	**Pb**	**14 34 41.7**	**+0.3**
PBCC				*eSG*		*G*	**Sb**	**14 35 12.2**	**+1.4**
	comp=Z,10nm,0.3s								
TREC	**Trest**	**2.34**	**190**	*eP*		*n*	**Pn**	**14 34 39.7**	**+1.6**
TREC				*eP*		*g*	**Pb**	**14 34 42.7**	**+1.3**
TREC				*eSg*		*g*	**Sb**	**14 35 12.7**	**+1.8**
TREC	**Trest**	**2.34**	**190**	*eP*		*n*	**Pn**	**14 34 39.4**	**+1.3**
TREC				*eP*		*G*	**Pb**	**14 34 42.1**	**+0.7**
TREC				*eSG*		*G*	**Sb**	**14 35 12.1**	**+1.3**
	comp=Z,38nm,0.4s								
KRUC	**Moravsky**	**2.55**	**176**	*eP*		*n*	**Pn**	**14 34 41.8**	**+0.9**
KRUC				*eP*		*g*	**Pb**	**14 34 46.3**	**+1.4**
KRUC				*eSg*		*g*	**Sb**	**14 35 19.3**	**+2.5**
KRUC	**Moravsky**	**2.55**	**176**	*eP*		*n*	**Pn**	**14 34 41.4**	**+0.5**
KRUC				*eSG*		*G*	**Sb**	**14 35 17.9**	**+1.1**
TANN	**Tann

comp=Z,0.2nm,0.6s,baz=22,slow=7.6,SNR=5.5

*IDC **19** 15:24:01.8±0.8,55°.33S×29°.40W,h0km,mb4.2/5, mb1 4.3/6,mb1mx4.0/28,mbtmp4.2/6,ML4.5/1,MS3.5/9, Ms1 3.5/9,ms1mx3.4/16,Error ellipse: s-maj=30.7km s-min=21.3km az=58.0*

*ISCJB **19** 15:24:02.1±0.5,55°.33S±0°.07×29°.76W±0°.1,h10km,mb4.2/5, MS3.6/8,Error ellipse: s-maj=12.9km s-min=7.8km az=135.7*

*NEIC **19** 15:24:03.5±1.6,55°.3S±0°.1×29°.6W±0°.2,h11km±1km, mb4.6/22*

ISC 19 15:24:04.0±0.5,**55°.3S**±0°.1×**29°.65W**±0°.09,**h10**km,**n54**, σ1⅘**39**/45,**mb4.5**/15,**MS3.5**/8,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.09**	**282**		**Pn**	**15 25 05.1**	**-1.4**
EFI	**East Falkland**	**17.24**	**270**	Pn	**Pn**	**15 28 03.5**	**-1.1**
EFI				IAmb	IAmb	15 28 26.4	
	comp=Z,101nm,1.8s						
VNA1	**Neumayer--Stat**	**18.02**	**157**	P	**P**	**15 28 18.3**	**+3.7**
VNA3	**Neumayer Olymp**	**18.17**	**159**	P	**P**	**15 28 16.8**	**+0.4**
VNA2	**Neumayer--Watz**	**18.42**	**157**	P	**P**	**15 28 18.3**	**-0.7**
	baz=315,slow=13						
PMSA	**Palmer Station**	**19.37**	**227**	LR	LR	15 34 21.2	
	comp=Z,63nm,21.7s,baz=96,slow=32						
PMSA	**Palmer Station**	**19.37**	**227**	P	**Pn**	**15 28 32.0**	**+1.5**
SNAA	**Sanae**	**20.00**	**155**	P	**P**	**15 28 34.7**	**-1.7**
SNAA	**Sanae**	**20.00**	**155**	P	**P**	**15 28 34.8**	**-1.7**
	comp=Z,1.3nm,0.3s,baz=294,slow=13,SNR=46						
SNAA	**Sanae**	**20.00**	**155**	P	**P**	**15 28 34.7**	**-1.7**
GO09	**Cerro Castillo**	**25.53**	**261**	P	**P**	**15 29 31.4**	**-1.1**
GO09				IAmb	IAmb	15 29 59.5	
	comp=Z,33nm,1.7s						
TRQA	**Tornquist**	**27.75**	**295**	P	**P**	**15 29 53.0**	**+0.5**
PLCA	**Paso Flores**	**30.49**	**281**	LR	LR	15 42 15.5	
	comp=Z,45nm,20.6s,baz=149,slow=36						
PLCA	**Paso Flores**	**30.49**	**281**	P	**P**	**15 30 21.7**	**+4.7**
PLCA				IAmb	IAmb	15 30 30.0	
	comp=Z,17nm,1.8s						
QSPA	**South Pole Qui**	**34.95**	**180**	P	**P**	**15 30 55.1**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=194,slow=2.5,SNR=17						
QSPA	**South Pole Qui**	**34.95**	**180**	P	**P**	**15 30 54.8**	**-1.0**
CPUP	**Villa Florida**	**35.28**	**314**	P	**P**	**15 30 59.1**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=140,slow=6.9,SNR=3.4						
CPUP				LR	LR	15 47 55.9	
	comp=Z,54nm,18.1s,baz=158,slow=40						
CPUP	**Villa Florida**	**35.28**	**314**	P	**P**	**15 30 58.4**	**-0.4**
CPUP				IAmb	IAmb	15 31 01.3	
	comp=Z,12nm,1.4s						
GO05	**Huala**	**35.33**	**287**	P	**P**	**15 30 59.7**	**+0.5**
GO05				IAmb	IAmb	15 31 07.0	
	comp=Z,16nm,1.4s						
PEL	**Peldehue**	**36.07**	**291**	P	**P**	**15 31 05.2**	**-0.4**
ROC1	**El Roble**	**36.38**	**291**	P	**P**	**15 31 08.2**	**-0.3**
GO04	**Tololo Observa**	**38.45**	**294**	P	**P**	**15 31 26.4**	**+0.3**
GO04				IAmb	IAmb	15 31 33.9	
	comp=Z,7.8nm,0.8s						
MAW	**Mawson**	**41.57**	**145**	LR	LR	15 46 27.2	
	comp=Z,63nm,21.4s,baz=240,slow=32						
GO02	**Mina Guanaco**	**41.91**	**299**	P	**P**	**15 31 54.6**	**-0.3**
GO02				IAmb	IAmb	15 31 58.3	
	comp=Z,7.5nm,0.7s						
BDFB	**Brasilia**	**42.04**	**333**	LR	LR	15 49 21.1	
	comp=Z,74nm,18.3s,baz=143,slow=36						
LVC	**Limon Verde**	**43.72**	**302**	P	**P**	**15 32 10.7**	**+1.1**
LVC				IAmb	IAmb	15 32 12.2	
	comp=Z,13nm,1.4s						
PB10	**IPOC Station P**	**43.77**	**300**	P	**P**	**15 32 09.6**	**0.0**
PB10				IAmb	IAmb	15 32 12.6	
	comp=Z,11nm,1.0s						
GO01	**Chusmiza**	**46.37**	**304**	P	**P**	**15 32 31.2**	**+0.4**
GO01				IAmb	IAmb	15 32 34.6	
	comp=Z,6.2nm,0.8s						
PB11	**IPOC Station P**	**46.51**	**303**	P	**P**	**15 32 31.6**	**0.0**
MNMC	**Minye Minye**	**47.02**	**304**	P	**P**	**15 32 36.3**	**+0.5**
BOSA	**Boshof**	**47.16**	**79**	P	**P**	**15 32 35.4**	**-1.2**
	comp=Z,2.0nm,0.6s,baz=196,slow=8.5,SNR=4.9						
BOSA				LR	LR	15 48 23.4	
	comp=Z,86nm,18.3s,baz=206,slow=31						
BOSA	**Boshof**	**47.16**	**79**	P	**P**	**15 32 35.4**	**-1.2**
VNDA	**Vanda**	**47.25**	**183**	P	**P**	**15 32 36.5**	**0.0**
H10S2	**ASCENSION HYDR**	**47.73**	**20**	T	T	16 24 20.8	
	baz=191,slow=74,SNR=14						
H10S3	**ASCENSION HYDR**	**47.73**	**20**	T	T	16 24 23.8	
	baz=29,slow=74,SNR=13						
LPAZ	**La Paz**	**48.81**	**307**	P	**P**	**15 32 50.6**	**+0.6**
	comp=Z,5.4nm,0.5s,baz=112,slow=5.0,SNR=23						
LPAZ				LR	LR	15 53 44.1	
	comp=Z,24nm,19.9s,baz=182,slow=36						
LPAZ	**La Paz**	**48.81**	**307**	P	**P**	**15 32 50.2**	**+0.2**
H10N1	**ASCENSION HYDR**	**48.85**	**20**	T	T	16 25 38.2	
	baz=190,slow=75,SNR=10						
H10N3	**ASCENSION HYDR**	**48.85**	**20**	T	T	16 25 33.9	
	baz=190,slow=75,SNR=25						
H10N2	**ASCENSION HYDR**	**48.86**	**20**	T	T	16 25 40.4	
	baz=190,slow=75,SNR=14						
SAML	**Samuel**	**53.30**	**317**	P	**P**	**15 33 22.7**	**-0.3**
SAML				IAmb	IAmb	15 33 25.2	
	comp=Z,5.3nm,0.8s						
TOA0	**Torodi Ar. Sit**	**73.12**	**32**	P	**P**	**15 35 36.3**	**+1.9**
TOA0				IAmb	IAmb	15 35 44.1	
	comp=Z,4.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**73.12**	**32**	P	**P**	**15 35 33.8**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=197,slow=6.9,SNR=6.2						
TORD				LR	LR	16 01 03.9	
	comp=Z,86nm,20.1s,baz=315,slow=30						
KMBO	**Kilima Mbogo**	**76.09**	**71**	LR	LR	16 08 11.7	
	comp=Z,76nm,18.1s,baz=91,slow=35						
FINES	**FINESS Array B**	**124.38**	**29**	PKP	**PKPdf**	**15 43 00.7**	**-1.0**
	comp=Z,2.5nm,0.8s,baz=92,slow=6.3,SNR=4.8						
KSH	**Kashi**	**129.72**	**76**	PKP	**PKiKP**	**15 43 14.8**	**+1.2**
KSH				PP	**PP**	**15 45 27.1**	**+2.7**
KSH				SKS	**SKSdf**	**15 50 24.8**	**+0.6**
KSH				SKKS	**SKKSac**	**15 52 19.5**	**-1.0**
KSH	**Kashi**	**129.72**	**76**	SS	SS	16 02 47.5	-0.5
KSH				AMB	AMB		
	comp=Z,450nm,5.2s						
KSH				LR	LR		
	comp=N,590nm,6.3s						
KSH				LR	LR		
	comp=E,610nm,7.0s						
YKA	**Yellowknife Ar**	**134.69**	**319**	PKP	**PKPdf**	**15 43 20.5**	**-0.7**
	comp=E,0.5nm,0.6s,baz=127,slow=2.1,SNR=10.0						
ZALV	**Zalesovo Beam**	**143.29**	**64**	PKP	PKPab	15 43 33.9	+0.8
	comp=E,0.6nm,0.3s,baz=242,slow=3.2,SNR=3.6						
NJ2	**Nanjing**	**147.92**	**123**	*eP*	**PKPdf**	**15 43 47.8**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
IL31		**148.58**	**313**		**PKPbc**	**15 43 48.8**	**-0.7**
ILAR	**Eielson Array**	**148.58**	**313**	PKPbc	**PKPbc**	**15 43 48.8**	**-0.8**
	comp=Z,4.8nm,0.7s,baz=128,slow=1.9,SNR=46						
RND	**Reindeer**	**149.11**	**310**		**PKPbc**	**15 43 51.2**	**+0.1**
SONM	**Songino Array**	**152.08**	**87**	PKPbc	**PKPbc**	**15 43 57.2**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=244,slow=2.6,SNR=10.0						

*IDC **19** 15:28:55.2±4.7,23°.86N×93°.88E,h85km±40km,mb3.2/4, mb1 3.3/5,mb1mx3.1/46,mbtmp3.4/5,MS2.5/1,Ms1 2.5/1, ms1mx2.3/20,Error ellipse: s-maj=80.1km s-min=19.2km az=67.0*

ISC 19 15:28:50.6±1.3,**24°.3N**±0°.2×**94°.1E**±0°.2,**h10**km,**n7**,σ4⅘**18**/5, **mb3.5**/4,**Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.40**	**303**	*ePG*	**Pg**	**15 29 40.0**	**+3.3**
SHL				*i* SG	**Sn**	**15 29 55.0**	**-4.8**
CMAR	**Chiang Mai Arr**	**7.32**	**141**	P	**Pn**	**15 30 37.3**	**-0.3**
	0.1nm,0.3s,baz=316,slow=12,SNR=3.6						
PSI	**Prapat**	**21.83**	**167**	LR	LR	15 41 53.9	
	comp=Z,14nm,22.0s,baz=234,slow=36						
MKAR	**Makanchi Array**	**24.41**	**340**	P	**P**	**15 34 08.2**	**-0.9**
	0.8nm,0.7s,baz=147,slow=12,SNR=8.6						
SONM	**Songino Array**	**25.48**	**19**	P	**P**	**15 34 19.4**	**+0.3**
	0.4nm,0.6s,baz=200,slow=6.9,SNR=4.4						
WRA	**Warramunga Arr**	**58.87**	**135**	P	P	15 38 44.0	-5.8
	0.3nm,0.7s,baz=321,slow=7.7,SNR=6.4						
ASAR	**Alice Springs**	**61.32**	**138**	P	P	15 39 01.3	-5.4
	0.4nm,0.5s,baz=315,slow=6.7,SNR=21						

*GCG **19** 15:33:45.7±0.4,13°.75N×93°.03W,h35km±294km,MD3.9*
*IDC **19** 15:33:50.9±3.8,14°.36N×92°.58W,h0km,mb4.0/1, mb1 3.9/4,mb1mx3.5/39,mbtmp3.5/4,ML3.0/2,MS3.1/3, Ms1 3.1/3,ms1mx2.6/39,Error ellipse: s-maj=88.2km s-min=31.2km az=16.0*
*ISCJB **19** 15:33:53.2±1.3,14°.16N±0°.09×92°.56W±0°.08,h46km, mb4.1/1,MS3.1/2,Error ellipse: s-maj=14.7km s-min=7.1km az=37.3*
*MEX **19** 15:33:54.3±0.4,14°.09N×92°.61W,h28km±17km,MD4.0*

ISC 19 15:33:53.5±1.5,**14°.1N**±0°.1×**92°.67W**±0°.07,**h46**km,**n16**, σ2⅘**69**/18,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.90**	**26**	*i* P	**Pn**	**15 34 08.9**	**-0.9**
THIG				*i* S	**Sn**	**15 34 18.8**	**-2.9**
ERG	**Entre ros. C**	**1.12**	**72**	*eP*	**Pn**	**15 34 09.1**	**-3.7**
STG3	**Santiaguito 3,**	**1.23**	**60**	*eP*	**Pn**	**15 34 13.6**	**-0.8**
PCIG		**1.69**	**342**	*eP*	**Pn**	**15 34 19.9**	**-0.7**
PCIG				*eS*	**Sn**	**15 34 40.5**	**-0.4**
FUG	**Fuego 3**	**1.81**	**79**	*eP*	**Pn**	**15 34 21.0**	**-1.4**
FUG				*eS*	**Sn**	**15 34 48.3**	**+4.1**
IXG	**Ixpaco**	**2.16**	**88**	*eP*	**Pn**	**15 34 25.2**	**-2.0**
APG	**El Apazote**	**2.32**	**67**	Pn	**Pn**	**15 34 28.9**	**-0.5**
	4.1nm,0.3s,baz=254,slow=9.3,SNR=53						
TGIG		**2.70**	**351**	*eP*	**Pn**	**15 34 36.2**	**+1.7**
TGIG				*eS*	**Sn**	**15 35 05.5**	**-0.5**
CMIG	**Matias Romero**	**3.66**	**325**	Pn	**Pn**	**15 34 47.7**	**0.0**
	1.4nm,0.3s,baz=138,slow=11,SNR=5.1						
CMIG	**Matias Romero**	**3.66**	**325**	*eP*	**Pn**	**15 34 47.3**	**-0.4**
CMIG				*eS*	**Sn**	**15 35 23.1**	**-6.6**
TEIG	**Tepich**	**7.40**	**34**	LR	LR	15 38 57.6	
	comp=Z,92nm,21.1s,baz=227,slow=43						
TXAR	**Lajitas Array**	**18.26**	**328**	Pn	**Pn**	**15 38 07.2**	**+3.5**
	baz=138,slow=11,SNR=4.9						
TKL	**Tuckaleechee C**	**22.91**	**19**	LR	LR	15 48 40.9	
	comp=Z,46nm,18.8s,baz=311,slow=39						
PFO	**Pinyon Flats O**	**29.04**	**316**	LR	LR	15 50 48.1	
	comp=Z,77nm,19.1s,baz=202,slow=35						
YKA	**Yellowknife Ar**	**50.78**	**347**	P	**P**	**15 42 49.9**	**+1.0**
	1.5nm,0.6s,baz=150,slow=7.4,SNR=25						
CMAR	**Chiang Mai Arr**	**145.69**	**340**	PKPbc	**PKiKP**	**15 53 31.2**	**-0.7**
	0.9nm,0.8s,baz=332,slow=3.0,SNR=5.7						

*ISCJB **19** 15:36:49.9±0.8,44°.15N±0°.02×78°.32E±0°.03,h10km±6km, Error ellipse: s-maj=4.3km s-min=3.0km az=143.2*
*SOME **19** 15:36:49.7,44°.12N×78°.37E,h5km*
*NNC **19** 15:36:49.1±0.3,44°.14N×78°.32E,h0km,mb3.3,mpv3.8, Error ellipse: s-maj=2.1km s-min=1.4km az=5.0*

ISC 19 15:36:49.1±1.0,**44°.17N**±0°.02×**78°.29E**±0°.02,**h14**km±9km, **n51**,σ1⅘**19**/88,**9C-5D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARXS	**Arharly**	**0.34**	**277**	*eP*	**Pb**	**15 36 57.9**	**+1.0**
	210nm,0.1s						
ARXS				*eS*	**Sb**	**15 37 03.5**	**+1.4**
	910nm,0.2s						
ARXS	**Arharly**	**0.34**	**277**	P	**Pb**	**15 36 57.9**	**+1.0**
	210nm,0.1s						
ARXS				S	**Sb**	**15 37 03.5**	**+1.4**
	910nm,0.2s						
KURS	**Kuram**	**0.69**	**187**	*eP*	**Pb**	**15 37 03.1**	**+0.2**
	72nm,0.2s						
KURS				*eS*	**Sb**	**15 37 12.7**	**+0.4**
	100nm,0.3s						
KURS	**Kuram**	**0.69**	**187**	P	**Pb**	**15 37 03.1**	**+0.2**
	72nm,0.2s						
KURS				S	**Sb**	**15 37 12.7**	**+0.4**
	100nm,0.3s						
TDK	**Taldyqorghan**	**0.83**	**6**	*i*P	**Pn**	**15 37 06.2**	**-0.1**
	103nm,0.2s						
TDK				*eS*	**Sn**	**15 37 17.8**	**-0.6**
	282nm,0.2s						
TDK	**Taldyqorghan**	**0.83**	**6**	P	**Pn**	**15 37 06.2**	**-0.1**
	103nm,0.2s						
TDK				S	**Sn**	**15 37 17.8**	**-0.6**
	282nm,0.2s						
CHKK	**Chushkaly**	**0.99**	**252**	*eP*	**Pg**	**15 37 08.0**	**-0.3**
	23nm,0.1s						
CHKK				*eS*	**Sg**	**15 37 21.2**	**0.0**
	127nm,0.1s						
CHKK	**Chushkaly**	**0.99**	**252**	P	**Pg**	**15 37 08.0**	**-0.3**
	23nm,0.1s						
CHKK				S	**Sg**	**15 37 21.3**	**0.0**
	127nm,0.1s						
ZHN	**Zhinishke**	**1.01**	**174**	*eP*	**Pb**	**15 37 08.1**	**-0.3**
	101nm,0.1s						
ZHN				*eS*	**Sb**	**15 37 21.2**	**-0.4**
	97nm,0.2s						
ZHN	**Zhinishke**	**1.01**	**174**	P	**Pb**	**15 37 08.1**	**-0.3**
	101nm,0.1s						
ZHN				S	**Sb**	**15 37 21.2**	**-0.4**
	97nm,0.2s						
DJR	**Jarkent**	**1.09**	**81**	*eP*	**Pn**	**15 37 09.9**	**0.0**
	15nm,0.2s						
DJR				*eS*	**Sn**	**15 37 24.2**	**-0.6**
	30nm,0.1s						
SATY	**Saty**	**1.12**	**176**	*eP*	**Pb**	**15 37 10.0**	**-0.2**
	133nm,0.1s						
SATY				*eS*	**Sg**	**15 37 24.3**	**-1.0**
	346nm,0.1s						
SATY	**Saty**	**1.12**	**176**	P	**Pb**	**15 37 10.0**	**-0.2**
	133nm,0.1s						
SATY				S	**Sg**	**15 37 24.3**	**-1.0**
	346nm,0.1s						
UZB	**Uzynbulak**	**1.16**	**152**	*eP*	**Pn**	**15 37 10.5**	**-0.4**
	39nm,0.2s						
UZB				*eS*	**Sb**	**15 37 25.4**	**-0.4**
	101nm,0.1s						
UZB	**Uzynbulak**	**1.16**	**152**	P	**Pn**	**15 37 10.5**	**-0.4**
	39nm,0.2s						
UZB				S	**Sb**	**15 37 25.4**	**-0.4**
	101nm,0.1s						
PDGK	**Podgornoye**	**1.21**	**134**	P	**Pg**	**15 37 11.6**	**-0.9**
PDGK				S	**Sn**	**15 37 27.4**	**-0.5**
PDGK	**Podgornoye**	**1.21**	**134**	⇓P	**Pg**	**15 37 11.4**	**-1.1**
	9.7nm,0.3s						
PDGK				⇑S	**Sg**	**15 37 27.1**	**-1.2**
	45nm,0.3s						
KTBS	**Karatobe**	**1.25**	**249**	*eP*	**Pn**	**15 37 12.4**	**+0.2**
	18nm,0.1s						
KTBS				*eS*	**Sb**	**15 37 29.0**	**+0.5**
	200nm,0.3s						
KTBS	**Karatobe**	**1.25**	**249**	P	**Pn**	**15 37 12.4**	**+0.2**
	18nm,0.1s						
KTBS				S	**Sb**	**15 37 29.0**	**+0.5**
	200nm,0.3s						
KOTS	**Kotyrbulak**	**1.27**	**223**	*eP*	**Pg**	**15 37 13.1**	**-0.5**
	53nm,0.2s						
KOTS				*eS*	**Sg**	**15 37 29.8**	**-0.3**
	227nm,0.3s						
KOTS	**Kotyrbulak**	**1.27**	**223**	P	**Pg**	**15 37 13.1**	**-0.5**
	53nm,0.2s						
KOTS				S	**Sg**	**15 37 29.8**	**-0.3**
	227nm,0.3s						
SHLS	**Shalkode**	**1.32**	**140**	*eP*	**Pg**	**15 37 17.1**	**+2.5**
	32nm,0.2s						
SHLS				*eS*	**Sg**	**15 37 36.6**	**+4.8**
	180nm,0.3s						
SHLS	**Shalkode**	**1.32**	**140**	P	**Pg**	**15 37 17.1**	**+2.5**
	32nm,0.2s						
SHLS				S	**Sg**	**15 37 36.6**	**+4.8**
	180nm,0.3s						
KAPS	**Kapalarasan**	**1.34**	**34**	*eP*	**Pg**	**15 37 15.0**	**0.0**
	16nm,0.1s						
KAPS				*eS*	**Sg**	**15 37 33.2**	**+0.7**
	143nm,0.1s						
MDOK	**Medeo**	**1.35**	**222**	*eP*	**Pb**	**15 37 14.1**	**-0.2**
	14nm,0.1s						
MDOK				*eS*	**Sb**	**15 37 31.9**	**+0.4**
	46nm,0.2s						
MDOK	**Medeo**	**1.35**	**222**	⇑P	**Pn**	**15 37 14.0**	**+0.3**
	4.8nm,0.3s						
MDOK				⇑S	**Sb**	**15 37 32.0**	**+0.4**
	30nm,0.6s						
MDOK	**Medeo**	**1.35**	**222**	Pg	**Pb**	**15 37 14.1**	**-0.2**
	14nm,0.1s						
MDOK				Lg	Lg	15 37 31.9	
	46nm,0.2s						
KNDC	**Almaty**	**1.36**	**226**	⇑P	**Pg**	**15 37 14.9**	**-0.3**
KNDC				⇓S	**Sg**	**15 37 32.9**	**0.0**
AAA	**Alma-Ata**	**1.39**	**226**	*eP*	**Pg**	**15 37 15.3**	**-0.5**
	46nm,0.1s						
AAA				*eS*	**Sg**	**15 37 33.9**	**+0.1**
	47nm,0.2s						
AAA	**Alma-Ata**	**1.39**	**226**	P	**Pg**	**15 37 15.3**	**-0.5**
	46nm,0.1s						
AAA				S	**Sg**	**15 37 33.9**	**+0.1**
	47nm,0.2s						
TNSS	**Tian-Shan**	**1.50**	**221**	*eP*	**Pb**	**15 37 16.6**	**-0.4**
	13nm,0.2s						
TNSS				*eS*	**Sn**	**15 37 35.9**	**+0.5**
	178nm,0.3s						
TNSS	**Tian-Shan**	**1.50**	**221**	P	**Pb**	**15 37 16.6**	**-0.4**
	13nm,0.2s						
TNSS				S	**Sg**	**15 37 36.9**	**-0.5**
	178nm,0.3s						
KTMS	**Ketmen**	**1.66**	**115**	*eP*	**Pb**	**15 37 19.3**	**-0.2**
	8.7nm,0.1s						
KTMS				*eS*	**Sg**	**15 37 40.5**	**-2.0**
	160nm,0.4s						
KTMS	**Ketmen**	**1.66**	**115**	P	**Pb**	**15 37 19.3**	**-0.2**
	8.7nm,0.1s						
KTMS				S	**Sg**	**15 37 40.5**	**-2.0**
	160nm,0.4s						
IZV	**Izvestkoviy**	**1.67**	**228**	*eP*	**Pb**	**15 37 19.5**	**-0.1**
	9.9nm,0.1s						
IZV				*eS*	**Sb**	**15 37 41.2**	**+0.7**
	57nm,0.2s						
IZV	**Izvestkoviy**	**1.67**	**228**	P	**Pb**	**15 37 19.5**	**-0.1**
	9.9nm,0.1s						
IZV				S	**Sb**	**15 37 41.2**	**+0.7**
	57nm,0.2s						
MTBS	**Maitube**	**1.71**	**233**	*eP*	**Pb**	**15 37 20.0**	**-0.2**
	29nm,0.3s						
MTBS				*eS*	**Sb**	**15 37 42.1**	**+0.5**
	146nm,0.4s						
MTBS	**Maitube**	**1.71**	**233**	P	**Pb**	**15 37 20.0**	**-0.2**
	29nm,0.3s						
MTBS				S	**Sb**	**15 37 42.1**	**+0.5**
	146nm,0.4s						
TKM2	**Tokmak 2**	**2.33**	**238**	P	**Pg**	**15 37 33.8**	**+0.1**
	SNR=5.2						
TKM2	**Tokmak 2**	**2.33**	**238**	⇓Pn	**Pb**	**15 37 29.8**	**-1.0**
	6.0nm,0.6s						
TKM2				⇓Lg	Lg	15 38 00.4	
	6.1nm,0.3s						
ULHL	**Ulahol**	**2.44**	**219**	P	**Pb**	**15 37 32.9**	**0.0**
	SNR=15						
CHMS	**Chumysh**	**2.83**	**247**	P	**Pg**	**15 37 41.8**	**-1.5**
	SNR=7.4						
KBK	**Karagaybulak**	**2.87**	**239**	P	**Pg**	**15 37 43.0**	**-1.1**
	SNR=5.4						
USP	**Ospenovka**	**2.90**	**253**	P	**Pg**	**15 37 42.7**	**-1.9**
	SNR=5.8						
KZA	**Kyzart**	**3.06**	**228**	P	**Pg**	**15 37 47.8**	**+0.1**
	SNR=5.5						
AAK	**Ala-Archa**	**3.17**	**242**	P	**Pg**	**15 37 47.8**	**-1.9**
	SNR=6.9						
AAK	**Ala-Archa**	**3.17**	**242**	⇓Pg	**Pb**	**15 37 47.1**	**+1.9**
	2.0nm,0.3s						
AAK				⇑Lg	Lg	15 38 26.9	
	5.2nm,0.6s						
UCH	**Uchtor**	**3.38**	**236**	P	**Pg**	**15 37 51.7**	**-2.1**
	SNR=7.2						
MAKZ	**Makanchi**	**3.69**	**43**	⇑Lg	Lg	15 38 44.4	
	2.1nm,0.3s						
MK31	**Makanchi Array**	**3.84**	**46**	⇑Pn	**Pn**	**15 37 49.5**	**+1.7**
	0.2nm,0.2s,baz=222,slow=14,SNR=15						
MK31				Pg	**Pg**	**15 37 59.9**	**-2.7**
	0.6nm,0.4s,baz=221,slow=13,SNR=7.1						
MK31				Sn	**Sn**	**15 38 34.0**	**+1.3**
	0.5nm,0.2s,baz=219,slow=23,SNR=4.8						
MK31				Lg	Lg	15 38 49.2	
	2.7nm,0.5s,baz=225,slow=28,SNR=5.0						
KK31	**Karatay Array**	**5.75**	**262**	⇑Lg	Lg	15 39 46.4	
	2.5nm,0.5s,baz=73,slow=29,SNR=5.0						

*NEIC **19** 15:42:59.0±2.9,25°.05S±0°.10×179°.75E±0°.10,h480km±7km, mb4.8/39*
*IDC **19** 15:42:58.8±2.3,25°.04S×179°.80E,h471km±25km,mb3.4/8, mb1 3.7/10,mb1mx3.5/19,mbtmp4.4/10,Error ellipse: s-maj=19.8km s-min=17.2km az=66.0*
*ISCJB **19** 15:42:59.6±0.3,25°.06S±0°.03×179°.76E±0°.06,h501km, mb3.9/9,Error ellipse: s-maj=7.6km s-min=4.3km az=173.1*

ISC 19 15:43:00.5±0.4,**25°.05S**±0°.05×**179°.85E**±0°.07,**h501**km, **n107**,σ1⅘**116**/116,**mb4.5**/20,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.62**	**155**	P	**P**	**15 44 25.6**	**+1.5**
RAO	**Raoul Island**	**4.63**	**155**	P	**P**	**15 44 25.6**	**+1.4**
	183nm,0.3s,baz=65,slow=24,SNR=4.1						
RAO	**Raoul Island**	**4.63**	**155**	P	**P**	**15 44 25.4**	**+1.2**
GLKZ	**Green Lake**	**4.64**	**155**	P	**P**	**15 44 25.1**	**+0.9**
GLKZ				S	**S**	**15 45 33.6**	**+0.9**
MSVF	**Nonsavu**	**7.47**	**347**	P	**P**	**15 44 51.0**	**-0.8**
NIUE	**Niue**	**11.19**	**60**	P	**P**	**15 45 29.1**	**-1.4**
OUZ	**Omahuta**	**11.48**	**207**	P	**P**	**15 45 32.8**	**-0.6**
OUZ	**Omahuta**	**11.48**	**207**	P	**P**	**15 45 31.3**	**-2.1**
GRZ	**Great Barrier**	**11.78**	**198**	P	**P**	**15 45 37.8**	**+1.2**
WCZ	**Waipu Caves**	**11.84**	**202**	P	**P**	**15 45 39.6**	**+2.5**
KUZ	**Kuaotunu**	**12.18**	**196**	P	**P**	**15 45 41.6**	**+0.9**
ABAZ	**Army Bay**	**12.29**	**199**	P	**P**	**15 45 43.5**	**+1.6**
WIAZ	**Waiheke Island**	**12.38**	**198**	P	**P**	**15 45 44.3**	**+1.4**
MBAZ	**Motutapu North**	**12.43**	**199**	P	**P**	**15 45 45.0**	**+1.7**
MXZ	**Matakaoa Point**	**12.54**	**186**	P	**P**	**15 45 44.8**	**+0.3**
MXZ				S	**S**	**15 47 56.5**	**-3.3**
MXZ	**Matakaoa Point**	**12.54**	**186**	P	**P**	**15 45 43.1**	**-1.5**
ETAZ	**East Tamaki Re**	**12.59**	**198**	P	**P**	**15 45 47.2**	**+2.1**
DZM	**Mont Dzumac**	**12.64**	**281**	P	**P**	**15 45 47.9**	**+1.8**
	0.4nm,0.3s,baz=90,slow=20,SNR=4.5						
DZM	**Mont Dzumac**	**12.64**	**281**	P	**P**

	comp=Z,99nm,1.7s						
KHZ	**Kahutara**	**18.09**	**195**	P	**P**	**15 46 39.4**	**-1.9**
KHZ				IAmb	IAmb	15 46 42.8	
	comp=Z,66nm,1.3s						
LTZ	**Lake Taylor**	**18.75**	**198**	P	**P**	**15 46 45.7**	**-1.8**
LTZ				IAmb	IAmb	15 46 48.9	
	comp=Z,24nm,0.6s						
OXZ	**Oxford**	**19.32**	**197**	P	**P**	**15 46 50.9**	**-1.8**
OXZ				IAmb	IAmb	15 46 52.0	
	comp=Z,26nm,0.7s						
MQZ	**McQueen's Vall**	**19.52**	**196**	P	**P**	**15 46 53.1**	**-1.4**
RPZ	**Rata Peaks**	**19.96**	**199**	P	**P**	**15 46 57.7**	**-0.8**
	comp=Z,2.2nm,0.3s,baz=11,slow=1.3,SNR=13						
RPZ	**Rata Peaks**	**19.96**	**199**	P	**P**	**15 46 57.6**	**-0.9**
RPZ				IAmb	IAmb	15 46 59.5	
	comp=Z,14nm,0.7s						
FOZ	**Fox Glacier**	**20.18**	**202**	P	**P**	**15 46 59.4**	**-1.1**
FOZ				IAmb	IAmb	15 47 01.7	
	comp=Z,70nm,1.2s						
LBZ	**Lake Benmore**	**20.83**	**200**	P	**P**	**15 47 04.4**	**-2.0**
LBZ				IAmb	IAmb	15 47 27.8	
	comp=Z,65nm,1.7s						
ODZ	**Otahua Downs**	**21.29**	**198**		**P**	**15 47 10.8**	**+0.2**
ODZ				IAmb	IAmb	15 47 20.2	
	comp=Z,54nm,1.5s						
WKZ	**Wanaka**	**21.60**	**201**	P	**P**	**15 47 12.0**	**-1.4**
WKZ				IAmb	IAmb	15 47 28.9	
	comp=Z,42nm,1.2s						
MLZ	**Mavora Lakes**	**22.37**	**202**	P	**P**	**15 47 19.5**	**-0.9**
DCZ	**Deep Cove**	**22.80**	**204**	P	**P**	**15 47 22.4**	**-1.6**
DCZ				IAmb	IAmb	15 47 24.9	
	comp=Z,59nm,1.7s						
HNR	**Honiara**	**24.49**	**306**	P	**P**	**15 47 38.6**	**-0.9**
	comp=Z,67nm,0.7s,baz=27,slow=1.6,SNR=16						
HNR	**Honiara**	**24.49**	**306**	P	**P**	**15 47 38.4**	**-1.2**
ARMA	**Armidale**	**25.51**	**252**	P	**P**	**15 47 46.7**	**-1.9**
EIDS	**Eidsvold**	**26.01**	**263**	P	**P**	**15 47 52.5**	**-0.4**
EIDS				IAmb	IAmb	15 48 12.6	
	comp=Z,20nm,1.2s						
TARA	**Tarawa**	**27.09**	**345**	P	**P**	**15 48 02.3**	**-0.3**
CAN	**Canberra**	**28.46**	**242**	P	**P**	**15 48 14.6**	**+0.2**
CAN				IAmb	IAmb	15 48 23.1	
	comp=Z,25nm,1.5s						
TOO	**Toolangi**	**31.72**	**239**	P	**P**	**15 48 43.4**	**+0.9**
TAU	**Tasmania Unive**	**32.06**	**228**	P	**P**	**15 48 46.4**	**+1.1**
TAU				IAmb	IAmb	15 49 12.0	
	comp=Z,92nm,1.5s						
STKA	**Stephens Creek**	**34.18**	**250**	P	**P**	**15 49 04.3**	**+0.8**
	comp=Z,1.3nm,0.4s,baz=102,slow=12,SNR=9.7						
STKA	**Stephens Creek**	**34.18**	**250**	P	**P**	**15 49 03.6**	**+0.2**
PMG	**Port Moresby**	**34.75**	**291**	P	**P**	**15 49 08.6**	**+0.2**
PMG				IAmb	IAmb	15 49 09.8	
	comp=Z,41nm,1.3s						
COEN	**Coen**	**36.17**	**281**	P	**P**	**15 49 20.9**	**+0.5**
COEN				IAmb	IAmb	15 49 42.6	
	comp=Z,15nm,1.2s						
BBOO	**Buckleboo**	**38.88**	**248**	P	**P**	**15 49 42.4**	**+0.2**
BBOO				IAmb	IAmb	15 49 57.6	
	comp=Z,82nm,1.9s						
TAOE	**Nuku Hiva Isla**	**41.32**	**74**	P	**P**	**15 50 02.9**	**+0.6**
AS31	**Alice Springs**	**41.72**	**262**	P	**P**	**15 50 05.7**	**+0.4**
ASAR	**Alice Springs**	**41.72**	**262**	P	**P**	**15 50 05.5**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=89,slow=7.2,SNR=57						
ASAR				pP	**pP**	**15 51 36.2**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=106,slow=9.2,SNR=3.2						
WRAB	**Tennant Creek**	**42.20**	**267**	P	**P**	**15 50 08.5**	**-0.5**
WRA	**Warramunga Arr**	**42.20**	**267**	P	**P**	**15 50 08.7**	**-0.4**
	comp=Z,2.3nm,0.3s,baz=99,slow=6.8,SNR=47						
MTN	**Manton Dam**	**47.41**	**276**	P	**P**	**15 50 48.4**	**-0.9**
MTN				IAmb	IAmb	15 51 01.1	
	comp=Z,25nm,1.4s						
KNRA	**Kununurra**	**48.55**	**271**	P	**P**	**15 50 57.6**	**-0.2**
KNRA				IAmb	IAmb	15 50 58.7	
	comp=Z,29nm,1.2s						
FITZ	**Fitzroy Crossi**	**50.61**	**267**	P	**P**	**15 51 13.4**	**+0.5**
FAKI	**Fak Fak**	**50.79**	**288**	P	**P**	**15 51 14.2**	**-0.1**
CASY	**Casey**	**59.02**	**206**	P	**P**	**15 52 08.3**	**-2.8**
QSPA	**South Pole Qui**	**65.04**	**180**	P	**P**	**15 52 51.8**	**+1.3**
QSPA				PcP	**PcP**	**15 53 19.4**	**+0.8**
MJAR	**Matsushiro Arr**	**72.77**	**326**	P	**P**	**15 53 37.9**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=134,slow=4.6,SNR=4.9						
PETK	**Petropavlovsk-**	**80.18**	**347**	P	**P**	**15 54 18.7**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=115,slow=7.8,SNR=9.2						
MHDM	**Hidden Dam**	**83.88**	**44**		**S**	**16 04 18.9**	**+0.3**
NVAR	**Mina Array Bea**	**85.67**	**44**	P	**P**	**15 54 47.3**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=235,slow=8.8,SNR=5.8						
PLCA	**Paso Flores**	**87.57**	**134**	P	**P**	**15 54 56.8**	**+1.7**
	comp=Z,1.2nm,0.8s,baz=264,slow=5.3,SNR=3.4						
PLCA	**Paso Flores**	**87.57**	**134**	P	**P**	**15 54 56.7**	**+1.7**
PLCA				IAmb	IAmb	15 55 00.4	
	comp=Z,25nm,1.9s						
TXAR	**Lajitas Array**	**91.16**	**58**	P	**P**	**15 55 13.7**	**+1.9**
	comp=Z,1.5nm,0.8s,baz=216,slow=5.6,SNR=8.9						
DLBC	**Dease Lake**	**93.00**	**24**	P	**P**	**15 55 20.7**	**+1.2**
ARCES	**ARCESS Array B**	**132.98**	**348**	PKP	**PKiKP**	**16 01 18.6**	**-0.4**
	comp=Z,2.6nm,0.9s,baz=67,slow=3.0,SNR=5.6						
ARCES				SKPbc	**SKPab**	**16 04 00.5**	**-0.2**
	comp=Z,4.8nm,1.1s,baz=27,slow=6.1,SNR=4.4						
FINES	**FINESS Array B**	**139.49**	**341**	SKPbc	**SKiKP**	**16 04 19.9**	**-0.8**
	comp=Z,4.4nm,1.0s,baz=38,slow=7.2,SNR=4.8						
BRTR	**Keskin Array B**	**148.15**	**306**	PKPbc	**PKPbc**	**16 01 49.8**	**0.0**
	comp=Z,0.4nm,0.4s,baz=148,slow=2.2,SNR=3.6						

WEL 19 15:49:53.4±1.2, 46°S±5°×16°6E±°, h5km, M3.7/13, ML3.8/12, MLv3.7/13, Error ellipse: s-maj=0.0km s-min=0.0km az=88.1, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.90**	**44**	P	Pg	15 50 09.8	-0.9
DCZ				S	Sg	15 50 22.0	-0.3
WHZ	**Wether Hill Ro**	**1.19**	**80**	P	Pg	15 50 15.7	-0.5
WHZ				S	Sb	15 50 32.1	-0.1
APZ	**The Paps**	**1.39**	**122**	P	Pn	15 50 18.0	-1.4
APZ				S	Sb	15 50 36.7	-1.1
MLZ	**Mavora Lakes**	**1.50**	**61**	P	Pn	15 50 20.9	0.0
MLZ				S	Sg	15 50 42.2	+0.7
MSZ	**Milford Sound**	**1.86**	**40**	P	Pn	15 50 24.6	-1.2
SYZ	**Scrubby Hill**	**2.03**	**103**	P	Pn	15 50 28.2	-0.1
EAZ	**Earnscleugh**	**2.31**	**68**	P	Pn	15 50 33.1	+1.0
EAZ				S	Sn	15 51 01.6	+0.7
WKZ	**Wanaka**	**2.33**	**57**	P	Pn	15 50 33.6	+1.2
TUZ	**Tuapeka**	**2.35**	**87**	P	Pn	15 50 33.4	+0.8
JCZ	**Jackson Bay**	**2.71**	**42**	P	Pn	15 50 38.4	+0.7
HHSZ	**Highcliff Hill**	**3.03**	**87**	P	Pn	15 50 42.5	+0.6
ODZ	**Otahua Downs**	**3.25**	**72**	P	Pn	15 50 44.0	-1.1
LBZ	**Lake Benmore**	**3.26**	**59**	P	Pn	15 50 44.9	-0.4
FOZ	**Fox Glacier**	**3.61**	**46**	P	Pn	15 50 49.3	-0.7
RPZ	**Rata Peaks**	**4.16**	**56**	P	Pn	15 50 56.4	-1.2
WVZ	**Waitaha Valley**	**4.41**	**48**	P	Pn	15 51 01.4	+0.5
OXZ	**Oxford**	**4.97**	**58**	P	Pn	15 51 06.6	-2.0
INZ	**Inchbonnie**	**5.03**	**49**	P	Pn	15 51 08.3	-1.1
LTZ	**Lake Taylor**	**5.44**	**54**	P	Pn	15 51 13.4	-1.7
GVZ	**Greta Valley S**	**5.77**	**59**	P	Pn	15 51 18.0	-1.6
DSZ	**Denniston Nort**	**5.92**	**44**	P	Pn	15 51 22.2	+0.4
THZ	**Tophouse**	**6.47**	**50**	P	Pn	15 51 29.2	-0.2
QRZ	**Quartz Range**	**6.98**	**43**	P	Pn	15 51 35.8	-0.4

*ANF **19** 15:53:37.7±0.2, 34°00'N×118°44'W, h15km, ML2.6/21, Error ellipse: s-maj=1.5km s-min=1.1km az=85.0*
*NEIC **19** 15:53:38.5±1.1, 33°93'N±0°04×118°50'W±0°04, h13km±3km*
*PAS **19** 15:53:39.1±1.8, 33°98N±0°01×118°45'W±0°03, h9km±3km, ML2.8*
*SCEDC **19** 15:53:39.2, 33°99N×118°46'W, h9km, ML2.8, ML2.8, ML2.8*
ISC 19 15:53:38.9±0.8, 33°97N±0°02×118°46'W±0°02, h16km±5km, n50, σ0°89/62, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCGC	**La Cienega, Cu**	**0.07**	**64**		**Pg**	**15 53 41.5**	**-0.5**
LCGC					**Sg**	**15 53 43.7**	**-0.2**
BHPC	**Baldwin Hills**	**0.08**	**74**		**Pg**	**15 53 41.6**	**-0.4**
BHPC					**Sg**	**15 53 44.0**	**0.0**
USC	**University of**	**0.15**	**70**		**Pg**	**15 53 42.9**	**+0.1**
USC					**Sb**	**15 53 46.0**	**-0.3**
WT12	**Watts, South G**	**0.17**	**97**		**Pg**	**15 53 43.4**	**+0.4**
FMP	**Fort Macarthur**	**0.29**	**152**	P	**Pg**	**15 53 44.5**	**-0.5**
	baz=335,SNR=6.6						
FMP				S	**Sg**	**15 53 49.2**	**0.0**
	baz=335						
DECC	**Green Verdugo**	**0.30**	**19**	P	**Pg**	**15 53 44.5**	**-0.8**
	baz=199,SNR=28						
DECC				S	**Sg**	**15 53 48.7**	**-1.0**
	baz=199						
PASC	**Pasadena Art C**	**0.30**	**48**		**Pg**	**15 53 44.4**	**-0.8**
OAT	**Oat Mountain**	**0.40**	**341**		**Pg**	**15 53 46.8**	**-0.2**
MWC	**Mount Wilson**	**0.42**	**52**		**Pg**	**15 53 46.7**	**-0.7**
BLG	**Laguna Peak, P**	**0.53**	**286**	P	**Pg**	**15 53 48.4**	**-0.9**
	baz=104,SNR=5.8						
BLG				S	**Sg**	**15 53 55.8**	**-0.5**
	baz=104						
CIAC	**Catalina I. Ai**	**0.57**	**176**		**Pg**	**15 53 50.2**	**+0.2**
CIS	**Catalina Islan**	**0.57**	**177**	P	**Pg**	**15 53 49.8**	**-0.3**
	baz=358,SNR=18						
CIS				S	**Sg**	**15 53 58.2**	**+0.6**
	baz=358						
OSI	**Osito Audit: C**	**0.68**	**341**	P	**Pg**	**15 53 51.6**	**-0.7**
	baz=160,SNR=7.8						
OSI				Sn	**Sb**	**15 54 02.6**	**+0.9**
	baz=160						
OSI	**Osito Audit: C**	**0.68**	**341**		**Pg**	**15 53 51.7**	**-0.5**
BFSC	**Mount Baldy Ra**	**0.71**	**68**	P	**Pg**	**15 53 51.7**	**-1.2**
	baz=249,SNR=17						
BFSC				Sn	**Sb**	**15 54 04.1**	**+1.4**
	baz=249						
EDW2	**Edwards Air Fo**	**0.99**	**23**	P	**Pg**	**15 53 56.4**	**-1.6**
	baz=203,SNR=24						
EDW2				S	**Sg**	**15 54 09.2**	**-1.8**
	baz=203						
RYS	**Reyes Peak**	**1.00**	**312**		**Pg**	**15 53 57.8**	**-0.5**
MURC	**Murrieta**	**1.11**	**109**	P	**Pb**	**15 53 58.7**	**-1.1**
	baz=291,SNR=10						
MURC				S	**Sb**	**15 54 13.6**	**-0.4**
	baz=291						
SNCC	**San Nicolas Is**	**1.15**	**231**	S	**Sb**	**15 54 14.7**	**-0.2**
	baz=50						
SNCC	**San Nicolas Is**	**1.15**	**231**	Pn	**Pb**	**15 53 59.6**	**-0.7**
ARVC	**Arvin**	**1.20**	**345**	Pg	**Pn**	**15 54 00.7**	**-0.3**
	baz=164,SNR=6.0						
POB	**Polly Butte**	**1.31**	**102**		**Pn**	**15 54 01.7**	**-0.9**
BBRC	**Big Bear Solar**	**1.31**	**77**	Pg	**Pn**	**15 54 02.7**	**0.0**
	baz=258						
GORC	**Green Oak Ranc**	**1.31**	**128**		**Pn**	**15 54 01.8**	**-0.7**
RRX	**Edison Barstow**	**1.51**	**53**	Pg	**Pb**	**15 54 06.7**	**+0.2**
	baz=234						
109C	**Camp Elliot, M**	**1.56**	**133**	P	**Pn**	**15 54 05.5**	**-0.4**
	baz=315						
109C	**Camp Elliot, M**	**1.56**	**133**	Pn	**Pn**	**15 54 06.3**	**+0.3**
BZNA	**Buzz No.'s Pla**	**1.56**	**107**		**Pb**	**15 54 07.5**	**0.0**
ISA	**Isabella, Lake**	**1.69**	**359**	Pb	**Pn**	**15 54 08.2**	**+0.3**
	baz=179						
ISA	**Isabella, Lake**	**1.69**	**359**		**Pn**	**15 54 08.4**	**+0.5**
PFO	**Pinyon Flats O**	**1.70**	**102**	Pb	**Pn**	**15 54 08.3**	**+0.3**
	baz=283						
PFO	**Pinyon Flats O**	**1.70**	**102**	Pn	**Pn**	**15 54 08.4**	**+0.3**
XPFO	**Pion Flat**	**1.70**	**102**	Pn	**Pn**	**15 54 08.2**	**+0.1**
TPFO	**Pinon Flats**	**1.71**	**102**	Pb	**Pn**	**15 54 08.4**	**+0.2**
	baz=283						
TPFO				Sb	**Sn**	**15 54 31.0**	**+1.3**
	baz=283						
GSC	**Goldstone, Bar**	**1.90**	**45**	Pb	**Pn**	**15 54 11.6**	**+0.8**
	baz=226,SNR=5.8						
GSC	**Goldstone, Bar**	**1.90**	**45**	Pn	**Pn**	**15 54 12.0**	**+1.2**
HEC	**Hector,Ludlow**	**1.95**	**63**	P	**Pn**	**15 54 11.4**	**-0.1**
	baz=245,SNR=29						
HEC	**Hector,Ludlow**	**1.95**	**63**		**Pb**	**15 54 14.8**	**+0.6**
BAR	**Barrett**	**1.97**	**130**		**Pn**	**15 54 11.7**	**+0.1**
BELC	**Belle Mtn. Jos**	**2.04**	**88**	Sb	**Sb**	**15 54 40.9**	**0.0**
	baz=270						
MPMC	**Manual Prospec**	**2.23**	**21**	Pg	**Pg**	**15 54 20.3**	**-1.3**
	baz=201						
DAC	**Darwin (Calif)**	**2.41**	**17**		**Pn**	**15 54 19.4**	**+1.5**
GMRC	**Granite Mounta**	**2.45**	**70**	P	**Pn**	**15 54 17.9**	**-0.4**
	baz=252,SNR=12						
PMPB	**Monarch Peak**	**2.95**	**320**	Pn	**Pn**	**15 54 24.4**	**-0.9**
TPNV	**Topopah Spring**	**3.48**	**31**		**Pn**	**15 54 34.6**	**+2.1**
MDPB	**Devils Postpil**	**3.69**	**352**	Pn	**Pn**	**15 54 36.2**	**+0.6**
SHPR	**Sheep Range**	**3.70**	**46**	Pn	**Pn**	**15 54 37.3**	**+1.7**
SAO	**San Andreas Ge**	**3.71**	**320**	Pn	**Pn**	**15 54 37.8**	**+2.3**
W13A	**Hualapai Mount**	**3.94**	**72**	Pn	**Pn**	**15 54 39.3**	**+0.4**
NV11	**Mina Array Sit**	**4.46**	**3**	Pn	**Pn**	**15 54 47.7**	**+1.7**

*ISCJB **19** 16:41:48.1±0.2, 6°77S±0°05×107°20E±0°04, h138km±2km, mb4.0/10, Error ellipse: s-maj=8.8km s-min=3.7km az=35.2*
*DJA **19** 16:41:48.1±0.2, 7°S±5°×107°7E±°, h136km±2km, M4.7/24, mb4.9/8, mB5.4/7, MLv4.5/6, MLv4.5/24, Mw(mB)4.9/7*
*IDC **19** 16:41:49.5±0.6, 6°65S×107°28E, h132km±3km, mb3.9/10, mb1 4.1/11, mb1mx3.7/51, mbtmp4.4/11, Error ellipse: s-maj=31.3km s-min=11.7km az=55.0*
*NEIC **19** 16:41:49.6±3.1, 6°81S±0°07×107°20E±0°07, h135km±3km, mb4.6/31*
*KLM **19** 16:41:49.0, 7°23S×107°04E, h124km, mb4.6*
ISC 19 16:41:49.1±0.5, 6°82S±0°06×107°19E±0°05, h136km±4km, n108, σ1°55/114, mb4.3/22, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**0.43**	**91**	P	**Pn**	**16 42 09.3**	**+0.5**
	623nm,0.3s,baz=276,slow=1.7,SNR=858						
LEM				S	**Sn**	**16 42 24.0**	**+0.5**
	582nm,0.3s,baz=66,slow=22,SNR=43						
LEM	**Lembang**	**0.43**	**91**	P	**Pn**	**16 42 09.2**	**+0.5**
LEM				S	**Sn**	**16 42 24.0**	**+0.5**
CNJI	**Cibinong**	**0.49**	**187**	P	**Pn**	**16 42 07.7**	**-1.2**
CNJI				S	**Sn**	**16 42 21.2**	**-2.6**
DBJI	**Dramaga**	**0.51**	**301**	P	**Pn**	**16 42 09.8**	**+0.8**
DBJI				S	**Sn**	**16 42 24.9**	**+1.0**
SKJI	**Sukabumi**	**0.66**	**253**	P	**Pn**	**16 42 09.6**	**-0.2**
SKJI				S	**Sn**	**16 42 24.3**	**-1.2**
CISI	**Cisompet, Garu**	**0.96**	**140**	P	**Pn**	**16 42 11.4**	**-0.9**
CISI	**Cisompet, Garu**	**0.96**	**140**		**Pn**	**16 42 11.5**	**-0.8**
CISI				Sn	**Sn**	**16 42 27.8**	**-2.1**
SBJI	**Serang**	**1.26**	**303**	P	**Pn**	**16 42 16.4**	**+1.3**
CGJI	**Cibinong**	**1.50**	**278**	P	**Pn**	**16 42 18.3**	**+0.7**
CMJI	**Cimerak**	**1.58**	**128**	P	**Pn**	**16 42 17.9**	**-0.6**
CMJI				S	**Sn**	**16 42 38.4**	**-2.5**
KPJI	**Karang Pucung**	**1.80**	**107**	P	**Pn**	**16 42 21.6**	**+0.5**
BLSI	**Bandar Lampung**	**2.41**	**307**	P	**Pn**	**16 42 28.8**	**+0.3**
KASI	**Kota Agung**	**2.97**	**295**	P	**Pn**	**16 42 35.8**	**+0.2**
KLSI		**3.23**	**311**	P	**Pn**	**16 42 36.5**	**-2.5**
SMRI	**Semarang**	**3.24**	**94**	P	**Pn**	**16 42 38.9**	**-0.2**
SMRI	**Semarang**	**3.24**	**94**		**Pn**	**16 42 40.6**	**+1.6**
YOGI	**Yogyakarta**	**3.24**	**108**	P	**Pn**	**16 42 39.3**	**+0.2**
UGM	**Wanagama**	**3.48**	**108**	P	**Pn**	**16 42 42.4**	**+0.1**
UGM	**Wanagama**	**3.48**	**108**		**Pn**	**16 42 42.5**	**+0.2**
LWLI	**Liwa**	**3.59**	**300**	P	**Pn**	**16 42 43.9**	**+0.1**
MDSI	**Maura Dua**	**3.79**	**308**	P	**Pn**	**16 42 47.4**	**+1.2**
WOJI	**Wonogiri, Jawa**	**3.84**	**106**	P	**Pn**	**16 42 47.0**	**+0.1**
TPI	**Tanjungpandan**	**4.06**	**7**	P	**Pn**	**16 42 51.3**	**+1.4**
PCJI	**Pacitan**	**4.18**	**109**	P	**Pn**	**16 42 51.4**	**-0.1**
NGJI	**Ngawi**	**4.28**	**98**	P	**Pn**	**16 43 01.2**	**+8.5**
LHSI	**Lahat**	**4.71**	**309**	P	**Pn**	**16 42 57.8**	**-0.6**
PWJI	**Pagerwojo**	**4.73**	**105**	P	**Pn**	**16 42 59.5**	**+0.7**
MNAI	**Manna**	**4.87**	**300**		**Pn**	**16 43 02.0**	**+1.4**
MNAI					**Sn**	**16 43 53.7**	**-2.6**
GRJI	**Gresik**	**5.25**	**91**	P	**Pn**	**16 43 05.0**	**-0.7**
	123nm,0.5s,1μm0.5nm						
KSI	**Kapahiang**	**5.55**	**304**	P	**Pn**	**16 43 08.7**	**-1.1**
	236nm,0.7s,3μm0.7nm						
JAGI	**Jajag, Banyuwa**	**7.09**	**104**	P	**Pn**	**16 43 31.6**	**+1.1**
	57nm,0.6s,2μm0.6nm0.6nm						
JAGI	**Jajag, Banyuwa**	**7.09**	**104**		**Pn**	**16 43 31.4**	**+0.9**
SRBI	**Singaraja**	**8.06**	**100**	P	**Pn**	**16 43 42.3**	**-1.1**
	90nm,0.7s						
KSM	**Kuching**	**8.80**	**21**	Pn	**Pn**	**16 43 53.8**	**+0.4**
PDSI	**Padang**	**8.91**	**311**	P	**Pn**	**16 43 54.2**	**-0.7**
MYKOM	**Kota Tinggi**	**9.18**	**339**	P	Pn	16 44 04.0	+5.6
MYKOM	**Kota Tinggi**	**9.18**	**339**	Pn	**Pn**	**16 44 00.8**	**+2.3**
JRMM	**Jerantut**	**11.63**	**336**	P	**P**	**16 44 37.0**	**-1.9**
GSI	**Gunungsitoli**	**12.54**	**310**	P	Pn	16 44 37.8	-5.1
GSI	**Gunungsitoli**	**12.54**	**310**		**Pn**	**16 44 39.2**	**-3.7**
IPM	**Ipoh**	**12.80**	**331**	P	**P**	**16 44 51.0**	**-1.0**
KULM	**Kulim**	**13.68**	**331**	P	**P**	**16 45 02.0**	**+0.2**
KULM	**Kulim**	**13.68**	**331**	Pn	**Pn**	**16 44 58.2**	**+0.5**
MMRI	**Maumere**	**15.02**	**98**	Pn	**Pn**	**16 45 12.9**	**-1.7**
MMRI				IAmb	IAmb	16 45 33.1	
	comp=Z,39nm,1.0s						
BATI	**Baumata**	**16.64**	**103**	P	**Pn**	**16 45 32.8**	**-1.7**
	comp=Z,11nm,0.3s,baz=300,slow=2.5,SNR=18						
GIRL	**Giralia**	**17.14**	**157**	P	**P**	**16 45 40.2**	**+0.2**
	baz=17,SNR=10						
GIRL	**Giralia**	**17.14**	**157**	P	**P**	**16 45 39.1**	**-0.9**
SOEI	**Soe**	**17.15**	**101**	P	**P**	**16 45 38.3**	**-2.0**
SOEI				IAmb	IAmb	16 45 54.1	
	comp=Z,53nm,1.1s						
SOEI					**Sn**	**16 48 52.7**	**+0.1**
DLV	**T Lat**	**18.68**	**4**	P	**Pn**	**16 45 59.8**	**+0.7**
DLV				IAmb	IAmb	16 46 06.2	
	comp=Z,85nm,1.5s						
PSA00	**Pilbara Seismi**	**19.10**	**141**	P	**P**	**16 46 02.5**	**+0.9**
PSA00				IAmb	IAmb	16 46 07.3	
	comp=Z,11nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.20**	**124**	P	**P**	**16 46 24.9**	**+0.8**
	baz=21,SNR=11						
FITZ	**Fitzroy Crossi**	**21.20**	**124**	P	**P**	**16 46 24.8**	**+0.7**
	comp=Z,2.4nm,0.3s,baz=326,slow=6.7,SNR=15						
FITZ				S	S	16 50 00.4	-12
	comp=Z,1.9nm,0.3s,baz=55,slow=19,SNR=4.3						
FITZ	**Fitzroy Crossi**	**21.20**	**124**	P	**P**	**16 46 24.5**	**+0.5**
FITZ					**S**	**16 50 04.4**	**-7.7**
MEEK	**Meekatharra**	**22.51**	**152**	P	**P**	**16 46 39.3**	**+1.6**
	baz=23,SNR=9.5						
KNRA	**Kununurra**	**22.90**	**114**	P	**P**	**16 46 42.3**	**+0.9**
	baz=23,SNR=4.4						
KNRA	**Kununurra**	**22.90**	**114**	P	**P**	**16 46 41.4**	**0.0**
KNRA				IAmb	IAmb	16 46 43.0	
	comp=Z,25nm,1.1s						
PBKT	**Sadao Pong**	**24.04**	**345**		**P**	**16 46 52.1**	**+0.4**
SWI	**Sorong**	**24.72**	**77**	P	**P**	**16 46 55.4**	**-2.7**
CMAR	**Chiang Mai Arr**	**26.40**	**342**	P	**P**	**16 47 12.6**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=178,slow=10.0,SNR=6.8						
CMAR				pP	**pP**	**16 47 43.5**	**+1.6**
	comp=Z,1.3nm,0.7s,baz=178,slow=8.5,SNR=5.0						
CHTO	**Chiang Mai**	**26.73**	**342**		**P**	**16 47 15.3**	**-0.8**
CHTO					**pP**	**16 47 47.2**	**+2.3**
WRKA	**Warakurna**	**27.13**	**134**	P	**P**	**16 47 20.5**	**+0.8**
	baz=27,SNR=13						
NWAO	**Narrogin (SRO)**	**27.61**	**162**	P	**P**	**16 47 24.5**	**+0.6**
	comp=Z,4.6nm,0.5s,baz=329,slow=12,SNR=7.3						
NWAO	**Narrogin (SRO)**	**27.61**	**162**	P	**P**	**16 47 24.2**	**+0.4**
NWAO	**Narrogin (SRO)**	**27.61**	**162**	P	**P**	**16 47 24.4**	**+0.6**
NWAO				IAmb	IAmb	16 47 50.6	
	comp=Z,44nm,1.4s						
WRAB	**Tennant Creek**	**29.40**	**119**	P	**P**	**16 47 38.4**	**-1.6**
WRAB				IAmb	IAmb	16 47 42.9	
	comp=Z,8.6nm,1.2s						
PALK	**Pallekele**	**29.90**	**297**	P	**P**	**16 47 46.4**	**+2.0**
PALK				IAmb	IAmb	16 47 53.3	
	comp=Z,29nm,1.4s						
ASAR	**Alice Springs**	**30.64**	**126**	P	**P**	**16 47 51.7**	**+0.8**
	comp=Z,2.1nm,0.4s,baz=302,slow=8.1,SNR=73						
FORT	**Forrest**	**30.84**	**143**	P	**P**	**16 47 53.2**	**+0.8**
FORT				IAmb	IAmb	16 48 16.5	
	comp=Z,26nm,0.9s						
QIS	**Mount Isa**	**34.24**	**117**	P	**P**	**16 48 23.2**	**+1.0**
	baz=34,SNR=3.5						
H08S2	**Diego Garcia H**	**34.42**	**266**	T	T	17 24 20.2	
	baz=91,slow=75,SNR=5.7						
H08S3	**Diego Garcia H**	**34.43**	**266**	T	T	17 24 20.2	
	baz=91,slow=75,SNR=6.0						
H08S1	**Diego Carcia H**	**34.44**	**266**	T	T	17 24 16.3	
	baz=91,slow=75,SNR=4.9						
SHL	**Shillong**	**35.46**	**336**	P	**P**	**16 48 32.4**	**-0.5**
SHL				IAmb	IAmb	16 48 58.3	
	comp=Z,7.8nm,0.4s						
HMDM	**Hanimaadhoo**	**36.51**	**291**	P	**P**	**16 48 40.3**	**-1.5**
BBOO	**Buckleboo**	**37.26**	**138**	P	**P**	**16 48 48.7**	**+0.9**
	baz=37,SNR=8.7						
BBOO	**Buckleboo**	**37.26**	**138**	P	**P**	**16 48 48.8**	**+0.9**
BBOO				IAm

BKZ					IAmb	IAmb	17 01 20.7	
	comp=Z,88nm,1.8s							
PPT	**Papeete**	**22.18**	**90**	LR	LR	LR	17 07 10.5	
	comp=Z,71nm,18.1s,baz=268,slow=30							
TBI	**Tubuai**	**22.25**	**105**	*e*LR	LR		17 05 37.5	
	comp=Z,179nm,30.8s							
MSWZ	**Moikau Station**	**24.51**	**202**	P	**P**		**17 01 16.2**	**+2.9**
TUWZ	**Tuamarina**	**25.00**	**204**	P	**P**		**17 01 16.1**	**-1.6**
NNZ	**Nelson**	**25.04**	**205**	P	**P**		**17 01 16.7**	**-1.4**
NNZ					IAmb	IAmb	17 02 05.8	
	comp=Z,91nm,1.3s							
QRZ	**Quartz Range**	**25.07**	**207**	P	**P**		**17 01 15.8**	**-2.5**
THZ	**Tophouse**	**25.70**	**205**	P	**P**		**17 01 20.9**	**-3.2**
THZ					IAmb	IAmb	17 02 05.5	
	comp=Z,73nm,1.5s							
KHZ	**Kahutara**	**26.01**	**203**	P	**P**		**17 01 25.2**	**-1.6**
KHZ					IAmb	IAmb	17 01 26.4	
	comp=Z,52nm,1.5s							
LTZ	**Lake Taylor**	**26.81**	**205**	P	**P**		**17 01 31.9**	**-2.3**
LTZ					IAmb	IAmb	17 01 32.2	
	comp=Z,50nm,1.6s							
OXZ	**Oxford**	**27.36**	**204**	P	**P**		**17 01 38.8**	**-0.3**
OXZ					IAmb	IAmb	17 02 06.8	
	comp=Z,67nm,1.7s							
MQZ	**McQueen's Vall**	**27.45**	**203**	P	**P**		**17 01 40.0**	**+0.2**
MQZ					IAmb	IAmb	17 01 56.4	
	comp=Z,93nm,1.6s							
RPZ	**Rata Peaks**	**28.07**	**205**	P	**P**		**17 01 44.6**	**-0.9**
RPZ					IAmb	IAmb	17 01 47.2	
	comp=Z,34nm,1.3s							
FOZ	**Fox Glacier**	**28.44**	**207**	P	**P**		**17 01 47.5**	**-1.1**
WKZ	**Wanaka**	**29.82**	**206**	P	**P**		**17 02 01.3**	**+0.3**
WKZ					IAmb	IAmb	17 02 30.3	
	comp=Z,94nm,1.5s							
EIDS	**Eidsvold**	**33.88**	**253**	P	**P**		**17 02 36.2**	**-0.7**
EIDS					IAmb	IAmb	17 03 05.7	
	comp=Z,51nm,1.6s							
ARMA	**Armidale**	**34.04**	**244**	P	**P**		**17 02 36.6**	**-1.7**
CAN	**Canberra**	**37.33**	**236**	P	**P**		**17 03 07.1**	**+0.6**
CAN					IAmb	IAmb	17 03 27.9	
	comp=Z,26nm,1.3s							
TOO	**Toolangi**	**40.65**	**234**	P	**P**		**17 03 34.8**	**+0.5**
KKH	**Kailua Kona**	**41.85**	**24**	P	**P**		**17 03 44.8**	**+0.7**
MWH	**Moku'aweowe**	**41.86**	**25**	P	**P**		**17 03 43.7**	**-1.1**
COEN	**Coen**	**42.35**	**270**	P	**P**		**17 03 49.2**	**+0.8**
COEN					IAmb	IAmb	17 03 49.4	
	comp=Z,29nm,1.4s							
HON	**Honolulu**	**42.66**	**21**	P	**P**		**17 03 51.2**	**+0.5**
STKA	**Stephens Creek**	**42.76**	**243**	P	**P**		**17 03 51.2**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=81,slow=11,SNR=5.7							
STKA	**Stephens Creek**	**42.76**	**243**	P	**P**		**17 03 51.0**	**-0.5**
BBOO	**Buckleboo**	**47.51**	**243**	P	**P**		**17 04 29.1**	**-0.1**
ASAR	**Alice Springs**	**49.55**	**255**	P	**P**		**17 04 45.4**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=95,slow=8.2,SNR=34							
FORT	**Forrest**	**54.29**	**245**	P	**P**		**17 05 20.5**	**+0.2**
FORT					IAmb	IAmb	17 05 30.3	
	comp=Z,32nm,1.0s							
KNRA	**Kununurra**	**55.58**	**264**	P	**P**		**17 05 30.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**58.01**	**260**	P	**P**		**17 05 47.3**	**+0.2**
LEM	**Lembang**	**77.90**	**267**	LR	LR		17 44 05.5	
	comp=Z,23nm,19.0s,baz=243,slow=37							
TXAR	**Lajitas Array**	**82.23**	**55**	P	**P**		**17 08 16.9**	**+1.4**
	comp=Z,0.6nm,0.9s,baz=230,slow=9.7,SNR=4.3							
PDAR	**Pinedale Array**	**84.64**	**41**	P	**P**		**17 08 28.5**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=242,slow=3.2,SNR=4.2							
ILAR	**Eielson Array**	**85.89**	**11**	P	**P**		**17 08 35.0**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=224,slow=5.4,SNR=18							
SYO	**Syowa Base**	**89.16**	**191**↑	*e*P	**P**		**17 08 46.2**	**-2.9**
SYO	**Syowa Base**	**89.16**	**191**↓	*e*PP	PP		17 12 15.6	-3.1
NNA	**Nana**	**91.75**	**103**	LR	LR		17 38 59.1	
	comp=Z,34nm,21.8s,baz=338,slow=28							
YKA	**Yellowknife Ar**	**93.21**	**23**	P	**P**		**17 09 09.1**	**+1.3**
	comp=Z,0.6nm,1.1s,baz=236,slow=4.2,SNR=4.3							
GERES	**GERESS Array B**	**149.78**	**351**	PKPbc	**PKiKP**		**17 15 45.8**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=350,slow=1.6,SNR=4.9							

*ISCJB **19** 17:30:00.4±0.4,5°.45S±0°.10×152°.18E±0°.10,h45km, mb4.0/7,MS3.4/2, Error ellipse: s-maj=18.3km s-min=6.0km az=135.0*
*IDC **19** 17:30:03.1±5.4,5°.47S×152°.18E,h60km±46km,mb3.8/7, mb1 4.0/8,mb1mx3.6/43,mbtmp4.1/8,ML2.3/1,MS3.5/2, Ms1 3.4/2,ms1mx2.8/29, Error ellipse: s-maj=47.7km s-min=27.5km az=127.0*
*NEIC **19** 17:30:07.9±1.3,5°.6S±0°.1×152°.08E±0°.09,h101km±7km, mb4.8/38*
ISC 19 17:30:01.4±0.7,**5°.54S**±0°.09×**152°.3E**±0°.1,**h45**km,**n53,** σ0§**95**/52,**mb4.8**/27,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**6.06**	**305**	Pn	**Pn**	**17 31 31.2**	**+2.7**
PMG	**Port Moresby**	**6.41**	**233**	P	**Pn**	**17 31 34.9**	**+1.5**
	4.0nm,0.3s,baz=27,slow=4.3,SNR=14						
PMG				S	**Sn**	**17 32 45.2**	**-0.2**
	6.0nm,0.3s,baz=330,slow=23,SNR=9.8						
PMG	**Port Moresby**	**6.41**	**233**		**Pn**	**17 31 34.9**	**+1.5**
PMG					**Sn**	**17 32 45.8**	**+0.4**
HNR	**Honiara**	**8.48**	**118**	Pn	Pn	17 32 11.9	+10
MTN	**Manton Dam**	**22.14**	**249**	P	**P**	**17 34 54.1**	**+0.6**
MTN					IAmb	IAmb	17 34 55.1	
	comp=Z,12nm,0.5s							
WRAB	**Tennant Creek**	**22.60**	**229**	P	**P**	**17 34 58.7**	**+0.3**
KNRA	**Kununurra**	**25.24**	**245**	P	**P**	**17 35 22.8**	**-0.6**
KNRA					IAmb	IAmb	17 35 27.1	
	comp=Z,23nm,0.6s							
AS31	**Alice Springs**	**25.30**	**223**	P	**P**	**17 35 23.6**	**-0.4**
ASAR	**Alice Springs**	**25.30**	**223**	P	**P**	**17 35 24.0**	**0.0**
	comp=Z,2.0nm,0.7s,baz=57,slow=8.9,SNR=28							
LHI	**Lord Howe Isla**	**26.60**	**167**	P	**P**	**17 35 37.5**	**+1.9**
LHI					IAmb	IAmb	17 36 12.0	
	comp=Z,39nm,1.1s							
STKA	**Stephens Creek**	**28.07**	**200**	LR	LR		17 47 09.7	
	comp=Z,64nm,18.5s,baz=26,slow=37							
FITZ	**Fitzroy Crossi**	**28.90**	**242**	P	**P**		**17 35 55.0**	**-1.4**
	comp=Z,4.3nm,0.7s,baz=66,slow=9.1,SNR=10							
FITZ	**Fitzroy Crossi**	**28.90**	**242**	P	**P**		**17 35 55.0**	**-1.4**
STCH	**Steam Cracks**	**57.32**	**63**	P	**P**		**17 39 45.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**57.78**	**296**	P	**P**		**17 39 47.7**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=80,slow=10,SNR=4.3							
SONM	**Songino Array**	**66.70**	**328**	P	**P**		**17 40 47.1**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=113,slow=5.1,SNR=4.5							
LSA	**Lhasa**	**68.28**	**305**	P	**P**		**17 40 57.4**	**-1.3**
VNDA	**Vanda**	**72.11**	**178**	LR	LR		18 10 14.4	
	comp=Z,32nm,18.2s,baz=36,slow=33							
RDOG	**Red Dog Mine**	**79.81**	**16**	P	**P**		**17 42 06.1**	**+1.4**
RDOG					IAmb	IAmb	17 44 26.7	
	comp=Z,7.1nm,0.6s							
SUA	**Susitna One**	**79.82**	**24**	P	**P**		**17 42 04.2**	**-0.7**
SUA					IAmb	IAmb	17 43 32.3	
	comp=Z,12nm,1.3s							
RC01	**Rabbit Creek A**	**80.03**	**25**	P	**P**		**17 42 06.5**	**+0.5**
RC01					IAmb	IAmb	17 42 36.8	
	comp=Z,33nm,1.4s							
MKAR	**Makanchi Array**	**80.58**	**319**	P	**P**		**17 42 08.5**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=114,slow=7.1,SNR=5.7							
GHO	**Glory Hole Cre**	**80.72**	**24**	P	**P**		**17 42 10.0**	**+0.3**
GHO					IAmb	IAmb	17 42 35.9	
	comp=Z,34nm,1.4s							
KNK	**Knik Glacier**	**80.73**	**25**	P	**P**		**17 42 09.9**	**+0.1**
KNK					IAmb	IAmb	17 42 31.9	
	comp=Z,29nm,1.4s							
KTH	**Kantishna Hill**	**80.87**	**22**	P	**P**		**17 42 10.2**	**-0.3**
KTH					IAmb	IAmb	17 42 11.6	
	comp=Z,34nm,1.5s							
SML	**Sawmill**	**80.98**	**24**	P	**P**		**17 42 11.9**	**+0.8**
SML					IAmb	IAmb	17 44 59.8	
	comp=Z,48nm,1.4s							
TRF	**Thorofare Moun**	**81.05**	**23**	P	**P**		**17 42 11.7**	**0.0**
TRF					IAmb	IAmb	17 42 57.1	
	comp=Z,17nm,1.4s							
SCM	**Sheep Creek Mo**	**81.41**	**25**	P	**P**		**17 42 13.8**	**+0.3**
SCM					IAmb	IAmb	17 44 19.0	
	comp=Z,35nm,1.4s							
RND	**Reindeer**	**81.58**	**23**	P	**P**		**17 42 14.0**	**-0.3**
RND					IAmb	IAmb	17 42 15.2	
	comp=Z,9.2nm,1.0s							
MCK	**McKinley**	**81.72**	**23**	P	**P**		**17 42 14.5**	**-0.5**
MCK					IAmb	IAmb	17 42 15.8	
	comp=Z,14nm,1.0s							
MLY	**Manley**	**81.73**	**21**	P	**P**		**17 42 15.2**	**+0.1**
MLY					IAmb	IAmb	17 42 16.0	
	comp=Z,5.1nm,0.6s							
CCB	**Clear Creek Bu**	**82.61**	**22**	P	**P**		**17 42 19.0**	**-0.5**
WAX	**Waxell Ridge**	**82.72**	**27**	P	**P**		**17 42 21.1**	**+0.8**
CRQM	**Cirque**	**82.72**	**27**	P	**P**		**17 42 21.0**	**+0.5**
GLB	**Gilahina Butte**	**82.72**	**26**	P	**P**		**17 42 20.9**	**+0.6**
GLB					IAmb	IAmb	17 42 21.8	
	comp=Z,21nm,1.2s							
VRDI	**Verde Repeater**	**82.78**	**26**	P	**P**		**17 42 21.4**	**+0.6**
VRDI					IAmb	IAmb	17 43 25.1	
	comp=Z,40nm,1.4s							
HDA	**Harding Lake**	**82.81**	**22**	P	**P**		**17 42 20.6**	**-0.1**
HDA					IAmb	IAmb	17 43 55.4	
	comp=Z,9.5nm,1.4s							
TGL	**Tana Glacier**	**82.86**	**27**	P	**P**		**17 42 21.9**	**+0.8**
IL31		**83.01**	**22**	P	**P**		**17 42 20.7**	**-0.9**
ILAR	**Eielson Array**	**83.01**	**22**	P	**P**		**17 42 20.6**	**-1.1**
	comp=Z,2.9nm,0.7s,baz=246,slow=5.5,SNR=37							
MCARA	**McCarthy VSAT**	**83.04**	**26**	P	**P**		**17 42 22.5**	**+0.6**
BALM	**Baldy**	**83.19**	**26**	P	**P**		**17 42 23.4**	**+0.6**
BARN	**Barnard Glacie**	**83.50**	**27**	P	**P**		**17 42 25.7**	**+1.2**
CTGM	**Chitina Glacie**	**83.61**	**27**	P	**P**		**17 42 25.8**	**+0.7**
SCRK	**Sand Creek**	**83.76**	**23**	P	**P**		**17 42 26.2**	**+0.5**
TOLK	**Toolik Lake Re**	**84.06**	**18**	P	**P**		**17 42 27.0**	**0.0**
HYT	**Haines Junctio**	**85.30**	**28**	P	**P**		**17 42 35.2**	**+1.7**
HYT					IAmb	IAmb	17 43 09.9	
	comp=Z,19nm,1.3s							
ARSB	**Arslanbob**	**85.68**	**312**	P	**P**		**17 42 35.7**	**-0.2**
EPYK	**Eagle Plains**	**87.52**	**22**	P	**P**		**17 42 45.1**	**+0.8**
EPYK					IAmb	IAmb	17 42 46.2	
	comp=Z,15nm,1.3s							
D05A	**Enumclaw**	**91.08**	**43**	P	**P**		**17 43 02.0**	**+0.7**
YKA	**Yellowknife Ar**	**96.29**	**28**	P	**P**		**17 43 25.6**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=272,slow=5.0,SNR=9.2							
Q51A	**Peebles**	**119.82**	**48**		**PKPdf**		**17 48 45.5**	**-1.8**
TORD	**Torodi Ar. Bea**	**150.09**	**287**	PKPbc	**PKPbc**		**17 49 47.7**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=71,slow=2.7,SNR=12							

*IDC **19** 17:32:03.2±3.2,3°.53N×127°.04E,h0km,mb3.8/3, mb1 3.9/3,mb1mx3.5/41,mbtmp3.8/3, Error ellipse: s-maj=350.7km s-min=26.3km az=65.0*
ISC 19 17:32:04.6±1.2,**3°.4N**±0°.2×**126°.6E**±0°.4,**h10**km,**n6,** σ1§**82**/8, **1D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**3.73**	**327**	P	**Pb**	**17 33 09.4**	**-1.2**
SKMP				S	**Sb**	**17 33 56.4**	**+0.6**
KCP	**Kidapawan**	**3.91**	**338**	↓P	**Pb**	**17 33 12.4**	**-1.2**
KCP				S	**Sb**	**17 34 04.2**	**+3.1**
BUKP	**Musuan**	**4.73**	**342**	P	**Pn**	**17 33 14.5**	**-1.5**
ASAR	**Alice Springs**	**27.80**	**165**	P	**P**	**17 37 54.2**	**+0.1**
	0.5nm,0.6s,baz=349,slow=7.6,SNR=5.3						
STKA	**Stephens Creek**	**37.85**	**159**	P	**P**	**17 39 22.1**	**+0.4**
	2.6nm,0.7s,baz=323,slow=9.1,SNR=6.7						
MKAR	**Makanchi Array**	**57.76**	**325**	P	**P**	**17 41 57.0**	**+1.1**
	0.3nm,0.5s,baz=122,slow=8.3,SNR=7.1						

*ISCJB **19** 17:35:23.1±0.4,15°.65S±0°.06×71°.88W±0°.07,h132km, mb3.7/7, Error ellipse: s-maj=11.3km s-min=5.9km az=141.0*
*NEIC **19** 17:35:24.5±3.9,15°.6S±0°.1×71°.79W±0°.07,h128km±8km*
*ARE **19** 17:35:24±4.0,15°.6S±0°.1×71°.96W±0°.08,h129km±6km, ML4.3,mb4.4/4(NEIC)*
*IDC **19** 17:35:25.7±1.6,15°.67S×71°.84W,h137km±15km,mb3.6/7, mb1 3.9/10,mb1mx3.7/30,mbtmp4.1/10, Error ellipse: s-maj=34.3km s-min=14.5km az=23.0*
ISC 19 17:35:24.2±0.6,**15°.71S**±0°.08×**71°.84W**±0°.07,**h132**km,**n28,** σ1§**87**/31,**mb3.9**/8,**Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.61**	**100**	P	**Pn**	**17 36 22.8**	**+3.3**
	9.5nm,0.3s,baz=315,slow=6.9,SNR=79						
LPAZ				S	**Sn**	**17 37 05.1**	**+3.0**
	4.3nm,0.3s,baz=190,slow=25,SNR=7.9						
LPAZ	**La Paz**	**3.61**	**100**		**Pn**	**17 36 21.7**	**+2.2**
MNMC	**Minye Minye**	**4.02**	**148**		**Pn**	**17 36 25.7**	**+1.2**
PB11	**IPOC Station P**	**4.53**	**153**		**Pn**	**17 36 31.9**	**+0.7**
GO01	**Chusmiza**	**4.67**	**148**		**Pn**	**17 36 35.3**	**+1.9**
NNA	**Nana**	**6.11**	**307**	P	**Pn**	**17 36 51.7**	**-0.6**
	20nm,0.3s,baz=124,slow=10,SNR=27						
NNA				S	**Sn**	**17 37 57.6**	**-3.6**
	14nm,0.3s,baz=259,slow=19,SNR=10						
NNA	**Nana**	**6.11**	**307**		**Pn**	**17 36 51.9**	**-0.5**
PB04	**IPOC Station P**	**6.78**	**167**	Pn	**Pn**	**17 37 01.4**	**0.0**
LVC	**Limon Verde**	**7.40**	**159**	P	**Pn**	**17 37 10.9**	**+1.0**
	6.6nm,0.3s,baz=346,slow=9.0,SNR=42						
LVC				S	**Sn**	**17 38 29.9**	**-2.7**
	23nm,0.3s,baz=136,slow=23,SNR=17						
LVC	**Limon Verde**	**7.40**	**159**		**Pn**	**17 37 10.5**	**+0.6**
PB10	**IPOC Station P**	**7.86**	**171**	Pn	**Pn**	**17 37 14.8**	**-0.9**
GO02	**Mina Guanaco**	**9.64**	**168**		**Pn**	**17 37 40.1**	**+0.2**
SIV	**San Ignacio**	**10.36**	**93**	P	**Pn**	**17 37 47.9**	**-1.6**
	0.6nm,0.3s,baz=287,slow=12,SNR=10.0						
SIV				S	**Sn**	**17 39 39.1**	**-4.8**
	0.1nm,0.3s,baz=23,slow=18,SNR=4.5						
SAML	**Samuel**	**10.80**	**53**		**Pn**	**17 37 52.1**	**-3.2**
BDFB	**Brasilia**	**22.93**	**93**	P	**P**	**17 40 17.2**	**-0.1**
	4.2nm,0.5s,baz=269,slow=14,SNR=6.1						
BDFB	**Brasilia**	**22.93**	**93**	P	**P**	**17 40 17.1**	**-0.1**
BDFB					IAmb	IAmb	17 41 07.3	
	comp=Z,21nm,1.5s							
TXAR	**Lajitas Array**	**54.32**	**325**	P	**P**	**17 44 38.1**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=150,slow=8.3,SNR=6.7							
SDCO	**Great Sand Dun**	**61.88**	**330**	P	**P**	**17 45 30.5**	**+0.5**
SDCO					IAmb	IAmb	17 46 12.9	
	comp=Z,5.9nm,1.6s							
PDAR	**Pinedale Array**	**67.73**	**331**	P	**P**	**17 46 08.3**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=113,slow=5.4,SNR=4.9							
ULM	**Lac du Bonnet**	**69.00**	**344**	P	**P**	**17 46 15.1**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=159,slow=8.6,SNR=3.3							
ULM	**Lac du Bonnet**	**69.00**	**344**	IAmb	IAmb	17 47 25.9	
	comp=Z,24nm,1.6s							
NVAR	**Mina Array Bea**	**69.24**	**322**	P	**P**	**17 46 19.4**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=156,slow=7.8,SNR=3.5							
YNE	**Yellowstone No**	**69.67**	**332**	P	**P**	**17 46 21.1**	**+1.4**
TORD	**Torodi Ar. Bea**	**78.16**	**73**	P	**P**	**17 47 08.7**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=238,slow=4.3,SNR=5.1							
YKA	**Yellowknife Ar**	**84.84**	**342**	P	**P**	**17 47 44.1**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=135,slow=5.0,SNR=33							
ASAR	**Alice Springs**	**133.47**	**213**	PKP	**PKiKP**	**17 54 27.2**	**+0.2**
	comp=Z,0.4nm,1.0s,baz=116,slow=2.2,SNR=5.5							
KSH	**Kashi**	**143.23**	**44**	PKP	PKPab	17 54 39.5	+0.3
KSH				pPKP	pPKPdf	17 55 21.3	+1.3
KSH				sPKP		17 55 38.3	
KSH				PP	**PP**	**17 57 55.6**	**+0.7**
KSH				AMB	AMB		
	comp=Z,340nm,5.7s							
SONM	**Songino Array**	**147.94**	**2**	PKPbc	**PKiKP**	**17 54 55.9**	**0.0**
	comp=Z,0.9nm,0.5s,baz=332,slow=2.4,SNR=7.9							

IDC 19 17:51:50.1±5.0,**30°.60S**×**177°.29W,h0**km,**mb3.6**/2, **mb1 3.8**/2,**mb1mx3.6**/26,**mbtmp3.6**/2,**Error ellipse: s-maj=222.9km s-min=20.5km az=155.0,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.71**	**267**	P	P	17 59 57.2	-0.1
	0.3nm,0.6s,baz=105,slow=7.4,SNR=9.3						
WRA	**Warramunga Arr**	**44.72**	**272**	P	P	18 00 05.1	-0.2
	0.6nm,0.3s,baz=112,slow=8.1,SNR=11						
FINES	**FINESS Array B**	**145.54**	**340**	PKPbc	PKPdf	18 11 28.8	-0.7
	3.4nm,1.0s,baz=82,slow=2.9,SNR=3.0						

*ISCJB **19** 17:58:09.7±0.7,47°.46N±0°.04×93°.03W±0°.07,h0km, Error ellipse: s-maj=7.6km s-min=4.8km az=135.1*
*NEIC **19** 17:58:10.6±1.4,47°.45N±0°.02×93°.03W±0°.05,h0km±2km, mb_Lg2.9/3*
*IDC **19** 17:58:13.9±1.2,47°.45N×93°.64W,h0km,mb1 3.1/3, mb1mx3.0/55,mbtmp2.8/3,ML0.9/1, Error ellipse: s-maj=16.1km s-min=4.7km az=83.0*
ISC 19 17:58:10.2±0.8,**47°.42N**±0°.05×**93°.04W**±0°.05,**h0**km,**n12,** σ0§**90**/15,**Minnesota**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EYMN	**Ely**	**1.17**	**62**		**Pg**	**17 58 32.3**	**-0.4**
EYMN					**Sb**	**17 58 48.5**	**-0.6**
E38A	**The Farm, Brul**	**1.30**	**128**		**Sn**	**17 58 53.9**	**+0.2**
AGMN	**Agassiz Nation**	**2.10**	**296**		**Pn**	**17 58 45.7**	**-0.9**
SPMN	**Marine on St.**	**2.20**	**176**		**Sb**	**17 59 19.7**	**+1.1**
G40A	**Rib Lake**	**2.91**	**136**	Pn	**Pn**	**17 58 58.3**	**+0.5**
G40A					**Sb**	**17 59 39.4**	**+0.3**
COWI	**Conover**	**2.99**	**115**	Pn	**Pn**	**17 58 59.3**	**+0.4**
D41A	**Chassel**	**3.07**	**95**	Pn	**Pn**	**17 58 59.9**	**-0.1**
ULM	**Lac du Bonnet**	**3.40**	**328**	Pn	**Pn**	**17 59 05.7**	**+1.2**
	0.2nm,0.3s,baz=145,slow=12,SNR=2.4						
ULM				Pg	**Pb**	**17 59 12.6**	**+1.3**
	1.0nm,0.3s,baz=153,slow=17,SNR=7.4						
ULM				Lg	Lg	17 59 54.5	
	2.1nm,0.3s,baz=66,slow=18,SNR=11						
ULM	**Lac du Bonnet**	**3.40**	**328**	Pn	**Pn**	**17 59 05.0**	**+0.6**
ULM					**Sb**	**17 59 53.9**	**+0.7**
ULM				IAmb_Lg		18 00 00.6	
	comp=Z,25nm,1.1s						
MDND	**Maddock**	**4.46**	**278**	IAmb_Lg		18 00 34.7	
	comp=Z,34nm,1.3s						
PDAR	**Pinedale Array**	**12.56**	**254**	Pn	**Pn**	**18 01 08.9**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=77,slow=13,SNR=2.7						
YKA	**Yellowknife Ar**	**19.38**	**329**	P	**P**	**18 02 36.6**	**-0.7**
	baz=128,slow=12,SNR=6.0						

*UPP **19** 18:02:12.6±0.1,67°.05N×20°.93E,h0km,ML2.2, Explosion*
*ISCJB **19** 18:02:12.2±0.3,67°.04N±0°.02×21°.00E±0°.06,h0km, Error ellipse: s-maj=3.6km s-min=2.3km az=0.2*
*NAO **19** 18:02:13.7±0.8,67°.04N×21°.17E, ML2.5*
*IDC **19** 18:02:13.1±0.9,67°.10N×21°.29E,h0km,mb1 3.1/4, mb1mx2.9/51,mbtmp3.0/4,ML1.9/4, Error ellipse: s-maj=25.2km s-min=7.9km az=117.0*
*HEL **19** 18:02:13.6±0.1,67°.06N×21°.01E,h0km,ML2.1, ML2.2(UPP), Explosion*
*BER **19** 18:02:15.9±3.1,67°.03N×20°.99E,h0km, Suspected explosion*
ISC 19 18:02:12.4±0.7,**67°.05N**±0°.02×**20°.91E**±0°.02,**h0**km,**n66,** σ1§**07**/95,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.59**	**46**	P	**Pg**	**18 02 23.9**	**+0.3**
MASU	**Masugnsbyn**	**0.59**	**46**	*i* P	**Pg**	**18 02 23.9**	**+0.3**
ERTU	**Ertsjaerv**	**0.71**	**134**	P	**Pg**	**18 02 25.8**	**-0.2**
ERTU	**Ertsjaerv**	**0.71**	**134**	*e*P	**Pg**	**18 02 25.5**	**-0.5**
PAJU	**Pajala**	**0.86**	**91**	P	**Pg**	**18 02 28.4**	**-0.6**
PAJU	**Pajala**	**0.86**	**91**	*i* P	**Pg**	**18 02 28.4**	**-0.6**
HARU	**Harads**	**0.90**	**178**	P	**Pg**	**18 02 29.3**	**-0.2**
HARU				S	**Sg**	**18 02 42.6**	**+1.5**
HARU	**Harads**	**0.90**	**178**	*i* P	**Pg**	**18 02 29.3**	**-0.2**
HARU				*i* S	**Sg**	**18 02 42.6**	**+1.5**
RATU	**Laukkuluspa**	**0.93**	**327**	P	**Pg**	**18 02 30.1**	**0.0**
RATU	**Laukkuluspa**	**0.93**	**327**	*e*P	**Pg**	**18 02 30.1**	**0.0**
KUA	**Kurravaara**	**0.93**	**347**	P	**Pg**	**18 02 30.0**	**-0.2**
KUA	**Kurravaara**	**0.93**	**347**	*e*P	**Pg**	**18 02 30.0**	**-0.2**
LANU	**Lannavaara**	**1.08**	**22**	P	**Pg**	**18 02 32.5**	**-0.6**
LANU	**Lannavaara**	**1.08**	**22**	*e*P	**Pg**	**18 02 32.4**	**-0.8**
	baz=203						
LANU				*e*SB	**Sb**	**18 02 48.4**	**-0.3**
KALU	**Kalix**	**1.55**	**140**	P	**Pn**	**18 02 40.8**	**-0.4**
KALU	**Kalix**	**1.55**	**140**	*e*P	**Pn**	**18 02 40.7**	**-0.5**
	baz=316						
KALU				*e*SN	**Sg**	**18 03 03.0**	**+0.9**
SJUU	**Sjulsmark**	**1.58**	**169**	P	**Pn**	**18 02 41.6**	**0.0**
SJUU	**Sjulsmark**	**1.58**	**169**	*e*P	**Pn**	**18 02 41.6**	**0.0**
TOF	**Tornio**	**1.68**	**124**	*e*P	**Pn**	**18 02 43.0**	**0.0**
	baz=307						
TOF				MSG		18 03 02.9	
	comp=Z,20nm,0.2s						
TOF				*e*SN	**Sn**	**18 03 05.2**	**+0.1**
HEF	**Hetta**	**1.72**	**36**	Pn	**Pn**	**18 02 43.4**	**-0.1**
HEF				Lg	Lg	18 03 06.0	
HEF	**Hetta**	**1.72**	**36**	*e*P	**Pn**	**18 02 43.5**	**-0.1**
HEF				MSG		18 03 05.0	
	comp=Z,14nm,0.2s						
HEF				*e*SN	**Sg**	**18 03 07.6**	**+0.1**
HEF	**Het

NOA	**NORSAR Array B**	**7.38**	**220**	Pn		**Pn**	**18 04 01.7**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=35,slow=20,SNR=4.9							
NRA0	**NORESS Array S**	**7.56**	**217**	Pn		**Pn**	**18 04 04.3**	**+0.6**
	baz=19,slow=14							
NRA0	**NORESS Array S**	**7.56**	**217**	Pn		**Pn**	**18 04 04.3**	**+0.6**
	baz=19,slow=14							
HFS	**Hagfors**	**7.65**	**208**	Pn		**Pn**	**18 04 04.9**	**0.0**
	baz=28,slow=14							
HFS	**Hagfors**	**7.65**	**208**	Pn		**Pn**	**18 04 05.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=33,slow=13,SNR=9.5							
HFS	**Hagfors**	**7.65**	**208**	Pn		**Pn**	**18 04 04.9**	**0.0**
	baz=28,slow=14							

*NEIC **19** 18:30:28.5±1.9,62.51N±0.01×142.88W±0.03,h1km±7km*
*PGC **19** 18:30:29.4±0.0,62.52N×142.86W,h5km,ML2.8/11,*
239km Ene of Valdez, Ak Central Alaska
*AEIC **19** 18:30:29.8±3.1,62.52N±0.03×142.84W±0.05,h16km±4km,*
ML2.6

ISC 19 18:30:27.8±1.3,**62.52N**±0.02×**142.93W**±0.02,**h3**km±12km,
n64,σ1**8**35/93,**Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MENT	**Mentasta**	**0.56**	**320**		**Pg**	**18 30 39.4**	**+1.0**
MENT					**Sg**	**18 30 39.9**	**-5.8**
BC03		**0.76**	**43**		**Pg**	**18 30 42.9**	**+0.5**
BVCY	**Beaver Creek**	**0.97**	**95**	P	**Pb**	**18 30 46.5**	**-0.8**
BVCY				S	**Sb**	**18 30 58.9**	**-1.5**
BVCY	**Beaver Creek**	**0.97**	**95**		**Pb**	**18 30 46.4**	**-0.8**
BVCY					**Sb**	**18 30 59.3**	**-1.2**
MCARA	**McCarthy VSAT**	**1.14**	**182**	Pn	**Pb**	**18 30 49.6**	**-0.5**
GLB	**Gilahina Butte**	**1.16**	**201**	Pn	**Pb**	**18 30 50.1**	**-0.3**
YUK1	**Sand Pete Hill**	**1.18**	**107**	P	**Pn**	**18 30 50.0**	**-1.3**
YUK1				S	**Sb**	**18 31 05.2**	**-1.4**
YUK1	**Sand Pete Hill**	**1.18**	**107**		**Pn**	**18 30 49.9**	**-1.5**
YUK1					**Sb**	**18 31 05.9**	**-0.7**
YUK2	**White River**	**1.23**	**126**	P	**Pn**	**18 30 50.8**	**-1.6**
YUK2				S	**Sb**	**18 31 05.9**	**-1.9**
YUK2	**White River**	**1.23**	**126**		**Pn**	**18 30 50.3**	**-1.6**
YUK2					**Sb**	**18 31 06.3**	**-1.5**
DOT	**Dot Lake**	**1.25**	**336**	P	**Pn**	**18 30 52.3**	**+0.1**
DOT				S	**Sb**	**18 31 08.3**	**-0.1**
DOT	**Dot Lake**	**1.25**	**336**		**Pb**	**18 30 52.5**	**+0.5**
DOT					**Sb**	**18 31 08.4**	**-0.1**
PAX	**Paxson**	**1.25**	**292**	P	**Pn**	**18 30 51.7**	**-0.6**
PAX				S	**Sb**	**18 31 08.0**	**-0.7**
PAX	**Paxson**	**1.25**	**292**		**Pn**	**18 30 51.8**	**-0.6**
PAX					**Sg**	**18 31 08.9**	**+0.9**
PS11	**TAPS Pump St11**	**1.27**	**251**		**Pg**	**18 30 53.1**	**+1.1**
VRDI	**Verde Repeater**	**1.32**	**191**	Pn	**Pn**	**18 30 52.2**	**-1.0**
VRDI					**Pb**	**18 30 52.9**	**-0.3**
PTPK	**Patty Peak**	**1.35**	**170**	P	**Pn**	**18 30 53.9**	**+0.1**
PTPK				S	**Sb**	**18 31 11.0**	**-0.6**
PTPK	**Patty Peak**	**1.35**	**170**		**Pb**	**18 30 54.2**	**+0.4**
PTPK					**Sn**	**18 31 11.8**	**-0.5**
YUK3	**Moose Creek**	**1.38**	**122**	P	**Pn**	**18 30 52.8**	**-1.3**
YUK3				S	**Sn**	**18 31 10.7**	**-2.3**
YUK3	**Moose Creek**	**1.38**	**122**		**Pn**	**18 30 53.2**	**-1.0**
PS12	**TAPS Pump St12**	**1.48**	**226**		**Sg**	**18 31 15.9**	**+0.8**
RIDG	**Independent Ri**	**1.50**	**326**		**Pb**	**18 30 56.5**	**+0.1**
BALM	**Baldy**	**1.51**	**169**	Pn	**Pn**	**18 30 56.4**	**+0.5**
BALM				Sg	**Sb**	**18 31 16.2**	**+0.1**
BALM	**Baldy**	**1.51**	**169**		**Pb**	**18 30 56.8**	**+0.3**
SCRK	**Sand Creek**	**1.54**	**342**		**Pn**	**18 30 56.6**	**+0.3**
BARN	**Barnard Glacie**	**1.58**	**157**		**Pn**	**18 30 57.4**	**+0.5**
BARN					**Pb**	**18 30 57.8**	**0.0**
PS10	**TAPS Pump St10**	**1.58**	**306**		**Pb**	**18 30 58.0**	**+0.3**
KIAG	**Kiagna River**	**1.62**	**170**	Pn	**Pn**	**18 30 58.3**	**+0.9**
KIAG				Sg	**Sb**	**18 31 19.6**	**+0.2**
KIAG	**Kiagna River**	**1.62**	**170**		**Pb**	**18 30 58.5**	**+0.1**
KIAG					**Sb**	**18 31 19.5**	**+0.2**
CTGM	**Chitina Glacie**	**1.73**	**153**	Pn	**Pn**	**18 31 00.0**	**+1.1**
CTGM				Sg	**Sb**	**18 31 23.0**	**+0.5**
CTGM	**Chitina Glacie**	**1.73**	**153**		**Pn**	**18 30 59.9**	**+0.9**
TGL	**Tana Glacier**	**1.77**	**178**		**Pb**	**18 31 00.8**	**-0.1**
CRQM	**Cirque**	**1.77**	**183**		**Pb**	**18 31 01.4**	**+0.4**
GRNC	**Granite Creek**	**1.88**	**162**	Pn	**Pb**	**18 31 02.7**	**-0.2**
GRNC				Sg	**Sb**	**18 31 27.4**	**+0.7**
GRNC	**Granite Creek**	**1.88**	**162**		**Pn**	**18 31 02.0**	**+1.0**
WAX	**Waxell Ridge**	**2.07**	**179**	Pg	**Pb**	**18 31 06.7**	**+0.6**
GOAT	**Goat Mountain**	**2.12**	**205**		**Pb**	**18 31 05.8**	**-1.2**
SCM	**Sheep Creek Mo**	**2.17**	**254**		**Pb**	**18 31 07.2**	**-0.5**
WAT6	**Susitna Watana**	**2.23**	**274**		**Pb**	**18 31 07.8**	**-0.9**
DAWY	**Dawson**	**2.23**	**44**	Pn	**Pn**	**18 31 05.7**	**0.0**
DAWY				Pg	**Pb**	**18 31 09.4**	**+0.6**
DAWY				Sg	**Sb**	**18 31 37.0**	**+0.2**
DAWY	**Dawson**	**2.23**	**44**		**Pn**	**18 31 06.5**	**+0.8**
YAH	**Yahtse**	**2.23**	**165**		**Pb**	**18 31 08.7**	**-0.2**
YUK4	**Talbot Arm**	**2.34**	**118**	Pn	**Pn**	**18 31 07.2**	**-0.2**
YUK4				Sg	**Sb**	**18 31 41.8**	**+1.6**
YUK4	**Talbot Arm**	**2.34**	**118**		**Pn**	**18 31 07.5**	**+0.1**
EGAK	**Eagle**	**2.40**	**18**		**Pb**	**18 31 09.2**	**+1.2**
SAMH	**Samovar Hills**	**2.61**	**156**	Pg	**Pb**	**18 31 15.0**	**-0.3**
HDA	**Harding Lake**	**2.62**	**318**		**Pn**	**18 31 12.8**	**+1.9**
SML	**Sawmill**	**2.63**	**257**		**Pb**	**18 31 13.5**	**-2.0**
YUK6	**Outpost Mounta**	**2.69**	**124**	Pn	**Pn**	**18 31 12.2**	**+0.1**
YUK6				Sg	**Sb**	**18 31 52.6**	**+2.5**
YUK5	**Granite Creek**	**2.78**	**118**	Pn	**Pn**	**18 31 13.3**	**0.0**
YUK5				Sg	**Sb**	**18 31 54.3**	**+1.6**
KNK	**Knik Glacier**	**2.83**	**249**		**Pb**	**18 31 18.0**	**-1.0**
RND	**Reindeer**	**2.85**	**291**		**Pb**	**18 31 19.8**	**+0.6**
IL31		**2.87**	**324**		**Pn**	**18 31 14.8**	**+0.5**
MCK	**McKinley**	**2.99**	**297**		**Pb**	**18 31 22.0**	**+0.4**
WRH	**Wood River Hil**	**3.03**	**313**		**Pb**	**18 31 23.4**	**+1.0**
YUK7	**Dusty Glacier**	**3.04**	**129**	Pn	**Pn**	**18 31 18.4**	**+1.5**
CCB	**Clear Creek Bu**	**3.05**	**317**		**Pn**	**18 31 19.1**	**+2.2**
HYT	**Haines Junctio**	**3.10**	**121**	Pn	**Pn**	**18 31 18.1**	**+0.5**
HYT				Pg	**Pb**	**18 31 23.7**	**+0.2**
HYT				Sg	**Sb**	**18 32 05.3**	**+3.6**
HYT	**Haines Junctio**	**3.10**	**121**		**Pn**	**18 31 18.1**	**+0.5**
PRP	**Porcupine Dome**	**3.22**	**340**		**Pn**	**18 31 19.9**	**+0.5**
MDM	**Murphy Dome**	**3.40**	**318**		**Pn**	**18 31 23.2**	**+1.5**
TRF	**Thorofare Moun**	**3.48**	**289**		**Pb**	**18 31 27.5**	**-2.6**
WHY	**Whitehorse**	**4.28**	**112**	Pn	**Pn**	**18 31 33.8**	**-0.1**
WHY				Sg	**Sb**	**18 32 40.6**	**+5.0**
BM03	**Burnt Mountain**	**4.97**	**353**		**Pn**	**18 31 44.6**	**+1.3**

*KRNET **19** 18:48:54.5±0.1,40.13N×71.59E,h18km,mb2.3*
*SOME **19** 18:48:56.4,40.33N×71.52E,h5km*
*NNC **19** 18:48:58.3±2.4,40.36N×71.56E,h0km,mb3.0,mpv3.0,*
Error ellipse: s-maj=18.1km s-min=8.2km az=5.0

ISC 19 18:48:56.4±2.0,**40.29N**±0.07×**71.50E**±0.05,**h3**km±15km,
n15,σ1**8**28/25,**11C-6D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.57**	**247**	⇑*i*P	Pg	18 49 05.9	-1.5
	baz=63						
BTK				⇑*i*S	**Sg**	**18 49 14.1**	**-0.7**
	baz=63						
ARSB	**Arslanbob**	**1.53**	**47**	⇓*i*P	**Pn**	**18 49 23.6**	**-1.3**
	baz=41						
ARSB				⇓*i*S	**Sg**	**18 49 44.4**	**-1.2**
	baz=41						
ARK	**Arkit**	**1.55**	**13**	⇑*i*P	**Pn**	**18 49 25.1**	**0.0**
	baz=10.0						
ARK				⇑*i*S	**Sg**	**18 49 47.2**	**+0.9**
	baz=10.0						
IUG	**luzhnay**	**2.17**	**330**	*e*P	**Pb**	**18 49 36.9**	**+0.5**
	1.7nm,0.1s						
IUG				*e*S	**Sg**	**18 50 06.0**	**0.0**
	17nm,0.3s						
IUG	**luzhnay**	**2.17**	**330**	Pg	**Pb**	**18 49 36.9**	**+0.5**
	1.7nm,0.1s						
IUG				Lg	Lg	18 50 06.0	
	17nm,0.3s						
AML	**Almayashu**	**2.48**	**41**	⇑*i*P	**Pn**	**18 49 38.0**	**-0.1**
	baz=38						
AML				⇑*i*S	**Sn**	**18 50 09.2**	**+0.1**
	baz=38						
ARLS	**Aral**	**2.65**	**53**	⇓*i*P	**Pn**	**18 49 40.0**	**-0.3**
	baz=49						
ARLS				⇓*i*S	**Sn**	**18 50 12.2**	**-0.8**
	baz=49						
MRKS	**Merke**	**2.78**	**27**	*e*P	**Pb**	**18 49 47.8**	**+1.0**
	2.3nm,0.2s						
MRKS				*e*S	**Sg**	**18 50 24.4**	**-1.2**
	3.2nm,0.3s						
MRKS	**Merke**	**2.78**	**27**	Pg	**Pb**	**18 49 47.8**	**+1.0**
	2.3nm,0.2s						
MRKS				Lg	Lg	18 50 24.4	
	3.2nm,0.3s						
KK31	**Karatay Array**	**2.91**	**346**	Pg	**Pb**	**18 49 49.8**	**+0.8**
	0.3nm,0.3s,baz=160,slow=13,SNR=15						
KK31				⇑Lg	Lg	18 50 29.3	
	0.7nm,0.2s,baz=158,slow=30,SNR=8.4						
EKS2	**Erkin-Say**	**2.92**	**35**	⇑*i*P	**Pn**	**18 49 44.2**	**+0.2**
	baz=32						
EKS2				⇑*i*S	**Sn**	**18 50 19.9**	**+0.1**
	baz=32						
UCH	**Uchtor**	**2.99**	**48**	⇑*i*P	**Pn**	**18 49 44.9**	**-0.3**
	baz=46						
UCH				⇑*i*S	**Sn**	**18 50 21.3**	**-0.4**
	baz=46						
KZA	**Kyzart**	**3.35**	**56**	⇓*i*P	**Pn**	**18 49 49.6**	**-0.5**
	baz=54						
KZA				⇓*i*S	**Sn**	**18 50 29.5**	**-1.1**
	baz=54						
KST	**Kastek**	**4.33**	**49**	*e*P	**Pb**	**18 50 16.1**	**+2.8**
	1.3nm,0.1s						
KST				*e*S	**Sg**	**18 51 12.8**	**-2.7**
	2.0nm,0.5s						
KST	**Kastek**	**4.33**	**49**	Pg	**Pb**	**18 50 16.1**	**+2.8**
	1.3nm,0.1s						
KST				Lg	Lg	18 51 12.8	
	2.0nm,0.5s						

*IDC **19** 18:55:08.4±0.9,29.18N×51.33E,h0km,mb4.0/19,*
mb1 4.1/23,mb1mx3.9/54,mbtmp4.0/23,ML3.3/4,MS2.7/1,
Ms1 2.7/1,ms1mx2.3/45,Error ellipse: s-maj=20.2km
s-min=16.0km az=172.0
*ISCJB **19** 18:55:09.1±0.2,29.07N±0.02×51.26E±0.03,h17km,*
mb4.0/22,Error ellipse: s-maj=4.0km s-min=2.3km
az=140.3
*TEH **19** 18:55:09.9,29.22N×51.31E,h10km,ML4.0*
*THR **19** 18:55:09.6,29.23N×51.39E,h8km,ML3.7*
*NEIC **19** 18:55:11.9±1.1,29.16N±0.09×51.29E±0.09,h24km±2km,*
mb4.1/17,mb_Lg3.9(TEH)
*DSN **19** 18:55:14.9±1.4,29.05N×51.75E,h10km,ML4.2/6,Error*
ellipse: s-maj=38.5km s-min=12.4km az=39.0
*OMAN **19** 18:55:18.1±0.4,28.63N×51.12E,h36km,ml4.0/1,Error*
ellipse: s-maj=6.9km s-min=6.0km az=232.0

ISC 19 18:55:10.8±0.5,**29.14N**±0.04×**51.30E**±0.05,**h17**km,**n128,**
σ1**8**52/138,**mb4.1/29,7C-8D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**0.79**	**36**	*e*Pg	**Pb**	**18 55 23.5**	**-2.8**
IKAZ				IAMB	IAmb	18 55 36.4	
	comp=Z,80μm,0.3s						
SHI	**Shiraz**	**1.17**	**65**	*e*Pg	**Pn**	**18 55 30.9**	**-1.6**
SHI				*e*Sg	**Sb**	**18 55 48.5**	**+0.9**
KLNJ	**Kolanjah**	**1.88**	**8**	*e*Pn	**Pn**	**18 55 43.4**	**+1.0**
JHRM	**Jahrom**	**2.10**	**107**	*e*Pn	**Pn**	**18 55 47.4**	**+2.2**
JHRM				IAMB	IAmb	18 56 30.9	
	comp=Z,0.0nm,0.5s						
LMD1	**Lamerd**	**2.44**	**137**	*e*Pn	**Pn**	**18 55 51.9**	**+2.1**
LMD1				IAMB	IAmb	18 56 56.6	
	comp=Z,0.0nm,0.7s						
IBRJ	**Brojen**	**2.76**	**359**	*e*Pn	**Pn**	**18 55 56.0**	**+1.5**
JHBN	**Jahan bin**	**3.13**	**350**	*e*Pn	**Pn**	**18 56 00.6**	**+1.0**
ROKH	**ROKH**	**3.20**	**356**	*e*Pn	**Pn**	**18 56 01.8**	**+1.3**
IGAR	**Gharneh**	**3.31**	**11**	*e*Pn	**Pn**	**18 56 03.6**	**+1.5**
ISAD	**Sadrabad**	**3.44**	**36**	*e*Pn	**Pn**	**18 56 05.3**	**+1.4**
IPIR	**Pirpir**	**3.55**	**354**	*e*Pn	**Pn**	**18 56 06.0**	**+0.6**
IMEH	**Mehriz**	**3.64**	**51**	*e*Pn	**Pn**	**18 56 08.4**	**+1.8**
SHGR	**Shooshtar-Gavs**	**3.66**	**325**	*e*AML	AML	18 56 55.8	
	comp=E,156nm,0.6s						
SHGR	**Shooshtar-Gavs**	**3.66**	**325**	*e*AML	AML	18 57 22.4	
	comp=N,136nm,0.6s						
IZEF	**Zefreh**	**3.84**	**13**	*e*Pn	**Pn**	**18 56 10.6**	**+1.2**
ICHK	**Chekchek**	**4.09**	**40**	*e*Pn	**Pn**	**18 56 14.1**	**+1.4**
IKLH	**Kolahrood**	**4.17**	**3**	*e*Pn	**Pn**	**18 56 13.9**	**0.0**
IBAF	**Bafgh**	**4.42**	**55**	*e*Pn	**Pn**	**18 56 18.9**	**+1.6**
ANAR	**Anarak**	**4.54**	**27**	*e*Pn	**Pn**	**18 56 19.3**	**+0.4**
GENO	**Geno**	**4.63**	**111**	IAMB	IAmb	18 57 23.9	
	comp=N,0.0nm,0.3s						
KHGB	**Koh Gabri**	**4.67**	**73**	*e*Pn	**Pn**	**18 56 22.4**	**+1.7**
KHGB				IAMB	IAmb	18 57 47.7	
	comp=Z,0.0nm,0.9s						
KHMZ	**Khomeyn**	**4.72**	**346**	*e*Pn	**Pn**	**18 56 22.5**	**+1.0**
KHMZ	**Khomeyn**	**4.72**	**346**	*e*Pn	**Pn**	**18 56 22.4**	**+1.0**
KRBR	**Kerman**	**4.83**	**79**	*e*Pn	**Pn**	**18 56 23.8**	**+0.8**
KRBR	**Kerman**	**4.83**	**79**	*e*Pn	**Pn**	**18 56 23.8**	**+0.8**
IKMR	**Kamar-syah**	**5.03**	**331**	*e*Pn	**Pn**	**18 56 25.4**	**0.0**
BTHS		**5.09**	**185**	*e*Pn	**Pn**	**18 56 28.9**	**+2.6**
NIAN	**Nian**	**5.13**	**107**	*e*Pn	**Pn**	**18 56 29.9**	**+3.1**
NIAN				IAMB	IAmb	18 57 31.1	
	comp=Z,0.0nm,0.2s						
IKFM	**Kafar-mosalman**	**5.27**	**327**	*e*Pn	**Pn**	**18 56 30.0**	**+1.2**
SHME	**Shamm**	**5.29**	**125**	P	**Pn**	**18 56 29.1**	**0.0**
GHVR	**GHOM**	**5.32**	**360**	*e*Pn	**Pn**	**18 56 30.4**	**+0.8**
GHVR	**GHOM**	**5.32**	**360**	*e*Pn	**Pn**	**18 56 30.4**	**+0.8**
BANOM	**Banah**	**5.47**	**125**	*i* P	**Pn**	**18 56 32.8**	**+1.2**
	SNR=8.7						
BANOM	**Banah**	**5.47**	**125**	P	**Pn**	**18 56 34.0**	**+2.4**
	SNR=9.2						
BANOM				S	**Sn**	**18 57 35.6**	**+1.3**
CHMN	**Cheshme madani**	**5.49**	**81**	*e*Pn	**Pn**	**18 56 34.2**	**+2.1**
ASAO	**Ashtian**	**5.50**	**349**	*e*Pn	**Pn**	**18 56 33.3**	**+1.2**
ASAO	**Ashtian**	**5.50**	**349**	*e*Pn	**Pn**	**18 56 33.3**	**+1.2**
NAZ	**Nazwa, Dubai**	**5.68**	**136**	*i* P	**Pn**	**18 56 35.5**	**+1.1**
	SNR=6.1						
NAZ	**Nazwa, Dubai**	**5.68**	**136**	P	**Pn**	**18 56 36.7**	**+2.3**
NAZ				S	**Sn**	**18 57 40.1**	**+0.9**
	SNR=12						
MSFE	**Esma-Masafi**	**5.74**	**130**	P	**Pn**	**18 56 34.2**	**-1.0**
MSFE				S	**Sn**	**18 57 38.6**	**-2.1**
ASUD	**Al Ashush, Dub**	**5.76**	**140**	*i* P	**Pn**	**18 56 36.4**	**+0.9**
	SNR=19						
ASUD	**Al Ashush, Dub**	**5.76**	**140**	P	**Pn**	**18 56 38.2**	**+2.7**
	SNR=19						
KHNJ	**Kahnooj**	**5.76**	**100**	*e*Pn	**Pn**	**18 56 38.2**	**+2.7**
MDH	**Madha**	**5.87**	**130**	P	**Pn**	**18 56 38.4**	**+1.4**
MDH				S	**Sn**	**18 57 43.0**	**-0.9**
	SNR=5.7						
TPRV	**Parvadeh(Tabas**	**6.03**	**49**	*e*Pn	**Pn**	**18 56 40.5**	**+1.2**
UOSS	**Minazif**	**6.05**	**133**	P	**Pn**	**18 56 39.5**	**0.0**
UOSS	**Minazif**	**6.05**	**133**		**Pn**	**18 56 40.1**	**+0.6**
HATD	**Hatta, Dubai**	**6.09**	**134**	P	**Pn**	**18 56 42.5**	**+2.4**
HATD				S	**Sn**	**18 57 49.1**	**-0.2**
ASHO	**Ashiyiah**	**6.14**	**135**	*i* P	**Pn**	**18 56 42.2**	**+1.4**
	SNR=9.3						
ASHO	**Ashiyiah**	**6.14**	**135**	P	**Pn**	**18 56 42.2**	**+1.4**
	SNR=12						
ASHO				S	**Sn**	**18 57 50.4**	**-0.4**
ALNE	**Al Ain**	**6.44**	**141**	*i* P	**Pn**	**18 56 45.9**	**+0.9**
	SNR=8.1						
TKDS	**Koohdasht(Taba**	**6.68**	**47**	*e*Pn	**Pn**	**18 56 48.9**	**+0.6**
IKOO	**Kooshah**	**7.39**	**62**	*e*Pn	**Pn**	**18 57 00.8**	**+2.7**
ARQ	**Araqi**	**7.44**	**140**	P	**Pn**	**18 57 00.4**	**+1.8**
	SNR=5.7						
ARQ				S	**Sn**	**18 58 21.3**	**-1.5**
RAYN	**Ar Rayn**	**7.64**	**224**		**Pn**	**18 57 01.8**	**+0.4**
NHDN	**Nehbandan**	**7.89**	**71**	*e*Pn	**Pn**	**18 57 06.7**	**+1.8**
BSY	**Bisya**	**8.29**	**139**	P	**Pn**	**18 57 11.6**	**+1.2**
	SNR=9.3						
BSY				S	**Sn**	**18 58 42.8**	**-0.9**
SMDO	**Samad**	**8.57**	**133**	P	**Pn**	**18 57 15.6**	**+1.4**
	SNR=6.4						
SMDO				S	**Sn**	**18 58 50.9**	**+0.3**
WSAR	**Wadi Sarin**	**8.82**	**130**	Pn	**Pn**	**18 57 17.9**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=306,slow=12,SNR=11						
WSAR				Sn	**Sn**	**18 58 54.4**	**-2.3**
	comp=Z,1.3nm,0.3s,baz=31,slow=2.9,SNR=3.7						
GEYT	**Alibeck**	**10.44**	**31**	Pn	**Pn**	**18 57 40.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=206,slow=9.9,SNR=5.1						
HRA	**Herat**	**10.68**	**58**	Pn	**Pn**	**18 57 39.8**	**-3.4**
WHFO	**Wadi Hawf**	**11.40**	**168**	P	**Pn**	**18 57 52.9**	**-0.1**
	SNR=22						
WHFO				S	**Sn**	**18 59 54.7**	**-5.2**
SHAO	**Shalim**	**11.76**	**159**	P	**Pn**	**18 57 59.9**	**+2.1**
	SNR=8.6						
SHAO				S	**Sn**	**19 00 06.1**	**-2.6**
DMTO	**DMTO**	**11.85**	**163**	P	**Pn**	**18 57 58.8**	**-0.3**
	SNR=10						
DMTO				S	**Sn**	**19 00 05.8**	**-5.3**
ABTO	**Aybut**	**11.88**	**171**	P	**Pn**	**18 58 00.8**	**+1.4**
	SNR=6.0						
EIL	**Elat**	**14.26**	**276**	LR	LR	19 03 54.3	
	comp=Z,35nm,20.4s,baz=14,slow=37						
KBL	**Kabul**	**16.00**	**66**	Pn	**Pn**	**18 58 53.0**	**-2.3**
KBZ	**Khabaz**	**16.04**	**337**	Pn	**Pn**	**18 58 56.9**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=182,slow=8.6,SNR=6.1						
KIV	**Kislovodsk**	**16.31**	**337**	Pn	**Pn**	**18 58 59.8**	**+0.8**
KIV				IAmb	IAmb	18 59 03.8	
	comp=Z,16nm,1.1s						
BR131	**Keskin Array S**	**17.96**	**311**		**Pn**	**18 59 18.8**	**-1.0**
BRTR	**Keskin Array B**	**17.96**	**311**	P	**Pn**	**18 59 18.9**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=136,slow=14,SNR=7.2						
BTK	**Batken**	**19.37**	**51**	P	**P**	**18 59 36.0**	**+0.3**
BTK				IAmb	IAmb	18 59 41.5	
	comp=Z,5.2nm,0.9s						
KK31	**Karatay Array**	**20.79**	**43**	P	**P**	**18 59 51.5**	**+0.4**
KKAR	**Karatay Array**	**20.79**	**43**	P	**P**	**18 59 51.2**	**+0.1**
ABKAR	**Akbulak array**	**21.15**	**16**	P	**P**	**18 59 54.5**	**-0.3**
ABKAR				IAmb	IAmb	18 59 58.0	
	comp=Z,5.4nm,1.2s						
AKTO	**Aktyubinsk**	**21.86**	**12**	P	**P**	**19 00 02.5**	**-0.1**
	comp=Z,3.6nm,0.6s,baz=197,slow=11,SNR=18						
AAK	**Ala-Archa**	**23.03**	**48**	P	**P**	**19 00 17.3**	**+2.2**
AAK				IAmb	IAmb	19 00 24.8	
	comp=Z,3.2nm,0.7s						
IDI	**Anoyia**	**23.13**	**292**	P	**P**	**19 00 16.7**	**+0.5**
	comp=Z,8.1nm,0.6s,baz=80,slow=12,SNR=9.6						
HARR	**Harsova**	**24.17**	**316**	⇓P	**P**	**19 00 29.8**	**+3.8**
GHRR		**25.22**	**319**	⇓P	**P**	**19 00 36.8**	**+1.2**
BISRR	**Bisoca**	**25.35**	**317**	⇑P	**P**	19 00 45.1	+8.2
VRI	**Vrincioaia**	**25.51**	**318**	⇑P	**P**	**19 00 39.1**	**+0.8**
PLOR	**Plostina**	**25.55**	**317**	⇑P	**P**	**19 00 40.3**	**+1.6**
MLR	**Muntele Rosu**	**25.79**	**316**	P	**P**	**19 00 41.0**	**+0.1**
	comp=Z,8.2nm,0.8s,baz=162,slow=3.2,SNR=16						
MLR	**Muntele Rosu**	**25.79**	**316**	⇑P	**P**	**19 00 44.9**	**+3.9**
MLR	**Muntele Rosu**	**25.79**	**316**	P	**P**	**19 00 41.7**	**+0.8**
TESR	**Tescani**	**25.91**	**319**	⇓P	**P**	**19 00 42.7**	**+0.8**
SORM	**Soroca**	**25.93**	**323**	⇓P	**P**	**19 00 41.6**	**-0.4**
OZUR		**26.19**	**317**	⇑P	**P**	**19 00 43.8**	**-0.7**
VOIR		**26.30**	**315**	⇑P	**P**	**19 00 46.6**	**+1.0**
DOPR	**Dopca**	**26.36**	**317**	⇑P	**P**	**19 00 46.9**	**+0.9**
BIZ	**Bicaz**	**26.46**	**319**	⇓P	**P**	**19 00 47.9**	**+1.0**
ARR	**Arges**	**26.53**	**315**	⇓P	**P**	**19 00 48.1**	**+0.5**
FNA	**Florina**	**27.00**	**303**	P	**P**	**19 00 51.6**	**-0.3**
FNA				IAmb	IAmb	19 01 33.5	
	comp=Z,4.6nm,1.1s						
AKASG	**Malin Array Be**	**27.20**	**328**	P	**P**	**19 00 52.5**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=133,slow=8.5,SNR=11						
AKBB	**Malin Array Si**	**27.20**	**328**	P	**P**	**19 00 52.6**	**-0.9**
AKBB				IAmb	IAmb	19 00 53.5	
	comp=Z,7.7nm,1.2s						
BURAR	**Bucovina Array**	**27.33**	**320**	⇓P	**P**	**19 00 56.0**	**+1.2**
BUR08	**Bucovina Ar. S**	**27.36**	**320**	P	**P**	**19 00 55.2**	**+0.1**
BUR08				IAmb	IAmb	19 01 13.4	
	comp=Z,13nm,1.7s						
BVAR	**Borovoye Array**	**27.69**	**25**	P	**P**	**19 00 58.3**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=224,slow=10,SNR=9.3						
BVAR				PcP	**PcP**	**19 04 14.8**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=180,slow=3.3,SNR=5.1						
SIRR	**Siria**	**28.79**	**315**	⇓P	**P**	**19 01 09.1**	**+1.4**
KWP	**Kalwaria Pacla**	**29.83**	**321**	P	**P**	**19 01 16.8**	**-0.1**
MKAR	**Makanchi Array**	**29.86**	**45**	P	**P**	**19 01 17.6**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=233,slow=8.1,SNR=6.2						
LANS	**Liptovska Anna**	**31.41**	**318**	*e*P	**P**	**19 01 32.3**	**+1.3**
VYHS	**Vyhne**	**31.49**	**317**	*e*P	**P**	**19 01 32.3**	**+0.7**

CFA			pP		**pP**	**19 04 09.7**	**+1.2**
	comp=Z,20nm,1.0s,baz=334,slow=8.8,SNR=12						
CFA			LR		LR	19 12 37.9	
	comp=Z,71nm,20.2s,baz=250,slow=34						
ROC1	**El Roble**	**24.78 162**	P		**P**	**19 04 03.3**	**-0.5**
CPUP	**Villa Florida**	**27.06 131**	LR		LR	19 15 51.8	
	comp=Z,73nm,19.9s,baz=318,slow=38						
BDFB	**Brasilia**	**31.52 105**	LR		LR	19 18 25.7	
	comp=Z,134nm,19.4s,baz=267,slow=37						
PLCA	**Paso Flores**	**32.23 167**	P		**P**	**19 05 09.7**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=356,slow=11,SNR=4.5						
PLCA	**Paso Flores**	**32.23 167**	IAmb		IAmb	19 05 18.4	
	comp=Z,7.4nm,1.1s						
RCBR	**Riachuelo**	**43.54 89**	P		**P**	**19 06 48.5**	**+2.7**
	comp=Z,98nm,0.9s,baz=214,slow=0.8,SNR=5.8						
TXAR	**Lajitas Array**	**44.92 330**	P		**P**	**19 06 52.3**	**-4.3**
	comp=Z,0.4nm,0.8s,baz=128,slow=5.8,SNR=3.3						
TXAR			pP		**pP**	**19 07 01.5**	**-2.5**
	comp=Z,0.7nm,0.9s,baz=153,slow=10,SNR=3.9						
LCAR	**Lake Charles**	**46.51 347**	P		**P**	**19 07 12.4**	**+3.4**
LCAR			IAmb		IAmb	19 07 13.3	
	comp=Z,10nm,0.9s						
FCAR	**Ozark Folk Cen**	**46.56 346**	P		**P**	**19 07 13.1**	**+3.7**
FCAR			IAmb		IAmb	19 07 13.8	
	comp=Z,13nm,0.9s						
T47A	**Sharon Grove**	**46.68 352**	P		**P**	**19 07 12.8**	**+2.5**
T47A			IAmb		IAmb	19 07 24.0	
	comp=Z,13nm,0.8s						
X34A	**Smith Ranch, M**	**47.03 339**	P		**P**	**19 07 16.4**	**+3.4**
X34A			IAmb		IAmb	19 07 18.7	
	comp=Z,30nm,1.1s						
MGMO	**Mountain Grove**	**47.80 346**	P		**P**	**19 07 22.8**	**+3.8**
MGMO			IAmb		IAmb	19 07 24.8	
	comp=Z,25nm,1.1s						
MSTX	**Muleshoe**	**48.39 334**	P		**P**	**19 07 27.7**	**+4.0**
MSTX			IAmb		IAmb	19 07 29.5	
	comp=Z,11nm,1.1s						
CCM	**Cathedral Cave**	**48.44 348**	P		**P**	**19 07 27.3**	**+3.4**
CCM			IAmb		IAmb	19 07 28.7	
	comp=Z,28nm,1.1s						
ANMO	**Albuquerque**	**50.87 332**	P		**P**	**19 07 38.7**	**-4.0**
	comp=Z,1.2nm,0.6s,baz=154,slow=6.9,SNR=4.1						
ANMO			pP		**pP**	**19 07 46.3**	**-3.7**
	comp=Z,4.8nm,1.1s,baz=162,slow=9.3,SNR=4.8						
ANMO	**Albuquerque**	**50.87 332**	IAmb		IAmb	19 07 47.6	
	comp=Z,3.8nm,0.9s						
N41A	**Harden Midland**	**50.93 349**	P		**P**	**19 07 46.0**	**+3.1**
N41A			IAmb		IAmb	19 07 47.1	
	comp=Z,18nm,0.8s						
ECSD	**EROS Data Cent**	**55.09 345**	P		**P**	**19 08 16.5**	**+3.0**
ECSD			IAmb		IAmb	19 08 19.5	
	comp=Z,10nm,1.2s						
Q16A	**Castle Valley**	**56.30 331**	P		**P**	**19 08 26.6**	**+4.0**
Q16A			IAmb		IAmb	19 08 27.4	
	comp=Z,38nm,2.0s						
P17A	**Butcher Ranch,**	**56.53 331**	P		**P**	**19 08 27.4**	**+3.3**
P17A			IAmb		IAmb	19 08 28.8	
	comp=Z,7.8nm,1.0s						
RDMU	**Red Mountain**	**56.88 333**	P		**P**	**19 08 29.6**	**+3.0**
RDMU			IAmb		IAmb	19 08 31.1	
	comp=Z,8.8nm,1.0s						
DUG	**Dugway, Tooele**	**58.09 330**	P		**P**	**19 08 38.5**	**+3.4**
DUG			IAmb		IAmb	19 08 40.4	
	comp=Z,4.1nm,0.9s						
TCUT	**Toone Canyon**	**58.15 332**	P		**P**	**19 08 39.8**	**+4.1**
TCUT			IAmb		IAmb	19 08 43.0	
	comp=Z,6.0nm,0.8s						
PD31	**Pinedale Array**	**58.66 335**	P		**P**	**19 08 41.9**	**+2.8**
PD31			IAmb		IAmb	19 08 45.0	
	comp=Z,9.5nm,1.6s						
PDAR	**Pinedale Array**	**58.66 335**	P		**P**	**19 08 34.5**	**-4.6**
	comp=Z,0.4nm,0.7s,baz=128,slow=7.5,SNR=4.4						
PDAR			pP		**P**	**19 08 41.9**	**+2.8**
	comp=Z,2.2nm,0.8s,baz=132,slow=6.6,SNR=12						
AGMN	**Agassiz Nation**	**59.22 348**	P		**P**	**19 08 45.4**	**+2.9**
AGMN			IAmb		IAmb	19 08 47.2	
	comp=Z,18nm,1.0s						
NVAR	**Mina Array Bea**	**59.67 325**	pP		pP	19 08 50.1	-3.5
	comp=Z,1.1nm,0.7s,baz=145,slow=6.3,SNR=2.1						
MDND	**Maddock**	**59.69 345**	P		**P**	**19 08 50.0**	**+4.1**
MDND			IAmb		IAmb	19 08 50.8	
	comp=Z,23nm,0.8s						
REDW	**Red Top Meadow**	**59.69 334**	P		**P**	**19 08 50.2**	**+4.0**
REDW			IAmb		IAmb	19 08 56.4	
	comp=Z,4.4nm,0.9s						
ELK	**Elko**	**59.71 329**	P		**P**	**19 08 49.7**	**+3.2**
ELK			IAmb		IAmb	19 08 59.9	
	comp=Z,3.1nm,0.8s						
YHH	**Holmes Hill**	**60.84 335**	P		**P**	**19 08 58.7**	**+4.5**
YHH			IAmb		IAmb	19 09 06.0	
	comp=Z,5.3nm,1.1s						
YHB	**Horse Butte**	**60.96 335**	P		**P**	**19 08 58.3**	**+3.4**
YHB			IAmb		IAmb	19 09 06.2	
	comp=Z,6.8nm,1.0s						
YHL	**Hebgen Lake**	**61.03 335**	P		**P**	**19 08 58.7**	**+3.2**
YHL			IAmb		IAmb	19 09 01.6	
	comp=Z,12nm,1.0s						
ULM	**Lac du Bonnet**	**61.07 348**	P		**P**	**19 08 50.7**	**-4.6**
	comp=Z,2.8nm,0.8s,baz=204,slow=11,SNR=4.0						
ULM			pP		**pP**	**19 08 58.7**	**-4.2**
	comp=Z,8.4nm,0.8s,baz=153,slow=4.4,SNR=8.6						
ULM	**Lac du Bonnet**	**61.07 348**	P		**P**	**19 08 58.1**	**+2.8**
ULM			IAmb		IAmb	19 08 59.5	
	comp=Z,11nm,0.9s						
MFID	**Camas Ranch**	**62.00 331**	P		**P**	**19 09 05.3**	**+3.5**
MFID			IAmb		IAmb	19 09 07.7	
	comp=Z,8.4nm,1.1s						
MSO	**Missoula**	**63.78 334**	P		**P**	**19 09 17.1**	**+3.5**
MSO			IAmb		IAmb	19 09 19.3	
	comp=Z,5.4nm,0.9s						
YBH	**Yreka Blue Hor**	**64.39 326**	pP		**P**	**19 09 20.0**	**+2.3**
	comp=Z,2.2nm,0.8s,baz=241,slow=3.6,SNR=3.0						
YBH	**Yreka Blue Hor**	**64.39 326**	IAmb		IAmb	19 11 17.2	
	comp=Z,24nm,1.9s						
PINE	**Pine Mountain**	**64.84 328**	P		**P**	**19 09 25.4**	**+4.7**
PINE			IAmb		IAmb	19 09 34.8	
	comp=Z,20nm,1.4s						
SCHQ	**Schefferville**	**64.92 8**	pP		pP	19 09 25.0	-3.3
	comp=Z,8.5nm,0.9s,baz=143,slow=4.9,SNR=3.7						
SCHQ	**Schefferville**	**64.92 8**	IAmb		IAmb	19 10 08.9	
	comp=Z,14nm,1.3s						
NEW	**Newport**	**66.26 334**	pP		**P**	**19 09 32.4**	**+2.8**
	comp=Z,4.4nm,0.7s,baz=108,slow=3.7,SNR=2.8						
NEW	**Newport**	**66.26 334**	IAmb		IAmb	19 09 34.2	
	comp=Z,5.8nm,0.9s						
PPT	**Papeete**	**68.12 255**	LR		LR	19 31 36.3	
	comp=Z,137nm,18.0s,baz=358,slow=29						
FCC	**Fort Churchill**	**68.94 352**	P		**P**	**19 09 49.9**	**+3.7**
FCC			IAmb		IAmb	19 09 51.0	
	comp=Z,9.6nm,0.9s						
BBB	**Bella Bella**	**74.03 331**	LR		LR	19 42 41.4	
	comp=Z,69nm,18.4s,baz=184,slow=36						
VNA3	**Neumayer Olymp**	**74.76 162**	P		P	19 10 27.8	+6.6
VNA1	**Neumayer--Stat**	**75.05 161**	P		P	19 10 30.5	+7.7
VNA2	**Neumayer--Watz**	**75.40 161**	P		P	19 10 31.4	+6.6
	baz=289,slow=6.8						
LIC	**Lamto**	**76.01 81**	*e*P		**P**	**19 10 29.1**	**-0.3**
	comp=Z,4.9nm,0.3s						
LIC	**Lamto**	**76.01 81**	P		**P**	**19 10 29.1**	**-0.3**
TIC	**Toumodi**	**76.10 81**	*e*P		**P**	**19 10 30.3**	**+0.4**
TIC	**Toumodi**	**76.10 81**	P		**P**	**19 10 30.3**	**+0.4**
DBIC	**Dimbokro**	**76.27 81**	P		**P**	**19 10 31.0**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=249,slow=12,SNR=3.6						
DBIC			pP		**pP**	**19 10 38.6**	**-0.1**
	comp=Z,5.1nm,0.9s,baz=213,slow=3.7,SNR=5.4						
DBIC	**Dimbokro**	**76.27 81**	IAmb		IAmb	19 10 39.3	
	comp=Z,6.4nm,0.9s						
KIC	**Kosan Boka**	**76.32 81**	*e*P		**P**	**19 10 30.7**	**-0.4**
	comp=Z,12nm,0.9s						
KIC	**Kosan Boka**	**76.32 81**	P		**P**	**19 10 30.7**	**-0.4**
YKA	**Yellowknife Ar**	**76.60 344**	P		**P**	**19 10 27.2**	**-4.4**
	comp=Z,0.4nm,0.7s,baz=142,slow=5.6,SNR=9.6						
YKA			pP		**pP**	**19 10 35.1**	**-4.4**
	comp=Z,1.8nm,0.9s,baz=140,slow=5.6,SNR=16						
SNAA	**Sanae**	**76.99 162**	P		P	19 10 40.6	+6.7
SNAA	**Sanae**	**76.99 162**	P		**P**	**19 10 32.4**	**-1.5**
SNAA			IAmb		IAmb	19 10 42.0	
	comp=Z,7.2nm,0.8s						
QSPA	**South Pole Qui**	**80.69 180**	P		**P**	**19 10 53.3**	**-1.1**
QSPA			IAmb		IAmb	19 11 02.2	
	comp=Z,8.9nm,1.0s						
TOA0	**Torodi Ar. Sti**	**83.86 76**	P		**P**	**19 11 10.3**	**-1.5**
TOA0			IAmb		IAmb	19 11 12.9	
	comp=Z,6.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**83.86 76**	P		**P**	**19 11 11.0**	**-0.8**
	comp=Z,4.6nm,0.8s,baz=259,slow=4.7,SNR=20						
TORD			pP		**pP**	**19 11 19.1**	**-0.7**
	comp=Z,6.1nm,0.9s,baz=263,slow=4.6,SNR=14						
ESDC	**Sonseca Array**	**85.17 49**	P		**P**	**19 11 17.2**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=260,slow=7.0,SNR=4.1						
ILAR	**Eielson Array**	**89.02 337**	pP		**P**	**19 11 39.7**	**+3.6**
	comp=Z,0.7nm,0.8s,baz=148,slow=3.9,SNR=5.3						
SYO	**Syowa Base**	**91.28 162**	*e*PcP		**PcP**	**19 11 51.0**	**+3.5**
SYO	**Syowa Base**	**91.28 162**	*e*sP		sP	19 12 02.0	+4.8
RDOG	**Red Dog Mine**	**96.13 338**	P		**P**	**19 12 12.0**	**+3.2**
H11N3	**WAKE ISLAND Hyl**	**15.05 287**	T		T	21 22 15.9	
	baz=99,slow=74,SNR=4.0						
H11N2	**WAKE ISLAND Hyl**	**15.07 287**	T		T	21 22 12.0	
	baz=99,slow=74,SNR=4.7						
H11N1	**WAKE ISLAND Hyl**	**15.07 287**	T		T	21 22 14.2	
	baz=99						
H11S2	**WAKE ISLAND Hyl**	**15.21 286**	T		T	21 22 34.1	
	baz=94,slow=75,SNR=6.1						
H11S1	**WAKE ISLAND Hyl**	**15.22 286**	T		T	21 22 31.6	
	baz=94,slow=75,SNR=6.1						
H11S3	**WAKE ISLAND Hyl**	**15.23 286**	T		T	21 22 32.7	
	baz=94,slow=75,SNR=5.1						
KBZ	**Khabaz**	**119.83 45**	pPKP		pPKPdf	19 17 37.7	-2.3
	comp=Z,1.4nm,0.9s,baz=360,slow=3.3,SNR=3.1						
ABKAR	**Akbulak array**	**127.99 33**			**PKPdf**	**19 17 45.3**	**-2.1**
BVAR	**Borovoye Array**	**130.26 23**	pPKP		pPKPdf	19 17 57.1	-2.6
	comp=Z,1.0nm,0.8s,baz=222,slow=2.0,SNR=3.6						
ASAR	**Alice Springs**	**133.51 224**	PKP		**PKPdf**	**19 17 55.4**	**-3.4**
	comp=Z,0.4nm,0.9s,baz=101,slow=1.9,SNR=3.8						
ASAR			pPKP		**PKiKP**	**19 18 02.1**	**+2.1**
	comp=Z,0.8nm,0.8s,baz=129,slow=2.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**133.89 13**	PKP		**PKPdf**	**19 17 56.6**	**-1.8**
	comp=Z,0.7nm,0.5s,baz=310,slow=2.0,SNR=4.3						
ZALV			pPKP		**pPKPdf**	**19 18 03.6**	**-2.9**
	comp=Z,2.1nm,0.6s,baz=261,slow=2.5,SNR=5.1						
KURBB	**Kurchatov Arra**	**135.16 20**	PKP		**PKPdf**	**19 17 58.6**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=2.4,slow=9.8,SNR=4.6						
KURBB			pPKP		**pPKPdf**	**19 18 06.5**	**-2.5**
	comp=Z,0.5nm,0.4s,baz=322,slow=2.5,SNR=3.4						
MKAR	**Makanchi Array**	**139.72 19**	pPKP		**PKiKP**	**19 18 14.3**	**+2.5**
	comp=Z,1.0nm,0.8s,baz=355,slow=2.8,SNR=3.7						
SONM	**Songino Array**	**141.37 353**	pPKP		**PKPdf**	**19 18 13.9**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=348,slow=1.0,SNR=4.4						
GTA	**Gaotai**	**150.13 1**	*e*P		**PKiKP**	**19 18 35.8**	**+2.1**
GTA			pP		pPKPbc	19 18 40.1	-0.8
GTA			sP		sPKPbc	19 18 42.9	-0.8
GTA			pmax		pmax		
	comp=Z,4.0nm,1.6s						
XAN	**Xi'an**	**154.25 343**	PKPbc		**PKPbc**	**19 18 40.5**	**-1.6**
XAN			pPKP		sPKPdf	19 18 46.9	+2.0
SBUM	**Sibu**	**166.27 240**	PKPab		**PKPab**	**19 19 50.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**170.92 8**	pPKP		**pPKPdf**	**19 18 55.7**	**-3.1**
	comp=Z,1.5nm,0.9s,baz=260,slow=1.6,SNR=7.0						
CMAR			pPKPab		**PKPab**	**19 20 12.3**	**+3.4**
	comp=Z,1.5nm,1.0s,baz=5.3,slow=6.2,SNR=4.1						

ATH ***19*** *19:09:36.8, 37°.54N×30°.71E, h71*$^{km}_{\pm 4}$*, ML3.0/2, Error ellipse: s-maj=4.8km s-min=1.7km az=55.0*
ISK ***19*** *19:09:37.4, 37°.29N×30°.41E, h5km, ML3.3/31*
IDC ***19*** *19:09:37.9±1.8, 37°.36N×30°.49E, h0km, mb3.7/2, mb1 3.6/6, mb1mx3.3/44, mbtmp3.6/6, ML3.4/4, MS3.9/2, Ms1 3.9/2, ms1mx2.7/55, Error ellipse: s-maj=35.9km s-min=21.5km az=124.0*
ISCJB ***19*** *19:09:38.6±0.4, 37°.28N±0°.02×30°.42E±0°.03, h7km±4km, mb3.5/2, MS3.8/2, Error ellipse: s-maj=4.3km s-min=3.1km az=41.7*

ISC 19 19:09:38.5±1.0**, 37°.29N**±0°.02×**30°.47E**±0°.03**, h9**$^{km}_{\pm 8}$**km, n50**, σ1**32/59, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BCK	**Bucak**	**0.20**	**29**	PG		**Pg**	**Sg**	**19 09 42.4**	**-0.2**
BCK				SG		**Sg**	**Sg**	**19 09 46.9**	**+1.5**
KORT	**Korkueli**	**0.30**	**199**	PG		**Pg**	**Sg**	**19 09 43.6**	**-1.0**
KORT				SG		**Sg**	**Sg**	**19 09 49.6**	**+1.0**
ISP	**Isparta**	**0.54**	**4**	P		**Pg**	**Sb**	**19 09 48.5**	**-0.4**
ISP				S		**Sb**	**Sb**	**19 09 57.5**	**-0.5**
ISP				AML		AML		19 09 59.8	
	comp=E,2635μm,0.3s								
ISP				AML		AML		19 10 00.0	
	comp=N,1623μm,0.4s								
ISP	**Isparta**	**0.54**	**4**	PG		**Pg**	**Pg**	**19 09 48.6**	**-0.3**
ISP				SG		**Sg**	**Sb**	**19 09 58.7**	**+0.7**
ELL	**Elmali**	**0.70**	**220**	PG		**Pg**	**Pg**	**19 09 50.7**	**-1.4**
ELL				SG		**Sg**	**Sg**	**19 10 01.9**	**+0.7**
BASM	**Basmaki-Afyon**	**0.71**	**332**	PG		**Pg**	**Sg**	**19 09 51.3**	**-1.0**
BASM				SG		**Sg**	**Sb**	**19 10 02.4**	**-0.7**
GLHS	**Glhisar (BURDU**	**0.79**	**261**	PG		**Pg**	**Pg**	**19 09 51.9**	**-1.8**
GLHS				SG		**Sg**	**Sg**	**19 10 03.8**	**-0.1**
DENT	**Denizli**	**1.23**	**293**	PN		**Pn**	**Pn**	**19 10 01.3**	**-0.7**
DENT				SN		**Sn**	**Sn**	**19 10 19.3**	**+0.5**
AKAS	**Kas**	**1.26**	**214**	PN		**Pn**	**Pn**	**19 10 02.4**	**-0.1**
SHUT	**Suhut-Afyon**	**1.26**	**3**	PN		**Pg**	**Pg**	**19 10 02.9**	**+0.1**
KHL	**Karahalli**	**1.28**	**324**	PN		**Pg**	**Pg**	**19 10 02.9**	**-0.1**
FETY	**Fethiye**	**1.29**	**240**	PN		**Pn**	**Pn**	**19 10 02.1**	**-0.6**
KSL	**Kastellorizon**	**1.34**	**212**	P		**Pg**	**Pg**	**19 10 04.5**	**+0.3**
KSL				S		**Sg**	**Sg**	**19 10 25.7**	**+4.1**
KSL				AML		AML		19 10 33.9	
	comp=E,1203μm,0.9s								
KSL				AML		AML		19 10 36.1	
	comp=N,650μm,0.4s								
TURN	**Turunc**	**1.55**	**255**	PN		**Pg**	**Pg**	**19 10 10.9**	**+2.7**
KONT	**Konya--Tatoy**	**1.64**	**66**	PN		**Pg**	**Pg**	**19 10 09.1**	**-0.8**
YER	**Yerkesik**	**1.75**	**266**	PN		**Pn**	**Pn**	**19 10 09.7**	**+0.5**
LADK	**Ladik-KONYA**	**1.76**	**58**	PN		**Pb**	**Pb**	**19 10 10.2**	**-0.8**
MRSB	**Marmaris-Mugla**	**1.91**	**253**	PN		**Pn**	**Pn**	**19 10 11.8**	**+0.6**
KIZT	**Kizilcal**	**1.94**	**35**	PN		**Pb**	**Pb**	**19 10 13.3**	**-0.8**
GEDZ	**Gediz**	**1.94**	**335**	PN		**Pb**	**Pb**	**19 10 13.4**	**-0.7**
CIFT	**Ciftceler, Eski**	**2.12**	**12**	PN		**Pb**	**Pb**	**19 10 15.5**	**-1.7**
AYDB	**Zeytinkoy-Aydi**	**2.15**	**289**	PN		**Pn**	**Pn**	**19 10 14.2**	**-0.5**
AUSIV	**SIVRIHISAR**	**2.31**	**21**	PN		**Pb**	**Pb**	**19 10 18.4**	**-2.0**
CHBY	**Cihanbeyli**	**2.31**	**55**	PN		**Pb**	**Pb**	**19 10 18.7**	**-1.7**
DATC	**Datca-Mugla**	**2.31**	**258**	PN		**Pn**	**Pn**	**19 10 17.6**	**+0.9**
DAT	**Datca**	**2.38**	**257**	PN		**Pn**	**Pn**	**19 10 18.6**	**+0.7**
BERE	**Bereket-Mersin**	**2.40**	**112**	PN		**Pb**	**Pb**	**19 10 20.2**	**-1.8**
TEKE	**Tekeli-Mersin**	**2.41**	**118**	PN		**Pb**	**Pb**	**19 10 20.7**	**-1.4**
TEVE	**Tevekalli-Mers**	**2.53**	**109**	PN		**Pb**	**Pb**	**19 10 22.2**	**-2.0**
BODT	**Bodrum**	**2.53**	**266**	PN		**Pn**	**Pn**	**19 10 20.7**	**+0.8**
SULT	**Sultanhani-AKS**	**2.58**	**68**	PN		**Pb**	**Pb**	**19 10 22.9**	**-2.1**
BORA	**Eskisehir**	**2.59**	**360**	PN		**Pn**	**Pn**	**19 10 22.1**	**+1.4**
GCAM	**G?zelcaml?**	**2.61**	**280**	PN		**Pn**	**Pn**	**19 10 21.9**	**+1.1**
KULU	**Kulu**	**2.66**	**48**	PN		**Pb**	**Pb**	**19 10 23.7**	**-2.6**
KEBE	**Keben-Mersin**	**2.73**	**107**	PN		**Pn**	**Pn**	**19 10 24.8**	**+2.2**
SRCK	**Saricakaya, Es**	**2.75**	**2**	PN		**Pn**	**Pn**	**19 10 24.5**	**+1.6**
SMG	**Samos**	**2.92**	**279**	P		**Pn**	**Pn**	**19 10 24.5**	**-0.6**
KARP	**Karpathos**	**3.19**	**238**	P		**Pn**	**Pn**	**19 10 30.4**	**+1.5**
CSS	**Mathiatis**	**3.28**	**134**	P		**Pn**	**Pn**	**19 10 29.2**	**-0.9**
BRTR	**Keskin Array B**	**3.48**	**45**	Pn		**Pn**	**Pn**	**19 10 33.6**	**+0.7**
	comp=N,0.9nm,0.3s,baz=225,slow=13,SNR=17								
BRTR				Sn		**Sn**		**19 11 14.3**	**0.0**
	comp=N,1.7nm,0.3s,baz=214,slow=27,SNR=13								
CHOS	**Chios island**	**3.66**	**289**	P		**Pn**	**Pn**	**19 10 35.3**	**-0.2**
ZKR	**Zakros**	**4.07**	**239**	P		**Pn**	**Pn**	**19 10 42.3**	**+1.4**
NPS	**Neapolis**	**4.42**	**244**	P		**Pn**	**Pn**	**19 10 46.3**	**+0.6**
IDI	**Anoyia**	**4.93**	**248**	Pn		**Pn**	**Pn**	**19 10 53.5**	**+0.6**
	comp=N,1.5nm,0.3s,baz=359,slow=4.7,SNR=11								
IDI				Sn		**Sn**		**19 11 48.2**	**-1.9**
	comp=N,2.2nm,0.3s,baz=252,slow=20,SNR=3.6								
MMAI	**Mount Meron Ar**	**5.87**	**135**	Pn		**Pn**	**Pn**	**19 11 07.3**	**+1.5**
	comp=N,2.5nm,0.3s,baz=316,slow=11,SNR=33								
EIL	**Elat**	**8.47**	**153**	Pn		**Pn**	**Pn**	**19 11 41.7**	**+0.3**
	comp=N,1.0nm,0.3s,baz=336,slow=5.2,SNR=7.2								
HFS	**Hagfors**	**25.25**	**340**	LR		LR	LR	19 25 28.2	
	comp=N,305nm,19.9s,baz=314,slow=38								
MKAR	**Makanchi Array**	**39.01**	**59**	P		**P**	**Pn**	**19 17 06.4**	**+1.1**
	comp=N,0.8nm,0.8s,baz=282,slow=8.5,SNR=4.0								
ZALV	**Zalesovo Beam**	**40.42**	**48**	P		**P**	**Pn**	**19 17 16.9**	**+0.1**
	comp=N,0.4nm,0.3s,baz=253,slow=8.4,SNR=3.0								
TKL	**Tuckaleechee C**	**85.22**	**312**	LR		LR	LR	19 58 43.6	
	comp=N,44nm,20.0s,baz=342,slow=35								

ISCJB ***19*** *19:13:24.0±1.2, 76°.05N±0°.07×8°.4E±0°.3, h10km, mb3.5/1, Error ellipse: s-maj=11.4km s-min=9.5km az=6.3*
BER ***19*** *19:13:24.7±1.3, 75°.94N×7°.75E, h10km, ML1.9, Confirmed Earthquake*
IDC ***19*** *19:13:25.0±1.8, 75°.96N×8°.35E, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.3/45, mbtmp3.7/4, ML2.9/3, Error ellipse: s-maj=29.9km s-min=13.9km az=86.0*
IEPN ***19*** *19:13:25.0, 76°.03N×7°.72E, h15km*

ISC 19 19:13:25.4±1.6**, 76°.05N**±0°.08×**8°.36E**±0°.10**, h10**km**, n13,** σ1§**16/23, 1C-2D, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**1.93**	**57**	*e*P			**Pn**	**19 13 58.1**	**0.0**
HSPB				*e*S			**Sn**	**19 14 22.0**	**-0.4**
HSPB	**Hornsund (broa**	**1.93**	**57**	*e*P			**Pn**	**19 13 58.2**	**+0.1**
HSPB				*e*S			**Sn**	**19 14 22.1**	**-0.4**
HSPB				IAML				19 14 29.4	
	comp=Z,8.4nm,0.4s								
SPA0	**Spitsbergen Ar**	**2.79**	**36**	↓*i*P			**Pn**	**19 14 10.5**	**+0.5**
SPA0				*e*S			**Sn**	**19 14 44.3**	**+0.7**
SPA0	**Spitsbergen Ar**	**2.79**	**36**	*e*P			**Pn**	**19 14 10.3**	**+0.3**
SPA0				*e*S			**Sn**	**19 14 44.4**	**+0.7**
SPA0				IAML				19 14 51.0	
	comp=Z,12nm,0.5s								
SPITS	**Spitsbergen Ar**	**2.79**	**36**	Pn			**Pn**	**19 14 10.5**	**+0.5**
	baz=202,slow=11,SNR=157								
SPITS				Sn			**Sn**	**19 14 44.8**	**+1.2**
	baz=222,slow=23,SNR=5.7								
KBS	**Kingsbay**	**2.99**	**13**	↓*i*P			**Pn**	**19 14 12.0**	**-0.7**
KBS				*e*S			**Sn**	**19 14 46.4**	**-2.2**
KBS	**Kingsbay**	**2.99**	**13**	*e*P			**Pn**	**19 14 11.8**	**-0.9**
KBS				*e*S			**Sn**	**19 14 47.8**	**-0.7**
KBS				IAML				19 14 53.6	
	comp=Z,5.0nm,0.5s								
HOPEN	**Hopen**	**3.99**	**75**	↑*i*P			**Pn**	**19 14 26.7**	**+0.3**
HOPEN				*e*S			**Sn**	**19 15 13.2**	**+0.1**
HOPEN	**Hopen**	**3.99**	**75**	*e*P			**Pn**	**19 14 26.7**	**+0.3**
HOPEN				*e*S			**Sn**	**19 15 12.5**	**-0.5**
HOPEN				IAML				19 15 14.6	
	comp=Z,12nm,0.3s								
ARCES	**ARCESS Array B**	**8.24**	**134**	Pn			**Pn**	**19 15 22.4**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=334,slow=12,SNR=6.4								
ZFI2	**Zemlya Franca-**	**9.00**	**41**	*e*P			**Pn**	**19 15 35.6**	**+0.6**
ZFI2				*e*S			**Sn**	**19 17 13.4**	**-2.8**
	comp=Z,4.6nm,0.7s								
FINES	**FINESS Array B**	**15.88**	**148**	Pn			**Pn**	**19 17 08.3**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=342,slow=13,SNR=3.1								
ILAR	**Eielson Array**	**38.54**	**343**	P			**P**	**19 20 48.9**	**+1.5**
	comp=Z,0.9nm,1.0s,baz=1.7,slow=6.4,SNR=6.1								

IDC ***19*** *19:28:39.7±0.3, 27°.53N×67°.51E, h0km, mb5.1/43, mb1 5.1/45, mb1mx5.1/52, mbtmp5.1/45, ML4.3/2, MS4.7/35, Ms1 4.7/35, ms1mx4.7/39, Error ellipse: s-maj=10.1km s-min=8.6km az=13.0*
ISCJB ***19*** *19:28:39.1±0.1, 27°.46N±0°.02×67°.45E±0°.01, h9km, mb5.4/199, MS4.9/87, Error ellipse: s-maj=2.8km s-min=1.8km az=10.4*
BJI ***19*** *19:28:40.2±0.0, 27°.58N×67°.63E, h7km, mb5.3/76, mB5.7/59,

ASHO	**Ashiyiah**	**10.65**	**257**	P		**Pn**	**19 31 13.6**	**-0.1**
	SNR=63							
POO	**Poona**	**10.70**	**145**	⇓*i*P		**Pn**	**19 31 12.0**	**-2.5**
	20nm,1.0s							
POO				*i* x		x	19 33 37.6	
POO				*ex*		x	19 37 04.4	
POO				*ex*		x	19 37 04.4	
POO				*ex*		x	19 40 37.4	
NAZ	**Nazwa, Dubai**	**10.90**	**259**	*i* P		**Pn**	**19 31 16.8**	**-0.3**
	SNR=89							
NAZ	**Nazwa, Dubai**	**10.90**	**259**	*i* Pn		**Pn**	**19 31 16.8**	**-0.3**
	SNR=89							
FAQ	**Al Faqa, Dubai**	**11.03**	**258**	*e*P		**Pn**	**19 31 18.4**	**-0.5**
	SNR=25							
FAQ	**Al Faqa, Dubai**	**11.03**	**258**	*e*Pn		**Pn**	**19 31 18.4**	**-0.5**
	SNR=25							
ALNE	**Al Ain**	**11.12**	**255**	*i* P		**Pn**	**19 31 19.7**	**-0.4**
	SNR=23							
ALNE	**Al Ain**	**11.12**	**255**	*i* Pn		**Pn**	**19 31 19.7**	**-0.4**
	SNR=23							
CHGR	**Chuyangaron**	**11.19**	**7**			**Pn**	**19 31 20.0**	**-1.1**
ASUD	**Al Ashush, Dub**	**11.29**	**258**	*i* P		**Pn**	**19 31 22.4**	**-0.1**
	SNR=17							
ASUD	**Al Ashush, Dub**	**11.29**	**258**	*i* Pn		**Pn**	**19 31 22.4**	**-0.1**
	SNR=17							
ASUD	**Al Ashush, Dub**	**11.29**	**258**	P		**Pn**	**19 31 24.5**	**+2.0**
	SNR=29							
LGTI	**Lohaghat**	**11.40**	**77**	*e*P		**Pn**	**19 31 19.9**	**-4.0**
LGTI				*ex*		x	19 33 22.7	
LGTI				*ex*		x	19 34 39.9	
GAR	**Garm**	**11.69**	**11**			**Pn**	**19 31 26.7**	**-1.2**
KAD	**Karad**	**11.91**	**147**	*ex*		**Pn**	**19 31 29.8**	**-1.2**
KAD				*ex*		x	19 33 35.0	
JBP	**Jabalpur**	**12.11**	**108**	⇓*e*P		**Pn**	**19 31 31.3**	**-2.3**
JBP					AMB	AMB	19 31 36.6	
	comp=Z,283nm,1.0s							
JBP				*ex*		x	19 33 39.7	
NGP	**Nagpur**	**12.31**	**119**	*e*P		**Pn**	**19 31 34.9**	**-1.5**
NGP				*ex*		x	19 33 43.4	
BTK	**Batken**	**12.80**	**12**	P		**Pn**	**19 31 42.5**	**-0.7**
BTK	**Batken**	**12.80**	**12**			**Pn**	**19 31 42.5**	**-0.7**
ASHT	**Ashkhabad**	**12.89**	**326**	P		**Pn**	**19 31 46.3**	**+2.0**
ASHT	**Ashkhabad**	**12.89**	**326**	Pn		**Pn**	**19 31 46.3**	**+2.0**
GEYT	**Alibeck**	**13.02**	**325**	Pn		**Pn**	**19 31 47.5**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=139,slow=9.2,SNR=51							
GEYT					LR	LR	19 36 42.9	
	comp=Z,3μm,19.6s,baz=115,slow=37							
GYA0B	**ALIBECK ARRAY**	**13.02**	**325**			**Pn**	**19 31 46.9**	**+0.8**
TAS	**Tashkent**	**13.85**	**6**	P		**Pn**	**19 31 56.7**	**-0.7**
TAS	**Tashkent**	**13.85**	**6**			**Pn**	**19 31 56.6**	**-0.7**
KSH	**Kashi**	**13.89**	**28**	P		Pn	19 31 52.0	-6.0
KSH				PP		**PnPn**	**19 32 05.3**	**-0.8**
KSH				S		Sn	19 34 21.3	-11
KSH				SS		**SnSn**	**19 34 40.8**	**-3.9**
KSH				pmax	pmax			
	comp=Z,240nm,0.8s							
KSH				LR	LR			
	comp=Z,33μm,11.2s							
KSH				LR	LR			
	comp=Z,30μm,10.2s							
KSH				LR	LR			
	comp=Z,9μm,15.6s							
KOLN	**Koldanda**	**14.29**	**85**	*e*P		**Pn**	**19 32 00.1**	**-3.6**
	comp=Z,2μm,1.3s							
HYB	**Hyderabad**	**14.34**	**132**	*i* P		**Pn**	**19 32 02.0**	**-2.3**
HYB				*e*S		**Sn**	**19 34 48.0**	**+4.8**
ARSB	**Arslanbob**	**14.49**	**17**			**Pn**	**19 32 03.1**	**-3.2**
DMTO	**DMTO**	**15.12**	**232**	P		**Pn**	**19 32 14.9**	**+0.1**
	SNR=25							
GKN	**Gorkha**	**15.20**	**84**	*e*P		**Pn**	**19 32 10.8**	**-5.2**
AML	**Almayashu**	**15.43**	**18**	P		**Pn**	**19 32 15.9**	**-3.2**
	SNR=120							
NRN	**Naryn**	**15.54**	**25**	P		**Pn**	**19 32 16.0**	**-4.5**
NRN				pmax	pmax			
	comp=Z,99nm,0.8s							
NRN	**Naryn**	**15.54**	**25**	Pn		**Pn**	**19 32 16.0**	**-4.5**
DMN	**Daman**	**15.64**	**86**	*e*P		**Pn**	**19 32 16.9**	**-4.8**
	comp=Z,3μm,1.5s							
KK31	**Karatay Array**	**15.74**	**8**	P		**Pn**	**19 32 20.1**	**-2.6**
KK31				pmax	pmax			
	comp=Z,62nm,0.8s							
KK31	**Karatay Array**	**15.74**	**8**			**Pn**	**19 32 20.1**	**-2.6**
KKAR	**Karatay Array**	**15.74**	**8**	P		**Pn**	**19 32 20.0**	**-2.7**
KKAR				pmax	pmax			
	comp=Z,62nm,0.8s							
KKAR	**Karatay Array**	**15.74**	**8**			**Pn**	**19 32 20.0**	**-2.7**
UCH	**Uchtor**	**15.75**	**20**	P		**Pn**	**19 32 19.7**	**-3.7**
	SNR=64							
KKN	**Kakani**	**15.78**	**85**	*e*P		**Pn**	**19 32 18.2**	**-5.4**
	comp=Z,985nm,1.4s							
RBK	**Rabkut**	**15.79**	**234**	P		**Pn**	**19 32 22.6**	**-1.0**
	SNR=41							
RBK				P		**Pn**	**19 32 22.6**	**-1.0**
	SNR=41							
WHFO	**Wadi Hawf**	**15.84**	**236**	P		**Pn**	**19 32 23.8**	**-0.4**
	SNR=46							
KZA	**Kyzart**	**15.85**	**22**	P		**Pn**	**19 32 21.1**	**-3.5**
	SNR=19							
PKIN	**Phulchoki**	**15.90**	**86**	*e*P		**Pn**	**19 32 19.9**	**-5.2**
	comp=Z,2μm,1.6s							
PKI	**Pulchoki**	**15.91**	**86**	*e*P		**Pn**	**19 32 20.1**	**-5.2**
	comp=Z,308nm,1.4s							
EKS2	**Erkin-Say**	**15.95**	**17**	P		**Pn**	**19 32 23.4**	**-2.2**
	SNR=42							
AAK	**Ala-Archa**	**16.12**	**19***c*	*i*P		**Pn**	**19 32 24.9**	**-2.9**
AAK				pmax	pmax			
	comp=Z,187nm,1.7s							
AAK	**Ala-Archa**	**16.12**	**19**	Pn		**Pn**	**19 32 25.1**	**-2.7**
	comp=Z,2.8nm,0.3s,baz=188,slow=5.8,SNR=75							
AAK					Sn	**Sn**	**19 35 16.2**	**-10**
	comp=Z,0.8nm,0.3s,baz=168,slow=16,SNR=4.4							
AAK					LR	LR	19 39 46.2	
	comp=Z,6μm,18.6s,baz=200,slow=41							
AAK	**Ala-Archa**	**16.12**	**19**	P		**Pn**	**19 32 25.2**	**-2.7**
	SNR=53							
AAK	**Ala-Archa**	**16.12**	**19**			**Pn**	**19 32 24.9**	**-2.9**
KBK	**Karagaybulak**	**16.27**	**20**	P		**Pn**	**19 32 27.9**	**-1.9**
	SNR=37							
GUN	**Gumba**	**16.30**	**84**	*e*P		**Pn**	**19 32 25.4**	**-5.0**
	comp=Z,2μm,1.1s							
FRU1	**Bishkek**	**16.32**	**19**	P		**Pn**	**19 32 28.3**	**-2.0**
FRU1				pmax	pmax			
	comp=Z,494nm,1.9s							
FRU1	**Bishkek**	**16.32**	**19**	P		**Pn**	**19 32 28.3**	**-2.0**
ULHL	**Ulahol**	**16.34**	**24**	P		**P**	**19 32 34.3**	**+0.8**
	SNR=7.9							
TARG	**Taragay, Kyrgy**	**16.50**	**28**	P		**Pn**	**19 32 32.1**	**-0.9**
CHMS	**Chumysh**	**16.53**	**19**	P		**Pn**	**19 32 29.9**	**-3.0**
	SNR=47							
ABTO	**Aybut**	**16.55**	**235**	P		**Pn**	**19 32 31.0**	**-2.3**
	SNR=49							
KDJ	**Kajisay**	**16.59**	**26**	P		**Pn**	**19 32 31.3**	**-2.5**
KDJ				pmax	pmax			
	comp=Z,366nm,1.4s							
KDJ	**Kajisay**	**16.59**	**26**	P		**Pn**	**19 32 31.3**	**-2.5**
JIRN	**Jiri**	**16.59**	**85**	*e*P		**Pn**	**19 32 29.1**	**-5.0**
USP	**Ospenovka**	**16.71**	**18**	P		**Pn**	**19 32 32.3**	**-2.8**
	SNR=12							
TKM2	**Tokmak 2**	**16.72**	**21**	P		**Pn**	**19 32 32.1**	**-3.4**
TKM2				pmax	pmax			
	comp=Z,166nm,1.5s							
TKM2	**Tokmak 2**	**16.72**	**21**	P		**Pn**	**19 32 33.4**	**-2.1**
	SNR=16							
RAMN	**Ramite**	**17.02**	**88**	*e*P		**Pn**	**19 32 34.4**	**-5.0**
	comp=Z,990nm,0.7s							
PRZ	**Przheval'sk**	**17.38**	**28**	P		**P**	**19 32 44.4**	**-0.6**
PRZ				pmax	pmax			
	comp=Z,1μm,1.8s							
PRZ	**Przheval'sk**	**17.38**	**28**	P		**P**	**19 32 44.4**	**-0.6**
PRZ				IAmb	IAmb		19 32 50.2	
	comp=Z,1μm,1.8s							
AAA	**Alma-Ata**	**17.42**	**24**	*e*P		**Pn**	**19 32 42.7**	**-1.4**
AAA				*e*S		**Sn**	**19 35 52.2**	**-5.5**
AAA				pmax	pmax			
	comp=Z,2μm,3.3s							
AAA				smax	smax			
	comp=N,2μm,6.9s							
AAA				MLR	MLR			
	comp=Z,5μm,14.0s							
VIS	**Vishakhapatnam**	**17.57**	**120**	*i* P		**Pn**	**19 32 44.7**	**-1.3**
VIS				*i* x		x	19 35 53.1	
VIS				*ex*		x	19 35 56.6	
	comp=N,349nm,1.1s							
ODAN	**Odare**	**17.73**	**88**	*e*P		**Pn**	**19 32 44.0**	**-4.2**
	comp=N,742nm,0.9s							
TAPN	**Taplejung**	**17.96**	**86**	*e*P		**Pn**	**19 32 46.7**	**-4.5**
	comp=N,5μm,1.6s							
BWNR	**Bhubaneshwar**	**18.23**	**109**	*e*P		**Pn**	**19 32 52.4**	**-1.7**
BWNR					IAmb	IAmb	19 32 57.2	
	comp=Z,61nm,0.8s							
BWNR				*ex*		x	19 37 53.8	
PDGK	**Podgornoye**	**18.53**	**29**	P		**P**	**19 32 55.5**	**-2.1**
PDGK				pmax	pmax			
	comp=Z,213nm,1.4s							
MDRS	**Chennai**	**18.69**	**138**	⇓*i*P		**P**	**19 32 58.9**	**-0.6**
MDRS					IAmb	IAmb	19 33 03.3	
	comp=Z,216nm,0.6s							
MDRS				*e*S		**S**	**19 36 30.9**	**-1.1**
GTK	**Tadong**	**18.76**	**86**	*e*P		**P**	**19 32 58.1**	**-2.2**
GTK					IAmb	IAmb	19 33 04.2	
	comp=Z,323nm,1.1s							
GTK				*ex*		x	19 36 14.1	
SOCY	**Socotra**	**19.82**	**222**	P		**P**	**19 33 09.1**	**-2.8**
	SNR=6.3							
SOCY	**Socotra**	**19.82**	**222**	P		**P**	**19 33 09.5**	**-2.3**
MNCI	**Minicoy**	**19.86**	**164**	P		**P**	**19 33 10.5**	**-1.7**
MNCI					IAmb	IAmb	19 33 34.7	
	comp=Z,391nm,1.3s							
RAYN	**Ar Rayn**	**20.22**	**264**	*i* P		**P**	**19 33 15.8**	**-0.5**
	SNR=58							
RAYN	**Ar Rayn**	**20.22**	**264**	*i* P		**P**	**19 33 15.8**	**-0.5**
	SNR=58							
RAYN	**Ar Rayn**	**20.22**	**264**	P		**P**	**19 33 16.2**	**0.0**
RAYN				pmax	pmax			
	comp=Z,684nm,1.8s							
RAYN	**Ar Rayn**	**20.22**	**264**	P		**P**	**19 33 16.2**	**0.0**
RAYN					IAmb	IAmb	19 33 18.4	
	comp=Z,684nm,1.8s							
LSA	**Lhasa**	**20.89**	**78**	*i* P		**P**	**19 33 24.8**	**+0.9**
	SNR=58							
LSA	**Lhasa**	**20.89**	**78**	*i* P		**P**	**19 33 24.8**	**+0.9**
	SNR=58							
LSA	**Lhasa**	**20.89**	**78**	P		**P**	**19 33 24.8**	**+0.9**
LSA				pmax	pmax			
	comp=Z,303nm,1.1s							
LSA				MLR	MLR			
	comp=Z,7μm,20.0s							
LSA	**Lhasa**	**20.89**	**78**	P		**P**	**19 33 24.8**	**+0.9**
LSA				IAmb	IAmb	IAmb	19 33 41.3	
	comp=Z,303nm,1.1s							
LSA				IAMs_20	IAMs_20	IAMs_20	19 42 32.9	
	comp=Z,7μm,20.0s							
TRD	**Trivandrum**	**20.93**	**153**	⇑*i*P		**P**	**19 33 23.6**	**-0.3**
TRD					IAmb	IAmb	19 33 30.9	
	comp=Z,267nm,1.1s							
TRD				*e*S		Sn	19 37 20.7	-2.1
AKT	**Akhty**	**21.35**	**316**	⇑*i*P		**P**	**19 33 28.8**	**+0.5**
AKT				*e*			19 33 49.7	
AKT				*e*S		Sn	19 37 29.3	-3.3
AKT				*e*SS		**SnSn**	**19 37 55.2**	**+7.4**
AKT				pmax	pmax			
	comp=Z,353nm,1.0s							
SHL	**Shillong**	**21.91**	**90**	P		**P**	**19 33 34.3**	**-0.3**
SHL				pmax	pmax			
	comp=Z,2μm,1.7s							
SHL				MLR	MLR			
	comp=Z,6μm,18.0s							
SHL	**Shillong**	**21.91**	**90**	*ex*		**P**	**19 33 36.0**	**+1.4**
SHL				*i* x		x	19 37 28.0	
SHL	**Shillong**	**21.91**	**90**	P		**P**	**19 33 34.3**	**-0.3**
SHL				IAMs_20	IAMs_20	IAMs_20	19 43 29.1	
	comp=Z,6μm,18.0s							
CUKT	**Cukurca**	**22.32**	**302**	P		**P**	**19 33 38.9**	**+0.1**
MAK	**Makhachkala**	**22.35**	**319**	*e*P		**P**	**19 33 37.1**	**-1.8**
MAK				*e*S		**S**	**19 37 43.2**	**-0.9**
MAK				*e*SS		**SnSn**	**19 38 13.4**	**+1.3**
MAK				pmax	pmax			
	comp=Z,388nm,1.5s							
MAK				MLR	MLR			
	comp=Z,2μm,15.0s							
MAKZ	**Makanchi**	**22.38**	**27**	P		**P**	**19 33 39.0**	**-0.3**
MAKZ				pmax	pmax			
	comp=Z,560nm,1.4s							
MAKZ	**Makanchi**	**22.38**	**27**	P		**P**	**19 33 39.0**	**-0.3**
AB31	**Akbulak array**	**22.46**	**347**	*i* P		**P**	**19 33 40.6**	**+0.5**
AB31				pmax	pmax			
	comp=Z,211nm,0.9s							
ABKAR	**Akbulak array**	**22.46**	**347**	P		**P**	**19 33 40.8**	**+0.7**
ABKAR				IAmb	IAmb		19 33 44.0	
	comp=Z,254nm,1.0s							
MK31	**Makanchi Array**	**22.50**	**27**	P		**P**	**19 33 40.0**	**-0.5**
MK31				pmax	pmax			
	comp=Z,147nm,1.1s							
MK31	**Makanchi Array**	**22.50**	**27**	P		**P**	**19 33 40.0**	**-0.5**
MKAR	**Makanchi Array**	**22.50**	**27**	*i* P		**P**	**19 33 40.4**	**-0.1**
MKAR				pmax	pmax			
	comp=Z,38nm,0.6s							
MKAR	**Makanchi Array**	**22.50**	**27**	P		**P**	**19 33 39.8**	**-0.7**
	comp=Z,38nm,0.6s,baz=203,slow=11,SNR=187							
MKAR					LR	LR	19 44 31.2	
	comp=Z,5μm,18.1s,baz=224,slow=42							
GNI	**Garni**	**22.62**	**310**	*i* P		**P**	**19 33 42.4**	**+0.3**
	SNR=30							
GNI	**Garni**	**22.62**	**310**	*i* P		**P**	**19 33 42.4**	**+0.3**
	SNR=30							
GNI	**Garni**	**22.62**	**310***c*	*i*P		**P**	**19 33 43.1**	**+1.0**
GNI				pmax	pmax			
	comp=Z,662nm,1.3s							
GNI				MLR	MLR			
	comp=Z,6μm,17.0s							
GNI	**Garni**	**22.62**	**310**	P		**P**	**19 33 43.2**	**+1.2**
	comp=Z,158nm,1.0s,baz=155,slow=2.3,SNR=33							
GNI					LR	LR	19 43 59.6	
	comp=Z,2μm,18.9s,baz=116,slow=41							
GNI	**Garni**	**22.62**	**310**	P		**P**	**19 33 43.5**	**+1.4**
GNI	**Garni**	**22.62**	**310**	P		**P**	**19 33 42.6**	**+0.5**
GNI					IAmb	IAmb	19 33 48.3	
	comp=Z,190nm,1.0s							
CLDR	**Caldiran**	**22.77**	**307**	P		**P**	**19 33 44.4**	**+0.7**
TASB	**TASBURUN-IGDIR**	**22.90**	**309**	P		**P**	**19 33 45.8**	**+0.9**
VANB	**Van**	**22.94**	**305**	P		**P**	**19 33 46.1**	**+0.7**
WMQ	**Urumqi**	**23.02**	**40**	*e*P		**P**	**19 33 47.0**	**+0.9**
WMQ				pP		pP	19 33 50.3	-0.1
WMQ				sP		sP	19 33 55.3	+3.0
WMQ				S		**S**	**19 37 55.4**	**-0.8**
WMQ				pmax	pmax			
	comp=Z,120nm,1.7s							
WMQ				pmax	pmax			
	comp=Z,3μm,4.1s							
WMQ				LR	LR			
	comp=Z,5μm,12.5s							
WMQ				LR	LR			
	comp=Z,4μm,14.9s							
WMQ	**Urumqi**	**23.02**	**40**	P		**P**	**19 33 46.8**	**+0.8**
WMQ				pmax	pmax			
	comp=Z,295nm,1.3s							
WMQ	**Urumqi**	**23.02**	**40**	P		**P**	**19 33 46.9**	**+0.8**
WMQ				IAmb	IAmb		19 34 09.0	
	comp=Z,295nm,1.3s							
AKDM	**Akdamar-Van**	**23.15**	**304**	P		**P**	**19 33 48.9**	**+1.3**
SIRT	**Sirnak**	**23.28**	**302**	P		**P**	**19 33 49.3**	**+0.5**
ZIRO	**ZIRO**	**23.38**	**84**	*e*P		**P**	**19 33 48.3**	**-1.7**
TBLG	**Delisi**	**23.38**	**313**	P		**P**	**19 33 49.6**	**-0.1**
TBLG				pmax	pmax			
	comp=Z,327nm,1.7s							
TBLG	**Delisi**	**23.38**	**313**	P		**P**	**19 33 49.1**	**-0.6**
TBLG	**Delisi**	**23.38**	**313**	P		**P**	**19 33 49.6**	**-0.1**
TBLG				IAmb	IAmb		19 33 52.8	
	comp=Z,327nm,1.7s							
GROC	**Groznyy**	**23.51**	**317**	*e*P		**P**	**19 33 51.7**	**+0.8**
GROC				*e*			19 34 18.7	
GROC				pmax	pmax			
	comp=Z,262nm,1.3s							
AGRB	**Hanur-Agry**	**23.60**	**307**	P		**P**	**19 33 53.8**	**+1.7**
PALK	**Pallekele**	**23.73**	**146**	*i* P		**P**	**19 33 52.3**	**-1.0**
	SNR=9.9							
PALK	**Pallekele**	**23.73**	**146**	*i* P		**P**	**19 33 52.3**	**-1.0**
	SNR=9.9							
PALK	**Pallekele**	**23.73**	**146**	P		**P**	**19 33 54.2**	**+0.9**
PALK				pmax	pmax			
	comp=Z,151nm,1.3s							
PALK				MLR	MLR			
	comp=Z,4μm,19.0s							
PALK	**Pallekele**	**23.73**	**146**	P		**P**	**19 33 53.9**	**+0.5**
	comp=Z,24nm,0.9s,baz=321,slow=14,SNR=13							
PALK					LR	LR	19 43 26.7	
	comp=Z,3μm,19.0s,baz=321,slow=37							
PALK	**Pallekele**	**23.73**	**146**	P		**P**	**19 33 54.2**	**+0.9**
PALK				IAmb	IAmb	IAmb	19 34 03.6	
	comp=Z,151nm,1.2s							
PALK	**Pallekele**	**23.73**	**146**	IAMs_20	IAMs_20		19 43 16.4	
	comp=Z,4μm,19.0s							
MLAZ	**Malazgirt-MUS**	**23.75**	**306**	P		**P**	**19 33 55.4**	**+1.8**
KOHI	**KOHIMA**	**23.86**	**88**	*e*P		**P**	**19 33 55.2**	**+0.5**
KOHI				IAmb	IAmb		19 34 07.5	
	comp=Z,553nm,0.9s							
KOHI				*ex*		x	19 38 14.2	
GURO	**Guroymak-BITLI**	**23.92**	**304**	P		**P**	**19 33 56.6**	**+1.4**
KARS	**Kars**	**23.97**	**309**	P		**P**	**19 33 57.4**	**+1.8**
AKTO	**Aktyubinsk**	**23.99**	**345**	P		**P**	**19 33 55.9**	**+0.4**
AKTO				pmax	pmax			
	comp=Z,133nm,1.0s							
AKTO	**Aktyubinsk**	**23.99**	**345**	P		**P**	**19 33 56.0**	**+0.5**
	comp=Z,52nm,0.7s,baz=160,slow=10,SNR=106							
AKTO				LR		LR	19 44 12.1	
	comp=Z,2μm,18.5s,baz=159,slow=39							
AKH	**Akhalkalaki**	**24.04**	**311**	P		**P**	**19 33 57.0**	**+0.7**
AKH				pmax	pmax			
	comp=Z,367nm,1.6s							
AKH	**Akhalkalaki**	**24.04**	**311**	⇑P		**P**	**19 33 57.1**	**+0.8**
AKH	**Akhalkalaki**	**24.04**	**311**	P		**P**	**19 33 58.2**	**+1.9**
AKH	**Akhalkalaki**	**24.04**	**311**	P		**P**	**19 33 57.0**	**+0.7**
AKH				IAmb	IAmb		19 34 01.6	
	comp=Z,368nm,1.6s							
SIMRM	**Sittwe**	**24.35**	**102**	P		**P**	**19 34 00.6**	**+1.5**
SVAN	**Silvan-Diyarba**	**24.41**	**302**	P		**P**	**19 34 00.5**	**+0.9**
SENK	**Senkaya-Erzuru**	**24.45**	**309**	P		**P**	**19 34 02.1**	**+2.0**
VRTB	**Varto-Mus**	**24.55**	**305**	P		**P**	**19 34 04.2**	**+3.2**
KURBB	**Kurchatov Arra**	**24.55**	**17**	P		**P**	**19 34 00.8**	**+0.1**
	comp=Z,95nm,0.7s,baz=210,slow=8.8,SNR=401							
KOPR	**Koprukoy-ERZUR**	**24.57**	**307**	P		**P**	**19 34 03.2**	**+2.0**
ONI	**Oni**	**24.64**	**314**	P		**P**	**19 34 03.3**	**+1.7**
KURK	**Kurchatov**	**24.66**	**17***c*	*i*P		**P**	**19 34 01.9**	**+0.3**
KURK				pmax	pmax			
	comp=Z,458nm,1.7s							
KURK				MLR	MLR			
	comp=Z,3μm,18.0s							
KURK	**Kurchatov**	**24.66**	**17**	P		**P**	**19 34 01.7**	**+0.1**
KURK				IAmb	IAmb		19 34 06.0	
	comp=Z,210nm,0.9s							
MAZI	**Mazidag**	**24.78**	**300**	P		**P**	**19 34 03.4**	**+0.3**
KARO	**Karliova-Bingo**	**24.90**	**305**	P		**P**	**19 34 05.9**	**+1.7**
NCK	**Nalchik**	**25.01**	**316**	⇑*e*P		**P**	**19 34 06.2**	**+1.3**
NCK				pmax	pmax			
	comp=Z,138nm,1.5s							
DAMY	**Dhamar**	**25.05**	**244**	P		**P**	**19 34 07.9**	**+2.1**
BNGB	**Bingl**	**25.07**	**304**	P		**P**	**19 34 07.1**	**+1.5**
DYBB	**Diyarbakir**	**25.15**	**301**	P		**P**	**19 34 07.5**	**+1.2**
NEY	**Neytrino**	**25.43**	**315**	⇓*e*P		**P**	**19 34 11.6**	**+2.7**
NEY				pmax	pmax			
	comp=Z,12nm,0.7s							
KBZ	**Khabaz**	**25.56**	**316**	P		**P**	**19 34 11.1**	**+1.2**
	comp=Z,28nm,0.8s,baz=103,slow=8.8,SNR=40							
BVAR	**Borovoye Array**	**25.56**	**4**	P		**P**	**19 34 10.9**	**+1.1**
	comp=Z,72nm,0.7s,baz=170,slow=9.0,SNR=228							
BRVK	**Borovoye**	**25.59**	**4***c*	*i*P		**P**	**19 34 11.2**	**+1.2**
BRVK				pmax	pmax			
	comp=Z,229nm,1.5s							
BRVK	**Borovoye**	**25.59**	**4**	P		**P**	**19 34 11.0**	**+1.0**
CHOM	**Cayeli-Rize**	**25.77**	**309**	P		**P**	**19 34 17.6**	**+5.8**
KIV	**Kislovodsk**	**25.81**	**316**	*i* P		**P**	**19 34 13.3**	**+1.0**
	SNR=20							
KIV	**Kislovodsk**	**25.81**	**316**	*i* P		**P**	**19 34 13.3**	**+1.0**
	SNR=20							
KIV	**Kislovodsk**	**25.81**	**316**	*e*P		**P**	**19 34 13.4**	**+1.1**
KIV				*e*S		**S**	**19 38 43.9**	**+2.6**
KIV				pmax	pmax			
	comp=Z,972nm,4.7s							
KIV				pmax	pmax			
	comp=Z,230nm,1.0s							
KIV				MLR	MLR			
	comp=Z,1μm,15.0s							
KIV	**Kislovodsk**	**25.81**	**316**	⇓P		**P**	**19 34 14.0**	**+1.8**
KIV	**Kislovodsk**	**25.81**	**316**	P		**P**	**19 34 12.9**	**+0.6**
URFA	**Urfa**	**26.03**	**300**	P		**P**	**19 34 15.5**	**+1.2**
GOF	**Gofitskoye**	**26.19**	**318**	⇑*e*P		**P**	**19 34 16.3**	**+0.8**
GOF				pmax	pmax			
	comp=Z,112nm,1.8s							
MALT	**Malatya**	**26.55**	**301**	P		**P**	**19 34 20.5**	**+1.5**
GAZ	**Gaziantep**	**27.22**	**298**	P		**P**	**19 34 26.3**	**+1.2**
GAZ	**Gaziantep**	**27.22**	**298**	P		**P**	**19 34 25.6**	**+0.6**
GAZ				IAmb	IAmb		19 34 34.5	
	comp=Z,157nm,1.5s							
DARE	**Darende-Malaty**	**27.33**	**301**	P		**P**	**19 34 26.9**	**+0.8**
SOC	**Sochi**	**27.52**	**313**	*e*P		**P**	**19 34 27.5**	**0.0**
SOC				*e*PPP		PPP	19 35 21.7	
SOC				*e*S		**S**	**19 39 10.6**	**+2.6**
SOC				*e*SS		**SnSn**	**19 40 18.0**	**-0.4**
SOC				*e*SSS		SSS	19 40 34.1	
SOC				pmax	pmax			
	comp=Z,59nm,0.8s							
SOC				MLR	MLR			
	comp=Z,1μm,20.0s							
KMRS	**Kahramanmaras**	**27.53**	**299**	P		**P**	**19 34 28.8**	**+1.0**
JDRJ	**Daraweish**	**27.92**	**284**	P		**P**	**19 34 32.5**	**+1.0**
	comp=Z,66nm,0.9s							
KSDI	**Kefar Szold**	**27.96**	**289**	P		**P**	**19 34 33.4**	**+1.8**
	comp=Z,50nm,1.3s							
RSDY	**Resadiye-TOKAT**	**27.96**	**305**	P		**P**	**19 34 34.3**	**+2.7**
ATD	**

ANN eS S 19 39 37.9 -1.6
ANN eSS SnSn 19 41 13.0 +5.6
ANN eSSS SSS 19 41 39.4
ANN pmax pmax
comp=Z,35nm,1.3s
ARU Arti 29.58 350 *c iP* **P 19 34 46.9 +1.2**
ARU 19 35 36.8
ARU S S **19 39 43.4 +3.2**
ARU SS SnSn **19 41 12.2 +3.7**
ARU pmax pmax
comp=Z,122nm,1.6s
ARU MLR MLR
comp=Z,1μm,17.0s
ARU Arti 29.58 350 P P **19 34 46.9 +1.2**
comp=Z,12nm,1.0s,baz=158,slow=6.6,SNR=39
ARU PcP **PcP 19 37 52.0 +1.7**
comp=Z,2.3nm,0.6s,baz=355,slow=12,SNR=4.1
ARU LR LR 19 48 06.1
comp=Z,1μm,21.3s,baz=158,slow=39
ARU Arti 29.58 350 P P **19 34 46.8 +1.0**
ARU IAmb IAmb 19 34 48.5
comp=Z,142nm,1.5s
SILI Silifke-Mersin 29.69 296 P P **19 34 47.5 +0.6**
SVE Sverdlovsk 29.69 352 *de*P P **19 34 47.8 +1.1**
SVE eS S **19 39 41.8 0.0**
SVE pmax pmax
comp=Z,102nm,1.6s
SVE MLR MLR
comp=Z,3μm,11.0s
DIKM Dikmen 29.84 307 P P **19 34 47.4 -0.8**
KEBE Keben-Mersin 29.87 296 P P **19 34 49.6 +1.0**
CSS Mathiatis 30.02 293 P P **19 34 48.9 -1.0**
CSS Mathiatis 30.02 293 P P **19 34 49.8 -0.1**
CSS IAms_20 IAms_20 19 48 15.0
comp=Z,3μm,22.0s
TEVE Tevekalti-Mers 30.08 296 P P **19 34 50.8 +0.3**
CHTO Chiang Mai 30.13 100 P P **19 34 50.7 -0.3**
CHTO pmax pmax
comp=Z,274nm,1.6s
CHTO MLR MLR
comp=Z,2μm,22.0s
CHTO Chiang Mai 30.13 100 P P **19 34 50.7 -0.3**
CHTO Chiang Mai 30.13 100 IAms_20 IAms_20 19 48 08.6
comp=Z,2μm,22.0s
CMMT Chiang Mai 30.14 100 P P **19 34 51.2 +0.1**
comp=Z,56nm,1.4s,comp=Z,891nm
BERE Bereket-Mersin 30.25 296 P P **19 34 52.7 +0.6**
CM31 Chiang Mai Arr 30.27 101 P P **19 34 52.6 +0.3**
CM31 IAmb IAmb 19 34 56.2
comp=Z,159nm,1.4s
CMAR Chiang Mai Arr 30.27 101 *i* P P **19 34 52.9 +0.6**
CMAR pmax pmax
comp=Z,23nm,1.0s
CMAR Chiang Mai Arr 30.27 101 P P **19 34 52.2 0.0**
comp=Z,25nm,1.0s,baz=299,slow=7.5,SNR=42
CMAR PcP **PcP 19 37 54.2 +1.4**
comp=Z,9.9nm,0.9s,baz=290,slow=4.7,SNR=6.7
CMAR LR LR 19 49 37.9
comp=Z,2μm,20.0s,baz=285,slow=42
SULT Sultanhani-AKS 30.30 299 P P **19 34 53.5 +1.1**
TEKE Tekeli-Mersin 30.31 295 P P **19 34 52.8 +0.4**
LEF Lefka 30.39 293 P P **19 34 53.3 +0.2**
SERE Sereflikochisa 30.40 301 P P **19 34 53.3 -0.1**
BR131 Keskin Array S 30.51 302 P P **19 34 53.4 -1.0**
BR131 19 37 53.7
BR131 pmax pmax
comp=Z,37nm,1.8s
BR131 Keskin Array S 30.51 302 P P **19 34 53.4 -1.0**
BR131 PcP **PcP 19 37 53.6 +0.4**
BRTR Keskin Array B 30.51 302 *i* P P **19 34 54.2 -0.2**
BRTR Keskin Array B 30.51 302 P P **19 34 53.6 -0.8**
comp=Z,2.9nm,0.7s,baz=110,slow=7.1,SNR=22
BRTR PcP **PcP 19 37 54.4 +1.1**
comp=Z,5.4nm,0.8s,baz=126,slow=6.3,SNR=6.9
BRTR LR LR 19 49 02.3
comp=Z,954nm,20.6s,baz=94,slow=40
BRTR Keskin Array B 30.51 302 P P **19 34 54.2 -0.2**
VRH Novokhopyorsk 30.62 328 *eP* P **19 34 55.3 +0.3**
VRH pmax pmax
comp=Z,140nm,1.3s
VRH MLR MLR
comp=Z,1μm,10.0s
CANT Cankiri 30.74 304 P P **19 34 56.8 +0.5**
ILGA Ilgaz 30.78 305 P P **19 34 56.5 -0.3**
ILGA IAMs_20 IAMs_20 19 49 10.1
comp=Z,3μm,18.0s
LAMP Lampang 30.85 100 P P **19 34 58.3 +0.9**
comp=Z,55μm,0.9s,comp=Z,719μm
CHBY Cihanbeyli 30.85 300 P P **19 34 57.9 +0.6**
AFSR Afar-Bala (An 30.88 302 P P **19 34 57.9 +0.3**
UMPA Umpang Tak 31.14 105 P P 19 35 05.6 +5.6
comp=Z,45μm,1.1s,comp=Z,697μm
KONT Konya--Tatoy 31.15 298 P P **19 35 00.9 +1.0**
ANTO Ankara 31.18 302 P P **19 34 59.8 -0.4**
ANTO pmax pmax
comp=Z,80nm,1.7s
ANTO Ankara 31.18 302 P P **19 34 59.8 -0.4**
BR231 Keskin MP Arra 31.19 302 P P **19 34 60.0 -0.3**
LADK Ladik-KONYA 31.19 299 P P **19 35 00.9 +0.6**
PHRA Phrae 31.38 100 P P **19 35 03.5 +1.5**
comp=Z,9.0nm,1.5s
KMI Kunming 31.63 86 P P **19 35 05.0 +0.5**
KMI pP pP 19 35 07.5 -1.6
KMI sP sP 19 35 09.9 -1.1
KMI S S **19 40 10.9 -2.5**
KMI sS pS 19 40 17.4 -1.3
KMI SS ScP 19 41 58.6 +19
KMI pmax pmax
comp=Z,32nm,1.1s
KMI pmax pmax
comp=Z,540nm,3.9s
KMI LR LR
comp=Z,2μm,12.3s
KMI LR LR
comp=Z,2μm,15.0s
KMI LR LR
comp=Z,2μm,14.9s
KMI Kunming 31.63 86 P P **19 35 04.3 -0.2**
KMI pmax pmax
comp=Z,130nm,1.4s
KMI MLR MLR
comp=Z,1μm,19.0s
KMI Kunming 31.63 86 P P **19 35 04.3 -0.2**
KMI IAmb IAmb 19 35 08.2
comp=Z,130nm,1.4s
VORD Divnogorie 31.67 325 *eP* P **19 35 04.4 +0.2**
VORD pmax pmax
comp=Z,50nm,0.7s
KIZT Kizilcal 31.68 300 P P **19 35 04.7 0.0**
KURC Kurucasile-Bar 31.70 306 P P **19 35 05.5 +0.9**
SIM Simferopol' 31.75 312 *eP* P **19 35 05.1 +0.1**
SIM S S **19 40 13.0 -1.4**
SIM pmax pmax
comp=Z,21nm,0.8s
SIM pmax pmax
comp=Z,200nm,3.3s
CD2 Chengdu 31.76 75 P P **19 35 05.9 +0.6**
CD2 sP sP 19 35 11.3 -0.5
CD2 S S **19 40 16.1 +1.2**
CD2 sS sS 19 40 23.8 +1.3
CD2 pmax pmax
comp=Z,70nm,0.5s
CD2 pmax pmax
comp=Z,600nm,4.5s
CD2 LR LR
comp=Z,4μm,12.4s
CD2 LR LR
comp=Z,4μm,11.8s
CD2 LR LR
comp=Z,6μm,13.1s
VSR Storozhevoye 31.88 326 *eP* P **19 35 06.1 0.0**
VSR pmax pmax
comp=Z,100nm,0.7s
VSR MLR MLR
comp=Z,920nm,11.0s
LZH Lanzhou 31.92 65 *eP* P **19 35 08.0 +1.2**
LZH pP sP 19 35 13.3 0.0
LZH S S **19 40 14.9 -2.6**
LZH pmax pmax
comp=Z,41nm,1.2s
LZH pmax pmax
comp=Z,420nm,4.9s
LZH LR LR
comp=Z,3μm,10.3s
LZH LR LR
comp=Z,4μm,11.8s
LZH LR LR
UTHA Uthaitani 31.93 105 P P **19 35 08.8 +1.9**
comp=Z,94μm,1.2s,comp=Z,944μm
UTTA Uttaradit 31.96 101 P P **19 35 08.3 +1.2**
comp=Z,94μm,1.2s,comp=Z,944μm
VORR Voronezh 32.14 326 *eP* P **19 35 09.0 +0.6**
VORR pmax pmax
comp=Z,300nm,1.4s
SRDT SRDT 32.22 108 P P **19 35 11.9 +2.4**
comp=Z,66nm,1.7s,comp=Z,1μm
ISP Isparta 32.57 298 P P **19 35 11.7 -0.8**
ISP pmax pmax
comp=Z,97nm,1.1s
ISP MLR MLR
comp=Z,2μm,22.0s
ISP Isparta 32.57 298 ⇑P P **19 35 13.5 +1.0**
ISP mb 19 35 15.7
ISP Isparta 32.57 298 P P **19 35 11.7 -0.8**
ISP IAmb IAmb 19 35 15.7
comp=Z,96nm,1.1s
ISP IAMs_20 IAMs_20 19 49 02.0
comp=Z,2μm,22.0s
PBKT Sadao Pong 32.80 102 P P **19 35 15.5 +1.0**
comp=Z,45nm,1.4s
PBKT Sadao Pong 32.80 102 P P **19 35 14.6 +0.1**
PBKT IAmb IAmb 19 35 18.7
comp=Z,144nm,1.4s
PBKT IAMs_20 IAMs_20 19 49 29.9
comp=Z,2μm,20.0s
LPSR Galich'ya Gora 32.85 327 *eP* P **19 35 15.1 +0.5**
LPSR pmax pmax
comp=Z,250nm,1.0s
LPSR MLR MLR
comp=Z,860nm,8.0s
FURI Furi 32.90 241 P P **19 35 18.7 +2.9**
FURI IAmb IAmb 19 35 21.4
comp=Z,71nm,1.1s
ELL Elmali 32.94 296 P P **19 35 15.7 -0.1**
ELL pmax pmax
comp=Z,236nm,1.0s
ELL MLR MLR
comp=Z,5μm,21.0s
ELL Elmali 32.94 296 P P **19 35 15.7 -0.1**
PHET Kaeng Krachan 33.37 109 P P **19 35 22.4 +2.9**
comp=Z,106μm,1.1s,comp=Z,967μm
KIRV Kirov 33.51 343 P P **19 35 21.1 +0.9**
comp=Z,47nm,0.8s,baz=146,slow=8.7,SNR=30
SLVN Son La 33.65 92 P P **19 35 22.3 +0.3**
SLVN IAmb IAmb 19 35 26.4
comp=Z,119nm,1.4s
CHAI Chaiyaphum 33.97 103 P P **19 35 26.1 +1.3**
comp=Z,84μm,1.1s,comp=Z,922μm
MSEY Mahe Island 34.04 202 P P **19 35 26.7 +1.3**
MSEY pmax pmax
comp=Z,107nm,1.4s
MSEY MLR MLR
comp=Z,900nm,20.0s
MSEY Mahe Island 34.04 202 P P **19 35 26.6 +1.3**
MSEY IAmb IAmb 19 35 30.7
comp=Z,107nm,1.4s
NONG Nongkai 34.10 98 P P **19 35 25.9 0.0**
comp=Z,2.4nm,1.4s
MANT Manisa 34.19 299 P P **19 35 26.2 -0.6**
MANT IAmb IAmb 19 35 29.6
comp=Z,69nm,1.1s
MOY Mondy 34.84 37 *eP* P **19 35 33.6 +1.6**
MOY pmax pmax
comp=Z,166nm,2.8s
GYA Guiyang 34.84 83 ⇑ *iP* P **19 35 31.9 -0.4**
GYA PP **PP 19 36 47.3 -4.0**
GYA S S **19 40 58.3 -4.7**
GYA SS SnSn **19 43 09.8 -7.3**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,300nm,4.8s
GYA LR LR
comp=Z,1μm,14.0s
GYA LR LR
comp=Z,660nm,10.1s
GYA LR LR
comp=Z,620nm,7.9s
SURT Suratani 34.85 116 P P 19 35 37.4 +5.0
comp=Z,32nm,2.0s,comp=Z,1μm
KARP Karpathos 35.09 293 P P **19 35 34.5 +0.2**
KARP IAmb IAmb 19 35 57.3
comp=Z,83nm,1.0s
PKDT Phuket 35.12 118 P P 19 35 39.6 +4.9
comp=Z,62nm,1.5s,comp=Z,1μm
SKNT Sakolnakorn 35.26 100 P P **19 35 37.2 +1.3**
comp=Z,100nm,1.6s,comp=Z,3μm
TLCR 35.37 310 ⇑P P **19 35 37.7 +1.1**
TLCR mb 19 35 41.0
MOS Moscow 35.44 331 *eP* P **19 35 34.9 -2.1**
MOS *e* 19 36 54.5
MOS pmax pmax
comp=Z,900nm,1.9s
MOS pmax pmax
comp=Z,420nm,1.6s
MOS MLR MLR
comp=Z,2μm,18.0s
TIRR Tirgusor 35.45 309 P P **19 35 36.7 -0.5**
TIRR 19 38 06.4
TIRR pmax pmax
comp=Z,290nm,1.8s
TIRR Tirgusor 35.45 309 ⇓P P **19 35 37.6 +0.3**
TIRR Tirgusor 35.45 309 P P **19 35 36.7 -0.5**
TIRR PcP **PcP 19 38 06.4 -0.3**
ZAK Zakamensk 35.49 40 *eP* P **19 35 38.5 +0.9**
ZAK pmax pmax
comp=Z,36nm,1.5s
OBN Obninsk 35.51 329 *c iP* P **19 35 38.6 +1.0**
OBN *e* 19 36 56.1
OBN ePPP PPP 19 37 10.0
OBN *e* 19 38 06.6
OBN eS S **19 41 12.7 +0.4**
OBN eSS SnSn **19 43 35.0 +2.7**
OBN pmax pmax
comp=Z,396nm,1.7s
OBN MLR MLR
comp=Z,1μm,16.0s
OBN Obninsk 35.51 329 P P **19 35 38.6 +1.0**
comp=Z,19nm,0.8s,baz=83,slow=4.6,SNR=34
OBN PcP **PcP 19 38 08.4 +1.8**
comp=Z,12nm,1.2s,baz=22,slow=5.2,SNR=3.7
OBN LR LR 19 53 12.6
comp=Z,277nm,18.6s,baz=114,slow=42
OBN Obninsk 35.51 329 ⇓P P **19 35 39.1 +1.6**
OBN mb 19 35 41.8
OBN Obninsk 35.51 329 P P **19 35 38.3 +0.7**
LHMI Lhok Sumawe 35.75 123 IAMs_20 IAMs_20 19 47 37.4
comp=Z,2μm,22.0s
PRD Provadia 35.86 307 *eP* P **19 35 40.8 +0.1**
KIS Kishinev 35.92 313 *eP* P **19 35 41.0 -0.3**
comp=Z,210nm,2.0s
KIS Kishinev 35.92 313 *eP* P **19 35 41.0 -0.3**
KIS *e* 19 35 50.0
KIS ePPP PPP 19 37 04.0
KIS eSSS SSS 19 44 08.0
KIS pmax pmax
comp=Z,210nm,2.0s
KIS MLR MLR
comp=Z,900nm,20.0s
XAN Xi'an 36.01 69 P P **19 35 42.4 +0.1**
XAN pP sP 19 35 52.8 +4.1
XAN S S **19 41 24.3 +3.6**
XAN SS SnSn **19 43 45.1 0.0**
XAN pmax pmax
comp=Z,71nm,1.7s
XAN pmax pmax
comp=Z,680nm,4.1s
XAN LR LR
comp=Z,2μm,15.2s
XAN LR LR
comp=Z,3μm,20.6s
XAN LR LR
comp=Z,3μm,20.6s
XAN Xi'an 36.01 69 P P **19 35 42.7 +0.5**
XAN pmax pmax
comp=Z,287nm,1.8s
XAN MLR MLR
comp=Z,3μm,20.0s
XAN Xi'an 36.01 69 P P **19 35 42.7 +0.5**
XAN Xi'an 36.01 69 IAMs_20 IAMs_20 19 52 16.0
comp=Z,3μm,20.0s
EZN Ezine 36.08 301 P P **19 35 42.4 -0.3**
TRTT Trang 36.23 117 P P **19 35 47.6 +3.4**
comp=Z,50nm,1.7s,comp=Z,1μm
TLY Talaya 36.28 38 *c iP* P **19 35 46.1 +1.7**
TLY pmax pmax
comp=Z,100nm,1.6s
TLY Talaya 36.28 38 P P **19 35 46.9 +2.5**
comp=Z,12nm,0.8s,baz=235,slow=9.0,SNR=8.5
TLY Talaya 36.28 38 P P **19 35 46.1 +1.7**
TLY IAmb IAmb 19 35 50.0
comp=Z,189nm,1.8s
TLY IAMs_20 IAMs_20 19 52 00.7
comp=Z,3μm,21.0s
JMB Yambol 36.30 305 *eP* P **19 35 45.2 +0.7**
SONM Songino Array 36.37 46 P P **19 35 47.0 +1.8**
comp=Z,18nm,0.7s,baz=249,slow=8.6,SNR=92
SONM LR LR 19 52 53.3
comp=Z,1μm,21.0s,baz=246,slow=40
ALN Alexandroupoli 36.43 302 P P **19 35 44.0 -1.7**
ALN Alexandroupoli 36.43 302 P P **19 35 45.3 -0.4**
ALN pmax pmax
comp=Z,70nm,1.8s
ALN MLR MLR
comp=Z,1μm,20.0s
ALN Alexandroupoli 36.43 302 P P **19 35 45.3 -0.4**
SORM Soroca 36.60 315 ⇓P P **19 35 46.9 -0.1**
ENH Enshi 36.73 75 P P **19 35 48.6 +0.2**
SMTH Samothraki Isl 36.76 302 P P **19 35 47.8 -0.8**
ULN Ulaanbaatar 36.79 46 *c iP* P **19 35 50.2 +1.2**
ULN pmax pmax
comp=Z,130nm,1.8s
ULN Ulaanbaatar 36.79 46 P P **19 35 50.1 +1.2**
ULN IAmb IAmb 19 35 53.9
comp=Z,216nm,1.8s
ULN Ulaanbaatar 36.79 46 IAMs_20 IAMs_20 19 51 36.3
comp=Z,1μm,20.0s
RDO Rodhopi 36.85 303 P P **19 35 49.3 0.0**
IRK Irkutsk 36.89 38 *eP* P **19 35 50.5 +1.0**
IRK *e* 19 37 11.6
IRK pmax pmax
comp=Z,217nm,3.1s
ELND Elena 36.90 306 ⇑P P **19 35 49.9 +0.2**
SZH Strazhica 36.92 306 *eP* P **19 35 49.8 -0.1**
VRI Vrincioaia 36.97 311 ⇓P P **19 35 51.4 +1.1**
DIM Dimitrovgrad 36.99 304 *eP* P **19 35 50.4 -0.1**
KDZ Kurdzhali 37.01 303 *eP* P **19 35 51.2 +0.5**
PLOR Plostina 37.02 311 ⇓P P **19 35 52.0 +1.3**
AKASG Malin Array Be 37.04 319 P P **19 35 50.6 -0.1**
comp=Z,16nm,0.9s,baz=110,slow=7.3,SNR=66
AKASG PP **PP 19 37 14.3 -0.8**
comp=Z,19nm,1.2s,baz=107,slow=9.3,SNR=7.0
AKASG PcP **PcP 19 38 11.2 -0.1**
comp=Z,6.4nm,0.8s,baz=84,slow=2.2,SNR=8.2
AKASG LR LR 19 53 02.6
comp=Z,868nm,21.6s,baz=115,slow=40
AKBB Malin Array Si 37.04 319 P P **19 35 50.4 -0.3**
AKBB pmax pmax
comp=Z,203nm,1.8s
AKBB Malin Array Si 37.04 319 P P **19 35 50.4 -0.3**
AKBB IAmb IAmb 19 35 52.2
comp=Z,202nm,1.8s
PRGR Permogore 37.11 343 *eP* P **19 35 49.1 -2.0**
PRGR pmax pmax
comp=Z,60nm,0.9s
TESR Tescani 37.20 312 ⇑P P **19 35 52.0 -0.1**
BTO Baotou 37.23 58 *eP* P **19 35 53.3 +0.6**
BTO S S **19 41 31.4 -7.9**
MLR Muntele Rosu 37.40 310 P P **19 35 55.2 +1.1**
MLR pmax pmax
comp=Z,176nm,1.3s
MLR Muntele Rosu 37.40 310 P P **19 35 55.2 +1.1**
MLR IAmb IAmb 19 35 59.5
comp=Z,176nm,1.3s
RZN Rozhen 37.54 303 *eP* P **19 35 55.8 +0.4**
COPA Copaceanca 37.60 307 ⇑P P **19 35 56.4 +0.8**
PLD Plovdiv 37.61 304 *eP* P **19 35 55.7 0.0**
OZUR 37.66 311 ⇓P P **19 35 56.3 +0.1**
BIZ Bicaz 37.68 312 ⇓P P **19 35 57.2 +0.9**
PRAR RASCA 37.72 313 ⇓P P **19 35 57.1 +0.5**
PRAR mb 19 36 00.0
EREA Eretria 37.80 298 P P **19 35 58.1 +0.6**
PTL Penteli 37.84 297 P P **19 35 57.7 0.0**
HUMR Humele 37.85 308 ⇓P P **19 35 58.9 +1.2**
PLVB Pleven 37.88 306 ⇓P P **19 35 59.1 +1.1**
DOPR Dopca 37.90 310 ⇑P P **19 35 58.8 +0.6**
MTUR Matau 37.95 309 ⇑P P **19 36 00.0 +1.4**
MTUR mb 19 36 04.9
MRKA Markates 38.09 298 P P **19 36 00.2 +0.3**
PAIG Paliouri 38.11 300 P P **19 35 59.8 -0.2**
NVR Nevrokopi 38.13 303 P P **19 35 59.5 -0.7**
VLAD Vladila 38.15 307 ⇑P P **19 36 01.4 +1.1**
MMB Musomiste 38.26 303 *eP* P **19 36 01.1 -0.2**
ARR Arges 38.27 309 ⇑P P **19 36 02.2 +0.8**
VLL Villia 38.28 298 P P **19 36 01.1 -0.4**
PLG Polygyros 38.33 301 P P **19 36 02.4 +0.5**
HHC Hu-ho-hao-te 38.42 58 *eP* P **19 36 04.9 +2.1**
BURAR Bucovina Array 38.45 313 ⇓P P **19 36 03.9 +1.1**
BURAR mb 19 36 06.7
BUR08 Bucovina Ar. S 38.47 313 P P **19 36 02.8 -0.2**
KULM Kulim 38.53 119 P P **19 36 07.0 +3.3**
KULM Kulim 38.53 119 P P **19 36 06.8 +3.1**
KULM IAmb IAmb 19 36 11.1
comp=Z,188nm,1.5s
LOUT Loutraki 38.53 297 P P **19 36 02.5 -1.1**
LTK Loutraki 38.54 297 P P **19 36 02.2 -1.5**
VTS Vitosha 38.76 305 *eP* P **19 36 05.8 +0.2**
VTS Vitosha 38.76 305 P P **19 36 05.3 -0.3**
VTS pmax pmax
comp=Z,196nm,2.0s
VTS Vitosha 38.76 305 ⇑P P **19 36 06.1 +0.4**
VTS mb 19 36 08.8
VTS Vitosha 38.76 305 P P **19 36 05.3 -0.3**
VTS IAmb IAmb 19 36 07.8
comp=Z,196nm,2.0s
KKB Krupnik 38.77 303 *eP* P **19 36 05.4 -0.2**
PSI Prapat 38.83 124 P P **19 36 06.5 +0.2**
comp=Z,27nm,0.9s,baz=296,slow=8.6,SNR=13
KNT Kendrikon 38.83 302 P P **19 36 05.9 -0.1**
ARCR ARCALIA 38.87 312 ⇑P P **19 36 07.3 +1.0**
GSI Gunungsitoli 38.87 127 P P **19 36 08.2 +1.5**
GSI IAmb IAmb 19 36 11.4
comp=Z,174nm,1.1s
TIY Taiyuan 38.88 63 *eP* P **19 36 08.4 +1.8**
TIY S S **19 42 06.8 +2.4**
TIY pmax pmax
comp=Z,48nm,0.5s
TIY pmax pmax
comp=Z,710nm,3.7s
TIY LR LR
comp=Z,2μm,11.6s
TIY LR LR
comp=Z,2μm,11.4s
TIY LR LR
comp=Z,4μm,23.8s
LOT Lotru 38.88 309 ⇑P P **19 36 02.6 -3.9**
RPSI Rantau Prapat 38.90 124 P P **19 36 06.5 -0.3**
RPSI IAmb IAmb 19 36 09.9
comp=Z,252nm,1.8s
RPSI IAMs_20 IAMs_20 19 52 50.2
comp=Z,2μm,21.0s
RPSI Rantau Prapat 38.90 124 P P **19 36 06.5 -0.3**
VLX Vlachokerasia 38.99 296 P P **19 36 06.6 -0.9**
LIT Litokhoron 39.04 301 P P **19 36 07.3 -0.5**
LIT Litokhoron 39.04 301 P P **19 36 06.9 -0.9**
LIT pmax pmax
comp=Z,159nm,2.0s
LIT MLR MLR
comp=Z,1μm,22.0s
LIT Litokhoron 39.04 301 P P **19 36 06.9 -0.9**
AGG Agios Georgios 39.09 299 P P **19 36 07.3 -1.0**
AGG pmax pmax
comp=Z,42nm,1.4s
AGG MLR MLR
comp=Z,1μm,22.0s
AGG Agios Georgios 39.09 299 P P **19 36 07.2 -1.0**
GRG Griva 39.18 302 P P **19 36 08.4 -0.6**
KLV Kalavryta, Ach 39.19 297 P P **19 36 07.9 -1.2**
CJR Cluj-Napoca 39.28 311 ⇑P P **19 36 10.7 +0.9**
IPM Ipoh 39.32 120 P P **19 36 11.0 +0.6**
ITM Ithomi 39.35 296 P P **19 36 09.9 -0.5**
ITM Ithomi 39.35 296 P P **19 36 09.1 -1.3**
THL Klokotos Trika 39.37 300 P P **19 36 09.1 -1.4**

MICGM	**Minsk**	**39.42 324**	⇓	*i*	P	**P**	**19 36 11.0 +0.3**
MICGM					PM		19 36 13.0	
	comp=Z,1.0nm,1.5s							
MICGM					PM		19 36 13.0	
	comp=N,0.3nm,1.5s							
MICGM					PM		19 36 13.0	
	comp=E,0.4nm,1.5s							
MICGM				*e*	PP	**PP**	**19 37 41.0 -0.1**
MICGM				*e*	PPP	PPP	19 38 20.0	
MICGM				*e*	S	**S**	**19 42 15.0 +3.3**
MICGM				*e*	LR	LR	19 55 24.0	
MNK	**Minsk**	**39.42 324**	⇓	*i*	P	**P**	**19 36 11.0 +0.3**
MNK				*e*			19 37 41.0	
MNK				*e*	PPP	PPP	19 38 20.0	
MNK				*e*	S	**S**	**19 42 15.0 +3.3**
MNK					pmax	pmax		
	comp=N,280nm,1.5s							
MNK					pmax	pmax		
	comp=E,390nm,1.5s							
MNK					pmax	pmax		
	comp=Z,1μm,1.5s							
PYL	**PYLOS**	**39.49 295**			P	**P**	**19 36 10.0 -1.6**
AMT	**Artemida-Makis**	**39.52 296**			P	**P**	**19 36 11.1 -0.8**
DRO	**Drossia**	**39.53 297**			P	**P**	**19 36 11.6 -0.4**
GZR	**Gura Zlata**	**39.56 309**	⇑		P	**P**	**19 36 12.8 +0.7**
DEV	**Deva**	**39.57 310**	⇑		P	**P**	**19 36 13.1 +1.0**
QIZ	**Qiongzhong**	**39.67 93**			P	**P**	**19 36 11.4 -1.9**
QIZ					PP	**PnPn**	**19 37 47.6 +0.1**
QIZ					S	**S**	**19 42 15.6 -0.8**
QIZ					pmax	pmax		
	comp=Z,39nm,1.5s							
QIZ					pmax	pmax		
	comp=Z,990nm,3.1s							
QIZ					LR	LR		
	comp=Z,1μm,11.4s							
QIZ					LR	LR		
	comp=Z,1μm,16.5s							
QIZ					LR	LR		
	comp=Z,1μm,15.2s							
LVV	**L'vov**	**39.84 316**		*e*	P	**P**	**19 36 13.5 -0.8**
LVV				*e*			19 37 47.4	
LVV				*e*			19 38 23.7	
LVV				*e*	S	**S**	**19 42 16.3 -1.9**
LVV				*e*			19 45 13.9	
LVV					MLR	MLR		
	comp=N,700nm,11.0s							
LVV					MLR	MLR		
	comp=E,900nm,11.0s							
LVV					MLR	MLR		
	comp=Z,700nm,11.0s							
KPRO	**Kipourio**	**39.89 300**			P	**P**	**19 36 13.8 -1.2**
DRGR		**39.89 311**	⇓		P	**P**	**19 36 15.6 +0.7**
FNA	**Florina**	**39.94 302**			P	**P**	**19 36 15.3 -0.1**
FNA	**Florina**	**39.94 302**			P	**P**	**19 36 14.9 -0.5**
FNA					pmax	pmax		
	comp=Z,189nm,1.7s							
FNA	**Florina**	**39.94 302**			P	**P**	**19 36 14.9 -0.5**
FNA					IAmb	IAmb	19 36 17.9	
	comp=Z,189nm,1.7s							
PENT	**Pentalofos**	**40.08 301**			P	**P**	**19 36 15.8 -0.8**
NEST	**Nestorio**	**40.16 301**			P	**P**	**19 36 16.8 -0.5**
NACGM	**Naroch**	**40.17 324**		*e*		**P**	**19 36 18.0 +1.0**
NACGM				*e*	LQ	LQ	19 53 28.0	
NACGM				*e*	LR	LR	19 56 32.0	
MDVR	**Moldovita**	**40.19 308**	⇑		P	**P**	**19 36 17.8 +0.4**
JAN	**Janina**	**40.27 300**			P	**P**	**19 36 18.1 0.0**
TRPA	**Tarpa**	**40.32 313**	⇑		P	**P**	**19 36 19.3 +0.9**
TRPA					mb		19 36 20.8	
IDID	**Didziasalis**	**40.37 325**		*e*	P	**P**	**19 36 20.1 +1.5**
EVGI	**Lefkada island**	**40.38 298**			P	**P**	**19 36 17.2 -1.8**
LKD2	**Lefkada island**	**40.38 298**			P	**P**	**19 36 17.4 -1.6**
BZS	**Buzias**	**40.40 309**	⇑		P	**P**	**19 36 19.8 +0.7**
VLS	**Valsamata**	**40.42 297**			P	**P**	**19 36 17.7 -1.6**
SIRR	**Siria**	**40.49 310**	⇑		P	**P**	**19 36 20.7 +0.8**
UZH	**Uzhgorod**	**40.60 314**		*ce*	P	**P**	**19 36 20.6 -0.1**
UZH				*e*			19 36 26.3	
UZH				*e*			19 36 33.4	
UZH				*e*			19 38 00.3	
UZH				*i*			19 38 30.2	
UZH				*e*	S	**S**	**19 42 30.7 +1.0**
UZH				*e*	SS	**SS**	**19 45 21.0 -8.6**
KWP	**Kalwaria Pacla**	**40.60 315**			P	**P**	**19 36 21.2 +0.5**
KWP	**Kalwaria Pacla**	**40.60 315**		*e*	P	**P**	**19 36 21.6 +0.9**
KWP				*e*	P	**P**	**19 36 21.6 +0.9**
KWP	**Kalwaria Pacla**	**40.60 315**			P	**P**	**19 36 21.2 +0.5**
IIGN	**Ignalina**	**40.65 325**		*e*	P	**P**	**19 36 22.5 +1.6**
IIGN					IAmb	IAmb	19 36 26.0	
	comp=Z,65nm,1.0s							
IGT	**Igoumenitsa**	**40.66 300**			P	**P**	**19 36 19.9 -1.4**
KMBO	**Kilima Mbogo**	**40.69 231**		*i*	P	**P**	**19 36 24.0 +1.9**
KMBO					pmax	pmax		
	comp=Z,31nm,1.0s							
KMBO	**Kilima Mbogo**	**40.69 231**			P	**P**	**19 36 23.8 +1.7**
	comp=Z,31nm,1.0s,baz=29,slow=9.7,SNR=61							
KMBO					LR	LR	19 54 27.9	
	comp=Z,636nm,19.2s,baz=68,slow=38							
KMBO	**Kilima Mbogo**	**40.69 231**			P	**P**	**19 36 23.4 +1.4**
KOLS	**Kolonicke sedl**	**40.69 314**		*e*	P	**P**	**19 36 22.8 +1.4**
KOLS					pmax	pmax		
	comp=Z,140nm,1.8s							
KOLS	**Kolonicke sedl**	**40.69 314**		*e*	P	**P**	**19 36 22.8 +1.4**
ISAL	**Salakas**	**40.80 325**		*e*	P	**P**	**19 36 23.5 +1.3**
ISAL					IAmb	IAmb	19 36 27.2	
	comp=Z,57nm,1.0s							
IZAR	**Zarasai**	**40.82 325**		*e*	P	**P**	**19 36 23.9 +1.6**
IZAR					IAmb	IAmb	19 36 27.3	
	comp=Z,62nm,1.0s							
JRMM	**Jerantut**	**40.82 119**			P	**P**	**19 36 25.0 +2.2**
WHN	**Wuhan**	**40.87 74**	⇑		P	**P**	**19 36 23.8 +0.7**
WHN					S	**S**	**19 42 25.9 -8.1**
WHN					pmax	pmax		
	comp=Z,280nm,1.0s							
WHN					LR	LR		
	comp=Z,2μm,8.4s							
WHN					LR	LR		
	comp=Z,6μm,13.5s							
WHN					LR	LR		
	comp=Z,7μm,21.6s							
PUL	**Pulkovo**	**41.01 332**	⇑	*e*	P	**P**	**19 36 24.5 +0.7**
PUL					pmax	pmax		
	comp=Z,119nm,1.1s							
TIR	**Tirane**	**41.12 302**			P	**P**	**19 36 24.2 -0.9**
TIR					pmax	pmax		
	comp=Z,44nm,0.8s							
TIR					MLR	MLR		
	comp=Z,2μm,22.0s							
TIR	**Tirane**	**41.12 302**			P	**P**	**19 36 24.2 -0.9**
TIR					IAMs_20	IAMs_20	19 55 11.9	
	comp=Z,2μm,22.0s							
TMCR	**Tamitsa**	**41.23 341**		*e*	P	**P**	**19 36 24.6 -1.0**
TMCR					pmax	pmax		
	comp=Z,53nm,0.9s							
DIVS	**Divibare**	**41.31 306**	⇑	*i*	P	**P**	**19 36 26.4 -0.3**
DLV	**T Lat**	**41.38 104**			P	**P**	**19 36 28.9 +1.2**
FRGS	**Fruska Gora**	**41.58 308**	⇑	*i*	P	**P**	**19 36 28.5 -0.3**
BSZH	**Besenyszg**	**41.63 311**		*e*	P	**P**	**19 36 33.0 +3.9**
PDG	**Podgorica**	**41.66 304**	⇑	*i*	P	**P**	**19 36 28.2 -1.3**
PDG	**Podgorica**	**41.66 304**	⇓		P	**P**	**19 36 29.6 +0.2**
PDG					mb		19 36 30.6	
PDG	**Podgorica**	**41.66 304**			P	**P**	**19 36 27.8 -1.7**
DRME	**Dracevica, Mon**	**41.70 303**	⇑	*i*	P	**P**	**19 36 28.6 -1.2**
TEKS	**Tekeris**	**41.70 307**		*e*	P	**P**	**19 36 29.6 -0.2**
RUDO	**Rudo**	**41.70 306**		*e*	P	**P**	**19 36 29.3 -0.5**
BBLS	**Lazići**	**41.70 306**	⇑	*i*	P	**P**	**19 36 29.9 0.0**
SUW	**Suwalki**	**41.73 322**		*e*	P	**P**	**19 36 30.2 +0.3**
SUW				*e*	S	**S**	**19 42 52.5 +6.2**
SUW	**Suwalki**	**41.73 322**		*e*	P	**P**	**19 36 30.2 +0.3**
SUW				*e*	P	**P**	**19 36 30.2 +0.3**
SUW				*e*	S	**S**	**19 42 52.5 +6.2**
SUW				*e*	S	**S**	**19 42 52.5 +6.2**
SUW	**Suwalki**	**41.73 322**			P	**P**	**19 36 30.1 +0.2**
SUW					IAmb	IAmb	19 36 34.0	
	comp=Z,146nm,0.9s							
KECS	**Kecovo**	**41.74 313**		*e*	P	**P**	**19 36 31.0 +1.0**
KECS					pmax	pmax		
	comp=Z,15nm,1.2s							
KECS	**Kecovo**	**41.74 313**		*e*	P	**P**	**19 36 31.0 +1.0**
VSU	**Vasula**	**41.86 329**		*c*	*i* P	**P**	**19 36 31.4 +0.5**
VSU					pmax	pmax		
	comp=Z,766nm,1.7s							
VSU	**Vasula**	**41.86 329**		*e*	P	**P**	**19 36 31.6 +0.8**
BJT	**Baijiatuau**	**41.87 60**			P	**P**	**19 36 32.6 +1.4**
BJT					pmax	pmax		
	comp=Z,161nm,1.6s							
BJT					MLR	MLR		
	comp=Z,2μm,21.0s							
BJT	**Baijiatuau**	**41.87 60**			P	**P**	**19 36 32.6 +1.4**
BJT					IAmb	IAmb	19 36 36.4	
	comp=Z,161nm,1.6s							
BJT	**Baijiatuau**	**41.87 60**			IAMs_20	IAMs_20	19 55 42.0	
	comp=Z,2μm,21.0s							
BJI	**Beijing**	**41.88 60**			P	**P**	**19 36 33.1 +1.9**
BJI					S	**S**	**19 42 51.6 +2.8**
BJI					pmax	pmax		
	comp=Z,53nm,1.4s							
BJI					LR	LR		
	comp=Z,1μm,18.4s							
BJI					LR	LR		
	comp=Z,1μm,19.4s							
BJI					LR	LR		
	comp=Z,2μm,22.1s							
PABE	**Paberze**	**41.88 324**		*e*	P	**P**	**19 36 31.9 +0.8**
PSZ	**Piszkesteto**	**42.00 312**			P	**P**	**19 36 32.8 +0.5**
PSZ					pmax	pmax		
	comp=Z,187nm,1.8s							
PSZ					MLR	MLR		
	comp=Z,1μm,18.0s							
PSZ	**Piszkesteto**	**42.00 312**	⇑		P	**P**	**19 36 33.1 +0.8**
PSZ					mb		19 36 35.8	
PSZ	**Piszkesteto**	**42.00 312**			P	**P**	**19 36 32.8 +0.5**
PSZ					IAmb	IAmb	19 36 34.8	
	comp=Z,187nm,1.8s							
PSZ					IAMs_20	IAMs_20	19 56 44.9	
	comp=Z,1μm,18.0s							
BKNI	**Bangkinang**	**42.05 124**			IAMs_20	IAMs_20	19 54 36.2	
	comp=Z,2μm,21.0s							
HAPS	**Han Pijesak,Bl**	**42.05 306**		*e*	P	**P**	**19 36 32.0 -0.8**
NIE	**Niedzica**	**42.07 314**		*e*	P	**P**	**19 36 34.2 +1.4**
NIE	**Niedzica**	**42.07 314**		*e*	P	**P**	**19 36 34.2 +1.4**
NIE				*e*	P	**P**	**19 36 34.2 +1.4**
CIT	**Chita**	**42.09 42**		*e*	P	**P**	**19 36 34.2 +1.3**
CIT				*e*			19 36 44.3	
CIT					pmax	pmax		
	comp=Z,253nm,1.7s							
SCTE	**Santa Cesarea**	**42.12 300**			P	**P**	**19 36 32.3 -0.9**
SCTE					IAmb	IAmb	19 36 33.7	
	comp=Z,177nm,1.8s							
BRY	**Bratogost**	**42.23 304**	⇑	*i*	P	**P**	**19 36 33.2 -1.1**
TREB	**Trebinje**	**42.35 304**	⇑	*i*	P	**P**	**19 36 34.4 -0.7**
BEL	**Belsk**	**42.40 318**		*e*	P	**P**	**19 36 36.1 +0.8**
BEL	**Belsk**	**42.40 318**		*e*	P	**P**	**19 36 36.1 +0.8**
BEL				*e*	P	**P**	**19 36 36.1 +0.8**
LANS	**Liptovska Anna**	**42.54 314**		*e*	P	**P**	**19 36 38.0 +1.4**
LANS					pmax	pmax		
	comp=Z,13nm,0.8s							
LANS	**Liptovska Anna**	**42.54 314**		*e*	P	**P**	**19 36 38.0 +1.4**
MORH	**Mrgy, Hungar**	**42.55 309**	⇑	*i*	P	**P**	**19 36 36.8 +0.2**
OJC	**Ojcow**	**42.57 315**			P	**P**	**19 36 36.6 -0.2**
OJC					pmax	pmax		
	comp=Z,34nm,0.8s							
OJC	**Ojcow**	**42.57 315**		*e*	P	**P**	**19 36 37.5 +0.7**
OJC				*e*	P	**P**	**19 36 37.5 +0.7**
OJC	**Ojcow**	**42.57 315**		P	P	**P**	**19 36 36.6 -0.2**
TIA	**Tai'an**	**42.66 65**		P	P	**P**	**19 36 36.8 -0.9**
TIA				S	S	**S**	**19 43 03.0 +2.5**
TIA				pmax	pmax			
	comp=Z,52nm,1.8s							
TIA				LR	LR			
	comp=Z,1μm,15.7s							
TIA				LR	LR			
	comp=Z,3μm,21.6s							
TIA				LR	LR			
	comp=Z,4μm,19.6s							
VYHS	**Vyhne**	**42.81 313**		*e*	P	**P**	**19 36 39.4 +0.6**
VYHS					pmax	pmax		
	comp=Z,57nm,1.4s							
VYHS	**Vyhne**	**42.81 313**		*e*	P	**P**	**19 36 39.4 +0.6**
STON	**Ston**	**42.84 304**	⇑	*i*	P	**P**	**19 36 37.8 -1.3**
SRO	**Srobarova**	**43.03 312**		*e*	P	**P**	**19 36 41.5 +1.0**
SRO					pmax	pmax		
	comp=Z,22nm,1.0s							
SRO	**Srobarova**	**43.03 312**		*e*	P	**P**	**19 36 41.5 +1.0**
KOLL	**Kolacno**	**43.11 313**		*e*	P	**P**	**19 36 42.3 +1.1**
PBUR	**Paburg**	**43.15 324**		*e*	P	**P**	**19 36 42.4 +1.0**
MYKOM	**Kota Tinggi**	**43.20 120**		P	P	**P**	**19 36 43.0 +0.7**
MYKOM	**Kota Tinggi**	**43.20 120**		P	P	**P**	**19 36 43.0 +0.7**
MYKOM					IAmb	IAmb	19 36 46.0	
	comp=Z,98nm,1.0s							
BLY	**Banja Luka**	**43.38 307**	⇑	*i*	P	**P**	**19 36 43.9 +0.5**
BLY	**Banja Luka**	**43.38 307**	⇓		P	**P**	**19 36 44.2 +0.8**
BLY					mb		19 36 47.2	
BLY	**Banja Luka**	**43.38 307**			P	**P**	**19 36 43.2 -0.2**
BLY					IAmb	IAmb	19 36 45.5	
	comp=Z,253nm,1.9s							
MGRS	**Mrkonjic Grad**	**43.42 307**	⇑	*i*	P	**P**	**19 36 44.3 +0.5**
TIP	**Timpagrande**	**43.43 299**	⇓		P	**P**	**19 36 44.5 +0.5**
TIP					mb		19 36 46.6	
TIP	**Timpagrande**	**43.43 299**			P	**P**	**19 36 43.7 -0.2**
TIP					IAmb	IAmb	19 36 45.8	
	comp=Z,122nm,1.4s							
MATE	**Matera**	**43.48 301**	⇑		P	**P**	**19 36 44.2 -0.1**
MATE					mb		19 36 46.2	
OKC	**Ostrava-Krasne**	**43.53 315**		*e*	P	**P**	**19 36 45.3 +0.8**
OKC	**Ostrava-Krasne**	**43.53 315**		*e*	P	**P**	**19 36 45.3 +0.8**
OKC				*e*	pP	**pP**	**19 36 47.0 -2.2**
SLIT	**Slitere, Latvi**	**43.59 326**		*e*	P	**P**	**19 36 45.1 +0.2**
JAVC	**Velka Javorina**	**43.64 313**		*e*	P	**P**	**19 36 46.8 +1.3**
FIA1	**FINESS Array S**	**43.68 333**		P	P	**P**	**19 36 45.5 0.0**
FIA1					IAmb	IAmb	19 36 47.4	
	comp=Z,219nm,1.6s							
FINES	**FINESS Array B**	**43.68 333**		*i*	P	**P**	**19 36 46.2 +0.7**
FINES					pmax	pmax		
	comp=Z,21nm,0.8s							
FINES	**FINESS Array B**	**43.68 333**			P	**P**	**19 36 45.9 +0.3**
	comp=Z,21nm,0.8s,baz=125,slow=6.5,SNR=24							
FINES					LR	LR	19 58 09.4	
	comp=Z,959nm,19.3s,baz=122,slow=40							
SMOL	**Smolenice**	**43.73 312**		*e*	P	**P**	**19 36 46.8 +0.6**
SMOL					pmax	pmax		
	comp=Z,51nm,1.7s							
SMOL	**Smolenice**	**43.73 312**		*e*	P	**P**	**19 36 46.8 +0.6**
MODS	**Modra-Piesok**	**43.81 312**		*e*	P	**P**	**19 36 46.7 -0.2**
MODS					pmax	pmax		
	comp=Z,166nm,1.9s							
MODS	**Modra-Piesok**	**43.81 312**		*e*	P	**P**	**19 36 46.7 -0.2**
BEHE	**Becsehely**	**43.86 309**	⇑	*i*	P	**P**	**19 36 47.7 +0.4**
MORC	**Moravsky Berou**	**43.90 314**			P	**P**	**19 36 47.4 -0.2**
MORC					pmax	pmax		
	comp=Z,187nm,2.0s							
MORC	**Moravsky Berou**	**43.90 314**	⇑		P	**P**	**19 36 48.2 +0.6**
MORC					mb		19 36 51.2	
MORC	**Moravsky Berou**	**43.90 314**		*e*	P	**P**	**19 36 47.9 +0.3**
MORC	**Moravsky Berou**	**43.90 314**		P	P	**P**	**19 36 47.4 -0.2**
MORC					IAmb	IAmb	19 36 49.6	
	comp=Z,187nm,2.0s							
ACER	**Acerenza**	**44.06 301**			P	**P**	**19 36 48.7 -0.3**
ACER					IAmb	IAmb	19 36 50.9	
	comp=Z,251nm,1.8s							
CEL	**Celeste**	**44.12 298**			P	**P**	**19 36 49.2 -0.4**
CEL					IAmb	IAmb	19 36 58.7	
	comp=Z,116nm,1.5s							
KOGS	**Kog**	**44.22 309**		*i*	P	**P**	**19 36 50.2 0.0**
SGRT	**San Giovanni R**	**44.23 303**			P	**P**	**19 36 49.7 -0.7**
BOD	**Bodaibo**	**44.33 34**		*e*	P	**P**	**19 36 51.3 +0.5**
BOD					pmax	pmax		
	comp=Z,54nm,1.8s							
VRAC	**Vranov**	**44.42 313**		*e*	P	**P**	**19 36 52.1 +0.4**
NJ2	**Nanjing**	**44.48 71**		*e*	P	**P**	**19 36 53.3 +0.9**
NJ2					pP	**sP**	**19 36 58.3 -0.6**
NJ2					sP	**pP**	**19 37 01.0 +3.9**
NJ2					S	**S**	**19 43 30.1 +2.9**
NJ2					ScS	**ScS**	**19 46 52.6 +2.3**
NJ2					pmax	pmax		
	comp=Z,50nm,1.0s							
NJ2					pmax	pmax		
	comp=Z,540nm,3.5s							
NJ2					LR	LR		
	comp=Z,2μm,18.0s							
NJ2					LR	LR		
	comp=Z,2μm,19.9s							
NJ2					LR	LR		
	comp=Z,2μm,19.9s							
KRUC	**Moravsky**	**44.50 313**		*e*	P	**P**	**19 36 52.8 +0.4**
GOLS	**Golise**	**44.60 309**		*e*	P	**P**	**19 36 53.4 +0.1**
GOLS				*e*	PcP	**PP**	**19 38 37.0 -0.3**
CONA	**Conrad Observa**	**44.68 311**		*i*	pP	**P**	**19 36 54.3 +0.4**
	comp=Z,18nm,1.3s,SNR=6.7							
CRES	**Cresnjev**	**44.70 308**	⇑	*i*	P	**P**	**19 36 54.3 +0.3**
DPC	**Dobruska-Polom**	**44.78 315**		*e*	P	**P**	**19 36 55.8 +1.2**
DPC	**Dobruska-Polom**	**44.78 315**		*e*	P	**P**	**19 36 55.8 +1.2**
DPC				*e*	pP	**pP**	**19 36 57.5 -1.8**
ARSA	**Arzberg**	**44.81 310**		*i*	pP	**P**	**19 36 55.6 +0.7**
	comp=Z,62nm,1.5s,SNR=20							
BOJS	**Bojanci**	**44.81 308**		*i*	P	**P**	**19 36 55.2 +0.3**
GKP	**Gorka Klasztor**	**44.87 319**		*e*	P	**P**	**19 36 55.7 +0.5**
GKP	**Gorka Klasztor**	**44.87 319**		*e*	P	**P**	**19 36 55.7 +0.5**
GKP				*e*	P	**P**	**19 36 55.7 +0.5**
OSTC	**Ostas**	**44.89 315**		*e*	P	**P**	**19 36 56.5 +1.1**
OSTC				*ex*		x	19 36 59.2	
KSP	**Ksiaz**	**44.89 316**		*e*	P	**P**	**19 36 56.7 +1.2**
KSP	**Ksiaz**	**44.89 316**		*e*	P	**P**	**19 36 56.7 +1.2**
KSP				*e*	P	**P**	**19 36 56.7 +1.2**
LVZ	**Lovozero**	**44.93 343**	⇓	*e*	P	**P**	**19 36 56.2 +0.6**
LVZ					pmax	pmax		
	comp=Z,85nm,1.7s							
LVZ	**Lovozero**	**44.93 343**			P	**P**	**19 36 55.3 -0.3**
LVZ					IAmb	IAmb	19 36 58.5	
	comp=Z,130nm,1.7s							
CHVC	**Chvalec**	**44.99 315**		*e*	P	**P**	**19 36 57.7 +1.4**
CHVC				*ex*		x	19 37 00.1	
UPC	**Upice**	**45.00 315**		*e*	P	**P**	**19 36 56.9 +0.5**
UPC	**Upice**	**45.00 315**		*e*	P	**P**	**19 36 56.9 +0.5**
UPC				*e*	pP	**pP**	**19 37 00.2 -0.9**
MBAR	**Mbarara**	**45.02 238**			P	**P**	**19 36 57.7 +0.6**
MBAR					pmax	pmax		
	comp=Z,49nm,1.2s							
MBAR	**Mbarara**	**45.02 238**			P	**P**	**19 36 57.7 +0.6**
APA	**Apatity**	**45.02 342**	⇓	*i*	P	**P**	**19 36 54.9 -1.3**
APA				*i*			19 38 44.3	
APA				*i*	S	**S**	**19 43 29.0 -5.1**
APA				*i*			19 46 41.0	
APA					pmax	pmax		
	comp=Z,43nm,0.8s							
SOKA	**Soboth**	**45.08 310**		*i*	pP	**P**	**19 36 57.6 +0.4**
	comp=Z,64nm,1.7s,SNR=19							
PAOL	**Paolisi**	**45.11 302**			P	**P**	**19 36 57.6 +0.2**
PAOL					IAmb	IAmb	19 37 02.0	
	comp=Z,133nm,1.6s							
PAOL					IAMs_20	IAMs_20	19 57 17.1	
	comp=Z,1μm,18.0s							
TREC	**Trest**	**45.13 313**		*e*	P	**P**	**19 36 57.4 0.0**
TREC	**Trest**	**45.13 313**		*e*	P	**P**	**19 36 57.4 0.0**
TREC				*e*	pP	**pP**	**19 36 59.7 -2.4**
HIA	**Hailar**	**45.30 47**			P	**P**	**19 36 59.1 +0.3**
HIA					pmax	pmax		
	comp=Z,154nm,1.5s							
HIA	**Hailar**	**45.30 47**			P	**P**	**19 36 59.1 +0.3**
HIA					IAmb	IAmb	19 37 04.1	
	comp=Z,154nm,1.5s							
LJU	**Ljubljana**	**45.37 309**		*i*	P	**P**	**19 37 00.0 +0.7**
LJU				*i*	PcP	**PcP**	**19 38 40.0 +1.4**
LJU	**Ljubljana**	**45.37 309**	⇑	*i*	P	**P**	**19 36 59.7 +0.4**
RAFF	**Raffo Rosso**	**45.38 296**			P	**P**	**19 37 00.5 +1.0**
OBKA	**Obir**	**45.40 309**		*i*	pP	**P**	**19 37 00.2 +0.5**
	comp=Z,58nm,1.6s,SNR=14							
CEY	**Cerknica**	**45.41 308**	⇑	*i*	P	**P**	**19 36 59.9 +0.2**
INTR	**Introdacqua**	**45.61 303**			P	**P**	**19 37 00.5 -0.9**
INTR					IAmb	IAmb	19 37 06.1	
	comp=Z,174nm,2.0s							
INTR					IAMs_20	IAMs_20	19 58 20.5	
	comp=Z,1μm,22.0s							
GOPC	**GO Pecny, Ondr**	**45.68 314**		*e*	P	**P**	**19 37 01.1 -0.6**
GOPC	**GO Pecny, Ondr**	**45.68 314**		*e*	P	**P**	**19 37 01.1 -0.6**
MOA	**Molln**	**45.73 311**		*i*	pP	**P**	**19 37 02.4 +0.1**
	comp=Z,50nm,1.2s,SNR=14							
PRU	**Pruhonice**	**45.84 314**		*e*	P	**P**	**19 37 03.5 +0.5**
PRU	**Pruhonice**	**45.84 314**		*e*	P	**P**	**19 37 03.5 +0.5**
PRU				*e*	pP	**pP**	**19 37 05.6 -2.1**
TRI	**Trieste**	**45.87 308**			P	**P**	**19 37 02.5 -0.8**
TRI					pmax	pmax		
	comp=Z,33nm,0.9s							
TRI	**Trieste**	**45.87 308**			P	**P**	**19 37 02.5 -0.8**
PVCC	**Panska Ves**	**45.91 315**		*e*	P	**P**	**19 37 04.5 +0.9**
PVCC	**Panska Ves**	**45.91 315**		*e*	P	**P**	**19 37 04.5 +0.9**
AQU	**L'Aquila**	**45.99 303**			P	**P**	**19 37 04.4 +0.1**
AQU					pmax	pmax		
	comp=Z,161nm,1.7s							
AQU					MLR	MLR		
	comp=Z,1μm,22.0s							
AQU	**L'Aquila**	**45.99 303**	⇑	*i*	P	**P**	**19 37 04.6 +0.2**
AQU	**L'Aquila**	**45.99 303**			P	**P**	**19 37 04.4 +0.1**
AQU					IAmb	IAmb	19 37 06.6	
	comp=Z,161nm,1.7s							
AQU					IAMs_20	IAMs_20	19 57 06.5	
	comp=Z,1μm,22.0s							
MYKA	**Terra Mystica**	**46.03 309**		*i*	pP	**P**	**19 37 04.9 +0.3**
	comp=Z,20nm,0.9s,SNR=8.1							
DL2	**Dalian**	**46.10 61**			P	**P**	**19 37 07.5 +2.3**
DL2					S	**S**	**19 43 56.4 +5.9**
DL2					pmax	pmax		
	comp=Z,69nm,1.3s							
DL2					pmax	pmax		
	comp=Z,280nm,4.9s							
DL2					LR	LR		
	comp=Z,1μm,23.6s							
DL2					LR	LR		
	comp=Z,2μm,22.5s							
DL2					LR	LR		
	comp=Z,3μm,23.4s							
PBCC	**Pribram**	**46.15 314**		*e*	P	**P**	**19 37 05.9 +0.5**
PBCC				*ex*		x	19 37 07.7	
CORL	**Corleone**	**46.18 297**			P	**P**	**19 37 05.9 0.0**
NRCA	**Norcia**	**46.21 304**			P	**P**	**19 37 05.4 -0.7**
GEC2	**GERESS Array S**	**46.23 312**			P	**P**	**19 37 05.9 -0.3**
GERES	**GERESS Array B**	**46.23 312**			P	**P**	**19 37 06.2 0.0**
	comp=Z,14nm,0.7s,baz=95,slow=7.2,SNR=62

SNY					pmax	pmax			
	comp=Z,480nm,4.1s								
SNY					LR	LR			
	comp=Z,3μm,16.9s								
SNY					LR	LR			
	comp=Z,1μm,13.4s								
SNY					LR	LR			
	comp=Z,3μm,13.9s								
SQTA	**Sankt Quirin**	**47.74**	**310**	*i*	P	**P**	**19**	**37**	**17.4 -0.6**
	comp=Z,62nm,1.8s,SNR=11								
ZCCA	**Zocca**	**47.79**	**306**		P	**P**	**19**	**37**	**18.9 +0.5**
MOTA	**Moosalm**	**47.82**	**310**	*i*	P	**P**	**19**	**37**	**17.7 -1.0**
	comp=Z,16nm,0.6s,SNR=8.5								
GRA1	**Grafenberg Arr**	**47.94**	**313**		P	**P**	**19**	**37**	**20.2 +0.8**
GRF	**Grafenberg Arr**	**47.94**	**313**		P	**P**	**19**	**37**	**20.2 +0.8**
GRF					pmax	pmax			
	comp=Z,268nm,1.9s								
SSLB	**Suanglung**	**48.05**	**82**		P	**P**	**19**	**37**	**21.6 +0.9**
FETA	**Feichten**	**48.05**	**310**	*i*	P	**P**	**19**	**37**	**19.9 -0.7**
	comp=Z,43nm,1.1s,SNR=12								
RETA	**Reutte**	**48.06**	**310**	*i*	P	**P**	**19**	**37**	**19.7 -0.8**
	comp=Z,26nm,1.2s								
SALO	**Salr**	**48.14**	**308**		P	**P**	**19**	**37**	**21.3 +0.3**
SALO					IAmb	IAmb	19	37	21.8
	comp=Z,140nm,1.8s								
YHNB	**Yeheng**	**48.17**	**81**		P	**P**	**19**	**37**	**22.4 +0.7**
FUORN	**Ofenpass-Fuorn**	**48.35**	**309**		P	**P**	**19**	**37**	**22.4 -0.6**
TWG	**Pinlang**	**48.43**	**83**		P	**P**	**19**	**37**	**24.7 +1.1**
YULB	**Yu-li**	**48.46**	**82**		P	**P**	**19**	**37**	**23.8 0.0**
YULB					IAmb	IAmb	19	37	30.1
	comp=Z,123nm,1.5s								
KSM	**Kuching**	**48.49**	**115**		P	**P**	**19**	**37**	**25.0 +0.9**
KSM	**Kuching**	**48.49**	**115**		P	**P**	**19**	**37**	**24.1 0.0**
KSM					IAMs_20	IAMs_20	19	59	06.6
	comp=Z,1μm,20.0s								
NACB	**Ninganchiao**	**48.50**	**81**		P	**P**	**19**	**37**	**24.8 +0.7**
ARCES	**ARCESS Array B**	**48.51**	**342**		P	**P**	**19**	**37**	**24.0 +0.5**
	comp=Z,30nm,0.7s,baz=134,slow=6.2,SNR=52								
ARCES					LR	LR	19	59	19.7
	comp=Z,2μm,19.8s,baz=132,slow=38								
ARE0	**ARCESS Array S**	**48.51**	**342**	*eP*		**P**	**19**	**37**	**24.2 +0.8**
ARE0	**ARCESS Array S**	**48.51**	**342**		P	**P**	**19**	**37**	**23.8 +0.3**
DAVA	**Damuels**	**48.65**	**310**	*i*	P	**P**	**19**	**37**	**24.5 -0.7**
	comp=Z,33nm,0.7s,SNR=9.7								
MSSA	**Maissana**	**48.83**	**306**		P	**P**	**19**	**37**	**26.1 -0.4**
MSSA					IAmb	IAmb	19	37	28.4
	comp=Z,123nm,1.3s								
CN2	**Changchun**	**48.84**	**55**	⇑	P	**P**	**19**	**37**	**27.3 +0.8**
CN2				*es*	P	sP	19	37	34.3 +1.3
CN2				*eS*		**S**	**19**	**44**	**29.3 -0.1**
CN2					pmax	pmax			
	comp=Z,40nm,1.2s								
CN2					LR	LR			
	comp=Z,1μm,18.0s								
CN2					LR	LR			
	comp=Z,1μm,18.0s								
CN2					LR	LR			
	comp=Z,2μm,18.0s								
KTK1	**Kautokeino**	**48.85**	**340**	*eP*		**P**	**19**	**37**	**26.5 +0.3**
TUE	**Stuetta**	**48.98**	**309**		P	**P**	**19**	**37**	**27.3 -0.4**
TUE					IAmb	IAmb	19	37	28.9
	comp=Z,102nm,1.7s								
STU	**Stuttgart**	**49.19**	**312**		P	**P**	**19**	**37**	**28.6 -0.4**
STU					pmax	pmax			
	comp=Z,20nm,0.8s								
STU	**Stuttgart**	**49.19**	**312**		P	**P**	**19**	**37**	**28.6 -0.4**
SBUM	**Sibu**	**49.48**	**112**		P	**P**	**19**	**37**	**33.0 +1.3**
SBUM	**Sibu**	**49.48**	**112**		P	**P**	**19**	**37**	**32.3 +0.6**
KEST	**Kesra**	**49.55**	**295**		P	**P**	**19**	**37**	**33.3 +1.2**
	comp=Z,19nm,0.8s,baz=51,slow=2.9,SNR=15								
KEST					LR	LR	20	02	33.7
	comp=Z,540nm,20.9s,baz=5.5,slow=41								
KEST	**Kesra**	**49.55**	**295**		P	**P**	**19**	**37**	**33.4 +1.2**
KEST					IAmb	IAmb	19	38	00.3
	comp=Z,117nm,1.4s								
YOJ	**Yonaguni jima**	**49.66**	**80**		IAMs_20	IAMs_20	19	51	41.4
	comp=Z,2μm,21.0s								
HAMF	**Hammerfest**	**49.67**	**342**	*eP*		**P**	**19**	**37**	**33.2 +0.9**
RER	**Riviere de l'E**	**49.71**	**194**		P	**P**	**19**	**37**	**33.6 +0.3**
RER					IAmb	IAmb	19	37	35.6
	comp=Z,100nm,1.1s								
BFO	**Black Forest**	**49.74**	**311**		P	**P**	**19**	**37**	**32.8 -0.5**
BFO					pmax	pmax			
	comp=Z,33nm,1.5s								
BFO	**Black Forest**	**49.74**	**311**		P	**P**	**19**	**37**	**32.8 -0.5**
NC602	**NORSAR Array S**	**49.85**	**328**	*eP*		**P**	**19**	**37**	**33.9 0.0**
NC602	**NORSAR Array S**	**49.85**	**328**		P	**P**	**19**	**37**	**33.3 -0.6**
NC602					IAmb	IAmb	19	37	37.0
	comp=Z,76nm,0.8s								
NC405	**NORSAR Array S**	**49.87**	**328**		P	**P**	**19**	**37**	**33.6 -0.5**
OSL	**Oslo**	**50.04**	**327**	*eP*		**P**	**19**	**37**	**36.1 +0.9**
NB201	**NORSAR Array S**	**50.05**	**328**		P	**P**	**19**	**37**	**35.2 -0.2**
NC303	**NORSAR Array S**	**50.06**	**328**		P	**P**	**19**	**37**	**35.3 -0.2**
NB2	**NORSAR Subarra**	**50.09**	**328**		P	**P**	**19**	**37**	**35.4 -0.4**
	comp=Z,69nm,0.8s,baz=108,slow=7.4								
NB2	**NORSAR Subarra**	**50.09**	**328**		P	**P**	**19**	**37**	**35.4 -0.4**
	baz=108,slow=7.4								
NOA	**NORSAR Array B**	**50.09**	**328**		P	**P**	**19**	**37**	**35.3 -0.4**
	comp=Z,34nm,0.7s,baz=107,slow=7.4,SNR=67								
MUD	**Monsted U'grnd**	**50.10**	**322**	*i*	P	**P**	**19**	**37**	**36.9 +1.1**
MUD					pmax	pmax			
	comp=Z,48nm,0.9s								
MUD	**Monsted U'grnd**	**50.10**	**322**	*i*	P	**P**	**19**	**37**	**36.9 +1.1**
	comp=Z,48nm,0.9s								
NAO01	**NORSAR Array S**	**50.19**	**328**		P	**P**	**19**	**37**	**36.5 +0.1**
ABPO	**Ambohimpanom**	**50.26**	**205**		P	**P**	**19**	**37**	**37.8 +0.2**
ABPO					pmax	pmax			
	comp=Z,87nm,1.1s								
ABPO					MLR	MLR			
	comp=Z,900nm,18.0s								
ABPO	**Ambohimpanom**	**50.26**	**205**		P	**P**	**19**	**37**	**37.8 +0.2**
ABPO					IAmb	IAmb	19	37	40.1
	comp=Z,87nm,1.1s								
ABPO					IAMs_20	IAMs_20	19	57	45.4
	comp=Z,947nm,18.0s								
NBO00	**NORSAR Array S**	**50.29**	**328**		P	**P**	**19**	**37**	**37.0 -0.2**
NBO00					IAmb	IAmb	19	37	40.1
	comp=Z,95nm,0.9s								
NC204	**NORSAR Array S**	**50.36**	**328**		P	**P**	**19**	**37**	**37.6 -0.3**
SENIN	**Lac Senin/Sane**	**50.40**	**309**		P	**P**	**19**	**37**	**37.6 -1.0**
MOR8	**Moi Rana**	**50.43**	**335**	*eP*		**P**	**19**	**37**	**38.1 -0.2**
TRO	**Tromso**	**50.47**	**340**	*eP*		**P**	**19**	**37**	**39.0 +0.6**
ECH	**Echery**	**50.52**	**311**		P	**P**	**19**	**37**	**39.0 -0.2**
ECH					pmax	pmax			
	comp=Z,57nm,1.4s								
ECH	**Echery**	**50.52**	**311**		P	**P**	**19**	**37**	**39.0 -0.2**
KONO	**Kongsberg**	**50.52**	**326**		P	**P**	**19**	**37**	**39.6 +0.6**
KONO					pmax	pmax			
	comp=Z,58nm,1.0s								
KONO	**Kongsberg**	**50.52**	**326**	*eP*		**P**	**19**	**37**	**39.0 +0.1**
KONO	**Kongsberg**	**50.52**	**326**		P	**P**	**19**	**37**	**39.6 +0.6**
KONO					IAmb	IAmb	19	37	42.0
	comp=Z,58nm,1.0s								
ZEA	**Zeya**	**50.55**	**42**	*eP*		**P**	**19**	**37**	**40.8 +1.5**
ZEA				*eS*		**S**	**19**	**44**	**58.0 +5.1**
ZEA					pmax	pmax			
	comp=Z,600nm,4.0s								
ZEA					pmax	pmax			
	comp=E,500nm,6.0s								
ZEA					pmax	pmax			
	comp=N,110nm,1.8s								
ZEA					pmax	pmax			
	comp=E,130nm,1.4s								
ZEA					pmax	pmax			
	comp=Z,130nm,1.4s								
ZEA					smax	smax			
	comp=N,700nm,6.0s								
ZEA					MLR	MLR			
	comp=Z,1μm,15.0s								
ZEA					MLR	MLR			
	comp=E,900nm,14.0s								
ZEA					MLR	MLR			
	comp=N,2μm,17.0s								
HOMB	**Homborsund**	**50.79**	**324**	*eP*		**P**	**19**	**37**	**42.2 +1.2**
NSS	**Namsos**	**50.81**	**333**	*eP*		**P**	**19**	**37**	**40.9 -0.1**
BNI	**Bardonecchia**	**50.85**	**307**		P	**P**	**19**	**37**	**41.5 -0.4**
BNI					pmax	pmax			
	comp=Z,73nm,1.5s								
BNI	**Bardonecchia**	**50.85**	**307**		P	**P**	**19**	**37**	**41.5 -0.4**
TJN	**Taejon**	**50.87**	**64**	⇑	*eP*	**P**	**19**	**37**	**42.7 +0.7**
KKM	**Kota Kinabalu**	**50.91**	**106**		P	**P**	**19**	**37**	**41.7 -0.9**
KKM					IAMs_20	IAMs_20	20	01	42.8
	comp=Z,1μm,21.0s								
CMAH	**Djebel Manchou**	**50.98**	**296**		P	**P**	**19**	**37**	**43.3 +0.4**
KONS	**Konsvik**	**51.05**	**335**	*eP*		**P**	**19**	**37**	**43.3 +0.5**
KS19	**Wonju Array Si**	**51.12**	**63**		P	**P**	**19**	**37**	**43.7 -0.2**
TBLU	**Trondheim**	**51.13**	**331**	*eP*		**P**	**19**	**37**	**43.6 +0.1**
KSRS	**Korea Array**	**51.17**	**63**		P	**P**	**19**	**37**	**44.0 -0.2**
	comp=Z,30nm,0.9s,baz=269,slow=7.5,SNR=40								
KSRS					LR	LR	20	02	09.3
	comp=Z,2μm,18.2s,baz=272,slow=39								
WLF	**Walferdange**	**51.22**	**313**		P	**P**	**19**	**37**	**45.3 +0.9**
WLF					pmax	pmax			
	comp=Z,112nm,1.6s								
WLF	**Walferdange**	**51.22**	**313**		P	**P**	**19**	**37**	**45.3 +0.9**
WLF	**Walferdange**	**51.22**	**313**		P	**P**	**19**	**37**	**45.4 +0.9**
WLF					IAmb	IAmb	19	37	47.0
	comp=Z,112nm,1.6s								
DOMB	**Dombas**	**51.34**	**329**	*eP*		**P**	**19**	**37**	**45.6 +0.5**
MEM	**Membach**	**51.35**	**314**		P	**P**	**19**	**37**	**46.1 +0.7**
SKAR	**Skarslia**	**51.38**	**327**	*eP*		**P**	**19**	**37**	**46.8 +1.3**
SNART	**Snartemo**	**51.47**	**324**	*eP*		**P**	**19**	**37**	**47.3 +1.1**
LOF	**Lofoten**	**51.53**	**337**	*eP*		**P**	**19**	**37**	**46.5 +0.1**
CKFL	**Kef-Lekhel**	**51.56**	**296**		P	**P**	**19**	**37**	**48.2 +0.8**
BCLA	**Clavier**	**51.79**	**314**		P	**P**	**19**	**37**	**49.0 +0.3**
MDJ	**Mudanjiang**	**51.80**	**53**		P	**P**	**19**	**37**	**49.3 +0.5**
MDJ					PP	**PP**	**19**	**39**	**42.4 -4.1**
MDJ					S	**S**	**19**	**45**	**10.1 -0.4**
MDJ					SS	**SS**	**19**	**48**	**46.0 -0.9**
MDJ					pmax	pmax			
	comp=Z,62nm,1.6s								
MDJ					pmax	pmax			
	comp=Z,1μm,3.3s								
MDJ					LR	LR			
	comp=Z,2μm,6.3s								
MDJ					LR	LR			
	comp=Z,1μm,9.7s								
MDJ					LR	LR			
	comp=Z,2μm,9.3s								
MDJ	**Mudanjiang**	**51.80**	**53**		P	**P**	**19**	**37**	**49.1 +0.3**
MDJ					IAmb	IAmb	19	37	53.4
	comp=Z,129nm,1.3s								
SPMM	**Sapulut**	**51.81**	**107**		P	**P**	**19**	**37**	**50.0 +0.7**
BLS5	**Blasjo**	**52.04**	**325**	*eP*		**P**	**19**	**37**	**52.0 +1.6**
ODD1	**Odda**	**52.05**	**326**	*eP*		**P**	**19**	**37**	**51.8 +1.3**
BMRD	**Maredsous**	**52.13**	**314**		P	**P**	**19**	**37**	**52.0 +0.8**
MOL	**Molde**	**52.16**	**330**	*eP*		**P**	**19**	**37**	**50.7 -0.5**
DFRA	**Djebel Bou Aff**	**52.22**	**296**		P	**P**	**19**	**37**	**53.1 +0.9**
CISI	**Cisompet, Garu**	**52.33**	**126**		IAMs_20	IAMs_20	20	02	43.5
	comp=Z,982nm,20.0s								
SSB	**Saint Sauveur**	**52.35**	**307**		P	**P**	**19**	**37**	**52.5 -0.5**
SSB					pmax	pmax			
	comp=Z,20nm,0.8s								
SSB	**Saint Sauveur**	**52.35**	**307**		P	**P**	**19**	**37**	**52.5 -0.5**
SNF	**Seneffe**	**52.45**	**314**		P	**P**	**19**	**37**	**54.2 +0.6**
	comp=Z,62nm,1.7s								
HYA	**Hoyanger**	**52.49**	**328**	*eP*		**P**	**19**	**37**	**54.4 +0.7**
KMY	**Karmoy**	**52.62**	**325**	*eP*		**P**	**19**	**37**	**55.0 +0.3**
BER	**Bergen**	**52.76**	**327**	*eP*		**P**	**19**	**37**	**56.4 +0.7**
ASK	**Askoy**	**52.85**	**327**	*eP*		**P**	**19**	**37**	**56.9 +0.5**
YAK	**Yakutsk**	**53.08**	**31**	*c i*	P	**P**	**19**	**37**	**58.2 +0.2**
YAK				*e*			19	39	57.4
YAK				*eS*		**S**	**19**	**45**	**25.5 -2.0**
YAK				*e*	*SS	sS	19	45	44.9 +10
YAK				*eSS*		**SS**	**19**	**49**	**07.5 +1.0**
YAK					pmax	pmax			
	comp=Z,108nm,0.9s								
YAK					pmax	pmax			
	comp=N,15nm,1.2s								
YAK					pmax	pmax			
	comp=E,82nm,1.3s								
YAK					pmax	pmax			
	comp=Z,113nm,2.7s								
YAK					pmax	pmax			
	comp=N,65nm,2.4s								
YAK					pmax	pmax			
	comp=E,105nm,2.2s								
YAK					smax	smax			
	comp=N,148nm,2.7s								
YAK					smax	smax			
	comp=E,151nm,2.7s								
YAK					MLR	MLR			
	comp=Z,826nm,19.0s								
YAK					MLR	MLR			
	comp=E,1μm,18.0s								
YAK	**Yakutsk**	**53.08**	**31**		P	**P**	**19**	**37**	**58.1 0.0**
	comp=E,47nm,0.8s								
YAK	**Yakutsk**	**53.08**	**31**		P	**P**	**19**	**37**	**57.7 -0.3**
YAK					IAmb	IAmb	19	38	01.5
	comp=Z,122nm,1.0s								
KLR	**Kul'dur**	**53.14**	**48**	*c i*	P	**P**	**19**	**37**	**59.4 +0.7**
KLR					pmax	pmax			
	comp=Z,194nm,1.7s								
KLR	**Kul'dur**	**53.14**	**48**		P	**P**	**19**	**37**	**59.5 +0.7**
	comp=Z,51nm,1.1s,baz=278,slow=9.0,SNR=56								
SUE	**Sulen**	**53.15**	**327**	*eP*		**P**	**19**	**37**	**59.0 +0.4**
USA0B	**Ussuriysk Arra**	**53.54**	**54**		P	**P**	**19**	**38**	**02.2 +0.5**
USA0B					pmax	pmax			
	comp=Z,52nm,1.3s								
USA0B	**Ussuriysk Arra**	**53.54**	**54**		P	**P**	**19**	**38**	**02.1 +0.5**
USRK	**Ussuriysk Ar.**	**53.54**	**54**		P	**P**	**19**	**38**	**02.2 +0.5**
	comp=Z,13nm,1.0s,baz=259,slow=6.2,SNR=12								
USRK					LR	LR	20	04	06.5
	comp=Z,938nm,20.3s,baz=248,slow=40								
VLA	**Vladivostok**	**53.56**	**55**	⇓	*eP*	**P**	**19**	**38**	**02.1 +0.2**
VLA					pmax	pmax			
	comp=Z,342nm,2.0s								
JNU	**Nakatsue**	**54.29**	**68**		P	**P**	**19**	**38**	**07.8 +0.4**
	comp=Z,32nm,0.9s,baz=241,slow=5.0,SNR=7.2								
JNU	**Nakatsue**	**54.29**	**68**		P	**P**	**19**	**38**	**08.0 +0.6**
UGM	**Wanagama**	**54.55**	**124**		IAMs_20	IAMs_20	20	03	34.1
	comp=Z,1μm,20.0s								
HSPB	**Hornsund (broa**	**55.13**	**347**	*eP*		**P**	**19**	**38**	**14.3 +1.5**
TIXI	**Tiksi**	**55.20**	**20**	*c i*	P	**P**	**19**	**38**	**13.4 +0.1**
TIXI					pmax	pmax			
	comp=Z,89nm,1.7s								
TIXI					MLR	MLR			
	comp=Z,1μm,20.0s								
TIXI	**Tiksi**	**55.20**	**20**		P	**P**	**19**	**38**	**12.6 -0.8**
TIXI					IAMs_20	IAMs_20	20	04	45.0
	comp=Z,2μm,19.0s								
SPA0	**Spitsbergen Ar**	**55.61**	**349**	*eP*		**P**	**19**	**38**	**17.1 +0.9**
SPA0	**Spitsbergen Ar**	**55.61**	**349**		P	**P**	**19**	**38**	**17.0 +0.7**
SPA0					IAmb	IAmb	19	38	20.4
	comp=Z,99nm,1.3s								
TAM	**Tamanrasset**	**55.78**	**280**		P	**P**	**19**	**38**	**18.5 0.0**
TAM					pmax	pmax			
	comp=Z,33nm,1.3s								
TAM					MLR	MLR			
	comp=Z,1μm,18.0s								
TAM	**Tamanrasset**	**55.78**	**280**		P	**P**	**19**	**38**	**18.5 0.0**
TAM					IAMs_20	IAMs_20	20	05	22.5
	comp=Z,1μm,18.0s								
GRNR	**Gornyy**	**56.10**	**46**	⇑	*i*	P	**P**	**19**	**38**	**21.0 +0.8**
GRNR					*eS*		**S**	**19**	**46**	**12.9 +4.4**
GRNR					pmax	pmax			
	comp=Z,50nm,1.3s								
GRNR					smax	smax			
	comp=E,6.0nm,1.3s								
GRNR					MLR	MLR			
	comp=Z,570nm,14.0s								
PAGZ	**Pagadian**	**56.25**	**99**		P	**P**	**19**	**38**	**21.4 -0.4**
BESP	**Borongan**	**56.39**	**94**		P	**P**	**19**	**38**	**26.4 +3.6**
MSLP	**Maasin**	**56.52**	**96**		P	**P**	**19**	**38**	**23.2 -0.4**
KBS	**Kingsbay**	**56.76**	**349**		P	**P**	**19**	**38**	**25.3 +0.9**
KBS					pmax	pmax			
	comp=Z,177nm,1.8s								
KBS	**Kingsbay**	**56.76**	**349**	*eP*		**P**	**19**	**38**	**25.7 +1.3**
KBS	**Kingsbay**	**56.76**	**349**		P	**P**	**19**	**38**	**25.3 +0.9**
KBS					IAmb	IAmb	19	38	26.8
	comp=Z,177nm,1.8s								
ESK	**Eskdalemuir**	**56.97**	**320**	*i*	P	**P**	**19**	**38**	**28.5 +2.2**
LSZ	**Lusaka**	**57.11**	**227**		P	**P**	**19**	**38**	**28.0 +0.1**
LSZ					pmax	pmax			
	comp=Z,24nm,1.2s								
LSZ					MLR	MLR			
	comp=Z,900nm,20.0s								
LSZ	**Lusaka**	**57.11**	**227**		P	**P**	**19**	**38**	**28.0 +0.1**
LSZ	**Lusaka**	**57.11**	**227**		IAMs_20	IAMs_20	20	03	27.0
	comp=Z,876nm,20.0s								
JAGI	**Jajag, Banyuwa**	**57.62**	**122**		P	**P**	**19**	**38**	**28.7 -2.7**
JAGI					IAMs_20	IAMs_20	20	03	09.6
	comp=Z,800nm,21.0s								
BUKP	**Musuan**	**57.71**	**98**		P	**P**	**19**	**38**	**32.4 +0.3**
SKMP	**Bagumbayan, Su**	**57.89**	**100**		P	**P**	**19**	**38**	**32.6 -0.8**
KCP	**Kidapawan**	**58.14**	**99**	⇓	P	**P**	**19**	**38**	**36.8 +1.6**
DAV	**Davao City (W)**	**58.54**	**99**		P	**P**	**19**	**38**	**38.9 +1.0**
	comp=Z,111nm,0.4s,baz=63,slow=3.8,SNR=12								
DAV	**Davao City (W)**	**58.54**	**99**	⇑	*eP*	**P**	**19**	**38**	**38.3 +0.4**
DAV	**Davao City (W)**	**58.54**	**99**		IAmb	IAmb	19	38	42.7
	comp=Z,1μm,1.8s								
NKL	**Nikolayevsk**	**58.56**	**43**		P	**P**	**19**	**38**	**38.7 +1.2**
NKL					*eS*	**S**	**19**	**46**	**39.0 -1.7**
NKL					pmax	pmax			
	comp=Z,63nm,1.6s								
NKL					pmax	pmax			
	comp=N,4.0nm,1.0s								
NKL					pmax	pmax			
	comp=E,16nm,1.7s								
NKL					pmax	pmax			
	comp=Z,89nm,2.2s								
NKL					smax	smax			
	comp=N,7.0nm,1.3s								
NKL					smax	smax			
	comp=E,91nm,2.6s								
INU	**Inuyama**	**58.77**	**64**		P	**P**	**19**	**38**	**39.6 +0.4**
INU					IAmb	IAmb	19	38	43.0
	comp=Z,109nm,1.3s								
ESBB	**Sonseca Array**	**59.30**	**302**		P	**P**	**19**	**38**	**43.9 +0.9**
ESBB					IAmb	IAmb	19	38	44.8
	comp=Z,63nm,1.6s								
ESDC	**Sonseca Array**	**59.30**	**302**		P	**P**	**19**	**38**	**42.1 -0.9**
	comp=Z,5.1nm,0.8s,baz=60,slow=7.3,SNR=17								
ESDC					LR	LR	20	08	39.4
	comp=Z,344nm,18.3s,baz=75,slow=40								
MJB9	**Matsu-Tunnel**	**59.43**	**62**		P	**P**	**19**	**38**	**44.0 +0.1**
MJB9					IAmb	IAmb	19	38	47.3
	comp=Z,78nm,1.3s								
MAJO	**Matsushiro**	**59.43**	**62**	⇑	*eP*	**P**	**19**	**38**	**44.6 +0.7**
MAJO					pmax	pmax			
	comp=Z,74nm,1.4s								
MAJO	**Matsushiro**	**59.43**	**62**		P	**P**	**19**	**38**	**44.1 +0.2**
MAJO					IAmb	IAmb	19	38	47.3
	comp=Z,80nm,1.4s								
MAT	**Matsushiro**	**59.43**	**62**		P	**P**	**19**	**38**	**44.0 +0.1**
MJAR	**Matsushiro Arr**	**59.43**	**62**		P	**P**	**19**	**38**	**43.6 -0.3**
	comp=Z,11nm,1.0s,baz=282,slow=7.7,SNR=10								
MJAR					LR	LR	20	06	20.6
	comp=Z,812nm,19.8s,baz=310,slow=38								
KAPI	**Kappang**	**59.91**	**114**		IAMs_20	IAMs_20	20	07	20.2
	comp=Z,711nm,19.0s								
TYV	**Tymovskoe**	**60.03**	**45**	*eP*		**P**	**19**	**38**	**49.0 +1.3**
TYV					pmax	pmax			
	comp=Z,34nm,1.7s								
TYV					pmax	pmax			
	comp=Z,600nm,3.4s								
LUWI	**Luwuk**	**60.18**	**109**		P	**P**	**19**	**38**	**51.1 +1.9**
LUWI					IAmb	IAmb	19	39	06.5
	comp=Z,53nm,1.0s								
LUWI					IAMs_20	IAMs_20	20	07	33.2
	comp=Z,805nm,20.0s								
YSS	**Yuzh-Sakhalins**	**60.69**	**49**	*k i*	P	**P**	**19**	**38**	**53.0 +0.7**
YSS				*e*			19	39	07.5
YSS					pmax	pmax			
	comp=N,20nm,1.1s								
YSS					pmax	pmax			
	comp=E,30nm,1.1s								
YSS					pmax	pmax			
	comp=Z,70nm,1.1s								
YSS					MLR	MLR			
	comp=Z,1μm,13.0s								
YSS					MLR	MLR			
	comp=E,900nm,16.0s								
YSS	**Yuzh-Sakhalins**	**60.69**	**49**		P	**P**	**19**	**38**	**52.9 +0.7**
MVO	**Moncorvo**	**61.28**	**304**	*eP*		**P**	**19**	**38**	**57.0 +0.5**
MTE	**Manteigas**	**61.83**	**303**	*eP*		**P**	**19**	**38**	**59.0 -1.2**
PCBR	**Castelo Branco**	**61.91**	**303**	*eP*		**P**	**19**	**39**	**00.7 0.0**
DAG	**Danmarks Havn**	**62.54**	**345**	*i*	P	**P**	**19**	**39**	**05.0 +0.7**
DAG					pmax	pmax			
	comp=Z,64nm,1.0s								
DAG	**Danmarks Havn**	**62.54**	**345**	*i*	P	**P**	**19**	**39**	**05.0 +0.7**
	comp=Z,64nm,1.0s								
EVO	**Evora**	**62.63**	**301**	*eP*		**P**	**19**	**39**	**05.4 -0.1**
TOC2	**Torodi Ar. Sit**	**62.67**	**271**		IAMs_20	IAMs_20	20	08	23.3
	comp=Z,1μm,20.0s								
TOC3	**Torodi Ar. Sit**	**62.67**	**271**		IAMs_20	IAMs_20	20	08	23.5
	comp=Z,1μm,21.0s								
TOC1	**Torodi Ar. Sit**	**62.68**	**271**		IAMs_20	IAMs_20	20	01	58.6
	comp=Z,1μm,19.0s								
TOB2	**Torodi Ar. Sit**	**62.68**	**271**		IAMs_20	IAMs_20	20	01	59.6
	comp=Z,1μm,18.0s								
TOA2	**Torodi Ar. Sit**	**62.69**	**271**		IAMs_20	IAMs_20	20	08	23.4
	comp=Z,1μm,21.0s								
TOB3	**Torodi Ar. Sit**	**62.69**	**271**		IAMs_20	IAMs_20	20	08	23.4
	comp=Z,1μm,20.0s								
TOA0	**Torodi Ar

PET eSS SS 19 53 17.3 -1.2
PET eSSS SSS 19 56 25.2
PET MLR MLR
comp=Z,1μm,19.0s
MBWA Marble Bar 69.97 128 IAMs_20 IAMs_20 20 07 54.9
comp=Z,980nm,21.0s
PSAD1 Pilbara Seismi 70.24 128 IAMs_20 IAMs_20 20 12 07.9
comp=Z,1μm,20.0s
PSA00 Pilbara Seismi 70.33 128 P P 19 39 54.1 -0.8
PSA00 IAmb IAmb 19 39 57.7
comp=Z,97nm,1.4s
PSAB3 Pilbara Seismi 70.35 128 IAMs_20 IAMs_20 20 12 12.8
comp=Z,722nm,18.0s
PSAD2 Pilbara Seismi 70.44 128 IAMs_20 IAMs_20 20 12 58.2
comp=Z,1μm,22.0s
DBIC Dimbokro 71.29 268 P P 19 40 00.6 -0.4
DBIC pmax pmax
comp=Z,120nm,1.7s
DBIC Dimbokro 71.29 268 P P 19 40 00.8 -0.2
comp=Z,14nm,0.8s,baz=51,slow=9.2,SNR=14
DBIC LR LR 20 14 19.4
comp=Z,387nm,18.1s,baz=38,slow=38
DBIC Dimbokro 71.29 268 P P 19 40 00.6 -0.4
DBIC IAmb IAmb 19 40 04.7
comp=Z,120nm,1.6s
KIC Kosan Boka 71.33 267 *e*P P 19 40 01.1 -0.1
comp=Z,248nm,1.6s
KIC Kosan Boka 71.33 267 P P 19 40 01.1 -0.1
TIC Toumodi 71.45 268 *e*P P 19 40 00.5 -1.5
comp=Z,7.3nm,0.3s
TIC Toumodi 71.45 268 P P 19 40 00.5 -1.5
TIC Toumodi 71.45 268 P P 19 40 00.5 -1.5
LIC Lamto 71.64 267 *e*P P 19 40 02.9 -0.2
comp=Z,164nm,1.6s
LIC Lamto 71.64 267 P P 19 40 02.9 -0.2
KULLO Kullorsuaq 72.08 347⇑ *i*P P 19 40 05.5 +0.8
KULLO pmax pmax
comp=Z,150nm,1.4s
KULLO Kullorsuaq 72.08 347⇑ *i*P P 19 40 05.5 +0.8
comp=Z,147nm,1.4s
SARN Sarigan 72.31 80 P P 19 40 05.0 -2.1
FITZ Fitzroy Crossi 72.32 122 P P 19 40 06.8 -0.2
FITZ IAmb IAmb 19 40 10.4
comp=Z,55nm,1.1s
TULEG Thule 72.75 350 P P 19 40 08.7 0.0
KNRA Kununurra 73.29 118 P P 19 40 12.5 -0.2
MTN Manton Dam 73.57 114 P P 19 40 16.0 +1.5
SUR Sutherland 74.30 220 P P 19 40 20.4 +1.8
SUR IAmb IAmb 19 40 21.5
comp=Z,55nm,1.2s
SFJD Kangerlussuaq 75.03 339 P P 19 40 22.6 +0.4
SFJD pmax pmax
comp=Z,120nm,1.6s
SFJD Kangerlussuaq 75.03 339 *i*P P 19 40 22.0 -0.2
SFJD Kangerlussuaq 75.03 339 P P 19 40 22.6 +0.4
SFJD IAmb IAmb 19 40 24.0
comp=Z,120nm,1.6s
NWAO Narrogin (SRO) 76.48 139 P P 19 40 30.6 -0.3
NWAO pmax pmax
comp=Z,42nm,1.0s
NWAO Narrogin (SRO) 76.48 139 P P 19 40 30.6 -0.3
NWAO IAmb IAmb 19 40 33.0
comp=Z,42nm,0.9s
NWAO Narrogin (SRO) 76.48 139 P P 19 40 30.6 -0.3
NWAO IAmb IAmb 19 40 33.0
comp=Z,34nm,0.9s
RES Resolute Bay 77.39 355 P P 19 40 35.6 +0.1
comp=Z,7.0nm,1.0s,baz=23,slow=10,SNR=8.2
RDOG Red Dog Mine 77.69 17 P P 19 40 38.0 +0.7
RDOG IAmb IAmb 19 40 39.2
comp=Z,85nm,1.4s
ANM Nome 79.45 20 P P 19 40 47.4 +0.3
ANM pmax pmax
comp=Z,100nm,1.6s
ANM Nome 79.45 20 P P 19 40 47.4 +0.3
ANM IAmb IAmb 19 40 52.0
comp=Z,100nm,1.6s
WRA Warramunga Arr 80.07 119 P P 19 40 50.8 -0.3
WRAB Tennant Creek 80.07 119*c i*P P 19 40 50.7 -0.4
WRAB pmax pmax
comp=Z,126nm,1.3s
WRAB Tennant Creek 80.07 119 P P 19 40 50.4 -0.7
WRAB IAmb IAmb 19 40 54.4
comp=Z,125nm,1.2s
WRAB Tennant Creek 80.07 119 IAMs_20 IAMs_20 20 18 22.9
comp=Z,555nm,22.0s
TOLK Toolik Lake Re 80.32 13 P P 19 40 53.0 +1.2
baz=327
TOLK Toolik Lake Re 80.32 13 P P 19 40 52.7 +0.9
TOLK IAmb IAmb 19 40 56.4
comp=Z,85nm,1.1s
COLD Coldfoot 81.38 14 P P 19 40 58.2 +0.8
AS31 Alice Springs 81.83 122 P P 19 40 59.3 -1.1
ASAR Alice Springs 81.83 122 P P 19 40 59.9 -0.6
comp=Z,27nm,1.0s,baz=308,slow=5.3,SNR=78
ASAR PKPPKP 20 07 38.4
comp=Z,0.5nm,0.8s,baz=118,slow=2.1,SNR=4.1
ASAR LR LR 20 16 53.4
comp=Z,414nm,21.8s,baz=308,slow=35
FORT Forrest 81.87 131 P P 19 41 00.2 -0.3
FORT IAmb IAmb 19 41 01.1
comp=Z,89nm,1.1s
FYU Fort Yukon 82.97 13 P P 19 41 06.7 +1.1
FYU IAMs_20 IAMs_20 20 18 08.3
comp=Z,451nm,22.0s
C36M Paulatuk 83.04 4 P P 19 41 06.4 +0.4
baz=350
MLY Manley 83.10 15 P P 19 41 06.8 +0.3
MLY IAmb IAmb 19 41 08.6
comp=Z,47nm,1.4s
INK Inuvik 83.19 8 P P 19 41 07.0 +0.2
INK pmax pmax
comp=Z,140nm,1.6s
INK Inuvik 83.19 8 P P 19 41 07.8 +1.0
comp=Z,30nm,0.8s,baz=355,slow=7.0,SNR=39
INK Inuvik 83.19 8 P P 19 41 07.0 +0.2
MDM Murphy Dome 83.74 14 P P 19 41 09.6 -0.2
MDM IAmb IAmb 19 41 14.0
comp=Z,54nm,1.1s
POKR Poker Plat Res 83.78 14 P P 19 41 10.2 +0.3
baz=329
BPAW Bear Paw Mtn. 83.82 16 P P 19 41 10.1 -0.1
PRP Porcupine Dome 83.83 13 P P 19 41 10.9 +0.6
PRP IAmb IAmb 19 41 13.2
comp=Z,125nm,2.0s
TCOL CIGO, UAF Yank 83.89 14 P P 19 41 10.7 +0.3
baz=329
COLA College 83.89 14*ce*P P 19 41 11.1 +0.6
COLA pmax pmax
comp=Z,64nm,1.5s
COLA College 83.89 14 P P 19 41 11.3 +0.8
CCB Clear Creek Bu 84.10 14 P P 19 41 11.4 -0.1
WRH Wood River Hil 84.19 15 P P 19 41 11.9 -0.2
IL31 84.19 14 P P 19 41 11.9 -0.1
IL31 IAmb IAmb 19 41 13.2
comp=Z,51nm,1.6s
ILAR Eielson Array 84.19 14 P P 19 41 11.6 -0.5
comp=Z,10nm,1.2s,baz=317,slow=3.4,SNR=29
ILAR PP PP 19 44 27.7 +2.1
comp=Z,8.1nm,1.2s,baz=316,slow=6.2,SNR=6.4
ILAR LR LR 20 24 18.8
comp=Z,371nm,18.5s,baz=334,slow=40
KTH Kantishna Hill 84.30 16 P P 19 41 12.7 0.0
KTH IAmb IAmb 19 41 13.4
comp=Z,119nm,1.9s
HDA Harding Lake 84.49 14 P P 19 41 12.9 -0.7
baz=330
HDA Harding Lake 84.49 14 P P 19 41 13.2 -0.4
HDA IAmb IAmb 19 41 16.6
comp=Z,93nm,1.9s
PPLA Purkeypile 84.52 17 P P 19 41 16.1 +2.2
TRF Thorofare Moun 84.54 16 P P 19 41 14.0 0.0
TRF IAmb IAmb 19 41 19.4
comp=Z,73nm,1.7s
EPYK Eagle Plains 84.60 10 P P 19 41 14.4 +0.3
baz=339
EPYK Eagle Plains 84.60 10 P P 19 41 14.1 0.0
MCK McKinley 84.62 15 P P 19 41 14.0 -0.3
MCK pmax pmax
comp=Z,77nm,1.4s
MCK McKinley 84.62 15 P P 19 41 14.0 -0.3
MCK IAmb IAmb 19 41 15.8
comp=Z,77nm,1.4s
RND Reindeer 84.92 16 P P 19 41 16.1 +0.3
RND pmax pmax
comp=Z,58nm,1.3s
RND Reindeer 84.92 16 P P 19 41 16.1 +0.3
RND IAmb IAmb 19 41 19.0
comp=Z,58nm,1.3s
EGAK Eagle 85.33 12 P P 19 41 19.0 +1.2
EGAK IAmb IAmb 19 41 19.9
comp=Z,58nm,1.4s
SKT Skwentna 85.45 17 P P 19 41 18.5 +0.1
SKT IAmb IAmb 19 41 21.1
comp=Z,112nm,1.6s
SCRK Sand Creek 85.50 13 P P 19 41 19.2 +0.4
SCRK IAmb IAmb 19 41 23.3
comp=Z,85nm,1.5s
RIDG Independent Ri 85.53 14 P P 19 41 19.5 +0.6
RIDG IAmb IAmb 19 41 20.5
comp=Z,105nm,1.8s
DOT Dot Lake 85.78 14 P P 19 41 20.4 +0.3
DOT IAmb IAmb 19 41 24.2
comp=Z,39nm,1.4s
PAX Paxson 86.08 14 P P 19 41 22.0 +0.4
PAX pmax pmax
comp=Z,35nm,1.5s
PAX Paxson 86.08 14 P P 19 41 22.0 +0.4
SUA Susitna One 86.09 17 P P 19 41 21.3 -0.4
SUA IAmb IAmb 19 41 28.4
comp=Z,71nm,1.4s
GHO Glory Hole Cre 86.30 16 P P 19 41 23.2 +0.5
GHO IAmb IAmb 19 41 26.3
comp=Z,57nm,1.1s
DAWY Dawson 86.30 11 P P 19 41 22.9 +0.2
DAWY IAmb IAmb 19 41 24.9
comp=Z,77nm,1.4s
RSO Redoubt South 86.37 19 P P 19 41 23.1 -0.2
PMR Palmer 86.40 17 P P 19 41 23.4 +0.3
PMR pmax pmax
comp=Z,75nm,1.5s
PMR Palmer 86.40 17 P P 19 41 23.4 +0.3
PMR IAmb IAmb 19 41 24.6
comp=Z,75nm,1.5s
SML Sawmill 86.42 16 P P 19 41 23.4 +0.2
MENT Mentasta 86.48 14 P P 19 41 24.4 +0.8
MENT IAmb IAmb 19 41 26.0
comp=Z,65nm,1.6s
RC01 Rabbit Creek A 86.67 17 P P 19 41 24.8 +0.3
RC01 IAmb IAmb 19 41 28.1
comp=Z,42nm,1.1s
KNK Knik Glacier 86.72 16 P P 19 41 25.7 +1.0
VRDI Verde Repeater 88.06 14 P P 19 41 31.6 +0.1
VRDI IAmb IAmb 19 41 33.8
comp=Z,66nm,1.4s
BALM Baldy 88.48 14 P P 19 41 35.2 +1.8
BBOO Buckleboo 88.56 128 P P 19 41 33.1 -0.7
SCHQ Schefferville 89.08 336 LR LR 20 22 35.5
comp=Z,576nm,20.2s,baz=48,slow=36
HYT Haines Junctio 89.64 12 P P 19 41 40.6 +1.8
HYT IAmb IAmb 19 41 41.0
comp=Z,35nm,1.2s
YKW3 Yellowknife Ar 90.21 1 P P 19 41 41.0 -0.3
YKW3 IAmb IAmb 19 41 43.3
comp=Z,49nm,1.5s
WHY Whitehorse 90.25 11 P P 19 41 42.0 +0.4
YKA Yellowknife Ar 90.28 1 P P 19 41 41.8 +0.3
comp=Z,9.7nm,0.8s,baz=350,slow=4.7,SNR=106
YKA PKKPbc **PKKPbc 19 59 10.0 -1.7**
comp=Z,0.4nm,0.8s,baz=171,slow=2.6,SNR=4.9
YKA LR LR 20 29 13.7
comp=Z,27nm,18.0s,baz=348,slow=40
SKAG Skagway 91.31 11 P P 19 41 48.1 +1.7
SKAG IAmb IAmb 19 41 49.3
comp=Z,55nm,1.4s
STKA Stephens Creek 92.00 125 P P 19 41 48.5 -1.5
STKA pmax pmax
comp=Z,7.0nm,1.4s
STKA MLR MLR
comp=Z,200nm,20.0s
STKA Stephens Creek 92.00 125 P P 19 41 50.0 +0.1
comp=Z,9.5nm,1.0s,baz=5.7,slow=2.6,SNR=8.8
STKA LR LR 20 26 30.1
comp=Z,455nm,19.5s,baz=276,slow=38
STKA Stephens Creek 92.00 125 P P 19 41 48.5 -1.5
FCC Fort Churchill 92.68 351 P P 19 41 53.8 +1.1
FCC pmax pmax
comp=Z,29nm,1.3s
FCC MLR MLR
comp=Z,2μm,18.0s
FCC Fort Churchill 92.68 351 P P 19 41 53.8 +1.1
FCC IAmb IAmb 19 41 54.3
comp=Z,29nm,1.2s
MAW Mawson 94.90 182 P P 19 42 04.4 +2.0
MAW pmax pmax
comp=Z,10.0nm,1.1s
MAW Mawson 94.90 182 P P 19 42 03.9 +1.5
comp=Z,26nm,1.0s,baz=5.3,slow=8.0,SNR=18
MAW LR LR 20 19 05.2
comp=Z,310nm,18.7s,baz=51,slow=32
MAW Mawson 94.90 182 P P 19 42 04.4 +2.0
D63A Stockholm 95.65 331 P P 19 42 07.1 +0.4
baz=39
CHGQ Chibougamau 95.79 336 P P 19 42 09.1 +1.9
baz=33
E64A Bridgewater 96.02 331 P P 19 42 09.9 +1.6
baz=39
E63A Oxbow 96.27 331 P P 19 42 10.8 +1.3
baz=38
FFC Flin Flon 97.58 354 P Pdif 19 42 15.3 0.0
FFC pmax pmax
comp=Z,43nm,1.8s
FFC Flin Flon 97.58 354 P Pdif 19 42 15.3 0.0
FFC IAmb IAmb 19 42 19.3
comp=Z,43nm,1.8s
SYO Syowa Base 98.39 190⇑ *i*Pdiff Pdif 19 42 21.4 +3.1
SYO Syowa Base 98.39 190⇑ *ep*Pdiff Pdif 19 42 23.4 +5.1
H62A Milan 98.91 331 P Pdif 19 42 23.5 +2.1
DZM Mont Dzumac 107.47 106 *e*LR LR 20 18 34.1
comp=Z,474nm,25.4s
SNAA Sanae 109.97 198 PKiKP **PKiKP 19 47 09.8 -1.8**
VNA2 Neumayer--Watz 110.97 200 PKiKP **PKiKP 19 47 12.6 -0.8**
baz=48,slow=2.0
VNA3 Neumayer Olymp 111.78 200 PKiKP **PKiKP 19 47 15.8 +0.8**
NVAR Mina Array Bea 114.17 5 PKP PKPdif 19 47 22.7 +1.8
comp=Z,2.3nm,0.8s,baz=309,slow=1.7,SNR=8.3
SKI Saint Kitts 114.30 307 IAMs_20 IAMs_20 20 33 08.4
comp=Z,344nm,18.0s
DAC Darwin (Calif) 116.36 5 PKIKP **PKPdf 19 47 27.9 +2.7**
DAC Darwin (Calif) 116.36 5 **PKPdf 19 47 27.9 +2.7**
QSPA South Pole Qui 117.35 180 **PKPdf 19 47 25.4 -0.5**
VNDA Vanda 117.61 166 PP PP 19 48 35.9 -3.0
comp=Z,6.3nm,1.3s,baz=275,slow=7.3,SNR=5.7
IPMB Ipameri, GO 120.50 264 *eP* **PKPdf 19 47 33.1 -0.2**
IPMB Ipameri, GO 120.50 264 *eP* **PKPdf 19 47 33.1 -0.2**
MNTX Cornudas Mount 120.71 353 **PKiKP 19 47 33.5 0.0**
JCT Junction City 121.05 347 PKIKP **PKiKP 19 47 34.8 +0.5**
JCT Junction City 121.05 347 **PKiKP 19 47 34.8 +0.5**
TX31 Lajitas Ar. SI 122.83 351 **PKiKP 19 47 38.4 +0.5**
TX32 Lajitas Array 122.83 351 **PKiKP 19 47 38.4 +0.5**
TXAR Lajitas Array 122.83 351 PKP **PKiKP 19 47 38.2 +0.3**
comp=Z,3.6nm,0.9s,baz=90,slow=1.3,SNR=18
TXAR PP **PP 19 49 14.2 -0.1**
comp=Z,1.0nm,0.8s,baz=46,slow=5.4,SNR=3.6
TXAR PKKPbc **PKKPbc 19 57 30.1 -0.1**
comp=Z,0.5nm,0.7s,baz=197,slow=3.9,SNR=5.0
FRTB Fartura 123.52 259 *eP* **PKiKP 19 47 39.7 +0.5**
FRTB Fartura 123.52 259 *eP* **PKiKP 19 47 39.7 +0.5**
CLDB Colider 124.39 276 *eP* **PKiKP 19 47 41.5 +0.3**
CLDB Colider 124.39 276 *eP* **PKiKP 19 47 41.5 +0.3**
SDV Santo Domingo 125.64 306 PKP **PKPdf 19 47 43.3 -0.3**
comp=Z,2.1nm,0.4s,baz=74,slow=9.9,SNR=3.9
SALV Santo Antonio 126.35 270 *eP* **PKiKP 19 47 45.1 +0.1**
SALV Santo Antonio 126.35 270 *eP* **PKiKP 19 47 45.1 +0.1**
ITAB Concordia 126.87 255 *eP* **PKiKP 19 47 46.3 +0.6**
ITAB Concordia 126.87 255 *eP* **PKiKP 19 47 46.3 +0.6**
ZAIG Zacatecas 129.08 348 **PKiKP 19 47 51.5 +0.8**
SAML Samuel 130.00 282 PKIKP **PKiKP 19 47 52.5 +0.2**
SAML Samuel 130.00 282 **PKiKP 19 47 52.5 +0.2**
ROSC El Rosal 131.06 305 **PKiKP 19 47 56.3 +1.3**
CPUP Villa Florida 131.13 258 PKP **PKPdf 19 47 53.4 +0.1**
comp=Z,11nm,1.1s,baz=70,slow=2.7,SNR=8.6
CPUP Villa Florida 131.13 258 **PKPdf 19 47 53.0 -0.3**
SIV San Ignacio 131.16 272 PKP **PKPdf 19 47 53.8 +0.1**
comp=Z,6.2nm,1.0s,baz=32,slow=0.2,SNR=14
SIV PP **PP 19 50 11.2 -0.2**
comp=Z,2.0nm,0.9s,baz=100,slow=7.6,SNR=5.1
TGUH Tegucigalpa,Un 131.95 326 **PKiKP 19 47 56.7 +0.2**
ESPN Las Esperanzas 131.96 322 IAMs_20 IAMs_20 20 50 32.3
comp=Z,172nm,18.0s
ESTN Estel 132.31 324 IAMs_20 IAMs_20 20 43 13.3
comp=Z,206nm,20.0s
TRQA Tornquist 136.69 243 PKIKP **PKPdf 19 48 04.2 +0.7**
TRQA Tornquist 136.69 243 **PKPdf 19 48 04.2 +0.7**
OTAV Otavalo 137.20 304 PKIKP **PKiKP 19 48 07.1 -0.5**
OTAV Otavalo 137.20 304 **PKiKP 19 48 07.1 -0.5**
LPAZ La Paz 137.53 276 PKP **PKPdf 19 48 06.9 +0.5**
comp=Z,5.9nm,1.2s,baz=14,slow=6.1,SNR=9.5
GO01 Chusmiza 139.69 272 **PKPdf 19 48 11.0 +0.9**
MNMC Minye Minye 139.87 273 **PKiKP 19 48 11.5 -1.1**
PB11 IPOC Station P 140.13 272 **PKPdf 19 48 10.1 -0.4**
LVC Limon Verde 140.34 267 PKP **PKPdf 19 48 11.9 +0.9**
comp=Z,12nm,1.1s,baz=121,slow=5.1,SNR=11
GO02 Mina Guanaco 141.59 263 PKPpre 19 48 07.4
ATAH Atahualpa 141.84 296 PKP **PKPdf 19 48 14.0 -0.1**
comp=Z,3.6nm,0.7s,baz=144,slow=5.9,SNR=4.5
PLCA Paso Flores 143.18 238 PKP **PKPdf 19 48 15.0 -0.3**
comp=Z,5.1nm,1.0s,baz=97,slow=4.4,SNR=6.2
PLCA Paso Flores 143.18 238 *eP* **PKPdf 19 48 14.5 -0.7**
PLCA Paso Flores 143.18 238 *eP* **PKPdf 19 48 14.5 -0.7**
PLCA Paso Flores 143.18 238 **PKPdf 19 48 14.2 -1.1**
NNA Nana 143.20 288 PKP **PKPdf 19 48 16.1 +0.1**
comp=Z,3.8nm,0.3s,baz=17,slow=7.7,SNR=3.7
GO04 Tololo Observa 143.50 256 PKPab 19 48 12.6 -0.1
PEL Peldehue 143.64 251 PKIKP **PKPdf 19 48 15.6 -0.7**
PEL Peldehue 143.64 251 **PKPdf 19 48 15.6 -0.7**
ROC1 El Roble 143.91 251 **PKPdf 19 48 16.1 -0.9**
GO06 Curarrehue 144.03 240 PKPbc 19 48 15.4 +0.6
PPT2 Papeete2 144.50 82 *e*LR LR 20 35 47.7
comp=Z,463nm,24.0s
GO05 Huala 144.70 248 PKPbc 19 48 16.9 0.0
PAYG Puerto Ayora 145.83 318 **PKPab 19 48 21.8 +0.4**
TBI Tubuai 146.46 91 *e*LR LR 20 36 41.6
comp=Z,308nm,26.8s
TAOE Nuku Hiva Isla 147.98 60 *e*LR LR 20 37 05.7
comp=Z,288nm,22.5s

ISK ***19*** *19:46:35.9,38°.48N×39°.64E,h5km,ML3.8/20*
DDA ***19*** *19:46:36.4,38°.48N×39°.62E,h7km±1km,MW3.9*
ISC 19 19:46:37.2±1.0,38°.48N±0°.02×39°.64E±0°.02,h9km±9km,
n61,σ1s41/88,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.51**	**272**	*i* PA		**Pg**	**19 46 46.7**	**-0.5**
ELZG				*i* S		**Pg**	**19 46 54.1**	**+0.1**
HANI	**Diyarbakir_Han**	**0.60**	**96**	*i* PA		**Pg**	**19 46 48.5**	**-0.3**
HANI				*i* S		**Sg**	**19 46 56.9**	**+0.2**
TNCL	**Tunceli-Merkez**	**0.64**	**353**	*i* PA		**Pg**	**19 46 48.5**	**-1.1**
TNCL				*i* S		**Sg**	**19 46 57.1**	**-0.8**
TNCL				IAML			19 47 03.0	
comp=N,3μm,0.5s								
DYBB	**Diyarbakir**	**0.66**	**143**	PG		**Pg**	**19 46 49.9**	**0.0**
DYBB				SG		**Sg**	**19 46 58.9**	**+0.4**
DIYA	**Diyarbakir**	**0.67**	**146**	*i* PA		**Pg**	**19 46 50.2**	**+0.1**
DIYA				*i* S		**Sb**	**19 47 00.5**	**-0.1**
DIYA				IAML			19 47 09.0	
comp=N,2μm,0.8s								
BNGB	**Bingl**	**0.96**	**58**	PG		**Pg**	**19 46 54.5**	**-1.1**
MALT	**Malatya**	**0.97**	**260**	PG		**Pg**	**19 46 53.9**	**-1.9**
MALT				SG		**Sb**	**19 47 08.6**	**-0.5**
ERZN	**Erzincan**	**1.11**	**3**	PN		**Pg**	**19 46 56.9**	**-1.5**
REFA	**Refahiye_ERZN**	**1.14**	**324**	*i* PA		Pn	19 47 05.8	+6.3
REFA				*i* S		Sn	19 47 29.2	+14
ARPR	**Arapgir-MALATY**	**1.19**	**301**	PN		**Pg**	**19 46 59.4**	**-0.6**
ARPR				SN		**Sn**	**19 47 16.7**	**+0.2**
YEDI	**Yedisu-Bingol**	**1.19**	**36**	PN		**Pg**	**19 46 59.4**	**-0.6**
KEMA	**Kemaliye**	**1.19**	**312**	*i* PA		**Pg**	**19 46 59.5**	**-0.5**
MAZI	**Mazidag**	**1.20**	**148**	PN		**Pg**	**19 46 59.2**	**-1.1**
URFA	**Urfa**	**1.22**	**212**	PN		**Pg**	**19 47 00.1**	**-0.5**
URFA				SN		**Sn**	**19 47 17.1**	**-0.1**
EUZM	**Uzumlu**	**1.23**	**2**	*i* PA		**Pg**	**19 46 59.2**	**-1.5**
EUZM				*i* S		**Sb**	**19 47 17.1**	**+0.5**
SVAN	**Silvan-Diyarba**	**1.27**	**105**	*i* PA		Pn	**19 47 00.5**	**-0.6**
SVAN				*i* S		**Sb**	**19 47 18.0**	**+0.2**
SVAN				IAML			19 47 19.0	
comp=N,2μm,0.4s								
SVAN	**Silvan-Diyarba**	**1.27**	**105**	PN		Pn	**19 47 00.6**	**-0.6**
SVAN				SN		**Sn**	**19 47 18.4**	**+0.1**
BNGL	**BINGOL**	**1.27**	**68**	*i* PA		**Pg**	**19 47 01.6**	**0.0**
BNGL				*i* S		**Sn**	**19 47 20.8**	**+2.2**
AKCD	**Akcadag**	**1.36**	**263**	*i* PA		**Pg**	**19 47 01.4**	**-1.9**
AKCD				*i* S		**Sb**	**19 47 19.8**	**-0.7**
HEKM	**Malatya_Hekimh**	**1.37**	**287**	*i* PA		**Pg**	**19 47 03.7**	**+0.2**
HEKM				*i* S		**Sn**	**19 47 23.1**	**+2.0**
KARO	**Karliova-Bingo**	**1.38**	**53**	PN		Pn	**19 47 02.1**	**-0.7**
SANL	**SANLIURFA_Merk**	**1.41**	**202**	*i* PA		**Pg**	**19 47 03.8**	**-0.3**
SANL				*i* S		**Sg**	**19 47 22.1**	**-0.2**
SANL				IAML			19 47 26.0	
comp=N,3μm,0.5s								
ATAB	**Bozova**	**1.47**	**227**	*i* PA		**Pg**	**19 47 03.4**	**-1.9**
ATAB				*i* S		**Sg**	**19 47 23.8**	**-0.4**
MARD	**Mardin**	**1.47**	**142**	*i* PA		Pn	**19 47 02.8**	**-1.2**
MARD				*i* S		**Sn**	**19 47 22.9**	**-0.5**
MUSM	**Mu-Merkez**	**1.49**	**80**	*i* PA		Pn	**19 47 04.5**	**+0.3**
MUSM				*i* S		**Sn**	**19 47 22.8**	**-1.1**
MUSM				IAML			19 47 26.0	
comp=N,844nm,0.6s								
ECAT	**Cat-ERZURUM**	**1.53**	**42**	*i* PA		Pn	**19 47 05.5**	**+0.6**
ECAT				*i* S		**Sg**	**19 47 26.8**	**+0.4**
VRTB	**Varto-Mus**	**1.57**	**64**	*i* PA		Pn	**19 47 06.3**	**+0.8**
VRTB				*i* S		**Sg**	**19 47 33.0**	**+5.3**
VRTB	**Varto-Mus**	**1.57**	**64**	PN		Pn	**19 47 05.9**	**+0.5**
KOPT	**Kop Dagi**	**1.67**	**23**	*i* PA		Pn	**19 47 07.6**	**+0.7**
KELT	**Kelkit**	**1.69**	**350**	*i* P		Pn	**19 47 07.5**	**+0.8**
KELT				*i* S		**Sn**	**19 47 29.4**	**+0.4**
DARE	**Darende-Malaty**	**1.69**	**274**	PN		Pn	**19 47 07.2**	**+0.2**
SRTM	**Siirt_Merkez**	**1.86**	**105**	*i* PA		Pn	**19 47 10.3**	**+0.9**
SRTM				*i* S		**Sb**	**19 47 35.2**	**+0.3**
CUGUR	**Gurin_SVAS**	**1.87**	**278**	*i* P		**Pb**	**19 47 11.5**	**-0.1**
CUGUR				*i* S		**Sg**	**19 47 41.0**	**+3.7**
GURO	**Guroymak-BITLI**	**1.88**	**87**	PN		Pn	**19 47 09.7**	**+0.1**
CUKAN	**kangal_SIVAS**	**1.89**	**297**	*i* PA		**Pg**	**19 47 13.9**	**+0.5**
BLIS	**Bitlis-Merkez**	**1.94**	**91**	*i* PA		Pn	**19 47 11.3**	**+0.8**
BLIS				*i* S		**Sb**	**19 47 37.6**	**+0.3**
BLIS				IAML			19 47 38.0	
comp=N,873nm,0.5s								
BAYT	**Aydintepe-Bayb**	**1.95**	**11**	PN		Pn	**19 47 11.5**	**+0.9**
ELBS	**KAHRAMANMARAS**	**1.98**	**266**	*i* PA		**Pg**	**19 47 14.8**	**-0.3**
ELBS				*i* S		**Sg**	**19 47 43.9**	**+3.3**
GZT	**Gaziantep**	**1.99**	**236**	*i* PA		Pn	**19 47 10.8**	**-0.3**
CUZAR	**Zara_SIVAS**	**2.02**	**315**	*i* P		Pn	**19 47 13.3**	**-0.9**
CUZAR				*i* S		**Sg**	**19 47 42.0**	**-0.1**
SUSE	**Susehri**	**2.05**	**328**	*i* PA		**Pb**	**19 47 13.8**	**-0.9**
AKDA	**Akdag**	**2.10**	**39**	*i* P		Sn	**19 47 31.6**	**-7.5**
KHMN	**Narli-Kahraman**	**2.24**	**242**	PN		Pn	**19 47 15.0**	**+0.5**
KOPR	**Koprukoy-ERZUR**	**2.29**	**48**	PN		Pn	**19 47 15.5**	**+0.2**
GAZ	**Gaziantep**	**2.32**	**237**	PN		Pn	**19 47 16.1**	**+0.4**
MLAZ	**Malazgirt-MUS**	**2.37**	**73**	PN		Pn	**19 47 16.9**	**+0.6**
KMRS	**Kahramanmaras**	**2.37**	**247**	PN		Pn	**19 47 16.7**	**+0.4**
SIRN	**Sirnak**	**2.40**	**113**	*i* PA		Pn	**19 47 16.4**	**-0.4**
SIRT	**Sirnak**	**2.42**	**113**	PN		Pn	**19 47 16.9**	**-0.1**
HCB	**Kahramanmara**	**2.44**	**243**	*i* PA		Pn	**19 47 18.4**	**+1.2**
AKDM	**Akdamar-Van**	**2.63**	**92**	PN		Pn	**19 47 20.8**	**+0.8**
KUZU	**Kuzuini**	**2.66**	**231**	*i* P		Pg	**19 47 27.9**	**-0.1**
KUZU				*i* S		**Sg**	**19 48 01.4**	**-1.1**
KAMA	**Osmaniye**	**2.68**	**242**	*i* P		Pn	**19 47 20.3**	**-0.4**
ANDN	**Andirin**	**2.75**	**252**	*i* P		Pb	**19 47 28.0**	**+1.4**
ANDN				*i* S		**Sg**	**19 48 04.1**	**-1.4**
SAIM	**ADANA**	**2.85**	**261**	*i* P		Pn	**19 47 23.6**	**+0.7**
VANB	**Van**	**2.94**	**87**	PN		Pn	**19 47 25.4**	**+1.2**
SIRC	**Yozgat**	**3.61**	**285**	*i* P		Pn	**19 47 34.4**	**+1.0**
HWQ	**Hawqa**	**5.14**	**217**	*e*P		Pn	**19 47 54.0**	**-0.5**
BHL	**Bhannes**	**5.59**	**216**	*e*P		Pn	**19 48 01.1**	**+0.6**
DQRL	**Deir Qamar**	**5.79**	**216**	*e*P		Pn	**19 48 05.0**	**+1.7**
QRWL	**Qaraoun**	**5.87**	**214**	*e*P		Pn	**19 48 05.0**	**+0.5**

ISCJB ***19*** *20:28:57.4±0.3,27°.30N±0°.04×67°.61E±0°.03,h10km,*
mb3.9/17, MS3.4/6, Error ellipse: s-maj=6.6km
s-min=3.4km az=159.6
IDC ***19*** *20:28:59.3±0.8,27°.39N×67°.41E,h0km,mb3.9/17,*
mb1 4.1/18,mb1mx3.9/43,mbtmp4.0/18,ML4.2/1, MS3.5/8,
Ms1 3.5/8,ms1mx3.2/39,Error ellipse: s-maj=19.3km
s-min=16.4km az=28.0
NEIC ***19*** *20:29:01.1±1.0,27°.42N±0°.08×67°.45E±0°.07,h11km±5km,*
mb4.2/13
ISC 19 20:29:00.5±0.5,27°.41N±0°.07×67°.54E±0°.05,h10km,n81,
σ1s77/75,mb4.0/21,MS3.5/6,1C,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THW	**Thamme Wali**	**6.49**	**33**	P	**Pn**	**20 30 35.9**	**-0.2**
KBL	**Kabul**	**7.23**	**10**		**Pn**	**20 30 47.0**	**+0.6**
CEP	**Cherat**	**7.42**	**29**	P	**Pn**	**20 30 49.3**	**+0.3**
NIL	**Nilore**	**7.94**	**37**		**Pn**	**20 30 56.3**	**+0.4**
CHCP	**Chirah Chowk**	**7.95**	**37**	P	**Pn**	**20 30 56.7**	**+0.6**
KUDL	**Kundal**	**7.96**	**83**	*e*P	Pn	20 30 52.0	-4.3
KUDL				*e*S	Sn	20 32 16.0	-10
KUDL				IAML		20 32 21.9	
	comp=N,161nm,0.2s						
KUDL				IAML		20 32 22.0	
	comp=E,114nm,0.1s						
HRA	**Herat**	**8.31**	**328**		**Pn**	**20 31 01.1**	**-0.2**
AYAN	**Aya Nagar**	**8.55**	**81**	*e*P	**Pn**	**20 31 05.6**	**+1.3**
AYAN				⇑*ex*	x	20 32 34.4	
NDI	**New Delhi**	**8.65**	**79**	*e*P	**Pn**	**20 31 07.5**	**+1.8**
NDI				*e*S	**Sn**	**20 32 38.0**	**-5.3**
THN	**Thein Dam**	**8.68**	**53**	*e*P	Pn	20 31 11.5	+5.3
THN				*e*S	**Sn**	**20 32 43.5**	**-0.7**
BHK	**Bhakra**	**8.71**	**61**	*e*S	Sn	20 32 35.2	-10
WSAR	**Wadi Sarin**	**9.06**	**245**	Pn	**Pn**	**20 31 10.7**	**-0.7**
	comp=E,2.3nm,0.3s,baz=138,slow=8.2,SNR=40						
WSAR				Sn	Sn	20 32 43.2	-10
	comp=E,0.9nm,0.3s,baz=246,slow=23,SNR=6.7						
WSAR				LR	LR	20 35 31.8	
	comp=E,170nm,20.8s,baz=74,slow=44						
WBK	**Wadi Bani Khal**	**9.12**	**240**	P	**Pn**	**20 31 11.7**	**-0.5**
	SNR=25						
WBK				S	Sn	20 32 47.1	-7.9
SMDO	**Samad**	**9.62**	**245**	P	**Pn**	**20 31 18.8**	**-0.3**
	SNR=6.0						
SMDO				S	Sn	20 33 00.1	-7.3
BANOM	**Banah**	**10.16**	**264**	P	**Pn**	**20 31 26.1**	**-0.3**
SHME	**Shamm**	**10.28**	**265**	P	**Pn**	**20 31 28.2**	**+0.1**
MDH	**Madha**	**10.30**	**261**	P	**Pn**	**20 31 28.0**	**-0.3**
MSFE	**Esma-Masafi**	**10.40**	**261**	P	**Pn**	**20 31 29.6**	**-0.3**
BSY	**Bisya**	**10.46**	**246**	P	**Pn**	**20 31 31.6**	**+1.0**
	SNR=26						
UOSS	**Minazif**	**10.47**	**259**	P	Pn	20 31 28.7	-2.0
UOSS	**Minazif**	**10.47**	**259**		**Pn**	**20 31 30.6**	**-0.1**
HATD	**Hatta, Dubai**	**10.57**	**258**	P	**Pn**	**20 31 30.7**	**-1.4**
ASHO	**Ashiyiah**	**10.67**	**258**	*i* P	**Pn**	**20 31 33.8**	**+0.3**
	SNR=12						
ASHO	**Ashiyiah**	**10.67**	**258**	P	**Pn**	**20 31 33.7**	**+0.3**
	SNR=9.1						
ARQ	**Araqi**	**10.75**	**250**	P	**Pn**	**20 31 37.2**	**+2.6**
	SNR=13						
ARQ				S	**Sn**	**20 33 31.0**	**-4.1**
NAZ	**Nazwa, Dubai**	**10.93**	**260**	P	**Pn**	**20 31 37.0**	**-0.1**
JOSI	**Joshimath**	**10.98**	**71**	*e*P	**Pn**	**20 31 38.8**	**+0.9**
JOSI				*e*S	Sn	20 33 33.2	-7.8
ALNE	**Al Ain**	**11.14**	**255**	*i* P	**Pn**	**20 31 41.3**	**+1.4**
	SNR=8.6						
CHGR	**Chuyangaron**	**11.30**	**6**		Pn	20 31 40.5	-1.6
GAR	**Garm**	**11.79**	**11**		**Pn**	**20 31 49.2**	**+0.4**
NGP	**Nagpur**	**12.21**	**118**	*ex*	**Pn**	**20 31 54.8**	**+0.3**
NGP				*ex*	**Sn**	**20 34 10.8**	**+0.1**
BTK	**Batken**	**12.91**	**11**		**Pn**	**20 32 04.0**	**0.0**
KOLN	**Koldanda**	**14.25**	**85**	*e*P	Pn	20 32 20.2	-2.4
	comp=E,41nm,0.4s						
GKN	**Gorkha**	**15.16**	**84**	*e*P	**Pn**	**20 32 31.2**	**-3.7**
	comp=E,17nm,0.4s						
DMN	**Daman**	**15.59**	**85**	*e*P	**Pn**	**20 32 37.4**	**-3.3**
NRN	**Naryn**	**15.62**	**24**		**Pn**	**20 32 38.7**	**-2.4**
NRN				IAmb	IAmb	20 33 16.0	
	comp=Z,18nm,1.3s						
KKN	**Kakani**	**15.74**	**85**	*e*P	**Pn**	**20 32 38.9**	**-3.6**
	comp=Z,12nm,0.5s						
KK31	**Karatay Array**	**15.85**	**8**		**Pn**	**20 32 41.6**	**-2.1**
KKAR	**Karatay Array**	**15.85**	**8**		**Pn**	**20 32 41.6**	**-2.0**
PKIN	**Phulchoki**	**15.85**	**85**	*e*P	**Pn**	**20 32 40.5**	**-3.6**
	comp=Z,14nm,0.4s						
PKI	**Pulchoki**	**15.86**	**85**	*e*P	**Pn**	**20 32 40.7**	**-3.6**
	comp=Z,3.7nm,0.8s						
AAK	**Ala-Archa**	**16.22**	**19**	P	**Pn**	**20 32 46.6**	**-1.9**
AAK	**Ala-Archa**	**16.22**	**19**	Pn	**Pn**	**20 32 46.6**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=155,slow=5.6,SNR=8.9						
AAK				LR	LR	20 40 06.1	
	comp=Z,187nm,19.0s,baz=214,slow=41						
AAK	**Ala-Archa**	**16.22**	**19**		**Pn**	**20 32 46.5**	**-2.1**
GUN	**Gumba**	**16.26**	**84**	*e*P	**Pn**	**20 32 45.9**	**-3.5**
	comp=Z,114nm,1.0s						
JIRN	**Jiri**	**16.55**	**85**	*e*P	**Pn**	**20 32 49.6**	**-3.5**
	comp=Z,40nm,0.4s						
RAMN	**Ramite**	**16.97**	**87**	*e*P	**Pn**	**20 32 55.5**	**-2.8**
	comp=Z,88nm,0.6s						
ODAN	**Odare**	**17.68**	**87**	*e*P	**Pn**	**20 33 04.6**	**-2.6**
	comp=Z,46nm,0.7s						
TAPN	**Taplejung**	**17.92**	**86**	*e*P	**Pn**	**20 33 07.2**	**-3.0**
RAYN	**Ar Rayn**	**20.26**	**264**	*i* P	**P**	**20 33 37.1**	**+0.9**
	SNR=6.3						
RAYN	**Ar Rayn**	**20.26**	**264**		**P**	**20 33 37.5**	**+1.3**
RAYN				IAmb	IAmb	20 33 42.3	
	comp=Z,6.7nm,0.9s						
LSA	**Lhasa**	**20.86**	**78**	P	**P**	**20 33 45.1**	**+2.0**
LSA				IAmb	IAmb	20 33 51.8	
	comp=Z,6.1nm,0.9s						
SHL	**Shillong**	**21.86**	**89**	P	**P**	**20 33 54.9**	**+1.2**
MAKZ	**Makanchi**	**22.46**	**27**	P	**P**	**20 34 00.4**	**+0.7**
MAKZ				IAmb	IAmb	20 34 06.5	
	comp=Z,18nm,1.2s						
MK31	**Makanchi Array**	**22.57**	**27**	P	**P**	**20 34 01.4**	**+0.4**
MK31				IAmb	IAmb	20 34 06.6	
	comp=Z,12nm,1.3s						
MKAR	**Makanchi Array**	**22.57**	**27**	P	**P**	**20 34 01.2**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=201,slow=12,SNR=29						
MKAR				LR	LR	20 44 52.7	
	comp=Z,155nm,18.1s,baz=249,slow=42						
ABKAR	**Akbulak array**	**22.59**	**347**	P	**P**	**20 34 01.4**	**+0.4**
ABKAR				IAmb	IAmb	20 34 04.9	
	comp=Z,9.5nm,1.0s						
PALK	**Pallekele**	**23.60**	**146**	LR	LR	20 43 47.2	
	comp=Z,66nm,20.7s,baz=348,slow=38						
AKTO	**Aktyubinsk**	**24.12**	**345**	P	**P**	**20 34 17.0**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=158,slow=9.0,SNR=12						
KURBB	**Kurchatov Arra**	**24.65**	**17**	P	**P**	**20 34 22.3**	**+1.2**
	comp=Z,6.9nm,0.5s,baz=211,slow=8.3,SNR=28						
KURK	**Kurchatov**	**24.76**	**17**	P	**P**	**20 34 22.3**	**+0.2**
BVAR	**Borovoye Array**	**25.68**	**4**	P	**P**	**20 34 31.2**	**+0.8**
	comp=Z,4.0nm,0.5s,baz=173,slow=10,SNR=39						
BRVK	**Borovoye**	**25.70**	**4**	P	**P**	**20 34 32.0**	**+1.4**
BRVK				IAmb	IAmb	20 34 33.9	
	comp=Z,6.3nm,0.7s						
MMAI	**Mount Meron Ar**	**28.26**	**289**	LR	LR	20 48 34.8	
	comp=Z,106nm,19.1s,baz=155,slow=42						
EIL	**Elat**	**28.67**	**282**	LR	LR	20 47 59.1	
	comp=Z,109nm,19.7s,baz=110,slow=40						
ZALV	**Zalesovo Beam**	**29.41**	**21**	P	**P**	**20 35 04.8**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=227,slow=9.9,SNR=4.8						
CMAR	**Chiang Mai Arr**	**30.20**	**100**	P	**P**	**20 35 13.2**	**+1.9**
	comp=Z,0.5nm,0.5s,baz=291,slow=11,SNR=5.0						
CMAR				LR	LR	20 48 26.1	
	comp=Z,101nm,18.8s,baz=355,slow=38						
KIRV	**Kirov**	**33.63**	**343**	LR	LR	20 51 32.4	
	comp=Z,137nm,20.6s,baz=137,slow=40						
SONM	**Songino Array**	**36.41**	**45**	P	**P**	**20 36 07.4**	**+2.1**
	comp=Z,1.0nm,0.6s,baz=253,slow=8.8,SNR=10						
AKASG	**Malin Array Be**	**37.16**	**319**	P	**P**	**20 36 11.1**	**-0.3**
	comp=Z,0.2nm,0.2s,baz=120,slow=7.1,SNR=5.7						
FINES	**FINESS Array B**	**43.80**	**333**	P	**P**	**20 37 06.7**	**+0.5**
	comp=Z,3.6nm,1.1s,baz=102,slow=6.4,SNR=5.7						
GERES	**GERESS Array B**	**46.34**	**313**	P	**P**	**20 37 26.7**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=98,slow=7.3,SNR=6.6						
ARCES	**ARCESS Array B**	**48.63**	**342**	P	**P**	**20 37 44.4**	**+0.2**
	comp=Z,2.6nm,0.9s,baz=120,slow=7.2,SNR=10						
NB2	**NORSAR Subarra**	**50.21**	**328**	P	**P**	**20 37 55.9**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=104,slow=7.9						
NOA	**NORSAR Array B**	**50.21**	**328**	P	**P**	**20 37 55.8**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=107,slow=7.4,SNR=7.5						
TOA0	**Torodi Ar. Sit**	**62.75**	**271**	P	**P**	**20 39 26.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**62.75**	**271**	P	**P**	**20 39 26.1**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=61,slow=5.9,SNR=16						
WRA	**Warramunga Arr**	**79.97**	**119**	P	**P**	**20 41 11.1**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=317,slow=4.9,SNR=7.7						
ASAR	**Alice Springs**	**81.72**	**122**	P	**P**	**20 41 20.3**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=307,slow=5.2,SNR=15						
ILAR	**Eielson Array**	**84.29**	**14**	P	**P**	**20 41 32.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=328,slow=3.2,SNR=3.7						
YKA	**Yellowknife Ar**	**90.40**	**1**	P	**P**	**20 42 02.2**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=349,slow=4.8,SNR=9.4						

IDC 19 20:47:51.2±2.4, 50.06N×114.35W, h0km, mb1 3.7/2, mb1mx3.2/49, mbtmp3.3/2, ML3.2/2, Error ellipse:
s-maj=41.5km s-min=8.3km az=119.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEW	**Newport**	**2.56**	**226**	Pn	Pn	20 48 35.4	+1.5
	2.3nm,0.3s,baz=48,slow=15,SNR=22						
NEW				Sn	Sn	20 49 06.2	+0.5
	2.7nm,0.3s,baz=102,slow=20,SNR=8.9						
NEW				Lg	Lg	20 49 10.9	
	5.5nm,0.3s,baz=94,slow=19,SNR=8.2						
I56US	**NEWPORT INFRAS**	**2.56**	**226**	*i*		21 04 55.0	
	baz=44,slow=321,SNR=5.8						
I10CA	**LAC DU BONNET**	**11.76**	**82**	*i*		21 56 00.0	
	baz=273,slow=304,SNR=3.2						
YKA	**Yellowknife Ar**	**12.46**	**359**	Pn	Pn	20 50 46.6	-3.0
	0.2nm,0.3s,baz=182,slow=13,SNR=9.0						
YKA				Sn	Sn	20 52 56.9	-12
	0.1nm,0.3s,baz=177,slow=23,SNR=4.5						
YKA				Lg	Lg	20 54 17.3	
	0.1nm,0.3s,baz=171,slow=28,SNR=5.9						

*ISCJB **19** 20:56:20.1±0.4, 13.39S±0.08×75.06W±0.10, h96km, mb3.7/4, Error ellipse: s-maj=17.0km s-min=5.1km az=139.6*
*NEIC **19** 20:56:20.4±1.0, 13.2S±0.1×75.0W±0.1, h74km±6km*
*ARE **19** 20:56:21±3.0, 13.2S±0.1×75.1W±0.1, h84km±7km, ML4.5, mb4.3/5(NEIC)*
*IDC **19** 20:56:21.9±1.5, 13.26S×75.03W, h91km±15km, mb3.5/4, mb1 3.9/9, mb1mx3.7/39, mbtmp4.1/9, Error ellipse: s-maj=63.2km s-min=12.5km az=36.0*
ISC 19 20:56:21.4±0.7, 13.36S±0.10×75.0W±0.1, h96km, n24, σ1s24/27, mb4.0/7, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.22**	**307**	P	**Pn**	**20 56 55.8**	**-1.0**
	371nm,0.3s,baz=124,slow=11,SNR=140						
NNA				S	**Sn**	**20 57 23.6**	**-0.4**
	744nm,0.3s,baz=255,slow=6.3,SNR=34						
NNA	**Nana**	**2.22**	**307**		**Pn**	**20 56 55.8**	**-1.0**
NNA					**Sn**	**20 57 22.1**	**-1.9**
ATAH	**Atahualpa**	**7.01**	**332**	P	**Pn**	**20 58 02.5**	**+0.7**
	3.8nm,0.3s,baz=158,slow=4.8,SNR=19						
LPAZ	**La Paz**	**7.29**	**114**	P	**Pn**	**20 58 07.5**	**+1.7**
	8.1nm,0.3s,baz=316,slow=8.9,SNR=100						
LPAZ	**La Paz**	**7.29**	**114**	Pn	**Pn**	**20 58 06.2**	**+0.4**
MNMC	**Minye Minye**	**7.76**	**138**		**Pn**	**20 58 11.6**	**-0.4**
PB11	**IPOC Station P**	**8.20**	**142**		**Pn**	**20 58 17.3**	**-0.4**
GO01	**Chusmiza**	**8.41**	**139**	Pn	**Pn**	**20 58 20.9**	**-0.2**
LVC	**Limon Verde**	**10.89**	**149**	P	**Pn**	**20 58 56.2**	**+1.5**
	0.8nm,0.3s,baz=343,slow=13,SNR=6.5						
LVC				S	**Sn**	**21 00 53.1**	**-1.7**
	0.7nm,0.3s,baz=81,slow=21,SNR=4.0						
LVC	**Limon Verde**	**10.89**	**149**		**Pn**	**20 58 55.1**	**+0.4**
PB10	**IPOC Station P**	**10.96**	**158**	Pn	**Pn**	**20 58 55.5**	**+0.3**
SAML	**Samuel**	**12.43**	**71**		**Pn**	**20 59 11.5**	**-3.5**
SIV	**San Ignacio**	**13.77**	**103**	P	**Pn**	**20 59 32.7**	**+0.1**
	0.7nm,0.3s,baz=296,slow=10.0,SNR=10						
SDV	**Santo Domingo**	**22.52**	**11**	P	**P**	**21 01 12.5**	**-1.1**
SDV				IAmb	IAmb	21 01 15.5	
	comp=Z,9.8nm,0.9s						
TXAR	**Lajitas Array**	**50.65**	**327**	P	**P**	**21 05 11.7**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=147,slow=8.6,SNR=2.5						
PDAR	**Pinedale Array**	**64.20**	**332**	P	**P**	**21 06 46.2**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=123,slow=7.4,SNR=5.8						
YNE	**Yellowstone No**	**66.17**	**334**	P	**P**	**21 07 00.0**	**+1.0**
YHL	**Hebgen Lake**	**66.56**	**333**	P	**P**	**21 07 03.4**	**+1.8**
MCMT	**McKenzie Canyo**	**67.30**	**332**	P	**P**	**21 07 07.4**	**+1.2**
BOZ	**Bozeman (W)**	**67.34**	**333**	P	**P**	**21 07 07.2**	**+0.9**
BOZ				IAmb	IAmb	21 07 46.6	
	comp=Z,4.3nm,1.3s						
TORD	**Torodi Ar. Bea**	**80.46**	**74**	P	**P**	**21 08 23.6**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=263,slow=5.3,SNR=5.7						
YKA	**Yellowknife Ar**	**81.66**	**343**	P	**P**	**21 08 28.6**	**0.0**
	comp=Z,0.7nm,0.6s,baz=141,slow=6.0,SNR=17						
YKW3	**Yellowknife Ar**	**81.71**	**343**	P	**P**	**21 08 29.3**	**+0.4**
YKW3				IAmb	IAmb	21 11 03.4	
	comp=Z,23nm,2.0s						
SONM	**Songino Array**	**145.60**	**358**	PKPbc	**PKPab**	**21 15 50.7**	**+1.2**
	comp=Z,2.3nm,0.7s,baz=334,slow=2.8,SNR=16						

*ISCJB **19** 21:12:15.5±0.3, 27.28N±0.04×67.66E±0.03, h10km, mb4.0/13, MS3.0/5, Error ellipse: s-maj=6.2km s-min=3.8km az=168.8*
*IDC **19** 21:12:18.1±1.9, 27.45N×67.42E, h0km, mb4.0/13, mb1 4.2/14, mb1mx3.8/44, mbtmp4.0/14, ML3.9/1, MS3.1/8, Ms1 3.2/8, ms1mx3.0/56, Error ellipse: s-maj=42.4km s-min=18.8km az=149.0*
*NEIC **19** 21:12:18.6±1.2, 27.38N±0.08×67.50E±0.06, h10km±1km, mb4.2/22*
ISC 19 21:12:17.1±0.6, 27.25N±0.07×67.59E±0.05, h10km, n81, σ2s11/79, mb4.2/29, MS3.0/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THW	**Thamme Wali**	**6.59**	**32**	P	**Pn**	**21 13 54.2**	**+0.1**
KBL	**Kabul**	**7.37**	**9**		**Pn**	**21 14 05.5**	**+0.6**
KBL					**Sn**	**21 15 26.2**	**-2.6**
CEP	**Cherat**	**7.53**	**29**	P	**Pn**	**21 14 07.3**	**+0.2**
KUDL	**Kundal**	**7.94**	**82**	*e*P	**Pn**	**21 14 10.2**	**-2.3**
KUDL				*e*S	Sn	21 15 34.4	-8.0
KUDL				IAML		21 15 36.9	
	comp=N,126nm,0.1s						
KUDL				IAML		21 15 37.4	
	comp=E,105nm,0.1s						
NIL	**Nilore**	**8.03**	**36**		**Pn**	**21 14 14.7**	**+0.8**
CHCP	**Chirah Chowk**	**8.04**	**36**	P	**Pn**	**21 14 14.7**	**+0.6**
HRA	**Herat**	**8.47**	**328**		**Pn**	**21 14 18.6**	**-1.4**
AYAN	**Aya Nagar**	**8.53**	**80**	*ex*	**Sn**	**21 15 55.0**	**-2.0**
NDI	**New Delhi**	**8.63**	**78**	*e*S	**Sn**	**21 15 58.0**	**-1.5**
THN	**Thein Dam**	**8.74**	**52**	*e*P	Pn	21 14 30.2	+6.6
BHK	**Bhakra**	**8.75**	**60**	*ex*	**Sn**	**21 15 58.0**	**-4.4**
WSAR	**Wadi Sarin**	**9.04**	**246**	P	**Pn**	**21 14 29.1**	**+1.4**
WSAR				S	**Sn**	**21 16 02.8**	**-6.8**
WSAR	**Wadi Sarin**	**9.04**	**246**	Pn	**Pn**	**21 14 29.2**	**+1.4**
	comp=E,1.4nm,0.3s,baz=118,slow=7.9,SNR=16						
WSAR				Sn	Sn	21 16 01.6	-8.1
	comp=E,0.6nm,0.3s,baz=136,slow=20,SNR=4.2						
WSAR				LR	LR	21 18 59.7	
	comp=E,70nm,18.6s,baz=76,slow=45						
WBK	**Wadi Bani Khal**	**9.09**	**241**	P	**Pn**	**21 14 30.6**	**+2.2**
	SNR=10						
WBK				S	**Sn**	**21 16 05.3**	**-5.5**
SMDO	**Samad**	**9.60**	**246**	P	**Pn**	**21 14 37.2**	**+1.8**
BANOM	**Banah**	**10.19**	**265**	P	**Pn**	**21 14 46.0**	**+2.4**
BANOM				S	**Sn**	**21 16 31.2**	**-6.8**
BSY	**Bisya**	**10.44**	**247**	P	**Pn**	**21 14 49.9**	**+3.0**
	SNR=8.7						
UOSS	**Minazif**	**10.49**	**260**	P	**Pn**	**21 14 48.4**	**+0.8**
UOSS	**Minazif**	**10.49**	**260**	Pn	**Pn**	**21 14 48.0**	**+0.4**
ASHO	**Ashiyiah**	**10.69**	**259**	P	**Pn**	**21 14 54.9**	**+4.5**
	SNR=5.5						
JOSI	**Joshimath**	**10.99**	**70**	*e*P	**Pn**	**21 14 57.1**	**+2.5**
JOSI				*e*S	**Sn**	**21 16 51.4**	**-6.3**
CHGR	**Chuyangaron**	**11.45**	**6**		**Pn**	**21 14 59.7**	**-1.0**
GAR	**Garm**	**11.94**	**10**	Pn	**Pn**	**21 15 07.4**	**0.0**
BTK	**Batken**	**13.05**	**11**	Pn	**Pn**	**21 15 21.8**	**-0.9**
DMN	**Daman**	**15.56**	**85**	*e*P	**Pn**	**21 15 55.6**	**-1.2**
	comp=E,53nm,1.1s						
KKN	**Kakani**	**15.71**	**84**	*e*P	**Pn**	**21 15 57.0**	**-1.7**
NRN	**Naryn**	**15.74**	**24**		**Pn**	**21 15 55.8**	**-3.5**
NRN				IAmb	IAmb	21 16 04.6	
	comp=Z,4.7nm,0.9s						
PKIN	**Phulchoki**	**15.82**	**85**	*e*P	**Pn**	**21 15 58.7**	**-1.5**
PKI	**Pulchoki**	**15.83**	**85**	*e*P	**Pn**	**21 15 58.6**	**-1.8**
	comp=Z,5.4nm,0.9s						
KK31	**Karatay Array**	**15.99**	**8**		**Pn**	**21 16 02.6**	**+0.5**
KK31				IAmb	IAmb	21 16 04.2	
	comp=Z,3.8nm,0.8s						
KKAR	**Karatay Array**	**15.99**	**8**		**Pn**	**21 16 02.6**	**+0.5**
KKAR				IAmb	IAmb	21 16 04.2	
	comp=Z,3.8nm,0.8s						
GUN	**Gumba**	**16.23**	**83**	*e*P	**Pn**	**21 16 04.1**	**-1.5**
	comp=Z,104nm,1.0s						
AAK	**Ala-Archa**	**16.35**	**18**	Pn	**Pn**	**21 16 04.5**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=172,slow=6.5,SNR=5.5						
AAK				LR	LR	21 23 14.8	
	comp=Z,98nm,18.4s,baz=92,slow=40						
AAK	**Ala-Archa**	**16.35**	**18**	IAmb	IAmb	21 16 13.6	
	comp=Z,2.8nm,0.8s						
JIRN	**Jiri**	**16.52**	**84**	*e*P	**Pn**	**21 16 08.0**	**-1.3**
RAMN	**Ramite**	**16.93**	**87**	*e*P	**Pn**	**21 16 13.8**	**-0.6**
	comp=Z,44nm,0.7s						
ODAN	**Odare**	**17.64**	**87**	*e*P	**Pn**	**21 16 22.8**	**-0.5**
TAPN	**Taplejung**	**17.88**	**85**	*e*P	**Pn**	**21 16 24.6**	**-1.8**
	comp=Z,79nm,1.4s						
RAYN	**Ar Rayn**	**20.29**	**264**	P	**P**	**21 16 54.2**	**+1.0**
RAYN				IAmb	IAmb	21 17 01.1	
	comp=Z,4.9nm,0.9s						
MAKZ	**Makanchi**	**22.58**	**26**	P	**P**	**21 17 18.5**	**+0.9**
MAKZ				IAmb	IAmb	21 17 36.0	
	comp=Z,10nm,1.1s						
MK31	**Makanchi Array**	**22.69**	**27**	P	**P**	**21 17 20.0**	**+1.2**
MK31				IAmb	IAmb	21 17 22.7	
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**22.69**	**27**	P	**P**	**21 17 19.1**	**+0.3**
	comp=Z,4.0nm,0.8s,baz=208,slow=12,SNR=15						
MKAR				LR	LR	21 26 23.5	
	comp=Z,54nm,18.3s,baz=320,slow=37						
ABKAR	**Akbulak array**	**22.75**	**347**	P	**P**	**21 17 19.6**	**+0.3**
ABKAR				IAmb	IAmb	21 17 20.6	
	comp=Z,11nm,0.9s						
GNI	**Garni**	**22.88**	**310**	LR	LR	21 27 23.5	
	comp=Z,73nm,19.6s,baz=80,slow=40						
PALK	**Pallekele**	**23.45**	**146**	LR	LR	21 27 04.8	
	comp=Z,47nm,19.9s,baz=333,slow=37						
AKTO	**Aktyubinsk**	**24.28**	**345**	P	**P**	**21 17 35.1**	**+0.6**
	comp=Z,3.7nm,0.7s,baz=174,slow=7.1,SNR=14						
KURBB	**Kurchatov Arra**	**24.79**	**17**	P	**P**	**21 17 40.1**	**+1.1**
	comp=Z,7.6nm,0.8s,baz=212,slow=8.6,SNR=16						
KURK	**Kurchatov**	**24.89**	**17**	P	**P**	**21 17 41.1**	**+1.1**
KURK				IAmb	IAmb	21 17 42.5	
	comp=Z,11nm,0.8s						
BVAR	**Borovoye Array**	**25.83**	**4**	P	**P**	**21 17 50.0**	**+1.5**
	comp=Z,4.6nm,0.8s,baz=177,slow=8.8,SNR=19						
KBZ	**Khabaz**	**25.83**	**316**	P	**P**	**21 17 49.0**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=112,slow=8.7,SNR=4.8						
BRVK	**Borovoye**	**25.86**	**4**	P	**P**	**21 17 50.3**	**+1.6**
BRVK				IAmb	IAmb	21 17 51.5	
	comp=Z,5.2nm,0.8s						
EIL	**Elat**	**28.75**	**283**	LR	LR	21 30 51.9	
	comp=Z,44nm,20.6s,baz=120,slow=39						
ZALV	**Zalesovo Beam**	**29.54**	**21**	P	**P**	**21 18 22.3**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=214,slow=10,SNR=6.8						
CMAR	**Chiang Mai Arr**	**30.12**	**100**	LR	LR	21 32 22.7	
	comp=Z,33nm,20.1s,baz=285,slow=40						
OBN	**Obninsk**	**35.80**	**330**	P	**P**	**21 19 16.0**	**-0.3**
OBN				IAmb	IAmb	21 19 23.8	
	comp=Z,6.6nm,0.5s						
SONM	**Songino Array**	**36.48**	**45**	P	**P**	**21 19 25.6**	**+3.1**
	comp=Z,0.6nm,0.6s,baz=241,slow=7.8,SNR=5.6						
AKASG	**Malin Array Be**	**37.31**	**319**	P	**P**	**21 19 29.7**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=113,slow=7.1,SNR=5.2						
MLR	**Muntele Rosu**	**37.66**	**310**	P	**P**	**21 19 32.9**	**+0.3**
MLR				IAmb	IAmb	21 19 47.5	
	comp=Z,2.6nm,1.0s						
BUR08	**Bucovina Ar. S**	**38.73**	**313**	P	**P**	**21 19 42.1**	**+0.7**
BUR08				IAmb	IAmb	21 19 42.9	
	comp=Z,2.4nm,1.0s						
VTS	**Vitosha**	**39.00**	**305**	P	**P**	**21 19 44.3**	**+0.4**
VTS				IAmb	IAmb	21 19 51.2	
	comp=Z,1.5nm,0.9s						
ITM	**Ithomi**	**39.56**	**296**	P	**P**	**21 19 48.8**	**+0.3**
ITM				IAmb	IAmb	21 20 01.7	
	comp=Z,12nm,1.2s						
FNA	**Florina**	**40.17**	**302**	P	**P**	**21 19 53.2**	**-0.4**
FNA				IAmb	IAmb	21 20 00.8	
	comp=Z,2.9nm,0.8s						
GEC2	**GERESS Array S**	**46.49**	**313**	P	**P**	**21 20 45.0**	**+

LSZ	**Lusaka**	**14.54**	**196**	*i* P		**Pn**	**21 30 04.8**	**-2.5**
LSZ				*i* S		Sn	21 32 37.2	-12
LSZ	**Lusaka**	**14.54**	**196**	Pn		**Pn**	**21 30 05.7**	**-1.6**
	0.9nm,0.3s,baz=30,slow=12,SNR=9.6							
LSZ				LR		LR	21 35 15.9	
	comp=Z,67nm,19.3s,baz=6.5,slow=35							
LSZ	**Lusaka**	**14.54**	**196**	*i* P		**Pn**	**21 30 04.8**	**-2.5**
LSZ				*i* S		Sn	21 32 37.2	-12
LSZ	**Lusaka**	**14.54**	**196**			**Pn**	**21 30 04.9**	**-2.3**
MATP	**Matopo**	**19.43**	**191**	*i* P		**P**	**21 31 07.9**	**-0.1**
MATP				*i* S		Sn	21 34 36.3	-11
MATP	**Matopo**	**19.43**	**191**	*i* P		**P**	**21 31 07.9**	**-0.1**
MATP				*i* S		Sn	21 34 36.3	-11
TORD	**Torodi Ar. Bea**	**33.64**	**296**	P		**P**	**21 33 23.9**	**+1.6**
	0.7nm,0.8s,baz=120,slow=8.5,SNR=4.6							
WSAR	**Wadi Sarin**	**35.28**	**45**	LR		LR	21 48 11.4	
	comp=Z,104nm,18.2s,baz=76,slow=37							
KBZ	**Khabaz**	**45.76**	**11**	P		**P**	**21 35 04.0**	**+1.3**
	1.4nm,0.8s,baz=173,slow=3.9,SNR=3.8							
MLR	**Muntele Rosu**	**46.89**	**354**	P		**P**	**21 35 12.3**	**+0.5**
MLR				IAmb		IAmb	21 35 26.6	
	comp=Z,2.7nm,1.1s							
BNI	**Bardonecchia**	**51.45**	**337**	P		**P**	**21 35 47.4**	**+0.7**
BNI				IAmb		IAmb	21 36 03.7	
	comp=Z,3.1nm,0.9s							
AKASG	**Malin Array Be**	**51.83**	**357**	P		**P**	**21 35 49.1**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=181,slow=6.9,SNR=4.7							
GEC2	**GERESS Array S**	**52.46**	**345**	P		**P**	**21 35 54.3**	**+0.1**
GEC2				IAmb		IAmb	21 35 54.4	
	comp=Z,1.6nm,0.8s							
GERES	**GERESS Array B**	**52.46**	**345**	P		**P**	**21 35 54.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=152,slow=6.0,SNR=8.3							
PAB	**San Pablo**	**52.72**	**324**	P		**P**	**21 35 56.9**	**+0.7**
KHC	**Kasperske Hory**	**52.75**	**345**	*e*P		**P**	**21 35 56.0**	**-0.3**
KHC	**Kasperske Hory**	**52.75**	**345**	P		**P**	**21 35 56.2**	**-0.1**
UCC	**Uccle**	**57.09**	**339**	P		**P**	**21 36 28.5**	**+0.9**
ARU	**Arti**	**61.28**	**16**	P		**P**	**21 36 57.3**	**+0.8**
ARU				IAmb		IAmb	21 36 57.7	
	comp=Z,4.4nm,0.8s							
FINES	**FINESS Array B**	**62.71**	**357**	P		**P**	**21 37 04.6**	**-1.4**
	comp=Z,3.0nm,0.9s,baz=152,slow=8.6,SNR=5.4							
MKAR	**Makanchi Array**	**64.74**	**36**	P		**P**	**21 37 20.4**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=234,slow=7.3,SNR=4.2							

BJI ***19*** *21:34:09.7±0.0, 7°.02S×128°.57E, h17km, mb5.2/66, mB5.5/62, Ms5.2/68, Ms7 4.9/65*

IDC ***19*** *21:34:11.2±0.3, 6°.93S×128°.27E, h0km, mb5.3/44, mb1 5.3/47, mb1mx5.2/56, mbtmp5.3/47, ML4.3/2, MS4.9/25, Ms1 4.9/25, ms1mx4.8/34, Error ellipse: s-maj=11.6km s-min=8.3km az=62.0*

NEIC ***19*** *21:34:12.6±1.7, 6°.91S±0°.05×128°.32E±0°.05, h11km±2km, mb5.6/199, Ms_20 5.2/99, Mwb5.7, Mwc5.5(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.92; $M_{\theta\theta}$-4.40; $M_{\phi\phi}$5.33; $M_{r\theta}$-0.21; $M_{\theta\phi}$-1.23; $M_{\phi r}$0.14; Fault plane solution: $M_0$5.09000×10^{17} NP1: ϕ_s127.93000°, δ88.94000°, λ-176.81000°. NP2: ϕ_s37.87000°, δ86.81000°, λ-1.06000°. Principal axes: T 5.4847, Plg2.0000°, Azm263.0000°; N -0.9179, Plg87.0000°, Azm146.0000°; P -4.5668, Plg3.0000°, Azm353.0000°;*

MOS ***19*** *21:34:13.2±1.0, 6°.88S×128°.34E, h24km, mb5.8/35, MS5.0/20 Error ellipse: s-maj=7.9km s-min=5.2km az=111.8*

GCMT ***19*** *21:34:13.6±0.1, 6°.90S×128°.23E, h12km, MW5.5/144, Moment Tensor Solution. s116,c216; s144,c287; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.17±.02; $M_{\theta\theta}$-2.50±.02; $M_{\phi\phi}$1.33±.03; $M_{r\theta}$-0.64±.05; $M_{\theta\phi}$-0.61±.02; $M_{\phi r}$-0.46±.06; Best double couple: M_o2.22100×10^{17} NP1:ϕ_s225.00000°, δ71.00000°, λ37.00000°. NP2:ϕ_s122.00000°, δ55.00000°, λ157.00000°. Principal axes: T 1.7170, Plg39.0000°, Azm89.0000°; N 1.0090, Plg49.0000°, Azm248.0000°; P -2.7250, Plg10.0000°, Azm350.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISCJB ***19*** *21:34:14.1±0.1, 6°.90S±0°.02×128°.39E±0°.02, h33km, mb5.4/145, MS4.9/51 Error ellipse: s-maj=2.6km s-min=2.2km az=140.5*

DJA ***19*** *21:34:15.0±0.5, 7°.5±1°×12°.8E±°, h26km±4km, M5.4/99, mb5.6/99, mB5.9/90, MLv5.7/20, Mw(mB)5.5/90, Mwp5.5/36*

KLM ***19*** *21:34:15.0, 7°.04S×128°.45E, h28km, mb5.8*

NEIC ***19*** *21:34:15, 6°.88S×128°.27E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.22; $M_{\theta\theta}$-2.61; $M_{\phi\phi}$1.39; $M_{r\theta}$-0.45; $M_{\theta\phi}$-0.64; $M_{\phi r}$-0.35; Fault plane solution: M_o2.42000×10^{17} NP1:ϕ_s122.00000°, δ61.00000°, λ159.00000°. NP2:ϕ_s223.00000°, δ72.00000°, λ31.00000°. Principal axes: T 1.6765, Plg34.0000°, Azm86.0000°; N 1.0946, Plg55.0000°, Azm251.0000°; P -2.7712, Plg7.0000°, Azm351.0000°;*

ISC 19 21:34:16.0±0.2, 6°.97S±0°.03×128°.35E±0°.03, h35km, n807, σ1 9 67/817, mb 5.5/218, MS5.0/98, 16C-21D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDI	**Bandanaira**	**2.88**	**33**	P		**Pn**	**21 34 56.0**	**-3.4**
SAUI	**Saumlaki**	**3.09**	**109**	P		**Pn**	**21 35 02.8**	**+0.4**
SAUI	**Saumlaki**	**3.09**	**109**			**Pn**	**21 35 04.2**	**+1.9**
AAI	**Ambon**	**3.26**	**357**	P		**Pn**	**21 35 01.0**	**-3.7**
AAI				S		**Sn**	**21 35 38.4**	**-4.0**
MSAI	**Masohi**	**3.64**	**9**	P		**Pn**	**21 35 06.6**	**-3.4**
NLAI	**Namlea**	**3.91**	**341**	P		**Pn**	**21 35 12.6**	**-1.0**
NLAI				S		**Sn**	**21 36 00.2**	**+1.9**
SOEI	**Soe**	**4.90**	**235**	P		**Pn**	**21 35 29.0**	**+1.6**
	1μm,0.9s,20μm19μm12nm							
SOEI	**Soe**	**4.90**	**235**			**Pn**	**21 35 28.9**	**+1.6**
SANI	**Sanana**	**5.42**	**334**	P		**Pn**	**21 35 32.7**	**-1.8**
	433nm,0.7s,7μm41μm2.3nm							
FAKI	**Fak Fak**	**5.59**	**44**	P		**Pn**	**21 35 35.6**	**-1.1**
	866nm,0.8s,9μm12μm2.6nm							
FAKI	**Fak Fak**	**5.59**	**44**			**Pn**	**21 35 35.6**	**-1.1**
BATI	**Baumata**	**5.64**	**235**	Pn		**Pn**	**21 35 39.2**	**+1.6**
	271nm,0.3s,baz=118,slow=2.0,SNR=334							
BATI				Sn		**Sn**	**21 36 43.2**	**+2.0**
	109nm,0.3s,baz=124,slow=23,SNR=8.6							
BBSI	**Bau Bau**	**5.93**	**284**	P		**Pn**	**21 35 42.2**	**+0.7**
	159nm,1.0s,2μm0.7nm							
KMPI	**Kaimana, Papua**	**6.26**	**59**	P		**Pn**	**21 35 45.6**	**-0.3**
	2μm,0.8s,26μm8.1nm							
MMRI	**Maumere**	**6.28**	**254**	P		**Pn**	**21 35 48.8**	**+2.6**
	2μm,1.0s,15μm12μm6.1nm							
MMRI	**Maumere**	**6.28**	**254**			**Pn**	**21 35 46.6**	**+0.4**
LBMI	**Labuha**	**6.34**	**352**	P		**Pn**	**21 35 46.8**	**-0.3**
	2μm,0.9s,16μm6.3nm							
KDI	**Kendari**	**6.44**	**297**	P		**Pn**	**21 35 47.5**	**-1.0**
	416nm,1.2s,4μm2.3nm							
MTN	**Manton Dam**	**6.45**	**155**	P		**Pn**	**21 35 49.7**	**+1.2**
	baz=6.5,SNR=50							
MTN	**Manton Dam**	**6.45**	**155**			**Pn**	**21 35 49.8**	**+1.2**
SIJI	**Sorong**	**6.72**	**26**	Pn		**Pn**	**21 35 51.0**	**-1.3**
	46nm,0.3s,baz=206,slow=9.4,SNR=77							
SWI	**Sorong**	**6.72**	**26**	P		**Pn**	**21 35 50.9**	**-1.4**
	1μm,1.1s,11μm14μm3.6nm							
KDU	**Kakadu**	**6.98**	**145**	P		**Pn**	**21 35 54.8**	**-1.1**
	baz=7.0,SNR=232							
TNTI	**Ternate**	**7.75**	**353**	P		**Pn**	**21 36 06.7**	**+0.3**
	452nm,1.0s,5μm10μm1.4nm							
TNTI	**Ternate**	**7.75**	**353**			**Pn**	**21 36 05.6**	**-0.8**
RKPI	**Ransiki, Papua**	**7.94**	**47**	P		**Pn**	**21 36 06.2**	**-2.9**
	1μm,0.7s,11μm3.7nm							
LUWI	**Luwuk**	**8.10**	**316**	P		**Pn**	**21 36 10.2**	**-1.0**
	510nm,0.7s,10μm11μm							
LUWI	**Luwuk**	**8.10**	**316**			**Pn**	**21 36 10.2**	**-1.0**
BKSI	**Bulukumba**	**8.35**	**281**	P		**Pn**	**21 36 14.6**	**0.0**
	482nm,0.8s,4μm6μm1.4nm							
WSI	**Waingapu**	**8.41**	**251**	P		**Pn**	**21 36 19.8**	**+4.3**
	618nm,0.6s,12μm4.1nm							
BNSI	**Bone**	**8.59**	**287**	P		**Pn**	**21 36 18.0**	**0.0**
	785nm,0.8s,7μm10μm2.2nm							
KNRA	**Kununurra**	**8.66**	**177**	P		**Pn**	**21 36 18.6**	**-0.4**
	baz=8.7,SNR=139							
KNRA	**Kununurra**	**8.66**	**177**			**Pn**	**21 36 18.2**	**-0.8**
KMSI	**Cibinong**	**8.67**	**330**	P		**Pn**	**21 36 18.9**	**-0.1**
	435nm,0.8s,5μm							
KAPI	**Kappang**	**8.77**	**282**	P		**Pn**	**21 36 20.0**	**-0.4**
KAPI	**Kappang**	**8.77**	**282**	Pn		**Pn**	**21 36 20.8**	**+0.4**
	9.9nm,0.3s,baz=130,slow=8.8,SNR=37							
KAPI				LR		LR	21 39 32.5	
	comp=Z,12μm,18.3s,baz=299,slow=37							
KAPI	**Kappang**	**8.77**	**282**			**Pn**	**21 36 20.0**	**-0.4**
APSI	**Ampana**	**8.99**	**312**	P		**Pn**	**21 36 23.9**	**+0.4**
	106nm,0.9s,2μm6μm							
SPSI	**Sidrap Palu**	**9.05**	**289**	P		**Pn**	**21 36 24.5**	**+0.2**
	986nm,0.7s,7μm							
TTSI	**Tana Toraja**	**9.35**	**294**	P		**Pn**	**21 36 30.4**	**+2.0**
	200nm,0.8s,2μm							
MRSI	**Marisa**	**9.78**	**319**	P		**Pn**	**21 36 34.8**	**+0.5**
	185nm,0.8s,2μm10μm							
PLAI	**Plampang**	**10.64**	**259**	P		**Pn**	**21 36 49.2**	**+3.1**
	325nm,0.8s,5μm7μm							
WAMI	**Wamena**	**10.76**	**74**	P		Pn	21 36 53.0	+5.3
MPSI	**Mapaga**	**11.13**	**310**	P		**Pn**	**21 36 51.8**	**-0.9**
	58nm,0.7s,2μm7μm							
FITZ	**Fitzroy Crossi**	**11.38**	**193**	P		**Pn**	**21 36 52.9**	**-3.2**
	baz=12,SNR=109							
FITZ	**Fitzroy Crossi**	**11.38**	**193**	Pn		**Pn**	**21 36 52.9**	**-3.2**
	6.6nm,0.3s,baz=31,slow=11,SNR=62							
FITZ				Sn		**Sn**	**21 38 57.8**	**-4.2**
	18nm,0.3s,baz=36,slow=8.0,SNR=13							
FITZ				LR		LR	21 41 57.7	
	comp=Z,13μm,19.5s,baz=18,slow=41							
FITZ	**Fitzroy Crossi**	**11.38**	**193**			**Pn**	**21 36 53.8**	**-2.3**
SMPI	**Sarmi**	**11.45**	**65**	P		**Pn**	**21 36 55.9**	**-1.2**
	224nm,1.1s,3μm							
TWSI	**Taliwang, Sumb**	**11.50**	**260**	P		**Pn**	**21 37 00.6**	**+2.8**
	137nm,1.2s,2μm							
GENI	**Genyem**	**12.55**	**70**	P		**Pn**	**21 37 11.5**	**-0.7**
	411nm,0.9s,6μm4μm							
BKB	**Balikpapan**	**12.75**	**296**	P		P	21 37 33.0	+7.4
BKB	**Balikpapan**	**12.75**	**296**	Pn		**Pn**	**21 37 12.4**	**-2.5**
SMKI	**Samarinda**	**12.87**	**300**	P		**Pn**	**21 37 19.2**	**+2.7**
	150nm,0.9s,4μm5μm							
SRBI	**Singaraja**	**13.07**	**264**	P		**Pn**	**21 37 20.7**	**+1.3**
	192nm,1.8s,6μm							
JAY	**Jayapura**	**13.08**	**71**	Pn		**Pn**	**21 37 17.0**	**-2.5**
	1.3nm,0.3s,baz=247,slow=8.2,SNR=24							
JAY	**Jayapura**	**13.08**	**71**	P		**Pn**	**21 37 14.9**	**-4.6**
	101nm,1.5s,2μm							
IGBI	**Denpasar**	**13.21**	**261**	P		P	21 37 35.7	+5.0
SKMP	**Bagumbayan, Su**	**13.93**	**344**	P		**Pn**	**21 37 27.5**	**-3.5**
MATI	**Mati**	**13.98**	**351**	P		**Pn**	**21 37 28.2**	**-3.5**
WRAB	**Tennant Creek**	**14.14**	**156**	*d* iP		**Pn**	**21 37 30.1**	**-3.9**
WRAB				pmax		pmax		
	comp=Z,216nm,1.3s							
WRAB	**Tennant Creek**	**14.14**	**156**	Pn		**Pn**	**21 37 30.7**	**-3.3**
WRA	**Warramunga Arr**	**14.15**	**156**	*i* P		**Pn**	**21 37 29.6**	**-4.4**
WRA				pmax		pmax		
	comp=Z,97nm,0.9s							
WRA	**Warramunga Arr**	**14.15**	**156**	Pn		**Pn**	**21 37 29.6**	**-4.4**
	comp=Z,4.2nm,0.3s,baz=345,slow=13,SNR=110							
WRA				Sn		Sn	21 39 59.3	-11
	comp=Z,5.3nm,0.3s,baz=335,slow=22,SNR=8.4							
WRA				LR		LR	21 43 13.7	
	comp=Z,16μm,21.2s,baz=330,slow=38							
JAGI	**Jajag, Banyuwa**	**14.15**	**263**	P		**Pn**	**21 37 35.7**	**+1.6**
	comp=Z,187nm,1.8s,comp=Z,3μmcomp=Z,4μm							
JAGI	**Jajag, Banyuwa**	**14.15**	**263**			**Pn**	**21 37 33.2**	**-0.9**
DAV	**Davao City (W)**	**14.22**	**349**	Pn		**Pn**	**21 37 33.8**	**-1.2**
	comp=Z,49nm,0.3s,baz=55,slow=3.5,SNR=8.6							
DAV				LR		LR	21 43 46.7	
	comp=Z,3μm,21.2s,baz=156,slow=41							
DAV	**Davao City (W)**	**14.22**	**349**	⇑ *i* P		**Pn**	**21 37 36.1**	**+1.1**
WR0	**Warramunga Arr**	**14.24**	**156**	Pn		**Pn**	**21 37 31.4**	**-4.0**
KCP	**Kidapawan**	**14.26**	**347**	⇓ P		**Pn**	**21 37 33.5**	**-2.2**
KMMI	**Kalianget**	**14.28**	**269**	P		**P**	**21 37 39.8**	**-2.8**
	comp=Z,250nm,1.2s,comp=Z,7μm							
CTBH	**Cotabato--PC H**	**14.68**	**344**	P		**Pn**	**21 37 40.0**	**-1.2**
PAGZ	**Pagadian**	**15.53**	**341**	P		**Pn**	**21 37 49.6**	**-2.9**
CGP	**Cagayan de Oro**	**15.75**	**347**	⇓ P		**Pn**	**21 37 54.2**	**-1.1**
GRJI	**Gresik**	**15.76**	**269**	P		**P**	**21 37 58.7**	**-0.3**
	comp=Z,198nm,1.0s,comp=Z,2μmcomp=Z,459nm							
COEN	**Coen**	**16.14**	**117**	P		**Pn**	**21 37 57.8**	**-2.5**
	baz=16,SNR=28							
COEN	**Coen**	**16.14**	**117**			**Pn**	**21 37 58.2**	**-2.1**
COEN				IAmb		IAmb	21 38 05.9	
	comp=Z,375nm,0.8s							
PSA00	**Pilbara Seismi**	**16.69**	**209**			**Pn**	**21 38 04.6**	**-2.6**
NGJI	**Ngawi**	**16.77**	**268**	P		**Pn**	**21 38 08.1**	**-0.2**
	comp=Z,228nm,1.2s,comp=Z,8μm							
PCJI	**Pacitan**	**17.07**	**265**	P		**Pn**	**21 38 08.7**	**-3.4**
	comp=Z,390nm,1.3s,comp=Z,3μm							
WOJI	**Wonogiri, Jawa**	**17.31**	**266**	P		**Pn**	**21 38 15.1**	**0.0**
	comp=Z,173nm,1.0s,comp=Z,3μm							
MSLP	**Maasin**	**17.34**	**348**	P		**Pn**	**21 38 12.7**	**-2.7**
QIS	**Mount Isa**	**17.36**	**142**	P		**Pn**	**21 38 13.4**	**-2.3**
	baz=17,SNR=19							
AS31	**Alice Springs**	**17.44**	**163**			**Pn**	**21 38 16.4**	**-0.2**
ASAR	**Alice Springs**	**17.44**	**163**	P		**Pn**	**21 38 13.6**	**-3.1**
	comp=Z,3.8nm,0.3s,baz=338,slow=11,SNR=54							
ASAR				S		**Sn**	**21 41 21.6**	**-8.3**
	comp=Z,1.3nm,0.3s,baz=321,slow=18,SNR=5.6							
ASAR				LR		LR	21 45 14.3	
	comp=Z,9μm,20.7s,baz=332,slow=38							
UGM	**Wanagama**	**17.70**	**266**	P		**Pn**	**21 38 19.7**	**-0.3**
KKM	**Kota Kinabalu**	**17.71**	**317**	P		**Pn**	**21 38 18.7**	**-1.5**
SMRI	**Semarang**	**17.78**	**269**	P		P	21 38 29.7	+8.2
SMRI	**Semarang**	**17.78**	**269**			**P**	**21 38 21.4**	**-0.1**
WRKA	**Warakurna**	**17.97**	**180**	P		**Pn**	**21 38 20.1**	**-3.1**
	baz=18,SNR=144							
OCLP	**Ormoc**	**18.28**	**348**	P		**P**	**21 38 26.6**	**-0.4**
SBUM	**Sibu**	**18.62**	**300**	P		**Pn**	**21 38 33.0**	**+1.8**
SBUM	**Sibu**	**18.62**	**300**	P		**Pn**	**21 38 32.8**	**+1.6**
PMG	**Port Moresby**	**18.77**	**99**	*c* iP		**Pn**	**21 38 33.5**	**+0.5**
PMG				pmax		pmax		
	comp=Z,4μm,2.5s							
PMG	**Port Moresby**	**18.77**	**99**	P		**Pn**	**21 38 32.7**	**-0.3**
	comp=Z,6.2nm,0.3s,baz=321,slow=1.2,SNR=27							
PMG				LR		LR	21 47 14.0	
	comp=Z,5μm,19.5s,baz=260,slow=42							
PMG	**Port Moresby**	**18.77**	**99**	P		**Pn**	**21 38 34.0**	**+1.0**
PMG				IAmb		IAmb	21 38 38.6	
	comp=Z,297nm,0.8s							
MTSU	**Mount Surprise**	**19.11**	**127**	P		**P**	**21 38 36.0**	**-0.1**
	baz=19,SNR=78							
RCP	**Roxas**	**19.23**	**343**	⇑ P		**Pn**	**21 38 40.5**	**+2.0**
KPJI	**Karang Pucung**	**19.27**	**268**	P		**Pn**	**21 38 39.4**	**+0.3**
	comp=Z,146nm,1.3s,comp=Z,4μm							
MANU	**Manus Island**	**19.57**	**76**	P		**Pn**	**21 38 42.1**	**-0.5**
MANU				IAmb		IAmb	21 38 45.6	
	comp=Z,252nm,0.9s							
CNP	**Catarman**	**19.70**	**349**	P		**Pn**	**21 38 45.7**	**+1.6**
CMJI	**Cimerak**	**19.76**	**266**	P		Pn	21 38 54.5	+10
KSM	**Kuching**	**19.86**	**294**	P		**Pn**	**21 38 46.0**	**-0.1**
KSM	**Kuching**	**19.86**	**294**	P		**P**	**21 38 43.1**	**-1.2**
CISI	**Cisompet, Garu**	**20.38**	**267**	P		Pn	21 38 53.0	+0.7
	comp=Z,229nm,0.9s,comp=Z,3μm							
CISI	**Cisompet, Garu**	**20.38**	**267**	P		**P**	**21 38 47.2**	**-2.8**
LEM	**Lembang**	**20.59**	**269**	P		**P**	**21 38 51.4**	**-1.0**
	comp=Z,81nm,0.8s,baz=66,slow=6.7,SNR=17							
LEM				LR		LR	21 48 03.4	
	comp=Z,7μm,18.2s,baz=82,slow=41							
GIRL	**Giralia**	**20.69**	**220**	P		**P**	**21 38 54.0**	**+0.8**
	baz=21,SNR=24							
GIRL	**Giralia**	**20.69**	**220**	P		**P**	**21 38 53.1**	**-0.1**
TPI	**Tanjungpandan**	**21.04**	**280**	P		**P**	**21 38 58.5**	**+1.4**
	comp=Z,116nm,1.1s,comp=Z,3μm							
CNJI	**Cibinong**	**21.06**	**268**	P		**P**	**21 38 55.2**	**-2.1**
	comp=Z,264nm,0.8s,comp=Z,4μm							
BOAC	**Boac**	**21.30**	**342**	P		**P**	**21 39 00.9**	**+1.1**
CBJI	**Citeko**	**21.36**	**270**	P		**P**	**21 39 00.0**	**-0.6**
	comp=Z,255nm,1.2s							
DBJI	**Dramaga**	**21.46**	**270**	P		**P**	**21 39 03.4**	**+1.8**
	comp=Z,154nm,1.1s,comp=Z,5μm							
SKJI	**Sukabumi**	**21.64**	**269**	P		**P**	**21 39 03.9**	**+0.4**
	comp=Z,257nm,0.9s,comp=Z,5μmcomp=Z,5μm							
MEEK	**Mekatharra**	**21.65**	**204**	P		**P**	**21 39 03.4**	**-0.1**
	baz=22,SNR=90							
CTA	**Charters Tower**	**21.72**	**129**	P		**P**	**21 39 05.3**	**+1.0**
	comp=Z,119nm,1.0s,baz=312,slow=10,SNR=19							
CTA				LR		LR	21 48 13.6	
	comp=Z,5μm,20.4s,baz=310,slow=39							
CTAO	**Charters Tower**	**21.72**	**129**	IAMs_20		IAMs_20	21 48 11.7	
	comp=Z,8μm,19.0s							
LQP	**Lukban**	**22.01**	**342**	P		**P**	**21 39 08.6**	**+1.0**
TGY	**Tagaytay City**	**22.19**	**341**	P		**P**	**21 39 11.1**	**+1.7**
	comp=Z,628nm,0.9s,baz=152,slow=7.2,SNR=15							
TGY				LR		LR	21 49 51.2	
	comp=Z,2μm,19.1s,baz=130,slow=42							
POLP	**Polilio Island**	**22.47**	**344**	P		**P**	**21 39 11.6**	**-0.8**
PCPH	**Palayan**	**23.51**	**342**	⇓ P		**P**	**21 39 24.5**	**+1.5**
KLSI		**23.61**	**274**	P		**P**	**21 39 23.9**	**-0.1**
	comp=Z,24nm,1.0s,comp=Z,624nm							
FORT	**Forrest**	**23.69**	**181**	P		**P**	**21 39 25.1**	**+0.5**
	baz=24,SNR=33							
FORT	**Forrest**	**23.69**	**181**	P		**P**	**21 39 25.3**	**+0.7**
KASI	**Kota Agung**	**23.76**	**272**	P		**P**	**21 39 23.9**	**-1.5**
	comp=Z,89nm,0.9s,comp=Z,2μm							
PMBI	**Palembang**	**23.83**	**279**	P		**P**	**21 39 28.0**	**+1.9**
	comp=Z,827nm,1.1s,comp=Z,12μmcomp=Z,5μm							
PMBI	**Palembang**	**23.83**	**279**	P		**P**	**21 39 27.9**	**+1.7**
PMBI				IAMs_20		IAMs_20	21 48 55.6	
	comp=Z,5μm,18.0s							
MDSI	**Maura Dua**	**24.18**	**275**	P		**P**	**21 39 30.9**	**+1.5**
	comp=Z,62nm,1.3s,comp=Z,1μm							
LWLI	**Liwa**	**24.24**	**273**	P		**P**	**21 39 36.6**	**+6.5**
DSRI	**Dabo**	**24.57**	**284**	P		P	21 39 43.5	+11
QLP	**Quilpie**	**24.68**	**144**	P		**P**	**21 39 34.3**	**+0.5**
	baz=25,SNR=60							
MORW	**Morawa**	**24.86**	**206**	P		**P**	**21 39 35.8**	**+0.4**
	baz=25,SNR=30							
MORW	**Morawa**	**24.86**	**206**	P		**P**	**21 39 35.9**	**+0.4**
MORW				IAmb		IAmb	21 39 39.8	
	comp=Z,257nm,1.1s							
MORW				IAMs_20		IAMs_20	21 50 34.8	
	comp=Z,6μm,19.0s							
LHSI	**Lahat**	**24.91**	**276**	P		**P**	**21 39 37.0**	**+0.9**
	comp=Z,100nm,0.9s,comp=Z,4μm							
TPRI	**Tanjung Pinang**	**25.03**	**287**	P		P	21 39 46.5	+9.4
KSI	**Kapahiang**	**25.86**	**276**	P		P	21 39 58.2	+13
BLDU	**Ballidu**	**25.94**	**203**	P		**P**	**21 39 45.1**	**-0.1**
	baz=26,SNR=32							
MYKOM	**Kota Tinggi**	**25.96**	**289**	P		**P**	**21 39 47.0**	**+1.5**
GUMO	**Guam**	**26.19**	**39**	P		**P**	**21 39 47.3**	**-0.3**
GUMO				pmax		pmax		
	comp=Z,632nm,1.2s							
GUMO	**Guam**	**26.19**	**39**	P		**P**	**21 39 48.7**	**+1.1**
	comp=Z,386nm,1.1s,baz=165,slow=13,SNR=6.6							
GUMO	**Guam**	**26.19**	**39**	P		**P**	**21 39 47.3**	**-0.3**
KLBR	**Kellerberrin**	**26.43**	**201**	P		**P**	**21 39 49.7**	**+0.1**
	baz=26,SNR=42							
BBOO	**Buckleboo**	**26.69**	**165**	P		**P**	**21 39 52.3**	**+0.4**
	baz=27,SNR=40							
BBOO	**Buckleboo**	**26.69**	**165**	P		**P**	**21 39 52.6**	**+0.6**
BBOO				IAmb		IAmb	21 40 01.1	
	comp=Z,154nm,1.0s							
KRJI	**Kerinci**	**27.23**	**279**	P		**P**	**21 39 58.5**	**+1.3**
	comp=Z,312nm,1.0s,comp=Z,4μm							
DLV	**T Lat**	**27.26**	**313**	P		**P**	**21 39 57.1**	**-0.4**
MUN	**Mundaring**	**27.34**	**203**	P		**P**	**21 39 57.7**	**-0.2**
	baz=28,SNR=12							
RMQ	**Roma**	**27.46**	**137**	P		**P**	**21 40 00.0**	**+1.1**
	baz=28,SNR=22							
SDSI	**Sungai Dareh**	**27.51**	**281**	P		**P**	**21 40 00.8**	**+1.3**
	comp=Z,134nm,1.1s,comp=Z,4μm							
STKA	**Stephens Creek**	**27.69**	**155**	P		**P**	**21 40 01.2**	**+0.2**
	comp=Z,37nm,0.6s,baz=326,slow=9.5,SNR=47							
STKA				LR		LR	21 51 40.6	
	comp=Z,9μm,19.9s,baz=327,slow=38							
NWAO	**Narrogin (SRO)**	**27.82**	**200**	P		**P**	**21 40 02.3**	**+0.2**
	baz=28,SNR=19							
NWAO	**Narrogin (SRO)**	**27.82**	**200**	P		**P**	**21 40 01.9**	**-0.2**
NWAO				pmax		pmax		
	comp=Z,45n

comp=Z,53µm,0.9s,comp=Z,405µm
SLVN Son La 36.97 320 P P 21 41 23.3 +0.9
UMPA Umpang Tak 37.18 308 P P 21 41 31.1 +7.0
PHRA Phrae 37.55 313 P P 21 41 29.6 +2.4
comp=Z,5.2nm,1.7s
LHI Lord Howe Isla 37.66 134 P P 21 41 29.3 +1.2
baz=38,SNR=3.1
LHI Lord Howe Isla 37.66 134 P P 21 41 27.9 -0.1
LHI IAmb IAmb 21 41 38.1
comp=Z,76nm,1.1s
LAMP Lampang 38.00 312 P P 21 41 33.5 +2.5
comp=Z,50µm,1.1s,comp=Z,540µm
SSE Sheshan 38.46 350 P P 21 41 34.5 -0.2
SSE IAmb IAmb 21 41 42.8
comp=Z,56nm,0.8s
CM31 Chiang Mai Arr 38.47 311 P P 21 41 36.6 +1.6
SNR=14
CM31 S **S 21 47 31.1 +2.8**
CM31 Chiang Mai Arr 38.47 311 P P 21 41 35.9 +1.0
CMAR Chiang Mai Arr 38.47 311 *i* P **P 21 41 36.4 +1.4**
CMAR pmax pmax
comp=Z,9.0nm,0.9s
CMAR Chiang Mai Arr 38.47 311 P P 21 41 35.9 +0.9
comp=Z,8.8nm,0.9s,baz=141,slow=7.2,SNR=42
CMAR PcP **PcP 21 43 49.1 +1.3**
comp=Z,13nm,0.8s,baz=168,slow=2.7,SNR=14
CMAR LR LR 21 59 38.7
comp=Z,1µm,19.3s,baz=144,slow=40
CMMT Chiang Mai 38.69 312 P P 21 41 37.7 +0.9
comp=Z,22nm,0.9s,comp=Z,485nm
CHTO Chiang Mai 38.69 312 P P 21 41 37.6 +0.8
CHTO pmax pmax
comp=Z,59nm,1.2s
CHTO MLR MLR
comp=Z,2µm,20.0s
CHTO Chiang Mai 38.69 312 P P 21 41 37.6 +0.8
MHMT Maesarieng 39.06 310 P P 21 41 49.0 +9.1
MOO Moorlands 39.06 158 P P 21 41 42.3 +2.7
baz=39,SNR=4.3
GYA Guiyang 39.33 328 ⇑ *i*P **P 21 41 41.8 -0.4**
GYA sP sP 21 41 55.3 +0.2
GYA PP **PnPn 21 43 17.3 +1.5**
GYA PcP **PcP 21 43 51.5 +1.0**
GYA S **S 21 47 39.3 -2.0**
GYA SS **SS 21 50 25.5 -10**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,360nm,5.6s
GYA LR LR
comp=Z,650nm,14.9s
GYA LR LR
comp=Z,660nm,13.1s
GYA LR LR
comp=Z,810nm,16.2s
TAU Tasmania Unive 39.51 158 P P 21 41 44.7 +1.3
TAU pmax pmax
comp=Z,86nm,1.2s
TAU MLR MLR
comp=Z,5µm,19.0s
TAU Tasmania Unive 39.51 158 P P 21 41 44.7 +1.3
WHN Wuhan 39.64 341 ⇑ *i*P **P 21 41 45.4 +0.9**
WHN PP **PP 21 43 15.1 -1.0**
WHN S **S 21 47 40.6 -4.9**
WHN pmax pmax
comp=Z,72nm,1.0s
WHN LR LR
comp=Z,2µm,5.2s
WHN LR LR
comp=Z,3µm,14.2s
WHN LR LR
comp=Z,4µm,28.6s
DZM Mont Dzumac 39.67 116 *e*P **P 21 41 45.8 +0.7**
comp=Z,108nm,1.4s
DZM Mont Dzumac 39.67 116 *e*LR LR 21 52 48.0
comp=Z,2µm,25.6s
DZM Mont Dzumac 39.67 116 P **P 21 41 45.9 +0.8**
comp=Z,14nm,0.6s,baz=269,slow=12,SNR=14
DZM Mont Dzumac 39.67 116 P **P 21 41 45.0 -0.1**
NJ2 Nanjing 39.84 347 *e*P **P 21 41 46.8 +0.6**
NJ2 sP **pP 21 41 53.8 -1.5**
NJ2 S **S 21 47 44.8 -3.7**
NJ2 sS **sS 21 48 03.8 -0.2**
NJ2 pmax pmax
comp=Z,53nm,0.9s
NJ2 pmax pmax
comp=Z,550nm,5.9s
NJ2 LR LR
comp=Z,620nm,7.8s
NJ2 LR LR
comp=Z,760nm,9.7s
NJ2 LR LR
comp=Z,730nm,13.3s
JNU Nakatsue 39.94 3 P P 21 41 47.0 -0.1
comp=Z,18nm,0.9s,baz=217,slow=6.9,SNR=5.3
JNU Nakatsue 39.94 3 P P 21 41 45.5 -1.5
KMI Kunming 40.48 323 P P 21 41 53.3 +1.4
KMI pP pP 21 41 57.5 -3.8
KMI sP sP 21 42 01.5 -3.6
KMI PP **PnPn 21 43 33.3 +3.7**
KMI S **S 21 47 57.5 -1.3**
KMI pmax pmax
comp=Z,41nm,1.0s
KMI pmax pmax
comp=Z,590nm,5.4s
KMI LR LR
comp=Z,610nm,15.3s
KMI LR LR
comp=Z,760nm,14.8s
KMI LR LR
comp=Z,710nm,14.3s
KMI Kunming 40.48 323 P P 21 41 52.9 +0.9
KMI pmax pmax
comp=Z,115nm,1.1s
KMI Kunming 40.48 323 P P 21 41 52.9 +0.9
KMI IAmb IAmb 21 42 02.4
comp=Z,115nm,1.1s
JHJ2 Mitsune 41.32 15 P P 21 41 55.0 -3.4
KWAJ Kwajalein Atol 42.15 69 P P 21 42 04.4 -1.1
KWAJ pmax pmax
comp=Z,277nm,1.2s
KWAJ Kwajalein Atol 42.15 69 P P 21 42 04.4 -1.1
INU Inuyama 42.87 10 IAMs_20 IAMs_20 21 57 59.0
comp=Z,3µm,18.0s
TJN Taejon 43.12 359 *ce*P **P 21 42 14.0 +1.0**
SIMRM Sittwe 44.07 308 P P 21 42 20.6 -0.3
KSRS Korea Array 44.19 360 P P 21 42 22.2 +0.6
comp=Z,18nm,0.7s,baz=177,slow=9.6,SNR=44
KSRS LR LR 21 59 01.2
comp=Z,1µm,21.7s,baz=167,slow=34
TIA Tai'an 44.23 347 P P 21 42 21.0 -1.0
TIA S **S 21 48 45.5 -7.7**
TIA pmax pmax
comp=Z,23nm,1.3s
TIA LR LR
comp=Z,700nm,28.4s
TIA LR LR
comp=Z,550nm,26.5s
TIA LR LR
comp=Z,2µm,28.4s
KS19 Wonju Array Si 44.24 359 P P 21 42 22.1 0.0
KS19 IAmb IAmb 21 42 31.3
comp=Z,54nm,0.9s
INCN Inchon 44.25 358 IAMs_20 IAMs_20 21 59 00.6
comp=Z,2µm,21.0s
MJAR Matsushiro Arr 44.26 11 P P 21 42 21.0 -1.2
MJAR Matsushiro Arr 44.26 11 P P 21 42 21.0 -1.2
comp=Z,34nm,0.8s,baz=189,slow=9.5,SNR=54
MJAR LR LR 21 59 05.5
comp=Z,1µm,21.5s,baz=215,slow=34
MAJO Matsushiro 44.26 11 *d i*P **P 21 42 21.3 -0.9**
MAJO pmax pmax
comp=Z,35nm,0.7s
MAJO Matsushiro 44.26 11 P **P 21 42 21.5 -0.7**
MAJO IAmb IAmb 21 42 30.7
comp=Z,55nm,0.8s
MAT Matsushiro 44.26 11 P **P 21 42 21.2 -1.0**
MAT S **S 21 48 55.4 +1.7**
MJB9 Matsu-Tunnel 44.26 11 IAmb IAmb 21 42 30.7
comp=Z,56nm,0.8s
CD2 Chengdu 44.42 329 ⇓ P **P 21 42 23.0 -0.7**
CD2 PP **PP 21 44 08.3 +0.5**
CD2 S **S 21 48 56.4 +0.1**
CD2 pmax pmax
comp=Z,90nm,1.1s
CD2 pmax pmax
comp=Z,680nm,7.7s
CD2 LR LR
comp=Z,2µm,18.5s
CD2 LR LR
comp=Z,2µm,15.7s
CD2 LR LR
comp=Z,2µm,19.9s
XAN Xi'an 44.74 337 P P 21 42 25.0 -1.1
XAN S **S 21 48 57.0 -3.9**
XAN SS **ScS 21 52 12.8 -8.6**
XAN pmax pmax
comp=Z,31nm,1.1s
XAN LR LR
comp=Z,970nm,13.7s
XAN LR LR
comp=Z,930nm,12.7s
XAN LR LR
comp=Z,1µm,20.6s
XAN Xi'an 44.74 337 P P 21 42 25.1 -1.1
XAN pmax pmax
comp=Z,25nm,0.9s
XAN MLR MLR
comp=Z,1µm,20.0s
XAN Xi'an 44.74 337 P P 21 42 25.1 -1.1
TARA Tarawa 45.24 81 IAMs_20 IAMs_20 22 00 59.9
comp=Z,3µm,18.0s
WAKE Wake Island 45.87 55 P P 21 42 34.8 -0.5
DL2 Dalian 46.06 353 P P 21 42 32.3 -4.2
DL2 S **S 21 49 13.9 -5.7**
DL2 pmax pmax
comp=Z,31nm,1.1s
DL2 pmax pmax
comp=Z,720nm,4.7s
DL2 LR LR
comp=Z,1µm,20.3s
DL2 LR LR
comp=Z,1µm,16.8s
DL2 LR LR
comp=Z,2µm,32.9s
KOHI KOHIMA 46.51 316 *e*P **P 21 42 37.5 -2.9**
KOHI IAmb IAmb 21 42 40.8
comp=Z,61nm,0.9s
KOHI *e*S **S 21 49 23.6 -3.2**
TIY Taiyuan 46.87 343 P P 21 42 46.8 +3.9
TIY PP **PP 21 44 34.8 +1.1**
TIY S **S 21 49 30.1 -1.3**
TIY LR LR
comp=Z,610nm,12.9s
TIY LR LR
comp=Z,420nm,10.4s
TIY LR LR
comp=Z,3µm,41.1s
ZIRO ZIRO 47.85 317 *e*P **P 21 42 51.0 +0.2**
ZIRO IAmb IAmb 21 42 55.2
comp=Z,36nm,0.9s
ZIRO *e*S **S 21 49 45.6 -0.3**
SHL Shillong 47.99 314 P P 21 42 51.5 -0.5
SNR=22
SHL Shillong 47.99 314 P P 21 42 51.2 -0.8
SHL pmax pmax
comp=Z,48nm,0.9s
SHL Shillong 47.99 314 P P 21 42 51.2 -0.8
SHL IAmb IAmb 21 43 01.3
comp=Z,48nm,0.9s
BJT Baijiatuau 48.09 347 P P 21 42 52.4 +0.1
BJT pmax pmax
comp=Z,36nm,1.1s
BJT MLR MLR
comp=Z,600nm,20.0s
BJT Baijiatuau 48.09 347 P P 21 42 52.4 +0.1
BJT IAmb IAmb 21 43 01.3
comp=Z,36nm,1.1s
LZH Lanzhou 48.62 333 *e*P **P 21 42 57.1 +0.4**
LZH pP pP 21 43 04.8 -1.2
LZH PP **PP 21 44 44.3 -5.7**
LZH S **S 21 49 53.3 -3.3**
LZH sS sS 21 50 08.8 -3.5
LZH pmax pmax
comp=Z,31nm,1.0s
LZH pmax pmax
comp=Z,640nm,4.3s
LZH LR LR
comp=Z,1µm,13.6s
LZH LR LR
comp=Z,1µm,14.2s
LZH LR LR
comp=Z,1µm,14.6s
SNY Shenyang 48.75 355 ⇓ P **P 21 42 57.8 +0.5**
SNY S **S 21 49 58.8 +1.0**
SNY pmax pmax
comp=Z,1µm,5.5s
SNY LR LR
comp=Z,2µm,20.5s
SNY LR LR
comp=Z,1µm,16.2s
SNY LR LR
comp=Z,2µm,19.7s
MSVF Nonsavu 49.57 107 P P 21 43 05.0 +0.8
MSVF pmax pmax
comp=Z,40nm,1.0s
MSVF Nonsavu 49.57 107 P P 21 43 05.0 +0.8
MSVF IAmb IAmb 21 43 07.1
comp=Z,40nm,1.0s
PALK Pallekele 49.59 286 P P 21 43 03.1 -1.2
PALK Pallekele 49.59 286 P P 21 43 03.1 -1.2
PALK Pallekele 49.59 286 *i* P **P 21 43 04.4 +0.1**
PALK Pallekele 49.59 286 P P 21 43 03.7 -0.7
comp=Z,9.4nm,0.7s,baz=66,slow=5.2,SNR=6.6
PALK Pallekele 49.59 286 P P 21 43 03.6 -0.7
PALK IAmb IAmb 21 43 13.1
comp=Z,48nm,1.1s
PALK Pallekele 49.59 286 IAMs_20 IAMs_20 22 05 43.4
comp=Z,2µm,21.0s
VLA Vladivostok 49.95 3 ⇓ *e*P **P 21 43 06.5 0.0**
HHC Hu-ho-hao-te 50.02 343 *e*P **P 21 43 10.6 +3.4**
OUZ Omahuta 50.10 131 P P 21 43 09.4 +1.5
OUZ IAmb IAmb 21 43 11.5
comp=Z,45nm,1.0s
FUNA Funafuti 50.38 95 P P 21 43 10.1 -0.2
FUNA IAmb IAmb 21 43 24.9
comp=Z,132nm,1.1s
ERM Erimo 50.59 14 P P 21 43 11.0 -0.3
ERM pmax pmax
comp=Z,33nm,0.9s
ERM Erimo 50.59 14 P P 21 43 11.0 -0.3
CN2 Changchun 50.60 357 *e*P P 21 43 21.9 +11
DCZ Deep Cove 50.95 145 P P 21 43 14.6 +0.5
DCZ IAMs_20 IAMs_20 22 03 48.2
comp=Z,4µm,21.0s
USA0B Ussuriysk Arra 51.03 3 P P 21 43 15.4 +0.7
USA0B pmax pmax
comp=Z,55nm,1.0s
USA0B Ussuriysk Arra 51.03 3 P P 21 43 15.4 +0.7
USA0B IAmb IAmb 21 43 24.1
comp=Z,55nm,1.0s
USRK Ussuriysk Ar. 51.03 3 P P 21 43 14.9 +0.3
comp=Z,22nm,0.7s,baz=189,slow=7.6,SNR=40
USRK LR LR 22 05 15.6
comp=Z,1µm,19.4s,baz=161,slow=37
LSA Lhasa 51.06 317 *i* P **P 21 43 15.7 +0.1**
SNR=34
LSA Lhasa 51.06 317 *i* P **P 21 43 15.7 +0.1**
SNR=34
LSA Lhasa 51.06 317 P P 21 43 16.3 +0.6
LSA pmax pmax
comp=Z,31nm,0.9s
LSA MLR MLR
comp=Z,500nm,20.0s
LSA Lhasa 51.06 317 P P 21 43 16.3 +0.6
MDJ Mudanjiang 51.36 1 P P 21 43 18.6 +1.5
MDJ PP **PP 21 45 15.8 +1.3**
MDJ S **S 21 50 40.8 +6.7**
MDJ pmax pmax
comp=Z,56nm,1.4s
MDJ pmax pmax
comp=Z,1µm,5.1s
MDJ LR LR
comp=Z,1µm,6.1s
MDJ LR LR
comp=Z,970nm,4.7s
MDJ LR LR
comp=Z,3µm,26.3s
MDJ Mudanjiang 51.36 1 IAmb IAmb 21 43 31.8
comp=Z,49nm,1.0s
GTK Tadong 51.39 313 *e*P **P 21 43 17.8 0.0**
GTK *e*S **S 21 50 32.2 -3.2**
FOZ Fox Glacier 51.41 142 P P 21 43 19.1 +1.6
FOZ IAmb IAmb 21 43 20.4
comp=Z,52nm,0.9s
WHZ Wether Hill Ro 51.65 145 P P 21 43 19.7 +0.4
WHZ IAmb IAmb 21 43 21.9
comp=Z,51nm,0.8s
MDRS Chennai 51.77 293 *e*P **P 21 43 21.0 +0.4**
MDRS IAmb IAmb 21 43 28.5
comp=Z,64nm,1.1s
MDRS *e*S **S 21 50 42.6 +2.0**
QRZ Quartz Range 51.77 138 P P 21 43 21.3 +0.9
QRZ IAmb IAmb 21 43 24.1
comp=Z,108nm,0.7s
QRZ IAMs_20 IAMs_20 22 05 10.3
comp=Z,3µm,18.0s
ODAN Odare 52.01 312 *e*P **P 21 43 22.4 -0.2**
comp=Z,64nm,0.8s
TAPN Taplejung 52.05 313 *e*P **P 21 43 22.7 -0.3**
comp=Z,102nm,1.0s
LBZ Lake Benmore 52.09 143 P P 21 43 23.3 +0.6
LBZ IAmb IAmb 21 43 33.3
comp=Z,72nm,1.0s
RPZ Rata Peaks 52.27 142 P P 21 43 25.7 +1.7
comp=Z,186nm,0.8s,baz=336,slow=1.2,SNR=49
RPZ Rata Peaks 52.27 142 P P 21 43 24.6 +0.6
TEY Ternei 52.29 7 ⇓ *e*P **P 21 43 24.8 +0.8**
TEY *e* 21 43 32.5
TEY pmax pmax
comp=N,40nm,1.0s
TEY pmax pmax
comp=Z,60nm,0.9s
THZ Tophouse 52.47 139 P P 21 43 26.3 +0.8
THZ IAmb IAmb 21 43 29.6
comp=Z,45nm,0.7s
NNZ Nelson 52.52 138 IAMs_20 IAMs_20 22 06 50.2
comp=Z,2µm,18.0s
LTZ Lake Taylor 52.55 140 P P 21 43 27.0 +0.8
LTZ IAmb IAmb 21 43 31.3
comp=Z,38nm,0.9s
RAMN Ramite 52.65 312 *e*P **P 21 43 27.4 +0.1**
comp=Z,120nm,0.8s
OXZ Oxford 52.68 141 P P 21 43 27.1 0.0
OXZ IAmb IAmb 21 43 33.4
comp=Z,62nm,0.7s
BSWZ Blackbirch Sta 53.09 138 P P 21 43 30.8 +0.7
GTA Gaotai 53.17 332 *e*P **P 21 43 30.1 -0.7**
GTA pP pP 21 43 37.1 -3.4
GTA sP sP 21 43 40.6 -3.6
GTA S **S 21 50 59.1 -0.3**
GTA SS **SS 21 54 35.5 -4.0**
GTA pmax pmax
comp=Z,11nm,0.8s
GTA pmax pmax
comp=Z,310nm,6.9s
GTA LR LR
comp=Z,580nm,18.2s
GTA LR LR
comp=Z,570nm,18.9s
GTA LR LR
comp=Z,1µm,22.3s
YUK Yuzh-Kuril'sk 53.18 16 *e*P **P 21 43 31.0 +0.4**
YUK *e* 21 45 35.5
YUK S **S 21 51 02.0 +3.1**
YUK *e*SS **SKiKP 21 54 44.2 -1.8**
YUK pmax pmax
comp=N,343nm,1.0s
YUK pmax pmax
comp=Z,596nm,1.0s
YUK pmax pmax
comp=E,434nm,0.9s
YUK pmax pmax
comp=Z,442nm,2.2s
KHZ Kahutara 53.19 139 P P 21 43 31.6 +0.8
MQZ McQueen's Vall 53.26 141 P P 21 43 31.8 +0.5
MQZ IAmb IAmb 21 43 41.7
comp=Z,66nm,1.1s
CMWZ Cape Campbell 53.33 138 P P 21 43 32.5 +0.7
JIRN Jiri 53.34 312 *e*P **P 21 43 32.3 -0.3**
comp=Z,106nm,1.0s
SNZO South Karori 53.46 137 P P 21 43 32.9 +0.1
SNZO IAmb IAmb 21 43 34.4
comp=Z,59nm,0.8s
TRD Trivandrum 53.49 286 *e*P **P 21 43 33.1 -0.3**
TRD IAmb IAmb 21 43 34.0
comp=Z,40nm,0.7s
GUN Gumba 53.71 312 *e*P **P 21 43 35.0 -0.3**
comp=Z,214nm,1.2s
BKZ Black Stump Fm 53.79 134 P P 21 43 36.0 +0.7
BKZ IAmb IAmb 21 43 37.6
comp=Z,64nm,0.7s
BKZ IAMs_20 IAMs_20 22 06 19.7
comp=Z,3µm,20.0s
PKI Pulchoki 53.87 312 *e*P **P 21 43 35.8 -0.6**
comp=Z,4.5nm,0.7s
URZ Urewera 53.88 133 P P 21 43 36.4 +0.5
comp=Z,22nm,0.9s,baz=274,slow=6.0,SNR=6.2
URZ Urewera 53.88 133 P P 21 43 36.1 +0.2
URZ IAmb IAmb 21 43 46.6
comp=Z,27nm,0.8s
URZ IAMs_20 IAMs_20 22 05 26.1
comp=Z,2µm,20.0s
PKIN Phulchoki 53.88 312 *e*P **P 21 43 35.8 -0.6**
comp=Z,37nm,0.9s
KKN Kakani 54.09 312 *e*P **P 21 43 37.1 -0.8**
comp=Z,44nm,0.8s
DMN Daman 54.12 311 *e*P **P 21 43 37.5 -0.6**
comp=Z,178nm,1.2s
BFZ Birch Farm 54.23 136 P P 21 43 38.8 +0.2
BFZ IAmb IAmb 21 43 40.9
comp=Z,38nm,0.8s
MXZ Matakaoa Point 54.50 132 P P 21 43 41.5 +1.0
GKN Gorkha 54.68 312 *e*P **P 21 43 41.3 -0.8**
comp=Z,138nm,1.0s
HYB Hyderabad 54.84 297 *i* P **P 21 43 41.0 -2.3**
KUR Kuril'sk 54.84 17 ⇓ *e*P **P 21 43 43.0 +0.3**
YSS Yuzh-Sakhalins 55.19 12 *kc i*P **P 21 43 45.7 +0.5**
YSS *e*S **S 21 51 27.8 +1.8**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=Z,800nm,12.0s
YSS Yuzh-Sakhalins 55.19 12 P **P 21 43 45.4 +0.2**
YSS IAmb IAmb 21 43 54.6
comp=Z,46nm,0.7s
KOLN Koldanda 55.33 311 *e*P **P 21 43 45.1 -1.8**
comp=Z,140nm,0.7s
NGP Nagpur 55.88 301 *e*P **P 21 43 49.2 -1.5**
NGP IAmb IAmb 21 43 51.7
comp=Z,19nm,1.0s
KLR Kul'dur 56.04 3 *c i*P **P 21 43 52.3 +1.0**
KLR pmax pmax
comp=Z,58nm,1.2s
HIA Hailar 56.50 353 P **P 21 43 54.7 +0.1**
HIA pmax pmax
comp=Z,14nm,1.1s
HIA MLR MLR
comp=Z,2µm,20.0s
HIA Hailar 56.50 353 P **P 21 43 54.7 +0.1**
HIA Hailar 56.50 353 IAMs_20 IAMs_20 22 07 38.1
comp=Z,2µm,20.0s
HMDM Hanimaadhoo 56.70 283 IAMs_20 IAMs_20 22 07 38.1
comp=Z,1µm,20.0s
MNCI Minicoy 57.17 284 P P 21 43 58.5 -1.4
MNCI IAmb IAmb 21 44 00.7
comp=Z,121nm,1.1s
ULN Ulaanbaatar 57.74 343 P P 21 44 03.8 +0.2
ULN pmax pmax
comp=Z,38nm,1.0s
ULN MLR MLR
comp=Z,800nm,20.0s
ULN Ulaanbaatar 57.74 343 P P 21 44 03.8 +0.2
ULN IAmb IAmb 21 44 14.4
comp=Z,38nm,1.0s
SONM Songino Array 57.91 343 P P 21 44 04.5 -0.3
comp=Z,15nm,0.9s,baz=161,slow=5.5,SNR=78
SONM PcP **PcP 21 44 57.5 +0.7**
comp=Z,11nm,0.9s,baz=144,slow=5.4,SNR=3.9
SONM PKP2bc 22 13 59.2
comp=Z,3.0nm,0.9s,baz=317,slow=1.9,SNR=11
GRNR Gornyy 57.92 6 ⇑ *i*P **P 21 44 05.3 +0.7**
GRNR *e*S **S 21 52 09.5 +7.3**
GRNR pmax pmax
comp=Z,30nm,1.3s
GRNR smax smax
comp=E,6.0nm,0.9s
KAD Karad 58.70 295 *ex* **P 21 44 09.2 -1.5**

TYV	**Tymovskoe**	**58.91**	**11**	*e*P		**P**		**21 44 12.7**	**+1.3**
TYV				*e*				21 52 22.2	
TYV				pmax	pmax				
	comp=Z,600nm,4.4s								
TYV				pmax	pmax				
	comp=Z,45nm,1.3s								
TYV				MLR	MLR				
	comp=Z,1µm,21.0s								
AFI	**Afiamalu**	**59.16**	**102**	P		**P**		**21 44 14.1**	**+0.1**
AFI				pmax	pmax				
	comp=Z,72nm,1.0s								
AFI	**Afiamalu**	**59.16**	**102**	P		**P**		**21 44 14.1**	**+0.1**
AFI				IAmb	IAmb			21 44 20.6	
	comp=Z,72nm,0.9s								
ZEA	**Zeya**	**60.48**	**359**	*e*P		**P**		**21 44 23.0**	**+0.8**
ZEA				*e*S		**S**		**21 52 37.0**	**+1.9**
ZEA				pmax	pmax				
	comp=N,47nm,1.0s								
ZEA				pmax	pmax				
	comp=Z,54nm,0.9s								
ZEA				pmax	pmax				
	comp=N,500nm,5.0s								
ZEA				pmax	pmax				
	comp=Z,600nm,5.0s								
ZEA				smax	smax				
	comp=Z,600nm,11.0s								
ZEA				smax	smax				
	comp=E,500nm,14.0s								
ZEA				smax	smax				
	comp=N,900nm,12.0s								
ZEA				MLR	MLR				
	comp=N,700nm,17.0s								
ZEA				MLR	MLR				
	comp=Z,1µm,17.0s								
CASY	**Casey**	**60.49**	**188**	P		**P**		**21 44 22.8**	**+0.6**
CASY	**Casey**	**60.49**	**188**	IAMs_20	IAMs_20			22 06 51.8	
	comp=Z,2µm,22.0s								
NKL	**Nikolayevsk**	**60.80**	**8**	*e*P		**P**		**21 44 25.8**	**+1.5**
NKL				*e*				21 45 14.4	
NKL				*e*S		**S**		**21 52 45.3**	**+6.2**
NKL				*e*				21 54 16.0	
NKL				pmax	pmax				
	comp=E,17nm,1.0s								
NKL				pmax	pmax				
	comp=Z,58nm,1.0s								
NKL				pmax	pmax				
	comp=N,8.0nm,0.8s								
NKL				pmax	pmax				
	comp=Z,180nm,2.6s								
NKL				smax	smax				
	comp=N,7.0nm,4.2s								
NKL				smax	smax				
	comp=E,77nm,4.2s								
NIUE	**Niue**	**61.05**	**108**	P		**P**		**21 44 26.9**	**0.0**
ZAK	**Zakamensk**	**61.11**	**342**	*e*P		**P**		**21 44 27.2**	**+0.5**
ZAK				pmax	pmax				
	comp=Z,18nm,1.0s								
TLY	**Talaya**	**62.15**	**343**	*i* P		**P**		**21 44 34.4**	**+0.8**
TLY				*e*S		**S**		**21 52 59.2**	**+2.7**
TLY				pmax	pmax				
	comp=Z,95nm,2.2s								
TLY	**Talaya**	**62.15**	**343**	P		**P**		**21 44 35.2**	**+1.6**
	comp=Z,6.8nm,0.7s,baz=221,slow=9.0,SNR=4.0								
TLY	**Talaya**	**62.15**	**343**	P		**P**		**21 44 34.1**	**+0.5**
TLY				IAmb	IAmb			21 44 43.2	
	comp=Z,33nm,1.1s								
SKR	**Severo-Kuril's**	**62.23**	**20**	*e*P		P		21 44 27.2	-6.9
SKR				*e*S		**S**		**21 52 58.0**	**+0.5**
IRK	**Irkutsk**	**62.47**	**344**	*e*P		**P**		**21 44 36.5**	**+0.8**
IRK				pmax	pmax				
	comp=Z,114nm,2.9s								
WMQ	**Urumqi**	**62.49**	**328**	*e*P		**P**		**21 44 36.9**	**+0.8**
WMQ				pP		pP		21 44 44.4	-1.4
WMQ				PP		**PP**		**21 46 58.4**	**+4.4**
WMQ				S		**S**		**21 53 01.6**	**+0.5**
WMQ				pmax	pmax				
	comp=Z,50nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,310nm,3.8s								
WMQ				LR	LR				
	comp=Z,950nm,26.5s								
WMQ				LR	LR				
	comp=Z,2µm,29.2s								
WMQ				LR	LR				
	comp=Z,1µm,28.9s								
MOY	**Mondy**	**62.95**	**341**	*e*P		**P**		**21 44 39.3**	**+0.3**
MOY				pmax	pmax				
	comp=Z,140nm,3.5s								
PEA0B	**Petropavlovsk-**	**64.81**	**19**	P		**P**		**21 44 52.0**	**+0.8**
PEA0B				pmax	pmax				
	comp=Z,46nm,1.0s								
PEA0B	**Petropavlovsk-**	**64.81**	**19**	P		**P**		**21 44 52.0**	**+0.8**
PEA0B				IAmb	IAmb			21 44 59.5	
	comp=Z,46nm,0.9s								
PETK	**Petropavlovsk-**	**64.81**	**19**	P		**P**		**21 44 52.0**	**+0.9**
	comp=Z,31nm,0.7s,baz=193,slow=6.1,SNR=42								
PETK				LR	LR			22 08 49.1	
	comp=Z,492nm,21.9s,baz=219,slow=32								
PET	**Petropavlovsk**	**65.06**	**20**	*e*P		**P**		**21 44 54.0**	**+1.3**
PET				*e*S		**S**		**21 53 34.8**	**+2.3**
PET				pmax	pmax				
	comp=Z,53nm,1.4s								
PET				pmax	pmax				
	comp=Z,200nm,13.3s								
PET	**Petropavlovsk**	**65.06**	**20**	P		**P**		**21 44 52.7**	**0.0**
PET				IAmb	IAmb			21 45 03.1	
	comp=Z,46nm,0.9s								
BOD	**Bodaibo**	**65.61**	**352**	*e*P		**P**		**21 44 56.1**	**-0.1**
BOD				pmax	pmax				
	comp=Z,67nm,2.0s								
NIL	**Nilore**	**65.97**	**311**	P		**P**		**21 44 58.6**	**-0.5**
NIL				pmax	pmax				
	comp=Z,58nm,1.0s								
NIL	**Nilore**	**65.97**	**311**	P		**P**		**21 44 58.6**	**-0.5**
NIL				IAmb	IAmb			21 45 11.9	
	comp=Z,58nm,0.9s								
TARG	**Taragay, Kyrgy**	**66.91**	**321**	P		**P**		**21 45 05.9**	**+0.5**
TARG				IAmb	IAmb			21 45 24.6	
	comp=Z,46nm,1.1s								
PRZ	**Przheval'sk**	**66.96**	**322**	P		**P**		**21 45 05.8**	**+0.4**
PRZ	**Przheval'sk**	**66.96**	**322**	P		**P**		**21 45 05.8**	**+0.4**
MK31	**Makanchi Array**	**67.31**	**328**	IAmb	IAmb			21 45 16.3	
	comp=Z,66nm,1.0s								
MKAR	**Makanchi Array**	**67.31**	**328**	*i* P		**P**		**21 45 07.5**	**+0.1**
MKAR				pmax	pmax				
	comp=Z,56nm,0.9s								
MKAR	**Makanchi Array**	**67.31**	**328**	P		**P**		**21 45 07.2**	**-0.2**
	comp=Z,56nm,0.9s,baz=128,slow=6.6,SNR=158								
MKAR				LR	LR			22 16 14.9	
	comp=Z,418nm,20.4s,baz=131,slow=38								
MAKZ	**Makanchi**	**67.49**	**327**	P		**P**		**21 45 08.6**	**+0.1**
MAKZ				pmax	pmax				
	comp=Z,73nm,1.1s								
MAKZ	**Makanchi**	**67.49**	**327**	P		**P**		**21 45 08.6**	**+0.1**
MAKZ				IAmb	IAmb			21 45 17.3	
	comp=Z,73nm,1.1s								
KDJ	**Kajisay**	**67.52**	**321**	P		**P**		**21 45 08.9**	**-0.1**
KDJ				pmax	pmax				
	comp=Z,42nm,1.0s								
KDJ	**Kajisay**	**67.52**	**321**	P		**P**		**21 45 08.9**	**-0.1**
KDJ				IAmb	IAmb			21 45 17.8	
	comp=Z,42nm,1.0s								
NRN	**Naryn**	**67.88**	**320**	P		**P**		**21 45 11.5**	**0.0**
NRN				pmax	pmax				
	comp=Z,26nm,1.0s								
NRN				MLR	MLR				
	comp=Z,800nm,20.0s								
NRN	**Naryn**	**67.88**	**320**	P		**P**		**21 45 11.5**	**0.0**
NRN				IAmb	IAmb			21 45 13.4	
	comp=Z,26nm,0.9s								
NRN				IAMs_20	IAMs_20			22 20 00.7	
	comp=Z,779nm,20.0s								
BOOM	**Boomskoye usch**	**68.48**	**321**	P		**P**		**21 45 15.5**	**+0.4**
BOOM				pmax	pmax				
	comp=Z,89nm,1.1s								
BOOM	**Boomskoye usch**	**68.48**	**321**	P		**P**		**21 45 15.5**	**+0.4**
MA2	**Magadan**	**68.69**	**12**	*de*P		**P**		**21 45 17.1**	**+1.3**
MA2				pmax	pmax				
	comp=Z,61nm,0.7s								
MA2	**Magadan**	**68.69**	**12**	P		**P**		**21 45 16.1**	**+0.4**
MA2				IAmb	IAmb			21 45 18.7	
	comp=Z,77nm,0.9s								
KZA	**Kyzart**	**68.70**	**320**	P		**P**		**21 45 18.1**	**+1.4**
	SNR=9.5								
YAK	**Yakutsk**	**68.80**	**1**	*e*P		**P**		**21 45 16.7**	**+0.4**
YAK				*e**PP		**pP**		**21 45 23.4**	**-2.7**
YAK				*e*S		**S**		**21 54 18.9**	**+1.5**
YAK				*e**SS		**sS**		**21 54 36.9**	**+3.6**
YAK				*e*				21 55 18.4	
YAK				pmax	pmax				
	comp=Z,59nm,0.8s								
YAK				pmax	pmax				
	comp=N,19nm,0.9s								
YAK				pmax	pmax				
	comp=E,4.0nm,0.9s								
YAK				pmax	pmax				
	comp=Z,82nm,2.7s								
YAK				pmax	pmax				
	comp=N,69nm,2.3s								
YAK				pmax	pmax				
	comp=E,65nm,2.6s								
YAK				smax	smax				
	comp=E,321nm,4.2s								
YAK				smax	smax				
	comp=N,353nm,4.0s								
YAK	**Yakutsk**	**68.80**	**1**	P		**P**		**21 45 16.6**	**+0.3**
	comp=N,43nm,0.8s,baz=331,slow=0.7,SNR=25								
YAK	**Yakutsk**	**68.80**	**1**	IAmb	IAmb			21 45 18.1	
	comp=Z,87nm,0.9s								
TKM2	**Tokmak 2**	**68.93**	**321**	P		**P**		**21 45 18.7**	**+0.8**
	SNR=12								
KBK	**Karagaybulak**	**69.19**	**321**	P		**P**		**21 45 20.6**	**+1.1**
	SNR=9.3								
UCH	**Uchtor**	**69.25**	**320**	P		**P**		**21 45 21.4**	**+1.2**
	SNR=13								
AAK	**Ala-Archa**	**69.47**	**320**	*i* P		**P**		**21 45 22.0**	**+0.9**
	SNR=18								
AAK	**Ala-Archa**	**69.47**	**320**	*i* P		**P**		**21 45 22.0**	**+0.9**
	SNR=18								
AAK	**Ala-Archa**	**69.47**	**320**	*de*P		**P**		**21 45 22.2**	**+1.0**
AAK				pmax	pmax				
	comp=Z,58nm,0.9s								
AAK	**Ala-Archa**	**69.47**	**320**	P		**P**		**21 45 21.7**	**+0.6**
	comp=Z,36nm,0.8s,baz=133,slow=5.6,SNR=33								
AAK	**Ala-Archa**	**69.47**	**320**	P		**P**		**21 45 22.4**	**+1.2**
	SNR=17								
AAK	**Ala-Archa**	**69.47**	**320**	IAmb	IAmb			21 45 23.8	
	comp=Z,54nm,0.9s								
FRU1	**Bishkek**	**69.47**	**321**	IAmb	IAmb			21 45 23.4	
	comp=Z,22nm,0.8s								
CHMS	**Chumysh**	**69.50**	**321**	P		**P**		**21 45 21.7**	**+0.5**
	SNR=13								
KBL	**Kabul**	**69.50**	**311**	P		**P**		**21 45 22.2**	**+0.6**
KBL				P		**P**		**21 45 22.2**	**+0.6**
KBL				S		**S**		**21 54 24.2**	**-3.0**
KBL				S		**S**		**21 54 24.2**	**-3.0**
KBL	**Kabul**	**69.50**	**311**	P		**P**		**21 45 21.1**	**-0.5**
KBL				pmax	pmax				
	comp=Z,53nm,1.0s								
KBL	**Kabul**	**69.50**	**311**	P		**P**		**21 45 21.1**	**-0.5**
KBL				IAmb	IAmb			21 45 23.2	
	comp=Z,53nm,0.9s								
AML	**Almayashu**	**69.72**	**320**	P		**P**		**21 45 24.2**	**+1.2**
	SNR=18								
ARSB	**Arslanbob**	**69.78**	**319**	P		**P**		**21 45 23.0**	**-0.1**
USP	**Ospenovka**	**69.79**	**321**	P		**P**		**21 45 23.8**	**+0.8**
	SNR=37								
EKS2	**Erkin-Say**	**69.94**	**320**	P		**P**		**21 45 25.3**	**+1.3**
	SNR=20								
GAR	**Garm**	**70.49**	**315**	P		**P**		**21 45 27.1**	**-0.4**
BTK	**Batken**	**70.63**	**317**	IAmb	IAmb			21 45 39.4	
	comp=Z,37nm,1.1s								
BTK				IAMs_20	IAMs_20			22 18 41.6	
	comp=Z,964nm,22.0s								
RAR	**Rarotonga**	**70.64**	**110**	P		**P**		**21 45 29.3**	**+0.7**
RAR				pmax	pmax				
	comp=Z,29nm,1.0s								
RAR	**Rarotonga**	**70.64**	**110**	P		**P**		**21 45 29.3**	**+0.7**
RAR				IAmb	IAmb			21 45 31.1	
	comp=Z,29nm,0.9s								
ZALV	**Zalesovo Beam**	**70.84**	**334**	*i* P		**P**		**21 45 28.7**	**-0.4**
ZALV				pmax	pmax				
	comp=Z,43nm,0.9s								
ZALV	**Zalesovo Beam**	**70.84**	**334**	P		**P**		**21 45 28.1**	**-0.9**
	comp=Z,42nm,0.8s,baz=120,slow=4.4,SNR=107								
ZALV				PKP2ab				22 13 24.4	
	comp=Z,0.4nm,0.3s,baz=308,slow=7.3,SNR=6.1								
ZALV				LR	LR			22 18 04.8	
	comp=Z,331nm,20.6s,baz=121,slow=37								
CHGR	**Chuyangaron**	**71.15**	**315**	IAMs_20	IAMs_20			22 19 45.9	
	comp=Z,845nm,19.0s								
RER	**Riviere de l'E**	**71.32**	**250**	P		**P**		**21 45 33.3**	**+0.4**
RER				IAmb	IAmb			21 45 35.1	
	comp=Z,54nm,0.9s								
KURBB	**Kurchatov Arra**	**71.64**	**329**	P		**P**		**21 45 34.0**	**+0.1**
	comp=Z,56nm,0.9s,baz=130,slow=5.0,SNR=236								
KURK	**Kurchatov**	**71.65**	**329**	*ce*P		**P**		**21 45 33.8**	**-0.2**
KURK				pmax	pmax				
	comp=Z,115nm,0.8s								
KURK	**Kurchatov**	**71.65**	**329**	P		**P**		**21 45 34.0**	**0.0**
SEY	**Seymchan**	**72.08**	**11**	P		**P**		**21 45 37.2**	**+0.8**
	comp=Z,38nm,0.8s,baz=214,slow=4.9,SNR=43								
TAS	**Tashkent**	**72.24**	**317**	P		**P**		**21 45 38.5**	**+0.7**
TAS				pmax	pmax				
	comp=Z,136nm,1.1s								
TAS	**Tashkent**	**72.24**	**317**	P		**P**		**21 45 38.5**	**+0.7**
MSEY	**Mahe Island**	**72.47**	**267**	IAMs_20	IAMs_20			22 15 40.6	
	comp=Z,1µm,21.0s								
VNDA	**Vanda**	**72.68**	**173**	P		**P**		**21 45 40.2**	**+0.4**
	comp=Z,14nm,0.8s,baz=320,slow=6.9,SNR=44								
VNDA				LR	LR			22 15 10.8	
	comp=Z,2µm,21.8s,baz=353,slow=34								
SBA	**Scott Base**	**73.59**	**172**	P		**P**		**21 45 45.5**	**+0.4**
SBA				pmax	pmax				
	comp=Z,25nm,1.1s								
SBA				MLR	MLR				
	comp=Z,2µm,20.0s								
SBA	**Scott Base**	**73.59**	**172**	P		**P**		**21 45 45.5**	**+0.4**
SBA				IAMs_20	IAMs_20			22 16 34.2	
	comp=Z,1µm,20.0s								
WBK	**Wadi Bani Khal**	**73.92**	**296**	P		**P**		**21 45 48.8**	**+0.6**
WBK				P		**P**		**21 45 48.8**	**+0.6**
WBK				S		**S**		**21 55 20.6**	**+2.3**
WBK				S		**S**		**21 55 20.6**	**+2.3**
WSAR	**Wadi Sarin**	**74.38**	**296**	P		**P**		**21 45 51.1**	**+0.3**
	comp=Z,15nm,0.8s,baz=146,slow=3.7,SNR=5.3								
MAW	**Mawson**	**74.39**	**201**	P		**P**		**21 45 51.1**	**+1.2**
	baz=74,SNR=12								
MAW	**Mawson**	**74.39**	**201**	P		**P**		**21 45 50.1**	**+0.1**
MAW				pmax	pmax				
	comp=Z,6.0nm,1.0s								
MAW				MLR	MLR				
	comp=Z,200nm,19.0s								
MAW	**Mawson**	**74.39**	**201**	P		**P**		**21 45 50.9**	**+1.0**
	comp=Z,11nm,0.8s,baz=55,slow=6.8,SNR=16								
MAW				LR	LR			22 15 59.5	
	comp=Z,791nm,19.7s,baz=64,slow=34								
MAW	**Mawson**	**74.39**	**201**	P		**P**		**21 45 50.1**	**+0.1**
DQM	**DQM**	**74.57**	**293**	P		**P**		**21 45 52.4**	**+0.5**
DQM				P		**P**		**21 45 52.4**	**+0.5**
DQM				S		**S**		**21 55 26.4**	**+0.9**
DQM				S		**S**		**21 55 26.4**	**+0.9**
BIDO	**Bidbid**	**74.90**	**297**	P		**P**		**21 45 54.6**	**+0.8**
	SNR=7.5								
HOQ	**Hoqain**	**75.64**	**296**	P		**P**		**21 45 58.0**	**-0.1**
	SNR=10								
HOQ				S		**S**		**21 55 39.3**	**+1.9**
SHAO	**Shalim**	**75.91**	**290**	*i* P		**P**		**21 45 59.0**	**-0.7**
	SNR=8.1								
SHAO	**Shalim**	**75.91**	**290**	*i* P		**P**		**21 45 59.0**	**-0.7**
	SNR=8.1								
SHAO	**Shalim**	**75.91**	**290**	P		**P**		**21 46 00.0**	**+0.3**
SHAO				S		**S**		**21 55 40.9**	**+0.4**
ARQ	**Araqi**	**76.29**	**296**	P		**P**		**21 46 01.9**	**+0.1**
ARQ				P		**P**		**21 46 01.9**	**+0.1**
ARQ				S		**S**		**21 55 46.5**	**+2.0**
ARQ				S		**S**		**21 55 46.5**	**+2.0**
SOCY	**Socotra**	**76.33**	**284**	P		**P**		**21 46 02.0**	**-0.2**
SOCY				IAmb	IAmb			21 46 10.7	
	comp=Z,53nm,1.0s								
SOCY				IAMs_20	IAMs_20			22 17 19.6	
	comp=Z,961nm,20.0s								
DMTO	**DMTO**	**76.48**	**290**	P		**P**		**21 46 02.4**	**-0.6**
DMTO				P		**P**		**21 46 02.4**	**-0.6**
DMTO				S		**S**		**21 55 45.3**	**-1.3**
DMTO				S		**S**		**21 55 45.3**	**-1.3**
UOSS	**Minazif**	**76.96**	**298**	*i* P		**P**		**21 46 04.7**	**-0.8**
	SNR=5.3								
UOSS	**Minazif**	**76.96**	**298**	*i* P		**P**		**21 46 04.7**	**-0.8**
	SNR=5.3								
UOSS	**Minazif**	**76.96**	**298**	P		**P**		**21 46 04.8**	**-0.8**
UOSS				IAmb	IAmb			21 46 14.1	
	comp=Z,45nm,1.1s								
MDH	**Madha**	**76.96**	**298**	P		**P**		**21 46 05.4**	**-0.1**
MDH				S		**S**		**21 55 51.0**	**-0.7**
HATD	**Hatta, Dubai**	**76.99**	**297**	*i* P		**P**		**21 46 05.5**	**-0.3**
	SNR=5.5								
HATD	**Hatta, Dubai**	**76.99**	**297**	*i* P		**P**		**21 46 05.5**	**-0.3**
	SNR=5.5								
HATD	**Hatta, Dubai**	**76.99**	**297**	P		**P**		**21 46 06.7**	**+0.9**
	SNR=6.1								
HATD				P		**P**		**21 46 06.7**	**+0.9**
	SNR=6.1								
HATD				S		**S**		**21 55 51.6**	**-0.5**
HATD				S		**S**		**21 55 51.6**	**-0.5**
ASHO	**Ashiyiah**	**77.02**	**297**	*i* P		**P**		**21 46 04.7**	**-1.2**
	SNR=6.7								
ASHO	**Ashiyiah**	**77.02**	**297**	*i* P		**P**		**21 46 04.7**	**-1.2**
	SNR=6.7								
ASHO	**Ashiyiah**	**77.02**	**297**	P		**P**		**21 46 07.0**	**+1.0**
	SNR=7.3								
MSFE	**Esma-Masafi**	**77.09**	**298**	*i* P		**P**		**21 46 05.3**	**-1.0**
	SNR=11								
MSFE	**Esma-Masafi**	**77.09**	**298**	*i* P		**P**		**21 46 05.3**	**-1.0**
	SNR=11								
BANOM	**Banah**	**77.11**	**298**	*i* P		**P**		**21 46 06.9**	**+0.4**
	SNR=10.0								
BANOM	**Banah**	**77.11**	**298**	*i* P		**P**		**21 46 06.9**	**+0.4**
	SNR=10.0								
BANOM	**Banah**	**77.11**	**298**	P		**P**		**21 46 08.0**	**+1.6**
	SNR=6.7								
RBK	**Rabkut**	**77.13**	**290**	P		**P**		**21 46 06.9**	**+0.3**
	SNR=7.4								
RBK				P		**P**		**21 46 06.9**	**+0.3**
	SNR=7.4								
ALNE	**Al Ain**	**77.14**	**297**	*i* P		**P**		**21 46 06.2**	**-0.5**
	SNR=8.4								
ALNE	**Al Ain**	**77.14**	**297**	*i* P		**P**		**21 46 06.2**	**-0.5**
	SNR=8.4								
BVAR	**Borovoye Array**	**77.17**	**328**	P		**P**		**21 46 06.0**	**-0.1**
	comp=Z,50nm,0.8s,baz=172,slow=10,SNR=9.2								
BRVK	**Borovoye**	**77.24**	**328**	*c i*P		**P**		**21 46 06.6**	**+0.1**
BRVK				pmax	pmax				
	comp=Z,102nm,1.1s								
BRVK	**Borovoye**	**77.24**	**328**	P		**P**		**21 46 06.7**	**+0.2**
BRVK				IAmb	IAmb			21 46 08.6	
	comp=Z,89nm,1.0s								
SHME	**Shamm**	**77.28**	**299**	*i* P		**P**		**21 46 06.9**	**-0.5**
	SNR=6.5								
SHME	**Shamm**	**77.28**	**299**	*i* P		**P**		**21 46 06.9**	**-0.5**
	SNR=6.5								
NAZ	**Nazwa, Dubai**	**77.44**	**297**	P		**P**		**21 46 07.5**	**-0.8**
NAZ	**Nazwa, Dubai**	**77.44**	**297**	P		**P**		**21 46 07.5**	**-0.8**
FAQ	**Al Faqa, Dubai**	**77.45**	**297**	P		**P**		**21 46 07.5**	**-0.8**
FAQ	**Al Faqa, Dubai**	**77.45**	**297**	P		**P**		**21 46 07.5**	**-0.8**
HON	**Honolulu**	**77.46**	**66**	P		**P**		**21 46 09.0**	**+0.6**
HON				pmax	pmax				
	comp=Z,168nm,0.8s								
HON	**Honolulu**	**77.46**	**66**	P		**P**		**21 46 09.0**	**+0.6**
KIP	**Kipapa**	**77.47**	**66**	P		**P**		**21 46 08.3**	**-0.1**
KIP				pmax	pmax				
	comp=Z,42nm,1.0s								
KIP	**Kipapa**	**77.47**	**66**	P		**P**		**21 46 08.3**	**-0.1**
KIP				IAmb	IAmb			21 46 15.5	
	comp=Z,42nm,0.9s								
OPA	**Opana**	**77.54**	**66**	P		**P**		**21 46 08.9**	**+0.1**
OPA				pmax	pmax				
	comp=Z,49nm,0.8s								
OPA	**Opana**	**77.54**	**66**	P		**P**		**21 46 08.9**	**+0.1**
OPA				IAmb	IAmb			21 46 12.4	
	comp=Z,49nm,0.8s								
WHFO	**Wadi Hawf**	**77.62**	**290**	P		**P**		**21 46 09.0**	**-0.4**
	SNR=12								
WHFO				P		**P**		**21 46 09.0**	**-0.4**
	SNR=12								
ASUD	**Al Ashush, Dub**	**77.65**	**297**	*i* P		**P**		**21 46 08.6**	**-0.8**
	SNR=7.5								
ASUD	**Al Ashush, Dub**	**77.65**	**297**	*i* P		**P**		**21 46 08.6**	**-0.8**
	SNR=7.5								
ABTO	**Aybut**	**77.95**	**289**	P		**P**		**21 46 10.9**	**-0.4**
	SNR=6.3								
ABTO				P		**P**		**21 46 10.9**	**-0.4**
	SNR=6.3								
TIXI	**Tiksi**	**78.46**	**0**	*e*P		**P**		**21 46 12.6**	**-0.3**
TIXI				pmax	pmax				
	comp=Z,29nm,1.0s								
TIXI	**Tiksi**	**78.46**	**0**	P		**P**		**21 46 12.3**	**-0.5**
	comp=Z,18nm,0.9s,baz=180,slow=24,SNR=54								
TIXI	**Tiksi**	**78.46**	**0**	P		**P**		**21 46 12.6**	**-0.3**
TIXI				IAMs_20	IAMs_20			22 20 52.8	
	comp=Z,1µm,20.0s								
ASHT	**Ashkhabad**	**78.75**	**311**	P		**P**		**21 46 15.0**	**-0.2**
ASHT				pmax	pmax				
	comp=Z,118nm,0.5s								
ASHT	**Ashkhabad**	**78.75**	**311**	P		**P**		**21 46 15.0**	**-0.2**
KHLH	**Kahului Airpor**	**78.81**	**67**	P		**P**		**21 46 14.8**	**-1.1**
KHLH				IAmb	IAmb			21 46 19.5	
	comp=Z,80nm,1.0s								
GEYT	**Alibeck**	**78.95**	**311**	P		**P**		**21 46 16.9**	**+0.5**
	comp=Z,34nm,0.8s,baz=149,slow=3.5,SNR=64								
GEYT				LR	LR			22 26 45.8	
	comp=Z,346nm,20.0s,baz=45,slow=40								
GYA0B	**ALIBECK ARRAY**	**78.95**	**311**	P		**P**		**21 46 15.6**	**+0.1**
GYA0B				IAmb	IAmb			21 46 30.5	
	comp=Z,62nm,0.9s								
ABPO	**Ambohimpanom**	**79.40**	**252**	P		**P**		**21 46 19.0**	**-0.5**
ABPO				pmax	pmax				
	comp=Z,11nm,1.2s								
ABPO	**Ambohimpanom**	**79.40**	**252**	P		**P**		**21 46 18.9**	**-0.5**
HMH	**Humu'ula Sheep**	**79.42**	**69**	P		**P**		**21 46 19.1**	**-0.5**
BILL	**Bilibino**	**79.46**	**14**	*e*P		**P**		**21 46 19.4**	**+0.9**
BILL				pmax	pmax				
	comp=Z,31nm,2.5s								
BILL	**Bilibino**	**79.46**	**14**	P		**P**		**21 46 18.5**	**0.0**
OPO	**Ambohidratompo**	**79.47**	**252**	P		**P**		**21 46 19.5**	**-0.3**
	comp=Z,7.6nm,0.8s,baz=13,slow=1.9,SNR=6.7								
HLP	**Hilina Pali**	**79.52**	**69**	P		**P**		**

SDPT Sand Point 85.18 33 P **P** **21 46 48.1 -0.4**
CNBA Chernabura Isl 85.49 34 P **P** **21 46 50.5 +0.4**
CNBA IAmb IAmb 21 46 52.0
comp=Z,62nm,1.0s
DAMY Dhamar 85.93 285 P **P** **21 46 52.4 -1.2**
RAYN Ar Rayn 86.24 294 *i* P **P** **21 46 54.6 -0.1**
SNR=43
RAYN Ar Rayn 86.24 294 *i* P **P** **21 46 54.6 -0.1**
SNR=43
RAYN Ar Rayn 86.24 294 P **P** **21 46 54.5 -0.1**
RAYN pmax pmax
comp=Z,42nm,0.9s
RAYN MLR MLR
comp=Z,900nm,20.0s
RAYN Ar Rayn 86.24 294 P **P** **21 46 54.5 -0.1**
RAYN IAmb IAmb 21 46 56.2
comp=Z,42nm,0.9s
RAYN IAMs_20 IAMs_20 22 27 33.6
comp=Z,924nm,20.0s
ANM Nome 86.34 23 IAmb IAmb 21 46 57.0
comp=Z,26nm,1.1s
ATD Arta Tunnel 87.00 282 P **P** **21 46 59.9 +1.3**
comp=Z,8.1nm,0.8s,baz=122,slow=4.3,SNR=4.3
ATD Arta Tunnel 87.00 282 P **P** **21 46 58.0 -0.6**
AKT Akhty 87.59 312 *e*P **P** **21 47 02.2 +1.2**
AKT *e* 21 50 29.2
AKT pmax pmax
comp=Z,53nm,1.0s
MAK Makhachkala 88.05 314 *e*P **P** **21 46 58.8 -4.1**
MAK *e* 21 57 23.3
MAK pmax pmax
comp=Z,167nm,1.4s
RDOG Red Dog Mine 88.64 21 IAmb IAmb 21 47 07.1
comp=Z,35nm,1.0s
GROC Groznyy 89.32 314 *e*P **P** **21 47 10.0 +1.1**
GROC *e* 21 50 38.8
GROC pmax pmax
comp=Z,60nm,1.3s
OHAK Old Harbor 89.55 32 P **P** **21 47 10.8 +1.1**
OHAK IAmb IAmb 21 47 13.8
comp=Z,43nm,1.0s
GNI Garni 89.58 310 P **P** **21 47 12.0 +1.5**
GNI pmax pmax
comp=Z,10.0nm,0.9s
GNI Garni 89.58 310 P **P** **21 47 12.0 +1.5**
comp=Z,5.2nm,0.8s,baz=208,slow=9.5,SNR=2.9
GNI Garni 89.58 310 IAmb IAmb 21 47 18.3
comp=Z,10nm,0.8s
TBLG Delisi 89.84 312 P **P** **21 47 13.0 +1.6**
TBLG pmax pmax
comp=Z,37nm,1.0s
TBLG Delisi 89.84 312 P **P** **21 47 13.0 +1.6**
TBLG IAmb IAmb 21 47 23.1
comp=Z,37nm,1.0s
KDAK Kodiak Island 90.05 32 P **P** **21 47 12.3 +0.3**
KDAK pmax pmax
comp=Z,71nm,1.0s
KDAK Kodiak Island 90.05 32 P **P** **21 47 12.3 +0.3**
comp=Z,51nm,0.9s,baz=107,slow=3.9,SNR=10
KDAK Kodiak Island 90.05 32 IAmb IAmb 21 47 15.8
comp=Z,71nm,0.9s
AKH Akhalkalaki 90.72 311 P **P** **21 47 16.8 +1.1**
AKH pmax pmax
comp=Z,33nm,1.1s
AKH Akhalkalaki 90.72 311 ⇑P **P** **21 47 17.3 +1.5**
AKH Akhalkalaki 90.72 311 P **P** **21 47 16.8 +1.1**
AKH IAmb IAmb 21 47 19.5
comp=Z,33nm,1.1s
FURI Furi 90.74 279 IAMs_20 IAMs_20 22 27 07.2
comp=Z,691nm,19.0s
NCK Nalchik 90.95 314⇓ *e*P **P** **21 47 17.5 +0.9**
NCK pmax pmax
comp=Z,53nm,2.4s
KMBO Kilima Mbogo 90.96 269 P **P** **21 47 17.5 0.0**
KMBO Kilima Mbogo 90.96 269 P **P** **21 47 17.5 0.0**
KMBO Kilima Mbogo 90.96 269 P **P** **21 47 16.1 -1.4**
KMBO pmax pmax
comp=Z,8.0nm,1.1s
KMBO MLR MLR
comp=Z,500nm,20.0s
KMBO Kilima Mbogo 90.96 269 P **P** **21 47 18.4 +0.8**
comp=Z,4.2nm,0.8s,baz=63,slow=5.5,SNR=10
KMBO Kilima Mbogo 90.96 269 P **P** **21 47 16.1 -1.4**
KMBO Kilima Mbogo 90.96 269 IAMs_20 IAMs_20 22 28 10.5
comp=Z,486nm,20.0s
PPLA Purkeypile 91.37 27 IAmb IAmb 21 47 25.7
comp=Z,48nm,1.2s
SKT Skwentna 91.47 28 IAmb IAmb 21 47 18.5
comp=Z,33nm,0.9s
KBZ Khabaz 91.49 314 P **P** **21 47 19.3 +0.4**
comp=Z,5.6nm,0.8s,baz=128,slow=2.3,SNR=8.6
KBZ LR LR 22 34 56.5
comp=Z,239nm,20.7s,baz=86,slow=40
NEY Neytrino 91.55 313⇓ *e*P **P** **21 47 21.4 +1.8**
NEY pmax pmax
comp=Z,3.0nm,1.0s
GOF Gofitskoye 91.58 315⇑ *e*P **P** **21 47 20.1 +0.7**
GOF pmax pmax
comp=Z,39nm,1.6s
KIV Kislovodsk 91.67 314 *e*P **P** **21 47 20.8 +0.8**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV Kislovodsk 91.67 314 P **P** **21 47 20.1 +0.1**
SUA Susitna One 91.74 28 P **P** **21 47 19.1 -0.8**
NVL N'lazarevskaya 91.90 197 *e*P **P** **21 47 21.1 +0.7**
NVL *e* 21 51 07.3
NVL *e*S **SKSac** **21 57 50.5 +0.1**
NVL *e* 22 04 26.4
NVL pmax pmax
comp=Z,26nm,1.0s
NVL MLR MLR
comp=Z,2μm,20.0s
KTH Kantishna Hill 92.07 26 IAmb IAmb 21 47 22.4
comp=Z,38nm,1.0s
RC01 Rabbit Creek A 92.14 29 IAmb IAmb 21 47 22.7
comp=Z,34nm,0.8s
BPAW Bear Paw Mtn. 92.15 26 IAmb IAmb 21 47 24.1
comp=Z,26nm,1.1s
TRF Thorofare Moun 92.33 26 IAmb IAmb 21 47 37.0
comp=Z,26nm,1.1s
MLY Manley 92.44 25 IAmb IAmb 21 47 24.4
comp=Z,29nm,0.9s
PMR Palmer 92.52 28 IAmb IAmb 21 47 23.9
comp=Z,25nm,0.8s
PRGR Permogore 92.63 332 *e*P P 21 47 18.0 -5.8
PRGR pmax pmax
comp=Z,16nm,1.0s
GHO Glory Hole Cre 92.65 28 IAmb IAmb 21 47 25.2
comp=Z,33nm,0.9s
BWN Browne 92.82 26 P **P** **21 47 24.3 -0.4**
VRH Novokhopyorsk 93.27 321 *e*P **P** **21 47 25.8 -1.2**
VRH pmax pmax
comp=Z,20nm,1.0s
GLI Glacier Island 93.38 29 P **P** **21 47 26.9 -0.5**
GLI IAmb IAmb 21 47 28.4
comp=Z,39nm,0.9s
WRH Wood River Hil 93.46 26 IAmb IAmb 21 47 28.3
comp=Z,48nm,1.0s
MDM Murphy Dome 93.47 25 P **P** **21 47 26.4 -1.3**
MDM IAmb IAmb 21 47 29.9
comp=Z,18nm,1.0s
TOLK Toolik Lake Re 93.55 21 P **P** **21 47 27.9 -0.2**
TOLK IAmb IAmb 21 47 30.0
comp=Z,28nm,1.1s
FID Port Fidalgo 93.66 29 P **P** **21 47 28.0 -0.7**
HDA Harding Lake 93.94 26 IAmb IAmb 21 47 30.1
comp=Z,40nm,0.9s
IL31 94.02 25 IAmb IAmb 21 47 30.1
comp=Z,20nm,1.0s
ILAR Eielson Array 94.02 25 P **P** **21 47 28.3 -1.9**
comp=Z,13nm,0.9s,baz=269,slow=4.0,SNR=77
ILAR PP **PP** **21 51 09.8 -6.7**
comp=Z,1.4nm,0.9s,baz=270,slow=8.0,SNR=4.5
ILAR PKKP **PKKPdf** **22 04 33.0 -1.4**
comp=Z,1.3nm,0.8s,baz=34,slow=1.7,SNR=12
ILAR LR LR 22 26 18.2
comp=Z,223nm,20.3s,baz=274,slow=33
PAX Paxson 94.41 27 IAmb IAmb 21 47 33.9
comp=Z,34nm,0.9s
VORD Divnogorie 94.76 321 *e*P **P** **21 47 32.4 -1.5**
VORD pmax pmax
comp=Z,30nm,0.8s
VSR Storozhevoye 94.87 321 *e*P **P** **21 47 33.2 -1.2**
VSR pmax pmax
comp=Z,20nm,1.0s
GLB Gilahina Butte 95.03 29 IAmb IAmb 21 47 36.7
comp=Z,32nm,1.0s
DOT Dot Lake 95.12 27 IAmb IAmb 21 47 36.7
comp=Z,32nm,0.9s
LPSR Galich'ya Gora 95.13 322 *e*P **P** **21 47 34.6 -1.0**
LPSR pmax pmax
comp=Z,20nm,0.9s
SCRK Sand Creek 95.18 26 IAmb IAmb 21 47 37.2
comp=Z,17nm,1.0s
MENT Mentasta 95.21 27 IAmb IAmb 21 47 37.0
comp=Z,23nm,0.8s
SNAA Sanae 95.31 194 P **P** **21 47 36.9 +0.7**
SNAA Sanae 95.31 194 P **P** **21 47 37.0 +0.8**
comp=Z,15nm,0.8s,baz=114,slow=1.5,SNR=40
SNAA Sanae 95.31 194 IAmb IAmb 21 47 38.8
comp=Z,19nm,0.9s
TGL Tana Glacier 95.45 30 P **P** **21 47 37.0 0.0**
BALM Baldy 95.70 29 IAmb IAmb 21 47 46.5
comp=Z,46nm,1.2s
BARN Barnard Glacie 96.04 29 IAmb IAmb 21 47 41.6
comp=Z,21nm,0.8s
MOS Moscow 96.11 325 *e*P **P** **21 47 38.3 -1.7**
MOS *e* 21 47 53.2
MMAI Mount Meron Ar 96.22 302 P **P** **21 47 40.9 -0.2**
comp=Z,1.7nm,0.8s,baz=86,slow=7.4,SNR=3.5
TMCR Tamitsa 96.36 334 *e*P **P** **21 47 39.1 -1.8**
TMCR pmax pmax
comp=Z,22nm,0.8s
EGAK Eagle 96.46 26 IAmb IAmb 21 47 42.4
comp=Z,20nm,1.0s
OBN Obninsk 96.68 325 *e*P **P** **21 47 42.0 -0.5**
OBN *e* 21 47 48.9
OBN *e* 21 51 39.2
OBN *e*PPP PPP 21 53 44.2
OBN *e*S **SKSac** **21 58 23.3 +6.6**
OBN *e*SS **SS** **22 05 42.4 +6.0**
OBN pmax pmax
comp=Z,32nm,1.0s
OBN MLR MLR
comp=Z,617nm,23.0s
VNA2 Neumayer--Watz 96.89 193 P **P** **21 47 44.1 +0.8**
baz=117,slow=3.6
VNA3 Neumayer Olymp 97.16 193 P Pdif 21 47 45.5 +0.9
VNA1 Neumayer--Stat 97.29 193 P Pdif 21 47 45.8 +0.6
MBAR Mbarara 97.49 268 IAMs_20 IAMs_20 22 33 10.1
comp=Z,546nm,19.0s
LSZ Lusaka 97.91 254 IAMs_20 IAMs_20 22 31 49.5
comp=Z,432nm,20.0s
BRTR Keskin Array B 98.03 309 *i* P Pdif 21 47 50.2 +0.9
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 98.03 309 P Pdif 21 47 49.6 +0.3
comp=Z,1.3nm,0.8s,baz=114,slow=5.8,SNR=5.1
BRTR PKKPbc **PKKPbc** **22 04 23.8 +0.1**
comp=Z,1.1nm,0.8s,baz=199,slow=3.4,SNR=6.2
BOSA Boshof 98.07 240 P **P** **21 47 48.8 -0.9**
BOSA pmax pmax
comp=Z,8.0nm,1.0s
BOSA Boshof 98.07 240 P **P** **21 47 48.7 -0.9**
comp=Z,5.1nm,0.8s,baz=192,slow=0.8,SNR=10
BOSA LR LR 22 31 36.5
comp=Z,201nm,18.1s,baz=104,slow=35
BOSA Boshof 98.07 240 P **P** **21 47 48.8 -0.9**
WHY Whitehorse 99.35 30 IAmb IAmb 21 47 56.0
comp=Z,10nm,0.8s
INK Inuvik 99.44 22 IAmb IAmb 21 48 04.6
comp=Z,13nm,1.1s
ARCES ARCESS Array B 100.98 340 P **Pdif** **21 48 00.6 -1.0**
comp=Z,15nm,0.9s,baz=56,slow=6.5,SNR=16
ARCES PKKPbc **PKKPbc** **22 04 13.1 -3.1**
comp=Z,1.0nm,0.6s,baz=252,slow=2.4,SNR=7.8
ARCES PKKP **PKKPdf** **22 04 21.1 -0.6**
comp=Z,2.0nm,0.9s,baz=252,slow=1.9,SNR=4.5
AKASG Malin Array Be 101.14 320 P **Pdif** **21 48 02.1 -0.6**
comp=Z,1.5nm,0.7s,baz=69,slow=4.4,SNR=7.9
FINES FINESS Array B 101.95 331 P **Pdif** **21 48 04.6 -1.4**
comp=Z,4.8nm,0.8s,baz=120,slow=7.3,SNR=7.8
VRI Vrincioaia 103.06 315 ⇑P **Pdif** **21 48 13.7 +2.4**
TESR Tescani 103.08 316 ⇑P **Pdif** **21 48 14.1 +2.7**
UZH Uzhgorod 105.81 319 *e*P **Pdif** **21 48 21.0 -2.4**
YKA Yellowknife Ar 108.44 26 Pdiff **Pdif** **21 48 35.1 +0.3**
comp=Z,1.8nm,0.8s,baz=291,slow=4.7,SNR=19
YKA PKiKP **PKiKP** **21 52 39.9 -0.6**
comp=Z,1.3nm,0.7s,baz=295,slow=1.8,SNR=11
YKA PKKPbc **PKKPbc** **22 03 50.3 -3.0**
comp=Z,2.5nm,0.8s,baz=104,slow=3.0,SNR=34
YKA PKKPab **PKKPab** **22 04 03.9 -0.3**
comp=Z,2.0nm,1.0s,baz=100,slow=3.6,SNR=8.6
SOKA Soboth 110.98 317 *e*PKiKP **PKiKP** **21 52 46.0 +0.1**
comp=Z,1.4nm,0.7s
CLL Collm 111.14 323 *e*P **Pdif** **21 48 45.0 -2.1**
CLL *e* 21 52 44.0
CLL MLR MLR
comp=Z,500nm,19.3s
CLL Collm 111.14 323 *e*Pdif **Pdif** **21 48 45.0 -2.1**
CLL *e*PKiKP **PKiKP** **21 52 44.0 -2.0**
CLL *e*PP **PP** **21 53 21.0 -4.2**
CLL *e* 21 53 42.0
CLL *e*PPPP 21 57 24.0
CLL *e*PS **PS** **22 03 00.0 +3.0**
CLL *e*PPS PPS 22 04 00.0
CLL *e* 22 04 42.0
CLL *e*SS SS 22 09 12.0 +17
CLL *e*SSS SSS 22 13 06.0
CLL *e* 22 15 00.0
CLL *e* 22 17 36.0
CLL LmV 22 48 00.0
comp=Z,500nm,19.3s
GERES GERESS Array B 111.35 320 Pdiff **Pdif** **21 48 49.9 +1.7**
comp=Z,0.9nm,0.7s,baz=94,slow=7.1,SNR=9.9
GERES PKiKP **PKiKP** **21 52 46.2 -0.4**
comp=Z,2.5nm,0.8s,baz=85,slow=1.5,SNR=10.0
GERES PKKPbc **PKKPbc** **22 03 43.1 -0.5**
comp=Z,0.6nm,0.8s,baz=236,slow=1.4,SNR=4.6
GERES PKKPab **PKKPab** **22 03 52.6 +1.0**
comp=Z,1.0nm,0.8s,baz=266,slow=3.5,SNR=6.2
ACER Acerenza 111.46 311 IAMs_20 IAMs_20 22 44 39.9
comp=Z,378nm,21.0s
NVAR Mina Array Bea 112.55 51 PKiKP **PKiKP** **21 52 50.6 +1.2**
comp=Z,1.8nm,0.8s,baz=238,slow=2.8,SNR=5.9
NVAR PKKPab **PKKPab** **22 03 47.2 +0.5**
comp=Z,0.6nm,0.4s,baz=116,slow=4.8,SNR=3.8
ABTA Abfaltersbach 112.65 318 *i* PKiKP **PKiKP** **21 52 48.3 -0.8**
comp=Z,3.6nm,0.8s
INTR Introdacqua 112.74 313 IAMs_20 IAMs_20 22 48 56.7
comp=Z,459nm,18.0s
PLID Pearl Lake 112.92 44 IAMs_20 IAMs_20 22 37 07.4
comp=Z,594nm,19.0s
WTTA Wattenberg 113.09 319 *i* PKiKP **PKiKP** **21 52 49.8 -0.3**
comp=Z,6.5nm,0.6s
WTTA Wattenberg 113.09 319 *i* PKKPab PKKPab 22 03 46.1 +2.1
comp=Z,1.2nm,0.4s
WATA Walderalm 113.11 319 *i* PKiKP **PKiKP** **21 52 49.5 -0.5**
comp=Z,1.1nm,0.4s
SQTA Sankt Quirin 113.38 319 *i* PKiKP **PKiKP** **21 52 50.7 +0.1**
comp=Z,1.7nm,0.5s
MOTA Moosalm 113.42 319 *i* PKiKP **PKiKP** **21 52 50.2 -0.5**
comp=Z,5.4nm,0.9s
MOTA Moosalm 113.42 319 *i* PKKPab PKKPab 22 03 44.3 +1.8
comp=Z,2.7nm,0.7s
MURB Monte Urbino 113.47 314 IAMs_20 IAMs_20 22 34 55.8
comp=Z,462nm,20.0s
RETA Reutte 113.60 319 *i* PKKPab PKKPab 22 03 43.5 +1.9
comp=Z,0.7nm,0.4s
FETA Feichten 113.75 319 *i* pPKiKP **PKiKP** **21 52 52.4 +1.1**
comp=Z,2.8nm,0.8s
CORL Corleone 113.97 308 IAMs_20 IAMs_20 22 49 20.7
comp=Z,309nm,18.0s
DAVA Damuels 114.23 319 *i* PKiKP **PKiKP** **21 52 52.5 +0.2**
comp=Z,4.2nm,0.6s
CASP Castiglione de 114.76 314 IAMs_20 IAMs_20 22 35 33.1
comp=Z,369nm,20.0s
DLMT Dillon 115.17 43 IAMs_20 IAMs_20 22 29 40.8
comp=Z,871nm,22.0s
YMR Madison River 116.48 43 **PKiKP** **21 52 58.6 +1.8**
SNOW Snow King Moun 116.98 45 PKPdf **PKiKP** **21 52 59.1 +1.4**
KEST Kesra 117.50 307 PKP **PKiKP** **21 52 59.5 +0.7**
comp=Z,6.7nm,0.9s,baz=290,slow=6.3,SNR=6.0
PDAR Pinedale Array 118.03 45 PKP **PKPdf** **21 52 59.3 -0.4**
comp=Z,2.3nm,0.8s,baz=228,slow=1.5,SNR=15
PDAR PKKPbc **PKKPbc** **22 03 19.5 -1.2**
comp=Z,2.1nm,0.8s,baz=116,slow=6.8,SNR=11
X16A Lo Mia Camp, P 118.73 55 **PKiKP** **21 53 02.6 +1.3**
LAO LASA Array 118.92 40 **PKiKP** **21 53 02.6 +1.4**
SRIG Santa Rosalia 119.25 63 IAMs_20 IAMs_20 22 40 08.3
comp=Z,622nm,21.0s
GO09 Cerro Castillo 119.32 165 **PKiKP** **21 53 02.6 +0.8**
TUC Tucson 119.69 57 PKIKP **PKiKP** **21 53 04.4 +1.3**
TUC Tucson 119.69 57 **PKiKP** **21 53 04.4 +1.3**
W18A Petrified Fore 119.95 53 **PKiKP** **21 53 05.0 +1.3**
RSSD Black Hills 121.33 42 PKIKP **PKPdf** **21 53 05.7 -0.4**
RSSD Black Hills 121.33 42 **PKPdf** **21 53 05.7 -0.4**
ANMO Albuquerque 122.59 53 PKIKP **PKiKP** **21 53 09.9 +0.9**
ANMO Albuquerque 122.59 53 PKP **PKiKP** **21 53 09.4 +0.5**
comp=Z,6.2nm,1.0s,baz=202,slow=3.4,SNR=10
ANMO Albuquerque 122.59 53 **PKiKP** **21 53 09.9 +0.9**
ULM Lac du Bonnet 123.30 32 PKP **PKPdf** **21 53 08.9 -0.4**
comp=Z,4.1nm,0.8s,baz=277,slow=3.7,SNR=5.8
ECSD EROS Data Cent 126.31 39 **PKiKP** **21 53 15.9 +0.1**
TXAR Lajitas Array 126.31 59 PKP **PKiKP** **21 53 16.7 +0.4**
comp=Z,3.3nm,0.9s,baz=270,slow=1.3,SNR=18
ESDC Sonseca Array 126.33 315 PKP **PKPdf** **21 53 15.7 +0.1**
comp=Z,3.1nm,0.9s,baz=14,slow=3.1,SNR=8.1
TOA0 Torodi Ar. Sit 127.20 281 **PKPdf** **21 53 17.8 0.0**
TORD Torodi Ar. Bea 127.20 281 PKP **PKPdf** **21 53 17.3 -0.5**
comp=Z,8.0nm,1.1s,baz=51,slow=1.7,SNR=13
TOB1 Torodi Ar. Sit 127.20 281 IAMs_20 IAMs_20 22 37 39.4
comp=Z,319nm,18.0s
X34A Smith Ranch, M 129.42 50 **PKiKP** **21 53 22.1 -0.2**
PLCA Paso Flores 129.45 161 PKP **PKiKP** **21 53 22.2 -0.1**
comp=Z,13nm,0.8s,baz=235,slow=2.5,SNR=36
PLCA Paso Flores 129.45 161 *e*P **PKiKP** **21 53 22.9 +0.6**
PLCA Paso Flores 129.45 161 *e*P **PKiKP** **21 53 23.0 +0.6**
PLCA Paso Flores 129.45 161 *e*P **PKiKP** **21 53 22.9 +0.6**
PLCA Paso Flores 129.45 161 *e*P **PKiKP** **21 53 23.0 +0.6**
GO06 Curarrehue 130.18 160 **PKiKP** **21 53 24.6 +0.7**
GO06 IAMs_20 IAMs_20 22 47 17.1
comp=Z,669nm,21.0s
KIC Kosan Boka 133.42 272 *e*P **PKPdf** **21 53 28.5 -1.2**
comp=Z,12nm,1.0s
DBIC Dimbokro 133.55 273 PKP **PKiKP** **21 53 30.7 -0.5**
comp=Z,2.4nm,0.8s,baz=121,slow=4.2,SNR=4.3
LIC Lamto 133.70 272 *e*P **PKPdf** **21 53 29.9 -0.3**
comp=Z,19nm,0.9s
TIC Toumodi 133.72 273 *e*P **PKPdf** **21 53 28.9 -1.4**
GO05 Huala 134.07 157 **PKiKP** **21 53 31.1 -0.6**
GO05 IAMs_20 IAMs_20 22 43 47.3
comp=Z,603nm,22.0s
TRQA Tornquist 134.18 169 PKIKP **PKiKP** **21 53 31.8 -0.1**
TRQA MLR MLR
comp=Z,700nm,20.0s
TRQA Tornquist 134.18 169 *e*P **PKiKP** **21 53 31.2 -0.6**
TRQA Tornquist 134.18 169 *e*P **PKiKP** **21 53 32.8 +0.9**
TRQA Tornquist 134.18 169 *e*P **PKiKP** **21 53 31.2 -0.6**
TRQA Tornquist 134.18 169 *e*P **PKiKP** **21 53 32.8 +0.9**
TRQA Tornquist 134.18 169 **PKiKP** **21 53 31.8 -0.1**
TRQA IAMs_20 IAMs_20 22 53 46.4
comp=Z,700nm,20.0s
PEL Peldehue 136.20 157 IAMs_20 IAMs_20 23 01 37.7
comp=Z,563nm,18.0s
ACSO Alum Creek Sta 136.61 35 IAMs_20 IAMs_20 22 45 38.1
comp=Z,584nm,19.0s
CMIG Matias Romero 136.62 73 PKP **PKPdf** **21 53 35.8 +0.3**
comp=Z,5.7nm,0.8s,baz=262,slow=3.6,SNR=6.9
R50A Paris 137.05 39 PKPdf **PKPdf** **21 53 33.9 -1.9**
CFA Coronel Fontan 138.50 158 PKP **PKPdf** **21 53 39.2 +0.4**
comp=Z,17nm,0.7s,baz=258,slow=3.5,SNR=20
GO04 Tololo Observa 138.75 154 IAMs_20 IAMs_20 22 47 01.4
comp=Z,586nm,21.0s
TKL Tuckaleechee C 138.99 41 PKP **PKPdf** **21 53 40.1 +0.6**
comp=Z,11nm,0.4s,baz=229,slow=2.2,SNR=8.2
V52A Sevierville 138.99 41 PKPdf **PKPdf** **21 53 39.4 -0.1**
S54A Dingess, Beckl 139.19 37 **PKPdf** **21 53 38.8 -1.0**
V52A Lilburn 139.83 44 **PKiKP** **21 53 43.0 -0.5**
T57A Hurt 140.94 36 PKPpre 21 53 35.9
T57A PKPdf **PKiKP** **21 53 45.0 -0.6**
GO03 Copiap 141.22 153 PKPpre 21 53 39.4
GO03 PKPdf **PKiKP** **21 53 45.2 -1.4**
PLTB Pedras Altas 141.44 177 *e*P **PKiKP** **21 53 45.6 -1.2**
PLTB Pedras Altas 141.44 177 *e*P **PKiKP** **21 53 48.0 +1.2**
PLTB Pedras Altas 141.44 177 *e*P **PKiKP** **21 53 45.6 -1.2**
PLTB Pedras Altas 141.44 177 *e*P **PKiKP** **21 53 48.0 +1.2**
V58A Windy Hill, Pi 141.84 37 PKPdf **PKPdf** **21 53 44.6 +0.1**
SNET Serv Nac Est T 142.46 77 IAMs_20 IAMs_20 23 08 06.9
comp=Z,455nm,20.0s
ITQB Itaqui 143.26 173 *e*P **PKPdf** **21 53 48.8 +1.4**
ITQB Itaqui 143.26 173 *e*P **PKiKP** **21 53 50.5 -0.1**
ITQB Itaqui 143.26 173 *e*P **PKPdf** **21 53 48.8 +1.4**
ITQB Itaqui 143.26 173 *e*P **PKiKP** **21 53 50.5 -0.1**
Y60A Bolivia 143.58 39 **PKPdf** **21 53 48.0 +0.3**
CNLB Canela 143.92 181 *e*P **PKPdf** **21 53 49.5 +0.9**
CNLB Canela 143.92 181 *e*P **PKiKP** **21 53 53.7 +1.7**
CNLB Canela 143.92 181 *e*P **PKPdf** **21 53 49.5 +0.9**
CNLB Canela 143.92 181 *e*P **PKiKP** **21 53 53.7 +1.7**
DWPF Disney Wildern 144.84 50 **PKPdf** **21 53 50.1 0.0**
ITAB Concordia 146.00 179 *e*P **PKPab** **21 53 53.2 -0.1**
ITAB Concordia 146.00 179 *e*P **PKPab** **21 53 53.2 -0.1**
LVC Limon Verde 146.09 151 PKP2 **PKPab** **21 53 54.9 +0.6**
LVC MLR MLR
comp=Z,700nm,22.0s
LVC Limon Verde 146.09 151 PKPbc **PKPab** **21 53 54.9 +0.6**
comp=Z,50nm,0.9s,baz=273,slow=2.6,SNR=39
LVC Limon Verde 146.09 151 *e*P **PKPbc** **21 53 53.7 0.0**
LVC Limon Verde 146.09 151 *e*P **PKPab** **21 53 54.5 +0.2**
LVC Limon Verde 146.09 151 *e*P **PKPbc** **21 53 53.7 0.0**
LVC Limon Verde 146.09 151 *e*P **PKPab** **21 53 54.5 +0.2**
CPUP Villa Florida 146.44 171 PKP2 **PKPbc** **21 53 53.5 -0.7**
CPUP Villa Florida 146.44 171 PKPbc **PKPbc** **21 53 54.3 +0.1**
comp=Z,55nm,0.9s,baz=192,slow=2.5,SNR=78
CPUP Villa Florida 146.44 171 *e*P **PKPbc** **21 53 54.2 +0.1**
CPUP Villa Florida 146.44 171 *e*P **PKPab** **21 53 55.9 +0.8**
CPUP Villa Florida 146.44 171 *e*P **PKPbc** **21 53 54.2 +0.1**
CPUP Villa Florida 146.44 171 *e*P **PKPab** **21 53 55.9 +0.8**
CPUP Villa Florida 146.44 171 **PKPbc** **21 53 53.5 -0.7**
JTS Las Juntas de 146.92 82 PKP2 **PKPbc** **21 53 55.9 0.0**
JTS Las Juntas de 146.92 82 PKPbc **PKPbc** **21 53 56.5 +0.6**
comp=Z,55nm,0.8s,baz=357,slow=3.8,SNR=26
JTS Las Juntas de 146.92 82 **PKPbc** **21 53 55.9 0.0**
ESPN Las Esperanzas 147.40 78 IAMs_20 IAMs_20 23 15 03.2
comp=Z,228nm,18.0s
PTGB Pitanga 148.51 179 *e*P **PKPdf** **21 53 57.6 +1.1**
PTGB Pitanga 148.51 179 *e*P **PKiKP** **21 54 01.1 -0.6**
PTGB Pitanga 148.51 179 *e*P **PKPdf** **21 53 57.6 +1.1**
PTGB Pitanga 148.51 179 *e*P **PKiKP** **21 54 01.1 -0.6**
MNMC Minye Minye 148.61 146 PKPbc **PKiKP** **21 54 01.9 -0.4**
NNA Nana 148.66 127 PKIKP **PKPdf** **21 53 57.6 +0.7**
NNA 21 54 02.3
NNA MLR MLR
comp=Z,600nm,21.0s
NNA Nana 148.66 127 PKPbc **PKiKP** **21 54 01.5 -0.7**
comp=Z,102nm,0.9s,baz=252,slow=6.0,SNR=40
NNA Nana 148.66 127 **PKPdf** **21 53 57.6 +0.7**
NNA PKPbc **PKiKP** **21 54 02.2 +0.1**
NNA IAMs_20 IAMs_20 22 55 18.4
comp=Z,631nm,21.0s
ESAR Angra dos Reis 149.37 193 *e*P **PKPdf** **21 53 59.7 +1.9**
ESAR Angra dos Reis 149.37 193 *e*P **PKiKP** **21 54 03.8 +0.5**
ESAR Angra dos Reis 149.37 193 *e*P **PKPdf** **21 53 59.7 +1.9**
ESAR Angra dos Reis 149.37 193 *e*P **PKiKP** **21 54 03.8 +0.5**
FRTB Fartura 149.81 184 *e*P **PKPdf** **21 53 60.0 +1.4**
FRTB Fartura 149.81 184 *e*P **PKPbc** **21 54 03.2 -0.1**
FRTB Fartura 149.81 184 *e*P **PKPdf** **21 53 60.0 +1.4**
FRTB Fartura 149.81 184 *e*P **PKPbc** **21 54 03.2 -0.1**
ATAH Atahualpa 149.87 117 PKP **PKPdf** **21 54 01.2 +1.8**
comp=Z,14nm,1.0s,baz=28,slow=1.7,SNR=11
ATAH PKPbc **PKPbc** **21 54 06.5 +2.4**
comp=Z,148nm,0.9s,baz=244,slow=1.9,SNR=49
VAO Valinhos 149.87 189 *e*P **PKPdf** **21 53 60.0 +1.3**
VAO Valinhos 149.87 189 *e*P **PKiKP** **21 54 04.6 +0.1**
VAO Valinhos 149.87 189 *e*P **PKPdf** **21 53 60.0 +1.3**
VAO Valinhos 149.87 189 *e*P **PKiKP** **21 54 04.6 +0.1**
TRCB Terra Rica 150.41 178 *e*P **PKPdf** **21 54 01.3 +1.8**
TRCB Terra Rica 150.41 178 *e*P **PKPbc** **21 54 04.9 +0.1**
TRCB Terra Rica 150.41 178 *e*P **PKPdf** **21 54 01.3 +1.8**
TRCB Terra Rica 150.41 178 *e*P **PKPbc** **21 54 04.9 +0.1**
RCLB Rio Claro- Sao 150.52 188 *e*P **PKPdf** **21 54 01.8 +2.1**
RCLB Rio Claro- Sao 150.52 188 *e*P **PKiKP** **21 54 05.4 -0.4**
RCLB Rio Claro- Sao 150.52 188 *e*P **PKPdf** **21 54 01.8 +2.1**
RCLB Rio Claro- Sao 150.52 188 *e*P **PKiKP** **21 54 05.4 -0.4**
LPAZ La Paz 151.72 145 PKP **PKPdf** **21 54 03.7 +1.3**
comp=Z,10nm,1.0s,baz=38,slow=2.1,SNR=25
LPAZ PKPbc **PKPbc** **21 54 09.6 +0.9**
comp=Z,37nm,0.8s,baz=181,slow=2.6,SNR=49
LPAZ La Paz 151.72 145 *e*P **PKPdf** **21 54 03.9 +1.5**
LPAZ La Paz 151.72 145 *e*P **PKPdf** **21 54 03.2 +0.9**
LPAZ La Paz 151.72 145 *e*P **PKPdf** **21 54 03.9 +1.5**
LPAZ La Paz 151.72 145 *e*P **PKPdf** **21 54 03.2 +0.9**
BB19B Bebedouro 151.97 186 *e*P **PKPdf** **21 54 08.7 -0.1**
BB19B Bebedouro 151.97 186 *e*P **PKiKP** **21 54 08.7 -0.1**
AQDB Aquidauana 152.44 172 *e*P **PKPdf** **21 54 04.2 +1.6**

AQDB	**Aquidauana**	**152.44**	**172**	*eP*	**PKPdf**	**21 54 04.2**	**+1.6**
OTAV	**Otavalo**	**152.44**	**103**	*eP*	**PKPdf**	**21 54 05.2**	**+1.8**
OTAV	**Otavalo**	**152.44**	**103**	*eP*	**PKPdf**	**21 54 03.2**	**-0.1**
OTAV	**Otavalo**	**152.44**	**103**	*eP*	**PKPdf**	**21 54 05.2**	**+1.8**
OTAV	**Otavalo**	**152.44**	**103**	*eP*	**PKPdf**	**21 54 03.2**	**-0.1**
SJMB	**Sao Joao De Ma**	**152.48**	**202**	*eP*	**PKPdf**	**21 54 03.6**	**+0.9**
SJMB	**Sao Joao De Ma**	**152.48**	**202**	*eP*	**PKiKP**	**21 54 11.1**	**+1.3**
SJMB	**Sao Joao De Ma**	**152.48**	**202**	*eP*	**PKPdf**	**21 54 03.6**	**+0.9**
SJMB	**Sao Joao De Ma**	**152.48**	**202**	*eP*	**PKiKP**	**21 54 11.1**	**+1.3**
ITRB	**Iturama**	**153.47**	**183**	*eP*	**PKPdf**	**21 54 06.5**	**+2.4**
ITRB	**Iturama**	**153.47**	**183**	*eP*	**PKPbc**	**21 54 10.9**	**-0.9**
ITRB	**Iturama**	**153.47**	**183**	*eP*	**PKPdf**	**21 54 06.5**	**+2.4**
ITRB	**Iturama**	**153.47**	**183**	*eP*	**PKPbc**	**21 54 10.9**	**-0.9**
PMNB	**Patos De Minas**	**154.14**	**191**	*eP*	**PKPbc**	**21 54 12.8**	**-0.6**
PMNB	**Patos De Minas**	**154.14**	**191**	*eP*	**PKPbc**	**21 54 12.8**	**-0.6**
IPMB	**Ipameri, GO**	**154.98**	**188**	*eP*	**PKPdf**	**21 54 07.8**	**+1.5**
IPMB	**Ipameri, GO**	**154.98**	**188**	*eP*	**PKPbc**	**21 54 14.4**	**-0.7**
IPMB	**Ipameri, GO**	**154.98**	**188**	*eP*	**PKPdf**	**21 54 07.8**	**+1.5**
IPMB	**Ipameri, GO**	**154.98**	**188**	*eP*	**PKPbc**	**21 54 14.4**	**-0.7**
SIV	**San Ignacio**	**155.35**	**158**	PKP	**PKPdf**	**21 54 07.4**	**+0.5**
	comp=Z,8.4nm,0.9s,baz=224,slow=1.8,SNR=30						
SIV				PKPbc	PKPbc	21 54 16.2	
	comp=Z,9.9nm,0.9s,baz=184,slow=1.3,SNR=14						
SIV				PKPab	**PKPab**	**21 54 33.1**	**+1.2**
	comp=Z,15nm,0.8s,baz=194,slow=4.5,SNR=11						
PP1B	**Ponte de Pedra**	**155.38**	**173**	*eP*	**PKPdf**	**21 54 09.6**	**+2.8**
PP1B	**Ponte de Pedra**	**155.38**	**173**	*eP*	**PKPdf**	**21 54 09.6**	**+2.8**
SALV	**Santo Antonio**	**156.93**	**170**	*eP*	**PKPdf**	**21 54 10.2**	**+1.3**
SALV	**Santo Antonio**	**156.93**	**170**	*eP*	**PKPdf**	**21 54 11.4**	**+2.5**
SALV	**Santo Antonio**	**156.93**	**170**	*eP*	**PKPdf**	**21 54 10.2**	**+1.3**
SALV	**Santo Antonio**	**156.93**	**170**	*eP*	**PKPdf**	**21 54 11.4**	**+2.5**
BDFB	**Brasilia**	**157.25**	**189**	PKP	**PKPdf**	**21 54 10.0**	**+0.6**
	comp=Z,6.4nm,1.0s,baz=135,slow=7.0,SNR=4.8						
BDFB				PKPab	**PKPab**	**21 54 40.8**	**+0.6**
	comp=Z,3.7nm,0.6s,baz=110,slow=4.4,SNR=4.2						
ARAG	**Araguaiana, MT**	**157.47**	**180**	*eP*	**PKPdf**	**21 54 11.2**	**+1.6**
ARAG	**Araguaiana, MT**	**157.47**	**180**	*eP*	**PKPdf**	**21 54 15.0**	**+5.4**
ARAG	**Araguaiana, MT**	**157.47**	**180**	*eP*	**PKPdf**	**21 54 11.2**	**+1.6**
ARAG	**Araguaiana, MT**	**157.47**	**180**	*eP*	**PKPdf**	**21 54 15.0**	**+5.4**
DR12	**Loma Pena Alta**	**159.12**	**54**	PKPdf	**PKPdf**	**21 54 12.2**	**+0.7**
DR12					**PKPab**	**21 54 50.3**	**+1.9**
RCBR	**Riachuelo**	**159.79**	**231**	*eP*	PKPdf	21 54 24.4	+12
RCBR	**Riachuelo**	**159.79**	**231**	*eP*	PKPdf	21 54 24.4	+12
SAML	**Samuel**	**160.45**	**144**	PKIKP	**PKPdf**	**21 54 13.5**	**+0.4**
SAML						21 54 53.1	
SAML	**Samuel**	**160.45**	**144**	*eP*	**PKPdf**	**21 54 15.4**	**+2.2**
SAML	**Samuel**	**160.45**	**144**	*eP*	**PKPdf**	**21 54 15.1**	**+2.0**
SAML	**Samuel**	**160.45**	**144**	*eP*	**PKPdf**	**21 54 15.4**	**+2.2**
SAML	**Samuel**	**160.45**	**144**	*eP*	**PKPdf**	**21 54 15.1**	**+2.0**
SAML	**Samuel**	**160.45**	**144**		**PKPdf**	**21 54 13.5**	**+0.4**
SAML					**PKPab**	**21 54 53.1**	**-0.9**
SDV	**Santo Domingo**	**161.10**	**83**	PKP	**PKPdf**	**21 54 14.3**	**+0.2**
	comp=Z,8.5nm,0.8s,baz=354,slow=0.6,SNR=9.3						
SDV				PKPab	**PKPab**	**21 54 58.3**	**+0.9**
	comp=Z,8.2nm,0.7s,baz=278,slow=2.0,SNR=4.5						
SDV	**Santo Domingo**	**161.10**	**83**	*eP*	**PKPdf**	**21 54 15.1**	**+1.0**
SDV	**Santo Domingo**	**161.10**	**83**	*eP*	**PKPdf**	**21 54 15.1**	**+1.0**
SDV	**Santo Domingo**	**161.10**	**83**	*eP*	**PKPdf**	**21 54 15.1**	**+1.0**
SDV	**Santo Domingo**	**161.10**	**83**	*eP*	**PKPdf**	**21 54 15.1**	**+1.0**
SDV	**Santo Domingo**	**161.10**	**83**		**PKPdf**	**21 54 14.4**	**+0.2**
SDV				PKPab	**PKPab**	**21 54 54.7**	**-2.7**
OBIP	**Obispado Ponce**	**161.73**	**52**		**PKPab**	**21 55 00.6**	**+1.0**
SJG	**San Juan**	**162.04**	**51**	PKP2	**PKPab**	**21 55 02.1**	**+1.1**
SJG	**San Juan**	**162.04**	**51**	PKPab	**PKPab**	**21 55 01.7**	**+0.7**
	comp=Z,39nm,0.9s,baz=13,slow=7.0,SNR=8.1						
SJG	**San Juan**	**162.04**	**51**		**PKPab**	**21 55 02.1**	**+1.1**
PDPR	**Patillas Dam,**	**162.19**	**51**	PKPdf	**PKPdf**	**21 54 14.7**	**-0.1**

GCG ***19*** *21:38:01.4±0.7, 13°.11N×91°.14W, h13km±72km, MD3.9*
ISCJB ***19*** *21:38:02.4±1.2, 13°.23N±0°.08×91°.10W±0°.05, h10km, Error ellipse: s-maj=12.1km s-min=6.5km az=14.4*
SNET ***19*** *21:38:06.8±1.1, 13°.42N×90°.93W, h16km±8km, ML2.7*
MEX ***19*** *21:38:06.3±0.3, 13°.23N×91°.31W, h10km, MD3.8*

ISC 19 21:38:03.4±2.0, **13°.3N**±0°.1×**91°.08W**±0°.07, **h10**km**, n13,**
σ**0**§**69**/**17, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**1.05**	**36**	*eP*	**Pn**	**21 38 23.8**	**-0.6**
FUG	**Fuego 3**	**1.14**	**12**	*eP*	**Pn**	**21 38 26.1**	**+0.5**
PCG	**Pacaya**	**1.16**	**23**	*eP*	**Pn**	**21 38 26.1**	**+0.1**
NBG	**Las Nubes**	**1.45**	**29**	*eP*	**Pn**	**21 38 30.9**	**+1.0**
NBG				*eS*	**Sn**	**21 38 49.5**	**+0.4**
STG3	**Santiaguito 3,**	**1.46**	**341**	*eP*	**Pn**	**21 38 30.1**	**0.0**
CEVE	**Cerro Verde**	**1.50**	**70**	*eP*	**Pn**	**21 38 30.1**	**-0.6**
CEVE				*eS*	**Sn**	**21 38 50.1**	**-0.4**
LFU	**La Fuente**	**1.96**	**77**	*eP*	**Pn**	**21 38 37.5**	**+0.6**
LFU				*eS*	**Sn**	**21 39 08.8**	**+0.7**
MTO3	**Montecristo**	**1.98**	**57**	*eP*	**Pn**	**21 38 37.4**	**+0.1**
MTO3				IAML		21 39 06.6	
	comp=Z,76nm,0.6s						
COEG	**Centro de Oper**	**2.16**	**82**	*eP*	**Pn**	**21 38 40.4**	**+0.8**
COEG				*eS*	**Sn**	**21 39 05.4**	**-1.1**
LLGN	**La Laguna**	**2.24**	**68**	*eP*	**Pn**	**21 38 41.2**	**+0.6**
LCND	**La Caada**	**3.11**	**90**	*eP*	**Pn**	**21 38 53.2**	**+0.7**
PCIG		**3.15**	**319**	*eP*	**Pn**	**21 38 52.5**	**-0.6**
CMIG	**Matias Romero**	**5.25**	**316**	*eP*	**Pn**	**21 39 22.6**	**+0.7**

IDC ***19*** *21:40:17.4±4.8, 26°.84N×68°.35E, h0km, mb4.2/7, mb1 4.3/9, mb1mx3.8/58, mbtmp4.2/9, ML4.2/2, MS3.6/2, Ms1 3.6/2, ms1mx3.1/49, Error ellipse: s-maj=103.1km s-min=26.0km az=128.0*
ISCJB ***19*** *21:40:19.4±1.5, 27°.1N±0°.2×67°.9E±0°.1, h10km, mb4.3/14, MS3.9/4, Error ellipse: s-maj=26.3km s-min=7.9km az=146.3*
MOS ***19*** *21:40:20.3±1.3, 27°.13N×67°.89E, h17km, mb4.7/7, Error ellipse: s-maj=16.3km s-min=7.7km az=103.2*

ISC 19 21:40:21.1±1.8, **27°.1N**±0°.2×**67°.9E**±0°.2, **h10**km**, n41,**
σ**1**§**46**/**36, mb4.4**/**14, MS3.7**/**4, 9C-5D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THW	**Thamme Wali**	**6.56**	**29**	P	**Pn**	**21 41 59.7**	**+1.9**
KBL	**Kabul**	**7.48**	**7**	P	**Pn**	**21 42 10.7**	**+0.2**
KBL				pmax	pmax		
	comp=Z,32nm,1.2s						
CEP	**Cherat**	**7.53**	**26**	P	**Pn**	**21 42 12.6**	**+1.5**
NIL	**Nilore**	**7.98**	**34**	P	**Pn**	**21 42 19.4**	**+2.2**
NIL				pmax	pmax		
	comp=Z,32nm,0.6s						
CHCP	**Chirah Chowk**	**7.99**	**34**	P	**Pn**	**21 42 19.2**	**+1.8**
NDI	**New Delhi**	**8.36**	**77**	*ex*	Pn	21 42 32.0	+10
NDI				*ex*	x	21 44 03.0	
WSAR	**Wadi Sarin**	**9.26**	**248**	Pn	**Pn**	**21 42 34.7**	**-0.2**
	comp=Z,4.1nm,0.3s,baz=108,slow=11,SNR=49						
WSAR				Sn	Sn	21 44 08.4	-11
	comp=Z,0.9nm,0.3s,baz=218,slow=22,SNR=5.2						
KKAR	**Karatay Array**	**16.10**	**7**	P	**Pn**	**21 44 07.6**	**0.0**
AAK	**Ala-Archa**	**16.40**	**17**	*eP*	**Pn**	**21 44 09.3**	**-2.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
AAK	**Ala-Archa**	**16.40**	**17**	Pn	**Pn**	**21 44 09.6**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=194,slow=9.4,SNR=8.5						
AKT	**Akhty**	**21.93**	**316**	*eP*	**P**	**21 45 13.7**	**-1.2**
AKT				*e*		21 45 36.2	
AKT				pmax	pmax		
	comp=Z,18nm,0.8s						
GNBR	**Gunib**	**22.92**	**317**	*eP*	**P**	**21 45 23.9**	**-1.4**
GNI	**Garni**	**23.21**	**310**	*eP*	**P**	**21 45 29.1**	**+0.7**
BTLR	**Botlikh**	**23.53**	**317**	*eP*	**P**	**21 45 30.3**	**-1.2**
GROC	**Groznyy**	**24.09**	**318**	*eP*	**P**	**21 45 34.4**	**-2.4**
GROC				*e*		21 46 05.7	
GROC				pmax	pmax		
	comp=Z,13nm,0.6s						
AKTO	**Aktyubinsk**	**24.50**	**345**	P	**P**	**21 45 41.1**	**+0.6**
	comp=Z,4.4nm,0.7s,baz=172,slow=6.7,SNR=11						
KURK	**Kurchatov**	**24.95**	**16**	*eP*	**P**	**21 45 41.8**	**-2.7**
BVAR	**Borovoye Array**	**25.96**	**3**	P	**P**	**21 45 54.7**	**+1.1**
	comp=Z,4.7nm,0.5s,baz=173,slow=11,SNR=27						
BRVK	**Borovoye**	**25.99**	**3**	*eP*	**P**	**21 45 54.8**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,11nm,1.2s						
KBZ	**Khabaz**	**26.15**	**316**	P	**P**	**21 45 58.9**	**+3.4**
	comp=Z,1.1nm,0.6s,baz=97,slow=9.7,SNR=5.4						
KIV	**Kislovodsk**	**26.40**	**316**	*eP*	**P**	**21 45 56.1**	**-1.8**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KIV				MLR	MLR		
	comp=Z,303nm,15.0s						
MMAI	**Mount Meron Ar**	**28.70**	**290**	LR	LR	21 59 36.5	
	comp=Z,101nm,18.8s,baz=5.0,slow=40						
EIL	**Elat**	**29.08**	**283**	LR	LR	21 59 20.2	
	comp=Z,105nm,18.1s,baz=62,slow=39						
ARU	**Arti**	**30.07**	**350**	*eP*	**P**	**21 46 30.4**	**0.0**
ANN	**Anapa**	**30.11**	**314**	*eP*	P	21 46 29.5	-1.4
ANN				*e**PP	pP	21 46 33.1	-0.8
ANN				*eS*	**S**	**21 51 30.9**	**+1.4**
ANN				pmax	pmax		
	comp=Z,14nm,1.0s						
ANN				MLR	MLR		
	comp=Z,591nm,11.0s						
OBN	**Obninsk**	**36.08**	**329**	*eP*	**P**	**21 47 22.6**	**-0.2**
OBN				pmax	pmax		
	comp=Z,33nm,1.9s						
MLR	**Muntele Rosu**	**37.99**	**310**	P	**P**	**21 47 38.8**	**-0.6**
MLR				pmax	pmax		
	comp=Z,6.0nm,1.5s						
MLR	**Muntele Rosu**	**37.99**	**310**	P	**P**	**21 47 40.0**	**+0.7**
VOIR		**38.59**	**310**	P	**P**	**21 47 43.6**	**-0.8**
ARR	**Arges**	**38.86**	**310**	P	**P**	**21 47 48.2**	**+1.6**
BURAR	**Bucovina Array**	**39.03**	**313**	P	**P**	**21 47 47.9**	**-0.2**
ARCR	**ARCALIA**	**39.46**	**312**	P	P	21 47 42.6	-8.9
MDVR	**Moldovita**	**40.77**	**308**	P	**P**	**21 48 01.6**	**-0.9**
BZS	**Buzias**	**40.98**	**309**	P	P	21 48 02.6	-1.6
FINES	**FINESS Array B**	**44.24**	**333**	P	**P**	**21 48 31.2**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=133,slow=7.8,SNR=6.4						
BRG	**Berggiesshubel**	**46.95**	**315**	*e*(P)	**P**	**21 48 52.8**	**+0.8**
	comp=Z,7.9nm,1.1s						
BRG	**Berggiesshubel**	**46.95**	**315**	*eP*	**P**	**21 48 52.8**	**+0.8**
BRG				pmax	pmax		
	comp=Z,45nm,1.1s						
ARCES	**ARCESS Array B**	**49.03**	**342**	P	**P**	**21 49 08.1**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=136,slow=7.1,SNR=8.1						
NB2	**NORSAR Subarra**	**50.66**	**328**	P	**P**	**21 49 19.2**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=104,slow=7.9						
NOA	**NORSAR Array B**	**50.66**	**328**	P	**P**	**21 49 19.5**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=107,slow=7.3,SNR=6.3						
TORD	**Torodi Ar. Bea**	**63.11**	**272**	P	**P**	**21 50 50.1**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=63,slow=5.7,SNR=18						

PRU 19 21:47:01.8±0.0, **50°.22N**×**19°.27E, h0**km**, 2C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.34**	**90**	*eP*g	Pg	21 47 07.8	-0.5
OJC				*eP*g	Pg	21 47 07.8	-0.5
OJC				*eS*g	Sg	21 47 12.1	-0.6
OJC				*eS*g	Sg	21 47 12.1	-0.6
OKC	**Ostrava-Krasne**	**0.82**	**243**	*eP*G	Pg	21 47 16.3	-1.2
OKC				*eS*G	Sg	21 47 28.4	+0.3
LANS	**Liptovska Anna**	**1.08**	**173**	*eP*G	Pg	21 47 22.2	-0.2
LANS				*eS*G	Sg	21 47 36.6	+0.2
LANS				*eL*G	Lg	21 47 41.0	
MORC	**Moravsky Berou**	**1.20**	**249**	P	Sg	21 47 40.6	+0.3
MORC	**Moravsky Berou**	**1.20**	**249**	*eP*G	Pg	21 47 24.4	-0.4
MORC				*eS*G	Sg	21 47 40.7	+0.4
VYHS	**Vyhne**	**1.75**	**189**	*eP*N	Pn	21 47 31.9	-1.5
VYHS				*eS*N	Sn	21 47 54.7	-1.7
DPC	**Dobruska-Polom**	**1.90**	**275**	*eP*G	Pb	21 47 37.3	0.0
DPC				*eS*G	Sg	21 48 02.5	-0.2
VRAC	**Vranov**	**1.96**	**243**	P	Sg	21 48 03.2	-1.6
OSTC	**Ostas**	**1.98**	**281**	*eS*G	Sg	21 48 06.0	+0.5
CHVC	**Chvalec**	**2.09**	**281**	*eS*G	Sg	21 48 10.3	+1.4
KHC	**Kasperske Hory**	**3.85**	**256**	*eS*G	Sg	21 49 04.3	-1.2

ISCJB ***19*** *22:00:15.0±0.2, 9°.78S±0°.03×118°.06E±0°.03, h38km, mb4.4/16, MS4.4/2, Error ellipse: s-maj=5.0km s-min=3.5km az=31.4*
IDC ***19*** *22:00:17.1±5.9, 9°.57S×118°.05E, h33km±47km, mb4.2/12, mb1 4.3/15, mb1mx4.1/33, mbtmp4.4/15, ML4.4/3, MS3.8/1, Ms1 3.8/1, ms1mx3.1/35, Error ellipse: s-maj=29.0km s-min=14.7km az=60.0*
NEIC ***19*** *22:00:19.2±1.6, 9°.86S±0°.06×118°.01E±0°.06, h69km±7km, mb4.5/40*
KLM ***19*** *22:00:19.0, 9°.98S×117°.98E, h36km, mb5.0*
DJA ***19*** *22:00:20.2±0.3, 10°.S±3°×11°.8E±°, h66km±4km, M4.9/18, mb4.8/18, mB5.5/4, MLv5.0/17, Mw(mB)5.0/4*

ISC 19 22:00:16.9±0.4, **9°.82S**±0°.05×**118°.12E**±0°.04, **h38**km**, n117,**
σ**2**§**14**/**117, mb4.5**/**35, 1C, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.04**	**341**	P	**Pn**	**22 00 37.3**	**+2.3**
PLAI				S	**Sn**	**22 00 50.2**	**+1.9**
TWSI	**Taliwang, Sumb**	**1.63**	**311**	P	**Pn**	**22 00 46.2**	**+3.2**
WSI	**Waingapu**	**2.15**	**86**	P	**Pn**	**22 00 54.0**	**+3.8**
DNP	**Denpasar**	**3.09**	**291**	P	**Pn**	**22 01 07.2**	**+4.1**
IGBI	**Denpasar**	**3.10**	**288**	P	**Pn**	**22 01 06.0**	**+2.7**
IGBI				S	**Sn**	**22 01 41.8**	**+2.7**
SRBI	**Singaraja**	**3.35**	**301**	P	**Pn**	**22 01 09.8**	**+3.1**
JAGI	**Jajag, Banyuwa**	**4.14**	**289**	P	**Pn**	**22 01 19.1**	**+1.5**
JAGI	**Jajag, Banyuwa**	**4.14**	**289**		**Pn**	**22 01 18.7**	**+1.1**
MMRI	**Maumere**	**4.23**	**74**	P	**Pn**	**22 01 23.3**	**+4.5**
MMRI	**Maumere**	**4.23**	**74**		**Pn**	**22 01 23.2**	**+4.3**
GMJI	**Gumukmas**	**4.87**	**288**	P	**Pn**	**22 01 29.2**	**+1.6**
BKSI	**Bulukumba**	**4.89**	**24**	P	**Pn**	**22 01 32.1**	**+4.2**
BKSI				S	**Sn**	**22 02 23.6**	**+0.4**
KAPI	**Kappang**	**5.04**	**19**	Pn	**Pn**	**22 01 34.1**	**+4.2**
	7.2nm,0.3s,baz=193,slow=5.0,SNR=13						
KAPI					**Sn**	**22 02 27.8**	**+0.9**
	109nm,0.3s,baz=82,slow=21,SNR=22						
KAPI	**Kappang**	**5.04**	**19**		**Pn**	**22 01 34.4**	**+4.5**
KAPI					**Sn**	**22 02 28.3**	**+1.3**
BATI	**Baumata**	**5.47**	**95**	Pn	**Pn**	**22 01 39.6**	**+3.7**
	24nm,0.3s,baz=259,slow=1.7,SNR=24						
BATI				Sn	**Sn**	**22 02 39.6**	**+1.9**
	28nm,0.3s,baz=48,slow=23,SNR=10.0						
BNSI	**Bone**	**5.73**	**20**	P	**Pn**	**22 01 43.0**	**+3.5**
	101nm,0.7s,0.5nm						
SPSI	**Sidrap Palu**	**6.04**	**16**	P	**Pn**	**22 01 45.2**	**+1.5**
	39nm,0.7s,0.2nm						
SOEI	**Soe**	**6.06**	**90**	P	Pn	22 01 56.6	+13
SOEI	**Soe**	**6.06**	**90**		**Pn**	**22 01 47.1**	**+3.1**
GRJI	**Gresik**	**6.28**	**297**	P	**Pn**	**22 01 49.1**	**+2.0**
	136nm,0.4s,6µm1.2nm						
TTSI	**Tana Toraja**	**6.94**	**14**	P	Pn	22 02 03.6	+7.6
PCJI	**Pacitan**	**7.05**	**283**	P	**Pn**	**22 01 57.9**	**+0.3**
	125nm,0.7s,0.8nm						
UGM	**Wanagama**	**7.74**	**284**	Pn	**Pn**	**22 02 09.5**	**+2.3**
SMRI	**Semarang**	**8.08**	**289**	Pn	**Pn**	**22 02 12.7**	**+0.9**
LUWI	**Luwuk**	**9.87**	**28**	P	Pn	22 02 46.1	+10
LUWI	**Luwuk**	**9.87**	**28**		Pn	22 02 41.9	+5.6
CISI	**Cisompet, Garu**	**10.43**	**282**	P	**Pn**	**22 02 44.0**	**-0.1**
	61nm,0.7s						
CISI	**Cisompet, Garu**	**10.43**	**282**		**Pn**	**22 02 43.8**	**-0.3**
CISI					**Sn**	**22 04 40.3**	**+0.4**
MRSI	**Marisa**	**10.91**	**21**	P	Pn	22 03 08.6	+18
FITZ	**Fitzroy Crossi**	**11.00**	**139**	Pn	**Pn**	**22 02 53.5**	**+1.8**
	1.8nm,0.3s,baz=323,slow=9.2,SNR=27						
FITZ				Sn	**Sn**	**22 04 47.4**	**-6.1**
	1.7nm,0.3s,baz=327,slow=10,SNR=3.9						
FITZ	**Fitzroy Crossi**	**11.00**	**139**		**Pn**	**22 02 53.9**	**+2.1**
PSA00	**Pilbara Seismi**	**11.81**	**172**	Pn	**Pn**	**22 03 04.0**	**+1.2**
KNRA	**Kununurra**	**11.90**	**120**		**Pn**	**22 03 06.3**	**+2.2**
KNRA					**Sn**	**22 05 13.7**	**-1.9**
MTN	**Manton Dam**	**13.11**	**104**		**Pn**	**22 03 20.4**	**-0.3**
GIRL	**Giralia**	**13.29**	**196**	Pn	**Pn**	**22 03 24.9**	**+1.8**
FAKI	**Fak Fak**	**15.62**	**65**	P	**P**	**22 03 56.7**	**-1.4**
LHSI	**Lahat**	**15.66**	**291**	P	**P**	**22 04 03.2**	**+4.6**
KKM	**Kota Kinabalu**	**15.87**	**353**	P	**Pn**	**22 03 58.3**	**+0.6**
MNAI	**Manna**	**15.99**	**289**	P	**Pn**	**22 03 57.1**	**-2.1**
KRJI	**Kerinci**	**18.25**	**294**	P	**Pn**	**22 04 29.1**	**+1.6**
	318nm,0.8s,3µm						
WRA	**Warramunga Arr**	**18.61**	**125**	P	**Pn**	**22 04 33.3**	**+1.6**
	1.0nm,0.3s,baz=299,slow=13,SNR=45						
WRA				S	Sn	22 07 46.5	-12
	0.7nm,0.3s,baz=293,slow=25,SNR=9.5						
WR0	**Warramunga Arr**	**18.78**	**124**		**Pn**	**22 04 35.2**	**+1.4**
PDSI	**Padang**	**19.67**	**296**	P	**P**	**22 04 42.5**	**-0.4**
	13nm,0.5s						
AS31	**Alice Springs**	**20.42**	**134**	P	Pn	22 04 53.5	+0.3
AS31					**S**	**22 08 36.3**	**-1.4**
ASAR	**Alice Springs**	**20.42**	**134**	P	Pn	22 04 53.7	+0.5
	13nm,0.7s,baz=316,slow=11,SNR=118						
ASAR				S	**S**	**22 08 32.2**	**-5.5**
	2.0nm,0.5s,baz=300,slow=20,SNR=8.1						
JRMM	**Jerantut**	**20.70**	**310**	P	Pn	22 04 57.0	+0.5
IPM	**Ipoh**	**22.18**	**309**	P	**P**	**22 05 09.4**	**-0.5**
IPM				IAmb	IAmb	22 05 11.4	
	comp=Z,22nm,1.1s						
RPSI	**Rantau Prapat**	**22.81**	**302**	P	**P**	**22 05 16.2**	**-0.4**
RPSI	**Rantau Prapat**	**22.81**	**302**	P	**P**	**22 05 15.6**	**-1.1**
RPSI				IAmb	IAmb	22 05 17.3	
	comp=Z,20nm,1.1s						
FORT	**Forrest**	**22.82**	**157**	P	**P**	**22 05 17.7**	**+1.1**
FORT				IAmb	IAmb	22 05 20.7	
	comp=Z,17nm,0.8s						
PSI	**Prapat**	**22.86**	**302**	P	**P**	**22 05 16.2**	**-1.2**
	comp=Z,9.3nm,0.4s,baz=78,slow=10,SNR=4.7						
KULM	**Kulim**	**22.98**	**310**	P	**P**	**22 05 17.6**	**-0.8**
GSI	**Gunungsitoli**	**23.25**	**297**	P	**P**	**22 05 20.1**	**-1.1**
GSI				IAmb	IAmb	22 05 38.3	
	comp=Z,42nm,1.1s						
COEN	**Coen**	**24.85**	**102**	P	**P**	**22 05 37.0**	**+0.9**
LHMI	**Lhok Sumawe**	**25.86**	**304**	P	**P**	**22 05 44.3**	**-0.9**
BBOO	**Buckleboo**	**28.24**	**147**	P	**P**	**22 06 06.5**	**0.0**
BBOO				IAmb	IAmb	22 06 23.4	
	comp=Z,15nm,1.1s						
STKA	**Stephens Creek**	**30.89**	**139**	P	**P**	**22 06 32.5**	**+2.6**
	comp=Z,3.3nm,0.7s,baz=305,slow=8.6,SNR=7.8						
STKA	**Stephens Creek**	**30.89**	**139**	P	**P**	**22 06 32.0**	**+2.0**
PBKT	**Sadao Pong**	**31.23**	**327**	P	**P**	**22 06 33.8**	**+0.8**
PBKT	**Sadao Pong**	**31.23**	**327**	P	**P**	**22 06 32.6**	**-0.4**
PBKT				IAmb	IAmb	22 06 33.4	
	comp=Z,4.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**33.88**	**326**	P	**P**	**22 06 56.0**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=151,slow=7.0,SNR=6.0						
CMAR	**Chiang Mai Arr**	**33.88**	**326**	P	**P**	**22 06 56.0**	**-0.2**
ENH	**Enshi**	**40.71**	**349**	P	**P**	**22 07 53.5**	**-0.5**
ENH					**PcP**	**22 09 54.2**	**-1.0**
PALK	**Pallekele**	**40.96**	**293**	P	**P**	**22 07 54.6**	**-1.8**
PALK				IAmb	IAmb	22 08 09.9	
	comp=Z,14nm,1.1s						
NJ2	**Nanjing**	**41.64**	**1**	*eP*	**P**	**22 08 03.8**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
SHL	**Shillong**	**43.47**	**325**	P	**P**	**22 08 15.4**	**-1.4**
SHL				IAmb	IAmb	22 08 15.9	
	comp=Z,7.5nm,1.0s						
JNU	**Nakatsue**	**44.40**	**15**	P	**P**	**22 08 23.2**	**-0.8**
XAN	**Xi'an**	**44.48**	**349**	P	**P**	**22 08 23.4**	**-1.2**
XAN				pP	pP	22 08 29.5	-5.5
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XAN	**Xi'an**	**44.48**	**349**	P	**P**	**22 08 23.6**	**-1.0**
XAN				IAmb	IAmb	22 08 24.0	
	comp=Z,6.8nm,0.5s						
H08S2	**Diego Garcia H**	**45.13**	**269**	T	T	22 56 42.0	
	baz=96,slow=75,SNR=10						
H08S3	**Diego Garcia H**	**45.14**	**269**	T	T	22 56 42.8	
	baz=96,slow=75,SNR=10						
H08S1	**Diego Carcia H**	**45.15**	**

*IDC **19** 22:34:22.9±0.7, 2°42′S×140°.19E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.0/30, mbtmp4.1/8, ML4.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/27, Error ellipse: s-maj=21.2km s-min=7.9km az=12.0*

*ISCJB **19** 22:34:23.6±0.3, 2°.50S±0°.05×140°.33E±0°.05, h24km, mb4.1/7, MS3.5/1, Error ellipse: s-maj=7.9km s-min=6.7km az=35.7*

*NEIC **19** 22:34:25.7±1.6, 2°.53S±0°.10×140°.39E±0°.07, h26km±6km, mb4.6/24*

ISC 19 22:34:25.4±0.5, **2°.52S**±0°.07×**140°.36E**±0°.07, **h24**km, **n43, σ1s90/40, mb4.5/17, 1D, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.34**	**89**	Pg	**Pb**	**22 34 32.9**	**-0.2**
	395nm,0.3s,baz=264,slow=12,SNR=863						
JAY				Lg	Lg	22 34 40.2	
	1μm,0.3s,baz=139,slow=19,SNR=82						
JAY				LR	LR	22 35 04.0	
	comp=Z,280nm,21.6s,baz=250,slow=80						
FAKI	**Fak Fak**	**8.12**	**267**	Pn	**Pn**	**22 36 21.4**	**-0.5**
PMG	**Port Moresby**	**9.61**	**136**	LR	LR	22 42 01.7	
	comp=Z,74nm,19.6s,baz=86,slow=47						
COEN	**Coen**	**11.70**	**166**	Pn	**Pn**	**22 37 08.9**	**-2.1**
MTN	**Manton Dam**	**13.73**	**221**	Pn	**Pn**	**22 37 39.8**	**+1.0**
KNRA	**Kununurra**	**17.36**	**220**		**P**	**22 38 27.1**	**-0.4**
SOEI	**Soe**	**17.53**	**245**	Pn	**Pn**	**22 38 26.7**	**-1.9**
SOEI				IAmb	IAmb	22 38 38.6	
	comp=Z,32nm,1.0s						
WR0	**Warramunga Arr**	**18.24**	**198**		**P**	**22 38 38.5**	**+1.3**
WRAB	**Tennant Creek**	**18.27**	**198**		**Pn**	**22 38 38.3**	**+0.7**
WRA	**Warramunga Arr**	**18.29**	**198**	P	**P**	**22 38 37.7**	**0.0**
	comp=Z,0.5nm,0.3s,baz=19,slow=12,SNR=20						
SARN	**Sarigan**	**19.84**	**15**	P	**P**	**22 38 54.4**	**-0.4**
SARN				IAmb	IAmb	22 38 59.3	
	comp=Z,45nm,0.9s						
PATS	**Pohnpei**	**20.18**	**62**	P	**P**	**22 38 58.8**	**+0.3**
HNR	**Honiara**	**20.64**	**110**	P	**P**	**22 39 04.1**	**+0.6**
KAPI	**Kappang**	**20.71**	**263**	P	Pn	22 39 04.9	-1.9
FITZ	**Fitzroy Crossi**	**21.17**	**222**	P	**P**	**22 39 10.1**	**+0.9**
	comp=Z,8.3nm,1.1s,baz=46,slow=11,SNR=6.6						
FITZ	**Fitzroy Crossi**	**21.17**	**222**	P	**P**	**22 39 10.0**	**+0.9**
ASAR	**Alice Springs**	**21.93**	**196**	P	**P**	**22 39 17.4**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=28,slow=10,SNR=19						
EIDS	**Eidsvold**	**24.95**	**156**	P	**P**	**22 39 46.7**	**-0.4**
EIDS				IAmb	IAmb	22 39 55.5	
	comp=Z,21nm,1.1s						
SBUM	**Sibu**	**28.57**	**280**	P	**P**	**22 40 19.5**	**-0.3**
BBOO	**Buckleboo**	**30.40**	**187**	P	**P**	**22 40 35.3**	**-0.5**
BBOO				IAmb	IAmb	22 40 38.1	
	comp=Z,17nm,1.1s						
DZM	**Mont Dzumac**	**31.93**	**130**	P	**P**	**22 40 50.1**	**+0.5**
MJAR	**Matsushiro Arr**	**38.91**	**357**	LR	LR	22 55 13.9	
	comp=Z,69nm,19.8s,baz=100,slow=32						
GSI	**Gunungsitoli**	**42.95**	**275**	P	**P**	**22 42 23.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**45.79**	**299**	P	**P**	**22 42 45.6**	**0.0**
	comp=Z,1.5nm,0.4s,baz=126,slow=6.4,SNR=9.0						
USA0B	**Ussuriysk Arra**	**47.12**	**352**	P	**P**	**22 42 55.3**	**-0.3**
CASY	**Casey**	**67.01**	**193**	P	**P**	**22 45 16.4**	**+0.3**
CASY				IAmb	IAmb	22 45 23.4	
	comp=Z,3.9nm,1.1s						
MK31	**Makanchi Array**	**70.66**	**322**	P	**P**	**22 45 40.1**	**+0.9**
MK31				IAmb	IAmb	22 45 42.8	
	comp=Z,5.0nm,1.0s						
MKAR	**Makanchi Array**	**70.66**	**322**	P	**P**	**22 45 39.9**	**+0.6**
	comp=Z,4.3nm,0.8s,baz=110,slow=7.4,SNR=17						
MAKZ	**Makanchi**	**70.86**	**322**	P	**P**	**22 45 40.7**	**+0.3**
MAKZ				IAmb	IAmb	22 45 43.9	
	comp=Z,7.0nm,0.8s						
NIL	**Nilore**	**72.54**	**306**	P	**P**	**22 45 50.9**	**0.0**
NIL				IAmb	IAmb	22 45 54.1	
	comp=Z,6.6nm,1.1s						
ZALV	**Zalesovo Beam**	**72.61**	**329**	P	**P**	**22 45 50.6**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=101,slow=6.2,SNR=6.0						
KURK	**Kurchatov**	**74.52**	**324**	P	**P**	**22 46 01.3**	**-0.7**
KURK				IAmb	IAmb	22 46 03.4	
	comp=Z,5.0nm,1.1s						
GAR	**Garm**	**76.22**	**311**	P	**P**	**22 46 12.3**	**+0.1**
GAR				IAmb	IAmb	22 46 19.9	
	comp=Z,8.7nm,1.0s						
CHGR	**Chuyangaron**	**77.01**	**310**	P	**P**	**22 46 16.8**	**+0.1**
ILAR	**Eielson Array**	**84.98**	**24**	P	**P**	**22 46 57.9**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=261,slow=4.8,SNR=6.0						
TOLK	**Toolik Lake Re**	**85.17**	**20**	P	**P**	**22 47 00.3**	**+0.8**
GEYT	**Alibeck**	**85.42**	**308**	P	**P**	**22 47 02.3**	**+0.9**
	comp=Z,2.1nm,0.9s,baz=56,slow=3.6,SNR=4.9						
GLB	**Gilahina Butte**	**85.46**	**28**	P	**P**	**22 47 01.3**	**+0.3**
GLB				IAmb	IAmb	22 47 16.8	
	comp=Z,6.4nm,1.1s						
CRQM	**Cirque**	**85.61**	**29**	P	**P**	**22 47 01.4**	**-0.6**
HYT	**Haines Junctio**	**88.34**	**29**	P	**P**	**22 47 13.0**	**-2.2**
HYT				IAmb	IAmb	22 47 13.5	
	comp=Z,2.0nm,0.8s						
SYO	**Syowa Base**	**91.52**	**201**	*e*PcP	**PcP**	**22 47 34.2**	**+3.6**
DBIC	**Dimbokro**	**145.10**	**278**	PKP	**PKPdf**	**22 54 01.9**	**-0.2**
	comp=Z,3.9nm,0.8s,baz=71,slow=5.1,SNR=8.3						
CPUP	**Villa Florida**	**146.60**	**150**	PKPbc	**PKiKP**	**22 54 08.8**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=200,slow=6.2,SNR=3.8						

IDC 19 22:47:28.5±15.0, **28°.02N×140°.02E, h486**km±167km, **mb2.8/5, mb1 3.0/5, mb1mx2.7/34, mbtmp3.7/5, Error ellipse: s-maj=156.2km s-min=17.0km az=73.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**32.72**	**316**	P	P	22 53 19.8	-0.1
	0.4nm,0.4s,baz=131,slow=7.5,SNR=3.3						
WRA	**Warramunga Arr**	**48.00**	**187**	P	P	22 55 22.4	-0.2
	0.3nm,0.3s,baz=6.3,slow=7.6,SNR=6.4						
MKAR	**Makanchi Array**	**48.40**	**309**	P	P	22 55 25.3	-0.1
	0.4nm,0.3s,baz=89,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**51.73**	**187**	P	P	22 55 50.1	0.0
	0.3nm,0.4s,baz=359,slow=6.0,SNR=4.2						
FINES	**FINESS Array B**	**76.26**	**333**	P	P	22 58 26.2	0.0
	0.7nm,0.4s,baz=79,slow=7.2,SNR=6.9						

*ISCJB **19** 22:56:16.8±0.6, 6°.31S±0°.09×105°.20E±0°.08, h10km, mb3.8/7, Error ellipse: s-maj=16.2km s-min=4.8km az=42.1*

*IDC **19** 22:56:16.8±1.4, 6°.28S×105°.02E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/32, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=65.3km s-min=17.0km az=47.0*

*DJA **19** 22:56:17.2±0.6, 6°.S±7°×10°.5E±°, h11km±5km, M3.9/10, MLv3.9/10*

*NEIC **19** 22:56:24.9±2.4, 6°.2S±0°.2×105°.3E±0°.1, h65km±4km, mb4.1/5*

ISC 19 22:56:18.0±0.7, **6°.23S**±0°.07×**105°.30E**±0°.06, **h10**km, **n35, σ1s54/32, mb3.9/9, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.55**	**134**	P	**Pg**	**22 56 27.8**	**-0.9**
BLSI	**Bandar Lampung**	**0.86**	**357**	P	**Pb**	**22 56 34.9**	**-0.1**
KASI	**Kota Agung**	**1.06**	**311**	P	**Pb**	**22 56 37.8**	**-0.6**
TNG	**Tangerang**	**1.34**	**88**	P	**Pg**	**22 56 43.6**	**-0.2**
SKJI	**Sukabumi**	**1.47**	**122**	P	**Pn**	**22 56 43.3**	**-1.2**
DBJI	**Dramaga**	**1.48**	**103**	P	**Pn**	**22 56 43.1**	**-1.6**
CBJI	**Citeko**	**1.56**	**97**	P	**Pg**	**22 56 46.9**	**-1.0**
KLSI		**1.63**	**340**	P	**Pn**	**22 56 46.3**	**-0.4**
LWLI	**Liwa**	**1.72**	**314**	P	**Pn**	**22 56 48.1**	**0.0**
MDSI	**Maura Dua**	**2.06**	**327**	P	**Pn**	**22 56 50.7**	**-1.9**
CNJI	**Cibinong**	**2.11**	**121**	P	**Pn**	**22 56 52.0**	**-1.4**
LEM	**Lembang**	**2.38**	**105**	Pn	**Pg**	**22 57 02.2**	**-1.5**
	17nm,0.3s,baz=193,slow=12,SNR=17						
LEM	**Lembang**	**2.38**	**105**	P	**Pn**	**22 56 56.0**	**-1.2**
CISI	**Cisompet, Garu**	**2.83**	**118**	P	**Pn**	**22 57 02.3**	**-1.0**
CISI	**Cisompet, Garu**	**2.83**	**118**		**Pb**	**22 57 06.7**	**-1.9**
LHSI	**Lahat**	**2.97**	**323**	P	**Pn**	**22 57 05.4**	**+0.2**
MNAI	**Manna**	**2.98**	**308**	Pn	**Pb**	**22 57 09.8**	**-1.3**
PMBI	**Palembang**	**3.32**	**351**	Pn	**Pb**	**22 57 14.9**	**-2.1**
CMJI	**Cimerak**	**3.49**	**116**	P	**Pn**	**22 57 14.1**	**+1.8**
SMRI	**Semarang**	**5.17**	**99**	Pn	**Pn**	**22 57 39.3**	**+3.8**
UGM	**Wanagama**	**5.45**	**108**	Pn	Pn	22 57 43.5	+4.2
PSAC2	**Pilbara Seismi**	**20.79**	**139**	P	Pn	23 01 01.1	-0.8
PSAC2				IAmb	IAmb	23 01 04.1	
	comp=Z,10.0nm,1.1s						
PBA	**Port Blair**	**21.72**	**325**	P	P	23 01 09.7	+0.2
FITZ	**Fitzroy Crossi**	**23.09**	**123**	P	**P**	**23 01 24.9**	**+0.8**
FITZ				IAmb	IAmb	23 01 30.1	
	comp=Z,4.7nm,1.1s						
KNRA	**Kununurra**	**24.85**	**114**	P	**P**	**23 01 39.2**	**-1.7**
KNRA				IAmb	IAmb	23 01 43.1	
	comp=Z,14nm,0.8s						
CMAR	**Chiang Mai Arr**	**25.32**	**346**	P	**P**	**23 01 47.1**	**+2.1**
	comp=Z,0.7nm,0.3s,baz=178,slow=8.1,SNR=4.1						
WRA	**Warramunga Arr**	**31.33**	**119**	P	**P**	**23 02 39.9**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=303,slow=9.1,SNR=6.5						
ASAR	**Alice Springs**	**32.51**	**125**	P	**P**	**23 02 51.2**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=301,slow=8.3,SNR=7.6						
STKA	**Stephens Creek**	**42.41**	**132**	P	**P**	**23 04 15.5**	**+2.5**
	comp=Z,3.3nm,0.6s,baz=298,slow=8.3,SNR=4.2						
STKA	**Stephens Creek**	**42.41**	**132**	P	**P**	**23 04 14.4**	**+1.4**
MKAR	**Makanchi Array**	**56.60**	**341**	P	**P**	**23 06 00.2**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=146,slow=9.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**62.38**	**347**	P	**P**	**23 06 39.8**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=117,slow=8.3,SNR=3.1						
BRTR	**Keskin Array B**	**80.06**	**312**	P	**P**	**23 08 28.9**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=131,slow=5.9,SNR=3.8						
ADK	**Adak**	**87.52**	**37**	P	**P**	**23 09 04.7**	**-1.3**
TXAR	**Lajitas Array**	**144.30**	**46**	PKP	**PKPdf**	**23 15 55.3**	**+0.1**
	comp=Z,1.0nm,1.0s,baz=349,slow=2.6,SNR=4.5						

*IDC **19** 22:56:45.9±3.1, 5°.66S×106°.16E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/30, mbtmp3.9/4, Error ellipse: s-maj=183.8km s-min=24.9km az=52.0*

*ISCJB **19** 22:56:54.3±0.6, 5°.8S±0°.1×106°.01E±0°.10, h100km, mb3.8/4, Error ellipse: s-maj=19.2km s-min=7.7km az=41.1*

*NEIC **19** 22:56:54.3±1.6, 5°.8S±0°.1×106°.1E±0°.1, h71km±4km, mb4.3/4*

ISC 19 22:56:55.5±0.8, **5°.8S**±0°.1×**106°.1E**±0°.1, **h100**km, **n18, σ1s74/15, mb3.8/5, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**2.48**	**136**	Pn	**Pn**	**22 57 31.6**	**-2.8**
MNAI	**Manna**	**3.40**	**294**	Pn	**Pn**	**22 57 44.6**	**-2.1**
SBUM	**Sibu**	**10.22**	**37**	Pn	**Pn**	**22 59 18.2**	**-1.0**
GSI	**Gunungsitoli**	**11.01**	**309**	Pn	**Pn**	**22 59 30.4**	**+0.3**
KULM	**Kulim**	**12.25**	**334**	Pn	**Pn**	**22 59 45.6**	**-0.9**
LHMI	**Lhok Sumawe**	**14.22**	**320**	Pn	**Pn**	**23 00 13.2**	**+0.8**
PSAD2	**Pilbara Seismi**	**20.72**	**141**	P	**P**	**23 01 26.8**	**-1.2**
PSAD2				IAmb	IAmb	23 01 33.2	
	comp=Z,8.7nm,1.0s						
FITZ	**Fitzroy Crossi**	**22.70**	**124**	P	**P**	**23 01 50.3**	**+1.3**
KNRA	**Kununurra**	**24.35**	**116**	P	**P**	**23 02 06.1**	**+1.8**
PALK	**Pallekele**	**28.43**	**297**	P	**P**	**23 02 40.1**	**-1.0**
PALK				IAmb	IAmb	23 02 45.9	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**30.88**	**120**	P	**P**	**23 03 04.5**	**+1.7**
	comp=Z,1.6nm,0.8s,baz=294,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**32.16**	**126**	P	**P**	**23 03 15.5**	**+1.5**
	comp=Z,1.1nm,0.9s,baz=297,slow=8.3,SNR=4.0						
H08S2	**Diego Garcia H**	**33.39**	**265**	T	T	23 37 29.1	
	baz=90,slow=75,SNR=9.7						
H08S3	**Diego Garcia H**	**33.40**	**265**	T	T	23 37 30.5	
	baz=90,slow=75,SNR=3.7						
H08S1	**Diego Garcia H**	**33.41**	**265**	T	T	23 37 30.9	
	baz=90,slow=75,SNR=2.2						
STKA	**Stephens Creek**	**42.15**	**133**	P	**P**	**23 04 40.0**	**+1.7**
	comp=Z,2.8nm,0.6s,baz=305,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**56.42**	**341**	P	**P**	**23 06 28.8**	**+2.1**
	comp=Z,0.8nm,1.0s,baz=141,slow=9.3,SNR=3.3						
TXAR	**Lajitas Array**	**143.43**	**47**	PKP	**PKiKP**	**23 16 21.6**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=326,slow=4.7,SNR=2.7						

*ISCJB **19** 23:18:01.0±0.6, 1°.71S±0°.06×99°.23E±0°.06, h25km, mb3.8/4, Error ellipse: s-maj=10.9km s-min=5.3km az=140.6*

*IDC **19** 23:18:01.3±3.5, 1°.46S×99°.44E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/24, mbtmp3.8/4, Error ellipse: s-maj=145.2km s-min=26.5km az=55.0*

*DJA **19** 23:18:03.6±0.4, 1°.S±4°×9°9E±°, h11km±4km, M3.8/6, MLv3.8/6*

*NEIC **19** 23:18:05.5±2.6, 1°.63S±0°.08×99°.29E±0°.10, h42km±8km, mb4.4/15*

ISC 19 23:18:03.3±0.6, **1°.56S**±0°.05×**99°.29E**±0°.06, **h25**km, **n43, σ1s63/38, mb4.2/13, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.30**	**320**	P	**Pb**	**23 18 10.4**	**0.0**
SISI				S	**Sb**	**23 18 14.0**	**-1.3**
PDSI	**Padang**	**1.34**	**61**	P	**Pn**	**23 18 26.0**	**-0.5**
PPSI	**Pulau Pagai**	**1.40**	**149**	P	**Pb**	**23 18 29.6**	**+0.9**
PPSI				S	**Sb**	**23 18 49.4**	**+3.3**
PBSI	**Pulau Batu**	**1.80**	**326**	S	**Sn**	**23 18 56.0**	**+1.1**
SDSI	**Sungai Dareh**	**2.23**	**74**	P	**Pn**	**23 18 40.7**	**+2.0**
BKNI	**Bangkinang**	**2.57**	**43**	P	**Pb**	**23 18 49.3**	**+0.6**
BKNI	**Bangkinang**	**2.57**	**43**	Pn	**Pn**	**23 18 45.7**	**+2.3**
GSI	**Gunungsitoli**	**3.32**	**329**	Pn	**Pn**	**23 18 56.1**	**+2.3**
RPSI	**Rantau Prapat**	**4.25**	**355**	Pn	**Pn**	**23 19 09.0**	**+2.6**
MNAI	**Manna**	**4.60**	**127**	P	**Pn**	**23 19 13.7**	**+2.4**
MNAI	**Manna**	**4.60**	**127**	Pn	**Pn**	**23 19 12.8**	**+1.5**
MYKOM	**Kota Tinggi**	**5.65**	**54**	Pn	**Pn**	**23 19 26.5**	**+0.7**
IPM	**Ipoh**	**6.25**	**16**	Pn	**Pn**	**23 19 37.0**	**+2.9**
KULM	**Kulim**	**6.94**	**11**	Pn	**Pn**	**23 19 45.9**	**+2.3**
KSM	**Kuching**	**11.43**	**75**	Pn	**Pn**	**23 20 43.9**	**-1.2**
UGM	**Wanagama**	**12.85**	**120**	Pn	**Pn**	**23 21 04.3**	**-0.2**
SBUM	**Sibu**	**13.53**	**73**	Pn	Pn	23 21 10.2	-3.7
CHTO	**Chiang Mai**	**20.25**	**359**	P	**P**	**23 22 38.0**	**+1.0**
H08S2	**Diego Garcia H**	**27.37**	**256**	T	T	23 51 51.3	
	baz=78,slow=75,SNR=43						
H08S3	**Diego Garcia H**	**27.37**	**256**	T	T	23 51 43.1	
	baz=78,slow=75,SNR=42						
H08S1	**Diego Garcia H**	**27.39**	**256**	T	T	23 51 44.2	
	baz=78,slow=75,SNR=38						
TNTI	**Ternate**	**28.18**	**85**	P	**P**	**23 23 52.4**	**-1.7**
FITZ	**Fitzroy Crossi**	**30.65**	**124**	P	**P**	**23 24 13.7**	**-2.3**
FITZ				IAmb	IAmb	23 24 30.1	
	comp=Z,2.6nm,1.0s						
NWAO	**Narrogin (SRO)**	**35.47**	**153**	P	**P**	**23 24 56.6**	**-1.3**
NWAO				IAmb	IAmb	23 25 07.1	
	comp=Z,17nm,1.1s						
H01W3	**Cape Leeuwin H**	**35.92**	**159**	T	T	00 02 52.0	
	baz=334,slow=76,SNR=17						
H01W2	**Cape Leeuwin H**	**35.94**	**159**	T	T	00 02 52.9	
	baz=334,slow=76,SNR=15						
H01W1	**Cape Leeuwin H**	**35.94**	**159**	T	T	00 02 53.2	
	baz=334,slow=76,SNR=15						
WRA	**Warramunga Arr**	**38.83**	**120**	P	**P**	**23 25 27.6**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=302,slow=9.5,SNR=9.4						
COEN	**Coen**	**45.10**	**108**	P	**P**	**23 26 17.7**	**-0.3**
COEN				IAmb	IAmb	23 26 21.5	
	comp=Z,8.7nm,1.1s						
KBL	**Kabul**	**45.77**	**325**	P	**P**	**23 26 24.0**	**+0.8**
SOCY	**Socotra**	**47.01**	**288**	P	**P**	**23 26 32.6**	**-0.5**
TARG	**Taragay, Kyrgy**	**47.29**	**338**	P	**P**	**23 26 35.2**	**0.0**
TARG				IAmb	IAmb	23 26 50.7	
	comp=Z,3.4nm,0.7s						
KDJ	**Kajisay**	**47.87**	**338**	P	**P**	**23 26 38.2**	**-1.3**
KDJ				IAmb	IAmb	23 26 43.0	
	comp=Z,7.7nm,0.8s						
ARSB	**Arslanbob**	**48.92**	**334**	P	**P**	**23 26 48.2**	**+0.7**
ARSB				IAmb	IAmb	23 26 50.2	
	comp=Z,2.2nm,0.8s						
SONM	**Songino Array**	**49.59**	**6**	P	**P**	**23 26 53.8**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=196,slow=8.2,SNR=2.2						
HRA	**Herat**	**49.86**	**319**	P	**P**	**23 26 52.1**	**-2.9**
HRA				IAmb	IAmb	23 27 04.0	
	comp=Z,2.3nm,0.9s						
STKA	**Stephens Creek**	**49.97**	**132**	P	**P**	**23 26 54.2**	**-1.4**
MK31	**Makanchi Array**	**50.42**	**345**	P	**P**	**23 27 00.1**	**+1.3**
MK31				IAmb	IAmb	23 27 02.1	
	comp=Z,2.3nm,1.1s						
MKAR	**Makanchi Array**	**50.42**	**345**	P	**P**	**23 27 00.2**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=158,slow=8.6,SNR=14						
MAKZ	**Makanchi**	**50.52**	**345**	P	**P**	**23 27 00.6**	**+1.1**
MAKZ				IAmb	IAmb	23 27 13.4	
	comp=Z,4.0nm,1.1s						
INU	**Inuyama**	**50.90**	**40**	P	**P**	**23 27 02.7**	**+0.1**
ZALV	**Zalesovo Beam**	**56.61**	**350**	P	**P**	**23 27 45.0**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=179,slow=7.1,SNR=6.5						
TXAR	**Lajitas Array**	**144.78**	**36**	PKP	**PKPdf**	**23 37 39.8**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=228,slow=1.2,SNR=6.6						

*SOF **19** 23:24:57.9, 42°.52N×24°.01E, h20km, MD2.7*

*BEO **19** 23:24:58.7±0.8, 42°.52N×24°.05E, h3km±3km, ML2.5/10*

*THE **19** 23:24:58.8, 42°.70N±24°.02E, h20km±7km, ML2.7/5, Error ellipse: s-maj=9.6km s-min=1.1km az=357.0*

ISC 19 23:24:59.3±1.0, **42°.53N**±0°.02×**24°.01E**±0°.02, **h8**km±8km, **n59, σ1s16/97, 29C-20D, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGB	**Panagyurishte**	**0.12**	**80**	*i* Pg	**Pg**	**23 25 02.5**	**+0.5**
VTS	**Vitosha**	**0.58**	**279**	*e*Pg	**Pg**	**23 25 10.1**	**-0.5**
VTS				*e*Sg	**Sg**	**23 25 17.6**	**-0.6**
VTS	**Vitosha**	**0.58**	**279**	*i* Pg	**Pg**	**23 25 10.0**	**-0.5**
VTS	**Vitosha**	**0.58**	**279**	⇓P	**Pg**	**23 25 09.7**	**-0.9**
VTS				⇑S	**Sg**	**23 25 17.7**	**-0.4**
PLD	**Plovdiv**	**0.67**	**129**	*i* Pg	**Pg**	**23 25 11.7**	**-0.4**
KKB	**Krupnik**	**0.95**	**226**	*i* Pg	**Pg**	**23 25 17.3**	**-0.3**
MMB	**Musomiste**	**0.96**	**193**	*i* Pg	**Pb**	**23 25 18.2**	**0.0**
PLVB	**Pleven**	**0.97**	**27**	⇑P	**Pg**	**23 25 18.1**	**+0.2**
PLVB				⇑S	**Sb**	**23 25 32.0**	**+0.8**
RZN	**Rozhen**	**0.99**	**148**	*i* Pg	**Pg**	**23 25 17.4**	**-0.9**
BOSS	**Bosilegrad**	**1.13**	**269**	*e*Pg	**Pg**	**23 25 20.7**	**-0.3**
BOSS				*e*Sg	**Sg**	**23 25 36.0**	**+0.3**
NVR	**Nevrokopi**	**1.18**	**185**	P	**Pb**	**23 25 21.8**	**-0.2**
NVR				S	**Sn**	**23 25 39.5**	**+1.1**
	455nm,0.3s						
PVL	**Pavlikeni**	**1.19**	**54**	*i* Pg	**Pb**	**23 25 19.5**	**-2.6**
ZAPS	**Zavoj**	**1.26**	**307**	*e*Pg	**Pn**	**23 25 23.2**	**0.0**
ZAPS				*e*Sg	**Sg**	**23 25 40.1**	**+0.4**
KDZ	**Kurdzhali**	**1.37**	**130**	*i* P	**Pn**	**23 25 23.6**	**-1.0**
ELND	**Elena**	**1.43**	**73**	⇓P	**Pn**	**23 25 25.2**	**-0.3**
ELND				⇓S	**Sg**	**23 25 46.4**	**+1.1**
ELND				AML	AML	23 25 48.0	
BLKB	**Belogradchik**	**1.47**	**319**	⇑S	**Sn**	**23 25 44.5**	**-1.0**
VLAD	**Vladila**	**1.50**	**11**	⇓P	**Pb**	**23 25 27.6**	**+0.3**
VLAD				⇓S	**Sg**	**23 25 47.9**	**+0.4**
VLAD				AML	AML	23 25 49.0	
ZIMR		**1.50**	**41**	⇓P	**Pb**	**23 25 27.5**	**+0.1**
ZIMR				⇑S	**Sg**	**23 25 48.0**	**+0.4**
ZIMR				AML	AML	23 25 48.8	
BAIL	**Bailesti**	**1.57**	**342**	⇓S	**Sg**	**23 25 51.1**	**+1.4**
BAIL				AML	AML	23 25 51.8	
KAVA	**Kavala**	**1.58**	**166**	P	**Pn**	**23 25 27.6**	**+0.1**
KAVA				S	**Sg**	**23 25 50.0**	**+0.1**
	105nm,0.4s						
KNT	**Kendrikon**	**1.60**	**212**	P	**Pn**	**23 25 27.8**	**0.0**
KNT				S	**Sb**	**23 25 50.0**	**+0.6**
	208nm,0.3s						
VAY	**Valandovo**	**1.62**	**222**	*e*Pn	**Pn**	**23 25 28.1**	**+0.1**
VAY				*e*Sg	**Sb**	**23 25 50.2**	**+0.4**
BARS	**Barje**	**1.64**	**281**	*e*Pg	**Pn**	**23 25 28.7**	**+0.2**
BARS	**Barje**	**1.64**	**281**	*e*Pn	**Pg**	**23 25 34.4**	**+3.6**
BARS				*e*Sg	**Sb**	**23 25 51.4**	**+0.7**
BARS				*e*Sn	Sg	23 26 03.6	+11
SOH	**Sokhos**	**1.77**	**196**	P	**Pn**	**23 25 30.0**	**-0.3**
RDO	**Rodhopi**	**1.79**	**140**	P	**Pn**	**23 25 29.7**	**-0.7**
RDO				S	**Sn**	**23 25 53.8**	**+0.5**
	135nm,0.2s						
ZAGS	**Zajecar**	**1.83**	**315**	*e*Pn	**Pn**	**23 25 30.2**	**-0.8**
ZAGS				*e*Sg	**Sb**	**23 25 56.3**	**+0.4**
COPA	**Copaceanca**	**1.83**	**28**	⇓P	**Pb**	**23 25 32.8**	**-0.2**
COPA				⇓S	**Sg**	**23 25 57.7**	**-0.4**
COPA				AML	AML	23 25 59.1	
PUNG	**Punghina**	**1.92**	**336**	⇑P	**Pn**	**23 25 30.9**	**-1.3**
PUNG				⇑S	**Sb**	**23 25 59.3**	**+0.8**
PUNG				AML	AML	23 26 01.7	
GRG	**Griva**	**1.98**	**218**	P	**Pn**	**23 25 32.6**	**-0.5**
GRG				S	**Sn**	**23 25 58.6**	**+0.5**
	75nm,0.6s						
THAS	**Thassos island**	**1.99**	**164**	P	**Pn**	**23 25 32.6**	**-0.6**

PAJU	**Pajala**	**1.01**	**96**	*eP*		**Pg**	00 04 28.1	-0.3		
LANU	**Lannavaara**	**1.06**	**31**	P		**Pg**	**00 04 28.6**	**-0.9**		
LANU	**Lannavaara**	**1.06**	**31**	*eP*		**Pg**	**00 04 28.6**	**-0.9**		
KOVU	**Salmi**	**1.09**	**352**	P		**Pg**	**00 04 29.5**	**-0.6**		
KOVU	**Salmi**	**1.09**	**352**	*eP*		**Pg**	**00 04 29.5**	**-0.6**		
SJUU	**Sjulsmark**	**1.70**	**165**	P		**Pn**	**00 04 41.2**	**+1.3**		
SJUU				S		**Sb**	**00 05 04.2**	**+1.2**		
SJUU	**Sjulsmark**	**1.70**	**165**	*eP*		**Pn**	**00 04 41.2**	**+1.3**		
SJUU				*eS*		**Sb**	**00 05 04.2**	**+1.2**		
KALU	**Kalix**	**1.71**	**138**	*eP*		**Pn**	**00 04 40.7**	**+0.6**		
KALU				*eS*		**Sn**	**00 05 03.5**	**+0.8**		
HEF	**Hetta**	**1.73**	**42**	Pg		**Pn**	**00 04 40.5**	**0.0**		
HEF				Lg		Lg	00 05 02.2			
HEF	**Hetta**	**1.73**	**42**	*eP*		**Pn**	**00 04 40.2**	**-0.3**		
HEF				*eS*		**Sn**	**00 05 02.0**	**-1.3**		
HEF				MSG			00 05 05.9			
	comp=Z,11nm,0.1s									
HEF	**Hetta**	**1.73**	**42**	Pg		**Pn**	**00 04 40.5**	**0.0**		
TOF	**Tornio**	**1.85**	**124**	*eP*		**Pn**	**00 04 43.1**	**+1.1**		
TOF				*eSG*		**Sb**	**00 05 07.9**	**+0.6**		
TOF				MSG			00 05 10.0			
	comp=Z,27nm,0.3s									
KIF	**Kilpisjarvi**	**1.87**	**3**	Pn		**Pb**	**00 04 43.5**	**-0.6**		
KIF				Sn		**Sb**	**00 05 08.2**	**+0.2**		
KIF	**Kilpisjarvi**	**1.87**	**3**	*eP*		**Pn**	**00 04 43.3**	**+1.0**		
KIF				*eS*		**Sb**	**00 05 08.1**	**0.0**		
KIF				MSG			00 05 10.7			
	comp=Z,17nm,0.2s									
KIF	**Kilpisjarvi**	**1.87**	**3**	Pn		**Pb**	**00 04 43.5**	**-0.6**		
KIF				Sn		**Sb**	**00 05 08.2**	**+0.2**		
KTK1	**Kautokeino**	**2.13**	**27**	Pn		**Pn**	**00 04 47.3**	**+1.4**		
KTK1				Sn		**Sn**	**00 05 13.6**	**+0.5**		
KTK1	**Kautokeino**	**2.13**	**27**	*eP*		**Pn**	**00 04 47.4**	**+1.5**		
KTK1				*eS*		**Sn**	**00 05 13.2**	**+0.1**		
KTK1				IAML			00 05 17.9			
	comp=Z,28nm,0.4s									
STEI	**Steigen**	**2.19**	**294**	Pn		**Pn**	**00 04 48.5**	**+1.8**		
STEI				Pg		**Pb**	**00 04 50.6**	**+1.1**		
STEI				Sn		**Sb**	**00 05 17.6**	**+0.5**		
STEI				Lg		Lg	00 05 19.7			
STEI	**Steigen**	**2.19**	**294**	*eP*		**Pb**	**00 04 49.1**	**-0.4**		
STEI				IAML			00 05 24.8			
	comp=Z,20nm,0.8s									
RNF	**Rovaniemi**	**2.22**	**101**	*ePG*		**Pb**	**00 04 49.5**	**-0.6**		
SGF	**Sodankyl**	**2.34**	**80**	*eP*		**Pn**	**00 04 49.7**	**+1.0**		
SGF				*eSG*		**Sb**	**00 05 21.2**	**-0.2**		
TRO	**Tromso**	**2.57**	**347**	Pn		**Pn**	**00 04 53.5**	**+1.5**		
TRO				Sn		**Sn**	**00 05 25.2**	**+1.4**		
TRO				Lg		Lg	00 05 28.8			
TRO	**Tromso**	**2.57**	**347**	*eP*		**Pn**	**00 04 53.4**	**+1.5**		
TRO				*eS*		**Sn**	**00 05 25.9**	**+2.1**		
TRO				IAML			00 05 30.7			
	comp=Z,14nm,0.3s									
BURU	**Burvik**	**2.59**	**172**	*eP*		**Pn**	**00 04 54.6**	**+2.4**		
MOR8	**Moi Rana**	**2.62**	**251**	*eP*		**Pn**	**00 04 54.4**	**+1.7**		
MOR8				*eS*		**Sn**	**00 05 23.0**	**-2.2**		
MOR8				IAML			00 05 30.3			
	comp=Z,16nm,0.4s									
LOF	**Lofoten**	**2.86**	**294**	Sn		**Sn**	**00 05 33.2**	**+2.3**		
LOF				Lg		Lg	00 05 42.1			
LOF	**Lofoten**	**2.86**	**294**	*eP*		**Pb**	**00 05 01.3**	**+0.3**		
LOF				*eS*		**Sn**	**00 05 33.4**	**+2.5**		
LOF				IAML			00 05 45.7			
	comp=Z,11nm,0.5s									
OUL	**Oulu**	**3.00**	**131**	*eP*		**Pn**	**00 04 59.3**	**+1.4**		
ARA0	**ARCESS Array S**	**3.02**	**35**	Pn		**Pn**	**00 04 58.4**	**+0.1**		
	baz=210,slow=14									
ARA0				Sn		**Sn**	**00 05 34.8**	**-0.3**		
	baz=212,slow=22									
ARA0	**ARCESS Array S**	**3.02**	**35**	Pn		**Pn**	**00 04 58.4**	**+0.1**		
	baz=210,slow=14									
ARA0				Sn		**Sn**	**00 05 34.8**	**-0.3**		
	baz=212,slow=22									
ARCES	**ARCESS Array B**	**3.02**	**35**	Pn		**Pn**	**00 04 58.7**	**+0.5**		
	comp=Z,1.1nm,0.3s,baz=216,slow=12,SNR=39									
ARCES				Sn		**Sn**	**00 05 36.0**	**+0.9**		
	comp=Z,1.1nm,0.3s,baz=221,slow=23,SNR=7.1									
OUF	**Merijarvi**	**3.28**	**146**	*eP*		**Pn**	**00 05 02.9**	**+1.3**		
OUF				*eSG*		**Sb**	**00 05 51.9**	**+3.4**		
OUF				MSG			00 05 59.9			
	comp=Z,5.5nm,0.3s									
KEV	**Kevo**	**3.54**	**39**	Pn		**Pn**	**00 05 05.7**	**+0.5**		
KEV				Sn		**Sn**	**00 05 45.8**	**-2.0**		
KEV	**Kevo**	**3.54**	**39**	*eP*		**Pn**	**00 05 05.8**	**+0.5**		
KEV				MSG			00 06 00.1			
	comp=Z,3.1nm,0.2s									
KEV	**Kevo**	**3.54**	**39**	Pn		**Pn**	**00 05 05.7**	**+0.5**		
KEV				Sn		**Sn**	**00 05 45.8**	**-2.0**		
VRF	**Varrio**	**3.54**	**76**	*eP*		**Pn**	**00 05 05.9**	**+0.5**		
KU6	**Riekki**	**3.89**	**102**	*eP*		**Pn**	**00 05 11.0**	**+0.9**		
VAF	**Ylistaro**	**4.21**	**167**	*eP*		**Pn**	**00 05 16.8**	**+2.3**		
VAF				*eSG*		**Sg**	**00 06 21.2**	**-3.1**		
VAF				MSG			00 06 25.1			
	comp=Z,5.4nm,0.4s									
APA0	**Apatity Array**	**4.83**	**79**	Pn		**Pn**	**00 05 22.4**	**-0.5**		
	baz=274,slow=11									
APA0				Sn		**Sn**	**00 06 16.6**	**-2.9**		
	baz=275,slow=28									
APA0				Lg		Lg	00 06 36.2			
	baz=272,slow=28									
APA0	**Apatity Array**	**4.83**	**79**	Pn		**Pn**	**00 05 22.4**	**-0.5**		
	baz=274,slow=11									
APA0				Sn		**Sn**	**00 06 16.6**	**-2.9**		
	baz=275,slow=28									
APA0				Sg		**Sb**	**00 06 36.2**	**+3.2**		
	baz=272,slow=28									
FIA0	**FINESS Array S**	**6.21**	**155**	Pn		**Pn**	**00 05 43.7**	**+1.8**		
	baz=346,slow=14									
FIA0				Sn		**Sn**	**00 06 52.4**	**-0.9**		
	baz=342,slow=28									
FIA0				Lg		Lg	00 07 20.0			
	baz=349,slow=22									
FIA0	**FINESS Array S**	**6.21**	**155**	Pn		**Pn**	**00 05 43.7**	**+1.8**		
	baz=346,slow=14									
FIA0				Sg		**Sb**	**00 07 20.0**	**+7.4**		
	baz=349,slow=22									
FINES	**FINESS Array B**	**6.21**	**155**	Pn		**Pn**	**00 05 43.6**	**+1.8**		
	comp=Z,0.1nm,0.3s,baz=347,slow=12,SNR=5.8									
FINES				Sn		**Sn**	**00 06 53.5**	**+0.1**		
	comp=Z,0.4nm,0.3s,baz=346,slow=21,SNR=8.4									
FINES				Lg		Lg	00 07 24.2			
	comp=Z,0.9nm,0.3s,baz=343,slow=28,SNR=7.8									
NB2	**NORSAR Subarra**	**7.36**	**218**	Pn		**Pn**	**00 05 59.8**	**+2.1**		
	baz=27,slow=14									
NB2				Sn		**Sn**	**00 07 20.3**	**-1.5**		
NB2				Lg		Lg	00 08 00.8			
NB2	**NORSAR Subarra**	**7.36**	**218**	Pn		**Pn**	**00 05 59.8**	**+2.1**		
	baz=27,slow=14									
NB2				Sn		**Sn**	**00 07 20.3**	**-1.5**		
NB2				Sg		**Sg**	**00 08 00.8**	**-4.4**		
NOA	**NORSAR Array B**	**7.36**	**218**	Pn		**Pn**	**00 05 59.9**	**+2.1**		
	comp=Z,0.0nm,0.3s,baz=24,slow=11,SNR=3.0									
NRA0	**NORESS Array S**	**7.55**	**216**	Sn		**Sn**	**00 07 24.7**	**-1.8**		
	baz=34,slow=22									
NRA0				Lg		Lg	00 08 07.8			
	baz=14,slow=37									
NRA0	**NORESS Array S**	**7.55**	**216**	Sn		**Sn**	**00 07 24.7**	**-1.8**		
	baz=34,slow=22									
NRA0				Sg		**Sg**	**00 08 07.8**	**-3.5**		
	baz=14,slow=37									
HFS	**Hagfors**	**7.67**	**207**	Pn		**Pn**	**00 06 02.3**	**+0.4**		
	baz=16,slow=14									
HFS				Sn		**Sn**	**00 07 26.9**	**-2.4**		
	baz=26,slow=22									
HFS				Lg		Lg	00 08 09.9			
	baz=30,slow=37									
HFS	**Hagfors**	**7.67**	**207**	Pn		**Pn**	**00 06 02.5**	**+0.6**		
	comp=Z,0.1nm,0.3s,baz=20,slow=17,SNR=4.8									
HFS				Sn		**Sn**	**00 07 26.8**	**-2.5**		
	comp=Z,0.2nm,0.3s,baz=23,slow=24,SNR=4.2									
HFS	**Hagfors**	**7.67**	**207**	Pn		**Pn**	**00 06 02.3**	**+0.4**		
	baz=16,slow=14									
HFS				Sn		**Sn**	**00 07 26.9**	**-2.4**		
	baz=26,slow=22									
HFS				Sg		**Sg**	**00 08 09.9**	**-5.1**		
	baz=30,slow=37									
LSH	**Leshukonskoye**	**10.47**	**91**	*eP*		Pn	00 06 35.6	-4.6		
	comp=Z,54nm,2.8s									

BJI 20 00:11:28.0±0.0, 49°43N×122°95E, h6km, ML4.0/6, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**5.89**	**162**	*eP*g	Pg	00 13 19.9	-0.8
CN2				*eS*g	Sg	00 14 35.0	-1.9
CN2				smax	smax		
	comp=N,50nm,1.0s						
CN2				smax	smax		
	comp=E,50nm,1.0s						
WMQ	**Urumqi**	**24.70**	**270**	*eP*	P	00 16 53.1	+3.4

*SOME **20** 00:13:02.3, 42°.03N×81°.05E, h0km*
*KRNET **20** 00:13:02.1±0.1, 40°.76N×77°.68E, h35km, mb2.2*
ISC 20 00:13:03.1±3.7, 40°.7N±0°.2×77°.7E±0°.1, h35km, n7, σ2s19/13, 8C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.01**	**5**	⇑*i*P	**Pn**	**00 13 20.8**	**-0.4**
TARG	baz=5.0			⇑*i*S	**Sn**	**00 13 34.2**	**-0.2**
KDJ	**Kajisay**	**1.46**	**345**	⇑*i*P	**Pn**	**00 13 26.8**	**-0.3**
KDJ	baz=45			⇑*i*S	**Sn**	**00 13 45.0**	**-0.1**
NRN	**Naryn**	**1.46**	**300**	⇑*i*P	**Pn**	**00 13 27.4**	**+0.1**
NRN	baz=98			⇑*i*S	**Sn**	**00 13 45.8**	**+0.4**
BOOM	**Boomskoye usch**	**2.20**	**324**	⇑*i*P	**Pn**	**00 13 37.0**	**-0.3**
BOOM	baz=24			⇑*i*S	**Sn**	**00 14 02.9**	**-0.5**
SATY	**Saty**	**2.40**	**13**	*eP*	Pn	00 13 44.1	+4.1
SATY	1.8nm,0.2s 2.4nm,0.1s			*eS*	**Sn**	**00 14 14.2**	**+6.0**
ARLS	**Aral**	**2.78**	**295**	⇓*i*P	**Pn**	**00 13 45.4**	**+0.1**
ARLS	baz=95			⇓*i*S	**Sn**	**00 14 17.5**	**-0.2**
KPKS	**Kokpek**	**2.84**	**15**	*eP*	**Pn**	**00 13 45.2**	**-0.8**
KPKS	2.4nm,0.1s 4.1nm,0.2s			*eS*	**Sn**	**00 14 15.9**	**-3.2**

IDC 20 00:13:22.4±11.0, 18°.45N×146°.96E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/29, mbtmp3.7/4, Error ellipse: s-maj=329.8km s-min=50.9km az=5.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**44.08**	**321**	P	P	00 21 32.9	+0.5
	0.4nm,0.5s,baz=107,slow=6.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**58.94**	**322**	P	P	00 23 22.1	-1.3
	1.4nm,0.5s,baz=95,slow=7.0,SNR=6.1						
MKAR	**Makanchi Array**	**59.49**	**314**	P	P	00 23 28.0	+0.6
	0.6nm,0.8s,baz=108,slow=7.8,SNR=4.2						
YKA	**Yellowknife Ar**	**77.64**	**28**	P	P	00 25 20.7	+0.2
	0.2nm,0.6s,baz=285,slow=5.9,SNR=4.9						

*MOS **20** 00:21:26.2±0.9, 48°.75N×155°.71E, h34km, mb4.2/1, Error ellipse: s-maj=36.3km s-min=4.8km az=75.0*
*SKHL **20** 00:21:28.2±0.4, 48°.88N×155°.85E, h36km±3km, mb4.1/2*
*KRSC **20** 00:21:29.4±1.6, 49°.06N×156°.23E, h44km±23km, ML4.5*
*IDC **20** 00:21:31.2±1.7, 49°.15N×155°.25E, h63km±9km, mb3.3/4, mb1 3.8/6, mb1mx3.4/31, mbtmp3.8/6, MS2.9/1, Ms1 2.9/1, ms1mx2.5/21, Error ellipse: s-maj=61.8km s-min=28.4km az=141.0*
ISC 20 00:21:30.8±1.0, 49°.0N±0°.1×155°.6E±0°.1, h51km, n59, σ1s30/69, mb3.6/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.70**	**11**	*eP*	**Pn**	**00 21 56.8**	**-1.2**
SKR				*eS*	**Sn**	**00 22 17.4**	**-1.1**
SKR	**Severo-Kuril's**	**1.70**	**11**	*ePN*	**Pn**	**00 21 57.0**	**-1.0**
SKR				*eS*	**Sn**	**00 22 17.8**	**-0.7**
SKR				pmax	pmax		
	comp=Z,154nm,0.5s						
SKR				pmax	pmax		
	comp=Z,500nm,1.1s						
SKR				smax	smax		
	comp=N,266nm,0.3s						
SKR				smax	smax		
	comp=E,470nm,0.3s						
SKR	**Severo-Kuril's**	**1.70**	**11**	*eP*	**Pn**	**00 21 56.7**	**-1.2**
SKR				AMB	AMB	00 21 58.2	
	comp=E,150nm,0.5s						
SKR				*eS*	**Sn**	**00 22 17.8**	**-0.7**
SKR				A	A	00 22 23.2	
	comp=E,270nm,0.3s						
SKR				A	A	00 22 23.2	
	comp=E,470nm,0.3s						
PAU	**Pauzhetka**	**2.57**	**17**	*eP*	**Pn**	**00 22 09.3**	**-0.6**
PAU				*eS*	**Sn**	**00 22 38.8**	**-1.1**
PAU	**Pauzhetka**	**2.57**	**17**	*ePN*	**Pn**	**00 22 09.3**	**-0.6**
PAU	**Pauzhetka**	**2.57**	**17**	*eP*	**Pn**	**00 22 09.3**	**-0.6**
KDTR	**Khodutka, Kamc**	**3.21**	**29**	*eP*	**Pn**	**00 22 17.6**	**-1.1**
KDTR				*eS*	**Sn**	**00 22 53.8**	**-1.9**
KDTR	**Khodutka, Kamc**	**3.21**	**29**	*ePN*	**Pn**	**00 22 17.6**	**-1.1**
ASAK	**Asacha**	**3.67**	**23**	*eP*	**Pn**	**00 22 25.2**	**+0.1**
ASAK				*eS*	**Sn**	**00 23 06.6**	**-0.5**
ASAK	**Asacha**	**3.67**	**23**	*ePN*	**Pn**	**00 22 25.2**	**+0.1**
MTVR	**Mutnovka**	**3.84**	**24**	*eP*	**Pn**	**00 22 28.0**	**+0.6**
MTVR				*eS*	**Sn**	**00 23 11.1**	**-0.2**
MTVR	**Mutnovka**	**3.84**	**24**	*ePN*	**Pn**	**00 22 28.0**	**+0.6**
GRL	**Gorelyy**	**3.87**	**23**	*eP*	**Pn**	**00 22 28.8**	**+1.0**
GRL	**Gorelyy**	**3.87**	**23**	*ePN*	**Pn**	**00 22 28.8**	**+1.0**
RUS	**Russkaya**	**3.89**	**27**	*eP*	**Pn**	**00 22 27.7**	**-0.2**
RUS				*eS*	**Sn**	**00 23 10.7**	**-1.6**
RUS	**Russkaya**	**3.89**	**27**	*ePN*	**Pn**	**00 22 27.7**	**-0.2**
RUS	**Russkaya**	**3.89**	**27**	*eP*	**Pn**	**00 22 27.7**	**-0.2**
APC	**Apacha**	**4.03**	**14**	*eP*	**Pn**	**00 22 32.0**	**+2.1**
APC	**Apacha**	**4.03**	**14**	*ePN*	**Pn**	**00 22 32.0**	**+2.1**
KRMR	**Karymshinskiy**	**4.14**	**22**	*eP*	**Pn**	**00 22 32.3**	**+0.9**
KRMR				*eS*	**Sn**	**00 23 19.0**	**+0.6**
KRMR	**Karymshinskiy**	**4.14**	**22**	*ePN*	**Pn**	**00 22 32.3**	**+0.9**
PETK	**Petropavlovsk-**	**4.30**	**17**	P	**Pn**	**00 22 34.2**	**+0.6**
	comp=E,3.2nm,0.3s,baz=183,slow=13,SNR=42						
PETK				LR	LR	00 24 51.4	
	comp=E,146nm,18.8s,baz=54,slow=47						
PET	**Petropavlovsk**	**4.45**	**25**	*ePN*	**Pn**	**00 22 34.8**	**-0.8**
PET	**Petropavlovsk**	**4.45**	**25**	*eP*	**Pn**	**00 22 34.8**	**-0.8**
PET				AMB	AMB	00 22 36.6	
	comp=E,20nm,0.9s						
PET				*eS*	**Sn**	**00 23 25.1**	**-1.0**
PET				A	A	00 23 36.6	
	comp=E,20nm,0.7s						
PET				A	A	00 23 36.6	
	comp=E,110nm,0.7s						
UGLR	**Uglovaya**	**4.66**	**25**	*eP*	**Pn**	**00 22 39.3**	**+0.6**
UGLR	**Uglovaya**	**4.66**	**25**	*ePN*	**Pn**	**00 22 39.3**	**+0.6**
KOK	**Koryaka**	**4.69**	**23**	*eP*	**Pn**	**00 22 40.5**	**+1.5**
KOK	**Koryaka**	**4.69**	**23**	*ePN*	**Pn**	**00 22 40.5**	**+1.5**
AVH	**Avacha**	**4.69**	**24**	*eP*	**Pn**	**00 22 40.8**	**+1.8**
AVH				*eS*	**Sn**	**00 23 29.9**	**-2.2**
AVH	**Avacha**	**4.69**	**24**	*ePN*	**Pn**	**00 22 40.8**	**+1.8**
SMAR	**Somma**	**4.70**	**24**	*eP*	**Pn**	**00 22 38.8**	**-0.5**
SMAR	**Somma**	**4.70**	**24**	*ePN*	**Pn**	**00 22 38.8**	**-0.5**
KRER	**Koryakskii**	**4.73**	**24**	*eP*	**Pn**	**00 22 40.2**	**+0.6**
KRER	**Koryakskii**	**4.73**	**24**	*ePN*	**Pn**	**00 22 40.2**	**+0.6**
KRX	**Arik**	**4.75**	**23**	*eP*	**Pn**	**00 22 40.9**	**+1.0**
KRX	**Arik**	**4.75**	**23**	*ePN*	**Pn**	**00 22 40.9**	**+1.0**
NLC	**Nalytchevo**	**4.78**	**28**	*eP*	**Pn**	**00 22 39.7**	**-0.5**
NLC				*eS*	**Sn**	**00 23 30.7**	**-3.5**
NLC	**Nalytchevo**	**4.78**	**28**	*ePN*	**Pn**	**00 22 39.7**	**-0.5**
SPN	**Mys Shipunski**	**4.95**	**33**	*eP*	**Pn**	**00 22 41.8**	**-0.7**
SPN				*eS*	**Sn**	**00 23 36.0**	**-2.3**
SPN	**Mys Shipunski**	**4.95**	**33**	*ePN*	**Pn**	**00 22 41.8**	**-0.7**
KZV	**Kizimen**	**6.75**	**24**	*eP*	**Pn**	**00 23 09.8**	**+2.4**
KZV	**Kizimen**	**6.75**	**24**	*ePN*	**Pn**	**00 23 09.8**	**+2.4**
TUMD	**Tumrok D**	**6.86**	**24**	*eP*	**Pn**	**00 23 08.2**	**-0.5**
TUMR	**Tumrok**	**6.87**	**22**	*eP*	**Pn**	**00 23 08.3**	**-0.6**
TUMR	**Tumrok**	**6.87**	**22**	*ePN*	**Pn**	**00 23 08.3**	**-0.6**
KMNR	**Kamenistaya**	**7.32**	**21**	*eP*	**Pn**	**00 23 15.9**	**+0.8**
KMNR	**Kamenistaya**	**7.32**	**21**	*ePN*	**Pn**	**00 23 15.9**	**+0.8**
ASAJ	**Asahikawa**	**10.20**	**246**	P	**Pn**	**00 23 52.5**	**-1.9**
	comp=E,0.6nm,0.3s,baz=101,slow=8.3,SNR=8.2						
H11N2	**WAKE ISLAND Hy**	**30.61**	**159**	T	T	01 00 04.2	
	baz=346,slow=74,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**30.62**	**159**	T	T	01 00 13.5	
	baz=346,slow=74,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**30.62**	**159**	T	T	01 00 02.7	
	baz=346						
H11S1	**WAKE ISLAND Hy**	**31.74**	**160**	T	T	01 01 29.0	
	baz=346,slow=76,SNR=60						
H11S3	**WAKE ISLAND Hy**	**31.75**	**160**	T	T	01 01 27.0	
	baz=346,slow=76,SNR=70						
H11S2	**WAKE ISLAND Hy**	**31.76**	**160**	T	T	01 01 28.1	
	baz=346,slow=76,SNR=44						
ILAR	**Eielson Array**	**33.73**	**41**	*eP*	**P**	**00 28 08.1**	**+1.2**
ILAR	**Eielson Array**	**33.73**	**41**	P	**P**	**00 28 05.8**	**-1.1**
	comp=E,0.4nm,0.7s,baz=273,slow=8.5,SNR=5.6						
ILAR				pP	**pwP**	**00 28 21.7**	**+2.0**
	comp=E,1.2nm,0.8s,baz=260,slow=8.3,SNR=7.9						
YKA	**Yellowknife Ar**	**48.10**	**39**	P	**P**	**00 30 04.2**	**-0.8**
	comp=E,0.6nm,0.8s,baz=299,slow=7.7,SNR=7.5						
YKA				pP	**pwP**	**00 30 20.2**	**+1.8**
	comp=E,0.4nm,0.7s,baz=300,slow=7.6,SNR=5.3						
PDAR	**Pinedale Array**	**62.08**	**56**	P	**P**	**00 31 46.3**	**0.0**
	comp=E,0.7nm,0.8s,baz=336,slow=3.3,SNR=4.9						
PDAR				pP	**pwP**	**00 32 03.3**	**+3.4**
	comp=E,0.4nm,0.8s,baz=299,slow=4.0,SNR=2.5						
TXAR	**Lajitas Array**	**74.94**	**63**	P	**P**	**00 33 06.6**	**0.0**
	comp=E,0.6nm,0.8s,baz=334,slow=8.0,SNR=3.7						

*KRNET **20** 00:51:27.7±0.1, 41°.60N×73°.14E, h20km, mb3.5*
*NNC **20** 00:51:28.4±0.6, 41°.69N×73°.14E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=4.8km s-min=2.6km az=175.0*
*SOME **20** 00:51:28.4, 41°.62N×73°.25E, h5km*
ISC 20 00:51:27.8±1.1, 41°.64N±0°.03×73°.19E±0°.02, h2km±10km, n73, σ1s60/112, 25C-23D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.35**	**207**	⇑*i*P	**Pg**	**00 51 33.8**	**-0.7**
ARSB	baz=4.0			⇑*i*S	**Sg**	**00 51 38.6**	**-0.4**
AML	**Almayashu**	**0.62**	**37**	⇓*i*P	**Pg**	**00 51 40.6**	**+0.8**
AML	baz=38			⇓*i*S	**Sb**	**00 51 49.9**	**-1.1**
AML	**Almayashu**	**0.62**	**37**	P	**Pg**	**00 51 40.6**	**+0.8**
	SNR=239						
ARLS	**Aral**	**0.88**	**75**	⇓*i*P	**Pg**	**00 51 44.8**	**+0.2**
ARLS	baz=73			⇓*i*S	**Sg**	**00 51 57.4**	**+1.4**
ARK	**Arkit**	**0.93**	**280**	⇑*i*P	**Pg**	**00 51 44.3**	**-1.4**
ARK	baz=82			⇑*i*S	**Sg**	**00 51 56.7**	**-1.1**
MRKS	**Merke**	**1.11**	**1**	*eP*	**Pb**	**00 51 49.1**	**-0.7**
MRKS	122nm,0.1s 149nm,0.1s			*eS*	**Sn**	**00 52 04.2**	**-2.2**
MRKS	**Merke**	**1.11**	**1**	P	**Pb**	**00 51 49.1**	**-0.7**
MRKS	125nm,0.1s 135nm,0.3s			S	**Sn**	**00 52 04.2**	**-2.2**
EKS2	**Erkin-Say**	**1.11**	**23**	⇓*i*P	**Pg**	**00 51 49.0**	**-0.2**
EKS2	baz=24			⇓*i*S	**Sn**	**00 52 04.4**	**-2.2**
EKS2	**Erkin-Say**	**1.11**	**23**	P	**Pb**	**00 51 49.3**	**-0.6**
	SNR=8.0						
UCH	**Uchtor**	**1.15**	**59**	⇑*i*P	**Pg**	**00 51 49.9**	**0.0**
UCH	baz=58			⇑*i*S	**Sb**	**00 52 06.5**	**+0.2**
UCH	**Uchtor**	**1.15**	**59**	P	**Pg**	**00 51 50.1**	**+0.2**
	SNR=708						
AAK	**Ala-Archa**	**1.39**	**44**	⇓*i*P	**Pb**	**00 51 54.4**	**-0.2**
AAK	baz=44			⇓*i*S	**Sg**	**00 52 13.5**	**+0.9**
AAK	**Ala-Archa**	**1.39**	**44**	P	**Pb**	**00 51 54.5**	**-0.2**
	SNR=123						
AAK	**Ala-Archa**	**1.39**	**44**	⇑P	**Pb**	**00 51 54.5**	**-0.2**
AAK	16nm,0.3s 111nm,0.6s			⇓S	**Sg**	**00 52 13.3**	**+0.7**
FRU1	**Bishkek**	**1.59**	**42**	⇑*i*P	**Pb**	**00 51 57.7**	**-0.2**
FRU1	baz=42			⇑*i*S	**Sg**	**00 52 19.4**	**+0.6**
KZA	**Kyzart**	**1.60**	**73**	⇑*i*P	**Pn**	**00 51 57.8**	**+0.3**
KZA	baz=72			⇑*i*S	**Sb**	**00 52 20.0**	**+0.8**
KZA	**Kyzart**	**1.60**	**73**	P	**Pn**	**00 51 57.8**	**+0.3**
	SNR=453						
KBK	**Karagaybulak**	**1.66**	**51**	⇑*i*P	**Pb**	**00 51 59.1**	**-0.1**
KBK	baz=51			⇑*i*S	**Sg**	**00 52 21.6**	**+0.5**
KBK	**Karagaybulak**	**1.66**	**51**	P	**Pb**	**00 51 59.5**	**+0.3**
	SNR=165						
CHMS	**Chumysh**	**1.79**	**40**	⇓*i*P	**Pb**	**00 52 01.1**	**-0.2**
CHMS	baz=40			⇓*i*S	**Sg**	**00 52 25.0**	**-0.2**
CHMS	**Chumysh**	**1.79**	**40**	P	**Pb**	**00 52 01.7**	**+0.3

	20nm,0.3s									
DGS					Lg		Lg	00 52 47.3		
	88nm,0.5s									
MTBS	**Maitube**	**2.83**	**57**	*e*P		**Pb**		**00 52 20.2**	**+1.1**	
	23nm,0.4s									
MTBS				*e*S		**Sg**		**00 52 57.6**	**-1.0**	
	46nm,0.3s									
MTBS	**Maitube**	**2.83**	**57**	Pg		**Pb**		**00 52 20.2**	**+1.1**	
	23nm,0.4s									
MTBS				Lg		Lg		00 52 57.6		
	46nm,0.3s									
IZV	**Izvestkoviy**	**2.90**	**60**	*e*P		**Pb**		**00 52 21.5**	**+1.2**	
	37nm,0.2s									
IZV				*e*S		**Sg**		**00 52 59.6**	**-1.3**	
	37nm,0.4s									
IZV	**Izvestkoviy**	**2.90**	**60**	Pg		**Pb**		**00 52 21.5**	**+1.2**	
	37nm,0.5s									
IZV				Lg		Lg		00 52 59.6		
	37nm,0.4s									
KDJ	**Kajisay**	**3.02**	**79**	⇑*i*P		**Pn**		**00 52 18.3**	**+1.5**	
	baz=79									
KDJ				⇑*i*S		**Sn**		**00 52 55.4**	**+1.7**	
	baz=79									
TNSS	**Tian-Shan**	**3.12**	**62**	*e*P		**Pb**		**00 52 25.3**	**+1.1**	
	34nm,0.3s									
TNSS				*e*S		**Sg**		**00 53 06.4**	**-1.6**	
	30nm,0.5s									
TNSS	**Tian-Shan**	**3.12**	**62**	Pg		**Pb**		**00 52 25.3**	**+1.1**	
	34nm,0.3s									
TNSS				Lg		Lg		00 53 06.4		
	30nm,0.5s									
AAA	**Alma-Ata**	**3.17**	**59**	Pg		**Pb**		**00 52 26.8**	**+1.8**	
	27nm,0.1s									
AAA				Lg		Lg		00 53 08.8		
	42nm,0.2s									
KNDC	**Almaty**	**3.21**	**59**	⇑Pg		**Pb**		**00 52 27.2**	**+1.6**	
KNDC				⇑Lg		Lg		00 53 10.2		
KUU	**Kurty**	**3.23**	**45**	*e*P		**Pb**		**00 52 27.6**	**+1.6**	
	8.7nm,0.2s									
KUU				*e*S		**Sg**		**00 53 09.5**	**-2.2**	
	74nm,0.5s									
KUU	**Kurty**	**3.23**	**45**	Pg		**Pb**		**00 52 27.5**	**+1.6**	
	8.7nm,0.2s									
KUU				Lg		Lg		00 53 09.5		
	74nm,0.5s									
MDOK	**Medeo**	**3.24**	**61**	*e*P		**Pb**		**00 52 27.5**	**+1.3**	
	18nm,0.3s									
MDOK				*e*S		**Sg**		**00 53 10.1**	**-1.8**	
	31nm,0.4s									
MDOK	**Medeo**	**3.24**	**61**	⇓Pg		**Pb**		**00 52 27.2**	**+1.1**	
	6.1nm,0.3s									
MDOK				⇑Lg		Lg		00 53 10.4		
	28nm,0.6s									
MDOK	**Medeo**	**3.24**	**61**	Pg		**Pb**		**00 52 27.5**	**+1.3**	
	18nm,0.3s									
MDOK				Lg		Lg		00 53 10.0		
	31nm,0.4s									
KTBS	**Karatobe**	**3.31**	**50**	*e*P		**Pb**		**00 52 28.5**	**+1.3**	
	9.2nm,0.3s									
KTBS				*e*S		**Sg**		**00 53 11.7**	**-2.4**	
	195nm,0.5s									
KTBS	**Karatobe**	**3.31**	**50**	Pg		**Pb**		**00 52 28.5**	**+1.3**	
	9.2nm,0.3s									
KTBS				Lg		Lg		00 53 11.7		
	195nm,0.5s									
KOTS	**Kotyrbulak**	**3.31**	**60**	*e*P		**Pb**		**00 52 29.0**	**+1.6**	
	66nm,0.3s									
KOTS				*e*S		**Sg**		**00 53 12.5**	**-1.8**	
	90nm,0.6s									
KOTS	**Kotyrbulak**	**3.31**	**60**	Pg		**Pb**		**00 52 29.0**	**+1.6**	
	66nm,0.3s									
KOTS				Lg		Lg		00 53 12.5		
	90nm,0.6s									
ANVS	**Anan'yevo**	**3.52**	**69**	⇓*i*P		**Pn**		**00 52 25.5**	**+1.8**	
	baz=69									
ANVS				⇓*i*S		**Sn**		**00 53 06.7**	**+0.7**	
	baz=69									
CHKK	**Chushkaly**	**3.57**	**50**	*e*P		**Pb**		**00 52 33.6**	**+1.9**	
	1.8nm,0.1s									
CHKK				*e*S		**Sg**		**00 53 20.1**	**-2.4**	
	49nm,0.4s									
CHKK	**Chushkaly**	**3.57**	**50**	Pg		**Pb**		**00 52 33.6**	**+1.9**	
	4.6nm,0.4s									
CHKK				Lg		Lg		00 53 20.1		
	49nm,0.4s									
KURS	**Kuram**	**4.12**	**62**	*e*P		**Pg**		**00 52 44.4**	**-2.3**	
	14nm,1.1s									
KURS				*e*S		**Sg**		**00 53 38.4**	**-1.6**	
	11nm,0.6s									
KURS	**Kuram**	**4.12**	**62**	Pg		**Pg**		**00 52 44.4**	**-2.3**	
	14nm,1.1s									
KURS				Lg		Lg		00 53 38.4		
	11nm,0.6s									
SATY	**Saty**	**4.12**	**68**	*e*P		**Pg**		**00 52 45.0**	**-1.7**	
	7.6nm,0.2s									
SATY				*e*S		**Sg**		**00 53 39.5**	**-0.6**	
	17nm,0.5s									
SATY	**Saty**	**4.12**	**68**	Pg		**Pg**		**00 52 45.1**	**-1.7**	
	12nm,0.3s									
SATY				Lg		Lg		00 53 39.5		
	17nm,0.5s									
ARXS	**Arharly**	**4.27**	**51**	*e*P		**Pb**		**00 52 45.9**	**+2.3**	
	7.5nm,0.3s									
ARXS				*e*S		**Sg**		**00 53 41.2**	**-3.7**	
	28nm,0.4s									
ARXS	**Arharly**	**4.27**	**51**	Pg		**Pb**		**00 52 45.9**	**+2.3**	
	10nm,0.5s									
ARXS				Lg		Lg		00 53 41.2		
	28nm,0.4s									
KPKS	**Kokpek**	**4.45**	**64**	*e*P		**Pg**		**00 52 50.7**	**-2.4**	
	22nm,0.3s									
KPKS				*e*S		**Sg**		**00 53 49.2**	**-1.6**	
	32nm,0.4s									
UZB	**Uzynbulak**	**4.58**	**69**	*e*P		**Pb**		**00 52 52.5**	**+3.6**	
	2.6nm,0.1s									
UZB				*e*S		**Sg**		**00 53 52.4**	**-2.4**	
	6.4nm,0.2s									
PDGK	**Podgornoye**	**4.96**	**68**	Pg		**Pb**		**00 52 59.4**	**+4.0**	
	2.2nm,0.5s									
PDGK				Lg		Lg		00 54 04.1		
	5.4nm,0.7s									
PDGK	**Podgornoye**	**4.96**	**68**	⇑Pg		**Pb**		**00 52 57.9**	**+2.5**	
	3.0nm,0.5s									
PDGK				⇑Lg		Lg		00 54 03.1		
	12nm,0.7s									
TDK	**Taldyqorghan**	**5.08**	**47**	*e*P		**Pg**		**00 53 03.2**	**-1.9**	
	17nm,0.2s									
TDK				*e*S		**Sg**		**00 54 10.7**	**-0.2**	
	37nm,0.2s									
DJR	**Jarkent**	**5.54**	**59**	Pg		**Pb**		**00 53 09.9**	**+4.6**	
	2.6nm,0.4s									
DJR				Lg		Lg		00 54 22.2		
	7.5nm,0.7s									
KAPS	**Kapalarasan**	**5.78**	**49**	Pg		**Pb**		**00 53 13.2**	**+3.8**	
	2.3nm,0.4s									
KAPS				Lg		Lg		00 54 27.9		
	8.0nm,0.6s									

IDC 20 00:55:33.9±19.0, 20°.15N×147°.93E, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.4/26, mbtmp3.8/3, Error ellipse: s-maj=496.0km s-min=331.5km az=83.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**43.38**	**319**	P		01 03 38.1	-0.1
	0.2nm,0.5s,baz=111,slow=7.9,SNR=2.7						
ZALV	**Zalesovo Beam**	**58.17**	**322**	P		01 05 29.5	0.0
	1.2nm,0.5s,baz=101,slow=6.8,SNR=5.2						
MKAR	**Makanchi Array**	**59.00**	**313**	P		01 05 35.4	-0.1
	1.5nm,0.9s,baz=88,slow=8.7,SNR=6.7						

TAP 20 02:16:00.5, 23°.84N×120°.93E, h18km±1km, ML1.8, 1C-1D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMLT	**Sun Moon Lake**	**0.05**	**332**	*e*P		02 16 04.4	+0.4
	baz=338						
SSLB	**Suanglung**	**0.06**	**153**	⇓P		02 16 04.1	+0.2
	baz=153						
SSLB				S		02 16 06.8	+0.7
	baz=153						
TYC	**Yuchr**	**0.09**	**316**	⇑*i*P		02 16 04.5	+0.5
	baz=322						
DPDB	**Guoxing**	**0.20**	**360**	P		02 16 05.9	+0.4
	baz=359						
DPDB				*e*S		02 16 09.5	+0.7
	baz=359						
VWDT	**VWDT**	**0.21**	**113**	*e*P		02 16 06.3	+0.7
	baz=112						
CHGB	**Renai**	**0.32**	**45**	*e*P		02 16 07.8	+0.1
	baz=45						

TAP 20 02:16:04.0, 23°.83N×120°.93E, h21km±1km, ML1.8, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SSLB	**Suanglung**	**0.05**	**155**	*e*P		02 16 08.0	+0.2
	baz=154						
SSLB				*e*S		02 16 10.7	+0.4
	baz=154						
SMLT	**Sun Moon Lake**	**0.06**	**331**	*e*S		02 16 11.6	+1.0
	baz=336						
TYC	**Yuchr**	**0.10**	**317**	*e*P		02 16 08.4	-2.4
	baz=322						
TYC				*e*S		02 16 11.7	-4.0
	baz=322						
WHYT	**Xinyi Township**	**0.15**	**208**	*e*S		02 16 08.6	-1.5
	baz=205						
WHYT	**Xinyi Township**	**0.15**	**208**	P		02 16 08.6	-1.5
	baz=208						
WHYT				S		02 16 12.4	-2.0
	baz=208						
WJS	**Zhushan**	**0.19**	**268**	*e*S		02 16 09.6	-0.2
	baz=265						
WJS	**Zhushan**	**0.19**	**268**	*e*P		02 16 09.6	-0.2
	baz=267						
DPDB	**Guoxing**	**0.20**	**359**	*e*S		02 16 13.7	-0.5
	baz=358						
VWDT	**VWDT**	**0.21**	**112**	*e*P		02 16 10.3	+0.5
	baz=111						
VWDT				*e*S		02 16 14.9	+0.9
	baz=111						
VWDT	**VWDT**	**0.21**	**112**	*e*S		02 16 10.3	+0.4
	baz=112						
WNT	**Mingjian**	**0.23**	**282**	*e*S		02 16 10.2	+0.3
	baz=280						
WNT	**Mingjian**	**0.23**	**282**	*e*P		02 16 10.4	+0.4
	baz=281						
WNT				*e*S		02 16 14.9	+0.8
	baz=281						
CHGB	**Renai**	**0.32**	**44**	*e*P		02 16 11.7	+0.5
	baz=44						
CHGB				*e*S		02 16 17.0	+1.0
	baz=44						
CHN5	**Tsauling**	**0.33**	**225**	P		02 16 11.6	+0.5
	baz=225						
CHN5				*e*S		02 16 17.2	+1.2
	baz=225						
ALS	**Alishan**	**0.34**	**200**	*e*P		02 16 11.9	+0.4
	baz=198						
ALS				*e*S		02 16 17.9	+1.3
	baz=198						
WHF	**Hehuan Shan**	**0.44**	**44**	*e*S		02 16 20.5	+1.1
	baz=44						
ESL	**Shilin**	**0.46**	**92**	*e*S		02 16 21.2	+1.5
	baz=92						
TDCB	**Techi**	**0.47**	**26**	*e*S		02 16 20.3	+0.1
	baz=26						
EHY	**Hungye**	**0.48**	**132**	*e*P		02 16 15.2	-0.4
	baz=131						
EHY				*e*S		02 16 22.1	-1.4
	baz=131						
YULB	**Yu-li**	**0.55**	**142**	*e*P		02 16 15.7	+0.6
	baz=142						
YULB				*e*S		02 16 23.5	+1.0
	baz=142						
HGSD	**Ruisui**	**0.56**	**127**	*e*S		02 16 25.1	-0.4
	baz=126						
TWF1	**Yuli**	**0.58**	**145**	*e*P		02 16 16.2	+0.6
	baz=144						
TWF1				*e*S		02 16 24.9	-1.1
	baz=144						
FULB	**Fuli**	**0.71**	**152**	*e*S		02 16 30.2	+1.1
	baz=152						

*ISCJB **20** 03:04:32.1±1.0, 14°.30N±0°.02×93°.02E±0°.02, h24km±7km, mb4.7/69, MS3.9/20, Error ellipse: s-maj=4.4km s-min=3.6km az=135.1*

*MOS **20** 03:04:32.4±1.0, 14°.29N×93°.12E, h27km, mb4.9/36, Error ellipse: s-maj=8.8km s-min=5.6km az=112.2*

*BJI **20** 03:04:34.0±0.0, 14°.14N×93°.03E, h43km, mb4.6/44, mB5.0/31, Ms4.3/20, Ms7 4.3/7*

*KLM **20** 03:04:34.0, 14°.54N×92°.75E, h47km, mb5.2*

*IDC **20** 03:04:35.9±0.6, 14°.25N×93°.06E, h36km±4km, mb4.4/23, mb1 4.5/25, mb1mx4.2/53, mbtmp4.6/25, ML5.0/3, MS3.8/19, Ms1 3.8/19, ms1mx3.6/48, Error ellipse: s-maj=16.5km s-min=9.5km az=49.0*

*DJA **20** 03:04:35.3±0.3, 14°.N±3°×9°.3E±°, h71km±5km, M5.2/23, mB5.6/12, mb5.2/23, MLv5.3/6, Mw(mB)5.1/12*

*NEIC **20** 03:04:36.2±1.4, 14°.33N±0°.06×93°.08E±0°.05, h41km±5km, mb4.9/66*

*NDI **20** 03:04:37.9±2.8, 14°.44N×92°.90E, h39km±46km, ML5.0, mb4.9(NEIC)*

*GCMT **20** 03:04:38.2±0.5, 14°.29N±0°.03×93°.02E±0°.03, h36km±1km, MW4.9/70, Moment Tensor Solution. s18,c18; s70,c96; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~0.35±.23; Mθθ 1.49±.15; Mϕϕ~1.13±.15; Mrθ 0.04±.13; Mrϕ 2.55±.13; Mθϕ~0.48±.14; Best double couple: M=2.91300×10^16 NP1: δ=14.00000°, δ85.00000°, λ=-170.00000°. NP2: ϕ=283.00000°, δ80.00000°, λ=-5.00000°. Principal axes: T 3.0610, Plg4.0000°, Azm148.0000°; N -0.2920, Plg79.0000°, Azm38.0000°; P -2.7650, Plg10.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 03:04:36.1±0.4, 14°.26N±0°.04×93°.03E±0°.04, h41km±3km, h41km:pP-P, n251, σ1≈93/255, mb4.8/83, MS3.9/20, 10C-7D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**2.60**	**186**		Pn	03 05 17.2	+1.6
SIMRM	**Sittwe**	**5.85**	**359**		**Pn**	**03 05 58.4**	**-1.9**
SRDT	**SRDT**	**5.91**	**88**	P	**Pn**	**03 06 02.9**	**+1.8**
	109nm,0.7s,2µm0.5nm						
UMPA	**Umpang Tak**	**5.95**	**70**	P	**Pn**	**03 06 01.1**	**-0.7**
	544µm,0.7s,5µm						
MHMT	**Maesarieng**	**6.11**	**50**	P	**Pn**	**03 06 02.3**	**-1.6**
UTHA	**Uthaitani**	**6.34**	**77**	P	**Pn**	**03 06 07.5**	**+0.5**
	209µm,0.8s,4µm						
PHET	**Kaeng Krachan**	**6.56**	**101**	P	**Pn**	**03 06 11.8**	**+1.8**
	239µm,0.8s,2µm						
CM31	**Chiang Mai Arr**	**7.05**	**53**		**Pn**	**03 06 16.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**7.05**	**53**	*i* P	**Pn**	**03 06 15.1**	**-1.7**
CMAR				pmax	pmax		
	comp=Z,33nm,0.6s						
CMAR	**Chiang Mai Arr**	**7.05**	**53**	Pn	**Pn**	**03 06 15.2**	**-1.6**
	comp=Z,9.9nm,0.3s,baz=242,slow=15,SNR=80						
CMAR				Sn	**Sn**	**03 07 31.4**	**-4.3**
	comp=Z,18nm,0.3s,baz=245,slow=26,SNR=7.5						
CMAR				LR	LR	03 09 37.8	
	comp=Z,754nm,18.6s,baz=287,slow=43						
CHTO	**Chiang Mai**	**7.26**	**51**	P	**Pn**	**03 06 17.8**	**-1.9**
CHTO	**Chiang Mai**	**7.26**	**51**		**Pn**	**03 06 17.8**	**-1.9**
CMMT	**Chiang Mai**	**7.26**	**51**	P	**Pn**	**03 06 17.9**	**-1.8**
	comp=Z,54nm,0.4s,comp=Z,1µmcomp=Z,0.3nm						
CMMT	**Chiang Mai**	**7.26**	**51**	P	**Sn**	**03 07 36.5**	**-4.5**
	comp=Z,0.3nmcomp=Z,816nmcomp=Z,103nm,0.9s						
SURT	**Suratani**	**7.72**	**132**	P	**Pn**	**03 06 28.9**	**+2.9**
	comp=Z,194nm,0.7s,comp=Z,2µmcomp=Z,0.6nm						
PATY	**Pattaya**	**7.73**	**99**	P	**Pn**	**03 06 27.3**	**+1.1**
	comp=Z,130µm,0.6s,comp=Z,696nm						
PBKT	**Sadao Pong**	**8.00**	**72**	P	**Pn**	**03 06 29.9**	**+0.1**
	comp=Z,69nm,0.8s,comp=Z,977nmcomp=Z,0.3nm						
PBKT	**Sadao Pong**	**8.00**	**72**		**Pn**	**03 06 29.4**	**-0.4**
UTTA	**Uttaradit**	**8.02**	**63**	P	**Pn**	**03 06 29.6**	**-0.5**
	comp=Z,96µm,0.7s,comp=Z,425nm						
UTTA	**Uttaradit**	**8.02**	**63**	P	**Sn**	**03 07 59.9**	**+0.2**
	comp=Z,106µm,0.6s						
PHRA	**Phrae**	**8.10**	**58**	P	**Pn**	**03 06 31.3**	**+0.2**
	comp=Z,7.0nm,0.5s,comp=Z,2µmcomp=Z,0.0nm						
PHRA	**Phrae**	**8.10**	**58**	P	**Sn**	**03 07 57.8**	**-3.6**
	comp=Z,0.0nmcomp=Z,2µmcomp=Z,8.3nm,0.8s						
SAIH	**SAIHA**	**8.19**	**360**	*e*P	**Pn**	**03 06 30.8**	**-1.7**
SAIH				*ex*	x	03 07 54.9	
SAIH				IAML		03 08 02.4	
	comp=N,548nm,0.5s						
CHAI	**Chaiyaphum**	**8.80**	**78**	P	**Pn**	**03 06 43.2**	**+2.3**
	comp=N,73µm,0.8s,comp=N,989µmcomp=N,406nm						
CHAI	**Chaiyaphum**	**8.80**	**78**	P	Sn	03 08 31.6	+13
	comp=N,121µm,0.7s						
TRTT	**Trang**	**9.13**	**134**	P	Pn	03 06 51.6	+6.2
BWNR	**Bhubaneshwar**	**9.15**	**312**	*e*P	**Pn**	**03 06 43.5**	**-2.0**
BWNR				*ex*	x	03 08 15.1	
BWNR				IAML		03 08 19.5	
	comp=N,1µm,0.4s						
AZL	**Aizawl**	**9.44**	**358**	*e*P	**Pn**	**03 06 47.4**	**-2.2**
AZL				*ex*	x	03 08 27.0	
AZL				IAML		03 08 30.9	
	comp=N,304nm,0.2s						
AZL				IAML		03 08 32.3	
	comp=E,459nm,0.3s						
LHMI	**Lhok Sumawe**	**9.76**	**156**	P	**Pn**	**03 06 57.5**	**+3.5**
	comp=E,450nm,0.7s,comp=E,5µm						
LHMI	**Lhok Sumawe**	**9.76**	**156**		**Pn**	**03 06 57.3**	**+3.3**
VIS	**Vishakhapatnam**	**9.94**	**292**	*i* P	**Pn**	**03 06 55.2**	**-1.3**
VIS				*i* x	x	03 08 35.9	
VIS				*ex*	x	03 08 40.5	
	comp=N,3µm,0.7s						
NONG	**Nongkai**	**10.43**	**67**	P	**Pn**	**03 07 07.9**	**+4.8**
	comp=N,1.1nm,0.8s						
MLSI	**Meulaboh, Aceh**	**10.47**	**161**	P	**Pn**	**03 07 03.1**	**-0.6**
	comp=N,489nm,0.7s,comp=N,8µm						
SHL	**Shillong**	**11.30**	**355**	⇑*i*x	Pn	03 07 09.0	-6.2
SHL				*e*S	Sn	03 09 06.0	-14
KOHI	**KOHIMA**	**11.45**	**5**	*ex*	**Pn**	**03 07 14.6**	**-2.6**
KOHI				*ex*	x	03 09 12.2	
KOHI				IAML		03 09 20.2	
	comp=N,267nm,0.5s						
KULM	**Kulim**	**11.65**	**139**	P	**Pn**	**03 07 23.0**	**+3.2**
KULM	**Kulim**	**11.65**	**139**		**Pn**	**03 07 21.9**	**+2.1**
GUWA	**GUWAHATI**	**11.94**	**354**	*ex*	Pn	03 07 18.8	-5.0
GUWA				*e*S	Sn	03 09 22.0	-14
GUWA				IAmb	IAmb	03 09 29.1	
	comp=N,191nm,0.7s						
MDRS	**Chennai**	**12.48**	**266**	*ex*	**Pn**	**03 07 29.3**	**-1.9**
MDRS				*e*S	Sn	03 09 35.5	-13
IPM	**Ipoh**	**12.51**	**140**	P	**Pn**	**03 07 33.0**	**+1.4**
IPM	**Ipoh**	**12.51**	**140**		**Pn**	**03 07 32.1**	**+0.5**
PSI	**Prapat**	**12.78**	**152**	Pn	**Pn**	**03 07 37.4**	**+1.9**
	comp=N,4.5nm,0.3s,baz=328,slow=10,SNR=74						
PSI				LR	LR	03 13 04.4	
	comp=N,481nm,20.2s,baz=304,slow=40						
RPSI	**Rantau Prapat**	**12.88**	**153**		**Pn**	**03 07 38.2**	**+1.6**
RPSI	**Rantau Prapat**	**12.88**	**153**		**Pn**	**03 07 37.4**	**+0.8**
ODAN	**Odare**	**13.60**	**338**	*e*P	Pn	03 07 41.2	-5.5
	comp=N,111nm,0.4s						
GTK	**Tadong**	**13.64**	**343**	*ex*	**Pn**	**03 07 43.5**	**-3.6**
GTK				*ex*	x	03 10 05.6	
JRMM	**Jerantut**	**13.89**	**137**	P	**Pn**	**03 07 52.0**	**+1.5**
TAPN	**Taplejung**	**13.94**	**340**	*e*P	Pn	03 07 45.8	-5.6
	comp=N,67nm,0.5s						
PALK	**Pallekele**	**13.95**	**241**	P	**Pn**	**03 07 50.7**	**-0.7**
PALK	**Pallekele**	**13.95**	**241**	Pn	**Pn**	**03 07 50.3**	**-1.1**
	comp=N,7.6nm,0.3s,baz=52,slow=12,SNR=36						
PALK				Sn	Sn	03 10 14.6	-10
	comp=N,5.3nm,0.3s,baz=350,slow=16,SNR=5.9						
PALK				LR	LR	03 12 49.5	
	comp=N,261nm,20.1s,baz=63,slow=35						
PALK	**Pallekele**	**13.95**	**241**		**Pn**	**03 07 50.7**	**-0.7**
RAMN	**Ramite**	**13.99**	**336**	*e*P	Pn	03 07 46.5	-5.4
	comp=N,40nm,0.2s						
KMI	**Kunming**	**14.15**	**39**	P	**Pn**	**03 07 55.6**	**+1.4**
KMI				pP	P	03 08 03.1	+2.1
KMI				PP	**PnPn**	**03 08 06.4**	**+4.0**
KMI				sP		03 08 12.4	
KMI				S	**Sn**	**03 10 31.3**	**+1.3**
KMI				sS	S	03 10 42.6	-7.0
KMI				SS	**SnSn**	**03 10 47.6**	**+4.6**
KMI				pmax	pmax		
	comp=N,12nm,0.6s						
KMI				pmax	pmax		
	comp=N,140nm,4.2s						
KMI				LR	LR		
	comp=N,390nm,10.1s						
KMI				LR	LR		
	comp=N,400nm,13.4s						
HYB	**Hyderabad**	**14.28**	**285**	*i* P	**Pn**	**03 07 54.0**	**-1.8**
HYB				*e*S	**Sn**	**03 10 34.0**	**+1.1**
JIRN	**Jiri**	**14.78**	**336**	*e*P	Pn	03 07 57.7	-5.1
	comp=N,80nm,0.4s						
NGP	**Nagpur**	**14.97**	**299**	*ex*	**Pn**	**03 08 04.7**	**-0.3**
NGP				*ex*	x	03 10 34.6	
PKI	**Pulchoki**	**15.03**	**333**	*e*P	**Pn**	**03 08 00.3**	**-5.8**
	comp=N,4.5nm,0.3s						
PKIN	**Phulchoki**	**15.04**	**333**	*e*P	**Pn**	**03 08 00.4**	**-5.7**
	comp=N,45nm,0.4s						
GUN	**Gumba**	**15.13**	**335**	*e*P	**Pn**	**03 08 01.9**	**-5.5**
	comp=N,16nm,0.3s						
JBP	**Jabalpur**	**15.20**	**308**	⇑*ex*	**Pn**	**03 08 08.3**	**+0.4**
JBP				*ex*	x	03 10 44.4	
DMN	**Daman**	**15.20**	**332**	*e*P	**Pn**	**03 08 02.4**	**-5.8**
	comp=N,74nm,0.5s						
KKN	**Kakani**	**15.28**	**333**	*e*P	**Pn**	**03 08 03.9**	**-5.3**
	comp=N,10nm,0.3s						
LSA	**Lhasa**	**15.47**	**354**	P	**Pn**	**03 08 07.7**	**-4.2**
LSA				pmax	pmax		
	comp=Z,25nm,0.7s						
LSA	**Lhasa**	**15.47**	**354**		**Pn**	**03 08 07.7**	**-4.2**
GKN	**Gorkha**	**15.75**	**332**	*e*P	**Pn**	**03 08 10.1**	**-5.1**
	comp=Z,73nm,0.2s						
BKNI	**Bangkinang**	**15.95**	**150**	P	**Pn**	**03 08 16.5**	**-1.2**
	comp=Z,132nm,0.8s,comp=Z,2µm						
BKNI	**Bangkinang**	**15.95**	**150**		**Pn**	**03 08 16.8**	**-0.9**
BKNI				IAmb	IAmb	03 08 21.4	
	comp=Z,140nm,0.9s						
KOLN	**Koldanda**	**16.06**	**328**	*e*P	**Pn**	**03 08 13.7**	**-5.5**
	comp=Z,17nm,0.2s						
MYKOM	**Kota Tinggi**	**16.36**	**138**	P	**P**	**03 08 27.0**	**+1.7**
MYKOM	**Kota Tinggi**	**16.36**	**138**		**P**	**03 08 25.1**	**-0.2**
MYKOM				IAmb	IAmb	03 08 27.2	
	comp=Z,77nm,0.8s						
DANN	**Dangsing**	**16.46**	**330**	*e*P	**Pn**	**03 08 18.5**	**-5.9**
	comp=Z,19nm,0.3s						
QIZ	**Qiongzhong**	**16.79**	**71**	P	**Pn**	**03 08 27.6**	**-0.8**
QIZ				S	**Sn**	**03 11 32.8**	**-1.2**
QIZ				LR	LR		
	comp=Z,440nm,10.4s						
QIZ				LR	LR		
	comp=Z,490nm,15.7s						
SDSI	**Sungai Dareh**	**17.23**	**150**	P	**Pn**	**03 08 32.1**	**-1.7**
	comp=Z,95nm,0.8s						
TPRI	**Tanjung Pinang**	**17.46**	**138**	P	**P**	**03 08 38.3**	**+0.8**
GYA	**Guiyang**	**17.61**	**44**	⇑*i*P	**Pn**

comp=Z,62nm,0.8s
MDSI Maura Dua 21.66 149 P P 03 09 19.3 -3.9
ENH Enshi 22.00 41 P P 03 09 26.2 -0.7
TPI Tanjungpandan 22.27 138 P P 03 09 28.8 -1.0
comp=Z,42nm,1.0s
SBUM Sibu 22.29 120 P P 03 09 31.0 +0.9
SBUM Sibu 22.29 120 P P 03 09 31.4 +1.3
KASI Kota Agung 22.71 149 P P 03 09 32.9 -1.6
comp=Z,34nm,0.5s
LZH Lanzhou 23.80 22 *eP* P **03 09 45.8 +0.4**
LZH pP pP 03 09 57.1 +1.2
LZH sP sP 03 10 01.4 +0.7
LZH S **S 03 13 53.6 -4.9**
LZH SS **SnSn 03 14 47.8 +8.1**
LZH pmax pmax
comp=Z,29nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.3s
LZH LR LR
comp=Z,200nm,11.4s
LZH LR LR
comp=Z,530nm,12.0s
LZH LR LR
comp=Z,610nm,13.2s
XAN Xi'an 24.40 33 P **P 03 09 49.4 -1.3**
XAN pP sP 03 10 07.3 +1.1
XAN S **S 03 14 11.6 +3.8**
XAN pmax pmax
comp=Z,65nm,0.8s
XAN pmax pmax
comp=Z,280nm,4.3s
XAN Xi'an 24.40 33 P **P 03 09 49.8 -0.9**
XAN pmax pmax
comp=Z,49nm,0.7s
XAN Xi'an 24.40 33 P **P 03 09 49.8 -0.9**
WHN Wuhan 25.45 47 P **P 03 10 04.3 +4.1**
WHN S **S 03 14 26.0 +1.5**
WHN LR LR
comp=Z,750nm,17.7s
LEM Lembang 25.46 144 LR LR 03 21 20.6
comp=Z,295nm,19.3s,baz=248,slow=40
GTA Gaotai 25.76 12 *eP* **P 03 10 05.1 +2.0**
GTA pP pP 03 10 15.6 +1.8
GTA sP sP 03 10 22.6 +4.1
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,110nm,6.9s
GTA LR LR
comp=Z,130nm,7.6s
GTA LR LR
comp=Z,160nm,10.0s
GTA LR LR
comp=Z,200nm,10.0s
NIL Nilore 26.36 321 P **P 03 10 09.1 +0.6**
NIL pmax pmax
comp=Z,16nm,0.8s
NIL Nilore 26.36 321 P **P 03 10 09.1 +0.6**
NIL IAmb IAmb 03 10 24.4
comp=Z,16nm,0.8s
KPJI Karang Pucung 26.63 143 P **P 03 10 09.4 -1.6**
CEP Cherat 27.31 319 P **P 03 10 17.0 -0.2**
CEP S S 03 15 06.0 +12
KSH Kashi 29.30 332 P **P 03 10 34.1 -0.7**
KSH PcP **PcP 03 13 41.8 +0.9**
KSH S **S 03 15 22.0 -3.3**
KSH sS sS 03 15 42.6 -0.8
KSH pmax pmax
comp=Z,34nm,1.1s
KSH pmax pmax
comp=Z,380nm,7.1s
KSH LR LR
comp=Z,590nm,6.8s
KSH LR LR
comp=Z,710nm,8.8s
KSH LR LR
comp=Z,840nm,6.9s
NJ2 Nanjing 29.50 49 *eP* **P 03 10 36.8 +0.3**
NJ2 pmax pmax
comp=Z,17nm,0.9s
KBL Kabul 29.61 317 P **P 03 10 37.4 -0.4**
KBL pmax pmax
comp=Z,6.0nm,0.8s
KBL Kabul 29.61 317 P **P 03 10 37.4 -0.4**
H08S3 Diego Garcia H 29.80 224 T T 03 41 49.4
baz=42,slow=75,SNR=13
H08S2 Diego Garcia H 29.81 224 T T 03 41 56.6
baz=42,slow=75,SNR=7.0
WMQ Urumqi 29.82 352 *eP* **P 03 10 41.8 +2.5**
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,130nm,7.7s
WMQ LR LR
comp=Z,330nm,29.3s
WMQ LR LR
comp=Z,2μm,29.1s
H08S1 Diego Carcia H 29.82 224 T T 03 41 48.9
baz=42,slow=75,SNR=10
HHC Hu-ho-hao-te 31.04 28 *eP* **P 03 10 51.4 +1.2**
HHC pmax pmax
comp=Z,8.0nm,1.1s
PDGK Podgornoye 31.22 341 P **P 03 10 52.4 +0.6**
PDGK pmax pmax
comp=Z,22nm,1.3s
GAR Garm 31.76 325 IAmb IAmb 03 11 10.2
comp=Z,18nm,1.0s
ARSB Arslanbob 32.11 331 P **P 03 10 59.3 -0.4**
ARSB IAmb IAmb 03 11 14.5
comp=Z,25nm,1.2s
BTK Batken 32.24 327 IAmb IAmb 03 11 17.7
comp=Z,17nm,0.8s
AAK Ala-Archa 32.49 334⇓ *iP* **P 03 11 04.4 +1.4**
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 32.49 334 P **P 03 11 02.7 -0.3**
LUWI Luwuk 33.14 115 P **P 03 11 08.6 -0.2**
MK31 Makanchi Array 33.66 347 *eP* **P 03 11 13.1 +0.1**
MK31 pmax pmax
comp=Z,33nm,0.8s
MK31 Makanchi Array 33.66 347 P **P 03 11 13.2 +0.1**
MKAR Makanchi Array 33.66 347 *iP* **P 03 11 13.5 +0.5**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 33.66 347 P **P 03 11 13.3 +0.3**
comp=Z,3.3nm,0.5s,baz=168,slow=8.6,SNR=43
MKAR pP **pP 03 11 23.8 0.0**
comp=Z,32nm,0.9s,baz=158,slow=8.8,SNR=27
MKAR LR LR 03 28 58.6
comp=Z,232nm,20.1s,baz=154,slow=43
MAKZ Makanchi 33.75 346 P **P 03 11 12.5 -1.2**
MAKZ pmax pmax
comp=Z,26nm,0.9s
MAKZ Makanchi 33.75 346 P **P 03 11 13.1 -0.6**
KK31 Karatay Array 34.65 330 *iP* **P 03 11 21.3 -0.3**
KK31 pmax pmax
comp=Z,9.0nm,1.0s
KK31 Karatay Array 34.65 330 P **P 03 11 21.1 -0.5**
KK31 IAmb IAmb 03 11 37.0
comp=Z,11nm,1.1s
KKAR Karatay Array 34.65 330 P **P 03 11 21.1 -0.5**
KKAR pmax pmax
comp=Z,11nm,1.1s
KKAR Karatay Array 34.65 330 P **P 03 11 21.1 -0.5**
KKAR IAmb IAmb 03 11 37.0
comp=Z,11nm,1.1s
SONM Songino Array 35.27 16 P **P 03 11 27.7 +0.6**
comp=Z,2.8nm,1.0s,baz=204,slow=9.2,SNR=13
SONM pP **pP 03 11 39.4 +1.5**
comp=Z,9.9nm,1.1s,baz=203,slow=9.9,SNR=14
ULN Ulaanbaatar 35.48 16⇓ *eP* **P 03 11 28.8 0.0**
ULN pmax pmax
comp=Z,5.0nm,1.1s
ULN Ulaanbaatar 35.48 16 P **P 03 11 28.6 -0.2**
ULN IAmb IAmb 03 11 44.7
comp=Z,10nm,0.9s
MMRI Maumere 36.84 126 P **P 03 11 38.8 -1.8**
TJN Taejon 37.75 48⇑ *eP* **P 03 11 47.8 -0.4**
KURK Kurchatov 38.20 345⇑ *eP* **P 03 11 52.0 +0.3**
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 38.20 345 P **P 03 11 51.4 -0.3**
TLY Talaya 38.30 11⇑ *eP* **P 03 11 50.6 -2.0**
TLY pmax pmax
comp=Z,20nm,1.6s
TLY Talaya 38.30 11 LR LR 03 28 56.7
comp=Z,62nm,20.2s,baz=178,slow=38
KSRS Korea Array 38.64 47 LR LR 03 30 08.8
comp=Z,245nm,18.8s,baz=249,slow=40
GEYT Alibeck 38.88 314 P **P 03 11 58.8 +1.1**
GEYT LR LR 03 29 40.3
comp=Z,102nm,18.5s,baz=15,slow=39
GYA0B ALIBECK ARRAY 38.88 314 P **P 03 11 58.1 +0.4**
BATI Baumata 38.91 127 P **P 03 11 56.1 -2.0**
comp=Z,35nm,0.4s,baz=297,slow=6.8,SNR=5.6
JNU Nakatsue 39.14 55 LR LR 03 29 30.8
comp=Z,150nm,19.0s,baz=236,slow=38
ZAA0 Zalesovo Array 40.13 352 P **P 03 12 07.0 -0.8**
ZAA0 IAmb IAmb 03 12 21.6
comp=Z,10nm,0.8s
ZALV Zalesovo Beam 40.13 352 P **P 03 12 07.9 +0.1**
comp=Z,4.1nm,0.6s,baz=180,slow=8.9,SNR=17
ZALV pP **pP 03 12 18.4 -0.4**
comp=Z,6.7nm,0.6s,baz=176,slow=9.1,SNR=10
ZALV LR LR 03 31 08.5
comp=Z,98nm,19.4s,baz=132,slow=40
CN2 Changchun 40.41 37 *eP* P 03 12 22.1 +12
CN2 pmax pmax
comp=Z,20nm,1.1s
SIJI Sorong 40.73 108 P **P 03 12 13.0 -0.4**
comp=Z,12nm,0.5s,baz=66,slow=21,SNR=4.1
FAKI Fak Fak 42.45 111 P **P 03 12 26.6 -0.8**
BRVK Borovoye 42.71 340 P **P 03 12 28.6 -0.4**
BRVK pmax pmax
comp=Z,9.0nm,0.9s
BRVK Borovoye 42.71 340 P **P 03 12 28.6 -0.4**
AB31 Akbulak array 44.18 329 *i* P **P 03 12 41.4 +0.5**
AB31 pmax pmax
comp=Z,7.0nm,0.9s
ABKAR Akbulak array 44.18 329 P **P 03 12 41.2 +0.3**
PSA00 Pilbara Seismi 44.28 143 P **P 03 12 40.7 -1.2**
PSA00 IAmb IAmb 03 12 41.8
comp=Z,26nm,0.9s
USRK Ussurijsk Ar. 44.58 40 LR LR 03 31 21.4
comp=Z,145nm,18.9s,baz=223,slow=36
FITZ Fitzroy Crossi 45.47 134 P **P 03 12 50.5 -1.0**
comp=Z,21nm,0.6s,baz=325,slow=5.8,SNR=76
FITZ Fitzroy Crossi 45.47 134 P **P 03 12 50.3 -1.2**
AKTO Aktyubinsk 45.90 329 P **P 03 12 54.4 -0.1**
AKTO pmax pmax
comp=Z,9.0nm,1.0s
MJAR Matsushiro Arr 45.94 53 LR LR 03 33 58.7
comp=Z,150nm,18.9s,baz=155,slow=38
KNRA Kununurra 46.18 129 P **P 03 12 55.8 -1.3**
KNRA IAmb IAmb 03 12 57.5
comp=Z,14nm,0.8s
DAMY Dhamar 47.03 277 P **P 03 13 05.9 +1.6**
DAMY IAmb IAmb 03 13 08.0
comp=Z,13nm,0.8s
MORW Morawa 48.47 153 P **P 03 13 14.5 -0.3**
GNI Garni 49.33 311⇓ *eP* **P 03 13 23.2 +1.6**
GNI pmax pmax
comp=Z,18nm,0.8s
GNI Garni 49.33 311 P **P 03 13 21.8 +0.2**
GNI IAmb IAmb 03 13 39.4
comp=Z,19nm,1.1s
ARU Arti 49.64 336⇓ *eP* **P 03 13 24.8 +1.4**
ARU pmax pmax
comp=Z,6.0nm,0.9s
ARU Arti 49.64 336 P **P 03 13 23.4 0.0**
ARU IAmb IAmb 03 13 37.6
comp=Z,19nm,1.0s
AKH Akhalkalaki 50.61 312 P **P 03 13 31.3 0.0**
AKH pmax pmax
comp=Z,8.0nm,1.1s
AKH Akhalkalaki 50.61 312 P **P 03 13 31.3 0.0**
KIV Kislovodsk 51.97 315 *eP* **P 03 13 43.7 +2.4**
KIV pmax pmax
comp=Z,24nm,1.0s
KIV Kislovodsk 51.97 315 P **P 03 13 40.5 -0.8**
KIV IAmb IAmb 03 13 57.9
comp=Z,9.2nm,0.9s
NWAO Narrogin (SRO) 52.31 154 P **P 03 13 43.5 -0.3**
NWAO pmax pmax
comp=Z,62nm,0.8s
NWAO Narrogin (SRO) 52.31 154 P **P 03 13 43.5 -0.3**
YSS Yuzh-Sakhalins 52.58 41 *eP* **P 03 13 46.4 +0.8**
YSS pmax pmax
comp=Z,20nm,1.1s
WRA Warramunga Arr 52.97 129 P **P 03 13 48.2 -0.8**
comp=Z,15nm,0.8s,baz=311,slow=8.1,SNR=75
WRA PcP **PcP 03 14 57.6 +0.1**
comp=Z,1.5nm,0.4s,baz=316,slow=3.5,SNR=5.5
WRAB Tennant Creek 52.97 129 *ceP* **P 03 13 48.2 -0.7**
WRAB pmax pmax
comp=Z,28nm,0.8s
WRAB Tennant Creek 52.97 129 P **P 03 13 48.3 -0.7**
WR0 Warramunga Arr 53.13 129 P **P 03 13 49.1 -1.1**
WR0 **P 03 13 49.5 -0.7**
AS31 Alice Springs 54.93 133 P **P 03 14 02.5 -0.7**
ASAR Alice Springs 54.93 133 P **P 03 14 02.7 -0.5**
comp=Z,15nm,0.8s,baz=311,slow=6.8,SNR=88
ASAR PcP **PcP 03 15 05.5 +0.6**
comp=Z,2.7nm,0.9s,baz=316,slow=4.2,SNR=4.2
ASAR ScP **ScP 03 18 59.6 -0.8**
comp=Z,0.3nm,0.7s,baz=322,slow=4.1,SNR=4.1
ASAR S **S 03 21 38.4 -4.0**
comp=Z,1.0nm,0.9s,baz=305,slow=11,SNR=6.7
VRH Novokhopyorsk 55.14 323 *eP* **P 03 14 04.7 +0.4**
VRH *e**PP **pP 03 14 14.5 -1.2**
VRH pmax pmax
comp=Z,8.0nm,0.9s
FORT Forrest 56.03 143 P **P 03 14 11.0 +0.1**
VSR Storozhevoye 56.64 323⇑ *eP* **P 03 14 17.5 +2.5**
VSR pmax pmax
comp=Z,8.0nm,1.1s
LPSR Galich'ya Gora 57.27 324 *eP* **P 03 14 20.8 +1.3**
LPSR *e**PP **pP 03 14 29.2 -1.7**
LPSR pmax pmax
comp=Z,6.0nm,0.6s
KMBO Kilima Mbogo 57.29 259 LR LR 03 36 46.4
comp=Z,59nm,21.1s,baz=90,slow=34
BR131 Keskin Array S 57.55 308 P **P 03 14 21.8 -0.1**
BR131 pmax pmax
comp=Z,3.0nm,1.0s
BR131 Keskin Array S 57.55 308 P **P 03 14 21.8 -0.1**
BR131 **P 03 14 21.9 0.0**
BRTR Keskin Array B 57.55 308 P **P 03 14 21.8 -0.1**
comp=Z,1.8nm,0.8s,baz=121,slow=7.0,SNR=15
PRGR Permogore 58.10 336 *eP* **P 03 14 28.1 +3.0**
PRGR pmax pmax
comp=Z,10.0nm,0.6s
PMG Port Moresby 58.61 110 *ceP* **P 03 14 29.7 +0.3**
PMG pmax pmax
comp=Z,476nm,2.5s
PMG Port Moresby 58.61 110 P **P 03 14 30.1 +0.6**
comp=Z,44nm,0.7s,baz=293,slow=1.6,SNR=14
PMG Port Moresby 58.61 110 P **P 03 14 29.2 -0.3**
PMG **P 03 14 30.2 +0.8**
ELL Elmali 60.14 304 P **P 03 14 39.3 -0.6**
ELL *PP **pP 03 14 51.3 -0.1**
ELL pmax pmax
comp=Z,33nm,0.8s
ELL Elmali 60.14 304 P **P 03 14 39.3 -0.6**
ELL **pP 03 14 51.3 -0.1**
TIXI Tiksi 61.24 12⇓ *eP* **P 03 14 45.7 -0.9**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 61.24 12 P **P 03 14 45.8 -0.9**
comp=Z,1.7nm,0.3s,baz=224,slow=3.7,SNR=12
TIXI LR LR 03 45 15.2
comp=Z,66nm,18.8s,baz=182,slow=40
TIXI Tiksi 61.24 12 P **P 03 14 45.4 -1.2**
TIXI **P 03 14 46.2 -0.4**
TIXI IAmb IAmb 03 14 59.5
comp=Z,13nm,0.8s
CTA Charters Tower 62.48 122 P **P 03 14 56.2 +0.4**
comp=Z,9.4nm,0.9s,baz=310,slow=6.9,SNR=7.2
MBAR Mbarara 63.37 262 P **P 03 15 03.5 +1.5**
MBAR pmax pmax
comp=Z,8.0nm,1.2s
MBAR Mbarara 63.37 262 P **P 03 15 03.5 +1.5**
MBAR IAmb IAmb 03 15 04.9
comp=Z,8.4nm,1.2s
PETK Petropavlovsk- **63.56 37** LR LR 03 45 57.7
comp=Z,118nm,20.5s,baz=242,slow=39
MLR Muntele Rosu 63.93 314 P **P 03 15 05.2 0.0**
MLR pmax pmax
comp=Z,10.0nm,1.1s
MLR Muntele Rosu 63.93 314 P **P 03 15 05.2 0.0**
MLR IAmb IAmb 03 15 19.5
comp=Z,10nm,1.1s
BUR08 Bucovina Ar. S 64.68 316 P **P 03 15 10.0 0.0**
STKA Stephens Creek 65.34 135 P **P 03 15 14.4 +0.1**
comp=Z,11nm,0.6s,baz=318,slow=5.5,SNR=43
STKA LR LR 03 45 40.8
comp=Z,83nm,20.0s,baz=359,slow=38
STKA Stephens Creek 65.34 135 P **P 03 15 13.8 -0.5**
VSU Vasula 65.60 328⇓ *eP* **P 03 15 16.5 +0.9**
VSU pmax pmax
comp=Z,125nm,1.5s
VTS Vitosha 65.65 311 P **P 03 15 16.1 -0.4**
VTS pmax pmax
comp=Z,3.0nm,0.9s
VTS Vitosha 65.65 311 P **P 03 15 16.1 -0.4**
FINES FINESS Array B 66.61 331 P **P 03 15 21.8 -0.3**
comp=Z,3.9nm,0.9s,baz=111,slow=3.4,SNR=15
ARCES ARCESS Array B 68.94 340 P **P 03 15 37.2 +0.6**
comp=Z,1.4nm,0.6s,baz=90,slow=5.7,SNR=8.9
VYHS Vyhne 69.00 317 *eP* **P 03 15 37.4 0.0**
VYHS Vyhne 69.00 317 *eP* **P 03 15 37.4 0.0**
MORC Moravsky Berou 69.89 318 P **P 03 15 43.1 +0.2**
MORC pmax pmax
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 69.89 318 P **P 03 15 43.1 +0.2**
LSZ Lusaka 70.50 248 P **P 03 15 48.0 +0.7**
LSZ pmax pmax
comp=Z,10.0nm,0.8s
LSZ Lusaka 70.50 248 P **P 03 15 48.0 +0.7**
LSZ IAmb IAmb 03 15 49.6
comp=Z,10nm,0.8s
BILL Bilibino 70.62 22⇓ *eP* **P 03 15 45.2 -1.7**
BILL *eS* **S 03 25 02.4 +4.7**
BILL pmax pmax
comp=Z,29nm,3.2s
DPC Dobruska-Polom 70.69 319 *epP* pP 03 16 02.4 +2.9
TOO Toolangi 71.29 138 P **P 03 15 52.2 +0.7**
TOO pmax pmax
comp=Z,14nm,0.7s
TOO Toolangi 71.29 138 P **P 03 15 52.2 +0.7**
TOO IAmb IAmb 03 15 53.5
comp=Z,14nm,0.7s
GOPC GO Pecny, Ondr 71.67 318 *epP* pP 03 16 08.0 +2.5
ARMA Armidale 71.75 129 P **P 03 15 55.2 +0.6**
PRU Pruhonice 71.83 318 *epP* pP 03 16 06.6 +0.2
BRG Berggiesshubel 72.20 319 *eP* pP 03 16 08.4 -0.2
comp=Z,4.5nm,0.9s
GEC2 GERESS Array S 72.40 317 P **P 03 15 58.3 +0.2**
GEC2 IAmb IAmb 03 16 09.9
comp=Z,15nm,1.4s
GERES GERESS Array B 72.40 317 P **P 03 15 58.4 +0.2**
comp=Z,1.6nm,0.5s,baz=88,slow=5.3,SNR=22
GERES pP **pP 03 16 09.7 -0.3**
comp=Z,4.1nm,0.7s,baz=87,slow=5.6,SNR=13
KHC Kasperske Hory 72.48 317 *eP* P 03 15 52.0 -6.6
KHC pP pP 03 16 10.2 -0.1
CLL Collm 72.79 320 *epP* pP 03 16 12.0 -0.1
NB2 NORSAR Subarra 73.68 330 P **P 03 16 04.9 -0.6**
comp=Z,1.6nm,0.6s,baz=90,slow=6.2
NOA NORSAR Array B 73.68 330 P **P 03 16 04.8 -0.7**
comp=Z,0.7nm,0.6s,baz=94,slow=5.7,SNR=2.8
NOA pP **pP 03 16 16.1 -1.2**
comp=Z,1.4nm,0.6s,baz=90,slow=5.8,SNR=4.5
NOA LR LR 03 51 13.0
comp=Z,113nm,18.6s,baz=100,slow=38
WTTA Wattenberg 73.86 315 *iP* **P 03 16 06.1 -0.9**
comp=Z,3.1nm,0.3s
WATA Walderalm 73.90 316 *eP* **P 03 16 06.2 -0.9**
comp=Z,0.6nm,0.3s
MOTA Moosalm 74.22 316 *iP* **P 03 16 08.8 -0.2**
comp=Z,0.1nm,0.3s
RETA Reutte 74.44 316 *iP* **P 03 16 09.4 -0.7**
comp=Z,2.0nm,0.4s
DAVA Damuels 75.05 316 *iP* **P 03 16 13.4 -0.4**
comp=Z,2.7nm,0.5s
BOSA Boshof 78.12 236 P **P 03 16 32.2 +0.8**
BOSA pmax pmax
comp=Z,10.0nm,0.9s
BOSA Boshof 78.12 236 P **P 03 16 32.5 +1.1**
comp=Z,7.3nm,0.5s,baz=69,slow=3.4,SNR=22
BOSA Boshof 78.12 236 P **P 03 16 32.2 +0.8**
BOSA IAmb IAmb 03 16 33.3
comp=Z,10nm,0.8s
ESDC Sonseca Array 86.30 310 P **P 03 17 14.0 -0.1**
comp=Z,0.4nm,0.4s,baz=63,slow=4.0,SNR=4.7
TOA0 Torodi Ar. Sit 88.09 283 P **P 03 17 22.9 -0.2**
TOA0 IAmb IAmb 03 17 24.4
comp=Z,4.8nm,1.1s
TORD Torodi Ar. Bea 88.09 283 P **P 03 17 23.4 +0.3**
comp=Z,3.8nm,0.8s,baz=90,slow=4.4,SNR=23
TORD pP **pP 03 17 35.2 0.0**
comp=Z,3.6nm,0.9s,baz=81,slow=4.5,SNR=8.9
TORD PP **PP 03 20 50.7 +0.5**
comp=Z,0.8nm,0.9s,baz=75,slow=7.7,SNR=3.6
TULEG Thule 88.74 356 P **P 03 17 25.2 +0.3**
TULEG IAmb IAmb 03 17 39.6
comp=Z,7.2nm,0.9s
SKT Skwentna 88.91 25 P **P 03 17 26.1 0.0**
ILAR Eielson Array 89.27 22 P **P 03 17 26.8 -0.9**
comp=Z,0.5nm,0.6s,baz=281,slow=5.1,SNR=6.9
ILAR pP **pP 03 17 40.5 +0.8**
comp=Z,0.9nm,0.7s,baz=296,slow=4.6,SNR=6.3
PRP Porcupine Dome 89.33 21 P **P 03 17 29.0 +0.9**
SCRK Sand Creek 90.76 22 P **P 03 17 34.9 +0.1**
SCRK IAmb IAmb 03 17 49.8
comp=Z,3.9nm,0.7s
DOT Dot Lake 90.92 22 P **P 03 17 35.3 -0.1**
INK Inuvik 91.19 16 P **P 03 17 36.9 +0.4**
INK pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 91.19 16 P **P 03 17 36.9 +0.4**
INK IAmb IAmb 03 17 51.3
comp=Z,4.7nm,1.1s
DBIC Dimbokro 95.96 278 P **P 03 18 00.6 +1.0**
comp=Z,1.4nm,0.6s,baz=27,slow=4.5,SNR=3.1
DBIC LR LR 03 59 32.1
comp=Z,31nm,19.5s,baz=1.5,slow=34
DBIC Dimbokro 95.96 278 IAmb IAmb 03 18 14.1
comp=Z,4.8nm,1.2s
VNDA Vanda 99.36 168 LR LR 04 01 30.2
comp=Z,31nm,18.1s,baz=355,slow=34
CLNB Carlsbad 130.99 19 PKiKP 03 23 45.4 +0.4

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*ISCJB **20** 03:11:44.6±1.2, 34°.87N±0°.07×33°.85E±0°.06, h50km±7km, Error ellipse: s-maj=13.0km s-min=5.7km az=145.5*
*ISK **20** 03:11:44.2, 34°.86N×33°.82E, h42km±1km, ML2.0/8*
*NIC **20** 03:11:45.0±0.0, 34°.88N×33°.82E, h46km±2km, Md2.6/4, Ml1.8/4*

ISC 20 03:11:45.8±1.9, **34°.89N**±0°.08×**33°.80E**±0°.06, **h42**km±10km, **n18**, σ0**s79**/29, **Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MVOU	**Mavrovouni**	**0.19**	**311**	P	**Pn**	**03 11 52.3**	**-0.9**
MVOU				AML	AML	03 11 58.9	
	0.2nm,0.2s						
MVOU				AML	AML	03 11 58.9	
	0.2nm,0.2s						
MVOU				S	**Sn**	**03 11 59.0**	**+0.6**
MVOU				AML	AML	03 11 59.1	
	0.4nm,0.3s						
MVOU				AML	AML	03 11 59.1	
	0.4nm,0.3s						
MVOU				AMd		03 12 16.1	
MVOU				AMd		03 12 16.1	
PARAL	**Paralimni**	**0.22**	**63**	P	**Pn**	**03 11 53.9**	**+0.4**
PARAL				AML	AML	03 11 58.7	
	0.3nm,0.5s						
PARAL				AML	AML	03 11 58.7	
	0.3nm,0.5s						
PARAL				S	**Sn**	**03 11 59.3**	**+0.5**
PARAL				AML	AML	03 12 01.8	
	0.3nm,0.5s						
PARAL				AML	AML	03 12 01.8	
	0.3nm,0.5s						
CSS	**Mathiatis**	**0.40**	**280**	PG	**Pn**	**03 11 54.3**	**-1.1**
CSS				SG	**Sn**	**03 12 01.9**	**-0.1**
CSS	**Mathiatis**	**0.40**	**280**	P	**Pn**	**03 11 54.5**	**-0.9**
CSS				S	**Sn**	**03 12 02.9**	**+0.9**
CSS				AMd		03 12 15.9	
CSS				AMd		03 12 15.9	
ATHAL	**Athalassa**	**0.42**	**306**	P	**Pn**	**03 11 55.4**	**-0.2**
ASGA	**Asgata**	**0.47**	**257**	P	**Pn**	**03 11 55.3**	**-0.9**

ASGA					S	**Sn**	**03 12 04.1**	**+0.4**
ASGA					AML	AML	03 12 04.2	
	0.2nm,0.2s							
ASGA					AML	AML	03 12 04.2	
	0.2nm,0.2s							
ASGA					AMd		03 12 35.0	
ASGA					AMd		03 12 35.0	
EREN	**Erenkoy**	**0.70**	**25**		PG	**Pn**	**03 11 58.6**	**-0.7**
EREN					SG	**Sn**	**03 12 09.0**	**0.0**
SZAC	**Souni**	**0.77**	**260**		P	**Pn**	**03 11 58.9**	**-1.4**
SZAC					S	**Sn**	**03 12 11.0**	**+0.2**
SZAC					AML	AML	03 12 11.4	
	0.2nm,0.2s							
SZAC					AML	AML	03 12 11.4	
	0.2nm,0.2s							
SZAC					AMd		03 12 26.7	
SZAC					AMd		03 12 26.7	
LEF	**Lefka**	**0.78**	**287**		PG	**Pn**	**03 12 00.3**	**-0.1**
LEF					SG	**Sn**	**03 12 11.8**	**+0.8**
NATA	**Nata**	**1.02**	**264**		P	**Pn**	**03 12 03.9**	**+0.2**
ALFC	**Alefka**	**1.02**	**285**		P	**Pn**	**03 12 03.0**	**-0.7**
AKMS	**Akamas**	**1.21**	**276**		P	**Pn**	**03 12 06.2**	**-0.1**
AKMS					S	**Sn**	**03 12 23.9**	**+2.3**
AKKU	**Akkuyu-Mersin**	**1.28**	**351**		PN	**Pn**	**03 12 06.7**	**-0.5**
AKKU					SN	**Sn**	**03 12 23.4**	**+0.2**
IKL	**Isikli**	**1.35**	**356**		PN	**Pn**	**03 12 07.7**	**-0.4**
IKL					SN	**Sn**	**03 12 24.9**	**+0.1**
TEKE	**Tekeli-Mersin**	**1.37**	**336**		PN	**Pn**	**03 12 07.9**	**-0.5**
BERE	**Bereket-Mersin**	**1.53**	**342**		PN	**Pn**	**03 12 10.4**	**-0.4**
KEBE	**Keben-Mersin**	**1.55**	**357**		PN	**Pn**	**03 12 10.9**	**-0.1**
TEVE	**Tevekalti-Mers**	**1.57**	**349**		PN	**Pn**	**03 12 10.9**	**-0.4**

*ISCJB **20** 03:18:21.4±1.3,8.°10N±0.°06×82.°76W±0.°05,h15km±12km, Error ellipse: s-maj=10.9km s-min=7.7km az=8.6*
*UPA **20** 03:18:22.4±1.6,8.°21N×82.°77W, h17km±3km, MW3.5*
*UCR **20** 03:18:22.8±1.5,8.°19N×82.°75W, h11km±9km*

ISC 20 03:18:21.9±1.9,8.°15N±0.°07×82.°75W±0.°05, h14km±10km, n18,σ0°94/34,2C-5D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAGA3	**Bagala, Chiriq**	**0.38**	**35**	⇓*iP*	**Pb**	**03 18 30.5**	**-0.1**
BAGA3				*eS*	**Sb**	**03 18 36.7**	**+0.3**
DVD	**David**	**0.41**	**47**	⇑*iP*	**Pg**	**03 18 30.6**	**+0.4**
DVD				*eS*	**Sb**	**03 18 37.4**	**+0.3**
DVD	**David**	**0.41**	**47**	⇑*iP*	**Pg**	**03 18 30.6**	**+0.4**
DVD				*eS*	**Sb**	**03 18 37.4**	**+0.3**
LOCO3	**Loma Colorada,**	**0.42**	**52**	*iP*	**Pg**	**03 18 30.8**	**+0.5**
LOCO3				*eS*	**Sb**	**03 18 37.5**	**+0.1**
LOMA3	**Las Lomas, Chi**	**0.45**	**52**	*iP*	**Pg**	**03 18 31.3**	**+0.3**
LOMA3				*eS*	**Sb**	**03 18 38.0**	**-0.3**
CHIR3	**Chiriqui UPA,**	**0.48**	**60**	⇓*iP*	**Pg**	**03 18 31.7**	**+0.2**
CHIR3				*eS*	**Sb**	**03 18 39.9**	**+0.7**
GUAL3	**Gualaca, Chiri**	**0.59**	**50**	*iP*	**Pg**	**03 18 33.5**	**0.0**
GUAL3				*eS*	**Sg**	**03 18 41.3**	**0.0**
PTAR3	**Potrerillos Ar**	**0.59**	**25**	*iP*	**Pg**	**03 18 33.6**	**0.0**
PTAR3				*eS*	**Sb**	**03 18 41.9**	**-0.6**
BCO2	**Palmira**	**0.60**	**21**	⇓*iP*	**Pg**	**03 18 33.8**	**+0.1**
BCO2				*eS*	**Sb**	**03 18 43.3**	**+0.5**
BRU2	**Volcan**	**0.64**	**5**	⇓*iP*	**Pg**	**03 18 34.1**	**-0.4**
BRU2				*eS*	**Sb**	**03 18 44.0**	**+0.1**
BRU2	**Volcan**	**0.64**	**5**	⇓*iP*	**Pg**	**03 18 34.1**	**-0.4**
BRU2				*eS*	**Sb**	**03 18 44.0**	**+0.1**
EDSV	**San Vito**	**0.70**	**342**	*eP*	**Pg**	**03 18 34.4**	**-1.2**
CHGR2	**Aguacate**	**0.98**	**38**	*eP*	**Pb**	**03 18 39.7**	**-1.1**
CHGR2				*eS*	**Sb**	**03 18 50.5**	**-3.2**
GMAL	**Guarumal, Vera**	**1.55**	**104**	*eP*	**Pn**	**03 18 48.0**	**-1.2**
GMAL				*eS*	**Sn**	**03 19 08.9**	**-0.3**
CACAO	**El Cacao, Vera**	**2.04**	**113**	*eP*	**Pn**	**03 18 57.3**	**+1.5**
CACAO				*eS*	**Sn**	**03 19 19.9**	**-1.2**
JTS	**Las Juntas de**	**3.04**	**315**	*eP*	**Pn**	**03 19 11.6**	**+2.0**
BCIP	**Isla Barro Col**	**3.05**	**71**	*eP*	**Pn**	**03 19 10.5**	**+0.7**
BCIP				*eS*	**Sn**	**03 19 46.9**	**+0.7**
BCIP	**Isla Barro Col**	**3.05**	**71**	*eP*	**Pn**	**03 19 10.5**	**+0.7**
BCIP				*eS*	**Sn**	**03 19 46.9**	**+0.7**

*NAO **20** 03:27:02.4±5.1,75.°91N×7.°06E, ML3.7*
*ISCJB **20** 03:27:04.3±0.6,75.°95N±0.°03×8.°2E±0.°2, h10km, mb3.5/7, MS3.8/14, Error ellipse: s-maj=7.9km s-min=4.8km az=2.6*
*IDC **20** 03:27:05.8±0.8,75.°95N×7.°69E, h0km, mb3.6/7, mb1 3.9/10,mb1mx3.6/42, mbtmp3.7/10, ML3.4/3, MS3.7/19, Ms1 3.7/19,ms1mx3.5/43, Error ellipse: s-maj=15.8km s-min=11.9km az=80.0*
*BER **20** 03:27:07.5±4.8,75.°98N×7.°16E, h27km±44km, ML2.2, ML3.7(NAO), Confirmed Earthquake*
*IEPN **20** 03:27:09.0,75.°77N×9.°30E, h15km*

ISC 20 03:27:07.2±0.7,75.°98N±0.°05×8.°48E±0.°07, h10km, n58, σ2°05/55, mb3.5/7, MS3.8/14,3C,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**1.95**	**55**	Pn	**Pn**	**03 27 40.2**	**0.0**
HSPB				Sn	**Sn**	**03 28 05.4**	**+0.7**
HSPB	**Hornsund (broa**	**1.95**	**55**	⇑*iP*	**Pn**	**03 27 40.1**	**-0.1**
HSPB				*eS*	**Sn**	**03 28 03.9**	**-0.8**
HSPB	**Hornsund (broa**	**1.95**	**55**	*eP*	**Pn**	**03 27 40.0**	**-0.1**
HSPB				*eS*	**Sb**	**03 28 06.0**	**-1.0**
HSPB				IAML		03 28 18.8	
	comp=Z,17nm,0.5s						
BRBA	**Barentsburg A**	**2.46**	**29**	Pn	**Pn**	**03 27 46.1**	**-1.2**
BRBA	**Barentsburg A**	**2.46**	**29**	Pn	**Pn**	**03 27 46.1**	**-1.2**
BRBB	**Barentsburg B**	**2.49**	**29**	Pn	**Pn**	**03 27 46.6**	**-1.0**
BRBB	**Barentsburg B**	**2.49**	**29**	Pn	**Pn**	**03 27 46.6**	**-1.0**
SPA0	**Spitsbergen Ar**	**2.83**	**35**	Pn	**Pn**	**03 27 52.5**	**+0.1**
	baz=203,slow=12						
SPA0				Sn	**Sn**	**03 28 26.7**	**+0.2**
	baz=234,slow=28						
SPA0	**Spitsbergen Ar**	**2.83**	**35**	Pn	**Pn**	**03 27 52.5**	**+0.1**
	baz=203,slow=12						
SPA0				Sn	**Sn**	**03 28 26.7**	**+0.2**
	baz=234,slow=28						
SPITS	**Spitsbergen Ar**	**2.83**	**35**	Pn	**Pn**	**03 27 52.4**	**0.0**
	baz=199,slow=12,SNR=319						
SPITS				Sn	**Sn**	**03 28 26.5**	**0.0**
	baz=220,slow=22,SNR=8.2						
KBS	**Kingsbay**	**3.06**	**13**	Pn	**Pn**	**03 27 53.7**	**-1.8**
KBS	**Kingsbay**	**3.06**	**13**	⇑*iP*	**Pn**	**03 27 53.6**	**-1.9**
KBS				*eS*	**Sn**	**03 28 30.6**	**-1.4**
KBS	**Kingsbay**	**3.06**	**13**	*eP*	**Pn**	**03 27 53.5**	**-2.0**
KBS				*eS*	**Sn**	**03 28 29.7**	**-2.3**
KBS				IAML		03 28 35.3	
	comp=Z,11nm,0.6s						
BJO1	**Bjornoya**	**3.07**	**114**	Pn	**Pn**	**03 27 53.1**	**-2.5**
HOPEN	**Hopen**	**3.98**	**74**	Pn	**Pn**	**03 28 08.8**	**+0.7**
HOPEN				Sn	**Sn**	**03 28 55.6**	**+0.9**
HOPEN	**Hopen**	**3.98**	**74**	*eP*	**Pn**	**03 28 08.6**	**+0.5**
HOPEN				*eS*	**Sn**	**03 28 55.5**	**+0.9**
HOPEN				IAML		03 28 57.4	
	comp=Z,27nm,0.5s						
DAG	**Danmarks Havn**	**6.42**	**290**	*iP*	Pn	03 28 33.8	-7.7
DAG				*iS*	Sn	03 29 37.7	-17
DAG	**Danmarks Havn**	**6.42**	**290**	*eP*	Pn	03 28 33.9	-7.7
DAG				*iS*	Sn	03 29 37.7	-17
DAG				IAML		03 29 40.6	
	comp=Z,9.9nm,0.4s						
TRO	**Tromso**	**7.07**	**149**	*eP*	**Pn**	**03 28 51.2**	**+0.6**
DBG	**Daneborg**	**7.51**	**271**	*iP*	Pn	03 28 47.4	-9.1
DBG				*iS*	Sn	03 30 01.6	-20
DBG				IAML		03 30 12.8	
	comp=Z,1.9nm,0.4s						
KIF	**Kilpisjarvi**	**7.91**	**146**	*eP*	**Pn**	**03 29 01.8**	**-0.1**
ARA0	**ARCESS Array S**	**8.17**	**134**	Pn	**Pn**	**03 29 04.1**	**-1.4**
	baz=338,slow=11						
ARA0				Sn	**Sn**	**03 30 31.4**	**-6.3**
	baz=325,slow=22						
ARA0	**ARCESS Array S**	**8.17**	**134**	Pn	**Pn**	**03 29 04.1**	**-1.4**
	baz=338,slow=11						
ARA0				Sn	**Sn**	**03 30 31.4**	**-6.3**
	baz=325,slow=22						
ARCES	**ARCESS Array B**	**8.17**	**134**	Pn	**Pn**	**03 29 04.3**	**-1.3**
	sm=Z,0.9nm,0.3s,baz=321,slow=9.6,SNR=18						
ARCES				Sn	**Sn**	**03 30 31.7**	**-6.1**
	comp=Z,1.0nm,0.3s,baz=324,slow=18,SNR=8.1						
ARCES				LR	LR	03 32 31.7	
	comp=Z,180nm,19.1s,baz=324,slow=39						
KEV	**Kevo**	**8.25**	**130**	*eP*	**Pn**	**03 29 06.6**	**-0.1**
KTK1	**Kautokeino**	**8.26**	**140**	*eP*	**Pn**	**03 29 07.5**	**+0.7**
KTK1				IAML		03 30 39.7	
	comp=Z,1.8nm,0.5s						
HEF	**Hetta**	**8.87**	**141**	*eP*	**Pn**	**03 29 14.9**	**-0.3**
ZFI2	**Zemlya Franca-**	**9.04**	**40**	⇑*iP*	**Pn**	**03 29 17.4**	**+0.1**
ZFI2				*iS*	**Sn**	**03 30 53.7**	**-5.2**
	comp=Z,11nm,0.4s						
APA0	**Apatity Array**	**11.24**	**125**	Pn	**Pn**	**03 29 47.7**	**+0.1**
	baz=344,slow=14						
APA0	**Apatity Array**	**11.24**	**125**	Pn	**Pn**	**03 29 47.7**	**+0.1**
	baz=344,slow=14						
BORG	**Borgarnes**	**14.80**	**237**	LR	LR	03 34 44.1	
	comp=Z,158nm,18.9s,baz=89,slow=31						
NOA	**NORSAR Array B**	**15.04**	**175**	LR	LR	03 35 09.2	
	comp=Z,94nm,18.1s,baz=265,slow=32						
FIA0	**FINESS Array S**	**15.80**	**148**	P	**Pn**	**03 30 50.2**	**+0.8**
	baz=345,slow=16						
FIA0	**FINESS Array S**	**15.80**	**148**	P	**Pn**	**03 30 50.2**	**+0.8**
	baz=345,slow=16						
FINES	**FINESS Array B**	**15.80**	**148**	Pn	**Pn**	**03 30 50.5**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=5.7,slow=9.6,SNR=6.1						
FINES				LR	LR	03 36 36.8	
	comp=Z,249nm,20.5s,baz=350,slow=36						
LSH	**Leshukonskoye**	**16.29**	**113**	*eP*	**P**	**03 31 01.0**	**+2.4**
	comp=Z,59nm,2.7s						
KLMR	**Klimovskoe**	**18.57**	**128**	*eP*	**P**	**03 31 23.4**	**-0.4**
	comp=Z,21nm,1.4s						
PRGR	**Permogore**	**19.11**	**118**	*eP*	**Pn**	**03 31 31.6**	**+1.1**
	comp=Z,12nm,1.0s						
SFJD	**Kangerlussuaq**	**19.78**	**275**	LR	LR	03 38 07.4	
	comp=Z,174nm,18.0s,baz=54,slow=34						
KIRV	**Kirov**	**22.69**	**117**	LR	LR	03 41 14.1	
	comp=Z,217nm,20.3s,baz=359,slow=37						
RES	**Resolute Bay**	**23.08**	**319**	LR	LR	03 40 51.5	
	comp=Z,158nm,18.1s,baz=6.5,slow=36						
ARU	**Arti**	**26.71**	**109**	LR	LR	03 43 56.1	
	comp=Z,155nm,19.7s,baz=316,slow=38						
FRB	**Frobisher Bay**	**26.75**	**286**	LR	LR	03 42 55.6	
	comp=Z,240nm,21.1s,baz=8.5,slow=36						
GERES	**GERESS Array B**	**27.32**	**172**	P	**P**	**03 32 52.7**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=23,slow=7.2,SNR=5.7						
AKTO	**Aktyubinsk**	**32.14**	**114**	LR	LR	03 47 25.9	
	comp=Z,230nm,18.4s,baz=319,slow=38						
SCHQ	**Schefferville**	**34.23**	**276**	LR	LR	03 46 31.2	
	comp=Z,134nm,20.0s,baz=114,slow=34						
ZALV	**Zalesovo Beam**	**35.28**	**84**	LR	LR	03 52 38.0	
	comp=Z,124nm,18.7s,baz=311,slow=43						
KBZ	**Khabaz**	**35.53**	**135**	LR	LR	03 49 05.5	
	comp=Z,116nm,19.2s,baz=337,slow=37						
YKA	**Yellowknife Ar**	**37.14**	**320**	P	**P**	**03 34 15.4**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=9.8,slow=9.1,SNR=6.0						
YKA				PcP	**PcP**	**03 36 36.5**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=13,slow=3.1,SNR=5.2						
ILAR	**Eielson Array**	**38.62**	**343**	P	**P**	**03 34 30.6**	**+0.7**
	comp=Z,2.0nm,0.9s,baz=3.0,slow=6.7,SNR=22						
MKAR	**Makanchi Array**	**41.29**	**91**	P	**P**	**03 34 54.8**	**+2.6**
	comp=Z,0.6nm,0.8s,baz=343,slow=9.2,SNR=3.1						
MKAR				LR	LR	03 55 47.6	
	comp=Z,209nm,18.6s,baz=338,slow=42						
GEYT	**Alibeck**	**44.07**	**120**	LR	LR	03 55 26.4	
	comp=Z,142nm,18.9s,baz=355,slow=38						
ULM	**Lac du Bonnet**	**45.19**	**299**	LR	LR	03 53 54.8	
	comp=Z,151nm,19.2s,baz=24,slow=36						
SONM	**Songino Array**	**46.05**	**68**	P	**P**	**03 35 33.8**	**+3.2**
	comp=Z,0.5nm,0.8s,baz=353,slow=10,SNR=2.9						
PDAR	**Pinedale Array**	**55.13**	**308**	P	**P**	**03 36 37.9**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=352,slow=3.2,SNR=3.4						
PDAR				LR	LR	04 00 24.6	
	comp=Z,139nm,18.8s,baz=10.0,slow=36						
TORD	**Torodi Ar. Bea**	**62.93**	**187**	P	**P**	**03 37 32.8**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=351,slow=6.3,SNR=6.2						
TXAR	**Lajitas Array**	**66.89**	**298**	LR	LR	04 08 09.9	
	comp=Z,79nm,18.6s,baz=0.0,slow=37						
CMAR	**Chiang Mai Arr**	**72.34**	**85**	LR	LR	04 15 54.3	
	comp=Z,49nm,18.6s,baz=325,slow=40						

*MEX **20** 04:00:39.6±0.6, 14.°46N×92.°08W, h75km±7km, MD3.6*
*ISCJB **20** 04:00:40.9±2.3, 14.°6N±0.°3×92.°2W±0.°2, h67km, Error ellipse: s-maj=47.6km s-min=6.7km az=30.3*
*GCG **20** 04:00:40.4±0.3, 14.°38N×92.°25W, h25km±15km, MD3.6*

ISC 20 04:00:42.0±3.0,14.°7N±0.°5×92.°2W±0.°3, h67km, n5, σ1°9/14, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.23**	**331**	*eP*	**Pn**	**04 00 51.3**	**-1.1**
THIG				*iS*	**Sn**	**04 01 00.6**	**+0.6**
STG3	**Santiaguito 3,**	**0.56**	**89**	*eP*	**Pn**	**04 00 54.7**	**-0.6**
FUG	**Fuego 3**	**1.29**	**101**	*eP*	**Pn**	**04 01 04.4**	**+0.1**
FUG				*eS*	**Sn**	**04 01 19.8**	**-1.1**
PCIG		**1.44**	**314**	*eP*	**Pn**	**04 01 05.5**	**-0.5**
PCIG				*iS*	**Sn**	**04 01 25.6**	**+1.5**
IXG	**Ixpaco**	**1.73**	**107**	*eP*	**Pn**	**04 01 10.0**	**-0.2**
IXG				*eS*	**Sn**	**04 01 33.0**	**+1.5**

*KRNET **20** 04:00:42.7±0.1,41.°48N×71.°60E, h8km, mb2.1*
*SOME **20** 04:00:45.7,41.°62N×71.°68E, h5km*
*NNC **20** 04:00:46.2±3.3,41.°61N×71.°66E, h4km±34km, mb2.6, mpv2.5, Error ellipse: s-maj=35.3km s-min=11.5km az=175.0*

ISC 20 04:00:43.7±1.5,41.°47N±0.°04×71.°62E±0.°03, h2km±12km, n15,σ0°96/28,14C-2D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.41**	**38**	⇓*eP*	**Pg**	**04 00 51.0**	**-0.6**
	baz=44						
ARK				⇓*iS*	**Sg**	**04 00 56.7**	**-0.3**
	baz=44						
ARSB	**Arslanbob**	**1.03**	**98**	⇑*iP*	**Pg**	**04 01 02.9**	**-0.6**
	baz=98						
ARSB				⇑*iS*	**Sg**	**04 01 17.7**	**+0.8**
	baz=98						
IUG	**luzhnay**	**1.37**	**300**	*eP*	**Pb**	**04 01 10.2**	**+0.1**
	0.5nm,0.1s						
IUG				*eS*	**Sn**	**04 01 28.7**	**0.0**
	8.4nm,0.2s						
IUG	**luzhnay**	**1.37**	**300**	P	**Pb**	**04 01 10.2**	**+0.1**
	0.7nm,0.3s						
IUG				S	**Sn**	**04 01 28.7**	**0.0**
	6.5nm,0.2s						
BTK	**Batken**	**1.54**	**204**	⇑*iP*	**Pn**	**04 01 12.1**	**-0.2**
	baz=3.0						
BTK				⇑*iS*	**Sn**	**04 01 33.0**	**0.0**
	baz=3.0						
AML	**Almayashu**	**1.68**	**66**	⇑*iP*	**Pn**	**04 01 14.6**	**0.0**
	baz=67						
AML				⇑*iS*	**Sg**	**04 01 38.6**	**+0.9**
	baz=67						
MRKS	**Merke**	**1.74**	**43**	*eP*	**Pn**	**04 01 15.6**	**+0.5**
	2.2nm,0.2s						
MRKS				*eS*	**Sb**	**04 01 38.6**	**-0.3**
	3.5nm,0.2s						
MRKS	**Merke**	**1.74**	**43**	P	**Pn**	**04 01 15.6**	**+0.5**
	2.2nm,0.2s						
MRKS				S	**Sb**	**04 01 38.6**	**-0.3**
	3.5nm,0.2s						
KK31	**Karatay Array**	**1.82**	**334**	P	**Pg**	**04 01 18.9**	**+0.2**
	0.7nm,0.5s,baz=154,slow=16,SNR=5.8						
KK31				S	**Sn**	**04 01 39.2**	**-0.8**
	0.5nm,0.3s,baz=147,slow=28,SNR=5.1						
EKS2	**Erkin-Say**	**2.00**	**53**	⇑*iP*	**Pb**	**04 01 20.7**	**-0.1**
	baz=53						
EKS2				⇑*iS*	**Sg**	**04 01 48.0**	**+0.2**
	baz=53						
ARLS	**Aral**	**2.06**	**78**	⇑*iP*	**Pb**	**04 01 21.4**	**-0.5**
	baz=78						
ARLS				⇑*iS*	**Sb**	**04 01 49.2**	**+1.1**
	baz=78						
UCH	**Uchtor**	**2.29**	**70**	⇑*iP*	**Pn**	**04 01 24.8**	**+1.9**
	baz=70						
UCH				⇑*iS*	**Sb**	**04 01 54.9**	**0.0**
	baz=70						
KZA	**Kyzart**	**2.78**	**76**	⇑*eP*	**Pn**	**04 01 32.0**	**+2.4**
	baz=76						
KZA				⇑*iS*	**Sb**	**04 02 07.2**	**-1.8**
	baz=76						
SGDS	**Sogindy**	**2.98**	**47**	Pg	**Pb**	**04 01 38.0**	**+0.5**
	1.7nm,0.4s						
SGDS				Lg	Lg	04 02 16.9	
	1.8nm,0.3s						
TKM2	**Tokmak 2**	**3.29**	**63**	Pn	**Pn**	**04 01 34.3**	**-2.1**
	2.7nm,1.0s						
TKM2				Lg	Lg	04 02 25.8	
	0.9nm,0.5s						

*BJI **20** 04:41:12.7±0.0,47.°27N×82.°16E, h6km, ML3.7/9*
*IDC **20** 04:41:13.7±1.2,47.°13N×82.°51E, h28km±10km, mb3.6/8, mb1 3.8/12,mb1mx3.6/53, mbtmp3.8/12, ML3.6/4, Error ellipse: s-maj=16.6km s-min=13.3km az=83.0*
*NNC **20** 04:41:14.4±0.5,47.°16N×82.°06E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=3.7km s-min=2.5km az=52.0*
*SOME **20** 04:41:15.2,47.°18N×81.°98E, h15km*
*ASRS **20** 04:41:23.8±0.9,48.°N±4.°×8.°3E±.°, h5km, MLh4.3/8, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

ISC 20 04:41:13.2±1.0,47.°25N±0.°02×82.°32E±0.°03, h12km±7km, n67,σ2°03/88,mb3.8/8,14C-7D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**0.46**	**182**	⇓P	**Pg**	**04 41 22.1**	**-0.1**
	257nm,0.5s,baz=7.1,slow=16						
MK31				⇑S	**Sg**	**04 41 27.8**	**-0.6**
	3µm,0.5s,baz=3.4,slow=29,SNR=18						
MKAR	**Makanchi Array**	**0.46**	**182**	Pg	**Pg**	**04 41 22.1**	**-0.2**
	215nm,0.3s,baz=7.4,slow=17,SNR=7848						
MKAR				Lg	Lg	04 41 28.4	
	1µm,0.3s,baz=1.8,slow=28,SNR=209						
MAKZ	**Makanchi**	**0.50**	**208**	⇑P	**Pg**	**04 41 22.2**	**-0.8**
	124nm,0.3s						
MAKZ				⇓S	**Sg**	**04 41 27.5**	**-2.2**
	347nm,0.3s						
ZSN	**Zaisan**	**1.75**	**83**	*eP*	**Pg**	**04 41 45.8**	**-0.8**
	30nm,0.1s						
ZSN				*eS*	**Sg**	**04 42 07.7**	**-1.6**
	324nm,0.4s						
ZSN	**Zaisan**	**1.75**	**83**	P	**Pg**	**04 41 45.8**	**-0.8**
	59nm,0.2s						
ZSN				S	**Sg**	**04 42 08.4**	**-0.9**
	324nm,0.4s						
KAPS	**Kapalarasan**	**2.84**	**227**	*eP*	**Pn**	**04 42 01.7**	**+3.2**
	47nm,0.3s						
KAPS				*eS*	**Sn**	**04 42 34.7**	**+2.0**
	209nm,0.4s						
KAPS	**Kapalarasan**	**2.84**	**227**	Pg	**Pn**	**04 42 01.7**	**+3.2**
	47nm,0.3s						
KAPS				Lg	Lg	04 42 34.7	
	209nm,0.4s						
DJR	**Jarkent**	**3.42**	**212**	*eP*	**Pb**	**04 42 14.0**	**+0.3**
	15nm,0.4s						
DJR				*eS*	**Sb**	**04 42 56.5**	**+1.3**
	109nm,0.4s						
DJR	**Jarkent**	**3.42**	**212**	Pg	**Pb**	**04 42 14.0**	**+0.3**
	15nm,0.4s						
DJR				Lg	Lg	04 42 56.5	
	109nm,0.4s						
SEM	**Semipalatinsk**	**3.44**	**337**	*eP*	**Pb**	**04 42 16.0**	**+1.8**
	84nm,0.5s						
SEM				*eS*	**Sb**	**04 42 59.9**	**+3.9**
	730nm,0.5s						
SEM	**Semipalatinsk**	**3.44**	**337**	Pg	**Pb**	**04 42 16.0**	**+1.8**
	84nm,0.5s						
SEM				Lg	Lg	04 42 59.9	
	730nm,0.5s						
TDK	**Taldyqorghan**	**3.53**	**232**	*eP*	**Pb**	**04 42 16.1**	**+0.5**
	128nm,0.4s						
TDK				*eS*	**Sb**	**04 42 59.5**	**+1.1**
	915nm,0.6s						
TDK	**Taldyqorghan**	**3.53**	**232**	Pg	**Pb**	**04 42 17.0**	**+1.4**
	128nm,0.4s						
TDK				Lg	Lg	04 43 01.2	
	915nm,0.6s						
UKR	**Ust'-Kan**	**4.02**	**23**	Pg	**Pg**	**04 42 29.2**	**-1.0**
UKR				Sg	**Sg**	**04 43 20.9**	**-1.5**
DGZ	**Jazzator, Alta**	**4.19**	**52**	Pg	**Pg**	**04 42 32.5**	**-0.9**
DGZ				Sg	**Sg**	**04 43 27.1**	**-0.7**
KURBB	**Kurchatov Arra**	**4.19**	**325**	Pn	**Pn**	**04 42 18.2**	**+1.3**
	1.3nm,0.3s,baz=142,slow=12,SNR=33						
KURBB				Lg	Lg	04 43 25.6	
	11nm,0.3s,baz=142,slow=30,SNR=25						
KURBB	**Kurchatov Arra**	**4.19**	**325**	⇓Pn	**Pn**	**04 42 18.5**	**+1.5**
	50nm,0.6s						
KURBB				⇑Lg	Lg	04 43 23.6	
	204nm,0.5s						
KURK	**Kurchatov**	**4.23**	**326**	⇑Pn	**Pn**	**04 42 19.4**	**+1.9**
	1.9nm,0.4s						
KURK				⇓Pg	**Pb**	**04 42 30.4**	**+2.9**
	44nm,0.9s						
KURK				⇑Lg	Lg	04 43 25.6	
	397nm,0.6s						
ARXS	**Arharly**	**4.37**	**228**	Pg	**Pb**	**04 42 32.3**	**+2.3**
	21nm,0.3s						
ARXS				Lg	Lg	04 43 27.9	
	254nm,0.5s						
PDGK	**Podgornoye**	**4.40**	**208**	Pg	**Pb**	**04 42 32.8**	**+2.2**
	12nm,0.5s						
PDGK				Lg	Lg	04 43 28.1	
	68nm,0.6s						
PDGK	**Podgornoye**	**4.40**	**208**	⇑Pn	**Pn**	**04 42 21.3**	**+1.3**
	9.0nm,0.4s						
PDGK				⇑Lg	Lg	04 43 28.6	
	142nm,0.7s						
CHBI	**Chibit, Altay**	**4.60**	**46**	Pg	**Pg**	**04 42 43.8**	**+2.6**
CHBI				Sg	**Sg**	**04 43 39.7**	**-1.0**
AKAR	**Aktash**	**4.66**	**47**	Pg	Pg	04 42

KST	**Kastek** 18nm,0.5s	**6.16**	**229**	Pg	**Pb**	04 43 04.6	+4.2
KST	55nm,0.5s			Lg	Lg	04 44 22.7	
TKM2	**Tokmak 2** SNR=8.9	**6.43**	**230**	P	**Pn**	**04 42 48.3**	**+0.4**
TKM2	**Tokmak 2** 15nm,0.8s	**6.43**	**230**	⇑Pn	**Pn**	**04 42 48.4**	**+0.5**
TKM2	55nm,1.0s			⇑Lg	Lg	04 44 29.5	
ELT	**Eltsovka**	**6.52**	**21**	Pg	Pb	04 43 00.8	-5.6
ELT				Sg	**Sg**	**04 44 40.2**	**-2.0**
TASR	**Tashtagol**	**6.57**	**31**	Pn	**Pn**	**04 42 52.5**	**+2.8**
TASR				S	**Sn**	**04 44 06.4**	**+1.9**
ULHL	**Ulahol** SNR=16	**6.62**	**223**	P	**Pn**	**04 42 52.6**	**+2.2**
USP	**Ospenovka** SNR=7.6	**6.80**	**237**	P	**Pn**	**04 42 53.2**	**+0.3**
ZALV	**Zalesovo Beam** 1.7nm,0.3s,baz=196,slow=13,SNR=14	**6.89**	**12**	Pn	**Pn**	**04 42 55.6**	**+1.7**
ZALV	3.7nm,0.3s,baz=189,slow=26,SNR=5.5			Sn	**Sn**	**04 44 13.7**	**+1.6**
ZALV	2.8nm,0.3s,baz=193,slow=25,SNR=4.4			Lg	Lg	04 44 49.9	
KBK	**Karagaybulak** SNR=8.8	**6.96**	**231**	P	**Pn**	**04 42 56.7**	**+1.5**
AAK	**Ala-Archa** 2.1nm,0.3s,baz=95,slow=5.2,SNR=18	**7.22**	**233**	Pn	**Pn**	**04 42 59.6**	**+1.0**
AAK	1.5nm,0.3s,baz=258,slow=14,SNR=4.5			Lg	Lg	04 44 57.4	
AAK	**Ala-Archa** SNR=7.5	**7.22**	**233**	P	**Pn**	**04 42 59.5**	**+0.9**
AAK	**Ala-Archa** 8.0nm,0.6s	**7.22**	**233**	Pn	**Pn**	**04 42 58.8**	**+0.1**
AAK	39nm,0.8s			Lg	Lg	04 44 58.5	
UCH	**Uchtor** SNR=7.1	**7.49**	**231**	P	**Pn**	**04 43 04.7**	**+2.1**
EKS2	**Erkin-Say** SNR=7.3	**7.60**	**236**	P	**Pn**	**04 43 04.7**	**+0.8**
KK31	**Karatay Array** 4.6nm,0.6s,baz=61,slow=14,SNR=60	**9.31**	**248**	⇓Pn	**Pn**	**04 43 26.1**	**-1.1**
KK31	4.1nm,0.7s,baz=62,slow=21,SNR=4.5			⇑Sn	**Sn**	**04 45 10.4**	**-1.4**
KK31	6.8nm,0.5s,baz=61,slow=30,SNR=4.6			⇑Lg	Lg	04 46 08.5	
BVAR	**Borovoye Array** 1.6nm,0.3s,baz=117,slow=12,SNR=14	**9.59**	**311**	Pn	**Pn**	**04 43 31.3**	**+0.4**
BVAR	3.1nm,0.3s,baz=116,slow=21,SNR=9.8			Sn	**Sn**	**04 45 14.2**	**-4.3**
BVAR	2.1nm,0.3s,baz=118,slow=25,SNR=3.6			Lg	Lg	04 46 15.3	
BRVK	**Borovoye** 4.7nm,0.9s	**9.66**	**311**	⇓Pn	**Pn**	**04 43 31.8**	**-0.1**
BRVK	8.0nm,0.6s			⇑Sn	**Sn**	**04 45 20.4**	**+0.2**
BRVK	30nm,0.9s			⇑Lg	Lg	04 46 19.4	
FINES	**FINESS Array B** 2.1nm,0.8s,baz=94,slow=6.3,SNR=4.0	**34.52**	**315**	P	**P**	**04 47 60.0**	**-0.9**
ARCES	**ARCESS Array B** 1.0nm,0.7s,baz=95,slow=7.5,SNR=5.1	**35.27**	**329**	P	**P**	**04 48 06.7**	**-0.6**
BRTR	**Keskin Array B** 0.6nm,0.8s,baz=83,slow=6.3,SNR=4.0	**35.62**	**276**	P	**P**	**04 48 10.9**	**+0.1**
QIZ	**Qiongzhong**	**36.03**	**132**	P	**P**	**04 48 14.8**	**+0.5**
QIZ				S	**S**	**04 53 56.1**	**+3.1**
QIZ	comp=N,620nm,12.0s			LR	LR		
QIZ	comp=E,600nm,14.7s			LR	LR		
QIZ	comp=Z,710nm,17.2s			LR	LR		
NB2	**NORSAR Subarra** 2.0nm,0.5s,baz=74,slow=7.9	**41.67**	**316**	P	**P**	**04 48 59.9**	**-1.3**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.4s,baz=76,slow=7.9,SNR=4.0	**41.67**	**316**	P	**P**	**04 48 60.0**	**-1.3**
ILAR	**Eielson Array** comp=Z,0.3nm,0.6s,baz=317,slow=4.1,SNR=7.3	**61.92**	**22**	P	**P**	**04 51 30.6**	**-1.5**
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.6s,baz=344,slow=6.3,SNR=10.0	**69.77**	**8**	P	**P**	**04 52 20.9**	**-1.8**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.4s,baz=43,slow=5.1,SNR=6.3	**74.12**	**272**	P	**P**	**04 52 47.5**	**-2.1**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.6s,baz=52,slow=1.9,SNR=5.4	**89.75**	**9**	P	**P**	**04 54 10.3**	**-1.3**

IDC 20 04:43:46.7±12.0, 21°67.5′N×178°49.9′W, h551km±79km, mb3.6/4, mb1 3.7/6, mb1mx3.2/38, mbtmp4.6/6, Error ellipse: s-maj=168.2km s-min=46.0km az=57.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.8nm,0.3s,baz=102,slow=8.9,SNR=6.4	**13.99**	**266**	P	P	04 46 47.7	+1.7
URZ	**Urewera** 1.7nm,0.3s,baz=316,slow=9.2,SNR=13	**16.97**	**192**	P	P	04 47 14.5	-0.3
STKA	**Stephens Creek** 6.4nm,0.5s,baz=98,slow=12,SNR=21	**36.88**	**245**	P	P	04 50 08.7	-0.3
ASAR	**Alice Springs** 8.4nm,0.7s,baz=100,slow=7.8,SNR=64	**43.82**	**258**	P	P	04 51 04.0	-0.5
WRA	**Warramunga Arr** 2.2nm,0.4s,baz=94,slow=7.9,SNR=69	**44.00**	**263**	P	P	04 51 05.1	-0.8
FITZ	**Fitzroy Crossi** 2.0nm,0.3s,baz=103,slow=7.9,SNR=17	**52.43**	**263**	P	P	04 52 09.2	+0.6

*IDC **20** 04:48:12.8±0.6, 10°89N×122°38E, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.0/43, mbtmp4.1/12, MS3.8/20, Ms1 3.8/20, ms1mx3.6/41, Error ellipse: s-maj=32.6km s-min=15.1km az=71.0*

*MAN **20** 04:48:13.5, 11°04N×122°12E, h1km, MS4.7*

MAN Intensity III - Tibiao; Culasi; San Jose Barbaza Laua-an Antique; Caticlan; Iloilo City; Intensity II - Boracay Island: Sibalom Sebaste Antique.

*ISCJB **20** 04:48:16.6±1.2, 11°08N±0°03×122°16E±0°04, h23km±10km, mb4.4/23, MS3.8/20, Error ellipse: s-maj=7.0km s-min=4.2km az=161.5*

*BJI **20** 04:48:18.3±0.0, 11°30N×123°20E, h10km, mb4.3/5, mB4.7/2, Ms4.5/3, Ms7 4.2/3*

*NEIC **20** 04:48:18.9±2.0, 10°89N±0°08×122°5E±0°1, h44km±6km, mb4.5/21*

*DJA **20** 04:48:20.7±1.4, 11°N±7°×12°3E±°, h118km±14km, M4.6/13, mB5.2/5, mb4.6/13, Mw(mB)4.6/5*

ISC 20 04:48:16.0±1.3, 11°06N±0°03×122°32E±0°05, h12km±8km, n99, σ2°814/89, mb4.4/32, MS3.8/20, 3C-2D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.51**	**149**	P	**Pg**	**04 48 24.4**	**-1.6**
GUIM				S	**Sn**	**04 48 40.4**	**+2.6**
KALP	**Kalibo**	**0.61**	**1**	P	**Pg**	**04 48 27.3**	**-0.7**
LLP	**Lapu-Lapu**	**1.78**	**115**	⇑P	**Pn**	**04 48 47.7**	**+1.1**
LLP				S	**Sg**	**04 49 14.5**	**+1.2**
MMPH	**Masbate**	**1.81**	**45**	P	**Pb**	**04 48 49.2**	**0.0**
MMPH				S	**Sg**	**04 49 14.9**	**+0.5**
OCLP	**Ormoc**	**2.24**	**90**	P	**Pn**	**04 48 55.0**	**+2.0**
OCLP				S	**Sg**	**04 49 30.6**	**+2.3**
MSLP	**Maasin**	**2.66**	**110**	P	**Pn**	**04 49 01.0**	**+2.3**
MSLP				S	**Sg**	**04 49 44.0**	**+2.4**
DCPH	**Dipolog City**	**2.67**	**158**	⇑P	**Pn**	**04 48 59.6**	**+0.8**
GQP	**Guinayangan**	**2.83**	**2**	⇑P	**Pn**	**04 49 02.6**	**+1.5**
GQP				S	**Sn**	**04 49 34.1**	**-1.0**
LQP	**Lukban**	**3.12**	**346**	P	**Pn**	**04 49 05.0**	**-0.4**
TGY	**Tagaytay City** 47nm,0.3s,baz=183,slow=10.0,SNR=5.9	**3.31**	**336**	Pn	**Pn**	**04 49 11.2**	**+3.5**
PAGZ	**Pagadian**	**3.36**	**162**	P	**Pn**	**04 49 09.7**	**+1.2**
PAGZ				S	**Sn**	**04 49 50.5**	**+2.2**
CGP	**Cagayan de Oro**	**3.49**	**138**	⇓P	**Pg**	**04 49 24.6**	**+1.6**
POLP	**Polilio Island**	**3.66**	**354**	P	**Pn**	**04 49 13.1**	**+0.5**
POLP				S	**Sn**	**04 49 57.5**	**+1.8**
BUTP	**Butuan**	**3.86**	**122**	P	**Pn**	**04 49 17.4**	**+2.1**
BUTP				S	**Sn**	**04 49 59.0**	**-1.6**
CTBH	**Cotabato--PC H**	**4.26**	**153**	P	**Pn**	**04 49 23.6**	**+2.7**
CTBH				S	**Sn**	**04 50 14.9**	**+4.3**
KCP	**Kidapawan**	**4.87**	**146**	⇓P	**Pn**	**04 49 31.4**	**+2.1**
DAV	**Davao City (W)** comp=Z,2µm,19.8s,baz=226,slow=45	**5.11**	**141**	LR	LR	04 51 53.2	
DAV	**Davao City (W)**	**5.11**	**141**	Pn	**Pn**	**04 49 29.9**	**-2.6**
APSI	**Ampana** 35nm,1.3s,538nm	**11.91**	**183**	P	Pn	04 51 10.7	+4.8
LUWI	**Luwuk** 58nm,0.8s,3µm	**12.04**	**178**	P	**Pn**	**04 51 11.7**	**+4.2**
LUWI	**Luwuk**	**12.04**	**178**	Pn	**Pn**	**04 51 05.5**	**-2.0**
TTSI	**Tana Toraja** 20nm,1.1s,709nm	**14.24**	**190**	P	**P**	**04 51 42.9**	**-2.1**
SIJI	**Sorong** comp=Z,271nm,18.1s,baz=10.0,slow=37	**14.82**	**143**	LR	LR	04 57 17.2	
MMRI	**Maumere**	**19.57**	**180**	P	**P**	**04 52 43.8**	**-0.2**
NONG	**Nongkai** 0.6nm,1.6s,70nm	**19.81**	**293**	P	**Pn**	**04 52 51.5**	**+3.2**
PLAI	**Plampang** 44nm,0.8s,804nm	**20.27**	**193**	P	**P**	**04 52 52.1**	**+0.4**
CHAI	**Chaiyaphum** 35µm,1.1s,967µm	**20.35**	**286**	P	Pn	04 52 57.5	+2.9
SLVN	**Son La**	**20.40**	**302**	P	Pn	04 52 56.7	+1.4
WHN	**Wuhan**	**20.75**	**340**	P	Pn	04 53 04.8	+5.6
WHN				S	Sn	04 56 58.1	+4.7
WHN	comp=Z,170nm,1.9s			pmax	pmax		
WHN	comp=N,1µm,14.1s			LR	LR		
WHN	comp=E,870nm,12.2s			LR	LR		
WHN	comp=Z,1µm,13.7s			LR	LR		
BATI	**Baumata** comp=Z,190nm,21.8s,baz=330,slow=37	**21.17**	**176**	LR	LR	05 01 17.4	
PBKT	**Sadao Pong** 4.4nm,1.4s	**21.44**	**287**	P	P	04 53 11.8	+7.5
PBKT	**Sadao Pong**	**21.44**	**287**	P	**P**	**04 53 06.8**	**+2.4**
GENI	**Genyem** 155nm,0.5s,4µm	**22.34**	**126**	P	P	04 53 04.4	-10
ENH	**Enshi**	**22.53**	**330**	P	**P**	**04 53 18.4**	**+2.4**
ENH	comp=Z,19nm,1.0s			IAmb	IAmb	04 53 30.9	
PHRA	**Phrae** comp=Z,2.4nm,1.5s,comp=Z,860nm	**22.59**	**292**	P	**P**	**04 53 21.2**	**+4.5**
LAMP	**Lampang** comp=Z,42µm,0.8s	**23.14**	**291**	P	**P**	**04 53 26.3**	**+3.8**
KMI	**Kunming**	**23.24**	**310**	P	**P**	**04 53 24.9**	**+1.3**
JNU	**Nakatsue** comp=Z,142nm,18.0s,baz=194,slow=41	**23.32**	**18**	LR	LR	05 04 25.3	
CISI	**Cisompet, Garu** comp=Z,59nm,1.1s	**23.46**	**219**	P	**P**	**04 53 25.3**	**-0.5**
CISI	**Cisompet, Garu**	**23.46**	**219**	P	**P**	**04 53 24.7**	**-1.1**
BKNI	**Bangkinang**	**23.68**	**245**	P	**P**	**04 53 27.1**	**-0.8**
CNJI	**Cibinong** comp=Z,79nm,1.1s	**23.70**	**220**	P	**P**	**04 53 28.1**	**+0.1**
CM31	**Chiang Mai Arr**	**23.75**	**291**	P	**P**	**04 53 30.0**	**+1.4**
CMAR	**Chiang Mai Arr** comp=Z,5.0nm,0.8s,baz=102,slow=8.4,SNR=6.8	**23.75**	**291**	P	**P**	**04 53 27.7**	**-0.9**
CMAR	comp=Z,84nm,18.6s,baz=105,slow=37			LR	LR	05 02 47.6	
MDSI	**Maura Dua** comp=Z,20nm,1.4s	**23.77**	**230**	P	**P**	**04 53 27.9**	**-0.8**
CMMT	**Chiang Mai** comp=Z,7.6nm,1.4s	**23.84**	**292**	P	**P**	**04 53 32.9**	**+3.5**
CHTO	**Chiang Mai** comp=Z,16nm,1.1s	**23.85**	**292**	P	**P**	**04 53 31.1**	**+1.7**
CHTO				IAmb	IAmb	04 53 33.3	
KSI	**Kapahiang** comp=Z,82nm,0.8s	**24.48**	**234**	P	**P**	**04 53 34.7**	**-0.7**
PSI	**Prapat** comp=Z,151nm,19.4s,baz=100,slow=37	**24.62**	**252**	LR	LR	05 03 19.7	
XAN	**Xi'an**	**25.95**	**334**	P	P	04 53 59.8	+11
XAN				S	**S**	**04 58 28.3**	**+9.5**
XAN				SS	SnSn	04 59 34.4	+19
XAN	comp=Z,6.0nm,1.1s			pmax	pmax		
XAN	comp=Z,210nm,8.8s			pmax	pmax		
XAN	comp=Z,420nm,16.3s			LR	LR		
XAN	comp=Z,320nm,17.7s			LR	LR		
XAN	comp=Z,470nm,15.7s			LR	LR		
KSRS	**Korea Array** comp=Z,88nm,18.1s,baz=182,slow=40	**26.75**	**10**	LR	LR	05 06 04.1	
MJAR	**Matsushiro Arr** comp=Z,176nm,18.4s,baz=60,slow=35	**29.14**	**27**	LR	LR	05 05 20.3	
FITZ	**Fitzroy Crossi** comp=Z,1.2nm,0.4s,baz=7.1,slow=8.1,SNR=6.0	**29.16**	**174**	P	**P**	**04 54 14.6**	**-2.8**
WRA	**Warramunga Arr** comp=Z,0.9nm,0.4s,baz=341,slow=9.2,SNR=4.7	**33.01**	**159**	P	**P**	**04 54 47.5**	**-3.7**
WRA	comp=Z,66nm,22.0s,baz=65,slow=40			LR	LR	05 10 16.5	
USRK	**Ussuriysk Ar.** comp=Z,149nm,19.9s,baz=180,slow=36	**34.06**	**12**	LR	LR	05 09 01.3	
LSA	**Lhasa** comp=Z,4.6nm,0.7s	**34.44**	**307**	P	**P**	**04 55 03.7**	**-0.6**
LSA				IAmb	IAmb	04 55 08.5	
GTA	**Gaotai**	**34.60**	**329**	eP	**P**	**04 55 06.6**	**+1.4**
GTA				pP	sP	04 55 10.9	+0.2
GTA				sP	pP	04 55 14.3	+5.2
GTA	comp=Z,2.0nm,1.2s			pmax	pmax		
GTA	**Gaotai**	**34.60**	**329**	eP	**P**	**04 55 08.3**	**+3.1**
GTA				pP	sP	04 55 12.8	+2.1
GTA				sP	pP	04 55 15.8	+6.7
TAPN	**Taplejung** comp=Z,42nm,1.1s	**36.32**	**301**	eP	**P**	**04 55 19.4**	**-0.9**
ASAR	**Alice Springs** comp=Z,1.2nm,0.3s,baz=340,slow=6.8,SNR=16	**36.33**	**162**	P	**P**	**04 55 17.0**	**-3.0**
ASAR	comp=Z,1.3nm,1.0s,baz=340,slow=2.9,SNR=3.6			PcP	**PcP**	**04 57 42.6**	**-2.2**
ODAN	**Odare** comp=Z,30nm,0.8s	**36.43**	**301**	eP	**P**	**04 55 20.6**	**-0.6**
RAMN	**Ramite**	**37.12**	**300**	eP	**P**	**04 55 26.7**	**-0.4**
JIRN	**Jiri** comp=Z,80nm,1.0s	**37.69**	**301**	eP	**P**	**04 55 31.0**	**-1.1**
GUN	**Gumba** comp=Z,56nm,0.8s	**38.03**	**301**	eP	**P**	**04 55 33.4**	**-1.6**
PKI	**Pulchoki**	**38.32**	**301**	eP	**P**	**04 55 36.4**	**-1.0**
PKIN	**Phulchoki** comp=Z,10nm,0.7s	**38.34**	**301**	eP	**P**	**04 55 36.3**	**-1.1**
KKN	**Kakani** comp=Z,35nm,0.9s	**38.50**	**301**	eP	**P**	**04 55 37.7**	**-1.0**
DMN	**Daman** comp=Z,48nm,1.2s	**38.59**	**301**	eP	**P**	**04 55 38.3**	**-1.2**
KLR	**Kul'dur** comp=Z,102nm,19.4s,baz=203,slow=38	**38.85**	**10**	LR	LR	05 12 55.3	
SONM	**Songino Array** comp=Z,2.3nm,0.8s,baz=161,slow=9.0,SNR=8.3	**39.02**	**343**	P	**P**	**04 55 41.9**	**-0.8**
SONM	comp=Z,203nm,19.5s,baz=152,slow=38			LR	LR	05 12 59.0	
KOLN	**Koldanda** comp=Z,29nm,0.9s	**39.91**	**300**	eP	**P**	**04 55 49.4**	**-1.1**
DANN	**Dangsing** comp=Z,46nm,1.0s	**39.95**	**301**	eP	**P**	**04 55 49.7**	**-1.2**
TLY	**Talaya** comp=Z,178nm,18.2s,baz=142,slow=38	**43.27**	**343**	LR	LR	05 15 46.0	
STKA	**Stephens Creek** comp=Z,53nm,18.5s,baz=15,slow=38	**46.52**	**157**	LR	LR	05 17 54.7	
MKAR	**Makanchi Array** comp=Z,1.8nm,1.0s,baz=134,slow=6.9,SNR=5.1	**49.08**	**324**	P	**P**	**04 57 05.0**	**+1.6**
MKAR	comp=Z,96nm,18.4s,baz=18,slow=38			LR	LR	05 19 02.7	
NIL	**Nilore**	**50.09**	**305**	P	**P**	**04 57 10.9**	**-0.4**
PETK	**Petropavlovsk-** comp=Z,3.3nm,0.8s,baz=210,slow=12,SNR=3.6	**50.60**	**27**	P	**P**	**04 57 14.8**	**0.0**
ZALV	**Zalesovo Beam** comp=Z,4.5nm,1.2s,baz=122,slow=5.6,SNR=3.9	**52.11**	**333**	P	**P**	**04 57 27.8**	**+1.8**
ZALV	comp=Z,123nm,19.6s,baz=112,slow=36			LR	LR	05 19 27.2	
KURK	**Kurchatov**	**53.25**	**327**	P	**P**	**04 57 33.5**	**-1.0**
KURK	comp=Z,5.4nm,1.1s			IAmb	IAmb	04 57 51.3	
KBL	**Kabul**	**53.69**	**305**	P	**P**	**04 57 37.9**	**-0.4**
BTK	**Batken**	**53.76**	**312**	P	**P**	**04 57 38.0**	**-0.6**
BTK	comp=Z,4.0nm,0.8s			IAmb	IAmb	04 57 48.5	
GAR	**Garm**	**53.82**	**310**	P	**P**	**04 57 38.1**	**-1.0**
CHGR	**Chuyangaron**	**54.59**	**310**	P	**P**	**04 57 44.3**	**-0.4**
KK31	**Karatay Array** comp=Z,7.4nm,1.1s	**54.95**	**315**	P	**P**	**04 57 46.4**	**-0.7**
KK31				IAmb	IAmb	04 57 52.3	
KKAR	**Karatay Array** comp=Z,7.4nm,1.1s	**54.95**	**315**	P	**P**	**04 57 46.4**	**-0.7**
KKAR				IAmb	IAmb	04 57 52.3	
BRVK	**Borovoye** comp=Z,4.3nm,1.0s	**58.90**	**326**	P	**P**	**04 58 15.1**	**+0.1**
BRVK				IAmb	IAmb	04 58 26.9	
TIXI	**Tiksi** comp=Z,4.0nm,1.1s	**60.67**	**2**	P	**P**	**04 58 24.8**	**-2.0**
TIXI				IAmb	IAmb	04 58 35.5	
NRIK	**Noril'sk** comp=Z,9.7nm,1.1s,baz=115,slow=4.8,SNR=4.6	**62.33**	**347**	P	**P**	**04 58 37.4**	**-0.6**
GEYT	**Alibeck** comp=Z,83nm,18.2s,baz=285,slow=38	**62.97**	**307**	LR	LR	05 28 02.8	
RAYN	**Ar Rayn**	**73.67**	**291**	P	**P**	**04 59 49.2**	**-1.1**
KBZ	**Khabaz** comp=Z,105nm,18.1s,baz=350,slow=39	**74.82**	**312**	LR	LR	05 37 15.0	
ILAR	**Eielson Array** comp=Z,0.7nm,0.9s,baz=239,slow=6.7,SNR=4.1	**80.42**	**26**	P	**P**	**05 00 25.9**	**-1.5**
BRTR	**Keskin Array B** comp=Z,0.6nm,0.9s,baz=126,slow=4.1,SNR=3.5	**82.02**	**309**	P	**P**	**05 00 34.7**	**-1.9**
KMBO	**Kilima Mbogo** comp=Z,54nm,19.2s,baz=92,slow=35	**85.38**	**268**	LR	LR	05 38 32.2	
NOA	**NORSAR Array B** comp=Z,106nm,19.3s,baz=310,slow=39	**90.31**	**333**	LR	LR	05 46 37.5	
YKA	**Yellowknife Ar** comp=Z,1.3nm,0.8s,baz=304,slow=4.7,SNR=17	**94.58**	**23**	P	**P**	**05 01 35.5**	**-1.0**
TXAR	**Lajitas Array**	**120.17**	**47**	PKP	**PKPdf**	**05 07 06.9**	**-1.0**
PLCA	**Paso Flores** comp=Z,2.7nm,0.9s,baz=235,slow=3.4,SNR=6.1	**148.34**	**161**	PKPbc	**PKPdf**	**05 08 01.1**	**+1.7**
LPAZ	**La Paz** comp=Z,1.6nm,0.9s,baz=0.0,slow=1.0,SNR=4.3	**168.59**	**118**	PKP	**PKPdf**	**05 08 23.8**	**-0.9**

*MEX **20** 05:00:26.6±0.5, 14°50N×92°75W, h47km±35km, MD3.7*

*GCG **20** 05:00:29.4±0.4, 15°36N×92°24W, h40km, MD3.6*

ISC 20 05:00:23.9±2.1, 14°5N±0°1×92°75W±0°08, h28km±19km, n7, σ0°75/14, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.64**	**47**	*i* P	**Pn**	**05 00 38.0**	**+0.8**
THIG				*e*S	**Sn**	**05 00 46.1**	**-0.4**
STG3	**Santiaguito 3,**	**1.17**	**78**	*e*P	**Pb**	**05 00 46.3**	**+0.7**
STG3				*e*S	**Sn**	**05 00 59.5**	**-0.3**
PCIG		**1.31**	**340**	*e*P	**Pn**	**05 00 46.3**	**-0.1**
PCIG				*i* S	**Sn**	**05 01 02.6**	**-0.3**
FUG	**Fuego 3**	**1.85**	**90**	*e*P	**Pb**	**05 00 56.1**	**-1.1**
FUG				*e*S	**Sn**	**05 01 17.1**	**+0.5**
IXG	**Ixpaco**	**2.26**	**97**	*e*P	**Pb**	**05 01 03.7**	**-0.5**
IXG				*e*S	**Sn**	**05 01 26.1**	**-0.6**
TGIG		**2.32**	**351**	*e*P	**Pn**	**05 01 01.0**	**+0.6**
TGIG				*i* S	**Sn**	**05 01 26.9**	**-1.2**
CMIG	**Matias Romero**	**3.32**	**322**	*e*P	**Pn**	**05 01 14.8**	**+0.8**
CMIG				*e*S	**Sn**	**05 01 52.7**	**+0.1**

IDC 20 05:09:26.8±2.4, 0°01N×129°50E, h0km, mb3.2/3, mb1 3.5/3, mbtmx3.3/35, mbtmp3.3/3, Error ellipse: s-maj=137.8km s-min=29.2km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=347,slow=11,SNR=7.1	**20.39**	**167**	P	P	05 14 04.3	-1.1
ASAR	**Alice Springs** 0.4nm,0.5s,baz=354,slow=9.9,SNR=5.2	**23.59**	**170**	P	P	05 14 43.6	+1.0
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=140,slow=7.0,SNR=2.4	**62.16**	**325**	P	P	05 19 49.7	-0.2

*ISCJB **20** 05:25:02.4±0.3, 3°44N±0°04×127°19E±0°07, h10km, mb4.3/12, MS3.5/4, Error ellipse: s-maj=10.7km s-min=4.3km az=156.7*

*MAN **20** 05:25:04.7, 3°20N×126°57E, h10km, MS4.4*

*NEIC **20** 05:25:07.0±1.8, 3°41N±0°06×126°98E±0°10, h35km±2km, mb4.6/22*

*DJA **20** 05:25:06.1±0.5, 4°N±4°×12°7E±°, h10km, M4.4/8, mb4.5/6, mB5.6/1, MLv4.3/8, Mw(mB)5.1/1*

*IDC **20** 05:25:10.1±1.8, 3°29N×126°94E, h66km±18km, mb4.1/11, mb1 4.2/13, mb1mx3.9/43, mbtmp4.4/13, MS3.5/6, Ms1 3.5/6, ms1mx3.2/31, Error ellipse: s-maj=32.4km s-min=9.2km az=65.0*

ISC 20 05:25:03.9±0.4, 3°17N±0°04×126°61E±0°06, h10km, n59, σ2°38/57, mb4.5/22, MS3.7/4, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.50**	**162**	Pn	**Pb**	**05 25 49.2**	**+0.2**
DDMP	**Don Marcelino,**	**3.05**	**343**	P	Pg	05 26 08.0	+5.5
DDMP				S	**Sn**	**05 26 30.8**	**+2.0**
MATI	**Mati**	**3.77**	**355**	P	**Sn**	**05 26 43.1**	**-3.4**
MATI				S	**Sg**	**05 27 12.5**	**+7.5**
SKMP	**Bagumbayan, Su**	**3.91**	**328**	P	**Pn**	**05 26 04.7**	**+0.5**
SKMP				S	**Sn**	**05 26 48.9**	**-1.2**
DAV	**Davao City (W)** 76nm,0.3s,baz=54,slow=9.1,SNR=1.6	**4.01**	**345**	P	**Pn**	**05 26 09.8**	**+4.4**
DAV	42nm,0.3s,baz=91,slow=17,SNR=1.5			S	**Sn**	**05 26 56.6**	**+4.1**
DAV	**Davao City (W)**	**4.01**	**345**		**Pn**	**05 26 06.7**	**+1.2**
KCP	**Kidapawan**	**4.10**	**338**	⇓P	**Pn**	**05 26 09.2**	**+2.4**
KCP				S	**Sb**	**05 27 05.1**	**-0.9**
CTBH	**Cotabato--PC H**	**4.66**	**330**	P	**Pn**	**05 26 18.0**	**+3.5**
CTBH				S	Sn	05 26 51.4	-17
BUKP	**Musuan**	**4.92**	**342**	P	**Pn**	**05 26 19.4**	**+1.3**
BUKP				S	**Sb**	**05 27 26.9**	**-2.8**
SANI	**Sanana** 17nm,0.7s,0.1nm	**5.22**	**187**	P	Pn	05 26 29.2	+7.0
MRSI	**Marisa** 47nm,0.6s,5µm0.3nm	**5.38**	**240**	P	**Pb**	**05 26 33.9**	**-4.1**
LUWI	**Luwuk**	**5.67**	**223**	P	**Pg**	**05 26 50.6**	**-2.1**
LUWI	**Luwuk**	**5.67**	**223**	Pn	Pb	05 26 37.5	-5.7
BUTP	**Butuan**	**5.84**	**350**	P	**Pn**	**05 26 35.1**	**+4.4**
SIJI	**Sorong** 4.5nm,0.3s,baz=194,slow=20,SNR=5.2	**6.15**	**131**	P	**Pn**	**05 26 35.6**	**+0.7**
SIJI	baz=194,slow=23,SNR=1.1			S	**Sn**	**05 27 41.2**	**-4.1**
SIJI	comp=Z,551nm,20.6s,baz=296,slow=40			LR	LR	05 29 12.2	
NLAI	**Namlea** 20nm,0.7s,0.1nm	**6.39**	**176**	P	Pn	05 26 45.8	+7.6
APSI	**Ampana**	**6.40**	**231**	P	**Pb**	**05 26 58.1**	**+2.6**
FAKI	**Fak Fak**	**8.27**	**137**	Pn	**Pn**	**05 27 05.5**	**+1.5**
PLAI	**Plampang**	**14.82**	**216**	P	**P**	**05 28 43.7**	**+4.0**
JAY	**Jayapura** comp=Z,99nm,21.9s,baz=292,slow=30	**15.18**	**112**	LR	LR	05 32 41.2	
MTN	**Manton Dam**	**16.53**	**164**	P	**Pn**	**05 28 57.6**	**+1.5**
KNRA	**Kununurra**	**18.85**	**174**	P	**Pn**	**05 29 26.6**	**+1.8**
YULB	**Yu-li**	**20.75**	**346**		**P**	**05 29 42.5**	**-2.6**
YULB	comp=Z,54nm,1.5s			IAmb	IAmb	05 29 45.7	
TPUB	**Ta-pu**	**20.83**	**344**	P	**P**	**05 29 44.1**	**-1.8**
TPUB	comp=Z,36nm,0.9s			IAmb	IAmb	05 29 44.7	
FITZ	**Fitzroy Crossi** comp=Z,1.7nm,0.3s,baz=6.5,slow=9.1,SNR=6.2	**21.16**	**183**	P	**P**	**05 29 51.5**	**+2.1**
FITZ	**Fitzroy Crossi**	**21.16**	**183**	P	**P**	**05 29 52.7**	**+3.3**
SSLB	**Suanglung**	**21.21**	**346**	P	**P**	**05 29 48.4**	**-1.7**
SSLB	comp=Z,32nm,1.1s			IAmb	IAmb	05 29 54.2

comp=Z,3.6nm,0.8s,baz=208,slow=4.7,SNR=3.7
MK31 Makanchi Array 57.94 326 P P 05 34 55.2 -1.4
MK31 IAmb IAmb 05 34 55.3
comp=Z,6.0nm,1.4s
MKAR Makanchi Array 57.94 326 P P 05 34 55.1 -1.5
comp=Z,2.7nm,0.7s,baz=120,slow=7.4,SNR=21
MAKZ Makanchi 58.13 325 P P 05 34 56.8 -1.1
MAKZ IAmb IAmb 05 35 01.6
comp=Z,6.2nm,1.1s
AAK Ala-Archa 60.69 318 LR LR 06 03 17.9
comp=Z,94nm,20.7s,baz=82,slow=38
KURK Kurchatov 62.14 328 P P 05 35 23.9 -1.3
KURK IAmb IAmb 05 35 24.8
comp=Z,6.4nm,0.8s
KK31 Karatay Array 63.55 317 P P 05 35 34.6 -0.3
KKAR Karatay Array 63.55 317 P P 05 35 34.8 -0.1
KKAR IAmb IAmb 05 35 35.1
comp=Z,3.9nm,1.1s
BRVK Borovoye 67.79 327 P P 05 36 00.8 -1.2
BRVK IAmb IAmb 05 36 06.1
comp=Z,5.5nm,0.8s
NRIK Noril'sk 70.94 346 P P 05 36 19.6 -1.6
comp=Z,4.5nm,0.5s,baz=122,slow=5.5,SNR=4.2
VNDA Vanda 82.89 173 P P 05 37 29.0 +0.6
comp=Z,1.7nm,0.9s,baz=286,slow=2.3,SNR=3.8
SKT Skwentna 83.39 28 P P 05 37 29.2 -2.1
SKT IAmb IAmb 05 37 44.8
comp=Z,3.9nm,1.0s
BRTR Keskin Array B 90.28 310 P P 05 38 05.1 -0.5
comp=Z,0.8nm,0.8s,baz=132,slow=7.3,SNR=4.8
TXAR Lajitas Array 122.04 52 PKP PKPdf 05 43 58.4 -1.3
comp=Z,0.2nm,0.7s,baz=315,slow=0.5,SNR=2.4
TORD Torodi Ar. Bea 122.97 288 PKP PKPdf 05 44 00.6 -1.1
comp=Z,0.6nm,0.8s,baz=23,slow=4.3,SNR=3.3

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*PAS **20** 05:27:07.5±2.7,31°.28N±0°.03×115°.85W±0°.04,h0km±3km*
*IDC **20** 05:27:07.8±0.7,31°.25N×115°.92W,h0km,mb4.3/15, mb1 4.6/23,mb1mx4.4/42,mbtmp4.4/23,ML4.3/8,MS4.2/31, Ms1 4.2/31,ms1mx4.1/40,Error ellipse: s-maj=15.3km s-min=7.1km az=62.0*
*ISCJB **20** 05:27:07.2±0.5,31°.27N±0°.02×115°.86W±0°.02,h4km±3km, mb4.5/32,MS4.3/27,Error ellipse: s-maj=4.5km s-min=1.8km az=38.4*
*ECX **20** 05:27:08.0±0.6,31°.22N×115°.91W,h6km,MD5.1,ML5.2*
*MEX **20** 05:27:08.2±0.6,31°.14N×115°.93W,h4km±5km,MD4.8*
*BJI **20** 05:27:09.1±0.0,31°.26N×116°.37W,h9km,mb5.0/4, mB4.6/1,Ms7 4.5/1*
*ANF **20** 05:27:09.7±1.0,31°.33N×115°.83W,h10km,ML5.4/38, Error ellipse: s-maj=11.5km s-min=5.9km az=13.0*
*NEIC **20** 05:27:09.0±3.5,31°.27N±0°.03×115°.85W±0°.03,h10km±1km, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr~0.36; Mθθ~1.93; Mϕϕ2.28; Mrθ~0.33; Mθϕ~0.88; Mϕr~0.03; Fault plane solution: M0 2.33000×10^16^ NP1: ϕs33.19000°, δ82.24000°, λ-6.70000°. NP2:ϕs124.10000°, δ83.36000°, λ-172.19000°. Principal axes: T 2.4605, Plg1.0000°, Azm259.0000°; N -0.2970, Plg80.0000°, Azm164.0000°; P -2.1635, Plg10.0000°, Azm349.0000°;*
*GCMT **20** 05:27:11.0±0.2,31°.34N±0°.01×115°.96W±0°.01,h22km, MW5.0/115,Moment Tensor Solution. s46,c54; s115,c169; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr~2.42±.18; Mθθ~2.24±.12; Mϕϕ4.66±.13; Mrθ~1.03±.23; Mθϕ~2.35±.10; Mϕr0.83±.18; Best double couple: M0 4.53200×10^16^ NP1:ϕs126.00000°,δ71.00000°, λ-146.00000°. NP2:ϕs23.00000°,δ58.00000°, λ-23.00000°. Principal axes: T 5.5380, Plg8.0000°, Azm252.0000°; N -2.0110, Plg52.0000°, Azm152.0000°; P -3.5260, Plg37.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **20** 05:27:12.0±1.4,31°.45N×115°.73W,h26km,mb4.9/25 Error ellipse: s-maj=8.8km s-min=5.9km az=96.2*

ISC 20 05:27:08.0±1.1,31°.26N±0°.03×115°.87W±0°.03,h0km±7km, n501,σ1ş54/471,mb4.7/60,MS4.2/27,3C-2D,Baja California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.41**	**122**	*eP*		**Pg**		**05 27 15.6**	**-0.1**
	baz=285,slow=18								
SPIG				*i*	S	**Sg**		**05 27 21.7**	**+0.6**
SPIG	**San Pedro Mart**	**0.41**	**122**	*eP*		**Pg**		**05 27 15.7**	**-0.1**
SPIG				*eS*		**Sg**		**05 27 21.6**	**+0.6**
SPIG	**San Pedro Mart**	**0.41**	**122**			**Pg**		**05 27 15.6**	**-0.1**
SPIG						**Sg**		**05 27 21.7**	**+0.6**
SPX	**San Pedro Mart**	**0.41**	**123**	*eP*		**Pg**		**05 27 15.7**	**-0.2**
SPX				*eS*		**Sg**		**05 27 21.5**	**+0.3**
SPX				*e*				05 27 22.1	
SPX				IAML				05 27 22.1	
	comp=N,216μm,0.2s								
SPX				IAML				05 27 22.5	
	comp=E,166μm,0.3s								
SPX				⇑*e*				05 27 22.5	
SPX	**San Pedro Mart**	**0.41**	**123**			**Pg**		**05 27 15.6**	**-0.2**
SPX						**Sg**		**05 27 21.7**	**+0.5**
SQX	**San Quintin**	**0.68**	**181**	*eP*		**Pg**		**05 27 19.3**	**-1.8**
ESJX	**Sierra Juarez**	**0.74**	**355**	*eP*		**Pg**		**05 27 20.6**	**-1.7**
ESJX				*eS*		**Sg**		**05 27 31.2**	**-0.8**
ESJX				IAML				05 27 32.9	
	comp=E,66μm,0.2s								
ESJX				⇑*e*				05 27 32.9	
SFX	**San Felipe**	**0.90**	**104**	*eP*		**Pg**		**05 27 24.8**	**-0.5**
SFX				*eS*		**Sg**		**05 27 36.9**	**-0.1**
SFX				IAML				05 27 39.4	
	comp=N,84μm,0.7s								
SFX				*e*				05 27 39.4	
SFX	**San Felipe**	**0.90**	**104**			**Pg**		**05 27 24.8**	**-0.5**
SFX						**Sg**		**05 27 36.9**	**-0.1**
CCX	**Cicese**	**0.91**	**312**	*eP*		**Pg**		**05 27 23.8**	**-1.6**
CCX				*eS*		**Sg**		**05 27 36.3**	**-1.0**
CCX	**Cicese**	**0.91**	**312**			**Sg**		**05 27 37.5**	**+0.3**
CPBX	**Cerro Prieto**	**1.25**	**22**			**Pn**		**05 27 29.4**	**-3.4**
MBIG	**Mexicali**	**1.28**	**26**	*eP*		**Pn**		**05 27 31.2**	**-1.9**
MBIG				*eS*		**Sb**		**05 27 48.8**	**-1.1**
MBIG	**Mexicali**	**1.28**	**26**	*eP*		**Pn**		**05 27 31.7**	**-1.4**
MBIG	**Mexicali**	**1.28**	**26**			**Pn**		**05 27 31.2**	**-1.9**
MBIG						**Sb**		**05 27 48.8**	**-1.1**
ERMX	**Rumorosa**	**1.30**	**354**	⇓*e*		**Sn**		**05 27 52.3**	**+0.7**
ERMX				IAML				05 27 55.3	
	comp=E,31μm,0.8s								
ERMX				⇓*e*				05 27 55.3	
RMX	**La Rumorosa**	**1.35**	**352**			**Pn**		**05 27 31.3**	**-3.0**
RMX						**Sb**		**05 27 49.6**	**-2.6**
TJIG	**Tijuana**	**1.36**	**330**	*eP*		**Pn**		**05 27 31.0**	**-3.3**
TJIG				*i*	S	**Sb**		**05 27 50.0**	**-2.2**
TJIG	**Tijuana**	**1.36**	**330**			**Pn**		**05 27 31.0**	**-3.3**
TJIG						**Sb**		**05 27 50.0**	**-2.2**
IKP	**In-Ko-Pah, Jac**	**1.40**	**352**	P		**Pn**		**05 27 33.1**	**-1.8**
	baz=167,SNR=1000								
IKP	**In-Ko-Pah, Jac**	**1.40**	**352**			**Pn**		**05 27 33.1**	**-1.8**
IKP						**Sn**		**05 27 52.5**	**-1.7**
TKX	**Tecate**	**1.45**	**334**			**Pn**		**05 27 31.4**	**-4.1**
TKX						**Sn**		**05 27 51.5**	**-3.7**
WESC	**Westside Schoo**	**1.50**	**4**			**Pn**		**05 27 34.0**	**-2.1**
BAR	**Barrett**	**1.57**	**334**			**Pn**		**05 27 34.5**	**-2.7**
BAR					Sn	**Sn**		**05 27 55.8**	**-2.5**
DREC	**Desert Rsrch C**	**1.58**	**13**			**Pn**		**05 27 35.5**	**-1.8**
COK2	**Cook Ranch 2**	**1.59**	**4**			**Pn**		**05 27 35.7**	**-1.7**
TJX	**Tijuana**	**1.60**	**321**			**Pn**		**05 27 36.5**	**-1.1**
TJX						**Sn**		**05 27 57.4**	**-1.6**
OLP	**Otay Lakes Par**	**1.62**	**326**			**Pn**		**05 27 35.0**	**-2.8**
OLP						**Sn**		**05 27 56.8**	**-2.6**
CRR	**Carrizo Plain**	**1.62**	**357**			**Pn**		**05 27 35.9**	**-2.0**
SNR	**Schaffner Ranc**	**1.64**	**13**			**Pn**		**05 27 36.1**	**-1.9**
CBKC	**Canebrake**	**1.67**	**349**			**Pn**		**05 27 37.2**	**-1.3**
SWSC	**Sam W. Stewart**	**1.68**	**2**	P		**Pn**		**05 27 36.9**	**-1.7**
	baz=179,SNR=1000								
SWSC	**Sam W. Stewart**	**1.68**	**2**			**Pn**		**05 27 37.1**	**-1.6**
MONP2	**Monument Peak**	**1.69**	**344**	P		**Pn**		**05 27 37.5**	**-1.6**
	baz=159,SNR=1000								
MONP2				S		**Sn**		**05 28 00.3**	**-1.3**
	baz=159								
109C	**Camp Elliot, M**	**1.93**	**327**	P		**Pn**		**05 27 40.5**	**-1.6**
	baz=142,SNR=702								
109C				S		**Sn**		**05 28 06.2**	**-1.0**
	baz=142								
109C	**Camp Elliot, M**	**1.93**	**327**			**Pn**		**05 27 40.5**	**-1.6**
109C					Sn	**Sn**		**05 28 05.8**	**-1.3**
GLA	**Glamis**	**1.99**	**26**	P		**Pn**		**05 27 40.9**	**-2.2**
	baz=207,SNR=301								
GLA	**Glamis**	**1.99**	**26**	P		**Pn**		**05 27 40.8**	**-2.2**
GLA	**Glamis**	**1.99**	**26**			**Pn**		**05 27 40.9**	**-2.2**
113A	**Mohawk Valley,**	**2.33**	**49**			**Pn**		**05 27 45.8**	**-1.9**
I57US	**PINON FLAT INF**	**2.39**	**348**	Pg		**Pb**		**05 27 51.6**	**-0.4**
	baz=164,slow=15,SNR=2.2								
I57US				Lg		Lg		05 28 22.4	
	baz=178,slow=34								
XPFO	**Pion Flat**	**2.40**	**348**			**Pn**		**05 27 46.4**	**-2.2**
PFO	**Pinyon Flats O**	**2.40**	**348**	P		**Pn**		**05 27 47.5**	**-1.2**
	baz=165,SNR=1000								
PFO	**Pinyon Flats O**	**2.40**	**348**	P		**Pn**		**05 27 47.5**	**-1.2**
PFO	**Pinyon Flats O**	**2.40**	**348**	Pn		**Pn**		**05 27 46.7**	**-2.0**
	comp=E,82nm,0.3s,baz=159,slow=13,SNR=226								
PFO				Pg		**Pb**		**05 27 51.2**	**-0.9**
	comp=E,706nm,0.3s,baz=163,slow=12,SNR=197								
PFO				LR		LR		05 28 14.8	
	comp=E,1μm,20.1s,baz=47,slow=28								
PFO				Lg		Lg		05 28 22.3	
	comp=E,895nm,0.3s,baz=236,slow=22,SNR=5.2								
PFO	**Pinyon Flats O**	**2.40**	**348**			**Pn**		**05 27 47.5**	**-1.2**
BC3	**Big Chuckawall**	**2.41**	**8**	P		**Pn**		**05 27 47.1**	**-1.7**
	baz=187,SNR=165								
MURC	**Murrieta**	**2.59**	**335**	P		**Pn**		**05 27 50.8**	**-0.4**
	baz=151,SNR=1000								
214A	**Organ Pipe Nat**	**2.70**	**74**	P		**Pn**		**05 27 50.7**	**-2.0**
	baz=259,SNR=110								
214A	**Organ Pipe Nat**	**2.70**	**74**	*eP*		**Pn**		**05 27 50.5**	**-2.2**
214A				*i*	S	**Sn**		**05 28 24.1**	**-2.0**
214A	**Organ Pipe Nat**	**2.70**	**74**			**Pn**		**05 27 50.5**	**-2.2**
214A	**Organ Pipe Nat**	**2.70**	**74**			**Sn**		**05 28 24.1**	**-2.0**
Y12C	**Blythe**	**2.73**	**24**	P		**Pn**		**05 27 51.7**	**-1.4**
	baz=205,SNR=142								
Y12C	**Blythe**	**2.73**	**24**			**Pn**		**05 27 52.0**	**-1.1**
BELC	**Belle Mtn. Jos**	**2.73**	**358**	P		**Pn**		**05 27 52.5**	**-0.8**
	baz=176,SNR=176								
SCI2	**San Clemente I**	**2.85**	**308**	P		**Pn**		**05 27 52.3**	**-2.4**
	baz=123,SNR=32								
IRM	**Iron Mountain**	**2.95**	**12**	P		**Pn**		**05 27 55.1**	**-1.1**
	baz=191,SNR=186								
CIS	**Catalina Islan**	**3.03**	**315**	P		**Pn**		**05 27 54.5**	**-2.8**
	baz=131,SNR=45								
BBRC	**Big Bear Solar**	**3.12**	**344**	P		**Pn**		**05 27 58.7**	**0.0**
	baz=161,SNR=98								
FMP	**Fort Macarthur**	**3.19**	**321**	P		**Pn**		**05 27 59.0**	**-0.4**
	baz=136,SNR=33								
FMP				S		**Sn**		**05 28 39.1**	**+0.9**
	baz=136								
BFSC	**Mount Baldy Ra**	**3.33**	**334**	P		**Pn**		**05 28 00.8**	**-0.7**
	baz=150,SNR=343								
BFSC				Sb		**Sb**		**05 28 49.7**	**+0.6**
	baz=150								
MWC	**Mount Wilson**	**3.48**	**329**	P		**Pn**		**05 28 02.7**	**-0.9**
MWC	**Mount Wilson**	**3.48**	**329**			**Pn**		**05 28 02.7**	**-0.9**
PASC	**Pasadena Art C**	**3.50**	**327**			**Pn**		**05 28 02.8**	**-0.9**
GMRC	**Granite Mounta**	**3.52**	**3**	P		**Pn**		**05 28 04.0**	**-0.1**
	baz=182,SNR=123								
HEC	**Hector,Ludlow**	**3.58**	**354**	P		**Pn**		**05 28 04.6**	**-0.2**
	baz=172,SNR=21								
Y14A	**Wickenburg**	**3.60**	**41**			**Pn**		**05 28 04.1**	**-1.1**
DECC	**Green Verdugo**	**3.64**	**326**	P		**Pn**		**05 28 05.0**	**-0.6**
	baz=142,SNR=39								
DECC				Sb		**Sb**		**05 29 00.5**	**+2.6**
	baz=142								
NEE2	**Needles Airpor**	**3.65**	**16**	P		**Pn**		**05 28 05.7**	**0.0**
	baz=196								
SNCC	**San Nicolas Is**	**3.68**	**304**	P		**Pn**		**05 28 04.8**	**-1.4**
	baz=119								
SNCC	**San Nicolas Is**	**3.68**	**304**			**Pn**		**05 28 04.5**	**-1.6**
RRX	**Edison Barstow**	**3.73**	**346**	P		**Pn**		**05 28 06.8**	**-0.1**
	baz=163,SNR=93								
BLG	**Laguna Peak, P**	**3.92**	**317**	P		**Pn**		**05 28 07.5**	**-1.9**
	baz=133,SNR=10								
EDW2	**Edwards Air Fo**	**4.03**	**334**	P		**Pn**		**05 28 11.2**	**+0.2**
	baz=151,SNR=85								
EDW2				Sb		**Sb**		**05 29 09.2**	**0.0**
	baz=151								
GSC	**Goldstone, Bar**	**4.11**	**349**	P		**Pn**		**05 28 12.0**	**-0.1**
	baz=167,SNR=41								
GSC	**Goldstone, Bar**	**4.11**	**349**	P		**Pn**		**05 28 12.0**	**-0.1**
GSC	**Goldstone, Bar**	**4.11**	**349**			**Pn**		**05 28 12.0**	**-0.1**
OSI	**Osito Audit: C**	**4.12**	**325**	P		**Pn**		**05 28 11.5**	**-0.7**
	baz=141,SNR=28								
OSI	**Osito Audit: C**	**4.12**	**325**			**Pn**		**05 28 12.7**	**+0.5**
TUQ	**Turquoise Moun**	**4.16**	**359**	P		**Pn**		**05 28 12.8**	**-0.1**
	baz=178,SNR=22								
W13A	**Hualapai Mount**	**4.17**	**23**			**Pn**		**05 28 12.5**	**-0.6**
W13A						Pb		05 28 12.8	-10
SCZ2	**Santa Cruz Isl**	**4.19**	**312**	P		**Pn**		**05 28 11.5**	**-1.7**
	baz=127,SNR=7.7								
TUC	**Tucson**	**4.45**	**75**	P		**Pn**		**05 28 15.2**	**-1.7**
TUC	**Tucson**	**4.45**	**75**			**Pn**		**05 28 15.2**	**-1.7**
LRMC	**Laurel Mtn Rad**	**4.47**	**341**	P		**Pn**		**05 28 16.9**	**-0.3**
	baz=158,SNR=19								
ARVC	**Arvin**	**4.59**	**328**	P		**Pn**		**05 28 18.9**	**+0.3**
	baz=144,SNR=56								
SHOC	**Shoshone, Teco**	**4.64**	**356**	P		**Pn**		**05 28 19.4**	**0.0**
	baz=174,SNR=18								
HSIG		**4.81**	**116**	*eP*		**Pn**		**05 28 19.1**	**-2.6**
HSIG				*i*	S	**Sn**		**05 29 13.6**	**-4.6**
HSIG		**4.81**	**116**			**Pn**		**05 28 21.0**	**-0.7**
HSIG		**4.81**	**116**			**Pn**		**05 28 19.1**	**-2.6**
HSIG						**Sn**		**05 29 13.6**	**-4.6**
ISA	**Isabella, Lake**	**4.90**	**334**	P		**Pn**		**05 28 23.3**	**+0.3**
	baz=151,SNR=78								
ISA	**Isabella, Lake**	**4.90**	**334**	P		**Pn**		**05 28 22.8**	**-0.2**
ISA	**Isabella, Lake**	**4.90**	**334**			**Pn**		**05 28 22.8**	**-0.2**
PKM	**Mcpherson Peak**	**4.91**	**319**	P		**Pn**		**05 28 23.6**	**+0.4**
	baz=134,SNR=9.6								
MPMC	**Manual Prospec**	**4.97**	**345**	P		**Pn**		**05 28 24.0**	**-0.1**
	baz=162,SNR=20								
SRIG	**Santa Rosalia**	**5.04**	**140**	*eP*		**Pn**		**05 28 20.5**	**-4.5**
SRIG				*eS*		**Sn**		**05 29 18.1**	**-5.8**
SRIG	**Santa Rosalia**	**5.04**	**140**			**Pn**		**05 28 25.0**	**+0.1**
SRIG	**Santa Rosalia**	**5.04**	**140**			**Pn**		**05 28 20.5**	**-4.5**
SRIG						**Sn**		**05 29 18.1**	**-5.8**
FURC	**Furnace Creek,**	**5.26**	**351**	P		**Pn**		**05 28 28.5**	**+0.6**
	baz=170,SNR=9.4								
VES	**Vestal, Richgr**	**5.30**	**330**	P		**Pn**		**05 28 28.9**	**+0.5**
	baz=147,SNR=42								
SMMC	**Simmler**	**5.32**	**321**	P		**Pn**		**05 28 29.7**	**+1.0**
	baz=137,SNR=15								
CWC	**Cottonwood Cre**	**5.48**	**341**	P		**Pn**		**05 28 31.6**	**+0.5**
	baz=158								
GUYB	**Guaymas**	**5.49**	**126**	*eP*		**Pn**		**05 28 28.3**	**-2.7**
GUYB				*i*	S	**Sn**		**05 29 30.1**	**-4.8**
319A	**Douglas**	**5.64**	**87**			**Pn**		**05 28 32.4**	**-0.8**
WUAZ	**Wupatki**	**5.67**	**40**	P		**Pn**		**05 28 33.7**	**+0.1**
	baz=223,SNR=176								
TPNV	**Topopah Spring**	**5.68**	**357**	P		**Pn**		**05 28 34.8**	**+0.9**
	baz=176,SNR=56								
PAGB	**Antelope Grade**	**5.77**	**322**			**Pn**		**05 28 34.5**	**-0.4**
VOG	**Valley Oaks Go**	**5.83**	**331**	P		**Pn**		**05 28 36.3**	**+0.6**
	baz=148								
GRAC	**Grapevine Rang**	**5.85**	**348**	P		**Pn**		**05 28 37.3**	**+1.2**
	baz=166,SNR=32								
TIN	**Tinemaha, Big**	**6.10**	**342**	P		**Pn**		**05 28 41.4**	**+1.8**
	baz=159								
W18A	**Petrified Fore**	**6.42**	**52**	P		**Pn**		**05 28 44.5**	**+0.5**
	baz=236,SNR=216								
PMPB	**Monarch Peak**	**6.43**	**322**			**Pn**		**05 28 44.1**	**+0.2**
MLAC	**Mammoth, Mammo**	**6.81**	**340**	P		**Pn**		**05 28 49.4**	**0.0**
	baz=157								
CGIG		**6.84**	**95**	*eP*		**Pn**		**05 28 49.0**	**-0.8**
CGIG				*i*	S	**Sn**		**05 30 05.6**	**-2.9**
CGIG		**6.84**	**95**			**Pn**		**05 28 49.0**	**-0.8**
CGIG						**Sn**		**05 30 05.6**	**-2.9**
121A	**Cookes Peak, D**	**6.99**	**77**	P		**Pn**		**05 28 51.8**	**0.0**
	baz=263,SNR=83								
121A	**Cookes Peak, D**	**6.99**	**77**	*eP*		**Pn**		**05 28 51.4**	**-0.4**
121A				*i*	S	**Sn**		**05 30 10.3**	**-1.8**
121A	**Cookes Peak, D**	**6.99**	**77**			**Pn**		**05 28 51.4**	**-0.4**
121A						**Sn**		**05 30 10.3**	**-1.8**
R11A	**Troy Canyon, C**	**7.08**	**2**	P		**Pn**		**05 28 54.3**	**+1.3**
	baz=181,SNR=42								
NVAR	**Mina Array Bea**	**7.43**	**345**	Pn		**Pn**		**05 28 59.5**	**+1.6**
	comp=E,1.4nm,0.3s,baz=167,slow=14,SNR=26								
NVAR				Pg		**Pb**		**05 29 22.4**	**+4.5**
	comp=E,3.5nm,0.3s,baz=163,slow=16,SNR=21								
NVAR				Lg		Lg		05 31 03.6	
	comp=E,1.4nm,0.3s,baz=355,slow=24,SNR=1.0								
MVCO	**Mesa Verde**	**8.51**	**44**	P		**Pn**		**05 29 14.3**	**+1.6**
	baz=228,SNR=124								
LPIG	**La Paz**	**8.67**	**144**	Pn		**Pn**		**05 29 17.3**	**+2.6**
	comp=E,1.2nm,0.3s,baz=137,slow=6.3,SNR=4.3								
LPIG				Lg		Lg		05 31 36.0	
	comp=E,3.5nm,0.3s,baz=159,slow=18,SNR=2.3								
LPIG				LR		LR		05 32 33.3	
	comp=E,3μm,18.5s,baz=333,slow=38								
LPIG	**La Paz**	**8.67**	**144**	*i*	P	**Pn**		**05 29 16.4**	**+1.7**
LPIG				*i*	S	Sn		05 30 43.4	-10
LPIG	**La Paz**	**8.67**	**144**			**Pn**		**05 29 16.4**	**+1.7**
LPIG						Sn		05 30 43.4	-10
ANMO	**Albuquerque**	**8.71**	**63**	P		**Pn**		**05 29 16.5**	**+1.1**
	baz=248								
ANMO	**Albuquerque**	**8.71**	**63**	P		**Pn**		**05 29 15.8**	**+0.4**
ANMO	**Albuquerque**	**8.71**	**63**	Pn		**Pn**		**05 29 16.3**	**+0.9**
	comp=E,0.6nm,0.3s,baz=236,slow=13,SNR=14								
ANMO				LR		LR		05 32 48.4	
	comp=E,1μm,19.3s,baz=247,slow=39								
ANMO	**Albuquerque**	**8.71**	**63**	*eP*		**Pn**		**05 29 15.4**	**0.0**
ANMO	**Albuquerque**	**8.71**	**63**			**Pn**		**05 29 15.8**	**+0.4**
MNTX	**Cornudas Mount**	**8.97**	**84**	P		**Pn**		**05 29 19.2**	**+0.4**
	baz=271,SNR=57								
MNTX	**Cornudas Mount**	**8.97**	**84**	*i* P		**Pn**		**05 29 19.2**	**+0.4**
MNTX	**Cornudas Mount**	**8.97**	**84**			**Pn**		**05 29 18.9**	**+0.1**
DUG	**Dugway, Tooele**	**9.25**	**15**	P		Pn		05 29 27.9	+5.0
	baz=196,SNR=36								
ELK	**Elko**	**9.48**	**3**	Pn		**Pn**		**05 29 28.2**	**+2.2**
	comp=E,1.1nm,0.3s,baz=189,slow=9.4,SNR=36								
ELK				Pg				05 30 05.9	
	comp=E,2.0nm,0.3s,baz=209,slow=15,SNR=9.4								
ELK				Lg		Lg		05 32 07.7	
	comp=E,0.5nm,0.3s,baz=292,slow=12,SNR=3.1								
ELK				LR		LR		05 33 40.1	
	comp=E,1μm,18.2s,baz=182,slow=41								
S22A	**4UR Ranch, Cre**	**9.87**	**47**	P		**Pn**		**05 29 32.1**	**+0.7**
	baz=232,SNR=16								
SDCO	**Great Sand Dun**	**10.72**	**50**	P		**Pn**		**05 29 44.4**	**+1.3**
	baz=236,SNR=10								
TX31	**Lajitas Ar. Si**	**10.72**	**97**			**Pn**		**05 29 44.3**	**+1.3**
TX32	**Lajitas Array**	**10.72**	**97**			**Pn**		**05 29 44.0**	**+1.0**
TXAR	**Lajitas Array**	**10.72**	**97**	Pn		**Pn**		**05 29 44.7**	**+1.8**
	comp=E,1.0nm,0.3s,baz=274,slow=13,SNR=62								
TXAR				Lg		Lg		05 32 47.0	
	comp=E,0.1nm,0.3s,baz=306,slow=20,SNR=2.8								
TXAR				LR		LR		05 33 47.0	
	comp=E,1μm,19.2s,baz=0.0,slow=37								
O20A	**White River Ci**	**10.80**	**33**	P		**Pn**		**05 29 47.1**	**+3.0**
	baz=217,SNR=14								
T25A	**Trinidad**	**11.15**	**55**	P		**Pn**		**05 29 49.7**	**+0.9**
	baz=242,SNR=9.0								
MSTX	**Muleshoe**	**11.37**	**73**	P		**Pn**		**05 29 54.7**	**+2.9**
	baz=260,SNR=18								
M04C	**Macdoel**	**11.54**	**337**	P		**Pn**		**05 29 58.0**	**+3.8**
	baz=153								
M02C	**Callahan**	**11.57**	**333**	P		**Pn**		**05 29 58.3**	**+3.8**
	baz=148								
Q24A	**Divide**	**11.66**	**46**	P		**Pn**		**05 29 58.5**	**+2.5**
	baz=232								
YBH	**Yreka Blue Hor**	**11.81**	**334**	P		Pn		05 30 01.8	+4.1
YBH	**Yreka Blue Hor**	**11.81**	**334**	Pn		**Pn**		**05 30 00.3**	**+2.6**
	comp=E,0.4nm,0.3s,baz=167,slow=8.2,SNR=22								
YBH				Lg		Lg		05 33 11.5	
	comp=E,0.0nm,0.3s,baz=109,slow=5.9,SNR=3.5								
YBH				LR		LR		05 34 56.7	
	comp=E,2μm,19.1s,baz=220,slow=40								
YBH	**Yreka Blue Hor**	**11.81**	**334**			Pn		05 30 01.8	+4.1
ISCO	**Idaho Springs**	**11.92**	**42**	P		**Pn**		**05 30 02.4**	**+2.8**
	baz=228								
L04D	**Klamath Falls**	**12.09**	**337**	P		**Pn**		**05 30 03.8**	**+2.1**
	baz=152,SNR=41								
K04D	**Chiloquin, OR**	**12.28**	**339**	P		**Pn**		**05 30 07.1**	**+3.0**
	baz=155,SNR=7.5								
AMTX	**Amarillo**	**12.44**	**69**	P		**Pn**		**05 30 10.0**	**+3.7**
	baz=258								
L02E	**Cave Junction**	**12.51**	**332**	P		Pn		05 30 11.2	+3.9
	baz=147								
N23A	**Red Feather La**	**12.51**	**37**	P		**Pn**		**05 30 10.6**	**+3.0**
	baz=223,SNR=16								
BW06	**Boulder Array**	**12.54**

baz=75,slow=15,SNR=3.5
NEW LR LR 05 37 40.6
comp=Z,728nm,20.3s,baz=181,slow=37
C06D Leavenworth 17.08 348 P P 05 31 10.0 +0.1
baz=165
LAO LASA Array 17.11 23 P P 05 31 09.5 -0.9
baz=209,SNR=49
D03D Eldon 17.17 343 P P 05 31 11.7 +0.8
baz=158,SNR=6.3
NLWA Neilton Lookou 17.24 341 P P 05 31 13.8 +2.0
B08A Colville Reser 17.28 352 P 05 31 11.6 -0.6
HKT Hockley 17.30 89 P P 05 31 12.9 +0.5
HKT pmax pmax
comp=Z,92nm,1.5s
HKT Hockley 17.30 89 P P 05 31 12.9 +0.5
HKT IAmb IAmb 05 31 24.8
comp=Z,92nm,1.4s
TUL1 Leonard 17.35 69 P P 05 31 13.5 +0.4
baz=261,SNR=10.0
TUL1 Leonard 17.35 69 P 05 31 13.7 +0.6
TUL1 IAmb IAmb 05 31 29.2
comp=Z,49nm,1.1s
EGMT Eagleton 17.38 14 P P 05 31 14.4 +1.0
baz=198,SNR=20
EGMT Eagleton 17.38 14 P 05 31 14.2 +0.8
EGMT IAmb IAmb 05 31 16.3
comp=Z,79nm,1.2s
BGNE Belgrade 17.47 50 P P 05 31 14.7 +0.3
baz=240
KSU1 Kansas State U 17.56 58 P P 05 31 15.9 +0.5
baz=250,SNR=15
B05A Bryant 17.63 346 P P 05 31 17.0 +0.9
baz=162
B06A Marblemount 17.76 348 P Pn 05 31 15.7 -0.8
NATX Nacogdoches 18.09 83 P P 05 31 22.3 +1.1
baz=274
NATX Nacogdoches 18.09 83 P P 05 31 24.3 +3.1
NATX IAmb IAmb 05 31 32.6
comp=Z,81nm,1.3s
A04D Lummi Island 18.20 345 P P 05 31 23.0 +0.8
baz=161,SNR=5.7
W39A Magazine 18.88 72 P Pn 05 31 30.9 +0.5
baz=265
W39A Magazine 18.88 72 P Pn 05 31 31.9 +1.5
HHAR Hobbs 18.89 69 P P 05 31 29.5 -0.6
MIAR Mount Ida 19.00 74 P Pn 05 31 32.6 +0.8
baz=267,SNR=14
DGMT Dagmar 19.34 24 P Pn 05 31 36.9 +1.0
baz=211,SNR=16
DGMT Dagmar 19.34 24 P Pn 05 31 36.2 +0.3
Z41A Richland Creek 19.60 78 P Pn 05 31 40.1 +1.0
baz=271
X40A Basin Creek Fa 19.61 74 P Pn 05 31 40.1 +0.9
baz=267
ECSD EROS Data Cent 19.65 45 P Pn 05 31 39.6 0.0
baz=237,SNR=18
ECSD EROS Data Cent 19.65 45 P Pn 05 31 39.3 -0.4
ECSD IAmb IAmb 05 31 47.4
comp=Z,34nm,1.1s
U40A Yellville 19.77 69 P Pn 05 31 41.5 +0.3
baz=262
U40A Yellville 19.77 69 IAmb IAmb 05 31 52.5
comp=Z,47nm,1.4s
WHAR Wooly Hollow 20.11 72 IAmb IAmb 05 31 54.3
comp=Z,61nm,1.5s
W41B Gary Mavity, V 20.13 72 P Pn 05 31 44.7 -0.6
baz=266
W41B Gary Mavity, V 20.13 72 IAmb IAmb 05 31 56.9
comp=Z,46nm,1.4s
MDND Maddock 20.71 32 P Pn 05 31 50.8 -1.2
baz=223,SNR=8.6
MDND Maddock 20.71 32 P Pn 05 31 50.2 -1.8
SCIA State Center 21.01 53 P P 05 31 54.5 +1.4
baz=247
X43A Marvell 21.22 75 P P 05 31 56.7 +1.3
baz=269
CCM Cathedral Cave 21.32 65 P P 05 31 57.8 +1.3
baz=259
CCM Cathedral Cave 21.32 65 P P 05 31 58.4 +1.9
CCM pmax pmax
comp=Z,58nm,1.2s
CCM Cathedral Cave 21.32 65 P P 05 31 58.4 +1.9
CCM IAmb IAmb 05 32 05.8
comp=Z,58nm,1.1s
D32A Dogwood Acres, 21.47 37 P P 05 31 57.7 -0.2
D32A IAmb IAmb 05 32 09.1
comp=Z,37nm,1.1s
VBMS Vicksburg 21.57 81 P P 05 32 01.7 +2.5
baz=275
VBMS Vicksburg 21.57 81 P P 05 32 01.5 +2.4
PBMO Poplar Bluff 21.76 68 IAmb IAmb 05 32 07.9
comp=Z,33nm,1.1s
OXF Oxford 22.43 75 P P 05 32 08.7 +0.2
baz=270
L40A Anamosa 22.44 54 IAmb IAmb 05 32 25.8
comp=Z,21nm,1.0s
SPMN Marine on St. 22.75 46 P P 05 32 12.4 +0.6
baz=240,SNR=8.2
SPMN Marine on St. 22.75 46 P P 05 32 12.4 +0.6
SPMN IAmb IAmb 05 32 19.4
comp=Z,32nm,1.1s
BBB Bella Bella 22.76 340 LR LR 05 41 00.7
comp=Z,879nm,21.9s,baz=168,slow=37
HDIL Hopedale 23.36 59 P P 05 32 19.4 +1.3
baz=255
JFWS Jewell Farm 23.42 53 P P 05 32 21.1 +2.4
baz=249
CMIG Matias Romero 23.72 122 P P 05 32 23.7 +1.9
comp=Z,5.2nm,0.7s,baz=309,slow=9.7,SNR=10
WVT Waverly 23.79 71 P P 05 32 23.5 +1.1
baz=267
WVT Waverly 23.79 71 P P 05 32 22.9 +0.6
WVT pmax pmax
comp=Z,30nm,1.2s
WVT Waverly 23.79 71 P P 05 32 22.9 +0.6
WVT IAmb IAmb 05 32 28.0
comp=Z,30nm,1.2s
ULM Lac du Bonnet 24.14 32 eP P 05 32 25.5 0.0
ULM pmax pmax
comp=Z,13nm,0.9s
ULM Lac du Bonnet 24.14 32 P P 05 32 24.4 -1.2
comp=Z,16nm,1.0s,baz=230,slow=9.4,SNR=20
ULM LR LR 05 41 49.8
comp=Z,709nm,18.3s,baz=226,slow=36
ULM Lac du Bonnet 24.14 32 P P 05 32 24.6 -0.9
ULM IAmb IAmb 05 32 25.7
comp=Z,30nm,1.1s
E38A The Farm, Brul 24.20 44 IAmb IAmb 05 32 31.2
comp=Z,30nm,1.1s
G40A Rib Lake 24.40 48 IAmb IAmb 05 32 46.1
comp=Z,14nm,0.9s
LRAL Lakeview Retre 24.48 78 P P 05 32 29.9 +1.1
baz=274
LRAL Lakeview Retre 24.48 78 IAmb IAmb 05 32 39.1
comp=Z,14nm,1.1s
P46A Rosedale 24.72 62 P P 05 32 31.8 +0.9
baz=259
EYMN Ely 24.95 41 P P 05 32 33.2 +0.3
baz=237
SFIN Lafayette 24.95 61 P P 05 32 32.9 -0.1
baz=258
CLTN Cedars of Leba 25.00 71 IAmb IAmb 05 32 39.3
comp=Z,11nm,0.9s
W49A Belvidere 25.03 73 P P 05 32 34.1 +0.3
baz=270
WCI Wyandotte Cave 25.21 66 P P 05 32 36.6 +1.2
baz=263
WCI Wyandotte Cave 25.21 66 P P 05 32 37.8 +2.5
WCI pmax pmax
comp=Z,25nm,1.3s
WCI Wyandotte Cave 25.21 66 P P 05 32 37.8 +2.5
WCI IAmb IAmb 05 32 41.8
comp=Z,25nm,1.2s
SWET Sewanee 25.30 73 IAmb IAmb 05 32 46.8
comp=Z,13nm,1.0s
V49A McMinnville 25.33 72 P P 05 32 36.8 +0.3
baz=269
Z50A Ashland 25.36 78 P P 05 32 36.5 -0.4
baz=274
FFC Flin Flon 25.46 19 P P 05 32 37.2 -0.3
FFC pmax pmax
comp=Z,19nm,1.1s
FFC Flin Flon 25.46 19 P P 05 32 37.2 -0.3
FFC IAmb IAmb 05 32 39.9
comp=Z,19nm,1.1s
U49A Red Boiling Sp 25.46 70 P P 05 32 38.7 +1.0
baz=267

T49A Edmonton 25.70 69 P P 05 32 40.1 +0.2
baz=266
Q48A North Vernon 25.73 64 P P 05 32 39.5 -0.7
baz=262
W50A Signal Mountai 25.81 73 P P 05 32 41.4 +0.5
baz=270
W50A Signal Mountai 25.81 73 IAmb IAmb 05 32 49.6
comp=Z,11nm,0.8s
V50A Pikevile 25.98 72 P P 05 32 42.6 +0.1
baz=269
Y51A Rockmart 26.04 76 P P 05 32 43.0 0.0
baz=273,SNR=7.5
P48A Milroy 26.05 63 P P 05 32 43.0 0.0
baz=261
N47A Urbana 26.10 60 P P 05 32 43.7 +0.3
baz=258
X51A Calhoun 26.19 74 P P 05 32 44.5 +0.2
baz=272
X51A Calhoun 26.19 74 IAmb IAmb 05 32 53.0
comp=Z,17nm,0.9s
U50A Jamestown 26.21 70 P P 05 32 44.3 -0.3
baz=268
T50A Nancy 26.25 69 P P 05 32 45.0 +0.2
baz=267
M47A Cromwell 26.26 59 P P 05 32 45.9 +1.0
baz=257
W51A Cleveland 26.26 73 P P 05 32 44.8 -0.2
baz=271
352A Blakely 26.38 81 P P 05 32 47.0 +0.9
baz=278
352A Blakely 26.38 81 P P 05 32 47.8 +1.8
O48A Farmland 26.39 62 P P 05 32 46.9 +0.8
baz=260
152A Waverly Hall 26.42 79 P P 05 32 46.8 +0.4
baz=276
152A Waverly Hall 26.42 79 IAmb IAmb 05 32 51.2
comp=Z,17nm,1.1s
252A Lumpkin 26.48 80 P P 05 32 47.5 +0.6
baz=277
V51A Loudon 26.60 72 P P 05 32 48.7 +0.7
baz=270
V51A Loudon 26.60 72 IAmb IAmb 05 32 52.4
comp=Z,18nm,1.0s
P49A Miami Univ. Ec 26.60 63 P P 05 32 48.1 +0.1
baz=262
Z52A Williamson 26.63 77 P P 05 32 49.4 +1.1
baz=275
L47A Sherwood 26.70 58 P P 05 32 48.4 -0.5
baz=257
Y52A Lilburn 26.88 76 P P 05 32 51.2 +0.6
baz=274
Y52A Lilburn 26.88 76 IAmb IAmb 05 32 56.4
comp=Z,16nm,0.8s
U51A La Follette 26.88 70 P P 05 32 51.0 +0.5
baz=269
W52A Murphy 26.94 73 P P 05 32 50.8 -0.4
baz=271
253A Americus 26.98 80 P P 05 32 52.5 +1.0
baz=277
253A Americus 26.98 80 P P 05 32 52.6 +1.1
X52A Dahlonega 26.98 74 P P 05 32 50.5 -1.1
baz=272
O49A Covington 26.99 62 P P 05 32 50.9 -0.6
baz=261
K47A Vermontville 27.02 56 P P 05 32 51.4 -0.4
baz=255
TKL Tuckaleechee C 27.06 72 P P 05 32 51.7 -0.5
comp=Z,2.6nm,0.8s,baz=249,slow=6.2,SNR=4.2
TKL LR LR 05 43 29.2
comp=Z,457nm,19.7s,baz=227,slow=36
TEIG Tepich 27.10 107 LR LR 05 44 47.1
comp=Z,751nm,21.9s,baz=226,slow=39
V52A Sevierville 27.21 72 P P 05 32 53.6 +0.1
baz=270
V52A Sevierville 27.21 72 IAmb IAmb 05 32 59.2
comp=Z,20nm,1.2s
L48A N Adams 27.26 58 P P 05 32 53.7 -0.2
baz=257
TZTN Tazewell 27.26 70 P P 05 32 53.0 -1.0
baz=269
Y53A Monroe 27.27 76 P P 05 32 54.6 +0.4
baz=274
S51A Beattyville 27.28 68 P P 05 32 54.1 0.0
baz=266
J47A Sunmer 27.30 55 P P 05 32 53.4 -0.8
baz=254
J47A Sunmer 27.30 55 IAmb IAmb 05 33 06.6
comp=Z,19nm,1.1s
P50A Jamestown 27.31 63 P P 05 32 53.8 -0.6
baz=262
Z53A Monticello 27.33 77 P P 05 32 54.5 -0.1
baz=275
R51A Hillsboro 27.34 66 P P 05 32 55.1 +0.4
baz=265
U52A Thorn Hill 27.40 70 P P 05 32 55.0 -0.3
baz=269
GOGA Godfrey 27.40 77 P P 05 32 55.6 +0.3
baz=275
GOGA Godfrey 27.40 77 IAmb IAmb 05 32 59.7
comp=Z,22nm,1.2s
H46A Fife Lake 27.41 52 P P 05 32 54.1 -1.1
baz=252
M49A Liberty Center 27.49 59 P P 05 32 55.9 -0.1
baz=259
TIGA Tifton 27.52 81 P P 05 32 57.2 +0.9
baz=278
O50A Cable 27.53 62 P P 05 32 56.4 +0.1
baz=262
W53A Cullowhee 27.57 73 P P 05 32 57.0 +0.1
baz=272
F45A CMU Biological 27.59 50 P P 05 32 57.0 +0.2
baz=249
Q51A Peebles 27.59 65 P P 05 32 57.6 +0.7
baz=264
254A Abbeville 27.70 80 P P 05 32 58.9 +1.0
baz=278
T52A Hallie 27.73 69 P P 05 32 58.2 0.0
baz=268
V53A Saluda 27.85 72 P P 05 32 59.3 0.0
baz=271
P51A Williamsport 27.86 64 P P 05 32 59.2 -0.2
baz=263
Z54A Sparta 27.94 77 P P 05 32 59.5 -0.6
baz=275,SNR=5.7
N50A Nevada 27.98 61 P P 05 33 00.0 -0.4
baz=261,SNR=7.3
Y54A Tignall 28.02 76 P P 05 33 00.1 -0.7
baz=274
ACSO Alum Creek Sta 28.02 62 P P 05 32 59.4 -1.4
baz=262
ACSO Alum Creek Sta 28.02 62 IAmb IAmb 05 33 04.4
comp=Z,15nm,1.0s
U53A Fall Branch 28.04 70 P P 05 33 01.3 +0.3
baz=270
APG El Apazote 28.31 119 LR LR 05 45 37.1
comp=Z,1µm,20.1s,baz=300,slow=39
N51A Ashland 28.58 61 P P 05 33 05.7 -0.1
baz=261
Y55A Saluda 28.70 76 P P 05 33 06.1 -0.7
baz=274
M51A Elyria 28.79 60 P P 05 33 07.8 +0.2
baz=261
X55A Gracelyn & Ava 28.85 74 P P 05 33 08.0 -0.2
baz=274
T54A Tazewell 28.86 69 P P 05 33 09.4 +1.1
baz=269
O52A Adamsville 28.88 63 P P 05 33 08.9 +0.5
baz=263
Q53A Leroy 28.99 65 P P 05 33 09.9 +0.5
baz=266
KMSC Kings Mountain 29.07 73 P P 05 33 10.6 +0.5
baz=272
N52A McGinn's Farm, 29.08 61 P P 05 33 10.6 +0.3
baz=262
V55A Taylorsville 29.14 72 P P 05 33 10.1 -0.7
baz=271
U55A TA2, Sparta 29.27 70 P P 05 33 12.0 -0.1
baz=270
X56A White Oak 29.35 74 P P 05 33 12.4 -0.2
baz=274
R54A Victor 29.36 67 P P 05 33 12.5 -0.2
baz=267
M52A Chesterland 29.44 60 P P 05 33 13.1 -0.3
baz=261
T55A Pulaski 29.49 69 P P 05 33 13.9 -0.1
baz=269
Q54A Coxs Mills 29.54 65 P P 05 33 14.9 +0.7
baz=266

157A Early Branch 29.54 78 P P 05 33 15.1 +0.8
baz=277
Z57A Bowman 29.72 77 P P 05 33 16.5 +0.6
baz=276
N53A Lisbon 29.72 62 P P 05 33 16.3 +0.5
baz=263
S55A Lewisburg 29.73 68 P P 05 33 15.8 -0.2
baz=268
BLA Blacksburg 29.78 69 P P 05 33 16.4 -0.1
baz=269
P54A Burton 29.86 64 P P 05 33 16.2 -1.0
baz=265
Y57A Sumter 29.91 75 P P 05 33 16.3 -1.3
baz=275
M53A WI Miller and 29.93 60 P P 05 33 15.6 -2.1
baz=262
O54A Avella 30.00 63 P P 05 33 17.9 -0.4
baz=264
R55A Marlinton 30.05 67 P P 05 33 18.6 -0.3
baz=268
V57A Coltrane Farms 30.31 71 P P 05 33 21.4 +0.3
baz=272
L53A Girard 30.32 59 P P 05 33 22.1 +1.0
baz=261
N54A Moraine State 30.38 61 P P 05 33 21.9 +0.2
baz=263
Z58A St. Stephen 30.45 76 P P 05 33 23.0 +0.6
baz=276
ERPA Erie 30.54 59 P P 05 33 22.8 -0.3
baz=261
M54A Oil Creek Stat 30.69 60 P P 05 33 24.0 -0.4
baz=262
Q56A Snyder Ridge, 30.82 65 P P 05 33 27.1 +1.5
baz=267
E50A Wahnapitae 30.98 51 P P 05 33 27.8 +0.9
baz=253
L54A Sinclairville 31.05 59 P P 05 33 27.5 -0.2
baz=262
YKA Yellowknife Ar 31.26 1 P P 05 33 29.4 +0.3
comp=Z,3.6nm,0.8s,baz=182,slow=8.3,SNR=41
YKA PcP PcP 05 36 22.8 -0.7
comp=Z,0.5nm,0.7s,baz=168,slow=2.7,SNR=3.9
YKA LR LR 05 47 09.8
comp=Z,96nm,18.7s,baz=184,slow=38
R57A Stanardsville 31.31 67 P P 05 33 30.7 +0.8
baz=269
YKW3 Yellowknife Ar 31.32 1 P P 05 33 29.9 +0.2
M55A Ridgway 31.36 61 P P 05 33 30.6 +0.3
baz=263
O56A Blue Knob Stat 31.38 63 P P 05 33 31.5 +0.8
baz=265
WVNY West Valley, N 31.60 59 IAmb IAmb 05 33 45.8
comp=Z,13nm,0.9s
N56A West Decatur 31.65 62 P P 05 33 31.6 -1.3
baz=265
M56A Emporium 31.79 61 P P 05 33 32.4 -1.8
baz=264
R58B Mineral 31.81 67 P P 05 33 33.1 -1.2
baz=270
SSPA Standing Stone 31.93 62 P P 05 33 37.3 +1.9
baz=265
N57A Milroy 32.20 62 P P 05 33 38.0 +0.3
baz=265
J55A Hilton 32.30 57 P P 05 33 38.0 -0.6
baz=261
L56A Greenwood 32.33 60 P P 05 33 39.4 +0.5
baz=263
I55A Frankford 32.56 56 P P 05 33 40.2 -0.6
baz=260
M57A Sunshine Farm, 32.57 61 P P 05 33 40.9 0.0
baz=265
K56A Middlesex 32.58 59 P P 05 33 41.7 +0.6
baz=262
N58A Sunbury 32.84 62 P P 05 33 42.5 -0.8
baz=266
J56A Wolcott 32.99 58 P P 05 33 44.9 +0.2
baz=262
D53A Lac Vacive, Po 33.16 51 P P 05 33 45.9 -0.2
baz=255
BINY Binghamton 33.50 60 P P 05 33 49.0 -0.1
baz=264
L58A Harry Jones Me 33.59 60 P P 05 33 50.2 +0.3
baz=265
F55A Otter Lake 33.79 53 P P 05 33 51.5 -0.1
baz=259
O60A Telford 33.80 63 P P 05 33 52.1 +0.4
baz=268
M59A Waymart 33.85 61 P P 05 33 52.0 -0.3
baz=266
MATQ Matagami 33.97 46 P P 05 33 52.7 -0.4
baz=252
N60A Cedar Hill Far 34.06 62 P P 05 33 54.2 +0.2
baz=267
L59A Walton 34.20 60 P P 05 33 55.2 0.0
baz=265
M60A Port Jervis 34.45 61 P P 05 33 57.6 +0.3
baz=267
L60A Shokan 34.79 60 P P 05 34 00.3 0.0
baz=266
L61A Hillsdale 1, H 35.30 60 P P 05 34 04.7 0.0
baz=266
JTS Las Juntas de 35.44 119 *i* P P 05 34 07.9 +1.7
JTS pmax pmax
comp=Z,7.0nm,1.1s
G59A Clarenceville 35.86 55 P P 05 34 10.6 +1.2
baz=262
CHGQ Chibougamau 36.03 47 P P 05 34 11.9 +1.0
baz=255
MENT Mentasta 36.34 339 IAmb IAmb 05 34 18.7
comp=Z,6.9nm,0.7s
D58A Chemin du LacG 36.38 52 P P 05 34 13.6 -0.4
baz=260
EGAK Eagle 37.03 342 IAmb IAmb 05 34 24.6
comp=Z,10.0nm,0.9s
SCRK Sand Creek 37.19 340 P P 05 34 22.0 +1.2
SCRK IAmb IAmb 05 34 23.4
comp=Z,14nm,1.0s
EPYK Eagle Plains 37.33 346 P P 05 34 22.0 +0.3
baz=150,SNR=5.4
D60A Saint Jean D'O 37.68 52 P P 05 34 24.5 -0.3
baz=262
SUA Susitna One 37.79 333 IAmb IAmb 05 34 33.3
comp=Z,14nm,0.9s
HDA Harding Lake 38.40 339 P P 05 34 31.6 +0.8
baz=134
MCK McKinley 38.58 337 P P 05 34 33.7 +1.4
MCK pmax pmax
comp=Z,35nm,1.4s
MCK McKinley 38.58 337 P P 05 34 33.7 +1.4
ILAR Eielson Array 38.64 339 eP P 05 34 33.8 +1.0
ILAR pmax pmax
comp=Z,7.0nm,0.8s
ILAR Eielson Array 38.64 339 P P 05 34 31.9 -0.9
comp=Z,6.5nm,0.8s,baz=152,slow=7.6,SNR=61
ILAR LR LR 05 50 06.3
comp=Z,380nm,19.1s,baz=145,slow=36
TRF Thorofare Moun 38.85 336 IAmb IAmb 05 34 54.2
comp=Z,18nm,1.1s
COLA College 39.01 339 *i* P P 05 34 36.6 +0.8
COLA pmax pmax
comp=Z,12nm,1.1s
COLA College 39.01 339 P P 05 34 37.0 +1.2
POKR Poker Plat Res 39.05 339 P P 05 34 36.9 +0.6
baz=134
KTH Kantishna Hill 39.14 336 IAmb IAmb 05 34 39.1
comp=Z,16nm,1.0s
FYU Fort Yukon 39.49 342 IAmb IAmb 05 34 42.8
comp=Z,25nm,1.0s
TTA Tatalina 40.65 333 P P 05 34 50.4 +0.7
TTA pmax pmax
comp=Z,16nm,1.2s
TTA Tatalina 40.65 333 P P 05 34 50.4 +0.7
TTA IAmb IAmb 05 34 53.6
comp=Z,16nm,1.2s
COLD Coldfoot 41.33 341 P P 05 34 55.9 +0.8
SCHQ Schefferville 41.75 41 LR LR 05 51 19.7
comp=Z,611nm,18.7s,baz=284,slow=35
TOLK Toolik Lake Re 42.14 342 P P 05 35 02.5 +0.7
baz=135,SNR=7.1
TOLK Toolik Lake Re 42.14 342 P P 05 35 03.1 +1.3
TOLK IAmb IAmb 05 35 04.9
comp=Z,13nm,0.9s
RDOG Red Dog Mine 45.74 337 P P 05 35 31.7 +1.0
TAOE Nuku Hiva Isla 46.17 214 eT T 06 24 12.8
comp=Z,46nm,0.2s
OTAV Otavalo 46.98 124 P P 05 35 41.6 0.0
OTAV pmax pmax
comp=Z,10.0nm,1.2s

OTAV	**Otavalo**	**46.98**	**124**	P	**P**		**05 35 41.6**	**0.0**
OTAV				IAmb	IAmb		05 35 48.3	
	comp=Z,9.8nm,1.2s							
ROSC	**El Rosal**	**47.01**	**115**	LR	LR		05 56 50.3	
	comp=Z,382nm,18.5s,baz=13,slow=38							
SDV	**Santo Domingo**	**47.53**	**108**	P	**P**		**05 35 46.1**	**+0.5**
	comp=Z,3.8nm,0.8s,baz=199,slow=9.6,SNR=4.8							
SDV	**Santo Domingo**	**47.53**	**108**	P	**P**		**05 35 43.9**	**-1.7**
SDV				IAmb	IAmb		05 35 52.9	
	comp=Z,6.0nm,0.8s							
TULEG	**Thule**	**50.30**	**13**	P	**P**		**05 36 06.0**	**+0.2**
SUMG	**Summit**	**56.73**	**21**	P	**P**		**05 36 53.6**	**+0.1**
SUMG				pmax	pmax			
	comp=Z,9.0nm,1.1s							
SUMG	**Summit**	**56.73**	**21**	P	**P**		**05 36 53.6**	**+0.1**
SUMG				IAmb	IAmb		05 37 04.1	
	comp=Z,9.1nm,1.1s							
BILL	**Bilibino**	**56.89**	**334**	*e*P	**P**		**05 36 55.1**	**+0.8**
BILL				pmax	pmax			
	comp=Z,25nm,2.1s							
PPT	**Papeete**	**58.36**	**218**	LR	LR		05 56 39.7	
	comp=Z,95nm,19.9s,baz=16,slow=30							
TVO	**Taravao**	**58.36**	**218**	*e*T	T		06 39 26.7	
	comp=Z,0.5nm,0.3s							
PPT2	**Papeete2**	**58.37**	**218**	*e*S	**S**		**05 45 11.3**	**+1.9**
	comp=Z,372nm,25.2s							
PPT2				*e*LR	LR		05 53 47.9	
	comp=Z,430nm,28.2s,baz=22							
SEY	**Seymchan**	**63.43**	**329**	*i* P	**P**		**05 37 42.1**	**+2.9**
PETK	**Petropavlovsk-**	**63.63**	**318**	P	**P**		**05 37 41.3**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=85,slow=8.8,SNR=3.2							
PETK				LR	LR		06 00 41.1	
	comp=Z,59nm,19.9s,baz=62,slow=32							
LPAZ	**La Paz**	**65.85**	**129**	P	**P**		**05 37 56.4**	**+0.1**
LPAZ				pmax	pmax			
	comp=Z,6.0nm,1.4s							
LPAZ	**La Paz**	**65.85**	**129**	P	**P**		**05 37 56.4**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=20,slow=13,SNR=2.1							
LPAZ				LR	LR		06 05 16.9	
	comp=Z,132nm,20.8s,baz=328,slow=35							
LPAZ	**La Paz**	**65.85**	**129**	IAmb	IAmb		05 38 03.3	
	comp=Z,6.1nm,1.4s							
TIXI	**Tiksi**	**68.04**	**342**	*e*P	**P**		**05 38 08.3**	**-0.4**
TIXI				pmax	pmax			
	comp=Z,9.0nm,1.5s							
TIXI	**Tiksi**	**68.04**	**342**	P	**P**		**05 38 08.1**	**-0.6**
TIXI				IAmb	IAmb		05 38 12.6	
	comp=Z,2.9nm,0.8s							
H11N3	**WAKE ISLAND Hy**	**69.41**	**281**	T	T		06 54 34.8	
	baz=76,slow=74,SNR=30							
H11N2	**WAKE ISLAND Hy**	**69.42**	**281**	T	T		06 53 32.7	
	SNR=46							
H11N1	**WAKE ISLAND Hy**	**69.43**	**281**	T	T		06 54 16.9	
	baz=77,slow=74,SNR=43							
YAK	**Yakutsk**	**73.25**	**333**	P	**P**		**05 38 41.2**	**+0.6**
ARCES	**ARCESS Array B**	**75.64**	**13**	*e*P	**P**		**05 38 54.2**	**-0.3**
ARCES				pmax	pmax			
	comp=Z,7.0nm,0.9s							
ARCES	**ARCESS Array B**	**75.64**	**13**	LR	LR		06 14 46.5	
	comp=Z,256nm,19.1s,baz=328,slow=38							
NB2	**NORSAR Subarra**	**78.47**	**23**	P	**P**		**05 39 10.8**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=315,slow=5.6							
NOA	**NORSAR Array B**	**78.47**	**23**	P	**P**		**05 39 10.9**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=315,slow=5.4,SNR=5.2							
NOA				LR	LR		06 15 46.8	
	comp=Z,170nm,18.3s,baz=325,slow=37							
CPUP	**Villa Florida**	**80.02**	**129**	P	**P**		**05 39 18.7**	**-0.8**
	comp=Z,4.0nm,1.1s,baz=286,slow=8.2,SNR=5.2							
CPUP				LR	LR		06 14 39.3	
	comp=Z,94nm,18.2s,baz=338,slow=36							
BDFB	**Brasilia**	**80.06**	**115**	P	**P**		**05 39 21.6**	**+1.6**
BDFB				pmax	pmax			
	comp=Z,10.0nm,1.2s							
BDFB	**Brasilia**	**80.06**	**115**	P	**P**		**05 39 21.6**	**+1.6**
	comp=Z,5.0nm,1.0s,baz=135,slow=5.6,SNR=3.9							
BDFB				LR	LR		06 17 35.1	
	comp=Z,82nm,18.9s,baz=305,slow=38							
BDFB	**Brasilia**	**80.06**	**115**	IAmb	IAmb		05 39 24.4	
	comp=Z,9.5nm,1.2s							
FIA1	**FINESS Array S**	**82.60**	**17**	P	**P**		**05 39 31.8**	**-0.9**
FINES	**FINESS Array B**	**82.60**	**17**	*e*P	**P**		**05 39 33.0**	**+0.3**
FINES				pmax	pmax			
	comp=Z,4.0nm,0.7s							
FINES	**FINESS Array B**	**82.60**	**17**	P	**P**		**05 39 31.7**	**-1.0**
	comp=Z,3.5nm,0.7s,baz=2.7,slow=8.0,SNR=5.5							
FINES				LR	LR		06 18 17.5	
	comp=Z,255nm,18.5s,baz=290,slow=37							
PLCA	**Paso Flores**	**83.00**	**147**	*e*P	P		05 39 38.5	+3.5
PLCA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
PLCA	**Paso Flores**	**83.00**	**147**	P	**P**		**05 39 35.6**	**+0.6**
	comp=Z,3.2nm,1.0s,baz=30,slow=2.9,SNR=5.3							
PLCA				LR	LR		06 09 16.5	
	comp=Z,107nm,21.6s,baz=358,slow=30							
PLCA	**Paso Flores**	**83.00**	**147**	P	**P**		**05 39 35.4**	**+0.4**
PLCA				IAmb	IAmb		05 39 40.4	
	comp=Z,8.0nm,1.2s							
MJAR	**Matsushiro Arr**	**83.28**	**309**	LR	LR		06 08 59.0	
	comp=Z,57nm,22.0s,baz=85,slow=30							
ESDC	**Sonseca Array**	**85.31**	**46**	P	**P**		**05 39 46.1**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=310,slow=7.4,SNR=4.4							
HIA	**Hailar**	**85.80**	**327**	*i* P	**P**		**05 39 50.3**	**+1.0**
HIA				pmax	pmax			
	comp=Z,12nm,0.8s							
PRGR	**Permogore**	**86.22**	**9**	*e*P	**P**		**05 39 48.4**	**-2.6**
PRGR				pmax	pmax			
	comp=Z,25nm,1.1s							
GERES	**GERESS Array B**	**88.44**	**31**	LR	LR		06 20 53.7	
	comp=Z,222nm,18.1s,baz=322,slow=36							
TLY	**Talaya**	**90.42**	**337**	*e*P	**P**		**05 40 13.5**	**+2.2**
TLY				pmax	pmax			
	comp=Z,6.0nm,0.9s							
GUMO	**Guam**	**90.77**	**286**	LR	LR		06 21 03.1	
	comp=Z,89nm,18.2s,baz=337,slow=36							
OBN	**Obninsk**	**90.77**	**15**⇑	*e*P	**P**		**05 40 11.6**	**-1.2**
OBN				*e*			05 43 51.0	
OBN				pmax	pmax			
	comp=Z,5.0nm,1.1s							
OBN				MLR	MLR			
	comp=Z,176nm,11.0s							
ULN	**Ulaanbaatar**	**92.32**	**333**	*i* P	**P**		**05 40 21.6**	**+1.2**
ULN				pmax	pmax			
	comp=Z,10.0nm,1.8s							
ARU	**Arti**	**92.53**	**3**	*i* P	**P**		**05 40 21.8**	**+0.9**
ARU				pmax	pmax			
	comp=Z,2.0nm,1.0s							
SONM	**Songino Array**	**92.60**	**333**	*e*P	P		05 40 25.4	+3.7
SONM				pmax	pmax			
	comp=Z,1.0nm,1.0s							
SONM	**Songino Array**	**92.60**	**333**	P	**P**		**05 40 21.5**	**-0.1**
	comp=Z,1.1nm,1.0s,baz=26,slow=3.8,SNR=4.8							
SONM				LR	LR		06 21 06.8	
	comp=Z,168nm,18.8s,baz=20,slow=35							
ZALV	**Zalesovo Beam**	**93.27**	**348**	LR	LR		06 28 34.5	
	comp=Z,91nm,19.4s,baz=336,slow=40							
KEST	**Kesra**	**95.83**	**42**	LR	LR		06 25 06.2	
	comp=Z,101nm,18.0s,baz=278,slow=36							
BRVK	**Borovoye**	**95.86**	**356**	*i* P	**P**		**05 40 35.5**	**-0.8**
BRVK				pmax	pmax			
	comp=Z,21nm,3.9s							
HHC	**Hu-ho-hao-te**	**95.91**	**326**	*e*P	**P**		**05 40 37.6**	**+0.6**
HHC				pmax	pmax			
	comp=Z,4.0nm,1.1s							
HHC				pmax	pmax			
	comp=Z,8.0nm,5.3s							
EFI	**East Falkland**	**96.89**	**148**	*i* P	P		05 40 45.4	+4.7
EFI				pmax	pmax			
	comp=Z,17nm,1.2s							
NJ2	**Nanjing**	**98.47**	**316**	*e*P	Pdif		05 40 49.1	+0.6
WMQ	**Urumqi**	**102.23**	**343**	*e*P	**Pdif**		**05 41 07.5**	**+2.3**
WMQ				LR	LR			
	comp=Z,210nm,29.1s							
KIV	**Kislovodsk**	**102.62**	**16**	*i* P	**Pdif**		**05 41 08.5**	**+1.6**
KIV				pmax	pmax			
	comp=Z,17nm,1.0s							
WRA	**Warramunga Arr**	**116.61**	**262**	*e*PKIKP	**PKiKP**		**05 45 57.1**	**+2.5**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**116.61**	**262**	PKP	**PKPdf**		**05 45 51.8**	**-2.8**
	comp=Z,0.6nm,0.6s,baz=61,slow=2.3,SNR=3.0							
ASAR	**Alice Springs**	**118.53**	**259**	PKP	**PKPdf**		**05 45 55.5**	**-2.8**
	comp=Z,0.6nm,0.6s,baz=84,slow=2.6,SNR=5.6							
CMAR	**Chiang Mai Arr**	**120.32**	**321**	*i* PKIKP	**PKiKP**		**05 46 01.0**	**-1.0**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
LBTB	**Lobatse**	**145.58**	**89**	PKIKP	**PKPab**		**05 46 48.8**	**-0.4**
LBTB	**Lobatse**	**145.58**	**89**	PKPab	**05 46 48.8**	**-0.4**
BOSA	**Boshof**	**146.32**	**96**	PKPbc	**PKiKP**	**05 46 52.6**	**-1.7**
	comp=Z,5.6nm,1.1s,baz=358,slow=6.9,SNR=4.4							

*ISCJB **20** 06:00:26.1±0.5, 32.°05N±0.°05×141.°40E±0.°09, h26km, mb3.9/5, Error ellipse: s-maj=11.2km s-min=6.3km az=154.7*
*JMA **20** 06:00:29.2±0.6, 32.°51N×141.°32E, h0km, M4.0*
*NEIC **20** 06:00:31.1±2.0, 32.°1N±0.°1×141.°2E±0.°1, h51km±9km, mb4.5/11*
*IDC **20** 06:00:32.5±4.8, 32.°17N×141.°32E, h68km±45km, mb3.5/5, mb1 3.7/6, mb1mx3.3/34, mbtmp3.8/6, ML2.5/1, Error ellipse: s-maj=51.0km s-min=21.7km az=88.0*
ISC 20 06:00:28.1±0.9, **32.°14N**±0.°09×**141.°36E**±0.°10, **h26**km, **n29,** σ1§**13**/**31**, **mb4.3**/**12**, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.63**	**307**	P		**Pn**	**Pb**	**06 00 55.8**	**+0.7**
JHJ2				S		Sn	Pb	06 01 15.0	-0.2
JHJ2	**Mitsune**	**1.63**	**307**	Pn		**Pn**	**Pb**	**06 00 55.5**	**+0.5**
JHJ2				Sn		**Sn**	**Pb**	**06 01 15.2**	**0.0**
BSO1	**Boso 1**	**2.53**	**353**	P		**Pn**	**Pb**	**06 01 07.2**	**+0.2**
BSO3	**Boso 3**	**2.75**	**345**	P		**Pn**	**Pb**	**06 01 11.7**	**+1.4**
BSO4	**Boso 4**	**2.97**	**344**	P		**Pn**	**Pb**	**06 01 14.4**	**+0.9**
JOD2	**Odawara 2**	**3.65**	**329**	P		**Pn**	**Pb**	**06 01 23.8**	**+0.9**
JOD2				S		**Sn**	**Pb**	**06 02 03.2**	**-1.9**
JHU	**Hanno**	**4.09**	**336**	P		**Pn**	**Pb**	**06 01 29.9**	**+1.0**
JYN	**Shimob**	**4.09**	**326**	P		**Pn**	**Pb**	**06 01 31.1**	**+2.1**
JRY	**Ryogami san**	**4.38**	**333**	P		**Pn**	**Pb**	**06 01 34.9**	**+2.0**
JRY				S		**Sn**	**Pb**	**06 02 22.6**	**-0.5**
JAG	**Ashikaga**	**4.56**	**340**	S		**Sn**	**Pb**	**06 02 25.9**	**-1.7**
MJAR	**Matsushiro Arr**	**5.11**	**330**	P		**Pn**	**Pb**	**06 01 45.3**	**+2.3**
	0.2nm,0.3s,baz=161,slow=13,SNR=5.1								
MAJO	**Matsushiro**	**5.11**	**330**	Pn		Pn	Pb	06 01 48.1	+5.1
MJB9	**Matsu-Tunnel**	**5.12**	**330**	Pn		Pn	Pb	06 01 48.1	+5.0
MKAR	**Makanchi Array**	**46.83**	**306**	P		**P**	**P**	**06 08 55.6**	**-0.1**
	0.4nm,0.5s,baz=82,slow=11,SNR=2.1								
MAKZ	**Makanchi**	**47.04**	**306**	P		**P**	**P**	**06 08 57.1**	**-0.3**
MAKZ				IAmb		IAmb	IAmb	06 09 01.0	
	comp=Z,6.7nm,1.1s								
PPLA	**Purkeypile**	**51.25**	**33**	P		**P**	**P**	**06 09 31.6**	**+2.1**
PPLA				IAmb		IAmb	IAmb	06 09 39.1	
	comp=Z,11nm,1.4s								
FITZ	**Fitzroy Crossi**	**52.17**	**199**	P		**P**	**P**	**06 09 36.4**	**-0.2**
FITZ				IAmb		IAmb	IAmb	06 09 48.8	
	comp=Z,4.4nm,1.2s								
WRAB	**Tennant Creek**	**52.21**	**188**	P		**P**	**P**	**06 09 36.2**	**-0.6**
WRAB				IAmb		IAmb	IAmb	06 09 37.6	
	comp=Z,8.7nm,1.2s								
WR0	**Warramunga Arr**	**52.21**	**188**	P		**P**	**P**	**06 09 36.5**	**-0.4**
WR0				IAmb		IAmb	IAmb	06 09 36.7	
	comp=Z,7.4nm,1.4s								
WRA	**Warramunga Arr**	**52.22**	**188**	P		**P**	**P**	**06 09 36.5**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=3.1,slow=7.6,SNR=26								
IL31		**53.69**	**30**	P		**P**	**P**	**06 09 47.5**	**+0.3**
IL31				IAmb		IAmb	IAmb	06 09 53.9	
	comp=Z,7.7nm,1.5s								
ILAR	**Eielson Array**	**53.69**	**30**	P		**P**	**P**	**06 09 47.2**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=253,slow=6.3,SNR=2.3								
MID	**Middleton Isla**	**54.06**	**37**	P		**P**	**P**	**06 09 50.1**	**0.0**
SCRK	**Sand Creek**	**54.96**	**31**	P		**P**	**P**	**06 09 58.4**	**+1.6**
SCRK				IAmb		IAmb	IAmb	06 10 06.5	
	comp=Z,2.7nm,1.2s								
AS31	**Alice Springs**	**55.95**	**188**	P		**P**	**P**	**06 10 04.8**	**+0.6**
ASAR	**Alice Springs**	**55.95**	**188**	P		**P**	**P**	**06 10 04.2**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=9.4,slow=8.7,SNR=17								
BCPM	**Bancas Point**	**57.39**	**36**	P		**P**	**P**	**06 10 13.9**	**-0.1**
FINES	**FINESS Array B**	**73.13**	**333**	P		**P**	**P**	**06 11 54.5**	**-1.5**
	comp=Z,3.7nm,0.9s,baz=183,slow=34,SNR=2.4								
HAWA	**Hanford**	**73.19**	**46**	P		**P**	**P**	**06 11 56.6**	**0.0**

*ISCJB **20** 06:03:34.0±0.3, 51.°62N±0.°02×7.°23E±0.°02, h0km, Error ellipse: s-maj=2.8km s-min=1.6km az=162.8*
*BUG **20** 06:03:34.5±0.0, 51.°73N×7.°11E, h1km, ML3.0*
BUG Felt IV EMS.
*BNS **20** 06:03:34.7±0.5, 51.°77N×7.°06E, h1km, ML3.1*
*BGR **20** 06:03:36.2±0.3, 51.°70N×7.°14E, h1km, ML3.5/14, Error ellipse: s-maj=4.4km s-min=3.3km az=139.0*
*LDG **20** 06:03:36.6±0.1, 51.69N×7.°14E, h1km, Md3.6/2, Ml4.0/17, Error ellipse: s-maj=2.7km s-min=1.8km az=153.0, Suspected Mining induced.*
*PRU **20** 06:03:41.0±0.0, 51.°49N×7.°34E, h0km*
ISC 20 06:03:34.4±0.8, **51.69N**±0.°03×**7.°06E**±0.°02, **h0**km, **n96,** σ1§**51**/161, **4C**, **Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUG	**Bochum--Univer**	**0.28**	**152**	*e*Pg		**Pb**	**Pb**	**06 03 41.3**	**-1.0**
BUG				Sg		**Sb**	**Sb**	**06 03 46.9**	**-0.7**
LAUG	**Laupendahl**	**0.35**	**192**	*e*Pg		**Pb**	**Pb**	**06 03 42.7**	**-0.7**
LAUG				*e*Sg		**Sb**	**Sb**	**06 03 49.0**	**-0.4**
	2µm,1.4s								
ENTS	**Ennepetalsperr**	**0.50**	**154**	*e*Pg		**Pb**	**Pb**	**06 03 45.2**	**-0.8**
ENTS				*e*Sg		**Sb**	**Sb**	**06 03 52.9**	**-1.0**
SORT	**Sorpetalsperre**	**0.67**	**120**	*e*Pg		**Pg**	**Pg**	**06 03 47.7**	**+0.5**
SORT				*e*Sg		**Sb**	**Sb**	**06 03 56.8**	**-1.8**
	649nm,0.6s								
PLH	**Pulheim**	**0.70**	**192**	*e*Pg		**Pb**	**Pb**	**06 03 49.3**	**-0.2**
PLH				*e*Sg		**Sb**	**Sb**	**06 03 60.0**	**+0.3**
HOBG	**Hohbusch**	**0.73**	**166**	*e*Pg		**Pb**	**Pb**	**06 03 49.9**	**0.0**
HOBG				*e*Sg		**Sn**	**Sn**	**06 04 01.8**	**-2.0**
	1µm,1.1s								
HKB	**Herkenbosch**	**0.75**	**228**	S		**Sb**	**Sb**	**06 04 00.8**	**-0.2**
IBBN	**Ibbenburen**	**0.75**	**35**	*e*Pg		**Pg**	**Pb**	**06 03 49.1**	**+0.3**
IBBN				*e*Sg		**Sb**	**Sb**	**06 04 00.3**	**-0.9**
RODG	**Roetgen-Dahlhe**	**0.77**	**225**	*e*Pg		**Pb**	**Pb**	**06 03 51.6**	**+0.9**
OPLO	**Oploo**	**0.78**	**263**	*e*Sg		**Sb**	**Sb**	**06 04 03.4**	**+1.5**
RWB	**Wassenberg**	**0.82**	**224**	*e*Sg		**Sb**	**Sb**	**06 04 03.2**	**+0.3**
	807nm,0.7s								
WBS	**Wahnbachtalspe**	**0.90**	**171**	*e*Pg		**Pb**	**Pb**	**06 03 52.6**	**-0.2**
WBS				*e*Sg		**Sb**	**Sb**	**06 04 05.4**	**+0.1**
GSH	**Grosshau**	**1.05**	**204**⇑	*e*Pg		**Pb**	**Pb**	**06 03 55.7**	**+0.4**
GSH				*e*Sg		**Sn**	**Sn**	**06 04 10.9**	**-0.7**
	203nm,0.8s								
STB	**Steinbach**	**1.11**	**187**	*e*Pg		**Pb**	**Pb**	**06 03 56.7**	**+0.3**
STB				*e*Sg		**Sn**	**Sn**	**06 04 12.9**	**-0.1**
	495nm,0.6s								
TDN	**Todenfeld**	**1.12**	**184**⇑	*e*Pg		**Pb**	**Pb**	**06 03 57.1**	**-0.2**
TDN				*e*Sg		**Sn**	**Sn**	**06 04 13.0**	**-0.4**
	897nm,0.6s								
KLL	**Kalltalsperre**	**1.15**	**204**	*e*Pg		**Pb**	**Pb**	**06 03 57.4**	**+0.4**
KLL				*e*Sg		**Sn**	**Sn**	**06 04 13.8**	**-0.2**
	232nm,0.7s								
AHRW	**Bad Neuenahr-A**	**1.15**	**179**	*e*Pg		**Pn**	**Pn**	**06 03 57.5**	**-0.2**
AHRW				*e*Sg		**Sn**	**Sn**	**06 04 14.4**	**+0.2**
DREG	**Dreilaegerbach**	**1.15**	**207**	*e*Pg		**Pb**	**Pb**	**06 03 57.3**	**+0.1**
HGN	**Heimansgroeve**	**1.17**	**218**	*e*Pg		**Pb**	**Pb**	**06 03 57.8**	**+0.5**
HGN				*e*Sg		**Sn**	**Sn**	**06 04 14.1**	**-0.4**
HGN	**Heimansgroeve**	**1.17**	**218**	*e*Pg		**Pb**	**Pb**	**06 03 57.6**	**+0.3**
HGN				*e*Sg		**Sn**	**Sn**	**06 04 15.3**	**+0.8**
BEBN	**Eben Emael**	**1.25**	**225**	S		**Sb**	**Sb**	**06 04 13.1**	**-1.2**
BTNL	**Ternell**	**1.25**	**208**	P		**Pb**	**Pb**	**06 03 59.1**	**+0.2**
BTNL				S		**Sn**	**Sn**	**06 04 17.3**	**+0.6**
OLFT	**Oleftalsperre**	**1.26**	**199**	*e*Pg		**Pb**	**Pb**	**06 03 59.2**	**+0.1**
OLFT				*e*Sg		**Sn**	**Sn**	**06 04 17.2**	**+0.3**
MEM	**Membach**	**1.27**	**212**	⇑P		**Pb**	**Pb**	**06 03 59.3**	**+0.2**
MEM				S		**Sn**	**Sn**	**06 04 17.2**	**+0.1**
	comp=E,511nm,0.6s								
MEM	**Membach**	**1.27**	**212**	*e*Pg		**Pb**	**Pb**	**06 03 59.3**	**+0.2**
MEM				*e*Sg		**Sn**	**Sn**	**06 04 17.9**	**+0.8**
BMOL	**Mol**	**1.32**	**250**	S		**Sg**	**Sg**	**06 04 17.9**	**+1.1**
KOE	**Koeppel**	**1.34**	**161**	*e*Pg		**Pb**	**Pb**	**06 04 00.1**	**-0.2**
BHE	**Schloss Buerre**	**1.34**	**177**	*e*Pg		**Pn**	**Pn**	**06 04 00.3**	**0.0**
BHE				*e*Sg		**Sn**	**Sn**	**06 04 19.0**	**+0.2**
	comp=E,130nm,0.7s								
HILG	**Hillesheim**	**1.42**	**190**	*e*Pg		**Pg**	**Pg**	**06 04 01.6**	**0.0**
BSTI	**Sart Tilman**	**1.45**	**221**	P		**Pn**	**Pn**	**06 04 02.2**	**+0.4**
BHOU	**Houvegnez**	**1.49**	**207**	P		**Pn**	**Pn**	**06 04 00.2**	**-2.3**
BHOU				S		**Sn**	**Sn**	**06 04 23.9**	**+1.3**
BGG	**Burgeitz**	**1.50**	**173**	*e*Pg		**Pn**	**Pn**	**06 04 02.6**	**+0.1**
BGG				*e*Sg		**Sn**	**Sn**	**06 04 23.0**	**+0.3**
	comp=E,120nm,0.7s								
LOH	**Wallersheim-Lo**	**1.55**	**192**	*e*Pg		**Pn**	**Pn**	**06 04 03.2**	**+0.1**
LOH				*e*Sg		**Sg**	**Sg**	**06 04 23.6**	**-0.3**
	comp=E,150nm,0.6s								
BCLA	**Clavier**	**1.69**	**222**	⇑P		**Pn**	**Pn**	**06 04 05.2**	**+0.2**
BCLA				S		**Sn**	**Sn**	**06 04 27.6**	**+0.3**
	comp=E,54nm,0.6s								
TNS	**Taunus Mts**	**1.71**	**149**	*e*Pn		**Pg**	**Pg**	**06 04 06.8**	**-0.4**
TNS				*e*Sg		**Sb**	**Sb**	**06 04 28.4**	**-0.5**
RETH	**Rethem/Aller,**	**1.76**	**53**	*e*Pn		**Pn**	**Pn**	**06 04 05.7**	**-0.4**
BGES	**Gesves**	**1.80**	**224**	P		**Pn**	**Pn**	**06 04 07.0**	**+0.3**
BGES				S		**Sn**	**Sn**	**06 04 30.6**	**+0.3**
GTTG	**Gvttingen**	**1.82**	**93**	*e*Sg		**Sb**	**Sb**	**06 04 31.7**	**-0.2**
ABH	**Alteburg**	**1.84**	**170**	*e*Pn		**Pn**	**Pb**	**06 04 08.8**	**-0.1**
ABH				*e*Sg		**Sg**	**Sg**	**06 04 33.6**	**+0.2**
RCHB	**Rochefort**	**1.92**	**218**	P		**Pg**	**Pg**	**06 04 12.0**	**+0.8**
RCHB				S		**Sn**	**Sn**	**06 04 32.7**	**-0.5**
RIVT	**Riveris**	**1.99**	**185**	*e*Pg		**Pg**	**Pg**	**06 04 12.9**	**+0.3**
RIVT				*e*Sn		**Sb**	**Sb**	**06 04 35.8**	**-1.0**
BMRD	**Maredsous**	**2.01**	**227**	P		**Pb**	**Pb**	**06 04 11.6**	**0.0**
BMRD				S		**Sn**	**Sn**	**06 04 31.1**	**-4.2**
NRDL	**Niedersach Rie**	**2.05**	**66**	*e*Pg		**Pg**	**Pg**	**06 04 13.5**	**-0.1**
UBBA	**Unterbreizbach**	**2.05**	**114**	*e*Pg		**Pg**	**Pg**	**06 04 14.5**	**+1.0**
UBBA				*e*Sg		**Sg**	**Sg**	**06 04 39.0**	**-1.1**
CLZ	**Clausthal**	**2.07**	**85**	*e*Pg		**Pg**	**Pg**	**06 04 13.3**	**-0.7**
CLZ				*e*Sg		**Sg**	**Sg**	**06 04 40.7**	**0.0**
BRQR	**Ronquire**	**2.09**	**240**	P		**Pn**	**Pn**	**06 04 09.2**	**-1.4**
WLF	**Walferdange**	**2.11**	**196**	S		**Sb**	**Sb**	**06 04 39.4**	**-0.7**
WLF	**Walferdange**	**2.11**	**196**	*e*Pg		**Pg**	**Pg**	**06 04 14.9**	**+0.2**
GIVF	**Givet**	**2.13**	**222**	*e*Pn		**Pn**	**Pn**	**06 04 12.1**	**+1.0**
GIVF	**Givet**	**2.13**	**222**	*e*Pg		**Pg**	**Pg**	**06 04 17.1**	**+2.0**
GIVF				*e*Sg		**Sg**	**Sg**	**06 04 44.0**	**+1.3**
	comp=E,446nm,1.0s								
DOU	**Dourbes**	**2.23**	**225**	P		**Pb**	**Pb**	**06 04 16.5**	**+1.0**
DOU				S		**Sn**	**Sn**	**06 04 39.1**	**-1.7**
	comp=N,22nm,0.7s								
BAIF	**Baives**	**2.43**	**229**	*e*Pn		**Pn**	**Pn**	**06 04 16.2**	**+0.9**
BAIF				*e*Sn		**Sn**	**Sn**	**06 04 44.9**	**-0.9**
BAIF				*e*Sg		**Sg**	**Sg**	**06 04 53.7**	**+1.2**
	comp=N,354nm,1.1s								
PAGF	**Fort de Pagny**	**3.25**	**196**	*e*Pn		**Pn**	**Pn**	**06 04 27.4**	**+0.8**
PAGF	**Fort de Pagny**	**3.25**	**196**	*e*Pg		**Pg**	**Pg**	**06 04 37.3**	**+0.6**
PAGF				*e*Sg		**Sg**	**Sg**	**06 05 19.6**	**+0.8**
	comp=N,840nm,1.6s								
CDF	**Champ du Feu**	**3.29**	**177**	*e*Pn		**Pn**	**Pn**	**06 04 27.6**	**+0.5**
CDF				*e*Sn		**Sn**	**Sn**	**06 05 04.5**	**-2.4**
CDF				*e*Sg		**Sg**	**Sg**	**06 05 19.2**	**-0.7**
MEZF	**Maizieres J'vi**	**3.44**	**203**	*e*Pn		**Pn**	**Pn**	**06 04 30.1**	**+0.9**
	baz=22								
MEZF	**Maizieres J'vi**	**3.44**	**203**	*e*Pg		**Pg**	**Pg**	**06 04 40.7**	**+0.4**
MEZF				*e*Sg		**Sg**	**Sg**	**06 05 25.4**	**+0.5**
	comp=N,310nm,1.2s								
NKC	**Novy Kostel**	**3.71**	**111**	*e*PN

MTN	**Manton Dam**	**16.79**	**166**	Pn	**Pn**	06 15 11.4	-1.6
KNRA	**Kununurra**	**19.18**	**175**	P	**Pn**	06 15 42.1	-0.4
KNRA				IAmb	IAmb	06 15 43.7	
	comp=Z,28nm,1.5s						
TPUB	**Ta-pu**	**20.59**	**343**	P	Pn	06 15 57.7	-1.4
TPUB				IAmb	IAmb	06 15 59.3	
	comp=Z,19nm,0.9s						
SSLB	**Suanglung**	**20.96**	**344**	P	**P**	**06 16 01.6**	**+0.7**
SSLB				IAmb	IAmb	06 16 18.7	
	comp=Z,39nm,1.3s						
FITZ	**Fitzroy Crossi**	**21.56**	**184**	P	**P**	**06 16 06.9**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=22,slow=8.5,SNR=13						
FITZ	**Fitzroy Crossi**	**21.56**	**184**	P	**P**	**06 16 06.9**	**-0.5**
WRAB	**Tennant Creek**	**24.42**	**163**	P	**P**	**06 16 35.1**	**-1.4**
WRAB				IAmb	IAmb	06 16 37.6	
	comp=Z,8.5nm,0.9s						
WRA	**Warramunga Arr**	**24.43**	**163**	P	**P**	**06 16 35.8**	**-0.8**
	comp=Z,5.1nm,0.7s,baz=337,slow=11,SNR=40						
PSA00	**Pilbara Seismi**	**25.95**	**195**	P	**P**	**06 16 51.1**	**+0.8**
PSA00				IAmb	IAmb	06 16 52.8	
	comp=Z,14nm,1.2s						
AS31	**Alice Springs**	**27.87**	**166**	P	**P**	**06 17 07.2**	**-0.5**
ASAR	**Alice Springs**	**27.87**	**166**	P	**P**	**06 17 06.8**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=347,slow=7.0,SNR=33						
BBOO	**Buckleboo**	**37.16**	**167**	P	**P**	**06 18 28.6**	**-0.2**
STKA	**Stephens Creek**	**37.85**	**160**	P	**P**	**06 18 34.8**	**+0.1**
	comp=Z,10.0nm,0.7s,baz=357,slow=8.3,SNR=12						
STKA	**Stephens Creek**	**37.85**	**160**	P	**P**	**06 18 35.1**	**+0.4**
STKA				IAmb	IAmb	06 18 36.0	
	comp=Z,2.3nm,0.8s						
ARMA	**Armidale**	**41.15**	**147**	P	**P**	**06 19 04.2**	**+1.9**
ARMA				IAmb	IAmb	06 19 04.9	
	comp=Z,6.5nm,1.0s						
SONM	**Songino Array**	**47.56**	**341**	P	**P**	**06 19 54.7**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=161,slow=9.4,SNR=3.2						
MKAR	**Makanchi Array**	**57.88**	**325**	P	**P**	**06 21 10.0**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=123,slow=8.0,SNR=7.5						
KURK	**Kurchatov**	**62.06**	**327**	P	**P**	**06 21 37.9**	**-0.4**
KURK				IAmb	IAmb	06 21 43.7	
	comp=Z,2.2nm,0.8s						
BKZ	**Black Stump Fm**	**62.24**	**138**	P	**P**	**06 21 41.3**	**+1.5**
TIXI	**Tiksi**	**68.01**	**1**	P	**P**	**06 22 15.1**	**-1.6**
TIXI				IAmb	IAmb	06 22 15.3	
	comp=Z,1.3nm,0.5s						
CNPM	**China Poot**	**82.74**	**31**	P	**P**	**06 23 41.4**	**-0.2**
TXAR	**Lajitas Array**	**121.45**	**52**	PKP	**PKiKP**	**06 30 11.8**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=318,slow=5.4,SNR=2.3						
TORD	**Torodi Ar. Bea**	**123.28**	**288**	PKP	**PKiKP**	**06 30 15.8**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=72,slow=4.7,SNR=2.9						

*SOME **20** 06:34:41.8, 40.40N×77.32E, h5km*
*KRNET **20** 06:34:42.8±0.1, 40.44N×77.33E, h11km, mb3.3*
*NNC **20** 06:34:44.6±0.8, 40.46N×77.36E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=5.7km s-min=4.5km az=164.0*

ISC 20 06:34:42.5±2.0, 40.43N±0.07×77.20E±0.03, h3km±12km, n72, σ1s56/109, 26C-13D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.35**	**318**	⇑*i*P		**Pg**	**06 35 09.4**	**+1.0**
	baz=14							
NRN				⇑*i*S		**Sg**	**06 35 29.0**	**+3.1**
	baz=14							
TARG	**Taragay, Kyrgy**	**1.38**	**19**	⇑*e*P		**Pn**	**06 35 08.5**	**-0.5**
	baz=15							
TARG				⇑*i*S		**Sn**	**06 35 26.8**	**-1.1**
	baz=15							
KDJ	**Kajisay**	**1.70**	**360**	⇑*i*P		**Pb**	**06 35 14.5**	**0.0**
	baz=56							
KDJ				⇑*i*S		**Sg**	**06 35 37.9**	**+0.8**
	baz=56							
ULHL	**Ulahol**	**1.95**	**339**	⇓*i*P		**Pb**	**06 35 19.6**	**+0.8**
	baz=36							
ULHL				⇓*i*S		**Sg**	**06 35 46.2**	**+1.0**
	baz=36							
ULHL	**Ulahol**	**1.95**	**339**	P		**Pg**	**06 35 19.9**	**0.0**
	SNR=6.1							
KZA	**Kyzart**	**2.21**	**319**	⇑*e*P		**Pb**	**06 35 23.5**	**+0.3**
	baz=17							
KZA				⇑*i*S		**Sg**	**06 35 53.4**	**0.0**
	baz=17							
KZA	**Kyzart**	**2.21**	**319**	P		**Pb**	**06 35 24.1**	**+0.9**
	SNR=50							
PRZ	**Przheval'sk**	**2.24**	**23**	⇓*i*P		**Pb**	**06 35 22.4**	**-1.3**
	baz=21							
PRZ				⇓*i*S		**Sb**	**06 35 50.8**	**-1.2**
	baz=21							
BOOM	**Boomskoye usch**	**2.26**	**336**	⇓*i*P		**Pb**	**06 35 24.1**	**0.0**
	baz=33							
BOOM				⇓*i*S		**Sg**	**06 35 54.2**	**-1.1**
	baz=33							
ANVS	**Anan'yevo**	**2.38**	**8**	⇑*i*P		**Pb**	**06 35 25.3**	**-0.7**
	baz=6.0							
ANVS				⇑*i*S		**Sb**	**06 35 55.8**	**-0.1**
	baz=6.0							
ARLS	**Aral**	**2.60**	**304**	⇓*e*P		**Pb**	**06 35 29.0**	**-0.8**
	baz=3.0							
ARLS				⇓*i*S		**Sb**	**06 36 03.5**	**+1.3**
	baz=3.0							
TNSS	**Tian-Shan**	**2.61**	**356**	*e*P		**Pg**	**06 35 32.0**	**-0.5**
	8.9nm,0.2s							
TNSS				*e*S		**Sg**	**06 36 08.6**	**+2.2**
	103nm,0.5s							
TNSS	**Tian-Shan**	**2.61**	**356**	Pg		**Pg**	**06 35 32.1**	**-0.5**
	36nm,0.5s							
TNSS				Lg		Lg	06 36 08.6	
	103nm,0.5s							
UCH	**Uchtor**	**2.70**	**313**	⇑*i*P		**Pb**	**06 35 30.7**	**-1.0**
	baz=11							
UCH				⇑*i*S		**Sb**	**06 36 05.4**	**-0.1**
	baz=11							
UCH	**Uchtor**	**2.70**	**313**	P		**Pb**	**06 35 31.2**	**-0.5**
	SNR=24							
MDOK	**Medeo**	**2.73**	**358**	*e*P		**Pg**	**06 35 33.8**	**-1.1**
	10nm,0.5s							
MDOK				*e*S		**Sg**	**06 36 11.4**	**+1.1**
	119nm,0.5s							
MDOK	**Medeo**	**2.73**	**358**	Pn		**Pb**	**06 35 31.8**	**-0.3**
	8.0nm,0.6s							
MDOK				Lg		Lg	06 36 11.5	
	151nm,0.7s							
MDOK	**Medeo**	**2.73**	**358**	Pg		**Pg**	**06 35 33.8**	**-1.1**
	10nm,0.5s							
MDOK				Lg		Lg	06 36 11.4	
	119nm,0.5s							
MTBS	**Maitube**	**2.76**	**348**	*e*P		**Pg**	**06 35 34.7**	**-0.6**
	8.5nm,0.2s							
MTBS				*e*S		**Sg**	**06 36 13.0**	**+1.9**
	57nm,0.3s							
MTBS	**Maitube**	**2.76**	**348**	Pg		**Pg**	**06 35 34.7**	**-0.6**
	8.5nm,0.2s							
MTBS				Lg		Lg	06 36 13.0	
	57nm,0.3s							
TKM2	**Tokmak 2**	**2.76**	**335**	⇑*e*P		**Pb**	**06 35 30.7**	**-1.9**
	baz=33							
TKM2				⇑*i*S		**Sb**	**06 36 06.5**	**-0.4**
	baz=33							
TKM2	**Tokmak 2**	**2.76**	**335**	P		**Pb**	**06 35 32.0**	**-0.6**
	SNR=11							
TKM2	**Tokmak 2**	**2.76**	**335**	⇑Pn		**Pb**	**06 35 31.3**	**-1.3**
	6.4nm,0.3s							
TKM2				⇓Lg		Lg	06 36 13.5	
	25nm,0.6s							
KST	**Kastek**	**2.77**	**341**	*e*P		**Pg**	**06 35 35.1**	**-0.5**
	15nm,0.4s							
KST				*e*S		**Sg**	**06 36 13.6**	**+2.2**
	28nm,0.4s							
KST	**Kastek**	**2.77**	**341**	Pg		**Pg**	**06 35 35.1**	**-0.5**
	15nm,0.4s							
KST				Lg		Lg	06 36 13.6	
	28nm,0.4s							
SATY	**Saty**	**2.78**	**19**	*e*P		**Pb**	**06 35 33.6**	**+0.8**
	18nm,0.4s							
SATY				*e*S		**Sg**	**06 36 11.1**	**-0.6**
	110nm,0.5s							
SATY	**Saty**	**2.78**	**19**	Pg		**Pb**	**06 35 33.6**	**+0.8**
	18nm,0.4s							
SATY				Lg		Lg	06 36 11.1	
	110nm,0.5s							
AAA	**Alma-Ata**	**2.79**	**356**	*e*P		**Pg**	**06 35 35.6**	**-0.3**
	45nm,0.2s							
AAA				*e*S		**Sg**	**06 36 14.2**	**+2.3**
	105nm,0.2s							
AAA	**Alma-Ata**	**2.79**	**356**	Pg		**Pg**	**06 35 35.6**	**-0.3**
	45nm,0.2s							
AAA				Lg		Lg	06 36 14.2	
	105nm,0.2s							
KBK	**Karagaybulak**	**2.79**	**324**	⇑*i*P		**Pb**	**06 35 31.6**	**-1.5**
	baz=22							
KBK				⇑*i*S		**Sb**	**06 36 07.7**	**-0.1**
	baz=22							
KBK	**Karagaybulak**	**2.79**	**324**	P		**Pb**	**06 35 32.8**	**-0.3**
	SNR=6.5							
KOTS	**Kotyrbulak**	**2.80**	**359**	*e*P		**Pg**	**06 35 35.2**	**-1.0**
	35nm,0.2s							
KOTS				*e*S		**Sg**	**06 36 13.5**	**+1.0**
	275nm,0.7s							
KOTS	**Kotyrbulak**	**2.80**	**359**	Pg		**Pg**	**06 35 35.2**	**-1.0**
	35nm,0.2s							
KOTS				Lg		Lg	06 36 14.3	
	275nm,0.7s							
ZHN	**Zhinishke**	**2.89**	**18**	*e*P		**Pb**	**06 35 35.8**	**+1.1**
	9.8nm,0.2s							
ZHN				*e*S		**Sg**	**06 36 14.6**	**-0.7**
	28nm,0.3s							
ZHN	**Zhinishke**	**2.89**	**18**	Pg		**Pb**	**06 35 35.8**	**+1.1**
	9.8nm,0.2s							
ZHN				Lg		Lg	06 36 14.6	
	28nm,0.3s							
AAK	**Ala-Archa**	**3.00**	**318**	⇑*i*P		**Pb**	**06 35 34.5**	**-2.1**
	baz=17							
AAK				⇑*i*S		**Sb**	**06 36 12.1**	**-1.5**
	baz=17							
AAK	**Ala-Archa**	**3.00**	**318**	P		**Pb**	**06 35 35.2**	**-1.4**
	SNR=5.6							
AAK	**Ala-Archa**	**3.00**	**318**	Pn		**Pb**	**06 35 35.1**	**-1.4**
	16nm,0.8s							
AAK				Lg		Lg	06 36 21.0	
	32nm,0.9s							
DGS	**Degeres**	**3.00**	**340**	*e*P		**Pg**	**06 35 39.3**	**-0.8**
	15nm,0.4s							
DGS				*e*S		**Sg**	**06 36 21.1**	**+2.0**
	38nm,0.4s							
DGS	**Degeres**	**3.00**	**340**	Pg		**Pg**	**06 35 39.3**	**-0.8**
	15nm,0.4s							
DGS				Lg		Lg	06 36 21.1	
	38nm,0.4s							
UZB	**Uzynbulak**	**3.04**	**26**	*e*P		**Pb**	**06 35 37.8**	**+0.5**
	16nm,0.4s							
UZB				*e*S		**Sg**	**06 36 18.3**	**-1.8**
	27nm,0.5s							
UZB	**Uzynbulak**	**3.04**	**26**	Pg		**Pb**	**06 35 37.8**	**+0.5**
	16nm,0.4s							
UZB				Lg		Lg	06 36 18.3	
	27nm,0.5s							
AML	**Almayashu**	**3.14**	**304**	⇓*i*P		**Pb**	**06 35 36.9**	**-2.2**
	baz=3.0							
AML				⇓*i*S		**Sb**	**06 36 17.0**	**-0.9**
	baz=3.0							
AML	**Almayashu**	**3.14**	**304**	P		**Pb**	**06 35 37.5**	**-1.7**
	SNR=9.6							
KURS	**Kuram**	**3.14**	**13**	*e*P		**Pb**	**06 35 40.7**	**+1.7**
	14nm,0.7s							
KURS				*e*S		**Sg**	**06 36 23.0**	**-0.4**
	34nm,0.5s							
KURS	**Kuram**	**3.14**	**13**	Pg		**Pb**	**06 35 40.7**	**+1.7**
	14nm,0.7s							
KURS				Lg		Lg	06 36 23.0	
	34nm,0.5s							
CHMS	**Chumysh**	**3.15**	**325**	⇑*i*P		**Pb**	**06 35 36.8**	**-2.4**
	baz=24							
CHMS				⇑*i*S		**Sb**	**06 36 15.3**	**-2.7**
	baz=24							
CHMS	**Chumysh**	**3.15**	**325**	P		**Pb**	**06 35 37.5**	**-1.6**
	SNR=6.5							
SHLS	**Shalkode**	**3.21**	**31**	*e*P		**Pg**	**06 35 44.7**	**+0.8**
	27nm,0.4s							
SHLS				*e*S		**Sg**	**06 36 29.9**	**+4.3**
	56nm,0.6s							
SHLS	**Shalkode**	**3.21**	**31**	Pg		**Pg**	**06 35 44.7**	**+0.8**
	27nm,0.4s							
SHLS				Lg		Lg	06 36 29.9	
	56nm,0.6s							
KPKS	**Kokpek**	**3.23**	**20**	*e*P		**Pb**	**06 35 42.1**	**+1.6**
	20nm,0.3s							
KPKS				*e*S		**Sg**	**06 36 25.5**	**-0.8**
	91nm,0.4s							
KTBS	**Karatobe**	**3.30**	**354**	*e*P		**Pb**	**06 35 43.3**	**+1.6**
	6.7nm,0.5s							
KTBS				*e*S		**Sg**	**06 36 27.3**	**-1.2**
	96nm,0.6s							
KTBS	**Karatobe**	**3.30**	**354**	Pg		**Pb**	**06 35 43.3**	**+1.6**
	6.7nm,0.5s							
KTBS				Lg		Lg	06 36 28.4	
	96nm,0.6s							
ARSB	**Arslanbob**	**3.32**	**287**	⇑*e*P		**Pn**	**06 35 39.6**	**+4.2**
	baz=86							
ARSB				⇑*i*S		**Sb**	**06 36 21.2**	**-1.6**
	baz=86							
PDGK	**Podgornoye**	**3.37**	**30**	Pg		**Pb**	**06 35 43.3**	**+0.4**
	8.1nm,0.4s							
PDGK				Lg		Lg	06 36 28.0	
	16nm,0.5s							
PDGK	**Podgornoye**	**3.37**	**30**	⇓Pn		**Pn**	**06 35 37.4**	**+1.4**
	1.2nm,0.4s							
PDGK				⇑Pg		**Pg**	**06 35 43.3**	**+0.4**
	10nm,0.5s							
PDGK				⇑Lg		Lg	06 36 28.0	
	62nm,1.1s							
EKS2	**Erkin-Say**	**3.40**	**312**	P		**Pb**	**06 35 41.4**	**-2.0**
	SNR=6.2							
CHKK	**Chushkaly**	**3.42**	**357**	*e*P		**Pg**	**06 35 46.2**	**-1.9**
	5.9nm,0.2s							
CHKK				*e*S		**Sg**	**06 36 32.7**	**+0.2**
	94nm,0.4s							
CHKK	**Chushkaly**	**3.42**	**357**	Pg		**Pg**	**06 35 46.2**	**-1.9**
	5.9nm,0.2s							
CHKK				Lg		Lg	06 36 32.7	
	94nm,0.4s							
USP	**Ospenovka**	**3.48**	**325**	P		**Pg**	**06 35 48.0**	**-1.1**
	SNR=13							
KUU	**Kurty**	**3.52**	**350**	*e*P		**Pb**	**06 35 47.7**	**+2.3**
	6.2nm,0.4s							
KUU				*e*S		**Sg**	**06 36 35.2**	**-0.3**
	105nm,0.6s							
KUU	**Kurty**	**3.52**	**350**	Pg		**Pb**	**06 35 47.7**	**+2.3**
	6.2nm,0.4s							
KUU				Lg		Lg	06 36 35.2	
	105nm,0.6s							
SGDS	**Sogindy**	**3.58**	**328**	Pg		**Pb**	**06 35 49.3**	**+2.9**
	16nm,0.5s							
SGDS				Lg		Lg	06 36 37.7	
	12nm,0.5s							
MRKS	**Merke**	**3.77**	**309**	*e*P		**Pg**	**06 35 53.3**	**-1.4**
	10nm,0.5s							
MRKS				*e*S		**Sg**	**06 36 44.9**	**+1.3**
	8.1nm,0.4s							
MRKS	**Merke**	**3.77**	**309**	Pg		**Pg**	**06 35 53.3**	**-1.4**
	10nm,0.5s							
MRKS				Lg		Lg	06 36 44.9	
	8.1nm,0.4s							
ARXS	**Arharly**	**3.81**	**7**	*e*P		**Pb**	**06 35 52.4**	**+2.0**
	4.9nm,0.3s							
ARXS				*e*S		**Sg**	**06 36 43.4**	**-1.4**
	39nm,0.5s							
ARXS	**Arharly**	**3.81**	**7**	Pg		**Pb**	**06 35 52.4**	**+2.0**
	4.9nm,0.3s							
ARXS				Lg		Lg	06 36 43.4	
	39nm,0.5s							
DJR	**Jarkent**	**4.35**	**25**	*e*P		**Pb**	**06 36 01.4**	**+1.8**
	2.0nm,0.2s							
DJR				*e*S		**Sg**	**06 36 58.6**	**-3.4**
	20nm,0.4s							
DJR	**Jarkent**	**4.35**	**25**	Pg		**Pb**	**06 36 01.4**	**+1.8**
	2.0nm,0.2s							
DJR				Lg		Lg	06 36 58.7	
	20nm,0.4s							
KAPS	**Kapalarasan**	**5.11**	**17**	*e*P		**Pg**	**06 36 17.2**	**-3.0**
	1.8nm,0.4s							
KAPS				*e*S		**Sg**	**06 37 25.9**	**-0.6**
	9.5nm,0.7s							
KAPS	**Kapalarasan**	**5.11**	**17**	Pg		**Pg**	**06 36 17.2**	**-3.0**
	1.8nm,0.4s							
KAPS				Lg		Lg	06 37 25.9	
	9.5nm,0.7s							
KK31	**Karatay Array**	**5.67**	**300**	⇑Pg		**Pg**	**06 36 28.5**	**-2.5**
	2.1nm,0.7s,baz=124,slow=16,SNR=9.2							
KK31				⇓Lg		Lg	06 37 44.3	
	1.6nm,0.5s,baz=113,slow=28,SNR=5.1							

IDC 20 06:35:12.3±7.9, 6.30S×145.68E, h75km±75km, mb2.9/1, mb1 3.5/3, mb1mx3.1/41, mbtmp3.6/3, ML2.7/2, Error ellipse: s-maj=61.9km s-min=55.2km az=2.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.42**	**155**	P		Pn	06 36 02.3	-1.0
	9.8nm,0.3s,baz=56,slow=6.1,SNR=12							
PMG				S		Sn	06 36 43.5	+0.8
	3.2nm,0.3s,baz=117,slow=18,SNR=1.5							
WRA	**Warramunga Arr**	**17.48**	**218**	P		Pn	06 39 10.5	-0.7
	0.1nm,0.3s,baz=44,slow=12,SNR=8.0							
ASAR	**Alice Springs**	**20.65**	**212**	P		P	06 39 46.1	0.0
	1.3nm,0.8s,baz=33,slow=11,SNR=5.6							
TORD	**Torodi Ar. Bea**	**143.89**	**284**	PKP		PKPdf	06 54 40.7	+0.6
	0.6nm,0.9s,baz=98,slow=1.9,SNR=2.3							

*NCEDC **20** 06:37:47.7±1.2, 36.82N±0.01×121.54W±0.02, h5km±3km, Md2.4*

NEIC 20 06:37:47.9±1.1, 36.799N±0.010×121.57W±0.02, h5km±4km, Central California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HBTM	**San Juan Bauti**	**0.05**	**17**			Pg	06 37 48.8	-0.5
HTUM	**Tustin Road**	**0.07**	**296**			Pg	06 37 49.8	+0.3
FRP	**Fremont Peak**	**0.08**	**125**			Pg	06 37 49.5	-0.2
ANZ	**Anzar Road**	**0.09**	**349**			Pg	06 37 49.4	-0.4
SAO	**San Andreas Ge**	**0.10**	**110**	Pg		Pg	06 37 49.7	-0.4
HERM	**Elkhorn Road**	**0.11**	**270**			Pg	06 37 51.0	+0.8
OCR	**O'Connell Ranc**	**0.13**	**23**			Pg	06 37 50.5	0.0
BVYM	**Vineyard**	**0.14**	**111**			Pg	06 37 50.4	-0.3
BSRM	**Salinas Radio**	**0.14**	**163**			Pg	06 37 50.9	+0.1
CSR	**Chase Ranch**	**0.16**	**356**			Pg	06 37 51.2	+0.1
BSLM	**Silva Ranch**	**0.18**	**98**			Pg	06 37 52.0	+0.5
BCGM	**Cienega Road**	**0.20**	**116**			Pg	06 37 51.7	-0.2
HLTM	**Lone Tree Road**	**0.23**	**68**			Pg	06 37 52.4	+0.1
HFEM	**San Felipe**	**0.23**	**36**			Pg	06 37 52.5	+0.1
BPCNC	**Pine Canyon**	**0.23**	**192**			Pg	06 37 53.1	+0.7
CDC	**Canada Road**	**0.24**	**17**			Pg	06 37 52.5	0.0
SCZ	**Santa Cruz**	**0.24**	**146**			Pg	06 37 52.4	-0.2
SCZ						Sg	06 37 55.9	+0.1
JELB	**Ellicott, Sant**	**0.24**	**302**			Pg	06 37 53.0	+0.4
HLPM	**Lions Peak**	**0.25**	**348**			Pg	06 37 52.8	0.0
BHRM	**Hodges Ranch**	**0.26**	**106**			Pg	06 37 53.4	+0.5
BJOM	**Mount Johnson**	**0.27**	**129**			Pg	06 37 53.0	-0.1
BJOM						Sg	06 37 57.0	+0.4
BLRM	**Lewis Ranch**	**0.27**	**119**			Pg	06 37 53.1	-0.1
BJCM	**Johnson Can.**	**0.29**	**150**			Pg	06 37 53.4	-0.1
PACP	**Pacheco Peak**	**0.31**	**47**			Pg	06 37 54.0	+0.1
GHS	**Gilroy Hot Spr**	**0.31**	**18**			Pg	06 37 54.0	0.0
HSPM	**Sheep**	**0.32**	**8**			Pg	06 37 54.3	+0.2
JTGM	**Trout Gulch Ro**	**0.34**	**313**			Pg	06 37 54.6	+0.1
HMOM	**Monterey**	**0.34**	**235**			Pg	06 37 55.2	+0.6
HMOM						Sb	06 38 00.7	-1.6
BEHM	**Elkhorn Ranch**	**0.34**	**113**			Pg	06 37 55.1	+0.5
HPCM	**Pacheco Lake**	**0.35**	**42**			Pg	06 37 54.9	+0.1
HPCM						Sg	06 37 60.0	-0.6
CADM	**Anderson Res.**	**0.37**	**353**			Pg	06 37 55.1	+0.1
JHLM	**Holstrom Ranch**	**0.37**	**326**			Pg	06 37 55.5	+0.3
JLAB	**Laurel Hill**	**0.38**	**340**			Pg	06 37 55.5	+0.3
SLD	**San Luis Dam**	**0.39**	**45**			Pg	06 37 55.5	0.0
SLD						Sg	06 38 01.2	+0.6
BEMM	**Emmet**	**0.41**	**110**			Pg	06 37 56.0	+0.3
SFJWR	**San Luis Fatjo**	**0.41**	**52**			Pg	06 37 55.7	-0.1
HAST	**Hastings Reser**	**0.41**	**178**			Pg	06 37 56.0	+0.2
AMC	**Almaden**	**0.42**	**328**			Pg	06 37 56.3	+0.3
BSMM	**Soledad Missio**	**0.43**	**165**			Pg	06 37 56.5	+0.2
JSTM	**Santa Teresa H**	**0.45**	**336**			Pg	06 37 56.8	+0.3
BPIM	**Pinnacles**	**0.45**	**134**			Pg	06 37 56.0	-0.5
JUMM	**Mount Umunhum**	**0.45**	**324**			Pg	06 37 56.9	+0.3
BAVM	**Antelope Valle**	**0.46**	**109**			Pg	06 37 57.0	+0.2
BSGM	**Shirttail Gulc**	**0.46**	**146**			Pg	06 37 56.4	-0.4
CCOB	**Coe Ranch Numb**	**0.47**	**350**			Pg	06 37 57.7	+0.8
BBGB	**Big Mountain B**	**0.48**	**117**			Pg	06 37 57.9	+0.8
BBNM	**San Benito**	**0.49**	**126**			Pg	06 37 57.1	-0.2
MOBB	**Monterey Bay O**	**0.49**	**257**			Pg	06 37 57.9	+0.6
JJOM	**Saint Joseph's**	**0.52**	**321**			Pg	06 37 57.4	-0.5
MHC	**Mount Hamilton**	**0.55**	**354**			Pg	06 37 58.8	+0.4
ARN	**Arnold Ranch**	**0.55**	**3**			Pg	06 37 58.7	+0.2
JBNB	**Ben Lomond Mou**	**0.57**	**305**			Pg	06 37 58.3	-0.6
LRV	**Little Rabbit**	**0.58**	**130**			Pg	06 37 58.9	-0.2
BPOM	**Post Ranch**	**0.59**	**196**			Pg	06 37 59.5	+0.2
BRMM	**Rolling Bench**	**0.60**	**86**			Pg	06 38 00.1	+0.6
JSGM	**Saratoga Golf**	**0.62**	**322**			Pg	06 38 00.1	+0.3
BAPM	**Anderson Peak**	**0.62**	**185**			Pg	06 38 00.1	+0.1
JHUM	**Huhtala Lane,**	**0.64**	**311**			Pg	06 38 00.0	-0.1
BMSM	**Mercy Hot Spri**	**0.64**	**102**			Pg	06 38 00.4	+0.2
CMMM	**Mount Mocho**	**0.66**	**5**			Pg	06 38 01.1	+0.5
CMLM	**Mount Lewis**	**0.68**	**355**			Pg	06 38 01.5	+0.5
LRC	**Lone Oak Road**	**0.70**	**142**			Pg	06 38 00.8	-0.5
JBMM	**Black Mountain**	**0.70**	**318**			Pg	06 38 01.6	+0.3
JPC	**Peters Creek,**	**0.70**	**313**			Pg	06 38 01.1	-0.2
JPSM		**0.74**	**303**			Pg	06 38 02.0	-0.2
JJRM	**Joaquin Road**	**0.74**	**317**			Pg	06 38 01.9	-0.3
JFP	**Foothills Park**	**0.75**	**319**			Pg	06 38 01.8	-0.5
CMJM	**Mission San Jo**	**0.76**	**341**			Pg	06 38 02.7	+0.1
JSFB	**Stanford Teles**	**0.77**	**321**			Pg	06 38 02.8	+0.1
PCCM	**Crazy Canyon**	**0.78**	**155**			Pg	06 38 02.8	-0.1
JRSC	**Jasper Ridge**	**0.81**	**319**			Pg	06

JISG	**Ishigakijimahi**	**0.90**	**46**	P		**Pb**	**06 43 26.7**	**-0.5**
JISG				S		**Sn**	**06 43 38.9**	**+0.4**
JTJ	**Tarama**	**1.22**	**56**	P		**Pb**	**06 43 32.1**	**-0.4**
JTJ				*e*S		**Sb**	**06 43 47.3**	**-0.5**
NACB	**Ninganchiao**	**1.84**	**277**			**Pn**	**06 43 39.4**	**-0.1**
YHNB	**Yeheng**	**2.15**	**290**			**Pn**	**06 43 45.0**	**+1.3**
TATO	**Taipei**	**2.17**	**298**			**Pn**	**06 43 45.1**	**+1.2**
YULB	**Yu-li**	**2.18**	**255**			**Pn**	**06 43 43.6**	**-0.6**
YULB				Sn		**Sn**	**06 44 09.1**	**-1.0**
SSLB	**Suanglung**	**2.42**	**266**			**Pn**	**06 43 47.6**	**+0.1**
TWG	**Pinlang**	**2.58**	**244**			**Pn**	**06 43 48.8**	**-0.8**
TWG				Sn		**Sn**	**06 44 17.3**	**-2.6**
TPUB	**Ta-pu**	**2.80**	**257**			**Pn**	**06 43 54.1**	**+1.5**
KNMB	**Chin-men Tao**	**4.78**	**277**			**Pn**	**06 44 19.8**	**-0.1**
JOW	**Kunigami**	**5.11**	**55**	Pn		**Pn**	**06 44 23.0**	**-1.4**
	0.9nm,0.3s,baz=107,slow=1.7,SNR=4.0							
JOW	**Kunigami**	**5.11**	**55**			**Pn**	**06 44 24.1**	**-0.3**
TGY	**Tagaytay City**	**10.12**	**195**	LR		LR	06 49 53.4	
	comp=Z,230nm,18.4s,baz=19,slow=40							
KSRS	**Korea Array**	**13.95**	**14**	LR		LR	06 52 55.7	
	comp=Z,178nm,18.8s,baz=182,slow=43							
DAV	**Davao City (W)**	**16.90**	**173**	LR		LR	06 53 55.6	
	comp=Z,87nm,19.4s,baz=3.5,slow=38							
MJAR	**Matsushiro Arr**	**17.77**	**42**	LR		LR	06 54 17.1	
	comp=Z,73nm,20.6s,baz=100,slow=38							
USRK	**Ussuriysk Ar.**	**21.33**	**17**	LR		LR	06 57 16.3	
	comp=Z,93nm,18.6s,baz=156,slow=40							
GUMO	**Guam**	**22.60**	**113**	LR		LR	06 56 05.7	
	comp=Z,107nm,19.8s,baz=74,slow=34							
CMAR	**Chiang Mai Arr**	**23.61**	**261**	LR		LR	06 57 39.3	
	comp=Z,54nm,18.1s,baz=18,slow=37							
SONM	**Songino Array**	**27.47**	**334**	P		**P**	**06 48 53.1**	**-0.3**
	0.8nm,0.6s,baz=150,slow=9.2,SNR=6.0							
SONM				LR		LR	07 00 57.6	
	comp=Z,129nm,21.0s,baz=162,slow=39							
KNRA	**Kununurra**	**39.72**	**172**	P		**P**	**06 50 43.7**	**+4.0**
KNRA				IAmb		IAmb	06 50 51.8	
	comp=Z,18nm,1.4s							
MK31	**Makanchi Array**	**40.04**	**315**	P		**P**	**06 50 41.9**	**-0.3**
MKAR	**Makanchi Array**	**40.04**	**315**	P		**P**	**06 50 41.5**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=105,slow=9.8,SNR=16							
MAKZ	**Makanchi**	**40.25**	**315**	P		**P**	**06 50 44.2**	**+0.4**
ZALV	**Zalesovo Beam**	**41.64**	**326**	P		**P**	**06 50 53.4**	**-1.8**
	comp=Z,2.8nm,0.6s,baz=103,slow=7.1,SNR=7.8							
ZALV				LR		LR	07 09 16.9	
	comp=Z,117nm,20.3s,baz=58,slow=38							
FITZ	**Fitzroy Crossi**	**41.85**	**177**	P		**P**	**06 50 57.5**	**+0.3**
COEN	**Coen**	**42.27**	**151**	P		**P**	**06 51 02.4**	**+1.7**
COEN				IAmb		IAmb	06 51 18.9	
	comp=Z,16nm,1.3s							
AAK	**Ala-Archa**	**44.40**	**307**	LR		LR	07 09 54.5	
	comp=Z,96nm,19.1s,baz=332,slow=36							
WRAB	**Tennant Creek**	**44.87**	**166**	P		**P**	**06 51 22.0**	**+0.4**
WRAB				IAmb		IAmb	06 51 32.6	
	comp=Z,4.2nm,0.8s							
WRA	**Warramunga Arr**	**44.88**	**166**	P		**P**	**06 51 21.9**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=346,slow=9.0,SNR=6.5							
WR0	**Warramunga Arr**	**44.94**	**165**	P		**P**	**06 51 22.6**	**+0.4**
WR0				IAmb		IAmb	06 51 38.8	
	comp=Z,6.8nm,1.3s							
TIXI	**Tiksi**	**47.81**	**2**	LR		LR	07 14 19.9	
	comp=Z,123nm,18.6s,baz=198,slow=39							
ASAR	**Alice Springs**	**48.39**	**167**	P		**P**	**06 51 50.4**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=356,slow=15,SNR=7.6							
BVAR	**Borovoye Array**	**49.25**	**320**	P		**P**	**06 51 55.9**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=101,slow=7.9,SNR=5.0							
NRIK	**Noril'sk**	**50.20**	**344**	LR		LR	07 15 42.9	
	comp=Z,167nm,18.1s,baz=284,slow=39							
GEYT	**Alibeck**	**56.81**	**301**	P		**P**	**06 52 52.2**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=202,slow=0.8,SNR=5.1							
PPLA	**Purkeypile**	**66.34**	**30**	P		**P**	**06 53 57.0**	**+1.4**
PPLA				IAmb		IAmb	06 54 12.3	
	comp=Z,9.8nm,1.3s							
MLY	**Manley**	**66.73**	**27**	P		**P**	**06 53 59.4**	**+1.5**
MLY				IAmb		IAmb	06 53 59.8	
	comp=Z,3.2nm,0.9s							
HOM	**Homer**	**67.02**	**33**	P		**P**	**06 53 58.8**	**-1.0**
SUA	**Susitna One**	**67.20**	**31**	P		**P**	**06 54 02.0**	**+1.0**
SUA				IAmb		IAmb	06 54 12.0	
	comp=Z,15nm,1.0s							
KBZ	**Khabaz**	**67.33**	**309**	P		**P**	**06 54 02.4**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=91,slow=5.0,SNR=6.1							
RND	**Reindeer**	**67.78**	**29**	P		**P**	**06 54 04.6**	**+0.1**
RND				IAmb		IAmb	06 54 15.6	
	comp=Z,12nm,1.2s							
ILAR	**Eielson Array**	**68.40**	**27**	P		**P**	**06 54 09.2**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=280,slow=5.4,SNR=5.3							
SCRK	**Sand Creek**	**69.79**	**28**	P		**P**	**06 54 18.7**	**+1.5**
GLB	**Gilahina Butte**	**70.47**	**31**	P		**P**	**06 54 21.9**	**+0.6**
GLB				IAmb		IAmb	06 54 27.8	
	comp=Z,8.0nm,1.2s							
ARCES	**ARCESS Array B**	**70.56**	**338**	P		**P**	**06 54 21.7**	**0.0**
	comp=Z,2.3nm,0.8s,baz=72,slow=8.0,SNR=3.8							
FINES	**FINESS Array B**	**72.74**	**330**	P		**P**	**06 54 34.2**	**-0.7**
	comp=Z,6.4nm,1.1s,baz=62,slow=4.5,SNR=8.0							
AKASG	**Malin Array Be**	**74.49**	**319**	P		**P**	**06 54 44.0**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=58,slow=6.1,SNR=5.9							
BR131	**Keskin Array S**	**75.07**	**307**	P		**P**	**06 54 49.3**	**+0.2**
BRTR	**Keskin Array B**	**75.07**	**307**	P		**P**	**06 54 49.1**	**0.0**
	comp=Z,2.0nm,0.7s,baz=104,slow=4.9,SNR=13							
NC405	**NORSAR Array S**	**79.19**	**333**	P		**P**	**06 55 11.1**	**-0.6**
NB201	**NORSAR Array S**	**79.40**	**333**	P		**P**	**06 55 12.7**	**-0.2**
NB2	**NORSAR Subarra**	**79.44**	**333**	P		**P**	**06 55 12.4**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=56,slow=5.6							
NOA	**NORSAR Array B**	**79.44**	**333**	P		**P**	**06 55 12.1**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=55,slow=5.7,SNR=7.8							
WHZ	**Wether Hill Ro**	**80.34**	**150**	P		**P**	**06 55 17.2**	**-0.7**
YKA	**Yellowknife Ar**	**82.31**	**23**	P		**P**	**06 55 28.5**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=304,slow=5.3,SNR=13							
GERES	**GERESS Array B**	**84.40**	**321**	P		**P**	**06 55 38.7**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=57,slow=4.9,SNR=5.2							
ITM	**Ithomi**	**84.54**	**308**	P		**P**	**06 55 39.2**	**-1.1**
ITM				IAmb		IAmb	06 55 48.7	
	comp=Z,18nm,1.4s							

IDC 20 06:43:54.5±2.0, 2°.40N×124°.81E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/49, mbtmp3.7/4, Error ellipse: s-maj=204.3km s-min=27.0km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.09**	**158**	P	P	06 49 11.5	-0.5
	0.9nm,0.5s,baz=335,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**27.39**	**162**	P	P	06 49 43.2	+1.5
	0.3nm,0.5s,baz=347,slow=7.0,SNR=7.3						
STKA	**Stephens Creek**	**37.63**	**156**	P	P	06 51 10.3	-0.9
	3.3nm,0.8s,baz=329,slow=7.2,SNR=4.1						
MKAR	**Makanchi Array**	**57.58**	**327**	P	P	06 53 45.6	-0.5
	0.2nm,0.5s,baz=132,slow=9.0,SNR=1.8						

*IDC **20** 06:44:52.1±1.7, 15°.68S×173°.13W, h0km, mb3.9/7, mb1 4.3/7, mb1mx3.9/48, mbtmp3.9/7, MS3.4/2, Ms1 3.5/2, ms1mx2.9/40, Error ellipse: s-maj=102.8km s-min=21.4km az=147.0*
*ISCJB **20** 06:44:53.9±0.6, 15°.46S±0°.09×173°.01W±0°.08, h29km, MS3.5/2, Error ellipse: s-maj=12.8km s-min=10.6km az=10.0*
*NEIC **20** 06:44:54.6±2.9, 15°.28S±0°.08×172°.83W±0°.09, h10km±1km, mb4.6/6*

ISC 20 06:44:56.5±0.6, 15°.30S±0°.07×172°.90W±0°.09, h29km, n35, σ2s42/23, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.76**	**38**	Pn	Pn	**06 45 23.5**	**-1.6**
	46nm,0.3s,baz=121,slow=1.1,SNR=24						
AFI				Sn	**Sn**	**06 45 42.3**	**-4.3**
	350nm,0.3s,baz=56,slow=23,SNR=16						
AFI	**Afiamalu**	**1.76**	**38**		**Pn**	**06 45 23.4**	**-1.7**
NIUE	**Niue**	**4.71**	**143**		**Pn**	**06 46 04.2**	**-1.4**
FUNA	**Funafuti**	**10.25**	**310**	Pn	**Pn**	**06 47 22.4**	**+0.6**
RAR	**Rarotonga**	**13.78**	**117**	LR	LR	06 52 17.8	
	comp=Z,84nm,21.4s,baz=298,slow=32						
RAR	**Rarotonga**	**13.78**	**117**	Pn	**Pn**	**06 48 09.0**	**-1.0**
PAE	**Paea**	**22.48**	**99**	*e*T	T	07 12 50.2	
	1.5nm,0.3s						
PPT2	**Papeete2**	**22.48**	**99**	*e*LR	LR	06 55 25.4	
	comp=Z,78nm,24.5s						
PPT2	**Papeete2**	**22.48**	**99**	*e*T	T	07 12 51.7	
	2.1nm,0.3s						
TVO	**Taravao**	**22.80**	**100**	*e*T	T	07 13 15.0	
	0.9nm,0.4s						
TAOE	**Nuku Hiva Isla**	**32.63**	**83**	*e*T	T	07 25 25.7	
	18nm,0.2s						
ARMA	**Armidale**	**35.81**	**239**	P	**P**	**06 51 55.0**	**+1.4**
ARMA				IAmb	IAmb	06 52 38.3	
	comp=Z,26nm,1.8s						
H11S2	**WAKE ISLAND Hy**	**39.13**	**328**	T	T	07 33 43.5	
	baz=149,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**39.14**	**328**	T	T	07 33 43.0	
	baz=149,slow=76,SNR=2.3						
H11S1	**WAKE ISLAND Hy**	**39.15**	**328**	T	T	07 33 43.5	
	baz=149,slow=76,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**40.07**	**330**	T	T	07 34 56.2	
	baz=150,slow=76,SNR=4.4						
H11N1	**WAKE ISLAND Hy**	**40.07**	**330**	T	T	07 34 53.2	
	baz=150,slow=76,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**40.09**	**330**	T	T	07 35 06.7	
	baz=150,slow=76,SNR=6.4						
STKA	**Stephens Creek**	**44.51**	**240**	P	**P**	**06 53 01.8**	**-3.8**
	comp=Z,1.2nm,0.5s,baz=7.3,slow=6.4,SNR=2.9						
STKA	**Stephens Creek**	**44.51**	**240**	P	**P**	**06 53 05.3**	**-0.3**
STKA				IAmb	IAmb	06 54 45.2	
	comp=Z,13nm,2.0s						
BBOO	**Buckleboo**	**49.28**	**240**	P	**P**	**06 53 40.1**	**-2.9**
WRA	**Warramunga Arr**	**50.34**	**257**	P	**P**	**06 53 48.1**	**-3.1**
	comp=Z,1.7nm,0.7s,baz=91,slow=7.0,SNR=24						
AS31	**Alice Springs**	**50.60**	**252**	P	**P**	**06 53 50.7**	**-2.5**
ASAR	**Alice Springs**	**50.60**	**252**	P	**P**	**06 53 50.7**	**-2.5**
	comp=Z,5.9nm,0.8s,baz=86,slow=8.4,SNR=38						
QSPA	**South Pole Qui**	**74.74**	**180**	P	**P**	**06 56 35.7**	**+2.1**
QSPA				IAmb	IAmb	06 57 21.9	
	comp=Z,9.0nm,1.6s						
TXAR	**Lajitas Array**	**80.16**	**56**	P	**P**	**06 57 06.9**	**+2.4**
	comp=Z,0.7nm,0.9s,baz=226,slow=6.2,SNR=5.2						
PDAR	**Pinedale Array**	**81.87**	**42**	P	**P**	**06 57 15.8**	**+2.2**
	comp=Z,0.7nm,0.8s,baz=276,slow=5.8,SNR=4.5						
YHL	**Hebgen Lake**	**81.90**	**39**	P	**P**	**06 57 18.1**	**+4.4**
ILAR	**Eielson Array**	**82.25**	**11**	P	**P**	**06 57 15.5**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=227,slow=5.8,SNR=4.7						
YKA	**Yellowknife Ar**	**89.81**	**23**	P	**P**	**06 57 53.8**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=236,slow=4.2,SNR=5.2						
LPAZ	**La Paz**	**99.39**	**110**	LR	LR	07 37 17.7	
	comp=Z,35nm,18.1s,baz=32,slow=32						
MLR	**Muntele Rosu**	**145.98**	**336**		**PKPab**	**07 04 35.1**	**+0.8**
GERES	**GERESS Array B**	**146.11**	**352**	PKPbc	**PKiKP**	**07 04 35.9**	**-1.4**
	comp=Z,0.2nm,0.2s,baz=58,slow=3.7,SNR=3.7						
BR131	**Keskin Array S**	**146.38**	**322**		**PKPab**	**07 04 36.5**	**+0.5**
BRTR	**Keskin Array B**	**146.38**	**322**	PKPbc	**PKPab**	**07 04 36.9**	**+0.8**
	comp=Z,5.1nm,1.0s,baz=108,slow=2.7,SNR=19						

*IDC **20** 06:45:01.9±1.7, 2°.92N×125°.79E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/46, mbtmp3.8/5, Error ellipse: s-maj=117.6km s-min=24.2km az=67.0*
*NEIC **20** 06:45:06.5±2.2, 3°.38N±0°.05×126°.6E±0°.2, h35km±2km, mb4.6/11*
*ISCJB **20** 06:45:07.4±0.8, 3°.31N±0°.09×126°.5E±0°.2, h63km, Error ellipse: s-maj=26.8km s-min=12.5km az=168.4*

ISC 20 06:45:09.5±1.1, 3°.3N±0°.1×126°.4E±0°.2, h63km, n17, σ1s22/17, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**13.09**	**189**	Pn	**Pn**	**06 48 12.2**	**-0.6**
KNRA	**Kununurra**	**18.94**	**173**	P	**Pn**	**06 49 27.7**	**+0.9**
KNRA				IAmb	IAmb	06 49 40.8	
	comp=Z,16nm,1.4s						
FITZ	**Fitzroy Crossi**	**21.22**	**182**	P	**P**	**06 49 47.6**	**-2.7**
	comp=Z,1.4nm,0.7s,baz=360,slow=9.0,SNR=1.8						
FITZ	**Fitzroy Crossi**	**21.22**	**182**	P	**P**	**06 49 51.8**	**+1.6**
WRAB	**Tennant Creek**	**24.32**	**162**	P	**P**	**06 50 21.0**	**-0.4**
WRAB				IAmb	IAmb	06 50 22.7	
	comp=Z,8.5nm,1.1s						
WRA	**Warramunga Arr**	**24.32**	**162**	P	**P**	**06 50 21.1**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=335,slow=11,SNR=11						
WR0	**Warramunga Arr**	**24.40**	**161**		**P**	**06 50 21.8**	**-0.3**
WR0				IAmb	IAmb	06 50 25.0	
	comp=Z,12nm,1.5s						
ASAR	**Alice Springs**	**27.72**	**165**	P	**P**	**06 50 51.1**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=349,slow=7.1,SNR=10						
FORT	**Forrest**	**33.87**	**177**		**P**	**06 51 47.8**	**+1.6**
FORT				IAmb	IAmb	06 51 55.6	
	comp=Z,29nm,1.1s						
BBOO	**Buckleboo**	**37.00**	**166**	P	**P**	**06 52 13.6**	**+0.5**
BBOO				IAmb	IAmb	06 52 15.8	
	comp=Z,36nm,1.4s						
STKA	**Stephens Creek**	**37.79**	**159**	P	**P**	**06 52 18.2**	**-1.6**
	comp=Z,3.8nm,0.8s,baz=340,slow=9.7,SNR=5.3						
STKA	**Stephens Creek**	**37.79**	**159**	P	**P**	**06 52 20.1**	**+0.4**
MK31	**Makanchi Array**	**57.78**	**326**	P	**P**	**06 54 54.7**	**+0.5**
MK31				IAmb	IAmb	06 55 11.3	
	comp=Z,5.8nm,1.4s						
MKAR	**Makanchi Array**	**57.78**	**326**	P	**P**	**06 54 54.1**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=123,slow=8.4,SNR=5.1						
MLZ	**Mavora Lakes**	**60.94**	**148**		**P**	**06 55 17.3**	**+1.2**
BKZ	**Black Stump Fm**	**62.43**	**138**	P	**P**	**06 55 27.0**	**+0.8**
BKZ				IAmb	IAmb	06 55 33.5	
	comp=Z,16nm,1.4s						
JOHN	**Johnston Islan**	**64.23**	**73**	P	**P**	**06 55 37.6**	**-0.9**

IDC 20 06:50:12.3±3.5, 0°.46N×100°.09W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.8/23, mbtmp3.7/5, MS3.1/2, Ms1 3.1/2, ms1mx2.7/29, Error ellipse: s-maj=177.7km s-min=31.1km az=58.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**26.18**	**119**	LR	LR	07 02 34.5	
	comp=Z,25nm,19.9s,baz=324,slow=28						
TXAR	**Lajitas Array**	**28.92**	**354**	P	P	06 56 13.8	+0.4
	0.3nm,0.8s,baz=158,slow=12,SNR=2.7						
TXAR				LR	LR	07 06 05.3	
	comp=Z,51nm,18.7s,baz=0.0,slow=33						
PDAR	**Pinedale Array**	**42.97**	**350**	P	P	06 58 13.3	-0.2
	0.9nm,0.8s,baz=163,slow=6.7,SNR=7.2						
CPUP	**Villa Florida**	**49.05**	**126**	P	P	06 59 01.4	-0.1
	1.4nm,0.9s,baz=309,slow=6.7,SNR=2.5						
YKA	**Yellowknife Ar**	**62.84**	**352**	P	P	07 00 39.6	0.0
	0.9nm,0.8s,baz=162,slow=6.8,SNR=8.5						
ILAR	**Eielson Array**	**72.51**	**341**	P	P	07 01 40.5	-0.2
	0.7nm,0.8s,baz=144,slow=5.4,SNR=8.4						

*IDC **20** 07:08:50.4±1.0, 51°.51N×15°.96E, h0km, mb1 3.5/5, mb1mx3.2/54, mbtmp3.3/5, ML2.8/5, Error ellipse: s-maj=15.4km s-min=7.9km az=118.0*

ISC 20 07:08:48.6±1.3, 51°.59N±0°.03×15°.97E±0°.02, h2km±10km, n33, σ1s36/69, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.78**	**165**	*e*Pg	**Pg**	**07 09 03.2**	**-0.2**
KSP				*e*Pg	**Pg**	**07 09 03.2**	**-0.2**
KSP				*e*Sg	**Sg**	**07 09 13.0**	**-0.5**
KSP				*e*Sg	**Sg**	**07 09 13.0**	**-0.5**
CHVC	**Chvalec**	**1.01**	**177**	*e*PG	**Pg**	**07 09 07.9**	**+0.1**
CHVC				*e*SG	**Sg**	**07 09 20.5**	**-0.4**
	comp=Z,51nm,0.5s						
OSTC	**Ostas**	**1.05**	**171**	*e*PG	**Pg**	**07 09 08.3**	**-0.3**
OSTC				*e*SG	**Sg**	**07 09 21.7**	**-0.5**
	comp=Z,66nm,0.4s						
UPC	**Upice**	**1.09**	**179**	*e*PG	**Pg**	**07 09 09.0**	**-0.4**
UPC				*e*SG	**Sg**	**07 09 23.0**	**-0.4**
	comp=Z,67nm,0.4s						
DPC	**Dobruska-Polom**	**1.26**	**170**	*e*PG	**Pg**	**07 09 12.0**	**-0.8**
DPC				*e*SG	**Sg**	**07 09 27.5**	**-1.6**
	comp=Z,55nm,0.6s						
PVCC	**Panska Ves**	**1.38**	**220**	*e*PG	**Pg**	**07 09 14.5**	**-0.6**
PVCC				*e*SG	**Sn**	**07 09 34.7**	**+1.0**
	comp=Z,82nm,0.2s						
BRG	**Berggiesshubel**	**1.46**	**241**	PN	**Pn**	**07 09 14.9**	**-1.1**
BRG				PG	**Pg**	**07 09 17.2**	**+0.6**
BRG				SG	**Sn**	**07 09 36.7**	**+1.1**
	76nm,0.5s						
KRLC	**Kraliky**	**1.60**	**161**	*e*PG	**Pn**	**07 09 18.2**	**+0.3**
KRLC				*e*SG	**Sg**	**07 09 37.0**	**-3.0**
	comp=Z,49nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.84**	**205**	*e*PG	**Pb**	**07 09 23.5**	**+0.6**
GOPC				*e*SG	**Sb**	**07 09 46.2**	**-0.2**
PRU	**Pruhonice**	**1.84**	**210**	*e*PG	**Pn**	**07 09 22.4**	**+1.2**
PRU				*e*SG	**Sb**	**07 09 46.7**	**+0.2**
	comp=Z,21nm,0.3s						
CLL	**Collm**	**1.88**	**262**	*i* Pn	**Pn**	**07 09 21.5**	**-0.2**
	comp=Z,7.0nm,0.6s						
CLL				*i* Pg	**Pb**	**07 09 25.5**	**+1.9**
CLL				*i*		07 09 28.8	
CLL				*e*Sg	**Sg**	**07 09 50.0**	**+1.1**
	comp=Z,22nm,0.4s						
MORC	**Moravsky Berou**	**2.07**	**151**	*e*PN	**Pn**	**07 09 23.9**	**-0.5**
MORC				*e*SG	**Sn**	**07 09 51.5**	**+0.7**
OKC	**Ostrava-Krasne**	**2.24**	**141**	*e*PG	**Pn**	**07 09 29.2**	**+2.6**
OKC				*e*SG	**Sb**	**07 09 58.4**	**+0.6**
TREC	**Trest**	**2.32**	**188**	*e*PN	**Pn**	**07 09 28.4**	**+0.6**
TREC				*e*PG	**Pb**	**07 09 31.8**	**+0.7**
VRAC	**Vranov**	**2.32**	**170**	Pn	**Pn**	**07 09 28.6**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=336,slow=12,SNR=4.8						
VRAC				Pg	**Pb**	**07 09 32.3**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=337,slow=16,SNR=3.5						
VRAC				Lg	Lg	07 10 01.9	
	comp=Z,4.7nm,0.3s,baz=73,slow=21,SNR=11						
VRAC	**Vranov**	**2.32**	**170**	*e*PN	**Pn**	**07 09 28.0**	**+0.2**
VRAC				*e*SG	**Sb**	**07 10 00.6**	**+0.4**
KRUC	**Moravsky**	**2.55**	**174**	*e*PN	**Pn**	**07 09 31.7**	**+0.8**
KRUC				*e*SG	**Sg**	**07 10 08.3**	**-2.1**
NKC	**Novy Kostel**	**2.61**	**240**	*e*PN	**Pn**	**07 09 32.6**	**+0.8**
NKC				*e*PG	**Pg**	**07 09 38.9**	**+0.3**
NKC				*e*SG	**Sg**	**07 10 14.1**	**+1.7**
	comp=Z,43nm,0.4s						
OJC	**Ojcow**	**2.79**	**118**	*e*Pg	**Pb**	**07 09 40.9**	**+1.9**
OJC				*e*Pg	**Pb**	**07 09 40.9**	**+1.9**
OJC				*e*Sg	**Sb**	**07 10 16.7**	**+3.1**
OJC				*e*Sg	**Sb**	**07 10 16.7**	**+3.1**
KHC	**Kasperske Hory**	**2.90**	**213**	*e*PN	**Pn**	**07 09 36.4**	**+0.6**
KHC				*e*PG	**Pb**	**07 09 41.5**	**+0.5**
KHC				*e*SN	**Sn**	**07 10 09.0**	**-2.2**
KHC				*e*SG	**Sg**	**07 10 19.7**	**-2.0**
	comp=Z,8.6nm,0.6s						
JAVC	**Velka Javorina**	**2.95**	**158**	*e*PN	**Pn**	**07 09 38.1**	**+1.7**
GERES	**GERESS Array B**	**3.11**	**209**	Pn	**Pn**	**07 09 39.1**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=32,slow=13,SNR=19						
GERES				Pg	**Pb**	**07 09 46.2**	**+1.5**
	comp=Z,2.0nm,0.3s,baz=29,slow=18,SNR=24						
GERES				Sn	**Sn**	**07 10 15.3**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=32,slow=26,SNR=5.8						
GERES				Lg	Lg	07 10 28.3	
	comp=Z,2.5nm,0.3s,baz=27,slow=27,SNR=9.5						
LANS	**Liptovska Anna**	**3.31**	**136**	*e*PN	**Pn**	**07 09 40.2**	**-1.3**
LANS				*e*SG	**Sg**	**07 10 33.7**	**-1.3**
MODS	**Modra-Piesok**	**3.33**	**165**	*e*PG	**Pb**	**07 09 50.0**	**+1.7**
MODS				*e*SG	**Sg**	**07 10 34.7**	**-0.8**
BSD	**Bornholm Skovb**	**3.58**	**350**	*i* P	**Pn**	**07 09 45.1**	**0.0**
BSD				*i* S	**Sn**	**07 10 25.3**	**-2.7**
VYHS	**Vyhne**	**3.61**	**148**	*e*SG	**Sg**	**07 10 44.2**	**-0.3**
CONA	**Conrad Observa**	**3.67**	**181**	Pg	**Pg**	**07 09 57.2**	**-1.6**
	comp=Z,1.6nm,0.2s						
CONA				Sg	**Sb**	**07 10 41.4**	**+2.3**
	comp=Z,17nm,0.5s						
MOA	**Molln**	**3.91**	**197**	*e*Pn	**Pn**	**07 09 50.0**	**+0.4**
	comp=Z,1.9nm,0.3s						
MOA				*e*Sg	**Sg**	**07 10 53.0**	**-0.9**
	comp=Z,9.5nm,0.6s						
STHS	**Stebnicka Huta**	**4.01**	**121**	*e*PG	**Pg**	**07 10 06.2**	**+0.8**
ARSA	**Arzberg**	**4.36**	**184**	Sg	**Sg**	**07 11 07.7**	**-0.7**
	comp=Z,6.1nm,0.5s						
AKASG	**Malin Array Be**	**8.38**	**91**	Pn	**Pn**	**07 10 49.8**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=279,slow=12,SNR=4.2						
FINES	**FINESS Array B**	**11.33**	**25**	Pn	**Pn**	**07 11 30.0**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=211,slow=11,SNR=1.4						
FINES				Sn	Sn	07 13 31.3	-6.9
	comp=Z,0.2nm,0.3s,baz=217,slow=21,SNR=2.0						
ARCES	**ARCESS Array B**	**18.56**	**11**	Pn	**P**	**07 13 03.

14nm,0.3s,baz=70,slow=6.9,SNR=15
AFI Afiamalu 7.65 61 P P 07 30 17.2 -6.0
NIUE Niue 8.36 100 P P 07 30 26.6 -3.3
DZM Mont Dzumac 14.66 251 P P 07 31 31.0 -2.4
3.3nm,0.3s,baz=216,slow=23,SNR=26
DZM Mont Dzumac 14.66 251 P P 07 31 31.7 -1.7
KNTN Kanton 16.40 25 P P 07 31 47.4 -2.5
URZ Urewera 20.72 190 P P 07 32 26.2 -2.5
5.8nm,0.7s,baz=350,slow=6.1,SNR=2.1
URZ S S 07 35 46.8 +3.5
8.0nm,1.0s,baz=161,slow=13,SNR=1.9
URZ Urewera 20.72 190 P P 07 32 26.2 -2.5
URZ IAmb IAmb 07 32 34.2
comp=Z,9.9nm,0.7s
NNZ Nelson 24.32 195 P P 07 33 00.8 0.0
TUWZ Tuamarina 24.39 194 P P 07 32 59.2 -2.2
THZ Tophouse 24.95 195 P P 07 33 05.7 -0.8
KHZ Kahutara 25.42 194 P P 07 33 08.4 -2.1
KHZ IAmb IAmb 07 33 09.9
comp=Z,32nm,1.4s
LTZ Lake Taylor 26.07 195 P P 07 33 15.8 -0.5
LTZ IAmb IAmb 07 33 33.0
comp=Z,14nm,1.1s
FOZ Fox Glacier 27.45 198 P P 07 33 26.5 -1.8
FOZ IAmb IAmb 07 33 28.9
comp=Z,13nm,0.7s
LBZ Lake Benmore 28.12 197 P P 07 33 31.8 -2.4
LBZ IAmb IAmb 07 33 36.9
comp=Z,21nm,1.3s
WKZ Wanaka 28.86 198 P P 07 33 38.9 -1.7
EIDS Eidsvold 29.10 250 P P 07 33 41.7 -1.2
MLZ Mavora Lakes 29.62 199 P P 07 33 46.3 -0.8
ARMA Armidale 29.81 240 P P 07 33 49.3 +0.2
WHZ Wether Hill Ro 30.15 199 P P 07 33 51.6 0.0
WHZ IAmb IAmb 07 33 55.9
comp=Z,27nm,1.2s
CAN Canberra 33.60 232 P P 07 34 21.4 +0.2
PMG Port Moresby 34.23 280 P P 07 34 27.0 +0.3
COEN Coen 36.89 270 P P 07 34 48.5 -0.2
TOO Toolangi 37.07 231 P P 07 34 50.1 +0.3
STKA Stephens Creek 38.49 241 P P 07 35 01.9 +0.4
comp=Z,16nm,0.5s,baz=90,slow=10,SNR=62
STKA Stephens Creek 38.49 241 P P 07 35 01.7 +0.2
STKA IAmb IAmb 07 35 02.7
comp=Z,8.7nm,1.1s
BBOO Buckleboo 43.27 241 P P 07 35 38.8 -0.4
HMH Humu'ula Sheep 43.57 33 P P 07 35 42.3 +0.2
WR0 Warramunga Arr 44.25 259 P P 07 35 45.9 -1.1
WR0 IAmb IAmb 07 35 53.6
comp=Z,12nm,1.2s
WRAB Tennant Creek 44.43 259 P P 07 35 47.0 -1.5
WRAB IAmb IAmb 07 35 48.2
comp=Z,13nm,0.7s
WRA Warramunga Arr 44.44 259 P P 07 35 47.7 -0.9
comp=Z,12nm,0.7s,baz=94,slow=7.0,SNR=148
WRA PcP PcP 07 37 19.9 +0.5
comp=Z,1.4nm,1.0s,baz=93,slow=3.2,SNR=4.7
AS31 Alice Springs 44.61 254 P P 07 35 49.4 -0.5
ASAR Alice Springs 44.62 254 P P 07 35 49.5 -0.3
comp=Z,106nm,0.6s,baz=88,slow=8.2,SNR=1938
ASAR ScP ScP 07 40 22.0 +4.4
comp=Z,0.8nm,0.8s,baz=90,slow=3.1,SNR=5.2
MTN Manton Dam 48.59 268 P P 07 36 19.0 -0.8
MTN IAmb IAmb 07 36 19.6
comp=Z,11nm,0.7s
FORT Forrest 49.86 245 P P 07 36 28.2 -0.8
KNRA Kununurra 50.29 264 P P 07 36 31.7 -0.6
FITZ Fitzroy Crossi 52.84 261 P P 07 36 50.4 -0.2
SOEI Soe 55.86 270 P P 07 37 13.0 +1.1
PSA00 Pilbara Seismi 57.73 255 P P 07 37 24.1 -0.4
PSA00 IAmb IAmb 07 37 24.8
comp=Z,18nm,0.8s
SBA Scott Base 60.51 184 P P 07 37 44.8 +2.8
SBA IAmb IAmb 07 37 52.8
comp=Z,30nm,1.4s
GIRL Giralia 62.72 253 P P 07 37 58.5 +1.0
JAGI Jajag, Banyuwa 65.83 269 P P 07 38 16.2 -1.1
CASY Casey 66.14 205 P P 07 38 18.9 +0.7
CASY IAmb IAmb 07 38 19.9
comp=Z,5.7nm,0.8s
UGM Wanagama 69.44 268 P P 07 38 39.3 +0.1
QSPA South Pole Qui 72.25 180 P P 07 38 55.5 +0.6
QSPA IAmb IAmb 07 38 56.5
comp=Z,10nm,1.0s
PEA0B Petropavlovsk- 73.53 345 P P 07 39 02.4 +0.3
PEA0B IAmb IAmb 07 39 20.1
comp=Z,22nm,1.2s
PETK Petropavlovsk- 73.53 345 P P 07 39 02.3 +0.2
comp=Z,4.9nm,0.7s,baz=123,slow=7.6,SNR=9.1
SII Sitkinak Islan 76.87 14 P P 07 39 20.7 +0.1
OHAK Old Harbor 77.68 14 P P 07 39 25.3 +0.4
OHAK IAmb IAmb 07 39 41.8
comp=Z,31nm,1.3s
ISA Isabella, Lake 77.90 46 P P 07 39 27.5 +0.7
CMB Columbia Colle 77.91 43 P P 07 39 27.4 +0.7
KBO Bosley Butte 77.97 38 P P 07 39 26.9 -0.1
KBO IAmb IAmb 07 39 32.9
comp=Z,32nm,1.2s
MDPB Devils Postpil 78.55 44 P P 07 39 31.2 +0.7
YBH Yreka Blue Hor 78.58 39 P P 07 39 31.9 +1.6
OMMB Old Mammoth Mi 78.59 44 P P 07 39 32.1 +1.3
WAKR Walker 78.79 43 P P 07 39 31.2 -0.4
HUMO Hull Mountain 78.95 38 P P 07 39 33.3 +1.1
HUMO IAmb IAmb 07 39 34.3
comp=Z,13nm,1.2s
PNTR Pine Nut 79.01 43 P P 07 39 33.8 +1.0
PNTR IAmb IAmb 07 39 34.9
comp=Z,10nm,0.8s
YERR Yerington 79.18 43 P P 07 39 34.3 +0.6
YERR IAmb IAmb 07 39 35.1
comp=Z,6.7nm,0.6s
PAHR Pah Rah Range 79.49 42 P P 07 39 35.6 +0.4
NVAR Mina Array Bea 79.50 44 P P 07 39 36.3 +0.9
comp=Z,3.8nm,0.8s,baz=224,slow=8.8,SNR=23
NV11 Mina Array Sit 79.60 44 P P 07 39 36.0 +0.2
KVN Kaiserville 79.97 44 P P 07 39 37.8 0.0
MOD Modoc Plateau 80.14 40 P P 07 39 39.0 +0.4
MOD IAmb IAmb 07 39 39.9
comp=Z,6.5nm,0.8s
BRLK Bradley Lake 80.53 14 P P 07 39 40.0 0.0
H04A Detroit Lake 80.64 37 P P 07 39 40.9 0.0
RSO Redoubt South 80.75 13 P P 07 39 40.4 -0.9
PINE Pine Mountain 80.84 38 P P 07 39 42.9 +0.7
WVOR Wild Horse Val 81.47 40 P P 07 39 45.9 +0.5
WVOR IAmb IAmb 07 39 47.3
comp=Z,8.1nm,1.0s
LCMT Little Creek M 82.22 47 P P 07 39 49.8 +0.5
X16A Lo Mia Camp, P 82.28 50 P P 07 39 51.9 +2.1
CCUT Cedar City 82.39 47 P P 07 39 50.6 +0.3
GLI Glacier Island 82.41 15 P P 07 39 49.2 -0.4
GLI IAmb IAmb 07 39 49.8
comp=Z,19nm,0.9s
KNB Kanab 82.51 47 P P 07 39 52.4 +1.5
PSUT Pine Spring 82.54 46 P P 07 39 51.6 +0.6
KNK Knik Glacier 82.55 14 P P 07 39 48.9 -1.3
PMR Palmer 82.55 14 P P 07 39 50.0 -0.2
PMR IAmb IAmb 07 39 54.1
comp=Z,10nm,1.3s
U15A North Rim 82.61 48 P P 07 39 52.5 +1.0
U15A IAmb IAmb 07 39 53.9
comp=Z,6.8nm,0.8s
ELK Elko 82.73 43 P P 07 39 52.4 +0.5
WUAZ Wupatki 82.84 49 P P 07 39 53.8 +1.3
G08A Pilot Rock 82.86 38 P P 07 39 52.9 +0.6
LTY Liberty 83.01 36 P P 07 39 53.1 +0.2
E07A Sunnyside 83.06 36 P P 07 39 53.9 +0.7
E07A IAmb IAmb 07 39 55.3
comp=Z,14nm,1.3s
PKCU Pink Cliffs 83.08 47 P P 07 39 56.6 +2.7
PPLA Purkeypile 83.08 12 P P 07 39 52.1 -0.9
PPLA IAmb IAmb 07 40 05.4
comp=Z,15nm,1.4s
HAWA Hanford 83.15 37 P P 07 39 54.8 +1.2
HAWA IAmb IAmb 07 39 55.0
comp=Z,4.2nm,0.6s
WAX Waxell Ridge 83.16 17 P P 07 39 54.0 +0.6
WAX IAmb IAmb 07 40 09.0
comp=Z,25nm,1.1s
SCM Sheep Creek Mo 83.18 14 P P 07 39 53.8 +0.3
SCM IAmb IAmb 07 39 54.2
comp=Z,14nm,0.7s
MESA MESA 83.19 17 P P 07 39 54.4 +0.7
TGL Tana Glacier 83.42 17 P P 07 39 55.0 +0.3
TGL IAmb IAmb 07 39 55.0
comp=Z,22nm,1.3s
MTPU Mount Pierson 83.45 47 P P 07 39 57.8 +2.0
SEY Seymchan 83.63 347 P P 07 39 55.6 +0.1
comp=Z,6.3nm,0.6s,baz=177,slow=5.0,SNR=17
VRDI Verde Repeater 83.64 16 P P 07 39 55.8 -0.2
VRDI IAmb IAmb 07 39 57.8
comp=Z,11nm,1.3s
GLB Gilahina Butte 83.72 16 P P 07 39 56.1 -0.1
GLB IAmb IAmb 07 39 56.5
comp=Z,6.5nm,0.6s
MFID Camas Ranch 83.73 41 P P 07 39 57.4 +0.7
MFID IAmb IAmb 07 39 58.5
comp=Z,9.1nm,1.2s
BALM Baldy 83.78 17 P P 07 39 56.8 +0.2
BALM IAmb IAmb 07 40 00.7
comp=Z,26nm,1.5s
MCARA McCarthy VSAT 83.89 16 P P 07 39 59.1 +2.2
KTH Kantishna Hill 83.92 12 P P 07 39 55.4 -1.7
TRF Thorofare Moun 83.95 12 P P 07 39 56.8 -0.7
TRF IAmb IAmb 07 39 58.1
comp=Z,13nm,0.8s
BARN Barnard Glacie 83.99 17 P P 07 39 57.0 -0.6
BARN IAmb IAmb 07 40 02.9
comp=Z,16nm,1.2s
CTGM Chitina Glacie 84.01 17 P P 07 39 58.0 +0.3
CTGM IAmb IAmb 07 39 58.5
comp=Z,7.4nm,0.8s
RND Reindeer 84.22 13 P P 07 39 58.6 0.0
RND IAmb IAmb 07 39 58.7
comp=Z,9.8nm,1.0s
F10A Beach Ranch, E 84.25 38 P P 07 39 58.8 -0.4
F10A IAmb IAmb 07 40 00.9
comp=Z,5.6nm,0.8s
B08A Colville Reser 84.38 35 P P 07 39 59.8 +0.1
MCK McKinley 84.49 13 P P 07 40 00.1 +0.3
MCK IAmb IAmb 07 40 00.8
comp=Z,6.9nm,0.9s
SRU San Rafael Swe 85.10 46 P P 07 40 04.9 +1.3
DOT Dot Lake 85.52 15 P P 07 40 05.3 +0.5
DOT IAmb IAmb 07 40 09.2
comp=Z,9.3nm,1.3s
IL31 85.83 13 P P 07 40 05.3 -0.9
ILAR Eielson Array 85.83 13 P P 07 40 05.5 -0.7
comp=Z,1.3nm,0.5s,baz=222,slow=5.1,SNR=25
TX32 Lajitas Array 86.12 58 P P 07 40 09.8 +1.3
TX32 IAmb IAmb 07 40 11.6
comp=Z,7.0nm,1.1s
TXAR Lajitas Array 86.12 58 P P 07 40 10.4 +1.8
comp=Z,2.8nm,0.8s,baz=216,slow=6.1,SNR=29
ANMO Albuquerque 86.20 52 P P 07 40 09.3 +0.4
MCMT McKenzie Canyo 86.30 41 P P 07 40 09.8 +0.6
REDW Red Top Meadow 86.86 43 P P 07 40 12.5 +0.6
REDW IAmb IAmb 07 40 14.0
comp=Z,8.2nm,1.1s
SNOW Snow King Moun 86.97 42 P P 07 40 13.2 +0.8
SNOW IAmb IAmb 07 40 14.6
comp=Z,9.8nm,1.2s
HHC Hu-ho-hao-te 87.05 315 *eP* P 07 40 15.6 +2.9
HHC pmax pmax
comp=Z,4.0nm,1.1s
HHC pmax pmax
comp=Z,9.0nm,5.6s
PD31 Pinedale Array 87.42 44 P P 07 40 14.7 +0.1
PDAR Pinedale Array 87.42 44 P P 07 40 15.1 +0.5
comp=Z,1.5nm,0.5s,baz=213,slow=3.1,SNR=21
H17A Grant Village 87.52 42 P P 07 40 16.9 +1.9
H17A IAmb IAmb 07 40 18.4
comp=Z,5.1nm,1.0s
YNE Yellowstone No 88.16 41 P P 07 40 19.2 +1.3
CMAR Chiang Mai Arr 88.65 290 P P 07 40 21.6 +1.1
comp=Z,0.8nm,0.3s,baz=114,slow=2.9,SNR=9.0
SNAA Sanae 90.70 179 P P 07 40 28.8 -0.3
VNA3 Neumayer Olymp 90.86 176 P P 07 40 30.1 +0.3
VNA2 Neumayer--Watz 91.29 177 P P 07 40 32.1 +0.4
baz=173,slow=3.3
YKA Yellowknife Ar 94.33 25 P P 07 40 45.4 -0.1
comp=Z,0.9nm,0.8s,baz=241,slow=4.3,SNR=8.4
KK31 Karatay Array 117.09 310 PKPdf **PKPdf** 07 46 05.2 -2.5
KKAR Karatay Array 117.09 310 PKPdf **PKPdf** 07 46 04.8 -2.9
BUR08 Bucovina Ar. S 144.41 332 **PKPdf** 07 46 58.6 -0.2
BR131 Keskin Array S 144.56 315 **PKPdf** 07 46 58.5 -0.9
BRTR Keskin Array B 144.56 315 PKP **PKPdf** 07 46 59.2 -0.2
comp=Z,1.9nm,0.8s,baz=107,slow=1.3,SNR=9.6
CLL Collm 145.32 347 *i* PKPbc **PKPbc** 07 47 01.6 +0.3
CLL Collm 145.32 347 **PKPbc** 07 47 01.6 +0.3
DPC Dobruska-Polom 145.39 343 *e*PKP **PKPab** 07 47 02.6 -0.4
LANS Liptovska Anna 145.47 339 *e*PKP **PKPab** 07 47 03.7 +0.4
MMAI Mount Meron Ar 145.91 303 PKPbc **PKPbc** 07 47 04.8 +1.1
comp=Z,2.2nm,0.5s,baz=39,slow=5.4,SNR=5.1
KHC Kasperske Hory 147.22 345 *e*PKP **PKPbc** 07 47 07.1 +0.4
KHC *ex* x 07 47 11.5
GEC2 GERESS Array S 147.46 345 PKPbc **PKPbc** 07 47 08.2 +0.8
GERES GERESS Array B 147.46 345 PKPbc **PKPbc** 07 47 08.0 +0.6
comp=Z,1.6nm,0.5s,baz=18,slow=3.1,SNR=12
FUORN Ofenpass-Fuorn 150.34 348 PKPbc **PKiKP** 07 47 15.4 +0.2

*IDC **20** 07:29:09.7±1.8,31°.85N×45°.85E,h0km,mb3.8/12, mb1 3.8/14,mb1mx3.7/56,mbtmp3.8/14,ML3.0/2,MS3.7/3, Ms1 3.7/3,ms1mx2.8/56,Error ellipse: s-maj=38.5km s-min=19.9km az=163.0*
*ISCJB **20** 07:29:11.7±0.5,31°.74N±0°.06×45°.86E±0°.07,h33km, mb3.7/11,MS3.7/3,Error ellipse: s-maj=9.0km s-min=8.6km az=175.6*
*NEIC **20** 07:29:11.4±1.0,31°.76N±0°.09×45°.9E±0°.1,h14km±5km, mb4.0/6*
ISC 20 07:29:14.0±0.7,**31°.76N**±0°.08×**45°.88E**±0°.09,**h35km**,**n26,**
σ0**86**/23,**mb3.7**/14,**MS3.9**/3,**Iraq**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
RAYN	**Ar Rayn**	**8.21**	**182**		**Pn**	**07 31 10.3**	**-0.4**
MMAI	**Mount Meron Ar**	**8.95**	**281**	Lg	Lg	07 33 58.5	
	1.8nm,0.3s,baz=78,slow=16,SNR=2.5						
EIL	**Elat**	**9.64**	**260**	Pn	**Pn**	**07 31 29.6**	**-0.5**
	0.2nm,0.3s,baz=52,slow=18,SNR=1.2						
EIL				Lg	Lg	07 34 21.7	
	0.5nm,0.3s,baz=8.9,slow=16,SNR=2.0						
UOSS	**Minazif**	**11.34**	**124**	Pn	**Pn**	**07 31 53.4**	**-0.2**
BRTR	**Keskin Array B**	**12.72**	**312**	Pn	**Pn**	**07 32 13.8**	**+1.3**
	0.1nm,0.3s,baz=129,slow=9.8,SNR=4.9						
ILGA	**Ilgaz**	**13.48**	**317**	Pn	**Pn**	**07 32 21.4**	**-1.4**
DAMY	**Dhamar**	**17.16**	**185**	Pn	**Pn**	**07 33 11.3**	**-0.2**
DAMY				IAmb	IAmb	07 33 29.4	
	comp=Z,7.9nm,0.5s						
AKTO	**Aktyubinsk**	**20.73**	**22**	P	**P**	**07 33 50.0**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=220,slow=12,SNR=4.8						
KK31	**Karatay Array**	**22.51**	**53**	P	**P**	**07 34 10.2**	**-0.4**
KK31				IAmb	IAmb	07 34 14.3	
	comp=Z,3.9nm,1.2s						
KKAR	**Karatay Array**	**22.51**	**53**	P	**P**	**07 34 10.0**	**-0.6**
AKASG	**Malin Array Be**	**22.60**	**332**	P	**P**	**07 34 10.3**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=138,slow=11,SNR=5.7						
AKBB	**Malin Array Si**	**22.60**	**332**	P	**P**	**07 34 10.2**	**-1.2**
AKBB				IAmb	IAmb	07 34 11.8	
	comp=Z,4.4nm,0.8s						
BVAR	**Borovoye Array**	**27.67**	**33**	P	**P**	**07 34 58.8**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=218,slow=6.6,SNR=5.4						
KURBB	**Kurchatov Arra**	**30.61**	**42**	P	**P**	**07 35 25.6**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=248,slow=9.2,SNR=5.1						
KURK	**Kurchatov**	**30.70**	**42**	P	**P**	**07 35 25.4**	**+0.1**
KURK				IAmb	IAmb	07 35 39.5	
	comp=Z,3.1nm,1.3s						
MKAR	**Makanchi Array**	**31.61**	**51**	P	**P**	**07 35 32.9**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=248,slow=7.4,SNR=5.1						
MKAR				LR	LR	07 50 04.1	
	comp=Z,90nm,19.0s,baz=323,slow=40						
FINES	**FINESS Array B**	**32.38**	**342**	P	**P**	**07 35 40.0**	**0.0**
	comp=Z,2.3nm,0.8s,baz=154,slow=10,SNR=1.4						
HFS	**Hagfors**	**35.48**	**333**	P	**P**	**07 36 06.7**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=126,slow=7.5,SNR=5.7						
ZAA0	**Zalesovo Array**	**35.49**	**40**	P	**P**	**07 36 07.7**	**+0.6**
ZALV	**Zalesovo Beam**	**35.49**	**40**	P	**P**	**07 36 07.5**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=245,slow=9.7,SNR=7.4						
ARCES	**ARCESS Array B**	**39.54**	**349**	P	**P**	**07 36 41.8**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=159,slow=10,SNR=1.5						
TORD	**Torodi Ar. Bea**	**44.49**	**256**	P	**P**	**07 37 22.6**	**+0.5**
	comp=Z,1.0nm,1.0s,baz=57,slow=9.3,SNR=3.8						
KSRS	**Korea Array**	**65.73**	**60**	LR	LR	08 13 23.9	
	comp=Z,68nm,19.4s,baz=100,slow=40						
ILAR	**Eielson Array**	**83.27**	**5**	P	**P**	**07 41 38.0**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=322,slow=33,SNR=3.7						
YKA	**Yellowknife Ar**	**84.77**	**351**	P	**P**	**07 41 45.1**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=24,slow=5.8,SNR=4.4						
BATI	**Baumata**	**85.11**	**105**	LR	LR	08 23 08.8	
	comp=Z,46nm,19.6s,baz=179,slow=38						

*IDC **20** 07:42:50.4±3.3,36°.91N×71°.06E,h70km±27km,mb3.7/9, mb1 3.9/15,mb1mx3.6/53,mbtmp4.1/15,MS2.7/1, Ms1 2.7/1,ms1mx2.4/51,Error ellipse: s-maj=28.7km s-min=18.1km az=169.0*
*BJI **20** 07:42:52.6±0.0,37°.18N×71°.01E,h89km,mb4.4/17, mB4.6/4,Ms4.0/2,Ms7 3.8/1*
*MOS **20** 07:42:52.9±1.1,37°.13N×71°.01E,h100km,mb4.3/13,Error ellipse: s-maj=12.1km s-min=5.4km az=81.4*
*ISCJB **20** 07:42:52.1±0.3,37°.11N±0°.03×70°.99E±0°.04,h88km, mb4.1/28,Error ellipse: s-maj=4.9km s-min=4.3km az=178.0*
*NEIC **20** 07:42:54.0±1.6,37°.16N±0°.05×70°.96E±0°.03,h90km±7km, mb4.5/28*
*NNC **20** 07:42:56.6±4.2,37°.46N×70°.46E,h73km±98km,mb4.2, mpv4.3,Error ellipse: s-maj=38.3km s-min=20.8km az=157.0*
ISC 20 07:42:52.9±0.5,**37°.12N**±0°.05×**71°.06E**±0°.04,**h88km**,**n126,**
σ1**85**/135,**mb4.3**/37,**13C-6D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
GAR	**Garm**	**1.97**	**343**		**Pn**	**07 43 25.8**	**+1.0**
GAR				Sn	**Sn**	**07 43 50.9**	**+1.9**
CHGR	**Chuyangaron**	**2.15**	**316**		**Pn**	**07 43 27.1**	**0.0**
CHGR				Sn	**Sn**	**07 43 52.4**	**-0.9**
BTK	**Batken**	**2.94**	**356**	PN	**Pn**	**07 43 39.8**	**+2.1**
BTK	**Batken**	**2.94**	**356**		**Pn**	**07 43 39.8**	**+2.1**
KBL	**Kabul**	**3.05**	**213**	PN	**Pn**	**07 43 40.9**	**+1.6**
KBL						07 44 16.4	
KBL	**Kabul**	**3.05**	**213**		**Pn**	**07 43 40.9**	**+1.6**
KBL				Sn	**Sn**	**07 44 16.4**	**+1.4**
NIL	**Nilore**	**3.89**	**152**	PN	**Pn**	**07 43 52.6**	**+2.1**
NIL						07 44 37.9	
NIL	**Nilore**	**3.89**	**152**		**Pn**	**07 43 52.6**	**+2.1**
NIL				Sn	**Sn**	**07 44 37.9**	**+2.8**
ARSB	**Arslanbob**	**4.46**	**19**		**Pn**	**07 43 59.1**	**+0.9**
KSH	**Kashi**	**4.54**	**57**	P	**Pn**	**07 43 57.5**	**-1.9**
KSH				S	**Sn**	**07 44 46.4**	**-4.6**
KSH				smax	smax		
	comp=N,520nm,0.5s						
KSH				smax	smax		
	comp=E,460nm,0.4s						
AML	**Almayashu**	**5.40**	**21**	P	**Pn**	**07 44 12.8**	**+1.5**
	SNR=69						
UCH	**Uchtor**	**5.75**	**26**	P	**Pn**	**07 44 17.9**	**+1.7**
	SNR=22						
NRN	**Naryn**	**5.76**	**40**	PN	**Pn**	**07 44 16.7**	**+0.5**
NRN	**Naryn**	**5.76**	**40**		**Pn**	**07 44 16.6**	**+0.5**
KZA	**Kyzart**	**5.92**	**32**	P	**Pn**	**07 44 19.9**	**+1.6**
	SNR=19						
EKS2	**Erkin-Say**	**5.92**	**20**	P	**Pn**	**07 44 20.2**	**+2.2**
	SNR=40						
KK31	**Karatay Array**	**5.99**	**356**	PN	**Pn**	**07 44 20.0**	**+1.0**
KK31	**Karatay Array**	**5.99**	**356**		**Pn**	**07 44 19.9**	**+1.0**
KK31				Sn	**Sn**	**07 45 24.3**	**-1.9**
KK31	**Karatay Array**	**5.99**	**356**	⇑P	**Pn**	**07 44 19.6**	**+0.6**
	7.4nm,0.3s,baz=179,slow=13,SNR=316						
KK31				⇑S	**Sn**	**07 45 24.3**	**-1.9**
	19nm,0.4s,baz=189,slow=26,SNR=6.3						
KKAR	**Karatay Array**	**5.99**	**356**	PN	**Pn**	**07 44 19.9**	**+0.9**
KKAR	**Karatay Array**	**5.99**	**356**		**Pn**	**07 44 19.9**	**+0.9**
KKAR				Sn	**Sn**	**07 45 24.3**	**-1.9**
THN	**Thein Dam**	**6.04**	**139**	*e*P	**Pn**	**07 44 20.3**	**+0.7**
THN				*e*S	**Sn**	**07 45 23.0**	**-4.4**
AAK	**Ala-Archa**	**6.11**	**25**	*c i* PN	**Pn**	**07 44 22.2**	**+1.5**
AAK	**Ala-Archa**	**6.11**	**25**	P	**Pn**	**07 44 22.8**	**+2.1**
	7.0nm,0.3s,baz=168,slow=6.0,SNR=71						
AAK				S	**Sn**	**07 45 28.0**	**-1.2**
	3.6nm,0.3s,baz=323,slow=22,SNR=13						
AAK				LR	LR	07 46 56.7	
	comp=Z,66nm,19.7s,baz=313,slow=39						
AAK	**Ala-Archa**	**6.11**	**25**	P	**Pn**	**07 44 23.0**	**+2.3**
	SNR=15						
AAK	**Ala-Archa**	**6.11**	**25**		**Pn**	**07 44 22.6**	**+1.9**
AAK				Sn	**Sn**	**07 45 31.3**	**+2.1**
AAK	**Ala-Archa**	**6.11**	**25**	P	**Pn**	**07 44 22.7**	**+1.9**
	13nm,0.5s						
AAK				⇑S	**Sn**	**07 45 29.9**	**+0.6**
	21nm,0.6s						
KBK	**Karagaybulak**	**6.29**	**27**	P	**Pn**	**07 44 26.0**	**+2.8**
	SNR=8.7						
CHMS	**Chumysh**	**6.52**	**25**	P	**Pn**	**07 44 27.9**	**+1.7**
	SNR=15						
BOOM	**Boomskoye usch**	**6.55**	**33**	PN	**Pn**	**07 44 28.2**	**+1.5**
BOOM	**Boomskoye usch**	**6.55**	**33**		**Pn**	**07 44 28.2**	**+1.5**
USP	**Ospenovka**	**6.68**	**22**	P	**Pn**	**07 44 29.6**	**+1.3**
	SNR=10						
TKM2	**Tokmak 2**	**6.76**	**30**	P	**Pn**	**07 44 31.2**	**+1.6**
	SNR=38						
TKM2	**Tokmak 2**	**6.76**	**30**	⇑P	**Pn**	**07 44 30.7**	**+1.1**
	22nm,0.5s						
TKM2				⇓S	**Sn**	**07 45 46.2**	**+1.1**
	9.1nm,0.7s						
TARG	**Taragay, Kyrgy**	**6.96**	**46**		**Pn**	**07 44 33.3**	**+0.8**
KUDL	**Kundal**	**10.05**	**151**	*e*P	Pn	07 45 08.0	-6.3
KUDL				*e*S	Sn	07 46 49.0	-16
KUDL				IAML		07 46 55.9	
	comp=E,56nm,0.3s						
KUDL				IAML		07 46 57.9	
	comp=E,62nm,0.3s						
KUDL				IAML		07 46 58.0	
	comp=N,44nm,0.2s						
GEYT	**Alibeck**	**10.32**	**278**	P	Pn	07 45 14.5	-3.4
	comp=N,0.4nm,0.3s,baz=119,slow=5.2,SNR=3.6						
GEYT				S	Sn	07 47 03.2	-8.5
	comp=N,2.8nm,0.3s,baz=276,slow=19,SNR=9.3						
GYA0B	**ALIBECK ARRAY**	**10.32**	**278**	Pn	**Pn**	**07 45 17.7**	**-0.2**
GYA0B	**ALIBECK ARRAY**	**10.32**	**278**	⇓P	**Pn**	**07 45 16.3**	**-1.7**
GYA0B				⇓S	Sn	07 47 01.6	-10
MAKZ	**Makanchi**	**12.62**	**37**	⇑P	**P**	**07 45 54.5**	**-2.5**
	comp=N,11nm,1.2s						
MK31	**Makanchi Array**	**12.77**	**37**	P	**Pn**	**07 45 50.3**	**-0.7**
MK31	**Makanchi Array**	**12.77**	**37**		**Pn**	**07 45 50.3**	**-0.7**
MK31	**Makanchi Array**	**12.77**	**37**	⇑P	**P**	**07 45 57.3**	**-1.3**
	comp=N,3.2nm,0.6s,baz=216,slow=15,SNR=12						
MKAR	**Makanchi Array**	**12.77**	**37**	*i* P	**Pn**	**07 45 50.5**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**12.77**	**37**	P	**Pn**	**07 45 50.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=218,slow=14,SNR=13						
DANN	**Dangsing**	**13.80**	**126**	*e*P	Pn	07 46 00.9	-4.0
KOLN	**Koldanda**	**14.09**	**128**	*e*P	Pn	07 46 04.7	-4.0
WMQ	**Urumqi**	**14.31**	**57**	*e*P	**Pn**	**07 46 14.4**	**+3.2**
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WMQ				LR	LR		
	comp=Z,580nm,28.8s						
WMQ				LR	LR		
	comp=Z,2μm,29.2s						
KURBB	**Kurchatov Arra**	**14.52**	**19**	P	**Pn**	**07 46 10.9**	**-2.9**
	comp=Z,0.0nm,0.3s,baz=210,slow=12,SNR=3.5						
KURBB	**Kurchatov Arra**	**14.52**	**19**	⇑P	**P**	**07 46 16.9**	**-1.0**
	comp=Z,4.4nm,0.6s						
AB31	**Akbulak array**	**14.57**	**330**	⇓P	Pn	07 46 10.5	-4.0
	comp=Z,9.2nm,0.5s,baz=135,slow=13,SNR=244						
AB31				⇓S	Sn	07 48 46.0	-8.8
	comp=Z,5.6nm,0.4s,baz=149,slow=24,SNR=8.2						
KURK	**Kurchatov**	**14.63**	**19**	*i* P	**Pn**	**07 46 18.1**	**+2.9**
KURK	**Kurchatov**	**14.63**	**19**	P	**P**	**07 46 19.0**	**-0.2**
KURK	**Kurchatov**	**14.63**	**19**	⇑P	**Pn**	**07 46 17.3**	**+2.1**
	comp=Z,6.0nm,1.1s						
DMN	**Daman**	**15.17**	**125**	*e*P	**Pn**	**07 46 19.2**	**-3.4**
GUN	**Gumba**	**15.49**	**122**	*e*P	**Pn**	**07 46 23.4**	**-3.3**
JIRN	**Jiri**	**15.86**	**122**	*e*P	**Pn**	**07 46 27.4**	**-4.0**
BVAR	**Borovoye Array**	**15.91**	**359**	P	**Pn**	**07 46 31.5**	**0.0**
	comp=Z,0.8nm,0.3s,baz=159,slow=10,SNR=11						
BRVK	**Borov

AKTO					⇓S		Sn	07 49 27.1 -8.9
	comp=Z,6.6nm,1.0s							
RAMN	**Ramite**	**16.60**	**123**		*eP*		**Pn**	07 46 37.2 -3.3
ZAA0	**Zalesovo Array**	**19.33**	**25**		P		**P**	07 47 11.0 0.0
ZAA0					IAmb		IAmb	07 47 11.6
	comp=Z,9.9nm,0.5s							
ZALV	**Zalesovo Beam**	**19.33**	**25**		P		**P**	07 47 11.0 0.0
ZALV	**Zalesovo Beam**	**19.33**	**25**		P		**P**	07 47 11.0 0.0
	comp=Z,3.3nm,0.3s,baz=218,slow=11,SNR=25							
ARU	**Arti**	**21.07**	**340**	*i*	P		**P**	07 47 31.3 +1.6
ARU					pmax		pmax	
	comp=Z,14nm,2.5s							
ARU	**Arti**	**21.07**	**340**		P		**P**	07 47 31.1 +1.5
	comp=Z,1.8nm,0.2s,baz=194,slow=5.0,SNR=3.2							
HVS	**Khovu-Aksy**	**21.34**	**42**	*i*	P		**P**	07 47 33.2 +0.4
HVS					pmax		pmax	
	comp=Z,3.0nm,0.9s							
KIV	**Kislovodsk**	**22.55**	**296**		*eP*		**P**	07 47 42.2 -3.5
KIV					pmax		pmax	
	comp=Z,12nm,1.1s							
GTA	**Gaotai**	**22.65**	**75**		*eP*		**P**	07 47 48.3 +1.4
GTA					pmax		pmax	
	comp=Z,6.0nm,0.8s							
SONM	**Songino Array**	**27.95**	**56**		P		**P**	07 48 36.0 +1.0
SONM	**Songino Array**	**27.95**	**56**		P		**P**	07 48 36.0 +1.0
	comp=Z,1.3nm,0.5s,baz=262,slow=9.0,SNR=11							
ULN	**Ulaanbaatar**	**28.39**	**56**	*i*	P		**P**	07 48 39.8 +0.9
ULN					pmax		pmax	
	comp=Z,2.0nm,0.7s							
KMI	**Kunming**	**29.50**	**105**		P		**P**	07 48 52.3 +3.2
KMI					pmax		pmax	
	comp=Z,8.0nm,0.5s							
KMI					pmax		pmax	
	comp=Z,74nm,3.8s							
OBN	**Obninsk**	**29.51**	**319**	⇑	*eP*		**P**	07 48 47.9 -0.6
OBN					*e*			07 49 46.1
OBN					pmax		pmax	
	comp=Z,3.0nm,1.0s							
OBN					MLR		MLR	
	comp=Z,101nm,10.0s							
HHC	**Hu-ho-hao-te**	**31.50**	**71**		*eP*		**P**	07 49 08.8 +2.3
HHC					pmax		pmax	
	comp=Z,5.0nm,1.1s							
HHC					pmax		pmax	
	comp=Z,9.0nm,5.5s							
SUW	**Suwalki**	**36.73**	**313**		P		**P**	07 49 49.6 -1.8
SUW					pmax		pmax	
	comp=Z,31nm,1.2s							
SUW	**Suwalki**	**36.73**	**313**		P		**P**	07 49 49.6 -1.8
FINES	**FINESS Array B**	**37.00**	**326**	*i*	P		**P**	07 49 55.2 +1.7
FINES					pmax		pmax	
	comp=Z,3.0nm,0.6s							
FINES	**FINESS Array B**	**37.00**	**326**		P		**P**	07 49 54.4 +0.9
	comp=Z,2.5nm,0.6s,baz=120,slow=9.8,SNR=6.1							
PSZ	**Piszkesteto**	**38.58**	**303**		P		**P**	07 50 07.5 +0.4
PSZ					pmax		pmax	
	comp=Z,9.0nm,1.4s							
PSZ	**Piszkesteto**	**38.58**	**303**		P		**P**	07 50 07.5 +0.4
PSZ					IAmb		IAmb	07 50 18.2
	comp=Z,8.9nm,1.4s							
NJ2	**Nanjing**	**39.34**	**83**		*eP*		**P**	07 50 14.0 +0.4
NJ2					pmax		pmax	
	comp=Z,11nm,0.5s							
MORC	**Moravsky Berou**	**40.04**	**306**		P		**P**	07 50 19.0 -0.2
MORC					pmax		pmax	
	comp=Z,2.0nm,0.8s							
MORC	**Moravsky Berou**	**40.04**	**306**		P		**P**	07 50 19.0 -0.2
ARCES	**ARCESS Array B**	**40.59**	**337**		P		**P**	07 50 24.2 +0.8
	comp=Z,4.2nm,1.0s,baz=118,slow=8.3,SNR=7.3							
CEL	**Celeste**	**43.12**	**289**		P		**P**	07 50 42.2 -2.3
YAK	**Yakutsk**	**43.44**	**36**		*eP*		**P**	07 50 44.7 -1.9
YAK					pmax		pmax	
	comp=Z,11nm,0.9s							
YAK					pmax		pmax	
	comp=N,8.0nm,1.3s							
YAK					pmax		pmax	
	comp=E,10.0nm,1.4s							
NRCA	**Norcia**	**44.02**	**296**		P		**P**	07 50 51.5 -0.2
NRCA					IAmb		IAmb	07 50 57.2
	comp=Z,12nm,1.3s							
TIXI	**Tiksi**	**45.18**	**22**	⇑	*iP*		**P**	07 51 01.1 +0.7
TIXI					pmax		pmax	
	comp=Z,3.0nm,0.6s							
TIXI	**Tiksi**	**45.18**	**22**		P		**P**	07 51 01.5 +1.1
TIXI					IAmb		IAmb	07 51 02.0
	comp=Z,4.2nm,0.6s							
SPA0	**Spitsbergen Ar**	**46.90**	**347**		P		**P**	07 51 16.6 +2.7
MJB9	**Matsu-Tunnel**	**52.68**	**69**		P		**P**	07 52 00.4 +2.1
MJB9					IAmb		IAmb	07 52 08.3
	comp=Z,8.2nm,1.1s							
MAJO	**Matsushiro**	**52.68**	**69**		P		**P**	07 52 00.4 +2.1
MAJO					pmax		pmax	
	comp=Z,9.0nm,1.2s							
MAJO	**Matsushiro**	**52.68**	**69**		P		**P**	07 52 00.4 +2.1
ESDC	**Sonseca Array**	**57.22**	**298**		P		**P**	07 52 32.1 +1.2
	comp=Z,0.7nm,0.5s,baz=58,slow=8.2,SNR=4.7							
BILL	**Bilibino**	**58.03**	**26**	*i*	P		**P**	07 52 37.8 +1.6
BILL					pmax		pmax	
	comp=Z,2.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**65.78**	**268**		P		**P**	07 53 28.4 -0.5
	comp=Z,0.3nm,0.5s,baz=38,slow=6.2,SNR=4.4							
MLY	**Manley**	**73.07**	**17**		P		**P**	07 54 14.3 +1.2
MLY					IAmb		IAmb	07 54 28.9
	comp=Z,6.3nm,1.5s							
ILAR	**Eielson Array**	**74.17**	**16**		P		**P**	07 54 19.4 -0.1
	comp=Z,1.0nm,0.8s,baz=322,slow=3.6,SNR=9.9							
KTH	**Kantishna Hill**	**74.26**	**18**		P		**P**	07 54 21.1 +1.0
KTH					IAmb		IAmb	07 54 21.7
	comp=Z,5.6nm,0.8s							
PPLA	**Purkeypile**	**74.49**	**19**		P		**P**	07 54 22.3 +0.8
PPLA					IAmb		IAmb	07 54 24.7
	comp=Z,12nm,1.3s							
TRF	**Thorofare Moun**	**74.51**	**18**		P		**P**	07 54 24.0 +2.4
TRF					IAmb		IAmb	07 54 34.9
	comp=Z,15nm,1.5s							
MCK	**McKinley**	**74.59**	**17**		P		**P**	07 54 22.8 +0.8
MCK					pmax		pmax	
	comp=Z,7.0nm,1.5s							
MCK	**McKinley**	**74.59**	**17**		P		**P**	07 54 22.8 +0.8
MCK					IAmb		IAmb	07 54 23.5
	comp=Z,6.5nm,1.5s							
RND	**Reindeer**	**74.89**	**17**		P		**P**	07 54 24.3 +0.5
RND					pmax		pmax	
	comp=Z,2.0nm,1.1s							
RND	**Reindeer**	**74.89**	**17**		P		**P**	07 54 24.3 +0.5
SKT	**Skwentna**	**75.42**	**19**		P		**P**	07 54 27.3 +0.5
SKT					IAmb		IAmb	07 54 28.5
	comp=Z,7.1nm,1.1s							
SCRK	**Sand Creek**	**75.49**	**15**		P		**P**	07 54 28.4 +1.2
PAX	**Paxson**	**76.05**	**16**		P		**P**	07 54 31.4 +1.0
PAX					pmax		pmax	
	comp=Z,3.0nm,1.2s							
PAX	**Paxson**	**76.05**	**16**		P		**P**	07 54 31.4 +1.0
SUA	**Susitna One**	**76.06**	**19**		P		**P**	07 54 31.2 +0.7
GHO	**Glory Hole Cre**	**76.27**	**18**		P		**P**	07 54 32.7 +1.0
PMR	**Palmer**	**76.37**	**19**		P		**P**	07 54 32.8 +0.7
PMR	**Palmer**	**76.37**	**19**		P		**P**	07 54 32.8 +0.7
SML	**Sawmill**	**76.38**	**18**		P		**P**	07 54 33.3 +1.0
SML					IAmb		IAmb	07 54 40.5
	comp=Z,14nm,1.3s							
SCM	**Sheep Creek Mo**	**76.61**	**18**		P		**P**	07 54 34.5 +0.9
SCM					pmax		pmax	
	comp=Z,15nm,1.3s							
SCM	**Sheep Creek Mo**	**76.61**	**18**		P		**P**	07 54 34.5 +0.9
SCM					IAmb		IAmb	07 54 45.7
	comp=Z,15nm,1.3s							
RC01	**Rabbit Creek A**	**76.64**	**19**		P		**P**	07 54 34.4 +0.7
BALM	**Baldy**	**78.46**	**16**		P		**P**	07 54 45.2 +1.3
CTGM	**Chitina Glacie**	**78.74**	**15**		P		**P**	07 54 47.4 +1.9
CTGM					IAmb		IAmb	07 54 50.3
	comp=Z,12nm,1.2s							
YKW3	**Yellowknife Ar**	**80.56**	**3**		P		**P**	07 54 54.5 -0.6
YKA	**Yellowknife Ar**	**80.63**	**3**		P		**P**	07 54 56.2 +0.7
	comp=Z,1.3nm,0.5s,baz=350,slow=5.4,SNR=16							
ASAR	**Alice Springs**	**84.57**	**125**		P		**P**	07 55 15.2 -1.3
	comp=Z,0.3nm,0.6s,baz=320,slow=4.8,SNR=5.3							

*ISCJB **20** 07:58:27.7±1.2,53.7°N±0.1°×91.0°E±0.1, h0km, Error ellipse: s-maj=15.4km s-min=9.2km az=163.2*
*IDC **20** 07:58:28.9±1.6,53.90°N×91.17°E, h0km, mb1 3.4/4, mb1mx3.1/56, mbtmp3.4/4, ML2.7/4, Error ellipse: s-maj=26.0km s-min=11.1km az=175.0*
*ASRS **20** 07:58:31.0,53.68°N×91.04°E, M3.3, Industrial explosion*

(after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)
*NNC **20** 07:58:38.7±4.1,53.37°N×90.49°E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=32.6km s-min=25.3km az=72.0, Suspected Mining explosion.*

ISC 20 07:58:29.3±1.4, 53.8°N±0.1°×91.05°E±0.0°, 08, h0km, n11, σ1§50/16, 1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.69**	**274**	⇓P		**Pn**	**Pb**	**07 59 35.1**	**-0.2**
	2.5nm,0.8s								
ZAA0						Lg	Lg	08 00 23.2	
	5.3nm,0.8s								
ZALV	**Zalesovo Beam**	**3.69**	**274**	Pn		**Pn**	**Pn**	**07 59 28.2**	**+0.7**
	0.6nm,0.3s,baz=92,slow=15,SNR=4.7								
ZALV				Pg		**Pb**	**Pb**	**07 59 35.4**	**+0.1**
	2.4nm,0.3s,baz=91,slow=16,SNR=18								
ZALV				Lg		Lg	Lg	08 00 25.2	
	3.2nm,0.3s,baz=91,slow=25,SNR=10								
TLY	**Talaya**	**7.94**	**101**	Pn		**Pn**	**Pn**	**08 00 25.3**	**-0.5**
	0.0nm,0.3s,baz=247,slow=5.3,SNR=2.2								
TLY				Lg		Lg	Lg	08 02 36.1	
	0.0nm,0.3s,baz=17,slow=23,SNR=3.0								
KURK	**Kurchatov**	**8.24**	**253**	Pn		**Pn**	**Pn**	**08 00 30.2**	**+0.2**
	5.4nm,1.0s								
KURK				Sn		**Sn**	**Sn**	**08 02 04.3**	**+0.6**
	10nm,0.9s								
KURK				Lg		Lg	Lg	08 02 47.0	
	16nm,0.9s								
KURBB	**Kurchatov Arra**	**8.33**	**252**	Pn		**Pn**	**Pn**	**08 00 32.6**	**+1.4**
	0.2nm,0.3s,baz=68,slow=14,SNR=8.6								
KURBB				Sn		**Sn**	**Sn**	**08 02 04.9**	**-1.1**
	0.1nm,0.3s,baz=67,slow=26,SNR=13								
KURBB				Lg		Lg	Lg	08 02 53.0	
	0.1nm,0.3s,baz=69,slow=34,SNR=2.0								
KURBB	**Kurchatov Arra**	**8.33**	**252**	Pn		**Pn**	**Pn**	**08 00 32.6**	**+1.4**
	2.0nm,0.3s								
KURBB				Sn		**Sn**	**Sn**	**08 02 04.3**	**-1.7**
	20nm,0.8s								
KURBB				Lg		Lg	Lg	08 02 51.3	
	54nm,0.9s								
MK31	**Makanchi Array**	**9.00**	**222**	Pn		**Pn**	**Pn**	**08 00 41.6**	**+1.2**
	0.9nm,0.7s,baz=39,slow=16,SNR=16								
MK31				Sn		**Sn**	**Sn**	**08 02 22.4**	**-0.2**
	5.6nm,0.9s,baz=40,slow=27,SNR=4.5								
MK31				Lg		Lg	Lg	08 03 06.9	
	12nm,0.9s,baz=35,slow=32,SNR=4.2								
MKAR	**Makanchi Array**	**9.00**	**222**	Pn		**Pn**	**Pn**	**08 00 42.1**	**+1.7**
	0.2nm,0.3s,baz=36,slow=11,SNR=11								
MKAR				Sn		**Sn**	**Sn**	**08 02 22.9**	**+0.4**
	0.2nm,0.3s,baz=44,slow=29,SNR=4.5								
MKAR				Lg		Lg	Lg	08 03 10.6	
	0.0nm,0.3s,baz=42,slow=31,SNR=3.5								
MAKZ	**Makanchi**	**9.12**	**223**	Pn		**Pn**	**Pn**	**08 00 43.5**	**+1.4**
	4.7nm,0.9s								
MAKZ				Sn		**Sn**	**Sn**	**08 02 21.6**	**-3.7**
	3.7nm,0.9s								
MAKZ				Lg		Lg	Lg	08 03 09.7	
	7.6nm,1.1s								
SONM	**Songino Array**	**11.40**	**116**	Lg		Lg	Lg	08 04 29.9	
	baz=297,slow=30,SNR=9.7								
I34MN	**SONGINO INFRAS**	**11.43**	**116**	*i*				09 05 50.0	
	baz=311,slow=330,SNR=1.5								

*ISCJB **20** 08:00:25.5±0.6, 73.33°N±0.04°×70.6°W±0.2, h10km, Error ellipse: s-maj=7.3km s-min=5.3km az=19.1*
*OTT **20** 08:00:30.7±0.2, 73.31°N×70.41°W, h18km, ML3.6/8, Baffin Bay Seismic Zone. 257km east from Pond Inlet, Nu*

ISC 20 08:00:26.3±0.8, 73.21°N±0.05°×70.41°W±0.06, h10km, n12, σ3§55/21, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CLRN	**Clyde River**	**2.81**	**167**			PN	**Pb**	**08 01 16.9**	**+0.4**
CLRN						SN	**Sb**	**08 01 48.6**	**-2.3**
CLRN						Trac		08 01 50.6	
	comp=Z,49nm,0.1s								
TULEG	**Thule**	**3.37**	**6**			PN	**Pn**	**08 01 20.8**	**+2.0**
TULEG						SN	**Sn**	**08 01 56.2**	**-2.6**
TULEG						Trac		08 01 56.7	
	comp=Z,42nm,0.3s								
KULLO	**Kullorsuaq**	**3.92**	**63**			PN	**Pn**	**08 01 29.9**	**+3.5**
KULLO						SN	**Sn**	**08 02 11.4**	**-1.0**
KULLO						Trac		08 02 12.0	
	comp=Z,50nm,0.1s								
ILON	**Igloolik, Nuna**	**5.32**	**229**			PN	**Pn**	**08 01 49.9**	**+4.2**
ILON						SN	**Sn**	**08 02 47.9**	**+1.0**
ILON						Trac		08 02 49.6	
	comp=Z,3.1nm,0.1s								
RES	**Resolute Bay**	**6.92**	**294**			PN	**Pn**	**08 02 09.0**	**+1.5**
RES						SN	**Sn**	**08 03 22.9**	**-3.3**
RES						Trac		08 03 25.1	
	comp=Z,5.9nm,0.6s								
EUNU	**Eureka**	**7.76**	**339**			PN	**Pn**	**08 02 20.5**	**+1.3**
EUNU						SN	**Sn**	**08 03 41.8**	**-5.2**
EUNU						Trac		08 03 45.2	
	comp=Z,176nm,3.0s								
SFJD	**Kangerlussuaq**	**9.14**	**123**			PN	Pn	08 02 43.4	+5.4
SFJD						SN	**Sn**	**08 04 15.7**	**-5.0**
SFJD						Trac		08 04 20.8	
	comp=Z,59nm,1.8s								
SUMG	**Summit**	**9.37**	**78**	*i*	P		**Pn**	**08 02 45.2**	**+3.7**
FRB	**Frobisher Bay**	**9.54**	**175**			PN	**Pn**	**08 02 47.9**	**+4.4**
FRB						SN	**Sn**	**08 04 27.8**	**-2.7**
FRB						Trac		08 04 34.0	
	comp=Z,5.8nm,0.2s								
KNGQ	**Kangiqsujuaq**	**11.70**	**184**			PN	**Pn**	**08 03 15.8**	**+2.8**
KNGQ						Trac		08 05 18.4	
	comp=Z,12nm,0.3s								
KNGQ						SN	**Sn**	**08 05 19.4**	**-4.0**
DAG	**Danmarks Havn**	**13.45**	**51**	*i*	P		**Pn**	**08 03 37.1**	**+0.2**
KAJQ	**Kangiqsualujju**	**14.69**	**171**			PN	**Pn**	**08 03 56.4**	**+2.5**
KAJQ						Trac		08 06 29.0	
	comp=E,0.5nm,0.0s								
KAJQ						SN	**Sn**	**08 06 29.9**	**-6.5**

*IDC **20** 08:03:07.7±0.8, 31.73°N×72.01°E, h0km, mb4.1/14, mb1 4.2/19, mb1mx4.0/58, mbtmp4.1/19, ML3.9/5, MS3.2/2, Ms1 3.2/2, ms1mx2.8/39, Error ellipse: s-maj=19.9km s-min=16.4km az=51.0*
*ISCJB **20** 08:03:08.3±0.3, 31.81°N±0.03°×72.14°E±0.04, h10km, mb4.2/27, MS3.5/1, Error ellipse: s-maj=5.0km s-min=4.0km az=137.8*
*MOS **20** 08:03:11.1±1.2, 31.85°N×72.02°E, h28km, mb4.5/13, Error ellipse: s-maj=11.4km s-min=5.2km az=90.8*
*NEIC **20** 08:03:11.7±2.7, 31.75°N±0.06°×72.02°E±0.09, h20km±3km, mb4.4/17*
*NNC **20** 08:03:19.7±4.7, 32.27°N×71.80°E, h57km±57km, mb4.3, Error ellipse: s-maj=77.4km s-min=32.3km az=107.0*
*BJI **20** 08:03:20.1±0.0, 32.35°N×72.21°E, h45km, mb4.7/15, mB5.0/11, ML4.4/2, Ms4.1/4, Ms7 3.8/4*

ISC 20 08:03:10.7±0.5, 31.82°N±0.05°×72.02°E±0.05, h10km, n121, σ2§25/123, mb4.3/33, 7C-6D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIL	**Nilore**	**2.10**	**29**			P	**Pn**	**08 03 47.6**	**+1.6**
NIL								08 04 16.4	
NIL	**Nilore**	**2.10**	**29**				**Pn**	**08 03 47.6**	**+1.6**
NIL							**Sb**	**08 04 16.4**	**+1.2**
KBL	**Kabul**	**3.69**	**318**	P			**Pn**	**08 04 08.8**	**+0.9**
KBL	**Kabul**	**3.69**	**318**				**Pn**	**08 04 08.8**	**+0.9**
BHK	**Bhakra**	**3.78**	**95**	*eP*		Pg	08 04 34.2	+11	
BHK				*eS*			**Sg**	**08 05 10.2**	**-1.8**
JASL	**Jaisalmer**	**4.97**	**192**	*eP*			**Pn**	**08 04 26.0**	**+0.6**
JASL				*eS*			**Sn**	**08 05 17.1**	**-5.8**
KUDL	**Kundal**	**5.33**	**132**	*eP*		Pn	08 04 24.3	-6.1	
KUDL				*eS*			**Sn**	**08 05 25.4**	**-6.4**
KUDL					IAML			08 06 01.6	
	comp=E,322nm,0.4s								
NDI	**New Delhi**	**5.48**	**123**	*eP*			**Pn**	**08 04 33.0**	**+0.6**
AYAN	**Aya Nagar**	**5.53**	**126**	*eP*			**Pn**	**08 04 33.5**	**+0.4**
AYAN				*eS*			**Sn**	**08 05 30.9**	**-6.0**
CHGR	**Chuyangaron**	**7.21**	**342**				**Pn**	**08 04 55.4**	**-0.9**
GAR	**Garm**	**7.30**	**350**				**Pn**	**08 04 58.2**	**+0.7**
BTK	**Batken**	**8.28**	**354**	P			**Pn**	**08 05 13.9**	**+3.0**
BTK	**Batken**	**8.28**	**354**				**Pn**	**08 05 13.9**	**+3.0**
KSH	**Kashi**	**8.33**	**22**	P			**Pn**	**08 05 09.4**	**-2.2**
KSH				smax		smax			
	comp=E,290nm,1.1s								
KSH				smax		smax			
	comp=E,270nm,1.1s								
ARSB	**Arslanbob**	**9.52**	**4**				**Pn**	**08 05 28.4**	**+0.4**
NRN	**Naryn**	**10.12**	**17**	P			**Pn**	**08 05 37.3**	**+1.0**
NRN	**Naryn**	**10.12**	**17**				**Pn**	**08 05 37.3**	**+1.0**
AML	**Almayashu**	**10.38**	**7**	P			**Pn**	**08 05 40.5**	**+0.5**
	SNR=12								
KZA	**Kyzart**	**10.56**	**13**	P			**Pn**	**08 05 42.9**	**+0.4**
	SNR=14								
UCH	**Uchtor**	**10.58**	**10**	P			**Pn**	**08 05 41.6**	**-1.2**
	SNR=11								
DANN	**Dangsing**	**10.74**	**106**	*eP*			**Pn**	**08 05 43.9**	**-1.0**
	comp=E,39nm,0.7s								
KOLN	**Koldanda**	**10.84**	**109**	*eP*			**Pn**	**08 05 46.3**	**+0.2**
EKS2	**Erkin-Say**	**10.92**	**7**	P			**Pn**	**08 05 47.8**	**+0.8**
	SNR=8.4								
TARG	**Taragay, Kyrgy**	**10.93**	**23**				**Pn**	**08 05 48.2**	**+0.7**
AAK	**Ala-Archa**	**10.98**	**10**	P			**Pn**	**08 05 49.9**	**+2.0**
AAK				S			**Sn**	**08 07 46.7**	**-4.2**
AAK				pmax			pmax		
	comp=Z,7.0nm,0.6s								
AAK				smax			smax		
	comp=N,23nm,1.1s								
AAK	**Ala-Archa**	**10.98**	**10**	Pn			**Pn**	**08 05 48.8**	**+0.9**
	comp=N,2.5nm,0.3s,baz=185,slow=7.6,SNR=25								
AAK				Sn			**Sn**	**08 07 45.3**	**-5.6**
	comp=N,0.4nm,0.3s,baz=341,slow=12,SNR=2.8								
AAK				LR			LR	08 09 31.9	
	comp=N,69nm,20.9s,baz=268,slow=35								
AAK	**Ala-Archa**	**10.98**	**10**	P			**Pn**	**08 05 52.1**	**+4.1**
	SNR=12								
AAK	**Ala-Archa**	**10.98**	**10**				**Pn**	**08 05 49.3**	**+1.3**
AAK	**Ala-Archa**	**10.98**	**10**	⇓P			**Pn**	**08 05 50.0**	**+2.0**
	comp=N,7.0nm,0.6s								
AAK				S			**Sn**	**08 07 46.8**	**-4.2**
	comp=N,23nm,1.1s								
BOOM	**Boomskoye usch**	**11.10**	**15**	P			**Pn**	**08 05 50.4**	**+0.7**
BOOM	**Boomskoye usch**	**11.10**	**15**				**Pn**	**08 05 50.4**	**+0.7**
KK31	**Karatay Array**	**11.33**	**354**	*i*	P		**Pn**	**08 05 51.3**	**-1.3**
KK31				*eS*			**Sn**	**08 07 54.0**	**-5.3**
KK31				pmax			pmax		
	comp=Z,4.0nm,0.5s								
KK31				smax			smax		
	comp=N,16nm,0.9s								
KK31	**Karatay Array**	**11.33**	**354**				**Pn**	**08 05 51.2**	**-1.3**
KK31	**Karatay Array**	**11.33**	**354**	P			**Pn**	**08 05 51.3**	**-1.3**
	comp=N,3.8nm,0.5s,baz=178,slow=12,SNR=42								
KK31				⇑S			**Sn**	**08 07 54.0**	**-5.3**
	comp=N,16nm,0.8s,baz=181,slow=23,SNR=9.4								
KKAR	**Karatay Array**	**11.33**	**354**	P			**Pn**	**08 05 51.2**	**-1.4**
KKAR	**Karatay Array**	**11.33**	**354**				**Pn**	**08 05 51.2**	**-1.4**
TKM2	**Tokmak 2**	**11.44**	**13**	*i*	P		**Pn**	**08 05 54.6**	**+0.3**
TKM2					pmax		pmax		
	comp=Z,6.0nm,0.7s								
TKM2	**Tokmak 2**	**11.44**	**13**		P		**Pn**	**08 05 55.3**	**+1.0**
	SNR=8.8								
TKM2	**Tokmak 2**	**11.44**	**13**	⇓	P		**Pn**	**08 05 54.7**	**+0.3**
	comp=Z,5.9nm,0.7s								
TKM2				⇑	S		**Sn**	**08 07 56.7**	**-5.6**
	comp=Z,7.4nm,0.8s								
GKN	**Gorkha**	**11.59**	**106**	*eP*			**Pn**	**08 05 54.8**	**-1.6**
	comp=Z,47nm,0.5s								
PRZ	**Przheval'sk**	**11.80**	**24**	P			**Pn**	**08 06 01.5**	**+2.3**
PRZ	**Przheval'sk**	**11.80**	**24**				**Pn**	**08 06 01.5**	**+2.3**
DMN	**Daman**	**12.12**	**107**	*eP*			**Pn**	**08 06 02.0**	**-1.8**
KKN	**Kakani**	**12.20**	**106**	*eP*			**Pn**	**08 06 02.4**	**-2.3**
	comp=Z,92nm,0.6s								
PKIN	**Phulchoki**	**12.38**	**107**	*eP*			**Pn**	**08 06 04.8**	**-2.4**
	comp=Z,20nm,0.5s								
PKI	**Pulchoki**	**12.39**	**107**	*eP*			**Pn**	**08 06 05.5**	**-1.9**
	comp=Z,4.3nm,0.6s								
GUN	**Gumba**	**12.64**	**104**	*eP*			**Pn**	**08 06 08.2**	**-2.8**
GEYT	**Ailbeck**	**12.93**	**302**	Pn			**Pn**	**08 06 14.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=75,slow=17,SNR=2.1								
JIRN	**Jiri**	**12.99**	**105**	*eP*			Pn	08 06 12.2	-3.6
	comp=Z,35nm,0.5s								
RAMN	**Ramite**	**13.61**	**107**	*eP*			Pn	08 06 19.8	-4.2
	comp=Z,26nm,0.6s								
TAPN	**Taplejung**	**14.36**	**104**	*eP*			Pn	08 06 27.7	-6.7
	comp=Z,15nm,0.5s								
WSAR	**Wadi Sarin**	**14.62**	**238**	Pn			**Pn**	**08 06 36.2**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=117,slow=17,SNR=2.1								
WSAR				Sn			Sn	08 09 03.8	-16
	comp=Z,0.3nm,0.3s,baz=240,slow=2.3,SNR=2.3								
MAKZ	**Makanchi**	**16.82**	**24**	P			**Pn**	**08 07 05.5**	**-0.7**
MAKZ				pmax			pmax		
	comp=Z,12nm,1.2s								
MAKZ	**Makanchi**	**16.82**	**24**	Pn			**Pn**	**08 07 05.5**	**-0.7**
MK31	**Makanchi Array**	**16.91**	**25**	P			**Pn**	**08 07 07.6**	**+0.2**
MK31				pmax			pmax		
	comp=Z,3.0nm,0.8s								
MK31	**Makanchi Array**	**16.91**	**25**				**Pn**	**08 07 07.6**	**+0.2**

KMI					pmax	pmax		
	comp=Z,15nm,0.5s							
KMI					pmax	pmax		
	comp=Z,140nm,4.1s							
SONM	**Songino Array**	**30.56**	**48**	P	**P**		**08 09 23.4**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=268,slow=12,SNR=4.6							
VSR	**Storozhevoye**	**30.94**	**318**	*i* P	**P**		**08 09 27.9**	**+0.3**
VSR					pmax	pmax		
	comp=Z,29nm,2.9s							
HHC	**Hu-ho-hao-te**	**32.88**	**63**	*e*P	**P**		**08 09 49.4**	**+4.4**
HHC					pmax	pmax		
	comp=Z,4.0nm,1.1s							
PRGR	**Permogore**	**34.40**	**338**	*e*P	P		08 09 52.7	-5.0
PRGR					pmax	pmax		
	comp=Z,7.0nm,0.5s							
KLYT	**Kilyos**	**35.48**	**298**	⇓P	**P**		**08 10 10.1**	**+2.7**
WHN	**Wuhan**	**36.08**	**81**	P	P		08 10 19.4	+6.8
MLR	**Muntele Rosu**	**37.97**	**305**	P	**P**		**08 10 30.2**	**+1.5**
MLR					pmax	pmax		
	comp=Z,8.0nm,0.9s							
MLR	**Muntele Rosu**	**37.97**	**305**	⇓P	**P**		**08 10 29.3**	**+0.6**
MLR	**Muntele Rosu**	**37.97**	**305**	P	**P**		**08 10 30.2**	**+1.5**
MLR					IAmb	IAmb	08 10 32.9	
	comp=Z,8.4nm,0.9s							
VOIR		**38.59**	**304**	⇑P	**P**		**08 10 33.8**	**-0.1**
BURAR	**Bucovina Array**	**38.68**	**308**	⇑P	**P**		**08 10 34.4**	**-0.3**
BUR08	**Bucovina Ar. S**	**38.70**	**308**	P	**P**		**08 10 34.5**	**-0.2**
NJ2	**Nanjing**	**39.50**	**77**	*e*P	**P**		**08 10 45.4**	**+3.8**
NJ2					pmax	pmax		
	comp=Z,17nm,0.5s							
VSU	**Vasula**	**40.43**	**325**	*i* P	**P**		**08 10 49.1**	**+0.2**
VSU					pmax	pmax		
	comp=Z,38nm,1.0s							
FINES	**FINESS Array B**	**41.88**	**329**	P	**P**		**08 11 00.8**	**+0.1**
	comp=Z,3.7nm,1.0s,baz=100,slow=13,SNR=1.9							
BLY	**Banja Luka**	**44.15**	**303**	P	**P**		**08 11 21.1**	**+1.6**
BLY					IAmb	IAmb	08 11 22.7	
	comp=Z,20nm,1.4s							
ARCES	**ARCESS Array B**	**45.80**	**339**	P	**P**		**08 11 31.3**	**-0.9**
	comp=Z,2.8nm,0.7s,baz=112,slow=6.3,SNR=12							
GERES	**GERESS Array B**	**46.43**	**309**	P	**P**		**08 11 36.9**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=110,slow=7.3,SNR=4.8							
KLR	**Kul'dur**	**47.35**	**50**	*i* P	**P**		**08 11 45.0**	**+0.3**
KLR					pmax	pmax		
	comp=Z,4.0nm,1.5s							
YAK	**Yakutsk**	**47.36**	**33**	P	**P**		**08 11 45.8**	**+1.3**
YAK	**Yakutsk**	**47.36**	**33**	LR	LR		08 33 28.3	
	comp=Z,46nm,18.8s,baz=332,slow=38							
NC405	**NORSAR Array S**	**48.44**	**326**	P	**P**		**08 11 54.7**	**+1.8**
NB201	**NORSAR Array S**	**48.63**	**326**	P	**P**		**08 11 55.9**	**+1.4**
NB2	**NORSAR Subarra**	**48.67**	**326**	P	**P**		**08 11 54.0**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**48.67**	**326**	P	**P**		**08 11 54.1**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=97,slow=7.6,SNR=5.0							
NC204	**NORSAR Array S**	**48.92**	**326**	P	**P**		**08 11 58.6**	**+1.9**
NC204					IAmb	IAmb	08 12 12.4	
	comp=Z,8.7nm,0.9s							
TIXI	**Tiksi**	**49.83**	**20**	*i* P	**P**		**08 12 03.2**	**-0.2**
TIXI					pmax	pmax		
	comp=Z,1.0nm,1.0s							
SENIN	**Lac Senin/Sane**	**50.93**	**306**	P	**P**		**08 12 13.1**	**+0.7**
SENIN					IAmb	IAmb	08 12 13.7	
	comp=Z,2.6nm,0.7s							
SPA0	**Spitsbergen Ar**	**52.23**	**348**	P	**P**		**08 12 22.7**	**+1.3**
TORD	**Torodi Ar. Bea**	**66.56**	**271**	P	P		08 13 59.1	-2.2
	comp=Z,1.8nm,0.6s,baz=53,slow=4.9,SNR=12							
NWAO	**Narrogin (SRO)**	**77.26**	**142**			pP	08 15 10.9	+2.4
WRA	**Warramunga Arr**	**78.81**	**122**	P	**P**		**08 15 12.7**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=320,slow=5.3,SNR=19							
AS31	**Alice Springs**	**80.89**	**125**	P	**P**		**08 15 24.6**	**-0.7**
AS31					IAmb	IAmb	08 15 26.4	
	comp=Z,1.1nm,0.6s							
ASAR	**Alice Springs**	**80.89**	**125**	P	**P**		**08 15 24.1**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=310,slow=5.2,SNR=22							
OHAK	**Old Harbor**	**83.42**	**23**	P	**P**		**08 15 41.9**	**+3.8**
YKA	**Yellowknife Ar**	**85.87**	**3**	P	**P**		**08 15 48.0**	**-2.3**
YKA	**Yellowknife Ar**	**85.87**	**3**	P	**P**		**08 15 48.0**	**-2.3**
	comp=Z,0.2nm,0.5s,baz=346,slow=5.0,SNR=4.0							
GO02	**Mina Guanaco**	**145.74**	**271**		PKPdf	**PKPdf**	**08 22 51.6**	**+1.4**
GO04	**Tololo Observa**	**148.18**	**263**			**PKPdf**	**08 22 57.1**	**+3.0**

*SOME **20** 08:08:24.3, 41.08N×80.05E, h10km*
*KRNET **20** 08:08:25.2±0.1, 40.92N×79.93E, mb3.0*
*NNC **20** 08:08:27.9±2.4, 41.29N×80.28E, h0km, mb3.7, mpv3.4,*
Error ellipse: s-maj=17.1km s-min=13.3km az=158.0

ISC 20 08:08:22.0±2.2, 41.02N±0.09×80.07E±0.06, h10km, n47, σ1§49/73, 9C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.84**	**293**	⇓*i*P		**Pg**	**08 08 58.1**	**+0.8**
	baz=97							
TARG				⇓*i*S		**Sg**	**08 09 22.8**	**+1.5**
	baz=97							
PRZ	**Przheval'sk**	**1.92**	**320**	⇑*i*P		**Pg**	**08 09 01.1**	**+2.3**
	baz=25							
PRZ				⇑*i*S		**Sg**	**08 09 26.5**	**+2.8**
	baz=25							
SHLS	**Shalkode**	**2.18**	**348**	*e*P		**Pg**	**08 09 03.5**	**-0.3**
	28nm,0.2s							
SHLS				*e*S		**Sg**	**08 09 31.7**	**-0.4**
	111nm,0.4s							
SHLS	**Shalkode**	**2.18**	**348**	Pg		**Pg**	**08 09 03.5**	**-0.3**
	28nm,0.2s							
SHLS				Lg		Lg	08 09 31.7	
	111nm,0.4s							
UZB	**Uzynbulak**	**2.26**	**340**	*e*P		**Pg**	**08 09 05.7**	**+0.3**
	10nm,0.3s							
UZB				*e*S		**Sg**	**08 09 35.5**	**+0.8**
	41nm,0.5s							
UZB	**Uzynbulak**	**2.26**	**340**	Pg		**Pg**	**08 09 05.7**	**+0.3**
	10nm,0.3s							
UZB				Lg		Lg	08 09 35.5	
	41nm,0.5s							
PDGK	**Podgornoye**	**2.35**	**350**	Pg		**Pg**	**08 09 05.7**	**-1.3**
	5.4nm,0.4s							
PDGK				Lg		Lg	08 09 36.3	
	18nm,0.5s							
PDGK	**Podgornoye**	**2.35**	**350**	⇓Pn		**Pg**	**08 09 06.0**	**-1.0**
	5.3nm,0.4s							
PDGK				⇑Lg		Lg	08 09 35.7	
	29nm,0.6s							
SATY	**Saty**	**2.38**	**329**	*e*P		**Pg**	**08 09 07.8**	**+0.1**
	20nm,0.4s							
SATY				*e*S		**Sg**	**08 09 39.2**	**+0.7**
	81nm,0.4s							
SATY	**Saty**	**2.38**	**329**	Pg		**Pg**	**08 09 07.8**	**+0.1**
	20nm,0.4s							
SATY				Lg		Lg	08 09 39.2	
	81nm,0.4s							
KDJ	**Kajisay**	**2.43**	**298**	⇑*i*P		**Pg**	**08 09 07.1**	**-1.5**
	baz=1.0							
KDJ				⇑*i*S		**Sg**	**08 09 37.8**	**-2.3**
	baz=1.0							
ZHN	**Zhinishke**	**2.46**	**331**	*e*P		**Pg**	**08 09 09.3**	**+0.1**
	17nm,0.2s							
ZHN				*e*S		**Sg**	**08 09 41.7**	**+0.5**
	21nm,0.2s							
ZHN	**Zhinishke**	**2.46**	**331**	Pg		**Pg**	**08 09 09.3**	**+0.1**
	17nm,0.2s							
ZHN				Lg		Lg	08 09 41.7	
	21nm,0.2s							
ANVS	**Anan'yevo**	**2.51**	**315**	⇓*i*P		**Pg**	**08 09 08.7**	**-1.4**
	baz=19							
ANVS				⇓*i*S		**Sg**	**08 09 41.1**	**-1.6**
	baz=19							
KPKS	**Kokpek**	**2.65**	**338**	*e*P		**Pg**	**08 09 12.6**	**-0.2**
	25nm,0.2s							
KPKS				*e*S		**Sg**	**08 09 47.3**	**+0.2**
	96nm,0.4s							
KURS	**Kuram**	**2.84**	**331**	*e*P		**Pg**	**08 09 15.8**	**-0.6**
	6.1nm,0.3s							
KURS				*e*S		**Sg**	**08 09 53.0**	**-0.2**
	34nm,0.4s							
KURS	**Kuram**	**2.84**	**331**	Pg		**Pg**	**08 09 15.8**	**-0.6**
	6.1nm,0.3s							
KURS				Lg		Lg	08 09 53.0	
	34nm,0.4s							
TNSS	**Tian-Shan**	**3.08**	**312**	*e*P		**Pg**	**08 09 20.6**	**-0.4**
	6.2nm,0.2s							
TNSS				*e*S		**Sg**	**08 10 01.1**	**+0.3**
	28nm,0.3s							
TNSS	**Tian-Shan**	**3.08**	**312**	Pg		**Pg**	**08 09 20.6**	**-0.4**
	6.2nm,0.2s							
TNSS				Lg		Lg	08 10 01.1	
	28nm,0.3s							
MDOK	**Medeo**	**3.10**	**315**	*e*P		**Pg**	**08 09 20.4**	**-1.1**
	3.5nm,0.4s							
MDOK				*e*S		**Sg**	**08 10 00.8**	**-0.8**
	26nm,0.5s							
MDOK	**Medeo**	**3.10**	**315**	Pn		**Pg**	**08 09 19.4**	**-2.0**
	4.4nm,0.6s							
MDOK				Sn		**Sb**	**08 09 57.7**	**+2.4**
	19nm,0.5s							
MDOK	**Medeo**	**3.10**	**315**	Pg		**Pg**	**08 09 20.4**	**-1.1**
	3.5nm,0.4s							
MDOK				Lg		Lg	08 10 00.8	
	26nm,0.5s							
KOTS	**Kotyrbulak**	**3.12**	**316**	*e*P		**Pg**	**08 09 20.6**	**-1.1**
	14nm,0.2s							
KOTS				*e*S		**Sg**	**08 10 00.9**	**-1.2**
	86nm,0.5s							
KOTS	**Kotyrbulak**	**3.12**	**316**	Pg		**Pg**	**08 09 20.6**	**-1.1**
	14nm,0.2s							
KOTS				Lg		Lg	08 10 02.0	
	86nm,0.5s							
DJR	**Jarkent**	**3.32**	**357**	*e*P		**Pg**	**08 09 23.5**	**-2.0**
	0.4nm,0.1s							
DJR				*e*S		**Sg**	**08 10 06.4**	**-2.0**
	9.4nm,0.3s							
DJR	**Jarkent**	**3.32**	**357**	Pg		**Pg**	**08 09 23.5**	**-2.0**
	1.0nm,0.3s							
DJR				Lg		Lg	08 10 06.4	
	8.2nm,0.4s							
BOOM	**Boomskoye usch**	**3.42**	**297**	⇑*i*P		**Pb**	**08 09 21.1**	**-1.6**
	baz=99							
BOOM				⇑*i*S		**Sb**	**08 10 01.4**	**-3.0**
	baz=99							
MTBS	**Maitube**	**3.43**	**309**	*e*P		**Pg**	**08 09 26.4**	**-1.3**
	4.7nm,0.3s							
MTBS				*e*S		**Sg**	**08 10 11.1**	**-1.0**
	15nm,0.4s							
MTBS	**Maitube**	**3.43**	**309**	Pg		**Pg**	**08 09 26.4**	**-1.3**
	4.7nm,0.3s							
MTBS				Lg		Lg	08 10 11.1	
	15nm,0.4s							
ARXS	**Arharly**	**3.59**	**333**	*e*P		**Pg**	**08 09 28.7**	**-2.1**
	3.5nm,0.3s							
ARXS				*e*S		**Sg**	**08 10 15.2**	**-2.2**
	16nm,0.4s							
ARXS	**Arharly**	**3.59**	**333**	Pg		**Pg**	**08 09 28.7**	**-2.1**
	3.5nm,0.3s							
ARXS				Lg		Lg	08 10 15.2	
	16nm,0.4s							
CHKK	**Chushkaly**	**3.63**	**322**	*e*P		**Pg**	**08 09 29.9**	**-1.6**
	4.7nm,0.3s							
CHKK				*e*S		**Sg**	**08 10 17.4**	**-1.3**
	36nm,0.4s							
CHKK	**Chushkaly**	**3.63**	**322**	Pg		**Pg**	**08 09 29.9**	**-1.6**
	4.7nm,0.3s							
CHKK				Lg		Lg	08 10 17.4	
	36nm,0.4s							
KST	**Kastek**	**3.66**	**305**	*e*P		**Pg**	**08 09 30.8**	**-1.4**
	5.8nm,0.4s							
KST				*e*S		**Sg**	**08 10 18.9**	**-0.7**
	27nm,0.6s							
KST	**Kastek**	**3.66**	**305**	Pg		**Pg**	**08 09 30.8**	**-1.4**
	5.8nm,0.4s							
KST				Lg		Lg	08 10 18.9	
	27nm,0.6s							
KTBS	**Karatobe**	**3.68**	**318**	*e*P		**Pg**	**08 09 30.8**	**-1.6**
	2.3nm,0.4s							
KTBS				*e*S		**Sg**	**08 10 18.9**	**-1.1**
	23nm,0.6s							
KTBS	**Karatobe**	**3.68**	**318**	Pg		**Pg**	**08 09 30.8**	**-1.6**
	2.3nm,0.4s							
KTBS				Lg		Lg	08 10 18.9	
	23nm,0.6s							
TKM2	**Tokmak 2**	**3.83**	**301**	⇑Pn		**Pb**	**08 09 30.8**	**+1.0**
	1.9nm,0.5s							
TKM2				⇓Sn		**Sb**	**08 10 18.4**	**+2.0**
	8.0nm,0.7s							
DGS	**Degeres**	**3.89**	**306**	*e*P		**Pg**	**08 09 35.1**	**-1.4**
	4.1nm,0.5s							
DGS				*e*S		**Sg**	**08 10 25.7**	**-1.1**
	12nm,0.4s							
DGS	**Degeres**	**3.89**	**306**	Pg		**Pg**	**08 09 35.1**	**-1.4**
	4.1nm,0.5s							
DGS				Lg		Lg	08 10 26.6	
	12nm,0.4s							
KUU	**Kurty**	**3.98**	**317**	*e*P		**Pg**	**08 09 36.1**	**-2.1**
	2.5nm,0.4s							
KUU				*e*S		**Sg**	**08 10 27.7**	**-2.1**
	12nm,0.4s							
KUU	**Kurty**	**3.98**	**317**	Pg		**Pg**	**08 09 36.1**	**-2.1**
	2.5nm,0.4s							
KUU				Lg		Lg	08 10 27.7	
	12nm,0.4s							
KAPS	**Kapalarasan**	**4.29**	**353**	*e*P		**Pg**	**08 09 42.0**	**-2.2**
	1.7nm,0.4s							
KAPS				*e*S		**Sg**	**08 10 38.3**	**-1.5**
	5.9nm,0.4s							
KAPS	**Kapalarasan**	**4.29**	**353**	Pg		**Pg**	**08 09 42.1**	**-2.2**
	1.7nm,0.4s							
KAPS				Lg		Lg	08 10 38.3	
	5.9nm,0.4s							
AAK	**Ala-Archa**	**4.46**	**293**	Pn		**Pb**	**08 09 40.4**	**-0.2**
	4.3nm,1.1s							
AAK				Lg		Lg	08 10 54.1	
	6.2nm,0.8s							
MAKZ	**Makanchi**	**5.95**	**13**	⇓Pn		Pn	08 09 55.2	+5.1
	3.3nm,0.8s							
MAKZ				⇓Sn		**Sn**	**08 11 01.1**	**+2.9**
	2.6nm,0.9s							
MK31	**Makanchi Array**	**5.99**	**15**	⇑Pn		**Pn**	**08 09 52.0**	**+1.3**
	0.7nm,0.6s,baz=178,slow=14,SNR=5.3							
MK31				⇓Sn		**Sn**	**08 11 00.5**	**+1.2**
	4.5nm,0.8s,baz=185,slow=26,SNR=7.3							

*NIED **20** 08:18:00, 24.20N×122.60E, h41km, Mw3.8 Best double couple: M0 5.75000×10^14 NP1:ϕs221.00000°, δ34.00000°, λ102.00000°. NP2:ϕs26.00000°, δ56.00000°, λ82.00000°.*
*ISCJB **20** 08:18:45.7±0.2, 24.26N±0.02×122.60E±0.01, h47km±6km, Error ellipse: s-maj=2.7km s-min=1.9km az=169.8*
*JMA **20** 08:18:45.1±0.2, 24.23N×122.59E, h52km±2km, M3.7*
*TAP **20** 08:18:45.6, 24.27N×122.60E, h54km, ML4.3, C*

ISC 20 08:18:46.1±1.2, 24.26N±0.03×122.60E±0.02, h46km±10km, n136, σ1§09/226, 7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.37**	**59**	P		**Pn**	**08 18 55.9**	**+0.2**
JYNG				S		**Sn**	**08 19 03.0**	**+0.6**
YOJ	**Yonaguni jima**	**0.43**	**62**	P		**Pn**	**08 18 56.5**	**+0.2**
YOJ				S		**Sn**	**08 19 03.7**	**+0.2**
YOJ	**Yonaguni jima**	**0.43**	**62**	P		**Pn**	**08 18 56.6**	**+0.2**
	baz=55							
YOJ				*e*S		**Sn**	**08 19 03.8**	**+0.2**
	baz=55							
EOS1	**EOS1**	**0.52**	**304**	P		**Pn**	**08 18 57.8**	**+0.5**
	baz=312							
TWC	**Suao**	**0.77**	**297**	⇓P		**Pn**	**08 19 00.6**	**0.0**
	baz=305							
TWC				*e*S		**Sn**	**08 19 10.9**	**-0.2**
	baz=305							
NANB	**Nanao**	**0.79**	**283**	*e*P		**Pn**	**08 19 00.9**	**0.0**
	baz=281							
NANB				*e*S		**Sn**	**08 19 12.3**	**+0.6**
	baz=281							
ENA	**Nanau**	**0.80**	**282**	P		**Pn**	**08 19 00.9**	**-0.1**
	baz=281							
ENA				*e*S		**Sn**	**08 19 12.3**	**+0.4**
	baz=281							
EGS		**0.84**	**314**	*e*P		**Pn**	**08 19 01.5**	**-0.1**
	baz=318							
NTC	**Toucheng**	**0.92**	**311**	*e*P		**Pn**	**08 19 02.8**	**+0.2**
	baz=309							
NACB	**Ninganchiao**	**0.92**	**265**	*e*P		**Pn**	**08 19 02.4**	**-0.2**
	baz=264							
NACB				*e*S		**Sn**	**08 19 14.3**	**-0.5**
	baz=264							
ILA	**Ilan**	**0.92**	**303**	*e*P		**Pn**	**08 19 03.5**	**+0.8**
	baz=309							
ILA				*e*S		**Sn**	**08 19 15.2**	**+0.3**
	baz=309							
TWB1	**Santiao Chiao**	**0.93**	**324**	*e*P		**Pn**	**08 19 02.6**	**-0.2**
	baz=322							
TWB1				*e*S		**Sn**	**08 19 13.6**	**-1.4**
	baz=322							
TWD	**Chiawan**	**0.93**	**259**	P		**Pn**	**08 19 02.5**	**-0.3**
	baz=248							
TWD				*e*S		**Sn**	**08 19 14.4**	**-0.7**
	baz=248							
HWA	**Hwalien**	**0.95**	**253**	*e*P		**Pn**	**08 19 03.2**	**+0.1**
	baz=252							
TWE	**Neicheng**	**0.96**	**299**	P		**Pn**	**08 19 03.8**	**+0.5**
	baz=303							
TWE				*e*S		**Sn**	**08 19 16.4**	**+0.5**
	baz=303							
ENLB	**Shoufeng**	**0.97**	**249**	*e*P		**Pn**	**08 19 02.4**	**-1.0**
	baz=240							
TIPB	**Shuangxi**	**1.00**	**316**	*e*P		**Pn**	**08 19 03.5**	**-0.3**
	baz=322							
TIPB				*e*S		**Sn**	**08 19 16.2**	**-0.6**
	baz=322							
SLBB	**Yuanshan**	**1.00**	**300**	*e*P		**Pn**	**08 19 03.4**	**-0.5**
	baz=307							
ENTT	**Nioudou**	**1.01**	**292**	P		**Pn**	**08 19 04.7**	**+0.7**
	baz=281							
ENTT				*e*S		**Sn**	**08 19 17.6**	**+0.5**
	baz=281							
ETLH	**Xiulin Townshi**	**1.02**	**267**	⇓P		**Pn**	**08 19 03.9**	**-0.2**
	baz=266							
ETLH				*e*S		**Sn**	**08 19 17.0**	**-0.3**
	baz=266							
IRIF	**Iriomote-Funau**	**1.04**	**86**	P		**Pn**	**08 19 04.2**	**-0.1**
IRIF				S		**Sn**	**08 19 18.0**	**+0.3**
NDT	**Datong Townshi**	**1.04**	**289**	P		**Pn**	**08 19 05.0**	**+0.6**
	baz=279							
NDT				*e*S		**Sn**	**08 19 18.4**	**+0.5**
	baz=279							
NWF	**Wu-fen Shan**	**1.10**	**318**	⇓*e*P		**Pn**	**08 19 05.2**	**0.0**
	baz=316							
NWF				*e*S		**Sn**	**08 19 18.6**	**-0.6**
	baz=316							
WFSB	**Wu-fen Shan**	**1.10**	**318**	⇓*e*P		**Pn**	**08 19 05.2**	**+0.1**
	baz=316							
WFSB				*e*S		**Sn**	**08 19 18.6**	**-0.6**
	baz=316							
NNSH	**Datong**	**1.12**	**279**	*e*P		**Pn**	**08 19 05.7**	**+0.2**
	baz=278							
NWLT	**Wulai**	**1.12**	**298**	*e*P		**Pn**	**08 19 06.5**	**+1.0**
	baz=304							
NWLT				*e*S		**Sn**	**08 19 20.4**	**+0.6**
	baz=304							
HATJ	**Hateruma jima**	**1.12**	**100**	P		**Pn**	**08 19 05.8**	**+0.4**
NNS	**Nan Shan**	**1.13**	**279**	P		**Pn**	**08 19 05.8**	**+0.1**
	baz=268							
NNS				*e*S		**Sn**	**08 19 19.8**	**-0.3**
	baz=268							
ESL	**Shilin**	**1.15**	**248**	P		**Pn**	**08 19 05.2**	**-0.7**
	baz=238							
ESL				*e*S		**Sn**	**08 19 19.1**	**-1.3**
	baz=238							
TWA	**Mucha**	**1.17**	**308**	⇓P		**Pn**	**08 19 06.4**	**+0.3**
	baz=306							
TWA				*e*S		**Sn**	**08 19 20.7**	**-0.2**
	baz=306							
YHNB	**Yeheng**	**1.19**	**291**	*e*P		**Pn**	**08 19 07.0**	**+0.6**
	baz=278							
YHNB				*e*S		**Sn**	**08 19 21.1**	**-0.4**
	baz=278							
NHDH	**Xindian Distri**	**1.20**	**306**	*e*P		**Pn**	**08 19 06.9**	**+0.4**
	baz=314							
NHDH				*e*S		**Sn**	**08 19 21.8**	**+0.1**
	baz=314							
NSK	**Sanguang**	**1.20**	**291**	⇓P		**Pn**	**08 19 07.1**	**+0.5**
	baz=278							
NSK				*e*S		**Sn**	**08 19 22.2**	**+0.4**
	baz=278							
EGFH	**Guangfu**	**1.22**	**241**	*e*P		**Pn**	**08 19 06.5**	**-0.3**
	baz=240							
EGFH				*e*S		**Sn**	**08 19 21.2**	**-0.9**
	baz=240							
WHF	**Hehuan Shan**	**1.22**	**265**	⇓P		**Pn**	**08 19 06.9**	**-0.3**
	baz=253							
WHF				*e*S		**Sn**	**08 19 22.0**	**-0.7**
	baz=253							
TATO	**Taipei**	**1.23**	**306**	*e*P		**Pn**	**08 19 07.1**	**+0.1**
	baz=314							
TATO				*e*S		**Sn**	**08 19 21.8**	**-0.8**
	baz=314							
TAP1	**Taipei**	**1.25**	**309**	*e*P		**Pn**	**08 19 07.0**	**-0.1**
	baz=307							
TAP1				*e*S		**Sn**	**08 19 22.7**	**-0.1**
	baz=307							
TAP	**Taipei**	**1.26**	**308**	*e*P		**Pn**	**08 19 07.4**	**+0.1**
	baz=307							
TAP				*e*S		**Sn**	**08 19 22.9**	**-0.2**
	baz=307							
YM01	**YM01**	**1.29**	**314**	*e*P		**Pn**	**08 19 07.5**	**-0.2**
	baz=312							
YM01				*e*S		**Sn**	**08 19 23.3**	**-0.5**
	baz=312							
JKRS	**Kuro-shima**	**1.29**	**91**	P		**Pn**	**08 19 08.2**	**+0.5**
JKRS				S		**Sn**	**08 19 24.8**	**+1.0**
YM11	**YM11**	**1.30**	**314**	*e*P		**Pn**	**08 19 07.7**	**-0.2**
	baz=312							
YM10	**YM10**	**1.30**	**314**	*e*P		**Pn**	**08 19 07.7**	**-0.2**
	baz=312							
YM05	**YM05**	**1.30**	**314**	*e*P		**Pn**	**08 19 07.7**	**-0.2**
	baz=312							
YM05				*e*S		**Sn**	**08 19 23.2**	**-1.0**
	baz=312							
YM08	**YM08**	**1.30**	**316**	*e*P		**Pn**	**08 19 07.5**	**-0.5**
	baz=303							
TDCB	**Techi**	**1.31**	**270**	*e*P		**Pn**	**08 19 08.6**	**+0.4**
	baz=269							
TDCB				*e*S		**Sn**	**08 19 24.0**	**-0.6**
	baz=269							
CHGB	**Renai**	**1.31**	**262**	*e*P		**Pn**	**08 19 08.3**	**0.0**
	baz=251							
CHGB				*e*S		**Sn**	**08 19 23.8**	**-0.9**
	baz=251							
YM04	**YM04**	**1.31**	**313**	*e*P		**Pn**	**08 19 07.9**	**-0.2**
	baz=311							
YM04				*e*S		**Sn**	**08 19 23.3**	**-1.1**
	baz=311							
HGSD	**Ruisui**	**1.32**	**235**	*e*P		**Pn**	**08 19 07.6**	**-0.4**
	baz=234							
HGSD				*e*S		**Sn**	**08 19 23.2**	**-1.3**
	baz=234							
OWD	**Renai**	**1.33**	**257**	*e*P		**Pn**	**08 19 08.6**	**+0.1**
	baz=256							
OWD				*e*S		**Sn**	**08 19 23.6**	**-1.4**
	baz=256							
ANP	**Anpu**	**1.35**	**314**	*e*P		**Pn**	**08 19 08.4**	**-0.2**
	baz=301							
TWY	**Chenhua**	**1.36**	**318**	P		**Pn**	**08 19 08.9**	**+0.3**
	baz=307							
TWY				*e*S		**Sn**	**08 19 25.0**	**-0.5**
	baz=307							
WLTB	**Daxi**	**1.36**	**296**	*e*P

baz=276
WHP Taichung City 1.51 271 *eP* **Pn 08 19 12.2 +1.4**
baz=269
WHP *eS* **Sn 08 19 30.0 +0.7**
baz=269
DPDB Guoxing 1.54 262 *eP* **Pn 08 19 11.9 +0.7**
baz=254
SBCB Hsinchu 1.56 290 *eP* **Pn 08 19 12.0 +0.6**
baz=288
SSLB Suanglung 1.57 253 *eP* **Pn 08 19 11.9 +0.2**
baz=252
SSLB *eS* **Sn 08 19 30.0 -0.9**
baz=252
FULB Fuli 1.59 229 *eP* **Pn 08 19 11.1 -0.8**
baz=228
FULB *eS* **Sn 08 19 30.3 -1.0**
baz=228
JISG Ishigakijimahi 1.60 78 P **Pn 08 19 11.6 -0.3**
JISG *eS* **Sn 08 19 30.7 -0.7**
CHKT Chengkung 1.61 225 *eP* **Pn 08 19 11.4 -0.8**
baz=224
CHKT *eS* **Sn 08 19 29.1 -2.6**
baz=224
TYC Yuchr 1.63 258 P **Pn 08 19 13.1 +0.7**
baz=249
TYC *eS* **Sn 08 19 32.1 0.0**
baz=249
NMLH Miaoli 1.67 280 *eP* **Pn 08 19 14.2 +1.3**
baz=278
NMLH *eS* **Sn 08 19 34.4 +1.2**
baz=278
NSY Sanyi 1.68 276 *eP* **Pn 08 19 14.4 +1.3**
baz=274
WHYT Xinyi Township 1.69 251 *eP* **Pn 08 19 14.3 +1.1**
baz=243
WHYT *eS* **Sn 08 19 34.6 +0.9**
baz=243
PTSB Yuanli 1.73 277 *eS* **Sn 08 19 36.6 +1.8**
baz=275
TCU Taichung 1.76 267 *eP* **Pn 08 19 15.7 +1.6**
baz=277
TCU *eS* **Sn 08 19 37.2 +2.0**
baz=277
WJS Zhushan 1.76 256 *eP* **Pn 08 19 16.0 +1.8**
baz=255
WJS *eS* **Sn 08 19 38.1 +2.7**
baz=255
WDJ Dajia District 1.79 273 *eP* **Pn 08 19 15.8 +1.3**
baz=271
WNT Mingjian 1.79 258 *eP* **Pn 08 19 15.6 +1.1**
baz=257
ELDTW Lidau 1.80 234 *eP* **Pn 08 19 14.4 -0.3**
baz=233
ELDTW *eS* **Sn 08 19 34.1 -2.3**
baz=233
ALS Alishan 1.80 246 *eP* **Pn 08 19 16.1 +1.1**
baz=245
ALS *eS* **Sn 08 19 35.9 -0.9**
baz=245
TWH Lutao 1.85 214 *eP* **Pn 08 19 14.9 -0.5**
baz=213
TWH *eS* **Sn 08 19 35.1 -2.5**
baz=213
WCHH Zhanghua 1.87 265 *eP* **Pn 08 19 17.1 +1.4**
baz=263
WCHH *eS* **Sn 08 19 39.9 +1.8**
baz=263
CHN5 Tsauling 1.87 250 P **Pn 08 19 17.4 +1.6**
baz=249
CHN5 *eS* **Sn 08 19 39.4 +1.1**
baz=249
WGK Gukeng 1.94 253 *eP* **Pn 08 19 18.5 +1.8**
baz=243
WGK *eS* **Sn 08 19 41.9 +2.0**
baz=243
JTJ Tarama 1.96 78 P **Pn 08 19 17.1 +0.2**
JTJ *eS* **Sn 08 19 39.9 -0.3**
WDLH Douliu 1.96 254 *eP* **Pn 08 19 18.9 +1.9**
baz=243
WDLH *eS* **Sn 08 19 42.6 +2.2**
baz=243
TWGBT Beinan 2.00 224 *eP* **Pn 08 19 16.8 -0.6**
baz=233
TWGBT *eS* **Sn 08 19 39.3 -1.9**
baz=233
TWG Pinlang 2.00 225 P **Pn 08 19 16.9 -0.6**
baz=233
TWG *eS* **Sn 08 19 39.5 -1.8**
baz=233
STYT Tauyuan 2.01 237 P **Pn 08 19 18.7 +1.1**
baz=236
STYT *eS* **Sn 08 19 41.4 -0.1**
baz=236
TPUB Ta-pu 2.04 243 *eP* **Pn 08 19 19.7 +1.7**
baz=242
TPUB *eS* **Sn 08 19 43.8 +1.5**
baz=242
CHN4 Tsaushan 2.04 244 P **Pn 08 19 20.3 +2.2**
baz=237
CHN4 *eS* **Sn 08 19 44.1 +1.7**
baz=237
CHN2 Minshiung 2.07 250 *eP* **Pn 08 19 20.0 +1.6**
baz=249
CHN2 *eS* **Sn 08 19 45.2 +2.1**
baz=249
RLNB Erlin 2.08 260 *eP* **Pn 08 19 19.7 +1.2**
baz=259
RLNB *eS* **Sn 08 19 45.0 +1.9**
baz=259
WTP Ta-pu 2.08 241 *eP* **Pn 08 19 20.2 +1.6**
baz=240
WTP *eS* **Sn 08 19 44.2 +1.0**
baz=240
CHY Chiayi 2.13 250 *eP* **Pn 08 19 21.2 +2.0**
baz=248
WTCT Ta-ch'eng 2.15 260 *eS* **Sn 08 19 46.0 +1.0**
baz=258
TWK Hsinying 2.17 243 P **Pn 08 19 21.7 +1.9**
baz=242
TWK *eS* **Sn 08 19 46.4 +0.9**
baz=242
CHN1 Nanshi 2.17 241 P **Pn 08 19 21.7 +1.8**
baz=240
CHN1 *eS* **Sn 08 19 47.0 +1.3**
baz=240
SNST Tainan City 2.18 242 *eP* **Pn 08 19 22.0 +2.0**
baz=241
SNST *eS* **Sn 08 19 47.8 +2.0**
baz=241
SGST Jiashian 2.19 238 P **Pn 08 19 21.3 +1.3**
baz=237
SGST *eS* **Sn 08 19 47.4 +1.5**
baz=237
SLGT Liugui 2.19 235 *eP* **Pn 08 19 22.1 +2.1**
baz=229
SLGT *eS* **Sn 08 19 47.2 +1.3**
baz=229
ECL Taimali 2.24 223 *eP* **Pn 08 19 20.2 -0.5**
baz=230
WLGB Puzi 2.24 250 *eS* **Sn 08 19 49.6 +2.4**
baz=237
WSF Szhu 2.26 255 *eS* **Sn 08 19 50.1 +2.5**
baz=265
SSD Sandimen 2.35 231 *eP* **Pn 08 19 23.3 +1.1**
baz=226
SSD *eS* **Sn 08 19 50.4 +0.5**
baz=226
CHN3 Shinhua 2.36 241 *eS* **Sn 08 19 52.8 +2.7**
baz=240
CHN8 Yiju 2.37 248 *eS* **Sn 08 19 51.8 +1.6**
baz=247
LAY Lan-yu 2.41 204 *eP* **Pn 08 19 21.5 -1.6**
baz=204
JIRB Irabujima 2.42 76 P **Pn 08 19 23.6 +0.5**
JIRB *eS* **Sn 08 19 51.3 -0.2**
MASBT Mashibuluo 2.44 228 *eP* **Pn 08 19 24.2 +0.8**
baz=225
MASBT *eS* **Sn 08 19 52.1 +0.1**
baz=225
TAW Tawu 2.45 220 *eP* **Pn 08 19 23.2 -0.5**
baz=227
EAST Anshuo 2.46 221 *eP* **Pn 08 19 23.3 -0.5**
baz=221
JIKM Ikemajima 2.50 74 P **Pn 08 19 25.0 +0.6**
JIKM *eS* **Sn 08 19 53.2 -0.5**
JMJ Miyako jima 2 2.52 77 *eP* **Pn 08 19 26.0 +1.4**
baz=78
JMJ2 Miyako jima3 2.54 79 P **Pn 08 19 25.8 +1.0**
JMJ2 S **Sn 08 19 55.3 +0.8**
SSPT Xinbi 2.57 227 *eP* **Pn 08 19 26.9 +1.7**
baz=222
SSPT *eS* **Sn 08 19 56.7 +1.5**
baz=222
SCZT Fangliau 2.61 224 *eP* **Pn 08 19 27.0 +1.1**
baz=220
SCZT *eS* **Sn 08 19 56.5 +0.2**
baz=220
WSSB Gushan 2.68 234 *eS* **Sn 08 19 59.8 +1.7**
baz=233
TWKBT Hengchun 2.83 216 *eP* **Pn 08 19 29.1 +0.3**
baz=221
TWKBT *eS* **Sn 08 20 01.9 +0.1**
baz=221
TWK1 Hengchun 2.83 216 *eP* **Pn 08 19 30.1 +1.2**
baz=221
PTTC Pingtan 2.85 296 *eS* **Sn 08 19 59.6 -2.6**
baz=293
PHUB P'eng-hu 2.87 256 *eP* **Pn 08 19 29.2 -0.2**
baz=254
PHUB *eS* **Sn 08 20 01.2 -1.4**
baz=254
PNG Penghu 2.87 257 *eP* **Pn 08 19 28.9 -0.4**
baz=255
WDGT Dungji 2.87 250 *eP* **Pn 08 19 30.1 +0.7**
baz=249
WDGT *eS* **Sn 08 20 02.2 -0.4**
baz=249
VWUC VWUC 2.96 285 *eP* **Pn 08 19 30.1 -0.5**
baz=282
MATB Ma-tsu 3.05 309 *eP* **Pn 08 19 31.3 -0.6**
baz=305
VCHM Qimei 3.08 251 *eP* **Pn 08 19 32.7 +0.4**
baz=250
VCHM *eS* **Sn 08 20 07.3 -0.7**
baz=250
PTMZ Houxiangcun 3.26 285 *eP* **Pn 08 19 34.3 -0.4**
baz=281
LYJJ Jianjiangzhen 3.43 312 *eP* **Pn 08 19 36.1 -1.0**
baz=309
XPSS Dashiqiu 3.44 321 *eP* **Pn 08 19 36.7 -0.4**
baz=310
MHZQ Yeshan 3.71 300 *eP* **Pn 08 19 40.6 -0.4**
baz=296
KNM Kinmen 3.80 273 *eP* **Pn 08 19 43.4 +1.2**
baz=261
KNMB Chin-men Tao 3.84 274 *eP* **Pn 08 19 42.1 -0.7**
baz=271
AXDP Jialang 4.26 280 *eP* **Pn 08 19 48.0 -0.4**
baz=276
AXDP *eS* **Sn 08 20 33.2 -3.7**
baz=276
ZPLA Ao Xicun 4.44 267 *eP* **Pn 08 19 50.5 -0.4**
baz=264

*ISCJB **20** 08:19:07.5±1.4, 6°.8S±0°.2×155°.4E±0°.2, h50km, mb3.5/6, Error ellipse: s-maj=46.1km s-min=16.7km az=137.4*
*IDC **20** 08:19:11.6±7.0, 6°.90S×155°.39E, h75km±56km, mb3.4/6, mb1 3.7/7, mb1mx3.4/40, mbtmp3.7/7, ML2.2/1, Error ellipse: s-maj=61.3km s-min=30.9km az=119.0*
ISC 20 08:19:08.4±1.6, 6°.9S±0°.3×155°.6E±0°.3, h50km, n11, σ0$96/8, mb3.4/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.67**	**253**	P	P		**Pn**	**08 21 12.0**	**+0.7**
	1.5nm,0.3s,baz=108,slow=19,SNR=2.0								
PMG				S			Sn	08 22 38.1	-10
	0.4nm,0.3s,baz=334,slow=23,SNR=1.6								
WRA	**Warramunga Arr**	**24.32**	**236**	P	P		**P**	**08 24 21.9**	**+0.2**
	0.4nm,0.4s,baz=57,slow=9.6,SNR=7.6								
ASAR	**Alice Springs**	**26.64**	**229**	P	P		**P**	**08 24 42.5**	**-0.3**
	0.3nm,0.5s,baz=57,slow=9.2,SNR=10								
H11S3	**WAKE ISLAND Hy**	**27.54**	**23**	T	T		T	08 53 17.6	
	baz=203,slow=75,SNR=8.0								
H11S2	**WAKE ISLAND Hy**	**27.54**	**23**	T	T		T	08 53 16.6	
	baz=203,slow=75,SNR=8.2								
H11S1	**WAKE ISLAND Hy**	**27.55**	**23**	T	T		T	08 53 21.2	
	baz=203,slow=75,SNR=5.8								
CMAR	**Chiang Mai Arr**	**61.26**	**295**	P	P		**P**	**08 29 17.5**	**-1.5**
	1.1nm,0.3s,baz=134,slow=5.8,SNR=4.4								
SONM	**Songino Array**	**69.58**	**327**	P	P		**P**	**08 30 13.3**	**+0.9**
	0.2nm,0.4s,baz=159,slow=4.3,SNR=1.7								
ILAR	**Eielson Array**	**83.10**	**21**	P	P		**P**	**08 31 28.6**	**+0.1**
	0.1nm,0.4s,baz=251,slow=4.6,SNR=1.6								
YKA	**Yellowknife Ar**	**96.01**	**28**	P	P		**P**	**08 32 30.5**	**+0.5**
	0.2nm,0.6s,baz=270,slow=4.5,SNR=4.1								
TORD	**Torodi Ar. Bea**	**153.54**	**286**	PKPbc	**PKPbc**			**08 39 01.7**	**-0.9**
	0.5nm,0.6s,baz=91,slow=2.7,SNR=2.7								

IDC 20 08:19:25.2±1.2, 18°.50N×123°.26E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/47, mbtmp3.7/4, Error ellipse: s-maj=67.3km s-min=24.4km az=76.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.72**	**164**	P	P		P	08 26 59.4	-0.2
	1.3nm,0.6s,baz=346,slow=8.6,SNR=11								
ASAR	**Alice Springs**	**43.18**	**166**	P	P		P	08 27 27.9	-0.1
	0.9nm,0.6s,baz=348,slow=6.7,SNR=22								
MKAR	**Makanchi Array**	**43.82**	**319**	P	P		P	08 27 32.7	-0.3
	0.3nm,0.8s,baz=97,slow=8.0,SNR=1.7								
ILAR	**Eielson Array**	**73.38**	**27**	P	P		P	08 30 59.0	+0.2
	1.1nm,1.1s,baz=246,slow=6.5,SNR=4.6								

*IDC **20** 08:33:23.6±1.2, 18°.14S×177°.98W, h623km±15km, mb3.6/15, mb1 3.9/16, mb1mx3.6/29, mbtmp4.6/16, Error ellipse: s-maj=16.2km s-min=9.1km az=142.0*
*ISCJB **20** 08:33:24.2±0.1, 18°.30S±0°.04×177°.98W±0°.05, h650km, mb4.1/15, Error ellipse: s-maj=7.1km s-min=3.7km az=38.3*
*NEIC **20** 08:33:25.3±2.4, 18°.0S±0°.1×177°.9W±0°.1, h638km±6km, mb4.4/135*
ISC 20 08:33:25.0±0.4, 18°.16S±0°.07×177°.84W±0°.07, h650km, n242, σ1$42/244, mb4.4/72, 17C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.93**	**276**	P	P		**P**	**08 34 52.0**	**-1.9**
MSVF				S	S		**S**	**08 36 04.3**	**-1.9**
AFI	**Afiamalu**	**7.20**	**55**	P	P		**P**	**08 35 16.9**	**-2.3**
	6.0nm,0.3s,baz=112,slow=2.9,SNR=7.9								
AFI				S	S		**S**	**08 36 47.3**	**-5.2**
	0.8nm,0.3s,baz=150,slow=23,SNR=1.4								
NIUE	**Niue**	**7.56**	**98**	P	P		**P**	**08 35 20.8**	**-1.5**
FUNA	**Funafuti**	**10.00**	**343**	P	P		**P**	**08 35 42.0**	**-3.0**
DZM	**Mont Dzumac**	**15.26**	**253**	P	P		**P**	**08 36 34.4**	**+0.6**
OUZ	**Omahuta**	**18.62**	**202**	P	P		**P**	**08 37 05.7**	**+1.6**
URZ	**Urewera**	**20.51**	**191**	P	P		**P**	**08 37 18.9**	**-2.1**
	5.7nm,0.4s,baz=268,slow=2.5,SNR=9.5								
URZ				S	S		**S**	**08 40 22.3**	**-8.6**
	11nm,1.0s,baz=358,slow=22,SNR=2.8								
URZ	**Urewera**	**20.51**	**191**	P	P		**P**	**08 37 18.7**	**-2.3**
URZ					IAmb	IAmb		08 37 29.9	
	comp=Z,15nm,0.9s								
TARA	**Tarawa**	**21.42**	**334**	P	P		**P**	**08 37 28.7**	**-0.7**
BKZ	**Black Stump Fm**	**21.50**	**192**	P	P		**P**	**08 37 27.4**	**-2.5**
BKZ					IAmb	IAmb		08 37 33.4	
	comp=Z,16nm,1.4s								
BFZ	**Birch Farm**	**23.02**	**192**	P	P		**P**	**08 37 41.8**	**-1.5**
MSWZ	**Moikau Station**	**23.92**	**193**	P	P		**P**	**08 37 49.4**	**-1.9**
SNZO	**South Karori**	**23.94**	**194**	P	P		**P**	**08 37 50.1**	**-1.3**
BHW	**Baring Head**	**24.00**	**194**	P	P		**P**	**08 37 49.8**	**-2.1**
QRZ	**Quartz Range**	**24.06**	**198**	P	P		**P**	**08 37 52.0**	**-0.5**
PLWZ	**Palliser**	**24.07**	**193**	P	P		**P**	**08 37 51.6**	**-1.1**
NNZ	**Nelson**	**24.18**	**196**	P	P		**P**	**08 37 52.3**	**-1.2**
BSWZ	**Blackbirch Sta**	**24.52**	**195**	P	P		**P**	**08 37 56.0**	**-0.5**
THZ	**Tophouse**	**24.82**	**197**	P	P		**P**	**08 37 58.2**	**-1.0**
THZ					IAmb	IAmb		08 38 02.6	
	comp=Z,12nm,0.8s								
KHZ	**Kahutara**	**25.27**	**195**	P	P		**P**	**08 38 00.8**	**-2.3**
LTZ	**Lake Taylor**	**25.94**	**197**	P	P		**P**	**08 38 07.3**	**-1.7**
OXZ	**Oxford**	**26.51**	**197**	P	P		**P**	**08 38 12.6**	**-1.4**
MQZ	**McQueen's Vall**	**26.70**	**195**	P	P		**P**	**08 38 14.0**	**-1.6**
RPZ	**Rata Peaks**	**27.15**	**198**	P	P		**P**	**08 38 19.1**	**-0.3**
	comp=Z,6.9nm,0.7s,baz=0.0,slow=3.0,SNR=4.3								
RPZ	**Rata Peaks**	**27.15**	**198**	P	P		**P**	**08 38 18.5**	**-1.0**
RPZ					IAmb	IAmb		08 38 34.0	
	comp=Z,11nm,0.9s								
FOZ	**Fox Glacier**	**27.36**	**200**	P	P		**P**	**08 38 20.4**	**-0.8**
MLZ	**Mavora Lakes**	**29.55**	**200**	P	P		**P**	**08 38 39.5**	**-0.7**
EIDS	**Eidsvold**	**29.69**	**251**	P	P		**P**	**08 38 42.0**	**+0.3**
EIDS					IAmb	IAmb		08 38 55.0	
	comp=Z,9.4nm,1.2s								
WHZ	**Wether Hill Ro**	**30.07**	**200**	P	P		**P**	**08 38 44.3**	**-0.2**
ARMA	**Armidale**	**30.28**	**240**	P	P		**P**	**08 38 47.2**	**+0.4**
ARMA					IAmb	IAmb		08 38 48.4	
	comp=Z,7.9nm,0.9s								
CAN	**Canberra**	**33.98**	**233**	P	P		**P**	**08 39 18.5**	**+0.7**
CAN					IAmb	IAmb		08 39 19.3	
	comp=Z,8.5nm,0.9s								
COEN	**Coen**	**37.65**	**271**	P	P		**P**	**08 39 48.4**	**+0.5**
COEN					IAmb	IAmb		08 39 49.6	
	comp=Z,12nm,0.8s								
STKA	**Stephens Creek**	**38.98**	**242**	P	P		**P**	**08 39 59.1**	**+0.6**
	comp=Z,4.1nm,0.8s,baz=114,slow=15,SNR=3.8								
STKA	**Stephens Creek**	**38.98**	**242**	P	P		**P**	**08 39 59.5**	**+1.0**
HMH	**Humu'ula Sheep**	**43.47**	**31**	P	P		**P**	**08 40 34.6**	**+0.5**
JAY	**Jayapura**	**43.49**	**286**	P	P		**P**	**08 40 34.5**	**+0.3**
	comp=Z,14nm,0.6s,baz=298,slow=2.3,SNR=4.2								
BBOO	**Buckleboo**	**43.76**	**241**	P	P		**P**	**08 40 36.2**	**+0.3**
BBOO					IAmb	IAmb		08 40 52.9	
	comp=Z,30nm,1.3s								
WRAB	**Tennant Creek**	**45.11**	**260**	P	P		**P**	**08 40 48.2**	**+1.9**
WRA	**Warramunga Arr**	**45.12**	**260**	P	P		**P**	**08 40 46.3**	**-0.1**
	comp=Z,2.5nm,0.4s,baz=96,slow=7.6,SNR=45								
WRA				S	S		**S**	**08 46 39.1**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=102,slow=13,SNR=2.9								
AS31	**Alice Springs**	**45.24**	**254**	P	P		**P**	**08 40 47.5**	**+0.2**
AS31					PcP		**PcP**	**08 42 14.2**	**+1.3**
ASAR	**Alice Springs**	**45.24**	**254**	P	P		**P**	**08 40 47.4**	**+0.1**
	comp=Z,6.0nm,0.7s,baz=88,slow=7.9,SNR=76								
ASAR				S	S		**S**	**08 46 41.3**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=89,slow=16,SNR=9.8								
MTN	**Manton Dam**	**49.33**	**268**	P	P		**P**	**08 41 17.2**	**-0.6**
KNRA	**Kununurra**	**51.00**	**264**	P	P		**P**	**08 41 30.6**	**+0.8**
SBA	**Scott Base**	**60.20**	**184**	P	P		**P**	**08 42 35.1**	**+3.1**
VNDA	**Vanda**	**60.24**	**185**	P	P		**P**	**08 42 34.0**	**+1.8**
	comp=Z,1.5nm,0.8s,baz=357,slow=5.9,SNR=8.1								
VNDA	**Vanda**	**60.24**	**185**	P	P		**P**	**08 42 34.1**	**+1.8**
MJAR	**Matsushiro Arr**	**68.43**	**323**	P	P		**P**	**08 43 23.8**	**-0.5**
	comp=Z,5.6nm,1.1s,baz=142,slow=5.5,SNR=6.1								
QSPA	**South Pole Qui**	**71.90**	**180**	P	P		**P**	**08 43 45.2**	**+0.9**
PEA0B	**Petropavlovsk-**	**74.06**	**345**	P	P		**P**	**08 43 56.6**	**0.0**
PEA0B					IAmb	IAmb		08 44 13.1	
	comp=Z,22nm,1.4s								
PETK	**Petropavlovsk-**	**74.06**	**345**	P	P		**P**	**08 43 57.1**	**+0.5**
	comp=Z,7.2nm,0.7s,baz=126,slow=9.4,SNR=11								
SAO	**San Andreas Ge**	**76.23**	**44**	P	P		**P**	**08 44 10.5**	**+1.5**
ISA	**Isabella, Lake**	**77.60**	**46**	P	P		**P**	**08 44 17.8**	**+1.3**
ISA					IAmb	IAmb		08 44 19.2	
	comp=Z,12nm,0.9s								
CMB	**Columbia Colle**	**77.65**	**43**	P	P		**P**	**08 44 17.7**	**+1.0**
AFDM	**Forest Hills D**	**77.80**	**42**	P	P		**P**	**08 44 18.8**	**+1.3**
ORV	**Oroville**	**77.82**	**41**	P	P		**P**	**08 44 18.5**	**+1.0**
MDPB	**Devils Postpil**	**78.28**	**44**	P	P		**P**	**08 44 21.8**	**+1.4**
MDPB					IAmb	IAmb		08 44 22.9	
	comp=Z,12nm,0.9s								
OMMB	**Old Mammoth Mi**	**78.32**	**44**	P	P		**P**	**08 44 22.1**	**+1.5**
OMMB					IAmb	IAmb		08 44 23.2	
	comp=Z,15nm,1.3s								
WAKR	**Walker**	**78.53**	**43**	P	P		**P**	**08 44 23.2**	**+1.7**
WAKR					IAmb	IAmb		08 44 24.5	
	comp=Z,15nm,1.0s								
BEKR	**Beckworth**	**78.72**	**41**	P	P		**P**	**08 44 23.5**	**+1.0**
PNTR	**Pine Nut**	**78.76**	**42**	P	P		**P**	**08 44 24.4**	**+1.6**
PNTR					IAmb	IAmb		08 44 25.5	
	comp=Z,20nm,0.9s								
HUMO	**Hull Mountain**	**78.76**	**38**	P	P		**P**	**08 44 24.0**	**+1.5**
HUMO					IAmb	IAmb		08 44 25.5	
	comp=Z,17nm,1.2s								
YERR	**Yerington**	**78.93**	**43**	P	P		**P**	**08 44 24.8**	**+1.1**
YERR					IAmb	IAmb		08 44 25.7	
	comp=Z,11nm,0.8s								
RYN	**Ryan**	**79.20**	**43**	P	P		**P**	**08 44 25.6**	**+0.6**
NVAR	**Mina Array Bea**	**79.23**	**44**	P	P		**P**	**08 44 27.1**	**+1.8**
	comp=Z,5.9nm,0.8s,baz=226,slow=9.7,SNR=32								
PAHR	**Pah Rah Range**	**79.25**	**42**	P	P		**P**	**08 44 25.8**	**+0.5**
PAHR					IAmb	IAmb		08 44 27.9	
	comp=Z,13nm,1.2s								
NV11	**Mina Array Sit**	**79.33**	**44**	P	P		**P**	**08 44 26.8**	**+1.1**
KVN	**Kaiserville**	**79.71**	**43**	P	P		**P**	**08 44 28.8**	**+1.1**
MOD	**Modoc Plateau**	**79.93**	**40**	P	P		**P**	**08 44 30.3**	**+1.5**
MOD					IAmb	IAmb		08 44 31.2	
	comp=Z,11nm,0.9s								
SHPR	**Sheep Range**	**80.32**	**47**	P	P		**P**	**08 44 32.6**	**+1.7**
H04A	**Detroit Lake**	**80.47**	**37**	P	P		**P**	**08 44 32.2**	**+0.9**
H04A					IAmb	IAmb		08 44 32.9	
	comp=Z,7.9nm,0.8s								
PINE	**Pine Mountain**	**80.65**	**38**	P	P		**P**	**08 44 34.3**	**+1.8**
R11A	**Troy Canyon, C**	**80.99**	**45**	P	P		**P**	**08 44 35.4**	**+1.0**
F04A	**Amboy**	**81.10**	**36**	P	P		**P**	**08 44 35.6**	**+1.1**
F04A					IAmb	IAmb		08 44 36.8	
	comp=Z,24nm,1.3s								
WVOR	**Wild Horse Val**	**81.25**	**40**	P	P		**P**	**08 44 36.8**	**+1.3**
WVOR					IAmb	IAmb		08 44 38.2	
	comp=Z,15nm,1.1s								
TUC	**Tucson**	**81.43**	**52**	P	P		**P**	**08 44 39.1**	**+2.6**
TUC					IAmb	IAmb		08 44 40.2	
	comp=Z,10.0nm,1.0s								
G06A	**Carlson Farm,**	**81.68**	**37**	P	P		**P**	**08 44 38.3**	**+0.7**
LCMT	**Little Creek M**	**81.91**	**47**	P	P		**P**	**08 44 40.4**	**+1.5**
X16A	**Lo Mia Camp, P**	**81.93**	**50**	P	P		**P**	**08 44 41.4**	**+2.2**
X16A					IAmb	IAmb		08 44 42.5	
	comp=Z,11nm,1.1s								
CCUT	**Cedar City**	**82.09**	**46**	P	P		**P**	**08 44 41.9**	**+1.9**
D05A	**Enumclaw**	**82.10**	**35**	P	P		**P**	**08 44 41.2**	**+1.7**
319A	**Douglas**	**82.14**	**53**	P	P		**P**	**08 44 42.8**	**+2.5**
KNB	**Kanab**	**82.20**	**47**	P	P		**P**	**08 44 42.4**	**+1.8**
U15A	**North Rim**	**82.28**	**48**	P	P		**P**	**08 44 43.0**	**+2.0**
U15A					IAmb	IAmb		08 44 44.2	
	comp=Z,15nm,0.8s								
SZCU	**Shurtz Canyon**	**82.30**	**46**	P	P		**P**	**08 44 42.7**	**+1.7**
ELK	**Elko**	**82.47**	**43**	P	P		**P**	**08 44 43.4**	**+1.5**
F07A	**Phinny Hill Vi**	**82.47**	**37**	P	P		**P**	**08 44 43.2**	**+1.8**
F07A					IAmb	IAmb		08 44 43.4	
	comp=Z,6.7nm,0.6s								
WUAZ	**Wupatki**	**82.50**	**49**	P	P		**P**	**08 44 44.0**	**+2.0**
WUAZ					IAmb	IAmb		08 44 45.6	
	comp=Z,12nm,1.1s								
GLI	**Glacier Island**	**82.56**	**15**	P	P		**P**	**08 44 42.0**	**+0.5**
EYAK	**Cordova Ski Ar**	**82.60**	**15**	P	P		**P**	**08 44 42.5**	**+0.8**
EYAK					IAmb	IAmb		08 44 45.4	
	comp=Z,23nm,1.3s								
G08A	**Pilot Rock**	**82.68**	**38**	P	P		**P**	**08 44 44.1**	**+1.5**
G08A					IAmb	IAmb		08 44 45.8	
	comp=Z,16nm,1.3s								
KNK	**Knik Glacier**	**82.71**	**14**	P	P		**P**	**08 44 43.0**	**+0.7**
KNK					IAmb	IAmb		08 44 43.5	
	comp=Z,14nm,0.9s								
PMR	**Palmer**	**82.72**	**13**	P	P		**P**	**08 44 42.3**	**+0.1**
PMR					IAmb	IAmb		08 44 42.9	
	comp=Z,6.7nm,0.8s								
PKCU	**Pink Cliffs**	**82.77**	**47**	P	P		**P**	**08 44 46.0**	**+2.5**
LTY	**Liberty**	**82.86**	**35**	P	P		**P**	**08 44 44.6**	**+1.2**
LTY					IAmb	IAmb		08 44 45.5	
	comp=Z,12nm,1.1s								
E07A	**Sunnyside**	**82.90**	**36**	P	P		**P**	**08 44 45.5**	**+2.0**
E07A					IAmb	IAmb		08 44 46.1	
	comp=Z,20nm,1.2s								
GHO	**Glory Hole Cre**	**82.92**	**13**	P	P		**P**	**08 44 43.4**	**0.0**
HAWA	**Hanford**	**82.98**	**36**	P	P		**P**	**08 44 45.8**	**+1.8**
HAWA					IAmb	IAmb		08 44 46.5	
	comp=Z,12nm,1.1s								
X18A	**Snowflake**	**83.07**	**50**	P	P		**P**	**08 44 47.0**	**+2.1**
MTPU	**Mount Pierson**	**83.14**	**46**	P	P		**P**	**08 44 47.7**	**+2.3**
PPLA	**Purkeypile**	**83.27**	**12**	P	P		**P**	**08 44 45.3**	**+0.1**
PPLA					IAmb	IAmb		08 44 51.8	
	comp=Z,18nm,1.4s								
E08A	**Dider Farm, El**	**83.31**	**37**	P	P		**P**	**08 44 46.8**	**+1.2**
SCM	**Sheep Creek Mo**	**83.34**	**14**	P	P		**P**	**08 44 46.0**	**+0.5**
MSU	**Marysvale**	**83.38**	**46**	P	P		**P**	**08 44 48.4**	**+2.0**
BMO	**Blue Mountains**	**83.40**	**39**	P	P		**P**	**08 44 47.5**	**+1.3**
MFID	**Camas Ranch**	**83.51**	**40**	P	P		**P**	**08 44 47.8**	**+1.0**
MFID					IAmb	IAmb		08 44 49.4	
	comp=Z,8.6nm,1.1s								
GLB	**Gilahina Butte**	**83.86**	**16**	P	P		**P**	**08 44 47.9**	**0.0**
GLB					IAmb	IAmb		08 44 49.2	
	comp=Z,10nm,0.7s								
ZAIG	**Zacatecas**	**84.04**	**64**	P	P		**P**	**08 44 52.4**	**+2.4**
F10A	**Beach Ranch, E**	**84.07**	**38**	P	P		**P**	**08 44 50.3**	**+0.8**
F10A					IAmb	IAmb		08 44

KTH IAmb IAmb 08 44 50.6
comp=Z,12nm,1.0s
TRF Thorofare Moun 84.14 12 P P 08 44 49.0 -0.4
B08A Colville Reser 84.23 35 P P 08 44 51.0 +0.9
B08A IAmb IAmb 08 44 51.7
comp=Z,8.8nm,0.9s
Q16A Castle Valley 84.26 46 P P 08 44 52.6 +1.9
PLID Pearl Lake 84.31 39 P P 08 44 51.5 +0.7
RND Reindeer 84.39 13 P P 08 44 50.5 0.0
TMUT Trail Mountain 84.42 46 P P 08 44 52.9 +1.3
C09A Chrisman Ranch 84.50 36 P P 08 44 52.0 +0.6
C09A IAmb IAmb 08 44 53.5
comp=Z,7.7nm,0.9s
MCK McKinley 84.67 12 P P 08 44 51.7 -0.1
TCUT Toone Canyon 85.16 44 P P 08 44 56.6 +1.6
MNTX Cornudas Mount 85.28 55 P P 08 44 57.0 +1.5
MNTX IAmb IAmb 08 44 58.5
comp=Z,9.6nm,1.3s
TX31 Lajitas Ar. Si 85.67 57 P P 08 44 59.7 +2.1
TXAR Lajitas Array 85.67 57 P P 08 45 00.1 +2.5
comp=Z,9.0nm,0.8s,baz=223,slow=5.9,SNR=52
HDA Harding Lake 85.68 13 P P 08 44 56.3 -0.3
HDA IAmb IAmb 08 44 57.1
comp=Z,5.3nm,0.7s
CCB Clear Creek Bu 85.71 12 P P 08 44 55.8 -0.9
CCB IAmb IAmb 08 44 56.9
comp=Z,6.8nm,0.7s
ANMO Albuquerque 85.83 51 P P 08 44 59.4 +1.1
ANMO IAmb IAmb 08 45 01.9
comp=Z,7.1nm,1.1s
COLA College 85.90 12 P P 08 44 57.4 -0.2
COLA IAmb IAmb 08 44 57.9
comp=Z,11nm,0.8s
SCRK Sand Creek 85.97 14 P P 08 44 58.5 +0.4
IL31 86.01 13 P P 08 44 57.8 -0.3
IL31 IAmb IAmb 08 44 59.0
comp=Z,5.6nm,0.8s
ILAR Eielson Array 86.01 13 P P 08 44 57.8 -0.4
comp=Z,3.0nm,0.7s,baz=220,slow=4.6,SNR=33
MCMT McKenzie Canyo 86.08 40 P P 08 45 01.1 +1.8
AHID Auburn Hatcher 86.16 43 P P 08 45 01.5 +1.9
AHID IAmb IAmb 08 45 02.8
comp=Z,9.1nm,1.4s
GDL2 Guadalupe Moun 86.28 55 P P 08 45 02.5 +2.1
DLMT Dillon 86.50 40 P P 08 45 02.6 +1.4
DLMT IAmb IAmb 08 45 03.8
comp=Z,12nm,1.2s
TPAW Teton Pass 86.61 42 P P 08 45 03.2 +1.4
TPAW IAmb IAmb 08 45 04.6
comp=Z,6.6nm,1.1s
REDW Red Top Meadow 86.61 42 P P 08 45 03.5 +1.7
REDW IAmb IAmb 08 45 04.5
comp=Z,15nm,1.1s
FXWY Fox Creek 86.63 42 P P 08 45 03.0 +1.1
SNOW Snow King Moun 86.72 42 P P 08 45 03.9 +1.5
SNOW IAmb IAmb 08 45 05.1
comp=Z,12nm,1.1s
S22A 4UR Ranch, Cre 86.77 49 P P 08 45 04.3 +1.5
MOOW Moose Ponds 86.86 42 P P 08 45 03.7 +0.8
QLMT Earthquake Lak 86.96 41 P P 08 45 05.5 +2.2
FLWY Flagg Ranch 87.05 42 P P 08 45 06.0 +2.1
YHB Horse Butte 87.06 41 P P 08 45 06.3 +2.4
YPP Pitchstone Pla 87.08 41 P P 08 45 06.2 +2.2
YHL Hebgen Lake 87.12 41 P P 08 45 06.4 +2.2
BW06 Boulder Array 87.16 43 P P 08 45 05.4 +1.0
BW06 IAmb IAmb 08 45 06.4
comp=Z,7.2nm,1.0s
PD31 Pinedale Array 87.16 43 P P 08 45 05.4 +1.0
PD31 IAmb IAmb 08 45 06.4
comp=Z,6.1nm,0.9s
PDAR Pinedale Array 87.16 43 P P 08 45 05.6 +1.2
comp=Z,2.8nm,0.7s,baz=216,slow=3.2,SNR=30
YMR Madison River 87.17 41 P P 08 45 06.3 +1.9
BOZ Bozeman (W) 87.21 40 P P 08 45 06.4 +2.0
BOZ IAmb IAmb 08 45 07.3
comp=Z,7.1nm,1.1s
H17A Grant Village 87.28 41 P P 08 45 07.6 +2.7
H17A IAmb IAmb 08 45 08.8
comp=Z,8.2nm,0.9s
YHH Holmes Hill 87.30 41 P P 08 45 06.9 +1.8
YNR Norris Junctio 87.37 41 P P 08 45 07.5 +2.1
LKWY Lake 87.47 41 P P 08 45 08.3 +2.4
LKWY IAmb IAmb 08 45 09.3
comp=Z,5.5nm,0.8s
HHC Hu-ho-hao-te 87.83 314 *e*P P **08 45 07.4 0.0**
HHC pmax pmax
comp=Z,5.0nm,1.1s
HHC pmax pmax
comp=Z,7.0nm,5.6s
YNE Yellowstone No 87.93 41 P P 08 45 09.7 +1.7
MSTX Muleshoe 88.21 53 P P 08 45 10.7 +1.4
MSTX IAmb IAmb 08 45 11.6
comp=Z,8.3nm,0.9s
RWWY Rawlins 88.23 45 P P 08 45 10.8 +1.4
RWWY IAmb IAmb 08 45 12.1
comp=Z,14nm,1.2s
RLMT Red Lodge 88.44 41 P P 08 45 12.7 +2.3
JCT Junction City 89.21 58 P P 08 45 14.7 +0.7
JCT IAmb IAmb 08 45 16.1
comp=Z,4.5nm,0.7s
CMAR Chiang Mai Arr 89.48 290 P P 08 45 17.3 +1.9
comp=Z,1.3nm,0.3s,baz=128,slow=2.8,SNR=5.0
EPYK Eagle Plains 89.70 15 P P 08 45 15.8 +0.4
ABTX Abilene, Hawle 90.12 56 P P 08 45 19.2 +1.1
VNA3 Neumayer Olymp 90.45 176 P P 08 45 19.5 +0.6
VNA2 Neumayer--Watz 90.90 177 P P 08 45 21.8 +0.8
baz=195,slow=1.4
LAO LASA Array 91.05 41 P P 08 45 24.0 +1.9
U32A Winter Ranch, 91.97 52 P P 08 45 26.3 -0.3
YKA Yellowknife Ar 94.33 25 P P 08 45 37.0 +0.4
comp=Z,1.9nm,0.9s,baz=242,slow=4.2,SNR=17
MKAR Makanchi Array 109.70 314 PKiKP PKiKP 08 50 43.2 -0.7
comp=Z,0.4nm,0.5s,baz=144,slow=0.9,SNR=7.8
KURBB Kurchatov Arra 112.43 318 PKiKP PKiKP 08 50 48.1 -0.7
comp=Z,0.7nm,0.8s,baz=88,slow=1.7,SNR=4.9
BVAR Borovoye Array 117.38 321 PKP PKPdf 08 50 57.8 -0.5
comp=Z,0.9nm,0.5s,baz=194,slow=1.2,SNR=3.8
ARU Arti 123.36 326 PKP PKiKP 08 51 09.9 0.0
comp=Z,0.9nm,0.3s,baz=344,slow=4.1,SNR=4.9
AKTO Aktyubinsk 125.41 320 PKP PKPdf 08 51 13.7 -0.1
comp=Z,1.1nm,0.7s,baz=56,slow=9.5,SNR=3.7
ARCES ARCESS Array B 126.66 350 PKP PKPdf 08 51 15.7 0.0
comp=Z,2.7nm,0.8s,baz=11,slow=2.5,SNR=7.0
AKASG Malin Array Be 141.03 333 PKiKP PKPpre 08 51 36.0
comp=Z,0.8nm,0.4s,baz=38,slow=4.1,SNR=7.4
EKA Eskdalemuir Ar 142.67 5 PKhKP PKPpre 08 51 42.6
comp=Z,2.1nm,0.7s,baz=328,slow=2.8,SNR=4.3
SORM Soroca 143.28 330 ⇑P PKPab 08 51 45.1 -0.5
GAZ Gaziantep 143.91 309 PKPdf 08 51 49.4 +0.9
KWP Kalwaria Pacla 144.51 337 PKPab 08 51 50.2 -0.2
ILGA Ilgaz 144.63 317 PKPab 08 51 51.6 +0.2
OJC Ojcow 145.03 340 PKPbc 08 51 50.7 -0.4
BUR08 Bucovina Ar. S 145.07 332 PKPbc 08 51 51.7 +0.3
BURAR Bucovina Array 145.09 332 ⇑P **PKiKP 08 51 53.8 -0.7**
BIZ Bicaz 145.19 331 ⇑P **PKPab 08 51 53.4 +0.3**
TESR Tescani 145.25 330 ⇑P **PKPab 08 51 52.9 -0.4**
KOLS Kolonicke sedl 145.25 337 *e*PKP **PKPab 08 51 53.0 -0.3**
BR131 Keskin Array S 145.34 315 PKPbc 08 51 52.9 +0.4
BRTR Keskin Array B 145.34 315 PKPbc **PKPbc 08 51 53.1 +0.7**
comp=Z,4.3nm,0.7s,baz=129,slow=4.1,SNR=19
TOPG Topolog 145.52 326 ⇑P **PKPab 08 51 54.0 -0.5**
VRI Vrincioaia 145.67 329 ⇑P **PKPab 08 51 54.2 -0.8**
OSTC Ostas 145.78 344 *e*PKP **PKPab 08 51 54.7 -0.6**
CHVC Chvalec 145.79 344 *e*PKP **PKPab 08 51 54.6 -0.8**
TRPA Tarpa 145.80 335 ⇑P **PKPbc 08 51 53.6 +0.3**
CLL Collm 145.82 348 *i* PKPbc **PKPbc 08 51 54.1 +0.8**
comp=Z,28nm,0.8s
CLL *i* PKPab **PKiKP 08 51 55.8 +0.1**
comp=Z,7.0nm,0.6s
CLL Collm 145.82 348 PKPbc 08 51 53.8 +0.6
ANTO Ankara 145.84 316 PKPbc **PKPbc 08 51 54.5 +0.7**
DPC Dobruska-Polom 145.94 344 *e*PKP **PKPab 08 51 55.1 -0.9**
BRG Berggiesshubel 146.04 347 *i* PKP **PKPbc 08 51 54.8 +0.9**
comp=Z,11nm,0.8s
LANS Liptovska Anna 146.06 340 *e*PKP **PKPab 08 51 55.9 -0.6**
KRLC Kraliky 146.07 343 *e*PKP **PKPab 08 51 55.4 -1.1**
MORC Moravsky Berou 146.12 342 *e*PKP **PKiKP 08 51 55.3 -1.2**
DOPR Dopca 146.24 330 ⇑P **PKiKP 08 51 56.4 -0.4**
MLR Muntele Rosu 146.32 329 PKPbc **PKPbc 08 51 55.6 +0.6**
comp=Z,4.4nm,0.8s,baz=347,slow=12,SNR=6.2
MLR Muntele Rosu 146.32 329 ⇓P **PKiKP 08 51 56.4 -0.8**
MLR Muntele Rosu 146.32 329 PKPbc **PKPbc 08 51 55.3 +0.3**
PRU Pruhonice 146.72 345 *e*PKP **PKiKP 08 51 57.0 -0.6**
GOPC GO Pecny, Ondr 146.73 345 *e*PKP **PKPbc 08 51 56.7 +0.9**

VOIR 146.79 330 ⇑P **PKPbc 08 51 56.3 +0.1**
DRGR 146.80 334 ⇑P **PKiKP 08 51 57.2 -0.8**
VRAC Vranov 146.81 343 *e*PKP **PKiKP 08 51 57.2 -0.7**
VYHS Vyhne 146.84 340 *e*PKP **PKiKP 08 51 57.4 -0.6**
JAVC Velka Javorina 146.89 341 *e*PKP **PKiKP 08 51 58.6 +0.5**
NKC Novy Kostel 146.96 348 *e*PKP **PKiKP 08 51 57.7 -0.4**
ARR Arges 147.04 330 ⇑P **PKiKP 08 51 58.8 +0.3**
KRUC Moravsky 147.09 343 *e*PKP **PKiKP 08 51 57.8 -0.6**
SIRR Siria 147.66 334 ⇑P **PKiKP 08 51 59.0 -0.7**
KHC Kasperske Hory 147.75 346 *e*PKP **PKiKP 08 51 59.6 -0.2**
KHC Kasperske Hory 147.75 346 PKiKP 08 51 59.3 -0.6
GZR Gura Zlata 147.87 332 ⇑P **PKPbc 08 51 59.6 +0.6**
GEC2 GERESS Array S 147.99 346 PKPbc 08 51 59.7 +0.5
GERES GERESS Array B 147.99 346 PKPbc **PKiKP 08 52 00.0 -0.4**
comp=Z,4.4nm,0.7s,baz=26,slow=3.2,SNR=29
BZS Buzias 148.20 334 ⇑P **PKiKP 08 52 00.5 -0.3**
CONA Conrad Observa 148.27 342 PKiKP **PKiKP 08 52 01.3 +0.3**
comp=Z,12nm,1.0s,SNR=5.8
MOA Molln 148.78 344 *i* PKiKP **PKiKP 08 52 02.1 +0.2**
comp=Z,5.0nm,1.2s
MDVR Moldovita 148.82 333 ⇑P **PKiKP 08 52 02.1 -0.1**
MANT Manisa 149.35 317 PKPbc **PKiKP 08 52 03.8 +0.1**
ALN Alexandroupoli 149.44 323 PKPbc **PKPbc 08 52 02.5 -0.2**
SOKA Soboth 149.64 342 *i* PKPbc **PKiKP 08 52 03.8 -0.1**
comp=Z,8.5nm,1.2s
KBA Koelnbreinsper 149.72 345 *i* PKPbc **PKiKP 08 52 04.0 -0.2**
comp=Z,5.5nm,0.7s
VTS Vitosha 149.75 328 ⇑P **PKiKP 08 52 04.9 +0.6**
VTS Vitosha 149.75 328 PKPbc **PKiKP 08 52 04.4 +0.1**
WATA Walderalm 149.89 347 *i* PKiKP **PKiKP 08 52 04.7 +0.2**
comp=Z,6.0nm,0.5s
RETA Reutte 149.91 348 *i* PKiKP **PKiKP 08 52 04.6 +0.2**
comp=Z,11nm,1.4s
WTTA Wattenberg 149.95 347 *i* PKiKP **PKiKP 08 52 04.8 +0.1**
comp=Z,13nm,0.6s,SNR=6.2
MOTA Moosalm 149.98 348 *i* PKiKP **PKiKP 08 52 04.9 +0.2**
comp=Z,11nm,1.0s
MYKA Terra Mystica 150.06 344 *i* PKiKP **PKPbc 08 52 04.4 +0.2**
comp=Z,5.6nm,0.6s,SNR=4.3
SQTA Sankt Quirin 150.08 348 *i* PKiKP **PKiKP 08 52 05.2 +0.4**
comp=Z,9.6nm,0.7s
ABTA Abfaltersbach 150.24 346 *i* PKPbc **PKiKP 08 52 04.9 -0.2**
comp=Z,12nm,0.7s,SNR=11
DAVA Damuels 150.26 349 *i* PKiKP **PKiKP 08 52 06.0 +0.7**
comp=Z,18nm,1.2s
FETA Feichten 150.36 348 *i* PKiKP **PKiKP 08 52 06.1 +0.6**
comp=Z,9.5nm,0.9s
STAL STALIGIAL 150.65 345 PKPbc 08 52 05.5 0.0
DAVOX Davos/Dischmat 150.75 349 PKPbc **PKiKP 08 52 06.9 +0.6**
comp=Z,8.2nm,0.5s,baz=245,slow=4.2,SNR=13
PDG Podgorica 151.77 333 ⇑P **PKiKP 08 52 08.7 +0.4**
FNA Florina 152.05 328 PKiKP 08 52 09.2 +0.2

IDC 20 08:37:43.5±9.7, 15°.63S×174°.18W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/26, mbtmp3.7/3, Error ellipse: s-maj=434.6km s-min=38.0km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.06**	**257**	P	P	08 46 32.2	-0.7
	0.6nm,0.8s,baz=93,slow=6.8,SNR=2.7						
ASAR	**Alice Springs**	**49.33**	**252**	P	P	08 46 35.2	+0.2
	1.4nm,0.5s,baz=86,slow=8.2,SNR=26						
ILAR	**Eielson Array**	**82.81**	**11**	P	P	08 50 09.3	+0.1
	0.2nm,0.5s,baz=214,slow=5.2,SNR=5.1						

*IDC **20** 08:40:44.2±1.8, 29°.95S×177°.68W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.7/19, mbtmp3.7/2, Error ellipse: s-maj=46.1km s-min=20.0km az=91.0*

ISC 20 08:40:48.9±1.9, 30°.05S×177°.7W±0°.3, h35km, n6, σ0s93/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.75**	**342**	Pn	Pn	08 41 02.2	-0.8
	488nm,0.3s,baz=45,slow=20,SNR=28						
RAO				LR	LR	08 41 10.0	
	comp=Z,966nm,20.4s,baz=139,slow=36						
RAO				Sn	Sn	08 41 14.0	+0.9
	1μm,0.3s,baz=90,slow=23,SNR=19						
ASAR	**Alice Springs**	**43.43**	**266**	P	P	08 48 48.8	+0.2
	0.6nm,0.6s,baz=101,slow=6.5,SNR=10						
WRA	**Warramunga Arr**	**44.38**	**272**	P	P	08 48 55.8	-0.5
	0.9nm,0.8s,baz=108,slow=7.1,SNR=6.0						
NOA	**NORSAR Array B**	**148.37**	**352**	PKPbc	PKPbc	09 00 30.5	-0.4
	0.3nm,0.4s,baz=32,slow=4.5,SNR=1.8						
AKASG	**Malin Array Be**	**151.13**	**323**	PKPbc	PKiKP	09 00 38.6	+0.1
	1.0nm,0.4s,baz=46,slow=3.3,SNR=6.6						
BRTR	**Keskin Array B**	**152.65**	**299**	PKPbc	PKiKP	09 00 43.5	+1.2
	0.4nm,0.4s,baz=90,slow=1.4,SNR=2.4						

IDC 20 09:07:48.4±11.0, 1°.41N×101°.98W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.7/29, mbtmp3.5/4, Error ellipse: s-maj=408.1km s-min=137.4km az=111.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**27.82**	**357**	P	P	09 13 38.2	-1.4
	0.4nm,1.1s,baz=181,slow=8.1,SNR=1.5						
PDAR	**Pinedale Array**	**41.73**	**352**	P	P	09 15 40.6	+1.1
	0.3nm,0.6s,baz=152,slow=6.7,SNR=5.9						
YKA	**Yellowknife Ar**	**61.67**	**353**	P	P	09 18 08.2	+0.3
	0.6nm,0.8s,baz=163,slow=6.3,SNR=7.5						
ILAR	**Eielson Array**	**71.00**	**341**	P	P	09 19 07.2	-0.6
	0.5nm,0.8s,baz=155,slow=6.0,SNR=5.4						

*IDC **20** 09:11:45.0±0.9, 17°.54S×73°.68W, h0km, mb3.6/6, mb1 4.0/11, mb1mx3.8/32, mbtmp3.7/11, ML3.7/5, MS2.6/5, Ms1 2.7/5, ms1mx2.5/26, Error ellipse: s-maj=31.4km s-min=18.6km az=54.0*

*ISCJB **20** 09:11:47.0±0.5, 17°.63S±0°.05×73°.64W±0°.05, h28km, mb3.6/6, MS2.7/1, Error ellipse: s-maj=8.8km s-min=5.6km az=38.1*

*NEIC **20** 09:11:49.3±2.3, 17°.63S±0°.07×73°.67W±0°.10, h32km±4km, mb4.2/4*

ISC 20 09:11:48.4±0.6, 17°.65S±0°.05×73°.72W±0°.07, h28km, n29, σ2s23/41, mb3.9/7, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minye Minye**	**4.18**	**111**	Pn	Pn	09 12 51.3	+0.7
MNMC				Sn	Sn	09 13 37.9	-0.9
PB11	**IPOC Station P**	**4.39**	**119**	Pn	Pn	09 12 53.2	-0.1
PB11				Sn	Sn	09 13 41.8	-1.8
GO01	**Chusmiza**	**4.74**	**116**	Pn	Pn	09 12 58.9	+0.4
GO01				Sn	Sn	09 13 52.0	-0.7
LPAZ	**La Paz**	**5.52**	**77**	Pn	Pn	09 13 10.1	+0.9
	0.8nm,0.3s,baz=298,slow=7.8,SNR=28						
LPAZ				Sn	Sn	09 14 07.3	-4.7
	0.9nm,0.3s,baz=281,slow=11,SNR=1.4						
LPAZ				LR	LR	09 15 38.6	
	comp=Z,109nm,19.9s,baz=249,slow=43						
LPAZ	**La Paz**	**5.52**	**77**		Pn	09 13 10.6	+1.4
LPAZ					Sn	09 14 09.6	-2.5
PB04	**IPOC Station P**	**5.75**	**145**		Pn	09 13 11.6	-0.4
PB04				Sn	Sn	09 14 13.6	-3.5
NNA	**Nana**	**6.38**	**331**	Pn	Pn	09 13 21.4	+0.8
	1.9nm,0.3s,baz=74,slow=7.0,SNR=2.6						
NNA				Sn	Sn	09 14 27.3	-5.4
	2.2nm,0.3s,baz=223,slow=20,SNR=2.6						
NNA				LR	LR	09 15 26.3	
	comp=Z,51nm,18.7s,baz=126,slow=35						
NNA	**Nana**	**6.38**	**331**		Pn	09 13 21.2	+0.5
NNA					Sn	09 14 28.6	-4.2
PB10	**IPOC Station P**	**6.55**	**154**	Pn	Pn	09 13 22.5	-0.4
PB10				Sn	Sn	09 14 30.0	-6.6
LVC	**Limon Verde**	**6.69**	**138**	Pn	Pn	09 13 26.4	+1.2
	5.9nm,0.3s,baz=347,slow=7.2,SNR=34						
LVC				Sn	Sn	09 14 37.2	-3.6
	5.5nm,0.3s,baz=55,slow=19,SNR=4.3						
LVC				LR	LR	09 15 06.8	
	comp=Z,7.1nm,20.0s,baz=314,slow=30						
LVC	**Limon Verde**	**6.69**	**138**		Pn	09 13 26.8	+1.6
LVC					Sn	09 14 37.9	-2.8
GO02	**Mina Guanaco**	**8.41**	**154**		Pn	09 13 49.4	+0.7
GO02				Sn	Sn	09 15 18.8	-4.1
GO03	**Copiap**	**10.41**	**163**	Pn	Pn	09 14 15.7	-0.2
GO03				Sn	Sn	09 16 06.3	-5.4
SIV	**San Ignacio**	**12.22**	**84**	Pn	Pn	09 14 40.6	-0.1
	0.5nm,0.3s,baz=288,slow=13,SNR=8.0						
GO04	**Tololo Observa**	**12.75**	**168**	Pn	Pn	09 14 50.0	+1.9
CFA	**Coronel Fontan**	**14.76**	**161**	Pn	Pn	09 15 16.3	+1.0
	0.2nm,0.3s,baz=348,slow=9.3,SNR=2.1						
CFA				LR	LR	09 19 56.7	
	comp=Z,64nm,21.4s,baz=27,slow=33						
TRQA	**Tornquist**	**22.79**	**156**	P	P	09 16 49.2	+0.3
PLCA	**Paso Flores**	**23.17**	**174**	P	P	09 16 54.7	+1.9
	2.1nm,0.7s,baz=14,slow=10.0,SNR=9.8						
PLCA				LR	LR	09 24 01.7	
	comp=Z,31nm,21.3s,baz=24,slow=32						
PLCA	**Paso Flores**	**23.17**	**174**	P	P	09 16 54.5	+1.7
PLCA				IAmb	IAmb	09 17 06.3	
	comp=Z,13nm,1.5s						
TXAR	**Lajitas Array**	**54.93**	**328**	P	P	09 21 16.6	-0.4
	comp=Z,0.4nm,0.9s,baz=155,slow=11,SNR=2.3						
SNAA	**Sanae**	**67.38**	**161**	P	P	09 22 42.4	+1.6
PDAR	**Pinedale Array**	**68.57**	**332**	P	P	09 22 49.6	+0.7
	comp=Z,0.2nm,0.7s,baz=123,slow=3.3,SNR=2.0						
NVAR	**Mina Array Bea**	**69.70**	**324**	P	P	09 22 57.3	+1.4
	comp=Z,0.3nm,0.6s,baz=170,slow=6.4,SNR=2.3						
QSPA	**South Pole Qui**	**72.52**	**180**	P	P	09 23 13.0	+0.5
QSPA				IAmb	IAmb	09 23 17.3	
	comp=Z,3.3nm,1.1s						
TORD	**Torodi Ar. Bea**	**80.45**	**73**	P	P	09 23 57.3	-0.9
	comp=Z,1.0nm,0.9s,baz=249,slow=4.9,SNR=3.9						
YKA	**Yellowknife Ar**	**86.11**	**342**	P	P	09 24 26.5	+0.3
	comp=Z,1.5nm,0.6s,baz=138,slow=5.1,SNR=21						
WRA	**Warramunga Arr**	**133.59**	**218**	PKP	PKPdf	09 31 04.2	+1.1
	comp=Z,0.4nm,0.6s,baz=146,slow=1.9,SNR=4.9						
MKAR	**Makanchi Array**	**144.83**	**29**	PKP	PKPab	09 31 22.6	+0.7
	comp=Z,0.9nm,0.8s,baz=323,slow=3.8,SNR=5.1						
SONM	**Songino Array**	**149.89**	**360**	PKPbc	PKPbc	09 31 37.4	+1.2
	comp=Z,0.9nm,0.9s,baz=353,slow=3.5,SNR=5.0						

*NEIC **20** 09:21:10.7±1.6, 15°.04S±0°.09×173°.1W±0°.1, h10km±1km, mb4.5/2*

*IDC **20** 09:21:10.2±2.3, 15°.28S×173°.21W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/21, mbtmp3.5/4, Error ellipse: s-maj=127.4km s-min=30.0km az=148.0*

*ISCJB **20** 09:21:11.9±0.7, 14°.98S±0°.10×173°.12W±0°.09, h29km, mb3.4/4, Error ellipse: s-maj=16.7km s-min=9.1km az=138.4*

ISC 20 09:21:14.2±0.8, 14°.96S±0°.10×172°.9W±0°.1, h29km, n10, σ2s09/11, mb3.7/6, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.53**	**47**		Pb	09 21 41.1	-0.9
AFI				Sn	Sb	09 21 59.4	-1.7
NIUE	**Niue**	**5.00**	**145**	Pn	Pn	09 22 26.3	-1.1
KNTN	**Kanton**	**12.17**	**6**	Pn	Pn	09 24 05.3	-0.3
WRAB	**Tennant Creek**	**50.37**	**256**	P	P	09 30 06.9	-2.2
WRAB				IAmb	IAmb	09 30 15.5	
	comp=Z,5.7nm,0.8s						
WRA	**Warramunga Arr**	**50.38**	**256**	P	P	09 30 06.9	-2.3
	comp=Z,0.1nm,0.3s,baz=92,slow=6.7,SNR=1.7						
ASAR	**Alice Springs**	**50.67**	**252**	P	P	09 30 08.9	-2.4
	comp=Z,0.4nm,0.4s,baz=87,slow=8.5,SNR=11						
QSPA	**South Pole Qui**	**75.08**	**180**	P	P	09 32 54.5	+1.3
QSPA				IAmb	IAmb	09 33 04.7	
	comp=Z,6.5nm,1.4s						
TXAR	**Lajitas Array**	**80.00**	**56**	P	P	09 33 24.0	+2.8
	comp=Z,0.3nm,0.9s,baz=272,slow=3.4,SNR=2.0						
ILAR	**Eielson Array**	**81.93**	**11**	P	P	09 33 32.8	+2.1
	comp=Z,0.6nm,0.9s,baz=220,slow=8.3,SNR=4.9						
BRTR	**Keskin Array B**	**146.09**	**322**	PKPbc	PKPab	09 40 53.1	+0.5
	comp=Z,1.0nm,0.8s,baz=11,slow=1.5,SNR=4.5						

*ISCJB **20** 09:39:03.7±0.4, 17°.6S±0°.1×178°.43W±0°.10, h600km, mb3.7/10, Error ellipse: s-maj=17.0km s-min=8.2km az=141.1*

*NEIC **20** 09:39:03.8±1.3, 17°.6S±0°.1×178°.36W±0°.08, h585km±7km, mb4.2/30*

*IDC **20** 09:39:04.0±5.9, 17°.48S×178°.41W, h581km±66km, mb3.4/10, mb1 3.7/10, mb1mx3.3/43, mbtmp4.3/10, Error ellipse: s-maj=36.5km s-min=19.2km az=135.0*

ISC 20 09:39:04.5±0.6, 17°.6S±0°.1×178°.4W±0°.1, h600km, n46, σ0s99/48, mb4.0/25, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.41**	**267**	P	P	09 40 23.5	-2.7
AFI	**Afiamalu**	**7.34**	**61**	P	P	09 40 55.7	-2.1
OUZ	**Omahuta**	**18.95**	**201**	P	P	09 42 48.6	0.0
BBOO	**Buckleboo**	**43.58**	**241**	P	P	09 46 17.2	+0.1
WR0	**Warramunga Arr**	**44.53**	**259**	P	P	09 46 25.1	+0.5
WR0				IAmb	IAmb	09 46 35.6	
	comp=Z,17nm,1.5s						
WRAB	**Tennant Creek**	**44.71**	**259**	P	P	09 46 26.0	+0.1
WRAB				IAmb	IAmb	09 46 29.8	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**44.72**	**259**	P	P	09 46 26.5	+0.5
	comp=Z,1.2nm,0.5s,baz=97,slow=7.4,SNR=9.0						
WRA				PcP	PcP	09 47 55.3	+0.1
	comp=Z,0.5nm,0.6s,baz=94,slow=3.2,SNR=1.9						
AS31	**Alice Springs**	**44.90**	**254**	P	P	09 46 27.9	+0.5
ASAR	**Alice Springs**	**44.90**	**254**	P	P	09 46 27.9	+0.5
	comp=Z,1.0nm,0.7s,baz=86,slow=8.5,SNR=5.7						
ASAR				PcP	PcP	09 47 55.9	+0.1
	comp=Z,0.7nm,0.5s,baz=105,slow=3.8,SNR=6.1						
ANA2	**Anatahan**	**48.88**	**312**	P	P	09 46 56.7	-0.5
QSPA	**South Pole Qui**	**72.45**	**180**	P	P	09 49 29.9	-1.2
QSPA				IAmb	IAmb	09 49 41.3	
	comp=Z,6.2nm,1.4s						
PETK	**Petropavlovsk-**	**73.39**	**345**	P	P	09 49 37.5	+1.1
	comp=Z,4.7nm,1.1s,baz=128,slow=4.8,SNR=4.5						
YBH	**Yreka Blue Hor**	**78.27**	**39**	P	P	09 50 02.5	-1.1
BEKR	**Beckworth**	**78.64**	**42**	P	P	09 50 06.8	+1.0
HUMO	**Hull Mountain**	**78.64**	**38**	P	P	09 50 06.4	+0.9
HUMO				IAmb	IAmb	09 50 15.3	
	comp=Z,6.7nm,1.4s						
PNTR	**Pine Nut**	**78.69**	**43**	P	P	09 50 04.5	-1.6
PNTR				IAmb	IAmb	09 50 07.8	
	comp=Z,6.8nm,1.0s						
YERR	**Yerington**	**78.87**	**43**	P	P	09 50 07.4	+0.3
NVAR	**Mina Array Bea**	**79.18**	**44**	P	P	09 50 09.6	+0.9
	comp=Z,1.2nm,0.7s,baz=225,slow=8.6,SNR=8.0						
KVN	**Kaiserville**	**79.65**	**43**	P	P	09 50 11.9	+0.8
MOD	**Modoc Plateau**	**79.83**	**40**	P	P	09 50 13.0	+1.0
BRLK	**Bradley Lake**	**80.27**	**14**	P	P	09 50 14.6	+1.0
BRLK				IAmb	IAmb	09 50 29.5	
	comp=Z,16nm,1.0s						
SEW	**Seward**	**80.90**	**14**	P	P	09 50 17.8	+1.

comp=Z,0.7nm,0.4s,baz=220,slow=5.0,SNR=26
TX31 Lajitas Ar. Si 85.81 58 P **P** 09 50 42.0 **0.0**
TXAR Lajitas Array 85.81 58 P **P** 09 50 43.1 **+1.1**
comp=Z,0.9nm,0.7s,baz=220,slow=5.3,SNR=11
PDAR Pinedale Array 87.11 43 P **P** 09 50 48.2 **+0.2**
comp=Z,0.6nm,0.6s,baz=218,slow=3.0,SNR=7.8
YKA Yellowknife Ar 94.04 25 P **P** 09 51 19.4 **+0.2**
comp=Z,0.3nm,0.5s,baz=242,slow=4.7,SNR=3.6
BR131 Keskin Array S 144.58 315 **PKPab** 09 57 34.2 **-1.0**
BRTR Keskin Array B 144.58 315 PKP **PKPab** 09 57 35.1 **-0.1**
comp=Z,1.4nm,0.7s,baz=129,slow=4.5,SNR=10.0
CLL Collm 145.17 347 *i* PKPbc **PKPab** 09 57 36.6 **-0.3**
comp=Z,12nm,1.0s
GERES GERESS Array B 147.32 345 PKPbc **PKiKP** 09 57 42.6 **-0.8**
comp=Z,1.6nm,0.5s,baz=18,slow=3.5,SNR=16

*IDC **20** 09:40:18.8±0.8, 3.39N×126.75E, h0km, mb4.1/9, mb1 4.2/10, mb1mx3.9/54, mbtmp4.1/10, ML3.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/47, Error ellipse: s-maj=49.7km s-min=14.8km az=70.0*
*NEIC **20** 09:40:23.8±0.9, 3.4N±0.1×126.9E±0.2, h35km±2km, mb4.4/13*
ISC 20 09:40:20.4±0.6, **3.36N**±0.06×**126.6E**±0.1, **h10**km, **n31,**
σ1§**84**/35, **mb4.3**/14, **1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**2.87**	**342**	P	**Pn**	**09 41 07.0**	**+0.7**
DDMP				S	Sg	09 42 09.2	+16
MATI	**Mati**	**3.58**	**354**	P	**Pg**	**09 41 31.6**	**+2.5**
MATI				S	**Sg**	**09 42 18.1**	**+2.4**
SKMP	**Bagumbayan, Su**	**3.76**	**327**	P	**Pb**	**09 41 23.3**	**-3.6**
SKMP				S	**Sb**	**09 42 10.5**	**-2.0**
KCP	**Kidapawan**	**3.93**	**337**	P	**Pb**	**09 41 28.4**	**-1.6**
KCP				S	**Sb**	**09 42 16.4**	**-1.2**
BUKP	**Musuan**	**4.75**	**341**	P	**Pn**	**09 41 35.5**	**+3.3**
BUKP				S	**Sg**	**09 42 49.1**	**-4.0**
PAGZ	**Pagadian**	**5.50**	**324**	P	**Pn**	**09 41 46.3**	**+3.9**
SIJI	**Sorong**	**6.27**	**132**	Pn	**Pn**	**09 41 53.2**	**+0.2**
	3.0nm,0.3s,baz=326,slow=16,SNR=6.5						
SIJI				Sn	**Sn**	**09 43 00.5**	**-4.3**
	0.7nm,0.3s,baz=162,slow=23,SNR=1.8						
KNRA	**Kununurra**	**19.03**	**174**	P	**Pn**	**09 44 43.6**	**+0.1**
KNRA				IAmb	IAmb	09 45 02.0	
	comp=Z,8.4nm,0.8s						
TPUB	**Ta-pu**	**20.66**	**344**	P	**P**	**09 45 01.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**21.34**	**183**	P	**P**	**09 45 08.8**	**+1.0**
	comp=Z,4.2nm,0.8s,baz=16,slow=9.7,SNR=10.0						
FITZ	**Fitzroy Crossi**	**21.34**	**183**	P	**P**	**09 45 08.6**	**+0.7**
WRAB	**Tennant Creek**	**24.36**	**162**	P	**P**	**09 45 38.2**	**-0.7**
WRAB				IAmb	IAmb	09 45 39.9	
	comp=Z,18nm,1.1s						
WRA	**Warramunga Arr**	**24.37**	**162**	P	**P**	**09 45 38.2**	**-0.7**
	comp=Z,8.6nm,0.8s,baz=341,slow=10,SNR=40						
WR0	**Warramunga Arr**	**24.44**	**162**	P	**P**	**09 45 39.1**	**-0.5**
WR0				IAmb	IAmb	09 45 40.6	
	comp=Z,10nm,0.9s						
PSA00	**Pilbara Seismi**	**25.64**	**195**	P	**P**	**09 45 52.7**	**+2.3**
PSA00				IAmb	IAmb	09 45 57.5	
	comp=Z,24nm,1.5s						
PSI	**Prapat**	**27.65**	**270**	LR	LR	09 58 14.6	
	comp=Z,56nm,19.0s,baz=4.5,slow=39						
AS31	**Alice Springs**	**27.78**	**166**	P	**P**	**09 46 09.2**	**-0.6**
ASAR	**Alice Springs**	**27.78**	**166**	P	**P**	**09 46 09.4**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=346,slow=6.8,SNR=32						
FORT	**Forrest**	**33.97**	**178**	P	**P**	**09 47 05.0**	**+0.8**
BBOO	**Buckleboo**	**37.07**	**167**	P	**P**	**09 47 30.2**	**-0.7**
STKA	**Stephens Creek**	**37.83**	**159**	P	**P**	**09 47 37.0**	**-0.4**
	comp=Z,11nm,0.8s,baz=346,slow=9.1,SNR=13						
STKA	**Stephens Creek**	**37.83**	**159**	P	**P**	**09 47 36.8**	**-0.5**
STKA				IAmb	IAmb	09 47 38.3	
	comp=Z,2.4nm,0.8s						
ARMA	**Armidale**	**41.22**	**146**	P	**P**	**09 48 04.6**	**-1.2**
ARMA				IAmb	IAmb	09 48 06.8	
	comp=Z,6.0nm,0.8s						
SONM	**Songino Array**	**47.61**	**342**	P	**P**	**09 48 57.2**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=148,slow=6.6,SNR=4.5						
PETK	**Petropavlovsk-**	**55.82**	**22**	P	**P**	**09 49 56.6**	**-1.2**
	comp=Z,2.0nm,0.9s,baz=192,slow=4.0,SNR=1.4						
MKAR	**Makanchi Array**	**57.79**	**325**	P	**P**	**09 50 12.5**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=103,slow=7.9,SNR=3.5						
KURBB	**Kurchatov Arra**	**61.99**	**328**	P	**P**	**09 50 40.6**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=123,slow=6.4,SNR=4.1						
KURK	**Kurchatov**	**61.99**	**328**	P	**P**	**09 50 39.8**	**-1.0**
KURK				IAmb	IAmb	09 50 50.5	
	comp=Z,2.8nm,0.7s						
BVAR	**Borovoye Array**	**67.57**	**327**	P	**P**	**09 51 17.5**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=111,slow=8.1,SNR=4.2						
ABKAR	**Akbulak array**	**72.36**	**321**	P	**P**	**09 51 46.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**122.92**	**288**	PKP	**PKiKP**	**09 59 18.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=116,slow=3.4,SNR=2.9						

IDC 20 09:46:36.1±2.7, **54.19N**×**86.80E**, **h0**km, **mb1 3.3**/3, **mb1mx3.1**/56, **mbtmp3.3**/3, **ML3.1**/3, **Error ellipse: s-maj=23.7km s-min=13.9km az=53.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**1.19**	**259**	Pg	Pg	09 46 57.1	-1.8
	4.9nm,0.3s,baz=72,slow=17,SNR=37						
ZALV				Lg	Lg	09 47 15.8	
	3.8nm,0.3s,baz=80,slow=30,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.19**	**238**	Pn	Pn	09 48 09.1	+0.4
	0.3nm,0.3s,baz=52,slow=14,SNR=7.3						
KURBB				Lg	Lg	09 49 53.5	
	0.1nm,0.3s,baz=58,slow=32,SNR=4.7						
MKAR	**Makanchi Array**	**7.94**	**203**	Pn	Pn	09 48 33.5	+0.7
	0.2nm,0.3s,baz=24,slow=13,SNR=9.3						
MKAR				Sn	Sn	09 50 03.8	+0.5
	0.2nm,0.3s,baz=25,slow=26,SNR=5.6						
MKAR				Lg	Lg	09 50 49.2	
	0.1nm,0.3s,baz=23,slow=27,SNR=1.6						
BVAR	**Borovoye Array**	**9.82**	**270**	Pn	Pn	09 48 58.9	+0.4
	0.4nm,0.3s,baz=69,slow=13,SNR=5.3						
BVAR				Sn	Sn	09 50 42.9	-6.5
	0.2nm,0.3s,baz=66,slow=28,SNR=3.4						
I34MN	**SONGINO INFRAS**	**13.88**	**109**	*i*		11 10 30.0	
	baz=307,slow=334,SNR=2.9						

*IDC **20** 09:46:48.4±1.0, 20.82N×146.63E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.8/54, mbtmp3.8/11, MS3.0/2, Ms1 3.1/2, ms1mx2.7/50, Error ellipse: s-maj=33.4km s-min=22.4km az=91.0*
*NEIC **20** 09:46:50.1±2.8, 20.8N±0.1×146.7E±0.2, h10km±1km, mb4.4/8*
*ISCJB **20** 09:46:52.5±0.7, 20.88N±0.10×146.6E±0.2, h37km, mb3.7/11, MS2.9/2, Error ellipse: s-maj=21.5km s-min=13.7km az=172.7*
ISC 20 09:46:54.3±0.9, **20.9N**±0.1×**146.6E**±0.2, **h37**km, **n21,**
σ1§**33**/19, **mb3.9**/15, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAJO	**Matsushiro**	**17.27**	**337**	Pn	**Pn**	**09 50 50.3**	**-2.3**
MJB9	**Matsu-Tunnel**	**17.28**	**337**	Pn	**Pn**	**09 50 50.2**	**-2.4**
TGY	**Tagaytay City**	**25.39**	**259**	LR	LR	10 01 56.1	
	comp=Z,38nm,18.9s,baz=21,slow=36						
KLR	**Kul'dur**	**30.70**	**341**	P	**P**	**09 53 06.4**	**+0.9**
	1.4nm,0.7s,baz=173,slow=8.1,SNR=2.6						
SONM	**Songino Array**	**42.05**	**319**	P	**P**	**09 54 43.5**	**+1.1**
	0.3nm,0.5s,baz=134,slow=10,SNR=2.4						
WRA	**Warramunga Arr**	**42.30**	**197**	P	**P**	**09 54 43.7**	**-0.8**
	1.0nm,0.8s,baz=20,slow=8.8,SNR=4.2						
CMAR	**Chiang Mai Arr**	**44.85**	**276**	LR	LR	10 15 21.5	
	comp=Z,14nm,18.2s,baz=110,slow=38						
ASAR	**Alice Springs**	**45.96**	**196**	P	**P**	**09 55 13.2**	**-0.7**
	0.4nm,0.7s,baz=14,slow=6.2,SNR=2.4						
ZALV	**Zalesovo Beam**	**56.86**	**322**	P	**P**	**09 56 34.8**	**-0.3**
	2.7nm,0.6s,baz=110,slow=7.3,SNR=9.8						
MKAR	**Makanchi Array**	**57.63**	**313**	P	**P**	**09 56 39.6**	**-1.1**
	0.8nm,0.8s,baz=77,slow=12,SNR=3.8						
TOLK	**Toolik Lake Re**	**61.27**	**22**	P	**P**	**09 57 05.4**	**-0.1**
TOLK				IAmb	IAmb	09 57 14.5	
	comp=Z,3.2nm,1.2s						
ILAR	**Eielson Array**	**61.33**	**27**	P	**P**	**09 57 05.8**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=233,slow=4.4,SNR=1.8						
BRVK	**Borovoye**	**65.45**	**320**	P	**P**	**09 57 34.7**	**+1.3**
KK31	**Karatay Array**	**66.09**	**309**	P	**P**	**09 57 39.9**	**+2.2**
KK31				IAmb	IAmb	09 57 42.9	
	comp=Z,4.7nm,1.4s						
KKAR	**Karatay Array**	**66.09**	**309**	P	**P**	**09 57 39.8**	**+2.1**
KKAR				IAmb	IAmb	09 57 39.9	
	comp=Z,3.1nm,0.9s						
ARU	**Arti**	**71.83**	**324**	P	**P**	**09 58 13.3**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=182,slow=2.5,SNR=5.2						
ARU	**Arti**	**71.83**	**324**	P	**P**	**09 58 12.4**	**-0.7**
ABKAR	**Akbulak array**	**72.37**	**317**	P	**P**	**09 58 16.7**	**+0.2**
ABKAR				IAmb	IAmb	09 58 17.5	
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**75.68**	**28**	P	**P**	**09 58 35.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=290,slow=5.4,SNR=4.4						
NVAR	**Mina Array Bea**	**81.13**	**52**	P	**P**	**09 59 07.0**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=280,slow=6.9,SNR=3.5						
FINES	**FINESS Array B**	**85.30**	**335**	P	**P**	**09 59 26.2**	**-0.9**
	comp=Z,2.2nm,0.5s,baz=49,slow=5.8,SNR=9.8						

*IDC **20** 10:06:01.2±1.3, 6.94S×128.38E, h0km, mb3.9/3, mb1 3.9/7, mb1mx3.7/44, mbtmp3.9/7, ML3.8/4, MS3.2/4, Ms1 3.2/4, ms1mx2.8/33, Error ellipse: s-maj=34.7km s-min=21.9km az=93.0*
*ISCJB **20** 10:06:02.3±0.8, 7.09S±0.06×128.58E±0.07, h33km, mb3.7/3, MS3.2/1, Error ellipse: s-maj=10.6km s-min=9.0km az=6.9*
ISC 20 10:06:05.1±0.9, **7.13S**±0.07×**128.56E**±0.10, **h35**km, **n8,**
σ2§**98**/11, **mb3.8**/3, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.72**	**237**	Pn	**Pn**	**10 07 28.1**	**+0.5**
	12nm,0.3s,baz=178,slow=4.0,SNR=7.9						
BATI				Sn	**Sn**	**10 08 33.0**	**+0.8**
	4.4nm,0.3s,baz=137,slow=22,SNR=1.5						
SIJI	**Sorong**	**6.78**	**24**	Pn	**Pn**	**10 07 40.3**	**-1.8**
	2.0nm,0.3s,baz=164,slow=18,SNR=4.3						
FITZ	**Fitzroy Crossi**	**11.27**	**194**	Pn	**Pn**	**10 08 44.5**	**+0.8**
	0.2nm,0.3s,baz=30,slow=13,SNR=2.6						
FITZ				Sn	**Sn**	**10 10 41.9**	**-6.5**
	0.1nm,0.3s,baz=260,slow=21,SNR=1.7						
FITZ				LR	LR	10 13 53.7	
	comp=Z,61nm,18.4s,baz=44,slow=41						
WRA	**Warramunga Arr**	**13.92**	**157**	Pn	**Pn**	**10 09 18.9**	**-1.0**
	0.2nm,0.3s,baz=324,slow=13,SNR=9.4						
WRA				Sn	**Sn**	**10 11 54.3**	**+0.9**
	0.2nm,0.3s,baz=332,slow=24,SNR=6.1						
WRA				LR	LR	10 15 02.6	
	comp=Z,94nm,21.1s,baz=335,slow=38						
ASAR	**Alice Springs**	**17.23**	**163**	P	**P**	**10 10 04.5**	**+0.2**
	0.2nm,0.3s,baz=332,slow=9.3,SNR=20						
ASAR				LR	LR	10 16 50.6	
	comp=Z,100nm,18.1s,baz=48,slow=37						
STKA	**Stephens Creek**	**27.46**	**155**	P	**P**	**10 11 52.4**	**+4.4**
	3.1nm,0.9s,baz=315,slow=7.1,SNR=2.6						
STKA				LR	LR	10 23 47.4	
	comp=Z,57nm,18.1s,baz=24,slow=38						
MKAR	**Makanchi Array**	**67.56**	**328**	P	**P**	**10 16 57.0**	**-0.9**
	0.4nm,0.6s,baz=118,slow=8.2,SNR=4.6						
BVAR	**Borovoye Array**	**77.42**	**328**	P	**P**	**10 17 57.7**	**+1.2**
	0.5nm,0.5s,baz=106,slow=11,SNR=3.6						

*IDC **20** 10:35:38.9±1.6, 6.91S×128.42E, h0km, mb3.7/4, mb1 3.8/8, mb1mx3.6/44, mbtmp3.7/8, ML3.6/4, MS3.1/4, Ms1 3.1/4, ms1mx2.8/36, Error ellipse: s-maj=44.0km s-min=23.0km az=105.0*
*ISCJB **20** 10:35:39.1±0.5, 7.16S±0.04×128.71E±0.04, h33km, mb3.6/4, MS2.9/2, Error ellipse: s-maj=6.0km s-min=5.3km az=140.9*
*NEIC **20** 10:35:41.2±2.1, 7.17S±0.06×128.73E±0.04, h32km±6km, mb4.1/6*
ISC 20 10:35:41.2±0.7, **7.11S**±0.06×**128.71E**±0.05, **h35**km, **n25,**
σ1§**76**/31, **mb3.7**/7, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.71**	**109**	Pn	**Pn**	**10 36 21.9**	**-0.4**
SAUI				Sn	**Sn**	**10 36 52.1**	**-1.8**
SOEI	**Soe**	**5.12**	**239**		**Pn**	**10 36 55.2**	**-0.5**
SOEI				Sn	**Sn**	**10 37 53.7**	**+0.1**
FAKI	**Fak Fak**	**5.46**	**40**	Pn	**Pn**	**10 36 58.4**	**-1.7**
BATI	**Baumata**	**5.86**	**238**	Pn	**Pn**	**10 37 06.6**	**+0.9**
	6.0nm,0.3s,baz=128,slow=6.1,SNR=5.9						
BATI				Sn	**Sn**	**10 38 12.7**	**+0.9**
	0.9nm,0.3s,baz=132,slow=23,SNR=0.9						
MMRI	**Maumere**	**6.59**	**256**	Pn	**Pn**	**10 37 15.0**	**-0.7**
MMRI				Sn	**Sn**	**10 38 26.7**	**-2.9**
SIJI	**Sorong**	**6.70**	**22**	Pn	**Pn**	**10 37 18.2**	**+0.9**
	1.2nm,0.3s,baz=271,slow=22,SNR=2.2						
KNRA	**Kununurra**	**8.51**	**180**	Pn	**Pn**	**10 37 40.7**	**-1.4**
KNRA				Sn	**Sn**	**10 39 16.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.32**	**195**	Pn	**Pn**	**10 38 21.7**	**+1.0**
	0.1nm,0.3s,baz=14,slow=8.3,SNR=2.9						
FITZ				Sn	**Sn**	**10 40 26.1**	**+0.1**
	0.2nm,0.3s,baz=215,slow=22,SNR=1.4						
FITZ				LR	LR	10 42 49.1	
	comp=Z,65nm,19.0s,baz=56,slow=38						
FITZ	**Fitzroy Crossi**	**11.32**	**195**		**Pn**	**10 38 20.3**	**-0.3**
FITZ					**Sn**	**10 40 25.7**	**-0.3**
WRAB	**Tennant Creek**	**13.87**	**157**	Pn	**Pn**	**10 38 54.5**	**-1.0**
WRA	**Warramunga Arr**	**13.88**	**157**	Pn	**Pn**	**10 38 57.6**	**+2.1**
	0.2nm,0.3s,baz=336,slow=13,SNR=8.8						
WRA				Sn	**Sn**	**10 41 31.8**	**+3.3**
	0.1nm,0.3s,baz=331,slow=23,SNR=3.5						
WRA				LR	LR	10 44 49.3	
	comp=Z,106nm,18.1s,baz=40,slow=39						
WR0	**Warramunga Arr**	**13.97**	**157**	Pn	**Pn**	**10 38 56.8**	**0.0**
PSA00	**Pilbara Seismi**	**16.73**	**210**	Pn	**Pn**	**10 39 32.9**	**-0.2**
PSA00				IAmb	IAmb	10 39 33.2	
	comp=Z,27nm,1.4s						
AS31	**Alice Springs**	**17.20**	**164**		**P**	**10 39 40.1**	**-0.1**
ASAR	**Alice Springs**	**17.20**	**164**	P	**P**	**10 39 45.2**	**+5.0**
	comp=Z,0.2nm,0.3s,baz=348,slow=11,SNR=19						
STKA	**Stephens Creek**	**27.42**	**156**	LR	LR	10 53 50.6	
	comp=Z,53nm,20.4s,baz=24,slow=39						
RPSI	**Rantau Prapat**	**31.28**	**287**	P	**P**	**10 41 56.0**	**-2.3**
RPSI				IAmb	IAmb	10 42 13.2	
	comp=Z,5.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**38.83**	**311**	LR	LR	11 00 09.6	
	comp=Z,13nm,19.7s,baz=305,slow=38						
MKAR	**Makanchi Array**	**67.62**	**327**	P	**P**	**10 46 35.6**	**+1.0**
	comp=Z,1.0nm,1.1s,baz=134,slow=6.2,SNR=2.0						
ARSB	**Arslanbob**	**70.12**	**319**	P	**P**	**10 46 52.0**	**+1.6**
ZALV	**Zalesovo Beam**	**71.12**	**334**	P	**P**	**10 46 57.0**	**+1.0**
	comp=Z,0.2nm,0.2s,baz=116,slow=3.4,SNR=1.4						
KURBB	**Kurchatov Arra**	**71.94**	**329**	P	**P**	**10 47 01.9**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=134,slow=4.8,SNR=2.0						
KURK	**Kurchatov**	**71.95**	**329**	P	**P**	**10 46 58.6**	**-2.4**
KURK				IAmb	IAmb	10 47 14.0	
	comp=Z,3.5nm,1.2s						
BVAR	**Borovoye Array**	**77.48**	**328**	P	**P**	**10 47 34.8**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=166,slow=39,SNR=2.1						
QSPA	**South Pole Qui**	**82.87**	**180**	P	**P**	**10 48 00.2**	**-1.9**
QSPA				IAmb	IAmb	10 48 03.1	
	comp=Z,0.3nm,0.8s						

*IDG **20** 10:43:43.0, 55.95N×41.01E, M1.6, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
IDC 20 10:43:59.8±324.0, **52.70N**×**46.60E**, **h0**km, **Error ellipse: s-maj=155.5km s-min=85.8km az=151.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**7.49**	**103**	*i*		11 27 50.0	
	baz=299,slow=324,SNR=2.5						
I37NO	**I37NO**	**21.00**	**332**	*i*		12 57 15.5	
	baz=128,slow=328,SNR=1.6						
I46RU	**ZALESOVO INFRA**	**22.68**	**71**	*i*		12 59 34.3	
	baz=286,slow=317,SNR=1.7						
I34MN	**SONGINO INFRAS**	**37.59**	**73**	*i*		14 30 10.0	
	baz=303,slow=332,SNR=1.1						
I45RU	**USSURIYSK INFR**	**54.09**	**62**	*i*		16 12 10.0	
	baz=307,slow=336,SNR=3.6						

IDC 20 10:54:42.2±2.3, **1.01N**×**126.82E**, **h0**km, **mb3.2**/3, **mb1 3.4**/3, **mb1mx3.3**/36, **mbtmp3.2**/3, **Error ellipse: s-maj=173.0km s-min=29.2km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.09**	**161**	P	P	10 59 38.3	-0.8
	0.4nm,0.5s,baz=339,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**25.47**	**165**	P	P	11 00 13.0	+0.8
	0.5nm,0.8s,baz=348,slow=10.0,SNR=2.6						
MKAR	**Makanchi Array**	**59.84**	**326**	P	P	11 04 49.5	-0.1
	0.2nm,0.5s,baz=107,slow=5.8,SNR=1.8						

*WEL **20** 11:00:24.9±0.5, 33°S±4°×18°0W±1°0, h5km, M4.7/32, mB5.3/23, ML4.9/31, MLv4.8/32, Mw(mB)4.7/23, Error ellipse: s-maj=0.0km s-min=0.0km az=109.9*
*IDC **20** 11:00:31.7±4.3, 33.91S×179.72E, h303km±44km, mb3.2/2, mb1 3.6/4, mb1mx3.3/29, mbtmp4.2/4, Error ellipse: s-maj=54.9km s-min=42.9km az=163.0*
ISC 20 11:00:29.1±1.8, **33.7S**±0.1×**180.0E**±0.1, **h300**km, **n96,**
σ2§**01**/101, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.06**	**199**	P	**Pn**	**11 01 35.0**	**-0.8**
MXZ				S	**S**	**11 02 28.1**	**-1.2**
WMGZ	**Waiomatatini S**	**4.28**	**197**	P	**Pn**	**11 01 38.4**	**+0.2**
WMGZ				S	**S**	**11 02 35.1**	**+1.4**
HAZ	**Te Kaha**	**4.40**	**203**	P	**Pn**	**11 01 39.3**	**-0.3**
HAZ				S	**S**	**11 02 37.1**	**+0.9**
WIZ	**White Island**	**4.42**	**210**	P	**Pn**	**11 01 42.6**	**+2.8**
PKGZ	**Pakihiroa**	**4.43**	**200**	P	**Pn**	**11 01 39.7**	**-0.4**
PKGZ				S	**S**	**11 02 37.6**	**+0.7**
PUZ	**Puketiti**	**4.55**	**197**	P	**Pn**	**11 01 40.9**	**-0.5**
PUZ				S	**S**	**11 02 40.2**	**+0.7**
KUZ	**Kuaotunu**	**4.61**	**228**	P	**Pn**	**11 01 42.4**	**+0.4**
RUGZ	**Raukumara Rang**	**4.62**	**203**	P	**Pn**	**11 01 43.0**	**+0.8**
MYRZ	**Mayor Island**	**4.68**	**220**	P	**Pn**	**11 01 44.3**	**+1.5**
WHRZ	**Whale Island**	**4.79**	**210**	P	**Pn**	**11 01 47.4**	**+3.3**
CNGZ	**Carnagh Statio**	**4.96**	**196**	P	**Pn**	**11 01 46.6**	**+0.6**
OPRZ	**Ohinepanea**	**4.96**	**213**	P	**Pn**	**11 01 46.0**	**0.0**
MWZ	**Matawai**	**5.01**	**203**	P	**Pn**	**11 01 46.1**	**-0.5**
TKGZ	**Te Karaka**	**5.01**	**200**	P	**Pn**	**11 01 46.0**	**-0.6**
WIAZ	**Waiheke Island**	**5.01**	**231**	P	**Pn**	**11 01 48.6**	**+1.9**
MARZ	**Manawahe**	**5.03**	**211**	P	**Pn**	**11 01 48.9**	**+2.1**
URZ	**Urewera**	**5.08**	**206**	P	**Pn**	**11 01 46.3**	**-1.1**
	24nm,0.3s,baz=274,slow=5.2,SNR=224						
URZ				S	**S**	**11 02 49.1**	**-1.4**
	32nm,0.3s,baz=132,slow=19,SNR=12						
URZ	**Urewera**	**5.08**	**206**	P	**Pn**	**11 01 46.5**	**-0.9**
EDRZ	**Edgecumbe**	**5.10**	**210**	P	**Pn**	**11 01 50.3**	**+2.6**
WCZ	**Waipu Caves**	**5.13**	**243**	P	**Pn**	**11 01 47.1**	**-1.0**
MBAZ	**Motutapu North**	**5.15**	**232**	P	**Pn**	**11 01 50.0**	**+1.8**
LIRZ	**Lichensteins R**	**5.17**	**213**	P	**Pn**	**11 01 51.3**	**+2.8**
MKAZ	**Moumakai**	**5.18**	**228**	P	**Pn**	**11 01 49.8**	**+1.2**
RAGZ	**Rawiri**	**5.19**	**203**	P	**Pn**	**11 01 50.6**	**+1.8**
ETAZ	**East Tamaki Re**	**5.24**	**231**	P	**Pn**	**11 01 51.0**	**+1.8**
MKRZ	**Makatiti**	**5.24**	**212**	P	**Pn**	**11 01 53.2**	**+3.8**
KARZ	**Kaharoa**	**5.25**	**214**	P	**Pn**	**11 01 51.9**	**+2.5**
KMRZ	**Kaimai**	**5.26**	**217**	P	**Pn**	**11 01 52.2**	**+2.6**
OMRZ	**Omania**	**5.26**	**213**	P	**Pn**	**11 01 52.9**	**+3.3**
RIGZ	**Rimuhau**	**5.28**	**199**	P	**Pn**	**11 01 49.1**	**-0.7**
TARZ	**Mount Tarawera**	**5.31**	**211**	P	**Pn**	**11 01 53.3**	**+3.1**
NGRZ	**Ngongotaha**	**5.34**	**214**	P	**Pn**	**11 01 53.5**	**+3.0**
HLRZ	**Highlands Stat**	**5.39**	**212**	P	**Pn**	**11 01 54.1**	**+3.0**
RRRZ	**Republican Roa**	**5.39**	**210**	P	**Pn**	**11 01 53.7**	**+2.6**
UTU	**Utuhina**	**5.40**	**214**	P	Pn	11 01 56.2	+5.0
MUGZ	**Murupara**	**5.41**	**208**	P	**Pn**	**11 01 50.4**	**-0.8**
TOZ	**Tahuroa Road**	**5.41**	**221**	P	**Pn**	**11 01 52.8**	**+1.6**
RTZ	**Ruatahuna**	**5.45**	**206**	P	**Pn**	**11 01 51.0**	**-0.8**
PRGZ	**Paritu Road**	**5.45**	**197**	P	**Pn**	**11 01 51.4**	**-0.4**
WTAZ	**Waiatarua**	**5.46**	**233**	P	**Pn**	**11 01 53.7**	**+1.9**
SNGZ	**Shannon Statio**	**5.48**	**202**	P	**Pn**	**11 01 51.4**	**-0.6**
OUZ	**Omahuta**	**5.48**	**252**	P	**Pn**	**11 01 48.9**	**-3.2**
HSRZ	**Hossack Road**	**5.48**	**212**	P	**Pn**	**11 01 55.3**	**+3.2**
HRRZ	**Handcock Road**	**5.53**	**212**	P	**Pn**	**11 01 55.9**	**+3.1**
PRRZ	**Plateau Road**	**5.58**	**210**	P	**Pn**	**11 01 53.6**	**+0.3**
GRRZ	**Galatos Road**	**5.58**	**213**	P	**Pn**	**11 01 56.2**	**+2.9**
KNZ	**Kokohu**	**5.60**	**199**	P	**Pn**	**11 01 53.3**	**-0.1**
ALRZ	**Allen Road**	**5.65**	**210**	P	**Pn**	**11 01 55.3**	**+1.2**
MHGZ	**

ANF ***20*** *11:19:25.0±0.8,31.36N×115.61W,ML3.3/15,Error ellipse: s-maj=8.7km s-min=4.5km az=32.0*
ECX ***20*** *11:19:26.2±0.7,31.28N×115.65W,h6km,MD3.1,ML3.4*
MEX ***20*** *11:19:26.9±0.4,31.22N×115.70W,h3km,MD3.5*
SCEDC ***20*** *11:19:31.3,31.60N×115.90W,h7km*
ISC 20 11:19:24.5±1.1,31.31N±0.03×115.72W±0.04,h4km±11km, n35,σ1.946/54,1C-3D,Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.34**	**141**	*i* P		**Pg**		**11 19 31.6**	**+0.3**
	baz=310,slow=14								
SPIG				*i* S		**Sg**		**11 19 35.7**	**-0.1**
SPIG	**San Pedro Mart**	**0.34**	**141**	*e*P		**Pg**		**11 19 31.6**	**+0.3**
SPIG				*e*S		**Sg**		**11 19 35.8**	**-0.1**
SPX	**San Pedro Mart**	**0.35**	**142**	⇓*i*P		**Pg**		**11 19 31.6**	**+0.2**
SPX				*e*S		**Sg**		**11 19 35.7**	**-0.3**
SPX				IAML				11 19 36.9	
	comp=N,3μm,0.3s								
SPX				*e*				11 19 36.9	
SPX				IAML				11 19 39.2	
	comp=E,3μm,0.7s								
SPX				⇑*e*				11 19 39.2	
ESJX	**Sierra Juarez**	**0.72**	**344**	⇓*e*P		**Pg**		**11 19 38.5**	**+0.2**
ESJX				*e*S		**Sg**		**11 19 48.4**	**-1.6**
SQX	**San Quintin**	**0.75**	**191**	*e*P		**Pg**		**11 19 39.1**	**+0.2**
SQX				*e*S		**Sg**		**11 19 49.0**	**+0.4**
SFX	**San Felipe**	**0.79**	**110**	*e*P		**Pb**		**11 19 40.0**	**-0.9**
SFX				*e*S		**Sg**		**11 19 49.9**	**-0.1**
CCX	**Cicese**	**0.98**	**305**	*e*P		**Pn**		**11 19 44.3**	**-0.8**
CPBX	**Cerro Prieto**	**1.16**	**17**	*e*P		**Pn**		**11 19 46.7**	**-0.8**
MBIG	**Mexicali**	**1.18**	**22**	*e*P		**Pn**		**11 19 48.3**	**+0.5**
MBIG				*e*S		**Sn**		**11 20 03.6**	**-0.6**
ERMX	**Rumorosa**	**1.26**	**348**	*e*P		**Pg**		**11 19 49.3**	**+0.5**
ERMX				*e*S		**Sn**		**11 20 06.2**	**-0.5**
ERMX				⇓*e*				11 20 11.3	
ERMX				IAML				11 20 11.3	
	comp=N,636nm,0.3s								
IKP	**In-Ko-Pah, Jac**	**1.37**	**346**	P		**Pg**		**11 19 51.1**	**+0.2**
	baz=170,SNR=96								
IKP				S		**Sg**		**11 20 09.3**	**+0.6**
	baz=170								
IKP	**In-Ko-Pah, Jac**	**1.37**	**346**	*e*P		**Pg**		**11 19 51.1**	**+0.2**
TJIG	**Tijuana**	**1.38**	**324**	*e*P		**Pb**		**11 19 50.4**	**-0.6**
TJIG				*e*S		**Sg**		**11 20 09.0**	**0.0**
TJIG	**Tijuana**	**1.38**	**324**	*e*P		**Pg**		**11 19 50.6**	**-0.5**
BAR	**Barrett**	**1.59**	**329**	*e*P		**Pb**		**11 19 54.1**	**-0.4**
SWSC	**Sam W. Stewart**	**1.63**	**357**	P		**Pb**		**11 19 53.9**	**-1.2**
	baz=184,SNR=41								
OLP	**Otay Lakes Par**	**1.65**	**322**	*e*P		**Pb**		**11 19 55.1**	**-0.5**
MONP2	**Monument Peak**	**1.68**	**339**	P		**Pg**		**11 19 56.4**	**-0.5**
	baz=161,SNR=96								
MONP2				S		**Sg**		**11 20 18.0**	**-0.7**
	baz=161								
GLA	**Glamis**	**1.89**	**23**	P		**Pn**		**11 19 57.1**	**-0.6**
	baz=212								
109C	**Camp Elliot, M**	**1.96**	**323**	P		**Pb**		**11 20 00.1**	**-0.8**
	baz=141,SNR=40								
109C				S		**Sb**		**11 20 25.7**	**0.0**
	baz=141								
PFO	**Pinyon Flats O**	**2.38**	**345**	P		**Pn**		**11 20 05.0**	**+0.6**
	baz=167								
PFO				Sb		**Sg**		**11 20 39.9**	**-1.0**
	baz=167								
214A	**Organ Pipe Nat**	**2.56**	**75**	P		**Pn**		**11 20 06.3**	**-0.6**
	baz=263								
214A				S		**Sn**		**11 20 36.4**	**-2.0**
	baz=263								
MURC	**Murrieta**	**2.60**	**332**	Pb		**Pb**		**11 20 10.9**	**-0.9**
	baz=151,SNR=33								
Y12C	**Blythe**	**2.63**	**22**	Sb		**Sg**		**11 20 48.0**	**-1.1**
	baz=209								
IRM	**Iron Mountain**	**2.88**	**9**	P		**Pn**		**11 20 12.1**	**+0.9**
	baz=194								
BBRC	**Big Bear Solar**	**3.11**	**341**	P		**Pn**		**11 20 16.1**	**+1.5**
	baz=162								
BBRC				Sb		**Sg**		**11 21 01.8**	**-2.7**
	baz=162								
BFSC	**Mount Baldy Ra**	**3.34**	**331**	Pb		**Pb**		**11 20 23.4**	**-1.1**
	baz=150,SNR=10								
BFSC				Sb		**Sg**		**11 21 08.2**	**-3.8**
	baz=150								
HEC	**Hector,Ludlow**	**3.54**	**352**	P		**Pn**		**11 20 22.1**	**+1.7**
	baz=174								
HEC				Sg		**Sg**		**11 21 21.2**	**+2.8**
	baz=174								
RRX	**Edison Barstow**	**3.71**	**343**	Pg		**Pg**		**11 20 35.1**	**-0.6**
	baz=164								
RRX				Sg		**Sg**		**11 21 26.7**	**+2.9**
	baz=164								
EDW2	**Edwards Air Fo**	**4.04**	**332**	Pb		**Pb**		**11 20 36.0**	**-0.3**
	baz=151								
EDW2				Sb		**Sb**		**11 21 29.2**	**+3.7**
	baz=151								
TUC	**Tucson**	**4.31**	**75**	P		**Pn**		**11 20 30.1**	**-0.9**
	baz=262								
WUAZ	**Wupatki**	**5.54**	**40**	P		**Pn**		**11 20 50.4**	**+2.4**
	baz=225,SNR=6.9								
TPNV	**Topopah Spring**	**5.64**	**356**	P		**Pn**		**11 20 52.3**	**+3.0**
	baz=177								
W18A	**Petrified Fore**	**6.28**	**51**	P		**Pn**		**11 21 00.5**	**+2.3**
	baz=237,SNR=6.5								
MVCO	**Mesa Verde**	**8.38**	**43**	P		**Pn**		**11 21 29.9**	**+2.9**
	baz=230								

ISCJB ***20*** *11:43:11.6±0.3,24.18S±0.03×67.01W±0.03,h204km±4km, mb3.2/3,Error ellipse: s-maj=5.0km s-min=4.4km az=144.9*
NEIC ***20*** *11:43:11.8±1.8,24.17S±0.05×67.0W±0.1,h204km±17km*
IDC ***20*** *11:43:11.8±1.1,24.22S×66.84W,h179km±13km,mb3.2/3, mb1 3.5/9,mb1mx3.4/27,mbtmp3.9/9,Error ellipse: s-maj=19.9km s-min=13.3km az=83.0*
SJA ***20*** *11:43:12±1.9,24.16S±0.07×67.0W±0.1,h204km±8km, mb4.3/5(NEIC),ML4.3(GUC)*
GUC ***20*** *11:43:14.3±0.7,23.93S×67.46W,h236km±9km,ML4.3*
ISC 20 11:43:12.2±0.7,24.19S±0.04×66.98W±0.04,h197km±7km, n54,σ1.928/85,mb3.4/3,11C-1D,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.45**	**112**	*i* P		**Pn**		**11 43 47.0**	**+1.6**
SLA				IAML				11 43 47.5	
	comp=Z,156nm,0.5s								
SLA				*i* S		**S**		**11 44 11.9**	**+0.7**
AZAP	**Zapla**	**1.75**	**92**	*i* P		**Pn**		**11 43 49.2**	**+0.9**
AZAP				IAML				11 43 49.6	
	comp=Z,208nm,0.6s								
AZAP				*i* S		**S**		**11 44 16.9**	**+0.6**
LVC	**Limon Verde**	**2.37**	**311**	⇓*i*P		**Pn**		**11 43 56.1**	**+1.3**
LVC				*i* S		**S**		**11 44 28.0**	**0.0**
LVC	**Limon Verde**	**2.37**	**311**	P		**Pn**		**11 43 56.1**	**+1.3**
	comp=Z,23nm,0.3s,baz=129,slow=7.2,SNR=211								
LVC				S		**S**		**11 44 27.8**	**-0.2**
	comp=Z,37nm,0.3s,baz=293,slow=22,SNR=36								
LVC	**Limon Verde**	**2.37**	**311**			**Pn**		**11 43 55.6**	**+0.7**
LVC				Sn		**S**		**11 44 28.2**	**+0.2**
LVC	**Limon Verde**	**2.37**	**311**	*i* P		**Pn**		**11 43 56.2**	**+1.3**
LVC				*i* S		**S**		**11 44 28.4**	**+0.4**
YJA	**Yavi**	**2.42**	**34**	*i* P		**Pn**		**11 43 56.5**	**+1.0**
YJA				IAML				11 43 57.6	
	comp=Z,23nm,0.3s								
YJA				*i* S		**S**		**11 44 26.8**	**-2.4**
PB15	**IPOC Station P**	**2.48**	**293**	⇑*i*P		**Pn**		**11 43 57.4**	**+1.4**
PB15				*i* S		**S**		**11 44 30.1**	**+0.2**
PB15	**IPOC Station P**	**2.48**	**293**	*i* P		**Pn**		**11 43 57.4**	**+1.4**
PB15				*i* S		**S**		**11 44 30.1**	**+0.2**
GO02	**Mina Guanaco**	**2.56**	**247**	⇑*i*P		**Pn**		**11 43 58.5**	**+1.5**
GO02				*i* S		**S**		**11 44 33.1**	**+1.3**
GO02	**Mina Guanaco**	**2.56**	**247**			**Pn**		**11 43 58.3**	**+1.4**
GO02				Sn		**S**		**11 44 32.8**	**+1.0**
PB06	**IPOC Station P**	**2.80**	**301**	⇑*i*P		**Pn**		**11 44 00.7**	**+1.1**
PB06				*i* S		**S**		**11 44 35.7**	**-0.7**
PB06				IAML				11 44 37.7	
	comp=E,906nm,0.3s								
PB06	**IPOC Station P**	**2.80**	**301**	*i* P		**Pn**		**11 44 00.8**	**+1.3**
PB06				*i* S		**S**		**11 44 35.7**	**-0.7**
PB14	**IPOC Station P**	**3.15**	**261**	⇑*i*P		**Pn**		**11 44 04.6**	**+0.8**
PB14				*i* S		**S**		**11 44 43.2**	**-0.8**
PB14	**IPOC Station P**	**3.15**	**261**	*i* P		**Pn**		**11 44 04.7**	**+0.8**
PB14				*i* S		**S**		**11 44 43.6**	**-0.5**
PB09	**IPOC Station P**	**3.16**	**318**	⇑*i*P		**Pn**		**11 44 05.1**	**+1.2**
PB09				*i* S		**S**		**11 44 42.9**	**-1.3**
PB09				IAML				11 44 45.6	
	comp=N,297nm,0.7s								
PB09	**IPOC Station P**	**3.16**	**318**	*i* P		**Pn**		**11 44 05.2**	**+1.4**
PB09				*i* S		**S**		**11 44 43.9**	**-0.3**
PB05	**IPOC Station P**	**3.24**	**294**	⇑*i*P		**Pn**		**11 44 05.3**	**+0.6**
PB05				*i* S		**S**		**11 44 43.5**	**-2.2**
PB05				IAML				11 44 46.6	
	comp=N,294nm,0.2s								
PB05	**IPOC Station P**	**3.24**	**294**	*i* P		**Pn**		**11 44 05.6**	**+0.8**
PB03	**IPOC Station P**	**3.32**	**309**	⇑*i*P		**Pn**		**11 44 06.3**	**+0.5**
PB03				*i* S		**S**		**11 44 45.9**	**-1.7**
PB03				IAML				11 44 50.3	
	comp=E,456nm,0.3s								
PB03	**IPOC Station P**	**3.32**	**309**	*i* P		**Pn**		**11 44 06.5**	**+0.7**
PB03				*i* S		**S**		**11 44 46.1**	**-1.5**
PB10	**IPOC Station P**	**3.34**	**281**	⇑*i*P		**Pn**		**11 44 06.8**	**+1.0**
PB10				*i* S		**S**		**11 44 46.3**	**-1.4**
PB10	**IPOC Station P**	**3.34**	**281**			**Pn**		**11 44 06.7**	**+0.9**
PB10				Sn		**S**		**11 44 47.3**	**-0.4**
PB10	**IPOC Station P**	**3.34**	**281**	*i* P		**Pn**		**11 44 06.8**	**+1.0**
PB10				*i* S		**S**		**11 44 47.4**	**-0.2**
PB04	**IPOC Station P**	**3.45**	**302**	⇑*i*P		**Pn**		**11 44 07.8**	**+0.5**
PB04				*i* S		**S**		**11 44 48.1**	**-2.2**
PB04				IAML				11 44 52.3	
	comp=N,490nm,0.5s								
PB04	**IPOC Station P**	**3.45**	**302**			**Pn**		**11 44 07.8**	**+0.5**
PB04				Sn		**S**		**11 44 49.0**	**-1.4**
PB07	**IPOC Station P**	**3.63**	**312**	⇑*i*P		**Pn**		**11 44 09.9**	**+0.4**
PB07				*i* S		**S**		**11 44 51.8**	**-2.5**
PB07	**IPOC Station P**	**3.63**	**312**	*i* P		**Pn**		**11 44 10.0**	**+0.4**
PB07				*i* S		**S**		**11 44 52.3**	**-2.1**
GO03	**Copiap**	**4.48**	**220**			**Pn**		**11 44 20.0**	**0.0**
GO03				Sn		**S**		**11 45 12.3**	**-1.1**
PB08	**IPOC Station P**	**4.50**	**333**	⇑*i*P		**Pn**		**11 44 21.3**	**+0.7**
PB08				*i* S		**S**		**11 45 13.1**	**-1.3**
GO01	**Chusmiza**	**4.94**	**335**			**Pn**		**11 44 26.5**	**+0.1**
PB11	**IPOC Station P**	**5.05**	**330**			**Pn**		**11 44 26.7**	**-0.8**
PB11	**IPOC Station P**	**5.05**	**330**	*i* P		**Pn**		**11 44 26.5**	**-1.0**
PB11				*i* S		**S**		**11 45 23.5**	**-3.2**
MNMC	**Minye Minye**	**5.59**	**334**			**Pn**		**11 44 34.0**	**-0.5**
GO04	**Tololo Observa**	**6.86**	**209**	P		**Pn**		**11 44 49.1**	**-1.0**
GO04						**S**		**11 44 06.2**	**-2.8**
CFA	**Coronel Fontan**	**7.47**	**188**	P		**Pn**		**11 44 59.5**	**+0.9**
	comp=N,1.8nm,0.3s,baz=254,slow=20,SNR=14								
CFA				S		**S**		**11 46 19.1**	**-4.0**
	comp=N,2.8nm,0.3s,baz=228,slow=20,SNR=12								
LPAZ	**La Paz**	**7.93**	**352**	P		**Pn**		**11 45 05.8**	**+0.5**
	comp=N,0.5nm,0.3s,baz=48,slow=4.7,SNR=13								
LPAZ	**La Paz**	**7.93**	**352**			**Pn**		**11 45 05.1**	**-0.1**
CPUP	**Villa Florida**	**9.00**	**106**	P		Pn		11 45 24.4	+5.9
	comp=N,0.4nm,0.3s,baz=277,slow=10,SNR=4.7								
CPUP	**Villa Florida**	**9.00**	**106**	Pn		**Pn**		**11 45 18.3**	**-0.1**
ROC1	**El Roble**	**9.45**	**201**	Pn		**Pn**		**11 45 24.6**	**+0.1**
SIV	**San Ignacio**	**9.86**	**35**	P		**Pn**		**11 45 28.4**	**-1.5**
	comp=N,1.5nm,0.3s,baz=231,slow=12,SNR=19								
TRQA	**Tornquist**	**14.47**	**164**			**P**		**11 46 28.6**	**-0.8**
GO06	**Curarrehue**	**15.81**	**193**	P		**P**		**11 46 44.4**	**+0.1**
GO06				IAmb		IAmb		11 46 48.3	
	comp=Z,4.8nm,0.7s								
PLCA	**Paso Flores**	**16.77**	**189**	P		**Pn**		**11 46 57.0**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=25,slow=9.2,SNR=7.1								
PLCA	**Paso Flores**	**16.77**	**189**			**P**		**11 46 54.3**	**-0.4**
BDFB	**Brasilia**	**19.74**	**68**	P		**P**		**11 47 27.4**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=238,slow=9.9,SNR=16								
BDFB	**Brasilia**	**19.74**	**68**	P		**P**		**11 47 25.4**	**-1.9**
BDFB				IAmb		IAmb		11 47 28.8	
	comp=Z,15nm,0.8s								
EFI	**East Falkland**	**28.29**	**168**	P		**P**		**11 48 46.7**	**-0.4**
RCBR	**Riachuelo**	**34.99**	**64**	P		**P**		**11 49 45.0**	**-1.1**
TXAR	**Lajitas Array**	**63.84**	**324**	P		**P**		**11 53 26.1**	**+2.3**
	comp=Z,0.1nm,0.6s,baz=114,slow=9.0,SNR=1.7								
TORD	**Torodi Ar. Bea**	**76.62**	**69**	P		**P**		**11 54 42.1**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=251,slow=5.4,SNR=8.6								
YKA	**Yellowknife Ar**	**94.30**	**340**	P		**P**		**11 56 09.9**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=133,slow=4.5,SNR=2.2								
WRA	**Warramunga Arr**	**131.47**	**207**	PKP		**PKiKP**		**12 02 03.8**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=155,slow=1.8,SNR=5.9								

IDC ***20*** *11:58:56.8±0.5,24.03S×169.36E,h0km,mb4.9/18, mb1 5.0/20,mb1mx4.9/25,mbtmp4.8/20,ML3.9/2,MS4.1/31, Ms1 4.1/31,ms1mx4.1/37,Error ellipse: s-maj=18.3km s-min=14.3km az=78.0*
ISCJB ***20*** *11:58:58.6±1.7,24.06S±0.03×169.28E±0.03,h19km±12km, mb5.2/90,MS4.1/28,Error ellipse: s-maj=6.0km s-min=4.0km az=17.6*
NEIC ***20*** *11:58:59.9±1.1,24.02S±0.07×169.28E±0.07,h19km±3km, mb5.2/87*
GCMT ***20*** *11:59:00.9±0.2,23.95S±0.01×169.34E±0.02,h12km, MW5.0/109,Moment Tensor Solution. s51,c59; s109,c149; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.69±.07; Mθθ3.17±.07; Mφφ0.52±.07; Mrθ-0.19±.23; Mθφ0.83±.06; Mrφ0.13±.34; Best double couple: M₀3.55800×10¹⁶ NP1:φ₁76.00000°,δ46.00000°, λ-86.00000°. NP2:φ₂251.00000°,δ44.00000°, λ-94.00000°. Principal axes: T 3.4150, Plg1.0000°, Azm164.0000°; N 0.2950, Plg3.0000°, Azm254.0000°; P -3.7010, Plg87.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***20*** *11:59:01.6±0.0,23.67S×169.72E,h40km,mb5.1/43, mB5.5/22,Ms5.3/6,Ms7 5.0/6*
MOS ***20*** *11:59:01.0±1.4,24.05S×169.27E,h30km,mb5.4/36,Error ellipse: s-maj=9.0km s-min=8.7km az=123.7*
ISC 20 11:59:01.2±0.6,24.02S±0.05×169.31E±0.05,h28km±3km, h26km:pP-P,n557,σ0.989/566,mb5.2/116,MS4.1/29, 35C-11D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.27**	**306**	*e*Pn		**Pn**		**11 59 50.3**	**-0.5**
	215nm,0.2s								
DZM				*e*Sn		**Sn**		**12 00 28.3**	**-0.6**
	354nm,0.3s								
DZM				*e*LR		LR		12 00 33.6	
	comp=Z,10μm,25.1s								
DZM	**Mont Dzumac**	**3.27**	**306**	Pn		**Pn**		**11 59 49.9**	**-0.9**
	17nm,0.3s,baz=126,slow=10,SNR=382								
DZM				Sn		**Sn**		**12 00 28.3**	**-0.6**
	95nm,0.3s,baz=150,slow=16,SNR=5.0								
DZM				LR		LR		12 01 15.0	
	comp=Z,9μm,20.4s,baz=117,slow=42								
DZM	**Mont Dzumac**	**3.27**	**306**			**Pn**		**11 59 50.1**	**-0.7**
DZM				Sn		**Sn**		**12 00 29.4**	**+0.5**
MSVF	**Nonsavu**	**10.28**	**54**	*i* P		**Pn**		**12 01 29.0**	**+2.0**
MSVF				pmax		pmax			
	comp=Z,170nm,1.1s								
MSVF	**Nonsavu**	**10.28**	**54**			**Pn**		**12 01 27.9**	**+0.8**
RAO	**Raoul Island**	**12.55**	**117**	LR		LR		12 05 40.2	
	comp=Z,1μm,20.3s,baz=161,slow=32								
HIZ	**Hauiti**	**15.20**	**163**			**Pn**		**12 02 35.0**	**+1.1**
HIZ				IAmb		IAmb		12 02 57.8	
	comp=Z,250nm,1.6s								
MXZ	**Matakaoa Point**	**15.54**	**152**	Pn		**Pn**		**12 02 39.9**	**+1.5**
URZ	**Urewera**	**15.68**	**157**	Pn		**Pn**		**12 02 41.6**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=351,slow=19,SNR=1.9								
URZ				LR		LR		12 08 01.3	
	comp=Z,3μm,18.0s,baz=337,slow=35								
URZ	**Urewera**	**15.68**	**157**			**Pn**		**12 02 41.5**	**+1.3**
BKZ	**Black Stump Fm**	**16.28**	**160**			**Pn**		**12 02 48.3**	**+0.3**
EIDS	**Eidsvold**	**16.62**	**262**			**Pn**		**12 02 51.9**	**-0.5**
ARMA	**Armidale**	**16.96**	**244**			**Pn**		**12 02 55.6**	**-1.0**
QRZ	**Quartz Range**	**16.98**	**172**			**Pn**		**12 02 56.6**	**0.0**
HNR	**Honiara**	**17.04**	**327**	P		**P**		**12 02 59.6**	**+0.4**
HNR				pmax		pmax			
	comp=Z,216nm,1.0s								
HNR	**Honiara**	**17.04**	**327**	P		**P**		**12 02 59.6**	**+0.4**
	comp=Z,2.6nm,0.3s,baz=174,slow=4.1,SNR=8.5								
HNR				LR		LR		12 08 15.9	
	comp=Z,1μm,19.8s,baz=176,slow=33								
HNR	**Honiara**	**17.04**	**327**	P		**P**		**12 03 01.0**	**+1.8**
HNR	**Honiara**	**17.04**	**327**	P		**P**		**12 02 59.6**	**+0.4**
HNR				IAmb		IAmb		12 03 11.2	
	comp=Z,216nm,1.0s								
BFZ	**Birch Farm**	**17.61**	**162**	Pn		**Pn**		**12 03 03.8**	**-0.7**
TUWZ	**Tuamarina**	**17.79**	**169**	P		**P**		**12 03 06.8**	**-0.5**
SNZO	**South Karori**	**17.82**	**167**			**Pn**		**12 03 05.7**	**-1.5**
THZ	**Tophouse**	**17.95**	**171**	P		**P**		**12 03 09.3**	**+0.1**
BSWZ	**Blackbirch Sta**	**18.05**	**169**	P		**P**		**12 03 10.9**	**+0.6**
KHZ	**Kahutara**	**18.68**	**170**	P		**Pn**		**12 03 17.8**	**+0.2**
LTZ	**Lake Taylor**	**18.88**	**173**	P		**P**		**12 03 19.3**	**0.0**
OXZ	**Oxford**	**19.39**	**174**	P		**P**		**12 03 24.9**	**0.0**
FOZ	**Fox Glacier**	**19.47**	**179**	P		**Pn**		**12 03 27.0**	**-0.1**
RPZ	**Rata Peaks**	**19.70**	**176**	P		**Pn**		**12 03 29.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=28,slow=17,SNR=5.9								
RPZ				LR		LR		12 10 33.4	
	comp=Z,2μm,18.1s,baz=12,slow=35								
RPZ	**Rata Peaks**	**19.70**	**176**	P		**Pn**		**12 03 29.2**	**-0.7**
AFI	**Afiamalu**	**20.49**	**64**	P		**P**		**12 03 38.2**	**+1.0**
AFI				pmax		pmax			
	comp=Z,74nm,1.1s								
AFI	**Afiamalu**	**20.49**	**64**	LR		LR		12 09 58.0	
	comp=Z,159nm,20.1s,baz=266,slow=32								
AFI	**Afiamalu**	**20.49**	**64**	P		**P**		**12 03 38.2**	**+1.0**
AFI				IAmb		IAmb		12 03 58.7	
	comp=Z,74nm,1.1s								
CAN	**Canberra**	**20.90**	**233**	P		**P**		**12 03 41.3**	**-0.1**
CAN				pmax		pmax			
	comp=Z,81nm,1.2s								
CAN	**Canberra**	**20.90**	**233**	P		**P**		**12 03 41.3**	**-0.1**
CAN				IAmb		IAmb		12 03 45.1	
	comp=Z,81nm,1.2s								
CTA	**Charters Tower**	**21.72**	**276**	P		**P**		**12 03 51.8**	**+1.4**
	comp=Z,42nm,1.1s,baz=96,slow=13,SNR=11								
TOO	**Toolangi**	**24.43**	**231**	P		**P**		**12 04 17.5**	**-0.1**
TOO				pmax		pmax			
	comp=Z,120nm,1.4s								
TOO	**Toolangi**	**24.43**	**231**	P		**P**		**12 04 17.5**	**-0.1**
TOO				IAmb		IAmb		12 04 27.5	
	comp=Z,120nm,1.4s								
PMG	**Port Moresby**	**25.66**	**301**	*ce*P		**P**		**12 04 29.3**	**+0.5**
PMG				pmax		pmax			
	comp=Z,404nm,0.8s								
PMG	**Port Moresby**	**25.66**	**301**	P		**P**		**12 04 28.8**	**0.0**
	comp=Z,101nm,0.9s,baz=103,slow=5.4,SNR=25								
PMG				LR		LR		12 13 21.1	
	comp=Z,284nm,19.7s,baz=108,slow=34								
PMG	**Port Moresby**	**25.66**	**301**	P		**P**		**12 04 28.9**	**0.0**
STKA	**Stephens Creek**	**25.66**	**246**	P		**P**		**12 04 29.2**	**+0.5**
STKA				pmax		pmax			
	comp=Z,28nm,1.1s								
STKA	**Stephens Creek**	**25.66**	**246**	P		**P**		**12 04 30.1**	**+1.4**
	comp=Z,48nm,0.9s,baz=82,slow=12,SNR=49								
STKA				PcP		**PcP**		**12 07 59.6**	**+0.7**
	comp=Z,6.1nm,0.8s,baz=134,slow=6.7,SNR=3.1								
STKA				LR		LR		12 13 22.6	
	comp=Z,177nm,20.8s,baz=70,slow=34								
STKA	**Stephens Creek**	**25.66**	**246**	P		**P**		**12 04 29.2**	**+0.5**
COEN	**Coen**	**26.62**	**287**	P		**P**		**12 04 37.5**	**-0.1**
COEN				IAmb		IAmb		12 04 47.2	
	comp=Z,34nm,0.8s								
RAR	**Rarotonga**	**28.65**	**91**	LR		LR		12 13 34.8	
	comp=Z,68nm,21.1s,baz=261,slow=31								
BBOO	**Buckleboo**	**30.43**	**246**	P		**P**		**12 05 11.5**	**+0.1**
MANU	**Manus Island**	**30.46**	**313**	P		**P**		**12 05 11.3**	**-0.4**
AS31	**Alice Springs**	**32.34**	**263**	P		**P**		**12 05 28.1**	**-0.3**
ASAR	**Alice Springs**	**32.34**	**263**	P		**P**		**12 05 28.4**	**0.0**
	comp=Z,8.8nm,0.8s,baz=88,slow=8.8,SNR=51								
ASAR				PcP		**PcP**		**12 08 14.9**	**-1.0**
	comp=Z,5.6nm,0.8s,baz=105,slow=3.1,SNR=8.4								
ASAR				ScP		**ScP**		**12 11 58.6**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=66,slow=4.5,SNR=2.3								
ASAR				LR		LR		12 17 50.1	
	comp=Z,205nm,21.2s,baz=100,slow=35								
WR0	**Warramunga Arr**	**32.44**	**270**	P		**P**		**12 05 28.4**	**-0.9**
WRAB	**Tennant Creek**	**32.62**	**270**	*ce*P		**P**		**12 05 30.4**	**-0.4**
WRAB				pmax		pmax			
	comp=Z,37nm,1.7s								
WRAB	**Tennant Creek**	**32.62**	**270**	P		**P**		**12 05 29.9**	**-0.9**
WRAB				IAmb		IAmb		12 05 32.1	
	comp=Z,46nm,1.6s								
WRA	**Warramunga Arr**	**32.63**	**270**	P		**P**		**12 05 29.1**	**-1.8**
	comp=Z,6.1nm,0.8s,baz=100,slow=7.9,SNR=55								
WRA				PcP		**PcP**		**12 08 15.7**	**-1.

comp=Z,68nm,1.2s
SBA Scott Base 53.91 181 P **P** **12 08 22.4 +0.7**
SBA pmax pmax
comp=Z,43nm,1.0s
SBA Scott Base 53.91 181 P **P** **12 08 22.4 +0.7**
SRBI Singaraja 54.02 278 P **P** **12 08 23.7 +0.3**
comp=Z,55nm,1.2s
KEKH Kekaha 54.76 36 P **P** **12 08 28.8 +0.3**
JAGI Jajag, Banyuwa 54.83 277 P **P** **12 08 31.6 +2.3**
comp=Z,64nm,1.3s
JAGI Jajag, Banyuwa 54.83 277 P **P** **12 08 28.5 -0.8**
CASY Casey 55.81 205 P **P** **12 08 35.4 -0.2**
PWJI Pagerwojo 57.14 276 P **P** **12 08 46.4 +0.6**
comp=Z,36nm,1.8s
JCJ Chichijima 57.17 331 LR LR 12 30 46.8
comp=Z,374nm,18.4s,baz=182,slow=33
UGM Wanagama 58.35 276 P **P** **12 08 53.4 -1.0**
KKM Kota Kinabalu 59.75 293 P **P** **12 09 04.2 +0.1**
KPJI Karang Pucung 60.02 275 P **P** **12 09 05.5 -0.4**
comp=Z,55nm,1.4s
STKI Sintang 60.90 284 P **P** **12 09 13.0 +1.1**
CISI Cisompet, Garu 60.95 275 P **P** **12 09 13.6 +1.2**
comp=Z,73nm,1.6s
CISI Cisompet, Garu 60.95 275 P **P** **12 09 11.8 -0.5**
SBUM Sibu 61.37 287 P **P** **12 09 14.8 -0.3**
SBUM IAmb IAmb 12 09 17.3
comp=Z,16nm,1.4s
LEM Lembang 61.42 275 P **P** **12 09 15.9 +0.2**
comp=Z,48nm,1.4s
DBJI Dramaga 62.32 275 P **P** **12 09 22.0 +0.5**
comp=Z,97nm,1.0s
KASI Kota Agung 64.78 275 P **P** **12 09 38.5 +0.7**
MDSI Maura Dua 65.49 276 P **P** **12 09 41.7 -0.7**
comp=Z,21nm,1.2s
QSPA South Pole Qui 66.06 180 P **P** **12 09 45.2 -0.2**
comp=Z,52nm,1.0s,baz=28,slow=2.5,SNR=88
QSPA South Pole Qui 66.06 180 P **P** **12 09 45.1 -0.3**
MJAR Matsushiro Arr 67.01 333 P **P** **12 09 51.1 -0.5**
comp=Z,5.1nm,0.8s,baz=155,slow=6.3,SNR=8.5
MJAR LR LR 12 40 15.4
comp=Z,66nm,19.0s,baz=135,slow=37
MAJO Matsushiro 67.01 333 *i* P **P** **12 09 51.3 -0.3**
MAJO pmax pmax
comp=Z,43nm,1.3s
MAJO Matsushiro 67.01 333 P **P** **12 09 51.6 0.0**
MAJO IAmb IAmb 12 09 52.5
comp=Z,33nm,1.1s
MAT Matsushiro 67.01 333 P **P** **12 09 51.4 -0.2**
KSI Kapahiang 67.28 276 P **P** **12 09 53.8 -0.1**
JNU Nakatsue 67.60 326 P **P** **12 09 55.4 -0.1**
JNU IAmb IAmb 12 09 57.2
comp=Z,27nm,1.0s
TJN Taejon 71.95 325 *ce* P **P** **12 10 23.3 +1.2**
IPM Ipoh 72.19 283 P **P** **12 10 23.9 -0.2**
KSRS Korea Array 72.49 327 P **P** **12 10 26.3 +1.0**
comp=Z,14nm,0.8s,baz=147,slow=6.5,SNR=23
KSRS LR LR 12 41 12.1
comp=Z,105nm,19.3s,baz=146,slow=35
KULM Kulim 72.89 284 P **P** **12 10 28.1 -0.1**
KULM IAmb IAmb 12 10 29.4
comp=Z,26nm,1.0s
RPSI Rantau Prapat 73.28 281 P **P** **12 10 29.6 -0.9**
RPSI IAmb IAmb 12 10 36.7
comp=Z,44nm,1.2s
PSI Prapat 73.33 281 P **P** **12 10 29.6 -1.4**
PSI pmax pmax
comp=Z,44nm,1.2s
NJ2 Nanjing 73.70 317 *e* P **P** **12 10 34.3 +1.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
GSI Gunungsitoli 73.90 279 P **P** **12 10 35.8 +1.6**
comp=Z,48nm,0.9s
GSI Gunungsitoli 73.90 279 P **P** **12 10 34.3 +0.1**
MAW Mawson 74.06 202 P **P** **12 10 34.1 -0.1**
MAW pmax pmax
comp=Z,4.0nm,1.0s
MAW Mawson 74.06 202 P **P** **12 10 33.2 -1.0**
comp=Z,8.1nm,0.8s,baz=120,slow=7.4,SNR=9.3
MAW LR LR 12 39 20.4
comp=Z,110nm,19.9s,baz=60,slow=33
MAW Mawson 74.06 202 P **P** **12 10 34.1 -0.1**
YSS Yuzh-Sakhalins 74.61 341 *e* P **P** **12 10 39.8 +2.3**
TRTT Trang 74.89 286 P **P** **12 10 41.5 +1.6**
TPTI 75.09 280 P P 12 10 48.4 +7.3
SKR Severo-Kuril's 75.28 351 *ce* P **P** **12 10 42.3 +1.0**
WHN Wuhan 75.62 313 P **P** **12 10 44.8 +1.0**
WHN pmax pmax
comp=Z,38nm,1.1s
SKNT Sakolnakorn 75.65 296 P **P** **12 10 45.3 +1.1**
USRK Ussuriysk Ar. 76.00 333 P **P** **12 10 45.4 -0.3**
comp=Z,9.8nm,0.9s,baz=152,slow=5.5,SNR=11
USRK LR LR 12 41 38.9
comp=Z,110nm,21.3s,baz=166,slow=34
SURT Suratani 76.19 286 P **P** **12 10 50.1 +2.7**
MLSI Meulaboh, Aceh 76.22 281 P P 12 10 54.9 +7.3
CHAI Chaiyaphum 76.76 294 P **P** **12 10 51.7 +1.1**
NONG Nongkai 76.89 297 P **P** **12 10 52.6 +1.3**
comp=Z,0.9nm,1.2s
PHET Kaeng Krachan 77.31 290 P **P** **12 10 56.1 +2.5**
PEA0B Petropavlovsk- 77.46 353 P **P** **12 10 54.4 +0.7**
PEA0B pmax pmax
comp=Z,111nm,1.6s
PEA0B Petropavlovsk- 77.46 353 P **P** **12 10 54.4 +0.7**
PETK Petropavlovsk- 77.46 353 P **P** **12 10 54.2 +0.5**
comp=Z,6.4nm,1.0s,baz=116,slow=6.8,SNR=6.4
PETK LR LR 12 38 03.3
comp=Z,326nm,21.6s,baz=229,slow=30
PBKT Sadao Pong 77.94 294 P **P** **12 10 58.9 +1.8**
comp=Z,13nm,1.1s
PBKT Sadao Pong 77.94 294 P **P** **12 10 57.6 +0.5**
PBKT IAmb IAmb 12 10 59.7
comp=Z,19nm,0.9s
TYV Tymovskoe 78.18 343 *e* P P 12 11 04.5 +6.8
TYV pmax pmax
comp=Z,21nm,1.1s
TYV pmax pmax
comp=Z,500nm,7.0s
SRDT SRDT 78.42 291 P **P** **12 11 02.7 +2.8**
comp=Z,22nm,1.1s
CN2 Changchun 78.57 329 *e* P **P** **12 11 00.6 +0.6**
GYA Guiyang 78.62 306 ⇑ *i* P **P** **12 11 02.3 +1.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s
UTHA Uthaitani 78.73 293 P **P** **12 11 03.3 +1.8**
comp=Z,46µm,0.9s,comp=Z,450µm
ENH Enshi 78.78 310 P **P** **12 11 01.4 -0.2**
ENH IAmb IAmb 12 11 08.6
comp=Z,25nm,1.0s
UTTA Uttaradit 78.86 295 P **P** **12 11 04.1 +1.9**
comp=Z,21µm,1.1s
PHRA Phrae 79.50 296 P **P** **12 11 07.5 +1.8**
comp=Z,6.0nm,1.2s
UMPA Umpang Tak 79.53 293 P **P** **12 11 07.5 +1.6**
comp=Z,20µm,0.6s
LAMP Lampang 80.01 295 P **P** **12 11 10.5 +2.0**
comp=Z,79µm,0.9s,comp=Z,697µm
KLR Kul'dur 80.24 336 *i* P **P** **12 11 10.2 +1.2**
KLR pmax pmax
comp=Z,9.0nm,1.0s
KLR Kul'dur 80.24 336 LR LR 12 43 25.4
comp=Z,281nm,21.5s,baz=182,slow=33
SYO Syowa Base 80.39 196 ⇑ *e* P **P** **12 11 07.2 -2.5**
SYO Syowa Base 80.39 196 ‖ *e* P P **P** **12 11 13.0 +3.3**
CM31 Chiang Mai Arr 80.55 295 P **P** **12 11 12.8 +1.4**
CM31 IAmb IAmb 12 11 14.3
comp=Z,30nm,1.0s
CMAR Chiang Mai Arr 80.55 295 *i* P **P** **12 11 13.1 +1.7**
CMAR pmax pmax
comp=Z,13nm,0.8s
CMAR Chiang Mai Arr 80.55 295 P **P** **12 11 13.2 +1.8**
comp=Z,13nm,0.8s,baz=137,slow=4.2,SNR=73
CMAR LR LR 12 48 04.1
comp=Z,39nm,20.3s,baz=175,slow=37
BJT Baijiatuan 80.68 321 P **P** **12 11 11.8 +0.2**
BJT pmax pmax
comp=Z,27nm,1.2s
BJT Baijiatuan 80.68 321 P **P** **12 11 11.8 +0.2**
BJT IAmb IAmb 12 11 19.1
comp=Z,27nm,1.2s
CMMT Chiang Mai 80.72 295 P **P** **12 11 13.8 +1.5**
comp=Z,23nm,1.0s
CHTO Chiang Mai 80.72 295 P **P** **12 11 12.8 +0.5**
CHTO pmax pmax
comp=Z,37nm,1.0s
CHTO Chiang Mai 80.72 295 P **P** **12 11 12.8 +0.5**
CHTO IAmb IAmb 12 11 15.0
comp=Z,37nm,0.9s
KMI Kunming 80.87 303 P **P** **12 11 13.0 -0.2**
KMI pmax pmax
comp=Z,31nm,1.0s
KMI Kunming 80.87 303 P **P** **12 11 13.0 -0.2**
KMI IAmb IAmb 12 11 21.8
comp=Z,31nm,1.0s
MHMT Maesarieng 81.25 294 P **P** **12 11 17.2 +2.1**
XAN Xi'an 81.39 313 P **P** **12 11 16.3 +0.7**
XAN pP pP 12 11 24.8 +0.9
XAN pmax pmax
comp=Z,15nm,1.1s
XAN Xi'an 81.39 313 P **P** **12 11 15.6 0.0**
XAN pmax pmax
comp=Z,21nm,1.2s
XAN Xi'an 81.39 313 P **P** **12 11 15.6 0.0**
XAN IAmb IAmb 12 11 17.5
comp=Z,21nm,1.2s
PMSA Palmer Station 82.42 160 LR LR 12 45 35.5
comp=Z,164nm,18.1s,baz=268,slow=34
PMSA Palmer Station 82.42 160 P **P** **12 11 20.6 +0.1**
PMSA IAmb IAmb 12 11 21.2
comp=Z,36nm,1.3s
CD2 Chengdu 83.20 308 P **P** **12 11 26.3 +1.1**
CD2 pmax pmax
comp=Z,20nm,0.3s
HHC Hu-ho-hao-te 83.89 320 *e* P **P** **12 11 30.8 +2.3**
HHC pmax pmax
comp=Z,6.0nm,1.0s
NVL N'lazarevskaya 84.15 187 *e* P **P** **12 11 33.2 +3.9**
NVL *e* S **S** **12 21 53.8 +1.7**
NVL pmax pmax
comp=Z,26nm,1.0s
SNAA Sanae 84.41 182 P **P** **12 11 29.6 -1.2**
SNAA Sanae 84.41 182 *d* i P **P** **12 11 29.4 -1.4**
SNAA Sanae 84.41 182 P **P** **12 11 29.1 -1.6**
SNAA IAmb IAmb 12 11 36.4
comp=Z,22nm,1.0s
VNA3 Neumayer Olymp 85.00 180 P **P** **12 11 32.4 -1.3**
VNA2 Neumayer--Watz 85.29 181 P **P** **12 11 34.4 -0.7**
baz=179,slow=3.4
ZEA Zeya 85.54 336 *e* P **P** **12 11 36.8 +0.4**
ZEA pmax pmax
comp=Z,12nm,1.0s
VNA1 Neumayer--Stat 85.58 181 P **P** **12 11 35.6 -0.9**
LZH Lanzhou 85.97 312 *e* P **P** **12 11 41.3 +2.1**
LZH SS SS 12 27 45.8 -4.4
LZH pmax pmax
comp=Z,31nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.6s
LZH LR LR
comp=Z,330nm,13.0s
LZH LR LR
comp=Z,490nm,13.4s
USHA Ushuaia 87.26 151 LR LR 12 42 36.2
comp=Z,142nm,21.2s,baz=204,slow=30
SEY Seymchan 87.69 352 *i* P **P** **12 11 47.6 +0.9**
PKM Mcpherson Peak 89.09 51 P **P** **12 11 55.3 +1.0**
baz=240
SHL Shillong 89.65 298 P **P** **12 11 57.6 +0.5**
SHL pmax pmax
comp=Z,36nm,1.0s
SHL Shillong 89.65 298 P **P** **12 11 57.6 +0.5**
O02D Mt. Diablo Mer 89.80 45 P **P** **12 11 58.9 +1.6**
baz=238
ARVC Arvin 89.91 51 P **P** **12 11 59.1 +1.3**
baz=240
VES Vestal, Richgr 90.08 50 P **P** **12 11 59.7 +1.1**
baz=240
WDC Whiskeytown Da 90.17 45 P **P** **12 11 58.8 -0.2**
WDC pmax pmax
comp=Z,22nm,1.3s
WDC Whiskeytown Da 90.17 45 P **P** **12 11 58.8 -0.2**
WDC IAmb IAmb 12 12 01.5
comp=Z,22nm,1.2s
N02D Trinity Center 90.28 45 P **P** **12 12 00.6 +1.0**
baz=238,SNR=7.4
CMB Columbia Colle 90.28 48 P **P** **12 11 59.5 -0.1**
CMB pmax pmax
comp=Z,18nm,1.0s
CMB Columbia Colle 90.28 48 P **P** **12 11 59.5 -0.1**
CMB IAmb IAmb 12 12 01.6
comp=Z,18nm,0.9s
ORV Oroville 90.32 46 P **P** **12 11 59.6 0.0**
ORV pmax pmax
comp=Z,16nm,1.1s
ORV Oroville 90.32 46 P **P** **12 11 59.6 0.0**
ORV IAmb IAmb 12 12 01.8
comp=Z,16nm,1.1s
BFSC Mount Baldy Ra 90.32 52 P **P** **12 12 00.2 +0.2**
baz=241
L02E Cave Junction 90.34 43 P **P** **12 12 01.3 +1.6**
baz=237
MURC Murrieta 90.35 53 P **P** **12 12 00.5 +0.5**
baz=241
AFDM Forest Hills D 90.36 47 P **P** **12 11 59.8 -0.1**
AFDM IAmb IAmb 12 12 02.0
comp=Z,18nm,1.0s
EDW2 Edwards Air Fo 90.39 52 P **P** **12 12 00.8 +0.6**
baz=241
M02C Callahan 90.40 44 P **P** **12 12 00.5 +0.4**
baz=238,SNR=6.3
ISA Isabella, Lake 90.43 51 P **P** **12 12 01.0 +0.6**
baz=240
ISA Isabella, Lake 90.43 51 P **P** **12 12 00.7 +0.3**
ISA pmax pmax
comp=Z,23nm,1.0s
ISA Isabella, Lake 90.43 51 P **P** **12 12 00.7 +0.3**
ISA IAmb IAmb 12 12 02.5
comp=Z,23nm,1.0s
GTA Gaotai 90.45 313 *e* P **P** **12 12 01.3 +0.9**
GTA pP sP 12 12 11.3 -0.5
GTA sP pwP 12 12 15.8 +4.6
GTA pmax pmax
comp=Z,5.0nm,1.1s
O03E Paynes Creek 90.50 46 P **P** **12 12 01.6 +1.0**
baz=238,SNR=6.7
MONP2 Monument Peak 90.58 54 P **P** **12 12 01.6 +0.3**
baz=242
K02D Willamette Mer 90.59 43 P **P** **12 12 01.8 +0.9**
baz=237
J01E Myrtle Point 90.68 42 P **P** **12 12 01.8 +0.6**
baz=237
IKP In-Ko-Pah, Jac 90.70 54 P **P** **12 12 02.1 +0.4**
baz=242
ULN Ulaanbaatar 90.72 323 *ce* P **P** **12 12 02.3 +0.8**
ULN pmax pmax
comp=Z,17nm,1.0s
ULN Ulaanbaatar 90.72 323 P **P** **12 12 01.6 0.0**
ULN IAmb IAmb 12 12 03.6
comp=Z,20nm,1.0s
BBRC Big Bear Solar 90.86 53 P **P** **12 12 03.1 +0.4**
baz=241
PFO Pinyon Flats O 90.89 53 P **P** **12 12 03.1 +0.4**
baz=242
LRMC Laurel Mtn Rad 90.90 51 P **P** **12 12 03.0 +0.4**
baz=241
OMMB Old Mammoth Mi 91.02 49 P **P** **12 12 03.2 -0.2**
OMMB IAmb IAmb 12 12 05.6
comp=Z,27nm,1.4s
SONM Songino Array 91.06 323 P **P** **12 12 04.1 +1.0**
comp=Z,8.5nm,0.9s,baz=131,slow=4.6,SNR=40
SONM LR LR 12 51 30.4
comp=Z,116nm,21.2s,baz=154,slow=35
SWSC Sam W. Stewart 91.07 54 P **P** **12 12 03.9 +0.6**
baz=242
CWC Cottonwood Cre 91.09 50 P **P** **12 12 03.7 +0.2**
baz=241
L04D Klamath Falls 91.19 44 P **P** **12 12 04.9 +1.1**
baz=238
BEKR Beckworth 91.23 46 P **P** **12 12 04.3 +0.2**
BEKR IAmb IAmb 12 12 06.2
comp=Z,16nm,1.2s
M04C Macdoel 91.25 44 P **P** **12 12 05.1 +1.0**
baz=238
MPMC Manual Prospec 91.32 51 P **P** **12 12 04.9 +0.2**
baz=241
I03D Drain, OR 91.32 42 P **P** **12 12 05.0 +0.8**
baz=238
BELC Belle Mtn. Jos 91.42 53 P **P** **12 12 05.3 +0.2**
baz=242
YAK Yakutsk 91.43 342 *e* P **P** **12 12 01.5 -2.7**
YAK *e**PP **pP** **12 12 10.4 -2.2**
YAK *e* 12 15 39.9
YAK *e*S **SKSac 12 22 31.0 -3.2**
YAK *e**SS **S 12 22 56.7 -4.6**
YAK pmax pmax
comp=Z,14nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK pmax pmax
comp=Z,205nm,4.3s
YAK pmax pmax
comp=N,141nm,4.3s
YAK pmax pmax
comp=E,383nm,5.1s
YAK smax smax
comp=N,114nm,3.3s
YAK smax smax
comp=E,166nm,3.3s
GSC Goldstone, Bar 91.44 52 P **P** **12 12 06.1 +1.0**
baz=241
YERR Yerington 91.54 48 P **P** **12 12 05.8 +0.2**
YERR IAmb IAmb 12 12 07.7
comp=Z,23nm,1.4s
HEC Hector,Ludlow 91.56 52 P **P** **12 12 06.2 +0.5**
baz=242
BC3 Big Chuckawall 91.65 54 P **P** **12 12 06.7 +0.6**
baz=242
BILL Bilibino 91.81 359 *ce* P **P** **12 12 06.8 +0.9**
BILL pmax pmax
comp=Z,21nm,1.2s
BILL Bilibino 91.81 359 P **P** **12 12 05.9 0.0**
GLA Glamis 91.84 55 P **P** **12 12 07.8 +0.8**
baz=242
J04D Umpqua Nationa 91.85 43 P **P** **12 12 07.4 +0.5**
baz=238,SNR=5.5
GRAC Grapevine Rang 91.86 50 P **P** **12 12 07.6 +0.6**
baz=241
NVAR Mina Array Bea 91.90 49 P **P** **12 12 08.4 +1.1**
comp=Z,6.2nm,0.8s,baz=226,slow=8.7,SNR=39
NVAR LR LR 12 44 26.7
comp=Z,125nm,21.6s,baz=240,slow=30
I04A Tendick Farm, 91.95 42 P **P** **12 12 08.2 +1.0**
baz=238
FURC Furnace Creek, 91.96 51 P **P** **12 12 07.9 +0.6**
baz=241
NV11 Mina Array Sit 92.00 49 P **P** **12 12 07.6 -0.1**
NV11 IAmb IAmb 12 12 15.3
comp=Z,12nm,1.0s
GMRC Granite Mounta 92.03 53 P **P** **12 12 08.2 +0.3**
baz=242
SHOC Shoshone, Teco 92.11 51 P **P** **12 12 08.5 +0.4**
baz=242
IRM Iron Mountain 92.11 53 P **P** **12 12 08.7 +0.5**
baz=242
H04D Lebanon 92.14 42 P **P** **12 12 08.4 +0.4**
baz=238
G03D McMinnville, O 92.19 41 P **P** **12 12 08.9 +0.7**
baz=238
Y12C Blythe 92.39 54 P **P** **12 12 09.5 +0.1**
baz=243
J05D Fort Rock, OR 92.42 43 P **P** **12 12 10.3 +0.8**
baz=239,SNR=12
H04A Detroit Lake 92.56 42 P **P** **12 12 09.7 -0.3**
TPNV Topopah Spring 92.62 51 P **P** **12 12 10.6 0.0**
baz=242
PINE Pine Mountain 92.86 43 P **P** **12 12 12.3 +0.7**
PINE IAmb IAmb 12 12 13.8
comp=Z,15nm,1.0s
I05D Terrebonne, OR 92.89 42 P **P** **12 12 11.5 0.0**
baz=239
E04D Cinebar 93.31 40 P **P** **12 12 13.3 0.0**
baz=238
F05D White Salmon 93.62 41 P **P** **12 12 14.5 -0.3**
baz=239
WVOR Wild Horse Val 93.64 45 P **P** **12 12 15.0 -0.1**
WVOR pmax pmax
comp=Z,13nm,1.3s
WVOR Wild Horse Val 93.64 45 P **P** **12 12 15.0 -0.1**
WVOR IAmb IAmb 12 12 17.2
comp=Z,13nm,1.3s
R11A Troy Canyon, C 93.74 50 P **P** **12 12 15.4 -0.3**
baz=242
ZAK Zakamensk 94.19 324 *e* P **P** **12 12 17.8 +0.4**
ZAK pmax pmax
comp=Z,10.0nm,1.2s
HDA Harding Lake 94.45 18 P **P** **12 12 18.2 0.0**
baz=219
HDA Harding Lake 94.45 18 P **P** **12 12 17.9 -0.3**
TCOL CIGO, UAF Yank 94.57 17 P **P** **12 12 17.8 -0.8**
baz=219
COLA College 94.57 17 *i* P **P** **12 12 18.3 -0.3**
COLA pmax pmax
comp=Z,13nm,1.0s
TLY Talaya 94.71 325 *i* P **P** **12 12 20.8 +1.1**
TLY pmax pmax
comp=Z,9.0nm,0.9s
TLY Talaya 94.71 325 LR LR 12 51 34.0
comp=Z,54nm,21.6s,baz=130,slow=33
IL31 94.75 17 P **P** **12 12 18.2 -1.3**
IL31 IAmb IAmb 12 12 21.4
comp=Z,20nm,1.5s
ILAR Eielson Array 94.75 17 P **P** **12 12 18.4 -1.1**
comp=Z,4.2nm,0.9s,baz=236,slow=6.4,SNR=25
ILAR PKKP **PKKPbc 12 29 16.6 -2.6**
comp=Z,0.9nm,0.8s,baz=348,slow=2.1,SNR=9.5
ILAR LR LR 12 50 16.8
comp=Z,90nm,19.9s,baz=217,slow=32
POKR Poker Flat Res 94.87 17 P **P** **12 12 19.5 -0.5**
baz=219
PLCA Paso Flores 94.92 139 P **P** **12 12 21.0 -0.2**
PLCA pmax pmax
comp=Z,4.0nm,1.4s
PLCA Paso Flores 94.92 139 P **P** **12 12 21.2 0.0**
comp=Z,0.8nm,0.7s,baz=286,slow=9.3,SNR=3.5
PLCA LR LR 12 48 42.7
comp=Z,43nm,18.4s,baz=240,slow=32
PLCA Paso Flores 94.92 139 P **P** **12 12 21.1 -0.2**
SCRK Sand Creek 94.97 19 P **P** **12 12 20.8 +0.1**
SCRK IAmb IAmb 12 12 21.3
comp=Z,8.3nm,1.0s
X16A Lo Mia Camp, P 94.97 55 P **P** **12 12 21.5 -0.1**
X16A IAmb IAmb 12 12 23.8
comp=Z,6.9nm,1.1s
HAWA Hanford 95.03 41 P **P** **12 12 21.7 +0.5**
HAWA IAmb IAmb 12 12 23.0
comp=Z,10nm,1.1s
U15A North Rim 95.22 52 P **P** **12 12 23.0 +0.3**
U15A IAmb IAmb 12 12 30.4
comp=Z,8.0nm,1.1s
WUAZ Wupatki 95.50 54 P **P** **12 12 23.6 -0.3**
baz=244
EGAK Eagle 96.39 19 P **P** **12 12 26.7 -0.3**
EGAK IAmb IAmb 12 12 27.8
comp=Z,14nm,1.1s
121A Cookes Peak, D 96.96 58 P **P** **12 12 29.4 -1.2**
baz=246
TOLK Toolik Lake Re 97.14 14 P **P** **12 12 29.4 -1.0**
baz=217
MNTX Cormudas Mount 98.50 59 P **P** **12 12 36.1 -1.3**
baz=247
EPYK Eagle Plains 98.83 19 P **P** **12 12 38.1 +0.1**
baz=228
ANMO Albuquerque 98.93 56 *i* P Pdif 12 12 40.5 +1.0
ANMO pmax pmax
comp=Z,1.0nm,0.9s
TXAR Lajitas Array 98.96 62 LR LR 12 48 58.2
comp=Z,41nm,20.6s,baz=0.0,slow=30
TIXI Tiksi 99.41 348 *i* P **Pdif** **12 12 39.9 -0.5**
TIXI pmax pmax
comp=Z,1.0nm,1.1s
TIXI Tiksi 99.41 348 LR LR 12 52 46.2
comp=Z,58nm,20.4s,baz=270,slow=32
PDAR Pinedale Array 99.79 48 P **Pdif** **12 12 43.2 +0.1**
comp=Z,0.7nm,1.0s,baz=222,slow=2.0,SNR=3.7
PDAR LR LR 12 49 49.0
comp=Z,70nm,21.1s,baz=310,slow=31
WMQ Urumqi 100.53 313 *e* P **Pdif** **12 12 46.4 +0.2**
WMQ pP pwP 12 12 56.1 -0.9
WMQ sP sP 12 12 59.6 +2.0
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,170nm,8.3s
WMQ LR LR
comp=Z,860nm,29.2s
WMQ LR LR
comp=Z,100nm,22.1s

MKAR	Makanchi Array	105.16	315	Pdiff		Pdif	12 13 07.1	+0.5
	comp=Z,0.4nm,0.8s,baz=305,slow=22,SNR=2.7							
ZALV	Zalesovo Beam	105.94	322	Pdiff		Pdif	12 13 10.5	+0.6
	comp=Z,0.5nm,0.4s,baz=131,slow=4.1,SNR=2.6							
BRVK	Borovoye	114.16	319	*c i* PKIKP		PKiKP	12 17 38.4	+0.8
BRVK				pmax		pmax		
	comp=Z,9.0nm,2.5s							
V53A	Saluda	117.61	61	P		PKPdf	12 17 43.7	-1.2
	baz=259							
157A	Early Branch	118.51	65	P		PKPdf	12 17 45.3	-1.4
	baz=258							
Z57A	Bowman	118.87	64	P		PKPdf	12 17 46.4	-0.9
	baz=259							
T56A	Rocky Mt	120.06	60	P		PKPdf	12 17 48.4	-1.1
	baz=261							
I51A	Listowel	120.13	52	P		PKiKP	12 17 50.4	+0.9
	baz=265							
ABKAR	Akbulak array	120.30	314			PKPdf	12 17 49.4	-0.1
ARU	Arti	121.10	323	*i* PKIKP		PKPdf	12 17 50.9	0.0
ARU							12 19 20.5	
ARU							12 25 00.0	
ARU				SP		SP	12 29 06.0	-3.1
ARU				SS		SS	12 35 48.1	-4.0
ARU	Arti	121.10	323			PKPdf	12 17 50.6	-0.3
E51A	G1948 Merrick	121.40	49	P		PKPdf	12 17 50.9	-0.9
	baz=267							
R57A	Stanardsville	121.42	59	P		PKPdf	12 17 51.0	-1.0
	baz=263							
M55A	Ridgway	121.57	55	P		PKPdf	12 17 51.8	-0.5
	baz=265							
S58A	Poland Farm, P	121.70	59	P		PKPdf	12 17 51.5	-1.1
	baz=263							
K54A	Basiliko Farm,	121.73	54	P		PKPdf	12 17 51.7	-0.8
	baz=265							
E52A	Mattawa	121.97	49	P		PKPdf	12 17 52.3	-0.6
	baz=268							
SSPA	Standing Stone	122.16	56	P		PKPdf	12 17 52.7	-0.7
	baz=265							
D52A	ZEK Kipawa Sen	122.16	48	P		PKPdf	12 17 52.7	-0.6
	baz=268							
G54A	Lake Saint Pet	122.33	50	P		PKPdf	12 17 52.9	-0.7
	baz=268							
ALGO	Algonquin Park	122.38	50	P		PKPdf	12 17 52.6	-1.0
	baz=268							
L56A	Greenwood	122.53	54	P		PKPdf	12 17 53.3	-0.9
	baz=266							
E53A	Dumoine, Ponti	122.66	49	P		PKPdf	12 17 53.5	-0.7
	baz=268							
MATQ	Matagami	122.70	45	P		PKPdf	12 17 53.2	-0.9
	baz=271							
M57A	Sunshine Farm,	122.79	55	P		PKPdf	12 17 53.9	-0.7
	baz=266							
O58A	Lewisberry	122.84	57	P		PKPdf	12 17 53.8	-1.0
	baz=265							
L57A	Andrews Acres	123.05	54	P		PKPdf	12 17 54.4	-0.8
	baz=266							
N58A	Sunbury	123.06	56	P		PKPdf	12 17 54.4	-0.7
	baz=266							
LSQQ	Lebel-sur-Quev	123.14	46	P		PKPdf	12 17 54.1	-1.0
	baz=271							
D54A	Lac Fusel, La	123.36	48	P		PKPdf	12 17 55.1	-0.5
	baz=270							
L58A	Harry Jones Me	123.79	54	P		PKPdf	12 17 56.1	-0.4
	baz=267							
I57A	Carthage	124.01	52	P		PKPdf	12 17 56.3	-0.6
	baz=268							
M59A	Waymart	124.08	55	P		PKPdf	12 17 56.5	-0.6
	baz=267							
D55A	Sainte-Anne-du	124.17	48	P		PKPdf	12 17 56.7	-0.4
	baz=270							
H57A	Richville	124.22	52	P		PKPdf	12 17 56.8	-0.4
	baz=269							
J59A	Piesco	124.83	53	P		PKPdf	12 17 58.2	-0.3
	baz=269							
H58A	Gabriels	125.08	52	P		PKPdf	12 17 58.1	-0.8
	baz=270							
G58A	Ormstown	125.17	51	P		PKPdf	12 17 58.3	-0.7
	baz=270							
PAL	Palisades	125.19	56	P		PKPdf	12 17 58.7	-0.5
	baz=267							
D57A	Chemin Vers le	125.26	48	P		PKPdf	12 17 58.7	-0.5
	baz=272							
M61A	Granite Spring	125.31	55	P		PKPdf	12 17 59.3	-0.1
	baz=268							
H59A	Cadyville	125.43	51	P		PKPdf	12 17 59.2	-0.3
	baz=270							
LSZ	Lusaka	125.53	228	PKIKP		PKPdf	12 18 00.9	+0.1
LSZ	Lusaka	125.53	228			PKPdf	12 18 00.9	+0.1
J60A	Lant Hill Farm	125.62	53	P		PKPdf	12 17 59.4	-0.6
	baz=269							
E58A	La Victoria	125.70	49	P		PKPdf	12 17 59.4	-0.6
	baz=272							
I60A	Shoreham	125.72	52	P		PKPdf	12 17 59.7	-0.5
	baz=270							
D58A	Chemin du LacG	125.94	48	P		PKPdf	12 17 59.7	-0.7
	baz=272							
LATQ	La Tuque	126.00	48	P		PKPdf	12 18 00.1	-0.5
	baz=273							
F59A	Saint Guilaume	126.06	50	P		PKPdf	12 18 00.4	-0.3
	baz=272							
H60A	Morristown	126.14	51	P		PKPdf	12 18 00.3	-0.6
	baz=271							
L61B	Northampton	126.16	54	P		PKPdf	12 18 00.6	-0.4
	baz=269							
J61A	Chester	126.26	53	P		PKPdf	12 18 00.8	-0.4
	baz=270							
I61A	Oroboro, Fairl	126.50	52	P		PKPdf	12 18 01.1	-0.5
	baz=271							
M63A	Gales Ferry	126.61	55	P		PKPdf	12 18 01.1	-0.8
	baz=269							
F60A	Warwick	126.63	50	P		PKPdf	12 18 01.3	-0.5
	baz=272							
H61A	Lyndonville	126.69	51	P		PKPdf	12 18 01.3	-0.7
	baz=271							
J62A	Henniker	126.80	53	P		PKPdf	12 18 01.6	-0.6
	baz=270							
G61A	St-Isidore-de-	126.96	50	P		PKPdf	12 18 02.1	-0.4
	baz=272							
E60A	Ste Agathe de	126.96	49	P		PKPdf	12 18 02.3	-0.1
	baz=273							
K63A	Dunstable	127.01	54	P		PKPdf	12 18 02.6	-0.1
	baz=270							
KMBO	Kilima Mbogo	127.20	249	PKIKP		PKiKP	12 18 05.0	+0.2
KMBO	Kilima Mbogo	127.20	249	PKP		PKiKP	12 18 05.2	+0.4
	comp=Z,1.5nm,0.3s,baz=348,slow=1.7,SNR=7.5							
KMBO	Kilima Mbogo	127.20	249			PKiKP	12 18 05.0	+0.2
M64A	Tiverton	127.24	55	P		PKPdf	12 18 02.7	-0.4
	baz=270							
H62A	Milan	127.25	51	P		PKPdf	12 18 02.8	-0.3
	baz=272							
D60A	Saint Jean D'O	127.29	48	P		PKPdf	12 18 02.5	-0.5
	baz=274							
E61A	Lac Etchemin	127.62	49	P		PKPdf	12 18 03.9	+0.2
	baz=274							
G62A	West of Eustis	127.66	51	P		PKPdf	12 18 03.6	-0.3
	baz=273							
I63A	Otisfield	127.67	52	P		PKPdf	12 18 03.6	-0.3
	baz=272							
D61A	St Aubert, Com	127.77	48	P		PKPdf	12 18 03.8	-0.2
	baz=275							
G63A	Kingsbury	128.31	51	P		PKPdf	12 18 05.0	-0.1
	baz=273							
PKME	Peaks-Kenny Pk	128.53	50	P		PKPdf	12 18 05.4	0.0
	baz=274							
H64A	Troy	128.62	51	P		PKPdf	12 18 05.3	-0.4
	baz=273							
F63A	Nahmakanta, Br	128.64	50	P		PKPdf	12 18 05.3	-0.4
	baz=274							
G64A	Maxfield	128.91	50	P		PKPdf	12 18 05.7	-0.5
	baz=274							
E63A	Oxbow	129.05	49	P		PKPdf	12 18 06.2	-0.2
	baz=275							
E64A	Bridgewater	129.46	49	P		PKPdf	12 18 06.7	-0.5
	baz=276							
ARCES	ARCESS Array B	129.67	344	PKP		PKPdf	12 18 07.3	+0.4
	comp=Z,2.6nm,0.6s,baz=46,slow=3.5,SNR=12							
KIV	Kislovodsk	132.37	308	*e* PKIKP		PKPdf	12 18 13.3	+0.4
KIV				pmax		pmax		
	comp=Z,19nm,1.0s							
OBN	Obninsk	133.46	324	⇓ *e* PKIKP		PKiKP	12 18 15.4	-0.3
OBN				*e*			12 20 41.5	
OBN				*e* PPP		PPP	12 23 41.2	
OBN				pmax		pmax		
	comp=Z,8.0nm,0.3s							
SOC	Sochi	134.55	308	*i* PKIKP		PKPdf	12 18 16.8	-0.1
SOC				*e*			12 20 46.0	
SOC				*e* PPP		PPP	12 23 53.6	
SOC				*e* PS		PS	12 31 10.6	-0.8
SOC				*e* SS		SS	12 38 45.6	+5.7
SOC				*e* SSS		SSS	12 43 36.3	
FINES	FINESS Array B	134.99	336	PKP		PKPdf	12 18 17.1	-0.1
	comp=Z,3.3nm,0.8s,baz=180,slow=9.5,SNR=3.8							
MMAI	Mount Meron Ar	138.79	293	PKP		PKPdf	12 18 26.1	+0.9
	comp=Z,2.3nm,0.7s,baz=51,slow=2.7,SNR=4.4							
AKASG	Malin Array Be	139.32	321	PKP		PKPdf	12 18 24.1	-1.4
	comp=Z,2.1nm,0.6s,baz=62,slow=2.3,SNR=6.7							
BR131	Keskin Array S	139.65	304	PKiKP		PKPdf	12 18 26.4	-0.3
BR131	Keskin Array S	139.65	304			PKPdf	12 18 26.4	-0.3
BRTR	Keskin Array B	139.65	304	PKhKP		PKPpre	12 18 23.4	
	comp=Z,2.6nm,1.0s,baz=101,slow=1.3,SNR=7.2							
LVV	L'vov	142.67	323	*e* PKIKP		PKiKP	12 18 35.9	+1.2
BIZ	Bicaz	142.80	317	⇑P		PKPdf	12 18 29.8	-2.1
BURAR	Bucovina Array	143.05	319	⇑P		PKPbc	12 18 29.7	+0.4
MLR	Muntele Rosu	143.50	315	PKhKP		PKPbc	12 18 30.5	-0.1
	comp=Z,4.9nm,0.8s,baz=105,slow=4.0,SNR=6.4							
MLR	Muntele Rosu	143.50	315	⇓P		PKPbc	12 18 31.4	+0.8
DOPR	Dopca	143.66	316	⇓P		PKPbc	12 18 32.2	+1.2
ARCR	ARCALIA	143.81	318	⇓P		PKPdf	12 18 33.5	-0.2
VOIR		144.10	315	⇑P		PKPbc	12 18 33.0	+0.6
KOLS	Kolonicke sedl	144.12	322	*e* PKIKP		PKPdf	12 18 34.0	-0.2
KOLS	Kolonicke sedl	144.12	322	*e* PKP		PKPdf	12 18 34.0	-0.2
UZH	Uzhgorod	144.26	322	*c i* PKIKP		PKPbc	12 18 32.8	+0.1
UZH				*i*			12 18 37.4	
SZH	Strazhica	144.34	312	*e* P		PKPbc	12 18 33.9	+0.8
TRPA	Tarpa	144.38	321	⇑P		PKPdf	12 18 34.2	-0.4
TRPA	Tarpa	144.38	321	*e* PKiKP		PKPdf	12 18 34.0	-0.6
ARR	Arges	144.39	316	⇑P		PKPdf	12 18 34.7	-0.1
CJR	Cluj-Napoca	144.44	318	⇑P		PKPdf	12 18 35.3	+0.4
MUD	Monsted U'grnd	144.50	341	*i* PKIKP		PKPbc	12 18 33.5	+0.4
MUD				pmax		pmax		
	comp=Z,25nm,0.9s							
MUD	Monsted U'grnd	144.50	341	*i* P		PKPbc	12 18 33.5	+0.4
	comp=Z,25nm,0.9s							
ELND	Elena	144.50	311	⇑P		PKPdf	12 18 34.8	-0.2
COPA	Copaceanca	144.51	313	⇑P		PKPbc	12 18 34.0	+0.4
HUMR	Humele	144.51	314	⇓P		PKPab	12 18 33.5	+0.2
LOT	Lotru	144.91	316	⇑P		PKPdf	12 18 35.9	+0.1
NIE	Niedzica	144.93	324	*e* PKIKP		PKPdf	12 18 36.1	+0.5
NIE	Niedzica	144.93	324	*e* PKP		PKPdf	12 18 36.0	+0.5
NIE				*e* PKP		PKPdf	12 18 36.0	+0.5
DRGR		144.94	319	⇑P		PKPdf	12 18 35.6	-0.2
ALN	Alexandroupoli	145.03	308	PKP2		PKPbc	12 18 35.0	-0.4
ALN	Alexandroupoli	145.03	308			PKPbc	12 18 35.0	-0.4
VLAD	Vladila	145.10	314	⇑P		PKPdf	12 18 37.0	+1.0
LTVH	Ltavrtes, Hu	145.13	320	*e* PKiKP		PKPdf	12 18 37.0	+1.1
PLVB	Pleven	145.19	312	⇑P		PKPdf	12 18 37.3	+1.1
KDZ	Kurdzhali	145.25	309	*e* P		PKPab	12 18 36.4	+0.2
KECS	Kecovo	145.36	323	*e* PKIKP		PKPab	12 18 37.9	+1.5
KECS	Kecovo	145.36	323	*e* PKP		PKPab	12 18 37.9	+1.5
KARP	Karpathos	145.39	298			PKPbc	12 18 36.6	-0.2
LANS	Liptovska Anna	145.53	324	*e* PKP2		PKPab	12 18 38.6	+1.6
LANS	Liptovska Anna	145.53	324	*e* PKP		PKPab	12 18 38.6	+1.6
GZR	Gura Zlata	145.56	317	⇑P		PKPab	12 18 37.8	+0.5
SRE	Strehaia	145.61	315	⇑P		PKPab	12 18 38.6	+1.2
OKC	Ostrava-Krasne	145.80	326	*e* PKP2		PKPab	12 18 38.5	+0.5
OKC	Ostrava-Krasne	145.80	326	*e* PKP		PKPab	12 18 38.5	+0.5
OKC				*e* pPKP		pPKPdf	12 18 44.0	-1.6
SIRR	Siria	145.84	319	⇑P		PKPab	12 18 39.1	+0.8
PSZ	Piszkesteto	146.00	322	PKP2		PKPdf	12 18 37.8	+0.3
PSZ	Piszkesteto	146.00	322	⇑P		PKPab	12 18 39.4	+0.5
PSZ	Piszkesteto	146.00	322	*e* PKiKP		PKPdf	12 18 38.1	+0.5
PSZ	Piszkesteto	146.00	322			PKPdf	12 18 37.8	+0.3
KSP	Ksiaz	146.06	329	*e* PKP2		PKPab	12 18 39.3	+0.4
KSP	Ksiaz	146.06	329	*e* PKP		PKPab	12 18 39.3	+0.4
KSP				*e* PKP		PKPab	12 18 39.3	+0.4
MORC	Moravsky Berou	146.15	327	PKP2		PKPdf	12 18 38.2	+0.5
MORC	Moravsky Berou	146.15	327	⇑P		PKPab	12 18 39.9	+0.6
MORC	Moravsky Berou	146.15	327	*e* PKP		PKPab	12 18 39.4	+0.1
MORC	Moravsky Berou	146.15	327			PKPdf	12 18 38.2	+0.5
BZS	Buzias	146.18	318	⇑P		PKPdf	12 18 38.1	+0.3
VYHS	Vyhne	146.25	324	*e* PKP2		PKPab	12 18 40.0	+0.3
VYHS	Vyhne	146.25	324	*e* PKP		PKPab	12 18 40.0	+0.3
OSTC	Ostas	146.29	329	*e* PKP		PKPab	12 18 40.1	+0.3
KRLC	Kraliky	146.33	328	*e* PKP2		PKPab	12 18 40.0	0.0
KRLC	Kraliky	146.33	328	*e* PKP		PKPab	12 18 40.0	0.0
CHVC	Chvalec	146.34	329	*e* PKP		PKPbc	12 18 39.8	+0.6
CHVC				*e* pPKP		pPKPdf	12 18 45.8	-0.8
DPC	Dobruska-Polom	146.38	328	*e* PKP2		PKPab	12 18 40.1	-0.1
DPC	Dobruska-Polom	146.38	328	*e* PKP		PKPab	12 18 40.1	-0.1
DPC				*e* pPKP		pPKPdf	12 18 46.1	-0.6
UPC	Upice	146.42	329	*e* PKP2		PKPab	12 18 40.3	0.0
UPC	Upice	146.42	329	*e* PKP		PKPab	12 18 40.3	0.0
VTS	Vitosha	146.42	312	*e* P		PKPbc	12 18 40.3	+0.4
VTS	Vitosha	146.42	312	PKP2		PKPbc	12 18 40.4	+0.5
VTS	Vitosha	146.42	312	⇑P		PKPdf	12 18 37.3	-1.2
VTS	Vitosha	146.42	312			PKPbc	12 18 40.4	+0.5
MMB	Musomiste	146.46	310	*e* P		PKPbc	12 18 39.0	-0.1
MDVR	Volodovita	146.51	316	⇑P		PKPab	12 18 39.4	+0.5
JAVC	Velka Javorina	146.65	325	*e* PKP		PKPab	12 18 42.2	+0.9
VRAC	Vranov	146.92	327	PKPbc		PKPbc	12 18 40.1	-0.8
	comp=Z,22nm,1.1s,baz=56,slow=2.9,SNR=11							
VRAC	Vranov	146.92	327	⇑P		PKPab	12 18 42.3	0.0
VRAC	Vranov	146.92	327	*e* PKP		PKPab	12 18 41.8	-0.5
SMOL	Smolenice	146.99	325	*e* PKP2		PKPab	12 18 42.6	0.0
SMOL	Smolenice	146.99	325	*e* PKP		PKPab	12 18 42.6	0.0
PVCC	Panska Ves	147.08	330	*e* PKP2		PKPab	12 18 42.3	-0.6
PVCC	Panska Ves	147.08	330	*e* PKP		PKPab	12 18 42.3	-0.6
BRG	Berggiesshubel	147.12	331	*e* PKP		PKPdf	12 18 38.7	-0.5
	comp=Z,19nm,1.5s							
BRG				*i*			12 18 42.5	
	comp=Z,68nm,1.6s							
BRG				*e*			12 18 48.0	
	comp=Z,75nm,1.7s							
BRG	Berggiesshubel	147.12	331	*e* PKIKP		PKPdf	12 18 38.7	-0.5
BRG				*i*			12 18 42.5	
BRG				*e*			12 18 48.0	
BRG				pmax		pmax		
	comp=Z,19nm,1.5s							
BRG				pmax		pmax		
	comp=Z,68nm,1.6s							
BRG				pmax		pmax		
	comp=Z,75nm,1.7s							
MODS	Modra-Piesok	147.16	325	*e* PKP2		PKPbc	12 18 41.9	+0.3
MODS	Modra-Piesok	147.16	325	*e* PKP		PKPbc	12 18 41.9	+0.3
KRUC	Moravsky	147.18	326	*e* PKP		PKPbc	12 18 42.3	+0.7
CLL	Collm	147.21	332	*i* PKP2		PKPbc	12 18 41.8	+0.2
CLL				pmax		pmax		
	comp=Z,12nm,1.6s							
CLL	Collm	147.21	332	*i* PKPbc		PKPbc	12 18 41.8	+0.2
	comp=Z,43nm,1.6s							
CLL	Collm	147.21	332			PKPdf	12 18 40.0	+0.6
CSKK	Cskako	147.22	323	*e* PKiKP		PKPbc	12 18 41.1	-0.7
IDI	Inoyia	147.27	299	PKPbc		PKPdf	12 18 41.1	+1.1
	comp=Z,22nm,0.9s,baz=71,slow=5.1,SNR=10							
GOPC	GO Pecny, Ondr	147.40	329	*e* PKP2		PKPbc	12 18 42.6	+0.4
GOPC	GO Pecny, Ondr	147.40	329	*e* PKP		PKPbc	12 18 42.6	+0.4
GOPC				*e* pPKP		pPKPdf	12 18 48.5	+0.1
PRU	Pruhonice	147.47	329	*e* PKP2		PKPbc	12 18 43.2	+0.8
PRU	Pruhonice	147.47	329	*e* PKP		PKPbc	12 18 43.2	+0.8
PRU				*e* pPKP		pPKPdf	12 18 48.9	+0.5
FRGS	Fruska Gora	147.51	318	*e* P		PKPbc	12 18 42.6	-0.1
MORH	Mrgy, Hungar	147.65	321	⇓ *i* P		PKPbc	12 18 43.3	+0.3
MORH	Mrgy, Hungar	147.65	321	*e* PKiKP		PKPbc	12 18 43.1	+0.1
TIH	Tihany	147.70	322	*e* PKiKP		PKPbc	12 18 42.1	-1.0
MPLH	Magyarpolny	147.74	323	*e* PKiKPd		PKPbc	12 18 43.1	-0.1
LIT	Litokhoron	147.86	308	PKIKP		PKPdf	12 18 41.0	+0.2
LIT	Litokhoron	147.86	308			PKPdf	12 18 41.0	+0.2
DIVS	Divibare	147.92	316	⇓ *i* P		PKPbc	12 18 43.9	0.0
PBCC	Pribram	147.93	329	*e* PKP		PKPbc	12 18 44.0	+0.2
SOP	Sopron	147.96	324	*e* PKiKP		PKPbc	12 18 44.0	+0.2
CONA	Conrad Observa	148.18	325	*i* PKiKP		PKPbc	12 18 45.1	+0.6
	comp=Z,19nm,0.9s,SNR=8.3							
EKA	Eskdalemuir Ar	148.23	352	PKPbc		PKPbc	12 18 43.7	-0.5
	comp=Z,10nm,0.9s,baz=349,slow=1.7,SNR=8.1							
NKC	Novy Kostel	148.24	331	*e* PKP2		PKPbc	12 18 45.3	+0.8
NKC	Novy Kostel	148.24	331	*e* PKP		PKPbc	12 18 45.3	+0.8
AGG	Agios Georgios	148.33	306	PKIKP		PKPdf	12 18 42.1	+0.4
AGG	Agios Georgios	148.33	306			PKPdf	12 18 42.1	+0.4
BBLS	Lazići	148.40	316	⇓ *i* P		PKPbc	12 18 45.9	+0.7
FNA	Florina	148.41	310	PKP2		PKPbc	12 18 45.0	-0.3
FNA	Florina	148.41	310			PKPbc	12 18 45.0	-0.3
KHC	Kasperske Hory	148.51	329	PKIKP		PKPdf	12 18 41.6	0.0
KHC	Kasperske Hory	148.51	329	*e* PKP		PKPbc	12 18 45.8	+0.5
KHC				*e* pPKP		sPKPdf	12 18 51.5	-1.7
KHC	Kasperske Hory	148.51	329			PKPdf	12 18 41.6	0.0
GEC2	GERESS Array S	148.65	328			PKPbc	12 18 46.1	+0.4
GERES	GERESS Array B	148.65	328	PKPbc		PKPbc	12 18 45.6	-0.1
	comp=Z,6.3nm,0.8s,baz=50,slow=2.1,SNR=19							
GERES				PKPab		PKPab	12 18 48.6	-0.7
	comp=Z,6.2nm,0.8s,baz=46,slow=2.8,SNR=12							
ARSA	Arzberg	148.78	325	*i* pPKPdf		PKiKP	12 18 47.3	-0.1
	comp=Z,17nm,1.5s,SNR=5.6							
MOA	Molln	149.04	326	*i* PKiKP		PKPbc	12 18 46.8	+0.1
	comp=Z,7.2nm,0.8s							
PDG	Podgorica	149.17	314	*e* P		PKPbc	12 18 46.9	-0.2
PDG	Podgorica	149.17	314	⇑P		PKPbc	12 18 46.7	-0.4
ITM	Ithomi	149.17	303			PKPbc	12 18 47.5	+0.2
BLY	Banja Luka	149.31	319	⇓ *i* P		PKPbc	12 18 47.9	+0.5
BLY	Banja Luka	149.31	319	⇑P		PKiKP	12 18 48.5	0.0
BLY	Banja Luka	149.31	319	PKPdf		PKPdf	12 18 43.0	-0.1
BLY						PKiKP	12 18 48.2	-0.3
DRME	Dracevica, Mon	149.33	313	*e* P		PKPbc	12 18 47.3	-0.2
SOKA	Soboth	149.40	324	*i* PKiKP		PKPbc	12 18 47.6	0.0
	comp=Z,35nm,1.4s,SNR=10							
BRY	Bratogost	149.42	315	*e* P		PKPbc	12 18 47.8	-0.1
HCY	Herceg Novi	149.66	314	*e* P		PKPbc	12 18 48.4	+0.1
CRES	Cresnjev	149.69	322	*e* P		PKPbc	12 18 47.9	-0.4
OBKA	Obir	149.77	324	*i* PKiKP		PKPbc	12 18 48.4	-0.1
	comp=Z,17nm,1.2s							
KBA	Koelnbreinsper	150.03	326	*i* pPKPdf		PKPbc	12 18 48.7	-0.6
	comp=Z,19nm,1.1s,SNR=6.8							
LJU	Ljubljana	150.07	324	*e* P		PKPbc	12 18 49.6	+0.4
MYKA	Terra Mystica	150.17	325	*i* pPKPdf		PKPbc	12 18 48.9	-0.6
	comp=Z,28nm,1.6s							
CEY	Cerknica	150.32	323	*e* P		PKPbc	12 18 49.8	0.0
MEM	Membach	150.46	338	PKiKP		PKPbc	12 18 50.3	+0.4
MEM				PKPab		sPKPdf	12 18 55.9	-0.2
BSTI	Sart Tilman	150.63	339	PKiKP		PKiKP	12 18 51.3	+0.2
BSTI				PKPab		PKPab	12 18 57.3	+0.1
ABTA	Abfaltersbach	150.67	326	*i* pPKPdf		PKPbc	12 18 50.0	-0.7
	comp=Z,24nm,0.9s,SNR=6.2							
TRI	Trieste	150.70	324	PKIKP		PKPbc	12 18 50.4	-0.3
TRI	Trieste	150.70	324			PKPbc	12 18 50.4	-0.3
WATA	Walderalm	150.72	328	*i* PKiKP		PKPbc	12 18 50.7	-0.2
	comp=Z,29nm,1.0s,SNR=7.6							
STU	Stuttgart	150.74	333	PKIKP		PKPdf	12 18 46.1	+1.0
STU							12 18 51.2	
STU	Stuttgart	150.74	333	PKPdf		PKPdf	12 18 46.1	+1.0
STU						PKPbc	12 18 51.1	+0.5
WTTA	Wattenberg	150.75	328	*i* PKiKP		PKPbc	12 18 51.0	0.0
	comp=Z,47nm,1.0s,SNR=9.3							
STAL	STALIGIAL	150.90	325			PKPbc	12 18 50.9	-0.3
MOTA	Moosalm	150.94	329	*i* PKiKP		PKPbc	12 18 51.2	-0.2
	comp=Z,40nm,0.9s,SNR=10							
SQTA	Sankt Quirin	150.98	328	*i* PKiKP		PKPbc	12 18 51.6	+0.1
	comp=Z,31nm,0.8s,SNR=8.8							
RETA	Reutte	151.00	329	*i* PKiKP		PKPbc	12 18 51.3	-0.2
	comp=Z,17nm,1.0s							
BMRD	Maredsous	151.13	339	PKiKP		PKiKP	12 18 52.0	-0.1
BMRD				PKPab		sPKPdf	12 18 57.8	+0.6
WLF	Walferdange	151.21	337	PKIKP		PKPbc	12 18 52.0	+0.2
WLF	Walferdange	151.21	337	PKiKP		PKiKP	12 18 52.5	+0.2
WLF	Walferdange	151.21	337			PKPbc	12 18 52.0	+0.2
FETA	Feichten	151.35	329	*i* P		PKPbc	12 18 52.7	+0.3
	comp=Z,32nm,1.0s,SNR=6.3				

SSPT	**Xinbi** baz=321	**2.12 316**	*eP*	**Pn**	**12 11 05.1**	**+1.6**
SSPT	baz=321		*eS*	**Sn**	**12 11 31.3**	**-1.0**
WLCH	**Liuqiu** baz=311	**2.16 311**	*eP*	**Pn**	**12 11 06.5**	**+2.6**
MASBT	**Mashibuluo** baz=321	**2.18 320**	*eP*	**Pn**	**12 11 05.3**	**+1.1**
MASBT	baz=321		*eS*	**Sn**	**12 11 31.2**	**-2.3**
SSD	**Sandimen** baz=323	**2.28 322**	P	**Pn**	**12 11 06.4**	**+1.0**
SSD	baz=323		*eS*	**Sn**	**12 11 33.5**	**-2.1**
FULB	**Fuli** baz=346	**2.38 341**	*eP*	**Pn**	**12 11 07.8**	**+1.3**
FULB	baz=346		*eS*	**Sn**	**12 11 37.8**	**0.0**
WSSB	**Gushan** baz=314	**2.44 314**	*eP*	**Pn**	**12 11 08.9**	**+1.7**
WSSB	baz=314		*eS*	**Sn**	**12 11 38.3**	**-0.7**
TWM1	**Shoushan** baz=313	**2.46 320**	*eP*	**Pn**	**12 11 09.6**	**+2.1**
TWM1	baz=313		*eS*	**Sn**	**12 11 39.9**	**+0.4**
SNJT	**Kaohsiung City** baz=309	**2.47 317**	*eP*	**Pn**	**12 11 09.4**	**+1.9**
ELDTW	**Lidau** baz=337	**2.47 335**	*eP*	**Pn**	**12 11 08.3**	**+0.6**
ELDTW	baz=337		*eS*	**Sn**	**12 11 37.9**	**-1.9**
SLGT	**Liugui** baz=327	**2.47 326**	*eP*	**Pn**	**12 11 08.9**	**+1.3**
SLGT	baz=327		*eS*	**Sn**	**12 11 38.8**	**-0.8**
TWF1	**Yuli** baz=344	**2.52 342**	*eP*	**Pn**	**12 11 08.9**	**+0.7**
STYT	**Tauyuan** baz=325	**2.56 330**	*eP*	**Pn**	**12 11 09.8**	**+1.1**
YULB	**Yu-li** baz=335	**2.56 342**	*eP*	**Pn**	**12 11 08.7**	**0.0**
YULB	baz=335		*eS*	**Sn**	**12 11 40.5**	**-1.2**
SGST	**Jiashian** baz=327	**2.58 326**	*eP*	**Pn**	**12 11 10.2**	**+1.3**
SGST	baz=327		*eS*	**Sn**	**12 11 40.4**	**-1.6**
HGSD	**Ruisui** baz=350	**2.62 345**	*eP*	**Pn**	**12 11 11.3**	**+1.8**
EHY	**Hungye** baz=337	**2.66 343**	*eP*	**Pn**	**12 11 10.3**	**+0.4**
EHY	baz=337		*eS*	**Sn**	**12 11 42.6**	**-1.2**
CHN1	**Nanshi** baz=327	**2.69 326**	P	**Pn**	**12 11 11.2**	**+1.0**
CHN1	baz=327		*eS*	**Sn**	**12 11 43.2**	**-1.2**
CHN3	**Shinhua** baz=330	**2.69 322**	*eP*	**Pn**	**12 11 12.3**	**+2.0**
WTP	**Ta-pu** baz=330	**2.70 328**	P	**Pn**	**12 11 11.4**	**+1.0**
WTP	baz=330		*eS*	**Sn**	**12 11 43.0**	**-1.7**
SNST	**Tainan City** baz=327	**2.73 326**	*eP*	**Pn**	**12 11 11.7**	**+0.9**
SNST	baz=327		*eS*	**Sn**	**12 11 43.2**	**-2.2**
TPUB	**Ta-pu** baz=330	**2.74 329⇑**	*eP*	**Pn**	**12 11 11.7**	**+0.9**
TPUB	baz=330		*eS*	**Sn**	**12 11 43.3**	**-2.2**
YUS	**Yu-Shan** baz=337	**2.77 336**	*eS*	**Sn**	**12 11 47.3**	**+0.4**
TWK	**Hsinying** baz=328	**2.78 327**	P	**Pn**	**12 11 12.1**	**+0.7**
TWK	baz=328		*eS*	**Sn**	**12 11 44.9**	**-1.5**
EGFH	**Guangfu** baz=351	**2.79 346**	*eS*	**Sn**	**12 11 46.5**	**-0.2**
CHN4	**Tsaushan** baz=330	**2.80 329**	*eP*	**Pn**	**12 11 12.4**	**+0.8**
CHN4	baz=330		*eS*	**Sn**	**12 11 45.7**	**-1.0**
ALS	**Alishan** baz=328	**2.84 334**	*eP*	**Pn**	**12 11 13.5**	**+1.1**
ALS	baz=328		*eS*	**Sn**	**12 11 47.2**	**-1.0**
SCLT	**Jiali** baz=327	**2.87 321**	P	**Pn**	**12 11 13.6**	**+1.2**
SCLT	baz=327		*eS*	**Sn**	**12 11 47.9**	**-0.3**
ESL	**Shilin** baz=342	**2.93 347**	*eP*	**Pn**	**12 11 13.4**	**+0.2**
VWDT	**VWDT** baz=347	**2.95 342**	*eP*	**Pn**	**12 11 15.4**	**+2.0**
VWDT	baz=347		*eS*	**Sn**	**12 11 48.9**	**-1.2**
CHN5	**Tsauling** baz=328	**2.97 333**	*eP*	**Pn**	**12 11 14.5**	**+0.7**
CHN5	baz=328		*eS*	**Sn**	**12 11 49.5**	**-1.3**
WHYT	**Xinyi Township** baz=338	**2.99 336**	*eP*	**Pn**	**12 11 14.9**	**+0.9**
CHN8	**Yiju** baz=330	**2.99 323**	*eP*	**Pn**	**12 11 14.8**	**+0.8**
CHY	**Chiayi** baz=329	**3.00 328**	*eP*	**Pn**	**12 11 15.1**	**+1.0**
CHY	baz=329		*eS*	**Sn**	**12 11 48.8**	**-2.5**
CHN2	**Minshiung** baz=330	**3.01 329**	*eS*	**Sn**	**12 11 50.1**	**-1.3**
SSLB	**Suanglung** baz=332	**3.04 339**	*eP*	**Pn**	**12 11 15.4**	**+0.9**
SSLB	baz=332		*eS*	**Sn**	**12 11 51.0**	**-1.2**
WLGB	**Puzi** baz=327	**3.05 326**	*eP*	**Pn**	**12 11 15.1**	**+0.4**
WLGB	baz=327		*eS*	**Sn**	**12 11 51.0**	**-1.3**
WGK	**Gukeng** baz=333	**3.10 332**	*eS*	**Sn**	**12 11 51.0**	**-2.4**
WDLH	**Douliu** baz=333	**3.11 332**	*eS*	**Sn**	**12 11 51.7**	**-2.0**
SMLT	**Sun Moon Lake** baz=332	**3.14 339**	*eP*	**Pn**	**12 11 16.8**	**+0.8**
WJS	**Zhushan** baz=337	**3.15 335**	*eP*	**Pn**	**12 11 17.7**	**+1.8**
TYC	**Yuchr** baz=333	**3.18 338**	*eP*	**Pn**	**12 11 17.2**	**+0.9**
TYC	baz=333		*eS*	**Sn**	**12 11 52.9**	**-2.3**
WNT	**Mingjian** baz=337	**3.22 335**	*eP*	**Pn**	**12 11 17.8**	**+1.0**
WNT	baz=337		*eS*	**Sn**	**12 11 55.1**	**-1.0**
WSF	**Szhu** baz=327	**3.22 327**	*eP*	**Pn**	**12 11 17.3**	**+0.4**
CHGB	**Renai** baz=348	**3.23 344**	*eP*	**Pn**	**12 11 19.1**	**+1.9**
CHGB	baz=348		*eS*	**Sn**	**12 11 55.9**	**-0.8**
NACB	**Ninganchiao** baz=358	**3.25 351**	*eP*	**Pn**	**12 11 18.0**	**+0.7**
DPDB	**Guoxing** baz=334	**3.27 340**	*eP*	**Pn**	**12 11 18.4**	**+0.8**
WHF	**Hehuan Shan** baz=353	**3.29 346**	*eP*	**Pn**	**12 11 19.8**	**+1.7**
ETLH	**Xiulin Townshi** baz=345	**3.30 349**	*eP*	**Pn**	**12 11 19.6**	**+1.6**
RLNB	**Erlin** baz=337	**3.37 331**	*eS*	**Sn**	**12 11 57.2**	**-2.3**
TWT	**Tachien** baz=346	**3.41 345**	*eP*	**Pn**	**12 11 21.5**	**+2.0**
TWT	baz=346		*eS*	**Sn**	**12 12 00.5**	**-0.4**
TDCB	**Techi** baz=346	**3.42 345**	*eP*	**Pn**	**12 11 21.6**	**+2.1**
TDCB	baz=346		*eS*	**Sn**	**12 12 01.1**	**+0.2**
WCHH	**Zhanghua** baz=336	**3.45 335**	*eS*	**Sn**	**12 11 59.7**	**-1.7**
WHP	**Taichung City** baz=336	**3.50 342**	*eP*	**Pn**	**12 11 21.5**	**+1.0**
WHP	baz=336		*eS*	**Sn**	**12 12 01.4**	**-1.2**
NNSH	**Datong** baz=355	**3.54 349**	*eP*	**Pn**	**12 11 22.2**	**+1.2**
TWQ1	**Liyutan** baz=341	**3.62 340**	*eS*	**Sn**	**12 12 03.6**	**-1.7**
NDT	**Datong Townshi** baz=358	**3.69 351**	*eP*	**Pn**	**12 11 24.3**	**+1.5**
ENTT	**Nioudou** baz=359	**3.72 352**	*eP*	**Pn**	**12 11 24.5**	**+1.3**
YHNB	**Yeheng** baz=357	**3.77 349**	*eP*	**Pn**	**12 11 25.9**	**+1.9**
YHNB	baz=357		*eS*	**Sn**	**12 12 07.3**	**-1.7**
LIOB	**Emei** baz=346	**3.83 344**	*eP*	**Pn**	**12 11 25.4**	**+0.8**
TIPB	**Shuangxi** baz=5.0	**4.02 356**	*eP*	**Pn**	**12 11 28.7**	**+1.6**
SONM	**Songino Array** 0.2nm,0.6s,baz=147,slow=8.2,SNR=1.6	**29.69 338**	P	**P**	**12 16 18.2**	**+1.2**
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=111,slow=8.3,SNR=7.0	**41.31 318**	P	**P**	**12 17 56.5**	**+0.6**
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=345,slow=8.7,SNR=2.0	**42.35 163**	P	**P**	**12 18 02.5**	**-2.2**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=134,slow=6.2,SNR=2.5	**43.45 329**	P	**P**	**12 18 13.2**	**+0.1**
ASAR	**Alice Springs** 0.5nm,0.8s,baz=350,slow=9.7,SNR=2.1	**45.80 165**	P	**P**	**12 18 30.7**	**-1.3**
YKA	**Yellowknife Ar** 0.4nm,0.4s,baz=306,slow=4.8,SNR=7.0	**85.59 23**	P	**P**	**12 22 46.7**	**+0.5**

*ARE **20** 12:14:43.±1.7, 9.°60S±0.°09×79.°0W±0.°2, h44km±8km, ML4.2, mb4.3/4(NEIC)*

NEIC 20 12:14:44.±0.7, 9.°5S±0.°1×78.°9W±0.°2, h59km±11km, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.17**	**141**	Pn	Pn	12 15 31.9	+0.4
NNA				Sn	Sn	12 16 07.8	-0.3
OTAV	**Otavalo**	**9.71**	**3**	Pn	Pn	12 17 01.4	0.0
MNMC	**Minye Minye**	**13.12**	**138**	Pn	Pn	12 17 47.7	-0.2
SAML	**Samuel**	**15.51**	**89**	Pn	Pn	12 18 19.2	0.0
TRQA	**Tornquist**	**32.23**	**155**	P	P	12 21 07.2	+0.4
TRQA	comp=Z,6.2nm,1.4s			IAmb	IAmb	12 21 15.0	
GO09	**Cerro Castillo**	**41.97**	**174**	P	P	12 22 29.0	-0.1
CSU	**Charleston Sou**	**42.29**	**359**	P	P	12 22 32.5	+0.7
121A	**Cookes Peak, D**	**50.10**	**328**	P	P	12 23 32.8	-0.7
121A	comp=Z,5.5nm,1.5s			IAmb	IAmb	12 23 50.7	

*ISCJB **20** 12:40:03.5±0.6, 50.°25N±0.°03×87.°84E±0.°04, h10km, Error ellipse: s-maj=4.6km s-min=3.0km az=38.4*
*ASRS **20** 12:40:03.2±0.3, 50.°N±1.°×8.°8E±.°, h10km, MLh3.6/10, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
*NNC **20** 12:40:06.6±1.4, 50.°20N×87.°62E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=12.7km s-min=5.1km az=102.0*

ISC 20 12:40:05.9±0.9, 50.°20N±0.°03×87.°79E±0.°03, h10km, n18, σ1s84/39, 12C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKAR	**Aktash**	**0.17**	**318**	Pg	**Pg**	**12 40 08.1**	**-1.5**
AKAR				Sg	**Sg**	**12 40 10.9**	**-1.3**
CHBI	**Chibit, Altay**	**0.22**	**302**	Pg	**Pg**	**12 40 08.8**	**-1.7**
CHBI				Sg	**Sg**	**12 40 12.0**	**-1.6**
ULGR	**Ulagan, Altay**	**0.44**	**14**	Pg	**Pg**	**12 40 13.5**	**-1.0**
ULGR				Sg	**Sg**	**12 40 18.7**	**-1.7**
DGZ	**Jazzator, Alta**	**0.55**	**205**	Pg	**Pg**	**12 40 13.4**	**-3.2**
DGZ				Sg	**Sg**	**12 40 19.6**	**-4.2**
ARTR	**Artybash**	**1.64**	**349**	Pg	**Pb**	**12 40 35.0**	**-1.1**
ARTR				Sg	**Sb**	**12 40 57.1**	**+0.3**
TEL	**Teeli**	**1.74**	**61**	Pg	**Pg**	**12 40 37.8**	**-1.4**
TEL				Sg	**Sg**	**12 41 01.1**	**-0.7**
UKR	**Ust'-Kan**	**2.06**	**292**	Pg	**Pb**	**12 40 42.2**	**-1.2**
UKR				Sg	**Sb**	**12 41 09.9**	**+0.8**
GALT	**Gorno-Altaysk,**	**2.12**	**327**	Pg	**Pb**	**12 40 44.5**	**+0.2**
GALT				Sg	**Sg**	**12 41 14.4**	**+0.6**
TASR	**Tashtagol**	**2.57**	**1**	Pg	**Pb**	**12 40 52.1**	**+0.1**
TASR				Sg	**Sg**	**12 41 27.2**	**-1.1**
ELT	**Eltsovka**	**3.22**	**343**	Pg	**Pg**	**12 41 05.2**	**-2.3**
ELT				Sg	**Sg**	**12 41 46.8**	**-2.4**
VEH	**Verkhnyaya Baz**	**3.44**	**26**	Pg	**Pg**	**12 41 09.6**	**-2.1**
VEH				Sg	**Sg**	**12 41 54.7**	**-1.6**
LUZB	**Luzhba, Kemero**	**3.54**	**11**	Pg	**Pb**	**12 41 09.1**	**+0.6**
LUZB				Sg	**Sg**	**12 41 59.1**	**-0.3**
ZAA0	**Zalesovo Array** 0.3nm,0.4s	**4.18**	**335**	⇑Pn	**Pn**	**12 41 10.2**	**+0.6**
ZAA0	0.3nm,0.3s			⇓Pg	**Pg**	**12 41 22.2**	**-3.7**
ZAA0	0.7nm,0.3s			⇑Sn	**Sn**	**12 42 00.6**	**+2.1**
ZAA0	4.0nm,0.8s			⇑Lg	Lg	12 42 19.7	
SALR	**Pechorkino, Sa**	**4.42**	**344**	Pg	**Pb**	**12 41 25.8**	**+2.4**
SALR				Sg	**Sg**	**12 42 28.3**	**+0.8**
MK31	**Makanchi Array** 2.1nm,0.3s,baz=53,slow=12,SNR=100	**5.00**	**229**	⇑Pn	**Pn**	**12 41 22.8**	**+1.9**
MK31	5.0nm,0.5s,baz=60,slow=17,SNR=4.0			⇑Pg	**Pb**	**12 41 36.3**	**+2.9**
MK31	5.1nm,0.5s,baz=57,slow=19,SNR=4.6			⇓Sn	**Sn**	**12 42 20.7**	**+1.9**
MK31	6.8nm,0.5s,baz=48,slow=32,SNR=8.9			⇑Lg	Lg	12 42 39.2	
MAKZ	**Makanchi** 5.0nm,0.6s	**5.14**	**231**	⇑Pn	**Pn**	**12 41 24.2**	**+1.3**
MAKZ	5.1nm,0.6s			⇑Pg	**Pb**	**12 41 37.7**	**+1.9**
MAKZ	3.5nm,0.3s			⇓Sn	**Sn**	**12 42 24.0**	**+1.7**
MAKZ	7.1nm,0.5s			⇓Lg	Lg	12 42 43.2	
KURK	**Kurchatov** 2.7nm,0.5s	**5.88**	**279**	⇓Pn	**Pn**	**12 41 32.8**	**-0.2**
KURK	4.4nm,0.6s			⇑Sn	**Sn**	**12 42 42.1**	**+1.6**
KURK	12nm,0.7s			⇑Lg	Lg	12 43 06.4	
KURBB	**Kurchatov Arra** 7.5nm,0.5s	**5.94**	**278**	⇑Pn	**Pn**	**12 41 34.1**	**+0.4**
KURBB	15nm,0.7s			⇓Sn	**Sn**	**12 42 43.8**	**+2.0**
KURBB	38nm,0.6s			⇑Lg	Lg	12 43 08.9	

WEL 20 12:43:31.5±1.6, 35.°S±10.°×177.°9E±1.°7, h5km, M3.9/18, ML4.1/15, MLv3.9/18, Error ellipse: s-maj=0.0km s-min=0.0km az=80.6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.03**	**192**	P	Pn	12 44 20.5	+0.4
MXZ				S	Sn	12 44 58.0	+1.2
WMGZ	**Waiomatatini S**	**3.26**	**190**	P	Pn	12 44 24.6	+1.2
HAZ	**Te Kaha**	**3.33**	**198**	P	Pn	12 44 24.8	+0.5
HAZ				S	Sn	12 45 04.8	+0.7
PKGZ	**Pakihiroa**	**3.39**	**194**	P	Pn	12 44 26.2	+1.1
KUZ	**Kuaotunu**	**3.49**	**231**	P	Pn	12 44 27.0	+0.5
PUZ	**Puketiti**	**3.53**	**191**	P	Pn	12 44 27.5	+0.4
PUZ				S	Sn	12 45 10.6	+1.3
RUGZ	**Raukumara Rang**	**3.55**	**199**	P	Pn	12 44 27.5	0.0
OPRZ	**Ohinepanea**	**3.84**	**212**	P	Pn	12 44 31.6	+0.3
MARZ	**Manawahe**	**3.91**	**209**	P	Pn	12 44 33.2	+0.9
MWZ	**Matawai**	**3.94**	**198**	P	Pn	12 44 31.5	-1.2
CNGZ	**Carnagh Statio**	**3.94**	**190**	P	Pn	12 44 33.1	+0.4
TKGZ	**Te Karaka**	**3.97**	**194**	P	Pn	12 44 32.3	-0.7
URZ	**Urewera**	**3.99**	**203**	P	Pn	12 44 32.3	-1.0
MKAZ	**Moumakai**	**4.07**	**231**	P	Pn	12 44 34.7	+0.3
RAGZ	**Rawiri**	**4.12**	**199**	P	Pn	12 44 34.3	-1.0
RIGZ	**Rimuhau**	**4.24**	**194**	P	Pn	12 44 36.0	-0.8
MUGZ	**Murupara**	**4.30**	**205**	P	Pn	12 44 36.1	-1.6
SNGZ	**Shannon Statio**	**4.41**	**198**	P	Pn	12 44 37.9	-1.3
PRGZ	**Paritu Road**	**4.43**	**192**	P	Pn	12 44 38.2	-1.1
ALRZ	**Allen Road**	**4.54**	**209**	P	Pn	12 44 40.1	-0.8
WPRZ	**Whakapapatarin**	**4.58**	**210**	P	Pn	12 44 41.3	-0.2
RAHZ	**Arahi**	**4.61**	**200**	P	Pn	12 44 39.9	-1.9
MHGZ	**Mahia Peninsul**	**4.65**	**192**	P	Pn	12 44 40.7	-1.7
TLZ	**Tolley Road**	**4.71**	**217**	P	Pn	12 44 43.4	+0.1
WHHZ	**Waihua**	**4.72**	**198**	P	Pn	12 44 41.4	-2.0
MRHZ	**Matea Rd**	**4.75**	**206**	P	Pn	12 44 41.3	-2.5
HATZ	**Hinemaiaia**	**4.92**	**209**	P	Pn	12 44 44.4	-1.7
ARHZ	**Aropaoanui**	**4.95**	**199**	P	Pn	12 44 43.6	-3.0
BKZ	**Black Stump Fm**	**5.02**	**204**	P	Pn	12 44 44.6	-2.9
HIZ	**Hauiti**	**5.19**	**220**	P	Pn	12 44 50.6	+0.7
MCHZ	**McNeill Hill**	**5.21**	**201**	P	Pn	12 44 47.3	-2.8
KRHZ	**Kereru**	**5.49**	**203**	P	Pn	12 44 49.5	-4.5
PXZ	**Pawanui**	**5.71**	**198**	P	Pn	12 44 52.4	-4.6
PNHZ	**Pukenui**	**5.79**	**203**	P	Pn	12 44 52.9	-5.3

IDC 20 12:46:50.1±2.4, 2.°97N×130.°04E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/40, mbtmp3.6/3, Error ellipse: s-maj=162.4km s-min=25.6km az=69.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 8.1nm,1.1s,baz=349,slow=9.8,SNR=7.7	**23.15**	**170**	P	P	12 51 57.9	-0.4
ASAR	**Alice Springs** 0.4nm,0.9s,baz=357,slow=9.0,SNR=4.1	**26.74**	**172**	P	P	12 52 29.8	-1.8
STKA	**Stephens Creek** 1.5nm,0.4s,baz=343,slow=7.5,SNR=4.6	**36.35**	**163**	P	P	12 53 56.5	+0.6
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=114,slow=8.7,SNR=4.1	**60.09**	**324**	P	P	12 57 00.3	+1.1

IDC 20 12:48:10.2±10.0, 16.°82S×174.°61W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/23, mbtmp3.5/3, Error ellipse: s-maj=453.5km s-min=41.3km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.6nm,1.1s,baz=95,slow=7.5,SNR=1.6	**48.40**	**258**	P	P	12 56 54.4	0.0
ASAR	**Alice Springs** 0.2nm,0.7s,baz=90,slow=7.8,SNR=4.5	**48.57**	**253**	P	P	12 56 55.5	-0.2
ILAR	**Eielson Array** 0.7nm,1.1s,baz=229,slow=7.4,SNR=4.1	**84.06**	**12**	P	P	13 00 42.3	0.0

*ISCJB **20** 13:07:21.6±1.0, 38.°52N±0.°08×69.°36E±0.°08, h12km, mb3.6/4, Error ellipse: s-maj=11.2km s-min=8.5km az=6.9*
*IDC **20** 13:07:22.1±1.4, 38.°45N×69.°87E, h0km, mb3.7/4, mb1 3.7/10, mb1mx3.5/55, mbtmp3.6/10, ML3.4/5, Error ellipse: s-maj=19.4km s-min=15.6km az=152.0*
*NNC **20** 13:07:24.6±3.2, 38.°61N×69.°43E, h1km±13km, mb4.2, mpv3.8, Error ellipse: s-maj=24.0km s-min=16.0km az=4.0*

ISC 20 13:07:22.4±1.3, 38.°40N±0.°10×69.°49E±0.°08, h12km, n25, σ2s53/35, mb3.7/4, 7C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array** 1.5nm,0.3s,baz=183,slow=13,SNR=55	**4.77**	**9**	⇑Pn	**Pn**	**13 08 36.1**	**+2.1**
KK31	14nm,0.5s,baz=194,slow=17,SNR=9.9			⇑Pg	**Pb**	**13 08 48.6**	**+2.7**
KK31	22nm,0.6s,baz=197,slow=26,SNR=3.6			⇑Sn	**Sn**	**13 09 29.2**	**-0.1**
KK31	24nm,0.5s,baz=181,slow=28,SNR=6.5			⇑Lg	Lg	13 09 46.4	
AML	**Almayashu** SNR=12	**4.92**	**39**	P	**Pn**	**13 08 37.3**	**+0.7**
EKS2	**Erkin-Say** SNR=7.6	**5.37**	**36**	P	**Pn**	**13 08 45.5**	**+3.1**
UCH	**Uchtor** SNR=9.0	**5.42**	**44**	P	**Pn**	**13 08 44.3**	**+0.8**
AAK	**Ala-Archa** 3.9nm,0.3s,baz=198,slow=5.4,SNR=30	**5.70**	**40**	Pn	**Pn**	**13 08 48.1**	**+1.1**
AAK	3.2nm,0.3s,baz=168,slow=8.7,SNR=7.7			Pg	**Pb**	**13 09 00.8**	**-1.0**
AAK	1.4nm,0.3s,baz=4.2,slow=23,SNR=1.3			Sn	**Sn**	**13 09 49.0**	**-3.5**
AAK	2.5nm,0.3s,baz=1.8,slow=19,SNR=5.8			Lg	Lg	13 10 13.3	
AAK	**Ala-Archa** SNR=10	**5.70**	**40**	P	**Pn**	**13 08 51.4**	**+4.3**
AAK	**Ala-Archa** 3.2nm,0.3s	**5.70**	**40**	Pn	**Pn**	**13 08 50.3**	**+3.3**
AAK	10nm,0.6s			Pg	**Pb**	**13 09 05.9**	**+4.0**
AAK	10nm,0.4s			Sn	**Sn**	**13 09 56.7**	**+4.2**
AAK	21nm,0.6s			Lg	Lg	13 10 23.3	
KZA	**Kyzart** SNR=8.8	**5.74**	**48**	P	**Pn**	**13 08 49.4**	**+1.6**
KBK	**Karagaybulak** SNR=8.5	**5.95**	**43**	P	**Pn**	**13 08 53.8**	**+3.3**
USP	**Ospenovka** SNR=5.7	**6.17**	**36**	P	**Pn**	**13 08 56.0**	**+2.5**
ULHL	**Ulahol** SNR=5.8	**6.43**	**51**	P	**Pn**	**13 08 59.5**	**+2.4**
TKM2	**Tokmak 2** SNR=9.8	**6.48**	**44**	P	**Pn**	**13 08 58.7**	**+0.9**
TKM2	**Tokmak 2** 4.0nm,0.5s	**6.48**	**44**	⇑Pn	**Pn**	**13 08 58.2**	**+0.4**
TKM2	14nm,0.6s			⇓Sn	**Sn**	**13 10 12.5**	**+0.8**
TKM2	34nm,1.1s			⇓Lg	Lg	13 10 47.5	
PDGK	**Podgornoye** 2.1nm,0.6s	**9.04**	**54**	⇓Pn	**Pn**	**13 09 32.1**	**-0.6**
PDGK	9.9nm,0.9s			⇓Lg	Lg	13 12 06.8	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=220,slow=13,SNR=4.1	**12.61**	**44**	Pn	**Pn**	**13 10 20.6**	**-1.0**
AB31	**Akbulak array** 1.2nm,0.3s,baz=136,slow=14,SNR=84	**12.85**	**331**	⇑Pn	**Pn**	**13 10 24.6**	**-0.1**
AB31	1.9nm,0.6s,baz=164,slow=22,SNR=4.5			⇓Sn	**Sn**	**13 12 44.7**	**-2.9**
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=212,slow=11,SNR=1.9	**13.81**	**25**	Pn	**Pn**	**13 10 34.9**	**-2.9**
KURBB	0.0nm,0.3s,baz=212,slow=27,SNR=5.2			Lg	Lg	13 14 32.9	
AKTO	**Aktyubinsk** 0.4nm,0.3s,baz=136,slow=11,SNR=5.7	**14.54**	**330**	Pn	**Pn**	**13 10 48.6**	**+0.7**
AKTO	0.1nm,0.3s,baz=43,slow=20,SNR=2.0			Sn	**Sn**	**13 13 22.9**	**-6.0**
AKTO	**Aktyubinsk** 2.9nm,0.5s	**14.54**	**330**	⇑Pn	**Pn**	**13 10 48.8**	**+0.9**
AKTO	3.3nm,1.1s			⇓Sn	**Sn**	**13 13 31.4**	**+2.5**
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=170,slow=8.8,SNR=3.2	**14.64**	**2**	Pn	**Pn**	**13 10 47.4**	**-1.9**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=220,slow=12,SNR=6.2	**18.77**	**29**	P	**P**	**13 11 38.9**	**-2.2**
HFS	**Hagfors** 1.6nm,0.7s,baz=90,slow=13,SNR=1.5	**40.84**	**321**	P	**P**	**13 15 04.5**	**+0.9**
KLR	**Kul'dur** 0.9nm,0.4s,baz=304,slow=6.2,SNR=4.4	**45.02**	**55**	P	**P**	**13 15 35.2**	**-2.4**
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=357,slow=4.3,SNR=2.3	**79.40**	**2**	P	**P**	**13 19 27.3**	**-0.7**
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=326,slow=4.9,SNR=4.9	**84.00**	**121**	P	**P**	**13 19 54.1**	**+1.2**

*LDG **20** 13:08:56.6±0.1, 41.°68N×14.°83E, h30km, MI3.4/6, Error ellipse: s-maj=4.4km s-min=2.9km az=51.0*
*ISCJB **20** 13:08:58.9±0.2, 41.°70N±0.°01×14.°78E±0.°02, h22km±2km, mb3.7/7, MS4.0/1, Error ellipse: s-maj=2.4km s-min=1.7km az=35.4*
*PDG **20** 13:08:58.8±0.4, 41.°69N×14.°81E, h19km, ML3.8/11, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
*ROM **20** 13:08:58.7±0.1, 41.°684N±0.°005×14.°804E±0.°007, h19km, ML3.8/64, Error ellipse: s-maj=0.7km s-min=0.1km az=40.0*
*IDC **20** 13:08:59.3±0.8, 41.°86N×14.°40E, h0km, mb3.8/8, mb1 3.9/14, mb1mx3.7/49, mbtmp3.8/14, ML3.5/6, MS3.6/2, Ms1 3.6/2, ms1mx2.8/67, Error ellipse: s-maj=17.2km s-min=11.6km az=91.0*
*PRU **20** 13:09:00.9±0.0, 41.°87N×14.°84E, h0km*
*BEO **20** 13:09:01.7±0.7, 41.°66N×14.°89E, h20km, ML3.8/9*
*THE **20** 13:09:03.0, 41.°67N×15.°17E, h11km±12km, ML3.8/4, Error ellipse: s-maj=16.8km s-min=2.3km az=300.0*

ISC 20 13:08:59.9±0.8, 41.°66N±0.°02×14.°78E±0.°02, h13km±5km, n227, σ1s51/256, mb3.9/7, 13C-7D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CIGN	**Sant'Elia a Pi**	**0.09**	**93**	P	**Pg**	**13 09 01.9**	**-1.0**
CIGN				S	**Sg**	**13 09 05.8**	**+0.8**
CIGN				AML	AML		
CIGN				AML	AML		
GATE	**Gambatesa**	**0.17**	**146**	P	**Pg**	**13 09 04.2**	**+0.2**
GATE				S	**Sb**	**13 09 07.9**	**-0.5**

GATE AML AML
comp=E,99550µm,0.5s
GATE AML AML
comp=N,78550µm,1.2s
GATE AML AML
comp=N,78600µm,1.2s
GATE AML AML
comp=E,50150µm,0.7s
GATE AML AML
comp=N,79350µm,1.2s
GATE AML AML
comp=N,78550µm,1.2s
GATE AML AML
comp=N,78550µm,1.2s
GATE AML AML
comp=E,50150µm,0.7s
GATE AML AML
comp=E,99550µm,0.5s
GATE AML AML
comp=N,79350µm,1.2s
BSSO Busso 0.18 231 P **Pg** **13 09 04.4 +0.2**
BSSO S **Sb** **13 09 09.1 +0.5**
BSSO AML AML
comp=E,90350µm,1.1s
BSSO AML AML
comp=N,98500µm,0.6s
BSSO AML AML
comp=E,33400µm,1.1s
BSSO AML AML
comp=N,44000µm,0.6s
BSSO AML AML
comp=E,90300µm,1.1s
BSSO AML AML
comp=E,90400µm,1.1s
BSSO AML AML
comp=N,98450µm,0.6s
BSSO AML AML
comp=E,33400µm,1.1s
BSSO AML AML
comp=N,44000µm,0.6s
BSSO AML AML
comp=E,90400µm,1.1s
BSSO AML AML
comp=N,98450µm,0.6s
TRIV Trivento 0.20 302 P **Pg** **13 09 04.5 0.0**
TRIV AML AML
comp=E,47100µm,0.6s
TRIV AML AML
comp=E,47150µm,0.6s
TRIV AML AML
comp=E,47150µm,0.6s
TRIV AML AML
comp=N,31450µm,1.2s
MELA Melanico ??? S 0.26 80 P **Pg** **13 09 04.2 -1.2**
MELA S **Sg** **13 09 08.7 -0.5**
MELA AML AML
MELA AML AML
MELA AML AML
MELA AML AML
MELA AML AML
MELA AML AML
MELA AML AML
SACR S. Croce Del S 0.27 192 P **Pg** **13 09 05.3 -0.3**
SACR S **Sg** **13 09 10.1 +0.7**
SACR AML AML
comp=E,15700µm,0.4s
SACR AML AML
comp=E,15650µm,0.4s
SACR AML AML
comp=N,28800µm,1.0s
SACR AML AML
comp=E,15950µm,0.4s
SACR AML AML
comp=N,29400µm,1.0s
SACR AML AML
comp=N,29400µm,1.0s
SACR AML AML
comp=E,15650µm,0.4s
SACR AML AML
comp=N,28800µm,1.0s
SACR AML AML
comp=E,15950µm,0.4s
FRES Fresagrandinar 0.33 345 P **Pg** **13 09 05.7 -0.9**
FRES S **Sg** **13 09 11.4 +0.3**
FRES AML AML
comp=E,18000µm,0.4s
FRES AML AML
comp=N,11750µm,0.5s
FRES AML AML
comp=E,18000µm,0.4s
MIDA Miranda 0.40 268 P **Pg** **13 09 07.3 -0.6**
MIDA S **Sg** **13 09 13.8 +0.6**
MIDA AML AML
comp=E,19850µm,0.5s
MIDA AML AML
comp=N,23550µm,0.4s
MIDA AML AML
comp=E,20350µm,0.5s
MIDA AML AML
comp=N,24600µm,0.4s
MIDA AML AML
comp=E,19850µm,0.5s
MIDA AML AML
comp=E,20350µm,0.5s
MIDA AML AML
comp=N,23550µm,0.4s
MIDA AML AML
comp=N,24600µm,0.4s
MOCO Biccari - m.te 0.40 135 P **Pg** **13 09 07.4 -0.6**
MOCO S **Sg** **13 09 14.3 +0.8**
MOCO AML AML
comp=N,10600µm,0.5s
MOCO AML AML
comp=E,18900µm,0.5s
MOCO AML AML
comp=N,10590µm,0.5s
MOCO AML AML
comp=E,19100µm,0.5s
MOCO AML AML
comp=E,18900µm,0.5s
MOCO AML AML
comp=E,19100µm,0.5s
MOCO AML AML
comp=N,10950µm,0.4s
PSB1 Pescosannita 0.43 177 P **Pg** **13 09 07.8 -0.7**
PSB1 S **Sg** **13 09 15.1 +0.7**
PSB1 AML AML
comp=E,9000µm,0.4s
PSB1 AML AML
comp=N,7710µm,0.7s
PSB1 AML AML
comp=E,9530µm,0.4s
PSB1 AML AML
comp=N,7660µm,0.7s
PSB1 AML AML
comp=E,9005µm,0.4s
PSB1 AML AML
comp=N,9330µm,0.9s
PSB1 AML AML
comp=N,9435µm,0.9s
RNI2 Rionero Sannit 0.47 276 P **Pg** **13 09 08.7 -0.6**
RNI2 S **Sb** **13 09 17.0 0.0**
RNI2 AML AML
comp=E,17500µm,0.6s
RNI2 AML AML
comp=N,10475µm,1.6s
RNI2 AML AML
comp=E,18100µm,0.6s
RNI2 AML AML
comp=E,17500µm,0.6s
RNI2 AML AML
comp=N,10580µm,1.6s
VAGA Valle Agricola 0.48 240 P **Pg** **13 09 08.7 -0.7**
VAGA S **Sb** **13 09 16.7 -0.4**
VAGA AML AML
comp=E,18450µm,0.4s
VAGA AML AML
comp=N,34900µm,0.3s
VAGA AML AML
comp=N,36000µm,0.3s
VAGA AML AML
comp=E,18450µm,0.4s
VAGA AML AML
comp=E,19100µm,0.4s
VAGA AML AML
comp=N,34900µm,0.3s
VAGA AML AML
comp=E,18450µm,0.4s
VAGA AML AML
comp=N,19100µm,0.4s
BIOG Biogem 0.53 150 P **Pg** **13 09 10.6 +0.3**
BIOG AML AML
comp=E,68950µm,0.4s
BIOG AML AML
comp=N,60200µm,0.4s
BIOG AML AML
comp=E,66900µm,0.4s
BIOG AML AML
comp=E,68950µm,0.4s
BIOG AML AML
comp=N,60200µm,0.4s
BIOG AML AML
comp=N,60700µm,0.4s
BIOG AML AML
comp=N,60700µm,0.4s
BIOG AML AML
comp=E,66900µm,0.4s
BIOG AML AML
comp=E,68950µm,0.4s
BIOG AML AML
comp=N,60200µm,0.4s
MRB1 Monte Rocchett 0.55 165 P **Pg** **13 09 09.9 -0.8**
MRB1 AML AML
comp=E,15600µm,0.4s
MRB1 AML AML
comp=N,20100µm,0.6s
MRB1 AML AML
comp=N,20550µm,0.6s
MRB1 AML AML
comp=E,15600µm,0.4s
MRB1 AML AML
comp=N,20100µm,0.6s
MRB1 AML AML
comp=E,15750µm,0.4s
MRB1 AML AML
comp=N,20550µm,0.6s
CERA Filignano 0.57 264 P **Pg** **13 09 10.1 -1.1**
CERA AML AML
comp=E,15650µm,0.9s
CERA AML AML
comp=N,13650µm,0.4s
CERA AML AML
comp=E,16100µm,0.9s
CERA AML AML
comp=N,14050µm,0.4s
CERA AML AML
comp=E,15650µm,0.9s
LPEL Lama dei Pelig 0.59 311 P **Pg** **13 09 10.2 -1.3**
LPEL AML AML
comp=E,14250µm,0.2s
LPEL AML AML
comp=N,14550µm,0.4s
LPEL AML AML
comp=E,14250µm,0.2s
PIGN Pignataro Magg 0.64 225 P **Pg** **13 09 11.3 -1.1**
PIGN AML AML
comp=E,6725µm,0.4s
PIGN AML AML
comp=N,7215µm,0.5s
PIGN AML AML
comp=E,6720µm,0.4s
PIGN AML AML
comp=E,6995µm,0.4s
PIGN AML AML
comp=N,7100µm,0.5s
PAOL Paolisi 0.65 194 P **Pg** **13 09 11.0 -1.5**
PAOL AML AML
comp=N,5760µm,0.4s
PAOL AML AML
comp=E,6050µm,0.6s
PAOL AML AML
comp=N,5890µm,0.4s
PAOL AML AML
comp=E,6275µm,0.6s
CAFR Castel Frentan 0.65 330 P **Pg** **13 09 11.3 -1.4**
CAFR AML AML
comp=E,22100µm,0.7s
CAFR AML AML
comp=N,18600µm,0.3s
CAFR AML AML
comp=E,22100µm,0.7s
CAFR AML AML
comp=N,18600µm,0.3s
SGTA Sant Agata di 0.68 140 P **Pg** **13 09 11.6 -1.7**
SGTA AML AML
comp=N,6875µm,0.5s
SGTA AML AML
comp=E,8750µm,0.4s
SGTA AML AML
comp=N,7005µm,0.5s
SGTA AML AML
comp=E,9035µm,0.4s
SGTA AML AML
comp=N,6880µm,0.5s
CAFE Carife 0.72 151 P **Pg** **13 09 12.4 -1.4**
CAFE AML AML
comp=E,9170µm,0.9s
CAFE AML AML
comp=N,15250µm,0.4s
CAFE AML AML
comp=E,9300µm,0.5s
CAFE AML AML
comp=E,9160µm,0.9s
CAFE AML AML
comp=N,14900µm,0.4s
SGRT San Giovanni R 0.73 82 P **Pg** **13 09 11.9 -2.2**
SGRT AML AML
comp=E,10415µm,0.5s
SGRT AML AML
comp=N,10060µm,0.3s
INTR Introdacqua 0.74 299 P **Pg** **13 09 12.5 -1.9**
INTR S **Sg** **13 09 24.2 0.0**
INTR AML AML
comp=E,6925µm,0.6s
INTR AML AML
comp=N,11550µm,0.7s
SNAL S. Angelo Dei 0.80 156 P **Pg** **13 09 13.4 -2.1**
SNAL AML AML
comp=E,8680µm,0.7s
SNAL AML AML
comp=N,8370µm,0.6s
POFI Posta Fibreno 0.80 275 P **Pg** **13 09 13.7 -1.8**
POFI AML AML
comp=N,4410µm,0.5s
POFI AML AML
comp=E,5605µm,0.6s
POFI AML AML
comp=N,4415µm,0.5s
POFI AML AML
comp=E,5600µm,0.8s
POFI AML AML
comp=N,4355µm,0.5s
MSAG Monte S. Angel 0.85 86 P **Pg** **13 09 13.9 -2.4**
MSAG AML AML
comp=E,16900µm,0.4s
MSAG AML AML
comp=N,34800µm,0.3s
MSAG AML AML
comp=N,35450µm,0.3s
MSAG AML AML
comp=E,16900µm,0.4s
MSAG AML AML
comp=N,34800µm,0.3s
MSAG AML AML
comp=E,16950µm,0.4s
MSAG AML AML
comp=N,35450µm,0.3s
MODR Mondragone 0.85 233 P **Pg** **13 09 15.4 -1.0**
MODR AML AML
comp=E,8920µm,0.6s
MODR AML AML
comp=N,12300µm,0.5s
OVO Vesuviano 0.88 199 P **Pb** **13 09 17.1 +0.1**
OVO AML AML
comp=N,6610µm,0.5s
OVO AML AML
comp=E,5220µm,0.6s
VVLD Villa Vallelon 0.89 284 P **Pg** **13 09 14.8 -2.4**
VVLD AML AML
comp=E,6325µm,0.5s
VVLD AML AML
comp=N,5090µm,0.6s
MCRV Calabrutti - M 0.92 161 P **Pg** **13 09 15.6 -2.1**
MCRV AML AML
comp=E,9920µm,1.0s
MCRV AML AML
comp=N,7700µm,0.9s
VULT Monte Vulture 0.94 138 P **Pg** **13 09 15.5 -2.6**
VULT AML AML
comp=E,7815µm,1.2s
VULT AML AML
comp=N,15300µm,0.3s
VULT AML AML
comp=E,7815µm,1.2s
VULT AML AML
comp=N,15300µm,0.3s
VULT AML AML
comp=N,15650µm,0.3s
VULT AML AML
comp=E,7960µm,1.2s
VCEL Villa Celiera 1.02 317 P **Pb** **13 09 16.7 -2.7**
VCEL AML AML
comp=E,5310µm,0.5s
VCEL AML AML
comp=N,6405µm,0.9s
VCEL AML AML
comp=E,5305µm,0.5s
MRLC Muro Lucano 1.05 149 P **Pb** **13 09 17.9 -2.0**
MRLC AML AML
comp=N,3500µm,0.4s
MRLC AML AML
comp=N,3770µm,0.5s
MRLC AML AML
comp=E,4415µm,0.5s
MRLC AML AML
comp=E,4165µm,0.5s
FAGN Fagnano 1.08 305 P **Pb** **13 09 17.7 -2.7**
FAGN AML AML
comp=N,6820µm,0.5s
FAGN AML AML
comp=E,9535µm,0.6s
PTQR Pietraquaria 1.09 290 P **Pb** **13 09 18.2 -2.5**
PTQR AML AML
comp=N,1290µm,1.4s
PTQR AML AML
comp=E,1485µm,1.6s
GUAR Guarcino 1.11 278 P **Pb** **13 09 18.5 -2.5**
GUAR AML AML
comp=E,2935µm,0.5s
GUAR AML AML
comp=N,3290µm,0.9s
PALZ Palazzo San Ge 1.14 128 P **Pb** **13 09 19.9 -1.5**
PALZ AML AML
comp=E,14300µm,0.9s
PALZ AML AML
comp=N,13500µm,0.7s
GIUL Giuliano Di Ro 1.15 266 P **Pb** **13 09 19.8 -1.8**
GIUL AML AML
comp=E,2785µm,0.6s
GIUL AML AML
comp=N,2630µm,0.7s
MRVN Minervino Murg 1.22 119 P **Pn** **13 09 20.8 -1.8**
MRVN AML AML
comp=E,2930µm,0.5s
MRVN AML AML
comp=N,2115µm,1.1s
CDRU Civita di Ruta 1.23 161 P **Pn** **13 09 22.0 -0.9**
CDRU AML AML
comp=E,4420µm,1.2s
CDRU AML AML
comp=N,2490µm,0.5s
ACER Acerenza 1.24 134 P **Pn** **13 09 21.7 -1.2**
ACER AML AML
comp=E,6575µm,0.9s
ACER AML AML
comp=N,5590µm,0.5s
ACER AML AML
comp=E,6710µm,0.9s
ACER AML AML
comp=N,5725µm,0.5s
AQU L'Aquila 1.24 305 *e*Pn **Pn** **13 09 20.5 -2.5**
VENT Ventotene 1.34 230 AML AML
comp=E,2445µm,0.4s
VENT AML AML
comp=N,2895µm,0.9s
LATB Latina 1.37 264 P **Pn** **13 09 24.2 -0.5**
LATB AML AML
comp=E,764µm,0.7s
LATB AML AML
comp=N,479µm,1.0s
CERT Cerreto 1.38 283 P **Pn** **13 09 22.5 -2.3**
CERT AML AML
comp=N,1505µm,0.5s
CERT AML AML
comp=E,2940µm,1.4s
FIAM Fiamignano 1.38 297 P **Pn** **13 09 24.7 -0.2**
CMPR Campora 1.40 163 P **Pn** **13 09 24.2 -0.9**
CMPR AML AML
comp=N,2600µm,0.7s
CMPR AML AML
comp=E,3065µm,0.8s
SLCN Sala Consilina 1.42 153 P **Pn** **13 09 25.0 -0.5**
SLCN AML AML
comp=E,4015µm,1.0s
SLCN AML AML
comp=N,2950µm,0.5s
OFFI Offida 1.51 328 P **Pn** **13 09 26.7 +0.1**
OFFI AML AML
comp=E,8670µm,0.6s
OFFI AML AML
comp=N,10400µm,0.6s
GUMA Gualdo di Mace 1.54 336 P **Pg** **13 09 30.7 +1.3**
GUMA AML AML
comp=E,4245µm,0.6s
GUMA AML AML
comp=N,4760µm,0.7s
GUMA AML AML
comp=E,5335µm,0.9s
GUMA AML AML
comp=N,4365µm,0.6s
MCEL Monticello 1.54 150 P **Pn** **13 09 26.2 -0.9**
MCEL AML AML
comp=E,1540µm,0.6s
MCEL AML AML
comp=N,1740µm,0.8s
MCEL AML AML
comp=E,1530µm,0.6s
MCEL AML AML
comp=N,1765µm,0.8s
AMUR Altamura 1.57 118 P **Pn** **13 09 26.0 -1.4**
AMUR AML AML
comp=E,2375µm,0.3s
AMUR AML AML
comp=N,3515µm,0.9s
MTSN Montesano sull 1.57 152 P **Pn** **13 09 26.9 -0.7**
MTSN AML AML
comp=N,1420µm,1.6s
MTSN AML AML
comp=E,2045µm,0.6s
LNSS Leonessa 1.60 307 P **Pn** **13 09 27.3 -0.7**
LNSS AML AML
comp=N,1910µm,0.5s
LNSS AML AML
comp=E,1895µm,0.7s
MGR Morigerati 1.63 159 P **Pn** **13 09 27.8 -0.5**
MGR AML AML
comp=E,1590µm,0.8s
MGR AML AML
comp=N,1205µm,0.7s
MIGL Miglionico 1.64 129 P **Pn** **13 09 27.5 -0.9**
MIGL AML AML
comp=N,8215µm,0.5s
MIGL AML AML
comp=E,4705µm,1.2s
SG1 Sgolgore (BA) 1.65 119 *e*Pn **Pn** **13 09 27.4 -1.1**
BAI Bari 1.67 109 *e*Pn **Pn** **13 09 27.6 -1.2**
SIRI Monte Sirino - 1.69 150 P **Pn** **13 09 28.1 -1.1**
SIRI AML AML
comp=E,1088µm,1.2s
SIRI AML AML
comp=N,1245µm,0.4s
NRCA Norcia 1.71 314 P **Pn** **13 09 28.9 -0.5**
NRCA AML AML
comp=E,1094µm,1.4s
NRCA AML AML
comp=N,1130µm,1.4s
NRCA AML AML
comp=E,1073µm,1.4s
NRCA AML AML
comp=N,1038µm,1.2s
SCHR S. Chirico Rap 1.76 146 P **Pn** **13 09 29.1 -1.0**

SCHR AML AML
comp=E,656µm,0.5s
SCHR AML AML
comp=N,566µm,0.4s
MATE Matera 1.77 124 ⇓P **Pn 13 09 29.0 -1.2**
MATE ⇓S **Sb 13 09 54.5 +0.3**
MATE Matera 1.77 124 P **Pn 13 09 28.9 -1.2**
MATE AML AML
comp=E,2430µm,0.6s
MATE AML AML
comp=N,2325µm,0.4s
CUC Castrocucco 1.84 154 AML AML
comp=E,988µm,0.9s
CUC AML AML
comp=N,794µm,0.6s
CUC AML AML
comp=E,814µm,0.9s
CUC AML AML
comp=N,649µm,0.6s
CSP1 Cessapalombo 1.85 321 AML AML
comp=N,1950µm,0.5s
CSP1 AML AML
comp=E,1380µm,1.4s
FDMO Fiordimonte 1.86 318 AML AML
comp=E,802µm,0.6s
FDMO AML AML
comp=N,1500µm,0.7s
NOCI Noci 1.93 116 P **Pn 13 09 31.0 -1.4**
NOCI AML AML
comp=E,2165µm,0.5s
NOCI AML AML
comp=N,1940µm,0.2s
CESI CESI - Serrava 1.94 315 AML AML
comp=E,252µm,0.6s
CESI AML AML
comp=N,686µm,0.7s
T0721 Laino Castello 1.94 152 AML AML
comp=E,1587µm,0.9s
T0721 AML AML
comp=E,1860µm,0.9s
T0721 AML AML
comp=N,1685µm,0.7s
T0721 AML AML
comp=N,1795µm,0.9s
HVAR Hvar 1.96 39 *e*Pn **Pn 13 09 31.7 -1.1**
HVAR Sn **Sn 13 09 55.8 -1.3**
MOMA Monte Martano 2.00 306 AML AML
comp=N,1014µm,0.7s
MOMA AML AML
comp=E,794µm,0.6s
MOMA AML AML
comp=E,792µm,0.6s
MOMA AML AML
comp=N,937µm,0.6s
MASS Massafra 2.06 119 *e*Pn **Pn 13 09 32.8 -1.3**
CING Cingoli 2.08 326 AML AML
comp=N,885µm,0.6s
CING AML AML
comp=E,1025µm,0.9s
ZIRJ Zirje 2.09 17 *e*Pn **Pn 13 09 33.0 -1.6**
ZIRJ Sn **Sn 13 09 59.4 -1.1**
ASSB Assisi San Ben 2.10 312 AML AML
comp=N,746µm,0.6s
ASSB AML AML
comp=E,746µm,1.5s
SNTG Esanatoglia 2.10 320 AML AML
comp=N,786µm,0.7s
SNTG AML AML
comp=E,689µm,0.7s
TOLF Tolfa 2.12 282 AML AML
comp=N,390µm,0.6s
TOLF AML AML
comp=E,420µm,0.6s
SALB San Lorenzo Be 2.14 146 AML AML
comp=N,581µm,0.5s
SALB AML AML
comp=E,580µm,0.7s
FOSV Fossato di Vic 2.21 318 AML AML
comp=E,718µm,0.6s
FOSV AML AML
comp=N,798µm,0.5s
CGL1 Ceglie Messapi 2.27 115 *e*Pn **Pn 13 09 36.4 -0.7**
ARVD Arcevia 2.29 324 AML AML
comp=E,538µm,1.2s
ARVD AML AML
comp=N,450µm,0.6s
CET2 Cetraro 2.31 157 AML AML
comp=N,1380µm,0.7s
CET2 AML AML
comp=E,1330µm,0.9s
MORI Morici 2.31 17 *i* Pn **Pn 13 09 36.4 -1.2**
MORI Sn **Sn 13 10 04.6 -1.2**
MAKA Makarska 2.32 45 *i* Pn **Pn 13 09 36.5 -1.3**
MAKA Sn **Sn 13 10 04.8 -1.4**
DUGI Dugi Otok 2.34 5 *e*Pn **Pn 13 09 36.3 -1.7**
MGAB Montegabbione 2.34 303 AML AML
comp=E,565µm,0.6s
MGAB AML AML
comp=N,502µm,0.6s
MGAB AML AML
comp=N,402µm,0.6s
MGAB AML AML
comp=E,489µm,0.6s
STON Ston 2.48 60 *e*Pn **Pn 13 09 40.6 +0.6**
STON *e*Sn **Sn 13 10 09.8 -0.3**
STON Ston 2.48 60 *e*Pn **Pn 13 09 40.5 +0.6**
STON Ston 2.48 60 AML AML
comp=N,772µm,0.6s
STON AML AML
comp=E,465µm,0.6s
PIEI Pieia 2.50 319 AML AML
comp=E,342µm,0.6s
PIEI AML AML
comp=N,304µm,1.6s
ATPI Pietralunga - 2.51 316 AML AML
comp=N,505µm,0.9s
ATPI AML AML
comp=E,486µm,1.3s
RICI Ricice 2.53 43 ePn **Pn 13 09 39.7 -0.9**
RICI Sn **Sn 13 10 11.9 +0.6**
KIJV Kijevo 2.63 26 *i* Pn **Pn 13 09 41.8 -0.2**
KIJV Sn **Sn 13 10 14.5 +0.7**
CAR1 CAROLEI 2.64 155 AML AML
comp=E,650µm,0.4s
CAR1 AML AML
comp=N,631µm,0.7s
PIPA Pietrapaola 2.67 144 AML AML
comp=N,370µm,1.1s
PIPA AML AML
comp=E,252µm,0.6s
PIPA AML AML
comp=N,278µm,1.0s
PIPA AML AML
comp=E,282µm,0.6s
CAFI Castiglion Fio 2.67 310 AML AML
comp=N,304µm,0.9s
CAFI AML AML
comp=E,218µm,0.7s
PARC Parchiule 2.73 318 AML AML
comp=N,294µm,0.7s
PARC AML AML
comp=E,399µm,1.0s
TREB Trebinje 2.85 67 *e*Pn **Pn 13 09 44.6 -0.5**
TREB *e*Sn **Sn 13 10 17.4 -1.9**
TREB Trebinje 2.85 67 *e*Pn **Pn 13 09 43.9 -1.2**
HCY Herceg Novi 2.88 73 *e*Pn **Pn 13 09 44.1 -1.3**
HCY Herceg Novi 2.88 73 ⇑*i* Pn **Pn 13 09 44.7 -0.7**
HCY *e*Sn **Sn 13 10 19.5 -0.3**
TIP Timpagrande 2.90 148 P **Pn 13 09 46.3 +0.5**
TIP S **Sn 13 10 21.7 +1.2**
TIP Timpagrande 2.90 148 ⇓P **Pn 13 09 46.5 +0.7**
NVLJ Novalja 2.90 1 *e*Pn **Pn 13 09 44.9 -0.9**
UDBI Udbina 2.96 14 *i* Pn **Pn 13 09 46.4 -0.1**
SERS Sersale 3.00 150 AML AML
comp=E,153µm,1.3s
SERS AML AML
comp=N,164µm,0.7s
BRY Bratogost 3.05 65 *e*Pn **Pn 13 09 47.5 -0.5**
BRY Bratogost 3.05 65 ⇓*i* Pn **Pn 13 09 47.3 -0.7**
BRY *e*Sn **Sn 13 10 23.6 -0.8**
BUM Brajici-Budva 3.13 77 ⇑*i* Pn **Pn 13 09 48.2 -0.8**
BUM *e*Sn **Sn 13 10 25.6 -0.7**
CEME Cevo 3.20 73 ⇑*i* Pn **Pn 13 09 49.0 -1.0**
CEME *e*Sn **Sn 13 10 27.3 -0.7**
SCTE Santa Cesarea 3.21 118 AML AML
comp=N,938µm,0.9s

SCTE AML AML
comp=E,1042µm,0.7s
MGRS Mrkonjic Grad 3.23 31 *e*Pn **Pn 13 09 50.7 +0.4**
NKME Niksic 3.29 69 ⇑*i* Pn **Pn 13 09 50.1 -1.0**
NKME *e*Sn **Sn 13 10 29.6 -0.5**
DRME Dracevica, Mon 3.33 79 *e*Pn **Pn 13 09 50.8 -0.8**
DRME Dracevica, Mon 3.33 79 ⇓*i* Pn **Pn 13 09 51.0 -0.6**
DRME *e*Sn **Sn 13 10 30.8 -0.2**
BRJN Brijuni 3.33 347 *i* Pn **Pn 13 09 50.5 -1.2**
NKY Niksic 3.33 68 ⇑*i* Pn **Pn 13 09 50.9 -0.9**
NKY *e*Sn **Sn 13 10 30.1 -1.2**
ULC Ulcinj 3.35 83 ⇑*i* Pn **Pn 13 09 51.3 -0.6**
ULC *e*Sn **Sn 13 10 31.0 -0.6**
PDG Podgorica 3.42 75 *e*Pn **Pn 13 09 53.1 +0.2**
PDG *e*Sn **Sn 13 10 31.7 -1.5**
PDG Podgorica 3.42 75 *e*Pn **Pn 13 09 52.5 -0.4**
PDG Podgorica 3.42 75 ⇑P **Pn 13 09 52.6 -0.2**
TTG Podgorica 3.42 75 ⇓*i* Pn **Pn 13 09 52.1 -0.8**
TTG *e*Sn **Sn 13 10 32.5 -0.7**
UPM Unac-Piva 3.42 62 *e*Pn **Pn 13 09 53.1 0.0**
UPM Unac-Piva 3.42 62 ⇑*i* Pn **Pn 13 09 52.4 -0.7**
UPM *e*Sn **Sn 13 10 32.6 -0.9**
MCPD Capo d'Orlando 3.53 181 AML AML
comp=N,82µm,1.3s
MCPD AML AML
comp=E,56µm,0.6s
BLY Banja Luka 3.55 29 *e*Pn **Pn 13 09 54.6 -0.1**
BLY Banja Luka 3.55 29 *e*Pn **Pn 13 09 57.2 +2.5**
BLY Banja Luka 3.55 29 ⇑P **Pn 13 09 55.1 +0.4**
MUCR Ucria 3.61 179 AML AML
comp=N,192µm,0.6s
MUCR AML AML
comp=E,100µm,0.3s
RIY Rijeka 3.67 357 *e*Pn **Pn 13 09 55.8 -0.5**
KOME Kolasin 3.71 70 ⇑*i* Pn **Pn 13 09 56.4 -0.6**
KOME *e*Sn **Sn 13 10 39.5 -1.1**
PLE Pljevlja 3.79 62 ⇓*i* Pn **Pn 13 09 58.4 +0.3**
PLE *e*Sn **Sn 13 10 41.7 -1.0**
MPAZ Palizzi 3.82 165 AML AML
comp=N,150µm,0.6s
MPAZ AML AML
comp=E,158µm,0.8s
TIR Tirane 3.83 93 *e*Pn **Pn 13 09 58.3 -0.2**
BOJS Bojanci 3.86 5 *i* Pn **Pn 13 09 58.4 -0.5**
BOJS *i* Sn **Sn 13 10 42.0 -2.1**
BOJS Bojanci 3.86 5 AML AML
comp=E,414µm,1.3s
BOJS AML AML
comp=N,196µm,0.6s
HAPS Han Pijesak,Bl 3.91 50 *e*Pn **Pn 13 10 00.4 +0.7**
RUDO Rudo 3.91 58 *e*Pn **Pn 13 09 59.6 0.0**
PVY Plav 3.96 75 ⇑*i* Pn **Pn 13 09 59.6 -0.9**
PVY *e*Sn **Sn 13 10 45.7 -1.1**
IVA Berane 3.98 71 ⇑*i* Pn **Pn 13 10 00.2 -0.5**
IVA *e*Sn **Sn 13 10 46.3 -1.0**
OZLJ Ozalj 3.99 7 *i* Pn **Pn 13 10 00.5 -0.1**
BBLS Lazići 4.06 56 *e*Pn **Pn 13 10 01.5 -0.2**
BBLS *e*Sn **Sn 13 10 48.0 -1.1**
BBLS Lazići 4.06 56 *e*Pn **Pn 13 10 02.2 +0.5**
CEY Cerknica 4.09 357 *e*Pn **Pn 13 10 00.9 -1.2**
SJES Sjenica 4.16 66 *e*Pn **Pn 13 10 02.9 -0.3**
SJES *e*Sn **Sn 13 10 47.4 -4.3**
VAE Valguarnera 4.18 184 Pn **Pb 13 10 08.8 -4.6**
comp=N,11nm,0.3s,baz=184,slow=8.3,SNR=2.0
TPE Tepelena 4.19 107 P **Pn 13 10 03.0 -0.4**
CRES Cresnjev 4.20 6 *e*Pn **Pn 13 10 02.7 -0.8**
MOSL Moslavina 4.21 19 *e*Pn **Pn 13 10 03.0 -0.7**
PHP Peshkopia 4.24 88 P **Pn 13 10 04.2 0.0**
PHP S **Sn 13 10 49.9 -3.6**
KEK Kerkira 4.28 115 P **Pn 13 10 04.6 -0.1**
KEK S **Sn 13 10 52.0 -2.5**
comp=N,208nm,0.8s
SRN Sarande 4.34 112 P **Pn 13 10 05.2 -0.3**
LJU Ljubljana 4.39 358 *e*Pn **Pn 13 10 05.5 -0.7**
LJU Ljubljana 4.39 358 AML AML
comp=N,388µm,1.5s
LJU AML AML
comp=E,416µm,1.0s
PGF Pioggiola 4.39 284 *e*P **Pn 13 10 07.1 +0.8**
IVAS Ivanjica 4.40 62 *e*Pn **Pn 13 10 06.6 +0.2**
IVAS *e*Sn **Sn 13 10 55.3 -2.3**
HVZN Vizzini 4.47 181 AML AML
comp=N,348µm,1.0s
HVZN AML AML
comp=E,499µm,0.8s
TEKS Tekeris 4.52 49 *e*Pn **Pn 13 10 08.9 +0.9**
TEKS Tekeris 4.52 49 *e*Pn **Pn 13 10 08.3 +0.3**
DIVS Divibare 4.54 56 *e*Pn **Pn 13 10 08.5 +0.2**
DIVS *e*Sn **Sn 13 10 58.3 -2.7**
DIVS Divibare 4.54 56 *e*Pn **Pn 13 10 07.8 -0.5**
POLC Polcenigo 4.67 340 AML AML
comp=N,368µm,0.7s
POLC AML AML
comp=E,326µm,0.4s
IGT Igoumenitsa 4.73 115 P **Pn 13 10 10.8 -0.1**
IGT S **Sn 13 11 04.8 -0.8**
comp=E,170nm,0.7s
OBKA Obir 4.85 358 *e*Pn **Pn 13 10 11.5 -1.1**
comp=E,5.1nm,0.2s,SNR=8.6
TRUS Trudelj 4.86 56 *e*Pn **Pn 13 10 12.5 -0.2**
NEST Nestorio 4.90 103 P **Pn 13 10 13.7 +0.4**
GRUS Gruza 4.90 61 *e*Pn **Pn 13 10 13.4 +0.1**
SELS Selova 4.94 69 *e*Pn **Pn 13 10 13.2 -0.6**
SOKA Soboth 5.02 2 *e*Pn **Pn 13 10 13.3 -1.6**
comp=E,1.6nm,0.2s,SNR=8.2
SOKA *e*Sn **Sn 13 11 10.3 -2.5**
comp=E,8.5nm,0.5s
MYKA Terra Mystica 5.04 351 *e*Pn **Pn 13 10 14.1 -1.0**
comp=E,2.5nm,0.2s
MYKA *e*Sn **Sn 13 11 11.1 -2.1**
comp=E,21nm,0.5s
FNA Florina 5.05 98 P **Pn 13 10 15.6 +0.3**
FNA S **Sn 13 11 11.9 -1.6**
comp=E,172nm,0.6s
FRGS Fruska Gora 5.06 45 *e*Pn **Pn 13 10 15.5 0.0**
FRGS Fruska Gora 5.06 45 *e*Pn **Pn 13 10 14.9 -0.6**
MEV Metsovon 5.24 109 P **Pn 13 10 18.4 +0.3**
KPRO Kipourio 5.28 107 P **Pn 13 10 19.5 +1.0**
TSLK Tsoukalades, L 5.31 120 P **Pn 13 10 19.0 +0.1**
LKD2 Lefkada island 5.33 121 P **Pn 13 10 19.3 +0.1**
MORH Mrgy, Hungar 5.34 30 *e*Pn **Pn 13 10 17.9 -1.3**
MORH Mrgy, Hungar 5.34 30 *e*Pn **Pn 13 10 18.1 -1.1**
MORH Sn **Sn 13 11 19.1 -1.5**
ABTA Abfaltersbach 5.34 343 *i* Pn **Pn 13 10 19.0 -0.3**
comp=E,0.6nm,0.1s
ABTA *e*Sn **Sn 13 11 17.9 -2.9**
comp=E,40nm,0.6s
BARS Barje 5.35 75 *e*Pn **Pn 13 10 19.6 +0.2**
BARS Barje 5.35 75 *e*Pn Pn 13 10 25.1 +5.7
FSK Fiskardo 5.47 124 P **Pn 13 10 21.0 0.0**
BOVS Bovan 5.48 67 *e*Pn **Pn 13 10 21.3 +0.2**
KBA Koelnbreinsper 5.52 350 *e*Pn **Pn 13 10 21.6 -0.2**
comp=E,5.5nm,0.4s,SNR=8.3
KBA *e*Sn **Sn 13 11 24.3 -0.9**
comp=E,16nm,0.5s
ARSA Arzberg 5.62 5 *e*Pn **Pn 13 10 21.4 -1.7**
comp=E,2.6nm,0.3s
VLS Valsamata 5.66 126 P **Pn 13 10 23.5 -0.2**
VLS S **Sn 13 11 28.1 -0.4**
comp=E,92nm,0.4s
SBF Sospel 5.84 295 *e*P **Pn 13 10 23.6 -2.6**
MPLH Magyarpolny 5.85 19 *e*Pn **Pn 13 10 24.1 -2.2**
MPLH Sn **Sg 13 12 12.1 +4.4**
ZAGS Zajecar 5.89 66 *e*Pn **Pn 13 10 27.1 +0.2**
WTTA Wattenberg 6.04 339 *e*Pn **Pn 13 10 30.5 +1.5**
comp=E,1.4nm,0.2s
WTTA *e*Sn **Sn 13 11 36.1 -2.0**
comp=E,31nm,0.4s
FETA Feichten 6.10 333 *e*Pn **Pn 13 10 31.3 +1.5**
comp=E,5.2nm,0.4s
FETA Sn **Sn 13 11 38.9 -0.6**
comp=E,13nm,0.6s
SQTA Sankt Quirin 6.12 337 *e*Pn **Pn 13 10 30.6 +0.5**
comp=E,3.5nm,0.2s
SQTA *e*Sn **Sn 13 11 36.7 -3.3**
comp=E,36nm,0.5s
WATA Walderalm 6.12 339 *e*Pn **Pn 13 10 30.6 +0.5**
comp=E,1.8nm,0.2s
WATA Sn **Sn 13 11 38.3 -1.7**
comp=E,21nm,0.3s
MOA Molln 6.20 357 *e*Pn **Pn 13 10 30.8 -0.3**
comp=E,2.3nm,0.2s,SNR=8.5
MOA *i* Sn **Sn 13 11 38.4 -3.4**
comp=E,15nm,0.3s

DAVOX Davos/Dischmat 6.21 327 Pn **Pn 13 10 31.6 +0.2**
comp=E,1.4nm,0.3s,baz=160,slow=17,SNR=19
DAVOX Sn **Sn 13 11 39.3 -3.1**
comp=E,1.2nm,0.3s,baz=346,slow=22,SNR=2.1
DAVOX LR LR 13 13 37.7
comp=E,340nm,20.7s,baz=74,slow=47
MOTA Moosalm 6.26 336 *e*Pn **Pn 13 10 33.5 +1.4**
comp=E,2.5nm,0.5s
MOTA *e*Sn **Sn 13 11 42.5 -1.0**
comp=E,17nm,0.5s
CONA Conrad Observa 6.32 7 *e*Pn **Pn 13 10 31.4 -1.3**
comp=E,2.1nm,0.2s,SNR=6.9
CONA *e*Sn **Sn 13 11 40.1 -4.7**
comp=E,8.8nm,0.4s
LMR La Mourre 6.34 288 *e*P **Pn 13 10 31.0 -2.0**
BZS Buzias 6.34 49 ⇑P **Pn 13 10 32.1 -0.9**
RETA Reutte 6.50 335 *e*Pn **Pn 13 10 36.6 +1.5**
comp=E,1.0nm,0.2s
RETA *e*Sn **Sn 13 11 48.8 -0.3**
comp=E,13nm,0.5s
MBDF Montbardon 6.61 300 *e*P **Pn 13 10 34.3 -2.5**
DAVA Damuels 6.63 330 *e*Pn **Pn 13 10 39.0 +1.9**
comp=E,5.1nm,0.3s
DAVA *e*Sn **Sn 13 11 50.9 -1.6**
comp=E,26nm,0.5s
MODS Modra-Piesok 6.94 14 *e*SN Sn 13 11 50.7 -9.4
LPL La Plagne 7.00 306 *e*P **Pn 13 10 40.8 -1.5**
GERES GERESS Array B 7.23 354 Pn **Pn 13 10 43.9 -1.4**
comp=E,1.2nm,0.3s,baz=177,slow=13,SNR=28
GERES Sn **Sn 13 12 01.9 -5.2**
comp=E,2.1nm,0.3s,baz=166,slow=23,SNR=11
ORIF Oris-en-Rattie 7.26 300 *e*P **Pn 13 10 44.2 -1.6**
KEST Kesra 7.28 217 Pn **Pn 13 10 48.3 +2.2**
comp=E,2.7nm,0.3s,baz=313,slow=5.8,SNR=17
VYHS Vyhne 7.41 21 *e*PN **Pn 13 10 46.7 -1.0**
VYHS *e*SN Sn 13 12 00.4 -11
KHC Kasperske Hory 7.52 354 *e*PN **Pn 13 10 47.4 -1.8**
KHC *ex* x 13 11 03.0
KHC *e*SN **Sn 13 12 08.7 -5.6**
CABF La Chapelle 7.97 311 *e*P **Pn 13 10 52.9 -2.6**
CABF *e*Sn Sn 13 12 12.4 -13
comp=E,3.3nm,0.5s
HINF Hinteralfeld 8.35 320 *e*P **Pn 13 10 58.1 -2.5**
HINF *e*Sn Sn 13 12 22.0 -13
comp=E,4.4nm,0.2s
CDF Champ du Feu 8.59 324 *e*P **Pn 13 11 02.0 -1.9**
CDF *e*Sn Sn 13 12 27.8 -13
comp=E,3.4nm,0.2s
HAU Haudompre 8.72 320 *e*P **Pn 13 11 04.1 -1.6**
HAU *e*Sn Sn 13 12 31.0 -13
comp=E,10nm,0.3s
MLR Muntele Rosu 8.96 61 Pn **Pn 13 11 12.8 +3.7**
comp=E,0.3nm,0.3s,baz=153,slow=16,SNR=3.0
LOR Lormes 9.61 309 *e*P **Pn 13 11 15.4 -2.4**
baz=129
LOR *e*Sn Sn 13 12 51.8 -14
comp=E,3.0nm,0.4s
BRTR Keskin Array B 14.44 91 Pn **P 13 12 31.1 +0.3**
comp=E,0.0nm,0.3s,baz=302,slow=7.1,SNR=5.0
NOA NORSAR Array B 19.53 355 P **P 13 13 25.9 -0.9**
comp=E,0.0nm,0.3s,baz=180,slow=9.8,SNR=1.6
FINES FINESS Array B 20.96 15 P Pn 13 13 44.3 -0.6
comp=E,4.6nm,0.8s,baz=159,slow=16,SNR=4.8
TORD Torodi Ar. Bea 30.61 206 P **P 13 15 14.0 +0.4**
comp=E,1.2nm,0.9s,baz=21,slow=6.3,SNR=4.4
ARU Arti 31.66 47 P **P 13 15 23.6 +1.1**
comp=E,0.4nm,0.3s,baz=177,slow=7.8,SNR=4.2
DBIC Dimbokro 38.97 212 P **P 13 16 26.3 +0.5**
comp=E,2.6nm,0.9s,baz=24,slow=5.6,SNR=3.2
MKAR Makanchi Array 47.30 60 P **P 13 17 36.4 +3.4**
comp=E,0.6nm,0.6s,baz=289,slow=6.5,SNR=5.2
YKA Yellowknife Ar 68.55 337 P **P 13 20 03.0 +1.3**
comp=E,1.1nm,1.0s,baz=47,slow=7.2,SNR=7.3
ILAR Eielson Array 72.94 352 P **P 13 20 28.5 +0.1**
comp=E,0.3nm,1.0s,baz=358,slow=6.3,SNR=2.7
CMAR Chiang Mai Arr 73.70 80 P **P 13 20 36.3 +2.7**
comp=E,0.8nm,0.7s,baz=309,slow=7.8,SNR=8.5
YBH Yreka Blue Hor 88.53 330 LR LR 14 03 09.8
comp=E,63nm,20.5s,baz=33,slow=37

ISCJB ***20*** *13:20:29.7±0.3, 41°.65N±0°.02×14°.83E±0°.03, h19km±3km, Error ellipse: s-maj=4.4km s-min=3.6km az=149.3*
ROM ***20*** *13:20:29.2±0.1, 41°.675N±0°.006×14°.831E±0°.007, h21km±1km, ML2.4/15, Error ellipse: s-maj=0.7km s-min=0.1km az=222.0*

ISC 20 13:20:29.5±1.1, 41°.69N±0°.03×14°.84E±0°.03, h21km±1km, n31, σ0°91/44, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CIGN	**Sant'Elia a Pi**	**0.06**	**126**	P		**Pb**	**13 20 32.4**	**-1.0**
CIGN				S		**Sb**	**13 20 35.9**	**0.0**
CIGN				AML	AML			
	comp=N,6435µm,0.4s							
CIGN				AML	AML			
	comp=E,6365µm,1.2s							
CIGN				AML	AML			
	comp=N,6430µm,0.4s							
CIGN				AML	AML			
	comp=E,6360µm,1.2s							
GATE	**Gambatesa**	**0.18**	**164**	P		**Pb**	**13 20 34.8**	**-0.6**
GATE				AML	AML			
	comp=E,2250µm,0.5s							
GATE				AML	AML			
	comp=N,1920µm,0.4s							
GATE				AML	AML			
	comp=E,2255µm,0.5s							
GATE				AML	AML			
	comp=E,1045µm,0.5s							
GATE				AML	AML			
	comp=N,1945µm,0.4s							
GATE				AML	AML			
	comp=N,1925µm,0.4s							
MELA	**Melanico ??? S**	**0.21**	**86**	P		**Pb**	**13 20 34.8**	**-0.6**
MELA				S		**Sb**	**13 20 39.2**	**-0.4**
MELA				AML	AML			
	comp=E,4695µm,0.3s							
MELA				AML	AML			
	comp=E,4695µm,0.3s							
MELA				AML	AML			
	comp=E,4980µm,0.3s							
MELA				AML	AML			
	comp=N,8865µm,0.1s							
MELA				AML	AML			
	comp=N,8370µm,0.3s							
TRIV	**Trivento**	**0.23**	**290**	P		**Pb**	**13 20 35.0**	**-0.6**
TRIV				S		**Sb**	**13 20 39.3**	**-0.5**
BSSO	**Busso**	**0.23**	**232**	P		**Pb**	**13 20 34.9**	**-0.7**
BSSO				S		**Sb**	**13 20 39.5**	**-0.4**
SACR	**S. Croce Del S**	**0.31**	**199**	P		**Pb**	**13 20 35.9**	**-0.5**
SACR				S		**Sb**	**13 20 41.2**	**+0.1**
SACR				AML	AML			
	comp=E,846µm,0.3s							
SACR				AML	AML			
	comp=N,2110µm,0.4s							
FRES	**Fresagrandinar**	**0.31**	**336**	P		**Pb**	**13 20 36.2**	**-0.1**
FRES				S		**Sb**	**13 20 42.4**	**+1.2**
MOCO	**Biccari - m.te**	**0.40**	**143**	P		**Pb**	**13 20 38.0**	**+0.2**
MOCO				AML	AML			
	comp=N,200µm,1.0s							
MOCO				AML	AML			
	comp=E,394µm,0.6s							
MOCO				AML	AML			
	comp=E,401µm,0.6s							
MOCO				AML	AML			
	comp=N,236µm,1.0s							
MOCO				AML	AML			
	comp=N,200µm,1.0s							
PSB1	**Pescosannita**	**0.47**	**183**	P		**Pb**	**13 20 38.4**	**-0.6**
PSB1				AML	AML			
	comp=E,257µm,0.8s							
PSB1				AML	AML			
	comp=E,256µm,0.8s							
PSB1				AML	AML			
	comp=N,256µm,0.9s							
RNI2	**Rionero Sannit**	**0.52**	**272**	P		**Pb**	**13 20 39.2**	**-0.7**
VAGA	**Valle Agricola**	**0.53**	**239**	P		**Pb**	**13 20 39.4**	**-0.8**
VAGA				AML	AML			
	comp=E,182µm,1.6s							
VAGA				AML	AML			
	comp=N,369µm,0.3s							
LPEL	**Lama dei Pelig**	**0.61**	**306**	P		**Pb**	**13 20 41.1**	**-0.5**
LPEL				S		**Sb**	**13 20 50.2**	**+0.4**
CAFR	**Castel Frentan**	**0.65**	**326**	P		**Pb**	**13 20 41.8**	**-0.5**
CAFR				S		**Sn**	**13 20 52.6**	**-0.6**

SGRT	**San Giovanni R**	**0.68**	**84**	P	**Pb**	**13 20 42.6**	**-0.1**
SGRT				AML	AML		
	comp=E,463µm,0.5s						
SGRT				AML	AML		
	comp=E,462µm,0.5s						
SGRT				AML	AML		
	comp=N,624µm,0.2s						
SGTA	**Sant Agata di**	**0.68**	**144**	P	**Pb**	**13 20 42.1**	**-0.6**
SGTA				AML	AML		
	comp=E,269µm,1.2s						
SGTA				AML	AML		
	comp=N,330µm,0.2s						
SGTA				AML	AML		
	comp=E,268µm,1.2s						
CAFE	**Carife**	**0.72**	**156**	P	**Pb**	**13 20 42.9**	**-0.6**
CAFE				AML	AML		
	comp=E,732µm,1.1s						
CAFE				AML	AML		
	comp=N,386µm,0.2s						
INTR	**Introdacqua**	**0.77**	**295**	P	**Pb**	**13 20 43.0**	**-1.2**
MSAG	**Monte S. Angel**	**0.80**	**88**	P	**Pb**	**13 20 44.8**	**+0.1**
MSAG				AML	AML		
	comp=E,581µm,0.3s						
MSAG				AML	AML		
	comp=N,925µm,0.4s						
MSAG				AML	AML		
	comp=E,630µm,0.3s						
MSAG				AML	AML		
	comp=N,960µm,0.5s						
SNAL	**S. Angelo Dei**	**0.81**	**160**	P	**Pb**	**13 20 43.9**	**-1.1**
VULT	**Monte Vulture**	**0.94**	**141**	P	**Pb**	**13 20 45.6**	**-1.5**
VULT				AML	AML		
	comp=N,426µm,0.2s						
VULT				AML	AML		
	comp=E,407µm,1.0s						
VULT				AML	AML		
	comp=N,426µm,0.2s						
MRVN	**Minervino Murg**	**1.20**	**121**	P	**Pb**	**13 20 51.4**	**-0.1**
MRVN				AML	AML		
	comp=N,76µm,0.6s						
MRVN				AML	AML		
	comp=E,90µm,0.4s						
AMUR				AML	AML		
	comp=N,76µm,0.7s						
AMUR				AML	AML		
	comp=E,72µm,0.7s						
AMUR				AML	AML		
	comp=N,76µm,0.7s						
CDRU	**Civita di Ruta**	**1.25**	**164**	P	**Pb**	**13 20 52.1**	**-0.3**
CDRU				AML	AML		
	comp=E,65µm,0.8s						
CDRU				AML	AML		
	comp=N,58µm,0.3s						
CMPR	**Campora**	**1.41**	**166**	P	**Pb**	**13 20 55.2**	**0.0**
AMUR	**Altamura**	**1.54**	**120**	P	**Pb**	**13 20 56.7**	**-0.6**
AMUR				AML	AML		
	comp=N,76µm,0.6s						
MRVN				AML	AML		
	comp=E,90µm,0.4s						
CDRU	**Civita di Ruta**	**1.25**	**164**	P	**Pb**	**13 20 52.1**	**-0.3**
CDRU				AML	AML		
	comp=E,65µm,0.8s						
CDRU				AML	AML		
	comp=N,58µm,0.3s						
CMPR	**Campora**	**1.41**	**166**	P	**Pb**	**13 20 55.2**	**0.0**
AMUR	**Altamura**	**1.54**	**120**	P	**Pb**	**13 20 56.7**	**-0.6**
AMUR				AML	AML		
	comp=N,76µm,0.6s						
AMUR				AML	AML		
	comp=E,90µm,0.4s						
CDRU	**Civita di Ruta**	**1.25**	**164**	P	**Pb**	**13 20 52.1**	**-0.3**
CDRU				AML	AML		
	comp=E,65µm,0.8s						
CDRU				AML	AML		
	comp=N,58µm,0.3s						
CMPR	**Campora**	**1.41**	**166**	P	**Pb**	**13 20 55.2**	**0.0**
AMUR	**Altamura**	**1.54**	**120**	P	**Pb**	**13 20 56.7**	**-0.6**
AMUR				AML	AML		
	comp=N,76µm,0.6s						
AMUR				AML	AML		
	comp=E,90µm,0.4s						
CDRU	**Civita di Ruta**	**1.25**	**164**	P	**Pb**	**13 20 52.1**	**-0.3**
CDRU				AML	AML		
	comp=E,65µm,0.8s						
CDRU				AML	AML		
	comp=N,58µm,0.3s						
HVAR	**Hvar**	**1.91**	**38**	*i* Pn	**Pn**	**13 21 01.8**	**+1.1**
HVAR				Sn	**Sn**	**13 21 25.3**	**+1.2**
ZIRJ	**Zirje**	**2.05**	**17**	*e*Pn	**Pb**	**13 21 05.2**	**-0.8**
ZIRJ				Sn	**Sb**	**13 21 30.9**	**-0.1**
MORI	**Morici**	**2.27**	**16**	*e*Pn	**Pn**	**13 21 06.8**	**+1.1**
MORI				Sn	**Sb**	**13 21 36.1**	**-1.2**
MAKA	**Makarska**	**2.27**	**45**	*e*Pn	**Pn**	**13 21 07.2**	**+1.4**
MAKA				Sn	**Sb**	**13 21 35.3**	**-2.0**
STON	**Ston**	**2.43**	**60**	*e*Pn	**Pn**	**13 21 07.5**	**-0.4**
RICI	**Ricice**	**2.47**	**42**	ePn		13 21 10.4	
RICI				Sn	**Sb**	**13 21 41.6**	**-1.6**
KIJV	**Kijevo**	**2.58**	**26**	*e*Pn	**Pn**	**13 21 11.6**	**+1.5**
KIJV				Sn	**Sb**	**13 21 44.9**	**-1.5**

ROM 20 13:21:23.3±0.3, 41°68N±0°.01×14°.84E±0°.02, h20km±3km, Md1.5/4, Error ellipse: s-maj=1.3km s-min=0.9km az=329.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIGN	**Sant'Elia a Pi**	**0.06**	**119**	P	Pb	13 21 26.2	-0.7
CIGN				S	Sb	13 21 29.9	+0.5
CIGN				END			
CIGN				END			
GATE	**Gambatesa**	**0.18**	**163**	P	Pb	13 21 28.7	+0.6
GATE				END			
MELA	**Melanico ??? S**	**0.21**	**83**	P	Pb	13 21 28.6	-0.1
MELA				S	Sb	13 21 33.0	+0.7
MELA				END			
MELA				END			
BSSO	**Busso**	**0.23**	**234**	P	Pb	13 21 28.8	-0.2
BSSO				S	Sb	13 21 33.4	+0.6
BSSO				END			
TRIV	**Trivento**	**0.23**	**291**	P	Pb	13 21 29.0	0.0
SACR	**S. Croce Del S**	**0.30**	**200**	P	Pb	13 21 29.6	-0.4
SACR				S	Sb	13 21 35.7	+1.1
FRES	**Fresagrandinar**	**0.32**	**336**	P	Pb	13 21 30.9	+0.6
FRES				S	Sb	13 21 36.5	+1.4
MOCO	**Biccari - m.te**	**0.39**	**142**	P	Pb	13 21 32.5	+0.9
LPEL	**Lama dei Pelig**	**0.61**	**307**	P	Pb	13 21 34.8	-0.6

*ISCJB **20** 13:29:40.3±0.3, 43°.44N±0°.04×137°.79E±0°.05, h259km, mb3.4/8, Error ellipse: s-maj=6.3km s-min=4.7km az=152.0*
*JMA **20** 13:29:41.1±0.3, 43°.34N×137°.90E, h277km, M3.4*
*NEIC **20** 13:29:41.2±1.5, 43°.41N±0°.06×137°.9E±0°.1, h264km±7km, mb4.5/11*
*IDC **20** 13:29:41.3±1.0, 43°.46N×137°.88E, h267km±10km, mb3.2/8, mb1 3.3/13, mb1mx3.1/47, mbtmp3.8/13, Error ellipse: s-maj=19.7km s-min=12.6km az=137.0*
ISC 20 13:29:40.6±0.6, 43°.37N±0°.07×137°.94E±0°.06, h259km, n49, σ1§83/55, mb4.0/14, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**1.71**	**138**	P	**Pn**	**13 30 23.7**	**+2.3**
JNB	**Noboribetsu**	**2.44**	**111**	P	**Pn**	**13 30 30.0**	**+2.1**
JHR	**Hokuryu**	**2.77**	**81**	P	**Pn**	**13 30 33.8**	**+2.6**
JSS	**Shosan**	**3.01**	**69**	P	**Pn**	**13 30 36.3**	**+2.7**
JRBN	**Rebuntou**	**3.04**	**46**	P	**Pn**	**13 30 35.8**	**+1.9**
JFR	**Furan**	**3.40**	**92**	P	**Pn**	**13 30 39.8**	**+1.8**
JWK2	**Keihoku**	**3.44**	**54**	P	**Pn**	**13 30 41.4**	**+3.1**
ASAJ	**Asahikawa**	**3.45**	**76**	P	**Pn**	**13 30 40.6**	**+2.1**
	9.7nm,0.3s,baz=265,slow=7.6,SNR=82						
ASAJ				S	**S**	**13 31 26.4**	**+1.8**
	baz=171,slow=34,SNR=1.4						
JKA	**Kamikawa-asahi**	**3.46**	**76**		**Pn**	**13 30 40.6**	**+2.1**
JKA					**S**	**13 31 26.4**	**+1.8**
JKK2	**Kamakawa 2**	**3.52**	**80**	P	**Pn**	**13 30 41.4**	**+2.1**
JKK2				*e*S	**S**	**13 31 28.5**	**+2.5**
JNBK	**Urakawa-nobuka**	**3.70**	**105**	P	**Pn**	**13 30 42.4**	**+1.1**
JNBK				*e*S	**S**	**13 31 31.3**	**+1.7**
JANG	**Nango**	**4.01**	**137**	P	**Pn**	**13 30 47.3**	**+2.4**
JCH	**Churui**	**4.05**	**99**	P	**Pn**	**13 30 45.3**	**0.0**
JCH				*e*S	**S**	**13 31 34.8**	**-2.0**
ERM	**Erimo**	**4.07**	**108**	Pn	**Pn**	**13 30 47.2**	**+1.6**
JAR	**Ashorobuto**	**4.25**	**89**	P	**Pn**	**13 30 49.0**	**+1.3**
JTKR	**Abashiri--Toko**	**4.37**	**80**	P	**Pn**	**13 30 50.6**	**+1.6**
USA0B	**Ussuriysk Arra**	**4.39**	**283**	Pn	**Pn**	**13 30 49.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**4.39**	**283**	P	**Pn**	**13 30 49.7**	**+0.4**
	baz=91,slow=13,SNR=34						
YSS	**Yuzh-Sakhalins**	**4.94**	**42**		**Pn**	**13 30 57.3**	**+1.5**
JAK	**Akkeshi**	**4.95**	**92**	P	**Pn**	**13 30 56.3**	**+0.3**
JAK				*e*S	**S**	**13 31 52.9**	**-3.3**
NEM2	**Nemuro 2**	**5.69**	**87**	*e*S	**S**	**13 32 07.8**	**-4.7**
MJB9	**Matsu-Tunnel**	**6.82**	**178**	Pn	**Pn**	**13 31 20.0**	**+0.8**
MAJO	**Matsushiro**	**6.82**	**178**	P	**Pn**	**13 31 19.6**	**+0.4**
MJAR	**Matsushiro Arr**	**6.82**	**178**	P	**Pn**	**13 31 20.4**	**+1.2**
	0.2nm,0.3s,baz=4.3,slow=12,SNR=9.2						
INU	**Inuyama**	**8.04**	**185**	Pn	**Pn**	**13 31 35.5**	**+1.0**
KSRS	**Korea Array**	**9.66**	**236**	P	**Pn**	**13 31 56.4**	**+1.7**
	0.1nm,0.3s,baz=49,slow=15,SNR=2.9						
JHJ2	**Mitsune**	**10.35**	**171**	Pn	**Pn**	**13 32 04.1**	**+0.7**
INCN	**Inchon**	**10.43**	**240**	Pn	**Pn**	**13 32 03.9**	**-0.6**
JNU	**Nakatsue**	**11.63**	**211**	P	**P**	**13 32 22.0**	**-0.7**
	0.6nm,0.3s,baz=44,slow=4.6,SNR=1.3						
JNU	**Nakatsue**	**11.63**	**211**	P	**P**	**13 32 22.6**	**-0.1**
YAK	**Yakutsk**	**19.32**	**348**	P	**P**	**13 33 45.4**	**-1.0**
YAK				IAmb	IAmb	13 34 03.4	
	comp=Z,6.7nm,0.5s						
SEY	**Seymchan**	**21.33**	**18**	P	**P**	**13 34 07.2**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=207,slow=16,SNR=2.3						
PMR	**Palmer**	**45.30**	**40**	P	**P**	**13 37 28.3**	**-4.1**
PMR				IAmb	IAmb	13 38 53.7	
	comp=Z,43nm,1.8s						
GHO	**Glory Hole Cre**	**45.37**	**40**	P	**P**	**13 37 30.3**	**-2.7**
GHO				IAmb	IAmb	13 38 13.8	
	comp=Z,60nm,1.9s						
DHY	**Denali Highway**	**45.82**	**38**	P	**P**	**13 37 37.2**	**+0.5**
DHY				IAmb	IAmb	13 38 00.9	
	comp=Z,27nm,1.8s						
SCRK	**Sand Creek**	**47.11**	**36**	P	**P**	**13 37 46.6**	**0.0**
EGAK	**Eagle**	**48.11**	**35**	P	**P**	**13 37 54.4**	**+0.3**
TGL	**Tana Glacier**	**48.47**	**40**	P	**P**	**13 37 58.4**	**+1.4**
BALM	**Baldy**	**48.61**	**40**	P	**P**	**13 37 59.4**	**+1.3**
BALM				IAmb	IAmb	13 39 40.0	
	comp=Z,32nm,1.6s						
BARN	**Barnard Glacie**	**48.93**	**40**	P	**P**	**13 38 02.1**	**+1.5**
BARN				IAmb	IAmb	13 39 24.0	
	comp=Z,50nm,1.8s						
CTGM	**Chitina Glacie**	**49.11**	**40**	P	**P**	**13 38 03.3**	**+1.4**
HYT	**Haines Junctio**	**50.92**	**39**	P	**P**	**13 38 16.8**	**+1.4**
HYT				IAmb	IAmb	13 40 09.5	
	comp=Z,47nm,1.9s						
YKA	**Yellowknife Ar**	**59.70**	**31**	P	**P**	**13 39 17.2**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=300,slow=6.6,SNR=2.4						
FINES	**FINESS Array B**	**61.39**	**330**	P	**P**	**13 39 31.3**	**-1.7**
	comp=Z,3.4nm,1.0s,baz=31,slow=8.9,SNR=3.7						
WRA	**Warramunga Arr**	**63.08**	**184**	P	**P**	**13 39 39.9**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=0.7,slow=6.9,SNR=1.4						
ASAR	**Alice Springs**	**66.81**	**184**	P	**P**	**13 40 06.0**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=8.4,slow=8.2,SNR=1.4						
PDAR	**Pinedale Array**	**75.08**	**45**	P	**P**	**13 40 54.6**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=267,slow=0.1,SNR=8.7						
ULM	**Lac du Bonnet**	**75.63**	**32**	P	**P**	**13 40 55.6**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=332,slow=3.3,SNR=5.3						
TXAR	**Lajitas Array**	**88.24**	**50**	P	**P**	**13 42 03.3**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=283,slow=4.5,SNR=2.8						

*ISCJB **20** 13:29:50.7±0.5, 16°.49S±0°.10×66°.84E±0°.10, h13km, mb3.8/8, MS3.7/12, Error ellipse: s-maj=15.1km s-min=12.2km az=142.2*
*IDC **20** 13:29:51.5±1.1, 16°.43S×66°.88E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/53, mbtmp3.8/8, MS3.7/12, Ms1 3.7/12, ms1mx3.4/50, Error ellipse: s-maj=30.7km s-min=25.7km az=22.0*
*NEIC **20** 13:29:52.2±2.3, 16°.4S±0°.1×66°.82E±0°.10, h10km±1km, mb4.6/7*
ISC 20 13:29:52.7±0.6, 16°.4S±0°.1×66°.9E±0°.1, h13km, n38, σ1§47/19, mb4.1/12, MS3.6/12, 1C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**10.27**	**33**	T	T	13 42 46.1	
	baz=211,slow=75,SNR=1764						
H08S2	**Diego Garcia H**	**10.28**	**33**	T	T	13 42 50.7	
	baz=211,slow=75,SNR=1046						
H08S3	**Diego Garcia H**	**10.29**	**33**	T	T	13 42 42.9	
	baz=211,slow=75,SNR=2499						
DGAR	**Diego Garcia**	**10.45**	**32**	Pn	**Pn**	**13 32 19.3**	**-3.1**
H08N3	**Diego Garcia H**	**10.77**	**22**	T	T	13 43 15.8	
	baz=199,slow=76,SNR=179						
H08N1	**Diego Garcia H**	**10.78**	**22**	T	T	13 43 15.5	
	baz=199,slow=76,SNR=218						
H08N2	**Diego Garcia H**	**10.79**	**22**	T	T	13 43 17.4	
	baz=199,slow=76,SNR=211						
RER	**Riviere de l'E**	**11.58**	**244**	Pn	**Pn**	**13 32 36.8**	**-1.2**
PALK	**Pallekele**	**27.20**	**31**	LR	LR	13 44 31.1	
	comp=Z,66nm,18.3s,baz=211,slow=32						
PALK	**Pallekele**	**27.20**	**31**	P	**P**	**13 35 36.2**	**-0.2**
PALK				IAmb	IAmb	13 35 41.0	
	comp=Z,24nm,1.3s						
KMBO	**Kilima Mbogo**	**32.92**	**294**	LR	LR	13 46 55.8	
	comp=Z,135nm,19.8s,baz=104,slow=31						
LBTB	**Lobatse**	**39.45**	**250**	P	**P**	**13 37 23.9**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=197,slow=7.3,SNR=3.8						
LBTB	**Lobatse**	**39.45**	**250**	P	**P**	**13 37 21.0**	**-2.1**
LEM	**Lembang**	**40.92**	**81**	LR	LR	13 51 18.0	
	comp=Z,87nm,19.6s,baz=234,slow=31						
H01W3	**Cape Leeuwin H**	**45.92**	**123**	T	T	14 27 22.0	
	baz=277,slow=75,SNR=13						
H01W2	**Cape Leeuwin H**	**45.92**	**123**	T	T	14 27 22.5	
	baz=277,slow=75,SNR=12						
H01W1	**Cape Leeuwin H**	**45.94**	**123**	T	T	14 27 18.0	
	baz=277,slow=75,SNR=16						
CMAR	**Chiang Mai Arr**	**46.84**	**44**	P	**P**	**13 38 24.6**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=236,slow=6.4,SNR=3.9						
CMAR				LR	LR	13 55 55.7	
	comp=Z,64nm,20.0s,baz=194,slow=33						
MAW	**Mawson**	**51.24**	**182**	LR	LR	13 55 09.5	
	comp=Z,42nm,21.4s,baz=56,slow=30						
SYO	**Syowa Base**	**55.31**	**192**	*e*P	**P**	**13 39 25.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**55.91**	**101**	LR	LR	14 04 10.4	
	comp=Z,28nm,18.2s,baz=264,slow=37						
ASAR	**Alice Springs**	**62.88**	**109**	P	**P**	**13 40 19.5**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=273,slow=5.5,SNR=6.4						
ASAR				LR	LR	14 05 24.1	
	comp=Z,131nm,18.3s,baz=277,slow=34						
WRA	**Warramunga Arr**	**63.79**	**104**	P	**P**	**13 40 26.3**	**+1.2**
	comp=Z,1.9nm,0.9s,baz=265,slow=6.0,SNR=8.2						
WRAB	**Tennant Creek**	**63.80**	**104**	P	**P**	**13 40 25.1**	**-0.1**
WRAB				IAmb	IAmb	13 40 27.9	
	comp=Z,9.0nm,1.2s						
BRTR	**Keskin Array B**	**63.88**	**332**	P	**P**	**13 40 26.2**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=165,slow=9.7,SNR=5.5						
MKAR	**Makanchi Array**	**64.41**	**12**	P	**P**	**13 40 28.6**	**0.0**
	comp=Z,1.3nm,1.0s,baz=140,slow=7.9,SNR=3.8						
ABKAR	**Akbulak array**	**65.66**	**355**	P	**P**	**13 40 37.2**	**+0.7**
ABKAR				IAmb	IAmb	13 40 37.9	
	comp=Z,4.3nm,1.4s						
STKA	**Stephens Creek**	**68.71**	**118**	LR	LR	14 05 57.3	
	comp=Z,70nm,22.0s,baz=213,slow=32						
TORD	**Torodi Ar. Bea**	**70.82**	**291**	LR	LR	14 10 36.1	
	comp=Z,70nm,18.8s,baz=335,slow=34						
ZALV	**Zalesovo Beam**	**71.73**	**19**	P	**P**	**13 41 14.9**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=202,slow=7.0,SNR=5.5						
SONM	**Songino Array**	**73.04**	**27**	P	**P**	**13 41 24.5**	**+2.0**
	comp=Z,0.3nm,0.4s,baz=237,slow=8.3,SNR=3.2						
COEN	**Coen**	**73.23**	**100**		**P**	**13 41 22.6**	**-1.7**
QSPA	**South Pole Qui**	**73.69**	**180**	P	**P**	**13 41 27.9**	**+1.8**
QSPA				IAmb	IAmb	13 41 35.1	
	comp=Z,5.0nm,1.0s						
BUR08	**Bucovina Ar. S**	**73.87**	**332**	P	**P**	**13 41 27.3**	**-0.1**
CAN	**Canberra**	**74.36**	**123**	P	**P**	**13 41 29.5**	**-1.1**
VNDA	**Vanda**	**75.17**	**167**	LR	LR	14 10 01.0	
	comp=Z,55nm,18.9s,baz=267,slow=32						
KSRS	**Korea Array**	**78.45**	**45**	LR	LR	14 15 02.1	
	comp=Z,22nm,20.8s,baz=90,slow=34						
TIXI	**Tiksi**	**97.08**	**16**	LR	LR	14 26 06.0	
	comp=Z,55nm,21.8s,baz=68,slow=35						

IDC 20 13:40:39.3±2.2, 1°.54S×135°.19E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.5/41, mbtmp3.5/5, ML3.1/3, MS3.4/1, Ms1 3.4/1, ms1mx2.6/41, Error ellipse: s-maj=58.2km s-min=24.5km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.98**	**280**	Pn	Pn	13 41 41.6	0.0
	1.1nm,0.3s,baz=164,slow=22,SNR=9.5						
SIJI				Sn	Sn	13 42 25.6	-3.5
	1.6nm,0.3s,baz=299,slow=23,SNR=1.5						
SIJI				Lg	Lg	13 42 38.4	
	2.5nm,0.3s,baz=103,slow=20,SNR=5.6						
WRA	**Warramunga Arr**	**18.31**	**183**	P	Pn	13 44 55.0	+0.1
	0.1nm,0.3s,baz=2.3,slow=12,SNR=6.3						
FITZ	**Fitzroy Crossi**	**18.94**	**209**	P	P	13 45 01.0	-1.0
	0.1nm,0.3s,baz=34,slow=10,SNR=2.1						
ASAR	**Alice Springs**	**22.03**	**183**	P	P	13 45 35.8	+0.1
	0.5nm,0.4s,baz=9.7,slow=11,SNR=7.5						
KLR	**Kul'dur**	**50.66**	**357**	LR	LR	14 11 07.2	
	comp=Z,37nm,18.0s,baz=188,slow=36						
MKAR	**Makanchi Array**	**66.74**	**323**	P	P	13 51 32.6	+0.1
	0.5nm,0.4s,baz=106,slow=9.1,SNR=10						

*ISCJB **20** 13:47:06.5±1.5, 21°.5S±0°.1×172°.2W±0°.2, h33km, mb4.0/4, Error ellipse: s-maj=32.1km s-min=14.7km az=19.4*
*IDC **20** 13:47:06.6±26.0, 20°.65S×172°.70W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.7/41, mbtmp4.1/4, Error ellipse: s-maj=488.9km s-min=166.6km az=74.0*
*NEIC **20** 13:47:07.1±2.2, 21°.2S±0°.2×172°.4W±0°.2, h16km±5km, mb4.6/7*
ISC 20 13:47:09.7±1.8, 21°.2S±0°.2×172°.5W±0°.3, h35km, n14, σ0§99/14, mb4.5/9, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**9.44**	**211**	Pn	**Pn**	**13 49 22.6**	**-0.5**
FUNA	**Funafuti**	**14.95**	**326**		**P**	**13 50 43.0**	**-0.6**
ARMA	**Armidale**	**33.51**	**247**	P	**P**	**13 53 45.6**	**-0.5**
ARMA				IAmb	IAmb	13 53 53.3	
	comp=Z,10nm,1.2s						
EIDS	**Eidsvold**	**33.70**	**256**	P	**P**	**13 53 47.0**	**-0.6**
EIDS				IAmb	IAmb	13 53 51.8	
	comp=Z,8.7nm,1.2s						
CTA	**Charters Tower**	**38.59**	**264**	P	**P**	**13 54 30.9**	**+1.3**
	comp=Z,3.5nm,0.4s,baz=90,slow=11,SNR=14						
CTAO	**Charters Tower**	**38.59**	**264**	P	**P**	**13 54 28.4**	**-1.2**
STKA	**Stephens Creek**	**42.20**	**246**	P	**P**	**13 54 59.8**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=78,slow=9.3,SNR=1.7						
STKA	**Stephens Creek**	**42.20**	**246**	P	**P**	**13 54 58.7**	**-0.7**
COEN	**Coen**	**42.80**	**272**	P	**P**	**13 55 04.2**	**-0.3**
COEN				IAmb	IAmb	13 55 09.6	
	comp=Z,16nm,1.3s						
KKH	**Kailua Kona**	**43.66**	**23**	P	**P**	**13 55 11.1**	**0.0**
ASAR	**Alice Springs**	**49.41**	**257**	P	**P**	**13 55 57.7**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=98,slow=7.2,SNR=10						
WR0	**Warramunga Arr**	**49.45**	**261**	P	**P**	**13 55 58.3**	**+1.5**
WR0				IAmb	IAmb	13 56 16.7	
	comp=Z,8.5nm,1.4s						
WRAB	**Tennant Creek**	**49.63**	**261**	P	**P**	**13 55 58.8**	**+0.6**
WRAB				IAmb	IAmb	13 56 12.0	
	comp=Z,9.0nm,1.4s						
WRA	**Warramunga Arr**	**49.64**	**261**	P	**P**	**13 55 59.4**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=92,slow=8.3,SNR=26						

*ISCJB **20** 13:48:34.2±0.3, 59°.20N±0°.02×153°.52W±0°.05, h113km±2km, mb3.6/3, Error ellipse: s-maj=4.6km s-min=3.2km az=30.3*
*IDC **20** 13:48:34.3±1.5, 59°.24N×153°.68W, h89km±20km, mb3.3/3, mb1 3.4/4, mb1mx3.0/51, mbtmp3.5/4, Error ellipse: s-maj=27.8km s-min=14.1km az=95.0*
*NEIC **20** 13:48:35.4±1.3, 59°.20N±0°.05×153°.5W±0°.1, h105km±5km*
*AEIC **20** 13:48:36.0±1.7, 59°.20N±0°.05×153°.7W±0°.1, h105km±4km, ML3.1*
ISC 20 13:48:35.4±0.8, 59°.18N±0°.04×153°.51W±0°.04, h110km±5km, n126, σ0§95/146, mb3.7/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUI	**Augustine Isla**	**0.16**	**15**		**Pn**	**13 48 50.3**	**-0.4**
AUI					**Sn**	**13 49 01.0**	**-1.1**
AUQ	**Augustine Qik'**	**0.18**	**15**		**Pn**	**13 48 50.5**	**-0.3**
AUQ					**Sn**	**13 49 01.4**	**-0.9**
AUH	**Augustine H**	**0.19**	**10**		**Pn**	**13 48 50.5**	**-0.3**
AUP	**Augustine Pinn**	**0.19**	**14**		**Pn**	**13 48 50.7**	**-0.2**
AU22	**Augustine Moun**	**0.21**	**22**		**Pn**	**13 48 50.5**	**-0.2**
AU22					**Sn**	**13 49 01.6**	**-0.7**
AUL	**Augustine Lava**	**0.21**	**10**		**Pn**	**13 48 50.5**	**-0.3**
AUL					**Sn**	**13 49 01.7**	**-0.7**
FOSS	**Fourpeaked Sta**	**0.39**	**194**		**Pn**	**13 48 51.1**	**-0.5**
ILS	**Iliamna Low So**	**0.81**	**16**		**Pn**	**13 48 54.2**	**-0.6**
IVE	**Iliamna Volcan**	**0.88**	**16**		**Pn**	**13 48 54.9**	**-0.6**
IVE					**Sn**	**13 49 09.5**	**-1.0**
KARR	**Katmai Rainbow**	**0.92**	**223**		**Pn**	**13 48 55.5**	**-0.4**
KAHC	**Katmai Hardscr**	**0.94**	**236**		**Pn**	**13 48 55.2**	**-0.9**
HOM	**Homer**	**1.07**	**62**		**Pn**	**13 48 57.7**	**+0.5**
HOM					**Sn**	**13 49 14.5**	**+0.8**
KCG	**Knife Ck. Glac**	**1.21**	**224**		**Pn**	**13 48 58.3**	**-0.5**
KCG					**Sn**	**13 49 16.1**	**-0.5**
CNPM	**China Poot**	**1.21**	**72**		**Pn**	**13 48 59.0**	**+0.2**
CNPM					**Sn**	**13 49 16.9**	**+0.2**
RED	**Redoubt Volcan**	**1.30**	**16**		**Pn**	**13 48 59.4**	**-0.4**
RED					**Sn**	**13 49 17.7**	**-0.7**
RSO	**Redoubt South**	**1.34**	**16**		**Pn**	**13 49 00.2**	**-0.3**
RSO				Sn	**Sn**	**13 49 18.8**	**-0.7**
RDWB	**Redoubt West**	**1.35**	**14**		**Pn**	**13 49 00.1**	**-0.5**
RDWB					**Sn**	**13 49 18.9**	**-0.8**
RDN	**Redoubt North**	**1.39**	**15**		**Pn**	**13 49 00.9**	**-0.1**
NCT	**North Crescent**	**1.42**	**12**		**Pn**	**13 49 00.9**	**-0.3**
NCT					**Sn**	**13 49 20.1**	**-0.8**
RDJH	**Redoubt Jeurge**	**1.46

BARN	**Barnard Glacie**	**6.21**	**67**		**Pn**	**13 50 05.1**	**+0.4**
COLA	**College**	**6.30**	**23**	Pn	**Pn**	**13 50 05.1**	**-0.5**
CTGM	**Chitina Glacie**	**6.35**	**68**		**Pn**	**13 50 07.3**	**+0.8**
IL31		**6.42**	**26**		**Pn**	**13 50 06.5**	**-0.7**
ILAR	**Eielson Array**	**6.42**	**26**	P	**Pn**	**13 50 06.2**	**-1.0**
	0.5nm,0.3s,baz=219,slow=14,SNR=25						
ILAR				S	**Sn**	**13 51 17.4**	**-1.5**
	1.0nm,0.3s,baz=207,slow=21,SNR=3.4						
SAMH	**Samovar Hills**	**6.52**	**76**		**Pn**	**13 50 09.2**	**+0.5**
SCRK	**Sand Creek**	**6.62**	**39**		**Pn**	**13 50 09.7**	**-0.3**
YUK2	**White River**	**6.78**	**62**		**Pn**	**13 50 11.8**	**-0.4**
PCA	**Pinnacle**	**6.78**	**77**		**Pn**	**13 50 12.9**	**+0.6**
IM03		**6.83**	**359**		**Pn**	**13 50 11.3**	**-1.5**
BC03		**6.88**	**51**		**Pn**	**13 50 14.2**	**+0.8**
YUK3	**Moose Creek**	**6.95**	**62**		**Pn**	**13 50 15.7**	**+1.1**
YUK1	**Sand Pete Hill**	**7.04**	**59**		**Pn**	**13 50 16.8**	**+1.0**
PNL	**Peninsula**	**7.22**	**80**		**Pn**	**13 50 18.4**	**+0.3**
PRP	**Porcupine Dome**	**7.36**	**27**		**Pn**	**13 50 19.0**	**-1.1**
YUK4	**Talbot Arm**	**7.70**	**67**		**Pn**	**13 50 25.7**	**+0.9**
YUK6	**Outpost Mounta**	**7.78**	**70**		**Pn**	**13 50 27.0**	**+1.0**
YUK7	**Dusty Glacier**	**7.86**	**74**		**Pn**	**13 50 27.6**	**+0.7**
DHAK	**Deception Hill**	**7.87**	**84**		**Pn**	**13 50 27.6**	**+0.6**
YUK5	**Granite Creek**	**8.05**	**69**		**Pn**	**13 50 30.1**	**+0.6**
HYT	**Haines Junctio**	**8.19**	**72**	Pn	**Pn**	**13 50 33.6**	**+2.3**
COLD	**Coldfoot**	**8.21**	**9**	Pn	**Pn**	**13 50 32.1**	**+0.6**
FYU	**Fort Yukon**	**8.31**	**23**	Pn	**Pn**	**13 50 34.3**	**+1.5**
UNV	**Unalaska Valle**	**8.95**	**239**	Pn	**Pn**	**13 50 40.8**	**-0.7**
BM03	**Burnt Mountain**	**9.18**	**22**		**Pn**	**13 50 43.4**	**-1.2**
SKAG	**Skagway**	**9.30**	**80**	Pn	**Pn**	**13 50 48.1**	**+1.9**
JIS	**Juneau Island**	**9.98**	**87**	Pn	**Pn**	**13 50 57.8**	**+2.3**
KLR	**Kul'dur**	**42.59**	**291**	P	**P**	**13 56 19.5**	**-0.6**
	1.2nm,0.6s,baz=74,slow=6.0,SNR=4.6						
TXAR	**Lajitas Array**	**44.95**	**109**	P	**P**	**13 56 41.2**	**+1.9**
	0.3nm,0.8s,baz=338,slow=6.0,SNR=3.0						
SONM	**Songino Array**	**55.06**	**306**	P	**P**	**13 57 56.3**	**+0.8**
	0.4nm,0.4s,baz=39,slow=9.4,SNR=1.8						

SKHL 20 14:22:18.8±0.4, 44°56N×149°32E, h88km±6km, mb4.1/1, msh5.3/1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.23**	**304**	*eP*	Pn	14 22 40.5	-0.6
KUR				AMB	AMB	14 22 43.4	
	50nm,0.4s						
KUR				*eS*	Sn	14 22 56.5	-1.3
KUR				A	A	14 23 00.1	
	440nm,0.3s						
KUR				A	A	14 23 00.1	
	80nm,0.3s						
GRPR	**Tuman**	**2.61**	**259**	*eS*	Sn	14 23 29.5	-0.4
NMR	**Nemuro--Hokkai**	**2.85**	**247**	*eP*	Pn	14 23 01.0	-1.2
NMR				*eS*	Sn	14 23 33.0	-2.7
BILL	**Bilibino**	**25.16**	**15**	*eP*	P	14 27 36.1	+0.7

*ISCJB **20** 14:24:48.8±1.3, 18°.55S±0°.08×165°.8E±0°.2, h10km, mb3.8/4, MS3.4/4, Error ellipse: s-maj=23.5km s-min=9.0km az=159.3*
*IDC **20** 14:24:48.5±2.6, 18°.59S×165°.95E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/38, mbtmp3.9/5, ML3.0/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/31, Error ellipse: s-maj=54.2km s-min=29.5km az=69.0*
*NEIC **20** 14:24:50.2±2.4, 18°.60S±0°.06×165°.9E±0°.2, h14km±6km, mb4.5/10*
ISC 20 14:24:49.8±1.6, 18°.69S±0°.10×165°.9E±0°.2, h10km, n18, σ1§60/17, mb4.3/8, MS3.4/4, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.40**	**171**	Pn	**Pn**	**14 25 44.1**	**+1.1**
	1.2nm,0.3s,baz=335,slow=16,SNR=18						
DZM				Sn	**Sb**	**14 26 29.0**	**-2.8**
	3.8nm,0.3s,baz=195,slow=23,SNR=3.6						
HNR	**Honiara**	**10.86**	**327**	LR	LR	14 31 11.1	
	comp=Z,119nm,19.5s,baz=340,slow=35						
LHI	**Lord Howe Isla**	**14.18**	**204**	Pn	**Pn**	**14 28 13.5**	**+2.7**
EIDS	**Eidsvold**	**15.24**	**242**		**P**	**14 28 28.8**	**-1.4**
EIDS				IAmb	IAmb	14 28 30.1	
	comp=Z,6.8nm,1.0s						
ARMA	**Armidale**	**17.43**	**225**	Pn	**Pn**	**14 28 52.8**	**-0.5**
CAN	**Canberra**	**22.32**	**219**	P	**P**	**14 29 45.4**	**-2.4**
CAN				IAmb	IAmb	14 29 47.5	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**25.52**	**234**	LR	LR	14 40 24.0	
	comp=Z,83nm,18.4s,baz=27,slow=36						
STKA	**Stephens Creek**	**25.52**	**234**	P	**P**	**14 30 20.7**	**+2.1**
TOO	**Toolangi**	**25.93**	**219**	P	**P**	**14 30 22.7**	**+0.4**
TOO				IAmb	IAmb	14 30 30.7	
	comp=Z,21nm,1.3s						
WRA	**Warramunga Arr**	**29.78**	**262**	P	**P**	**14 30 56.8**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=102,slow=7.8,SNR=2.8						
WRA				LR	LR	14 42 20.7	
	comp=Z,88nm,19.7s,baz=70,slow=35						
ASAR	**Alice Springs**	**30.19**	**255**	P	**P**	**14 31 01.4**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=80,slow=8.8,SNR=11						
ASAR				LR	LR	14 43 26.6	
	comp=Z,105nm,18.9s,baz=72,slow=37						
MTN	**Manton Dam**	**33.91**	**275**	P	**P**	**14 31 32.3**	**-1.0**
MTN				IAmb	IAmb	14 31 51.0	
	comp=Z,12nm,1.2s						
FORT	**Forrest**	**36.24**	**243**	P	**P**	**14 31 53.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**38.14**	**264**	P	**P**	**14 32 11.1**	**+1.6**
	comp=Z,5.1nm,1.1s,baz=106,slow=7.4,SNR=4.6						
FITZ				LR	LR	14 47 28.9	
	comp=Z,59nm,20.9s,baz=80,slow=36						
FITZ	**Fitzroy Crossi**	**38.14**	**264**	P	**P**	**14 32 10.9**	**+1.4**
FITZ				IAmb	IAmb	14 32 12.6	
	comp=Z,8.5nm,1.2s						
SARN	**Sarigan**	**40.35**	**329**	P	**P**	**14 32 27.3**	**-0.7**
PSA00	**Pilbara Seismi**	**43.21**	**258**	P	**P**	**14 32 51.0**	**-0.3**
PSA00				IAmb	IAmb	14 33 09.1	
	comp=Z,19nm,1.2s						
SONM	**Songino Array**	**84.90**	**324**	P	**P**	**14 37 25.0**	**0.0**
	comp=Z,0.8nm,0.8s,baz=144,slow=5.4,SNR=4.9						

IDC 20 14:28:49.2±2.0, 4°.39S×144°.52E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/40, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=63.6km s-min=32.1km az=110.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.63**	**152**	Pn	Pn	14 30 13.7	-0.5
	1.1nm,0.3s,baz=324,slow=9.3,SNR=2.6						
PMG				Sn	Sn	14 31 07.7	-12
	1.7nm,0.3s,baz=128,slow=21,SNR=6.3						
WRA	**Warramunga Arr**	**18.37**	**212**	P	Pn	14 33 03.9	-1.7
	0.1nm,0.3s,baz=29,slow=13,SNR=5.4						
ASAR	**Alice Springs**	**21.73**	**207**	P	P	14 33 43.6	+1.3
	0.9nm,0.8s,baz=33,slow=13,SNR=5.4						
ILAR	**Eielson Array**	**85.00**	**24**	P	P	14 41 26.2	-0.1
	0.3nm,0.9s,baz=264,slow=3.4,SNR=2.9						

*ISCJB **20** 14:46:30.0±0.5, 22°.25N±0°.06×143°.4E±0°.1, h200km, mb3.7/11, Error ellipse: s-maj=17.1km s-min=6.8km az=166.1*
*NEIC **20** 14:46:29.8±1.6, 22°.25N±0°.09×143°.4E±0°.1, h183km±6km, mb4.4/7*
*IDC **20** 14:46:37.4±5.6, 22°.27N×143°.34E, h254km±54km, mb3.2/11, mb1 3.3/11, mb1mx3.1/54, mbtmp3.8/11, Error ellipse: s-maj=28.9km s-min=12.4km az=85.0*
ISC 20 14:46:31.1±0.7, 22°.24N±0°.09×143°.4E±0°.2, h200km, n27, σ1§06/25, mb3.8/15, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**5.95**	**157**	Pn	**Pn**	**14 47 56.0**	**-1.8**
ANA2	**Anatahan**	**6.26**	**159**	Pn	**Pn**	**14 48 02.5**	**+0.6**
INU	**Inuyama**	**14.20**	**338**	Pn	**Pn**	**14 49 42.2**	**-1.3**
JOW	**Kunigami**	**14.49**	**291**		**Pn**	**14 49 46.0**	**-1.2**
MAJO	**Matsushiro**	**14.95**	**344**	P	**P**	**14 49 53.8**	**+0.4**
MJB9	**Matsu-Tunnel**	**14.96**	**344**	P	**P**	**14 49 53.7**	**+0.3**
JNU	**Nakatsue**	**15.49**	**317**	P	**Pn**	**14 49 57.7**	**-1.6**
JNU				IAmb	IAmb	14 50 40.5	
	comp=Z,120nm,1.7s						
ERM	**Erimo**	**19.72**	**359**	P	**P**	**14 50 44.8**	**-0.6**
KSRS	**Korea Array**	**20.20**	**322**	P	Pn	14 50 53.9	-1.5
	comp=Z,1.2nm,0.6s,baz=148,slow=8.4,SNR=5.5						
KLR	**Kul'dur**	**28.48**	**344**	P	**P**	**14 52 08.2**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=164,slow=8.1,SNR=5.3						
SONM	**Songino Array**	**39.05**	**320**	P	**P**	**14 53 39.5**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=110,slow=7.3,SNR=4.4						
WR0	**Warramunga Arr**	**42.82**	**192**	P	**P**	**14 54 09.4**	**-0.1**
WR0				IAmb	IAmb	14 54 51.2	
	comp=Z,18nm,1.6s						
WRAB	**Tennant Creek**	**42.83**	**193**	P	**P**	**14 54 09.9**	**+0.3**
WRAB				IAmb	IAmb	14 55 34.4	
	comp=Z,22nm,1.8s						
WRA	**Warramunga Arr**	**42.84**	**193**	P	**P**	**14 54 11.0**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=14,slow=8.7,SNR=36						
FITZ	**Fitzroy Crossi**	**43.69**	**205**	P	**P**	**14 54 18.6**	**+2.2**
FITZ				IAmb	IAmb	14 55 22.0	
	comp=Z,15nm,1.7s						
AS31	**Alice Springs**	**46.55**	**192**	P	**P**	**14 54 39.5**	**+0.5**
ASAR	**Alice Springs**	**46.55**	**192**	P	**P**	**14 54 39.4**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=10,slow=6.6,SNR=9.9						
MKAR	**Makanchi Array**	**54.48**	**312**	P	**P**	**14 55 38.9**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=88,slow=11,SNR=4.9						
KURK	**Kurchatov**	**57.21**	**317**	P	**P**	**14 55 57.7**	**+0.4**
KURK	**Kurchatov**	**57.21**	**317**	IAmb	IAmb	14 56 59.6	
	comp=Z,11nm,1.8s						
KURBB	**Kurchatov Arra**	**57.26**	**317**	P	**P**	**14 55 57.7**	**0.0**
	comp=Z,1.5nm,0.7s,baz=92,slow=7.6,SNR=18						
ILAR	**Eielson Array**	**61.48**	**27**	P	**P**	**14 56 26.3**	**0.0**
	comp=Z,0.3nm,0.7s,baz=266,slow=6.0,SNR=3.5						
YKA	**Yellowknife Ar**	**75.89**	**28**	P	**P**	**14 57 56.2**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=293,slow=5.7,SNR=5.4						
ARCES	**ARCESS Array B**	**78.47**	**342**	P	**P**	**14 58 09.5**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=79,slow=7.5,SNR=4.6						
FINES	**FINESS Array B**	**82.78**	**335**	P	**P**	**14 58 32.1**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=64,slow=4.4,SNR=4.4						
JMIC	**Jan Mayen**	**84.97**	**351**	P	**P**	**14 58 43.9**	**+0.4**
	comp=Z,165nm,0.4s,baz=259,slow=2.1,SNR=4.0						
PLCA	**Paso Flores**	**145.96**	**131**	PKPbc	**PKiKP**	**15 05 48.5**	**-2.1**
	comp=Z,1.2nm,0.9s,baz=219,slow=4.3,SNR=4.9						

*IDC **20** 15:04:23.7±11.0, 25°.41S×179°.14W, h430km±88km, mb3.3/3, mb1 3.5/5, mb1mx3.1/34, mbtmp4.2/5, Error ellipse: s-maj=123.7km s-min=27.8km az=51.0*
*NEIC **20** 15:04:29.3±1.0, 25°.75S±0°.2×179°.6W±0°.3, h464km±23km, mb4.5/9*
ISC 20 15:04:25.7±3.3, 25°.6S±0°.2×179°.5W±0°.4, h432km, n12, σ0§90/13, mb4.3/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**12.97**	**192**	P	**P**	**15 07 15.8**	**+0.6**
	1.9nm,0.3s,baz=40,slow=3.5,SNR=32						
URZ				S	**S**	**15 09 34.6**	**-0.6**
	0.2nm,0.3s,baz=316,slow=22,SNR=0.9						
RPZ	**Rata Peaks**	**19.67**	**201**	P	**P**	**15 08 26.1**	**+1.1**
	0.6nm,0.3s,baz=0.0,slow=12,SNR=1.2						
ARMA	**Armidale**	**25.91**	**253**	P	**P**	**15 09 20.7**	**-0.8**
ARMA				IAmb	IAmb	15 09 51.2	
	comp=Z,27nm,1.6s						
EIDS	**Eidsvold**	**26.54**	**264**	P	**P**	**15 09 27.9**	**+0.9**
EIDS				IAmb	IAmb	15 10 20.5	
	comp=Z,17nm,1.3s						
AS31	**Alice Springs**	**42.24**	**262**	P	**P**	**15 11 40.2**	**+0.7**
ASAR	**Alice Springs**	**42.24**	**262**	P	**P**	**15 11 40.2**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=89,slow=7.4,SNR=38						
WR0	**Warramunga Arr**	**42.59**	**268**	P	**P**	**15 11 42.7**	**+0.4**
WR0				IAmb	IAmb	15 12 51.7	
	comp=Z,12nm,0.7s						
WRAB	**Tennant Creek**	**42.77**	**268**	P	**P**	**15 11 44.1**	**+0.4**
WRA	**Warramunga Arr**	**42.78**	**268**	P	**P**	**15 11 44.2**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=104,slow=7.7,SNR=5.4						
FORT	**Forrest**	**46.18**	**251**	P	**P**	**15 12 10.6**	**+0.5**
KNRA	**Kununurra**	**49.16**	**271**	P	**P**	**15 12 31.1**	**-1.7**
KNRA				IAmb	IAmb	15 13 38.9	
	comp=Z,50nm,1.8s						
MAW	**Mawson**	**76.35**	**200**	P	**P**	**15 15 28.2**	**-0.4**
	comp=Z,2.0nm,0.3s,baz=135,slow=5.7,SNR=7.7						

*ISCJB **20** 15:07:08.9±0.2, 3°.70N±0°.02×127°.16E±0°.04, h10km, mb4.3/28, MS3.9/13, Error ellipse: s-maj=5.4km s-min=3.2km az=160.1*
*NEIC **20** 15:07:13.8±2.8, 3°.53N±0°.08×126°.91E±0°.09, h35km±2km, mb4.6/41*
*DJA **20** 15:07:13.2±0.6, 4°N±3°×12°7E±°, h19km±5km, M4.5/27, mB5.0/4, mb4.6/27, MLv4.5/16, Mw(mB)4.3/4, Mwp6.3/1*
*IDC **20** 15:07:16.0±2.2, 3°.40N×126°.83E, h56km±20km, mb4.0/22, mb1 4.1/23, mb1mx3.9/55, mbtmp4.3/23, ML4.4/1, MS3.8/12, Ms1 3.8/12, ms1mx3.5/34, Error ellipse: s-maj=25.3km s-min=8.3km az=68.0*
*MAN **20** 15:07:17.3, 3°.46N×126°.52E, h148km, MS3.7*
ISC 20 15:07:10.4±0.3, 3°.61N±0°.03×127°.04E±0°.06, h10km, n131, σ2§60/135, mb4.5/44, MS4.0/13, 2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**2.81**	**332**	P	**Pn**	**15 07 57.0**	**+1.5**
DDMP				S	**Sg**	**15 08 45.7**	**+4.9**
TNTI	**Ternate**	**2.84**	**173**	P	**Pn**	**15 07 58.8**	**+3.0**
TNTI				S	**Sb**	**15 08 34.3**	**-1.7**
TNTI	**Ternate**	**2.84**	**173**		**Pn**	**15 07 57.4**	**+1.6**
GSPH	**General Santos**	**3.23**	**320**	P	**Pb**	**15 08 05.5**	**-2.4**
DAV	**Davao City (W)**	**3.73**	**337**	P	**Pb**	**15 08 18.5**	**+2.0**
	40nm,0.3s,baz=222,slow=12,SNR=4.1						
DAV				S	**Sg**	**15 09 08.8**	**-1.7**
	32nm,0.3s,baz=290,slow=22,SNR=1.2						
SKMP	**Bagumbayan, Su**	**3.81**	**319**	P	**Pn**	**15 08 11.9**	**+2.7**
SKMP				S	**Sb**	**15 09 02.0**	**-2.2**
KCP	**Kidapawan**	**3.90**	**330**	↓P	**Pb**	**15 08 15.9**	**-3.4**
KCP				S	**Sg**	**15 09 14.4**	**-1.3**
KMSI	**Cibinong**	**4.29**	**225**	P	**Pn**	**15 08 19.3**	**+3.5**
BUKP	**Musuan**	**4.68**	**335**	P	**Pn**	**15 08 26.0**	**+4.8**
BUKP				S	**Sn**	**15 09 08.6**	**-7.0**
BUKP	**Musuan**	**4.68**	**335**	P	**Pn**	**15 08 26.0**	**+4.8**
BUKP				S	**Sg**	**15 09 38.7**	**-2.1**
CGP	**Cagayan de Oro**	**5.35**	**334**	↓P	**Pb**	**15 08 44.6**	**+0.6**
BUTP	**Butuan**	**5.51**	**345**	P	Pn	15 08 38.3	+5.7
BUTP				S	**Sg**	**15 10 09.4**	**+1.9**
PAGZ	**Pagadian**	**5.56**	**319**	P	**Pn**	**15 08 35.6**	**+2.3**
PAGZ	**Pagadian**	**5.56**	**319**	P	**Pn**	**15 08 36.5**	**+3.1**
SANI	**Sanana**	**5.72**	**191**	P	**Pn**	**15 08 38.1**	**+2.7**
	18nm,0.7s,0.2nm						
MRSI	**Marisa**	**5.97**	**239**	P	**Pn**	**15 08 42.7**	**+3.8**
	78nm,0.5s,1μm0.3nm						
SWI	**Sorong**	**6.13**	**136**	P	**Pn**	**15 08 43.1**	**+2.0**
	47nm,0.9s,0.2nm						
SIJI	**Sorong**	**6.13**	**136**	P	**Pn**	**15 08 43.9**	**+2.6**
	8.5nm,0.3s,baz=337,slow=22,SNR=15						
SIJI				S	**Sn**	**15 09 52.3**	**+0.7**
	1.3nm,0.3s,baz=164,slow=23,SNR=1.1						
SIJI				LR	LR	15 11 27.9	
	comp=Z,612nm,21.3s,baz=7.5,slow=41						
LUWI	**Luwuk**	**6.29**	**223**	P	**Pn**	**15 08 46.7**	**+3.4**
	144nm,0.9s,2μm1.1nm						
LUWI	**Luwuk**	**6.29**	**223**	Pn	**Pn**	**15 08 46.6**	**+3.4**
NLAI	**Namlea**	**6.80**	**179**	P	**Pn**	**15 08 53.7**	**+3.3**
	38nm,0.5s,241μm0.2nm						
MSLP	**Maasin**	**6.83**	**342**	S	**Sn**	**15 10 09.0**	**+0.3**
MSLP	**Maasin**	**6.83**	**342**	P	Pb	15 09 02.5	-6.9
MSLP				S	**Sb**	**15 10 22.4**	**-8.8**
APSI	**Ampana**	**7.01**	**230**	P	**Pn**	**15 08 57.6**	**+4.4**
	76nm,0.6s,833nm0.3nm						
MSAI	**Masohi**	**7.16**	**165**	P	**Pn**	**15 08 58.3**	**+3.0**
	7.5nm,1.6s,771nm0.1nm						
AAI	**Ambon**	**7.34**	**171**	P	**Pn**	**15 09 00.8**	**+3.1**
	30nm,0.9s,0.1nm						
MPSI	**Mapaga**	**7.84**	**246**	P	**Pn**	**15 09 09.2**	**+4.6**
	12nm,0.8s,0.1nm						
FAKI	**Fak Fak**	**8.32**	**141**	Pn	**Pn**	**15 09 14.4**	**+3.2**
TTSI	**Tana Toraja**	**9.78**	**228**	P	**Pn**	**15 09 34.5**	**+3.2**
	26nm,0.7s						
KKM	**Kota Kinabalu**	**11.05**	**283**	Pn	**Pn**	**15 09 46.7**	**-2.1**
SAUI	**Saumlaki**	**12.27**	**160**	Pn	**Pn**	**15 10 01.2**	**-4.2**
SOEI	**Soe**	**13.56**	**192**	Pn	Pn	15 10 17.7	-5.4
BATI	**Baumata**	**14.13**	**194**	P	**Pn**	**15 10 35.2**	**+4.4**
	2.4nm,0.3s,baz=296,slow=1.4,SNR=4.2						
BATI	**Baumata**	**14.13**	**194**	P	Pn	**15 10 34.3**	**+3.5**
	13nm,0.7s						
GENI	**Genyem**	**14.50**	**115**	P	**Pn**	**15 10 37.2**	**+1.3**
	82nm,1.1s						
SBUM	**Sibu**	**14.84**	**266**	P	**P**	**15 10 47.5**	**+1.1**
JAY	**Jayapura**	**14.95**	**114**	P	**Pn**	**15 10 43.5**	**+1.4**
	14nm,1.6s						
PLAI	**Plampang**	**15.42**	**217**	P	**P**	**15 10 52.3**	**-0.6**
	85nm,0.8s						

TWSI	**Taliwang, Sumb**	**15.90**	**219**	P	**P**	**15 10 58.2**	**0.0**
	22nm,1.0s						
SRBI	**Singaraja**	**16.55**	**225**	P	**P**	**15 11 06.1**	**+0.7**
	24nm,1.4s						
MTN	**Manton Dam**	**16.84**	**166**		**Pn**	**15 11 04.0**	**-2.6**
MTN				IAmb	IAmb	15 11 11.5	
	comp=Z,20nm,0.5s						
KSM	**Kuching**	**16.85**	**263**	P	**P**	**15 11 09.6**	**+0.9**
IGBI	**Denpasar**	**17.11**	**224**	P	**P**	**15 11 12.3**	**+0.7**
	comp=Z,21nm,0.8s						
JAGI	**Jajag, Banyuwa**	**17.58**	**227**	P	**Pn**	**15 11 16.7**	**+0.9**
KNRA	**Kununurra**	**19.24**	**175**	P	**P**	**15 11 34.2**	**-0.8**
KNRA				IAmb	IAmb	15 11 36.4	
	comp=Z,18nm,0.7s						
TWG	**Pinlang**	**19.95**	**344**	P	**P**	**15 11 39.8**	**-3.1**
YULB	**Yu-li**	**20.44**	**345**	P	**P**	**15 11 47.9**	**-0.3**
YULB				IAmb	IAmb	15 11 58.4	
	comp=Z,27nm,1.2s						
TPUB	**Ta-pu**	**20.54**	**343**	P	**P**	**15 11 49.4**	**+0.2**
SSLB	**Suanglung**	**20.91**	**344**	P	**P**	**15 11 53.9**	**+0.7**
SSLB				IAmb	IAmb	15 11 56.4	
	comp=Z,23nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.61**	**184**	P	**P**	**15 11 59.1**	**-1.6**
	comp=Z,5.0nm,0.4s,baz=9.7,slow=7.0,SNR=29						
FITZ	**Fitzroy Crossi**	**21.61**	**184**	P	**P**	**15 11 59.2**	**-1.6**
YHNB	**Yeheng**	**21.64**	**346**	P	**P**	**15 12 03.4**	**+2.2**
YHNB				IAmb	IAmb	15 12 10.5	
	comp=Z,28nm,0.9s						
COEN	**Coen**	**23.68**	**138**	P	**P**	**15 12 21.7**	**-0.8**
KLSI		**23.76**	**250**	P	**P**	**15 12 24.4**	**+1.1**
	comp=Z,9.1nm,1.1s						
KASI	**Kota Agung**	**24.27**	**248**	P	**P**	**15 12 30.8**	**+2.7**
	comp=Z,29nm,1.0s						
WRAB	**Tennant Creek**	**24.47**	**163**	P	**P**	**15 12 28.9**	**-1.0**
WRA	**Warramunga Arr**	**24.48**	**163**	P	**P**	**15 12 28.6**	**-1.3**
	comp=Z,12nm,0.5s,baz=334,slow=11,SNR=79						
WRA				S	**S**	**15 16 43.8**	**-6.5**
	comp=Z,0.6nm,0.7s,baz=337,slow=20,SNR=2.9						
WR0	**Warramunga Arr**	**24.55**	**163**	P	**P**	**15 12 29.1**	**-1.5**
WR0				IAmb	IAmb	15 12 47.6	
	comp=Z,10nm,0.6s						
PSA00	**Pilbara Seismi**	**26.00**	**195**	P	**P**	**15 12 43.5**	**-0.2**
PSA00				IAmb	IAmb	15 12 44.1	
	comp=Z,8.3nm,0.7s						
AS31	**Alice Springs**	**27.92**	**166**	P	**P**	**15 13 00.2**	**-0.8**
AS31				IAmb	IAmb	15 13 05.8	
	comp=Z,5.0nm,0.5s						
ASAR	**Alice Springs**	**27.92**	**166**	P	**P**	**15 12 59.8**	**-1.3**
	comp=Z,5.0nm,0.5s,baz=346,slow=6.8,SNR=132						
ASAR				PcP	**PcP**	**15 16 16.8**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=359,slow=2.6,SNR=4.6						
ASAR				S	**S**	**15 17 39.2**	**-5.8**
	comp=Z,0.3nm,0.9s,baz=358,slow=20,SNR=1.6						
PBKT	**Sadao Pong**	**28.66**	**299**	P	**P**	**15 13 08.7**	**+1.0**
NJ2	**Nanjing**	**29.32**	**346**	*eP*	**P**	**15 13 15.9**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
WHN	**Wuhan**	**29.35**	**337**	P	P	15 13 21.3	+7.7
WHN				S	**S**	**15 18 14.8**	**+7.6**
WHN				LR	LR		
	comp=Z,850nm,18.5s						
JNU	**Nakatsue**	**29.58**	**7**	P	**P**	**15 13 18.8**	**+3.1**
CM31	**Chiang Mai Arr**	**31.20**	**300**	P	**P**	**15 13 26.9**	**-3.3**
CMAR	**Chiang Mai Arr**	**31.20**	**300**	P	**P**	**15 13 30.0**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=116,slow=6.8,SNR=5.2						
CMAR				LR	LR	15 26 19.2	
	comp=Z,46nm,21.4s,baz=120,slow=37						
ENH	**Enshi**	**31.29**	**330**	P	**P**	**15 13 29.6**	**-1.2**
ENH				IAmb	IAmb	15 13 32.1	
	comp=Z,8.7nm,1.1s						
CHTO	**Chiang Mai**	**31.35**	**301**	P	**P**	**15 13 28.2**	**-3.3**
CHTO				IAmb	IAmb	15 13 32.5	
	comp=Z,11nm,1.4s						
KSRS	**Korea Array**	**33.70**	**1**	P	**P**	**15 13 53.1**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=180,slow=8.8,SNR=1.7						
KSRS				LR	LR	15 27 55.4	
	comp=Z,82nm,21.1s,baz=185,slow=37						
KS19	**Wonju Array Si**	**33.74**	**1**	P	**P**	**15 13 53.0**	**+0.8**
KS19				IAmb	IAmb

KSH	**Kashi**	**58.35**	315	P	**P**	15 17 09.0	+2.8
KSH				PP	**PP**	15 19 22.0	+6.6
KSH				ScP	**ScP**	15 21 51.3	-6.5
KSH				S	**S**	15 25 06.1	-2.9
KSH	**Kashi**	**58.35**	315	SS	SS	15 29 01.9	+0.7
KSH				pmax	pmax		
	comp=Z,420nm,7.4s						
KSH				LR	LR		
	comp=N,500nm,6.4s						
KSH				LR	LR		
	comp=E,600nm,7.0s						
KSH				LR	LR		
	comp=Z,550nm,6.4s						
ZALV	**Zalesovo Beam**	**60.84**	333	P	**P**	15 17 22.3	-0.6
	comp=Z,0.5nm,0.3s,baz=112,slow=6.4,SNR=3.4						
KURBB	**Kurchatov Arra**	**62.01**	327	P	**P**	15 17 30.7	-0.1
	comp=Z,3.3nm,0.8s,baz=128,slow=6.2,SNR=16						
GAR	**Garm**	**62.23**	313		**P**	15 17 32.0	-0.8
GAR				IAmb	IAmb	15 17 44.6	
	comp=Z,7.4nm,1.0s						
URZ	**Urewera**	**62.24**	137	LR	LR	15 45 49.3	
	comp=Z,192nm,18.9s,baz=320,slow=37						
AFI	**Afiamalu**	**63.12**	107	LR	LR	15 41 12.9	
	comp=Z,92nm,18.9s,baz=321,slow=32						
BVAR	**Borovoye Array**	**67.59**	327	P	**P**	15 18 07.0	-0.3
	comp=Z,1.4nm,0.6s,baz=111,slow=8.4,SNR=9.7						
BRVK	**Borovoye**	**67.66**	327	P	**P**	15 18 06.2	-1.5
BRVK				IAmb	IAmb	15 18 24.9	
	comp=Z,12nm,1.4s						
TIXI	**Tiksi**	**67.96**	1	P	**P**	15 18 10.0	+0.8
NRIK	**Noril'sk**	**70.62**	346	P	**P**	15 18 25.1	-0.6
	comp=Z,3.5nm,0.6s,baz=133,slow=6.0,SNR=12						
ABKAR	**Akbulak array**	**72.44**	321	P	**P**	15 18 37.0	-0.1
AKTO	**Aktyubinsk**	**73.94**	322	P	**P**	15 18 45.5	-0.5
	comp=Z,2.1nm,0.5s,baz=112,slow=12,SNR=12						
ARU	**Arti**	**75.20**	328	P	**P**	15 18 52.7	-0.4
	comp=Z,0.7nm,0.5s,baz=350,slow=6.6,SNR=5.4						
ARU	**Arti**	**75.20**	328	IAmb	IAmb	15 18 55.2	
	comp=Z,3.1nm,0.8s						
VNDA	**Vanda**	**83.27**	173	P	**P**	15 19 36.7	-0.1
	comp=Z,1.6nm,0.8s,baz=173,slow=15,SNR=2.4						
PPT	**Papeete**	**84.78**	108	LR	LR	15 54 26.0	
	comp=Z,39nm,18.2s,baz=301,slow=33						
ILAR	**Eielson Array**	**85.08**	25	P	**P**	15 19 46.5	+0.2
	comp=Z,3.5nm,1.3s,baz=254,slow=4.9,SNR=4.8						
ILAR				LR	LR	15 53 07.7	
	comp=Z,25nm,21.1s,baz=310,slow=32						
KMBO	**Kilima Mbogo**	**89.86**	269	P	**P**	15 20 08.5	-2.2
	comp=Z,0.6nm,0.4s,baz=146,slow=5.5,SNR=3.1						
KMBO	**Kilima Mbogo**	**89.86**	269	IAmb	IAmb	15 20 15.8	
	comp=Z,2.8nm,1.1s						
BRTR	**Keskin Array B**	**90.33**	310	P	**P**	15 20 11.8	-0.6
	comp=Z,0.7nm,0.7s,baz=279,slow=32,SNR=4.1						
ARCES	**ARCESS Array B**	**90.67**	340	P	**P**	15 20 12.5	-0.5
	comp=Z,3.9nm,1.0s,baz=77,slow=5.5,SNR=4.2						
AKASG	**Malin Array Be**	**92.18**	321	P	**P**	15 20 18.4	-2.0
	comp=Z,0.4nm,0.4s,baz=66,slow=4.5,SNR=1.8						
LSZ	**Lusaka**	**99.47**	255	LR	LR	16 02 45.0	
	comp=Z,63nm,21.8s,baz=304,slow=31						
TXAR	**Lajitas Array**	**121.43**	52	PKP	**PKiKP**	15 26 06.4	+1.3
	comp=Z,0.2nm,0.6s,baz=108,slow=2.0,SNR=2.5						

IDC ***20*** *15:13:56.8±3.3, 10°.53N×125°.09E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/42, mbtmp3.4/4, Error ellipse: s-maj=315.5km s-min=23.9km az=65.0*

ISC 20 15:13:56.0±1.4, **11°.1N**±0°.1×**126°.5E**±0°.2, **h10**km, **n6, σ0.58/7, mb3.4/4, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.65**	217	P	**Pg**	15 14 27.4	-0.3
SCPH				S	**Sg**	15 14 49.8	+0.7
BUTP	**Butuan**	**2.30**	202	P	Pg	15 14 52.5	+12
BUTP				S	**Sb**	15 15 05.5	-0.6
WRA	**Warramunga Arr**	**31.82**	166	P	**P**	15 20 20.9	-0.2
	0.5nm,1.0s,baz=341,slow=8.7,SNR=1.9						
ASAR	**Alice Springs**	**35.32**	168	P	**P**	15 20 52.2	+0.6
	0.1nm,0.5s,baz=354,slow=7.2,SNR=4.1						
MKAR	**Makanchi Array**	**51.49**	322	P	**P**	15 23 02.0	+0.1
	0.4nm,0.7s,baz=108,slow=9.3,SNR=1.7						
KURBB	**Kurchatov Arra**	**55.50**	325	P	**P**	15 23 30.9	-0.3
	0.7nm,0.5s,baz=127,slow=7.1,SNR=8.1						

ISCJB ***20*** *15:15:26.4±0.4, 27°.84N±0°.05×66°.10E±0°.03, h10km, mb4.0/34, Error ellipse: s-maj=7.5km s-min=3.9km az=179.4*

IDC ***20*** *15:15:26.6±0.8, 27°.87N×66°.02E, h0km, mb3.9/22, mb1 4.1/24, mb1mx3.9/49, mbtmp3.9/24, ML3.8/2, MS3.1/6, Ms1 3.1/6, ms1mx2.8/49, Error ellipse: s-maj=19.3km s-min=16.0km az=179.0*

BJI ***20*** *15:15:28.0±0.0, 28°.15N×65°.84E, h5km, mb4.2/7, mB4.6/2, Ms4.6/1*

NEIC ***20*** *15:15:29.8±2.9, 27°.84N±0°.07×66°.08E±0°.07, h25km±5km, mb4.0/17*

MOS ***20*** *15:15:29.9±1.3, 27°.93N×66°.16E, h28km, mb4.2/17, Error ellipse: s-maj=10.6km s-min=6.1km az=81.1*

ISC 20 15:15:27.4±0.5, **27°.76N**±0°.06×**66°.12E**±0°.04, **h10**km, **n111, σ2.93/113, mb4.0/38, 8C-2D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JASL	**Jaisalmer**	**4.33**	100	*eP*	**Pb**	15 16 41.0	-2.7
JASL				*eS*	**Sb**	15 17 33.0	-3.0
THW	**Thamme Wali**	**6.98**	43	P	**Pn**	15 17 10.5	+0.7
SARP	**Sargodha**	**7.04**	52	P	**Pn**	15 17 11.5	+1.0
KBL	**Kabul**	**7.21**	20	P	**Pn**	15 17 13.1	+0.1
KBL	**Kabul**	**7.21**	20		**Pn**	15 17 13.1	+0.1
HRA	**Herat**	**7.40**	334		**Pn**	15 17 16.5	+0.9
WSAR	**Wadi Sarin**	**8.13**	239	Pn	**Pn**	15 17 26.3	+0.8
	1.4nm,0.3s,baz=76,slow=7.7,SNR=20						
WSAR				Sn	**Sn**	15 18 50.1	-7.4
	0.9nm,0.3s,baz=303,slow=21,SNR=5.7						
WSAR				LR	LR	15 21 21.7	
	comp=Z,69nm,20.0s,baz=93,slow=44						
NIL	**Nilore**	**8.49**	45	P	**Pn**	15 17 30.7	+0.2
NIL	**Nilore**	**8.49**	45		**Pn**	15 17 30.7	+0.2
CHCP	**Chirah Chowk**	**8.50**	45	P	**Pn**	15 17 31.2	+0.6
KUDL	**Kundal**	**9.17**	85	*eP*	**Pn**	15 17 39.3	-0.5
KUDL				*eS*	**Sn**	15 19 20.5	-2.7
KUDL				IAML		15 19 25.2	
	comp=N,129nm,0.7s						
KUDL				IAML		15 19 25.5	
	comp=E,74nm,0.7s						
UOSS	**Minazif**	**9.33**	255		**Pn**	15 17 41.6	-0.4
THN	**Thein Dam**	**9.52**	58	*eP*	Pn	15 17 57.0	+12
THN				*eS*	**Sn**	15 19 30.5	-1.2
BHK	**Bhakra**	**9.67**	65	*eS*	**Sn**	15 19 41.0	+5.6
DHRM	**DHARAMSHALA**	**9.89**	61	*eP*	**Pn**	15 17 52.5	+2.7
DHRM				*eS*	**Sn**	15 19 41.6	+0.6
DHRM				IAML		15 19 47.7	
	comp=N,115nm,0.9s						
DHRM				IAML		15 19 48.0	
	comp=E,106nm,0.2s						
SMLA	**Simla**	**10.19**	68	*eP*	**Pn**	15 17 57.1	+3.3
SMLA				*eS*	**Sn**	15 19 47.1	-1.1
SMLA				IAML		15 19 53.6	
	comp=E,60nm,1.4s						
SMLA				IAML		15 19 54.3	
	comp=N,62nm,0.5s						
GAR	**Garm**	**11.74**	16	Pn	**Pn**	15 18 15.7	+0.6
JOSI	**Joshimath**	**12.07**	73	*eP*	**Pn**	15 18 24.1	+4.5
JOSI				*eS*	**Sn**	15 20 33.5	-0.9
GEYT	**Alibeck**	**12.17**	328	LR	LR	15 23 56.1	
	comp=N,55nm,18.7s,baz=345,slow=42						
KOLN	**Koldanda**	**15.47**	86	*eP*	**Pn**	15 19 05.9	-0.1
DANN	**Dangsing**	**15.58**	84	*eP*	**Pn**	15 19 06.3	-1.2
	comp=N,25nm,0.5s						
KK31	**Karatay Array**	**15.72**	12	P	**P**	15 19 11.2	-1.7
KK31				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KK31	**Karatay Array**	**15.72**	12	P	**P**	15 19 11.2	-1.7
KK31				IAmb	IAmb	15 19 13.5	
	comp=Z,4.5nm,0.8s						
KKAR	**Karatay Array**	**15.72**	12	P	**P**	15 19 11.4	-1.5
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KKAR	**Karatay Array**	**15.72**	12	P	**P**	15 19 11.4	-1.5
KKAR				IAmb	IAmb	15 19 13.5	
	comp=Z,4.5nm,0.8s						
NRN	**Naryn**	**15.86**	28	P	**Pn**	15 19 09.0	-2.1
NRN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NRN	**Naryn**	**15.86**	28	Pn	**Pn**	15 19 09.0	-2.1
AAK	**Ala-Archa**	**16.33**	22	P	**Pn**	15 19 15.7	-1.2
AAK						15 22 09.0	
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AAK	**Ala-Archa**	**16.33**	22	Pn	**Pn**	15 19 14.8	-2.1
	comp=Z,0.3nm,0.3s,baz=201,slow=5.2,SNR=8.9						
AAK				Sn	**Sn**	15 22 09.0	-9.2
	comp=Z,0.1nm,0.3s,baz=341,slow=21,SNR=1.5						
AAK				LR	LR	15 26 15.1	
	comp=Z,94nm,21.8s,baz=58,slow=40						
AAK	**Ala-Archa**	**16.33**	22		**Pn**	15 19 15.7	-1.2
GKN	**Gorkha**	**16.37**	85	*eP*	**Pn**	15 19 16.9	-0.7
DMN	**Daman**	**16.82**	86	*eP*	**Pn**	15 19 23.5	+0.2
KKN	**Kakani**	**16.96**	85	*eP*	**Pn**	15 19 25.2	+0.2
PKIN	**Phulchoki**	**17.08**	86	*eP*	**Pn**	15 19 27.1	+0.5
PKI	**Pulchoki**	**17.09**	86	*eP*	**P**	15 19 27.9	-0.6
	comp=Z,2.0nm,0.6s						
GUN	**Gumba**	**17.48**	85	*eP*	**Pn**	15 19 31.7	+0.1
	comp=Z,64nm,0.8s						
RAMN	**Ramite**	**18.21**	88	*eP*	**P**	15 19 42.5	+1.7
	comp=Z,15nm,0.6s						
ODAN	**Odare**	**18.92**	88	*eP*	**Pn**	15 19 51.7	+2.4
	comp=Z,25nm,0.7s						
RAYN	**Ar Rayn**	**19.06**	262	P	**Pn**	15 19 52.8	+2.0
RAYN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
RAYN	**Ar Rayn**	**19.06**	262		**Pn**	15 19 52.8	+2.0
TAPN	**Taplejung**	**19.14**	86	*eP*	**Pn**	15 19 54.3	+2.3
	comp=Z,13nm,0.7s						
GNI	**Garni**	**21.55**	310	*i* P	**P**	15 20 17.5	+0.4
GNI				pmax	pmax		
	comp=Z,14nm,0.9s						
GNI	**Garni**	**21.55**	310	LR	LR	15 28 49.4	
	comp=Z,20nm,18.5s,baz=348,slow=38						
GNI	**Garni**	**21.55**	310	P	**P**	15 20 17.7	+0.6
GNI				IAmb	IAmb	15 20 25.5	
	comp=Z,8.3nm,0.9s						
ABKAR	**Akbulak array**	**21.99**	349	P	**P**	15 20 21.1	-0.3
ABKAR				IAmb	IAmb	15 20 27.6	
	comp=Z,9.7nm,0.8s						
LSA	**Lhasa**	**22.02**	79	P	**P**	15 20 21.3	-1.2
LSA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LSA	**Lhasa**	**22.02**	79	P	**P**	15 20 21.3	-1.2
LSA				IAmb	IAmb	15 20 35.0	
	comp=Z,4.7nm,0.8s						
MAKZ	**Makanchi**	**22.74**	29	P	**P**	15 20 29.4	-0.2
MAKZ				pmax	pmax		
	comp=Z,16nm,0.7s						
MAKZ	**Makanchi**	**22.74**	29	P	**P**	15 20 29.4	-0.2
MK31	**Makanchi Array**	**22.86**	29	P	**P**	15 20 30.5	-0.4
MK31				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MK31	**Makanchi Array**	**22.86**	29	P	**P**	15 20 30.5	-0.4
MK31				IAmb	IAmb	15 20 36.6	
	comp=Z,3.3nm,0.8s						
MKAR	**Makanchi Array**	**22.86**	29	*i* P	**P**	15 20 30.5	-0.4
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**22.86**	29	P	**P**	15 20 29.7	-1.2
	comp=Z,2.4nm,0.5s,baz=209,slow=8.2,SNR=21						
AKTO	**Aktyubinsk**	**23.47**	347	P	**P**	15 20 36.7	-0.3
	comp=Z,3.8nm,0.6s,baz=157,slow=8.7,SNR=6.5						
KBZ	**Khabaz**	**24.56**	317	P	**P**	15 20 47.5	+0.1
	comp=Z,1.0nm,0.6s,baz=184,slow=13,SNR=3.1						
KURBB	**Kurchatov Arra**	**24.71**	19	P	**P**	15 20 48.6	0.0
	comp=Z,2.1nm,0.9s,baz=212,slow=8.8,SNR=9.6						
SHA1	**Shidzhatmaz**	**24.71**	316	*i* P	**P**	15 20 51.1	+2.1
KIV	**Kislovodsk**	**24.81**	317	*eP*	**P**	15 20 49.3	-0.5
KIV				pmax	pmax		
	comp=Z,18nm,1.0s						
KURK	**Kurchatov**	**24.82**	19	*i* P	**P**	15 20 50.3	+0.8
KURK				pmax	pmax		
	comp=Z,8.0nm,2.0s						
KURK	**Kurchatov**	**24.82**	19	P	**P**	15 20 48.6	-0.9
KURK	**Kurchatov**	**24.82**	19	IAmb	IAmb	15 20 56.5	
	comp=Z,3.2nm,0.8s						
BVAR	**Borovoye Array**	**25.44**	6	P	**P**	15 20 54.8	-0.3
	comp=Z,1.9nm,0.5s,baz=173,slow=11,SNR=12						
BRVK	**Borovoye**	**25.46**	6	*i* P	**P**	15 20 55.9	+0.5
BRVK				pmax	pmax		
	comp=Z,11nm,1.3s						
BRVK	**Borovoye**	**25.46**	6	P	**P**	15 20 54.3	-1.0
EIL	**Elat**	**27.37**	281	LR	LR	15 34 12.8	
	comp=Z,36nm,22.0s,baz=126,slow=41						
ARU	**Arti**	**29.16**	351	*i* P	**P**	15 21 27.9	-0.6
ARU				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARU	**Arti**	**29.16**	351	LR	LR	15 34 48.3	
	comp=Z,154nm,21.4s,baz=301,slow=40						
BR131	**Keskin Array S**	**29.37**	302	P	**P**	15 21 29.0	-1.8
BR131				pmax	pmax		
	comp=Z,2.0nm,1.2s						
BR131	**Keskin Array S**	**29.37**	302	P	**P**	15 21 29.0	-1.8
BRTR	**Keskin Array B**	**29.37**	302	P	**P**	15 21 32.1	+1.3
	comp=Z,0.5nm,0.6s,baz=107,slow=7.7,SNR=2.0						
ZAA0	**Zalesovo Array**	**29.55**	23	P	**P**	15 21 28.4	-3.6
ZAA0				IAmb	IAmb	15 21 44.6	
	comp=Z,1.8nm,0.8s						
ZALV	**Zalesovo Beam**	**29.55**	23	P	**P**	15 21 32.7	+0.6
	comp=Z,1.2nm,0.4s,baz=232,slow=10,SNR=6.5						
OBN	**Obninsk**	**34.70**	330	*eP*	**P**	15 22 14.6	-2.6
OBN				*e*		15 23 28.0	
OBN				*eS*	**S**	15 27 51.2	+4.2
OBN				*eSS*	**SnSn**	15 29 54.4	-5.2
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,147nm,13.0s						
SORM	**Soroca**	**35.59**	315	⇓P	P	15 22 19.3	-5.6
PLOR	**Plostina**	**35.96**	311	⇑P	**P**	15 22 29.5	+1.3
AKASG	**Malin Array Be**	**36.08**	320	*i* P	**P**	15 22 31.3	+2.2
AKASG	**Malin Array Be**	**36.08**	320	P	**P**	15 22 29.6	+0.5
	comp=Z,0.4nm,0.4s,baz=118,slow=7.5,SNR=4.7						
MLR	**Muntele Rosu**	**36.33**	310	⇑P	**P**	15 22 31.8	+0.3
DOPR	**Dopca**	**36.84**	311	⇑P	**P**	15 22 35.4	-0.3
VOIR		**36.93**	310	⇓P	**P**	15 22 36.4	-0.2
XAN	**Xi'an**	**37.05**	69	P	P	15 22 44.3	+6.6
XAN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SONM	**Songino Array**	**37.07**	46	P	**P**	15 22 39.6	+1.9
	comp=Z,0.7nm,0.6s,baz=250,slow=8.1,SNR=6.7						
ARR	**Arges**	**37.20**	309	⇑P	**P**	15 22 39.1	+0.3
BURAR	**Bucovina Array**	**37.41**	313	⇑P	**P**	15 22 40.4	-0.2
BUR08	**Bucovina Ar. S**	**37.43**	313	P	**P**	15 22 40.7	-0.1
BUR08				IAmb	IAmb	15 22 50.5	
	comp=Z,3.8nm,1.1s						
MDVR	**Moldovita**	**39.10**	308	⇑P	**P**	15 22 55.9	+1.1
BZS	**Buzias**	**39.32**	309	⇑	**P**	15 22 54.8	-1.9
VYHS	**Vyhne**	**41.77**	313	*eP*	**P**	15 23 19.4	+2.5
VYHS	**Vyhne**	**41.77**	313	*eP*	**P**	15 23 19.4	+2.5
FINES	**FINESS Array B**	**42.92**	333	*i* P	**P**	15 23 26.6	+0.6
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**42.92**	333	P	**P**	15 23 25.1	-0.9
	comp=Z,0.8nm,0.4s,baz=73,slow=6.6,SNR=9.3						
NRIK	**Noril'sk**	**43.45**	11	P	**P**	15 23 30.2	0.0
	comp=Z,1.3nm,0.5s,baz=194,slow=4.7,SNR=4.6						
GERES	**GERESS Array B**	**45.18**	312	P	**P**	15 23 43.9	-0.6
	comp=Z,1.1nm,0.8s,baz=98,slow=5.5,SNR=6.5						
ARCES	**ARCESS Array B**	**47.91**	342	P	**P**	15 24 05.2	-0.2
	comp=Z,2.5nm,0.6s,baz=134,slow=6.9,SNR=13						
NOA	**NORSAR Array B**	**49.26**	328	P	**P**	15 24 15.7	-0.3
	comp=Z,0.5nm,0.6s,baz=110,slow=7.5,SNR=3.2						
KSRS	**Korea Array**	**52.13**	63	P	**P**	15 24 38.9	+0.9
	comp=Z,1.6nm,0.7s,baz=272,slow=7.2,SNR=5.2						
YAK	**Yakutsk**	**53.51**	32	P	**P**	15 24 49.3	+1.5
KLR	**Kul'dur**	**53.87**	48	*i* P	**P**	15 24 50.7	+0.1
KLR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SPITS	**Spitsbergen Ar**	**55.15**	349	P	**P**	15 25 00.0	+0.5
SPITS	**Spitsbergen Ar**	**55.15**	349	P	**P**	15 24 60.0	+0.5
	comp=Z,7.8nm,1.0s,baz=122,slow=11,SNR=5.4						
TIXI	**Tiksi**	**55.39**	20	*eP*	**P**	15 25 00.9	-0.4
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ESDC	**Sonseca Array**	**58.16**	301	P	**P**	15 25 19.5	-2.1
	comp=Z,0.3nm,0.5s,baz=90,slow=3.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**61.49**	270	P	**P**	15 25 44.4	-0.4
	comp=Z,1.2nm,1.0s,baz=57,slow=5.7,SNR=4.7						
BILL	**Bilibino**	**68.25**	23	*eP*	**P**	15 26 31.4	+3.4
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TOLK	**Toolik Lake Re**	**80.36**	13	P	**P**	15 27 39.6	+1.0
WRA	**Warramunga Arr**	**81.24**	118	*i* P	**P**	15 27 47.7	+3.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**81.24**	118	P	**P**	15 27 45.2	+1.2
	comp=Z,0.8nm,0.8s,baz=314,slow=5.0,SNR=5.8						
COLD	**Coldfoot**	**81.44**	13	P	**P**	15 27 46.5	+2.1
ASAR	**Alice Springs**	**82.97**	121	P	**P**	15 27 55.0	+2.0
	comp=Z,0.8nm,0.8s,baz=309,slow=5.1,SNR=10						
ILAR	**Eielson Array**	**84.25**	14	P	**P**	15 27 58.5	-0.5
	comp=Z,0.5nm,0.9s,baz=320,slow=4.4,SNR=5.6						
YKA	**Yellowknife Ar**	**90.06**	0	P	**P**	15 28 27.7	+0.6
	comp=Z,0.7nm,0.8s,baz=350,slow=5.3,SNR=5.8						

WEL 20 15:43:45.1±0.9, **32°.S**±10°×**18°.0E**±2°.4, **h357**km±17km, **M3.9/22, mB4.4/9, MLv4.4/22, Mw(mB)3.6/9, Error ellipse: s-maj=0.0km s-min=0.0km az=109.9, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.45**	33	P	Pn	15 44 48.9	-0.3
GLKZ				S	S	15 45 41.2	+0.3
MXZ	**Matakaoa Point**	**5.54**	193	P	Pn	15 45 11.8	+1.0
MXZ				S	S	15 46 20.0	-0.4
KUZ	**Kuaotunu**	**5.72**	216	P	Pn	15 45 14.7	+1.8
WMGZ	**Waiomatatini S**	**5.77**	192	P	Pn	15 45 14.8	+1.4
WMGZ				S	S	15 46 26.8	+1.7
HAZ	**Te Kaha**	**5.84**	197	P	Pn	15 45 14.5	+0.3
HAZ				S	S	15 46 25.9	-0.6
PKGZ	**Pakihiroa**	**5.90**	194	P	Pn	15 45 16.2	+1.2
PUZ	**Puketiti**	**6.04**	192	P	Pn	15 45 17.2	+0.7
RUGZ	**Raukumara Rang**	**6.07**	197	P	Pn	15 45 17.1	+0.2
OPRZ	**Ohinepanea**	**6.29**	205	P	Pn	15 45 20.7	+1.4
MWZ	**Matawai**	**6.45**	197	P	Pn	15 45 21.3	+0.1
CNAZ	**Carnagh Statio**	**6.45**	192	P	Pn	15 45 22.4	+1.3
TKGZ	**Te Karaka**	**6.48**	194	P	Pn	15 45 21.7	+0.2
URZ	**Urewera**	**6.49**	200	P	Pn	15 45 19.5	-2.1
TOZ	**Tahuroa Road**	**6.62**	212	P	P	15 45 24.3	-0.1
RIGZ	**Rimuhau**	**6.75**	194	P	Pn	15 45 24.7	0.0
MUGZ	**Murupara**	**6.80**	201	P	Pn	15 45 22.9	-2.2
RTZ	**Ruatahuna**	**6.86**	200	P	Pn	15 45 25.6	-0.4
SNGZ	**Shannon Statio**	**6.92**	197	P	Pn	15 45 27.0	+0.4
PRGZ	**Paritu Road**	**6.94**	193	P	P	15 45 27.9	-0.2
KNZ	**Kokohu**	**7.08**	194	P	Pn	15 45 28.5	+0.2
TLZ	**Tolley Road**	**7.11**	209	P	Pn	15 45 29.5	+0.7
RAHZ	**Arahi**	**7.11**	198	P	Pn	15 45 28.3	-0.5
MTHZ	**Maungataniwha**	**7.12**	200	P	Pn	15 45 28.2	-0.8
MHGZ	**Mahia Peninsul**	**7.16**	193	P	P	15 45 30.4	-0.3
WHHZ	**Waihua**	**7.23**	197	P	Pn	15 45 30.2	0.0
MRHZ	**Matea Rd**	**7.23**	202	P	Pn	15 45 28.4	-1.9
ARHZ	**Aropaoanui**	**7.46**	198	P	Pn	15 45 32.3	-0.6
BKZ	**Black Stump Fm**	**7.51**	201	P	Pn	15 45 31.8	-1.8
HIZ	**Hauiti**	**7.55**	212	P	Pn	15 45 34.0	0.0
CKHZ	**Cape Kidnapper**	**7.82**	196	P	Pn	15 45 36.2	-0.8
BHHZ	**Black Hill Sta**	**7.94**	202	P	Pn	15 45 35.8	-2.8
KRHZ	**Kereru**	**7.99**	200	P	Pn	15 45 35.6	-3.5
KAHZ	**Kahuranaki**	**8.00**	197	P	Pn	15 45 37.9	-1.3
PXZ	**Pawanui**	**8.22**	197	P	Pn	15 45 39.2	-2.6

ISCJB ***20*** *16:06:56.9±0.5, 5°.90N±0°.03×126°.57E±0°.06, h94km±6km, mb4.1/11, Error ellipse: s-maj=9.8km s-min=4.7km az=164.8*

MAN ***20*** *16:06:56.8, 5°.82N×126°.56E, h33km, MS3.8*

IDC ***20*** *16:06:58.3±1.4, 6°.01N×126°.67E, h98km±12km, mb3.9/11, mb1 4.1/13, mb1mx3.8/43, mbtmp4.3/13, MS3.8/1, Ms1 3.8/1, ms1mx2.9/40, Error ellipse: s-maj=38.7km s-min=9.1km az=65.0*

DJA ***20*** *16:06:58.8±0.4, 6°N±3°×12°7E±°, h73km±5km, M4.5/15, mB5.0/6, mb4.6/15, MLv4.6/7, Mw(mB)4.4/6*

ISC 20 16:06:57.9±0.8, **5.86N**±0°.05×**126.45E**±0°.07, **h91**km±8km, **n42, σ1.975/50, mb4.3/11, 2C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.78**	288	P	**Pn**	16 07 13.7	-1.6
DD

NIED ***20*** *16:10:00.36˚.00N×140˚.20E.h65km.Mw5.2 Best double couple: M₀8.01000×10¹⁶ NP1:φ=197.00000°,δ31.00000°,λ108.00000°. NP2:φ=356.00000°,δ61.00000°,λ79.00000°.*
BJI ***20*** *16:10:40.6±0.0,35˚.79N×140˚.47E,h70km,mb5.3/71, mB5.2/50,Ms4.7/71,Ms7 4.5/67*
ISCJB ***20*** *16:10:45.6±0.2,35˚.80N±0˚.01×140˚.08E±0˚.02,h76km±1km, mb5.4/211,Error ellipse: s-maj=2.8km s-min=2.2km az=40.7*
NEIC ***20*** *16:10:46.9±1.7,35˚.87N±0˚.06×140˚.06E±0˚.08,h73km±4km, mb5.3/184*
JMA ***20*** *16:10:46.4±0.1,35˚.93N×140˚.14E,h62km±1km,M5.2 Broadband fault plane solution: P waves. NP1: φ=358.00000°,δ69.00000°,λ85.00000°. NP2: φ=193.00000°,δ21.00000°,λ104.00000°. Principal axes: T Plg65.0000°, Azm259.0000°; N Plg5.0000°, Azm360.0000°; P Plg24.0000°, Azm92.0000°;*
JMA Felt IV J1.
MOS ***20*** *16:10:46.0±1.0,35˚.88N×140˚.00E,h77km,mb5.7/85, MS4.3/10 Error ellipse: s-maj=7.3km s-min=4.0km az=121.6*
GCMT ***20*** *16:10:47.9±0.1,35˚.85N±0˚.01×140˚.19E±0˚.01,h62km, MW5.3/139,Moment Tensor Solution. s106,c166; s139,c238; Duration: 18.0 Moment tensor: Scale 10¹⁷ Nm; Mrr=0.76±.02; Mθθ=0.07±.01; Mφφ=-0.82±.01; Mrθ=-0.21±.01; Mrφ=-0.19±.01; Mθφ=0.48±.01; Best double couple: M₀0.97100×10¹⁷ NP1:φ=353.00000°,δ61.00000°, λ70.00000°. NP2:φ=210.00000°,δ34.00000°,λ122.00000°. Principal axes: T 0.9640, Plg67.0000°, Azm225.0000°; N 0.0130, Plg17.0000°, Azm3.0000°; P -0.9770, Plg14.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***20*** *16:10:47.1±1.3,35˚.86N×140˚.08E,h75km±10km,mb4.8/29, mb1 4.9/31,mb1mx4.9/35,mbtmp5.1/31,MS4.1/39, Ms1 4.1/39,ms1mx4.1/51 Error ellipse: s-maj=11.2km s-min=9.8km az=96.0*
ISC 20 16:10:45.7±0.4,35°.89N±0°.03×140°.15E±0°.03,h67km±3km, h67km:pP-P,n1035,σ1931/1091,mb5.4/278,101C-67D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.32**	**75**	⇑P			**Pn**	**16 10 57.2**	**+0.6**
JSMT	**Sammumatsuo**	**0.34**	**135**	⇑P			**Pn**	**16 10 57.9**	**+1.1**
JYT	**Yasato**	**0.34**	**6**	⇑P			**Pn**	**16 10 56.8**	**-0.1**
JYT				S			**Sn**	**16 11 04.5**	**-0.5**
TOK	**Tokyo**	**0.38**	**238**	⇓P			**Pn**	**16 10 58.8**	**+1.8**
JHYU	**Hitachinakayam**	**0.58**	**38**	⇑P			**Pn**	**16 10 58.8**	**-0.2**
JKUC	**kamogawauchiur**	**0.72**	**177**	P			**Pn**	**16 11 01.4**	**+0.7**
JAG	**Ashikaga**	**0.78**	**314**	⇓P			**Pn**	**16 11 01.7**	**+0.4**
JAG				S			**Sn**	**16 11 12.8**	**-0.1**
JHO	**Hitachi**	**0.80**	**25**	⇑P			**Pn**	**16 11 01.3**	**-0.3**
JSGW	**Sagamiharawaka**	**0.82**	**250**	⇓P			**Pn**	**16 11 02.5**	**+0.8**
JRY	**Ryogami san**	**1.02**	**278**	⇓P			**Pn**	**16 11 05.1**	**+0.8**
JOD2	**Odawara 2**	**1.06**	**235**	⇓P			**Pn**	**16 11 05.3**	**+0.4**
JOD2				S			**Sn**	**16 11 18.8**	**-0.3**
JSB	**Shiboa**	**1.10**	**350**	⇓P			**Pn**	**16 11 05.8**	**+0.5**
BSO3	**Boso 3**	**1.12**	**165**	⇓P			**Pn**	**16 11 06.0**	**+0.7**
JKT	**Katashina**	**1.14**	**321**	⇓P			**Pn**	**16 11 06.3**	**+0.4**
JKT				S			**Sn**	**16 11 21.1**	**+0.1**
AJI	**Ajiro2**	**1.20**	**226**	⇓P			**Pn**	**16 11 06.9**	**+0.3**
JFFD	**Fukushimafurud**	**1.25**	**15**	⇑P			**Pn**	**16 11 07.3**	**+0.1**
JIM2	**Oshima 3**	**1.30**	**207**	P			**Pn**	**16 11 07.6**	**-0.4**
JIM2				S			**Sn**	**16 11 24.5**	**-0.2**
JHTM	**Izuhatsuma**	**1.31**	**226**	⇓P			**Pn**	**16 11 08.3**	**+0.2**
JYN	**Shimob**	**1.36**	**254**	⇓P			**Pn**	**16 11 09.7**	**+0.9**
JYN				S			**Sn**	**16 11 27.1**	**+1.0**
JFNN	**Fujinakano**	**1.38**	**240**	⇓P			**Pn**	**16 11 09.6**	**+0.7**
JFNN				S			**Sn**	**16 11 26.5**	**+0.1**
JGK	**Kuni**	**1.40**	**299**	⇓P			**Pn**	**16 11 09.4**	**+0.2**
BSO1	**Boso 1**	**1.40**	**151**	P			**Pn**	**16 11 09.3**	**+0.6**
JFY	**Yanaizu**	**1.56**	**347**	⇓P			**Pn**	**16 11 12.1**	**+0.7**
JIZS	**Izushimoda**	**1.56**	**222**	⇓P			**Pn**	**16 11 11.6**	**+0.2**
JNT	**Takato**	**1.63**	**270**	⇓P			**Pn**	**16 11 14.3**	**+1.9**
JFT	**Otama**	**1.64**	**5**	⇑P			**Pn**	**16 11 13.0**	**+0.6**
JHK	**Hiroka**	**1.64**	**327**	⇓P			**Pn**	**16 11 13.3**	**+0.9**
MJAR	**Matsushiro Arr** 311nm,0.3s,baz=98,slow=11	**1.70**	**293**	P			**Pn**	**16 11 13.1**	**-0.2**
MJAR	121nm,0.3s,baz=282,slow=31,SNR=3.1			S			**Sn**	**16 11 35.5**	**+1.4**
MJAR	comp=Z,9μm,20.8s,baz=140,slow=48			LR			LR	16 12 04.8	
MAJO	**Matsushiro**	**1.70**	**293**	*i*P			**Pn**	**16 11 14.3**	**+1.0**
MAJO	**Matsushiro**	**1.70**	**293**				**Pn**	**16 11 14.2**	**+0.9**
MAT	**Matsushiro**	**1.70**	**293**	P			**Pn**	**16 11 13.7**	**+0.4**
MAT				S			**Sn**	**16 11 36.2**	**+2.1**
MAT	**Matsushiro**	**1.70**	**293**	P			**Pn**	**16 11 13.7**	**+0.4**
MJB9	**Matsu-Tunnel**	**1.71**	**293**				**Pn**	**16 11 14.2**	**+0.9**
JMST	**Minamisoumatoc**	**1.93**	**18**	⇑P			**Pn**	**16 11 16.7**	**+0.4**
JNY	**Yasuok**	**1.94**	**255**	⇓P			**Pn**	**16 11 18.3**	**+1.8**
JIZZ	**Izumozaki**	**2.01**	**325**	⇓P			**Pn**	**16 11 19.3**	**+1.9**
JJN	**Nakama**	**2.01**	**308**	⇓P			**Pn**	**16 11 19.0**	**+1.6**
JNS	**Sasagawa**	**2.04**	**341**	⇓P			**Pn**	**16 11 18.7**	**+0.9**
JMM	**Marumori**	**2.04**	**14**	⇑P			**Pn**	**16 11 18.5**	**+0.7**
JYZW	**Yoshizawa**	**2.16**	**246**	P			**Pn**	**16 11 20.9**	**+1.5**
HMMJ	**Hamamatsu 2**	**2.23**	**243**	⇓P			**Pn**	**16 11 21.8**	**+1.4**
JGF	**Kuroka**	**2.29**	**264**	⇓P			**Pn**	**16 11 23.2**	**+2.0**
JGN	**Niukaw**	**2.32**	**279**	⇓P			**Pn**	**16 11 23.7**	**+2.0**
JSSY	**Shinshiroyabe**	**2.37**	**247**	⇓P			**Pn**	**16 11 23.5**	**+1.3**
JTT	**Ttatey**	**2.39**	**288**	⇓P			**Pn**	**16 11 24.6**	**+2.1**
JAO	**Obara**	**2.44**	**256**	⇓P			**Pn**	**16 11 24.8**	**+1.6**
INU	**Inuyama**	**2.61**	**259**				**Pn**	**16 11 26.9**	**+1.5**
JSD	**Sado**	**2.63**	**325**	⇓P			**Pn**	**16 11 26.6**	**+0.9**
JIO	**Ouri**	**2.74**	**20**	⇓P			**Pn**	**16 11 27.6**	**+0.4**
JIO				S			**Sn**	**16 11 59.7**	**+0.5**
JOFO	**Osakifurukawao**	**2.78**	**12**	⇓P			**Pn**	**16 11 29.5**	**+1.7**
JHJ2	**Mitsune**	**2.78**	**186**				**Pn**	**16 11 28.8**	**+1.0**
JYTA	**Yamagatataniai**	**2.79**	**265**	⇓P			**Pn**	**16 11 29.8**	**+1.8**
JJH	**Hakui**	**2.91**	**292**	⇓P			**Pn**	**16 11 31.3**	**+1.8**
JKMT	**Kesennumamotoy**	**3.10**	**19**	P			**Pn**	**16 11 32.6**	**+0.4**
JKG	**Kaga**	**3.12**	**278**	⇓P			**Pn**	**16 11 34.6**	**+2.2**
JRG	**Rokugo**	**3.53**	**6**	⇓P			**Pn**	**16 11 40.2**	**+2.2**
JOM	**Ohasama**	**3.69**	**14**	⇓P			**Pn**	**16 11 41.4**	**+1.1**
JAH	**Hinai**	**4.31**	**5**	⇓P			**Pn**	**16 11 50.7**	**+2.0**
JNTW	**Noshirotokiwa**	**4.38**	**0**	P			**Pn**	**16 11 52.1**	**+2.5**
JANG	**Nango**	**4.61**	**13**	P			**Pn**	**16 11 52.9**	**+0.1**
ERM	**Erimo**	**6.55**	**20**	*ce*P			**Pn**	**16 12 17.9**	**-1.4**
ERM	comp=Z,277nm,1.3s				pmax	pmax			
ERM	**Erimo**	**6.55**	**20**				**Pn**	**16 12 18.5**	**-0.8**
JNU	**Nakatsue**	**8.13**	**253**	P			**Pn**	**16 12 42.8**	**+1.7**
JNU	comp=Z,14nm,0.3s,baz=37,slow=5.1,SNR=92			LR			LR	16 16 12.2	
JNU	comp=Z,5μm,18.9s,baz=66,slow=40 **Nakatsue**	**8.13**	**253**				**Pn**	**16 12 43.4**	**+2.4**
ASAJ	**Asahikawa**	**8.43**	**12**	P			**Pn**	**16 12 43.5**	**-1.5**
ASAJ	comp=Z,27nm,0.3s,baz=215,slow=12,SNR=213			S			**Sn**	**16 14 14.3**	**-4.3**
ASAJ	comp=Z,9.7nm,0.3s,baz=20,slow=23,SNR=2.2			LR			LR	16 16 37.1	
JKA	comp=Z,848nm,22.0s,baz=6.5,slow=41 **Kamikawa-asahi**	**8.43**	**12**				**Pn**	**16 12 43.5**	**-1.5**
JKA							**Sn**	**16 14 14.3**	**-4.3**
JTZ	**Takazaki**	**8.52**	**245**	P			**Pn**	**16 12 48.7**	**+2.5**
NMR	**Nemuro--Hokkai**	**8.62**	**28**	*e*P			**Pn**	**16 12 43.8**	**-3.8**
GLVR	**Golovnino**	**8.86**	**26**	*e*P			**Pn**	**16 12 47.3**	**-3.6**
GLVR	comp=Z,399nm,0.8s				pmax	pmax			
JCJ	**Chichijima**	**8.93**	**168**	P			**Pn**	**16 12 49.3**	**-2.7**
JCJ	comp=Z,59nm,0.3s,baz=275,slow=22,SNR=6.3			S			Sn	16 14 19.9	-11
GRPR	comp=Z,37nm,0.3s,baz=245,slow=21,SNR=2.1 **Tuman**	**9.17**	**26**	*e*P			**Pn**	**16 12 52.5**	**-2.7**
GRPR	comp=Z,225nm,0.3s				pmax	pmax			
YUK	**Yuzh-Kuril'sk**	**9.24**	**27**	*e*P			**Pn**	**16 12 52.8**	**-3.3**
YUK	comp=Z,272nm,0.3s				pmax	pmax			
YUK	comp=N,57nm,0.2s				pmax	pmax			
YUK	comp=E,119nm,0.3s				pmax	pmax			
YUK	comp=Z,714nm,1.3s				pmax	pmax			
TEY	**Ternei**	**9.53**	**345**	⇑*e*P			Pn	16 13 05.6	+5.6
TEY	comp=Z,50nm,0.7s				pmax	pmax			
TEY	comp=N,60nm,0.7s				pmax	pmax			
TEY	comp=E,40nm,0.7s				pmax	pmax			
VLA	**Vladivostok**	**9.64**	**321**	*i*P			**Pn**	**16 13 04.6**	**+3.1**
KSRS	**Korea Array**	**9.95**	**283**	P			**Pn**	**16 13 09.2**	**+3.5**
KSRS	comp=E,12nm,0.3s,baz=99,slow=14,SNR=156			LR			LR	16 16 50.4	
KSRS	comp=E,3μm,20.3s,baz=113,slow=37			PcP			**PcP**	**16 19 13.0**	**+0.7**
KS19	comp=E,0.2nm,0.3s,baz=198,slow=1.0,SNR=5.9 **Wonju Array Si**	**9.99**	**283**				**Pn**	**16 13 10.1**	**+3.7**
TJN	**Taejon**	**10.35**	**276**	*ce*P			**Pn**	**16 13 13.1**	**+1.8**
USA0B	**Ussuriysk Arra**	**10.39**	**326**	P			**Pn**	**16 13 14.8**	**+3.0**
USA0B	**Ussuriysk Arra**	**10.39**	**326**				**Pn**	**16 13 14.8**	**+3.0**
USRK	**Ussuriysk Ar.** baz=142,slow=12,SNR=94	**10.39**	**326**	P			**Pn**	**16 13 14.3**	**+2.6**
USRK	comp=E,587nm,18.4s,baz=127,slow=35			LR			LR	16 16 53.7	
INCN	**Inchon**	**10.97**	**282**	P			**Pn**	**16 13 20.6**	**+0.8**
INCN	**Inchon**	**10.97**	**282**				**Pn**	**16 13 20.6**	**+0.8**
KUR	**Kuril'sk**	**11.02**	**30**	*c*P			**Pn**	**16 13 18.6**	**-1.8**
KUR	comp=Z,1μm,5.4s				pmax	pmax			
KUR	comp=Z,124nm,0.5s				pmax	pmax			
KUR	comp=N,22nm,0.3s				pmax	pmax			
KUR	comp=E,36nm,0.3s				pmax	pmax			
KUR	comp=Z,1μm,9.0s				MLR	MLR			
KUR	comp=N,2μm,7.0s				MLR	MLR			
KUR	comp=E,1μm,5.0s				MLR	MLR			
YSS	**Yuzh-Sakhalins**	**11.23**	**9**	*e*P			**Pn**	**16 13 21.9**	**-1.2**
YSS				*e*S			**Sn**	**16 15 23.9**	**-3.0**
YSS	comp=Z,60nm,0.6s				pmax	pmax			
YSS	comp=Z,1μm,16.0s				MLR	MLR			
YSS	comp=N,800nm,12.0s				MLR	MLR			
YSS	**Yuzh-Sakhalins**	**11.23**	**9**				**Pn**	**16 13 22.0**	**-1.2**
MDJ	**Mudanjiang**	**11.87**	**320**	P			**Pn**	**16 13 34.6**	**+2.7**
MDJ				S			Sn	16 15 51.9	+9.3
MDJ	comp=N,63nm,1.0s				pmax	pmax			
MDJ	comp=N,1μm,5.0s				pmax	pmax			
MDJ	**Mudanjiang**	**11.87**	**320**				**Pn**	**16 13 34.2**	**+2.2**
JOW	**Kunigami**	**13.57**	**232**	P			**P**	**16 13 58.9**	**-3.0**
JOW	comp=N,0.6nm,0.3s,baz=112,slow=15,SNR=3.2 **Kunigami**	**13.57**	**232**	P			**Pn**	**16 13 57.9**	**+2.8**
CN2	**Changchun**	**13.77**	**309**	*e*P			**Pn**	**16 13 58.8**	**+1.1**
CN2				*e*S			**Sn**	**16 16 29.8**	**+0.9**
CN2	comp=N,20nm,1.0s				pmax	pmax			
CN2	comp=N,1μm,12.0s				LR	LR			
CN2	comp=N,1μm,12.0s				LR	LR			
CN2	comp=N,850nm,12.0s				LR	LR			
KLR	**Kulʲdur** comp=N,2.3nm,0.3s,baz=136,slow=12,SNR=35	**14.69**	**338**	P			**Pn**	**16 14 08.8**	**-0.8**
DL2	**Dalian**	**15.03**	**287**	P			**P**	**16 14 17.3**	**-0.7**
DL2				sP			**sP**	**16 14 38.3**	**-2.0**
DL2				S			**Sn**	**16 17 05.9**	**+6.5**
DL2	comp=N,260nm,0.9s				pmax	pmax			
DL2	comp=N,1μm,4.7s				LR	LR			
DL2	comp=N,970nm,9.8s				LR	LR			
DL2	comp=N,2μm,10.2s				LR	LR			
DL2	comp=N,2μm,18.2s				LR	LR			
TYV	**Tymovskoe**	**15.08**	**6**	*e*P			**P**	**16 14 19.7**	**+1.2**
TYV				*e*S			**S**	**16 17 11.3**	**-2.8**
TYV	comp=Z,700nm,4.9s				pmax	pmax			
TYV	comp=Z,35nm,1.1s				pmax	pmax			
TYV	comp=E,24nm,1.3s				smax	smax			
TYV	comp=E,2μm,7.6s				smax	smax			
GRNR	**Gornyy**	**15.12**	**351**	⇓*i*P			**Pn**	**16 14 12.1**	**-3.1**
GRNR				*e*S			**Sn**	**16 16 56.5**	**-5.0**
GRNR	comp=Z,10.0nm,0.7s				pmax	pmax			
GRNR	comp=N,10.0nm,1.0s				smax	smax			
GRNR	comp=Z,460nm,13.0s				MLR	MLR			
SSE	**Sheshan**	**16.52**	**259**	P			**P**	**16 14 35.0**	**+0.4**
SSE				S			**S**	**16 17 41.0**	**-2.9**
SSE	comp=Z,47nm,0.7s				pmax	pmax			
SSE	comp=Z,370nm,5.2s				pmax	pmax			
SSE	comp=Z,780nm,15.5s				LR	LR			
SSE	comp=Z,510nm,15.8s				LR	LR			
NJ2	**Nanjing**	**18.07**	**264**	*e*P			**P**	**16 14 51.6**	**0.0**
NJ2	comp=Z,58nm,0.6s				pmax	pmax			
NJ2	comp=Z,1μm,9.5s				pmax	pmax			
NJ2	comp=Z,800nm,9.5s				LR	LR			
NJ2	comp=Z,1μm,15.6s				LR	LR			
NJ2	comp=Z,1μm,15.6s				LR	LR			
TIA	**Tai'an**	**18.62**	**278**	P			**P**	**16 14 56.8**	**-0.9**
TIA				PP			**sP**	**16 15 22.8**	**+2.6**
TIA	comp=Z,65nm,1.3s				pmax	pmax			
TIA	comp=Z,600nm,5.1s				pmax	pmax			
TIA	comp=Z,690nm,14.3s				LR	LR			
TIA	comp=Z,2μm,14.3s				LR	LR			
TIA	comp=Z,2μm,14.5s				LR	LR			
SKR	**Severo-Kuril's**	**18.75**	**33**	*e*P			Pn	16 15 11.0	+11
SKR				*e*S			**Sn**	**16 18 30.4**	**+1.3**
SKR	comp=Z,93nm,0.8s				pmax	pmax			
SKR	comp=Z,600nm,5.3s				pmax	pmax			
SKR	comp=Z,300nm,5.8s				pmax	pmax			
SKR	comp=Z,500nm,22.0s				MLR	MLR			
SKR	comp=N,1μm,19.0s				MLR	MLR			
BJI	**Beijing**	**19.34**	**290**	P			**P**	**16 15 04.3**	**-1.2**
BJI				S			**S**	**16 18 36.3**	**-4.4**
BJI	comp=N,87nm,1.1s				pmax	pmax			
BJI	comp=N,470nm,23.0s				LR	LR			
BJI	comp=N,870nm,34.3s				LR	LR			
BJI	comp=N,1μm,33.8s				LR	LR			
BJT	**Baijiatuau**	**19.34**	**290**	P			**P**	**16 15 04.1**	**-1.4**
BJT	comp=Z,97nm,0.9s				pmax	pmax			
BJT	**Baijiatuau**	**19.34**	**290**	P			**P**	**16 15 04.1**	**-1.4**
BJT	comp=Z,97nm,0.9s				IAmb	IAmb		16 15 13.0	
TATO	**Taipei**	**19.39**	**241**	P			**P**	**16 15 03.7**	**-2.5**
TATO	comp=Z,216nm,1.2s				IAmb	IAmb		16 15 19.6	
YHNB	**Yeheng**	**19.66**	**241**	P			**P**	**16 15 08.8**	**-0.4**
YHNB	comp=Z,68nm,0.7s				IAmb	IAmb		16 15 12.1	
SARN	**Sarigan**	**19.75**	**164**	P			**P**	**16 15 06.2**	**-4.1**
SARN	comp=Z,83nm,0.8s				IAmb	IAmb		16 15 25.0	
NACB	**Ninganchiao**	**19.82**	**239**	P			**P**	**16 15 08.5**	**-2.4**
NACB	comp=Z,126nm,1.2s				IAmb	IAmb		16 15 12.4	
ZEA	**Zeya**	**20.00**	**337**	*e*P			**P**	**16 15 09.0**	**-3.6**
ZEA				*e*S			**S**	**16 18 54.0**	**+0.3**
ZEA	comp=N,100nm,0.8s				pmax	pmax			
ZEA	comp=E,52nm,0.8s				pmax	pmax			
ZEA	comp=Z,170nm,0.8s				pmax	pmax			
ZEA	comp=N,900nm,7.0s				smax	smax			
ZEA	comp=N,600nm,14.0s				MLR	MLR			
ZEA	comp=Z,700nm,14.0s				MLR	MLR			
HIA	**Hailar**	**20.03**	**318**	P			**P**	**16 15 10.3**	**-2.7**
HIA	comp=Z,57nm,1.1s				pmax	pmax			
HIA	**Hailar**	**20.03**	**318**	P			**P**	**16 15 10.3**	**-2.7**
SSLB	**Suanglung**	**20.52**	**239**	P			**P**	**16 15 15.4**	**-3.0**
SSLB	comp=Z,103nm,1.1s				IAmb	IAmb		16 15 22.3	
YULB	**Yu-li**	**20.54**	**238**	P			**P**	**16 15 15.7**	**-2.9**
TPUB	**Ta-pu**	**21.06**	**239**	P			**P**	**16 15 22.0**	**-2.3**
TPUB	comp=Z,153nm,0.7s				IAmb	IAmb		16 15 28.4	
TWG	**Pinlang**	**21.07**	**237**	P			**P**	**16 15 22.3**	**-2.0**
PETK	**Petropavlovsk-** comp=Z,13nm,0.9s,baz=211,slow=7.2,SNR=16	**21.19**	**30**	P			**P**	**16 15 26.6**	**+1.2**
PETK	comp=Z,459nm,21.2s,baz=226,slow=35			LR			LR	16 23 09.7	
QZH	**Quanzhou**	**21.51**	**245**	⇑*i*P			**P**	**16 15 26.4**	**-2.6**
QZH	comp=Z,100nm,0.9s				pmax	pmax			
PET	**Petropavlovsk**	**21.53**	**31**	*e*P			**P**	**16 15 30.3**	**+1.3**
PET				*e*S			**S**	**16 19 18.7**	**-5.1**
PET	comp=Z,86nm,1.2s				pmax	pmax			
PET	comp=Z,1μm,19.0s				MLR	MLR			
PET	comp=Z,900nm,18.0s				MLR	MLR			
WHN	**Wuhan**	**22.20**	**264**	⇓*i*P			**P**	**16 15 35.5**	**-1.0**
WHN	comp=Z,960nm,5.0s				LR	LR			
WHN	comp=Z,4μm,13.6s				LR	LR			
WHN	comp=Z,5μm,14.0s				LR	LR			
TIY	**Taiyuan**	**22.24**	**283**	*e*P			**P**	**16 15 37.9**	**+1.0**
TIY				S			**S**	**16 19 33.0**	**-4.6**
TIY	comp=Z,320nm,5.0s				pmax	pmax			
TIY	comp=Z,520nm,14.3s				LR	LR			
TIY	comp=Z,1μm,17.3s				LR	LR			
TIY	comp=Z,1μm,14.5s				LR	LR			
GUMO	**Guam**	**22.60**	**168**	P			**P**	**16 15 41.4**	**+0.6**
GUMO	comp=Z,318nm,1.1s				pmax	pmax			
GUMO	**Guam**	**22.60**	**168**	P			**P**	**16 15 41.4**	**+0.6**
HHC	comp=Z,152nm,0.8s,baz=181,slow=12,SNR=4.6 **Hu-ho-hao-te**	**22.90**	**291**	*i*P			**P**	**16 15 41.9**	**-2.0**
HHC				PP			**PnPn**	**16 16 13.3**	**+2.2**
HHC				S			**S**	**16 19 42.3**	**-6.3**
HHC	comp=Z,18nm,0.8s				pmax	pmax			
BTO	**Baotou**	**24.06**	**290**	*e*P			**P**	**16 15 50.8**	**-3.9**
MA2	**Magadan**	**24.69**	**13**	P			**P**	**16 16 01.7**	**+1.6**
MA2	comp=Z,59nm,0.8s				pmax	pmax			
MA2	**Magadan** comp=Z,38nm,0.6s,baz=198,slow=9.5,SNR=22	**24.69**	**13**	P			**P**	**16 16 00.8**	**+0.7**
MA2	**Magadan**	**24.69**	**13**	P			**P**	**16 16 01.7**	**+1.6**
MA2	comp=Z,59nm,0.8s				IAmb	IAmb		16 16 08.4	
CIT	**Chita**	**24.84**	**319**	*e*P			**P**	**16 15 59.2**	**-2.4**
CIT				*e*				16 16 16.0	
CIT				*e*				16 16 21.5	
CIT				*e*				16 16 40.4	
CIT				*e*				16 16 55.1	
CIT	comp=Z,83nm,1.0s				pmax	pmax			
XAN	**Xi'an**	**25.61**	**275**	P			**P**	**16 16 07.5**	**-1.2**
XAN				S			**S**	**16 20 30.5**	**-1.5**
XAN	comp=Z,110nm,0.7s				pmax	pmax			
XAN	comp=Z,720nm,19.5s				LR	LR			
XAN	comp=Z,520nm,20.6s				LR	LR			
XAN	comp=Z,1μm,28.2s				LR	LR			
XAN	**Xi'an**	**25.61**	**275**	P			**P**	**16 16 07.8**	**-0.9**
XAN	comp=Z,83nm,0.6s				pmax	pmax			
XAN	**Xi'an**	**25.61**	**275**	P			**P**	**16 16 07.8**	**-0.9**
XAN	comp=Z,83nm,0.6s				IAmb	IAmb		16 16 10.6	
ENH	**Enshi**	**26.23**	**267**	P			**P**	**16 16 13.6**	**-0.8**
ENH							**PcP**	**16 19 40.3**	**+0.8**
HKPS	**Hong Kong Po S**	**26.37**	**246**	P			**P**	**16 16 13.9**	**-1.8**
HKPS	comp=Z,105nm,0.8s				IAmb	IAmb		16 16 18.2	
YAK	**Yakutsk**	**26.98**	**349**	*e*P			**P**	**16 16 19.1**	**-1.7**
YAK				*e**PP			**pP**	**16 16 33.7**	**-3.1**
YAK				*e*				16 17 05.0	
YAK				*e*				16 19 38.7	
YAK				*e*S			**S**	**16 20 53.4**	**+0.4**
YAK				*e*SS			SnSn	16 22 25.6	+21
YAK				*e*				16 26 59.6	
YAK	comp=Z,86nm,1.0s				pmax	pmax			
YAK	comp=N,55nm,1.3s				pmax	pmax			
YAK	comp=E,22nm,1.1s				pmax	pmax			
YAK	comp=Z,196nm,3.0s				pmax	pmax			
YAK	comp=N,169nm,2.8s				pmax	pmax			
YAK	comp=E,198nm,3.2s				smax	smax			
YAK	comp=N,145nm,1.9s				smax	smax			
YAK	comp=E,150nm,1.8s **Yakutsk**	**26.98**	**349**	P			**P**	**16 16 20.6**	**-0.1**
YAK	comp=E,46nm,0.5s,baz=170,slow=1.9,SNR=18			PcP			**PcP**	**16 19 41.3**	**+0.7**
YAK	comp=E,19nm,0.7s,baz=218,slow=0.7,SNR=4.6 **Yakutsk**	**26.98**	**349**	P			**P**	**16 16 20.7**	**-0.1**
YAK	comp=Z,81nm,0.7s				IAmb	IAmb		16 16 23.9	
ULN	**Ulaanbaatar**	**27.18**	**306**	*ce*P			**P**	**16 16 22.2**	**-0.7**
ULN	comp=Z,9.0nm,0.8s				pmax	pmax			
ULN	**Ulaanbaatar**	**27.18**	**306**	P			**P**	**16 16 22.2**	**-0.7**
LQP	**Lukban**	**27.37**	**222**	P			**P**	**16 16 17.7**	**-7.2**
SONM	**Songino Array** comp=Z,20nm,0.5s,baz=104,slow=9.1,SNR=51	**27.61**	**306**	P			**P**	**16 16 26.3**	**-0.4**
SONM				PcP			**PcP**	**16 19 43.4**	**+0.8**
SONM	comp=Z,4.6nm,0.7s,baz=116,slow=2.5,SNR=4.1			ScP			**ScP**	**16 23 17.3**	**-0.1**
BOAC	comp=Z,2.6nm,1.1s,baz=48,slow=2.2,SNR=5.1 **Boac**	**27.75**	**221**	P			**P**	**16 16 32.5**	**+4.5**
BOD	**Bodaibo**	**27.98**	**330**	*e*P			**P**	**16 16 28.9**	**-0.8**
BOD	comp=Z,52nm,1.3s				pmax	pmax			
SEY	**Seymchan**	**28.12**	**12**	*i*P			**P**	**16 16 32.9**	**+2.0**
SEY	**Seymchan** comp=Z,6.7nm,0.8s,baz=202,slow=9.5,SNR=8.7	**28.12**	**12**	P			**P**	**16 16 31.8**	**+0.9**
H11N2	**WAKE ISLAND Hy** baz=308,slow=75,SNR=88	**28.48**	**117**	T			T	16 46 35.7	
H11N1	**WAKE ISLAND Hy** baz=308,slow=75,SNR=99	**28.49**	**117**	T			T	16 47 05.1	
H11N3	**WAKE ISLAND Hy** baz=308,slow=75,SNR=66	**28.50**	**117**	T			T	16 46 45.7	
H11S1	**WAKE ISLAND Hy** baz=314,slow=75,SNR=103	**29.14**	**119**	T			T	16 47 40.9	

H11S3 WAKE ISLAND Hy 29.14 119 T T 16 47 49.6
baz=314,slow=75,SNR=81
H11S2 WAKE ISLAND Hy 29.15 119 T T 16 47 44.4
baz=314,slow=75,SNR=84
LZH Lanzhou 29.27 281 *e*P **P** **16 16 41.3 -0.4**
LZH pP pP 16 16 59.8 +2.0
LZH sP sP 16 17 10.0 +4.3
LZH SS SS 16 23 04.5 -32
LZH pmax pmax
comp=Z,61nm,1.1s
LZH pmax pmax
comp=Z,210nm,4.3s
LZH LR LR
comp=Z,890nm,11.9s
LZH LR LR
comp=Z,1µm,11.4s
LZH LR LR
comp=Z,1µm,13.0s
GYA Guiyang 30.03 261⇑ *i*P **P** **16 16 46.8 -1.6**
GYA S **S** **16 21 37.0 -4.9**
GYA pmax pmax
comp=Z,150nm,1.0s
GYA LR LR
comp=Z,440nm,12.8s
GYA LR LR
comp=Z,460nm,14.9s
GYA LR LR
comp=Z,770nm,14.3s
ZAK Zakamensk 30.21 310 *e*P **P** **16 16 49.0 -0.7**
ZAK *e* 16 19 48.4
ZAK pmax pmax
comp=Z,16nm,0.9s
ZAK pmax pmax
comp=Z,7.0nm,1.1s
TLY Talaya 30.34 313 *e*P **P** **16 16 52.1 +1.4**
TLY *e*S **S** **16 21 43.4 -2.7**
TLY pmax pmax
comp=Z,56nm,1.0s
TLY MLR MLR
comp=Z,1µm,14.0s
QIZ Qiongzhong 31.53 246 P **P** **16 17 01.3 -0.2**
QIZ S **S** **16 22 05.8 +0.6**
QIZ LR LR
comp=Z,560nm,17.2s
QIZ LR LR
comp=Z,570nm,13.2s
QIZ LR LR
comp=Z,670nm,21.1s
MOY Mondy 31.92 312 *e*P **P** **16 17 01.2 -3.6**
GTA Gaotai 31.94 289 *e*P **P** **16 17 04.5 -0.7**
GTA pP pP 16 17 19.4 -2.0
GTA sP sP 16 17 26.3 -3.0
GTA PcP **PcP** **16 19 55.1 +1.1**
GTA S **S** **16 22 14.5 +2.8**
GTA PcS **PcS** **16 23 39.3 +0.5**
GTA ScS **ScS** **16 27 28.6 -1.6**
GTA pmax pmax
comp=Z,15nm,0.8s
GTA pmax pmax
comp=Z,150nm,7.2s
GTA LR LR
comp=Z,350nm,21.3s
GTA LR LR
comp=Z,440nm,21.1s
GTA LR LR
comp=Z,560nm,21.8s
KMI Kunming 33.79 262 P **P** **16 17 20.3 -1.2**
KMI pP pP 16 17 38.4 +0.6
KMI sP sP 16 17 47.5 +1.8
KMI S **S** **16 22 38.1 -2.6**
KMI sS sS 16 23 05.1 -3.5
KMI pmax pmax
comp=Z,74nm,1.0s
KMI pmax pmax
comp=Z,300nm,4.2s
KMI LR LR
comp=Z,410nm,12.6s
KMI LR LR
comp=Z,660nm,15.9s
KMI LR LR
comp=Z,730nm,12.9s
KMI Kunming 33.79 262 P **P** **16 17 20.5 -1.0**
KMI pmax pmax
comp=Z,71nm,1.0s
KMI Kunming 33.79 262 P **P** **16 17 20.5 -1.0**
KMI IAmb IAmb 16 17 22.2
comp=Z,71nm,1.0s
BILL Bilibino 35.41 17*ce*P **P** **16 17 36.3 +1.5**
BILL pmax pmax
comp=Z,12nm,1.0s
BILL MLR MLR
comp=Z,553nm,25.0s
TIXI Tiksi 36.31 354*ce*P **P** **16 17 42.2 -0.2**
TIXI pmax pmax
comp=Z,6.0nm,0.7s
TIXI MLR MLR
comp=Z,377nm,18.0s
TIXI Tiksi 36.31 354 P **P** **16 17 42.0 -0.3**
comp=Z,7.1nm,0.4s,baz=360,slow=24,SNR=25
BAKI Biak 37.08 187 P **P** **16 17 49.5 0.0**
comp=Z,144nm,0.8s
NONG Nongkai 37.17 251 P **P** **16 17 50.1 -0.2**
comp=Z,4.9nm,0.9s
SKNT Sakolnakorn 37.19 249 P **P** **16 17 50.0 -0.4**
comp=Z,222nm,0.9s,comp=Z,2µm
DLV T Lat 37.21 238 P **P** **16 17 50.2 -0.7**
SWI Sorong 37.49 195 P **P** **16 17 52.1 -0.8**
comp=Z,58nm,1.0s
RKPI Ransiki, Papua 37.62 190 P **P** **16 17 52.8 -1.2**
comp=Z,112nm,0.8s
SMPI Sarmi 37.70 182 P **P** **16 17 54.7 0.0**
comp=Z,89nm,1.5s
LBMI Labuha 38.20 201 P **P** **16 17 58.8 -0.2**
comp=Z,122nm,0.6s
JAY Jayapura 38.20 179 P **P** **16 17 58.3 -0.7**
comp=Z,18nm,0.9s
KMSI Cibinong 38.21 207 P **P** **16 17 57.5 -1.6**
GENI Genyem 38.28 180 P **P** **16 17 59.1 -0.5**
comp=Z,83nm,1.1s
GTOI Gorontalo 38.52 208 P **P** **16 18 00.2 -1.4**
MRSI Marisa 39.09 210 P **P** **16 18 05.0 -1.4**
comp=Z,57nm,0.9s,comp=Z,620nm
PHRA Phrae 39.19 255 P **P** **16 18 07.0 -0.3**
comp=Z,7.6nm,1.1s
FAKI Fak Fak 39.30 193 P **P** **16 18 08.0 -0.2**
comp=Z,106nm,0.7s,comp=Z,1µm
FAKI Fak Fak 39.30 193 P **P** **16 18 06.4 -1.8**
CHAI Chaiyaphum 39.35 250 P **P** **16 18 07.7 -0.9**
comp=Z,684µm,0.8s
UTTA Uttaradit 39.37 253 P **P** **16 18 08.4 -0.3**
comp=Z,102µm,0.8s,comp=Z,674µm
LAMP Lampang 39.64 255 P **P** **16 18 10.9 -0.2**
comp=Z,67µm,1.1s,comp=Z,674µm
PBKT Sadao Pong 39.73 251 P **P** **16 18 11.3 -0.5**
comp=Z,66nm,1.2s,comp=Z,575nm
PBKT Sadao Pong 39.73 251 P **P** **16 18 11.2 -0.5**
SANI Sanana 39.99 202 P **P** **16 18 11.8 -2.1**
comp=Z,133nm,0.5s,comp=Z,1µm
CMMT Chiang Mai 40.02 256 P **P** **16 18 13.5 -0.7**
comp=Z,31nm,0.9s
CHTO Chiang Mai 40.02 256 P **P** **16 18 13.5 -0.7**
CHTO pmax pmax
comp=Z,39nm,0.8s
CHTO Chiang Mai 40.02 256 P **P** **16 18 13.5 -0.7**
CHTO IAmb IAmb 16 18 18.4
comp=Z,39nm,0.8s
MPSI Mapaga 40.07 213 P **P** **16 18 12.7 -1.9**
LUWI Luwuk 40.15 208 P **P** **16 18 14.0 -1.2**
comp=Z,83nm,0.8s,comp=Z,2µm
CM31 Chiang Mai Arr 40.22 256 P **P** **16 18 15.2 -0.7**
CM31 IAmb IAmb 16 18 18.0
comp=Z,17nm,0.7s
CMAR Chiang Mai Arr 40.22 256 P **P** **16 18 15.3 -0.5**
comp=Z,14nm,0.8s,baz=49,slow=6.1,SNR=52
CMAR PcP **PcP** **16 20 19.4 +0.6**
comp=Z,13nm,1.1s,baz=24,slow=2.5,SNR=12
CMAR LR LR 16 36 42.0
comp=Z,306nm,18.1s,baz=50,slow=39
MSAI Masohi 40.42 197 P **P** **16 18 18.0 +0.6**
comp=Z,19nm,0.7s,comp=Z,14µm
WMQ Urumqi 40.46 298 *e*P **P** **16 18 18.9 +1.2**
WMQ pP pP 16 18 36.8 +2.5
WMQ PcP **PcP** **16 20 19.9 +0.7**
WMQ pmax pmax
comp=Z,44nm,2.1s
WMQ pmax pmax
comp=Z,160nm,3.7s
WMQ LR LR
comp=Z,400nm,10.3s
WMQ LR LR
comp=Z,250nm,9.1s
WMQ LR LR
comp=Z,370nm,27.1s
WMQ Urumqi 40.46 298 P **P** **16 18 19.2 +1.6**
WMQ pmax pmax
comp=Z,54nm,0.8s
WMQ Urumqi 40.46 298 P **P** **16 18 19.2 +1.6**
WMQ IAmb IAmb 16 18 28.9
comp=Z,54nm,0.8s
APSI Ampana 40.47 209 P **P** **16 18 16.2 -1.6**
NLAI Namlea 40.79 200 P **P** **16 18 19.4 -1.1**
comp=Z,40nm,1.0s,comp=Z,12µm
AAI Ambon 40.93 198 P **P** **16 18 21.2 -0.4**
comp=Z,145nm,0.8s,comp=Z,1µm
MHMT Maesarieng 41.17 256 P **P** **16 18 24.0 +0.3**
comp=Z,53nm,1.0s,comp=Z,600nm
LSA Lhasa 41.30 276 P **P** **16 18 25.5 +0.3**
LSA Lhasa 41.30 276 P **P** **16 18 25.5 +0.3**
LSA Lhasa 41.30 276 P **P** **16 18 26.1 +0.9**
LSA pmax pmax
comp=Z,100nm,0.9s
LSA Lhasa 41.30 276 P **P** **16 18 26.1 +0.9**
BNDI Bandanaira 41.33 196 P **P** **16 18 24.7 -0.2**
comp=Z,439nm,0.9s
KRVT Keravat (AS076 41.50 162 LR LR 16 35 17.5
comp=Z,121nm,19.8s,baz=8.6,slow=35
UTHA Uthaitani 41.51 252 P **P** **16 18 26.6 +0.2**
comp=Z,39µm,0.6s,comp=Z,629µm
UMPA Umpang Tak 41.57 253 P **P** **16 18 28.2 +1.2**
comp=Z,93µm,1.2s,comp=Z,742µm
ZAA0 Zalesovo Array 41.95 313 P **P** **16 18 29.5 -0.1**
ZALV Zalesovo Beam 41.95 313 P **P** **16 18 29.6 0.0**
comp=Z,36nm,0.6s,baz=97,slow=6.4,SNR=135
ZALV PcP **PcP** **16 20 23.9 +0.1**
comp=Z,22nm,0.7s,baz=105,slow=3.2,SNR=5.9
ZALV ScP **ScP** **16 24 08.2 0.0**
comp=Z,3.2nm,0.8s,baz=122,slow=3.5,SNR=5.4
ZALV LR LR 16 36 17.0
comp=Z,228nm,18.4s,baz=86,slow=36
SMKI Samarinda 41.99 216 P **P** **16 18 28.8 -1.5**
PATY Pattaya 42.05 247 P **P** **16 18 31.4 +0.5**
comp=Z,229µm,0.8s
SHL Shillong 42.38 270 P **P** **16 18 32.5 -1.2**
SHL pmax pmax
comp=Z,61nm,0.6s
SHL Shillong 42.38 270 P **P** **16 18 32.5 -1.2**
SRDT SRDT 42.48 250 P **P** **16 18 34.2 -0.2**
comp=Z,55nm,1.0s,comp=Z,610nm
BKB Balikpapan 42.85 215 P **P** **16 18 35.2 -2.1**
comp=Z,157nm,0.8s
PHET Kaeng Krachan 42.99 248 P **P** **16 18 38.8 +0.3**
comp=Z,368µm,0.8s
TTSI Tana Toraja 43.15 210 P **P** **16 18 39.5 -0.2**
comp=Z,12nm,0.6s
MK31 Makanchi Array 43.88 303 P **P** **16 18 45.8 +0.4**
MK31 pmax pmax
comp=Z,74nm,0.9s
MK31 Makanchi Array 43.88 303 P **P** **16 18 45.8 +0.4**
MK31 IAmb IAmb 16 18 47.0
comp=Z,74nm,0.9s
MKAR Makanchi Array 43.88 303 P **P** **16 18 45.9 +0.5**
comp=Z,53nm,0.8s,baz=91,slow=10,SNR=208
MKAR LR LR 16 39 34.2
comp=Z,176nm,18.1s,baz=85,slow=39
NRIK Noril'sk 43.89 336 P **P** **16 18 45.1 +0.1**
comp=Z,9.0nm,0.5s,baz=129,slow=6.3,SNR=18
NRIK PcP **PcP** **16 20 31.1 +1.1**
comp=Z,30nm,0.9s,baz=165,slow=3.3,SNR=5.9
NRIK LR LR 16 38 31.3
comp=Z,371nm,19.6s,baz=109,slow=38
SPSI Sidrap Palu 44.00 210 P **P** **16 18 45.6 -0.9**
comp=Z,20nm,0.8s
KSM Kuching 44.02 226 P **P** **16 18 46.0 -0.8**
KSM IAmb IAmb 16 18 52.1
comp=Z,47nm,0.8s
MAKZ Makanchi 44.09 303 P **P** **16 18 47.6 +0.6**
MAKZ pmax pmax
comp=Z,86nm,0.9s
MAKZ Makanchi 44.09 303 P **P** **16 18 47.6 +0.6**
MMPI Merauke 44.11 180 P **P** **16 18 48.0 +0.6**
comp=Z,547nm,1.2s
BNSI Bone 44.26 209 P **P** **16 18 47.5 -1.1**
comp=Z,45nm,0.6s
TAPN Taplejung 45.01 274 *e*P **P** **16 18 55.2 +0.3**
comp=Z,76nm,0.4s
BKSI Bulukumba 45.09 209 P **P** **16 18 53.9 -1.4**
comp=Z,44nm,0.7s,comp=Z,479nm
ODAN Odare 45.47 274 *e*P **P** **16 18 58.4 -0.1**
comp=Z,35nm,0.4s
PMG Port Moresby 45.53 170*ce*P **P** **16 18 58.7 0.0**
PMG pmax pmax
comp=Z,99nm,0.9s
KURK Kurchatov 45.85 309*ce*P **P** **16 19 01.0 +0.1**
KURK pmax pmax
comp=Z,113nm,0.7s
KURK Kurchatov 45.85 309 P **P** **16 19 00.9 0.0**
SKLT Songkhla 46.06 241 P **P** **16 19 03.7 +0.7**
comp=Z,74nm,1.0s,comp=Z,686nm
RAMN Ramite 46.07 275 *e*P **P** **16 19 03.4 +0.1**
comp=Z,182nm,0.6s
JIRN Jiri 46.11 276 *e*P **P** **16 19 04.3 +0.6**
comp=Z,424nm,0.8s
SURT Suratani 46.17 245 P **P** **16 19 04.3 +0.5**
comp=Z,117nm,1.1s,comp=Z,1µm
GUN Gumba 46.26 276 *e*P **P** **16 19 05.2 +0.3**
comp=Z,108nm,0.5s
TRTT Trang 46.27 243 P **P** **16 19 05.0 +0.4**
comp=Z,127nm,1.0s,comp=Z,1µm
PDGK Podgornoye 46.42 299 P **P** **16 19 05.2 -0.5**
PDGK pmax pmax
comp=Z,118nm,0.8s
PKI Pulchoki 46.78 276 *e*P **P** **16 19 08.8 -0.1**
comp=Z,15nm,0.7s
PKIN Phulchoki 46.78 276 *e*P **P** **16 19 08.8 -0.1**
comp=Z,100nm,0.6s
KKN Kakani 46.79 276 *e*P **P** **16 19 08.9 0.0**
comp=Z,142nm,0.8s
DMN Daman 47.01 276 *e*P **P** **16 19 10.8 +0.2**
comp=Z,76nm,0.8s
JRMM Jerantut 47.11 236 P **P** **16 19 11.0 -0.2**
PKDT Phuket 47.22 244 P **P** **16 19 12.6 +0.6**
comp=Z,212nm,1.0s,comp=Z,2µm
GKN Gorkha 47.22 277 *e*P **P** **16 19 12.5 +0.3**
comp=Z,416nm,0.8s
KULM Kulim 47.36 239 P **P** **16 19 13.0 -0.1**
PRZ Przheval'sk 47.39 298 P **P** **16 19 14.2 +0.9**
PRZ pmax pmax
comp=Z,116nm,0.9s
PRZ Przheval'sk 47.39 298 P **P** **16 19 14.2 +0.9**
MMRI Maumere 47.39 204 P **P** **16 19 11.9 -1.4**
comp=Z,74nm,1.1s
MYKOM Kota Tinggi 47.76 233 P **P** **16 19 16.0 -0.2**
DANN Dangsing 47.79 278 *e*P **P** **16 19 17.5 +0.8**
comp=Z,1µm,0.8s
SOEI Soe 47.80 201 P **P** **16 19 15.2 -1.4**
comp=Z,116nm,0.9s
TPRI Tanjung Pinang 47.99 232 P **P** **16 19 17.0 -1.0**
comp=Z,87nm,1.1s
TARG Taragay, Kyrgy 48.00 297 P **P** **16 19 19.4 +1.1**
KOLN Koldanda 48.16 277 *e*P **P** **16 19 19.9 +0.4**
comp=Z,339nm,1.0s
KDJ Kajisay 48.35 298 P **P** **16 19 21.7 +0.9**
KDJ pmax pmax
comp=Z,46nm,0.8s
KDJ Kajisay 48.35 298 P **P** **16 19 21.7 +0.9**
KDJ IAmb IAmb 16 19 27.4
comp=Z,46nm,0.8s
BATI Baumata 48.41 202 P **P** **16 19 20.3 -0.9**
comp=Z,60nm,0.9s
RSO Redoubt South 48.43 38 P **P** **16 19 21.9 +0.8**
KDAK Kodiak Island 48.63 41 P **P** **16 19 23.5 +1.1**
KDAK pmax pmax
comp=Z,29nm,0.7s
KDAK Kodiak Island 48.63 41 P **P** **16 19 23.5 +1.1**
KDAK IAmb IAmb 16 19 31.8
comp=Z,30nm,0.7s
PPLA Purkeypile 48.69 34 P **P** **16 19 24.8 +1.8**
PPLA IAmb IAmb 16 19 37.4
comp=Z,22nm,1.2s
HNR Honiara 48.79 154 LR LR 16 40 02.1
comp=Z,164nm,19.4s,baz=328,slow=36
TPI Tanjungpandan 48.98 225 P **P** **16 19 25.6 0.0**
comp=Z,95nm,1.0s
ULHL Ulahol 49.00 298 P **P** **16 19 30.1 +4.4**
SNR=6.1
MTN Manton Dam 49.21 192 P **P** **16 19 26.6 -0.6**
PLAI Plampang 49.22 210 P **P** **16 19 26.2 -1.2**
comp=Z,36nm,0.8s
KTH Kantishna Hill 49.27 33 P **P** **16 19 29.3 +2.0**
KTH IAmb IAmb 16 19 45.8
comp=Z,24nm,1.0s
TKM2 Tokmak 2 49.29 299 P **P** **16 19 29.0 +1.0**
SNR=99
NRN Naryn 49.38 297 P **P** **16 19 29.5 +0.7**
NRN pmax pmax
comp=Z,61nm,1.2s
NRN Naryn 49.38 297 P **P** **16 19 29.5 +0.7**
NRN IAmb IAmb 16 19 33.0
comp=Z,61nm,1.1s
SUA Susitna One 49.38 36 P **P** **16 19 28.9 +0.6**
SUA IAmb IAmb 16 19 47.1
comp=Z,21nm,1.0s
TWSI Taliwang, Sumb 49.50 211 P **P** **16 19 28.8 -0.7**
comp=Z,41nm,1.0s
TRF Thorofare Moun 49.55 34 P **P** **16 19 31.6 +2.0**
TRF IAmb IAmb 16 19 48.7
comp=Z,16nm,0.8s
SRBI Singaraja 49.64 213 P **P** **16 19 29.5 -1.1**
comp=Z,64nm,0.7s
COLD Coldfoot 49.65 29 P **P** **16 19 31.9 +1.9**
COEN Coen 49.65 176 P **P** **16 19 31.2 +0.6**
COEN IAmb IAmb 16 19 32.4
comp=Z,51nm,1.1s
KZA Kyzart 49.75 298 P **P** **16 19 33.5 +1.8**
SNR=36
KBK Karagaybulak 49.81 299 P **P** **16 19 33.0 +1.0**
SNR=104
CHMS Chumysh 49.87 299 P **P** **16 19 32.8 +0.7**
SNR=36
RC01 Rabbit Creek A 49.89 37 P **P** **16 19 32.9 +0.9**
RC01 IAmb IAmb 16 19 50.1
comp=Z,24nm,1.1s
GRJI Gresik 49.89 217 P **P** **16 19 31.9 -0.6**
comp=Z,90nm,0.9s,comp=Z,752nm
KSH Kashi 49.95 295 P **P** **16 19 37.0 +4.1**
KSH pP sP 16 19 55.9 -1.8
KSH PP **PP** **16 21 33.3 +5.2**
KSH PcS **PcS** **16 24 50.3 +1.0**
KSH S **S** **16 26 42.0 +3.5**
KSH pmax pmax
comp=Z,70nm,0.6s
KSH pmax pmax
comp=Z,660nm,8.1s
KSH LR LR
comp=Z,480nm,8.6s
KSH LR LR
comp=Z,470nm,10.7s
KSH LR LR
comp=Z,560nm,8.1s
TOLK Toolik Lake Re 49.95 27 P **P** **16 19 34.3 +1.8**
baz=267
TOLK Toolik Lake Re 49.95 27 P **P** **16 19 33.5 +1.1**
TOLK IAmb IAmb 16 19 44.1
comp=Z,24nm,1.2s
USP Ospenovka 49.97 300 P **P** **16 19 33.5 +0.5**
SNR=58
FRU1 Bishkek 50.00 299 P **P** **16 19 34.1 +0.9**
FRU1 pmax pmax
comp=Z,103nm,1.0s
FRU1 Bishkek 50.00 299 P **P** **16 19 34.1 +0.9**
AAK Ala-Archa 50.14 299 *i*P **P** **16 19 34.6 +0.2**
SNR=8.0
AAK Ala-Archa 50.14 299 *i*P **P** **16 19 34.6 +0.2**
SNR=8.0
AAK Ala-Archa 50.14 299*ce*P **P** **16 19 34.9 +0.5**
AAK pmax pmax
comp=Z,38nm,0.9s
AAK Ala-Archa 50.14 299 P **P** **16 19 35.1 +0.8**
SNR=42
AAK Ala-Archa 50.14 299 P **P** **16 19 34.8 +0.4**
AAK IAmb IAmb 16 19 38.5
comp=Z,32nm,0.8s
RND Reindeer 50.20 34 P **P** **16 19 35.2 +0.8**
RND pmax pmax
comp=Z,22nm,0.9s
RND Reindeer 50.20 34 P **P** **16 19 35.2 +0.8**
RND IAmb IAmb 16 19 51.7
comp=Z,22nm,0.9s
GHO Glory Hole Cre 50.24 36 P **P** **16 19 35.9 +1.1**
GHO IAmb IAmb 16 19 52.4
comp=Z,30nm,1.0s
UCH Uchtor 50.24 298 P **P** **16 19 36.7 +1.2**
SNR=29
PSI Prapat 50.33 239 LR LR 16 43 13.5
comp=Z,159nm,18.4s,baz=38,slow=39
RGRI Rengat 50.36 233 P **P** **16 19 35.4 -0.7**
comp=Z,117nm,0.8s
MDM Murphy Dome 50.43 32 P **P** **16 19 37.6 +1.6**
MDM IAmb IAmb 16 19 39.0
comp=Z,28nm,0.7s
JAGI Jajag, Banyuwa 50.46 214 P **P** **16 19 35.1 -1.7**
comp=Z,57nm,1.1s
SML Sawmill 50.52 36 P **P** **16 19 37.8 +1.0**
SML IAmb IAmb 16 19 54.7
comp=Z,19nm,0.8s
TCOL CIGO, UAF Yank 50.59 32 P **P** **16 19 38.8 +1.7**
baz=272
COLA College 50.59 32*d i*P **P** **16 19 39.2 +2.0**
COLA pmax pmax
comp=Z,13nm,0.8s
GMJI Gumukmas 50.61 215 P **P** **16 19 36.3 -1.6**
CCB Clear Creek Bu 50.62 32 P **P** **16 19 38.1 +0.8**
EKS2 Erkin-Say 50.65 299 P **P** **16 19 38.6 +0.4**
SNR=20
BRVK Borovoye 50.65 313*ce*P **P** **16 19 38.1 +0.2**
BRVK pmax pmax
comp=Z,42nm,0.9s
BRVK Borovoye 50.65 313 P **P** **16 19 38.7 +0.8**
BRVK IAmb IAmb 16 19 42.1
comp=Z,37nm,0.8s
BKNI Bangkinang 50.70 235 P **P** **16 19 38.5 -0.2**
comp=Z,135nm,0.6s,comp=Z,2µm
POKR Poker Flat Res 50.76 31 P **P** **16 19 41.2 +2.7**
baz=272
AML Almayashu 50.85 298 P **P** **16 19 41.4 +1.4**
SNR=166
DHY Denali Highway 50.88 34 P **P** **16 19 41.0 +1.4**
HDA Harding Lake 51.00 32 P **P** **16 19 41.2 +0.9**
baz=273
HDA Harding Lake 51.00 32 P **P** **16 19 41.0 +0.7**
HDA IAmb IAmb 16 19 43.5
comp=Z,16nm,0.9s
IL31 51.01 32 P **P** **16 19 40.9 +0.6**
IL31 IAmb IAmb 16 19 44.0
comp=Z,18nm,0.8s
ILAR Eielson Array 51.01 32 P **P** **16 19 41.2 +0.8**
comp=Z,15nm,0.8s,baz=268,slow=5.8,SNR=90
ILAR LR LR 16 43 18.9
comp=Z,75nm,19.9s,baz=266,slow=38
SMRI Semarang 51.03 219 P **P** **16 19 40.0 -1.1**
comp=Z,68nm,1.1s
SDSI Sungai Dareh 51.39 233 P **P** **16 19 43.2 -0.6**
comp=Z,83nm,0.7s,comp=Z,2µm
PRP Porcupine Dome 51.54 31 P **P** **16 19 44.9 +0.3**
ARSB Arslanbob 51.59 298 P **P** **16 19 46.6 +1.3**
FYU Fort Yukon 51.61 29 P **P** **16 19 46.7 +1.9**
FYU IAmb IAmb 16 19 57.3
comp=Z,52nm,1.5s
UGM Wanagama 51.72 219 P **P** **16 19 44.8 -1.5**
comp=Z,171nm,1.2s
PAX Paxson 51.76 34 P **P** **16 19 47.6 +1.5**
PAX pmax pmax
comp=Z,4.0nm,0.7s
PAX Paxson 51.76 34 P **P** **16 19 47.6 +1.5**
YOGI Yogyakarta 51.76 219 P **P** **16 19 45.6 -0.9**
comp=Z,67nm,0.7s
RIDG Independent Ri 51.97 33 P **P** **16 19 49.5 +1.9**
PDSI Padang 52.00 234 P **P** **16 19 47.5 -0.9**
comp=Z,13nm,1.3s
KPJI Karang Pucung 52.06 221 P **P** **16 19 48.3 -0.4**
comp=Z,60nm,0.6s
KRJI Kerinci 52.24 232 P **P** **16 19 49.2 -1.1**
comp=Z,158nm,0.8s
KLSI 52.25 227 P **P** **16 19 49.2 -1.0**
comp=Z,67nm,1.0s,comp=Z,626nm
LHSI Lahat 52.30 229 P **P** **16 19 50.2 -0.3**
comp=Z,236nm,0.9s,comp=Z,626nm
DOT Dot Lake 52.32 33 P **P** **16 19 51.6 +1.4**
SCRK Sand Creek 52.32 33 P **P** **16 19 51.5 +1.1**

SCRK IAmb IAmb 16 19 53.9
comp=Z,16nm,0.9s
GSI Gunungsitoli 52.34 239 P **P** **16 19 49.8 -1.1**
comp=Z,325nm,1.1s
LEM Lembang 52.34 222 LR LR 16 42 28.4
comp=Z,146nm,21.2s,baz=30,slow=36
LEM Lembang 52.34 222 P **P** **16 19 50.4 -0.7**
comp=Z,50nm,1.1s
KNRA Kununurra 52.40 194 P **P** **16 19 51.5 +0.3**
MDSI Maura Dua 52.42 228 P **P** **16 19 50.4 -1.1**
comp=Z,110nm,1.2s,comp=Z,938nm
BLSI Bandar Lampung 52.49 226 P **P** **16 19 51.1 -0.9**
comp=Z,178nm,1.2s
MENT Mentasta 52.56 34 P **P** **16 19 53.5 +1.5**
MENT IAmb IAmb 16 19 59.6
comp=Z,14nm,0.8s
KSI Kapahiang 52.73 230 P **P** **16 19 53.1 -0.8**
comp=Z,89nm,0.5s
KK31 Karatay Array 52.82 300 P **P** **16 19 53.9 -0.3**
KK31 pmax pmax
comp=Z,64nm,1.0s
KK31 Karatay Array 52.82 300 P **P** **16 19 53.9 -0.3**
KKAR Karatay Array 52.82 300 P **P** **16 19 53.9 -0.3**
KKAR pmax pmax
comp=Z,64nm,1.0s
KKAR Karatay Array 52.82 300 P **P** **16 19 53.9 -0.3**
PBSI Pulau Batu 52.83 237 P **P** **16 19 53.5 -1.0**
comp=Z,91nm,1.2s
CISI Cisompet, Garu 52.84 222 P **P** **16 19 53.5 -1.1**
comp=Z,54nm,1.2s
LWLI Liwa 52.91 227 P **P** **16 19 53.6 -1.6**
comp=Z,51nm,0.5s,comp=Z,5µm
CNJI Cibinong 53.01 223 P **P** **16 19 53.0 -2.8**
comp=Z,68nm,1.3s
KASI Kota Agung 53.06 227 P **P** **16 19 54.1 -2.0**
comp=Z,81nm,0.9s,comp=Z,1µm
MCARA McCarthy VSAT 53.09 36 P **P** **16 19 57.5 +1.7**
MCARA IAmb IAmb 16 20 07.8
comp=Z,20nm,0.9s
CRQM Cirque 53.13 37 P **P** **16 19 57.6 +1.2**
CRQM IAmb IAmb 16 20 05.0
comp=Z,27nm,1.0s
SISI Saibi 53.22 235 P **P** **16 19 56.4 -1.0**
comp=Z,23nm,1.0s
TGL Tana Glacier 53.28 37 P **P** **16 19 59.5 +2.2**
TGL IAmb IAmb 16 20 11.6
comp=Z,15nm,0.9s
EGAK Eagle 53.45 32 P **P** **16 19 59.8 +1.4**
BALM Baldy 53.47 36 P **P** **16 20 00.2 +1.4**
BTK Batken 53.55 297 P **P** **16 19 59.8 +0.1**
BTK pmax pmax
comp=Z,24nm,0.7s
BTK Batken 53.55 297 P **P** **16 19 59.8 +0.1**
BTK IAmb IAmb 16 20 18.0
comp=Z,24nm,0.7s
PPSI Pulau Pagai 53.69 233 P **P** **16 19 59.8 -1.0**
comp=Z,179nm,1.1s,comp=Z,26µm
BARN Barnard Glacie 53.79 36 P **P** **16 20 02.1 +0.8**
NIL Nilore 54.01 289 P **P** **16 20 03.8 +0.7**
NIL pmax pmax
comp=Z,71nm,1.0s
NIL Nilore 54.01 289 P **P** **16 20 03.8 +0.7**
GAR Garm 54.27 296 P **P** **16 20 05.1 +0.1**
EPYK Eagle Plains 55.02 29 P **P** **16 20 11.2 +1.3**
baz=280
EPYK Eagle Plains 55.02 29 P **P** **16 20 12.2 +2.3**
EPYK IAmb IAmb 16 20 19.8
comp=Z,27nm,0.7s
CHGR Chuyangaron 55.24 296 P **P** **16 20 12.4 +0.4**
SVE Sverdlovsk 55.34 319*de*P **P** **16 20 12.9 +0.7**
SVE *e*S **S** **16 27 54.8 +3.6**
SVE pmax pmax
comp=Z,52nm,0.8s
FITZ Fitzroy Crossi 55.42 197 P **P** **16 20 13.9 +0.7**
WRAB Tennant Creek 55.78 187*ce*P **P** **16 20 15.5 -0.3**
WRAB pmax pmax
comp=Z,108nm,1.7s
WRAB Tennant Creek 55.78 187 P **P** **16 20 15.6 -0.3**
WR0 Warramunga Arr 55.79 186 P **P** **16 20 15.5 -0.3**
WRA Warramunga Arr 55.80 187 *i* P **P** **16 20 15.1 -0.8**
WRA pmax pmax
comp=Z,27nm,0.4s
WRA Warramunga Arr 55.80 187 P **P** **16 20 15.2 -0.7**
comp=Z,27nm,0.4s,baz=0.9,slow=7.6,SNR=348
WRA ScP **ScP** **16 25 07.9 +0.6**
comp=Z,2.8nm,0.8s,baz=7.5,slow=5.4,SNR=5.3
WRA LR LR 16 44 05.5
comp=Z,104nm,19.9s,baz=95,slow=36
HYT Haines Junctio 55.83 36 P **P** **16 20 18.6 +2.8**
HYT IAmb IAmb 16 20 29.4
comp=Z,17nm,0.8s
INK Inuvik 55.87 27 P **P** **16 20 17.3 +1.5**
INK pmax pmax
comp=Z,15nm,1.0s
INK Inuvik 55.87 27 P **P** **16 20 17.3 +1.5**
ARU Arti 56.55 319*ce*P **P** **16 20 21.1 +0.2**
ARU pmax pmax
comp=Z,64nm,0.7s
ARU Arti 56.55 319 LR LR 16 46 55.8
comp=Z,185nm,18.3s,baz=77,slow=38
ARU Arti 56.55 319 P **P** **16 20 21.3 +0.4**
KBL Kabul 56.88 291 P **P** **16 20 23.5 -0.4**
KBL pmax pmax
comp=Z,93nm,1.5s
KBL Kabul 56.88 291 P **P** **16 20 23.5 -0.4**
WHY Whitehorse 57.11 36 P **P** **16 20 26.3 +1.3**
HYB Hyderabad 57.15 268 *i* P **P** **16 20 25.0 -0.8**
HYB *e*pP **pP** **16 20 42.0 -1.3**
HYB *e*PcP **PcP** **16 21 19.0 -0.8**
AB31 Akbulak array 57.90 310 *i* P **P** **16 20 30.4 -0.2**
AB31 pmax pmax
comp=Z,18nm,0.6s
ABKAR Akbulak array 57.90 310 P **P** **16 20 31.0 +0.4**
AKTO Aktyubinsk 58.69 312 LR LR 16 45 57.5
comp=Z,178nm,18.1s,baz=74,slow=36
C36M Paulatuk 58.90 24 P **P** **16 20 38.1 +0.9**
baz=289
AS31 Alice Springs 59.52 187 P **P** **16 20 42.2 +0.2**
AS31 IAmb IAmb 16 20 48.7
comp=Z,10nm,0.6s
ASAR Alice Springs 59.52 187 P **P** **16 20 41.6 -0.4**
comp=Z,17nm,0.7s,baz=0.6,slow=5.6,SNR=151
PSA00 Pilbara Seismi 60.29 202 P **P** **16 20 47.0 -0.3**
POO Poona 60.39 272 ⇑ *i* P **P** **16 20 47.0 -1.3**
comp=Z,80nm,0.4s
KIRV Kirov 60.55 323 LR LR 16 47 19.2
comp=Z,292nm,19.6s,baz=57,slow=36
HOPEN Hopen 60.90 346 *e*P **P** **16 20 52.3 +1.5**
PALK Pallekele 61.12 257 *i* P **P** **16 20 54.0 +0.7**
SNR=8.8
PALK Pallekele 61.12 257 *i* P **P** **16 20 54.0 +0.7**
SNR=8.8
PALK Pallekele 61.12 257 P **P** **16 20 53.3 0.0**
PALK pmax pmax
comp=Z,48nm,0.8s
PALK Pallekele 61.12 257 LR LR 16 49 28.7
comp=Z,107nm,20.8s,baz=52,slow=38
PALK Pallekele 61.12 257 P **P** **16 20 53.3 0.0**
PRGR Permogore 61.17 327 *e*P **P** **16 20 49.8 -3.0**
PRGR pmax pmax
comp=Z,49nm,0.8s
SPA0 Spitsbergen Ar 61.45 349 *e*P **P** **16 20 56.5 +2.0**
SPITS Spitsbergen Ar 61.45 349 LR LR 16 48 48.8
comp=Z,176nm,18.8s,baz=210,slow=37
KBS Kingsbay 61.61 350 P **P** **16 20 56.5 +0.9**
KBS pmax pmax
comp=Z,32nm,0.9s
KBS Kingsbay 61.61 350 *e*P **P** **16 20 56.3 +0.7**
KBS Kingsbay 61.61 350 P **P** **16 20 56.5 +0.9**
KBS IAmb IAmb 16 20 57.9
comp=Z,32nm,0.9s
EIDS Eidsvold 61.79 169 P **P** **16 20 57.3 -0.1**
EIDS IAmb IAmb 16 20 59.1
comp=Z,28nm,0.8s
HRA Herat 62.04 294 P **P** **16 20 57.9 -1.6**
HRA IAmb IAmb 16 21 09.4
comp=Z,21nm,0.9s
HSPB Hornsund (broa 62.35 348 *e*P **P** **16 21 01.7 +1.1**
LVZ Lovozero 62.74 336*ce*P **P** **16 21 03.5 +0.2**
LVZ pmax pmax
comp=Z,35nm,1.2s
LVZ Lovozero 62.74 336 P **P** **16 21 02.4 -0.9**
LVZ IAmb IAmb 16 21 05.5
comp=Z,26nm,0.9s
DZM Mont Dzumac 62.79 152 *e*P **P** **16 21 06.1 +1.9**
comp=Z,94nm,1.2s
DZM Mont Dzumac 62.79 152 *e*LR LR 16 39 55.8
comp=Z,549nm,24.1s
DZM Mont Dzumac 62.79 152 LR LR 16 47 04.7
comp=Z,184nm,19.3s,baz=12,slow=35
DZM Mont Dzumac 62.79 152 P **P** **16 21 04.2 0.0**
DZM IAmb IAmb 16 21 07.4
comp=Z,51nm,1.2s
TMCR Tamitsa 63.26 331 *e*P **P** **16 21 07.0 +0.3**
TMCR pmax pmax
comp=Z,39nm,0.6s
GEYT Alibeck 63.50 299 P **P** **16 21 08.8 0.0**
comp=Z,27nm,0.8s,baz=46,slow=4.3,SNR=50
GYA0B ALIBECK ARRAY 63.50 299 P **P** **16 21 08.9 +0.1**
GYA0B IAmb IAmb 16 21 10.5
comp=Z,32nm,0.8s
RES Resolute Bay 63.96 14 P **P** **16 21 11.8 +0.6**
RES pmax pmax
comp=Z,15nm,1.0s
RES Resolute Bay 63.96 14 P **P** **16 21 11.8 +0.6**
HAMF Hammerfest 64.56 341 *e*P **P** **16 21 15.3 +0.1**
ARCES ARCESS Array B 64.71 339 P **P** **16 21 16.8 +0.6**
comp=Z,15nm,0.8s,baz=60,slow=8.0,SNR=27
ARCES LR LR 16 55 04.5
comp=Z,283nm,18.2s,baz=342,slow=41
ARE0 ARCESS Array S 64.71 339 *e*P **P** **16 21 17.0 +0.8**
YKA Yellowknife Ar 65.31 30 P **P** **16 21 20.7 +0.5**
comp=Z,3.4nm,0.8s,baz=300,slow=6.5,SNR=32
YKA PKPPKP **P'P'df** **16 50 00.4 -4.6**
comp=Z,0.6nm,0.8s,baz=117,slow=1.8,SNR=6.7
KTK1 Kautokeino 65.67 339 *e*P **P** **16 21 23.3 +0.8**
TULEG Thule 66.37 7 P **P** **16 21 27.1 +0.3**
TULEG IAmb IAmb 16 21 28.2
comp=Z,24nm,1.0s
TRO Tromso 66.47 341 *e*P **P** **16 21 27.5 0.0**
DAG Danmarks Havn 66.83 355 ⇑ *i* P **P** **16 21 30.2 +0.5**
DAG pmax pmax
comp=Z,36nm,1.0s
DAG Danmarks Havn 66.83 355 ⇑ *i* P **P** **16 21 30.2 +0.5**
comp=Z,36nm,1.0s
ARMA Armidale 66.83 169 P **P** **16 21 31.4 +1.0**
ARMA IAmb IAmb 16 21 32.4
comp=Z,25nm,0.9s
AFI Afiamalu 67.20 128 LR LR 16 46 06.6
comp=Z,125nm,20.8s,baz=338,slow=32
FORT Forrest 67.28 191 P **P** **16 21 33.5 +0.5**
STKA Stephens Creek 67.42 179 P **P** **16 21 34.4 +0.4**
STKA pmax pmax
comp=Z,5.0nm,0.7s
STKA Stephens Creek 67.42 179 P **P** **16 21 34.2 +0.3**
comp=Z,23nm,0.7s,baz=348,slow=7.9,SNR=40
STKA LR LR 16 52 49.7
comp=Z,102nm,18.4s,baz=18,slow=37
STKA Stephens Creek 67.42 179 P **P** **16 21 34.4 +0.4**
MOS Moscow 67.56 323 *e*P **P** **16 21 34.0 -0.7**
MOS *e* 16 24 01.7
MOS *e*S **S** **16 30 23.1 -2.8**
MOS pmax pmax
comp=Z,92nm,1.0s
VRH Novokhopyorsk 67.74 318 *e*P **P** **16 21 35.3 -0.6**
VRH pmax pmax
comp=Z,80nm,0.7s
OBN Obninsk 68.40 323 ⇑⇑ *e*P **P** **16 21 40.0 +0.1**
OBN *e* 16 22 06.2
OBN *e* 16 24 09.8
OBN pmax pmax
comp=Z,66nm,0.9s
OBN MLR MLR
comp=Z,303nm,18.0s
OBN Obninsk 68.40 323 P **P** **16 21 39.3 -0.6**
OBN IAmb IAmb 16 21 41.1
comp=Z,55nm,0.8s
BBOO Buckleboo 68.44 184 P **P** **16 21 39.1 -1.3**
BBOO IAmb IAmb 16 21 41.6
comp=Z,46nm,1.1s
LPSR Galich'ya Gora 68.53 320 *e*P **P** **16 21 40.4 -0.4**
LPSR pmax pmax
comp=Z,100nm,0.9s
STEI Steigen 68.61 341 *e*P **P** **16 21 41.5 +0.5**
AKT Akhty 68.94 306 *e*P **P** **16 21 43.8 +0.1**
AKT *e* 16 22 05.0
AKT *e**SP **PcP** **16 22 07.6 -0.1**
AKT pmax pmax
comp=Z,38nm,0.7s
VSR Storozhevoye 69.12 319 *e*P **P** **16 21 44.0 -0.5**
VSR pmax pmax
comp=Z,110nm,1.0s
VORD Divnogorie 69.18 318 *e*P **P** **16 21 44.2 -0.7**
VORD pmax pmax
comp=Z,40nm,0.7s
GROC Groznyy 69.33 309 *e*P **P** **16 21 44.5 -1.4**
GROC *e**PP **pP** **16 22 03.7 -0.2**
GROC *e**SP **sP** **16 22 12.4 +1.0**
GROC *e*S **S** **16 30 47.3 -0.1**
GROC pmax pmax
comp=Z,22nm,0.9s
FIA1 FINESS Array S 69.35 332 P **P** **16 21 46.0 +0.3**
FIA1 IAmb IAmb 16 21 47.0
comp=Z,57nm,0.8s
FINES FINESS Array B 69.35 332 P **P** **16 21 46.1 +0.4**
comp=Z,36nm,0.7s,baz=81,slow=5.8,SNR=63
FINES LR LR 16 53 15.5
comp=Z,156nm,18.7s,baz=79,slow=37
MOR8 Moi Rana 70.08 339 *e*P **P** **16 21 49.4 -0.8**
GOF Gofitskoye 70.09 312 ⇑ *e*P **P** **16 21 51.2 +0.6**
GOF pmax pmax
comp=Z,86nm,0.9s
WBK Wadi Bani Khal 70.24 284 P **P** **16 21 52.9 +1.0**
WBK P **P** **16 21 52.9 +1.0**
I03D Drain, OR 70.42 50 P **P** **16 21 54.3 +1.6**
baz=301
BIDO Bidbid 70.42 285 P **P** **16 21 54.3 +1.3**
NCK Nalchik 70.56 310 *i* P **P** **16 21 53.0 -0.5**
NCK pmax pmax
comp=Z,38nm,1.0s
BANOM Banah 70.60 288 P **P** **16 21 54.7 +0.6**
BANOM Banah 70.60 288 P **P** **16 21 54.7 +0.6**
BANOM Banah 70.60 288 P **P** **16 21 55.1 +1.0**
SHME Shamm 70.66 289 P **P** **16 21 54.3 -0.1**
SHME Shamm 70.66 289 P **P** **16 21 54.3 -0.1**
SMDO Samad 70.73 285 P **P** **16 21 55.5 +0.5**
SMDO P **P** **16 21 55.5 +0.5**
ZEI Tsey 70.74 309 *e*P **P** **16 21 51.7 -3.1**
ZEI pmax pmax
comp=Z,27nm,0.9s
K02D Willamette Mer 70.74 51 P **P** **16 21 56.2 +1.5**
baz=301
G05D Wamic, OR 70.86 48 P **P** **16 21 57.4 +2.0**
baz=302
KBZ Khabaz 70.87 310 P **P** **16 21 56.0 +0.7**
comp=Z,58nm,0.9s,baz=61,slow=4.4,SNR=136
KBZ LR LR 16 56 49.3
comp=Z,233nm,18.6s,baz=47,slow=39
KIV Kislovodsk 70.88 311 *i* P **P** **16 21 56.4 +0.8**
SNR=11
KIV Kislovodsk 70.88 311 *i* P **P** **16 21 56.4 +0.8**
SNR=11
KIV Kislovodsk 70.88 311 *e*P **P** **16 21 56.3 +0.8**
KIV pmax pmax
comp=Z,397nm,1.1s
KIV MLR MLR
comp=Z,467nm,17.0s
KIV Kislovodsk 70.88 311 ⇓ P **P** **16 21 56.7 +1.1**
KIV mb 16 21 58.1
VSU Vasula 70.92 329*ce*P **P** **16 21 55.8 +0.4**
VSU pmax pmax
comp=Z,184nm,0.9s
MDH Madha 70.93 288 P **P** **16 21 55.6 -0.5**
MDH Madha 70.93 288 P **P** **16 21 55.6 -0.5**
I04A Tendick Farm, 70.95 49 P **P** **16 21 58.0 +2.0**
baz=302
MSFE Esma-Masafi 71.00 288 P **P** **16 21 56.9 +0.4**
MSFE Esma-Masafi 71.00 288 P **P** **16 21 56.9 +0.4**
SHA1 Shidzhatmaz 71.02 311 *c* *i* P **P** **16 21 56.6 0.0**
HOQ Hoqain 71.03 286 P **P** **16 21 57.2 +0.5**
JMDO Jabal Madar 71.04 284 P **P** **16 21 57.0 +0.2**
L02E Cave Junction 71.06 51 P **P** **16 21 58.8 +2.2**
baz=302
JMIC Jan Mayen 71.09 350 LR LR 16 53 09.2
comp=Z,70nm,20.3s,baz=44,slow=36
UOSS Minazif 71.18 288 P **P** **16 21 56.9 -0.7**
UOSS Minazif 71.18 288 P **P** **16 21 56.9 -0.7**
UOSS Minazif 71.18 288 P **P** **16 21 57.6 0.0**
UOSS IAmb IAmb 16 21 58.7
comp=Z,25nm,0.8s
HATD Hatta, Dubai 71.30 287 *i* P **P** **16 21 59.3 +0.9**
SNR=7.7
HATD Hatta, Dubai 71.30 287 *i* P **P** **16 21 59.3 +0.9**
SNR=7.7
HATD Hatta, Dubai 71.30 287 P **P** **16 21 59.1 +0.8**
I05D Terrebonne, OR 71.32 49 P **P** **16 22 00.1 +1.9**
baz=302
J04D Umpqua Nationa 71.43 50 P **P** **16 22 01.0 +1.9**
baz=302
ASHO Ashiyiah 71.43 287 P **P** **16 21 59.3 +0.2**
ASHO Ashiyiah 71.43 287 P **P** **16 21 59.3 +0.2**
ASHO Ashiyiah 71.43 287 P **P** **16 21 59.6 +0.4**
BSY Bisya 71.56 285 P **P** **16 22 00.6 +0.7**
GNI Garni 71.57 306 *i* P **P** **16 22 01.3 +1.4**
SNR=16
GNI Garni 71.57 306 *i* P **P** **16 22 01.3 +1.4**
SNR=16
GNI Garni 71.57 306*ce*P **P** **16 22 01.0 +1.1**
GNI pmax pmax
comp=Z,138nm,1.1s
GNI Garni 71.57 306 P **P** **16 21 59.2 -0.6**
GNI IAmb IAmb 16 22 07.2
comp=Z,42nm,0.9s
NEW Newport 71.66 43 P **P** **16 22 01.2 +1.1**
baz=304
AKH Akhalkalaki 71.72 308 P **P** **16 22 01.3 +0.5**
AKH pmax pmax
comp=Z,36nm,0.8s
AKH Akhalkalaki 71.72 308 ⇑ P **P** **16 22 02.2 +1.4**
AKH Akhalkalaki 71.72 308 P **P** **16 22 01.2 +0.5**
AKH IAmb IAmb 16 22 03.0
comp=Z,36nm,0.8s
NWAO Narrogin (SRO) 71.74 200 P **P** **16 22 00.6 +0.1**
NWAO pmax pmax
comp=Z,102nm,1.4s
NWAO Narrogin (SRO) 71.74 200 P **P** **16 22 00.6 +0.1**
NWAO Narrogin (SRO) 71.74 200 P **P** **16 22 00.6 +0.1**
NWAO IAmb IAmb 16 22 01.6
comp=Z,102nm,1.4s
FAQ Al Faqa, Dubai 71.76 288 P **P** **16 22 01.5 +0.5**
FAQ Al Faqa, Dubai 71.76 288 P **P** **16 22 01.5 +0.5**
ARQ Araqi 71.78 286 P **P** **16 22 01.4 +0.2**
ARQ P **P** **16 22 01.7 +0.5**
SUMG Summit 71.83 360 P **P** **16 22 02.7 +1.6**
SUMG pmax pmax
comp=Z,45nm,0.9s
SUMG Summit 71.83 360 *i* P **P** **16 22 02.7 +1.6**
comp=Z,107nm,0.9s
SUMG Summit 71.83 360 P **P** **16 22 02.7 +1.6**
SUMG IAmb IAmb 16 22 04.0
comp=Z,45nm,0.9s
L04D Klamath Falls 71.85 51 P **P** **16 22 02.9 +1.4**
baz=302
PINE Pine Mountain 71.86 49 P **P** **16 22 04.0 +2.4**
PINE IAmb IAmb 16 22 17.3
comp=Z,16nm,0.7s
J05D Fort Rock, OR 71.95 49 P **P** **16 22 03.7 +1.6**
baz=302
NSS Namsos 71.99 339 *e*P **P** **16 22 01.8 +0.1**
ALNE Al Ain 72.00 287 *i* P **P** **16 22 02.8 +0.3**
SNR=11
ALNE Al Ain 72.00 287 *i* P **P** **16 22 02.8 +0.3**
SNR=11
ASUD Al Ashush, Dub 72.03 288 P **P** **16 22 03.2 +0.6**
ASUD Al Ashush, Dub 72.03 288 P **P** **16 22 03.2 +0.6**
ASUD Al Ashush, Dub 72.03 288 P **P** **16 22 03.3 +0.6**
N02D Trinity Center 72.26 52 P **P** **16 22 05.6 +1.7**
baz=302
M04C Macdoel 72.38 51 P **P** **16 22 06.0 +1.4**
baz=303
O02D Mt. Diablo Mer 72.63 53 P **P** **16 22 06.3 +0.2**
baz=302
BATM Batumi 72.75 309 ⇑ P **P** **16 22 07.4 +0.7**
DQM DQM 72.78 282 P **P** **16 22 07.1 0.0**
IZAR Zarasai 72.82 327 *e*P **P** **16 22 08.0 +1.1**
MICGM Minsk 72.87 326 ⇓ *e*P **P** **16 22 07.0 -0.1**
MICGM PM 16 22 08.0
comp=Z,0.2nm,1.0s
MNK Minsk 72.87 326 ⇓ *i* P **P** **16 22 07.0 -0.1**
MNK pmax pmax
comp=Z,220nm,1.0s
F10A Beach Ranch, E 72.87 45 P **P** **16 22 09.3 +1.9**
IDID Didziasalis 72.88 327 *e*P **P** **16 22 07.8 +0.7**
SOC Sochi 72.90 312 *e*P **P** **16 22 06.5 -1.0**
SOC *e*S **S** **16 31 26.7 -2.0**
SOC *e*SS **SS** **16 36 07.6 -1.7**
SOC pmax pmax
comp=Z,39nm,0.6s
SOC MLR MLR
comp=Z,155nm,10.0s
ISAL Salakas 72.99 327 *e*P **P** **16 22 08.6 +0.8**
ISAL IAmb IAmb 16 22 10.0
comp=Z,40nm,0.8s
IIGN Ignalina 73.09 327 *e*P **P** **16 22 09.2 +0.8**
NACGM Naroch 73.12 326 *e* P **P** **16 22 09.0 +0.4**
O03E Paynes Creek 73.20 52 P **P** **16 22 10.2 +0.7**
baz=303
TOO Toolangi 73.26 176 P **P** **16 22 10.6 +1.1**
TOO pmax pmax
comp=Z,22nm,0.8s
TOO Toolangi 73.26 176 P **P** **16 22 10.6 +1.1**
TOO IAmb IAmb 16 22 11.1
comp=Z,22nm,0.8s
SLIT Slitere, Latvi 73.27 330 *e*P **P** **16 22 09.2 -0.2**
SLIT IAmb IAmb 16 22 10.3
comp=Z,297nm,0.8s
MOD Modoc Plateau 73.28 50 P **P** **16 22 11.5 +1.5**
TBLU Trondheim 73.45 339 *e*P **P** **16 22 09.3 -1.1**
BMO Blue Mountains 73.46 46 P **P** **16 22 11.8 +0.9**
BMO pmax pmax
comp=Z,6.0nm,0.9s
BMO Blue Mountains 73.46 46 P **P** **16 22 11.8 +0.9**
JTMT Jette 73.53 43 P **P** **16 22 12.6 +1.2**
ANN Anapa 73.59 314 *c* *i* P **P** **16 22 11.6 +0.1**
ANN *e**PP **pP** **16 22 30.4 +0.8**
ANN *e*S **SKiKP** **16 31 35.4 +0.2**
ANN pmax pmax
comp=Z,93nm,1.1s
PABE Paberze 73.97 328 *e*P **P** **16 22 14.3 +0.7**
PABE IAmb IAmb 16 22 15.3
comp=Z,93nm,0.8s
MSO Missoula 74.25 43 P **P** **16 22 16.0 +0.5**
baz=306
PBUR Paburg 74.49 329 *e*P **P** **16 22 16.8 +0.2**
AKASG Malin Array Be 74.58 322 P **P** **16 22 17.2 0.0**
comp=Z,43nm,0.6s,baz=48,slow=6.0,SNR=230
AKASG LR LR 16 57 41.7
comp=Z,347nm,18.2s,baz=45,slow=38
AKBB Malin Array Si 74.58 322 P **P** **16 22 17.3 +0.1**
AKBB pmax pmax
comp=Z,69nm,0.8s
AKBB Malin Array Si 74.58 322 P **P** **16 22 17.4 +0.1**
NC405 NORSAR Array S 74.63 337 P **P** **16 22 17.8 +0.5**
NC303 NORSAR Array S 74.66 337 P **P** **16 22 17.6 +0.1**
NC303 IAmb IAmb 16 22 18.7
comp=Z,76nm,1.1s
HFS Hagfors 74.71 335 LR LR 16 57 20.5
comp=Z,239nm,18.7s,baz=37,slow=37
DOMB Dombas 74.74 338 *e*P **P** **16 22 18.5 +0.5**
MOL Molde 74.77 339 *e*P **P** **16 22 19.1 +1.0**
NC204 NORSAR Array S 74.81 337 P **P** **16 22 19.1 +0.7**
NB201 NORSAR Array S 74.81 337 P **P** **16 22 18.7 +0.3**
NB2 NORSAR Subarra 74.84 337 P **P** **16 22 18.7 +0.1**
comp=Z,17nm,0.9s,baz=42,slow=5.9
NB2 NORSAR Subarra 74.84 337 P **P** **16 22 18.7 +0.1**
baz=42,slow=5.9
NOA NORSAR Array B 74.84 337 P **P** **16 22 19.0 +0.3**
NOA NORSAR Array B 74.84 337 P **P** **16 22 18.9 +0.3**
comp=Z,23nm,0.8s,baz=40,slow=5.8,SNR=55
NOA PP **PP** **16 25 07.6 +1.5**
comp=Z,5.6nm,0.9s,baz=43,slow=8.3,SNR=4.5
NOA LR LR 16 58 17.9
comp=Z,225nm,19.4s,baz=55,slow=38
NBO00 NORSAR Array S 74.99 337 *e*P **P** **16 22 19.8 +0.3**
NBO00 NORSAR Array S 74.99 337 P **P** **16 22 19.3 -0.1**
NBO00 IAmb IAmb 16 22 26.5
comp=Z,68nm,1.1s
PAHR Pah Rah Range 75.08 52 P **P** **16 22 22.4 +1.9**
MFID Camas Ranch 75.15 47 P **P** **16 22 21.8 +1.0**
AKN Aaknes 75.24 339 *e*P **P** **16 22 21.6 +0.8**
SUW Suwalki 75.30 327 *e*P **P** **16 22 21.4 +0.1**
SUW Suwalki 75.30 327 *e*P **P** **16 22 21.4 +0.1**
SUW *e*P **P** **16 22 21.4 +0.1**
SHAO Shalim 75.33 282 P **P** **16 22 21.7 -0.4**

SHAO P P 16 22 21.7 -0.4
SIM Simferopol' 75.43 315 *c i* P P 16 22 22.6 +0.4
SIM *e* 16 22 36.5
SIM pmax pmax
comp=Z,76nm,0.9s
FCC Fort Churchill 75.48 26 P P 16 22 22.8 +0.6
FCC pmax pmax
comp=Z,29nm,1.4s
FCC Fort Churchill 75.48 26 P P 16 22 22.8 +0.6
FCC IAmb IAmb 16 22 24.0
comp=Z,29nm,1.4s
EGMT Eagleton 75.80 41 P P 16 22 25.3 +0.9
baz=308
SEVA Sevastopol 75.92 315 ⇓P P 16 22 25.6 +0.6
SKAR Skarslia 76.03 338 *e* P P 16 22 26.5 +1.1
RYN Ryan 76.24 52 P P 16 22 29.0 +1.8
KVN Kaiserville 76.27 52 P P 16 22 29.3 +1.9
KVN pmax pmax
comp=Z,13nm,0.9s
KVN Kaiserville 76.27 52 P P 16 22 29.2 +1.9
HYA Hoyanger 76.28 339 *e* P P 16 22 27.8 +1.0
NVAR Mina Array Bea 76.49 52 P P 16 22 30.6 +1.9
comp=Z,3.7nm,0.7s,baz=286,slow=5.7,SNR=26
NV11 Mina Array Sit 76.59 52 P P 16 22 31.2 +2.0
SORM Soroca 76.63 320 ⇑P P 16 22 28.8 -0.1
DIKM Dikmen 76.70 312 ⇓P P 16 22 31.1 +1.5
DIKM mb 16 22 31.8
WHFO Wadi Hawf 76.86 283 P P 16 22 30.1 -0.7
SNR=62
WHFO P P 16 22 30.1 -0.7
SNR=62
YHL Hebgen Lake 76.98 44 P P 16 22 33.3 +1.9
ELK Elko 77.07 49 P P 16 22 33.6 +1.7
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK Elko 77.07 49 P P 16 22 33.6 +1.7
SFJD Kangerlussuaq 77.11 4 *i* P P 16 22 32.0 +0.7
SFJD Kangerlussuaq 77.11 4 *i* P P 16 22 32.0 +0.7
ASK Askoy 77.12 339 *e* P P 16 22 32.5 +1.0
MILM Milestii Mici 77.15 319 ⇑P P 16 22 31.6 -0.3
BZK Bozkurt 77.27 313 ⇑P P 16 22 33.5 +0.8
BZK mb 16 22 34.3
PKM Mcpherson Peak 77.53 56 P P 16 22 36.6 +2.1
baz=305
BLS5 Blasjo 77.60 338 *e* P P 16 22 35.0 +0.8
H17A Grant Village 77.60 44 P P 16 22 37.3 +2.4
baz=308
IAS Iasi 77.64 320 ⇑P P 16 22 35.2 +0.6
LVV L'vov 77.70 323 *e* P P 16 22 35.3 +0.4
LVV *e* 16 25 38.4
LVV *e* 16 27 15.9
LVV *e* S S 16 32 20.8 -0.8
LVV *e* 16 33 10.1
LVV *e* 16 37 16.5
LVV *e* 16 40 35.3
LVV pmax pmax
comp=Z,80nm,1.4s
LEOM Leova 77.74 319 ⇑P P 16 22 35.2 0.0
CWC Cottonwood Cre 77.79 54 P P 16 22 36.5 +0.6
baz=306
BEL Belsk 77.84 326 *e* P P 16 22 36.9 +1.2
BEL Belsk 77.84 326 *e* P P 16 22 36.9 +1.2
BEL *e* P P 16 22 36.9 +1.2
MOOW Moose Ponds 77.91 44 P P 16 22 38.8 +2.2
GRAC Grapevine Rang 77.93 53 P P 16 22 38.0 +1.5
baz=306
BSD Bornholm Skovb 77.97 331 *i* P P 16 22 36.0 -0.3
BSD pmax pmax
comp=Z,51nm,0.9s
BSD Bornholm Skovb 77.97 331 *i* P P 16 22 36.0 -0.3
comp=Z,51nm,0.9s
ILGA Ilgaz 77.99 312 P P 16 22 38.5 +1.4
GAZ Gaziantep 78.12 307 P P 16 22 38.8 +1.2
PRAR RASCA 78.22 321 ⇓P P 16 22 38.5 +0.6
PRAR mb 16 22 39.0
TLCR 78.25 318 ⇓P P 16 22 38.6 +0.6
TLCR mb 16 22 39.1
R11A Troy Canyon, C 78.27 51 P P 16 22 40.3 +1.6
baz=307
R11A Troy Canyon, C 78.27 51 P P 16 22 40.2 +1.6
DGMT Dagmar 78.37 38 P P 16 22 39.0 +0.2
baz=312
GKP Gorka Klasztor 78.37 329 *e* P P 16 22 39.2 +0.6
GKP Gorka Klasztor 78.37 329 *e* P P 16 22 39.2 +0.6
GKP *e* P P 16 22 39.2 +0.6
MPMC Manual Prospec 78.40 54 P P 16 22 40.0 +0.6
baz=306
GHRR 78.45 319 ⇑P P 16 22 40.3 +1.1
KWP Kalwaria Pacla 78.46 324 P P 16 22 40.7 +1.5
KWP pmax pmax
comp=Z,1μm,0.8s
KWP Kalwaria Pacla 78.46 324 *e* P P 16 22 40.4 +1.2
KWP *e* P P 16 22 40.4 +1.2
KWP Kalwaria Pacla 78.46 324 P P 16 22 40.7 +1.5
JURR Jurilovca 78.48 317 ⇓P P 16 22 39.9 +0.6
JURR mb 16 22 41.1
BLG Laguna Peak, P 78.48 56 P P 16 22 41.3 +1.7
baz=306
LAO LASA Array 78.51 40 P P 16 22 40.9 +1.3
baz=311
TESR Tescani 78.56 320 ⇑P P 16 22 40.4 +0.6
BIZ Bicaz 78.56 320 ⇑P P 16 22 40.7 +0.9
BUR08 Bucovina Ar. S 78.56 321 P P 16 22 41.0 +1.0
BUR08 IAmb IAmb 16 22 41.7
comp=Z,33nm,0.8s
BURAR Bucovina Array 78.57 321 ⇑P P 16 22 40.8 +0.9
BURAR mb 16 22 41.4
BORG Borgarnes 78.65 352 LR LR 16 59 03.6
comp=Z,219nm,18.5s,baz=266,slow=37
TPNV Topopah Spring 78.68 53 P P 16 22 42.4 +1.6
baz=306
TOPG Topolog 78.68 318 ⇑P P 16 22 41.2 +0.7
EDW2 Edwards Air Fo 78.75 55 P P 16 22 42.0 +0.8
baz=306
ODBI Odobesti 78.83 319 ⇓P P 16 22 41.2 0.0
ODBI mb 16 22 45.8
BR131 Keskin Array S 78.84 311 P P 16 22 42.2 +0.5
BR131 pmax pmax
comp=Z,20nm,0.8s
BR131 Keskin Array S 78.84 311 P P 16 22 42.2 +0.5
BR131 IAmb IAmb 16 22 43.4
comp=Z,20nm,0.8s
BRTR Keskin Array B 78.84 311 P P 16 22 42.1 +0.5
comp=Z,21nm,0.7s,baz=119,slow=3.8,SNR=111
BRTR PP PP 16 25 40.6 +0.2
comp=Z,4.1nm,0.9s,baz=64,slow=5.6,SNR=4.6
DUG Dugway, Tooele 78.88 48 P P 16 22 43.5 +1.7
baz=308
DUG Dugway, Tooele 78.88 48 P P 16 22 41.7 -0.1
DUG pmax pmax
comp=Z,8.0nm,0.8s
DUG Dugway, Tooele 78.88 48 P P 16 22 41.7 -0.1
TIRR Tirgusor 78.93 317 P P 16 22 42.1 +0.3
TIRR pmax pmax
comp=Z,72nm,1.0s
TIRR Tirgusor 78.93 317 ⇓P P 16 22 42.4 +0.6
TIRR Tirgusor 78.93 317 P P 16 22 42.1 +0.3
TIRR IAmb IAmb 16 22 43.3
comp=Z,72nm,1.0s
VRI Vrincioaia 78.93 319 ⇑P P 16 22 42.8 +0.9
PLOR Plostina 78.98 319 ⇓P P 16 22 43.3 +1.1
HARR Harsova 79.05 318 ⇓P P 16 22 43.3 +0.9
HARR mb 16 22 43.8
MFTR Murfatlar 79.11 317 ⇑P P 16 22 44.0 +1.2
KOLS Kolonicke sedl 79.14 324 *e* P P 16 22 43.7 +0.7
KOLS pmax pmax
comp=Z,23nm,1.0s
KOLS Kolonicke sedl 79.14 324 *e* P P 16 22 43.7 +0.7
BISRR Bisoca 79.15 319 ⇑P P 16 22 44.7 +1.6
TCUT Toone Canyon 79.15 47 P P 16 22 44.7 +1.3
BW06 Boulder Array 79.20 45 P P 16 22 44.5 +0.9
baz=309
BW06 Boulder Array 79.20 45 P P 16 22 44.6 +0.9
PD31 Pinedale Array 79.20 45 P P 16 22 44.7 +1.0
PDAR Pinedale Array 79.20 45 P P 16 22 44.6 +1.0
comp=Z,3.6nm,0.7s,baz=251,slow=1.5,SNR=31
PDAR PKKPbc PKKPbc 16 41 33.7 +0.5
comp=Z,0.5nm,0.7s,baz=116,slow=3.4,SNR=3.8
PDAR LR LR 16 54 17.7
comp=Z,57nm,21.9s,baz=341,slow=33
PSUT Pine Spring 79.25 50 P P 16 22 44.5 +0.5
ANTO Ankara 79.27 312 P P 16 22 44.8 +0.9
ANTO pmax pmax
comp=Z,50nm,0.6s

ANTO Ankara 79.27 312 ⇑P P 16 22 44.8 +0.9
ANTO mb 16 22 45.4
ANTO Ankara 79.27 312 P P 16 22 44.8 +0.9
OZUR 79.28 320 ⇑P P 16 22 45.2 +1.4
GSC Goldstone, Bar 79.29 54 P P 16 22 46.6 +2.4
baz=306
BR231 Keskin MP Arra 79.30 312 P P 16 22 45.1 +1.0
BR231 IAmb IAmb 16 22 45.5
comp=Z,33nm,0.7s
STHS Stebnicka Huta 79.30 324 *e* P P 16 22 44.9 +1.1
STHS Stebnicka Huta 79.30 324 *e* P P 16 22 44.9 +1.1
UZH Uzhgorod 79.34 323 *d e* P P 16 22 43.4 -0.6
UZH *i* 16 22 50.0
ARCR ARCALIA 79.36 321 ⇑P P 16 22 45.8 +1.6
BMR Baia Mare 79.40 322 ⇓P P 16 22 45.9 +1.5
OJC Ojcow 79.42 326 P P 16 22 43.9 -0.5
OJC pmax pmax
comp=Z,75nm,1.0s
OJC Ojcow 79.42 326 *e* P P 16 22 45.3 +0.9
OJC *e* P P 16 22 45.3 +0.9
OJC Ojcow 79.42 326 P P 16 22 43.9 -0.5
PGOR Pogoanele 79.42 318 ⇑P P 16 22 45.8 +1.4
PGOR mb 16 22 52.7
ICOR Ion Corvin 79.49 317 ⇓P P 16 22 46.3 +1.4
ISR Istrita 79.52 319 ⇓P P 16 22 46.3 +1.1
PSN Preselentsi 79.56 317 *i* P P 16 22 46.2 +0.9
TRPA Tarpa 79.56 323 ⇑P P 16 22 46.5 +1.3
TRPA mb 16 22 47.5
TRPA Tarpa 79.56 323 *e* P P 16 22 46.0 +0.8
DOPR Dopca 79.57 320 ⇑P P 16 22 46.9 +1.5
MLR Muntele Rosu 79.59 319 LR LR 17 00 22.8
comp=Z,158nm,18.4s,baz=86,slow=37
MLR Muntele Rosu 79.59 319 ⇑P P 16 22 46.1 +0.5
NIE Niedzica 79.75 325 *e* P P 16 22 47.5 +1.2
NIE Niedzica 79.75 325 *e* P P 16 22 47.5 +1.2
NIE *e* P P 16 22 47.5 +1.2
SECR 79.83 319 ⇑P P 16 22 48.3 +1.6
SECR mb 16 22 49.8
HEC Hector,Ludlow 79.88 54 P P 16 22 47.0 -0.4
baz=307
CJR Cluj-Napoca 80.00 321 ⇑P P 16 22 48.6 +0.9
VOIR 80.10 320 ⇑P P 16 22 48.7 +0.4
RAYN Ar Rayn 80.14 292 P P 16 22 49.2 +0.3
RAYN Ar Rayn 80.14 292 P P 16 22 49.2 +0.3
RAYN Ar Rayn 80.14 292 P P 16 22 49.1 +0.3
RAYN pmax pmax
comp=Z,43nm,0.9s
RAYN Ar Rayn 80.14 292 P P 16 22 49.1 +0.3
RAYN IAmb IAmb 16 22 50.2
comp=Z,43nm,0.8s
MTUR Matau 80.24 320 ⇑P P 16 22 49.9 +0.8
MTUR mb 16 22 58.4
KECS Kecovo 80.31 324 *e* P P 16 22 50.3 +1.0
KECS pmax pmax
comp=Z,11nm,1.0s
KECS Kecovo 80.31 324 *e* P P 16 22 50.3 +1.0
LANS Liptovska Anna 80.32 325 *e* P P 16 22 51.0 +1.6
LANS pmax pmax
comp=Z,17nm,0.8s
LANS Liptovska Anna 80.32 325 *e* P P 16 22 51.0 +1.6
GMRC Granite Mounta 80.35 54 P P 16 22 51.0 +1.1
baz=307
ARR Arges 80.37 320 ⇓P P 16 22 51.5 +1.8
TMUT Trail Mountain 80.41 48 P P 16 22 52.2 +1.8
OKC Ostrava-Krasne 80.44 326 *e* P P 16 22 50.6 +0.7
OKC Ostrava-Krasne 80.44 326 *e* P P 16 22 50.6 +0.7
PFO Pinyon Flats O 80.53 55 P P 16 22 52.0 +1.1
baz=307
KSP Ksiaz 80.53 328 *e* P P 16 22 51.3 +0.9
KSP Ksiaz 80.53 328 *e* P P 16 22 51.3 +0.9
KSP *e* P P 16 22 51.3 +0.9
TPFO Pinon Flats 80.53 55 P P 16 22 52.5 +1.6
baz=307
RAZG Razgrad 80.56 318 ⇓P P 16 22 51.6 +0.9
P17A Butcher Ranch, 80.58 48 P P 16 22 52.5 +1.4
RDMU Red Mountain 80.58 46 P P 16 22 53.1 +1.9
MTPU Mount Pierson 80.59 50 P P 16 22 53.9 +2.5
HUMR Humele 80.75 319 ⇓P P 16 22 51.7 0.0
MORC Moravsky Berou 80.76 326 P P 16 22 52.4 +0.7
MORC pmax pmax
comp=Z,40nm,1.1s
MORC Moravsky Berou 80.76 326 ⇑P P 16 22 52.6 +0.9
MORC mb 16 22 53.7
MORC Moravsky Berou 80.76 326 *e* P P 16 22 52.4 +0.7
MORC Moravsky Berou 80.76 326 P P 16 22 52.4 +0.7
MORC IAmb IAmb 16 22 53.6
comp=Z,40nm,1.1s
LOT Lotru 80.76 320 ⇑P P 16 22 52.5 +0.6
OSTC Ostas 80.78 328 *e* P P 16 22 52.8 +1.1
KNB Kanab 80.82 51 P P 16 22 54.0 +1.5
KNB pmax pmax
comp=Z,29nm,1.2s
KNB Kanab 80.82 51 P P 16 22 54.0 +1.5
CHVC Chvalec 80.82 328 *e* P P 16 22 52.8 +0.8
KRLC Kraliky 80.88 327 *e* P P 16 22 53.2 +0.9
KRLC Kraliky 80.88 327 *e* P P 16 22 53.2 +0.9
DPC Dobruska-Polom 80.88 327 *e* P P 16 22 53.4 +1.1
DPC Dobruska-Polom 80.88 327 *e* P P 16 22 53.4 +1.1
COPA Copaceanca 80.88 319 ⇑P P 16 22 52.8 +0.4
UPC Upice 80.90 328 *e* P P 16 22 53.2 +0.8
UPC Upice 80.90 328 *e* P P 16 22 53.2 +0.8
DEV Deva 80.91 321 ⇑P P 16 22 54.2 +1.7
MONP2 Monument Peak 80.98 56 P P 16 22 54.7 +1.3
baz=307
PSZ Piszkesteto 80.99 324 P P 16 22 53.7 +0.7
PSZ pmax pmax
comp=Z,49nm,1.0s
PSZ Piszkesteto 80.99 324 ⇓P P 16 22 54.4 +1.4
PSZ mb 16 22 55.2
PSZ Piszkesteto 80.99 324 *e* P P 16 22 53.1 +0.1
PSZ Piszkesteto 80.99 324 P P 16 22 53.7 +0.7
PSZ IAmb IAmb 16 22 55.2
comp=Z,49nm,1.0s
ULM Lac du Bonnet 81.02 33 P P 16 22 53.2 +0.2
comp=Z,4.4nm,0.8s,baz=310,slow=4.6,SNR=9.7
ULM LR LR 17 00 59.9
comp=Z,88nm,18.8s,baz=336,slow=37
SZH Strazhica 81.07 318 *i* P P 16 22 53.9 +0.5
IRM Iron Mountain 81.07 54 P P 16 22 55.0 +1.3
baz=308
VYHS Vyhne 81.08 325 *e* P P 16 22 54.3 +0.9
VYHS pmax pmax
comp=Z,37nm,1.2s
VYHS Vyhne 81.08 325 *e* P P 16 22 54.3 +0.9
SIRR Siria 81.28 322 ⇑P P 16 22 55.3 +0.8
GZR Gura Zlata 81.31 321 ⇑P P 16 22 54.9 +0.1
ELND Elena 81.32 317 ⇑P P 16 22 55.6 +0.8
IKP In-Ko-Pah, Jac 81.34 56 P P 16 22 56.4 +1.3
baz=307
JAVC Velka Javorina 81.36 326 *e* P P 16 22 56.7 +1.8
RSSD Black Hills 81.36 41 P P 16 22 55.8 +0.6
baz=312
SWSC Sam W. Stewart 81.37 56 P P 16 22 56.5 +1.3
baz=307
VLAD Vladila 81.41 319 ⇑P P 16 22 55.7 +0.6
PVCC Panska Ves 81.51 328 *e* P P 16 22 56.8 +1.2
PVCC Panska Ves 81.51 328 *e* P P 16 22 56.8 +1.2
BRG Berggiesshubel 81.51 329 *i* P P 16 22 56.1 +0.5
comp=Z,24nm,1.0s
BRG *e* 16 23 10.7
comp=Z,16nm,1.1s
BRG PP PP 16 25 57.3 -4.6
comp=Z,17nm,1.4s
BRG Berggiesshubel 81.51 329 *i* P P 16 22 56.1 +0.5
BRG pmax pmax
comp=Z,24nm,1.0s
BRG pmax pmax
comp=Z,16nm,1.1s
BRG pmax pmax
comp=Z,17nm,1.4s
VRAC Vranov 81.52 327 LR LR 17 00 40.6
comp=Z,198nm,18.0s,baz=30,slow=37
VRAC Vranov 81.52 327 ⇓P P 16 22 57.0 +1.3
VRAC mb 16 22 58.0
VRAC Vranov 81.52 327 *e* P P 16 22 56.5 +0.8
EDRB Edirne 81.55 316 P P 16 22 56.6 +0.6
CLL Collm 81.58 330 ⇑*i* P P 16 22 56.2 +0.3
comp=Z,49nm,0.9s
CLL *i* PcP PcP 16 23 02.8 +1.1
comp=Z,29nm,1.0s
CLL Collm 81.58 330 P P 16 22 55.3 -0.6
CLL IAmb IAmb 16 22 57.3
comp=Z,43nm,0.9s

SRE Strehaia 81.59 320 ⇓P P 16 22 57.8 +1.6
O20A White River Ci 81.64 46 P P 16 22 57.9 +1.2
baz=310
O20A White River Ci 81.64 46 P P 16 22 56.7 0.0
PLVB Pleven 81.70 318 ⇑P P 16 22 57.5 +0.7
SMOL Smolenice 81.72 326 *e* P P 16 22 58.2 +1.4
SMOL pmax pmax
comp=Z,20nm,0.9s
SMOL Smolenice 81.72 326 *e* P P 16 22 58.2 +1.4
Y12C Blythe 81.73 54 P P 16 22 58.5 +1.4
baz=308
BZS Buzias 81.75 321 ⇑P P 16 22 57.4 +0.5
KRUC Moravsky 81.79 326 *e* P P 16 22 57.8 +0.7
SRO Srobarova 81.81 325 *e* P P 16 22 58.5 +1.3
SRO pmax pmax
comp=Z,46nm,0.8s
SRO Srobarova 81.81 325 *e* P P 16 22 58.5 +1.3
GOPC GO Pecny, Ondr 81.87 328 *e* P P 16 22 58.4 +0.9
GOPC GO Pecny, Ondr 81.87 328 *e* P P 16 22 58.4 +0.9
MODS Modra-Piesok 81.89 326 *e* P P 16 22 58.0 +0.3
MODS pmax pmax
comp=Z,32nm,1.0s
MODS Modra-Piesok 81.89 326 *e* P P 16 22 58.0 +0.3
PRU Pruhonice 81.92 328 *e* P P 16 22 58.6 +0.8
PRU *e* 16 23 21.1
PRU Pruhonice 81.92 328 *e* P P 16 22 58.6 +0.8
PRU *ex* x 16 23 21.1
GLA Glamis 81.95 55 P P 16 22 59.8 +1.4
baz=308
CSS Mathiatis 81.96 307 P P 16 22 58.5 +0.2
CSS Mathiatis 81.96 307 P P 16 22 58.2 -0.1
CSS IAmb IAmb 16 22 59.6
comp=Z,34nm,0.7s
PUNG Punghina 82.00 320 ⇑P P 16 22 58.9 +0.6
TREC Trest 82.02 327 *e* P P 16 22 59.1 +0.7
TREC Trest 82.02 327 *e* P P 16 22 59.1 +0.7
CSKK Cskako 82.16 324 *e* P P 16 22 59.1 0.0
MPEP Malo Peshtene 82.20 319 *i* P P 16 23 00.2 +0.8
MDVR Moldovita 82.28 321 ⇑P P 16 23 00.2 +0.4
PBCC Pribram 82.38 328 *e* P P 16 23 00.5 +0.3
AGMN Agassiz Nation 82.46 34 P P 16 23 00.8 +0.1
N23A Red Feather La 82.47 44 P P 16 23 02.3 +1.2
baz=312
KAC Achnashellach 82.52 342 *e* P P 16 23 01.6 +0.8
ALN Alexandroupoli 82.58 316 P P 16 23 01.6 +0.3
ALN pmax pmax
comp=Z,19nm,1.0s
ALN Alexandroupoli 82.58 316 P P 16 23 01.6 +0.3
Y14A Wickenburg 82.61 53 P P 16 23 02.2 +0.5
NKC Novy Kostel 82.62 329 *e* P P 16 23 02.0 +0.5
NKC Novy Kostel 82.62 329 *e* P P 16 23 02.0 +0.5
MPLH Magyarpolny 82.64 325 *e* P P 16 23 01.1 -0.5
WUAZ Wupatki 82.67 51 P P 16 23 03.6 +1.4
baz=309
RDO Rodhopi 82.70 316 P P 16 23 02.7 +0.7
SOP Sopron 82.72 325 *e* P P 16 23 02.1 +0.1
KPL Plockton 82.75 342 *e* P P 16 23 02.8 +0.9
KPL IAmb IAmb 16 23 05.6
comp=Z,54nm,0.9s
MORH Mrgy, Hungar 82.80 323 *e* P P 16 23 02.3 -0.1
MORH Mrgy, Hungar 82.80 323 *e* P P 16 23 02.1 -0.4
CONA Conrad Observa 82.86 326 *e* PcP P 16 23 04.0 +1.1
comp=Z,22nm,1.0s,SNR=13
VTS Vitosha 82.97 318 P P 16 23 04.7 +1.1
VTS Vitosha 82.97 318 *i* P P 16 23 04.5 +0.9
VTS Vitosha 82.97 318 P P 16 23 04.9 +1.3
VTS pmax pmax
comp=Z,39nm,1.0s
VTS Vitosha 82.97 318 ⇑P P 16 23 04.6 +1.1
VTS mb 16 23 05.5
VTS Vitosha 82.97 318 P P 16 23 04.9 +1.3
VTS IAmb IAmb 16 23 05.9
comp=Z,39nm,1.0s
KHC Kasperske Hory 82.98 328 P P 16 23 03.8 +0.4
KHC pmax pmax
comp=Z,11nm,1.0s
KHC Kasperske Hory 82.98 328 *e* P P 16 23 03.9 +0.5
KHC *ex* x 16 23 12.5
KHC *ex* x 16 23 28.5
KHC Kasperske Hory 82.98 328 P P 16 23 03.8 +0.5
FRGS Fruska Gora 82.98 322 ⇑*i* P P 16 23 03.3 -0.1
ELL Elmali 82.99 311 P P 16 23 04.3 +0.5
ELL pmax pmax
comp=Z,108nm,1.2s
ELL Elmali 82.99 311 P P 16 23 04.3 +0.5
EZN Ezine 83.13 315 P P 16 23 04.5 +0.3
GERES GERESS Array B 83.14 328 P P 16 23 04.5 +0.2
comp=Z,7.8nm,0.8s,baz=39,slow=5.1,SNR=41
GERES PP PP 16 26 18.1 +2.7
comp=Z,1.4nm,0.8s,baz=46,slow=9.5,SNR=4.0
INVG Invergeldie, C 83.15 341 *e* P P 16 23 04.3 +0.3
KAVA Kavala 83.37 317 P P 16 23 06.1 +0.6
MVCO Mesa Verde 83.38 48 P P 16 23 07.5 +1.6
baz=311
ISCO Idaho Springs 83.38 45 P P 16 23 07.1 +1.1
baz=312
ISCO Idaho Springs 83.38 45 P P 16 23 06.3 +0.3
ISCO pmax pmax
comp=Z,4.0nm,1.0s
ISCO Idaho Springs 83.38 45 P P 16 23 06.3 +0.3
MMB Musomiste 83.40 317 *i* P P 16 23 06.4 +0.7
NVR Nevrokopi 83.49 317 P P 16 23 07.0 +0.8
ARSA Arzberg 83.52 326 *e* PcP P 16 23 07.0 +0.8
comp=Z,15nm,1.0s,SNR=7.1
THAS Thassos island 83.52 316 P P 16 23 06.5 +0.3
PRK Paraskevi 83.54 314 P P 16 23 07.8 +1.4
KKB Krupnik 83.57 318 *i* P P 16 23 07.6 +1.1
FETY Fethiye 83.57 311 P P 16 23 06.4 -0.2
DIVS Divibare 83.64 321 ⇑*i* P P 16 23 07.2 +0.3
MOA Molln 83.64 327 *e* PcP P 16 23 07.7 +0.9
comp=Z,24nm,1.1s,SNR=6.7
YER Yerkesik 83.74 312 P P 16 23 08.5 +1.0
SIGR SIGRI 83.81 315 P P 16 23 07.9 +0.2
W18A Petrified Fore 83.96 51 P P 16 23 09.7 +0.8
baz=310
214A Organ Pipe Nat 83.97 55 P P 16 23 10.2 +1.4
baz=309
S22A 4UR Ranch, Cre 84.03 47 P P 16 23 10.6 +1.3
baz=311
S22A 4UR Ranch, Cre 84.03 47 P P 16 23 10.3 +1.0
BBLS Lazići 84.10 321 ⇑*i* P P 16 23 10.2 +0.9
OUR Ouranopolis 84.12 316 P P 16 23 09.5 +0.2
MOSL Moslavina 84.15 324 P P 16 23 09.4 0.0
KNT Kendrikon 84.15 318 P P 16 23 09.8 +0.3
PERS Pernice 84.16 325 *i* P P 16 23 10.0 +0.5
SOKA Soboth 84.17 326 *e* PcP P 16 23 10.0 +0.5
comp=Z,46nm,0.9s,SNR=29
HAPS Han Pijesak,Bl 84.17 322 ⇓*i* P P 16 23 09.6 -0.1
X18A Snowflake 84.20 51 P P 16 23 11.9 +1.8
Q24A Divide 84.21 45 P P 16 23 11.7 +1.5
baz=312
CHOS Chios island 84.24 314 P P 16 23 10.3 +0.2
RUDO Rudo 84.30 321 *e* P P 16 23 10.4 +0.2
BODT Bodrum 84.37 312 P P 16 23 10.6 -0.1
PLG Polygyros 84.39 317 P P 16 23 11.1 +0.4
PLE Pljevlja 84.49 321 ⇑*i* P P 16 23 12.3 +1.0
OBKA Obir 84.52 326 *e* PcP P 16 23 11.2 -0.1
comp=Z,10nm,0.8s
IVA Berane 84.56 320 ⇑*i* P P 16 23 12.6 +1.0
PAIG Paliouri 84.56 316 P P 16 23 11.7 +0.1
GRG Griva 84.56 318 P P 16 23 11.8 +0.2
BLY Banja Luka 84.57 323 ⇑*i* P P 16 23 11.8 +0.3
BLY Banja Luka 84.57 323 ⇓P P 16 23 12.6 +1.1
BLY mb 16 23 13.2
LEGS Legarje 84.58 325 *i* P P 16 23 11.6 +0.1
CRES Cresnjev 84.61 325 ⇑*i* P P 16 23 11.6 -0.1
OGNE Ogallala 84.61 42 P P 16 23 12.4 +0.5
baz=314
KBA Koelnbreinsper 84.63 327 *e* PcP P 16 23 11.8 -0.2
comp=Z,15nm,0.7s
EYMN Ely 84.65 32 P P 16 23 12.2 +0.4
baz=320
PVY Plav 84.72 320 ⇑*i* P P 16 23 13.0 +0.5
OZLJ Ozalj 84.76 325 P P 16 23 12.4 0.0
KOME Kolasin 84.77 321 ⇑*i* P P 16 23 13.0 +0.3
SDCO Great Sand Dun 84.82 46 P P 16 23 14.5 +1.3
baz=312
UPM Unac-Piva 84.83 321 *e* P P 16 23 13.3 +0.2
UPM Unac-Piva 84.83 321 ⇑*i* P P 16 23 13.3 +0.2
MYKA Terra Mystica 84.84 326 *e* PcP P 16 23 12.7 -0.3
comp=Z,18nm,0.9s,SNR=7.3
BTNL Ternell 84.84 333 P P 16 23 12.9 +0.1
MGRS Mrkonjic Grad 84.86 323 ⇑*i* P P 16 23 14.1 +1.1

MEM	**Membach**	**84.87**	**333**	P		**P**	**16 23 13.0**	**+0.1**
	comp=Z,18nm,1.1s							
LJU	**Ljubljana**	**84.88**	**325**⇑	*i*P		**P**	**16 23 12.9**	**-0.1**
AOS	**Alonnisos**	**84.97**	**316**	P		**P**	**16 23 13.6**	**0.0**
PPT2	**Papeete2**	**85.06**	**116**	*e*S		**S**	**16 33 37.3**	**-1.3**
	comp=Z,160nm,24.8s							
PPT2	**Papeete2**	**85.06**	**116**	*e*LR		LR	16 49 53.7	
	comp=Z,1µm,32.2s,baz=312							
NKY	**Niksic**	**85.06**	**321**⇑	*i*P		**P**	**16 23 14.1**	**-0.1**
TUC	**Tucson**	**85.08**	**53**	P		**P**	**16 23 15.8**	**+1.3**
	baz=310							
TUC	**Tucson**	**85.08**	**53**	P		**P**	**16 23 15.9**	**+1.5**
TUC				pmax		pmax		
	comp=Z,8.0nm,1.0s							
TUC	**Tucson**	**85.08**	**53**	P		**P**	**16 23 15.9**	**+1.5**
LIT	**Litokhoron**	**85.11**	**317**	P		**P**	**16 23 14.0**	**-0.4**
LIT	**Litokhoron**	**85.11**	**317**	P		**P**	**16 23 14.0**	**-0.4**
LIT				pmax		pmax		
	comp=Z,106nm,0.9s							
LIT	**Litokhoron**	**85.11**	**317**	P		**P**	**16 23 14.0**	**-0.4**
NKME	**Niksic**	**85.12**	**321**⇑	*i*P		**P**	**16 23 14.4**	**0.0**
LBWR	**Ladybower, Pea**	**85.13**	**338**	*e*P		**P**	**16 23 14.5**	**+0.4**
LBWR				IAmb		IAmb	16 23 16.1	
	comp=Z,87nm,1.0s							
CEY	**Cerknica**	**85.15**	**325**⇑	*i*P		**P**	**16 23 14.3**	**-0.2**
PDG	**Podgorica**	**85.20**	**320**⇑	*i*P		**P**	**16 23 15.1**	**+0.4**
PDG	**Podgorica**	**85.20**	**320**⇑	P		**P**	**16 23 15.1**	**+0.4**
PDG				mb			16 23 16.2	
PDG	**Podgorica**	**85.20**	**320**	P		**P**	**16 23 14.9**	**+0.2**
TTG	**Podgorica**	**85.20**	**320**⇑	*i*P		**P**	**16 23 15.3**	**+0.6**
WATA	**Walderalm**	**85.22**	**328**	P		**P**	**16 23 14.1**	**-0.8**
	comp=Z,10nm,1.2s							
XOR	**Xorichti**	**85.22**	**316**	P		**P**	**16 23 14.8**	**-0.1**
BRY	**Bratogost**	**85.23**	**321**	*e*P		**P**	**16 23 14.7**	**-0.4**
BRY	**Bratogost**	**85.23**	**321**⇑	*i*P		**P**	**16 23 14.7**	**-0.4**
FNA	**Florina**	**85.24**	**318**	P		**P**	**16 23 14.8**	**-0.2**
FNA				pmax		pmax		
	comp=Z,24nm,1.0s							
FNA	**Florina**	**85.24**	**318**	P		**P**	**16 23 14.8**	**-0.2**
FNA				IAmb		IAmb	16 23 16.0	
	comp=Z,24nm,1.0s							
WTTA	**Wattenberg**	**85.24**	**328**	*e*PcP		**P**	**16 23 14.6**	**-0.5**
	comp=Z,7.0nm,0.7s							
ABTA	**Abfaltersbach**	**85.26**	**327**	*e*P		**P**	**16 23 14.3**	**-0.7**
	comp=Z,18nm,1.0s,SNR=6.8							
BCLA	**Clavier**	**85.28**	**333**	P		**P**	**16 23 15.3**	**+0.4**
CEME	**Cevo**	**85.30**	**321**⇑	*i*P		**P**	**16 23 15.3**	**0.0**
MOTA	**Moosalm**	**85.41**	**328**	*e*PcP		**P**	**16 23 15.8**	**-0.1**
	comp=Z,15nm,1.1s							
DRME	**Dracevica, Mon**	**85.42**	**320**⇑	*i*P		**P**	**16 23 16.1**	**+0.3**
DRME	**Dracevica, Mon**	**85.42**	**320**⇑	*i*P		**P**	**16 23 16.2**	**+0.4**
UDBI	**Udbina**	**85.42**	**324**	P		**P**	**16 23 15.8**	**-0.1**
RIY	**Rijeka**	**85.44**	**325**	*e*P		**P**	**16 23 15.0**	**-0.8**
ECSD	**EROS Data Cent**	**85.45**	**37**	P		**P**	**16 23 16.1**	**+0.1**
	baz=317							
ECSD	**EROS Data Cent**	**85.45**	**37**	P		**P**	**16 23 15.8**	**-0.2**
RETA	**Reutte**	**85.45**	**328**	*i* PcP		**P**	**16 23 16.3**	**+0.4**
	comp=Z,20nm,0.9s,SNR=5.1							
SQTA	**Sankt Quirin**	**85.46**	**328**	*e*PcP		**P**	**16 23 16.0**	**-0.1**
	comp=Z,8.2nm,0.8s							
TREB	**Trebinje**	**85.46**	**321**	*e*P		**P**	**16 23 15.9**	**-0.1**
BUM	**Brajici-Budva**	**85.48**	**320**⇑	*i*P		**P**	**16 23 16.2**	**0.0**
KIJV	**Kijevo**	**85.50**	**323**	P		**P**	**16 23 16.3**	**+0.1**
RICI	**Ricice**	**85.51**	**322**	P		**P**	**16 23 16.1**	**-0.2**
STAL	**STALIGIAL**	**85.54**	**326**	P		**P**	**16 23 15.4**	**-1.0**
STAL				IAmb		IAmb	16 23 16.4	
	comp=Z,25nm,0.9s							
ULC	**Ulcinj**	**85.54**	**320**⇑	*i*P		**P**	**16 23 16.4**	**-0.1**
BMRD	**Maredsous**	**85.58**	**333**	P		**P**	**16 23 16.8**	**+0.4**
	comp=Z,27nm,1.1s							
HCY	**Herceg Novi**	**85.58**	**321**	*e*P		**P**	**16 23 16.6**	**-0.1**
HCY	**Herceg Novi**	**85.58**	**321**⇑	*i*P		**P**	**16 23 16.5**	**-0.1**
STON	**Ston**	**85.68**	**322**	*e*P		**P**	**16 23 16.3**	**-0.8**
MAKA	**Makarska**	**85.72**	**322**	P		**P**	**16 23 16.6**	**-0.7**
BFO	**Black Forest**	**85.80**	**330**	P		**P**	**16 23 17.8**	**+0.2**
BFO				pmax		pmax		
	comp=Z,36nm,1.1s							
BFO	**Black Forest**	**85.80**	**330**	P		**P**	**16 23 17.8**	**+0.2**
BFO				IAmb		IAmb	16 23 19.0	
	comp=Z,36nm,1.1s							
NVLJ	**Novalja**	**85.82**	**324**	P		**P**	**16 23 17.3**	**-0.4**
FETA	**Feichten**	**85.82**	**328**	*e*PcP		**P**	**16 23 17.7**	**-0.2**
	comp=Z,13nm,0.9s							
T25A	**Trinidad**	**85.87**	**46**	P		**P**	**16 23 19.6**	**+1.2**
	baz=313							
T25A	**Trinidad**	**85.87**	**46**	P		**P**	**16 23 19.6**	**+1.2**
MORI	**Morici**	**85.94**	**323**	P		**P**	**16 23 18.0**	**-0.3**
SANT	**Santorini**	**85.94**	**313**	P		**P**	**16 23 16.9**	**-1.6**
SANT				IAmb		IAmb	16 23 19.2	
	comp=Z,29nm,0.8s							
AGG	**Agios Georgios**	**85.94**	**316**	P		**P**	**16 23 16.7**	**-1.8**
AGG	**Agios Georgios**	**85.94**	**316**	P		**P**	**16 23 16.9**	**-1.6**
AGG				pmax		pmax		
	comp=Z,17nm,1.0s							
AGG	**Agios Georgios**	**85.94**	**316**	P		**P**	**16 23 16.9**	**-1.6**
AGG				IAmb		IAmb	16 23 18.6	
	comp=Z,17nm,1.0s							
DAVA	**Damuels**	**85.98**	**329**	*i* PcP		**P**	**16 23 18.9**	**+0.2**
	comp=Z,34nm,1.2s							
FOEL	**Foel Wylfa**	**86.02**	**339**	*e*P		**P**	**16 23 19.3**	**+0.7**
FOEL				IAmb		IAmb	16 23 20.2	
	comp=Z,38nm,0.8s							
ANMO	**Albuquerque**	**86.11**	**49**	P		**P**	**16 23 20.6**	**+1.0**
	baz=312							
ZIRJ	**Zirje**	**86.13**	**323**	P		**P**	**16 23 19.1**	**-0.2**
DUGI	**Dugi Otok**	**86.16**	**324**	P		**P**	**16 23 19.1**	**-0.4**
FUORN	**Ofenpass-Fuorn**	**86.34**	**328**	P		**P**	**16 23 21.1**	**+0.5**
ECH	**Echery**	**86.36**	**331**	P		**P**	**16 23 20.1**	**-0.3**
ECH				pmax		pmax		
	comp=Z,17nm,0.8s							
ECH	**Echery**	**86.36**	**331**	P		**P**	**16 23 20.1**	**-0.3**
ECH				IAmb		IAmb	16 23 21.5	
	comp=Z,17nm,0.8s							
DAVOX	**Davos/Dischmat**	**86.38**	**328**	LR		LR	17 06 39.9	
	comp=Z,185nm,18.4s,baz=80,slow=39							
IGT	**Igoumenitsa**	**86.69**	**318**	P		**P**	**16 23 21.2**	**-1.0**
SCHQ	**Schefferville**	**86.71**	**15**	P		**P**	**16 23 22.9**	**+0.9**
	comp=Z,14nm,0.8s,baz=333,slow=5.4,SNR=11							
SCHQ				LR		LR	17 06 22.6	
	comp=Z,146nm,18.1s,baz=83,slow=38							
SCHQ	**Schefferville**	**86.71**	**15**	P		**P**	**16 23 21.6**	**-0.3**
SCHQ				IAmb		IAmb	16 23 23.5	
	comp=Z,14nm,0.8s							
LAST	**Lasithi**	**86.74**	**312**	P		**P**	**16 23 22.7**	**+0.1**
KEK	**Kerkira**	**86.85**	**318**	P		**P**	**16 23 22.2**	**-0.7**
121A	**Cookes Peak, D**	**86.87**	**52**	P		**P**	**16 23 24.3**	**+0.9**
	baz=311							
TAOE	**Nuku Hiva Isla**	**86.89**	**103**	*e*LR		LR	16 51 09.7	
	comp=Z,828nm,28.9s							
DRO	**Drossia**	**87.04**	**316**	P		**P**	**16 23 23.1**	**-0.8**
LKD2	**Lefkada island**	**87.04**	**317**	P		**P**	**16 23 22.4**	**-1.5**
FSK	**Fiskardo**	**87.32**	**317**	P		**P**	**16 23 23.6**	**-1.6**
ITM	**Ithomi**	**87.45**	**315**	P		**P**	**16 23 24.6**	**-1.3**
SGRT	**San Giovanni R**	**87.49**	**322**	P		**P**	**16 23 26.3**	**+0.2**
PYL	**PYLOS**	**87.76**	**315**	P		**P**	**16 23 25.7**	**-1.6**
MURB	**Monte Urbino**	**87.92**	**325**	P		**P**	**16 23 28.7**	**+0.6**
MURB				IAmb		IAmb	16 23 30.8	
	comp=Z,43nm,1.0s							
AQU	**L'Aquila**	**88.19**	**324**	*e*P		**P**	**16 23 29.9**	**+0.5**
INTR	**Introdacqua**	**88.20**	**323**	P		**P**	**16 23 28.0**	**-1.5**
INTR				IAmb		IAmb	16 23 31.4	
	comp=Z,32nm,0.8s							
MATQ	**Matagami**	**88.39**	**23**	P		**P**	**16 23 30.4**	**+0.3**
	baz=330							
TIP	**Timpagrande**	**88.86**	**320**	⇑P		**P**	**16 23 32.1**	**-0.5**
TIP				mb			16 23 35.0	
TIP	**Timpagrande**	**88.86**	**320**	P		**P**	**16 23 31.9**	**-0.8**
TIP				IAmb		IAmb	16 23 35.0	
	comp=Z,15nm,1.1s							
MNTX	**Cornudas Mount**	**88.94**	**51**	P		**P**	**16 23 33.9**	**+0.8**
	baz=312							
AMTX	**Amarillo**	**89.02**	**46**	P		**P**	**16 23 34.8**	**+1.3**
	baz=314							
ATD	**Arta Tunnel**	**89.16**	**284**	LR		LR	17 06 52.9	
	comp=Z,18nm,21.4s,baz=60,slow=38							
D48A	**Paudash Townsh**	**89.16**	**27**	P		**P**	**16 23 34.1**	**+0.4**
	baz=327							
E47A	**Iron Bridge**	**89.20**	**28**	P		**P**	**16 23 34.6**	**+0.7**
	baz=326							
LSQQ	**Lebel-sur-Quev**	**89.22**	**23**	P		**P**	**16 23 34.7**	**+0.8**
	baz=331							
CHGQ	**Chibougamau**	**89.27**	**21**	P		**P**	**16 23 34.7**	**+0.5**
	baz=333							
D52A	**ZEK Kipawa Sen**	**90.54**	**25**	P		**P**	**16 23 40.8**	**+0.6**
	baz=330							
E51A	**G1948 Merrick**	**90.54**	**26**	P		**P**	**16 23 40.8**	**+0.6**
	baz=329							
D53A	**Lac Vacive, Po**	**90.70**	**25**	P		**P**	**16 23 41.3**	**+0.3**
	baz=330							
WMOK	**Wichita Mounta**	**90.81**	**45**	P		**P**	**16 23 42.2**	**+0.5**
	baz=316							
F51A	**Arnstein**	**90.91**	**27**	P		**P**	**16 23 42.8**	**+0.9**
	baz=329							
D54A	**Lac Fusel, La**	**90.99**	**24**	P		**P**	**16 23 42.6**	**+0.3**
	baz=331							
E52A	**Mattawa**	**91.05**	**26**	P		**P**	**16 23 42.9**	**+0.4**
	baz=330							
J47A	**Sunmer**	**91.23**	**31**	P		**P**	**16 23 45.0**	**+1.5**
	baz=325							
TUL1	**Leonard**	**91.63**	**42**	P		**P**	**16 23 45.9**	**+0.5**
	baz=318							
TX31	**Lajitas Ar. Si**	**91.63**	**52**	P		**P**	**16 23 46.8**	**+1.1**
TX31				IAmb		IAmb	16 24 06.1	
	comp=Z,7.9nm,1.1s							
TX32	**Lajitas Array**	**91.63**	**52**	P		**P**	**16 23 45.9**	**+0.2**
TX32				IAmb		IAmb	16 23 58.9	
	comp=Z,9.9nm,1.2s							
TXAR	**Lajitas Array**	**91.63**	**52**	P		**P**	**16 23 47.0**	**+1.3**
TXAR	**Lajitas Array**	**91.63**	**52**	P		**P**	**16 23 47.0**	**+1.3**
	comp=Z,3.2nm,0.7s,baz=302,slow=3.0,SNR=39							
TXAR				PKKPbc		**PKKPbc**	**16 41 06.3**	**+2.6**
	comp=Z,0.4nm,0.5s,baz=144,slow=6.2,SNR=6.1							
TXAR				LR		LR	16 58 54.2	
	comp=Z,64nm,21.7s,baz=0.0,slow=32							
D56A	**ZEC Mazanza, M**	**91.70**	**23**	P		**P**	**16 23 45.9**	**+0.3**
	baz=332							
J49A	**Marlette**	**91.83**	**30**	P		**P**	**16 23 47.7**	**+1.5**
	baz=326							
D57A	**Chemin Vers le**	**92.00**	**23**	P		**P**	**16 23 47.8**	**+0.8**
	baz=333							
CCM	**Cathedral Cave**	**92.39**	**38**	P		**P**	**16 23 49.6**	**+0.7**
	baz=321							
L48A	**N Adams**	**92.46**	**32**	P		**P**	**16 23 50.0**	**+0.9**
	baz=325							
U40A	**Yellville**	**92.87**	**40**	P		**P**	**16 23 51.2**	**0.0**
	baz=320							
D60A	**Saint Jean D'O**	**92.98**	**21**	P		**P**	**16 23 51.6**	**+0.2**
	baz=335							
O48A	**Farmland**	**93.52**	**33**	P		**P**	**16 23 54.7**	**+0.6**
	baz=325							
WHTX	**Lake Whitney,**	**93.55**	**46**	P		**P**	**16 23 55.5**	**+1.1**
	baz=317							
D63A	**Stockholm**	**93.64**	**19**	P		**P**	**16 23 55.4**	**+0.9**
	baz=338							
F61A	**St Evariste**	**93.81**	**21**	P		**P**	**16 23 57.1**	**+1.8**
	baz=335							
MIAR	**Mount Ida**	**93.85**	**42**	P		**P**	**16 23 56.2**	**+0.4**
	baz=319							
J55A	**Hilton**	**93.96**	**27**	P		**P**	**16 23 56.9**	**+0.8**
	baz=330							
K58A	**Earlville**	**95.18**	**26**	P		**P**	**16 24 02.5**	**+0.8**
	baz=332							
Q51A	**Peebles**	**95.33**	**33**	P		**P**	**16 24 02.8**	**+0.4**
	baz=326							
K59A	**Cooperstown**	**95.44**	**25**	P		**P**	**16 24 03.0**	**0.0**
	baz=332							
N55A	**Marion Center**	**95.66**	**29**	P		**P**	**16 24 04.9**	**+0.9**
	baz=329							
M57A	**Sunshine Farm,**	**95.89**	**27**	P		**P**	**16 24 06.0**	**+1.1**
	baz=330							
L59A	**Walton**	**95.89**	**26**	P		**P**	**16 24 05.9**	**+0.9**
	baz=332							
T49A	**Edmonton**	**95.91**	**35**	P		**P**	**16 24 06.2**	**+1.0**
	baz=324							
S50A	**Richmond**	**95.97**	**34**	P		**P**	**16 24 05.7**	**+0.4**
	baz=325							
O55A	**Ligonier**	**96.02**	**29**	P		**P**	**16 24 06.7**	**+1.1**
	baz=329							
J62A	**Henniker**	**96.05**	**23**	P		**P**	**16 24 05.8**	**+0.2**
	baz=334							
SSPA	**Standing Stone**	**96.21**	**28**	P		**P**	**16 24 06.2**	**-0.2**
	baz=330							
N57A	**Milroy**	**96.23**	**28**	P		**P**	**16 24 07.6**	**+1.1**
	baz=330							
U49A	**Red Boiling Sp**	**96.28**	**36**	P		**P**	**16 24 07.4**	**+0.7**
	baz=324							
VNDA	**Vanda**	**113.92**	**175**	PKiKP		**PKiKP**	**16 29 15.9**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=315,slow=4.3,SNR=4.6							
TOA0	**Torodi Ar. Sit**	**117.40**	**313**			**PKPdf**	**16 29 24.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**117.40**	**313**	PKP		**PKPdf**	**16 29 23.9**	**-0.2**
	comp=Z,3.9nm,0.5s,baz=36,slow=1.4,SNR=28							
TORD				PP		PP	16 30 25.8	-10
	comp=Z,3.3nm,1.0s,baz=37,slow=7.4,SNR=6.1							
MAW	**Mawson**	**118.07**	**205**	PKiKP		**PKiKP**	**16 29 24.8**	**+1.1**
MAW	**Mawson**	**118.07**	**205**	PKP		**PKiKP**	**16 29 24.0**	**+0.3**
	comp=Z,5.6nm,0.8s,baz=344,slow=3.0,SNR=8.5							
MAW	**Mawson**	**118.07**	**205**			**PKiKP**	**16 29 24.9**	**+1.1**
LBTB	**Lobatse**	**123.47**	**262**	PKiKP		**PKiKP**	**16 29 36.6**	**+0.8**
LBTB	**Lobatse**	**123.47**	**262**			**PKiKP**	**16 29 36.6**	**+0.8**
BOSA	**Boshof**	**125.35**	**258**	PKiKP		**PKiKP**	**16 29 40.2**	**+0.7**
BOSA	**Boshof**	**125.35**	**258**	PKP		**PKiKP**	**16 29 39.8**	**+0.3**
	comp=Z,12nm,0.9s,baz=119,slow=1.9,SNR=15							
BOSA	**Boshof**	**125.35**	**258**			**PKiKP**	**16 29 40.2**	**+0.7**
QSPA	**South Pole Qui**	**125.63**	**180**			**PKiKP**	**16 29 39.0**	**+0.2**
DBIC	**Dimbokro**	**126.40**	**315**	PKiKP		**PKiKP**	**16 29 42.0**	**+0.1**
DBIC	**Dimbokro**	**126.40**	**315**	PKP		**PKPdf**	**16 29 41.5**	**+0.1**
	comp=Z,9.3nm,0.6s,baz=11,slow=2.5,SNR=16							
DBIC	**Dimbokro**	**126.40**	**315**			**PKiKP**	**16 29 42.0**	**+0.1**
TIC	**Toumodi**	**126.52**	**315**	*e*PKiKP		**PKPdf**	**16 29 41.5**	**-0.2**
	comp=Z,17nm,0.5s							
KIC	**Kosan Boka**	**126.59**	**315**	*e*PKiKP		**PKPdf**	**16 29 41.7**	**-0.1**
	comp=Z,34nm,0.9s							
SYO	**Syowa Base**	**126.73**	**206**‖	*e*X		**Pdif**	**16 26 20.0**	**-1.3**
SYO	**Syowa Base**	**126.73**	**206**‖	*e*PPdiff		pPdif	16 26 41.0	+1.0
SDV	**Santo Domingo**	**126.86**	**39**			**PKiKP**	**16 29 43.1**	**0.0**
LIC	**Lamto**	**126.86**	**315**	*e*PKiKP		**PKPdf**	**16 29 42.1**	**-0.3**
	comp=Z,43nm,0.7s							
ROSC	**El Rosal**	**128.19**	**46**	PKP		**PKiKP**	**16 29 47.0**	**+1.0**
	comp=Z,9.4nm,0.4s,baz=124,slow=22,SNR=3.7							
SNAA	**Sanae**	**139.35**	**197**	PKPdf		PKPdf	16 29 54.6	-9.5
SNAA	**Sanae**	**139.35**	**197**	PKiKP		**PKPdf**	**16 30 02.0**	**-2.1**
SNAA	**Sanae**	**139.35**	**197**			**PKPdf**	**16 30 02.0**	**-2.1**
VNA2	**Neumayer--Watz**	**140.93**	**196**	PKPdf		**PKPdf**	**16 30 00.1**	**-6.8**
	baz=74,slow=1.8							
VNA3	**Neumayer Olymp**	**141.19**	**195**	PKPdf		**PKPdf**	**16 30 02.8**	**-4.5**
SAML	**Samuel**	**145.78**	**44**	PKP2		**PKPab**	**16 30 18.5**	**+0.4**
SAML	**Samuel**	**145.78**	**44**			**PKPab**	**16 30 18.5**	**+0.4**
LPAZ	**La Paz**	**148.15**	**60**	PKP2		**PKiKP**	**16 30 26.6**	**-0.2**
LPAZ	**La Paz**	**148.15**	**60**	PKP		**PKPdf**	**16 30 22.8**	**+1.0**
	comp=Z,12nm,0.9s,baz=315,slow=2.0,SNR=23							
LPAZ				PKPbc		**PKiKP**	**16 30 26.1**	**-0.6**
	comp=Z,12nm,0.8s,baz=5.5,slow=7.1,SNR=28							
LPAZ	**La Paz**	**148.15**	**60**			**PKiKP**	**16 30 26.6**	**-0.2**
MNMC	**Minye Minye**	**148.95**	**65**			**PKiKP**	**16 30 28.9**	**+0.9**
PB11	**IPOC Station P**	**149.29**	**66**			**PKiKP**	**16 30 29.1**	**+0.6**
GO01	**Chusmiza**	**149.58**	**66**			**PKiKP**	**16 30 31.3**	**+1.8**
RCBR	**Riachuelo**	**149.87**	**352**	PKP2		**PKiKP**	**16 30 29.6**	**-0.1**
RCBR	**Riachuelo**	**149.87**	**352**			**PKiKP**	**16 30 29.6**	**-0.1**
PB04	**IPOC Station P**	**150.42**	**71**			**PKiKP**	**16 30 31.2**	**+0.5**
LVC	**Limon Verde**	**151.52**	**70**	PKiKP		**PKiKP**	**16 30 34.1**	**+0.8**
LVC	**Limon Verde**	**151.52**	**70**	PKPbc		**PKiKP**	**16 30 34.1**	**+0.8**
GO04	**Tololo Observa**	**153.50**	**86**	PKPbc		**PKiKP**	**16 30 37.9**	**+0.9**
PLCA	**Paso Flores**	**155.50**	**111**	PKP		**PKPdf**	**16 30 31.6**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=259,slow=1.9,SNR=2.9							
PLCA				PKPab		**PKPab**	**16 30 59.6**	**+2.0**
	comp=Z,2.3nm,0.7s,baz=261,slow=6.4,SNR=5.3							
BDFB	**Brasilia**	**158.56**	**22**	PKPab		**PKPab**	**16 31 12.5**	**+1.3**
	comp=Z,1.9nm,0.4s,baz=89,slow=5.2,SNR=4.6							
CPUP	**Villa Florida**	**162.28**	**62**	PKPab		**PKPab**	**16 31 27.3**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=314,slow=5.6,SNR=3.4							

IDC ***20*** *16:17:51.9₀3.5, 4.°08N×96.°39E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/41, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=137.7km s-min=28.9km az=62.0*
ISCJB ***20*** *16:18:00.1±0.8, 4.°19N±0.°07×96.°5E±0.°1, h100km, mb3.6/3, Error ellipse: s-maj=16.4km s-min=8.3km az=156.6*
NEIC ***20*** *16:18:01.1±2.1, 4.°17N±0.°05×96.°5E±0.°1, h109km±10km, mb4.5/5*

ISC 20 16:18:01.0±0.9, 4.°13N±0.°07×96.°5E±0.°1, h100km, n20, σ2⁰12/18, mb4.2/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.19**	**24**				**Pn**	**16 18 23.1**	**-0.4**
LHMI						Sn	**Sn**	**16 18 43.5**	**+2.9**
RPSI	**Rantau Prapat**	**2.84**	**120**				**Pn**	**16 18 45.9**	**+1.3**
GSI	**Gunungsitoli**	**3.02**	**158**				**Pn**	**16 18 46.9**	**-0.2**
KULM	**Kulim**	**4.32**	**74**	Pn		**Pn**	**16 19 04.7**	**+0.1**
IPM	**Ipoh**	**4.56**	**86**	Pn		**Pn**	**16 19 07.6**	**-0.2**
MNAI	**Manna**	**10.64**	**142**	Pn		**Pn**	**16 20 31.3**	**+0.8**
CM31	**Chiang Mai Arr**	**14.44**	**9**	Pn		**Pn**	**16 21 18.3**	**-2.4**
CMAR	**Chiang Mai Arr**	**14.44**	**9**	Pn		**Pn**	**16 21 18.6**	**-2.1**
	0.1nm,0.3s,baz=217,slow=15,SNR=2.0							
H08S2	**Diego Garcia H**	**26.63**	**244**	T		T	16 50 42.0	
	baz=64,slow=76,SNR=2.8							
H08S3	**Diego Garcia H**	**26.63**	**244**	T		T	16 50 40.7	
	baz=64,slow=76,SNR=3.9							
H08S1	**Diego Garcia H**	**26.65**	**244**	T		T	16 50 44.1	
	baz=64,slow=76,SNR=3.1							
LUWI	**Luwuk**	**26.78**	**101**	P		**P**	**16 23 30.3**	**-1.6**
GAR	**Garm**	**42.05**	**329**	P		**P**	**16 25 42.7**	**-0.3**
GAR				IAmb		IAmb	16 25 47.9	
	comp=Z,13nm,1.5s							
BOOM	**Boomskoye usch**	**42.35**	**337**	P		**P**	**16 25 46.9**	**+1.5**
MKAR	**Makanchi Array**	**44.24**	**346**	P		**P**	**16 26 03.1**	**+2.8**
	comp=Z,1.0nm,1.0s,baz=162,slow=8.4,SNR=1.5							
WRA	**Warramunga Arr**	**44.24**	**124**	P		**P**	**16 26 04.2**	**+3.5**
	comp=Z,1.6nm,0.5s,baz=303,slow=9.3,SNR=6.4							
WRAB	**Tennant Creek**	**44.24**	**124**	P		**P**	**16 25 56.9**	**-3.9**
WRAB				IAmb		IAmb	16 26 05.7	
	comp=Z,5.8nm,1.0s							
AS31	**Alice Springs**	**45.77**	**129**	P		**P**	**16 26 11.5**	**-1.3**
ASAR	**Alice Springs**	**45.77**	**129**	P		**P**	**16 26 14.9**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=296,slow=7.4,SNR=1.1							
COEN	**Coen**	**49.70**	**112**	P		**P**	**16 26 42.4**	**-0.9**
COEN				IAmb		IAmb	16 26 43.8	
	comp=Z,8.5nm,1.0s							

MAN 20 16:22:48.5, 9.°86N×124.°01E, h1km, MS3.2, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.46**	**354**	‖		P	Pb	16 22 58.8	-0.5
LLP						S	Sb	16 23 05.2	-1.5
MSLP	**Maasin**	**0.88**	**72**			P	Pg	16 23 05.6	+0.3
MSLP						S	Sb	16 23 18.6	-0.2
OCLP	**Ormoc**	**1.32**	**26**			P	Pg	16 23 13.5	-0.3
OCLP						S	Sn	16 23 40.8	+8.4
DCPH	**Dipolog City**	**1.43**	**207**	‖		P	Pb	16 23 16.7	+0.9
CGP	**Cagayan de Oro**	**1.55**	**154**	⇑		P	Pn	16 23 16.7	-0.5
CGP						S	Sn	16 23 36.1	-1.9
GUIM	**Jordan**	**1.59**	**299**			P	Pn	16 23 17.5	-0.4
GUIM						S	Sg	16 23 39.9	+0.2
BUTP	**Butuan**	**1.82**	**119**			P	Pn	16 23 14.7	-6.2
BUTP						S	Sb	16 23 46.3	+0.4
PAGZ	**Pagadian**	**2.09**	**197**			P	Pn	16 23 25.3	+0.6
PAGZ						S	Sg	16 23 55.0	-0.7
BUKP	**Musuan**	**2.23**	**152**			P	Pn	16 23 27.2	+0.7
BUKP						S	Sb	16 23 57.9	+0.3

ISCJB ***20*** *16:28:45.6±0.5, 18.°99N±0.°04×39.°40E±0.°04, h10km, mb3.7/7, MS3.2/2, Error ellipse: s-maj=6.3km s-min=5.6km az=142.8*
SGS ***20*** *16:28:45, 18.°93N×39.°02E, h36km, Ml3.0*
IDC ***20

PCIG		**2.20**	**94**	*eP*	**Pn**	**16 30 03.9**	**-2.4**		
PCIG				*i* S	**Sn**	**16 30 29.3**	**-3.9**		
PCIG		**2.20**	**94**		**Pn**	**16 30 03.9**	**-2.4**		
TGIG		**2.45**	**68**	*eP*	**Pn**	**16 30 09.7**	**-0.1**		
TGIG				*i* S	**Sn**	**16 30 38.8**	**-0.7**		
TGIG		**2.45**	**68**		**Pn**	**16 30 09.7**	**-0.1**		
PNIG	**Pinotepa**	**2.58**	**282**	*eP*	**Pn**	**16 30 11.0**	**-0.6**		
PNIG				*i* S	**Sn**	**16 30 38.6**	**-4.1**		
PNIG	**Pinotepa**	**2.58**	**282**		**Pn**	**16 30 11.0**	**-0.6**		
THIG		**3.26**	**107**	*i* P	**Pn**	**16 30 19.0**	**-1.9**		
MEIG	**Mezcala**	**4.44**	**298**	*eP*	**Pn**	**16 30 39.7**	**+2.4**		
MEIG	**Mezcala**	**4.44**	**298**		**Pn**	**16 30 39.7**	**+2.4**		
CAIG	**El Cayaco**	**4.72**	**285**	*eP*	**Pn**	**16 30 41.4**	**+0.3**		
CAIG	**El Cayaco**	**4.72**	**285**		**Pn**	**16 30 41.4**	**+0.3**		
APG	**El Apazote**	**4.93**	**99**	P	**Pn**	**16 30 42.9**	**-1.2**		
	3.0nm,0.3s,baz=324,slow=13,SNR=30								
APG				S	**Sn**	**16 31 45.3**	**+4.4**		
	13nm,0.3s,baz=223,slow=22,SNR=1.9								
APG				LR	LR	16 32 47.5			
	comp=Z,780nm,19.5s,baz=324,slow=40								
TEIG	**Tepich**	**8.12**	**57**	P	**Pn**	**16 31 25.7**	**-2.0**		
	46nm,0.3s,baz=320,slow=0.2,SNR=122								
TEIG				S	**Sn**	**16 32 53.0**	**-6.1**		
	13nm,0.3s,baz=319,slow=24,SNR=2.5								
TEIG				LR	LR	16 35 32.4			
	comp=Z,302nm,18.6s,baz=229,slow=46								
TEIG	**Tepich**	**8.12**	**57**		**Pn**	**16 31 26.4**	**-1.3**		
TGUH	**Tegucigalpa,Un**	**8.15**	**102**		**Pn**	**16 31 27.2**	**-1.1**		
JTS	**Las Juntas de**	**11.67**	**117**	LR	LR	16 35 26.7			
	comp=Z,79nm,19.7s,baz=14,slow=30								
JCT	**Junction City**	**15.06**	**346**		**Pn**	**16 33 04.4**	**+1.6**		
JCT				IAmb	IAmb	16 33 21.1			
	comp=Z,12nm,0.8s								
TXAR	**Lajitas Array**	**15.36**	**332**	P	**Pn**	**16 33 09.1**	**+2.3**		
	comp=Z,0.3nm,0.3s,baz=148,slow=12,SNR=21								
TXAR				LR	LR	16 39 50.7			
	comp=Z,107nm,18.4s,baz=0.0,slow=40								
TX31	**Lajitas Ar. Si**	**15.36**	**332**		**P**	**16 33 10.1**	**-1.3**		
TX32	**Lajitas Array**	**15.36**	**332**		**P**	**16 33 11.2**	**-0.2**		
CBCY	**The Bluff, Cay**	**15.47**	**73**	Pn	**Pn**	**16 33 07.0**	**-1.1**		
BCIP	**Isla Barro Col**	**16.67**	**112**	P	**P**	**16 33 26.2**	**+0.3**		
ABTX	**Abilene, Hawle**	**17.09**	**348**		**P**	**16 33 30.2**	**-0.3**		
ABTX				IAmb	IAmb	16 33 33.3			
	comp=Z,24nm,0.8s								
MNTX	**Cornudas Mount**	**18.15**	**332**	P	**P**	**16 33 45.0**	**+2.8**		
MIAR	**Mount Ida**	**18.67**	**5**	P	**P**	**16 33 47.4**	**-0.5**		
X34A	**Smith Ranch, M**	**18.76**	**354**		pP	16 34 02.1	+8.5		
WMOK	**Wichita Mounta**	**19.01**	**352**	P	**P**	**16 33 52.0**	**+0.4**		
MSTX	**Muleshoe**	**19.17**	**341**	P	**Pn**	**16 33 55.1**	**+0.7**		
MSTX				IAmb	IAmb	16 33 56.3			
	comp=Z,16nm,0.8s								
W35A	**Tecumseh**	**19.24**	**357**	P	**Pn**	**16 33 55.7**	**+0.6**		
W39A	**Magazine**	**19.30**	**4**	P	**Pn**	**16 33 55.6**	**-0.2**		
W39A				IAmb	IAmb	16 34 22.4			
	comp=Z,13nm,0.7s								
AMTX	**Amarillo**	**19.73**	**345**	P	**Pn**	**16 34 00.9**	**-0.1**		
AMTX				IAmb	IAmb	16 34 08.0			
	comp=Z,18nm,1.1s								
121A	**Cookes Peak, D**	**19.99**	**328**	P	**Pn**	**16 34 05.5**	**+1.3**		
121A				IAmb	IAmb	16 34 06.9			
	comp=Z,27nm,1.1s								
HHAR	**Hobbs**	**20.37**	**4**	P	**P**	**16 34 07.5**	**+1.1**		
U40A	**Yellville**	**20.53**	**6**	P	**P**	**16 34 07.8**	**-0.4**		
U40A				IAmb	IAmb	16 34 23.1			
	comp=Z,18nm,0.8s								
BNM	**Barren Site**	**20.78**	**333**	P	Pn	16 34 13.5	-0.1		
LPM	**Los Pinos Moun**	**20.91**	**333**	P	Pn	16 34 14.0	-1.1		
LENM	**Lemitar**	**20.94**	**333**	P	**P**	**16 34 13.9**	**+1.1**		
ANMO	**Albuquerque**	**21.39**	**335**	P	**P**	**16 34 18.8**	**+1.2**		
	comp=Z,2.5nm,0.7s,baz=152,slow=12,SNR=5.7								
HELC	**Santa Helena**	**21.81**	**114**	*eP*	**P**	**16 34 21.8**	**-0.7**		
HELC	**Santa Helena**	**21.81**	**114**	*eP*	**P**	**16 34 21.8**	**-0.7**		
SMLC	**San Martn de**	**22.07**	**106**	*eP*	**P**	**16 34 24.4**	**-0.4**		
SMLC	**San Martn de**	**22.07**	**106**	*eP*	**P**	**16 34 24.4**	**-0.4**		
YOTC	**Yotoco, Valle**	**22.23**	**120**	*eP*	**P**	**16 34 28.4**	**+1.7**		
YOTC	**Yotoco, Valle**	**22.23**	**120**	*eP*	**P**	**16 34 28.4**	**+1.7**		
GUY2C	**Guyana, Caldas**	**22.42**	**116**	*eP*	**P**	**16 34 28.4**	**-0.7**		
GUY2C	**Guyana, Caldas**	**22.42**	**116**	*eP*	**P**	**16 34 28.4**	**-0.7**		
RREF	**El Recreo**	**22.59**	**117**	*eP*	**P**	**16 34 31.1**	**-0.1**		
RREF	**El Recreo**	**22.59**	**117**	*eP*	**P**	**16 34 31.1**	**-0.1**		
PTBC	**PUERTO BERRIO,**	**22.61**	**112**	*eP*	**P**	**16 34 28.4**	**-2.3**		
PTBC	**PUERTO BERRIO,**	**22.61**	**112**	*eP*	**P**	**16 34 28.4**	**-2.3**		
T25A	**Trinidad**	**22.61**	**341**	P	**P**	**16 34 32.7**	**+2.0**		
BBAC	**Balboa, Cauca**	**22.65**	**126**	*eP*	**P**	**16 34 33.1**	**+1.8**		
BBAC	**Balboa, Cauca**	**22.65**	**126**	*eP*	**P**	**16 34 33.1**	**+1.8**		
X18A	**Snowflake**	**22.67**	**328**	P	**P**	**16 34 33.8**	**+2.4**		
X18A				IAmb	IAmb	16 34 36.2			
	comp=Z,16nm,0.9s								
NORC	**Norcasia**	**22.68**	**115**	*eP*	**P**	**16 34 30.4**	**-1.1**		
NORC	**Norcasia**	**22.68**	**115**	*eP*	**P**	**16 34 30.4**	**-1.1**		
TOLC	**Tolima**	**22.78**	**117**	*eP*	**P**	**16 34 34.4**	**+1.6**		
TOLC	**Tolima**	**22.78**	**117**	*eP*	**P**	**16 34 34.4**	**+1.6**		
POPC	**Popayan, Colom**	**22.78**	**124**	*eP*	**P**	**16 34 35.1**	**+2.3**		
POPC	**Popayan, Colom**	**22.78**	**124**	*eP*	**P**	**16 34 35.1**	**+2.3**		
SOTA	**Rioblanco**	**23.08**	**124**	*eP*	**P**	**16 34 36.4**	**+0.2**		
SOTA	**Rioblanco**	**23.08**	**124**	*eP*	**P**	**16 34 36.4**	**+0.2**		
ORTC	**Ortega, Tolima**	**23.19**	**119**	*eP*	**P**	**16 34 37.7**	**+0.9**		
ORTC	**Ortega, Tolima**	**23.19**	**119**	*eP*	**P**	**16 34 37.7**	**+0.9**		
SPBC	**San Pablo de B**	**23.34**	**113**	*eP*	**P**	**16 34 37.1**	**-1.3**		
SPBC	**San Pablo de B**	**23.34**	**113**	*eP*	**P**	**16 34 37.1**	**-1.3**		
X16A	**Lo Mia Camp, P**	**23.38**	**325**	P	**P**	**16 34 42.1**	**+3.5**		
X16A				IAmb	IAmb	16 34 42.6			
	comp=Z,11nm,0.8s								
ROSC	**El Rosal**	**23.51**	**116**	P	**P**	**16 34 41.9**	**+1.5**		
	comp=Z,31nm,0.8s,baz=19,slow=8.9,SNR=14								
SDCO	**Great Sand Dun**	**23.51**	**340**	P	**P**	**16 34 42.4**	**+2.3**		
SDCO				IAmb	IAmb	16 34 43.2			
	comp=Z,11nm,0.8s								
CTAB	**Cerro Tablazo,**	**23.53**	**115**	*eP*	**P**	**16 34 43.1**	**+2.4**		
CTAB	**Cerro Tablazo,**	**23.53**	**115**	*eP*	**P**	**16 34 43.1**	**+2.4**		
BARC	**Barichara**	**23.73**	**110**	*eP*	**P**	**16 34 42.4**	**+0.1**		
BARC	**Barichara**	**23.73**	**110**	*eP*	**P**	**16 34 42.4**	**+0.1**		
PAMC	**Pamplona, Colo**	**23.86**	**108**	*eP*	**P**	**16 34 43.7**	**-0.2**		
PAMC	**Pamplona, Colo**	**23.86**	**108**	*eP*	**P**	**16 34 43.7**	**-0.2**		
RUSC	**La Rusia**	**24.11**	**112**	*eP*	**P**	**16 34 44.4**	**-1.9**		
RUSC	**La Rusia**	**24.11**	**112**	*eP*	**P**	**16 34 44.4**	**-1.9**		
CHIC	**Chingaza**	**24.12**	**115**	*eP*	**P**	**16 34 47.0**	**+0.8**		
CHIC	**Chingaza**	**24.12**	**115**	*eP*	**P**	**16 34 47.0**	**+0.8**		
WUAZ	**Wupatki**	**24.17**	**327**	P	**P**	**16 34 48.4**	**+2.1**		
WUAZ				IAmb	IAmb	16 34 50.8			
	comp=Z,25nm,1.0s								
MVCO	**Mesa Verde**	**24.17**	**334**	P	**P**	**16 34 49.0**	**+2.6**		
MVCO				IAmb	IAmb	16 34 50.7			
	comp=Z,42nm,1.5s								
GLA	**Glamis**	**24.46**	**318**	P	**P**	**16 34 50.4**	**+1.5**		
GLA				IAmb	IAmb	16 34 52.1			
	comp=Z,18nm,0.9s								
DABV	**Dabajuro**	**24.67**	**98**	*eP*	**P**	**16 34 47.7**	**-3.1**		
DABV	**Dabajuro**	**24.67**	**98**	*eP*	**P**	**16 34 47.7**	**-3.1**		
SOCV	**Socops**	**25.23**	**105**	*eP*	**P**	**16 34 53.7**	**-2.2**		
SOCV	**Socops**	**25.23**	**105**	*eP*	**P**	**16 34 53.7**	**-2.2**		
SDV	**Santo Domingo**	**25.24**	**103**	P	**P**	**16 34 56.2**	**+0.1**		
	comp=Z,7.6nm,0.7s,baz=235,slow=9.3,SNR=7.0								
W13A	**Hualapai Mount**	**25.26**	**323**	P	**P**	**16 34 57.8**	**+1.6**		
W13A				IAmb	IAmb	16 35 01.6			
	comp=Z,8.9nm,1.1s								
U15A	**North Rim**	**25.34**	**327**	IAmb	IAmb	16 35 02.4			
	comp=Z,23nm,1.7s								
ISCO	**Idaho Springs**	**25.42**	**342**	P	**P**	**16 34 59.2**	**+1.5**		
ISCO				IAmb	IAmb	16 35 02.4			
	comp=Z,6.6nm,0.8s								
SCIA	**State Center**	**26.02**	**4**	P	**P**	**16 35 02.7**	**-0.1**		
KNB	**Kanab**	**26.07**	**327**	P	**P**	**16 35 04.8**	**+1.3**		
MTPU	**Mount Pierson**	**26.54**	**329**	P	**P**	**16 35 10.6**	**+2.7**		
SHPR	**Sheep Range**	**26.98**	**323**	P	**P**	**16 35 12.4**	**+0.7**		
ECSD	**EROS Data Cent**	**27.78**	**358**	P	**P**	**16 35 18.6**	**-0.1**		
R11A	**Troy Canyon, C**	**28.53**	**326**	P	**P**	**16 35 27.8**	**+2.2**		
PDAR	**Pinedale Array**	**29.38**	**339**	P	**P**	**16 35 34.4**	**+1.2**		
	comp=Z,0.5nm,0.6s,baz=135,slow=11,SNR=5.4								
NV11	**Mina Array Sit**	**30.03**	**323**	P	**P**	**16 35 40.9**	**+2.0**		
NV11				IAmb	IAmb	16 35 42.9			
	comp=Z,11nm,1.0s								
NVAR	**Mina Array Bea**	**30.12**	**323**	P	**P**	**16 35 42.5**	**+2.8**		
	comp=Z,7.7nm,0.8s,baz=141,slow=9.3,SNR=42								
NVAR				PcP	**PcP**	**16 38 40.5**	**-0.7**		
	comp=Z,0.7nm,0.6s,baz=156,slow=2.4,SNR=3.8								
ELK	**Elko**	**30.12**	**329**	P	**P**	**16 35 42.2**	**+2.4**		
	comp=Z,2.6nm,0.7s,baz=139,slow=6.4,SNR=14								
ELK	**Elko**	**30.12**	**329**	P	**P**	**16 35 42.3**	**+2.5**		
REDW	**Red Top Meadow**	**30.37**	**338**	P	**P**	**16 35 43.4**	**+1.5**		
REDW				IAmb	IAmb	16 35 45.4			
	comp=Z,8.2nm,1.2s								
KVN	**Kaiserville**	**30.42**	**324**	P	**P**	**16 35 45.0**	**+2.7**		
KVN				IAmb	IAmb	16 35 45.9			
	comp=Z,4.7nm,1.0s								
TPAW	**Teton Pass**	**30.52**	**338**	IAmb	IAmb	16 35 55.6			
	comp=Z,12nm,1.4s								
AGMN	**Agassiz Station**	**32.33**	**360**	IAmb	IAmb	16 35 59.0			
	comp=Z,7.8nm,0.7s								
MOD	**Modoc Plateau**	**33.59**	**326**	IAmb	IAmb	16 36 12.8			
	comp=Z,5.0nm,0.9s								
SAML	**Samuel**	**40.40**	**125**	P	**P**	**16 37 09.1**	**+0.9**		
LPAZ	**La Paz**	**41.84**	**139**	P	**P**	**16 37 23.8**	**+3.2**		
	comp=Z,1.5nm,0.8s,baz=3.1,slow=8.4,SNR=5.0								
LVC	**Limon Verde**	**46.27**	**145**	LR	LR	16 56 10.7			
	comp=Z,29nm,20.7s,baz=347,slow=34								
SIV	**San Ignacio**	**46.45**	**131**	LR	LR	16 57 01.0			
	comp=Z,66nm,19.8s,baz=349,slow=35								
YKA	**Yellowknife Ar**	**48.47**	**348**	P	**P**	**16 38 11.9**	**-0.1**		
	comp=Z,2.6nm,0.7s,baz=153,slow=7.2,SNR=25								
CPUP	**Villa Florida**	**56.01**	**138**	P	**P**	**16 39 10.9**	**+2.4**		
	comp=Z,2.3nm,0.9s,baz=323,slow=6.6,SNR=5.0								
BDFB	**Brasilia**	**56.38**	**121**	P	**P**	**16 39 13.5**	**+2.0**		
	comp=Z,3.9nm,0.5s,baz=290,slow=10.0,SNR=7.6								
INK	**Inuvik**	**57.71**	**344**	P	**P**	**16 39 20.3**	**+0.3**		
PAX	**Paxson**	**58.36**	**336**	P	**P**	**16 39 26.2**	**+1.4**		
PAX				IAmb	IAmb	16 39 26.7			
	comp=Z,5.6nm,0.8s								
HDA	**Harding Lake**	**59.65**	**337**	P	**P**	**16 39 34.0**	**+0.4**		
HDA				IAmb	IAmb	16 39 34.9			
	comp=Z,5.3nm,0.7s								
PRP	**Porcupine Dome**	**59.69**	**338**	P	**P**	**16 39 34.1**	**+0.1**		
PRP				IAmb	IAmb	16 40 15.1			
	comp=Z,14nm,1.6s								
IL31		**59.80**	**337**	P	**P**	**16 39 34.9**	**+0.3**		
ILAR	**Eielson Array**	**59.80**	**337**	P	**P**	**16 39 35.0**	**+0.3**		
	comp=Z,3.0nm,0.7s,baz=137,slow=4.7,SNR=38								
ILAR				PcP	**PcP**	**16 40 21.0**	**-0.2**		
	comp=Z,0.4nm,0.7s,baz=150,slow=1.2,SNR=4.1								
ILAR				LR	LR	17 09 00.2			
	comp=Z,118nm,18.7s,baz=159,slow=40								
SUA	**Susitna One**	**59.88**	**333**	P	**P**	**16 39 36.5**	**+1.1**		
RND	**Reindeer**	**59.92**	**335**	P	**P**	**16 39 36.6**	**+1.1**		
MCK	**McKinley**	**60.10**	**336**	P	**P**	**16 39 37.3**	**+0.6**		
RSO	**Redoubt South**	**60.39**	**331**	P	**P**	**16 39 40.0**	**+1.0**		
SKT	**Skwentna**	**60.43**	**333**	P	**P**	**16 39 39.6**	**+0.6**		
TRF	**Thorofare Moun**	**60.52**	**335**	P	**P**	**16 39 39.6**	**-0.2**		
PLCA	**Paso Flores**	**60.90**	**158**	P	**P**	**16 39 42.0**	**-0.5**		
	comp=Z,1.0nm,0.7s,baz=326,slow=8.2,SNR=4.4								
PLCA	**Paso Flores**	**60.90**	**158**	P	**P**	**16 39 41.6**	**-0.9**		
DAG	**Danmarks Havn**	**71.64**	**14**	*i* P	**P**	**16 40 50.0**	**-0.8**		
	comp=Z,4.5nm,0.8s								
EKA	**Eskdalemuir Ar**	**78.42**	**36**	P	**P**	**16 41 29.4**	**-1.0**		
	comp=Z,2.1nm,0.5s,baz=260,slow=4.2,SNR=5.2								
ESDC	**Sonseca Array**	**81.20**	**51**	P	**P**	**16 41 44.6**	**-1.2**		
	comp=Z,5.3nm,1.2s,baz=295,slow=5.7,SNR=4.8								
NB2	**NORSAR Subarra**	**84.10**	**28**	P	**P**	**16 42 00.5**	**0.0**		
	comp=Z,1.1nm,0.6s,baz=292,slow=5.1								
NOA	**NORSAR Array B**	**84.10**	**28**	P	**P**	**16 42 00.5**	**0.0**		
	comp=Z,1.9nm,0.8s,baz=294,slow=4.9,SNR=6.5								
NOA				LR	LR	17 23 28.5			
	comp=Z,96nm,18.3s,baz=300,slow=39								
ARCES	**ARCESS Array B**	**85.40**	**18**	P	**P**	**16 42 06.3**	**-0.5**		
	comp=Z,1.8nm,0.8s,baz=23,slow=6.6,SNR=1.9								
HFS	**Hagfors**	**85.58**	**28**	P	**P**	**16 42 06.4**	**-1.5**		
	comp=Z,2.0nm,0.8s,baz=210,slow=29,SNR=1.8								
DBIC	**Dimbokro**	**88.81**	**83**	P	**P**	**16 42 23.6**	**-0.8**		
	comp=Z,2.2nm,0.7s,baz=249,slow=3.2,SNR=4.6								
KSH	**Kashi**	**124.32**	**8**	PKP	**PKiKP**	**16 48 31.8**	**+2.3**		
KSH				LR	LR				
	comp=N,430nm,5.8s								
KSH				LR	LR				
	comp=E,770nm,7.8s								
KSH				LR	LR				
	comp=Z,730nm,7.2s								
STKA	**Stephens Creek**	**125.99**	**242**	PKP	**PKPdf**	**16 48 31.2**	**-1.1**		
	comp=Z,3.7nm,1.1s,baz=338,slow=6.1,SNR=3.8								
WRA	**Warramunga Arr**	**132.54**	**257**	PKP	**PKPdf**	**16 48 43.7**	**-1.5**		
	comp=Z,0.9nm,0.9s,baz=80,slow=1.9,SNR=7.0								
ASAR	**Alice Springs**	**133.06**	**252**	PKP	**PKPdf**	**16 48 45.0**	**-1.0**		
	comp=Z,0.6nm,0.8s,baz=56,slow=2.5,SNR=7.2								
CMAR	**Chiang Mai Arr**	**143.04**	**337**	PKhKP	PKPab	16 48 59.9	+0.1		
	comp=Z,0.4nm,0.3s,baz=354,slow=3.2,SNR=3.0								

*AZER **20** 16:30:34.3±0.9, 42.°69N×42.°96E, h45km±57km, ml3.5/19, Error ellipse: s-maj=108.2km s-min=12.8km az=306.0*
*DDA **20** 16:30:35.8, 42.°57N×43.°44E, h10km±1km, ML3.4*
*MOS **20** 16:30:36.2±0.0, 42.°53N×43.°39E, h4km, MPVA4.1*
*ISK **20** 16:30:36.5, 42.°52N×43.°47E, h8km, ML3.3/10*
*NORS **20** 16:30:36.1±0.0, 42.°53N×43.°39E, h2km, MPVA4.3*
*TIF **20** 16:30:36.2, 42.°55N×43.°47E, h12km*

ISC 20 16:30:37.4±0.8, 42.°53N±0.°01×43.°46E±0.°01, h6km±5km, n120, σ1.°32/193, 8C, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.06**	**358**	P	**Pg**	**16 30 38.8**	**-0.3**
ONI				S	**Sg**	**16 30 40.4**	**+0.2**
ONI	**Oni**	**0.06**	**358**	*i* Pg	**Pg**	**16 30 38.8**	**-0.3**
ONI	**Oni**	**0.06**	**358**	Pg	**Pg**	**16 30 39.0**	**-0.1**
ONI				SG	**Sg**	**16 30 40.5**	**+0.2**
ONI	**Oni**	**0.06**	**358**	*i* Pg	**Pg**	**16 30 39.0**	**-0.1**
ONI				*i* Sg	**Sg**	**16 30 40.6**	**+0.3**
DIGR	**Digorskoe uzhe**	**0.38**	**14**	*i* PG	**Pg**	**16 30 44.0**	**-0.9**
DIGR				pmax	pmax		
	comp=Z,2μm,0.2s						
DIGR	**Digorskoe uzhe**	**0.38**	**14**	*i* Pg	**Pg**	**16 30 44.0**	**-0.9**
DIGR				*e*Sg	**Sg**	**16 30 49.5**	**-0.6**
TKB	**Tkibuli**	**0.38**	**243**	P	**Pg**	**16 30 44.9**	**0.0**
TKB				S	**Sb**	**16 30 51.1**	**-1.8**
TKB	**Tkibuli**	**0.38**	**243**	*e*PG	**Pg**	**16 30 44.9**	**0.0**
ZEI	**Tsey**	**0.42**	**51**	*i* PG	**Pg**	**16 30 44.9**	**-0.7**
ZEI				pmax	pmax		
	comp=Z,1μm,0.3s						
ZEI	**Tsey**	**0.42**	**51**	*i* Pg	**Pg**	**16 30 45.0**	**-0.7**
ZEI				*e*Sg	**Sg**	**16 30 50.8**	**-0.4**
LACR	**Lac**	**0.69**	**64**	*i* PG	**Pg**	**16 30 49.2**	**-1.5**
LACR				pmax	pmax		
	comp=Z,166nm,0.4s						
LACR	**Lac**	**0.69**	**64**	*i* Pg	**Pg**	**16 30 49.1**	**-1.6**
LACR				*e*Sg	**Sg**	**16 30 58.5**	**-1.2**
KORR	**Kora**	**0.72**	**39**	*i* PG	**Pg**	**16 30 50.8**	**-0.4**
KORR				pmax	pmax		
	comp=Z,253nm,0.4s						
KORR	**Kora**	**0.72**	**39**	*i* Pg	**Pg**	**16 30 50.8**	**-0.4**
KORR				*e*Sg	**Sb**	**16 31 01.6**	**-1.0**
GUDG	**Gudauri**	**0.76**	**94**	P	**Pg**	**16 30 50.2**	**-1.8**
GUDG				S	**Sg**	**16 31 00.3**	**-1.6**
GUDG	**Gudauri**	**0.76**	**94**	*e*PG	**Pg**	**16 30 50.2**	**-1.8**
GUDG				*e*S	**Sg**	**16 31 00.0**	**-1.9**
GUDG	**Gudauri**	**0.76**	**94**	*e*Pg	**Pg**	**16 30 50.2**	**-1.8**
GUDG				*e*Sg	**Sg**	**16 31 00.8**	**-1.0**
LSNR	**Lesken**	**0.80**	**20**	*ce*PG	**Pg**	**16 30 51.8**	**-1.0**
LSNR	**Lesken**	**0.80**	**20**	*i* Pg	**Pg**	**16 30 52.1**	**-0.7**
LSNR				*e*Sg	**Sb**	**16 31 04.0**	**-1.0**
ARNR	**Ardon**	**0.89**	**43**	*ce*PG	**Pb**	**16 30 54.5**	**-0.9**
ARNR	**Ardon**	**0.89**	**43**	*e*Pg	**Pb**	**16 30 54.8**	**-0.6**
ARNR				*e*Sg	**Sb**	**16 31 07.8**	**+0.2**
NEY	**Neytrino**	**0.90**	**324**	*i* Pg	**Pg**	**16 30 53.5**	**-1.2**
NEY				*e*Sg	**Sg**	**16 31 04.7**	**-1.8**
STDR	**Stavd-Durt**	**0.95**	**28**	*e*PG	**Pb**	**16 30 56.2**	**-0.2**
STDR	**Stavd-Durt**	**0.95**	**28**	*e*Pg	**Pb**	**16 30 56.0**	**-0.4**
STDR				*e*Sg	**Sn**	**16 31 10.5**	**-0.9**
NCK	**Nalchik**	**0.97**	**6**	*e*PG	**Pg**	**16 30 55.8**	**-0.3**
NCK				pmax	pmax		
	comp=Z,609nm,0.3s						
NCK	**Nalchik**	**0.97**	**6**	*e*Pg	**Pg**	**16 30 55.8**	**-0.3**
NCK				*e*Sg	**Sb**	**16 31 09.9**	**0.0**
VLKR	**Vladikavkaz**	**1.04**	**60**	*e*Pg	**Pb**	**16 30 57.8**	**-0.1**
VLKR				*e*Sg	**Sn**	**16 31 13.3**	**-0.3**
AKH	**Akhalkalaki**	**1.12**	**179**	P	**Pg**	**16 30 58.3**	**-0.6**
AKH				S	**Sb**	**16 31 14.3**	**+0.1**
AKH	**Akhalkalaki**	**1.12**	**179**	*e*PG	**Pg**	**16 30 58.2**	**-0.6**
AKH				*e*S	**Sb**	**16 31 14.2**	**+0.1**
AKH	**Akhalkalaki**	**1.12**	**179**	PN	**Pg**	**16 30 58.3**	**-0.6**
AKH				SN	**Sb**	**16 31 14.0**	**-0.1**
AKH	**Akhalkalaki**	**1.12**	**179**	*e*Pg	**Pg**	**16 30 58.2**	**-0.6**
AKH				*e*Sg	**Sb**	**16 31 14.2**	**+0.1**
EPOS	**Posof**	**1.16**	**208**	*i* P	**Pg**	**16 30 58.2**	**-0.9**
EPOS				*i* S	**Sb**	**16 31 15.6**	**+0.3**
BTKR	**Batakoyurt**	**1.16**	**43**	PG	**Pn**	**16 31 00.4**	**+0.1**
BTKR	**Batakoyurt**	**1.16**	**43**	*e*Pg	**Pn**	**16 30 59.2**	**-0.5**
BTKR				*e*Sg	**Sn**	**16 31 15.7**	**-0.9**
KMGR	**Komgaron**	**1.17**	**62**	*e*Pg	**Pn**	**16 31 00.1**	**-0.3**
KMGR				*e*Sg	**Sn**	**16 31 17.0**	**+0.3**

TBLG	**Delisi**	**1.24**	**129**	P	**Pg**	**16 31 00.6**	**-0.7**		
TBLG				S	**Sn**	**16 31 17.9**	**-0.7**		
TBLG	**Delisi**	**1.24**	**129**	*i* P	**Pg**	**16 31 00.5**	**-0.8**		
TBLG				*i* S	**Sn**	**16 31 17.9**	**-0.7**		
TBLG	**Delisi**	**1.24**	**129**	*e*PG	**Pg**	**16 31 00.6**	**-0.7**		
TBLG				*e*S	**Sn**	**16 31 17.8**	**-0.7**		
TBLG	**Delisi**	**1.24**	**129**	PN	**Pg**	**16 31 00.5**	**-0.7**		
TBLG				SN	**Sn**	**16 31 17.8**	**-0.7**		
KBTC	**Kuba-Taba**	**1.29**	**358**	*e*PG	**Pg**	**16 31 01.2**	**-0.9**		
KBTC	**Kuba-Taba**	**1.29**	**358**	*e*Pg	**Pg**	**16 31 01.3**	**-0.9**		
KBTC				*e*Sg	**Sn**	**16 31 19.4**	**-0.3**		
BTNK	**Botanikuri**	**1.31**	**130**	P	**Pg**	**16 31 01.6**	**-0.9**		
BTNK				S	**Sn**	**16 31 19.9**	**-0.2**		
BTNK	**Botanikuri**	**1.31**	**130**	*i* P	**Pg**	**16 31 01.6**	**-0.9**		
BTNK				*i* S	**Sn**	**16 31 19.9**	**-0.2**		
BTNK	**Botanikuri**	**1.31**	**130**	*e*PG	**Pg**	**16 31 01.5**	**-0.9**		
BTNK				*e*S	**Sn**	**16 31 19.9**	**-0.2**		
KZRT	**Kazreti**	**1.34**	**148**	P	**Pn**	**16 31 01.5**	**-1.3**		
KZRT				S	**Sg**	**16 31 19.7**	**-0.7**		
KZRT	**Kazreti**	**1.34**	**148**	*i* P	**Pn**	**16 31 01.5**	**-1.3**		
KZRT				*i* S	**Sg**	**16 31 19.7**	**-0.7**		
KZRT	**Kazreti**	**1.34**	**148**	*e*PG	**Pn**	**16 31 01.5**	**-1.3**		
KZRT				*e*S	**Sg**	**16 31 19.7**	**-0.7**		
SHA1	**Shidzhatmaz**	**1.34**	**335**	*e*PG	**Pg**	**16 31 01.9**	**-1.3**		
SHA1				pmax	pmax			

OBN	**Obninsk**	**13.38**	**343**	⇑	*e*P		**Pn**	**16 33 47.7**	**0.0**
OBN					pmax	pmax			
	comp=Z,8.0nm,0.5s								
OBN					MLR	MLR			
	comp=Z,153nm,16.0s								
ARU	**Arti**	**16.97**	**30**	*i*	P		**P**	**16 34 36.4**	**-0.9**
ARU					pmax	pmax			
	comp=Z,1.0nm,0.9s								
BRVK	**Borovoye**	**20.75**	**50**	*i*	P		**P**	**16 35 19.1**	**+0.3**
BRVK					pmax	pmax			
	comp=Z,3.0nm,0.8s								
YAK	**Yakutsk**	**51.91**	**37**	*i*	P		**P**	**16 39 47.7**	**+1.2**
YAK					pmax	pmax			
	comp=Z,2.0nm,1.0s								

*ISCJB **20** 16:34:43.3±1.6,2.˚41N±0.˚07×95.˚70E±0.˚09, h25km, mb3.5/3, Error ellipse: s-maj=14.6km s-min=8.0km az=147.2*
*DJA **20** 16:34:46.1±1.0,2.˚N±4.˚×9.˚6E±.˚, h33km±5km, M3.3/6, MLv3.3/6*
*IDC **20** 16:35:05.8±2.8,5.˚89N×92.˚83E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.2/70, mbtmp3.4/6, ML3.5/1, Error ellipse: s-maj=97.8km s-min=24.4km az=65.0*
ISC 20 16:34:43.0±1.6,2.˚41N±0.˚08×95.˚7E±0.˚1, h25km, n12, σ2§8/12, mb3.5/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.60**	**90**	P	**Pn**	**16 34 56.9**	**+0.9**
SNSI				S	**Sn**	**16 35 05.7**	**+0.7**
TPTI		**1.68**	**60**	P	**Pn**	**16 35 11.1**	**+0.2**
TPTI				S	**Sn**	**16 35 30.7**	**-0.9**
MLSI	**Meulaboh, Aceh**	**1.96**	**20**	P	**Pn**	**16 35 16.3**	**+1.5**
MLSI				S	**Sn**	**16 35 39.7**	**+1.1**
GSI	**Gunungsitoli**	**2.15**	**121**	P	**Pn**	**16 35 18.3**	**+0.9**
GSI				S	**Sn**	**16 35 43.6**	**+0.3**
LHMI	**Lhok Sumawe**	**3.05**	**24**	P	**Pn**	**16 35 31.5**	**+1.7**
CMAR	**Chiang Mai Arr**	**16.26**	**11**	Pn	**Pn**	**16 38 25.6**	**-4.3**
	0.1nm,0.3s,baz=180,slow=9.6,SNR=1.6						
H08S2	**Diego Garcia H**	**25.24**	**246**	T	T	17 06 27.3	
	baz=67,slow=76,SNR=52						
H08S3	**Diego Garcia H**	**25.24**	**247**	T	T	17 06 28.5	
	baz=67,slow=76,SNR=44						
H08S1	**Diego Carcia H**	**25.26**	**247**	T	T	17 06 25.6	
	baz=67,slow=76,SNR=33						
MKAR	**Makanchi Array**	**45.73**	**347**	P	P	16 42 57.2	-5.0
	0.6nm,0.9s,baz=150,slow=8.3,SNR=1.9						
SONM	**Songino Array**	**46.18**	**10**	P	**P**	**16 43 08.6**	**+2.7**
	0.2nm,0.5s,baz=204,slow=9.5,SNR=2.4						
ZALV	**Zalesovo Beam**	**52.15**	**352**	P	**P**	**16 43 49.4**	**-1.8**
	0.3nm,0.4s,baz=149,slow=15,SNR=1.9						

*ISCJB **20** 16:35:52.7±0.5, 10.˚13N±0.˚06×141.˚2E±0.˚1, h33km, mb3.6/7, Error ellipse: s-maj=15.1km s-min=8.1km az=177.3*
*IDC **20** 16:35:52.8±1.0, 10.˚48N×141.˚42E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/62, mbtmp3.7/8, ML3.7/1, Error ellipse: s-maj=34.7km s-min=21.2km az=107.0*
*NEIC **20** 16:35:54.1±2.0, 10.˚30N±0.˚09×141.˚2E±0.˚1, h39km±9km, mb4.3/17*
ISC 20 16:35:54.2±0.6, 10.˚20N±0.˚08×141.˚3E±0.˚1, h35km, n26, σ1§98/22, mb4.2/15, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.88**	**46**	Pn	**Pn**	**16 37 05.3**	**+0.1**
	3.9nm,0.3s,baz=199,slow=20,SNR=1.8						
GUMO				Sn	**Sn**	**16 37 56.4**	**-4.1**
	3.1nm,0.3s,baz=194,slow=23,SNR=0.9						
PMG	**Port Moresby**	**20.34**	**163**	P	Pn	16 40 29.5	-0.3
PMG				IAmb	IAmb	16 40 32.7	
	comp=Z,14nm,1.1s						
SAUI	**Saumlaki**	**20.60**	**209**	P	Pn	16 40 31.3	-1.6
YOJ	**Yonaguni jima**	**22.43**	**312**	P	**P**	**16 40 50.1**	**0.0**
YULB	**Yu-li**	**23.14**	**307**	P	**P**	**16 40 55.8**	**-1.8**
YULB				IAmb	IAmb	16 41 09.5	
	comp=Z,8.2nm,0.9s						
COEN	**Coen**	**24.07**	**175**	P	**P**	**16 41 05.8**	**-0.7**
JNU	**Nakatsue**	**24.74**	**339**	P	**P**	**16 41 11.4**	**-1.1**
JNU				IAmb	IAmb	16 41 25.6	
	comp=Z,5.2nm,0.9s						
KNRA	**Kununurra**	**28.53**	**206**	P	**P**	**16 41 45.6**	**-1.1**
KNRA				IAmb	IAmb	16 41 46.3	
	comp=Z,14nm,1.1s						
KS19	**Wonju Array Si**	**29.75**	**338**	P	**P**	**16 41 54.6**	**-2.7**
KS19				IAmb	IAmb	16 42 12.3	
	comp=Z,14nm,1.1s						
SBUM	**Sibu**	**29.85**	**257**	P	**P**	**16 41 55.2**	**-3.4**
CTAO	**Charters Tower**	**30.49**	**171**	P	**P**	**16 42 05.4**	**+1.3**
WR0	**Warramunga Arr**	**30.69**	**192**	P	**P**	**16 42 05.8**	**-0.1**
WRAB	**Tennant Creek**	**30.70**	**193**	P	**P**	**16 42 07.0**	**+1.0**
WRAB				IAmb	IAmb	16 42 17.4	
	comp=Z,4.9nm,1.1s						
WRA	**Warramunga Arr**	**30.71**	**193**	P	P	16 42 12.0	+5.9
	comp=Z,0.8nm,0.9s,baz=7.8,slow=9.3,SNR=3.2						
ASAR	**Alice Springs**	**34.41**	**192**	P	P	16 42 45.1	+6.6
	comp=Z,0.2nm,0.7s,baz=18,slow=11,SNR=4.5						
ARMA	**Armidale**	**41.59**	**166**	P	**P**	**16 43 37.8**	**-1.2**
ARMA				IAmb	IAmb	16 43 56.4	
	comp=Z,7.6nm,1.1s						
STKA	**Stephens Creek**	**41.84**	**180**		**P**	**16 43 41.3**	**+0.5**
FORT	**Forrest**	**42.67**	**197**	P	**P**	**16 43 47.9**	**+0.3**
BBOO	**Buckleboo**	**43.05**	**186**	P	**P**	**16 43 49.2**	**-1.5**
BBOO				IAmb	IAmb	16 43 57.5	
	comp=Z,12nm,1.1s						
MORW	**Morawa**	**46.00**	**211**	P	**P**	**16 44 13.6**	**-0.8**
SONM	**Songino Array**	**47.61**	**329**	P	**P**	**16 44 29.5**	**+2.6**
	comp=Z,0.3nm,0.5s,baz=129,slow=6.1,SNR=1.9						
TOO	**Toolangi**	**47.68**	**175**	P	**P**	**16 44 27.9**	**+0.6**
TOO				IAmb	IAmb	16 44 45.1	
	comp=Z,3.6nm,1.1s						
MKAR	**Makanchi Array**	**61.55**	**318**	P	**P**	**16 46 11.0**	**+3.1**
	comp=Z,0.5nm,0.8s,baz=98,slow=6.5,SNR=2.1						
BVAR	**Borovoye Array**	**70.43**	**323**	P	P	16 47 08.4	+3.5
	comp=Z,1.4nm,0.6s,baz=106,slow=8.8,SNR=8.7						
ILAR	**Eielson Array**	**73.12**	**25**	P	**P**	**16 47 22.8**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=239,slow=7.2,SNR=5.9						
YKA	**Yellowknife Ar**	**87.47**	**27**	P	**P**	**16 48 40.2**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=285,slow=4.9,SNR=5.6						

*IDC **20** 16:46:49.0±1.8, 1.˚78N×96.˚35E, h0km, mb3.6/6, mb1 3.6/8, mb1mx3.4/63, mbtmp3.5/8, ML2.7/1, Error ellipse: s-maj=52.4km s-min=21.6km az=54.0*
*ISCJB **20** 16:46:53.7±0.5, 2.˚11N±0.˚05×96.˚85E±0.˚07, h28km, mb3.5/6, Error ellipse: s-maj=12.2km s-min=4.6km az=145.5*
*DJA **20** 16:46:53.8±0.5, 2.˚N±3.˚×9.˚7E±.˚, h28km±7km, M3.4/7, MLv3.4/7*
ISC 20 16:46:54.4±0.9, 2.˚08N±0.˚06×96.˚75E±0.˚08, h28km, n20, σ0§65/18, mb3.6/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.54**	**307**	P	**Pn**	**16 47 05.3**	**-0.9**
SNSI				S	**Sn**	**16 47 14.6**	**+0.3**
GSI	**Gunungsitoli**	**1.13**	**133**	P	**Pn**	**16 47 13.7**	**-0.7**
GSI				S	**Sn**	**16 47 28.6**	**-0.4**
TPTI		**1.24**	**20**	P	**Pn**	**16 47 16.0**	**+0.1**
MLSI	**Meulaboh, Aceh**	**2.20**	**351**	P	**Pn**	**16 47 28.9**	**-0.2**
MLSI				S	**Sn**	**16 47 55.4**	**+0.1**
PSI	**Prapat**	**2.28**	**72**	Pn	**Pb**	**16 47 35.0**	**0.0**
	1.2nm,0.3s,baz=252,slow=7.5,SNR=6.4						
PBSI	**Pulau Batu**	**2.62**	**144**	P	**Pn**	**16 47 35.1**	**+0.3**
PBSI				S	**Sn**	**16 48 05.0**	**-0.7**
LHMI	**Lhok Sumawe**	**3.13**	**4**	P	**Pn**	**16 47 40.3**	**-1.6**
CMAR	**Chiang Mai Arr**	**16.41**	**7**	Pn	**P**	**16 50 45.5**	**0.0**
	baz=197,slow=12,SNR=10						
H08S2	**Diego Garcia H**	**26.06**	**248**	T	T	17 19 15.8	
	baz=68,slow=76,SNR=85						
H08S3	**Diego Garcia H**	**26.06**	**248**	T	T	17 19 19.9	
	baz=68,slow=76,SNR=47						
H08S1	**Diego Carcia H**	**26.08**	**248**	T	T	17 19 16.1	
	baz=68,slow=76,SNR=46						
H01W3	**Cape Leeuwin H**	**40.23**	**158**	T	T	17 37 17.4	
	baz=333,slow=76,SNR=6.5						
H01W2	**Cape Leeuwin H**	**40.24**	**158**	T	T	17 37 18.8	
	baz=333,slow=76,SNR=7.6						
H01W1	**Cape Leeuwin H**	**40.24**	**158**	T	T	17 37 16.0	
	baz=333,slow=76,SNR=6.2						

WRA	**Warramunga Arr**	**42.88**	**123**	P		**P**		**16 54 50.9**	**+0.1**
	0.4nm,0.9s,baz=302,slow=9.0,SNR=1.7								
ASAR	**Alice Springs**	**44.28**	**128**	P		**P**		**16 55 01.8**	**-0.3**
	0.3nm,0.8s,baz=300,slow=7.8,SNR=5.1								
MKAR	**Makanchi Array**	**46.28**	**346**	P		**P**		**16 55 18.0**	**+0.4**
	0.8nm,0.6s,baz=166,slow=8.7,SNR=7.5								
SONM	**Songino Array**	**46.33**	**9**	P		**P**		**16 55 18.2**	**+0.2**
	0.6nm,0.7s,baz=171,slow=10,SNR=3.8								
KURBB	**Kurchatov Arra**	**50.77**	**345**	P		**P**		**16 55 53.0**	**+1.1**
	0.5nm,0.6s,baz=169,slow=6.9,SNR=5.1								
ZALV	**Zalesovo Beam**	**52.62**	**351**	P		**P**		**16 56 06.0**	**+0.3**
	0.8nm,0.4s,baz=158,slow=6.0,SNR=4.5								

NNC 20 16:47:31.1±9.5, 36.˚99N×70.˚58E, h0km, mb3.6, mpv3.2, 4C-2D, Error ellipse: s-maj=74.2km s-min=64.6km az=167.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.11**	**360**	⇑Pn	Pn	16 49 04.6	+1.9
	0.4nm,0.3s,baz=173,slow=11,SNR=6.0						
KK31				⇓Sn	Sn	16 50 14.9	+1.6
	0.9nm,0.4s,baz=185,slow=23,SNR=7.1						
AAK	**Ala-Archa**	**6.39**	**27**	⇑Pn	Pn	16 49 06.3	-0.4
	1.0nm,0.5s						
AAK				⇑Sn	Sn	16 50 20.3	-0.2
	1.7nm,0.9s						
TKM2	**Tokmak 2**	**7.07**	**31**	⇓Pn	Pn	16 49 14.8	-1.2
	1.3nm,0.4s						
TKM2				⇑Sn	Sn	16 50 38.9	+1.8
	0.9nm,0.8s						

*IDC **20** 16:49:57.9±1.0, 27.˚51N×56.˚77E, h0km, mb3.8/12, mb1 3.9/14, mb1mx3.6/60, mbtmp3.8/14, ML4.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.8/48, Error ellipse: s-maj=22.9km s-min=20.3km az=44.0*
*DSN **20** 16:50:01.0±1.9, 27.˚33N×57.˚23E, h10km, ML3.8/9, Error ellipse: s-maj=37.7km s-min=10.2km az=142.0*
*TEH **20** 16:50:02.4, 27.˚49N×56.˚75E, h20km, ML3.6*
*OMAN **20** 16:50:04.7±1.6, 27.˚33N×56.˚78E, h126km±9km, ml3.7/12, Error ellipse: s-maj=17.6km s-min=12.0km az=18.0*
ISC 20 16:50:01.7±0.9, 27.˚51N±0.˚04×56.˚90E±0.˚06, h26km±6km, n61, σ1§50/68, mb3.8/11, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**0.08**	**308**	*e*Pg	**Pb**	**16 50 05.9**	**-0.5**
NIAN				*e*Sg	**Sb**	**16 50 09.6**	**0.0**
GENO	**Geno**	**0.66**	**261**	*e*Pg	**Pb**	**16 50 14.6**	**-0.2**
SHME	**Shamm**	**1.61**	**205**	*e*P	**Pn**	**16 50 29.3**	**+0.8**
	SNR=7.1						
SHME				S	**Sb**	**16 50 51.3**	**+0.6**
SHME	**Shamm**	**1.61**	**205**	*e*Pn	**Pn**	**16 50 29.1**	**+0.7**
BANOM	**Banah**	**1.67**	**199**	*e*P	**Pb**	**16 50 30.3**	**-1.5**
	SNR=16						
BANOM	**Banah**	**1.67**	**199**	P	**Pn**	**16 50 30.2**	**+0.9**
	SNR=83						
BANOM				S	**Sb**	**16 50 54.3**	**+1.9**
NGRK	**Negar Kerman**	**2.13**	**356**	*e*Pn	**Pn**	**16 50 37.8**	**+1.9**
NGRK				IAMB	IAmb	16 51 10.8	
	comp=Z,0.0nm,0.4s						
MSFE	**Esma-Masafi**	**2.24**	**197**	P	**Pn**	**16 50 38.4**	**+1.2**
MSFE	**Esma-Masafi**	**2.24**	**197**	*e*Pn	**Pn**	**16 50 38.4**	**+1.2**
MDH	**Madha**	**2.27**	**194**	P	**Pn**	**16 50 37.3**	**-0.2**
MDH	**Madha**	**2.27**	**194**	*e*Pn	**Pn**	**16 50 37.3**	**-0.2**
CHMN	**Cheshme madani**	**2.41**	**13**	*e*Pn	**Pb**	**16 50 43.0**	**-1.6**
CHMN				IAMB	IAmb	16 51 25.5	
	comp=Z,0.0nm,0.7s						
UOSS	**Minazif**	**2.63**	**194**	P	**Pn**	**16 50 42.3**	**-0.2**
UOSS	**Minazif**	**2.63**	**194**	P	**Pn**	**16 50 43.0**	**+0.5**
UOSS	**Minazif**	**2.63**	**194**	*e*Pn	**Pn**	**16 50 44.0**	**+1.5**
NAZ	**Nazwa, Dubai**	**2.75**	**204**	*e*P	**Pn**	**16 50 45.9**	**+1.8**
	SNR=6.8						
NAZ	**Nazwa, Dubai**	**2.75**	**204**	P	**Pn**	**16 50 46.1**	**+2.1**
	SNR=6.7						
NAZ	**Nazwa, Dubai**	**2.75**	**204**	*e*Pn	**Pn**	**16 50 46.2**	**+2.1**
HATD	**Hatta, Dubai**	**2.76**	**195**	P	**Pn**	**16 50 44.3**	**0.0**
HATD	**Hatta, Dubai**	**2.76**	**195**	*e*Pn	**Pn**	**16 50 46.0**	**+1.7**
KHGB	**Koh Gabri**	**2.88**	**353**	*e*Pn	**Pn**	**16 50 49.1**	**+3.0**
KHGB				IAMB	IAmb	16 51 34.3	
	comp=Z,0.0nm,0.4s						
ASHO	**Ashiyiah**	**2.92**	**195**	*e*P	**Pn**	**16 50 46.9**	**+0.4**
	SNR=12						
ASHO	**Ashiyiah**	**2.92**	**195**	P	**Pn**	**16 50 48.1**	**+1.6**
	SNR=11						
ASHO	**Ashiyiah**	**2.92**	**195**	*e*Pn	**Pn**	**16 50 47.8**	**+1.4**
FAQ	**Al Faqa, Dubai**	**3.00**	**203**	*e*P	**Pn**	**16 50 46.9**	**-0.6**
	SNR=5.9						
FAQ	**Al Faqa, Dubai**	**3.00**	**203**	P	**Pn**	**16 50 49.1**	**+1.6**
	SNR=6.0						
FAQ	**Al Faqa, Dubai**	**3.00**	**203**	*e*Pn	**Pn**	**16 50 49.1**	**+1.6**
ASUD	**Al Ashush, Dub**	**3.20**	**207**	*i*P	**Pn**	**16 50 51.0**	**+0.7**
	SNR=80						
ASUD	**Al Ashush, Dub**	**3.20**	**207**	P	**Pn**	**16 50 52.5**	**+2.2**
	SNR=80						
ASUD	**Al Ashush, Dub**	**3.20**	**207**	*e*Pn	**Pn**	**16 50 52.5**	**+2.2**
ALNE	**Al Ain**	**3.59**	**197**	*e*Pn	**Pn**	**16 50 57.3**	**+1.6**
HOQ	**Hoqain**	**3.93**	**175**	P	**Pn**	**16 51 00.0**	**-0.4**
	SNR=40						
HOQ				S	**Sn**	**16 51 44.1**	**-1.5**
BIDO	**Bidbid**	**4.12**	**164**	*e*Pn	**Pn**	**16 51 03.2**	**+0.2**
ARQ	**Araqi**	**4.17**	**185**	P	**Pn**	**16 51 05.5**	**+1.9**
	SNR=18						
ARQ				S	**Sn**	**16 51 56.0**	**+4.4**
IMEH	**Mehriz**	**4.35**	**333**	*e*Pn	**Pn**	**16 51 07.9**	**+1.6**
WSAR	**Wadi Sarin**	**4.53**	**159**	P	**Pn**	**16 51 09.8**	**+1.2**
	SNR=160						
WSAR	**Wadi Sarin**	**4.53**	**159**	Pn	**Pn**	**16 51 09.7**	**+1.1**
	comp=Z,16nm,0.3s,baz=347,slow=13,SNR=144						
WSAR				Sn	**Sn**	**16 51 58.1**	**-2.4**
	comp=Z,16nm,0.3s,baz=163,slow=20,SNR=18						
SMDO	**Samad**	**4.55**	**167**	P	**Pn**	**16 51 10.0**	**+1.0**
	SNR=34						
SMDO				S	**Sn**	**16 52 01.4**	**+0.3**
NHDN	**Nehbandan**	**4.74**	**35**	*e*Pn	**Pn**	**16 51 15.2**	**+3.6**
ISAD	**Sadrabad**	**5.20**	**328**	*e*Pn	**Pn**	**16 51 20.0**	**+1.9**
IKOO	**Kooshah**	**5.22**	**20**	*e*Pn	**Pn**	**16 51 22.0**	**+3.6**
WBK	**Wadi Bani Khal**	**5.23**	**159**	P	**Pn**	**16 51 19.1**	**+0.9**
	SNR=99						
WBK				S	**Sn**	**16 52 17.6**	**-0.1**
JMDO	**Jabal Madar**	**5.23**	**168**	P	**Pn**	**16 51 20.0**	**+1.7**
	SNR=18						
KLNJ	**Kolanjah**	**5.80**	**308**	*e*Pn	**Pn**	**16 51 26.6**	**+0.2**
IRAM	**Ramesheh**	**5.82**	**319**	*e*Pn	**Pn**	**16 51 26.7**	**+0.2**
BTHS		**6.46**	**239**	*e*Pn	**Pn**	**16 51 35.4**	**+0.3**
SHAO	**Shalim**	**9.52**	**187**	P	**Pn**	**16 52 16.8**	**-0.3**
	SNR=13						
WHFO	**Wadi Hawf**	**9.97**	**197**	P	**Pn**	**16 52 22.0**	**-1.4**
	SNR=26						
WHFO				S	Sn	16 54 07.0	-7.6
MMAI	**Mount Meron Ar**	**19.35**	**292**	P	**P**	**16 54 25.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=96,slow=13,SNR=2.1						
AAK	**Ala-Archa**	**20.79**	**39**	P	Pn	16 54 42.5	-1.0
	comp=Z,0.5nm,0.5s,baz=212,slow=9.5,SNR=2.0						
BRTR	**Keskin Array B**	**22.81**	**308**	P	**P**	**16 55 01.7**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=116,slow=10,SNR=5.1						
AKTO	**Aktyubinsk**	**22.91**	**2**	P	**P**	**16 55 03.6**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=185,slow=7.8,SNR=7.8						
BVAR	**Borovoye Array**	**27.39**	**18**	P	**P**	**16 55 45.2**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=142,slow=7.4,SNR=7.7						
AKASG	**Malin Array Be**	**31.26**	**325**	P	**P**	**16 56 18.3**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=130,slow=8.3,SNR=6.4						
ZALV	**Zalesovo Beam**	**33.43**	**30**	P	**P**	**16 56 38.6**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=232,slow=9.0,SNR=5.2						
ZALV				LR	LR	17 10 21.5	
	comp=Z,84nm,20.5s,baz=349,slow=36						
HFS	**Hagfors**	**43.80**	**330**	P	**P**	**16 58 04.4**	**-0.6**
	comp=Z,3.7nm,0.9s,baz=110,slow=12,SNR=2.5						
NOA	**NORSAR Array B**	**45.30**	**331**	P	**P**	**16 58 16.1**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=103,slow=18,SNR=1.5						
TORD	**Torodi Ar. Bea**	**53.31**	**266**	P	**P**	**16 59 17.6**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=64,slow=7.2,SNR=8.2						
WRA	**Warramunga Arr**	**88.51**	**113**	P	**P**	**17 02 52.8**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=312,slow=3.9,SNR=3.6						
ASAR	**Alice Springs**	**90.01**	**117**	P	**P**	**17 02 59.7**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=302,slow=5.1,SNR=1.7						
YKA	**Yellowknife Ar**	**90.05**	**356**	P	**P**	**17 02 59.4**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=357,slow=5.0,SNR=7.5						

IDC 20 17:08:01.1±999.0, 29.˚35N×107.˚07E, h0km, Error ellipse: s-maj=632.2km s-min=198.5km az=78.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I45RU	**USSURIYSK INFR**	**24.73**	**46**	*i*		19 36 50.0	
	baz=242,slow=343,SNR=1.1						
I39PW	**PALAU INFRASON**	**33.74**	**125**	*i*		20 36 00.0	
	baz=307,slow=315,SNR=1.0						
I53US	**FAIRBANKS INFR**	**69.88**	**26**	*i*		00 18 50.0	
	baz=288,slow=317,SNR=1.5						

*BJI **20** 17:51:27.7±0.0, 10.˚29N×142.˚14E, h37km, mb4.8/36, mB5.2/23, Ms5.1/7, Ms7 4.9/2*
*ISCJB **20** 17:51:32.1±0.4, 10.˚75N±0.˚06×141.˚68E±0.˚05, h33km, mb4.4/24, MS3.7/9, Error ellipse: s-maj=9.4km s-min=5.5km az=146.2*
*NEIC **20** 17:51:33.5±1.5, 10.˚66N±0.˚09×141.˚8E±0.˚1, h38km±6km, mb4.9/48*
*IDC **20** 17:51:37.3±2.3, 10.˚86N×141.˚71E, h62km±22km, mb4.0/17, mb1 4.2/18, mb1mx3.9/40, mbtmp4.3/18, ML4.5/2, MS3.4/11, Ms1 3.4/11, ms1mx3.2/41, Error ellipse: s-maj=18.0km s-min=12.0km az=107.0*
ISC 20 17:51:33.0±0.5, 10.˚57N±0.˚07×141.˚77E±0.˚07, h35km, n98, σ1§40/96, mb4.8/45, MS3.2/9, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.26**	**45**	P	**Pn**	**17 52 38.9**	**+3.4**
	68nm,0.3s,baz=355,slow=11,SNR=40						
GUMO				S	**Sn**	**17 53 24.6**	**+0.6**
	44nm,0.3s,baz=67,slow=23,SNR=2.2						
GUMO				LR	LR	17 54 30.3	
	comp=Z,200nm,18.2s,baz=194,slow=42						
GUMO	**Guam**	**4.26**	**45**		**Pn**	**17 52 39.3**	**+3.8**
GUMO				Sn	**Sn**	**17 53 25.9**	**+1.9**
JAY	**Jayapura**	**13.05**	**185**	P	**P**	**17 54 45.0**	**-1.0**
	1.1nm,0.3s,baz=359,slow=15,SNR=1.6						
JAY				LR	LR	17 58 30.1	
	comp=Z,165nm,19.9s,baz=360,slow=31						
DAV	**Davao City (W)**	**16.37**	**259**	LR	LR	18 00 31.1	
	comp=Z,40nm,21.3s,baz=113,slow=33						
KRVT	**Keravat (AS076**	**17.97**	**145**	LR	LR	18 01 02.6	
	comp=Z,222nm,20.5s,baz=318,slow=31						
PMG	**Port Moresby**	**20.56**	**165**	P	Pn	17 56 14.0	+2.8
	17nm,1.0s,baz=14,slow=10,SNR=3.5						
PMG				LR	LR	18 04 27.6	
	comp=Z,107nm,18.1s,baz=319,slow=37						
TGY	**Tagaytay City**	**20.65**	**282**	P	**P**	**17 56 11.3**	**+1.4**
	148nm,0.3s,baz=359,slow=22,SNR=4.1						
TGY				LR	LR	18 02 28.1	
	comp=Z,95nm,21.8s,baz=112,slow=32						
LUWI	**Luwuk**	**22.14**	**240**	P	**P**	**17 56 26.7**	**+0.7**
LUWI				IAmb	IAmb	17 56 29.2	
	comp=Z,70nm,0.8s						
YULB	**Yu-li**	**23.32**	**306**	P	**P**	**17 56 37.9**	**-0.3**
YULB				IAmb	IAmb	17 57 00.2	
	comp=Z,52nm,1.5s						
NACB	**Ninganchiao**	**23.48**	**308**	P	**P**	**17 56 40.6**	**+0.8**
NACB				IAmb	IAmb	17 56 43.4	
	comp=Z,130nm,1.9s						
SSLB	**Suanglung**	**23.79**	**306**	P	**P**	**17 56 42.7**	**0.0**
SSLB				IAmb	IAmb	17 56 47.0	
	comp=Z,25nm,1.1s						
TPUB	**Ta-pu**	**23.81**	**305**	P	**P**	**17 56 42.6**	**-0.4**
YHNB	**Yeheng**	**23.92**	**309**	P	**P**	**17 56 43.5**	**-0.5**
JNU	**Nakatsue**	**24.58**	**338**	P	**P**	**17 56 48.3**	**-1.5**
	comp=Z,8.3nm,0.7s,baz=312,slow=1.8,SNR=4.6						
JNU	**Nakatsue**	**24.58**	**338**	P	**P**	**17 56 48.7**	**-1.1**
JNU				IAmb	IAmb	17 56 56.1	
	comp=Z,70nm,1.4s						
WAKE	**Wake Island**	**25.53**	**67**	P	**P**	**17 56 55.4**	**-3.2**
MTN	**Manton Dam**	**25.55**	**205**	P	**P**	**17 56 55.9**	**-2.9**
MJAR	**Matsushiro Arr**	**26.05**	**353**	LR	LR	18 06 26.6	
	comp=Z,52nm,18.1s,baz=330,slow=34						
MAJO	**Matsushiro**	**26.05**	**353**	P	**P**	**17 57 00.6**	**-2.6**
MAJO				IAmb	IAmb	17 57 28.3	
	comp=Z,54nm,1.8s						
MAT	**Matsushiro**	**26.05**	**353**	P	**P**	**17 57 02.3**	**-0.9**
MJB9	**Matsu-Tunnel**	**26.06**	**353**	P	**P**	**17 57 00.5**	**-2.7**
MJB9				IAmb	IAmb	17 57 28.3	
	comp=Z,55nm,1.8s						
KSRS	**Korea Array**	**29.53**	**337**	LR	LR	18 09 30.7	
	comp=Z,54nm,19.0s,baz=152,slow=37						
KS19	**Wonju Array Si**	**29.59**	**337**	P	**P**	**17 57 34.7**	**-0.1**
NJ2	**Nanjing**	**30.08**	**319**	*e*P	**P**	**17 57 40.5**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WRA	**Warramunga Arr**

	comp=Z,19nm,0.8s							
WMQ	**Urumqi**	**57.09**	**316**	*e*P	**P**	**18 01 16.5**	**+0.5**
WMQ				pP	pP	18 01 24.3	-0.8
WMQ				pmax	pmax		
	comp=Z,13nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,76nm,6.7s						
WMQ				LR	LR		
	comp=Z,750nm,29.3s						
WMQ				LR	LR		
	comp=Z,2μm,29.0s						
WMQ	**Urumqi**	**57.09**	**316**	P	**P**	**18 01 16.1**	**0.0**
WMQ				IAmb	IAmb	18 01 17.4	
	comp=Z,11nm,0.8s						
BILL	**Bilibino**	**59.64**	**10**	P	**P**	**18 01 32.9**	**-0.4**
BILL				IAmb	IAmb	18 01 34.0	
	comp=Z,6.0nm,0.8s						
TIXI	**Tiksi**	**61.54**	**355**	P	**P**	**18 01 44.2**	**-2.0**
MK31	**Makanchi Array**	**61.60**	**318**	P	**P**	**18 01 46.8**	**-0.3**
MK31				IAmb	IAmb	18 01 48.2	
	comp=Z,6.3nm,1.1s						
MKAR	**Makanchi Array**	**61.60**	**318**	P	**P**	**18 01 47.1**	**-0.1**
	comp=Z,5.3nm,0.9s,baz=103,slow=8.3,SNR=29						
MAKZ	**Makanchi**	**61.82**	**318**	P	**P**	**18 01 48.4**	**-0.2**
MAKZ				IAmb	IAmb	18 01 49.5	
	comp=Z,4.4nm,0.8s						
ZAA0	**Zalesovo Array**	**62.35**	**326**	P	**P**	**18 01 51.2**	**-0.8**
ZAA0				IAmb	IAmb	18 01 52.0	
	comp=Z,4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**62.35**	**326**	P	**P**	**18 01 51.2**	**-0.8**
	comp=Z,3.8nm,0.5s,baz=110,slow=7.4,SNR=20						
KDJ	**Kajisay**	**64.17**	**312**	P	**P**	**18 02 05.1**	**+0.6**
KDJ				IAmb	IAmb	18 02 05.8	
	comp=Z,8.7nm,1.0s						
KSH	**Kashi**	**64.70**	**309**	P	**P**	**18 02 10.5**	**+2.5**
KSH				PcP	**PcP**	**18 02 42.5**	**+1.0**
KSH				ScP		18 06 41.6	
KSH				PcS		18 06 44.6	
KSH				S	**S**	**18 10 48.8**	**+2.7**
KSH				pmax	pmax		
	comp=Z,24nm,1.1s						
KSH				pmax	pmax		
	comp=Z,580nm,6.5s						
KSH				LR	LR		
	comp=Z,590nm,6.8s						
KSH				LR	LR		
	comp=Z,490nm,7.4s						
NRN	**Naryn**	**64.94**	**311**	P	**P**	**18 02 09.5**	**-0.2**
NRN				IAmb	IAmb	18 02 10.9	
	comp=Z,10nm,1.3s						
KURK	**Kurchatov**	**64.97**	**321**	P	**P**	**18 02 08.7**	**-0.6**
AAK	**Ala-Archa**	**66.21**	**312**	P	**P**	**18 02 18.1**	**+0.4**
NIL	**Nilore**	**66.36**	**302**	P	**P**	**18 02 18.9**	**+0.2**
NIL				IAmb	IAmb	18 02 20.0	
	comp=Z,16nm,0.9s						
ARSB	**Arslanbob**	**67.18**	**310**	P	**P**	**18 02 23.5**	**-0.4**
ARSB				IAmb	IAmb	18 02 25.2	
	comp=Z,24nm,1.4s						
NRIK	**Noril'sk**	**68.01**	**342**	P	**P**	**18 02 27.4**	**-1.0**
	comp=Z,4.7nm,0.6s,baz=102,slow=9.8,SNR=4.4						
GAR	**Garm**	**69.03**	**308**	P	**P**	**18 02 34.4**	**-1.1**
GAR				IAmb	IAmb	18 02 36.5	
	comp=Z,23nm,1.2s						
BRLK	**Bradley Lake**	**69.58**	**30**	P	**P**	**18 02 38.2**	**-0.2**
PPLA	**Purkeypile**	**69.82**	**26**	P	**P**	**18 02 40.2**	**+0.2**
CHGR	**Chuyangaron**	**69.91**	**307**	P	**P**	**18 02 40.9**	**0.0**
CHGR				IAmb	IAmb	18 02 41.8	
	comp=Z,17nm,0.9s						
BRVK	**Borovoye**	**70.50**	**323**	P	**P**	**18 02 44.0**	**-0.2**
KTH	**Kantishna Hill**	**70.56**	**26**	P	**P**	**18 02 44.6**	**+0.3**
KTH				IAmb	IAmb	18 02 49.9	
	comp=Z,21nm,1.5s						
MLY	**Manley**	**71.04**	**24**	P	**P**	**18 02 47.3**	**+0.1**
COLD	**Coldfoot**	**71.87**	**22**	P	**P**	**18 02 51.9**	**-0.3**
ILAR	**Eielson Array**	**72.57**	**25**	P	**P**	**18 02 55.8**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=245,slow=5.9,SNR=11						
PPT	**Papeete**	**73.34**	**112**	LR	LR	18 28 57.3	
	comp=Z,53nm,18.8s,baz=342,slow=30						
HRA	**Herat**	**75.50**	**303**	P	**P**	**18 03 14.4**	**0.0**
ABKAR	**Akbulak array**	**76.74**	**318**	P	**P**	**18 03 20.2**	**-0.7**
ARU	**Arti**	**77.52**	**326**	P	**P**	**18 03 24.1**	**-1.0**
ARU				IAmb	IAmb	18 03 25.3	
	comp=Z,8.4nm,0.6s						
BESE	**Bessie Mountai**	**77.60**	**32**	P	**P**	**18 03 22.5**	**-3.1**
GEYT	**Alibeck**	**78.61**	**307**	P	**P**	**18 03 32.4**	**+0.8**
	comp=Z,2.7nm,0.8s,baz=187,slow=2.5,SNR=5.4						
KBS	**Kingsbay**	**86.72**	**351**		**P**	**18 04 12.9**	**0.0**
YKA	**Yellowknife Ar**	**86.91**	**27**	P	**P**	**18 04 14.9**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=288,slow=5.2,SNR=24						
ARCES	**ARCESS Array B**	**88.99**	**342**	P	**P**	**18 04 23.2**	**-0.7**
	comp=Z,4.1nm,0.7s,baz=68,slow=6.9,SNR=13						
NVAR	**Mina Array Bea**	**91.16**	**51**	P	**P**	**18 04 37.2**	**+2.2**
	comp=Z,1.7nm,0.8s,baz=260,slow=6.0,SNR=7.3						
FINES	**FINESS Array B**	**92.58**	**334**	P	**P**	**18 04 39.1**	**-1.6**
	comp=Z,3.1nm,0.7s,baz=88,slow=3.5,SNR=9.1						
AKASG	**Malin Array Be**	**95.68**	**324**	LR	LR	18 47 38.0	
	comp=Z,46nm,21.8s,baz=275,slow=35						
KOLS	**Kolonicke sedl**	**100.50**	**324**	*e*PDIFF	**Pdif**	**18 05 15.0**	**-1.9**

IDC 20 17:59:38.6±7.3, 17.88S×175.31E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/31, mbtmp3.8/3, MS3.5/2, Ms1 3.5/2, ms1mx3.0/22, Error ellipse: s-maj=326.0km s-min=40.0km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**13.03**	**74**	LR	LR	18 06 29.6	
	comp=Z,125nm,18.2s,baz=300,slow=32						
WRA	**Warramunga Arr**	**38.75**	**260**	P	P	18 07 05.8	+0.8
	0.9nm,0.7s,baz=94,slow=8.1,SNR=5.7						
WRA				LR	LR	18 23 01.5	
	comp=Z,90nm,18.4s,baz=105,slow=36						
ASAR	**Alice Springs**	**39.04**	**254**	P	P	18 07 06.6	-0.9
	1.5nm,0.9s,baz=76,slow=8.5,SNR=12						
ILAR	**Eielson Array**	**87.32**	**15**	P	P	18 12 27.0	+0.1
	0.4nm,0.9s,baz=226,slow=7.2,SNR=2.5						

*VAO **20** 18:09:59.1±0.7, 22.04S×69.78W, h184km±4km, mb4.3*
*ISCJB **20** 18:10:03.8±0.3, 21.76S±0.03×68.74W±0.06, h128km±5km, mb3.7/5, Error ellipse: s-maj=8.6km s-min=5.1km az=177.3*
*NEIC **20** 18:10:03.7±2.4, 21.80S±0.05×68.44W±0.08, h107km±7km*
*IDC **20** 18:10:04.7±0.8, 21.69S×68.43W, h105km±9km, mb3.5/6, mb1 3.7/9, mb1mx3.6/25, mbtmp3.9/9, Error ellipse: s-maj=22.6km s-min=14.8km az=140.0*
*GUC **20** 18:10:04.8±0.7, 21.72S×68.80W, h120km±4km, ML4.1*

ISC 20 18:10:04.4±0.6, 21.75S±0.04×68.61W±0.05, h113km±6km, n74, σ1s69/92, mb4.0/5, 8C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.59**	**265**	⇑*i*P	**Pn**	**18 10 23.2**	**+0.9**
PB09				*e*S	**Sn**	**18 10 36.8**	**+1.0**
PB09				IAML		18 10 39.2	
	comp=E,4μm,0.6s						
LVC	**Limon Verde**	**0.90**	**198**	⇓*i*P	**Pn**	**18 10 26.6**	**+1.4**
LVC				*i* S	**Sn**	**18 10 42.8**	**+1.9**
LVC	**Limon Verde**	**0.90**	**198**	P	**Pn**	**18 10 26.6**	**+1.4**
	comp=E,147nm,0.3s,baz=11,slow=6.6,SNR=754						
LVC				S	**Sn**	**18 10 42.3**	**+1.5**
	comp=E,198nm,0.3s,baz=114,slow=22,SNR=32						
LVC				LR	LR	18 10 43.7	
	comp=E,44nm,18.5s,baz=342,slow=38						
LVC	**Limon Verde**	**0.90**	**198**	*e*P	**Pn**	**18 10 26.7**	**+1.5**
LVC	**Limon Verde**	**0.90**	**198**	*e*P	**Pn**	**18 10 26.7**	**+1.5**
LVC	**Limon Verde**	**0.90**	**198**		**Pn**	**18 10 26.5**	**+1.4**
LVC					**Sn**	**18 10 40.3**	**-0.6**
PB03	**IPOC Station P**	**1.10**	**254**	⇑*i*P	**Pn**	**18 10 27.3**	**+0.3**
PB03				*i* S	**Sn**	**18 10 43.6**	**-0.5**
PB03				IAML		18 10 45.0	
	comp=E,5μm,0.3s						
PB07	**IPOC Station P**	**1.19**	**271**	⇑*i*P	**Pn**	**18 10 28.0**	**0.0**
PB07				*i* S	**Sn**	**18 10 45.0**	**-0.7**
PB07				IAML		18 10 46.0	
	comp=E,4μm,0.1s						
PB02	**IPOC Station P**	**1.27**	**289**	⇑*i*P	**Pn**	**18 10 28.6**	**-0.2**
PB02				*e*S	**Sn**	**18 10 46.7**	**-0.6**
PB02				IAML		18 10 52.9	
	comp=E,4μm,0.5s						
PB04	**IPOC Station P**	**1.54**	**248**	⇑*i*P	**Pn**	**18 10 32.0**	**0.0**
PB04				*i* S	**Sn**	**18 10 52.1**	**-0.9**
PB04				IAML		18 10 54.1	
	comp=N,2μm,0.1s						
PB04	**IPOC Station P**	**1.54**	**248**		**Pn**	**18 10 31.9**	**0.0**
PB04				Sn	**Sn**	**18 10 52.0**	**-1.0**
PB15	**IPOC Station P**	**1.66**	**209**	*e*P	**Pn**	**18 10 34.4**	**+1.0**
PB15				*i* S	**Sn**	**18 10 57.2**	**+1.8**
TA01	**Diego Aracena**	**1.88**	**309**	⇑*i*P	**Pn**	**18 10 35.2**	**-0.8**
TA01				*i* S	**Sn**	**18 10 58.6**	**-1.5**
TA01				IAML		18 11 01.5	
	comp=N,1μm,0.3s						
GO01	**Chusmiza**	**2.14**	**345**	⇑*i*P	**Pn**	**18 10 40.4**	**+0.6**
GO01				*i* S	**Sn**	**18 11 07.8**	**+1.0**
GO01				IAML		18 11 10.3	
	comp=N,3μm,0.1s						
GO01	**Chusmiza**	**2.14**	**345**		**Pn**	**18 10 40.4**	**+0.6**
GO01				Sn	**Sn**	**18 11 07.0**	**+0.2**
PB11	**IPOC Station P**	**2.21**	**333**	⇑*i*P	**Pn**	**18 10 39.8**	**-0.5**
PB11				*e*S	**Sn**	**18 11 06.8**	**-1.0**
PB11				IAML		18 11 08.3	
	comp=E,3μm,0.3s						
PB11	**IPOC Station P**	**2.21**	**333**		**Pn**	**18 10 39.8**	**-0.5**
PB11				Sn	**Sn**	**18 11 06.4**	**-1.4**
PB10	**IPOC Station P**	**2.51**	**225**	*e*P	**Pn**	**18 10 43.5**	**-0.5**
PB10				*e*S	**Sn**	**18 11 11.4**	**-3.1**
PB10	**IPOC Station P**	**2.51**	**225**		**Pn**	**18 10 43.6**	**-0.5**
PB10				Sn	**Sn**	**18 11 11.7**	**-2.8**
MNMC	**Minye Minye**	**2.77**	**340**		**Pn**	**18 10 47.4**	**-0.2**
GO02	**Mina Guanaco**	**3.51**	**195**		**Pn**	**18 10 57.9**	**+0.4**
LPAZ	**La Paz**	**5.45**	**5**	P	**Pn**	**18 11 24.9**	**+0.9**
	comp=E,0.7nm,0.3s,baz=323,slow=3.0,SNR=14						
LPAZ	**La Paz**	**5.45**	**5**	*e*P	**Pn**	**18 11 25.7**	**+1.7**
LPAZ	**La Paz**	**5.45**	**5**	*e*P	**Pn**	**18 11 25.7**	**+1.7**
LPAZ	**La Paz**	**5.45**	**5**		**Pn**	**18 11 25.1**	**+1.2**
GO03	**Copiap**	**6.00**	**194**	Pn	**Pn**	**18 11 30.2**	**-0.6**
GO04	**Tololo Observa**	**8.62**	**193**	Pn	**Pn**	**18 12 02.0**	**-4.4**
SIV	**San Ignacio**	**9.15**	**53**	P	**Pn**	**18 12 11.6**	**-1.9**
	comp=E,1.3nm,0.3s,baz=251,slow=13,SNR=39						
SIV				S	**Sn**	**18 13 48.0**	**-6.8**
	baz=308,slow=22,SNR=1.4						
CPUP	**Villa Florida**	**11.27**	**116**	P	**Pn**	**18 12 41.1**	**-0.9**
	comp=E,0.1nm,0.3s,baz=282,slow=9.8,SNR=4.6						
CPUP	**Villa Florida**	**11.27**	**116**	*e*P	**P**	**18 12 46.8**	**-4.8**
CPUP	**Villa Florida**	**11.27**	**116**	*e*P	**P**	**18 12 46.8**	**-4.8**
CPUP	**Villa Florida**	**11.27**	**116**		**Pn**	**18 12 40.0**	**-2.1**
SALV	**Santo Antonio**	**13.54**	**67**	*e*P	**P**	**18 13 18.3**	**+1.2**
SALV	**Santo Antonio**	**13.54**	**67**	*e*P	**P**	**18 13 18.3**	**+1.2**
PP1B	**Ponte de Pedra**	**13.57**	**75**	*e*P	**P**	**18 13 18.9**	**+1.5**
PP1B	**Ponte de Pedra**	**13.57**	**75**	*e*P	**P**	**18 13 18.9**	**+1.5**
TRCB	**Terra Rica**	**14.83**	**97**	*e*P	**P**	**18 13 33.5**	**+2.1**
TRCB	**Terra Rica**	**14.83**	**97**	*e*P	**P**	**18 13 33.5**	**+2.1**
PTGB	**Pitanga**	**15.49**	**104**	*e*P	**P**	**18 13 40.2**	**+1.4**
PTGB	**Pitanga**	**15.49**	**104**	*e*P	**P**	**18 13 40.2**	**+1.4**
ITAB	**Concordia**	**15.96**	**113**	*e*P	**P**	**18 13 43.8**	**-0.1**
ITAB	**Concordia**	**15.96**	**113**	*e*P	**P**	**18 13 43.8**	**-0.1**
CLDB	**Colider**	**16.36**	**51**	*e*P	**P**	**18 13 48.7**	**+0.3**
CLDB	**Colider**	**16.36**	**51**	*e*P	**P**	**18 13 48.7**	**+0.3**
ARAG	**Araguaiana, MT**	**17.00**	**72**	*e*P	**P**	**18 13 57.7**	**+2.2**
ARAG	**Araguaiana, MT**	**17.00**	**72**	*e*P	**P**	**18 13 57.7**	**+2.2**
ITRB	**Iturama**	**17.19**	**86**	*e*P	**Pn**	**18 13 59.0**	**+1.3**
ITRB	**Iturama**	**17.19**	**86**	*e*P	**Pn**	**18 13 59.0**	**+1.3**
TRQA	**Tornquist**	**17.23**	**162**	P	**P**	**18 13 57.4**	**-0.4**
TRQA				IAmb	IAmb	18 14 00.8	
	comp=Z,9.5nm,1.1s						
FRTB	**Fartura**	**17.67**	**99**	*e*P	**Pn**	**18 14 03.7**	**+0.2**
FRTB	**Fartura**	**17.67**	**99**	*e*P	**Pn**	**18 14 03.7**	**+0.2**
BB19B	**Bebedouro**	**18.71**	**92**	*e*P	**Pn**	**18 14 15.2**	**-0.8**
BB19B	**Bebedouro**	**18.71**	**92**	*e*P	**Pn**	**18 14 15.2**	**-0.8**
PLCA	**Paso Flores**	**19.00**	**185**	P	**P**	**18 14 16.4**	**-0.8**
PLCA				IAmb	IAmb	18 14 57.5	
	comp=Z,22nm,1.9s						
IPMB	**Ipameri, GO**	**19.55**	**83**	*e*P	**P**	**18 14 23.1**	**-0.3**
IPMB	**Ipameri, GO**	**19.55**	**83**	*e*P	**P**	**18 14 23.1**	**-0.3**
RCLB	**Rio Claro- Sao**	**19.55**	**96**	*e*P	**P**	**18 14 23.9**	**+0.6**
RCLB	**Rio Claro- Sao**	**19.55**	**96**	*e*P	**P**	**18 14 23.9**	**+0.6**
VAO	**Valinhos**	**20.05**	**98**	*e*P	**P**	**18 14 29.2**	**+0.3**
VAO	**Valinhos**	**20.05**	**98**	*e*P	**P**	**18 14 29.2**	**+0.3**
BDFB	**Brasilia**	**20.42**	**76**	P	**P**	**18 14 30.2**	**-2.7**
	comp=Z,2.3nm,0.4s,baz=262,slow=12,SNR=3.6						
BDFB	**Brasilia**	**20.42**	**76**	P	**P**	**18 14 29.9**	**-3.0**
TXAR	**Lajitas Array**	**60.99**	**325**	P	**P**	**18 20 06.6**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=149,slow=9.3,SNR=2.8						
DBIC	**Dimbokro**	**68.54**	**73**	P	**P**	**18 20 55.5**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=190,slow=7.6,SNR=3.3						
DBIC	**Dimbokro**	**68.54**	**73**	P	**P**	**18 20 55.0**	**-0.3**
MDPB	**Devils Postpil**	**75.77**	**321**		**PcP**	**18 21 51.5**	**+1.2**
NVAR	**Mina Array Bea**	**75.86**	**322**	P	**P**	**18 21 40.7**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=150,slow=5.8,SNR=2.1						
H17A	**Grant Village**	**76.19**	**330**		**PcP**	**18 21 55.3**	**+3.3**
TORD	**Torodi Ar. Bea**	**77.18**	**70**	P	**P**	**18 21 47.8**	**+1.5**
	comp=Z,1.9nm,0.7s,baz=254,slow=5.3,SNR=14						
YKA	**Yellowknife Ar**	**91.52**	**340**	P	**P**	**18 22 58.1**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=133,slow=4.6,SNR=15						
ASAR	**Alice Springs**	**129.82**	**207**	PKP	**PKPdf**	**18 29 01.4**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=138,slow=2.6,SNR=4.1						
WRA	**Warramunga Arr**	**132.88**	**210**	PKP	**PKPdf**	**18 29 06.8**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=146,slow=1.9,SNR=1.8						
ZALV	**Zalesovo Beam**	**142.06**	**25**	PKP	**PKPdf**	**18 29 23.9**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=236,slow=16,SNR=2.2						
MKAR	**Makanchi Array**	**145.67**	**36**	PKPbc	**PKPab**	**18 29 30.5**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=312,slow=2.9,SNR=8.6						

*MOS **20** 18:11:59.4±1.2, 27.95N×62.52E, h22km, mb4.1/9, Error ellipse: s-maj=10.2km s-min=7.0km az=84.0*
*THR **20** 18:12:01.8, 28.02N×62.61E, h15km, ML3.8*
*IDC **20** 18:12:03.9±2.8, 28.07N×62.68E, h43km±27km, mb3.7/16, mb1 3.8/20, mb1mx3.6/45, mbtmp3.9/20, ML3.7/3, MS3.7/3, Ms1 3.8/3, ms1mx3.0/42, Error ellipse: s-maj=18.0km s-min=15.0km az=119.0*
*TEH **20** 18:12:03.0, 27.98N×62.84E, h80km, ML4.0*
*ISCJB **20** 18:12:04.3±0.3, 27.89N±0.03×62.60E±0.03, h80km, mb4.1/34, Error ellipse: s-maj=5.0km s-min=3.2km az=43.6*
*NEIC **20** 18:12:04.6±2.3, 27.97N±0.06×62.59E±0.09, h58km±4km, mb4.4/27, mb_Lg4.0(TEH)*
*DSN **20** 18:12:09.7±2.5, 27.45N×62.09E, h10km, ML4.4/6, Error ellipse: s-maj=69.6km s-min=19.6km az=172.0*
*OMAN **20** 18:12:13.6±0.3, 27.48N×62.12E, h92km±36km, mJ4.0/2, Error ellipse: s-maj=6.5km s-min=5.3km az=289.0*

ISC 20 18:12:04.1±0.5, 27.76N±0.05×62.79E±0.05, h80km, n147, σ2s104/143, mb4.1/40, 7C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SZD1	**Zahaedan-tmp**	**2.41**	**316**	*e*Pn	**Pn**	**18 12 40.1**	**-1.5**
CHBR	**Chabahar**	**2.99**	**224**	*e*Pn	**Pn**	**18 12 51.8**	**+2.5**
NHDN	**Nehbandan**	**4.33**	**327**	IAMB	IAmb	18 13 08.5	
	comp=Z,0.0nm,0.2s						
NHDN				*e*Pn	**Pn**	**18 13 06.0**	**-1.7**
KHNJ	**Kahnooj**	**4.50**	**274**	*e*Pn	**Pn**	**18 13 10.4**	**+0.5**
CHMN	**Cheshme madani**	**5.06**	**296**	*e*Pn	**Pn**	**18 13 17.0**	**-0.8**
BSRN	**Basiran**	**5.26**	**324**	*e*Pn	**Pn**	**18 13 18.0**	**-2.3**
BSRN	**Basiran**	**5.26**	**324**	*e*Pn	**Pn**	**18 13 18.0**	**-2.3**
NIAN	**Nian**	**5.29**	**269**	*e*Pn	**Pn**	**18 13 22.8**	**+2.2**
NIAN				IAMB	IAmb	18 14 20.9	
	comp=Z,0.0nm,0.2s						
IDAH	**Dahanechah**	**5.56**	**334**	*e*Pn	**Pn**	**18 13 23.4**	**-1.2**
IDAH				IAMB	IAmb	18 13 53.7	
	comp=Z,473nm,0.5s						
IDAH	**Dahanechah**	**5.56**	**334**	Pn	**Pn**	**18 13 23.3**	**-1.3**
NGRK	**Negar Kerman**	**5.64**	**291**	*e*Pn	**Pn**	**18 13 26.6**	**+0.8**
NGRK				IAMB	IAmb	18 14 06.8	
	comp=Z,0.0nm,0.4s						
IKOO	**Kooshah**	**5.69**	**326**	*e*Pn	**Pn**	**18 13 24.0**	**-2.2**
IKOO				IAMB	IAmb	18 13 24.7	
	comp=Z,1μm,0.2s						
IKOO	**Kooshah**	**5.69**	**326**	Pn	**Pn**	**18 13 24.0**	**-2.2**
TVBK	**TV Kerman**	**5.73**	**294**	*e*Pn	**Pn**	**18 13 26.7**	**-0.2**
TVBK				IAMB	IAmb	18 13 38.2	
	comp=Z,0.0nm,0.3s						
WSAR	**Wadi Sarin**	**5.87**	**221**	P	**Pn**	**18 13 29.1**	**+0.6**
	SNR=59						
WSAR	**Wadi Sarin**	**5.87**	**221**	P	**Pn**	**18 13 29.1**	**+0.6**
	comp=Z,3.6nm,0.3s,baz=92,slow=8.9,SNR=66						
WSAR				S	**Sn**	**18 14 29.2**	**-5.2**
	comp=Z,18nm,0.3s,baz=19,slow=23,SNR=17						
BNDS	**Bandar-Abbas**	**5.88**	**268**	*e*AML	AML	18 14 30.3	
	comp=Z,38nm,0.3s						
BNDS				*e*AML	AML	18 14 25.6	
	comp=Z,40nm,0.4s						
GENO	**Geno**	**5.88**	**268**	*e*Pn	**Pn**	**18 13 30.1**	**+1.2**
GENO				IAMB	IAmb	18 14 34.5	
	comp=Z,0.0nm,0.2s						
BIDO	**Bidbid**	**5.96**	**226**	P	**Pn**	**18 13 30.2**	**+0.4**
BIDO				S	**Sn**	**18 14 31.3**	**-5.4**
BANOM	**Banah**	**6.08**	**254**	P	**Pn**	**18 13 29.4**	**-2.1**
BANOM				S	**Sn**	**18 14 33.6**	**-6.1**
BANOM	**Banah**	**6.08**	**254**	P	**Pn**	**18 13 32.4**	**+0.9**
SHME	**Shamm**	**6.18**	**255**	P	**Pn**	**18 13 32.0**	**-0.8**
WBK	**Wadi Bani Khal**	**6.19**	**215**	P	**Pn**	**18 13 33.4**	**+0.4**
	SNR=189						
WBK				S	**Sn**	**18 14 38.0**	**-4.3**
ITEG	**Tejag**	**6.19**	**327**	*e*Pn	**Pn**	**18 13 31.0**	**-2.1**
ITEG				IAMB	IAmb	18 13 32.5	
	comp=Z,572nm,0.2s						
ITEG	**Tejag**	**6.19**	**327**	Pn	**Pn**	**18 13 31.0**	**-2.1**
SHRT	**Shahrakht**	**6.25**	**340**	*e*Pn	**Pn**	**18 13 31.7**	**-2.0**
SHRT	**Shahrakht**	**6.25**	**340**	*e*Pn	**Pn**	**18 13 31.7**	**-2.0**
MDH	**Madha**	**6.31**	**249**	*i* P	**Pn**	**18 13 34.4**	**-0.1**
	SNR=12						
MDH	**Madha**	**6.31**	**249**	P	**Pn**	**18 13 34.7**	**+0.1**
	SNR=12						
MDH				S	Sn	18 14 37.5	-7.7
	SNR=6.8						
SMDO	**Samad**	**6.35**	**223**	P	**Pn**	**18 13 36.4**	**+1.2**
	SNR=12						
MSFE	**Esma-Masafi**	**6.40**	**250**	P	**Pn**	**18 13 36.2**	**+0.4**
HOQ	**Hoqain**	**6.46**	**231**	P	**Pn**	**18 13 37.0**	**+0.3**
	SNR=53						
HOQ				S	Sn	18 14 42.2	-6.8
AFRZ	**Afriz**	**6.51**	**331**	*e*Pn	**Pn**	**18 13 35.5**	**-1.9**
UOSS	**Minazif**	**6.54**	**246**	*i* P	**Pn**	**18 13 34.8**	**-2.9**
	SNR=9.6						
UOSS	**Minazif**	**6.54**	**246**	Pn	**Pn**	**18 13 37.3**	**-0.4**
UOSS				Sn	Sn	18 14 43.8	-7.0
HRA	**Herat**	**6.62**	**356**		**Pn**	**18 13 38.2**	**-0.7**
HATD	**Hatta, Dubai**	**6.65**	**245**	P	**Pn**	**18 13 36.8**	**-2.5**
ASHO	**Ashiyiah**	**6.78**	**245**	*i* P	**Pn**	**18 13 39.7**	**-1.3**
	SNR=11						
ASHO	**Ashiyiah**	**6.78**	**245**	P	**Pn**	**18 13 42.0**	**+1.0**
	SNR=11						
JMDO	**Jabal Madar**	**6.85**	**219**	P	**Pn**	**18 13 43.6**	**+1.7**
	SNR=9.9						
JMDO				S	**Sn**	**18 14 57.4**	**-1.0**
BSY	**Bisya**	**7.11**	**227**	P	**Pn**	**18 13 48.3**	**+2.8**
	SNR=7.4						
BSY				S	**Sn**	**18 15 01.7**	**-3.2**
ARQ	**Araqi**	**7.17**	**233**	P	**Pn**	**18 13 50.1**	**+3.7**
	SNR=26						
ARQ				S	**Sn**	**18 15 05.8**	**-0.6**
ALNE	**Al Ain**	**7.33**	**241**	*i* P	**Pn**	**18 13 48.8**	**+0.2**
	SNR=6.1						
IBAF	**Bafgh**	**7.35**	**303**	*e*Pn	**Pn**	**18 13 48.8**	**-0.1**
IBAF	**Bafgh**	**7.35**	**303**	Pn	**Pn**	**18 13 48.8**	**-0.1**
ASUD	**Al Ashush, Dub**	**7.39**	**247**	P	**Pn**	**18 13 52.4**	**+3.1**
	SNR=8.5						
TPRV	**Parvadeh(Tabas**	**7.44**	**316**	*e*Pn	**Pn**	**18 13 48.5**	**-1.5**
TKDS	**Koohdasht(Taba**	**7.60**	**321**	*e*Pn	**Pn**	**18 13 50.3**	**-2.0**
TABS	**Tabas**	**7.63**	**322**	*e*Pn	**Pn**	**18 13 50.8**	**-1.8**
TABS	**Tabas**	**7.63**	**322**	*e*Pn	**Pn**	**18 13 50.8**	**-1.8**
BHUJ	**Bhuj**	**7.66**	**124**	*e*P	Pn	18 13 58.3	+5.4
BHUJ				*e*S	**Sn**	**18 15 18.4**	**+0.3**
TNSJ	**Nastanj**	**8.15**	**321**	*e*Pn	**Pn**	**18 13 58.0**	**-1.7**
THW	**Thamme Wali**	**9.22**	**55**	P	Pn	18 14 15.9	+1.6
IAKL	**Akhelmad**	**9.45**	**340**	*e*Pn	**Pn**	**18 14 17.3**	**-0.3**
SBZV	**Sabzevar**	**9.65**	**334**	*e*Pn	**Pn**	**18 14 19.6**	**-0.7**
IKRD	**Kardeh**	**9.69**	**339**	*e*Pn	**Pn**	**18 14 16.5**	**-4.3**
IKRD	**Kardeh**	**9.69**	**339**	Pn	**Pn**	**18 14 16.5**	**-4.3**
CEP	**Cherat**	**9.90**	**

comp=Z,6.0nm,2.5s
BRVK Borovoye 25.87 10 P **P** 18 17 29.2 +1.0
BRVK IAmb IAmb 18 17 30.2
comp=Z,5.0nm,1.4s
KURK Kurchatov 25.89 23*ce*P **P** 18 17 29.2 +0.9
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURK Kurchatov 25.89 23 P **P** 18 17 29.9 +1.6
KURK IAmb IAmb 18 17 32.9
comp=Z,3.0nm,0.9s
ZALV Zalesovo Beam 30.76 26 P **P** 18 18 12.7 +1.1
comp=Z,1.1nm,0.4s,baz=233,slow=10,SNR=9.5
OBN Obninsk 33.28 332*eP* **P** 18 18 35.1 +1.4
OBN *e* 18 19 41.7
OBN *e*S **S** 18 23 52.9 +4.9
OBN pmax pmax
comp=Z,3.0nm,1.0s
OBN MLR MLR
comp=Z,95nm,10.0s
AKASG Malin Array Be 34.19 321*ce*P **P** 18 18 41.5 -0.2
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 34.19 321 P **P** 18 18 41.4 -0.3
comp=Z,0.5nm,0.5s,baz=130,slow=7.1,SNR=4.5
ITM Ithomi 35.50 296 P **P** 18 18 53.6 +0.4
ITM IAmb IAmb 18 19 58.2
comp=Z,13nm,1.4s
KMBO Kilima Mbogo 37.78 225 P **P** 18 19 16.6 +3.6
KMBO pmax pmax
comp=Z,3.0nm,1.2s
KMBO Kilima Mbogo 37.78 225 P **P** 18 19 16.6 +3.6
KMBO IAmb IAmb 18 19 45.2
comp=Z,2.9nm,1.1s
VYHS Vyhne 39.61 314 *eP* **P** 18 19 27.5 -0.3
VYHS Vyhne 39.61 314 *eP* **P** 18 19 27.5 -0.3
FINES FINESS Array B 41.61 334*ce*P **P** 18 19 44.4 +0.5
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 41.61 334 P **P** 18 19 43.9 0.0
comp=Z,1.8nm,0.5s,baz=134,slow=9.6,SNR=14
GERES GERESS Array B 43.01 313 P **P** 18 19 56.7 +1.1
comp=Z,0.8nm,0.7s,baz=98,slow=9.6,SNR=7.7
ABTA Abfaltersbach 43.46 310 *eP* **P** 18 19 59.9 +0.6
comp=Z,2.2nm,0.6s
WTTA Wattenberg 44.12 310 *i* P **P** 18 20 05.1 +0.4
comp=Z,4.1nm,0.4s,SNR=6.0
SQTA Sankt Quirin 44.41 310 *eP* **P** 18 20 07.5 +0.6
comp=Z,3.6nm,0.6s
MOTA Moosalm 44.49 310 *eP* **P** 18 20 07.4 -0.2
comp=Z,3.1nm,0.5s
FETA Feichten 44.71 310 *eP* **P** 18 20 09.8 +0.4
comp=Z,6.2nm,1.1s
RETA Reutte 44.74 311 *i* P **P** 18 20 09.6 +0.1
comp=Z,2.8nm,0.4s,SNR=5.6
FUORN Ofenpass-Fuorn 44.98 309 P **P** 18 20 13.0 +1.4
FUORN IAmb IAmb 18 21 39.7
comp=Z,37nm,1.9s
DAVA Damuels 45.31 310 *i* P **P** 18 20 14.3 +0.2
comp=Z,6.2nm,0.5s,SNR=7.6
KEST Kesra 45.66 294 P P 18 20 20.7 +3.7
comp=Z,2.1nm,0.8s,baz=25,slow=14,SNR=3.3
KEST Kesra 45.66 294 P **P** 18 20 20.2 +3.2
KEST IAmb IAmb 18 20 43.0
comp=Z,29nm,1.6s
SENIN Lac Senin/Sane 47.00 309 P **P** 18 20 27.4 -0.1
SENIN IAmb IAmb 18 20 47.6
comp=Z,45nm,1.8s
BNI Bardonecchia 47.38 307 P **P** 18 20 31.0 +0.7
BNI pmax pmax
comp=Z,54nm,1.8s
BNI Bardonecchia 47.38 307 P **P** 18 20 31.1 +0.7
BNI IAmb IAmb 18 22 11.2
comp=Z,54nm,1.8s
NC602 NORSAR Array S 47.46 329 P **P** 18 20 30.4 -0.1
NC405 NORSAR Array S 47.51 329 P **P** 18 20 31.5 +0.5
NB201 NORSAR Array S 47.68 329 P **P** 18 20 32.5 +0.3
NC303 NORSAR Array S 47.71 329 P **P** 18 20 33.4 +0.9
NOA NORSAR Array B 47.71 329 P **P** 18 20 32.4 -0.2
comp=Z,0.6nm,0.5s,baz=111,slow=7.6,SNR=3.3
SSB Saint Sauveur 48.90 307 P **P** 18 20 42.5 +0.5
SSB pmax pmax
comp=Z,69nm,1.9s
SSB Saint Sauveur 48.90 307 P **P** 18 20 42.5 +0.5
ESK Eskdalemuir 54.11 320 P **P** 18 21 21.3 +0.8
ESK pmax pmax
comp=Z,139nm,1.7s
ESK Eskdalemuir 54.11 320 P **P** 18 21 21.3 +0.8
ESDC Sonseca Array 55.62 301 LR LR 18 46 56.8
comp=Z,115nm,18.6s,baz=340,slow=38
TIXI Tiksi 56.40 20 *eP* P 18 21 39.7 +2.9
TIXI pmax pmax
comp=Z,5.0nm,2.1s
TORD Torodi Ar. Bea 58.53 269 P **P** 18 21 55.1 +2.5
comp=Z,0.4nm,0.4s,baz=64,slow=6.8,SNR=4.7
TORD pP **pP** 18 22 10.9 -2.5
comp=Z,2.2nm,0.7s,baz=60,slow=7.1,SNR=6.9
TORD sP **sP** 18 22 17.7 -4.7
comp=Z,2.0nm,0.7s,baz=242,slow=4.5,SNR=5.4
BOSA Boshof 66.60 216 P P 18 22 51.3 +5.1
BOSA pmax pmax
comp=Z,39nm,2.0s
BOSA Boshof 66.60 216 P P 18 22 51.5 +5.3
comp=Z,3.1nm,0.6s,baz=16,slow=5.1,SNR=7.5
BOSA Boshof 66.60 216 P P 18 22 51.3 +5.1
BOSA IAmb IAmb 18 23 07.3
comp=Z,39nm,1.9s
BILL Bilibino 69.41 23*eP* P 18 23 10.8 +7.7
BILL *e* 18 23 28.8
BILL *e* 18 25 43.5
BILL pmax pmax
comp=Z,9.0nm,1.7s
BILL MLR MLR
comp=Z,45nm,14.0s
JAY Jayapura 80.49 98 LR LR 19 02 40.8
comp=Z,125nm,21.6s,baz=280,slow=38
TOLK Toolik Lake Re 80.97 11 P **P** 18 24 10.7 +1.1
TOLK IAmb IAmb 18 25 10.6
comp=Z,23nm,1.9s
WRA Warramunga Arr 83.87 116 *i* P P 18 24 31.0 +5.6
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 83.87 116 P P 18 24 30.8 +5.3
comp=Z,1.0nm,0.7s,baz=316,slow=4.5,SNR=7.4
ASAR Alice Springs 85.53 120 P P 18 24 39.3 +5.6
comp=Z,0.7nm,0.6s,baz=308,slow=5.0,SNR=14
YKA Yellowknife Ar 90.03 359 P **P** 18 24 56.6 +2.0
comp=Z,0.1nm,0.4s,baz=359,slow=4.7,SNR=3.7

*ISCJB **20** 18:17:42.1±0.3,67.°07N±0.°02×20.°99E±0.°05,h0km, Error ellipse: s-maj=2.9km s-min=2.4km az=170.5*
*UPP **20** 18:17:42.8±0.1,67.°07N×20.°93E,h0km,ML2.0, Explosion*
*IDC **20** 18:17:43.5±1.0,67.°06N×21.°16E,h0km,mb1 3.1/3, mb1mx2.9/31,mbtmp3.0/3,ML2.0/3,Error ellipse: s-maj=14.7km s-min=8.0km az=125.0*
*HEL **20** 18:17:43.4±0.1,67.°07N×20.°93E,h0km,ML2.1, ML2.0(UPP), Explosion*
*NAO **20** 18:17:43.5±0.8,67.°08N×21.°15E,ML2.5*
*BER **20** 18:17:45.6±3.1,67.°04N×21.°16E,h0km,ML1.6, Suspected explosion*

ISC 20 18:17:42.6±0.7,67.°06N±0.°02×20.°95E±0.°02,h0km,n64, σ1s06/93,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.16**	**292**	P	**Pg**	**18 17 45.9**	**+0.3**
DUNU				S	**Sg**	**18 17 48.0**	**+0.2**
DUNU	**Dundret**	**0.16**	**292**	*i* P	**Pg**	**18 17 45.9**	**+0.3**
DUNU				*i* S	**Sg**	**18 17 48.0**	**+0.2**
MASU	**Masugnsbyn**	**0.57**	**45**	P	**Pg**	**18 17 53.6**	**+0.2**
MASU				S	**Sg**	**18 18 01.8**	**+1.0**
MASU	**Masugnsbyn**	**0.57**	**45**	*i* P	**Pg**	**18 17 53.6**	**+0.2**
MASU				*i* S	**Sg**	**18 18 01.8**	**+1.0**
ERTU	**Ertsjaerv**	**0.71**	**136**	P	**Pg**	**18 17 56.3**	**+0.2**
ERTU				S	**Sb**	**18 18 06.7**	**-1.2**
ERTU	**Ertsjaerv**	**0.71**	**136**	*e*P	**Pg**	**18 17 56.0**	**-0.1**
PAJU	**Pajala**	**0.85**	**92**	P	**Pg**	**18 17 58.8**	**0.0**
PAJU	**Pajala**	**0.85**	**92**	*i* P	**Pg**	**18 17 58.8**	**0.0**
HARU	**Harads**	**0.90**	**179**	P	**Pg**	**18 17 59.7**	**-0.1**
HARU	**Harads**	**0.90**	**179**	*e*P	**Pg**	**18 17 59.7**	**-0.1**
KUA	**Kurravaara**	**0.93**	**345**	P	**Pg**	**18 17 59.6**	**-0.7**
KUA	**Kurravaara**	**0.93**	**345**	*e*P	**Pg**	**18 17 59.6**	**-0.7**
RATU	**Laukkuluspa**	**0.93**	**326**	P	**Pg**	**18 17 59.7**	**-0.7**
RATU	**Laukkuluspa**	**0.93**	**326**	*e*P	**Pg**	**18 17 59.7**	**-0.7**
LANU	**Lannavaara**	**1.07**	**21**	P	**Pg**	**18 18 02.2**	**-0.8**
LANU	**Lannavaara**	**1.07**	**21**	*e*P	**Pg**	**18 18 02.1**	**-0.9**
	baz=206						
LANU				*e*SB	**Sb**	**18 18 17.9**	**-0.6**
KALU	**Kalix**	**1.55**	**140**	P	**Pn**	**18 18 11.3**	**0.0**
KALU	**Kalix**	**1.55**	**140**	*e*P	**Pn**	**18 18 11.1**	**-0.2**
	baz=317						
KALU				*e*SN	**Sg**	**18 18 34.2**	**+2.0**
SJUU	**Sjulsmark**	**1.58**	**170**	P	**Pn**	**18 18 12.0**	**+0.2**
SJUU	**Sjulsmark**	**1.58**	**170**	*e*P	**Pn**	**18 18 12.0**	**+0.2**
TOF	**Tornio**	**1.67**	**125**	*e*P	**Pn**	**18 18 13.3**	**+0.3**
TOF				MSG		18 18 33.1	
	comp=Z,23nm,0.2s						
TOF				*e*SN	**Sg**	**18 18 36.0**	**-0.2**
HEF	**Hetta**	**1.70**	**36**	Pg	**Pn**	**18 18 13.4**	**0.0**
HEF				Lg	Lg	18 18 35.3	
HEF	**Hetta**	**1.70**	**36**	*e*P	**Pn**	**18 18 13.2**	**-0.3**
	baz=218						
HEF				MSG		18 18 33.9	
	comp=Z,17nm,0.2s						
HEF				*e*SG	**Sn**	**18 18 35.6**	**-0.3**
HEF	**Hetta**	**1.70**	**36**	Pg	**Pn**	**18 18 13.4**	**0.0**
KIF	**Kilpisjarvi**	**1.95**	**358**	Pn	**Pn**	**18 18 18.5**	**-0.4**
KIF				Sn	**Sb**	**18 18 44.4**	**+0.6**
KIF	**Kilpisjarvi**	**1.95**	**358**	*e*PB	**Pb**	**18 18 18.2**	**-0.8**
KIF				MSG		18 18 42.0	
	comp=Z,22nm,0.2s						
KIF				*e*SG	**Sg**	**18 18 44.8**	**-0.4**
KIF	**Kilpisjarvi**	**1.95**	**358**	Pn	**Pb**	**18 18 18.5**	**-0.4**
KIF				Sn	**Sb**	**18 18 44.4**	**+0.6**
RNF	**Rovaniemi**	**2.05**	**100**	*e*PB	**Pb**	**18 18 19.5**	**-1.2**
RNF				*e*SG	**Sg**	**18 18 47.9**	**-0.5**
KTK1	**Kautokeino**	**2.14**	**23**	Pn	**Pb**	**18 18 21.2**	**-0.9**
KTK1				Sn	**Sb**	**18 18 49.4**	**+0.3**
KTK1	**Kautokeino**	**2.14**	**23**	*e*P	**Pb**	**18 18 21.0**	**-1.1**
KTK1				IAML		18 18 55.0	
	comp=Z,6.8nm,0.6s						
SGF	**Sodankyl**	**2.20**	**77**	*e*PB	**Pb**	**18 18 22.0**	**-1.2**
SGF				*e*SG	**Sb**	**18 18 51.4**	**+0.5**
I37NO	**I37NO**	**2.21**	**338**	*i*		18 33 05.1	
	baz=153,slow=311,SNR=1.0						
STEI	**Steigen**	**2.37**	**294**	*e*P	**Pb**	**18 18 25.1**	**-0.9**
STEI				*e*S	**Sn**	**18 18 53.9**	**+1.7**
STEI				IAML		18 18 57.5	
	comp=Z,5.9nm,0.5s						
BURU	**Burvik**	**2.50**	**176**	*e*P	**Pn**	**18 18 25.7**	**+1.4**
	baz=360						
TRO	**Tromso**	**2.69**	**345**	Pn	**Pn**	**18 18 28.0**	**+1.0**
TRO				Sn	**Sn**	**18 19 01.6**	**+1.4**
MOR8	**Moi Rana**	**2.75**	**254**	*e*P	**Pn**	**18 18 29.0**	**+1.1**
MOR8				IAML		18 19 12.1	
	comp=Z,6.5nm,0.6s						
OUL	**Oulu**	**2.83**	**132**	*e*PB	**Pn**	**18 18 31.3**	**+2.4**
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn	**Pn**	**18 18 31.7**	**+0.3**
	baz=208,slow=14						
ARA0				Sn	**Sn**	**18 19 08.3**	**+0.3**
	baz=207,slow=28						
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn	**Pn**	**18 18 31.7**	**+0.3**
	baz=208,slow=14						
ARA0				Sn	**Sn**	**18 19 08.3**	**+0.3**
	baz=207,slow=28						
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**18 18 31.8**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=216,slow=14,SNR=103						
ARCES				Sn	**Sn**	**18 19 09.1**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=214,slow=22,SNR=14						
ARE0	**ARCESS Array S**	**3.00**	**32**	*e*P	**Pn**	**18 18 31.7**	**+0.3**
	baz=217						
ARE0				*e*S	**Sn**	**18 19 10.3**	**+2.3**
LOF	**Lofoten**	**3.04**	**294**	Pn	**Pn**	**18 18 32.0**	**+0.3**
LOF				Sn	**Sn**	**18 19 08.8**	**0.0**
LOF				Lg	Lg	18 19 19.5	
OUF	**Merijarvi**	**3.12**	**148**	*e*P	**Pn**	**18 18 34.4**	**+1.4**
	baz=336						
OUF				MSG		18 19 14.6	
	comp=Z,2.6nm,0.2s						
UMAU	**Umeaa**	**3.19**	**182**	*e*P	**Pn**	**18 18 35.0**	**+1.1**
VRF	**Varrio**	**3.41**	**74**	*e*P	**Pn**	**18 18 37.9**	**+1.0**
	baz=262						
VRF				*e*SG	**Sb**	**18 19 27.9**	**+2.1**
MSF	**Maaselka**	**3.44**	**106**	*e*P	**Pn**	**18 18 38.8**	**+1.5**
KEV	**Kevo**	**3.51**	**37**	Pn	**Pn**	**18 18 38.1**	**-0.1**
KEV				Sn	**Sn**	**18 19 19.4**	**-1.1**
KEV	**Kevo**	**3.51**	**37**	*e*P	**Pn**	**18 18 38.9**	**+0.6**
	baz=223						
KEV	**Kevo**	**3.51**	**37**	Pn	**Pn**	**18 18 38.1**	**-0.1**
KEV				Sn	**Sn**	**18 19 19.4**	**-1.1**
KU6	**Riekki**	**3.72**	**102**	*e*P	**Pn**	**18 18 42.4**	**+1.2**
HUSU	**Husum**	**3.81**	**192**	*e*P	**Pn**	**18 18 43.8**	**+1.4**
HUSU				*e*S	**Sn**	**18 19 28.9**	**+1.2**
VAF	**Ylistaro**	**4.10**	**169**	*e*P	**Pn**	**18 18 47.8**	**+1.4**
APA0	**Apatity Array**	**4.69**	**78**	Pn	**Pn**	**18 18 53.1**	**-1.4**
	baz=277,slow=12						
APA0	**Apatity Array**	**4.69**	**78**	Pn	**Pn**	**18 18 53.1**	**-1.4**
	baz=277,slow=12						
FIA0	**FINESS Array S**	**6.06**	**156**	Pn	**Pn**	**18 19 14.9**	**+1.6**
	baz=341,slow=16						
FIA0				Sn	**Sn**	**18 20 21.5**	**-1.8**
	baz=348,slow=28						
FIA0	**FINESS Array S**	**6.06**	**156**	Pn	**Pn**	**18 19 14.9**	**+1.6**
	baz=341,slow=16						
FIA0				Sn	**Sn**	**18 20 21.5**	**-1.8**
	baz=348,slow=28						
FINES	**FINESS Array B**	**6.06**	**156**	Pn	**Pn**	**18 19 14.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=344,slow=12,SNR=5.1						
FINES				Sn	**Sn**	**18 20 23.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=354,slow=22,SNR=7.6						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**18 19 31.4**	**-0.2**
	baz=27,slow=16						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**18 19 31.4**	**-0.2**
	baz=27,slow=16						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**18 19 32.3**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=132,slow=23,SNR=1.6						
NOA				Sn	**Sn**	**18 20 51.9**	**-4.2**
	comp=Z,0.0nm,0.3s,baz=77,slow=9.4,SNR=1.1						
NRA0	**NORESS Array S**	**7.58**	**218**	Pn	**Pn**	**18 19 34.9**	**+0.8**
	baz=39,slow=14						
NRA0	**NORESS Array S**	**7.58**	**218**	Pn	**Pn**	**18 19 34.9**	**+0.8**
	baz=39,slow=14						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 19 36.6**	**+1.3**
	baz=31,slow=12						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 19 36.6**	**+1.3**
	baz=31,slow=12						

ROM 20 18:20:13.9±0.1,41.°993N±0.°006×13.°630E±0.°007, h9km,ML1.6/6,Error ellipse: s-maj=0.6km s-min=0.5km az=63.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VVLD	**Villa Vallelon**	**0.12**	**183**	P	Pg	18 20 17.2	+0.5
VVLD				S	Sg	18 20 19.5	+0.7
VVLD				AML	AML		
	comp=E,640μm,0.5s						
VVLD				AML	AML		
	comp=N,1003μm,0.6s						
PTQR	**Pietraquaria**	**0.17**	**280**	P	Pg	18 20 18.1	+0.5
PTQR				S	Sg	18 20 21.9	+1.7
PTQR				AML	AML		
	comp=E,184μm,0.5s						
PTQR				AML	AML		
	comp=N,201μm,1.2s						
INTR	**Introdacqua**	**0.21**	**85**	P	Pg	18 20 18.8	+0.7
INTR				S	Sg	18 20 22.7	+1.6
INTR				AML	AML		
	comp=E,362μm,1.5s						
INTR				AML	AML		
	comp=N,394μm,0.8s						
FAGN	**Fagnano**	**0.28**	**353**	P	Pg	18 20 19.8	+0.4
FAGN				S	Sb	18 20 24.8	-1.1
FAGN				AML	AML		
	comp=E,392μm,0.5s						
FAGN				AML	AML		
	comp=N,252μm,0.3s						
FAGN				AML	AML		
	comp=E,392μm,0.5s						
POFI	**Posta Fibreno**	**0.28**	**167**	P	Pg	18 20 19.9	+0.3
POFI				S	Sb	18 20 25.8	-0.2
GUAR	**Guarcino**	**0.31**	**230**	P	Pg	18 20 20.8	+0.7
GUAR				S	Sb	18 20 26.6	-0.1
LPEL	**Lama dei Pelig**	**0.42**	**82**	P	Pg	18 20 22.4	+0.3
LPEL				S	Sb	18 20 29.4	-0.5
LPEL				AML	AML		
	comp=E,107μm,0.5s						
LPEL				AML	AML		
	comp=N,85μm,0.5s						
LPEL				AML	AML		
	comp=N,85μm,0.5s						
LPEL				AML	AML		
	comp=E,107μm,0.5s						
T0104	**Madonna delle**	**0.43**	**330**	P	Pg	18 20 22.2	0.0
T0104				S	Sg	18 20 29.0	+1.1
VCEL	**Villa Celiera**	**0.43**	**21**	P	Pb	18 20 23.2	-0.5
VCEL				S	Sb	18 20 30.9	+0.5
VCEL				AML	AML		
	comp=E,199μm,0.3s						
VCEL				AML	AML		
	comp=N,140μm,1.0s						
FIAM	**Fiamignano**	**0.47**	**306**	P	Pg	18 20 23.3	+0.2
CERT	**Cerreto**	**0.48**	**265**	P	Pg	18 20 23.6	+0.3
CERT				S	Sb	18 20 31.9	0.0
CERA	**Filignano**	**0.49**	**144**	P	Pg	18 20 23.6	+0.2
GIUL	**Giuliano Di Ro**	**0.52**	**213**	P	Pg	18 20 24.2	+0.3
GIUL				AML	AML		
	comp=N,80μm,0.3s						
GIUL				AML	AML		
	comp=E,56μm,1.6s						
MIDA	**Miranda**	**0.58**	**127**	P	Pg	18 20 25.2	0.0

ROM 20 18:20:31.5±0.2,43.°381N±0.°004×12.°514E±0.°005, h7km±1km,Md0.6/3,Error ellipse: s-maj=0.5km s-min=0.1km az=43.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.04**	**108**	P	Pg	18 20 33.1	+0.1
ATFO				S	Sg	18 20 34.4	+0.2
ATVO	**AVT- Monte Val**	**0.08**	**271**	P	Pg	18 20 33.7	+0.2
ATVO				S	Sg	18 20 35.4	+0.5
ATVO				AML	AML		
	comp=E,16900μm,0.3s						
ATVO				AML	AML		
	comp=N,15450μm,0.4s						
ATVO				END			
ATPI	**Pietralunga -**	**0.11**	**311**	P	Pg	18 20 34.2	+0.3
ATPI				S	Sg	18 20 36.2	+0.6
ATPI				AML	AML		
	comp=E,4865μm,0.4s						
ATPI				AML	AML		
	comp=N,3875μm,1.4s						
ATPI				END			
MURB	**Monte Urbino**	**0.12**	**176**	P	Pg	18 20 34.6	+0.5
MURB				AML	AML		
	comp=E,24150μm,0.2s						
MURB				AML	AML		
	comp=N,31200μm,0.9s						
MURB				AML	AML		
	comp=E,25300μm,0.2s						
MURB				AML	AML		
	comp=N,29700μm,0.9s						
PIEI	**Pieia**	**0.16**	**6**	P	Pg	18 20 35.1	+0.3
PIEI				S	Sg	18 20 38.3	+1.3
PIEI				AML	AML		
	comp=E,6520μm,0.2s						
PIEI				AML	AML		
	comp=N,4145μm,0.4s						
PIEI				END			

*ROM **20** 18:20:52.3±0.1,43.°383N±0.°003×12.°520E±0.°004, h7km,ML2.6/35,Error ellipse: s-maj=0.3km s-min=0.2km az=218.0*
*ISCJB **20** 18:20:53.1±0.2,43.°37N±0.°01×12.°52E±0.°02,h8km±2km, Error ellipse: s-maj=2.2km s-min=1.9km az=140.9*

ISC 20 18:20:53.0±0.8,43.°38N±0.°02×12.°53E±0.°02,h5km±5km, n57,σ1s05/91,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.03**	**110**	P	**Pg**	**18 20 54.2**	**0.0**
ATFO				S	**Sg**	**18 20 55.2**	**+0.3**
ATFO				AML	AML		
	comp=E,57250μm,0.3s						
ATFO				AML	AML		
	comp=N,57000μm,0.4s						
ATVO	**AVT- Monte Val**	**0.09**	**273**	P	**Pg**	**18 20 54.8**	**-0.2**
ATVO				S	**Sg**	**18 20 56.3**	**0.0**
ATVO				AML	AML		
	comp=N,15450μm,0.4s						
ATVO				AML	AML		
	comp=N,15450μm,0.4s						
ATVO				AML	AML		
	comp=E,16900μm,0.3s						
MURB	**Monte Urbino**	**0.12**	**182**	P	**Pg**	**18 20 55.6**	**+0.2**
MURB				S	**Sg**	**18 20 57.9**	**+1.0**
MURB				AML	AML		
	comp=E,24150μm,0.2s						
MURB				AML	AML		
	comp=N,31200μm,0.9s						
MURB				AML	AML		
	comp=N,29700μm,0.9s						
MURB				AML	AML		
	comp=N,31250μm,0.9s						
MURB				AML	AML		
	comp=E,25300μm,0.2s						
MURB				AML	AML		
	comp=E,24200μm,0.2s						
ATPI	**Pietralunga -**	**0.12**	**308**	P	**Pg**	**18 20 55.3**	**-0.2**
ATPI				S	**Sg**	**18 20 57.4**	**+0.3**
ATPI				AML	AML		
	comp=E,4870μm,0.4s						
ATPI				AML	AML		
	comp=N,3875μm,1.4s						
ATPI				AML	AML		
	comp=E,4865μm,0.4s						
ATPI				AML	AML		
	comp=N,3880μm,1.4s						
PIEI	**Pieia**	**0.16**	**1**	P	**Pg**	**18 20 56.1**	**-0.1**
PIEI				S	**Sg**	**18 20 59.0**	**+0.7**
PIEI				AML	AML		
	comp=N,4145μm,0.4s						
PIEI				AML	AML		
	comp=E,6520μm,0.2s						
FOSV	**Fossato di Vic**	**0.19**	**116**	P	**Pg**	**18 20 56.8**	**+0.1**
FOSV				S	**Sg**	**18 21 00.2**	**+1.0**
FOSV				AML	AML		
	comp=E,1445μm,1.4s						
FOSV				AML	AML		
	comp=N,1255μm,0.4s						
SSFR	**Montelago di S**	**0.19**	**72**	AML	AML		
	comp=E,6055μm,1.4s						
SSFR				AML	AML		
	comp=N,4680μm,0.7s						
SSFR				AML	AML		
	comp=E,5895μm,1.4s						
SSFR				AML	AML		
	comp=N,3830μm,0.3s						
ATMI	**Monte Miggiano**	**0.20**	**257**	P	**Pg**	**18 20 56.7**	**-0.2**
ATMI				S	**Sg**	**18 21 00.3**	**+0.8**
ATMI				AML	AML		
	comp=N,3015μm,0.3s						
ATMI				AML	AML		
	comp=E,3650μm,0.7s						
FRON	**Frontone**	**0.20**	**45**	P	**Pg**	**18 20 56.9**	**-0.1**
FRON				S	**Sg**	**18 21 00.7**	**+1.1**
FRON				AML	AML		
	comp=N,2475μm,0.7s						
FRON				AML	AML		
	comp=E,1160μm,0.7s						
ATCC	**AVT- Casa Cast**	**0.21**	**158**	P	**Pg**	**18 20 57.4**	**+0.3**
ATCC				S	**Sg**	**18 21 01.7**	**+1.9**
ATCC				AML	AML		
	comp=E,7165μm,1.1s						
ATCC				AML	AML		
	comp=N,5490μm,0.7s						
ATCC				AML	AML		
	comp=E,7170μm,1.1s						
ATTE	**AVT- Monte Tez**	**0.22**	**216**	P	**Pg**	**18 20 57.2**	**-0.2**
ATTE				S	**Sg**	**18 21 01.0**	**+0.7**
ATTE				AML	AML		
	comp=E,1915μm,0.4s						
ATTE				AML	AML		
	comp=N,1420μm,0.2s						
CDCA	**Citt' di Caste**	**0.23**	**291**	P	**Pg**	**18 20 57.4**	**-0.2**
CDCA				S	**Sg**	**18 21 01.2**	**+0.6**
CDCA				AML	AML		
	comp=E,2910μm,0.6s						
CDCA				AML	AML		
	comp=N,5125μm,0.7s						

CDCA				AML	AML				
	comp=E,1366µm,0.3s								
CDCA				AML	AML				
	comp=N,1605µm,0.9s								
CDCA				AML	AML				
	comp=E,2910µm,0.6s								
CDCA				AML	AML				
	comp=N,5130µm,0.7s								
CDCA				AML	AML				
	comp=N,1594µm,0.9s								
CDCA				AML	AML				
	comp=E,1369µm,0.3s								
NARO	**Abbazia di Nar**	**0.24**	**9**	P	**Pg**	**18 20 57.4**	**-0.2**		
NARO				S	**Sg**	**18 21 01.4**	**+0.6**		
NARO				AML	AML				
	comp=N,992µm,1.1s								
NARO				AML	AML				
	comp=E,1260µm,1.1s								
BADI	**Badiali**	**0.25**	**302**	P	**Pg**	**18 20 57.8**	**-0.1**		
BADI				S	**Sg**	**18 21 01.9**	**+0.8**		
BADI				AML	AML				
	comp=E,8510µm,0.2s								
BADI				AML	AML				
	comp=E,8505µm,0.2s								
BADI				AML	AML				
	comp=N,7450µm,0.3s								
MPAG	**Monte Paganucc**	**0.30**	**33**	P	**Pg**	**18 20 58.8**	**-0.1**		
MPAG				S	**Sg**	**18 21 04.1**	**+1.1**		
MPAG				AML	AML				
	comp=E,596µm,0.8s								
MPAG				AML	AML				
	comp=N,888µm,0.3s								
MPAG				AML	AML				
	comp=N,906µm,0.4s								
MPAG				AML	AML				
	comp=N,906µm,0.4s								
MPAG				AML	AML				
	comp=E,572µm,0.4s								
ARVD	**Arcevia**	**0.32**	**68**	P	**Pg**	**18 20 59.3**	**0.0**		
ARVD				S	**Sb**	**18 21 04.9**	**-1.9**		
ARVD				AML	AML				
	comp=N,860µm,1.1s								
ARVD				AML	AML				
	comp=E,692µm,0.1s								
SNTG	**Esanatoglia**	**0.32**	**112**	P	**Pg**	**18 20 59.3**	**0.0**		
SNTG				S	**Sg**	**18 21 05.0**	**+1.4**		
SNTG				AML	AML				
	comp=N,2705µm,0.4s								
SNTG				AML	AML				
	comp=E,2020µm,0.9s								
SNTG				AML	AML				
	comp=E,337µm,0.9s								
SNTG				AML	AML				
	comp=N,396µm,0.7s								
PARC	**Parchiule**	**0.34**	**322**	P	**Pg**	**18 20 59.6**	**-0.2**		
PARC				S	**Sb**	**18 21 05.3**	**-2.2**		
PARC				AML	AML				
	comp=E,666µm,1.5s								
PARC				AML	AML				
	comp=N,622µm,1.0s								
ASSB	**Assisi San Ben**	**0.35**	**164**	P	**Pg**	**18 20 59.6**	**-0.1**		
ASSB				S	**Sg**	**18 21 05.6**	**+1.3**		
ASSB				AML	AML				
	comp=N,2390µm,1.4s								
ASSB				AML	AML				
	comp=E,2030µm,0.2s								
SSP9	**Sansepolcro**	**0.35**	**304**	P	**Pg**	**18 20 59.7**	**-0.1**		
SSP9				AML	AML				
	comp=N,534µm,0.8s								
SSP9				AML	AML				
	comp=E,425µm,1.3s								
FSSB	**Fossombrone**	**0.36**	**30**	P	**Pg**	**18 20 59.9**	**-0.1**		
FSSB				S	**Sb**	**18 21 06.1**	**-1.9**		
FSSB				AML	AML				
	comp=N,1595µm,0.2s								
FSSB				AML	AML				
	comp=E,1179µm,0.3s								
CAFI	**Castiglion Fio**	**0.41**	**264**	P	**Pg**	**18 21 00.8**	**-0.2**		
CAFI				S	**Sg**	**18 21 07.0**	**+0.5**		
CAFI				AML	AML				
	comp=E,535µm,0.3s								
CAFI				AML	AML				
	comp=E,534µm,0.3s								
CAFI				AML	AML				
	comp=N,690µm,0.4s								
EL6	**Elcito**	**0.42**	**96**	P	**Pg**	**18 21 01.1**	**0.0**		
EL6				S	**Sb**	**18 21 08.3**	**-1.4**		
EL6				AML	AML				
	comp=E,1365µm,0.4s								
EL6				AML	AML				
	comp=N,2230µm,0.4s								
COR1	**Corinaldo**	**0.43**	**53**	P	**Pb**	**18 21 01.9**	**-1.1**		
COR1				AML	AML				
	comp=E,824µm,1.1s								
COR1				AML	AML				
	comp=N,1335µm,0.4s								
CPGN	**Carpegna, Ital**	**0.45**	**340**	P	**Pb**	**18 21 02.3**	**-1.3**		
CPGN				S	**Sb**	**18 21 10.0**	**-0.7**		
CPGN				AML	AML				
	comp=E,520µm,1.1s								
CPGN				AML	AML				
	comp=E,519µm,1.1s								
CPGN				AML	AML				
	comp=N,510µm,0.6s								
CESI	**CESI - Serrava**	**0.46**	**144**	P	**Pg**	**18 21 01.9**	**0.0**		
CESI				S	**Sb**	**18 21 09.5**	**-1.4**		
CESI				AML	AML				
	comp=N,375µm,0.3s								
CESI				AML	AML				
	comp=N,376µm,0.3s								
CESI				AML	AML				
	comp=E,180µm,0.9s								
CING	**Cingoli**	**0.48**	**90**	P	**Pg**	**18 21 02.3**	**0.0**		
CING				S	**Sb**	**18 21 10.4**	**-1.2**		
CING				AML	AML				
	comp=N,530µm,0.3s								
CING				AML	AML				
	comp=E,437µm,1.4s								
CRE	**Caprese Michel**	**0.49**	**300**	P	**Pg**	**18 21 02.0**	**-0.5**		
CRE				S	**Sb**	**18 21 10.0**	**-1.7**		
CRE				AML	AML				
	comp=N,412µm,0.2s								
CRE				AML	AML				
	comp=E,346µm,0.4s								
CRE				AML	AML				
	comp=N,413µm,0.2s								
FDMO	**Fiordimonte**	**0.53**	**130**	P	**Pg**	**18 21 03.0**	**-0.2**		
FDMO				S	**Sb**	**18 21 11.9**	**-0.9**		
FDMO				AML	AML				
	comp=E,872µm,0.2s								
FDMO				AML	AML				
	comp=N,1058µm,0.1s								
FDMO				AML	AML				
	comp=N,1060µm,0.1s								
MGAB	**Montegabbione**	**0.56**	**214**	P	**Pg**	**18 21 03.5**	**-0.3**		
MGAB				S	**Sb**	**18 21 12.8**	**-0.8**		
MGAB				AML	AML				
	comp=N,2175µm,1.5s								
MGAB				AML	AML				
	comp=N,2180µm,1.5s								
MGAB				AML	AML				
	comp=E,2260µm,0.5s								
MGAB				AML	AML				
	comp=E,2125µm,0.5s								
MGAB				AML	AML				
	comp=N,2175µm,1.5s								
CSP1	**Cessapalombo**	**0.57**	**120**	P	**Pg**	**18 21 03.9**	**-0.1**		
CSP1				S	**Sb**	**18 21 13.5**	**-0.5**		
CSP1				AML	AML				
	comp=N,836µm,0.3s								
CSP1				AML	AML				
	comp=E,757µm,0.2s								
MOMA	**Monte Martano**	**0.57**	**177**	P	**Pg**	**18 21 04.1**	**0.0**		
MOMA				S	**Sb**	**18 21 13.3**	**-0.8**		
MOMA				AML	AML				
	comp=N,774µm,1.6s								
MOMA				AML	AML				
	comp=N,774µm,1.6s								
MOMA				AML	AML				
	comp=E,794µm,0.4s								
PESA	**Pesaro**	**0.61**	**22**	P	**Pg**	**18 21 04.7**	**+0.1**		
PESA				S	**Sb**	**18 21 14.9**	**-0.1**		
PESA				AML	AML				
	comp=N,986µm,0.2s								
PESA				AML	AML				
	comp=E,909µm,1.6s								

ASQU	**Asqua**	**0.68**	**308**	P	**Pg**	**18 21 05.8**	**-0.3**		
ASQU				AML	AML				
	comp=E,128µm,1.0s								
ASQU				AML	AML				
	comp=N,237µm,0.8s								
NRCA	**Norcia**	**0.69**	**142**	P	**Pg**	**18 21 06.0**	**-0.3**		
NRCA				S	**Sb**	**18 21 17.0**	**-0.5**		
NRCA				AML	AML				
	comp=N,610µm,0.2s								
NRCA				AML	AML				
	comp=E,541µm,1.5s								
NRCA				AML	AML				
	comp=N,629µm,0.2s								
NRCA				AML	AML				
	comp=E,510µm,0.6s								
SACS	**San Casciano d**	**0.70**	**221**	P	**Pg**	**18 21 05.9**	**-0.5**		
SACS				S	**Sb**	**18 21 16.9**	**-0.8**		
SACS				AML	AML				
	comp=N,548µm,0.6s								
SACS				AML	AML				
	comp=N,540µm,0.6s								
SACS				AML	AML				
	comp=N,548µm,0.6s								
SACS				AML	AML				
	comp=E,450µm,0.9s								
SACS				AML	AML				
	comp=E,444µm,0.9s								
LNSS	**Leonessa**	**0.86**	**154**	P	**Pg**	**18 21 09.0**	**-0.5**		
LNSS				AML	AML				
	comp=E,390µm,0.3s								
LNSS				AML	AML				
	comp=N,436µm,0.4s								
LNSS				AML	AML				
	comp=N,436µm,0.4s								
CAMP	**Campotosto**	**1.06**	**142**	P	**Pg**	**18 21 12.8**	**-0.5**		
GUMA	**Gualdo di Mace**	**1.07**	**107**	P	Pg	18 21 06.0	-7.7		
GUMA				S	Sg	18 21 17.0	-11		
GUMA				AML	AML				
	comp=N,882µm,0.2s								
GUMA				AML	AML				
	comp=N,868µm,0.3s								
GUMA				AML	AML				
	comp=E,1045µm,0.3s								
GUMA				AML	AML				
	comp=E,1320µm,0.3s								
FIAM	**Fiamignano**	**1.19**	**159**	P	**Pn**	**18 21 17.0**	**+0.6**		
VVLD	**Villa Vallelon**	**1.71**	**151**	S	**Sg**	**18 21 48.0**	**+0.1**		
VLC	**Villacollemand**	**1.74**	**297**	S	**Sb**	**18 21 47.0**	**-0.7**		
NVLJ	**Novalja**	**2.06**	**54**	*e*Pn	**Pn**	**18 21 27.5**	**-0.9**		
ZIRJ	**Zirje**	**2.28**	**82**	*i* Pn	**Pn**	**18 21 31.4**	**0.0**		
ZIRJ				Sn	**Sn**	**18 21 59.9**	**+0.1**		
MORI	**Morici**	**2.36**	**77**	*e*Pn	**Pn**	**18 21 32.8**	**+0.4**		
UDBI	**Udbina**	**2.60**	**63**	*e*Pn	**Pn**	**18 21 36.7**	**+0.8**		
HVAR	**Hvar**	**2.87**	**93**	*e*Pn	**Pn**	**18 21 39.6**	**+0.1**		
KIJV	**Kijevo**	**2.88**	**76**	*e*Pn	**Pn**	**18 21 40.5**	**+0.9**		
KIJV				Sn	**Sn**	**18 22 13.5**	**-1.2**		
MAKA	**Makarska**	**3.28**	**90**	*e*Pn	**Pn**	**18 21 45.5**	**+0.5**		
RICI	**Ricice**	**3.35**	**86**	*e*Pn		18 21 46.9			
ABTA	**Abfaltersbach**	**3.37**	**360**	*e*Pn	**Pn**	**18 21 47.3**	**+0.9**		
	comp=E,0.2nm,0.1s								
ABTA				*e*Sn	**Sn**	**18 22 29.2**	**+2.3**		
	comp=E,1.9nm,0.3s								
OBKA	**Obir**	**3.44**	**24**	*e*Pg	**Pg**	**18 21 57.4**	**-1.6**		
	comp=E,3.1nm,0.4s								
OBKA				Sg	**Sg**	**18 22 47.5**	**+3.9**		
	comp=E,5.6nm,0.6s								
SOKA	**Soboth**	**3.75**	**27**	*e*Pg	**Pg**	**18 22 03.3**	**-1.5**		
	comp=E,0.4nm,0.1s								
FETA	**Feichten**	**3.86**	**341**	*e*Pn	**Pn**	**18 21 55.7**	**+2.4**		
	comp=E,0.8nm,0.4s								
SQTA	**Sankt Quirin**	**3.96**	**347**	*e*Pn	**Pn**	**18 21 57.1**	**+2.6**		
	comp=E,1.5nm,0.3s								
WATA	**Walderalm**	**4.01**	**351**	*e*Pn	**Pn**	**18 21 58.1**	**+2.7**		
	comp=E,1.3nm,0.2s								
WATA				*e*Sn	**Sn**	**18 22 43.9**	**+1.1**		
	comp=E,2.4nm,0.4s								
MOA	**Molln**	**4.63**	**15**	*i* Pn	**Pn**	**18 22 04.1**	**+0.3**		
	comp=E,0.5nm,0.2s								

BJI **20** *18:46:31.9±0.0, 0.˚10S×125.˚54E, h50km, mb5.1/59, mB5.3/37, Ms4.7/25, Ms7 4.4/26*

MOS **20** *18:46:35.9±0.9, 0.˚49N×125.˚27E, h43km, mb5.5/32, Error ellipse: s-maj=8.6km s-min=4.8km az=116.1*

NEIC **20** *18:46:38.4±1.8, 0.˚43N±0.˚06×125.˚35E±0.˚05, h53km±4km, mb5.3/166, Mwb5.3, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr 0.84; Mθθ -0.03; Mϕϕ -0.81; Mrθ -0.31; Mθϕ 0.04; Mϕr 0.53; Fault plane solution: M₀ 1.03000×10¹⁷ NP1:ϕs 189.61000°, δ 29.68000°, λ 114.42000°. NP2:ϕs 342.03000°, δ 63.20000°, λ 76.74000°. Principal axes: T 1.0705, Plg69.0000°, Azm225.0000°; N -0.0887, Plg12.0000°, Azm348.0000°; P -0.9819, Plg17.0000°, Azm82.0000°;*

IDC **20** *18:46:39.9±1.7, 0.˚42N×125.˚33E, h64km±14km, mb4.7/26, mb1 4.7/30, mb1mx4.7/34, mbtmp5.0/30, MS3.9/22, Ms1 3.9/22, ms1mx3.8/33 Error ellipse: s-maj=12.9km s-min=8.2km az=59.0*

GCMT **20** *18:46:39.4±0.2, 0.˚38N±0.˚01×125.˚62E±0.˚02, h55km±1km, MW5.1/97, Moment Tensor Solution. s80,c108; s97,c145; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 4.39±.17; Mθθ -1.89±.14; Mϕϕ -2.49±.16; Mrθ 0.64±.09; Mθϕ -3.04±.10; Mϕr 2.21±.12; Best double couple: M₀ 5.36200×10¹⁶ NP1:ϕs 30.00000°, δ 58.00000°, λ 75.00000°. NP2:ϕs 236.00000°, δ 35.00000°, λ 112.00000°. Principal axes: T 5.0490, Plg73.0000°, Azm262.0000°; N 0.6370, Plg13.0000°, Azm38.0000°; P -5.6760, Plg12.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISCJB **20** *18:46:39.3±0.3, 0.˚42N±0.˚02×125.˚39E±0.˚02, h76km±2km, mb5.2/133 Error ellipse: s-maj=2.9km s-min=2.6km az=142.6*

KLM **20** *18:46:40.0, 0.˚40N×125.˚51E, h82km, mb5.1*

DJA **20** *18:46:40.4±0.1, 0.˚N±1˚×12.˚5E±˚, h66km±2km, M5.1/97, mB5.6/37, mb5.2/97, MLv5.3/17, Mw(mB)5.0/37, Mwp5.2/4*

ISC 20 18:46:39.6±0.5, 0.˚40N±0.˚03×125.˚38E±0.˚03, h64km±4km, n571, σ1§44/594, mb5.2/186, 29C-17D, Northern Moluccca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.41**	**277**	P	**Pn**	**18 47 04.3**	**+1.2**
KMSI				S	**Sn**	**18 47 23.2**	**+2.5**
TNTI	**Ternate**	**2.03**	**79**	P	**Pn**	**18 47 11.5**	**+0.1**
TNTI				S	**Sn**	**18 47 35.6**	**-0.1**
TNTI	**Ternate**	**2.03**	**79**	P	**Pn**	**18 47 11.3**	**-0.1**
LBMI	**Labuha**	**2.36**	**116**	P	**Pn**	**18 47 15.7**	**-0.3**
LBMI				S	**Sn**	**18 47 43.2**	**-0.7**
SANI	**Sanana**	**2.51**	**166**	P	**Pn**	**18 47 17.1**	**-0.9**
SANI				S	**Sn**	**18 47 44.8**	**-2.6**
LUWI	**Luwuk**	**2.97**	**241**	P	**Pn**	**18 47 26.7**	**+2.4**
LUWI	**Luwuk**	**2.97**	**241**		**Pn**	**18 47 26.1**	**+1.8**
MRSI	**Marisa**	**3.44**	**271**	P	**Pn**	**18 47 31.6**	**+0.9**
APSI	**Ampana**	**3.95**	**251**	P	**Pn**	**18 47 40.8**	**+3.1**
NLAI	**Namlea**	**4.00**	**154**	P	**Pn**	**18 47 38.3**	**-0.1**
AAI	**Ambon**	**4.94**	**145**	P	**Pn**	**18 47 51.6**	**+0.3**
KDI	**Kendari** 158nm,1.1s,0.7nm	**5.13**	**212**	P	**Pn**	**18 47 54.4**	**+0.5**
MSAI	**Masohi** 785nm,0.8s,10µm3.2nm	**5.14**	**136**	P	**Pn**	**18 47 55.4**	**+1.3**
MPSI	**Mapaga**	**5.48**	**269**	P	**Pn**	**18 48 00.3**	**+1.7**
DDMP	**Don Marcelino,**	**5.68**	**3**	P	**Pn**	**18 48 01.7**	**+0.2**
DDMP				S	**Sn**	**18 49 12.9**	**+7.6**
DDMP	**Don Marcelino,**	**5.68**	**3**	P	**Pn**	**18 48 03.0**	**+1.6**
DDMP				S	Sn	18 48 55.6	-10
SWI	**Sorong** 299nm,0.9s,3µm5µm1.2nm	**6.02**	**102**	P	**Pn**	**18 48 06.9**	**+0.9**
SIJI	**Sorong** 42nm,0.3s,baz=282,slow=14,SNR=146	**6.02**	**102**	P	**Pn**	**18 48 06.7**	**+0.5**
SIJI	baz=222,slow=22,SNR=1.2			S	**Sn**	**18 49 15.7**	**+1.9**
SKMP	**Bagumbayan, Su**	**6.14**	**352**	P	**Pn**	**18 48 07.5**	**-0.3**
SKMP				S	**Sn**	**18 49 16.4**	**-0.1**
SKMP	**Bagumbayan, Su**	**6.14**	**352**	P	**Pn**	**18 48 09.3**	**+1.6**
SKMP				S	**Sn**	**18 49 21.2**	**+4.6**
BBSI	**Bau Bau** 53nm,0.7s,645nm	**6.48**	**206**	P	**Pn**	**18 48 15.6**	**+3.2**
TTSI	**Tana Toraja** 809nm,0.7s,7µm2.6nm	**6.52**	**238**	P	**Pn**	**18 48 14.9**	**+2.0**
MATI	**Mati**	**6.56**	**8**	P	**Pn**	**18 48 12.7**	**-0.8**
MATI				S	**Sn**	**18 49 55.4**	**+28**
MATI	**Mati**	**6.56**	**8**	P	**Pn**	**18 48 15.9**	**+2.3**
MATI				S	**Sn**	**18 49 29.8**	**+2.8**
KCP	**Kidapawan**	**6.58**	**358**	⇑P	**Pn**	**18 48 17.4**	**+3.6**
DAV	**Davao City (W)** 27nm,0.3s,baz=110,slow=2.5,SNR=13	**6.63**	**2**	P	**Pn**	**18 48 18.5**	**+4.0**
DAV	50nm,0.3s,baz=58,slow=21,SNR=1.5			S	Sn	18 49 40.8	+12
DAV	comp=Z,2µm,20.8s,baz=150,slow=42			LR	LR	18 51 14.9	
DAV	**Davao City (W)**	**6.63**	**2**	⇑*e*P	**Pn**	**18 48 16.4**	**+1.9**
DAV	**Davao City (W)**	**6.63**	**2**		**Pn**	**18 48 17.3**	**+2.9**
DMPH	**Davao City--Mi**	**6.64**	**1**	⇑P	Pn	18 48 20.3	+5.6
DMPH				S	Sn	18 49 46.8	+18
BNDI	**Bandanaira** 1µm,0.5s,17µm5.2nm	**6.66**	**137**	P	**Pn**	**18 48 15.2**	**+0.4**
BNSI	**Bone** 351nm,1.1s,3µm	**7.10**	**228**	P	**Pn**	**18 48 23.3**	**+2.4**
ZCP	**Zamboanga City**	**7.28**	**333**	⇑P	**Pn**	**18 48 25.0**	**+1.6**
BUKP	**Musuan**	**7.44**	**358**	P	**Pn**	**18 48 28.4**	**+2.8**
BUKP				S	Sn	18 49 29.6	-19
FAKI	**Fak Fak** 178nm,1.1s,2µm3µm0.7nm	**7.62**	**116**	P	**Pn**	**18 48 27.9**	**-0.1**
FAKI	**Fak Fak**	**7.62**	**116**		**Pn**	**18 48 26.8**	**-1.2**
PAGZ	**Pagadian**	**7.66**	**345**	P	**Pn**	**18 48 28.6**	**0.0**
PAGZ				S	Sn	18 48 58.4	-56
PAGZ	**Pagadian**	**7.66**	**345**	P	**Pn**	**18 48 30.7**	**+2.1**
PAGZ				S		18 48 44.4	
BKSI	**Bulukumba**	**7.73**	**223**	P	**Pn**	**18 48 32.1**	**+2.6**
CGP	**Cagayan de Oro**	**8.03**	**355**	⇓P	Pn	18 48 39.9	+6.2
BUTP	**Butuan**	**8.52**	**2**	P	**Pn**	**18 48 42.8**	**+2.5**
BUTP				S	Sn	18 50 25.1	+10
BUTP	**Butuan**	**8.52**	**2**	P	**Pn**	**18 48 42.9**	**+2.5**
BUTP				S	Sn	18 50 33.4	+18
BKB	**Balikpapan** 191nm,0.7s	**8.64**	**259**	P	**Pn**	**18 48 44.1**	**+2.2**
BKB	**Balikpapan**	**8.64**	**259**		**Pn**	**18 48 43.6**	**+1.7**
RKPI	**Ransiki, Papua** 191nm,1.2s	**9.00**	**102**	P	**Pn**	**18 48 47.1**	**+0.2**
KMPI	**Kaimana, Papua** 289nm,0.8s	**9.25**	**116**	P	**Pn**	**18 48 50.7**	**+0.4**
MMRI	**Maumere** 48nm,0.7s	**9.50**	**199**	P	**Pn**	**18 48 55.3**	**+1.5**
MMRI	**Maumere**	**9.50**	**199**	Pn	**Pn**	**18 48 53.8**	**+0.1**
MSLP	**Maasin**	**9.69**	**357**	P	**Pn**	**18 48 51.6**	**-4.6**
MSLP				S	Sn	18 50 21.8	-22
LLP	**Lapu-Lapu**	**9.96**	**352**	⇑P	**Pn**	**18 49 03.0**	**+3.0**
SOEI	**Soe**	**10.14**	**186**	P	**Pn**	**18 49 04.2**	**+1.5**
SOEI	**Soe**	**10.14**	**186**		Pn	18 49 08.1	+5.4
SAUI	**Saumlaki** 299nm,0.8s	**10.21**	**145**	P	**Pn**	**18 49 03.6**	**+0.2**
SAUI	**Saumlaki**	**10.21**	**145**	Pn	**Pn**	**18 49 00.9**	**-2.5**
GUIM	**Jordan**	**10.53**	**345**	P	**Pn**	**18 49 11.2**	**+3.3**
GUIM				S	Sn	18 50 07.4	-57
OCLP	**Ormoc**	**10.61**	**356**	P	**Pn**	**18 49 12.5**	**+3.6**
OCLP				S	**Sn**	**18 50 57.8**	**-8.5**
BATI	**Baumata** 9.2nm,0.3s,baz=22,slow=1.0,SNR=18	**10.67**	**189**	P	Pn	18 49 15.5	+5.8
BATI	**Baumata** 61nm,1.1s	**10.67**	**189**	P	**Pn**	**18 49 13.8**	**+4.1**
KKM	**Kota Kinabalu**	**10.73**	**302**		**Pn**	**18 49 13.8**	**+3.2**
BAKI	**Biak** 257nm,1.0s,4µm	**10.85**	**98**	P	**Pn**	**18 49 12.5**	**+0.4**
PLAI	**Plampang** 55nm,0.9s	**11.89**	**219**	P	**Pn**	**18 49 28.5**	**+2.2**
TWSI	**Taliwang, Sumb** 71nm,1.2s	**12.41**	**223**	P	**Pn**	**18 49 35.0**	**+1.5**
SRBI	**Singaraja** 59nm,0.8s,1µm	**13.18**	**230**	P	**Pn**	**18 49 46.4**	**+2.5**
SBUM	**Sibu**	**13.31**	**279**	P	**Pn**	**18 49 48.0**	**+2.3**
SBUM	**Sibu**	**13.31**	**279**		**Pn**	**18 49 46.4**	**+0.7**
SMPI	**Sarmi** 77nm,1.4s,2µm	**13.54**	**100**	P	**Pn**	**18 49 50.4**	**+1.5**
DNP	**Denpasar** 516nm,1.1s,9µm	**13.56**	**228**	P	**Pn**	**18 49 52.3**	**+3.2**
IGBI	**Denpasar** 70nm,1.0s	**13.70**	**228**	P	**Pn**	**18 49 52.4**	**+1.5**
JAGI	**Jajag, Banyuwa** 105nm,2.0s,2µm	**14.24**	**232**	P	**Pn**	**18 49 59.4**	**+1.3**
JAGI	**Jajag, Banyuwa**	**14.24**	**232**	P	**P**	**18 50 01.9**	**-1.6**
TGY	**Tagaytay City** 66nm,0.3s,baz=214,slow=4.6,SNR=8.9	**14.31**	**342**	P	**P**	**18 50 03.3**	**-1.1**
TGY	comp=Z,477nm,20.7s,baz=138,slow=35			LR	LR	18 55 03.8	
MTN	**Manton Dam** baz=14,SNR=65	**14.34**	**157**	P	**Pn**	**18 49 58.5**	**-0.9**
MTN	**Manton Dam**	**14.34**	**157**		**Pn**	**18 49 58.2**	**-1.2**
GMJI	**Gumukmas** 134nm,1.0s	**14.68**	**234**	P	**Pn**	**18 50 05.9**	**+2.0**
GRJI	**Gresik** 71nm,0.5s	**14.78**	**240**	P	**Pn**	**18 50 07.0**	**+1.9**
GENI	**Genyem** 123nm,1.4s	**15.08**	**101**	P	**P**	**18 50 11.3**	**-1.7**
KSM	**Kuching**	**15.10**	**274**	P	**P**	**18 50 12.4**	**-0.8**
JAY	**Jayapura** 1.0nm,0.3s,baz=302,slow=15,SNR=2.5	**15.60**	**101**	P	**Pn**	**18 50 15.4**	**-0.3**
NGJI	**Ngawi** 122nm,0.9s	**15.88**	**241**	P	**P**	**18 50 21.5**	**-0.3**
KNRA	**Kununurra** baz=16,SNR=99	**16.32**	**168**	P	**Pn**	**18 50 24.6**	**-0.2**
KNRA	**Kununurra**	**16.32**	**168**		**Pn**	**18 50 24.5**	**-0.2**
KNRA				IAmb	IAmb	18 50 29.6	
	comp=Z,124nm,0.8s						
PCJI	**Pacitan** comp=Z,258nm,0.6s,comp=Z,3µm	**16.53**	**239**	P	**P**	**18 50 29.2**	**+0.2**
SMRI	**Semarang** comp=Z,182nm,0.7s	**16.63**	**243**	P	**P**	**18 50 31.6**	**+1.4**
SMRI	**Semarang**	**16.63**	**243**	P	**Pn**	**18 50 29.2**	**+0.5**
SMRI				IAmb	IAmb	18 50 33.5	
	comp=Z,131nm,0.7s						
UGM	**Wanagama**	**16.95**	**241**	P	**P**	**18 50 35.2**	**+1.5**
YOGI	**Yogyakarta** comp=Z,206nm,0.8s	**17.11**	**241**	P	**P**	**18 50 38.1**	**+2.6**
MMPI	**Merauke** comp=Z,707nm,0.6s,comp=Z,6µm	**17.36**	**121**	P	**P**	**18 50 39.7**	**+1.5**
KPJI	**Karang Pucung** comp=Z,183nm,0.8s,comp=Z,2µm	**18.11**	**245**	P	**Pn**	**18 50 48.2**	**+1.3**
FITZ	**Fitzroy Crossi** baz=18,SNR=30	**18.38**	**179**	P	**Pn**	**18 50 50.0**	**-0.1**
FITZ	**Fitzroy Crossi** comp=Z,0.9nm,0.3s,baz=10,slow=11,SNR=36	**18.38**	**179**	P	**P**	**18 50 49.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**18.38**	**179**	P	**Pn**	**18 50 49.9**	**-0.2**
CMJI	**Cimerak** comp=Z,132nm,1.3s	**18.73**	**244**	P	**Pn**	**18 50 56.5**	**+2.1**
LEM	**Lembang** comp=Z,11nm,0.3s,baz=62,slow=7.3,SNR=20	**19.12**	**248**	P	**Pn**	**18 50 58.5**	**-0.7**
LEM	comp=Z,552nm,19.8s,baz=58,slow=40			LR	LR	18 59 25.6	
LEM	**Lembang** comp=Z,58nm,0.7s	**19.12**	**248**	P	**Pn**	**18 50 58.5**	**-0.7**
CISI	**Cisompet, Garu** comp=Z,214nm,0.8s,comp=Z,2µm	**19.21**	**245**	P	**Pn**	**18 50 59.9**	**-0.3**
CISI	**Cisompet, Garu**	**19.21**	**245**	P	**P**	**18 50 58.4**	**-0.3**
CISI				IAmb	IAmb	18 51 05.0	
	comp=Z,127nm,0.6s						
CBJI	**Citeko** comp=Z,266nm,0.7s	**19.69**	**250**	P	**P**	**18 51 04.7**	**+0.9**
DBJI	**Dramaga** comp=Z,63nm,0.9s	**19.83**	**249**	P	**P**	**18 51 06.1**	**+0.7**
SKJI	**Sukabumi** comp=Z,126nm,0.7s	**20.16**	**248**	P	Pn	18 51 10.4	-1.0
DLV	**T Lat**	**20.31**	**305**	P	**P**	**18 51 10.1**	**-0.7**
TPRI	**Tanjung Pinang** comp=Z,51nm,1.1s,comp=

PSAC2 **Pilbara Seismi** 22.47 193 P **P** 18 51 33.8 +0.1
PSA00 **Pilbara Seismi** 22.49 194 P **P** 18 51 33.7 -0.2
PSAA3 **Pilbara Seismi** 22.50 194 P **P** 18 51 34.1 +0.1
PSAD2 **Pilbara Seismi** 22.51 193 P **P** 18 51 34.2 +0.1
PSAD2 IAmb IAmb 18 51 38.5
comp=Z,140nm,1.9s
PSAB3 **Pilbara Seismi** 22.51 194 P **P** 18 51 34.4 +0.2
PSAC3 **Pilbara Seismi** 22.55 194 P **P** 18 51 34.7 +0.2
PSAD3 **Pilbara Seismi** 22.58 194 P **P** 18 51 34.8 0.0
COEN **Coen** 22.68 130 P **P** 18 51 34.8 -1.1
baz=23,SNR=31
COEN **Coen** 22.68 130 P **P** 18 51 34.2 -1.7
TWG **Pinlang** 22.68 350 P **P** 18 51 34.5 -1.5
MNAI **Manna** 22.89 258 P **P** 18 51 37.3 -1.0
MNAI IAmb IAmb 18 52 11.6
comp=Z,155nm,1.1s
KSI **Kapahiang** 23.12 260 P **P** 18 51 42.2 +1.6
comp=Z,40nm,0.8s,comp=Z,4µm
YULB **Yu-li** 23.20 350 P **P** 18 51 36.6 -4.6
YULB IAmb IAmb 18 52 22.9
comp=Z,140nm,1.9s
TPUB **Ta-pu** 23.23 349 P **P** 18 51 37.8 -3.7
TPUB IAmb IAmb 18 51 41.8
comp=Z,78nm,1.0s
SSLB **Suanglung** 23.64 350 P **P** 18 51 41.6 -3.7
PMG **Port Moresby** 23.78 115 *i* P **P** 18 51 46.2 -0.4
PMG pmax pmax
comp=Z,238nm,1.9s
PMG **Port Moresby** 23.78 115 P **P** 18 51 46.1 -0.4
comp=Z,14nm,0.5s,baz=82,slow=3.3,SNR=13
PMG **Port Moresby** 23.78 115 P **P** 18 51 46.0 -0.6
NACB **Ninganchiao** 23.92 351 P **P** 18 51 44.5 -3.3
QIZ **Qiongzhong** 23.98 321 P **P** 18 51 48.8 +0.4
QIZ S **S** 18 55 55.8 -5.1
QIZ LR LR
comp=Z,510nm,9.8s
QIZ LR LR
comp=Z,420nm,15.7s
QIZ LR LR
comp=Z,780nm,22.1s
QIZ **Qiongzhong** 23.98 321 P **P** 18 51 46.1 -2.2
QIZ IAmb IAmb 18 52 32.5
comp=Z,191nm,1.9s
SDSI **Sungai Dareh** 23.98 267 P **P** 18 51 48.0 -0.5
comp=Z,52nm,0.7s,comp=Z,2µm
KRJI **Kerinci** 24.04 264 P **P** 18 51 49.9 +0.8
comp=Z,184nm,0.9s
YHNB **Yeheng** 24.44 351 P **P** 18 51 51.0 -1.5
YHNB IAmb IAmb 18 52 30.6
comp=Z,202nm,1.6s
IPM **Ipoh** 24.66 280 P **P** 18 51 55.0 +0.3
IPM **Ipoh** 24.66 280 P **P** 18 51 54.6 -0.1
IPM IAmb IAmb 18 51 57.0
comp=Z,48nm,0.6s
PDSI **Padang** 24.95 267 P **P** 18 51 56.1 -1.2
comp=Z,33nm,1.1s
QIS **Mount Isa** 25.05 147 P **P** 18 51 58.6 +0.4
baz=25,SNR=76
KULM **Kulim** 25.16 282 P **P** 18 51 59.0 -0.2
KULM **Kulim** 25.16 282 P **P** 18 51 59.0 -0.2
KULM IAmb IAmb 18 52 00.8
comp=Z,113nm,1.3s
AS31 **Alice Springs** 25.31 161 P **P** 18 52 01.6 +1.1
ASAR **Alice Springs** 25.31 161 P **P** 18 52 01.2 +0.7
comp=Z,55nm,0.8s,baz=343,slow=8.7,SNR=165
ASAR PcP **PcP** 18 55 33.3 +1.1
comp=Z,5.0nm,0.5s,baz=346,slow=1.9,SNR=8.1
ASAR S **S** 18 56 19.6 -2.7
comp=Z,1.4nm,0.8s,baz=354,slow=5.8,SNR=2.6
ASAR ScP **ScP** 18 59 06.4 +0.2
comp=Z,1.4nm,0.7s,baz=0.3,slow=2.0,SNR=5.8
GIRL **Giralia** 25.34 205 P **P** 18 52 02.8 +2.1
WRKA **Warakurna** 25.44 174 P **P** 18 52 02.6 +0.9
baz=26,SNR=46
MTSU **Mount Surprise** 26.19 136 P **P** 18 52 08.9 +0.3
baz=26,SNR=7.1
SISI **Saibi** 26.34 266 P **P** 18 52 09.9 0.0
comp=Z,23nm,0.8s
JOW **Kunigami** 26.43 6 P **P** 18 52 11.2 +0.7
comp=Z,19nm,0.9s,baz=186,slow=14,SNR=12
JOW **Kunigami** 26.43 6 P **P** 18 52 12.1 +1.6
JOW IAmb IAmb 18 52 14.6
comp=Z,128nm,0.9s
RPSI **Rantau Prapat** 26.54 275 P **P** 18 52 11.2 -0.4
RPSI IAmb IAmb 18 52 13.6
comp=Z,72nm,1.4s
PSI **Prapat** 26.55 275 P **P** 18 52 11.2 -0.7
PSI pmax pmax
comp=Z,72nm,1.4s
PSI **Prapat** 26.55 275 P **P** 18 52 11.2 -0.7
comp=Z,24nm,0.8s,baz=95,slow=5.8,SNR=20
PSI LR LR 19 04 00.2
comp=Z,348nm,19.6s,baz=100,slow=39
SKNT **Sakolnakorn** 26.75 309 P **P** 18 52 15.7 +2.2
comp=Z,28nm,1.9s
KRVT **Keravat (AS076** 27.04 100 P **P** 18 52 16.9 +0.7
comp=Z,53nm,0.6s,baz=156,slow=2.9,SNR=15
MEEK **Meekatharra** 27.66 193 P **P** 18 52 21.8 +0.3
baz=28,SNR=13
CHAI **Chaiyaphum** 27.75 305 P **P** 18 52 22.6 +0.1
comp=Z,47µm,0.9s,comp=Z,450µm
GSI **Gunungsitoli** 27.81 272 P **P** 18 52 23.1 0.0
comp=Z,40nm,0.5s
GSI **Gunungsitoli** 27.81 272 P **P** 18 52 20.5 -2.6
GSI IAmb IAmb 18 52 24.8
comp=Z,30nm,0.5s
NONG **Nongkai** 28.03 310 P **P** 18 52 24.9 -0.1
comp=Z,0.7nm,1.0s
PHET **Kaeng Krachan** 28.39 297 P **P** 18 52 29.5 +1.3
comp=Z,55µm,1.0s,comp=Z,540µm
LHMI **Lhok Sumawe** 28.79 280 P **P** 18 52 30.7 -1.1
LHMI IAmb IAmb 18 52 32.8
comp=Z,90nm,0.8s
CTA **Charters Tower** 28.86 136 P **P** 18 52 32.8 +0.5
comp=Z,5.9nm,0.8s,baz=127,slow=18,SNR=3.7
PBKT **Sadao Pong** 28.93 305 P **P** 18 52 33.9 +1.0
comp=Z,7.2nm,1.0s,comp=Z,779nm
PBKT **Sadao Pong** 28.93 305 P **P** 18 52 32.8 -0.1
MLSI **Meulaboh, Aceh** 29.20 278 P **P** 18 52 35.7 +0.3
comp=Z,106nm,0.8s
SRDT **SRDT** 29.44 299 P **P** 18 52 38.9 +1.4
comp=Z,14nm,1.3s
SLVN **Son La** 29.53 316 P **P** 18 52 38.7 +0.3
UTHA **Uthaitani** 29.70 302 P **P** 18 52 40.4 +0.5
comp=Z,48µm,0.8s,comp=Z,427µm
UTTA **Uttaradit** 29.88 307 P **P** 18 52 41.9 +0.5
comp=Z,33µm,0.9s,comp=Z,292µm
UMPA **Umpang Tak** 30.50 302 P **P** 18 52 49.2 +2.2
comp=Z,15µm,0.7s
PHRA **Phrae** 30.55 308 P **P** 18 52 48.1 +0.8
comp=Z,4.2nm,1.1s
MORW **Morawa** 30.63 196 P **P** 18 52 47.8 -0.1
MORW IAmb IAmb 18 53 22.5
comp=Z,104nm,2.0s
LAMP **Lampang** 31.04 307 P **P** 18 52 52.8 +1.2
comp=Z,29µm,0.9s
JCJ **Chichijima** 31.08 30 LR LR 19 05 29.3
comp=Z,121nm,19.9s,baz=77,slow=36
FORT **Forrest** 31.11 176 P **P** 18 52 52.8 +0.7
baz=31,SNR=14
FORT **Forrest** 31.11 176 P **P** 18 52 52.0 0.0
FORT IAmb IAmb 18 53 15.2
comp=Z,36nm,0.9s
CM31 **Chiang Mai Arr** 31.56 306 P **P** 18 52 56.4 +0.2
CM31 IAmb IAmb 18 52 58.0
comp=Z,37nm,1.2s
CMAR **Chiang Mai Arr** 31.56 306 P **P** 18 52 56.8 +0.5
comp=Z,6.2nm,0.7s,baz=133,slow=7.6,SNR=52
CMAR PcP **PcP** 18 55 48.9 +1.1
comp=Z,4.1nm,0.9s,baz=176,slow=1.9,SNR=9.8
CMAR ScP **ScP** 18 59 26.6 +1.0
comp=Z,1.2nm,0.9s,baz=166,slow=1.4,SNR=6.6
CMAR LR LR 19 05 21.9
comp=Z,187nm,21.1s,baz=124,slow=36
GYA **Guiyang** 31.56 327 ⇧ *i*P **P** 18 52 56.9 +0.6
GYA sP pwP 18 53 13.3 -0.8
GYA PcP **PcP** 18 55 48.9 +1.1
GYA S **S** 18 58 00.1 -0.5
GYA sS sS 18 58 22.1 -4.0
GYA pmax pmax
comp=Z,20nm,0.7s
GYA pmax pmax
comp=Z,140nm,4.7s
GYA LR LR
comp=Z,310nm,15.2s
GYA LR LR
comp=Z,350nm,15.8s
GYA LR LR
comp=Z,390nm,15.8s
CMMT **Chiang Mai** 31.74 307 P **P** 18 52 58.1 +0.3
comp=Z,20nm,1.0s,comp=Z,268nm
CHTO **Chiang Mai** 31.75 307 P **P** 18 52 58.0 +0.1
CHTO pmax pmax
comp=Z,44nm,1.2s
CHTO **Chiang Mai** 31.75 307 P **P** 18 52 58.0 +0.1
CHTO IAmb IAmb 18 52 59.3
comp=Z,44nm,1.1s
WHN **Wuhan** 31.76 342 P **P** 18 53 01.9 +4.1
WHN S **S** 18 58 11.1 +7.7
WHN LR LR
comp=Z,810nm,14.6s
BLDU **Ballidu** 31.92 194 P **P** 18 52 59.5 +0.3
baz=32,SNR=11
NJ2 **Nanjing** 32.08 350 *e*P **P** 18 53 02.3 +1.7
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
MHMT **Maesarieng** 32.24 305 P **P** 18 53 02.9 +0.7
comp=Z,47nm,1.1s
QLP **Quilpie** 32.40 147 P P 18 52 53.6 -10
baz=32,SNR=3.7
KLBR **Kellerberrin** 32.62 192 P **P** 18 53 06.0 +0.6
baz=33,SNR=12
KMI **Kunming** 32.91 320 P **P** 18 53 10.6 +2.4
KMI pP pP 18 53 20.4 -2.8
KMI sP pwP 18 53 27.8 +1.8
KMI pmax pmax
comp=Z,26nm,1.1s
KMI pmax pmax
comp=Z,270nm,5.2s
JNU **Nakatsue** 32.96 9 P **P** 18 53 07.8 -0.5
JNU IAmb IAmb 18 53 09.4
comp=Z,83nm,1.4s
ENH **Enshi** 33.33 334 P **P** 18 53 10.9 -0.7
MUN **Mundaring** 33.35 194 P **P** 18 53 12.1 +0.4
baz=34,SNR=5.2
NWAO **Narrogin (SRO)** 34.02 192 P **P** 18 53 18.4 +0.9
baz=34,SNR=7.7
BBOO **Buckleboo** 34.53 164 P **P** 18 53 22.7 +0.7
baz=35,SNR=12
BBOO **Buckleboo** 34.53 164 P **P** 18 53 21.9 0.0
BBOO IAmb IAmb 18 53 59.2
comp=Z,48nm,1.2s
RMQ **Roma** 34.96 142 P **P** 18 53 26.2 +0.4
baz=35,SNR=4.0
STKA **Stephens Creek** 35.58 156 P **P** 18 53 31.3 +0.2
STKA pmax pmax
comp=Z,6.0nm,1.0s
STKA **Stephens Creek** 35.58 156 P **P** 18 53 31.9 +0.9
comp=Z,19nm,0.7s,baz=331,slow=8.7,SNR=54
STKA LR LR 19 10 43.9
comp=Z,116nm,20.0s,baz=347,slow=40
STKA **Stephens Creek** 35.58 156 P **P** 18 53 31.3 +0.2
EIDS **Eidsvold** 35.69 138 P **P** 18 53 32.5 +0.5
baz=36,SNR=4.3
EIDS **Eidsvold** 35.69 138 P **P** 18 53 31.9 -0.2
RKGY **Rocky Gully** 35.70 192 P **P** 18 53 34.1 +2.1
baz=36,SNR=9.5
HTT **Hallett** 35.98 161 P **P** 18 53 35.5 +1.0
baz=36,SNR=4.0
INU **Inuyama** 36.43 16 P **P** 18 53 38.4 +0.2
INU IAmb IAmb 18 53 39.6
comp=Z,40nm,0.9s
XAN **Xi'an** 36.85 337 P **P** 18 53 40.3 -1.6
XAN PP **PP** 18 55 06.6 -0.4
XAN pmax pmax
comp=Z,15nm,1.1s
XAN pmax pmax
comp=Z,110nm,3.9s
XAN LR LR
comp=Z,340nm,23.9s
XAN LR LR
comp=Z,250nm,21.7s
XAN LR LR
comp=Z,300nm,24.9s
XAN **Xi'an** 36.85 337 P **P** 18 53 40.4 -1.5
XAN pmax pmax
comp=Z,13nm,0.8s
XAN **Xi'an** 36.85 337 P **P** 18 53 40.4 -1.5
KSRS **Korea Array** 36.95 3 P **P** 18 53 43.5 +0.9
comp=Z,15nm,0.9s,baz=181,slow=9.9,SNR=26
KSRS PcP **PcP** 18 56 03.7 +0.9
comp=Z,3.2nm,0.8s,baz=183,slow=2.6,SNR=4.1
KSRS LR LR 19 10 42.2
comp=Z,140nm,19.5s,baz=196,slow=39
KS19 **Wonju Array Si** 36.99 3 P **P** 18 53 43.6 +0.6
KS19 IAmb IAmb 18 53 44.5
comp=Z,38nm,1.0s
CMSA **Cobar Meteorol** 37.14 151 P **P** 18 53 45.3 +0.9
baz=37,SNR=24
MAJO **Matsushiro** 37.88 17 *i* P **P** 18 53 49.9 -0.6
MAJO pmax pmax
comp=Z,38nm,0.8s
MAJO **Matsushiro** 37.88 17 P **P** 18 53 49.7 -0.8
MAJO IAmb IAmb 18 53 51.0
comp=Z,38nm,0.8s
MAT **Matsushiro** 37.88 17 P **P** 18 53 49.0 -1.5
MJAR **Matsushiro Arr** 37.88 17 P **P** 18 53 50.0 -0.5
comp=Z,25nm,0.8s,baz=194,slow=8.7,SNR=39
MJAR LR LR 19 07 22.6
comp=Z,78nm,21.7s,baz=210,slow=33
MJB9 **Matsu-Tunnel** 37.88 17 P **P** 18 53 49.9 -0.7
MJB9 IAmb IAmb 18 53 50.9
comp=Z,37nm,0.8s
DL2 **Dalian** 38.48 355 P **P** 18 53 56.6 +1.1
DL2 pmax pmax
comp=Z,61nm,1.2s
ARMA **Armidale** 39.53 143 P **P** 18 54 05.8 +1.2
baz=40,SNR=11
ARMA **Armidale** 39.53 143 P **P** 18 54 05.3 +0.7
ARMA IAmb IAmb 18 54 06.7
comp=Z,16nm,0.6s
ARPS **Mount Arapiles** 40.01 159 P **P** 18 54 09.8 +1.5
baz=40,SNR=8.4
BJT **Baijiatuao** 40.32 349 P **P** 18 54 10.1 -0.7
BJT pmax pmax
comp=Z,13nm,0.7s
BJT **Baijiatuao** 40.32 349 P **P** 18 54 10.1 -0.7
YNG **Young** 40.71 150 P **P** 18 54 15.8 +1.7
baz=41,SNR=6.4
LZH **Lanzhou** 40.76 333 *e*P **P** 18 54 14.5 -0.2
LZH sP pwP 18 54 31.8 -1.3
LZH pmax pmax
comp=Z,37nm,1.1s
LZH pmax pmax
comp=Z,150nm,4.3s
LZH LR LR
comp=Z,250nm,11.9s
LZH LR LR
comp=Z,340nm,13.2s
LZH LR LR
comp=Z,450nm,14.2s
SHL **Shillong** 40.87 310 P **P** 18 54 15.1 -0.7
SHL pmax pmax
comp=Z,40nm,0.8s
SHL **Shillong** 40.87 310 *e*P **P** 18 54 16.0 +0.2
SHL **Shillong** 40.87 310 P **P** 18 54 15.1 -0.7
SHL IAmb IAmb 18 54 16.8
comp=Z,40nm,0.8s
CAN **Canberra** 41.82 151 P **P** 18 54 25.2 +1.9
CAN pmax pmax
comp=Z,58nm,1.3s
CAN **Canberra** 41.82 151 P **P** 18 54 25.2 +1.9
CAN IAmb IAmb 18 54 39.8
comp=Z,58nm,1.3s
TOO **Toolangi** 42.11 156 P **P** 18 54 27.9 +2.3
TOO pmax pmax
comp=Z,40nm,1.3s
TOO **Toolangi** 42.11 156 P **P** 18 54 27.9 +2.3
HHC **Hu-ho-hao-te** 42.17 344 *e*P **P** 18 54 28.9 +2.8
CN2 **Changchun** 43.22 0 *e*P **P** 18 54 33.8 -0.6
CN2 pmax pmax
comp=Z,10.0nm,0.9s
LSA **Lhasa** 43.72 315 P **P** 18 54 39.4 +0.2
LSA **Lhasa** 43.72 315 P **P** 18 54 38.7 -0.6
LSA pmax pmax
comp=Z,11nm,0.7s
LSA **Lhasa** 43.72 315 P **P** 18 54 38.7 -0.6
USA0B **Ussuriysk Arra** 44.01 7 P **P** 18 54 40.9 +0.1
USA0B pmax pmax
comp=Z,152nm,1.9s
USA0B **Ussuriysk Arra** 44.01 7 P **P** 18 54 40.9 +0.1
USA0B IAmb IAmb 18 54 42.4
comp=Z,152nm,1.9s
USRK **Ussuriysk Ar.** 44.01 7 P **P** 18 54 41.2 +0.5
comp=Z,17nm,0.8s,baz=192,slow=6.1,SNR=21
MDJ **Mudanjiang** 44.19 4 P **P** 18 54 43.3 +1.1
MDJ pmax pmax
comp=Z,48nm,0.9s
MDJ **Mudanjiang** 44.19 4 P **P** 18 54 42.2 0.0
MDJ IAmb IAmb 18 54 43.9
comp=Z,44nm,1.0s
H11S3 **WAKE ISLAND Hy** 44.36 64 T T 19 42 18.4
baz=252,slow=74,SNR=12
H11S2 **WAKE ISLAND Hy** 44.38 64 T T 19 42 15.9
baz=252,slow=74,SNR=2.9
H11S1 **WAKE ISLAND Hy** 44.38 64 T T 19 42 18.1
baz=252,slow=74,SNR=3.3
ERM **Erimo** 44.42 19 P **P** 18 54 44.8 +0.7
ERM pmax pmax
comp=Z,326nm,1.8s
ERM **Erimo** 44.42 19 P **P** 18 54 44.8 +0.7
TAPN **Taplejung** 44.99 310 *e*P **P** 18 54 48.6 -0.7
comp=Z,54nm,0.5s
ODAN **Odare** 44.99 309 *e*P **P** 18 54 48.6 -0.6
comp=Z,64nm,0.7s
GTA **Gaotai** 45.31 332 *e*P **P** 18 54 51.0 -0.4
GTA pP pP 18 55 03.3 -3.6
GTA sP pwP 18 55 08.1 -2.0
GTA PcP **PcP** 18 56 31.4 +1.2
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA pmax pmax
comp=Z,270nm,7.9s
GTA LR LR
comp=Z,210nm,15.5s
GTA LR LR
comp=Z,260nm,16.8s
GTA LR LR
comp=Z,310nm,17.2s
RAMN **Ramite** 45.65 309 *e*P **P** 18 54 54.1 -0.4
comp=Z,133nm,0.8s
DZM **Mont Dzumac** 45.83 122 *e*P **P** 18 54 59.3 +3.5
comp=Z,44nm,1.2s
DZM **Mont Dzumac** 45.83 122 *e*LR LR 19 07 52.2
comp=Z,391nm,32.8s
DZM **Mont Dzumac** 45.83 122 P **P** 18 54 57.1 +1.3
baz=280,slow=11
DZM **Mont Dzumac** 45.83 122 P **P** 18 54 56.7 +0.9
DZM IAmb IAmb 18 55 59.6
comp=Z,51nm,1.5s
JIRN **Jiri** 46.32 309 *e*P **P** 18 54 59.2 -0.6
comp=Z,108nm,0.6s
GUN **Gumba** 46.68 309 *e*P **P** 18 55 01.2 -1.4
comp=Z,110nm,0.5s
PKI **Pulchoki** 46.88 309 *e*P **P** 18 55 03.0 -1.2
comp=Z,4.7nm,0.5s
PKIN **Phulchoki** 46.89 309 *e*P **P** 18 55 02.8 -1.4
comp=Z,19nm,0.4s
KKN **Kakani** 47.09 309 *e*P **P** 18 55 04.7 -1.0
comp=Z,77nm,0.8s
DMN **Daman** 47.14 309 *e*P **P** 18 55 05.2 -0.9
comp=Z,84nm,0.9s
GKN **Gorkha** 47.69 309 *e*P **P** 18 55 09.2 -1.1
comp=Z,116nm,0.9s
KOLN **Koldanda** 48.39 308 *e*P **P** 18 55 15.2 -0.6
comp=Z,194nm,0.7s
YSS **Yuzh-Sakhalins** 48.80 16 *e*P **P** 18 55 18.6 +0.4
YSS *e* 18 57 08.3
YSS *e* 19 02 11.0
YSS pmax pmax
comp=Z,20nm,1.0s
HIA **Hailar** 48.92 355 P **P** 18 55 18.8 -0.4
HIA 18 56 42.5
HIA pmax pmax
comp=Z,30nm,1.1s
HIA **Hailar** 48.92 355 P **P** 18 55 18.8 -0.4
HIA IAmb IAmb 18 55 20.8
comp=Z,30nm,1.1s
HIA PcP **PcP** 18 56 42.5 -0.1
KLR **Kul'dur** 48.95 6 *i* P **P** 18 55 19.2 -0.2
KLR pmax pmax
comp=Z,23nm,1.1s
HYB **Hyderabad** 49.06 293 *i* P **P** 18 55 18.0 -2.8
HYB *es*P **pwP** 18 55 41.0 +1.0
HYB *e*PcP **PcP** 18 56 43.5 -0.4
ULN **Ulaanbaatar** 49.89 344 *i* P **P** 18 55 26.4 -0.4
ULN pmax pmax
comp=Z,8.0nm,0.9s
ULN **Ulaanbaatar** 49.89 344 P **P** 18 55 25.9 -0.9
SONM **Songino Array** 50.05 343 P **P** 18 55 27.2 -0.7
comp=Z,6.9nm,0.9s,baz=159,slow=8.4,SNR=28
SONM PcP **PcP** 18 56 46.7 -0.2
comp=Z,2.2nm,0.7s,baz=171,slow=3.0,SNR=3.5
GRNR **Gornyy** 51.06 9 ⇧ *i*P **P** 18 55 36.0 +0.6
GRNR *e*S **S** 19 02 52.6 +4.5
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR smax smax
comp=N,3.0nm,1.3s
ZEA **Zeya** 53.18 1 *e*P **P** 18 55 50.6 -0.5
ZEA pmax pmax
comp=Z,26nm,1.0s
TLY **Talaya** 54.29 344 P **P** 18 55 58.8 -0.4
TLY pmax pmax
comp=Z,22nm,1.4s
TLY **Talaya** 54.29 344 P **P** 18 55 58.8 -0.4
WMQ **Urumqi** 54.72 327 *e*P **P** 18 56 03.1 +0.5
WMQ pP pwP 18 56 20.5 -1.2
WMQ pmax pmax
comp=Z,41nm,1.5s
WMQ pmax pmax
comp=Z,88nm,3.8s
WMQ LR LR
comp=Z,560nm,29.2s
WMQ LR LR
comp=Z,2µm,29.3s
WMQ LR LR
comp=Z,380nm,28.8s
WMQ **Urumqi** 54.72 327 P **P** 18 56 02.3 -0.3
WMQ pmax pmax
comp=Z,95nm,1.1s
WMQ **Urumqi** 54.72 327 P **P** 18 56 02.3 -0.3
MOY **Mondy** 55.07 342 *e*P **P** 18 56 04.7 -0.3
MOY pmax pmax
comp=Z,42nm,2.6s
BOD **Bodaibo** 57.96 353 *e*P **P** 18 56 25.1 -0.2
BOD pmax pmax
comp=Z,94nm,1.1s
NIL **Nilore** 58.94 310 P **P** 18 56 32.1 -0.5
NIL pmax pmax
comp=Z,88nm,1.4s
NIL **Nilore** 58.94 310 P **P** 18 56 32.1 -0.5
PEA0B **Petropavlovsk-** 59.01 22 P **P** 18 56 33.5 +0.8
PEA0B pmax pmax
comp=Z,32nm,0.9s
PEA0B **Petropavlovsk-** 59.01 22 P **P** 18 56 33.5 +0.8
PEA0B IAmb IAmb 18 56 35.1
comp=Z,32nm,0.9s
PETK **Petropavlovsk-** 59.01 22 P **P** 18 56 34.0 +1.3
PETK **Petropavlovsk-** 59.01 22 P **P** 18 56 34.0 +1.3
comp=Z,27nm,0.9s,baz=191,slow=5.9,SNR=23
PETK LR LR 19 23 23.9
comp=Z,39nm,19.2s,baz=240,slow=37
TARG **Taragay, Kyrgy** 59.37 320 P **P** 18 56 36.9 +1.0
TARG IAmb IAmb 18 56 48.9
comp=Z,25nm,1.2s
PRZ **Przheval'sk** 59.38 321 P **P** 18 56 36.2 +0.5
PRZ pmax pmax
comp=Z,63nm,1.3s
PRZ **Przheval'sk** 59.38 321 P **P** 18 56 36.2 +0.5
KSH **Kashi** 59.49 317 P **P** 18 56 37.0 +0.6
KSH sP pwP 18 56 55.3 -0.2
KSH PP **PP** 18 58 50.5 +2.1
KSH S **S** 19 04 39.9 -1.5
KSH ScS **ScS** 19 06 16.8 -4.5
KSH pmax pmax
comp=Z,85nm,1.3s
KSH pmax pmax
comp=Z,570nm,6.0s
KSH LR LR
comp=Z,600nm,7.7s
KSH LR LR
comp=Z,430nm,8.5s
KSH LR LR
comp=Z,440nm,8.7s
MK31 **Makanchi Array** 59.55 327 P **P** 18 56 35.4 -1.2
MK31 pmax pmax
comp=Z,24nm,0.5s

MK31 Makanchi Array 59.55 327 P **P** 18 56 35.4 -1.2
MKAR Makanchi Array 59.55 327 *i* P **P** 18 56 35.7 -0.9
MKAR pmax pmax
comp=Z,21nm,0.3s
MKAR Makanchi Array 59.55 327 P **P** 18 56 35.8 -0.8
comp=Z,20nm,0.3s,baz=122,slow=8.0,SNR=319
MKAR PcP **PcP** 18 57 23.1 -0.3
comp=Z,9.2nm,0.6s,baz=114,slow=5.4,SNR=5.4
MKAR LR LR 19 23 00.8
comp=Z,252nm,21.0s,baz=123,slow=37
MAKZ Makanchi 59.73 327 P **P** 18 56 36.6 -1.2
MAKZ pmax pmax
comp=Z,78nm,1.4s
MAKZ Makanchi 59.73 327 P **P** 18 56 36.6 -1.2
LBZ Lake Benmore 59.74 144 P **P** 18 56 38.8 +0.9
THZ Tophouse 59.96 140 P **P** 18 56 39.9 +0.3
KDJ Kajisay 59.97 320 P **P** 18 56 39.3 -0.4
KDJ pmax pmax
comp=Z,52nm,1.4s
KDJ Kajisay 59.97 320 P **P** 18 56 39.4 -0.4
KDJ IAmb IAmb 18 56 43.0
comp=Z,52nm,1.4s
NNZ Nelson 59.98 140 P **P** 18 56 40.7 +1.1
NNZ IAmb IAmb 18 56 51.9
comp=Z,49nm,1.3s
NRN Naryn 60.39 319 P **P** 18 56 41.8 -1.0
NRN pmax pmax
comp=Z,17nm,1.0s
NRN Naryn 60.39 319 P **P** 18 56 41.8 -1.0
NRN IAmb IAmb 18 56 44.9
comp=Z,17nm,0.9s
TUWZ Tuamarina 60.46 140 P **P** 18 56 42.9 0.0
KHZ Kahutara 60.71 141 P **P** 18 56 44.4 -0.1
BKZ Black Stump Fm 61.08 136 P **P** 18 56 47.8 +0.6
BKZ IAmb IAmb 18 57 02.9
comp=Z,43nm,1.6s
URZ Urewera 61.10 135 P **P** 18 56 46.5 -0.8
URZ IAmb IAmb 18 57 10.0
comp=Z,28nm,1.2s
KZA Kyzart 61.19 319 P **P** 18 56 50.8 +2.4
SNR=19
TKM2 Tokmak 2 61.38 320 P **P** 18 56 48.9 -0.5
SNR=31
YAK Yakutsk 61.56 2 P **P** 18 56 49.5 -0.4
YAK pmax pmax
comp=Z,87nm,0.8s
YAK Yakutsk 61.56 2 P **P** 18 56 49.5 -0.4
MXZ Matakaoa Point 61.65 134 P **P** 18 56 52.4 +1.4
KBK Karagaybulak 61.67 320 P **P** 18 56 53.5 +2.2
SNR=14
UCH Uchtor 61.74 319 P **P** 18 56 51.8 -0.4
SNR=33
AAK Ala-Archa 61.95 320 *i* P **P** 18 56 53.2 0.0
SNR=23
AAK Ala-Archa 61.95 320 *ce* P **P** 18 56 53.1 0.0
AAK pmax pmax
comp=Z,31nm,1.7s
AAK Ala-Archa 61.95 320 P **P** 18 56 52.9 -0.2
SNR=16
AAK Ala-Archa 61.95 320 P **P** 18 56 52.1 -1.1
AAK IAmb IAmb 18 56 56.1
comp=Z,17nm,1.0s
CHMS Chumysh 61.96 320 P **P** 18 56 52.1 -0.9
SNR=5.6
AML Almayashu 62.24 319 P **P** 18 56 55.1 -0.3
SNR=31
MA2 Magadan 62.25 14 *ce* P **P** 18 56 54.5 -0.1
MA2 pmax pmax
comp=Z,64nm,1.7s
MA2 Magadan 62.25 14 P **P** 18 56 55.5 +1.0
USP Ospenovka 62.25 320 P **P** 18 56 54.4 -0.6
SNR=34
ARSB Arslanbob 62.35 318 P **P** 18 56 55.3 -0.5
ARSB IAmb IAmb 18 56 58.3
comp=Z,50nm,1.3s
EKS2 Erkin-Say 62.43 319 P **P** 18 56 56.1 -0.2
SNR=27
KBL Kabul 62.52 309 P **P** 18 56 55.7 -1.4
KBL pmax pmax
comp=Z,41nm,0.6s
KBL Kabul 62.52 309 P **P** 18 56 55.7 -1.4
ZAA0 Zalesovo Array 62.96 334 P **P** 18 56 57.8 -1.6
ZAA0 IAmb IAmb 18 57 01.3
comp=Z,19nm,0.8s
ZALV Zalesovo Beam 62.96 334 P **P** 18 56 57.8 -1.6
comp=Z,13nm,0.6s,baz=126,slow=5.3,SNR=35
ZALV LR LR 19 25 59.3
comp=Z,121nm,18.9s,baz=118,slow=38
GAR Garm 63.22 314 P **P** 18 57 00.4 -1.2
BTK Batken 63.29 316 P **P** 18 57 01.0 -1.0
BTK pmax pmax
comp=Z,25nm,1.2s
BTK Batken 63.29 316 P **P** 18 57 01.0 -1.0
BTK IAmb IAmb 18 57 04.5
comp=Z,25nm,1.1s
KURK Kurchatov 63.84 329 P **P** 18 57 04.3 -1.0
KURK pmax pmax
comp=Z,124nm,1.2s
KURK Kurchatov 63.84 329 P **P** 18 57 04.3 -1.0
CHGR Chuyangaron 63.92 314 P **P** 18 57 05.0 -1.2
KK31 Karatay Array 64.77 319 P **P** 18 57 10.3 -1.3
KK31 pmax pmax
comp=Z,20nm,1.1s
KK31 Karatay Array 64.77 319 P **P** 18 57 10.3 -1.3
KK31 IAmb IAmb 18 57 14.5
comp=Z,20nm,1.1s
KKAR Karatay Array 64.77 319 P **P** 18 57 10.3 -1.3
KKAR pmax pmax
comp=Z,20nm,1.1s
KKAR Karatay Array 64.77 319 P **P** 18 57 10.3 -1.3
KKAR IAmb IAmb 18 57 14.5
comp=Z,20nm,1.1s
SEY Seymchan 65.56 13 *i* P **P** 18 57 18.0 +1.7
CASY Casey 67.37 186 P **P** 18 57 28.3 +0.6
HRA Herat 67.81 307 P **P** 18 57 30.0 -1.5
BRVK Borovoye 69.46 328 *ce* P **P** 18 57 40.1 -0.9
BRVK pmax pmax
comp=Z,30nm,2.1s
BRVK Borovoye 69.46 328 P **P** 18 57 40.2 -0.9
BRVK IAmb IAmb 18 57 43.6
comp=Z,24nm,0.9s
UOSS Minazif 70.99 296 P **P** 18 57 50.8 -0.2
UOSS Minazif 70.99 296 P **P** 18 57 50.9 -0.2
UOSS IAmb IAmb 18 58 06.3
comp=Z,119nm,1.9s
HATD Hatta, Dubai 71.04 296 P **P** 18 57 50.8 -0.5
ASHO Ashiyiah 71.09 296 P **P** 18 57 50.1 -1.6
TIXI Tiksi 71.17 1 *ce* P **P** 18 57 50.7 -0.5
TIXI pmax pmax
comp=Z,27nm,1.0s
TIXI Tiksi 71.17 1 P **P** 18 57 50.1 -1.0
TIXI IAmb IAmb 18 57 51.6
comp=Z,32nm,1.1s
SOCY Socotra 71.73 283 P **P** 18 57 53.5 -2.3
SOCY IAmb IAmb 18 58 52.4
comp=Z,56nm,1.2s
GEYT Alibeck 71.95 310 P **P** 18 57 55.9 -0.7
comp=Z,9.0nm,0.8s,baz=130,slow=4.6,SNR=18
GEYT LR LR 19 33 25.9
comp=Z,98nm,19.4s,baz=285,slow=39
GYA0B ALIBECK ARRAY 71.95 310 P **P** 18 57 56.1 -0.5
GYA0B IAmb IAmb 18 57 59.1
comp=Z,35nm,1.4s
ATKA Atka Island 71.99 34 P **P** 18 57 56.6 +0.1
BILL Bilibino 73.10 15 *ce* P **P** 18 58 03.3 +0.5
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL Bilibino 73.10 15 P **P** 18 58 03.1 +0.4
NRIK Noril'sk 73.33 347 P **P** 18 58 04.5 +0.4
comp=Z,23nm,0.5s,baz=125,slow=6.0,SNR=38
NRIK LR LR 19 32 06.6
comp=Z,123nm,21.9s,baz=135,slow=37
ABKAR Akbulak array 73.88 322 P **P** 18 58 06.6 -1.2
SVE Sverdlovsk 76.09 329 ⇓ *e* P **P** 18 58 19.9 -0.4
SVE pmax pmax
comp=Z,74nm,1.4s
UNV Unalaska Valle 76.92 34 P **P** 18 58 25.2 +0.2
ARU Arti 77.03 328 *d i* P **P** 18 58 25.0 -0.6
ARU *PP **pP** 18 58 40.4 -1.9
ARU S **S** 19 08 09.9 +0.7
ARU pmax pmax
comp=Z,42nm,1.1s
ARU Arti 77.03 328 P **P** 18 58 24.5 -1.1
ARU IAmb IAmb 18 58 25.8
comp=Z,32nm,1.0s

XMAS Kiritimati 77.17 88 P **P** 18 58 26.9 -0.4
ABPO Ambohimpanom 78.92 251 P **P** 18 58 36.2 -0.9
ABPO pmax pmax
comp=Z,13nm,0.9s
ABPO Ambohimpanom 78.92 251 P **P** 18 58 36.2 -0.9
MAW Mawson 80.18 200 P **P** 18 58 44.4 +1.7
MAW pmax pmax
comp=Z,6.0nm,1.5s
MAW Mawson 80.18 200 P **P** 18 58 43.9 +1.3
comp=Z,7.4nm,0.8s,baz=60,slow=6.5,SNR=9.6
MAW LR LR 19 33 15.1
comp=Z,42nm,18.6s,baz=57,slow=35
MAW Mawson 80.18 200 P **P** 18 58 44.4 +1.7
VNDA Vanda 80.32 172 P **P** 18 58 44.1 +0.8
VNDA pmax pmax
comp=Z,5.0nm,1.0s
VNDA Vanda 80.32 172 P **P** 18 58 44.3 +1.0
comp=Z,2.5nm,0.7s,baz=337,slow=6.1,SNR=13
VNDA LR LR 19 35 17.2
comp=Z,61nm,19.7s,baz=344,slow=36
VNDA Vanda 80.32 172 P **P** 18 58 44.1 +0.8
AKT Akhty 80.48 312 *e* P **P** 18 58 44.8 -0.3
AKT pmax pmax
comp=Z,27nm,0.5s
RAYN Ar Rayn 80.55 294 *i* P **P** 18 58 45.1 -0.7
SNR=9.9
RAYN Ar Rayn 80.55 294 P **P** 18 58 45.0 -0.7
RAYN pmax pmax
comp=Z,10.0nm,0.8s
RAYN Ar Rayn 80.55 294 P **P** 18 58 45.0 -0.8
SDPT Sand Point 80.70 34 P **P** 18 58 46.5 +0.9
ANM Nome 80.84 24 P **P** 18 58 46.6 +0.3
ANM pmax pmax
comp=Z,10.0nm,1.1s
ANM Nome 80.84 24 P **P** 18 58 46.6 +0.3
SBA Scott Base 81.25 172 P **P** 18 58 47.7 -0.5
SBA pmax pmax
comp=Z,46nm,1.5s
SBA Scott Base 81.25 172 P **P** 18 58 47.7 -0.5
SBA IAmb IAmb 18 59 01.5
comp=Z,46nm,1.4s
GROC Groznyy 82.13 313 *e* P **P** 18 58 49.7 -3.9
GROC *PP **pP** 18 59 05.1 -5.2
GROC *eS* **S** 19 08 59.6 -4.0
GROC pmax pmax
comp=Z,41nm,1.3s
GNI Garni 82.58 310 P **P** 18 58 56.9 +0.7
GNI Garni 82.58 310 *ce* P **P** 18 58 56.2 0.0
GNI pmax pmax
comp=Z,76nm,1.6s
GNI Garni 82.58 310 P **P** 18 58 56.3 0.0
TBLG Delisi 82.74 312 P **P** 18 58 57.0 +0.2
TBLG pmax pmax
comp=Z,19nm,0.6s
TBLG Delisi 82.74 312 P **P** 18 58 57.0 +0.2
TBLG IAmb IAmb 18 59 00.1
comp=Z,19nm,0.6s
ZEI Tsey 83.47 313 *e* P **P** 18 58 58.3 -2.5
ZEI pmax pmax
comp=Z,45nm,1.4s
CHIR Chirikof Islan 83.49 34 P **P** 18 58 59.4 -1.0
AKH Akhalkalaki 83.64 311 P **P** 18 59 01.9 +0.2
AKH pmax pmax
comp=Z,29nm,1.0s
AKH Akhalkalaki 83.64 311 P **P** 18 59 01.9 +0.2
AKH IAmb IAmb 18 59 03.8
comp=Z,29nm,1.0s
NCK Nalchik 83.76 314 *i* P **P** 18 59 01.2 -0.8
NCK pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 84.28 314 P **P** 18 59 04.4 -0.2
comp=Z,7.5nm,0.8s,baz=149,slow=1.3,SNR=22
KBZ LR LR 19 40 46.7
comp=Z,55nm,18.8s,baz=40,slow=38
GOF Gofitskoye 84.29 315 ⇑ *e* P **P** 18 59 04.9 +0.2
GOF pmax pmax
comp=Z,17nm,0.6s
SII Sitkinak Islan 84.39 33 P **P** 18 59 06.0 +1.0
KIV Kislovodsk 84.45 314 P **P** 18 59 07.6 +1.9
KIV Kislovodsk 84.45 314 *e* P **P** 18 59 06.0 +0.3
KIV pmax pmax
comp=Z,30nm,1.1s
KIV Kislovodsk 84.45 314 P **P** 18 59 05.5 -0.2
SHA1 Shidzhatmaz 84.46 314 *i* P **P** 18 59 04.6 -1.3
PRGR Permogore 84.78 332 ⇑ *i* P **P** 18 59 05.8 -0.9
PRGR *e* 18 59 26.5
PRGR pmax pmax
comp=Z,104nm,1.3s
OHAK Old Harbor 84.97 33 P **P** 18 59 09.3 +1.6
PPT Papeete 85.40 108 LR LR 19 33 22.8
comp=Z,28nm,21.5s,baz=304,slow=33
PPT2 Papeete2 85.40 108 *eS* **S** 19 09 37.0 -0.5
comp=Z,103nm,26.8s
PPT2 Papeete2 85.40 108 *e* LR LR 19 26 00.3
comp=Z,134nm,26.8s
KDAK Kodiak Island 85.41 32 P **P** 18 59 11.7 +1.7
KDAK pmax pmax
comp=Z,174nm,1.8s
KDAK Kodiak Island 85.41 32 P **P** 18 59 11.7 +1.7
VRH Novokhopyorsk 85.70 321 *eP* **P** 18 59 10.5 -1.1
VRH pmax pmax
comp=Z,80nm,0.6s
TBI Tubuai 85.71 113 *eS* **S** 19 09 40.0 -0.3
comp=Z,112nm,26.5s
TBI Tubuai 85.71 113 *e* LR LR 19 26 12.2
comp=Z,160nm,36.0s
PPLA Purkeypile 86.19 27 P **P** 18 59 14.5 +0.5
CNPM China Poot 86.30 30 P **P** 18 59 15.2 +0.8
SKT Skwentna 86.40 28 P **P** 18 59 14.9 0.0
SKT IAmb IAmb 18 59 52.9
comp=Z,18nm,1.4s
BRLK Bradley Lake 86.50 30 P **P** 18 59 16.0 +0.6
SOC Sochi 86.58 313 *eP* **P** 18 59 14.0 -2.1
SOC *e* 19 02 35.7
SOC *ePPP PPP 19 04 32.5
SOC *eS* **SKSac** 19 09 35.0 -2.4
SOC *eSS* **SS** 19 15 29.4 -0.5
SOC *eSSS SSS 19 19 03.4
SOC pmax pmax
comp=Z,31nm,0.6s
SUA Susitna One 86.72 29 P **P** 18 59 16.6 0.0
SUA IAmb IAmb 18 59 17.4
comp=Z,15nm,0.9s
KTH Kantishna Hill 86.83 26 P **P** 18 59 17.8 +0.8
KTH IAmb IAmb 18 59 18.9
comp=Z,36nm,1.8s
MLY Manley 87.05 25 P **P** 18 59 18.9 +0.8
MLY IAmb IAmb 18 59 19.7
comp=Z,11nm,1.0s
TRF Thorofare Moun 87.11 27 P **P** 18 59 18.8 +0.3
TRF IAmb IAmb 19 01 56.2
comp=Z,53nm,2.0s
RC01 Rabbit Creek A 87.17 29 P **P** 18 59 19.1 +0.4
RC01 IAmb IAmb 19 00 19.2
comp=Z,44nm,1.5s
VORD Divnogorie 87.22 321 *eP* **P** 18 59 17.9 -1.1
VORD pmax pmax
comp=Z,70nm,1.1s
VSR Storozhevoye 87.31 321 *i* P **P** 18 59 18.6 -0.9
VSR pmax pmax
comp=Z,92nm,1.1s
COLD Coldfoot 87.47 23 P **P** 18 59 21.0 +1.1
LPSR Galich'ya Gora 87.52 322 *eP* **P** 18 59 19.4 -1.0
LPSR pmax pmax
comp=Z,40nm,0.9s
MCK McKinley 87.73 26 P **P** 18 59 21.0 -0.3
MCK pmax pmax
comp=Z,33nm,1.6s
MCK McKinley 87.73 26 P **P** 18 59 21.0 -0.3
MCK IAmb IAmb 19 01 11.3
comp=Z,33nm,1.6s
RND Reindeer 87.75 27 P **P** 18 59 20.9 -0.5
RND pmax pmax
comp=Z,14nm,1.0s
RND Reindeer 87.75 27 P **P** 18 59 20.9 -0.5
RND IAmb IAmb 18 59 22.1
comp=Z,14nm,1.0s
KNK Knik Glacier 87.81 29 P **P** 18 59 22.5 +0.8
KNK IAmb IAmb 18 59 23.3
comp=Z,24nm,1.2s
TOLK Toolik Lake Re 87.82 21 P **P** 18 59 22.0 +0.4
SML Sawmill 87.89 28 P **P** 18 59 22.4 +0.3
SML IAmb IAmb 18 59 23.5
comp=Z,17nm,1.0s
KMBO Kilima Mbogo 88.13 269 *i* P **P** 18 59 26.0 +1.4
SNR=29
KMBO Kilima Mbogo 88.13 269 P **P** 18 59 25.7 +1.2
KMBO pmax pmax
comp=Z,37nm,1.1s
KMBO Kilima Mbogo 88.13 269 P **P** 18 59 25.6 +1.0
comp=Z,28nm,1.0s,baz=63,slow=7.0,SNR=54
KMBO LR LR 19 37 27.6
comp=Z,67nm,20.2s,baz=90,slow=35
KMBO Kilima Mbogo 88.13 269 P **P** 18 59 25.7 +1.2
WRH Wood River Hil 88.14 26 P **P** 18 59 23.4 +0.3
WRH IAmb IAmb 18 59 23.9
comp=Z,12nm,1.0s
ANN Anapa 88.26 315 *c i* P **P** 18 59 23.2 -0.9
ANN *e* *PP **pP** 18 59 38.0 -3.0
ANN *e* 19 10 03.1
ANN *ePS **PS** 19 11 17.8 +2.7
ANN pmax pmax
comp=Z,74nm,0.8s
CCB Clear Creek Bu 88.28 25 P **P** 18 59 23.4 -0.4
CCB IAmb IAmb 18 59 24.4
comp=Z,17nm,1.1s
GAZ Gaziantep 88.30 307 P **P** 18 59 24.5 -0.1
DHY Denali Highway 88.40 27 P **P** 18 59 25.0 +0.4
DHY IAmb IAmb 18 59 45.4
comp=Z,19nm,1.6s
MOS Moscow 88.40 326 *eP* **P** 18 59 22.6 -2.0
MOS pmax pmax
comp=Z,56nm,0.8s
TMCR Tamitsa 88.48 334 *eP* **P** 18 59 23.6 -1.1
TMCR pmax pmax
comp=Z,16nm,0.6s
HDA Harding Lake 88.64 26 P **P** 18 59 24.2 -1.3
ILAR Eielson Array 88.67 25 P **P** 18 59 24.3 -1.4
comp=Z,1.5nm,0.7s,baz=245,slow=4.8,SNR=16
HIN Hinchinbrook I 88.73 30 P **P** 18 59 26.3 +0.3
MID Middleton Isla 88.78 31 P **P** 18 59 25.1 -1.2
MID pmax pmax
comp=Z,1μm,2.0s
MID Middleton Isla 88.78 31 P **P** 18 59 25.1 -1.2
SYO Syowa Base 88.85 201 ⇑ *eP* **P** 18 59 26.2 -0.2
OBN Obninsk 88.99 325 ⇓ *eP* **P** 18 59 26.4 -0.9
OBN *e* 19 02 53.5
OBN *eS* **S** 19 10 09.9 -0.6
OBN pmax pmax
comp=Z,63nm,1.2s
OBN MLR MLR
comp=Z,222nm,20.0s
OBN Obninsk 88.99 325 P **P** 18 59 26.6 -0.7
PAX Paxson 89.26 27 P **P** 18 59 28.8 +0.2
PAX pmax pmax
comp=Z,14nm,1.1s
PAX Paxson 89.26 27 P **P** 18 59 28.8 +0.2
PAX IAmb IAmb 18 59 30.4
comp=Z,14nm,1.1s
RIDG Independent Ri 89.55 26 P **P** 18 59 29.9 0.0
RIDG IAmb IAmb 19 00 05.5
comp=Z,15nm,1.1s
DOT Dot Lake 89.90 27 P **P** 18 59 31.9 +0.5
DOT IAmb IAmb 18 59 32.9
comp=Z,12nm,1.1s
LVZ Lovozero 89.91 338 P **P** 18 59 32.5 +1.1
LVZ pmax pmax
comp=Z,60nm,1.4s
LVZ Lovozero 89.91 338 P **P** 18 59 32.5 +1.1
SCRK Sand Creek 89.93 26 P **P** 18 59 31.3 -0.4
SCRK IAmb IAmb 18 59 51.1
comp=Z,33nm,2.0s
GLB Gilahina Butte 90.05 29 P **P** 18 59 33.2 +0.9
GLB IAmb IAmb 19 01 47.0
comp=Z,41nm,1.8s
MENT Mentasta 90.06 27 P **P** 18 59 33.3 +1.0
QSPA South Pole Qui 90.33 180 P **P** 18 59 34.5 +1.0
QSPA IAmb IAmb 18 59 37.2
comp=Z,29nm,1.8s
APA Apatity 90.39 337 ⇓ *i* P **P** 18 59 31.5 -2.1
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,1μm,18.0s
SIM Simferopol' 90.62 315 *c i* P **P** 18 59 35.3 +0.1
SIM pmax pmax
comp=Z,53nm,0.8s
BR131 Keskin Array S 91.09 310 P **P** 18 59 36.6 -1.1
BR131 pmax pmax
comp=Z,4.0nm,0.9s
BR131 Keskin Array S 91.09 310 P **P** 18 59 36.6 -1.1
BRTR Keskin Array B 91.09 310 P **P** 18 59 36.5 -1.1
comp=Z,2.5nm,0.5s,baz=125,slow=4.3,SNR=20
BARN Barnard Glacie 91.10 29 P **P** 18 59 38.7 +1.4
BARN IAmb IAmb 18 59 39.8
comp=Z,16nm,1.0s
CTGM Chitina Glacie 91.26 29 P **P** 18 59 37.9 -0.2
CSS Mathiatis 91.45 305 P **P** 18 59 39.1 -0.2
DAWY Dawson 91.94 26 P **P** 18 59 42.1 +1.1
DAWY IAmb IAmb 18 59 43.3
comp=Z,17nm,1.4s
EPYK Eagle Plains 92.82 24 P **P** 18 59 45.0 +0.1
EPYK IAmb IAmb 18 59 46.7
comp=Z,16nm,1.1s
ARCES ARCESS Array B 93.09 340 P **P** 18 59 44.9 -1.2
comp=Z,5.4nm,0.8s,baz=79,slow=5.5,SNR=26
HYT Haines Junctio 93.14 29 P **P** 18 59 48.1 +1.4
HYT IAmb IAmb 18 59 48.6
comp=Z,12nm,1.0s
AKASG Malin Array Be 93.60 321 P **P** 18 59 47.6 -1.3
comp=Z,2.5nm,0.5s,baz=72,slow=4.2,SNR=16
AKASG LR LR 19 45 47.6
comp=Z,106nm,20.9s,baz=310,slow=38
AKBB Malin Array Si 93.60 321 P **P** 18 59 47.4 -1.5
AKBB pmax pmax
comp=Z,8.0nm,1.1s
AKBB Malin Array Si 93.60 321 P **P** 18 59 47.4 -1.5
AKBB IAmb IAmb 18 59 48.1
comp=Z,8.1nm,1.1s
INK Inuvik 93.74 21 P **P** 18 59 49.3 +0.2
INK pmax pmax
comp=Z,23nm,1.4s
INK Inuvik 93.74 21 P **P** 18 59 49.2 +0.2
INK IAmb IAmb 18 59 50.5
comp=Z,23nm,1.4s
FINES FINESS Array B 94.11 332 *i* P **P** 18 59 53.2 +2.3
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 94.11 332 P **P** 18 59 49.4 -1.5
comp=Z,3.1nm,0.7s,baz=38,slow=6.2,SNR=11
FINES LR LR 19 43 48.6
comp=Z,155nm,21.0s,baz=303,slow=36
ELL Elmali 94.15 307 P **P** 18 59 51.4 -0.5
ELL pmax pmax
comp=Z,57nm,1.2s
ELL Elmali 94.15 307 P **P** 18 59 51.4 -0.5
TLCR 94.36 315 ⇑ P **P** 18 59 51.6 -0.8
SORM Soroca 94.41 318 ⇑ P **P** 18 59 51.5 -1.1
WHY Whitehorse 94.44 29 P **P** 18 59 53.4 +0.7
WHY IAmb IAmb 18 59 55.1
comp=Z,15nm,0.9s
TOPG Topolog 94.69 315 ⇓ P **P** 18 59 52.5 -1.6
TIRR Tirgusor 94.70 315 ⇓ P **P** 18 59 53.3 -0.7
GHRR 95.25 316 ⇓ P **P** 18 59 54.4 -2.1
TESR Tescani 95.73 317 ⇑ P **P** 18 59 58.2 -0.5
VRI Vrincioaia 95.75 316 ⇑ P **P** 18 59 58.4 -0.5
PLOR Plostina 95.80 316 ⇓ P **P** 18 59 58.9 -0.3
BIZ Bicaz 96.05 317 ⇓ P **P** 18 59 59.6 -0.5
RAZG Razgrad 96.16 314 ⇓ P **P** 19 00 00.2 -0.6
MLR Muntele Rosu 96.34 316 P **P** 19 00 01.2 -0.5
MLR pmax pmax
comp=Z,33nm,1.5s
MLR Muntele Rosu 96.34 316 ⇓ P **P** 19 00 01.3 -0.4
MLR Muntele Rosu 96.34 316 P **P** 19 00 01.1 -0.5
BURAR Bucovina Array 96.56 318 ⇓ P **P** 19 00 02.6 0.0
BUR08 Bucovina Ar. S 96.57 318 P **P** 19 00 02.3 -0.3
BUR08 IAmb IAmb 19 00 03.7
comp=Z,12nm,0.9s
DOPR Dopca 96.66 316 ⇑ P **P** 19 00 02.3 -0.7
VOIR 96.97 316 ⇑ P **P** 19 00 03.7 -0.8
LVV L'vov 97.02 320 *eP* Pdif 19 00 04.7 +0.1
LSZ Lusaka 97.04 255 P **P** 19 00 05.2 -0.3
LSZ pmax pmax
comp=Z,9.0nm,1.3s
LSZ Lusaka 97.04 255 P **P** 19 00 05.2 -0.3
LSZ IAmb IAmb 19 00 06.6
comp=Z,9.2nm,1.2s
PLVB Pleven 97.55 314 ⇑ P **P** 19 00 06.3 -0.8
KWP Kalwaria Pacla 97.89 320 P Pdif 19 00 08.6 +0.1

KWP				pmax	pmax		
	comp=Z,608nm,0.5s						
KWP	**Kalwaria Pacla**	**97.89**	**320**	P	Pdif	19 00 08.6	+0.1
TRPA	**Tarpa**	**98.26**	**319**	⇑P	**P**	**19 00 09.9**	**-0.2**
KOLS	**Kolonicke sedl**	**98.30**	**320**	*e*P	**P**	**19 00 10.3**	**0.0**
KOLS	**Kolonicke sedl**	**98.30**	**320**	*e*PDIFF	**P**	**19 00 10.3**	**0.0**
UZH	**Uzhgorod**	**98.34**	**319**	*d i*P	**P**	**19 00 09.0**	**-1.4**
UZH				*i*		19 00 22.0	
UZH				*i*		19 00 30.5	
GZR	**Gura Zlata**	**98.56**	**316**	⇓P	**P**	**19 00 11.3**	**-0.3**
VTS	**Vitosha**	**98.66**	**313**	P	**P**	**19 00 11.1**	**-1.1**
VTS				pmax	pmax		
	comp=Z,11nm,1.2s						
VTS	**Vitosha**	**98.66**	**313**	⇑P	**P**	**19 00 11.4**	**-0.8**
VTS	**Vitosha**	**98.66**	**313**	P	**P**	**19 00 11.1**	**-1.1**
VTS				IAmb	IAmb	19 00 12.4	
	comp=Z,11nm,1.2s						
BOSA	**Boshof**	**99.08**	**241**	LR	LR	19 42 01.9	
	comp=Z,59nm,19.3s,baz=121,slow=34						
MDVR	**Moldovita**	**99.40**	**315**	⇓P	**Pdif**	**19 00 15.1**	**-0.3**
LANS	**Liptovska Anna**	**100.06**	**320**	*e*P	**Pdif**	**19 00 19.3**	**+1.1**
LANS	**Liptovska Anna**	**100.06**	**320**	*e*PDIFF	**Pdif**	**19 00 19.3**	**+1.1**
VYHS	**Vyhne**	**100.62**	**320**	*e*P	**Pdif**	**19 00 20.1**	**-0.5**
VYHS	**Vyhne**	**100.62**	**320**	*e*PDIFF	**Pdif**	**19 00 20.1**	**-0.5**
NB2	**NORSAR Subarra**	**101.41**	**333**	P	**Pdif**	**19 00 20.7**	**-2.0**
	comp=Z,0.8nm,0.8s,baz=72,slow=4.4						
NOA	**NORSAR Array B**	**101.14**	**333**	P	**Pdif**	**19 00 20.8**	**-1.9**
	comp=Z,1.1nm,0.8s,baz=116,slow=1.1,SNR=2.8						
NOA				PKKPbc	**PKKPbc**	**19 16 35.7**	**0.0**
	comp=Z,2.5nm,1.0s,baz=326,slow=6.0,SNR=3.4						
PDG	**Podgorica**	**101.59**	**313**	⇑P	**Pdif**	**19 00 23.9**	**-1.1**
YKA	**Yellowknife Ar**	**103.07**	**24**	Pdiff	**Pdif**	**19 00 31.7**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=299,slow=4.7,SNR=6.5						
YKA				PKiKP	**PKiKP**	**19 04 51.1**	**+0.4**
	comp=Z,0.7nm,1.0s,baz=307,slow=1.8,SNR=5.5						
GERES	**GERESS Array B**	**103.82**	**321**	Pdiff	**Pdif**	**19 00 34.7**	**-0.3**
	comp=Z,1.7nm,1.1s,baz=110,slow=5.8,SNR=6.5						
GERES				PP	**PKiKP**	**19 04 54.2**	**+1.6**
	comp=Z,1.1nm,1.0s,baz=68,slow=7.6,SNR=4.9						
PDAR	**Pinedale Array**	**114.73**	**42**	PKKPbc	PKKPbc	19 15 51.6	-0.9
	comp=Z,0.4nm,0.4s,baz=112,slow=5.5,SNR=5.1						
ULM	**Lac du Bonnet**	**118.52**	**29**	PKP	**PKPdf**	**19 05 19.6**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=301,slow=4.4,SNR=4.2						
ANMO	**Albuquerque**	**120.25**	**48**	*c i*PKiKP	**PKiKP**	**19 05 24.8**	**+0.4**
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ANMO	**Albuquerque**	**120.25**	**48**	PKP	**PKiKP**	**19 05 26.1**	**+1.7**
	comp=Z,1.0nm,0.5s						
ANMO	**Albuquerque**	**120.25**	**48**		**PKiKP**	**19 05 25.6**	**+1.2**
ECSD	**EROS Data Cent**	**122.28**	**35**		**PKiKP**	**19 05 28.2**	**+0.3**
MNTX	**Cornudas Mount**	**122.39**	**51**		**PKiKP**	**19 05 29.1**	**+0.7**
TOA0	**Torodi Ar. Sit**	**122.59**	**286**		**PKiKP**	**19 05 29.2**	**0.0**
TORD	**Torodi Ar. Bea**	**122.59**	**286**	PKP	**PKiKP**	**19 05 29.2**	**0.0**
	comp=Z,3.6nm,0.6s,baz=72,slow=1.6,SNR=17						
SCHQ	**Schefferville**	**124.05**	**8**	PKP	**PKiKP**	**19 05 30.9**	**-0.1**
	comp=Z,3.8nm,0.6s,baz=288,slow=1.5,SNR=12						
SCHQ	**Schefferville**	**124.05**	**8**		**PKiKP**	**19 05 31.2**	**+0.2**
TXAR	**Lajitas Array**	**124.68**	**53**	PKP	**PKiKP**	**19 05 33.8**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=200,slow=1.0,SNR=16						
TXAR				PKKPbc	**PKKPbc**	**19 15 15.8**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=128,slow=5.1,SNR=3.8						
L40A	**Anamosa**	**126.39**	**33**		**PKPdf**	**19 05 35.4**	**-0.2**
JCT	**Junction City**	**127.23**	**50**	PKiKP	**PKiKP**	**19 05 38.2**	**+0.1**
JCT	**Junction City**	**127.23**	**50**		**PKiKP**	**19 05 38.2**	**+0.1**
HHAR	**Hobbs**	**128.39**	**41**		**PKPdf**	**19 05 39.6**	**0.0**
MGMO	**Mountain Grove**	**128.94**	**39**		**PKPdf**	**19 05 40.8**	**+0.1**
U40A	**Yellville**	**129.04**	**40**		**PKPdf**	**19 05 40.3**	**-0.6**
MIAR	**Mount Ida**	**129.65**	**42**	PKiKP	**PKPdf**	**19 05 41.9**	**-0.2**
MIAR	**Mount Ida**	**129.65**	**42**		**PKPdf**	**19 05 41.9**	**-0.2**
DBIC	**Dimbokro**	**129.85**	**279**	PKP	**PKPdf**	**19 05 42.4**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=70,slow=1.7,SNR=5.0						
DBIC				SKPbc	SKPbc	19 09 00.3	+0.1
	comp=Z,5.4nm,1.0s,baz=28,slow=6.1,SNR=5.2						
DBIC	**Dimbokro**	**129.85**	**279**		**PKPdf**	**19 05 42.8**	**-0.1**
SADO	**Sadowa**	**130.03**	**23**	PKP	**PKPdf**	**19 05 41.9**	**-0.6**
	comp=Z,4.7nm,0.6s,baz=115,slow=5.8,SNR=1.9						
LCAR	**Lake Charles**	**130.31**	**39**		**PKPdf**	**19 05 43.0**	**-0.3**
WVT	**Waverly**	**132.32**	**37**	PKiKP	**PKPdf**	**19 05 47.5**	**+0.4**
WVT	**Waverly**	**132.32**	**37**		**PKPdf**	**19 05 47.5**	**+0.4**
LRAL	**Lakeview Retre**	**134.89**	**39**		**PKPdf**	**19 05 52.9**	**-0.6**
TKL	**Tuckaleechee C**	**135.01**	**34**	PKiKP	**PKPdf**	**19 05 51.3**	**-0.9**
TKL	**Tuckaleechee C**	**135.01**	**34**	PKP	**PKPdf**	**19 05 52.9**	**+0.7**
	comp=Z,15nm,1.1s,baz=190,slow=6.9,SNR=4.6						
TKL	**Tuckaleechee C**	**135.01**	**34**		**PKPdf**	**19 05 51.3**	**-0.9**
Z50A	**Ashland**	**135.42**	**38**		**PKPdf**	**19 05 53.3**	**+0.3**
V53A	**Saluda**	**135.53**	**33**		**PKPdf**	**19 05 53.1**	**-0.1**
PLCA	**Paso Flores**	**137.32**	**162**	PKP	**PKiKP**	**19 05 58.2**	**-0.1**
	comp=Z,3.6nm,1.1s,baz=231,slow=0.9,SNR=6.9						
PLCA	**Paso Flores**	**137.32**	**162**		**PKiKP**	**19 05 57.9**	**-0.4**
PEL	**Peldehue**	**144.09**	**157**	PKiKP	PKPbc	19 06 07.8	+0.9
PEL	**Peldehue**	**144.09**	**157**		PKPbc	19 06 07.8	+0.9
ROC1	**El Roble**	**144.11**	**156**		**PKPdf**	**19 06 08.2**	**-0.9**
GO04	**Tololo Observa**	**146.63**	**154**		**PKPdf**	**19 06 14.2**	**+0.7**
ACON	**Acoyapa**	**147.28**	**157**		**PKPdf**	**19 06 14.1**	**+0.5**
JTS	**Las Juntas de**	**148.02**	**70**	PKP2	**PKPbc**	**19 06 19.4**	**+0.3**
JTS	**Las Juntas de**	**148.02**	**70**		**PKPbc**	**19 06 19.4**	**+0.3**
GO03	**Copiap**	**149.09**	**152**		**PKiKP**	**19 06 22.4**	**-0.4**
GO02	**Mina Guanaco**	**151.44**	**151**		**PKPdf**	**19 06 23.9**	**+2.5**
GO02					**PKiKP**	**19 06 29.2**	**+1.2**
CPUP	**Villa Florida**	**154.09**	**174**	PKP	**PKPdf**	**19 06 25.2**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=35,slow=11,SNR=3.3						
CPUP				PKPbc	**PKiKP**	**19 06 33.9**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=27,slow=2.0,SNR=6.2						
CPUP	**Villa Florida**	**154.09**	**174**		**PKPdf**	**19 06 25.6**	**+0.8**
GCPR	**Guaynabo City**	**158.26**	**31**		**PKPab**	**19 07 04.0**	**-0.6**
LPAZ	**La Paz**	**159.34**	**141**	PKiKP	**PKPdf**	**19 06 34.0**	**+1.4**
LPAZ	**La Paz**	**159.34**	**141**	PKP	**PKPdf**	**19 06 33.9**	**+1.2**
	comp=Z,4.6nm,1.1s,baz=318,slow=1.6,SNR=7.2						
LPAZ	**La Paz**	**159.34**	**141**		**PKPdf**	**19 06 34.0**	**+1.4**
SDV	**Santo Domingo**	**161.58**	**60**		**PKPdf**	**19 06 34.5**	**-0.1**

*ISCJB **20** 18:56:04.6±0.6,5.°1S±0.°1×151.°3E±0.°2, h150km, mb3.6/8, Error ellipse: s-maj=28.0km s-min=6.7km az=41.2*
*IDC **20** 18:56:04.6±1.1,5.°25S×151.°50E, h143km±6km, mb3.4/8, mb1 3.5/9, mb1mx3.3/46, mbtmp3.8/9, Error ellipse: s-maj=53.7km s-min=10.6km az=124.0*
*NEIC **20** 18:56:06.0±1.9,5.°1S±0.°2×151.°2E±0.°2, h149km±10km, mb4.4/8*

ISC 20 18:56:05.3±1.1,5.°2S±0.°2×151.°4E±0.°2, h150km, n20, σ1°12/23, mb3.7/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.07**	**38**	P	**Pn**	**18 56 29.7**	**-1.0**
	37nm,0.3s,baz=343,slow=1.2,SNR=62						
KRVT				S	**Sn**	**18 56 48.5**	**-1.7**
	117nm,0.3s,baz=65,slow=22,SNR=62						
PMG	**Port Moresby**	**5.94**	**224**	P	**Pn**	**18 57 31.7**	**+0.5**
	2.8nm,0.3s,baz=67,slow=3.8,SNR=10						
PMG				S	**Sn**	**18 58 37.9**	**-0.6**
	7.7nm,0.3s,baz=214,slow=16,SNR=12						
PMG	**Port Moresby**	**5.94**	**224**		**Pn**	**18 57 30.6**	**-0.6**
PMG					**Sn**	**18 58 36.8**	**-1.6**
WR0	**Warramunga Arr**	**22.02**	**227**	P	**P**	**19 00 49.2**	**+1.3**
WRA	**Warramunga Arr**	**22.15**	**227**	P	**P**	**19 00 49.7**	**+0.5**
	0.7nm,0.5s,baz=50,slow=9.4,SNR=5.1						
KNRA	**Kununurra**	**24.54**	**243**	P	**P**	**19 01 10.8**	**-0.5**
KNRA				IAmb	IAmb	19 01 27.9	
	comp=Z,12nm,1.1s						
ASAR	**Alice Springs**	**24.94**	**221**	P	**P**	**19 01 15.6**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=53,slow=9.2,SNR=12						
FITZ	**Fitzroy Crossi**	**28.24**	**241**	P	**P**	**19 01 44.2**	**-0.3**
	comp=Z,3.2nm,1.1s,baz=32,slow=1.6,SNR=6.8						
FITZ	**Fitzroy Crossi**	**28.24**	**241**	P	**P**	**19 01 44.0**	**-0.5**
FITZ				IAmb	IAmb	19 02 12.1	
	comp=Z,15nm,1.6s						
PBKT	**Sadao Pong**	**54.30**	**295**	P	**P**	**19 05 14.8**	**-1.8**
PETK	**Petropavlovsk-**	**58.30**	**4**	P	**P**	**19 05 45.0**	**+0.7**
	comp=Z,3.0nm,1.0s,baz=155,slow=7.0,SNR=1.7						
SONM	**Songino Array**	**65.88**	**329**	P	**P**	**19 06 36.8**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=137,slow=4.5,SNR=5.2						
CNPM	**China Poot**	**78.66**	**26**	P	**P**	**19 07 51.9**	**+1.3**
MKAR	**Makanchi Array**	**79.67**	**319**	P	**P**	**19 07 57.2**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=108,slow=6.3,SNR=4.7						
ZALV	**Zalesovo Beam**	**80.67**	**327**	P	**P**	**19 08 01.8**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=106,slow=5.1,SNR=1.9						
MLY	**Manley**	**81.73**	**21**	P	**P**	**19 08 07.4**	**+0.5**
MLY				IAmb	IAmb	19 08 34.7	
	comp=Z,10nm,1.6s						
ILAR	**Eielson Array**	**83.03**	**22**	P	**P**	**19 08 13.7**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=247,slow=5.1,SNR=7.6						
EGAK	**Eagle**	**85.25**	**23**		**P**	**19 08 25.2**	**+0.4**
EGAK				IAmb	IAmb	19 08 34.0	
	comp=Z,8.5nm,1.4s						
HYT	**Haines Junctio**	**85.41**	**28**	P	**P**	**19 08 27.6**	**+1.7**
TORD	**Torodi Ar. Bea**	**149.06**	**287**	PKPbc	**PKPbc**	**19 15 35.5**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=75,slow=2.1,SNR=5.9						

*IDC **20** 18:58:45.4±1.6,4.°45N×125.°91E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/48, mbtmp3.5/6, Error ellipse: s-maj=109.7km s-min=20.8km az=68.0*
*ISCJB **20** 18:58:55.6±0.7,4.°32N±0.°08×125.°8E±0.°2, h100km, mb3.4/6, Error ellipse: s-maj=30.2km s-min=7.3km az=163.4*

ISC 20 18:58:57.0±0.9,4.°37N±0.°10×125.°8E±0.°2, h100km, n9, σ0°56/10, mb3.4/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.73**	**356**	P	**Pn**	**18 59 25.9**	**-0.3**
DDMP				S	**Sn**	**18 59 48.2**	**-0.2**
GSPH	**General Santos**	**1.93**	**333**	P	Pn	18 59 15.9	-13
SKMP	**Bagumbayan, Su**	**2.50**	**329**	P	**Pn**	**18 59 35.8**	**-0.4**
SKMP				S	**Sn**	**19 00 06.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**22.32**	**180**	P	**P**	**19 03 45.9**	**-0.7**
	1.2nm,0.5s,baz=7.4,slow=5.7,SNR=7.4						
WRA	**Warramunga Arr**	**25.56**	**161**	P	**P**	**19 04 16.7**	**-0.1**
	0.7nm,0.7s,baz=340,slow=10,SNR=8.6						
ASAR	**Alice Springs**	**28.95**	**165**	P	**P**	**19 04 47.0**	**-0.1**
	0.2nm,0.4s,baz=339,slow=7.1,SNR=6.6						
STKA	**Stephens Creek**	**39.04**	**158**	P	**P**	**19 06 14.7**	**+0.5**
	1.4nm,0.7s,baz=338,slow=16,SNR=1.3						
MKAR	**Makanchi Array**	**56.53**	**325**	P	**P**	**19 08 30.0**	**+1.0**
	0.3nm,0.7s,baz=124,slow=8.9,SNR=2.0						
KURBB	**Kurchatov Arra**	**60.73**	**328**	P	**P**	**19 08 57.8**	**-0.2**
	0.1nm,0.4s,baz=124,slow=6.7,SNR=1.5						

*ISCJB **20** 19:33:58.8±0.2,2.°59S±0.°03×121.°81E±0.°03, h33km, mb3.9/9, MS3.1/3, Error ellipse: s-maj=4.5km s-min=4.2km az=28.3*
*DJA **20** 19:33:59.3±0.2,3.°S±2.°×12.°2E±.°, h10km, M4.5/16, mb4.6/11, mB5.4/1, MLv4.5/16, Mw(mB)4.9/1*
*NEIC **20** 19:34:01.4±2.5,2.°55S±0.°07×121.°82E±0.°07, h50km±8km, mb4.4/22*
*IDC **20** 19:34:05.2±3.2,2.°55S×122.°09E, h84km±35km, mb3.6/8, mb1 3.8/11, mb1mx3.6/40, mbtmp4.0/11, MS3.3/5, Ms1 3.3/5, ms1mx3.0/32, Error ellipse: s-maj=32.8km s-min=16.4km az=61.0*

ISC 20 19:34:00.4±0.5,2.°60S±0.°04×121.°79E±0.°05, h35km, n67, σ1°59/67, mb4.2/21, MS3.2/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**1.58**	**148**	P	**Pn**	**19 34 26.5**	**+0.5**
KDI				S	**Sn**	**19 34 48.7**	**+3.5**
APSI	**Ampana**	**1.69**	**355**	P	**Pn**	**19 34 28.2**	**+0.7**
APSI				S	**Sn**	**19 34 52.5**	**+4.6**
LUWI	**Luwuk**	**1.84**	**32**	P	**Pn**	**19 34 30.3**	**+0.8**
LUWI				S	**Sn**	**19 34 56.0**	**+4.4**
LUWI	**Luwuk**	**1.84**	**32**		**Pn**	**19 34 30.4**	**+0.9**
TTSI	**Tana Toraja**	**2.01**	**257**	P	**Pn**	**19 34 32.0**	**+0.1**
BNSI	**Bone**	**2.45**	**223**	P	**Pn**	**19 34 39.0**	**+1.1**
BBSI	**Bau Bau**	**2.97**	**165**	P	**Pn**	**19 34 47.4**	**+2.3**
MRSI	**Marisa**	**3.06**	**3**	P	**Pn**	**19 34 47.3**	**+0.9**
BKSI	**Bulukumba**	**3.17**	**212**	P	**Pn**	**19 34 48.9**	**+1.1**
MPSI	**Mapaga**	**3.48**	**327**	P	**Pn**	**19 34 53.2**	**+1.1**
KMSI	**Cibinong**	**3.84**	**35**	P	**Pn**	**19 34 58.8**	**+1.7**
SANI	**Sanana**	**4.23**	**83**	P	**Pn**	**19 35 03.5**	**+1.0**
SMKI	**Samarinda**	**5.05**	**295**	P	Pn	19 35 02.7	-11
BKB	**Balikpapan**	**5.07**	**285**	Pn	**Pn**	**19 35 15.8**	**+1.9**
NLAI	**Namlea**	**5.34**	**97**	P	Pn	19 35 23.9	+6.1
MMRI	**Maumere**	**6.01**	**176**	Pn	**Pn**	**19 35 31.5**	**+4.6**
LBMI	**Labuha**	**6.04**	**71**	P	**Pn**	**19 35 29.3**	**+2.0**
	172nm,0.7s,3µm0.8nm						
AAI	**Ambon**	**6.49**	**100**	P	**Pn**	**19 35 34.6**	**+1.1**
	42nm,0.9s,0.1nm						
TNTI	**Ternate**	**6.51**	**59**	P	**Pn**	**19 35 34.6**	**+0.8**
	56nm,0.9s,0.2nm						
TNTI	**Ternate**	**6.51**	**59**		**Pn**	**19 35 33.7**	**-0.1**
TNTI				Sn	**Sn**	**19 36 45.8**	**-1.1**
SOEI	**Soe**	**7.52**	**161**	P	**Pn**	**19 35 49.1**	**+1.3**
	61nm,1.1s,0.2nm						
SOEI	**Soe**	**7.52**	**161**		**Pn**	**19 35 49.3**	**+1.5**
BATI	**Baumata**	**7.78**	**166**	P	Pn	19 35 56.7	+5.5
	3.0nm,0.3s,baz=40,slow=1.9,SNR=6.7						
BATI				LR	LR	19 39 13.7	
	comp=Z,367nm,19.6s,baz=340,slow=40						
BNDI	**Bandanaira**	**8.32**	**103**	P	**Pn**	**19 35 58.9**	**+0.2**
	400nm,1.5s						
SRBI	**Singaraja**	**8.51**	**230**	P	**Pn**	**19 36 00.6**	**-0.7**
JAGI	**Jajag, Banyuwa**	**9.57**	**232**	Pn	**Pn**	**19 36 16.4**	**+0.5**
SIJI	**Sorong**	**9.63**	**80**	P	**Pn**	**19 36 16.7**	**0.0**
	1.6nm,0.3s,baz=248,slow=22,SNR=6.4						
KKM	**Kota Kinabalu**	**10.23**	**327**	Pn	**Pn**	**19 36 23.3**	**-1.7**
DAV	**Davao City (W)**	**10.33**	**21**	Pn	**Pn**	**19 36 24.7**	**-1.5**
FAKI	**Fak Fak**	**10.46**	**92**	Pn	**Pn**	**19 36 27.9**	**-0.1**
MTN	**Manton Dam**	**13.75**	**138**	Pn	**Pn**	**19 37 13.9**	**+0.9**
KNRA	**Kununurra**	**14.70**	**153**	Pn	**Pn**	**19 37 24.2**	**-1.7**
CISI	**Cisompet, Garu**	**14.76**	**250**	Pn	**Pn**	**19 37 27.6**	**+0.8**
FITZ	**Fitzroy Crossi**	**15.86**	**166**	P	**P**	**19 37 43.3**	**-1.2**
	0.1nm,0.3s,baz=18,slow=11,SNR=5.7						
FITZ				LR	LR	19 44 31.3	
	comp=Z,64nm,18.0s,baz=346,slow=40						
FITZ	**Fitzroy Crossi**	**15.86**	**166**	P	**Pn**	**19 37 40.6**	**-0.5**
MDSI	**Maura Dua**	**17.67**	**263**	P	P	19 38 19.2	+15
MNAI	**Manna**	**18.88**	**264**	P	**P**	**19 38 16.6**	**-1.4**
WRAB	**Tennant Creek**	**21.15**	**145**	P	**P**	**19 38 44.2**	**+1.6**
WRAB				IAmb	IAmb	19 38 50.8	
	comp=Z,9.8nm,1.1s						
WRA	**Warramunga Arr**	**21.15**	**145**	P	**P**	**19 38 41.1**	**-1.5**
	comp=Z,4.1nm,1.0s,baz=318,slow=12,SNR=16						
WR0	**Warramunga Arr**	**21.28**	**145**	P	**P**	**19 38 42.9**	**-1.2**
WR0				IAmb	IAmb	19 38 46.8	
	comp=Z,11nm,1.2s						
PDSI	**Padang**	**21.38**	**274**	P	**P**	**19 38 48.4**	**+3.2**
	comp=Z,4.4nm,0.9s						
IPM	**Ipoh**	**21.91**	**289**	P	**P**	**19 38 49.5**	**-1.4**
IPM				IAmb	IAmb	19 38 53.1	
	comp=Z,36nm,1.5s						
KULM	**Kulim**	**22.52**	**290**	P	**P**	**19 38 56.5**	**-1.0**
KULM				IAmb	IAmb	19 39 01.9	
	comp=Z,35nm,1.5s						
RPSI	**Rantau Prapat**	**23.45**	**283**	P	**P**	**19 39 08.8**	**+1.9**
PSI	**Prapat**	**23.48**	**283**	P	**P**	**19 39 08.8**	**+1.5**
	comp=Z,5.4nm,0.9s,baz=104,slow=5.4,SNR=5.0						
PSI				LR	LR	19 49 50.0	
	comp=Z,93nm,19.8s,baz=106,slow=40						
AS31	**Alice Springs**	**24.00**	**152**	P	**P**	**19 39 12.7**	**+0.6**
ASAR	**Alice Springs**	**24.00**	**152**	P	**P**	**19 39 11.0**	**-1.1**
	comp=Z,3.9nm,0.9s,baz=336,slow=10,SNR=15						
ASAR				LR	LR	19 48 49.7	
	comp=Z,102nm,19.7s,baz=330,slow=37						
QIZ	**Qiongzhong**	**24.50**	**332**	P	**P**	**19 39 15.3**	**-1.3**
GSI	**Gunungsitoli**	**24.51**	**279**	P	**P**	**19 39 17.4**	**+0.6**
GSI				IAmb	IAmb	19 39 30.8	
	comp=Z,14nm,1.0s						
SSLB	**Suanglung**	**26.25**	**358**	P	**P**	**19 39 31.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**30.72**	**314**	P	**P**	**19 40 14.8**	**+2.3**
	comp=Z,1.7nm,0.8s,baz=138,slow=7.5,SNR=14						
CMAR				LR	LR	19 54 44.0	
	comp=Z,28nm,21.2s,baz=200,slow=40						
CHTO	**Chiang Mai**	**30.95**	**314**	P	**P**	**19 40 14.9**	**+0.5**
STKA	**Stephens Creek**	**34.58**	**149**	P	**P**	**19 40 46.5**	**+0.5**
	comp=Z,2.9nm,0.9s,baz=345,slow=11,SNR=2.8						
STKA	**Stephens Creek**	**34.58**	**149**	P	**P**	**19 40 46.4**	**+0.4**
TOO	**Toolangi**	**41.05**	**151**	P	**P**	**19 41 41.3**	**+0.7**
CAN	**Canberra**	**41.20**	**145**	P	**P**	**19 41 42.7**	**+0.8**
LSA	**Lhasa**	**43.48**	**320**	P	**P**	**19 42 01.8**	**+0.7**
LSA				IAmb	IAmb	19 42 05.1	
	comp=Z,2.6nm,0.6s						
SONM	**Songino Array**	**52.01**	**347**	P	**P**	**19 43 05.1**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=150,slow=6.1,SNR=2.8						
MK31	**Makanchi Array**	**60.21**	**330**	P	**P**	**19 44 05.3**	**+0.3**
MK31				IAmb	IAmb	19 44 32.2	
	comp=Z,6.2nm,1.4s						
MKAR	**Makanchi Array**	**60.21**	**330**	P	**P**	**19 44 05.8**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=123,slow=7.2,SNR=11						
KBL	**Kabul**	**61.72**	**312**	P	**P**	**19 44 13.8**	**-2.0**
KBL				IAmb	IAmb	19 44 16.5	
	comp=Z,4.3nm,1.1s						
AAK	**Ala-Archa**	**62.00**	**322**	P	**P**	**19 44 17.5**	**+0.1**
AAK				IAmb	IAmb	19 44 18.8	
	comp=Z,2.1nm,0.9s						
ARSB	**Arslanbob**	**62.23**	**320**	P	**P**	**19 44 19.0**	**0.0**
ARSB				IAmb	IAmb	19 44 21.5	
	comp=Z,3.5nm,1.0s						
GAR	**Garm**	**62.83**	**317**	P	**P**	**19 44 22.8**	**-0.3**
GAR				IAmb	IAmb	19 44 24.3	
	comp=Z,4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**64.19**	**337**	P	**P**	**19 44 31.3**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=152,slow=6.6,SNR=5.6						
KURK	**Kurchatov**	**64.64**	**331**	P	**P**	**19 44 34.2**	**-0.3**
KURK				IAmb	IAmb	19 44 36.6	
	comp=Z,2.8nm,0.8s						
ABKAR	**Akbulak array**	**74.05**	**323**	P	**P**	**19 45 31.9**	**-0.9**

*NSSP **20** 19:38:41.7,38.°50N×46.°77E, h15km, Ms3.3*
*AZER **20** 19:38:42.2±0.4,38.°50N×46.°76E, h7km±2km, ml3.4/16, Error ellipse: s-maj=3.5km s-min=2.8km az=336.0*
*THR **20** 19:38:43.3,38.°44N×46.°71E, h14km, ML3.1*
*TEH **20** 19:38:43.4,38.°43N×46.°74E, h15km, ML3.1*

ISC 20 19:38:44.3±1.0,38.°45N±0.°03×46.°71E±0.°02, h16km±9km, n41, σ1°60/66, 4C, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.29**	**116**	*e*Pg	**Pg**	**19 38 48.8**	**-1.9**
IHSH	**Hashtrud**	**0.46**	**108**	IAMB	IAmb	19 39 09.8	
	comp=Z,4µm,0.3s						
IHSH				*e*Pg	**Sn**	**19 39 06.0**	**+1.5**
ITBZ	**Tabriz**	**0.49**	**244**	*e*Pg	**Pg**	**19 38 53.2**	**-0.9**
ORD	**Ordubad**	**0.74**	**311**	P	**Pg**	**19 38 58.1**	**-0.6**
	SNR=273						
ORD				S	**Sb**	**19 39 08.6**	**0.0**
IMRD	**Marand**	**0.83**	**289**	*e*Pg	**Pg**	**19 38 59.6**	**-0.9**
IMRD				IAMB	IAmb	19 39 15.4	
	comp=Z,25µm,0.2s						
ISRB	**Sarab**	**0.98**	**129**	*e*Pg	**Pb**	**19 39 01.0**	**-2.0**
ISRB				IAMB	IAmb	19 39 18.8	
	comp=Z,4µm,0.2s						
GRMI	**Germi**	**1.00**	**68**	*e*Pg	**Pb**	**19 39 02.1**	**-1.1**
GRMI	**Germi**	**1.00**	**68**	*e*Pg	**Pb**	**19 39 02.1**	**-1.1**
GRMI	**Germi**	**1.00**	**68**	*e*AML	AML	19 39 18.4	
	comp=N,454nm,0.2s						
GRMI				*e*Sg	**Sb**	**19 39 15.8**	**-0.4**
QRD	**Qoradiz**	**1.12**	**25**	P	**Pg**	**19 39 06.0**	**+0.1**
	SNR=9.7						
QRD				S	**Sn**	**19 39 22.5**	**+2.2**
NAX	**Nakhchivan**	**1.19**	**308**	P	**Pb**	**19 39 06.6**	**+0.1**
	SNR=74						
NAX				S	**Sg**	**19 39 24.3**	**+1.4**
YRD	**Yardimli**	**1.29**	**68**	P	**Pb**	**19 39 07.9**	**-0

50nm,1.0s,0.2nm
SOEI Soe 7.55 161 Pn 19 46 24.1 +1.1
BATI Baumata 7.81 167 P **Pn 19 46 30.6 +4.1**
1.7nm,0.3s,baz=129,slow=8.0,SNR=6.1
BATI LR LR 19 49 37.9
comp=Z,274nm,18.2s,baz=356,slow=38
TWSI Taliwang, Sumb 7.86 218 P **Pn 19 46 27.9 +0.8**
7.8nm,1.1s,0.1nm
SIJI Sorong 9.59 80 P **Pn 19 46 49.8 -1.1**
4.8nm,0.3s,baz=238,slow=8.4,SNR=19
KKM Kota Kinabalu 10.22 327 Pn **Pn 19 47 01.6 +2.0**
FAKI Fak Fak 10.42 92 Pn **Pn 19 47 02.4 +0.1**
MTN Manton Dam 13.76 138 Pn **Pn 19 47 48.5 +0.5**
KNRA Kununurra 14.72 153 Pn **Pn 19 47 59.7 -1.3**
FITZ Fitzroy Crossi 15.89 167 P **Pn 19 48 18.3 +2.0**
0.1nm,0.3s,baz=2.1,slow=6.9,SNR=6.1
FITZ LR LR 19 55 36.9
comp=Z,70nm,19.5s,baz=346,slow=41
FITZ Fitzroy Crossi 15.89 167 P **Pn 19 48 18.2 +1.9**
WRA Warramunga Arr 21.16 146 P **P 19 49 16.8 -0.8**
3.0nm,1.0s,baz=311,slow=12,SNR=9.5
WR0 Warramunga Arr 21.29 145 P **P 19 49 17.2 -1.8**
WR0 IAmb IAmb 19 49 59.2
comp=Z,17nm,1.6s
IPM Ipoh 21.93 289 P **P 19 49 27.6 +1.8**
RPSI Rantau Prapat 23.48 283 P **P 19 49 42.1 +0.2**
PSI Prapat 23.50 283 P **P 19 49 42.1 -0.2**
comp=Z,4.4nm,0.3s,baz=113,slow=9.2,SNR=3.9
COEN Coen 23.94 119 P **P 19 49 45.1 -1.3**
COEN IAmb IAmb 19 49 58.4
comp=Z,36nm,1.6s
AS31 Alice Springs 24.02 152 P **P 19 49 48.9 +1.8**
ASAR Alice Springs 24.02 152 P **P 19 49 46.5 -0.6**
comp=Z,2.2nm,0.9s,baz=338,slow=12,SNR=11
CMAR Chiang Mai Arr 30.72 314 P **P 19 50 48.1 +0.9**
comp=Z,1.8nm,0.8s,baz=135,slow=7.1,SNR=11
CHTO Chiang Mai 30.95 314 P **P 19 50 50.1 +0.9**
CHTO IAmb IAmb 19 50 53.1
comp=Z,16nm,1.9s
STKA Stephens Creek 34.60 150 P **P 19 51 22.7 +1.7**
comp=Z,0.9nm,0.4s,baz=312,slow=8.6,SNR=3.4
STKA LR LR 20 05 45.2
comp=Z,70nm,18.5s,baz=24,slow=37
STKA Stephens Creek 34.60 150 P **P 19 51 23.0 +2.0**
STKA IAmb IAmb 19 51 41.5
comp=Z,4.0nm,1.5s
LSA Lhasa 43.47 320 P **P 19 52 34.1 -1.7**
LSA IAmb IAmb 19 52 38.3
comp=Z,2.4nm,0.6s
SONM Songino Array 51.97 347 P **P 19 53 40.4 -0.6**
comp=Z,0.2nm,0.5s,baz=172,slow=4.4,SNR=1.6
MK31 Makanchi Array 60.19 330 P **P 19 54 37.9 -1.8**
MK31 IAmb IAmb 19 56 26.9
comp=Z,5.1nm,1.4s
MKAR Makanchi Array 60.19 330 P **P 19 54 39.4 -0.3**
comp=Z,0.8nm,0.6s,baz=116,slow=7.3,SNR=11
MKAR PcP **PcP 19 55 23.4 -1.5**
comp=Z,0.8nm,0.6s,baz=110,slow=6.6,SNR=4.2
KBL Kabul 61.72 312 P **P 19 54 49.4 -1.2**
KBL IAmb IAmb 19 54 50.0
comp=Z,2.9nm,0.7s
GAR Garm 62.83 317 P **P 19 54 56.1 -1.7**
ZALV Zalesovo Beam 64.17 337 P **P 19 55 04.9 -1.2**
comp=Z,0.3nm,0.4s,baz=133,slow=8.2,SNR=2.7
BRTR Keskin Array B 90.22 310 P **P 19 57 30.7 -2.0**
comp=Z,0.3nm,0.7s,baz=204,slow=43,SNR=2.2

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*BJI **20** 21:10:43.6±0.0, 4.°06N×96.°06E, h95km, mb5.1/66, mB5.2/45*
*MOS **20** 21:10:45.8±1.0, 4.°49N×96.°32E, h85km, mb5.1/30, Error ellipse: s-maj=7.2km s-min=4.6km az=115.6*
*ISCJB **20** 21:10:46.6±0.3, 4.°28N±0.°02×96.°27E±0.°02, h96km±2km, mb5.0/152, Error ellipse: s-maj=3.6km s-min=2.5km az=139.3*
*NEIC **20** 21:10:47.4±1.9, 4.°24N±0.°05×96.°23E±0.°06, h90km±4km, mb5.1/177*
*GCMT **20** 21:10:47.3±0.2, 4.°29N±0.°01×96.°26E±0.°01, h95km±1km, MW5.1/100, Moment Tensor Solution. s73,c91; s100,c149; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.45±.14; Mθθ-1.96±.14; Mφφ0.51±.15; Mrθ1.32±.10; Mθφ-5.62±.13; Mφr-2.37±.10; Best double couple: M₀6.48400×10¹⁶ NP1₫s190.00000°, δ73.00000°, λ23.00000°. NP2₫s93.00000°, δ68.00000°, λ162.00000°. Principal axes: T 6.4620, Plg28.0000°, Azm52.0000°; N 0.0470, Plg62.0000°, Azm224.0000°; P -6.5070, Plg4.0000°, Azm320.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **20** 21:10:48.0±0.2, 4.°N±1.°×9.°6E±.°, h77km±2km, M5.2/99, mB5.7/39, mb5.3/99, MLv5.5/16, Mw(mB)5.2/39, Mwp5.2/5*
*IDC **20** 21:10:49.0±0.9, 4.°49N×96.°46E, h98km±7km, mb4.6/32, mb1 4.7/34, mb1mx4.6/39, mbtmp4.9/34, MS3.8/26, Ms1 3.8/26, ms1mx3.7/42, Error ellipse: s-maj=10.2km s-min=6.1km az=45.0*
*KLM **20** 21:10:49.0, 4.°05N×96.°24E, h113km, mb5.3*
ISC 20 21:10:47.4±0.3, 4.°30N±0.°03×96.°23E±0.°03, h91km±2km, h91km:pP-P,n193,σ1$40/977, mb5.1/217, 61C-15D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**0.18**	**100**	P	**Pn**	**21 10 59.5**	**-1.0**
MLSI				S	**Sn**	**21 11 07.8**	**-2.4**
LHMI	**Lhok Sumawe**	**1.17**	**38**	P	**Pn**	**21 11 10.2**	**+1.0**
LHMI				S	**Sn**	**21 11 27.2**	**+1.6**
LHMI	**Lhok Sumawe**	**1.17**	**38**		**Pn**	**21 11 10.2**	**+1.0**
LHMI				Sn	**Sn**	**21 11 25.6**	**0.0**
SNSI	**Sinabang, Aceh**	**1.88**	**177**	P	**Pn**	**21 11 16.6**	**-1.5**
SNSI				S	**Sn**	**21 11 40.5**	**-1.0**
PSI	**Prapat**	**3.08**	**119**	P	**Pn**	**21 11 35.5**	**+1.4**
170nm,0.3s,baz=291,slow=9.7,SNR=542							
PSI				S	**Sn**	**21 12 09.9**	**-0.2**
178nm,0.3s,baz=340,slow=12,SNR=6.9							
PSI				LR	LR	21 12 21.3	
comp=Z,1μm,20.1s,baz=311,slow=30							
RPSI	**Rantau Prapat**	**3.13**	**121**		**Pn**	**21 11 35.5**	**+0.8**
GSI	**Gunungsitoli**	**3.26**	**156**	P	**Pn**	**21 11 35.1**	**-1.5**
GSI				S	**Sn**	**21 12 12.1**	**-2.4**
GSI	**Gunungsitoli**	**3.26**	**156**		**Pn**	**21 11 35.0**	**-1.5**
GSI				Sn	**Sn**	**21 12 11.4**	**-3.1**
KULM	**Kulim**	**4.52**	**77**		**Pn**	**21 11 54.0**	**+0.5**
KULM				Sn	**Sn**	**21 12 44.8**	**-0.2**
IPM	**Ipoh**	**4.79**	**88**		**Pn**	**21 11 57.5**	**+0.3**
IPM				Sn	**Sn**	**21 12 49.2**	**-2.4**
TRTT	**Trang**	**4.92**	**44**	P	**Pn**	**21 11 59.5**	**+0.4**
851nm,1.2s,8μm3.0nm							
SKLT	**Songkhla**	**5.22**	**57**	P	**Pn**	**21 12 04.1**	**+1.0**
1μm,1.0s,15μm5.2nm							
SURT	**Suratani**	**5.29**	**29**	P	**Pn**	**21 12 04.7**	**+0.7**
1μm,0.8s,12μm5.2nm							
BKNI	**Bangkinang**	**6.22**	**129**	P	**Pn**	**21 12 16.7**	**0.0**
1μm,0.7s,14μm3μm6.0nm							
BKNI	**Bangkinang**	**6.22**	**129**		**Pn**	**21 12 16.8**	**0.0**
JRMM	**Jerantut**	**6.25**	**94**	P	**Pn**	**21 12 18.0**	**+0.9**
SISI	**Saibi**	**6.28**	**153**	P	**Pn**	**21 12 16.7**	**-0.8**
221nm,1.0s,3μm0.9nm							
PDSI	**Padang**	**6.68**	**141**	P	**Pn**	**21 12 22.3**	**-0.8**
352nm,0.6s,5μm2μm1.4nm							
SDSI	**Sungai Dareh**	**7.35**	**135**	P	**Pn**	**21 12 31.7**	**-0.4**
266nm,0.9s,3μm0.8nm							
RGRI	**Rengat**	**7.65**	**127**	P	**Pn**	**21 12 36.8**	**+0.6**
434nm,0.9s,97μm12nm							
PPSI	**Pulau Pagai**	**7.97**	**152**	P	**Pn**	**21 12 40.4**	**-0.2**
547nm,0.7s,6μm2.2nm							
MYKOM	**Kota Tinggi**	**8.01**	**108**	P	**Pn**	**21 12 41.0**	**-0.1**
MYKOM	**Kota Tinggi**	**8.01**	**108**		**Pn**	**21 12 40.0**	**-1.2**
PBA	**Port Blair**	**8.08**	**335**	*eP*	Pn	21 12 39.6	-2.5
PBA	**Port Blair**	**8.08**	**335**		Pn	21 12 40.6	-1.5
KRJI	**Kerinci**	**8.22**	**140**	P	**Pn**	**21 12 44.5**	**+0.3**
1μm,0.6s,14μm3μm							
TPRI	**Tanjung Pinang**	**8.94**	**112**	P	**Pn**	**21 12 55.5**	**+1.6**
129nm,0.8s,2μm							
PHET	**Kaeng Krachan**	**9.19**	**21**	P	**Pn**	**21 13 00.3**	**+3.0**
138μm,0.7s							
DGPR	**DIGLIPUR**	**9.40**	**340**	*eP*	**Pn**	**21 12 57.5**	**-2.6**
PATY	**Pattaya**	**9.72**	**28**	P	**Pn**	**21 13 07.2**	**+2.8**
97μm,0.7s							
KSI	**Kapahiang**	**10.14**	**141**	P	**Pn**	**21 13 08.4**	**-1.8**
825nm,0.7s,8μm							
SRDT	**SRDT**	**10.39**	**16**	P	**Pn**	**21 13 17.4**	**+3.8**
24nm,1.3s							
LHSI	**Lahat**	**10.88**	**138**	P	**Pn**	**21 13 19.2**	**-1.0**
1μm,1.0s,10μm							
MNAI	**Manna**	**10.92**	**142**	P	**Pn**	**21 13 18.4**	**-2.4**
2μm,0.6s,20μm							
MNAI	**Manna**	**10.92**	**142**		**Pn**	**21 13 18.4**	**-2.4**
PMBI	**Palembang**	**11.15**	**130**	P	**Pn**	**21 13 23.6**	**-0.4**
470nm,1.3s							
PMBI	**Palembang**	**11.15**	**130**	Pn	**Pn**	**21 13 22.3**	**-1.7**
UTHA	**Uthaitani**	**11.63**	**16**	P	**Pn**	**21 13 33.3**	**+2.9**
40μm,0.7s,517μm							
MDSI	**Maura Dua**	**11.80**	**138**	P	**Pn**	**21 13 30.5**	**-2.2**
707nm,0.8s,5μm							
UMPA	**Umpang Tak**	**12.11**	**12**	P	**Pn**	**21 13 38.8**	**+1.9**
56μm,1.1s,562μm							
LWLI	**Liwa**	**12.12**	**140**	P	**Pn**	**21 13 35.6**	**-1.5**
313nm,0.6s							
KLSI		**12.32**	**136**	P	**Pn**	**21 13 38.9**	**-0.8**
KASI	**Kota Agung**	**12.78**	**140**	P	**Pn**	**21 13 42.0**	**-3.9**
CHAI	**Chaiyaphum**	**12.85**	**26**	P	**Pn**	**21 13 49.3**	**+2.6**
104μm,0.7s							
PBKT	**Sadao Pong**	**13.05**	**21**	P	**Pn**	**21 13 52.3**	**+2.9**
99nm,0.8s							
PBKT	**Sadao Pong**	**13.05**	**21**		**Pn**	**21 13 51.0**	**+1.6**
BLSI	**Bandar Lampung**	**13.16**	**137**	P	**Pn**	**21 13 48.8**	**-2.1**
157nm,0.4s,2μm							
TPI	**Tanjungpandan**	**13.40**	**121**	P	**Pn**	**21 13 56.1**	**+2.1**
53nm,1.4s							
MHMT	**Maesarieng**	**13.89**	**7**	P	**P**	**21 14 04.1**	**-1.5**
75nm,0.9s,736nm							
UTTA	**Uttaradit**	**14.02**	**17**	P	**Pn**	**21 14 04.7**	**+2.6**
140μm,0.8s							
DLV	**T Lat**	**14.31**	**57**		**Pn**	**21 14 06.5**	**+0.5**
CM31	**Chiang Mai Arr**	**14.32**	**10**	P	**P**	**21 14 08.7**	**-1.7**
SNR=43							
CM31	**Chiang Mai Arr**	**14.32**	**10**		**Pn**	**21 14 08.1**	**+2.1**
CMAR	**Chiang Mai Arr**	**14.32**	**10**	P	**Pn**	**21 14 07.8**	**+1.8**
3.4nm,0.3s,baz=211,slow=13,SNR=63							
CMAR				LR	LR	21 19 49.3	
comp=Z,398nm,19.8s,baz=199,slow=38							
CMAR				ScP	**ScP**	**21 22 44.8**	**+2.2**
0.6nm,0.3s,baz=223,slow=3.1,SNR=38							
KSM	**Kuching**	**14.34**	**101**		**Pn**	**21 14 06.3**	**+0.1**
LAMP	**Lampang**	**14.53**	**13**	P	**Pn**	**21 14 10.9**	**+2.3**
94μm,0.9s,854μm							
PHRA	**Phrae**	**14.65**	**15**	P	**P**	**21 14 12.5**	**-1.5**
6.8nm,1.2s,2μm							
CHTO	**Chiang Mai**	**14.67**	**10**	P	**Pn**	**21 14 12.1**	**+1.7**
CHTO	**Chiang Mai**	**14.67**	**10**		**Pn**	**21 14 12.1**	**+1.7**
CMMT	**Chiang Mai**	**14.67**	**10**	P	**Pn**	**21 14 12.2**	**+1.7**
26nm,1.1s,395nm							
NONG	**Nongkai**	**15.27**	**26**	P	**Pn**	**21 14 19.6**	**+1.6**
2.2nm,1.5s,303nm							
PALK	**Pallekele**	**15.72**	**282**	*i* P	**Pn**	**21 14 25.5**	**+1.5**
SNR=54							
PALK	**Pallekele**	**15.72**	**282**	P	**P**	**21 14 26.3**	**+0.2**
PALK				pmax	pmax		
comp=Z,291nm,0.8s							
PALK	**Pallekele**	**15.72**	**282**	P	**P**	**21 14 28.0**	**+1.9**
comp=Z,9.8nm,0.3s,baz=92,slow=11,SNR=87							
PALK				S	Sn	21 17 03.6	-14
comp=Z,12nm,0.3s,baz=187,slow=20,SNR=13							
PALK				LR	LR	21 20 09.3	
comp=Z,264nm,18.2s,baz=97,slow=35							
PALK	**Pallekele**	**15.72**	**282**	P	**P**	**21 14 26.3**	**+0.2**
CNJI	**Cibinong**	**15.85**	**137**	P	**P**	**21 14 26.8**	**-0.6**
comp=Z,84nm,0.6s,comp=Z,1μm							
LEM	**Lembang**	**15.86**	**134**	P	**Pn**	**21 14 22.7**	**-3.0**
comp=Z,6.5nm,0.3s,baz=132,slow=21,SNR=4.6							
LEM				LR	LR	21 21 05.1	
comp=Z,280nm,19.5s,baz=284,slow=39							
LEM	**Lembang**	**15.86**	**134**	P	**Pn**	**21 14 25.3**	**-0.4**
comp=Z,31nm,0.9s							
SBUM	**Sibu**	**16.07**	**96**	P	**P**	**21 14 30.0**	**+0.2**
SBUM	**Sibu**	**16.07**	**96**	P	**Pn**	**21 14 28.4**	**+0.2**
SIMRM	**Sittwe**	**16.07**	**349**	Pn	**Pn**	**21 14 28.6**	**+0.4**
COCO	**West Island**	**16.39**	**178**	P	**Pn**	**21 14 30.0**	**-2.1**
COCO	**West Island**	**16.39**	**178**	Pn	**Pn**	**21 14 30.0**	**-2.1**
CISI	**Cisompet, Garu**	**16.50**	**135**	P	**Pn**	**21 14 32.4**	**-1.2**
comp=Z,104nm,0.5s,comp=Z,2μm							
CISI	**Cisompet, Garu**	**16.50**	**135**		**Pn**	**21 14 30.5**	**-3.1**
CISI				IAmb	IAmb	21 14 47.9	
comp=Z,75nm,0.6s							
KPJI	**Karang Pucung**	**17.15**	**132**	P	**Pn**	**21 14 40.5**	**-1.0**
comp=Z,85nm,0.6s							
MDRS	**Chennai**	**18.03**	**300**	*eP*	**Pn**	**21 14 54.2**	**+2.0**
MDRS				IAmb	IAmb	21 14 57.1	
comp=Z,472nm,0.2s							
SMRI	**Semarang**	**18.12**	**128**	P	**P**	**21 14 52.8**	**+0.3**
comp=Z,136nm,1.2s							
SMRI	**Semarang**	**18.12**	**128**	P	**P**	**21 14 52.4**	**-0.1**
SMRI				IAmb	IAmb	21 15 02.2	
comp=Z,82nm,0.8s							
VIS	**Vishakhapatnam**	**18.37**	**318**	*i* P	**P**	**21 14 55.8**	**+0.6**
VIS				*i* x	x	21 18 06.7	
SLVN	**Son La**	**18.50**	**23**	P	**P**	**21 14 57.5**	**+0.8**
TBJI	**Tambak Boyo**	**19.11**	**125**	P	**P**	**21 15 02.3**	**-1.0**
comp=Z,180nm,1.2s							
PCJI	**Pacitan**	**19.40**	**130**	P	**Pn**	**21 15 08.9**	**+0.4**
comp=Z,60nm,1.2s							
GRJI	**Gresik**	**19.68**	**124**	P	**Pn**	**21 15 12.1**	**+0.4**
comp=Z,110nm,1.1s							
QIZ	**Qiongzhong**	**19.78**	**41**	P	**Pn**	**21 15 12.3**	**-0.6**
QIZ				S	**Sn**	**21 18 55.5**	**+0.2**
QIZ				LR	LR		
comp=Z,630nm,9.2s							
QIZ				LR	LR		
comp=Z,750nm,12.6s							
QIZ				LR	LR		
comp=Z,390nm,26.5s							
QIZ	**Qiongzhong**	**19.78**	**41**	P	**P**	**21 15 11.7**	**+1.2**
KKM	**Kota Kinabalu**	**19.98**	**84**	P	**P**	**21 15 12.7**	**-0.2**
SPMM	**Sapulut**	**20.18**	**88**	P	**P**	**21 15 16.0**	**+1.0**
KMMI	**Kalianget**	**20.99**	**122**	P	**P**	**21 15 25.3**	**+1.7**
comp=Z,243nm,1.1s,comp=Z,3μm							
BKB	**Balikpapan**	**21.38**	**105**	P	**P**	**21 15 30.1**	**+2.3**
comp=Z,408nm,0.8s,comp=Z,3μm							
BKB	**Balikpapan**	**21.38**	**105**	P	**P**	**21 15 29.2**	**+1.3**
SHL	**Shillong**	**21.55**	**349**	P	**P**	**21 15 27.6**	**-2.2**
SNR=14							
SHL	**Shillong**	**21.55**	**349**	*eP*	**P**	**21 15 27.0**	**-2.8**
SHL				*eP*	**P**	**21 15 28.0**	**-1.8**
SHL				IAmb	IAmb	21 15 37.4	
comp=Z,102nm,0.2s							
SHL				*eS*	**S**	**21 19 20.0**	**-3.8**
SHL	**Shillong**	**21.55**	**349**	IAmb	IAmb	21 15 37.4	
comp=Z,63nm,0.5s							
KMI	**Kunming**	**21.63**	**16**	P	**P**	**21 15 32.6**	**+1.9**
KMI				pP	pP	21 15 55.4	+6.6
KMI				PP	**PnPn**	**21 15 58.0**	**+1.9**
KMI				S	**S**	**21 19 23.3**	**-2.1**
KMI				SS	**SnSn**	**21 20 07.3**	**+10**
KMI				pmax	pmax		
comp=Z,28nm,0.8s							
KMI				pmax	pmax		
comp=Z,250nm,4.3s							
KMI				LR	LR		
comp=Z,490nm,14.0s							
KMI				LR	LR		
comp=Z,410nm,13.2s							
KMI				LR	LR		
comp=Z,570nm,14.8s							
KMI	**Kunming**	**21.63**	**16**	P	**P**	**21 15 31.8**	**+1.2**
KMI				pmax	pmax		
comp=Z,25nm,0.9s							
KMI	**Kunming**	**21.63**	**16**	P	**P**	**21 15 31.8**	**+1.2**
HYB	**Hyderabad**	**21.68**	**308**	*i* P	**P**	**21 15 32.0**	**+1.0**
HYB				*es*P	**sP**	**21 15 59.0**	**-1.5**
HYB				*eS*	**S**	**21 19 30.0**	**+3.9**
HYB	**Hyderabad**	**21.68**	**308**	*eP*	**P**	**21 15 32.8**	**+1.8**
HYB				*eS*	**S**	**21 19 30.0**	**+3.9**
BOK	**Bokaro**	**21.80**	**334**	*eP*	**P**	**21 15 30.0**	**-2.2**
BOK				IAmb	IAmb	21 15 32.9	
comp=Z,33nm,0.8s							
BOK				*eS*	**S**	**21 19 25.9**	**-2.4**
JAGI	**Jajag, Banyuwa**	**21.92**	**125**	P	**P**	**21 15 32.8**	**-0.7**
SRBI	**Singaraja**	**22.58**	**123**	P	**P**	**21 15 43.1**	**+2.5**
comp=Z,148nm,0.9s,comp=Z,2μm							
NGP	**Nagpur**	**23.65**	**317**	*eP*	**P**	**21 15 51.5**	**+0.7**
NGP				*ex*	x	21 20 06.6	
MPSI	**Mapaga**	**23.97**	**99**	P	**P**	**21 15 54.9**	**+1.2**
comp=Z,290nm,0.9s,comp=Z,3μm							
ODAN	**Odare**	**23.97**	**340**	*eP*	**P**	**21 15 53.4**	**-0.4**
comp=Z,33nm,0.6s							
GTK	**Tadong**	**24.02**	**343**	*eP*	**P**	**21 15 53.2**	**-1.0**
GYA	**Guiyang**	**24.20**	**23**	*i* P	**P**	**21 15 56.3**	**+0.6**
GYA				pP	pP	21 16 19.8	+3.9
GYA				PP	**PnPn**	**21 16 35.6**	**+4.7**
GYA				PcP	**PcP**	**21 19 29.9**	**-4.4**
GYA				S	**S**	**21 20 09.8**	**+2.1**
GYA				pmax	pmax		
comp=Z,20nm,0.9s							
GYA				pmax	pmax		
comp=Z,90nm,4.8s							
TAPN	**Taplejung**	**24.32**	**341**	*eP*	**P**	**21 15 56.6**	**-0.5**
TWSI	**Taliwang, Sumb**	**24.33**	**122**	P	**P**	**21 15 58.1**	**+1.2**
comp=Z,47nm,0.7s							
RAMN	**Ramite**	**24.33**	**339**	*eP*	**P**	**21 15 56.2**	**-0.9**
comp=Z,41nm,0.5s							
TTSI	**Tana Toraja**	**24.68**	**107**	P	**P**	**21 16 03.2**	**+3.1**
comp=Z,91nm,0.8s,comp=Z,1μm							
GOA	**Goa**	**24.68**	**298**	*eP*	**P**	**21 16 03.1**	**+3.1**
GOA				IAmb	IAmb	21 16 06.1	
comp=Z,123nm,0.2s							
SPSI	**Sidrap Palu**	**24.91**	**109**	P	**P**	**21 16 03.1**	**+0.8**
comp=Z,47nm,0.7s							
HKPS	**Hong Kong Po S**	**24.91**	**43**	P	**P**	**21 16 02.5**	**+0.3**
JIRN	**Jiri**	**25.13**	**339**	*eP*	**P**	**21 16 03.0**	**-1.5**
PLAI	**Plampang**	**25.13**	**121**	P	**P**	**21 16 07.9**	**+3.7**
comp=Z,49nm,0.7s							
KAD	**Karad**	**25.18**	**303**	*eP*	**P**	**21 16 06.6**	**+1.9**
PKI	**Pulchoki**	**25.34**	**337**	*eP*	**P**	**21 16 05.3**	**-1.1**
comp=Z,3.8nm,0.5s							
PKIN	**Phulchoki**	**25.35**	**337**	*eP*	**P**	**21 16 05.2**	**-1.2**
comp=Z,21nm,0.5s							
BNSI	**Bone**	**25.37**	**110**	P	**P**	**21 16 08.5**	**+2.1**
comp=Z,53nm,1.2s							
CUYO	**Cuyo Island**	**25.41**	**74**	P	**P**	**21 16 05.9**	**-0.9**
GUN	**Gumba**	**25.47**	**338**	*eP*	**P**	**21 16 06.6**	**-0.9**
DMN	**Daman**	**25.49**	**337**	*eP*	**P**	**21 16 07.0**	**-0.7**
comp=Z,74nm,0.7s							
KKN	**Kakani**	**25.59**	**337**	*eP*	**P**	**21 16 07.4**	**-1.1**
comp=Z,40nm,0.6s							
BKSI	**Bulukumba**	**25.71**	**112**	P	**P**	**21 16 11.1**	**+1.6**
comp=Z,256nm,0.8s,comp=Z,2μm							
LSA	**Lhasa**	**25.72**	**350**	P	**P**	**21 16 09.6**	**-0.4**
LSA	**Lhasa**	**25.72**	**350**	P	**P**	**21 16 09.6**	**-0.4**
LSA				pmax	pmax		
comp=Z,23nm,0.6s							
LSA	**Lhasa**	**25.72**	**350**	P	**P**	**21 16 09.6**	**-0.4**
LSA				IAmb	IAmb	21 16 12.6	
comp=Z,23nm,0.6s							
APSI	**Ampana**	**25.92**	**101**	P	**P**	**21 16 13.1**	**+1.7**
comp=Z,216nm,1.7s,comp=Z,2μm							
MRSI	**Marisa**	**25.96**	**98**	P	**P**	**21 16 12.1**	**+0.3**
comp=Z,108nm,0.7s,comp=Z,1μm							
GKN	**Gorkha**	**26.03**	**336**	*eP*	**P**	**21 16 11.5**	**-0.9**
POO	**Poona**	**26.05**	**305**	*i* P	**P**	**21 16 13.0**	**+0.4**
comp=Z,100nm,0.4s							
POO				*eP*	**P**	**21 16 14.7**	**+2.2**
POO				*eS*	**S**	**21 20 40.0**	**+2.8**
BHPL	**Bhopal**	**26.17**	**318**	*eP*	**P**	**21 16 14.3**	**+0.7**
BHPL				IAmb	IAmb	21 16 19.0	
comp=Z,26nm,0.8s							
TGY	**Tagaytay City**	**26.23**	**67**	P	**P**	**21 16 14.5**	**+0.2**
comp=Z,146nm,0.4s,baz=240,slow=5.3,SNR=5.0							
KOLN	**Koldanda**	**26.26**	**334**	*eP*	**P**	**21 16 13.8**	**-0.8**
comp=Z,70nm,0.6s							
H08S2	**Diego Garcia H**	**26.49**	**243**	T	T	21 43 44.3	
baz=61,slow=76,SNR=261							
H08S3	**Diego Garcia H**	**26.49**	**243**	T	T	21 43 30.0	
baz=61,slow=76,SNR=219							
H08S1	**Diego Carcia H**	**26.50**	**243**	T	T	21 43 47.5	
baz=61,slow=76,SNR=191							
OTRP	**Odiongan**	**26.73**	**71**	P	**P**	**21 16 16.7**	**-2.0**
LQP	**Lukban**	**26.79**	**67**	P	**P**	**21 16 19.0**	**-0.5**
BOAC	**Boac**	**26.87**	**69**	P	**P**	**21 16 16.7**	**-3.2**
LUWI	**Luwuk**	**27.05**	**101**	P	**P**	**21 16 22.7**	**+1.1**
comp=Z,220nm,0.7s,comp=Z,2μm							
LUWI	**Luwuk**	**27.05**	**101**	P	**P**	**21 16 22.2**	**+0.6**
BBSI	**Bau Bau**	**28.05**	**110**	P	**P**	**21 16 33.0**	**+2.5**
comp=Z,27nm,0.7s,comp=Z,256nm							
ENH	**Enshi**	**28.71**	**24**	P	**P**	**21 16 35.6**	**-0.7**
MMRI	**Maumere**	**28.94**	**116**	P	**P**	**21 16 37.2**	**-1.2**
MMRI				IAmb	IAmb	21 16 41.0	
comp=Z,46nm,0.8s							
DAV	**Davao City (W)**	**29.33**	**83**	LR	LR	21 29 37.2	
comp=Z,154nm,18.8s,baz=276,slow=39							
QZH	**Quanzhou**	**29.73**	**44**	*i* P	**P**	**21 16 46.3**	**+1.1**
QZH				pmax	pmax		
comp=Z,71nm,0.9s							
TWG	**Pinlang**	**30.27**	**50**	P	**P**	**21 16 51.0**	**+0.9**
SANI	**Sanana**	**30.40**	**101**	P	**P**	**21 16 51.6**	**+0.2**
comp=Z,41nm,1.1s							
SSLB	**Suanglung**	**30.73**	**49**	P	**P**	**21 16 54.9**	**+0.7**
SSLB				IAmb	IAmb	21 16 56.4	
comp=Z,47nm,0.8s							
YULB	**Yu-li**	**30.76**	**50**	P	**P**	**21 16 54.9**	**+0.4**
BATI	**Baumata**	**30.89**	**118**	P	**P**	**21 16 53.5**	**-2.2**
comp=Z,16nm,0.4s,baz=108,slow=1.4,SNR=9.9							
BATI				PcP	**PcP**	**21 19 52.5**	**+1.9**
comp=Z,30nm,0.6s,baz=279,slow=0.9,SNR=6.4							
WHN	**Wuhan**	**31.21**	**31**	⇑P	**P**	**21 16 58.8**	**+0.6**
WHN				pP	**pP**	**21 17 24.5**	**+5.1**
WHN				S	**S**	**21 21 53.6**	**-4.3**
WHN				pmax	pmax		
comp=Z,170nm,1.2s							
WHN				pmax	pmax		
comp=Z,950nm,4.6s							
WHN				LR	LR		
comp=Z,780nm,17.6s							
SOEI	**Soe**	**31.23**	**117**	P	**P**	**21 16 58.6**	**-0.2**
comp=Z,41nm,0.7s							
**SOE

MSAI Masohi 33.55 103 P P 21 17 20.5 +1.6
comp=Z,15nm,0.9s,comp=Z,33µm
NJ2 Nanjing 34.82 35 *e*P P 21 17 30.5 +0.8
NJ2 pmax pmax
comp=Z,73nm,0.8s
GTA Gaotai 35.10 5 *e*P P 21 17 31.4 -0.8
GTA PcP PcP 21 20 03.8 +1.8
GTA ScS ScS 21 27 41.3 -2.4
GTA pmax pmax
comp=Z,19nm,1.0s
GTA pmax pmax
comp=Z,160nm,10.0s
GTA LR LR
comp=Z,220nm,7.9s
GTA LR LR
comp=Z,210nm,8.3s
GTA LR LR
comp=Z,210nm,12.4s
SWI Sorong 35.38 98 P P 21 17 34.9 +0.1
comp=Z,154nm,1.0s,comp=Z,1µm
NIL Nilore 36.21 327 P P 21 17 40.6 -1.0
NIL pmax pmax
comp=Z,69nm,0.6s
NIL Nilore 36.21 327 P P 21 17 40.6 -1.0
FITZ Fitzroy Crossi 36.56 128 P P 21 17 44.3 -0.4
baz=37,SNR=10
FITZ Fitzroy Crossi 36.56 128 P P 21 17 44.4 -0.4
comp=Z,6.0nm,0.5s,baz=314,slow=6.7,SNR=27
FITZ PcP PcP 21 20 07.8 +1.2
comp=Z,6.1nm,0.4s,baz=345,slow=6.1,SNR=6.7
FITZ ScP ScP 21 23 46.4 +1.2
comp=Z,13nm,0.8s,baz=336,slow=2.5,SNR=15
FITZ LR LR 21 32 53.5
comp=Z,72nm,21.4s,baz=308,slow=36
FITZ Fitzroy Crossi 36.56 128 P P 21 17 44.7 0.0
FAKI Fak Fak 36.70 101 P P 21 17 47.6 +1.5
comp=Z,89nm,1.1s
FAKI Fak Fak 36.70 101 P P 21 17 45.8 -0.3
MEEK Meekatharra 37.62 146 P P 21 17 55.3 +1.7
baz=38,SNR=3.6
KNRA Kununurra 37.83 122 P P 21 17 54.6 -0.9
baz=38,SNR=19
KNRA Kununurra 37.83 122 P P 21 17 54.4 -1.1
KNRA IAmb IAmb 21 17 55.6
comp=Z,23nm,0.7s
JOW Kunigami 37.94 50 P P 21 17 57.0 +0.7
BTO Baotou 38.22 17 *e*P P 21 17 58.3 -0.3
MTN Manton Dam 38.63 117 P P 21 18 01.2 -1.0
baz=39,SNR=5.2
MTN Manton Dam 38.63 117 IAmb IAmb 21 18 08.9
comp=Z,22nm,0.6s
HHC Hu-ho-hao-te 38.92 19 *e*P P 21 18 05.8 +1.3
HHC pP pP 21 18 30.6 +4.2
HHC pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 39.26 323 P P 21 18 06.8 -0.8
SNR=7.6
KBL Kabul 39.26 323 P P 21 18 06.9 -0.6
KBL pmax pmax
comp=Z,7.0nm,0.7s
KBL Kabul 39.26 323 P P 21 18 06.9 -0.6
KSH Kashi 39.57 335 P P 21 18 08.6 -1.3
KSH PcP PcP 21 20 14.0 -1.7
KSH S S 21 24 03.4 -2.7
KSH pmax pmax
comp=Z,16nm,0.6s
KSH pmax pmax
comp=Z,590nm,7.1s
KSH LR LR
comp=Z,620nm,7.7s
KSH LR LR
comp=Z,540nm,8.9s
KSH LR LR
comp=Z,260nm,10.8s
KDU Kakadu 39.77 116 P P 21 18 10.9 -0.8
baz=40,SNR=22
BJT Baijiatuau 39.86 24 P P 21 18 14.0 +1.8
BJT pmax pmax
comp=Z,93nm,0.7s
BJT Baijiatuau 39.86 24 P P 21 18 14.0 +1.8
BJI Beijing 39.88 24 P P 21 18 13.8 +1.5
BJI pmax pmax
comp=Z,130nm,0.7s
WMQ Urumqi 40.08 350 *e*P P 21 18 14.1 +0.1
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ pmax pmax
comp=Z,210nm,6.9s
WMQ LR LR
comp=Z,330nm,7.5s
WMQ LR LR
comp=Z,450nm,7.5s
WMQ LR LR
comp=Z,170nm,24.9s
WMQ Urumqi 40.08 350 P P 21 18 13.8 -0.2
WMQ pmax pmax
comp=Z,7.0nm,0.6s
WMQ Urumqi 40.08 350 P P 21 18 13.8 -0.2
WBK Wadi Bani Khal 40.37 300 P P 21 18 19.0 +2.3
SNR=7.0
MUN Mundaring 40.78 154 P P 21 18 21.7 +1.8
baz=41,SNR=5.6
WSAR Wadi Sarin 40.89 301 P P 21 18 23.7 +2.7
SNR=25
WSAR Wadi Sarin 40.89 301 P P 21 18 23.2 +2.3
comp=Z,14nm,0.5s,baz=144,slow=7.7,SNR=31
JMDO Jabal Madar 41.03 299 P P 21 18 24.5 +2.3
KLBR Kellerberrin 41.16 152 P P 21 18 24.9 +1.9
baz=41,SNR=6.1
PRZ Przheval'sk 41.21 340 P P 21 18 23.4 -0.1
PRZ pmax pmax
comp=Z,13nm,1.1s
PRZ Przheval'sk 41.21 340 P P 21 18 23.4 -0.1
SMDO Samad 41.32 300 P P 21 18 26.9 +2.3
SNR=16
KDJ Kajisay 41.33 338 IAmb IAmb 21 18 26.1
comp=Z,15nm,0.7s
BIDO Bidbid 41.42 301 P P 21 18 29.0 +3.7
SNR=11
DL2 Dalian 41.46 30 P P 21 18 26.0 +0.6
MSEY Mahe Island 41.67 258 P P 21 18 27.6 +0.1
MSEY pmax pmax
comp=Z,26nm,1.0s
MSEY Mahe Island 41.67 258 P P 21 18 27.6 +0.1
MSEY IAmb IAmb 21 18 47.0
comp=Z,26nm,1.0s
GAR Garm 41.79 329 IAmb IAmb 21 18 29.8
comp=Z,33nm,0.6s
SHAO Shalim 41.98 292 *i* P P 21 18 32.5 +2.5
SNR=19
KZA Kyzart 42.02 337 P P 21 18 30.1 -0.4
SNR=9.5
NWAO Narrogin (SRO) 42.04 153 P P 21 18 32.1 +2.0
baz=42,SNR=4.3
NWAO Narrogin (SRO) 42.04 153 P P 21 18 30.7 +0.5
NWAO pmax pmax
comp=Z,23nm,1.1s
NWAO Narrogin (SRO) 42.04 153 P P 21 18 31.8 +1.7
comp=Z,11nm,1.0s,baz=308,slow=10,SNR=5.6
NWAO Narrogin (SRO) 42.04 153 P P 21 18 30.7 +0.5
NWAO IAmb IAmb 21 18 32.6
comp=Z,23nm,1.1s
NWAO Narrogin (SRO) 42.04 153 P P 21 18 31.2 +1.1
NWAO IAmb IAmb 21 18 32.6
comp=Z,29nm,1.1s
BOOM Boomskoye usch 42.10 338 P P 21 18 27.9 -2.9
BOOM Boomskoye usch 42.10 338 P P 21 18 27.9 -2.9
HOQ Hoqain 42.14 301 P P 21 18 33.8 +2.6
SNR=7.8
ARSB Arslanbob 42.35 334 IAmb IAmb 21 18 36.4
comp=Z,44nm,1.1s
BTK Batken 42.35 331 IAmb IAmb 21 18 39.0
comp=Z,29nm,0.8s
UCH Uchtor 42.44 336 P P 21 18 33.8 -0.1
SNR=19
SOCY Socotra 42.48 283 P P 21 18 36.8 +2.6
SNR=9.8
SOCY Socotra 42.48 283 P P 21 18 33.8 -0.4
SOCY IAmb IAmb 21 18 38.9
comp=Z,29nm,1.0s
TKM2 Tokmak 2 42.60 338 P P 21 18 34.5 -0.4
SNR=13
KBK Karagaybulak 42.63 337 P P 21 18 35.4 +0.4
SNR=21
WRKA Warakurna 42.67 135 P P 21 18 36.2 +0.7
baz=43,SNR=15

AML Almayashu 42.70 335 P P 21 18 35.9 0.0
SNR=25
ARQ Araqi 42.73 300 P P 21 18 38.4 +2.3
SNR=30
AAK Ala-Archa 42.79 336 *i* P P 21 18 36.0 -0.3
SNR=14
AAK Ala-Archa 42.79 336 *i* P P 21 18 36.6 +0.2
AAK pmax pmax
comp=Z,7.0nm,0.9s
AAK Ala-Archa 42.79 336 P P 21 18 38.4 +2.0
SNR=7.4
AAK Ala-Archa 42.79 336 P P 21 18 36.4 +0.1
TJN Taejon 42.88 38 *ce*P P 21 18 37.0 +0.1
FRU1 Bishkek 42.88 337 P P 21 18 37.4 +0.4
FRU1 pmax pmax
comp=Z,9.0nm,0.7s
FRU1 Bishkek 42.88 337 P P 21 18 37.4 +0.4
SMPI Sarmi 42.91 98 P P 21 18 40.5 +3.0
comp=Z,53nm,1.0s,comp=Z,3µm
EKS2 Erkin-Say 43.10 336 P P 21 18 39.0 +0.2
SNR=13
INCN Inchon 43.17 36 P P 21 18 39.1 -0.2
INCN pmax pmax
comp=Z,33nm,0.8s
INCN Inchon 43.17 36 P P 21 18 39.1 -0.2
INCN IAmb IAmb 21 18 39.3
comp=Z,33nm,0.8s
RBK Rabkut 43.18 291 P P 21 18 42.1 +2.4
SNR=5.6
USP Ospenovka 43.32 337 P P 21 18 40.2 -0.3
SNR=26
HRA Herat 43.47 318 P P 21 18 41.5 -0.5
UOSS Minazif 43.58 302 P P 21 18 43.9 +1.2
UOSS Minazif 43.58 302 P P 21 18 44.2 +1.4
UOSS Minazif 43.58 302 P P 21 18 43.2 +0.5
HATD Hatta, Dubai 43.59 302 P P 21 18 45.3 +2.4
ASHO Ashiyiah 43.60 302 P P 21 18 44.1 +1.1
ALNE Al Ain 43.65 301 *i* P P 21 18 45.3 +1.9
SNR=10
WHFO Wadi Hawf 43.68 291 P P 21 18 45.6 +1.9
SNR=83
KS19 Wonju Array Si 43.92 37 P P 21 18 45.7 +0.4
KS19 IAmb IAmb 21 18 47.2
comp=Z,32nm,0.8s
KSRS Korea Array 43.92 37 P P 21 18 45.1 -0.1
comp=Z,26nm,0.6s,baz=218,slow=9.2,SNR=78
KSRS PcP PcP 21 20 30.3 +0.4
comp=Z,4.8nm,0.5s,baz=236,slow=2.8,SNR=9.1
KSRS LR LR 21 38 34.3
comp=Z,81nm,18.9s,baz=233,slow=38
ABTO Aybut 43.99 291 P P 21 18 48.3 +2.0
SNR=12
MKAR Makanchi Array 44.02 346 P P 21 18 44.9 -1.1
comp=Z,10nm,0.4s,baz=159,slow=8.9,SNR=230
MKAR S S 21 25 09.8 -1.6
comp=Z,2.5nm,0.9s,baz=179,slow=15,SNR=4.4
MKAR ScS ScS 21 28 35.0 -0.7
comp=Z,1.2nm,0.8s,baz=186,slow=11,SNR=4.6
MKAR LR LR 21 40 48.7
comp=Z,75nm,18.1s,baz=166,slow=41
TAS Tashkent 44.07 331 P P 21 18 46.9 +0.4
TAS pmax pmax
comp=Z,43nm,0.9s
TAS Tashkent 44.07 331 P P 21 18 46.9 +0.4
TAS IAmb IAmb 21 19 03.5
comp=Z,43nm,0.9s
MAKZ Makanchi 44.11 346 P P 21 18 45.7 -1.0
MAKZ pmax pmax
comp=Z,13nm,1.0s
MAKZ Makanchi 44.11 346 P P 21 18 45.7 -1.0
ASUD Al Ashush, Dub 44.20 301 *i* P P 21 18 50.3 +2.5
SNR=15
SONM Songino Array 44.25 10 P P 21 18 47.4 -0.5
comp=Z,22nm,0.7s,baz=190,slow=8.8,SNR=140
SONM PcP PcP 21 20 31.5 +0.6
comp=Z,16nm,0.6s,baz=193,slow=3.8,SNR=23
SONM ScP ScP 21 24 14.7 -0.2
comp=Z,3.2nm,0.7s,baz=186,slow=5.3,SNR=7.5
SONM LR LR 21 39 17.4
comp=Z,174nm,18.6s,baz=182,slow=39
ULN Ulaanbaatar 44.39 10 *ce*P P 21 18 48.5 -0.6
ULN pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 44.39 10 P P 21 18 48.4 -0.7
ULN IAmb IAmb 21 18 49.5
comp=Z,15nm,0.8s
GENI Genyem 44.44 98 P P 21 18 51.3 +1.5
comp=Z,59nm,0.8s
WRA Warramunga Arr 44.53 124 P P 21 18 50.9 +0.5
comp=Z,53nm,0.6s,baz=302,slow=9.3,SNR=624
WRA PcP PcP 21 20 33.1 +0.7
comp=Z,12nm,0.6s,baz=314,slow=2.7,SNR=8.4
WRA ScP ScP 21 24 16.2 -0.2
comp=Z,6.7nm,0.8s,baz=311,slow=3.5,SNR=12
WRA S S 21 25 14.2 -5.3
comp=Z,5.2nm,0.9s,baz=292,slow=16,SNR=7.9
WRA LR LR 21 39 43.2
comp=Z,102nm,18.6s,baz=60,slow=39
WRAB Tennant Creek 44.53 124 *ce*P P 21 18 51.1 +0.6
WRAB pmax pmax
comp=Z,69nm,0.6s
WRAB Tennant Creek 44.53 124 P P 21 18 50.9 +0.5
SNY Shenyang 44.65 29 ⇑P P 21 18 50.4 -0.6
SNY pmax pmax
comp=Z,100nm,0.6s
WR0 Warramunga Arr 44.70 124 P P 21 18 52.1 +0.3
JAY Jayapura 44.96 98 P P 21 18 55.5 +1.5
comp=Z,20nm,1.0s
MMPI Merauke 45.82 106 P P 21 19 02.8 +2.0
comp=Z,317nm,0.8s
AS31 Alice Springs 46.06 129 IAmb IAmb 21 19 04.4
comp=Z,11nm,0.4s
ASAR Alice Springs 46.06 129 P P 21 19 03.1 +0.6
comp=Z,21nm,0.5s,baz=300,slow=7.5,SNR=310
ASAR PcP PcP 21 20 38.6 +1.0
comp=Z,14nm,0.7s,baz=309,slow=3.5,SNR=13
ASAR ScP ScP 21 24 23.9 +1.1
comp=Z,6.6nm,0.8s,baz=306,slow=4.2,SNR=15
ASAR S S 21 25 39.5 -2.0
comp=Z,2.6nm,0.8s,baz=294,slow=14,SNR=9.4
ASAR LR LR 21 41 54.7
comp=Z,60nm,18.1s,baz=314,slow=41
FORT Forrest 46.27 141 P P 21 19 05.9 +1.9
baz=46,SNR=22
FORT Forrest 46.27 141 P P 21 19 04.6 +0.6
ZAK Zakamensk 46.31 6 *e*P P 21 19 03.3 -0.8
ZAK *e* 21 20 37.7
ZAK pmax pmax
comp=Z,7.0nm,1.0s
ZAK pmax pmax
comp=Z,9.0nm,1.0s
CN2 Changchun 47.04 29 ⇑P P 21 19 09.4 -0.4
CN2 *es*P sP 21 19 44.0 +1.5
CN2 PcP PcP 21 20 40.0 -0.6
CN2 pmax pmax
comp=Z,90nm,0.6s
TLY Talaya 47.63 6 *c i*P P 21 19 14.3 0.0
TLY pmax pmax
comp=Z,20nm,0.8s
TLY Talaya 47.63 6 P P 21 19 14.0 -0.3
TLY IAmb IAmb 21 19 15.4
comp=Z,21nm,0.9s
ASHT Ashkhabad 48.07 319 P P 21 19 18.3 +0.3
ASHT pmax pmax
comp=Z,139nm,0.3s
ASHT Ashkhabad 48.07 319 P P 21 19 18.2 +0.3
GEYT Alibeck 48.24 319 P P 21 19 20.0 +0.7
comp=Z,30nm,0.7s,baz=148,slow=8.7,SNR=60
GEYT ScP ScP 21 24 32.7 +1.0
comp=Z,2.8nm,0.7s,baz=108,slow=4.8,SNR=4.0
GEYT S S 21 26 10.7 -1.5
comp=Z,1.2nm,0.7s,baz=45,slow=57,SNR=2.0
GEYT LR LR 21 40 54.4
comp=Z,64nm,20.6s,baz=345,slow=37
GYA0B ALIBECK ARRAY 48.24 319 P P 21 19 20.1 +0.8
GYA0B IAmb IAmb 21 19 20.8
comp=Z,30nm,0.8s
KURBB Kurchatov Arra 48.51 345 ScP ScP 21 24 33.0 +0.6
comp=Z,4.3nm,0.7s,baz=155,slow=3.3,SNR=15
KURBB S S 21 26 13.5 -1.9
comp=Z,6.5nm,1.1s,baz=155,slow=14,SNR=8.8
KURBB ScS ScS 21 29 10.3 +5.6
comp=Z,1.2nm,0.8s,baz=221,slow=4.2,SNR=4.7
KURK Kurchatov 48.57 345 *ce*P P 21 19 20.5 -1.0
KURK pmax pmax
comp=Z,13nm,1.2s

KURK Kurchatov 48.57 345 P P 21 19 20.7 -0.8
KURK IAmb IAmb 21 19 30.1
comp=Z,10nm,0.6s
INU Inuyama 48.70 45 P P 21 19 22.4 -0.4
INU IAmb IAmb 21 19 24.0
comp=Z,48nm,1.0s
GUMO Guam 48.84 76 LR LR 21 38 06.1
comp=Z,53nm,21.9s,baz=310,slow=34
HIA Hailar 49.06 20 IAmb IAmb 21 19 26.4
comp=Z,24nm,0.6s
QIS Mount Isa 49.21 122 P P 21 19 27.7 +0.7
baz=49,SNR=29
MDJ Mudanjiang 49.69 31 P P 21 19 30.5 +0.3
VLA Vladivostok 49.91 34 *i* P P 21 19 31.0 -0.9
VLA pmax pmax
comp=Z,42nm,1.0s
COEN Coen 49.98 112 P P 21 19 32.5 -0.3
baz=50,SNR=34
COEN Coen 49.98 112 P P 21 19 32.5 -0.3
COEN IAmb IAmb 21 19 35.4
comp=Z,19nm,0.6s
MJB9 Matsu-Tunnel 50.12 45 P P 21 19 34.6 +0.9
MJB9 IAmb IAmb 21 19 37.0
comp=Z,17nm,0.7s
MJB9 PcP 21 20 53.1 +1.1
MAJO Matsushiro 50.12 45 P P 21 19 33.5 -0.2
MAJO pmax pmax
comp=Z,17nm,0.7s
MAJO Matsushiro 50.12 45 P P 21 19 33.5 -0.2
MAJO IAmb IAmb 21 19 37.0
comp=Z,17nm,0.7s
MAT Matsushiro 50.12 45 P P 21 19 33.6 -0.1
MJAR Matsushiro Arr 50.12 45 P P 21 19 33.5 -0.1
comp=Z,14nm,0.8s,baz=246,slow=9.7,SNR=30
MJAR PcP PcP 21 20 52.2 +0.3
comp=Z,15nm,0.9s,baz=248,slow=4.2,SNR=12
MJAR LR LR 21 42 21.5
comp=Z,95nm,19.9s,baz=110,slow=38
ZAA0 Zalesovo Array 50.37 351 IAmb IAmb 21 19 34.5
comp=Z,11nm,0.6s
ZALV Zalesovo Beam 50.37 351 P P 21 19 34.0 -1.1
comp=Z,9.7nm,0.4s,baz=180,slow=7.1,SNR=59
ZALV ScP ScP 21 24 39.9 -0.4
comp=Z,2.9nm,0.6s,baz=166,slow=2.1,SNR=4.2
ZALV S S 21 26 39.5 -1.8
comp=Z,6.4nm,0.8s,baz=174,slow=16,SNR=12
ZALV ScS ScS 21 29 12.9 -4.3
comp=Z,3.4nm,0.9s,baz=164,slow=5.9,SNR=5.9
USA0B Ussuriysk Arra 50.67 33 P P 21 19 38.2 +0.6
USA0B pmax pmax
comp=Z,28nm,1.2s
USA0B Ussuriysk Arra 50.67 33 P P 21 19 38.2 +0.6
USA0B IAmb IAmb 21 19 42.9
comp=Z,28nm,1.1s
USRK Ussuriysk Ar. 50.67 33 P P 21 19 37.5 -0.1
comp=Z,13nm,0.7s,baz=241,slow=7.6,SNR=28
USRK PcP PcP 21 20 53.2 -0.5
comp=Z,3.0nm,0.6s,baz=218,slow=3.8,SNR=4.1
USRK ScP ScP 21 24 40.6 -1.2
comp=Z,1.4nm,0.6s,baz=226,slow=3.3,SNR=4.7
USRK LR LR 21 41 49.0
comp=Z,102nm,19.0s,baz=216,slow=37
MANU Manus Island 51.49 96 P P 21 19 43.3 -0.9
DAMY Dhamar 52.03 285 P P 21 19 52.7 +4.1
SNR=5.7
DAMY Dhamar 52.03 285 P P 21 19 50.5 +1.9
MTSU Mount Surprise 52.38 117 P P 21 19 51.5 +0.7
baz=52,SNR=24
RAYN Ar Rayn 52.48 296 *i* P P 21 19 52.9 +1.4
SNR=26
RAYN Ar Rayn 52.48 296 P P 21 19 52.1 +0.5
RAYN pmax pmax
comp=Z,20nm,0.7s
RAYN Ar Rayn 52.48 296 P P 21 19 52.1 +0.5
RAYN IAmb IAmb 21 19 53.9
comp=Z,20nm,0.7s
PMG Port Moresby 52.55 105 *ce*P P 21 19 52.2 +0.1
PMG pmax pmax
comp=Z,257nm,0.7s
PMG Port Moresby 52.55 105 P P 21 19 51.8 -0.3
BBOO Buckleboo 52.79 137 P P 21 19 54.1 +0.6
baz=53,SNR=18
BBOO Buckleboo 52.79 137 P P 21 19 53.1 -0.4
BBOO IAmb IAmb 21 19 55.0
comp=Z,24nm,0.8s
BVAR Borovoye Array 53.02 341 ScP ScP 21 24 52.5 +0.7
comp=Z,2.4nm,0.8s,baz=141,slow=7.3,SNR=6.2
BVAR S S 21 27 15.0 -2.8
comp=Z,7.8nm,1.0s,baz=137,slow=15,SNR=10
BRVK Borovoye 53.09 341 *ce*P P 21 19 54.0 -1.4
BRVK pmax pmax
comp=Z,12nm,1.6s
BRVK Borovoye 53.09 341 P P 21 19 54.3 -1.1
BRVK IAmb IAmb 21 20 05.0
comp=Z,9.4nm,0.6s
ATD Arta Tunnel 53.29 281 P P 21 20 00.8 +3.1
SNR=6.7
ATD Arta Tunnel 53.29 281 P P 21 20 00.7 +3.1
comp=Z,13nm,0.6s,baz=81,slow=3.9,SNR=12
ATD Arta Tunnel 53.29 281 P P 21 19 56.9 -0.7
ATD IAmb IAmb 21 20 01.1
comp=Z,18nm,0.7s
KLR Kul'dur 53.97 28 *c i*P P 21 20 02.3 +0.4
KLR pmax pmax
comp=Z,95nm,1.4s
KLR Kul'dur 53.97 28 ScP ScP 21 24 54.9 -1.2
comp=Z,2.2nm,0.6s,baz=298,slow=4.9,SNR=6.1
ABKAR Akbulak array 54.34 331 IAmb IAmb 21 20 14.6
comp=Z,10nm,0.8s
CTA Charters Tower 54.78 118 ScP ScP 21 25 00.6 +0.3
comp=Z,4.6nm,0.7s,baz=278,slow=7.7,SNR=2.2
HTT Hallett 55.10 136 P P 21 20 11.7 +1.2
baz=55,SNR=17
BOD Bodaibo 55.17 11 *e*P P 21 20 09.1 -1.4
BOD pmax pmax
comp=Z,17nm,1.1s
ZEA Zeya 55.42 22 *e*P P 21 20 11.8 -0.5
ZEA pmax pmax
comp=N,31nm,0.8s
ZEA pmax pmax
comp=Z,61nm,1.0s
QLP Quilpie 55.65 126 P P 21 20 14.9 +0.5
baz=56,SNR=27
AKTO Aktyubinsk 56.06 332 LR LR 21 47 03.0
comp=Z,80nm,18.5s,baz=141,slow=39
STKA Stephens Creek 56.16 133 P P 21 20 18.9 +0.9
comp=Z,20nm,0.7s,baz=311,slow=8.0,SNR=69
STKA LR LR 21 47 08.0
comp=Z,63nm,20.0s,baz=3.2,slow=39
AKT Akhty 56.93 318 *e*P P 21 20 23.3 -0.2
AKT *e*PP pP 21 20 42.7 -3.5
AKT *e* 21 21 19.6
AKT *e* 21 22 31.9
AKT pmax pmax
comp=Z,15nm,0.6s
GRNR Gornyy 57.23 29 ⇑*i*P P 21 20 25.3 0.0
GRNR pmax pmax
comp=Z,10.0nm,1.4s
FURI Furi 57.30 278 P P 21 20 27.4 +0.6
YSS Yuzh-Sakhalins 58.38 36 P P 21 20 34.0 +0.7
YSS pmax pmax
comp=Z,94nm,1.1s
YSS Yuzh-Sakhalins 58.38 36 P P 21 20 34.0 +0.7
GNI Garni 58.41 315 *i* P P 21 20 34.2 +0.3
SNR=8.1
GNI Garni 58.41 315 *ce*P P 21 20 33.6 -0.4
GNI pmax pmax
comp=Z,41nm,1.0s
GNI Garni 58.41 315 P P 21 20 34.5 +0.5
GNI IAmb IAmb 21 20 43.5
comp=Z,20nm,1.0s
BTLR Botlikh 58.47 318 *i* P P 21 20 32.7 -1.4
GROC Groznyy 58.98 319 *e*P P 21 20 37.4 -0.2
GROC *e*PP pP 21 20 59.6 -0.8
GROC *eS* S 21 28 33.3 -3.9
GROC pmax pmax
comp=Z,46nm,0.8s
CMSA Cobar Meteorol 59.03 131 P P 21 20 38.9 +0.7
baz=59,SNR=142
KMBO Kilima Mbogo 59.17 266 P P 21 20 42.6 +2.8
KMBO Kilima Mbogo 59.17 266 P P 21 20 39.9 +0.1
KMBO *PP pP 21 21 04.2 +1.7
KMBO pmax pmax
comp=Z,5.0nm,1.0s
KMBO Kilima Mbogo 59.17 266 P P 21 20 42.5 +2.8
comp=Z,4.9nm,0.9s,baz=67,slow=9.4,SNR=10

KMBO LR LR 21 41 49.5
comp=Z,52nm,19.7s,baz=93,slow=31
KMBO Kilima Mbogo 59.17 266 P **P** **21 20 39.9 +0.1**
KMBO **pP** **21 21 04.2 +1.7**
RMQ Roma 59.29 124 P **P** **21 20 40.7 +0.6**
baz=59,SNR=9.2
SVE Sverdlovsk 59.47 338⇓ *e*P **P** **21 20 39.9 -0.8**
SVE *e*S **S** **21 28 40.2 -2.7**
SVE pmax pmax
comp=Z,25nm,1.0s
KARS Kars 59.77 315 P **P** **21 20 44.6 +1.3**
KARS Kars 59.77 315 P **P** **21 20 44.6 +1.3**
AKH Akhalkalaki 59.78 316 P **P** **21 20 43.9 +0.5**
AKH *PP **pP** **21 21 05.1 -1.2**
AKH pmax pmax
comp=Z,11nm,1.0s
AKH Akhalkalaki 59.78 316 ⇑P **P** **21 20 43.5 +0.1**
AKH Akhalkalaki 59.78 316 P **P** **21 20 43.9 +0.5**
AKH IAmb IAmb 21 20 45.3
comp=Z,11nm,1.0s
AKH **pP** **21 21 05.1 -1.2**
ARU Arti 59.97 337 *d iP* **P** **21 20 43.4 -0.8**
ARU 21 21 24.4
ARU 21 22 53.5
ARU S **S** **21 28 49.8 +0.4**
ARU pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 59.97 337 LR LR 21 48 38.7
comp=Z,103nm,18.8s,baz=122,slow=38
ARU Arti 59.97 337 P **P** **21 20 42.8 -1.4**
ARU IAmb IAmb 21 20 53.6
comp=Z,9.2nm,1.0s
ZEI Tsey 60.06 318 *e*P **P** **21 20 44.6 -0.7**
ZEI pmax pmax
comp=Z,16nm,0.6s
LODK Lodwar 60.72 272 P **P** **21 20 53.5 +3.3**
SNR=10
EIDS Eidsvold 60.82 122 P **P** **21 20 51.2 +0.8**
baz=61,SNR=5.8
EIDS Eidsvold 60.82 122 IAmb IAmb 21 20 51.6
comp=Z,13nm,0.7s
KBZ Khabaz 61.12 318 P **P** **21 20 52.1 -0.1**
comp=Z,19nm,0.8s,baz=128,slow=6.7,SNR=63
KBZ ScP **ScP** **21 25 29.5 +1.8**
comp=Z,5.3nm,0.8s,baz=115,slow=3.9,SNR=7.4
SHA1 Shidzhatmaz 61.28 318 *d iP* **P** **21 20 53.5 -0.1**
KIV Kislovodsk 61.35 319 *i* P **P** **21 20 53.9 0.0**
SNR=18
KIV Kislovodsk 61.35 319 *e*P **P** **21 20 53.8 -0.1**
KIV pmax pmax
comp=Z,76nm,1.0s
KIV Kislovodsk 61.35 319 ⇑P **P** **21 20 53.9 -0.1**
KIV mb 21 20 54.8
KIV Kislovodsk 61.35 319 P **P** **21 20 53.2 -0.7**
KIV IAmb IAmb 21 20 55.2
comp=Z,21nm,0.8s
GOF Gofitskoye 61.57 320⇑ *e*P **P** **21 20 58.8 +3.5**
PATS Pohnpei 61.81 85 P **P** **21 20 56.0 -1.4**
baz=62,SNR=3.7
YNG Young 62.32 132 P **P** **21 21 01.7 +1.3**
baz=62,SNR=6.6
YAK Yakutsk 62.75 17 *e*P **P** **21 21 01.5 -1.2**
YAK *e* 21 21 38.2
YAK *e*PPP PPP 21 25 00.3
YAK *e*S **S** **21 29 25.8 +1.5**
YAK *e**SS **sS** **21 30 02.7 -0.2**
YAK *e* 21 30 37.7
YAK pmax pmax
comp=Z,67nm,0.9s
YAK pmax pmax
comp=N,29nm,1.3s
YAK pmax pmax
comp=E,18nm,1.1s
YAK pmax pmax
comp=Z,219nm,4.4s
YAK pmax pmax
comp=N,170nm,4.1s
YAK pmax pmax
comp=E,197nm,3.5s
YAK smax smax
comp=E,155nm,4.2s
YAK smax smax
comp=N,186nm,4.1s
YAK Yakutsk 62.75 17 P **P** **21 21 01.9 -0.9**
GAZ Gaziantep 62.95 310 P **P** **21 21 05.4 +0.7**
GAZ IAmb IAmb 21 21 06.6
comp=Z,15nm,0.8s
ARMA Armidale 63.15 127 P **P** **21 21 06.5 +0.3**
baz=63,SNR=7.2
ARMA Armidale 63.15 127 P **P** **21 21 06.0 -0.2**
ARMA IAmb IAmb 21 21 08.9
comp=Z,17nm,0.9s
SOC Sochi 63.19 317 *e*P **P** **21 21 05.4 -0.7**
SOC *e**SP **sP** **21 21 38.1 -1.2**
SOC *e* 21 23 26.7
SOC *e*S **S** **21 29 31.5 +0.9**
SOC *e**SS **sS** **21 30 05.3 -4.5**
SOC *e*SS **SS** **21 33 39.5 +1.2**
SOC pmax pmax
comp=Z,30nm,0.6s
CAN Canberra 63.22 133 P **P** **21 21 06.6 +0.1**
CAN pmax pmax
comp=Z,29nm,0.9s
CAN Canberra 63.22 133 P **P** **21 21 06.6 +0.1**
CAN IAmb IAmb 21 21 09.0
comp=Z,28nm,0.9s
MGCD Mangrove Creek 63.87 130 P **P** **21 21 12.9 +2.1**
baz=64,SNR=7.1
HNR Honiara 64.94 102 P **P** **21 21 17.8 -0.3**
HNR pmax pmax
comp=Z,107nm,0.8s
HNR Honiara 64.94 102 P **P** **21 21 17.8 -0.3**
VRH Novokhopyorsk 65.03 326 *e*P **P** **21 21 16.9 -1.0**
VRH *e**PP **pP** **21 21 39.4 -1.7**
VRH *e*S **S** **21 29 46.4 -6.6**
VRH pmax pmax
comp=Z,30nm,0.6s
VRH smax smax
comp=N,90nm,1.1s
NRIK Noril'sk 65.20 357 P **P** **21 21 17.6 -1.1**
comp=N,6.3nm,0.5s,baz=161,slow=6.4,SNR=11
NRIK S **S** **21 29 53.0 -1.4**
comp=N,2.0nm,0.5s,baz=344,slow=18,SNR=7.4
CSS Mathiatis 65.44 306 P **P** **21 21 21.4 +0.4**
MBAR Mbarara 65.61 267 P **P** **21 21 23.3 +0.6**
MBAR pmax pmax
comp=Z,10.0nm,1.2s
MBAR Mbarara 65.61 267 P **P** **21 21 23.3 +0.6**
VORD Divnogorie 66.31 325 *e*P **P** **21 21 26.3 +0.1**
VORD *e**PP **pP** **21 21 48.4 -1.1**
VORD *e*S **S** **21 30 02.6 -6.0**
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD smax smax
comp=N,40nm,1.0s
BR131 Keskin Array S 66.33 312 P **P** **21 21 26.5 -0.2**
SNR=7.9
BR131 P **P** **21 21 26.6 -0.1**
SNR=11
BR131 Keskin Array S 66.33 312 IAmb IAmb 21 21 27.2
comp=Z,12nm,0.7s
BRTR Keskin Array B 66.33 312 P **P** **21 21 26.4 -0.4**
comp=Z,14nm,0.6s,baz=132,slow=7.4,SNR=133
VSR Storozhevoye 66.49 325 *e*P **P** **21 21 25.9 -1.4**
VSR *e**PP **pP** **21 21 47.8 -2.8**
VSR *e*S **S** **21 30 03.7 -7.1**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR smax smax
comp=N,70nm,1.5s
ILGA Ilgaz 66.62 313 IAmb IAmb 21 21 29.8
comp=Z,18nm,0.8s
BZK Bozkurt 66.66 314 ⇑P **P** **21 21 29.2 +0.6**
BZK mb 21 21 29.8
ANTO Ankara 67.00 312 P **P** **21 21 31.2 +0.3**
ANTO pmax pmax
comp=Z,18nm,0.6s
ANTO Ankara 67.00 312 P **P** **21 21 31.2 +0.3**
ANTO IAmb IAmb 21 21 31.6
comp=Z,18nm,0.6s
BR231 Keskin MP Arra 67.00 312 IAmb IAmb 21 21 31.8
comp=Z,19nm,0.7s
LPSR Galich'ya Gora 67.19 326 *e*P **P** **21 21 29.3 -2.5**
LPSR *e*S **S** **21 30 13.5 -5.7**
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR smax smax
comp=N,60nm,1.2s
SKR Severo-Kuril's 67.93 36 *c e*P **P** **21 21 37.0 +0.6**
ISP Isparta 68.26 309 P **P** **21 21 38.6 -0.4**
ISP pmax pmax
comp=Z,14nm,0.7s
ISP Isparta 68.26 309 P **P** **21 21 38.6 -0.4**
ISP IAmb IAmb 21 21 51.3
comp=Z,14nm,0.7s
MA2 Magadan 68.99 26 *c e*P **P** **21 21 42.9 0.0**
MA2 pmax pmax
comp=Z,51nm,0.9s
MA2 Magadan 68.99 26 P **P** **21 21 43.3 +0.4**
MA2 IAmb IAmb 21 21 44.0
comp=Z,54nm,1.0s
MOS Moscow 69.19 329 *e*P **P** **21 21 42.4 -1.8**
MOS *e**PP **PcP** **21 22 04.9 -2.5**
MOS *e**SP **sP** **21 22 16.7 -0.9**
MOS *e*S **S** **21 30 36.4 -6.5**
MOS pmax pmax
comp=Z,40nm,0.7s
OBN Obninsk 69.49 328⇑ *i*P **P** **21 21 45.3 -0.7**
OBN *e* 21 22 06.8
OBN *e* 21 24 17.5
OBN *e*S SKiKP 21 31 14.6 -11
OBN pmax pmax
comp=Z,21nm,0.8s
OBN MLR MLR
comp=Z,127nm,11.0s
OBN Obninsk 69.49 328 ⇑P **P** **21 21 45.0 -1.0**
OBN mb 21 21 47.0
OBN Obninsk 69.49 328 P **P** **21 21 45.8 -0.3**
OBN IAmb IAmb 21 21 46.4
comp=Z,25nm,1.1s
LHI Lord Howe Isla 69.51 126 P **P** **21 21 45.6 -1.0**
LHI IAmb IAmb 21 21 59.1
comp=Z,42nm,1.1s
PETK Petropavlovsk- 69.72 34 P **P** **21 21 46.5 -1.1**
comp=Z,2.9nm,0.5s,baz=242,slow=2.7,SNR=10
PETK LR LR 21 56 54.5
comp=Z,53nm,18.2s,baz=241,slow=40
MANT Manisa 69.91 309 P **P** **21 21 48.3 -1.0**
MANT IAmb IAmb 21 21 52.6
comp=Z,37nm,0.8s
LSZ Lusaka 70.10 252 P **P** **21 21 49.7 -1.0**
LSZ pmax pmax
comp=Z,3.0nm,0.9s
LSZ Lusaka 70.10 252 P **P** **21 21 49.7 -1.0**
PET Petropavlovsk 70.23 35 P **P** **21 21 49.8 -0.8**
PET pmax pmax
comp=Z,47nm,0.5s
PET Petropavlovsk 70.23 35 P **P** **21 21 49.9 -0.8**
TIXI Tiksi 70.33 10 *c iP* **P** **21 21 49.4 -1.5**
TIXI pmax pmax
comp=Z,13nm,0.7s
TIXI Tiksi 70.33 10 P **P** **21 21 48.5 -2.4**
TIXI IAmb IAmb 21 21 50.5
comp=Z,14nm,0.6s
MANR Mangalia 70.97 315 ⇑P **P** **21 21 55.9 +0.6**
TLCR 71.12 316 ⇓P **P** **21 21 56.7 +0.5**
TLCR mb 21 21 57.0
MFTR Murfatlar 71.17 315 ⇑P **P** **21 21 55.8 -0.8**
TIRR Tirgusor 71.24 316 ⇓P **P** **21 21 57.0 +0.1**
SEY Seymchan 71.32 24 *d iP* **P** **21 21 57.3 +0.3**
TOPG Topolog 71.36 316 ⇑P **P** **21 21 57.6 0.0**
MILM Milestii Mici 71.53 318 ⇑P **P** **21 21 58.4 -0.2**
HARR Harsova 71.63 316 ⇑P **P** **21 21 59.4 +0.2**
HARR mb 21 22 00.8
SORM Soroca 72.13 319 ⇓P **P** **21 22 01.8 -0.4**
AKASG Malin Array Be 72.23 322 *i* P **P** **21 22 01.7 -1.0**
AKASG pmax pmax
comp=Z,10.0nm,0.5s
AKASG Malin Array Be 72.23 322 P **P** **21 22 01.8 -0.9**
comp=Z,10.0nm,0.5s,baz=88,slow=5.1,SNR=48
AKASG LR LR 21 56 02.7
comp=Z,65nm,20.5s,baz=305,slow=38
AKBB Malin Array Si 72.23 322 IAmb IAmb 21 22 02.8
comp=Z,12nm,0.7s
GHRR 72.28 317 ⇑P **P** **21 22 04.0 +0.8**
RAZG Razgrad 72.40 314 ⇓P **P** **21 22 05.2 +1.3**
ODBI Odobesti 72.46 317 ⇑P **P** **21 22 05.2 +0.9**
ODBI mb 21 22 06.1
VRI Vrincioaia 72.71 317 ⇓P **P** **21 22 06.7 +1.0**
TMCR Tamitsa 72.71 337 *e*P **P** **21 22 04.6 -0.7**
TMCR pmax pmax
comp=Z,28nm,0.9s
ELND Elena 72.73 314 ⇑P **P** **21 22 06.5 +0.5**
PLOR Plostina 72.76 317 ⇑P **P** **21 22 07.2 +1.1**
TESR Tescani 72.89 317 ⇓P **P** **21 22 07.3 +0.5**
SECR 72.99 316 ⇑P **P** **21 22 08.1 +0.7**
SECR mb 21 22 09.1
MLR Muntele Rosu 73.17 316 S **S** **21 31 29.1 -0.4**
comp=Z,3.9nm,0.9s,baz=188,slow=2.1,SNR=7.7
MLR Muntele Rosu 73.17 316 ⇑P **P** **21 22 09.5 +0.9**
MLR mb 21 22 10.8
MLR Muntele Rosu 73.17 316 IAmb IAmb 21 22 11.0
comp=Z,20nm,0.9s
BIZ Bicaz 73.35 318 ⇑P **P** **21 22 10.2 +0.7**
PRAR RASCA 73.35 318 ⇑P **P** **21 22 09.9 +0.4**
PRAR mb 21 22 10.5
OZUR 73.39 317 ⇑P **P** **21 22 10.1 +0.2**
DOPR Dopca 73.64 317 ⇓P **P** **21 22 11.4 +0.1**
HUMR Humele 73.66 315 ⇑P **P** **21 22 11.8 +0.4**
PLVB Pleven 73.72 314 ⇓P **P** **21 22 12.1 +0.4**
VOIR 73.78 316 ⇑P **P** **21 22 11.9 -0.2**
ARR Arges 74.05 316 ⇑P **P** **21 22 13.3 -0.4**
BURAR Bucovina Array 74.08 318 ⇑P **P** **21 22 14.7 +0.9**
BURAR mb 21 22 15.7
BUR08 Bucovina Ar. S 74.09 318 IAmb IAmb 21 22 15.9
comp=Z,11nm,0.7s
LBTB Lobatse 74.41 243 P **P** **21 22 17.4 +1.2**
LBTB pmax pmax
comp=Z,11nm,1.1s
LBTB Lobatse 74.41 243 P **P** **21 22 18.9 +2.7**
comp=Z,6.2nm,0.9s,baz=70,slow=6.9,SNR=5.9
LBTB Lobatse 74.41 243 P **P** **21 22 17.4 +1.2**
ARCR ARCALIA 74.55 318 ⇑P **P** **21 22 17.8 +1.3**
VTS Vitosha 74.60 313 ⇑P **P** **21 22 16.9 -0.2**
VTS mb 21 22 17.9
NACGM Naroch 74.75 326 *e* P **P** **21 22 17.0 -0.4**
LIT Litokhoron 74.81 310 IAmb IAmb 21 22 18.9
comp=Z,16nm,0.8s
IDID Didziasalis 74.88 326 *e*P **P** **21 22 18.6 +0.5**
ITM Ithomi 74.91 307 P **P** **21 22 18.5 -0.3**
ITM IAmb IAmb 21 22 19.5
comp=Z,16nm,0.9s
CJR Cluj-Napoca 75.00 317 ⇑P **P** **21 22 20.6 +1.4**
PUNG Punghina 75.07 315 ⇑P **P** **21 22 19.6 +0.1**
IIGN Ignalina 75.17 326 *e*P **P** **21 22 20.4 +0.5**
IIGN IAmb IAmb 21 22 21.3
comp=Z,25nm,0.6s
BMR Baia Mare 75.23 318 ⇑P **P** **21 22 20.9 +0.5**
IZAR Zarasai 75.26 327 *e*P **P** **21 22 20.7 +0.3**
IZAR IAmb IAmb 21 22 21.6
comp=Z,21nm,0.5s
LVV L'vov 75.27 320 *e*P **P** **21 22 21.1 +0.5**
LVV *e* 21 22 39.8
ISAL Salakas 75.28 326 *e*P **P** **21 22 20.7 +0.2**
DEV Deva 75.33 316 ⇑P **P** **21 22 22.4 +1.3**
GZR Gura Zlata 75.35 316 ⇑P **P** **21 22 22.3 +1.1**
MAW Mawson 75.50 193 LR LR 21 52 15.8
comp=Z,22nm,19.9s,baz=49,slow=33
BOSA Boshof 75.50 239 P **P** **21 22 25.7 +3.3**
comp=Z,2.4nm,0.5s,baz=113,slow=3.1,SNR=9.0
BOSA LR LR 21 55 17.4
comp=Z,36nm,18.1s,baz=48,slow=35
LVZ Lovozero 75.61 340 P **P** **21 22 21.7 -0.5**
LVZ pmax pmax
comp=Z,22nm,0.6s
LVZ Lovozero 75.61 340 P **P** **21 22 21.7 -0.5**
LVZ IAmb IAmb 21 22 23.2
comp=Z,22nm,0.6s
DRGR 75.61 317 ⇑P **P** **21 22 23.9 +1.2**
VSU Vasula 75.70 329 *e*P **P** **21 22 22.5 -0.3**
TRPA Tarpa 75.94 318 ⇓P **P** **21 22 25.4 +1.0**
TRPA mb 21 22 26.4
TRPA Tarpa 75.94 318 *e*P **P** **21 22 25.0 +0.6**
MDVR Moldovita 76.00 315 ⇑P **P** **21 22 24.7 -0.2**
KWP Kalwaria Pacla 76.08 320 *e*P **P** **21 22 26.4 +1.2**
KWP Kalwaria Pacla 76.08 320 *e*P **P** **21 22 26.4 +1.2**
KWP *e*P **P** **21 22 26.4 +1.2**
UZH Uzhgorod 76.19 319 *e*P **P** **21 22 25.3 -0.5**
BZS Buzias 76.19 316 ⇑P **P** **21 22 26.6 +0.7**
KOLS Kolonicke sedl 76.25 319 *e*P **P** **21 22 27.4 +1.2**
KOLS pmax pmax
comp=Z,21nm,0.7s
KOLS Kolonicke sedl 76.25 319 *e*P **P** **21 22 27.4 +1.2**
SIRR Siria 76.25 316 ⇑P **P** **21 22 26.8 +0.6**
LTVH Ltavrtes, Hu 76.25 318 *e*P **P** **21 22 28.0 +1.9**
PABE Paberze 76.46 326 *e*P **P** **21 22 27.3 +0.1**
PABE IAmb IAmb 21 22 28.2
comp=Z,64nm,0.7s
SUW Suwalki 76.60 325 P **P** **21 22 27.8 -0.2**
SUW pmax pmax
comp=Z,132nm,1.1s
SUW Suwalki 76.60 325 *e*P **P** **21 22 27.8 -0.2**
SUW *e*P **P** **21 22 27.8 -0.2**
SUW Suwalki 76.60 325 P **P** **21 22 27.8 -0.2**
FINES FINESS Array B 76.82 332 P **P** **21 22 28.9 -0.2**
comp=Z,9.0nm,0.6s,baz=106,slow=5.6,SNR=42
FINES LR LR 21 58 28.5
comp=Z,194nm,18.5s,baz=242,slow=37
STHS Stebnicka Huta 76.99 320 *e*P **P** **21 22 31.5 +1.1**
STHS Stebnicka Huta 76.99 320 *e*P **P** **21 22 31.5 +1.1**
DIVS Divibare 77.14 314 *e*P **P** **21 22 31.6 +0.2**
KECS Kecovo 77.35 319 *e*P **P** **21 22 33.5 +1.1**
KECS pmax pmax
comp=Z,11nm,0.7s
KECS Kecovo 77.35 319 *e*P **P** **21 22 33.5 +1.1**
PDG Podgorica 77.50 312 *e*P **P** **21 22 33.0 -0.3**
PDG Podgorica 77.50 312 ⇑P **P** **21 22 33.3 0.0**
PDG mb 21 22 36.5
PDG Podgorica 77.50 312 IAmb IAmb 21 22 36.5
comp=Z,14nm,0.7s
DRME Dracevica, Mon 77.53 312 *e*P **P** **21 22 32.9 -0.6**
BBLS Lazići 77.53 314 *e*P **P** **21 22 34.2 +0.6**
RUDO Rudo 77.53 314 *e*P **P** **21 22 32.4 -1.1**
NIE Niedzica 77.60 320 *e*P **P** **21 22 35.4 +1.6**
NIE Niedzica 77.60 320 *e*P **P** **21 22 35.4 +1.6**
NIE *e*P **P** **21 22 35.4 +1.6**
BEL Belsk 77.65 322 *e*P **P** **21 22 34.7 +0.8**
BEL Belsk 77.65 322 *e*P **P** **21 22 34.7 +0.8**
BEL *e*P **P** **21 22 34.7 +0.8**
PSZ Piszkesteto 77.67 318 ⇑P **P** **21 22 35.2 +0.9**
PSZ mb 21 22 36.0
PSZ Piszkesteto 77.67 318 *e*P **P** **21 22 35.1 +0.9**
PSZ Piszkesteto 77.67 318 IAmb IAmb 21 22 36.0
comp=Z,19nm,0.7s
PBUR Paburg 77.69 326 *e*P **P** **21 22 34.3 +0.2**
UPM Unac-Piva 77.83 313 *e*P **P** **21 22 35.1 -0.3**
SCTE Santa Cesarea 77.88 310 P **P** **21 22 35.4 -0.1**
SCTE IAmb IAmb 21 22 36.7
comp=Z,22nm,0.9s
HAPS Han Pijesak,Bl 77.88 314 *e*P **P** **21 22 35.3 -0.3**
OJC Ojcow 78.03 320 *e*P **P** **21 22 37.2 +1.0**
OJC Ojcow 78.03 320 *e*P **P** **21 22 37.1 +1.0**
OJC *e*P **P** **21 22 37.1 +1.0**
OJC Ojcow 78.03 320 IAmb IAmb 21 22 37.8
comp=Z,27nm,0.6s
BRY Bratogost 78.07 313 *e*P **P** **21 22 36.5 -0.2**
LANS Liptovska Anna 78.11 319 *e*P **P** **21 22 38.3 +1.6**
LANS pmax pmax
comp=Z,4.0nm,1.1s
LANS Liptovska Anna 78.11 319 *e*P **P** **21 22 38.2 +1.6**
TREB Trebinje 78.19 313 *e*P **P** **21 22 36.6 -0.6**
MORH Mrgy, Hungar 78.32 316 *e*P **P** **21 22 37.9 +0.1**
MORH Mrgy, Hungar 78.32 316 *e*P **P** **21 22 38.1 +0.3**
VYHS Vyhne 78.44 319 *e*P **P** **21 22 39.5 +1.1**
VYHS pmax pmax
comp=Z,9.0nm,0.7s
VYHS Vyhne 78.44 319 *e*P **P** **21 22 39.5 +1.1**
BILL Bilibino 78.64 21 *c e*P **P** **21 22 38.8 -0.3**
BILL pmax pmax
comp=Z,39nm,1.5s
BILL Bilibino 78.64 21 P **P** **21 22 38.9 -0.2**
BILL IAmb IAmb 21 22 40.2
comp=Z,12nm,0.5s
STON Ston 78.68 313 *e*P **P** **21 22 38.8 -1.0**
SRO Srobarova 78.71 318 *e*P **P** **21 22 42.1 +2.2**
SRO pmax pmax
comp=Z,28nm,0.7s
SRO Srobarova 78.71 318 *e*P **P** **21 22 42.1 +2.2**
TIH Tihany 78.90 317 *e*P **P** **21 22 42.1 +1.1**
OKC Ostrava-Krasne 79.04 320 *e*P **P** **21 22 42.8 +1.1**
OKC Ostrava-Krasne 79.04 320 *e*P **P** **21 22 42.8 +1.1**
TIP Timpagrande 79.14 309 P **P** **21 22 42.3 -0.2**
MPLH Magyarpolny 79.17 317 *e*P **P** **21 22 44.0 +1.6**
BLY Banja Luka 79.21 315 *e*P **P** **21 22 43.4 +0.7**
BLY Banja Luka 79.21 315 ⇑P **P** **21 22 43.8 +1.1**
BLY mb 21 22 45.0
JAVC Velka Javorina 79.25 319 *e*P **P** **21 22 45.0 +2.1**
ARCES ARCESS Array B 79.31 340 P **P** **21 22 42.8 0.0**
comp=Z,8.6nm,0.5s,baz=99,slow=6.6,SNR=142
ARCES LR LR 22 00 36.0
comp=Z,155nm,20.6s,baz=226,slow=38
ARE0 ARCESS Array S 79.31 340 *e*P **P** **21 22 42.7 0.0**
MORC Moravsky Berou 79.42 320 ⇑P **P** **21 22 45.0 +1.2**
MORC mb 21 22 45.8
MORC Moravsky Berou 79.42 320 *e*P **P** **21 22 45.1 +1.2**
MODS Modra-Piesok 79.46 318 *e*P **P** **21 22 44.5 +0.5**
MODS Modra-Piesok 79.46 318 *e*P **P** **21 22 44.5 +0.5**
CEL Celeste 79.76 308 P **P** **21 22 46.0 +0.1**
CEL IAmb IAmb 21 22 57.3
comp=Z,22nm,1.0s
ACER Acerenza 79.85 311 IAmb IAmb 21 22 48.8
comp=Z,22nm,1.0s
SOP Sopron 79.88 318 *e*P **P** **21 22 46.1 -0.2**
KRLC Kraliky 79.94 320 *e*P **P** **21 22 48.3 +1.7**
KRLC Kraliky 79.94 320 *e*P **P** **21 22 48.3 +1.7**
KTK1 Kautokeino 79.95 340 *e*P **P** **21 22 46.0 -0.2**
GKP Gorka Klasztor 79.98 323 *e*P **P** **21 22 47.3 +0.6**
GKP Gorka Klasztor 79.98 323 *e*P **P** **21 22 47.3 +0.6**
GKP *e*P **P** **21 22 47.3 +0.6**
KOGS Kog 79.99 316 *e*P **P** **21 22 48.0 +1.1**
VRAC Vranov 80.00 319 ⇑P **P** **21 22 48.1 +1.1**
VRAC mb 21 22 48.6
VRAC Vranov 80.00 319 *e*P **P** **21 22 48.0 +1.1**
SUR Sutherland 80.05 236 P **P** **21 22 51.2 +3.4**
comp=Z,7.7nm,0.8s,baz=91,slow=11,SNR=5.7
SGRT San Giovanni R 80.05 311 P **P** **21 22 47.7 +0.3**
KRUC Moravsky 80.10 319 *e*P **P** **21 22 48.5 +1.0**
HAMF Hammerfest 80.22 341 *e*P **P** **21 22 47.8 +0.2**
DPC Dobruska-Polom 80.26 320 *e*P **P** **21 22 49.6 +1.3**
DPC *e* 21 23 16.6
DPC Dobruska-Polom 80.26 320 *e*P **P** **21 22 49.6 +1.3**
DPC *ex* x 21 23 16.6
KSP Ksiaz 80.32 321 *e*P **P** **21 22 50.1 +1.5**
KSP Ksiaz 80.32 321 *e*P **P** **21 22 50.1 +1.5**
KSP *e*P **P** **21 22 50.1 +1.5**
OSTC Ostas 80.35 320 *e*P **P** **21 22 50.3 +1.5**
CONA Conrad Observa 80.37 318 *e*P **P** **21 22 50.0 +1.0**
comp=Z,3.1nm,0.7s,SNR=4.2
CHVC Chvalec 80.45 320 *e*P **P** **21 22 50.2 +0.9**
UPC Upice 80.47 320 *e*P **P** **21 22 51.0 +1.6**
UPC Upice 80.47 320 *e*P **P** **21 22 51.0 +1.6**
CRES Cresnjev 80.50 316 *e*P **P** **21 22 50.5 +0.8**
ARSA Arzberg 80.55 317 *i* P **P** **21 22 50.9 +0.9**
comp=Z,12nm,1.3s
SOKA Soboth 80.85 316 *e*P **P** **21 22 52.4 +0.8**
comp=Z,10nm,1.3s
OBKA Obir 81.17 316 *e*P **P** **21 22 54.6 +1.2**
comp=Z,4.9nm,0.6s
OBKA *e*SKSac **SKSac** **21 32 59.9 -4.5**
comp=Z,9.1nm,1.3s
CEY Cerknica 81.21 315 *e*P **P** **21 22 54.3 +0.8**
GOPC GO Pecny, Ondr 81.21 320 *e*P **P** **21 22 54.3 +0.9**
GOPC GO Pecny, Ondr 81.21 320 *e*P **P** **21 22 54.3 +0.9**
PRU Pruhonice 81.38 320 *e*P **P** **21 22 55.3 +1.1**
PRU Pruhonice 81.38 320 *e*P **P** **21 22 55.3 +1.1**
PVCC Panska Ves 81.39 320 *e*P **P** **21 22 55.7 +1.4**
MOA Molln 81.43 318 *e*P **P** **21 22 55.3 +0.6**
comp=Z,4.1nm,0.7s
BSD Bornholm Skovb 81.52 325 *i* P **P** **21 22 54.9 +0.1**
BSD Bornholm Skovb 81.52 325 *i* P **P** **21 22 54.9 +0.1**
TRO Tromso 81.58 340 *e*P **P** **21 22 54.2 -0.6**
PBCC Pribram 81.71 319 *e*P **P** **21 22 57.5 +1.5**
MYKA Terra Mystica 81.80 316 *e*P **P** **21 22 57.8 +1.2**
comp=Z,6.0nm,0.6s
BRG Berggiesshubel 81.81 321 *i* P **P** **21 22 57.8 +1.3**
comp=Z,10nm,0.8s
BRG *e* 21 23 08.7
comp=Z,6.4nm,1.1s
BRG *e* 21 23 24.4
comp=Z,7.4nm,0.9s

BRG **Berggiesshubel** 81.81 321 *i* P P 21 22 57.8 +1.3
BRG *e* 21 23 24.4
BRG pmax pmax
comp=Z,10.0nm,0.8s
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG pmax pmax
comp=Z,7.0nm,0.9s
AQU L'Aquila 81.82 312 *e*P P 21 22 57.7 +0.9
GEC2 GERESS Array S 81.86 319 P P 21 22 57.8 +0.8
GERES GERESS Array B 81.86 319 P P 21 22 58.0 +1.1
comp=Z,6.0nm,0.5s,baz=108,slow=5.6,SNR=58
GERES S S 21 33 01.9 -1.3
comp=Z,0.2nm,0.5s,baz=40,slow=25,SNR=3.1
KHC Kasperske Hory 81.96 319 *e*P P 21 22 57.7 +0.4
KHC Kasperske Hory 81.96 319 *e*P P 21 22 57.7 +0.4
KHC *ex* x 21 23 12.5
KBA Koelnbreinsper 82.02 317 *e*P P 21 22 58.6 +0.7
comp=Z,2.4nm,0.5s
CLL Collm 82.43 321 *e*P P 21 23 00.0 +0.3
STAL STALIGIAL 82.43 316 P P 21 23 00.3 +0.4
QRZ Quartz Range 82.49 132 P P 21 23 00.5 +0.3
QRZ IAmb IAmb 21 23 13.2
comp=Z,46nm,1.1s
ABTA Abfaltersbach 82.58 316 *e*P P 21 23 00.9 +0.2
comp=Z,5.2nm,1.0s
ABTA *e*S S 21 33 10.5 -0.1
comp=Z,16nm,1.3s
SYO Syowa Base 82.64 198⅄ *e*P P 21 23 00.4 +0.1
STEI Steigen 82.65 338 *e*P P 21 23 00.4 0.0
MOR8 Moi Rana 82.77 336 *e*P P 21 23 00.7 -0.5
WTTA Wattenberg 83.19 317 *e*P P 21 23 03.8 -0.2
comp=Z,7.0nm,0.5s,SNR=11
WTTA *e*SKSac S 21 33 15.3 -1.8
comp=Z,8.0nm,1.0s
WATA Walderalm 83.23 317 *e*P P 21 23 03.7 -0.4
comp=Z,4.7nm,0.5s,SNR=7.1
WATA *e*SKSac S 21 33 15.2 -2.2
comp=Z,11nm,1.8s
LOF Lofoten 83.31 338 *e*P P 21 23 03.8 -0.1
SQTA Sankt Quirin 83.48 317 *e*P P 21 23 05.3 -0.1
comp=Z,8.0nm,0.5s,SNR=11
SQTA *e*SKSac SKSac 21 33 18.6 -1.3
comp=Z,27nm,1.8s
MOTA Moosalm 83.56 317 *e*P P 21 23 05.5 -0.3
comp=Z,7.6nm,0.9s
MOTA *e*SKSac SKSac 21 33 18.2 -2.3
comp=Z,18nm,1.3s
NC405 NORSAR Array S 83.61 331 IAmb IAmb 21 23 06.4
comp=Z,16nm,0.7s
NSS Namsos 83.67 334 *e*P P 21 23 05.6 -0.2
NC602 NORSAR Array S 83.67 331 P P 21 23 05.8 -0.1
NC602 IAmb IAmb 21 23 06.6
comp=Z,30nm,0.9s
SPA0 Spitsbergen Ar 83.74 348 *e*P P 21 23 05.3 -0.7
SPA0 Spitsbergen Ar 83.74 348 P P 21 23 05.4 -0.5
NC303 NORSAR Array S 83.78 331 *e*P P 21 23 06.2 -0.2
NC303 NORSAR Array S 83.78 331 P P 21 23 06.6 +0.1
RETA Reutte 83.79 317 *i* P P 21 23 06.9 -0.1
comp=Z,8.3nm,0.6s,SNR=12
FETA Feichten 83.81 317 *e*P P 21 23 07.3 +0.2
comp=Z,4.2nm,0.7s,SNR=6.5
FETA *e*SKSac SKSac 21 33 19.9 -2.2
comp=Z,24nm,1.5s
NB2 NORSAR Subarra 83.84 331 P P 21 23 06.5 -0.4
comp=Z,3.7nm,0.6s,baz=97,slow=4.6
NB2 NORSAR Subarra 83.84 331 P P 21 23 06.5 -0.4
baz=97,slow=4.6
NOA NORSAR Array B 83.84 331 P P 21 23 06.7 -0.1
comp=Z,6.2nm,0.8s,baz=95,slow=5.3,SNR=18
NOA LR LR 22 04 22.8
comp=Z,70nm,18.1s,baz=105,slow=38
CMWZ Cape Campbell 83.92 133 P P 21 23 07.3 -0.3
SALO Salr 83.95 315 IAmb IAmb 21 23 09.8
comp=Z,22nm,0.9s
NAO01 NORSAR Array S 84.00 331 P P 21 23 07.7 +0.1
NAO01 IAmb IAmb 21 23 18.3
comp=Z,30nm,1.1s
OSL Oslo 84.05 330 *e*P P 21 23 09.2 +1.4
FUORN Ofenpass-Fuorn 84.13 316 P P 21 23 09.0 +0.1
KONO Kongsberg 84.61 329 *e*P P 21 23 11.2 +0.5
MSWZ Moikau Station 84.62 132 P P 21 23 10.7 -0.4
KBS Kingsbay 84.71 349 *ce*P P 21 23 10.4 -0.4
KBS pmax pmax
comp=Z,132nm,0.9s
KBS Kingsbay 84.71 349 *e*P P 21 23 10.2 -0.6
KBS Kingsbay 84.71 349 P P 21 23 10.2 -0.6
KBS IAmb IAmb 21 23 10.9
comp=Z,30nm,0.9s
DOMB Dombas 84.90 332 *e*P P 21 23 12.3 +0.2
KEST Kesra 84.98 305 P P 21 23 14.4 +1.2
comp=Z,8.4nm,0.8s,baz=30,slow=2.7,SNR=8.1
KEST Kesra 84.98 305 P P 21 23 13.6 +0.3
KEST IAmb IAmb 21 23 18.9
comp=Z,17nm,1.1s
BKZ Black Stump Fm 85.17 130 P P 21 23 13.2 -0.8
BKZ IAmb IAmb 21 23 15.0
comp=Z,15nm,0.6s
HOMB Homborsund 85.17 328 *e*P P 21 23 13.0 -0.5
SKAR Skarslia 85.26 330 *e*P P 21 23 15.2 +1.2
BFO Black Forest 85.42 318 P P 21 23 14.7 -0.4
BFO pmax pmax
comp=Z,4.0nm,0.7s
BFO Black Forest 85.42 318 P P 21 23 14.7 -0.4
URZ Urewera 85.50 129 P P 21 23 15.1 -0.4
URZ IAmb IAmb 21 23 16.5
comp=Z,36nm,1.1s
MOL Molde 85.61 332 *e*P P 21 23 16.6 +1.0
SNART Snartemo 85.86 328 *e*P P 21 23 18.3 +1.4
ODD1 Odda 86.11 330 *e*P P 21 23 19.1 +0.9
SENIN Lac Senin/Sane 86.18 316 IAmb IAmb 21 23 22.8
comp=Z,7.7nm,0.7s
BLS5 Blasjo 86.22 329 *e*P P 21 23 19.8 +1.1
TAM Tamanrasset 89.00 293 P P 21 23 34.2 +1.2
TAM pmax pmax
comp=Z,5.0nm,1.1s
TAM Tamanrasset 89.00 293 P P 21 23 34.2 +1.2
VNDA Vanda 89.03 169 P P 21 23 33.3 +1.5
comp=Z,0.9nm,0.6s,baz=267,slow=5.6,SNR=5.8
VNDA PKPPKP 21 49 19.1
comp=Z,3.2nm,1.1s,baz=97,slow=4.9,SNR=4.1
RDOG Red Dog Mine 90.10 22 P P 21 23 36.1 -0.9
RDOG IAmb IAmb 21 23 38.2
comp=Z,16nm,1.0s
DAG Danmarks Havn 91.39 348 *i* P P 21 23 42.0 -0.8
DAG pmax pmax
comp=Z,12nm,0.7s
DAG Danmarks Havn 91.39 348 *i* P P 21 23 42.0 -0.8
comp=Z,12nm,0.7s
TORD Torodi Ar. Bea 93.44 283 P P 21 23 55.2 +1.7
comp=Z,2.0nm,0.7s,baz=100,slow=5.8,SNR=12
TORD PP PP 21 27 43.4 +4.4
comp=Z,0.9nm,0.9s,baz=98,slow=6.5,SNR=3.6
TORD PKKP PKKPbc 21 41 00.5 +0.8
comp=Z,0.6nm,0.3s,baz=306,slow=1.9,SNR=8.7
TOLK Toolik Lake Re 94.62 20 P P 21 23 58.4 +0.5
baz=294
ESDC Sonseca Array 95.10 310 P P 21 24 01.7 +1.0
comp=Z,1.7nm,0.6s,baz=58,slow=4.4,SNR=15
ESDC PKKP PKKPbc 21 40 56.3 +0.2
comp=Z,0.1nm,0.3s,baz=299,slow=3.1,SNR=4.7
TRF Thorofare Moun 96.44 25 IAmb IAmb 21 24 07.8
comp=Z,7.3nm,0.9s
POKR Poker Flat Res 96.88 22 P P 21 24 08.7 +0.5
baz=296
RND Reindeer 97.04 24 IAmb IAmb 21 24 14.4
comp=Z,7.1nm,1.1s
ILAR Eielson Array 97.24 23 P P 21 24 08.0 -1.8
comp=Z,1.0nm,0.5s,baz=300,slow=4.1,SNR=19
ILAR PP PP 21 28 05.0 -1.9
comp=Z,1.8nm,1.0s,baz=283,slow=7.0,SNR=5.4
PRP Porcupine Dome 97.41 22 IAmb IAmb 21 24 15.0
comp=Z,4.4nm,0.9s
SUMG Summit 98.06 348 *e*P P 21 24 13.6 -0.3
SUMG Summit 98.06 348 *i* P P 21 24 13.6 -0.3
SUMG Summit 98.06 348 IAmb IAmb 21 24 17.1
comp=Z,11nm,1.0s
SCRK Sand Creek 98.73 23 IAmb IAmb 21 24 17.2
comp=Z,2.8nm,0.7s
MENT Mentasta 99.34 24 IAmb IAmb 21 24 27.1
comp=Z,5.6nm,0.7s
INK Inuvik 99.81 17 IAmb IAmb 21 24 21.9
comp=Z,11nm,1.1s
EPYK Eagle Plains 100.03 19 P Pdif 21 24 21.8 -0.5
baz=306
C36M Paulatuk 101.55 14 P Pdif 21 24 29.0 +0.1
baz=319
YKA Yellowknife Ar 109.37 15 Pdiff Pdif 21 25 04.8 +0.9
comp=Z,0.5nm,0.7s,baz=325,slow=4.4,SNR=6.5
YKA PKiKP PKiKP 21 29 06.3 -0.6
comp=Z,0.5nm,0.6s,baz=311,slow=2.0,SNR=6.3
B05A Bryant 117.86 28 P PKiKP 21 29 23.7 +0.2
baz=316
E04D Cinebar 118.85 30 P PKiKP 21 29 25.8 +0.3
baz=315
FFC Flin Flon 119.27 12 PKIKP PKiKP 21 29 26.1 0.0
FFC Flin Flon 119.27 12 PKiKP 21 29 26.1 0.0
SCHQ Schefferville 119.42 349 PKP PKiKP 21 29 26.8 +0.3
comp=Z,2.0nm,0.5s,baz=71,slow=4.2,SNR=3.7
NEW Newport 120.08 25 P PKiKP 21 29 28.4 +0.4
baz=321
H04D Lebanon 120.17 31 P PKiKP 21 29 28.5 +0.3
baz=314
I03D Drain, OR 120.42 32 P PKiKP 21 29 29.1 +0.4
baz=313
J01E Myrtle Point 120.46 33 P PKiKP 21 29 28.9 +0.2
baz=312
I04A Tendick Farm, 120.85 32 P PKiKP 21 29 29.6 -0.1
baz=314
K02D Willamette Mer 120.92 33 P PKiKP 21 29 30.0 +0.2
baz=312
I05D Terrebonne, OR 121.02 31 P PKiKP 21 29 30.2 +0.3
baz=315
L02E Cave Junction 121.31 34 P PKiKP 21 29 30.8 +0.3
baz=312
HUMO Hull Mountain 121.36 33 PKiKP 21 29 31.2 +0.6
J04D Umpqua Nationa 121.39 32 P PKiKP 21 29 31.0 +0.1
baz=314
PINE Pine Mountain 121.61 31 PKiKP 21 29 31.7 +0.4
J05D Fort Rock, OR 121.81 32 P PKiKP 21 29 32.4 +0.7
baz=314
L04D Klamath Falls 121.98 33 P PKiKP 21 29 32.4 +0.4
baz=313
M02C Callahan 122.24 34 P PKiKP 21 29 33.2 +0.8
baz=312
M04C Macdoel 122.53 33 P PKiKP 21 29 33.3 +0.2
baz=313
MSO Missoula 122.54 24 P PKPdf 21 29 32.6 -0.1
baz=324
MSO Missoula 122.54 24 PKPdf 21 29 32.3 -0.5
N02D Trinity Center 122.60 34 P PKiKP 21 29 33.8 +0.6
baz=312
O02D Mt. Diablo Mer 123.08 35 P PKiKP 21 29 34.6 +0.5
baz=312
EGMT Eagleton 123.14 21 P PKiKP 21 29 34.0 -0.1
baz=329
MOD Modoc Plateau 123.28 32 PKiKP 21 29 35.2 +0.6
O03E Paynes Creek 123.56 34 P PKPdf 21 29 34.9 0.0
baz=313
WVOR Wild Horse Val 123.76 31 PKIKP PKiKP 21 29 35.8 +0.3
WVOR Wild Horse Val 123.76 31 PKiKP 21 29 35.8 +0.3
DGMT Dagmar 124.50 16 P PKiKP 21 29 37.0 +0.3
baz=335
ULM Lac du Bonnet 124.67 9 PKP PKPdf 21 29 36.5 -0.1
comp=Z,20nm,0.7s,baz=359,slow=1.9,SNR=45
YHB Horse Butte 125.34 24 PKiKP 21 29 39.3 +0.6
CHGQ Chibougamau 125.40 353 P PKPdf 21 29 38.1 +0.1
baz=12
LAO LASA Array 125.48 19 P PKiKP 21 29 39.7 +1.0
baz=332
YMR Madison River 125.50 24 PKiKP 21 29 39.6 +0.6
RLMT Red Lodge 125.78 22 P PKiKP 21 29 39.7 +0.1
baz=328
H17A Grant Village 125.89 24 P PKiKP 21 29 41.5 +1.6
baz=326
YERR Yerington 125.90 34 PKiKP 21 29 39.9 0.0
MATQ Matagami 125.90 355 P PKPdf 21 29 38.8 -0.1
baz=7.5
WAKR Walker 126.12 34 PKiKP 21 29 41.3 +0.9
MDND Maddock 126.24 13 P PKiKP 21 29 39.8 -0.3
baz=340
LSQQ Lebel-sur-Quev 126.53 354 P PKPdf 21 29 40.1 -0.1
baz=8.4
AGMN Agassiz Nation 126.56 10 P PKPdf 21 29 40.0 -0.3
baz=345
NVAR Mina Array Bea 126.81 34 PKP PKiKP 21 29 42.5 +0.7
comp=Z,9.2nm,0.7s,baz=286,slow=1.9,SNR=65
EYMN Ely 127.54 7 P PKiKP 21 29 43.1 +0.3
baz=350
E64A Bridgewater 127.56 346 P PKPdf 21 29 42.1 -0.1
baz=20
LATQ La Tuque 127.63 351 P PKiKP 21 29 42.6 -0.3
baz=14
LATQ La Tuque 127.63 351 PKiKP 21 29 43.2 +0.3
BW06 Boulder Array 127.65 24 P PKiKP 21 29 43.1 -0.3
baz=327
PDAR Pinedale Array 127.65 24 PKP PKiKP 21 29 43.2 -0.2
comp=Z,2.7nm,0.5s,baz=117,slow=2.6,SNR=29
D58A Chemin du LacG 127.93 351 P PKiKP 21 29 43.3 -0.2
baz=14
E61A Lac Etchemin 128.13 348 P PKiKP 21 29 44.1 +0.1
baz=17
DUG Duway, Tooele 128.31 28 P PKiKP 21 29 45.7 +1.0
baz=322
CWC Cottonwood Cre 128.33 35 P PKiKP 21 29 45.2 +0.3
baz=314
R11A Troy Canyon, C 128.34 32 P PKiKP 21 29 45.5 +0.7
baz=318
PKM Mcpherson Peak 128.35 38 P PKiKP 21 29 45.8 +0.8
baz=312
D55A Sainte-Anne-du 128.38 353 P PKiKP 21 29 44.2 -0.2
baz=11
D54A Lac Fusel, La 128.39 354 P PKPdf 21 29 43.4 -0.4
baz=9.1
RSSD Black Hills 128.47 19 PKIKP PKPdf 21 29 43.9 -0.4
RSSD Black Hills 128.47 19 PKPdf 21 29 43.9 -0.4
F63A Nahmakanta, Br 128.53 347 P PKPdf 21 29 44.1 0.0
baz=19
D51A Lot 18 Range I 128.69 356 P PKPdf 21 29 44.0 -0.4
baz=5.6
E58A La Victoria 128.70 351 P PKiKP 21 29 44.7 -0.4
baz=13
SBC Santa Barbara 128.71 38 P PKiKP 21 29 45.1 -0.3
baz=312
E56A St. Veronique 128.79 352 P PKiKP 21 29 45.3 +0.1
baz=11
F60A Warwick 128.86 349 P PKiKP 21 29 45.2 -0.2
baz=15
K22A Casper 128.92 22 P PKiKP 21 29 45.5 -0.3
baz=330
MPMC Manual Prospec 128.94 35 P PKiKP 21 29 46.7 +0.5
baz=315
TPNV Topopah Spring 129.01 34 P PKiKP 21 29 46.5 +0.4
baz=316
FURC Furnace Creek, 129.01 34 P PKiKP 21 29 46.7 +0.7
baz=316
G63A Kingsbury 129.21 347 P PKiKP 21 29 45.9 -0.3
baz=18
LRMC Laurel Mtn Rad 129.23 36 P PKiKP 21 29 47.1 +0.5
baz=314
E51A G1948 Merrick 129.25 356 P PKPdf 21 29 45.7 +0.3
baz=5.5
E48A Lockeyer 129.42 359 P PKiKP 21 29 46.5 0.0
baz=2.1
E50A Wahnapitae 129.43 357 P PKiKP 21 29 46.3 -0.2
baz=3.9
E52A Mattawa 129.43 355 P PKiKP 21 29 46.2 -0.3
baz=6.6
EDW2 Edwards Air Fo 129.46 37 P PKiKP 21 29 47.4 +0.4
baz=314
SUSD Miller 129.60 14 P PKiKP 21 29 46.8 -0.2
baz=340
ALGO Algonquin Park 129.71 355 P PKPdf 21 29 46.1 -0.2
baz=7.4
H63A New Sharon 129.73 347 P PKPdf 21 29 46.6 +0.2
baz=18
GSC Goldstone, Bar 129.87 36 P PKiKP 21 29 48.6 +0.8
baz=315
F51A Arnstein 129.88 356 P PKiKP 21 29 47.2 -0.2
baz=5.0
G59A Clarenceville 129.94 350 P PKiKP 21 29 47.6 0.0
baz=14
SPMN Marine on St. 130.04 8 P PKiKP 21 29 48.0 +0.2
baz=348
G57A Newington 130.19 352 P PKiKP 21 29 48.2 +0.1
baz=12
F45A GMU Biological 130.22 2 P PKiKP 21 29 47.9 -0.2
baz=358
H61A Lyndonville 130.24 349 P PKiKP 21 29 48.5 +0.3
baz=16
G55A Calabogie 130.27 353 P PKPdf 21 29 47.6 +0.2
baz=9.2
O20A White River Ci 130.40 25 P PKiKP 21 29 49.0 +0.1
baz=327
H59A Cadyville 130.44 351 P PKiKP 21 29 48.5 -0.1
baz=13
LONY Lake Ozonia 130.61 351 P PKiKP 21 29 48.9 -0.1
baz=12
N23A Red Feather La 130.66 22 P PKiKP 21 29 49.5 -0.1
baz=330
ECSD EROS Data Cent 130.81 12 P PKiKP 21 29 49.1 -0.3
baz=343
MURC Murrieta 130.82 37 P PKiKP 21 29 49.6 -0.1
baz=314
H57A Richville 130.88 352 P PKiKP 21 29 49.2 -0.2
baz=11
GMRC Granite Mounta 130.89 35 P PKiKP 21 29 50.3 +0.3
baz=316
H55A Tweed 131.01 354 P PKiKP 21 29 49.6 -0.1
baz=8.7
FFD Franklin Falls 131.21 348 PKPdf 21 29 48.0 -1.3
BELC Belle Mtn. Jos 131.25 36 P PKPdf 21 29 49.5 -0.3
baz=315
I57A Carthage 131.43 352 P PKiKP 21 29 50.5 -0.1
baz=11
ISCO Idaho Springs 131.73 23 P PKiKP 21 29 51.3 -0.5
baz=330
I52A Shelburne 131.75 357 P PKiKP 21 29 51.3 0.0
baz=4.8
MONP2 Monument Peak 131.78 37 P PKiKP 21 29 52.4 +0.4
baz=314
BC3 Big Chuckawall 131.82 36 P PKiKP 21 29 51.7 -0.1
baz=315
I45A Fountain 131.84 2 P PKiKP 21 29 51.4 0.0
baz=357
J58A Remsen 131.95 352 P PKiKP 21 29 51.8 +0.1
baz=11
IKP In-Ko-Pah, Jac 132.13 37 P PKiKP 21 29 52.6 +0.1
baz=314
Y12C Blythe 132.29 35 P PKiKP 21 29 52.7 +0.1
baz=316
GLA Glamis 132.62 36 P PKiKP 21 29 53.9 +0.5
baz=316
J48A Bridge Port 132.62 0 P PKiKP 21 29 52.6 -0.4
baz=360
JFWS Jewell Farm 132.64 6 P PKPdf 21 29 52.2 +0.2
baz=351
BGNE Belgrade 132.66 15 P PKiKP 21 29 52.9 -0.4
baz=340
WUAZ Wupatki 132.68 31 P PKiKP 21 29 53.7 0.0
baz=321
MVCO Mesa Verde 132.71 27 P PKiKP 21 29 53.7 -0.1
baz=326
L61A Hillsdale 1, H 132.80 350 P PKiKP 21 29 53.4 0.0
baz=14
K56A Middlesex 132.86 354 P PKiKP 21 29 53.2 -0.4
baz=8.8
K55A Perry 132.91 354 P PKiKP 21 29 53.0 -0.6
baz=7.8
S22A 4UR Ranch, Cre 133.00 25 P PKiKP 21 29 54.1 -0.3
baz=328
K54A Basiliko Farm, 133.09 355 P PKPdf 21 29 53.3 +0.4
baz=6.9
K48A Perry 133.12 0 P PKiKP 21 29 53.8 -0.3
baz=360
K50A Casco 133.14 359 P PKPdf 21 29 53.1 +0.2
baz=1.6
BINY Binghamton 133.18 352 P PKiKP 21 29 53.7 -0.6
baz=11
SCIA State Center 133.22 10 P PKPdf 21 29 53.5 +0.4
baz=347
M62A Hamden 133.41 349 P PKPdf 21 29 53.3 -0.1
baz=15
L56A Greenwood 133.44 354 P PKiKP 21 29 54.2 -0.7
baz=8.5
L55A Hinsdale 133.49 355 P PKiKP 21 29 54.4 -0.5
baz=7.3
L57A Andrews Acres 133.49 353 P PKiKP 21 29 54.4 -0.5
baz=9.5
L54A Sinclairville 133.51 355 P PKiKP 21 29 54.5 -0.4
baz=6.1
ERPA Erie 133.68 356 P PKPdf 21 29 54.5 +0.5
baz=5.2
M59A Waymart 133.75 351 P PKiKP 21 29 55.0 -0.5
baz=12
L49A Milan 133.81 360 P PKiKP 21 29 55.2 -0.3
L50A Kingsville 133.87 359 P PKPdf 21 29 54.8 +0.5
baz=1.3
L48A N Adams 133.97 1 P PKPdf 21 29 54.9 +0.4
baz=359
M58A Price's Panora 134.06 352 P PKiKP 21 29 56.0 -0.1
baz=10
M56A Emporium 134.15 354 P PKiKP 21 29 55.9 -0.3
baz=7.8
M57A Sunshine Farm, 134.18 353 P PKiKP 21 29 55.9 -0.4
baz=9.2
M55A Ridgway 134.22 355 P PKiKP 21 29 56.0 -0.4
baz=7.0
M54A Oil Creek Stat 134.26 356 P PKPdf 21 29 55.2 +0.1
baz=5.7
N61A South Mountain 134.34 350 P PKiKP 21 29 56.7 +0.2
baz=13
N60A Cedar Hill Far 134.35 351 P PKiKP 21 29 56.4 -0.2
baz=12
M53A WI Miller and 134.40 357 P PKiKP 21 29 56.4 -0.3
baz=4.3
M49A Liberty Center 134.45 0 P PKiKP 21 29 56.0 -0.8
baz=360
T25A Trinidad 134.51 23 P PKiKP 21 29 56.8 -0.6
baz=330
M47A Cromwell 134.53 2 P PKPdf 21 29 55.3 -0.3
baz=357
214A Organ Pipe Nat 134.58 35 P PKPdf 21 29 56.3 +0.3
baz=317
N58A Sunbury 134.62 352 P PKiKP 21 29 56.5 -0.7
baz=9.9
CBKS Cedar Bluff 134.63 18 P PKPdf 21 29 56.2 +0.3
baz=337
N56A West Decatur 134.72 354 P PKiKP 21 29 56.9 -0.6
baz=7.7
N57A Milroy 134.80 353 P PKiKP 21 29 56.9 -0.6
baz=8.7
N55A Marion Center 134.93 355 P PKiKP 21 29 57.4 -0.5
baz=6.7
O60A Telford 134.94 351 P PKiKP 21 29 57.1 -0.8
baz=12
SSPA Standing Stone 134.96 354 P PKiKP 21 29 57.3 -0.6
baz=8.3
N49A Columbus Grove 135.00 0 P PKiKP 21 29 57.2 -0.8
baz=359
N47A Urbana 135.01 2 P PKiKP 21 29 57.2 -0.8
baz=357
N53A Lisbon 135.03 357 P PKiKP 21 29 57.3 -0.7
baz=4.1
N48A Decatur 135.05 1 P PKiKP 21 29 57.3 -0.8
baz=358
O59A Robesonia 135.06 352 P PKPdf 21 29 57.2 +0.6
baz=11
N52A McGinn's Farm, 135.07 358 P PKPdf 21 29 57.2 +0.6
baz=2.9
HDIL Hopedale 135.08 6 P PKPdf 21 29 56.9 +0.3
baz=352
N50A Nevada 135.15 359 P PKPdf 21 29 57.2 +0.5
baz=0.9
KSU1 Kansas State U 135.22 14 P PKPdf 21 29 57.4 +0.5
baz=342
O58A Lewisberry 135.35 353 P PKPdf 21 29 57.6 +0.4
baz=9.7
O57A Amberson 135.35 353 P PKiKP 21 29 58.3 -0.4
baz=8.7
MVL Millersville 135.40 352 PKiKP 21 29 59.6 +0.9
O56A Blue Knob Stat 135.40 354 P PKiKP 21 29 58.0 -0.8
baz=7.4
SFIN Lafayette 135.44 4 P PKiKP 21 29 58.2 -0.6
baz=355
TUC Tucson 135.46 33 P PKiKP 21 29 58.4 -0.9
baz=320
TUC Tucson 135.46 33 PKIKP PKiKP 21 29 59.4 +0.1
TUC Tucson 135.46 33 PKiKP 21 29 59.4 +0.1
P60A Greenville 135.47 351 P PKiKP 21 29 58.7 -0.2
baz=12
ANMO Albuquerque 135.51 27 P PKiKP 21 29 58.7 -0.8
baz=327
ANMO Albuquerque 135.51 27 PKIKP PKiKP 21 29 59.7 +0.3
ANMO Albuquerque 135.51 27 PKiKP 21 29 59.7 +0.3
O55A Ligonier 135.52 355 P PKiKP 21 29 58.7 -0.4
baz=6.3
O53A New Philadelph 135.61 357 P PKiKP 21 29 58.9 -0.4
baz=3.6
O54A Avella 135.63 356 P PKiKP 21 29 58.8 -0.5
baz=4.8
O48A Farmland 135.65 2 P PKPdf 21 29 58.3 +0.6

baz=358
ACSO Alum Creek Sta 135.68 359 P **PKPdf 21 29 58.1 +0.3**
baz=1.1
O49A Covington 135.73 1 P **PKPdf 21 29 58.4 +0.6**
baz=359
O51A Pataskala 135.76 359 P **PKiKP 21 29 58.7 -0.8**
baz=1.7
O52A Adamsville 135.77 358 P **PKPdf 21 29 57.9 0.0**
baz=2.8
O50A Cable 135.77 360 P **PKPdf 21 29 58.4 +0.4**
baz=0.2
P59A Jarrettsville 135.79 352 P **PKPdf 21 29 58.4 +0.4**
baz=10
P58A Pank, Wackersv 136.02 353 P **PKiKP 21 29 59.3 -0.8**
baz=9.3
P57A Homestead Farm 136.11 354 P **PKPdf 21 29 59.3 +0.8**
baz=8.3
P54A Burton 136.21 356 P **PKiKP 21 29 59.6 -0.9**
baz=4.7
P52A Corning 136.26 358 P **PKPdf 21 29 59.5 +0.6**
baz=2.4
P55A Reedsville 136.26 356 P **PKPdf 21 29 59.6 +0.7**
baz=5.7
P50A Jamestown 136.31 0 P **PKPdf 21 29 59.6 +0.6**
baz=360
P48A Milroy 136.43 2 P **PKPdf 21 29 59.6 +0.4**
baz=358
Q59A Harwood 136.55 352 P **PKiKP 21 30 00.1 +0.8**
baz=10
Q57A Strasburg 136.60 354 P **PKiKP 21 30 00.3 -0.9**
baz=7.8
Q58A Fox Den Farm, 136.61 353 P **PKiKP 21 30 00.4 -0.9**
baz=8.8
Q56A Snyder Ridge, 136.67 355 P **PKPdf 21 30 00.2 +0.6**
baz=6.7
Q55A Buckhannon 136.79 356 P **PKPdf 21 30 00.7 +0.8**
baz=5.4
Q52A Bidwell 136.93 358 P **PKPdf 21 30 00.5 +0.4**
baz=2.2
Q48A North Vernon 136.95 2 P **PKPdf 21 30 00.5 +0.4**
baz=357
Q50A Georgetown 137.07 0 P **PKPdf 21 30 01.0 +0.6**
baz=360
R60A Leonardtown, M 137.13 352 P **PKiKP 21 30 01.7 -0.7**
baz=10
R58A Rapidan 137.28 353 P **PKiKP 21 30 02.1 -0.6**
baz=8.5
CCM Cathedral Cave 137.29 9 P **PKiKP 21 30 01.8 -0.9**
baz=349
R56A Bull Pasture M 137.32 355 P **PKPdf 21 30 01.3 +0.4**
baz=6.4
R57A Stanardsville 137.34 354 P **PKPdf 21 30 00.9 0.0**
baz=7.7
R49A Shelbyville 137.61 2 P **PKPdf 21 30 01.0 -0.4**
baz=358
MSTX Muleshoe 137.92 24 P **PKPdf 21 30 02.3 0.0**
baz=331
U40A Yellville 138.68 11 P **PKPdf 21 30 03.6 +0.2**
baz=346
T58A Grand View Acr 138.68 354 P **PKPdf 21 30 03.6 +0.2**
baz=7.9
MNTX Cornudas Mount 138.71 28 P **PKPdf 21 30 03.6 0.0**
baz=326
U58A Oxford 139.23 354 P **PKPdf 21 30 04.8 +0.4**
baz=8.0
WVT Waverly 139.60 5 P **PKPdf 21 30 06.0 +0.9**
baz=354
W41B Gary Mavity, V 139.94 11 P **PKPdf 21 30 06.0 +0.3**
baz=347
V54A Nebo 140.10 358 P **PKPdf 21 30 06.4 +0.3**
baz=2.8
V53A Saluda 140.23 359 P **PKPdf 21 30 07.1 +0.7**
baz=1.5
MIAR Mount Ida 140.28 13 P **PKPdf 21 30 07.2 +0.8**
baz=345
ABTX Abilene, Hawle 140.31 21 P **PKiKP 21 30 07.9 -1.2**
baz=335
ABTX Abilene, Hawle 140.31 21 **PKiKP 21 30 07.8 -1.2**
W58A Raeford 140.66 354 P **PKiKP 21 30 08.4 -1.2**
baz=7.1
W56A Indian Trail 140.66 356 P **PKiKP 21 30 08.4 -1.3**
baz=5.0
KMSC Kings Mountain 140.70 357 P **PKPdf 21 30 08.1 +1.0**
baz=3.8
W49A Belvidere 140.72 3 P **PKPdf 21 30 08.1 +0.9**
baz=356
W53A Cullowhee 140.74 359 P **PKPdf 21 30 08.0 +0.6**
baz=1.0
W51A Cleveland 140.74 1 P **PKPdf 21 30 08.3 +1.1**
baz=358
X54A Belton 141.34 358 P **PKPdf 21 30 09.2 +0.9**
baz=2.2
X53A Estanollee 141.41 359 P **PKPdf 21 30 09.5 +1.1**
baz=0.8
TXAR Lajitas Array 141.49 29 PKhKP PKPpre 21 30 02.5
comp=Z,2.0nm,0.7s,baz=275,slow=1.6,SNR=23
TXAR PKP **PKPdf 21 30 09.4 +0.5**
comp=Z,4.0nm,0.6s,baz=99,slow=0.7,SNR=29
TXAR SKPbc **SKPbc 21 33 38.0 0.0**
comp=Z,2.0nm,0.5s,baz=256,slow=0.4,SNR=16
PLCA Paso Flores 141.82 196 PKhKP PKPpre 21 30 06.5
comp=Z,2.4nm,0.8s,baz=221,slow=1.2,SNR=4.1
Y51A Rockmart 141.99 2 P **PKPdf 21 30 10.7 +1.2**
baz=358
Y53A Monroe 142.05 360 P **PKPdf 21 30 10.7 +1.1**
baz=0.3
JCT Junction City 142.17 23 P **PKPdf 21 30 11.1 +1.1**
baz=333
Z58A St. Stephen 142.38 355 P **PKPdf 21 30 11.1 +1.0**
baz=6.5
Z59A Georgetown, SC 142.42 354 P **PKPdf 21 30 10.6 +0.4**
baz=7.3
Z54A Sparta 142.66 359 P **PKPdf 21 30 11.2 +0.5**
baz=1.5
NATX Nacogdoches 142.67 15 P **PKPdf 21 30 11.5 +0.7**
baz=342
BDFB Brasilia 143.09 250 PKiKP **PKiKP 21 30 15.0 -0.3**
BDFB Brasilia 143.09 250 PKP **PKPdf 21 30 12.8 +0.8**
comp=Z,3.3nm,0.5s,baz=155,slow=8.7,SNR=6.9
BDFB Brasilia 143.09 250 **PKiKP 21 30 15.0 -0.3**
GO06 Curarrehue 143.15 196 **PKPdf 21 30 13.0 +1.5**
152A Waverly Hall 143.23 1 P **PKPdf 21 30 11.6 -0.1**
baz=358
254A Abbeville 143.96 359 P **PKPdf 21 30 11.9 -1.0**
baz=0.8
833A Chaparral WMA, 144.25 24 P PKPbc 21 30 12.5 +0.6
baz=333
352A Blakely 144.41 2 P PKPbc 21 30 12.5 +0.1
baz=358
353A Camilla 144.55 1 P PKPbc 21 30 13.0 +0.2
baz=359
BRAL Brewton 144.59 5 P PKPbc 21 30 13.0 0.0
baz=354
CPUP Villa Florida 146.53 226 PKP2 **PKPab 21 30 20.2 0.0**
CPUP Villa Florida 146.53 226 PKPbc **PKPab 21 30 19.9 -0.3**
comp=Z,11nm,0.9s,baz=119,slow=2.0,SNR=23
CPUP Villa Florida 146.53 226 **PKPab 21 30 20.1 0.0**
GO04 Tololo Observa 151.49 204 **PKiKP 21 30 32.6 +0.2**
TEIG Tepich 155.23 10 **PKPab 21 30 56.0 0.0**
LPAZ La Paz 160.56 231 PKP **PKPdf 21 30 39.8 +1.3**
comp=Z,4.5nm,0.8s,baz=51,slow=2.2,SNR=15
LPAZ PKPab **PKPab 21 31 22.4 +2.2**
comp=Z,1.4nm,0.7s,baz=24,slow=7.4,SNR=3.0

*NEIC **20** 21:13:48.9±1.6,24.°09S±0.°06×66.°62W±0.°09, h189km±7km, mb4.4/9*
*ISCJB **20** 21:13:49.4±0.3,24.°06S±0.°03×66.°82W±0.°03, h208km±3km, Error ellipse: s-maj=5.1km s-min=4.2km az=28.3*
*IDC **20** 21:13:50.3±1.1,23.°96S×66.°65W, h195km±10km, mb3.4/5, mb1 3.4/11,mb1mx3.3/29, mbtmp3.8/11, Error ellipse: s-maj=18.4km s-min=15.0km az=29.0*
*SJA **20** 21:13:50.0±1.0,24.°01S×66.°77W, h208km±9km, ML2.9, MW3.3*
*GUC **20** 21:13:51.6±0.6,23.°86S×67.°51W, h266km±12km, ML4.3*
ISC 20 21:13:50.1±0.6,24.°06S±0.°04×66.°80W±0.°04, h204km±6km, n56,σ1$49/81,7C-1D,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SLA	**San Lorenzo**	**1.35**	**119**	*e*P		**Pn**	**21 14 24.0**	**+1.0**
SLA				*e*S		**S**	**21 14 48.4**	**+0.1**
SLA	**San Lorenzo**	**1.35**	**119**	*i* P		**Pn**	**21 14 24.0**	**+1.0**
SLA				*i* S		**S**	**21 14 48.9**	**+0.5**
SLA				IAML			21 14 51.9	
	comp=Z,77nm,0.7s							
HJA	**Humahuaca**	**1.53**	**56**	*i* P		**Pn**	**21 14 25.5**	**+0.6**
HJA				IAML			21 14 28.1	
	comp=Z,79nm,0.5s							
HJA				*i* S		**S**	**21 14 52.8**	**+1.3**
AZAP	**Zapla**	**1.59**	**96**	*i* P		**Pn**	**21 14 25.6**	**+0.3**
AZAP				IAML			21 14 25.7	
	comp=Z,44nm,0.3s							
AZAP				*i* S		**S**	**21 14 50.9**	**-1.1**
YJA	**Yavi**	**2.22**	**32**	*i* P		**Pn**	**21 14 32.4**	**+0.7**
YJA				*i* S		**S**	**21 15 03.2**	**-0.3**
LVC	**Limon Verde**	**2.42**	**306**	P		**Pn**	**21 14 34.9**	**+1.1**
	comp=Z,23nm,0.3s,baz=128,slow=6.8,SNR=194							
LVC				S		**S**	**21 15 08.1**	**+0.9**
	comp=Z,55nm,0.3s,baz=277,slow=20,SNR=87							
LVC	**Limon Verde**	**2.42**	**306**	*i* P		**Pn**	**21 14 35.0**	**+1.1**
LVC				*i* S		**S**	**21 15 08.4**	**+1.2**
PB15	**IPOC Station P**	**2.60**	**289**	⇑*i* P		**Pn**	**21 14 36.6**	**+1.1**
PB15				*i* S		**S**	**21 15 11.3**	**+0.9**
PB15	**IPOC Station P**	**2.60**	**289**	*i* P		**Pn**	**21 14 36.7**	**+1.1**
PB15				*i* S		**S**	**21 15 10.5**	**+0.1**
GO02	**Mina Guanaco**	**2.77**	**246**	⇑*i* P		**Pn**	**21 14 38.6**	**+1.0**
GO02				*i* S		**S**	**21 15 14.3**	**+0.3**
GO02				IAML			21 15 15.7	
	comp=N,580nm,0.3s							
GO02	**Mina Guanaco**	**2.77**	**246**			**Pn**	**21 14 38.6**	**+1.0**
GO02				Sn		**S**	**21 15 14.9**	**+0.9**
PB06	**IPOC Station P**	**2.89**	**297**	*i* P		**Pn**	**21 14 39.7**	**+0.9**
PB06				*i* S		**S**	**21 15 15.8**	**-0.5**
PB06				IAML			21 15 17.8	
	comp=E,489nm,0.4s							
PB06	**IPOC Station P**	**2.89**	**297**	*i* P		**Pn**	**21 14 39.8**	**+0.9**
PB06				*e*S		**S**	**21 15 16.0**	**-0.3**
PB09	**IPOC Station P**	**3.19**	**315**	⇑*i* P		**Pn**	**21 14 43.5**	**+1.1**
PB09				*e*S		**S**	**21 15 22.8**	**+0.1**
PB09				IAML			21 15 24.3	
	comp=N,199nm,0.5s							
PB14	**IPOC Station P**	**3.34**	**260**	⇓*i* P		**Pn**	**21 14 44.8**	**+0.5**
PB14				*e*S		**S**	**21 15 24.7**	**-1.3**
PB14				IAML			21 15 27.2	
	comp=E,130nm,0.4s							
PB05	**IPOC Station P**	**3.35**	**290**	⇑*i* P		**Pn**	**21 14 44.5**	**+0.3**
PB05				*i* S		**S**	**21 15 24.3**	**-1.8**
PB05				IAML			21 15 26.5	
	comp=E,222nm,0.2s							
PB05	**IPOC Station P**	**3.35**	**290**	*e*P		**Pn**	**21 14 44.9**	**+0.6**
PB05				*i* S		**S**	**21 15 24.4**	**-1.6**
PB03	**IPOC Station P**	**3.38**	**306**	*e*P		**Pn**	**21 14 45.0**	**+0.3**
PB03				*i* S		**S**	**21 15 25.6**	**-1.2**
PB03				IAML			21 15 26.4	
	comp=E,328nm,0.3s							
PB10	**IPOC Station P**	**3.48**	**278**			**Pn**	**21 14 46.5**	**+0.8**
PB10				Sn		**S**	**21 15 27.9**	**-0.8**
PB04	**IPOC Station P**	**3.53**	**298**	*e*P		**Pn**	**21 14 46.6**	**+0.1**
PB04				*e*S		**S**	**21 15 28.4**	**-1.7**
PB04				IAML			21 15 30.6	
	comp=E,443nm,0.3s							
PB04	**IPOC Station P**	**3.53**	**298**			**Pn**	**21 14 47.1**	**+0.6**
PB04				Sn		**S**	**21 15 28.6**	**-1.5**
PB07	**IPOC Station P**	**3.68**	**309**	⇑*i* P		**Pn**	**21 14 48.5**	**+0.2**
PB07				*i* S		**S**	**21 15 31.0**	**-2.3**
PB07				IAML			21 15 33.2	
	comp=E,486nm,0.4s							
PB02	**IPOC Station P**	**3.96**	**313**	⇑*i* P		**Pn**	**21 14 51.3**	**-0.3**
PB02				*i* S		**S**	**21 15 36.7**	**-2.7**
PB02				IAML			21 15 38.7	
	comp=E,457nm,0.3s							
PB08	**IPOC Station P**	**4.47**	**330**	⇑*i* P		**Pn**	**21 14 58.9**	**+0.5**
PB08				*i* S		**S**	**21 15 51.3**	**-0.2**
GO03	**Copiap**	**4.69**	**221**			**Pn**	**21 15 00.1**	**-0.5**
GO03				Sn		**S**	**21 15 53.4**	**-2.5**
GO01	**Chusmiza**	**4.91**	**333**	Pn		**Pn**	**21 15 03.9**	**0.0**
GO01				Sn		**S**	**21 16 00.7**	**-0.9**
PB11	**IPOC Station P**	**5.04**	**328**	Pn		**Pn**	**21 15 05.6**	**+0.3**
PB11				Sn		**S**	**21 16 00.3**	**-3.9**
MNMC	**Minye Minye**	**5.56**	**332**			**Pn**	**21 15 11.4**	**-0.6**
MNMC				Sn		**S**	**21 16 13.6**	**-2.8**
GO04	**Tololo Observa**	**7.05**	**209**	Pn		**Pn**	**21 15 29.5**	**-1.7**
GO04				Sn		S	21 16 41.6	-10
CFA	**Coronel Fontan**	**7.62**	**189**	S		**S**	**21 16 57.9**	**-6.7**
	comp=E,1.3nm,0.3s,baz=148,slow=21,SNR=7.9							
LPAZ	**La Paz**	**7.84**	**351**	P		**Pn**	**21 15 42.9**	**+1.0**
	comp=E,0.3nm,0.3s,baz=197,slow=7.1,SNR=3.5							
LPAZ				S		**S**	**21 17 07.5**	**-3.3**
	comp=E,0.2nm,0.3s,baz=6.4,slow=13,SNR=4.4							
LPAZ	**La Paz**	**7.84**	**351**			**Pn**	**21 15 41.0**	**-0.9**
CPUP	**Villa Florida**	**8.87**	**107**	P		**Pn**	**21 15 53.4**	**-1.2**
	comp=E,0.2nm,0.3s,baz=298,slow=12,SNR=6.1							
SIV	**San Ignacio**	**9.66**	**35**	P		**Pn**	**21 16 02.8**	**-2.2**
	comp=E,0.4nm,0.3s,baz=226,slow=12,SNR=11							
TRQA	**Tornquist**	**14.54**	**165**	P		**Pn**	**21 17 06.7**	**+0.1**
PLCA	**Paso Flores**	**16.92**	**190**	P		**Pn**	**21 17 35.4**	**+0.2**
	comp=E,0.1nm,0.3s,baz=14,slow=7.0,SNR=3.5							
PLCA	**Paso Flores**	**16.92**	**190**	P		**P**	**21 17 34.7**	**+0.9**
BDFB	**Brasilia**	**19.54**	**68**	P		**P**	**21 18 02.3**	**-0.3**
	comp=E,0.3nm,0.3s,baz=220,slow=16,SNR=2.2							
BDFB	**Brasilia**	**19.54**	**68**	P		**P**	**21 18 00.4**	**-2.2**
BDFB				IAmb		IAmb	21 18 10.8	
	comp=Z,4.2nm,0.8s							
TOSP	**Speyside**	**35.67**	**11**	P		**P**	**21 20 28.8**	**-0.2**
ZAIG	**Zacatecas**	**58.09**	**321**	P		**P**	**21 23 23.6**	**+0.9**
ZAIG				IAmb		IAmb	21 23 28.4	
	comp=Z,3.2nm,0.5s							
SNAA	**Sanae**	**59.23**	**161**	P		**P**	**21 23 31.1**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=20,slow=23,SNR=1.7							
SNAA	**Sanae**	**59.23**	**161**	P		**P**	**21 23 30.3**	**+0.7**
SNAA				IAmb		IAmb	21 23 31.7	
	comp=Z,1.4nm,0.9s							
PAULI	**Pauline**	**60.27**	**346**			pP	21 24 24.0	-1.1
KMSC	**Kings Mountain**	**60.47**	**346**			**PcP**	**21 24 18.3**	**-2.7**
T57A	**Hurt**	**61.86**	**349**			pP	21 24 33.9	-2.1
R53A	**Hurricane**	**63.67**	**347**	IAmb		IAmb	21 24 00.8	
	comp=Z,23nm,0.8s							
R50A	**Paris**	**64.16**	**345**	IAmb		IAmb	21 24 08.7	
	comp=Z,18nm,0.8s							
TORD	**Torodi Ar. Bea**	**76.42**	**69**	P		**P**	**21 25 17.4**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=267,slow=6.6,SNR=6.4							
PDAR	**Pinedale Array**	**77.30**	**329**	P		**P**	**21 25 23.9**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=132,slow=5.4,SNR=2.6							
ULM	**Lac du Bonnet**	**78.35**	**341**	P		**P**	**21 25 27.9**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=168,slow=4.0,SNR=4.8							
YKA	**Yellowknife Ar**	**94.25**	**340**	P		**P**	**21 26 46.6**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=137,slow=4.1,SNR=8.2							
ASAR	**Alice Springs**	**128.48**	**204**	PKP		**PKiKP**	**21 32 34.3**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=139,slow=1.5,SNR=5.5							
ZALV	**Zalesovo Beam**	**143.36**	**28**	PKP		**PKPdf**	**21 32 58.6**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=292,slow=4.5,SNR=4.8							
MKAR	**Makanchi Array**	**146.45**	**40**	PKPbc		**PKPbc**	**21 33 07.5**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=301,slow=3.4,SNR=14							
KLR	**Kul'dur**	**150.96**	**335**	PKPbc		**PKiKP**	**21 33 19.6**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=140,slow=11,SNR=1.8							

*SFS **20** 21:58:37.0,34.°88N×3.°57W, h23km, ML2.4, ANOUAL (MARRUECOS)*
*ISCJB **20** 21:58:38.3±0.5, 35.°18N±0.°02×3.°70W±0.°02, h16km±5km, Error ellipse: s-maj=3.3km s-min=2.6km az=10.1*
*MDD **20** 21:58:38.0±0.9, 35.°02N×3.°62W, h12km±9km, mbLg2.4/20, Error ellipse: s-maj=13.3km s-min=3.5km az=169.0, PRXIMO*
*CNRM **20** 21:58:39.7, 35.°18N×3.°81W, h26km, ml3.2*
*INMG **20** 21:58:39.8±1.2, 35.°08N×3.°56W, h21km±7km, ML2.2, Error ellipse: s-maj=5.5km s-min=3.6km az=139.0*
ISC 20 21:58:37.1±1.1,35.°16N±0.°02×3.°58W±0.°02, h13km±9km, n50,σ1$70/95,3C,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EMEL	**Melilla**	**0.53**	**74**	P		**Pn**	**21 58 49.0**	**-1.3**
	645nm,0.2s,SNR=7.9							
EMEL				S		**Sn**	**21 58 58.8**	**-0.3**
	665nm,0.2s,SNR=7.9							
MELI	**Melilla**	**0.54**	**76**	⇑*i* P		**Pn**	**21 58 49.3**	**-1.2**
MELI				*e*S		**Sn**	**21 58 59.8**	**+0.4**
MELI	**Melilla**	**0.54**	**76**	P		**Pn**	**21 58 49.2**	**-1.2**
	475nm,0.2s,SNR=7.9							
MELI				S		**Sn**	**21 58 58.0**	**-1.4**
	249nm,0.2s,SNR=7.9							
PVLZ	**Peæn de**	**0.59**	**271**	⇑*i* P		**Pg**	**21 58 48.9**	**+0.2**
PVLZ				*i* S		**Sg**	**21 58 56.8**	**+0.2**
PVLZ	**Peæn de**	**0.59**	**271**	⇑P		**Pg**	**21 58 48.9**	**+0.2**
PVLZ				S		**Sg**	**21 58 56.8**	**+0.2**
EALB	**Alboran**	**0.90**	**30**	P		**Pn**	**21 58 55.8**	**+0.5**
	25nm,0.2s,SNR=12							
EALB				S		**Sn**	**21 59 10.5**	**+2.3**
	153nm,0.3s							
JBK	**JBK**	**1.17**	**134**	P		**Pn**	**21 58 58.6**	**-0.8**
JBK				S		**Sg**	**21 59 15.4**	**+0.4**
CHEFC	**Chefchaouen**	**1.45**	**268**	P		**Pb**	**21 59 04.3**	**+0.4**
CHEFC				S		**Sn**	**21 59 14.8**	**-7.1**
SMIR	**Smir Dam**	**1.56**	**290**	P		**Pn**	**21 59 03.5**	**-1.0**
SMIR				S		**Sn**	**21 59 22.2**	**-2.4**
CEU	**Ceuta**	**1.64**	**297**	*e*P		**Pn**	**21 59 05.9**	**+0.3**
CEU				*e*S		**Sn**	**21 59 25.9**	**-0.6**
CEU	**Ceuta**	**1.64**	**297**	P		**Pn**	**21 59 05.9**	**+0.3**
CEU				S		**Sn**	**21 59 25.9**	**-0.6**
ECEU	**Ceuta**	**1.64**	**297**	P		**Pn**	**21 59 04.8**	**-0.8**
	2.3nm,0.1s,SNR=5.4							
ECEU				S		**Sn**	**21 59 24.3**	**-2.3**
	7.0nm,0.3s							
ELGU	**Los Guajares,**	**1.71**	**359**	P		**Pn**	**21 59 07.0**	**+0.4**
	1.3nm,0.1s,SNR=7.9							
ELGU				S		**Sn**	**21 59 27.8**	**-0.5**
	41nm,0.4s,SNR=7.9							
EMIJ	**Mijas**	**1.71**	**326**	P		**Pn**	**21 59 06.8**	**+0.3**
	2.6nm,0.5s,SNR=11							
EMIJ				S		**Sn**	**21 59 28.6**	**+0.4**
	8.1nm,0.2s,SNR=5.1							
EBER	**Berja**	**1.82**	**18**	P		**Pn**	**21 59 08.9**	**+0.6**
	3.5nm,0.4s,SNR=14							
EBER				S		**Sb**	**21 59 32.4**	**-0.8**
	24nm,0.4s,SNR=4.6							
EGOR	**Sierra Gorda,**	**1.99**	**348**	P		**Pb**	**21 59 12.2**	**-1.2**
	0.9nm,0.2s,SNR=7.9							
EGOR				S		**Sb**	**21 59 39.1**	**+1.0**
	17nm,0.5s,SNR=7.9							
EQUE	**Quentar**	**2.04**	**3**	P		**Pb**	**21 59 13.2**	**-1.0**
	2.4nm,0.3s,SNR=8.0							
EQUE				S		**Sb**	**21 59 39.6**	**+0.1**
	8.3nm,0.4s							
IFR	**Ifrane**	**2.08**	**218**	*e*P		**Pb**	**21 59 14.4**	**-0.4**
IFR				*e*S		**Sb**	**21 59 40.2**	**-0.5**
ENIJ	**Nijar**	**2.12**	**31**	P		**Pn**	**21 59 12.6**	**+0.3**
	2.4nm,0.3s,SNR=7.9							
ENIJ				S		**Sb**	**21 59 39.7**	**-2.0**
	21nm,0.4s,SNR=7.9							
TDRA	**Tendrara**	**2.48**	**148**	P		**Pb**	**21 59 21.1**	**-0.5**
TDRA				S		**Sb**	**21 59 52.7**	**+0.7**
MD31	**MD31**	**2.49**	**204**	P		**Pn**	**21 59 17.3**	**-0.1**
MD31				S		**Sn**	**21 59 47.8**	**+0.2**
MDT	**Midelt**	**2.49**	**200**	P		**Pb**	**21 59 21.7**	**-0.1**
MDT				S		**Sn**	**21 59 48.4**	**+0.6**
EQES	**Quesada**	**2.67**	**9**	P		**Pb**	**21 59 23.3**	**-1.5**
	3.0nm,0.2s,SNR=21							
EQES				S		**Sn**	**21 59 54.4**	**+2.3**
	6.2nm,0.3s							
ZHG	**ZHG**	**3.06**	**237**	P		**Pn**	**21 59 27.0**	**+1.8**
ZHG				S		**Sn**	**22 00 01.0**	**-0.7**
SESP	**Santiago Espad**	**3.07**	**15**	P		**Pn**	**21 59 27.8**	**+2.4**
SESP				S		**Sb**	**22 00 06.2**	**-2.9**
SESP	**Santiago Espad**	**3.07**	**15**	P		**Pb**	**21 59 28.9**	**-2.7**
	5.9nm,0.4s,SNR=7.9							
SESP				S		**Sn**	**22 00 04.5**	**+2.4**
	4.4nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**3.11**	**345**	P		**Pn**	**21 59 28.3**	**+2.4**
	0.2nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**22 00 05.7**	**+2.8**
	2.4nm,0.4s,SNR=7.9							
ECAB	**El Cabril**	**3.27**	**334**	P		**Pn**	**21 59 30.3**	**+2.3**
	0.9nm,0.4s,SNR=7.9							
ECAB				S		**Sn**	**22 00 07.5**	**+0.7**
	4.5nm,0.5s,SNR=7.9							
EMUR	**La Murta**	**3.27**	**34**	P		**Pn**	**21 59 30.0**	**+1.8**
	1.3nm,0.2s,SNR=7.9							
EMUR				S		**Sn**	**22 00 07.4**	**+0.5**
	8.9nm,0.6s,SNR=7.9							
FIGM	**Figuig**	**3.58**	**147**	S		**Sb**	**22 00 20.4**	**-3.4**
EMIN	**Mina Concepcio**	**3.60**	**317**	P		**Pn**	**21 59 33.3**	**+0.6**
	0.4nm,0.2s,SNR=7.6							
EMIN				S		**Sn**	**22 00 16.1**	**+1.0**
	0.9nm,0.3s							
GOLM	**Goulmima**	**3.63**	**199**	P		**Pn**	**21 59 35.2**	**+2.1**
GOLM				S		**Sn**	**22 00 20.7**	**+4.8**
ETOB	**Tobarra**	**3.84**	**24**	P		**Pn**	**21 59 39.2**	**+3.3**
	3.3nm,0.4s,SNR=16							
ETOB				S		**Sn**	**22 00 21.2**	**+0.2**
	1.2nm,0.3s,SNR=7.9							
EGRO	**El Granado**	**3.94**	**308**	P		**Pn**	**21 59 37.6**	**+0.4**
	0.5nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**22 00 22.1**	**-1.2**
	3.4nm,0.4s,SNR=7.9							
PVAQ	**Vaqueiros**	**4.02**	**305**	*e*P		**Pn**	**21 59 40.5**	**+2.1**
PVAQ				*e*S		**Sn**	**22 00 24.4**	**-1.0**
PVAQ				A		A	22 00 24.9	
	4.8nm,0.4s							
PVAQ	**Vaqueiros**	**4.02**	**305**	P		**Pn**	**21 59 40.5**	**+2.1**
PVAQ				S		**Sn**	**22 00 24.4**	**-1.0**
	4.8nm,0.4s							
PBDV	**Barranco-do-Ve**	**4.09**	**302**	*e*P		**Pn**	**21 59 40.9**	**+1.6**
PBDV				*e*S		**Sn**	**22 00 26.8**	**-0.2**
PBDV				A		A	22 00 32.5	
	4.2nm,0.7s							
PBDV	**Barranco-do-Ve**	**4.09**	**302**	P		**Pn**	**21 59 40.9**	**+1.6**
PBDV				S		**Sn**	**22 00 26.8**	**-0.2**
	4.2nm,0.7s							
TISM	**Timmit**	**4.18**	**216**	P		**Pn**	**21 59 39.8**	**-0.8**
TISM				S		**Sn**	**22 00 29.9**	**+0.6**
PAB	**San Pablo**	**4.42**	**352**	P		**Pn**	**21 59 45.8**	**+1.9**
	0.6nm,0.3s,SNR=7.9							
PAB				S		**Sn**	**22 00 36.5**	**+1.1**
	0.1nm,0.3s,SNR=7.9							
ESDC	**Sonseca Array**	**4.52**	**356**	P		**Pn**	**21 59 47.5**	**+2.3**
	1.3nm,0.2s,baz=177,slow=12,SNR=4.0							
ESDC				S		**Sn**	**22 00 39.2**	**+1.5**
	0.3nm,0.2s,baz=181,slow=24,SNR=4.0							
EBAD	**Badajoz**	**4.52**	**324**	P		**Pn**	**21 59 45.9**	**+0.7**
	0.8nm,0.2s,SNR=7.9							
EBAD				S		**Sn**	**22 00 36.1**	**-1.6**
	2.3nm,0.3s,SNR=7.9							
TZRR	**Tazzarine**	**4.67**	**202**	P		**Pn**	**21 59 46.2**	**-1.2**
TZRR				S		**Sn**	**22 00 43.2**	**+1.6**
EVO	**Evora**	**4.90**	**315**	*e*P		**Pn**	**21 59 51.4**	**+1.0**
EVO	**Evora**	**4.90**	**315**	P		**Pn**	**21 59 51.4**	**+1.0**
PNCL	**Nicolau / Gran**	**4.95**	**308**	*e*P		**Pn**	**21 59 52.7**	**+1.5**
PNCL				*e*S		**Sn**	**22 00 47.8**	**-0.5**
PNCL	**Nicolau / Gran**	**4.95**	**308**	P		**Pn**	**21 59 52.7**	**+1.5**
PNCL				S		**Sn**	**22 00 47.8**	**-0.5**
ZGR	**Zagora**	**5.31**	**199**	P		**Pn**	**21 59 57.2**	**+1.0**
ZGR				S		**Sn**	**22 01 00

BBOO	**Buckleboo**	**43.47**	**241**	P	**P**	**22 11 10.1**	**+0.1**
WRAB	**Tennant Creek**	**44.75**	**260**	P	**P**	**22 11 19.4**	**-0.5**
WRAB				IAmb	IAmb	22 11 26.4	
	comp=E,5.3nm,1.1s						
WRA	**Warramunga Arr**	**44.76**	**260**	P	**P**	**22 11 20.1**	**+0.1**
	comp=E,1.8nm,0.3s,baz=94,slow=7.2,SNR=48						
AS31	**Alice Springs**	**44.90**	**254**	P	**P**	**22 11 21.5**	**+0.4**
AS31				IAmb	IAmb	22 11 22.5	
	comp=E,3.0nm,0.5s						
ASAR	**Alice Springs**	**44.90**	**254**	P	**P**	**22 11 21.5**	**+0.4**
	comp=E,8.3nm,0.6s,baz=87,slow=8.8,SNR=133						
ASAR				PcP	**PcP**	**22 12 49.2**	**-0.2**
	comp=E,0.4nm,0.5s,baz=99,slow=3.7,SNR=4.6						
FITZ	**Fitzroy Crossi**	**53.16**	**261**	P	**P**	**22 12 22.4**	**+0.6**
PSA00	**Pilbara Seismi**	**58.02**	**255**	P	**P**	**22 12 54.9**	**-0.5**
PSA00				IAmb	IAmb	22 12 56.6	
	comp=E,9.8nm,1.1s						
KBO	**Bosley Butte**	**77.93**	**38**	P	**P**	**22 14 55.9**	**+0.4**
KBO				IAmb	IAmb	22 14 58.4	
	comp=E,14nm,1.1s						
VCNR	**Virginia City**	**79.02**	**42**	P	**P**	**22 15 01.8**	**+0.2**
VCNR				IAmb	IAmb	22 15 02.4	
	comp=E,4.7nm,0.6s						
WAX	**Waxell Ridge**	**83.28**	**17**	P	**P**	**22 15 23.4**	**+0.7**
WAX				IAmb	IAmb	22 15 23.7	
	comp=E,12nm,1.2s						
PMSA	**Palmer Station**	**83.62**	**157**	P	**P**	**22 15 23.3**	**-1.0**
PMSA				IAmb	IAmb	22 15 32.7	
	comp=E,4.0nm,0.8s						
BWN	**Browne**	**84.93**	**12**	P	**P**	**22 15 29.9**	**-0.6**
TXAR	**Lajitas Array**	**85.94**	**58**	P	**P**	**22 15 37.3**	**+1.0**
	comp=E,0.3nm,0.8s,baz=212,slow=5.0,SNR=2.8						
SYO	**Syowa Base**	**89.05**	**193**	‖ *e*P	**P**	**22 15 47.2**	**-2.8**
S44A	**Carbondale**	**100.03**	**54**		pwP	22 18 55.2	+1.8
P43A	**Skaggs, Pawnee**	**100.33**	**52**		pP	22 18 51.4	-0.1
T47A	**Sharon Grove**	**101.52**	**55**		pP	22 18 53.6	-3.3
BRTR	**Keskin Array B**	**144.99**	**315**	PKP	**PKPab**	**22 22 29.1**	**-1.4**
	comp=E,0.8nm,0.7s,baz=29,slow=3.3,SNR=4.9						
GERES	**GERESS Array B**	**147.79**	**345**	PKPbc	**PKiKP**	**22 22 36.3**	**-1.7**
	comp=E,0.4nm,0.5s,baz=9.8,slow=6.4,SNR=2.9						
WLF	**Walferdange**	**148.26**	**355**	PKPbc	**PKiKP**	**22 22 38.6**	**-0.2**

*IDC **20** 22:06:00.3±13.0, 17°.30S×179°.09W, h507km±166km, mb3.1/6, mb1 3.4/6, mb1mx3.1/30, mbtmp3.9/6, Error ellipse: s-maj=108.5km s-min=41.5km az=162.0*
*ISCJB **20** 22:06:01.4±0.6, 17°.6S±0°.2×179°.0W±0°.1, h539km, mb3.5/6, Error ellipse: s-maj=25.0km s-min=11.0km az=141.3*
*NEIC **20** 22:06:03.8±1.2, 17°.6S±0°.2×179°.0W±0°.2, h558km±12km, mb4.2/9*

ISC 20 22:06:02.3±0.7, 17°.6S±0°.2×179°.0W±0°.2, h539km, n18, σ0s50/18, mb4.0/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.41**	**250**	P	**P**	**22 09 06.6**	**+0.6**
OUZ	**Omahuta**	**18.76**	**199**	P	**P**	**22 09 46.8**	**-0.6**
ARMA	**Armidale**	**29.63**	**239**	P	**P**	**22 11 24.5**	**+0.2**
ARMA				IAmb	IAmb	22 11 34.8	
	comp=E,4.5nm,1.0s						
MLZ	**Mavora Lakes**	**29.71**	**199**	P	**P**	**22 11 24.6**	**-0.2**
TOO	**Toolangi**	**36.95**	**230**	P	**P**	**22 12 26.4**	**+0.6**
TOO				IAmb	IAmb	22 12 27.6	
	comp=E,5.3nm,0.8s						
STKA	**Stephens Creek**	**38.30**	**241**	P	**P**	**22 12 36.9**	**-0.1**
	comp=E,2.4nm,0.6s,baz=116,slow=9.5,SNR=4.4						
BBOO	**Buckleboo**	**43.08**	**241**	P	**P**	**22 13 14.4**	**-0.6**
BBOO				IAmb	IAmb	22 13 15.0	
	comp=E,8.4nm,1.0s						
WRA	**Warramunga Arr**	**44.15**	**259**	P	**P**	**22 13 23.3**	**-0.2**
	comp=E,0.5nm,0.4s,baz=93,slow=7.0,SNR=5.8						
AS31	**Alice Springs**	**44.35**	**254**	P	**P**	**22 13 25.5**	**+0.5**
ASAR	**Alice Springs**	**44.35**	**254**	P	**P**	**22 13 25.3**	**+0.2**
	comp=E,6.1nm,0.6s,baz=88,slow=8.1,SNR=51						
FORT	**Forrest**	**49.65**	**244**	P	**P**	**22 14 04.7**	**-0.1**
KNRA	**Kununurra**	**49.97**	**264**	P	**P**	**22 14 07.1**	**-0.3**
KNRA				IAmb	IAmb	22 14 10.2	
	comp=E,7.7nm,1.1s						
KMRM	**Mail Ridge**	**77.13**	**40**	P	**P**	**22 17 00.2**	**-0.4**
KMRM				IAmb	IAmb	22 17 16.6	
	comp=E,19nm,1.2s						
NVAR	**Mina Array Bea**	**79.58**	**44**	P	**P**	**22 17 14.2**	**+0.3**
	comp=E,0.3nm,0.6s,baz=220,slow=6.8,SNR=3.6						
ILAR	**Eielson Array**	**85.71**	**13**	P	**P**	**22 17 43.0**	**-0.8**
	comp=E,0.4nm,0.8s,baz=230,slow=6.5,SNR=4.4						
TXAR	**Lajitas Array**	**86.29**	**58**	P	**P**	**22 17 48.2**	**+0.7**
	comp=E,0.4nm,0.7s,baz=219,slow=6.9,SNR=4.0						
RSSD	**Black Hills**	**91.72**	**44**	P	**P**	**22 18 13.1**	**+0.5**
GERES	**GERESS Array B**	**147.17**	**344**	PKPbc	**PKPbc**	**22 24 44.8**	**-0.4**
	comp=E,0.4nm,0.5s,baz=62,slow=3.2,SNR=4.3						

*IDC **20** 22:55:50.5±1.6, 37°.05N×21°.24E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.4/37, mbtmp3.6/5, ML2.5/1, MS4.1/1, Ms1 4.1/1, ms1mx2.8/48, Error ellipse: s-maj=46.9km s-min=27.8km az=130.0*
*ISCJB **20** 22:55:53.1±0.5, 36°.80N±0°.04×21°.05E±0°.04, h23km, MS4.0/1, Error ellipse: s-maj=6.3km s-min=3.9km az=31.0*
*ATH **20** 22:55:56.9, 36°.88N×21°.41E, h39km±1km, ML3.1/16, Error ellipse: s-maj=3.5km s-min=1.5km az=56.0*

ISC 20 22:55:53.2±0.9, 36°.80N±0°.04×21°.23E±0°.04, h23km, n67, σ1s79/71, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.42**	**77**	P	**Pn**	**22 56 05.0**	**+1.2**
PYL				S	**Sn**	**22 56 10.9**	**+0.1**
ITM	**Ithomi**	**0.67**	**56**	P	**Pn**	**22 56 08.2**	**+0.9**
ITM				S	**Sn**	**22 56 17.1**	**+0.1**
ITM				AML	AML	22 56 19.1	
	comp=E,5340μm,0.4s						
ITM				AML	AML	22 56 19.4	
	comp=N,6656μm,0.3s						
AMT	**Artemida-Makis**	**0.82**	**27**	P	**Pn**	**22 56 10.4**	**+1.0**
AMT				S	**Sn**	**22 56 21.5**	**+0.6**
AMT				AML	AML	22 56 26.0	
	comp=N,5139μm,0.5s						
AMT				AML	AML	22 56 30.5	
	comp=E,5364μm,0.5s						
VLX	**Vlachokerasia**	**1.08**	**58**	P	**Pb**	**22 56 15.1**	**+1.9**
VLX				AML	AML	22 56 32.0	
	comp=N,3561μm,0.6s						
VLX				AML	AML	22 56 33.4	
	comp=E,3715μm,0.4s						
VLMS	**Volimes, Zakyn**	**1.16**	**337**	P	**Pb**	**22 56 17.6**	**+3.0**
VLMS				AML	AML	22 56 38.4	
	comp=N,2365μm,0.3s						
VLMS				AML	AML	22 56 40.0	
	comp=E,2947μm,0.4s						
DRO	**Drossia**	**1.21**	**18**	P	**Pb**	**22 56 16.8**	**+1.4**
RLS	**Riolos of Patr**	**1.27**	**8**	P	**Pb**	**22 56 17.8**	**+1.4**
KLV	**Kalavryta, Ach**	**1.44**	**30**	P	**Pb**	**22 56 20.4**	**+1.1**
KLV				AML	AML	22 56 50.3	
	comp=E,439μm,0.7s						
KLV				AML	AML	22 56 54.3	
	comp=N,453μm,0.7s						
MNVA	**Monemvasia**	**1.45**	**94**	P	**Pb**	**22 56 21.3**	**+1.7**
VLS	**Valsamata**	**1.46**	**340**	P	**Pb**	**22 56 21.1**	**+1.4**
VLS				AML	AML	22 56 49.4	
	comp=E,582μm,0.3s						
VLS				AML	AML	22 56 51.3	
	comp=N,999μm,0.4s						
LAKA	**Lakka**	**1.55**	**22**	P	**Pb**	**22 56 22.2**	**+0.9**
LAKA				AML	AML	22 56 49.2	
	comp=N,726μm,0.5s						
LAKA				AML	AML	22 56 56.1	
	comp=E,618μm,0.9s						
KTHA	**Kythira Island**	**1.57**	**110**	P	**Pb**	**22 56 23.3**	**+1.7**
KTHA				AML	AML	22 56 58.9	
	comp=E,878μm,0.7s						
KTHA				AML	AML	22 57 01.2	
	comp=N,660μm,0.7s						
KRND	**KRANIDI**	**1.64**	**69**	P	**Pb**	**22 56 23.1**	**+0.4**
KRND				AML	AML	22 56 56.5	
	comp=N,713μm,0.7s						
KRND				AML	AML	22 56 59.1	
	comp=E,1050μm,0.6s						
THAL	**Thalero**	**1.68**	**42**	P	**Pb**	**22 56 23.9**	**+0.5**
THAL				AML	AML	22 56 55.2	
	comp=N,1408μm,0.5s						
THAL				AML	AML	22 56 59.5	
	comp=E,2268μm,0.6s						
TRIZ	**Trizonia**	**1.69**	**23**	P	**Pb**	**22 56 24.6**	**+0.9**
EFP	**Efpalio**	**1.71**	**18**	P	**Pb**	**22 56 24.8**	**+0.9**
EFP				AML	AML	22 56 56.6	
	comp=N,377μm,0.4s						
EFP				AML	AML	22 56 56.7	
	comp=E,621μm,0.7s						
SERG	**Sergoula**	**1.73**	**22**	P	**Pb**	**22 56 25.3**	**+0.9**
FSK	**Fiskardo**	**1.74**	**342**	P	**Pb**	**22 56 25.8**	**+1.4**
KALE	**Kalithea**	**1.74**	**24**	P	**Pb**	**22 56 25.4**	**+0.9**
DID	**Didima**	**1.75**	**66**	P	**Pb**	**22 56 24.5**	**-0.1**
DID				AML	AML	22 56 58.6	
	comp=E,839μm,0.8s						
DID				AML	AML	22 56 58.9	
	comp=N,902μm,0.9s						
LOUT	**Loutraki**	**1.82**	**49**	P	**Pb**	**22 56 25.4**	**-0.4**
PVO	**Paravola**	**1.82**	**7**	P	**Pb**	**22 56 26.8**	**+0.9**
LTK	**Loutraki**	**1.84**	**48**	P	**Pb**	**22 56 25.4**	**-0.7**
ANKY	**Antikythira Is**	**1.91**	**119**	P	**Pb**	**22 56 28.7**	**+1.4**
PROD	**Prodromos**	**1.97**	**42**	P	**Pb**	**22 56 26.9**	**-1.4**
PROD				AML	AML	22 57 04.5	
	comp=E,465μm,0.5s						
PROD				AML	AML	22 57 05.5	
	comp=N,558μm,0.6s						
LKD2	**Lefkada island**	**2.03**	**347**	P	**Pb**	**22 56 29.6**	**+0.2**
LKD2				AML	AML	22 57 10.4	
	comp=E,703μm,0.7s						
LKD2				AML	AML	22 57 10.9	
	comp=N,741μm,0.6s						
VIL2	**Platees**	**2.14**	**48**	P	**Pn**	**22 56 28.9**	**+1.4**
VIL2				AML	AML	22 57 09.6	
	comp=N,423μm,0.8s						
VIL2				AML	AML	22 57 12.5	
	comp=E,897μm,0.8s						
EVR	**Evrytania**	**2.16**	**12**	P	**Pb**	**22 56 31.7**	**0.0**
EVR				AML	AML	22 57 13.9	
	comp=N,366μm,0.7s						
EVR				AML	AML	22 57 20.9	
	comp=E,422μm,1.0s						
AXAR	**Agios Charalam**	**2.26**	**30**	P	**Pb**	**22 56 32.2**	**-1.1**
VLY	**Voula,Athens**	**2.29**	**62**	P	**Pn**	**22 56 31.2**	**+1.6**
MAKR	**Makrakomi, Fth**	**2.32**	**18**	P	**Pb**	**22 56 33.9**	**-0.4**
AGG	**Agios Georgios**	**2.38**	**21**	P	**Pb**	**22 56 34.0**	**-1.4**
PTL	**Penteli**	**2.44**	**59**	P	**Pn**	**22 56 32.8**	**+1.3**
MHLO	**Agia Marina, M**	**2.55**	**92**	P	**Pb**	**22 56 35.5**	**-2.7**
MHLA	**Plaka, Milos I**	**2.56**	**90**	P	**Pb**	**22 56 35.8**	**-2.6**
IMMV	**Iera Moni Meta**	**2.60**	**120**	P	**Pb**	**22 56 36.8**	**-2.3**
SERI	**Serifos**	**2.63**	**81**	P	**Pn**	**22 56 36.0**	**+1.7**
MRKA	**Markates**	**2.66**	**44**	P	**Pn**	**22 56 36.4**	**+1.7**
EREA	**Eretria**	**2.68**	**52**	P	**Pn**	**22 56 36.6**	**+1.6**
VAM	**Vamos**	**2.78**	**119**	P	**Pb**	**22 56 39.7**	**-2.4**
THL	**Klokotos Trika**	**2.82**	**12**	P	**Pn**	**22 56 39.5**	**+2.6**
KARY	**Karystos**	**2.83**	**63**	P	**Pn**	**22 56 38.5**	**+1.5**
SKIA	**Skiathos**	**2.94**	**36**	P	**Pn**	**22 56 40.1**	**+1.5**
IOSP	**Ios island**	**3.26**	**90**	P	**Pn**	**22 56 44.8**	**+1.9**
SANT	**Santorini**	**3.43**	**96**	P	**Pn**	**22 56 47.5**	**+2.3**
LAST	**Lasithi**	**3.81**	**114**	P	**Pn**	**22 56 53.6**	**+3.0**
MASS	**Massafra**	**4.98**	**321**	*e*P	**Pn**	**22 57 08.6**	**+2.0**
SG1	**Sgolgore (BA)**	**5.37**	**320**	*e*P	**Pn**	**22 57 14.3**	**+2.3**
SG1				S	**Sn**	**22 58 05.9**	**-7.2**
BAI	**Bari**	**5.47**	**323**	*e*P	**Pn**	**22 57 15.1**	**+1.8**
BAI				S	**Sn**	**22 58 10.5**	**-5.0**
DRME	**Dracevica, Mon**	**5.60**	**344**	*e*Pn	**Pn**	**22 57 15.8**	**+0.7**
PDG	**Podgorica**	**5.82**	**345**	*e*Pn	**Pn**	**22 57 18.3**	**+0.2**
HCY	**Herceg Novi**	**6.02**	**340**	*e*Pn	**Pn**	**22 57 20.5**	**-0.3**
TREB	**Trebinje**	**6.31**	**340**	*e*Pn	**Pn**	**22 57 24.2**	**-0.6**
BRY	**Bratogost**	**6.43**	**342**	*e*Pn	**Pn**	**22 57 26.4**	**-0.2**
UPM	**Unac-Piva**	**6.64**	**345**	*e*Pn	**Pn**	**22 57 30.4**	**+1.0**
STON	**Ston**	**6.64**	**337**	*e*Pn	**Pn**	**22 57 28.8**	**-0.5**
BBLS	**Lazići**	**7.19**	**349**	*e*Pn	**Pn**	**22 57 37.0**	**+0.1**
DIVS	**Divibare**	**7.35**	**353**	*e*Pn	**Pn**	**22 57 38.9**	**-0.2**
HAPS	**Han Pijesak,Bl**	**7.48**	**347**	*e*Pn	**Pn**	**22 57 41.0**	**+0.1**
CRES	**Cresnjev**	**10.00**	**336**	*e*Pn	**Pn**	**22 58 14.7**	**-0.7**
BRTR	**Keskin Array B**	**10.18**	**70**	Pn	**Pn**	**22 58 19.2**	**+1.2**
	comp=E,0.0nm,0.3s,baz=264,slow=15,SNR=2.1						
CEY	**Cerknica**	**10.29**	**332**	*e*Pn	**Pn**	**22 58 20.1**	**+0.8**
HFS	**Hagfors**	**23.84**	**351**	LR	LR	23 11 15.7	
	comp=E,427nm,18.3s,baz=313,slow=39						
FINES	**FINESS Array B**	**24.85**	**6**	P	**P**	**23 01 12.7**	**-0.9**
	comp=E,6.3nm,1.0s,baz=198,slow=11,SNR=5.6						
TORD	**Torodi Ar. Bea**	**29.35**	**222**	P	**P**	**23 01 56.8**	**+2.4**
	comp=E,0.3nm,0.6s,baz=36,slow=9.1,SNR=2.3						
ARCES	**ARCESS Array B**	**32.87**	**3**	P	**P**	**23 02 23.1**	**-1.8**
	comp=E,2.4nm,1.1s,baz=192,slow=11,SNR=1.5						
MKAR	**Makanchi Array**	**45.55**	**57**	P	**P**	**23 04 10.3**	**-0.8**
	comp=E,0.3nm,0.7s,baz=278,slow=8.1,SNR=4.3						

IDC 20 23:09:35.6±2.1, 2°.89N×127°.22E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/47, mbtmp3.5/3, Error ellipse: s-maj=228.8km s-min=27.3km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.74**	**163**	P	P	23 14 48.0	-1.8
	0.4nm,0.4s,baz=342,slow=10.0,SNR=6.2						
ASAR	**Alice Springs**	**27.18**	**166**	P	P	23 15 22.2	+1.1
	0.3nm,0.7s,baz=343,slow=12,SNR=6.7						
ZALV	**Zaleszany**	**61.55**	**333**	P	P	23 19 55.0	+0.4
	0.3nm,0.3s,baz=116,slow=9.8,SNR=2.1						

*NCEDC **20** 23:34:52.9±0.1, 38°.84N×122°.83W, h2km, ML3.3*
*NEIC **20** 23:34:53.3±1.8, 38°.87N±0°.01×122°.75W±0°.02, h2km±7km*
*ANF **20** 23:34:53.6±3.1, 38°.84N×122°.69W, h5km, ML2.7/6, Error ellipse: s-maj=31.6km s-min=10.8km az=51.0*

ISC 20 23:34:53.1±1.2, 38°.84N±0°.02×122°.78W±0°.02, h2km±11km, n138, σ0s90/144, Northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GACM	**Adobe Creek**	**0.07**	**293**		**Pg**	**23 34 54.0**	**-0.6**
GCRM	**Castle Rock Sp**	**0.09**	**146**		**Pg**	**23 34 55.3**	**+0.5**
GPMM	**Pine Mountain**	**0.13**	**271**		**Pg**	**23 34 55.1**	**-0.6**
GAXM	**Alexander Vall**	**0.13**	**173**		**Pg**	**23 34 55.9**	**+0.2**
NHSM	**Mount Saint He**	**0.23**	**146**		**Pg**	**23 34 58.0**	**+0.6**
GSSM	**Skaggs Springs**	**0.23**	**232**		**Pg**	**23 34 57.5**	**-0.1**
GHLM	**Highland Sprin**	**0.27**	**316**		**Pg**	**23 34 58.1**	**-0.3**
HOPS	**Hopland Field**	**0.28**	**303**	Pg	**Pg**	**23 34 58.2**	**-0.2**
NMCNC	**Mill Creek, So**	**0.28**	**203**		**Pg**	**23 34 58.6**	**+0.2**
MAC	**Mark West Spri**	**0.30**	**172**		**Pg**	**23 34 59.4**	**+0.6**
GSNM	**Snow Mountain**	**0.34**	**287**		**Pg**	**23 34 59.3**	**-0.3**
NSHM	**Saint Helena R**	**0.35**	**158**		**Pg**	**23 35 00.4**	**+0.6**
GDCM	**Dry Creek**	**0.37**	**258**		**Pg**	**23 35 00.1**	**0.0**
GHCM	**House Creek**	**0.41**	**234**		**Pg**	**23 35 00.8**	**0.0**
FTR	**Fort Ross**	**0.44**	**223**		**Pg**	**23 35 01.7**	**+0.2**
NTYM	**Taylor**	**0.46**	**169**		**Pg**	**23 35 02.6**	**+0.7**
NBPM	**Berryessa Peak**	**0.49**	**111**		**Pb**	**23 35 04.3**	**-0.1**
CVS	**Carmenet Viney**	**0.56**	**153**		**Pg**	**23 35 04.3**	**+0.6**
GGUM	**Gualala**	**0.56**	**271**		**Pg**	**23 35 03.7**	**-0.2**
NAPC	**Atlas Peak**	**0.58**	**134**		**Pg**	**23 35 04.8**	**+0.7**
GFC	**Funks Creek**	**0.61**	**38**		**Pn**	**23 35 08.2**	**-0.6**
GHOM	**Hamilton Openi**	**0.63**	**289**		**Pg**	**23 35 05.0**	**-0.1**
GHMM	**Hull Mountain**	**0.66**	**350**		**Pb**	**23 35 06.6**	**-0.8**
MCCM	**Marconi Confer**	**0.70**	**187**		**Pg**	**23 35 07.3**	**+0.8**
MCCM	**Marconi Confer**	**0.70**	**187**	Pg	**Pg**	**23 35 07.0**	**+0.5**
NGVM		**0.71**	**142**		**Pg**	**23 35 07.4**	**+0.7**
NADM	**Allendale**	**0.74**	**121**		**Pn**	**23 35 09.6**	**-0.9**
GCK	**Clark Valley**	**0.75**	**21**		**Pn**	**23 35 09.8**	**-0.8**
GNAM	**Navarro Ridge**	**0.75**	**298**		**Pg**	**23 35 07.5**	**-0.1**
KRKM	**Rackout Spring**	**0.78**	**336**		**Pb**	**23 35 08.8**	**-0.7**
GASB	**Alder Springs**	**0.81**	**3**		**Pb**	**23 35 09.8**	**-0.2**
GTC	**Three Chop Rid**	**0.82**	**313**		**Pg**	**23 35 08.5**	**-0.3**
OSUM	**Sutter Buttes**	**0.84**	**59**		**Pn**	**23 35 10.5**	**-1.3**
SUTB	**Sutter Butte**	**0.86**	**63**		**Pb**	**23 35 10.4**	**-0.4**
NLHM	**Lake Herman**	**0.88**	**146**		**Pg**	**23 35 10.2**	**+0.3**
GVV	**Valley View**	**0.93**	**5**		**Pn**	**23 35 12.4**	**-0.9**
KFPM	**Farley Peak**	**0.94**	**328**		**Pg**	**23 35 11.3**	**+0.2**
CPMM	**Point Molate**	**0.94**	**162**		**Pg**	**23 35 11.6**	**+0.5**
CSPM	**San Pablo Ridg**	**0.96**	**157**		**Pb**	**23 35 12.2**	**-0.2**
CPIM	**Pinole Ridge**	**0.96**	**153**		**Pb**	**23 35 12.1**	**-0.3**
HMR	**Hamilton Ranch**	**1.03**	**132**		**Pn**	**23 35 13.9**	**-0.6**
BRIB	**Briones**	**1.05**	**152**		**Pg**	**23 35 13.4**	**+0.2**
KCPM	**Cahto Peak**	**1.05**	**324**		**Pg**	**23 35 13.3**	**+0.2**
VAK	**Adit at Lawren**	**1.05**	**157**		**Pg**	**23 35 13.6**	**+0.4**
BL67	**Building 67, L**	**1.05**	**157**		**Pg**	**23 35 13.5**	**+0.2**
CVPM	**Vollmer Peak**	**1.05**	**155**		**Pg**	**23 35 13.6**	**+0.3**
BKS	**Berkeley--Byer**	**1.06**	**156**		**Pg**	**23 35 13.5**	**+0.2**
JPRM	**Presidio of Sa**	**1.07**	**167**		**Pb**	**23 35 13.3**	**-1.0**
KBNM	**Bluenose Ridge**	**1.10**	**343**		**Pn**	**23 35 15.3**	**-0.3**
KIPM	**Iron Peak**	**1.11**	**331**		**Pb**	**23 35 14.6**	**-0.4**
OHCM	**Honcut**	**1.12**	**64**		**Pb**	**23 35 13.9**	**-1.2**
BDM	**Black Diamond**	**1.14**	**141**		**Pb**	**23 35 14.2**	**-1.3**
CRPB	**Russellman Par**	**1.16**	**143**		**Pb**	**23 35 14.9**	**-0.8**
CRHM	**Round Hill Res**	**1.16**	**148**		**Pg**	**23 35 15.9**	**+0.5**
BGC	**Bolinger Road**	**1.17**	**151**		**Pb**	**23 35 15.8**	**-0.2**
JSBM	**San Bruno Moun**	**1.20**	**165**		**Pn**	**23 35 15.8**	**-1.0**
ORV	**Oroville**	**1.22**	**54**		**Pb**	**23 35 15.7**	**-1.2**
ORV	**Oroville**	**1.22**	**54**		**Pb**	**23 35 15.7**	**-1.2**
ORV	**Oroville**	**1.22**	**54**	Pg	**Pb**	**23 35 15.5**	**-1.3**
JMGM	**Milagra Ridge**	**1.23**	**169**		**Pn**	**23 35 16.6**	**-0.6**
CLCB	**Lake Chabot**	**1.24**	**153**		**Pn**	**23 35 16.9**	**-0.5**
KBSM	**Bell Springs**	**1.25**	**330**		**Pg**	**23 35 17.8**	**+0.8**
CMOB	**Morgan Territo**	**1.29**	**143**		**Pn**	**23 35 16.8**	**-1.3**
SAC	**San Andreas**	**1.29**	**167**		**Pn**	**23 35 16.9**	**-1.2**
JCPM	**Coyote Point**	**1.30**	**164**		**Pn**	**23 35 17.9**	**-0.3**
O02D	**Mt. Diablo Mer**	**1.33**	**360**	P	**Pg**	**23 35 18.8**	**+0.2**
	baz=181						
O02D				S	**Sg**	**23 35 37.9**	**+2.0**
	baz=181						
O02D	**Mt. Diablo Mer**	**1.33**	**360**		**Pg**	**23 35 19.6**	**+1.0**
MGL	**Magalia**	**1.35**	**44**		**Pn**	**23 35 17.4**	**-1.6**
JCHM	**Cahill Ridge**	**1.36**	**166**		**Pn**	**23 35 17.8**	**-1.3**
AASM	**Arroyo Seco**	**1.37**	**107**		**Pn**	**23 35 17.4**	**-1.7**
OXMT	**Ox Mountain**	**1.37**	**168**		**Pn**	**23 35 17.8**	**-1.3**
CNIC	**Niles Canyon**	**1.39**	**152**		**Pn**	**23 35 18.7**	**-0.7**
AFDM	**Forest Hills D**	**1.41**	**85**		**Pn**	**23 35 18.4**	**-1.4**
WENL	**Wente Vineyard**	**1.46**	**146**		**Pb**	**23 35 20.9**	**-0.1**
LBPM	**Beegum Peak**	**1.47**	**357**		**Pg**	**23 35 22.4**	**+1.1**
JRSC	**Jasper Ridge**	**1.50**	**163**		**Pn**	**23 35 19.5**	**-1.4**
CMJM	**Mission San Jo**	**1.50**	**151**		**Pn**	**23 35 19.6**	**-1.4**
KMRM	**Mail Ridge**	**1.55**	**333**		**Pn**	**23 35 21.4**	**-0.4**
JJRM	**Joaquin Road**	**1.56**	**163**		**Pn**	**23 35 21.9**	**0.0**
JBMM	**Black Mountain**	**1.60**	**162**		**Pb**	**23 35 22.9**	**-0.5**
CMLM	**Mount Lewis**	**1.63**	**147**		**Pn**	**23 35 22.5**	**-0.3**
O03E	**Paynes Creek**	**1.63**	**27**	P	**Pn**	**23 35 22.4**	**-0.5**
	baz=209						
O03E				S	**Sg**	**23 35 45.0**	**-0.5**
	baz=209						
O03E	**Paynes Creek**	**1.63**	**27**		**Pn**	**23 35 22.2**	**-0.6**
JPC	**Peters Creek,**	**1.63**	**164**		**Pn**	**23 35 21.6**	**-1.1**
ASMM	**Slate Mountain**	**1.64**	**90**		**Pn**	**23 35 22.4**	**-0.5**
JSGM	**Saratoga Golf**	**1.66**	**160**		**Pg**	**23 35 25.5**	**+0.6**
MNHB	**New Hogan Dam**	**1.69**	**114**		**Pn**	**23 35 22.1**	**-1.4**
CMMM	**Mount Mocho**	**1.72**	**143**		**Pn**	**23 35 24.2**	**+0.2**
KSMM	**Side Mountain**	**1.72**	**322**		**Pg**	**23 35 26.1**	**0.0**
WDC	**Whiskeytown Da**	**1.74**	**6**		**Pg**	**23 35 25.2**	**-0.5**
WDC	**Whiskeytown Da**	**1.74**	**6**	Pn	**Pn**	**23 35 23.8**	**-0.5**
MHC	**Mount Hamilton**	**1.75**	**149**		**Pn**	**23 35 24.0**	**-0.4**
ARN	**Arnold Ranch**	**1.79**	**146**		**Pn**	**23 35 24.2**	**-0.7**
AMC	**Almaden**	**1.84**	**156**		**Pn**	**23 35 24.9**	**-0.7**
JLAB	**Laurel Hill**	**1.88**	**154**		**Pn**	**23 35 24.7**	**-1.5**
MCUB	**Copperopolis B**	**1.90**	**116**		**Pn**	**23 35 26.0**	**-0.5**
DONR	**Donner Summit**	**1.98**	**74**		**Pb**	**23 35 28.4**	**-1.5**
HSPM	**Sheep**	**1.99**	**150**		**Pn**	**23 35 26.8**	**-1.0**
IND	**Independence**	**2.02**	**72**		**Pb**	**23 35 29.4**	**-1.2**
CMB	**Columbia Colle**	**2.04**	**113**		**Pn**	**23 35 28.2**	**-0.3**
RUBR	**Rubicon Trail**	**2.06**	**83**		**Pb**	**23 35 30.3**	**-0.9**
LGPM	**Granite Peak**	**2.07**	**359**	

*IDC **20** 23:44:01.9±1.4, 24.°32S×67.°03W, h156km±22km, mb3.3/1, mb1 3.2/6, mb1mx3.1/21, mbtmp3.6/6, Error ellipse: s-maj=29.3km s-min=14.4km az=86.0*

*GUC **20** 23:44:04.7±0.6, 24.°21S×67.°69W, h207km±10km, ML3.8*

ISC 20 23:44:02.5±1.0, 24°28S±0.°06×67°3W±0.°1, h185km±17km, n16, σ1§46/28, 3C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.24**	**317**	P	**Pn**	**23 44 44.4**	**+1.4**
	7.3nm,0.3s,baz=147,slow=6.4,SNR=64						
LVC				S	**Sn**	**23 45 14.6**	**+0.2**
	44nm,0.3s,baz=108,slow=23,SNR=113						
PB15	**IPOC Station P**	**2.28**	**297**	⇑*iP*	**Pn**	**23 44 44.9**	**+1.6**
PB15				*i* S	**Sn**	**23 45 15.0**	**+0.1**
GO02	**Mina Guanaco**	**2.29**	**247**	*eP*	**Pn**	**23 44 44.9**	**+1.5**
GO02				*i* S	**Sn**	**23 45 16.3**	**+1.0**
GO02				IAML		23 45 18.6	
	comp=N,444nm,0.2s						
PB06	**IPOC Station P**	**2.63**	**306**	⇑*iP*	**Pn**	**23 44 48.6**	**+1.4**
PB06				*i* S	**Sn**	**23 45 21.4**	**-0.5**
PB06				IAML		23 45 23.8	
	comp=N,517nm,0.4s						
PB14	**IPOC Station P**	**2.88**	**262**	⇓*iP*	**Pn**	**23 44 51.3**	**+1.0**
PB14				*i* S	**Sn**	**23 45 26.9**	**-0.6**
PB14				IAML		23 45 28.9	
	comp=E,81nm,0.4s						
PB05	**IPOC Station P**	**3.04**	**297**	⇑*iP*	**Pn**	**23 44 53.1**	**+1.0**
PB05				*i* S	**Sn**	**23 45 29.1**	**-1.6**
PB05				IAML		23 45 35.9	
	comp=E,147nm,0.3s						
PB09	**IPOC Station P**	**3.06**	**323**	⇓*iP*	**Pn**	**23 44 54.3**	**+1.8**
PB09				*i* S	**Sn**	**23 45 31.4**	**0.0**
PB09				IAML		23 45 36.1	
	comp=E,172nm,0.3s						
PB10	**IPOC Station P**	**3.10**	**284**	*eP*	**Pn**	**23 44 53.5**	**+0.8**
PB10				*e*S	**Sn**	**23 45 34.2**	**-1.8**
PB10				IAML		23 45 38.6	
	comp=E,200nm,0.5s						
CFA	**Coronel Fontan**	**7.35**	**186**	P	**Pn**	**23 45 46.4**	**-0.9**
	comp=E,0.3nm,0.3s,baz=126,slow=13,SNR=1.9						
CFA				S	**Sn**	**23 47 07.2**	**-3.1**
	comp=E,0.3nm,0.3s,baz=268,slow=22,SNR=2.0						
LPAZ	**La Paz**	**7.99**	**354**	P	**Pn**	**23 45 56.8**	**+0.4**
	comp=E,0.4nm,0.3s,baz=140,slow=5.6,SNR=6.2						
LPAZ				S	**Sn**	**23 47 24.6**	**-1.9**
	comp=E,0.1nm,0.3s,baz=196,slow=3.6,SNR=2.4						
SIV	**San Ignacio**	**10.09**	**36**	P	**Pn**	**23 46 21.1**	**-2.2**
	comp=E,0.5nm,0.3s,baz=219,slow=14,SNR=8.4						
BDFB	**Brasilia**	**20.02**	**68**	P	**P**	**23 48 21.8**	**+0.4**
	comp=E,0.5nm,0.3s,baz=223,slow=8.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**76.90**	**69**	P	**P**	**23 55 36.1**	**+1.3**
	comp=E,0.9nm,1.0s,baz=245,slow=4.5,SNR=2.9						
MKAR	**Makanchi Array**	**146.89**	**40**	PKPbc	**PKPab**	**00 03 24.9**	**+0.1**
	comp=E,0.3nm,0.6s,baz=273,slow=4.0,SNR=4.4						

*IDC **20** 23:47:49.0±2.4, 27.°60N×52.°38E, h0km, mb3.6/9, mb1 3.6/10, mb1mx3.4/51, mbtmp3.6/10, ML3.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/32, Error ellipse: s-maj=53.0km s-min=24.7km az=164.0*

*ISCJB **20** 23:47:50.1±0.5, 27.°57N±0.°04×52.°40E±0.°05, h14km, mb3.5/9, MS3.4/1, Error ellipse: s-maj=7.2km s-min=3.6km az=141.8*

*TEH **20** 23:47:53.3, 27.°65N×52.°53E, h22km, ML3.2*

*DSN **20** 23:47:54.5±1.2, 27.°37N×52.°57E, h10km, ML3.6/2, Error ellipse: s-maj=22.3km s-min=7.6km az=13.0*

*OMAN **20** 23:47:56.4±1.6, 27.°53N×53.°17E, h243km±68km, ml3.0/1, Error ellipse: s-maj=54.6km s-min=18.7km az=119.0*

ISC 20 23:47:51.8±0.8, 27°63N±0.°05×52°50E±0.°07, h14km, n39, σ1§33/48, mb3.4/9, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LMD1	**Lamerd**	**0.65**	**116**	*e*Sg	**Sn**	**23 48 16.2**	**-0.6**
LMD1				*e*Pg	**Pg**	**23 48 05.0**	**+0.4**
LMD1				IAMB	IAmb	23 48 29.9	
	comp=Z,0.0nm,0.4s						
JHRM	**Jahrom**	**1.29**	**47**	*e*Pg	**Pn**	**23 48 16.7**	**+1.1**
JHRM				IAMB	IAmb	23 48 48.7	
	comp=Z,0.0nm,0.4s						
ISRV	**Sarvestan**	**1.83**	**17**	*e*Pn	**Pn**	**23 48 24.9**	**+1.7**
ISRV				IAMB	IAmb	23 49 00.7	
	comp=Z,2μm,0.7s						
SHI	**Shiraz**	**2.01**	**0**	*e*Pn	**Pn**	**23 48 27.4**	**+1.9**
SHI				IAMB	IAmb	23 49 07.7	
	comp=Z,0.0nm,0.4s						
KLNJ	**Kolanjah**	**3.46**	**347**	*e*Pn	**Pn**	**23 48 47.6**	**+2.0**
SHME	**Shamm**	**3.61**	**115**	P	**Pn**	**23 48 48.0**	**+0.6**
BANOM	**Banah**	**3.79**	**116**	P	**Pn**	**23 48 50.4**	**+0.5**
BANOM				S	**Sn**	**23 49 33.5**	**-0.9**
BANOM	**Banah**	**3.79**	**116**	P	**Pn**	**23 48 50.7**	**+0.8**
	SNR=9.3						
BANOM				S	**Sn**	**23 49 34.9**	**+0.5**
NAZ	**Nazwa, Dubai**	**3.87**	**132**	P	**Pn**	**23 48 51.2**	**+0.3**
NAZ	**Nazwa, Dubai**	**3.87**	**132**	P	**Pn**	**23 48 52.8**	**+1.9**
NAZ				S	**Sn**	**23 49 36.8**	**+0.8**
ASUD	**Al Ashush, Dub**	**3.92**	**139**	*i* P	**Pn**	**23 48 53.1**	**+1.5**
	SNR=20						
ASUD	**Al Ashush, Dub**	**3.92**	**139**	P	**Pn**	**23 48 54.0**	**+2.4**
	SNR=20						
ASUD				S	**Sn**	**23 49 40.2**	**+2.7**
MSFE	**Esma-Masafi**	**3.98**	**124**	P	**Pn**	**23 48 53.4**	**+0.9**
MSFE				S	**Sn**	**23 49 37.8**	**-1.2**
MDH	**Madha**	**4.12**	**123**	P	**Pn**	**23 48 54.9**	**+0.6**
IMEH	**Mehriz**	**4.18**	**26**	*e*Pn	**Pn**	**23 48 56.9**	**+1.5**
NGRK	**Negar Kerman**	**4.22**	**61**	*e*Pn	**Pn**	**23 48 56.7**	**+0.6**
NGRK				IAMB	IAmb	23 48 57.0	
	comp=Z,0.0nm,0.3s						
UOSS	**Minazif**	**4.26**	**128**	P	**Pn**	**23 48 58.0**	**+1.7**
UOSS	**Minazif**	**4.26**	**128**	P	**Pn**	**23 48 57.9**	**+1.5**
UOSS				S	**Sn**	**23 49 44.9**	**-1.0**
HATD	**Hatta, Dubai**	**4.29**	**130**	P	**Pn**	**23 48 57.9**	**+1.1**
HATD				S	**Sn**	**23 49 46.1**	**-0.5**
HATD	**Hatta, Dubai**	**4.29**	**130**	P	**Pn**	**23 48 59.7**	**+2.9**
HATD				S	**Sn**	**23 49 47.1**	**+0.5**
ASHO	**Ashiyiah**	**4.33**	**132**	*i* P	**Pn**	**23 48 58.3**	**+1.0**
	SNR=10						
ASHO	**Ashiyiah**	**4.33**	**132**	P	**Pn**	**23 48 59.0**	**+1.6**
	SNR=11						
ASHO				S	**Sn**	**23 49 47.3**	**-0.5**
ISAD	**Sadrabad**	**4.39**	**13**	*e*Pn	**Pn**	**23 49 00.2**	**+1.8**
TVBK	**TV Kerman**	**4.42**	**57**	*e*Pn	**Pn**	**23 48 59.5**	**+0.8**
TVBK				IAMB	IAmb	23 49 01.4	
	comp=Z,0.0nm,0.4s						
KHGB	**Koh Gabri**	**4.43**	**51**	*e*Pn	**Pn**	**23 49 00.0**	**+1.2**
KHGB				IAMB	IAmb	23 49 00.2	
	comp=Z,0.0nm,0.3s						
IBAF	**Bafgh**	**4.77**	**33**	*e*Pn	**Pn**	**23 49 04.6**	**+1.2**
CHMN	**Cheshme madani**	**4.95**	**62**	IAMB	IAmb	23 49 09.7	
	comp=Z,0.0nm,0.5s						
CHMN				*e*Pn	**Pn**	**23 49 07.9**	**+1.8**
RAYN	**Ar Rayn**	**7.53**	**239**	*i* P	**Pn**	**23 49 41.2**	**0.0**
	SNR=12						
BRTR	**Keskin Array B**	**19.75**	**312**	P	**P**	**23 52 21.4**	**0.0**
	comp=Z,0.0nm,0.3s,baz=116,slow=9.8,SNR=3.3						
AKTO	**Aktyubinsk**	**23.16**	**9**	P	**P**	**23 52 57.1**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=156,slow=10.0,SNR=2.8						
BVAR	**Borovoye Array**	**28.64**	**23**	P	**P**	**23 53 47.3**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=224,slow=8.2,SNR=3.5						
ARU	**Arti**	**29.11**	**7**	LR	LR	00 08 33.6	
	comp=Z,92nm,20.9s,baz=21,slow=43						
MKAR	**Makanchi Array**	**30.21**	**43**	P	**P**	**23 54 03.9**	**+2.1**
	comp=Z,0.5nm,0.9s,baz=211,slow=8.2,SNR=2.4						
KURBB	**Kurchatov Arra**	**30.30**	**34**	P	**P**	**23 54 02.4**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=232,slow=8.2,SNR=2.3						
ZALV	**Zalesovo Beam**	**35.38**	**33**	P	**P**	**23 54 46.4**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=242,slow=9.8,SNR=8.2						
FINES	**FINESS Array B**	**38.16**	**340**	P	**P**	**23 55 09.5**	**-0.9**
	comp=Z,4.6nm,1.0s,baz=187,slow=9.6,SNR=3.5						
HFS	**Hagfors**	**41.81**	**332**	P	**P**	**23 55 39.5**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=105,slow=11,SNR=4.4						
SONM	**Songino Array**	**46.12**	**49**	P	**P**	**23 56 15.5**	**-0.3**
	comp=Z,0.6nm,1.0s,baz=285,slow=9.6,SNR=2.5						
TORD	**Torodi Ar. Bea**	**49.43**	**264**	P	**P**	**23 56 40.0**	**-1.7**
	comp=Z,0.1nm,0.6s,baz=79,slow=5.8,SNR=1.1						

*IDC **20** 23:49:46.2±1.4, 4.°31N×96.°09E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/50, mbtmp3.6/8, ML3.6/1, Error ellipse: s-maj=58.4km s-min=20.8km az=56.0*

*ISCJB **20** 23:49:51.8±0.7, 4.°34N±0.°05×95.°62E±0.°07, h50km, mb3.5/7, Error ellipse: s-maj=9.8km s-min=6.8km az=166.6*

*DJA **20** 23:49:58.3±0.8, 4.°N±3.°×9.°6E±.°, h61km±6km, M3.9/8, mb3.6/1, MLv4.0/8*

ISC 20 23:49:53.1±0.8, 4°28N±0.°05×95°71E±0.°09, h50km, n17, σ2§92/19, mb3.4/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**0.69**	**91**	P	**Pn**	**23 50 10.0**	**+3.3**
MLSI				S	**Sn**	**23 50 18.6**	**+1.9**
LHMI	**Lhok Sumawe**	**1.55**	**53**	P	**Pn**	**23 50 20.6**	**+2.3**
LHMI				S	**Sn**	**23 50 37.3**	**0.0**
SNSI	**Sinabang, Aceh**	**1.96**	**162**	P	**Pn**	**23 50 27.0**	**+3.1**
SNSI				S	**Sn**	**23 50 48.9**	**+1.6**
GSI	**Gunungsitoli**	**3.50**	**148**	P	**Pn**	**23 50 46.2**	**+1.2**
GSI				S	**Sn**	**23 51 23.1**	**-2.0**
SISI	**Saibi**	**6.51**	**149**	P	**Pn**	**23 51 27.8**	**+1.4**
	10nm,1.6s,0.1nm						
PDSI	**Padang**	**7.01**	**137**	P	**Pn**	**23 51 33.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**14.44**	**12**	Pn	**Pn**	**23 53 12.8**	**-1.9**
	0.1nm,0.3s,baz=36,slow=44,SNR=1.4						
H08S2	**Diego Garcia H**	**26.02**	**243**	T	T	00 22 39.1	
	baz=62,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**26.02**	**243**	T	T	00 22 47.7	
	baz=62,slow=76,SNR=11						
H08S1	**Diego Carcia H**	**26.03**	**243**	T	T	00 22 48.7	
	baz=62,slow=76,SNR=4.3						
MKAR	**Makanchi Array**	**43.92**	**347**	P	**P**	**23 57 54.9**	**-0.1**
	0.2nm,0.3s,baz=158,slow=9.6,SNR=7.3						
SONM	**Songino Array**	**44.35**	**10**	P	**P**	**23 57 57.1**	**-1.5**
	0.4nm,0.7s,baz=196,slow=6.7,SNR=3.8						
SONM				PcP	**PcP**	**23 59 41.7**	**-0.2**
	0.2nm,0.4s,baz=195,slow=3.7,SNR=5.4						
WRA	**Warramunga Arr**	**44.95**	**124**	P	**P**	**23 58 00.9**	**-2.7**
	0.5nm,0.6s,baz=301,slow=9.7,SNR=3.7						
ASAR	**Alice Springs**	**46.45**	**129**	P	**P**	**23 58 12.9**	**-2.5**
	0.2nm,0.4s,baz=305,slow=7.9,SNR=4.3						
ZALV	**Zalesovo Beam**	**50.31**	**352**	P	**P**	**23 58 44.4**	**-0.1**
	0.3nm,0.3s,baz=170,slow=8.8,SNR=2.3						
BRTR	**Keskin Array B**	**65.96**	**312**	P	**P**	**00 00 36.7**	**+2.2**
	0.3nm,0.8s,baz=134,slow=4.8,SNR=3.6						
ARCES	**ARCESS Array B**	**79.15**	**340**	P	**P**	**00 01 53.3**	**+1.1**
	2.3nm,1.0s,baz=99,slow=7.0,SNR=8.9						

NNC 21 00:04:19.1±2.2, 36°97N×70°74E, h0km, mb4.0, mpv3.6, 2C-2D, Error ellipse: s-maj=19.8km s-min=17.1km az=70.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.13**	**358**	⇑Pn	Pn	00 05 51.4	+0.6
	3.4nm,0.5s,baz=178,slow=12,SNR=75						
KK31				⇑Sn	Sn	00 07 02.6	+0.9
	0.7nm,0.3s,baz=183,slow=20,SNR=6.3						
AAK	**Ala-Archa**	**6.35**	**26**	⇓Pn	Pn	00 05 54.0	-0.1
	1.7nm,0.6s						
AAK				Sn	Sn	00 07 08.8	+1.4
	3.4nm,0.9s						
TKM2	**Tokmak 2**	**7.01**	**31**	⇓Pn	Pn	00 06 02.7	-0.5
	3.1nm,0.5s						

*NNC **21** 00:07:55.9±8.0, 37.°69N×71.°69E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=62.2km s-min=42.4km az=170.0*

ISC 21 00:07:56.3±3.6, 37°4N±0.°2×71°8E±0.°1, h100km, n9, σ1§27/13, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.94**	**16**	P	**Pn**	**00 09 10.0**	**+1.4**
	SNR=78						
UCH	**Uchtor**	**5.25**	**22**	P	**Pn**	**00 09 13.6**	**+0.8**
	SNR=7.5						
EKS2	**Erkin-Say**	**5.46**	**15**	P	**Pn**	**00 09 16.9**	**+1.5**
	SNR=5.4						
AAK	**Ala-Archa**	**5.62**	**21**	P	**Pn**	**00 09 18.5**	**+0.9**
	SNR=8.0						
AAK	**Ala-Archa**	**5.62**	**21**	⇑P	**Pn**	**00 09 18.1**	**+0.6**
	2.4nm,0.3s						
AAK				⇑S	**Sn**	**00 10 20.8**	**0.0**
	5.1nm,0.7s						
KK31	**Karatay Array**	**5.79**	**350**	⇓P	**Pn**	**00 09 21.7**	**+2.0**
	1.0nm,0.2s,baz=168,slow=14,SNR=100						
KK31				⇑S	**Sn**	**00 10 25.2**	**+0.5**
	1.9nm,0.3s,baz=177,slow=23,SNR=14						
TKM2	**Tokmak 2**	**6.22**	**26**	P	**Pn**	**00 09 25.6**	**-0.2**
	SNR=6.7						
TKM2	**Tokmak 2**	**6.22**	**26**	⇓P	**Pn**	**00 09 25.1**	**-0.7**
	2.7nm,0.6s						
TKM2				⇓S	**Sn**	**00 10 35.9**	**+0.2**
	2.3nm,0.8s						
AB31	**Akbulak array**	**14.65**	**328**	P	**Pn**	**00 11 17.8**	**-0.6**
	0.5nm,0.6s,baz=138,slow=11,SNR=7.8						
AB31				⇓S	**Sn**	**00 13 57.5**	**-2.2**
	0.7nm,0.7s						

*ISCJB **21** 00:09:46.4±0.4, 3.°98S±0.°04×123.°37E±0.°04, h33km, mb4.2/8, Error ellipse: s-maj=6.3km s-min=4.7km az=147.6*

*NEIC **21** 00:09:47.8±2.4, 4.°05S±0.°05×123.°24E±0.°08, h32km±6km, mb4.4/8*

*DJA **21** 00:09:49.7±0.3, 4.°S±2.°×12.°3E±.°, h10km, M4.3/15, mb4.5/6, mB5.2/3, MLv4.1/15, Mw(mB)4.6/3*

*IDC **21** 00:09:51.0±3.3, 4.°03S×123.°42E, h63km±33km, mb3.9/8, mb1 4.0/11, mb1mx3.6/46, mbtmp4.1/11, ML3.4/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/40, Error ellipse: s-maj=36.4km s-min=18.2km az=73.0*

ISC 21 00:09:48.2±0.5, 4°01S±0.°05×123°31E±0.°07, h35km, n41, σ1§31/39, mb4.3/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDI	**Kendari**	**0.69**	**274**	P	**Pn**	**00 09 59.8**	**-1.8**
BBSI	**Bau Bau**	**1.65**	**207**	P	Pn	00 10 20.4	+5.7
LUWI	**Luwuk**	**3.00**	**350**	P	**Pn**	**00 10 33.8**	**+0.5**
LUWI				S	**Sn**	**00 11 08.4**	**+0.5**
LUWI	**Luwuk**	**3.00**	**350**	Pn	**Pn**	**00 10 32.5**	**-0.8**
BNSI	**Bone**	**3.22**	**263**	P	**Pn**	**00 10 37.7**	**+1.4**
SANI	**Sanana**	**3.31**	**54**	P	Pn	00 10 41.3	+3.8
BKSI	**Bulukumba**	**3.44**	**248**	P	**Pn**	**00 10 41.3**	**+2.0**
APSI	**Ampana**	**3.50**	**332**	P	**Pn**	**00 10 39.8**	**-0.3**
APSI				S	**Sn**	**00 11 20.9**	**+0.6**
SPSI	**Sidrap Palu**	**3.53**	**271**	P	**Pn**	**00 10 42.6**	**+1.9**
SPSI				S	**Sn**	**00 11 22.9**	**+1.6**
TTSI	**Tana Toraja**	**3.61**	**285**	P	**Pn**	**00 10 43.2**	**+1.4**
NLAI	**Namlea**	**3.86**	**79**	P	Pn	00 10 52.1	+7.0
MRSI	**Marisa**	**4.66**	**343**	P	**Pn**	**00 10 56.8**	**+0.6**
LBMI	**Labuha**	**5.36**	**51**	P	Pn	00 11 10.0	+4.2
	47nm,0.5s,2μm0.5nm						
MPSI	**Mapaga**	**5.50**	**322**	P	**Pn**	**00 11 08.2**	**+0.5**
	25nm,1.3s,0.3nm						
SOEI	**Soe**	**5.79**	**171**	P	Pn	00 11 19.0	+7.2
SOEI	**Soe**	**5.79**	**171**		**Pn**	**00 11 09.1**	**-2.7**
BATI	**Baumata**	**6.17**	**177**	P	**Pn**	**00 11 19.2**	**+2.3**
	1.1nm,0.3s,baz=114,slow=4.4,SNR=4.0						
BATI				LR	LR	00 13 36.5	
	comp=Z,175nm,19.3s,baz=16,slow=37						
BKB	**Balikpapan**	**6.96**	**293**	Pn	**Pn**	**00 11 26.6**	**-1.2**
SIJI	**Sorong**	**8.54**	**69**	P	**Pn**	**00 11 50.6**	**+1.1**
	1.3nm,0.3s,baz=258,slow=7.8,SNR=4.3						
FAKI	**Fak Fak**	**8.99**	**83**	Pn	**Pn**	**00 11 56.0**	**+0.3**
KKM	**Kota Kinabalu**	**12.24**	**325**	Pn	**Pn**	**00 12 38.8**	**-1.5**
KNRA	**Kununurra**	**12.78**	**156**	Pn	**Pn**	**00 12 50.1**	**+2.6**
WRA	**Warramunga Arr**	**19.14**	**147**	P	**P**	**00 14 07.5**	**-1.2**
	0.1nm,0.3s,baz=319,slow=8.9,SNR=3.9						
COEN	**Coen**	**21.95**	**118**	P	**P**	**00 14 40.1**	**+1.0**
AS31	**Alice Springs**	**22.06**	**153**	P	**P**	**00 14 40.4**	**+0.2**
ASAR	**Alice Springs**	**22.06**	**153**	P	**P**	**00 14 40.4**	**+0.2**
	7.7nm,0.9s,baz=345,slow=17,SNR=28						
ASAR				PcP	**PcP**	**00 18 36.4**	**-1.1**
	0.5nm,0.6s,baz=328,slow=1.7,SNR=8.1						
MORW	**Morawa**	**25.86**	**195**	P	**P**	**00 15 16.8**	**+0.1**
MORW				IAmb	IAmb	00 15 32.9	
	comp=Z,8.3nm,1.1s						
FORT	**Forrest**	**27.00**	**171**	P	**P**	**00 15 25.6**	**-1.4**
YULB	**Yu-li**	**27.30**	**356**	P	**P**	**00 15 30.1**	**+0.3**
YULB				IAmb	IAmb	00 15 32.1	
	comp=Z,10nm,0.9s						
BBOO	**Buckleboo**	**31.04**	**159**	P	**P**	**00 16 00.2**	**-2.6**
BBOO				IAmb	IAmb	00 16 00.3	
	comp=Z,9.9nm,1.1s						
CMAR	**Chiang Mai Arr**	**32.79**	**314**	P	**P**	**00 16 19.3**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=136,slow=7.6,SNR=5.4						
USRK	**Ussuriysk Ar.**	**48.62**	**8**	P	**P**	**00 18 28.6**	**+0.1**
	comp=Z,3.2nm,0.8s,baz=145,slow=14,SNR=4.1						
SONM	**Songino Array**	**53.72**	**346**	P	**P**	**00 19 07.2**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=163,slow=7.7,SNR=14						
MKAR	**Makanchi Array**	**62.18**	**329**	P	**P**	**00 20 06.2**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=136,slow=7.5,SNR=13						
KBL	**Kabul**	**63.78**	**312**	P	**P**	**00 20 16.1**	**-1.2**
KBL				IAmb	IAmb	00 20 17.9	
	comp=Z,2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**66.08**	**336**	P	**P**	**00 20 30.8**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=129,slow=5.9,SNR=9.2						
KURBB	**Kurchatov Arra**	**66.58**	**331**	P	**P**	**00 20 35.0**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=146,slow=6.2,SNR=12						
KURK	**Kurchatov**	**66.59**	**331**	P	**P**	**00 20 35.0**	**+0.1**
KURK	**Kurchatov**	**66.59**	**331**	IAmb	IAmb	00 20 36.0	
	comp=Z,6.2nm,0.8s						
KBZ	**Khabaz**	**85.83**	**314**	P	**P**	**00 22 25.0**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=232,slow=3.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**121.68**	**283**	PKP	**PKPdf**	**00 28 38.3**	**-1.2**
	comp=Z,0.4nm,0.9s,baz=147,slow=3.4,SNR=1.8						

IDC 21 01:30:52.7±2.7, 1.°76S×132.°85E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.5/45, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=127.9km s-min=29.3km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.14**	**175**	P	P	01 35 06.6	0.0
	0.2nm,0.3s,baz=356,slow=12,SNR=9.9						
ASAR	**Alice Springs**	**21.81**	**177**	P	P	01 35 46.5	-0.1
	2.1nm,0.7s,baz=354,slow=9.3,SNR=22						
MKAR	**Makanchi Array**	**65.53**	**324**	P	P	01 41 38.1	-0.1
	0.4nm,0.6s,baz=111,slow=7.4,SNR=2.0						

*NIED **21** 01:34:00, 35.°70N×140.°80E, h50km, Mw5.5 Best double couple: M0 2.19000×10^17 NP1:φs=203.00000°, δ22.00000°, λ114.00000°. NP2:φs=357.00000°, δ70.00000°, λ81.00000°.*

*BJI **21** 01:34:07.3±0.0, 35.°52N×140.°97E, h30km, mb5.3/84, mB5.4/66, Ms5.2/85, Ms7 5.2/80*

*NEIC **21** 01:34:13.6±1.5, 35.°61N±0.°04×140.°65E±0.°06, h35km±3km, mb5.3/303, Ms_20 5.0/162, Mwb5.5, Mwc5.6(GCMT)*

*NEIC **21** 01:34:13.6, 35.°61N×140.°65E, h41km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr 1.16; Mθθ 0.24; Mφφ -1.40; Mrθ 0.12; Mθφ 0.07; Mφr 1.63; Fault plane solution: M0 2.08000×10^17 NP1:φs 169.42000°, δ 19.48000°, λ 77.02000°. NP2:φs 3.16000°, δ 71.04000°, λ 94.54000°. Principal axes: T 1.9590, Plg64.0000°, Azm280.0000°; N 0.2282, Plg4.0000°, Azm182.0000°; P -2.1872, Plg26.0000°, Azm90.0000°;*

*MOS **21** 01:34:13.3±0.9, 35.°57N×140.°57E, h51km, mb5.6/120, MS5.0/33 Error ellipse: s-maj=7.0km s-min=4.2km az=113.6*

*ISCJB **21** 01:34:14.6±0.2, 35.°56N±0.°02×140.°47E±0.°02, h53km±1km, mb5.4/232, MS4.9/80, Error ellipse: s-maj=3.1km s-min=2.4km az=36.4*

*JMA **21** 01:34:14.3±0.2, 35.°66N×140.°72E, h51km±2km, M5.5 Broadband fault plane solution: P waves. NP1: φs 2.00000°, δ 72.00000°, λ 91.00000°. NP2:φs 179.00000°, δ 18.00000°, λ 87.00000°. Principal axes: T Plg63.0000°, Azm273.0000°; N Plg1.0000°, Azm181.0000°; P Plg27.0000°, Azm91.0000°;*

JMA Felt IV J1.

*IDC **21** 01:34:15.1±1.4, 35.°53N×140.°57E, h49km±11km, mb4.8/45, mb1 4.9/48, mb1mx4.9/55, mbtmp5.1/48, ML3.1/2, MS4.7/44, Ms1 4.8/44, ms1mx4.7/46 Error ellipse: s-maj=10.4km s-min=8.4km az=91.0*

*GCMT **21** 01:34:17.6±0.1, 35.°61N±0.°01×140.°79E±0.°01, h45km, MW5.6/146, Moment Tensor Solution. s126,c213; s146,c268; Duration: 1§5 Moment tensor: Scale 10^17 Nm; Mrr 2.26±.04; Mθθ -0.13±.03; Mφφ -2.13±.03; Mrθ -0.14±.03; Mθφ -0.36±.02; Mφr 1.54±.03; Best double couple: M0 2.70900×10^17 NP1:φs 2.20000°, δ62.00000°, λ83.00000°. NP2:φs 197.00000°, δ29.00000°, λ104.00000°. Principal axes: T 2.7670, Plg72.0000°, Azm255.0000°; N -0.1140, Plg7.0000°, Azm5.0000°; P -2.6520, Plg17.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **21** 01:34:18, 35.°59N×140.°86E, h48km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr 2.14; Mθθ 0.01; Mφφ -2.15; Mrθ -0.12; Mθφ -0.39; Mφr 1.47; Fault plane solution: M0 2.63000×10^17 NP1:φs 198.00000°, δ29.00000°, λ 105.00000°. NP2:φs 2.00000°, δ62.00000°, λ82.00000°. Principal axes: T 2.6150, Plg72.0000°, Azm253.0000°; N 0.0350, Plg7.0000°, Azm5.0000°; P -2.6500, Plg17.0000°, Azm98.0000°;*

**ISC 21 01:34:

JOM	**Ohasama**	**3.90**	**7**	P		**Pn**	**01 35 12.1**	**0.0**
JOM				S		**Sn**	**01 35 55.3**	**-1.3**
JYW	**Yuwa**	**3.95**	**355**	P		**Pn**	**01 35 14.4**	**+1.7**
ERM	**Erimo**	**6.70**	**16**	*ce*P		**Pn**	**01 35 48.3**	**-2.1**
ERM				pmax	pmax			
	comp=Z,260nm,0.8s							
ERM	**Erimo**	**6.70**	**16**			**Pn**	**01 35 48.0**	**-2.4**
JNU	**Nakatsue**	**8.44**	**256**	P		**Pn**	**01 36 16.2**	**+1.8**
	comp=Z,2.1nm,0.3s,baz=58,slow=8.2,SNR=11							
JNU				LR	LR		01 39 55.7	
	comp=Z,29µm,19.6s,baz=67,slow=41							
JCJ	**Chichijima**	**8.58**	**171**	P		**Pn**	**01 36 14.7**	**-1.5**
	comp=Z,126nm,0.3s,baz=316,slow=20,SNR=6.7							
JCJ				S	Sn		01 37 41.7	-10
	comp=Z,108nm,0.3s,baz=49,slow=19,SNR=5.7							
ASAJ	**Asahikawa**	**8.64**	**9**	P		**Pn**	**01 36 14.7**	**-2.3**
	comp=Z,12nm,0.3s,baz=206,slow=13,SNR=12							
ASAJ				S		**Sn**	**01 37 46.0**	**-7.0**
	comp=Z,10nm,0.3s,baz=100,slow=32,SNR=3.9							
ASAJ				LR	LR		01 40 45.5	
	comp=Z,4µm,20.6s,baz=198,slow=45							
JKA	**Kamikawa-asahi**	**8.64**	**9**			**Pn**	**01 36 14.7**	**-2.3**
NMR	**Nemuro--Hokkai**	**8.70**	**25**	*e*P		**Pn**	**01 36 13.4**	**-4.4**
GLVR	**Golovnino**	**8.96**	**23**	*e*P		**Pn**	**01 36 18.4**	**-2.9**
GLVR				pmax	pmax			
	comp=Z,351nm,0.5s							
GLVR				pmax	pmax			
	comp=Z,2µm,1.2s							
GRPR	**Tuman**	**9.26**	**24**	*e*P		**Pn**	**01 36 24.2**	**-1.3**
GRPR				pmax	pmax			
	comp=Z,232nm,0.3s							
GRPR				pmax	pmax			
	comp=Z,547nm,1.1s							
YUK	**Yuzh-Kuril'sk**	**9.33**	**24**	*e*P		**Pn**	**01 36 23.5**	**-2.9**
YUK				*e*			01 38 12.4	
YUK				pmax	pmax			
	comp=Z,341nm,0.3s							
YUK				pmax	pmax			
	comp=Z,948nm,1.1s							
YUK				pmax	pmax			
	comp=E,2µm,1.3s							
YUK				pmax	pmax			
	comp=N,4µm,1.2s							
YUK				MLR	MLR			
	comp=Z,3µm,15.0s							
YUK				MLR	MLR			
	comp=N,2µm,14.0s							
YUK				MLR	MLR			
	comp=E,1µm,14.0s							
TEY	**Ternei**	**9.92**	**343**⇓	*e*P		Pn	01 36 44.2	+10
TEY				pmax	pmax			
	comp=N,30nm,1.2s							
TEY				pmax	pmax			
	comp=Z,70nm,1.2s							
TEY				pmax	pmax			
	comp=E,40nm,1.4s							
TEY				MLR	MLR			
	comp=N,200nm,21.0s							
VLA	**Vladivostok**	**10.12**	**321**	*i* P		**Pn**	**01 36 37.2**	**0.0**
KSRS	**Korea Array**	**10.40**	**284**	P		**Pn**	**01 36 44.7**	**+3.6**
	comp=N,1.5nm,0.3s,baz=100,slow=14,SNR=81							
KSRS				LR	LR		01 40 48.7	
	comp=N,13µm,20.1s,baz=107,slow=38							
KS19	**Wonju Array Si**	**10.46**	**284**			**Pn**	**01 36 43.1**	**+1.2**
TJN	**Taejon**	**10.79**	**278**	*i* P		**Pn**	**01 36 46.3**	**-0.2**
USA0B	**Ussuriysk Arra**	**10.86**	**325**	P		**Pn**	**01 36 48.1**	**+0.8**
USA0B	**Ussuriysk Arra**	**10.86**	**325**			**Pn**	**01 36 48.1**	**+0.8**
USRK	**Ussuriysk Ar.**	**10.86**	**325**	P		**Pn**	**01 36 49.5**	**+2.1**
	baz=136,slow=12,SNR=37							
USRK				LR	LR		01 40 50.9	
	comp=N,7µm,18.1s,baz=133,slow=36							
KUR	**Kuril'sk**	**11.08**	**28**	*e*P		**Pn**	**01 36 48.1**	**-2.3**
KUR				pmax	pmax			
	comp=Z,134nm,0.5s							
KUR				pmax	pmax			
	comp=N,64nm,0.3s							
KUR				pmax	pmax			
	comp=E,59nm,0.5s							
KUR				MLR	MLR			
	comp=N,4µm,10.0s							
INCN	**Inchon**	**11.43**	**284**	P		**Pn**	**01 36 53.7**	**-1.5**
INCN	**Inchon**	**11.43**	**284**	Pn		**Pn**	**01 36 53.7**	**-1.5**
YSS	**Yuzh-Sakhalins**	**11.46**	**7**	*e*P		**Pn**	**01 36 55.3**	**-0.2**
YSS				*e*S		**Sn**	**01 38 58.9**	**-3.1**
YSS				pmax	pmax			
	comp=Z,50nm,0.7s							
YSS				MLR	MLR			
	comp=N,2µm,16.0s							
YSS	**Yuzh-Sakhalins**	**11.46**	**7**			**Pn**	**01 36 53.0**	**-2.5**
MDJ	**Mudanjiang**	**12.35**	**320**	P		**Pn**	**01 37 10.4**	**+2.7**
MDJ				pP	P		01 37 18.0	-0.7
MDJ				sP			01 37 23.3	
MDJ				S		**Sn**	**01 39 25.8**	**+2.0**
MDJ				sS	S		01 39 38.3	-12
MDJ				pmax	pmax			
	comp=N,47nm,1.1s							
MDJ				pmax	pmax			
	comp=N,1µm,3.7s							
MDJ				LR	LR			
	comp=N,6µm,16.4s							
MDJ				LR	LR			
	comp=N,5µm,14.2s							
MDJ				LR	LR			
	comp=N,8µm,16.4s							
MDJ	**Mudanjiang**	**12.35**	**320**			**Pn**	**01 37 07.8**	**+0.1**
UGL	**Uglegorsk**	**13.51**	**4**	P		Pn	01 37 18.3	-5.2
UGL				pmax	pmax			
	comp=Z,113nm,1.6s							
UGL				MLR	MLR			
	comp=N,4µm,16.0s							
UGL				MLR	MLR			
	comp=E,2µm,10.0s							
JOW	**Kunigami**	**13.71**	**234**	P		**P**	**01 37 30.7**	**-3.3**
	comp=E,0.2nm,0.3s,baz=118,slow=14,SNR=3.6							
JOW	**Kunigami**	**13.71**	**234**	Pn		**Pn**	**01 37 25.0**	**-1.4**
CN2	**Changchun**	**14.27**	**310**	*e*P		**Pn**	**01 37 33.6**	**-0.2**
CN2				*e*pP	P		01 37 41.3	+1.3
CN2				*e*S		**Sn**	**01 40 13.3**	**+2.7**
CN2				pmax	pmax			
	comp=E,20nm,0.8s							
CN2				pmax	pmax			
	comp=E,300nm,4.0s							
CN2				LR	LR			
	comp=E,4µm,18.0s							
CN2				LR	LR			
	comp=E,5µm,18.0s							
CN2				LR	LR			
	comp=E,4µm,21.0s							
SNY	**Shenyang**	**14.70**	**300**	⇑P		**Pn**	**01 37 39.8**	**+0.3**
SNY				S		**S**	**01 40 32.3**	**-5.6**
SNY				pmax	pmax			
	comp=E,1µm,4.5s							
SNY				LR	LR			
	comp=E,3µm,22.0s							
SNY				LR	LR			
	comp=E,5µm,24.1s							
SNY				LR	LR			
	comp=E,8µm,25.6s							
KLR	**Kul'dur**	**15.11**	**337**	*i* P		**Pn**	**01 37 44.3**	**-0.6**
KLR	**Kul'dur**	**15.11**	**337**	P		**Pn**	**01 37 42.9**	**-2.0**
	comp=E,0.6nm,0.3s,baz=142,slow=6.2,SNR=11							
KLR				LR	LR		01 43 16.4	
	comp=E,5µm,21.1s,baz=152,slow=36							
TYV	**Tymovskoe**	**15.33**	**5**	*e*P		**Pn**	**01 37 48.7**	**+1.0**
TYV				*e*S		**Sn**	**01 40 40.8**	**+4.5**
TYV				pmax	pmax			
	comp=Z,200nm,3.5s							
TYV				pmax	pmax			
	comp=Z,25nm,0.9s							
TYV				smax	smax			
	comp=E,15nm,1.2s							
TYV				smax	smax			
	comp=N,2µm,6.2s							
TYV				MLR	MLR			
	comp=Z,4µm,15.0s							
GRNR	**Gornyy**	**15.47**	**350**⇑	*i*P		**Pn**	**01 37 46.3**	**-3.3**
GRNR				*e*S		**Sn**	**01 40 36.4**	**-3.4**
GRNR				pmax	pmax			
	comp=Z,30nm,1.1s							
GRNR				smax	smax			
	comp=N,10.0nm,1.1s							
DL2	**Dalian**	**15.50**	**288**⇑	*i*P		**P**	**01 37 52.3**	**-1.4**
DL2				S		**S**	**01 40 49.3**	**-5.1**
DL2				pmax	pmax			
	comp=N,200nm,1.2s							
DL2				pmax	pmax			
	comp=N,3µm,6.3s							
DL2				LR	LR			
	comp=N,3µm,18.0s							
DL2				LR	LR			
	comp=N,6µm,22.2s							
DL2				LR	LR			
	comp=N,10µm,23.3s							
SSE	**Sheshan**	**16.86**	**260**			**P**	**01 38 08.4**	**-0.4**
OKH	**Okha**	**18.02**	**4**	*de*P		Pn	01 38 12.1	-9.4
OKH				pmax	pmax			
	comp=Z,500nm,3.7s							
OKH				MLR	MLR			
	comp=Z,2µm,16.0s							
NJ2	**Nanjing**	**18.44**	**265**	*e*P		**P**	**01 38 26.3**	**0.0**
NJ2				sP		**pP**	**01 38 33.3**	**-3.9**
NJ2				sP		**sP**	**01 38 41.8**	**-1.2**
NJ2				S		**S**	**01 41 54.8**	**+0.4**
NJ2				pmax	pmax			
	comp=Z,37nm,0.8s							
NJ2				pmax	pmax			
	comp=Z,1µm,7.3s							
NJ2				LR	LR			
	comp=Z,5µm,18.0s							
NJ2				LR	LR			
	comp=Z,6µm,18.9s							
NJ2				LR	LR			
	comp=Z,8µm,21.3s							
SKR	**Severo-Kuril's**	**18.78**	**32**	*e*P		**Pn**	**01 38 30.7**	**+0.1**
SKR				*e*S		**S**	**01 42 00.3**	**-0.6**
SKR				pmax	pmax			
	comp=Z,500nm,2.4s							
SKR				pmax	pmax			
	comp=Z,107nm,1.0s							
SKR				pmax	pmax			
	comp=Z,200nm,4.4s							
SKR				MLR	MLR			
	comp=Z,1µm,16.0s							
SKR				MLR	MLR			
	comp=Z,600nm,14.0s							
TIA	**Tai'an**	**19.06**	**279**	P		**P**	**01 38 31.9**	**-1.2**
TIA				pmax	pmax			
	comp=Z,1µm,4.9s							
TIA				LR	LR			
	comp=Z,3µm,13.9s							
TIA				LR	LR			
	comp=Z,4µm,22.2s							
TIA				LR	LR			
	comp=Z,8µm,25.1s							
SARN	**Sarigan**	**19.37**	**165**	P		**P**	**01 38 35.7**	**-0.8**
SARN				IAmb	IAmb		01 38 45.5	
	comp=Z,146nm,1.0s							
BJI	**Beijing**	**19.81**	**290**	P		**P**	**01 38 39.0**	**-2.2**
BJI				S		**S**	**01 42 17.4**	**-4.4**
BJI				pmax	pmax			
	comp=Z,91nm,1.4s							
BJI				LR	LR			
	comp=Z,2µm,23.7s							
BJI				LR	LR			
	comp=Z,2µm,24.3s							
BJI				LR	LR			
	comp=Z,3µm,27.5s							
BJT	**Baijiatuau**	**19.82**	**290**	P		**P**	**01 38 39.6**	**-1.7**
BJT				pmax	pmax			
	comp=Z,89nm,0.9s							
BJT	**Baijiatuau**	**19.82**	**290**	P		**P**	**01 38 39.6**	**-1.7**
YHNB	**Yeheng**	**19.87**	**242**	P		**P**	**01 38 40.8**	**-1.3**
NACB	**Ninganchiao**	**20.02**	**241**	P		**P**	**01 38 41.9**	**-1.8**
ZEA	**Zeya**	**20.43**	**337**	*e*P		**P**	**01 38 44.0**	**-3.7**
ZEA				*e*			01 39 04.0	
ZEA				*e*S		**S**	**01 42 32.0**	**-1.8**
ZEA				*e*SS		**SnSn**	**01 43 08.0**	**+14**
ZEA				pmax	pmax			
	comp=Z,400nm,4.0s							
ZEA				pmax	pmax			
	comp=N,62nm,0.8s							
ZEA				pmax	pmax			
	comp=E,31nm,0.8s							
ZEA				pmax	pmax			
	comp=Z,120nm,1.0s							
ZEA				pmax	pmax			
	comp=Z,600nm,10.0s							
ZEA				smax	smax			
	comp=E,1µm,8.0s							
ZEA				smax	smax			
	comp=N,1µm,10.0s							
ZEA				MLR	MLR			
	comp=E,1µm,15.0s							
HIA	**Hailar**	**20.52**	**318**	*d i*P		**P**	**01 38 45.9**	**-2.9**
HIA				pmax	pmax			
	comp=Z,170nm,1.2s							
HIA	**Hailar**	**20.52**	**318**	P		**P**	**01 38 46.6**	**-2.2**
HIA	**Hailar**	**20.52**	**318**	IAMs_20	IAMs_20		01 46 43.0	
	comp=Z,4µm,19.0s							
SSLB	**Suanglung**	**20.72**	**241**	P		**P**	**01 38 50.3**	**-0.9**
YULB	**Yu-li**	**20.73**	**239**	P		**P**	**01 38 49.0**	**-2.3**
PEA0B	**Petropavlovsk-**	**21.24**	**29**	P		**P**	**01 38 55.5**	**-1.1**
PEA0B				pmax	pmax			
	comp=Z,115nm,1.1s							
PEA0B				MLR	MLR			
	comp=Z,3µm,22.0s							
PEA0B	**Petropavlovsk-**	**21.24**	**29**	P		**P**	**01 38 55.5**	**-1.1**
PEA0B				IAmb	IAmb		01 39 10.0	
	comp=Z,114nm,1.1s							
PETK	**Petropavlovsk-**	**21.24**	**29**	P		**P**	**01 38 56.9**	**+0.3**
	comp=Z,31nm,1.0s,baz=201,slow=7.9,SNR=14							
PETK				LR	LR		01 48 05.0	
	comp=Z,783nm,19.6s,baz=220,slow=39							
TWG	**Pinlang**	**21.26**	**238**	IAMs_20	IAMs_20		01 48 34.2	
	comp=Z,5µm,19.0s							
TPUB	**Ta-pu**	**21.26**	**240**	P		**P**	**01 38 55.3**	**-1.7**
TPUB				IAmb	IAmb		01 38 56.9	
	comp=Z,100nm,1.0s							
PET	**Petropavlovsk**	**21.57**	**31**	*e*P		**P**	**01 39 01.7**	**+1.7**
PET				*e*S		**S**	**01 42 54.9**	**-1.4**
PET				pmax	pmax			
	comp=Z,128nm,1.3s							
PET				MLR	MLR			
	comp=Z,2µm,17.0s							
PET				MLR	MLR			
	comp=Z,2µm,15.0s							
PET	**Petropavlovsk**	**21.57**	**31**	P		**P**	**01 38 59.1**	**-0.8**
PET				IAmb	IAmb		01 39 16.6	
	comp=Z,92nm,1.0s							
PET				IAMs_20	IAMs_20		01 47 00.4	
	comp=Z,4µm,22.0s							
QZH	**Quanzhou**	**21.76**	**247**⇑	*i*P		**P**	**01 39 00.4**	**-1.9**
QZH				*e*S		**S**	**01 42 59.3**	**-1.2**
QZH				pmax	pmax			
	comp=Z,58nm,0.9s							
QZH				LR	LR			
	comp=Z,3µm,16.4s							
QZH				LR	LR			
	comp=Z,3µm,16.3s							
QZH				LR	LR			
	comp=Z,4µm,19.3s							
KNMB	**Chin-men Tao**	**22.18**	**246**	P		**P**	**01 39 04.5**	**-2.4**
KNMB				IAmb	IAmb		01 39 17.4	
	comp=Z,82nm,0.9s							
KNMB				IAMs_20	IAMs_20		01 47 54.8	
	comp=Z,4µm,22.0s							
GUMO	**Guam**	**22.24**	**169**	P		**P**	**01 39 04.9**	**-2.6**
GUMO				pmax	pmax			
	comp=Z,311nm,1.0s							
GUMO	**Guam**	**22.24**	**169**	P		**P**	**01 39 10.6**	**+3.1**
	comp=Z,148nm,0.8s,baz=172,slow=15,SNR=4.2							
GUMO	**Guam**	**22.24**	**169**	P		**P**	**01 39 04.9**	**-2.6**
WHN	**Wuhan**	**22.57**	**265**⇓	*i*P		**P**	**01 39 09.6**	**-1.4**
WHN				S		**S**	**01 43 20.8**	**+5.5**
WHN				pmax	pmax			
	comp=Z,220nm,0.9s							
WHN				pmax	pmax			
	comp=Z,2µm,9.6s							
WHN				LR	LR			
	comp=Z,2µm,9.1s							
WHN				LR	LR			
	comp=Z,18µm,19.2s							
WHN				LR	LR			
	comp=Z,13µm,15.3s							
TIY	**Taiyuan**	**22.70**	**284**	*e*P		**P**	**01 39 13.0**	**+0.6**
TIY				pmax	pmax			
	comp=Z,51nm,0.9s							
TIY				pmax	pmax			
	comp=Z,500nm,4.5s							
TIY				LR	LR			
	comp=Z,2µm,11.2s							
TIY				LR	LR			
	comp=Z,3µm,15.2s							
TIY				LR	LR			
	comp=Z,6µm,25.4s							
HHC	**Hu-ho-hao-te**	**23.38**	**292**	P		**P**	**01 39 17.0**	**-2.3**
HHC				pP	pP		01 39 25.3	-5.5
HHC				sP	sP		01 39 31.3	-5.2
HHC				pmax	pmax			
	comp=Z,25nm,0.9s							
BTO	**Baotou**	**24.54**	**291**	*e*P		**P**	**01 39 29.8**	**-0.2**
MA2	**Magadan**	**24.89**	**12**	*ce*P		**P**	**01 39 33.0**	**+0.2**
MA2				pmax	pmax			
	comp=Z,86nm,1.3s							
MA2	**Magadan**	**24.89**	**12**	LR	LR		01 49 23.6	
	comp=Z,2µm,21.5s,baz=186,slow=36							
MA2	**Magadan**	**24.89**	**12**	P		**P**	**01 39 33.2**	**+0.4**
MA2				IAmb	IAmb		01 39 52.6	
	comp=Z,121nm,0.9s							
CIT	**Chita**	**25.32**	**319**	*e*P		**P**	**01 39 34.1**	**-2.8**
CIT				*e*			01 39 49.3	
CIT				*e*			01 40 21.6	
XAN	**Xi'an**	**26.04**	**276**	P		**P**	**01 39 42.6**	**-1.0**
XAN				S		**S**	**01 44 14.8**	**+3.5**
XAN				pmax	pmax			
	comp=Z,78nm,1.0s							
XAN				pmax	pmax			
	comp=Z,820nm,6.2s							
XAN				LR	LR			
	comp=Z,4µm,19.0s							
XAN				LR	LR			
	comp=Z,4µm,20.9s							
XAN				LR	LR			
	comp=Z,5µm,22.0s							
XAN	**Xi'an**	**26.04**	**276**	P		**P**	**01 39 42.3**	**-1.2**
XAN				pmax	pmax			
	comp=Z,67nm,0.7s							
XAN				MLR	MLR			
	comp=Z,5µm,21.0s							
XAN	**Xi'an**	**26.04**	**276**	P		**P**	**01 39 42.3**	**-1.2**
XAN				IAmb	IAmb		01 39 44.6	
	comp=Z,67nm,0.7s							
XAN	**Xi'an**	**26.04**	**276**	IAMs_20	IAMs_20		01 50 12.6	
	comp=Z,5µm,21.0s							
ENH	**Enshi**	**26.62**	**267**	P		**P**	**01 39 47.6**	**-1.2**
ENH				IAMs_20	IAMs_20		01 50 44.1	
	comp=Z,5µm,21.0s							
HKPS	**Hong Kong Po S**	**26.62**	**247**	IAMs_20	IAMs_20		01 51 00.4	
	comp=Z,4µm,20.0s							
YAK	**Yakutsk**	**27.34**	**349**	*c i*P		**P**	**01 39 54.2**	**-0.7**
YAK				*e**PP		**sP**	**01 40 15.6**	**+2.9**
YAK				*e*			01 40 42.3	
YAK				*e*			01 43 12.5	
YAK				*e*S		**S**	**01 44 27.1**	**-4.2**
YAK				*e*SS		**SnSn**	**01 45 46.3**	**+3.0**
YAK				*e*			01 50 36.5	
YAK				pmax	pmax			
	comp=Z,91nm,1.1s							
YAK				pmax	pmax			
	comp=E,30nm,1.4s							
YAK				pmax	pmax			
	comp=N,72nm,1.3s							
YAK				pmax	pmax			
	comp=Z,156nm,1.3s							
YAK				pmax	pmax			
	comp=N,136nm,1.5s							
YAK				smax	smax			
	comp=E,292nm,4.2s							
YAK				smax	smax			
	comp=N,263nm,2.7s							
YAK				MLR	MLR			
	comp=Z,3µm,22.0s							
YAK				MLR	MLR			
	comp=N,2µm,19.0s							
YAK				MLR	MLR			
	comp=E,1µm,18.0s							
YAK	**Yakutsk**	**27.34**	**349**	P		**P**	**01 39 54.8**	**-0.1**
	comp=E,36nm,0.7s,baz=162,slow=4.2,SNR=16							
YAK	**Yakutsk**	**27.34**	**349**	P		**P**	**01 39 55.2**	**+0.3**
YAK				IAmb	IAmb		01 40 05.2	
	comp=Z,118nm,0.9s							
ULN	**Ulaanbaatar**	**27.68**	**307**	P		**P**	**01 39 57.0**	**-1.3**
ULN	**Ulaanbaatar**	**27.68**	**307**	IAMs_20	IAMs_20		01 50 35.1	
	comp=Z,3µm,22.0s							
TGY	**Tagaytay City**	**27.78**	**225**	P		**P**	**01 39 57.9**	**-1.5**
	comp=Z,100nm,0.3s,baz=123,slow=21,SNR=4.0							
TGY				LR	LR		01 49 46.0	
	comp=Z,354nm,18.7s,baz=30,slow=34							
H11N2	**WAKE ISLAND Hy**	**27.99**	**117**	T	T		02 09 09.7	
	baz=310,slow=75,SNR=84							
H11N1	**WAKE ISLAND Hy**	**28.00**	**117**	T	T		02 09 23.1	
	baz=310,slow=75,SNR=151							
H11N3	**WAKE ISLAND Hy**	**28.01**	**117**	T	T		02 09 11.1	
	baz=310,slow=75,SNR=249							
SONM	**Songino Array**	**28.10**	**306**	P		**P**	**01 40 01.3**	**-0.8**
	comp=Z,30nm,1.0s,baz=103,slow=8.7,SNR=48							
SONM				ScP		**ScP**	**01 46 52.8**	**+0.3**
	comp=Z,6.7nm,1.1s,baz=112,slow=4.3,SNR=11							
SONM				LR	LR		01 51 32.8	
	comp=Z,3µm,19.1s,baz=108,slow=37							
SEY	**Seymchan**	**28.32**	**11**	*i* P		**P**	**01 40 03.2**	**-0.4**
SEY	**Seymchan**	**28.32**	**11**	P		**P**	**01 40 04.2**	**+0.6**
	comp=Z,12nm,0.8s,baz=218,slow=8.2,SNR=14							
SEY				LR	LR		01 52 55.2	
	comp=Z,2µm,18.5s,baz=182,slow=39							
BOD	**Bodaibo**	**28.43**	**330**	*e*P		**P**	**01 40 03.9**	**-0.8**
BOD				pmax	pmax			
	comp=Z,42nm,0.9s							
H11S1	**WAKE ISLAND Hy**	**28.65**	**120**	T	T		02 10 00.5	
	baz=312,slow=75,SNR=498							
H11S3	**WAKE ISLAND Hy**	**28.65**	**120**	T	T		02 10 00.5	
	baz=312,slow=75,SNR=274							
H11S2	**WAKE ISLAND Hy**	**28.66**	**120**	T	T		02 10 02.4	
	baz=312,slow=75,SNR=338							
LZH	**Lanzhou**	**29.73**	**282**	⇑P		**P**	**01 40 16.0**	**-0.6**
LZH				PP		**PP**	**01 41 15.0**	**-9.2**
LZH				S		**S**	**01 45 08.3**	**-1.4**
LZH				sS	sS		01 45 25.0	-5.2
LZH				pmax	pmax			
	comp=Z,130nm,1.3s							
LZH				pmax	pmax			
	comp=Z,690nm,6.5s							
LZH				LR	LR			
	comp=Z,3µm,14.7s							
LZH				LR	LR			
	comp=Z,4µm,14.3s							
LZH				LR	LR			
	comp=Z,6µm,17.0s							
GYA	**Guiyang**	**30.39**	**262**⇑	*i*P		**P**	**01 40 21.0**	**-1.5**
GYA				pP	pP		01 40 33.5	-1.3
GYA				PcP		**PcP**	**01 43 22.3**	**+0.8**
GYA				S		**S**	**01 45 16.8**	**-3.3**
GYA				pmax	pmax			
	comp=Z,100nm,1.0s							
GYA				pmax	pmax			
	comp=Z,330nm,4.5s							
GYA				LR	LR			
	comp=Z,2µm,14.9s							
GYA				LR	LR			
	comp=Z,2µm,15.2s							
GYA				LR	LR			
	comp=Z,3µm,15.2s							
ZAK	**Zakamensk**	**30.70**	**310**	*e*P		**P**	**01 40 24.2**	**-0.8**
ZAK				pmax	pmax			
	comp=Z,17nm,0.9s							
TLY	**Talaya**	**30.83**	**313**	P		**P**	**01 40 24.9**	**-1.2**
TLY				P		**P**	**01 40 24.9**	**-1.2**
TLY	**Talaya**	**30.83**	**313**⇑	*e*P		**P**	**01 40 26.6**	**+0.6**
TLY				pmax	pmax			
	comp=Z,18nm,0.8s							
TLY	**Talaya**	**30.83**	**313**	P		**P**	**01 40 25.9**	**-0.2**
	comp=Z,15nm,0.9s,baz=326,slow=0.4,SNR=10							
TLY				ScP		**ScP**	**01 47 02.4**	**+1.5**
	comp=Z,1.5nm,0.4s,baz=143,slow=4.4,SNR=3.3							
TLY				LR	LR		01 52 45.2	
	comp=Z,2µm,20.4s,baz=106,slow=36							
TLY	**Talaya**	**30.83**	**313**	P		**P**	**01 40 25.2**	**-0.9**
TLY	**Talaya**	**30.83**	**313**	IAMs_20	IAMs_20		01 52 32.2	
	comp=Z,2µm,19.0s							
CD2	**Chengdu**	**31.08**	**272**⇑	*i*P		**P**	**01 40 27.3**	**-1.2**
CD2				sP	pP		01 40 43.0	+2.2
CD2				S		**S**	**01 45 38.4**	**+7.7**
CD2				sS	sS		01 45 46.3	-5.0
CD2				pmax	pmax			
	comp=Z,110nm,0.8s							
CD2				pmax	pmax			
	comp=Z,610nm,10.3s							
CD2				LR	LR			

comp=Z,8μm,15.0s
CD2 LR LR
comp=Z,9μm,20.6s
CD2 LR LR
comp=Z,12μm,21.4s
DAV Davao City (W) 31.58 210 ⇓ *i*P **P 01 40 37.3 +4.4**
DAV Davao City (W) 31.58 210 IAMs_20 IAMs_20 01 50 33.0
comp=Z,3μm,22.0s
QIZ Qiongzhong 31.78 247 IAMs_20 IAMs_20 01 53 25.9
comp=Z,3μm,22.0s
MOY Mondy 32.42 312 *e*P **P 01 40 39.9 -0.2**
MOY pmax pmax
comp=Z,24nm,2.3s
GTA Gaotai 32.42 289 ⇑ P **P 01 40 39.3 -1.0**
GTA pP pP 01 40 49.9 -2.7
GTA sP sP 01 40 53.8 -4.3
GTA PP **PnPn 01 41 49.3 +1.0**
GTA PcP **PcP 01 43 27.8 +1.0**
GTA S **S 01 45 51.3 -0.4**
GTA sS sS 01 46 09.4 -2.8
GTA ScP **ScP 01 47 06.5 -0.2**
GTA PcS **PcS 01 47 11.8 -0.1**
GTA ScS **ScS 01 51 05.0 -1.1**
GTA pmax pmax
comp=Z,28nm,1.0s
GTA pmax pmax
comp=Z,530nm,6.9s
GTA LR LR
comp=Z,2μm,21.0s
GTA LR LR
comp=Z,2μm,21.0s
GTA LR LR
comp=Z,4μm,22.3s
KMI Kunming 34.15 263 P **P 01 40 54.3 -1.3**
KMI pP pP 01 41 08.3 +0.4
KMI PP **PP 01 42 12.5 -1.0**
KMI S **S 01 46 20.8 +1.9**
KMI pmax pmax
comp=Z,65nm,1.4s
KMI pmax pmax
comp=Z,450nm,4.5s
KMI LR LR
comp=Z,3μm,22.8s
KMI LR LR
comp=Z,1μm,25.6s
KMI LR LR
comp=Z,3μm,25.0s
KMI Kunming 34.15 263 IAmb IAmb 01 40 55.6
comp=Z,64nm,1.0s
KMI Kunming 34.15 263 IAMs_20 IAMs_20 01 55 40.6
comp=Z,2μm,19.0s
SLVN Son La 35.07 256 P **P 01 41 02.7 -0.7**
SLVN IAmb IAmb 01 41 16.9
comp=Z,33nm,1.1s
BILL Bilibino 35.58 16 ⇓ *e*P **P 01 41 07.6 +0.4**
BILL *e* 01 42 27.6
BILL *e* 01 43 35.1
BILL *e*S **S 01 46 40.7 +1.2**
BILL pmax pmax
comp=Z,28nm,1.3s
BILL MLR MLR
comp=Z,3μm,22.0s
BILL Bilibino 35.58 16 P **P 01 41 07.5 +0.4**
BILL IAmb IAmb 01 41 18.3
comp=Z,34nm,1.1s
TIXI Tiksi 36.64 354 *ce*P **P 01 41 15.8 -0.4**
TIXI pmax pmax
comp=Z,25nm,1.0s
TIXI MLR MLR
comp=Z,2μm,17.0s
TIXI Tiksi 36.64 354 P **P 01 41 15.9 -0.3**
comp=Z,16nm,0.9s,baz=0.0,slow=24,SNR=25
TIXI Tiksi 36.64 354 P **P 01 41 15.1 -1.1**
TIXI IAMs_20 IAMs_20 01 58 00.5
comp=Z,2μm,18.0s
TNTI Ternate 36.79 203 P **P 01 41 17.8 -0.2**
comp=Z,48nm,0.9s
TNTI Ternate 36.79 203 P **P 01 41 16.8 -1.2**
TNTI IAmb IAmb 01 41 30.1
comp=Z,84nm,1.1s
BAKI Biak 36.84 188 P **P 01 41 19.2 +0.7**
comp=Z,157nm,1.2s
SWI Sorong 37.32 196 P **P 01 41 22.0 -0.5**
SWI pmax pmax
comp=Z,117nm,0.9s
SWI Sorong 37.32 196 P **P 01 41 22.8 +0.3**
comp=Z,118nm,0.9s
SIJI Sorong 37.32 196 LR LR 01 54 57.2
comp=Z,2μm,20.9s,baz=22,slow=33
DLV T Lat 37.41 239 P **P 01 41 23.0 -0.5**
DLV IAmb IAmb 01 41 36.1
comp=Z,81nm,1.1s
RKPI Ransiki, Papua 37.41 191 P **P 01 41 24.0 +0.7**
comp=Z,95nm,1.0s,comp=Z,16μm
SMPI Sarmi 37.44 183 P **P 01 41 25.8 +2.3**
comp=Z,72nm,1.1s,comp=Z,6μm
SKNT Sakolnakorn 37.46 250 P **P 01 41 24.1 +0.3**
NONG Nongkai 37.47 252 P **P 01 41 23.8 0.0**
comp=Z,3.0nm,0.9s,comp=Z,140nm
SRPI Serui, Papua 37.50 187 P **P 01 41 24.7 +0.7**
comp=Z,161nm,0.6s
JAY Jayapura 37.91 180 P **P 01 41 27.9 +0.3**
comp=Z,32nm,0.9s,baz=276,slow=3.5,SNR=5.5
JAY LR LR 01 55 54.7
comp=Z,631nm,20.9s,baz=10.0,slow=34
GENI Genyem 37.99 181 P **P 01 41 29.4 +1.2**
comp=Z,240nm,1.0s,comp=Z,8μm
LBMI Labuha 38.08 202 P **P 01 41 27.9 -1.0**
comp=Z,73nm,1.1s,comp=Z,3μm
MRSI Marisa 39.04 211 P **P 01 41 35.9 -1.1**
comp=Z,98nm,1.3s,comp=Z,1μm
FAKI Fak Fak 39.11 193 P **P 01 41 38.3 +0.7**
comp=Z,112nm,1.1s,comp=Z,1μm
FAKI Fak Fak 39.11 193 P **P 01 41 36.9 -0.7**
FAKI IAMs_20 IAMs_20 01 56 59.0
comp=Z,2μm,20.0s
WAMI Wamena 39.32 183 P **P 01 41 42.3 +3.0**
PHRA Phrae 39.50 255 P **P 01 41 40.6 -0.3**
KMPI Kaimana, Papua 39.59 191 P **P 01 41 42.4 +0.8**
comp=Z,187nm,0.8s
UTTA Uttaradit 39.67 254 P **P 01 41 41.9 -0.4**
SANI Sanana 39.88 203 P **P 01 41 43.1 -0.9**
comp=Z,118nm,0.9s,comp=Z,888nm
LAMP Lampang 39.96 256 P **P 01 41 44.9 +0.2**
comp=Z,82μm,1.0s,comp=Z,697μm
PBKT Sadao Pong 40.02 252 P **P 01 41 44.9 -0.3**
PBKT Sadao Pong 40.02 252 P **P 01 41 44.5 -0.8**
PBKT IAmb IAmb 01 41 51.1
comp=Z,74nm,1.0s
PBKT IAMs_20 IAMs_20 02 00 13.3
comp=Z,3μm,19.0s
MPSI Mapaga 40.05 213 P **P 01 41 45.2 -0.2**
comp=Z,17nm,0.9s
LUWI Luwuk 40.09 208 P **P 01 41 45.7 0.0**
comp=Z,108nm,0.6s,comp=Z,5μm
LUWI Luwuk 40.09 208 P **P 01 41 45.5 -0.2**
LUWI IAmb IAmb 01 42 02.8
comp=Z,49nm,0.8s
MSAI Masohi 40.27 198 P **P 01 41 47.7 +0.5**
comp=Z,18nm,1.2s,comp=Z,1μm
CMMT Chiang Mai 40.34 257 P **P 01 41 47.6 -0.3**
CHTO Chiang Mai 40.35 257 P **P 01 41 46.2 -1.7**
CHTO P **P 01 41 46.2 -1.7**
CHTO Chiang Mai 40.35 257 P **P 01 41 47.8 -0.2**
CHTO pmax pmax
comp=Z,36nm,1.1s
CHTO MLR MLR
comp=Z,3μm,20.0s
CHTO Chiang Mai 40.35 257 P **P 01 41 47.8 -0.2**
CHTO Chiang Mai 40.35 257 IAMs_20 IAMs_20 01 59 33.8
comp=Z,3μm,20.0s
APSI Ampana 40.42 210 P **P 01 41 47.7 -0.8**
CM31 Chiang Mai Arr 40.54 256 P **P 01 41 49.0 -0.5**
SNR=8.5
CM31 Chiang Mai Arr 40.54 256 P **P 01 41 48.8 -0.8**
CMAR Chiang Mai Arr 40.54 256 *ce*P **P 01 41 49.5 -0.1**
CMAR pmax pmax
comp=Z,5.0nm,0.6s
CMAR Chiang Mai Arr 40.54 256 P **P 01 41 49.0 -0.5**
comp=Z,5.1nm,0.6s,baz=44,slow=7.3,SNR=21
CMAR PcP **PcP 01 43 52.7 +1.4**
comp=Z,3.8nm,0.4s,baz=20,slow=2.4,SNR=6.4
CMAR LR LR 02 00 19.0
comp=Z,3μm,18.7s,baz=68,slow=39
NLAI Namlea 40.66 201 P **P 01 41 50.8 +0.3**
comp=Z,48nm,1.0s

AAI Ambon 40.78 199 P **P 01 41 52.3 +0.8**
AAI pmax pmax
comp=Z,125nm,0.7s
AAI Ambon 40.78 199 P **P 01 41 51.4 -0.1**
comp=Z,135nm,0.7s,comp=Z,6μm
WMQ Urumqi 40.95 298 *e*P **P 01 41 53.8 +1.0**
WMQ sP pP 01 42 06.8 +1.5
WMQ S **S 01 48 08.5 +7.1**
WMQ ScS **ScS 01 51 51.3 -2.1**
WMQ pmax pmax
comp=Z,76nm,1.3s
WMQ pmax pmax
comp=Z,730nm,4.9s
WMQ LR LR
comp=Z,1μm,13.5s
WMQ LR LR
comp=Z,930nm,13.7s
WMQ LR LR
comp=Z,2μm,29.2s
WMQ Urumqi 40.95 298 IAmb IAmb 01 41 55.5
comp=Z,118nm,1.1s
WMQ Urumqi 40.95 298 IAMs_20 IAMs_20 01 59 27.3
comp=Z,2μm,19.0s
KRVT Keravat (AS076 41.11 163 LR LR 01 59 06.7
comp=Z,247nm,21.0s,baz=15,slow=36
MHMT Maesarieng 41.50 257 P **P 01 41 58.3 +0.9**
LSA Lhasa 41.74 276 P **P 01 42 00.8 +1.0**
LSA pmax pmax
comp=Z,410nm,1.0s
LSA LR LR
comp=Z,6μm,27.1s
LSA LR LR
comp=Z,10μm,27.8s
LSA Lhasa 41.74 276 P **P 01 42 00.4 +0.5**
LSA Lhasa 41.74 276 P **P 01 42 00.6 +0.7**
LSA P **P 01 42 00.6 +0.7**
LSA Lhasa 41.74 276 P **P 01 42 00.3 +0.5**
LSA pmax pmax
comp=Z,99nm,1.0s
LSA MLR MLR
comp=Z,2μm,19.0s
LSA Lhasa 41.74 276 P **P 01 42 00.3 +0.5**
LSA IAmb IAmb 01 42 02.4
comp=Z,99nm,1.0s
LSA IAMs_20 IAMs_20 02 01 05.8
comp=Z,2μm,19.0s
UTHA Uthaitani 41.80 252 P **P 01 42 00.4 +0.5**
comp=Z,50μm,1.0s
UMPA Umpang Tak 41.88 254 P **P 01 42 02.1 +1.5**
comp=Z,94μm,1.0s
SBUM Sibu 42.21 225 P **P 01 42 03.0 -0.2**
SBUM Sibu 42.21 225 P **P 01 42 02.2 -1.0**
PATY Pattaya 42.32 248 P **P** 01 42 10.1 +6.0
comp=Z,69μm,1.1s
ZAA0 Zalesovo Array 42.44 314 P **P 01 42 04.5 -0.1**
ZAA0 IAmb IAmb 01 42 05.9
comp=Z,72nm,0.9s
ZALV Zalesovo Beam 42.44 314 P **P 01 42 04.5 -0.2**
comp=Z,55nm,0.8s,baz=92,slow=6.6,SNR=169
ZALV ScP **ScP 01 47 43.9 +0.2**
comp=Z,1.2nm,0.6s,baz=48,slow=2.1,SNR=3.1
ZALV LR LR 01 59 56.3
comp=Z,825nm,18.9s,baz=84,slow=36
SRDT SRDT 42.77 251 P **P 01 42 08.2 +0.4**
comp=Z,27nm,1.0s,comp=Z,1μm
SHL Shillong 42.78 270 P **P 01 42 06.7 -1.3**
SNR=13
SHL Shillong 42.78 270 P **P 01 42 07.3 -0.7**
SHL pmax pmax
comp=Z,36nm,0.6s
SHL Shillong 42.78 270 IAmb IAmb 01 42 19.1
comp=Z,36nm,0.6s
BKB Balikpapan 42.85 216 P **P 01 42 07.9 -0.5**
comp=Z,98nm,0.6s
TTSI Tana Toraja 43.11 211 P **P 01 42 10.4 0.0**
ANM Nome 43.14 31 P **P 01 42 10.6 +0.3**
ANM pmax pmax
comp=Z,39nm,1.1s
ANM Nome 43.14 31 P **P 01 42 10.6 +0.3**
KSM Kuching 44.11 226 P **P 01 42 18.0 -0.6**
KSM Kuching 44.11 226 P **P 01 42 17.9 -0.7**
KSM IAmb IAmb 01 42 24.8
comp=Z,46nm,1.1s
SAUI Saumlaki 44.23 193 P **P 01 42 21.0 +1.5**
comp=Z,274nm,0.9s,comp=Z,10μm
SAUI Saumlaki 44.23 193 P **P 01 42 19.5 0.0**
NRIK Noril'sk 44.32 336 P **P 01 42 19.6 0.0**
comp=Z,57nm,1.0s,baz=112,slow=9.5,SNR=43
NRIK PcP **PcP 01 44 03.9 +0.9**
comp=Z,23nm,0.9s,baz=93,slow=4.3,SNR=3.6
NRIK LR LR 02 01 43.0
comp=Z,2μm,19.1s,baz=111,slow=37
MK31 Makanchi Array 44.37 303 *i*P **P 01 42 20.3 -0.1**
MK31 pmax pmax
comp=Z,107nm,1.1s
MK31 Makanchi Array 44.37 303 P **P 01 42 20.4 -0.1**
MK31 IAmb IAmb 01 42 21.9
comp=Z,62nm,1.1s
MKAR Makanchi Array 44.37 303 P **P 01 42 20.7 +0.3**
comp=Z,52nm,0.9s,baz=89,slow=9.1,SNR=204
MKAR LR LR 02 01 27.5
comp=Z,2μm,19.4s,baz=88,slow=37
STKI Sintang 44.58 224 P **P 01 42 21.9 -0.4**
MAKZ Makanchi 44.58 303 P **P 01 42 21.9 -0.2**
MAKZ pmax pmax
comp=Z,55nm,0.9s
MAKZ MLR MLR
comp=Z,3μm,21.0s
MAKZ Makanchi 44.58 303 P **P 01 42 21.9 -0.2**
MAKZ IAmb IAmb 01 42 23.2
comp=Z,55nm,0.9s
MAKZ IAMs_20 IAMs_20 02 01 13.4
comp=Z,3μm,21.0s
KBKI Kotabaru 44.98 216 P **P 01 42 25.4 0.0**
comp=Z,14nm,0.9s,comp=Z,2μm
RDOG Red Dog Mine 45.06 26 IAmb IAmb 01 42 35.2
comp=Z,54nm,1.2s
PMG Port Moresby 45.18 171 P **P 01 42 27.8 +0.8**
PMG pmax pmax
comp=Z,32nm,1.2s
PMG Port Moresby 45.18 171 LR LR 02 02 01.3
comp=Z,151nm,18.7s,baz=8.5,slow=37
PMG Port Moresby 45.18 171 P **P 01 42 27.8 +0.8**
TAPN Taplejung 45.43 275 *e*P **P 01 42 29.3 -0.1**
comp=Z,81nm,0.8s
ODAN Odare 45.90 275 *e*P **P 01 42 32.8 -0.2**
comp=Z,39nm,0.5s
KURK Kurchatov 46.34 309 *ce*P **P 01 42 35.6 -0.3**
KURK pmax pmax
comp=Z,210nm,1.0s
KURK Kurchatov 46.34 309 P **P 01 42 35.9 0.0**
KURK Kurchatov 46.34 309 IAMs_20 IAMs_20 02 02 22.7
comp=Z,1μm,21.0s
KURBB Kurchatov Arra 46.41 309 P **P 01 42 36.3 -0.1**
comp=Z,146nm,1.0s,baz=84,slow=8.2,SNR=332
SURT Suratani 46.42 246 P **P 01 42 38.5 +1.6**
comp=Z,44nm,0.9s
RAMN Ramite 46.50 275 *e*P **P 01 42 37.6 -0.1**
comp=Z,232nm,0.9s
TRTT Trang 46.50 244 P **P 01 42 38.2 +0.6**
comp=Z,34nm,1.1s
JIRN Jiri 46.54 276 *e*P **P 01 42 38.7 +0.5**
comp=Z,306nm,0.8s
GUN Gumba 46.69 277 *e*P **P 01 42 39.6 +0.2**
comp=Z,363nm,1.2s
PDGK Podgornoye 46.91 299 P **P 01 42 40.5 -0.1**
PDGK pmax pmax
comp=Z,197nm,1.1s
PKI Pulchoki 47.21 276 *e*P **P 01 42 43.2 -0.2**
comp=Z,21nm,1.2s
PKIN Phulchoki 47.22 276 *e*P **P 01 42 43.1 -0.3**
KKN Kakani 47.23 277 *e*P **P 01 42 43.5 +0.1**
comp=Z,180nm,1.1s
JRMM Jerantut 47.29 237 P **P 01 42 43.0 -0.7**
MMRI Maumere 47.30 205 P **P 01 42 43.9 +0.2**
comp=Z,87nm,1.1s,comp=Z,3μm
MMRI Maumere 47.30 205 P **P 01 42 43.7 0.0**
DMN Daman 47.44 277 *e*P **P 01 42 45.0 -0.1**
comp=Z,254nm,1.3s
KULM Kulim 47.56 240 P **P 01 42 45.0 -0.8**
KULM Kulim 47.56 240 P **P 01 42 45.7 -0.1**
KULM IAMs_20 IAMs_20 02 05 49.3
comp=Z,1μm,18.0s
GKN Gorkha 47.66 277 *e*P **P 01 42 46.9 +0.2**
comp=Z,319nm,0.9s
SOEI Soe 47.69 202 P **P 01 42 46.2 -0.7**

IPM Ipoh 47.87 239 P **P 01 42 47.0 -1.2**
IPM Ipoh 47.87 239 P **P 01 42 47.0 -1.2**
IPM IAmb IAmb 01 42 59.5
comp=Z,39nm,1.0s
IPM IAMs_20 IAMs_20 02 05 16.4
comp=Z,1μm,20.0s
PRZ Przheval'sk 47.88 298 IAMs_20 IAMs_20 02 05 23.9
comp=Z,2μm,22.0s
DANN Dangsing 48.23 278 *e*P **P 01 42 51.7 +0.5**
BATI Baumata 48.30 203 S **S 01 49 43.6 -4.6**
comp=Z,9.4nm,0.3s,baz=81,slow=23,SNR=5.9
BATI LR LR 02 00 44.8
comp=Z,777nm,21.9s,baz=30,slow=33
HNR Honiara 48.35 154 LR LR 02 02 03.8
comp=Z,644nm,21.6s,baz=330,slow=34
HNR Honiara 48.35 154 IAMs_20 IAMs_20 02 00 34.1
comp=Z,2μm,19.0s
TARG Taragay, Kyrgy 48.49 297 IAMs_20 IAMs_20 02 04 24.8
comp=Z,1μm,20.0s
KDAK Kodiak Island 48.58 41 P **P 01 42 54.5 +1.3**
comp=Z,56nm,1.0s,baz=92,slow=0.1,SNR=7.8
KDAK Kodiak Island 48.58 41 P **P 01 42 53.7 +0.5**
KOLN Koldanda 48.59 278 *e*P **P 01 42 54.1 +0.2**
KDJ Kajisay 48.84 298 P **P 01 42 55.5 -0.2**
KDJ pmax pmax
comp=Z,73nm,0.9s
KDJ MLR MLR
comp=Z,2μm,21.0s
KDJ Kajisay 48.84 298 P **P 01 42 55.5 -0.2**
KDJ IAMs_20 IAMs_20 02 05 54.4
comp=Z,1μm,21.0s
SKT Skwentna 49.00 35 IAmb IAmb 01 43 05.2
comp=Z,26nm,1.2s
PLAI Plampang 49.17 211 P **P 01 42 58.1 0.0**
comp=Z,54nm,0.9s
KTH Kantishna Hill 49.28 33 IAmb IAmb 01 43 09.7
comp=Z,39nm,1.2s
COEN Coen 49.34 177 P **P 01 42 59.8 +0.4**
MLY Manley 49.40 31 P **P 01 43 00.8 +1.5**
MLY IAmb IAmb 01 43 08.4
comp=Z,39nm,1.1s
TWSI Taliwang, Sumb 49.47 212 P **P 01 42 59.9 -0.5**
comp=Z,54nm,0.9s,comp=Z,712nm
SRBI Singaraja 49.62 214 P **P 01 43 01.1 -0.5**
comp=Z,72nm,0.8s,comp=Z,1μm
TKM2 Tokmak 2 49.78 299 P **P 01 43 03.8 +1.0**
SNR=67
NRN Naryn 49.88 297 IAmb IAmb 01 43 22.7
comp=Z,52nm,0.9s
NRN IAMs_20 IAMs_20 02 05 20.2
comp=Z,1μm,20.0s
RC01 Rabbit Creek A 49.88 37 IAmb IAmb 01 43 08.4
comp=Z,28nm,1.0s
TOLK Toolik Lake Re 50.03 27 P **P 01 43 05.8 +1.7**
baz=266
TOLK Toolik Lake Re 50.03 27 P **P 01 43 05.3 +1.2**
TOLK IAmb IAmb 01 43 13.8
comp=Z,29nm,1.1s
PMR Palmer 50.15 36 P **P 01 43 05.7 +0.7**
PMR pmax pmax
comp=Z,48nm,1.2s
PMR Palmer 50.15 36 P **P 01 43 05.7 +0.7**
PMR IAmb IAmb 01 43 13.3
comp=Z,48nm,1.2s
PMR IAMs_20 IAMs_20 02 03 23.3
comp=Z,943nm,21.0s
MCK McKinley 50.17 33 IAmb IAmb 01 43 17.8
comp=Z,39nm,1.2s
RND Reindeer 50.22 34 IAmb IAmb 01 43 15.9
comp=Z,41nm,1.1s
GHO Glory Hole Cre 50.24 36 IAMs_20 IAMs_20 02 03 29.6
comp=Z,1μm,21.0s
KZA Kyzart 50.24 298 P **P 01 43 08.3 +1.7**
SNR=22
KBK Karagaybulak 50.31 299 P **P 01 43 07.7 +0.9**
SNR=64
CHMS Chumysh 50.36 300 P **P 01 43 07.5 +0.6**
SNR=18
KSH Kashi 50.44 295 P **P 01 43 11.8 +4.1**
KSH sP sP 01 43 25.4 -0.6
KSH PcP **PcP 01 44 28.8 +3.3**
KSH PcS **PcS 01 48 23.4 +0.5**
KSH S **S 01 50 22.8 +4.7**
KSH pmax pmax
comp=Z,53nm,1.0s
KSH pmax pmax
comp=Z,650nm,4.6s
KSH LR LR
comp=Z,840nm,8.5s
KSH LR LR
comp=Z,1μm,10.8s
KSH LR LR
comp=Z,3μm,19.5s
USP Ospenovka 50.47 300 P **P 01 43 08.4 +0.5**
SNR=37
KNK Knik Glacier 50.48 36 IAMs_20 IAMs_20 02 04 22.0
comp=Z,995nm,21.0s
FRU1 Bishkek 50.49 299 P **P 01 43 09.0 +1.0**
FRU1 pmax pmax
comp=Z,141nm,1.1s
FRU1 MLR MLR
comp=Z,3μm,21.0s
FRU1 Bishkek 50.49 299 P **P 01 43 09.1 +1.0**
SML Sawmill 50.52 36 P **P 01 43 09.2 +1.2**
SML IAmb IAmb 01 43 26.7
comp=Z,38nm,0.8s
PSI Prapat 50.53 239 P **P 01 43 06.5 -2.2**
PSI pmax pmax
comp=Z,24nm,0.8s
PSI MLR MLR
comp=Z,1μm,18.0s
RPSI Rantau Prapat 50.60 239 P **P 01 43 06.5 -2.6**
RPSI IAmb IAmb 01 43 16.6
comp=Z,24nm,0.8s
RPSI IAMs_20 IAMs_20 02 07 37.9
comp=Z,1μm,18.0s
TCOL CIGO, UAF Yank 50.62 32 P **P 01 43 10.8 +2.3**
baz=271
COLA College 50.62 32 *i*P **P 01 43 08.0 -0.6**
COLA pmax pmax
comp=Z,17nm,0.8s
AAK Ala-Archa 50.63 299 *i*P **P 01 43 09.3 0.0**
SNR=27
AAK Ala-Archa 50.63 299 *ce*P **P 01 43 09.7 +0.4**
AAK pmax pmax
comp=Z,26nm,1.0s
AAK Ala-Archa 50.63 299 P **P 01 43 09.7 +0.4**
comp=Z,22nm,0.9s,baz=102,slow=4.8,SNR=40
AAK Ala-Archa 50.63 299 P **P 01 43 09.7 +0.4**
SNR=19
AAK Ala-Archa 50.63 299 P **P 01 43 09.1 -0.2**
AAK IAmb IAmb 01 43 18.2
comp=Z,29nm,0.9s
UCH Uchtor 50.73 299 P **P 01 43 11.2 +0.9**
SNR=23
POKR Poker Flat Res 50.80 31 P **P 01 43 12.3 +2.4**
baz=271,SNR=21
NGJI Ngawi 50.81 219 P **P 01 43 10.6 0.0**
comp=Z,42nm,1.0s
BKNI Bangkinang 50.86 235 P **P 01 43 10.7 -0.3**
comp=Z,95nm,1.2s,comp=Z,3μm
PMBI Palembang 50.94 229 P **P 01 43 11.6 0.0**
comp=Z,305nm,0.5s
HDA Harding Lake 51.03 32 P **P 01 43 12.8 +1.2**
baz=272,SNR=16
HDA Harding Lake 51.03 32 IAmb IAmb 01 43 20.0
comp=Z,34nm,1.2s
HDA IAMs_20 IAMs_20 02 03 40.4
comp=Z,1μm,22.0s
ILAR Eielson Array 51.04 32 P **P 01 43 12.6 +0.8**
comp=Z,12nm,0.9s,baz=265,slow=5.5,SNR=50
ILAR LR LR 02 06 01.3
comp=Z,365nm,21.4s,baz=268,slow=37
SMRI Semarang 51.07 220 P **P 01 43 12.5 0.0**
comp=Z,124nm,1.4s
BVAR Borovoye Array 51.09 313 P **P 01 43 12.3 0.0**
comp=Z,38nm,0.9s,baz=87,slow=7.7,SNR=137
EKS2 Erkin-Say 51.14 299 P **P 01 43 13.5 +0.5**
SNR=25
BRVK Borovoye 51.15 313 P **P 01 43 12.6 -0.1**
BRVK P **P 01 43 12.6 -0.1**
BRVK Borovoye 51.15 313 *ce*P **P 01 43 12.8 +0.1**
BRVK pmax pmax
comp=Z,67nm,1.0s
BRVK Borovoye 51.15 313 P **P 01 43 12.8 +0.1**
BRVK IAmb IAmb 01 43 14.3
comp=Z,54nm,0.9s

PWJI Pagerwojo 51.20 218 P **P** **01 43 13.6 +0.1**
comp=Z,159nm,0.8s,comp=Z,1µm
AML Almayashu 51.34 299 P **P** **01 43 16.0 +1.1**
SNR=110
FID Port Fidalgo 51.49 37 IAmb IAmb 01 43 23.2
comp=Z,65nm,1.2s
SDSI Sungai Dareh 51.54 234 P **P** **01 43 15.7 -0.4**
comp=Z,57nm,1.3s,comp=Z,2µm
UGM Wanagama 51.75 219 P **P** **01 43 17.1 -0.6**
comp=Z,252nm,1.2s
YOGI Yogyakarta 51.79 220 P **P** **01 43 18.0 +0.1**
comp=Z,102nm,1.2s
EYAK Cordova Ski Ar 51.87 37 IAMs_20 IAMs_20 02 04 32.6
comp=Z,1µm,21.0s
RIDG Independent Ri 51.99 33 IAMs_20 IAMs_20 02 05 39.8
comp=Z,1µm,19.0s
KPJI Karang Pucung 52.10 221 P **P** **01 43 20.1 -0.1**
comp=Z,99nm,1.1s
PDSI Padang 52.16 235 P **P** **01 43 20.5 -0.3**
KNRA Kununurra 52.22 195 P **P** **01 43 21.1 +0.1**
DOT Dot Lake 52.34 33 IAMs_20 IAMs_20 02 05 58.2
comp=Z,1µm,21.0s
SCRK Sand Creek 52.35 33 P **P** **01 43 22.2 +0.6**
SCRK IAmb IAmb 01 43 39.3
comp=Z,31nm,1.0s
KLSI 52.35 228 P **P** **01 43 22.0 -0.1**
comp=Z,43nm,1.3s
KRJI Kerinci 52.39 233 P **P** **01 43 22.2 -0.3**
comp=Z,186nm,0.5s
LEM Lembang 52.41 223 LR LR 02 07 02.4
comp=Z,449nm,19.6s,baz=42,slow=38
LEM Lembang 52.41 223 P **P** **01 43 22.5 -0.2**
comp=Z,80nm,1.0s,comp=Z,1µm
LHSI Lahat 52.41 229 P **P** **01 43 22.7 +0.1**
comp=Z,119nm,1.0s
TNG Tangerang 52.42 225 P **P** **01 43 22.6 0.0**
comp=Z,364nm,0.5s
MDSI Maura Dua 52.53 228 P **P** **01 43 22.1 -1.3**
comp=Z,80nm,1.4s
GSI Gunungsitoli 52.53 239 P **P** **01 43 23.1 -0.4**
comp=Z,206nm,1.1s
GSI Gunungsitoli 52.53 239 P **P** **01 43 22.7 -0.8**
MENT Mentasta 52.57 34 IAmb IAmb 01 43 32.3
comp=Z,44nm,1.0s
MENT IAMs_20 IAMs_20 02 05 11.2
comp=Z,1µm,21.0s
BLSI Bandar Lampung 52.59 227 P **P** **01 43 23.8 -0.1**
comp=Z,146nm,0.4s
SNSI Sinabang, Aceh 52.64 241 P **P** **01 43 24.1 -0.2**
comp=Z,102nm,0.7s
DBJI Dramaga 52.67 224 P **P** **01 43 24.5 0.0**
comp=Z,48nm,1.1s
GLB Gilahina Butte 52.70 36 IAMs_20 IAMs_20 02 05 35.2
comp=Z,1µm,21.0s
CMJI Cimerak 52.74 222 P **P** **01 43 25.0 0.0**
comp=Z,44nm,1.6s
CISI Cisompet, Garu 52.90 222 P **P** **01 43 26.2 0.0**
comp=Z,68nm,0.8s
VRDI Verde Repeater 52.90 36 IAmb IAmb 01 43 34.5
comp=Z,35nm,1.1s
VRDI IAMs_20 IAMs_20 02 05 46.0
comp=Z,1µm,22.0s
LWLI Liwa 53.02 228 P **P** **01 43 26.8 -0.4**
CRQM Cirque 53.12 37 IAmb IAmb 01 43 36.8
comp=Z,59nm,1.0s
KASI Kota Agung 53.15 227 P **P** **01 43 27.9 -0.1**
comp=Z,50nm,1.1s
MNAI Manna 53.18 230 P **P** **01 43 28.1 -0.1**
comp=Z,128nm,2.1s
TGL Tana Glacier 53.27 37 IAmb IAmb 01 43 37.1
comp=Z,47nm,1.1s
KK31 Karatay Array 53.32 301 *i* P **P** **01 43 28.8 -0.2**
KK31 pmax pmax
comp=Z,60nm,0.9s
KKAR Karatay Array 53.32 301 P **P** **01 43 29.3 +0.3**
KKAR pmax pmax
comp=Z,80nm,1.0s
KKAR Karatay Array 53.32 301 P **P** **01 43 29.4 +0.3**
BALM Baldy 53.46 36 P **P** **01 43 30.4 +0.5**
BALM IAmb IAmb 01 43 38.2
comp=Z,32nm,1.1s
BALM IAMs_20 IAMs_20 02 05 33.3
comp=Z,838nm,21.0s
EGAK Eagle 53.48 31 P **P** **01 43 30.9 +1.0**
BARN Barnard Glacie 53.79 36 IAmb IAmb 01 43 41.0
comp=Z,23nm,0.9s
BTK Batken 54.04 297 IAmb IAmb 01 43 53.8
comp=Z,28nm,1.1s
BTK IAMs_20 IAMs_20 02 08 12.9
comp=Z,1µm,18.0s
DAWY Dawson 54.34 32 IAMs_20 IAMs_20 02 07 43.9
comp=Z,2µm,22.0s
NIL Nilore 54.48 289 P **P** **01 43 37.4 -0.3**
NIL Nilore 54.48 289 P **P** **01 43 37.6 -0.1**
NIL pmax pmax
comp=Z,113nm,1.2s
NIL MLR MLR
comp=Z,1µm,21.0s
NIL Nilore 54.48 289 P **P** **01 43 37.6 -0.1**
NIL IAMs_20 IAMs_20 02 11 02.6
comp=Z,993nm,21.0s
TAS Tashkent 54.73 299 P **P** **01 43 39.3 0.0**
TAS pmax pmax
comp=Z,65nm,1.0s
TAS MLR MLR
comp=Z,3µm,22.0s
TAS Tashkent 54.73 299 P **P** **01 43 39.4 0.0**
EPYK Eagle Plains 55.08 29 P **P** **01 43 43.6 +2.1**
baz=280
FITZ Fitzroy Crossi 55.26 197 P **P** **01 43 43.8 +0.6**
WB9 Warramunga Arr 55.40 187 IAMs_20 IAMs_20 02 04 23.7
comp=Z,777nm,21.0s
WB4 Warramunga Arr 55.52 187 IAMs_20 IAMs_20 02 05 01.7
comp=Z,1µm,22.0s
WB3 Warramunga Arr 55.54 187 IAMs_20 IAMs_20 02 06 44.2
comp=Z,1µm,22.0s
WRAB Tennant Creek 55.55 187 *ce* P **P** **01 43 44.8 -0.5**
WRAB pmax pmax
comp=Z,94nm,1.2s
WRAB Tennant Creek 55.55 187 P **P** **01 43 45.1 -0.2**
WRAB Tennant Creek 55.55 187 IAMs_20 IAMs_20 02 06 30.4
comp=Z,1µm,22.0s
WR0 Warramunga Arr 55.55 187 IAMs_20 IAMs_20 02 04 50.6
comp=Z,903nm,22.0s
WR8 Warramunga Arr 55.55 187 IAMs_20 IAMs_20 02 06 42.6
comp=Z,1µm,22.0s
WR7 Warramunga Arr 55.56 187 IAMs_20 IAMs_20 02 06 42.9
comp=Z,1µm,22.0s
WR1 Warramunga Arr 55.56 187 IAMs_20 IAMs_20 02 06 30.7
comp=Z,971nm,22.0s
WR6 Warramunga Arr 55.56 187 IAMs_20 IAMs_20 02 06 43.0
comp=Z,1µm,22.0s
WRA Warramunga Arr 55.56 187 *ce* P **P** **01 43 45.0 -0.3**
WRA pmax pmax
comp=Z,60nm,1.1s
WRA Warramunga Arr 55.56 187 P **P** **01 43 45.1 -0.3**
comp=Z,59nm,1.1s,baz=2.5,slow=7.5,SNR=155
WRA S **S** **01 51 24.7 -3.0**
comp=Z,4.0nm,1.1s,baz=8.5,slow=13,SNR=6.5
WRA LR LR 02 06 52.8
comp=Z,718nm,21.7s,baz=15,slow=35
WRA PKP2bc 02 13 58.6
comp=Z,0.8nm,1.0s,baz=185,slow=2.0,SNR=4.6
WR3 Warramunga Arr 55.56 187 IAMs_20 IAMs_20 02 06 30.8
comp=Z,1µm,22.0s
WR2 Warramunga Arr 55.56 187 IAMs_20 IAMs_20 02 06 30.8
comp=Z,969nm,22.0s
WC3 Warramunga Ar 55.57 187 IAMs_20 IAMs_20 02 04 51.1
comp=Z,833nm,21.0s
WB1 Warramunga Ar. 55.57 187 IAMs_20 IAMs_20 02 08 00.2
comp=Z,912nm,22.0s
CHGR Chuyangaron 55.73 296 P **P** **01 43 46.3 -0.4**
SVE Sverdlovsk 55.82 319 *d* *i* P **P** **01 43 47.6 +0.7**
SVE pmax pmax
comp=Z,106nm,0.9s
SVE MLR MLR
comp=Z,2µm,15.0s
INK Inuvik 55.95 27 P **P** **01 43 48.7 +1.1**
comp=Z,9.9nm,0.9s,baz=294,slow=6.3,SNR=30
INK Inuvik 55.95 27 IAmb IAmb 01 44 05.9
comp=Z,20nm,0.8s
INK IAMs_20 IAMs_20 02 08 03.3
comp=Z,839nm,19.0s
ARU Arti 57.03 319 *c* *i* P **P** **01 43 55.5 0.0**
ARU *PP **pP** **01 44 06.6 -1.9**
ARU 01 44 48.3
ARU 01 46 01.7
ARU S **S** **01 51 50.6 +4.1**
ARU pmax pmax
comp=Z,142nm,0.9s
ARU MLR MLR
comp=Z,1µm,15.0s
ARU Arti 57.03 319 P **P** **01 43 55.6 +0.1**
comp=Z,34nm,0.7s,baz=73,slow=3.8,SNR=154
WHY Whitehorse 57.11 36 IAmb IAmb 01 44 05.5
comp=Z,35nm,1.1s
KBL Kabul 57.36 292 P **P** **01 43 57.6 -0.9**
KBL P **P** **01 43 57.6 -0.9**
KBL Kabul 57.36 292 P **P** **01 43 58.0 -0.5**
KBL MLR MLR
comp=Z,400nm,20.0s
KBL Kabul 57.36 292 P **P** **01 43 58.0 -0.5**
HYB Hyderabad 57.55 269 *i* P **P** **01 43 59.0 -0.8**
HYB *e* PcP **PcP** **01 44 53.0 +0.2**
HYB *e* S **S** **01 51 56.0 +1.6**
AB31 Akbulak array 58.40 311 *i* P **P** **01 44 04.8 -0.4**
AB31 pmax pmax
comp=Z,32nm,0.7s
ABKAR Akbulak array 58.40 311 P **P** **01 44 05.2 0.0**
C36M Paulatuk 58.99 24 P **P** **01 44 09.9 +0.9**
baz=289
AKTO Aktyubinsk 59.18 312 P **P** **01 44 11.6 +0.9**
comp=Z,30nm,1.0s,baz=79,slow=7.0,SNR=47
AS31 Alice Springs 59.28 187 P **P** **01 44 11.5 -0.1**
ASAR Alice Springs 59.28 187 P **P** **01 44 11.4 -0.2**
comp=Z,19nm,0.9s,baz=9.3,slow=6.5,SNR=80
ASAR S **S** **01 52 15.9 -0.6**
comp=Z,3.3nm,1.1s,baz=7.3,slow=12,SNR=8.5
ASAR LR LR 02 07 17.7
comp=Z,498nm,21.2s,baz=17,slow=34
ASAR PKP2bc 02 13 53.0
comp=Z,2.0nm,0.9s,baz=171,slow=3.1,SNR=8.3
PSA00 Pilbara Seismi 60.18 202 P **P** **01 44 17.8 +0.1**
KIRV Kirov 61.02 323 P **P** **01 44 23.4 +0.4**
comp=Z,64nm,0.5s,baz=82,slow=2.4,SNR=48
EIDS Eidsvold 61.43 169 P **P** **01 44 27.1 +0.9**
EIDS IAmb IAmb 01 44 36.7
comp=Z,23nm,0.9s
PALK Pallekele 61.46 258 P **P** **01 44 26.7 -0.1**
PALK pmax pmax
comp=Z,27nm,1.1s
PALK MLR MLR
comp=Z,1µm,20.0s
PALK Pallekele 61.46 258 P **P** **01 44 26.7 -0.1**
PALK IAmb IAmb 01 44 41.2
comp=Z,27nm,1.1s
PALK IAMs_20 IAMs_20 02 12 43.2
comp=Z,1µm,20.0s
PRGR Permogore 61.63 327 *eP* **P** **01 44 26.5 -0.7**
PRGR pmax pmax
comp=Z,64nm,1.2s
SPA0 Spitsbergen Ar 61.81 349 P **P** **01 44 29.3 +1.1**
SPA0 IAmb IAmb 01 44 38.1
comp=Z,25nm,1.0s
SPITS Spitsbergen Ar 61.81 349 P **P** **01 44 29.1 +0.9**
comp=Z,18nm,0.9s,baz=121,slow=18,SNR=6.1
KBS Kingsbay 61.96 350 *ce* P **P** **01 44 29.7 +0.5**
KBS pmax pmax
comp=Z,330nm,1.7s
KBS Kingsbay 61.96 350 P **P** **01 44 30.6 +1.5**
DZM Mont Dzumac 62.35 153 *eP* **P** **01 44 35.5 +3.0**
comp=Z,139nm,1.1s
DZM *eS* **S** **01 52 56.2 +0.4**
comp=Z,2µm,31.5s
DZM Mont Dzumac 62.35 153 *e* LR LR 02 03 15.0
comp=Z,2µm,25.5s
DZM Mont Dzumac 62.35 153 P **P** **01 44 34.0 +1.5**
HRA Herat 62.53 294 IAMs_20 IAMs_20 02 14 28.8
comp=Z,894nm,20.0s
LVZ Lovozero 63.16 336 *ce* P **P** **01 44 38.1 +0.7**
LVZ pmax pmax
comp=Z,50nm,2.5s
TMCR Tamitsa 63.71 332 *eP* **P** **01 44 40.6 -0.3**
TMCR pmax pmax
comp=Z,52nm,1.0s
GEYT Alibeck 63.99 299 P **P** **01 44 43.8 +0.4**
comp=Z,22nm,1.1s,baz=54,slow=2.6,SNR=39
GEYT LR LR 02 15 07.3
comp=Z,899nm,19.4s,baz=60,slow=38
GYA0B ALIBECK ARRAY 63.99 299 IAMs_20 IAMs_20 02 14 56.2
comp=Z,1µm,21.0s
RES Resolute Bay 64.14 14 IAmb IAmb 01 44 59.6
comp=Z,47nm,1.0s
ARCES ARCESS Array B 65.12 339 P **P** **01 44 50.3 +0.2**
comp=Z,26nm,0.9s,baz=52,slow=7.9,SNR=37
ARCES LR LR 02 16 17.0
comp=Z,1µm,21.5s,baz=58,slow=39
ARE0 ARCESS Array S 65.12 339 *eP* **P** **01 44 50.9 +0.8**
ARE0 ARCESS Array S 65.12 339 P **P** **01 44 50.5 +0.4**
YKA Yellowknife Ar 65.36 30 P **P** **01 44 52.1 +0.4**
comp=Z,5.9nm,1.0s,baz=295,slow=6.5,SNR=35
YKA PKPPKP **P'P'df** **02 13 32.6 -5.1**
comp=Z,1.7nm,1.2s,baz=106,slow=2.9,SNR=5.5
TULEG Thule 66.60 7 IAmb IAmb 01 45 00.9
comp=Z,38nm,1.1s
TRO Tromso 66.87 341 *eP* **P** **01 45 01.2 -0.2**
FORT Forrest 67.08 192 P **P** **01 45 03.5 +0.4**
STKA Stephens Creek 67.12 179 P **P** **01 45 02.6 -0.7**
comp=Z,14nm,1.1s,baz=347,slow=7.9,SNR=8.8
STKA LR LR 02 15 04.7
comp=Z,531nm,20.3s,baz=0.7,slow=36
DAG Danmarks Havn 67.15 355 ⇑ *iP* **P** **01 45 03.1 +0.1**
DAG pmax pmax
comp=Z,21nm,1.1s
DAG Danmarks Havn 67.15 355 ⇑ *i* P **P** **01 45 03.1 +0.1**
comp=Z,21nm,1.1s
LLLB Lillooet 67.72 43 IAmb IAmb 01 45 21.8
comp=Z,23nm,1.1s
MOS Moscow 68.03 324 *eP* **P** **01 45 07.2 -1.7**
MOS *e* 01 45 20.6
MOS *eS* **S** **01 54 01.6 -3.0**
MOS pmax pmax
comp=Z,89nm,1.1s
MOS MLR MLR
comp=N,700nm,15.0s
MOS MLR MLR
comp=E,700nm,15.0s
MOS MLR MLR
comp=Z,900nm,15.0s
BBOO Buckleboo 68.19 184 P **P** **01 45 10.2 +0.2**
BBOO IAmb IAmb 01 45 21.0
comp=Z,37nm,1.1s
VRH Novokhopyorsk 68.23 318 *eP* **P** **01 45 09.4 -0.8**
VRH pmax pmax
comp=Z,60nm,0.7s
MORW Morawa 68.37 203 P **P** **01 45 11.6 +0.4**
MORW IAmb IAmb 01 45 21.5
comp=Z,33nm,1.1s
D03D Eldon 68.54 46 P **P** **01 45 15.3 +3.1**
baz=300
B05A Bryant 68.76 45 P **P** **01 45 16.2 +2.6**
baz=300
OBN Obninsk 68.87 323 *ce* P **P** **01 45 14.0 -0.1**
OBN *i* 01 45 28.2
OBN *e* 01 47 45.7
OBN *eS* **S** **01 54 20.7 +6.1**
OBN pmax pmax
comp=Z,60nm,1.0s
OBN MLR MLR
comp=Z,1µm,15.0s
OBN Obninsk 68.87 323 P **P** **01 45 13.8 -0.3**
comp=Z,8.9nm,1.0s,baz=2.4,slow=4.1,SNR=14
OBN Obninsk 68.87 323 P **P** **01 45 13.8 -0.3**
OBN IAmb IAmb 01 45 14.8
comp=Z,51nm,1.0s
LPSR Galich'ya Gora 69.01 320 *eP* **P** **01 45 14.6 -0.4**
LPSR pmax pmax
comp=Z,70nm,0.9s
PUL Pulkovo 69.11 329 *ce* P **P** **01 45 16.1 +0.6**
PUL pmax pmax
comp=Z,46nm,0.4s
E04D Cinebar 69.33 47 P P 01 45 22.9 +5.7
baz=300
AKT Akhty 69.44 307 ⇑ *iP* **P** **01 45 18.2 +0.1**
AKT *e* 01 45 40.4
AKT pmax pmax
comp=Z,107nm,1.2s
KULLO Kullorsuaq 69.46 5 *i* P **P** **01 45 17.6 +0.1**
KULLO pmax pmax
comp=Z,50nm,1.1s
KULLO Kullorsuaq 69.46 5 *i* P **P** **01 45 17.6 +0.1**
comp=Z,50nm,1.1s
VSR Storozhevoye 69.60 319 *eP* **P** **01 45 18.3 -0.5**
VSR pmax pmax
comp=Z,70nm,0.9s
C06D Leavenworth 69.62 45 P **P** **01 45 22.1 +3.1**
baz=301
VORD Divnogorie 69.67 319 *eP* **P** **01 45 18.7 -0.4**
VORD pmax pmax
comp=Z,80nm,1.4s
FIA1 FINESS Array S 69.79 332 P **P** **01 45 19.9 +0.1**
FINES FINESS Array B 69.79 332 P **P** **01 45 19.7 -0.1**
comp=Z,28nm,0.8s,baz=74,slow=8.1,SNR=37
FINES LR LR 02 19 35.7
comp=Z,742nm,20.0s,baz=49,slow=39
GROC Groznyy 69.82 309 *eP* **P** **01 45 19.5 -0.8**
GROC *e* 01 45 42.5
GROC *eS* **S** **01 54 31.9 +5.7**
GROC pmax pmax
comp=Z,45nm,1.2s
B08A Colville Reser 70.29 44 IAmb IAmb 01 45 31.4
comp=Z,24nm,1.1s
I03D Drain, OR 70.30 50 P **P** **01 45 25.4 +2.2**
baz=301
F05D White Salmon 70.34 47 P P 01 45 28.4 +5.0
baz=301
MOR8 Moi Rana 70.49 340 *eP* **P** **01 45 22.8 -1.2**
GOF Gofitskoye 70.59 312 ⇑ *eP* **P** **01 45 25.2 +0.3**
GOF pmax pmax
comp=Z,130nm,1.2s
K02D Willamette Mer 70.61 51 P **P** **01 45 28.3 +3.1**
baz=301
WSAR Wadi Sarin 70.64 285 P **P** **01 45 26.5 +0.9**
WBK Wadi Bani Khal 70.70 284 P **P** **01 45 26.9 +0.9**
WBK P **P** **01 45 26.9 +0.9**
G05D Wamic, OR 70.75 48 P **P** **01 45 27.9 +1.9**
baz=301
I04A Tendick Farm, 70.83 50 P **P** **01 45 29.7 +3.1**
baz=301
L02E Cave Junction 70.93 52 P **P** **01 45 30.8 +3.8**
baz=301
E07A Sunnyside 70.94 46 IAmb IAmb 01 45 42.1
comp=Z,38nm,1.1s
CAN Canberra 70.98 173 IAMs_20 IAMs_20 02 15 05.7
comp=Z,665nm,20.0s
NCK Nalchik 71.06 310 *i* P **P** **01 45 28.0 +0.2**
NCK pmax pmax
comp=Z,56nm,1.1s
BANOM Banah 71.08 289 P **P** **01 45 28.8 +0.5**
SHME Shamm 71.14 289 *i* P **P** **01 45 29.0 +0.4**
SNR=7.2
G06A Carlson Farm, 71.17 48 P **P** **01 45 29.1 +0.6**
SMDO Samad 71.19 285 P **P** **01 45 29.5 +0.5**
C09A Chrisman Ranch 71.19 44 IAmb IAmb 01 45 36.9
comp=Z,33nm,1.1s
I05D Terrebonne, OR 71.21 49 P **P** **01 45 32.0 +3.2**
baz=302
HAWA Hanford 71.21 46 IAmb IAmb 01 45 37.3
comp=Z,24nm,1.1s
ZEI Tsey 71.23 309 *eP* **P** **01 45 26.1 -3.0**
ZEI pmax pmax
comp=Z,28nm,0.9s
TBLG Delisi 71.25 308 P **P** **01 45 29.1 +0.1**
TBLG pmax pmax
comp=Z,57nm,1.0s
TBLG Delisi 71.25 308 P **P** **01 45 29.1 +0.1**
TBLG IAmb IAmb 01 45 48.3
comp=Z,56nm,1.0s
KBZ Khabaz 71.37 311 P **P** **01 45 30.1 +0.5**
comp=Z,50nm,0.9s,baz=62,slow=4.9,SNR=116
KBZ LR LR 02 20 36.4
comp=Z,732nm,20.3s,baz=66,slow=39
KVAR Kislovodsk Arr 71.37 311 P **P** **01 45 30.7 +0.9**
comp=Z,34nm,1.0s,baz=274,slow=23,SNR=27
VSU Vasula 71.38 330 *ce* P **P** **01 45 30.1 +0.7**
VSU pmax pmax
comp=Z,132nm,0.8s
VSU Vasula 71.38 330 *e* P **P** **01 45 29.6 +0.2**
KIV Kislovodsk 71.38 311 *i* P **P** **01 45 30.1 +0.2**
SNR=19
KIV Kislovodsk 71.38 311 P **P** **01 45 30.4 +0.5**
KIV P **P** **01 45 30.4 +0.5**
KIV Kislovodsk 71.38 311 *eP* **P** **01 45 30.2 +0.3**
KIV *eS* **S** **01 54 46.9 +2.4**
KIV pmax pmax
comp=Z,362nm,1.1s
KIV pmax pmax
comp=Z,111nm,4.8s
KIV MLR MLR
comp=Z,1µm,18.0s
KIV Kislovodsk 71.38 311 ⇑ P **P** **01 45 30.5 +0.5**
KIV mb 01 45 32.0
KIV Kislovodsk 71.38 311 P **P** **01 45 30.2 +0.3**
MDH Madha 71.40 288 P **P** **01 45 30.4 +0.2**
MSFE Esma-Masafi 71.48 288 *i* P **P** **01 45 31.2 +0.5**
SNR=6.9
MSFE P **P** **01 45 31.4 +0.7**
HOQ Hoqain 71.50 286 P **P** **01 45 31.3 +0.4**
SHA1 Shidzhatmaz 71.51 31 *c* *i* P **P** **01 45 31.3 +0.5**
NEW Newport 71.59 43 P **P** **01 45 33.2 +2.2**
baz=303
NEW Newport 71.59 43 P **P** **01 45 33.2 +2.2**
NEW pmax pmax
comp=Z,29nm,1.1s
NEW Newport 71.59 43 IAmb IAmb 01 45 45.6
comp=Z,29nm,1.1s
NWAO Narrogin (SRO) 71.61 201 P **P** **01 45 31.5 +0.4**
NWAO pmax pmax
comp=Z,33nm,0.9s
NWAO Narrogin (SRO) 71.61 201 LR LR 02 14 54.4
comp=Z,135nm,21.5s,baz=76,slow=34
NWAO Narrogin (SRO) 71.61 201 P **P** **01 45 31.5 +0.4**
NWAO IAmb IAmb 01 45 44.4
comp=Z,32nm,0.9s
UOSS Minazif 71.66 288 *i* P **P** **01 45 31.8 0.0**
SNR=7.2
UOSS Minazif 71.66 288 P **P** **01 45 31.6 -0.1**
UOSS P **P** **01 45 31.6 -0.1**
UOSS Minazif 71.66 288 IAMs_20 IAMs_20 02 20 25.4
comp=Z,1µm,22.0s
L04D Klamath Falls 71.72 51 P **P** **01 45 34.6 +2.6**
baz=302
NEY Neytrino 71.73 310 *i* P **P** **01 45 32.2 +0.1**
NEY pmax pmax
comp=Z,7.0nm,1.0s
PINE Pine Mountain 71.74 49 IAmb IAmb 01 45 47.7
comp=Z,55nm,1.1s
HATD Hatta, Dubai 71.77 288 *i* P **P** **01 45 32.7 +0.2**
SNR=14
HATD Hatta, Dubai 71.77 288 P **P** **01 45 33.0 +0.5**
SNR=5.9
HATD P **P** **01 45 33.0 +0.5**
SNR=5.9
M02C Callahan 71.80 52 P **P** **01 45 35.9 +3.4**
baz=302
J05D Fort Rock, OR 71.83 50 P **P** **01 45 36.2 +3.5**
baz=302,SNR=5.1
ASHO Ashiyiah 71.90 288 *i* P **P** **01 45 33.8 +0.5**
SNR=4.2
ASHO Ashiyiah 71.90 288 P **P** **01 45 33.8 +0.5**
BSY Bisya 72.02 285 P **P** **01 45 34.4 +0.4**
NAZ Nazwa, Dubai 72.05 288 P **P** **01 45 34.4 +0.2**
GNI Garni 72.07 307 *i* P **P** **01 45 35.3 +1.2**
SNR=26
GNI Garni 72.07 307 *ce* P **P** **01 45 35.3 +1.2**
GNI pmax pmax
comp=Z,234nm,1.3s
GNI Garni 72.07 307 P **P** **01 45 35.4 +1.2**
comp=Z,37nm,1.0s,baz=160,slow=2.3,SNR=28
GNI Garni 72.07 307 P **P** **01 45 35.4 +1.2**
N02D Trinity Center 72.12 52 P **P** **01 45 37.4 +3.0**
baz=302
SUMG Summit 72.12 360 *i* P **P** **01 45 35.0 +0.8**
SUMG Summit 72.12 360 *i* P **P** **01 45 35.0 +0.8**
AKH Akhalkalaki 72.21 308 P **P** **01 45 35.9 +0.9**
AKH pmax pmax
comp=Z,36nm,0.9s
AKH MLR MLR
comp=Z,1µm,19.0s
AKH Akhalkalaki 72.21 308 ⇑ P **P** **01 45 36.9 +1.9**
AKH Akhalkalaki 72.21 308 P **P** **01 45 35.9 +0.9**
AKH IAmb IAmb 01 45 36.8
comp=Z,36nm,0.9s
ARQ Araqi 72.24 286 P **P** **01 45 37.0 +1.7**
SNR=6.4
M04C Macdoel 72.25 51 P **P** **01 45 37.6 +2.4**
baz=302
WDC Whiskeytown Da 72.43 52 P **P** **01 45 36.5 +0.4**
WDC pmax pmax

comp=Z,17nm,1.1s
WDC Whiskeytown Da 72.43 52 P **P** **01 45 36.5 +0.4**
ALNE Al Ain 72.47 287 *i* P **P** **01 45 36.9 +0.2**
SNR=6.9
O02D Mt. Diablo Mer 72.48 53 P **P** **01 45 39.5 +3.0**
baz=302
ASUD Al Ashush, Dub 72.50 288 P **P** **01 45 37.0 +0.3**
O03E Paynes Creek 73.06 52 P **P** **01 45 43.1 +3.2**
baz=302
IZAR Zarasai 73.28 327 *e*P **P** **01 45 41.7 +0.8**
IZAR IAmb IAmb 01 45 42.8
comp=Z,14nm,0.8s
MICGM Minsk 73.33 326⇓ *e*P **P** **01 45 41.0 -0.2**
MICGM PM 01 45 42.0
comp=Z,0.2nm,1.0s
MNK Minsk 73.33 326⇓ *i*P **P** **01 45 41.0 -0.2**
MNK pmax pmax
comp=Z,220nm,1.0s
SOC Sochi 73.39 312 *e*P **P** **01 45 40.9 -0.8**
SOC *e**SP **pP** **01 45 54.9 -0.3**
SOC *e* 01 48 24.3
SOC *e*PPP PPP 01 50 06.4
SOC *e*S **SKiKP** **01 55 09.0 +0.4**
SOC *e*SS **SS** **01 59 53.2 +3.8**
SOC pmax pmax
comp=Z,50nm,0.9s
SOC MLR MLR
comp=Z,958nm,20.0s
ISAL Salakas 73.45 327 *e*P **P** **01 45 42.0 +0.1**
ISAL IAmb IAmb 01 45 44.0
comp=Z,27nm,0.9s
JTMT Jette 73.47 43 IAmb IAmb 01 45 57.8
comp=Z,38nm,0.9s
SCO Scoresbysund 73.47 354 *i* P **P** **01 45 43.0 +1.3**
SCO pmax pmax
comp=Z,16nm,0.9s
SCO Scoresbysund 73.47 354 *i* P **P** **01 45 43.0 +1.3**
comp=Z,16nm,0.9s
IIGN Ignalina 73.55 327 *e*P **P** **01 45 42.2 -0.2**
NACGM Naroch 73.58 327 *e* **P** **01 45 41.0 -1.6**
TBLU Trondheim 73.87 339 *e*P **P** **01 45 43.8 -0.4**
ANN Anapa 74.08 314 *e*P **P** **01 45 45.2 -0.5**
ANN *e*S **S** **01 55 16.1 +1.1**
ANN pmax pmax
comp=Z,94nm,1.3s
ANN MLR MLR
comp=Z,2µm,25.0s
MSO Missoula 74.18 43 P **P** **01 45 48.1 +1.6**
baz=305
MSO Missoula 74.18 43 IAmb IAmb 01 46 00.8
comp=Z,26nm,1.1s
BEKR Beckworth 74.22 52 IAmb IAmb 01 46 05.3
comp=Z,22nm,0.9s
PABE Paberze 74.43 328 *e*P **P** **01 45 47.9 +0.3**
PAHR Pah Rah Range 74.94 52 P **P** **01 45 51.8 +0.8**
PBUR Paburg 74.95 329 *e*P **P** **01 45 50.5 0.0**
PBUR IAmb IAmb 01 45 52.2
comp=Z,87nm,0.9s
AKASG Malin Array Be 75.05 322 P **P** **01 45 51.0 -0.2**
comp=Z,34nm,0.8s,baz=47,slow=6.0,SNR=123
AKASG LR LR 02 21 49.6
comp=Z,2µm,18.5s,baz=50,slow=38
AKBB Malin Array Si 75.05 322 P **P** **01 45 50.8 -0.4**
AKBB pmax pmax
comp=Z,66nm,1.0s
AKBB Malin Array Si 75.05 322 P **P** **01 45 50.8 -0.4**
HFS Hagfors 75.14 336 P **P** **01 45 51.5 -0.1**
comp=Z,34nm,1.0s,baz=67,slow=3.9,SNR=33
DOMB Dombas 75.16 339 *e*P **P** **01 45 52.1 +0.4**
NB2 NORSAR Subarra 75.27 337 P **P** **01 45 52.5 +0.1**
comp=Z,57nm,1.1s,baz=39,slow=6.2
NB2 NORSAR Subarra 75.27 337 P **P** **01 45 52.5 +0.1**
baz=39,slow=6.2
NOA NORSAR Array B 75.27 337 P **P** **01 45 52.5 +0.1**
comp=Z,28nm,0.8s,baz=39,slow=5.7,SNR=65
NOA PP **PP** **01 48 40.5 -0.1**
comp=Z,4.9nm,0.9s,baz=41,slow=8.7,SNR=3.3
NOA LR LR 02 21 39.1
comp=Z,1µm,20.5s,baz=35,slow=38
NC602 NORSAR Array S 75.39 337 *e*P **P** **01 45 52.4 -0.6**
NC602 NORSAR Array S 75.39 337 IAmb IAmb 01 46 07.5
comp=Z,59nm,1.1s
NORES NORESS Array B 75.39 337 P **P** **01 45 53.7 +0.6**
YERR Yerington 75.43 52 IAmb IAmb 01 46 09.0
comp=Z,41nm,1.2s
NAO01 NORSAR Array S 75.52 337 P **P** **01 45 53.8 0.0**
NAO01 IAmb IAmb 01 45 54.7
comp=Z,50nm,0.9s
FCC Fort Churchill 75.56 26 IAmb IAmb 01 45 55.7
comp=Z,40nm,1.1s
EGMT Eagleton 75.76 41 P **P** **01 45 57.4 +1.9**
baz=308
EGMT Eagleton 75.76 41 IAmb IAmb 01 46 04.3
comp=Z,44nm,1.0s
SHAO Shalim 75.79 282 P **P** **01 45 56.2 +0.1**
DLMT Dillon 75.80 44 IAmb IAmb 01 46 04.9
comp=Z,42nm,1.1s
SIM Simferopol' 75.91 315*c* *i*P **P** **01 45 57.0 +0.7**
SIM *e*S **S** **01 55 31.0 -4.5**
SIM pmax pmax
comp=Z,57nm,0.9s
SIM MLR MLR
comp=Z,300nm,17.0s
RYN Ryan 76.09 52 P **P** **01 45 58.5 +0.8**
KVN Kaiserville 76.13 52 IAmb IAmb 01 46 13.6
comp=Z,37nm,1.2s
NVAR Mina Array Bea 76.35 52 P **P** **01 46 00.6 +1.4**
comp=Z,6.5nm,0.8s,baz=286,slow=5.4,SNR=33
NVAR LR LR 02 13 54.7
comp=Z,402nm,21.8s,baz=294,slow=31
SKAR Skarslia 76.45 338 *e*P **P** **01 45 60.0 +0.8**
ELK Elko 76.95 49 P **P** **01 46 03.7 +1.1**
ELK pmax pmax
comp=Z,16nm,1.1s
ELK Elko 76.95 49 P **P** **01 46 03.7 +1.1**
SORM Soroca 77.11 321⇑ P **P** **01 46 02.7 -0.3**
SORM Soroca 77.11 321⇑ P **P** **01 46 02.7 -0.3**
DIKM Dikmen 77.20 312⇑ P **P** **01 46 04.9 +1.3**
DIKM mb 01 46 05.5
RBK Rabkut 77.20 282 P **P** **01 46 03.7 -0.4**
SNR=6.6
RBK S S 01 55 37.1 -13
VES Vestal, Richgr 77.31 55 P **P** **01 46 06.1 +1.8**
baz=305
SFJD Kangerlussuaq 77.37 5 *i* P **P** **01 46 04.8 +0.7**
SFJD Kangerlussuaq 77.37 5 *i* P **P** **01 46 04.8 +0.7**
YUF Upper Falls 77.37 44 P **P** **01 46 06.0 +1.0**
H17A Grant Village 77.53 44 P **P** **01 46 09.8 +4.0**
baz=308
KIS Kishinev 77.58 319 *e*P **P** **01 46 05.0 -0.7**
comp=Z,80nm,1.0s
KIS *e*L L 02 14 30.0
KIS LRM MLR 02 23 08.0
comp=Z,2µm,16.0s
KIS Kishinev 77.58 319 *e*P **P** **01 46 05.0 -0.7**
KIS pmax pmax
comp=Z,80nm,1.0s
KIS MLR MLR
comp=Z,2µm,16.0s
KIS MLR MLR
comp=N,1µm,16.0s
MILM Milestii Mici 77.63 319⇑ P **P** **01 46 05.7 -0.2**
BZK Bozkurt 77.76 313⇑ P **P** **01 46 07.4 +0.7**
BZK mb 01 46 08.1
GRAC Grapevine Rang 77.78 53 P **P** **01 46 10.1 +3.1**
baz=305
RLMT Red Lodge 77.81 43 P **P** **01 46 09.3 +2.0**
baz=308
MOOW Moose Ponds 77.83 45 P **P** **01 46 08.3 +0.9**
TPAW Teton Pass 77.87 45 IAmb IAmb 01 46 23.3
comp=Z,34nm,1.1s
ABTO Aybut 78.01 283 P **P** **01 46 08.4 -0.2**
SNR=6.7
ABTO P **P** **01 46 08.4 -0.2**
SNR=6.7
ABTO S **S** **01 55 55.7 -3.5**
ABTO S **S** **01 55 55.7 -3.5**
BLS5 Blasjo 78.02 338 *e*P **P** **01 46 08.7 +0.8**
DAC Darwin (Calif) 78.05 54 IAMs_20 IAMs_20 02 13 51.0
comp=Z,839nm,19.0s
IAS Iasi 78.12 320⇑ P **P** **01 46 09.1 +0.4**
IAS Iasi 78.12 320⇑ P **P** **01 46 09.1 +0.4**
R11A Troy Canyon, C 78.14 51 P **P** **01 46 11.3 +2.1**
baz=306,SNR=17
LVV L'vov 78.17 324⇑ *i*P **P** **01 46 09.2 +0.3**
LVV MLR MLR
comp=Z,900nm,17.0s
LEOM Leova 78.22 319⇑ P **P** **01 46 09.5 +0.3**
LEOM Leova 78.22 319⇑ P **P** **01 46 09.5 +0.3**
MPMC Manual Prospec 78.24 54 P **P** **01 46 12.0 +2.2**
baz=306
BEL Belsk 78.31 327 *e*P **P** **01 46 10.4 +0.8**
BEL Belsk 78.31 327 *e*P **P** **01 46 10.4 +0.8**
BEL *e*P **P** **01 46 10.4 +0.8**
DGMT Dagmar 78.35 38 P **P** **01 46 11.1 +1.2**
baz=311
DGMT Dagmar 78.35 38 IAmb IAmb 01 46 18.6
comp=Z,37nm,1.1s
FURC Furnace Creek, 78.41 53 P **P** **01 46 14.1 +3.6**
baz=306
LRMC Laurel Mtn Rad 78.45 55 P **P** **01 46 13.4 +2.5**
baz=306
LAO LASA Array 78.47 40 P **P** **01 46 12.4 +1.7**
baz=310
LAO LASA Array 78.47 40 P **P** **01 46 11.6 +0.9**
LAO IAmb IAmb 01 46 19.4
comp=Z,34nm,1.1s
ILGA Ilgaz 78.48 312 IAmb IAmb 01 46 13.6
comp=Z,51nm,0.9s
TPNV Topopah Spring 78.53 53 P **P** **01 46 13.8 +2.4**
baz=306,SNR=8.2
TPNV Topopah Spring 78.53 53 IAmb IAmb 01 46 29.4
comp=Z,28nm,1.0s
EDW2 Edwards Air Fo 78.58 55 P **P** **01 46 13.6 +2.0**
baz=306
BIR Birlad 78.68 319⇑ P **P** **01 46 12.6 +0.8**
BIR Birlad 78.68 319⇑ P **P** **01 46 12.6 +0.8**
BIR mb 01 46 21.1
PRAR RASCA 78.70 321⇑ P **P** **01 46 12.2 +0.3**
PRAR mb 01 46 27.4
TLCR 78.73 318⇑ P **P** **01 46 12.2 +0.1**
TLCR 78.73 318⇑ P **P** **01 46 12.2 +0.1**
TLCR mb 01 46 31.1
DUG Dugway, Tooele 78.77 48 P **P** **01 46 15.7 +3.1**
baz=307,SNR=24
DUG Dugway, Tooele 78.77 48 IAmb IAmb 01 46 21.4
comp=Z,25nm,1.1s
MWC Mount Wilson 78.92 56 P **P** **01 46 12.9 -0.7**
MWC pmax pmax
comp=Z,26nm,1.2s
MWC Mount Wilson 78.92 56 P **P** **01 46 12.9 -0.7**
GHRR 78.93 319⇑ P **P** **01 46 14.4 +1.3**
KWP Kalwaria Pacla 78.93 324 *e*P **P** **01 46 13.9 +0.8**
KWP Kalwaria Pacla 78.93 324 *e*P **P** **01 46 13.9 +0.8**
KWP *e*P **P** **01 46 13.9 +0.8**
KWP Kalwaria Pacla 78.93 324 P **P** **01 46 13.7 +0.6**
JURR Jurilovca 78.97 318⇑ P **P** **01 46 13.7 +0.4**
JURR mb 01 46 15.1
TESR Tescani 79.04 320⇓ P **P** **01 46 14.0 +0.3**
BUR08 Bucovina Ar. S 79.04 322 IAmb IAmb 01 46 15.7
comp=Z,25nm,1.0s
BIZ Bicaz 79.04 321⇑ P **P** **01 46 14.6 +0.8**
BURAR Bucovina Array 79.05 322⇑ P **P** **01 46 14.3 +0.4**
BURAR Bucovina Array 79.05 322⇑ P **P** **01 46 14.3 +0.4**
BURAR mb 01 46 34.1
BW06 Boulder Array 79.12 45 P **P** **01 46 15.7 +1.1**
baz=309,SNR=12
PDAR Pinedale Array 79.12 45 P **P** **01 46 15.3 +0.8**
comp=Z,4.3nm,0.7s,baz=292,slow=1.7,SNR=40
PDAR LR LR 02 16 29.3
comp=Z,338nm,21.6s,baz=320,slow=32
GSC Goldstone, Bar 79.13 54 P **P** **01 46 18.0 +3.4**
baz=306
TOPG Topolog 79.17 318⇑ P **P** **01 46 15.0 +0.5**
BFSC Mount Baldy Ra 79.18 56 P **P** **01 46 16.5 +1.5**
baz=306
ODBI Odobesti 79.31 319⇑ P **P** **01 46 17.1 +1.8**
ODBI mb 01 46 18.6
BR131 Keskin Array S 79.33 311 P **P** **01 46 16.0 +0.3**
SNR=29
BR131 Keskin Array S 79.33 311 P **P** **01 46 16.0 +0.3**
BR131 pmax pmax
comp=Z,20nm,0.9s
BR131 Keskin Array S 79.33 311 P **P** **01 46 16.1 +0.3**
BRTR Keskin Array B 79.34 311 P **P** **01 46 16.0 +0.3**
comp=Z,25nm,0.9s,baz=104,slow=3.6,SNR=100
BRTR LR LR 02 25 47.4
comp=Z,225nm,19.3s,baz=44,slow=39
VRI Vrincioaia 79.42 319⇑ P **P** **01 46 17.4 +1.6**
VRI Vrincioaia 79.42 319⇑ P **P** **01 46 17.4 +1.6**
TIRR Tirgusor 79.42 318⇑ P **P** **01 46 16.0 +0.2**
TIRR Tirgusor 79.42 318⇑ P **P** **01 46 16.0 +0.2**
TIRR Tirgusor 79.42 318 P **P** **01 46 15.9 +0.1**
TIRR IAmb IAmb 01 46 16.8
comp=Z,61nm,1.1s
PLOR Plostina 79.47 319⇑ P **P** **01 46 16.5 +0.3**
PLOR Plostina 79.47 319⇑ P **P** **01 46 16.5 +0.3**
HARR Harsova 79.53 318⇑ P **P** **01 46 17.0 +0.5**
HARR Harsova 79.53 318⇑ P **P** **01 46 17.0 +0.5**
HARR mb 01 46 36.3
KOLS Kolonicke sedl 79.62 324 *e*P **P** **01 46 17.4 +0.5**
KOLS pmax pmax
comp=Z,19nm,1.1s
KOLS Kolonicke sedl 79.62 324 *e*P **P** **01 46 17.4 +0.5**
BISRR Bisoca 79.63 319⇑ P **P** **01 46 18.6 +1.5**
HEC Hector,Ludlow 79.72 55 P **P** **01 46 21.8 +4.0**
baz=306
OZUR 79.76 320⇑ P **P** **01 46 17.0 -0.7**
ANTO Ankara 79.76 312⇑ P **P** **01 46 18.7 +0.8**
ANTO Ankara 79.76 312⇑ P **P** **01 46 18.7 +0.8**
ANTO mb 01 46 19.4
ANTO Ankara 79.76 312 P **P** **01 46 18.1 +0.2**
ANTO IAmb IAmb 01 46 19.8
comp=Z,50nm,1.1s
BR231 Keskin MP Arra 79.79 312 P **P** **01 46 18.4 +0.3**
BR231 IAmb IAmb 01 46 19.5
comp=Z,30nm,0.8s
UZH Uzhgorod 79.81 324 *e*P **P** **01 46 13.8 -4.1**
UZH *e* 01 46 22.9
UZH *e* 01 46 31.1
ARCR ARCALIA 79.84 322⇑ P **P** **01 46 19.5 +1.3**
MURC Murrieta 79.87 56 P **P** **01 46 22.0 +3.5**
baz=306
BMR Baia Mare 79.88 322⇑ P **P** **01 46 19.5 +1.2**
BMR Baia Mare 79.88 322⇑ P **P** **01 46 19.5 +1.2**
OJC Ojcow 79.88 326 P **P** **01 46 19.0 +0.7**
OJC pmax pmax
comp=Z,67nm,1.1s
OJC Ojcow 79.88 326 *e*P **P** **01 46 18.9 +0.7**
OJC *e*P **P** **01 46 18.9 +0.7**
OJC Ojcow 79.88 326 P **P** **01 46 19.0 +0.7**
OJC IAmb IAmb 01 46 20.2
comp=Z,67nm,1.1s
PGOR Pogoanele 79.90 319⇑ P **P** **01 46 19.6 +1.1**
ISR Istrita 80.00 319⇑ P **P** **01 46 20.5 +1.4**
ISR Istrita 80.00 319⇑ P **P** **01 46 20.5 +1.4**
TRPA Tarpa 80.04 323⇑ P **P** **01 46 20.0 +0.9**
TRPA mb 01 46 21.4
TRPA Tarpa 80.04 323 *e*P **P** **01 46 19.1 0.0**
DOPR Dopca 80.05 320⇑ P **P** **01 46 20.4 +1.1**
MLR Muntele Rosu 80.08 320 P **P** **01 46 19.9 +0.3**
comp=Z,4.0nm,0.8s,baz=138,slow=20,SNR=9.0
MLR Muntele Rosu 80.08 320⇑ P **P** **01 46 19.8 +0.3**
MLR Muntele Rosu 80.08 320 P **P** **01 46 19.9 +0.3**
SZCU Shurtz Canyon 80.17 51 P **P** **01 46 20.2 -0.1**
GMRC Granite Mounta 80.20 54 P **P** **01 46 23.9 +3.4**
baz=307
NIE Niedzica 80.21 325 *e*P **P** **01 46 21.2 +1.1**
NIE Niedzica 80.21 325 *e*P **P** **01 46 21.2 +1.1**
NIE *e*P **P** **01 46 21.2 +1.1**
LEHL Lehliu 80.28 318⇑ P **P** **01 46 21.2 +0.7**
SECR 80.31 319⇓ P **P** **01 46 21.3 +0.6**
SECR mb 01 46 30.8
SOCY Socotra 80.33 278 P **P** **01 46 19.9 -1.4**
SOCY IAMs_20 IAMs_20 02 23 08.0
comp=Z,868nm,22.0s
PFO Pinyon Flats O 80.36 56 P **P** **01 46 24.0 +2.7**
baz=306
PFO Pinyon Flats O 80.36 56 P **P** **01 46 22.9 +1.5**
comp=Z,11nm,1.1s,baz=266,slow=2.2,SNR=9.0
PFO Pinyon Flats O 80.36 56 P **P** **01 46 22.0 +0.7**
PFO IAmb IAmb 01 46 31.9
comp=Z,35nm,1.1s
XPFO Pion Flat 80.36 56 P **P** **01 46 21.4 +0.1**
XPFO IAmb IAmb 01 46 31.9
comp=Z,35nm,1.1s
TPFO Pinon Flats 80.36 56 P **P** **01 46 24.0 +2.7**
baz=306
BELC Belle Mtn. Jos 80.44 55 P P 01 46 26.9 +5.2
baz=307
CJR Cluj-Napoca 80.47 322⇑ P **P** **01 46 22.6 +1.0**
CJR Cluj-Napoca 80.47 322⇑ P **P** **01 46 22.6 +1.0**
Q16A Castle Valley 80.55 49 P **P** **01 46 23.1 +0.7**
VOIR 80.58 320⇑ P **P** **01 46 22.4 +0.2**
VOIR 80.58 320⇑ P **P** **01 46 22.4 +0.2**
RAYN Ar Rayn 80.62 292 *i* P **P** **01 46 23.0 +0.2**
SNR=55
RAYN Ar Rayn 80.62 292 P **P** **01 46 22.7 -0.1**
RAYN pmax pmax
comp=Z,57nm,0.9s
RAYN Ar Rayn 80.62 292 P **P** **01 46 22.7 -0.1**
RAYN IAMs_20 IAMs_20 02 27 10.1
comp=Z,669nm,19.0s
KECS Kecovo 80.78 324 *e*P **P** **01 46 23.8 +0.7**
KECS pmax pmax
comp=Z,9.0nm,1.0s
KECS Kecovo 80.78 324 *e*P **P** **01 46 23.8 +0.7**
LANS Liptovska Anna 80.79 325 *e*P **P** **01 46 25.0 +1.8**
LANS pmax pmax
comp=Z,21nm,1.2s
LANS Liptovska Anna 80.79 325 *e*P **P** **01 46 25.0 +1.8**
MONP2 Monument Peak 80.81 56 P **P** **01 46 26.1 +2.2**
baz=306
ARR Arges 80.85 320⇑ P **P** **01 46 25.0 +1.3**
LTVH Ltavrtes, Hu 80.86 323 *e*P P 01 46 29.0 +5.5
DRGR 80.87 322⇑ P **P** **01 46 24.2 +0.5**
DRGR 80.87 322⇑ P **P** **01 46 24.2 +0.5**
OKC Ostrava-Krasne 80.90 326 *e*P **P** **01 46 24.5 +0.7**
OKC Ostrava-Krasne 80.90 326 *e*P **P** **01 46 24.5 +0.7**
K22A Casper 80.92 44 P **P** **01 46 25.9 +1.7**
baz=310
KSP Ksiaz 80.99 328 *e*P **P** **01 46 24.9 +0.7**
KSP Ksiaz 80.99 328 *e*P **P** **01 46 24.9 +0.7**
KSP *e*P **P** **01 46 24.9 +0.7**
BC3 Big Chuckawall 81.00 55 P **P** **01 46 27.1 +2.3**
baz=307
RAZG Razgrad 81.04 318⇑ P **P** **01 46 24.8 +0.2**
ULM Lac du Bonnet 81.04 33 P **P** **01 46 24.1 -0.4**
comp=Z,6.5nm,0.9s,baz=307,slow=6.9,SNR=10
ULM LR LR 02 23 30.3
comp=Z,170nm,21.0s,baz=332,slow=36
IKP In-Ko-Pah, Jac 81.16 56 P **P** **01 46 27.9 +2.3**
baz=307
SWSC Sam W. Stewart 81.20 56 P **P** **01 46 28.9 +3.3**
baz=307
MORC Moravsky Berou 81.22 327 P **P** **01 46 27.5 +2.0**
MORC Moravsky Berou 81.22 327⇑ P **P** **01 46 25.8 +0.3**
MORC mb 01 46 27.5
MORC Moravsky Berou 81.22 327⇑ *i*P **P** **01 46 26.0 +0.5**
MORC Moravsky Berou 81.22 327 P **P** **01 46 26.1 +0.5**
MORC IAmb IAmb 01 46 27.5
comp=Z,35nm,1.1s
OSTC Ostas 81.23 328 *e*P **P** **01 46 26.4 +0.8**
LOT Lotru 81.24 321⇑ P **P** **01 46 26.6 +0.8**
CHVC Chvalec 81.28 328 *e*P **P** **01 46 26.3 +0.5**
RSSD Black Hills 81.31 41 P **P** **01 46 27.2 +0.8**
baz=312
RSSD Black Hills 81.31 41 P **P** **01 46 26.8 +0.4**
RSSD pmax pmax
comp=Z,8.0nm,1.1s
RSSD Black Hills 81.31 41 P **P** **01 46 26.8 +0.4**
KRLC Kraliky 81.34 327 *e*P **P** **01 46 26.7 +0.5**
KRLC Kraliky 81.34 327 *e*P **P** **01 46 26.7 +0.5**
DPC Dobruska-Polom 81.34 328 *e*P **P** **01 46 26.7 +0.6**
DPC *e* 01 46 41.3
DPC Dobruska-Polom 81.34 328 *e*P **P** **01 46 26.7 +0.6**
DPC *e*pP **pP** **01 46 41.3 +1.5**
DEV Deva 81.39 321⇑ P **P** **01 46 25.6 -0.8**
DEV Deva 81.39 321⇑ P **P** **01 46 25.6 -0.8**
PSZ Piszkesteto 81.46 324 P **P** **01 46 29.1 +2.2**
PSZ Piszkesteto 81.46 324⇑ P **P** **01 46 27.7 +0.8**
PSZ mb 01 46 29.1
PSZ Piszkesteto 81.46 324 *e*P **P** **01 46 27.1 +0.2**
PSZ Piszkesteto 81.46 324 P **P** **01 46 26.8 -0.1**
PSZ IAmb IAmb 01 46 29.1
comp=Z,57nm,1.1s
QRZ Quartz Range 81.50 156 IAMs_20 IAMs_20 02 15 34.6
comp=Z,932nm,20.0s
O20A White River Ci 81.55 46 P **P** **01 46 29.4 +1.8**
baz=310
O20A White River Ci 81.55 46 IAmb IAmb 01 46 42.2
comp=Z,24nm,0.9s
VYHS Vyhne 81.55 325 *e*P **P** **01 46 28.0 +0.7**
VYHS pmax pmax
comp=Z,31nm,1.1s
VYHS Vyhne 81.55 325 *e*P **P** **01 46 28.0 +0.7**
SZH Strazhica 81.55 318 *i* P **P** **01 46 27.7 +0.4**
Y12C Blythe 81.57 55 P **P** **01 46 29.8 +2.2**
baz=307
ZIMR 81.60 318 P **P** **01 46 30.3 +2.7**
ZIMR 81.60 318⇑ P **P** **01 46 28.1 +0.5**
ZIMR mb 01 46 30.3
JMB Yambol 81.72 317 *i* P **P** **01 46 29.0 +0.8**
SIRR Siria 81.75 322⇑ P **P** **01 46 29.5 +1.1**
GLA Glamis 81.79 55 P **P** **01 46 31.1 +2.2**
baz=307
GLA Glamis 81.79 55 P **P** **01 46 31.2 +2.4**
GZR Gura Zlata 81.79 321⇑ P **P** **01 46 29.0 +0.3**
GZR Gura Zlata 81.79 321⇑ P **P** **01 46 29.0 +0.3**
ELND Elena 81.81 318⇑ P **P** **01 46 29.4 +0.6**
JAVC Velka Javorina 81.83 326⇑ *i*P **P** **01 46 30.2 +1.4**
VLAD Vladila 81.89 319⇑ P **P** **01 46 29.1 0.0**
PVCC Panska Ves 81.96 329 *e*P **P** **01 46 30.0 +0.6**
PVCC Panska Ves 81.96 329 *e*P **P** **01 46 30.0 +0.6**
BRG Berggiesshubel 81.97 329⇑ *i*P **P** **01 46 29.6 +0.3**
comp=Z,32nm,1.1s
BRG *e* 01 46 44.4
comp=Z,52nm,1.5s
BRG PP **PP** **01 49 34.6 -2.1**
comp=Z,9.9nm,1.1s
BRG Berggiesshubel 81.97 329⇑ *i*P **P** **01 46 29.6 +0.3**
BRG *e* 01 46 44.4
BRG 01 49 34.6
BRG pmax pmax
comp=Z,32nm,1.1s
BRG pmax pmax
comp=Z,10.0nm,1.1s
VRAC Vranov 81.98 327 P **P** **01 46 31.8 +2.3**
VRAC Vranov 81.98 327⇑ P **P** **01 46 30.4 +0.9**
VRAC mb 01 46 31.8
VRAC Vranov 81.98 327⇑ *i*P **P** **01 46 30.1 +0.6**
CLL Collm 82.03 330⇑ *i*P **P** **01 46 29.7 0.0**
CLL pmax pmax
comp=Z,49nm,1.0s
CLL MLR MLR
comp=Z,1µm,18.9s
CLL Collm 82.03 330⇑ *i*P **P** **01 46 29.7 0.0**
comp=Z,63nm,1.0s
CLL *i* PcP **PcP** **01 46 36.3 +1.2**
CLL *i* sP **pP** **01 46 44.2 +0.9**
CLL *e*PP **PP** **01 49 37.0 -0.2**
CLL *e*(S) S 01 57 12.0 +32
CLL LmV 02 25 00.0
comp=Z,1µm,18.9s
EDRB Edirne 82.04 316 P **P** **01 46 29.8 -0.1**
BUD Budapest 82.18 324 P **P** **01 46 32.4 +1.8**
BUD pmax pmax
comp=Z,45nm,1.3s
PLVB Pleven 82.19 319⇑ P **P** **01 46 31.1 +0.4**
SMOL Smolenice 82.19 326 *e*P **P** **01 46 31.7 +1.1**
SMOL Smolenice 82.19 326 *e*P **P** **01 46 31.7 +1.1**
BZS Buzias 82.23 322⇑ P **P** **01 46 31.1 +0.3**
BZS Buzias 82.23 322⇑ P **P** **01 46 31.1 +0.3**
KRUC Moravsky 82.25 327⇑ *i*P **P** **01 46 31.4 +0.5**
SRO Srobarova 82.28 325 *e*P **P** **01 46 32.4 +1.3**
SRO pmax pmax
comp=Z,35nm,1.0s
SRO Srobarova 82.28 325 *e*P **P** **01 46 32.4 +1.3**
GOPC GO Pecny, Ondr 82.33 328 *e*P **P** **01 46 31.8 +0.5**
GOPC GO Pecny, Ondr 82.33 328 *e*P **P** **01 46 31.8 +0.5**
MODS Modra-Piesok 82.36 326 *e*P **P** **01 46 31.6 +0.1**
MODS pmax pmax
comp=Z,32nm,1.2s
MODS Modra-Piesok 82.36 326 *e*P **P** **01 46 31.6 +0.1**
PRA Prague 82.36 328 *e*P **P** **01 46 32.1 +0.7**
PRA Prague 82.36 328 *e*P **P** **01 46 32.1 +0.7**
PRU Pruhonice 82.38 328 *e*P **P** **01 46 31.8 +0.3**
PRU Pruhonice 82.38 328 *e*P **P** **01 46 31.8 +0.3**
N23A Red Feather La 82.39 45 P **P** **01 46 34.0 +1.9**
baz=311
CSS Mathiatis 82.45 308 P **P** **01 46 31.3 -0.9**
CSS Mathiatis 82.45 308 P **P** **01 46 32.1 -0.1**

CSS IAmb IAmb 01 46 47.1
comp=Z,27nm,0.9s
CSS IAMs_20 IAMs_20 02 26 01.6
comp=Z,696nm,22.0s
AGMN Agassiz Nation 82.47 34 P **P** **01 46 32.0 -0.1**
baz=317
AGMN Agassiz Nation 82.47 34 P **P** **01 46 32.3 +0.2**
PUNG Punghina 82.48 320 ⇑P **P** **01 46 32.7 +0.6**
TREC Trest 82.48 327 *e*P **P** **01 46 32.6 +0.5**
TREC Trest 82.48 327 *e*P **P** **01 46 32.6 +0.5**
WUAZ Wupatki 82.53 51 P **P** **01 46 35.6 +2.7**
baz=309
CSKK Cskako 82.63 325 *e*P **P** **01 46 32.1 -0.8**
MPEP Malo Peshtene 82.68 319 *i* P **P** **01 46 34.0 +0.8**
MDVR Moldovita 82.76 321 ⇑P **P** **01 46 33.9 +0.2**
PBCC Pribram 82.84 328 *e*P **P** **01 46 34.1 +0.1**
KDZ Kurdzhali 82.92 317 *i* P **P** **01 46 35.7 +1.2**
PGB Panagyurishte 83.00 318 *i* P **P** **01 46 35.9 +0.9**
PLD Plovdiv 83.00 318 *i* P **P** **01 46 35.6 +0.7**
PLD Plovdiv 83.00 318 P **P** **01 46 36.2 +1.3**
PLD pmax pmax
comp=Z,113nm,2.0s
ALN Alexandroupoli 83.06 316 P P 01 46 30.4 -4.9
ALN Alexandroupoli 83.06 316 IAmb IAmb 01 46 36.9
comp=Z,23nm,1.1s
NKC Novy Kostel 83.08 329 *e*P **P** **01 46 35.5 +0.3**
NKC Novy Kostel 83.08 329 *e*P **P** **01 46 35.5 +0.3**
MPLH Magyarpolny 83.11 325 *e*P **P** **01 46 35.1 -0.3**
MANT Manisa 83.18 313 P **P** **01 46 36.4 +0.2**
RDO Rodhopi 83.18 316 P **P** **01 46 33.4 -2.5**
SOP Sopron 83.19 326 P **P** **01 46 36.7 +0.9**
SOP pmax pmax
comp=Z,47nm,1.2s
SOP Sopron 83.19 326 *e*P **P** **01 46 36.0 +0.2**
MVCO Mesa Verde 83.26 49 P **P** **01 46 38.8 +2.1**
baz=310
MORH Mrgy, Hungar 83.27 324 ⇓*i*P **P** **01 46 36.0 -0.2**
MORH Mrgy, Hungar 83.27 324 *e*P **P** **01 46 35.1 -1.2**
RZN Rozhen 83.28 317 *i* P **P** **01 46 37.5 +0.9**
ISCO Idaho Springs 83.30 45 P **P** **01 46 38.8 +1.9**
baz=311
CONA Conrad Observa 83.33 326 *i* PcP **P** **01 46 37.4 +0.7**
comp=Z,42nm,1.2s,SNR=13
KHC Kasperske Hory 83.44 328 *e*P **P** **01 46 37.3 +0.2**
KHC *e* 01 46 51.8
KHC Kasperske Hory 83.44 328 *e*P **P** **01 46 37.3 +0.2**
KHC *e*pP **pP** **01 46 51.8 +1.0**
VTS Vitosha 83.45 319 P **P** **01 46 38.0 +0.5**
VTS Vitosha 83.45 319 *i* P **P** **01 46 38.5 +1.0**
VTS Vitosha 83.45 319 ⇓*i*P **P** **01 46 38.4 +1.0**
VTS Vitosha 83.45 319 ⇓P **P** **01 46 38.4 +0.9**
VTS mb 01 46 39.9
VTS Vitosha 83.45 319 IAMs_20 IAMs_20 02 29 08.5
comp=Z,855nm,20.0s
FRGS Fruska Gora 83.46 322 ⇑*i*P **P** **01 46 37.1 -0.2**
GEC2 GERESS Array S 83.60 328 IAmb IAmb 01 46 39.4
comp=Z,21nm,1.1s
GERES GERESS Array B 83.60 328 P **P** **01 46 38.0 0.0**
comp=Z,11nm,1.0s,baz=42,slow=4.3,SNR=48
GERES PP **PP** **01 49 49.8 -0.5**
comp=Z,2.7nm,0.9s,baz=49,slow=9.0,SNR=4.7
GERES LR LR 02 27 60.0
comp=Z,791nm,18.9s,baz=52,slow=39
EZN Ezine 83.62 315 P **P** **01 46 38.2 +0.1**
214A Organ Pipe Nat 83.80 55 P **P** **01 46 42.1 +2.8**
baz=308
214A Organ Pipe Nat 83.80 55 P **P** **01 46 40.3 +1.0**
214A IAmb IAmb 01 46 47.8
comp=Z,25nm,1.1s
MMB Musomiste 83.89 318 *i* P **P** **01 46 40.2 +0.6**
S22A 4UR Ranch, Cre 83.93 47 P **P** **01 46 43.1 +2.9**
baz=311,SNR=14
S22A 4UR Ranch, Cre 83.93 47 IAmb IAmb 01 47 01.4
comp=Z,30nm,1.1s
NVR Nevrokopi 83.98 317 P **P** **01 46 38.7 -1.3**
ARSA Arzberg 83.98 326 *i* PcP **P** **01 46 40.4 +0.5**
comp=Z,23nm,1.2s,SNR=7.9
GRA1 Grafenberg Arr 84.00 330 P **P** **01 46 40.8 +0.9**
GRF Grafenberg Arr 84.00 330 P **P** **01 46 40.8 +0.9**
GRF pmax pmax
comp=Z,68nm,1.0s
PRK Paraskevi 84.03 315 P **P** **01 46 39.8 -0.5**
KKB Krupnik 84.05 318 *i* P **P** **01 46 41.2 +0.8**
FETY Fethiye 84.07 311 P **P** **01 46 39.4 -1.1**
MOA Molln 84.10 327 *i* PcP **P** **01 46 41.2 +0.7**
comp=Z,32nm,1.2s,SNR=8.8
DIVS Divibare 84.12 321 ⇑*i*P **P** **01 46 40.9 +0.2**
Q24A Divide 84.12 46 P **P** **01 46 42.9 +1.7**
baz=312
YER Yerkesik 84.23 312 P **P** **01 46 41.5 +0.1**
EKA Eskdalemuir Ar 84.27 340 P **P** **01 46 41.7 +0.5**
SIGR SIGRI 84.30 315 P **P** **01 46 39.8 -1.8**
PPT Papeete 84.56 116 LR LR 02 17 40.3
comp=Z,835nm,21.0s,baz=301,slow=31
PPT2 Papeete2 84.57 116 *e*S **S** **01 57 04.7 -2.3**
comp=Z,1μm,33.2s
PPT2 Papeete2 84.57 116 *e*LR LR 02 13 25.8
comp=Z,3μm,25.8s,baz=312
PPT2 Papeete2 84.57 116 *e*T T 03 19 36.0
comp=Z,5.3nm,0.3s
BBLS Lazići 84.58 322 ⇑*i*P **P** **01 46 43.7 +0.6**
PAE Paea 84.61 116 *e*T T 03 19 38.6
comp=Z,1.1nm,0.3s
PERS Pernice 84.63 326 *i* P **P** **01 46 43.3 +0.1**
SOKA Soboth 84.64 326 *i* PcP **P** **01 46 43.5 +0.2**
comp=Z,69nm,1.2s,SNR=24
KNT Kendrikon 84.64 318 P **P** **01 46 42.6 -0.7**
HAPS Han Pijesak,BI 84.65 322 ⇓*i*P **P** **01 46 43.0 -0.5**
EYMN Ely 84.68 32 P **P** **01 46 43.9 +0.4**
baz=320,SNR=6.2
VAY Valandovo 84.70 318 P **P** **01 46 44.2 +0.6**
VAY pmax pmax
comp=Z,73nm,1.4s
SDCO Great Sand Dun 84.72 47 P **P** **01 46 46.2 +2.0**
baz=312,SNR=18
SDCO Great Sand Dun 84.72 47 IAmb IAmb 01 46 55.2
comp=Z,15nm,0.9s
CHOS Chios island 84.73 314 P **P** **01 46 43.6 -0.3**
RUDO Rudo 84.78 321 ⇑*i*P **P** **01 46 42.3 -1.7**
PLG Polygyros 84.88 317 P **P** **01 46 43.8 -0.8**
TUC Tucson 84.92 54 P **P** **01 46 47.6 +2.5**
baz=309
TUC Tucson 84.92 54 P **P** **01 46 45.8 +0.8**
TUC pmax pmax
comp=Z,17nm,1.0s
TUC Tucson 84.92 54 P **P** **01 46 45.8 +0.8**
TUC IAmb IAmb 01 46 55.6
comp=Z,17nm,1.0s
PLE Pljevlja 84.97 321 ⇑*i*P **P** **01 46 44.2 -0.9**
OBKA Obir 84.98 326 *i* PcP **P** **01 46 44.9 -0.2**
comp=Z,10nm,0.8s
IVA Berane 85.04 321 ⇑*i*P **P** **01 46 46.0 +0.6**
BLY Banja Luka 85.04 323 ⇑*i*P **P** **01 46 45.5 +0.2**
BLY Banja Luka 85.04 323 ⇑P **P** **01 46 45.5 +0.2**
BLY mb 01 46 47.0
BLY Banja Luka 85.04 323 IAmb IAmb 01 46 50.8
comp=Z,22nm,1.0s
GRG Griva 85.05 318 P **P** **01 46 42.0 -3.4**
PAIG Paliouri 85.05 317 P **P** **01 46 44.9 -0.5**
CRES Cresnjev 85.07 325 ⇑*i*P **P** **01 46 45.3 -0.1**
KBA Koelnbreinsper 85.09 327 P **P** **01 46 46.1 +0.4**
KBA Koelnbreinsper 85.09 327 *i* PcP **P** **01 46 45.7 0.0**
comp=Z,19nm,1.1s,SNR=7.2
PVY Plav 85.20 320 ⇑*i*P **P** **01 46 46.4 +0.1**
KOME Kolasin 85.25 321 ⇑*i*P **P** **01 46 46.6 +0.1**
BEBN Eben Emael 85.28 333 P **P** **01 46 46.2 -0.1**
MYKA Terra Mystica 85.30 326 *e*P **P** **01 46 46.1 -0.6**
comp=Z,10.0nm,0.7s
UPM Unac-Piva 85.31 321 ⇑*i*P **P** **01 46 45.9 -1.0**
MEM Membach 85.31 333 P **P** **01 46 46.2 -0.2**
comp=Z,33nm,1.2s
MGRS Mrkonjic Grad 85.34 323 ⇑*i*P **P** **01 46 47.8 +1.0**
LJU Ljubljana 85.34 326 *i* P **P** **01 46 46.5 -0.2**
LJU Ljubljana 85.34 326 ⇑*i*P **P** **01 46 46.4 -0.4**
BOJS Bojanci 85.41 325 *i* P **P** **01 46 47.1 +0.1**
ECSD EROS Data Cent 85.43 38 P **P** **01 46 48.0 +0.7**
baz=317
ECSD EROS Data Cent 85.43 38 P **P** **01 46 47.8 +0.5**
ECSD IAmb IAmb 01 47 01.4
comp=Z,19nm,1.0s
BHOU Houvegnez 85.52 333 P **P** **01 46 48.1 +0.5**
KSCO Kaye Shedlock' 85.54 44 P **P** **01 46 49.6 +1.5**
baz=313
KSCO Kaye Shedlock' 85.54 44 IAmb IAmb 01 47 00.7
comp=Z,25nm,1.1s
LIT Litokhoron 85.59 317 P **P** **01 46 46.6 -1.6**
NKME Niksic 85.60 321 ⇑*i*P **P** **01 46 48.0 -0.2**
CEY Cerknica 85.62 325 ⇑*i*P **P** **01 46 47.7 -0.5**
WATA Walderalm 85.67 328 *i* PcP **P** **01 46 48.5 -0.1**
comp=Z,9.4nm,1.1s
E38A The Farm, Brul 85.68 33 IAmb IAmb 01 47 01.8
comp=Z,25nm,0.9s
PDG Podgorica 85.68 321 ⇑*i*P **P** **01 46 48.6 +0.1**
PDG Podgorica 85.68 321 ⇑P **P** **01 46 48.7 +0.2**
PDG mb 01 46 50.0
PDG Podgorica 85.68 321 P **P** **01 46 48.4 -0.1**
TTG Podgorica 85.68 321 ⇑*i*P **P** **01 46 48.7 +0.2**
WTTA Wattenberg 85.70 328 *i* PcP **P** **01 46 48.2 -0.6**
comp=Z,15nm,1.3s
BRY Bratogost 85.71 321 ⇑*i*P **P** **01 46 48.3 -0.5**
BRY Bratogost 85.71 321 ⇑*i*P **P** **01 46 48.5 -0.3**
ABTA Abfaltersbach 85.72 327 *i* P **P** **01 46 47.6 -1.1**
comp=Z,21nm,1.0s,SNR=7.4
BCLA Clavier 85.72 333 P **P** **01 46 47.8 -0.8**
FNA Florina 85.73 318 P **P** **01 46 48.6 -0.2**
FNA pmax pmax
comp=Z,10.0nm,0.9s
FNA Florina 85.73 318 P **P** **01 46 48.6 -0.2**
CEME Cevo 85.77 321 ⇑*i*P **P** **01 46 48.7 -0.4**
T25A Trinidad 85.77 47 P **P** **01 46 51.3 +1.9**
baz=312,SNR=15
T25A Trinidad 85.77 47 IAmb IAmb 01 47 00.1
comp=Z,22nm,0.9s
MOTA Moosalm 85.87 328 *i* PcP **P** **01 46 49.5 -0.1**
comp=Z,26nm,1.3s
DRME Dracevica, Mon 85.89 321 ⇑*i*P **P** **01 46 49.7 +0.1**
DRME Dracevica, Mon 85.89 321 ⇑*i*P **P** **01 46 49.9 +0.3**
RIY Rijeka 85.90 325 ⇑*i*P **P** **01 46 48.8 -0.7**
RETA Reutte 85.90 329 *i* PcP **P** **01 46 49.6 0.0**
comp=Z,31nm,1.1s,SNR=6.9
APE Apeiranthos 85.92 313 ⇑P **P** **01 46 47.9 -2.0**
APE Apeiranthos 85.92 313 ⇑P **P** **01 46 47.9 -2.0**
SQTA Sankt Quirin 85.92 328 *i* PcP **P** **01 46 49.4 -0.4**
comp=Z,13nm,1.1s
TREB Trebinje 85.94 321 *e*P **P** **01 46 46.3 -3.5**
TRI Trieste 85.94 326 P **P** **01 46 49.8 +0.1**
TRI pmax pmax
comp=Z,36nm,1.3s
TRI Trieste 85.94 326 IAmb IAmb 01 46 49.5
comp=Z,33nm,1.1s
KARP Karpathos 85.95 311 IAMs_20 IAMs_20 02 20 48.7
comp=Z,539nm,20.0s
BUM Brajici-Budva 85.96 321 ⇑*i*P **P** **01 46 49.9 -0.1**
ANMO Albuquerque 85.99 49 P **P** **01 46 52.8 +2.4**
baz=311
ANMO Albuquerque 85.99 49 P **P** **01 46 51.8 +1.4**
ANMO pmax pmax
comp=Z,18nm,1.1s
ANMO Albuquerque 85.99 49 P **P** **01 46 51.8 +1.4**
ANMO IAmb IAmb 01 47 01.9
comp=Z,18nm,1.1s
STAL STALIGIAL 86.00 327 P **P** **01 46 49.0 -1.1**
STAL IAmb IAmb 01 46 50.0
comp=Z,34nm,1.1s
BMRD Maredsous 86.02 333 P **P** **01 46 49.9 -0.1**
comp=Z,43nm,1.2s
SNF Seneffe 86.02 334 P **P** **01 46 49.5 -0.5**
ULC Ulcinj 86.02 320 ⇑*i*P **P** **01 46 50.0 -0.2**
WLF Walferdange 86.02 332 P **P** **01 46 50.3 +0.3**
WLF pmax pmax
comp=Z,20nm,1.0s
WLF Walferdange 86.02 332 P **P** **01 46 50.9 +0.8**
WLF Walferdange 86.02 332 P **P** **01 46 50.3 +0.3**
WLF IAmb IAmb 01 47 05.0
comp=Z,20nm,1.0s
HCY Herceg Novi 86.06 321 ⇑*i*P **P** **01 46 49.9 -0.5**
HCY Herceg Novi 86.06 321 ⇑*i*P **P** **01 46 50.0 -0.5**
TIR Tirane 86.14 320 P **P** **01 46 51.1 +0.3**
TIR pmax pmax
comp=Z,17nm,0.8s
TIR MLR MLR
comp=Z,2μm,20.0s
TIR Tirane 86.14 320 P **P** **01 46 51.1 +0.3**
TIR IAmb IAmb 01 47 08.8
comp=Z,18nm,0.8s
STON Ston 86.16 322 ⇑*i*P **P** **01 46 49.4 -1.4**
SPMN Marine on St. 86.16 35 P **P** **01 46 51.4 +0.6**
baz=319
GIVF Givet 86.16 333 *e*P **P** **01 46 50.2 -0.5**
GIVF pmax pmax
comp=Z,20nm,1.0s
BFO Black Forest 86.25 330 P **P** **01 46 51.1 -0.2**
BFO pmax pmax
comp=Z,53nm,1.0s
BFO Black Forest 86.25 330 P **P** **01 46 51.1 -0.2**
DOU Dourbes 86.25 333 P **P** **01 46 50.4 -0.7**
Y22D IRIS PASSCAL I 86.27 50 IAMs_20 IAMs_20 02 17 03.6
comp=Z,872nm,22.0s
FETA Feichten 86.28 328 *i* PcP **P** **01 46 51.3 -0.3**
comp=Z,15nm,1.0s,SNR=6.1
LPM Los Pinos Moun 86.30 50 P **P** **01 46 52.7 +0.7**
BGNE Belgrade 86.32 40 P **P** **01 46 52.3 +0.6**
baz=316
BAIF Baives 86.42 334 *e*P **P** **01 46 51.6 -0.4**
BAIF pmax pmax
comp=Z,39nm,1.3s
DAVA Damuels 86.43 329 *i* PcP **P** **01 46 52.6 +0.2**
comp=Z,48nm,1.2s,SNR=7.3
TAOE Nuku Hiva Isla 86.43 103 *e*LR LR 02 14 00.2
comp=Z,2μm,24.8s,baz=313
CDF Champ du Feu 86.60 331 *e*P **P** **01 46 52.7 -0.4**
CDF pmax pmax
comp=Z,48nm,1.0s
DAMY Dhamar 86.62 285 IAmb IAmb 01 46 58.8
comp=Z,24nm,1.1s
DAMY IAMs_20 IAMs_20 02 31 58.0
comp=Z,843nm,20.0s
121A Cookes Peak, D 86.73 52 P **P** **01 46 57.1 +3.0**
baz=311
121A Cookes Peak, D 86.73 52 P **P** **01 46 54.5 +0.4**
FUORN Ofenpass-Fuorn 86.80 328 P **P** **01 46 54.5 +0.3**
ECH Echery 86.81 331 P **P** **01 46 54.2 +0.2**
ECH pmax pmax
comp=Z,37nm,1.0s
ECH Echery 86.81 331 P **P** **01 46 54.2 +0.2**
SCHQ Schefferville 86.89 16 P **P** **01 46 54.5 +0.3**
comp=Z,14nm,0.9s,baz=355,slow=7.6,SNR=8.3
SCHQ LR LR 02 27 38.6
comp=Z,532nm,21.2s,baz=348,slow=37
SCHQ Schefferville 86.89 16 P **P** **01 46 54.5 +0.3**
SCHQ IAmb IAmb 01 46 56.2
comp=Z,15nm,0.9s
TEOL Teolo 87.16 327 P **P** **01 46 55.5 -0.2**
TEOL IAmb IAmb 01 46 56.0
comp=Z,21nm,0.9s
IGT Igoumenitsa 87.18 318 *e*P **P** **01 46 55.9 0.0**
IGT pmax pmax
comp=Z,25nm,1.1s
HINF Hinteralfeld 87.25 331 *e*P **P** **01 46 55.3 -0.9**
HINF pmax pmax
comp=Z,19nm,1.2s
CBKS Cedar Bluff 87.30 43 P **P** **01 46 56.8 +0.2**
CBKS pmax pmax
comp=Z,29nm,1.1s
CBKS Cedar Bluff 87.30 43 P **P** **01 46 56.8 +0.2**
CBKS IAmb IAmb 01 47 15.9
comp=Z,29nm,1.1s
TUE Stuetta 87.30 329 P **P** **01 46 56.4 -0.2**
TUE IAmb IAmb 01 47 01.8
comp=Z,18nm,1.0s
G40A Rib Lake 87.31 33 IAmb IAmb 01 47 10.8
comp=Z,16nm,1.1s
SALO Salr 87.47 328 IAmb IAmb 01 46 59.7
comp=Z,27nm,1.0s
SCTE Santa Cesarea 87.79 319 IAmb IAmb 01 47 02.4
comp=Z,19nm,0.9s
ITM Ithomi 87.94 316 IAmb IAmb 01 47 12.7
comp=Z,24nm,0.9s
SGRT San Giovanni R 87.96 322 P **P** **01 46 59.6 -0.2**
MATE Matera 88.29 321 ⇑P **P** **01 47 01.1 -0.1**
MATE mb 01 47 02.1
TBI Tubuai 88.33 120 *e*S **S** **01 57 41.2 -2.0**
comp=Z,450nm,37.5s
TBI Tubuai 88.33 120 *e*LQ LQ 02 10 51.6
comp=Z,608nm,37.8s
TBI *e*LR LR 02 15 00.4
comp=Z,2μm,26.5s,baz=311
TBI Tubuai 88.33 120 *e*T T 03 24 16.9
comp=Z,11nm,0.3s
SCIA State Center 88.46 37 P **P** **01 47 03.4 +1.4**
baz=319
SCIA State Center 88.46 37 P **P** **01 47 02.5 +0.5**
MATQ Matagami 88.50 24 P **P** **01 47 02.6 +0.6**
baz=330
CABF La Chapelle 88.53 331 *e*P **P** **01 47 02.5 +0.1**
CABF pmax pmax
comp=Z,101nm,2.0s
ACER Acerenza 88.58 321 P **P** **01 47 02.6 0.0**
AQU L'Aquila 88.66 324 P **P** **01 47 03.3 +0.3**
AQU pmax pmax
comp=Z,56nm,1.0s
AQU L'Aquila 88.66 324 ⇑*i*P **P** **01 47 03.1 +0.1**
AQU L'Aquila 88.66 324 P **P** **01 47 03.3 +0.3**
MSEY Mahe Island 88.77 263 P **P** **01 47 04.8 +0.9**
OSSC Osservatorio P 88.77 326 P **P** **01 47 02.6 -0.8**
OSSC IAmb IAmb 01 47 03.5
comp=Z,22nm,1.1s
KSU1 Kansas State U 88.80 41 P **P** **01 47 04.9 +1.2**
baz=317
MNTX Cornudas Mount 88.81 51 P **P** **01 47 05.3 +1.5**
baz=312
MNTX Cornudas Mount 88.81 51 P **P** **01 47 03.7 -0.2**
LOR Lormes 88.86 332 *e*P **P** **01 47 04.5 +0.7**
LOR pmax pmax
comp=Z,18nm,1.2s
AMTX Amarillo 88.93 47 P **P** **01 47 06.4 +2.0**
baz=314
AMTX Amarillo 88.93 47 IAmb IAmb 01 47 15.0
comp=Z,25nm,0.9s
PAOL Paolisi 89.09 322 P **P** **01 47 04.3 -0.8**
PAOL IAmb IAmb 01 47 08.5
comp=Z,14nm,0.9s
LPL La Plagne 89.16 330 *e*P **P** **01 47 06.0 +0.5**
LPL pmax pmax
comp=Z,11nm,0.9s
LPG La Plagne 89.17 330 *e*P **P** **01 47 05.2 -0.4**
LPG pmax pmax
comp=Z,31nm,1.3s
SSF Saint Saulge 89.17 332 *e*P **P** **01 47 06.0 +0.8**
SSF pmax pmax
comp=Z,14nm,1.0s
LDF La Druitiere 89.18 335 *e*P **P** **01 47 05.2 0.0**
LDF pmax pmax
comp=Z,118nm,1.8s
D48A Paudash Townsh 89.23 27 P **P** **01 47 06.4 +0.8**
baz=327
E47A Iron Bridge 89.26 29 P **P** **01 47 06.4 +0.7**
baz=326
L40A Anamosa 89.31 36 P **P** **01 47 06.5 +0.5**
L40A IAmb IAmb 01 47 07.6
comp=Z,22nm,1.1s
LSQQ Lebel-sur-Quev 89.32 24 P **P** **01 47 06.5 +0.7**
baz=330
TIP Timpagrande 89.34 320 P **P** **01 47 06.6 +0.3**
SMF Signal de Mont 89.39 332 *e*P **P** **01 47 06.1 -0.2**
SMF pmax pmax
comp=Z,37nm,1.3s
CHGQ Chibougamau 89.39 22 P **P** **01 47 06.9 +0.7**
baz=332
AVF Avril sur Loir 89.45 332 *e*P **P** **01 47 06.5 0.0**
AVF pmax pmax
comp=Z,33nm,1.0s
GRR Gorron 89.61 335 *e*P **P** **01 47 07.1 -0.1**
GRR pmax pmax
comp=Z,53nm,1.2s
ATD Arta Tunnel 89.62 284 P **P** **01 47 07.4 -0.5**
ATD IAmb IAmb 01 47 09.6
comp=Z,22nm,1.1s
ATD IAMs_20 IAMs_20 02 34 01.0
comp=Z,444nm,21.0s
E48A Lockeyer 89.67 28 P **P** **01 47 08.2 +0.7**
baz=325
MBDF Montbardon 89.78 329 *e*P **P** **01 47 07.2 -1.1**
MBDF pmax pmax
comp=Z,28nm,1.3s
VLDQ Val d'Or 89.98 24 IAmb IAmb 01 47 10.5
comp=Z,27nm,1.1s
ORIF Oris-en-Rattie 90.00 330 *e*P **P** **01 47 09.6 +0.3**
ORIF pmax pmax
comp=Z,33nm,1.5s
H46A Fife Lake 90.05 31 P **P** **01 47 11.1 +1.7**
baz=324
GLMI Grayling 90.06 30 P **P** **01 47 11.0 +1.6**
baz=325
D51A Lot 18 Range I 90.19 26 P **P** **01 47 10.6 +0.6**
baz=328
SBF Sospel 90.20 328 *e*P **P** **01 47 09.1 -1.1**
SBF pmax pmax
comp=Z,38nm,1.0s
TCF Toulx Ste Croi 90.31 333 *e*P **P** **01 47 10.5 -0.1**
TCF pmax pmax
comp=Z,128nm,2.2s
H47A Mio 90.42 30 P **P** **01 47 12.6 +1.5**
baz=325
I46A Reed City 90.43 31 P **P** **01 47 11.9 +0.7**
baz=324
N41A Harden Midland 90.53 37 IAmb IAmb 01 47 13.4
comp=Z,26nm,1.1s
VIVF Saint-Julien-l 90.54 330 *e*P **P** **01 47 11.4 -0.3**
VIVF pmax pmax
comp=Z,28nm,1.1s
D52A ZEK Kipawa Sen 90.63 26 P **P** **01 47 12.6 +0.6**
baz=329
WMOK Wichita Mounta 90.73 45 P **P** **01 47 14.1 +1.3**
baz=316,SNR=10
WMOK Wichita Mounta 90.73 45 IAmb IAmb 01 47 26.9
comp=Z,10nm,1.0s
FRF La Foret Royal 90.78 328 *e*P **P** **01 47 11.9 -0.9**
FRF pmax pmax
comp=Z,98nm,1.4s
D53A Lac Vacive, Po 90.79 25 P **P** **01 47 13.6 +0.8**
baz=330
D53A Lac Vacive, Po 90.79 25 IAmb IAmb 01 47 20.8
comp=Z,21nm,1.1s
MFF Saint Martin d 90.90 334 *e*P **P** **01 47 13.4 +0.1**
MFF pmax pmax
comp=Z,33nm,1.0s
F51A Arnstein 90.98 27 P **P** **01 47 14.1 +0.4**
baz=328
LMR La Mourre 91.02 328 *e*P **P** **01 47 13.2 -0.7**
LMR pmax pmax
comp=Z,46nm,1.1s
D54A Lac Fusel, La 91.08 24 P **P** **01 47 14.1 0.0**
baz=330
X34A Smith Ranch, M 91.37 45 IAmb IAmb 01 47 18.3
comp=Z,17nm,0.9s
RJF Les Rejaudoux 91.39 332 *e*P **P** **01 47 15.8 +0.2**
RJF pmax pmax
comp=Z,29nm,1.0s
E53A Dumoine, Ponti 91.41 25 P **P** **01 47 16.5 +0.9**
baz=330
TX31 Lajitas Ar. Si 91.49 52 IAmb IAmb 01 47 31.6
comp=Z,12nm,1.1s
TX32 Lajitas Array 91.49 52 IAmb IAmb 01 47 26.6
comp=Z,9.9nm,0.9s
TXAR Lajitas Array 91.49 52 P **P** **01 47 17.6 +1.1**
comp=Z,4.1nm,0.8s,baz=296,slow=3.3,SNR=21
TXAR LR LR 02 23 33.3
comp=Z,330nm,20.6s,baz=0.0,slow=32
CAF Calviac 91.51 332 *e*P **P** **01 47 16.6 +0.4**
CAF pmax pmax
comp=Z,46nm,1.1s
TUL1 Leonard 91.57 43 P **P** **01 47 17.7 +1.1**
baz=317,SNR=5.8
TUL1 Leonard 91.57 43 IAmb IAmb 01 47 31.4
comp=Z,22nm,1.0s
D55A Sainte-Anne-du 91.59 24 P **P** **01 47 17.3 +0.8**
baz=331
ALGO Algonquin Park 91.64 26 P **P** **01 47 17.0 +0.3**
baz=328
J48A Bridge Port 91.66 31 P **P** **01 47 18.8 +1.9**
baz=325
ABTX Abilene, Hawle 91.72 47 P **P** **01 47 19.4 +2.0**
baz=315
ABTX Abilene, Hawle 91.72 47 IAmb IAmb 01 47 20.3
comp=Z,19nm,1.0s
LFF La Frestale 92.00 333 *e*P **P** **01 47 18.7 +0.3**
LFF pmax pmax
comp=Z,65nm,1.2s
G54A Lake Saint Pet 92.10 26 P **P** **01 47 19.2 +0.3**
baz=329
D57A Chemin Vers le 92.11 23 P **P** **01 47 20.0 +1.1**
baz=332,SNR=9.4
E56A St. Veronique 92.16 24 P **P** **01 47 20.0 +0.8**
baz=332
HHAR Hobbs 92.30 41 IAmb IAmb 01 47 34.1

comp=Z,18nm,1.2s
D58A Chemin du LacG 92.35 22 P **P** **01 47 20.7 +0.7**
baz=333
CCM Cathedral Cave 92.37 38 P **P** **01 47 20.7 +0.4**
baz=320
CCM Cathedral Cave 92.37 38 P **P** **01 47 20.8 +0.5**
CCM pmax pmax
comp=Z,19nm,1.1s
CCM Cathedral Cave 92.37 38 P **P** **01 47 20.8 +0.5**
CCM IAmb IAmb 01 47 34.7
comp=Z,19nm,1.1s
L48A N Adams 92.49 32 P **P** **01 47 21.9 +1.1**
baz=325
MGMO Mountain Grove 92.53 40 IAmb IAmb 01 47 22.9
comp=Z,10.0nm,1.1s
G55A Calabogie 92.71 25 P **P** **01 47 22.1 +0.4**
baz=330
MTLF Montolieu 92.78 331 *e*P **P** **01 47 22.2 +0.1**
MTLF pmax pmax
comp=Z,25nm,1.0s
U40A Yellville 92.83 41 P **P** **01 47 23.0 +0.6**
baz=319,SNR=11
D60A Saint Jean D'O 93.10 21 P **P** **01 47 24.3 +0.9**
baz=335,SNR=6.1
N48A Decatur 93.11 33 P **P** **01 47 24.4 +0.7**
baz=324
JCT Junction City 93.13 49 P **P** **01 47 25.2 +1.3**
baz=315
JCT Junction City 93.13 49 IAmb IAmb 01 47 28.8
comp=Z,9.2nm,0.8s
W39A Magazine 93.20 42 P **P** **01 47 25.2 +1.1**
baz=318
OLIL Olney 93.39 36 IAmb IAmb 01 47 27.4
comp=Z,16nm,0.9s
N49A Columbus Grove 93.43 32 P **P** **01 47 25.5 +0.4**
baz=325
WHTX Lake Whitney, 93.46 46 P **P** **01 47 27.7 +2.3**
baz=316
WHTX Lake Whitney, 93.46 46 P **P** **01 47 26.6 +1.2**
SIUC Southern Illin 93.65 37 IAMs_20 IAMs_20 02 23 06.5
comp=Z,660nm,20.0s
G58A Ormstown 93.71 24 P **P** **01 47 27.0 +0.7**
baz=332
PBMO Poplar Bluff 93.76 39 IAmb IAmb 01 47 41.2
comp=Z,13nm,0.9s
D63A Stockholm 93.78 19 P **P** **01 47 27.7 +1.1**
baz=337
MIAR Mount Ida 93.80 42 P **P** **01 47 28.5 +1.6**
baz=319,SNR=7.2
MIAR Mount Ida 93.80 42 IAmb IAmb 01 47 47.1
comp=Z,23nm,1.1s
WHAR Wooly Hollow 93.93 41 IAmb IAmb 01 47 29.0
comp=Z,18nm,1.2s
F61A St Evariste 93.93 22 P **P** **01 47 28.4 +1.1**
baz=335
W41B Gary Mavity, V 94.04 41 P **P** **01 47 28.8 +0.8**
baz=319
ETSF Etsaut 94.23 333 *e*P **P** **01 47 29.2 +0.4**
ETSF pmax pmax
comp=Z,72nm,1.9s
435B Jarrell 94.25 47 P **P** **01 47 29.8 +0.7**
435B IAmb IAmb 01 47 43.0
comp=Z,13nm,1.1s
F62A Pittston Farm, 94.31 21 P **P** **01 47 30.1 +1.1**
baz=335
O50A Cable 94.31 32 P **P** **01 47 30.3 +1.1**
baz=325
H58A Gabriels 94.31 24 P **P** **01 47 29.5 +0.4**
baz=332
G61A St-Isidore-de- 94.39 22 P **P** **01 47 30.3 +0.8**
baz=334
FURI Furi 94.47 284 P **P** **01 47 32.0 +1.3**
ACSO Alum Creek Sta 94.52 32 P **P** **01 47 30.9 +0.8**
baz=326
ACSO Alum Creek Sta 94.52 32 IAmb IAmb 01 47 32.2
comp=Z,13nm,0.9s
WCI Wyandotte Cave 94.65 35 P **P** **01 47 31.8 +1.0**
baz=323
P51A Williamsport 95.10 32 IAmb IAmb 01 47 34.6
comp=Z,20nm,1.1s
H62A Milan 95.15 22 P **P** **01 47 34.4 +1.5**
baz=334
S49A Springfield 95.48 35 P **P** **01 47 34.8 +0.2**
baz=324
KEST Kesra 95.78 322 LR LR 02 35 57.2
comp=Z,613nm,18.7s,baz=340,slow=39
T49A Edmonton 95.91 35 P **P** **01 47 37.2 +0.6**
baz=324
T49A Edmonton 95.91 35 IAmb IAmb 01 47 38.2
comp=Z,9.5nm,0.9s
S50A Richmond 95.98 34 P **P** **01 47 37.1 +0.3**
baz=325
U49A Red Boiling Sp 96.27 36 P **P** **01 47 39.3 +1.1**
baz=324
Q53A Leroy 96.29 32 P **P** **01 47 39.2 +1.0**
baz=327
T50A Nancy 96.31 35 P **P** **01 47 38.9 +0.5**
baz=324
U50A Jamestown 96.80 35 P **P** **01 47 41.9 +1.3**
baz=324
YLE Yale 97.49 25 IAMs_20 IAMs_20 02 20 12.3
comp=Z,656nm,19.0s
ESDC Sonseca Array 98.30 333 P **P** **01 47 46.8 -0.5**
comp=Z,2.4nm,0.9s,baz=32,slow=3.3,SNR=6.6
ESDC LR LR 02 39 05.5
comp=Z,480nm,18.2s,baz=15,slow=40
154A Montrose 100.72 36 IAMs_20 IAMs_20 02 28 41.0
comp=Z,712nm,21.0s
Y57A Sumter 100.83 34 IAMs_20 IAMs_20 02 31 16.8
comp=Z,637nm,20.0s
Z56A Williston 100.96 35 IAMs_20 IAMs_20 02 37 57.2
comp=Z,574nm,20.0s
UNM Universidad Na 101.31 56 IAMs_20 IAMs_20 02 25 03.5
comp=Z,734nm,22.0s
KMBO Kilima Mbogo 101.54 277 *i* P **Pdif** **01 48 04.5 +2.1**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 101.54 277 P **Pdif** **01 48 02.0 -0.4**
comp=Z,0.7nm,0.7s,baz=96,slow=4.3,SNR=3.0
KMBO Kilima Mbogo 101.54 277 IAMs_20 IAMs_20 02 37 17.8
comp=Z,482nm,19.0s
DWPF Disney Wildern 105.23 38 IAMs_20 IAMs_20 02 33 08.7
comp=Z,534nm,22.0s
TOA0 Torodi Ar. Sit 117.89 314 **PKPdf** **01 52 56.5 -0.1**
TORD Torodi Ar. Bea 117.89 314 PKP **PKPdf** **01 52 56.0 -0.7**
comp=Z,3.9nm,0.9s,baz=18,slow=1.3,SNR=13
TORD PP **PP** **01 54 08.4 -1.6**
comp=Z,5.9nm,1.1s,baz=33,slow=6.7,SNR=5.8
MAW Mawson 117.98 205 PKP **PKiKP** **01 52 55.2 +0.1**
comp=Z,2.8nm,0.9s,baz=315,slow=4.8,SNR=4.7
LBTB Lobatse 123.83 262 PKIKP **PKiKP** **01 53 08.2 +0.1**
LBTB Lobatse 123.83 262 **PKiKP** **01 53 08.2 +0.1**
QSPA South Pole Qui 125.34 180 **PKiKP** **01 53 09.6 -0.2**
BOSA Boshof 125.68 258 PKP **PKPdf** **01 53 10.7 -0.7**
comp=Z,4.1nm,0.8s,baz=79,slow=4.0,SNR=5.9
SYO Syowa Base 126.65 206‖ *e*P **Pdif** **01 49 40.0 -12**
SDV Santo Domingo 126.82 40 **PKiKP** **01 53 14.8 +0.2**
SDV IAMs_20 IAMs_20 02 52 56.9
comp=Z,379nm,20.0s
DBIC Dimbokro 126.89 315 PKIKP **PKiKP** **01 53 14.3 -0.2**
DBIC 01 55 06.8
DBIC Dimbokro 126.89 315 PKP **PKPdf** **01 53 13.5 -0.4**
comp=Z,8.3nm,1.0s,baz=0.9,slow=1.8,SNR=9.2
DBIC PP **PP** **01 55 06.8 -4.2**
comp=Z,4.6nm,0.9s,baz=4.8,slow=4.7,SNR=3.3
DBIC Dimbokro 126.89 315 **PKiKP** **01 53 14.2 -0.2**
TIC Toumodi 127.01 315 *e*PKIKP **PKPdf** **01 53 13.9 -0.3**
KIC Kosan Boka 127.08 315 *e*PKIKP **PKPdf** **01 53 14.0 -0.3**
comp=Z,26nm,0.9s
LIC Lamto 127.35 315 *e*PKIKP **PKPdf** **01 53 14.3 -0.5**
comp=Z,40nm,1.0s
ROSC El Rosal 128.09 47 PKP **PKiKP** **01 53 17.7 +0.4**
comp=Z,5.4nm,0.4s,baz=312,slow=23,SNR=3.8
OTAV Otavalo 129.06 54 IAMs_20 IAMs_20 02 36 47.3
comp=Z,341nm,21.0s
NVL N'lazarevskaya 135.73 202 *e*PKIKP **PKiKP** **01 53 31.3 +0.8**
NVL *e* 01 56 16.9
NVL *e*SP SP 02 06 32.2 +7.7
NVL *e*SS SS 02 14 27.8 +26
NVL *e*SSS SSS 02 19 03.6
NVL MLR MLR
comp=Z,537nm,22.0s
SNAA Sanae 139.20 197 PKPdf PKPdf 01 53 25.4 -10
SNAA Sanae 139.20 197 PKIKP **PKPdf** **01 53 35.3 -0.1**
SNAA MLR MLR
comp=Z,500nm,21.0s
SNAA Sanae 139.20 197 PP PP 01 56 23.9 -5.5
comp=Z,3.4nm,1.1s,baz=262,slow=24,SNR=4.0
SNAA Sanae 139.20 197 PKPdf **PKPdf** **01 53 35.3 -0.1**
VNA2 Neumayer--Watz 140.77 196 PKPdf **PKPdf** **01 53 31.2 -6.9**
VNA3 Neumayer Olymp 141.02 195 PKPdf **PKPdf** **01 53 32.2 -6.4**
VNA1 Neumayer--Stat 141.17 196 PKPdf PKPdf 01 53 27.8 -11
SAML Samuel 145.70 45 PKP2 **PKPab** **01 53 49.3 0.0**
SAML Samuel 145.70 45 **PKPab** **01 53 49.3 0.0**
PMSA Palmer Station 147.24 161 IAMs_20 IAMs_20 02 46 45.7
comp=Z,356nm,22.0s
LPAZ La Paz 147.95 61 PKPbc **PKPbc** **01 53 54.6 -1.5**
comp=Z,15nm,0.9s,baz=342,slow=3.7,SNR=38
LPAZ La Paz 147.95 61 PKPbc **PKPbc** **01 53 54.8 -1.2**
MNMC Minye Minye 148.70 66 PKPbc **PKiKP** **01 53 59.0 0.0**
PB11 IPOC Station P 149.03 67 **PKPdf** **01 53 54.4 +0.3**
PB11 PKPbc **PKiKP** **01 53 59.9 +0.4**
PB11 **sPKPdf** **01 54 13.3 -0.2**
GO01 Chusmiza 149.32 67 **PKPdf** **01 53 54.6 -0.4**
GO01 PKPbc **PKiKP** **01 54 00.7 +0.1**
PB04 IPOC Station P 150.13 72 **PKiKP** **01 54 01.6 -0.1**
RCBR Riachuelo 150.20 353 PKIKP **PKiKP** **01 54 01.8 -0.2**
RCBR Riachuelo 150.20 353 **PKiKP** **01 54 01.8 -0.2**
LVC Limon Verde 151.24 71 PKIKP **PKiKP** **01 54 05.4 +1.1**
LVC Limon Verde 151.24 71 **PKiKP** **01 54 05.4 +1.1**
GO02 Mina Guanaco 152.02 77 **PKiKP** **01 54 06.8 +1.1**
GO03 Copiap 152.60 82 **PKiKP** **01 54 07.7 +1.1**
GO04 Tololo Observa 153.11 87 **PKPbc** **01 54 07.5 -0.2**
ROC1 El Roble 153.77 93 **PKiKP** **01 54 09.7 +0.6**
PEL Peldehue 154.08 94 PKIKP **PKiKP** **01 54 10.4 +1.0**
PEL Peldehue 154.08 94 **PKiKP** **01 54 10.4 +1.0**
GO06 Curarrehue 154.32 109 **PKPdf** **01 54 01.9 +0.5**
PLCA Paso Flores 155.02 111 PKIKP **PKPdf** **01 54 03.0 +0.6**
PLCA Paso Flores 155.02 111 PKP **PKPdf** **01 54 03.0 +0.6**
comp=Z,4.0nm,1.1s,baz=2.2,slow=5.0,SNR=3.4
PLCA PKPab **PKPab** **01 54 28.9 +1.9**
comp=Z,2.3nm,0.9s,baz=250,slow=10.0,SNR=3.1
BDFB Brasilia 158.67 24 PKIKP **PKPdf** **01 54 07.7 -0.1**
BDFB 01 54 43.6
BDFB Brasilia 158.67 24 PKPab **PKPab** **01 54 44.0 +0.9**
comp=Z,5.9nm,0.9s,baz=298,slow=2.0,SNR=7.5
BDFB PP **PP** **01 58 20.8 -1.8**
comp=Z,3.8nm,0.9s,baz=104,slow=5.3,SNR=3.9
BDFB Brasilia 158.67 24 PKPdf **PKPdf** **01 54 07.7 -0.1**
BDFB PKPab **PKPab** **01 54 43.6 +0.5**
CPUP Villa Florida 162.05 64 PKP **PKPdf** **01 54 11.2 +0.1**
comp=Z,3.5nm,1.0s,baz=344,slow=4.5,SNR=4.9
CPUP Villa Florida 162.05 64 **PKPdf** **01 54 11.5 +0.4**

IDC ***21*** *01:39:31.4±0.7,9.22N×85.51W,h0km, mb4.3/9, mb1 4.5/11,mb1mx4.2/40,mbtmp4.2/11,ML3.5/2,MS3.3/2, Ms1 3.3/2,ms1mx2.9/26,Error ellipse: s-maj=19.3km s-min=12.5km az=96.0*

ISCJB ***21*** *01:39:33.3± 1.0, 9.23N±0.03×85.55W±0.03, h23km±7km, mb4.1/9,MS4.5/1,Error ellipse: s-maj=6.6km s-min=3.2km az=43.4*

NEIC ***21*** *01:39:34.6± 1.7, 9.28N±0.08×85.52W±0.08, h20km±4km, mb4.6/42*

UCR ***21*** *01:39:34.5± 1.4, 9.26N×85.53W, h28km±5km, ML3.4, mb4.6(NEIC)*

UPA ***21*** *01:39:36.9±2.4, 9.35N×85.44W, h32km±89km, MW4.8*

ISC 21 01:39:36.7±1.8, 9.31N±0.05×85.47W±0.05, h35km±9km, n149,σ1ß27/149, mb4.5/25, 4C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
PLVR	**Palo Verde**	**1.04**	**6**	*e*P	**Pn**	**01 39 52.9**	**-2.1**
PLVR				*e*S	**Sn**	**01 40 09.0**	**+0.6**
JTS	**Las Juntas de**	**1.10**	**28**	Pg	**Pn**	**01 39 54.3**	**-1.3**
	603nm,0.3s,baz=143,slow=10.0,SNR=3761						
JTS				Lg	Lg	01 40 10.7	
	172nm,0.3s,baz=48,slow=9.8,SNR=4.0						
JTS	**Las Juntas de**	**1.10**	**28**	*e*P	**Pn**	**01 39 54.4**	**-1.3**
JTS				*e*S	**Sb**	**01 40 11.0**	**-0.4**
JTS	**Las Juntas de**	**1.10**	**28**	*i*P	**Pn**	**01 39 54.3**	**-1.3**
JTS	**Las Juntas de**	**1.10**	**28**		**Pn**	**01 39 53.9**	**-1.7**
SRA1	**San Ramn**	**1.24**	**52**	*e*P	**Pn**	**01 39 56.6**	**-1.1**
ARE1	**Arenal 1**	**1.36**	**33**	*e*P	**Pn**	**01 39 59.0**	**-0.2**
CUI	**Cuipilapa**	**1.37**	**13**	*e*P	**Pn**	**01 39 58.3**	**-1.1**
CEDE	**Laguna Cedeo**	**1.39**	**33**	*e*P	**Pn**	**01 39 57.6**	**-0.1**
BUEV	**Buena Vista**	**1.48**	**2**	*e*P	**Pn**	**01 39 59.4**	**-1.5**
GB1A	**Borinquen Arri**	**1.50**	**3**	*e*P	**Pn**	**01 39 59.8**	**-1.5**
GB1A				*e*S	**Sn**	**01 40 20.1**	**+0.4**
HDC	**Heredia**	**1.50**	**63**	*e*P	**Pn**	**01 40 00.7**	**-0.6**
HDC				*e*S	**Sb**	**01 40 23.1**	**+0.2**
HDC	**Heredia**	**1.50**	**63**	*i*P	**Pn**	**01 40 00.9**	**-0.4**
HDC	**Heredia**	**1.50**	**63**		**Pn**	**01 40 01.0**	**-0.3**
LCR2	**La Lucha 2**	**1.51**	**73**	*e*P	**Pn**	**01 40 00.1**	**-1.4**
LCR2				*e*S	**Sn**	**01 40 21.2**	**+1.2**
SJS	**Escuela Geolog**	**1.53**	**66**	*e*P	**Pn**	**01 40 00.8**	**-0.8**
SJS				*e*S	**Sb**	**01 40 22.8**	**-1.0**
EDDO	**Dominical**	**1.58**	**92**	*e*P	**Pn**	**01 40 00.7**	**-1.6**
CVTR	**Volcan Turrial**	**1.83**	**67**	*e*P	**Pn**	**01 40 05.8**	**-0.2**
EDLM	**Las Mercedes**	**1.85**	**91**	*e*P	**Pn**	**01 40 05.0**	**-1.1**
EDBA	**Buenos Aires**	**2.17**	**94**	*e*P	**Pn**	**01 40 09.3**	**-1.1**
EDSV	**San Vito**	**2.51**	**101**	*e*P	**Pn**	**01 40 15.5**	**+0.3**
ACON	**Acoyapa**	**2.66**	**6**	*e*P	**Pn**	**01 40 16.1**	**-0.9**
ACOY	**Acoyapa**	**2.66**	**6**		**Pn**	**01 40 15.6**	**-1.5**
MASN	**Masaya**	**2.74**	**346**	*e*P	**Pn**	**01 40 17.1**	**-1.2**
BRU2	**Volcan**	**2.79**	**100**	*i*P	**Pn**	**01 40 19.0**	**0.0**
LESP3	**La Esperanza,**	**2.79**	**109**	*e*P	**Pn**	**01 40 21.1**	**+2.1**
LESP3				*e*S	**Sn**	**01 40 50.7**	**-0.8**
MGAN	**Managua**	**2.92**	**345**	*e*P	**Pn**	**01 40 20.2**	**-0.5**
CNI2	**El Empalme, Bo**	**2.96**	**88**	*i*P	**Pn**	**01 40 20.2**	**-1.1**
BCO2	**Palmira**	**2.96**	**101**	*i*P	**Pn**	**01 40 21.5**	**0.0**
BCO2				*i*S	**Sn**	**01 40 52.0**	**-3.9**
PTAR3	**Potrerillos Ar**	**3.00**	**102**	*i*P	**Pn**	**01 40 21.9**	**0.0**
PTAR3				*i*S	**Sn**	**01 40 57.8**	**+1.1**
BAGA3	**Bagala, Chiriq**	**3.02**	**106**	*e*P	Pn	01 40 16.6	-5.5
ESPN	**Las Esperanzas**	**3.09**	**22**	*e*P	**Pn**	**01 40 22.4**	**-0.5**
ESPN	**Las Esperanzas**	**3.09**	**22**		**Pn**	**01 40 22.2**	**-0.8**
DVD	**David**	**3.11**	**106**	*e*P	**Pn**	**01 40 22.7**	**-0.5**
LOCO3	**Loma Colorada,**	**3.15**	**106**	*e*P	**Pn**	**01 40 24.6**	**+0.9**
PEDE3	**Pedregal, Chir**	**3.15**	**107**	*e*P	**Pn**	**01 40 24.2**	**+0.4**
LOMA3	**Las Lomas, Chi**	**3.16**	**106**	*e*P	**Pn**	**01 40 24.3**	**+0.2**
GUAL3	**Gualaca, Chiri**	**3.23**	**104**	*e*P	**Pn**	**01 40 25.6**	**+0.6**
CHGR2	**Aguacate**	**3.30**	**96**	*e*P	**Pn**	**01 40 26.0**	**0.0**
CHGR2				*i*S	**Sn**	**01 41 04.0**	**-0.1**
CNGN	**Cerro Negro**	**3.39**	**339**	*e*P	**Pn**	**01 40 26.4**	**-0.8**
CNGN				IAML		01 41 13.1	
	comp=N,168nm,0.3s						
BRAN	**Las Pilas**	**3.50**	**346**	*e*P	Pn	01 40 21.3	-7.4
MATN	**Matagalpa**	**3.62**	**353**	*e*P	**Pn**	**01 40 29.8**	**-0.7**
CRIN	**San Cristobal**	**3.71**	**335**	*e*P	**Pn**	**01 40 30.9**	**-0.7**
REME3	**Remedios, Chir**	**3.75**	**106**	*e*P	**Pn**	**01 40 33.0**	**+0.9**
NANC3	**Nancito, Chiri**	**3.84**	**106**	*e*P	**Pn**	**01 40 31.8**	**-1.6**
ESTN	**Estel**	**3.87**	**347**	*e*P	**Pn**	**01 40 33.1**	**-0.7**
ESTN	**Estel**	**3.87**	**347**	Pn	**Pn**	**01 40 32.5**	**-1.3**
CNAZ3	**Canazas, Verag**	**4.32**	**102**	*e*P	**Pn**	**01 40 39.3**	**-0.6**
GMAL	**Guarumal, Vera**	**4.46**	**110**	*i*P	**Pn**	**01 40 41.5**	**-0.4**
SFRA3	**San Francisco,**	**4.57**	**103**	*e*P	**Pn**	**01 40 45.6**	**+2.2**
STIA3	**Santiago, Vera**	**4.61**	**105**	*e*P	Pn	01 40 37.3	-6.6
CALO3	**Calobre, Verag**	**4.68**	**102**	*e*P	**Pn**	**01 40 46.8**	**+1.9**
OCU3	**Ocu, Herrera**	**4.83**	**106**	*e*P	Pn	01 40 53.5	+6.4
CACAO	**El Cacao, Vera**	**4.96**	**113**	*i*P	**Pn**	**01 40 48.8**	**+0.1**
TGUH	**Tegucigalpa,Un**	**5.04**	**340**		**Pn**	**01 40 49.5**	**-0.4**
VTON	**El Valle, Cocl**	**5.34**	**97**	*e*P	**Pn**	**01 40 55.0**	**+1.0**
AZU	**Azuero**	**5.35**	**106**	*e*P	**Pn**	**01 40 56.2**	**+2.0**
BCIP	**Isla Barro Col**	**5.56**	**91**	*e*P	**Pn**	**01 40 57.1**	**+0.1**
BCIP	**Isla Barro Col**	**5.56**	**91**	*i*P	**Pn**	**01 40 56.9**	**-0.1**
BCIP	**Isla Barro Col**	**5.56**	**91**		**Pn**	**01 40 56.8**	**-0.3**
FRIJ	**El Hiral**	**5.67**	**90**	*e*P	**Pn**	**01 40 58.4**	**-0.1**
APG	**El Apazote**	**7.47**	**320**	Pn	**Pn**	**01 41 24.5**	**+1.0**
	comp=N,0.7nm,0.3s,baz=323,slow=21,SNR=9.1						
TEIG	**Tepich**	**11.19**	**346**	Pn	**Pn**	**01 42 16.3**	**+2.2**
	comp=N,0.4nm,0.3s,baz=139,slow=9.7,SNR=4.6						
TEIG				LR	LR	01 46 54.9	
	comp=N,388nm,19.2s,baz=67,slow=39						
ROSC	**El Rosal**	**11.92**	**111**	LR	LR	01 47 32.9	
	comp=N,64nm,19.7s,baz=344,slow=40						
CMIG	**Matias Romero**	**11.99**	**311**	Pn	**Pn**	**01 42 24.4**	**-0.8**
	comp=N,0.3nm,0.3s,baz=110,slow=9.3,SNR=5.5						
353A	**Camilla**	**21.96**	**3**	P	**P**	**01 44 30.1**	**+2.6**
	baz=183						
252A	**Lumpkin**	**22.58**	**2**	P	**P**	**01 44 35.4**	**+1.2**
	baz=182,SNR=5.8						
254A	**Abbeville**	**22.61**	**5**	P	**P**	**01 44 35.2**	**+0.7**
	baz=186						
152A	**Waverly Hall**	**23.25**	**2**	P	**P**	**01 44 41.7**	**+0.6**
	baz=182,SNR=6.1						
152A	**Waverly Hall**	**23.25**	**2**	P	**P**	**01 44 41.1**	**0.0**
152A				IAmb	IAmb	01 44 41.9	
	comp=Z,13nm,0.8s						
154A	**Montrose**	**23.29**	**5**	P	**P**	**01 44 42.0**	**+0.6**
	baz=186						
154A	**Montrose**	**23.29**	**5**	P	**P**	**01 44 41.1**	**-0.3**
LRAL	**Lakeview Retre**	**23.65**	**357**	P	**P**	**01 44 45.3**	**+0.4**
	baz=176						
LRAL	**Lakeview Retre**	**23.65**	**357**	P	**P**	**01 44 45.1**	**+0.2**
LRAL				IAmb	IAmb	01 44 46.3	
	comp=Z,13nm,0.9s						
158A	**Hollywood**	**23.82**	**11**	P	**P**	**01 44 47.8**	**+1.3**
	baz=193						
Z50A	**Ashland**	**23.83**	**359**	P	**P**	**01 44 46.6**	**-0.1**
	baz=179,SNR=6.0						
Z50A	**Ashland**	**23.83**	**359**	P	**P**	**01 44 46.4**	**-0.3**
Z50A				IAmb	IAmb	01 44 48.0	
	comp=Z,15nm,0.9s						
NATX	**Nacogdoches**	**23.91**	**340**	P	**P**	**01 44 46.9**	**-0.5**
NATX				IAmb	IAmb	01 44 47.9	
	comp=Z,10nm,0.7s						
Z54A	**Sparta**	**23.93**	**5**	P	**P**	**01 44 47.3**	**-0.3**
	baz=186						
GOGA	**Godfrey**	**24.05**	**4**	P	**P**	**01 44 48.8**	**+0.1**
	baz=185						
GOGA	**Godfrey**	**24.05**	**4**	P	**P**	**01 44 48.1**	**-0.6**
GOGA				IAmb	IAmb	01 44 50.2	
	comp=Z,14nm,1.0s						
435B	**Jarrell**	**24.17**	**334**	P	**P**	**01 44 49.7**	**-0.1**
435B				IAmb	IAmb	01 44 54.6	
	comp=Z,9.9nm,0.8s						
Y49A	**Blount Mountai**	**24.45**	**358**	P	**P**	**01 44 52.5**	**+0.2**
Y49A				IAmb	IAmb	01 44 53.7	
	comp=Z,15nm,1.1s						
Y52A	**Lilburn**	**24.47**	**3**	P	**P**	**01 44 53.5**	**+1.0**
	baz=183,SNR=5.4						
Y52A	**Lilburn**	**24.47**	**3**	P	**P**	**01 44 52.7**	**+0.2**
Y52A				IAmb	IAmb	01 44 54.4	
	comp=Z,19nm,0.9s						
Z58A	**St. Stephen**	**24.47**	**11**	P	**P**	**01 44 54.2**	**+1.7**
	baz=194						
Y51A	**Rockmart**	**24.47**	**1**	P	**P**	**01 44 52.2**	**-0.4**
	baz=181						
Y53A	**Monroe**	**24.49**	**4**	P	**P**	**01 44 53.1**	**+0.4**
	baz=184						
Y54A	**Tignall**	**24.57**	**6**	P	**P**	**01 44 53.0**	**-0.4**
	baz=187						
Y55A	**Saluda**	**24.73**	**7**	P	**P**	**01 44 54.8**	**-0.1**
	baz=188						
HODGE	**Hodges**	**24.98**	**6**	P	**P**	**01 44 56.7**	**-0.4**
HODGE				IAmb	IAmb	01 44 57.6	
	comp=Z,10nm,0.8s						
JSC	**Jenkinsville**	**25.15**	**8**	P	**P**	**01 44 58.8**	**+0.1**
X53A	**Estanollee**	**25.15**	**4**	P	**P**	**01 44 58.9**	**+0.2**
	baz=185						
X54A	**Belton**	**25.28**	**6**	P	**P**	**01 44 59.9**	**0.0**
	baz=187						
X55A	**Gracelyn & Ava**	**25.29**	**7**	P	**P**	**01 44 59.6**	**-0.2**
	baz=189						
BG3	**Lake Jocassee**	**25.67**	**5**	P	**P**	**01 45 03.6**	**+0.3**
BG3				IAmb	IAmb	01 45 06.4	
	comp=Z,27nm,1.5s						
W49A	**Belvidere**	**25.70**	**358**	P	**P**	**01 45 02.9**	**-0.8**
	baz=178						
W50A	**Signal Mountai**	**25.77**	**0**	P	**P**	**01 45 05.2**	**+0.9**
	baz=180						
W53A	**Cullowhee**	**25.82**	**4**	P	**P**	**01 45 06.8**	**+1.9**
	baz=185						
W54A	**Cherokee Point**	**25.83**	**6**	P	**P**	**01 45 05.0**	**+0.1**
	baz=187						
CPCT	**Cooper Cave**	**26.03**	**2**	IAmb	IAmb	01 45 11.6	
	comp=Z,17nm,1.1s						
MIAR	**Mount Ida**	**26.19**	**345**	P	**P**	**01 45 07.2**	**-0.9**
	baz=162						
TXAR	**Lajitas Array**	**26.23**	**322**	P	**P**	**01 45 09.2**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=137,slow=9.8,SNR=19						
TKL	**Tuckaleechee C**	**26.27**	**3**	P	**P**	**01 45 10.8**	**+2.0**
	comp=Z,9.5nm,1.0s,baz=176,slow=14,SNR=6.5						
TKL	**Tuckaleechee C**	**26.27**	**3**	IAmb	IAmb	01 45 13.1	
	comp=Z,17nm,1.1s						
V53A	**Saluda**	**26.35**	**5**	P	**P**	**01 45 12.5**	**+2.9**
	baz=186						
V51A	**Loudon**	**26.39**	**2**	P	**P**	**01 45 13.3**	**+3.4**
	baz=182						
H06E1	**SOCORRO T-PHAS**	**26.40**	**294**	T	T	02 12 52.4	
	SNR=16						
H06N1	**SOCORRO T-PHAS**	**26.48**	**294**	T	T	02 13 02.6	
	SNR=5.9						
U50A	**Jamestown**	**26.99**	**1**	P	**P**	**01 45 20.2**	**+4.9**
	baz=181						
U52A	**Thorn Hill**	**27.03**	**4**	P	**P**	**01 45 19.0**	**+3.3**
	baz=184						
WMOK	**Wichita Mounta**	**28.09**	**336**	P	**P**	**01 45 26.3**	**+1.0**
	baz=151						
SAML	**Samuel**	**28.66**	**129**	P	**P**	**01 45 29.7**	**-0.8**
MNTX	**Cornudas Mount**	**28.95**	**323**	P	**P**	**01 45 34.4**	**+1.5**
	baz=136						
Q51A	**Peebles**	**29.65**	**3**	P	**P**	**01 45 38.7**	**-0.3**
	baz=184						
LPAZ	**La Paz**	**30.68**	**146**	P	**P**	**01 45 48.8**	**-0.2**
	comp=Z,2.8nm,1.0s,baz=345,slow=7.7,SNR=5.5						
LPAZ	**La Paz**	**30.68**	**146**	P	**P**	**01 45 49.0**	**0.0**
121A	**Cookes Peak, D**	**30.98**	**321**	P	**P**	**01 45 52.9**	**+1.8**
	baz=133						
121A	**Cookes Peak, D**	**30.98**	**321**	IAmb	IAmb	01 45 55.4	
	comp=Z,15nm,1.5s						
ANMO	**Albuquerque**	**31.93**	**326**	P	**P**	**01 46 01.2**	**+1.8**
	baz=138						
MNMC	**Minye Minye**	**32.31**	**151**	P	**P**	**01 46 03.1**	**+0.2**
X18A	**Snowflake**	**33.66**	**322**	IAmb	IAmb	01 46 18.3	
	comp=Z,12nm,1.4s						
S22A	**4UR Ranch, Cre**	**34.24**	**329**	P	**P**	**01 46 21.2**	**+1.5**
	baz=140						
J58A	**Remsen**	**35.07**	**13**	P	**P**	**01 46 25.5**	**-0.9**
	baz=198						
GO02	**Mina Guanaco**	**37.60**	**156**	P	**P**	**01 46 49.0**	**+0.4**
GO02				IAmb	IAmb	01 46 50.0	
	comp=Z,10nm,0.9s						
LATQ	**La Tuque**	**39.44**	**14**	P	**P**	**01 47 02.5**	**-0.9**
	baz=200						
BDFB	**Brasilia**	**44.62**	**123**	P	**P**	**01 47 46.4**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=256,slow=9.9,SNR=3.8						
BDFB	**Brasilia**	**44.62**	**123**	IAmb	IAmb	01 47 52.1	
	comp=Z,11nm,1.4s						
PLCA	**Paso Flores**	**51.66**	**166**	P	**P**	**01 48 39.4**	**-0.9**
	comp=Z,7.8nm,0.9s,baz=11,slow=9.5,SNR=13						
PLCA	**Paso Flores**	**51.66**	**166**	P	**P**	**01 48 39.6**	**-0.6**
TRQA	**Tornquist**	**51.98**	**156**	P	**P**	**01 48 41.5**	**-1.1**
TRQA				IAmb	IAmb	01 48 42.6	
	comp=Z,9.9nm,1.2s						
YKA	**

LZH				LR	LR				
	comp=E,71nm,18.0s								
LZH				LR	LR				
	comp=Z,92nm,20.1s								
ASAR	**Alice Springs**	**139.79**	**244**	PKP	**PKPdf**	**01**	**59**	**01.4**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=97,slow=2.0,SNR=8.7								
WRA	**Warramunga Arr**	**140.16**	**250**	PKP	**PKPdf**	**01**	**59**	**02.4**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=92,slow=1.5,SNR=10								
FITZ	**Fitzroy Crossi**	**148.58**	**251**	PKPbc	**PKPbc**	**01**	**59**	**19.7**	**-1.3**
	comp=Z,2.1nm,0.9s,baz=206,slow=5.9,SNR=3.1								
CMAR	**Chiang Mai Arr**	**152.07**	**351**	PKPbc	**PKiKP**	**01**	**59**	**31.4**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=354,slow=4.8,SNR=3.1								
CMAR				PKPab	**PKPab**	**01**	**59**	**39.1**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=339,slow=4.4,SNR=6.4								

*NNC **21** 01:44:51.4±3.5,39°.98N×56°.22E,h0km,mb4.1,Error ellipse: s-maj=61.3km s-min=9.4km az=74.0*
*AZER **21** 01:44:58.5±0.8,39°.52N×55°.27E,h10km,ml4.0/3,Error ellipse: s-maj=9.5km s-min=5.3km az=173.0*

ISC 21 01:44:49.3±1.0,39°.72N±0°.07×55°.90E±0°.06,h10km,n29, σ2s15/47,3C-2D,Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GYA0B	**ALIBECK ARRAY**	**2.49**	**135**	⇑P	**Pg**	**01 45 37.9**	**+1.0**
GYA0B				⇑Lg	Lg	01 46 10.3	
SIZA	**Siyzn**	**5.51**	**286**	S	**Sn**	**01 47 16.7**	**+1.7**
LKRN	**Lenkeran, Azer**	**5.62**	**262**	P	**Pn**	**01 46 15.7**	**+2.9**
LKRN				S	**Sn**	**01 47 14.9**	**-2.5**
ASTR	**Astara**	**5.65**	**260**	P	**Pn**	**01 46 15.2**	**+2.0**
ASTR				S	**Sn**	**01 47 15.3**	**-2.8**
PQL	**Pirkuli**	**5.69**	**283**	S	**Sn**	**01 47 19.5**	**0.0**
GLBA	**Clilabad**	**5.83**	**268**	P	**Pn**	**01 46 17.9**	**+2.2**
GLBA				S	**Sn**	**01 47 20.4**	**-2.1**
QUBA	**Quba, Azerbaij**	**5.88**	**289**	P	**Pn**	**01 46 19.3**	**+2.9**
QUBA				S	**Sn**	**01 47 25.2**	**+1.4**
LRK	**Lerik**	**5.97**	**262**	P	**Pn**	**01 46 19.7**	**+1.8**
LRK				S	**Sn**	**01 47 23.1**	**-3.2**
YRD	**Yardimli**	**5.99**	**265**	P	**Pn**	**01 46 19.4**	**+1.3**
YRD				S	**Sn**	**01 47 23.8**	**-3.1**
IML	**Ismayilli**	**6.00**	**283**	P	**Pn**	**01 46 20.6**	**+2.5**
IML				S	**Sn**	**01 47 27.8**	**+0.9**
QSAR	**Qusar**	**6.08**	**290**	S	**Sn**	**01 47 30.7**	**+1.8**
XNQ	**Khinaliq**	**6.09**	**286**	S	**Sn**	**01 47 29.3**	**-0.1**
QBL	**Gabala**	**6.28**	**284**	P	**Pn**	**01 46 25.8**	**+3.8**
QBL				S	**Sn**	**01 47 32.7**	**-1.1**
ZRD	**Zardab**	**6.33**	**278**	S	**Sn**	**01 47 33.2**	**-1.8**
BLQ	**Beylaqan**	**6.43**	**273**	P	**Pn**	**01 46 26.4**	**+2.4**
BLQ				S	**Sn**	**01 47 36.5**	**-0.9**
QRD	**Qoradiz**	**6.63**	**271**	S	**Sn**	**01 47 42.1**	**-0.2**
BRDA	**Brd**	**6.72**	**277**	S	**Sn**	**01 47 42.6**	**-1.9**
AGDM	**Agdam**	**6.77**	**276**	P	**Pn**	**01 46 31.0**	**+2.3**
AGDM				S	**Sn**	**01 47 45.9**	**0.0**
SEKA	**Sheki**	**6.80**	**285**	S	**Sn**	**01 47 45.4**	**-1.2**
MNGR	**Mingechevir, A**	**6.83**	**282**	S	**Sn**	**01 47 48.0**	**+0.9**
ZKTA	**Zakatala**	**7.31**	**288**	P	**Pn**	**01 46 38.6**	**+2.6**
ZKTA				S	**Sn**	**01 47 59.4**	**+0.3**
GANJ	**Ganja**	**7.39**	**280**	P	**Pn**	**01 46 39.7**	**+2.5**
GANJ				S	**Sn**	**01 47 58.1**	**-3.1**
ORD	**Ordubad**	**7.72**	**267**	P	**Pn**	**01 46 42.3**	**+0.5**
ORD				S	**Sn**	**01 48 06.4**	**-2.9**
GDB	**GEDABAY**	**7.83**	**281**	P	**Pn**	**01 46 44.9**	**+1.6**
GDB				S	**Sn**	**01 48 08.8**	**-3.3**
SBZ	**Shahbuz**	**8.00**	**271**	P	**Pn**	**01 46 48.7**	**+3.0**
SBZ				S	**Sn**	**01 48 16.5**	**+0.3**
NAX	**Nakhchivan**	**8.07**	**269**	S	**Sn**	**01 48 16.0**	**-1.9**
QZX	**Qazax, Azerbai**	**8.15**	**283**	P	**Pn**	**01 46 49.2**	**+1.6**
QZX				S	**Sn**	**01 48 17.0**	**-2.7**
AB31	**Akbulak array**	**9.96**	**15**	P	**Pn**	**01 47 11.9**	**-0.5**
	0.8nm,0.3s,baz=199,slow=12,SNR=37						
AB31				⇓S	**Sn**	**01 49 00.7**	**-3.5**
	2.3nm,0.3s,baz=200,slow=22,SNR=7.7						
AKTO	**Aktyubinsk**	**10.82**	**7**	⇑P	**Pn**	**01 47 22.9**	**-1.3**
	9.8nm,1.5s						
AKTO				⇓S	**Sn**	**01 49 24.2**	**-1.0**
	9.9nm,1.1s						

IDC 21 01:54:12.3±5.8,3°.21N×91°.39E,h0km,mb3.4/3,mb1 3.5/3, mb1mx3.2/41,mbtmp3.4/3,Error ellipse: s-maj=203.3km s-min=33.5km az=61.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S3	**Diego Garcia H**	**21.72**	**240**	T	T	02 19 18.2	
	baz=59,slow=75,SNR=19						
H08S2	**Diego Garcia H**	**21.72**	**240**	T	T	02 19 16.6	
	baz=59,slow=75,SNR=17						
H08S1	**Diego Garcia H**	**21.73**	**240**	T	T	02 19 18.9	
	baz=59,slow=75,SNR=8.1						
H01W3	**Cape Leeuwin H**	**43.50**	**152**	T	T	02 48 50.9	
	baz=325,slow=75,SNR=6.7						
H01W2	**Cape Leeuwin H**	**43.51**	**153**	T	T	02 48 50.9	
	baz=325,slow=75,SNR=6.7						
H01W1	**Cape Leeuwin H**	**43.52**	**152**	T	T	02 48 56.7	
	baz=325,slow=75,SNR=7.6						
MKAR	**Makanchi Array**	**44.13**	**351**	P	P	02 02 22.2	-0.3
	0.3nm,0.8s,baz=177,slow=11,SNR=1.3						
SONM	**Songino Array**	**46.30**	**14**	P	P	02 02 40.1	+0.1
	0.3nm,0.5s,baz=199,slow=6.4,SNR=2.5						
WRA	**Warramunga Arr**	**48.03**	**120**	P	P	02 02 53.6	-0.2
	0.4nm,0.5s,baz=298,slow=8.7,SNR=6.5						

*GEN **21** 02:10:28.9,44°.09N×10°.93E,h16km±4km,Ml2.6*
*STR **21** 02:10:29.4±1.4,44°.N±6°×1°.1E±°,h0km,MLv2.5/4*
*LDG **21** 02:10:30.3±0.2,44°.09N×10°.96E,h16km,Ml2.4/7,Error ellipse: s-maj=4.7km s-min=3.3km az=173.0*

ROM 21 02:10:29.2±0.1,44°.131N±0°.006×10°.871E±0°.005, h10km,ML2.6/23,Error ellipse: s-maj=0.7km s-min=0.1km az=187.0,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POPM	**Popiglio**	**0.12**	**224**	P	Pg	02 10 32.8	+0.7
POPM				S	Sg	02 10 35.5	+1.4
POPM	**Popiglio**	**0.12**	**224**	P	Pg	02 10 32.8	+0.8
POPM				S	Sg	02 10 35.5	+1.4
POPM				AML	AML		
	comp=N,14950μm,0.4s						
POPM				AML	AML		
	comp=E,15050μm,0.2s						
POPM				AML	AML		
	comp=E,15100μm,0.2s						
POPM				AML	AML		
	comp=E,15100μm,0.2s						
FNVD	**Fontana Vidola**	**0.18**	**78**	P	Pg	02 10 33.4	+0.2
FNVD				S	Sg	02 10 36.3	+0.4
FNVD				AML	AML		
	comp=E,7270μm,0.7s						
FNVD				AML	AML		
	comp=N,8420μm,1.3s						
BDI	**Bagni Di Lucca**	**0.21**	**251**	P	Pg	02 10 34.1	+0.5
BDI				S	Sg	02 10 37.9	+1.3
BDI				AML	AML		
	comp=N,9595μm,0.4s						
BDI				AML	AML		
	comp=E,7465μm,0.3s						
BDI				AML	AML		
	comp=N,9440μm,0.4s						
BDI				AML	AML		
	comp=E,7805μm,0.4s						
BDI				AML	AML		
	comp=N,9590μm,0.4s						
PTF	**Prato**	**0.22**	**140**	P	Pg	02 10 34.1	+0.3
PTF				S	Sg	02 10 38.1	+1.1
ZCCA	**Zocca**	**0.23**	**19**	P	Pg	02 10 35.2	+1.1
ZCCA				AML	AML		
	comp=N,1840μm,0.7s						
ZCCA				AML	AML		
	comp=N,1985μm,0.7s						
ZCCA				AML	AML		
	comp=E,2175μm,1.3s						
ZCCA				AML	AML		
	comp=N,1835μm,0.7s						
ZCCA				AML	AML		
	comp=E,2280μm,1.3s						
CARD	**Cardoso**	**0.30**	**250**	P	Pg	02 10 35.4	+0.2
CARD				S	Sg	02 10 40.3	+1.0
CARD	**Cardoso**	**0.30**	**250**	P	Pg	02 10 35.5	+0.3
CARD				S	Sg	02 10 40.3	+1.1
CARD				AML	AML		
	comp=N,6725μm,1.3s						
CARD				AML	AML		
	comp=E,4895μm,0.6s						
SARO	**Sassorosso**	**0.34**	**279**	P	Pg	02 10 36.5	+0.4
SARO				S	Sg	02 10 41.7	+1.1
SARO	**Sassorosso**	**0.34**	**279**	P	Pg	02 10 36.6	+0.5
SARO				S	Sg	02 10 41.6	+1.0
SARO				AML	AML		
	comp=E,791μm,0.6s						
SARO				AML	AML		
	comp=N,768μm,0.6s						
MAIM	**Mastiano**	**0.35**	**232**	P	Pg	02 10 36.2	+0.1
MAIM				S	Sb	02 10 42.1	-1.0
MAIM	**Mastiano**	**0.35**	**232**	P	Pg	02 10 36.3	+0.1
MAIM				S	Sb	02 10 42.1	-1.0
MAIM				AML	AML		
	comp=E,2200μm,0.9s						
MAIM				AML	AML		
	comp=N,2615μm,0.3s						
VLC	**Villacollemand**	**0.35**	**275**	P	Pg	02 10 36.9	+0.7
VLC				S	Sb	02 10 42.2	-1.0
VLC				AML	AML		
	comp=E,972μm,0.8s						
VLC				AML	AML		
	comp=N,1635μm,0.6s						
VLC				AML	AML		
	comp=N,1640μm,0.6s						
VLC				AML	AML		
	comp=N,1640μm,0.6s						
VLC				AML	AML		
	comp=E,932μm,0.8s						
VLC				AML	AML		
	comp=E,972μm,0.8s						
SEI	**Scarperia**	**0.36**	**102**	P	Pg	02 10 36.2	-0.1
SEI				S	Sg	02 10 41.8	+0.7
SEI				AML	AML		
	comp=N,4975μm,1.6s						
SEI				AML	AML		
	comp=E,2690μm,1.3s						
ERBM	**Eremo**	**0.44**	**311**	P	Pb	02 10 38.5	-0.6
ERBM				S	Sb	02 10 45.9	+0.1
ERBM				AML	AML		
	comp=E,502μm,0.7s						
ERBM				AML	AML		
	comp=N,426μm,1.1s						
ERBM				AML	AML		
	comp=E,504μm,0.7s						
ERBM				AML	AML		
	comp=N,425μm,1.1s						
ERBM				AML	AML		
	comp=N,424μm,1.1s						
ERBM				AML	AML		
	comp=E,503μm,0.7s						
BRIS	**BRISIGHELLA**	**0.46**	**87**	P	Pn	02 10 42.4	+0.5
MTRZ	**Monterenzio**	**0.49**	**60**	P	Pg	02 10 38.9	0.0
MTRZ				AML	AML		
	comp=E,1097μm,0.7s						
MTRZ				AML	AML		
	comp=N,924μm,0.8s						
MTRZ				AML	AML		
	comp=E,1107μm,0.8s						
MTRZ				AML	AML		
	comp=N,922μm,0.8s						
MTRZ				AML	AML		
	comp=E,1098μm,0.7s						
MTRZ				AML	AML		
	comp=N,922μm,0.8s						
MTRZ				AML	AML		
	comp=N,926μm,0.8s						
EQUI	**Equi**	**0.52**	**274**	P	Pg	02 10 39.4	0.0
EQUI				S	Sg	02 10 46.5	+0.3
EQUI	**Equi**	**0.52**	**274**	P	Pg	02 10 39.4	+0.1
EQUI				S	Sg	02 10 46.5	+0.4
EQUI				AML	AML		
	comp=N,291μm,0.7s						
EQUI				AML	AML		
	comp=E,304μm,0.7s						
RUFI	**Rufina**	**0.55**	**122**	P	Pg	02 10 39.7	-0.1
RUFI				S	Sb	02 10 48.2	-0.6
OSSC	**Osservatorio P**	**0.67**	**156**	P	Pb	02 10 42.8	-0.2
OSSC				S	Sb	02 10 51.9	-0.4
OSSC				AML	AML		
	comp=E,616μm,1.4s						
OSSC				AML	AML		
	comp=N,1020μm,1.5s						
OSSC				AML	AML		
	comp=E,398μm,0.9s						
OSSC				AML	AML		
	comp=N,570μm,1.0s						
OSSC				AML	AML		
	comp=N,569μm,1.0s						
OSSC				AML	AML		
	comp=N,1203μm,1.4s						
OSSC				AML	AML		
	comp=E,697μm,1.2s						
GRAM	**Graiana**	**0.68**	**302**	P	Pb	02 10 43.0	-0.3
GRAM				S	Sb	02 10 53.1	+0.3
GRAM	**Graiana**	**0.68**	**302**	P	Pg	02 10 42.8	+0.4
GRAM				AML	AML		
	comp=N,512μm,0.4s						
GRAM				AML	AML		
	comp=E,969μm,0.3s						
CSNT	**Castellina Chi**	**0.72**	**155**	P	Pb	02 10 43.9	-0.1
CSNT				S	Sb	02 10 53.7	-0.3
CSNT				AML	AML		
	comp=E,336μm,0.9s						
CSNT				AML	AML		
	comp=N,410μm,0.5s						
PLMA	**Palmaria, Port**	**0.74**	**264**	P	Pg	02 10 43.8	+0.3
PLMA				AML	AML		
	comp=N,327μm,0.9s						
PLMA				AML	AML		
	comp=N,326μm,0.9s						
PLMA				AML	AML		
	comp=E,422μm,0.6s						
SFI	**Santa Sofia**	**0.74**	**107**	P	Pg	02 10 43.5	-0.1
SFI				S	Sb	02 10 54.3	-0.1
SFI				AML	AML		
	comp=E,380μm,0.5s						
SFI				AML	AML		
	comp=N,376μm,1.6s						
SFI				AML	AML		
	comp=E,276μm,1.2s						
SFI				AML	AML		
	comp=E,380μm,0.5s						
SFI				AML	AML		
	comp=N,425μm,0.6s						
ASQU	**Asqua**	**0.74**	**116**	P	Pg	02 10 43.3	-0.2
ASQU				S	Sb	02 10 54.1	-0.5
ASQU				AML	AML		
	comp=E,338μm,0.3s						
ASQU				AML	AML		
	comp=N,224μm,1.5s						
CRE	**Caprese Michel**	**0.93**	**123**	P	Pg	02 10 47.2	0.0
CRE				AML	AML		
	comp=E,269μm,0.7s						
CRE				AML	AML		
	comp=N,242μm,0.7s						
FROS	**Frosini**	**0.94**	**167**	P	Pg	02 10 47.5	+0.1
FROS				AML	AML		
	comp=E,482μm,0.3s						
FROS				AML	AML		
	comp=N,644μm,0.4s						
MSSA	**Maissana**	**0.99**	**281**	P	Pg	02 10 48.4	+0.1
MSSA				AML	AML		
	comp=E,210μm,0.7s						
MSSA				AML	AML		
	comp=N,201μm,1.1s						
MSSA				AML	AML		
	comp=E,210μm,0.7s						
MSSA				AML	AML		
	comp=N,202μm,1.1s						
SSP9	**Sansepolcro**	**1.07**	**121**	P	Pg	02 10 49.0	-0.8
PARC	**Parchiule**	**1.10**	**116**	P	Pg	02 10 49.7	-0.7
PARC				AML	AML		
	comp=E,118μm,0.6s						
PARC				AML	AML		
	comp=N,76μm,0.5s						
PARC				AML	AML		
	comp=N,77μm,0.5s						
PARC				AML	AML		
	comp=E,118μm,0.6s						
CAFI	**Castiglion Fio**	**1.13**	**135**	P	Pb	02 10 49.8	-1.1
CAFI				AML	AML		
	comp=E,105μm,1.2s						
CAFI				AML	AML		
	comp=E,106μm,1.2s						
CAFI				AML	AML		
	comp=N,128μm,0.6s						
PE3	**Peglio**	**1.25**	**110**	P	Pn	02 10 52.9	0.0
CASP	**Castiglione de**	**1.34**	**180**	P	Pn	02 10 54.0	0.0
TEOL	**Teolo**	**1.35**	**25**	P	Pn	02 10 54.1	-0.2
PGF	**Pioggiola**	**2.09**	**221**	*e*Pn	Pn	02 11 04.1	-0.3
PGF				*e*Sn	Sn	02 11 28.9	-1.7
	comp=N,2.6nm,0.3s						
PGF	**Pioggiola**	**2.09**	**221**	Pn	Pn	02 11 04.4	-0.1
SMPL	**Sampolo**	**2.34**	**210**	Pn	Pn	02 11 08.5	+0.7
SMPL				Sn	Sn	02 11 35.9	-0.8
SAOF	**Saorge**	**2.39**	**268**	Pn	Pn	02 11 08.4	-0.2
SAOF				Sn	Sn	02 11 36.0	-2.0
SBF	**Sospel**	**2.49**	**265**	*e*Pn	Pn	02 11 09.8	-0.2
SBF				*e*Sn	Sn	02 11 39.1	-1.4
	comp=N,9.5nm,0.4s						
TURF	**col de Turini**	**2.51**	**268**	Pn	Pn	02 11 10.4	0.0
TURF				Sn	Sn	02 11 40.0	-1.1
ABTA	**Abfaltersbach**	**2.86**	**23**	*i* Pn	Pn	02 11 15.5	+0.4
	comp=N,0.6nm,0.3s						
FETA	**Feichten**	**2.89**	**358**	*i* Pn	Pb	02 11 19.7	-1.3
	comp=N,1.7nm,0.5s						
MBDF	**Montbardon**	**3.00**	**283**	*e*Pn	Pn	02 11 17.0	0.0
MBDF	**Montbardon**	**3.00**	**283**	*e*P	Pb	02 11 20.4	-2.4
SQTA	**Sankt Quirin**	**3.10**	**4**	*i* Pn	Pn	02 11 17.5	-0.9
	comp=N,2.2nm,0.3s						
FRF	**La Foret Royal**	**3.11**	**261**	*e*Pn	Pn	02 11 17.8	-0.6
FRF				*e*Sn	Sn	02 11 53.3	-2.3
	comp=N,1.0nm,0.2s						
MYKA	**Terra Mystica**	**3.17**	**37**	*i* Pn	Pn	02 11 19.5	+0.2
	comp=N,0.3nm,0.2s						
WTTA	**Wattenberg**	**3.18**	**9**	*i* Pn	Pn	02 11 21.8	+2.3
	comp=N,3.4nm,0.7s						
MOTA	**Moosalm**	**3.22**	**3**	*i* Pn	Pb	02 11 23.7	-2.9
	comp=N,2.0nm,0.5s						
DAVA	**Damuels**	**3.23**	**348**	*i* Pn	Pn	02 11 22.9	+2.7
	comp=N,0.7nm,0.2s						
LPG	**La Plagne**	**3.23**	**296**	*e*Pn	Pn	02 11 20.5	+0.1
LPG	**La Plagne**	**3.23**	**296**	*e*P	Pn	02 11 23.2	+2.8
LPG				*e*Sn	Sn	02 11 57.5	-1.6
	comp=N,0.7nm,0.3s						
WATA	**Walderalm**	**3.24**	**9**	*i* Pn	Pn	02 11 23.2	+2.9
	comp=N,3.6nm,0.5s						
LPL	**La Plagne**	**3.25**	**297**	*e*Pn	Pn	02 11 21.0	+0.4
LPL				*e*Sn	Sn	02 11 57.2	-2.3
	comp=N,3.3nm,0.5s						
LMR	**La Mourre**	**3.26**	**257**	*e*Pn	Pn	02 11 19.8	-0.6
LMR				*e*Sn	Sn	02 11 56.9	-2.4
	comp=N,1.6nm,0.2s						
RETA	**Reutte**	**3.36**	**359**	*i* Pn	Pn	02 11 24.2	+2.4
	comp=N,1.6nm,0.4s						
KBA	**Koelnbreinsper**	**3.42**	**30**	*i* Pn	Pn	02 11 25.3	+2.4
	comp=N,0.4nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.66**	**284**	*e*P	Pn	02 11 29.3	+3.3
ORIF				*e*Sn	Sn	02 12 06.7	-2.5
SMRF	**Simiane la Rot**	**3.82**	**270**	*e*P	Pn	02 11 31.4	+3.2
SMRF				*e*Sn	Sn	02 12 10.9	-2.3
SOKA	**Soboth**	**3.88**	**48**	*i* Pn	Pn	02 11 29.9	+0.9
	comp=N,0.6nm,0.4s						
MOA	**Molln**	**4.41**	**31**	*i* Pn	Pn	02 11 37.3	+1.0
	comp=N,0.9nm,0.3s						
VIVF	**Saint-Julien-l**	**4.49**	**281**	*e*Pn	Pn	02 11 37.2	-0.2
VIVF	**Saint-Julien-l**	**4.49**	**281**	*e*P	Pn	02 11 40.6	+3.2
VIVF				*e*Sn	Sn	02 12 27.1	-2.7
ARSA	**Arzberg**	**4.51**	**45**	*i* Pn	Pn	02 11 40.2	+2.6
	comp=N,1.2nm,0.3s						
CONA	**Conrad Observa**	**5.15**	**41**	*i* Pn	Pn	02 11 45.4	-1.0
	comp=N,1.2nm,0.5s						
LOR	**Lormes**	**5.83**	**305**	*e*Pn	Pn	02 11 56.5	+0.8
	baz=118						
LOR				*e*Sn	Sn	02 12 58.8	-3.8
	comp=N,2.9nm,0.4s,baz=120						

*LDG **21** 02:11:20.6±0.2,44°.24N×10°.87E,h16km,Ml1.7/10,Error ellipse: s-maj=4.0km s-min=2.9km az=23.0*
*ROM **21** 02:11:21.9±0.1,44°.079N±0°.005×10°.871E±0°.005, h17km±1km,ML2.4/6,Error ellipse: s-maj=0.6km s-min=0.3km az=357.0*

GEN 21 02:11:21.8,44°.11N×10°.92E,h16km±4km,Ml2.1, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POPM	**Popiglio**	**0.13**	**244**	P	Pg	02 11 25.6	-0.1
POPM				S	Sg	02 11 28.2	0.0
POPM	**Popiglio**	**0.13**	**244**	P	Pg	02 11 25.6	-0.1
POPM				S	Sg	02 11 28.1	-0.1
POPM				AML	AML		
	comp=E,5285μm,0.4s						
POPM				AML	AML		
	comp=N,6060μm,0.2s						
POPM				AML	AML		
	comp=E,5285μm,0.4s						
POPM				AML	AML		
	comp=N,6060μm,0.2s						
POPM				AML	AML		
	comp=N,6060μm,0.2s						
POPM				AML	AML		
	comp=E,5285μm,0.4s						
POPM				AML	AML		
	comp=N,6060μm,0.2s						
POPM				AML	AML		
	comp=E,5285μm,0.4s						
FNVD	**Fontana Vidola**	**0.16**	**66**	P	Pg	02 11 26.1	+0.1
PTF	**Prato**	**0.18**	**144**	P	Pb	02 11 26.8	+0.1
PTF				S	Sb	02 11 30.7	+0.7
BDI	**Bagni Di Lucca**	**0.24**	**260**	P	Pg	02 11 26.9	-0.3
BDI				S	Sg	02 11 30.5	-0.4
BDI				AML	AML		
	comp=E,2340μm,0.1s						
BDI				AML	AML		
	comp=N,2810μm,0.2s						
BDI				AML	AML		
	comp=E,2240μm,0.3s						
BDI				AML	AML		
	comp=N,2945μm,0.2s						
BDI				AML	AML		
	comp=E,2340μm,0.1s						
BDI				AML	AML		
	comp=N,2805μm,0.2s						
BDI				AML	AML		
	comp=E,2240μm,0.3s						
BDI				AML	AML		
	comp=N,2945μm,0.2s						
BDI				AML	AML		
	comp=N,2945μm,0.2s						
BDI				AML	AML		
	comp=N,2805μm,0.2s						
BDI				AML	AML		
	comp=E,2340μm,0.1s						
BDI				AML	AML		
	comp=N,2945μm,0.2s						
BDI				AML	AML		
	comp=N,2805μm,0.2s						
BDI				AML	AML		
	comp=E,2340μm,0.1s						
BDI				AML	AML		
	comp=E,2240μm,0.3s						
ZCCA	**Zocca**	**0.25**	**9**	P	Pb	02 11 28.0	0.0
ZCCA				S	Sb	02 11 33.3	+1.2
SEI	**Scarperia**	**0.32**	**99**	P	Pb	02 11 29.0	0.0
SEI				S	Sb	02 11 34.9	+0.9
CARD	**Cardoso**	**0.33**	**256**	P	Pg	02 11 28.3	-0.3
CARD				S	Sg	02 11 33.1	-0.3
CARD	**Cardoso**	**0.33**	**256**	P	Pg	02 11 28.3	-0.3
CARD				S	Sg	02 11 32.9	-0.4
CARD				AML	AML		
	comp=E,1865μm,0.6s						
CARD				AML	AML		
	comp=N,2170μm,0.2s						
CARD				AML	AML		
	comp=E,1865μm,0.6s						
CARD				AML	AML		
	comp=N,2170μm,0.2s						
CARD				AML	AML		
	comp=N,2170μm,0.2s						
CARD				AML	AML		
	comp=E,1865μm,0.6s						
CARD				AML	AML		
	comp=N,2170μm,0.2s						
CARD				AML	AML		

comp=E,1865µm,0.6s
MAIM Mastiano 0.36 239 P Pg 02 11 29.0 -0.2
MAIM S Sg 02 11 34.8 +0.4
MAIM Mastiano 0.36 239 P Pg 02 11 29.0 -0.3
MAIM S Sg 02 11 34.3 -0.1
MAIM AML AML
comp=E,563µm,0.9s
MAIM AML AML
comp=N,764µm,0.2s
MAIM AML AML
comp=E,563µm,0.9s
MAIM AML AML
comp=N,764µm,0.2s
MAIM AML AML
comp=N,764µm,0.2s
MAIM AML AML
comp=E,563µm,0.9s
MAIM AML AML
comp=N,764µm,0.2s
MAIM AML AML
comp=E,563µm,0.9s
SARO Sassorosso 0.38 282 P Pg 02 11 29.2 -0.5
SARO S Sg 02 11 34.5 -0.6
SARO Sassorosso 0.38 282 P Pg 02 11 29.2 -0.5
SARO S Sg 02 11 34.5 -0.6
SARO AML AML
comp=E,168µm,0.7s
SARO AML AML
comp=N,162µm,0.5s
SARO AML AML
comp=E,168µm,0.7s
SARO AML AML
comp=N,162µm,0.5s
SARO AML AML
comp=E,168µm,0.7s
SARO AML AML
comp=N,162µm,0.5s
SARO AML AML
comp=E,168µm,0.7s
SARO AML AML
comp=N,162µm,0.5s
VLC Villacollemand 0.39 278 P Pg 02 11 29.5 -0.3
VLC S Sg 02 11 34.8 -0.4
VLC AML AML
comp=E,238µm,0.8s
VLC AML AML
comp=N,316µm,0.5s
VLC AML AML
comp=E,234µm,0.5s
VLC AML AML
comp=N,312µm,0.5s
VLC AML AML
comp=E,234µm,0.5s
VLC AML AML
comp=E,238µm,0.8s
VLC AML AML
comp=N,316µm,0.5s
VLC AML AML
comp=N,312µm,0.5s
VLC AML AML
comp=E,234µm,0.5s
VLC AML AML
comp=E,238µm,0.8s
VLC AML AML
comp=N,316µm,0.5s
VLC AML AML
comp=N,312µm,0.5s
ERBM Eremo 0.48 311 P Pg 02 11 31.4 -0.1
ERBM S Sb 02 11 38.9 +0.1
EQUI Equi 0.56 277 P Pg 02 11 32.8 -0.1
EQUI S Sg 02 11 39.8 -0.5
GRAM Graiana 0.73 302 P Pg 02 11 35.8 -0.2
GRAM S Sg 02 11 45.7 +0.1
PGF Pioggiola 2.10 223 *e*Pn Pn 02 11 54.0 -2.3
PGF *e*Sn Sn 02 12 18.8 -3.2
comp=N,0.5nm,0.3s
SBF Sospel 2.53 266 *e*Pn Pn 02 11 58.9 -3.3
SBF *e*Sn Sn 02 12 26.7 -6.0
comp=N,1.5nm,0.3s
MBDF Montbardon 3.04 283 *e*Pn Pn 02 12 05.0 -4.3
MBDF Montbardon 3.04 283 *e*Pg Pb 02 12 15.3 -0.2
FRF La Foret Royal 3.14 262 *e*P P 02 12 10.0 -0.6
FRF *e*Sn Sn 02 12 41.2 -6.5
comp=N,0.4nm,0.3s
LPG La Plagne 3.28 297 *e*Pn Pn 02 12 08.9 -3.8
LPG *e*Sn Sn 02 12 43.8 -7.7
comp=N,0.4nm,0.3s
LMR La Mourre 3.29 258 *e*P Pn 02 12 09.6 -3.0
LMR *e*Sn Sn 02 12 44.8 -6.6
comp=N,0.4nm,0.3s
LPL La Plagne 3.30 297 *e*P Pn 02 12 11.4 -1.5
LPL *e*Sn Sn 02 12 43.8 -8.1
comp=N,0.5nm,0.4s
ORIF Oris-en-Rattie 3.70 284 *e*P Pn 02 12 17.5 -0.8
ORIF *e*Sn Sn 02 12 53.3 -8.3
comp=N,0.3nm,0.2s
SMRF Simiane la Rot 3.86 270 *e*P Pn 02 12 19.9 -0.6
SMRF *e*Sn Sn 02 12 57.8 -7.7
comp=N,0.1nm,0.2s
HINF Hinteralfeld 4.67 324 *e*P Pn 02 12 30.1 -1.5
HINF *e*Sn Sn 02 13 17.2 -8.3
comp=N,0.7nm,0.3s
HAU Haudompre 5.04 322 *e*P Pn 02 12 35.8 -0.8
HAU *e*Sn Sn 02 13 26.7 -7.7
comp=N,0.6nm,0.2s

IDC ***21*** *02:40:37.5±0.6,3°.30S×135°.70E,h0km,mb4.4/16, mb1 4.6/20,mb1mx4.5/37,mbtmp4.5/20,ML4.6/4,MS3.9/18, Ms1 3.9/18,ms1mx3.7/37,Error ellipse: s-maj=25.2km s-min=12.5km az=81.0*
ISCJB ***21*** *02:40:38.7±0.2,3°.40S±0°.03×135°.73E±0°.03,h22km, mb4.5/23,MS4.0/13,Error ellipse: s-maj=3.7km s-min=3.6km az=175.3*
BJI ***21*** *02:40:41.6±0.0,3°.22S×135°.91E,h42km,mb4.7/36, mB5.2/24,Ms4.6/4,Ms7 4.4/3*
DJA ***21*** *02:40:41.7±0.3,3°.5±2°×13°.6E±°,h32km±3km,M4.9/21, mB5.3/12,mb5.0/21,MLv5.1/10,Mw(mB)4.8/12,Mwp6.2/1*
NEIC ***21*** *02:40:43.2±1.9,3°.30S±0°.08×135°.62E±0°.07,h38km±5km, mb4.5/30*

ISC 21 02:40:40.6±0.3,3°.42S±0°.04×135°.73E±0°.04,h22km,n118, σ1§73/118,mb4.5/34,MS4.1/13,2C-1D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SRPI	**Serui, Papua**	**1.62**	**18**	P		**Pn**	**02 41 06.7**	**-1.2**
SRPI				S		**Sn**	**02 41 26.0**	**-2.2**
KMPI	**Kaimana, Papua**	**2.04**	**263**	P		**Pb**	**02 41 16.7**	**-0.2**
BAKI	**Biak**	**2.25**	**10**	P		**Pn**	**02 41 15.1**	**-1.4**
RKPI	**Ransiki, Papua**	**2.45**	**321**	P		**Pn**	**02 41 18.3**	**-1.0**
RKPI				S		**Sn**	**02 41 48.8**	**+0.1**
SMPI	**Sarmi**	**3.30**	**65**	P		**Pn**	**02 41 34.0**	**+3.1**
SMPI				S		**Sn**	**02 42 08.2**	**-1.3**
FAKI	**Fak Fak**	**3.51**	**278**	P		**Pn**	**02 41 34.9**	**+1.0**
FAKI				S		**Sn**	**02 42 13.9**	**-1.0**
FAKI	**Fak Fak**	**3.51**	**278**			**Pn**	**02 41 35.0**	**+1.1**
JAY	**Jayapura**	**5.05**	**80**	Pn		**Pn**	**02 41 58.6**	**+3.5**
	4.9nm,0.3s,baz=234,slow=10,SNR=8.2							
JAY				Sn		**Sn**	**02 42 52.9**	**+0.1**
	4.8nm,0.3s,baz=74,slow=20,SNR=1.8							
JAY				LR		LR	02 43 37.7	
	comp=Z,317nm,20.8s,baz=228,slow=36							
SIJI	**Sorong**	**5.13**	**300**	Pn		**Pn**	**02 41 56.0**	**-0.2**
	71nm,0.3s,baz=73,slow=7.4,SNR=177							
SIJI				Sn		**Sn**	**02 42 50.6**	**-4.3**
	130nm,0.3s,baz=250,slow=21,SNR=21							
SIJI				LR		LR	02 44 28.3	
	comp=Z,1µm,18.1s,baz=152,slow=46							
SWI	**Sorong**	**5.14**	**300**	P		**Pn**	**02 41 55.7**	**-0.6**
	889nm,0.6s,13µm5.8nm							
SWI				S		**Sn**	**02 42 50.4**	**-4.6**
	889nm,0.6s,13µm5.8nm							
SAUI	**Saumlaki**	**6.32**	**224**	Pn		**Pn**	**02 42 15.3**	**+2.8**
MSAI	**Masohi**	**6.79**	**270**	P		**Pn**	**02 42 20.5**	**+1.5**
	38nm,0.6s,917nm0.3nm							
MSAI				S		**Sn**	**02 43 37.4**	**+1.6**
	38nm,0.6s,917nm0.3nm							
NLAI	**Namlea**	**8.62**	**271**	P		**Pn**	**02 42 47.6**	**+3.5**
	57nm,0.6s							
NLAI				S		**Sn**	**02 44 22.1**	**+1.4**
	57nm,0.6s							
KDU	**Kakadu**	**9.75**	**199**	P		**Pn**	**02 43 00.2**	**+0.6**
	baz=9.8,SNR=191							
SANI	**Sanana**	**9.83**	**278**	P		**Pn**	**02 43 00.9**	**+0.2**
	77nm,0.8s,1µm							
MTN	**Manton Dam**	**10.41**	**206**	P		**Pn**	**02 43 09.7**	**+1.0**
	baz=10,SNR=222							
MTN	**Manton Dam**	**10.41**	**206**			**Pn**	**02 43 10.6**	**+2.0**
COEN	**Coen**	**12.79**	**145**	P		**Pn**	**02 43 42.3**	**+1.0**
	baz=13,SNR=33							
COEN	**Coen**	**12.79**	**145**			**Pn**	**02 43 42.0**	**+0.8**
PMG	**Port Moresby**	**12.81**	**118**	LR		LR	02 50 07.3	
	comp=Z,394nm,18.8s,baz=301,slow=44							
PMG	**Port Moresby**	**12.81**	**118**			Pn	02 43 47.4	+5.8
SOEI	**Soe**	**13.01**	**241**	P		**Pn**	**02 43 45.6**	**+1.2**
	256nm,0.9s,2µm							
SOEI	**Soe**	**13.01**	**241**			**Pn**	**02 43 45.5**	**+1.1**
KDI	**Kendari**	**13.10**	**267**	P		**P**	**02 44 00.2**	**+4.7**
LUWI	**Luwuk**	**13.16**	**280**	Pn		**Pn**	**02 43 44.8**	**-1.6**
BATI	**Baumata**	**13.74**	**240**	Pn		**Pn**	**02 43 54.9**	**+0.5**
	5.5nm,0.3s,baz=132,slow=3.4,SNR=25							
BATI				Sn		**Sn**	**02 46 22.1**	**-4.4**
	7.0nm,0.3s,baz=142,slow=19,SNR=2.0							
BATI	**Baumata**	**13.74**	**240**	P		**Pn**	**02 43 54.8**	**+0.5**
	69nm,1.0s							
KNRA	**Kununurra**	**13.98**	**209**	P		**Pn**	**02 43 57.6**	**+0.1**
	baz=14,SNR=54							
KNRA	**Kununurra**	**13.98**	**209**			**Pn**	**02 43 57.2**	**-0.2**
APSI	**Ampana**	**14.29**	**280**	P		**Pn**	**02 44 03.6**	**+1.8**
	70nm,0.8s							
MRSI	**Marisa**	**14.32**	**285**	P		P	02 44 19.4	+10
MMRI	**Maumere**	**14.38**	**248**	Pn		**Pn**	**02 44 03.3**	**+0.2**
DAV	**Davao City (W)**	**14.54**	**316**	LR		LR	02 50 46.5	
	comp=Z,234nm,18.4s,baz=146,slow=42							
KRVT	**Keravat (AS076**	**16.28**	**94**	Pn		**P**	**02 44 33.0**	**+2.0**
	3.4nm,0.3s,baz=136,slow=9.3,SNR=6.7							
WRAB	**Tennant Creek**	**16.47**	**185**	P		**Pn**	**02 44 30.3**	**-0.2**
WRA	**Warramunga Arr**	**16.48**	**185**	Pn		**Pn**	**02 44 28.6**	**-1.9**
	3.5nm,0.3s,baz=7.9,slow=13,SNR=87							
WRA				Sn		**Sn**	**02 47 23.6**	**-9.3**
	2.2nm,0.3s,baz=360,slow=23,SNR=7.5							
WRA				LR		LR	02 51 25.1	
	comp=Z,2µm,19.2s,baz=5.0,slow=39							
WR0	**Warramunga Arr**	**16.48**	**184**	P		**Pn**	**02 44 29.5**	**-1.1**
MTSU	**Mount Surprise**	**16.87**	**151**	P		**Pn**	**02 44 35.9**	**+0.4**
	baz=17,SNR=21							
QIS	**Mount Isa**	**17.45**	**168**	P		**Pn**	**02 44 42.0**	**-0.7**
	baz=18,SNR=12							
FITZ	**Fitzroy Crossi**	**17.62**	**213**	P		**Pn**	**02 44 45.4**	**+0.5**
	baz=18,SNR=36							
FITZ	**Fitzroy Crossi**	**17.62**	**213**	P		**Pn**	**02 44 44.4**	**-0.5**
	1.0nm,0.3s,baz=39,slow=11,SNR=33							
FITZ				S		Sn	02 47 50.1	-11
	2.0nm,0.3s,baz=112,slow=13,SNR=7.3							
FITZ				LR		LR	02 52 04.5	
	comp=Z,294nm,20.9s,baz=38,slow=39							
FITZ	**Fitzroy Crossi**	**17.62**	**213**	P		**Pn**	**02 44 45.3**	**+0.5**
GUMO	**Guam**	**19.18**	**28**	LR		LR	02 53 14.4	
	comp=Z,133nm,18.9s,baz=313,slow=40							
CTA	**Charters Tower**	**19.49**	**149**	P		**Pn**	**02 45 09.2**	**+1.6**
	0.7nm,0.3s,baz=336,slow=13,SNR=16							
RCP	**Roxas**	**19.71**	**319**	⇓P		**Pn**	**02 45 09.5**	**-0.7**
AS31	**Alice Springs**	**20.20**	**185**	P		Pn	02 45 16.2	+0.1
AS31				IAmb		IAmb	02 45 18.7	
	comp=Z,34nm,0.8s							
ASAR	**Alice Springs**	**20.20**	**185**	P		Pn	02 45 16.6	+0.5
	comp=Z,105nm,0.9s,baz=8.4,slow=11,SNR=319							
ASAR				S		**S**	**02 48 55.0**	**-5.1**
	comp=Z,10nm,1.0s,baz=9.3,slow=24,SNR=5.5							
ASAR				LR		LR	02 54 11.4	
	comp=Z,447nm,19.7s,baz=7.0,slow=40							
WRKA	**Warakurna**	**22.65**	**198**	P		**P**	**02 45 41.5**	**+1.0**
	baz=23,SNR=57							
PSA00	**Pilbara Seismi**	**23.75**	**219**	P		**P**	**02 45 51.3**	**-0.2**
QLP	**Quilpie**	**24.43**	**161**	P		**P**	**02 46 00.2**	**+2.4**
	baz=24,SNR=13							
HNR	**Honiara**	**24.78**	**105**	LR		LR	02 55 47.2	
	comp=Z,255nm,20.4s,baz=322,slow=37							
LEM	**Lembang**	**28.20**	**262**	LR		LR	02 59 36.8	
	comp=Z,121nm,20.8s,baz=66,slow=40							
STKA	**Stephens Creek**	**28.84**	**170**	P		**P**	**02 46 39.2**	**+1.8**
	comp=Z,3.4nm,0.8s,baz=1.6,slow=8.4,SNR=5.2							
STKA				LR		LR	02 59 11.6	
	comp=Z,667nm,19.1s,baz=354,slow=38							
BBOO	**Buckleboo**	**29.24**	**179**	P		**P**	**02 46 40.8**	**-0.2**
BBOO				IAmb		IAmb	02 46 42.6	
	comp=Z,16nm,0.9s							
BKNI	**Bangkinang**	**34.87**	**275**	P		**P**	**02 47 29.3**	**-1.4**
JNU	**Nakatsue**	**36.63**	**353**	P		**P**	**02 47 44.7**	**-0.9**
	comp=Z,16nm,0.9s,baz=300,slow=2.8,SNR=3.5							
JNU	**Nakatsue**	**36.63**	**353**	IAmb		IAmb	02 47 45.6	
	comp=Z,30nm,1.1s							
RPSI	**Rantau Prapat**	**37.29**	**279**	P		**P**	**02 47 50.5**	**-0.9**
RPSI				IAmb		IAmb	02 47 51.7	
	comp=Z,13nm,1.1s							
NJ2	**Nanjing**	**38.75**	**337**	*e*P		**P**	**02 48 04.9**	**+1.5**
NJ2				pmax		pmax		
	comp=Z,14nm,0.5s							
WHN	**Wuhan**	**39.47**	**330**	⇑*i*P		**P**	**02 48 10.3**	**+0.8**
WHN				pmax		pmax		
	comp=Z,42nm,0.8s							
MJAR	**Matsushiro Arr**	**39.82**	**3**	LR		LR	03 02 22.1	
	comp=Z,165nm,19.0s,baz=170,slow=33							
MLSI	**Meulaboh, Aceh**	**40.03**	**281**	P		**P**	**02 48 12.7**	**-1.8**
	comp=Z,67nm,1.1s							
KSRS	**Korea Array**	**41.31**	**351**	P		**P**	**02 48 23.8**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=167,slow=9.1,SNR=4.0							
KSRS				LR		LR	03 05 33.9	
	comp=Z,61nm,19.1s,baz=355,slow=36							
CMAR	**Chiang Mai Arr**	**42.26**	**302**	P		**P**	**02 48 31.7**	**-1.0**
	comp=Z,1.7nm,0.3s,baz=127,slow=6.3,SNR=6.1							
XAN	**Xi'an**	**45.03**	**328**	P		**P**	**02 48 54.0**	**-0.8**
XAN				pmax		pmax		
	comp=Z,8.0nm,1.3s							
XAN				pmax		pmax		
	comp=Z,200nm,4.9s							
USRK	**Ussuriysk Ar.**	**47.52**	**356**	P		**P**	**02 49 13.3**	**-0.9**
	comp=Z,3.8nm,0.7s,baz=191,slow=10.0,SNR=7.3							
USRK				LR		LR	03 07 35.9	
	comp=Z,212nm,18.6s,baz=183,slow=34							
LZH	**Lanzhou**	**49.32**	**326**	*e*P		**P**	**02 49 29.0**	**+0.5**
LZH				pP		sP	02 49 43.6	+5.3
LZH				sP		pP	02 49 50.3	+15
LZH				*e*PP		**PP**	**02 51 24.3**	**+1.7**
LZH				pmax		pmax		
	comp=Z,21nm,1.3s							
LZH				pmax		pmax		
	comp=Z,67nm,6.4s							
LZH				LR		LR		
	comp=Z,190nm,14.1s							
LZH				LR		LR		
	comp=Z,190nm,14.3s							
LZH				LR		LR		
	comp=Z,280nm,17.4s							
SHL	**Shillong**	**51.33**	**307**	P		**P**	**02 49 43.4**	**-0.5**
BFZ	**Birch Farm**	**52.00**	**141**	P		**P**	**02 49 49.0**	**+0.6**
GTA	**Gaotai**	**53.93**	**326**	P		**P**	**02 50 03.1**	**+0.3**
GTA				pP		sP	02 50 13.8	+1.2
GTA				sP		pP	02 50 17.4	+7.5
GTA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
TAPN	**Taplejung**	**55.47**	**307**	*e*P		**P**	**02 50 14.1**	**-0.3**
ODAN	**Odare**	**55.52**	**306**	*e*P		**P**	**02 50 15.3**	**+0.6**
RAMN	**Ramite**	**56.20**	**306**	*e*P		**P**	**02 50 19.7**	**+0.1**
JIRN	**Jiri**	**56.83**	**306**	*e*P		**P**	**02 50 24.5**	**+0.3**
	comp=Z,12nm,0.5s							
ULN	**Ulaanbaatar**	**56.91**	**337**	P		**P**	**02 50 23.2**	**-1.0**
SONM	**Songino Array**	**57.15**	**337**	P		**P**	**02 50 24.9**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=142,slow=8.7,SNR=5.4							
SONM				LR		LR	03 12 49.2	
	comp=Z,98nm,21.8s,baz=160,slow=34							
GUN	**Gumba**	**57.18**	**306**	*e*P		**P**	**02 50 27.0**	**+0.3**
DMN	**Daman**	**57.68**	**306**	*e*P		**P**	**02 50 30.4**	**+0.3**
	comp=Z,30nm,0.9s							
KOLN	**Koldanda**	**58.97**	**305**	*e*P		**P**	**02 50 39.7**	**+0.6**
	comp=Z,31nm,0.8s							
DANN	**Dangsing**	**59.07**	**306**	*e*P		**P**	**02 50 40.2**	**+0.4**
	comp=Z,37nm,0.7s							
PETK	**Petropavlovsk-**	**59.28**	**15**	P		**P**	**02 50 41.5**	**+1.0**
	comp=Z,2.6nm,0.9s,baz=179,slow=12,SNR=3.2							
WMQ	**Urumqi**	**63.75**	**323**	*e*P		**P**	**02 51 12.0**	**+1.0**
WMQ				pP		sP	02 51 24.1	+3.2
WMQ				sP		pP	02 51 31.8	+14
WMQ				pmax		pmax		
	comp=Z,10.0nm,1.5s							
WMQ				pmax		pmax		
	comp=Z,92nm,5.9s							
WMQ				LR		LR		
	comp=Z,780nm,29.0s							
WMQ				LR		LR		
	comp=Z,1µm,29.1s							
YAK	**Yakutsk**	**65.44**	**357**	P		**P**	**02 51 19.9**	**-1.5**
SEY	**Seymchan**	**67.37**	**8**	P		**P**	**02 51 33.1**	**-0.7**
	comp=Z,3.4nm,0.8s,baz=13,slow=22,SNR=2.7							
MK31	**Makanchi Array**	**68.56**	**324**	P		**P**	**02 51 41.4**	**-0.3**
MK31				IAmb		IAmb	02 51 55.8	
	comp=Z,7.6nm,1.0s							
MKAR	**Makanchi Array**	**68.56**	**324**	P		**P**	**02 51 42.5**	**+0.7**
	comp=Z,2.3nm,0.6s,baz=107,slow=8.4,SNR=22							
MAKZ	**Makanchi**	**68.76**	**324**	P		**P**	**02 51 43.1**	**+0.2**
KSH	**Kashi**	**69.43**	**314**	P		**P**	**02 51 50.1**	**+2.7**
KSH				pP		PcP	02 52 06.4	-4.3
KSH				S		**S**	**03 00 52.4**	**-1.4**
KSH				pmax		pmax		
	comp=Z,21nm,0.9s							
KSH				pmax		pmax		
	comp=Z,410nm,10.9s							
ZAA0	**Zalesovo Array**	**71.08**	**331**	P		**P**	**02 51 57.2**	**+0.2**
ZAA0				IAmb		IAmb	02 52 10.2	
	comp=Z,3.5nm,0.8s							
ZALV	**Zalesovo Beam**	**71.08**	**331**	P		**P**	**02 51 56.5**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=117,slow=5.2,SNR=8.0							
AAK	**Ala-Archa**	**71.67**	**317**	P		**P**	**02 52 01.0**	**-0.1**
AAK				IAmb		IAmb	02 52 04.6	
	comp=Z,4.5nm,1.1s							
KURK	**Kurchatov**	**72.61**	**326**	P		**P**	**02 52 06.3**	**0.0**
KURK				IAmb		IAmb	02 52 18.9	
	comp=Z,4.9nm,0.9s							
KBL	**Kabul**	**72.98**	**308**	P		**P**	**02 52 09.5**	**+0.4**
GAR	**Garm**	**73.35**	**312**	P		**P**	**02 52 11.0**	**-0.2**
GAR				IAmb		IAmb	02 52 29.8	
	comp=Z,7.3nm,0.9s							
KK31	**Karatay Array**	**74.57**	**316**	P		**P**	**02 52 18.3**	**+0.3**
KK31				IAmb		IAmb	02 52 20.3	
	comp=Z,4.7nm,1.1s							
KKAR	**Karatay Array**	**74.57**	**316**	P		**P**	**02 52 17.4**	**-0.7**
KKAR				IAmb		IAmb	02 52 20.3	
	comp=Z,4.7nm,1.1s							
VNDA	**Vanda**	**75.35**	**174**	P		**P**	**02 52 23.0**	**+1.1**
	comp=Z,2.1nm,0.9s,baz=305,slow=3.2,SNR=5.2							
BRVK	**Borovoye**	**78.28**	**326**	P		**P**	**02 52 38.7**	**-0.1**
BRVK				IAmb		IAmb	02 52 54.9	
	comp=Z,4.9nm,0.9s							
NRIK	**Noril'sk**	**79.58**	**344**	LR		LR	03 28 27.8	
	comp=Z,87nm,20.3s,baz=204,slow=36							
MAW	**Mawson**	**80.36**	**202**	P		**P**	**02 52 50.2**	**+0.3**
	comp=Z,3.2nm,0.9s,baz=28,slow=1.2,SNR=3.9							
MAW	**Mawson**	**80.36**	**202**	IAmb		IAmb	02 52 52.5	
	comp=Z,1.4nm,1.1s							
GEYT	**Alibeck**	**82.36**	**309**	P		**P**	**02 53 02.0**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=161,slow=5.3,SNR=2.9							
ABKAR	**Akbulak array**	**83.35**	**320**	P		**P**	**02 53 05.1**	**-0.9**
QSPA	**South Pole Qui**	**86.53**	**180**	P		**P**	**02 53 21.8**	**0.0**
	comp=Z,14nm,1.1s,baz=334,slow=2.4,SNR=23							
QSPA	**South Pole Qui**	**86.53**	**180**	P		**P**	**02 53 21.8**	**0.0**
CCB	**Clear Creek Bu**	**87.30**	**25**	P		**P**	**02 53 25.3**	**-0.1**
HDA	**Harding Lake**	**87.61**	**25**	P		**P**	**02 53 28.0**	**+1.1**
IL31		**87.71**	**25**	P		**P**	**02 53 26.2**	**-1.1**
IL31				IAmb		IAmb	02 53 38.0	
	comp=Z,2.4nm,0.9s							
ILAR	**Eielson Array**	**87.71**	**25**	P		**P**	**02 53 26.0**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=263,slow=4.4,SNR=13							
ILAR				LR		LR	03 26 28.4	
	comp=Z,74nm,20.9s,baz=300,slow=31							
SYO	**Syowa Base**	**89.04**	**201**	⇑*e*X		**P**	**02 53 31.7**	**-1.9**
KVAR	**Kislovodsk Arr**	**94.54**	**314**	LR		LR	03 40 02.5	
	comp=Z,123nm,21.7s,baz=92,slow=38							
TORD	**Torodi Ar. Bea**	**133.58**	**285**	PKP		**PKPdf**	**02 59 55.7**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=44,slow=4.1,SNR=5.5							
OTAV	**Otavalo**	**145.69**	**95**			**PKPbc**	**03 00 19.6**	**+0.2**
MNMC	**Minye Minye**	**146.49**	**133**			**PKPab**	**03 00 22.6**	**+0.2**
CPUP	**Villa Florida**	**147.84**	**158**	PKPbc		**PKPbc**	**03 00 25.2**	**+0.5**
	comp=Z,10nm,1.0s,baz=253,slow=1.3,SNR=16							
CPUP	**Villa Florida**	**147.84**	**158**			**PKiKP**	**03 00 26.1**	**-0.6**
LPAZ	**La Paz**	**149.34**	**130**	PKPbc		**PKPbc**	**03 00 30.4**	**+0.8**
	comp=Z,4.3nm,1.1s,baz=244,slow=2.4,SNR=6.6							
LPAZ	**La Paz**	**149.34**	**130**			**PKiKP**	**03 00 31.3**	**+0.5**

ISCJB ***21*** *02:54:10.1±0.5,21°.77S±0°.03×68°.68W±0°.06,h146km±7km, Error ellipse: s-maj=9.0km s-min=4.2km az=178.6*
SJA ***21*** *02:54:10.7±0.7,21°.81S×68°.61W,h139km±4km,ML2.2, MW2.7*
GUC ***21*** *02:54:11.2±0.6,21°.72S×68°.63W,h125km±4km,ML3.3*

ISC 21 02:54:11.3±1.3,21°.74S±0°.04×68°.64W±0°.06, h130km±10km,n36,σ1§10/54,8C-3D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PB09	**IPOC Station P**	**0.56**	**264**	⇑*i*P		**Pn**	**02 54 31.1**	**+0.1**
PB09				*i* S		**Sn**	**02 54 45.5**	**-0.3**
PB09				IAML			02 54 47.3	
	comp=N,256nm,0.6s							
PB09	**IPOC Station P**	**0.56**	**264**	*i* P		**Pn**	**02 54 31.1**	**+0.1**
PB09				*e*S		**Sn**	**02 54 47.9**	**+2.1**
LVC	**Limon Verde**	**0.90**	**196**	*e*P		**Pn**	**02 54 33.5**	**-0.3**
LVC				*i* S		**Sn**	**02 54 49.5**	**-1.3**
LVC	**Limon Verde**	**0.90**	**196**	*i* P		**Pn**	**02 54 33.5**	**-0.3**
LVC				*e*S		**Sn**	**02 54 51.3**	**+0.5**
LVC				IAML			02 54 51.6	
	comp=E,110nm,0.1s							
PB03	**IPOC Station P**	**1.07**	**253**	⇑*e*P		**Pn**	**02 54 35.6**	**+0.4**
PB03				*i* S		**Sn**	**02 54 53.5**	**+0.3**
PB03				IAML			02 54 54.1	
	comp=E,578nm,0.2s							
PB07	**IPOC Station P**	**1.16**	**271**	⇑*e*P		**Pn**	**02 54 36.3**	**+0.4**
PB07				*i* S		**Sn**	**02 54 55.1**	**+0.5**
PB07				IAML			02 54 57.5	
	comp=N,310nm,0.1s							
PB06	**IPOC Station P**	**1.29**	**222**	⇑*i*P		**Pn**	**02 54 37.9**	**+0.5**
PB06				*i* S		**Sn**	**02 54 57.7**	**+0.6**
PB06				IAML			02 54 58.9	
	comp=N,615nm,0.4s							
PB04	**IPOC Station P**	**1.52**	**247**	⇑*i*P		**Pn**	**02 54 40.3**	**+0.5**
PB04				*i* S		**Sn**	**02 55 02.6**	**+1.1**
PB04				IAML			02 55 10.4	
	comp=E,339nm,0.3s							
PB04	**IPOC Station P**	**1.52**	**247**	*i* P		**Pn**	**02 54 40.4**	**+0.6**
PB15	**IPOC Station P**	**1.65**	**207**	⇑*e*P		**Pn**	**02 54 41.7**	**+0.3**
PB15				*e*S		**Sn**	**02 55 05.6**	**+1.3**
PB15	**IPOC Station P**	**1.65**	**207**	*i* P		**Pn**	**02 54 41.6**	**+0.3**
PB15				*e*S		**Sn**	**02 55 04.8**	**+0.5**
PB08	**IPOC Station P**	**1.66**	**343**	⇑*i*P		**Pn**	**02 54 42.2**	**+0.5**
PB08				*i* S		**Sn**	**02 55 05.4**	**+0.5**
PB08				IAML			02 55 07.2	
	comp=N,446nm,0.3s							
PB05	**IPOC Station P**	**1.82**	**232**	⇑*i*P		**Pn**	**02 54 43.7**	**+0.4**
PB05				*i* S		**Sn**	**02 55 08.4**	**+0.7**
PB05				IAML			02 55 16.8	
	comp=E,151nm,0.2s							
PB05	**IPOC Station P**	**

LPAZ	La Paz	5.45	5	*i* P	Pn	02 55 32.6 +1.5
GO03	Copiap	6.00	194	*i* P	Pn	02 55 36.2 -1.7
AGUA	GUANDACOL	7.71	179	*i* P	Pn	02 56 00.2 -0.8
AROD	Rodeo	8.42	185	*i* P	Pn	02 56 09.8 -1.0
GO04	Tololo Observa	8.62	193	*i* P	Pn	02 56 09.8 -3.5
ACCO	Cerro Coronel	8.82	182	*i* P	Pn	02 56 14.8 -1.2
APLL	PUNTA DE LOS L	8.82	168	*i* P	Pn	02 56 14.6 -1.4
RTCV	Cerro Valdivia	10.08	179	*i* P	Pn	02 56 30.7 -2.0
TCA	Tanti	10.22	160	*i* P	Pn	02 56 32.9 -1.8
MRA	San Martin	10.95	167	*i* P	Pn	02 56 42.4 -2.0

MEX ***21*** *03:04:10.0±0.5, 13°.67N×92°.96W, h1km, MD4.3*
ISCJB ***21*** *03:04:12.9±1.3, 14°.1N±0°.1×92°.94W±0°.07, h10km, mb3.6/4, Error ellipse: s-maj=15.3km s-min=8.1km az=18.9*
IDC ***21*** *03:04:14.2±3.0, 14°.26N×92°.83W, h0km, mb3.6/4, mb1 3.8/8, mb1mx3.6/38, mbtmp3.5/8, ML3.2/4, Error ellipse: s-maj=53.5km s-min=21.7km az=4.0*
NEIC ***21*** *03:04:15.8±3.0, 14°.2N±0°.1×92°.89W±0°.06, h15km±11km*
ISC 21 03:04:13.1±1.4, **13°.9N**±0°.1×**93°.00W**±0°.06, **h10km**, **n17,**
σ2**§33/22**, **mb3.8/5**, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.77**	**353**	*eP*	**Pn**	**03 04 41.9**	**-1.9**
PCIG				*eS*	**Sn**	**03 05 04.3**	**-2.0**
PCIG		**1.77**	**353**		**Pn**	**03 04 41.9**	**-1.9**
PCIG					**Sn**	**03 05 04.3**	**-2.0**
APG	**El Apazote**	**2.67**	**66**	Pn	**Pn**	**03 04 55.0**	**-1.4**
	2.7nm,0.3s,baz=243,slow=9.9,SNR=52						
APG				Sn	**Sn**	**03 05 27.7**	**-1.3**
	5.1nm,0.3s,baz=315,slow=15,SNR=6.0						
TGIG		**2.82**	**358**	*eP*	**Pn**	**03 04 58.8**	**+0.4**
TGIG		**2.82**	**358**		**Pn**	**03 04 58.8**	**+0.4**
HUIG	**Huatulco**	**3.52**	**302**	*eP*	**Pn**	**03 05 03.6**	**-4.3**
HUIG	**Huatulco**	**3.52**	**302**		**Pn**	**03 05 03.6**	**-4.3**
CMIG	**Matias Romero**	**3.62**	**330**	Pn	**Pn**	**03 05 09.3**	**0.0**
	0.9nm,0.3s,baz=139,slow=10,SNR=12						
CMIG				Sn	**Sn**	**03 05 50.7**	**-1.5**
	3.0nm,0.3s,baz=122,slow=8.5,SNR=7.0						
CMIG	**Matias Romero**	**3.62**	**330**	*eP*	**Pn**	**03 05 09.2**	**-0.1**
CMIG	**Matias Romero**	**3.62**	**330**		**Pn**	**03 05 09.2**	**-0.1**
TEIG	**Tepich**	**7.71**	**35**	Pn	**Pn**	**03 06 03.1**	**-2.3**
	1.6nm,0.3s,baz=322,slow=0.6,SNR=9.0						
TEIG				Sn	**Sn**	**03 07 28.3**	**-4.6**
	baz=319,slow=21,SNR=1.1						
TXAR	**Lajitas Array**	**18.23**	**329**	P	**Pn**	**03 08 28.6**	**+2.1**
	0.0nm,0.3s,baz=142,slow=14,SNR=2.0						
T25A	**Trinidad**	**25.25**	**338**	P	**P**	**03 09 42.8**	**+3.1**
T25A				IAmb	IAmb	03 09 46.0	
	comp=Z,3.9nm,1.1s						
PDAR	**Pinedale Array**	**32.08**	**337**	P	**P**	**03 10 41.2**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=112,slow=6.1,SNR=2.4						
NVAR	**Mina Array Bea**	**33.12**	**322**	P	**P**	**03 10 51.2**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=157,slow=8.2,SNR=6.6						
YKA	**Yellowknife Ar**	**50.87**	**347**	P	**P**	**03 13 13.4**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=149,slow=7.5,SNR=16						
ILAR	**Eielson Array**	**62.51**	**337**	P	**P**	**03 14 38.0**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=110,slow=5.9,SNR=5.4						

IDC ***21*** *03:16:20.9±1.3, 32°.50S×178°.76W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/34, mbtmp4.0/5, ML3.8/1, Error ellipse: s-maj=35.5km s-min=33.5km az=95.0*
ISCJB ***21*** *03:16:26.9±1.9, 32°.81S±0°.10×179°.2W±0°.3, h35km, mb3.9/4, Error ellipse: s-maj=34.9km s-min=13.9km az=5.9*
ISC 21 03:16:29.5±1.5, **32°.8S**±0°.1×**179°.3W**±0°.2, **h35km**, **n8,**
σ1**§97/9**, **mb4.0/4**, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.22**	**207**	Pn	**Pn**	**03 17 59.3**	**+0.5**
	2.0nm,0.3s,baz=264,slow=3.4,SNR=13						
URZ				Sn	**Sn**	**03 19 09.1**	**+0.3**
	0.2nm,0.3s,baz=167,slow=22,SNR=1.3						
CTA	**Charters Tower**	**33.21**	**284**	P	**P**	**03 23 03.4**	**+0.2**
	4.4nm,1.1s,baz=292,slow=10,SNR=1.6						
ASAR	**Alice Springs**	**41.97**	**270**	P	**P**	**03 24 16.5**	**-0.8**
	0.7nm,0.6s,baz=110,slow=7.4,SNR=6.9						
WRA	**Warramunga Arr**	**43.17**	**275**	P	**P**	**03 24 26.8**	**-0.3**
	1.3nm,0.5s,baz=114,slow=7.6,SNR=7.8						
QSPA	**South Pole Qui**	**57.35**	**180**	P	**P**	**03 26 12.8**	**-1.1**
	1.2nm,0.7s,baz=77,slow=3.0,SNR=3.2						
FINES	**FINESS Array B**	**146.96**	**338**	PKPbc	**PKPdf**	**03 36 03.3**	**-2.2**
	1.0nm,0.5s,baz=36,slow=3.5,SNR=11						
NOA	**NORSAR Array B**	**150.90**	**350**	PKPbc	**PKPdf**	**03 36 15.8**	**+3.8**
	1.5nm,0.8s,baz=3.1,slow=6.3,SNR=3.4						
HFS	**Hagfors**	**151.31**	**346**	PKPbc	**PKPdf**	**03 36 13.8**	**+1.2**
	2.5nm,0.9s,baz=90,slow=1.4,SNR=4.3						

IDC 21 03:19:35.9±2.1, **7°.09S×128°.79E, h0km, mb3.7/1,**
mb1 3.9/3, mb1mx3.4/46, mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=115.3km s-min=32.3km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.86**	**158**	Pn	Pn	03 22 53.1	-0.8
	0.4nm,0.3s,baz=336,slow=13,SNR=22						
WRA				Sn	Sn	03 25 15.4	-13
	0.8nm,0.3s,baz=328,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.20**	**164**	P	Pn	03 23 38.5	+0.6
	0.4nm,0.3s,baz=346,slow=9.3,SNR=23						
ASAR				S	Sn	03 26 36.7	-13
	0.3nm,0.3s,baz=339,slow=24,SNR=5.7						
MKAR	**Makanchi Array**	**67.65**	**327**	P	P	03 30 34.9	0.0
	0.7nm,0.8s,baz=113,slow=6.4,SNR=4.3						

IDC ***21*** *03:37:37.1±1.9, 6°.12S×129°.86E, h0km, mb4.1/2, mb1 4.4/4, mb1mx3.8/24, mbtmp4.2/4, ML4.4/2, Error ellipse: s-maj=141.7km s-min=28.5km az=70.0*
ISCJB ***21*** *03:37:50.2±0.6, 6°.23S±0°.06×130°.5E±0°.1, h150km, mb3.9/2, Error ellipse: s-maj=19.4km s-min=6.0km az=161.8*
DJA ***21*** *03:37:50.6±0.4, 6°.S±3°×13°.0E±°, h166km±7km, M4.6/8, mb4.5/2, mB5.4/5, MLv4.4/8, Mw(mB)4.8/5*
ISC 21 03:37:50.8±0.9, **6°.18S**±0°.06×**130°.6E**±0°.1, **h150km**, **n10,**
σ2**§68/13**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.77**	**338**	P	**Pn**	**03 38 25.1**	**+1.7**
SAUI	**Saumlaki**	**1.93**	**158**	P	**Pn**	**03 38 28.9**	**+3.7**
SAUI				S	**Sn**	**03 38 52.1**	**+0.5**
MSAI	**Masohi**	**3.26**	**330**	P	**Pn**	**03 38 42.8**	**+1.3**
MSAI				S	**Sn**	**03 39 19.7**	**-1.0**
FAKI	**Fak Fak**	**3.65**	**27**	P	**Pn**	**03 38 47.3**	**+0.8**
NLAI	**Namlea**	**4.53**	**310**	P	**Pn**	**03 38 58.9**	**+0.9**
SWI	**Sorong**	**5.33**	**7**	P	**Pn**	**03 39 09.1**	**+0.5**
	120nm,0.5s,11μm1.0nm						
WRA	**Warramunga Arr**	**14.16**	**165**	Pn	**Pn**	**03 41 02.0**	**-2.8**
	1.4nm,0.3s,baz=345,slow=13,SNR=42						
WRA				Sn	Sn	03 43 28.8	-13
	0.5nm,0.3s,baz=277,slow=7.7,SNR=1.4						
ASAR	**Alice Springs**	**17.68**	**170**	P	**Pn**	**03 41 47.6**	**-0.3**
	1.8nm,0.3s,baz=351,slow=10,SNR=12						
ASAR				S	**S**	**03 44 56.8**	**-6.0**
	0.2nm,0.3s,baz=359,slow=29,SNR=2.4						
MKAR	**Makanchi Array**	**67.86**	**326**	P	**P**	**03 48 35.1**	**+2.2**
	2.3nm,0.6s,baz=120,slow=7.9,SNR=24						
KURBB	**Kurchatov Arra**	**72.11**	**328**	P	**P**	**03 49 00.2**	**+1.4**
	0.9nm,0.8s,baz=125,slow=4.8,SNR=9.5						

IDC 21 03:44:00.6±2.2, **54°.35N×150°.77E, h397**km±26km, **mb2.7/5,**
mb1 3.0/6, mb1mx2.7/28, mbtmp3.5/6, Error ellipse: s-maj=31.1km s-min=21.9km az=123.0, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**4.30**	**104**	P	Pn	03 45 15.4	+0.1
	2.6nm,0.3s,baz=231,slow=4.2,SNR=32						
ILAR	**Eielson Array**	**31.90**	**46**	P	P	03 49 49.7	-0.9
	0.3nm,0.5s,baz=264,slow=6.9,SNR=4.7						
ZALV	**Zalesovo Beam**	**37.35**	**297**	P	P	03 50 36.5	-0.2
	0.7nm,0.7s,baz=96,slow=11,SNR=3.6						
YKA	**Yellowknife Ar**	**45.88**	**40**	P	P	03 51 45.3	+0.6
	0.3nm,0.6s,baz=302,slow=7.2,SNR=4.4						
WRA	**Warramunga Arr**	**75.32**	**196**	P	P	03 55 01.2	-0.2
	0.3nm,0.6s,baz=16,slow=6.1,SNR=1.7						
ASAR	**Alice Springs**	**79.04**	**196**	P	P	03 55 21.9	+0.2
	0.4nm,0.6s,baz=16,slow=5.2,SNR=5.8						

IDC ***21*** *04:08:56.0±0.7, 1°.72N×126°.38E, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.9/42, mbtmp4.0/12, ML3.6/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/43, Error ellipse: s-maj=55.7km s-min=14.2km az=76.0*
ISCJB ***21*** *04:08:59.6±0.5, 1°.81N±0°.07×126°.7E±0°.1, h35km, mb4.0/11, MS3.5/1, Error ellipse: s-maj=18.6km s-min=8.7km az=165.6*
NEIC ***21*** *04:09:01.6±3.0, 1°.8N±0°.1×126°.8E±0°.1, h38km±8km, mb4.3/5*
ISC 21 04:09:01.4±0.6, **1°.79N**±0°.09×**126°.8E**±0°.1, **h35km**, **n22,**
σ1**§07/19**, **mb4.0/12**, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.15**	**151**	Pn	**Pn**	**04 09 20.4**	**-0.6**
LUWI	**Luwuk**	**4.92**	**235**	Pn	**Pn**	**04 10 13.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**19.79**	**183**	P	**P**	**04 13 27.4**	**-1.4**
	0.1nm,0.3s,baz=100,slow=11,SNR=1.7						
FITZ	**Fitzroy Crossi**	**19.79**	**183**	IAmb	IAmb	04 14 13.1	
	comp=Z,30nm,1.9s						
WRAB	**Tennant Creek**	**22.82**	**161**	P	**P**	**04 14 02.7**	**+1.2**
WRAB				IAmb	IAmb	04 14 05.8	
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**22.82**	**161**	P	**P**	**04 14 00.6**	**-0.9**
	comp=Z,9.3nm,0.8s,baz=337,slow=11,SNR=30						
PMG	**Port Moresby**	**23.12**	**119**	LR	LR	04 24 16.5	
	comp=Z,150nm,18.6s,baz=169,slow=39						
AS31	**Alice Springs**	**26.23**	**165**	P	**P**	**04 14 33.7**	**+0.5**
ASAR	**Alice Springs**	**26.23**	**165**	P	**P**	**04 14 34.4**	**+1.2**
	comp=Z,1.5nm,0.4s,baz=350,slow=10,SNR=23						
KSRS	**Korea Array**	**35.51**	**2**	P	**P**	**04 15 56.2**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=173,slow=8.8,SNR=2.5						
STKA	**Stephens Creek**	**36.30**	**158**	P	**P**	**04 16 02.9**	**+1.1**
	comp=Z,3.5nm,1.1s,baz=326,slow=16,SNR=2.9						
STKA	**Stephens Creek**	**36.30**	**158**	IAmb	IAmb	04 16 25.6	
	comp=Z,8.6nm,2.0s						
USRK	**Ussuriysk Ar.**	**42.48**	**6**	P	**P**	**04 16 53.8**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=171,slow=6.7,SNR=4.6						
SONM	**Songino Array**	**49.15**	**342**	P	**P**	**04 17 45.7**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=150,slow=9.6,SNR=4.3						
MKAR	**Makanchi Array**	**59.19**	**326**	P	**P**	**04 18 58.1**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=119,slow=7.8,SNR=16						
ZALV	**Zalesovo Beam**	**62.35**	**333**	P	**P**	**04 19 18.8**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=83,slow=12,SNR=1.6						
KURK	**Kurchatov**	**63.41**	**328**	P	**P**	**04 19 26.8**	**-0.6**
NRIK	**Norilsk**	**72.32**	**346**	P	**P**	**04 20 21.5**	**-1.6**
	comp=Z,2.2nm,0.7s,baz=119,slow=5.2,SNR=3.6						
VNDA	**Vanda**	**81.50**	**173**	P	**P**	**04 21 14.4**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=300,slow=6.5,SNR=7.1						
ILAR	**Eielson Array**	**86.81**	**25**	P	**P**	**04 21 43.4**	**+1.5**
	comp=Z,0.2nm,0.7s,baz=265,slow=4.2,SNR=1.9						
TXAR	**Lajitas Array**	**122.71**	**53**	PKP	**PKPdf**	**04 27 54.3**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=0.0,slow=2.7,SNR=2.3						
TORD	**Torodi Ar. Bea**	**123.58**	**287**	PKP	**PKPdf**	**04 27 55.9**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=120,slow=2.3,SNR=2.5						

ISCJB ***21*** *04:19:55.9±0.7, 7°.53N±0°.04×81°.99W±0°.03, h15km±5km, mb3.6/6, Error ellipse: s-maj=7.2km s-min=3.4km az=23.0*
IDC ***21*** *04:19:55.3±1.4, 7°.97N×81°.56W, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/28, mbtmp3.7/7, ML3.7/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/32, Error ellipse: s-maj=62.3km s-min=20.1km az=44.0*
UPA ***21*** *04:19:57.6±1.9, 7°.68N×81°.93W, h7km±7km, MW4.5*
UCR ***21*** *04:19:58.1±2.6, 7°.66N×81°.92W, h11km±13km*
ISC 21 04:19:55.5±1.5, **7°.59N**±0°.05×**81°.95W**±0°.03, **h6km**±9km,
n103, σ1**§59/114**, **mb3.7/6**, **8C-15D, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REME3	**Remedios, Chir**	**0.64**	**11**	*i*‖*i*P	**Pb**	**04 20 09.8**	**+0.6**
NANC3	**Nancito, Chiri**	**0.68**	**19**	*i*‖*i*P	**Pb**	**04 20 10.1**	**+0.3**
GMAL	**Guarumal, Vera**	**0.73**	**77**	*i*‖*i*P	**Pg**	**04 20 10.6**	**+1.0**
GMAL				*i* S	**Sg**	**04 20 19.9**	**+0.7**
RSUS3	**Rio de Jesus,**	**0.88**	**64**	*i*‖*i*P	**Pg**	**04 20 13.3**	**+1.0**
RSUS3				*i* S	**Sg**	**04 20 24.5**	**+0.8**
CHIR3	**Chiriqui UPA,**	**0.88**	**335**	*i* P	**Pg**	**04 20 13.4**	**+1.0**
PEDE3	**Pedregal, Chir**	**0.91**	**329**	*i*‖*e*P	**Pg**	**04 20 14.0**	**+0.9**
LOCO3	**Loma Colorada,**	**0.93**	**330**	*i*‖*i*P	**Pg**	**04 20 13.9**	**+0.5**
LOMA3	**Las Lomas, Chi**	**0.94**	**332**	*i*‖*i*P	**Pg**	**04 20 14.7**	**+1.1**
MESA3	**La Mesa, Verag**	**0.94**	**54**	*i*‖*i*P	**Pg**	**04 20 14.6**	**+1.0**
MESA3				*i* S	**Sb**	**04 20 27.6**	**+0.6**
DVD	**David**	**0.97**	**330**	*i*‖*i*P	**Pg**	**04 20 14.8**	**+0.7**
DVD	**David**	**0.97**	**330**	*i*‖*i*P	**Pg**	**04 20 14.8**	**+0.7**
GUAL3	**Gualaca, Chiri**	**0.99**	**340**	*i*‖*i*P	**Pg**	**04 20 15.3**	**+0.7**
PONU3	**Ponuga, Veragu**	**1.01**	**73**	*i*‖*e*P	**Pg**	**04 20 15.6**	**+0.7**
BAGA3	**Bagala, Chiriq**	**1.04**	**327**	*e*P	**Pg**	**04 20 16.5**	**+1.1**
CNAZ3	**Canazas, Verag**	**1.05**	**44**	*i* P	**Pg**	**04 20 15.9**	**+0.1**
CNAZ3				*i* S	**Sb**	**04 20 29.7**	**-0.5**
STIA3	**Santiago, Vera**	**1.09**	**63**	*i*‖*e*P	**Pg**	**04 20 16.7**	**+0.2**
CACAO	**El Cacao, Vera**	**1.11**	**103**	*i*‖*i*P	**Pg**	**04 20 17.5**	**+0.7**
CACAO				*i* S	**Sg**	**04 20 30.7**	**-0.5**
LESP3	**La Esperanza,**	**1.16**	**314**	*i*‖*i*P	**Pg**	**04 20 17.4**	**-0.3**
SFRA3	**San Francisco,**	**1.17**	**56**	*i*‖*i*P	**Pg**	**04 20 17.9**	**0.0**
OCU3	**Ocu, Herrera**	**1.22**	**73**	*e*‖*e*P	**Pg**	**04 20 18.7**	**-0.1**
OCU3				*e*S	**Sb**	**04 20 35.9**	**+1.0**
PTAR3	**Potrerillos Ar**	**1.22**	**334**	*e*P	**Pg**	**04 20 19.3**	**+0.4**
BCO2	**Palmira**	**1.25**	**333**	*i*‖*e*P	**Pg**	**04 20 19.5**	**-0.1**
CALO3	**Calobre, Verag**	**1.32**	**57**	*i* P	**Pb**	**04 20 20.1**	**-0.6**
CALO3				*e*S	**Sg**	**04 20 35.1**	**-2.8**
CHGR2	**Aguacate**	**1.35**	**352**	*i* P	**Pn**	**04 20 20.4**	**-0.5**
CHGR2				*i* S	**Sb**	**04 20 37.4**	**-1.4**
PESE3	**Pese, Herrera**	**1.36**	**77**	*e*P	**Pn**	**04 20 21.3**	**+0.2**
BRU2	**Volcan**	**1.40**	**329**	*i*‖*i*P	**Pn**	**04 20 21.6**	**-0.1**
BRU2	**Volcan**	**1.40**	**329**	*i*‖*i*P	**Pn**	**04 20 21.6**	**-0.1**
CRIS3	**El Cristo, Coc**	**1.48**	**64**	*i* P	**Pn**	**04 20 22.4**	**-0.2**
CHIT3	**Chitre**	**1.56**	**77**	*i* P	**Pn**	**04 20 24.1**	**+0.3**
AZU	**Azuero**	**1.68**	**83**	*i*‖*i*P	**Pn**	**04 20 26.2**	**+0.8**
	baz=262,slow=16						
AZU				*i* S	**Sb**	**04 20 49.3**	**+1.1**
AZU	**Azuero**	**1.68**	**83**	*i*‖*i*P	**Pn**	**04 20 26.2**	**+0.8**
	baz=262,slow=16						
AZU				*i* S	**Sb**	**04 20 49.3**	**+1.1**
ACHO3	**Achotines, Los**	**1.77**	**96**	*i* P	**Pn**	**04 20 27.1**	**+0.4**
ACHO3				*i* S	**Sn**	**04 20 50.7**	**+1.0**
CNI2	**El Empalme, Bo**	**1.89**	**344**	*i*‖*i*P	**Pn**	**04 20 30.0**	**+1.7**
PINA	**Piqa, Costa Ab**	**2.49**	**48**	*e*P	**Pn**	**04 20 38.8**	**+2.1**
PINA	**Piqa, Costa Ab**	**2.49**	**48**	*e*P	**Pn**	**04 20 38.8**	**+2.1**
CHOR3	**La Chorrera**	**2.52**	**59**	*e*P	**Pn**	**04 20 39.4**	**+2.4**
SPIL	**Cristobal, Col**	**2.60**	**50**	*i*‖*e*P	**Pb**	**04 20 41.9**	**-0.7**
BCIP	**Isla Barro Col**	**2.61**	**53**	*e*P	**Pn**	**04 20 40.1**	**+1.8**
BCIP	**Isla Barro Col**	**2.61**	**53**	*e*P	**Pn**	**04 20 40.1**	**+1.8**
BCIP	**Isla Barro Col**	**2.61**	**53**	*i* P	**Pn**	**04 20 39.9**	**+1.6**
BCIP	**Isla Barro Col**	**2.61**	**53**	*i* P	**Pn**	**04 20 39.9**	**+1.6**
BCIP				*e*S	**Sg**	**04 21 17.7**	**-1.8**
MLIR	**Monte Lirio**	**2.65**	**52**	*e*P	**Pb**	**04 20 42.2**	**-1.1**
TABO3	**Taboga, Panama**	**2.66**	**63**	*e*P	**Pn**	**04 20 40.9**	**+2.0**
FLAM	**Flamenco Islan**	**2.73**	**61**	*e*P	**Pn**	**04 20 42.2**	**+2.3**
FLAM	**Flamenco Islan**	**2.73**	**61**	*e*P	**Pn**	**04 20 42.2**	**+2.3**
FRIJ	**El Hiral**	**2.73**	**54**	*e*P	**Pn**	**04 20 41.1**	**+1.1**
FRIJ	**El Hiral**	**2.73**	**54**	*e*P	**Pn**	**04 20 41.1**	**+1.1**
UPA	**Univ. de Panam**	**2.76**	**60**	*i* P	**Pn**	**04 20 42.1**	**+1.8**
UPA	**Univ. de Panam**	**2.76**	**60**	*i* P	**Pn**	**04 20 42.1**	**+1.8**
MAD3	**Madden Dam**	**2.82**	**55**	*e*P	**Pn**	**04 20 44.3**	**+3.2**
HDC	**Heredia**	**3.21**	**318**	*e*P	**Pn**	**04 20 48.3**	**+1.7**
HDC	**Heredia**	**3.21**	**318**	*e*P	**Pn**	**04 20 48.3**	**+1.7**
CHPO	**Chepo, Panama**	**3.21**	**61**	*e*P	**Pn**	**04 20 47.9**	**+1.3**
JTS	**Las Juntas de**	**4.00**	**312**	Pn	**Pn**	**04 20 58.9**	**+1.6**
	4.6nm,0.3s,baz=7.8,slow=16,SNR=23						
JTS				Sn	**Sn**	**04 21 49.7**	**+5.2**
	4.2nm,0.3s,baz=20,slow=22,SNR=1.0						
JTS				LR	LR	04 22 43.5	
	comp=Z,374nm,18.8s,baz=192,slow=41						
JTS	**Las Juntas de**	**4.00**	**312**	*e*P	**Pn**	**04 20 58.3**	**+0.9**
JTS	**Las Juntas de**	**4.00**	**312**	*e*P	**Pn**	**04 20 58.3**	**+0.9**
PTAC	**Punta Ardita,**	**4.13**	**96**	*e*P	**Pn**	**04 20 58.5**	**-0.8**
PTAC	**Punta Ardita,**	**4.13**	**96**	*e*P	**Pn**	**04 20 58.5**	**-0.8**
SOLC	**Bahia Solano**	**4.71**	**106**	*e*P	**Pn**	**04 21 06.4**	**-0.8**
SOLC	**Bahia Solano**	**4.71**	**106**	*e*P	**Pn**	**04 21 06.4**	**-0.8**
DBBC	**Dabeiba**	**5.73**	**95**	*e*P	**Pn**	**04 21 22.3**	**+1.1**
DBBC	**Dabeiba**	**5.73**	**95**	*e*P	**Pn**	**04 21 22.3**	**+1.1**
CBOC	**Ciudad Bolivar**	**6.14**	**106**	*e*P	**Pn**	**04 21 27.7**	**+0.6**
CBOC	**Ciudad Bolivar**	**6.14**	**106**	*e*P	**Pn**	**04 21 27.7**	**+0.6**
UREC	**San Jos de Ur**	**6.37**	**88**	*e*P	**Pn**	**04 21 31.4**	**+1.5**
UREC	**San Jos de Ur**	**6.37**	**88**	*e*P	**Pn**	**04 21 31.4**	**+1.5**
HELC	**Santa Helena**	**6.53**	**102**	*e*P	**Pn**	**04 21 34.2**	**+1.7**
HELC	**Santa Helena**	**6.53**	**102**	*e*P	**Pn**	**04 21 34.2**	**+1.7**
YOTC	**Yotoco, Valle**	**6.63**	**122**	*e*P	**Pn**	**04 21 34.0**	**+0.3**
YOTC	**Yotoco, Valle**	**6.63**	**122**	*e*P	**Pn**	**04 21 34.0**	**+0.3**
GUY2C	**Guyana, Caldas**	**6.96**	**109**	*e*P	**Pn**	**04 21 41.3**	**+2.8**
GUY2C	**Guyana, Caldas**	**6.96**	**109**	*e*P	**Pn**	**04 21 41.3**	**+2.8**
ZARC	**Zaragoza, Cauc**	**7.04**	**90**	*e*P	**Pn**	**04 21 39.9**	**+0.8**
ZARC	**Zaragoza, Cauc**	**7.04**	**90**	*e*P	**Pn**	**04 21 39.9**	**+0.8**
SJCC	**San Jacinto, C**	**7.08**	**71**	*e*P	**Pn**	**04 21 40.3**	**+0.6**
SJCC	**San Jacinto, C**	**7.08**	**71**	*e*P	**Pn**	**04 21 40.3**	**+0.6**
RREF	**El Recreo**	**7.09**	**112**	*e*P	**Pn**	**04 21 42.6**	**+2.1**
RREF	**El Recreo**	**7.09**	**112**	*e*P	**Pn**	**04 21 42.6**	**+2.1**
NORC	**Norcasia**	**7.32**	**106**	*e*P	**Pn**	**04 21 42.4**	**-0.8**
NORC	**Norcasia**	**7.32**	**106**	*e*P	**Pn**	**04 21 42.4**	**-0.8**
PTBC	**PUERTO BERRIO,**	**7.51**	**98**	*e*P	**Pn**	**04 21 47.1**	**+1.3**
PTBC	**PUERTO BERRIO,**	**7.51**	**98**	*e*P	**Pn**	**04 21 47.1**	**+1.3**
SOTA	**Rioblanco**	**7.60**	**135**	*e*P	**Pn**	**04 21 49.3**	**+1.9**
SOTA	**Rioblanco**	**7.60**	**135**	*e*P	**Pn**	**04 21 49.3**	**+1.9**
PCON	**Cinco Dias**	**7.62**	**133**	*e*P	**Pn**	**04 21 50.4**	**+2.7**
PCON	**Cinco Dias**	**7.62**	**133**	*e*P	**Pn**	**04 21 50.4**	**+2.7**
SPBC	**San Pablo de B**	**8.06**	**103**	*e*P	**Pn**	**04 21 56.3**	**+3.0**
SPBC	**San Pablo de B**	**8.06**	**103**	*e*P	**Pn**	**04 21 56.3**	**+3.0**
OCAC	**Ocana**	**8.58**	**85**	*e*P	**Pn**	**04 21 59.8**	**-0.7**
OCAC	**Ocana**	**8.58**	**85**	*e*P	**Pn**	**04 21 59.8**	**-0.7**
CHIC	**Chingaza**	**8.69**	**109**	*e*P	**Pn**	**04 22 06.6**	**+4.4**
CHIC	**Chingaza**	**8.69**	**109**	*e*P	**Pn**	**04 22 06.6**	**+4.4**
RUSC	**La Rusia**	**8.97**	**100**	*e*P	**Pn**	**04 22 07.2**	**+1.1**
RUSC	**La Rusia**	**8.97**	**100**	*e*P	**Pn**	**04 22 07.2**	**+1.1**
APG	**El Apazote**	**11.13**	**312**	LR	LR	04 26 50.6	
	comp=Z,80nm,21.3s,baz=138,slow=37						
SDV	**Santo Domingo**	**11.28**	**83**	Pn	**Pn**	**04 22 36.6**	**-1.0**
	0.2nm,0.3s,baz=331,slow=5.6,SNR=4.4						
CMIG	**Matias Romero**	**15.76**	**308**	LR	LR	04 30 02.7	
	comp=Z,55nm,19.1s,baz=118,slow=38						
SIV	**San Ignacio**	**31.25**	**139**	P	**P**	**04 26 16.7**	**+0.3**
	1.8nm,0.7s,baz=312,slow=9.2,SNR=11						
ULM	**Lac du Bonnet**	**44.08**	**347**	P	**P**	**04 28 01.6**	**-2.7**
	1.1nm,0.7s,baz=157,slow=9.2,SNR=3.2						
NVAR	**Mina Array

MLPR						Sn	05 13 14.3	+0.5
AGPR	**Aguadilla, PR**	**0.83**	**63**	⇑	*e*P	**Pn**	05 13 02.3	0.0
AGPR	**Aguadilla, PR**	**0.83**	**63**	⇑	*e*P	**Pn**	05 13 02.3	0.0
AGPR					*e*S	**Sn**	05 13 15.7	+1.6
AGPR	**Aguadilla, PR**	**0.83**	**63**	Pn		**Pn**	05 13 01.8	-0.5
AGPR						**Sn**	05 13 15.4	+1.3
AOPR	**Arecibo Observ**	**1.11**	**77**	⇑	*e*P	**Pn**	05 13 05.2	-0.7
AOPR	**Arecibo Observ**	**1.11**	**77**	⇑	*e*P	**Pn**	05 13 05.2	-0.7
AOPR					*e*S	**Sn**	05 13 21.0	+0.4
AOPR	**Arecibo Observ**	**1.11**	**77**			**Pn**	05 13 05.2	-0.7
AOPR	**Arecibo Observ**	**1.11**	**77**			**Sn**	05 13 20.4	-0.1
OBIP	**Obispado Ponce**	**1.23**	**92**			**Pn**	05 13 06.8	-0.6
EMPR	**Esperanza - Ma**	**1.35**	**73**	*e*S		**Sn**	05 13 27.0	+0.9
EMPR	**Esperanza - Ma**	**1.35**	**73**	⇓	*e*P	**Pn**	05 13 08.9	-0.2
EMPR	**Esperanza - Ma**	**1.35**	**73**	Pn		**Pn**	05 13 09.6	+0.5
EMPR						**Sn**	05 13 27.2	+1.0
DR12	**Loma Pena Alta**	**1.57**	**296**			**Pn**	05 13 08.8	-3.2
SJG	**San Juan**	**1.66**	**89**			**Pn**	05 13 12.1	-1.0
IGPR	**InterUniversit**	**1.71**	**94**	⇑	*e*P	**Pn**	05 13 13.0	-0.8
IGPR	**InterUniversit**	**1.71**	**94**	*e*S		**Sn**	05 13 34.8	+0.1
GCPR	**Guaynabo City**	**1.74**	**83**	Pn		**Pn**	05 13 13.8	-0.4
GCPR						**Sn**	05 13 35.5	+0.1
PDPR	**Patillas Dam,**	**1.78**	**92**	Pn		**Pn**	05 13 13.4	-1.4
HUMP	**Col San Antoni**	**1.95**	**88**	⇑	*e*P	**Pn**	05 13 16.4	-0.6
HUMP	**Col San Antoni**	**1.95**	**88**	⇑	*e*P	**Pn**	05 13 16.4	-0.6
HUMP					*e*S	**Sn**	05 13 40.7	+0.3
HUMP	**Col San Antoni**	**1.95**	**88**	Pn		**Pn**	05 13 16.8	-0.2
HUMP						**Sn**	05 13 40.0	-0.4
CBYP	**Canovanas**	**1.95**	**85**	⇑	*e*P	**Pn**	05 13 16.2	-0.9
CBYP	**Canovanas**	**1.95**	**85**	⇑	*e*P	**Pn**	05 13 16.2	-0.9
CBYP					*e*S	**Sn**	05 13 40.8	+0.3
CBYP	**Canovanas**	**1.95**	**85**	Pn		**Pn**	05 13 16.3	-0.8
CBYP						**Sn**	05 13 40.1	-0.5
MTP	**Monte Pirata**	**2.23**	**90**	Pn		**Pn**	05 13 20.5	-0.4
STVI	**Saint Thomas**	**2.81**	**84**	⇑	*e*P	**Pn**	05 13 28.5	-0.3
STVI	**Saint Thomas**	**2.81**	**84**	⇑	*e*P	**Pn**	05 13 28.5	-0.3
STVI					*e*S	**Sn**	05 14 01.5	0.0
STVI	**Saint Thomas**	**2.81**	**84**			**Pn**	05 13 28.5	-0.3
STVI						**Sn**	05 14 00.1	-1.4
SC01	**Santiago de lo**	**2.99**	**297**	Pn		**Pn**	05 13 31.2	-0.1
SDDR	**Presa de Saban**	**3.34**	**286**			**Sn**	05 14 20.1	+5.5

*IDC **21** 05:40:00.7±33.0, 10.27N×87.19W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/36, mbtmp3.5/4, Error ellipse: s-maj=677.0km s-min=75.1km az=2.0*
*ISCJB **21** 05:40:07.0±1.1, 11.0N±0.1×86.62W±0.09, h35km, mb3.4/4, Error ellipse: s-maj=18.8km s-min=8.8km az=32.0*
*NEIC **21** 05:40:08.5±2.5, 10.93N±0.08×86.7W±0.1, h45km±12km, mb4.0/12*
ISC 21 05:40:08.5±1.2, 10.9N±0.1×86.7W±0.1, h35km, n22, σ1§62/21, mb4.0/10, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ACON	**Acoyapa**	**1.80**	**54**			**Pn**	**05 40 36.1**	**-0.9**
JTS	**Las Juntas de**	**1.80**	**110**			**Pn**	**05 40 35.5**	**-1.6**
ESTN	**Estel**	**2.19**	**8**			**Pn**	**05 40 38.8**	**-3.7**
ESPN	**Las Esperanzas**	**2.65**	**61**			**Pn**	**05 40 48.2**	**-0.4**
HDC	**Heredia**	**2.67**	**110**			**Pn**	**05 40 47.7**	**-1.5**
TGUH	**Tegucigalpa,Un**	**3.17**	**349**	Pn		**Pn**	**05 40 55.8**	**-0.2**
152A	**Waverly Hall**	**21.72**	**4**	P		**P**	**05 44 58.9**	**+2.2**
Z50A	**Ashland**	**22.24**	**2**	P		**P**	**05 45 02.1**	**-0.2**
Z50A				IAmb		IAmb	05 45 11.4	
	comp=Z,10nm,1.5s							
Y49A	**Blount Mountai**	**22.83**	**1**	P		**P**	**05 45 08.1**	**-0.5**
Y49A				IAmb		IAmb	05 45 08.9	
	comp=Z,5.7nm,1.0s							
FPAL	**Fort Paine**	**23.53**	**2**	P		**P**	**05 45 15.2**	**-0.4**
FPAL				IAmb		IAmb	05 45 16.8	
	comp=Z,6.1nm,1.3s							
SWET	**Sewanee**	**24.20**	**1**	P		**P**	**05 45 20.2**	**-1.6**
SWET				IAmb		IAmb	05 45 36.8	
	comp=Z,7.7nm,1.2s							
W50A	**Signal Mountai**	**24.20**	**3**	P		**P**	**05 45 20.6**	**-1.3**
TX31	**Lajitas Ar. Si**	**24.24**	**322**	P		**P**	**05 45 22.5**	**+0.1**
TX32	**Lajitas Array**	**24.24**	**322**	P		**P**	**05 45 22.4**	**+0.1**
TX32				IAmb		IAmb	05 45 24.4	
	comp=Z,7.2nm,1.5s							
TXAR	**Lajitas Array**	**24.24**	**322**	P		**P**	**05 45 22.3**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=134,slow=9.5,SNR=11							
CPCT	**Cooper Cave**	**24.50**	**4**	P		**P**	**05 45 23.3**	**-1.2**
V58A	**Windy Hill, Pi**	**25.70**	**14**	P		**P**	**05 45 34.2**	**-1.1**
V58A				IAmb		IAmb	05 45 35.1	
	comp=Z,5.3nm,0.9s							
WMOK	**Wichita Mounta**	**26.16**	**337**	P		**P**	**05 45 40.5**	**+0.9**
PDAR	**Pinedale Array**	**37.48**	**332**	P		**P**	**05 47 18.1**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=114,slow=4.4,SNR=2.4							
FRB	**Frobisher Bay**	**54.29**	**10**	P		**P**	**05 49 34.6**	**+3.7**
	comp=Z,2.1nm,0.9s,baz=214,slow=7.3,SNR=3.0							
YKA	**Yellowknife Ar**	**55.28**	**345**	P		**P**	**05 49 38.0**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=138,slow=7.2,SNR=4.1							
PRP	**Porcupine Dome**	**67.50**	**337**	P		P	05 50 52.0	-8.9

*ATH **21** 05:50:39.9, 38.23N×22.21E, h50km±1km, ML3.4/20, Error ellipse: s-maj=1.7km s-min=0.9km az=244.0*
*ISCJB **21** 05:50:39.0±0.2, 38.27N±0.02×22.13E±0.02, h63km±2km, mb3.7/8, Error ellipse: s-maj=3.6km s-min=2.7km az=26.1*
*ISK **21** 05:50:39.1, 38.27N×22.30E, h25km, ML3.3/24*
*THE **21** 05:50:40.9, 38.24N×22.18E, h49km, ML3.4/9, Error ellipse: s-maj=1.0km s-min=0.5km az=348.0*
*IDC **21** 05:50:41.7±2.4, 38.30N×22.10E, h73km±27km, mb3.5/9, mb1 3.6/12, mb1mx3.3/47, mbtmp3.7/12, Error ellipse: s-maj=20.1km s-min=17.6km az=130.0*
*BEO **21** 05:50:42.5±0.8, 38.57N×21.98E, h5km, ML3.2/8*
ISC 21 05:50:39.8±0.7, 38.26N±0.03×22.14E±0.03, h57km±4km, n152, σ1§61/201, mb3.7/8, 13C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ALIK	**Aliki, Aigiali**	**0.02**	**279**	P		**Pn**	**05 50 48.5**	**+0.1**
ALIK				S		**Sn**	**05 50 53.8**	**-0.7**
TRIZ	**Trizonia**	**0.12**	**335**	P		**Pn**	**05 50 48.6**	**-0.1**
TRIZ				S		**Sn**	**05 50 54.6**	**-0.3**
	10μm,0.2s							
TRIZ	**Trizonia**	**0.12**	**335**	P		**Pn**	**05 50 48.5**	**-0.1**
LAKA	**Lakka**	**0.12**	**262**	P		**Pn**	**05 50 48.5**	**-0.2**
LAKA				S		**Sn**	**05 50 54.6**	**-0.5**
	3μm,0.3s							
LAKA	**Lakka**	**0.12**	**262**	P		**Pn**	**05 50 48.4**	**-0.2**
LAKA				S		**Sn**	**05 50 54.4**	**-0.7**
LAKA				AML		AML	05 50 55.4	
	comp=E,8635μm,0.4s							
LAKA				AML		AML	05 50 55.9	
	comp=N,4722μm,0.3s							
KALE	**Kalithea**	**0.13**	**1**	P		**Pn**	**05 50 48.7**	**-0.1**
KALE				S		**Sn**	**05 50 54.8**	**-0.4**
	comp=N,15μm,0.2s							
KALE	**Kalithea**	**0.13**	**1**	P		**Pn**	**05 50 48.7**	**-0.1**
KALE				S		**Sn**	**05 50 54.9**	**-0.4**
KALE				AML		AML	05 50 55.1	
	comp=E,28076μm,0.2s							
KALE				AML		AML	05 50 55.8	
	comp=N,31537μm,0.2s							
SERG	**Sergoula**	**0.17**	**338**	P		**Pn**	**05 50 48.9**	**0.0**
SERG				S		**Sn**	**05 50 55.1**	**-0.3**
	comp=N,12μm,0.2s							
SERG	**Sergoula**	**0.17**	**338**	P		**Pn**	**05 50 48.8**	**0.0**
SERG				S		**Sn**	**05 50 54.9**	**-0.5**
SERG				AML		AML	05 50 55.5	
	comp=N,22549μm,0.2s							
SERG				AML		AML	05 50 55.9	
	comp=E,26983μm,0.2s							
KLV	**Kalavryta, Ach**	**0.21**	**177**	P		**Pn**	**05 50 48.8**	**-0.4**
KLV				S		**Sn**	**05 50 55.1**	**-0.8**
	comp=E,3μm,0.4s							
KLV	**Kalavryta, Ach**	**0.21**	**177**	P		**Pn**	**05 50 48.7**	**-0.4**
KLV				S		**Sn**	**05 50 54.8**	**-1.1**
KLV				AML		AML	05 50 55.3	
	comp=E,7209μm,0.4s							
KLV				AML		AML	05 50 56.3	
	comp=N,6722μm,0.5s							
EFP	**Efpalio**	**0.25**	**313**	P		**Pn**	**05 50 49.5**	**+0.2**
EFP				S		**Sn**	**05 50 56.6**	**+0.5**
	comp=N,8μm,0.3s							
EFP	**Efpalio**	**0.25**	**313**	P		**Pn**	**05 50 49.4**	**0.0**
EFP				S		**Sn**	**05 50 56.3**	**+0.2**
EFP				AML		AML	05 50 57.2	
	comp=N,18450μm,0.3s							
EFP				AML		AML	05 50 57.3	
	comp=E,13027μm,0.3s							
UPR	**University Cam**	**0.28**	**276**	P		**Pn**	**05 50 49.6**	**+0.1**
UPR				S		**Sn**	**05 50 56.9**	**+0.4**
UPR	**University Cam**	**0.28**	**276**	P		**Pn**	**05 50 49.5**	**0.0**
DLFA	**Delphi**	**0.36**	**52**	P		**Pn**	**05 50 50.1**	**-0.1**
DLFA				S		**Sn**	**05 50 57.0**	**-0.8**
DLFA				AML		AML	05 50 57.6	
	comp=N,13863μm,0.2s							
DLFA				AML		AML	05 50 58.2	
	comp=E,8829μm,0.3s							
DRO	**Drossia**	**0.45**	**228**	P		**Pn**	**05 50 51.1**	**-0.1**
DRO				S		**Sn**	**05 50 59.7**	**+0.4**
	comp=E,7μm,0.2s							
DRO	**Drossia**	**0.45**	**228**	P		**Pn**	**05 50 51.1**	**-0.1**
DRO				S		**Sn**	**05 50 59.7**	**+0.4**
DRO				AML		AML	05 51 00.0	
	comp=E,16620μm,0.3s							
DRO				AML		AML	05 51 01.3	
	comp=N,12194μm,0.2s							
THAL	**Thalero**	**0.47**	**118**	P		**Pn**	**05 50 51.0**	**-0.3**
THAL				S		**Sn**	**05 50 58.9**	**-0.7**
	comp=N,940nm,0.1s							
THAL	**Thalero**	**0.47**	**118**	P		**Pn**	**05 50 50.9**	**-0.3**
THAL				S		**Sn**	**05 50 58.6**	**-0.9**
THAL				AML		AML	05 51 04.7	
	comp=N,16248μm,0.2s							
THAL				AML		AML	05 51 08.5	
	comp=E,16086μm,0.3s							
RLS	**Riolos of Patr**	**0.56**	**249**	P		**Pn**	**05 50 52.9**	**+0.6**
RLS				S		**Sn**	**05 51 02.7**	**+1.3**
	comp=E,2μm,0.3s							
RLS	**Riolos of Patr**	**0.56**	**249**	P		**Pn**	**05 50 53.0**	**+0.6**
RLS				S		**Sn**	**05 51 02.4**	**+1.1**
RLS				AML		AML	05 51 03.1	
	comp=N,3479μm,0.3s							
RLS				AML		AML	05 51 04.0	
	comp=E,4603μm,0.6s							
PVO	**Paravola**	**0.60**	**307**	P		**Pn**	**05 50 54.4**	**+1.7**
PVO				S		**Sn**	**05 51 04.6**	**+2.5**
PVO				AML		AML	05 51 09.3	
	comp=E,3856μm,0.3s							
PVO				AML		AML	05 51 10.4	
	comp=N,3155μm,0.3s							
PROD	**Prodromos**	**0.60**	**90**	P		**Pn**	**05 50 52.8**	**0.0**
PROD				S		**Sn**	**05 51 02.4**	**+0.2**
PROD	**Prodromos**	**0.60**	**90**	P		**Pn**	**05 50 52.6**	**-0.1**
PROD				S		**Sn**	**05 51 02.0**	**-0.2**
PROD				AML		AML	05 51 03.8	
	comp=N,13554μm,0.2s							
PROD				AML		AML	05 51 04.1	
	comp=E,12726μm,0.2s							
AXAR	**Agios Charalam**	**0.65**	**39**	P		**Pn**	**05 50 54.0**	**+0.6**
AXAR				S		**Sn**	**05 51 03.4**	**+0.1**
AXAR				AML		AML	05 51 05.5	
	comp=E,12170μm,0.4s							
AXAR				AML		AML	05 51 07.4	
	comp=N,12543μm,0.3s							
LTK	**Loutraki**	**0.70**	**109**	P		**Pn**	**05 50 53.7**	**-0.2**
LTK	**Loutraki**	**0.70**	**109**	P		**Pn**	**05 50 53.7**	**-0.2**
LTK				S		**Sn**	**05 51 03.0**	**-1.2**
LTK				AML		AML	05 51 05.4	
	comp=N,3152μm,0.3s							
LTK				AML		AML	05 51 12.7	
	comp=E,1708μm,0.3s							
EVR	**Evrytania**	**0.71**	**339**	P		**Pn**	**05 50 55.1**	**+0.9**
EVR				S		**Sn**	**05 51 06.9**	**+2.3**
EVR				AML		AML	05 51 11.3	
	comp=N,8258μm,0.6s							
EVR				AML		AML	05 51 12.7	
	comp=E,4634μm,0.5s							
LOUT	**Loutraki**	**0.71**	**112**	P		**Pn**	**05 50 53.9**	**-0.2**
AGG	**Agios Georgios**	**0.78**	**11**	P		**Pn**	**05 50 55.3**	**+0.3**
AGG				S		**Sn**	**05 51 06.3**	**+0.2**
AGG				AML		AML	05 51 07.9	
	comp=N,3199μm,0.5s							
AGG				AML		AML	05 51 10.6	
	comp=E,2604μm,0.3s							
AGG	**Agios Georgios**	**0.78**	**11**	PG		**Pn**	**05 50 55.3**	**+0.3**
AGG				SG		**Sn**	**05 51 05.8**	**-0.3**
AMT	**Artemida-Makis**	**0.80**	**205**	P		**Pn**	**05 50 55.8**	**+0.6**
VIL2	**Platees**	**0.89**	**93**	P		**Pn**	**05 50 56.9**	**+0.5**
VIL2				S		**Sn**	**05 51 07.9**	**-0.7**
VIL2				AML		AML	05 51 10.2	
	comp=E,2980μm,0.3s							
VIL2				AML		AML	05 51 10.2	
	comp=N,4233μm,0.3s							
VLX	**Vlachokerasia**	**0.91**	**168**	P		**Pn**	**05 50 57.0**	**+0.3**
ITM	**Ithomi**	**1.09**	**189**	P		**Pn**	**05 51 00.3**	**+1.3**
ITM	**Ithomi**	**1.09**	**189**	PN		**Pn**	**05 50 59.8**	**+0.8**
DID	**Didima**	**1.15**	**130**	P		**Pn**	**05 50 59.4**	**-0.4**
DID				S		**Sn**	**05 51 15.8**	**-0.9**
DID				AML		AML	05 51 15.8	
	comp=E,2869μm,0.2s							
DID				AML		AML	05 51 18.8	
	comp=N,2600μm,0.3s							
EVGI	**Lefkada island**	**1.22**	**288**	P		**Pn**	**05 51 02.4**	**+1.8**
VLMS	**Volimes, Zakyn**	**1.22**	**252**	P		**Pn**	**05 51 02.2**	**+1.4**
MRKA	**Markates**	**1.22**	**68**	P		**Pn**	**05 51 01.0**	**+0.2**
MRKA				AML		AML	05 51 16.9	
	comp=N,5527μm,0.4s							
MRKA				AML		AML	05 51 17.4	
	comp=E,4569μm,0.5s							
LKD2	**Lefkada island**	**1.27**	**295**	P		**Pn**	**05 51 03.5**	**+2.0**
ATH	**Athens Observa**	**1.28**	**102**	P		**Pn**	**05 51 01.6**	**+0.1**
ATH				AML		AML	05 51 17.9	
	comp=N,1294μm,0.6s							
ATH				AML		AML	05 51 18.0	
	comp=E,2099μm,0.3s							
THL	**Klokotos Trika**	**1.31**	**356**	P		**Pn**	**05 51 02.3**	**+0.4**
THL				AML		AML	05 51 25.7	
	comp=N,535μm,0.3s							
THL				AML		AML	05 51 28.0	
	comp=E,530μm,0.4s							
NEO	**Neokhori**	**1.35**	**39**	P		**Pn**	**05 51 02.7**	**+0.2**
VLY	**Voula,Athens**	**1.37**	**107**	P		**Pn**	**05 51 02.7**	**0.0**
XOR	**Xorichti**	**1.38**	**36**	P		**Pn**	**05 51 03.1**	**+0.2**
EREA	**Eretria**	**1.42**	**83**	P		**Pn**	**05 51 03.8**	**+0.3**
AOS	**Alonnisos**	**1.64**	**56**	PN		**Pn**	**05 51 06.1**	**-0.3**
JAN	**Janina**	**1.72**	**325**	P		**Pn**	**05 51 10.3**	**+2.8**
IGT	**Igoumenitsa**	**1.90**	**313**	*e*Pn		**Pn**	**05 51 11.7**	**+1.9**
IGT				*e*Sn		**Sn**	**05 51 33.4**	**+0.7**
IGT	**Igoumenitsa**	**1.90**	**313**	P		**Pn**	**05 51 11.8**	**+1.9**
KTHA	**Kythira Island**	**2.13**	**159**	PN		**Pn**	**05 51 13.6**	**+0.5**
HORT	**Hortiatis**	**2.45**	**17**	PN		**Pn**	**05 51 18.1**	**+0.6**
OUR	**Ouranopolis**	**2.52**	**34**	PN		**Pn**	**05 51 18.4**	**+0.1**
FNA	**Florina**	**2.59**	**347**	*e*Pn		**Pn**	**05 51 20.9**	**+1.5**
FNA	**Florina**	**2.59**	**347**	PN		**Pn**	**05 51 20.9**	**+1.5**
GRG	**Griva**	**2.70**	**4**	PN		**Pn**	**05 51 22.0**	**+1.1**
APE	**Apeiranthos**	**2.94**	**113**	PN		**Pn**	**05 51 24.0**	**-0.2**
KNT	**Kendrikon**	**2.96**	**11**	PN		**Pn**	**05 51 25.2**	**+0.8**
SIGR	**SIGRI**	**3.06**	**71**	PN		**Pn**	**05 51 25.5**	**-0.2**
CHOS	**Chios island**	**3.08**	**86**	PN		**Pn**	**05 51 25.7**	**-0.5**
IMMV	**Iera Moni Meta**	**3.16**	**152**	PN		**Pn**	**05 51 28.2**	**+1.1**
SANT	**Santorini**	**3.25**	**124**	PN		**Pn**	**05 51 28.7**	**+0.3**
BOZC	**Bozcaada**	**3.44**	**61**	PN		**Pn**	**05 51 31.2**	**+0.3**
GADA	**Gvkgeada**	**3.50**	**55**	PN		**Pn**	**05 51 31.9**	**+0.1**
URLA	**Izmir**	**3.51**	**87**	PN		**Pn**	**05 51 32.2**	**+0.3**
MMB	**Musomiste**	**3.55**	**20**	*i* P		**Pn**	**05 51 32.8**	**+0.4**
EZN	**Ezine**	**3.62**	**63**	PN		**Pn**	**05 51 33.7**	**+0.3**
KKB	**Krupnik**	**3.68**	**11**	*i* P		**Pn**	**05 51 36.1**	**+1.9**
IDI	**Anoyia**	**3.70**	**142**	P		**Pn**	**05 51 36.7**	**+2.1**
	comp=E,1.1nm,0.3s,baz=252,slow=9.3,SNR=16							
IDI				S		**Sn**	**05 52 12.5**	**-4.4**
	comp=E,2.8nm,0.3s,baz=83,slow=18,SNR=3.4							
IDI	**Anoyia**	**3.70**	**142**	PN		**Pn**	**05 51 35.4**	**+0.9**
GVD	**Gavdhos**	**3.76**	**155**	PN		**Pn**	**05 51 36.6**	**+1.3**
RDO	**Rodhopi**	**3.90**	**41**	PN		**Pn**	**05 51 38.1**	**+0.9**
RZN	**Rozhen**	**3.96**	**29**	*i* P		**Pn**	**05 51 34.4**	**-3.8**
GELI	**Tayfur-Gelibol**	**3.99**	**56**	PN		**Pn**	**05 51 38.8**	**+0.4**
ALN	**Alexandroupoli**	**4.01**	**48**	PN		**Pn**	**05 51 39.4**	**+0.7**
ERIK	**Erikli-Kesan**	**4.16**	**53**	PN		**Pn**	**05 51 41.3**	**+0.6**
LPK	**Lapseki**	**4.16**	**58**	PN		**Pn**	**05 51 41.5**	**+0.7**
KDZ	**Kurdzhali**	**4.22**	**36**	*i* P		**Pn**	**05 51 40.8**	**-0.9**
KDZ	**Kurdzhali**	**4.22**	**36**	PN		**Pn**	**05 51 42.2**	**+0.5**
BODT	**Bodrum**	**4.28**	**105**	PN		**Pn**	**05 51 42.9**	**+0.5**
TIP	**Timpagrande**	**4.30**	**284**	⇑	P	**Pn**	**05 51 43.9**	**+1.1**
TIP				⇑	S	**Sn**	**05 52 32.0**	**+0.2**
TIP				AML		AML	05 52 32.6	
PLD	**Plovdiv**	**4.32**	**26**	*e*Pn		**Pn**	**05 51 45.7**	**+2.8**
PLD				*e*Sn		**Sn**	**05 52 33.2**	**+1.3**
PLD	**Plovdiv**	**4.32**	**26**	PN		**Pn**	**05 51 44.4**	**+1.5**
CGL1	**Ceglie Messapi**	**4.33**	**305**	*e*Pn		**Pn**	**05 51 43.9**	**+0.8**
CGL1				Sn		**Sn**	**05 52 29.0**	**-3.3**
TAR1	**Taranto**	**4.39**	**303**	*e*Pn		**Pn**	**05 51 44.2**	**+0.3**
TAR1				Sn		**Sn**	**05 52 31.0**	**-2.7**
VTS	**Vitosha**	**4.44**	**11**	*e*Pn		**Pn**	**05 51 45.6**	**+0.9**
VTS				*e*Sn		**Sn**	**05 52 33.9**	**-1.2**
VTS	**Vitosha**	**4.44**	**11**	*e*P		**Pn**	**05 51 47.4**	**+2.7**
VTS	**Vitosha**	**4.44**	**11**	⇑	P	**Pn**	**05 51 47.8**	**+3.1**
VTS				AML		AML	05 52 44.0	
UKOP	**Uzunkopru-Edir**	**4.50**	**49**	PN		**Pn**	**05 51 46.5**	**+1.1**
DRME	**Dracevica, Mon**	**4.53**	**331**	*e*Pn		**Pn**	**05 51 45.6**	**-0.2**
MASS	**Massafra**	**4.53**	**303**	*e*Pn		**Pn**	**05 51 46.2**	**+0.3**
KRBG	**Karabiga-Canak**	**4.54**	**60**	PN		**Pn**	**05 51 46.6**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**4.55**	**92**	PN		**Pn**	**05 51 46.7**	**+0.4**
DAT	**Datca**	**4.59**	**108**	PN		**Pn**	**05 51 47.4**	**+0.6**
PDG	**Podgorica**	**4.71**	**333**	*e*Pn		**Pn**	**05 51 46.2**	**-2.1**
PDG	**Podgorica**	**4.71**	**333**	⇑	P	**Pn**	**05 51 50.1**	**+1.8**
PDG				⇑	S	**Sn**	**05 52 40.5**	**-1.2**
PDG				AML		AML	05 52 43.6	
MRMT	**Marmara Adasi**	**4.83**	**59**	PN		**Pn**	**05 51 50.8**	**+0.7**
MATE	**Matera**	**4.83**	**301**	⇑	P	**Pn**	**05 51 51.0**	**+1.0**
MATE				AML		AML	05 52 47.9	
SG1	**Sgolgore (BA)**	**4.94**	**303**	⇓	*i* Pn	**Pn**	**05 51 51.7**	**+0.1**
SG1					Sn	**Sn**	**05 52 44.9**	**-2.5**
BAI	**Bari**	**4.95**	**307**	*e*Pn		**Pn**	**05 51 51.8**	**+0.2**
BAI					Sn	**Sn**	**05 52 45.5**	**-2.1**
HCY	**Herceg Novi**	**5.03**	**328**	*e*Pn		**Pn**	**05 51 51.9**	**-0.7**
ZAPS	**Zavoj**	**5.03**	**4**	*e*Pn		**Pn**	**05 51 54.0**	**+1.3**
EDRB	**Edirne**	**5.04**	**43**	PN		**Pn**	**05 51 53.9**	**+1.1**
SJES	**Sjenica**	**5.26**	**343**	*e*Pn		**Pn**	**05 51 57.0**	**+1.0**
SJES				*e*Sn		**Sn**	**05 52 51.9**	**-3.4**
TREB	**Trebinje**	**5.31**	**328**	*e*Pn		**Pn**	**05 51 55.7**	**-0.8**
BOVS	**Bovan**	**5.38**	**357**	*e*Pn		**Pn**	**05 51 58.9**	**+1.4**
BRY	**Bratogost**	**5.39**	**331**	*e*Pn		**Pn**	**05 51 57.3**	**-0.4**
ELND	**Elena**	**5.46**	**30**	⇑	P	**Pn**	**05 52 00.6**	**+1.9**
IVAS	**Ivanjica**	**5.52**	**345**	*e*Pn		**Pn**	**05 51 59.6**	**+0.1**
IVAS				*e*Sn		**Sn**	**05 52 59.6**	**-2.0**
ZAGS	**Zajecar**	**5.55**	**1**	*e*Pn		**Pn**	**05 52 00.9**	**+1.1**
STON	**Ston**	**5.71**	**325**	*e*Pn		**Pn**	**05 52 01.2**	**-0.8**
STON				Sn		**Sn**	**05 53 01.8**	**-4.4**
STON	**Ston**	**5.71**	**325**	*e*Pn		**Pn**	**05 52 00.9**	**-1.1**
GRUS	**Gruza**	**5.73**	**350**	*e*Pn		**Pn**	**05 52 03.2**	**+1.0**
GRUS				*e*Sn		**Sn**	**05 53 03.3**	**-3.3**
RUDO	**Rudo**	**5.75**	**340**	*e*Pn		**Pn**	**05 52 01.1**	**-1.5**
BBLS	**Lazić**	**5.97**	**341**	*e*Pn		**Pn**	**05 52 05.7**	**0.0**
BBLS				*e*Sn		**Sn**	**05 53 09.3**	**-3.4**
BBLS	**Lazić**	**5.97**	**341**	*e*Pn		**Pn**	**05 52 05.3**	**-0.4**
DIVS	**Divibare**	**6.05**	**345**	*e*Pn		**Pn**	**05 52 07.0**	**+0.2**
DIVS				*e*Sn		**Sn**	**05 53 11.0**	**-3.8**
DIVS	**Divibare**	**6.05**	**345**	*e*Pn		**Pn**	**05 52 06.5**	**-0.3**
TRUS	**Trudelj**	**6.10**	**348**	*e*Pn		**Pn**	**05 52 07.6**	**+0.2**
HAPS	**Han Pijesak,Bl**	**6.30**	**339**	*e*Pn		**Pn**	**05 52 08.2**	**-2.0**
MAKA	**Makarska**	**6.35**	**324**	*i* Pn		**Pn**	**05 52 09.8**	**-1.0**
MAKA				Sn		**Sn**	**05 53 16.3**	**-5.5**
RICI	**Ricice**	**6.46**	**326**	ePn		**Pn**	**05 52 11.3**	**-1.0**
RICI				Sn		**Sn**	**05 53 19.4**	**-5.2**
MDVR	**Moldovita**	**6.53**	**357**	P		**Pn**	**05 52 16.8**	**+3.6**
HVAR	**Hvar**	**6.54**	**320**	*e*Pn		**Pn**	**05 52 12.5**	**-0.9**

SWI				S		Sn	06 13 54.2	-0.9
SIJI	**Sorong**	**4.52**	**142**	P		Pn	06 13 06.6	+2.6
	17nm,0.3s,baz=221,slow=23,SNR=34							
SIJI				S		Sn	06 13 54.7	-0.7
	7.0nm,0.3s,baz=62,slow=23,SNR=7.2							
SIJI				LR		LR	06 14 30.5	
	comp=Z,122nm,21.6s,baz=126,slow=34							
DAV	**Davao City (W)**	**5.20**	**326**	LR		LR	06 15 25.7	
	comp=Z,133nm,19.7s,baz=153,slow=39							
SANI	**Sanana**	**5.35**	**208**	P		Pn	06 13 16.6	+1.1
	30nm,0.7s,0.1nm							
AAI	**Ambon**	**6.37**	**183**	P		Pn	06 13 29.8	+0.4
FAKI	**Fak Fak**	**6.75**	**146**	Pn		Pn	06 13 36.7	+2.1
MPSI	**Mapaga**	**8.90**	**255**	P		Pn	06 14 06.5	+2.3
	21nm,0.9s							
MTN	**Manton Dam**	**15.68**	**170**	Pn		Pn	06 15 37.5	+1.0
MTN				IAmb		IAmb	06 15 45.2	
	comp=Z,14nm,1.1s							
KNRA	**Kununurra**	**18.28**	**179**	P		Pn	06 16 09.8	+0.8
KNRA				IAmb		IAmb	06 16 25.9	
	comp=Z,16nm,1.3s							
FITZ	**Fitzroy Crossi**	**20.87**	**188**	P		P	06 16 36.3	-0.9
	comp=Z,1.4nm,0.7s,baz=346,slow=8.3,SNR=2.1							
FITZ	**Fitzroy Crossi**	**20.87**	**188**	P		P	06 16 36.1	-1.1
PMG	**Port Moresby**	**22.16**	**123**	LR		LR	06 25 44.3	
	comp=Z,68nm,19.2s,baz=32,slow=37							
WRAB	**Tennant Creek**	**23.23**	**166**	P		P	06 17 02.3	0.0
WRAB				IAmb		IAmb	06 17 03.0	
	comp=Z,8.6nm,0.9s							
WRA	**Warramunga Arr**	**23.24**	**166**	P		P	06 17 02.2	-0.2
	comp=Z,4.2nm,0.5s,baz=345,slow=10,SNR=52							
WR0	**Warramunga Arr**	**23.31**	**165**	P		P	06 17 03.0	-0.1
WR0				IAmb		IAmb	06 17 03.3	
	comp=Z,4.9nm,0.7s							
AS31	**Alice Springs**	**26.75**	**169**	P		P	06 17 34.0	-0.6
ASAR	**Alice Springs**	**26.75**	**169**	P		P	06 17 34.3	-0.3
	comp=Z,0.9nm,0.6s,baz=358,slow=8.6,SNR=20							
ASAR				PcP		PcP	06 20 56.5	-0.9
	comp=Z,0.4nm,0.4s,baz=354,slow=2.2,SNR=7.5							
MAJO	**Matsushiro**	**34.84**	**14**	P		P	06 18 46.8	+1.0
MJB9	**Matsu-Tunnel**	**34.84**	**14**	P		P	06 18 46.5	+0.7
BBOO	**Buckleboo**	**36.05**	**169**	P		P	06 18 55.6	-0.7
STKA	**Stephens Creek**	**36.59**	**161**	P		P	06 19 00.2	-0.7
	comp=Z,3.6nm,0.8s,baz=340,slow=8.1,SNR=6.5							
STKA	**Stephens Creek**	**36.59**	**161**	P		P	06 18 59.6	-1.3
H11S3	**WAKE ISLAND Hy**	**40.56**	**65**	T		T	07 02 53.8	
	baz=252,slow=75,SNR=16							
H11S2	**WAKE ISLAND Hy**	**40.57**	**65**	T		T	07 02 58.7	
	baz=252,slow=75,SNR=9.4							
H11S1	**WAKE ISLAND Hy**	**40.57**	**64**	T		T	07 02 50.6	
	baz=252,slow=75,SNR=4.8							
H11N1	**WAKE ISLAND Hy**	**41.13**	**63**	T		T	07 03 31.2	
	baz=250,slow=75,SNR=21							
H11N2	**WAKE ISLAND Hy**	**41.14**	**63**	T		T	07 03 31.4	
	baz=250,slow=75,SNR=6.3							
H11N3	**WAKE ISLAND Hy**	**41.15**	**63**	T		T	07 03 32.8	
	baz=250,slow=75,SNR=18							
TAPN	**Taplejung**	**46.02**	**306**	*eP*		P	06 20 19.0	+0.2
ODAN	**Odare**	**46.08**	**305**	*eP*		P	06 20 19.2	0.0
	comp=Z,10nm,0.7s							
RAMN	**Ramite**	**46.76**	**305**	*eP*		P	06 20 25.1	+0.6
	comp=Z,6.0nm,0.6s							
JIRN	**Jiri**	**47.38**	**306**	*eP*		P	06 20 29.6	+0.1
GUN	**Gumba**	**47.73**	**306**	*eP*		P	06 20 32.3	+0.1
SONM	**Songino Array**	**48.82**	**340**	P		P	06 20 39.7	-0.4
	comp=Z,0.4nm,0.5s,baz=158,slow=7.8,SNR=2.1							
KOLN	**Koldanda**	**49.54**	**305**	*eP*		P	06 20 46.2	+0.3
	comp=Z,17nm,0.6s							
DANN	**Dangsing**	**49.63**	**305**	*eP*		P	06 20 46.7	0.0
	comp=Z,24nm,0.7s							
MK31	**Makanchi Array**	**59.38**	**325**	P		P	06 21 56.7	-0.2
MKAR	**Makanchi Array**	**59.38**	**325**	P		P	06 21 56.6	-0.4
	comp=Z,2.4nm,0.7s,baz=112,slow=8.3,SNR=13							
MAKZ	**Makanchi**	**59.57**	**325**	P		P	06 21 57.4	-0.9
MAKZ				IAmb		IAmb	06 22 12.1	
	comp=Z,4.9nm,1.1s							
KURK	**Kurchatov**	**63.53**	**327**	P		P	06 22 24.4	-0.5
KURK				IAmb		IAmb	06 22 24.7	
	comp=Z,2.1nm,0.7s							
BRVK	**Borovoye**	**69.19**	**327**	P		P	06 23 00.6	-0.5
BRVK				IAmb		IAmb	06 23 06.3	
	comp=Z,1.2nm,0.6s							
KIRV	**Kirov**	**81.99**	**329**	LR		LR	07 05 38.1	
	comp=Z,78nm,18.4s,baz=185,slow=39							
VNDA	**Vanda**	**82.21**	**173**	P		P	06 24 14.3	-0.7
QSPA	**South Pole Qui**	**92.63**	**180**	P		P	06 25 05.2	-0.7
	comp=Z,0.9nm,0.8s,baz=17,slow=5.2,SNR=2.0							
QSPA	**South Pole Qui**	**92.63**	**180**	P		P	06 25 05.6	-0.4
QSPA				IAmb		IAmb	06 25 08.0	
	comp=Z,1.5nm,0.9s							

*IDC **21** 06:16:50.1±7.9, 7°.85N×73°.24W, h114km±61km, mb1 3.3/1, mb1mx2.8/27, mbtmp3.9/1, Error ellipse: s-maj=209.7km s-min=68.9km az=111.0*

*ISCJB **21** 06:16:52.2±0.6, 7°.57N±0°.02×73°.39W±0°.04, h122km±6km, Error ellipse: s-maj=6.4km s-min=4.1km az=3.3*

*RSNC **21** 06:16:53.3±1.1, 7°.54N×73°.38W, h118km±5km, ML3.1, Mw3.3*

ISC 21 06:16:52.3±1.1, 7°.58N±0°.03×73°.36W±0°.04, h122km±7km, n28, σ1§15/45, 6C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRRC	**Barranca, Sant**	**0.58**	**217**	⇑*iP*	**Pn**	**06 17 11.1**	**+0.1**
BRRC				*eS*	**Sn**	**06 17 24.9**	**-0.2**
BRRC				*i*		06 17 26.6	
	comp=Z,992nm,0.2s						
OCAC	**Ocana**	**0.66**	**4**	⇓*iP*	**Pn**	**06 17 12.3**	**+0.5**
OCAC				*eS*	**Sn**	**06 17 26.9**	**+0.5**
OCAC				*i*		06 17 29.0	
	comp=Z,792nm,0.3s						
PAMC	**Pamplona, Colo**	**0.70**	**110**	⇑*eP*	**Pn**	**06 17 13.2**	**+0.8**
PAMC				*eS*	**Sn**	**06 17 28.4**	**+1.0**
PAMC				*i*		06 17 31.5	
	comp=Z,80nm,0.2s						
BARC	**Barichara**	**0.99**	**170**	⇑*iP*	**Pn**	**06 17 14.7**	**0.0**
BARC				*eS*	**Sn**	**06 17 30.8**	**-0.8**
BARC				*i*		06 17 31.7	
	comp=Z,560nm,0.2s						
SMLC	**San Martn de**	**1.41**	**330**	*eP*	**Pn**	**06 17 18.7**	**0.0**
SMLC				*eS*	**Sn**	**06 17 39.4**	**+0.5**
SMLC				*i*		06 17 42.8	
	comp=Z,495nm,0.1s						
ZARC	**Zaragoza, Cauc**	**1.49**	**267**	*eP*	**Pn**	**06 17 20.3**	**+0.6**
ZARC				*eS*	**Sn**	**06 17 41.4**	**+0.9**
ZARC				*i*		06 17 45.1	
	comp=Z,232nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.50**	**227**	⇑*eP*	**Pn**	**06 17 19.2**	**-0.6**
PTBC				*eS*	**Sn**	**06 17 39.1**	**-1.7**
PTBC				*i*		06 17 45.4	
	comp=Z,257nm,0.4s						
RUSC	**La Rusia**	**1.70**	**171**	*eP*	**Pn**	**06 17 21.9**	**-0.8**
RUSC				*eS*	**Sn**	**06 17 44.6**	**-1.1**
RUSC				*i*		06 17 47.0	
	comp=Z,46nm,0.3s						
TAMC	**Tame, Arauca**	**1.93**	**126**	⇑*iP*	**Pn**	**06 17 25.2**	**+0.2**
TAMC				*i*		06 17 57.0	
	comp=Z,45nm,0.6s						
SPBC	**San Pablo de B**	**2.04**	**200**	*eP*	**Pn**	**06 17 26.4**	**-0.1**
SPBC				*eS*	**Sn**	**06 17 52.1**	**-0.5**
SPBC				*i*		06 17 58.8	
	comp=Z,118nm,0.3s						
UREC	**San Jos de Ur**	**2.16**	**275**	*eP*	**Pn**	**06 17 27.2**	**-0.6**
UREC				*i*		06 18 04.9	
	comp=Z,197nm,0.1s						
CODC	**Agustn Codazz**	**2.34**	**358**	*eP*	**Pn**	**06 17 31.0**	**+0.8**
CODC				*eS*	**Sn**	**06 18 00.1**	**+0.8**
CODC				*i*		06 18 05.5	
	comp=Z,62nm,0.3s						
ARGC	**Ariguani, Magd**	**2.43**	**339**	*eP*	**Pn**	**06 17 32.3**	**+1.0**
ARGC				*i*		06 18 12.6	
	comp=Z,64nm,0.3s						
NORC	**Norcasia**	**2.50**	**217**	⇑*iP*	**Pn**	**06 17 31.7**	**-0.6**
NORC				*eS*	**Sn**	**06 18 02.3**	**-0.6**
NORC				*i*		06 18 09.9	
	comp=Z,88nm,0.2s						
DBBC	**Dabeiba**	**2.88**	**259**	*eP*	**Pn**	**06 17 37.9**	**+0.7**
DBBC				*i*		06 18 27.1	
	comp=Z,71nm,0.4s						
ROSC	**El Rosal**	**2.88**	**199**	*eP*	**Pn**	**06 17 38.4**	**+0.9**
ROSC				*i*		06 18 19.6	
	comp=Z,52nm,0.5s						
ROSC	**El Rosal**	**2.88**	**199**	P	**Pn**	**06 17 39.0**	**+1.5**
	comp=Z,9.9nm,0.3s,baz=22,slow=16,SNR=18						
ROSC				S	**Sn**	**06 18 17.1**	**+4.8**
	comp=Z,19nm,0.3s,baz=30,slow=21,SNR=9.3						
SJCC	**San Jacinto, C**	**2.92**	**322**	*eP*	**Pn**	**06 17 38.0**	**+0.2**
SJCC				*eS*	**Sn**	**06 18 11.5**	**-1.2**
SJCC				*i*		06 18 14.2	
	comp=Z,39nm,0.4s						
CHIC	**Chingaza**	**2.95**	**187**	*eP*	**Pn**	**06 17 39.1**	**+0.7**
CHIC				*eS*	**Sn**	**06 18 13.9**	**0.0**
CHIC				*i*		06 18 24.3	
	comp=Z,25nm,0.3s						
SDV	**Santo Domingo**	**3.00**	**64**	⇓*iP*	**Pn**	**06 17 39.5**	**+0.7**
SDV				*eS*	**Sn**	**06 18 13.2**	**-1.5**
GUY2C	**Guyana, Caldas**	**3.07**	**221**	*eP*	**Pn**	**06 17 40.2**	**+0.1**
GUY2C				*i*		06 18 23.6	
	comp=Z,44nm,1.4s						
CBOC	**Ciudad Bolivar**	**3.13**	**237**	⇓*eP*	**Pn**	**06 17 41.2**	**+0.6**
CBOC				*i*		06 18 32.3	
	comp=Z,31nm,0.4s						
RREF	**El Recreo**	**3.31**	**217**	*eP*	**Pn**	**06 17 44.0**	**+0.6**
RREF				*i*		06 18 31.8	
	comp=Z,43nm,0.3s						
VILC	**Villavicencio,**	**3.46**	**186**	*eP*	**Pn**	**06 17 45.4**	**+0.6**
VILC				*eS*	**Sn**	**06 18 26.2**	**+0.8**
VILC				*i*		06 18 35.6	
	comp=Z,43nm,0.4s						
ANIL	**Santa Ana**	**3.68**	**214**	*eP*	**Pn**	**06 17 50.2**	**+2.3**
ANIL				*i*		06 18 42.1	
	comp=Z,91nm,0.4s						
ORTC	**Ortega, Tolima**	**4.10**	**207**	*eP*	**Pn**	**06 17 53.5**	**+0.3**
ORTC				*eS*	**Sn**	**06 18 40.7**	**+0.2**
ORTC				*i*		06 18 51.4	
	comp=Z,33nm,0.5s						
ASAR	**Alice Springs**	**149.35**	**235**	PKPbc	**PKPbc**	**06 36 27.1**	**-0.7**
	comp=Z,0.2nm,0.8s,baz=101,slow=3.9,SNR=1.5						
WRA	**Warramunga Arr**	**150.48**	**243**	PKPbc	**PKPbc**	**06 36 29.2**	**-1.4**
	comp=Z,0.4nm,1.0s,baz=107,slow=2.8,SNR=1.5						

*SOME **21** 06:24:12.3, 43°.37N×74°.55E*

*ISCJB **21** 06:24:13.5±0.5, 43°.34N±0°.03×74°.58E±0°.04, h0km, Error ellipse: s-maj=5.1km s-min=3.1km az=144.6*

*NNC **21** 06:24:13.8±0.7, 43°.33N×74°.61E, h0km, mb3.1, mpv3.0, Error ellipse: s-maj=4.8km s-min=3.1km az=135.0, Suspected Mining explosion.*

ISC 21 06:24:13.8±0.9, 43°.37N±0°.03×74°.59E±0°.03, h0km, n22, σ1§01/33, 5C-1D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGDS	**Sogindy**	**0.09**	**21**	P	**Pg**	**06 24 15.6**	**+0.1**
SGDS	172nm,0.1s						
				S	**Sg**	**06 24 17.5**	**+0.8**
	1µm,0.2s						
USP	**Ospenovka**	**0.12**	**212**	P	**Pg**	**06 24 16.0**	**0.0**
	SNR=473						
CHMS	**Chumysh**	**0.39**	**162**	P	**Pg**	**06 24 21.1**	**-0.1**
	SNR=27						
AAK	**Ala-Archa**	**0.73**	**185**	P	**Pg**	**06 24 27.8**	**0.0**
	SNR=22						
AAK	**Ala-Archa**	**0.73**	**185**	⇑P	**Pg**	**06 24 27.5**	**-0.3**
	6.5nm,0.5s						
AAK				⇓S	**Sg**	**06 24 37.7**	**+0.4**
	11nm,0.6s						
TKM2	**Tokmak 2**	**0.86**	**121**	P	**Pg**	**06 24 29.4**	**-0.9**
	SNR=9.7						
TKM2	**Tokmak 2**	**0.86**	**121**	⇑P	**Pg**	**06 24 29.5**	**-0.9**
	1.6nm,0.5s						
TKM2				⇑S	**Sg**	**06 24 40.5**	**-1.0**
	3.0nm,0.2s						
DGS	**Degeres**	**0.88**	**98**	P	**Pg**	**06 24 30.0**	**-0.6**
	3.2nm,0.2s						
DGS				S	**Sb**	**06 24 43.4**	**-0.8**
	9.4nm,0.3s						
EKS2	**Erkin-Say**	**0.92**	**220**	P	**Pg**	**06 24 31.2**	**-0.3**
	SNR=13						
KST	**Kastek**	**1.06**	**107**	P	**Pg**	**06 24 33.3**	**-0.8**
	3.0nm,0.2s						
KST				S	**Sb**	**06 24 48.6**	**-0.8**
	4.7nm,0.3s						
UCH	**Uchtor**	**1.14**	**183**	P	**Pg**	**06 24 35.1**	**-0.5**
	SNR=11						
MRKS	**Merke**	**1.18**	**238**	P	**Pg**	**06 24 35.2**	**-1.1**
	4.2nm,0.1s						
MRKS				S	**Sb**	**06 24 52.0**	**-0.9**
	4.7nm,0.1s						
MTBS	**Maitube**	**1.37**	**99**	P	**Pb**	**06 24 41.6**	**+1.4**
	4.4nm,0.1s						
MTBS				S	**Sn**	**06 25 03.0**	**+3.9**
	7.6nm,0.3s						
KUU	**Kurty**	**1.38**	**67**	P	**Pg**	**06 24 39.1**	**-1.1**
	4.4nm,0.3s						
KUU				S	**Sb**	**06 24 58.5**	**0.0**
	16nm,0.4s						
AML	**Almayashu**	**1.40**	**208**	P	**Pg**	**06 24 40.0**	**-0.6**
	SNR=4						
KTBS	**Karatobe**	**1.56**	**77**	P	**Pn**	**06 24 42.6**	**-0.2**
	15nm,0.3s						
KTBS				S	**Sg**	**06 25 04.7**	**+0.7**
	52nm,0.3s						
TNSS	**Tian-Shan**	**1.76**	**100**	P	**Pn**	**06 24 45.8**	**-0.1**
	4.9nm,0.1s						
TNSS				S	**Sg**	**06 25 10.1**	**-0.1**
	7.1nm,0.3s						
MDOK	**Medeo**	**1.81**	**96**	Pg	**Pn**	**06 24 46.6**	**+0.2**
	3.1nm,0.3s						
MDOK				Lg	Lg	06 25 11.5	
	5.4nm,0.3s						
CHKK	**Chushkaly**	**1.81**	**74**	P	**Pn**	**06 24 46.4**	**+0.2**
	2.3nm,0.2s						
CHKK				S	**Sg**	**06 25 11.6**	**-0.4**
	22nm,0.3s						
KOTS	**Kotyrbulak**	**1.85**	**93**	Pg	**Pb**	**06 24 47.8**	**-0.7**
	6.5nm,0.3s						
KOTS				Lg	Lg	06 25 14.0	
	13nm,0.5s						
ARXS	**Arharly**	**2.49**	**69**	Pg	**Pb**	**06 24 57.8**	**-1.7**
	1.5nm,0.3s						
ARXS				Lg	Lg	06 25 31.0	
	3.6nm,0.3s						
KK31	**Karatay Array**	**2.99**	**266**	⇑Pg	**Pb**	**06 25 07.6**	**-0.3**
	0.4nm,0.3s,baz=84,slow=16,SNR=8.6						
KK31				⇑Lg	Lg	06 25 49.7	
	1.5nm,0.4s,baz=88,slow=30,SNR=8.1						

*IDC **21** 06:32:14.4±0.5, 36°.23S×52°.48E, h0km, mb4.4/20, mb1 4.5/21, mb1mx4.2/72, mbtmp4.4/21, ML4.7/1, MS3.8/14, Ms1 3.7/14, ms1mx3.5/45, Error ellipse: s-maj=17.1km s-min=14.5km az=19.0*

*BJI **21** 06:32:15.1±0.0, 36°.30S×52°.02E, h17km, mb5.0/16, mB5.2/11, Ms5.2/3, Ms7 4.9/4*

*ISCJB **21** 06:32:16.2±0.3, 36°.17S±0°.06×52°.53E±0°.08, h18km, mb4.4/22, MS3.9/15, Error ellipse: s-maj=9.8km s-min=8.7km az=161.2*

*NEIC **21** 06:32:16.1±1.5, 36°.29S±0°.09×52°.4E±0°.1, h10km±1km, mb4.8/22*

ISC 21 06:32:17.6±0.4, 36°.21S±0°.08×52°.49E±0°.10, h18km, n89, σ1§21/77, mb4.6/28, MS3.8/15, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRZF	**Crozet Islands**	**10.22**	**182**	Pn	**Pn**	**06 34 40.6**	**-2.6**
ABPO	**Ambohimpanom**	**17.75**	**343**	P	**P**	**06 36 26.0**	**+1.3**
OPO	**Ambohidratompo**	**18.19**	**344**	P	**P**	**06 36 30.1**	**+0.6**
	2.2nm,0.3s,baz=146,slow=14,SNR=10						
OPO				LR	LR	06 42 25.2	
	comp=Z,148nm,19.6s,baz=3.5,slow=34						
BOSA	**Boshof**	**24.15**	**281**	P	**P**	**06 37 31.7**	**-1.1**
	7.5nm,0.8s,baz=103,slow=8.4,SNR=12						
BOSA				LR	LR	06 45 30.4	
	comp=Z,78nm,19.2s,baz=134,slow=33						
BOSA	**Boshof**	**24.15**	**281**	P	**P**	**06 37 31.5**	**-1.3**
LBTB	**Lobatse**	**25.61**	**288**	P	**P**	**06 37 44.9**	**-1.1**
	5.4nm,0.6s,baz=129,slow=8.8,SNR=8.9						
LBTB				LR	LR	06 46 11.3	
	comp=Z,207nm,19.2s,baz=118,slow=33						
LBTB	**Lobatse**	**25.61**	**288**	P	**P**	**06 37 44.5**	**-1.6**
LBTB				IAmb	IAmb	06 37 45.5	
	comp=Z,19nm,1.1s						
SUR	**Sutherland**	**26.38**	**269**	LR	LR	06 46 15.2	
	comp=Z,177nm,18.8s,baz=116,slow=32						
LSZ	**Lusaka**	**30.07**	**308**	P	**P**	**06 38 25.9**	**-0.2**
	comp=Z,4.1nm,0.6s,baz=155,slow=8.1,SNR=7.3						
LSZ				LR	LR	06 48 58.4	
	comp=Z,248nm,19.4s,baz=148,slow=33						
LSZ	**Lusaka**	**30.07**	**308**	P	**P**	**06 38 26.5**	**+0.4**
MAW	**Mawson**	**31.99**	**173**	LR	LR	06 48 28.0	
	comp=Z,217nm,20.4s,baz=45,slow=30						
H08S1	**Diego Garcia H**	**33.79**	**38**	T	T	07 14 53.1	
	baz=213,slow=76,SNR=4.2						
H08S2	**Diego Garcia H**	**33.80**	**38**	T	T	07 14 53.7	
H08S3	**Diego Garcia H**	**33.81**	**38**	T	T	07 14 55.3	
	baz=203,slow=76,SNR=5.1						
H08N3	**Diego Garcia H**	**34.23**	**34**	T	T	07 15 26.9	
	baz=206,slow=76,SNR=4.4						
H08N1	**Diego Garcia H**	**34.24**	**34**	T	T	07 15 25.0	
	baz=206,slow=76,SNR=5.2						
H08N2	**Diego Garcia H**	**34.25**	**34**	T	T	07 15 22.1	
	baz=206,slow=76,SNR=3.4						
KMBO	**Kilima Mbogo**	**37.66**	**335**	LR	LR	06 53 12.3	
	comp=Z,164nm,22.0s,baz=94,slow=33						
SNAA	**Sanae**	**45.29**	**201**	P	**P**	**06 40 34.5**	**+0.7**
SNAA	**Sanae**	**45.29**	**201**	P	**P**	**06 40 33.9**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=45,slow=6.8,SNR=9.4						
SNAA	**Sanae**	**45.29**	**201**	P	**P**	**06 40 34.3**	**+0.5**
SNAA				IAmb	IAmb	06 40 45.3	
	comp=Z,9.5nm,1.0s						
VNA2	**Neumayer--Watz**	**46.45**	**203**	P	**P**	**06 40 45.2**	**+2.2**
	baz=68,slow=7.3						
VNA1	**Neumayer--Stat**	**46.66**	**204**	P	**P**	**06 40 47.6**	**+3.1**
VNA3	**Neumayer Olymp**	**47.25**	**203**	P	**P**	**06 40 50.8**	**+1.6**
ATD	**Arta Tunnel**	**48.35**	**347**	LR	LR	06 58 01.7	
	comp=Z,37nm,21.6s,baz=82,slow=32						
H01W2	**Cape Leeuwin H**	**49.41**	**108**	T	T	07 34 16.3	
	baz=256,slow=75,SNR=21						
H01W3	**Cape Leeuwin H**	**49.41**	**108**	T	T	07 34 16.3	
	SNR=23						
H01W1	**Cape Leeuwin H**	**49.42**	**108**	T	T	07 34 20.3	
	baz=247,slow=75,SNR=25						
QSPA	**South Pole Qui**	**53.97**	**180**	P	**P**	**06 41 39.1**	**-1.0**
	comp=Z,7.5nm,1.0s,baz=271,slow=4.3,SNR=14						
QSPA				LR	LR	07 02 05.0	
	comp=Z,170nm,20.3s,baz=272,slow=33						
QSPA	**South Pole Qui**	**53.97**	**180**	P	**P**	**06 41 39.6**	**-0.5**
QSPA				IAmb	IAmb	06 41 44.1	
	comp=Z,8.9nm,1.0s						
RPSI	**Rantau Prapat**	**58.05**	**59**	P	**P**	**06 42 10.2**	**+0.5**
PSI	**Prapat**	**58.12**	**58**	P	**P**	**06 42 10.2**	**-0.2**
	comp=Z,6.9nm,0.9s,baz=216,slow=8.2,SNR=5.0						
PSI				LR	LR	07 00 19.0	
	comp=Z,39nm,19.7s,baz=213,slow=29						
WSAR	**Wadi Sarin**	**59.41**	**7**	LR	LR	07 01 10.1	
	comp=Z,91nm,18.9s,baz=234,slow=29						
RAYN	**Ar Rayn**	**59.78**	**353**	P	**P**	**06 42 22.5**	**+0.9**
RAYN				IAmb	IAmb	06 42 32.9	
	comp=Z,8.9nm,1.0s						
FITZ	**Fitzroy Crossi**	**66.14**	**95**	P	**P**	**06 43 04.0**	**0.0**
	comp=Z,7.8nm,1.0s,baz=199,slow=5.5,SNR=9.8						
FITZ	**Fitzroy Crossi**	**66.14**	**95**	P	**P**	**06 43 03.9**	**-0.2**
FITZ				IAmb	IAmb	06 43 05.7	
	comp=Z,8.9nm,1.1s						
DBIC	**Dimbokro**	**68.56**	**296**	LR	LR	07 10 24.8	
	comp=Z,74nm,20.5s,baz=117,slow=33						
TOA0	**Torodi Ar. Sit**	**68.59**	**306**	P	**P**	**06 43 20.0**	**+0.4**
TOA0				IAmb	IAmb	06 43 30.6	
	comp=Z,12nm,1.1s						
TORD	**Torodi Ar. Bea**	**68.59**	**306**	P	**P**	**06 43 20.2**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=121,slow=5.5,SNR=13						
ASAR	**Alice Springs**	**69.79**	**105**	P	**P**	**06 43 27.1**	**0.0**
	comp=Z,3.9nm,0.6s,baz=230,slow=6.0,SNR=92						
AS31	**Alice Springs**	**69.79**	**105**	P	**P**	**06 43 27.1**	**0.0**
CMAR	**Chiang Mai Arr**	**69.90**	**47**	P	**P**	**06 43 27.2**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=235,slow=6.7,SNR=12						
KNRA	**Kununurra**	**69.95**	**95**	P	**P**	**06 43 28.4**	**+0.3**
TOO	**Toolangi**	**71.13**	**123**	P	**P**	**06 43 36.5**	**+1.5**
STKA	**Stephens Creek**	**71.35**	**116**	P	**P**	**06 43 36.8**	**+0.4**
STKA				IAmb	IAmb	06 44 14.1	
	comp=Z,6.6nm,0.9s						
WRA	**Warramunga Arr**	**72.11**	**102**	P	**P**	**06 43 40.9**	**-0.3**
	comp=Z,5.6nm,0.8s,baz=232,slow=5.3,SNR=28						
WRAB	**Tennant Creek**	**72.12**	**102**	P	**P**	**06 43 41.6**	**+0.3**
BRTR	**Keskin Array B**	**77.54**	**345**	P	**P**	**06 44 11.8**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=174,slow=3.7,SNR=4.7						
BRTR				LR	LR	07 15 23.4	
	comp=Z,39nm,21.6s,baz=186,slow=33						
KSH	**Kashi**	**78.41**	**18**	P	**P**	**06 44 15.0**	**-2.0**
KSH				PP	**PP**	**06 47 14.0**	**-0.8**
KSH				S	**S**	**06 54 06.8**	**-5.0**
KSH				ScS	**SKSac**	**06 54 28.5**	**-2.2**
KSH				pmax	pmax		
	comp=Z,18nm,0.7s						
KSH				pmax	pmax		
	comp=Z,290nm,4.4s						
KSH				LR	LR		
	comp=Z,300nm,8.6s						
KSH				LR	LR		
	comp=Z,410nm,10.2s						
KBZ	**Khabaz**	**80.04**	**353**	P	**P**	**06 44 25.6**	**0.0**
	comp=Z,1.4nm,0.8s,baz=201,slow=14,SNR=2.8						
KIV	**Kislovodsk**	**80.29**	**353**	P	**P**	**06 44 27.4**	**+0.3**
KIV				IAmb	IAmb	06 44 57.1	
	comp=Z,13nm,0.4s						
KK31	**Karatay Array**	**80.64**	**13**	P	**P**	**06 44 28.8**	**0.0**
KKAR	**Karatay Array**	**80.64**	**13**	P	**P**	**06 44 29.0**	**+0.1**
AAK	**Ala-Archa**	**81.01**	**16**	P	**P**	**

IDC ***21*** *06:38:01.7±1.1,34˚41N×25˚17E,h0km,mb3.8/4, mb1 3.8/9,mb1mx3.5/62,mbtmp3.7/9,ML3.8/5,Error ellipse: s-maj=22.1km s-min=15.4km az=77.0*

ATH ***21*** *06:38:03.3,34˚27N×25˚14E,h25km±1km,ML3.0/9,Error ellipse: s-maj=4.2km s-min=1.7km az=353.0*

THE ***21*** *06:38:04.5,34˚34N×25˚16E,h1km±1km,ML2.9/5,Error ellipse: s-maj=2.0km s-min=0.6km az=151.0*

ISC 21 06:38:02.6±1.9,34˚27N±0˚05×25˚19E±0˚04,h7km±12km, n30,σ1°§21/44,mb3.8/5,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.81**	**337**	P	**Pb**	**06 38 18.9**	**-0.1**
SIVA				S	**Sb**	**06 38 30.3**	**+0.2**
	4μm,0.5s						
SIVA	**Sivas**	**0.81**	**337**	P	**Pb**	**06 38 18.9**	**-0.1**
SIVA				S	**Sb**	**06 38 30.1**	**+0.1**
SIVA				AML	AML	06 38 30.8	
	comp=N,6200μm,0.3s						
SIVA				AML	AML	06 38 31.6	
	comp=E,9746μm,0.6s						
TMBK	**Timbaki Herakl**	**0.87**	**337**	P	**Pb**	**06 38 20.4**	**+0.3**
TMBK				S	**Sb**	**06 38 32.4**	**+0.5**
	comp=E,778nm,0.7s						
LAST	**Lasithi**	**0.92**	**15**	P	**Pb**	**06 38 21.1**	**+0.2**
LAST				S	**Sb**	**06 38 34.5**	**+1.1**
	comp=E,508nm,0.4s						
LAST	**Lasithi**	**0.92**	**15**	P	**Pb**	**06 38 20.9**	**0.0**
LAST				S	**Sn**	**06 38 35.3**	**-0.3**
LAST				AML	AML	06 38 46.1	
	comp=E,1281μm,0.7s						
LAST				AML	AML	06 38 46.7	
	comp=N,1025μm,0.6s						
IDI	**Anoyia**	**1.04**	**346**	Pn	**Pg**	**06 38 22.4**	**-0.3**
	comp=N,24nm,0.3s,baz=171,slow=16,SNR=123						
IDI				Sn	**Sb**	**06 38 36.6**	**-0.4**
	comp=N,79nm,0.3s,baz=282,slow=18,SNR=13						
IDI	**Anoyia**	**1.04**	**346**	P	**Pb**	**06 38 22.7**	**-0.3**
IDI				S	**Sb**	**06 38 37.2**	**+0.2**
IDI				AML	AML	06 38 39.1	
	comp=E,1184μm,0.3s						
IDI				AML	AML	06 38 47.8	
	comp=N,1032μm,0.4s						
NPS	**Neapolis**	**1.05**	**19**	P	**Pb**	**06 38 23.2**	**+0.1**
NPS	**Neapolis**	**1.05**	**19**	P	**Pb**	**06 38 23.2**	**+0.1**
NPS				S	**Sn**	**06 38 39.2**	**+0.5**
NPS				AML	AML	06 38 51.0	
	comp=N,1019μm,0.4s						
NPS				AML	AML	06 38 51.3	
	comp=E,1362μm,1.0s						
GVD	**Gavdhos**	**1.07**	**302**	P	**Pb**	**06 38 23.9**	**+0.5**
GVD				S	**Sb**	**06 38 38.6**	**+0.9**
	comp=E,962nm,0.5s						
GVD	**Gavdhos**	**1.07**	**302**	P	**Pb**	**06 38 24.0**	**+0.5**
GVD				S	**Sb**	**06 38 37.8**	**+0.1**
GVD				AML	AML	06 38 48.9	
	comp=N,2491μm,0.6s						
GVD				AML	AML	06 38 52.3	
	comp=E,2190μm,0.7s						
GVDS	**Gavdos**	**1.07**	**303**	P	**Pb**	**06 38 24.2**	**+0.7**
GVDS				S	**Sn**	**06 38 39.7**	**+0.5**
	comp=E,692nm,0.3s						
ZKR	**Zakros**	**1.19**	**45**	P	**Pb**	**06 38 26.4**	**+0.8**
ZKR	**Zakros**	**1.19**	**45**	P	**Pb**	**06 38 26.3**	**+0.8**
ZKR				S	**Sn**	**06 38 44.6**	**+2.4**
ZKR				AML	AML	06 38 56.4	
	comp=N,777μm,0.7s						
ZKR				AML	AML	06 38 57.0	
	comp=E,1756μm,0.7s						
VAM	**Vamos**	**1.40**	**325**	P	**Pn**	**06 38 28.9**	**+0.4**
VAM	**Vamos**	**1.40**	**325**	P	**Pg**	**06 38 28.6**	**-0.7**
VAM				S	**Sn**	**06 38 47.8**	**+0.6**
VAM				AML	AML	06 38 55.6	
	comp=E,1208μm,0.5s						
VAM				AML	AML	06 38 55.7	
	comp=N,1133μm,0.5s						
IMMV	**Iera Moni Meta**	**1.55**	**320**	P	**Pn**	**06 38 31.1**	**+0.5**
IMMV				AML	AML	06 39 07.7	
	comp=E,965μm,0.6s						
IMMV				AML	AML	06 39 11.2	
	comp=N,825μm,0.8s						
KARP	**Karpathos**	**2.06**	**51**	P	**Pn**	**06 38 39.6**	**+2.0**
KARP				AML	AML	06 39 28.9	
	comp=N,296μm,1.0s						
KARP				AML	AML	06 39 39.0	
	comp=E,337μm,1.0s						
ANKY	**Antikythira Is**	**2.22**	**316**	P	**Pn**	**06 38 40.0**	**+0.2**
KTHA	**Kythira Island**	**2.64**	**319**	P	**Pn**	**06 38 45.6**	**0.0**
MMAI	**Mount Meron Ar**	**8.61**	**96**	Pn	**Pn**	**06 40 08.3**	**+0.6**
	comp=E,0.5nm,0.3s,baz=257,slow=13,SNR=1.9						
MMAI				Sn	**Sn**	**06 41 39.5**	**-5.6**
	comp=E,1.0nm,0.3s,baz=287,slow=25,SNR=2.2						
EIL	**Elat**	**9.47**	**116**	Pn	**Pn**	**06 40 19.5**	**0.0**
	comp=E,0.5nm,0.3s,baz=344,slow=5.2,SNR=6.6						
KBZ	**Khabaz**	**16.66**	**50**	Pn	**Pn**	**06 41 56.7**	**+0.1**
	comp=E,0.1nm,0.3s,baz=198,slow=9.7,SNR=4.1						
AKASG	**Malin Array Be**	**16.68**	**9**	Pn	**Pn**	**06 41 55.8**	**-0.9**
	comp=E,0.6nm,0.3s,baz=199,slow=10,SNR=7.6						
GERES	**GERESS Array B**	**16.88**	**333**	Pn	**Pn**	**06 41 57.2**	**-2.2**
	comp=E,0.2nm,0.3s,baz=146,slow=12,SNR=14						
TORD	**Torodi Ar. Bea**	**29.94**	**231**	P	**P**	**06 44 11.8**	**+0.3**
	comp=E,0.7nm,0.5s,baz=32,slow=8.7,SNR=8.2						
MBAR	**Mbarara**	**35.08**	**170**	P	**P**	**06 44 58.7**	**+2.1**
	comp=E,6.4nm,0.2s,baz=16,slow=1.9,SNR=4.4						
MKAR	**Makanchi Array**	**44.25**	**56**	P	**P**	**06 46 12.4**	**-0.2**
	comp=E,0.4nm,0.6s,baz=288,slow=5.2,SNR=1.7						
ZALV	**Zalesovo Beam**	**45.60**	**46**	P	**P**	**06 46 22.2**	**-1.0**
	comp=E,0.9nm,0.4s,baz=275,slow=8.4,SNR=4.8						
SONM	**Songino Array**	**60.03**	**50**	P	**P**	**06 48 10.3**	**+0.2**
	comp=E,0.3nm,0.5s,baz=288,slow=7.1,SNR=2.5						

NEIC ***21*** *06:38:29.0±2.4,22˚28S±0˚07×171˚73E±0˚08,h122km±1km, mb5.4/169,Mwb5.5,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.57; Mθθ-1.11; Mφφ0.54; Mrθ1.34; Mθφ1.34; Mrφ0.66; Fault plane solution: M₀2.23000×10¹⁷ NP1:φs338.21000°,δ47.00000°, λ164.34000°. NP2:φs79.03000°,δ78.61000°,λ44.08000°. Principal axes: T 2.2832, Plg38.0000°, Azm309.0000°; N -0.1069, Plg45.0000°, Azm91.0000°; P -2.1764, Plg20.0000°, Azm202.0000°;*

IDC ***21*** *06:38:32.0±1.3,22˚34S×171˚65E,h148km±11km, mb5.0/37,mb1 5.0/40,mb1mx4.9/47,mbtmp5.5/40, MS4.2/19,Ms1 4.2/19,ms1mx4.0/38 Error ellipse: s-maj=9.0km s-min=8.9km az=104.0*

BJI ***21*** *06:38:31.3±0.0,21˚67S×171˚86E,h140km,mb5.4/66, mB5.4/38*

MOS ***21*** *06:38:31.7±1.5,22˚23S×171˚57E,h149km,mb5.3/26, Error ellipse: s-maj=8.9km s-min=7.8km az=124.4*

ISCJB ***21*** *06:38:31.0±0.2,22˚30S±0˚02×171˚67E±0˚03,h150km, mb5.5/125,Error ellipse: s-maj=4.4km s-min=3.1km az=159.9*

GCMT ***21*** *06:38:33.0±0.1,22˚38S±0˚01×171˚73E±0˚01,h136km, MW5.5/141,Moment Tensor Solution. s116,c183; s141,c258; Duration: 1§3 Moment tensor: Scale 10¹⁷ Nm; Mrr0.26±.02; Mθθ-0.91±.03; Mφφ0.64±.02; Mrθ0.76±.02; Mθφ1.70±.02; Mrφ0.58±.02; Best double couple: M₀2.10800×10¹⁷ NP1:φs80.00000°,δ79.00000°, λ25.00000°. NP2:φs345.00000°,δ66.00000°,λ168.00000°. Principal axes: T 2.1670, Plg25.0000°, Azm305.0000°; N -0.1170, Plg63.0000°, Azm103.0000°; P -2.0500, Plg9.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 06:38:32.2±0.3,22˚29S±0˚05×171˚65E±0˚04,h150km, n632,σ1°§18/581,mb5.4/174,70C-15D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.83**	**272**	*e*Pn	**Pn**	**06 39 42.9**	**-0.7**
	589nm,0.3s						
DZM				*e*Sn	**Sn**	**06 40 35.2**	**-3.9**
	678nm,0.2s						
DZM	**Mont Dzumac**	**4.83**	**272**	P	**Pn**	**06 39 42.7**	**-0.8**
	145nm,0.3s,baz=126,slow=8.1,SNR=1796						
DZM				S	**Sn**	**06 40 37.1**	**-2.0**
	191nm,0.3s,baz=302,slow=23,SNR=14						
DZM	**Mont Dzumac**	**4.83**	**272**		**Pn**	**06 39 42.9**	**-0.7**
DZM					Sn	**06 40 37.0**	**-2.1**
NFK	**Norfolk Island**	**7.51**	**206**	P	**Pn**	**06 40 18.2**	**-0.9**
	baz=7.7,SNR=104						
MSVF	**Nonsavu**	**7.53**	**54**	*d* iP	**Pn**	**06 40 18.3**	**-1.2**
MSVF	**Nonsavu**	**7.53**	**54**		**Pn**	**06 40 18.3**	**-1.2**
RAO	**Raoul Island**	**11.67**	**129**	LR	LR	06 43 57.3	
	comp=Z,1μm,21.0s,baz=203,slow=28						
OUZ	**Omahuta**	**12.99**	**173**	P		**06 41 31.0**	**-0.3**
OUZ	**Omahuta**	**12.99**	**173**		**Pn**	**06 41 31.6**	**+0.3**
WCZ	**Waipu Caves**	**13.80**	**171**	P	**P**	**06 41 42.5**	**-2.5**
GRZ	**Great Barrier**	**14.30**	**167**	P	**P**	**06 41 51.4**	**+0.9**
LHI	**Lord Howe Isla**	**14.50**	**228**	P	**Pn**	**06 41 50.8**	**+0.4**
	baz=15,SNR=24						
LHI	**Lord Howe Isla**	**14.50**	**228**		**Pn**	**06 41 49.5**	**-0.9**
MBAZ	**Motutapu North**	**14.70**	**170**	P	**P**	**06 41 53.5**	**-1.5**
WTAZ	**Waiatarua**	**14.81**	**171**	P	**P**	**06 41 58.2**	**+1.9**
KUZ	**Kuaotunu**	**14.83**	**167**	P	**P**	**06 41 55.6**	**-0.8**
MKAZ	**Moumakai**	**15.07**	**169**	P	**P**	**06 41 58.1**	**-1.1**
TOZ	**Tahuroa Road**	**15.74**	**169**	P	**P**	**06 42 05.8**	**-0.8**
MXZ	**Matakaoa Point**	**16.27**	**161**	P	**P**	**06 42 14.7**	**+2.3**
HAZ	**Te Kaha**	**16.30**	**162**	P	**P**	**06 42 14.2**	**+1.6**
HIZ	**Hauiti**	**16.40**	**171**	P	**P**	**06 42 14.3**	**+0.4**
HIZ				IAmb	IAmb	06 42 17.8	
	comp=Z,206nm,1.0s						
RUGZ	**Raukumara Rang**	**16.46**	**163**	P	**P**	**06 42 16.2**	**+1.5**
URZ	**Urewera**	**16.59**	**165**	P	**Pn**	**06 42 16.2**	**+0.1**
	comp=Z,2.9nm,0.3s,baz=339,slow=8.0,SNR=29						
URZ	**Urewera**	**16.59**	**165**	P	**Pn**	**06 42 18.1**	**+2.0**
URZ	**Urewera**	**16.59**	**165**	P	**Pn**	**06 42 16.6**	**+0.5**
URZ				IAmb	IAmb	06 42 18.2	
	comp=Z,267nm,1.2s						
PUZ	**Puketiti**	**16.72**	**162**	P	**Pn**	**06 42 17.9**	**+0.2**
HNR	**Honiara**	**17.02**	**317**	P	**Pn**	**06 42 22.1**	**+0.6**
HNR				pmax	pmax		
	comp=Z,902nm,0.7s						
HNR	**Honiara**	**17.02**	**317**	P	**Pn**	**06 42 21.6**	**+0.2**
	comp=Z,85nm,0.3s,baz=151,slow=1.3,SNR=20						
HNR	**Honiara**	**17.02**	**317**	*e*P	**Pn**	**06 42 22.0**	**+0.6**
HNR	**Honiara**	**17.02**	**317**	P	**Pn**	**06 42 22.1**	**+0.6**
SNGZ	**Shannon Statio**	**17.14**	**165**	P	**Pn**	**06 42 23.1**	**+0.3**
NGZ	**Ngauruhoe**	**17.17**	**170**	P	**Pn**	**06 42 24.7**	**+1.5**
BKZ	**Black Stump Fm**	**17.32**	**167**		**Pn**	**06 42 24.9**	**-0.1**
BKZ				IAmb	IAmb	06 42 27.8	
	comp=Z,226nm,1.0s						
AFI	**Afiamalu**	**17.81**	**65**	P	**P**	**06 42 27.0**	**-2.6**
AFI				pmax	pmax		
	comp=Z,118nm,1.0s						
AFI	**Afiamalu**	**17.81**	**65**	P	**P**	**06 42 27.0**	**-2.6**
	comp=Z,1.8nm,0.3s,baz=12,slow=8.9,SNR=9.8						
AFI	**Afiamalu**	**17.81**	**65**	P	**P**	**06 42 26.9**	**-2.6**
AFI				IAmb	IAmb	06 42 28.9	
	comp=Z,118nm,0.9s						
QRZ	**Quartz Range**	**18.50**	**178**	P	**Pn**	**06 42 38.3**	**-0.5**
QRZ				IAmb	IAmb	06 42 41.3	
	comp=Z,504nm,1.3s						
BFZ	**Birch Farm**	**18.74**	**169**		**P**	**06 42 38.5**	**-1.0**
NNZ	**Nelson**	**18.93**	**176**	P	**Pn**	**06 42 42.3**	**-1.5**
NNZ				IAmb	IAmb	06 42 47.1	
	comp=Z,181nm,1.0s						
EIDS	**Eidsvold**	**19.07**	**257**	P	**Pn**	**06 42 45.3**	**-0.3**
	baz=19,SNR=66						
EIDS	**Eidsvold**	**19.07**	**257**	P	**Pn**	**06 42 44.9**	**-0.7**
EIDS				IAmb	IAmb	06 42 49.6	
	comp=Z,114nm,0.7s						
SNZO	**South Karori**	**19.14**	**173**	P	**P**	**06 42 42.9**	**-0.8**
TUWZ	**Tuamarina**	**19.18**	**175**	P	**P**	**06 42 44.4**	**+0.2**
BHW	**Baring Head**	**19.25**	**173**	P	**P**	**06 42 43.8**	**-1.2**
MSWZ	**Moikau Station**	**19.31**	**172**	P	**P**	**06 42 44.0**	**-1.7**
THZ	**Tophouse**	**19.45**	**177**	P	**P**	**06 42 47.4**	**+0.2**
THZ				IAmb	IAmb	06 42 48.6	
	comp=Z,168nm,0.7s						
BSWZ	**Blackbirch Sta**	**19.46**	**175**	P	**P**	**06 42 47.4**	**+0.2**
PLWZ	**Palliser**	**19.46**	**172**	P	**P**	**06 42 45.9**	**-1.4**
ARMA	**Armidale**	**19.66**	**242**	P	**Pn**	**06 42 52.4**	**-0.2**
	baz=20,SNR=44						
ARMA	**Armidale**	**19.66**	**242**	P	**Pn**	**06 42 52.1**	**-0.6**
KHZ	**Kahutara**	**20.13**	**176**	P	**P**	**06 42 53.3**	**-1.1**
KHZ				IAmb	IAmb	06 42 55.9	
	comp=Z,136nm,0.8s						
LTZ	**Lake Taylor**	**20.44**	**179**	P	**P**	**06 42 57.7**	**-0.1**
LTZ				IAmb	IAmb	06 42 59.2	
	comp=Z,282nm,0.8s						
OXZ	**Oxford**	**20.98**	**179**	IAmb	IAmb	06 43 06.4	
	comp=Z,280nm,1.1s						
MGCD	**Mangrove Creek**	**21.15**	**235**	P	**P**	**06 43 08.6**	**+3.1**
	baz=21,SNR=9.9						
FOZ	**Fox Glacier**	**21.24**	**184**	IAmb	IAmb	06 43 09.2	
	comp=Z,348nm,1.4s						
RMQ	**Roma**	**21.26**	**254**	P	**P**	**06 43 08.8**	**+2.1**
	baz=22,SNR=134						
RPZ	**Rata Peaks**	**21.37**	**181**	P	**P**	**06 43 07.4**	**-0.4**
	comp=Z,94nm,0.9s,baz=213,slow=2.2,SNR=17						
RPZ				LR	LR	06 50 30.8	
	comp=Z,1μm,18.9s,baz=9.0,slow=34						
RPZ	**Rata Peaks**	**21.37**	**181**	P	**P**	**06 43 07.6**	**-0.2**
RPZ				IAmb	IAmb	06 43 10.3	
	comp=Z,255nm,1.2s						
ODZ	**Otahua Downs**	**22.71**	**182**	IAmb	IAmb	06 43 23.2	
	comp=Z,298nm,1.6s						
MLZ	**Mavora Lakes**	**23.20**	**186**	IAmb	IAmb	06 43 29.1	
	comp=Z,120nm,1.0s						
CNB	**Canberra Magne**	**23.39**	**231**	P	**P**	**06 43 29.7**	**+2.2**
	baz=24,SNR=54						
DCZ	**Deep Cove**	**23.41**	**188**	IAmb	IAmb	06 43 30.4	
	comp=Z,149nm,1.0s						
TARA	**Tarawa**	**23.53**	**3**	P	**P**	**06 43 28.8**	**-0.2**
CAN	**Canberra**	**23.65**	**232**	P	**P**	**06 43 30.8**	**+0.8**
CAN				pmax	pmax		
	comp=Z,106nm,1.2s						
CAN	**Canberra**	**23.65**	**232**	P	**P**	**06 43 30.8**	**+0.8**
CAN				IAmb	IAmb	06 43 34.5	
	comp=Z,106nm,1.2s						
YNG	**Young**	**23.66**	**235**	P	**P**	**06 43 31.1**	**+1.1**
	baz=24,SNR=37						
WHZ	**Wether Hill Ro**	**23.74**	**186**	IAmb	IAmb	06 43 34.6	
	comp=Z,102nm,1.0s						
CTA	**Charters Tower**	**23.78**	**271**	P	**P**	**06 43 31.9**	**+0.7**
	comp=Z,86nm,0.6s,baz=93,slow=11,SNR=94						
CTA				LR	LR	06 53 07.8	
	comp=Z,910nm,20.7s,baz=102,slow=37						
CTAO	**Charters Tower**	**23.78**	**271**	P	**P**	**06 43 32.7**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,210nm,1.5s						
MILA	**Mila**	**24.38**	**228**	P	**P**	**06 43 38.1**	**+1.5**
	baz=25,SNR=3.8						
CMSA	**Cobar Meteorol**	**24.86**	**243**	P	**P**	**06 43 41.6**	**+0.7**
	baz=25,SNR=91						
QLP	**Quilpie**	**25.30**	**255**	P	**P**	**06 43 45.5**	**+0.5**
	baz=26,SNR=35						
MTSU	**Mount Surprise**	**25.97**	**274**	P	**P**	**06 43 52.0**	**+0.9**
	baz=26,SNR=252						
KRVT	**Keravat (AS076**	**26.10**	**310**	P	**P**	**06 43 52.3**	**+0.1**
	comp=Z,443nm,0.7s,baz=326,slow=0.9,SNR=37						
RAR	**Rarotonga**	**26.55**	**93**	LR	LR	06 52 19.3	
	comp=Z,213nm,20.0s,baz=260,slow=31						
PMG	**Port Moresby**	**26.76**	**295**	*c* iP	**P**	**06 43 58.1**	**-0.1**
PMG	**Port Moresby**	**26.76**	**295**	P	**P**	**06 43 58.4**	**+0.2**
	comp=Z,155nm,0.8s,baz=110,slow=5.7,SNR=56						
PMG	**Port Moresby**	**26.76**	**295**	P	**P**	**06 43 57.9**	**-0.4**
PMG				IAmb	IAmb	06 43 59.8	
	comp=Z,182nm,0.8s						
TOO	**Toolangi**	**27.19**	**230**	P	**P**	**06 44 03.1**	**+1.2**
	baz=27,SNR=6.0						
TOO	**Toolangi**	**27.19**	**230**	P	**P**	**06 44 03.0**	**+1.2**
TOO				pmax	pmax		
	comp=Z,44nm,1.0s						
TOO	**Toolangi**	**27.19**	**230**	P	**P**	**06 44 03.0**	**+1.1**
COEN	**Coen**	**28.27**	**282**	P	**P**	**06 44 12.7**	**+1.1**
	baz=28,SNR=26						
COEN	**Coen**	**28.27**	**282**	P	**P**	**06 44 12.2**	**+0.6**
COEN				IAmb	IAmb	06 44 14.3	
	comp=Z,241nm,1.6s						
STKA	**Stephens Creek**	**28.34**	**244**	P	**P**	**06 44 12.8**	**+0.7**
	comp=Z,23nm,0.7s,baz=86,slow=10,SNR=29						
STKA				PcP	**PcP**	**06 47 21.1**	**-0.1**
	comp=Z,9.1nm,0.7s,baz=49,slow=2.7,SNR=4.9						
STKA				LR	LR	06 53 54.9	
	comp=Z,402nm,19.3s,baz=70,slow=33						
STKA	**Stephens Creek**	**28.34**	**244**	P	**P**	**06 44 12.0**	**-0.1**
MOO	**Moorlands**	**28.65**	**220**	P	**P**	**06 44 16.1**	**+1.4**
	baz=29,SNR=7.5						
TAU	**Tasmania Unive**	**28.86**	**219**	P	**P**	**06 44 17.4**	**+0.9**
TAU				pmax	pmax		
	comp=Z,62nm,1.2s						
TAU	**Tasmania Unive**	**28.86**	**219**	P	**P**	**06 44 17.4**	**+0.9**
TAU				IAmb	IAmb	06 44 18.8	
	comp=Z,62nm,1.1s						
ARPS	**Mount Arapiles**	**29.54**	**234**	P	**P**	**06 44 23.7**	**+1.0**
	baz=30,SNR=6.0						
QIS	**Mount Isa**	**29.86**	**267**	P	**P**	**06 44 25.6**	**-0.1**
	baz=30,SNR=15						
HTT	**Hallett**	**30.87**	**242**	P	**P**	**06 44 34.9**	**+0.4**
	baz=31,SNR=20						
MANU	**Manus Island**	**31.02**	**307**	P	**P**	**06 44 36.8**	**+0.9**
BBOO	**Buckleboo**	**33.11**	**244**	P	**P**	**06 44 54.1**	**0.0**
	baz=33,SNR=22						
BBOO	**Buckleboo**	**33.11**	**244**	P	**P**	**06 44 54.6**	**+0.5**
BBOO				IAmb	IAmb	06 44 55.5	
	comp=Z,45nm,0.8s						
WR0	**Warramunga Arr**	**34.64**	**267**	P	**P**	**06 45 05.8**	**-1.7**
WR0				IAmb	IAmb	06 45 09.6	
	comp=Z,60nm,0.6s						
AS31	**Alice Springs**	**34.72**	**260**	P	**P**	**06 45 07.1**	**-1.0**
AS31				IAmb	IAmb	06 45 09.3	
	comp=Z,35nm,0.8s						
ASAR	**Alice Springs**	**34.72**	**260**	P	**P**	**06 45 07.5**	**-0.6**
	comp=Z,85nm,0.8s,baz=86,slow=9.1,SNR=440						
ASAR				PcP	**PcP**	**06 47 38.2**	**-0.4**
	comp=Z,5.8nm,0.7s,baz=113,slow=2.9,SNR=5.0						
ASAR				S	**S**	**06 50 26.4**	**-0.9**
	comp=Z,5.6nm,0.9s,baz=89,slow=14,SNR=11						
ASAR				ScP	**ScP**	**06 51 12.3**	**+2.3**
	comp=Z,2.8nm,0.7s,baz=109,slow=4.0,SNR=7.8						
ASAR				ScS	**ScS**	**06 55 15.6**	**+1.7**
	comp=Z,0.8nm,1.1s,baz=85,slow=7.8,SNR=4.1						
WRAB	**Tennant Creek**	**34.82**	**267**	*c* iP	**P**	**06 45 07.6**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,139nm,1.9s						
WRAB	**Tennant Creek**	**34.82**	**267**	P	**P**	**06 45 07.2**	**-1.8**
WRAB					**S**	**06 50 33.3**	**+4.5**
WRA	**Warramunga Arr**	**34.83**	**267**	P	**P**	**06 45 07.8**	**-1.3**
	comp=Z,32nm,0.5s,baz=98,slow=7.9,SNR=148						
WRA				PP	**PP**	**06 46 34.0**	**+2.9**
	comp=Z,17nm,1.1s,baz=100,slow=11,SNR=12						
WRA				PcP	**PcP**	**06 47 39.1**	**+0.1**
	comp=Z,4.1nm,0.6s,baz=286,slow=1.0,SNR=1.9						
WRA				S	**S**	**06 50 27.6**	**-1.4**
	comp=Z,4.4nm,0.9s,baz=95,slow=13,SNR=5.4						
WRA				LR	LR	06 59 40.4	
	comp=Z,377nm,18.7s,baz=110,slow=36						
TBI	**Tubuai**	**35.79**	**99**	*e*S	**S**	**06 50 48.9**	**+5.4**
	comp=Z,168nm,28.5s						
TBI				*e*LQ	LQ	06 53 17.4	
	comp=Z,2μm,31.2s						
TBI				*e*LR	LR	06 55 11.3	
	comp=Z,475nm,26.2s,baz=260						
JAY	**Jayapura**	**35.91**	**299**	P	**P**	**06 45 18.4**	**0.0**
	comp=Z,322nm,0.8s,baz=135,slow=4.3,SNR=52						
JAY	**Jayapura**	**35.91**	**299**	P	**P**	**06 45 19.1**	**+0.8**
	comp=Z,220nm,0.8s,comp=Z,2μm						
GENI	**Genyem**	**36.30**	**298**	P	**P**	**06 45 22.9**	**+1.3**
	comp=Z,770nm,0.8s,comp=Z,9μm						
PPT2	**Papeete2**	**36.68**	**90**	*e*S	**S**	**06 51 00.9**	**+3.6**
	comp=Z,176nm,28.0s						
PPT2				*e*LQ	LQ	06 53 41.2	
	comp=Z,2μm,27.2s						
PPT2				*e*LR	LR	06 55 30.8	
	comp=Z,883nm,25.0s,baz=256						
PPT	**Papeete**	**36.68**	**90**	LR	LR	06 56 37.1	
	comp=Z,450nm,19.6s,baz=256,slow=30						
SMPI	**Sarmi**	**37.83**	**298**	P	**P**	**06 45 36.7**	**+2.1**
	comp=Z,143nm,1.1s						
KDU	**Kakadu**	**38.47**	**278**	P	**P**	**06 45 39.2**	**-0.7**
	baz=39,SNR=55						
MTN	**Manton Dam**	**39.65**	**277**	P	**P**	**06 45 48.9**	**-0.8**
	baz=40,SNR=50						
WRKA	**Warakurna**	**39.68**	**257**	P	**P**	**06 45 49.7**	**-0.2**
	baz=40,SNR=282						
FORT	**Forrest**	**39.71**	**248**	P	**P**	**06 45 49.9**	**-0.2**
	baz=40,SNR=63						
SRPI	**Serui, Papua**	**39.95**	**296**	P	**P**	**06 45 53.7**	**+1.5**
	comp=Z,215nm,0.4s						
BAKI	**Biak**	**40.43**	**296**	P	**P**	**06 45 58.0**	**+1.9**
	comp=Z,781nm,0.9s,comp=Z,7μm						
H11S2	**WAKE ISLAND Hy**	**40.82**	**353**	T	T	07 30 53.0	
	baz=171,slow=76,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**40.83**	**353**	T	T	07 31 04.8	
	baz=171,slow=76,SNR=6.5						
H11S1	**WAKE ISLAND Hy**	**40.84**	**353**	T	T	07 30 59.4	
	baz=171,slow=76,SNR=6.8						
KNRA	**Kununurra**	**40.98**	**272**	P	**P**	**06 45 60.0**	**-0.7**
	baz=41,SNR=46						
KNRA	**Kununurra**	**40.98**	**272**	P	**P**	**06 45 59.8**	**-0.8**
KNRA				IAmb	IAmb	06 46 01.6	
	comp=Z,121nm,0.8s						
RKPI	**Ransiki, Papua**	**41.87**	**294**	P	P	06 46 13.4	+5.5
FAKI	**Fak Fak**	**42.79**	**291**	P	**P**	**06 46 15.4**	**0.0**
	comp=Z,172nm,1.1s,comp=Z,3μm						
FAKI	**Fak Fak**	**42.79**	**291**	P	**P**	**06 46 14.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**43.26**	**267**	P	**P**	**06 46 19.5**	**+0.4**
	baz=43,SNR=180						
FITZ	**Fitzroy Crossi**	**43.26**	**267**	P	**P**	**06 46 19.5**	**+0.4**
	comp=Z,226nm,0.9s,baz=102,slow=6.0,SNR=334						
FITZ				S	**S**	**06 52 35.8**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=341,slow=22,SNR=1.6	

GIRL Giralia 52.76 258 P P 06 47 33.3 +1.3
APSI Ampana 53.05 287 P P 06 47 36.4 +2.1
comp=Z,171nm,1.2s,comp=Z,2µm
PLAI Plampang 53.34 276 P P 06 47 37.1 +0.7
comp=Z,115nm,1.2s,comp=Z,1µm
MRSI Marisa 53.43 288 P P 06 47 37.5 +0.4
comp=Z,106nm,0.9s
DAV Davao City (W) 53.73 298 P P 06 47 39.8 +0.5
comp=Z,286nm,0.4s,baz=127,slow=7.6,SNR=3.5
DAV Davao City (W) 53.73 298 IAmb IAmb 06 47 40.6
comp=Z,326nm,0.5s
TWSI Taliwang, Sumb 54.19 275 P P 06 47 43.4 +0.8
comp=Z,101nm,0.9s,comp=Z,1µm
MPSI Mapaga 55.17 287 P P 06 47 50.3 +0.6
comp=Z,150nm,0.8s,comp=Z,8µm
VNDA Vanda 55.48 183 P P 06 47 51.1 +0.1
VNDA pmax pmax
comp=Z,69nm,1.7s
VNDA Vanda 55.48 183 P P 06 47 50.8 -0.1
comp=Z,7.5nm,0.8s,baz=0.1,slow=7.8,SNR=10
VNDA LR LR 07 07 37.6
comp=Z,220nm,21.9s,baz=20,slow=32
VNDA Vanda 55.48 183 P P 06 47 51.1 +0.1
VNDA IAmb IAmb 06 47 52.1
comp=Z,69nm,1.7s
SBA Scott Base 55.66 181 P P 06 47 53.3 +1.1
SBA pmax pmax
comp=Z,129nm,1.1s
SBA Scott Base 55.66 181 P P 06 47 53.3 +1.1
IGBI Denpasar 55.77 274 P P 06 47 55.0 +1.1
comp=Z,233nm,0.6s,comp=Z,3µm
SRBI Singaraja 55.97 275 P P 06 47 56.7 +1.3
comp=Z,74nm,0.8s,comp=Z,2µm
JCJ Chichijima 56.77 328 P P 06 48 00.8 0.0
comp=Z,231nm,0.5s,baz=135,slow=2.8,SNR=6.7
JAGI Jajag, Banyuwa 56.81 274 P P 06 48 01.1 -0.2
comp=Z,139nm,1.0s,comp=Z,2µm
JAGI Jajag, Banyuwa 56.81 274 P P 06 48 00.0 -1.3
CASY Casey 58.27 205 P P 06 48 10.2 -0.6
CASY IAmb IAmb 06 48 11.1
comp=Z,105nm,1.6s
RCP Roxas 58.57 300 ⇓P P 06 48 14.2 +0.6
PWJI Pagerwojo 59.14 274 P P 06 48 18.3 +0.8
comp=Z,92nm,0.8s
UGM Wanagama 60.36 274 P P 06 48 26.7 +0.7
KKM Kota Kinabalu 61.11 291 P P 06 48 32.3 +1.2
TGY Tagaytay City 61.47 301 P P 06 48 33.9 +0.5
comp=Z,224nm,0.5s,baz=142,slow=2.4,SNR=6.9
KPJI Karang Pucung 62.04 274 P P 06 48 38.2 +1.0
comp=Z,105nm,0.5s
STKI Sintang 62.60 282 P P 06 48 42.9 +1.9
comp=Z,185nm,1.2s
SBUM Sibu 62.96 285 P P 06 48 45.0 +1.7
SBUM Sibu 62.96 285 P P 06 48 44.9 +1.5
SBUM IAmb IAmb 06 48 45.9
comp=Z,51nm,1.2s
CISI Cisompet, Garu 62.99 273 P P 06 48 45.2 +1.6
comp=Z,136nm,1.1s,comp=Z,3µm
CISI Cisompet, Garu 62.99 273 P P 06 48 43.0 -0.6
CNJI Cibinong 63.71 273 P P 06 48 48.3 0.0
comp=Z,203nm,1.1s,comp=Z,2µm
KSM Kuching 64.25 283 P P 06 48 53.0 +1.2
KSM Kuching 64.25 283 P P 06 48 53.2 +1.4
JOW Kunigami 64.39 317 P P 06 48 53.2 +0.8
comp=Z,12nm,0.8s,baz=133,slow=13,SNR=9.2
JOW Kunigami 64.39 317 IAmb IAmb 06 48 54.6
comp=Z,57nm,0.8s
INU Inuyama 66.06 329 P P 06 49 03.6 +0.6
INU IAmb IAmb 06 49 04.7
comp=Z,59nm,1.1s
BLSI Bandar Lampung 66.16 274 P P 06 49 04.4 +0.2
comp=Z,107nm,0.4s
MJAR Matsushiro Arr 66.50 331 P P 06 49 05.1 -0.7
comp=Z,18nm,0.6s,baz=159,slow=6.7,SNR=37
MAJO Matsushiro 66.50 331 ⇑*i*P P 06 49 05.5 -0.3
MAJO pmax pmax
comp=Z,86nm,1.5s
MAJO Matsushiro 66.50 331 P P 06 49 06.3 +0.5
MAJO IAmb IAmb 06 49 07.7
comp=Z,122nm,1.4s
MAT Matsushiro 66.50 331 P P 06 49 05.6 -0.2
MAT eS S 06 57 40.4 -4.0
MJB9 Matsu-Tunnel 66.50 331 IAmb IAmb 06 49 07.7
comp=Z,125nm,1.4s
YULB Yu-li 66.79 310 IAmb IAmb 06 49 13.6
comp=Z,98nm,1.6s
KASI Kota Agung 66.80 274 P P 06 49 07.8 -0.4
comp=Z,132nm,1.0s,comp=Z,1µm
KLSI 66.89 274 P P 06 49 08.7 -0.1
comp=Z,15nm,1.2s
SSLB Suanglung 67.29 310 IAmb IAmb 06 49 11.3
comp=Z,104nm,1.0s
LWLI Liwa 67.39 274 P P 06 49 12.4 +0.3
comp=Z,76nm,0.8s
JNU Nakatsue 67.45 324 P P 06 49 12.0 +0.1
comp=Z,61nm,0.6s,baz=168,slow=1.0,SNR=34
MDSI Maura Dua 67.48 274 P P 06 49 11.6 -0.9
comp=Z,79nm,0.9s,comp=Z,1µm
TATO Taipei 67.66 311 P P 06 49 13.8 +0.5
QSPA South Pole Qui 67.78 180 P P 06 49 12.6 -1.0
comp=Z,20nm,0.9s,baz=93,slow=0.9,SNR=52
QSPA South Pole Qui 67.78 180 P P 06 49 12.6 -1.0
QSPA IAmb IAmb 06 49 14.2
comp=Z,38nm,1.1s
MNAI Manna 68.65 274 P P 06 49 19.6 -0.3
TPRI Tanjung Pinang 69.27 280 P P 06 49 25.4 +1.8
MYKOM Kota Tinggi 70.24 280 P P 06 49 31.0 +1.4
MYKOM Kota Tinggi 70.24 280 IAmb IAmb 06 49 31.7
comp=Z,87nm,1.1s
ASAJ Asahikawa 71.25 338 P P 06 49 35.7 +0.8
comp=Z,12nm,0.6s,baz=216,slow=9.2,SNR=8.7
SDSI Sungai Dareh 71.37 277 P P 06 49 35.8 -0.6
comp=Z,18nm,0.6s,comp=Z,3µm
TJN Taejon 71.80 324*d*iP P 06 49 39.1 +0.7
KSRS Korea Array 72.29 325 P P 06 49 42.5 +1.2
comp=Z,48nm,0.8s,baz=144,slow=6.1,SNR=96
KS19 Wonju Array Si 72.35 325 IAmb IAmb 06 49 43.4
comp=Z,73nm,0.9s
JRMM Jerantut 72.36 282 P P 06 49 43.0 +0.7
INCN Inchon 73.01 324 P P 06 49 46.3 +0.7
INCN pmax pmax
comp=Z,146nm,0.9s
INCN Inchon 73.01 324 P P 06 49 46.3 +0.7
YSS Yuzh-Sakhalins 73.70 340 *e*P P 06 49 50.7 +1.4
YSS eS S 06 59 07.3 -0.4
YSS pmax pmax
comp=Z,120nm,0.8s
YSS MLR MLR
comp=Z,700nm,16.0s
YSS Yuzh-Sakhalins 73.70 340 P P 06 49 51.1 +1.7
YSS IAmb IAmb 06 49 51.8
comp=Z,101nm,0.8s
IPM Ipoh 73.92 282 P P 06 49 52.0 +0.5
NJ2 Nanjing 73.96 315 ⇓P P 06 49 52.3 +1.1
NJ2 pmax pmax
comp=Z,120nm,0.9s
ADK Adak 74.56 7 P P 06 49 54.4 +0.2
ADK pmax pmax
comp=Z,372nm,1.9s
ADK Adak 74.56 7 P P 06 49 54.4 +0.2
KULM Kulim 74.59 282 P P 06 49 56.0 +0.7
KULM Kulim 74.59 282 IAmb IAmb 06 49 57.0
comp=Z,92nm,0.7s
RPSI Rantau Prapat 75.10 279 P P 06 49 58.5 +0.2
RPSI IAmb IAmb 06 49 59.3
comp=Z,76nm,1.1s
PSI Prapat 75.15 279 P P 06 49 58.5 -0.2
comp=Z,46nm,1.0s,baz=154,slow=3.6,SNR=28
PSI PP PP 06 52 47.6 -1.5
comp=Z,3.9nm,0.6s,baz=186,slow=4.6,SNR=5.7
SKLT Songkhla 75.41 284 P P 06 50 01.5 +1.5
comp=Z,73nm,0.8s,comp=Z,634nm
USRK Ussuriysk Ar. 75.47 332 P P 06 49 59.6 -0.1
comp=Z,15nm,0.8s,baz=127,slow=3.8,SNR=22
GSI Gunungsitoli 75.79 277 P P 06 50 03.5 +1.3
comp=Z,113nm,1.4s
GSI Gunungsitoli 75.79 277 IAmb IAmb 06 50 04.3
comp=Z,74nm,0.8s
PET Petropavlovsk 75.84 352 *e*P P 06 50 01.6 +0.1
PET pmax pmax
comp=Z,38nm,0.6s
PET Petropavlovsk 75.84 352 P P 06 50 01.8 +0.3
PET IAmb IAmb 06 50 18.4
comp=Z,82nm,1.3s
PEA0B Petropavlovsk- 76.05 351 IAmb IAmb 06 50 04.3
comp=Z,69nm,1.1s

PETK Petropavlovsk- 76.05 351 P P 06 50 03.0 +0.2
comp=Z,39nm,0.8s,baz=159,slow=5.5,SNR=70
PETK LR LR 07 19 40.6
comp=Z,101nm,19.1s,baz=74,slow=32
WHN Wuhan 76.06 312 ⇓*i*P P 06 50 04.1 +0.8
WHN pmax pmax
comp=Z,170nm,0.9s
MAW Mawson 76.46 202 P P 06 50 05.2 +0.1
comp=Z,3.5nm,0.6s,baz=92,slow=7.9,SNR=5.2
MAW LR LR 07 19 17.7
comp=Z,179nm,21.4s,baz=80,slow=32
MAW Mawson 76.46 202 P P 06 50 05.1 +0.1
KCSI Kotacane, Aceh 76.49 280 P P 06 50 05.7 -0.5
comp=Z,41nm,1.2s,comp=Z,757nm
TRTT Trang 76.52 284 P P 06 50 07.5 +1.2
comp=Z,133nm,0.8s
DL2 Dalian 76.80 322 P P 06 50 08.4 +1.1
DL2 pmax pmax
comp=Z,160nm,1.1s
SKNT Sakolnakorn 76.86 295 P P 06 50 09.2 +1.1
comp=Z,145nm,0.9s
TPTI 76.92 279 P P 06 50 09.1 +0.5
comp=Z,7.1nm,1.2s,comp=Z,211nm
SNSI Sinabang, Aceh 77.37 278 P P 06 50 11.7 +0.6
comp=Z,151nm,1.2s
PATY Pattaya 77.68 290 P P 06 50 15.0 +2.3
TIA Tai'an 77.71 318 P P 06 50 12.8 +0.3
TIA pmax pmax
comp=Z,270nm,0.6s
SURT Suratani 77.80 285 P P 06 50 15.4 +2.0
comp=Z,104nm,0.9s,comp=Z,1µm
MLSI Meulaboh, Aceh 78.03 280 P P 06 50 15.4 +0.6
comp=Z,146nm,0.9s
CHAI Chaiyaphum 78.05 293 P P 06 50 15.9 +1.1
comp=Z,50µm,0.8s
NONG Nongkai 78.08 295 P P 06 50 16.2 +1.3
comp=Z,1.4nm,1.2s
UNV Unalaska Valle 78.13 13 P P 06 50 14.0 -0.3
CN2 Changchun 78.23 328 *e*P P 06 50 15.6 +0.5
CN2 *es*P sP 06 51 06.0 -0.9
CN2 pmax pmax
comp=Z,60nm,0.8s
AKUT Akutan 78.56 13 P P 06 50 15.9 -0.8
PHET Kaeng Krachan 78.75 289 P P 06 50 21.1 +2.4
comp=Z,158µm,0.9s
SLVN Son La 79.01 298 IAmb IAmb 06 50 22.8
comp=Z,69nm,1.6s
GRNR Gornyy 79.10 338 ⇑*i*P P 06 50 20.9 +1.1
GRNR *e*S S 07 00 09.2 +2.7
GRNR pmax pmax
comp=Z,30nm,1.3s
GRNR smax smax
comp=E,9.0nm,1.2s
GYA Guiyang 79.40 304 ⇑*i*P P 06 50 22.9 +0.8
GYA pP pP 06 50 54.8 -3.6
GYA sP sP 06 51 14.8 +0.8
GYA S S 07 00 11.1 +0.1
GYA SKS SKSac 07 00 23.3 -1.5
GYA sS sS 07 01 09.6 -4.3
GYA pmax pmax
comp=E,40nm,0.8s
GYA pmax pmax
comp=E,90nm,4.0s
KLR Kul'dur 79.57 335 *c i*P P 06 50 22.7 +0.4
KLR pmax pmax
comp=Z,11nm,1.0s
KLR Kul'dur 79.57 335 P P 06 50 23.1 +0.7
comp=Z,8.1nm,0.8s,baz=142,slow=5.5,SNR=24
SRDT SRDT 79.83 290 P P 06 50 26.8 +2.3
comp=Z,56nm,1.1s,comp=Z,932nm
UTHA Uthaitani 80.08 291 P P 06 50 27.9 +2.1
comp=Z,184µm,0.9s
UTTA Uttaradit 80.11 294 P P 06 50 27.9 +2.0
comp=Z,33µm,0.9s
BJT Baijiatuau 80.71 320 IAmb IAmb 06 50 30.6
comp=Z,58nm,1.0s
PHRA Phrae 80.73 294 P P 06 50 31.4 +2.2
comp=Z,7.2nm,1.4s
UMPA Umpang Tak 80.87 292 P P 06 50 32.2 +2.1
comp=Z,96µm,1.0s
LAMP Lampang 81.25 294 P P 06 50 34.3 +2.3
comp=Z,100µm,1.0s
PAYA Payao 81.43 295 P P 06 50 35.0 +2.1
comp=Z,80µm,1.1s,comp=Z,787µm
KMI Kunming 81.79 301 P P 06 50 36.5 +1.5
KMI pP pwP 06 51 15.6 +0.7
KMI sP sP 06 51 30.0 +3.0
KMI S S 07 00 38.1 +2.0
KMI sS sS 07 01 40.5 +1.0
KMI pmax pmax
comp=Z,62nm,1.3s
KMI pmax pmax
comp=Z,270nm,4.0s
KMI LR LR
comp=Z,350nm,16.1s
KMI LR LR
comp=Z,340nm,17.8s
KMI LR LR
comp=Z,340nm,19.1s
KMI Kunming 81.79 301 IAmb IAmb 06 50 37.6
comp=Z,112nm,1.4s
CM31 Chiang Mai Arr 81.80 294 IAmb IAmb 06 50 38.1
comp=Z,67nm,1.1s
CMAR Chiang Mai Arr 81.80 294 *ce*P P 06 50 37.2 +2.3
CMAR pmax pmax
comp=Z,30nm,0.9s
CMAR Chiang Mai Arr 81.80 294 P P 06 50 36.7 +1.8
comp=Z,30nm,0.9s,baz=135,slow=4.1,SNR=92
XAN Xi'an 81.82 312 P P 06 50 35.8 +1.1
XAN pmax pmax
comp=Z,94nm,1.0s
XAN pmax pmax
comp=Z,250nm,4.0s
CMMT Chiang Mai 81.96 294 P P 06 50 37.5 +1.8
comp=Z,34nm,1.2s,comp=Z,534nm
CHTO Chiang Mai 81.96 294 P P 06 50 37.2 +1.5
CHTO pmax pmax
comp=Z,107nm,1.3s
CHTO Chiang Mai 81.96 294 P P 06 50 37.2 +1.5
CHTO IAmb IAmb 06 50 38.6
comp=Z,107nm,1.3s
MHMT Maesariang 82.54 293 P P 06 50 41.1 +2.4
comp=Z,73nm,1.4s,comp=Z,914nm
CHIR Chirikof Islan 82.62 18 P P 06 50 38.4 +0.1
SYO Syowa Base 82.63 196 ⇑*e*P P 06 50 35.5 -2.8
SYO Syowa Base 82.63 196 ⇑*e*PcP PcP 06 50 43.0 0.0
PMSA Palmer Station 83.28 159 P P 06 50 40.5 -1.2
comp=Z,10nm,0.9s,baz=107,slow=14,SNR=8.0
PMSA Palmer Station 83.28 159 P P 06 50 40.5 -1.2
PMSA IAmb IAmb 06 51 20.5
comp=Z,66nm,1.9s
SII Sitkinak Islan 83.67 18 P P 06 50 44.2 +0.6
SII IAmb IAmb 06 50 45.0
comp=Z,101nm,1.0s
CD2 Chengdu 83.87 307 P P 06 50 45.5 +0.1
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 LR LR
comp=Z,670nm,18.5s
HHC Hu-ho-hao-te 83.99 319 P P 06 50 47.1 +1.3
HHC pmax pmax
comp=Z,47nm,1.0s
OHAK Old Harbor 84.50 18 P P 06 50 48.3 +0.5
OHAK IAmb IAmb 06 50 49.1
comp=Z,41nm,0.8s
BTO Baotou 84.81 318 *e*P P 06 50 50.4 +0.5
ZEA Zeya 84.85 335 *e*P P 06 50 50.2 +0.5
ZEA pmax pmax
comp=Z,36nm,0.8s
HIA Hailar 84.88 329 ⇑*e*P P 06 50 51.0 +1.0
HIA pmax pmax
comp=Z,49nm,0.9s
SNAA Sanae 86.21 182 P P 06 50 54.8 -1.7
SNAA Sanae 86.21 182 *de*P P 06 50 54.4 -2.0
SNAA Sanae 86.21 182 P P 06 50 54.8 -1.7
SEY Seymchan 86.30 351 *de*P P 06 50 56.5 -0.1
SEY Seymchan 86.30 351 P P 06 50 56.4 -0.2
comp=Z,33nm,0.7s
LZH Lanzhou 86.43 311 ⇑P P 06 50 59.6 +1.4
LZH pP pP 06 51 30.8 -4.2
LZH SKS SKSac 07 01 08.9 -1.9
LZH sS sS 07 02 25.5 -0.5
LZH pmax pmax
comp=Z,140nm,1.3s
LZH pmax pmax
comp=Z,350nm,6.2s

VNA3 Neumayer Olymp 86.72 180 P P 06 50 57.0 -1.8
KHMM Horse Mountain 86.83 43 IAmb IAmb 06 51 02.2
comp=Z,18nm,0.8s
VNA2 Neumayer--Watz 87.04 180 P P 06 50 58.7 -1.7
baz=182,slow=4.2
VNA1 Neumayer--Stat 87.31 180 P P 06 51 00.3 -1.3
WDC Whiskeytown Da 87.44 44 P P 06 51 03.4 +0.7
WDC pmax pmax
comp=Z,17nm,1.2s
WDC Whiskeytown Da 87.44 44 P P 06 51 03.4 +0.7
USHA Ushuaia 87.69 150 LR LR 07 26 41.5
comp=Z,90nm,18.0s,baz=246,slow=33
YBH Yreka Blue Hor 87.94 43 P P 06 51 06.3 +1.1
YBH pmax pmax
comp=Z,9.0nm,0.8s
YBH Yreka Blue Hor 87.94 43 P P 06 51 06.3 +1.1
PNTR Pine Nut 88.60 47 IAmb IAmb 06 51 10.2
comp=Z,21nm,1.0s
YERR Yerington 88.79 47 P P 06 51 09.6 +0.2
NVAR Mina Array Bea 89.15 48 P P 06 51 11.9 +0.8
comp=Z,7.1nm,0.8s,baz=225,slow=8.4,SNR=36
NVAR LR LR 07 24 05.6
comp=Z,197nm,19.9s,baz=250,slow=31
PMR Palmer 89.31 18 IAmb IAmb 06 51 11.9
comp=Z,24nm,1.4s
GHO Glory Hole Cre 89.52 18 IAmb IAmb 06 51 12.3
comp=Z,38nm,1.3s
KVN Kaiserville 89.59 47 P P 06 51 13.7 +0.6
KVN pmax pmax
comp=Z,12nm,0.9s
KVN Kaiserville 89.59 47 P P 06 51 13.7 +0.6
SCM Sheep Creek Mo 90.02 18 IAmb IAmb 06 51 14.8
comp=Z,28nm,1.1s
PINE Pine Mountain 90.14 42 IAmb IAmb 06 51 17.4
comp=Z,23nm,0.9s
BILL Bilibino 90.15 358 *de*P P 06 51 14.7 -0.1
BILL *i* *PP pP 06 51 52.5 +0.7
BILL *e* 06 54 50.4
BILL pmax pmax
comp=Z,26nm,0.9s
BILL Bilibino 90.15 358 P P 06 51 15.0 +0.2
BILL IAmb IAmb 06 51 15.7
comp=Z,26nm,1.0s
YAK Yakutsk 90.45 342 *e*P P 06 51 15.6 -0.7
YAK pmax pmax
comp=Z,32nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK Yakutsk 90.45 342 P P 06 51 15.9 -0.3
comp=E,22nm,0.8s,baz=37,slow=1.7,SNR=8.5
YAK Yakutsk 90.45 342 P P 06 51 16.0 -0.3
YAK IAmb IAmb 06 51 16.4
comp=Z,27nm,0.8s
CRQM Cirque 90.47 20 IAmb IAmb 06 51 17.0
comp=Z,24nm,1.0s
ULN Ulaanbaatar 90.65 323 *c i*P P 06 51 17.8 0.0
ULN pmax pmax
comp=Z,35nm,1.0s
ULN Ulaanbaatar 90.65 323 P P 06 51 18.9 +1.2
VRDI Verde Repeater 90.72 20 IAmb IAmb 06 51 18.0
comp=Z,56nm,1.9s
SHL Shillong 90.76 297 IAmb IAmb 06 51 20.1
comp=Z,72nm,1.3s
GLB Gilahina Butte 90.77 20 IAmb IAmb 06 51 18.1
comp=Z,18nm,0.9s
GTA Gaotai 90.85 313 ⇓P P 06 51 20.1 +1.2
GTA pP pP 06 51 56.3 +0.3
GTA pmax pmax
comp=Z,40nm,1.4s
GTA pmax pmax
comp=Z,120nm,5.5s
GTA LR LR
comp=Z,320nm,19.2s
GTA LR LR
comp=Z,370nm,18.5s
GTA LR LR
comp=Z,600nm,18.2s
RND Reindeer 90.86 17 IAmb IAmb 06 51 18.2
comp=Z,23nm,1.4s
BALM Baldy 90.93 20 P P 06 51 17.9 -0.8
BALM IAmb IAmb 06 51 19.1
comp=Z,21nm,1.0s
MCARA McCarthy VSAT 90.98 20 IAmb IAmb 06 51 19.9
comp=Z,22nm,1.2s
DHY Denali Highway 91.00 17 IAmb IAmb 06 52 09.8
comp=Z,20nm,1.2s
SONM Songino Array 91.00 322 P P 06 51 19.8 +0.4
comp=Z,12nm,0.9s,baz=141,slow=3.2,SNR=53
MCK McKinley 91.11 16 IAmb IAmb 06 51 25.8
comp=Z,32nm,1.5s
BARN Barnard Glacie 91.17 21 IAmb IAmb 06 51 20.6
comp=Z,33nm,1.1s
WRH Wood River Hil 91.93 16 P P 06 51 22.1 -1.0
WRH IAmb IAmb 06 52 04.4
comp=Z,12nm,0.8s
HDA Harding Lake 92.18 17 IAmb IAmb 06 51 24.9
comp=Z,42nm,1.5s
X16A Lo Mia Camp, P 92.22 54 P P 06 51 25.6 +0.2
COLA College 92.31 16 *ce*P P 06 51 22.7 -2.1
COLA *i* *PP pP 06 52 01.6 -0.3
COLA pmax pmax
comp=Z,16nm,1.0s
COLA College 92.31 16 P P 06 51 23.5 -1.3
COLA IAmb IAmb 06 51 24.3
comp=Z,22nm,1.1s
U15A North Rim 92.46 52 P P 06 51 26.9 +0.2
U15A IAmb IAmb 06 52 05.8
comp=Z,9.8nm,0.8s
ILAR Eielson Array 92.48 17 P P 06 51 23.9 -1.8
comp=Z,4.2nm,0.7s,baz=226,slow=4.9,SNR=47
ILAR LR LR 07 26 50.2
comp=Z,163nm,20.7s,baz=226,slow=31
SCRK Sand Creek 92.66 18 IAmb IAmb 06 51 26.9
comp=Z,12nm,1.1s
PALK Pallekele 93.59 276 P P 06 51 33.0 +1.0
comp=Z,7.2nm,0.8s,baz=72,slow=4.5,SNR=4.1
PALK Pallekele 93.59 276 IAmb IAmb 06 51 34.2
comp=Z,60nm,1.6s
EGAK Eagle 94.08 18 IAmb IAmb 06 52 10.8
comp=Z,9.5nm,0.8s
ZAK Zakamensk 94.08 323 *e*P P 06 51 31.8 -1.7
ZAK pmax pmax
comp=Z,10.0nm,1.5s
DAWY Dawson 94.09 19 P P 06 51 32.5 -0.6
TLY Talaya 94.54 325 *e*P P 06 51 35.9 +0.4
TLY pmax pmax
comp=Z,26nm,1.3s
TLY Talaya 94.54 325 P P 06 51 34.7 -0.8
comp=Z,2.9nm,0.6s,baz=201,slow=3.5,SNR=5.1
TLY Talaya 94.54 325 IAmb IAmb 06 51 36.6
comp=Z,37nm,1.8s
PLCA Paso Flores 94.77 138 LR LR 07 29 34.7
comp=Z,73nm,18.4s,baz=234,slow=32
TAPN Taplejung 94.90 297 *e*P P 06 51 38.2 +0.1
comp=Z,33nm,1.1s
ODAN Odare 94.98 297 *e*P P 06 51 38.6 +0.3
comp=Z,50nm,1.0s
RAMN Ramite 95.67 297 *e*P P 06 51 41.8 +0.3
LPM Los Pinos Moun 95.81 55 pP 06 52 09.6 -9.3
TXAR Lajitas Array 96.25 61 PKKP PKKPbc 07 08 30.6 +0.7
comp=Z,0.6nm,0.5s,baz=105,slow=3.6,SNR=12
TXAR LR LR 07 28 37.6
comp=Z,54nm,18.3s,baz=0.0,slow=31
JIRN Jiri 96.27 297 *e*P P 06 51 44.7 +0.3
GUN Gumba 96.61 297 *e*P P 06 51 46.0 +0.1
comp=Z,36nm,1.2s
PKI Pulchoki 96.88 297 *e*P P 06 51 47.1 0.0
comp=Z,4.1nm,1.0s
PKIN Phulchoki 96.89 297 *e*P P 06 51 47.0 -0.1
comp=Z,24nm,0.9s
PDAR Pinedale Array 97.04 47 LR LR 07 28 48.4
comp=Z,101nm,20.1s,baz=264,slow=31
KKN Kakani 97.06 297 *e*P Pdif 06 51 47.9 0.0
comp=Z,30nm,0.9s
DMN Daman 97.14 297 *e*P Pdif 06 51 48.4 +0.1
comp=Z,49nm,1.0s
GKN Gorkha 97.67 297 *e*P P 06 51 49.8 -0.6
TIXI Tiksi 98.19 347 ⇑*i*P P 06 51 50.2 -1.3
TIXI pmax pmax
comp=Z,10.0nm,2.7s
KOLN Koldanda 98.45 296 *e*P P 06 51 53.0 -1.0
comp=Z,26nm,1.1s
DANN Dangsing 98.52 297 *e*P P 06 51 53.6 -0.8
comp=Z,47nm,1.3s

INK	**Inuvik**	**98.73**	**18**	P	**P**	06 51 52.6	**-1.3**	
	comp=Z,2.6nm,1.2s,baz=266,slow=3.2,SNR=4.6							
INK	**Inuvik**	**98.73**	**18**	IAmb	IAmb	06 52 00.4		
	comp=Z,6.3nm,0.7s							
CMIG	**Matias Romero**	**99.42**	**75**	LR	LR	07 27 56.6		
	comp=Z,69nm,18.6s,baz=238,slow=30							
HVS	**Khovu-Aksy**	**99.85**	**321**⇓	*e*P	**Pdif**	06 51 58.6	**-0.9**	
HVS				pmax	pmax			
	comp=Z,3.0nm,0.9s							
WMQ	**Urumqi**	**100.93**	**313**	*e*P	**Pdif**	06 52 05.3	**+0.8**	
WMQ				pmax	pmax			
	comp=Z,9.0nm,1.5s							
WMQ				pmax	pmax			
	comp=Z,230nm,5.7s							
WMQ				LR	LR			
	comp=Z,610nm,29.2s							
WMQ				LR	LR			
	comp=Z,2µm,28.9s							
WMQ				LR	LR			
	comp=Z,250nm,18.9s							
MK31	**Makanchi Array**	**105.48**	**315**	P	**Pdif**	06 52 25.6	**+1.0**	
MK31	**Makanchi Array**	**105.48**	**315**		**Pdif**	06 52 25.6	**+1.0**	
MKAR	**Makanchi Array**	**105.48**	**315**	Pdiff	**Pdif**	06 52 24.6	**0.0**	
	comp=Z,1.9nm,0.6s,baz=91,slow=6.2,SNR=9.0							
MKAR				PP	**PP**	06 56 44.1	**-4.5**	
	comp=Z,2.1nm,0.9s,baz=120,slow=7.1,SNR=5.0							
ZALV	**Zalesovo Beam**	**105.90**	**322**	Pdiff	**Pdif**	06 52 27.3	**+1.1**	
	comp=Z,1.8nm,0.6s,baz=117,slow=4.1,SNR=6.7							
ZALV				PP	**PP**	06 56 50.3	**-1.1**	
	comp=Z,1.1nm,0.7s,baz=109,slow=7.8,SNR=2.2							
KURK	**Kurchatov**	**108.80**	**318**	P	**Pdif**	06 52 40.2	**+1.0**	
KURK	**Kurchatov**	**108.80**	**318**		**Pdif**	06 52 40.2	**+1.0**	
KURBB	**Kurchatov Arra**	**108.83**	**318**	Pdiff	**Pdif**	06 52 40.2	**+0.9**	
	comp=Z,1.3nm,0.6s,baz=108,slow=4.0,SNR=6.1							
KURBB				PP	**PP**	06 57 08.8	**-4.1**	
	comp=Z,3.5nm,0.9s,baz=101,slow=6.9,SNR=5.6							
BVAR	**Borovoye Array**	**114.19**	**320**	PP	**PP**	06 57 47.5	**-3.7**	
	comp=Z,7nm,0.9s,baz=65,slow=12,SNR=4.5							
BOSA	**Boshof**	**119.90**	**214**	PKP	**PKPdf**	06 57 05.2	**-0.3**	
	comp=Z,5.1nm,0.8s,baz=159,slow=2.3,SNR=11							
ARU	**Arti**	**121.02**	**323**	*i* PKIKP	**PKPdf**	06 57 05.5	**-1.0**	
ARU						06 58 38.3		
ARU						07 04 02.9		
ARU				SS	SS	07 14 51.5	-7.2	
ARU	**Arti**	**121.02**	**323**	PKP	**PKPdf**	06 57 05.5	**-1.0**	
	comp=Z,1.1nm,0.5s,baz=188,slow=1.3,SNR=6.5							
AKTO	**Aktyubinsk**	**121.83**	**316**	PKP	**PKPdf**	06 57 07.5	**-0.8**	
	comp=Z,2.6nm,0.6s,baz=96,slow=6.0,SNR=8.6							
BDFB	**Brasilia**	**125.86**	**131**	PKKPbc	PKKPbc	07 06 52.7	+0.5	
	comp=Z,2.6nm,0.8s,baz=162,slow=4.6,SNR=4.1							
LSZ	**Lusaka**	**128.28**	**227**	PKIKP	**PKiKP**	06 57 22.3	**-0.2**	
LSZ	**Lusaka**	**128.28**	**227**		**PKiKP**	06 57 22.2	**-0.2**	
ARCES	**ARCESS Array B**	**128.57**	**345**	PKP	**PKPdf**	06 57 19.2	**-1.5**	
	comp=Z,2.0nm,0.7s,baz=90,slow=1.5,SNR=6.4							
AKT	**Akhty**	**129.58**	**306**	*e*PKIKP	**PKPdf**	06 57 22.8	**-0.8**	
AKT				*e*		06 58 02.2		
AKT				*e*		06 59 35.4		
AKT				pmax	pmax			
	comp=Z,9.0nm,1.1s							
KMBO	**Kilima Mbogo**	**129.83**	**248**	*c i* PKIKP	**PKiKP**	06 57 27.2	**+1.3**	
KMBO				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KMBO	**Kilima Mbogo**	**129.83**	**248**	PKP	**PKiKP**	06 57 26.0	**+0.2**	
	comp=Z,5.0nm,0.8s,baz=48,slow=5.8,SNR=13							
KMBO	**Kilima Mbogo**	**129.83**	**248**		**PKiKP**	06 57 26.1	**+0.2**	
RAYN	**Ar Rayn**	**130.63**	**282**	PKIKP	**PKPdf**	06 57 26.2	**+0.2**	
RAYN	**Ar Rayn**	**130.63**	**282**		**PKPdf**	06 57 26.2	**+0.2**	
KBZ	**Khabaz**	**132.85**	**310**	PP	PP	06 59 53.2	-3.4	
	comp=Z,3.8nm,1.0s,baz=72,slow=7.1,SNR=5.9							
KIV	**Kislovodsk**	**132.96**	**310**	*i* PKIKP	**PKPdf**	06 57 29.9	**0.0**	
KIV				pmax	pmax			
	comp=Z,14nm,1.0s							
FINES	**FINESS Array B**	**134.25**	**338**	PKhKP	PKPpre	06 57 25.2		
	comp=Z,1.3nm,0.6s,baz=48,slow=2.8,SNR=4.6							
FINES				SKPbc	**SKPbc**	07 00 45.9	**-1.4**	
	comp=Z,3.8nm,0.7s,baz=167,slow=3.3,SNR=5.5							
AKASG	**Malin Array Be**	**139.28**	**324**	PKhKP	PKPpre	06 57 30.6		
	comp=Z,0.8nm,0.5s,baz=58,slow=3.5,SNR=5.0							
AKASG				PP	**PP**	07 00 34.8	**-1.6**	
	comp=Z,2.6nm,0.8s,baz=53,slow=6.5,SNR=6.2							
AKASG				SKPbc	**SKPbc**	07 01 02.0	**-0.6**	
	comp=Z,1.9nm,0.5s,baz=45,slow=3.6,SNR=7.8							
MMAI	**Mount Meron Ar**	**140.05**	**295**	PKhKP	PKPpre	06 57 35.8		
	comp=Z,2.1nm,0.5s,baz=98,slow=4.6,SNR=8.7							
MMAI				SKPbc	**SKPbc**	07 01 06.5	**+1.0**	
	comp=Z,3.2nm,0.6s,baz=58,slow=5.0,SNR=5.8							
BR131	**Keskin Array S**	**140.44**	**306**	PKHKP	PKPpre	06 57 35.7		
BR131	**Keskin Array S**	**140.44**	**306**		PKPpre	06 57 35.7		
BRTR	**Keskin Array B**	**140.44**	**306**	PKhKP	PKPpre	06 57 36.1		
	comp=Z,0.8nm,0.6s,baz=124,slow=4.6,SNR=6.2							
BRTR				PP	**PP**	07 00 43.6	**-0.8**	
	comp=Z,5.1nm,1.0s,baz=104,slow=5.2,SNR=9.5							
GAZI	**Gazipasa**	**142.18**	**301**	*e*P	**PKPdf**	06 57 42.9	**-4.1**	
LVV	**L'vov**	**142.56**	**325**	*e*PKIKP	**PKPdf**	06 57 44.2	**-3.0**	
BIZ	**Bicaz**	**142.94**	**320**	⇑P	**PKPdf**	06 57 46.1	**-1.8**	
VRI	**Vrincioaia**	**143.07**	**318**	⇑PKIKP	PKPbc	06 57 45.8	+0.2	
VRI	**Vrincioaia**	**143.07**	**318**	⇑P	PKPbc	06 57 45.8	+0.3	
BUR08	**Bucovina Ar. S**	**143.11**	**322**		**PKPdf**	06 57 47.1	**-1.3**	
BURAR	**Bucovina Array**	**143.12**	**321**	⇓PKIKP	PKPbc	06 57 45.9	+0.2	
BURAR	**Bucovina Array**	**143.12**	**321**	⇓P	PKPbc	06 57 45.9	+0.2	
PLOR	**Plostina**	**143.13**	**318**	⇑PKIKP	PKPbc	06 57 46.1	+0.4	
PLOR	**Plostina**	**143.13**	**318**	⇑P	PKPbc	06 57 46.1	+0.3	
OZUR		**143.54**	**319**	⇑P	PKPbc	06 57 47.2	+0.4	
KORT	**Korkueli**	**143.58**	**303**	*e*P	PKPbc	06 57 47.2	-0.2	
MLR	**Muntele Rosu**	**143.73**	**318**	PKIKP	PKPab	06 57 46.6	-0.2	
MLR	**Muntele Rosu**	**143.73**	**318**	PKP	PKPbc	06 57 47.7	+0.1	
	comp=Z,17nm,0.4s,baz=36,slow=4.0,SNR=27							
MLR	**Muntele Rosu**	**143.73**	**318**	⇑P	PKPbc	06 57 48.2	+0.6	
MLR	**Muntele Rosu**	**143.73**	**318**		PKPab	06 57 46.6	-0.2	
PRD	**Provadia**	**143.79**	**314**	*i* P	**PKPdf**	06 57 48.4	**-1.1**	
DOPR	**Dopca**	**143.85**	**319**	⇑P	PKPbc	06 57 48.0	+0.3	
SECR		**143.87**	**317**	⇑P	PKPbc	06 57 48.4	+0.6	
ARCR	**ARCALIA**	**143.89**	**321**	⇑P	**PKPdf**	06 57 48.7	**-0.9**	
SULR		**143.91**	**317**	⇑P	PKPbc	06 57 48.3	+0.4	
ELL	**Elmali**	**143.98**	**302**	PKIKP	**PKPab**	06 57 48.1	**+0.1**	
ELL	**Elmali**	**143.98**	**302**	*e*P	**PKPab**	06 57 48.1	**+0.1**	
ELL	**Elmali**	**143.98**	**302**		PKPbc	06 57 48.1	-0.5	
KOLS	**Kolonicke sedl**	**144.01**	**325**	*e*PKIKP	PKPbc	06 57 48.2	+0.1	
KOLS	**Kolonicke sedl**	**144.01**	**325**	*e*PKP	PKPbc	06 57 48.1	0.0	
BMR	**Baia Mare**	**144.06**	**323**	⇑PKIKP	PKPbc	06 57 48.9	+0.6	
BMR	**Baia Mare**	**144.06**	**323**	⇑P	PKPbc	06 57 48.9	+0.6	
UZH	**Uzhgorod**	**144.18**	**325**	*e*PKHKP	PKPbc	06 57 46.7	-1.9	
GLHS	**Glhisar (BURDU**	**144.21**	**303**	*e*P	**PKPab**	06 57 48.5	**-0.3**	
RAZG	**Razgrad**	**144.24**	**315**	⇓P	**PKPdf**	06 57 49.6	**-0.7**	
SGRR	**Singureni**	**144.30**	**316**	P	**PKPdf**	06 57 49.9	**-0.5**	
VOIR		**144.31**	**318**	⇑PKIKP	**PKPdf**	06 57 49.9	**-0.6**	
VOIR		**144.31**	**318**	⇑P	**PKPdf**	06 57 49.9	**-0.6**	
AKAS	**Kas**	**144.33**	**301**	*e*P	PKPbc	06 57 49.5	-0.2	
TRPA	**Tarpa**	**144.34**	**324**	⇑P	PKPbc	06 57 49.3	+0.2	
TRPA	**Tarpa**	**144.34**	**324**	*e*PKIKPc	PKPbc	06 57 49.0	0.0	
OJC	**Ojcow**	**144.45**	**329**	*e*PKIKP	**PKPab**	06 57 48.8	**-0.3**	
OJC	**Ojcow**	**144.45**	**329**	*e*PKP	**PKPab**	06 57 48.8	**-0.3**	
OJC				*e*PKP	**PKPab**	06 57 48.8	**-0.3**	
CJR	**Cluj-Napoca**	**144.53**	**321**	⇑PKIKP	**PKPdf**	06 57 50.4	**-0.4**	
CJR	**Cluj-Napoca**	**144.53**	**321**	⇑P	**PKPdf**	06 57 50.4	**-0.4**	
ARR	**Arges**	**144.60**	**319**	⇑P	**PKPdf**	06 57 51.4	**+0.4**	
JMB	**Yambol**	**144.64**	**313**	*e*P	**PKPdf**	06 57 50.9	**-0.2**	
FETY	**Fethiye**	**144.65**	**302**	P	**PKPdf**	06 57 51.1	**-0.2**	
FETY	**Fethiye**	**144.65**	**302**	*e*P	PKPbc	06 57 50.3	-0.2	
NIE	**Niedzica**	**144.72**	**327**	*e*PKIKP	**PKPdf**	06 57 50.6	**-0.4**	
NIE	**Niedzica**	**144.72**	**327**	*e*PKP	**PKPdf**	06 57 50.6	**-0.4**	
NIE				*e*PKP	**PKPdf**	06 57 50.6	**-0.4**	
SZH	**Strazhica**	**144.74**	**315**	⇑P	PKPbc	06 57 50.7	+0.2	
HUMR	**Humele**	**144.79**	**317**	⇑P	**PKPdf**	06 57 51.0	**-0.3**	
ELND	**Elena**	**144.92**	**314**	⇑P	**PKPdf**	06 57 52.3	**+0.7**	
TURN	**Turunc**	**144.97**	**303**	*e*P	**PKPdf**	06 57 52.4	**+0.6**	
DRGR		**145.00**	**322**	⇑PKIKP	**PKPab**	06 57 51.3	**-0.1**	
DRGR		**145.00**	**322**	⇑P	**PKPab**	06 57 51.3	**-0.1**	
YER	**Yerkesik**	**145.15**	**303**	P	**PKPab**	06 57 53.5	**+1.2**	
YER	**Yerkesik**	**145.15**	**303**	*e*P	**PKPbc**	06 57 51.6	**-0.5**	
KECS	**Kecovo**	**145.22**	**326**	*e*PKIKP	**PKPab**	06 57 52.1	**0.0**	
KECS	**Kecovo**	**145.22**	**326**	*e*PKP	**PKPab**	06 57 52.1	**0.0**	
AYDB	**Zeytinkoy-Aydi**	**145.24**	**305**	*e*P	**PKPab**	06 57 52.9	**+0.2**	
LANS	**Liptovska Anna**	**145.31**	**327**	*e*PKP2	**PKPab**	06 57 52.9	**+0.4**	
LANS	**Liptovska Anna**	**145.31**	**327**	*e*PKP	**PKPab**	06 57 52.9	**+0.4**	
VLAD	**Vladila**	**145.41**	**317**	⇑P	**PKPab**	06 57 53.3	**+0.3**	
OKC	**Ostrava-Krasne**	**145.50**	**329**	*e*PKP2	**PKPdf**	06 57 52.2	**-0.1**	
OKC	**Ostrava-Krasne**	**145.50**	**329**	*e*PKP	**PKPdf**	06 57 52.2	**-0.1**	
ARG	**Arkhangelos**	**145.50**	**302**	*e*P	**PKPdf**	06 57 52.3	**-0.4**	
PLVB	**Pleven**	**145.55**	**315**	⇑P	**PKPab**	06 57 54.0	**+0.6**	
ALN	**Alexandroupoli**	**145.62**	**311**	P	**PKPab**	06 57 54.8	**+1.0**	
KSP	**Ksiaz**	**145.62**	**332**	*e*PKP2	**PKPab**	06 57 53.2	**-0.3**	
KSP	**Ksiaz**	**145.62**	**332**	*e*PKP	**PKPab**	06 57 53.2	**-0.3**	
KSP				*e*PKP	**PKPab**	06 57 53.2	**-0.3**	
GZR	**Gura Zlata**	**145.72**	**320**	⇑PKIKP	**PKPbc**	06 57 53.3	**-0.3**	
GZR	**Gura Zlata**	**145.72**	**320**	⇑P	**PKPbc**	06 57 53.3	**-0.3**	
KDZ	**Kurdzhali**	**145.76**	**312**	*i* P	**PKPdf**	06 57 53.1	**0.0**	
DAT	**Datca**	**145.80**	**303**	*e*P	**PKPbc**	06 57 53.8	**-0.4**	
MORC	**Moravsky Berou**	**145.82**	**330**	⇑PKP2	**PKPbc**	06 57 53.9	**+0.2**	
MORC	**Moravsky Berou**	**145.82**	**330**	⇑P	**PKPbc**	06 57 53.9	**+0.2**	
MORC	**Moravsky Berou**	**145.82**	**330**	*e*PKP	**PKPdf**	06 57 52.8	**-0.1**	
OSTC	**Ostas**	**145.87**	**332**	*e*PKP	**PKPbc**	06 57 53.9	**+0.1**	
RDO	**Rodhopi**	**145.88**	**311**	P	**PKPab**	06 57 54.8	**0.0**	
PSZ	**Piszkesteto**	**145.88**	**325**	⇑PKP2	**PKPbc**	06 57 54.0	**0.0**	
PSZ	**Piszkesteto**	**145.88**	**325**	⇑P	**PKPbc**	06 57 54.0	**0.0**	
SIRR	**Siria**	**145.89**	**322**	⇑P	**PKPab**	06 57 54.3	**-0.5**	
CHVC	**Chvalec**	**145.91**	**332**	*e*PKP	**PKPbc**	06 57 53.9	**-0.1**	
BODT	**Bodrum**	**145.92**	**304**	*e*P	**PKPdf**	06 57 53.1	**-0.4**	
KRLC	**Kraliky**	**145.96**	**331**	*e*PKP2	**PKPbc**	06 57 54.2	**0.0**	
KRLC	**Kraliky**	**145.96**	**331**	*e*PKP	**PKPbc**	06 57 54.2	**0.0**	
DPC	**Dobruska-Polom**	**145.97**	**331**	*e*PKP2	**PKPbc**	06 57 54.2	**0.0**	
DPC	**Dobruska-Polom**	**145.97**	**331**	*e*PKP	**PKPbc**	06 57 54.2	**0.0**	
GADA	**Gvkgeada**	**145.98**	**310**	P	**PKPbc**	06 57 54.2	**-0.3**	
UPC	**Upice**	**145.99**	**332**	*e*PKP2	**PKPbc**	06 57 54.3	**+0.1**	
UPC	**Upice**	**145.99**	**332**	*e*PKP	**PKPbc**	06 57 54.3	**+0.1**	
VYHS	**Vyhne**	**146.06**	**327**	*e*PKP2	**PKPbc**	06 57 54.4	**-0.1**	
VYHS	**Vyhne**	**146.06**	**327**	*e*PKP	**PKPbc**	06 57 54.4	**-0.1**	
MPEP	**Malo Peshtene**	**146.13**	**316**	*i* P	**PKPbc**	06 57 55.0	**+0.2**	
SMTH	**Samothraki Isl**	**146.14**	**310**	P	**PKPdf**	06 57 52.7	**-1.0**	
PUNG	**Punghina**	**146.19**	**318**	⇓P	**PKPab**	06 57 56.7	**+0.7**	
BZS	**Buzias**	**146.28**	**321**	⇑PKIKP	**PKPdf**	06 57 53.5	**-0.3**	
BZS	**Buzias**	**146.28**	**321**	⇑P	**PKPdf**	06 57 53.5	**-0.3**	
JAVC	**Velka Javorina**	**146.39**	**328**	*e*PKP	**PKPab**	06 57 56.2	**-0.4**	
KARP	**Karpathos**	**146.42**	**301**	P	**PKPbc**	06 57 55.8	**-0.2**	
KARP	**Karpathos**	**146.42**	**301**	*e*P	**PKPbc**	06 57 56.1	**+0.1**	
KARP	**Karpathos**	**146.42**	**301**		**PKPbc**	06 57 55.8	**-0.2**	
CHOS	**Chios island**	**146.49**	**306**	P	**PKPbc**	06 57 55.3	**-0.8**	
BRG	**Berggiesshubel**	**146.59**	**334**	⇑*i* PKP	**PKPbc**	06 57 55.6	**-0.3**	
	comp=Z,35nm,0.8s							
BRG	**Berggiesshubel**	**146.59**	**334**	⇑*i* PKP2	**PKPbc**	06 57 55.6	**-0.3**	
BRG				pmax	pmax			
	comp=Z,35nm,0.8s							
VRAC	**Vranov**	**146.59**	**330**	⇑PKP2	**PKPbc**	06 57 56.2	**+0.2**	
VRAC	**Vranov**	**146.59**	**330**	PKPbc	**PKPbc**	06 57 55.9	**-0.1**	
	comp=Z,10nm,0.6s,baz=57,slow=2.5,SNR=19							
VRAC	**Vranov**	**146.59**	**330**	⇑P	**PKPbc**	06 57 56.2	**+0.2**	
VRAC	**Vranov**	**146.59**	**330**	*e*PKP	**PKPbc**	06 57 56.2	**+0.4**	
PVCC	**Panska Ves**	**146.59**	**333**	*e*PKP2	**PKPbc**	06 57 56.2	**+0.3**	
PVCC	**Panska Ves**	**146.59**	**333**	*e*PKP	**PKPbc**	06 57 56.2	**+0.3**	
CLL	**Collm**	**146.62**	**335**	*e*PKP2	**PKPbc**	06 57 55.0	**-1.0**	
CLL				*i*		06 57 56.9		
CLL				pmax	pmax			
	comp=Z,63nm,0.8s							
CLL				pmax	pmax			
	comp=Z,23nm,0.6s							
CLL	**Collm**	**146.62**	**335**	*e*PKPbc	**PKPbc**	06 57 55.0	**-1.0**	
	comp=Z,23nm,0.8s							
CLL				*i* PKPab	**PKPab**	06 57 56.9	**-0.4**	
	comp=Z,30nm,0.6s							
KAVA	**Kavala**	**146.65**	**312**	P	**PKPbc**	06 57 56.1	**-0.3**	
MDVR	**Moldovita**	**146.68**	**320**	⇑P	**PKPbc**	06 57 57.0	**+0.6**	
SMOL	**Smolenice**	**146.74**	**328**	*e*PKP2	**PKPab**	06 57 57.3	**-0.6**	
SMOL	**Smolenice**	**146.74**	**328**	*e*PKP	**PKPab**	06 57 57.3	**-0.6**	
EKA	**Eskdalemuir Ar**	**146.78**	**355**	PKPbc	**PKPdf**	06 57 54.7	**+0.4**	
	comp=Z,8.8nm,0.6s,baz=15,slow=2.6,SNR=21							
VTS	**Vitosha**	**146.81**	**315**	P	**PKiKP**	06 57 59.5	**0.0**	
VTS	**Vitosha**	**146.81**	**315**	*e*P	**PKPbc**	06 57 56.7	**-0.3**	
VTS	**Vitosha**	**146.81**	**315**	PKIKP	**PKPdf**	06 57 55.7	**+0.7**	
VTS	**Vitosha**	**146.81**	**315**	⇑P	**PKPbc**	06 57 57.1	**+0.1**	
VTS	**Vitosha**	**146.81**	**315**		**PKPdf**	06 57 55.7	**+0.7**	
KRUC	**Moravsky**	**146.86**	**330**	PKP2	**PKPbc**	06 57 57.0	**+0.3**	
KRUC	**Moravsky**	**146.86**	**330**	*e*PKP	**PKPbc**	06 57 56.1	**-0.6**	
MODS	**Modra-Piesok**	**146.91**	**328**	*e*PKP2	**PKPbc**	06 57 56.8	**-0.1**	
MODS	**Modra-Piesok**	**146.91**	**328**	*e*PKP	**PKPbc**	06 57 56.8	**-0.1**	
MMB	**Musomiste**	**146.94**	**313**	*i* P	**PKPbc**	06 57 56.7	**-0.6**	
NVR	**Nevrokopi**	**146.95**	**313**	P	**PKPbc**	06 57 57.4	**+0.1**	
GOPC	**GO Pecny, Ondr**	**146.96**	**332**	*e*PKP2	**PKPbc**	06 57 56.7	**-0.3**	
GOPC	**GO Pecny, Ondr**	**146.96**	**332**	*e*PKP	**PKPbc**	06 57 56.7	**-0.3**	
PRA	**Prague**	**147.00**	**333**	*e*PKP2	**PKPbc**	06 57 57.1	**0.0**	
PRA	**Prague**	**147.00**	**333**	*e*PKP	**PKPbc**	06 57 57.1	**0.0**	
PRU	**Pruhonice**	**147.01**	**333**	*e*PKP2	**PKPbc**	06 57 56.6	**-0.5**	
PRU	**Pruhonice**	**147.01**	**333**	*e*PKP	**PKPbc**	06 57 56.6	**-0.5**	
CSKK	**Cskako**	**147.09**	**326**	*e*PKiKP	**PKPdf**	06 57 55.1	**0.0**	
TREC	**Trest**	**147.11**	**331**	*e*PKP2	**PKPbc**	06 57 57.4	**-0.1**	
TREC	**Trest**	**147.11**	**331**	*e*PKP	**PKPbc**	06 57 57.4	**-0.1**	
KKB	**Krupnik**	**147.25**	**314**	*e*P	**PKPab**	06 58 00.0	**-0.2**	
MPLH	**Magyarpolny**	**147.59**	**326**	*e*PKiKP	**PKPbc**	06 57 58.0	**-0.7**	
FRGS	**Fruska Gora**	**147.59**	**321**	⇑*i* P	**PKPbc**	06 57 57.9	**-1.0**	
MORH	**Mrgy, Hungar**	**147.61**	**324**	⇑*i* P	**PKPbc**	06 57 58.3	**-0.6**	
MORH	**Mrgy, Hungar**	**147.61**	**324**	*e*PKiKPc	**PKPbc**	06 57 58.1	**-0.8**	
PLG	**Polygyros**	**147.64**	**311**	P	**PKPab**	06 57 58.0	**-0.7**	
PAIG	**Paliouri**	**147.66**	**310**	P	**PKPab**	06 58 01.7	**-0.1**	
MOX	**Moxa**	**147.68**	**336**	PKP2	**PKPbc**	06 57 58.5	**-0.4**	
NKC	**Novy Kostel**	**147.68**	**335**	*e*PKP2	**PKPbc**	06 57 58.5	**-0.5**	
NKC	**Novy Kostel**	**147.68**	**335**	*e*PKP	**PKPbc**	06 57 58.5	**-0.5**	
KNT	**Kendrikon**	**147.69**	**313**	P	**PKPab**	06 58 02.1	**+0.2**	
SOP	**Sopron**	**147.74**	**328**	*e*PKiKP	**PKPbc**	06 57 58.0	**-1.1**	
LAST	**Lasithi**	**147.84**	**301**	P	**PKPbc**	06 57 59.8	**-0.2**	
CONA	**Conrad Observa**	**147.91**	**329**	*i* PKPbc	**PKPbc**	06 57 59.5	**-0.2**	
	comp=Z,12nm,0.8s,SNR=6.4							
KHC	**Kasperske Hory**	**148.07**	**332**	*e*PKP2	**PKPbc**	06 57 59.8	**-0.3**	
KHC	**Kasperske Hory**	**148.07**	**332**	*e*PKP	**PKPbc**	06 57 59.8	**-0.3**	
KHC				ex	x	06 58 03.5		
DIVS	**Divibare**	**148.09**	**320**	⇑*i* P	**PKPbc**	06 57 59.4	**-0.9**	
XOR	**Xorichti**	**148.23**	**310**	P	**PKPbc**	06 57 59.2	**-1.6**	
GERES	**GERESS Array B**	**148.23**	**332**	PKPbc	**PKPbc**	06 58 00.2	**-0.4**	
	comp=Z,11nm,0.7s,baz=43,slow=2.7,SNR=54							
GERES				PP	**PP**	07 01 36.6	**+6.7**	
	comp=Z,1.0nm,0.9s,baz=0.0,slow=5.6,SNR=4.2							
WET	**Wettzell**	**148.36**	**333**	PKP2	**PKPbc**	06 58 00.8	**0.0**	
LIT	**Litokhoron**	**148.42**	**311**	P	**PKPab**	06 58 04.6	**-0.4**	
ARSA	**Arzberg**	**148.54**	**328**	*i* PKPbc	**PKPbc**	06 58 00.8	**-0.6**	
	comp=Z,9.6nm,1.4s							
BBLS	**Lazići**	**148.57**	**320**	⇑*i* P	**PKPbc**	06 58 01.5	**-0.1**	
HAPS	**Han Pijesak,BI**	**148.71**	**320**	⇑*i* P	**PKPbc**	06 58 00.4	**-1.6**	
MOA	**Molln**	**148.72**	**330**	*i* PKPbc	**PKPbc**	06 58 01.2	**-0.6**	
	comp=Z,11nm,0.8s							
RUDO	**Rudo**	**148.73**	**319**	⇑*i* P	**PKPbc**	06 58 00.8	**-1.1**	
VAM	**Vamos**	**148.79**	**302**	P	**PKiKP**	06 58 02.9	**-0.7**	
DID	**Didima**	**148.88**	**306**	P	**PKPbc**	06 58 00.6	**-1.9**	
FNA	**Florina**	**148.88**	**313**	P	**PKPbc**	06 58 01.8	**-0.7**	
AGG	**Agios Georgios**	**148.98**	**310**	P	**PKPbc**	06 58 01.4	**-1.3**	
KRND	**KRANIDI**	**148.99**	**306**	P	**PKPab**	06 58 06.1	**-1.2**	
PHP	**Peshkopia**	**149.07**	**315**	P	**PKPbc**	06 58 02.5	**-0.4**	
MAKR	**Makrakomi, Fth**	**149.12**	**310**	P	**PKPbc**	06 58 02.4	**-0.7**	
SOKA	**Soboth**	**149.19**	**328**	*i* PKPbc	**PKPbc**	06 58 02.0	**-1.1**	
	comp=Z,20nm,1.3s,SNR=7.5							
UPM	**Unac-Piva**	**149.24**	**319**	*e*P	**PKiKP**	06 58 04.1	**-0.4**	
BLY	**Banja Luka**	**149.33**	**323**	⇑*i* P	**PKPbc**	06 58 02.5	**-0.8**	
BLY	**Banja Luka**	**149.33**	**323**	⇑P	**PKPbc**	06 58 02.7	**-0.6**	
BLY	**Banja Luka**	**149.33**	**323**		**PKPbc**	06 58 02.8	**-0.6**	
GOLS	**Golise**	**149.34**	**326**	*i* PKPbc	**PKPbc**	06 58 02.7	**-0.7**	
KALE	**Kalithea**	**149.36**	**309**	P	**PKPbc**	06 58 03.3	**-0.4**	
EVR	**Evrytania**	**149.39**	**310**	P	**PKPbc**	06 58 03.4	**-0.4**	
PDG	**Podgorica**	**149.45**	**318**	⇑*i* P	**PKPbc**	06 58 02.8	**-0.9**	
PDG	**Podgorica**	**149.45**	**318**	⇓P	**PKPbc**	06 58 01.6	**-2.1**	
KLV	**Kalavryta, Ach**	**149.49**	**308**	P	**PKPbc**	06 58 03.6	**-0.4**	
EFP	**Efpalio**	**149.52**	**309**	P	**PKiKP**	06 58 04.4	**-0.6**	
OBKA	**Obir**	**149.54**	**328**	*i* PKPbc	**PKPbc**	06 58 02.6	**-1.4**	
	comp=Z,7.6nm,1.0s							
CRES	**Cresnjev**	**149.56**	**326**	⇑*i* P	**PKPbc**	06 58 03.2	**-0.7**	
VLX	**Vlachokerasia**	**149.56**	**307**	P	**PKPbc**	06 58 03.6	**-0.7**	
MGRS	**Mrkonjic Grad**	**149.59**	**323**	*e*P	**PKPab**	06 58 10.4	**+0.8**	
DRME	**Dracevica, Mon**	**149.62**	**317**	⇑*i* P	**PKPbc**	06 58 03.2	**-0.9**	
BRY	**Bratogost**	**149.63**	**319**	⇑*i* P	**PKPbc**	06 58 03.3	**-1.0**	
KBA	**Koelnbreinsper**	**149.71**	**330**	PKHKP	**PKPbc**	06 58 03.2	**-1.3**	
KBA	**Koelnbreinsper**	**149.71**	**330**	*i* PKPbc	**PKPbc**	06 58

AAK pmax pmax
comp=Z,13nm,0.6s
AAK Ala-Archa 6.35 25 Pn **Pn 06 57 40.4 +1.5**
comp=Z,5.0nm,0.3s,baz=199,slow=9.5,SNR=24
AAK Sn **Sn 06 58 53.5 +1.9**
comp=Z,3.2nm,0.3s,baz=311,slow=23,SNR=1.8
AAK Ala-Archa 6.35 25 P **Pn 06 57 41.2 +2.3**
SNR=18
AAK Ala-Archa 6.35 25 **Pn 06 57 41.1 +2.1**
AAK Ala-Archa 6.35 25 ⇓Pn **Pn 06 57 41.0 +2.1**
comp=Z,19nm,0.7s
AAK ⇓Sn **Sn 06 58 55.2 +3.6**
comp=Z,40nm,0.7s
DHRM DHARAMSHALA 6.51 134 *e*P **Pn 06 57 40.7 -0.5**
DHRM *e*S **Sn 06 58 50.5 -5.2**
DHRM IAML 06 58 54.4
comp=N,170nm,0.5s
DHRM IAML 06 58 54.5
comp=E,282nm,0.5s
KBK Karagaybulak 6.53 28 P **Pn 06 57 44.4 +3.0**
SNR=8.2
CHMS Chumysh 6.76 25 P **Pn 06 57 47.2 +2.8**
SNR=7.0
BOOM Boomskoye usch 6.80 34 PN **Pn 06 57 46.7 +1.6**
BOOM Boomskoye usch 6.80 34 **Pn 06 57 46.7 +1.6**
USP Ospenovka 6.92 23 P **Pn 06 57 49.2 +2.6**
SNR=6.1
TKM2 Tokmak 2 7.01 30 PN **Pn 06 57 49.5 +1.5**
TKM2 S **Sn 06 59 08.8 +1.0**
TKM2 pmax pmax
comp=Z,19nm,0.6s
TKM2 smax smax
comp=N,22nm,1.0s
TKM2 Tokmak 2 7.01 30 P **Pn 06 57 49.7 +1.7**
SNR=20
TKM2 Tokmak 2 7.01 30 ⇓Pn **Pn 06 57 49.5 +1.5**
comp=N,19nm,0.6s
TKM2 ⇓Sn **Sn 06 59 08.8 +1.0**
comp=N,22nm,0.9s
KDJ Kajisay 7.14 42 PN **Pn 06 57 50.7 +0.9**
KDJ Kajisay 7.14 42 Pn **Pn 06 57 50.7 +0.9**
BHK Bhakra 7.21 138 *e*P **Pn 06 57 51.0 +0.4**
TARG Taragay, Kyrgy 7.22 46 Pn **Pn 06 57 52.6 +1.5**
MDOK Medeo 7.84 36 P **Pn 06 58 00.8 +1.5**
MDOK S **Sn 06 59 31.7 +3.6**
MDOK pmax pmax
comp=Z,10.0nm,0.8s
MDOK smax smax
comp=N,17nm,0.9s
MDOK Medeo 7.84 36 P **Pn 06 58 00.8 +1.5**
comp=N,10nm,0.8s
MDOK ⇑S **Sn 06 59 31.7 +3.6**
comp=N,17nm,0.9s
SMLA Simla 7.84 136 *e*P **Pn 06 57 56.7 -2.4**
SMLA *ex* x 06 59 19.2
SMLA IAML 06 59 26.3
comp=Z,41nm,0.6s
SMLA IAML 06 59 27.6
comp=N,75nm,0.4s
PDGK Podgornoye 9.21 43 P **Pn 06 58 18.2 +0.2**
PDGK S **Sn 07 00 08.7 +7.0**
PDGK pmax pmax
comp=Z,12nm,1.0s
PDGK smax smax
comp=N,21nm,1.1s
PDGK Podgornoye 9.21 43 ⇑P **Pn 06 58 18.3 +0.2**
comp=N,12nm,1.0s
PDGK ⇑S **Sn 07 00 08.1 +6.3**
comp=N,21nm,1.1s
JOSI Joshimath 9.67 129 *e*P **Pn 06 58 23.6 -1.0**
JOSI *e*S Sn 07 00 04.2 -9.2
KUDL Kundal 9.99 150 *e*P Pn 06 58 21.8 -7.0
KUDL *e*S Sn 07 00 06.3 -15
KUDL *e*S Sn 07 00 06.3 -15
KUDL IAML 07 00 16.2
comp=N,62nm,0.1s
GEYT Alibeck 10.14 279 Pn **Pn 06 58 31.4 +0.6**
comp=N,2.8nm,0.3s,baz=113,slow=12,SNR=2.9
GEYT Sn **Sn 07 00 23.5 -1.1**
comp=N,3.7nm,0.3s,baz=104,slow=16,SNR=2.9
GEYT LR LR 07 02 50.4
comp=N,83nm,20.0s,baz=5.0,slow=39
GYA0B ALIBECK ARRAY 10.14 279 **Pn 06 58 31.1 +0.3**
MAKZ Makanchi 12.88 37 P **Pn 06 59 08.4 +0.2**
MAKZ Makanchi 12.88 37 **Pn 06 59 08.4 +0.2**
MK31 Makanchi Array 13.03 37 P **Pn 06 59 10.0 -0.2**
MK31 Makanchi Array 13.03 37 **Pn 06 59 10.0 -0.2**
MKAR Makanchi Array 13.03 37 *e*P **Pn 06 59 09.6 -0.6**
MKAR Makanchi Array 13.03 37 Pn **Pn 06 59 07.6 -2.6**
comp=N,0.2nm,0.3s,baz=214,slow=13,SNR=16
DANN Dangsing 13.86 124 *e*P Pn 06 59 14.4 -7.5
KOLN Koldanda 14.15 127 *e*P Pn 06 59 20.1 -5.7
comp=N,9.8nm,0.4s
AB31 Akbulak array 14.62 331 P **Pn 06 59 30.8 -1.1**
AB31 S **Sn 07 02 08.3 -5.7**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
AB31 smax smax
comp=N,8.0nm,0.6s
AB31 Akbulak array 14.62 331 ⇓Pn **Pn 06 59 30.9 -1.1**
comp=N,2.1nm,0.4s,baz=140,slow=12,SNR=116
AB31 Sn **Sn 07 02 08.3 -5.7**
comp=N,7.9nm,0.6s,baz=171,slow=22,SNR=8.2
ABKAR Akbulak array 14.62 331 **Pn 06 59 31.2 -0.8**
KURBB Kurchatov Arra 14.75 20 Pn **Pn 06 59 30.4 -3.3**
comp=N,0.1nm,0.3s,baz=210,slow=12,SNR=6.5
KURBB Lg Lg 07 03 39.5
comp=N,0.0nm,0.3s,baz=338,slow=18,SNR=2.3
KURK Kurchatov 14.86 20⇑ *e*P **Pn 06 59 32.4 -2.8**
KURK Kurchatov 14.86 20 Pn **Pn 06 59 32.4 -2.8**
KKN Kakani 15.24 123 *e*P Pn 06 59 32.0 -8.6
comp=N,18nm,0.5s
PKIN Phulchoki 15.46 123 *e*P Pn 06 59 35.0 -8.5
PKI Pulchoki 15.47 123 *e*P Pn 06 59 34.8 -8.9
GUN Gumba 15.57 121 *e*P Pn 06 59 36.1 -9.0
JIRN Jiri 15.94 121 *e*P Pn 06 59 40.5 -9.4
comp=N,11nm,0.3s
BVAR Borovoye Array 16.08 359 Pn **Pn 06 59 51.0 -0.2**
comp=N,0.8nm,0.3s,baz=167,slow=13,SNR=14
BRVK Borovoye 16.12 359⇑ *e*P **Pn 06 59 52.4 +0.8**
BRVK Borovoye 16.12 359 P **Pn 06 59 51.8 +0.2**
BRVK IAmb IAmb 06 59 58.9
comp=Z,14nm,1.4s
AKTO Aktyubinsk 16.32 330 Pn **P 06 59 57.0 -0.2**
comp=Z,1.3nm,0.3s,baz=137,slow=12,SNR=17
AKTO Aktyubinsk 16.32 330 ⇓Pn **Pn 06 59 54.4 +0.1**
comp=Z,14nm,0.8s
AKTO ⇓Sn **Sn 07 02 49.7 -5.5**
comp=Z,8.5nm,0.7s
RAMN Ramite 16.68 122 *e*P Pn 06 59 51.6 -7.6
TAPN Taplejung 17.19 119 *e*P Pn 06 59 56.9 -8.8
comp=Z,6.3nm,0.5s
ZAA0 Zalesovo Array 19.58 25 P **P 07 00 30.9 -2.1**
ZALV Zalesovo Beam 19.58 25 *e*P **P 07 00 31.0 -2.0**
ZALV pmax pmax
comp=Z,6.0nm,0.4s
ZALV Zalesovo Beam 19.58 25 P **P 07 00 31.0 -2.0**
comp=Z,1.3nm,0.3s,baz=217,slow=11,SNR=31
GNI Garni 20.61 287 *d i*P Pn 07 00 49.2 +2.3
GNI pmax pmax
comp=Z,62nm,1.7s
GNI Garni 20.61 287 P Pn 07 00 49.6 +2.7
comp=Z,6.6nm,0.4s,baz=263,slow=4.9,SNR=3.2
GNI Garni 20.61 287 IAmb IAmb 07 01 03.5
comp=Z,12nm,0.8s
ARU Arti 21.16 341 *c i*P **P 07 00 52.4 +2.2**
ARU 07 01 08.8
ARU S **S 07 04 42.3 -3.1**
ARU SS **SnSn 07 05 04.3 -2.7**
ARU pmax pmax
comp=Z,7.0nm,0.8s
ARU Arti 21.16 341 P **P 07 00 53.1 +2.8**
comp=Z,2.1nm,0.5s,baz=162,slow=9.2,SNR=7.7
ARU Arti 21.16 341 P **P 07 00 53.2 +2.9**
ARU IAmb IAmb 07 01 03.0
comp=Z,11nm,1.1s
AKH Akhalkalaki 21.60 290 IAmb IAmb 07 01 00.2
comp=Z,11nm,0.9s
NCK Nalchik 21.73 296⇑ *i*P **P 07 01 02.5 +6.0**
NCK pmax pmax
comp=Z,45nm,0.8s
KBZ Khabaz 22.27 296 P **P 07 01 03.9 +1.8**
comp=Z,6.2nm,0.7s,baz=116,slow=5.8,SNR=13
KIV Kislovodsk 22.45 297⇑ *e*P **P 07 01 09.3 +5.0**
KIV pmax pmax
comp=Z,10.0nm,1.0s

BRTR Keskin Array B 29.16 287 *e*P **P 07 02 09.1 +2.5**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 29.16 287 P **P 07 02 08.3 +1.7**
comp=Z,1.1nm,0.7s,baz=110,slow=11,SNR=5.0
AKASG Malin Array Be 32.55 308 P **P 07 02 37.4 +1.3**
comp=Z,0.7nm,0.6s,baz=80,slow=6.9,SNR=4.3
LVZ Lovozero 36.99 338⇓ *e*P **P 07 03 16.6 +2.2**
LVZ pmax pmax
comp=Z,35nm,1.7s
FINES FINESS Array B 37.03 326 P **P 07 03 15.8 +1.1**
comp=Z,1.5nm,0.3s,baz=123,slow=8.9,SNR=23
ARCES ARCESS Array B 40.68 337 P **P 07 03 45.7 +0.5**
comp=Z,1.6nm,0.8s,baz=115,slow=9.2,SNR=7.5
HFS Hagfors 42.62 322 P **P 07 04 00.7 -0.6**
comp=Z,1.5nm,0.5s,baz=110,slow=8.5,SNR=8.3
YAK Yakutsk 43.69 36⇑ *e*P **P 07 04 08.3 -1.5**
YAK pmax pmax
comp=Z,5.0nm,0.7s
NB2 NORSAR Subarra 43.93 323 P **P 07 04 12.0 +0.1**
comp=Z,1.4nm,0.9s,baz=95,slow=7.9
NOA NORSAR Array B 43.93 323 P **P 07 04 12.2 +0.3**
comp=Z,2.0nm,0.9s,baz=96,slow=8.0,SNR=4.1
KLR Kul'dur 45.01 54⇑ *e*P P 07 04 12.9 -7.7
KLR pmax pmax
comp=Z,3.0nm,1.1s
TIXI Tiksi 45.42 22⇓ *e*P **P 07 04 22.0 -1.5**
TIXI pmax pmax
comp=Z,2.0nm,0.6s
KEST Kesra 48.75 288 P **P 07 04 52.3 +2.1**
comp=Z,2.2nm,0.6s,baz=3.4,slow=17,SNR=1.8
ESDC Sonseca Array 57.12 298 P **P 07 05 51.5 -0.3**
comp=Z,0.3nm,0.5s,baz=55,slow=6.8,SNR=2.9
TORD Torodi Ar. Bea 65.58 268 P **P 07 06 49.4 +0.1**
comp=Z,0.5nm,0.6s,baz=43,slow=6.0,SNR=2.8
INK Inuvik 73.49 9 P **P 07 07 36.2 -1.1**
comp=Z,1.1nm,0.8s,baz=350,slow=6.3,SNR=5.6
INK Inuvik 73.49 9 IAmb IAmb 07 07 47.7
comp=Z,3.9nm,1.1s
COLA College 74.09 16⇓ *e*P **P 07 07 40.7 -0.3**
COLA pmax pmax
comp=Z,3.0nm,1.1s
ILAR Eielson Array 74.39 16 P **P 07 07 39.4 -3.3**
comp=Z,0.3nm,0.9s,baz=337,slow=4.3,SNR=2.8
YKA Yellowknife Ar 80.81 3 P **P 07 08 17.7 -0.8**
comp=Z,1.0nm,0.7s,baz=350,slow=5.4,SNR=17
SCHQ Schefferville 81.63 337 LR LR 07 45 24.7
comp=Z,158nm,19.2s,baz=12,slow=36
WRA Warramunga Arr 82.35 122 P P 07 08 22.8 -4.5
comp=Z,0.5nm,0.8s,baz=317,slow=5.0,SNR=1.0
PMG Port Moresby 84.87 106⇑ *e*P P 07 08 28.2 -12
PMG pmax pmax
comp=Z,141nm,2.5s
KRVT Keravat (AS076 85.56 99 LR LR 07 49 21.0
comp=Z,86nm,18.1s,baz=220,slow=38

*IDC **21** 06:57:33.6±0.4, 3.˝46N×126.˝82E, h0km, mb4.5/22, mb1 4.6/22, mb1mx4.3/56, mbtmp4.5/22, MS4.2/14, Ms1 4.2/14, ms1mx3.9/42, Error ellipse: s-maj=27.9km s-min=9.2km az=73.0*
*MAN **21** 06:57:36.4, 3.˝31N×126.˝99E, h20km, MS4.6*
*NEIC **21** 06:57:37.1±1.8, 3.˝49N±0.˝04×126.˝88E±0.˝08, h19km±3km, mb5.0/58*
*MOS **21** 06:57:37.6±0.9, 3.˝47N×126.˝79E, h35km, mb5.0/33, Error ellipse: s-maj=15.3km s-min=6.5km az=110.4*
*BJI **21** 06:57:37.4±0.0, 3.˝50N×126.˝90E, h28km, mb4.7/41, mB5.2/30, Ms4.7/15, Ms7 4.4/17*
*DJA **21** 06:57:39.9±0.3, 4.˝N±2˝×12˝7E±˚, h43km±3km, M4.7/21, mB5.3/8, mb4.9/21, MLv4.7/1, MLv4.7/12, Mw(mB)4.7/8*
*ISCJB **21** 06:57:39.1±0.2, 3.˝49N±0.˝02×126.˝95E±0.˝04, h48km, mb4.7/64, MS4.3/16, Error ellipse: s-maj=5.8km s-min=2.8km az=161.5*

ISC 21 06:57:41.1±0.3, 3.˝47N±0.˝03×126.˝99E±0.˝06, h48km, n183, σt1s63/188, mb4.8/79, MS4.2/16, 7C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.71**	**172**	P	**Pn**	**06 58 23.8**	**+1.6**
TNTI				S	**Sn**	**06 58 53.6**	**-0.2**
TNTI	**Ternate**	**2.71**	**172**		**Pn**	**06 58 23.4**	**+1.2**
TNTI				Sn	**Sn**	**06 58 54.2**	**+0.4**
DDMP	**Don Marcelino,**	**2.91**	**334**	P	**Pn**	**06 58 24.0**	**-1.0**
DDMP				S	**Sn**	**06 58 59.0**	**+0.3**
DAV	**Davao City (W)**	**3.84**	**339**	Pn	**Pn**	**06 58 38.8**	**+1.0**
	68nm,0.3s,baz=266,slow=8.3,SNR=6.8						
DAV				Sn	**Sn**	**06 59 28.9**	**+7.2**
	74nm,0.3s,baz=127,slow=23,SNR=4.0						
DAV	**Davao City (W)**	**3.84**	**339**⇓	*e*P	**Pn**	**06 58 39.0**	**+1.3**
DAV	**Davao City (W)**	**3.84**	**339**	Pn	**Pn**	**06 58 39.8**	**+2.1**
SKMP	**Bagumbayan, Su**	**3.89**	**321**	P	**Pn**	**06 58 37.8**	**-0.6**
SKMP				S	**Sn**	**06 59 24.5**	**+1.7**
LBMI	**Labuha**	**4.11**	**173**	P	**Pn**	**06 58 42.8**	**+1.3**
LBMI				S	**Sn**	**06 59 29.8**	**+1.4**
KMSI	**Cibinong**	**4.16**	**226**	P	**Pn**	**06 58 40.2**	**-1.9**
BUKP	**Musuan**	**4.78**	**336**	P	**Pn**	**06 58 51.1**	**+0.4**
BUKP				S	**Sn**	**06 59 49.2**	**+4.3**
CGP	**Cagayan de Oro**	**5.45**	**335**	P	Pn	06 59 10.5	+11
SANI	**Sanana**	**5.58**	**190**	P	**Pn**	**06 59 03.0**	**+1.4**
	36nm,0.7s,855nm0.2nm						
BUTP	**Butuan**	**5.63**	**346**	P	**Pn**	**06 59 01.7**	**-0.6**
BUTP				S	Sn	07 00 22.5	+17
MRSI	**Marisa**	**5.86**	**240**	P	**Pn**	**06 59 07.7**	**+2.3**
	144nm,0.5s,2μm0.6nm						
SWI	**Sorong**	**6.06**	**135**	P	**Pn**	**06 59 10.7**	**+2.4**
	62nm,0.5s,3μm0.3nm0.3nm						
SIJI	**Sorong**	**6.07**	**135**	Pn	**Pn**	**06 59 09.2**	**+0.8**
	10nm,0.3s,baz=347,slow=15,SNR=12						
SIJI				Sn	**Sn**	**07 00 16.9**	**+0.3**
	baz=173,slow=23,SNR=0.9						
LUWI	**Luwuk**	**6.15**	**223**	P	**Pn**	**06 59 11.1**	**+1.6**
	218nm,0.9s,1.5nm						
LUWI	**Luwuk**	**6.15**	**223**		**Pn**	**06 59 11.4**	**+1.9**
NLAI	**Namlea**	**6.67**	**179**	P	**Pn**	**06 59 17.9**	**+1.4**
	59nm,0.5s,0.2nm						
APSI	**Ampana**	**6.89**	**231**	P	**Pn**	**06 59 21.6**	**+2.0**
	148nm,0.6s,2μm						
FAKI	**Fak Fak**	**8.24**	**140**	Pn	**Pn**	**06 59 38.2**	**0.0**
BNSI	**Bone**	**10.41**	**221**	P	Pn	07 00 25.1	+17
TGY	**Tagaytay City**	**12.13**	**331**	LR	LR	07 06 03.0	
	comp=Z,1μm,21.3s,baz=102,slow=42						
SBUM	**Sibu**	**14.78**	**266**	P	**P**	**07 01 15.2**	**+2.8**
JAY	**Jayapura**	**14.94**	**113**	LR	LR	07 06 23.6	
	comp=Z,1μm,21.1s,baz=252,slow=35						
PLAI	**Plampang**	**15.29**	**217**	P	**P**	**07 01 19.9**	**+2.0**
TWSI	**Taliwang, Sumb**	**15.77**	**220**	P	**P**	**07 01 28.2**	**+4.9**
MTN	**Manton Dam**	**16.72**	**166**		**Pn**	**07 01 29.5**	**-2.7**
MTN				IAmb	IAmb	07 01 36.5	
	comp=Z,42nm,0.6s						
JAGI	**Jajag, Banyuwa**	**17.45**	**227**	P	**P**	**07 01 42.7**	**+0.7**
KNRA	**Kununurra**	**19.11**	**175**	P	**P**	**07 01 58.8**	**-1.3**
KNRA				IAmb	IAmb	07 02 01.6	
	comp=Z,40nm,0.5s						
TWG	**Pinlang**	**20.07**	**344**	P	**P**	**07 02 07.8**	**-2.9**
YULB	**Yu-li**	**20.55**	**345**	P	**P**	**07 02 12.9**	**-3.0**
YULB				IAmb	IAmb	07 02 13.4	
	comp=Z,102nm,1.4s						
TPUB	**Ta-pu**	**20.65**	**343**	P	**P**	**07 02 14.8**	**-2.1**
TPUB				IAmb	IAmb	07 02 16.7	
	comp=Z,157nm,1.4s						
SSLB	**Suanglung**	**21.02**	**344**	P	**P**	**07 02 19.2**	**-1.7**
SSLB				IAmb	IAmb	07 02 21.0	
	comp=Z,54nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.47**	**184**	P	**P**	**07 02 24.2**	**-1.6**
	comp=Z,9.0nm,0.5s,baz=14,slow=6.5,SNR=34						
FITZ	**Fitzroy Crossi**	**21.47**	**184**	P	**P**	**07 02 23.6**	**-2.2**
YHNB	**Yeheng**	**21.76**	**346**	P	**P**	**07 02 27.2**	**-1.7**
YHNB				IAmb	IAmb	07 02 36.7	
	comp=Z,40nm,0.8s						
KNMB	**Chin-men Tao**	**22.46**	**339**	P	**P**	**07 02 35.8**	**-0.5**
KNMB				IAmb	IAmb	07 02 43.9	
	comp=Z,32nm,0.8s						
COEN	**Coen**	**23.61**	**137**	P	**P**	**07 02 47.7**	**-0.3**
KLSI		**23.67**	**250**	P	**P**	**07 02 49.8**	**+1.2**
	comp=Z,12nm,0.8s						
MDSI	**Maura Dua**	**24.12**	**251**	P	**P**	**07 02 51.2**	**-1.5**
	comp=Z,12nm,0.8s						
WRAB	**Tennant Creek**	**24.36**	**163**	*i* P	**P**	**07 02 53.2**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,59nm,1.5s						
WRAB	**Tennant Creek**	**24.36**	**163**	P	**P**	**07 02 53.4**	**-1.4**
WRAB				IAmb	IAmb	07 03 04.3	
	comp=Z,48nm,0.8s						

WRA Warramunga Arr 24.36 163 P **P 07 02 53.4 -1.5**
comp=Z,22nm,0.5s,baz=340,slow=8.3,SNR=168
WRA S **S 07 07 15.8 +4.5**
comp=Z,1.8nm,0.7s,baz=232,slow=17,SNR=5.2
WR0 Warramunga Arr 24.44 163 P **P 07 02 54.2 -1.4**
WR0 IAmb IAmb 07 03 05.2
comp=Z,34nm,0.8s
PSA00 Pilbara Seismi 25.85 195 P **P 07 03 08.2 -0.1**
PSA00 IAmb IAmb 07 03 23.7
comp=Z,44nm,1.4s
KRVT Keravat (AS076 26.18 107 LR LR 07 12 19.6
comp=Z,1μm,18.6s,baz=296,slow=34
SKNT Sakolnakorn 26.27 302 P **P 07 03 12.1 -0.1**
comp=Z,41nm,1.0s
AS31 Alice Springs 27.80 166 P **P 07 03 24.8 -1.1**
ASAR Alice Springs 27.80 166 P **P 07 03 24.6 -1.3**
comp=Z,9.4nm,0.5s,baz=351,slow=7.5,SNR=256
ASAR S **S 07 08 08.5 +2.8**
comp=Z,1.5nm,1.0s,baz=351,slow=17,SNR=2.8
NJ2 Nanjing 29.44 346 *e*P **P 07 03 41.3 +0.9**
NJ2 pmax pmax
comp=Z,14nm,0.5s
CMAR Chiang Mai Arr 31.23 301 P **P 07 03 55.3 -1.0**
comp=Z,1.1nm,0.3s,baz=121,slow=9.0,SNR=4.6
CMMT Chiang Mai 31.37 301 P **P 07 04 01.9 +4.2**
comp=Z,3.3nm,2.3s
CHTO Chiang Mai 31.38 301 P **P 07 03 56.7 -1.0**
CHTO pmax pmax
comp=Z,9.0nm,1.1s
CHTO Chiang Mai 31.38 301 P **P 07 03 56.7 -1.0**
KSRS Korea Array 33.83 1 P **P 07 04 18.6 -0.3**
comp=Z,1.9nm,0.6s,baz=186,slow=9.7,SNR=5.6
MORW Morawa 34.02 197 P **P 07 04 20.3 -0.3**
MORW IAmb IAmb 07 04 35.8
comp=Z,32nm,1.4s
FORT Forrest 34.07 178 P **P 07 04 20.5 -0.5**
MAJO Matsushiro 34.50 16⇑ *e*P **P 07 04 25.2 +0.5**
MAJO pmax pmax
comp=Z,11nm,1.2s
XAN Xi'an 34.76 333 P **P 07 04 24.8 -2.3**
XAN pmax pmax
comp=Z,6.0nm,0.8s
XAN pmax pmax
comp=Z,120nm,5.2s
EIDS Eidsvold 36.99 142 P **P 07 04 45.7 -0.5**
BBOO Buckleboo 37.09 167 P **P 07 04 46.2 -0.8**
BJT Baijiatuan 37.68 346 P **P 07 04 50.7 -1.1**
BJT pmax pmax
comp=Z,52nm,1.1s
BJT Baijiatuan 37.68 346 P **P 07 04 50.7 -1.1**
STKA Stephens Creek 37.80 160 P **P 07 04 52.5 -0.5**
comp=Z,23nm,0.6s,baz=332,slow=9.1,SNR=77
STKA Stephens Creek 37.80 160 P **P 07 04 52.3 -0.7**
LZH Lanzhou 38.85 330 *e*P **P 07 05 00.9 -1.1**
LZH pP pP 07 05 12.8 -1.8
LZH sP sP 07 05 16.5 -3.7
LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,97nm,5.4s
LZH LR LR
comp=Z,590nm,13.7s
LZH LR LR
comp=Z,700nm,14.0s
LZH LR LR
comp=Z,810nm,17.2s
HHC Hu-ho-hao-te 39.72 342 *e*P **P 07 05 10.8 +1.7**
HHC pmax pmax
comp=Z,5.0nm,0.8s
HHC LR LR
comp=Z,170nm,13.6s
HHC LR LR
comp=Z,120nm,12.8s
HHC LR LR
comp=Z,270nm,16.2s
CN2 Changchun 40.18 358 *e*P **P 07 05 14.3 +1.6**
SHL Shillong 40.24 306 P **P 07 05 11.5 -2.2**
SHL pmax pmax
comp=Z,28nm,0.4s
SHL Shillong 40.24 306 *e*P **P 07 05 12.0 -1.7**
SHL Shillong 40.24 306 P **P 07 05 11.5 -2.2**
ARMA Armidale 41.11 147 P **P 07 05 21.4 +0.7**
ARMA IAmb IAmb 07 05 37.3
comp=Z,22nm,1.1s
ASAJ Asahikawa 42.76 17 LR LR 07 23 18.6
comp=Z,403nm,19.2s,baz=206,slow=36
LSA Lhasa 42.80 311 P **P 07 05 34.3 -0.7**
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA Lhasa 42.80 311 P **P 07 05 34.3 -0.7**
GTA Gaotai 43.45 329 *e*P **P 07 05 38.4 -1.3**
GTA pP pP 07 05 47.6 -4.8
GTA sP sP 07 05 51.8 -6.2
GTA pmax pmax
comp=Z,3.0nm,1.3s
GTA pmax pmax
comp=Z,150nm,5.5s
GTA LR LR
comp=Z,320nm,19.6s
GTA LR LR
comp=Z,370nm,18.6s
GTA LR LR
comp=Z,600nm,19.2s
CAN Canberra 43.77 154 P **P 07 05 43.3 +1.1**
CAN pmax pmax
comp=Z,12nm,1.0s
CAN Canberra 43.77 154 P **P 07 05 43.3 +1.1**
TOO Toolangi 44.31 159 P **P 07 05 47.2 +0.8**
TOO pmax pmax
comp=Z,36nm,1.5s
TOO Toolangi 44.31 159 P **P 07 05 47.2 +0.8**
TOO IAmb IAmb 07 05 54.9
comp=Z,36nm,1.5s
TAPN Taplejung 44.38 306 *e*P **P 07 05 45.6 -1.9**
RAMN Ramite 45.11 305 *e*P **P 07 05 51.8 -1.5**
JIRN Jiri 45.73 306 *e*P **P 07 05 56.7 -1.7**
KLR Kul'dur 45.77 4⇑ *e*P **P 07 05 58.6 +0.7**
KLR pmax pmax
comp=Z,4.0nm,1.3s
KLR Kul'dur 45.77 4 P **P 07 05 56.1 -1.7**
comp=Z,1.4nm,0.6s,baz=153,slow=11,SNR=3.0
GUN Gumba 46.09 306 *e*P **P 07 05 59.0 -2.1**
comp=Z,18nm,0.4s
KKN Kakani 46.52 306 *e*P **P 07 06 02.2 -2.2**
comp=Z,8.3nm,0.4s
ULN Ulaanbaatar 47.44 342 *i* P **P 07 06 11.0 -0.2**
ULN pmax pmax
comp=Z,13nm,1.4s
ULN Ulaanbaatar 47.44 342 P **P 07 06 10.3 -0.9**
ULN IAmb IAmb 07 06 21.8
comp=Z,6.8nm,0.8s
SONM Songino Array 47.62 341 P **P 07 06 10.7 -1.9**
comp=Z,1.9nm,0.4s,baz=166,slow=7.9,SNR=14
KOLN Koldanda 47.88 305 *e*P **P 07 06 13.2 -1.8**
comp=Z,17nm,0.4s
DANN Dangsing 47.98 306 *e*P **P 07 06 13.6 -2.2**
comp=Z,28nm,0.5s
TLY Talaya 51.85 342⇑ *e*P **P 07 06 43.6 -0.9**
TLY pmax pmax
comp=Z,13nm,1.6s
TLY Talaya 51.85 342 LR LR 07 30 44.6
comp=Z,230nm,21.2s,baz=143,slow=38
MOY Mondy 52.71 340 *e*P **P 07 06 51.8 +0.8**
MOY pmax pmax
comp=Z,27nm,2.1s
WMQ Urumqi 53.08 325 *e*P **P 07 06 55.4 +1.6**
WMQ pP pP 07 06 59.1 -7.7
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,87nm,5.9s
WMQ LR LR
comp=Z,930nm,29.2s
WMQ LR LR
comp=Z,940nm,29.3s
WMQ LR LR
comp=Z,230nm,29.0s
BOD Bodaibo 55.16 352 *e*P **P 07 07 08.0 -0.6**
BOD pmax pmax
comp=Z,11nm,1.5s
PEA0B Petropavlovsk- 55.57 22 P **P 07 07 12.1 +0.5**
PEA0B pmax pmax
comp=Z,41nm,1.4s
PEA0B Petropavlovsk- 55.57 22 P **P 07 07 12.1 +0.5**
PETK Petropavlovsk- 55.57 22 P **P 07 07 11.6 -0.1**
comp=Z,3.6nm,0.5s,baz=188,slow=5.2,SNR=36

PETK LR LR 07 31 28.3
comp=Z,114nm,19.7s,baz=239,slow=37
MK31 Makanchi Array 57.91 325 P **P** **07 07 27.4 -1.0**
MK31 pmax pmax
comp=Z,12nm,1.4s
MK31 Makanchi Array 57.91 325 P **P** **07 07 27.4 -1.0**
MK31 IAmb IAmb 07 07 43.9
comp=Z,12nm,1.4s
MKAR Makanchi Array 57.91 325 P **P** **07 07 26.8 -1.6**
comp=Z,3.3nm,0.4s,baz=122,slow=7.9,SNR=40
MAKZ Makanchi 58.10 325 P **P** **07 07 28.7 -1.1**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
MAKZ Makanchi 58.10 325 P **P** **07 07 28.7 -1.1**
KSH Kashi 58.41 315 P **P** **07 07 35.8 +3.6**
KSH PcP **PcP** **07 08 25.0 +2.4**
KSH PP **PP** **07 09 46.5 +4.6**
KSH S **S** **07 15 35.1 +3.2**
KSH ScS **ScS** **07 17 18.8 +0.6**
KSH pmax pmax
comp=Z,480nm,5.0s
KSH LR LR
comp=Z,500nm,5.9s
KSH LR LR
comp=Z,760nm,6.3s
KSH LR LR
comp=Z,650nm,6.2s
YAK Yakutsk 58.46 1 *e*P **P** **07 07 32.4 +0.5**
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.3s
MA2 Magadan 58.89 14⇓ *e*P **P** **07 07 36.0 +1.0**
MA2 pmax pmax
comp=Z,13nm,1.0s
ZALV Zalesovo Beam 60.93 333 P **P** **07 07 47.1 -1.9**
comp=Z,1.0nm,0.4s,baz=132,slow=6.2,SNR=5.5
ZALV LR LR 07 35 46.2
comp=Z,96nm,19.0s,baz=111,slow=38
LBZ Lake Benmore 61.33 146 P **P** **07 07 53.2 +1.3**
THZ Tophouse 61.34 142 P **P** **07 07 52.3 +0.2**
KURBB Kurchatov Arra 62.09 327 P **P** **07 07 55.5 -1.5**
comp=Z,3.8nm,0.5s,baz=130,slow=6.4,SNR=18
KURK Kurchatov 62.10 327 *i* P **P** **07 07 56.0 -1.0**
KURK pmax pmax
comp=Z,6.0nm,0.6s
KURK Kurchatov 62.10 327 P **P** **07 07 55.6 -1.4**
KURK IAmb IAmb 07 08 09.4
comp=Z,16nm,0.8s
BKZ Black Stump Fm 62.22 138 P **P** **07 07 58.4 +0.3**
BKZ IAmb IAmb 07 08 11.1
comp=Z,26nm,1.3s
SEY Seymchan 62.23 13⇑ *e*P **P** **07 07 58.7 +1.1**
GAR Garm 62.29 313 P **P** **07 07 57.5 -1.2**
GAR IAmb IAmb 07 08 07.6
comp=Z,19nm,1.2s
BFZ Birch Farm 62.84 140 P **P** **07 08 05.3 +3.1**
KKAR Karatay Array 63.60 317 P **P** **07 08 07.3 +0.1**
KKAR pmax pmax
comp=Z,8.0nm,1.4s
KKAR Karatay Array 63.60 317 P **P** **07 08 07.3 +0.1**
KKAR IAmb IAmb 07 08 13.1
comp=Z,7.9nm,1.4s
BVAR Borovoye Array 67.68 327 P **P** **07 08 31.7 -1.6**
comp=Z,1.9nm,0.4s,baz=111,slow=5.4,SNR=9.2
BRVK Borovoye 67.75 327 *i* P **P** **07 08 34.2 +0.5**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 67.75 327 P **P** **07 08 33.2 -0.5**
BRVK IAmb IAmb 07 08 47.6
comp=Z,25nm,1.4s
TIXI Tiksi 68.10 1 *i* P **P** **07 08 35.3 -0.2**
TIXI pmax pmax
comp=Z,10.0nm,1.5s
TIXI Tiksi 68.10 1 P **P** **07 08 34.7 -0.8**
comp=Z,1.2nm,0.3s,baz=360,slow=24,SNR=5.1
TIXI Tiksi 68.10 1 P **P** **07 08 34.9 -0.6**
TIXI IAmb IAmb 07 08 53.0
comp=Z,9.1nm,1.1s
NRIK Noril'sk 70.74 346 P **P** **07 08 51.2 -0.6**
comp=Z,5.3nm,0.6s,baz=123,slow=6.4,SNR=10
NRIK LR LR 07 42 56.3
comp=Z,241nm,19.3s,baz=122,slow=38
ABKAR Akbulak array 72.51 321 P **P** **07 09 01.8 -1.1**
ABKAR IAmb IAmb 07 09 16.2
comp=Z,9.9nm,1.2s
UNV Unalaska Valle 73.49 35 P **P** **07 09 09.0 +0.4**
AKTO Aktyubinsk 74.02 322 P **P** **07 09 10.7 -1.2**
comp=Z,5.2nm,0.6s,baz=102,slow=10,SNR=21
SVE Sverdlovsk 74.31 328 *e*P **P** **07 09 13.5 +0.1**
SVE pmax pmax
comp=Z,27nm,1.8s
ARU Arti 75.29 328*c* *i*P **P** **07 09 17.3 -1.8**
ARU S **S** **07 18 55.1 +0.3**
ARU SS **SS** **07 23 46.0 +0.7**
ARU pmax pmax
comp=Z,5.0nm,0.8s
ARU Arti 75.29 328 P **P** **07 09 17.7 -1.4**
ARU IAmb IAmb 07 09 32.4
comp=Z,13nm,1.2s
SDPT Sand Point 77.26 34 P **P** **07 09 30.0 -0.3**
TTA Tatalina 81.01 27 P **P** **07 09 51.1 +0.4**
TTA pmax pmax
comp=Z,10.0nm,1.4s
TTA Tatalina 81.01 27 P **P** **07 09 51.1 +0.4**
ABPO Ambohimpanom 81.47 250 P **P** **07 09 54.0 -0.1**
ABPO pmax pmax
comp=Z,5.0nm,0.9s
ABPO Ambohimpanom 81.47 250 P **P** **07 09 54.0 -0.1**
KDAK Kodiak Island 81.97 32 P **P** **07 09 56.3 +0.6**
KDAK pmax pmax
comp=Z,74nm,1.5s
KDAK Kodiak Island 81.97 32 P **P** **07 09 56.3 +0.6**
PRGR Permogore 82.85 332 *e*P **P** **07 09 57.3 -3.0**
PRGR pmax pmax
comp=Z,9.0nm,0.6s
BRLK Bradley Lake 83.05 30 P **P** **07 10 01.1 -0.3**
VNDA Vanda 83.14 173 P **P** **07 10 01.8 +0.4**
VNDA pmax pmax
comp=Z,6.0nm,1.4s
VNDA Vanda 83.14 173 P **P** **07 10 02.1 +0.6**
comp=Z,1.5nm,0.5s,baz=313,slow=8.7,SNR=10
VNDA Vanda 83.14 173 P **P** **07 10 01.8 +0.4**
SUA Susitna One 83.27 29 P **P** **07 10 03.7 +1.1**
SUA IAmb IAmb 07 10 08.8
comp=Z,15nm,1.2s
KBZ Khabaz 83.34 313 LR LR 07 51 32.5
comp=Z,82nm,19.9s,baz=60,slow=39
BPAW Bear Paw Mtn. 83.40 26 P **P** **07 10 03.6 +0.5**
BPAW IAmb IAmb 07 10 14.4
comp=Z,10nm,1.1s
MLY Manley 83.60 25 P **P** **07 10 04.7 +0.5**
MLY IAmb IAmb 07 10 17.8
comp=Z,6.0nm,0.9s
RC01 Rabbit Creek A 83.72 29 P **P** **07 10 06.0 +1.2**
RC01 IAmb IAmb 07 10 08.8
comp=Z,20nm,1.3s
COLD Coldfoot 84.03 23 P **P** **07 10 07.4 +1.1**
PMR Palmer 84.05 29 P **P** **07 10 06.7 +0.3**
PMR pmax pmax
comp=Z,17nm,1.3s
PMR Palmer 84.05 29 P **P** **07 10 06.7 +0.3**
PMR IAmb IAmb 07 10 20.5
comp=Z,17nm,1.3s
VRH Novokhopyorsk 84.34 321 *e*P **P** **07 10 06.3 -1.8**
VRH pmax pmax
comp=Z,10.0nm,0.6s
KNK Knik Glacier 84.36 29 P **P** **07 10 08.8 +0.8**
TOLK Toolik Lake Re 84.39 21 P **P** **07 10 09.8 +1.7**
TOLK IAmb IAmb 07 10 21.9
comp=Z,13nm,1.2s
PPT Papeete 84.79 108 LR LR 07 45 47.4
comp=Z,69nm,19.6s,baz=281,slow=34
COLA College 84.82 25⇑ *e*P **P** **07 10 09.1 -1.1**
COLA pmax pmax
comp=Z,3.0nm,1.1s
VORD Divnogorie 85.87 321 *e*P **P** **07 10 13.7 -2.1**
VORD pmax pmax
comp=Z,20nm,1.4s
VSR Storozhevoye 85.95 321 *e*P **P** **07 10 14.6 -1.6**
VSR pmax pmax
comp=Z,7.0nm,0.5s
LPSR Galich'ya Gora 86.09 322 *e*P **P** **07 10 15.3 -1.5**
LPSR pmax pmax
comp=Z,20nm,1.5s
MOS Moscow 86.80 326 *e*P **P** **07 10 16.9 -3.3**
OBN Obninsk 87.42 325⇑ *e*P **P** **07 10 24.4 +1.1**
OBN pmax pmax
comp=Z,13nm,1.2s
KMBO Kilima Mbogo 89.80 269 P **P** **07 10 35.2 -0.6**
KMBO pmax pmax
comp=Z,6.0nm,1.3s
KMBO Kilima Mbogo 89.80 269 P **P** **07 10 35.8 +0.1**
comp=Z,0.8nm,0.6s,baz=66,slow=20,SNR=2.0
KMBO LR LR 07 50 02.9
comp=Z,48nm,18.9s,baz=100,slow=35
KMBO Kilima Mbogo 89.80 269 P **P** **07 10 35.2 -0.6**
INK Inuvik 90.31 22 P **P** **07 10 36.6 0.0**
comp=Z,1.5nm,0.9s,baz=200,slow=6.5,SNR=3.3
INK Inuvik 90.31 22 IAmb IAmb 07 10 39.6
comp=Z,10.0nm,1.4s
BRTR Keskin Array B 90.38 310 P **P** **07 10 36.4 -1.5**
comp=Z,0.4nm,0.6s,baz=116,slow=5.6,SNR=4.8
BRTR LR LR 07 57 13.2
comp=Z,44nm,19.3s,baz=22,slow=40
ARCES ARCESS Array B 90.78 340 P **P** **07 10 37.5 -1.4**
comp=Z,2.0nm,0.7s,baz=78,slow=6.4,SNR=15
FINES FINESS Array B 92.18 332 P **P** **07 10 44.7 -0.8**
comp=Z,2.5nm,0.8s,baz=78,slow=2.7,SNR=5.2
FINES LR LR 07 56 13.4
comp=Z,284nm,18.9s,baz=24,slow=38
NOA NORSAR Array B 99.13 334 LR LR 08 00 45.1
comp=Z,104nm,20.2s,baz=265,slow=38
YKA Yellowknife Ar 99.62 24 PKiKP **PKiKP** **07 15 48.3 +0.4**
comp=Z,0.2nm,0.5s,baz=293,slow=1.7,SNR=5.5
KONO Kongsberg 100.45 333 *i* P **Pdif** **07 11 23.5 +0.5**
ULM Lac du Bonnet 115.06 29 PKP **PKiKP** **07 16 15.9 -1.2**
comp=Z,0.5nm,0.4s,baz=307,slow=5.1,SNR=2.6
TXAR Lajitas Array 121.55 52 PKP **PKPdf** **07 16 30.3 -0.1**
comp=Z,0.3nm,0.6s,baz=262,slow=0.8,SNR=6.5
TORD Torodi Ar. Bea 123.24 288 PKP **PKPdf** **07 16 32.6 -1.2**
comp=Z,0.7nm,0.6s,baz=95,slow=1.3,SNR=5.8
TKL Tuckaleechee C 131.57 34 PKP **PKPdf** **07 16 49.0 -0.1**
comp=Z,2.4nm,0.6s,baz=156,slow=7.3,SNR=5.9
TKL Tuckaleechee C 131.57 34 **PKPdf** **07 16 49.6 +0.4**
JTS Las Juntas de 145.38 66 PKPbc **PKPab** **07 17 16.1 +1.0**
comp=Z,2.2nm,0.5s,baz=8.3,slow=19,SNR=4.0
JTS Las Juntas de 145.38 66 **PKPab** **07 17 16.7 +1.6**
CFA Coronel Fontan 148.56 155 PKPbc **PKPbc** **07 17 23.7 +0.2**
comp=Z,2.8nm,0.5s,baz=194,slow=3.5,SNR=5.7

*ISCJB **21** 07:07:05.3±1.2, 11°.1N±0°.1×126°.71E±0°.09, h44km, mb3.6/3, Error ellipse: s-maj=15.4km s-min=11.3km az=25.1*
*IDC **21** 07:07:05.2±3.1, 10°.12N×124°.79E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/31, mbtmp3.5/3, Error ellipse: s-maj=263.1km s-min=28.7km az=64.0*
*MAN **21** 07:07:06.8, 10°.97N×126°.62E, h39km, MS3.3*
ISC 21 07:07:07.4±1.5, 11°.08N±0°.10×126°.7E±0°.1, h44km, n6, σ1§19/9, mb3.6/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.30**	**294**	P	**Pn**	**07 07 29.3**	**+0.2**
BESP				S	**Sn**	**07 07 43.3**	**-1.9**
MSLP	**Maasin**	**1.99**	**242**	P	**Pn**	**07 07 38.0**	**-0.6**
MSLP				S	**Sn**	**07 08 03.2**	**+0.9**
MSLP	**Maasin**	**1.99**	**242**	P	**Pn**	**07 07 38.0**	**-0.6**
MSLP				S	**Sn**	**07 08 03.2**	**+0.9**
WRA	**Warramunga Arr**	**31.74**	**166**	P	**P**	**07 13 26.5**	**-0.9**
	0.3nm,0.3s,baz=341,slow=9.6,SNR=3.2						
ASAR	**Alice Springs**	**35.25**	**168**	P	**P**	**07 13 57.8**	**-0.2**
	0.3nm,0.3s,baz=352,slow=7.1,SNR=14						
MKAR	**Makanchi Array**	**51.62**	**322**	P	**P**	**07 16 10.8**	**+1.3**
	0.5nm,0.8s,baz=126,slow=7.6,SNR=3.7						

*ISCJB **21** 07:08:21.4±0.3, 17°.79S±0°.05×178°.64W±0°.06, h550km, mb4.2/14, Error ellipse: s-maj=8.0km s-min=6.2km az=25.6*
*IDC **21** 07:08:22.0±1.4, 17°.57S×178°.82W, h538km±16km, mb3.5/9, mb1 3.8/11, mb1mx3.4/39, mbtmp4.4/11, Error ellipse: s-maj=24.6km s-min=11.6km az=145.0*
*NEIC **21** 07:08:22.2±1.7, 17°.8S±0°.1×178°.6W±0°.1, h549km±6km, mb4.7/39*
ISC 21 07:08:22.5±0.4, 17°.77S±0°.07×178°.61W±0°.07, h550km, n91, σ1§14/92, mb4.7/33, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.18**	**270**	P	**P**	**07 09 41.1**	**+2.3**
AFI	**Afiamalu**	**7.62**	**61**	P	**P**	**07 10 14.8**	**-1.8**
	19nm,0.3s,baz=62,slow=3.9,SNR=30						
NIUE	**Niue**	**8.35**	**100**	P	**P**	**07 10 24.1**	**+0.3**
FUNA	**Funafuti**	**9.43**	**347**	P	**P**	**07 10 34.8**	**0.0**
RAO	**Raoul Island**	**11.45**	**177**	P	**P**	**07 10 54.8**	**-0.4**
DZM	**Mont Dzumac**	**14.69**	**251**	P	**P**	**07 11 27.6**	**-1.4**
	2.2nm,0.3s,baz=246,slow=23,SNR=16						
DZM	**Mont Dzumac**	**14.69**	**251**	P	**P**	**07 11 27.7**	**-1.3**
OUZ	**Omahuta**	**18.71**	**200**	P	**P**	**07 12 09.1**	**+2.2**
URZ	**Urewera**	**20.76**	**190**	P	**P**	**07 12 22.4**	**-2.9**
	7.1nm,0.5s,baz=282,slow=0.2,SNR=7.9						
URZ	**Urewera**	**20.76**	**190**	P	**P**	**07 12 22.7**	**-2.6**
URZ				IAmb	IAmb	07 12 25.1	
	comp=Z,14nm,0.8s						
BKZ	**Black Stump Fm**	**21.74**	**190**	P	**P**	**07 12 31.8**	**-2.5**
BKZ				IAmb	IAmb	07 12 49.7	
	comp=Z,23nm,1.3s						
QRZ	**Quartz Range**	**24.21**	**197**	P	**P**	**07 12 55.7**	**-0.5**
BHW	**Baring Head**	**24.22**	**192**	P	**P**	**07 12 56.4**	**+0.3**
NNZ	**Nelson**	**24.36**	**195**	P	**P**	**07 12 57.3**	**-0.2**
THZ	**Tophouse**	**25.00**	**195**	P	**P**	**07 13 04.0**	**+0.8**
THZ				IAmb	IAmb	07 13 10.6	
	comp=Z,55nm,1.5s						
LTZ	**Lake Taylor**	**26.11**	**195**	P	**P**	**07 13 11.2**	**-1.7**
LTZ				IAmb	IAmb	07 13 25.9	
	comp=Z,28nm,1.2s						
FOZ	**Fox Glacier**	**27.49**	**198**	P	**P**	**07 13 24.5**	**-0.5**
WKZ	**Wanaka**	**28.90**	**198**	P	**P**	**07 13 36.0**	**-1.3**
EIDS	**Eidsvold**	**29.13**	**250**	P	**P**	**07 13 39.4**	**-0.2**
EIDS				IAmb	IAmb	07 13 39.9	
	comp=Z,16nm,0.8s						
MLZ	**Mavora Lakes**	**29.67**	**199**	P	**P**	**07 13 44.6**	**+0.7**
MLZ				IAmb	IAmb	07 14 00.4	
	comp=Z,29nm,1.3s						
ARMA	**Armidale**	**29.84**	**239**	P	**P**	**07 13 46.6**	**+0.8**
ARMA				IAmb	IAmb	07 13 47.3	
	comp=Z,20nm,0.7s						
WHZ	**Wether Hill Ro**	**30.19**	**199**	P	**P**	**07 13 48.7**	**+0.2**
CAN	**Canberra**	**33.63**	**232**	P	**P**	**07 14 18.4**	**+0.4**
CAN				IAmb	IAmb	07 14 19.2	
	comp=Z,17nm,1.0s						
PMG	**Port Moresby**	**34.24**	**279**	P	**P**	**07 14 24.2**	**+0.9**
COEN	**Coen**	**36.91**	**270**	P	**P**	**07 14 45.6**	**+0.2**
COEN				IAmb	IAmb	07 14 46.4	
	comp=Z,16nm,0.7s						
TOO	**Toolangi**	**37.11**	**231**	P	**P**	**07 14 47.4**	**+0.6**
TOO				IAmb	IAmb	07 14 48.2	
	comp=Z,22nm,0.8s						
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**07 14 58.9**	**+0.6**
	comp=Z,14nm,0.6s,baz=92,slow=11,SNR=38						
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**07 14 59.1**	**+0.7**
BBOO	**Buckleboo**	**43.30**	**241**	P	**P**	**07 15 36.1**	**-0.2**
BBOO				IAmb	IAmb	07 15 37.0	
	comp=Z,38nm,0.8s						
WR0	**Warramunga Arr**	**44.27**	**259**	P	**P**	**07 15 43.7**	**-0.3**
WRA	**Warramunga Arr**	**44.47**	**259**	P	**P**	**07 15 44.0**	**-1.5**
	comp=Z,7.1nm,0.5s,baz=93,slow=6.9,SNR=93						
WRA				ScP	**ScP**	**07 20 17.9**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=92,slow=3.5,SNR=3.6						
AS31	**Alice Springs**	**44.64**	**254**	P	**P**	**07 15 46.5**	**-0.3**
AS31				IAmb	IAmb	07 15 47.0	
	comp=Z,20nm,0.7s						
ASAR	**Alice Springs**	**44.64**	**254**	P	**P**	**07 15 46.1**	**-0.7**
	comp=Z,77nm,0.6s,baz=88,slow=8.2,SNR=984						
ASAR				ScP	**ScP**	**07 20 19.0**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=99,slow=4.6,SNR=6.0						
ASAR				S	**S**	**07 21 40.4**	**-3.1**
	comp=Z,1.0nm,0.8s,baz=88,slow=15,SNR=6.4						
MTN	**Manton Dam**	**48.61**	**268**	P	**P**	**07 16 16.3**	**-0.5**
MTN				IAmb	IAmb	07 16 16.5	
	comp=Z,10nm,0.8s						
FORT	**Forrest**	**49.89**	**244**	P	**P**	**07 16 25.6**	**-0.5**
FORT				IAmb	IAmb	07 16 25.9	
	comp=Z,29nm,0.7s						
KNRA	**Kununurra**	**50.31**	**264**	P	**P**	**07 16 28.9**	**-0.4**
KNRA				IAmb	IAmb	07 16 29.3	
	comp=Z,17nm,0.7s						
FAKI	**Fak Fak**	**50.36**	**281**	P	**P**	**07 16 29.1**	**-0.6**
FAKI				IAmb	IAmb	07 16 32.4	
	comp=Z,30nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.86**	**260**	P	**P**	**07 16 47.6**	**0.0**
SOEI	**Soe**	**55.88**	**270**	P	**P**	**07 17 08.0**	**-1.1**
	comp=Z,46nm,0.8s						
SOEI	**Soe**	**55.88**	**270**	P	**P**	**07 17 10.3**	**+1.2**
SOEI				IAmb	IAmb	07 17 10.9	
	comp=Z,32nm,0.8s						
PSA00	**Pilbara Seismi**	**57.76**	**255**	P	**P**	**07 17 21.1**	**-0.7**
PSA00				IAmb	IAmb	07 17 21.6	
	comp=Z,12nm,0.7s						
WSI	**Waingapu**	**59.68**	**269**	P	P	07 17 40.9	+6.2
SBA	**Scott Base**	**60.55**	**184**	P	**P**	**07 17 41.8**	**+2.4**
SBA				IAmb	IAmb	07 17 56.3	
	comp=Z,22nm,1.5s						
VNDA	**Vanda**	**60.57**	**185**	P	**P**	**07 17 40.9**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=345,slow=10,SNR=5.1						
VNDA	**Vanda**	**60.57**	**185**	P	**P**	**07 17 41.3**	**+1.7**
GIRL	**Giralia**	**62.75**	**253**	P	**P**	**07 17 55.5**	**+0.7**
UGM	**Wanagama**	**69.46**	**268**	P	**P**	**07 18 36.4**	**-0.1**
QSPA	**South Pole Qui**	**72.29**	**180**	P	**P**	**07 18 52.2**	**-0.1**
QSPA				IAmb	IAmb	07 18 53.6	
	comp=Z,9.4nm,0.8s						
PETK	**Petropavlovsk-**	**73.49**	**345**	P	**P**	**07 18 58.7**	**-0.5**
	comp=Z,4.3nm,0.7s,baz=134,slow=11,SNR=5.2						
NJ2	**Nanjing**	**77.70**	**310**	*e*P	**P**	**07 19 24.6**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
GHO	**Glory Hole Cre**	**82.72**	**14**	P	**P**	**07 19 48.2**	**-0.3**
SCM	**Sheep Creek Mo**	**83.14**	**14**	P	**P**	**07 19 50.2**	**-0.4**
SCM				IAmb	IAmb	07 19 50.9	
	comp=Z,8.2nm,0.8s						
SEY	**Seymchan**	**83.59**	**347**	P	**P**	**07 19 52.4**	**-0.4**
	comp=Z,4.8nm,0.7s,baz=182,slow=5.8,SNR=13						
VRDI	**Verde Repeater**	**83.60**	**16**	P	**P**	**07 19 52.7**	**-0.4**
GLB	**Gilahina Butte**	**83.68**	**16**	P	**P**	**07 19 53.1**	**-0.3**
BALM	**Baldy**	**83.74**	**17**	P	**P**	**07 19 53.6**	**-0.1**
TRF	**Thorofare Moun**	**83.91**	**12**	P	**P**	**07 19 53.0**	**-1.6**
ILAR	**Eielson Array**	**85.79**	**13**	P	**P**	**07 20 02.2**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=224,slow=5.2,SNR=12						
TXAR	**Lajitas Array**	**86.08**	**58**	P	**P**	**07 20 07.5**	**+1.6**
	comp=Z,1.0nm,0.9s,baz=224,slow=5.2,SNR=8.5						
HHC	**Hu-ho-hao-te**	**87.03**	**315**	*e*P	**P**	**07 20 11.6**	**+1.5**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,61nm,4.1s						
PDAR	**Pinedale Array**	**87.38**	**44**	P	**P**	**07 20 12.1**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=183,slow=2.8,SNR=4.7						
LZH	**Lanzhou**	**90.65**	**308**	⇓P	**P**	**07 20 26.1**	**-1.0**
LZH				pP	pP	07 22 27.3	-0.6
LZH				sP	sP	07 23 22.8	-0.3
LZH				PP	**PP**	**07 24 14.5**	**+2.0**
LZH				pmax	pmax		
	comp=Z,20nm,1.4s						
LZH				pmax	pmax		
	comp=Z,75nm,9.3s						
SNAA	**Sanae**	**90.74**	**179**	P	**P**	**07 20 25.8**	**-1.0**
VNA3	**Neumayer Olymp**	**90.89**	**176**	P	**P**	**07 20 27.0**	**-0.4**
VNA2	**Neumayer--Watz**	**91.33**	**177**	P	**P**	**07 20 29.3**	**-0.1**
VNA1	**Neumayer--Stat**	**91.56**	**177**	P	**P**	**07 20 30.5**	**+0.1**
YKA	**Yellowknife Ar**	**94.28**	**25**	P	**P**	**07 20 42.2**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=241,slow=4.5,SNR=5.2						
KSH	**Kashi**	**112.84**	**306**	SS	SS	07 42 05.8	+7.5
KSH				AMB	AMB		
	comp=Z,170nm,4.0s						
FDF	**Fort de France**	**120.12**	**83**	PKPdf	**PKiKP**	**07 26 11.9**	**-0.3**
BUR08	**Bucovina Ar. S**	**144.38**	**332**		**PKPab**	**07 26 57.0**	**+0.2**
BRTR	**Keskin Array B**	**144.54**	**315**	PKP	PKPbc	07 26 57.0	-0.2
	comp=Z,1.6nm,0.9s,baz=77,slow=0.8,SNR=7.1						
CLL	**Collm**	**145.28**	**347**	*e*PKPbc	**PKPbc**	**07 26 59.0**	**+0.2**
LANS	**Liptovska Anna**	**145.44**	**339**	*e*PKP	**PKPab**	**07 27 00.5**	**-0.3**
VYHS	**Vyhne**	**146.22**	**339**	*e*PKP	**PKPbc**	**07 27 02.0**	**+0.4**
ROSA	**Rosais**	**146.81**	**45**	PKPdf	**PKPdf**	**07 26 59.7**	**-1.0**
GEC2	**GERESS Array S**	**147.43**	**345**	PKPbc	**PKPbc**	**07 27 05.2**	**+0.3**
GERES	**GERESS Array B**	**147.43**	**345**	PKPbc	**PKPbc**	**07 27 04.7**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=25,slow=2.8,SNR=13						
CONA	**Conrad Observa**	**147.67**	**342**	*i* PKPbc	**PKPbc**	**07 27 05.2**	**-0.3**
	comp=Z,3.9nm,1.2s						
MOA	**Molln**	**148.19**	**343**	*i* PKiKP	**PKPbc**	**07 27 06.8**	**0.0**
	comp=Z,4.5nm,1.4s						
KBA	**Koelnbreinsper**	**149.15**	**344**	*i* PKPbc	**PKPdf**	**07 27 06.4**	**+1.9**
	comp=Z,4.5nm,1.1s						
OBKA	**Obir**	**149.34**	**342**	*i* PKPbc	**PKPbc**	**07 27 07.6**	**-2.1**
	comp=Z,7.5nm,1.6s						
WATA	**Walderalm**	**149.34**	**346**	*i* PKiKP	**PKPbc**	**07 27 09.8**	**0.0**
	comp=Z,11nm,1.6s						
RETA	**Reutte**	**149.37**	**347**	*i* PKiKP	**PKPbc**	**07 27 09.6**	**-0.2**
	comp=Z,5.6nm,2.0s						
WTTA	**Wattenberg**	**149.40**	**346**	*i* PKPbc	**PKPbc**	**07 27 09.3**	**-0.7**
	comp=Z,4.8nm,1.3s						
MOTA	**Moosalm**	**149.44**	**347**	*i* PKPdf	**PKPdf**	**07 27 04.9**	**0.0**
	comp=Z,11nm,2.2s						
ABTA	**Abfaltersbach**	**149.67**	**345**	*i* PKPbc	**PKPbc**	**07 27 09.2**	**-1.3**
	comp=Z,5.9nm,1.1s						
FETA	**Feichten**	**149.82**	**347**	*i* PKPdf	**PKPdf**	**07 27 04.2**	**-1.3**
	comp=Z,7.8nm,1.4s						
FUORN	**Ofenpass-Fuorn**	**150.30**	**348**	PKPbc	**PKiKP**	**07 27 12.6**	**-0.2**
FNA	**Florina**	**151.32**	**327**	PKPbc	**PKPbc**	**07 27 12.8**	**-1.7**
TOA0	**Torodi Ar. Sit**	**175.40**	**184**	PKPab	**PKPab**	**07 29 11.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**175.40**	**184**	PKPab	**PKPab**	**07 29 10.4**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=184,slow=5.2,SNR=2.2						

*IDC **21** 07:19:03.1±0.8, 42°.58N×141°.34E, h0km, mb3.7/13, mb1 3.8/15, mb1mx3.7/44, mbtmp3.6/15, ML2.0/2, Error ellipse: s-maj=22.4km s-min=12.6km az=121.0*
*ISCJB **21** 07:19:05.4±0.5, 42°.60N±0°.05×141°.21E±0°.05, h24km±4km, mb3.6/13, Error ellipse: s-maj=9.1km s-min=5.3km az=146.0*
*JMA **21** 07:19:06.0, 42°.63N×141°.27E, h6km±1km, M3.6*
JMA Felt II J1.
*NEIC **21** 07:19:08.8±1.2, 42°.58N±0°.03×141°.30E±0°.10, h38km±8km, mb4.4/5*
ISC 21 07:19:05.5±1.0, 42°.62N±0°.04×141°.29E±0°.05, h13km±6km, n35, σ1§82/33, mb3.8/16, 2C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNB	**Noboribetsu**	**0.24**	**232**	⇓P	**Pg**	**07 19 10.8**	**+0.1**
JNB				*e*S	**Sg**	**07 19 14.1**	**0.0**
JEW	**Eniwo**	**0.25**	**27**	⇑P	**Pg**	**07 19 10.9**	**0.0**
JIAM	**Iburiatsuma**	**0.46**	**89**	⇓P	**Pb**	**07 19 15.3**	**-0.2**
JIAM				*e*S	**Sb**	**07 19 23.1**	**+0.9**
JKB	**Kayabe**	**0.75**	**195**	⇑P	**Pg**	**07 19 19.6**	**-0.5**
JKB				S	**Sg**	**07 19 29.6**	**-0.4**
JBT2	**Biratori 2**	**0.81**	**78**	⇓P	**Pb**	**07 19 21.5**	**+0.2**
JBT2				S	**Sn**	**07 19 33.7**	**-0.6**
ERM	**Erimo**	**1.51**	**113**		**Pb**	**07 19 32.7**	**-0.6**
ASAJ	**Asahikawa**	**1.77**	**32**	Pn	**Pb**	**07 19 36.7**	**-1.1**
	8.0nm,0.3s,baz=227,slow=16,SNR=17						
ASAJ				Lg	Lg	07 19 59.1	
	18nm,0.3s,baz=198,slow=33,SNR=8.4						
JKA	**Kamikawa-asahi**	**1.78**	**32**		**Pb**	**07 19 36.7**	**-1.2**
MJAR	**Matsushiro Arr**	**6.52**	**202**	Pn	**Pn**	**07 20 41.9**	**+0.9**
	0.1nm,0.3s,baz=0.4,slow=16,SNR=1.6						
USRK	**Ussuriysk Ar.**	**6.96**	**286**	Pn	**Pn**	**07 20 47.8**	**+0.8**
	baz=80,slow=16,SNR=2.7						
SONM	**Songino Array**	**24.98**	**294**	P	**P**	**07 24 29.2**	**+0.4**
	0.4nm,0.7s,baz=101,slow=8.5,SNR=2.9						

comp=Z,6.3nm,1.2s
ILAR Eielson Array 44.91 35 P **P 07 27 20.0 +0.6**
comp=Z,0.3nm,0.8s,baz=278,slow=8.0,SNR=3.1
INK Inuvik 49.51 29 P **P 07 27 55.0 -0.2**
comp=Z,0.8nm,0.9s,baz=298,slow=5.5,SNR=4.9
INK Inuvik 49.51 29 P **P 07 27 55.1 -0.1**
ARCES ARCESS Array B 58.76 338 P **P 07 29 01.9 -0.7**
comp=Z,1.8nm,0.8s,baz=30,slow=9.8,SNR=4.2
YKA Yellowknife Ar 59.07 32 P **P 07 29 04.8 0.0**
comp=Z,0.2nm,0.7s,baz=307,slow=6.2,SNR=5.2
KNRA Kununurra 59.14 194 P **P 07 29 05.7 -0.1**
WRA Warramunga Arr 62.58 187 P **P 07 29 27.6 -1.5**
comp=Z,0.4nm,0.5s,baz=5.4,slow=6.9,SNR=7.0
FINES FINESS Array B 63.86 331 P **P 07 29 36.6 -0.6**
comp=Z,1.7nm,0.5s,baz=45,slow=6.7,SNR=8.9
ASAR Alice Springs 66.30 187 P **P 07 29 53.2 -0.3**
comp=Z,0.3nm,0.6s,baz=5.3,slow=6.8,SNR=4.4
NOA NORSAR Array B 69.02 336 P **P 07 30 10.6 +0.3**
comp=Z,1.0nm,0.7s,baz=39,slow=6.3,SNR=3.2
AKASG Malin Array Be 69.86 321 P **P 07 30 15.0 -0.6**
comp=Z,0.6nm,0.4s,baz=44,slow=6.4,SNR=4.1
AKBB Malin Array Si 69.86 321 P **P 07 30 15.8 +0.2**
AKBB IAmb IAmb 07 30 31.6
comp=Z,6.2nm,1.3s
CLL Collm 76.23 330 *eP* **P 07 30 53.0 -0.3**
GERES GERESS Array B 77.94 328 P **P 07 31 03.1 0.0**
comp=Z,0.4nm,0.5s,baz=45,slow=6.4,SNR=4.3

*IDC **21** 07:25:35.0±1.0,3˚.25N×79˚.32W, h0km, mb3.5/7, mb1 3.9/11,mb1mx3.8/35,mbtmp3.8/11,ML3.3/4, Error ellipse: s-maj=26.1km s-min=17.6km az=48.0*
*NEIC **21** 07:25:36.3±2.5,3˚.22N±0˚.06×79˚.35W±0˚.09, h10km±1km, mb4.2/4*
*RSNC **21** 07:25:38.9±0.9,3˚.15N×79˚.18W, h14km±5km, ML3.0, Mw3.3*

ISC 21 07:25:35.5±1.9**,3˚.25N**±0˚.05×**79˚.27W**±0˚.06**, h5**km±12km**, n46,**σ1**§87/56,mb3.8/8,2C,South of Panama**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GR1C	**Gorgona, Isla**	**1.13**	**102**	*eP*			**Pg**	**07 25 56.8**	**-0.4**
GR1C				*eS*			**Sg**	**07 26 10.6**	**-1.2**
GR1C				*i*				07 26 13.3	
comp=Z,120nm,0.8s									
MALC	**Bahia Malaga**	**2.07**	**68**	*eP*			**Pn**	**07 26 11.1**	**+0.1**
MALC				*eS*			**Sn**	**07 26 37.4**	**+0.1**
MALC				*i*				07 26 38.3	
comp=Z,165nm,0.3s									
BBAC	**Balboa, Cauca**	**2.36**	**121**	*eP*			**Pn**	**07 26 14.7**	**-0.5**
BBAC				*eS*			**Sn**	**07 26 42.2**	**-2.4**
BBAC				*i*				07 26 48.8	
comp=Z,86nm,0.5s									
BBAC				*i*				07 26 54.0	
comp=Z,96nm,0.4s									
CRUC	**La Cruz**	**2.85**	**126**	*eP*			**Pn**	**07 26 23.2**	**+1.2**
CRUC				*eS*			**Sn**	**07 26 54.6**	**-2.4**
CRUC				*i*				07 27 00.1	
comp=Z,96nm,0.4s									
SOTA	**Rioblanco**	**2.88**	**113**	*eP*			**Pn**	**07 26 23.3**	**+0.8**
SOTA				*eS*			**Sn**	**07 26 56.8**	**-1.0**
SOTA				*i*				07 27 01.2	
comp=Z,88nm,0.5s									
SOTA				*i*				07 27 05.4	
comp=Z,115nm,0.6s									
YOTC	**Yotoco, Valle**	**3.01**	**76**	*eP*			**Pn**	**07 26 23.3**	**-0.7**
YOTC				*eS*			**Sn**	**07 26 56.9**	**-3.6**
YOTC				*i*				07 27 00.9	
comp=Z,30nm,0.5s									
PCON	**Cinco Dias**	**3.01**	**108**	*eP*			**Pn**	**07 26 26.1**	**+1.6**
PCON				*eS*			**Sn**	**07 26 59.2**	**-2.0**
PCON				*i*				07 27 10.9	
comp=Z,71nm,0.5s									
OTAV	**Otavalo**	**3.10**	**165**				**Pn**	**07 26 24.4**	**-1.2**
OTAV					Sn		**Sn**	**07 26 59.6**	**-3.7**
PLMC	**San Jos del P**	**3.40**	**61**	*eP*			**Pn**	**07 26 28.1**	**-1.2**
PLMC				*i*				07 27 18.9	
comp=Z,59nm,0.2s									
SOLC	**Bahia Solano**	**3.49**	**32**	*eP*			**Pn**	**07 26 32.5**	**+2.0**
SOLC				*eS*			Sn	07 27 06.1	-6.1
FLOC	**Florencia**	**3.97**	**115**	*eP*			**Pn**	**07 26 39.5**	**+2.3**
FLOC				*eS*			**Sn**	**07 27 23.5**	**-0.8**
FLOC				*i*				07 27 26.4	
comp=Z,26nm,0.5s									
FLOC				*i*				07 27 26.8	
comp=Z,15nm,0.5s									
ORTC	**Ortega, Tolima**	**4.07**	**81**	*eP*			**Pn**	**07 26 40.5**	**+2.0**
ORTC				*eS*			**Sn**	**07 27 25.1**	**-1.5**
ORTC				*i*				07 27 36.2	
comp=Z,38nm,0.5s									
CBOC	**Ciudad Bolivar**	**4.16**	**51**	*eP*			**Pn**	**07 26 38.5**	**-1.4**
CBOC				*i*				07 27 34.9	
comp=Z,12nm,0.6s									
RREF	**El Recreo**	**4.24**	**67**	*eP*			**Pn**	**07 26 42.4**	**+1.0**
RREF				*i*				07 27 42.7	
comp=Z,16nm,0.6s									
GUY2C	**Guyana, Caldas**	**4.36**	**63**	*eP*			**Pn**	**07 26 43.8**	**+0.9**
GUY2C				*i*				07 27 37.0	
comp=Z,24nm,0.7s									
HELC	**Santa Helena**	**4.74**	**52**	*eP*			**Pn**	**07 26 48.3**	**+0.3**
HELC				*eS*			**Sn**	**07 27 41.8**	**-1.8**
NORC	**Norcasia**	**4.95**	**62**	*eP*			**Pn**	**07 26 52.6**	**+1.9**
NORC				*i*				07 27 54.0	
comp=Z,7.3nm,0.6s									
ROSC	**El Rosal**	**5.18**	**72**	*eP*			**Pn**	**07 26 57.5**	**+3.4**
ROSC				*i*				07 28 04.1	
comp=Z,7.4nm,0.5s									
ROSC	**El Rosal**	**5.18**	**72**	Pn			**Pn**	**07 26 56.9**	**+2.8**
comp=Z,8.4nm,0.3s,baz=194,slow=10,SNR=14									
ROSC					Sn		**Sn**	**07 27 57.4**	**+2.8**
baz=104,slow=20,SNR=1.2									
ROSC	**El Rosal**	**5.18**	**72**				**Pn**	**07 26 57.4**	**+3.2**
VILC	**Villavicencio,**	**5.63**	**81**	*eP*			**Pn**	**07 27 03.7**	**+3.6**
VILC				*i*				07 28 11.3	
comp=Z,28nm,0.4s									
CHIC	**Chingaza**	**5.69**	**76**	*eP*			**Pn**	**07 27 03.7**	**+2.5**
CHIC				*eS*			**Sn**	**07 28 06.1**	**-1.1**
SPBC	**San Pablo de B**	**5.70**	**65**	*eP*			**Pn**	**07 27 03.1**	**+2.0**
PTBC	**PUERTO BERRIO,**	**5.80**	**56**	*eP*			**Pn**	**07 27 03.5**	**+1.1**
PTBC				*i*				07 28 12.9	
comp=Z,6.4nm,1.4s									
BCIP	**Isla Barro Col**	**5.91**	**355**	Pn			**Pn**	**07 27 03.8**	**+0.1**
RUSC	**La Rusia**	**6.70**	**67**	*eP*			**Pn**	**07 27 17.7**	**+2.6**
RUSC				*i*				07 29 08.2	
comp=Z,5.3nm,3.3s									
OCAC	**Ocana**	**7.72**	**50**	*eP*			**Pn**	**07 27 31.7**	**+2.9**
SDV	**Santo Domingo**	**10.25**	**56**	Pn			**Pn**	**07 28 05.8**	**+2.2**
comp=Z,2.7nm,0.3s,baz=284,slow=4.3,SNR=23									
SDV					Sn		**Sn**	**07 29 57.3**	**-1.8**
comp=Z,0.5nm,0.3s,baz=40,slow=12,SNR=2.1									
SDV	**Santo Domingo**	**10.25**	**56**				**Pn**	**07 28 04.9**	**+1.4**
ATAH	**Atahualpa**	**10.35**	**175**	Pn			**Pn**	**07 28 06.1**	**+0.9**
comp=Z,0.8nm,0.3s,baz=349,slow=10,SNR=5.2									
APG	**El Apazote**	**16.07**	**317**	Pn			**Pn**	**07 29 20.5**	**-2.1**
comp=Z,0.1nm,0.3s,baz=334,slow=10,SNR=4.2									
CMIG	**Matias Romero**	**20.60**	**313**	P			**P**	**07 30 15.8**	**+0.1**
comp=Z,0.9nm,0.8s,baz=48,slow=21,SNR=4.4									
SIV	**San Ignacio**	**26.25**	**137**	P			**P**	**07 31 12.2**	**+0.3**
comp=Z,1.2nm,0.7s,baz=306,slow=6.5,SNR=4.8									
TXAR	**Lajitas Array**	**34.78**	**321**	P			**P**	**07 32 29.2**	**+1.9**
comp=Z,0.1nm,0.5s,baz=125,slow=7.1,SNR=1.5									
ANMO	**Albuquerque**	**40.39**	**325**	P			**P**	**07 33 14.9**	**0.0**
SDCO	**Great Sand Dun**	**41.90**	**328**	P			**P**	**07 33 26.9**	**-0.5**
SDCO					IAmb		IAmb	07 33 30.1	
comp=Z,5.3nm,1.3s									
PLCA	**Paso Flores**	**44.49**	**171**	P			**P**	**07 33 48.9**	**+0.9**
comp=Z,1.4nm,0.8s,baz=3.4,slow=15,SNR=3.2									
PLCA	**Paso Flores**	**44.49**	**171**	P			**P**	**07 33 49.5**	**+1.4**
PDAR	**Pinedale Array**	**47.70**	**330**	P			**P**	**07 34 14.2**	**+0.6**
comp=Z,0.2nm,0.6s,baz=120,slow=13,SNR=2.2									
YKA	**Yellowknife Ar**	**64.66**	**343**	P			**P**	**07 36 13.2**	**-0.9**
comp=Z,0.6nm,0.6s,baz=133,slow=6.5,SNR=14									
PPT2	**Papeete2**	**72.30**	**251**	*e*LR			LR	07 36 43.5	
comp=Z,220nm,27.5s									
TBI	**Tubuai**	**73.22**	**245**	*e*LR			LR	07 37 33.7	
comp=Z,218nm,26.2s									
TOA0	**Torodi Ar. Sit**	**80.47**	**77**				**P**	**07 37 49.0**	**-0.3**
TOA0					IAmb		IAmb	07 38 05.0	
comp=Z,3.8nm,1.4s									
TORD	**Torodi Ar. Bea**	**80.47**	**77**	P			**P**	**07 37 49.0**	**-0.3**
comp=Z,0.4nm,0.5s,baz=277,slow=6.7,SNR=2.6									
ASAR	**Alice Springs**	**142.06**	**235**	PKhKP		PKPpre		07 45 04.2	
comp=Z,0.3nm,0.8s,baz=127,slow=3.5,SNR=5.5									
WRA	**Warramunga Arr**	**143.26**	**241**	PKhKP		PKPab		07 45 06.1	-1.6
comp=Z,1.3nm,0.9s,baz=112,slow=3.4,SNR=6.1									

*IDC **21** 07:49:08.0±2.5,51˚.00N×178˚.28E, h0km, mb3.2/5, mb1 3.6/5, mb1mx3.4/54, mbtmp3.2/5, Error ellipse: s-maj=73.5km s-min=31.9km az=177.0*
*NEIC **21** 07:49:27.2±1.1,51˚.14N±0˚.03×178˚.07W±0˚.06, h28km±12km*
*ISCJB **21** 07:49:28.2±1.2,51˚.19N±0˚.08×178˚.1W±0˚.1, h45km, mb3.1/4, Error ellipse: s-maj=12.7km s-min=9.8km az=29.8*
*AEIC **21** 07:49:28.8±0.9,51˚.23N±0˚.05×177˚.99W±0˚.04, h23km±8km, ML3.3*

ISC 21 07:49:31.0±1.6**,51˚.3N**±0˚.1×**178˚.06W**±0˚.07**, h45**km**, n27,**σ1**§44/24,mb3.3/3,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TASE	**Tanaga Southea**	**0.50**	**2**				**Pn**	**07 49 41.2**	**-0.9**
TAPA	**Tanaga Point A**	**0.51**	**18**				**Pn**	**07 49 40.8**	**-1.3**
TAFP	**Tanaga Falls P**	**0.57**	**5**				**Pn**	**07 49 41.9**	**-1.0**
TAFP							**Sn**	**07 49 52.1**	**+0.7**
GAEA	**Gareloi East**	**0.62**	**317**				**Pn**	**07 49 42.8**	**-0.7**
KIND	**Kanaga Island**	**0.67**	**50**				**Pn**	**07 49 42.3**	**-1.9**
KIWB	**Kanaga Island**	**0.77**	**47**				**Pn**	**07 49 43.6**	**-1.8**
KIKV	**Kanaga Island**	**0.78**	**45**				**Pn**	**07 49 44.3**	**-1.3**
KIKV							**Sn**	**07 49 56.6**	**+0.3**
KIRH	**Kanaga Island**	**0.83**	**46**				**Pn**	**07 49 45.0**	**-1.3**
ADK	**Adak**	**1.02**	**57**				**Pn**	**07 49 46.7**	**-2.1**
ADAG	**Mount Adagdak**	**1.12**	**54**				**Pn**	**07 49 48.9**	**-1.3**
GSTD	**Great Sitkin T**	**1.39**	**58**				**Pn**	**07 49 52.8**	**-1.2**
GSMY	**Great Sitkin M**	**1.44**	**60**				**Pn**	**07 49 53.1**	**-1.5**
GSTR	**Great Sitkin T**	**1.46**	**58**				**Pn**	**07 49 53.2**	**-1.7**
GSTR							**Sn**	**07 50 15.7**	**+2.8**
ATKA	**Atka Island**	**2.55**	**69**				**Pn**	**07 50 08.1**	**-1.8**
KOKL	**Mount Kliuchef**	**2.59**	**66**				**Pn**	**07 50 10.8**	**+0.4**
KOFP	**Korovin Flat P**	**2.63**	**67**				**Pn**	**07 50 11.1**	**0.0**
UNV	**Unalaska Valle**	**7.47**	**66**	Pn			**Pn**	**07 51 17.5**	**+0.2**
ILAR	**Eielson Array**	**20.99**	**38**	P			**P**	**07 54 11.6**	**+1.4**
0.1nm,0.4s,baz=238,slow=8.4,SNR=4.7									
H11N2	**WAKE ISLAND Hy**	**33.69**	**206**	T			T	08 31 47.9	
baz=18,slow=75,SNR=7.0									
H11N3	**WAKE ISLAND Hy**	**33.70**	**206**	T			T	08 31 47.9	
baz=18,slow=75,SNR=6.8									
H11N1	**WAKE ISLAND Hy**	**33.91**	**206**	T			T	08 31 47.9	
baz=18,slow=75,SNR=5.7									
H11S1	**WAKE ISLAND Hy**	**34.91**	**206**	T			T	08 33 18.5	
baz=17,slow=76,SNR=19									
H11S2	**WAKE ISLAND Hy**	**34.92**	**206**	T			T	08 33 19.6	
baz=17,slow=76,SNR=7.8									
H11S3	**WAKE ISLAND Hy**	**34.92**	**206**	T			T	08 33 26.4	
baz=17,slow=76,SNR=10									
YKA	**Yellowknife Ar**	**34.93**	**47**	P			**P**	**07 56 16.7**	**-1.2**
0.3nm,0.8s,baz=289,slow=7.6,SNR=3.7									
PDAR	**Pinedale Array**	**45.88**	**73**	P			**P**	**07 57 48.5**	**-0.5**
0.5nm,0.6s,baz=316,slow=3.5,SNR=5.8									
TXAR	**Lajitas Array**	**58.20**	**82**	P			**P**	**07 59 21.5**	**+1.0**
0.1nm,0.6s,baz=316,slow=5.0,SNR=1.9									

*ISCJB **21** 08:23:47.0±0.2,34˚.94S±0˚.03×92˚.13W±0˚.03, h10km, mb5.0/52, MS4.3/19, Error ellipse: s-maj=5.2km s-min=3.4km az=30.3*
*IDC **21** 08:23:46.8±0.3,35˚.01S×92˚.22W, h0km, mb4.9/26, mb1 5.0/27, mb1mx4.9/38, mbtmp4.9/27, ML4.6/1, MS4.3/18, Ms1 4.3/18, ms1mx4.2/24, Error ellipse: s-maj=13.7km s-min=11.1km az=109.0*
*MOS **21** 08:23:47.2±0.9,34˚.93S×92˚.16W, h10km, mb5.4/30, Error ellipse: s-maj=11.7km s-min=9.0km az=90.5*
*NEIC **21** 08:23:48.3±2.2,35˚.01S±0˚.09×92˚.2W±0˚.1, h10km±1km, mb5.3/288*
*GCMT **21** 08:23:49.3±0.2,35˚.09S±0˚.01×92˚.21W±0˚.01, h13km, MW5.1/112, Moment Tensor Solution. s79,c106; s112,c175; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=4.16±.15; Mθθ0.24±.10; Mϕϕ3.93±.11; Mrθ-0.27±.27; Mθϕ-1.95±.07; Mϕr-3.05±.30; Best double couple: Ms5.43500×10^16^ NP1:ϕs=353.00000°, δ63.00000°, λ-73.00000°. NP2:ϕs140.00000°, δ32.00000°, λ-119.00000°. Principal axes: T 5.5450, Plg16.0000°, Azm71.0000°; N -0.2140, Plg15.0000°, Azm165.0000°; P -5.3260, Plg68.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **21** 08:23:49.0±0.0,35˚.00S×92˚.20W, h10km, mB5.3/5, Ms5.3/4, Ms7 5.1/5*
*GUC **21** 08:23:50.6±1.8,34˚.84S×91˚.98W, h10km, mb5.2*

ISC 21 08:23:48.2±0.3**,35˚.00S**±0˚.06×**92˚.22W**±0˚.05**, h10**km**, n753,**σ1**§11/671,mb5.2/165,MS4.4/19,20C-9D,West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**16.62**	**293**			LR	LR	08 32 10.7	
comp=Z,2μm,19.1s,baz=124,slow=30									
GO05	**Huala**	**16.63**	**96**	⇑	*iP*		**Pn**	**08 27 41.1**	**-0.3**
GO05	**Huala**	**16.63**	**96**				**Pn**	**08 27 40.5**	**-0.9**
GO05						IAmb	IAmb	08 27 46.0	
comp=Z,360nm,1.1s									
LL01	**San Ignacio de**	**17.11**	**121**	⇑	*iP*		**P**	**08 27 48.6**	**-0.5**
GO06	**Curarrehue**	**17.12**	**112**	⇑	*iP*		**P**	**08 27 48.7**	**-0.8**
GO06	**Curarrehue**	**17.12**	**112**		P		**P**	**08 27 48.6**	**-0.8**
GO06						IAmb	IAmb	08 27 53.1	
comp=Z,318nm,1.8s									
ROC1	**El Roble**	**17.70**	**89**		P		**Pn**	**08 27 55.3**	**+0.2**
ROCH	**El Roble**	**17.70**	**89**	⇓	*iP*		**Pn**	**08 27 55.3**	**+0.2**
PEL	**Peldehue**	**17.94**	**90**		P		**P**	**08 27 58.2**	**-0.2**
PEL						pmax	pmax		
comp=Z,215nm,1.5s									
PEL	**Peldehue**	**17.94**	**90**	⇑	*iP*		**Pn**	**08 27 57.8**	**0.0**
PEL						IAmb	IAmb	08 28 00.5	
comp=Z,274nm,1.4s									
PEL	**Peldehue**	**17.94**	**90**		P		**P**	**08 27 58.2**	**-0.2**
CLCH	**Cerro Calan**	**18.01**	**91**	⇑	*iP*		**P**	**08 27 59.1**	**-0.1**
CLCH						IAmb	IAmb	08 28 00.9	
comp=Z,171nm,1.0s									
PLCA	**Paso Flores**	**18.02**	**115**		P		**P**	**08 27 59.7**	**+0.4**
PLCA						pmax	pmax		
comp=Z,101nm,1.1s									
PLCA	**Paso Flores**	**18.02**	**115**	⇑	*iP*		**P**	**08 28 00.2**	**+0.9**
PLCA	**Paso Flores**	**18.02**	**115**		P		**P**	**08 28 00.3**	**+0.9**
comp=Z,0.5nm,0.3s,baz=311,slow=11,SNR=85									
PLCA						LR	LR	08 33 14.3	
comp=Z,2μm,20.4s,baz=311,slow=32									
PLCA	**Paso Flores**	**18.02**	**115**	*eP*			**P**	**08 28 00.3**	**+0.9**
PLCA	**Paso Flores**	**18.02**	**115**	*eP*			**P**	**08 28 00.3**	**+0.9**
PLCA	**Paso Flores**	**18.02**	**115**	P			**P**	**08 27 59.7**	**+0.4**
CO02	**Combarbal**	**18.17**	**84**	⇑	*iP*		**Pn**	**08 28 00.4**	**-0.4**
LMEL	**Las Melosas**	**18.20**	**93**	⇑	*iP*		**P**	**08 28 01.7**	**+0.3**
LMEL						IAmb	IAmb	08 28 03.6	
comp=Z,190nm,1.1s									
FCH	**Farellones**	**18.22**	**91**	⇓	*iP*		**P**	**08 28 02.2**	**+0.4**
GO04	**Tololo Observa**	**18.67**	**81**	⇑	*iP*		**P**	**08 28 06.6**	**-0.1**
GO04	**Tololo Observa**	**18.67**	**81**		P		**Pn**	**08 28 07.3**	**+0.2**
GO03	**Copiap**	**20.16**	**75**		P		**P**	**08 28 22.3**	**-0.5**
CFA	**Coronel Fontan**	**20.32**	**87**		P		**P**	**08 28 24.6**	**+0.2**
comp=Z,29nm,0.8s,baz=256,slow=9.2,SNR=42									
CFA						LR	LR	08 34 31.4	
comp=Z,2μm,18.8s,baz=252,slow=32									
PB14	**IPOC Station P**	**21.53**	**67**	⇑	*iP*		**P**	**08 28 38.0**	**+0.1**
GO09	**Cerro Castillo**	**21.68**	**145**		P		**P**	**08 28 42.6**	**+3.6**
GO09						IAmb	IAmb	08 28 48.5	
comp=Z,105nm,0.8s									
GO02	**Mina Guanaco**	**21.86**	**69**	⇑	*iP*		**P**	**08 28 42.0**	**+0.5**
GO02	**Mina Guanaco**	**21.86**	**69**		P		**P**	**08 28 41.6**	**+0.2**
PB10	**IPOC Station P**	**22.05**	**65**		P		**P**	**08 28 41.7**	**-1.4**
PB04	**IPOC Station P**	**23.05**	**63**		P		**P**	**08 28 55.0**	**+1.0**
PB04						IAmb	IAmb	08 29 21.6	
comp=Z,67nm,1.0s									
LVC	**Limon Verde**	**23.80**	**65**		P		**P**	**08 29 01.7**	**0.0**
LVC						pmax	pmax		
comp=Z,66nm,1.0s									
LVC	**Limon Verde**	**23.80**	**65**		P		**P**	**08 29 02.4**	**+0.6**
comp=Z,47nm,0.9s,baz=236,slow=7.5,SNR=38									
LVC						LR	LR	08 36 02.9	
comp=Z,1μm,18.8s,baz=248,slow=31									
LVC	**Limon Verde**	**23.80**	**65**	*eP*			**P**	**08 29 02.3**	**+0.6**
LVC	**Limon Verde**	**23.80**	**65**	*eP*			**P**	**08 29 02.3**	**+0.6**
LVC	**Limon Verde**	**23.80**	**65**	P			**P**	**08 29 01.7**	**0.0**
LVC						IAmb	IAmb	08 29 06.1	
comp=Z,66nm,1.0s									
TRQA	**Tornquist**	**24.44**	**106**	P			**P**	**08 29 06.5**	**-0.7**
TRQA						pmax	pmax		
comp=Z,77nm,1.1s									
TRQA	**Tornquist**	**24.44**	**106**	*eP*			**P**	**08 29 06.9**	**-0.3**
TRQA	**Tornquist**	**24.44**	**106**	*eP*			**P**	**08 29 06.9**	**-0.3**
TRQA	**Tornquist**	**24.44**	**106**	P			**P**	**08 29 06.5**	**-0.7**
TRQA						IAmb	IAmb	08 29 11.6	
comp=Z,77nm,1.1s									
PB11	**IPOC Station P**	**25.05**	**59**	P			**P**	**08 29 11.8**	**-1.2**
PB11						IAmb	IAmb	08 29 16.5	
comp=Z,64nm,0.8s									
GO01	**Chusmiza**	**25.44**	**59**	P			**P**	**08 29 16.7**	**-0.1**
GO01						IAmb	IAmb	08 29 20.2	
comp=Z,70nm,1.4s									
MNMC	**Minye Minye**	**25.52**	**58**	P			**P**	**08 29 17.3**	**0.0**
MNMC						IAmb	IAmb	08 29 25.3	
comp=Z,49nm,0.8s									
USHA	**Ushuaia**	**25.80**	**148**	P			**P**	**08 29 22.8**	**+3.6**
comp=Z,42nm,0.9s,baz=299,slow=11,SNR=8.4									
NNA	**Nana**	**26.83**	**35**	P			**P**	**08 29 28.2**	**-0.7**
NNA						pmax	pmax		
comp=Z,35nm,1.0s									
NNA	**Nana**	**26.83**	**35**	P			**P**	**08 29 29.1**	**+0.1**
comp=Z,23nm,0.8s,baz=210,slow=8.9,SNR=9.5									
NNA						LR	LR	08 37 48.4	
comp=Z,681nm,18.3s,baz=212,slow=31									
NNA	**Nana**	**26.83**	**35**	P			**P**	**08 29 28.2**	**-0.7**
LPA	**La Plata**	**28.02**	**100**	*eP*			**P**	**08 29 36.3**	**-3.2**
LPA						PP	**PnPn**	**08 30 28.4**	**+1.9**
LPA						PCP	**PcP**	**08 32 56.0**	**+1.8**
LPA						S	**S**	**08 34 22.5**	**-1.4**
LPA						SS	**SnSn**	**08 35 34.6**	**-3.7**
LPAZ	**La Paz**	**28.49**	**55**	P			**P**	**08 29 44.9**	**+0.4**
LPAZ						pmax	pmax		
comp=Z,114nm,1.7s									
LPAZ	**La Paz**	**28.49**	**55**	P			**P**	**08 29 45.1**	**+0.7**
comp=Z,24nm,1.0s,baz=209,slow=7.4,SNR=35									
LPAZ						LR	LR	08 38 50.5	
comp=Z,174nm,18.4s,baz=247,slow=32									
LPAZ	**La Paz**	**28.49**	**55**	*eP*			**P**	**08 29 44.6**	**+0.1**
LPAZ	**La Paz**	**28.49**	**55**	*eP*			**P**	**08 29 44.6**	**+0.1**
LPAZ	**La Paz**	**28.49**	**55**	P			**P**	**08 29 44.9**	**+0.4**
LPAZ						IAmb	IAmb	08 29 49.4	
comp=Z,114nm,1.7s									
EFI	**East Falkland**	**29.56**	**135**	⇑			**P**	**08 29 52.6**	**-0.4**
EFI						pmax	pmax		
comp=Z,153nm,2.4s									
ITQB	**Itaqui**	**30.44**	**90**	*eP*			**P**	**08 30 00.5**	**-0.5**
ITQB	**Itaqui**	**30.44**	**90**	*eP*			**P**	**08 30 00.5**	**-0.5**
ATAH	**Atahualpa**	**30.51**	**28**	LR		LR	LR	08 39 44.5	
comp=Z,490nm,18.8s,baz=213,slow=31									
CPUP	**Villa Florida**	**31.11**	**84**	P			**P**	**08 30 05.4**	**-1.5**
CPUP						pmax	pmax		
comp=Z,19nm,1.2s									
CPUP	**Villa Florida**	**31.11**	**84**	P			**P**	**08 30 05.8**	**-1.1**
comp=Z,8.7nm,1.0s,baz=249,slow=9.0,SNR=15									
CPUP						LR	LR	08 41 21.1	
comp=Z,872nm,18.2s,baz=246,slow=34									
CPUP	**Villa Florida**	**31.11**	**84**	*eP*			**P**	**08 30 05.3**	**-1.5**
CPUP	**Villa Florida**	**31.11**	**84**	*eP*			**P**	**08 30 05.3**	**-1.5**
CPUP	**Villa Florida**	**31.11**	**84**	P			**P**	**08 30 05.4**	**-1.5**
PLTB	**Pedras Altas**	**32.27**	**95**	*eP*			**P**	**08 30 16.4**	**-0.8**
PLTB	**Pedras Altas**	**32.27**	**95**	*eP*			**P**	**08 30 16.4**	**-0.8**
PMSA	**Palmer Station**	**34.31**	**159**	P			**P**	**08 30 35.0**	**+0.6**
comp=Z,20nm,0.9s,baz=319,slow=8.2,SNR=17									
PMSA	**Palmer Station**	**34.31**	**159**	*eP*			**P**	**08 30 34.8**	**+0.4**
PMSA	**Palmer Station**	**34.31**	**159**	*eP*			**P**	**08 30 34.8**	**+0.4**
PMSA	**Palmer Station**	**34.31**	**159**	P			**P**	**08 30 34.4**	**0.0**
PMSA						IAmb	IAmb	08 30 38.2	
comp=Z,31nm,1.0s									
ITAB	**Concordia**	**35.00**	**88**	*eP*			**P**	**08 30 39.8**	**-1.1**
ITAB	**Concordia**	**35.00**	**

ZARC Zaragoza, Cauc 45.33 25 *e*P **P 08 32 06.6 0.0**
ZARC Zaragoza, Cauc 45.33 25 *e*P **P 08 32 06.6 0.0**
UREC San Jos de Ur 45.35 24 *e*P **P 08 32 06.6 -0.1**
UREC San Jos de Ur 45.35 24 *e*P **P 08 32 06.6 -0.1**
OCAC Ocana 46.57 26 *e*P **P 08 32 15.5 -1.0**
OCAC Ocana 46.57 26 *e*P **P 08 32 15.5 -1.0**
SJCC San Jacinto, C 47.48 23 *e*P **P 08 32 22.6 -0.8**
SJCC San Jacinto, C 47.48 23 *e*P **P 08 32 22.6 -0.8**
SJMB Sao Joao De Ma 47.83 84 *e*P **P 08 32 26.6 +0.3**
SJMB Sao Joao De Ma 47.83 84 *e*P **P 08 32 26.6 +0.3**
BSFB Barra de Sao F 48.04 84 *e*P **P 08 32 28.1 +0.2**
BSFB Barra de Sao F 48.04 84 *e*P **P 08 32 28.1 +0.2**
SDV Santo Domingo 48.19 29 P **P 08 32 28.2 -0.9**
comp=Z,5.3nm,0.9s,baz=248,slow=6.5,SNR=6.3
SDV Santo Domingo 48.19 29 *e*P **P 08 32 30.6 +1.5**
SDV Santo Domingo 48.19 29 *e*P **P 08 32 30.6 +1.5**
SDV Santo Domingo 48.19 29 P **P 08 32 31.1 +1.9**
SDV IAmb IAmb 08 32 32.3
comp=Z,28nm,1.5s
TBI Tubuai 50.71 267 *e*P **P 08 32 48.0 -0.2**
comp=Z,120nm,1.2s
TBI *e*S **S 08 40 00.5 -3.1**
comp=Z,272nm,25.8s
TBI *e*LR LR 08 47 21.2
comp=Z,1µm,27.0s,baz=114
TBI Tubuai 50.71 267 *e*T T 09 26 45.7
comp=Z,2.6nm,0.3s
TAOE Nuku Hiva Isla 50.88 289 *e*LR LR 08 47 29.8
comp=Z,1µm,25.6s
CMIG Matias Romero 51.87 357 P **P 08 32 56.8 0.0**
comp=Z,4.3nm,1.1s,baz=198,slow=7.7,SNR=4.9
TVO Taravao 53.20 273 *e*P **P 08 33 07.7 +0.7**
comp=Z,9.2nm,1.1s
TVO Taravao 53.20 273 *e*T T 09 29 57.2
comp=Z,0.5nm,0.3s
PAE Paea 53.53 273 *e*P **P 08 33 09.8 +0.5**
comp=Z,11nm,1.0s
PPTF Pamatai, Papee 53.56 273 P **P 08 33 10.8 +1.2**
PPT2 Papeete2 53.57 273 *e*P **P 08 33 10.4 +0.7**
comp=Z,78nm,1.2s
PPT2 *e*S **S 08 40 40.4 -2.7**
comp=Z,354nm,25.0s
PPT2 eLR LR 08 48 32.8
comp=Z,986nm,26.2s,baz=121
PPT Papeete 53.58 273 P **P 08 33 11.0 +1.3**
PPT Papeete 53.58 273 P **P 08 33 10.3 +0.6**
comp=Z,39nm,0.9s,baz=231,slow=6.6,SNR=7.3
PPT LR LR 08 49 27.9
comp=Z,341nm,20.6s,baz=138,slow=29
PPT Papeete 53.58 273 P **P 08 33 11.0 +1.3**
VNA3 Neumayer Olymp 54.92 157 P **P 08 33 18.4 -0.4**
MOIG Morelia 55.04 350 P **P 08 33 21.4 +1.0**
TEIG Tepich 55.05 5 P **P 08 33 19.3 -0.9**
comp=Z,14nm,0.9s,baz=140,slow=0.7,SNR=5.6
TEIG Tepich 55.05 5 IAmb IAmb 08 33 21.1
comp=Z,25nm,1.1s
QSPA South Pole Qui 55.22 180 P **P 08 33 21.3 +0.2**
comp=Z,22nm,0.8s,baz=147,slow=3.0,SNR=68
QSPA South Pole Qui 55.22 180 P **P 08 33 21.1 -0.1**
QSPA IAmb IAmb 08 33 25.1
comp=Z,24nm,0.8s
VNA1 Neumayer--Stat 55.45 156 P **P 08 33 22.6 +0.1**
VNA2 Neumayer--Watz 55.70 157 P **P 08 33 24.1 -0.2**
baz=267,slow=7.0
SNAA Sanae 57.01 158 P **P 08 33 33.2 -0.5**
SNAA Sanae 57.01 158 *d*P **P 08 33 32.3 -1.5**
SNAA Sanae 57.01 158 P **P 08 33 33.1 -0.7**
SNAA IAmb IAmb 08 33 36.8
comp=Z,40nm,1.4s
NBMO Morrinhos-CE 57.63 69 *e*P **P 08 33 40.1 +1.3**
NBMO Morrinhos-CE 57.63 69 *e*P **P 08 33 40.1 +1.3**
MLPR Magueyes Islan 57.85 29 P **P 08 33 42.9 +2.7**
CRPR Cabo Rojo, PR 57.86 28 P **P 08 33 42.5 +2.3**
ICMP Isla Caja de M 57.98 29 P **P 08 33 41.0 0.0**
OBIP Obispado Ponce 58.09 29 P **P 08 33 40.7 -1.2**
ZAIG Zacatecas 58.28 349 P **P 08 33 44.7 +1.2**
ZAIG IAmb IAmb 08 33 46.8
comp=Z,27nm,1.3s
PDPR Patillas Dam, 58.30 30 P **P 08 33 41.8 -1.5**
AOPR Arecibo Observ 58.31 29 P **P 08 33 42.3 -1.1**
SJG San Juan 58.34 29 P **P 08 33 42.9 -0.6**
SJG pmax pmax
comp=Z,83nm,0.9s
SJG San Juan 58.34 29 P **P 08 33 42.5 -1.1**
comp=Z,77nm,0.8s,baz=253,slow=2.6,SNR=15
SJG San Juan 58.34 29 P **P 08 33 42.9 -0.6**
SBA Scott Base 58.35 194 P **P 08 33 44.2 +1.2**
SBA pmax pmax
comp=Z,30nm,1.1s
SBA Scott Base 58.35 194 P **P 08 33 44.2 +1.2**
SBA IAmb IAmb 08 33 54.0
comp=Z,30nm,1.1s
NBPA Parau_RN 58.39 73 *e*P **P 08 33 44.9 +0.7**
NBPA Parau_RN 58.39 73 *e*P **P 08 33 44.9 +0.7**
GCPR Guaynabo City 58.54 29 P **P 08 33 46.0 +1.0**
RCBR Riachuelo 59.30 74 *e*P **P 08 33 49.9 -0.6**
RCBR Riachuelo 59.30 74 *e*P **P 08 33 49.9 -0.6**
VNDA Vanda 59.45 194 P **P 08 33 51.6 +1.0**
VNDA pmax pmax
comp=Z,16nm,1.1s
VNDA Vanda 59.45 194 P **P 08 33 51.5 +0.8**
comp=Z,8.2nm,1.0s,baz=113,slow=7.1,SNR=17
VNDA LR LR 08 55 09.6
comp=Z,85nm,18.6s,baz=108,slow=32
VNDA Vanda 59.45 194 P **P 08 33 51.6 +1.0**
NVL N'lazarevskaya 61.79 159 *e*P **P 08 34 08.2 +1.5**
NVL *e*S **S 08 42 33.4 +3.9**
NVL pmax pmax
comp=Z,11nm,0.7s
833A Chaparral WMA, 63.35 353 P **P 08 34 18.7 +1.2**
baz=173
833A Chaparral WMA, 63.35 353 P **P 08 34 18.6 +1.1**
833A IAmb IAmb 08 34 19.4
comp=Z,21nm,1.0s
TX31 Lajitas Ar. Si 64.89 349 P **P 08 34 28.4 +0.6**
TX31 IAmb IAmb 08 34 30.1
comp=Z,26nm,1.4s
TX32 Lajitas Array 64.89 349 P **P 08 34 28.5 +0.7**
TX32 IAmb IAmb 08 34 30.1
comp=Z,26nm,1.4s
TXAR Lajitas Array 64.89 349 P **P 08 34 28.9 +1.1**
comp=Z,6.8nm,1.0s,baz=167,slow=9.7,SNR=43
JCT Junction City 65.52 353 P **P 08 34 32.6 +0.9**
baz=173,SNR=8.5
JCT Junction City 65.52 353 P **P 08 34 32.2 +0.5**
JCT pmax pmax
comp=Z,44nm,1.3s
JCT Junction City 65.52 353 P **P 08 34 32.2 +0.5**
435B Jarrell 65.63 355 P **P 08 34 33.6 +1.3**
baz=175
435B Jarrell 65.63 355 P **P 08 34 32.9 +0.5**
HSIG 66.09 342 P **P 08 34 36.5 +1.1**
HSIG IAmb IAmb 08 34 37.7
comp=Z,28nm,1.3s
NATX Nacogdoches 66.45 358 P **P 08 34 38.6 +1.0**
baz=176
352A Blakely 66.48 7 P **P 08 34 38.1 +0.2**
baz=186
352A Blakely 66.48 7 P **P 08 34 37.6 -0.2**
WHTX Lake Whitney, 66.82 355 P **P 08 34 40.7 +0.7**
baz=175
WHTX Lake Whitney, 66.82 355 P **P 08 34 40.5 +0.6**
250A Grady 66.86 6 P **P 08 34 40.6 +0.3**
252A Lumpkin 67.01 7 P **P 08 34 42.2 +1.0**
baz=187
MNTX Cornudas Mount 67.49 348 P **P 08 34 44.2 0.0**
baz=168,SNR=10
MNTX Cornudas Mount 67.49 348 P **P 08 34 43.0 -1.3**
ABTX Abilene, Hawle 67.63 353 P **P 08 34 45.7 +0.5**
baz=173,SNR=13
ABTX Abilene, Hawle 67.63 353 P **P 08 34 45.0 -0.1**
152A Waverly Hall 67.68 7 P **P 08 34 45.5 +0.1**
baz=187,SNR=7.0
152A Waverly Hall 67.68 7 P **P 08 34 45.4 -0.1**
152A IAmb IAmb 08 34 49.7
comp=Z,32nm,1.4s
154A Montrose 67.80 8 P **P 08 34 46.3 +0.2**
baz=188
154A Montrose 67.80 8 P **P 08 34 45.7 -0.5**
GDL2 Guadalupe Moun 67.81 349 P **P 08 34 46.8 +0.3**
LRAL Lakeview Retre 67.86 5 P **P 08 34 46.7 +0.2**
baz=185
LRAL Lakeview Retre 67.86 5 P **P 08 34 46.1 -0.5**
155A Kite 67.89 9 P **P 08 34 46.4 -0.3**
baz=189
Z41A Richland Creek 67.90 359 P **P 08 34 47.6 +0.8**
Z41A IAmb IAmb 08 34 51.2
comp=Z,16nm,0.8s
Z50A Ashland 68.15 6 P **P 08 34 48.6 +0.1**
baz=186
Z52A Williamson 68.23 7 P **P 08 34 49.2 +0.3**
baz=187,SNR=8.2
158A Hollywood 68.32 11 P **P 08 34 48.9 -0.6**
baz=190
WLAR White Oak Lake 68.33 359 P **P 08 34 50.0 +0.4**
Z54A Sparta 68.45 8 P **P 08 34 49.8 -0.4**
baz=188
GOGA Godfrey 68.55 8 P **P 08 34 50.9 0.0**
GOGA pmax pmax
comp=Z,18nm,1.2s
GOGA Godfrey 68.55 8 P **P 08 34 50.9 0.0**
GOGA IAmb IAmb 08 34 51.4
comp=Z,18nm,1.1s
NHSC New Hope 68.69 11 P **P 08 34 51.7 0.0**
baz=190
NHSC New Hope 68.69 11 P **P 08 34 51.6 -0.1**
Z56A Williston 68.73 10 P **P 08 34 52.1 +0.1**
baz=190
Z56A Williston 68.73 10 P **P 08 34 51.3 -0.7**
121A Cookes Peak, D 68.75 346 P **P 08 34 53.9 +1.5**
baz=166,SNR=7.2
121A Cookes Peak, D 68.75 346 P **P 08 34 52.6 +0.2**
121A IAmb IAmb 08 34 54.7
comp=Z,23nm,1.2s
Z57A Boman 68.79 10 P **P 08 34 52.2 -0.1**
baz=190
Y51A Rockmart 68.87 6 P **P 08 34 52.8 -0.1**
baz=186,SNR=5.4
Y52A Lilburn 68.93 7 P **P 08 34 53.6 +0.4**
baz=187,SNR=6.5
Y52A Lilburn 68.93 7 P **P 08 34 53.0 -0.2**
Y52A IAmb IAmb 08 34 54.1
comp=Z,19nm,1.1s
Z58A St. Stephen 68.97 11 P **P 08 34 53.5 0.0**
baz=191
Y53A Monroe 68.97 8 P **P 08 34 53.6 +0.1**
baz=188,SNR=8.2
Y54A Tignall 69.08 8 P **P 08 34 54.2 0.0**
baz=188,SNR=9.8
TUC Tucson 69.19 343 P **P 08 34 56.5 +1.5**
baz=164
TUC Tucson 69.19 343 P **P 08 34 55.4 +0.4**
TUC pmax pmax
comp=Z,34nm,1.3s
TUC Tucson 69.19 343 P **P 08 34 55.4 +0.4**
TUC IAmb IAmb 08 34 57.5
comp=Z,34nm,1.3s
MIAR Mount Ida 69.20 359 P **P 08 34 54.8 -0.2**
baz=179
MIAR Mount Ida 69.20 359 P **P 08 34 54.7 -0.2**
MIAR pmax pmax
comp=Z,23nm,1.4s
MIAR Mount Ida 69.20 359 P **P 08 34 54.7 -0.2**
MIAR IAmb IAmb 08 34 58.8
comp=Z,23nm,1.4s
X48A Hartselle 69.26 5 P **P 08 34 54.3 -1.0**
X48A IAmb IAmb 08 34 56.0
comp=Z,17nm,1.1s
Y55A Saluda 69.26 9 P **P 08 34 55.4 +0.1**
baz=189
MSTX Muleshoe 69.32 351 P **P 08 34 56.4 +0.6**
baz=171,SNR=21
214A Organ Pipe Nat 69.36 341 P **P 08 34 58.0 +2.0**
baz=162,SNR=8.6
214A Organ Pipe Nat 69.36 341 IAmb IAmb 08 34 58.7
comp=Z,34nm,1.3s
X34A Smith Ranch, M 69.44 355 IAmb IAmb 08 34 57.1
comp=Z,36nm,1.4s
HODGE Hodges 69.50 9 IAmb IAmb 08 35 00.5
comp=Z,19nm,0.9s
X51A Calhoun 69.55 6 P **P 08 34 57.1 +0.1**
baz=186
X51A Calhoun 69.55 6 IAmb IAmb 08 35 00.8
comp=Z,22nm,1.0s
X53A Estanollee 69.64 8 P **P 08 34 57.8 +0.1**
baz=188
WMOK Wichita Mounta 69.65 354 P **P 08 34 57.5 -0.2**
baz=174,SNR=7.9
X54A Belton 69.80 9 P **P 08 34 59.0 +0.4**
baz=188,SNR=12
W41B Gary Mavity, V 69.81 360 P **P 08 34 58.7 +0.1**
baz=180
W41B Gary Mavity, V 69.81 360 IAmb IAmb 08 34 59.0
comp=Z,23nm,1.4s
X55A Gracelyn & Ava 69.82 9 P **P 08 34 59.0 +0.3**
baz=189,SNR=6.6
URZ Urewera 69.84 237 P **P 08 34 59.2 0.0**
comp=Z,12nm,0.8s,baz=298,slow=7.4,SNR=4.3
W39A Magazine 69.85 359 P **P 08 34 59.4 +0.5**
baz=179,SNR=5.1
W39A Magazine 69.85 359 IAmb IAmb 08 35 00.5
comp=Z,30nm,1.3s
X56A White Oak 69.92 10 P **P 08 34 59.7 +0.3**
baz=190,SNR=6.0
WHAR Wooly Hollow 69.93 360 IAmb IAmb 08 35 00.4
comp=Z,22nm,1.2s
W49A Belvidere 69.98 5 P **P 08 34 59.2 -0.5**
baz=185
FNO Franklin 70.06 355 P **P 08 35 01.2 +1.0**
AMTX Amarillo 70.08 352 P **P 08 35 01.2 +0.7**
baz=172
W50A Signal Mountai 70.14 6 P **P 08 35 00.5 -0.2**
baz=186,SNR=5.6
PAULI Pauline 70.14 9 P **P 08 35 01.1 +0.5**
BIRD Birdtown, Kers 70.15 10 IAmb IAmb 08 35 04.1
comp=Z,22nm,1.1s
BG3 Lake Jocassee 70.17 8 IAmb IAmb 08 35 05.7
comp=Z,28nm,1.3s
OKCFA Oklahoma City 70.22 355 P **P 08 35 00.9 -0.3**
W53A Cullowhee 70.32 8 P **P 08 35 02.3 +0.3**
baz=188
W54A Chokee Point 70.35 9 P **P 08 35 02.6 +0.6**
baz=189,SNR=14
113A Mohawk Valley, 70.38 341 IAmb IAmb 08 35 04.9
comp=Z,27nm,1.4s
SYO Syowa Base 70.40 163 ‖ *e*P **P 08 35 00.0 -2.0**
SYO Syowa Base 70.40 163 ‖ *ep*P **P 08 35 02.0 0.0**
CPCT Cooper Cave 70.45 7 P **P 08 35 02.6 0.0**
CPCT IAmb IAmb 08 35 06.3
comp=Z,26nm,1.3s
KMSC Kings Mountain 70.52 9 P **P 08 35 03.2 +0.2**
baz=189,SNR=11
V48A Smith Brothers 70.56 5 P **P 08 35 02.6 -0.7**
W56A Indian Trail 70.62 10 P **P 08 35 03.2 -0.4**
baz=190
V50A Pikevile 70.62 6 P **P 08 35 03.7 +0.1**
baz=186,SNR=5.8
TUL1 Leonard 70.63 357 P **P 08 35 03.9 +0.2**
baz=177,SNR=5.9
TUL1 Leonard 70.63 357 IAmb IAmb 08 35 04.3
comp=Z,24nm,1.2s
V49A McMinnville 70.65 5 P **P 08 35 03.2 -0.7**
baz=185
W58A Raeford 70.71 11 P **P 08 35 03.6 -0.5**
baz=191
W57A Gilead 70.72 11 P **P 08 35 04.0 -0.2**
baz=190
TKL Tuckaleechee C 70.74 7 P **P 08 35 03.6 -0.7**
comp=Z,4.9nm,0.8s,baz=181,slow=7.7,SNR=5.8
V51A Loudon 70.82 7 P **P 08 35 04.7 -0.2**
baz=187,SNR=5.7
ANMO Albuquerque 70.85 348 P **P 08 35 06.5 +1.3**
baz=168
ANMO Albuquerque 70.85 348 *d*P **P 08 35 06.0 +0.7**
ANMO pmax pmax
comp=Z,20nm,1.1s
ANMO Albuquerque 70.85 348 P **P 08 35 06.2 +0.9**
comp=Z,13nm,1.0s,baz=167,slow=8.0,SNR=37
ANMO Albuquerque 70.85 348 P **P 08 35 05.8 +0.6**
ANMO IAmb IAmb 08 35 07.5
comp=Z,25nm,1.1s
V53A Saluda 70.85 8 P **P 08 35 05.3 +0.2**
baz=188,SNR=8.5
V53A Saluda 70.85 8 IAmb IAmb 08 35 08.9
comp=Z,22nm,1.0s
WVT Waverly 70.88 4 P **P 08 35 04.3 -0.9**
baz=184
WVT Waverly 70.88 4 P **P 08 35 04.2 -1.0**
WVT pmax pmax
comp=Z,45nm,1.8s
WVT Waverly 70.88 4 P **P 08 35 04.2 -1.0**
WVT IAmb IAmb 08 35 41.8
comp=Z,45nm,1.8s
IKP In-Ko-Pah, Jac 70.93 339 P **P 08 35 07.5 +1.8**
baz=160
V52A Sevierville 70.94 7 P **P 08 35 05.2 -0.4**
baz=187
V52A Sevierville 70.94 7 IAmb IAmb 08 35 18.8
comp=Z,24nm,1.4s
GLA Glamis 70.94 340 P **P 08 35 07.9 +2.2**
baz=161,SNR=5.6
GLA Glamis 70.94 340 P **P 08 35 06.9 +1.2**
GLA pmax pmax
comp=Z,51nm,1.4s
GLA Glamis 70.94 340 P **P 08 35 06.9 +1.2**
CLTN Cedars of Leba 70.94 5 P **P 08 35 04.8 -0.8**
U40A Yellville 71.00 359 P **P 08 35 06.1 +0.2**
baz=179
V54A Nebo 71.06 9 P **P 08 35 06.3 -0.1**
baz=189,SNR=7.9
SWSC Sam W. Stewart 71.12 339 P **P 08 35 08.9 +2.2**
baz=160
RPZ Rata Peaks 71.13 230 P **P 08 35 07.5 +0.6**
comp=Z,30nm,0.9s,baz=84,slow=2.1,SNR=5.6
V55A Taylorsville 71.23 9 P **P 08 35 07.2 -0.1**
baz=190,SNR=9.6
MONP2 Monument Peak 71.25 339 P **P 08 35 09.8 +2.0**
baz=159
Y14A Wickenburg 71.29 342 IAmb IAmb 08 35 10.5
comp=Z,35nm,1.1s
V56A Mocksville 71.29 10 P **P 08 35 07.5 -0.2**
baz=190,SNR=8.2
X16A Lo Mia Camp, P 71.36 343 IAmb IAmb 08 35 11.2
comp=Z,34nm,1.3s
U50A Jamestown 71.38 6 P **P 08 35 08.2 -0.1**
baz=186,SNR=13
U49A Red Boiling Sp 71.40 5 P **P 08 35 08.2 -0.2**
baz=186,SNR=12
U51A La Follette 71.42 7 P **P 08 35 08.5 0.0**
baz=187,SNR=7.8
PBMO Poplar Bluff 71.43 2 P **P 08 35 07.8 -0.7**
V57A Coltrane Farms 71.47 11 P **P 08 35 08.1 -0.7**
baz=191
V58A Windy Hill, Pi 71.48 11 P **P 08 35 08.1 -0.7**
baz=191
U52A Thorn Hill 71.51 8 P **P 08 35 09.0 0.0**
baz=188
Y12C Blythe 71.51 341 P **P 08 35 11.6 +2.5**
baz=161,SNR=19
U53A Fall Branch 71.57 8 P **P 08 35 09.1 -0.3**
baz=188,SNR=6.6
V59A Middlesex 71.60 12 P **P 08 35 08.8 -0.7**
baz=192
TZTN Tazewell 71.64 7 P **P 08 35 09.7 -0.1**
baz=187,SNR=5.1
TZTN Tazewell 71.64 7 IAmb IAmb 08 35 10.6
comp=Z,30nm,1.1s
W18A Petrified Fore 71.65 345 P **P 08 35 12.1 +2.0**
baz=165,SNR=7.6
W18A Petrified Fore 71.65 345 P **P 08 35 11.2 +1.0**
BC3 Big Chuckawall 71.68 340 P **P 08 35 12.3 +2.0**
baz=160,SNR=7.0
T47A Sharon Grove 71.78 4 P **P 08 35 09.8 -0.8**
T47A IAmb IAmb 08 35 10.9
comp=Z,22nm,1.1s
U56A King 71.83 10 P **P 08 35 10.9 -0.1**
baz=190
U56A King 71.83 10 IAmb IAmb 08 35 14.9
comp=Z,47nm,1.4s
U55A TA2, Sparta 71.89 9 P **P 08 35 11.1 -0.3**
baz=190
TPFO Pinon Flats 71.93 339 P **P 08 35 13.6 +1.8**
baz=159
XPFO Pion Flat 71.93 339 P **P 08 35 12.5 +0.7**
PFO Pinyon Flats O 71.94 339 P **P 08 35 13.5 +1.7**
baz=159
PFO Pinyon Flats O 71.94 339 P **P 08 35 12.8 +1.0**
PFO pmax pmax
comp=Z,23nm,1.4s
PFO Pinyon Flats O 71.94 339 P **P 08 35 12.8 +1.0**
T50A Nancy 71.98 6 P **P 08 35 11.5 -0.4**
baz=186,SNR=6.2
T51A Gray 72.01 7 P **P 08 35 11.9 -0.2**
baz=187
IRM Iron Mountain 72.07 340 P **P 08 35 14.3 +1.8**
baz=160,SNR=7.2
U57A Blanch 72.07 11 P **P 08 35 11.7 -0.6**
baz=191
MURC Murrieta 72.14 338 P **P 08 35 15.2 +2.2**
baz=159,SNR=6.8
U58A Oxford 72.16 12 P **P 08 35 12.5 -0.4**
baz=192
T53A Wise 72.18 8 P **P 08 35 12.9 -0.2**
baz=188
U59A Littleton 72.25 12 P **P 08 35 12.8 -0.7**
baz=192
U59A Littleton 72.25 12 IAmb IAmb 08 35 13.6
comp=Z,21nm,1.1s
T52A Hallie 72.25 8 P **P 08 35 13.5 0.0**
baz=188
T52A Hallie 72.25 8 IAmb IAmb 08 35 32.0
comp=Z,24nm,1.2s
T54A Tazewell 72.38 9 P **P 08 35 13.7 -0.6**
baz=189
WUAZ Wupatki 72.40 344 P **P 08 35 16.7 +2.1**
baz=164,SNR=11
WUAZ Wupatki 72.40 344 IAmb IAmb 08 35 17.4
comp=Z,45nm,1.4s
U61A Possum Corner 72.47 13 P **P 08 35 14.6 -0.2**
baz=193
T55A Pulaski 72.54 10 P **P 08 35 15.2 0.0**
baz=190
T56A Rocky Mt 72.56 10 P **P 08 35 14.9 -0.3**
baz=190
T25A Trinidad 72.66 350 P **P 08 35 17.5 +1.3**
baz=170,SNR=12
T25A Trinidad 72.66 350 IAmb IAmb 08 35 18.6
comp=Z,40nm,1.3s
S50A Richmond 72.68 6 P **P 08 35 15.8 -0.2**
baz=187,SNR=6.0
CCM Cathedral Cave 72.69 1 P **P 08 35 16.0 -0.1**
baz=181
CCM Cathedral Cave 72.69 1 P **P 08 35 15.6 -0.4**
CCM pmax pmax
comp=Z,85nm,2.0s
CCM Cathedral Cave 72.69 1 P **P 08 35 15.6 -0.4**
T58A Grand View Acr 72.70 11 P **P 08 35 15.3 -0.9**
baz=192
S51A Beattyville 72.72 7 P **P 08 35 16.0 -0.2**
baz=187,SNR=7.7
S51A Beattyville 72.72 7 IAmb IAmb 08 35 19.6
comp=Z,23nm,0.9s
GMRC Granite Mounta 72.80 340 P **P 08 35 19.0 +2.1**
baz=160,SNR=10.0
S52A Salyersville 72.81 8 P **P 08 35 16.8 +0.1**
baz=188
BFSC Mount Baldy Ra 72.88 338 P **P 08 35 19.4 +2.0**
baz=158,SNR=5.7
T59A Double "B" Far 72.89 12 P **P 08 35 16.7 -0.5**
baz=192
S53A Williamson 72.92 8 P **P 08 35 17.3 -0.1**
baz=189
HEC Hector,Ludlow 73.04 339 P **P 08 35 20.7 +2.4**
baz=160,SNR=5.0
WCI Wyandotte Cave 73.07 5 P **P 08 35 17.2 -1.1**
baz=185
WCI Wyandotte Cave 73.07 5 P **P 08 35 16.7 -1.6**
WCI pmax pmax
comp=Z,17nm,1.0s
WCI Wyandotte Cave 73.07 5 P **P 08 35 16.7 -1.6**
S54A Dingess, Beckl 73.14 9 P **P 08 35 18.4 -0.4**
baz=189
T60A Surry 73.20 13 P **P 08 35 18.9 -0.2**
baz=193
S55A Lewisburg 73.22 10 P **P 08 35 19.1 -0.1**
baz=190
S56A Natural Bridge 73.26 10 P **P 08 35 19.0 -0.5**
baz=191
R50A Paris 73.28 6 P **P 08 35 18.9 -0.6**
baz=187,SNR=7.4
R50A Paris 73.28 6 IAmb IAmb 08 35 23.0
comp=Z,26nm,1.2s
R51A Hillsboro 73.37 7 P **P 08 35 20.1 +0.1**
baz=187
MVCO Mesa Verde 73.42 346 P **P 08 35 21.9 +1.2**
baz=166,SNR=15
MVCO Mesa Verde 73.42 346 IAmb IAmb 08 35 22.9
comp=Z,35nm,1.2s
SDCO Great Sand Dun 73.42 349 P **P 08 35 22.1 +1.3**
baz=169,SNR=19

S58A	**Poland Farm, P**	**73.44**	**12**	P	**P**	**08 35 20.0**	**-0.4**		
	baz=192								
S58A	**Poland Farm, P**	**73.44**	**12**	IAmb	IAmb	08 35 23.4			
	comp=Z,21nm,0.9s								
U15A	**North Rim**	**73.48**	**343**	IAmb	IAmb	08 35 24.0			
	comp=Z,39nm,1.3s								
TUQ	**Turquoise Moun**	**73.49**	**340**	P	**P**	**08 35 23.6**	**+2.6**		
	baz=160								
OSI	**Osito Audit: C**	**73.56**	**337**	P	**P**	**08 35 22.3**	**+1.0**		
OSI				IAmb	IAmb	08 35 23.8			
	comp=Z,22nm,0.9s								
EDW2	**Edwards Air Fo**	**73.58**	**338**	P	**P**	**08 35 23.0**	**+1.5**		
	baz=158,SNR=5.7								
GSC	**Goldstone, Bar**	**73.61**	**339**	P	**P**	**08 35 23.7**	**+2.0**		
	baz=159,SNR=10								
GSC	**Goldstone, Bar**	**73.61**	**339**	IAmb	IAmb	08 35 24.6			
	comp=Z,24nm,1.2s								
S22A	**4UR Ranch, Cre**	**73.64**	**348**	P	**P**	**08 35 23.7**	**+1.7**		
	baz=168,SNR=37								
R55A	**Marlinton**	**73.77**	**10**	P	**P**	**08 35 22.0**	**-0.5**		
	baz=190								
R55A	**Marlinton**	**73.77**	**10**	IAmb	IAmb	08 35 25.8			
	comp=Z,24nm,0.9s								
CBKS	**Cedar Bluff**	**73.78**	**354**	P	**P**	**08 35 23.4**	**+0.9**		
	baz=174,SNR=8.3								
CBKS	**Cedar Bluff**	**73.78**	**354**	IAmb	IAmb	08 35 24.2			
	comp=Z,42nm,1.2s								
Q48A	**North Vernon**	**73.81**	**5**	P	**P**	**08 35 21.8**	**-0.8**		
	baz=186								
R58B	**Mineral**	**73.81**	**12**	P	**P**	**08 35 22.2**	**-0.4**		
	baz=192								
R58B	**Mineral**	**73.81**	**12**	IAmb	IAmb	08 35 25.7			
	comp=Z,21nm,0.9s								
KSU1	**Kansas State U**	**73.84**	**356**	P	**P**	**08 35 23.2**	**+0.4**		
	baz=176,SNR=7.8								
BLO	**Bloomington**	**73.99**	**5**	IAmb	IAmb	08 35 26.8			
	comp=Z,35nm,1.4s								
R56A	**Bull Pasture M**	**74.00**	**10**	P	**P**	**08 35 23.5**	**-0.4**		
	baz=191								
SHOC	**Shoshone, Teco**	**74.02**	**340**	P	**P**	**08 35 26.2**	**+2.2**		
	baz=160,SNR=8.3								
R57A	**Stanardsville**	**74.03**	**11**	P	**P**	**08 35 23.2**	**-0.7**		
	baz=192								
LRMC	**Laurel Mtn Rad**	**74.04**	**339**	P	**P**	**08 35 26.1**	**+1.8**		
	baz=158								
Q51A	**Peebles**	**74.11**	**7**	P	**P**	**08 35 24.2**	**-0.3**		
	baz=188,SNR=9.3								
Q51A	**Peebles**	**74.11**	**7**	IAmb	IAmb	08 35 27.6			
	comp=Z,27nm,0.8s								
Q53A	**Leroy**	**74.16**	**9**	P	**P**	**08 35 24.6**	**-0.1**		
	baz=189,SNR=9.4								
PKM	**Mcpherson Peak**	**74.16**	**337**	P	**P**	**08 35 26.7**	**+1.7**		
	baz=157,SNR=5.5								
Q52A	**Bidwell**	**74.17**	**8**	P	**P**	**08 35 24.4**	**-0.3**		
	baz=188,SNR=7.1								
KSCO	**Kaye Shedlock'**	**74.27**	**352**	P	**P**	**08 35 27.2**	**+1.7**		
	baz=171								
KSCO	**Kaye Shedlock'**	**74.27**	**352**	P	**P**	**08 35 26.5**	**+1.0**		
KSCO				IAmb	IAmb	08 35 27.7			
	comp=Z,34nm,1.1s								
Q54A	**Coxs Mills**	**74.37**	**9**	P	**P**	**08 35 25.0**	**-0.9**		
	baz=190								
ISA	**Isabella, Lake**	**74.45**	**338**	P	**P**	**08 35 28.5**	**+2.0**		
	baz=158,SNR=8.1								
Q55A	**Buckhannon**	**74.48**	**10**	P	**P**	**08 35 26.1**	**-0.5**		
	baz=190								
MPMC	**Manual Prospec**	**74.52**	**339**	P	**P**	**08 35 28.6**	**+1.5**		
	baz=159,SNR=12								
Q24A	**Divide**	**74.56**	**350**	P	**P**	**08 35 28.7**	**+1.3**		
	baz=169,SNR=10								
P51A	**Williamsport**	**74.59**	**7**	P	**P**	**08 35 27.1**	**-0.1**		
	baz=188								
P51A	**Williamsport**	**74.59**	**7**	P	**P**	**08 35 26.4**	**-0.7**		
P51A				IAmb	IAmb	08 35 30.4			
	comp=Z,22nm,1.0s								
P50A	**Jamestown**	**74.65**	**7**	P	**P**	**08 35 27.4**	**-0.1**		
	baz=187,SNR=9.2								
FURC	**Furnace Creek,**	**74.72**	**340**	P	**P**	**08 35 30.0**	**+2.1**		
	baz=159								
P53A	**Whipple**	**74.79**	**9**	P	**P**	**08 35 28.0**	**-0.3**		
	baz=189								
P53A	**Whipple**	**74.79**	**9**	IAmb	IAmb	08 35 31.8			
	comp=Z,34nm,1.1s								
VES	**Vestal, Richgr**	**74.80**	**338**	P	**P**	**08 35 30.0**	**+1.6**		
	baz=158								
CCUT	**Cedar City**	**74.81**	**343**	P	**P**	**08 35 30.6**	**+1.8**		
P52A	**Corning**	**74.85**	**8**	P	**P**	**08 35 28.3**	**-0.4**		
	baz=188,SNR=10								
TPNV	**Topopah Spring**	**74.99**	**340**	P	**P**	**08 35 32.2**	**+2.4**		
	baz=160,SNR=6.0								
TPNV	**Topopah Spring**	**74.99**	**340**	IAmb	IAmb	08 35 33.0			
	comp=Z,51nm,1.4s								
P54A	**Burton**	**75.02**	**9**	P	**P**	**08 35 29.5**	**-0.2**		
	baz=190								
CWC	**Cottonwood Cre**	**75.05**	**339**	P	**P**	**08 35 32.0**	**+1.9**		
	baz=158								
PAGB	**Antelope Grade**	**75.07**	**337**	P	**P**	**08 35 31.6**	**+1.6**		
PAGB				IAmb	IAmb	08 35 32.9			
	comp=Z,48nm,1.2s								
O48A	**Farmland**	**75.17**	**6**	P	**P**	**08 35 29.2**	**-1.3**		
	baz=186								
O49A	**Covington**	**75.17**	**6**	P	**P**	**08 35 29.8**	**-0.7**		
	baz=187,SNR=6.1								
O49A	**Covington**	**75.17**	**6**	IAmb	IAmb	08 35 33.5			
	comp=Z,21nm,1.0s								
O50A	**Cable**	**75.20**	**7**	P	**P**	**08 35 30.1**	**-0.6**		
	baz=187								
O51A	**Pataskala**	**75.30**	**8**	P	**P**	**08 35 30.9**	**-0.4**		
	baz=188								
ACSO	**Alum Creek Sta**	**75.34**	**7**	P	**P**	**08 35 31.4**	**-0.1**		
	baz=188								
O52A	**Adamsville**	**75.36**	**8**	P	**P**	**08 35 31.2**	**-0.4**		
	baz=189,SNR=12								
P58A	**Pank, Wackersv**	**75.39**	**12**	P	**P**	**08 35 31.5**	**-0.3**		
	baz=192								
ISCO	**Idaho Springs**	**75.45**	**349**	P	**P**	**08 35 33.8**	**+1.3**		
	baz=169,SNR=10.0								
ISCO	**Idaho Springs**	**75.45**	**349**	P	**P**	**08 35 33.6**	**+1.1**		
ISCO				pmax	pmax				
	comp=Z,10.0nm,1.0s								
ISCO	**Idaho Springs**	**75.45**	**349**	P	**P**	**08 35 33.6**	**+1.1**		
O53A	**New Philadelph**	**75.56**	**9**	P	**P**	**08 35 32.4**	**-0.4**		
	baz=189,SNR=9.8								
P59A	**Jarrettsville**	**75.66**	**13**	P	**P**	**08 35 33.0**	**-0.3**		
	baz=193								
TIN	**Tinemaha, Big**	**75.66**	**339**	P	**P**	**08 35 36.0**	**+2.4**		
	baz=158,SNR=5.8								
N48A	**Decatur**	**75.78**	**6**	P	**P**	**08 35 33.4**	**-0.6**		
	baz=186,SNR=9.9								
O55A	**Ligonier**	**75.78**	**10**	P	**P**	**08 35 35.9**	**+1.9**		
	baz=191								
N50A	**Nevada**	**75.86**	**7**	P	**P**	**08 35 34.6**	**+0.1**		
	baz=188								
N49A	**Columbus Grove**	**75.91**	**6**	P	**P**	**08 35 34.2**	**-0.6**		
	baz=187,SNR=7.3								
N49A	**Columbus Grove**	**75.91**	**6**	IAmb	IAmb	08 35 35.0			
	comp=Z,32nm,1.0s								
O56A	**Blue Knob Stat**	**75.95**	**11**	P	**P**	**08 35 34.7**	**-0.3**		
	baz=191								
MAW	**Mawson**	**75.99**	**170**	P	**P**	**08 35 34.4**	**-0.6**		
MAW				pmax	pmax				
	comp=Z,3.0nm,0.9s								
MAW	**Mawson**	**75.99**	**170**	P	**P**	**08 35 34.3**	**-0.7**		
	comp=Z,9.8nm,0.5s,baz=192,slow=9.4,SNR=31								
MAW				LR	LR	09 08 33.2			
	comp=Z,110nm,18.5s,baz=238,slow=35								
MAW	**Mawson**	**75.99**	**170**	P	**P**	**08 35 34.4**	**-0.6**		
MVL	**Millersville**	**76.05**	**12**	IAmb	IAmb	08 35 39.7			
	comp=Z,28nm,1.4s								
N52A	**McGinn's Farm,**	**76.06**	**8**	P	**P**	**08 35 35.3**	**-0.3**		
	baz=189								
N51A	**Ashland**	**76.09**	**8**	P	**P**	**08 35 35.3**	**-0.5**		
	baz=188,SNR=6.0								
R11A	**Troy Canyon, C**	**76.13**	**341**	P	**P**	**08 35 38.4**	**+2.1**		
	baz=160,SNR=27								
R11A	**Troy Canyon, C**	**76.13**	**341**	IAmb	IAmb	08 35 39.4			
	comp=Z,29nm,1.1s								
N53A	**Lisbon**	**76.16**	**9**	P	**P**	**08 35 35.7**	**-0.5**		
	baz=190								
O20A	**White River Ci**	**76.21**	**347**	P	**P**	**08 35 38.2**	**+1.4**		
	baz=166,SNR=14								
BGNE	**Belgrade**	**76.23**	**355**	P	**P**	**08 35 37.5**	**+0.9**		
	baz=175,SNR=5.8								
O59A	**Robesonia**	**76.39**	**13**	P	**P**	**08 35 37.0**	**-0.5**		
	baz=193								
N55A	**Marion Center**	**76.39**	**10**	P	**P**	**08 35 36.8**	**-0.7**		
	baz=191,SNR=7.3								
SSPA	**Standing Stone**	**76.41**	**11**	P	**P**	**08 35 36.8**	**-0.8**		
	baz=192								
SSPA	**Standing Stone**	**76.41**	**11**	P	**P**	**08 35 36.5**	**-1.1**		
SSPA				IAmb	IAmb	08 35 40.9			
	comp=Z,47nm,1.6s								
N54A	**Moraine State**	**76.42**	**10**	P	**P**	**08 35 37.1**	**-0.6**		
	baz=190								
M48A	**Edgerton**	**76.42**	**6**	P	**P**	**08 35 37.0**	**-0.6**		
	baz=186								
M48A	**Edgerton**	**76.42**	**6**	IAmb	IAmb	08 35 37.8			
	comp=Z,35nm,1.1s								
M49A	**Liberty Center**	**76.48**	**6**	P	**P**	**08 35 37.7**	**-0.2**		
	baz=187								
M50A	**Fremont**	**76.50**	**7**	P	**P**	**08 35 37.9**	**-0.1**		
	baz=188								
M50A	**Fremont**	**76.50**	**7**	IAmb	IAmb	08 35 42.4			
	comp=Z,48nm,1.4s								
SCIA	**State Center**	**76.54**	**359**	P	**P**	**08 35 38.3**	**0.0**		
	baz=179								
SCIA	**State Center**	**76.54**	**359**	IAmb	IAmb	08 35 39.1			
	comp=Z,20nm,0.9s								
N23A	**Red Feather La**	**76.57**	**349**	P	**P**	**08 35 40.6**	**+1.7**		
	baz=168,SNR=9.5								
N23A	**Red Feather La**	**76.57**	**349**	IAmb	IAmb	08 35 41.5			
	comp=Z,35nm,1.4s								
N56A	**West Decatur**	**76.62**	**11**	P	**P**	**08 35 39.5**	**+0.6**		
	baz=192								
L47A	**Sherwood**	**76.87**	**5**	P	**P**	**08 35 39.5**	**-0.7**		
	baz=186,SNR=5.1								
PHWY	**Pilot Hill**	**76.90**	**350**	P	**P**	**08 35 42.0**	**+1.3**		
PHWY				IAmb	IAmb	08 35 42.9			
	comp=Z,20nm,1.1s								
L48A	**N Adams**	**76.91**	**6**	P	**P**	**08 35 39.6**	**-0.7**		
	baz=186,SNR=5.1								
NV11	**Mina Array Sit**	**76.92**	**339**	P	**P**	**08 35 41.9**	**+1.2**		
NV11				IAmb	IAmb	08 35 43.5			
	comp=Z,28nm,1.1s								
NVAR	**Mina Array Bea**	**76.96**	**339**	P	**P**	**08 35 43.0**	**+2.0**		
	comp=Z,20nm,0.9s,baz=172,slow=7.2,SNR=76								
NVAR				LR	LR	09 01 37.9			
	comp=Z,115nm,21.4s,baz=206,slow=30								
M54A	**Oil Creek Stat**	**77.00**	**10**	P	**P**	**08 35 40.3**	**-0.7**		
	baz=190								
M54A	**Oil Creek Stat**	**77.00**	**10**	IAmb	IAmb	08 35 40.8			
	comp=Z,36nm,1.2s								
M55A	**Ridgway**	**77.09**	**10**	P	**P**	**08 35 41.2**	**-0.3**		
	baz=192								
M55A	**Ridgway**	**77.09**	**10**	IAmb	IAmb	08 35 45.3			
	comp=Z,39nm,1.2s								
L49A	**Milan**	**77.13**	**6**	P	**P**	**08 35 41.4**	**-0.2**		
	baz=187								
N61A	**South Mountain**	**77.17**	**14**	P	**P**	**08 35 44.1**	**+2.3**		
	baz=195								
M56A	**Emporium**	**77.20**	**11**	P	**P**	**08 35 41.3**	**-0.8**		
	baz=192								
DUG	**Dugway, Tooele**	**77.20**	**344**	P	**P**	**08 35 44.0**	**+1.8**		
	baz=163,SNR=28								
DUG	**Dugway, Tooele**	**77.20**	**344**	IAmb	IAmb	08 35 45.0			
	comp=Z,42nm,1.2s								
RYN	**Ryan**	**77.21**	**339**	IAmb	IAmb	08 35 45.2			
	comp=Z,28nm,1.1s								
WAKR	**Walker**	**77.36**	**338**	IAmb	IAmb	08 35 46.5			
	comp=Z,32nm,1.4s								
M58A	**Price's Panora**	**77.37**	**12**	P	**P**	**08 35 42.3**	**-0.7**		
	baz=186								
KVN	**Kaiserville**	**77.48**	**340**	IAmb	IAmb	08 35 46.5			
	comp=Z,23nm,1.1s								
K46A	**Dorr**	**77.54**	**5**	P	**P**	**08 35 43.4**	**-0.5**		
	baz=185,SNR=5.7								
JFWS	**Jewell Farm**	**77.56**	**1**	P	**P**	**08 35 43.8**	**-0.2**		
	baz=182								
K47A	**Vermontville**	**77.58**	**5**	P	**P**	**08 35 43.7**	**-0.4**		
	baz=186								
YERR	**Yerington**	**77.75**	**339**	IAmb	IAmb	08 35 48.5			
	comp=Z,32nm,1.1s								
K48A	**Perry**	**77.78**	**6**	P	**P**	**08 35 44.6**	**-0.7**		
	baz=187								
L55A	**Hinsdale**	**77.84**	**10**	P	**P**	**08 35 45.1**	**-0.6**		
	baz=192								
L56A	**Greenwood**	**77.93**	**11**	IAmb	IAmb	08 35 48.8			
	comp=Z,28nm,1.1s								
PNTR	**Pine Nut**	**77.95**	**339**	IAmb	IAmb	08 35 49.6			
	comp=Z,31nm,1.0s								
WVNY	**West Valley, N**	**78.04**	**10**	IAmb	IAmb	08 35 49.5			
	comp=Z,34nm,1.0s								
M62A	**Hamden**	**78.11**	**15**	P	**P**	**08 35 46.9**	**-0.2**		
	baz=196								
L58A	**Harry Jones Me**	**78.13**	**12**	P	**P**	**08 35 46.4**	**-0.8**		
	baz=194								
J47A	**Sunmer**	**78.16**	**6**	IAmb	IAmb	08 35 51.9			
	comp=Z,26nm,1.1s								
J46A	**Howard City**	**78.21**	**5**	P	**P**	**08 35 47.5**	**-0.1**		
	baz=186								
AFDM	**Forest Hills D**	**78.24**	**337**	IAmb	IAmb	08 35 50.4			
	comp=Z,26nm,1.2s								
KSCT	**Kent School, K**	**78.27**	**14**	IAmb	IAmb	08 35 52.3			
	comp=Z,22nm,1.1s								
HWUT	**Hardware Ranch**	**78.28**	**345**	IAmb	IAmb	08 35 50.1			
	comp=Z,31nm,1.4s								
ELK	**Elko**	**78.30**	**342**	P	**P**	**08 35 49.1**	**+0.6**		
ELK	**Elko**	**78.30**	**342**	P	**P**	**08 35 49.1**	**+0.6**		
J48A	**Bridge Port**	**78.31**	**6**	P	**P**	**08 35 47.6**	**-0.5**		
	baz=187								
J48A	**Bridge Port**	**78.31**	**6**	IAmb	IAmb	08 35 48.2			
	comp=Z,33nm,1.1s								
K22A	**Casper**	**78.38**	**349**	P	**P**	**08 35 50.3**	**+1.5**		
	baz=168,SNR=12								
L59A	**Walton**	**78.42**	**13**	P	**P**	**08 35 50.6**	**+1.7**		
	baz=194								
PAHR	**Pah Rah Range**	**78.46**	**339**	IAmb	IAmb	08 35 52.3			
	comp=Z,32nm,1.4s								
ECSD	**EROS Data Cent**	**78.46**	**357**	P	**P**	**08 35 49.2**	**+0.2**		
	baz=176,SNR=7.3								
I46A	**Reed City**	**78.81**	**5**	P	**P**	**08 35 50.5**	**-0.4**		
	baz=186								
K58A	**Earlville**	**78.86**	**12**	P	**P**	**08 35 50.4**	**-0.9**		
	baz=194								
K58A	**Earlville**	**78.86**	**12**	IAmb	IAmb	08 35 54.7			
	comp=Z,52nm,1.4s								
ORV	**Oroville**	**78.96**	**337**	IAmb	IAmb	08 35 54.9			
	comp=Z,40nm,1.6s								
BW06	**Boulder Array**	**79.00**	**347**	P	**P**	**08 35 53.0**	**+0.7**		
	baz=166,SNR=30								
BW06	**Boulder Array**	**79.00**	**347**	IAmb	IAmb	08 35 54.0			
	comp=Z,28nm,1.1s								
PD31	**Pinedale Array**	**79.00**	**347**	P	**P**	**08 35 52.5**	**+0.2**		
PD31				IAmb	IAmb	08 35 54.0			
	comp=Z,26nm,1.1s								
PDAR	**Pinedale Array**	**79.00**	**347**	P	**P**	**08 35 52.7**	**+0.4**		
	comp=Z,12nm,0.8s,baz=161,slow=6.3,SNR=98								
QUA2	**Bertown**	**79.03**	**15**	IAmb	IAmb	08 35 56.2			
	comp=Z,34nm,1.1s								
K61A	**Williamstown**	**79.22**	**14**	P	**P**	**08 35 53.1**	**-0.1**		
	baz=196								
H46A	**Fife Lake**	**79.42**	**5**	P	**P**	**08 35 54.0**	**-0.3**		
	baz=186,SNR=6.5								
J57A	**Williamstown**	**79.43**	**12**	P	**P**	**08 35 53.6**	**-0.7**		
	baz=193								
RSSD	**Black Hills**	**79.48**	**351**	P	**P**	**08 35 56.2**	**+1.3**		
	baz=170								
RSSD	**Black Hills**	**79.48**	**351**	P	**P**	**08 35 55.6**	**+0.7**		
RSSD				pmax	pmax				
	comp=Z,31nm,1.3s								
RSSD	**Black Hills**	**79.48**	**351**	P	**P**	**08 35 55.6**	**+0.7**		
RSSD				IAmb	IAmb	08 35 57.0			
	comp=Z,32nm,1.2s								
J58A	**Remsen**	**79.50**	**12**	P	**P**	**08 35 54.1**	**-0.6**		
	baz=194								
J58A	**Remsen**	**79.50**	**12**	IAmb	IAmb	08 35 57.5			
	comp=Z,30nm,1.1s								
O03E	**Paynes Creek**	**79.73**	**337**	P	**P**	**08 35 57.1**	**+0.9**		
	baz=156,SNR=8.2								
REDW	**Red Top Meadow**	**79.82**	**346**	IAmb	IAmb	08 35 58.9			
	comp=Z,41nm,1.3s								
ACCN	**Adirondack Com**	**79.83**	**14**	IAmb	IAmb	08 36 00.4			
	comp=Z,62nm,1.7s								
MSVF	**Nonsavu**	**79.83**	**256**	*eP*	**P**	**08 35 54.6**	**-2.8**		
MSVF				pmax	pmax				
	comp=Z,20nm,1.1s								
SPMN	**Marine on St.**	**79.85**	**360**	P	**P**	**08 35 56.2**	**-0.4**		
	baz=180,SNR=13								
SPMN	**Marine on St.**	**79.85**	**360**	IAmb	IAmb	08 35 56.9			
	comp=Z,38nm,1.1s								
O02D	**Mt. Diablo Mer**	**79.94**	**337**	P	**P**	**08 35 59.5**	**+2.2**		
	baz=155								
I55A	**Frankford**	**79.94**	**11**	P	**P**	**08 35 56.1**	**-1.0**		
	baz=192								
TPAW	**Teton Pass**	**79.96**	**346**	IAmb	IAmb	08 35 59.8			
	comp=Z,41nm,1.2s								
I57A	**Carthage**	**80.00**	**12**	P	**P**	**08 35 57.7**	**+0.3**		
	baz=194								
H53A	**Bobcaygeon**	**80.16**	**10**	P	**P**	**08 35 57.2**	**-1.0**		
	baz=191								
DELO	**Deloro Mine**	**80.25**	**11**	IAmb	IAmb	08 36 01.7			
	comp=Z,40nm,1.4s								
FLWY	**Flagg Ranch**	**80.49**	**347**	IAmb	IAmb	08 36 06.2			
	comp=Z,52nm,1.3s								
H57A	**Richville**	**80.56**	**12**	P	**P**	**08 35 59.4**	**-1.0**		
	baz=194								
N02D	**Trinity Center**	**80.64**	**337**	P	**P**	**08 36 02.4**	**+1.4**		
	baz=155,SNR=9.4								
H58A	**Gabriels**	**80.73**	**13**	P	**P**	**08 36 00.9**	**-0.5**		
	baz=195								
MOD	**Modoc Plateau**	**80.75**	**339**	IAmb	IAmb	08 36 04.3			
	comp=Z,27nm,1.1s								
H17A	**Grant Village**	**80.77**	**347**	P	**P**	**08 36 04.7**	**+2.9**		
	baz=165								
LONY	**Lake Ozonia**	**80.85**	**13**	P	**P**	**08 36 01.6**	**-0.4**		
	baz=194								
LONY	**Lake Ozonia**	**80.85**	**13**	IAmb	IAmb	08 36 05.5			
	comp=Z,38nm,1.2s								
KHMM	**Horse Mountain**	**80.88**	**336**	IAmb	IAmb	08 36 07.4			
	comp=Z,38nm,1.2s								
LKWY	**Lake**	**80.90**	**347**	P	**P**	**08 36 02.4**	**-0.2**		
LKWY				pmax	pmax				
	comp=Z,17nm,1.2s								
LKWY	**Lake**	**80.90**	**347**	P	**P**	**08 36 02.4**	**-0.2**		
JCC	**Jacoby Creek,**	**80.93**	**336**	IAmb	IAmb	08 36 05.7			
	comp=Z,49nm,1.4s								
MFID	**Camas Ranch**	**80.96**	**343**	IAmb	IAmb	08 36 05.1			
	comp=Z,28nm,1.2s								
H59A	**Cadyville**	**81.04**	**13**	P	**P**	**08 36 02.5**	**-0.5**		
	baz=195								
G54A	**Lake Saint Pet**	**81.04**	**10**	P	**P**	**08 36 01.7**	**-1.2**		
	baz=192								
M02C	**Callahan**	**81.06**	**337**	P	**P**	**08 36 05.1**	**+1.8**		
	baz=155,SNR=16								
M04C	**Macdoel**	**81.10**	**338**	P	**P**	**08 36 05.4**	**+1.8**		
	baz=156,SNR=13								
G55A	**Calabogie**	**81.11**	**11**	P	**P**	**08 36 02.1**	**-1.2**		
	baz=193								
E43A	**Lone Tree Farm**	**81.14**	**4**	IAmb	IAmb	08 36 04.4			
	comp=Z,25nm,1.0s								
RLMT	**Red Lodge**	**81.23**	**348**	P	**P**	**08 36 05.8**	**+1.5**		
	baz=166,SNR=6.2								
RLMT	**Red Lodge**	**81.23**	**348**	IAmb	IAmb	08 36 06.6			
	comp=Z,35nm,1.2s								
G57A	**Newington**	**81.25**	**12**	P	**P**	**08 36 03.5**	**-0.5**		
	baz=194								
H61A	**Lyndonville**	**81.28**	**15**	P	**P**	**08 36 03.6**	**-0.7**		
	baz=197								
E46A	**Sault Ste Mari**	**81.31**	**6**	IAmb	IAmb	08 36 04.7			
	comp=Z,39nm,1.3s								
G58A	**Ormstown**	**81.46**	**13**	P	**P**	**08 36 04.6**	**-0.5**		
	baz=195								
E47A	**Iron Bridge**	**81.48**	**6**	P	**P**	**08 36 04.9**	**-0.3**		
	baz=187								
KRMB	**Red Mountain**	**81.52**	**336**	IAmb	IAmb	08 36 08.9			
	comp=Z,30nm,1.2s								
ALGO	**Algonquin Park**	**81.59**	**10**	P	**P**	**08 36 04.2**	**-1.7**		
	baz=192								
E48A	**Lockeyer**	**81.61**	**7**	P	**P**	**08 36 05.4**	**-0.6**		
	baz=188								
L04D	**Klamath Falls**	**81.64**	**338**	P	**P**	**08 36 07.9**	**+1.5**		
	baz=156,SNR=6.4								
L02E	**Cave Junction**	**81.99**	**337**	P	**P**	**08 36 10.4**	**+2.3**		
	baz=154								
E53A	**Dumoine, Ponti**	**82.06**	**10**	P	**P**	**08 36 07.0**	**-1.4**		
	baz=192								
DLMT	**Dillon**	**82.09**	**346**	IAmb	IAmb	08 36 11.5			
	comp=Z,42nm,1.5s								
LAO	**LASA Array**	**82.29**	**350**	P	**P**	**08 36 11.0**	**+1.4**		
	baz=168,SNR=15								
J05D	**Fort Rock, OR**	**82.29**	**339**	P	**P**	**08 36 12.0**	**+2.2**		
	baz=156,SNR=8.3								
K02D	**Willamette Mer**	**82.50**	**337**	P	**P**	**08 36 13.0**	**+2.1**		
	baz=154,SNR=5.3								
D52A	**ZEK Kipawa Sen**	**82.54**	**9**	P	**P**	**08 36 10.0**	**-0.9**		
	baz=191								
E56A	**St. Veronique**	**82.64**	**12**	P	**P**	**08 36 10.0**	**-1.3**		
	baz=194								
D53A	**Lac Vacive, Po**	**82.74**	**10**	P	**P**	**08 36 10.9**	**-0.9**		
	baz=192								
D53A	**Lac Vacive, Po**	**82.74**	**10**	IAmb	IAmb	08 36 15.8			
	comp=Z,34nm,1.4s								
E58A	**La Victoria**	**82.78**	**13**	P	**P**	**08 36 11.3**	**-0.8**		
	baz=196								
D54A	**Lac Fusel, La**	**82.97**	**11**	P	**P**	**08 36 11.7**	**-1.4**		
	baz=193								
I04A	**Tendick Farm,**	**83.10**	**338**	P	**P**	**08 36 15.3**	**+1.4**		
	baz=156								
I05D	**Terrebonne, OR**	**83.28**	**339**	P	**P**	**08 36 16.4**	**+1.6**		
	baz=156,SNR=5.9								
D57A	**Chemin Vers le**	**83.29

	comp=Z,5.5nm,1.0s								
FETA	**Feichten**	**122.84**	**53**	*i*	PKPdf	**PKPdf**	**08 42 44.4**	**0.0**
	comp=Z,9.8nm,1.6s								
RETA	**Reutte**	**123.00**	**52**	*i*	PKPdf	**PKPdf**	**08 42 43.3**	**-1.2**
	comp=Z,7.1nm,1.2s								
MOTA	**Moosalm**	**123.18**	**52**	*i*	PKPdf	**PKPdf**	**08 42 44.1**	**-0.9**
	comp=Z,10.0nm,1.1s								
SQTA	**Sankt Quirin**	**123.21**	**52**	*i*	PKPdf	**PKPdf**	**08 42 44.6**	**-0.4**
	comp=Z,4.1nm,0.8s								
WTTA	**Wattenberg**	**123.50**	**52**	*i*	PKPdf	**PKPdf**	**08 42 45.3**	**-0.3**
	comp=Z,11nm,1.4s								
ABTA	**Abfaltersbach**	**123.93**	**53**	*i*	PKPdf	**PKPdf**	**08 42 45.9**	**-0.5**
	comp=Z,6.0nm,1.2s								
KBA	**Koelnbreinsper**	**124.57**	**53**	*i*	PKPdf	**PKPdf**	**08 42 46.9**	**-0.8**
	comp=Z,9.1nm,1.8s								
OBKA	**Obir**	**125.21**	**54**	*i*	PKPdf	**PKPdf**	**08 42 48.6**	**-0.2**
	comp=Z,4.5nm,1.0s								
KHC	**Kasperske Hory**	**125.26**	**51**	*e*	PKIKP	**PKPdf**	**08 42 48.1**	**-0.7**
KHC				*e*			08 42 51.6		
KHC	**Kasperske Hory**	**125.26**	**51**	*e*	PKP	**PKPdf**	**08 42 48.1**	**-0.7**
KHC				*ep*	PKP	**sPKPdf**	**08 42 51.6**	**0.0**
GEC2	**GERESS Array S**	**125.27**	**51**			**PKiKP**	**08 42 49.1**	**-0.1**
GERES	**GERESS Array B**	**125.27**	**51**		PKP	**PKPdf**	**08 42 48.2**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=214,slow=1.0,SNR=17								
MOA	**Molln**	**125.38**	**52**	*i*	PKiKP	**PKiKP**	**08 42 49.9**	**+0.5**
	comp=Z,9.9nm,1.6s								
CLL	**Collm**	**125.44**	**48**	*e*	PKPdf	**PKPdf**	**08 42 49.0**	**+0.1**
SOKA	**Soboth**	**125.57**	**54**	*i*	PKPdf	**PKPdf**	**08 42 49.2**	**-0.3**
	comp=Z,3.1nm,1.6s								
ARSA	**Arzberg**	**126.05**	**53**	*i*	PKPdf	**PKiKP**	**08 42 50.7**	**-0.1**
	comp=Z,4.8nm,1.1s								
BILL	**Bilibino**	**126.20**	**333**	⇑*i*	PKIKP	**PKPdf**	**08 42 48.6**	**-1.3**
BILL				*e*			08 44 43.0		
BILL					pmax	pmax			
	comp=Z,7.0nm,1.4s								
NOA	**NORSAR Array B**	**126.27**	**36**		PKP	**PKPdf**	**08 42 50.0**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=261,slow=2.0,SNR=2.5								
CONA	**Conrad Observa**	**126.44**	**53**	*i*	PKPdf	**PKPdf**	**08 42 50.0**	**-1.1**
	comp=Z,6.7nm,1.5s								
OSTC	**Ostas**	**127.25**	**49**	*e*	PKP	**PKiKP**	**08 42 53.4**	**+0.4**
OSTC				*ex*		x	08 42 56.2		
HFS	**Hagfors**	**127.37**	**37**		PKP	**PKPdf**	**08 42 51.4**	**-1.0**
	comp=Z,6.2nm,1.0s,baz=212,slow=4.4,SNR=2.6								
PETK	**Petropavlovsk-**	**128.72**	**313**		PKP	**PKiKP**	**08 42 55.5**	**-0.3**
	comp=Z,9.5nm,1.0s,baz=103,slow=13,SNR=6.1								
SEY	**Seymchan**	**131.98**	**326**	⇓*i*	PKIKP	**PKiKP**	**08 43 01.8**	**-0.3**
SEY	**Seymchan**	**131.98**	**326**		PKP	**PKPdf**	**08 43 01.0**	**0.0**
	comp=Z,9.0nm,1.0s,baz=96,slow=4.3,SNR=7.1								
VSU	**Vasula**	**134.00**	**40**	⇑*i*	PKIKP	**PKiKP**	**08 43 07.0**	**+0.7**
AKASG	**Malin Array Be**	**135.48**	**51**		PKP	**PKPdf**	**08 43 07.4**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=271,slow=2.7,SNR=12								
AKBB	**Malin Array Si**	**135.48**	**51**		PKIKP	**PKPdf**	**08 43 07.6**	**-0.4**
AKBB	**Malin Array Si**	**135.48**	**51**			**PKPdf**	**08 43 07.6**	**-0.4**
MMAI	**Mount Meron Ar**	**136.95**	**77**		PKP	**PKiKP**	**08 43 12.6**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=280,slow=2.4,SNR=4.4								
BRTR	**Keskin Array B**	**137.25**	**67**		PKP	**PKiKP**	**08 43 13.0**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=148,slow=1.5,SNR=5.7								
TIXI	**Tiksi**	**137.53**	**342**	⇑*i*	PKIKP	**PKPdf**	**08 43 11.0**	**-0.2**
TIXI	**Tiksi**	**137.53**	**342**			**PKPdf**	**08 43 09.7**	**-1.4**
TMCR	**Tamitsa**	**138.22**	**30**	*e*	PKIKP	**PKPdf**	**08 43 12.3**	**-0.3**
OBN	**Obninsk**	**139.71**	**44**	⇓*i*	PKIKP	**PKiKP**	**08 43 17.6**	**-0.4**
OBN					pmax	pmax			
	comp=Z,28nm,1.1s								
YAK	**Yakutsk**	**142.34**	**329**	*e*	PKIKP	**PKPdf**	**08 43 19.4**	**-0.8**
YAK					pmax	pmax			
	comp=Z,28nm,1.0s								
YAK					pmax	pmax			
	comp=E,3.0nm,1.1s								
YAK					pmax	pmax			
	comp=N,5.0nm,1.1s								
YAK	**Yakutsk**	**142.34**	**329**		PKP	**PKPdf**	**08 43 19.4**	**-0.8**
	comp=N,5.7nm,0.4s,baz=305,slow=0.7,SNR=2.0								
YAK	**Yakutsk**	**142.34**	**329**			**PKPdf**	**08 43 20.4**	**+0.2**
PRGR	**Permogore**	**142.40**	**32**	*e*	PKIKP	**PKPdf**	**08 43 18.6**	**-1.7**
PRGR					pmax	pmax			
	comp=Z,20nm,1.0s								
KIV	**Kislovodsk**	**144.44**	**62**	*e*	PKIKP	PKPbc	08 43 23.1	0.0
KIV					pmax	pmax			
	comp=Z,83nm,1.0s								
KIV	**Kislovodsk**	**144.44**	**62**			PKPbc	08 43 23.2	0.0
NEY	**Neytrino**	**144.44**	**63**	⇓*e*	PKIKP	**PKPdf**	**08 43 24.1**	**-0.7**
JNU	**Nakatsue**	**144.45**	**280**		PKP	**PKPab**	**08 43 22.4**	**-0.8**
	comp=Z,14nm,0.9s,baz=357,slow=5.2,SNR=3.9								
KBZ	**Khibaz**	**144.59**	**62**		PKP	**PKPdf**	**08 43 24.1**	**-0.5**
	comp=Z,10nm,0.8s,baz=267,slow=3.4,SNR=11								
GOF	**Gofitskoye**	**144.70**	**60**	⇑*e*	PKIKP	**PKPdf**	**08 43 24.7**	**-0.2**
GOF					pmax	pmax			
	comp=Z,54nm,0.6s								
AKH	**Akhalkalaki**	**144.91**	**66**		PKIKP	**PKPab**	**08 43 24.8**	**0.0**
AKH	**Akhalkalaki**	**144.91**	**66**			**PKPab**	**08 43 24.8**	**0.0**
KLR	**Kul'dur**	**144.94**	**308**	⇑*e*	PKIKP	**PKPab**	**08 43 23.8**	**-0.6**
KLR	**Kul'dur**	**144.94**	**308**		PKP	**PKPab**	**08 43 22.9**	**-1.5**
	comp=Z,7.1nm,1.0s,baz=35,slow=5.0,SNR=9.4								
USRK	**Ussuriysk Ar.**	**145.08**	**299**		PKPbc	**PKPbc**	**08 43 24.1**	**-1.0**
	comp=Z,13nm,1.1s,baz=78,slow=2.7,SNR=8.5								
ZEI	**Tsey**	**145.29**	**64**	*e*	PKP2	**PKPbc**	**08 43 22.4**	**-3.7**
ZEI					pmax	pmax			
	comp=Z,26nm,0.9s								
KIRV	**Kirov**	**145.44**	**35**		PKPbc	**PKPbc**	**08 43 25.7**	**0.0**
	comp=Z,50nm,0.7s,baz=281,slow=4.4,SNR=11								
NRIK	**Noril'sk**	**145.61**	**0**		PKPbc	**PKPbc**	**08 43 25.9**	**-0.1**
	comp=Z,18nm,1.0s,baz=26,slow=2.9,SNR=27								
GNI	**Garni**	**145.75**	**68**	⇑*e*	PKP2	**PKPdf**	**08 43 25.1**	**-2.0**
GNI	**Garni**	**145.75**	**68**		PKPbc	**PKPab**	**08 43 27.8**	**-0.1**
	comp=Z,59nm,0.3s,baz=337,slow=0.9,SNR=5.0								
RPSI	**Rantau Prapat**	**146.23**	**200**			**PKPdf**	**08 43 27.5**	**-1.0**
PSI	**Prapat**	**146.33**	**200**		PKIKP	**PKPdf**	**08 43 27.5**	**-1.3**
GROC	**Groznyy**	**146.69**	**63**	*e*	PKIKP	**PKPdf**	**08 43 27.9**	**-0.4**
GROC				*e*			08 46 54.8		
GROC					pmax	pmax			
	comp=Z,18nm,0.6s								
ZEA	**Zeya**	**146.70**	**317**	*e*	PKP2	**PKPbc**	**08 43 29.0**	**-0.7**
ZEA					pmax	pmax			
	comp=N,21nm,0.8s								
ZEA					pmax	pmax			
	comp=Z,58nm,1.0s								
MDJ	**Mudanjiang**	**146.79**	**300**		PKPbc	**PKPbc**	**08 43 29.4**	**-0.9**
KSRS	**Korea Array**	**147.69**	**286**		PKPbc	**PKPbc**	**08 43 32.8**	**-0.2**
	comp=Z,4.5nm,0.9s,baz=124,slow=4.1,SNR=8.9								
AKT	**Akhty**	**148.10**	**66**	*i*	PKP2	**PKPbc**	**08 43 34.4**	**+0.3**
AKT				*e*			08 47 04.0		
AKT					pmax	pmax			
	comp=Z,26nm,0.8s								
KULM	**Kulim**	**148.13**	**205**			**PKPbc**	**08 43 33.8**	**-1.0**
SSLB	**Suanglung**	**149.15**	**258**			**PKPbc**	**08 43 35.8**	**-1.4**
CN2	**Changchun**	**149.81**	**298**	*e*	PKPbc	**PKPdf**	**08 43 35.3**	**+1.9**
CN2					PP	**PP**	**08 47 19.4**	**+7.0**
ARU	**Arti**	**150.79**	**34**	*i*	PKIKP	**PKPbc**	**08 43 40.1**	**0.0**
ARU							08 47 15.1		
ARU					PPP	PPP	08 50 35.9		
ARU					SS	SS	09 06 33.8	-4.1	
ARU	**Arti**	**150.79**	**34**		PKPbc	**PKPbc**	**08 43 40.1**	**0.0**
	comp=Z,8.2nm,0.7s,baz=310,slow=2.2,SNR=12								
ARU	**Arti**	**150.79**	**34**			**PKPbc**	**08 43 39.4**	**-0.7**
BOD	**Bodaibo**	**151.22**	**331**	*e*	PKIKP	**PKPdf**	**08 43 32.7**	**-2.5**
BOD					pmax	pmax			
	comp=Z,34nm,1.8s								
SVE	**Sverdlovsk**	**151.47**	**32**	*e*	PKIKP	**PKPbc**	**08 43 41.6**	**-0.1**
PALK	**Pallekele**	**151.65**	**165**		PKPbc	**PKPbc**	**08 43 42.7**	**-0.8**
	comp=Z,14nm,0.7s,baz=228,slow=1.8,SNR=8.5								
WSAR	**Wadi Sarin**	**152.07**	**107**		PKPbc	**PKiKP**	**08 43 44.9**	**+0.4**
	comp=Z,14nm,0.8s,baz=72,slow=1.4,SNR=6.1								
AKTO	**Aktyubinsk**	**153.47**	**45**		PKPbc	**PKPbc**	**08 43 46.5**	**0.0**
	comp=Z,17nm,0.8s,baz=301,slow=1.6,SNR=20								
NJ2	**Nanjing**	**153.98**	**272**	*e*	PKPbc	**PKPdf**	**08 43 40.6**	**+0.5**
GEYT	**Alibeck**	**156.01**	**74**		PKP	**PKPdf**	**08 43 43.0**	**+0.2**
	comp=Z,4.2nm,0.7s,baz=252,slow=7.5,SNR=7.5								
WHN	**Wuhan**	**157.25**	**266**		PKP	**PKPdf**	**08 43 45.9**	**+1.4**
BVAR	**Borovoye Array**	**158.17**	**29**		PKPab	**PKPab**	**08 44 19.2**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=248,slow=6.2,SNR=6.9								
TLY	**Talaya**	**159.80**	**330**	*e*	PKP2	**PKPab**	**08 44 27.1**	**+1.2**
TLY					pmax	pmax			
	comp=Z,34nm,1.2s								
TLY	**Talaya**	**159.80**	**330**		PKPab	**PKPab**	**08 44 26.2**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=15,slow=4.4,SNR=5.5								
ULN	**Ulaanbaatar**	**160.73**	**318**		PKP2	**PKPab**	**08 44 30.1**	**-0.2**
ULN	**Ulaanbaatar**	**160.73**	**318**			**PKPab**	**08 44 30.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**160.77**	**214**		PKP	**PKPdf**	**08 43 48.2**	**-0.7**
CMAR					PKPab	**PKPab**	**08 44 30.0**	**-0.9**
	comp=Z,2.6nm,0.9s,baz=254,slow=2.0,SNR=14								
MOY	**Mondy**	**160.82**	**334**	*e*	PKP2	**PKPab**	**08 44 31.9**	**+1.4**
MOY					pmax	pmax			
	comp=Z,34nm,2.2s								
ZAK	**Zakamensk**	**160.93**	**328**	*e*	PKP2	**PKPab**	**08 44 31.3**	**+0.3**
ZAK					pmax	pmax			
	comp=Z,9.0nm,1.2s								
ZALV	**Zalesovo Beam**	**160.94**	**5**		PKP	**PKPdf**	**08 43 46.4**	**-1.7**
	comp=Z,2.1nm,0.6s,baz=243,slow=1.7,SNR=9.2								
ZALV					PKPab	**PKPab**	**08 44 30.0**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=303,slow=4.5,SNR=4.0								
SONM	**Songino Array**	**161.11**	**318**		PKP	**PKPdf**	**08 43 47.7**	**-0.9**
	comp=Z,2.4nm,1.0s,baz=28,slow=0.9,SNR=11								
SONM					PKPab	**PKPab**	**08 44 32.2**	**+0.2**
	comp=Z,4.1nm,0.9s,baz=61,slow=3.1,SNR=10								
KURK	**Kurchatov**	**162.94**	**20**		PKIKP	**PKPdf**	**08 43 49.8**	**-0.4**
KURK	**Kurchatov**	**162.94**	**20**			**PKPdf**	**08 43 49.8**	**-0.4**
KURBB	**Kurchatov Arra**	**163.00**	**20**		PKP	**PKPdf**	**08 43 49.9**	**-0.4**
	comp=Z,2.7nm,0.9s,baz=314,slow=0.9,SNR=13								
GAR	**Garm**	**165.49**	**69**			**PKPdf**	**08 43 53.3**	**+0.2**
CD2	**Chengdu**	**165.98**	**258**		PKP	**PKPdf**	**08 43 52.8**	**-0.8**
LZH	**Lanzhou**	**166.87**	**279**	*e*	PKP	**PKPdf**	**08 43 53.8**	**-0.5**
LZH					pPKP	sPKPdf	08 43 57.1	-0.1	
LZH					sPKP		08 43 58.3		
LZH					PKPab	**pPKPab**	**08 44 59.9**	**0.0**
LZH					LR	LR			
	comp=Z,140nm,18.1s								
LZH					LR	LR			
	comp=Z,150nm,18.3s								
LZH					LR	LR			
	comp=Z,200nm,20.2s								
AAK	**Ala-Archa**	**167.15**	**50**		PKIKP	**PKPdf**	**08 43 54.2**	**-0.1**
AAK	**Ala-Archa**	**167.15**	**50**		PKP	**PKPdf**	**08 43 55.0**	**+0.6**
	comp=Z,2.8nm,0.9s,baz=209,slow=8.2,SNR=4.6								
AAK					PKPab	**PKPab**	**08 44 59.2**	**+0.5**
	comp=Z,3.1nm,0.9s,baz=322,slow=2.4,SNR=4.7								
AAK	**Ala-Archa**	**167.15**	**50**			**PKPdf**	**08 43 54.2**	**-0.1**
AAK						**PKPab**	**08 45 02.5**	**+3.7**
MAKZ	**Makanchi**	**167.42**	**19**		PKIKP	**PKPdf**	**08 43 53.0**	**-1.2**
MAKZ	**Makanchi**	**167.42**	**19**			**PKPdf**	**08 43 53.0**	**-1.2**
MK31	**Makanchi Array**	**167.51**	**18**		PKIKP	**PKPdf**	**08 43 52.3**	**-2.0**
MK31	**Makanchi Array**	**167.51**	**18**			**PKPdf**	**08 43 52.3**	**-2.0**
MKAR	**Makanchi Array**	**167.51**	**18**		PKP	**PKPdf**	**08 43 52.8**	**-1.5**
	comp=Z,3.1nm,0.8s,baz=313,slow=2.5,SNR=14								
GTA	**Gaotai**	**169.44**	**298**		PKP	**PKPdf**	**08 43 55.1**	**-0.8**
GTA					PKPab	**PKPab**	**08 45 08.3**	**-0.7**
KSH	**Kashi**	**169.57**	**61**		PKP	**PKPdf**	**08 43 56.8**	**+0.8**
KSH					PP	**PP**	**08 49 01.8**	**+2.1**
KSH					SS	SS	09 09 55.8	-1.5	
WMQ	**Urumqi**	**171.19**	**0**	*e*	PKP	**PKPdf**	**08 43 56.1**	**-0.6**
WMQ					LR	LR			
	comp=Z,550nm,28.8s								
WMQ					LR	LR			
	comp=Z,160nm,29.0s								

*NNC **21** 08:30:16.0±2.0, 36.°90N×70.°55E, h0km, mb5.2, mpv4.9, Error ellipse: s-maj=19.6km s-min=10.2km az=158.0*
*ISCJB **21** 08:30:19.1±0.2, 36.°54N±0.°02×70.°92E±0.°03, h174km±2km, mb4.2/57, Error ellipse: s-maj=3.9km s-min=2.8km az=157.4*
*MOS **21** 08:30:19.2±1.0, 36.°53N×70.°93E, h177km, mb4.4/27, Error ellipse: s-maj=7.3km s-min=4.4km az=87.8*
*BJI **21** 08:30:20.3±0.0, 36.°72N×70.°90E, h185km, mb4.3/21, mB4.8/16*
*IDC **21** 08:30:20.9±0.5, 36.°43N×70.°96E, h184km±4km, mb3.8/25, mb1 4.0/30, mb1mx3.8/61, mbtmp4.4/30, MS3.4/5, Ms1 3.4/5, ms1mx2.9/56, Error ellipse: s-maj=10.1km s-min=9.0km az=73.0*
*NEIC **21** 08:30:20.7±2.9, 36.°54N±0.°05×70.°85E±0.°08, h182km±5km, mb4.4/43*

ISC 21 08:30:20.7±0.3, 36.°57N±0.°03×70.°85E±0.°03, h181km±3km, h181km:pP-P, n235, o181/284, mb4.3/65, 18C-16D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
GAR	**Garm**	**2.46**	**350**		**Pn**	**08 31 03.3**	**+0.2**
GAR				Sn	**Sn**	**08 31 34.4**	**-1.8**
CHGR	**Chuyangaron**	**2.48**	**328**		**Pn**	**08 31 03.1**	**-0.1**
CHGR				Sn	**Sn**	**08 31 34.5**	**-2.0**
KBL	**Kabul**	**2.51**	**217**	PN	**Pn**	**08 31 03.2**	**-0.5**
KBL						08 31 35.4	
KBL	**Kabul**	**2.51**	**217**		**Pn**	**08 31 03.2**	**-0.5**
KBL				Sn	**Sn**	**08 31 35.4**	**-1.8**
CEP	**Cherat**	**2.88**	**162**	⇓P	**Pn**	**08 31 07.6**	**-0.4**
CEP				S	**Sn**	**08 31 43.0**	**-1.9**
BTK	**Batken**	**3.48**	**360**	PN	**Pn**	**08 31 15.9**	**+0.6**
BTK	**Batken**	**3.48**	**360**		**Pn**	**08 31 15.9**	**+0.6**
CHCP	**Chirak Chowk**	**3.51**	**145**	⇓P	**Pn**	**08 31 15.4**	**-0.4**
NIL	**Nilore**	**3.52**	**145**	PN	**Pn**	**08 31 15.5**	**-0.3**
NIL						08 31 56.6	
NIL	**Nilore**	**3.52**	**145**		**Pn**	**08 31 15.5**	**-0.3**
NIL				Sn	**Sn**	**08 31 56.6**	**-2.2**
THW	**Thamme Wali**	**3.84**	**169**	⇓P	**Pn**	**08 31 19.0**	**-0.8**
TAS	**Tashkent**	**4.90**	**346**	PN	**Pn**	**08 31 33.8**	**+0.4**
TAS	**Tashkent**	**4.90**	**346**		**Pn**	**08 31 33.8**	**+0.4**
TAS				Sn	**Sn**	**08 32 27.8**	**-2.7**
KSH	**Kashi**	**5.00**	**52**	P	**Pn**	**08 31 30.3**	**-4.4**
KSH				S	Sn	08 32 20.5	-12
KSH				smax	smax		
	comp=N,740nm,0.5s						
KSH				smax	smax		
	comp=E,540nm,0.2s						
ARSB	**Arslanbob**	**5.03**	**19**		**Pn**	**08 31 34.1**	**-1.0**
AML	**Almayashu**	**5.97**	**21**	P	**Pn**	**08 31 46.9**	**-0.7**
	SNR=294						
DHRM	**DHARAMSHALA**	**6.23**	**132**	*ep*	**Pn**	**08 31 49.4**	**-1.5**
DHRM				*es*	**Sn**	**08 32 57.0**	**-5.1**
DHRM				IAML		08 33 00.8	
	comp=N,1μm,0.2s						
DHRM				IAML		08 33 02.6	
	comp=E,1μm,0.4s						
NRN	**Naryn**	**6.29**	**38**	PN	**Pn**	**08 31 49.5**	**-2.3**
NRN	**Naryn**	**6.29**	**38**		**Pn**	**08 31 49.5**	**-2.3**
NRN				Sn	**Sn**	**08 32 58.4**	**-5.2**
UCH	**Uchtor**	**6.32**	**26**	P	**Pn**	**08 31 51.7**	**-0.5**
	SNR=78						
KZA	**Kyzart**	**6.47**	**30**	P	**Pn**	**08 31 52.9**	**-1.2**
	SNR=27						
EKS2	**Erkin-Say**	**6.49**	**19**	P	**Pn**	**08 31 53.5**	**-0.6**
	SNR=46						
KK31	**Karatay Array**	**6.53**	**358**	PN	**Pn**	**08 31 54.1**	**-0.4**
KK31	**Karatay Array**	**6.53**	**358**		**Pn**	**08 31 54.1**	**-0.4**
KK31				Sn	**Sn**	**08 33 04.5**	**-4.2**
KK31	**Karatay Array**	**6.53**	**358**	P	**Pn**	**08 31 51.0**	**-3.6**
	comp=E,32nm,0.3s,baz=197,slow=16,SNR=868						
KK31				⇑S	**Sn**	**08 33 01.9**	**-6.8**
	comp=E,242nm,0.7s,baz=184,slow=16,SNR=12						
KKAR	**Karatay Array**	**6.53**	**358**	PN	**Pn**	**08 31 54.2**	**-0.3**
KKAR	**Karatay Array**	**6.53**	**358**		**Pn**	**08 31 54.2**	**-0.3**
KKAR				Sn	**Sn**	**08 33 04.5**	**-4.2**
AAK	**Ala-Archa**	**6.68**	**24**	*d*	PN	**Pn**	**08 31 56.2**	**-0.4**
AAK					pmax	pmax			
	comp=Z,70nm,0.8s								
AAK	**Ala-Archa**	**6.68**	**24**		P	**Pn**	**08 31 56.4**	**-0.2**
	comp=Z,9.8nm,0.3s,baz=189,slow=7.3,SNR=138								
AAK					S	**Sn**	**08 33 09.3**	**-3.1**
	comp=Z,9.9nm,0.3s,baz=3.6,slow=18,SNR=15								
AAK					LR	LR	08 33 59.7		
	comp=Z,63nm,19.1s,baz=266,slow=32								
AAK	**Ala-Archa**	**6.68**	**24**	P	**Pn**	**08 31 56.4**	**-0.2**
	SNR=60								
AAK	**Ala-Archa**	**6.68**	**24**	⇓P	**Pn**	**08 31 54.9**	**-1.7**
	comp=Z,61nm,0.8s								
AAK				⇑S	**Sn**	**08 33 08.4**	**-4.0**
	comp=Z,240nm,0.8s								
KBK	**Karagaybulak**	**6.85**	**26**	P	**Pn**	**08 31 58.8**	**-0.1**
	SNR=60								
FRU1	**Bishkek**	**6.88**	**24**	PN	**Pn**	**08 31 59.3**	**+0.1**
FRU1	**Bishkek**	**6.88**	**24**		**Pn**	**08 31 59.3**	**+0.1**
ULHL	**Ulahol**	**7.03**	**35**	P	**Pn**	**08 32 00.1**	**-1.2**
	SNR=18						
CHMS	**Chumysh**	**7.08**	**24**	P	**Pn**	**08 32 01.3**	**-0.6**
	SNR=56						
BOOM	**Boomskoye usch**	**7.10**	**32**	PN	**Pn**	**08 32 01.3**	**-0.8**
BOOM	**Boomskoye usch**	**7.10**	**32**		**Pn**	**08 32 01.3**	**-0.8**
USP	**Ospenovka**	**7.25**	**22**	P	**Pn**	**08 32 02.9**	**-1.1**
	SNR=27						
TKM2	**Tokmak 2**	**7.32**	**28**	PN	**Pn**	**08 32 04.9**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,110nm,0.7s						
TKM2	**Tokmak 2**	**7.32**	**28**	P	**Pn**	**08 32 04.6**	**-0.5**
	SNR=109						
TKM2	**Tokmak 2**	**7.32**	**28**	⇓P	**Pn**	**08 32 04.1**	**-1.0**
	comp=Z,110nm,0.8s						
TKM2				⇑S	**Sn**	**08 33 24.6**	**-3.0**
	comp=Z,110nm,0.9s						
HRA	**Herat**	**7.36**	**255**		**Pn**	**08 32 05.1**	**-0.6**
TARG	**Taragay, Kyrgy**	**7.46**	**44**		**Pn**	**08 32 04.9**	**-2.2**
SMLA	**Simla**	**7.55**	**134**	*eP*	**Pn**	**08 32 06.2**	**-1.8**
SMLA				*eS*	**Sn**	**08 33 26.2**	**-6.8**
SMLA				IAML		08 33 31.5	
	comp=N,354nm,0.1s						
SMLA				IAML		08 33 31.7	
	comp=E,418nm,0.5s						
MDOK	**Medeo**	**8.12**	**34**	PN	**Pn**	**08 32 15.2**	**-0.4**
MDOK				pmax	pmax		
	comp=Z,69nm,0.9s						
MDOK	**Medeo**	**8.12**	**34**	P	**Pn**	**08 32 15.2**	**-0.4**
	comp=Z,70nm,0.9s						
MDOK				S	**Sn**	**08 33 45.9**	**-0.8**
	comp=Z,45nm,1.2s						
PRZ	**Przheval'sk**	**8.29**	**42**	PN	**Pn**	**08 32 18.5**	**+0.6**
PRZ	**Przheval'sk**	**8.29**	**42**		**Pn**	**08 32 18.5**	**+0.6**
JOSI	**Joshimath**	**9.42**	**127**	*eP*	**Pn**	**08 32 31.2**	**-1.6**
JOSI				*eS*	Sn	08 34 08.2	-10
PDGK	**Podgornoye**	**9.46**	**42**	P	**Pn**	**08 32 31.3**	**-1.8**
PDGK				S	**Sn**	**08 34 17.2**	**-1.3**
PDGK				pmax	pmax		
	comp=Z,16nm,1.1s						
PDGK				smax	smax		
	comp=N,25nm,1.2s						
PDGK	**Podgornoye**	**9.46**	**42**	⇓P	**Pn**	**08 32 31.0**	**-2.1**
	comp=N,16nm,1.1s						
PDGK				⇑S	**Sn**	**08 34 17.2**	**-1.3**
	comp=N,25nm,1.2s						
NDI	**New Delhi**	**9.52**	**144**	*eP*	**Pn**	**08 32 32.0**	**-1.9**
NDI				*eS*	Sn	08 34 09.0	-11
GEYT	**Alibeck**	**10.24**	**281**	P	**Pn**	**08 32 41.4**	**-2.0**
	comp=N,1.2nm,0.3s,baz=106,slow=9.4,SNR=13						
GEYT				S	**Sn**	**08 34 31.7**	**-5.7**
	comp=N,1.6nm,0.3s,baz=104,slow=12,SNR=3.0						
GYA0B	**ALIBECK ARRAY**	**10.24**	**281**		**Pn**	**08 32 42.5**	**-0.9**
GYA0B	**ALIBECK ARRAY**	**10.24**	**281**	⇑P	**Pn**	**08 32 40.0**	**-3.4**
GYA0B				⇑S	**Sn**	**08 34 31.5**	**-5.9**
MAKZ	**Makanchi**	**13.16**	**36**	P	**Pn**	**08 33 18.4**	**-2.3**
MAKZ	**Makanchi**	**13.16**	**36**		**Pn**	**08 33 18.4**	**-2.3**
MAKZ	**Makanchi**	**13.16**	**36**	⇑P	**Pn**	**08 33 21.7**	**+1.0**
	comp=N,64nm,0.9s						
MK31	**Makanchi Array**	**13.30**	**36**	P	**Pn**	**08 33 21.5**	**-1.0**
MK31	**Makanchi Array**	**13.30**	**36**		**Pn**	**08 33 21.5**	**-1.0**
MK31	**Makanchi Array**	**13.30**	**36**	P	**Pn**	**08 33 22.5**	**0.0**
	comp=N,30nm,0.8s,baz=215,slow=11,SNR=135						
MKAR	**Makanchi Array**	**13.30**	**36**	*i*	P	**Pn**	**08 33 22.1**	**-0.4**
MKAR					pmax	pmax			
	comp=Z,25nm,0.8s								
MKAR	**

AKH	**Akhalkalaki**	**21.77**	**291**	P	**P**	**08 35 01.8**	**+3.7**
AKH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
AKH	**Akhalkalaki**	**21.77**	**291**	P	**P**	**08 35 01.8**	**+3.7**
AKH				IAmb	IAmb	08 35 03.6	
	comp=Z,9.9nm,1.1s						
KBZ	**Khabaz**	**22.46**	**297**	P	**P**	**08 35 05.7**	**+1.1**
	comp=Z,3.6nm,0.9s,baz=147,slow=6.0,SNR=6.1						
KIV	**Kislovodsk**	**22.65**	**298**	*eP*	**P**	**08 35 05.4**	**-1.1**
KIV				pmax	pmax		
	comp=Z,16nm,1.1s						
GTA	**Gaotai**	**22.96**	**74**	P	**P**	**08 35 11.0**	**+1.7**
GTA				pP	pP	08 35 49.4	+5.5
GTA				sP	sP	08 36 09.0	+1.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
RAYN	**Ar Rayn**	**25.42**	**246**	P	**P**	**08 35 32.2**	**+0.5**
RAYN				pmax	pmax		
	comp=Z,19nm,1.2s						
RAYN	**Ar Rayn**	**25.42**	**246**	P	**P**	**08 35 32.2**	**+0.5**
RAYN				IAmb	IAmb	08 35 33.0	
	comp=Z,19nm,1.1s						
KIRV	**Kirov**	**26.12**	**334**	P	**P**	**08 35 39.0**	**+1.5**
	comp=Z,9.7nm,0.6s,baz=164,slow=15,SNR=4.1						
LZH	**Lanzhou**	**26.51**	**81**	⇑P	**P**	**08 35 38.3**	**-3.3**
LZH				pP	pP	08 36 15.3	-4.7
LZH				PP	**PnPn**	**08 36 31.6**	**-1.7**
LZH				sP	sP	08 36 37.5	-4.1
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,63nm,4.9s						
TLY	**Talaya**	**27.68**	**47**	LR	LR	08 47 37.7	
	comp=Z,276nm,19.8s,baz=256,slow=37						
SONM	**Songino Array**	**28.39**	**55**	P	**P**	**08 35 59.6**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=248,slow=11,SNR=3.2						
SONM				PP	**sP**	**08 36 59.2**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=266,slow=11,SNR=2.5						
BRTR	**Keskin Array B**	**29.30**	**288**	P	**P**	**08 36 09.0**	**+2.8**
	comp=Z,0.5nm,0.7s,baz=108,slow=12,SNR=2.6						
BRTR				pP	**pP**	**08 36 42.2**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=113,slow=11,SNR=2.0						
BRTR				PP	**PP**	**08 37 15.5**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=79,slow=7.8,SNR=2.6						
PRGR	**Permogore**	**29.66**	**336**	*eP*	**P**	**08 36 07.9**	**-1.0**
PRGR				pmax	pmax		
	comp=Z,9.0nm,0.4s						
OBN	**Obninsk**	**29.81**	**319⇑**	*eP*	**P**	**08 36 11.6**	**+1.3**
OBN				pmax	pmax		
	comp=Z,15nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.59**	**119**	*ce*P	**P**	**08 36 18.7**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**30.59**	**119**	P	**P**	**08 36 17.4**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=301,slow=8.3,SNR=16						
CMAR				PP	**pP**	**08 37 01.4**	**+4.9**
	comp=Z,0.8nm,0.3s,baz=305,slow=11,SNR=1.8						
XAN	**Xi'an**	**31.04**	**83**	P	**P**	**08 36 22.3**	**+0.8**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,150nm,4.9s						
HHC	**Hu-ho-hao-te**	**31.85**	**70**	*eP*	**P**	**08 36 30.1**	**+1.5**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ELL	**Elmali**	**32.67**	**283**	P	**P**	**08 36 36.9**	**+1.1**
ELL				pmax	pmax		
	comp=Z,19nm,0.9s						
ELL	**Elmali**	**32.67**	**283**	P	**P**	**08 36 36.9**	**+1.1**
AKASG	**Malin Array Be**	**32.81**	**309**	P	**P**	**08 36 38.4**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=81,slow=7.4,SNR=10						
AKASG				pP	**pP**	**08 37 16.4**	**+1.9**
	comp=Z,1.0nm,0.6s,baz=84,slow=6.9,SNR=5.5						
AKASG				PP	**PnPn**	**08 37 52.9**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=89,slow=10,SNR=6.0						
NRIK	**Noril'sk**	**34.08**	**10**	P	**P**	**08 36 49.3**	**+1.9**
	comp=Z,12nm,0.7s,baz=197,slow=6.2,SNR=23						
NRIK				pP	**pP**	**08 37 27.8**	**+1.6**
	comp=Z,2.6nm,0.5s,baz=201,slow=4.9,SNR=4.2						
MLR	**Muntele Rosu**	**34.64**	**299**	P	**P**	**08 36 55.7**	**+3.0**
	comp=Z,8.1nm,0.9s,baz=94,slow=2.9,SNR=7.9						
MLR	**Muntele Rosu**	**34.64**	**299**	IAmb	IAmb	08 36 57.2	
	comp=Z,9.5nm,0.9s						
WHN	**Wuhan**	**36.51**	**87**	P	**P**	**08 37 09.9**	**+1.3**
WHN				pmax	pmax		
	comp=Z,42nm,1.0s						
KOLS	**Kolonicke sedl**	**37.14**	**305**	*eP*	**P**	**08 37 17.0**	**+3.2**
KOLS	**Kolonicke sedl**	**37.14**	**305**	*eP*	**P**	**08 37 17.0**	**+3.2**
LVZ	**Lovozero**	**37.35**	**338**	P	**P**	**08 37 16.4**	**+1.1**
LVZ				pmax	pmax		
	comp=Z,18nm,1.3s						
LVZ	**Lovozero**	**37.35**	**338**	P	**P**	**08 37 16.4**	**+1.1**
LVZ				IAmb	IAmb	08 37 29.1	
	comp=Z,18nm,1.3s						
FIA1	**FINESS Array S**	**37.36**	**326**	P	**P**	**08 37 17.1**	**+1.8**
FIA1				IAmb	IAmb	08 37 17.4	
	comp=Z,17nm,1.1s						
FINES	**FINESS Array B**	**37.36**	**326**	*i* P	**P**	**08 37 16.8**	**+1.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**37.36**	**326**	P	**P**	**08 37 16.9**	**+1.5**
	comp=Z,2.4nm,0.4s,baz=124,slow=9.1,SNR=26						
FINES				PP	PP	08 38 30.7	-14
	comp=Z,5.4nm,1.0s,baz=108,slow=8.9,SNR=1.7						
VYHS	**Vyhne**	**39.42**	**304**	*eP*	P	08 37 37.6	+4.8
VYHS	**Vyhne**	**39.42**	**304**	*eP*	P	08 37 37.6	+4.8
MORC	**Moravsky Berou**	**40.23**	**306**	P	**P**	**08 37 42.2**	**+2.7**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MORC	**Moravsky Berou**	**40.23**	**306**	P	**P**	**08 37 42.2**	**+2.7**
ARCES	**ARCESS Array B**	**41.03**	**338**	P	**P**	**08 37 47.3**	**+1.6**
	comp=Z,5.2nm,0.4s,baz=115,slow=8.3,SNR=77						
ARCES				pP	**pP**	**08 38 25.1**	**-0.1**
	comp=Z,8.8nm,1.0s,baz=107,slow=8.1,SNR=4.2						
ARE0	**ARCESS Array S**	**41.03**	**338**	*eP*	**P**	**08 37 47.5**	**+1.7**
ARE0	**ARCESS Array S**	**41.03**	**338**	P	**P**	**08 37 47.5**	**+1.7**
TPTI		**41.07**	**138**	P	**P**	**08 37 44.4**	**-2.3**
	comp=Z,5.0nm,1.1s						
KTK1	**Kautokeino**	**41.50**	**336**	*eP*	**P**	**08 37 50.6**	**+1.1**
HAMF	**Hammerfest**	**42.12**	**339**	*eP*	**P**	**08 37 56.6**	**+2.1**
PSI	**Prapat**	**42.41**	**136**	P	**P**	**08 37 56.7**	**-1.0**
PSI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BRG	**Berggiesshubel**	**42.49**	**308**	*eP*	**P**	**08 37 59.5**	**+1.7**
	comp=Z,4.9nm,0.8s						
BRG				*e*		08 38 39.4	
	comp=Z,5.4nm,1.1s						
BRG	**Berggiesshubel**	**42.49**	**308**	*eP*	**P**	**08 37 59.5**	**+1.7**
BRG				*e*		08 38 39.4	
BRG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
RPSI	**Rantau Prapat**	**42.50**	**136**	P	**P**	**08 37 56.7**	**-1.6**
RPSI				IAmb	IAmb	08 37 57.7	
	comp=Z,9.2nm,0.7s						
GERES	**GERESS Array B**	**42.79**	**305**	P	**P**	**08 38 01.8**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=339,slow=7.1,SNR=4.0						
GSI	**Gunungsitoli**	**42.92**	**139**	P	**P**	**08 38 02.3**	**+0.6**
GSI	**Gunungsitoli**	**42.92**	**139**	P	**P**	**08 38 02.7**	**+1.0**
HFS	**Hagfors**	**42.94**	**322**	P	**P**	**08 38 02.6**	**+1.3**
	comp=Z,6.4nm,0.6s,baz=95,slow=12,SNR=25						
TRO	**Tromso**	**43.16**	**336**	*eP*	**P**	**08 38 04.7**	**+1.9**
MOR8	**Moi Rana**	**43.70**	**331**	*eP*	**P**	**08 38 07.9**	**+0.6**
STEI	**Steigen**	**43.86**	**333**	*eP*	**P**	**08 38 09.9**	**+1.4**
NC602	**NORSAR Array S**	**44.06**	**323**	*eP*	**P**	**08 38 10.6**	**+0.4**
NORES	**NORESS Array B**	**44.06**	**323**	P	**P**	**08 38 11.1**	**+0.9**
NC303	**NORSAR Array S**	**44.20**	**323**	P	**P**	**08 38 12.8**	**+1.5**
NC303				IAmb	IAmb	08 38 14.4	
	comp=Z,9.2nm,0.7s						
NB2	**NORSAR Subarra**	**44.25**	**323**	P	**P**	**08 38 12.9**	**+1.1**
	comp=Z,1.8nm,0.5s,baz=98,slow=7.9						
NB2	**NORSAR Subarra**	**44.25**	**323**	P	**P**	**08 38 12.9**	**+1.1**
	baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.25**	**323**	P	**P**	**08 38 13.0**	**+1.1**
	comp=Z,2.6nm,0.6s,baz=96,slow=7.8,SNR=13						
NOA				pP	**pP**	**08 38 51.8**	**0.0**
	comp=Z,3.8nm,1.0s,baz=96,slow=8.0,SNR=3.4						
KONS	**Konsvik**	**44.29**	**331**	*eP*	**P**	**08 38 12.1**	**+0.2**
NSS	**Namsos**	**44.37**	**328**	*eP*	**P**	**08 38 13.9**	**+1.3**
KONO	**Kongsberg**	**44.96**	**321**	*eP*	**P**	**08 38 17.6**	**+0.3**
KLR	**Kul'dur**	**45.20**	**54**	⇑*i*P	**P**	**08 38 19.7**	**+0.3**
KLR				pmax	pmax		
	comp=Z,6.0nm,1.5s						
DAVOX	**Davos/Dischmat**	**45.62**	**303**	P	**P**	**08 38 23.4**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=103,slow=12,SNR=4.1						
TIXI	**Tiksi**	**45.75**	**22**	⇓*eP*	**P**	**08 38 23.7**	**+0.3**
TIXI				*i* *PP	**pP**	**08 39 04.2**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TIXI	**Tiksi**	**45.75**	**22**	P	**P**	**08 38 24.4**	**+1.1**
SPA0	**Spitsbergen Ar**	**47.40**	**347**	*eP*	**P**	**08 38 36.6**	**+0.5**
SPA0	**Spitsbergen Ar**	**47.40**	**347**	P	**P**	**08 38 39.0**	**+2.8**
KBS	**Kingsbay**	**48.52**	**347**	⇑*eP*	**P**	**08 38 42.0**	**-2.6**
KBS				pmax	pmax		
	comp=Z,187nm,1.6s						
KBS	**Kingsbay**	**48.52**	**347**	P	**P**	**08 38 47.3**	**+2.7**
KBS				IAmb	IAmb	08 38 47.6	
	comp=Z,21nm,1.0s						
KMBO	**Kilima Mbogo**	**48.79**	**227**	*i* P	**P**	**08 38 48.5**	**+0.6**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KMBO	**Kilima Mbogo**	**48.79**	**227**	P	**P**	**08 38 48.2**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=26,slow=12,SNR=5.7						
KMBO	**Kilima Mbogo**	**48.79**	**227**	IAmb	IAmb	08 38 50.0	
	comp=Z,2.8nm,0.8s						
MBAR	**Mbarara**	**52.45**	**234**	P	**P**	**08 39 15.3**	**+0.1**
	comp=Z,5.4nm,0.2s,baz=53,slow=10,SNR=9.2						
MBAR	**Mbarara**	**52.45**	**234**	IAmb	IAmb	08 39 16.6	
	comp=Z,7.4nm,0.7s						
DAG	**Danmarks Havn**	**54.63**	**344**	P	**P**	**08 39 32.1**	**+2.2**
ESDC	**Sonseca Array**	**57.32**	**298**	P	**P**	**08 39 49.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=60,slow=7.6,SNR=2.1						
SFS	**San Fernando**	**60.24**	**295**	P	**P**	**08 40 10.0**	**+0.3**
SFS				pmax	pmax		
	comp=Z,60nm,0.6s						
SFS	**San Fernando**	**60.24**	**295**	P	**P**	**08 40 10.0**	**+0.3**
PET	**Petropavlovsk**	**60.56**	**44**	⇑*eP*	**P**	**08 40 09.4**	**-2.3**
PET				pmax	pmax		
	comp=Z,39nm,1.2s						
LSZ	**Lusaka**	**65.42**	**226**	P	**P**	**08 40 43.3**	**-1.0**
	comp=Z,2.6nm,0.5s,baz=61,slow=5.0,SNR=6.3						
LSZ	**Lusaka**	**65.42**	**226**	IAmb	IAmb	08 40 45.1	
	comp=Z,3.6nm,0.7s						
TOA0	**Torodi Ar. Sit**	**65.60**	**269**	P	**P**	**08 40 43.7**	**-1.7**
TOA0				IAmb	IAmb	08 40 46.5	
	comp=Z,4.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**65.60**	**269**	P	**P**	**08 40 43.9**	**-1.5**
	comp=Z,2.0nm,0.6s,baz=48,slow=6.3,SNR=16						
TOLK	**Toolik Lake Re**	**70.88**	**15**	P	**P**	**08 41 19.0**	**+1.5**
TOLK				IAmb	IAmb	08 41 19.3	
	comp=Z,4.1nm,0.9s						
TOLK				pP	**pP**	**08 42 01.7**	**-0.1**
COLD	**Coldfoot**	**71.93**	**16**	P	**P**	**08 41 25.6**	**+1.9**
INK	**Inuvik**	**73.85**	**9**	P	**P**	**08 41 36.5**	**+1.6**
INK				*PP	**pP**	**08 42 20.5**	**+1.0**
INK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
INK	**Inuvik**	**73.85**	**9**	P	**P**	**08 41 35.9**	**+0.9**
	comp=Z,2.8nm,0.9s,baz=3.5,slow=8.0,SNR=11						
INK				pP	**pP**	**08 42 19.3**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=328,slow=8.5,SNR=3.8						
INK	**Inuvik**	**73.85**	**9**	P	**P**	**08 41 36.5**	**+1.6**
INK				pP	**pP**	**08 42 20.5**	**+1.0**
TTA	**Tatalina**	**74.00**	**20**	P	**P**	**08 41 37.3**	**+1.3**
TTA				*PP	**pP**	**08 42 20.0**	**-0.7**
TTA				pmax	pmax		
	comp=Z,8.0nm,1.5s						
TTA	**Tatalina**	**74.00**	**20**	P	**P**	**08 41 37.3**	**+1.3**
TTA				IAmb	IAmb	08 41 42.8	
	comp=Z,7.7nm,1.5s						
TTA				pP	**pP**	**08 42 20.0**	**-0.7**
COLA	**College**	**74.44**	**16**	*ce*P	**P**	**08 41 39.1**	**+0.7**
COLA				*i* *PP	**pP**	**08 42 23.3**	**+0.3**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LBTB	**Lobatse**	**74.65**	**222**	P	**P**	**08 41 41.1**	**+0.8**
LBTB				pmax	pmax		
	comp=Z,18nm,1.4s						
LBTB	**Lobatse**	**74.65**	**222**	P	**P**	**08 41 40.2**	**-0.1**
	comp=Z,4.1nm,0.8s,baz=14,slow=8.0,SNR=4.1						
LBTB	**Lobatse**	**74.65**	**222**	P	**P**	**08 41 41.1**	**+0.8**
LBTB				IAmb	IAmb	08 41 41.9	
	comp=Z,18nm,1.4s						
IL31		**74.74**	**16**	P	**P**	**08 41 42.4**	**+2.3**
ILAR	**Eielson Array**	**74.74**	**16**	P	**P**	**08 41 39.6**	**-0.6**
	comp=Z,1.2nm,0.9s,baz=316,slow=5.9,SNR=11						
ILAR				pP	**pP**	**08 42 24.2**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=326,slow=5.4,SNR=5.6						
KTH	**Kantishna Hill**	**74.83**	**18**	P	**P**	**08 41 42.0**	**+1.2**
KTH				IAmb	IAmb	08 41 42.8	
	comp=Z,7.2nm,1.0s						
PPLA	**Purkeypile**	**75.06**	**19**	P	**P**	**08 41 43.5**	**+1.3**
PPLA				IAmb	IAmb	08 41 59.0	
	comp=Z,8.2nm,1.2s						
MCK	**McKinley**	**75.17**	**17**	P	**P**	**08 41 43.9**	**+1.3**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MCK	**McKinley**	**75.17**	**17**	P	**P**	**08 41 43.9**	**+1.3**
MCK				IAmb	IAmb	08 41 50.4	
	comp=Z,8.2nm,1.4s						
KNRA	**Kununurra**	**75.36**	**122**	P	**P**	**08 41 44.3**	**-0.1**
RND	**Reindeer**	**75.46**	**17**	P	**P**	**08 41 45.1**	**+0.7**
RND				pmax	pmax		
	comp=Z,7.0nm,1.2s						
RND	**Reindeer**	**75.46**	**17**	P	**P**	**08 41 45.1**	**+0.7**
RND				IAmb	IAmb	08 41 46.4	
	comp=Z,6.9nm,1.2s						
DHY	**Denali Highway**	**76.09**	**17**	P	**P**	**08 41 49.5**	**+1.4**
DHY				pP	**pP**	**08 42 32.9**	**0.0**
PAX	**Paxson**	**76.62**	**16**	P	**P**	**08 41 52.3**	**+1.3**
PAX				*PP	**pP**	**08 42 36.0**	**+0.1**
PAX				pmax	pmax		
	comp=Z,5.0nm,1.4s						
PAX	**Paxson**	**76.62**	**16**	P	**P**	**08 41 52.3**	**+1.3**
PAX				pP	**pP**	**08 42 36.0**	**+0.1**
DAWY	**Dawson**	**76.88**	**13**	P	**P**	**08 41 53.4**	**+1.1**
SCM	**Sheep Creek Mo**	**77.18**	**18**	P	**P**	**08 41 55.0**	**+0.9**
SCM				pmax	pmax		
	comp=Z,18nm,1.3s						
SCM	**Sheep Creek Mo**	**77.18**	**18**	P	**P**	**08 41 55.0**	**+0.9**
SCM				IAmb	IAmb	08 41 55.8	
	comp=Z,18nm,1.3s						
BOSA	**Boshof**	**77.73**	**220**	P	**P**	**08 41 57.7**	**+0.1**
BOSA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BOSA	**Boshof**	**77.73**	**220**	P	**P**	**08 41 56.6**	**-0.9**
	comp=Z,6.3nm,0.8s,baz=21,slow=7.9,SNR=8.0						
BOSA	**Boshof**	**77.73**	**220**	P	**P**	**08 41 57.7**	**+0.1**
BOSA				IAmb	IAmb	08 41 58.8	
	comp=Z,5.5nm,0.8s						
WAX	**Waxell Ridge**	**79.44**	**16**	P	**P**	**08 42 09.1**	**+2.6**
YKA	**Yellowknife Ar**	**81.18**	**3**	P	**P**	**08 42 16.5**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=349,slow=5.4,SNR=55						
YKA				pP	**pP**	**08 43 00.9**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=349,slow=5.5,SNR=7.1						
YKA				sP	**sP**	**08 43 22.9**	**+2.6**
	comp=Z,0.5nm,0.6s,baz=350,slow=5.4,SNR=1.7						
WRA	**Warramunga Arr**	**82.13**	**122**	*i* P	**P**	**08 42 19.1**	**-2.1**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
WRA	**Warramunga Arr**	**82.13**	**122**	P	**P**	**08 42 19.8**	**-1.5**
	comp=Z,3.4nm,0.5s,baz=324,slow=4.9,SNR=44						
WRA				pP	**pP**	**08 43 05.7**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=323,slow=5.1,SNR=1.7						
WRAB	**Tennant Creek**	**82.13**	**122**	*de*P	**P**	**08 42 20.1**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WRAB	**Tennant Creek**	**82.13**	**122**	P	**P**	**08 42 20.1**	**-1.2**
WRAB				IAmb	IAmb	08 42 20.8	
	comp=Z,6.2nm,0.6s						
AS31	**Alice Springs**	**84.39**	**125**	P	**P**	**08 42 31.9**	**-0.9**
ASAR	**Alice Springs**	**84.39**	**125**	P	**P**	**08 42 31.6**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=155,slow=5.2,SNR=4.5						
ASAR				pP	**pP**	**08 43 18.0**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=306,slow=5.6,SNR=2.7						
KRVT	**Keravat (AS076**	**85.47**	**99**	LR	LR	09 22 47.8	
	comp=Z,114nm,18.7s,baz=137,slow=37						
QSPA	**South Pole Qui**	**126.37**	**180**	PKP	**PKPdf**	**08 48 59.9**	**-0.9**
	comp=Z,1.6nm,0.9s,baz=280,slow=4.0,SNR=2.9						
GO04	**Tololo Observa**	**147.50**	**270**	PKPbc	**PKPbc**	**08 49 43.4**	**-0.3**
PLCA	**Paso Flores**	**149.74**	**250**	PKP2	**PKiKP**	**08 49 49.7**	**-0.1**
PLCA	**Paso Flores**	**149.74**	**250**		**PKiKP**	**08 49 49.7**	**-0.1**
GO05	**Huala**	**149.89**	**262**	PKPbc	**PKPbc**	**08 49 49.6**	**+0.2**
GO06	**Curarrehue**	**150.33**	**253**		**PKPbc**	**08 49 50.3**	**-0.1**
PTCN	**Pitcairn Islan**	**158.72**	**63**	PKPdf	**PKPdf**	**08 49 56.1**	**-0.8**

*IDC **21** 08:30:38.0±10.0, 10.62N×85.86W, h0km, mb3.6/5, mb1 4.0/6, mb1mx3.6/41, mbtmp3.6/6, ML2.9/1, MS3.9/4, Ms1 3.9/4, ms1mx3.1/37, Error ellipse: s-maj=197.9km*

s-min=73.5km az=3.0
*ISCJB **21** 08:30:46.1±0.6, 10.85N±0.07×86.74W±0.05, h23km, mb3.6/5, MS4.3/3, Error ellipse: s-maj=10.8km s-min=4.3km az=31.3*
*UCR **21** 08:30:46.6±1.8, 10.74N×86.80W, h53km±95km, ML3.0, mb4.2(NEIC)*
*NEIC **21** 08:30:49.0±1.9, 10.87N±0.06×86.64W±0.07, h35km±6km, mb4.2/28*

ISC 21 08:30:45.9±0.9, 10.72N±0.07×86.66W±0.06, h23km, n59, σ1s07/56, mb4.2/19, MS4.2/3, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUEV	**Buena Vista**	**1.24**	**86**	*eP*	**Pb**	**08 31 09.4**	**+0.8**
BUEV				*eS*	**Sb**	**08 31 25.9**	**+1.8**
GB1A	**Boringuen Arri**	**1.25**	**86**	*eP*	**Pb**	**08 31 09.7**	**+1.0**
PLVR	**Palo Verde**	**1.34**	**106**	*eP*	**Pb**	**08 31 10.8**	**+0.3**
MASN	**Masaya**	**1.35**	**22**	*eP*	**Pb**	**08 31 10.7**	**+0.1**
MGAN	**Managua**	**1.47**	**16**	*eP*	**Pn**	**08 31 11.0**	**0.0**
CUI	**Cuipilapa**	**1.47**	**92**	*eP*	**Pb**	**08 31 13.0**	**+0.4**
JTS	**Las Juntas de**	**1.73**	**104**	*eP*	**Pb**	**08 31 16.6**	**-0.5**
JTS	**Las Juntas de**	**1.73**	**104**		**Pb**	**08 31 16.8**	**-0.3**
JTS				Sn	**Sb**	**08 31 38.3**	**-0.2**
CNGN	**Cerro Negro**	**1.77**	**359**	*eP*	**Pn**	**08 31 14.6**	**-0.6**
CNGN				IAML		08 31 54.8	
	comp=N,161nm,0.6s						
ACON	**Acoyapa**	**1.91**	**50**	*eP*	**Pn**	**08 31 17.4**	**+0.3**
ACON	**Acoyapa**	**1.91**	**50**		**Pn**	**08 31 16.9**	**-0.2**
ACON				Sn	**Sb**	**08 31 44.0**	**+0.5**
ARE1	**Arenal 1**	**1.93**	**98**	*eP*	**Pb**	**08 31 20.0**	**-0.4**
CEDE	**Laguna Cedeo**	**1.94**	**97**	*eP*	**Pb**	**08 31 20.2**	**-0.4**
MATN	**Matagalpa**	**2.31**	**18**	*eP*	**Pn**	**08 31 22.4**	**-0.3**
ESTN	**Estel**	**2.38**	**7**	*eP*	**Pn**	**08 31 23.2**	**-0.4**
ESTN	**Estel**	**2.38**	**7**		**Pn**	**08 31 22.6**	**-1.0**
HDC	**Heredia**	**2.61**	**106**		**Pb**	**08 31 32.1**	**+0.1**
ESPN	**Las Esperanzas**	**2.74**	**57**		**Pn**	**08 31 29.9**	**+1.5**
LCR2	**La Lucha 2**	**2.79**	**110**	*eP*	**Pb**	**08 31 33.9**	**-1.4**
TGUH	**Tegucigalpa,Un**	**3.37**	**350**	Pn	**Pn**	**08 31 36.4**	**-0.8**
APG	**El Apazote**	**5.64**	**319**	Pn	**Pn**	**08 32 11.2**	**+2.6**
	comp=N,0.3nm,0.3s,baz=193,slow=9.6,SNR=2.7						
TEIG	**Tepich**	**9.58**	**351**	LR	LR	08 37 16.9	
	comp=N,80nm,18.1s,baz=36,slow=41						
BANI	**BANI**	**17.52**	**62**		pP	08 34 59.7	+3.6
HKT	**Hockley**	**20.95**	**337**		Pn	08 35 28.5	-1.4
HKT				IAmb	IAmb	08 35 38.4	
	comp=Z,21nm,1.4s						
152A	**Waverly Hall**	**21.91**	**4**		**P**	**08 35 40.0**	**+2.4**
152A				IAmb	IAmb	08 35 40.1	
	comp=Z,11nm,1.1s						
LRAL	**Lakeview Retre**	**22.21**	**359**	P	**P**	**08 35 42.3**	**+1.5**
GOGA	**Godfrey**	**22.77**	**7**	P	**P**	**08 35 48.0**	**+1.2**
Y49A	**Blount Mountai**	**23.03**	**1**	P	**P**	**08 35 49.5**	**0.0**
Y49A				IAmb	IAmb	08 35 50.5	
	comp=Z,5.7nm,0.7s						
Y52A	**Lilburn**	**23.16**	**6**	P	**P**	**08 35 51.4**	**+0.7**
FPAL	**Fort Paine**	**23.73**	**2**	P	**P**	**08 35 56.7**	**+0.4**
X51A	**Calhoun**	**23.79**	**4**	P	**P**	**08 35 56.9**	**0.0**
TXAR	**Lajitas Array**	**24.40**	**322**	P	**P**	**08 36 03.4**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=136,slow=10.0,SNR=7.3						
TX31	**Lajitas Ar. Si**	**24.40**	**322**	P	**P**	**08 36 03.8**	**+1.1**
TX31				IAmb	IAmb	08 36 09.6	
	comp=Z,8.6nm,1.4s						
TX32	**Lajitas Array**	**24.40**	**322**	P	**P**	**08 36 03.8**	**+1.0**
TX32				IAmb	IAmb	08 36 09.6	
	comp=Z,8.8nm,1.4s						
W50A	**Signal Mountai**	**24.40**	**3**	P	**P**	**08 36 01.7**	**-0.9**
W50A				IAmb	IAmb	08 36 12.5	
	comp=Z,8.9nm,1.1s						
BIRD	**Birdtown, Kers**	**24.48**	**12**	P	**P**	**08 36 03.8**	**+0.5**
BIRD				IAmb	IAmb	08 36 13.0	
	comp=Z,10nm,1.3s						
MIAR	**Mount Ida**	**24.54**	**346**	P	**P**	**08 36 04.1**	**+0.2**
CPCT	**Cooper Cave**	**24.69**	**4**	P	**P**	**08 36 05.2**	**-0.1**
CPCT				IAmb	IAmb	08 36 07.9	
	comp=Z,5.1nm,0.

EML	**El Monte Cty P**	**1.81**	**335**	*eP*	**Pn**	**08 39 14.7**	**+1.2**
214A	**Organ Pipe Nat**	**2.76**	**74**	*eP*	**Pn**	**08 39 26.6**	**-0.1**
214A				*eS*	**Sn**	**08 39 59.6**	**-0.6**

IDC 21 08:45:18.2±2.8, 13°52S×167°10E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/27, mbtmp3.6/4, Error ellipse: s-maj=130.4km s-min=31.9km az=136.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.66**	**228**	P	P	08 51 24.6	-1.1
	1.8nm,0.9s,baz=60,slow=8.1,SNR=3.3						
WRA	**Warramunga Arr**	**31.97**	**254**	P	P	08 51 47.3	+1.0
	0.3nm,0.5s,baz=84,slow=9.4,SNR=1.9						
ASAR	**Alice Springs**	**32.96**	**247**	P	P	08 51 55.0	0.0
	0.8nm,1.0s,baz=64,slow=10,SNR=5.7						
ILAR	**Eielson Array**	**85.44**	**18**	P	P	08 57 57.4	0.0
	0.2nm,0.6s,baz=233,slow=5.2,SNR=6.6						

*SJA **21** 08:56:31.5±0.8, 31°.45S×71°.35W, h36km±7km, ML2.9, MW2.8*
*GUC **21** 08:56:31.6±0.7, 31°.47S×71°.12W, h64km±3km, ML3.6*
*ISCJB **21** 08:56:32.3±0.7, 31°.44S±0°.03×71°.44W±0°.05, h61km±11km, Error ellipse: s-maj=7.4km s-min=4.4km az=7.6*

ISC 21 08:56:34.1±1.3, 31°.47S±0°.03×71°.36W±0°.05, h42km±17km, n29, σ1s88/48, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.41**	**50**	*eP*	**Pn**	**08 56 43.4**	**-0.4**
CO02				*i* S	**Sn**	**08 56 51.5**	**+0.8**
GO04	**Tololo Observa**	**1.38**	**21**	⇓*iP*	**Pn**	**08 56 56.0**	**-1.0**
GO04				*i* S	**Sn**	**08 57 13.9**	**-0.3**
GO04	**Tololo Observa**	**1.38**	**21**	*i* P	**Pn**	**08 56 56.2**	**-0.9**
GO04				*eS*	**Sn**	**08 57 14.1**	**0.0**
ROCH	**El Roble**	**1.53**	**169**	⇑*iP*	**Sn**	**08 56 58.3**	**-0.9**
ROCH				*i* S	**Sn**	**08 57 18.3**	**+0.3**
ROCH				IAML		08 57 25.2	
	comp=N,1μm,0.6s						
ROC1	**El Roble**	**1.54**	**169**	*i* P	**Pn**	**08 56 58.7**	**-0.5**
ROC1				*eS*	**Sn**	**08 57 18.6**	**+0.4**
LSCH	**La Serena**	**1.56**	**4**	*eP*	**Pn**	**08 56 58.8**	**-0.5**
LSCH				*i* S	**Sn**	**08 57 18.6**	**+0.4**
PEL	**Peldehue**	**1.77**	**161**	*eP*	**Pn**	**08 57 00.7**	**-1.6**
PEL				*i* S	**Sn**	**08 57 22.7**	**-0.9**
PEL	**Peldehue**	**1.77**	**161**	*i* P	**Pn**	**08 57 01.7**	**-0.5**
PEL				*eS*	**Sn**	**08 57 25.1**	**+1.5**
RTLS	**Leoncito**	**1.79**	**101**	*i* P	**Pn**	**08 57 02.1**	**-0.7**
RTLS				*eS*	**Sn**	**08 57 25.4**	**+0.8**
RTLS				IAML		08 57 29.1	
	comp=Z,117nm,0.4s						
FCH	**Farellones**	**2.07**	**154**	*eP*	**Pn**	**08 57 05.2**	**-1.5**
FCH				IAML		08 57 37.3	
	comp=N,383nm,0.1s						
AROD	**Rodeo**	**2.08**	**52**	*i* P	**Pn**	**08 57 07.0**	**+0.3**
ACCO	**Cerro Coronel**	**2.16**	**67**	*i* P	**Pn**	**08 57 07.9**	**+0.1**
ACCO				*eS*	Sn	08 57 23.6	-10
ZON	**Zonda**	**2.29**	**93**	*i* P	**Pn**	**08 57 09.2**	**-0.3**
ZON				*eS*	**Sn**	**08 57 37.0**	**+0.5**
ACDV	**Cuesta del Vie**	**2.32**	**57**	*i* P	**Pn**	**08 57 10.2**	**+0.2**
ASAL	**Salagasta**	**2.42**	**118**	*i* P	**Pn**	**08 57 12.0**	**+0.7**
ASAL				*eS*	**Sn**	**08 57 43.0**	**+3.2**
RTCV	**Cerro Valdivia**	**2.44**	**100**	*i* P	**Pn**	**08 57 11.0**	**-0.5**
RTCV				*eS*	**Sn**	**08 57 31.8**	**-8.3**
RTLL	**Cerro Villicun**	**2.47**	**88**	*eP*	**Pn**	**08 57 10.9**	**-1.1**
RTLL				*eS*	**Sn**	**08 57 40.9**	**0.0**
ARCO	**CERRO ARCO**	**2.48**	**124**	*i* P	**Pn**	**08 57 13.0**	**+0.9**
AMOG	**MOGNA**	**2.52**	**79**	*i* P	**Pn**	**08 57 12.0**	**-0.5**
LMEL	**Las Melosas**	**2.57**	**158**	*eP*	**Pn**	**08 57 12.7**	**-0.7**
LMEL				IAML		08 57 52.3	
	comp=N,514nm,0.1s						
CFA	**Coronel Fontan**	**2.67**	**94**	*i* P	**Pn**	**08 57 13.8**	**-0.9**
CFA				*eS*	**Sn**	**08 57 48.0**	**+2.1**
AAGR	**Agrelo**	**2.69**	**128**	*i* P	**Pn**	**08 57 15.8**	**+0.8**
AGUA	**GUANDACOL**	**3.17**	**52**	*i* P	**Pn**	**08 57 22.1**	**+0.6**
AGUA				*eS*	**Sn**	**08 57 59.2**	**+1.1**
GO05	**Huala**	**3.57**	**187**	⇑*iP*	**Pn**	**08 57 26.0**	**-0.9**
ACAN	**Cantantal**	**3.64**	**104**	*eP*	**Pn**	**08 57 26.4**	**-1.6**
ACAN				*eS*	**Sn**	**08 58 12.5**	**+2.7**
COIS	**El Sosneado**	**3.92**	**158**	*i* P	**Pn**	**08 57 34.1**	**+2.3**
GO03	**Copiap**	**3.98**	**15**	*eP*	**Pn**	**08 57 31.7**	**-1.0**
GO03				*i* S	**Sn**	**08 58 16.4**	**-1.7**
GO03	**Copiap**	**3.98**	**15**	*i* P	**Pn**	**08 57 32.4**	**-0.3**
GO03				*eS*	**Sn**	**08 58 23.5**	**+5.3**
ACLC	**CERRO LA CRUZ**	**4.32**	**63**	*i* P	**Pn**	**08 57 36.1**	**-1.3**
ACLC				*eS*	**Sn**	**08 58 25.5**	**-1.1**

*GCG **21** 09:06:39.5±2.0, 15°.94N×91°.29W, h35km±72km, MD3.4*
*MEX **21** 09:06:40.8±0.3, 15°.68N×90°.94W, h20km±66km, MD3.8*

ISC 21 09:06:41.1±1.5, 15°.78N±0°.07×91°.31W±0°.05, h25km±18km, n9, σ2s06/17, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG3	**Santiaguito 3,**	**1.09**	**193**	*eP*	**Pn**	**09 07 01.6**	**+0.6**
STG3				*eS*	**Sn**	**09 07 17.1**	**+1.8**
THIG		**1.26**	**227**	*eP*	**Pn**	**09 06 58.4**	**-4.7**
FUG	**Fuego 3**	**1.40**	**161**	*eP*	**Pn**	**09 07 05.1**	**-0.1**
FUG				*eS*	**Sn**	**09 07 23.7**	**+0.8**
NBG	**Las Nubes**	**1.51**	**142**	*eP*	**Pn**	**09 07 05.9**	**-0.9**
NBG				*eS*	**Sb**	**09 07 28.4**	**+1.0**
MRL	**Marmol**	**1.72**	**114**	*eP*	**Pn**	**09 07 08.2**	**-1.4**
MRL				*eS*	**Sn**	**09 07 30.3**	**-0.6**
IXG	**Ixpaco**	**1.81**	**152**	*eP*	**Pn**	**09 07 12.1**	**+1.3**
IXG				*eS*	**Sb**	**09 07 36.1**	**+0.1**
PCIG		**1.84**	**268**	*eP*	**Pb**	**09 07 13.5**	**-0.5**
PCIG				*eS*	**Sb**	**09 07 39.2**	**+2.5**
TGIG		**2.00**	**300**	*eP*	**Pb**	**09 07 16.4**	**-0.5**
TGIG				*i* S	**Sb**	**09 07 43.6**	**+2.1**
CMIG	**Matias Romero**	**3.67**	**291**	*eP*	**Pn**	**09 07 38.1**	**+1.8**
CMIG				*i* S	**Sb**	**09 08 26.6**	**-2.8**

*IDC **21** 09:23:02.6±2.9, 59°.91N×143°.32W, h0km, mb4.0/2, mb1 3.7/5, mb1mx3.4/38, mbtmp3.6/5, ML3.0/3, Error ellipse: s-maj=43.0km s-min=19.4km az=38.0*
*ISCJB **21** 09:23:10.6±0.2, 60°.58N±0°.02×142°.65W±0°.03, h24km±2km, mb4.0/2, Error ellipse: s-maj=2.9km s-min=2.4km az=3.9*
*AEIC **21** 09:23:11.3±1.9, 60°.58N±0°.02×142°.61W±0°.02, h10km±4km, ML3.3*

ISC 21 09:23:10.5±0.9, 60°.55N±0°.02×142°.65W±0°.02, h17km±6km, n103, σ1s26/136, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAX	**Waxell Ridge**	**0.14**	**226**	Pg	**Pb**	**09 23 15.3**	**+0.5**
WAX					**Sb**	**09 23 18.7**	**+1.1**
TGL	**Tana Glacier**	**0.23**	**337**	Pg	**Pg**	**09 23 15.9**	**0.0**
TGL					**Pb**	**09 23 16.1**	**-0.2**
TGL					**Sg**	**09 23 20.3**	**+0.8**
KULT	**Kultieth River**	**0.30**	**187**		**Pb**	**09 23 17.9**	**+0.4**
KHIT	**Khitrov Hills**	**0.32**	**251**		**Pb**	**09 23 17.9**	**0.0**
CRQM	**Cirque**	**0.32**	**311**	Pg	**Pg**	**09 23 17.2**	**-0.2**
CRQM					**Pg**	**09 23 17.3**	**-0.2**
CRQM					**Sg**	**09 23 22.1**	**-0.1**
KIAG	**Kiagna River**	**0.40**	**20**		**Pg**	**09 23 18.7**	**-0.2**
KIAG					**Sg**	**09 23 24.5**	**0.0**
GRIN	**Grindle Hills**	**0.43**	**232**		**Pb**	**09 23 19.9**	**+0.2**
GRNC	**Granite Creek**	**0.48**	**67**		**Pg**	**09 23 19.9**	**-0.3**
GRNC					**Sg**	**09 23 26.7**	**0.0**
MESA	**MESA**	**0.51**	**137**		**Pb**	**09 23 21.5**	**+0.3**
MESA				Sg	**Sb**	**09 23 28.3**	**0.0**
BALM	**Baldy**	**0.51**	**17**		**Pg**	**09 23 20.3**	**-0.5**
BALM					**Pg**	**09 23 20.3**	**-0.5**
BALM				Sg	**Sg**	**09 23 27.1**	**-0.6**
BALM					**Sb**	**09 23 27.3**	**-1.1**
BGLC	**Bering Glacier**	**0.53**	**217**		**Pn**	**09 23 22.4**	**-1.0**
PTPK	**Patty Peak**	**0.65**	**8**		**Pg**	**09 23 22.7**	**-0.6**
RKAV	**Rock Avalanche**	**0.69**	**111**		**Pg**	**09 23 24.0**	**-0.2**
BARN	**Barnard Glacie**	**0.70**	**43**	Pg	**Pg**	**09 23 23.5**	**-0.9**
BARN					**Pg**	**09 23 23.5**	**-0.9**
BARN					**Sg**	**09 23 32.8**	**-1.0**
BARN				Sg	**Sb**	**09 23 33.0**	**-1.0**
NICHA	**Nichawak Mount**	**0.73**	**245**		**Pb**	**09 23 25.1**	**+0.3**
SUCK	**Suckling Hills**	**0.74**	**230**		**Pn**	**09 23 25.7**	**-0.5**
CTGM	**Chitina Glacie**	**0.77**	**56**		**Pg**	**09 23 24.5**	**-1.1**
CTGM					**Sg**	**09 23 34.8**	**-1.0**
VRDI	**Verde Repeater**	**0.79**	**330**	Pg	**Pg**	**09 23 24.8**	**-1.2**
VRDI					**Pg**	**09 23 24.8**	**-1.2**
VRDI					**Sg**	**09 23 34.8**	**-1.6**
HMT	**Hamilton**	**0.83**	**256**		**Pb**	**09 23 26.5**	**0.0**
HMT				Sg	**Sb**	**09 23 38.1**	**+0.8**
MCARA	**McCarthy VSAT**	**0.86**	**348**		**Pb**	**09 23 25.8**	**-1.2**
MCARA				Sg	**Sg**	**09 23 37.5**	**-1.0**
CHX	**Chaix Hills**	**0.90**	**122**		**Pg**	**09 23 28.0**	**-0.1**
RAGM	**Ragged Mountai**	**1.02**	**262**		**Pb**	**09 23 29.5**	**-0.3**
RAGM				Sg	**Sn**	**09 23 44.6**	**+0.6**
SAMH	**Samovar Hills**	**1.02**	**114**		**Pg**	**09 23 30.2**	**-0.1**
GOAT	**Goat Mountain**	**1.03**	**273**		**Pb**	**09 23 29.2**	**-0.7**
GLB	**Gilahina Butte**	**1.06**	**328**	Pg	**Pb**	**09 23 29.1**	**-1.4**
GLB					**Sb**	**09 23 42.3**	**-1.8**
GLB					**Sg**	**09 23 43.0**	**-2.0**
PCA	**Pinnacle**	**1.27**	**110**		**Pn**	**09 23 33.6**	**0.0**
PCA				Sg	**Sg**	**09 23 51.5**	**-0.1**
YUK2	**White River**	**1.52**	**34**		**Pn**	**09 23 37.3**	**+0.2**
PS12	**TAPS Pump St12**	**1.53**	**309**		**Pn**	**09 23 36.8**	**-0.3**
EYAK	**Cordova Ski Ar**	**1.53**	**271**		**Pn**	**09 23 37.5**	**+0.4**
EYAK				Sn	**Sb**	**09 23 58.3**	**+0.7**
BCPM	**Bancas Point**	**1.61**	**110**		**Pn**	**09 23 38.5**	**+0.3**
BCPM				Sn	**Sb**	**09 24 00.3**	**+0.3**
YUK3	**Moose Creek**	**1.62**	**40**		**Pn**	**09 23 39.4**	**+0.7**
PNL	**Peninsula**	**1.85**	**117**		**Pn**	**09 23 40.6**	**-0.9**
FID	**Port Fidalgo**	**1.90**	**278**		**Pn**	**09 23 42.7**	**+0.5**
FID				Sn	**Sb**	**09 24 08.0**	**-0.2**
HIN	**Hinchinbrook I**	**1.92**	**267**		**Pn**	**09 23 42.2**	**-0.3**
HIN				Sn	**Sb**	**09 24 08.4**	**-0.2**
JPK	**Jack Peak**	**2.00**	**286**		**Pn**	**09 23 43.6**	**0.0**
PS11	**TAPS Pump St11**	**2.06**	**320**		**Pn**	**09 23 45.8**	**+1.8**
BVCY	**Beaver Creek**	**2.06**	**24**		**Pn**	**09 23 46.2**	**+1.8**
YUK4	**Talbot Arm**	**2.11**	**66**		**Pn**	**09 23 48.2**	**-0.2**
MID	**Middleton Isla**	**2.17**	**240**	Pn	**Pn**	**09 23 47.0**	**+1.1**
GLI	**Glacier Island**	**2.21**	**281**		**Pn**	**09 23 47.2**	**+0.7**
YUK7	**Dusty Glacier**	**2.23**	**88**		**Pn**	**09 23 48.0**	**+1.2**
YUK5	**Granite Creek**	**2.42**	**74**		**Pn**	**09 23 51.1**	**+1.7**
MENT	**Mentasta**	**2.45**	**348**		**Pn**	**09 23 51.3**	**+1.5**
BC03		**2.56**	**9**		**Pn**	**09 23 52.1**	**+0.9**
SCM	**Sheep Creek Mo**	**2.61**	**302**		**Pn**	**09 23 52.6**	**+0.6**
DHAK	**Deception Hill**	**2.67**	**121**		**Pn**	**09 23 53.6**	**+0.8**
PAX	**Paxson**	**2.78**	**332**		**Pn**	**09 23 55.2**	**+0.9**
PWL	**Port Wells**	**2.81**	**279**		**Pn**	**09 23 54.5**	**-0.3**
KNK	**Knik Glacier**	**2.96**	**290**		**Pn**	**09 23 57.8**	**+1.0**
SML	**Sawmill**	**3.03**	**297**		**Pn**	**09 23 58.5**	**+0.8**
WAT6	**Susitna Watana**	**3.18**	**312**		**Pn**	**09 23 59.9**	**+0.1**
DOT	**Dot Lake**	**3.18**	**349**		**Pn**	**09 24 01.0**	**+1.2**
GHO	**Glory Hole Cre**	**3.28**	**295**		**Pn**	**09 24 02.1**	**+0.9**
PMR	**Palmer**	**3.32**	**291**		**Pn**	**09 24 02.2**	**+0.5**
PLBC	**Pleasant Camp**	**3.34**	**106**		**Pn**	**09 24 02.4**	**+0.4**
DHY	**Denali Highway**	**3.39**	**321**		**Pn**	**09 24 03.9**	**+1.2**
SEW	**Seward**	**3.42**	**265**		**Pn**	**09 24 02.7**	**-0.2**
SCRK	**Sand Creek**	**3.50**	**350**		**Pn**	**09 24 05.1**	**+0.8**
RC01	**Rabbit Creek A**	**3.52**	**282**		**Pn**	**09 24 04.7**	**+0.4**
WAT1	**Susitna Watana**	**3.63**	**312**		**Pn**	**09 24 06.3**	**+0.4**
WAT2	**Susitna Watana**	**3.72**	**313**		**Pn**	**09 24 07.7**	**+0.4**
SLKM	**Skilak Lake**	**3.74**	**273**		**Pn**	**09 24 06.8**	**-0.8**
WHY	**Whitehorse**	**3.83**	**85**		**Pn**	**09 24 09.4**	**+0.6**
DAWY	**Dawson**	**3.84**	**22**		**Pn**	**09 24 10.5**	**+1.6**
SUA	**Susitna One**	**4.05**	**287**		**Pn**	**09 24 13.2**	**+1.4**
RND	**Reindeer**	**4.10**	**317**		**Pn**	**09 24 13.7**	**+1.2**
BRLK	**Bradley Lake**	**4.19**	**263**	Pn	**Pn**	**09 24 13.1**	**-0.6**
EGAK	**Eagle**	**4.30**	**9**		**Pn**	**09 24 16.3**	**+1.2**
MCK	**McKinley**	**4.35**	**320**		**Pn**	**09 24 16.9**	**+1.1**
HDA	**Harding Lake**	**4.36**	**335**	P	**Pn**	**09 24 16.9**	**+0.9**
	baz=150						
HDA	**Harding Lake**	**4.36**	**335**		**Pn**	**09 24 16.2**	**+0.3**
SKT	**Skwentna**	**4.52**	**292**		**Pn**	**09 24 18.7**	**+0.5**
TRF	**Thorofare Moun**	**4.63**	**312**		**Pn**	**09 24 20.9**	**+1.1**
IL31		**4.67**	**337**		**Pn**	**09 24 20.6**	**+0.5**
ILAR	**Eielson Array**	**4.67**	**337**	Pn	**Pn**	**09 24 20.3**	**+0.1**
	1.3nm,0.3s,baz=172,slow=13,SNR=68						
ILAR				Sn	**Sn**	**09 25 19.7**	**+5.8**
	0.5nm,0.3s,baz=154,slow=22,SNR=5.9						
WRH	**Wood River Hil**	**4.68**	**330**		**Pn**	**09 24 21.1**	**+0.8**
CCB	**Clear Creek Bu**	**4.75**	**332**		**Pn**	**09 24 21.8**	**+0.5**
JIS	**Juneau Island**	**4.80**	**115**	Pn	**Pn**	**09 24 22.0**	**+0.1**
KTH	**Kantishna Hill**	**4.92**	**311**		**Pn**	**09 24 24.8**	**+1.1**
TCOL	**CTBTO, UAF Yank**	**4.96**	**333**	P	**Pn**	**09 24 24.8**	**+0.7**
	baz=148						
RSO	**Redoubt South**	**5.00**	**273**	Pn	**Pn**	**09 24 25.7**	**+0.8**
RSO					**Sn**	**09 25 22.0**	**-0.3**
POKR	**Poker Plat Res**	**5.08**	**337**	P	**Pn**	**09 24 26.8**	**+0.9**
	baz=152						
POKR				Sb	**Sb**	**09 25 44.9**	**+5.3**
	baz=152						
PPLA	**Purkeypile**	**5.11**	**302**		**Pn**	**09 24 27.7**	**+1.3**
MDM	**Murphy Dome**	**5.12**	**332**	Pn	**Pn**	**09 24 26.9**	**+0.5**
PRP	**Porcupine Dome**	**5.16**	**347**	Pn	**Pn**	**09 24 27.9**	**+0.9**
BPAW	**Bear Paw Mtn.**	**5.27**	**316**		**Pn**	**09 24 28.4**	**-0.1**
KDAK	**Kodiak Island**	**5.81**	**246**	Pn	**Pn**	**09 24 36.2**	**+0.4**
MLY	**Manley**	**5.83**	**324**		**Pn**	**09 24 35.7**	**-0.4**
FYU	**Fort Yukon**	**6.15**	**350**	Pn	**Pn**	**09 24 41.9**	**+1.4**
EPYK	**Eagle Plains**	**6.42**	**22**	P	**Pn**	**09 24 45.6**	**+1.4**
	baz=207						
EPYK				S	**Sn**	**09 25 58.3**	**+1.3**
	baz=207						
EPYK	**Eagle Plains**	**6.42**	**22**	Pn	**Pn**	**09 24 45.4**	**+1.1**
OHAK	**Old Harbor**	**6.44**	**244**		**Pn**	**09 24 44.1**	**-0.5**
TT01	**Tatalina**	**6.78**	**296**		**Pn**	**09 24 48.9**	**-0.2**
TTA	**Tatalina**	**6.78**	**296**	Pn	**Pn**	**09 24 49.2**	**0.0**
WRAK	**Wrangell Islan**	**6.80**	**123**	Pn	**Pn**	**09 24 50.7**	**+1.3**
BM03	**Burnt Mountain**	**6.95**	**354**		**Pn**	**09 24 53.0**	**+1.4**
CRAG	**Craig**	**7.17**	**131**	Pn	**Pn**	**09 24 56.2**	**+1.7**
IM03		**7.40**	**322**		**Pn**	**09 24 58.9**	**+1.4**
TOLK	**Toolik Lake Re**	**8.65**	**343**	P	**Pn**	**09 25 18.0**	**+3.2**
	baz=156						
TOLK				S	**Sn**	**09 26 57.4**	**+5.6**
	baz=156						
INK	**Inuvik**	**8.72**	**23**	Pn	**Pn**	**09 25 18.2**	**+2.6**
	0.1nm,0.3s,baz=228,slow=25,SNR=5.8						
INK				Sn	**Sn**	**09 26 51.0**	**-2.4**
	0.4nm,0.3s,baz=248,slow=22,SNR=5.7						
YKA	**Yellowknife Ar**	**13.47**	**70**	Pn	**Pn**	**09 26 21.1**	**+0.4**
	0.1nm,0.3s,baz=270,slow=13,SNR=6.8						
FINES	**FINESS Array B**	**58.03**	**6**	P	**P**	**09 33 00.6**	**-1.2**
	1.2nm,0.5s,baz=4.0,slow=8.2,SNR=6.9						
AKASG	**Malin Array Be**	**68.91**	**6**	P	**P**	**09 34 12.8**	**-1.1**
	1.0nm,0.6s,baz=1.1,slow=6.0,SNR=1.8						

*PDG **21** 09:57:06.8±0.3, 43°.28N×19°.27E, h12km, MD3.0/8, ML3.0/9, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*BEO **21** 09:57:07.7±0.2, 43°.29N×19°.31E, h6km±2km, MD3.2/19*
*RHSSO **21** 09:57:07.3±0.2, 43°.31N×19°.28E, h3km±1km, ML3.2/1*
*TIR **21** 09:57:09.2, 43°.01N×19°.05E, h19km, Md3.5/6*

ISC 21 09:57:06.9±0.8, 43°.28N±0°.01×19°.28E±0°.01, h11km±6km, n101, σ1s21/160, 15C-16D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLE	**Pljevlja**	**0.09**	**57**	⇓*iPg*	**Pg**	**09 57 09.7**	**0.0**
PLE				*eSg*	**Sg**	**09 57 11.7**	**0.0**
UPM	**Unac-Piva**	**0.29**	**255**	*ePg*	**Pb**	**09 57 13.1**	**-1.0**
UPM				*eSg*	**Sg**	**09 57 17.2**	**+0.4**
UPM	**Unac-Piva**	**0.29**	**255**	⇓*iPg*	**Pg**	**09 57 12.5**	**-0.3**
UPM				*eSg*	**Sg**	**09 57 17.1**	**+0.3**
RUDO	**Rudo**	**0.34**	**11**	⇓*iPg*	**Pg**	**09 57 12.9**	**-0.9**
RUDO				*eSg*	**Sg**	**09 57 17.6**	**-0.8**
KOME	**Kolasin**	**0.46**	**158**	⇑*iPg*	**Pg**	**09 57 15.9**	**-0.1**
KOME				*eSg*	**Sb**	**09 57 23.0**	**-0.9**
SJES	**Sjenica**	**0.51**	**92**	*ePg*	**Pg**	**09 57 17.0**	**+0.2**
SJES				*eSg*	**Sg**	**09 57 23.7**	**+0.2**
NKY	**Niksic**	**0.51**	**205**	⇑*iPg*	**Pg**	**09 57 16.4**	**-0.5**
NKY				*eSg*	**Sb**	**09 57 24.5**	**-0.9**
NKME	**Niksic**	**0.57**	**205**	⇓*iPg*	**Pg**	**09 57 17.4**	**-0.5**
NKME				*eSg*	**Sb**	**09 57 26.2**	**-0.7**
BBLS	**Lazići**	**0.59**	**9**	*ePg*	**Pg**	**09 57 18.3**	**-0.1**
BBLS				*eSg*	**Sb**	**09 57 27.2**	**-0.5**
BBLS	**Lazići**	**0.59**	**9**	⇓*iPg*	**Pg**	**09 57 18.3**	**-0.1**
BBLS				*eSg*	**Sg**	**09 57 25.8**	**-0.5**
IVA	**Berane**	**0.60**	**132**	⇑*iPg*	**Pg**	**09 57 18.3**	**-0.4**
IVA				*i* Sg	**Sb**	**09 57 27.7**	**-0.4**
BRY	**Bratogost**	**0.66**	**235**	⇓*iPg*	**Pg**	**09 57 18.9**	**-0.9**
BRY				*eSg*	**Sb**	**09 57 28.8**	**-1.0**
BRY	**Bratogost**	**0.66**	**235**	⇑*iPg*	**Pg**	**09 57 19.1**	**-0.7**
BRY				*i* Sg	**Sb**	**09 57 29.3**	**-0.5**
IVAS	**Ivanjica**	**0.70**	**65**	*ePg*	**Pg**	**09 57 19.9**	**-0.5**
IVAS				*eSg*	**Sg**	**09 57 28.8**	**-0.8**
CEME	**Cevo**	**0.78**	**200**	⇓*iPg*	**Pg**	**09 57 20.7**	**-1.3**
CEME				*eSg*	**Sb**	**09 57 33.5**	**+0.4**
HAPS	**Han Pijesak,Bl**	**0.84**	**343**	*ePg*	**Pg**	**09 57 22.1**	**-1.0**
HAPS				*eSg*	**Sg**	**09 57 34.0**	**-0.2**
HAPS	**Han Pijesak,Bl**	**0.84**	**343**	⇓*iPg*	**Pg**	**09 57 21.8**	**-1.3**
HAPS				*eSg*	**Sg**	**09 57 32.7**	**-1.5**
PVY	**Plav**	**0.85**	**144**	⇑*iPg*	**Pg**	**09 57 22.7**	**-0.5**
PVY				*i* Sg	**Sb**	**09 57 35.7**	**+0.7**
PDG	**Podgorica**	**0.85**	**181**	*ePg*	**Pg**	**09 57 22.4**	**-0.9**
PDG				*eSg*	**Sn**	**09 57 35.9**	**-1.2**
PDG	**Podgorica**	**0.85**	**181**	⇓*iPg*	**Pg**	**09 57 22.2**	**-1.1**
PDG				*eSg*	**Sb**	**09 57 34.8**	**-0.2**
PDG	**Podgorica**	**0.85**	**181**	⇓*iP*	**Pg**	**09 57 22.3**	**-0.9**
PDG				⇓*iS*	**Sn**	**09 57 36.3**	**-0.9**
PDG				AML	AML	09 57 37.4	
TTG	**Podgorica**	**0.85**	**181**	⇓*iPg*	**Pg**	**09 57 22.2**	**-1.1**
TTG				*eSg*	**Sn**	**09 57 36.0**	**-1.2**
TREB	**Trebinje**	**0.89**	**231**	*ePg*	**Pg**	**09 57 23.1**	**-0.9**
TREB				*eSg*	**Sn**	**09 57 37.1**	**-1.0**
TREB	**Trebinje**	**0.89**	**231**	*ePg*	**Pg**	**09 57 22.9**	**-1.1**
TREB				*eSg*	**Sn**	**09 57 36.8**	**-1.3**
DIVS	**Divibare**	**0.97**	**32**	*ePg*	**Pg**	**09 57 25.3**	**-0.2**
DIVS	**Divibare**	**0.97**	**32**	⇓*iPg*	**Pg**	**09 57 25.1**	**-0.4**
DIVS				*eSg*	**Sg**	**09 57 37.8**	**-0.3**
HCY	**Herceg Novi**	**1.01**	**215**	*ePg*	**Pg**	**09 57 25.7**	**-0.7**
HCY				*eSg*	**Sn**	**09 57 40.9**	**-0.4**
HCY	**Herceg Novi**	**1.01**	**215**	⇓*iPg*	**Pg**	**09 57 25.6**	**-0.8**
HCY				*i* Sg	**Sn**	**09 57 41.1**	**-0.2**
BUM	**Brajici-Budva**	**1.02**	**196**	⇑*iPg*	**Pg**	**09 57 25.8**	**-0.7**
BUM				*eSg*	**Sn**	**09 57 41.6**	**+0.1**
BCI	**Bajram Curri**	**1.08**	**147**	*i* PG	**Pg**	**09 57 26.4**	**-1.2**
BCI				*i* SG	**Sb**	**09 57 42.2**	**+0.6**
DRME	**Dracevica, Mon**	**1.09**	**184**	*ePg*	**Pb**	**09 57 27.8**	**0.0**
DRME				*eSg*	**Sn**	**09 57 43.3**	**+0.1**
DRME	**Dracevica, Mon**	**1.09**	**184**	⇓*iPg*	**Pg**	**09 57 27.1**	**-0.8**
DRME				*eSg*	**Sn**	**09 57 44.3**	**+1.1**
GRUS	**Gruza**	**1.21**	**59**	*ePg*	**Pn**	**09 57 29.1**	**-0.6**
GRUS				*eSg*	**Sg**	**09 57 46.1**	**+0.4**
STON	**Ston**	**1.23**	**251**	*ePn*	**Pn**	**09 57 29.7**	**-0.3**
STON				Sn	**Sn**	**09 57 49.3**	**+2.8**
STON	**Ston**	**1.23**	**251**	*ePg*	**Pn**	**09 57 29.0**	**-0.9**
STON				*eSg*	**Sn**	**09 57 48.4**	**+1.9**
STON	**Ston**	**1.23**	**251**	*ePg*	**Pn**	**09 57 29.3**	**-0.7**
STON				*eSg*	**Sn**	**09 57 47.0**	**+0.5**
TRUS	**Trudelj**	**1.25**	**40**	*ePg*	**Pb**	**09 57 30.7**	**+0.3**
TEKS	**Tekeris**	**1.28**	**8**	*ePg*	**Pg**	**09 57 31.4**	**-0.1**
TEKS				*eSg*	**Sb**	**09 57 47.9**	**+0.4**
TEKS	**Tekeris**	**1.28**	**8**	*

s-min=4.8km az=139.8
*MAN **21** 10:08:45.8,5.80N×127.16E,h1km,MS3.7*
*NEIC **21** 10:08:46.5±2.2,6.06N±0.04×127.67E±0.09,h33km±6km, mb4.5/26*

ISC 21 10:08:46.9±0.5,6.02N±0.06×127.59E±0.07,h35km,n51, σ1§64/51,mb4.3/20,MS3.1/4,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.61**	**305**	P	**Pn**	**10 09 13.0**	**+0.2**
MATI				S	**Sn**	**10 09 33.2**	**+0.8**
DDMP	**Don Marcelino,**	**1.86**	**273**	P	**Pn**	**10 09 12.6**	**-3.7**
DDMP				S	**Sn**	**10 09 33.5**	**-5.2**
DAV	**Davao City (W)**	**2.25**	**298**	Pn	**Pn**	**10 09 22.2**	**+0.6**
	57nm,0.3s,baz=57,slow=7.3,SNR=7.3						
DAV				Sn	**Sn**	**10 09 50.7**	**+2.6**
	81nm,0.3s,baz=124,slow=19,SNR=2.5						
DAV	**Davao City (W)**	**2.25**	**298**		**Pn**	**10 09 22.5**	**+0.8**
DAV					**Sn**	**10 09 48.2**	**0.0**
SKMP	**Bagumbayan, Su**	**3.06**	**279**	P	**Pn**	**10 09 31.8**	**-1.0**
TNTI	**Ternate**	**5.22**	**182**	Pn	**Pn**	**10 10 02.8**	**+0.3**
LUWI	**Luwuk**	**8.50**	**215**	Pn	**Pn**	**10 10 48.5**	**+0.9**
JAY	**Jayapura**	**15.61**	**123**	LR	LR	10 17 49.8	
	comp=Z,172nm,19.6s,baz=161,slow=35						
SBUM	**Sibu**	**15.73**	**258**	Pn	**Pn**	**10 12 26.1**	**+0.2**
BATI	**Baumata**	**16.59**	**194**	Pn	**P**	**10 12 39.4**	**+0.4**
	2.3nm,0.3s,baz=241,slow=4.7,SNR=3.7						
BATI				LR	LR	10 19 50.9	
	comp=Z,76nm,19.9s,baz=352,slow=40						
GUMO	**Guam**	**18.61**	**65**	LR	LR	10 19 40.2	
	comp=Z,77nm,19.2s,baz=174,slow=36						
MTN	**Manton Dam**	**19.07**	**169**	P	**P**	**10 13 06.0**	**-0.4**
MTN				IAmb	IAmb	10 14 03.3	
	comp=Z,22nm,1.2s						
KNMB	**Chin-men Tao**	**20.36**	**335**	P	**P**	**10 13 17.8**	**-2.6**
KNRA	**Kununurra**	**21.59**	**177**	P	**P**	**10 13 34.6**	**+0.9**
KNRA				IAmb	IAmb	10 13 49.9	
	comp=Z,50nm,1.6s						
LEM	**Lembang**	**23.66**	**238**	LR	LR	10 24 30.7	
	comp=Z,75nm,19.6s,baz=204,slow=40						
FITZ	**Fitzroy Crossi**	**24.04**	**185**	P	**P**	**10 14 01.1**	**+2.2**
	comp=Z,1.8nm,0.6s,baz=20,slow=9.2,SNR=6.6						
FITZ	**Fitzroy Crossi**	**24.04**	**185**	P	**P**	**10 13 59.6**	**+0.7**
PMG	**Port Moresby**	**24.81**	**128**	P	**P**	**10 14 03.2**	**-2.7**
PMG				IAmb	IAmb	10 14 04.5	
	comp=Z,34nm,1.6s						
COEN	**Coen**	**25.17**	**142**	P	**P**	**10 14 07.5**	**-1.6**
COEN				IAmb	IAmb	10 14 41.9	
	comp=Z,11nm,1.1s						
WRAB	**Tennant Creek**	**26.64**	**166**	P	**P**	**10 14 22.7**	**+0.3**
WRAB				IAmb	IAmb	10 14 59.8	
	comp=Z,7.9nm,1.0s						
WRA	**Warramunga Arr**	**26.64**	**166**	P	**P**	**10 14 25.0**	**+2.5**
	comp=Z,1.8nm,0.7s,baz=344,slow=10,SNR=15						
WR0	**Warramunga Arr**	**26.71**	**165**	P	**P**	**10 14 23.9**	**+0.8**
WR0				IAmb	IAmb	10 14 56.7	
	comp=Z,5.6nm,0.9s						
ASAR	**Alice Springs**	**30.14**	**168**	P	**P**	**10 14 54.8**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=350,slow=7.4,SNR=9.0						
ASAR				PcP	**PcP**	**10 17 56.5**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=349,slow=2.3,SNR=2.7						
CMAR	**Chiang Mai Arr**	**30.54**	**296**	LR	LR	10 28 04.2	
	comp=Z,41nm,19.0s,baz=115,slow=38						
PATS	**Pohnpei**	**30.54**	**87**	P	**P**	**10 14 55.1**	**-2.2**
KSRS	**Korea Array**	**31.29**		LR	LR	10 31 38.3	
	comp=Z,33nm,18.5s,baz=195,slow=44						
MJAR	**Matsushiro Arr**	**31.90**	**16**	LR	LR	10 29 22.3	
	comp=Z,52nm,19.0s,baz=280,slow=39						
FORT	**Forrest**	**36.59**	**179**	P	**P**	**10 15 50.8**	**+1.1**
ERM	**Erimo**	**38.43**	**19**	P	**P**	**10 16 03.7**	**-1.4**
MDJ	**Mudanjiang**	**38.48**	**2**	P	**P**	**10 16 04.8**	**-0.8**
STKA	**Stephens Creek**	**39.98**	**161**	P	**P**	**10 16 20.1**	**+1.8**
	comp=Z,2.2nm,0.7s,baz=352,slow=6.5,SNR=4.5						
STKA	**Stephens Creek**	**39.98**	**161**	P	**P**	**10 16 18.6**	**+0.3**
ARMA	**Armidale**	**42.94**	**149**	P	**P**	**10 16 42.5**	**-0.2**
CAN	**Canberra**	**45.80**	**155**	P	**P**	**10 17 05.2**	**-0.2**
MK31	**Makanchi Array**	**56.19**	**324**	P	**P**	**10 18 25.0**	**+1.6**
MKAR	**Makanchi Array**	**56.19**	**324**	P	**P**	**10 18 24.6**	**+1.1**
	comp=Z,2.0nm,0.5s,baz=119,slow=7.9,SNR=38						
MKAR				PcP	**PcP**	**10 19 24.1**	**+3.2**
	comp=Z,0.8nm,0.6s,baz=113,slow=4.9,SNR=2.4						
MAKZ	**Makanchi**	**56.38**	**324**	P	**P**	**10 18 25.4**	**+0.6**
MAKZ				IAmb	IAmb	10 18 48.3	
	comp=Z,3.4nm,1.1s						
ZALV	**Zalesovo Beam**	**58.96**	**332**	P	**P**	**10 18 42.9**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=168,slow=5.7,SNR=4.2						
KURK	**Kurchatov**	**60.30**	**326**	P	**P**	**10 18 53.2**	**+1.3**
KURBB	**Kurchatov Arra**	**60.30**	**326**	P	**P**	**10 18 53.1**	**+1.2**
	comp=Z,3.4nm,0.6s,baz=125,slow=6.6,SNR=53						
KBL	**Kabul**	**60.84**	**306**	P	**P**	**10 18 56.1**	**-0.2**
GAR	**Garm**	**61.03**	**311**	P	**P**	**10 18 57.1**	**-0.2**
KNTN	**Kanton**	**61.24**	**96**	P	**P**	**10 18 57.1**	**-1.9**
KK31	**Karatay Array**	**62.17**	**316**	P	**P**	**10 19 04.1**	**-0.7**
KK31				IAmb	IAmb	10 19 15.8	
	comp=Z,10nm,1.6s						
KKAR	**Karatay Array**	**62.17**	**316**	P	**P**	**10 19 04.1**	**-0.7**
KKAR				IAmb	IAmb	10 19 15.8	
	comp=Z,10nm,1.6s						
BVAR	**Borovoye Array**	**65.89**	**326**	P	**P**	**10 19 30.2**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=139,slow=9.7,SNR=9.4						
BRVK	**Borovoye**	**65.96**	**326**	P	**P**	**10 19 30.3**	**+0.8**
BRVK				IAmb	IAmb	10 19 31.4	
	comp=Z,3.3nm,0.7s						
ABKAR	**Akbulak array**	**70.94**	**320**	P	**P**	**10 20 00.9**	**+0.2**
ABKAR				IAmb	IAmb	10 20 13.4	
	comp=Z,2.2nm,0.8s						
AKTO	**Aktyubinsk**	**72.42**	**321**	P	**P**	**10 20 09.7**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=103,slow=11,SNR=3.7						
FINES	**FINESS Array B**	**90.23**	**332**	P	**P**	**10 21 46.3**	**+2.6**
	comp=Z,2.2nm,0.9s,baz=12,slow=2.0,SNR=1.5						
TORD	**Torodi Ar. Bea**	**122.98**	**290**	PKP	**PKiKP**	**10 27 41.5**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=5.7,slow=2.9,SNR=2.6						

*SJA **21** 10:35:52.6±0.5,35.45S×72.57W,h36±26km, ML3.3, MW3.8*
*GUC **21** 10:36:04.9±0.7,34.70S×72.27W,h32km±3km, ML3.5*

ISC 21 10:36:06.5±1.8,34.80S±0.07×72.1W±0.1,h33km±4km,n15, σ1§26/23,1C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**0.26**	**145**	*e*P	**Pb**	**10 36 13.3**	**-0.5**
GO05				*i* S	**Sb**	**10 36 19.9**	**+1.1**
COCH	**Cobquecura**	**1.44**	**202**	⇓*i*P	**Pn**	**10 36 29.9**	**-0.3**
COCH				*i* S	**Sn**	**10 36 48.5**	**+0.5**
RCDM	**Rinconada Maip**	**1.69**	**40**	*e*P	**Pn**	**10 36 33.3**	**-0.5**
RCDM				*i* S	**Sn**	**10 36 54.5**	**+0.2**
ANTU	**Antumapu**	**1.73**	**45**	*e*P	**Pn**	**10 36 34.6**	**+0.3**
ANTU				*i* S	**Sn**	**10 36 56.5**	**+1.2**
ANTU				IAML		10 36 59.2	
	comp=N,578nm,0.4s						
LMEL	**Las Melosas**	**1.84**	**60**	⇓*i*P	**Pn**	**10 36 36.6**	**+0.7**
LMEL				*i* S	**Sb**	**10 37 00.7**	**-1.7**
LMEL				IAML		10 37 03.2	
	comp=N,983nm,0.2s						
CLCH	**Cerro Calan**	**1.91**	**43**	*e*P	**Pn**	**10 36 36.2**	**-0.6**
CLCH				*i* S	**Sn**	**10 37 00.7**	**+0.9**
CLCH				IAML		10 37 08.1	
	comp=E,1μm,0.9s						
PEL	**Peldehue**	**2.03**	**36**	⇑*i*P	**Pn**	**10 36 37.8**	**-0.7**
PEL				*i* S	**Sn**	**10 37 02.6**	**0.0**
PEL				IAML		10 37 09.5	
	comp=N,464nm,0.5s						
PEL	**Peldehue**	**2.03**	**36**	*i* P	**Pn**	**10 36 37.6**	**-0.8**
ROC1	**El Roble**	**2.03**	**27**	*i* P	**Pn**	**10 36 37.2**	**-1.5**
ROC1				*i* S	**Sb**	**10 37 10.7**	**+2.7**
ROCH	**El Roble**	**2.04**	**27**	*e*P	**Pn**	**10 36 36.6**	**-2.1**
ROCH				IAML		10 37 08.8	
	comp=N,305nm,0.5s						
FCH	**Farellones**	**2.10**	**46**	*e*P	**Pn**	**10 36 39.4**	**-0.3**
FCH				*i* S	**Sn**	**10 37 06.5**	**+1.6**
FCH				IAML		10 37 09.8	
	comp=N,304nm,0.2s						
EDS3	**Malargue**	**2.42**	**114**	*i* P	Pn	10 36 34.8	-9.1
AAGR	**Agrelo**	**3.22**	**59**	*i* P	**Pn**	**10 36 53.0**	**-1.8**
ARCO	**CERRO ARCO**	**3.29**	**54**	*i* P	**Pn**	**10 36 54.5**	**-1.3**
RTLS	**Leoncito**	**3.81**	**39**	*i* P	**Pn**	**10 37 03.1**	**0.0**
RTLS				IAML		10 38 21.5	
	comp=Z,26nm,1.1s						

*NNC **21** 10:36:17.6±0.5,45.58N×77.43E,h0km,mb3.8,mpv3.7, Error ellipse: s-maj=4.4km s-min=3.3km az=132.0*

*SOME **21** 10:36:20.1,45.48N×77.43E,h20km*

ISC 21 10:36:18.0±1.4,45.55N±0.04×77.39E±0.03,h4km±12km, n50,σ1§10/78,13C-13D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDK	**Taldyqorghan**	**0.90**	**127**	⇑*e*P	**Pg**	**10 36 35.0**	**-0.2**
	140nm,0.3s						
TDK				⇓*i* S	**Sg**	**10 36 45.7**	**-1.3**
	443nm,0.1s						
TDK	**Taldyqorghan**	**0.90**	**127**	P	**Pg**	**10 36 34.9**	**-0.4**
	140nm,0.3s						
TDK				S	**Sg**	**10 36 45.6**	**-1.3**
	268nm,0.1s						
ARXS	**Arharly**	**1.37**	**167**	⇓*i*P	**Pb**	**10 36 44.3**	**0.0**
	62nm,0.2s						
ARXS				⇑*i* S	**Sg**	**10 37 02.1**	**0.0**
	118nm,0.3s						
ARXS	**Arharly**	**1.37**	**167**	P	**Pb**	**10 36 44.2**	**-0.1**
	46nm,0.1s						
ARXS				S	**Sg**	**10 37 02.1**	**0.0**
	118nm,0.3s						
KAPS	**Kapalarasan**	**1.41**	**100**	*e*P	**Pb**	**10 36 44.8**	**-0.2**
	55nm,0.2s						
KAPS				*e*S	**Sg**	**10 37 03.0**	**-0.3**
	187nm,0.2s						
KAPS	**Kapalarasan**	**1.41**	**100**	P	**Pb**	**10 36 44.8**	**-0.2**
	55nm,0.2s						
KAPS				S	**Sg**	**10 37 02.9**	**-0.3**
	119nm,0.2s						
CHKK	**Chushkaly**	**1.72**	**190**	⇑*i*P	**Pb**	**10 36 50.5**	**+0.3**
	18nm,0.1s						
CHKK				⇑*i* S	**Sg**	**10 37 13.2**	**0.0**
	259nm,0.3s						
CHKK	**Chushkaly**	**1.72**	**190**	P	**Pb**	**10 36 50.8**	**+0.6**
	18nm,0.1s						
CHKK				S	**Sg**	**10 37 13.1**	**-0.2**
	198nm,0.1s						
KUU	**Kurty**	**1.82**	**205**	*e*P	**Pb**	**10 36 52.0**	**+0.1**
	24nm,0.1s						
KUU				*e*S	**Sb**	**10 37 15.0**	**0.0**
	266nm,0.2s						
KUU	**Kurty**	**1.82**	**205**	P	**Pb**	**10 36 52.0**	**+0.1**
	24nm,0.1s						
KUU				S	**Sb**	**10 37 15.0**	**0.0**
	266nm,0.2s						
KTBS	**Karatobe**	**1.91**	**196**	*e*P	**Pb**	**10 36 53.5**	**+0.1**
	10nm,0.3s						
KTBS				*e*S	**Sb**	**10 37 17.5**	**-0.1**
	119nm,0.2s						
KTBS	**Karatobe**	**1.91**	**196**	P	**Pb**	**10 36 53.5**	**+0.1**
	10nm,0.3s						
KTBS				S	**Sb**	**10 37 17.5**	**-0.1**
	119nm,0.2s						
KURS	**Kuram**	**2.14**	**165**	*e*P	**Pb**	**10 36 58.1**	**+0.8**
	25nm,0.3s						
KURS				*e*S	**Sg**	**10 37 25.5**	**-1.1**
	31nm,0.4s						
KURS	**Kuram**	**2.14**	**165**	Pg	**Pb**	**10 36 58.1**	**+0.8**
	25nm,0.3s						
KURS				Lg	Lg	10 37 25.5	
	31nm,0.4s						
KPKS	**Kokpek**	**2.28**	**156**	*e*P	**Pb**	**10 36 60.0**	**+0.2**
	18nm,0.1s						
KPKS				*e*S	**Sb**	**10 37 29.2**	**+0.9**
	76nm,0.3s						
KOTS	**Kotyrbulak**	**2.32**	**185**	*e*P	**Pb**	**10 37 00.6**	**0.0**
	22nm,0.2s						
KOTS				*e*S	**Sb**	**10 37 30.2**	**+0.6**
	84nm,0.4s						
KOTS	**Kotyrbulak**	**2.32**	**185**	Pg	**Pb**	**10 37 00.6**	**0.0**
	22nm,0.2s						
KOTS				Lg	Lg	10 37 30.3	
	84nm,0.4s						
MDOK	**Medeo**	**2.40**	**186**	*e*P	**Pb**	**10 37 02.0**	**+0.1**
	12nm,0.3s						
MDOK				*e*S	**Sb**	**10 37 32.2**	**+0.4**
	39nm,0.2s						
MDOK	**Medeo**	**2.40**	**186**	⇓Pg	**Pb**	**10 37 01.9**	**+0.1**
	13nm,0.8s						
MDOK				⇓Lg	Lg	10 37 34.4	
	30nm,0.4s						
MDOK	**Medeo**	**2.40**	**186**	Pg	**Pb**	**10 37 02.0**	**+0.1**
	12nm,0.3s						
MDOK				Lg	Lg	10 37 32.2	
	39nm,0.2s						
BTLS	**Baital**	**2.42**	**259**	*e*P	**Pb**	**10 37 03.8**	**+1.8**
	17nm,0.3s						
BTLS				*e*S	**Sb**	**10 37 34.2**	**+2.1**
	29nm,0.5s						
BTLS	**Baital**	**2.42**	**259**	Pg	**Pb**	**10 37 02.7**	**+0.7**
	17nm,0.3s						
BTLS				Lg	Lg	10 37 33.7	
	5.1nm,0.3s						
ZHN	**Zhinishke**	**2.50**	**162**	*e*P	**Pb**	**10 37 04.4**	**+0.9**
	12nm,0.2s						
ZHN				*e*S	**Sg**	**10 37 36.1**	**-2.0**
	30nm,0.2s						
ZHN	**Zhinishke**	**2.50**	**162**	Pg	**Pb**	**10 37 04.4**	**+0.9**
	12nm,0.2s						
ZHN				Lg	Lg	10 37 36.1	
	30nm,0.2s						
MTBS	**Maitube**	**2.52**	**196**	*e*P	**Pb**	**10 37 04.3**	**+0.5**
	6.2nm,0.2s						
MTBS				*e*S	**Sb**	**10 37 36.2**	**+1.0**
	104nm,0.3s						
MTBS	**Maitube**	**2.52**	**196**	Pg	**Pb**	**10 37 04.3**	**+0.5**
	6.2nm,0.2s						
MTBS				Lg	Lg	10 37 36.2	
	104nm,0.3s						
TNSS	**Tian-Shan**	**2.53**	**187**	*e*P	**Pb**	**10 37 05.2**	**+0.9**
	11nm,0.3s						
TNSS				*e*S	**Sb**	**10 37 37.5**	**+1.6**
	37nm,0.4s						
TNSS	**Tian-Shan**	**2.53**	**187**	Pg	**Pb**	**10 37 05.2**	**+0.9**
	11nm,0.3s						
TNSS				Lg	Lg	10 37 37.5	
	37nm,0.4s						
DGS	**Degeres**	**2.58**	**207**	*e*P	**Pb**	**10 37 05.6**	**+0.7**
	20nm,0.3s						
DGS				*e*S	**Sb**	**10 37 38.6**	**+1.5**
	172nm,0.4s						
DGS	**Degeres**	**2.58**	**207**	Pg	**Pb**	**10 37 05.6**	**+0.7**
	20nm,0.3s						
DGS				Lg	Lg	10 37 38.6	
	172nm,0.4s						
SATY	**Saty**	**2.59**	**163**	*e*P	**Pb**	**10 37 06.0**	**+0.8**
	17nm,0.1s						
SATY				*e*S	**Sb**	**10 37 39.0**	**+1.5**
	49nm,0.1s						
SATY	**Saty**	**2.59**	**163**	Pg	**Pb**	**10 37 06.0**	**+0.8**
	17nm,0.1s						
SATY				Lg	Lg	10 37 39.0	
	49nm,0.1s						
UZB	**Uzunbulak**	**2.67**	**153**	*e*P	**Pb**	**10 37 06.9**	**+0.4**
	6.6nm,0.2s						
UZB				*e*S	**Sb**	**10 37 40.5**	**+0.9**
	34nm,0.2s						
UZB	**Uzunbulak**	**2.67**	**153**	Pg	**Pb**	**10 37 06.9**	**+0.4**
	6.6nm,0.2s						
UZB				Lg	Lg	10 37 40.6	
	34nm,0.2s						
PDGK	**Podgornoye**	**2.68**	**145**	Pg	**Pb**	**10 37 06.9**	**+0.2**
	7.2nm,0.1s						
PDGK				Lg	Lg	10 37 40.5	
	14nm,0.3s						
PDGK	**Podgornoye**	**2.68**	**145**	⇑Pg	**Pb**	**10 37 06.0**	**-0.6**
	6.2nm,0.4s						
PDGK				⇑Lg	Lg	10 37 43.2	
	23nm,0.5s						
KST	**Kastek**	**2.71**	**203**	*e*P	**Pb**	**10 37 07.7**	**+0.7**
	5.1nm,0.2s						
KST				*e*S	**Sb**	**10 37 42.1**	**+1.5**
	56nm,0.3s						
KST	**Kastek**	**2.71**	**203**	Pg	**Pb**	**10 37 07.7**	**+0.7**
	5.1nm,0.2s						
KST				Lg	Lg	10 37 42.1	
	56nm,0.3s						
SHLS	**Shalkode**	**2.82**	**147**	*e*P	**Pg**	**10 37 12.7**	**+0.8**
	11nm,0.2s						
SHLS				*e*S	**Sg**	**10 37 50.5**	**+2.1**
	50nm,0.3s						
SHLS	**Shalkode**	**2.82**	**147**	Pg	**Pg**	**10 37 12.7**	**+0.8**
	11nm,0.2s						
SHLS				Lg	Lg	10 37 50.5	
	50nm,0.3s						
SGDS	**Sogindy**	**2.88**	**224**	Pg	**Pb**	**10 37 10.9**	**+0.9**
	6.1nm,0.4s						
SGDS				Lg	Lg	10 37 47.3	
	41nm,0.2s						
TKM2	**Tokmak 2**	**2.93**	**207**	⇑Pg	**Pg**	**10 37 13.1**	**-1.0**
	3.8nm,0.7s						
TKM2				⇓Lg	Lg	10 37 50.2	
	38nm,0.5s						
MAKZ	**Makanchi**	**3.43**	**67**	⇑Pn	**Pn**	**10 37 12.7**	**+0.5**
	0.9nm,0.5s						
MAKZ				⇓Pg	**Pb**	**10 37 20.5**	**+1.3**
	5.2nm,0.4s						
MAKZ				⇑Lg	Lg	10 38 05.1	
	6.0nm,0.5s						
AAK	**Ala-Archa**	**3.58**	**217**	⇓Pg	**Pb**	**10 37 23.0**	**+1.0**
	3.7nm,0.6s						
AAK				⇓Lg	Lg	10 38 11.3	
	22nm,0.8s						
MK31	**Makanchi Array**	**3.62**	**68**	⇓Pn	**Pn**	**10 37 15.7**	**+0.7**
	1.7nm,0.5s,baz=235,slow=11,SNR=73						
MK31				⇓Pg	**Pb**	**10 37 24.3**	**+1.6**
	2.4nm,0.3s,baz=262,slow=16,SNR=37						
MK31				⇓Lg	Lg	10 38 10.9	
	5.2nm,0.4s,baz=258,slow=29,SNR=5.5						
MRKS	**Merke**	**4.10**	**228**	*e*P	**Pg**	**10 37 34.9**	**-1.7**
	3.3nm,0.3s						
MRKS				*e*S	**Sg**	**10 38 28.5**	**-1.3**
	14nm,0.3s						
MRKS	**Merke**	**4.10**	**228**	Pg	**Pg**	**10 37 34.9**	**-1.7**
	3.3nm,0.3s						
MRKS				Lg	Lg	10 38 28.5	
	14nm,0.3s						
KURBB	**Kurchatov Arra**	**5.13**	**8**	⇑Sn	**Sn**	**10 38 32.2**	**-3.1**
	4.4nm,0.5s						
KURBB				⇓Lg	Lg	10 38 56.1	
	39nm,0.8s						
KURK	**Kurchatov**	**5.23**	**9**	⇑Sn	**Sn**	**10 38 35.5**	**-2.2**
	1.8nm,0.5s						
KURK				⇑Lg	Lg	10 39 00.1	
	15nm,0.8s						
KK31	**Karatay Array**	**5.51**	**246**	⇑Pg	**Pb**	**10 37 58.6**	**+3.9**
	1.7nm,0.4s,baz=61,slow=16,SNR=12						
KK31				⇓Lg	Lg	10 39 10.3	
	3.9nm,0.4s,baz=55,slow=29,SNR=6.3						

*IDC **21** 10:38:45.8±2.2,13.37N×91.39W,h0km,mb3.6/6, mb1 4.0/9,mb1mx3.8/44,mbtmp3.7/9,ML4.1/3,Error ellipse: s-maj=39.6km s-min=26.5km az=154.0*
*UCR **21** 10:38:50.8±1.7,13.57N×91.43W,h15km±19km,MD3.7, ML3.9,mb3.9(NEIC)*
*MEX **21** 10:38:51.2±0.7,13.65N×91.30W,h24km±37km,MD4.2*
*SNET **21** 10:38:51.1±1.0,13.56N×91.38W,h13km±7km,ML3.9*
*GCG **21** 10:38:51.3±0.9,13.55N×91.37W,h13km±999km,MD4.1*
*NEIC **21** 10:38:52.1±2.3,13.61N±0.07×91.48W±0.05,h36km±9km, mb3.9/22,Md4.2(MEX)*

ISC 21 10:38:47.4±1.8,13.45N±0.06×91.54W±0.04,h12km±11km, n72,σ1§70/87,mb3.8/15,2C,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.98**	**358**	*e*P	**Pn**	**10 39 07.6**	**+0.6**
FUG	**Fuego 3**	**1.20**	**34**	*e*P	**Pg**	**10 39 10.6**	**+0.1**
FUG	**Fuego 3**	**1.20**	**34**	*e*P	**Pg**	**10 39 10.6**	**+0.1**
STG3	**Santiaguito 3,**	**1.25**	**359**	*e*P	**Pn**	**10 39 10.3**	**-0.6**
IXG	**Ixpaco**	**1.28**	**56**	⇑*e*P	**Pn**	**10 39 11.3**	**0.0**
IXG	**Ixpaco**	**1.28**	**56**	⇑*e*P	**Pn**	**10 39 11.3**	**0.0**
PCG	**Pacaya**	**1.30**	**44**	*e*P	**Pn**	**10 39 11.2**	**-0.4**
PCG	**Pacaya**	**1.30**	**44**	*e*P	**Pn**	**10 39 11.2**	**-0.4**
THIG		**1.61**	**334**	*e*P	**Pn**	**10 39 15.2**	**-0.5**
THIG				*e*S	**Sn**	**10 39 33.4**	**-3.0**
THIG		**1.61**	**334**		**Pn**	**10 39 15.2**	**-0.5**
THIG					**Sn**	**10 39 33.4**	**-3.0**
NBG	**Las Nubes**	**1.61**	**46**	*e*P	**Pb**	**10 39 17.6**	**+0.3**
NBG				*e*S	**Sn**	**10 39 37.5**	**+0.6**
NBG	**Las Nubes**	**1.61**	**46**	*e*P	**Pb**	**10 39 17.6**	**+0.3**
NBG				*e*S	**Sn**	**10 39 37.5**	**+0.6**
APG	**El Apazote**	**1.86**	**34**	Pn	**Pn**	**10 39 20.3**	**+1.0**
	53nm,0.3s,baz=119,slow=11,SNR=154						
APG				Sn	**Sn**	**10 39 43.4**	**+0.5**
	91nm,0.3s,baz=92,slow=16,SNR=9.9						
APG				LR	LR	10 40 07.1	
	comp=Z,262nm,21.2s,baz=280,slow=44						
SNJE	**San Jose**	**1.92**	**77**	*e*P	**Pn**	**10 39 20.8**	**+0.7**
SNJE	**San Jose**	**1.92**	**77**	*e*P	**Pn**	**10 39 20.8**	**+0.7**
BOQS	**Boqueron**	**2.21**	**82**	*e*P	**Pn**	**10 39 25.3**	**+1.2**
BOQS				*e*S	**Sn**	**10 39 52.7**	**+1.1**
SNET	**Serv Nac Est T**	**2.25**	**84**	*e*P	**Pn**	**10 39 26.2**	**+1.6**
SNET				IAML		10 39 59.4	
	comp=Z,1μm,0.3s						
SNET	**Serv Nac Est T**	**2.25**	**84**	*e*P	**Pn**	**10 39 26.2**	**+1.6**
SNET				IAML		10 39 59.4	
	comp=Z,1μm,0.3s						
SNET	**Serv Nac Est T**	**2.25**	**84**		**Pn**	**10 39 26.0**	**+1.4**
SNET				Sn	**Sb**	**10 39 54.4**	**-1.6**
MTO3	**Montecristo**	**2.31**	**66**	*e*P	**Pn**	**10 39 26.4**	**+0.8**
MTO3				*i* Sg	**Sb**	**10 39 56.8**	**-1.0**
MTO3	**Montecristo**	**2.31**	**66**	*e*P	**Pn**	**10 39 26.4**	**+0.8**
MTO3				*i* Sg	**Sb**	**10 39 56.8**	**-1.0**
LFU	**La Fuente**	**2.38**	**83**	*e*P	**Pn**	**10 39 27.5**	**+1.2**
LFU	**La Fuente**	**2.38**	**83**	*e*P	**Pn**	**10 39 27.5**	**+1.2**
LFRS	**El Faro**	**2.41**	**86**	*e*P	**Pn**	**10 39 28.4**	**+1.5**
PCIG		**2.77**	**324**	*e*P	**Pn**	**10 39 32.0**	**+0.4**
PCIG				*e*S	**Sn**	**10 40 03.0**	**-1.9**
PCIG		**2.77**	**324**		**Pn**	**10 39 32.0**	**+0.4**
PCIG					**Sn**	**10 40 03.0**	**-1.9**
TGIG		**3.64**	**335**	*i* P	**Pn**	**10 39 43.8**	**+0.1**
TGIG				*e*S	**Sn**	**10 40 24.3**	**-2.4**
TGIG		**3.64**	**335**		**Pn**	**10 39 47.6**	**+3.9**
TGUH	**Tegucigalpa,Un**	**4.19**	**81**	Pn

LENM	**Lemitar**	**24.93**	**328**	P	**P**	**10 44 13.4**	**+2.7**
ANMO	**Albuquerque**	**25.30**	**330**	P	**P**	**10 44 16.6**	**+2.5**
	comp=Z,0.8nm,0.5s,baz=153,slow=13,SNR=4.2						
ANMO	**Albuquerque**	**25.30**	**330**	P	**P**	**10 44 14.2**	**+0.1**
MTP	**Monte Pirata**	**25.42**	**76**	P	**P**	**10 44 14.8**	**-0.3**
214A	**Organ Pipe Nat**	**26.82**	**317**	P	**P**	**10 44 27.6**	**-0.2**
214A				IAmb	IAmb	10 44 43.7	
	comp=Z,10nm,1.5s						
Q60A	**Greensboro**	**28.99**	**26**	P	**P**	**10 44 45.7**	**-1.3**
ISCO	**Idaho Springs**	**29.02**	**337**	P	**P**	**10 44 44.3**	**-3.4**
ISCO				IAmb	IAmb	10 44 56.0	
	comp=Z,1.3nm,0.9s						
SMCO	**Snowmass**	**29.03**	**335**	P	**P**	**10 44 46.6**	**-1.3**
SMCO				IAmb	IAmb	10 44 47.0	
	comp=Z,2.9nm,1.2s						
O56A	**Blue Knob Stat**	**29.04**	**21**	P	**P**	**10 44 47.3**	**-0.3**
PDAR	**Pinedale Array**	**33.10**	**335**	P	**P**	**10 45 24.8**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=140,slow=13,SNR=2.0						
NVAR	**Mina Array Bea**	**34.38**	**321**	P	**P**	**10 45 37.9**	**+3.2**
	comp=Z,1.4nm,0.7s,baz=135,slow=8.7,SNR=5.9						
YKA	**Yellowknife Ar**	**51.66**	**347**	P	**P**	**10 47 53.2**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=139,slow=6.8,SNR=20						
YKA				PcP	**PcP**	**10 49 07.5**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=161,slow=3.5,SNR=4.6						
DAWY	**Dawson**	**60.35**	**338**	P	**P**	**10 48 56.7**	**+0.6**
ILAR	**Eielson Array**	**63.52**	**337**	P	**P**	**10 49 17.7**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=104,slow=5.6,SNR=6.2						
CMAR	**Chiang Mai Arr**	**146.65**	**342**	PKPbc	**PKPab**	**10 58 30.8**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=353,slow=5.1,SNR=5.4						

*IDC **21** 10:53:20.2±0.8, 19°.74N×77°.05W, h0km, mb3.8/8, mb1 4.2/9, mb1mx3.8/36, mbtmp3.9/9, ML4.3/1, MS3.1/6, Ms1 3.1/6, ms1mx2.9/42, Error ellipse: s-maj=26.1km s-min=21.0km az=40.0*

*ISCJB **21** 10:53:21.7±0.6, 19°.81N±0°.03×77°.15W±0°.02, h24km±5km, mb3.8/8, MS3.2/2, Error ellipse: s-maj=4.5km s-min=3.6km az=33.9*

*NEIC **21** 10:53:22.0±2.3, 19°.80N±0°.07×77°.14W±0°.05, h12km±1km, mb4.2/19*

*SSNC **21** 10:53:22.9±1.1, 19°.77N×77°.15W, h3km±7km, MD3.8, ML3.9, MW3.9*

*JSN **21** 10:53:25.0±0.4, 19°.66N×77°.11W, h21km±59km, MD3.8*

ISC 21 10:53:22.7±1.2, 19°.77N±0°.04×77°.19W±0°.04, h17km±8km, n68, σ1s79/77, mb4.1/13, 2C-8D, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.34**	**31**	*i*	*iP*	**Pg**		**10 53 29.6**	**-0.3**
LMGC				*i*	S	**Sg**		**10 53 33.8**	**-0.9**
LMGC					IAML			10 53 34.0	
	comp=N,53μm,0.1s								
LMGC					IAML			10 53 34.1	
	comp=E,47μm,0.1s								
BBJ	**Bamboo Saint A**	**1.38**	**183**	*i*	*iP*	**Pn**		**10 53 46.4**	**-0.8**
RCC	**Rio Carpintero**	**1.43**	**81**	*i*	*iP*	**Pn**		**10 53 46.0**	**-1.7**
RCC				*e*	S	**Sn**		**10 54 02.6**	**-3.5**
RCC					IAML			10 54 08.6	
	comp=E,884nm,0.2s								
RCC					IAML			10 54 08.6	
	comp=N,1μm,0.1s								
BNJ	**Bonny Gate**	**1.46**	**171**	*i*	*iP*	**Pn**		**10 53 47.4**	**-0.9**
CCCC	**Cccc**	**1.52**	**339**	*i*	*iP*	**Pn**		**10 53 46.5**	**-2.5**
CCCC				*e*	S	**Sn**		**10 54 04.6**	**-3.8**
CCCC					IAML			10 54 08.1	
	comp=E,1μm,0.4s								
CCCC					IAML			10 54 08.8	
	comp=N,868nm,0.4s								
STH	**Stony Hill**	**1.72**	**168**	*i*	*iP*	**Pn**		**10 53 50.7**	**-1.2**
GWJ	**Greenwich**	**1.74**	**165**	*i*	*iP*	**Pn**		**10 53 51.2**	**-1.1**
CMJ	**Castle Mountai**	**1.80**	**154**	*i*	*iP*	**Pn**		**10 53 52.0**	**-0.9**
HOJ	**Hope**	**1.81**	**167**	*i*	*eP*	**Pn**		**10 53 52.1**	**-0.9**
MCJ	**Malvern**	**1.89**	**194**	*i*	P	**Pn**		**10 53 53.9**	**-0.3**
MCJ				*i*	S	**Sn**		**10 54 15.7**	**-2.0**
GTBY	**Guantanamo Bay**	**1.96**	**85**			**Pn**		**10 53 54.5**	**-0.7**
GTBY					Sn	**Sn**		**10 54 17.2**	**-2.1**
PCJ	**Portland Cotta**	**2.02**	**179**	*i*	*iP*	**Pn**		**10 53 55.5**	**-0.4**
MOAC	**Moa**	**2.27**	**67**	*e*	P	**Pn**		**10 54 00.4**	**+1.0**
MOAC				*e*	S	**Sn**		**10 54 29.0**	**+1.9**
MOAC					IAML			10 54 34.8	
	comp=N,446nm,0.5s								
MOAC					IAML			10 54 40.3	
	comp=E,972nm,0.5s								
CBCY	**The Bluff, Cay**	**2.42**	**270**		Pn	**Pn**		**10 54 01.7**	**+0.3**
MASC	**Masc**	**2.81**	**81**	*e*	P	**Pn**		**10 54 05.7**	**-1.2**
MASC				*e*	S	**Sn**		**10 54 38.3**	**-2.0**
MASC					IAML			10 54 43.9	
	comp=E,344nm,0.3s								
MASC					IAML			10 54 44.3	
	comp=N,271nm,0.2s								
MGV	**Manicaragua**	**3.50**	**312**	*e*	P	**Pn**		**10 54 16.9**	**+0.7**
MGV				*e*	S	**Sn**		**10 54 58.1**	**+0.9**
MGV					IAML			10 55 11.5	
	comp=E,91nm,0.4s								
MGV					IAML			10 55 11.5	
	comp=N,125nm,0.6s								
FSCY	**Frank Sound, G**	**3.79**	**264**		Pn	**Pn**		**10 54 19.3**	**-1.0**
LGNH	**Logne**	**4.51**	**105**		Pn	**Pn**		**10 54 28.4**	**-1.8**
SDDR	**Presa de Saban**	**5.63**	**97**			**Pn**		**10 54 45.6**	**0.0**
SDDR					Sn	**Sn**		**10 55 49.6**	**-0.3**
GRTK	**Grand Turk**	**5.93**	**72**		Pn	**Pn**		**10 54 49.9**	**+0.2**
GRTK					Sn	**Sn**		**10 55 54.7**	**-2.6**
SOR	**Soroa**	**6.20**	**300**	*e*	P	**Pn**		**10 54 53.6**	**+0.1**
SOR				*e*	S	**Sn**		**10 56 01.3**	**-2.7**
SOR					IAML			10 56 09.1	
	comp=N,18nm,0.3s								
SOR					IAML			10 56 13.6	
	comp=E,21nm,0.4s								
061Z	**Ochoppi**	**6.97**	**331**		Pn	**Pn**		**10 55 03.9**	**0.0**
DR12	**Loma Pena Alta**	**7.44**	**96**		Pn	**Pn**		**10 55 10.0**	**-0.6**
DR12					Sn	**Sn**		**10 56 32.8**	**-1.9**
060A	**Indiantown**	**7.80**	**339**		Pn	**Pn**		**10 55 14.2**	**-1.1**
DWPF	**Disney Wildern**	**9.16**	**336**		Pn	**Pn**		**10 55 33.3**	**-0.8**
TEIG	**Tepich**	**10.43**	**274**		Pn	**Pn**		**10 55 52.4**	**+0.9**
	comp=E,2.6nm,0.3s,baz=330,slow=0.5,SNR=33								
TEIG					Sn	**Sn**		**10 57 42.2**	**-5.9**
	comp=E,2.4nm,0.3s,baz=319,slow=20,SNR=6.7								
TEIG	**Tepich**	**10.43**	**274**			**Pn**		**10 55 52.3**	**+0.8**
TEIG						**Sn**		**10 57 43.1**	**-5.0**
SJG	**San Juan**	**10.58**	**97**	LR		LR		11 00 11.5	
	comp=E,87nm,18.7s,baz=265,slow=39								
BCIP	**Isla Barro Col**	**10.85**	**194**		Pn	**Pn**		**10 55 57.7**	**+0.5**
SDV	**Santo Domingo**	**12.54**	**149**	LR		LR		11 02 10.8	
	comp=E,62nm,18.1s,baz=74,slow=43								
GOGA	**Godfrey**	**14.69**	**339**		Pn	**Pn**		**10 56 49.0**	**-0.7**
ROSC	**El Rosal**	**15.10**	**169**	LR		LR		11 02 32.6	
	comp=E,74nm,19.6s,baz=36,slow=37								
PCRV	**Puerto La Cruz**	**15.42**	**126**		Pn	**P**		**10 57 02.4**	**-1.6**
	comp=E,0.9nm,0.3s,baz=14,slow=12,SNR=3.4								
PLCV	**Puerto La Cruz**	**15.46**	**126**			**Pn**		**10 57 02.4**	**+2.3**
Z50A	**Ashland**	**15.53**	**332**		Pn	**Pn**		**10 56 57.7**	**-3.1**
Z50A					IAmb	IAmb		10 57 27.1	
	comp=Z,30nm,1.9s								
LRAL	**Lakeview Retre**	**15.85**	**328**		Pn	**Pn**		**10 57 02.4**	**-2.6**
BG3	**Lake Jocassee**	**15.99**	**343**			**PcP**		**11 02 03.1**	**-0.6**
Y49A	**Blount Mountai**	**16.25**	**332**		Pn	**Pn**		**10 57 08.9**	**-1.3**
Y49A					IAmb	IAmb		10 57 31.7	
	comp=Z,32nm,1.8s								
V55A	**Taylorsville**	**16.41**	**348**		Pn	**Pn**		**10 57 08.6**	**-3.5**
V55A					IAmb	IAmb		10 58 01.7	
	comp=Z,51nm,1.9s								
TKL	**Tuckaleechee C**	**16.86**	**341**	LR		LR		11 03 17.7	
	comp=Z,60nm,20.8s,baz=76,slow=35								
CPCT	**Cooper Cave**	**16.91**	**339**		Pn	**Pn**		**10 57 18.4**	**-0.1**
CMIG	**Matias Romero**	**17.00**	**264**	P		**P**		**10 57 23.8**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=128,slow=7.8,SNR=4.5								
TZTN	**Tazewell**	**17.62**	**343**		Pn	**Pn**		**10 57 26.0**	**-1.3**
TZTN					IAmb	IAmb		10 57 28.3	
	comp=Z,33nm,1.6s								
T52A	**Hallie**	**18.00**	**345**			**Pn**		**10 57 32.1**	**0.0**
T52A					IAmb	IAmb		10 57 51.5	
	comp=Z,26nm,1.5s								
P48A	**Milroy**	**20.87**	**342**	P		**P**		**10 58 04.3**	**+0.5**
P48A					IAmb	IAmb		10 58 09.1	
	comp=Z,16nm,1.2s								
TXAR	**Lajitas Array**	**25.84**	**297**	P		**P**		**10 58 55.0**	**+1.6**
	comp=Z,1.3nm,0.9s,baz=116,slow=9.2,SNR=9.3								
TX31	**Lajitas Ar. Si**	**25.85**	**297**	P		**P**		**10 58 55.6**	**+2.1**
TX31					IAmb	IAmb		10 59 18.3	
	comp=Z,2.9nm,1.0s								
I42A	**Draeger Farm,**	**25.98**	**340**	P		**P**		**10 58 55.8**	**+1.4**
ANMO	**Albuquerque**	**29.93**	**306**	LR		LR		11 13 24.0	
	comp=Z,92nm,18.0s,baz=38,slow=40								

NNA	**Nana**	**31.56**	**179**	LR	LR	11 13 45.0	
	comp=Z,30nm,18.6s,baz=20,slow=39						
SAML	**Samuel**	**31.70**	**153**	P	**P**	**10 59 46.9**	**+1.3**
U15A	**North Rim**	**34.89**	**306**	P	**P**	**11 00 16.8**	**+3.1**
U15A				IAmb	IAmb	11 00 55.1	
	comp=Z,12nm,1.9s						
PDAR	**Pinedale Array**	**35.59**	**317**	P	**P**	**11 00 19.4**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=110,slow=8.5,SNR=5.2						
REDW	**Red Top Meadow**	**36.70**	**317**	P	**P**	**11 00 30.3**	**+1.2**
REDW				IAmb	IAmb	11 00 58.0	
	comp=Z,7.0nm,1.4s						
MOOW	**Moose Ponds**	**36.83**	**318**	P	**P**	**11 00 31.7**	**+1.6**
FXWY	**Fox Creek**	**36.95**	**318**	P	**P**	**11 00 32.5**	**+1.4**
GO01	**Chusmiza**	**39.97**	**168**	P	**P**	**11 00 56.8**	**-0.2**
GO01				IAmb	IAmb	11 02 13.3	
	comp=Z,7.0nm,1.3s						
PB11	**IPOC Station P**	**39.97**	**169**	P	**P**	**11 00 56.8**	**+0.2**
PB11				IAmb	IAmb	11 01 29.9	
	comp=Z,7.0nm,1.0s						
NVAR	**Mina Array Bea**	**40.06**	**307**	P	**P**	**11 01 00.4**	**+3.1**
	comp=Z,0.6nm,0.8s,baz=101,slow=9.3,SNR=3.8						
YKA	**Yellowknife Ar**	**49.83**	**338**	P	**P**	**11 02 14.7**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=128,slow=8.7,SNR=9.1						
YKA				PcP	**PcP**	**11 03 35.2**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=133,slow=3.0,SNR=7.4						
GO06	**Curarrehue**	**59.28**	**175**	P	**P**	**11 03 23.4**	**0.0**
PLCA	**Paso Flores**	**60.51**	**174**	P	**P**	**11 03 32.5**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=16,slow=7.7,SNR=11						
PLCA	**Paso Flores**	**60.51**	**174**	P	**P**	**11 03 32.5**	**+0.7**
TORD	**Torodi Ar. Bea**	**75.35**	**81**	P	**P**	**11 05 05.1**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=306,slow=5.1,SNR=4.2						
ARCES	**ARCESS Array B**	**76.00**	**21**	P	**P**	**11 05 09.0**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=286,slow=4.5,SNR=9.5						
FINES	**FINESS Array B**	**78.99**	**28**	P	**P**	**11 05 26.1**	**+0.7**
	comp=Z,4.8nm,1.0s,baz=262,slow=3.9,SNR=6.8						
WRA	**Warramunga Arr**	**150.37**	**264**	PKPbc	**PKPbc**	**11 13 13.6**	**-0.3**
	comp=Z,3.2nm,0.6s,baz=89,slow=3.0,SNR=38						
ASAR	**Alice Springs**	**150.88**	**257**	PKPbc	**PKPbc**	**11 13 14.5**	**-0.6**
	comp=Z,4.9nm,0.7s,baz=89,slow=2.0,SNR=56						

*IDC **21** 11:01:19.3±1.5, 4°.64N×81°.63W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/32, mbtmp3.6/5, ML4.0/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/30, Error ellipse: s-maj=160.2km s-min=23.9km az=59.0*

ISC 21 11:01:18.9±0.9, 4°.48N±0°.05×81°.47W±0°.06, h10km, n51, σ2s70/46, mb3.6/4, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AZU	**Azuero**	**3.50**	**20**	*e*	*eP*	**Pg**		**11 02 25.5**	**-0.5**
AZU	**Azuero**	**3.50**	**20**	*e*	*eP*	**Pg**		**11 02 25.5**	**-0.5**
GR1C	**Gorgona, Isla**	**3.61**	**114**	*e*	*eP*	**Pb**		**11 02 26.2**	**+3.4**
GR1C	**Gorgona, Isla**	**3.61**	**114**	*e*	*eP*	**Pb**		**11 02 26.2**	**+3.4**
MALC	**Bahia Malaga**	**4.15**	**96**	*e*	*eP*	**Pg**		**11 02 39.5**	**+1.0**
MALC	**Bahia Malaga**	**4.15**	**96**	*e*	*eP*	**Pg**		**11 02 39.5**	**+1.0**
SOLC	**Bahia Solano**	**4.40**	**67**	*e*	*eP*	**Sn**		**11 03 10.7**	**-6.5**
SOLC	**Bahia Solano**	**4.40**	**67**	*e*	*eP*	**Sn**		**11 03 10.7**	**-6.5**
UPA	**Univ. de Panam**	**4.87**	**23**	*e*	*eP*	**Pb**		**11 02 46.1**	**+1.8**
UPA	**Univ. de Panam**	**4.87**	**23**	*e*	*eP*	**Pb**		**11 02 46.1**	**+1.8**
BBAC	**Balboa, Cauca**	**4.87**	**120**	*e*	*eP*	**Pb**		**11 02 42.1**	**-2.4**
BBAC	**Balboa, Cauca**	**4.87**	**120**	*e*	*eP*	**Pb**		**11 02 42.1**	**-2.4**
BCIP	**Isla Barro Col**	**4.93**	**19**	*e*	*eP*	**Pb**		**11 02 46.1**	**+0.7**
BCIP	**Isla Barro Col**	**4.93**	**19**	*e*	*eP*	**Pb**		**11 02 46.1**	**+0.7**
YOTC	**Yotoco, Valle**	**5.14**	**95**	*e*	*eP*	**Pb**		**11 02 52.1**	**+3.2**
YOTC	**Yotoco, Valle**	**5.14**	**95**	*e*	*eP*	**Pb**		**11 02 52.1**	**+3.2**
PLMC	**San Jos del P**	**5.19**	**85**	*e*	*eP*	**Pb**		**11 02 50.1**	**+0.3**
PLMC	**San Jos del P**	**5.19**	**85**	*e*	*eP*	**Pb**		**11 02 50.1**	**+0.3**
UPD2	**Meteti**	**5.31**	**40**	*e*	*eP*	**Pb**		**11 02 54.8**	**+3.0**
UPD2	**Meteti**	**5.31**	**40**	*e*	*eP*	**Pb**		**11 02 54.8**	**+3.0**
CRUC	**La Cruz**	**5.36**	**122**	*e*	*eP*	Pb		11 02 49.4	-3.4
CRUC	**La Cruz**	**5.36**	**122**	*e*	*eP*	Pb		11 02 49.4	-3.4
SOTA	**Rioblanco**	**5.38**	**115**	*e*	*eP*	**Pb**		**11 02 52.1**	**-1.3**
SOTA	**Rioblanco**	**5.38**	**115**	*e*	*eP*	**Pb**		**11 02 52.1**	**-1.3**
CBOC	**Ciudad Bolivar**	**5.61**	**76**	*e*	*eP*	**Pb**		**11 03 00.7**	**+3.7**
CBOC	**Ciudad Bolivar**	**5.61**	**76**	*e*	*eP*	**Pb**		**11 03 00.7**	**+3.7**
RREF	**El Recreo**	**6.12**	**86**	*e*	*eP*	**Pb**		**11 03 08.7**	**+2.7**
RREF	**El Recreo**	**6.12**	**86**	*e*	*eP*	**Pb**		**11 03 08.7**	**+2.7**
GUY2C	**Guyana, Caldas**	**6.13**	**83**	*e*	*eP*	**Pb**		**11 03 08.7**	**+2.6**
GUY2C	**Guyana, Caldas**	**6.13**	**83**	*e*	*eP*	**Pb**		**11 03 08.7**	**+2.6**
HELC	**Santa Helena**	**6.16**	**74**	*e*	*eP*	**Pb**		**11 03 08.7**	**+2.2**
HELC	**Santa Helena**	**6.16**	**74**	*e*	*eP*	**Pb**		**11 03 08.7**	**+2.2**
ORTC	**Ortega, Tolima**	**6.24**	**95**	*e*	*eP*	**Pb**		**11 03 07.4**	**-0.2**
ORTC	**Ortega, Tolima**	**6.24**	**95**	*e*	*eP*	**Pb**		**11 03 07.4**	**-0.2**
NORC	**Norcasia**	**6.67**	**80**	*e*	*eP*	**Pb**		**11 03 18.0**	**+3.0**
NORC	**Norcasia**	**6.67**	**80**	*e*	*eP*	**Pb**		**11 03 18.0**	**+3.0**
JTS	**Las Juntas de**	**6.73**	**329**		Pn	**Pn**		**11 02 55.9**	**-1.9**
	2.9nm,0.3s,baz=142,slow=8.5,SNR=54								
JTS					Sn	**Sn**		**11 04 10.5**	**-4.1**
	0.5nm,0.3s,baz=333,slow=17,SNR=1.4								
CTAB	**Cerro Tablazo,**	**7.26**	**86**	*e*	*eP*	**Pb**		**11 03 28.0**	**+2.6**
CTAB	**Cerro Tablazo,**	**7.26**	**86**	*e*	*eP*	**Pb**		**11 03 28.0**	**+2.6**
PTBC	**PUERTO BERRIO,**	**7.28**	**73**	*e*	*eP*	**Pb**		**11 03 25.3**	**-0.1**
PTBC	**PUERTO BERRIO,**	**7.28**	**73**	*e*	*eP*	**Pb**		**11 03 25.3**	**-0.1**
CHIC	**Chingaza**	**7.72**	**89**	*e*	*eP*	**Pb**		**11 03 31.3**	**-1.8**
CHIC	**Chingaza**	**7.72**	**89**	*e*	*eP*	**Pb**		**11 03 31.3**	**-1.8**
ATAH	**Atahualpa**	**11.94**	**165**	LR		LR		11 08 28.4	
	comp=Z,112nm,19.5s,baz=31,slow=35								
CMIG	**Matias Romero**	**18.17**	**315**	LR		LR		11 10 44.7	
	comp=Z,44nm,21.7s,baz=36,slow=32								
LPAZ	**La Paz**	**24.49**	**148**	P		**P**		**11 06 42.8**	**+3.6**
	1.6nm,0.8s,baz=328,slow=5.4,SNR=4.8								
LVC	**Limon Verde**	**29.59**	**156**	LR		LR		11 18 53.4	
	comp=Z,34nm,19.4s,baz=336,slow=35								
H06E1	**SOCORRO T-PHAS**	**32.08**	**299**	T		T		11 40 28.5	
	SNR=14								
NVAR	**Mina Array Bea**	**47.57**	**320**	P		**P**		**11 09 55.1**	**0.0**
	0.2nm,0.5s,baz=119,slow=7.3,SNR=1.7								
YKA	**Yellowknife Ar**	**62.85**	**343**	P		**P**		**11 11 45.0**	**+0.4**
	0.4nm,0.7s,baz=140,slow=6.3,SNR=10								
ILAR	**Eielson Array**	**75.65**	**336**	P		**P**		**11 13 06.4**	**+2.4**
	0.4nm,0.8s,baz=148,slow=5.2,SNR=3.0								

*IDC **21** 11:06:10.1±1.0, 10°.38S×165°.61E, h0km, mb4.0/9, mb1 4.3/11, mb1mx4.0/37, mbtmp4.1/11, ML4.8/2, MS3.5/6, Ms1 3.5/6, ms1mx3.2/29, Error ellipse: s-maj=35.3km s-min=25.4km az=152.0*

*ISCJB **21** 11:06:12.9±0.5, 10°.64S±0°.06×165°.48E±0°.06, h31km, mb4.0/9, MS3.4/7, Error ellipse: s-maj=8.8km s-min=8.3km az=144.1*

*NEIC **21** 11:06:12.4±1.1, 10°.64S±0°.05×165°.50E±0°.09, h10km±1km, mb4.4/8*

ISC 21 11:06:14.6±0.5, 10°.62S±0°.06×165°.53E±0°.07, h31km, n39, σ1s25/32, mb4.1/13, MS3.5/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.62**	**282**		Pn	**Pn**		**11 07 36.5**	**+0.3**
	37nm,0.3s,baz=144,slow=6.4,SNR=7.0								
HNR					Sn	**Sn**		**11 08 39.1**	**-0.6**
	8.7nm,0.3s,baz=312,slow=21,SNR=2.1								
HNR					LR	LR		11 09 44.3	
	comp=Z,526nm,20.2s,baz=168,slow=38								
HNR	**Honiara**	**5.62**	**282**	P		**Pn**		**11 07 36.0**	**-0.2**
HNR				S		**Sn**		**11 08 40.0**	**+0.2**
HNR	**Honiara**	**5.62**	**282**			**Pn**		**11 07 35.8**	**-0.4**
HNR					Sn	**Sn**		**11 08 40.5**	**+0.8**
DZM	**Mont Dzumac**	**11.42**	**176**	*e*	Pn	**Pn**		**11 08 58.0**	**+2.3**
	20nm,0.3s								
DZM				*e*	Sn	**Sn**		**11 10 58.9**	**-3.4**
	3.5nm,0.2s								
DZM				*e*	LR	LR		11 11 39.8	
	comp=Z,154nm,23.6s								
DZM	**Mont Dzumac**	**11.42**	**176**		Pn	**Pn**		**11 08 56.5**	**+0.8**
	5.0nm,0.3s,baz=320,slow=12,SNR=140								
DZM					Sn	**Sn**		**11 11 00.2**	**-2.1**
	0.5nm,0.3s,baz=292,slow=22,SNR=1.2								
DZM	**Mont Dzumac**	**11.42**	**176**			**Pn**		**11 08 56.4**	**+0.6**
DZM					Sn	**Sn**		**11 11 02.3**	**0.0**
TARA	**Tarawa**	**13.99**	**32**		Pn	**Pn**		**11 09 31.6**	**+0.8**
MSVF	**Nonsavu**	**14.04**	**122**	P		P		**11 09 39.0**	**-0.1**
EIDS	**Eidsvold**	**20.07**	**221**	P		P		**11 10 45.9**	**+0.3**
LHI	**Lord Howe Isla**	**21.64**	**195**	P		P		**11 11 02.0**	**-0.4**
LHI					IAmb	IAmb		11 11 09.5	
	comp=Z,9.4nm,0.9s								
AFI	**Afiamalu**	**22.41**	**101**	LR		LR		11 18 01.0	
	comp=Z,215nm,21.6s,baz=288,slow=32								
H11S2	**WAKE ISLAND Hy**	**28.95**	**2**	T		T		11 42 51.4	
	baz=183,slow=76,SNR=25								
H11S3	**WAKE ISLAND Hy**	**28.96**	**2**	T		T		11 42 51.7	
	baz=183,slow=76,SNR=16								
H11S1	**WAKE ISLAND Hy**	**28.97**	**2**	T		T		11 42 40.1	
	baz=183,slow=76,SNR=20								
URZ	**Urewera**	**29.41**	**161**	P		**P**		**11 12 16.2**	**+0.9**
URZ				IAmb		IAmb		11 12 17.0	
	comp=Z,7.0nm,1.0s								
BKZ	**Black Stump Fm**	**30.06**	**163**	P		**P**		**11 12 21.8**	**+0.7**
BKZ				IAmb		IAmb		11 12 26.1	
	comp=Z,12nm,0.9s								
H11N1	**WAKE ISLAND Hy**	**30.18**	**3**	T		T		11 44 20.3	
	baz=182,slow=76,SNR=17								
H11N3	**WAKE ISLAND Hy**	**30.18**	**3**	T		T		11 44 22.9	
	baz=182,slow=76,SNR=10								
H11N2	**WAKE ISLAND Hy**	**30.19**	**3**	T		T		11 44 04.4	
	baz=182,slow=76,SNR=15								
STKA	**Stephens Creek**	**30.60**	**223**	LR		LR		11 23 48.0	
	comp=Z,97nm,18.2s,baz=26,slow=34								
WRA	**Warramunga Arr**	**31.43**	**249**	LR		LR		11 25 44.4	
	comp=Z,76nm,18.8s,baz=65,slow=37								
AS31	**Alice Springs**	**32.79**	**243**	P		**P**		**11 12 45.4**	**0.0**
ASAR	**Alice Springs**	**32.79**	**243**	P		**P**		**11 12 48.4**	**+3.0**
	comp=Z,0.8nm,1.0s,baz=62,slow=9.9,SNR=4.1								
RAR	**Rarotonga**	**34.91**	**112**	LR		LR		11 24 56.0	
	comp=Z,27nm,18.8s,baz=281,slow=32								
BBOO	**Buckleboo**	**34.96**	**226**	P		**P**		**11 13 03.5**	**-0.5**
PPT	**Papeete**	**44.00**	**104**	LR		LR		11 28 41.3	
	comp=Z,49nm,18.6s,baz=306,slow=31								
PPT2	**Papeete2**	**44.00**	**104**	*e*LR		LR		11 26 41.5	
	comp=Z,78nm,22.8s								
TBI	**Tubuai**	**44.69**	**112**	*e*LR		LR		11 27 00.8	
	comp=Z,99nm,28.0s								
CMAR	**Chiang Mai Arr**	**71.75**	**293**	P		**P**		**11 17 34.4**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=117,slow=4.7,SNR=4.3								
SONM	**Songino Array**	**78.20**	**324**	P		**P**		**11 18 11.1**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=103,slow=2.9,SNR=5.5								
QSPA	**South Pole Qui**	**79.38**	**180**	P		**P**		**11 18 18.5**	**+1.0**
IL31		**83.18**	**19**	P		**P**		**11 18 38.2**	**+0.9**
IL31				IAmb		IAmb		11 18 39.1	
	comp=Z,1.0nm,0.5s								
ILAR	**Eielson Array**	**83.18**	**19**	P		**P**		**11 18 37.2**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=244,slow=4.8,SNR=26								
NVAR	**Mina Array Bea**	**85.92**	**50**	P		**P**		**11 18 51.9**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=240,slow=8.4,SNR=4.6								
MKAR	**

HPCM	**Pacheco Lake**	**0.98**	**134**		Pb	11 39 04.0	-0.2
NHSM	**Mount Saint He**	**0.98**	**339**		Pg	11 39 04.2	-0.1
HTUM	**Tustin Road**	**1.00**	**155**		Pb	11 39 03.1	-1.4
SLD	**San Luis Dam**	**1.00**	**131**		Pb	11 39 04.3	-0.3
HERM	**Elkhorn Road**	**1.01**	**159**		Pb	11 39 04.2	-0.4
PACP	**Pacheco Peak**	**1.01**	**136**		Pb	11 39 04.7	-0.1
HBTM	**San Juan Bauti**	**1.01**	**151**		Pb	11 39 04.4	-0.4
NMCNC	**Mill Creek, So**	**1.03**	**325**		Pb	11 39 04.6	-0.5
SFJWR	**San Luis Fatjo**	**1.05**	**131**		Pb	11 39 05.1	-0.3
HLTM	**Lone Tree Road**	**1.09**	**141**		Pb	11 39 05.6	-0.5
FRP	**Fremont Peak**	**1.12**	**151**		Pb	11 39 05.2	-1.5
SAO	**San Andreas Ge**	**1.13**	**150**	Pg	Pb	11 39 05.6	-1.2
HMOM	**Monterey**	**1.16**	**170**		Pb	11 39 07.0	-0.2
BVYM	**Vineyard**	**1.16**	**149**		Pb	11 39 06.2	-1.0
MNRC	**McLaughlin Min**	**1.16**	**349**		Pb	11 39 05.1	-2.2
GDXM	**Geysers**	**1.18**	**335**	Pg	Pb	11 39 07.3	-0.3
GDXM					Sg	11 39 23.1	-0.1
GHCM	**House Creek**	**1.19**	**317**		Pn	11 39 06.8	-0.9
BSRM	**Salinas Radio**	**1.19**	**154**		Pn	11 39 06.2	-1.5
BCGM	**Cienega Road**	**1.22**	**147**		Pn	11 39 07.2	-0.9
BHRM	**Hodges Ranch**	**1.24**	**144**		Pn	11 39 08.0	-0.4
BPCNC	**Pine Canyon**	**1.24**	**160**		Pn	11 39 07.7	-0.8
BLRM	**Lewis Ranch**	**1.29**	**146**		Pn	11 39 08.5	-0.5
BJCM	**Johnson Can.**	**1.34**	**153**		Pn	11 39 08.6	-1.2
CMB	**Columbia Colle**	**1.43**	**78**	Pn	Pn	11 39 10.4	-0.7
CMB					Sn	11 39 29.7	-0.2
HAST	**Hastings Reser**	**1.44**	**160**		Pn	11 39 09.7	-1.4
HOPS	**Hopland Field**	**1.44**	**330**	Pn	Pn	11 39 11.3	+0.1
AFDM	**Forest Hills D**	**1.52**	**37**	Pn	Pn	11 39 12.1	-0.3
AFDM					Sn	11 39 31.8	-0.3
PMPB	**Monarch Peak**	**1.87**	**144**	Pn	Pn	11 39 16.9	-0.3
ORV	**Oroville**	**1.88**	**16**		Pn	11 39 16.3	-1.0
WAKR	**Walker**	**2.28**	**70**		Pb	11 39 24.9	-1.5
BFC	**Buffalo Canyon**	**2.31**	**59**		Pb	11 39 27.4	+0.3
PNTR	**Pine Nut**	**2.42**	**55**		Pn	11 39 26.1	+1.2
MDPB	**Devils Postpil**	**2.45**	**92**	Pn	Pn	11 39 26.0	+0.7
OMMB	**Old Mammoth Mi**	**2.51**	**92**		Pn	11 39 27.2	+1.0
PAGB	**Antelope Grade**	**2.53**	**142**	Pn	Pn	11 39 27.5	+1.3
BEKR	**Beckworth**	**2.55**	**33**		Pn	11 39 27.8	+1.3
YERR	**Yerington**	**2.61**	**61**		Pn	11 39 28.3	+0.8
PAHR	**Pah Rah Range**	**2.93**	**47**	Pn	Pn	11 39 32.5	+0.7
KRPM	**Rodgers**	**3.70**	**338**		Pn	11 39 42.2	-0.2

*NNC **21** 11:47:58.6±2.2, 42°.85N×84°.87E, h0km, mb3.8, mpv3.3,*
Error ellipse: s-maj=16.9km s-min=8.9km az=122.0
*SOME **21** 11:47:59.3, 43°.10N×84°.83E, h10km*
ISC 21 11:48:01.6±2.6, 42°.87N±0°.10×84°.6E±0°.1, h10km, n15,
σ2s11/27, 3C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**3.79**	**279**	Pg	**Pb**	**11 49 10.9**	**+2.1**
	2.3nm,0.3s						
PDGK				Lg	Lg	11 50 02.3	
	9.6nm,0.5s						
PDGK	**Podgornoye**	**3.79**	**279**	⇑Pn	**Pn**	**11 48 59.6**	**-0.7**
	0.5nm,0.2s						
PDGK				⇓Pg	**Pb**	**11 49 08.9**	**+0.1**
	6.7nm,0.8s						
PDGK				⇓Lg	Lg	11 50 02.0	
	9.9nm,0.4s						
SHLS	**Shalkode**	**3.80**	**276**	*e*P	**Pb**	**11 49 07.0**	**-1.9**
	20nm,0.2s						
SHLS				*e*S	**Sb**	**11 49 55.3**	**+0.3**
	54nm,0.4s						
SHLS	**Shalkode**	**3.80**	**276**	Pg	**Pb**	**11 49 07.2**	**-1.6**
	20nm,0.2s						
SHLS				Lg	Lg	11 49 55.3	
	54nm,0.4s						
UZB	**Uzynbulak**	**4.12**	**276**	*e*P	**Pg**	**11 49 19.4**	**-1.2**
	5.7nm,0.3s						
UZB				*e*S	**Sg**	**11 50 16.0**	**+2.0**
	10nm,0.3s						
UZB	**Uzynbulak**	**4.12**	**276**	Pg	**Pg**	**11 49 19.5**	**-1.1**
	5.7nm,0.3s						
UZB				Lg	Lg	11 50 16.0	
	7.8nm,0.2s						
MK31	**Makanchi Array**	**4.26**	**338**	⇓Pn	**Pn**	**11 49 05.9**	**-0.7**
	0.4nm,0.6s,baz=151,slow=15,SNR=21						
MK31				⇑Pg	**Pb**	**11 49 17.9**	**+1.3**
	0.7nm,0.3s,baz=147,slow=18,SNR=11						
MK31				⇓Sn	**Sn**	**11 49 59.3**	**+2.9**
	2.5nm,0.5s						
MK31				⇓Lg	Lg	11 50 14.8	
	1.9nm,0.3s,baz=149,slow=29,SNR=7.4						
MAKZ	**Makanchi**	**4.37**	**335**	⇓Pn	**Pn**	**11 49 07.1**	**-0.9**
	1.3nm,0.9s						
MAKZ				⇓Pg	**Pb**	**11 49 19.5**	**+1.1**
	0.9nm,0.3s						
MAKZ				⇓Sn	**Sn**	**11 50 01.3**	**+2.4**
	2.0nm,0.5s						
MAKZ				⇑Lg	Lg	11 50 18.2	
	4.4nm,0.7s						
KPKS	**Kokpek**	**4.39**	**280**	*e*P	**Pb**	**11 49 22.2**	**+3.3**
	5.6nm,0.3s						
KPKS				*e*S	**Sg**	**11 50 22.3**	**-0.3**
	22nm,0.3s						
KAPS	**Kapalarasan**	**4.50**	**304**	*e*P	**Pb**	**11 49 22.3**	**+1.5**
	2.0nm,0.3s						
KAPS				*e*S	**Sg**	**11 50 22.7**	**-3.4**
	7.3nm,0.3s						
KAPS	**Kapalarasan**	**4.50**	**304**	Pg	**Pg**	**11 49 25.3**	**-2.6**
	2.0nm,0.3s						
KAPS				Lg	Lg	11 50 26.5	
	7.3nm,0.3s						
SATY	**Saty**	**4.57**	**274**	*e*P	**Pg**	**11 49 27.6**	**-1.6**
	6.7nm,0.3s						
SATY				*e*S	**Sg**	**11 50 31.0**	**+2.6**
	19nm,0.3s						
SATY	**Saty**	**4.57**	**274**	Pg	**Pg**	**11 49 27.6**	**-1.6**
	6.7nm,0.3s						
SATY				Lg	Lg	11 50 30.1	
	13nm,0.4s						
ARXS	**Arharly**	**5.12**	**287**	*e*P	**Pb**	**11 49 34.8**	**+3.4**
	1.6nm,0.4s						
ARXS				*e*S	**Sg**	**11 50 43.9**	**-2.3**
	10nm,0.4s						
KTBS	**Karatobe**	**5.86**	**281**	*e*P	**Pg**	**11 49 50.9**	**-3.0**
	1.7nm,0.4s						
KTBS				*e*S	**Sg**	**11 51 10.8**	**+1.0**
	9.0nm,0.6s						

*DRS **21** 11:50:05.1±0.0, 42°.84N×46°.73E, h81km, ML2.8/3*
*MOS **21** 11:50:06.8±0.0, 42°.64N×46°.65E, h48km, MPVA3.8*
*ISCJB **21** 11:50:07.5±0.6, 42°.72N±0°.04×46°.63E±0°.04, h62km±5km,*
Error ellipse: s-maj=6.6km s-min=4.3km az=35.2
*NORS **21** 11:50:07.4±0.0, 42°.65N×46°.62E, h47km, MPVA3.8*
ISC 21 11:50:08.6±1.3, 42°.68N±0°.04×46°.63E±0°.03, h53km±7km,
n29, σ1s59/57, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UNCR	**Uncukul**	**0.12**	**76**	*e*Pg	**Pn**	**11 50 16.5**	**-0.4**
	103nm,0.3s						
UNCR				*e*Sg	**Sn**	**11 50 23.5**	**+0.7**
	1µm,0.4s						
XNZR	**Khunzakh**	**0.15**	**159**	*e*Pg	**Pn**	**11 50 16.5**	**-0.7**
XNZR				*e*Sg	**Sn**	**11 50 23.7**	**+0.4**
KRNR	**Karanay**	**0.25**	**55**	*i* Pg	**Pn**	**11 50 17.0**	**-0.7**
	207nm,0.2s						
KRNR				*i* Sg	**Sn**	**11 50 25.0**	**+0.8**
	429nm,0.2s						
ARKR	**Arakani**	**0.28**	**107**	*e*Pg	**Pn**	**11 50 17.0**	**-0.9**
	96nm,0.3s						
ARKR				*e*Sg	**Sn**	**11 50 24.5**	**0.0**
	405nm,0.0s						
BTLR	**Botlikh**	**0.30**	**266**	*e*Pg	**Pn**	**11 50 17.4**	**-0.7**
	76nm,0.1s						
BTLR				*e*Sg	**Sn**	**11 50 25.2**	**+0.4**
	461nm,0.4s						
DBC	**Dubki**	**0.37**	**24**	*i* Pg	**Pn**	**11 50 18.3**	**-0.4**
DBC				*e*Sg	**Sn**	**11 50 27.3**	**+1.4**
GNBR	**Gunib**	**0.39**	**140**	*e*Pg	**Pn**	**11 50 18.2**	**-0.6**
GNBR				*e*Sg	**Sn**	**11 50 26.3**	**+0.1**
MAK	**Makhachkala**	**0.70**	**66**	*e*Pg	**Pn**	**11 50 22.7**	**+0.2**
MAK				*e*Sg	**Sn**	**11 50 33.8**	**+1.3**
GROC	**Groznyy**	**0.80**	**311**	*e*Pg	**Pn**	**11 50 24.4**	**+0.6**
GROC				*e*Sg	**Sn**	**11 50 38.1**	**+3.3**
LGD	**Lagodekhi**	**0.90**	**199**	P	**Pn**	**11 50 23.9**	**-1.1**
LGD				S	**Sn**	**11 50 37.8**	**+0.7**
URKR	**Urkarakh**	**0.91**	**125**	*e*Pg	**Pn**	**11 50 24.9**	**-0.3**
URKR				*e*Sg	**Sn**	**11 50 38.3**	**+0.8**

DDFL	**Dedoflistskaro**	**1.29**	**197**	P	**Pn**	**11 50 30.6**	**+0.1**
KMGR	**Komgaron**	**1.35**	**287**	*e*Pg	**Pn**	**11 50 31.5**	**+0.4**
KMGR				*e*Sg	**Sn**	**11 50 52.0**	**+4.0**
AKT	**Akhty**	**1.46**	**145**	*e*Pg	**Pn**	**11 50 32.1**	**-0.6**
AKT				*e*Sg	**Sn**	**11 50 52.9**	**+2.3**
GUDG	**Gudauri**	**1.60**	**263**	*e*Pg	**Pn**	**11 50 34.2**	**-0.6**
GUDG				*e*Sg	**Sn**	**11 50 55.5**	**+1.0**
LACR	**Lac**	**1.72**	**276**	*e*Pg	**Pn**	**11 50 34.8**	**-1.5**
LACR				*e*Sg	**Sn**	**11 50 59.0**	**+1.8**
TRKR	**Terskaya**	**1.73**	**307**	*e*Pg	**Pn**	**11 50 37.3**	**+1.0**
TRKR				*e*Sg	**Sn**	**11 50 59.5**	**+2.3**
ARNR	**Ardon**	**1.79**	**287**	*e*Pg	**Pn**	**11 50 35.0**	**-2.1**
ARNR				*i* Sg	**Sn**	**11 51 03.1**	**+4.4**
STDR	**Stavd-Durt**	**2.00**	**291**	*e*Pg	**Pn**	**11 50 40.9**	**+0.9**
STDR				*e*Sg	**Sn**	**11 51 05.8**	**+1.9**
ZEI	**Tsey**	**2.01**	**274**	*e*Pg	**Pn**	**11 50 41.9**	**+1.6**
ZEI				*e*Sg	**Sn**	**11 51 06.2**	**+1.8**
DIGR	**Digorskoe uzhe**	**2.25**	**277**	*e*Pn	**Pn**	**11 50 44.3**	**+0.6**
DIGR				*e*Sn	**Sn**	**11 51 10.1**	**-0.2**
KBTC	**Kuba-Taba**	**2.61**	**297**	*e*Pn	**Pn**	**11 50 45.6**	**-2.8**
KBTC				*e*Sn	**Sn**	**11 51 18.5**	**-0.4**
PYA1	**Pyatigorsk**	**2.92**	**299**	*e*Pn	**Pn**	**11 50 51.3**	**-1.3**
PYA1				*e*Sn	**Sn**	**11 51 24.1**	**-2.3**
NEY	**Neytrino**	**2.92**	**282**	*e*Pn	**Pn**	**11 50 51.4**	**-1.3**
NEY				*e*Sn	**Sn**	**11 51 26.8**	**+0.1**
BEYR	**Belyy Ugol+**	**3.08**	**297**	*e*Pn	**Pn**	**11 50 54.7**	**-0.1**
BEYR				*e*Sn	**Sn**	**11 51 27.4**	**-3.0**
SHA1	**Shidzhatmaz**	**3.09**	**291**	*e*Pn	**Pn**	**11 50 54.3**	**-0.8**
SHA1				*e*Sn	**Sn**	**11 51 29.4**	**-1.4**
KIV0	**Kislovodsk Arr**	**3.14**	**295**	*e*Pn	**Pn**	**11 50 54.8**	**-0.9**
KIV0				*e*Sn	**Sn**	**11 51 29.4**	**-2.5**
ALER	**Alexandrovskoy**	**3.40**	**309**	*e*Pn	**Pn**	**11 50 59.2**	**0.0**
ALER				*e*Sn	**Sn**	**11 51 37.7**	**-0.6**
GOF	**Gofitskoye**	**3.52**	**314**	*e*Pn	**Pn**	**11 50 57.8**	**-2.8**
GOF				*e*Sn	**Sn**	**11 51 41.0**	**0.0**

*ISCJB **21** 12:04:18.8±0.4, 15°.95S±0°.05×167°.99E±0°.08, h177km,*
mb4.0/8, Error ellipse: s-maj=10.2km s-min=7.0km az=4.0
*NEIC **21** 12:04:19.4±1.2, 15°.94S±0°.10×168°.0E±0°.1, h167km±6km,*
mb4.3/21
*IDC **21** 12:04:20.1±2.4, 16°.04S×168°.13E, h177km±22km, mb3.7/8,*
mb1 3.9/9, mb1mx3.5/43, mbtmp4.2/9, Error ellipse:
s-maj=26.3km s-min=18.2km az=104.0
ISC 21 12:04:20.3±0.6, 15°.99S±0°.08×168°.1E±0°.1, h177km, n38,
σ0s69/40, mb4.3/17, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.24**	**194**	P	**Pn**	**12 05 51.6**	**+1.0**
	6.6nm,0.3s,baz=337,slow=10,SNR=57						
DZM				S	**Sn**	**12 07 01.1**	**-0.6**
	2.4nm,0.3s,baz=311,slow=22,SNR=7.3						
DZM	**Mont Dzumac**	**6.24**	**194**		**Pn**	**12 05 50.2**	**-0.4**
MSVF	**Nonsavu**	**9.71**	**102**	Pn	**Pn**	**12 06 35.6**	**-0.7**
EIDS	**Eidsvold**	**18.41**	**237**	P	**P**	**12 08 21.8**	**-0.4**
EIDS				IAmb	IAmb	12 08 24.4	
	comp=Z,5.8nm,0.8s						
ARMA	**Armidale**	**20.81**	**223**	P	**P**	**12 08 48.3**	**+0.2**
MXZ	**Matakaoa Point**	**23.32**	**159**	P	**P**	**12 09 12.9**	**+0.4**
URZ	**Urewera**	**23.57**	**162**	P	**P**	**12 09 12.8**	**-2.0**
	comp=Z,5.8nm,0.7s,baz=286,slow=15,SNR=1.8						
URZ	**Urewera**	**23.57**	**162**	P	**P**	**12 09 15.4**	**+0.6**
URZ				IAmb	IAmb	12 09 29.0	
	comp=Z,22nm,1.2s						
BKZ	**Black Stump Fm**	**24.24**	**164**	P	**P**	**12 09 21.5**	**+0.5**
BKZ				IAmb	IAmb	12 09 29.9	
	comp=Z,13nm,1.1s						
RPZ	**Rata Peaks**	**27.75**	**175**	P	**P**	**12 09 53.3**	**+0.9**
STKA	**Stephens Creek**	**28.80**	**232**	P	**P**	**12 10 02.5**	**+0.7**
	comp=Z,2.9nm,0.6s,baz=33,slow=10,SNR=7.9						
STKA	**Stephens Creek**	**28.80**	**232**	P	**P**	**12 10 02.2**	**+0.4**
TAU	**Tasmania Unive**	**32.16**	**209**	P	**P**	**12 10 30.7**	**-0.6**
WRA	**Warramunga Arr**	**32.29**	**258**	P	**P**	**12 10 32.0**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=90,slow=9.2,SNR=2.4						
AS31	**Alice Springs**	**32.97**	**251**	P	**P**	**12 10 38.6**	**-0.1**
AS31				IAmb	IAmb	12 10 42.0	
	comp=Z,2.7nm,0.3s						
ASAR	**Alice Springs**	**32.97**	**251**	P	**P**	**12 10 37.8**	**-0.8**
	comp=Z,2.8nm,0.4s,baz=78,slow=8.6,SNR=34						
ASAR				PcP	**PcP**	**12 13 18.8**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=90,slow=2.6,SNR=5.5						
ASAR				ScP	**ScP**	**12 16 46.8**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=84,slow=3.9,SNR=6.5						
BBOO	**Buckleboo**	**33.44**	**234**	P	**P**	**12 10 42.6**	**+0.1**
BBOO				IAmb	IAmb	12 10 48.0	
	comp=Z,2.5nm,0.8s						
KNRA	**Kununurra**	**37.77**	**265**	P	**P**	**12 11 18.6**	**-1.0**
KNRA				IAmb	IAmb	12 11 22.5	
	comp=Z,11nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.55**	**261**	P	**P**	**12 11 42.5**	**-0.2**
MJAR	**Matsushiro Arr**	**59.37**	**332**	P	**P**	**12 14 03.9**	**-0.2**
	comp=Z,5.8nm,1.0s,baz=143,slow=7.5,SNR=6.2						
MAJO	**Matsushiro**	**59.37**	**332**	P	**P**	**12 14 04.1**	**+0.1**
MJB9	**Matsu-Tunnel**	**59.38**	**332**	P	**P**	**12 14 04.0**	**-0.1**
VNDA	**Vanda**	**61.63**	**182**	P	**P**	**12 14 19.7**	**+0.9**
VNDA				IAmb	IAmb	12 14 23.3	
	comp=Z,1.8nm,1.0s						
KS19	**Wonju Array Si**	**65.27**	**326**	P	**P**	**12 14 42.4**	**-0.8**
KS19				IAmb	IAmb	12 14 58.7	
	comp=Z,12nm,1.1s						
USA0B	**Ussuriysk Arra**	**68.35**	**333**	P	**P**	**12 15 02.4**	**0.0**
USA0B				IAmb	IAmb	12 15 04.4	
	comp=Z,5.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**68.35**	**333**	P	**P**	**12 15 03.3**	**+0.8**
	comp=Z,2.5nm,0.7s,baz=128,slow=5.1,SNR=6.8						
QSPA	**South Pole Qui**	**74.05**	**180**	P	**P**	**12 15 37.5**	**+0.9**
QSPA				IAmb	IAmb	12 15 39.7	
	comp=Z,6.0nm,1.0s						
SONM	**Songino Array**	**83.96**	**323**	P	**P**	**12 16 31.2**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=134,slow=4.3,SNR=10						
TRF	**Thorofare Moun**	**85.50**	**17**	P	**P**	**12 16 37.7**	**-0.4**
TRF				IAmb	IAmb	12 16 43.1	
	comp=Z,3.5nm,1.2s						
RND	**Reindeer**	**85.89**	**18**	P	**P**	**12 16 40.3**	**+0.5**
IL31		**87.48**	**18**	P	**P**	**12 16 47.3**	**-0.1**
ILAR	**Eielson Array**	**87.48**	**18**	P	**P**	**12 16 47.0**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=237,slow=4.8,SNR=14						
ARCES	**ARCESS Array B**	**121.66**	**345**	PKP	**PKPdf**	**12 22 52.1**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=78,slow=2.4,SNR=14						
FINES	**FINESS Array B**	**127.17**	**338**	PKP	**PKPdf**	**12 23 02.4**	**-0.8**
	comp=Z,4.1nm,1.1s,baz=72,slow=1.8,SNR=4.0						
ABTA	**Abfaltersbach**	**143.21**	**332**	*i* PKPdf	PKPbc	12 23 31.7	+0.7
	comp=Z,5.3nm,0.7s						
WTTA	**Wattenberg**	**143.21**	**333**	*i* PKPdf	**PKPdf**	**12 23 33.5**	**-0.1**
	comp=Z,4.4nm,1.2s						
SQTA	**Sankt Quirin**	**143.43**	**333**	*i* PKPdf	**PKPdf**	**12 23 32.9**	**-1.0**
	comp=Z,3.7nm,0.7s						
FETA	**Feichten**	**143.79**	**333**	*i* PKPdf	**PKPdf**	**12 23 34.0**	**-0.6**
	comp=Z,3.3nm,0.6s						

*KRNET **21** 12:12:26.1±0.1, 41°.11N×69°.78E, mb2.8*
*SOME **21** 12:12:26.3, 40°.73N×70°.20E, h10km*
*ISCJB **21** 12:12:28.9±1.2, 40°.89N±0°.06×69°.81E±0°.07, h10km, Error*
ellipse: s-maj=9.9km s-min=7.0km az=36.3
*NNC **21** 12:12:31.9±5.1, 41°.10N×70°.28E, h0km, mb3.3, mpv2.9,*
Error ellipse: s-maj=43.4km s-min=26.2km az=22.0
ISC 21 12:12:29.6±1.6, 40°.95N±0°.06×69°.93E±0°.07, h10km, n14,
σ2s19/25, 13C-9D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**1.12**	**143**	⇑*i*P	**Pn**	**12 12 51.2**	**-0.3**
	baz=43						
BTK				⇑*i*S	**Sn**	**12 13 09.4**	**+2.4**
	baz=43						
IUG	**Iuzhnay**	**1.20**	**4**	*e*P	**Pn**	**12 12 53.2**	**+0.7**
	6.0nm,0.2s						
IUG				*e*S	**Sn**	**12 13 12.4**	**+3.5**
	103nm,0.3s						
ARK	**Arkit**	**1.75**	**60**	⇓*i*P	**Pn**	**12 12 59.2**	**-0.9**
	baz=67						
ARK				⇓*i*S	**Sb**	**12 13 23.7**	**-0.2**
	baz=67						
BRLS	**Borolday**	**2.08**	**358**	*e*P	**Pn**	**12 13 04.8**	**+0.3**
	10nm,0.4s						
BRLS				*e*S	**Sb**	**12 13 31.7**	**-1.6**
	7.5nm,0.5s						
KK31	**Karatay Array**	**2.19**	**11**	⇑Pn	**Pb**	**12 13 07.8**	**-1.5**
	3.1nm,0.5s,baz=193,slow=15,SNR=20						
KK31				⇑Lg	Lg	12 13 35.3	
	2.1nm,0.3s,baz=195,slow=28,SNR=6.5						

ARSB	**Arslanbob**	**2.34**	**80**	⇑*i*P	**Pn**	**12 13 08.8**	**+0.6**
	baz=84						
ARSB				⇑*i*S	**Sb**	**12 13 39.9**	**-1.0**
	baz=84						
MRKS	**Merke**	**3.04**	**53**	*e*P	**Pb**	**12 13 21.9**	**-2.0**
	3.2nm,0.4s						
MRKS				*e*S	**Sb**	**12 14 00.5**	**-0.7**
	4.7nm,1.0s						
AML	**Almayashu**	**3.06**	**66**	⇓*i*P	**Pn**	**12 13 19.6**	**+1.2**
	baz=70						
AML				⇓*i*S	**Sb**	**12 13 59.3**	**-2.7**
	baz=70						
EKS2	**Erkin-Say**	**3.34**	**58**	⇓*i*P	**Pn**	**12 13 23.0**	**+0.9**
	baz=61						
EKS2				⇓*i*S	**Sb**	**12 14 05.2**	**-4.7**
	baz=61						
ARLS	**Aral**	**3.43**	**73**	⇑*i*P	**Pn**	**12 13 23.8**	**+0.6**
	baz=76						
ARLS				⇑*i*S	**Sn**	**12 14 06.3**	**+2.3**
	baz=76						
UCH	**Uchtor**	**3.67**	**68**	⇑*i*P	**Pn**	**12 13 28.2**	**+1.4**
	baz=71						
UCH				⇑*i*S	**Sn**	**12 14 14.0**	**+3.7**
	baz=71						
AAK	**Ala-Archa**	**3.81**	**62**	⇓Pg	**Pb**	**12 13 34.3**	**-2.7**
	3.3nm,1.1s						
AAK				⇓Lg	Lg	12 14 21.5	
	2.6nm,0.6s						
KZA	**Kyzart**	**4.15**	**73**	⇑*i*P	**Pn**	**12 13 35.1**	**+1.7**
	baz=75						
KZA				⇑*i*S	**Sn**	**12 14 25.8**	**+3.6**
	baz=75						
TKM2	**Tokmak 2**	**4.66**	**63**	⇓Pg	**Pb**	**12 13 51.2**	**-0.4**
	7.8nm,1.3s						
TKM2				⇑Lg	Lg	12 14 50.9	
	11nm,1.2s						

*ISCJB **21** 12:15:41.4±0.8, 77°.72N±0°.06×7°.6E±0°.2, h10km, Error*
ellipse: s-maj=8.5km s-min=7.2km az=10.6
*NAO **21** 12:15:43.5±2.4, 77°.74N×7°.33E, ML2.8*
*BER **21** 12:15:46.0±3.5, 77°.70N×7°.81E, h15km±15km, ML2.0,*
ML2.8(NAO), Confirmed Earthquake
ISC 21 12:15:42.3±0.9, 77°.68N±0°.06×7°.52E±0°.05, h10km, n15,
σ2s07/26, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRBB	**Barentsburg B**	**1.47**	**70**	Pg	**Pb**	**12 16 09.8**	**+0.2**
BRBB				Lg	Lg	12 16 25.2	
BRBB	**Barentsburg B**	**1.47**	**70**	Pg	**Pb**	**12 16 09.8**	**+0.2**
BRBB				Sg	**Sn**	**12 16 25.2**	**-2.8**
KBS	**Kingsbay**	**1.54**	**34**	Pg	**Pb**	**12 16 10.7**	**-0.2**
KBS				Lg	Lg	12 16 27.2	
KBS	**Kingsbay**	**1.54**	**34**	*e*P	**Pg**	**12 16 11.7**	**-0.2**
KBS				*e*S	**Sn**	**12 16 27.3**	**-2.5**
KBS				IAML		12 16 30.0	
	comp=Z,37nm,0.3s						
HSPB	**Hornsund (broa**	**1.89**	**107**	Pn	**Pb**	**12 16 15.6**	**-1.3**
HSPB	**Hornsund (broa**	**1.89**	**107**	*e*P	**Pb**	**12 16 15.7**	**-1.2**
HSPB				*e*S	**Sn**	**12 16 36.2**	**-2.2**
HSPB				IAML		12 16 37.9	
	comp=Z,27nm,0.4s						
SPA0	**Spitsbergen Ar**	**1.93**	**71**	Pn	**Pb**	**12 16 17.3**	**-0.2**
	baz=251,slow=14						
SPA0				Sn	**Sn**	**12 16 39.3**	**0.0**
	baz=254,slow=28						
SPA0	**Spitsbergen Ar**	**1.93**	**71**	Pn	**Pb**	**12 16 17.3**	**-0.2**
	baz=251,slow=14						
SPA0				Sn	**Sn**	**12 16 39.3**	**0.0**
	baz=254,slow=28						
HOPEN	**Hopen**	**4.08**	**98**	Pn	**Pn**	**12 16 46.2**	**+1.5**
HOPEN				Sn	**Sn**	**12 17 29.8**	**-2.6**
HOPEN	**Hopen**	**4.08**	**98**	*e*P	**Pn**	**12 16 46.2**	**+1.5**
HOPEN				*e*S	**Sn**	**12 17 29.9**	**-2.6**
HOPEN				IAML		12 17 47.9	
	comp=Z,19nm,0.9s						
NOR	**Nord**	**5.81**	**323**	*i* P	**Pn**	**12 17 09.6**	**+1.2**
NOR				*i* S	**Sn**	**12 18 12.2**	**-2.7**
NOR				IAML		12 18 18.3	
	comp=Z,1.2nm,0.4s						
DAG	**Danmarks Havn**	**5.85**	**274**	*i* P	**Pn**	**12 17 10.8**	**+2.0**
DAG				*i* S	**Sn**	**12 18 11.6**	**-4.1**
DAG	**Danmarks Havn**	**5.85**	**274**	*e*	**Pn**	**12 17 09.1**	**+0.3**
	baz=78,slow=14						
DAG				*i* P	**Pn**	**12 17 10.8**

BTK	**Batken**	**1.35**	**312**	⇑*iP*	**Pn**	**13 17 09.9**	**+0.2**
	baz=11							
BTK				⇑*iS*	**Sg**	**13 17 27.9**	**-0.2**
	baz=11							
ARSB	**Arslanbob**	**2.27**	**17**	⇑*iP*	**Pb**	**13 17 25.5**	**-0.3**
	baz=18							
ARSB				⇑*iS*	**Sb**	**13 17 54.0**	**0.0**
	baz=18							
ARK	**Arkit**	**2.64**	**358**	⇑*eP*	**Pb**	**13 17 30.6**	**-1.6**
	baz=58							
ARK				⇑*iS*	**Sb**	**13 18 03.0**	**-1.8**
	baz=58							
ARLS	**Aral**	**3.19**	**31**	⇓*iP*	**Pn**	**13 17 38.4**	**+3.4**
	baz=32							
ARLS				⇓*iS*	**Sb**	**13 18 17.1**	**-3.3**
	baz=32							
AML	**Almayashu**	**3.21**	**22**	⇑*iP*	**Pb**	**13 17 39.3**	**-2.7**
	baz=22							
AML				⇑*iS*	**Sb**	**13 18 18.0**	**-3.3**
	baz=22							
AML	**Almayashu**	**3.21**	**22**	P	**Pb**	**13 17 40.1**	**-1.9**
	SNR=39							
IUG	**luzhnay**	**3.38**	**333**	*eP*	**Pb**	**13 17 41.5**	**-3.3**
	4.0nm,0.2s							
IUG				*eS*	**Sb**	**13 18 26.5**	**+0.5**
	98nm,0.3s							
UCH	**Uchtor**	**3.57**	**30**	⇑*eP*	**Pn**	**13 17 44.2**	**+3.6**
	baz=31							
UCH				⇑*iS*	**Sb**	**13 18 27.3**	**-4.5**
	baz=31							
UCH	**Uchtor**	**3.57**	**30**	P	**Pb**	**13 17 44.7**	**-3.5**
	SNR=6.0							
MRKS	**Merke**	**3.69**	**13**	*eP*	**Pb**	**13 17 46.3**	**-3.7**
	13nm,0.5s							
MRKS				*eS*	**Sb**	**13 18 34.7**	**0.0**
	27nm,0.4s							
EKS2	**Erkin-Say**	**3.72**	**19**	⇑*iP*	**Pn**	**13 17 46.2**	**+3.8**
	baz=20							
EKS2				⇑*iS*	**Sn**	**13 18 29.8**	**+3.4**
	baz=20							
EKS2	**Erkin-Say**	**3.72**	**19**	P	**Pb**	**13 17 47.6**	**-3.0**
	SNR=7.1							
NRN	**Naryn**	**3.74**	**51**	⇓*eP*	**Pn**	**13 17 46.1**	**+3.3**
	baz=52							
NRN				⇓*iS*	**Sn**	**13 18 29.9**	**+2.8**
	baz=52							
KZA	**Kyzart**	**3.77**	**38**	⇑*iP*	**Pn**	**13 17 47.0**	**+3.7**
	baz=39							
KZA				⇑*iS*	**Sn**	**13 18 31.9**	**+4.0**
	baz=39							
AAK	**Ala-Archa**	**3.92**	**27**	⇑*iP*	**Pn**	**13 17 49.0**	**+3.9**
	baz=27							
AAK				⇑*iS*	**Sn**	**13 18 34.9**	**+3.7**
	baz=27							
AAK	**Ala-Archa**	**3.92**	**27**	⇑Pn	**Pn**	**13 17 49.4**	**+4.3**
	1.5nm,0.3s							
AAK				⇑Pg	**Pb**	**13 17 56.2**	**+2.2**
	3.5nm,0.5s							
AAK				⇑Lg	Lg	13 18 46.7		
	10nm,0.7s							
KK31	**Karatay Array**	**4.13**	**343**	⇓Pn	**Pn**	**13 17 51.6**	**+3.8**
	4.7nm,0.5s,baz=144,slow=11,SNR=74							
KK31				Pg	**Pb**	**13 17 58.6**	**+1.1**
	1.5nm,0.3s,baz=149,slow=11,SNR=5.7							
KK31				⇑Sn	**Sn**	**13 18 38.6**	**+2.5**
	1.9nm,0.3s							
KK31				⇑Lg	Lg	13 18 50.4		
	6.3nm,0.4s,baz=155,slow=30,SNR=5.0							
CHMS	**Chumysh**	**4.33**	**27**	⇑*iP*	**Pn**	**13 17 54.5**	**+3.9**
	baz=27							
CHMS				⇑*iS*	**Sn**	**13 18 44.5**	**+3.4**
	baz=27							
CHMS	**Chumysh**	**4.33**	**27**	P	**Pn**	**13 17 55.2**	**+4.6**
	SNR=14							
USP	**Ospenovka**	**4.49**	**23**	P	**Pn**	**13 17 57.1**	**+4.3**
	SNR=9.7							
TKM2	**Tokmak 2**	**4.59**	**34**	⇑Pg	**Pg**	**13 18 09.6**	**-3.1**
	13nm,1.4s							
TKM2				⇑Lg	Lg	13 19 06.5		
	5.3nm,0.6s							
KST	**Kastek**	**4.85**	**36**	*eP*	**Pb**	**13 18 06.3**	**-3.6**
	3.5nm,0.5s							
KST				*eS*	**Sb**	**13 19 09.1**	**+0.8**
	13nm,0.7s							
KST	**Kastek**	**4.85**	**36**	Pg	**Pb**	**13 18 10.8**	**+0.9**
	2.3nm,0.3s							
KST				Lg	Lg	13 19 13.4		
	8.7nm,0.6s							
DGS	**Degeres**	**4.93**	**33**	*eP*	**Pb**	**13 18 07.3**	**-3.8**
	2.2nm,0.5s							
DGS				*eS*	**Sb**	**13 19 09.9**	**-0.6**
	8.3nm,0.5s							
DGS	**Degeres**	**4.93**	**33**	Pg	**Pb**	**13 18 13.0**	**+1.8**
DGS				Lg	Lg	13 19 17.3		
BTLS	**Baital**	**6.06**	**13**	*eP*	**Pb**	**13 18 31.9**	**+1.7**
	0.6nm,0.2s							
BTLS				*eS*	**Sg**	**13 19 52.7**	**-6.3**
	3.5nm,0.6s							
BTLS	**Baital**	**6.06**	**13**	Pg	**Pb**	**13 18 32.5**	**+2.3**
	0.6nm,0.2s							
BTLS				Lg	Lg	13 19 50.6		
	3.5nm,0.6s							
AB31	**Akbulak array**	**13.33**	**323**	Pn	**P**	**13 19 59.6**	**-4.0**
	0.3nm,0.5s,baz=130,slow=14,SNR=15							
AB31				⇓Sn	**Sn**	**13 22 28.1**	**+6.1**
	0.6nm,0.7s,baz=134,slow=27,SNR=3.7							

WEL 21 13:24:24.2,40°S±2°×17°6E±°, h52km±3km, M3.2/44, ML3.5/19, MLv3.2/44, Error ellipse: s-maj=0.0km s-min=0.0km az=83.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVHZ	**Dannevirke**	**0.08**	**111**	P	Pn	13 24 32.3	+0.1
DVHZ				S	Sn	13 24 37.9	-0.1
TSZ	**Takapari Road**	**0.23**	**339**	P	Pn	13 24 33.2	+0.2
POWZ	**Post Office Ro**	**0.26**	**242**	P	Pn	13 24 33.6	+0.5
POWZ				S	Sn	13 24 40.4	+0.8
PRWZ	**Pori Road**	**0.29**	**194**	P	Pn	13 24 34.1	+0.6
PRWZ				S	Sn	13 24 41.2	+1.0
WPHZ	**Waipukurau**	**0.35**	**55**	P	Pn	13 24 34.3	+0.3
WPHZ				S	Sn	13 24 41.9	+0.9
ANWZ	**Angora Road**	**0.37**	**121**	P	Pn	13 24 34.7	+0.6
ANWZ				S	Sn	13 24 42.2	+1.0
PNHZ	**Pukenui**	**0.37**	**16**	P	Pn	13 24 34.4	+0.2
BFZ	**Birch Farm**	**0.43**	**161**	P	Pn	13 24 35.2	+0.4
BFZ				S	Sn	13 24 43.3	+0.8
PRHZ	**Porangahau**	**0.44**	**90**	P	Pn	13 24 35.2	+0.4
PRHZ				S	Sn	13 24 43.5	+1.0
TIWZ	**Tintock**	**0.52**	**195**	P	Pn	13 24 36.4	+0.5
MRZ	**Mangatainoka R**	**0.54**	**223**	P	Pn	13 24 36.3	+0.3
OHWZ	**Ohakea**	**0.58**	**276**	P	Pn	13 24 37.9	+1.4
CPWZ	**Castlepoint**	**0.65**	**171**	P	Pn	13 24 38.2	+0.9
PXZ	**Pawanui**	**0.66**	**69**	P	Pn	13 24 37.5	+0.1
KRHZ	**Kereru**	**0.67**	**21**	P	Pn	13 24 37.8	+0.2
HOWZ	**Holdsworth Sta**	**0.75**	**214**	P	Pn	13 24 38.8	0.0
BHHZ	**Black Hill Sta**	**0.78**	**360**	P	Pn	13 24 39.7	+0.6
KAHZ	**Kahuranaki**	**0.78**	**53**	P	Pn	13 24 39.5	+0.4
TMWZ	**Te Maipa**	**0.85**	**189**	P	Pn	13 24 40.0	0.0
OGWZ	**Otaki Gorge**	**0.87**	**231**	P	Pn	13 24 40.4	+0.2
KWHZ	**Kaweka Forest**	**0.89**	**18**	P	Pn	13 24 40.8	+0.3
MOVZ	**Moawhango**	**0.89**	**344**	P	Pn	13 24 41.4	+0.8
MCHZ	**McNeill Hill**	**0.96**	**31**	P	Pn	13 24 41.8	+0.4
WAZ	**Wanganui**	**0.97**	**301**	P	Pn	13 24 43.4	+1.7
MTW	**Mount Morrison**	**0.98**	**206**	P	Pn	13 24 41.4	-0.3
CKHZ	**Cape Kidnapper**	**0.99**	**52**	P	Pn	13 24 41.8	0.0
MTVZ	**Mangateitei**	**0.99**	**332**	P	Pn	13 24 43.1	+1.2
TRVZ	**Turoa**	**1.05**	**337**	P	Pn	13 24 44.0	+1.2
TUVZ	**Tukino**	**1.05**	**342**	P	Pn	13 24 44.1	+1.4
WHVZ	**Whangaehu Hut**	**1.05**	**339**	P	Pn	13 24 44.1	+1.3
KIW	**Kapiti Island**	**1.06**	**236**	P	Pn	13 24 43.0	+0.3
DRZ	**Dome Shelter**	**1.06**	**339**	P	Pn	13 24 44.4	+1.3
FWVZ	**Far West T-bar**	**1.09**	**339**	P	Pn	13 24 44.6	+1.2
PKVZ	**Pokaka**	**1.12**	**330**	P	Pn	13 24 44.9	+1.3
CAW	**Cannon Point**	**1.13**	**222**	P	Pn	13 24 43.4	-0.3
NGZ	**Ngauruhoe**	**1.15**	**342**	P	Pn	13 24 44.6	+0.5
BKZ	**Black Stump Fm**	**1.15**	**17**	P	Pn	13 24 44.0	0.0
TRWZ	**Traveller**	**1.16**	**194**	P	Pn	13 24 43.8	-0.4
WTVZ	**West Tongariro**	**1.21**	**342**	P	Pn	13 24 46.0	+1.1
PAWZ	**Paruwai Farm**	**1.21**	**203**	P	Pn	13 24 44.2	-0.6
KRVZ	**Karewarewa**	**1.22**	**344**	P	Pn	13 24 46.1	+1.2
ARHZ	**Aropaoanui**	**1.23**	**36**	P	Pn	13 24 45.2	+0.1
TWVZ	**Taurewa**	**1.29**	**338**	P	Pn	13 24 46.9	+0.9
RITZ	**Rihia Road**	**1.30**	**353**	P	Pn	13 24 47.1	+1.1
MSWZ	**Moikau Station**	**1.30**	**208**	P	Pn	13 24 45.1	-0.9
KATZ	**Kakaramea**	**1.32**	**347**	P	Pn	13 24 47.5	+1.0
HATZ	**Hinemaiaia**	**1.38**	**1**	P	Pn	13 24 47.4	+0.4
RATZ	**Rangitukua**	**1.42**	**351**	P	Pn	13 24 48.5	+0.8
PLWZ	**Palliser**	**1.44**	**205**	P	Pn	13 24 46.8	-1.1
BHW	**Baring Head**	**1.45**	**218**	P	Pn	13 24 47.1	-0.9
MRHZ	**Matea Rd**	**1.46**	**11**	P	Pn	13 24 48.3	+0.1
WHHZ	**Waihua**	**1.49**	**38**	P	Pn	13 24 48.5	-0.1
LREZ	**Lake Rotokare**	**1.51**	**302**	P	Pn	13 24 50.7	+1.9
VRZ	**Vera Road**	**1.52**	**318**	P	Pn	13 24 50.3	+1.3
MTHZ	**Maungataniwha**	**1.54**	**23**	P	Pn	13 24 49.1	-0.2
RAHZ	**Arahi**	**1.56**	**31**	P	Pn	13 24 49.3	-0.3
WATZ	**Wairara**	**1.58**	**351**	P	Pn	13 24 50.3	+0.5
TCW	**Tory Channel**	**1.65**	**235**	P	Pn	13 24 50.3	-0.5
DUWZ	**D'Urville Isla**	**1.72**	**251**	P	Pn	13 24 51.6	-0.1
ALRZ	**Allen Road**	**1.72**	**7**	P	Pn	13 24 51.3	-0.4
PREZ	**Palmer Road**	**1.74**	**302**	P	Pn	13 24 54.4	+2.5
WPRZ	**Whakapapatarin**	**1.75**	**3**	P	Pn	13 24 52.0	-0.1
KNZ	**Kokohu**	**1.76**	**45**	P	Pn	13 24 51.4	-0.8
SNGZ	**Shannon Statio**	**1.78**	**34**	P	Pn	13 24 52.0	-0.5
PRRZ	**Plateau Road**	**1.79**	**8**	P	Pn	13 24 52.3	-0.3
KUTZ	**Kaahu Road**	**1.79**	**354**	P	Pn	13 24 52.8	+0.2
MHEZ	**Mangahewa**	**1.80**	**311**	P	Pn	13 24 55.1	+2.4
RTZ	**Ruatahuna**	**1.80**	**24**	P	Pn	13 24 52.3	-0.5
MHGZ	**Mahia Peninsul**	**1.81**	**52**	P	Pn	13 24 52.4	-0.4
KHEZ	**Kahui Hut**	**1.86**	**301**	P	Pn	13 24 55.9	+2.3
MUGZ	**Murupara**	**1.87**	**17**	P	Pn	13 24 53.0	-0.7
NMEZ	**Namu Road**	**1.89**	**296**	P	Pn	13 24 56.2	+2.3
PKE	**Pukeiti**	**1.93**	**303**	P	Pn	13 24 56.9	+2.4
PRGZ	**Paritu Road**	**1.94**	**47**	P	Pn	13 24 54.0	-0.8
RRRZ	**Republican Roa**	**1.96**	**10**	P	Pn	13 24 54.2	-0.7
HSRZ	**Hossack Road**	**1.96**	**4**	P	Pn	13 24 55.0	+0.0
NBEZ	**Newall Road No**	**1.97**	**300**	P	Pn	13 24 57.4	+2.3
TUWZ	**Tuamarina**	**1.98**	**234**	P	Pn	13 24 54.2	-1.1
HIZ	**Hauiti**	**1.99**	**332**	P	Pn	13 24 56.3	+1.0
RIGZ	**Rimuhau**	**2.04**	**41**	P	Pn	13 24 55.0	-1.1
RAGZ	**Rawiri**	**2.06**	**31**	P	Pn	13 24 55.4	-1.0
TARZ	**Mount Tarawera**	**2.06**	**10**	P	Pn	13 24 56.2	-0.3
URZ	**Urewera**	**2.17**	**22**	P	Pn	13 24 56.5	-1.2
BSWZ	**Blackbirch Sta**	**2.20**	**228**	P	Pn	13 24 57.2	-1.0
MWZ	**Matawai**	**2.24**	**31**	P	Pn	13 24 57.6	-1.3
NNZ	**Nelson**	**2.25**	**244**	P	Pn	13 24 58.6	-0.3
TKGZ	**Te Karaka**	**2.29**	**38**	P	Pn	13 24 58.2	-1.3
TOZ	**Tahuroa Road**	**2.57**	**350**	P	Pn	13 25 03.8	+0.4
RUGZ	**Raukumara Rang**	**2.62**	**29**	P	Pn	13 25 02.6	-1.5
QRZ	**Quartz Range**	**2.75**	**257**	P	Pn	13 25 05.2	-0.6
THZ	**Tophouse**	**2.82**	**237**	P	Pn	13 25 05.6	-1.2
HAZ	**Te Kaha**	**2.84**	**29**	P	Pn	13 25 06.1	-1.0
PKGZ	**Pakihiroa**	**2.85**	**34**	P	Pn	13 25 06.0	-1.2
WMGZ	**Waiomatatini S**	**3.06**	**38**	P	Pn	13 25 08.4	-1.6
AWAZ	**Awhitu Peninsu**	**3.39**	**340**	P	Pn	13 25 16.2	+1.7
ETAZ	**East Tamaki Re**	**3.43**	**345**	P	Pn	13 25 15.6	+0.5
GVZ	**Greta Valley S**	**3.52**	**219**	P	Pn	13 25 14.9	-1.5
WTAZ	**Waiatarua**	**3.53**	**340**	P	Pn	13 25 17.7	+1.2
LTZ	**Lake Taylor**	**3.80**	**227**	P	Pn	13 25 17.8	-2.3
OKCZ	**Okains Bay**	**4.11**	**212**	P	Pn	13 25 22.9	-1.6
MQZ	**McQueen's Vall**	**4.27**	**215**	P	Pn	13 25 24.4	-2.2
WCZ	**Waipu Caves**	**4.53**	**342**	P	Pn	13 25 30.8	+0.6
ODZ	**Otahua Downs**	**6.22**	**218**	P	Pn	13 25 50.6	-2.7
CTZ	**Chatham Island**	**6.46**	**125**	P	Pn	13 25 56.4	-0.1

*NEIC **21** 13:39:18.4±2.2,24.°5S±0.°1×179.°5E±0.°1, h505km±8km, mb4.3/13*
*ISCJB **21** 13:39:19.2±0.5,24.°39S±0.°08×179.°44E±0.°09, h531km, mb3.6/4, Error ellipse: s-maj=11.6km s-min=8.7km az=43.4*
*IDC **21** 13:39:22.2±4.2,24.°59S×179.°36E, h537km±45km, mb3.1/4, mb1 3.3/6, mb1mx3.1/24, mbtmp4.2/6, Error ellipse: s-maj=37.3km s-min=34.9km az=156.0*

ISC 21 13:39:19.8±0.7, 24.°54S±0.°09×179.°53E±0.°10, h531km, n27, σ1°28/27, mb4.1/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.91**	**348**	P	**P**	**13 41 03.9**	**-2.6**
NIUE	**Niue**	**11.20**	**63**	P	**P**	**13 41 49.0**	**-1.1**
OUZ	**Omahuta**	**11.82**	**204**	P	**P**	**13 41 53.6**	**-2.7**
DZM	**Mont Dzumac**	**12.27**	**279**	P	**P**	**13 42 02.6**	**+1.3**
	1.2nm,0.3s,baz=64,slow=19,SNR=12						
AFI	**Afiamalu**	**13.38**	**39**	P	**P**	**13 42 12.9**	**-0.1**
URZ	**Urewera**	**13.84**	**188**	P	**P**	**13 42 19.1**	**+1.8**
	0.7nm,0.3s,baz=274,slow=1.6,SNR=6.2						
URZ				S	**S**	**13 44 42.8**	**-0.7**
	0.5nm,0.3s,baz=72,slow=24,SNR=9.0						
ARMA	**Armidale**	**25.40**	**250**	P	**P**	**13 44 04.2**	**-1.1**
EIDS	**Eidsvold**	**25.79**	**262**	P	**P**	**13 44 08.8**	**+0.2**
EIDS				IAmb	IAmb	13 44 17.6	
	comp=Z,13nm,1.4s						
CAN	**Canberra**	**28.45**	**241**	P	**P**	**13 44 30.5**	**-1.4**
STKA	**Stephens Creek**	**34.09**	**249**	P	**P**	**13 45 21.5**	**+1.3**
	comp=Z,0.9nm,0.4s,baz=70,slow=7.8,SNR=4.8						
PMG	**Port Moresby**	**34.30**	**290**	P	P	13 45 17.1	-5.0
PMG				IAmb	IAmb	13 45 32.1	
	comp=Z,21nm,1.4s						
COEN	**Coen**	**35.79**	**280**	P	**P**	**13 45 34.5**	**-0.1**
COEN				IAmb	IAmb	13 45 51.7	
	comp=Z,15nm,1.4s						
BBOO	**Buckleboo**	**38.80**	**248**	P	**P**	**13 46 00.6**	**+1.5**
TAOE	**Nuku Hiva Isla**	**41.47**	**75**	P	**P**	**13 46 20.9**	**+0.2**
AS31	**Alice Springs**	**41.51**	**261**	P	**P**	**13 46 20.1**	**-0.9**
ASAR	**Alice Springs**	**41.51**	**261**	P	**P**	**13 46 21.6**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=91,slow=7.6,SNR=13						
WR0	**Warramunga Arr**	**41.75**	**267**	P	**P**	**13 46 21.7**	**-1.1**
WR0				IAmb	IAmb	13 46 28.4	
	comp=Z,5.2nm,0.4s						
WRAB	**Tennant Creek**	**41.93**	**267**	P	**P**	**13 46 23.1**	**-1.1**
WRAB				IAmb	IAmb	13 46 37.2	
	comp=Z,5.0nm,1.3s						
WRA	**Warramunga Arr**	**41.94**	**267**	P	**P**	**13 46 24.2**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=100,slow=8.0,SNR=22						
FORT	**Forrest**	**45.69**	**250**	P	**P**	**13 46 53.3**	**+0.1**
MTN	**Manton Dam**	**47.08**	**275**	P	**P**	**13 47 03.6**	**-0.3**
MTN				IAmb	IAmb	13 47 06.6	
	comp=Z,21nm,1.4s						
KNRA	**Kununurra**	**48.26**	**271**	P	**P**	**13 47 12.8**	**0.0**
KNRA				IAmb	IAmb	13 47 19.4	
	comp=Z,7.8nm,1.1s						
PETK	**Petropavlovsk-**	**79.61**	**347**	P	**P**	**13 50 33.3**	**+1.7**
	comp=Z,2.9nm,0.9s,baz=119,slow=12,SNR=4.0						
ARCES	**ARCESS Array B**	**132.42**	**348**	PKP	**PKiKP**	**13 57 35.2**	**+1.1**
	comp=Z,4.1nm,1.1s,baz=28,slow=2.1,SNR=4.0						
AKASG	**Malin Array Be**	**145.26**	**326**	PKPbc	**PKPbc**	**13 57 58.5**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=43,slow=4.2,SNR=8.0						
BRTR	**Keskin Array B**	**147.61**	**306**	PKPbc	**PKiKP**	**13 58 05.8**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=103,slow=2.9,SNR=4.8						
GERES	**GERESS Array B**	**153.30**	**339**	PKPab	**PKPab**	**13 58 33.9**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=52,slow=39,SNR=2.3						

*NIED **21** 13:54:00,37.°80N×142.°50E, h29km, Mw3.8 Best double couple: M0 5.43000×10^14 NP1:φs69.00000°, δ34.00000°, λ138.00000°. NP2:φs196.00000°, δ68.00000°, λ63.00000°.*
*JMA **21** 13:54:12.9±0.2,37.°83N×142.°52E, h40km±4km, M4.0*
JMA Felt I J1.
*NEIC **21** 13:54:14.4±2.3,37.°79N±0.°06×142.°63E±0.°03, h43km±9km, mb4.4/12*
*IDC **21** 13:54:15.0±2.7,37.°76N×142.°56E, h46km±26km, mb3.5/12, mb1 3.7/15, mb1mx3.6/35, mbtmp3.8/15, ML3.0/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/41, Error ellipse: s-maj=22.6km s-min=16.4km az=121.0*

ISC 21 13:54:10.8±1.8, 37.°87N±0.°04×142.°53E±0.°06, h14km±10km, n59, σ1°55/62, mb3.8/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.95**	**298**	P	**Pn**	**13 54 30.2**	**+0.5**
JIKH				S	**Sn**	**13 54 42.6**	**-0.4**
JIO	**Ouri**	**1.10**	**302**	P	**Pg**	**13 54 32.6**	**+0.6**
JIO				S	**Sg**	**13 54 46.3**	**0.0**
JKMT	**Kesennumamotoy**	**1.25**	**319**	P	**Pg**	**13 54 34.8**	**-0.2**
JKMT				S	**Sn**	**13 54 50.4**	**-0.1**
JMST	**Minamisoumatoc**	**1.31**	**264**	P	**Pb**	**13 54 34.8**	**-0.3**
JMST				S	**Sb**	**13 54 50.6**	**-1.1**
JMM	**Marumori**	**1.37**	**270**	P	**Pb**	**13 54 36.1**	**-0.2**
JMM				eS	**Sn**	**13 54 52.6**	**-0.9**
JFK	**Kawauchi**	**1.41**	**250**	P	**Pb**	**13 54 36.2**	**-0.6**
JFK				eS	**Sn**	**13 54 52.9**	**-1.5**
JMK	**Ichinoseki**	**1.49**	**317**	P	**Pb**	**13 54 38.3**	**0.0**
JOU	**Okura**	**1.55**	**289**	P	**Pb**	**13 54 39.4**	**+0.1**
JFT	**Otama**	**1.77**	**259**	P	**Pb**	**13 54 42.5**	**-0.6**
JFT				S	**Sb**	**13 55 04.2**	**-1.0**
JOM	**Ohasama**	**1.87**	**329**	P	**Pb**	**13 54 43.7**	**-1.1**
JYS	**Shirataka**	**1.98**	**281**	P	**Pb**	**13 54 46.2**	**-0.3**
JYK	**Kaneyama**	**2.00**	**302**	P	**Pb**	**13 54 45.8**	**-1.2**
JRG	**Rokugo**	**2.13**	**316**	P	**Pb**	**13 54 48.3**	**-0.8**
JRG				eS	**Sb**	**13 55 14.4**	**-1.0**
JANG	**Nango**	**2.62**	**343**	P	**Pb**	**13 54 55.7**	**-1.9**
JAW	**Awa shima**	**2.65**	**284**	P	**Pb**	**13 54 55.4**	**-2.6**
JAG	**Ashikaga**	**2.85**	**241**	P	**Pn**	**13 54 56.9**	**+1.1**
MJAR	**Matsushiro Arr**	**3.69**	**250**	P	**Pn**	**13 55 10.3**	**+2.8**
	0.4nm,0.3s,baz=223,slow=14,SNR=18						
MJAR				S	**Sb**	**13 55 57.4**	**-3.1**
	0.3nm,0.3s,baz=62,slow=6.1,SNR=1.7						
MJAR				LR	LR	13 56 49.8	
	comp=Z,283nm,18.0s,baz=105,slow=42						
MAJO	**Matsushiro**	**3.69**	**250**		**Pn**	**13 55 10.6**	**+3.1**
MAT	**Matsushiro**	**3.69**	**250**	P	**Pn**	**13 55 10.0**	**+2.5**
MAT				eS	**Sn**	**13 55 53.6**	**+2.8**
MJB9	**Matsu-Tunnel**	**3.70**	**250**		**Pn**	**13 55 10.6**	**+3.1**
ERM	**Erimo**	**4.17**	**6**	Pn	**Pn**	**13 55 16.4**	**+2.5**
INU	**Inuyama**	**5.10**	**242**	Pn	**Pn**	**13 55 29.7**	**+2.9**
JHJ2	**Mitsune**	**5.24**	**206**	Pn	**Pn**	**13 55 28.0**	**-0.6**
ASAJ	**Asahikawa**	**6.24**	**0**	P	**Pn**	**13 55 44.5**	**+2.0**
	0.7nm,0.3s,baz=204,slow=11,SNR=11						
ASAJ				S	**Sn**	**13 56 52.4**	**-1.1**
	1.0nm,0.3s,baz=3.7,slow=27,SNR=1.3						
JKA	**Kamikawa-asahi**	**6.24**	**0**		**Pn**	**13 55 44.5**	**+2.0**
JKA					**Sn**	**13 56 52.4**	**-1.1**
USRK	**Ussuriysk Ar.**	**10.16**	**312**	P	**Pn**	**13 56 39.0**	**+2.8**
	baz=122,slow=14,SNR=6.0						
USA0B	**Ussuriysk Arra**	**10.16**	**312**	Pn	Pn	13 56 42.2	+6.1
KSRS	**Korea Array**	**11.59**	**272**	LR	LR	14 01 04.2	
	comp=Z,70nm,19.9s,baz=105,slow=35						
KS19	**Wonju Array Si**	**11.62**	**273**	Pn	**Pn**	**13 56 55.5**	**-0.7**
JOW	**Kunigami**	**16.29**	**232**	P	**P**	**13 58 00.6**	**-1.6**
JOW				IAmb	IAmb	13 58 09.5	
	comp=Z,32nm,1.0s						
PEA0B	**Petropavlovsk-**	**18.52**	**30**	P	**P**	**13 58 24.2**	**-2.4**
PEA0B				IAmb	IAmb	13 58 30.1	
	comp=Z,46nm,1.3s						
SSE	**Sheshan**	**18.83**	**255**	P	**P**	**13 58 28.8**	**-1.2**
SSE				IAmb	IAmb	13 58 47.0	
	comp=Z,34nm,0.8s						
PET	**Petropavlovsk**	**18.84**	**31**	P	**P**	**13 58 28.5**	**-1.6**
PET				IAmb	IAmb	13 58 28.8	
	comp=Z,29nm,1.0s						
TPUB	**Ta-pu**	**23.72**	**238**	P	**P**	**13 59 19.9**	**-2.5**
TWG	**Pinlang**	**23.75**	**237**	P	**P**	**13 59 22.8**	**+0.1**
SEY	**Seymchan**	**25.81**	**10**	P	**P**	**13 59 43.3**	**+2.1**
	comp=Z,2.2nm,0.8s,baz=73,slow=21,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**27.84**	**124**	T	T	14 29 07.6	
	baz=316,slow=76,SNR=61						
H11N1	**WAKE ISLAND Hy**	**27.85**	**124**	T	T	14 29 11.2	
	baz=316,slow=76,SNR=36						
H11N3	**WAKE ISLAND Hy**	**27.86**	**124**	T	T	14 29 07.3	
	baz=316,slow=76,SNR=43						
SONM	**Songino Array**	**28.07**	**302**	P	**P**	**14 00 02.9**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=104,slow=8.6,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**28.60**	**126**	T	T	14 30 11.7	
	baz=317,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy**	**28.60**	**126**	T	T	14 30 06.3	
	baz=317,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**28.61**	**126**	T	T	14 30 09.7	
	baz=317,slow=76,SNR=13						
ZALV	**Zalesovo Beam**	**42.02**	**312**	P	**P**	**14 02 02.2**

	2.1nm,0.5s								
KK31					⇑Lg	Lg	14 11 26.8		
	2.2nm,0.4s,baz=153,slow=30								
MDOK	**Medeo**	**4.54**	**35**	*e*P	**Pg**	**14 10 30.8**	**0.0**		
	2.4nm,0.4s								
MDOK				*e*S	**Sg**	**14 11 31.8**	**+2.0**		
	8.8nm,0.8s								
MDOK	**Medeo**	**4.54**	**35**	Pg	**Pg**	**14 10 30.4**	**-0.5**		
	3.5nm,0.6s								
MDOK				Lg	Lg	14 11 31.7			
	8.8nm,0.8s								
KUU	**Kurty**	**4.89**	**25**	*e*P	**Pg**	**14 10 36.3**	**-1.2**		
	2.1nm,0.3s								
KUU				*e*S	**Sg**	**14 11 41.1**	**+0.3**		
	9.9nm,0.5s								
KUU	**Kurty**	**4.89**	**25**	Pg	**Pg**	**14 10 36.3**	**-1.2**		
	2.0nm,0.3s								
KUU				Lg	Lg	14 11 41.0			
	9.9nm,0.6s								

NNC ***21*** *14:21:36.3±1.7,36˚.78N×71˚.14E,h0km,mb5.5,mpv5.3, Error ellipse: s-maj=16.8km s-min=9.3km az=158.0*

ISCJB ***21*** *14:21:39.3±0.3,36˚.50N±0˚.02×71˚.60E±0˚.02,h86km±3km, mb5.1/201,Error ellipse: s-maj=2.6km s-min=2.3km az=32.9*

BJI ***21*** *14:21:39.0±0.0,36˚.57N×71˚.53E,h81km,mb5.0/66, mB5.0/46,Ms4.4/29,Ms7 4.1/26*

MOS ***21*** *14:21:40.0±1.0,36˚.53N×71˚.63E,h94km,mb5.1/88,Error ellipse: s-maj=4.8km s-min=3.1km az=124.8*

NEIC ***21*** *14:21:40.6±3.0,36˚.54N±0˚.05×71˚.39E±0˚.08,h87km±4km, mb5.0/85*

GCMT ***21*** *14:21:40.7±0.2,36˚.43N±0˚.02×71˚.23E±0˚.02,h77km±2km, MW4.9/107,Moment Tensor Solution. s30,c32; s107,c150; Duration: 0 Moment tensor: Scale 1016Nm; Mrr1.90±.12; Mθθ0.18±.11; Mϕϕ-2.07±.09; Mrθ-1.48±.06; Mrϕ-1.45±.10; Mθϕ-0.45±.07; Best double couple: M=2.90000×1016 NP1:ϕs233.00000°,δ64.00000°, λ123.00000°. NP2:ϕs358.00000°,δ41.00000°,λ42.00000°. Principal axes: T 2.7770, Plg58.0000°, Azm189.0000°; N 0.2530, Plg29.0000°, Azm37.0000°; P -3.0230, Plg13.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***21*** *14:21:41.7±2.0,36˚.49N×71˚.56E,h98km±18km,mb4.5/33, mb1 4.6/37,mb1mx4.5/47,mbtmp4.9/37,MS3.9/22, Ms1 3.9/22,ms1mx3.7/45 Error ellipse: s-maj=8.8km s-min=8.1km az=168.0*

ISC 21 14:21:40.1±0.3,36˚.54N±0˚.03×71˚.52E±0˚.03,h84km±2km, h84km:pP-P,n665,σ1s78/720,mb5.0/219,68C-31D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.63**	**339**		**Pn**	**14 22 21.6**	**+0.9**
GAR				Sn	**Sn**	**14 22 43.2**	**-8.6**
CEP	**Cherat**	**2.73**	**173**	P	**Pn**	**14 22 23.3**	**+1.2**
CEP				S	**Sn**	**14 23 02.0**	**+7.8**
CHGR	**Chuyangaron**	**2.82**	**319**		**Pn**	**14 22 22.5**	**-0.7**
KBL	**Kabul**	**2.84**	**226**	P	**Pn**	**14 22 24.5**	**+1.0**
KBL				S	**Sn**	**14 22 58.9**	**+2.0**
KBL	**Kabul**	**2.84**	**226**	PN	**Pn**	**14 22 24.4**	**+0.9**
KBL	**Kabul**	**2.84**	**226**		**Pn**	**14 22 24.4**	**+0.9**
CHCP	**Chirah Chowk**	**3.21**	**153**	P	**Pn**	**14 22 30.4**	**+1.9**
NIL	**Nilore**	**3.22**	**153**	P	**Pn**	**14 22 30.9**	**+2.4**
NIL	**Nilore**	**3.22**	**153**	PN	**Pn**	**14 22 30.8**	**+2.3**
NIL	**Nilore**	**3.22**	**153**		**Pn**	**14 22 30.8**	**+2.3**
BTK	**Batken**	**3.55**	**351**	PN	**Pn**	**14 22 35.7**	**+2.6**
BTK	**Batken**	**3.55**	**351**		**Pn**	**14 22 35.7**	**+2.6**
SRNI	**Srinagar**	**3.66**	**131**	*ex*	**Sn**	**14 23 20.0**	**+3.6**
THW	**Thamme Wali**	**3.74**	**177**	P	**Pn**	**14 22 36.2**	**+0.6**
KSH	**Kashi**	**4.61**	**48**	P	**Pn**	**14 22 45.4**	**-2.0**
KSH				S	**Sn**	**14 23 33.9**	**-5.8**
KSH				smax	smax		
	comp=N,8μm,0.5s						
KSH				smax	smax		
	comp=E,6μm,0.5s						
ARSB	**Arslanbob**	**4.91**	**13**		**Pn**	**14 22 52.7**	**+1.1**
TAS	**Tashkent**	**5.08**	**341**	PN	**Pn**	**14 22 54.3**	**+0.4**
TAS	**Tashkent**	**5.08**	**341**		**Pn**	**14 22 54.3**	**+0.4**
DHRM	**DHARAMSHALA**	**5.83**	**136**	*e*P	**Pn**	**14 23 04.5**	**+0.3**
DHRM				*e*S	**Sn**	**14 24 05.5**	**-4.2**
DHRM				IAML		14 24 10.4	
	comp=N,3μm,1.1s						
DHRM				IAML		14 24 12.0	
	comp=E,5μm,0.5s						
AML	**Almayashu**	**5.83**	**16**	P	**Pn**	**14 23 05.7**	**+1.3**
	SNR=340						
UCH	**Uchtor**	**6.13**	**21**	P	**Pn**	**14 23 09.8**	**+1.3**
	SNR=104						
KZA	**Kyzart**	**6.24**	**26**	P	**Pn**	**14 23 11.7**	**+1.7**
	SNR=38						
EKS2	**Erkin-Say**	**6.36**	**15**	P	**Pn**	**14 23 12.9**	**+1.6**
	SNR=240						
AAK	**Ala-Archa**	**6.51**	**20**	*i* Pn	**Pn**	**14 23 15.1**	**+1.7**
	SNR=383						
AAK	**Ala-Archa**	**6.51**	**20**	P	**Pn**	**14 23 15.2**	**+1.8**
AAK	**Ala-Archa**	**6.51**	**20**	*d i* PN	**Pn**	**14 23 14.9**	**+1.5**
AAK				pmax	pmax		
	comp=Z,153nm,0.5s						
AAK	**Ala-Archa**	**6.51**	**20**	P	**Pn**	**14 23 15.1**	**+1.7**
	comp=Z,74nm,0.3s,baz=184,slow=8.2,SNR=1132						
AAK				S	**Sn**	**14 24 26.3**	**+0.1**
	comp=Z,32nm,0.3s,baz=325,slow=21,SNR=7.8						
AAK	**Ala-Archa**	**6.51**	**20**	P	**Pn**	**14 23 15.0**	**+1.7**
	SNR=292						
AAK	**Ala-Archa**	**6.51**	**20**		**Pn**	**14 23 14.6**	**+1.2**
AAK	**Ala-Archa**	**6.51**	**20**	⇓P	**Pn**	**14 23 10.5**	**-2.8**
	comp=Z,171nm,0.5s						
AAK				S	**Sn**	**14 24 25.9**	**-0.3**
	comp=Z,402nm,0.8s						
KK31	**Karatay Array**	**6.60**	**354**	PN	**Pn**	**14 23 15.5**	**+1.0**
KK31	**Karatay Array**	**6.60**	**354**		**Pn**	**14 23 15.5**	**+1.0**
KK31	**Karatay Array**	**6.60**	**354**	⇓P	**Pn**	**14 23 13.1**	**-1.3**
	comp=Z,215nm,0.5s,baz=186,slow=14,SNR=2764						
KK31				⇓S	**Sn**	**14 24 26.3**	**-1.9**
	comp=Z,137nm,0.5s,baz=179,slow=22,SNR=5.4						
KKAR	**Karatay Array**	**6.60**	**354**	PN	**Pn**	**14 23 15.4**	**+0.9**
KKAR	**Karatay Array**	**6.60**	**354**		**Pn**	**14 23 15.4**	**+0.9**
KBK	**Karagaybulak**	**6.66**	**22**	P	**Pn**	**14 23 17.5**	**+2.0**
	SNR=21						
FRU1	**Bishkek**	**6.71**	**20**	PN	**Pn**	**14 23 17.1**	**+1.1**
FRU1	**Bishkek**	**6.71**	**20**		**Pn**	**14 23 17.1**	**+1.1**
ULHL	**Ulahol**	**6.77**	**31**	P	**Pn**	**14 23 19.8**	**+2.8**
	SNR=34						
CHMS	**Chumysh**	**6.91**	**20**	P	**Pn**	**14 23 20.2**	**+1.4**
	SNR=173						
USP	**Ospenovka**	**7.10**	**18**	P	**Pn**	**14 23 22.3**	**+1.0**
	SNR=41						
KDJ	**Kajisay**	**7.10**	**36**	PN	**Pn**	**14 23 22.9**	**+1.4**
KDJ	**Kajisay**	**7.10**	**36**		**Pn**	**14 23 22.9**	**+1.4**
TKM2	**Tokmak 2**	**7.10**	**25**	PN	**Pn**	**14 23 23.8**	**+2.3**
TKM2				pmax	pmax		
	comp=Z,150nm,0.8s						
TKM2	**Tokmak 2**	**7.10**	**25**	P	**Pn**	**14 23 23.2**	**+1.7**
	SNR=53						
TKM2	**Tokmak 2**	**7.10**	**25**	⇑P	**Pn**	**14 23 23.1**	**+1.5**
	comp=Z,150nm,0.8s						
TKM2				⇑S	**Sn**	**14 24 42.8**	**+2.0**
	comp=Z,103nm,0.6s						
TARG	**Taragay, Kyrgy**	**7.12**	**41**		**Pn**	**14 23 24.0**	**+2.0**
SMLA	**Simla**	**7.16**	**137**	*e*P	**Pn**	**14 23 21.2**	**-0.9**
SMLA				*e*S	**Sn**	**14 24 34.1**	**-7.8**
SMLA				IAML		14 24 51.3	
	comp=E,1μm,0.8s						
AAA	**Alma-Ata**	**7.85**	**30**	*e*PN	Pn	14 23 40.4	+8.9
AAA				*e*S	Sn	14 25 11.3	+13
AAA				pmax	pmax		
	comp=Z,84nm,0.9s						
AAA				smax	smax		
	comp=N,77nm,0.9s						
MDOK	**Medeo**	**7.86**	**31**	PN	**Pn**	**14 23 32.2**	**+0.4**
MDOK				pmax	pmax		
	comp=Z,67nm,0.7s						
MDOK	**Medeo**	**7.86**	**31**	⇑P	**Pn**	**14 23 32.2**	**+0.4**
	comp=Z,67nm,0.7s						
HRA	**Herat**	**7.86**	**257**		**Pn**	**14 23 31.6**	**-0.4**
KNDC	**Almaty**	**7.87**	**30**	⇓P	**Pn**	**14 23 32.7**	**+0.8**
	comp=Z,134nm,0.7s						
KNDC				⇓S	**Sn**	**14 25 00.5**	**+1.1**
	comp=Z,238nm,0.9s						

DDI	**Dehra Dun**	**8.27**	**137**	*e*P	**Pn**	**14 23 37.5**	**+0.2**
DDI				*ex*	x	14 25 03.5	
DDI				IAML		14 25 09.9	
	comp=N,2μm,0.2s						
DDI				IAML		14 25 10.0	
	comp=E,1μm,0.6s						
JOSI	**Joshimath**	**8.98**	**129**	*e*P	**Pn**	**14 23 46.9**	**-0.3**
JOSI				*e*S	**Sn**	**14 25 19.8**	**-7.0**
PDGK	**Podgornoye**	**9.13**	**40**	P	**Pn**	**14 23 49.2**	**+0.1**
PDGK				S	**Sn**	**14 25 33.8**	**+3.6**
PDGK				pmax	pmax		
	comp=Z,50nm,0.9s						
PDGK				smax	smax		
	comp=N,138nm,0.9s						
PDGK	**Podgornoye**	**9.13**	**40**	⇓P	**Pn**	**14 23 49.2**	**+0.1**
	comp=N,50nm,0.9s						
PDGK				⇓S	**Sn**	**14 25 33.8**	**+3.6**
	comp=N,138nm,0.9s						
NDI	**New Delhi**	**9.19**	**147**	*e*P	**Pn**	**14 23 49.5**	**-0.4**
NDI				*ex*	x	14 25 24.0	
AYAN	**Aya Nagar**	**9.33**	**148**	*e*P	**Pn**	**14 23 50.5**	**-1.2**
KUDL	**Kundal**	**9.37**	**152**	*e*P	Pn	14 23 44.9	-7.4
KUDL				*e*S	Sn	14 25 21.4	-14
KUDL				IAML		14 25 23.2	
	comp=E,1μm,0.8s						
JASL	**Jaisalmer**	**9.60**	**183**	*ex*	**Pn**	**14 23 52.7**	**-2.8**
LGTI	**Lohaghat**	**10.18**	**131**	*e*P	**Pn**	**14 24 01.3**	**-2.1**
LGTI				*ex*	x	14 25 46.9	
GEYT	**Alibeck**	**10.77**	**281**	P	Pn	14 24 06.7	-4.7
	comp=E,22nm,0.3s,baz=117,slow=12,SNR=222						
GEYT				S	Sn	14 26 01.0	-9.1
	comp=E,20nm,0.3s,baz=286,slow=32,SNR=8.4						
GEYT				LR	LR	14 29 59.2	
	comp=E,626nm,18.3s,baz=20,slow=46						
GYA0B	**ALIBECK ARRAY**	**10.77**	**281**		**Pn**	**14 24 07.0**	**-4.4**
GYA0B	**ALIBECK ARRAY**	**10.77**	**281**	⇑P	Pn	14 24 06.7	-4.7
GYA0B				⇓S	**Sn**	**14 26 04.3**	**-5.9**
MAKZ	**Makanchi**	**12.89**	**34**	P	**Pn**	**14 24 39.3**	**-0.6**
MAKZ	**Makanchi**	**12.89**	**34**		**Pn**	**14 24 39.3**	**-0.6**
MAKZ	**Makanchi**	**12.89**	**34**	⇑P	**Pn**	**14 24 38.6**	**-1.3**
	comp=E,131nm,1.5s						
MKAR	**Makanchi Array**	**13.02**	**35**	*i* P	**Pn**	**14 24 41.5**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,18nm,0.8s						
MKAR	**Makanchi Array**	**13.02**	**35**	P	**Pn**	**14 24 41.4**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=228,slow=14,SNR=65						
MKAR				LR	LR	14 30 15.0	
	comp=Z,461nm,20.9s,baz=230,slow=39						
MK31	**Makanchi Array**	**13.02**	**35**	P	**Pn**	**14 24 41.0**	**-0.7**
MK31	**Makanchi Array**	**13.02**	**35**		**Pn**	**14 24 41.0**	**-0.7**
MK31	**Makanchi Array**	**13.02**	**35**	⇑P	**Pn**	**14 24 41.0**	**-0.7**
	comp=Z,17nm,0.7s,baz=224,slow=13,SNR=84						
DANN	**Dangsing**	**13.17**	**125**	*e*P	**Pn**	**14 24 39.6**	**-4.5**
	comp=Z,181nm,0.7s						
BHUJ	**Bhuj**	**13.34**	**187**	*e*P	**Pn**	**14 24 43.0**	**-3.0**
KOLN	**Koldanda**	**13.45**	**127**	*e*P	Pn	14 24 43.0	-4.7
	comp=Z,47nm,0.4s						
GKN	**Gorkha**	**13.98**	**124**	*e*P	Pn	14 24 49.7	-4.8
	comp=Z,80nm,0.2s						
BHPL	**Bhopal**	**14.21**	**157**	*e*P	**Pn**	**14 24 53.5**	**-3.9**
BHPL				IAML		14 27 25.4	
	comp=E,100nm,0.8s						
WMQ	**Urumqi**	**14.33**	**55**	*e*P	**Pn**	**14 24 59.8**	**+0.8**
WMQ				pP	P	14 25 14.0	+10
WMQ				sP		14 25 21.1	
WMQ				S	**Sn**	**14 27 36.6**	**0.0**
WMQ				pmax	pmax		
	comp=E,36nm,1.1s						
WMQ				pmax	pmax		
	comp=E,61nm,4.9s						
WMQ				LR	LR		
	comp=E,550nm,7.1s						
WMQ				LR	LR		
	comp=E,340nm,7.1s						
KKN	**Kakani**	**14.55**	**123**	*e*P	Pn	14 24 56.8	-5.2
	comp=E,103nm,0.6s						
DMN	**Daman**	**14.55**	**124**	*e*P	**Pn**	**14 24 57.4**	**-4.6**
	comp=E,86nm,0.5s						
PKIN	**Phulchoki**	**14.77**	**123**	*e*P	Pn	14 24 59.8	-5.0
PKI	**Pulchoki**	**14.78**	**123**	*e*P	Pn	14 24 59.9	-5.1
	comp=E,10.0nm,0.6s						
GUN	**Gumba**	**14.88**	**121**	*e*P	Pn	14 25 01.5	-4.9
	comp=E,62nm,0.5s						
KURBB	**Kurchatov Arra**	**14.95**	**18**	P	**Pn**	**14 25 03.5**	**-3.3**
	comp=E,0.2nm,0.3s,baz=209,slow=12,SNR=76						
KURBB	**Kurchatov Arra**	**14.95**	**18**	⇓P	**P**	**14 25 09.0**	**-1.3**
	comp=E,80nm,0.7s						
KURK	**Kurchatov**	**15.06**	**18**	⇑*e*P	**Pn**	**14 25 04.8**	**-3.4**
KURK	**Kurchatov**	**15.06**	**18**	P	**P**	**14 25 11.4**	**-0.1**
KURK				IAmb	IAmb	14 25 13.5	
	comp=Z,82nm,0.8s						
KURK	**Kurchatov**	**15.06**	**18**	⇓P	**Pn**	**14 25 09.5**	**+1.3**
	comp=Z,86nm,0.9s						
JBP	**Jabalpur**	**15.21**	**149**	*e*P	**P**	**14 25 13.1**	**-0.3**
JBP				AMB	AMB	14 25 23.4	
	comp=Z,24nm,0.6s						
JBP				*ex*	x	14 27 47.8	
AB31	**Akbulak array**	**15.25**	**330**	P	**Pn**	**14 25 07.5**	**-3.1**
AB31				S	**Sn**	**14 27 53.7**	**-4.9**
AB31				pmax	pmax		
	comp=Z,29nm,0.4s						
AB31				smax	smax		
	comp=N,32nm,0.6s						
AB31	**Akbulak array**	**15.25**	**330**	P	**Pn**	**14 25 07.5**	**-3.1**
	comp=N,29nm,0.5s,baz=141,slow=12,SNR=1277						
AB31				⇑S	**Sn**	**14 27 53.7**	**-4.9**
	comp=N,32nm,0.7s,baz=153,slow=23,SNR=4.7						
ABKAR	**Akbulak array**	**15.25**	**330**	P	**Pn**	**14 25 07.8**	**-2.8**
ABKAR				IAmb	IAmb	14 25 09.3	
	comp=Z,105nm,1.1s						
JIRN	**Jiri**	**15.25**	**121**	*e*P	**Pn**	**14 25 06.1**	**-5.1**
	comp=Z,158nm,0.4s						
RAMN	**Ramite**	**15.98**	**122**	*e*P	**Pn**	**14 25 15.5**	**-4.8**
	comp=Z,138nm,0.7s						
BVAR	**Borovoye Array**	**16.50**	**358**	P	**Pn**	**14 25 24.2**	**-2.1**
	comp=Z,5.3nm,0.3s,baz=165,slow=12,SNR=114						
BVAR				S	**S**	**14 28 33.1**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=169,slow=19,SNR=3.7						
TAPN	**Taplejung**	**16.50**	**119**	*e*P	**Pn**	**14 25 21.6**	**-5.2**
	comp=Z,207nm,0.7s						
BRVK	**Borovoye**	**16.54**	**357**	*d* iP	**Pn**	**14 25 24.3**	**-2.4**
BRVK	**Borovoye**	**16.54**	**357**		**Pn**	**14 25 25.2**	**-1.5**
BRVK				IAmb	IAmb	14 25 30.0	
	comp=Z,83nm,0.8s						
BRVK	**Borovoye**	**16.54**	**357**	⇓P	**Pn**	**14 25 24.7**	**-2.0**
	comp=Z,83nm,0.8s						
ODAN	**Odare**	**16.58**	**121**	*e*P	**Pn**	**14 25 22.7**	**-5.0**
	comp=Z,149nm,0.9s						
BANOM	**Banah**	**16.75**	**235**	*i* Pn	**Pn**	**14 25 29.5**	**-0.1**
	SNR=12						
BANOM	**Banah**	**16.75**	**235**	P	Pn	**14 25 29.5**	**-0.1**
SHME	**Shamm**	**16.77**	**236**	*i* P	**P**	**14 25 31.1**	**+0.4**
	SNR=9.1						
AKTO	**Aktyubinsk**	**16.95**	**329**	P	**Pn**	**14 25 30.6**	**-1.3**
AKTO				S	**Sn**	**14 28 35.8**	**-3.9**
AKTO				pmax	pmax		
	comp=Z,103nm,0.7s						
AKTO				smax	smax		
	comp=N,80nm,1.2s						
AKTO	**Aktyubinsk**	**16.95**	**329**	P	**Pn**	**14 25 30.2**	**-1.7**
	comp=N,12nm,0.3s,baz=134,slow=12,SNR=218						
AKTO				S	**Sn**	**14 28 30.1**	**-10**
	comp=N,0.8nm,0.3s,baz=172,slow=16,SNR=2.7						
AKTO	**Aktyubinsk**	**16.95**	**329**	⇓P	**Pn**	**14 25 30.1**	**-1.8**
	comp=N,104nm,0.8s						
AKTO				⇑S	**Sn**	**14 28 35.8**	**-3.9**
	comp=N,80nm,1.2s						
GTK	**Tadong**	**17.15**	**118**	*e*P	**P**	**14 25 35.2**	**+0.2**
GTK				IAmb	IAmb	14 25 37.4	
	comp=Z,15nm,0.7s						
MDH	**Madha**	**17.18**	**234**	Pn	**Pn**	**14 25 33.9**	**-0.9**
MSFE	**Esma-Masafi**	**17.23**	**234**	*i* P	**P**	**14 25 36.8**	**+1.0**
	SNR=11						
WSAR	**Wadi Sarin**	**17.31**	**224**	P	**Pn**	**14 25 35.8**	**-0.6**
	comp=Z,1.7nm,0.3s,baz=45,slow=5.8,SNR=10						
WSAR				LR	LR	14 34 14.6	
	comp=Z,51nm,18.6s,baz=80,slow=44						
UOSS	**Minazif**	**17.49**	**233**	Pn	**P**	**14 25 37.3**	**-1.3**
UOSS	**Minazif**	**17.49**	**233**		**P**	**14 25 38.1**	**-0.5**
UOSS				IAmb	IAmb	14 25 42.0	
	comp=Z,83nm,1.1s						
WBK	**Wadi Bani Khal**	**17.63**	**221**	P	Pn	**14 25 42.9**	**+2.5**
	SNR=6.6						
BOK	**Bokaro**	**17.74**	**132**	*e*P	**P**	**14 25 39.5**	**-1.9**
BOK				*ex*	x	14 28 45.3	
ASHO	**Ashiyiah**	**17.77**	**233**	*i* Pn	**Pn**	**14 25 43.0**	**+0.9**
	SNR=41						
ASHO	**Ashiyiah**	**17.77**	**233**	P	**Pn**	**14 25 42.2**	**+0.2**
	SNR=13						
SMDO	**Samad**	**17.78**	**225**	P	**P**	**14 25 42.1**	**+0.2**
LSA	**Lhasa**	**17.79**	**107**	P	**P**	**14 25 40.9**	**-1.5**
LSA				LR	LR		
	comp=Z,2μm,11.4s						
LSA				LR	LR		
	comp=Z,1μm,9.3s						
LSA				LR	LR		
	comp=Z,2μm,12.8s						
LSA	**Lhasa**	**17.79**	**107**	P	**P**	**14 25 40.9**	**-1.5**
LSA	**Lhasa**	**17.79**	**107**	P	**P**	**14 25 40.8**	**-1.6**
LSA				pmax	pmax		
	comp=Z,26nm,0.9s						
LSA	**Lhasa**	**17.79**	**107**	P	**P**	**14 25 40.8**	**-1.6**
HOQ	**Hoqain**	**17.80**	**227**	P	**P**	**14 25 41.6**	**-0.5**
NAZ	**Nazwa, Dubai**	**17.81**	**234**	*i* Pn	**Pn**	**14 25 43.2**	**+0.7**
	SNR=8.7						
POO	**Poona**	**18.06**	**173**	⇑*i* x	**P**	**14 25 43.0**	**-2.0**
	comp=Z,100nm,1.2s						
POO				*e*P	**Pn**	**14 25 44.9**	**-0.7**
POO				*ex*	x	14 29 12.0	
POO				*ex*	x	14 29 34.0	
POO				*ex*	x	14 29 47.0	
POO				*ex*	x	14 30 10.8	
POO				*ex*	x	14 31 40.0	
ASUD	**Al Ashush, Dub**	**18.28**	**234**	Pn	**Pn**	**14 25 48.7**	**+0.6**
JMDO	**Jabal Madar**	**18.30**	**223**	P	**Pn**	**14 25 49.2**	**+0.8**
ALNE	**Al Ain**	**18.41**	**232**	*i* Pn	**Pn**	**14 25 50.0**	**+0.2**
	SNR=11						
ARQ	**Araqi**	**18.46**	**229**	P	**Pn**	**14 25 51.4**	**+1.0**
	SNR=6.6						
BSY	**Bisya**	**18.51**	**226**	P	**Pn**	**14 25 51.4**	**+0.4**
	SNR=12						
AKT	**Akhty**	**19.11**	**292**	*ce*P	**P**	**14 25 56.6**	**+0.2**
KAD	**Karad**	**19.30**	**172**	*e*P	**P**	**14 25 58.1**	**-0.5**
KAD				*ex*	x	14 28 39.8	
ZAA0	**Zalesovo Array**	**19.71**	**24**	P	**P**	**14 26 03.3**	**+0.7**
ZAA0				IAmb	IAmb	14 26 04.0	
	comp=Z,68nm,0.8s						
ZALV	**Zalesovo Beam**	**19.71**	**24**	P	**P**	**14 26 02.9**	**+0.3**
	comp=Z,4.7nm,0.3s,baz=222,slow=10,SNR=265						
ZALV				S	**S**	**14 29 40.7**	**+0.5**
	baz=215,slow=12,SNR=2.7						
HYB	**Hyderabad**	**20.04**	**160**	*i* P	**P**	**14 26 06.0**	**-0.6**
	comp=Z,100nm,1.0s						
HYB				*es*P	**sP**	**14 26 36.0**	**+1.0**
HYB				*e*S	Sn	14 29 58.0	+3.5
HYB	**Hyderabad**	**20.04**	**160**	*e*P	**P**	**14 26 06.0**	**-0.6**
SHL	**Shillong**	**20.55**	**116**	P	**P**	**14 26 11.7**	**-0.5**
	SNR=21						
SHL	**Shillong**	**20.55**	**116**	P	**P**	**14 26 11.5**	**-0.7**
SHL				pmax	pmax		
	comp=Z,52nm,0.7s						
SHL	**Shillong**	**20.55**	**116**	*ex*	**P**	**14 26 12.4**	**+0.2**
SHL				*ex*	x	14 26 13.0	
SHL				IAmb	IAmb	14 26 18.6	
	comp=E,41nm,0.8s						
SHL				*ex*	x	14 29 44.0	
SHL	**Shillong**	**20.55**	**116**	P	**P**	**14 26 11.5**	**-0.7**
SHL				IAmb	IAmb	14 26 18.4	
	comp=Z,52nm,0.7s						
DQM	**DQM**	**20.59**	**220**	P	**P**	**14 26 13.6**	**+1.2**
GROC	**Groznyy**	**20.78**	**297**	*e*P	**P**	**14 26 15.7**	**+1.4**
GROC				*e*		14 30 20.4	
GROC				pmax	pmax		
	comp=Z,424nm,1.0s						
GNI	**Garni**	**21.27**	**288**	*i* P	**P**	**14 26 22.9**	**+3.1**
	SNR=50						
GNI	**Garni**	**21.27**	**288**	*d* iP	**P**	**14 26 22.5**	**+2.7**
GNI				pmax	pmax		
	comp=Z,400nm,1.0s						
GNI	**Garni**	**21.27**	**288**	P	**P**	**14 26 22.4**	**+2.5**
	comp=Z,96nm,0.6s,baz=54,slow=1.7,SNR=67						
GNI	**Garni**	**21.27**	**288**	P	**P**	**14 26 22.8**	**+2.9**
BTNK	**Botanikuri**	**21.32**	**292**	P	**P**	**14 26 21.1**	**+1.0**
TBLG	**Delisi**	**21.37**	**292**	P	**P**	**14 26 22.3**	**+1.7**
TBLG				pmax	pmax		
	comp=Z,179nm,0.8s						
TBLG	**Delisi**	**21.37**	**292**	P	**P**	**14 26 22.3**	**+1.7**
VIS	**Vishakhapatnam**	**21.46**	**148**	*i* P	**P**	**14 26 21.9**	**+0.2**
VIS				*ex*	x	14 26 25.8	
	comp=Z,350nm,1.1s						
VIS				*i* S	**S**	**14 30 15.3**	**+0.1**
SVE	**Sverdlovsk**	**21.57**	**344**	*c i* P	**P**	**14 26 22.6**	**0.0**
SVE				*e*S	**S**	**14 30 15.9**	**-0.9**
SVE				pmax	pmax		
	comp=Z,115nm,0.9s						
KZRT	**Kazreti**	**21.59**	**291**	P	**P**	**14 26 24.8**	**+1.7**
ARU	**Arti**	**21.73**	**340**	*d i* P	**P**	**14 26 24.3**	**0.0**
ARU						14 26 50.5	
ARU				S	**S**	**14 30 21.5**	**+1.6**
ARU				SS	**SnSn**	**14 31 00.1**	**+8.8**
ARU				pmax	pmax		
	comp=Z,91nm,0.9s						
ARU	**Arti**	**21.73**	**340**	P	**P**	**14 26 24.6**	**+0.3**
	comp=Z,14nm,0.6s,baz=159,slow=7.5,SNR=81						
ARU	**Arti**	**21.73**	**340**	P	**P**	**14 26 25.1**	**+0.8**
ARU				IAmb	IAmb	14 26 28.3	
	comp=Z,83nm,0.9s						
ZEI	**Tsey**	**22.10**	**295**	*e*P	**P**	**14 26 26.8**	**-1.8**
ZEI				pmax	pmax		
	comp=Z,58nm,0.8s						
AKH	**Akhalkalaki**	**22.27**	**291**	P	**P**	**14 26 31.6**

SOC e 14 27 37.5
SOC eS **S** **14 31 17.4 0.0**
SOC eSS **SnSn** **14 32 18.6 +2.0**
SOC pmax pmax
comp=Z,106nm,0.7s
VRH Novokhopyorsk 25.78 314 eP **P** **14 27 03.0 +0.1**
VRH pmax pmax
comp=Z,50nm,0.8s
MOY Mondy 25.78 45 eP **P** **14 27 04.7 +1.5**
MOY pmax pmax
comp=Z,45nm,1.5s
RAYN Ar Rayn 25.90 247 *i* P **P** **14 27 03.5 -0.9**
SNR=36
RAYN Ar Rayn 25.90 247 P **P** **14 27 05.3 +1.0**
RAYN pmax pmax
comp=Z,27nm,0.7s
RAYN Ar Rayn 25.90 247 P **P** **14 27 05.3 +1.0**
RAYN IAmb IAmb 14 27 08.9
comp=Z,27nm,0.7s
LZH Lanzhou 25.99 81 ⇑P **P** **14 27 07.4 +2.1**
LZH pP pP 14 27 25.8 -0.1
LZH sP sP 14 27 33.4 -2.9
LZH sS sS 14 32 03.8 -1.6
LZH SS **SnSn** **14 32 39.5 +3.8**
LZH pmax pmax
comp=Z,32nm,1.1s
LZH pmax pmax
comp=Z,330nm,5.0s
LZH LR LR
comp=Z,490nm,12.6s
LZH LR LR
comp=Z,430nm,12.3s
LZH LR LR
comp=Z,600nm,14.7s
KIRV Kirov 26.39 334 P **P** **14 27 09.4 +1.1**
comp=Z,75nm,0.7s,baz=123,slow=2.4,SNR=32
ZAK Zakamensk 26.65 49 eP **P** **14 27 12.4 +1.4**
ZAK pmax pmax
comp=Z,12nm,0.9s
ANN Anapa 26.98 298 eP **P** **14 27 14.5 +0.7**
ANN e 14 28 00.9
ANN pmax pmax
comp=Z,72nm,0.9s
VORD Divnogorie 27.12 312 eP **P** **14 27 14.8 -0.2**
VORD pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 27.28 313 eP **P** **14 27 15.4 -1.0**
VSR pmax pmax
comp=Z,40nm,0.9s
TLY Talaya 27.31 46 eP **P** **14 27 19.5 +2.7**
TLY pmax pmax
comp=Z,37nm,1.5s
TLY MLR MLR
comp=Z,495nm,9.0s
TLY Talaya 27.31 46 P **P** **14 27 18.7 +1.9**
comp=Z,5.7nm,0.6s,baz=243,slow=8.7,SNR=4.6
TLY Talaya 27.31 46 P **P** **14 27 17.6 +0.8**
CD2 Chengdu 27.32 92 P **P** **14 27 19.1 +2.0**
CD2 pmax pmax
comp=Z,40nm,0.9s
VORR Voronezh 27.41 314 P **P** **14 27 18.0 +0.4**
VORR pmax pmax
comp=Z,250nm,1.2s
LPSR Galich'ya Gora 27.91 315 eP **P** **14 27 22.0 -0.1**
LPSR pmax pmax
comp=Z,60nm,1.0s
SONM Songino Array 27.97 55 P **P** **14 27 24.4 +1.5**
comp=Z,16nm,0.9s,baz=258,slow=9.5,SNR=105
SONM LR LR 14 40 23.0
comp=Z,238nm,19.2s,baz=330,slow=40
ULN Ulaanbaatar 28.41 55*c* *i*P **P** **14 27 28.0 +1.2**
ULN *i* *PP **pP** **14 27 45.7 -1.4**
ULN pmax pmax
comp=Z,23nm,1.0s
ULN Ulaanbaatar 28.41 55 P **P** **14 27 28.3 +1.5**
ULN IAmb IAmb 14 27 29.1
comp=Z,17nm,0.8s
DIKM Dikmen 28.46 292 ⇑P **P** **14 27 29.7 +2.6**
SOCY Socotra 28.93 217 P **P** **14 27 29.5 -2.0**
SOCY IAmb IAmb 14 27 47.3
comp=Z,34nm,1.2s
KMI Kunming 29.00 104 P **P** **14 27 33.9 +1.5**
KMI pP pP 14 27 56.9 +4.3
KMI S **S** **14 32 19.5 +1.8**
KMI pmax pmax
comp=Z,12nm,1.1s
KMI pmax pmax
comp=Z,140nm,5.4s
KMI LR LR
comp=Z,220nm,29.4s
KMI LR LR
comp=Z,230nm,20.0s
KMI LR LR
comp=Z,340nm,36.3s
MHMT Maesarieng 29.60 121 P **P** **14 27 39.2 +1.8**
comp=Z,35nm,1.1s
BR131 Keskin Array S 29.82 288 P **P** **14 27 41.2 +1.9**
SNR=6.9
BR131 Keskin Array S 29.82 288 P **P** **14 27 41.3 +1.9**
BR131 pmax pmax
comp=Z,8.0nm,0.6s
BR131 Keskin Array S 29.82 288 P **P** **14 27 41.3 +2.0**
BRTR Keskin Array B 29.82 288 *i* P **P** **14 27 41.0 +1.6**
BRTR pmax pmax
comp=Z,8.0nm,0.6s
BRTR Keskin Array B 29.82 288 P **P** **14 27 41.0 +1.6**
comp=Z,7.8nm,0.6s,baz=103,slow=8.1,SNR=46
CHTO Chiang Mai 29.88 119 P **P** **14 27 41.0 +1.1**
CHTO pmax pmax
comp=Z,8.0nm,1.0s
CHTO Chiang Mai 29.88 119 P **P** **14 27 41.0 +1.1**
CMMT Chiang Mai 29.88 119 P **P** **14 27 41.0 +1.1**
comp=Z,5.8nm,1.0s
MOS Moscow 29.89 321 eP **P** **14 27 39.2 -0.4**
MOS e*PP **pP** **14 28 00.1 +0.4**
MOS e 14 28 42.9
MOS pmax pmax
comp=Z,76nm,1.0s
PRGR Permogore 29.91 335 eP **P** **14 27 37.8 -1.8**
PRGR pmax pmax
comp=Z,37nm,0.6s
CM31 Chiang Mai Arr 30.11 119 P **P** **14 27 42.8 +0.9**
SNR=5.2
CMAR Chiang Mai Arr 30.11 119 P **P** **14 27 42.5 +0.5**
comp=Z,8.4nm,0.8s,baz=304,slow=8.6,SNR=51
CMAR LR LR 14 42 47.9
comp=Z,106nm,20.1s,baz=332,slow=42
OBN Obninsk 30.18 319*d* *i*P **P** **14 27 42.7 +0.6**
OBN e 14 28 42.5
OBN pmax pmax
comp=Z,68nm,0.8s
OBN MLR MLR
comp=Z,313nm,21.0s
OBN Obninsk 30.18 319 ⇑P **P** **14 27 43.4 +1.3**
OBN mb 14 27 43.6
OBN Obninsk 30.18 319 P **P** **14 27 41.9 -0.2**
BTO Baotou 30.21 70 eP **P** **14 27 42.4 -0.4**
PALK Pallekele 30.32 162 P **P** **14 27 44.1 +0.3**
PALK Pallekele 30.32 162 P **P** **14 27 43.4 -0.4**
comp=Z,18nm,0.8s,baz=330,slow=9.8,SNR=11
PALK Pallekele 30.32 162 P **P** **14 27 42.3 -1.5**
PALK IAmb IAmb 14 27 44.9
comp=Z,24nm,0.8s
XAN Xi'an 30.51 83 P **P** **14 27 46.3 +0.9**
XAN pmax pmax
comp=Z,18nm,0.9s
XAN pmax pmax
comp=Z,110nm,5.4s
LAMP Lampang 30.55 118 P **P** **14 27 47.0 +1.2**
comp=Z,23µm,1.0s
PHRA Phrae 31.00 118 P **P** **14 27 49.9 +0.2**
comp=Z,2.4nm,1.0s
EIL Elat 31.25 268 P **P** **14 27 52.8 +0.9**
comp=Z,13nm,1.0s,baz=19,slow=6.7,SNR=5.0
HHC Hu-ho-hao-te 31.36 70 eP **P** **14 27 54.9 +2.0**
HHC pP pP 14 28 12.8 -0.9
HHC sP sP 14 28 18.9 -5.2
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC LR LR
comp=Z,190nm,15.3s
HHC LR LR
comp=Z,140nm,11.1s
GYA Guiyang 31.46 99⇑ *i*P **P** **14 27 54.6 +0.7**
GYA pP pP 14 28 14.0 -0.5
GYA sP sP 14 28 22.0 -2.8
GYA PP **PnPn** **14 29 02.3 +2.3**
GYA S **S** **14 32 52.5 -3.4**
GYA sS sS 14 33 30.3 -1.3
GYA SS **SnSn** **14 34 49.8 +1.1**
GYA pmax pmax
comp=Z,10.0nm,0.9s
GYA pmax pmax
comp=Z,80nm,7.0s
UMPA Umpang Tak 31.60 123 P **P** **14 27 58.2 +3.1**
comp=Z,29µm,1.0s
UTTA Uttaradit 31.72 118 P **P** **14 27 56.9 +0.8**
comp=Z,36µm,0.8s
UTHA Uthaitani 32.46 123 P **P** **14 28 04.0 +1.5**
comp=Z,32µm,0.9s,comp=Z,315µm
PBKT Sadao Pong 32.81 119 P **P** **14 28 07.0 +1.4**
comp=Z,11nm,0.9s
PBKT Sadao Pong 32.81 119 P **P** **14 28 05.0 -0.6**
PBKT IAmb IAmb 14 28 08.5
comp=Z,51nm,1.5s
SRDT SRDT 33.10 125 P **P** **14 28 09.6 +1.4**
comp=Z,22nm,1.0s
KIS Kishinev 33.14 302⇑ *i*P **P** **14 28 09.0 +0.8**
comp=Z,110nm,1.2s
KIS Kishinev 33.14 302⇑ *i*P **P** **14 28 09.0 +0.8**
KIS pmax pmax
comp=Z,110nm,1.2s
MILM Milestii Mici 33.14 302 ⇑P **P** **14 28 09.4 +1.2**
ELL Elmali 33.20 283 P **P** **14 28 10.4 +1.4**
ELL pmax pmax
comp=Z,59nm,0.7s
ELL Elmali 33.20 283 P **P** **14 28 10.4 +1.4**
AKASG Malin Array Be 33.24 309 *i* P **P** **14 28 09.6 +0.5**
AKASG pmax pmax
comp=Z,21nm,0.6s
AKASG Malin Array Be 33.24 309 P **P** **14 28 09.6 +0.5**
comp=Z,17nm,0.8s,baz=80,slow=7.0,SNR=91
AKASG PP **PnPn** **14 29 21.6 -0.4**
comp=Z,6.4nm,0.8s,baz=86,slow=8.1,SNR=4.3
AKASG LR LR 14 44 51.3
comp=Z,158nm,18.1s,baz=310,slow=42
AKBB Malin Array Si 33.24 309 P **P** **14 28 09.8 +0.7**
AKBB pmax pmax
comp=Z,26nm,0.8s
AKBB Malin Array Si 33.24 309 P **P** **14 28 09.8 +0.7**
AKBB IAmb IAmb 14 28 10.6
comp=Z,26nm,0.8s
KIEV Kiev 33.25 309 P **P** **14 28 10.0 +0.9**
NONG Nongkai 33.38 115 P **P** **14 28 11.1 +0.5**
comp=Z,0.8nm,0.8s
TIRR Tirgusor 33.40 297 P **P** **14 28 11.2 +0.7**
TIRR pmax pmax
comp=Z,19nm,0.8s
TIRR Tirgusor 33.40 297 P **P** **14 28 11.2 +0.7**
TIRR IAmb IAmb 14 28 26.2
comp=Z,19nm,0.8s
SORM Soroca 33.52 304 ⇑P **P** **14 28 12.4 +0.8**
SORM Soroca 33.52 304 ⇑P **P** **14 28 12.4 +0.8**
HARR Harsova 33.74 298 ⇑P **P** **14 28 15.3 +1.9**
HARR Harsova 33.74 298 ⇑P **P** **14 28 15.3 +1.9**
HARR mb 14 28 16.2
ICOR Ion Corvin 33.85 297 ⇑P **P** **14 28 17.6 +3.1**
CHAI Chaiyaphum 33.97 119 P **P** **14 28 17.0 +1.2**
comp=Z,62µm,1.0s
NRIK Noril'sk 34.01 10 P **P** **14 28 17.1 +1.6**
comp=Z,10nm,0.7s,baz=202,slow=6.0,SNR=20
TMCR Tamitsa 34.19 335 eP **P** **14 28 17.9 +0.8**
TMCR pmax pmax
comp=Z,49nm,0.5s
VRI Vrincioaia 34.57 300 ⇑P **P** **14 28 23.0 +2.4**
VRI Vrincioaia 34.57 300 ⇑P **P** **14 28 23.0 +2.4**
TESR Tescani 34.62 301 ⇓P **P** **14 28 22.5 +1.4**
PLOR Plostina 34.62 300 ⇓P **P** **14 28 23.8 +2.6**
PLOR Plostina 34.62 300 ⇓P **P** **14 28 23.8 +2.6**
SKNT Sakolnakorn 34.69 115 P **P** **14 28 22.6 +0.6**
comp=Z,63nm,1.0s
ISR Istrita 34.71 299 P **P** **14 28 25.3 +3.3**
ISR pmax pmax
comp=Z,92nm,1.1s
MICGM Minsk 34.76 315 *e* **P** **14 28 23.0 +0.8**
MNK Minsk 34.76 315 eP **P** **14 28 23.0 +0.8**
HORU Horodok 34.87 306 P **P** **14 28 24.6 +1.4**
BIZ Bicaz 35.00 302 ⇑P **P** **14 28 26.3 +1.9**
BOD Bodaibo 35.06 39 eP **P** **14 28 23.0 -1.7**
BOD pmax pmax
comp=Z,12nm,1.5s
PUL Pulkovo 35.12 325*d* *i*P **P** **14 28 26.2 +1.0**
PUL pmax pmax
comp=Z,61nm,0.5s
MLR Muntele Rosu 35.12 299 P **P** **14 28 28.2 +2.6**
MLR pmax pmax
comp=Z,113nm,1.1s
MLR Muntele Rosu 35.12 299 ⇑P **P** **14 28 28.7 +3.1**
MLR Muntele Rosu 35.12 299 P **P** **14 28 28.2 +2.6**
NACGM Naroch 35.47 316 *e* **P** **14 28 29.0 +0.7**
DOPR Dopca 35.50 300 ⇑P **P** **14 28 31.1 +2.4**
BURAR Bucovina Array 35.61 303 ⇑P **P** **14 28 31.6 +1.9**
BURAR Bucovina Array 35.61 303 ⇑P **P** **14 28 31.6 +1.9**
BURAR mb 14 28 33.0
BUR08 Bucovina Ar. S 35.62 303 P **P** **14 28 31.4 +1.6**
BUR08 IAmb IAmb 14 28 32.2
comp=Z,15nm,0.8s
IIGN Ignalina 35.88 316 eP **P** **14 28 33.1 +1.3**
IIGN IAmb IAmb 14 28 34.3
comp=Z,32nm,0.6s
IZAR Zarasai 35.96 317 eP **P** **14 28 34.2 +1.8**
IZAR IAmb IAmb 14 28 34.9
comp=Z,30nm,0.7s
WHN Wuhan 35.98 87⇓ *i*P **P** **14 28 34.8 +1.9**
WHN sP **sP** **14 29 05.0 +0.8**
WHN pmax pmax
comp=Z,68nm,1.1s
ISAL Salakas 35.99 317 eP **P** **14 28 34.1 +1.4**
JOF Joensuu 36.04 330 P **P** **14 28 34.2 +1.2**
JOF pmax pmax
comp=Z,61nm,0.8s
ARCR ARCALIA 36.20 302 ⇑P **P** **14 28 36.9 +2.3**
VSU Vasula 36.41 321*d* *i*P **P** **14 28 36.6 +0.4**
VSU pmax pmax
comp=Z,189nm,1.0s
VSU Vasula 36.41 321 eP **P** **14 28 37.2 +1.0**
VSU IAmb IAmb 14 28 38.1
comp=Z,161nm,0.8s
TIA Tai'an 36.46 77 P **P** **14 28 39.0 +2.1**
TIA pmax pmax
comp=Z,28nm,1.0s
LVV L'vov 36.47 307⇑ *i*P **P** **14 28 38.4 +1.5**
LVV e 14 29 00.0
LVV e 14 30 03.2
LVV eS **S** **14 34 12.0 -0.5**
LVV pmax pmax
comp=Z,150nm,1.4s
MORS Morshin 36.53 305 P **P** **14 28 39.2 +1.8**
LOT Lotru 36.65 299 ⇑P **P** **14 28 40.6 +2.0**
CJR Cluj-Napoca 36.72 301 ⇑P **P** **14 28 41.9 +2.8**
CJR Cluj-Napoca 36.72 301 ⇑P **P** **14 28 41.9 +2.8**
BMR Baia Mare 36.77 303 ⇑P **P** **14 28 42.2 +2.7**
BMR Baia Mare 36.77 303 ⇑P **P** **14 28 42.2 +2.7**
SURT Suratani 36.98 131 P **P** **14 28 42.6 +1.1**
comp=Z,89nm,0.7s
TRSU Trosnyk 37.13 304 P **P** **14 28 44.7 +2.2**
PABE Paberze 37.17 316 eP **P** **14 28 43.9 +1.1**
DEV Deva 37.24 300 ⇑P **P** **14 28 46.1 +2.7**
DEV Deva 37.24 300 ⇑P **P** **14 28 46.1 +2.7**
VTS Vitosha 37.29 295 ⇑P **P** **14 28 46.4 +2.3**
VTS Vitosha 37.29 295 ⇑P **P** **14 28 46.4 +2.3**
VTS mb 14 28 47.0
VTS Vitosha 37.29 295 P **P** **14 28 45.1 +1.0**
VTS IAmb IAmb 14 28 47.0
comp=Z,13nm,0.8s
KWP Kalwaria Pacla 37.32 306 eP **P** **14 28 45.7 +1.6**
KWP Kalwaria Pacla 37.32 306 eP **P** **14 28 45.7 +1.6**
KWP eP **P** **14 28 45.7 +1.6**
DRGR 37.33 302 ⇑P **P** **14 28 46.7 +2.4**
DRGR 37.33 302 ⇑P **P** **14 28 46.7 +2.4**
GZR Gura Zlata 37.35 299 ⇑P **P** **14 28 46.0 +1.5**
SUW Suwalki 37.39 313 eP **P** **14 28 45.5 +0.9**
SUW Suwalki 37.39 313 eP **P** **14 28 45.5 +0.9**
SUW eP **P** **14 28 45.5 +0.9**
TRPA Tarpa 37.41 304 eP **P** **14 28 47.1 +2.2**
PKDT Phuket 37.55 133 P **P** **14 28 47.9 +1.6**
comp=Z,81nm,1.1s,comp=Z,7µm
LVZ Lovozero 37.57 338*c* eP **P** **14 28 46.9 +0.9**
LVZ pmax pmax
comp=Z,62nm,2.5s
LVZ Lovozero 37.57 338 P **P** **14 28 47.1 +1.1**
LVZ IAmb IAmb 14 28 47.7
comp=Z,30nm,0.9s
UZH Uzhgorod 37.58 305 eP **P** **14 28 45.5 -0.8**
UZH e 14 29 10.3
KOLS Kolonicke sedl 37.59 305 eP **P** **14 28 48.2 +1.8**
KOLS pmax pmax
comp=Z,34nm,1.3s
KOLS Kolonicke sedl 37.59 305 eP **P** **14 28 48.2 +1.8**
KOLS ePP **PP** **14 30 14.1 +0.5**
FIA1 FINESS Array S 37.68 326 P **P** **14 28 47.9 +1.0**
FINES FINESS Array B 37.68 326 *i* P **P** **14 28 47.9 +1.0**
FINES pmax pmax
comp=Z,36nm,0.7s
FINES FINESS Array B 37.68 326 P **P** **14 28 47.5 +0.5**
comp=Z,36nm,0.7s,baz=117,slow=9.2,SNR=126
SIRR Siria 38.08 301 ⇓P **P** **14 28 53.0 +2.4**
BZS Buzias 38.15 300 ⇑P **P** **14 28 53.5 +2.4**
BZS Buzias 38.15 300 ⇑P **P** **14 28 53.5 +2.4**
GRG Griva 38.16 292 P **P** **14 28 53.7 +2.4**
MDVR Moldovita 38.16 298 ⇑P **P** **14 28 53.2 +2.0**
LIT Litokhoron 38.24 291 P **P** **14 28 53.3 +1.3**
LIT pmax pmax
comp=Z,9.0nm,1.0s
LIT Litokhoron 38.24 291 P **P** **14 28 53.4 +1.3**
PBUR Paburg 38.40 317 eP **P** **14 28 54.1 +1.0**
TRTT Trang 38.40 131 P **P** **14 28 54.3 +0.8**
comp=Z,54nm,0.9s
SLIT Slitere, Latvi 38.49 319 eP **P** **14 28 54.1 +0.3**
KECS Kecovo 38.78 304 eP **P** **14 28 58.4 +2.0**
KECS Kecovo 38.78 304 eP **P** **14 28 58.4 +2.0**
NIE Niedzica 38.89 306 eP **P** **14 28 59.5 +2.2**
NIE Niedzica 38.89 306 eP **P** **14 28 59.5 +2.2**
NIE eP **P** **14 28 59.5 +2.2**
LHMI Lhok Sumawe 38.92 137 P **P** **14 28 58.3 +0.4**
FNA Florina 38.95 292 P **P** **14 28 57.3 -0.7**
FNA pmax pmax
comp=Z,8.0nm,0.7s
FNA Florina 38.95 292 P **P** **14 28 57.3 -0.7**
FNA IAmb IAmb 14 29 00.1
comp=Z,8.1nm,0.7s
NJ2 Nanjing 39.06 82 eP **P** **14 28 58.8 -0.1**
NJ2 pmax pmax
comp=Z,16nm,0.5s
PSZ Piszkesteto 39.20 303 eP **P** **14 29 01.1 +1.1**
OJC Ojcow 39.21 307 eP **P** **14 29 01.0 +1.1**
OJC Ojcow 39.21 307 eP **P** **14 29 01.0 +1.1**
OJC eP **P** **14 29 01.0 +1.1**
OJC Ojcow 39.21 307 P **P** **14 28 59.8 -0.1**
DL2 Dalian 39.31 71 P **P** **14 29 02.6 +1.7**
DL2 pmax pmax
comp=Z,98nm,0.8s
MLSI Meulaboh, Aceh 39.43 139 P **P** **14 28 59.5 -2.6**
LANS Liptovska Anna 39.44 305 eP **P** **14 29 04.1 +2.2**
LANS pmax pmax
comp=Z,12nm,1.4s
LANS Liptovska Anna 39.44 305 eP **P** **14 29 04.1 +2.2**
BUD Budapest 39.81 303 P **P** **14 29 08.6 +3.7**
BUD pmax pmax
comp=Z,26nm,1.2s
VYHS Vyhne 39.88 304 eP **P** **14 29 07.4 +1.9**
VYHS pmax pmax
comp=Z,22nm,1.3s
VYHS Vyhne 39.88 304 eP **P** **14 29 07.4 +1.9**
MORH Mrgy, Hungar 40.17 301 eP **P** **14 29 08.1 +0.2**
SRO Srobarova 40.26 303 eP **P** **14 29 11.5 +2.8**
SRO pmax pmax
comp=Z,80nm,1.2s
SRO Srobarova 40.26 303 eP **P** **14 29 11.5 +2.8**
OKC Ostrava-Krasne 40.28 307 eP **P** **14 29 10.7 +1.9**
OKC Ostrava-Krasne 40.28 307 eP **P** **14 29 10.7 +1.9**
CSKK Cskako 40.33 303 eP **P** **14 29 11.1 +1.8**
JAVC Velka Javorina 40.63 305 eP **P** **14 29 14.3 +2.5**
MORC Moravsky Berou 40.67 306 ⇑P **P** **14 29 14.0 +1.9**
MORC Moravsky Berou 40.67 306 ⇑P **P** **14 29 14.0 +1.9**
MORC mb 14 29 15.4
MORC Moravsky Berou 40.67 306 eP **P** **14 29 13.5 +1.4**
MORC Moravsky Berou 40.67 306 P **P** **14 29 13.7 +1.5**
TPTI 40.69 138 P **P** **14 29 10.6 -1.9**
SMOL Smolenice 40.81 305 eP **P** **14 29 15.1 +1.9**
SMOL pmax pmax
comp=Z,11nm,1.3s
SMOL Smolenice 40.81 305 eP **P** **14 29 15.1 +1.9**
MPLH Magyarpolny 40.84 302 eP **P** **14 29 15.0 +1.6**
GKP Gorka Klasztor 40.85 312 eP **P** **14 29 14.6 +1.1**
GKP Gorka Klasztor 40.85 312 eP **P** **14 29 14.6 +1.1**
GKP eP **P** **14 29 14.6 +1.1**
MODS Modra-Piesok 40.92 304 eP **P** **14 29 14.9 +0.8**
MODS pmax pmax
comp=Z,29nm,1.3s
MODS Modra-Piesok 40.92 304 eP **P** **14 29 14.8 +0.7**
KULM Kulim 40.99 132 P **P** **14 29 16.0 +1.0**
KULM Kulim 40.99 132 P **P** **14 29 15.4 +0.4**
KULM IAmb IAmb 14 29 16.6
comp=Z,31nm,1.1s
KRLC Kraliky 41.15 307 eP **P** **14 29 17.6 +1.6**
KRLC Kraliky 41.15 307 eP **P** **14 29 17.6 +1.6**
CN2 Changchun 41.22 63 eP **P** **14 29 16.0 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
ARCES ARCESS Array B 41.27 337 P **P** **14 29 17.2 +0.5**
comp=Z,8.1nm,0.5s,baz=114,slow=7.9,SNR=98
ARCES LR LR 14 47 29.0
comp=Z,340nm,18.8s,baz=150,slow=37
ARE0 ARCESS Array S 41.27 337 eP **P** **14 29 18.4 +1.7**
ARE0 ARCESS Array S 41.27 337 P **P** **14 29 17.3 +0.6**
VRAC Vranov 41.31 306 ⇑P **P** **14 29 19.6 +2.3**
VRAC Vranov 41.31 306 ⇑P **P** **14 29 19.6 +2.3**
VRAC mb 14 29 20.3
VRAC Vranov 41.31 306 eP **P** **14 29 19.1 +1.8**
DPC Dobruska-Polom 41.44 307 eP **P** **14 29 20.2 +1.8**
DPC e 14 29 41.3
DPC Dobruska-Polom 41.44 307 eP **P** **14 29 20.2 +1.8**
DPC epP **pP** **14 29 41.3 +2.2**
KSP Ksiaz 41.44 308 eP **P** **14 29 19.7 +1.4**
KSP Ksiaz 41.44 308 eP **P** **14 29 19.7 +1.4**
KSP eP **P** **14 29 19.7 +1.4**
SOP Sopron 41.45 303 P **P** **14 29 20.3 +1.8**
SOP pmax pmax
comp=Z,29nm,1.0s
SOP Sopron 41.45 303 eP **P** **14 29 20.1 +1.6**
KRUC Moravsky 41.46 305 eP **P** **14 29 19.9 +1.4**
OSTC Ostas 41.50 308 eP **P** **14 29 20.6 +1.8**
CHVC Chvalec 41.60 308 eP **P** **14 29 21.3 +1.6**
UPC Upice 41.63 308 eP **P** **14 29 21.6 +1.7**
UPC e 14 29 42.9
UPC Upice 41.63 308 eP **P** **14 29 21.6 +1.7**
UPC epP **pP** **14 29 42.9 +2.3**
ZEA Zeya 41.73 48 eP **P** **14 29 22.0 +1.3**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
KTK1 Kautokeino 41.75 336 eP **P** **14 29 21.2 +0.6**
KOGS Kog 41.79 302 *i* P **P** **14 29 22.5 +1.2**
IPM Ipoh 41.86 133 P **P** **14 29 23.0 +0.8**
IPM Ipoh 41.86 133 P **P** **14 29 21.8 -0.4**
CONA Conrad Observa 41.90 304 *i* P **P** **14 29 23.7 +1.4**
comp=Z,46nm,1.2s,SNR=22
PSI Prapat 42.02 137 *i* P **P** **14 29 22.6 -1.0**
comp=Z,27nm,0.8s,baz=322,slow=8.2,SNR=20
TREC Trest 42.03 306 eP **P** **14 29 25.1 +1.9**
TREC Trest 42.03 306 eP **P** **14 29 25.1 +1.9**
RPSI Rantau Prapat 42.11 137 P **P** **14 29 22.3 -1.9**
RPSI IAmb IAmb 14 29 23.7
comp=Z,30nm,0.8s
ARSA Arzberg 42.20 303 *i* P **P** **14 29 25.4 +0.8**
comp=Z,7.7nm,0.8s,SNR=6.2
BSD Bornholm Skovb 42.28 315 *i* P **P** **14 29 25.7 +0.7**
BSD pmax pmax
comp=Z,5.0nm,0.4s
BSD Bornholm Skovb 42.28 315 *i* P **P** **14 29 25.7 +0.7**
comp=Z,4.8nm,0.4s
HAMF Hammerfest 42.34 338 eP **P** **14 29 26.9 +1.5**
GOPC GO Pecny, Ondr 42.45 307 eP **P** **14 29 27.9 +1.3**
GOPC GO Pecny, Ondr 42.45 307 eP **P** **14 29 27.9 +1.3**
GSI Gunungsitoli 42.55 139 P **P** **14 29 28.6 +0.9**
comp=Z,312nm,0.7s
GSI Gunungsitoli 42.55 139 P **P** **14 29 29.0 +1.3**
PRU Pruhonice 42.60 307 eP **P** **14 29 29.3 +1.5**
PRU e 14 29 49.8
PRU Pruhonice 42.60 307 eP **P** **14 29 29.3 +1.5**
PRU epP **pP** **14 29 49.8 +1.2**

SOKA Soboth 42.60 302 *i* P P 14 29 29.4 +1.5
comp=Z,23nm,0.7s,SNR=16
BRG Berggiesshubel 42.92 308 *i* P P 14 29 31.9 +1.5
comp=Z,66nm,1.4s
BRG *e* 14 29 53.1
comp=Z,12nm,0.8s
BRG *e*E 14 30 02.4
comp=Z,22nm,0.9s
BRG Berggiesshubel 42.92 308 *i* P P 14 29 31.9 +1.5
BRG *e* 14 29 53.2
BRG *e* 14 30 02.4
BRG pmax pmax
comp=Z,66nm,1.4s
OBKA Obir 42.95 302 *i* P P 14 29 32.4 +1.6
comp=Z,18nm,1.5s,SNR=5.0
MOA Molln 42.98 304 *i* P P 14 29 32.1 +1.2
comp=Z,27nm,0.9s,SNR=9.0
LJU Ljubljana 43.03 301 *i* P P 14 29 32.8 +1.4
JRMM Jerantut 43.20 131 P P 14 29 33.0 0.0
GEC2 GERESS Array S 43.24 305 P P 14 29 33.9 +0.8
GEC2 IAmb IAmb 14 29 35.4
comp=Z,15nm,1.2s
GERES GERESS Array B 43.24 305 P P 14 29 34.6 +1.5
comp=Z,3.4nm,0.7s,baz=81,slow=8.2,SNR=30
GERES PP **PP** 14 31 16.3 +1.4
comp=Z,3.7nm,0.8s,baz=88,slow=8.3,SNR=5.8
KHC Kasperske Hory 43.30 306‖ *eP* P 14 29 34.4 +0.9
KHC pmax pmax
comp=Z,26nm,0.9s
KHC Kasperske Hory 43.30 306 *eP* P 14 29 35.0 +1.5
KHC *ep*P **pP** 14 29 56.1 +1.7
KHC *es*P **sP** 14 30 05.0 +0.7
KHC Kasperske Hory 43.30 306 P P 14 29 35.5 +2.0
TRO Tromso 43.40 336 *eP* P 14 29 36.5 +2.6
CLL Collm 43.49 309 *i* P P 14 29 35.8 +0.9
CLL *i* *SP **sP** 14 30 06.3 +0.6
CLL pmax pmax
comp=Z,30nm,0.9s
CLL Collm 43.49 309 *i* P P 14 29 35.8 +0.9
comp=Z,18nm,0.9s
CLL *i* sP **sP** 14 30 06.3 +0.6
comp=Z,26nm,1.2s
CLL *eP*P **PcP** 14 31 24.0 +2.5
CLL Collm 43.49 309 P P 14 29 33.9 -1.0
CLL IAmb IAmb 14 29 36.9
comp=Z,19nm,0.9s
CADS Cadrg 43.55 302 *i* P P 14 29 36.4 +0.8
MYKA Terra Mystica 43.55 302 *i* P P 14 29 37.0 +1.3
comp=Z,10nm,0.8s
TRI Trieste 43.61 301 P P 14 29 38.7 +2.7
TRI pmax pmax
comp=Z,47nm,1.1s
YAK Yakutsk 43.69 35 *eP* P 14 29 34.9 -1.5
YAK *e*PP **pP** 14 29 59.1 +1.2
YAK *e* 14 31 29.0
YAK *eS* **S** 14 35 55.2 -4.7
YAK *e*SS **sS** 14 36 34.9 -1.7
YAK *eSS* **SS** 14 39 14.4 -3.3
YAK *e* 14 39 23.1
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK smax smax
comp=E,159nm,3.2s
YAK smax smax
comp=N,114nm,3.0s
YAK Yakutsk 43.69 35 LR LR 14 50 03.5
comp=N,775nm,19.1s,baz=354,slow=39
YAK Yakutsk 43.69 35 P P 14 29 36.0 -0.4
YAK IAmb IAmb 14 29 39.6
comp=Z,18nm,0.8s
KBA Koelnbreinsper 43.69 303 *i* P P 14 29 37.9 +1.0
comp=Z,7.6nm,0.7s
NKC Novy Kostel 43.92 307 *eP* P 14 29 40.6 +2.1
NKC Novy Kostel 43.92 307 *eP* P 14 29 40.6 +2.1
MOR8 Moi Rana 43.98 331 *eP* P 14 29 38.9 +0.1
PBSI Pulau Batu 44.07 140 P P 14 29 41.2 +1.3
comp=Z,229nm,1.0s
STEI Steigen 44.12 333 *eP* P 14 29 41.7 +2.0
STAL STALIGIAL 44.25 302 P P 14 29 41.7 +0.6
STAL IAmb IAmb 14 29 42.6
comp=Z,25nm,0.8s
ABTA Abfaltersbach 44.31 302 *i* P P 14 29 42.0 +0.3
comp=Z,12nm,0.8s
TJN Taejon 44.36 73⇑ *eP* P 14 29 42.7 +0.6
NC602 NORSAR Array S 44.41 323 P P 14 29 42.7 +0.5
NORES NORESS Array B 44.41 323 P P 14 29 42.5 +0.3
NORES pmax pmax
comp=Z,4.0nm,0.3s
KS19 Wonju Array Si 44.42 71 P P 14 29 43.1 +0.6
KS19 IAmb IAmb 14 29 44.6
comp=Z,44nm,1.1s
KSRS Korea Array 44.47 71 P P 14 29 43.4 +0.4
comp=Z,34nm,1.1s,baz=277,slow=6.5,SNR=46
KSRS LR LR 14 49 50.6
comp=Z,92nm,19.5s,baz=300,slow=38
KONS Konsvik 44.58 331 *eP* P 14 29 44.0 +0.7
NB2 NORSAR Subarra 44.60 323 P P 14 29 44.0 +0.3
comp=Z,34nm,0.6s,baz=94,slow=7.9
NB2 NORSAR Subarra 44.60 323 P P 14 29 44.0 +0.3
baz=94,slow=7.9
NOA NORSAR Array B 44.60 323 P P 14 29 43.9 +0.3
comp=Z,35nm,0.6s,baz=96,slow=7.8,SNR=166
NOA LR LR 14 51 08.6
comp=Z,108nm,18.4s,baz=265,slow=40
NSS Namsos 44.68 328 *eP* P 14 29 44.5 +0.3
NAO01 NORSAR Array S 44.74 323 *eP* P 14 29 45.0 +0.2
NAO01 NORSAR Array S 44.74 323 P P 14 29 44.8 0.0
OSL Oslo 44.76 321 *eP* P 14 29 46.0 +1.1
KLR Kul'dur 44.78 54‖ *eP* P 14 29 46.1 +0.8
KLR pmax pmax
comp=Z,34nm,3.3s
KLR Kul'dur 44.78 54 P P 14 29 46.0 +0.6
comp=Z,3.6nm,0.5s,baz=276,slow=7.9,SNR=15
KLR LR LR 14 50 58.5
comp=Z,110nm,21.0s,baz=290,slow=39
LOF Lofoten 44.79 333 *eP* P 14 29 45.9 +0.8
WTTA Wattenberg 44.82 303 *i* P P 14 29 46.3 +0.5
comp=Z,34nm,1.0s,SNR=8.5
WATA Walderalm 44.85 303 *i* P P 14 29 46.4 +0.3
comp=Z,15nm,1.0s,SNR=5.9
MURB Monte Urbino 44.93 298 P P 14 29 49.2 +2.5
SQTA Sankt Quirin 45.12 303 *i* P P 14 29 48.4 +0.3
comp=Z,17nm,0.8s,SNR=5.5
MOTA Moosalm 45.17 303 *i* P P 14 29 48.8 +0.3
comp=Z,23nm,0.9s,SNR=8.0
BKNI Bangkinang 45.24 136 P P 14 29 49.4 +0.1
comp=Z,172nm,0.8s,comp=Z,1μm
KONO Kongsberg 45.31 321 *ceP* P 14 29 50.1 +0.8
KONO pmax pmax
comp=Z,117nm,2.5s
KONO Kongsberg 45.31 321 *eP* P 14 29 50.1 +0.8
KONO Kongsberg 45.31 321 P P 14 29 49.8 +0.4
RETA Reutte 45.37 304 *i* P P 14 29 50.5 +0.4
comp=Z,15nm,1.1s
FETA Feichten 45.47 303 *i* P P 14 29 51.2 +0.2
comp=Z,24nm,1.1s
SISI Saibi 45.57 140 P P 14 29 52.8 +1.0
comp=Z,97nm,1.0s
TIXI Tiksi 45.58 22 *c i* P P 14 29 51.0 -0.3
TIXI *i* *PP **pP** 14 30 13.7 +0.8
TIXI pmax pmax
comp=Z,10.0nm,0.5s
TIXI Tiksi 45.58 22 LR LR 14 51 09.7
comp=Z,56nm,20.7s,baz=250,slow=39
TIXI Tiksi 45.58 22 P P 14 29 51.3 0.0
TIXI IAmb IAmb 14 29 52.1
comp=Z,15nm,0.7s
MYKOM Kota Tinggi 45.69 132 P P 14 29 53.0 +0.2
MYKOM Kota Tinggi 45.69 132 P P 14 29 50.9 -2.0
MYKOM IAmb IAmb 14 29 54.5
comp=Z,24nm,0.7s
DOMB Dombas 45.70 324 *eP* P 14 29 53.2 +0.8
FUORN Ofenpass-Fuorn 45.85 303 P P 14 29 55.4 +1.3
FUORN IAmb IAmb 14 29 57.8
comp=Z,12nm,0.8s
HOMB Homborsund 45.86 319 *eP* P 14 29 54.7 +1.1
PDSI Padang 45.95 138 P P 14 29 54.3 -0.6
comp=Z,56nm,0.7s
DAVA Damuels 46.00 304 *i* P P 14 29 55.6 +0.5
comp=Z,72nm,1.2s,SNR=18
SKAR Skarslia 46.00 322 *eP* P 14 29 56.4 +1.6

SDSI Sungai Dareh 46.50 137 P P 14 29 58.9 -0.2
comp=Z,15nm,1.2s,comp=Z,2μm
SNART Snartemo 46.54 319 *eP* P 14 30 00.5 +1.5
ODD1 Odda 46.82 321 *eP* P 14 30 02.6 +1.4
BLS5 Blasjo 46.91 321 *eP* P 14 30 03.6 +1.7
HYA Hoyanger 47.04 323 *eP* P 14 30 04.6 +1.8
CDF Champ du Feu 47.52 306 *eP* P 14 30 08.3 +1.4
CDF pmax pmax
comp=Z,7.0nm,0.8s
SPA0 Spitsbergen Ar 47.55 347 *eP* P 14 30 08.5 +1.9
GRNR Gornyy 47.56 51⇑ *iP* P 14 30 06.2 -0.9
GRNR pmax pmax
comp=Z,8.0nm,1.3s
GRNR MLR MLR
comp=Z,280nm,12.0s
PGF Pioggiola 47.62 297 *eP* P 14 30 08.1 +0.3
PGF pmax pmax
comp=Z,12nm,0.7s
SENIN Lac Senin/Sane 47.91 303 P P 14 30 10.9 +0.8
SENIN IAmb IAmb 14 30 11.5
comp=Z,16nm,0.8s
HINF Hinteralfeld 47.91 305 *eP* P 14 30 10.5 +0.6
HINF pmax pmax
comp=Z,21nm,1.0s
MEM Membach 47.96 309 P P 14 30 10.4 +0.2
MEM pP **pP** 14 30 30.1 -1.3
MEM sP **sP** 14 30 40.1 -1.2
WLF Walferdange 48.03 307 P P 14 30 12.6 +2.0
WLF pP **pP** 14 30 30.6 -1.4
WLF sP **sP** 14 30 41.9 0.0
JNU Nakatsue 48.18 76 P P 14 30 13.3 +1.2
comp=Z,63nm,0.8s,baz=312,slow=2.3,SNR=23
JNU Nakatsue 48.18 76 P P 14 30 13.4 +1.3
HAU Haudompre 48.21 305 *eP* P 14 30 12.8 +0.6
HAU pmax pmax
comp=Z,9.0nm,0.6s
SBF Sospel 48.40 300 *eP* P 14 30 14.7 +1.0
SBF pmax pmax
comp=Z,29nm,0.9s
LPG La Plagne 48.48 302 *eP* P 14 30 15.6 +1.0
LPG pmax pmax
comp=Z,11nm,0.8s
LPL La Plagne 48.49 302 *eP* P 14 30 15.2 +0.7
LPL pmax pmax
comp=Z,14nm,0.9s
MBDF Montbardon 48.65 301 *eP* P 14 30 16.1 +0.4
MBDF pmax pmax
comp=Z,10.0nm,0.6s
CABF La Chapelle 48.68 303 *eP* P 14 30 17.1 +1.3
CABF pmax pmax
comp=Z,17nm,0.7s
MASI Maura Aman, Be 48.78 137 P P 14 30 16.9 +0.1
comp=Z,206nm,1.0s
BMRD Maredsous 48.79 308 P P 14 30 18.2 +1.7
GIVF Givet 48.80 308 *eP* P 14 30 18.0 +1.4
GIVF pmax pmax
comp=Z,71nm,1.8s
DOU Dourbes 48.94 308 ⇑P P 14 30 18.7 +1.1
comp=Z,21nm,1.7s
DOU pP **pP** 14 30 36.5 -2.5
DOU PcP PcP 14 31 30.3 -10
FRF La Foret Royal 49.03 299 *eP* P 14 30 19.0 +0.6
FRF pmax pmax
comp=Z,10.0nm,0.7s
KMBO Kilima Mbogo 49.16 228 P P 14 30 21.4 +1.3
KMBO Kilima Mbogo 49.16 228 P P 14 30 21.4 +1.3
KMBO pmax pmax
comp=Z,7.0nm,0.8s
KMBO Kilima Mbogo 49.16 228 P P 14 30 20.6 +0.5
comp=Z,3.9nm,0.5s,baz=33,slow=12,SNR=15
KMBO Kilima Mbogo 49.16 228 P P 14 30 21.4 +1.3
BAIF Baives 49.19 308 *eP* P 14 30 21.1 +1.5
BAIF pmax pmax
comp=Z,40nm,1.0s
KSI Kapahiang 49.39 137 P P 14 30 20.7 -0.9
comp=Z,150nm,0.9s
KEST Kesra 49.41 289 P P 14 30 22.9 +1.3
comp=Z,4.0nm,0.6s,baz=21,slow=7.2,SNR=6.7
KEST Kesra 49.41 289 P P 14 30 22.4 +0.8
KEST IAmb IAmb 14 30 24.4
comp=Z,14nm,1.2s
LOR Lormes 50.01 305 *eP* P 14 30 26.1 +0.2
LOR pmax pmax
comp=Z,35nm,1.6s
VIVF Saint-Julien-l 50.06 301 *eP* P 14 30 27.6 +1.3
VIVF pmax pmax
comp=Z,8.0nm,0.6s
SMF Signal de Mont 50.17 304 *eP* P 14 30 27.7 +0.6
SMF pmax pmax
comp=Z,17nm,0.6s
SSF Saint Saulge 50.30 305 *eP* P 14 30 28.6 +0.6
SSF pmax pmax
comp=Z,39nm,1.6s
SBUM Sibu 50.57 122 P P 14 30 32.0 +1.6
BGF Bois d'Agland 50.86 304 *eP* P 14 30 32.9 +0.6
BGF pmax pmax
comp=Z,9.0nm,0.7s
TCF Toulx Ste Croi 51.35 304 *eP* P 14 30 37.0 +1.0
TCF pmax pmax
comp=Z,11nm,0.6s
KLSI 51.44 136 P P 14 30 34.5 -2.4
CAF Calviac 51.83 302 *eP* P 14 30 40.7 +1.1
CAF pmax pmax
comp=Z,5.0nm,0.6s
STKI Sintang 51.83 125 P P 14 30 42.1 +2.2
comp=Z,47nm,1.2s,comp=Z,6μm
SPMM Sapulut 51.95 117 P P 14 30 40.0 -0.8
RJF Les Rejaudoux 52.09 303 *eP* P 14 30 42.8 +1.3
RJF pmax pmax
comp=Z,42nm,1.7s
MTLF Montolieu 52.18 300 *eP* P 14 30 43.1 +0.9
MTLF pmax pmax
comp=Z,5.0nm,0.6s
LDF La Druitiere 52.28 307 *eP* P 14 30 43.6 +0.8
LDF pmax pmax
comp=Z,78nm,1.4s
YSS Yuzh-Sakhalins 52.46 55 *eP* P 14 30 43.8 -0.4
FLN La Foliniere 52.47 307 *eP* P 14 30 44.5 +0.3
FLN pmax pmax
comp=Z,156nm,2.0s
EKA Eskdalemuir Ar 52.55 316 P P 14 30 43.0 -1.7
MJB9 Matsu-Tunnel 52.55 69 P P 14 30 44.4 -0.6
MAJO Matsushiro 52.55 69‖ *eP* P 14 30 44.8 -0.2
MAJO pmax pmax
comp=Z,38nm,0.9s
MAJO Matsushiro 52.55 69 P P 14 30 44.5 -0.5
MAT Matsushiro 52.55 69 P P 14 30 45.1 +0.1
MJAR Matsushiro Arr 52.55 69 P P 14 30 45.2 +0.2
comp=Z,18nm,0.9s,baz=283,slow=11,SNR=23
LFF La Frestale 52.72 303 *eP* P 14 30 47.1 +1.0
LFF pmax pmax
comp=Z,12nm,0.6s
MFF Saint Martin d 52.84 305 *eP* P 14 30 47.2 +0.2
MFF pmax pmax
comp=Z,105nm,1.9s
MBAR Mbarara 52.87 235 *ceP* P 14 30 47.3 -0.5
MBAR pmax pmax
comp=Z,9.0nm,0.8s
EPF Esparros 53.59 300 *eP* P 14 30 53.0 +0.4
EPF pmax pmax
comp=Z,6.0nm,0.6s
SGMF Saint Gilles 53.94 307 *eP* P 14 30 55.7 +0.7
SGMF pmax pmax
comp=Z,77nm,1.4s
MA2 Magadan 54.08 38‖ *eP* P 14 30 53.1 -2.7
MA2 pmax pmax
comp=Z,50nm,2.5s
SEY Seymchan 54.15 34‖ *eP* P 14 30 56.2 -0.1
SEY Seymchan 54.15 34 P P 14 30 57.2 +0.9
comp=Z,4.0nm,0.8s,baz=316,slow=14,SNR=2.7
ETSF Etsaut 54.25 301 *eP* P 14 30 58.4 +0.9
ETSF pmax pmax
comp=Z,12nm,0.6s
QUIF Quistinic 54.42 307 *eP* P 14 30 58.7 +0.2
QUIF pmax pmax
comp=Z,234nm,1.9s
SJPF Ste Jean 54.64 301 *eP* P 14 31 02.8 +2.6
SJPF pmax pmax
comp=Z,13nm,1.0s
DAG Danmarks Havn 54.81 344 *i* P P 14 31 01.9 +1.1
DAG *i* 14 31 22.4
DAG Danmarks Havn 54.81 344 *i* P P 14 31 01.9 +1.1
DAG *i* 14 31 22.4
MPSI Mapaga 57.43 117 P P 14 31 22.3 +1.9
comp=Z,54nm,1.1s,comp=Z,618nm

ESDC Sonseca Array 57.80 298 P P 14 31 23.5 +0.7
comp=Z,2.6nm,0.6s,baz=57,slow=7.2,SNR=25
BILL Bilibino 58.39 26‖ *eP* P 14 31 25.5 -0.9
BILL *e* 14 33 36.9
BILL pmax pmax
comp=Z,7.0nm,1.0s
MRSI Marisa 58.80 116 P P 14 31 31.3 +1.3
comp=Z,158nm,1.0s,comp=Z,1μm
MVO Moncorvo 59.37 301 *ep*P pP 14 31 56.7 +0.9
APSI Ampana 59.55 117 P P 14 31 35.4 +0.3
comp=Z,50nm,1.0s,comp=Z,2μm
PETK Petropavlovsk- 59.65 44 P P 14 31 35.2 -0.2
comp=Z,3.6nm,0.8s,baz=275,slow=7.1,SNR=2.7
PETK LR LR 15 01 06.0
comp=Z,87nm,18.2s,baz=239,slow=40
TTSI Tana Toraja 59.76 120 P P 14 31 37.0 +0.5
comp=Z,71nm,1.0s,comp=Z,757nm
PCAB Cabril 59.84 302 *eP* P 14 31 39.2 +2.3
MTE Manteigas 60.04 300 *eP* P 14 31 40.2 +1.9
MTE *ep*P **pP** 14 32 01.4 +1.0
PVIS Viseu 60.15 301 *eP* P 14 31 40.5 +1.5
PVIS *ep*P **pP** 14 32 01.7 +0.5
PCBR Castelo Branco 60.22 299 *ep*P pP 14 32 01.4 -0.2
BNSI Bone 60.93 121 P P 14 31 43.8 -0.7
comp=Z,27nm,1.1s
PTOM Tomar 60.97 300 *eP* P 14 31 48.2 +3.7
PTOM *ep*P **pP** 14 32 07.6 +0.9
SUMG Summit 61.16 341 *i* P P 14 31 47.0 +1.2
SUMG *i* 14 32 08.8
SUMG pmax pmax
comp=Z,15nm,0.8s
SUMG Summit 61.16 341 *i* P P 14 31 47.0 +1.2
comp=Z,15nm,0.8s
SUMG *i* 14 32 08.8
SUMG Summit 61.16 341 P P 14 31 47.0 +1.2
SUMG IAmb IAmb 14 31 49.0
comp=Z,12nm,0.8s
PBEJ Beja 61.26 298 *eP* P 14 31 48.5 +2.0
PBEJ *ep*P **pP** 14 32 09.4 +0.7
PVAQ Vaqueiros 61.42 297 *ep*P pP 14 32 10.6 +0.8
BKSI Bulukumba 61.60 122 P P 14 31 49.0 0.0
PBDV Barranco-do-Ve 61.64 297 *eP* P 14 31 52.6 +3.4
comp=Z,79nm,1.7s
PBDV *ep*P **pP** 14 32 12.3 +0.9
PNCL Nicolau / Gran 61.69 298 *ep*P pP 14 32 13.0 +1.3
SANI Sanana 63.47 115 P P 14 32 01.7 +0.2
comp=Z,52nm,0.9s,comp=Z,607nm
NLAI Namlea 65.09 115 P P 14 32 12.7 +0.6
comp=Z,44nm,0.8s
MMRI Maumere 65.44 123 P P 14 32 13.4 -0.9
comp=Z,75nm,0.7s
MMRI Maumere 65.44 123 P P 14 32 12.1 -2.3
TOA0 Torodi Ar. Sit 66.13 269 P P 14 32 16.7 -2.2
TOA0 IAmb IAmb 14 32 17.9
comp=Z,12nm,0.7s
TORD Torodi Ar. Bea 66.13 269 P P 14 32 16.5 -2.4
comp=Z,11nm,0.6s,baz=41,slow=5.7,SNR=67
TORD LR LR 15 03 30.9
comp=Z,93nm,18.1s,baz=340,slow=38
MSAI Masohi 66.51 113 P P 14 32 21.6 +0.4
comp=Z,20nm,0.8s,comp=Z,386nm
SWI Sorong 66.62 110 P P 14 32 22.9 +1.0
comp=Z,62nm,1.2s,comp=Z,1μm
BATI Baumata 67.54 123 P P 14 32 26.9 -0.8
comp=Z,103nm,0.7s,comp=Z,891nm
SOEI Soe 67.62 122 P P 14 32 27.7 -0.7
comp=Z,169nm,0.9s,comp=Z,2μm
FAKI Fak Fak 68.70 111 P P 14 32 35.1 0.0
TOLK Toolik Lake Re 70.78 15 P P 14 32 46.8 -0.3
baz=326
SAUI Saumlaki 71.36 115 P P 14 32 52.9 +1.6
comp=Z,414nm,1.0s,comp=Z,4μm
COLD Coldfoot 71.82 16 P P 14 32 53.0 -0.3
MLY Manley 73.52 17 P P 14 33 03.5 0.0
C36M Paulatuk 73.80 6 P P 14 33 04.6 -0.3
baz=347
INK Inuvik 73.80 9 P P 14 33 05.3 +0.4
INK pmax pmax
comp=Z,9.0nm,0.6s
INK Inuvik 73.80 9 P P 14 33 05.3 +0.4
INK IAmb IAmb 14 33 06.6
comp=Z,9.0nm,0.6s
POKR Poker Plat Res 74.21 16 P P 14 33 07.4 -0.1
baz=328
BPAW Bear Paw Mtn. 74.23 18 P P 14 33 07.5 -0.1
PRP Porcupine Dome 74.28 15 P P 14 33 08.2 +0.2
TCOL CIGO, UAF Yank 74.32 16 P P 14 33 07.9 -0.1
baz=328
COLA College 74.32 16 *d iP* P 14 33 08.2 +0.2
COLA pmax pmax
comp=Z,4.0nm,0.7s
GENI Genyem 74.56 105 P P 14 33 09.2 -1.0
comp=Z,82nm,1.0s
FITZ Fitzroy Crossi 74.58 127 LR LR 15 12 09.6
comp=Z,43nm,18.0s,baz=338,slow=41
FITZ Fitzroy Crossi 74.58 127 P P 14 33 10.0 -0.2
FITZ IAmb IAmb 14 33 11.4
comp=Z,13nm,1.1s
IL31 74.62 16 P P 14 33 09.0 -0.8
ILAR Eielson Array 74.62 16 P P 14 33 09.2 -0.7
comp=Z,1.4nm,0.8s,baz=336,slow=3.4,SNR=27
KTH Kantishna Hill 74.70 18 P P 14 33 10.8 +0.5
KNRA Kununurra 74.90 123 P P 14 33 11.8 -0.2
KNRA IAmb IAmb 14 33 13.2
comp=Z,31nm,1.1s
LBTB Lobatse 74.99 222 P P 14 33 12.7 +0.2
LBTB pmax pmax
comp=Z,25nm,0.7s
LBTB Lobatse 74.99 222 P P 14 33 12.7 +0.2
LBTB IAmb IAmb 14 33 13.0
comp=Z,25nm,0.7s
MCK McKinley 75.04 17 P P 14 33 12.4 +0.1
MCK pmax pmax
comp=Z,6.0nm,0.6s
MCK McKinley 75.04 17 P P 14 33 12.4 +0.1
DBIC Dimbokro 75.11 267 P P 14 33 11.7 -1.8
DBIC pmax pmax
comp=Z,6.0nm,0.8s
DBIC Dimbokro 75.11 267 P P 14 33 10.9 -2.6
comp=Z,4.9nm,0.7s,baz=18,slow=6.5,SNR=10
DBIC LR LR 15 08 47.9
comp=Z,83nm,18.4s,baz=350,slow=38
EPYK Eagle Plains 75.14 11 P P 14 33 12.6 -0.2
baz=337
KIC Kosan Boka 75.20 267 *eP* P 14 33 12.0 -2.0
comp=Z,17nm,0.7s
TIC Toumodi 75.26 267 *eP* P 14 33 12.2 -2.1
RND Reindeer 75.33 18 P P 14 33 13.3 -0.8
RND pmax pmax
comp=Z,4.0nm,0.5s
RND Reindeer 75.33 18 P P 14 33 13.2 -0.8
LIC Lamto 75.51 267 *eP* P 14 33 14.0 -1.8
comp=Z,18nm,0.7s
SKT Skwentna 75.84 19 P P 14 33 16.2 -0.7
SCRK Sand Creek 75.95 15 P P 14 33 17.4 -0.2
DHY Denali Highway 75.97 17 P P 14 33 17.5 -0.3
DHY IAmb IAmb 14 33 18.9
comp=Z,9.8nm,0.6s
PAX Paxson 76.50 16 P P 14 33 20.1 -0.6
PAX pmax pmax
comp=Z,6.0nm,0.6s
PAX Paxson 76.50 16 P P 14 33 20.1 -0.6
PAX IAmb IAmb 14 33 21.6
comp=Z,6.0nm,0.6s
DAWY Dawson 76.79 13 P P 14 33 21.8 -0.5
BOSA Boshof 78.05 220 P P 14 33 29.1 -0.7
comp=Z,15nm,0.7s,baz=21,slow=5.0,SNR=28
BOSA Boshof 78.05 220 P P 14 33 28.9 -0.9
BOSA IAmb IAmb 14 33 29.9
comp=Z,18nm,0.8s
HYT Haines Junctio 80.11 14 P P 14 33 42.0 +1.3
YKA Yellowknife Ar 81.18 3 P P 14 33 46.0 -0.1
comp=Z,4.1nm,0.6s,baz=348,slow=5.4,SNR=83
YKA PKKPbc **PKKPbc** 14 52 20.2 -1.2
comp=Z,0.1nm,0.6s,baz=176,slow=2.3,SNR=4.0
WRA Warramunga Arr 81.66 122 *i* P P 14 33 48.2 -1.1
WRA pmax pmax
comp=Z,5.0nm,0.8s
WRA Warramunga Arr 81.66 122 P P 14 33 48.3 -1.0
comp=Z,5.2nm,0.8s,baz=324,slow=4.9,SNR=33
WRAB Tennant Creek 81.66 122 *ceP* P 14 33 48.1 -1.2
WRAB pmax pmax
comp=Z,19nm,1.7s
SCHQ Schefferville 82.22 337 P P 14 33 51.6 -0.3
comp=Z,5.5nm,0.7s,baz=47,slow=4.2,SNR=7.6

SCHQ			LR	LR	15 09 27.4	
	comp=Z,110nm,20.6s,baz=58,slow=35					
SCHQ	**Schefferville**	**82.22 337**	P	**P**	**14 33 51.0**	**-0.8**
SCHQ			IAmb	IAmb	14 33 59.6	
	comp=Z,16nm,1.4s					
AS31	**Alice Springs**	**83.94 125**	P	**P**	**14 33 60.0**	**-1.1**
ASAR	**Alice Springs**	**83.94 125**	P	**P**	**14 33 59.9**	**-1.2**
	comp=Z,5.6nm,0.9s,baz=311,slow=4.8,SNR=58					
ASAR			LR	LR	15 17 04.5	
	comp=Z,57nm,19.0s,baz=76,slow=40					
KRVT	**Keravat (AS076**	**84.94 99**	LR	LR	15 12 48.9	
	comp=Z,413nm,21.0s,baz=233,slow=36					
CHGQ	**Chibougamau**	**88.79 339**	P	**P**	**14 34 24.2**	**-0.3**
	baz=27					
MATQ	**Matagami**	**89.84 341**	P	**P**	**14 34 29.8**	**+0.4**
	baz=24					
D61A	**St Aubert, Com**	**89.85 335**	P	**P**	**14 34 31.0**	**+1.5**
	baz=30					
LSQQ	**Lebel-sur-Quev**	**90.30 340**	P	**P**	**14 34 31.9**	**+0.4**
	baz=25					
F64A	**Sherman**	**90.35 333**	P	**P**	**14 34 32.4**	**+0.5**
	baz=31					
LATQ	**La Tuque**	**90.54 337**	P	**P**	**14 34 33.7**	**+1.0**
	baz=28					
D57A	**Chemin Vers le**	**91.22 337**	P	**P**	**14 34 36.7**	**+0.8**
	baz=27					
E58A	**La Victoria**	**91.60 336**	P	**P**	**14 34 38.1**	**+0.5**
	baz=28					
D55A	**Sainte-Anne-du**	**91.70 338**	P	**P**	**14 34 38.9**	**+0.8**
	baz=26					
D53A	**Lac Vacive, Po**	**92.30 340**	P	**P**	**14 34 41.6**	**+0.8**
	baz=24					
E55A	**Montcerf-Lytto**	**92.39 338**	P	**P**	**14 34 41.9**	**+0.6**
	baz=26					
G60A	**Masonville**	**92.41 335**	P	**P**	**14 34 42.2**	**+0.8**
	baz=28					
D52A	**ZEK Kipawa Sen**	**92.59 340**	P	**P**	**14 34 42.8**	**+0.6**
	baz=24					
D51A	**Lot 18 Range I**	**92.75 341**	P	**P**	**14 34 43.2**	**+0.3**
	baz=23					
ULM	**Lac du Bonnet**	**92.87 352**	P	**P**	**14 34 42.6**	**-0.8**
	comp=Z,4.1nm,0.8s,baz=360,slow=6.2,SNR=9.1					
ULM	**Lac du Bonnet**	**92.87 352**	P	**P**	**14 34 40.9**	**-2.6**
ULM			IAmb	IAmb	14 34 43.9	
	comp=Z,5.8nm,0.9s					
E53A	**Dumoine, Ponti**	**92.92 339**	P	**P**	**14 34 44.4**	**+0.6**
	baz=24					
E51A	**G1948 Merrick**	**93.29 340**	P	**P**	**14 34 45.7**	**+0.3**
	baz=23					
D48A	**Paudash Townsh**	**93.30 342**	P	**P**	**14 34 45.3**	**-0.2**
	baz=21					
LONY	**Lake Ozonia**	**93.58 336**	P	**P**	**14 34 47.9**	**+1.0**
	baz=27					
G55A	**Calabogie**	**93.67 338**	P	**P**	**14 34 47.2**	**0.0**
	baz=25					
E50A	**Wahnapitae**	**93.72 341**	P	**P**	**14 34 48.5**	**+1.1**
	baz=22					
G54A	**Lake Saint Pet**	**93.94 339**	P	**P**	**14 34 48.7**	**+0.2**
	baz=24					
F51A	**Arnstein**	**93.96 340**	P	**P**	**14 34 48.8**	**+0.3**
	baz=23					
E48A	**Lockeyer**	**94.03 342**	P	**P**	**14 34 48.8**	**-0.1**
	baz=21					
H56A	**Elgin**	**94.13 338**	P	**P**	**14 34 50.2**	**+0.9**
	baz=26					
STKA	**Stephens Creek**	**94.48 127**	LR	LR	15 24 47.0	
	comp=Z,31nm,18.4s,baz=27,slow=40					
AGMN	**Agassiz Nation**	**94.79 352**	P	**P**	**14 34 52.2**	**-0.1**
	baz=10					
NEW	**Newport**	**95.22 6**	P	**P**	**14 34 53.9**	**-0.4**
	baz=353					
NEW	**Newport**	**95.22 6**	LR	LR	15 21 00.6	
	comp=Z,112nm,19.0s,baz=9.5,slow=37					
VNA2	**Neumayer--Watz**	**120.59 202**	P	**PKPdf**	**14 40 19.2**	**-1.8**
	baz=48,slow=5.5					
VNA3	**Neumayer Olymp**	**121.40 202**	P	**PKPdf**	**14 40 19.1**	**-3.5**
QSPA	**South Pole Qui**	**126.34 180**		**PKPdf**	**14 40 30.6**	**-1.6**
LPAZ	**La Paz**	**138.99 289**	PKP	**PKPdf**	**14 40 58.9**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=30,slow=4.9,SNR=4.0					
GO02	**Mina Guanaco**	**144.95 278**		PKPbc	14 41 06.5	-1.2
CFA	**Coronel Fontan**	**146.47 266**	PKPbc	**PKPdf**	**14 41 10.5**	**+0.2**
	comp=Z,7.3nm,0.3s,baz=47,slow=6.3,SNR=8.7					
PLCA	**Paso Flores**	**150.23 250**	PKPbc	**PKPbc**	**14 41 20.1**	**-1.3**
	comp=Z,3.9nm,0.8s,baz=129,slow=5.0,SNR=9.1					
PLCA	**Paso Flores**	**150.23 250**		**PKPbc**	**14 41 20.7**	**-0.7**
GO06	**Curarrehue**	**150.83 253**		**PKPbc**	**14 41 21.9**	**-1.0**

LJU 21 14:28:25.1, 45°93N×14°47E, h6km, ML0.3, 1C,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GBAS	**Gorenja Brezov**	**0.02**	**278**	↑*i* Pg	Pg	14 28 26.3	0.0
GBAS				*i* Sg	Sg	14 28 27.2	+0.1
	comp=Z,7.0nm,0.0s						
CEY	**Cerknica**	**0.20**	**189**	*i* Pg	Pg	14 28 29.1	+0.1
CEY				*i* Sg	Sg	14 28 32.1	+0.5
	comp=Z,1.0nm,0.1s						
CRNS	**Crni Vrh**	**0.21**	**316**	*i* Pg	Pg	14 28 29.1	-0.2
CRNS				*i* Sg	Sg	14 28 32.7	+0.6
VISS	**Visnje**	**0.29**	**116**	*i* Pg	Pg	14 28 31.0	+0.3
VISS				*i* Sg	Sg	14 28 35.1	+0.5

NIED ***21*** *14:32:00, 38°.20N×143°.60E, h8km, Mw3.6 Best double couple: M₀3.00000×10¹⁴ NP1:φs=359.00000°, δ38.00000°, λ-135.00000°. NP2:φs=231.00000°, δ64.00000°, λ-61.00000°.*

IDC ***21*** *14:32:12.3±1.1, 38°.02N×143°.83E, h0km, mb3.9/4, mb1 3.9/6, mb1mx3.5/31, mbtmp3.8/6, ML3.2/2, MS3.4/2, Ms1 3.4/2, ms1mx2.7/46, Error ellipse: s-maj=38.2km s-min=19.8km az=99.0*

ISCJB ***21*** *14:32:13.5±0.6, 38°.21N±0°.04×143°.68E±0°.05, h19km, mb3.9/4, MS4.0/1, Error ellipse: s-maj=6.7km s-min=4.5km az=36.4*

NEIC ***21*** *14:32:15.6±1.5, 38°.2N±0°.1×143°.9E±0°.2, h26km±10km, mb4.3/2*

JMA ***21*** *14:32:16.2±0.1, 38°.25N×143°.59E, h39km, M3.6*

ISC 21 14:32:14.7±1.0, 38°20N±0°05×143°70E±0°07, h19km, n33,
σ1s73/42, mb3.9/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.76**	**274**	P	**Pn**	**14 32 43.7**	**-0.4**
OFUJ	**Ofunato**	**1.81**	**300**	P	**Pn**	**14 32 44.7**	**-0.2**
OFUJ				*e*S	**Sn**	**14 33 05.8**	**-1.6**
JKMT	**Kesennumamotoy**	**1.85**	**290**	P	**Pn**	**14 32 45.1**	**-0.2**
JKMT				*e*S	**Sn**	**14 33 06.3**	**-1.8**
JIO	**Ouri**	**1.86**	**278**	P	**Pn**	**14 32 45.3**	**-0.3**
JIO				S	**Sn**	**14 33 06.5**	**-2.1**
JMK	**Ichinoseki**	**2.08**	**292**	P	**Pn**	**14 32 48.7**	**+0.2**
JOM	**Ohasama**	**2.27**	**305**	P	**Pn**	**14 32 51.1**	**0.0**
JOM				*e*S	**Sn**	**14 33 17.1**	**-1.4**
JYK	**Kaneyama**	**2.71**	**286**	P	**Pn**	**14 32 58.1**	**+0.8**
JFT	**Otama**	**2.75**	**257**	P	**Pn**	**14 32 58.6**	**+0.9**
JFT				*e*S	**Sn**	**14 33 30.0**	**-0.4**
JAG	**Ashikaga**	**3.82**	**244**	P	**Pn**	**14 33 12.3**	**-0.2**
JAG				*e*S	**Sn**	**14 33 55.3**	**-1.6**
ERM	**Erimo**	**3.83**	**354**	Pn	**Pn**	**14 33 15.1**	**+2.5**
JNBK	**Urakawa-nobuka**	**4.13**	**350**	P	**Pn**	**14 33 18.0**	**+1.2**
JNBK				*e*S	**Sn**	**14 34 03.1**	**-1.5**
BSO1	**Boso 1**	**4.17**	**213**	P	**Pn**	**14 33 15.5**	**-1.2**
BSO1				*e*S	**Sn**	**14 34 01.5**	**-3.1**
JRY	**Ryogami san**	**4.41**	**242**	P	**Pn**	**14 33 20.7**	**+0.1**
JRY				*e*S	**Sn**	**14 34 08.3**	**-3.2**
JCH	**Churui**	**4.41**	**357**	P	**Pn**	**14 33 20.5**	**-0.1**
JCH				S	**Sn**	**14 34 08.7**	**-2.8**
MJAR	**Matsushiro Arr**	**4.67**	**251**	Pn	**Pn**	**14 33 25.2**	**+1.0**
	0.3nm,0.3s,baz=85,slow=16,SNR=22						
MJAR				Sn	**Sn**	**14 34 19.0**	**+1.0**
	0.1nm,0.3s,baz=284,slow=33,SNR=1.6						
MAJO	**Matsushiro**	**4.68**	**251**	Pn	**Pn**	**14 33 26.0**	**+1.7**
MAT	**Matsushiro**	**4.68**	**251**	P	**Pn**	**14 33 25.9**	**+1.6**
MAT				*e*S	**Sn**	**14 34 19.8**	**+1.8**
MJB9	**Matsu-Tunnel**	**4.68**	**251**	Pn	**Pn**	**14 33 26.0**	**+1.7**
JKA	**Kamikawa-asahi**	**5.96**	**352**		**Pn**	**14 33 43.2**	**+1.3**
JKA					**Sn**	**14 34 46.6**	**-3.1**
ASAJ	**Asahikawa**	**5.97**	**352**	Pn	**Pn**	**14 33 43.2**	**+1.2**
	0.9nm,0.3s,baz=185,slow=7.6,SNR=9.5						
ASAJ				Sn	**Sn**	**14 34 46.6**	**-3.1**
	0.5nm,0.3s,baz=311,slow=26,SNR=1.7						
INU	**Inuyama**	**6.07**	**244**	Pn	**Pn**	**14 33 45.2**	**+1.8**
YSS	**Yuzh-Sakhalins**	**8.77**	**356**	Pn	**Pn**	**14 34 21.7**	**+1.2**
KSRS	**Korea Array**	**12.50**	**271**	LR	LR	14 40 25.4	
	comp=Z,42nm,18.3s,baz=350,slow=39						
PET	**Petropavlovsk**	**18.08**	**30**	Pn	**Pn**	**14 36 21.9**	**-2.7**
PET				IAmb	IAmb	14 37 14.3	
	comp=Z,66nm,1.3s						
SEY	**Seymchan**	**25.32**	**9**	P	**P**	**14 37 42.3**	**+2.5**
	comp=Z,1.2nm,0.7s,baz=184,slow=15,SNR=2.8						
H11N2	**WAKE ISLAND Hy**	**27.27**	**126**	T	T	15 06 34.7	
	baz=311						
H11N1	**WAKE ISLAND Hy**	**27.28**	**126**	T	T	15 06 32.4	
	baz=311						
H11N3	**WAKE ISLAND Hy**	**27.29**	**126**	T	T	15 06 31.4	
	baz=311						
WRA	**Warramunga Arr**	**58.50**	**190**	P	**P**	**14 42 08.3**	**-1.4**
	comp=Z,2.3nm,0.7s,baz=9.6,slow=7.0,SNR=18						
AS31	**Alice Springs**	**62.22**	**190**	P	**P**	**14 42 35.5**	**+0.4**
AS31				IAmb	IAmb	14 43 01.6	
	comp=Z,1.7nm,1.4s						
ASAR	**Alice Springs**	**62.23**	**190**	P	**P**	**14 42 35.2**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=4.8,slow=6.7,SNR=19						
FINES	**FINESS Array B**	**68.61**	**333**	P	**P**	**14 43 18.2**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=111,slow=7.6,SNR=0.7						
ULM	**Lac du Bonnet**	**77.52**	**35**	LR	LR	15 22 37.7	
	comp=Z,76nm,19.4s,baz=38,slow=39						

NIED ***21*** *14:45:00, 42°.80N×142°.50E, h20km, Mw3.8 Best double couple: M₀4.78000×10¹⁴ NP1:φs17.00000°, δ41.00000°, λ113.00000°. NP2:φs167.00000°, δ53.00000°, λ71.00000°.*

ISCJB ***21*** *14:45:19.5±0.3, 42°.70N±0°.04×142°.44E±0°.04, h45km±4km, mb3.7/13, MS3.7/2, Error ellipse: s-maj=6.2km s-min=4.5km az=17.0*

JMA ***21*** *14:45:20.0, 42°.75N×142°.48E, h20km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs168.00000°, δ50.00000°, λ79.00000°. NP2:φs6.00000°, δ41.00000°, λ104.00000°. Principal axes: T Plg80.0000°, Azm24.0000°; N Plg9.0000°, Azm175.0000°; P Plg5.0000°, Azm266.0000°;*

JMA Felt II J1.

IDC ***21*** *14:45:21.8±1.8, 42°.81N×142°.43E, h47km±15km, mb3.4/13, mb1 3.7/15, mb1mx3.5/45, mbtmp3.6/15, ML2.1/2, MS3.7/2, Ms1 3.7/2, ms1mx2.9/36 Error ellipse: s-maj=22.5km s-min=12.7km az=114.0*

ISC 21 14:45:19.0±0.8, 42°70N±0°04×142°44E±0°03, h25km±6km,
n33, σ0s77/40, mb3.8/13, 4C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JBT2	**Biratori 2**	**0.10**	**323**	↑↑P	**Pb**	**14 45 23.4**	**-0.3**
JBT2				*e*S	**Sb**	**14 45 26.7**	**-0.1**
JSHD	**Hidakashinhida**	**0.29**	**177**	P	**Pn**	**14 45 27.1**	**-0.5**
JIAM	**Iburiatsuma**	**0.39**	**259**	↓P	**Pn**	**14 45 29.0**	**0.0**
JFR	**Furan**	**0.48**	**13**	↓↓P	**Pb**	**14 45 28.3**	**-0.5**
JNBK	**Urakawa-nobuka**	**0.48**	**151**	↓P	**Pn**	**14 45 29.9**	**-0.3**
JCH	**Churui**	**0.68**	**97**	↓↓P	**Pb**	**14 45 32.6**	**+0.4**
JCH				S	**Sn**	**14 45 42.9**	**+0.1**
JEW	**Eniwo**	**0.74**	**281**	↓↓P	**Pb**	**14 45 33.8**	**+0.5**
JEW				S	**Sn**	**14 45 44.5**	**+0.1**
JTHR	**Tokachihiroo**	**0.75**	**122**	↓↓P	**Pn**	**14 45 33.5**	**-0.4**
JTHR				S	**Sn**	**14 45 44.3**	**-0.2**
JAB	**Ashibetsu**	**0.82**	**349**	↑↑P	**Pn**	**14 45 34.6**	**-0.3**
JEM	**Erimo**	**0.86**	**142**	P	**Pn**	**14 45 36.6**	**+1.1**
JISS	**Ishikarishitsu**	**0.95**	**308**	↓↓P	**Pn**	**14 45 36.7**	**+0.1**
JISS				S	**Sn**	**14 45 50.0**	**+0.7**
JOB	**Onbets**	**1.04**	**78**	S	**Sb**	**14 45 53.7**	**+2.1**
JNB	**Noboribetsu**	**1.06**	**258**	S	**Sb**	**14 45 52.4**	**+0.2**
JAR	**Ashorobuto**	**1.14**	**58**	↓↓P	**Pn**	**14 45 39.5**	**+0.2**
JAR				S	**Sn**	**14 45 54.8**	**+0.7**
JHR	**Hokuryu**	**1.17**	**334**	↑↑P	**Pn**	**14 45 40.5**	**+0.8**
JHR				S	**Sb**	**14 45 56.9**	**+1.7**
JKK2	**Kamakawa 2**	**1.19**	**11**	↑↑P	**Pn**	**14 45 40.1**	**0.0**
ASAJ	**Asahikawa**	**1.42**	**4**	P	**Pn**	**14 45 43.6**	**+0.4**
	52nm,0.3s,baz=211,slow=16,SNR=1012						
ASAJ				S	**Sn**	**14 45 59.8**	**-1.3**
	40nm,0.3s,baz=126,slow=9.2,SNR=4.6						
MJAR	**Matsushiro Arr**	**6.96**	**209**	P	Pn	14 47 04.1	+4.8
	0.1nm,0.3s,baz=27,slow=13,SNR=6.4						
USRK	**Ussuriysk Ar.**	**7.75**	**285**	P	**Pn**	**14 47 11.1**	**+1.0**
	baz=90,slow=17,SNR=1.9						
MKAR	**Makanchi Array**	**42.01**	**297**	P	**P**	**14 53 08.4**	**+0.4**
	0.7nm,0.9s,baz=85,slow=11,SNR=1.9						
MKAR				PcP	**PcP**	**14 55 02.9**	**+0.1**
	0.1nm,0.3s,baz=75,slow=5.7,SNR=6.0						
ILAR	**Eielson Array**	**44.35**	**35**	P	**P**	**14 53 26.6**	**0.0**
	0.6nm,0.6s,baz=247,slow=5.3,SNR=13						
INK	**Inuvik**	**49.02**	**29**	P	**P**	**14 54 02.4**	**-0.7**
	0.9nm,0.5s,baz=292,slow=8.0,SNR=11						
INK				LR	LR	15 16 25.0	
	comp=Z,100nm,19.1s,baz=40,slow=38						
PMG	**Port Moresby**	**52.03**	**174**	LR	LR	15 15 05.6	
	comp=Z,63nm,21.7s,baz=218,slow=34						
YKA	**Yellowknife Ar**	**58.55**	**32**	P	**P**	**14 55 12.3**	**-0.5**
	0.1nm,0.3s,baz=301,slow=6.5,SNR=7.8						
WRA	**Warramunga Arr**	**62.77**	**189**	P	**P**	**14 55 41.4**	**-0.7**
	0.3nm,0.5s,baz=5.9,slow=7.1,SNR=5.6						
FINES	**FINESS Array B**	**64.20**	**331**	P	**P**	**14 55 49.8**	**-1.3**
	2.5nm,0.9s,baz=46,slow=5.5,SNR=4.7						
ASAR	**Alice Springs**	**66.50**	**189**	P	**P**	**14 56 07.2**	**+0.9**
	0.3nm,0.7s,baz=5.9,slow=7.8,SNR=6.0						
KBZ	**Khabaz**	**67.86**	**309**	P	**P**	**14 56 15.4**	**+0.6**
	1.1nm,0.8s,baz=333,slow=4.5,SNR=2.4						
NOA	**NORSAR Array B**	**69.28**	**337**	P	**P**	**14 56 22.2**	**-1.3**
	0.7nm,0.7s,baz=42,slow=6.0,SNR=1.5						
AKASG	**Malin Array Be**	**70.33**	**322**	P	**P**	**14 56 29.7**	**-0.3**
	0.2nm,0.3s,baz=44,slow=6.4,SNR=2.4						
NVAR	**Mina Array Bea**	**71.03**	**55**	P	**P**	**14 56 35.6**	**+0.7**
	0.4nm,0.5s,baz=296,slow=6.5,SNR=2.4						
PDAR	**Pinedale Array**	**73.18**	**47**	P	**P**	**14 56 47.1**	**-0.6**
	0.5nm,0.5s,baz=241,slow=1.8,SNR=7.4						
TXAR	**Lajitas Array**	**86.06**	**53**	P	**P**	**14 57 57.8**	**+0.1**
	0.3nm,0.5s,baz=297,slow=3.2,SNR=4.6						

ISCJB ***21*** *14:47:27.9±0.5, 51°.46N±0°.03×16°.06E±0°.03, h0km, Error ellipse: s-maj=3.9km s-min=2.4km az=17.4*

BGR ***21*** *14:47:28.8±0.7, 51°.57N×16°.14E, h1km, ML3.0/8, Error ellipse: s-maj=6.7km s-min=3.3km az=23.0*

ISC 21 14:47:27.6±0.9, 51°60N±0°03×16°14E±0°02, h0km, n48,
σ0s89/95, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.76**	**173**	*e*Pg	**Pg**	**14 47 42.5**	**+0.4**
KSP				*e*Sg	**Sg**	**14 47 52.2**	**+0.2**
KSP	**Ksiaz**	**0.76**	**173**	*i* Pg	**Pg**	**14 47 42.5**	**+0.4**
KSP				*i* Pg	**Pg**	**14 47 42.5**	**+0.4**
KSP				*e*Sg	**Sg**	**14 47 51.9**	**-0.1**
KSP				*e*Sg	**Sg**	**14 47 51.9**	**-0.1**
CHVC	**Chvalec**	**1.01**	**183**	*e*PG	**Pg**	**14 47 47.3**	**+0.4**
CHVC				*e*SG	**Sg**	**14 48 00.2**	**+0.2**
	comp=Z,58nm,0.4s						
OSTC	**Ostas**	**1.04**	**177**	*e*PG	**Pg**	**14 47 47.8**	**+0.3**
OSTC				*e*SG	**Sg**	**14 48 01.2**	**+0.2**
	comp=Z,51nm,0.6s						
UPC	**Upice**	**1.09**	**184**	*e*PG	**Pg**	**14 47 48.6**	**+0.1**
UPC				*e*SG	**Sg**	**14 48 02.4**	**-0.3**
	comp=Z,73nm,0.3s						
DPC	**Dobruska-Polom**	**1.25**	**175**	*e*Pg	**Pg**	**14 47 51.3**	**-0.3**
DPC				*e*Sg	**Sg**	**14 48 08.1**	**+0.3**
DPC	**Dobruska-Polom**	**1.25**	**175**	*e*PG	**Pg**	**14 47 51.2**	**-0.4**
DPC				*e*SG	**Sg**	**14 48 07.2**	**-0.6**
	comp=Z,35nm,0.2s						
PVCC	**Panska Ves**	**1.46**	**223**	*e*PG	**Pg**	**14 47 55.6**	**+0.1**
PVCC				*e*SG	**Sg**	**14 48 14.3**	**-0.1**
	comp=Z,143nm,0.4s						
BRG	**Berggiesshubel**	**1.56**	**243**	PN	**Pn**	**14 47 56.9**	**+0.3**
BRG				PG	**Pg**	**14 47 57.9**	**+0.4**
BRG				SG	**Sg**	**14 48 18.1**	**+0.5**
	182nm,0.3s						
BRG	**Berggiesshubel**	**1.56**	**243**	*e*Pn	**Pn**	**14 47 56.2**	**-0.3**
BRG				*e*Sg	**Sg**	**14 48 18.1**	**+0.5**
KRLC	**Kraliky**	**1.58**	**165**	*e*PG	**Pn**	**14 47 56.4**	**-0.4**
KRLC				*e*SG	**Sn**	**14 48 17.3**	**-0.7**
	comp=Z,28nm,0.3s						
FBE	**Freiberg**	**1.88**	**250**	*e*Sg	**Sb**	**14 48 27.6**	**+1.0**
GOPC	**GO Pecny, Ondr**	**1.89**	**208**	*e*PN	**Pn**	**14 48 00.3**	**-0.8**
GOPC				*e*PG	**Pb**	**14 48 02.9**	**-0.1**
PRU	**Pruhonice**	**1.90**	**213**	*e*PN	**Pn**	**14 48 00.2**	**-1.1**
PRU				*e*PG	**Pb**	**14 48 02.7**	**-0.5**
PRU				*e*SG	**Sb**	**14 48 27.1**	**-0.4**
	comp=Z,40nm,0.5s						
CLL	**Collm**	**1.98**	**263**	*i* Pn	**Pn**	**14 48 02.2**	**-0.2**
	comp=Z,4.0nm,0.3s						
CLL				*i* Pg	**Pb**	**14 48 05.3**	**+0.8**
CLL				*i*		14 48 06.3	
CLL				*i*		14 48 08.8	
CLL				*i* Sg	**Sg**	**14 48 31.8**	**+0.5**
	comp=Z,25nm,0.4s						
CLL	**Collm**	**1.98**	**263**	*e*Pn	**Pn**	**14 48 02.1**	**-0.2**
CLL				*e*Sg	**Sg**	**14 48 32.2**	**+0.9**
MORC	**Moravsky Berou**	**2.03**	**153**	*e*Pn	**Pn**	**14 48 02.7**	**-0.3**
MORC	**Moravsky Berou**	**2.03**	**153**	*e*PN	**Pn**	**14 48 02.2**	**-0.5**
MORC				*e*SG	**Sb**	**14 48 31.0**	**-0.1**
OKC	**Ostrava-Krasne**	**2.17**	**143**	*e*PG	**Pb**	**14 48 08.2**	**+0.4**
VRAC	**Vranov**	**2.31**	**173**	*e*PN	**Pn**	**14 48 07.3**	**+0.4**
VRAC				*e*SG	**Sb**	**14 48 40.0**	**+0.8**
KRUC	**Moravsky**	**2.54**	**176**	*e*PN	**Pn**	**14 48 10.6**	**+0.5**
KRUC				*e*SG	**Sg**	**14 48 47.6**	**-1.6**
TANN	**Tannenbergstha**	**2.61**	**244**	*e*Pn	**Pn**	**14 48 11.4**	**+0.4**
TANN				*e*Pg	**Pg**	**14 48 17.6**	**+0.1**
TANN				*e*Sg	**Sg**	**14 48 50.4**	**-0.9**
OJC	**Ojcow**	**2.70**	**119**	*e*Pg	**Pg**	**14 48 19.1**	**-0.1**
OJC				*e*Pg	**Pg**	**14 48 19.1**	**-0.1**
OJC				*e*Sg	**Sg**	**14 48 53.6**	**-0.5**
OJC				*e*Sg	**Sg**	**14 48 53.6**	**-0.5**
NKC	**Novy Kostel**	**2.71**	**241**	*e*PN	**Pn**	**14 48 12.7**	**+0.4**
NKC				*e*PG	**Pg**	**14 48 18.8**	**-0.6**
NKC				*e*SG	**Sg**	**14 48 55.2**	**+0.7**
	comp=Z,71nm,0.3s						
JAVC	**Velka Javorina**	**2.91**	**160**	*e*PN	**Pn**	**14 48 16.5**	**+1.3**
KHC	**Kasperske Hory**	**2.96**	**215**	*e*PN	**Pn**	**14 48 15.8**	**-0.1**
KHC				*e*PG	**Pb**	**14 48 22.0**	**+0.7**
KHC				*e*SN	**Sn**	**14 48 50.3**	**-1.9**
KHC				*e*SG	**Sb**	**14 49 00.5**	**+2.5**
	comp=Z,12nm,0.5s						
MOX	**Moxa**	**3.01**	**253**	*e*Sg	**Sg**	**14 49 04.8**	**+0.7**
ROTZ	**Rotzenmuhle**	**3.10**	**235**	*e*Pn	**Pn**	**14 48 18.2**	**+0.4**
SMOL	**Smolenice**	**3.20**	**164**	*e*PG	**Pg**	**14 48 30.2**	**+1.4**
SMOL				*e*SG	**Sg**	**14 49 10.9**	**+0.7**
LANS	**Liptovska Anna**	**3.25**	**138**	*e*PG	**Pg**	**14 48 29.5**	**-0.3**
LANS				*e*SG	**Sg**	**14 49 13.6**	**+1.8**
MODS	**Modra-Piesok**	**3.31**	**167**	*e*PG	**Pg**	**14 48 29.8**	**-1.2**
MODS				*e*SG	**Sg**	**14 49 14.1**	**+0.3**
VYHS	**Vyhne**	**3.56**	**150**	*e*PN	**Pn**	**14 48 23.9**	**-0.2**
VYHS				*e*PG	**Pg**	**14 48 36.6**	**+0.8**
VYHS				*e*		14 49 17.1	
BSD	**Bornholm Skovb**	**3.60**	**349**	*i* P	**Pn**	**14 48 24.8**	**+0.2**
BSD				*i* S	**Sn**	**14 49 04.4**	**-3.3**
GRF	**Grafenberg Arr**	**3.67**	**241**	*e*Sg	**Sg**	**14 49 24.9**	**-0.4**
CONA	**Conrad Observa**	**3.68**	**183**	*i* Pn	**Pn**	**14 48 26.7**	**+0.9**
	comp=Z,0.3nm,0.1s						
CONA				*i* Sg	**Sb**	**14 49 20.4**	**+1.8**
	comp=Z,6.2nm,0.4s						
STHS	**Stebnicka Huta**	**3.92**	**122**	*e*PG	**Pg**	**14 48 44.9**	**+2.2**
MOA	**Molln**	**3.94**	**199**	*i* Pn	**Pn**	**14 48 29.9**	**+0.6**
	comp=Z,1.8nm,0.2s						
MOA				*i* Sg	**Sg**	**14 49 33.7**	**-0.5**
	comp=Z,11nm,0.5s						
ARSA	**Arzberg**	**4.37**	**186**	*i* Pn	**Pn**	**14 48 35.5**	**+0.3**
	comp=Z,1.0nm,0.3s						
ARSA				*i* Sg	**Sg**	**14 49 45.5**	**-2.4**
	comp=Z,3.4nm,0.7s						
KBA	**Koelnbreinsper**	**4.88**	**203**	*i* Pn	**Pn**	**14 48 42.8**	**+0.5**
	comp=Z,1.4nm,0.4s						
KBA				*i* Sg	**Sb**	**14 49 52.3**	**-0.9**
	comp=Z,3.3nm,0.5s						
SOKA	**Soboth**	**4.98**	**189**	*i* Pn	**Pb**	**14 48 55.0**	**-0.6**
	comp=Z,0.5nm,0.3s						
SOKA				*i* Sg	**Sb**	**14 49 55.9**	**-0.1**
	comp=Z,0.6nm,0.3s						
OBKA	**Obir**	**5.20**	**192**	*i* Pg	**Pg**	**14 49 07.6**	**+0.5**
	comp=Z,0.3nm,0.2s						
OBKA				*i* Sg	**Sg**	**14 50 14.2**	**-0.3**
	comp=Z,2.2nm,0.5s						
WATA	**Walderalm**	**5.20**	**217**	*i* Sg	**Sg**	**14 50 14.4**	**-0.1**
	comp=Z,3.5nm,0.5s						
MYKA	**Terra Mystica**	**5.24**	**199**	*i* Sg	**Sg**	**14 50 16.0**	**+0.3**
	comp=Z,28nm,0.0s						
WTTA	**Wattenberg**	**5.24**	**216**	*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.39**	**38**	P	**Pn**	**15 12 43.1**	**+2.4**
MATI				S	**Sn**	**15 12 51.9**	**+3.8**
DDMP	**Don Marcelino,**	**0.61**	**209**	P	**Pn**	**15 12 43.8**	**+0.7**
DDMP				S	**Sn**	**15 12 51.2**	**-1.1**
DAV	**Davao City (W)**	**0.61**	**315**	P	**Pn**	**15 12 46.5**	**+3.4**
	141nm,0.3s,baz=134,slow=2.0,SNR=28						
DAV				LR	LR	15 12 54.4	
	comp=Z,169nm,19.1s,baz=288,slow=42						
DAV	**Davao City (W)**	**0.61**	**315**		**Pn**	**15 12 44.9**	**+1.7**
SKMP	**Bagumbayan, Su**	**1.46**	**266**	P	**Pn**	**15 12 55.9**	**+1.4**
SKMP				S	**Sn**	**15 13 13.8**	**+1.3**
BUKP	**Musuan**	**1.55**	**323**	P	**Pn**	**15 12 58.5**	**+2.8**
BUKP				S	**Sn**	**15 13 17.9**	**+3.1**
CGP	**Cagayan de Oro**	**2.23**	**324**	‖P	Pn	15 13 12.1	+7.2
CGP				S	Sn	15 13 42.0	+11
BUTP	**Butuan**	**2.35**	**351**	P	Pn	15 13 10.5	+3.9
LUWI	**Luwuk**	**8.28**	**203**	Pn	**Pn**	**15 14 32.2**	**+4.2**
SIJI	**Sorong**	**9.12**	**145**	P	**Pn**	**15 14 42.1**	**+2.7**
	2.9nm,0.3s,baz=314,slow=18,SNR=11						
YULB	**Yu-li**	**17.27**	**345**		**P**	**15 16 27.0**	**-1.7**
YULB				IAmb	IAmb	15 16 29.2	
	comp=Z,52nm,1.5s						
TPUB	**Ta-pu**	**17.36**	**343**		**P**	**15 16 28.4**	**-1.4**
TPUB				IAmb	IAmb	15 16 38.7	
	comp=Z,50nm,1.2s						
MTN	**Manton Dam**	**20.01**	**165**		**P**	**15 17 00.3**	**+1.4**
MTN				IAmb	IAmb	15 17 03.0	
	comp=Z,17nm,1.2s						
JOW	**Kunigami**	**20.20**	**6**	P	**P**	**15 16 58.4**	**-2.5**
JOW				IAmb	IAmb	15 17 15.6	
	comp=Z,68nm,1.3s						
KNRA	**Kununurra**	**22.34**	**173**	P	**P**	**15 17 25.4**	**+1.5**
KNRA				IAmb	IAmb	15 17 27.4	
	comp=Z,13nm,1.1s						
FITZ	**Fitzroy Crossi**	**24.58**	**181**	P	**P**	**15 17 45.3**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=0.2,slow=9.9,SNR=6.0						
FITZ	**Fitzroy Crossi**	**24.58**	**181**	P	**P**	**15 17 44.9**	**-0.7**
PBKT	**Sadao Pong**	**26.41**	**294**	P	**P**	**15 18 03.1**	**+0.9**
WRA	**Warramunga Arr**	**27.65**	**163**	P	**P**	**15 18 14.6**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=340,slow=10,SNR=7.7						
PSA00	**Pilbara Seismi**	**28.68**	**192**	P	**P**	**15 18 22.0**	**-0.5**
PSA00				IAmb	IAmb	15 18 36.0	
	comp=Z,8.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**28.86**	**297**	LR	LR	15 32 36.8	
	comp=Z,27nm,18.1s,baz=130,slow=42						
KS19	**Wonju Array Si**	**30.77**	**3**	P	**P**	**15 18 37.2**	**-3.7**
KS19				IAmb	IAmb	15 18 47.2	
	comp=Z,22nm,1.1s						
ASAR	**Alice Springs**	**31.09**	**166**	P	**P**	**15 18 45.2**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=335,slow=7.0,SNR=6.6						
ASAR				PcP	**PcP**	**15 21 37.0**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=343,slow=2.4,SNR=6.1						
MORW	**Morawa**	**36.77**	**195**	P	**P**	**15 19 30.7**	**-2.3**
MORW				IAmb	IAmb	15 19 44.3	
	comp=Z,12nm,1.1s						
NWAO	**Narrogin (SRO)**	**40.22**	**191**	P	**P**	**15 20 01.6**	**-0.3**
NWAO	**Narrogin (SRO)**	**40.22**	**191**	P	**P**	**15 20 01.4**	**-0.5**
NWAO				IAmb	IAmb	15 20 14.2	
	comp=Z,31nm,1.4s						
BBOO	**Buckleboo**	**40.38**	**167**	P	**P**	**15 20 03.5**	**+0.2**
STKA	**Stephens Creek**	**41.08**	**160**	P	**P**	**15 20 08.6**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=334,slow=10,SNR=3.8						
SONM	**Songino Array**	**44.33**	**341**	P	**P**	**15 20 37.4**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=128,slow=9.3,SNR=2.0						
PEA0B	**Petropavlovsk-**	**53.04**	**23**	P	**P**	**15 21 40.0**	**-2.0**
PETK	**Petropavlovsk-**	**53.04**	**23**	P	**P**	**15 21 41.8**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=191,slow=4.7,SNR=4.7						
MK31	**Makanchi Array**	**54.78**	**324**	P	**P**	**15 21 54.9**	**0.0**
MKAR	**Makanchi Array**	**54.78**	**324**	P	**P**	**15 21 54.4**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=114,slow=7.8,SNR=6.8						
ILAR	**Eielson Array**	**82.81**	**26**	P	**P**	**15 24 47.8**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=241,slow=4.6,SNR=7.6						
SYO	**Syowa Base**	**94.86**	**201**	‖*eP*	**P**	**15 25 47.3**	**+1.1**
YKA	**Yellowknife Ar**	**97.16**	**24**	P	**P**	**15 25 55.4**	**-1.5**
	comp=Z,0.2nm,0.8s,baz=290,slow=4.6,SNR=3.7						

IDC 21 15:13:38.8±2.0,2°.50S×125°.88E,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.4/34,mbtmp3.5/3,ML3.7/1,MS2.6/1, Ms1 2.6/1,ms1mx2.4/18,Error ellipse: s-maj=166.2km s-min=27.7km az=64.0,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**18.70**	**256**	LR	LR	15 27 10.3	
	comp=Z,16nm,19.3s,baz=224,slow=43						
WRA	**Warramunga Arr**	**19.20**	**155**	P	P	15 18 04.4	-0.1
	0.2nm,0.3s,baz=333,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.43**	**160**	P	P	15 18 39.4	-0.1
	0.7nm,0.3s,baz=343,slow=12,SNR=34						
MKAR	**Makanchi Array**	**62.25**	**328**	P	P	15 24 02.7	+0.1
	0.1nm,0.5s,baz=141,slow=7.1,SNR=1.5						

*IDC **21** 15:37:07.5±0.8,18°.13N×78°.16W,h0km,mb3.8/8, mb1 4.1/10,mb1mx3.8/32,mbtmp3.9/10,ML3.4/2,MS3.0/3, Ms1 3.0/3,ms1mx2.7/40,Error ellipse: s-maj=29.6km s-min=19.1km az=55.0*

*ISCJB **21** 15:37:09.0±0.3,18°.17N±0°.04×78°.21W±0°.03,h23km, mb3.8/8,Error ellipse: s-maj=6.0km s-min=3.3km az=33.4*

*NEIC **21** 15:37:09.5±2.3,18°.22N±0°.07×78°.20W±0°.06,h13km±4km, mb4.1/33*

*JSN **21** 15:37:09.4±0.7,18°.00N×78°.18W,h0km±6km,MD4.0*

ISC 21 15:37:10.6±0.5,18°.16N±0°.06×78°.14W±0°.04,h23km,n82, σ1$40/76,mb4.0/20,1C-8D,Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEJ	**Negril**	**0.20**	**298**	‖*iP*	**Pb**	**15 37 15.7**	**-0.5**
MCJ	**Malvern**	**0.49**	**118**	‖*iP*	**Pb**	**15 37 18.7**	**-1.9**
BBJ	**Bamboo Saint A**	**0.86**	**75**	‖*iP*	**Pb**	**15 37 26.6**	**-0.3**
PCJ	**Portland Cotta**	**1.02**	**114**	‖*iP*	**Pn**	**15 37 27.8**	**-1.8**
BNJ	**Bonny Gate**	**1.14**	**82**	‖*iP*	**Pn**	**15 37 30.9**	**-0.4**
STH	**Stony Hill**	**1.27**	**93**	‖*iP*	**Pn**	**15 37 32.4**	**-0.6**
HOJ	**Hope**	**1.33**	**96**	*iP*	**Pn**	**15 37 33.6**	**-0.2**
GWJ	**Greenwich**	**1.34**	**93**	‖*iP*	**Pn**	**15 37 33.9**	**-0.3**
GWJ				*iS*	**Sb**	**15 37 53.0**	**+0.9**
YHJ	**Yallahs**	**1.59**	**99**	‖*iP*	**Pn**	**15 37 37.8**	**+0.4**
YHJ				‖*iS*	**Sb**	**15 37 58.8**	**-0.3**
CBCY	**The Bluff, Cay**	**2.20**	**316**		**Pn**	**15 37 44.6**	**-1.1**
FSCY	**Frank Sound, G**	**3.11**	**292**		**Pn**	**15 37 56.1**	**-2.1**
GTBY	**Guantanamo Bay**	**3.36**	**58**		**Pn**	**15 38 01.4**	**-0.4**
SDDR	**Presa de Saban**	**6.55**	**82**		**Pn**	**15 38 47.0**	**+1.3**
GRTK	**Grand Turk**	**7.39**	**62**	Pn	**Pn**	**15 38 58.3**	**+1.1**
061Z	**Ochoppi**	**8.09**	**342**	Pn	**Pn**	**15 39 08.3**	**+1.6**
ESPN	**Las Esperanzas**	**8.39**	**226**	Pn	**Pn**	**15 39 11.9**	**+0.9**
SJCC	**San Jacinto, C**	**8.70**	**160**	*eP*	**Pn**	**15 39 14.0**	**-1.2**
SJCC	**San Jacinto, C**	**8.70**	**160**	*eP*	**Pn**	**15 39 14.0**	**-1.2**
URIC	**Uribia, Colomb**	**8.74**	**136**	*eP*	Pn	15 39 30.1	+14
URIC	**Uribia, Colomb**	**8.74**	**136**	*eP*	Pn	15 39 28.0	+12
URIC	**Uribia, Colomb**	**8.74**	**136**	*eP*	Pn	15 39 30.1	+14
URIC	**Uribia, Colomb**	**8.74**	**136**	*eP*	Pn	15 39 28.0	+12
CODC	**Agustn Codazz**	**9.36**	**150**	*eP*	**Pn**	**15 39 21.7**	**-2.4**
CODC	**Agustn Codazz**	**9.36**	**150**	*eP*	**Pn**	**15 39 21.7**	**-2.4**
TEIG	**Tepich**	**9.80**	**284**	Pn	**Pn**	**15 39 29.5**	**-0.7**
	17nm,0.3s,baz=139,slow=2.4,SNR=49						
JTS	**Las Juntas de**	**10.23**	**221**	LR	LR	15 43 43.2	
	comp=Z,34nm,19.2s,baz=92,slow=39						
SJG	**San Juan**	**11.40**	**88**	LR	LR	15 44 18.6	
	comp=Z,97nm,19.8s,baz=71,slow=38						
SDV	**Santo Domingo**	**11.75**	**141**	Pn	**Pn**	**15 39 57.8**	**+0.6**
	0.7nm,0.3s,baz=345,slow=5.0,SNR=6.7						
PAMC	**Pamplona, Colo**	**11.99**	**153**	*eP*	**Pn**	**15 40 03.2**	**+2.6**
PAMC	**Pamplona, Colo**	**11.99**	**153**	*eP*	**Pn**	**15 40 03.2**	**+2.6**
PTBC	**PUERTO BERRIO,**	**12.09**	**162**	*eP*	**Pn**	**15 40 01.8**	**+0.1**
PTBC	**PUERTO BERRIO,**	**12.09**	**162**	*eP*	**Pn**	**15 40 01.8**	**+0.1**
BARC	**Barichara**	**12.47**	**157**	*eP*	**Pn**	**15 40 08.8**	**+1.8**
BARC	**Barichara**	**12.47**	**157**	*eP*	**Pn**	**15 40 08.8**	**+1.8**
553A	**Crawfordville**	**13.28**	**336**	Pn	**Pn**	**15 40 18.0**	**+0.2**
253A	**Americus**	**14.87**	**340**		**Pn**	**15 40 38.9**	**-0.6**
CSU	**Charleston Sou**	**14.87**	**354**	Pn	**Pn**	**15 40 37.7**	**-1.8**
154A	**Montrose**	**15.07**	**344**	Pn	**Pn**	**15 40 38.2**	**-4.0**
BPA	**Boggy Peak**	**15.56**	**92**	*eP*	**P**	**15 40 53.6**	**+0.7**
250A	**Grady**	**15.60**	**333**	P	**P**	**15 40 51.6**	**-1.5**
250A				IAmb	IAmb	15 41 07.3	
	comp=Z,15nm,1.1s						
Y59A	**Loris**	**15.78**	**358**	Pn	**Pn**	**15 40 49.9**	**-1.6**
GOGA	**Godfrey**	**15.93**	**344**	Pn	**Pn**	**15 40 50.5**	**-2.8**
CMIG	**Matias Romero**	**16.00**	**269**	Pn	**P**	**15 40 57.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=84,slow=15,SNR=3.9						
CMIG				LR	LR	15 48 06.7	
	comp=Z,82nm,18.3s,baz=12,slow=41						
JSC	**Jenkinsville**	**16.30**	**351**	Pn	**Pn**	**15 40 57.5**	**-0.6**
Z51A	**Franklin**	**16.36**	**339**	P	**P**	**15 41 00.4**	**-1.3**
BIRD	**Birdtown, Kers**	**16.55**	**353**	Pn	**Pn**	**15 40 58.3**	**-3.0**
BIRD				IAmb	IAmb	15 41 07.2	
	comp=Z,12nm,1.0s						
Z50A	**Ashland**	**16.58**	**337**		**Pn**	**15 41 00.7**	**-1.0**
Z50A				IAmb	IAmb	15 41 09.0	
	comp=Z,12nm,1.2s						
LRAL	**Lakeview Retre**	**16.82**	**333**	P	**Pn**	**15 41 04.8**	**+0.1**
LRAL				IAmb	IAmb	15 41 07.8	
	comp=Z,13nm,1.2s						
PAULI	**Pauline**	**16.92**	**350**	P	**Pn**	**15 41 06.5**	**+0.6**
Y49A	**Blount Mountai**	**17.30**	**336**	P	**P**	**15 41 11.7**	**-0.4**
V62A	**Hyde County Ai**	**17.45**	**6**	Pn	**Pn**	**15 41 10.2**	**-2.3**
V55A	**Taylorsville**	**17.84**	**352**	P	**Pn**	**15 41 16.7**	**-0.6**
TKL	**Tuckaleechee C**	**18.14**	**345**	P	**P**	**15 41 22.1**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=157,slow=14,SNR=5.2						
TKL	**Tuckaleechee C**	**18.14**	**345**	IAmb	IAmb	15 41 25.2	
	comp=Z,9.6nm,1.0s						
BBSR	**BB Station**	**18.63**	**38**	P	**P**	**15 41 24.4**	**-2.3**
W41B	**Gary Mavity, V**	**21.08**	**326**	P	**P**	**15 41 50.4**	**-3.0**
W41B				IAmb	IAmb	15 42 03.1	
	comp=Z,5.4nm,0.9s						
WHAR	**Wooly Hollow**	**21.19**	**326**	P	**P**	**15 41 53.9**	**-0.7**
WHAR				IAmb	IAmb	15 41 58.2	
	comp=Z,6.9nm,0.9s						
LCAR	**Lake Charles**	**21.23**	**330**	P	**P**	**15 41 54.9**	**-0.1**
LCAR				IAmb	IAmb	15 41 58.0	
	comp=Z,5.3nm,1.0s						
PBMO	**Poplar Bluff**	**21.48**	**332**	P	**P**	**15 41 57.5**	**-0.2**
PBMO				IAmb	IAmb	15 42 00.1	
	comp=Z,5.9nm,0.6s						
FCAR	**Ozark Folk Cen**	**21.57**	**328**	P	**P**	**15 41 58.5**	**-0.2**
FCAR				IAmb	IAmb	15 42 04.3	
	comp=Z,9.4nm,1.0s						
U40A	**Yellville**	**22.30**	**327**	P	**P**	**15 42 05.7**	**-0.8**
U40A				IAmb	IAmb	15 42 09.6	
	comp=Z,5.1nm,0.8s						
N47A	**Urbana**	**23.56**	**346**	P	**P**	**15 42 19.3**	**-0.1**
N47A				IAmb	IAmb	15 42 23.5	
	comp=Z,8.0nm,0.7s						
X34A	**Smith Ranch, M**	**24.00**	**317**	P	**P**	**15 42 23.4**	**-0.3**
ABTX	**Abilene, Hawle**	**24.12**	**311**	P	**P**	**15 42 24.4**	**-0.4**
WMOK	**Wichita Mounta**	**24.70**	**316**	P	**P**	**15 42 29.1**	**-1.1**
TXAR	**Lajitas Array**	**25.82**	**300**	P	**P**	**15 42 42.0**	**+1.5**
	comp=Z,2.1nm,0.8s,baz=117,slow=9.2,SNR=16						
TX31	**Lajitas Ar. Si**	**25.82**	**300**	P	**P**	**15 42 40.1**	**-0.3**
TX31				IAmb	IAmb	15 42 42.9	
	comp=Z,2.3nm,0.8s						
TX32	**Lajitas Array**	**25.82**	**300**	P	**P**	**15 42 39.2**	**-1.2**
I42A	**Draeger Farm,**	**27.22**	**343**	P	**P**	**15 42 53.1**	**+0.4**
I42A				IAmb	IAmb	15 43 00.7	
	comp=Z,6.4nm,0.9s						
SAML	**Samuel**	**30.71**	**150**	P	**P**	**15 43 25.2**	**+1.2**
SAML				IAmb	IAmb	15 43 28.4	
	comp=Z,3.0nm,0.7s						
SDCO	**Great Sand Dun**	**30.88**	**315**	P	**P**	**15 43 25.5**	**-0.3**
SDCO				IAmb	IAmb	15 43 37.4	
	comp=Z,3.1nm,1.4s						
W18A	**Petrified Fore**	**32.72**	**307**	P	**P**	**15 43 40.6**	**-1.3**
W18A				IAmb	IAmb	15 43 55.0	
	comp=Z,2.2nm,0.9s						
LPAZ	**La Paz**	**35.62**	**163**	P	**P**	**15 44 09.6**	**+2.1**
	comp=Z,1.3nm,0.7s,baz=330,slow=8.8,SNR=4.1						
LPAZ	**La Paz**	**35.62**	**163**	IAmb	IAmb	15 44 11.9	
	comp=Z,1.1nm,0.7s						
PDAR	**Pinedale Array**	**36.19**	**319**	P	**P**	**15 44 12.3**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=110,slow=6.8,SNR=2.7						
SCHQ	**Schefferville**	**37.62**	**11**	P	**P**	**15 44 24.7**	**+1.1**
	comp=Z,7.5nm,1.2s,baz=225,slow=11,SNR=3.0						
YKA	**Yellowknife Ar**	**51.00**	**339**	P	**P**	**15 46 10.8**	**+0.4**
	comp=Z,1.8nm,1.3s,baz=131,slow=8.6,SNR=5.3						
ILAR	**Eielson Array**	**64.69**	**334**	P	**P**	**15 47 47.3**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=119,slow=5.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**76.50**	**80**	P	**P**	**15 48 59.1**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=316,slow=10,SNR=1.7						
ARCES	**ARCESS Array B**	**77.82**	**20**	P	**P**	**15 49 07.2**	**+1.3**
	comp=Z,2.2nm,0.9s,baz=283,slow=11,SNR=2.0						
WRA	**Warramunga Arr**	**149.27**	**261**	PKPbc	**PKPbc**	**15 56 57.1**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=89,slow=3.0,SNR=9.2						
ASAR	**Alice Springs**	**149.61**	**254**	PKPbc	**PKPbc**	**15 56 58.0**	**-1.1**
	comp=Z,1.4nm,0.4s,baz=87,slow=2.1,SNR=39						

*ISCJB **21** 16:09:21.2±0.2,44°.494N±0°.010×6°.66E±0°.01,h10km±1km, Error ellipse: s-maj=1.7km s-min=1.5km az=29.5*

*GEN **21** 16:09:21.9,44°.47N×6°.69E,h5km±1km, Ml3.1*

*STR **21** 16:09:22.3±0.5,45°.N±2°×±°,h7km±3km,MLv3.3/6*

*LDG **21** 16:09:22.8±0.1,44°.48N×6°.77E,h2km,Md3.4/5,Ml3.4/65, Error ellipse: s-maj=1.3km s-min=1.1km az=60.0*

*ROM **21** 16:09:22.4±0.1,44°.488N±0°.005×6°.75E±0°.01,h13km±1km, ML3.0/22,Error ellipse: s-maj=0.9km s-min=0.1km az=63.0*

*PRU **21** 16:09:25.1±0.0,44°.84N×6°.34E,h10km*

ISC 21 16:09:22.1±0.9,44°.49N±0°.01×6°.70E±0°.01,h12km±7km, n116,σ1$45/231,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.25**	**12**	*e*Pg	**Pg**	**16 09 27.1**	**-0.3**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**16 09 31.0**	**+0.1**
	1μm,0.2s						
PZZ	**Stroppo**	**0.30**	**86**	P	**Pg**	**16 09 27.9**	**-0.4**
PZZ				S	**Sg**	**16 09 32.1**	**-0.3**
PZZ	**Stroppo**	**0.30**	**86**	P	**Pg**	**16 09 27.9**	**-0.4**
PZZ				S	**Sg**	**16 09 32.1**	**-0.3**
PZZ				AML	AML		
	comp=E,13000μm,0.9s						
PZZ				AML	AML		
	comp=N,15150μm,0.3s						
DOI	**San Damiano**	**0.39**	**87**	P	**Pg**	**16 09 29.4**	**-0.5**
DOI				S	**Sg**	**16 09 35.4**	**+0.2**
DOI				AML	AML		
	comp=E,3970μm,0.2s						
DOI				AML	AML		
	comp=N,4025μm,0.5s						
ISO	**Isola**	**0.39**	**140**	Pg	**Pg**	**16 09 29.4**	**-0.6**
ISO				Sg	**Sg**	**16 09 34.3**	**-0.9**
RRL	**Rocca Remolon**	**0.44**	**9**	P	**Pg**	**16 09 30.7**	**-0.1**
RRL				S	**Sg**	**16 09 37.1**	**+0.4**
RRL	**Rocca Remolon**	**0.44**	**9**	P	**Pg**	**16 09 30.9**	**0.0**
RRL				S	**Sg**	**16 09 37.4**	**+0.7**
RRL				AML	AML		
	comp=E,3265μm,1.3s						
RRL				AML	AML		
	comp=N,2720μm,1.1s						
STV	**Sant Anna di V**	**0.51**	**118**	P	**Pg**	**16 09 31.6**	**-0.4**
STV				S	**Sg**	**16 09 38.1**	**-0.8**
STV	**Sant Anna di V**	**0.51**	**118**	P	**Pg**	**16 09 31.7**	**-0.4**
STV				S	**Sg**	**16 09 38.2**	**-0.8**
STV				AML	AML		
	comp=N,3350μm,0.6s						
STV				AML	AML		
	comp=E,2405μm,0.3s						
BHB	**Bricherasio**	**0.54**	**48**	P	**Pg**	**16 09 32.2**	**-0.4**
BHB				S	**Sg**	**16 09 39.5**	**-0.2**
BHB	**Bricherasio**	**0.54**	**48**	P	**Pg**	**16 09 32.2**	**-0.4**
BHB				S	**Sg**	**16 09 39.5**	**-0.2**
BHB				AML	AML		
	comp=N,2335μm,0.2s						
BHB				AML	AML		
	comp=E,1485μm,0.2s						
BNI	**Bardonecchia**	**0.57**	**359**	P	**Pg**	**16 09 33.0**	**-0.2**
BNI				S	**Sg**	**16 09 41.4**	**+0.6**
BNI				AML	AML		
	comp=E,526μm,0.4s						
BNI				AML	AML		
	comp=E,687μm,0.3s						
BNI				AML	AML		
	comp=N,646μm,0.7s						
BNI				AML	AML		
	comp=N,539μm,0.7s						
BNI				AML	AML		
	comp=E,526μm,0.4s						
ENR	**Entracque**	**0.58**	**116**	P	**Pg**	**16 09 32.7**	**-0.7**
ENR				S	**Sg**	**16 09 40.2**	**-0.9**
ENR	**Entracque**	**0.58**	**116**	P	**Pg**	**16 09 32.8**	**-0.7**
ENR				AML	AML		
	comp=N,2485μm,0.5s						
ENR				AML	AML		
	comp=E,2295μm,0.2s						
ENR				AML	AML		
	comp=N,2480μm,0.5s						
BLAF	**les Blancs**	**0.71**	**222**	Pg	**Pb**	**16 09 36.4**	**-0.1**
BLAF				Sg	**Sb**	**16 09 47.6**	**+1.4**
ORIF	**Oris-en-Rattie**	**0.73**	**307**	*e*Pg	**Pg**	**16 09 35.6**	**-0.6**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**16 09 45.3**	**-0.5**
	comp=N,1μm,0.3s						
CALF	**Calern**	**0.75**	**168**	Pg	**Pb**	**16 09 36.6**	**-0.6**
CALF				Sg	**Sb**	**16 09 46.8**	**-0.7**
RSP	**Reno Superiore**	**0.78**	**31**	P	**Pg**	**16 09 36.9**	**-0.3**
RSP				S	**Sg**	**16 09 47.5**	**+0.2**
RSP	**Reno Superiore**	**0.78**	**31**	P	**Pg**	**16 09 36.9**	**-0.3**
RSP				S	**Sg**	**16 09 47.5**	**+0.2**
RSP				AML	AML		
	comp=E,1172μm,0.5s						
RSP				AML	AML		
	comp=N,1120μm,0.8s						
RSP				AML	AML		
	comp=E,1172μm,0.5s						
RSP				AML	AML		
	comp=N,1125μm,0.8s						
SAOF	**Saorge**	**0.79**	**129**	P	**Pg**	**16 09 37.0**	**-0.5**
SAOF				S	**Sg**	**16 09 47.0**	**-0.8**
SAOF				AML	AML		
	comp=E,1860μm,0.4s						
SAOF				AML	AML		
	comp=N,1405μm,0.4s						
ESCA	**l'Escarene**	**0.82**	**143**	Pg	**Pb**	**16 09 37.5**	**-0.8**
ESCA				Sg	**Sb**	**16 09 48.4**	**-0.8**
SBF	**Sospel**	**0.82**	**139**	*e*Pg	**Pg**	**16 09 37.3**	**-0.6**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**16 09 47.7**	**-0.9**
	comp=N,567nm,0.3s,SNR=1.0						
SBF				*e*Sn	**Sn**	**16 09 51.1**	**-0.5**
	comp=N,744nm,0.4s						
MLYF	**Mely**	**0.83**	**234**	Pg	**Pn**	**16 09 40.2**	**+0.4**
GBOS	**Grotte di Boss**	**0.85**	**106**	P	**Pg**	**16 09 37.9**	**-0.7**
GBOS				S	**Sg**	**16 09 48.9**	**-1.0**
GBOS	**Grotte di Boss**	**0.85**	**106**	P	**Pg**	**16 09 38.0**	**-0.7**
GBOS				S	**Sg**	**16 09 48.8**	**-1.0**
GBOS				AML	AML		
	comp=N,1755μm,0.3s						
GBOS				AML	AML		
	comp=E,2165μm,0.2s						
MGRO	**Montegrosso**	**0.91**	**119**	P	**Pg**	**16 09 38.9**	**-0.8**
MGRO				S	**Sg**	**16 09 50.8**	**-0.8**
MGRO	**Montegrosso**	**0.91**	**119**	P	**Pg**	**16 09 39.0**	**-0.8**
MGRO				S	**Sg**	**16 09 50.6**	**-1.0**
MGRO				AML	AML		
	comp=N,1040μm,0.8s						
MGRO				AML	AML		
	comp=E,820μm,0.3s						
MGRO				AML	AML		
	comp=N,1041μm,0.8s						
FRF	**La Foret Royal**	**0.93**	**182**	*e*Pg	**Pg**	**16 09 39.2**	**-0.8**
	SNR=1.0						
FRF	**La Foret Royal**	**0.93**	**182**	*e*Pn	**Pn**	**16 09 40.6**	**-0.4**
FRF				*e*Sg	**Sb**	**16 09 52.0**	**-0.4**
FRF				*e*Sn	**Sn**	**16 09 54.2**	**0.0**
	comp=N,708nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**0.96**	**238**	*e*Pg	**Pb**	**16 09 40.7**	**+0.1**
	SNR=1.0						
SMRF	**Simiane la Rot**	**0.96**	**238**	*e*Pn	**Pn**	**16 09 41.6**	**+0.2**
SMRF				*e*Sg	**Sb**	**16 09 54.1**	**+0.8**
	comp=N,126nm,0.3s						
SMRF				*e*Sn	**Sn**	**16 09 55.9**	**+0.9**
	comp=N,388nm,0.3s						
BSTF	**la Bastide-des**	**0.97**	**232**	Pg	**Pn**	**16 09 43.7**	**+2.1**
BSTF				Sg	**Sn**	**16 09 58.0**	**+2.7**
LPG	**La Plagne**	**1.01**	**2**	*e*Pg	**Pg**	**16 09 41.6**	**-0.1**
	SNR=1.0						
LPG				*e*Sg	**Sb**	**16 09 55.3**	**+0.2**
	comp=N,376nm,0.4s,SNR=1.0						
LSD	**Lago del Serru**	**1.02**	**17**	P	**Pg**	**16 09 41.1**	**-0.7**
LSD				S	**Sg**	**16 09 55.0**	**-0.2**
LSD	**Lago del Serru**	**1.02**	**17**	P	**Pg**	**16 09 41.1**	**-0.7**
LSD				S	**Sg**	**16 09 55.0**	**-0.2**
LSD				AML	AML		
	comp=E,1060μm,0.2s						
LSD				AML	AML		
	comp=N,842μm,0.3s						
LPL	**La Plagne**	**1.03**	**1**	*e*Pg	**Pb**	**16 09 42.1**	**+0.1**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**16 09 55.7**	**+0.2**
	comp=N,71nm,0.3s						
LPL				*e*Sn	**Sb**	**16 09 57.1**	**+1.5**
	comp=N,304nm,0.3s						
IMI	**Imperia**	**1.03**	**123**	P	**Pg**	**16 09 41.3**	**-0.8**
IMI				S

VIVF	**Saint-Julien-l**	**1.49**	**285**	*e*Pn	**Pn**	**16 09 49.6**	**+0.8**
	SNR=1.0							
VIVF	**Saint-Julien-l**	**1.49**	**285**	*e*Pg	**Pg**	**16 09 51.4**	**+0.6**
	SNR=1.0							
VIVF				*e*Sn	**Sn**	**16 10 08.9**	**+0.7**
	comp=E,45nm,0.3s,SNR=1.0							
VIVF				*e*Sg	**Sg**	**16 10 11.3**	**+1.2**
	comp=E,204nm,0.3s							
ASEAF	**Site Antares,**	**1.74**	**193**	Pn	**Pb**	**16 09 53.3**	**-0.4**
ASEAF				Sg	**Sg**	**16 10 19.1**	**+1.2**
MMK	**Mattmark**	**1.80**	**29**	P	**Pn**	**16 09 53.8**	**+0.6**
LASF	**Ste Croix**	**2.08**	**260**	*e*Pn	**Pn**	**16 09 57.2**	**+0.3**
	SNR=1.0							
LASF				*e*Sn	**Sn**	**16 10 22.8**	**+0.1**
	comp=E,59nm,0.4s,SNR=1.0							
LASF				*e*Sg	**Sg**	**16 10 29.8**	**+0.8**
	comp=E,72nm,0.5s							
CABF	**La Chapelle**	**2.17**	**349**	*e*Pn	**Pn**	**16 09 59.1**	**+1.0**
	SNR=1.0							
CABF				*e*Sn	**Sn**	**16 10 24.4**	**-0.6**
	comp=E,24nm,0.3s,SNR=1.0							
CABF				*e*Sg	**Sg**	**16 10 32.3**	**+0.5**
	comp=E,70nm,0.4s							
FUSIO	**Fusio**	**2.41**	**34**	P	**Pg**	**16 10 07.7**	**-0.5**
MDI	**Monti di Nese**	**2.49**	**58**	P	**Pb**	**16 10 06.7**	**-0.2**
EQUI	**Equi**	**2.50**	**96**	P	**Pn**	**16 10 02.7**	**+0.1**
EQUI				AML	AML			
	comp=E,65µm,1.1s							
EQUI				AML	AML			
	comp=N,87µm,0.5s							
PGF	**Pioggiola**	**2.56**	**138**	*e*Pn	**Pn**	**16 10 03.4**	**-0.1**
	SNR=1.0							
PGF				*e*Sn	**Sn**	**16 10 33.4**	**-1.2**
	comp=N,69nm,0.5s,SNR=1.0							
LBL	**Lubilhac**	**2.57**	**288**	Pn	**Pn**	**16 10 04.7**	**+1.2**
CHMF	**Charmoille**	**2.76**	**359**	Pn	**Pn**	**16 10 07.8**	**+1.5**
SMF	**Signal de Mont**	**2.95**	**318**	*e*Pn	**Pn**	**16 10 09.9**	**+1.1**
	SNR=1.0							
SMF	**Signal de Mont**	**2.95**	**318**	*e*Pg	**Pg**	**16 10 18.4**	**-0.2**
	SNR=1.0							
SMF				*e*Sn	**Sn**	**16 10 44.3**	**+0.2**
	comp=N,16nm,0.2s,SNR=1.0							
SMF				*e*Sg	**Sg**	**16 10 56.5**	**-0.3**
	comp=N,44nm,0.3s,SNR=1.0							
AGO	**Saint Agoulin**	**2.97**	**303**	Pn	**Pn**	**16 10 10.0**	**+0.9**
SMPL	**Sampolo**	**3.05**	**141**	P	**Pn**	**16 10 11.0**	**+0.8**
SMPL				S	**Sn**	**16 10 47.0**	**+0.5**
AVF	**Avril sur Loir**	**3.29**	**316**	*e*Pn	**Pn**	**16 10 14.9**	**+1.5**
	SNR=1.0							
AVF	**Avril sur Loir**	**3.29**	**316**	*e*Pg	**Pg**	**16 10 24.4**	**-0.7**
	SNR=1.0							
AVF				*e*Sn	**Sn**	**16 10 51.4**	**-1.1**
	comp=N,7.6nm,0.2s,SNR=1.0							
AVF				*e*Sg	**Sg**	**16 11 06.5**	**-1.2**
	comp=N,49nm,0.4s,SNR=1.0							
HINF	**Hinteralfeld**	**3.33**	**2**	*e*Pn	**Pn**	**16 10 14.4**	**+0.3**
	SNR=1.0							
HINF				*e*Sn	**Sn**	**16 10 53.3**	**-0.3**
	comp=N,10nm,0.2s,SNR=1.0							
HINF				*e*Sg	**Sg**	**16 11 07.6**	**-1.5**
	comp=N,36nm,0.5s,SNR=1.0							
CAF	**Calviac**	**3.33**	**279**	*e*Pn	**Pn**	**16 10 14.2**	**+0.1**
	SNR=1.0							
CAF				*e*Sn	**Sn**	**16 10 53.0**	**-0.6**
	comp=N,12nm,0.3s,SNR=1.0							
CAF				*e*Sg	**Sg**	**16 11 08.3**	**-0.8**
	comp=N,21nm,0.4s							
BGF	**Bois d'Agland**	**3.41**	**309**	*e*Pn	**Pn**	**16 10 16.4**	**+1.3**
	SNR=1.0							
BGF	**Bois d'Agland**	**3.41**	**309**	*e*Pg	**Pg**	**16 10 26.9**	**-0.5**
	SNR=1.0							
BGF				*e*Sn	**Sn**	**16 10 55.3**	**-0.2**
	comp=N,46nm,0.3s							
BGF				*e*Sg	**Sg**	**16 11 11.0**	**-0.6**
	comp=N,99nm,0.4s							
SSF	**Saint Saulge**	**3.41**	**320**	*e*Pn	**Pn**	**16 10 16.1**	**+1.0**
	SNR=1.0							
SSF	**Saint Saulge**	**3.41**	**320**	*e*Pg	**Pg**	**16 10 26.7**	**-0.7**
SSF				*e*Sn	**Sn**	**16 10 55.0**	**-0.4**
	comp=N,18nm,0.4s							
SSF				*e*Sg	**Sg**	**16 11 10.5**	**-1.1**
	comp=N,34nm,0.4s							
LOR	**Lormes**	**3.42**	**326**	*e*Pn	**Pn**	**16 10 15.7**	**+0.5**
	baz=146,SNR=1.0							
LOR	**Lormes**	**3.42**	**326**	*e*Pg	**Pg**	**16 10 26.4**	**-1.2**
	baz=146,SNR=1.0							
LOR				*e*Sn	**Sn**	**16 10 54.7**	**-1.0**
	comp=N,30nm,0.2s,SNR=1.0							
LOR				*e*Sg	**Sg**	**16 11 10.3**	**-1.5**
	comp=N,34nm,0.3s,baz=145							
MTLF	**Montolieu**	**3.44**	**252**	*e*Pn	**Pn**	**16 10 16.2**	**+0.7**
	SNR=1.0							
MTLF				*e*Sn	**Sn**	**16 10 54.7**	**-1.4**
	comp=N,16nm,0.3s,SNR=1.0							
MTLF				*e*Sg	**Sg**	**16 11 12.0**	**-0.4**
	comp=N,19nm,0.4s							
HAU	**Haudompre**	**3.53**	**356**	*e*Pn	**Pn**	**16 10 17.6**	**+0.8**
	SNR=1.0							
HAU				*e*Sn	**Sn**	**16 10 57.8**	**-0.6**
	comp=N,52nm,0.3s							
HAU				*e*Sg	**Sg**	**16 11 13.8**	**-1.6**
	comp=N,28nm,0.3s							
DAVA	**Damuels**	**3.57**	**37**	*i* Pn	**Pn**	**16 10 21.3**	**+3.7**
	comp=N,0.6nm,0.1s							
DAVA				*i* Sn	**Sn**	**16 11 03.3**	**+3.6**
	comp=N,6.2nm,0.2s							
TCF	**Toulx Ste Croi**	**3.64**	**301**	*e*Pn	**Pn**	**16 10 19.9**	**+1.6**
	SNR=1.0							
TCF				*e*Sn	**Sn**	**16 11 01.0**	**-0.2**
	comp=N,6.4nm,0.2s,SNR=1.0							
TCF				*e*Sg	**Sg**	**16 11 18.1**	**-0.9**
	comp=N,17nm,0.4s							
FNEB	**Nbias**	**3.69**	**246**	Pn	**Pn**	**16 10 20.3**	**+1.4**
FNEB				Sn	**Sn**	**16 11 02.6**	**+0.3**
ECH	**Echery**	**3.74**	**5**	Pn	**Pn**	**16 10 20.8**	**+1.1**
RJF	**Les Rejaudoux**	**3.77**	**284**	*e*Pn	**Pn**	**16 10 20.9**	**+0.8**
	SNR=1.0							
RJF				*e*Sn	**Sn**	**16 11 03.8**	**-0.6**
	comp=N,7.9nm,0.3s							
RJF				*e*Sg	**Sg**	**16 11 21.8**	**-1.4**
	comp=N,12nm,0.3s							
FETA	**Feichten**	**3.79**	**47**	*i* Pn	**Pn**	**16 10 24.3**	**+3.8**
	comp=N,0.8nm,0.2s							
FETA				*i* Sn	**Sn**	**16 11 09.3**	**+4.2**
	comp=N,9.6nm,0.6s							
SFTF	**Sexfontaines**	**3.89**	**343**	*e*Pn	**Pn**	**16 10 22.8**	**+1.1**
	baz=162							
SFTF				*e*Sn	**Sn**	**16 11 05.4**	**-2.0**
	comp=N,27nm,0.3s							
SFTF				*e*Sg	**Sg**	**16 11 25.7**	**-1.4**
	comp=N,28nm,0.4s							
CDF	**Champ du Feu**	**3.95**	**6**	*e*Pn	**Pn**	**16 10 23.2**	**+0.6**
	SNR=1.0							
CDF				*e*Sn	**Sn**	**16 11 07.8**	**-1.0**
	comp=N,6.2nm,0.2s,SNR=1.0							
CDF				*e*Sg	**Sg**	**16 11 27.0**	**-1.8**
	comp=N,17nm,0.5s							
HYF	**Humbligny**	**3.97**	**316**	*e*Pn	**Pn**	**16 10 24.3**	**+1.5**
HYF				*e*Sn	**Sn**	**16 11 08.5**	**-0.8**
HYF				*e*Sg	**Sg**	**16 11 28.9**	**-0.7**
PAGF	**Fort de Pagny**	**4.12**	**351**	*e*Pn	**Pn**	**16 10 25.9**	**+1.0**
PAGF				*e*Sn	**Sn**	**16 11 11.9**	**-1.2**
	comp=N,14nm,0.2s							
PAGF				*e*Sg	**Sg**	**16 11 32.4**	**-2.1**
	comp=N,39nm,0.6s							
RETA	**Reutte**	**4.13**	**42**	*i* Pn	**Pn**	**16 10 28.7**	**+3.7**
	comp=N,0.6nm,0.2s							
RETA				*i* Sn	**Sn**	**16 11 16.8**	**+3.6**
	comp=N,2.8nm,0.5s							
SQTA	**Sankt Quirin**	**4.17**	**47**	*i* Pn	**Pn**	**16 10 28.7**	**+3.0**
	comp=N,2.5nm,0.2s							
MEZF	**Maizieres J'vi**	**4.17**	**345**	*e*Pn	**Pn**	**16 10 26.7**	**+1.1**
	baz=164,SNR=1.0							
MEZF	**Maizieres J'vi**	**4.17**	**345**	*e*Pg	**Pg**	**16 10 40.6**	**-1.4**
	SNR=1.0							
MEZF				*e*Sn	**Sn**	**16 11 13.2**	**-1.1**
	comp=N,24nm,0.3s,SNR=1.0							
MEZF				*e*Sg	**Sg**	**16 11 34.5**	**-1.6**
	comp=N,62nm,0.5s,SNR=1.0							
MOTA	**Moosalm**	**4.20**	**46**	*i* Pn	**Pn**	**16 10 28.1**	**+2.1**
	comp=N,0.3nm,0.2s,SNR=7.9							
MOTA				*i* Sn	**Sn**	**16 11 18.1**	**+3.0**
	comp=N,2.8nm,0.3s							
LFF	**La Frestale**	**4.27**	**278**	*e*Pn	**Pn**	**16 10 28.1**	**+1.2**
	SNR=1.0							
LFF				*e*Sn	**Sn**	**16 11 15.6**	**-1.1**
	comp=N,12nm,0.3s,SNR=1.0							
LFF				*e*Sg	**Sg**	**16 11 38.0**	**-1.2**
	comp=N,58nm,0.7s,SNR=1.0							
WTTA	**Wattenberg**	**4.43**	**49**	*i* Pn	**Pn**	**16 10 31.8**	**+2.5**
	comp=N,3.4nm,0.3s							
WTTA				*i* Sn	**Sn**	**16 11 24.0**	**+3.2**
	comp=N,4.5nm,0.5s							
WATA	**Walderalm**	**4.44**	**48**	*i* Pn	**Pn**	**16 10 32.2**	**+2.8**
	comp=N,1.8nm,0.4s,SNR=5.7							
ABTA	**Abfaltersbach**	**4.66**	**59**	*i* Pn	**Pn**	**16 10 33.9**	**+1.5**
	comp=N,0.3nm,0.2s							
ABTA				*i* Sn	**Sn**	**16 11 28.6**	**+2.2**
	comp=N,2.2nm,0.4s							
CESX	**Cesi**	**4.67**	**112**	P	**Pb**	**16 10 44.8**	**+0.9**
EPF	**Esparros**	**4.83**	**255**	*e*Pn	**Pn**	**16 10 35.2**	**+0.5**
EPF				*e*Sn	**Sn**	**16 11 28.3**	**-2.3**
	comp=N,4.8nm,0.3s							
EPF				*e*Sg	**Sg**	**16 11 55.2**	**-2.0**
	comp=N,14nm,0.4s							
MFF	**Saint Martin d**	**5.25**	**296**	*e*Pn	**Pn**	**16 10 41.9**	**+1.5**
	SNR=1.0							
MFF				*e*Sn	**Sn**	**16 11 40.1**	**-0.8**
	comp=N,2.6nm,0.2s,SNR=1.0							
MFF				*e*Sg	**Sg**	**16 12 08.8**	**-1.9**
	comp=N,4.0nm,0.3s							
KBA	**Koelnbreinsper**	**5.32**	**59**	*i* Pn	**Pn**	**16 10 43.7**	**+2.2**
	comp=N,0.7nm,0.3s							
KBA				*i* Sn	**Sn**	**16 11 44.6**	**+1.8**
	comp=N,1.4nm,0.6s							
MYKA	**Terra Mystica**	**5.33**	**64**	*i* Pn	**Pn**	**16 10 41.9**	**+0.4**
	comp=N,0.8nm,0.3s							
VSL	**Villasalto**	**5.37**	**157**	P	**Pn**	**16 10 44.4**	**+2.4**
ETSF	**Etsaut**	**5.50**	**256**	*e*P	**Pn**	**16 10 48.1**	**+4.2**
	SNR=1.0							
ETSF				*e*Sn	**Sn**	**16 11 44.3**	**-2.7**
	comp=N,15nm,0.5s							
ETSF				*e*Sg	**Sg**	**16 12 16.6**	**-1.9**
	comp=N,6.4nm,0.5s							
GIVF	**Givet**	**5.76**	**348**	*e*P	**Pn**	**16 10 51.7**	**+4.3**
GIVF				*e*Sn	**Sn**	**16 11 50.7**	**-2.7**
	comp=N,7.6nm,0.3s							
GIVF				*e*Sg	**Sg**	**16 12 23.6**	**-3.3**
	comp=N,4.4nm,0.3s							
BAIF	**Baives**	**5.83**	**344**	*e*Pn	**Pn**	**16 10 49.0**	**+0.7**
BAIF				*e*Sn	**Sn**	**16 11 51.9**	**-3.1**
	comp=N,5.8nm,0.3s,SNR=1.0							
OBKA	**Obir**	**5.88**	**67**	*i* Pn	**Pn**	**16 10 49.6**	**+0.6**
	comp=N,0.5nm,0.2s							
OBKA				*i* Sn	**Sn**	**16 11 59.3**	**+2.9**
	comp=N,1.6nm,0.5s							
SJPF	**Ste Jean**	**5.90**	**259**	*e*Pn	**Pn**	**16 10 49.5**	**+0.2**
	SNR=1.0							
SJPF				*e*Sn	**Sn**	**16 11 53.5**	**-3.3**
	comp=N,1.4nm,0.3s							
MOA	**Molln**	**6.24**	**55**	*i* Pn	**Pn**	**16 10 54.7**	**+0.7**
	comp=N,0.5nm,0.1s							
MOA				*i* Sn	**Sn**	**16 12 08.1**	**+3.0**
	comp=N,2.4nm,0.6s							
LDF	**La Druitiere**	**6.25**	**314**	*e*Pn	**Pn**	**16 10 55.1**	**+1.1**
	SNR=1.0							
LDF				*e*Sn	**Sn**	**16 12 02.8**	**-2.5**
	comp=N,2.2nm,0.3s,SNR=1.0							
LDF				*e*Sg	**Sg**	**16 12 39.7**	**-2.7**
	comp=N,3.8nm,0.4s							
SOKA	**Soboth**	**6.25**	**67**	*i* Pn	**Pn**	**16 10 53.7**	**-0.4**
	comp=N,0.6nm,0.3s							
SOKA				*i* Sn	**Sn**	**16 12 08.4**	**+3.0**
	comp=N,0.6nm,0.3s							
GRR	**Gorron**	**6.52**	**309**	*e*Pn	**Pn**	**16 10 58.7**	**+0.9**
	SNR=1.0							
GRR				*e*Sn	**Sn**	**16 12 09.3**	**-2.7**
	comp=N,4.8nm,0.3s							
FLN	**La Foliniere**	**6.54**	**313**	*e*Pn	**Pn**	**16 10 58.5**	**+0.5**
	baz=133,SNR=1.0							
FLN				*e*Sn	**Sn**	**16 12 09.9**	**-2.6**
	comp=N,4.7nm,0.4s							
KHC	**Kasperske Hory**	**6.62**	**43**	*e*PN	**Pn**	**16 11 01.3**	**+2.1**
KHC				*e*SN	**Sn**	**16 12 13.6**	**-1.0**
ARSA	**Arzberg**	**6.75**	**63**	*i* Pn	**Pn**	**16 11 01.8**	**+0.8**
	comp=N,1.5nm,0.3s							
CONA	**Conrad Observa**	**7.23**	**58**	*i* Pn	**Pn**	**16 11 09.2**	**+1.6**
	comp=N,0.4nm,0.2s							

*ISCJB **21** 16:46:03.5±0.8, 37.02N±0.05×71.8E±0.1, h109km, Error ellipse: s-maj=14.1km s-min=5.2km az=157.9*
*NNC **21** 16:46:08.1±3.7, 37.61N×71.63E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=28.8km s-min=20.4km az=169.0*
ISC 21 16:46:03.0±1.3, 37.01N±0.09×71.6E±0.1, h109km, n18, σ1§68/22, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.36**	**17**	P	**Pn**	**16 47 23.2**	**+2.2**
	SNR=46						
UCH	**Uchtor**	**5.67**	**22**	P	**Pn**	**16 47 27.5**	**+2.3**
	SNR=12						
EKS2	**Erkin-Say**	**5.88**	**16**	P	**Pn**	**16 47 30.8**	**+3.0**
	SNR=17						
AAK	**Ala-Archa**	**6.04**	**20**	P	**Pn**	**16 47 31.9**	**+1.9**
	SNR=5.5						
AAK	**Ala-Archa**	**6.04**	**20**	⇓P	**Pn**	**16 47 31.7**	**+1.7**
	2.6nm,0.5s						
AAK				⇑S	**Sn**	**16 48 36.7**	**-1.1**
	13nm,0.7s						
KK31	**Karatay Array**	**6.15**	**352**	⇑P	**Pn**	**16 47 33.5**	**+2.1**
	9.9nm,0.6s,baz=179,slow=13,SNR=55						
KK31				S	**Sn**	**16 48 38.4**	**-2.0**
	12nm,0.4s,baz=171,slow=22,SNR=25						
USP	**Ospenovka**	**6.63**	**18**	P	**Pn**	**16 47 39.4**	**+1.6**
	SNR=5.8						
TKM2	**Tokmak 2**	**6.64**	**26**	⇑P	**Pn**	**16 47 39.4**	**+1.2**
	2.7nm,0.7s						
TKM2				⇑S	**Sn**	**16 48 50.5**	**-2.0**
	2.5nm,0.6s						
DANN	**Dangsing**	**13.36**	**127**	*e*P	**Pn**	**16 49 06.6**	**-2.0**
KOLN	**Koldanda**	**13.66**	**129**	*e*P	**Pn**	**16 49 10.9**	**-1.5**
	4.7nm,0.4s						
GKN	**Gorkha**	**14.16**	**126**	*e*P	**Pn**	**16 49 17.7**	**-1.1**
	8.6nm,0.3s						
KKN	**Kakani**	**14.72**	**125**	*e*P	**Pn**	**16 49 25.4**	**-0.7**
AB31	**Akbulak array**	**14.90**	**329**	P	**P**	**16 49 30.4**	**-0.5**
	0.4nm,0.3s,baz=166,slow=9.8,SNR=29						
AB31				S	**Sn**	**16 52 11.7**	**-0.7**
	2.0nm,0.7s,baz=140,slow=23,SNR=7.8						
PKIN	**Phulchoki**	**14.94**	**125**	*e*P	**Pn**	**16 49 28.6**	**-0.3**
	2.5nm,0.4s						
PKI	**Pulchoki**	**14.95**	**125**	*e*P	**Pn**	**16 49 28.7**	**-0.4**
GUN	**Gumba**	**15.04**	**123**	*e*P	**Pn**	**16 49 30.1**	**-0.1**
JIRN	**Jiri**	**15.41**	**123**	*e*P	**Pn**	**16 49 34.8**	**-0.1**
	8.3nm,0.4s						
TAPN	**Taplejung**	**16.64**	**121**	*e*P	**P**	**16 49 52.0**	**+1.3**
	2.1nm,0.3s						

*NIED **21** 16:51:00, 37.80N×143.50E, h14km, Mw3.6 Best double couple: M03.18000×10^14 NP1:φ86.00000°, δ28.00000°, λ-22.00000°. NP2:φ170.00000°, δ80.00000°, λ-116.00000°.*
*IDC **21** 16:51:32.7±1.1, 37.64N×143.81E, h0km, mb3.7/8, mb1 3.8/12, mb1mx3.7/47, mbtmpg3.7/12, ML3.6/3, Error ellipse: s-maj=23.6km s-min=21.3km az=100.0*
*ISCJB **21** 16:51:33.3±0.4, 37.79N±0.03×143.67E±0.04, h19km, mb3.7/8, Error ellipse: s-maj=4.9km s-min=4.3km az=142.7*
*NEIC **21** 16:51:36.6±2.5, 37.71N±0.03×143.8E±0.1, h35km±6km, mb4.7/13*
*JMA **21** 16:51:36.8±0.2, 37.78N×143.47E, h41km, M3.8*
ISC 21 16:51:34.2±0.7, 37.76N±0.05×143.71E±0.06, h19km, n54, σ2§01/64, mb4.2/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.86**	**288**	P	**Pn**	**16 52 04.8**	**-0.2**
JIKH				*e*S	**Sn**	**16 52 24.9**	**-3.0**
JIO	**Ouri**	**1.99**	**291**	P	**Pn**	**16 52 06.7**	**-0.1**
JIO				*e*S	**Sn**	**16 52 28.2**	**-2.9**
JKMT	**Kesennumamotoy**	**2.05**	**302**	P	**Pn**	**16 52 07.6**	**0.0**
JKMT				*e*S	**Sn**	**16 52 29.8**	**-2.9**
OFUJ	**Ofunato**	**2.08**	**310**	P	**Pn**	**16 52 07.9**	**-0.1**
OFUJ				*e*S	**Sn**	**16 52 30.8**	**-2.5**
JMK	**Ichinoseki**	**2.29**	**302**	P	**Pn**	**16 52 11.2**	**+0.2**
JOM	**Ohasama**	**2.55**	**313**	P	**Pn**	**16 52 15.1**	**+0.5**
JOM				*e*S	**Sn**	**16 52 43.5**	**-1.6**
JFT	**Otama**	**2.69**	**266**	P	**Pn**	**16 52 16.9**	**+0.4**
JFT				*e*S	**Sn**	**16 52 46.4**	**-2.1**
JYK	**Kaneyama**	**2.88**	**295**	P	**Pn**	**16 52 19.8**	**+0.8**
JYK				*e*S	**Sn**	**16 52 51.6**	**-1.5**
JANG	**Nango**	**3.12**	**327**	P	**Pn**	**16 52 23.2**	**+0.8**
JANG				*e*S	**Sn**	**16 52 56.4**	**-2.7**
JAG	**Ashikaga**	**3.65**	**250**	P	**Pn**	**16 52 30.0**	**+0.3**
BSO1	**Boso 1**	**3.81**	**216**	P	**Pn**	**16 52 31.3**	**0.0**
BSO1				*e*S	**Sn**	**16 53 14.2**	**-1.1**
JOT	**Ohata**	**4.16**	**331**	P	**Pn**	**16 52 38.2**	**+1.5**
JRY	**Ryogami san**	**4.23**	**247**	P	**Pn**	**16 52 37.9**	**+0.2**
JRY				*e*S	**Sn**	**16 53 22.5**	**-4.0**
ERM	**Erimo**	**4.27**	**354**	Pn	**Pn**	**16 52 39.9**	**+1.7**
JOD2	**Odawara 2**	**4.48**	**238**	P	**Pn**	**16 52 40.8**	**-0.3**
JOD2				*e*S	**Sn**	**16 53 28.9**	**-3.8**
MJAR	**Matsushiro Arr**	**4.56**	**256**	Pn	**Pn**	**16 52 44.1**	**+1.9**
	2.0nm,0.3s,baz=25,slow=20,SNR=167						
MJAR				Sn	**Sn**	**16 53 35.7**	**+1.0**
	0.2nm,0.3s,baz=173,slow=7.9,SNR=1.4						
MAJO	**Matsushiro**	**4.56**	**256**		**Pn**	**16 52 44.3**	**+2.1**
MAT	**Matsushiro**	**4.56**	**256**	P	**Pn**	**16 52 44.3**	**+2.1**
MAT				S	**Sn**	**16 53 37.8**	**+3.1**
MJB9	**Matsu-Tunnel**	**4.56**	**256**		**Pn**	**16 52 44.4**	**+2.2**
JCH	**Churui**	**4.86**	**357**	P	**Pn**	**16 52 46.6**	**+0.4**
JCH				*e*S	**Sn**	**16 53 38.2**	**-3.7**
INU	**Inuyama**	**5.90**	**248**	Pn	**Pn**	**16 53 02.5**	**+1.9**
ASAJ	**Asahikawa**	**6.41**	**353**	Pn	**Pn**	**16 53 09.8**	**+2.3**
	1.9nm,0.3s,baz=202,slow=17,SNR=23						
ASAJ				Sn	**Sn**	**16 54 18.4**	**-1.6**
	0.3nm,0.3s,baz=154,slow=23,SNR=1.4						
JKA	**Kamikawa-asahi**	**6.41**	**353**		**Pn**	**16 53 09.8**	**+2.3**
JKA					**Sn**	**16 54 18.4**	**-1.6**
USA0B	**Ussuriysk Arra**	**10.94**	**310**	Pn	**Pn**	**16 54 10.2**	**+0.5**
USRK	**Ussuriysk Ar.**	**10.94**	**310**	Pn	**Pn**	**16 54 12.4**	**+2.7**
	baz=113,slow=11,SNR=1.3						
KSRS	**Korea Array**	**12.53**	**273**	Pn	**Pn**	**16 54 35.6**	**+4.3**
	0.1nm,0.3s,baz=84,slow=14,SNR=2.8						
BJT	**Baijiatuau**	**21.53**	**285**	P	**P**	**16 56 19.3**	**-2.8**
BJT				lAmb	lAmb	16 56 21.8	
	comp=Z,5.5nm,0.5s						
GUMO	**Guam**	**24.09**	**177**	P	**P**	**16 56 44.8**	**-3.8**
TPUB	**Ta-pu**	**24.47**	**240**	P	**P**	**16 56 49.1**	**-3.0**
TPUB				lAmb	lAmb	16 56 58.2	
	comp=Z,82nm,1.5s						
H11N2	**WAKE ISLAND Hy**	**27.01**	**125**	T	T	17 25 31.8	
	baz=317,slow=75,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**27.02**	**125**	T	T	17 25 32.4	
	baz=317,slow=75,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**27.03**	**125**	T	T	17 25 37.9	
	baz=317,slow=75,SNR=7.1						
H11S1	**WAKE ISLAND Hy**	**27.78**	**127**	T	T	17 26 38.6	
	baz=318,slow=76,SNR=4.2						
H11S3	**WAKE ISLAND Hy**	**27.78**	**127**	T	T	17 26 36.0	
	baz=318,slow=76,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**27.80**	**127**	T	T	17 26 34.5	
	baz=318,slow=76,SNR=4.9						
SONM	**Songino Array**	**28.92**	**302**	P	**P**	**16 57 34.2**	**+2.1**
	comp=Z,0.6nm,0.4s,baz=96,slow=8.5,SNR=2.1						
ENH	**Enshi**	**29.21**	**265**	P	**P**	**16 57 35.0**	**+0.2**
ENH				lAmb	lAmb	16 57 38.2	
	comp=Z,6.1nm,0.7s						
ADK	**Adak**	**31.02**	**50**	P	**P**	**16 57 49.2**	**-1.2**
KKM	**Kota Kinabalu**	**40.27**	**225**	P	**P**	**16 59 09.9**	**-0.4**
KKM				lAmb	lAmb	16 59 13.9	
	comp=Z,33nm,1.2s						
ZALV	**Zalesovo Beam**	**42.79**	**312**	P	**P**	**16 59 33.5**	**+3.2**
	comp=Z,1.0nm,0.5s,baz=76,slow=7.8,SNR=6.2						
MK31	**Makanchi Array**	**45.29**	**302**	P	**P**	**16 59 51.2**	**+0.7**
MKAR	**Makanchi Array**	**45.29**	**302**	P	**P**	**16 59 52.2**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=97,slow=6.2,SNR=2.9						
MAKZ	**Makanchi**	**45.49**	**302**	P	**P**	**16 59 52.7**	**+0.5**
BPAW	**Bear Paw Mtn.**	**46.11**	**34**	P	**P**	**16 59 56.5**	**-0.3**
BRLK	**Bradley Lake**	**46.14**	**40**	P	**P**	**16 59 55.8**	**-1.4**
KURK	**Kurchatov**	**46.93**	**308**	P	**P**	**17 00 04.8**	**+1.4**
KURK				lAmb	lAmb	17 00 11.4	
	comp=Z,3.0nm,0.5s						
NEA	**Nenana**	**46.96**	**33**	P	**P**	**17 00 03.4**	**0.0**
NEA				lAmb	lAmb	17 00 20.6	
	comp=Z,22nm,0.9s						
KURBB	**Kurchatov Array**	**47.00**	**308**	P	**P**	**17 00 05.8**	**+1.9**
	comp=Z,1.5nm,0.2s,baz=82,slow=8.6,SNR=7.5						
IL31		**47.90**	**33**	P	**P**	**17 00 12.3**	**+1.6**
ILAR	**Eielson Array**	**47.90**	**33**	P	**P**	**17 00 13.7**	**+2.9**
	comp=Z,0.7nm,0.7s,baz=263,slow=6.3,SNR=10						
INK	**Inuvik**	**52.90**	**28**	P	**P**	**17 00 48.3**	**-0.1**
INK				lAmb	lAmb	17 00 53.3	
	comp=Z,6.

	baz=348								
ENTT					S		Sg	17 03 05.5	+0.5
	baz=348								
EOS1	**EOS1**	**0.58**	**42**	*e*P		Pb		17 02 59.4	0.0
	baz=31								
TWE	**Neicheng**	**0.61**	**357**	⇓*i*P		Pb		17 02 59.2	-0.7
	baz=358								
VWDT	**VWDT**	**0.62**	**235**	⇓P		Pb		17 02 59.2	-0.9
	baz=234								
VWDT					*e*S		Sb	17 03 07.6	-1.3
	baz=234								
YHNB	**Yeheng**	**0.63**	**332**	⇓P		Pb		17 02 59.7	-0.6
	baz=332								
YHNB					S		Sg	17 03 07.6	-0.2
	baz=332								
SLBB	**Yuanshan**	**0.64**	**355**	⇓*i*P		Pg		17 02 58.9	-0.7
	baz=354								
NSK	**Sanguang**	**0.65**	**331**	⇓*i*P		Pb		17 02 59.8	-0.8
	baz=332								
NSK					S		Sg	17 03 07.7	-0.5
	baz=332								
ILA	**Ilan**	**0.65**	**4**	*e*P		Pb		17 03 00.1	-0.6
	baz=4.0								
ILA					*e*S		Sb	17 03 09.2	-0.7
	baz=4.0								
HGSD	**Ruisui**	**0.67**	**203**	*e*P		Pb		17 03 01.3	+0.4
	baz=193								
NWLT	**Wulai**	**0.69**	**345**	⇓*e*P		Pb		17 03 00.7	-0.5
	baz=332								
NWLT					*e*S		Sg	17 03 09.6	0.0
	baz=332								
EHY	**Hungye**	**0.69**	**210**	*e*P		Pg		17 02 59.8	-0.8
	baz=211								
WHP	**Taichung City**	**0.71**	**284**	*e*P		Pb		17 03 01.5	-0.2
	baz=282								
WHP					*e*S		Sb	17 03 11.0	-0.5
	baz=282								
DPDB	**Guoxing**	**0.71**	**264**	P		Pb		17 03 01.2	-0.5
	baz=253								
DPDB					*e*S		Sb	17 03 10.5	-1.1
	baz=253								
NTC	**Toucheng**	**0.75**	**9**	*e*P		Pg		17 03 01.4	-0.2
	baz=7.0								
SSLB	**Suanglung**	**0.76**	**245**	⇓P		Pb		17 03 01.6	-0.8
	baz=253								
SSLB					S		Sg	17 03 11.0	-0.7
	baz=253								
TYC	**Yuchr**	**0.80**	**255**	*e*P		Pg		17 03 02.0	-0.6
	baz=253								
TYC					*e*S		Sg	17 03 12.2	-0.8
	baz=253								
YULB	**Yu-li**	**0.81**	**208**	*e*P		Pg		17 03 01.6	-1.1
	baz=219								
YULB					*e*S		Sb	17 03 13.6	-0.6
	baz=219								
LIOB	**Emei**	**0.82**	**311**	*e*P		Pb		17 03 03.5	-0.1
	baz=316								
NSTT	**Nanjuang**	**0.82**	**309**	*e*P		Pb		17 03 03.4	-0.1
	baz=309								
TWF1	**Yuli**	**0.84**	**206**	*e*P		Pg		17 03 02.1	-1.2
	baz=220								
WLTB	**Daxi**	**0.84**	**331**	*e*P		Pb		17 03 04.5	+0.6
	baz=331								
NHDH	**Xindian Distri**	**0.86**	**349**	*e*P		Pb		17 03 03.9	-0.3
	baz=349								
TIPB	**Shuangxi**	**0.86**	**7**	⇓P		Pb		17 03 04.0	-0.3
	baz=359								
TIPB					S		Sg	17 03 14.7	-0.5
	baz=359								
TWA	**Mucha**	**0.87**	**353**	*e*P		Pb		17 03 04.2	-0.2
	baz=354								
TWA					*e*S		Sg	17 03 15.6	+0.2
	baz=354								
WHYT	**Xinyi Township**	**0.88**	**242**	*e*P		Pb		17 03 03.9	-0.7
	baz=241								
TWQ1	**Liyutan**	**0.88**	**286**	*e*P		Pb		17 03 05.2	-0.4
	baz=285								
TATO	**Taipei**	**0.88**	**347**	*e*P		Pb		17 03 04.4	-0.2
	baz=339								
NSY	**Sanyi**	**0.91**	**290**	*e*P		Pn		17 03 05.9	-0.1
	baz=289								
TWB1	**Santiao Chiao**	**0.93**	**16**	*e*P		Pb		17 03 05.2	-0.2
	baz=7.0								
TWB1					*e*S		Sg	17 03 16.6	-0.7
	baz=7.0								
NMLH	**Miaoli**	**0.93**	**297**	*e*P		Pn		17 03 06.8	+0.4
	baz=297								
WJS	**Zhushan**	**0.94**	**252**	*e*P		Pb		17 03 05.6	+0.1
	baz=245								
TAP1	**Taipei**	**0.94**	**350**	*e*P		Pb		17 03 05.6	0.0
	baz=342								
TCU	**Taichung**	**0.94**	**272**	*e*P		Pn		17 03 06.7	+0.3
	baz=265								
TAP	**Taipei**	**0.94**	**349**	*e*P		Pb		17 03 05.5	-0.1
	baz=342								
SBCB	**Hsinchu**	**0.94**	**316**	*e*P		Pn		17 03 06.7	+0.2
	baz=316								
NWF	**Wu-fen Shan**	**0.96**	**4**	*e*P		Pg		17 03 05.5	-0.2
	baz=2.0								
WFSB	**Wu-fen Shan**	**0.96**	**4**	*e*P		Pg		17 03 05.4	-0.2
	baz=2.0								
HSN	**Hsinchu**	**0.96**	**316**	*e*P		Pn		17 03 07.1	+0.4
	baz=319								
WNT	**Mingjian**	**0.96**	**256**	*e*P		Pn		17 03 06.4	-0.3
	baz=249								
WNT					*e*S		Sn	17 03 20.5	+0.1
	baz=249								
NCUH	**Zhongli**	**0.97**	**331**	*e*P		Pn		17 03 06.7	-0.2
	baz=331								
NCU	**National Centr**	**0.98**	**331**	*e*P		Pn		17 03 07.4	+0.5
	baz=332								
FULB	**Fuli**	**0.98**	**203**	*e*P		Pb		17 03 06.1	-0.2
	baz=217								
WDJ	**Dajia District**	**1.00**	**284**	*e*P		Pn		17 03 08.0	+0.8
	baz=283								
ALS	**Alishan**	**1.02**	**234**	*e*P		Pb		17 03 06.7	-0.3
	baz=234								
TWS1	**Kuangyinshan**	**1.02**	**345**	*e*P		Pn		17 03 07.8	+0.3
	baz=346								
TWS1					*e*S		Sn	17 03 22.7	+0.9
	baz=346								
YM01	**YM01**	**1.04**	**353**	*e*P		Pb		17 03 07.5	+0.3
	baz=3.0								
YM10	**YM10**	**1.05**	**353**	*e*P		Pb		17 03 07.5	+0.1
	baz=3.0								
YM04	**YM04**	**1.05**	**352**	*e*P		Pb		17 03 07.6	+0.2
	baz=351								
CHKT	**Chengkung**	**1.05**	**197**	*e*P		Pg		17 03 06.4	-1.0
	baz=184								
YM05	**YM05**	**1.06**	**353**	*e*P		Pb		17 03 07.9	+0.3
	baz=3.0								
YM11	**YM11**	**1.06**	**354**	*e*P		Pb		17 03 07.7	+0.1
	baz=4.0								
CHN5	**Tsauling**	**1.07**	**242**	⇑P		Pn		17 03 08.4	+0.1
	baz=240								
CHN5					S		Sn	17 03 23.8	+0.6
	baz=240								
NTST	**Danshui**	**1.07**	**348**	*e*P		Pb		17 03 08.1	+0.2
	baz=348								
YM08	**YM08**	**1.08**	**355**	*e*P		Pb		17 03 07.9	-0.1
	baz=4.0								
ANP	**Anpu**	**1.08**	**351**	*e*P		Pb		17 03 08.1	0.0
	baz=350								
ELDTW	**Lidau**	**1.11**	**215**	*e*P		Pg		17 03 07.4	-1.2
	baz=207								
WGK	**Gukeng**	**1.13**	**248**	*e*P		Pb		17 03 08.4	-0.3
	baz=248								
WDLH	**Douliu**	**1.15**	**249**	*e*P		Pn		17 03 09.8	+0.6
	baz=248								
TWY	**Chenhua**	**1.16**	**355**	*e*P		Pn		17 03 10.4	+0.9
	baz=5.0								
RLNB	**Erlin**	**1.25**	**260**	*e*P		Pn		17 03 11.6	+0.9
	baz=259								
RLNB					*e*S		Sn	17 03 29.1	+1.7
	baz=259								
CHN2	**Minshiung**	**1.26**	**243**	*e*P		Pn		17 03 12.2	+1.3
	baz=243								
CHN4	**Tsaushan**	**1.27**	**234**	*e*P		Pn		17 03 11.3	+0.4
	baz=221								
CHN4					*e*S		Sn	17 03 30.4	+2.4
	baz=221								
TPUB	**Ta-pu**	**1.27**	**231**	*e*P		Pn		17 03 11.2	+0.2
	baz=218								
TPUB					*e*S		Sn	17 03 30.5	+2.4
	baz=218								
STYT	**Tauyuan**	**1.28**	**223**	*e*P		Pg		17 03 10.7	-1.1
	baz=224								
WTP	**Ta-pu**	**1.32**	**229**	*e*P		Pb		17 03 12.3	+0.3
	baz=227								
WTP					*e*S		Sn	17 03 31.7	+2.4
	baz=227								
CHY	**Chiayi**	**1.32**	**243**	*e*P		Pb		17 03 12.6	+0.6
	baz=242								
TWK	**Hsinying**	**1.40**	**233**	*e*P		Pg		17 03 13.6	-0.4
	baz=232								
TWK					*e*S		Sn	17 03 33.9	+2.7
	baz=232								
TWG	**Pinlang**	**1.41**	**204**	*e*P		Pn		17 03 11.5	-1.3
	baz=208								
TWGBT	**Beinan**	**1.41**	**204**	*e*P		Pn		17 03 10.5	-2.4
	baz=208								
CHN1	**Nanshi**	**1.42**	**230**	*e*P		Pg		17 03 14.0	-0.4
	baz=223								
CHN1					*e*S		Sn	17 03 35.0	+3.3
	baz=223								
SNST	**Tainan City**	**1.42**	**232**	*e*P		Pg		17 03 14.3	-0.1
	baz=223								
WLGB	**Puzi**	**1.43**	**244**	*e*P		Pg		17 03 14.0	-0.6
	baz=244								
SGST	**Jiashian**	**1.45**	**225**	*e*P		Pb		17 03 13.8	-0.4
	baz=223								
SGST					*e*S		Sg	17 03 34.4	+0.5
	baz=223								
SLGT	**Liugui**	**1.48**	**221**	*e*P		Pg		17 03 15.0	-0.5
	baz=224								
ECL	**Taimali**	**1.66**	**205**	*e*P		Pb		17 03 17.2	-0.5
	baz=194								
SSD	**Sandimen**	**1.68**	**216**	*e*P		Pn		17 03 17.0	+0.5
	baz=211								
TWM1	**Shoushan**	**1.74**	**223**	*e*P		Pg		17 03 21.1	+0.6
	baz=223								
MASBT	**Mashibuluo**	**1.79**	**214**	*e*P		Pn		17 03 18.6	+0.6
	baz=210								
IRIF	**Iriomote-Funau**	**1.86**	**83**	P		Pn		17 03 19.8	+0.7
EAST	**Anshuo**	**1.89**	**205**	*e*P		Pn		17 03 20.2	+0.7
	baz=195								
SCZT	**Fangliau**	**2.00**	**210**	*e*P		Pb		17 03 22.5	-1.1
	baz=203								
PHUB	**P'eng-hu**	**2.04**	**253**	*e*P		Pn		17 03 21.7	+0.1
	baz=254								
JKRS	**Kuro-shima**	**2.11**	**86**	P		Pn		17 03 22.9	+0.4
JIJ	**Ishigaki jima**	**2.24**	**83**	P		Pn		17 03 23.8	-0.5
JIJ					S		Sn	17 03 52.3	+0.3
JISG	**Ishigakijimahi**	**2.43**	**78**	P		Pn		17 03 26.9	+0.1
JISG					*e*S		Sn	17 03 56.5	-0.1
PTMZ	**Houxiangcun**	**2.53**	**292**	*e*P		Pn		17 03 27.9	-0.3
	baz=292								
LYJJ	**Jianjiangzhen**	**3.00**	**325**	*e*P		Pn		17 03 34.6	-0.1
	baz=324								
XPSS	**Dashiqiu**	**3.12**	**334**	*e*P		Pn		17 03 36.5	+0.1
	baz=334								
AXDP	**Jialang**	**3.49**	**284**	*e*P		Pn		17 03 41.9	+0.4
	baz=283								

*SJA **21** 17:16:37.7±1.0,24.°14S×67.°18W,h192km±9km,ML3.1, MW3.2*
*ISCJB **21** 17:16:38.1±0.4,24.°14S±0.°04×67.°24W±0.°03,h184km±5km, mb3.6/2,Error ellipse: s-maj=6.3km s-min=4.4km az=31.0*
*IDC **21** 17:16:38.0±1.4,24.°15S×66.°93W,h148km±26km,mb3.5/2, mb1 3.3/8,mb1mx3.2/34,mbtmp3.7/8,MS3.1/1,Ms1 3.1/1, ms1mx2.3/20,Error ellipse: s-maj=29.4km s-min=14.5km az=95.0*
*GUC **21** 17:16:40.6±0.5,23.°91S×67.°65W,h217km±9km,ML3.9*

ISC 21 17:16:38.1±0.9,24.°12S±0.°06×67.°22W±0.°04, h187km±10km,n37,σ1§26/52,2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
SLA	**San Lorenzo**	**1.67**	**111**	*e*P			**Pn**	**17 17 13.2**	**+0.7**
SLA				IAML				17 17 13.9	
	comp=Z,102nm,0.6s								
SLA				*i* S			**S**	**17 17 38.8**	**-0.2**
HJA	**Humahuaca**	**1.89**	**62**	*i* P			**Pn**	**17 17 15.7**	**+0.7**
HJA				IAML				17 17 21.3	
	comp=Z,44nm,0.3s								
AZAP	**Zapla**	**1.97**	**93**	*i* P			**Pn**	**17 17 15.9**	**+0.4**
AZAP				IAML				17 17 17.2	
	comp=Z,136nm,0.4s								
AZAP				*i* S			**S**	**17 17 44.7**	**+0.1**
LVC	**Limon Verde**	**2.17**	**314**	P			**Pn**	**17 17 19.2**	**+1.3**
	comp=Z,19nm,0.3s,baz=144,slow=7.0,SNR=157								
LVC				S			**S**	**17 17 48.7**	**0.0**
	comp=Z,37nm,0.3s,baz=18,slow=22,SNR=22								
LVC	**Limon Verde**	**2.17**	**314**	*e*P			**Pn**	**17 17 19.2**	**+1.3**
LVC				*i* S			**S**	**17 17 48.9**	**+0.2**
PB15	**IPOC Station P**	**2.26**	**293**	*e*P			**Pn**	**17 17 20.1**	**+1.3**
PB15				*i* S			**S**	**17 17 50.1**	**-0.1**
PB15	**IPOC Station P**	**2.26**	**293**	*i* P			**Pn**	**17 17 20.2**	**+1.4**
YJA	**Yavi**	**2.49**	**39**	⇓*i*P			**Pn**	**17 17 22.3**	**+0.7**
YJA				*i* S			**S**	**17 17 54.9**	**-0.4**
ASTB	**Santa Barbara**	**2.53**	**87**	⇓*i*P			**Pn**	**17 17 20.0**	**+0.3**
PB06	**IPOC Station P**	**2.58**	**303**	*e*P			**Pn**	**17 17 23.6**	**+1.3**
PB06				*i* S			**S**	**17 17 56.1**	**-0.7**
PB06				IAML				17 17 58.7	
	comp=E,623nm,0.4s								
PB06	**IPOC Station P**	**2.58**	**303**	*e*P			**Pn**	**17 17 23.7**	**+1.3**
PB14	**IPOC Station P**	**2.95**	**260**	*i* P			**Pn**	**17 17 27.6**	**+0.7**
PB09	**IPOC Station P**	**2.98**	**321**	*e*P			**Pn**	**17 17 28.5**	**+1.5**
PB09				*i* S			**S**	**17 18 04.9**	**-0.2**
PB09				IAML				17 18 07.7	
	comp=N,181nm,0.4s								
PB09	**IPOC Station P**	**2.98**	**321**	*i* P			**Pn**	**17 17 28.7**	**+1.6**
PB09				*i* S			**S**	**17 18 05.0**	**0.0**
PB05	**IPOC Station P**	**3.02**	**294**	*e*P			**Pn**	**17 17 28.2**	**+0.8**
PB05				*i* S			**S**	**17 18 04.3**	**-1.6**
PB05	**IPOC Station P**	**3.02**	**294**	*i* P			**Pn**	**17 17 28.3**	**+0.8**
PB10	**IPOC Station P**	**3.12**	**281**	*e*P			**Pn**	**17 17 29.5**	**+1.0**
PB10				*i* S			**S**	**17 18 06.8**	**-1.0**
PB10				IAML				17 18 10.4	
	comp=E,100nm,0.4s								
PB10	**IPOC Station P**	**3.12**	**281**	*i* P			**Pn**	**17 17 29.7**	**+1.2**
PB03	**IPOC Station P**	**3.12**	**311**	*e*P			**Pn**	**17 17 29.5**	**+0.8**
PB03				*i* S			**S**	**17 18 06.6**	**-1.6**
PB03				IAML				17 18 09.3	
	comp=E,392nm,0.1s								
PB04	**IPOC Station P**	**3.23**	**303**	*e*P			**Pn**	**17 17 30.4**	**+0.3**
PB04				*i* S			**S**	**17 18 09.0**	**-1.7**
PB04	**IPOC Station P**	**3.23**	**303**	*i* P			**Pn**	**17 17 31.1**	**+1.0**
PB07	**IPOC Station P**	**3.43**	**314**	*e*P			**Pn**	**17 17 33.2**	**+0.7**
PB07				*i* S			**S**	**17 18 13.1**	**-1.9**
PB07	**IPOC Station P**	**3.43**	**314**	*e*P			**Pn**	**17 17 33.2**	**+0.7**
PB07				*i* S			**S**	**17 18 13.1**	**-1.9**
PB08	**IPOC Station P**	**4.35**	**335**	*e*P			**Pn**	**17 17 45.2**	**+0.9**
PB08				*i* S			**S**	**17 18 34.9**	**-1.3**
PB08				IAML				17 18 38.1	
	comp=E,70nm,0.2s								
GO03	**Copiap**	**4.40**	**218**	*i* P			**Pn**	**17 17 44.3**	**-0.2**
ACCO	**Cerro Coronel**	**6.64**	**194**	*i* P			**Pn**	**17 18 14.6**	**+0.7**
CFA	**Coronel Fontan**	**7.51**	**187**	P			**Pn**	**17 18 25.1**	**+0.1**
	comp=E,0.1nm,0.3s,baz=333,slow=14,SNR=1.7								
CFA				S			**S**	**17 19 46.9**	**-2.7**
	comp=E,0.5nm,0.3s,baz=255,slow=19,SNR=6.0								
TCA	**Tanti**	**7.55**	**163**	*i* P			**Pn**	**17 18 25.1**	**-0.5**
TCA				IAML				17 18 26.6	
	comp=Z,1.7nm,0.3s								
LPAZ	**La Paz**	**7.84**	**354**	P			**Pn**	**17 18 31.1**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=133,slow=11,SNR=6.5								
LPAZ	**La Paz**	**7.84**	**354**	*i* P			**Pn**	**17 18 31.4**	**+1.4**
ACAN	**Cantantal**	**8.12**	**180**	*i* P			**Pn**	**17 18 32.3**	**-0.6**
SIV	**San Ignacio**	**9.94**	**37**	P			**Pn**	**17 18 55.4**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=256,slow=18,SNR=3.5								
PLCA	**Paso Flores**	**16.80**	**189**	P			**Pn**	**17 20 25.6**	**+3.0**
	comp=Z,0.0nm,0.3s,baz=25,slow=19,SNR=2.5								
BDFB	**Brasilia**	**19.91**	**68**	P			**Pn**	**17 20 56.6**	**-3.2**
	comp=Z,0.9nm,0.3s,baz=239,slow=11,SNR=15								
ATAH	**Atahualpa**	**20.01**	**326**	LR			LR	17 30 16.1	
	comp=Z,55nm,18.4s,baz=39,slow=40								
SNAA	**Sanae**	**59.30**	**161**	P			P	17 26 24.6	+4.7
	comp=Z,1.8nm,1.1s,baz=42,slow=5.7,SNR=3.2								
TORD	**Torodi Ar. Bea**	**76.80**	**69**	P			**P**	**17 28 10.7**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=223,slow=5.7,SNR=3.4								

*IDC **21** 17:17:57.0±1.9,20.°90S×179.°77W,h0km,mb4.3/5, mb1 4.5/5,mb1mx4.0/24,mbtmp4.3/5,Error ellipse: s-maj=74.2km s-min=28.7km az=151.0*
*NEIC **21** 17:18:47.9±1.6,23.°3S±0.°1×179.°43W±0.°06,h544km±9km, mb4.5/18*
*ISCJB **21** 17:18:48.3±0.9,23.°34S±0.°10×179.°7W±0.°1,h536km, mb4.0/5,Error ellipse: s-maj=18.0km s-min=12.7km az=164.3*

ISC 21 17:18:48.1±0.8,23.°3S±0.°1×179.°4W±0.°1,h536km,n31, σ1§22/30,mb4.4/14,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
MSVF	**Nonsavu**	**6.02**	**337**	P			**P**	**17 20 28.3**	**+1.8**
URZ	**Urewera**	**15.20**	**190**	P			**P**	**17 21 59.4**	**-0.2**
				IAmb			IAmb	17 22 09.8	
	comp=Z,17nm,1.2s								
BKZ	**Black Stump Fm**	**16.19**	**191**	P			**P**	**17 22 07.7**	**-2.1**
QRZ	**Quartz Range**	**18.73**	**199**	P			**P**	**17 22 33.5**	**+0.3**
HNR	**Honiara**	**24.07**	**302**	P			**P**	**17 23 23.3**	**+1.8**
ARMA	**Armidale**	**26.72**	**248**	P			**P**	**17 23 44.9**	**0.0**
ARMA				IAmb			IAmb	17 23 54.5	
	comp=Z,18nm,1.6s								
EIDS	**Eidsvold**	**26.92**	**260**	P			**P**	**17 23 45.6**	**-1.0**
EIDS				IAmb			IAmb	17 23 47.5	
	comp=Z,10nm,1.2s								
TOO	**Toolangi**	**33.21**	**236**	P			**P**	**17 24 41.0**	**+0.3**
TOO				IAmb			IAmb	17 24 51.0	
	comp=Z,21nm,1.2s								
KRVT	**Keravat (AS076**	**33.41**	**300**	P			P	17 24 24.7	-18
	comp=Z,11nm,0.6s,baz=18,slow=16,SNR=2.2								
PMG	**Port Moresby**	**34.80**	**288**	P			**P**	**17 24 54.7**	**+0.4**
PMG				IAmb			IAmb	17 25 11.4	
	comp=Z,15nm,1.2s								
STKA	**Stephens Creek**	**35.43**	**247**	P			**P**	**17 24 59.0**	**-0.3**
	comp=Z,1.8nm,0.4s,baz=100,slow=12,SNR=8.0								
STKA	**Stephens Creek**	**35.43**	**247**	P			**P**	**17 24 58.7**	**-0.7**
BBOO	**Buckleboo**	**40.15**	**246**	P			**P**	**17 25 36.9**	**-1.1**
BBOO				IAmb			IAmb	17 25 42.6	
	comp=Z,52nm,1.8s								
AS31	**Alice Springs**	**42.64**	**260**	P			**P**	**17 25 57.1**	**-0.7**
ASAR	**Alice Springs**	**42.65**	**260**	P			**P**	**17 25 57.1**	**-0.7**
	comp=Z,3.2nm,0.6s,baz=95,slow=7.2,SNR=101								
ASAR	**Alice Springs**	**42.65**	**260**	P			**P**	**17 25 57.1**	**-0.7**
WRA	**Warramunga Arr**	**42.97**	**265**	P			**P**	**17 25 59.2**	**-1.1**
	comp=Z,2.7nm,0.3s,baz=92,slow=8.4,SNR=65								
WRA	**Warramunga Arr**	**42.97**	**265**	P			**P**	**17 25 59.2**	**-1.1**
FORT	**Forrest**	**47.01**	**249**	P			**P**	**17 26 30.2**	**-0.9**
FORT				IAmb			IAmb	17 26 34.4	
	comp=Z,26nm,0.9s								
MTN	**Manton Dam**	**47.93**	**274**	P			**P**	**17 26 37.3**	**-1.0**
MTN				IAmb			IAmb	17 26 43.4	
	comp=Z,15nm,1.3s								
HON	**Honolulu**	**49.03**	**27**	P			**P**	**17 26 43.9**	**-2.3**
KNRA	**Kununurra**	**49.21**	**269**	P			**P**	**17 26 47.3**	**-0.5**
KNRA				IAmb			IAmb	17 27 01.7	
	comp=Z,38nm,1.4s								
FITZ	**Fitzroy Crossi**	**51.39**	**265**	P			**P**	**17 27 03.9**	**+0.2**
MORW	**Morawa**	**57.57**	**249**	P			**P**	**17 27 46.7**	**-0.2**
MORW				IAmb			IAmb	17 27 46.9	
	comp=Z,12nm,0.9s								
QSPA	**South Pole Qui**	**66.78**	**180**	P			**P**	**17 28 49.2**	**+3.0**
NVAR	**Mina Array Bea**	**83.97**	**44**	P			**P**	**17 30 22.4**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=270,slow=4.4,SNR=2.0								
NVAR	**Mina Array Bea**	**83.97**	**44**	P			**P**	**17 30 22.4**	**+0.1**
HFS	**Hagfors**	**142.06**	**349**	PKhKP			**PKPdf**	**17 37 17.4**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=56,slow=3.8,SNR=15								
HFS	**Hagfors**	**142.06**	**349**				**PKPdf**	**17 37 17.4**	**-1.3**
EKA	**Eskdalemuir Ar**	**147.89**	**4**	PKPbc			**PKiKP**	**17 37 35.1**	**+1.1**
	comp=Z,4.9nm,1.0s,baz=345,slow=2.6,SNR=4.0								
EKA	**Eskdalemuir Ar**	**147.89**	**4**				**PKiKP**	**17 37 35.1**	**+1.1**

*IDC **21** 17:32:32.2±0.6,11.°02S×164.°78E,h0km,mb4.6/17, mb1 4.8/20,mb1mx4.6/35,mbtmp4.6/20,ML4.9/3,MS3.8/10, Ms1 3.8/10,ms1mx3.5/40,Error ellipse: s-maj=20.2km s-min=14.8km az=110.0*
*BJI **21** 17:32:35.8±0.0,10.°83S×164.°41E,h22km,mb4.9/50, mB5.3/27,Ms5.1/10,Ms7 4.8/10*
*ISCJB **21** 17:32:35.6±0.2,10.°99S±0.°03×164.°56E±0.°03,h29km, mb4.9/49,MS3.9/13,Error ellipse: s-maj=5.3km s-min=4.1km az=40.4*
*GCMT **21** 17:32:37.2±0.3,11.°20S±0.°03×164.°51E±0.°02,h20km±1km, MW4.9/69,Moment Tensor Solution. s30,c33; s69,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.64±.17; $M_{\theta\theta}$0.81±.11; $M_{\phi\phi}$1.82±.11; $M_{r\theta}$-1.31±.23; $M_{\theta\phi}$1.04±.07; $M_{\phi r}$0.66±.19; Best double couple: $M_0$2.87000×10^{16} NP1:ϕs54.00000°,δ51.00000°,λ-60.00000°. NP2: ϕs191.00000°,δ48.00000°,λ-122.00000°. Principal axes: T 2.4770, Plg2.0000°, Azm123.0000°; N 0.7810, Plg23.0000°, Azm214.0000°; P -3.2640, Plg67.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **21** 17:32:38.2±1.5,11.°06S±0.°06×164.°62E±0.°07,h38km±5km, mb5.1/89*
*MOS **21** 17:32:38.3±0.9,10.°96S×164.°55E,h52km,mb5.2/16,Error ellipse: s-maj=9.4km s-min=7.9km az=94.3*

ISC 21 17:32:37.2±0.3,11.°04S±0.°05×164.°67E±0.°05,h29km,n228, σ1§08/220,mb5.0/80,MS3.8/14,7C-5D,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
HNR	**Honiara**	**4.91**	**289**	Pn			**Pn**	**17 33 50.1**	**+1.0**
	81nm,0.3s,baz=137,slow=1.6,SNR=19								
HNR				Sn			**Sn**	**17 34 45.2**	**+0.1**
	119nm,0.3s,baz=218,slow=18,SNR=10								
HNR	**Honiara**	**4.91**	**289**	*e

comp=Z,67nm,1.7s
H11S2 WAKE ISLAND Hy 29.41 4 T T 18 09 35.5
baz=184,slow=76,SNR=30
H11S3 WAKE ISLAND Hy 29.42 4 T T 18 09 36.0
baz=184,slow=76,SNR=20
H11S1 WAKE ISLAND Hy 29.43 4 T T 18 09 39.8
baz=184,slow=76,SNR=22
STKA Stephens Creek 29.72 222 P P **17 38 41.5 +0.6**
comp=Z,3.2nm,0.7s,baz=58,slow=9.9,SNR=6.1
STKA PcP **PcP 17 41 44.7 +0.1**
comp=Z,2.2nm,0.7s,baz=348,slow=5.1,SNR=3.9
STKA LR LR 17 49 26.2
comp=Z,172nm,19.9s,baz=28,slow=34
STKA Stephens Creek 29.72 222 P P **17 38 39.7 -1.3**
STKA **PcP 17 41 44.3 -0.4**
BKZ Black Stump Fm 29.92 161 P P **17 38 43.4 +0.7**
WR0 Warramunga Arr 30.31 249 P P **17 38 45.2 -1.2**
WR0 IAmb IAmb 17 38 46.6
comp=Z,22nm,1.1s
WRAB Tennant Creek 30.48 249*de*P P **17 38 46.9 -0.9**
WRAB pmax pmax
comp=Z,32nm,1.3s
WRAB Tennant Creek 30.48 249 P P **17 38 46.3 -1.5**
WRAB IAmb IAmb 17 38 48.0
comp=Z,20nm,0.8s
WRA Warramunga Arr 30.49 249 *i* P P **17 38 47.0 -1.0**
WRA pmax pmax
comp=Z,20nm,0.7s
WRA Warramunga Arr 30.49 249 P P **17 38 47.1 -0.8**
comp=Z,20nm,0.7s,baz=81,slow=9.2,SNR=108
WRA PcP **PcP 17 41 47.3 +0.4**
comp=Z,2.1nm,0.8s,baz=81,slow=2.5,SNR=7.2
WRA LR LR 17 50 49.0
comp=Z,115nm,19.2s,baz=65,slow=36
H11N1 WAKE ISLAND Hy 30.64 4 T T 18 11 05.2
baz=184,slow=76,SNR=18
H11N3 WAKE ISLAND Hy 30.65 4 T T 18 11 05.5
baz=184,slow=76,SNR=18
H11N2 WAKE ISLAND Hy 30.66 4 T T 18 11 05.2
baz=184,slow=76,SNR=18
TOO Toolangi 31.54 210 P P **17 38 57.3 +0.4**
TOO pmax pmax
comp=Z,68nm,1.9s
TOO Toolangi 31.54 210 P P **17 38 57.4 +0.4**
TOO IAmb IAmb 17 39 11.4
comp=Z,68nm,1.9s
KDU Kakadu 31.54 264 P P **17 38 55.5 -1.7**
baz=32,SNR=5.1
MSWZ Moikau Station 31.65 165 P P **17 39 00.2 +2.3**
AS31 Alice Springs 31.85 243 P P **17 38 58.9 -1.0**
ASAR Alice Springs 31.85 243 P P **17 38 59.0 -0.9**
comp=Z,17nm,0.6s,baz=63,slow=10,SNR=390
ASAR PcP **PcP 17 41 50.2 -0.3**
comp=Z,2.0nm,0.7s,baz=46,slow=2.7,SNR=9.3
ASAR LR LR 17 52 14.8
comp=Z,108nm,19.1s,baz=78,slow=37
LTZ Lake Taylor 32.31 169 P P **17 39 04.3 +0.6**
LTZ IAmb IAmb 17 39 18.3
comp=Z,53nm,1.4s
HTT Hallett 32.45 223 P P **17 39 06.1 +1.0**
baz=33,SNR=3.2
MTN Manton Dam 32.84 263 P P **17 39 05.7 -3.0**
baz=33,SNR=4.9
MTN Manton Dam 32.84 263 P P **17 39 07.8 -0.9**
MTN IAmb IAmb 17 39 10.7
comp=Z,19nm,1.1s
LBZ Lake Benmore 33.56 173 P P **17 39 13.5 -1.1**
BBOO Buckleboo 34.06 226 P P **17 39 19.6 +0.5**
baz=34,SNR=15
BBOO Buckleboo 34.06 226 P P **17 39 19.3 +0.2**
BBOO IAmb IAmb 17 39 20.4
comp=Z,18nm,0.8s
DCZ Deep Cove 34.37 177 P P **17 39 22.4 +0.8**
KNRA Kununurra 35.20 258 P P **17 39 28.1 -1.1**
baz=35,SNR=38
KNRA Kununurra 35.20 258 P P **17 39 28.0 -1.2**
FITZ Fitzroy Crossi 38.36 255 P P **17 39 54.7 -1.3**
baz=38,SNR=13
FITZ Fitzroy Crossi 38.36 255 P P **17 39 54.5 -1.5**
FORT Forrest 39.18 234 P P **17 40 04.1 +1.4**
FORT IAmb IAmb 17 40 07.3
comp=Z,39nm,0.8s
SOEI Soe 39.74 268 P P **17 40 07.4 -0.3**
DAV Davao City (W) 42.86 293 LR LR 17 54 49.7
comp=Z,176nm,20.7s,baz=73,slow=31
MCQ Macquarie Isla 43.58 185 P P **17 40 39.0 +0.5**
MCQ pmax pmax
comp=Z,619nm,1.8s
MCQ Macquarie Isla 43.58 185 P P **17 40 39.0 +0.5**
PSA00 Pilbara Seismi 44.13 250 P P **17 40 42.6 -0.9**
PSA00 IAmb IAmb 17 41 02.5
comp=Z,50nm,1.7s
PPT Papeete 44.73 104 LR LR 17 57 44.8
comp=Z,78nm,18.0s,baz=280,slow=34
PPT2 Papeete2 44.73 104 *e*LR LR 17 53 19.0
comp=Z,191nm,27.8s
TBI Tubuai 45.31 112 *e*LR LR 17 53 42.9
comp=Z,442nm,29.8s
MEEK Meekatharra 46.00 244 P P **17 40 58.6 +0.3**
baz=46,SNR=18
NWAO Narrogin (SRO) 48.59 236 P P **17 41 18.1 -0.3**
NWAO pmax pmax
comp=Z,34nm,1.3s
NWAO Narrogin (SRO) 48.59 236 P P **17 41 18.0 -0.3**
NWAO IAmb IAmb 17 41 22.5
comp=Z,38nm,1.2s
NWAO Narrogin (SRO) 48.59 236 P P **17 41 18.1 -0.3**
NWAO IAmb IAmb 17 41 22.4
comp=Z,34nm,1.3s
MORW Morawa 48.70 241 P P **17 41 19.5 +0.3**
baz=49,SNR=4.6
MORW Morawa 48.70 241 P P **17 41 17.7 -1.5**
MORW IAmb IAmb 17 41 20.7
comp=Z,19nm,0.8s
HLP Hilina Pali 49.64 53 P P **17 41 27.4 +0.8**
KKM Kota Kinabalu 51.12 287 P P **17 41 36.6 -1.4**
INU Inuyama 53.04 332 P P **17 41 51.9 +0.2**
MJAR Matsushiro Arr 53.49 333 P P **17 41 53.9 -1.1**
comp=Z,5.0nm,1.0s,baz=152,slow=5.3,SNR=9.0
MAJO Matsushiro 53.49 333 P P **17 41 54.4 -0.6**
MAJO pmax pmax
comp=Z,116nm,1.9s
MAJO Matsushiro 53.49 333 P P **17 41 54.4 -0.6**
MAT Matsushiro 53.49 333 P P **17 41 54.0 -1.0**
MAT eS S 17 49 12.0 -14
MJB9 Matsu-Tunnel 53.49 333 P P **17 41 54.3 -0.7**
JNU Nakatsue 54.47 325 P P **17 42 02.1 -0.1**
YULB Yu-li 54.51 309 P P **17 42 01.7 -1.0**
YULB IAmb IAmb 17 42 14.9
comp=Z,39nm,1.3s
TPUB Ta-pu 54.97 309 P P **17 42 05.8 -0.2**
SSLB Suanglung 54.99 309 P P **17 42 05.7 -0.5**
KSRS Korea Array 59.28 326 P P **17 42 36.5 +0.3**
comp=Z,3.5nm,1.0s,baz=132,slow=6.9,SNR=5.8
YSS Yuzh-Sakhalins 60.97 343 *e*P P **17 42 46.5 -1.1**
YSS pmax pmax
comp=Z,30nm,1.1s
NJ2 Nanjing 61.28 316 *e*P P **17 42 50.1 +0.1**
NJ2 pmax pmax
comp=Z,11nm,0.5s
USRK Ussuriysk Ar. 62.48 334 P P **17 42 58.7 +0.9**
comp=Z,5.4nm,0.7s,baz=142,slow=5.9,SNR=8.8
WHN Wuhan 63.60 312 P P 17 43 19.3 +14
PEA0B Petropavlovsk- 64.17 355 P P **17 43 08.6 -0.3**
PEA0B pmax pmax
comp=Z,56nm,1.4s
PEA0B Petropavlovsk- 64.17 355 P P **17 43 08.6 -0.3**
PETK Petropavlovsk- 64.17 355 P P **17 43 09.0 +0.1**
PETK Petropavlovsk- 64.17 355 P P **17 43 08.9 +0.1**
comp=Z,13nm,0.8s,baz=152,slow=9.5,SNR=14
TYV Tymovskoe 64.56 345 *e*P P 17 43 23.9 +12
TYV pmax pmax
comp=Z,33nm,1.7s
CN2 Changchun 65.20 330 *e*P P **17 43 15.5 -0.3**
CN2 *es*P sP 17 43 26.8 +1.1
CN2 *e*S **S 17 51 55.6 -1.5**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
GRNR Gornyy 66.29 341⇑ *i*P P **17 43 20.8 -1.9**
GRNR pmax pmax
comp=Z,20nm,1.2s
VNDA Vanda 66.48 181 P P **17 43 23.8 +0.2**
comp=Z,7.3nm,1.2s,baz=325,slow=7.6,SNR=4.4
VNDA Vanda 66.48 181 P P **17 43 23.1 -0.5**
VNDA IAmb IAmb 17 43 28.9
comp=Z,17nm,1.4s
KLR Kul'dur 66.64 337*ce*P P **17 43 24.5 -0.5**
KLR pmax pmax
comp=Z,14nm,1.1s
ENH Enshi 67.08 310 P P **17 43 27.3 -0.9**
ENH IAmb IAmb 17 43 28.6
comp=Z,21nm,1.0s
PBKT Sadao Pong 68.70 293 P P **17 43 38.8 +0.2**
XAN Xi'an 69.34 313 P P **17 43 42.3 0.0**
XAN pmax pmax
comp=Z,15nm,0.9s
XAN pmax pmax
comp=Z,270nm,6.8s
XAN Xi'an 69.34 313 P P **17 43 42.3 0.0**
XAN pmax pmax
comp=Z,12nm,0.8s
XAN Xi'an 69.34 313 P P **17 43 42.3 0.0**
XAN IAmb IAmb 17 43 43.1
comp=Z,12nm,0.8s
KMI Kunming 70.22 302 P P **17 43 49.4 +1.2**
KMI sP pwP 17 44 02.8 -0.5
KMI pmax pmax
comp=Z,15nm,1.4s
KMI pmax pmax
comp=Z,210nm,7.0s
KMI LR LR
comp=Z,250nm,11.9s
KMI LR LR
comp=Z,330nm,12.6s
CMAR Chiang Mai Arr 71.14 294 P P **17 43 54.0 +0.4**
comp=Z,1.7nm,0.8s,baz=109,slow=3.8,SNR=11
HHC Hu-ho-hao-te 71.15 320 *e*P P **17 43 56.5 +3.1**
HHC pmax pmax
comp=Z,5.0nm,0.8s
HHC LR LR
comp=Z,230nm,15.3s
HHC LR LR
comp=Z,170nm,14.5s
HHC LR LR
comp=Z,160nm,13.6s
MA2 Magadan 71.27 353 P P **17 43 53.6 +0.1**
MA2 pmax pmax
comp=Z,38nm,1.6s
MA2 Magadan 71.27 353 P P **17 43 53.6 +0.1**
MA2 IAmb IAmb 17 44 18.9
comp=Z,38nm,1.6s
CD2 Chengdu 71.76 308 P P **17 43 57.3 +0.1**
CD2 pmax pmax
comp=Z,20nm,0.5s
HIA Hailar 71.85 331*ce*P P **17 43 57.0 -0.3**
HIA pmax pmax
comp=Z,119nm,1.0s
HIA Hailar 71.85 331 P P **17 43 57.4 +0.1**
HIA IAmb IAmb 17 43 58.5
comp=Z,17nm,1.0s
ZEA Zeya 71.93 338 *e*P P **17 43 58.4 +0.8**
ZEA pmax pmax
comp=Z,36nm,1.2s
SEY Seymchan 74.36 354⇓ *e*P P **17 44 10.1 -1.7**
ULN Ulaanbaatar 77.68 324⇓ *e*P P **17 44 31.0 -0.3**
ULN pmax pmax
comp=Z,26nm,1.2s
ULN Ulaanbaatar 77.68 324 P P **17 44 31.2 -0.1**
ULN IAmb IAmb 17 44 33.0
comp=Z,24nm,1.1s
YAK Yakutsk 77.80 344 *e*P P **17 44 30.9 -0.5**
YAK pmax pmax
comp=Z,25nm,0.9s
YAK Yakutsk 77.80 344 P P **17 44 30.8 -0.5**
SONM Songino Array 78.04 324 P P **17 44 33.5 +0.3**
comp=Z,6.7nm,0.9s,baz=138,slow=5.6,SNR=25
GTA Gaotai 78.30 314 ⇓P P **17 44 35.8 +0.9**
GTA pP pP 17 44 44.3 +2.2
GTA sP sP 17 44 48.4 +3.7
GTA pmax pmax
comp=Z,13nm,1.1s
BILL Bilibino 78.88 1*ce*P P **17 44 37.6 +0.3**
BILL *e* 17 44 47.1
BILL pmax pmax
comp=Z,27nm,1.7s
BILL Bilibino 78.88 1 P P **17 44 37.6 +0.3**
BILL IAmb IAmb 17 44 38.5
comp=Z,17nm,1.1s
QSPA South Pole Qui 78.96 180 P P **17 44 38.8 +0.7**
QSPA IAmb IAmb 17 44 43.1
comp=Z,15nm,1.2s
BRLK Bradley Lake 79.02 21 P P **17 44 37.9 -0.3**
TTA Tatalina 79.73 17 P P **17 44 42.6 +0.5**
TTA pmax pmax
comp=Z,15nm,1.5s
TTA Tatalina 79.73 17 P P **17 44 42.6 +0.5**
SUA Susitna One 80.28 20 P P **17 44 44.7 -0.4**
RC01 Rabbit Creek A 80.36 21 P P **17 44 44.9 -0.5**
PPLA Purkeypile 80.86 18 P P **17 44 50.4 +2.1**
PPLA IAmb IAmb 17 45 19.9
comp=Z,52nm,1.9s
KNK Knik Glacier 81.03 21 P P **17 44 48.5 -0.6**
ZAK Zakamensk 81.09 325 *e*P P **17 44 49.4 -0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
GHO Glory Hole Cre 81.12 20 P P **17 44 48.1 -1.5**
GHO IAmb IAmb 17 44 54.9
comp=Z,59nm,1.8s
EYAK Cordova Ski Ar 81.42 22 P P **17 44 51.0 -0.1**
EYAK IAmb IAmb 17 44 58.0
comp=Z,56nm,1.6s
SCM Sheep Creek Mo 81.71 21 P P **17 44 52.5 -0.2**
SCM pmax pmax
comp=Z,94nm,1.8s
SCM Sheep Creek Mo 81.71 21 P P **17 44 52.5 -0.2**
TRF Thorofare Moun 81.85 19 P P **17 44 53.7 +0.2**
RDOG Red Dog Mine 82.23 12 P P **17 44 55.5 +0.2**
RND Reindeer 82.28 19 P P **17 44 55.0 -0.7**
RND pmax pmax
comp=Z,17nm,1.4s
RND Reindeer 82.28 19 P P **17 44 55.0 -0.7**
RND IAmb IAmb 17 45 10.1
comp=Z,17nm,1.4s
CRQM Cirque 82.55 23 P P **17 44 57.0 -0.3**
CRQM IAmb IAmb 17 45 07.7
comp=Z,33nm,1.4s
TGL Tana Glacier 82.67 23 P P **17 44 57.8 0.0**
TGL IAmb IAmb 17 45 17.3
comp=Z,28nm,1.4s
VRDI Verde Repeater 82.72 23 P P **17 44 57.8 -0.4**
VRDI IAmb IAmb 17 45 22.8
comp=Z,38nm,1.6s
GLB Gilahina Butte 82.72 22 P P **17 44 57.8 -0.2**
MLY Manley 82.85 17 P P **17 44 58.0 -0.6**
BALM Baldy 83.03 23 P P **17 44 59.5 -0.1**
BALM IAmb IAmb 17 45 01.4
comp=Z,9.2nm,1.0s
WRH Wood River Hil 83.26 19 P P **17 45 00.5 -0.2**
WRH IAmb IAmb 17 45 01.0
comp=Z,13nm,1.4s
BARN Barnard Glacie 83.31 23 P P **17 45 01.8 +0.6**
BARN IAmb IAmb 17 45 02.2
comp=Z,9.1nm,1.0s
CTGM Chitina Glacie 83.37 23 P P **17 45 01.7 +0.2**
CTGM IAmb IAmb 17 45 02.5
comp=Z,10nm,0.9s
CCB Clear Creek Bu 83.47 19 P P **17 45 00.6 -1.1**
MDM Murphy Dome 83.56 18 P P **17 45 02.3 +0.1**
DHAK Deception Hill 83.56 26 P P **17 45 03.8 +1.4**
HDA Harding Lake 83.58 19 P P **17 45 02.3 0.0**
baz=228
HDA Harding Lake 83.58 19 P P **17 45 02.1 -0.2**
HDA IAmb IAmb 17 45 03.5
comp=Z,18nm,0.9s
TCOL CIGO, UAF Yank 83.61 18 P P **17 45 01.3 -1.1**
baz=227
COLA College 83.62 18⇑ *e*P P **17 45 00.6 -1.8**
COLA pmax pmax
comp=Z,8.0nm,1.0s
IL31 83.85 19 P P **17 45 02.5 -1.1**
IL31 IAmb IAmb 17 45 05.9
comp=Z,26nm,1.9s
ILAR Eielson Array 83.85 19 P P **17 45 03.4 -0.3**
comp=Z,2.6nm,0.7s,baz=227,slow=5.9,SNR=24
POKR Poker Plat Res 83.91 18 P P **17 45 03.0 -1.0**
baz=227
DOT Dot Lake 84.04 20 P P **17 45 04.7 -0.1**
O02D Mt. Diablo Mer 84.07 47 P P **17 45 05.9 +0.5**
baz=250
SCRK Sand Creek 84.28 20 P P **17 45 05.4 -0.7**
MAW Mawson 84.33 202 P P **17 45 06.0 -0.1**
comp=Z,3.7nm,0.8s,baz=102,slow=5.7,SNR=4.1
MAW Mawson 84.33 202 P P **17 45 05.9 -0.2**
N02D Trinity Center 84.40 47 P P **17 45 07.6 +0.5**
baz=250
M02C Callahan 84.43 46 P P **17 45 08.0 +0.7**
baz=250
COLD Coldfoot 84.59 16 P P **17 45 08.0 +0.6**
PKM Mcpherson Peak 84.64 53 P P **17 45 09.1 +0.5**
baz=253
YBH Yreka Blue Hor 84.65 46 P P **17 45 08.5 +0.1**
YBH pmax pmax
comp=Z,12nm,1.3s
YBH Yreka Blue Hor 84.65 46 P P **17 45 08.5 +0.1**
YBH IAmb IAmb 17 45 09.3
comp=Z,12nm,1.2s
O03E Paynes Creek 84.82 47 P P **17 45 09.5 +0.3**
baz=251
PASC Pasadena Art C 85.72 54 P P **17 45 13.9 +0.1**
PASC IAmb IAmb 17 45 52.3
comp=Z,27nm,1.5s
EGAK Eagle 85.74 20 P P **17 45 13.4 +0.2**
EGAK IAmb IAmb 17 45 15.9
comp=Z,13nm,1.0s
TOLK Toolik Lake Re 85.77 15 P P **17 45 14.4 +1.0**
baz=225
TOLK Toolik Lake Re 85.77 15 P P **17 45 14.3 +1.0**
TOLK IAmb IAmb 17 45 29.4
comp=Z,16nm,1.9s
TIXI Tiksi 85.89 349*de*P P **17 45 12.8 -1.0**
TIXI pmax pmax
comp=Z,15nm,1.7s
TIXI Tiksi 85.89 349 P P **17 45 13.1 -0.7**
TIXI IAmb IAmb 17 45 14.4
comp=Z,11nm,1.2s
DAWY Dawson 85.94 21 P P **17 45 14.5 +0.2**
EDW2 Edwards Air Fo 86.07 54 P P **17 45 15.5 -0.1**
baz=254
J05D Fort Rock, OR 86.19 45 P P **17 45 16.2 0.0**
baz=251
NVAR Mina Array Bea 86.83 50 P P **17 45 19.4 0.0**
comp=Z,2.2nm,1.0s,baz=237,slow=7.9,SNR=6.4
KVN Kaiserville 87.16 49 P P **17 45 20.9 -0.1**
KVN pmax pmax
comp=Z,7.0nm,1.3s
KVN Kaiserville 87.16 49 P P **17 45 20.9 -0.1**
SWSC Sam W. Stewart 87.31 56 P P **17 45 21.1 -0.5**
baz=255
HEC Hector,Ludlow 87.37 54 P P **17 45 22.0 0.0**
baz=255
BELC Belle Mtn. Jos 87.42 55 P P **17 45 21.2 -1.2**
baz=255
IRM Iron Mountain 88.14 55 P P **17 45 26.0 +0.3**
baz=255
EPYK Eagle Plains 88.17 20 P P **17 45 25.8 +0.7**
baz=237
WMQ Urumqi 88.34 315 *e*P P **17 45 26.5 +0.1**
WMQ pmax pmax
comp=Z,9.0nm,0.9s
WMQ pmax pmax
comp=Z,250nm,7.5s
WMQ LR LR
comp=Z,570nm,28.8s
WMQ LR LR
comp=Z,200nm,25.1s
R11A Troy Canyon, C 88.86 51 P P **17 45 28.9 -0.3**
baz=255
CCUT Cedar City 90.37 52 P P **17 45 36.9 +0.6**
U15A North Rim 90.95 53 P P **17 45 39.5 +0.5**
U15A IAmb IAmb 17 45 40.5
comp=Z,5.2nm,1.1s
SYO Syowa Base 91.48 197⇑ *e*P P **17 45 39.2 -1.3**
MK31 Makanchi Array 92.80 317 P P **17 45 46.4 -0.6**
MK31 pmax pmax
comp=Z,7.0nm,1.0s
MK31 Makanchi Array 92.80 317 P P **17 45 46.4 -0.6**
MK31 IAmb IAmb 17 45 47.9
comp=Z,6.6nm,1.0s
MKAR Makanchi Array 92.80 317 P P **17 45 46.7 -0.3**
comp=Z,4.6nm,0.8s,baz=99,slow=6.2,SNR=37
ZAA0 Zalesovo Array 92.94 324 P P **17 45 46.1 -1.4**
ZAA0 IAmb IAmb 17 45 47.2
comp=Z,6.5nm,1.1s
ZALV Zalesovo Beam 92.94 324 P P **17 45 46.4 -1.0**
comp=Z,3.1nm,0.9s,baz=117,slow=5.3,SNR=12
MAKZ Makanchi 93.01 317 P P **17 45 47.5 -0.5**
MAKZ pmax pmax
comp=Z,12nm,1.1s
MAKZ Makanchi 93.01 317 P P **17 45 47.5 -0.5**
MAKZ IAmb IAmb 17 45 48.8
comp=Z,12nm,1.1s
C36M Paulatuk 93.79 20 P P **17 45 49.8 -1.2**
baz=249
PDAR Pinedale Array 94.33 47 P P **17 45 54.2 -0.2**
comp=Z,0.6nm,0.8s,baz=254,slow=2.8,SNR=4.5
YKA Yellowknife Ar 95.46 27 P P **17 45 56.5 -2.3**
comp=Z,0.8nm,0.8s,baz=256,slow=4.4,SNR=12
KSH Kashi 95.93 309 P P **17 46 03.1 +1.4**
KSH S S **17 57 18.3 -0.2**
KSH LR LR
comp=Z,540nm,10.5s
KSH LR LR
comp=Z,620nm,8.9s
KSH LR LR
comp=Z,620nm,8.9s
KURK Kurchatov 95.96 320⇑ *e*P P **17 46 00.3 -1.1**
KURK pmax pmax
comp=Z,5.0nm,1.7s
VNA3 Neumayer Olymp 97.81 182 P P 17 46 05.8 -3.8
VNA2 Neumayer--Watz 98.04 183 P P **17 46 10.5 0.0**
baz=169,slow=4.0
VNA1 Neumayer--Stat 98.36 182 P P **17 46 09.0 -2.8**
ARCES ARCESS Array B 116.06 345 PKIKP **PKiKP 17 51 16.0 -0.9**
ARCES ARCESS Array B 116.06 345 PKP **PKiKP 17 51 16.0 -0.9**
comp=Z,2.6nm,1.0s,baz=0.0,slow=0.4,SNR=8.3
LPAZ La Paz 121.13 117 PKIKP **PKPdf 17 51 28.1 -0.9**
LPAZ La Paz 121.13 117 PKP **PKPdf 17 51 27.9 -1.0**
comp=Z,1.0nm,0.7s,baz=240,slow=2.7,SNR=5.0
LPAZ La Paz 121.13 117 PKPdf 17 51 28.1 -0.9
BOSA Boshof 124.39 224 PKIKP **PKPdf 17 51 34.7 +0.3**
BOSA Boshof 124.39 224 PKP **PKPdf 17 51 34.3 -0.1**
comp=Z,1.3nm,0.7s,baz=228,slow=5.5,SNR=3.8
BOSA Boshof 124.39 224 PKPdf 17 51 34.7 +0.3
CPUP Villa Florida 124.81 133 PKP **PKPdf 17 51 35.0 0.0**
comp=Z,2.7nm,0.8s,baz=207,slow=19,SNR=5.1
CPUP Villa Florida 124.81 133 PKPdf 17 51 34.8 -0.2
GERES GERESS Array B 135.23 333 PKP **PKPdf 17 51 54.3 +0.1**
comp=Z,1.0nm,0.8s,baz=45,slow=2.1,SNR=5.0
KEST Kesra 146.76 322 PKPbc **PKPdf 17 52 16.4 +1.1**
comp=Z,5.6nm,0.8s,baz=124,slow=2.4,SNR=4.3
KEST Kesra 146.76 322 PKPdf 17 52 17.1 +1.8
ESDC Sonseca Array 149.75 342 PKPbc **PKPdf 17 52 22.6 +2.6**
comp=Z,1.0nm,0.8s,baz=7.7,slow=3.5,SNR=7.8
TORD Torodi Ar. Bea 163.22 279 PKP **PKPdf 17 52 36.8 -1.2**
comp=Z,1.6nm,0.8s,baz=237,slow=1.1,SNR=6.6

*ISCJB **21** 17:42:46.8±0.9, 18°.97N±0°.05×67°.62W±0°.03,h10km±4km, Error ellipse: s-maj=7.9km s-min=3.9km az=15.7*
*NEIC **21** 17:42:48.2±1.3, 18°.95N±0°.06×67°.58W±0°.02,h20km±9km*
*RSPR **21** 17:42:49.1, 18°.94N×67°.68W,h8km±1km,MD3.1/11*
ISC 21 17:42:48.9±1.3, **18°.88N**±0°.07×**67°.64W**±0°.03,**h22**km±5km,
n58,s0°72/68,14C-2D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.51**	**162**⇓	*e*P		**Pb**	**17 42 59.5**	**+0.3**
IDE	**Isla Desecheo**	**0.51**	**162**	*e*S		**Sb**	**17 43 07.1**	**+0.8**
IDE	**Isla Desecheo**	**0.51**	**162**			**Pb**	**17 42 59.5**	**+0.3**
IDE						**Sb**	**17 43 07.1**	**+0.8**
AGPR	**Aguadilla, PR**	**0.64**	**129**⇑	*e*P		**Pb**	**17 43 01.4**	**0.0**
AGPR	**Aguadilla, PR**	**0.64**	**129**	*e*S		**Sb**	**17 43 10.7**	**+0.6**
AGPR	**Aguadilla, PR**	**0.64**	**129**		Pg	**Pb**	**17 43 01.2**	**-0.3**
AGPR						**Sb**	**17 43 10.1**	**0.0**
PCDR	**Punta Cana, DR**	**0.79**	**243**	*e*S		**Sb**	**17 43 14.0**	**-0.2**
PCDR	**Punta Cana, DR**	**0.79**	**243**⇑	*e*P		**Pb**	**17 43 03.0**	**-0.9**
PCDR	**Punta Cana, DR**	**0.79**	**243**		Pg	**Pb**	**17 43 04.3**	**+0.3**
PCDR						**Sb**	**17 43 13.7**	**-0.6**
MPR	**Mayaguez**	**0.81**	**144**		Pg	**Pb**	**17 43 03.9**	**-0.4**
LSP	**Las Mesas**	**0.87**	**143**	*e*S		**Sn**	**17 43 17.9**	**0.0**
LSP	**Las Mesas**	**0.87**	**143**⇑	*e*P		**Pb**	**17 43 05.0**	**-0.3**
LSP	**Las Mesas**	**0.87**	**143**			**Pb**	**17 43 05.0**	**-0.3**
LSP						**Sn**	**17 43 17.9**	**0.0**
AOPR	**Arecibo Observ**	**0.99**	**122**	*e*S		**Sb**	**17 43 20.0**	**0.0**

AOPR	**Arecibo Observ**	**0.99**	**122**	⇑	*e*P		**Pb**	**17 43 06.4**	**-1.0**
AOPR	**Arecibo Observ**	**0.99**	**122**				**Pb**	**17 43 06.4**	**-1.0**
AOPR	**Arecibo Observ**	**0.99**	**122**				**Sb**	**17 43 20.0**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.00**	**150**		*e*S		**Sn**	**17 43 21.9**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.00**	**150**	⇑	*e*P		**Pb**	**17 43 07.2**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.00**	**150**		Pn		**Pb**	**17 43 07.1**	**-0.4**
MLPR	**Magueyes Islan**	**1.06**	**148**		*e*S		**Sn**	**17 43 23.3**	**+0.7**
MLPR	**Magueyes Islan**	**1.06**	**148**	⇑	*e*P		**Pn**	**17 43 08.0**	**-0.5**
MLPR	**Magueyes Islan**	**1.06**	**148**				**Sn**	**17 43 23.3**	**+0.7**
MLPR	**Magueyes Islan**	**1.06**	**148**		Pg		**Pn**	**17 43 08.1**	**-0.4**
EMPR	**Esperanza - Ma**	**1.12**	**111**		*e*S		**Sn**	**17 43 24.1**	**0.0**
EMPR	**Esperanza - Ma**	**1.12**	**111**	⇑	*e*P		**Pn**	**17 43 08.8**	**-0.5**
EMPR	**Esperanza - Ma**	**1.12**	**111**				**Sn**	**17 43 24.1**	**0.0**
EMPR	**Esperanza - Ma**	**1.12**	**111**		Pn		**Pb**	**17 43 11.5**	**+1.9**
GBPR	**Guanica, Bosqu**	**1.15**	**141**	⇑	*e*P		**Pb**	**17 43 10.2**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.15**	**141**		*e*S		**Sn**	**17 43 26.2**	**+1.4**
GBPR	**Guanica, Bosqu**	**1.15**	**141**				**Pb**	**17 43 10.2**	**+0.1**
GBPR							**Sn**	**17 43 26.2**	**+1.4**
CELP	**Cerrillos**	**1.28**	**128**	⇑	*e*P		**Pn**	**17 43 11.4**	**-0.2**
CELP					*e*S		**Sn**	**17 43 27.7**	**-0.4**
CELP	**Cerrillos**	**1.28**	**128**				**Pn**	**17 43 11.4**	**-0.2**
CELP							**Sn**	**17 43 27.7**	**-0.4**
OBIP	**Obispado Ponce**	**1.28**	**130**	⇓	*e*P		**Pn**	**17 43 11.4**	**-0.1**
OBIP	**Obispado Ponce**	**1.28**	**130**		*e*S		**Sn**	**17 43 28.1**	**+0.1**
OBIP	**Obispado Ponce**	**1.28**	**130**				**Sn**	**17 43 28.1**	**+0.1**
OBIP	**Obispado Ponce**	**1.28**	**130**		Pn		**Pn**	**17 43 11.2**	**-0.3**
ICMP	**Isla Caja de M**	**1.44**	**133**		Pn		**Pb**	**17 43 15.0**	**0.0**
GCPR	**Guaynabo City**	**1.58**	**111**		Pn		**Pn**	**17 43 15.0**	**-0.6**
SJG	**San Juan**	**1.60**	**118**		Pn		**Pn**	**17 43 15.7**	**-0.2**
DR12	**Loma Pena Alta**	**1.65**	**267**		Pn		**Pb**	**17 43 18.3**	**-0.4**
IGPR	**InterUniversit**	**1.71**	**122**	⇑	*e*P		**Pn**	**17 43 17.4**	**-0.1**
IGPR	**InterUniversit**	**1.71**	**122**		*e*S		**Sn**	**17 43 38.8**	**+0.2**
IGPR	**InterUniversit**	**1.71**	**122**		Pn		**Pn**	**17 43 15.2**	**-2.2**
PDPR	**Patillas Dam,**	**1.75**	**119**	⇑	*e*P		**Pn**	**17 43 18.3**	**+0.3**
PDPR	**Patillas Dam,**	**1.75**	**119**		*e*S		**Sn**	**17 43 39.9**	**+0.2**
PDPR	**Patillas Dam,**	**1.75**	**119**		Pn		**Sn**	**17 43 17.7**	**-0.3**
PDPR							**Sn**	**17 43 38.5**	**-1.2**
CBYP	**Canovanas**	**1.79**	**109**	⇑	*e*P		**Pn**	**17 43 18.9**	**+0.3**
CBYP	**Canovanas**	**1.79**	**109**		*e*S		**Sn**	**17 43 40.8**	**0.0**
CBYP	**Canovanas**	**1.79**	**109**				**Pn**	**17 43 18.6**	**0.0**
CBYP							**Sn**	**17 43 41.4**	**+0.6**
HUMP	**Col San Antoni**	**1.85**	**113**	⇑	*e*P		**Pn**	**17 43 19.0**	**-0.3**
HUMP	**Col San Antoni**	**1.85**	**113**		*e*S		**Sn**	**17 43 42.7**	**+0.7**
HUMP	**Col San Antoni**	**1.85**	**113**				**Pn**	**17 43 18.7**	**-0.5**
HUMP							**Sn**	**17 43 42.0**	**0.0**
MTP	**Monte Pirata**	**2.12**	**111**	⇑	*e*P		**Pn**	**17 43 22.9**	**-0.3**
MTP	**Monte Pirata**	**2.12**	**111**				**Pn**	**17 43 22.7**	**-0.4**
STVI	**Saint Thomas**	**2.60**	**101**		Pn		**Pn**	**17 43 28.9**	**-0.7**
BANI	**BANI**	**2.62**	**260**		Pn		**Pn**	**17 43 28.6**	**-1.5**
SDDR	**Presa de Saban**	**3.46**	**272**		Pn		**Pn**	**17 43 43.9**	**+2.4**

IDC 21 17:47:07.7±3.5, 20°.18S×176°.14W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/36, mbtmp3.8/2, Error ellipse: s-maj=202.4km s-min=57.0km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.29**	**256**	P		P	17 55 36.4	+0.9
	0.9nm,0.5s,baz=88,slow=8.5,SNR=38							
ASAR				PcP		PcP	17 57 09.1	-2.0
	0.4nm,0.9s,baz=104,slow=4.1,SNR=5.5							
WRA	**Warramunga Arr**	**46.38**	**261**	P		P	17 55 35.3	-0.9
	0.3nm,0.3s,baz=97,slow=7.4,SNR=11							
AKASG	**Malin Array Be**	**143.56**	**333**	PKP		PKPdf	18 06 43.4	-0.9
	0.8nm,0.4s,baz=42,slow=4.8,SNR=6.0							
BRTR	**Keskin Array B**	**147.90**	**314**	PKPbc		PKPbc	18 06 56.0	+0.7
	0.6nm,0.7s,baz=128,slow=4.4,SNR=2.4							

*MOS **21** 17:51:49.1±1.2,53°.37N×91°.76E,h10km,mb4.9/29, MS4.4/14, Error ellipse: s-maj=5.5km s-min=4.8km az=92.9*
MOS Felt (III-IV) at Abakan, Sayanogorsk, Chernogorsk; (II-III) at Kemerovo, Mezhdurechensk, Novokuznetsk, Prokop'evsk; (II) at Achinsk, Krasnoyarsk, Minusinsk.
*BJI **21** 17:51:49.5±0.0,53°.42N×91°.79E,h10km,mb4.7/55, mB4.9/40,ML5.2/1,Ms4.9/45,Ms7 4.6/45*
*IDC **21** 17:51:49.0±0.4,53°.46N×91°.87E,h0km,mb4.4/34, mb1 4.5/40,mb1mx4.5/58,mbtmp4.5/40,ML4.1/7,MS4.1/20, Ms1 4.1/20,ms1mx3.8/51,Error ellipse: s-maj=11.5km s-min=7.5km az=162.0*
*ISCJB **21** 17:51:50.5±0.7,53°.41N±0°.02×91°.71E±0°.03,h14km±4km, mb4.8/119,MS4.2/30,Error ellipse: s-maj=2.8km s-min=2.4km az=147.1*
*ASRS **21** 17:51:51.6±0.1,53°.1°×9°.2E±°,h2km,MLv5.7/28, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
*NNC **21** 17:51:53.3±2.1,53°.69N×90°.98E,h0km, mb5.1,mpv5.2, Error ellipse: s-maj=19.1km s-min=14.9km az=108.0*
*NEIC **21** 17:51:54.0±1.6,53°.42N±0°.04×91°.76E±0°.08,h31km±3km, mb5.0/186*

ISC 21 17:51:50.4±0.9, 53°.44N±0°.02×91°.70E±0°.02, h8km±5km, n639, σ1%65/672, mb4.9/178, MS4.2/30, 43C-20D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ABNR	**Abakan**	**0.32**	**331**	*d*	*i*PG	**Pb**	**17 51 58.5**	**+0.1**
ABNR	**Abakan**	**0.32**	**331**	P		**Pb**	**17 51 58.6**	**+0.2**
CERR	**Cheremushki**	**0.61**	**196**	P		**Pg**	**17 52 01.9**	**-0.4**
CERR				S		**Sg**	**17 52 09.3**	**-1.1**
DJOS	**Djoyskaya Sosn**	**0.68**	**196**	P		**Pg**	**17 52 02.9**	**-0.5**
DJOS				S		**Sg**	**17 52 11.0**	**-1.3**
VEH	**Verkhnyaya Baz**	**0.85**	**258**	P		**Pg**	**17 52 06.7**	**-0.1**
VEH				S		**Sg**	**17 52 17.9**	**+0.1**
LUZB	**Luzhba, Kemero**	**1.69**	**279**	PN		**Pb**	**17 52 21.2**	**-0.4**
LUZB							17 52 41.6	
LUZB	**Luzhba, Kemero**	**1.69**	**279**	P		**Pn**	**17 52 20.5**	**+0.4**
LUZB				S		**Sn**	**17 52 42.0**	**+0.1**
MINR	**Mina**	**2.07**	**44**	P		**Pb**	**17 52 27.4**	**-0.8**
MINR				S		**Sg**	**17 52 56.9**	**0.0**
TASR	**Tashtagol**	**2.40**	**255**	PN		**Pn**	**17 52 32.0**	**+2.0**
TASR							17 53 02.7	
TASR	**Tashtagol**	**2.40**	**255**	P		**Pn**	**17 52 31.6**	**+1.5**
TASR				S		**Sb**	**17 53 02.5**	**-1.2**
KZLR	**Kyzyl**	**2.42**	**135**	*d*	*i*PN	**Pn**	**17 52 31.0**	**+0.8**
KZLR	**Kyzyl**	**2.42**	**135**	P		**Pn**	**17 52 31.8**	**+1.6**
KZLR				S		**Sb**	**17 53 02.9**	**-1.2**
ORY	**Orie**	**2.54**	**51**	*i*	PN	**Pn**	**17 52 33.4**	**+1.5**
ORY	**Orie**	**2.54**	**51**	P		**Pn**	**17 52 33.5**	**+1.7**
ORY				S		**Sb**	**17 53 07.2**	**-0.4**
TEL	**Teeli**	**2.60**	**201**	PN		**Pb**	**17 52 37.6**	**+0.4**
TEL							17 53 09.6	
TEL	**Teeli**	**2.60**	**201**	P		**Pn**	**17 52 34.5**	**+1.8**
TEL				S		**Sb**	**17 53 07.9**	**-1.4**
TDJR	**Todzha**	**2.86**	**110**	P		**Pn**	**17 52 37.8**	**+1.4**
TDJR				S		**Sn**	**17 53 13.0**	**+2.1**
BRCR	**Berchikul'**	**2.95**	**320**	PN		**Pb**	**17 52 43.7**	**+0.5**
BRCR							17 53 23.7	
BRCR	**Berchikul'**	**2.95**	**320**	P		**Pn**	**17 52 39.1**	**+1.5**
BRCR				S		**Sb**	**17 53 22.1**	**+2.7**
GZL	**Zheleznogorsk**	**3.02**	**20**	P		**Pn**	**17 52 41.0**	**+2.6**
GZL				S		**Sg**	**17 53 26.5**	**-0.9**
SHTK	**Zheleznogorsk-**	**3.10**	**20**	P		**Pn**	**17 52 40.9**	**+1.4**
SHTK				S		**Sb**	**17 53 21.1**	**-2.4**
ARTR	**Artybash**	**3.16**	**240**	PN		**Pb**	**17 52 45.2**	**-1.5**
ARTR							17 53 24.8	
ARTR	**Artybash**	**3.16**	**240**	P		**Pn**	**17 52 41.6**	**+1.3**
ARTR				S		**Sb**	**17 53 22.1**	**-3.2**
GZLN	**Zheleznogorsk**	**3.18**	**21**	P		**Pn**	**17 52 42.9**	**+2.3**
ELT	**Eltsovka**	**3.28**	**269**	P		**Pn**	**17 52 43.3**	**+1.3**
ULGR	**Ulagan, Altay**	**3.65**	**221**	PN		**Pb**	**17 52 56.6**	**+1.4**
ULGR							17 53 42.0	
ULGR	**Ulagan, Altay**	**3.65**	**221**	P		**Pn**	**17 52 49.3**	**+2.1**
SALR	**Pechorkino, Sa**	**3.68**	**288**	PN		**Pg**	**17 52 58.7**	**-2.1**
SALR							17 53 45.5	
SALR	**Pechorkino, Sa**	**3.68**	**288**	P		**Pn**	**17 52 49.0**	**+1.5**
KEM	**Kemerovo**	**3.79**	**302**	P		**Pn**	**17 52 51.0**	**+2.0**
GALT	**Gorno-Altaysk,**	**3.80**	**249**	P		**Pn**	**17 52 51.0**	**+1.8**
AKAR	**Aktash**	**4.02**	**221**	P		**Pn**	**17 52 54.6**	**+2.2**
CHBI	**Chibit, Altay**	**4.07**	**221**	P		**Pn**	**17 52 55.2**	**+2.2**
ELDR	**Elanda**	**4.10**	**239**	P		**Pn**	**17 52 55.0**	**+1.7**
ZAA0	**Zalesovo Array**	**4.12**	**280**			**Pn**	**17 52 55.5**	**+1.9**
ZAA0					Sg	**Sb**	**17 53 56.6**	**+3.6**
ZAA0	**Zalesovo Array**	**4.12**	**280**	⇑	Pn	**Pn**	**17 52 52.9**	**-0.7**
	66nm,0.7s							
ZAA0				⇓	Lg	Lg	17 53 50.8	
	914nm,0.9s							
ZALV	**Zalesovo Beam**	**4.12**	**280**		Pn	**Pn**	**17 52 55.5**	**+2.0**
	96nm,0.3s,baz=104,slow=12,SNR=546							
ZALV					Lg	Lg	17 53 57.2	
	391nm,0.3s,baz=100,slow=27,SNR=17							
ZALV					LR	LR	17 54 50.9	
	comp=Z,2μm,21.8s,baz=102,slow=43							
DGZ	**Jazzator, Alta**	**4.60**	**217**		P	**Pn**	**17 53 03.1**	**+2.8**
TUNR	**Tungur**	**4.68**	**228**		P	**Pn**	**17 53 03.9**	**+2.6**
UKR	**Ust'-Kan**	**4.95**	**242**		P	**Pn**	**17 53 06.8**	**+1.8**
ORL	**Orlik**	**4.98**	**97**		P	**Pn**	**17 53 07.5**	**+2.0**
NVSII	**Novosibirsk**	**5.17**	**289**		P	**Pn**	**17 53 09.4**	**+1.5**
NVS	**Novosibirsk**	**5.17**	**289**		P	**Pn**	**17 53 09.4**	**+1.5**
BSTK	**Bystrovka, Nov**	**5.45**	**286**		P	**Pn**	**17 53 13.5**	**+1.7**
MOY	**Mondy**	**5.94**	**104**	*e*	PN	**Pb**	**17 53 30.8**	**-3.4**
MOY	**Mondy**	**5.94**	**104**		P	Pn	17 53 23.8	+5.1
TLY	**Talaya**	**7.49**	**99**		Pg	**Pb**	**17 54 04.9**	**+4.4**
	0.1nm,0.3s,baz=242,slow=3.1,SNR=12							
TLY					Lg	Lg	17 55 41.5	
	0.1nm,0.3s,baz=36,slow=22,SNR=11							
TLY					LR	LR	17 56 39.8	
	comp=Z,1μm,20.4s,baz=292,slow=39							
TLY	**Talaya**	**7.49**	**99**			**Pb**	**17 54 02.2**	**+1.6**
KURK	**Kurchatov**	**8.51**	**257**	*d*	*i*P	**Pn**	**17 53 54.1**	**+0.3**
KURK					pmax	pmax		
	comp=Z,196nm,0.7s							
KURK	**Kurchatov**	**8.51**	**257**		P	**Pn**	**17 53 54.3**	**+0.5**
KURK	**Kurchatov**	**8.51**	**257**			**Pn**	**17 53 54.2**	**+0.5**
KURK						**Sn**	**17 55 28.9**	**-1.0**
KURK	**Kurchatov**	**8.51**	**257**	⇑	Pn	**Pn**	**17 53 54.0**	**+0.2**
	comp=Z,154nm,0.6s							
KURK				⇑	Sn	**Sn**	**17 55 25.5**	**-4.3**
	comp=Z,249nm,0.6s							
KURK				⇓	Lg	Lg	17 56 13.1	
	comp=Z,2μm,1.1s							
KURBB	**Kurchatov Arra**	**8.60**	**256**		Pn	**Pn**	**17 53 55.6**	**+0.6**
	comp=Z,9.5nm,0.3s,baz=67,slow=14,SNR=697							
KURBB					Sn	**Sn**	**17 55 29.7**	**-2.4**
	comp=Z,10.0nm,0.3s,baz=46,slow=5.3,SNR=4.3							
KURBB					Lg	Lg	17 56 17.3	
	comp=Z,3.8nm,0.3s,baz=112,slow=25,SNR=1.8							
KURBB	**Kurchatov Arra**	**8.60**	**256**	⇓	Pn	**Pn**	**17 53 55.6**	**+0.6**
	comp=Z,301nm,0.6s							
KURBB				⇑	Sn	**Sn**	**17 55 27.4**	**-4.7**
	comp=Z,717nm,0.6s							
KURBB				⇑	Lg	Lg	17 56 16.2	
	comp=Z,2μm,0.7s							
MK31	**Makanchi Array**	**8.99**	**226**		P	**Pn**	**17 54 02.1**	**+1.7**
MK31	**Makanchi Array**	**8.99**	**226**			**Pn**	**17 54 02.1**	**+1.7**
MK31	**Makanchi Array**	**8.99**	**226**	⇑	Pn	**Pn**	**17 54 02.3**	**+1.9**
	comp=Z,66nm,0.7s,baz=38,slow=12,SNR=1108							
MK31				⇓	Sn	**Sn**	**17 55 45.4**	**+3.7**
	comp=Z,111nm,0.8s							
MK31				⇓	Lg	Lg	17 56 36.5	
	comp=Z,289nm,0.8s,baz=47,slow=30,SNR=4.8							
MKAR	**Makanchi Array**	**8.99**	**226**	*ce*	P	**Pn**	**17 54 03.0**	**+2.6**
MKAR					pmax	pmax		
	comp=Z,6.0nm,0.3s							
MKAR	**Makanchi Array**	**8.99**	**226**		Pn	**Pn**	**17 54 03.0**	**+2.6**
	comp=Z,1.7nm,0.3s,baz=36,slow=12,SNR=59							
MKAR					Lg	Lg	17 56 29.1	
	comp=Z,11nm,0.3s,baz=46,slow=29,SNR=5.1							
MKAR					LR	LR	17 57 43.0	
	comp=Z,1μm,21.7s,baz=22,slow=39							
MKAR	**Makanchi Array**	**8.99**	**226**		P	**Pn**	**17 54 01.7**	**+1.3**
MAKZ	**Makanchi**	**9.11**	**227**		P	**Pn**	**17 54 03.7**	**+1.6**
MAKZ	**Makanchi**	**9.11**	**227**		P	**Pn**	**17 54 03.6**	**+1.5**
MAKZ	**Makanchi**	**9.11**	**227**			**Pn**	**17 54 03.7**	**+1.5**
MAKZ	**Makanchi**	**9.11**	**227**	⇑	Pn	**Pn**	**17 54 04.2**	**+2.1**
	comp=Z,44nm,0.6s							
MAKZ				⇓	Sn	**Sn**	**17 55 47.5**	**+2.7**
	comp=Z,198nm,0.8s							
MAKZ				⇑	Lg	Lg	17 56 39.1	
	comp=Z,804nm,1.0s							
WMQ	**Urumqi**	**9.99**	**197**	*e*	P	**Pn**	**17 54 17.1**	**+3.0**
SONM	**Songino Array**	**10.88**	**115**		Pn	**Pn**	**17 54 25.9**	**-0.5**
	baz=303,slow=18,SNR=5.5							
SONM					Sn	**Sn**	**17 56 28.9**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=334,slow=30,SNR=2.7							
SONM					Lg	Lg	17 57 26.0	
	comp=Z,1.6nm,0.3s,baz=298,slow=28,SNR=9.9							
SONM					LR	LR	17 58 41.0	
	comp=Z,2μm,18.4s,baz=303,slow=38							
ULN	**Ulaanbaatar**	**11.22**	**114**	⇑	*e*P	**Pn**	**17 54 32.8**	**+1.7**
ULN					pmax	pmax		
	comp=Z,17nm,1.7s							
ULN	**Ulaanbaatar**	**11.22**	**114**			**Pn**	**17 54 32.8**	**+1.7**
BVAR	**Borovoye Array**	**12.77**	**277**		Pn	**Pn**	**17 54 50.4**	**-1.7**
	comp=Z,7.1nm,0.3s,baz=85,slow=11,SNR=110							
BVAR					Sn	Sn	17 56 59.7	-15
	comp=Z,1.2nm,0.3s,baz=84,slow=15,SNR=2.4							
BRVK	**Borovoye**	**12.83**	**277**	⇓	*e*P	**Pn**	**17 54 52.3**	**-0.6**
BRVK					pmax	pmax		
	comp=Z,39nm,1.3s							
BRVK	**Borovoye**	**12.83**	**277**		P	**Pn**	**17 54 52.2**	**-0.6**
BRVK	**Borovoye**	**12.83**	**277**			**Pn**	**17 54 51.6**	**-1.2**
BRVK	**Borovoye**	**12.83**	**277**	⇓	Pn	**Pn**	**17 54 52.2**	**-0.6**
	comp=Z,30nm,1.0s							
BRVK				⇓	Sn	**Sn**	**17 57 09.6**	**-6.1**
	comp=Z,68nm,0.6s							
CIT	**Chita**	**13.31**	**87**	*e*	P	**Pn**	**17 54 55.4**	**-4.1**
CIT				*e*			17 57 20.1	
CIT					pmax	pmax		
	comp=Z,66nm,1.4s							
BOD	**Bodaibo**	**13.31**	**62**	*e*	P	**Pn**	**17 54 58.1**	**-1.4**
BOD				*e*			17 57 36.6	
BOD					pmax	pmax		
	comp=Z,22nm,0.9s							
PRZ	**Przheval'sk**	**14.10**	**224**		P	**P**	**17 55 15.1**	**-3.2**
PRZ	**Przheval'sk**	**14.10**	**224**			**P**	**17 55 15.1**	**-3.2**
KDJ	**Kajisay**	**14.91**	**226**		P	**Pn**	**17 55 21.8**	**+0.3**
KDJ	**Kajisay**	**14.91**	**226**		Pn	**Pn**	**17 55 21.8**	**+0.3**
TARG	**Taragay, Kyrgy**	**14.97**	**224**		P	**Pn**	**17 55 25.2**	**+2.7**
GTA	**Gaotai**	**15.09**	**155**	⇓	P	**Pn**	**17 55 24.3**	**+0.4**
GTA					pP	P	17 55 27.8	-1.5
GTA					sP	pP	17 55 30.3	-1.4
GTA					pmax	pmax		
	comp=Z,10.0nm,1.1s							
GTA					pmax	pmax		
	comp=Z,180nm,5.2s							
GTA					LR	LR		
	comp=Z,1μm,10.0s							
GTA					LR	LR		
	comp=Z,3μm,13.7s							
GTA					LR	LR		
	comp=Z,2μm,12.0s							
FRU1	**Bishkek**	**15.55**	**234**		P	**Pn**	**17 55 30.9**	**+1.1**
FRU1					pmax	pmax		
	comp=Z,23nm,0.7s							
FRU1	**Bishkek**	**15.55**	**234**			**Pn**	**17 55 30.9**	**+1.1**
AAK	**Ala-Archa**	**15.74**	**234**	*ce*	P	**Pn**	**17 55 32.4**	**-0.1**
AAK	**Ala-Archa**	**15.74**	**234**		Pn	**Pn**	**17 55 31.6**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=116,slow=8.1,SNR=16							
AAK					Sn	**Sn**	**17 58 18.6**	**-8.4**
	comp=Z,0.8nm,0.3s,baz=230,slow=23,SNR=2.0							
AAK					Lg	Lg	18 00 06.7	
	comp=Z,0.7nm,0.3s,baz=174,slow=21,SNR=3.1							
AAK					LR	LR	18 01 46.6	
	comp=Z,809nm,19.1s,baz=18,slow=38							
AAK	**Ala-Archa**	**15.74**	**234**			**Pn**	**17 55 31.7**	**-0.8**
NRN	**Naryn**	**15.99**	**228**		P	**Pn**	**17 55 36.1**	**+0.3**
NRN					pmax	pmax		
	comp=Z,11nm,0.8s							
NRN	**Naryn**	**15.99**	**228**			**Pn**	**17 55 36.1**	**+0.3**
NRIK	**Noril'sk**	**16.07**	**355**		Pn	**Pn**	**17 55 37.9**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=178,slow=13,SNR=11							
NRIK					Sn	**Sn**	**17 58 32.7**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=229,slow=22,SNR=1.5							
NRIK					Lg	Lg	18 00 14.4	
	comp=Z,0.6nm,0.3s,baz=253,slow=22,SNR=3.7							
KK31	**Karatay Array**	**17.42**	**242**		P	**Pn**	**17 55 51.3**	**-2.4**
KK31					pmax	pmax		
	comp=Z,15nm,0.9s							
KK31	**Karatay Array**	**17.42**	**242**			**Pn**	**17 55 51.3**	**-2.4**
KK31	**Karatay Array**	**17.42**	**242**	⇓	P	**Pn**	**17 55 53.1**	**-0.5**
	comp=Z,4.8nm,0.5s,baz=39,slow=16,SNR=49							
KK31				⇑	S	**Sn**	**17 59 06.8**	**-0.8**
	comp=Z,12nm,0.7s,baz=36,slow=26,SNR=3.7							
KKAR	**Karatay Array**	**17.42**	**242**		P	**Pn**	**17 55 51.5**	**-2.2**
KKAR					pmax	pmax		
	comp=Z,15nm,0.9s							
KKAR	**Karatay Array**	**17.42**	**242**			**Pn**	**17 55 51.5**	**-2.2**
ARSB	**Arslanbob**	**17.47**	**234**			**Pn**	**17 55 54.3**	**-0.1**
KSH	**Kashi**	**17.59**	**224**		P	**P**	**17 56 02.9**	**+6.0**
KSH					S	**S**	**17 59 20.8**	**+1.2**
KSH					SS	SnSn	17 59 44.0	+19
KSH					pmax	pmax		
	comp=Z,17nm,0.9s							
KSH					pmax	pmax		
	comp=Z,450nm,6.1s							
KSH					LR	LR		
	comp=Z,4μm,7.8s							
KSH					LR	LR		
	comp=Z,3μm,9.0s							
KSH					LR	LR		
	comp=Z,4μm,9.9s							
BTO	**Baotou**	**17.84**	**129**	*e*	P	**Pn**	**17 55 55.8**	**-3.2**
BTO					S	**Sn**	**17 59 09.0**	**-8.9**
SVE	**Sverdlovsk**	**17.99**	**293**	*e*	P	**Pn**	**17 56 00.3**	**-0.3**
SVE					pmax	pmax		
	comp=Z,66nm,1.1s							
SVE					MLR	MLR		
	comp=Z,2μm,15.0s							
HHC	**Hu-ho-hao-te**	**18.39**	**125**		P	**P**	**17 56 07.0**	**+1.3**
HHC					pP	sP	17 56 10.8	+1.5
HHC					sP	pP	17 56 14.3	+6.1
HHC					PP	**PnPn**	**17 56 25.0**	**+8.0**
HHC					S	**Sn**	**17 59 27.0**	**-4.2**
HHC					SS	**SnSn**	**17 59 53.8**	**+9.2**
HHC					pmax	pmax		
	comp=Z,27nm,0.8s							
HHC					LR	LR		
	comp=Z,570nm,8.1s							
HHC					LR	LR		
	comp=Z,470nm,8.5s							
HHC					LR	LR		
	comp=Z,890nm,9.6s							
ARU	**Arti**	**19.16**	**292**	*d*	*i*P	**P**	**17 56 14.4**	**+0.4**
ARU					S	**S**	**17 59 51.5**	**+0.4**
ARU					pmax	pmax		
	comp=Z,44nm,0.9s							
ARU					MLR	MLR		
	comp=Z,2μm,13.0s							
ARU	**Arti**	**19.16**	**292**		P	**Pn**	**17 56 14.7**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=78,slow=5.5,SNR=57							
ARU					S	**Sn**	**17 59 41.1**	**-8.4**
	comp=Z,0.0nm,0.3s,baz=217,slow=23,SNR=2.6							
ARU	**Arti**	**19.16**	**292**		P	**P**	**17 56 13.5**	**-0.4**
ARU					IAmb	IAmb	17 56 20.7	
	comp=Z,171nm,1.5s							
ARU						**Sn**	**17 59 48.0**	**-1.5**
TAS	**Tashkent**	**19.32**	**240**		P	**P**	**17 56 15.0**	**-0.8**
TAS					pmax	pmax		
	comp=Z,71nm,0.9s							
TAS	**Tashkent**	**19.32**	**240**		P	**P**	**17 56 15.0**	**-0.8**
TAS					IAmb	IAmb	17 56 21.5	
	comp=Z,71nm,0.9s							
LZH	**Lanzhou**	**19.33**	**149**	⇑	P	**Pn**	**17 56 17.1**	**0.0**
LZH					sP	sP	17 56 24.1	+4.4
LZH					SS	S	18 00 16.1	+21
LZH					pmax	pmax		
	comp=Z,65nm,1.0s							
LZH					pmax	pmax		
	comp=Z,260nm,4.6s							
LZH					LR	LR		
	comp=Z,3μm,10.3s							
LZH					LR	LR		
	comp=Z,2μm,10.8s							
LZH					LR	LR		
	comp=Z,3μm,12.5s							
BTK	**Batken**	**19.50**	**235**		P	**P**	**17 56 17.5**	**-0.3**
BTK					pmax	pmax		
	comp=Z,28nm,0.9s							
BTK	**Batken**	**19.50**	**235**		P	**P**	**17 56 17.5**	**-0.3**
AB31	**Akbulak array**	**20.18**	**271**		P	**P**	**17 56 24.3**	**-0.7**
AB31					pmax	pmax		
	comp=Z,11nm,0.6s

CN2 esP sP 17 57 14.3 +4.4
CN2 eS **S** **18 01 20.1 -3.6**
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,1µm,10.0s
CN2 LR LR
comp=Z,1µm,10.0s
CN2 LR LR
comp=Z,2µm,11.0s
CD2 Chengdu 24.16 154 P **P** **17 57 07.5 +0.6**
CD2 pmax pmax
comp=Z,40nm,0.9s
TIXI Tiksi 24.34 28 *ce*P **P** **17 57 08.6 +0.4**
TIXI pmax pmax
comp=Z,35nm,0.8s
TIXI MLR MLR
comp=Z,419nm,14.0s
TIXI Tiksi 24.34 28 P **P** **17 57 08.0 -0.2**
comp=Z,30nm,0.8s,baz=360,slow=24,SNR=93
TIXI Lg Lg 18 04 35.7
comp=Z,15nm,1.1s,baz=170,slow=23,SNR=5.6
TIXI Tiksi 24.34 28 P **P** **17 57 07.7 -0.5**
TIXI IAmb IAmb 17 57 10.1
comp=Z,35nm,0.9s
KBL Kabul 24.77 229 P **P** **17 57 12.2 -0.5**
KBL pmax pmax
comp=Z,19nm,0.9s
KBL Kabul 24.77 229 P **P** **17 57 12.2 -0.5**
KLR Kul'dur 25.13 83 *de*P **P** **17 57 16.6 +1.1**
KLR pmax pmax
comp=Z,16nm,1.0s
KLR MLR MLR
comp=Z,720nm,17.0s
KLR Kul'dur 25.13 83 P **P** **17 57 16.1 +0.5**
comp=Z,11nm,0.9s,baz=288,slow=8.1,SNR=18
KLR Lg Lg 18 05 01.2
comp=Z,8.2nm,1.0s,baz=200,slow=22,SNR=6.2
PRGR Permogore 25.55 307 *e*P **P** **17 57 17.0 -2.1**
PRGR *e*S **S** **18 01 46.0 -0.6**
PRGR pmax pmax
comp=Z,42nm,1.0s
DANN Dangsing 25.75 196 *e*P **P** **17 57 22.1 +0.5**
comp=Z,30nm,0.6s
GUN Gumba 25.87 192 *e*P **P** **17 57 23.3 +0.5**
comp=Z,76nm,0.8s
GKN Gorkha 25.95 194 *e*P **P** **17 57 24.0 +0.7**
comp=Z,65nm,0.8s
KKN Kakani 26.07 193 *e*P **P** **17 57 24.9 +0.5**
comp=Z,42nm,0.6s
JIRN Jiri 26.08 191 *e*P **P** **17 57 25.4 +0.7**
comp=Z,22nm,0.6s
TAPN Taplejung 26.23 188 *e*P **P** **17 57 26.3 +0.3**
comp=Z,16nm,0.5s
PKIN Phulchoki 26.26 193 *e*P **P** **17 57 26.7 +0.5**
comp=Z,34nm,0.7s
PKI Pulchoki 26.26 193 *e*P **P** **17 57 26.9 +0.6**
comp=Z,5.7nm,0.9s
DMN Daman 26.27 193 *e*P **P** **17 57 27.0 +0.7**
comp=Z,23nm,0.7s
KOLN Koldanda 26.34 196 *e*P **P** **17 57 27.4 +0.5**
comp=Z,26nm,0.7s
RAMN Ramite 26.73 190 *e*P **P** **17 57 30.3 -0.2**
comp=Z,13nm,0.5s
ODAN Odare 26.75 189 *e*P **P** **17 57 31.0 +0.4**
comp=Z,20nm,0.5s
GRNR Gornyy 27.26 77 *e*P **P** **17 57 30.3 -4.5**
GRNR *i* 18 08 17.8
GRNR MLR MLR
comp=Z,1µm,10.0s
USA0B Ussuriysk Arra 27.76 93 P **P** **17 57 38.9 -0.4**
USA0B pmax pmax
comp=Z,67nm,1.8s
USA0B Ussuriysk Arra 27.76 93 P **P** **17 57 38.9 -0.4**
USA0B IAmb IAmb 17 57 41.0
comp=Z,67nm,1.8s
USRK Ussuriysk Ar. 27.76 93 P **P** **17 57 39.1 -0.1**
comp=Z,5.1nm,0.9s,baz=313,slow=9.2,SNR=8.1
USRK LR LR 18 09 39.4
comp=Z,314nm,21.2s,baz=292,slow=39
GEYT Alibeck 27.80 250 P **P** **17 57 41.6 +1.8**
comp=Z,1.4nm,0.6s,baz=164,slow=5.7,SNR=2.8
GEYT LR LR 18 09 52.5
comp=Z,506nm,20.6s,baz=35,slow=39
GYA0B ALIBECK ARRAY 27.80 250 P **P** **17 57 39.8 +0.1**
SHL Shillong 27.84 180 P **P** **17 57 39.7 -0.7**
SHL pmax pmax
comp=Z,32nm,1.1s
SHL Shillong 27.84 180 P **P** **17 57 39.7 -0.7**
SHL IAmb IAmb 17 57 41.1
comp=Z,32nm,1.1s
WHN Wuhan 28.18 135 P **P** **17 57 46.5 +3.4**
WHN S **S** **18 02 35.6 +7.1**
WHN LR LR
comp=Z,2µm,12.4s
WHN LR LR
comp=Z,1µm,11.4s
WHN LR LR
comp=Z,3µm,13.7s
HRA Herat 28.20 239 P **P** **17 57 44.6 +1.0**
TMCR Tamitsa 28.88 313 *e*P **P** **17 57 49.9 +0.8**
NJ2 Nanjing 28.93 127 *e*P **P** **17 57 48.9 -0.9**
NJ2 pmax pmax
comp=Z,17nm,0.5s
NJ2 LR LR
comp=Z,820nm,12.8s
NJ2 LR LR
comp=Z,610nm,8.5s
NJ2 LR LR
comp=Z,900nm,15.6s
GYA Guiyang 29.17 152 *e*P P 17 57 58.0 +5.9
GYA pmax pmax
comp=Z,10.0nm,0.9s
KMI Kunming 29.47 159 P **P** **17 57 54.8 -0.1**
KMI pP sP 17 58 02.0 +3.3
KMI pmax pmax
comp=Z,13nm,1.0s
KMI LR LR
comp=Z,350nm,12.1s
KMI LR LR
comp=Z,200nm,12.2s
KMI LR LR
comp=Z,210nm,12.5s
KSRS Korea Array 29.62 108 P **P** **17 57 53.7 -2.2**
comp=Z,1.6nm,0.8s,baz=58,slow=28,SNR=4.3
KSRS LR LR 18 09 42.7
comp=Z,154nm,20.5s,baz=315,slow=36
TJN Taejon 30.07 110 ⇓ *e*P **P** **17 57 59.6 -0.3**
VRH Novokhopyorsk 30.13 286 *e*P **P** **17 58 00.0 -0.2**
VRH pmax pmax
comp=Z,10.0nm,0.9s
MOS Moscow 30.75 296 *e*P **P** **17 58 05.3 -0.4**
MOS *e* 17 59 16.7
MOS pmax pmax
comp=Z,52nm,0.9s
MOS MLR MLR
comp=Z,700nm,16.0s
LPSR Galich'ya Gora 31.16 290 *e*P **P** **17 58 08.6 -0.7**
LPSR pmax pmax
comp=Z,20nm,1.1s
OBN Obninsk 31.53 296 ⇑ *e*P **P** **17 58 13.2 +0.7**
OBN *e*S **S** **18 03 21.3 +0.6**
OBN *e*SS **SnSn** **18 05 16.1 +11**
OBN pmax pmax
comp=Z,13nm,0.8s
OBN MLR MLR
comp=Z,552nm,12.0s
OBN Obninsk 31.53 296 P **P** **17 58 12.8 +0.3**
VSR Storozhevoye 31.59 288 ⇓ *e*P **P** **17 58 14.1 +1.0**
VSR pmax pmax
comp=Z,12nm,0.9s
VORD Divnogorie 31.62 287 *e*P **P** **17 58 13.6 +0.2**
VORD pmax pmax
comp=Z,20nm,1.0s
SEY Seymchan 32.16 49 ⇑ *e*P **P** **17 58 17.5 -0.5**
SEY Seymchan 32.16 49 P **P** **17 58 17.0 -1.0**
comp=Z,4.0nm,1.0s,baz=223,slow=6.2,SNR=4.7
MA2 Magadan 32.19 55 ⇑ *e*P **P** **17 58 19.7 +1.4**
MA2 pmax pmax
comp=Z,11nm,1.0s
YSS Yuzh-Sakhalins 32.71 80 *e*P **P** **17 58 22.1 -0.9**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=N,800nm,14.0s
YSS MLR MLR
comp=Z,1µm,14.0s
YSS MLR MLR
comp=E,800nm,16.0s
ZEI Tsey 33.05 271 *e*P **P** **17 58 26.3 0.0**
ZEI pmax pmax
comp=Z,2.0nm,0.6s
KIV Kislovodsk 33.11 274 *e*P **P** **17 58 27.6 +0.9**
KIV pmax pmax
comp=Z,34nm,1.0s
KIV MLR MLR
comp=Z,295nm,15.0s
KIV Kislovodsk 33.11 274 P **P** **17 58 27.9 +1.2**
KIV IAmb IAmb 17 58 34.2
comp=Z,33nm,1.6s
KBZ Khabaz 33.11 273 P **P** **17 58 27.3 +0.8**
comp=Z,2.2nm,1.1s,baz=228,slow=14,SNR=2.4
ARCES ARCESS Array B 33.38 324 P **P** **17 58 29.4 +0.7**
comp=Z,2.2nm,0.6s,baz=71,slow=7.8,SNR=11
ARCES PcP **PcP** **18 01 09.8 -0.1**
comp=Z,3.5nm,0.7s,baz=96,slow=4.3,SNR=6.6
ARCES LR LR 18 14 36.1
comp=Z,143nm,19.6s,baz=218,slow=41
SLVN Son La 33.39 159 P **P** **17 58 29.0 -0.3**
SLVN IAmb IAmb 17 58 31.2
comp=Z,16nm,1.1s
NEY Neytrino 33.49 273 ⇓ *e*P **P** **17 58 31.0 +0.9**
NEY pmax pmax
comp=Z,2.0nm,0.7s
AKH Akhalkalaki 34.12 269 P **P** **17 58 36.5 +1.0**
AKH pmax pmax
comp=Z,9.0nm,1.1s
AKH Akhalkalaki 34.12 269 P **P** **17 58 36.5 +1.0**
GNI Garni 34.15 266 ⇓ *e*P **P** **17 58 36.5 +0.7**
GNI Garni 34.15 266 P **P** **17 58 38.0 +2.2**
comp=Z,2.6nm,0.6s,baz=19,slow=18,SNR=2.2
GNI Garni 34.15 266 P **P** **17 58 37.3 +1.5**
FINES FINESS Array B 34.77 310 *i* P **P** **17 58 44.0 +3.2**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 34.77 310 P **P** **17 58 41.3 +0.5**
comp=Z,2.8nm,0.6s,baz=72,slow=8.0,SNR=13
FINES LR LR 18 14 32.3
comp=Z,650nm,21.6s,baz=343,slow=39
CMAR Chiang Mai Arr 35.37 168 *ce*P **P** **17 58 46.7 +0.4**
CMAR pmax pmax
comp=Z,3.0nm,1.0s
CMAR Chiang Mai Arr 35.37 168 P **P** **17 58 45.8 -0.6**
comp=Z,3.1nm,1.0s,baz=355,slow=10,SNR=17
CMAR LR LR 18 14 09.5
comp=Z,180nm,18.4s,baz=115,slow=38
LAMP Lampang 35.39 167 P **P** **17 58 47.9 +1.4**
comp=Z,22µm,1.1s
VSU Vasula 35.44 305 ⇑ *e*P **P** **17 58 45.9 -0.6**
VSU pmax pmax
comp=Z,35nm,1.0s
PHRA Phrae 35.50 166 P **P** **17 58 48.2 +0.8**
comp=Z,2.6nm,1.2s
MHMT Maesarieng 35.53 170 P **P** **17 58 49.9 +2.2**
comp=Z,16nm,1.0s
ANN Anapa 35.76 279 *e*P **P** **17 58 47.1 -2.4**
ANN pmax pmax
comp=Z,109nm,1.4s
UTTA Uttaradit 36.29 166 P **P** **17 58 55.6 +1.4**
comp=Z,16µm,1.1s
BILL Bilibino 36.64 37 ⇑ *e*P **P** **17 58 58.1 +1.3**
BILL *e* 18 00 21.1
BILL *e*S **S** **18 04 41.7 +2.2**
BILL pmax pmax
comp=Z,10.0nm,1.3s
BILL MLR MLR
comp=Z,601nm,15.0s
BILL Bilibino 36.64 37 P **P** **17 58 57.7 +0.9**
NACGM Naroch 36.81 299 *e* **P** **17 59 03.0 +4.7**
AKASG Malin Array Be 37.42 292 *i* P **P** **17 59 06.5 +3.0**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 37.42 292 P **P** **17 59 03.0 -0.5**
comp=Z,0.7nm,0.4s,baz=55,slow=8.9,SNR=12
AKASG LR LR 18 14 56.8
comp=Z,193nm,21.5s,baz=45,slow=37
AKBB Malin Array Si 37.42 292 P **P** **17 59 04.7 +1.2**
AKBB pmax pmax
comp=Z,12nm,1.1s
AKBB Malin Array Si 37.42 292 P **P** **17 59 04.7 +1.2**
PBKT Sadao Pong 37.51 165 P **P** **17 59 04.9 +0.4**
comp=Z,11nm,1.0s,comp=Z,875nm
PBKT Sadao Pong 37.51 165 P **P** **17 59 04.2 -0.3**
PBKT IAmb IAmb 17 59 05.7
comp=Z,16nm,0.9s
PETK Petropavlovsk- 38.18 63 P **P** **17 59 07.5 -2.5**
comp=Z,5.6nm,1.0s,baz=251,slow=4.5,SNR=4.1
UTHA Uthaitani 38.29 168 P **P** **17 59 12.1 +0.9**
comp=Z,38µm,0.9s,comp=Z,315µm
CHAI Chaiyaphum 38.32 164 P **P** **17 59 11.8 +0.3**
comp=Z,17µm,1.1s
SORM Soroca 39.22 289 P **P** **17 59 19.6 +0.9**
SORM Soroca 39.22 289 P **P** **17 59 19.6 +0.9**
MILM Milestii Mici 39.62 287 P **P** **17 59 22.9 +0.8**
LVV L'vov 40.73 293 *e*P P 17 59 36.5 +5.2
LVV MLR MLR
comp=N,400nm,15.0s
LVV MLR MLR
comp=E,500nm,15.0s
LVV MLR MLR
comp=Z,800nm,16.0s
PHET Kaeng Krachan 40.92 168 P **P** **17 59 34.0 +0.9**
comp=Z,50µm,0.8s
TOPG Topolog 41.02 285 P **P** **17 59 34.8 +1.1**
BR131 Keskin Array S 41.05 275 P **P** **17 59 34.4 +0.2**
BR131 pmax pmax
comp=Z,11nm,1.1s
BR131 Keskin Array S 41.05 275 P **P** **17 59 34.4 +0.2**
BRTR Keskin Array B 41.05 275 *ce*P **P** **17 59 35.0 +0.9**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
BRTR Keskin Array B 41.05 275 P **P** **17 59 35.1 +0.9**
comp=Z,5.2nm,1.0s,baz=68,slow=5.2,SNR=20
BRTR LR LR 18 19 04.6
comp=Z,167nm,20.3s,baz=344,slow=40
TESR Tescani 41.08 288 ⇑ P **P** **17 59 35.6 +1.4**
BIZ Bicaz 41.15 289 ⇑ P **P** **17 59 36.3 +1.6**
TIRR Tirgusor 41.25 284 P **P** **17 59 37.0 +1.4**
TIRR Tirgusor 41.25 284 P **P** **17 59 37.0 +1.4**
BUR08 Bucovina Ar. S 41.27 290 P **P** **17 59 35.7 -0.1**
BURAR Bucovina Array 41.27 290 ⇑ P **P** **17 59 36.9 +1.0**
BURAR Bucovina Array 41.27 290 ⇑ P **P** **17 59 36.9 +1.0**
BURAR mb 17 59 43.2
PLOR Plostina 41.45 287 P **P** **17 59 39.1 +1.8**
PLOR Plostina 41.45 287 P **P** **17 59 39.1 +1.8**
NB2 NORSAR Subarra 41.57 314 P **P** **17 59 38.1 0.0**
comp=Z,12nm,1.1s,baz=62,slow=8.6
NOA NORSAR Array B 41.57 314 P **P** **17 59 38.3 +0.2**
comp=Z,3.4nm,0.9s,baz=62,slow=8.1,SNR=6.0
NOA LR LR 18 18 35.6
comp=Z,247nm,19.0s,baz=65,slow=39
ISR Istrita 41.94 286 P **P** **17 59 42.5 +1.1**
ISR Istrita 41.94 286 P **P** **17 59 42.5 +1.1**
MLR Muntele Rosu 42.07 287 P **P** **17 59 42.8 +0.3**
MLR Muntele Rosu 42.07 287 P **P** **17 59 42.8 +0.3**
DOPR Dopca 42.11 288 ⇓ P **P** **17 59 44.4 +1.8**
KOLS Kolonicke sedl 42.18 293 *e*P **P** **17 59 44.4 +1.2**
KOLS Kolonicke sedl 42.18 293 *e*P **P** **17 59 44.4 +1.2**
TRPA Tarpa 42.48 292 ⇑ P **P** **17 59 47.2 +1.5**
TRPA mb 17 59 52.2
TRPA Tarpa 42.48 292 *e*P **P** **17 59 47.0 +1.4**
VOIR 42.61 287 ⇑ P **P** **17 59 48.3 +1.4**
VOIR 42.61 287 ⇑ P **P** **17 59 48.2 +1.4**
OJC Ojcow 42.82 296 P **P** **17 59 49.0 +0.6**
OJC pmax pmax
comp=Z,19nm,1.1s
OJC Ojcow 42.82 296 P **P** **17 59 49.0 +0.6**
DAG Danmarks Havn 42.95 342 *i* P **P** **17 59 49.5 +0.4**
DAG pmax pmax
comp=Z,10.0nm,0.8s
DAG Danmarks Havn 42.95 342 *i* P **P** **17 59 49.5 +0.4**
comp=Z,10nm,0.8s
LANS Liptovska Anna 43.59 295 *e*P **P** **17 59 57.8 +3.1**
LANS Liptovska Anna 43.59 295 *e*P **P** **17 59 57.8 +3.1**
GZR Gura Zlata 43.93 289 ⇑ P **P** **17 59 59.4 +1.9**
GZR Gura Zlata 43.93 289 ⇑ P **P** **17 59 59.4 +1.9**
SIRR Siria 44.04 290 ⇑ P **P** **18 00 00.5 +2.2**
PSZ Piszkesteto 44.06 293 P **P** **17 59 57.5 -1.0**
PSZ pmax pmax
comp=Z,19nm,1.2s
PSZ Piszkesteto 44.06 293 *e*P P 18 00 05.0 +6.5
PSZ Piszkesteto 44.06 293 P **P** **17 59 57.5 -1.0**
PSZ IAmb IAmb 18 00 06.3
comp=Z,19nm,1.2s
ASF Jabal al Asfar 44.19 264 P **P** **18 00 00.9 +1.1**
comp=Z,2.8nm,0.8s,baz=5.7,slow=8.6,SNR=3.6
MORC Moravsky Berou 44.27 297 P **P** **18 00 01.0 +0.9**
MORC pmax pmax
comp=Z,16nm,1.2s
MORC Moravsky Berou 44.27 297 P **P** **18 00 01.8 +1.6**
MORC mb 18 00 08.4
MORC Moravsky Berou 44.27 297 *e*P **P** **18 00 01.1 +0.9**
MORC *e* 18 00 05.9
MORC Moravsky Berou 44.27 297 P **P** **18 00 01.0 +0.9**
VYHS Vyhne 44.31 294 *e*P **P** **18 00 02.0 +1.6**
VYHS pmax pmax
comp=Z,19nm,1.2s
VYHS Vyhne 44.31 294 *e*P **P** **18 00 02.0 +1.6**
CSS Mathiatis 44.37 270 P **P** **18 00 03.4 +2.3**
CSS IAmb IAmb 18 00 08.1
comp=Z,33nm,1.4s
BZS Buzias 44.45 290 ⇑ P **P** **18 00 03.1 +1.5**
BZS Buzias 44.45 290 ⇑ P **P** **18 00 03.1 +1.5**
MMAI Mount Meron Ar 44.48 266 P **P** **18 00 03.1 +1.1**
comp=Z,2.8nm,0.5s,baz=49,slow=10,SNR=11
KRLC Kraliky 44.51 297 *e*P **P** **18 00 02.8 +0.8**
KRLC *e* 18 00 06.3
KRLC Kraliky 44.51 297 *e*P **P** **18 00 02.8 +0.8**
KRLC *ex* x 18 00 06.3
OSTC Ostas 44.54 298 *e*P P 18 00 09.3 +7.1
DPC Dobruska-Polom 44.60 298 *e*P **P** **18 00 04.1 +1.4**
DPC *e* 18 00 08.5
DPC Dobruska-Polom 44.60 298 *e*P **P** **18 00 04.1 +1.4**
DPC *ex* x 18 00 08.5
CHVC Chvalec 44.60 298 *e*P P 18 00 08.3 +5.5
JAVC Velka Javorina 44.73 296 *e*P **P** **18 00 05.9 +2.1**
JAVC *e* 18 00 10.7
SRO Srobarova 44.99 294 *e*P **P** **18 00 07.6 +1.8**
SRO pmax pmax
comp=Z,31nm,1.4s
SRO Srobarova 44.99 294 *e*P P **18 00 07.6 +1.8**
VRAC Vranov 45.05 297 *e*P **P** **18 00 07.4 +1.1**
VRAC *e* 18 00 12.3
SMOL Smolenice 45.06 295 *e*P **P** **18 00 08.2 +1.8**
SMOL pmax pmax
comp=Z,8.0nm,1.3s
SMOL Smolenice 45.06 295 *e*P P **18 00 08.2 +1.8**
ELL Elmali 45.21 274 P **P** **18 00 08.7 +0.8**
ELL pmax pmax
comp=Z,33nm,0.8s
ELL Elmali 45.21 274 P **P** **18 00 08.7 +0.8**
KRUC Moravsky 45.30 296 P **P** **18 00 09.9 +1.6**
KRUC pmax pmax
comp=Z,20nm,1.6s
KRUC Moravsky 45.30 296 *e*P **P** **18 00 09.6 +1.3**
KRUC *e* 18 00 14.5
VTS Vitosha 45.36 285 P **P** **18 00 09.8 +0.8**
VTS pmax pmax
comp=Z,5.0nm,1.0s
VTS Vitosha 45.36 285 ⇑ P **P** **18 00 10.7 +1.7**
VTS mb 18 00 15.3
VTS Vitosha 45.36 285 P **P** **18 00 09.8 +0.8**
BRG Berggiesshubel 45.55 300 *e*P P 18 00 15.4 +5.2
BRG *e* 18 00 29.1
comp=Z,14nm,1.3s
BRG *e* 18 02 04.1
comp=Z,16nm,1.4s
BRG Berggiesshubel 45.55 300 *e*P P 18 00 15.4 +5.2
BRG *e* 18 02 04.1
comp=Z,30nm,1.9s
BRG pmax pmax
comp=Z,14nm,1.3s
BRG pmax pmax
comp=Z,30nm,1.9s
RAYN Ar Rayn 45.73 248 P **P** **18 00 12.7 +0.7**
RAYN pmax pmax
comp=Z,15nm,1.2s
RAYN Ar Rayn 45.73 248 P **P** **18 00 12.7 +0.7**
RAYN IAmb IAmb 18 00 19.0
comp=Z,14nm,1.2s
PRU Pruhonice 45.74 299 *e*P **P** **18 00 12.5 +0.7**
PRU *e* 18 00 17.2
PRU Pruhonice 45.74 299 *e*P **P** **18 00 12.5 +0.7**
PRU *ex* x 18 00 17.2
MORH Mrgy. Hungar 45.76 292 *e*P **P** **18 00 11.1 -0.8**
CLL Collm 45.78 301 *i* P **P** **18 00 13.2 +1.2**
CLL pmax pmax
comp=Z,4.0nm,1.3s
CLL Collm 45.78 301 *i* P **P** **18 00 13.2 +1.2**
comp=Z,19nm,1.3s
MPLH Magyarpolny 45.79 294 *e*P **P** **18 00 14.1 +1.9**
CONA Conrad Observa 46.25 295 *i* P **P** **18 00 17.0 +1.1**
comp=Z,18nm,1.7s
KHC Kasperske Hory 46.76 298 *e*P **P** **18 00 20.7 +0.9**
KHC *e* 18 00 25.0
KHC *e* 18 02 15.5
KHC Kasperske Hory 46.76 298 *e*P **P** **18 00 20.7 +0.9**
KHC *ex* x 18 00 25.0
KHC *e*PP **PP** **18 02 15.5 +6.1**
KHC Kasperske Hory 46.76 298 P **P** **18 00 20.1 +0.3**
ARSA Arzberg 46.84 295 *i* P **P** **18 00 20.4 -0.1**
comp=Z,15nm,1.4s
GERES GERESS Array B 46.86 298 P **P** **18 00 20.6 -0.1**
comp=Z,1.5nm,0.8s,baz=60,slow=7.9,SNR=9.8
GERES PP **PP** **18 02 15.3 +4.8**
comp=Z,2.4nm,1.0s,baz=46,slow=7.7,SNR=5.8
MOA Moln 47.16 296 *i* P **P** **18 00 23.6 +0.6**
comp=Z,15nm,1.4s
SOKA Soboth 47.46 295 *i* P **P** **18 00 25.8 +0.4**
comp=Z,10nm,1.4s
PDG Podgorica 47.76 288 P **P** **18 00 28.5 +0.9**
OBKA Obir 47.83 295 *i* P **P** **18 00 29.3 +1.1**
comp=Z,8.3nm,1.1s
KBA Koelnbreinsper 48.13 296 P **P** **18 00 32.9 +2.2**
KBA pmax pmax
comp=Z,21nm,1.5s
KBA Koelnbreinsper 48.13 296 *i* P **P** **18 00 32.0 +1.4**
comp=Z,14nm,0.9s
MYKA Terra Mystica 48.24 295 *i* P **P** **18 00 33.3 +1.9**
comp=Z,23nm,1.2s
ABTA Abfaltersbach 48.78 296 *i* P **P** **18 00 36.4 +0.9**
comp=Z,5.0nm,0.9s
WATA Walderalm 48.91 297 *i* P **P** **18 00 37.6 +0.9**
comp=Z,21nm,1.5s
WTTA Wattenberg 48.92 297 *i* P **P** **18 00 37.9 +1.1**
comp=Z,23nm,1.7s
STAL STALIGIAL 48.98 295 P **P** **18 00 37.0 0.0**
STAL IAmb IAmb 18 00 42.8
comp=Z,22nm,1.2s
MOTA Moosalm 49.16 298 *i* P **P** **18 00 39.6 +1.1**
comp=Z,7.2nm,1.0s
SQTA Sankt Quirin 49.18 297 *i* P **P** **18 00 39.7 +1.0**
comp=Z,20nm,1.4s
RETA Reutte 49.25 298 *i* P **P** **18 00 40.7 +1.6**
comp=Z,10nm,1.1s
FETA Feichten 49.56 297 *i* P **P** **18 00 42.2 +0.6**
comp=Z,8.9nm,1.0s
SUMG Summit 49.62 342 *i* P **P** **18 00 42.1 +0.1**
SUMG Summit 49.62 342 *i* P **P** **18 00 42.1 +0.1**
TULEG Thule 49.69 354 P **P** **18 00 41.6 -0.4**
TULEG IAmb IAmb 18 00 43.0
comp=Z,18nm,1.0s
DAVA Damuels 49.84 298 *i* P **P** **18 00 43.7 0.0**
comp=Z,24nm,1.9s
FUORN Ofenpass-Fuorn 50.06 297 P **P** **18 00 46.4 +0.8**
TEOL Teolo 50.11 295 P **P** **18 00 44.9 -0.7**
TOLK Toolik Lake Re 50.19 25 P **P** **18 00 46.4 +0.4**
baz=317,SNR=5.6
TOLK Toolik Lake Re 50.19 25 P **P** **18 00 46.1 +0.2**
PSI Prapat 50.83 171 LR LR 18 22 27.5
comp=Z,105nm,21.1s,baz=356,slow=36
COLD Coldfoot 51.06 26 P **P** **18 00 52.8 +0.2**
TIP Timpagrande 51.32 286 P **P** **18 00 55.4 +0.5**
TIP IAmb IAmb 18 01 01.3
comp=Z,18nm,1.3s
LATE Laterza 51.83 292 P **P** **18 00 58.3 -0.4**
LATE IAmb IAmb 18 01 06.0
comp=Z,34nm,1.3s
RES Resolute Bay 52.08 2 P **P** **18 00 59.7 -0.3**
RES pmax pmax
comp=Z,29nm,1.8s
RES Resolute Bay 52.08 2 P **P** **18 00 59.7 -0.3**
RES IAmb IAmb 18 01 01.5

GSI **Gunungsitoli** 52.19 173 P P 18 01 00.0 -1.5
GSI IAmb IAmb 18 01 03.6
comp=Z,9.9nm,0.7s
MLY **Manley** 52.55 28 P P 18 01 04.1 +0.4
BNI **Bardonecchia** 52.98 298 P P 18 01 11.3 +4.0
MDM **Murphy Dome** 53.30 27 P P 18 01 09.4 +0.1
POKR **Poker Plat Res** 53.40 27 P P 18 01 11.1 +1.2
baz=320,SNR=5.2
COLA **College** 53.47 27 eP P 18 01 10.8 +0.4
COLA pmax pmax
comp=Z,4.0nm,1.2s
PRP **Porcupine Dome** 53.59 26 P P 18 01 11.7 +0.2
PRP IAmb IAmb 18 01 13.4
comp=Z,9.4nm,0.8s
KTH **Kantishna Hill** 53.60 30 P P 18 01 12.3 +0.7
KTH IAmb IAmb 18 01 12.8
comp=Z,11nm,1.0s
CCB **Clear Creek Bu** 53.66 27 P P 18 01 12.0 +0.2
WRH **Wood River Hil** 53.72 28 P P 18 01 12.2 -0.1
IL31 53.81 27 P P 18 01 12.6 -0.3
ILAR **Eielson Array** 53.81 27 P P 18 01 13.3 +0.4
comp=Z,4.9nm,0.8s,baz=316,slow=4.3,SNR=53
TRF **Thorofare Moun** 53.87 29 P P 18 01 14.0 +0.4
TRF IAmb IAmb 18 01 15.1
comp=Z,14nm,1.0s
INK **Inuvik** 54.04 19 P P 18 01 15.2 +0.7
comp=Z,18nm,0.7s,baz=341,slow=9.8,SNR=53
INK **Inuvik** 54.04 19 P P 18 01 14.8 +0.3
C36M **Paulatuk** 54.76 15 P P 18 01 19.8 +0.1
baz=335
DHY **Denali Highway** 55.00 28 P P 18 01 21.1 -0.7
DHY IAmb IAmb 18 01 23.5
comp=Z,12nm,0.8s
EPYK **Eagle Plains** 55.02 22 P P 18 01 22.1 +0.4
baz=327
EPYK **Eagle Plains** 55.02 22 P P 18 01 21.9 +0.2
EPYK IAmb IAmb 18 01 23.3
comp=Z,9.6nm,0.8s
SUA **Susitna One** 55.25 31 P P 18 01 23.7 +0.1
EGAK **Eagle** 55.30 25 P P 18 01 23.9 +0.2
EGAK IAmb IAmb 18 01 25.3
comp=Z,12nm,1.2s
PAX **Paxson** 55.62 28 P P 18 01 25.7 -0.5
PAX pmax pmax
comp=Z,36nm,1.8s
PAX **Paxson** 55.62 28 P P 18 01 25.7 -0.5
PAX IAmb IAmb 18 01 31.7
comp=Z,36nm,1.8s
KNK **Knik Glacier** 55.98 30 P P 18 01 29.4 +0.6
KNK IAmb IAmb 18 01 32.2
comp=Z,20nm,0.9s
DAWY **Dawson** 56.32 24 P P 18 01 31.0 -0.1
DAWY IAmb IAmb 18 01 32.4
comp=Z,12nm,1.2s
KEST **Kesra** 57.95 288 P P 18 01 44.1 +1.0
comp=Z,9.4nm,1.0s,baz=37,slow=16,SNR=3.1
KEST **Kesra** 57.95 288 P P 18 01 43.9 +0.8
KEST IAmb IAmb 18 01 54.6
comp=Z,17nm,1.2s
HYT **Haines Junctio** 59.53 25 P P 18 01 54.3 +0.5
HYT IAmb IAmb 18 01 55.7
comp=Z,14nm,1.2s
SPSI **Sidrap Palu** 61.87 148 P P 18 02 09.5 -0.5
ESDC **Sonseca Array** 62.35 300 P P 18 02 13.2 -0.1
comp=Z,1.1nm,0.6s,baz=41,slow=6.7,SNR=8.3
ESDC LR LR 18 29 27.7
comp=Z,38nm,19.0s,baz=335,slow=36
YKW3 **Yellowknife Ar** 62.50 13 P P 18 02 13.4 -0.3
YKW3 IAmb IAmb 18 02 14.6
comp=Z,12nm,0.8s
YKA **Yellowknife Ar** 62.56 13 P P 18 02 13.9 -0.2
comp=Z,8.4nm,0.8s,baz=341,slow=7.3,SNR=130
FCC **Fort Churchill** 68.05 3 P P 18 02 49.5 -0.3
FCC pmax pmax
comp=Z,20nm,1.0s
FCC **Fort Churchill** 68.05 3 P P 18 02 49.5 -0.3
KMBO **Kilima Mbogo** 70.60 240 LR LR 18 37 21.3
comp=Z,179nm,18.6s,baz=86,slow=39
SCHQ **Schefferville** 70.64 347 P P 18 03 04.7 -1.2
comp=Z,8.6nm,0.8s,baz=359,slow=2.8,SNR=8.6
SCHQ **Schefferville** 70.64 347 P P 18 03 05.2 -0.7
SCHQ IAmb IAmb 18 03 06.4
comp=Z,15nm,1.0s
FFC **Flin Flon** 71.60 8 P P 18 03 11.8 +0.1
FFC pmax pmax
comp=Z,19nm,1.2s
FFC **Flin Flon** 71.60 8 P P 18 03 11.8 +0.1
FFC IAmb IAmb 18 03 12.9
comp=Z,19nm,1.1s
LLLB **Lillooet** 72.54 22 P P 18 03 17.9 +0.5
D03D **Eldon** 75.14 24 P P 18 03 34.7 +2.0
baz=339
B08A **Colville Reser** 75.21 21 P P 18 03 33.9 +0.7
B08A IAmb IAmb 18 03 34.9
comp=Z,11nm,0.9s
NEW **Newport** 75.76 19 P P 18 03 37.1 +0.8
baz=343
C09A **Chrisman Ranch** 75.97 20 P P 18 03 37.8 +0.4
C09A IAmb IAmb 18 03 39.2
comp=Z,12nm,1.1s
ULM **Lac du Bonnet** 76.48 5 eP P 18 03 39.4 -0.9
ULM **Lac du Bonnet** 76.48 5 P P 18 03 39.6 -0.7
comp=Z,13nm,0.8s,baz=350,slow=5.2,SNR=29
ULM **Lac du Bonnet** 76.48 5 P P 18 03 39.5 -0.7
ULM IAmb IAmb 18 03 40.6
comp=Z,14nm,0.8s
MATQ **Matagami** 76.78 353 P P 18 03 42.3 +0.4
baz=6.5
JTMT **Jette** 76.80 18 P P 18 03 42.5 +0.2
JTMT IAmb IAmb 18 03 44.1
comp=Z,11nm,1.0s
FITZ **Fitzroy Crossi** 77.02 147 P P 18 03 42.4 -1.2
FITZ IAmb IAmb 18 03 57.7
comp=Z,15nm,0.9s
LSQQ **Lebel-sur-Quev** 77.42 352 P P 18 03 45.8 +0.2
baz=6.9
DGMT **Dagmar** 77.57 11 P P 18 03 47.5 +1.0
baz=350
DGMT **Dagmar** 77.57 11 P P 18 03 47.3 +0.8
MSO **Missoula** 77.74 18 P P 18 03 48.2 +0.5
baz=345
MSO **Missoula** 77.74 18 P P 18 03 48.1 +0.5
MSO IAmb IAmb 18 03 49.8
comp=Z,28nm,1.5s
H04A **Detroit Lake** 78.03 24 P P 18 03 50.2 +1.1
PMG **Port Moresby** 78.20 124 eP P 18 03 50.3 0.0
PMG pmax pmax
comp=Z,94nm,1.4s
VLDQ **Val d'Or** 78.40 353 P P 18 03 50.8 -0.2
VLDQ IAmb IAmb 18 03 52.0
comp=Z,12nm,0.9s
AGMN **Agassiz Nation** 78.43 5 P P 18 03 50.8 -0.4
baz=355
AGMN **Agassiz Nation** 78.43 5 P P 18 03 50.4 -0.8
AGMN IAmb IAmb 18 03 51.4
comp=Z,12nm,0.8s
MDND **Maddock** 78.63 8 P P 18 03 52.7 +0.3
baz=353
MDND **Maddock** 78.63 8 P P 18 03 52.3 0.0
EYMN **Ely** 78.95 2 P P 18 03 54.1 0.0
baz=358
EYMN **Ely** 78.95 2 P P 18 03 53.8 -0.3
EYMN IAmb IAmb 18 03 56.3
comp=Z,15nm,1.0s
BMO **Blue Mountains** 78.98 21 P P 18 03 54.8 +0.3
BMO pmax pmax
comp=Z,19nm,2.0s
BMO **Blue Mountains** 78.98 21 P P 18 03 54.8 +0.3
PLID **Pearl Lake** 79.02 20 P P 18 03 54.9 0.0
PLID IAmb IAmb 18 03 56.2
comp=Z,11nm,1.1s
LAO **LASA Array** 79.08 12 P P 18 03 55.8 +0.9
baz=349
LAO **LASA Array** 79.08 12 P P 18 03 55.2 +0.3
LAO IAmb IAmb 18 03 58.0
comp=Z,14nm,0.9s
D57A **Chemin Vers le** 79.17 350 P P 18 03 55.7 +0.3
baz=8.7
PINE **Pine Mountain** 79.17 23 P P 18 03 57.3 +1.7
PINE IAmb IAmb 18 03 58.6
comp=Z,20nm,1.0s
D55A **Sainte-Anne-du** 79.32 351 P P 18 03 56.6 +0.4
baz=7.7
DLMT **Dillon** 79.40 17 P P 18 03 56.4 -0.5
J04D **Umpqua Nationa** 79.41 24 P P 18 03 58.8 +1.9
baz=340
GCMT **Greycliff** 79.47 15 P P 18 03 57.3 +0.1
TOA0 **Torodi Ar. Sit** 79.57 278 P P 18 03 58.0 0.0
TOA0 IAmb IAmb 18 04 04.1
comp=Z,22nm,1.1s
TORD **Torodi Ar. Bea** 79.57 278 P P 18 03 58.0 +0.1
comp=Z,10nm,0.8s,baz=35,slow=5.5,SNR=54
J05D **Fort Rock, OR** 79.58 24 P P 18 04 00.0 +2.2
baz=341,SNR=7.7
MCMT **McKenzie Canyo** 79.87 17 P P 18 04 00.0 +0.5
QLMT **Earthquake Lak** 80.12 16 P P 18 04 00.5 -0.3
YHL **Hebgen Lake** 80.14 16 P P 18 04 01.5 +0.4
E53A **Dumoine, Ponti** 80.14 353 P P 18 04 01.3 +0.6
baz=6.4
YNE **Yellowstone No** 80.18 15 P P 18 04 01.1 0.0
RLMT **Red Lodge** 80.18 15 P P 18 04 01.8 +0.7
baz=347
RLMT **Red Lodge** 80.18 15 P P 18 04 01.4 +0.3
RLMT IAmb IAmb 18 04 03.2
comp=Z,28nm,1.4s
YHB **Horse Butte** 80.23 16 P P 18 04 02.1 +0.7
YHH **Holmes Hill** 80.26 16 P P 18 04 02.1 +0.4
E38A **The Farm, Brul** 80.29 2 P P 18 04 00.4 -1.0
E38A IAmb IAmb 18 04 01.8
comp=Z,18nm,0.8s
E50A **Wahnapitae** 80.30 355 P P 18 04 01.9 +0.4
baz=4.5
L04D **Klamath Falls** 80.32 25 P P 18 04 03.3 +1.4
baz=340
YMR **Madison River** 80.35 16 P P 18 04 02.4 +0.3
LKWY **Lake** 80.55 16 P P 18 04 03.7 +0.5
LKWY pmax pmax
comp=Z,12nm,0.9s
LKWY **Lake** 80.55 16 P P 18 04 03.7 +0.5
LKWY IAmb IAmb 18 04 06.4
comp=Z,12nm,0.8s
ALGO **Algonquin Park** 80.59 353 P P 18 04 03.2 +0.2
baz=6.1
G61A **St-Isidore-de-** 80.61 348 P P 18 04 04.1 +1.0
baz=10.0
MFID **Camas Ranch** 80.66 20 P P 18 04 04.4 +0.7
H17A **Grant Village** 80.68 16 P P 18 04 06.4 +2.5
baz=347
H17A **Grant Village** 80.68 16 P P 18 04 05.6 +1.7
H17A IAmb IAmb 18 04 07.5
comp=Z,17nm,1.1s
YPP **Pitchstone Pla** 80.77 16 P P 18 04 05.8 +1.4
M04C **Macdoel** 80.85 25 P P 18 04 06.3 +1.6
baz=340
FLWY **Flagg Ranch** 80.97 16 P P 18 04 06.6 +1.2
FLWY IAmb IAmb 18 04 07.7
comp=Z,11nm,0.9s
WVOR **Wild Horse Val** 81.00 22 P P 18 04 06.5 +1.1
WVOR pmax pmax
comp=Z,14nm,1.1s
WVOR **Wild Horse Val** 81.00 22 P P 18 04 06.5 +1.1
WVOR IAmb IAmb 18 04 07.7
comp=Z,14nm,1.1s
MOD **Modoc Plateau** 81.11 24 P P 18 04 07.5 +1.4
F45A **CMU Biological** 81.22 358 P P 18 04 06.5 +0.1
baz=1.6
MOOW **Moose Ponds** 81.28 16 P P 18 04 07.7 +0.7
MOOW IAmb IAmb 18 04 09.2
comp=Z,14nm,1.2s
FXWY **Fox Creek** 81.34 16 P P 18 04 07.8 +0.4
FXWY IAmb IAmb 18 04 09.5
comp=Z,14nm,1.0s
TPAW **Teton Pass** 81.50 16 P P 18 04 09.2 +0.8
TPAW IAmb IAmb 18 04 10.5
comp=Z,12nm,1.1s
SPMN **Marine on St.** 81.63 3 P P 18 04 08.5 -0.1
baz=357
SPMN **Marine on St.** 81.63 3 P P 18 04 08.2 -0.4
SPMN IAmb IAmb 18 04 09.1
comp=Z,14nm,0.7s
REDW **Red Top Meadow** 81.64 16 P P 18 04 09.6 +0.6
G40A **Rib Lake** 81.65 1 P P 18 04 08.3 -0.4
G40A IAmb IAmb 18 04 09.3
comp=Z,14nm,0.8s
WRAB **Tennant Creek** 81.82 140 ci P P 18 04 08.5 -1.2
WRAB pmax pmax
comp=Z,10.0nm,2.5s
WRA **Warramunga Arr** 81.82 140 P P 18 04 08.5 -1.2
comp=Z,8.3nm,0.9s,baz=341,slow=5.6,SNR=9.5
RSSD **Black Hills** 81.88 11 P P 18 04 10.9 +0.6
baz=351
RSSD **Black Hills** 81.88 11 P P 18 04 10.2 0.0
RSSD pmax pmax
comp=Z,22nm,0.9s
RSSD **Black Hills** 81.88 11 P P 18 04 10.2 0.0
O02D **Mt. Diablo Mer** 82.11 26 P P 18 04 12.9 +1.6
baz=340
O03E **Paynes Creek** 82.26 25 P P 18 04 14.1 +2.0
baz=341
H46A **Fife Lake** 82.36 358 P P 18 04 12.5 +0.1
baz=1.8
PDAR **Pinedale Array** 82.44 16 P P 18 04 12.0 -1.2
comp=Z,1.4nm,0.9s,baz=34,slow=1.6,SNR=7.2
ECSD **EROS Data Cent** 82.94 6 P P 18 04 15.5 0.0
baz=355
ECSD **EROS Data Cent** 82.94 6 P P 18 04 15.0 -0.5
ECSD IAmb IAmb 18 04 16.1
comp=Z,14nm,0.9s
K22A **Casper** 83.00 13 P P 18 04 16.2 +0.2
baz=349
K22A **Casper** 83.00 13 P P 18 04 15.6 -0.5
K22A IAmb IAmb 18 04 17.2
comp=Z,27nm,1.5s
BEKR **Beckworth** 83.02 24 P P 18 04 16.1 -0.1
BEKR IAmb IAmb 18 04 18.2
comp=Z,12nm,1.1s
ORV **Oroville** 83.03 25 P P 18 04 16.3 +0.2
ORV pmax pmax
comp=Z,6.0nm,1.0s
ORV **Oroville** 83.03 25 P P 18 04 16.3 +0.2
HWUT **Hardware Ranch** 83.22 17 P P 18 04 17.8 +0.6
HWUT IAmb IAmb 18 04 19.7
comp=Z,14nm,1.0s
ELK **Elko** 83.35 20 P P 18 04 18.8 +0.8
ELK pmax pmax
comp=Z,4.0nm,0.9s
ELK **Elko** 83.35 20 P P 18 04 18.8 +0.8
PAHR **Pah Rah Range** 83.41 24 P P 18 04 19.0 +0.8
BGU **Big Grassy Mou** 83.61 19 P P 18 04 20.7 +1.5
TCUT **Toone Canyon** 83.73 17 P P 18 04 20.2 +0.3
AFDM **Forest Hills D** 83.74 25 P P 18 04 20.6 +0.9
AFDM IAmb IAmb 18 04 30.8
comp=Z,17nm,1.6s
PNTR **Pine Nut** 83.95 24 P P 18 04 22.1 +1.0
PNTR IAmb IAmb 18 04 23.3
comp=Z,11nm,0.8s
JFWS **Jewell Farm** 84.00 1 P P 18 04 20.8 -0.1
baz=359
JFWS **Jewell Farm** 84.00 1 P P 18 04 20.5 -0.4
JFWS pmax pmax
comp=Z,41nm,1.3s
JFWS **Jewell Farm** 84.00 1 P P 18 04 20.5 -0.4
JLU **Jordanelle** 84.22 18 P P 18 04 22.8 +0.4
K47A **Vermontville** 84.22 358 P P 18 04 22.5 +0.4
baz=1.9
KVN **Kaiserville** 84.34 23 P P 18 04 23.8 +0.8
KVN pmax pmax
comp=Z,11nm,1.1s
KVN **Kaiserville** 84.34 23 P P 18 04 23.8 +0.8
KVN IAmb IAmb 18 04 25.1
comp=Z,10nm,1.1s
L56A **Greenwood** 84.35 352 P P 18 04 23.4 +0.7
baz=6.4
L56A **Greenwood** 84.35 352 P P 18 04 22.3 -0.5
L56A IAmb IAmb 18 04 24.1
comp=Z,12nm,0.9s
DUG **Dugway, Tooele** 84.36 19 P P 18 04 24.3 +1.3
baz=346,SNR=7.4
DUG **Dugway, Tooele** 84.36 19 P P 18 04 23.8 +0.8
DUG pmax pmax
comp=Z,13nm,1.2s
DUG **Dugway, Tooele** 84.36 19 P P 18 04 23.8 +0.8
DUG IAmb IAmb 18 04 25.0
comp=Z,12nm,1.1s
L57A **Andrews Acres** 84.42 351 P P 18 04 23.9 +0.8
baz=6.8
PHWY **Pilot Hill** 84.48 13 P P 18 04 24.1 +0.3
PHWY IAmb IAmb 18 04 25.4
comp=Z,14nm,1.1s
RDMU **Red Mountain** 84.58 16 P P 18 04 24.9 +0.7
RYN **Ryan** 84.64 23 P P 18 04 25.6 +1.1
RYN IAmb IAmb 18 04 26.8
comp=Z,7.9nm,0.9s
NLU **North Lily Min** 84.73 18 P P 18 04 25.9 +0.9
N23A **Red Feather La** 84.81 13 P P 18 04 26.3 +0.8
baz=350
N23A **Red Feather La** 84.81 13 P P 18 04 26.1 +0.6
L40A **Anamosa** 84.84 2 P P 18 04 24.9 -0.3
NVAR **Mina Array Bea** 84.88 23 P P 18 04 26.8 +1.0
comp=Z,5.3nm,0.8s,baz=314,slow=3.9,SNR=18
NV11 **Mina Array Sit** 84.92 23 P P 18 04 26.9 +1.1
NV11 IAmb IAmb 18 04 27.9
comp=Z,6.3nm,0.9s
L47A **Sherwood** 84.92 358 P P 18 04 25.0 -0.6
baz=1.8
SCIA **State Center** 84.93 4 P P 18 04 25.9 +0.2
baz=357
SCIA **State Center** 84.93 4 P P 18 04 25.5 -0.2
SCIA IAmb IAmb 18 04 26.1
comp=Z,12nm,0.8s
ASAR **Alice Springs** 85.04 142 P P 18 04 25.0 -1.3
comp=Z,4.8nm,0.9s,baz=336,slow=5.1,SNR=11
M56A **Emporium** 85.05 352 P P 18 04 26.6 +0.3
baz=6.0
M54A **Oil Creek Stat** 85.13 354 P P 18 04 27.3 +0.6
baz=5.1
BGNE **Belgrade** 85.14 7 P P 18 04 27.1 +0.4
baz=354
BGNE **Belgrade** 85.14 7 P P 18 04 27.2 +0.4
O20A **White River Ci** 85.22 15 P P 18 04 28.1 +0.7
baz=348
O20A **White River Ci** 85.22 15 P P 18 04 27.8 +0.4
O20A IAmb IAmb 18 04 29.2
comp=Z,17nm,1.3s
P17A **Butcher Ranch,** 85.44 17 P P 18 04 29.1 +0.6
TMUT **Trail Mountain** 85.53 18 P P 18 04 29.1 0.0
R11A **Troy Canyon, C** 85.58 21 P P 18 04 29.9 +0.7
baz=344,SNR=6.2
R11A **Troy Canyon, C** 85.58 21 P P 18 04 29.7 +0.5
N54A **Moraine State** 85.70 354 P P 18 04 29.7 +0.2
baz=4.9
PSUT **Pine Spring** 85.76 20 P P 18 04 30.5 +0.3
SRU **San Rafael Swe** 85.83 17 P P 18 04 30.8 +0.3
SRU pmax pmax
comp=Z,5.0nm,1.1s
SRU **San Rafael Swe** 85.83 17 P P 18 04 30.8 +0.3
N53A **Lisbon** 85.90 354 P P 18 04 31.6 +1.1
baz=4.4
Q16A **Castle Valley** 85.91 18 P P 18 04 31.6 +0.8
ISCO **Idaho Springs** 85.93 13 P P 18 04 32.0 +0.9
baz=350
ISCO **Idaho Springs** 85.93 13 P P 18 04 31.5 +0.4
ISCO **Idaho Springs** 85.93 13 P P 18 04 31.5 +0.4
N49A **Columbus Grove** 85.94 357 P P 18 04 30.6 -0.2
baz=2.4,SNR=5.4
N49A **Columbus Grove** 85.94 357 P P 18 04 30.1 -0.6
N47A **Urbana** 86.02 358 P P 18 04 30.9 -0.3
baz=1.5
N50A **Nevada** 86.06 356 P P 18 04 31.5 +0.2
baz=3.0
MSU **Marysvale** 86.11 19 P P 18 04 32.1 +0.2
MSU **Marysvale** 86.11 19 P P 18 04 32.1 +0.2
N41A **Harden Midland** 86.20 2 P P 18 04 31.0 -1.0
O57A **Amberson** 86.27 352 P P 18 04 33.1 +0.8
baz=6.3
SMCO **Snowmass** 86.35 14 P P 18 04 34.1 +0.8
SMCO IAmb IAmb 18 04 35.3
comp=Z,12nm,1.1s
GRAC **Grapevine Rang** 86.47 23 P P 18 04 35.4 +1.9
baz=343
MTPU **Mount Pierson** 86.57 19 P P 18 04 35.4 +1.1
ACSO **Alum Creek Sta** 86.58 356 P P 18 04 33.9 0.0
baz=3.1
O48A **Farmland** 86.63 358 P P 18 04 34.0 -0.2
baz=1.8
O49A **Covington** 86.68 357 P P 18 04 34.3 0.0
baz=2.3
O49A **Covington** 86.68 357 P P 18 04 33.9 -0.5
O49A IAmb IAmb 18 04 34.9
comp=Z,10nm,0.8s
O50A **Cable** 86.70 356 P P 18 04 34.5 0.0
baz=2.8
CCUT **Cedar City** 86.81 20 P P 18 04 36.1 +0.7
Q24A **Divide** 86.82 13 P P 18 04 36.5 +1.1
baz=350
SZCU **Shurtz Canyon** 86.82 19 P P 18 04 36.0 +0.6
P58A **Pank, Wackersv** 86.95 351 P P 18 04 35.8 +0.1
baz=6.5
P56A **Dayton Farm, R** 87.06 353 P P 18 04 37.0 +0.8
baz=5.6
P54A **Burton** 87.08 354 P P 18 04 37.2 +0.8
baz=4.6
KSCO **Kaye Shedlock'** 87.09 11 P P 18 04 37.7 +1.1
baz=352
FURC **Furnace Creek,** 87.09 23 P P 18 04 38.2 +1.8
baz=343
DAC **Darwin (Calif)** 87.10 23 P P 18 04 38.0 +1.2
DAC pmax pmax
comp=Z,6.0nm,0.9s
DAC **Darwin (Calif)** 87.10 23 P P 18 04 38.0 +1.2
DAC IAmb IAmb 18 04 41.3
comp=Z,6.1nm,0.9s
P52A **Corning** 87.14 355 P P 18 04 36.4 -0.3
baz=3.6,SNR=5.2
P50A **Jamestown** 87.24 357 P P 18 04 37.0 -0.1
baz=2.6
P53A **Whipple** 87.25 355 P P 18 04 37.9 +0.7
baz=4.1
P53A **Whipple** 87.25 355 P P 18 04 37.2 +0.1
P43A **Skaggs, Pawnee** 87.28 1 P P 18 04 37.2 -0.1
MPMC **Manual Prospec** 87.34 23 P P 18 04 39.3 +1.4
baz=343
LCMT **Little Creek M** 87.35 20 P P 18 04 38.7 +0.8
KNB **Kanab** 87.43 19 P P 18 04 39.9 +1.6
KNB pmax pmax
comp=Z,13nm,1.1s
KNB **Kanab** 87.43 19 P P 18 04 39.9 +1.6
P48A **Milroy** 87.44 358 P P 18 04 37.9 -0.2
baz=1.7,SNR=5.9
P48A **Milroy** 87.44 358 P P 18 04 37.4 -0.6
SHPR **Sheep Range** 87.44 21 P P 18 04 39.4 +1.0
SHPR IAmb IAmb 18 04 40.8
comp=Z,6.1nm,0.9s
Q57A **Strasburg** 87.50 352 P P 18 04 38.0 -0.4
baz=5.8
KSU1 **Kansas State U** 87.55 6 P P 18 04 39.1 +0.5
baz=355
Q54A **Coxs Mills** 87.72 354 P P 18 04 39.7 +0.3
baz=4.4
S22A **4UR Ranch, Cre** 87.77 15 P P 18 04 41.4 +1.3
baz=349,SNR=9.7
S22A **4UR Ranch, Cre** 87.77 15 P P 18 04 41.2 +1.1
Q51A **Peebles** 87.80 356 P P 18 04 40.1 +0.2
baz=2.9,SNR=5.2
Q51A **Peebles** 87.80 356 P P 18 04 39.8 -0.1
LRMC **Laurel Mtn Rad** 87.84 24 P P 18 04 41.8 +1.5
baz=343
Q49A **Aurora** 87.88 357 P P 18 04 40.4 +0.2
baz=2.0
Q53A **Leroy** 87.88 355 P P 18 04 40.7 +0.4
baz=4.0
SDCO **Great Sand Dun** 87.97 14 P P 18 04 42.0 +1.0
baz=350,SNR=14
SDCO **Great Sand Dun** 87.97 14 P P 18 04 41.5 +0.5
SDCO IAmb IAmb 18 04 42.8
comp=Z,12nm,1.1s
Q48A **North Vernon** 87.97 358 P P 18 04 40.9 +0.2
baz=1.5,SNR=5.2
Q50A **Georgetown** 88.01 357 P P 18 04 41.4 +0.6
baz=2.5
U15A **North Rim** 88.11 19 P P 18 04 42.2 +0.5
OLIL **Olney** 88.19 360 P P 18 04 42.1 +0.5
R51A **Hillsboro** 88.54 356 P P 18 04 43.9 +0.6
baz=2.8
R50A **Paris** 88.58 357 P P 18 04 43.8 +0.2
baz=2.3
R50A **Paris** 88.58 357 P P 18 04 44.0 +0.5
R50A IAmb IAmb 18 04 44.3
comp=Z,12nm,1.1s
DBIC **Dimbokro** 88.59 279 P P 18 04 43.0 -0.9
DBIC pmax pmax
comp=Z,6.0nm,1.3s
DBIC **Dimbokro** 88.59 279 P P 18 04 43.3 -0.6
comp=Z,2.2nm,0.7s,baz=77,slow=6.6,SNR=4.8
DBIC **Dimbokro** 88.59 279 P P 18 04 43.0 -0.9
R49A **Shelbyville** 88.60 358 P P 18 04 43.8 +0.2

	baz=1.8							
R49A	**Shelbyville**	**88.60**	**358**	P	**P**	**18 04 43.5**	**-0.1**
WCI	**Wyandotte Cave**	**88.68**	**358**	P	**P**	**18 04 44.4**	**+0.3**
	baz=1.2							
WCI	**Wyandotte Cave**	**88.68**	**358**	P	**P**	**18 04 43.9**	**-0.1**
WCI				pmax	pmax			
	comp=Z,26nm,0.8s							
WCI	**Wyandotte Cave**	**88.68**	**358**	P	**P**	**18 04 43.9**	**-0.1**
T25A	**Trinidad**	**88.71**	**13**	P	**P**	**18 04 45.0**	**+0.5**
	baz=350							
CCM	**Cathedral Cave**	**88.84**	**2**	P	**P**	**18 04 45.1**	**+0.3**
	baz=358							
CCM	**Cathedral Cave**	**88.84**	**2**	P	**P**	**18 04 44.8**	**0.0**
CCM				pmax	pmax			
	comp=Z,13nm,1.0s							
CCM	**Cathedral Cave**	**88.84**	**2**	P	**P**	**18 04 44.8**	**0.0**
S55A	**Lewisburg**	**88.90**	**354**	P	**P**	**18 04 45.7**	**+0.5**
	baz=4.6							
WUAZ	**Wupatki**	**89.17**	**19**	P	**P**	**18 04 48.4**	**+1.8**
	baz=346							
WUAZ	**Wupatki**	**89.17**	**19**	P	**P**	**18 04 48.0**	**+1.4**
WUAZ				IAmb	IAmb	18 04 49.1		
	comp=Z,9.2nm,0.9s							
S50A	**Richmond**	**89.19**	**357**	P	**P**	**18 04 46.5**	**+0.1**
	baz=2.3							
S51A	**Beattyville**	**89.20**	**356**	P	**P**	**18 04 46.9**	**+0.5**
	baz=2.8							
S51A	**Beattyville**	**89.20**	**356**	P	**P**	**18 04 46.6**	**+0.2**
SIUC	**Southern Illin**	**89.21**	**1**	P	**P**	**18 04 47.0**	**+0.5**
S44A	**Carbondale**	**89.23**	**1**	P	**P**	**18 04 47.0**	**+0.4**
T58A	**Grand View Acr**	**89.58**	**352**	P	**P**	**18 04 48.7**	**+0.5**
	baz=5.8							
T54A	**Tazewell**	**89.68**	**355**	P	**P**	**18 04 48.9**	**+0.1**
	baz=4.0							
IRM	**Iron Mountain**	**89.70**	**22**	P	**P**	**18 04 50.7**	**+1.8**
	baz=344							
MGMO	**Mountain Grove**	**89.71**	**3**	P	**P**	**18 04 49.0**	**+0.1**
T49A	**Edmonton**	**89.79**	**358**	P	**P**	**18 04 49.3**	**+0.1**
	baz=1.6							
T53A	**Wise**	**89.80**	**355**	P	**P**	**18 04 50.0**	**+0.6**
	baz=3.4							
W18A	**Petrified Fore**	**89.86**	**17**	P	**P**	**18 04 51.7**	**+1.9**
	baz=347							
W18A	**Petrified Fore**	**89.86**	**17**	P	**P**	**18 04 51.4**	**+1.5**
W18A				IAmb	IAmb	18 04 52.6		
	comp=Z,9.5nm,1.0s							
T51A	**Gray**	**89.88**	**357**	P	**P**	**18 04 50.1**	**+0.4**
	baz=2.6,SNR=7.3							
T47A	**Sharon Grove**	**89.93**	**359**	P	**P**	**18 04 50.3**	**+0.4**
U32A	**Winter Ranch,**	**90.06**	**9**	P	**P**	**18 04 51.0**	**+0.4**
PBMO	**Poplar Bluff**	**90.13**	**2**	P	**P**	**18 04 50.5**	**-0.3**
U55A	**TA2, Sparta**	**90.20**	**354**	P	**P**	**18 04 51.9**	**+0.6**
	baz=4.3							
TZTN	**Tazewell**	**90.29**	**356**	P	**P**	**18 04 51.9**	**+0.4**
	baz=2.8							
U49A	**Red Boiling Sp**	**90.39**	**358**	P	**P**	**18 04 52.2**	**+0.2**
	baz=1.5							
U52A	**Thorn Hill**	**90.43**	**356**	P	**P**	**18 04 52.8**	**+0.6**
	baz=2.9							
U50A	**Jamestown**	**90.46**	**357**	P	**P**	**18 04 52.6**	**+0.2**
	baz=2.0,SNR=8.7							
U40A	**Yellville**	**90.48**	**4**	P	**P**	**18 04 52.7**	**+0.3**
	baz=357,SNR=11							
U40A	**Yellville**	**90.48**	**4**	P	**P**	**18 04 52.4**	**0.0**
HHAR	**Hobbs**	**90.51**	**5**	P	**P**	**18 04 52.4**	**-0.2**
ANMO	**Albuquerque**	**90.57**	**15**	P	**P**	**18 04 55.0**	**+1.8**
	baz=349							
ANMO	**Albuquerque**	**90.57**	**15**	*ce*P	**P**	**18 04 54.7**	**+1.5**
ANMO				pmax	pmax			
	comp=Z,19nm,1.3s							
ANMO	**Albuquerque**	**90.57**	**15**	P	**P**	**18 04 54.2**	**+1.0**
WVT	**Waverly**	**90.79**	**360**	P	**P**	**18 04 54.5**	**+0.6**
	baz=0.2							
WVT	**Waverly**	**90.79**	**360**	P	**P**	**18 04 54.0**	**+0.1**
WVT				pmax	pmax			
	comp=Z,6.0nm,0.8s							
WVT	**Waverly**	**90.79**	**360**	P	**P**	**18 04 54.0**	**+0.1**
WVT				IAmb	IAmb	18 04 55.2		
	comp=Z,6.2nm,0.8s							
FCAR	**Ozark Folk Cen**	**90.97**	**3**	P	**P**	**18 04 54.5**	**-0.3**
FCAR				IAmb	IAmb	18 04 55.7		
	comp=Z,12nm,1.1s							
V53A	**Saluda**	**91.13**	**356**	P	**P**	**18 04 56.1**	**+0.6**
	baz=3.2							
LENM	**Lemitar**	**91.26**	**15**	P	**P**	**18 04 56.1**	**-0.2**
WMOK	**Wichita Mounta**	**91.71**	**9**	P	**P**	**18 04 59.5**	**+1.2**
	baz=354,SNR=8.3							
WMOK	**Wichita Mounta**	**91.71**	**9**	P	**P**	**18 04 58.9**	**+0.7**
WMOK				pmax	pmax			
	comp=Z,12nm,1.1s							
WMOK	**Wichita Mounta**	**91.71**	**9**	P	**P**	**18 04 58.9**	**+0.7**
MSTX	**Muleshoe**	**92.04**	**12**	P	**P**	**18 05 01.5**	**+1.6**
	baz=351							
MSTX	**Muleshoe**	**92.04**	**12**	P	**P**	**18 05 01.3**	**+1.4**
SYO	**Syowa Base**	**127.96**	**201**	*e*X	**Pdif**	**18 07 45.0**	**+6.0**
VNA2	**Neumayer--Watz**	**141.99**	**212**	P	**PKPdf**	**18 11 14.7**	**-6.5**
VNA1	**Neumayer--Stat**	**142.19**	**212**	P	**PKPdf**	**18 11 16.7**	**-4.8**
VNA3	**Neumayer Olymp**	**142.79**	**212**	P	**PKPdf**	**18 11 17.3**	**-5.3**
QSPA	**South Pole Qui**	**143.22**	**180**	PKhKP	PKPab	18 11 18.2	-1.1	
	comp=Z,5.3nm,0.8s,baz=275,slow=2.2,SNR=10							
QSPA	**South Pole Qui**	**143.22**	**180**		PKPab	18 11 17.8	-1.5	
PB11	**IPOC Station P**	**143.43**	**330**		PKPbc	18 11 23.3	+0.6	
CPUP	**Villa Florida**	**144.47**	**307**	PKP	**PKPab**	**18 11 24.8**	**-0.5**
	comp=Z,11nm,0.8s,baz=35,slow=3.8,SNR=23							
CPUP	**Villa Florida**	**144.47**	**307**		**PKPab**	**18 11 24.3**	**-1.0**
LVC	**Limon Verde**	**145.87**	**327**	PKP2	**PKPab**	**18 11 30.9**	**0.0**
LVC	**Limon Verde**	**145.87**	**327**		**PKPab**	**18 11 30.9**	**0.0**
GO02	**Mina Guanaco**	**148.46**	**326**		**PKPdf**	**18 11 34.7**	**+0.5**
GO03	**Copiap**	**150.92**	**326**	PKPdf	**PKPdf**	**18 11 37.1**	**-0.6**
GO03					**PKPbc**	**18 11 42.2**	**-1.1**
PLCA	**Paso Flores**	**162.52**	**310**	PKP	**PKPdf**	**18 11 50.2**	**-1.9**
	comp=Z,2.0nm,0.9s,baz=32,slow=6.8,SNR=4.5							
PLCA				PKPab	**PKPab**	**18 12 40.6**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=270,slow=4.6,SNR=4.1							
PLCA	**Paso Flores**	**162.52**	**310**		**PKPdf**	**18 11 49.3**	**-2.8**

*NEIC **21** 17:53:37.8±2.4, 60.15N±0.04×140.86W±0.07, h2km±9km*
AEIC 21 17:53:37.6±2.5, 60.16N±0.02×140.88W±0.04, h7km±6km,
ML2.9, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAMH	**Samovar Hills**	**0.06**	**119**		Pg	17 53 41.3	+1.9
CHX	**Chaix Hills**	**0.15**	**232**		Pg	17 53 40.4	-0.3
RKAV	**Rock Avalanche**	**0.28**	**302**		Pg	17 53 43.3	+0.3
RKAV					Sb	17 53 48.3	-1.5
MESA	**MESA**	**0.54**	**273**		Pb	17 53 48.8	-0.6
MESA	**MESA**	**0.54**	**273**		Sb	17 53 57.2	-0.2
BCPM	**Bancas Point**	**0.66**	**108**		Pg	17 53 50.5	+0.3
GRNC	**Granite Creek**	**0.72**	**323**		Pg	17 53 51.3	-0.2
GRNC					Sb	17 54 02.6	-0.2
CTGM	**Chitina Glacie**	**0.84**	**345**	Pg	Pg	17 53 53.6	-0.2
YKU2	**Yakutat**	**0.89**	**136**		Pn	17 53 56.9	+0.5
PNL	**Peninsula**	**0.89**	**123**		Pg	17 53 53.8	-0.9
PNL					Sb	17 54 06.9	-0.5
KULT	**Kultieth River**	**0.93**	**277**		Pg	17 53 55.3	0.0
BARN	**Barnard Glacie**	**0.99**	**337**		Pg	17 53 55.9	-0.6
BARN	**Barnard Glacie**	**0.99**	**337**		Sb	17 54 09.9	-0.5
WAX	**Waxell Ridge**	**1.03**	**288**		Pg	17 53 57.0	-0.2
KIAG	**Kiagna River**	**1.06**	**317**		Pg	17 53 57.1	-0.8
TGL	**Tana Glacier**	**1.14**	**303**		Pg	17 53 58.6	-0.8
BALM	**Baldy**	**1.14**	**321**		Pg	17 53 58.6	-0.8
BGLC	**Bering Glacier**	**1.21**	**269**		Pg	17 54 00.3	-0.3
KHIT	**Khitrov Hills**	**1.22**	**285**		Pg	17 54 00.0	-0.9
GRIN	**Grindle Hills**	**1.23**	**277**		Pg	17 54 00.3	-0.8
CRQM	**Cirque**	**1.27**	**299**		Pn	17 54 00.5	-1.4
PTPK	**Patty Peak**	**1.30**	**324**		Pn	17 54 01.1	-1.2
YUK7	**Dusty Glacier**	**1.41**	**73**		Pn	17 54 04.1	+0.2
BERG	**Berg Lake**	**1.43**	**281**		Pn	17 54 03.4	-0.5
YUK4	**Talbot Arm**	**1.62**	**42**		Pg	17 54 09.7	+1.1
MCARA	**McCarthy VSAT**	**1.62**	**320**		Pn	17 54 06.2	-0.4
VRDI	**Verde Repeater**	**1.66**	**311**		Pn	17 54 06.7	-0.5
HMT	**Hamilton**	**1.70**	**278**		Pn	17 54 07.6	0.0
DHAK	**Deception Hill**	**1.72**	**127**	Pn	Pn	17 54 07.5	-0.5
HYT	**Haines Junctio**	**1.80**	**67**		Pb	17 54 10.0	-0.9
RAGM	**Ragged Mountai**	**1.91**	**279**		Pn	17 54 11.5	+1.0
GOAT	**Goat Mountain**	**1.96**	**284**		Pn	17 54 11.1	-0.1
PLBC	**Pleasant Camp**	**2.39**	**105**		Pn	17 54 17.6	+0.6
EYAK	**Cordova Ski Ar**	**2.45**	**281**		Pn	17 54 18.6	+0.7
HIN	**Hinchinbrook I**	**2.81**	**277**	Pn	Pb	17 54 26.2	-1.9
FID	**Port Fidalgo**	**2.84**	**285**		Pn	17 54 25.5	+2.3
FID					Sn	17 55 00.4	+2.7
MID	**Middleton Isla**	**2.86**	**258**	Pn	Pb	17 54 26.9	-1.9
SKAG	**Skagway**	**2.89**	**102**		Pn	17 54 26.1	+2.2
BC03		**2.95**	**352**		Pn	17 54 25.9	+1.1
JPK	**Jack Peak**	**2.96**	**290**		Pn	17 54 24.8	-0.2
WHY	**Whitehorse**	**3.02**	**78**		Pn	17 54 26.3	+0.5
MENT	**Mentasta**	**3.11**	**335**		Pn	17 54 29.1	+2.1
GLI	**Glacier Island**	**3.16**	**286**	Pn	Pn	17 54 29.3	+1.6
BESE	**Bessie Mountai**	**3.46**	**115**	Pn	Pn	17 54 33.4	+1.5
PAX	**Paxson**	**3.58**	**324**		Pn	17 54 33.7	+0.2
DOT	**Dot Lake**	**3.81**	**338**		Pn	17 54 38.1	+1.4
JIS	**Juneau Island**	**3.83**	**117**	Pn	Pn	17 54 37.8	+1.0
KNK	**Knik Glacier**	**3.92**	**292**		Pn	17 54 39.1	+1.0
DAWY	**Dawson**	**3.99**	**9**		Pn	17 54 40.4	+1.4
SML	**Sawmill**	**3.99**	**298**		Pn	17 54 41.5	+2.3
RIDG	**Independent Ri**	**4.03**	**334**	Pn	Pn	17 54 39.0	-1.0
SCRK	**Sand Creek**	**4.10**	**340**		Pn	17 54 41.8	+1.0
GHO	**Glory Hole Cre**	**4.24**	**296**		Pn	17 54 43.6	+1.0
DHY	**Denali Highway**	**4.27**	**316**		Pn	17 54 44.6	+1.6
PMR	**Palmer**	**4.28**	**293**		Pn	17 54 46.5	+3.4
SEW	**Seward**	**4.29**	**273**	Pn	Pn	17 54 42.9	-0.3
RC01	**Rabbit Creek A**	**4.46**	**286**		Pn	17 54 46.7	+1.2
EGAK	**Eagle**	**4.64**	**359**		Pn	17 54 49.4	+1.4
RND	**Reindeer**	**5.00**	**314**		Pn	17 54 54.9	+2.0
SUA	**Susitna One**	**5.01**	**289**		Pn	17 54 55.7	+2.6
BRLK	**Bradley Lake**	**5.05**	**270**	Pn	Pn	17 54 55.2	+1.6
HDA	**Harding Lake**	**5.12**	**329**		Pn	17 54 57.6	+3.0
MCK	**McKinley**	**5.23**	**317**		Pn	17 54 56.2	+0.2
IL31		**5.41**	**332**		Pn	17 54 58.5	0.0
HOM	**Homer**	**5.44**	**269**	Pn	Pn	17 55 00.8	+1.8
WRH	**Wood River Hil**	**5.48**	**325**	Pn	Pn	17 55 00.1	+0.6
SKT	**Skwentna**	**5.49**	**294**		Pn	17 55 01.8	+2.2
CCB	**Clear Creek Bu**	**5.54**	**327**	Pn	Pn	17 55 01.1	+0.8
TRF	**Thorofare Moun**	**5.55**	**311**		Pn	17 55 01.3	+0.6
PRP	**Porcupine Dome**	**5.79**	**340**		Pn	17 55 05.2	+1.4
KTH	**Kantishna Hill**	**5.85**	**310**		Pn	17 55 06.0	+1.4
NEA	**Nenana**	**5.85**	**323**	Pn	Pn	17 55 07.6	+3.0
MDM	**Murphy Dome**	**5.89**	**328**	Pn	Pn	17 55 04.8	-0.4
RSO	**Redoubt South**	**5.91**	**278**	Pn	Pn	17 55 08.3	+2.6
PPLA	**Purkeypile**	**6.07**	**302**		Pn	17 55 09.0	+1.3
BPAW	**Bear Paw Mtn.**	**6.17**	**314**		Pn	17 55 09.9	+0.8
KDAK	**Kodiak Island**	**6.50**	**254**	Pn	Pn	17 55 13.3	-0.2
MLY	**Manley**	**6.68**	**321**	Pn	Pn	17 55 15.4	-0.6
FYU	**Fort Yukon**	**6.72**	**345**	Pn	Pn	17 55 17.2	+0.6
OHAK	**Old Harbor**	**7.10**	**251**	Pn	Pn	17 55 21.4	-0.4
TTA	**Tatalina**	**7.74**	**298**	Pn	Pn	17 55 31.3	+0.7
COLD	**Coldfoot**	**8.21**	**334**	Pn	Pn	17 55 36.4	-0.5
INK	**Inuvik**	**8.78**	**18**	Pn	Pn	17 55 43.8	-0.9

ASRS 21 17:54:32.2±0.3, 53°N±2°×9°2E±°, h1km±1km, MLv4.0/7,
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/iasp91 confirmed,
Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABNR	**Abakan**	**0.35**	**344**	P	Pg	17 54 38.6	-0.3
ABNR				S	Sg	17 54 43.9	+0.6
CERR	**Cheremushki**	**0.55**	**192**	P	Pg	17 54 42.3	-0.5
CERR				S	Sg	17 54 49.8	-0.1
DJOS	**Djoyskaya Sosn**	**0.61**	**192**	P	Pg	17 54 43.4	-0.5
DJOS				S	Sg	17 54 51.7	-0.1
VEH	**Verkhnyaya Baz**	**0.78**	**260**	P	Pg	17 54 46.8	-0.3
VEH				S	Sg	17 54 58.0	+0.7
LUZB	**Luzhba, Kemero**	**1.63**	**281**	P	Pn	17 55 02.1	-0.1
LUZB				S	Sn	17 55 23.0	-0.9
MINR	**Mina**	**2.15**	**44**	P	Pn	17 55 09.0	-0.2
MINR				S	Sn	17 55 37.2	+0.6
TASR	**Tashtagol**	**2.33**	**256**	S	Sb	17 55 43.7	-0.7
KZLR	**Kyzyl**	**2.43**	**133**	S	Sb	17 55 45.6	-1.6
TEL	**Teeli**	**2.53**	**200**	S	Sn	17 55 47.3	+1.3

*IDC **21** 17:56:30.4±0.5, 11.00S×164.77E, h0km, mb4.8/22, mb1 4.9/26, mb1mx4.8/37, mbtmp4.8/26, ML4.7/4, MS4.0/15, Ms1 4.0/15, ms1mx3.8/32, Error ellipse: s-maj=16.9km s-min=12.8km az=95.0*
*BJI **21** 17:56:30.4±0.0, 10.79S×164.84E, h8km, mb5.1/48, mB5.4/29, Ms5.0/13, Ms7 4.8/13*
*MOS **21** 17:56:32.6±1.0, 10.96S×164.65E, h22km, mb5.3/14, Error ellipse: s-maj=9.0km s-min=8.0km az=35.0*
*NEIC **21** 17:56:33.5±1.7, 11.03S±0.07×164.71E±0.07, h20km, mb5.2/79*
*ISCJB **21** 17:56:33.8±0.2, 11.02S±0.03×164.65E±0.03, h31km, mb5.0/57, MS4.0/17, Error ellipse: s-maj=4.8km s-min=4.0km az=162.8*
*GCMT **21** 17:56:35.5±0.2, 11.18S±0.02×164.53E±0.01, h17km, MW5.1/104, Moment Tensor Solution. s66,c84; s104,c165; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.47±.16; Mθθ 1.09±.10; Mϕϕ 3.38±.11; Mrθ=-3.01±.34; Mθϕ 1.48±.07; Mϕr 1.33±.27; Best double couple: M=5.12200×10^16 NP1:ϕs51.00000°, δ52.00000°, λ=-55.00000°. NP2:ϕs183.00000°, δ50.00000°, λ=-126.00000°. Principal axes: T 4.1090, Plg1.0000°, Azm117.0000°; N 2.0260, Plg27.0000°, Azm208.0000°; P -6.1350, Plg63.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 21 17:56:35.1±0.3, 11.07S±0.05×164.75E±0.05, h31km, n271,
σ 18 10/267, mb5.2/82, MS4.0/19, 13C-7D, Santa Cruz
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.00**	**289**	Pn	**Pn**	**17 57 47.5**	**-0.5**
	43nm,0.3s,baz=198,slow=3.3,SNR=21						
HNR				Sn	**Sn**	**17 58 44.6**	**-0.1**
	73nm,0.3s,baz=244,slow=21,SNR=8.4						
HNR				LR	LR	17 59 47.8	
	comp=Z,4μm,18.9s,baz=96,slow=40						
HNR	**Honiara**	**5.00**	**289**	*e*P	**Pn**	**17 57 47.0**	**-1.0**
HNR				*e*S	**Sn**	**17 58 45.0**	**+0.3**
HNR	**Honiara**	**5.00**	**289**		**Pn**	**17 57 47.6**	**-0.4**
DZM	**Mont Dzumac**	**11.06**	**172**	*e*Pn	**Pn**	**17 59 11.6**	**+0.3**
	36nm,0.3s						
DZM				*e*Sn	Sn	18 01 04.0	-10
	5.6nm,0.3s						
DZM				*e*LR	LR	18 01 42.8	
	comp=Z,1μm,26.0s						
DZM	**Mont Dzumac**	**11.06**	**172**	Pn	**Pn**	**17 59 11.6**	**+0.3**
	9.2nm,0.3s,baz=272,slow=14,SNR=164						
DZM				Sn	**Sn**	**18 01 09.3**	**-4.8**
	0.4nm,0.3s,baz=348,slow=21,SNR=1.0						
KRVT	**Keravat (AS076**	**14.28**	**297**	Pn	**Pn**	**17 59 55.4**	**+0.1**
	1.1nm,0.3s,baz=198,slow=12,SNR=1.4						
MSVF	**Nonsavu**	**14.49**	**119**	P	**Pn**	**17 59 59.8**	**+1.6**
MSVF	**Nonsavu**	**14.49**	**119**	P	**Pn**	**17 59 59.9**	**+1.6**
TARA	**Tarawa**	**14.78**	**34**	Pn	**Pn**	**18 00 00.9**	**-1.2**
PMG	**Port Moresby**	**17.39**	**274**	P	**Pn**	**18 00 33.4**	**-2.2**
PMG				pmax	pmax		
	comp=Z,29nm,1.2s						
PMG	**Port Moresby**	**17.39**	**274**	P	**P**	**18 00 37.6**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=45,slow=5.5,SNR=3.8						
PMG	**Port Moresby**	**17.39**	**274**	P	**Pn**	**18 00 33.4**	**-2.2**
PATS	**Pohnpei**	**18.90**	**340**	P	**P**	**18 00 52.8**	**-0.6**
EIDS	**Eidsvold**	**19.23**	**220**	P	**Pn**	**18 00 59.1**	**+1.1**
MANU	**Manus Island**	**19.44**	**296**	P	**P**	**18 00 59.3**	**0.0**
CTA	**Charters Tower**	**19.93**	**241**	P	**Pn**	**18 01 05.9**	**-0.5**
	comp=Z,1.6nm,0.3s,baz=68,slow=12,SNR=43						
MTSU	**Mount Surprise**	**20.97**	**248**	P	Pn	18 01 17.4	-1.2
	baz=21,SNR=32						
COEN	**Coen**	**21.25**	**260**	P	**P**	**18 01 19.5**	**+0.5**
	baz=21,SNR=7.8						
COEN	**Coen**	**21.25**	**260**	P	**P**	**18 01 19.4**	**+0.5**
RMQ	**Roma**	**21.51**	**222**	P	**P**	**18 01 24.0**	**+2.4**
	baz=22,SNR=9.0						
ARMA	**Armidale**	**22.79**	**210**	P	**P**	**18 01 38.7**	**+3.3**
	baz=23,SNR=5.3						
ARMA	**Armidale**	**22.79**	**210**	P	**P**	**18 01 37.3**	**+1.9**
AFI	**Afiamalu**	**23.09**	**99**	P	**P**	**18 01 38.2**	**-0.4**
AFI				pmax	pmax		
	comp=Z,122nm,1.4s						
AFI	**Afiamalu**	**23.09**	**99**	LR	LR	18 09 27.3	
	comp=Z,62nm,22.0s,baz=282,slow=34						
AFI	**Afiamalu**	**23.09**	**99**	P	**P**	**18 01 38.2**	**-0.4**
AFI				IAmb	IAmb	18 01 41.7	
	comp=Z,122nm,1.4s						
RAO	**Raoul Island**	**24.27**	**141**	LR	LR	18 10 08.1	
	comp=Z,192nm,20.2s,baz=136,slow=34						
QLP	**Quilpie**	**24.74**	**229**	P	**P**	**18 01 55.3**	**+1.3**
	baz=25,SNR=9.1						
KNTN	**Kanton**	**24.75**	**72**	P	**P**	**18 01 55.2**	**+0.9**
KNTN				IAmb	IAmb	18 01 58.8	
	comp=Z,61nm,0.7s						
QIS	**Mount Isa**	**25.93**	**246**	P	**P**	**18 02 04.8**	**-0.1**
	baz=26,SNR=20						
MXZ	**Matakaoa Point**	**29.06**	**157**	P	**P**	**18 02 32.1**	**-0.6**
URZ	**Urewera**	**29.25**	**160**	LR	LR	18 12 38.7	
	comp=Z,350nm,18.6s,baz=355,slow=33						
URZ	**Urewera**	**29.25**	**160**	P	**P**	**18 02 34.1**	**-0.3**
URZ				IAmb	IAmb	18 03 06.8	
	comp=Z,26nm,1.2s						
H11S2	**WAKE ISLAND Hy**	**29.43**	**4**	T	T	18 33 38.8	
	baz=184,slow=76,SNR=87						
H11S3	**WAKE ISLAND Hy**	**29.44**	**4**	T	T	18 33 13.7	
	baz=184,slow=76,SNR=64						
H11S1	**WAKE ISLAND Hy**	**29.45**	**4**	T	T	18 33 38.0	
	baz=184,slow=76,SNR=58						
STKA	**Stephens Creek**	**29.76**	**222**	P	**P**	**18 02 39.8**	**+0.8**
	comp=Z,4.7nm,0.9s,baz=48,slow=9.2,SNR=8.2						
STKA				PcP	**PcP**	**18 05 43.0**	**+0.6**
	comp=Z,5.0nm,1.0s,baz=20,slow=18,SNR=4.2						
STKA				LR	LR	18 14 44.9	
	comp=Z,347nm,18.3s,baz=34,slow=37						
STKA	**Stephens Creek**	**29.76**	**222**	P	**P**	**18 02 38.5**	**-0.4**
BKZ	**Black Stump Fm**	**29.88**	**161**	P	**P**	**18 02 39.0**	**-1.0**
BKZ				IAmb	IAmb	18 03 03.1	
	comp=Z,68nm,1.7s						
WR0	**Warramunga Arr**	**30.37**	**249**	P	**P**	**18 02 43.3**	**-1.3**
WR0				IAmb	IAmb	18 02 45.1	
	comp=Z,25nm,1.0s						
WRAB	**Tennant Creek**	**30.54**	**250**	*de*P	**P**	**18 02 45.1**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,40nm,1.1s						
WRAB	**Tennant Creek**	**30.54**	**250**	P	**P**	**18 02 45.1**	**-1.0**
WRAB				IAmb	IAmb	18 02 46.6	
	comp=Z,54nm,1.1s						
WRA	**Warramunga Arr**	**30.55**	**249**	P	**P**	**18 02 45.1**	**-1.1**
	comp=Z,28nm,0.9s,baz=78,slow=9.3,SNR=97						
WRA				PcP	**PcP**	**18 05 45.3**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=71,slow=2.5,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**30.66**	**4**	T	T	18 35 06.7	
	baz=184,slow=76,SNR=47						
H11N3	**WAKE ISLAND Hy**	**30.67**	**4**	T	T	18 35 10.8	
	baz=184,slow=76,SNR=48						
H11N2	**WAKE ISLAND Hy**	**30.68**	**4**	T	T	18 35 04.8	
	baz=184,slow=76,SNR=44						
TOO	**Toolangi**	**31.55**	**210**	P	**P**	**18 02 56.4**	**+1.6**
TOO				pmax	pmax		
	comp=Z,68nm,1.7s						
TOO	**Toolangi**	**31.55**	**210**	P	**P**	**18 02 56.4**	**+1.6**
TOO				IAmb	IAmb	18 03 23.3	
	comp=Z,68nm,1.6s						
MSWZ	**Moikau Station**	**31.61**	**165**	P	**P**	**18 02 54.2**	**-1.0**
KDU	**Kakadu**	**31.61**	**264**	P	**P**	**18 02 53.2**	**-2.4**
	baz=31,SNR=10						
AS31	**Alice Springs**	**31.91**	**243**	P	**P**	**18 02 56.8**	**-1.4**
ASAR	**Alice Springs**	**31.91**	**243**	P	**P**	**18 02 56.6**	**-1.5**
	comp=Z,28nm,0.8s,baz=64,slow=10,SNR=312						
ASAR				PcP	**PcP**	**18 05 48.4**	**0.0**
	comp=Z,2.9nm,0.8s,baz=54,slow=2.5,SNR=7.8						
ASAR				LR	LR	18 14 32.2	
	comp=Z,194nm,18.5s,baz=76,slow=34						
HTT	**Hallett**	**32.49**	**223**	P	**P**	**18 03 04.5**	**+1.4**
	baz=33,SNR=4.2						
OXZ	**Oxford**	**32.76**	**170**	P	**P**	**18 03 07.6**	**+2.3**
OXZ				IAmb	IAmb	18 03 40.5	
	comp=Z,39nm,1.3s						
MTN	**Manton Dam**	**32.92**	**263**	P	**P**	**18 03 05.8**	**-1.2**
MTN				IAmb	IAmb	18 03 07.5	
	comp=Z,13nm,0.8s						
RPZ	**Rata Peaks**	**32.98**	**172**	LR	LR	18 15 09.8	
	comp=Z,288nm,19.9s,baz=322,slow=34						
RPZ	**Rata Peaks**	**32.98**	**172**	P	**P**	**18 03 08.6**	**+1.4**
BBOO	**Buckleboo**	**34.10**	**226**	P	**P**	**18 03 18.3**	**+1.1**
	baz=34,SNR=18						
BBOO	**Buckleboo**	**34.10**	**226**	P	**P**	**18 03 17.3

PETK Petropavlovsk- 64.20 355 P P 18 07 07.2 +0.4
comp=Z,18nm,0.8s,baz=167,slow=8.7,SNR=16
CN2 Changchun 65.26 330 *e*P **P 18 07 13.8 -0.1**
CN2 pmax pmax
comp=Z,30nm,0.9s
VNDA Vanda 66.46 181 P P 18 07 22.7 +1.6
comp=Z,5.7nm,1.1s,baz=344,slow=6.6,SNR=7.9
VNDA LR LR 18 32 34.6
comp=Z,51nm,18.7s,baz=256,slow=32
VNDA Vanda 66.46 181 P P 18 07 22.9 +1.8
VNDA IAmb IAmb 18 07 27.4
comp=Z,18nm,1.4s
KLR Kulʲdur 66.69 337 *de*P **P 18 07 23.4 +0.4**
KLR pmax pmax
comp=Z,22nm,1.0s
KLR Kulʲdur 66.69 337 P P 18 07 23.1 +0.2
comp=Z,16nm,1.0s,baz=106,slow=4.2,SNR=7.3
ENH Enshi 67.15 310 P P 18 07 24.4 -2.0
NONG Nongkai 67.33 295 P P 18 07 30.7 +3.0
comp=Z,0.3nm,1.4s
GYA Guiyang 67.62 305 *e*P **P 18 07 29.8 +0.3**
GYA pmax pmax
comp=Z,10.0nm,0.8s
SLVN Son La 67.86 298 P P 18 07 31.1 +0.1
SLVN IAmb IAmb 18 07 33.0
comp=Z,16nm,1.2s
XAN Xi'an 69.41 313 P P 18 07 40.4 -0.1
XAN pmax pmax
comp=Z,22nm,0.9s
XAN pmax pmax
comp=Z,320nm,6.8s
XAN Xi'an 69.41 313 P P 18 07 40.2 -0.3
XAN pmax pmax
comp=Z,21nm,0.9s
XAN Xi'an 69.41 313 P P 18 07 40.2 -0.3
XAN IAmb IAmb 18 07 41.5
comp=Z,21nm,0.9s
NANT Nan 69.76 295 P P 18 07 43.3 +0.4
comp=Z,102μm,0.9s
PHRA Phrae 70.08 294 P P 18 07 46.5 +1.7
KMI Kunming 70.30 302 P P 18 07 47.6 +1.3
KMI pP pP 18 07 52.4 -2.2
KMI sP sP 18 07 54.6 -3.1
KMI pmax pmax
comp=Z,23nm,1.5s
KMI pmax pmax
comp=Z,250nm,4.2s
HHC Hu-ho-hao-te 71.22 320 *e*P **P 18 07 52.4 +1.0**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,70nm,4.2s
CMAR Chiang Mai Arr 71.22 294 P P 18 07 52.4 +0.6
comp=Z,4.1nm,1.0s,baz=110,slow=4.6,SNR=20
CMMT Chiang Mai 71.33 294 P P 18 07 53.4 +0.9
CHTO Chiang Mai 71.34 294 P P 18 07 52.3 -0.2
CHTO pmax pmax
comp=Z,9.0nm,1.3s
CHTO Chiang Mai 71.34 294 P P 18 07 52.3 -0.2
CD2 Chengdu 71.84 308 P P 18 07 54.3 -1.0
CD2 pmax pmax
comp=Z,50nm,0.6s
HIA Hailar 71.91 331 *de*P **P 18 07 55.7 +0.4**
HIA pmax pmax
comp=Z,155nm,1.0s
HIA Hailar 71.91 331 P P 18 07 55.8 +0.4
HIA IAmb IAmb 18 07 57.0
comp=Z,32nm,1.1s
LZH Lanzhou 74.05 313 ⇑P **P 18 08 09.4 +0.9**
LZH pP pP 18 08 14.5 -2.3
LZH sP sP 18 08 17.1 -2.8
LZH PP **PP 18 10 52.9 -1.3**
LZH SS SS 18 22 26.8 +1.8
LZH pmax pmax
comp=Z,33nm,1.3s
LZH pmax pmax
comp=Z,140nm,7.0s
SEY Seymchan 74.39 354⇓ *e*P **P 18 08 08.6 -1.0**
ULN Ulaanbaatar 77.75 324 *ce*P **P 18 08 29.5 +0.2**
ULN pmax pmax
comp=Z,30nm,1.1s
ULN Ulaanbaatar 77.75 324 P P 18 08 29.0 -0.3
ULN IAmb IAmb 18 08 31.4
comp=Z,35nm,1.1s
YAK Yakutsk 77.84 344 *e*P **P 18 08 29.1 -0.2**
YAK pmax pmax
comp=Z,40nm,1.0s
YAK Yakutsk 77.84 344 P P 18 08 29.4 +0.2
comp=Z,16nm,0.7s,baz=158,slow=1.5,SNR=12
YAK Yakutsk 77.84 344 P P 18 08 29.1 -0.2
SONM Songino Array 78.11 324 P P 18 08 31.4 +0.2
comp=Z,10nm,0.9s,baz=145,slow=6.2,SNR=25
GTA Gaotai 78.37 314 P P 18 08 34.1 +1.2
GTA pP pP 18 08 38.3 -3.0
GTA sP PcP 18 08 41.1 -1.0
GTA pmax pmax
comp=Z,24nm,1.2s
GTA pmax pmax
comp=Z,320nm,6.4s
GTA LR LR
comp=Z,220nm,21.3s
GTA LR LR
comp=Z,240nm,21.6s
GTA LR LR
comp=Z,220nm,19.6s
BILL Bilibino 78.91 1⇓ *e*P **P 18 08 35.4 +0.3**
BILL *e* 18 08 44.1
BILL pmax pmax
comp=Z,24nm,1.1s
BILL Bilibino 78.91 1 P P 18 08 34.7 -0.4
BILL IAmb IAmb 18 08 36.7
comp=Z,30nm,1.1s
QSPA South Pole Qui 78.94 180 P P 18 08 36.5 +0.9
comp=Z,14nm,1.0s,baz=359,slow=2.4,SNR=24
QSPA South Pole Qui 78.94 180 P P 18 08 36.7 +1.1
QSPA IAmb IAmb 18 08 38.6
comp=Z,23nm,1.1s
ZAK Zakamensk 81.16 325 *e*P **P 18 08 47.9 +0.1**
ZAK pmax pmax
comp=Z,13nm,1.3s
LSA Lhasa 81.54 302 P P 18 08 50.8 +0.1
LSA pmax pmax
comp=Z,6.0nm,1.2s
LSA Lhasa 81.54 302 P P 18 08 50.8 +0.1
TLY Talaya 81.60 327 *de*P **P 18 08 47.8 -2.2**
TLY pmax pmax
comp=Z,13nm,1.0s
KTH Kantishna Hill 81.73 18 P P 18 08 49.9 -0.6
RDOG Red Dog Mine 82.24 12 P P 18 08 53.5 +0.6
RDOG IAmb IAmb 18 08 55.1
comp=Z,48nm,1.7s
MCK McKinley 82.48 19 P P 18 08 55.0 +0.7
MCK pmax pmax
comp=Z,13nm,1.0s
MCK McKinley 82.48 19 P P 18 08 55.0 +0.7
MCK IAmb IAmb 18 08 58.1
comp=Z,13nm,1.0s
WRH Wood River Hil 83.26 19 P P 18 08 57.1 -1.3
CCB Clear Creek Bu 83.47 19 P P 18 08 58.8 -0.5
MDM Murphy Dome 83.56 18 P P 18 08 59.7 -0.2
MDM IAmb IAmb 18 09 01.5
comp=Z,19nm,1.4s
HDA Harding Lake 83.58 19 P P 18 08 59.9 -0.1
baz=228
HDA Harding Lake 83.58 19 P P 18 08 59.7 -0.3
HDA IAmb IAmb 18 09 02.3
comp=Z,25nm,1.0s
TCOL CIGO, UAF Yank 83.61 18 P P 18 09 00.3 +0.2
baz=227
COLA College 83.62 18 *de*P **P 18 08 59.5 -0.6**
COLA pmax pmax
comp=Z,12nm,1.0s
COLA College 83.62 18 P P 18 08 59.5 -0.6
COLA IAmb IAmb 18 09 01.5
comp=Z,14nm,0.9s
TAPN Taplejung 83.76 299 *e*P **P 18 09 02.3 +0.2**
comp=Z,34nm,1.3s
IL31 83.85 19 P P 18 09 00.5 -0.8
ILAR Eielson Array 83.85 19 P P 18 09 01.1 -0.2
comp=Z,6.4nm,0.9s,baz=225,slow=6.0,SNR=32
ODAN Odare 83.90 299 *e*P **P 18 09 02.9 +0.1**
comp=Z,49nm,1.0s
POKR Poker Plat Res 83.91 18 P P 18 09 01.8 +0.2
baz=227
O02D Mt. Diablo Mer 84.03 47 P P 18 09 03.9 +1.0
baz=250
SCRK Sand Creek 84.28 20 P P 18 09 03.8 +0.1
SCRK IAmb IAmb 18 09 04.8
comp=Z,9.6nm,1.2s
K02D Willamette Mer 84.28 45 P P 18 09 05.2 +1.1
baz=249
MAW Mawson 84.33 202 P P 18 09 04.9 +1.0
MAW pmax pmax
comp=Z,7.0nm,1.5s
MAW Mawson 84.33 202 P P 18 09 05.4 +1.6
comp=Z,8.7nm,1.1s,baz=94,slow=4.6,SNR=4.3
MAW Mawson 84.33 202 P P 18 09 04.9 +1.0
N02D Trinity Center 84.36 47 P P 18 09 05.2 +0.6
baz=250
M02C Callahan 84.39 46 P P 18 09 05.8 +1.0
baz=250
COLD Coldfoot 84.59 16 P P 18 09 06.7 +1.6
COLD IAmb IAmb 18 09 38.0
comp=Z,17nm,1.9s
RAMN Ramite 84.61 299 *e*P **P 18 09 06.3 -0.1**
I02D Swisshome 84.65 43 P P 18 09 06.6 +0.7
baz=249
O03E Paynes Creek 84.78 47 P P 18 09 07.9 +1.1
baz=251
JIRN Jiri 85.14 299 *e*P **P 18 09 09.3 +0.1**
comp=Z,130nm,1.7s
M04C Macdoel 85.24 46 P P 18 09 10.0 +1.0
baz=251
GUN Gumba 85.47 299 *e*P **P 18 09 10.9 +0.1**
comp=Z,27nm,1.1s
K04D Chiloquin, OR 85.58 45 P P 18 09 11.6 +0.8
baz=251
EGAK Eagle 85.74 20 P P 18 09 11.4 +0.5
EGAK IAmb IAmb 18 09 14.3
comp=Z,22nm,1.1s
TOLK Toolik Lake Re 85.77 15 P P 18 09 12.0 +1.0
baz=225
PKI Pulchoki 85.79 299 *e*P **P 18 09 12.2 -0.2**
comp=Z,8.7nm,1.5s
PKIN Phulchoki 85.80 299 *e*P **P 18 09 11.9 -0.5**
TIXI Tiksi 85.93 349⇑ *e*P **P 18 09 11.6 0.0**
TIXI pmax pmax
comp=Z,21nm,1.4s
TIXI Tiksi 85.93 349 P P 18 09 10.9 -0.7
comp=Z,8.2nm,1.0s,baz=180,slow=24,SNR=4.1
TIXI Tiksi 85.93 349 P P 18 09 11.3 -0.3
TIXI IAmb IAmb 18 09 12.8
comp=Z,18nm,1.2s
DAWY Dawson 85.93 21 P P 18 09 12.3 +0.5
DAWY IAmb IAmb 18 09 44.9
comp=Z,17nm,1.8s
KKN Kakani 85.95 299 *e*P **P 18 09 12.9 -0.2**
EDW2 Edwards Air Fo 86.02 53 P P 18 09 13.4 +0.4
baz=254
DMN Daman 86.06 299 *e*P **P 18 09 13.6 0.0**
J05D Fort Rock, OR 86.16 45 P P 18 09 13.9 +0.3
baz=251
PAHR Pah Rah Range 86.36 49 P P 18 09 14.8 +0.1
LRMC Laurel Mtn Rad 86.43 53 P P 18 09 16.2 +1.0
baz=254
GKN Gorkha 86.56 299 *e*P **P 18 09 15.5 -0.5**
MPMC Manual Prospec 86.75 52 P P 18 09 17.5 +0.8
baz=254
NVAR Mina Array Bea 86.79 50 P P 18 09 17.2 +0.2
comp=Z,2.6nm,1.0s,baz=243,slow=6.5,SNR=7.6
NVAR LR LR 18 47 26.0
comp=Z,100nm,18.2s,baz=294,slow=35
A04D Lummi Island 87.02 39 P P 18 09 18.8 +1.3
baz=250
KVN Kaiserville 87.12 49 P P 18 09 18.0 -0.5
KVN pmax pmax
comp=Z,11nm,1.6s
KVN Kaiserville 87.12 49 P P 18 09 18.0 -0.5
B05A Bryant 87.24 40 P P 18 09 19.3 +0.7
baz=250
SWSC Sam W. Stewart 87.26 56 P P 18 09 18.6 -0.4
baz=255
KOLN Koldanda 87.39 299 *e*P **P 18 09 19.2 -0.9**
DANN Dangsing 87.39 299 *e*P **P 18 09 19.0 -1.2**
comp=Z,28nm,1.3s
GLA Glamis 88.08 56 P P 18 09 23.3 +0.3
baz=256
IRM Iron Mountain 88.10 55 P P 18 09 22.5 -0.6
baz=255
EPYK Eagle Plains 88.17 20 P P 18 09 22.9 +0.3
baz=237
EPYK Eagle Plains 88.17 20 P P 18 09 22.5 -0.2
EPYK IAmb IAmb 18 09 24.9
comp=Z,8.4nm,1.0s
WMQ Urumqi 88.42 315 *e*P **P 18 09 24.3 -0.1**
WMQ pP PcP 18 09 28.8 +2.7
WMQ pmax pmax
comp=Z,12nm,0.9s
WMQ pmax pmax
comp=Z,67nm,4.1s
WMQ LR LR
comp=Z,460nm,28.8s
WMQ LR LR
comp=Z,140nm,20.5s
R11A Troy Canyon, C 88.82 51 P P 18 09 27.4 +0.8
baz=255
R11A Troy Canyon, C 88.82 51 P P 18 09 26.0 -0.6
R11A IAmb IAmb 18 09 28.4
comp=Z,11nm,1.7s
214A Organ Pipe Nat 89.47 57 P P 18 09 30.7 +1.1
baz=257
ELK Elko 89.70 48 P P 18 09 31.7 +1.0
ELK pmax pmax
comp=Z,3.0nm,1.1s
ELK Elko 89.70 48 P P 18 09 31.7 +1.0
LCMT Little Creek M 90.29 52 P P 18 09 34.0 +0.5
CCUT Cedar City 90.33 52 P P 18 09 34.0 +0.3
SZCU Shurtz Canyon 90.55 52 P P 18 09 34.9 +0.1
KNB Kanab 90.62 53 P P 18 09 34.2 -0.9
KNB pmax pmax
comp=Z,17nm,1.6s
KNB Kanab 90.62 53 P P 18 09 34.2 -0.9
U15A North Rim 90.90 53 P P 18 09 37.1 +0.6
U15A IAmb IAmb 18 09 38.8
comp=Z,8.0nm,1.1s
MTPU Mount Pierson 91.35 52 P P 18 09 40.4 +1.7
DUG Dugway, Tooele 91.36 49 P P 18 09 39.1 +0.7
baz=257
MSU Marysvale 91.46 51 P P 18 09 39.4 +0.4
MSU Marysvale 91.46 51 P P 18 09 39.4 +0.4
SYO Syowa Base 91.47 197⇑ *e*X **P 18 09 34.0 -4.1**
SYO Syowa Base 91.47 197⇑ *e*PcP **P 18 09 37.8 -0.3**
DLMT Dillon 92.68 44 P P 18 09 44.9 +0.5
DLMT IAmb IAmb 18 09 46.4
comp=Z,14nm,1.2s
MK31 Makanchi Array 92.87 317 P P 18 09 44.4 -0.6
MK31 pmax pmax
comp=Z,13nm,1.1s
MK31 Makanchi Array 92.87 317 P P 18 09 44.4 -0.6
MK31 IAmb IAmb 18 09 46.2
comp=Z,13nm,1.1s
MKAR Makanchi Array 92.87 317 P P 18 09 45.0 0.0
comp=Z,8.2nm,0.8s,baz=99,slow=6.3,SNR=32
MKAR PKKP **PKKPdf 18 26 55.7 -0.1**
comp=Z,0.7nm,0.7s,baz=278,slow=3.6,SNR=5.2
LRM Limekiln Ridge 92.89 44 P P 18 09 44.9 -0.5
ZAA0 Zalesovo Array 93.00 324 P P 18 09 44.3 -1.1
ZAA0 IAmb IAmb 18 09 45.5
comp=Z,12nm,1.1s
ZALV Zalesovo Beam 93.00 324 P P 18 09 44.1 -1.3
comp=Z,7.2nm,1.0s,baz=117,slow=5.6,SNR=13
ZALV LR LR 18 53 48.0
comp=Z,83nm,18.2s,baz=334,slow=37
MAKZ Makanchi 93.08 317 P P 18 09 46.2 +0.2
MAKZ pmax pmax
comp=Z,18nm,1.1s
MAKZ Makanchi 93.08 317 P P 18 09 46.2 +0.2
C36M Paulatuk 93.78 20 P P 18 09 47.9 -0.8
baz=249
PDAR Pinedale Array 94.29 47 P P 18 09 51.8 -0.2
comp=Z,1.0nm,0.9s,baz=264,slow=1.5,SNR=6.9
ANMO Albuquerque 95.27 56⇑ *e*P **P 18 09 57.0 +0.4**
ANMO pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 95.44 27 P P 18 09 54.5 -1.9
comp=Z,1.3nm,0.9s,baz=257,slow=4.6,SNR=14
NRIK Norilʲsk 95.80 340 LR LR 18 50 53.5
comp=Z,102nm,21.7s,baz=260,slow=34
KSH Kashi 96.00 309 P P 18 10 01.3 +1.6
KSH PP **PP 18 13 56.6 +4.0**
KSH S **S 18 21 16.6 0.0**
KSH sS pS 18 21 25.3 -1.6
KSH SS **SS 18 27 52.8 +4.7**
KSH pmax pmax
comp=Z,11nm,0.5s
KSH LR LR
comp=Z,650nm,8.1s
KSH LR LR
comp=Z,610nm,10.3s
KSH LR LR
comp=Z,440nm,6.8s
KURK Kurchatov 96.03 320⇑ *e*P **P 18 09 57.5 -1.9**
KURK pmax pmax
comp=Z,5.0nm,1.2s
TXAR Lajitas Array 96.70 62 LR LR 18 44 29.8
comp=Z,64nm,21.5s,baz=0.0,slow=30
SNAA Sanae 97.03 184 P P 18 10 03.7 0.0
SNAA Sanae 97.03 184⇑ *e*P **P 18 10 03.3 -0.4**
SNAA pmax pmax
comp=Z,202nm,1.1s
SNAA Sanae 97.03 184 P Pdif 18 10 04.0 +0.2
comp=Z,2.5nm,1.0s,baz=213,slow=7.5,SNR=5.4
SNAA Sanae 97.03 184 P P 18 10 03.6 -0.1
SNAA IAmb IAmb 18 10 14.2
comp=Z,11nm,1.5s
AAK Ala-Archa 97.58 312⇑ *e*P **P 18 10 03.2 -3.6**
AAK pmax pmax
comp=Z,3.0nm,1.3s
VNA3 Neumayer Olymp 97.79 182 P Pdif 18 10 09.6 +2.5
VNA2 Neumayer--Watz 98.02 183 P P 18 10 08.1 0.0
baz=77,slow=7.8
BRVK Borovoye 101.43 322⇑ *e*P **Pdif 18 10 23.2 -0.3**
ARCES ARCESS Array B 116.11 345 PKP PKiKP 18 15 14.1 -0.5
comp=Z,0.8nm,0.5s,baz=75,slow=1.3,SNR=10
VSR Storozhevoye 120.50 324⇑ *i*PKIKP **PKPdf 18 15 23.1 -0.5**
KIV Kislovodsk 120.55 315 *e*PKIKP **PKiKP 18 15 25.0 +0.8**
KIV pmax pmax
comp=Z,13nm,1.0s
LPAZ La Paz 121.05 117 PKIKP PKiKP 18 15 26.6 0.0
LPAZ La Paz 121.05 117 PKP PKiKP 18 15 27.3 +0.7
comp=Z,2.0nm,0.9s,baz=22,slow=2.5,SNR=5.4
LPAZ La Paz 121.05 117 PKiKP 18 15 26.6 0.0
VSU Vasula 123.08 335⇑ *i*PKIKP **PKPdf 18 15 27.9 -0.4**
CPUP Villa Florida 124.73 133 PKP PKPdf 18 15 31.1 -1.4
comp=Z,3.1nm,1.0s,baz=235,slow=2.8,SNR=4.7
SDV Santo Domingo 125.48 87 PKP PKPdf 18 15 33.8 -0.7
comp=Z,8.8nm,0.9s,baz=172,slow=1.5,SNR=7.8
SDV Santo Domingo 125.48 87 PKPdf 18 15 33.7 -0.8
AKASG Malin Array Be 126.34 326 PKIKP PKPdf 18 15 34.0 -0.8
AKASG Malin Array Be 126.34 326 PKP PKPdf 18 15 34.0 -0.8
comp=Z,0.3nm,0.4s,baz=53,slow=2.4,SNR=3.7
BRTR Keskin Array B 128.25 312 PKP PKPdf 18 15 39.1 +0.1
comp=Z,1.5nm,1.0s,baz=117,slow=4.3,SNR=7.6
LSZ Lusaka 129.64 240 PKIKP PKPdf 18 15 42.5 +0.2
LSZ Lusaka 129.64 240 PKPdf 18 15 42.5 +0.2
KOLS Kolonicke sedl 131.05 328 *e*PKIKP **PKiKP 18 15 46.3 +1.5**
KOLS Kolonicke sedl 131.05 328 *e*PKP **PKiKP 18 15 46.3 +1.5**
VYHS Vyhne 133.09 329 *e*PKIKP **PKPdf 18 15 48.0 +0.2**
VYHS Vyhne 133.09 329 *e*PKP **PKPdf 18 15 48.0 +0.2**
CLL Collm 133.73 336 *e*PKPdf **PKPdf 18 15 49.0 +0.2**
GERES GERESS Array B 135.28 333 PKP PKiKP 18 15 53.1 -0.4
comp=Z,1.2nm,0.8s,baz=107,slow=1.4,SNR=8.2
FNA Florina 136.24 319 PKIKP PKPdf 18 15 54.0 +0.1
FNA Florina 136.24 319 PKPdf 18 15 54.0 +0.1
KEST Kesra 146.83 322 PKPbc PKPbc 18 16 15.1 +0.2
comp=Z,8.7nm,1.0s,baz=283,slow=4.5,SNR=4.1
KEST Kesra 146.83 322 PKPbc 18 16 15.4 +0.5
ESDC Sonseca Array 149.80 343 PKPbc PKPbc 18 16 22.3 -0.2
comp=Z,3.2nm,0.9s,baz=18,slow=1.5,SNR=13
TOA0 Torodi Ar. Sit 163.30 279 PKPdf 18 16 35.3 -0.5
TOA0 PKPab **PKPab 18 17 25.0 -1.5**
TORD Torodi Ar. Bea 163.30 279 PKP PKPdf 18 16 35.4 -0.4
comp=Z,3.4nm,1.0s,baz=81,slow=1.7,SNR=12
TORD PKPab **PKPab 18 17 24.8 -1.6**
comp=Z,1.6nm,1.1s,baz=96,slow=3.1,SNR=3.9
DBIC Dimbokro 168.84 248 PKP PKPdf 18 16 40.9 +0.7
comp=Z,2.6nm,1.0s,baz=329,slow=2.7,SNR=3.9

IDC 21 18:08:19.1±6.4, 8.48N×137.90E, h77km±65km, mb3.0/3, mb1 3.4/4, mb1mx3.1/40, mbtmpg3.6/4, ML4.5/1, Error ellipse: s-maj=63.5km s-min=33.6km az=86.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**11.28**	**166**	P			Pn	18 10 57.9	+0.4
	3.3nm,0.3s,baz=269,slow=7.4,SNR=10								
JAY				S			Sn	18 13 01.0	-0.8
	2.4nm,0.3s,baz=143,slow=20,SNR=8.7								
H11S3	**WAKE ISLAND Hy 29.66**		**67**	T			T	18 45 45.9	
H11S2	**WAKE ISLAND Hy 29.68**		**67**	T			T	18 45 44.2	
	baz=254,slow=74,SNR=13								
H11S1	**WAKE ISLAND Hy 29.68**		**67**	T			T	18 45 48.7	
	baz=76,slow=74,SNR=8.3								
H11N1	**WAKE ISLAND Hy 30.19**		**65**	T			T	18 46 22.4	
	baz=252,slow=75,SNR=19								
H11N2	**WAKE ISLAND Hy 30.20**		**65**	T			T	18 46 23.2	
	baz=252,slow=75,SNR=15								
H11N3	**WAKE ISLAND Hy 30.21**		**65**	T			T	18 46 23.7	
	baz=252,slow=75,SNR=18								
ASAR	**Alice Springs**	**32.19**	**187**	P			P	18 14 40.1	+0.2
	0.3nm,0.8s,baz=18,slow=12,SNR=6.0								
MKAR	**Makanchi Array**	**60.64**	**319**	P			P	18 18 21.8	-0.3
	0.4nm,0.7s,baz=104,slow=7.6,SNR=4.5								
ILAR	**Eielson Array**	**76.08**	**25**	P			P	18 19 58.3	+0.2
	0.3nm,0.9s,baz=238,slow=6.2,SNR=2.0								

*IDC **21** 18:11:57.0±1.5, 11.01S×164.77E, h0km, mb4.0/6, mb1 4.2/9, mb1mx3.9/44, mbtmp4.1/9, ML3.9/3, MS3.5/3, Ms1 3.5/3, ms1mx3.0/44, Error ellipse: s-maj=39.4km s-min=25.4km az=123.0*
*ISCJB **21** 18:11:59.9±0.7, 11.14S±0.09×164.66E±0.07, h31km, mb3.9/6, MS3.5/2, Error ellipse: s-maj=14.0km s-min=9.2km az=27.8*
*NEIC **21** 18:12:03.0±1.0, 11.1S±0.1×164.74E±0.10, h48km±11km, mb4.8/8*
ISC 21 18:12:01.7±0.8, 11.1S±0.1×164.69E±0.10, h31km, n23, σ0.981/22, mb4.2/10, 1C, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.95**	**289**		Pn		**Pn**	**18 13 15.2**	**+1.3**
	3.0nm,0.3s,baz=158,slow=8.0,SNR=1.4								
HNR					Sn		**Sn**	**18 14 09.4**	**-0.9**
	9.1nm,0.3s,baz=218,slow=20,SNR=2.2								
HNR					LR		LR	18 15 14.8	
	comp=Z,322nm,19.9s,baz=341,slow=40								
HNR	**Honiara**	**4.95**	**289**				**Pn**	**18 13 15.5**	**+1.5**
HNR							**Sn**	**18 14 10.4**	**+0.2**
DZM	**Mont Dzumac**	**11.05**	**171**	Pn			**Pn**	**18 14 38.7**	**+1.0**
	1.2nm,0.3s,baz=20,slow=9.7,SNR=43								
DZM	**Mont Dzumac**	**11.05**	**171**				**Pn**	**18 14 38.9**	**+1.1**
CTA	**Charters Tower**	**19.87**	**241**	P			**Pn**	**18 16 32.2**	**-0.1**
	0.2nm,0.3s,baz=78,slow=11,SNR=5.1								
COEN	**Coen**	**21.20**	**260**	P			**P**	**18 16 44.2**	**-0.7**
NIUE	**Niue**	**25.73**	**111**	P			**P**	**18 17 29.1**	**-0.5**
WR0	**Warramunga Arr**	**30.32**	**249**	P			**P**	**18 18 11.1**	**+0.5**
WR0					IAmb		IAmb	18 18 12.2	
	comp=Z,5.8nm,1.2s								
WRA	**Warramunga Arr**	**30.50**	**250**	P			**P**	**18 18 12.4**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=82,slow=9.2,SNR=12								
AS31	**Alice Springs**	**31.85**	**243**	P			**P**	**18 18 24.5**	**+0.3**
ASAR	**Alice Springs**	**31.85**	**243**	P			**P**	**18 18 24.1**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=63,slow=10,SNR=39								
BBOO	**Buckleboo**	**34.05**	**226**	P			**P**	**18 18 41.6**	**-1.6**
BBOO					IAmb		IAmb	18 18 55.8	
	comp=Z,38nm,1.6s								
KNRA	**Kununurra**	**35.22**	**259**	P			**P**	**18 18 53.1**	**-0.5**
KNRA					IAmb		IAmb	18 19 16.3	
	comp=Z,39nm,1.4s								
RAR	**Rarotonga**	**35.51**	**111**	LR			LR	18 30 43.8	
	comp=Z,67nm,19.0s,baz=350,slow=32								
FITZ	**Fitzroy Crossi**	**38.37**	**255**	P			**P**	**18 19 20.0**	**-0.4**
FITZ					IAmb		IAmb	18 19 34.6	
	comp=Z,16nm,1.6s								
TNTI	**Ternate**	**38.93**	**285**	P			**P**	**18 19 24.8**	**-0.3**
TPUB	**Ta-pu**	**55.02**	**309**	P			**P**	**18 21 30.6**	**0.0**
ASAJ	**Asahikawa**	**58.50**	**341**	LR			LR	18 47 30.9	
	comp=Z,44nm,18.0s,baz=336,slow=36								
SONM	**Songino Array**	**78.09**	**324**	P			**P**	**18 23 58.6**	**+0.9**
	comp=Z,0.9nm,1.0s,baz=140,slow=6.4,SNR=3.8								
ILAR	**Eielson Array**	**83.88**	**19**	P			**P**	**18 24 27.9**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=231,slow=6.0,SNR=4.8								

SYO	Syowa Base	91.44	197	eP		pP		18 25 18.8	+5.7
MKAR	Makanchi Array	92.85	317	P		P		18 25 11.2	-0.3
	comp=Z,0.5nm,0.7s,baz=99,slow=6.4,SNR=5.4								
ZALV	Zalesovo Beam	92.99	324	P		P		18 25 11.3	-0.6
	comp=Z,0.4nm,0.5s,baz=114,slow=6.5,SNR=1.4								

UCR ***21*** *18:12:33.1±1.5, 12°.05N×88°.47W, h38km±420km, ML3.7, mb4.3(NEIC)*
SNET ***21*** *18:12:33.7±1.0, 12°.10N×88°.45W, h35km±96km, ML3.7*
NEIC ***21*** *18:12:37.3±1.8, 12°.32N±0°.08×88°.19W±0°.08, h62km±8km, mb4.3/51*
IDC ***21*** *18:12:39.3±2.5, 12°.42N×88°.05W, h78km±18km, mb3.7/6, mb1 3.9/9, mb1mx3.5/39, mbtmp3.9/9, MS3.7/5, Ms1 3.7/5, ms1mx3.1/45, Error ellipse: s-maj=45.5km s-min=17.1km az=38.0*

ISC 21 18:12:35.1±0.8, 12°.25N±0°.08×88°.32W±0°.05, h35km, n103, σ1ᵗ979/104, mb4.3/29, MS3.6/4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JUCU	Jucuarįn	1.00	4	eP		Pn	18 12 53.4	+0.7
JUCU				IAML			18 13 26.8	
	comp=Z,2μm,0.6s							
ALJI	Alcalda de J	1.10	347	eS		Sn	18 13 10.9	+2.9
LCND	La Caada	1.14	22	eP		Pn	18 12 55.4	+0.9
LCND				IAML			18 13 17.3	
	comp=Z,803nm,0.3s							
LCND	La Caada	1.14	22	eP		Pn	18 12 55.4	+0.9
LCND				IAML			18 13 17.3	
	comp=Z,803nm,0.3s							
LCY	Lacayo	1.17	1	eP		Pn	18 12 56.4	+1.3
LCY	Lacayo	1.17	1	eP		Pn	18 12 56.4	+1.3
PACA	Pacayal	1.22	360	eP		Pn	18 12 56.6	+0.9
PACA	Pacayal	1.22	360	eP		Pn	18 12 56.6	+0.9
COEB	Comit de Eme	1.26	351	eP		Pn	18 12 56.9	+0.6
CRIN	San Cristobal	1.32	70	eP		Pn	18 12 59.8	+2.7
CRIN				IAML			18 13 25.0	
	comp=N,2μm,0.7s							
FAGO	Alcalda de S	1.46	8	eP		Pn	18 12 60.0	+1.1
COEG	Centro de Oper	1.47	338	eP		Pn	18 12 59.1	-0.1
COEG				IAML			18 13 32.7	
	comp=Z,1μm,0.5s							
LFRS	El Faro	1.55	332	eP		Pn	18 13 00.1	-0.1
PAVA	Las Pavas	1.58	338	eP		Pn	18 13 01.0	+0.3
PAVA				eS		Sn	18 13 22.0	+2.1
PAVA	Las Pavas	1.58	338	eP		Pn	18 13 01.0	+0.3
PAVA				eS		Sn	18 13 22.0	+2.1
LBRS	Las Brisas	1.64	335	eP		Pn	18 13 01.9	+0.4
LFU	La Fuente	1.68	333	eP		Pn	18 13 02.4	+0.3
LFU	La Fuente	1.68	333	eP		Pn	18 13 02.4	+0.3
SNET	Serv Nac Est T	1.69	328	Pn		Pn	18 13 03.2	+1.1
COPN	Copaltepe	1.69	92	eP		Pn	18 12 56.7	-5.4
MOMN	Momotombo	1.75	85	eP		Pn	18 12 57.6	-5.3
BOQS	Boqueron	1.75	328	eP		Pn	18 13 02.7	-0.5
LLGN	La Laguna	2.00	342	eP		Pn	18 13 07.9	+1.5
LLGN				eS		Sn	18 13 32.6	+2.3
LLGN				IAML			18 13 40.1	
	comp=Z,503nm,0.3s							
LLGN	La Laguna	2.00	342	eP		Pn	18 13 07.9	+1.5
LLGN				eS		Sn	18 13 32.6	+2.3
LLGN				IAML			18 13 40.1	
	comp=Z,503nm,0.3s							
CEVE	Cerro Verde	2.02	321	eP		Pn	18 13 07.0	+0.1
CEVE	Cerro Verde	2.02	321	eP		Pn	18 13 07.0	+0.1
TGUH	Tegucigalpa,Un	2.07	29	eP		Pn	18 13 09.1	+1.7
TGUH	Tegucigalpa,Un	2.07	29				18 13 08.3	+0.9
ESTN	Estel	2.08	66	eP		Pn	18 13 08.6	+1.0
ESTN				eS		Sn	18 13 37.5	+5.1
ESTN	Estel	2.08	66			Pn	18 13 08.2	+0.6
MATN	Matagalpa	2.44	74	eP		Pn	18 13 13.2	+0.8
MATN				IAML			18 13 50.1	
	comp=N,384nm,0.6s							
ACON	Acoyapa	3.09	95	eP		Pn	18 13 19.7	-1.6
ACON	Acoyapa	3.09	95			Pn	18 13 21.2	-0.1
APG	El Apazote	3.44	323	P		Pn	18 13 30.2	+3.7
	comp=N,0.4nm,0.3s,baz=101,slow=10,SNR=2.6							
APG				S		Sn	18 14 12.6	+6.4
	comp=N,8.6nm,0.3s,baz=240,slow=21,SNR=3.4							
JTS	Las Juntas de	3.83	120	P		Pn	18 13 34.2	+2.6
	comp=N,0.7nm,0.3s,baz=183,slow=19,SNR=2.5							
JTS	Las Juntas de	3.83	120			Pn	18 13 34.1	+2.5
ESPN	Las Esperanzas	3.93	90			Pn	18 13 34.0	+1.1
TEIG	Tepich	7.94	0	P		Pn	18 14 30.1	+2.2
	comp=N,0.5nm,0.3s,baz=319,slow=23,SNR=1.3							
TEIG				LR		LR	18 18 14.5	
	comp=N,142nm,18.6s,baz=228,slow=43							
CMIG	Matias Romero	7.97	308	P		Pn	18 14 29.6	+1.1
	comp=N,0.4nm,0.3s,baz=87,slow=8.4,SNR=5.4							
CMIG				S		Sn	18 16 05.1	+7.6
	comp=N,0.3nm,0.3s,baz=62,slow=4.6,SNR=2.6							
833A	Chaparral WMA,	19.05	329	P		P	18 16 54.3	0.0
JCT	Junction City	21.03	331	P		P	18 17 16.0	+0.1
JCT				IAmb	IAmb		18 17 17.9	
	comp=Z,24nm,1.4s							
WHTX	Lake Whitney,	21.38	338	P		P	18 17 18.9	-0.7
WHTX				IAmb	IAmb		18 17 40.8	
	comp=Z,12nm,0.9s							
Y49A	Blount Mountai	21.58	4	P		P	18 17 22.9	+1.1
Y49A				IAmb	IAmb		18 17 36.7	
	comp=Z,14nm,1.4s							
WLAR	White Oak Lake	21.79	349	P		P	18 17 22.2	-1.8
WLAR				IAmb	IAmb		18 17 28.8	
	comp=Z,20nm,0.9s							
Y52A	Lilburn	21.87	10	P		P	18 17 25.3	+0.5
TXAR	Lajitas Array	22.20	322	P		P	18 17 29.4	+0.8
	comp=Z,3.0nm,0.7s,baz=144,slow=11,SNR=12							
TX31	Lajitas Ar. Si	22.20	322	P		P	18 17 29.1	+0.5
TX32	Lajitas Array	22.20	322	P		P	18 17 29.6	+0.9
X40A	Basin Creek Fa	22.52	350	P		P	18 17 30.8	-1.0
X40A				IAmb	IAmb		18 17 43.3	
	comp=Z,22nm,1.6s							
HODGE	Hodges	22.57	13	P		P	18 17 31.3	-1.1
HODGE				IAmb	IAmb		18 17 35.0	
	comp=Z,11nm,0.8s							
PLAL	Pickwick Lake	22.64	1	P		P	18 17 30.1	-2.9
PLAL				IAmb	IAmb		18 17 34.1	
	comp=Z,17nm,1.6s							
MIAR	Mount Ida	22.71	349	P		P	18 17 34.0	+0.2
MIAR				IAmb	IAmb		18 17 37.1	
	comp=Z,18nm,1.1s							
UALR	University of	22.72	351	P		P	18 17 33.6	-0.4
UALR				IAmb	IAmb		18 17 38.6	
	comp=Z,8.0nm,0.7s							
ABTX	Abilene, Hawle	22.79	335	P		P	18 17 33.7	-1.0
ABTX				IAmb	IAmb		18 17 36.6	
	comp=Z,11nm,0.8s							
W50A	Signal Mountai	23.01	6	P		P	18 17 34.7	-2.3
W50A				IAmb	IAmb		18 17 42.2	
	comp=Z,24nm,1.6s							
WHAR	Wooly Hollow	23.22	352	P		P	18 17 38.9	-0.2
WHAR				IAmb	IAmb		18 17 40.6	
	comp=Z,11nm,0.8s							
STVI	Saint Thomas	23.33	72	P		P	18 17 37.4	-2.9
W39A	Magazine	23.38	349	P		P	18 17 40.5	-0.1
W39A				IAmb	IAmb		18 17 42.9	
	comp=Z,7.7nm,0.8s							
BIRD	Birdtown, Kers	23.41	16	P		P	18 17 40.0	-1.0
BIRD				IAmb	IAmb		18 17 51.8	
	comp=Z,11nm,1.0s							
TKL	Tuckaleechee C	23.67	9	LR		LR	18 26 36.4	
	comp=Z,140nm,18.9s,baz=84,slow=36							
FCAR	Ozark Folk Cen	23.79	352	P		P	18 17 42.9	-1.7
LCAR	Lake Charles	23.86	354	P		P	18 17 45.0	-0.2
X34A	Smith Ranch, M	23.88	340	P		P	18 17 45.5	+0.1
LPIG	La Paz	23.95	303	LR		LR	18 28 22.1	
	comp=Z,83nm,19.3s,baz=54,slow=39							
WMOK	Wichita Mounta	24.32	339	P		P	18 17 48.6	-0.9
FNO	Franklin	24.34	342	P		P	18 17 49.2	-0.5
U40A	Yellville	24.35	351	P		P	18 17 48.7	-1.1
U40A				IAmb	IAmb		18 17 52.7	
	comp=Z,16nm,0.9s							
HHAR	Hobbs	24.46	349	P		P	18 17 50.3	-0.5
TUL1	Leonard	24.51	345	P		P	18 17 50.5	-0.7
TUL1				IAmb	IAmb		18 17 52.2	
	comp=Z,8.3nm,0.8s							
T47A	Sharon Grove	24.66	2	P		P	18 17 51.9	-0.7
T47A				IAmb	IAmb		18 17 55.0	
	comp=Z,6.6nm,0.7s							
U54A	Nelsons Funny	24.87	13	P		P	18 17 55.4	+0.9
U54A				IAmb	IAmb		18 17 58.7	
	comp=Z,12nm,0.9s							
V58A	Windy Hill, Pi	24.88	18	P		P	18 17 55.7	+1.2
V58A				IAmb	IAmb		18 17 56.2	
	comp=Z,15nm,1.2s							
MGMO	Mountain Grove	25.05	353	P		P	18 17 54.9	-1.3
MSTX	Muleshoe	25.32	331	P		P	18 17 58.7	0.0
AMTX	Amarillo	25.59	334	P		P	18 18 01.4	+0.2
V61A	Roper	25.73	22	P		P	18 17 59.9	-2.4
CCM	Cathedral Cave	25.84	355	P		P	18 18 01.5	-1.7
CCM				IAmb	IAmb		18 18 04.4	
	comp=Z,5.9nm,0.7s							
U32A	Winter Ranch,	25.89	340	P		P	18 18 03.4	-0.3
U32A				IAmb	IAmb		18 18 06.8	
	comp=Z,12nm,0.8s							
T25A	Trinidad	28.68	333	P		P	18 18 30.2	+1.1
SDCO	Great Sand Dun	29.68	332	P		P	18 18 39.4	+1.5
SPMN	Marine on St.	33.09	354	P		P	18 19 05.9	-1.6
PDAR	Pinedale Array	35.55	333	P		P	18 19 29.6	+0.4
	comp=Z,0.7nm,0.8s,baz=132,slow=8.8,SNR=3.9							
EYMN	Ely	35.69	356	P		P	18 19 28.7	-1.3
AGMN	Agassiz Nation	36.49	352	P		P	18 19 35.5	-1.3
REDW	Red Top Meadow	36.61	332	P		P	18 19 37.9	-0.4
REDW				IAmb	IAmb		18 19 46.7	
	comp=Z,3.8nm,0.7s							
MDND	Maddock	36.73	347	P		P	18 19 37.7	-1.2
MOOW	Moose Ponds	36.86	333	P		P	18 19 40.5	+0.1
YMR	Madison River	37.68	333	P		P	18 19 48.7	+1.4
ULM	Lac du Bonnet	38.40	352	P		P	18 19 51.4	-1.5
	comp=Z,7.9nm,0.7s,baz=166,slow=8.8,SNR=16							
ULM	Lac du Bonnet	38.40	352	P		P	18 19 51.5	-1.5
YBH	Yreka Blue Hor	41.97	321	LR		LR	18 40 38.1	
	comp=Z,108nm,18.1s,baz=17,slow=40							
FFC	Flin Flon	43.72	349	P		P	18 20 36.0	-0.8
SCHQ	Schefferville	45.72	17	P		P	18 20 51.1	-1.6
	comp=Z,3.8nm,0.9s,baz=216,slow=5.0,SNR=5.5							
SCHQ	Schefferville	45.72	17	P		P	18 20 51.2	-1.5
FCC	Fort Churchill	46.63	356	P		P	18 20 59.1	-0.5
FCC				IAmb	IAmb		18 20 59.5	
	comp=Z,4.9nm,0.8s							
YKA	Yellowknife Ar	53.59	345	P		P	18 21 50.4	-2.0
	comp=Z,1.2nm,0.8s,baz=140,slow=7.5,SNR=26							
ILAR	Eielson Array	65.86	336	P		P	18 23 16.4	-0.4
	comp=Z,0.8nm,1.0s,baz=142,slow=4.2,SNR=6.5							
ARCES	ARCESS Array B	86.65	19	LR		LR	19 02 40.1	
	comp=Z,212nm,20.5s,baz=272,slow=35							
KSH	Kashi	126.47	15	PKP		PKiKP	18 31 37.3	+1.8
KSH				sPKP			18 31 51.6	
KSH				PKS		PKSdf	18 35 12.8	+1.1
KSH	Kashi	126.47	15	SS		SS	18 50 35.1	+4.3
KSH				LR		LR		
	comp=N,710nm,7.8s							
KSH				LR		LR		
	comp=E,580nm,8.1s							
KSH				LR		LR		
	comp=Z,980nm,7.3s							
LZH	Lanzhou	130.57	347	ePKP		PKPdf	18 31 39.6	-3.4
LZH				pPKP		sPKPdf	18 31 57.5	-0.5
LZH				sPKP			18 32 05.3	
ASAR	Alice Springs	138.40	248	PKP		PKPdf	18 31 56.0	-1.8
	comp=Z,0.3nm,1.0s,baz=102,slow=2.2,SNR=2.3							
CMAR	Chiang Mai Arr	148.66	347	PKPbc		PKPdf	18 32 18.4	+2.6
	comp=Z,0.8nm,0.8s,baz=2.8,slow=2.9,SNR=5.6							

ISCJB ***21*** *18:19:46.4±0.3, 11°.95N±0°.03×86°.60W±0°.03, h91km±2km, mb3.9/9, Error ellipse: s-maj=6.1km s-min=3.0km az=37.3*
UCR ***21*** *18:19:46.9±2.2, 11°.92N×86°.63W, h78km±7km, ML4.7, mb4.5(NEIC)*
IDC ***21*** *18:19:47.0±1.2, 12°.16N×86°.33W, h91km±14km, mb3.6/8, mb1 4.0/11, mb1mx3.7/38, mbtmp4.1/11, MS3.0/4, Ms1 3.0/4, ms1mx2.8/36, Error ellipse: s-maj=32.9km s-min=11.5km az=55.0*
NEIC ***21*** *18:19:48.1±2.1, 11°.98N±0°.07×86°.54W±0°.07, h96km±7km, mb4.5/69, Md4.8(SNET)*
SNET ***21*** *18:19:48.3±0.7, 11°.92N×86°.72W, h63km±47km, ML4.8*

ISC 21 18:19:46.7±0.7, 11°.97N±0°.04×86°.57W±0°.04, h85km±5km, n149, σ1ᵗ932/167, mb4.4/37, 3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TISN	Laguna Tiscapa	0.34	59	eP		Pn	18 20 00.2	+0.4
MGAN	Managua	0.36	60	eP		Pn	18 20 00.0	+0.1
MGAN				eS		Sn	18 20 10.7	+0.9
MASN	Masaya	0.41	87	eP		Pn	18 20 00.4	+0.1
MASN				eS		Sn	18 20 10.6	+0.2
CNGN	Cerro Negro	0.55	347	eP		Pn	18 20 01.6	+0.2
CNGN				eS		Sn	18 20 12.6	+0.2
TELN	Telica	0.69	338	eP		Pn	18 20 03.1	+0.4
TELN				eS		Sn	18 20 14.9	+0.2
CRIN	San Cristobal	0.87	327	eP		Pn	18 20 04.9	+0.2
CRIN				eS		Sn	18 20 18.4	+0.4
CRIN				IAML			18 20 24.0	
	comp=N,28μm,0.2s							
CONN	Concepcion	1.01	113	eP		Pn	18 20 00.7	-5.5
ESTN	Estel	1.15	10	eP		Pn	18 20 09.0	+1.1
ESTN				eS		Sn	18 20 25.2	+1.4
ESTN	Estel	1.15	10			Pn	18 20 09.0	+1.1
MATN	Matagalpa	1.15	33	eP		Pn	18 20 08.9	+1.0
MATN				eS		Sn	18 20 25.8	+1.9
ACON	Acoyapa	1.37	90	eP		Pn	18 20 11.2	+0.7
ACON				eS		Sn	18 20 29.4	+0.9
ACON	Acoyapa	1.37	90			Pn	18 20 11.0	+0.5
GB1A	Borinquen Arri	1.62	135	eP		Pn	18 20 14.1	+0.2
BUEV	Buena Vista	1.63	135	eP		Pn	18 20 14.1	+0.1
CNCH	Conchagua	1.79	317	eP		Pn	18 20 16.5	+0.3
CNCH	Conchagua	1.79	317	eP		Pn	18 20 16.5	+0.3
LCND	La Caada	1.86	316	eP		Pn	18 20 17.0	+0.1
LCND				eS		Sn	18 20 39.8	0.0
LCND	La Caada	1.86	316	eP		Pn	18 20 17.0	+0.1
LCND				eS		Sn	18 20 39.8	0.0
CUI	Cuipilapa	1.89	133	eP		Pn	18 20 18.2	+0.8
PLVR	Palo Verde	2.00	143	eP		Pn	18 20 19.7	+0.8
JUCU	Jucuarįn	2.08	308	iP		Pn	18 20 19.9	+0.1
JUCU				IAML			18 20 47.5	
	comp=Z,6μm,0.4s							
TGUH	Tegucigalpa,Un	2.19	342	eP		Pn	18 20 22.9	+1.5
TGUH	Tegucigalpa,Un	2.19	342			Pn	18 20 23.0	+1.6
LCY	Lacayo	2.22	311	eP		Pn	18 20 22.5	+0.7
LCY	Lacayo	2.22	311	eP		Pn	18 20 22.5	+0.7
ESPN	Las Esperanzas	2.23	84	eP		Pn	18 20 23.4	+1.7
ESPN	Las Esperanzas	2.23	84			Pn	18 20 23.6	+1.8
PACA	Pacayal	2.27	311	eP		Pn	18 20 23.1	+0.7
PACA	Pacayal	2.27	311	eP		Pn	18 20 23.1	+0.7
FAGO	Alcalda de S	2.28	319	eP		Pn	18 20 22.9	+0.4
FAGO				eS		Sn	18 20 50.0	+0.1
JTS	Las Juntas de	2.30	136	P		Pn	18 20 23.1	+0.4
	comp=Z,76nm,0.3s,baz=175,slow=23,SNR=123							
JTS				S		Sn	18 20 51.6	+1.3
	comp=Z,147nm,0.3s,baz=20,slow=19,SNR=6.3							
JTS				LR		LR	18 21 13.8	
	comp=Z,110nm,21.7s,baz=356,slow=38							
JTS	Las Juntas de	2.30	136	eP		Pn	18 20 23.3	+0.5
JTS	Las Juntas de	2.30	136			Pn	18 20 22.9	+0.2
CEDE	Laguna Cedeo	2.35	129	eP		Pn	18 20 24.5	+1.0
ARE1	Arenal 1	2.35	129	eP		Pn	18 20 24.4	+0.9
ALJI	Alcalda de J	2.38	305	eP		Pn	18 20 23.9	+0.2
ALJI				IAML			18 20 25.2	
	comp=Z,7μm,0.2s							
COEB	Comit de Eme	2.45	309	eP		Pn	18 20 25.7	+1.0
COEB				eS		Sn	18 20 54.2	+0.2
COEG	Centro de Oper	2.79	306	eP		Pn	18 20 30.0	+0.6
PAVA	Las Pavas	2.89	307	eP		Pn	18 20 31.6	+0.8
PAVA	Las Pavas	2.89	307	eP		Pn	18 20 31.6	+0.8
LFRS	El Faro	2.94	304	iP		Pn	18 20 31.9	+0.5
LBRS	Las Brisas	2.99	306	eP		Pn	18 20 32.9	+0.9
AEIL	Aeropuerto Ilo	3.02	305	eS		Sn	18 21 08.5	+0.7
LFU	La Fuente	3.05	306	eP		Pn	18 20 33.7	+0.9
LFU	La Fuente	3.05	306	eP		Pn	18 20 33.7	+0.9
HDC	Heredia	3.10	129	eP		Pn	18 20 35.2	+1.6
HDC	Heredia	3.10	129			Pn	18 20 35.0	+1.4
SNET	Serv Nac Est T	3.11	304	eP		Pn	18 20 34.2	+0.5
SNET	Serv Nac Est T	3.11	304			Pn	18 20 34.0	+0.3
BOQS	Boqueron	3.17	304	eP		Pn	18 20 35.5	+0.8
LCR2	La Lucha 2	3.35	131	eP		Pn	18 20 38.0	+1.0
CVTR	Volcan Turrial	3.37	125	eP		Pn	18 20 38.2	+0.7
CEVE	Cerro Verde	3.51	302	eP		Pn	18 20 40.1	+0.9
CEVE				eS		Sn	18 21 21.1	+1.3
CEVE	Cerro Verde	3.51	302	eP		Pn	18 20 40.1	+0.9
CEVE				eS		Sn	18 21 21.1	+1.3
SBLS	San Blas	3.51	302	eP		Pn	18 20 40.2	+0.9
MTO3	Montecristo	3.64	312	iP		Pn	18 20 42.0	+1.0
MTO3	Montecristo	3.64	312	iP		Pn	18 20 42.0	+1.0
EDDO	Dominical	3.79	135	eP		Pn	18 20 46.1	+3.4
APG	El Apazote	4.84	309	P		Pn	18 20 58.9	+1.5
	comp=Z,8.9nm,0.3s,baz=126,slow=8.2,SNR=46							
APG				S		Sn	18 21 59.4	+7.0
	baz=354,slow=15,SNR=1.1							
APG				LR		LR	18 22 50.2	
	comp=Z,130nm,20.5s,baz=101,slow=37							
BCIP	Isla Barro Col	7.18	112	Pn		Pn	18 21 31.3	+2.3
CMIG	Matias Romero	9.53	303	P		Pn	18 22 01.4	+0.4
	comp=Z,12nm,0.3s,baz=154,slow=11,SNR=240							
CMIG				LR		LR	18 25 52.8	
	comp=Z,105nm,18.9s,baz=26,slow=38							
PAYG	Puerto Ayora	13.09	197	Pn		Pn	18 22 50.9	+1.5
PCDR	Punta Cana, DR	18.71	67	P		P	18 23 55.6	-2.9
MLPR	Magueyes Islan	19.78	70			Pn	18 24 11.5	-0.9
250A	Grady	19.92	1	P		Pn	18 24 14.7	+0.8
250A				IAmb	IAmb		18 24 15.4	
	comp=Z,18nm,0.6s							
Z50A	Ashland	21.20	1	P		P	18 24 28.2	+2.8
Z50A				IAmb	IAmb		18 24 30.4	
	comp=Z,10.0nm,0.7s							
Z51A	Franklin	21.29	3	P		P	18 24 26.5	+0.1
435B	Jarrell	21.32	333	P		P	18 24 26.3	-0.4
GOGA	Godfrey	21.54	7	P		P	18 24 30.7	+1.8
Y49A	Blount Mountai	21.79	0	P		P	18 24 33.0	+1.4
Y49A				IAmb	IAmb		18 24 36.0	
	comp=Z,46nm,1.8s							
Y52A	Lilburn	21.92	6	P		P	18 24 35.4	+2.4
Y52A				IAmb	IAmb		18 24 37.3	
	comp=Z,15nm,0.8s							
WHTX	Lake Whitney,	22.31	335	P		P	18 24 37.8	+0.6
HODGE	Hodges	22.51	9	P		P	18 24 41.4	+2.1
HODGE				IAmb	IAmb		18 25 01.2	
	comp=Z,24nm,1.8s							
OXF	Oxford	22.59	354	P		P	18 24 40.6	+0.4
SWET	Sewanee	23.16	1	P		P	18 24 46.1	+0.3
W50A	Signal Mountai	23.16	3	P		P	18 24 46.7	+0.8
W50A				IAmb	IAmb		18 24 48.2	
	comp=Z,25nm,1.4s							
BG3	Lake Jocassee	23.16	8	P		P	18 24 47.9	+2.0
CPCT	Cooper Cave	23.45	4	P		P	18 24 49.8	+1.3
TX31	Lajitas Ar. Si	23.50	320	P		P	18 24 49.2	+0.1
TX32	Lajitas Array	23.50	320	P		P	18 24 49.0	-0.1
TXAR	Lajitas Array	23.50	320	P		P	18 24 49.7	+0.6
	comp=Z,1.8nm,0.4s,baz=139,slow=9.7,SNR=14							
KMSC	Kings Mountain	23.56	11	P		P	18 24 49.7	+0.2
KMSC				IAmb	IAmb		18 24 53.6	
	comp=Z,27nm,1.6s							
TKL	Tuckaleechee C	23.72	6	P		P	18 24 53.4	+2.4
	comp=Z,5.2nm,0.7s,baz=163,slow=7.9,SNR=3.9							
TKL	Tuckaleechee C	23.72	6	P		P	18 24 53.0	+2.0
TKL				IAmb	IAmb		18 24 55.2	
	comp=Z,24nm,1.3s							
ABTX	Abilene, Hawle	23.81	332	P		P	18 24 52.1	+0.3
ABTX				IAmb	IAmb		18 24 53.1	
	comp=Z,23nm,1.9s							
V51A	Loudon	23.82	4	P		P	18 24 53.9	+2.1
V53A	Saluda	23.84	8	P		P	18 24 54.1	+2.0
W57A	Gilead	23.84	13	P		P	18 24 52.2	+0.2
W57A				IAmb	IAmb		18 24 56.0	
	comp=Z,37nm,1.6s							
CLTN	Cedars of Leba	24.02	0	P		P	18 24 55.2	+1.6
WVT	Waverly	24.09	357	P		P	18 24 56.0	+1.8
H06E1	SOCORRO T-PHAS	24.43	289	T		T	18 50 02.6	
V58A	Windy Hill, Pi	24.66	15	P		P	18 25 00.4	+0.9
V58A				IAmb	IAmb		18 25 01.6	
	comp=Z,12nm,0.7s							
FNO	Franklin	25.18	339	P		P	18 25 04.7	+0.5
WMOK	Wichita Mounta	25.24	336	P		P	18 25 05.9	+1.1
S51A	Beattyville	25.70	5	P		P	18 25 10.5	+1.6
MSTX	Muleshoe	26.43	329	P		P	18 25 15.4	-0.2
MSTX				IAmb	IAmb		18 25 17.9	
	comp=Z,6.5nm,0.8s							
R55A	Marlinton	26.83	11	P		P	18 25 21.8	+2.6
R55A				IAmb	IAmb		18 25 59.6	
	comp=Z,19nm,1.4s							
Q51A	Peebles	27.10	6	P		P	18 25 22.1	+0.6
Q51A				IAmb	IAmb		18 25 23.5	
	comp=Z,9.7nm,0.5s							
Q54A	Coxs Mills	27.39	10	P		P	18 25 25.3	+1.3
Q54A				IAmb	IAmb		18 26 00.1	
	comp=Z,43nm,1.9s							
Q56A	Snyder Ridge,	27.75	12	P		P	18 25 29.1	+1.8
Q56A				IAmb	IAmb		18 25 31.5	
	comp=Z,35nm,1.6s							
P53A	Whipple	27.79	9	P		P	18 25 29.0	+1.4
P53A				IAmb	IAmb	

PLCA	**Paso Flores**	**54.49**	**165**	P	**P**	**18 29 06.2**	**+0.5**
	comp=Z,3.5nm,0.9s,baz=24,slow=5.2,SNR=7.8						
PLCA				LR	LR	18 49 32.7	
	comp=Z,33nm,18.1s,baz=230,slow=33						
PLCA	**Paso Flores**	**54.49**	**165**	P	**P**	**18 29 06.0**	**+0.4**
PLCA				IAmb	IAmb	18 29 07.4	
	comp=Z,4.3nm,0.9s						
MCARA	**McCarthy VSAT**	**63.84**	**333**	P	**P**	**18 30 11.2**	**+1.4**
ILAR	**Eielson Array**	**66.81**	**336**	P	**P**	**18 30 27.1**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=133,slow=4.1,SNR=8.3						
KSH	**Kashi**	**126.27**	**17**	PKP	**PKPdf**	**18 38 38.1**	**-1.9**
KSH				sPKP		18 39 17.0	
KSH				PP	**PP**	**18 40 38.1**	**+3.9**
KSH				PKS	**PKSdf**	**18 42 14.9**	**-1.8**
KSH				AMB	AMB		
	comp=Z,340nm,6.8s						
KSH				LR	LR		
	comp=N,540nm,11.5s						
KSH				LR	LR		
	comp=E,810nm,5.7s						
KSH				LR	LR		
	comp=Z,420nm,8.9s						
LZH	**Lanzhou**	**131.21**	**349**	*e*PKP	**PKPdf**	**18 38 47.5**	**-2.1**
LZH				pPKP	pPKPdf	18 39 12.0	-1.5
LZH				sPKP		18 39 26.8	
STKA	**Stephens Creek**	**131.57**	**238**	PKP	**PKPdf**	**18 38 50.0**	**0.0**
	comp=Z,2.1nm,0.5s,baz=69,slow=1.9,SNR=12						
ASAR	**Alice Springs**	**139.88**	**247**	PKhKP	PKPpre	18 38 57.6	
	comp=Z,0.8nm,0.6s,baz=112,slow=3.2,SNR=11						
ASAR				PKP	**PKPdf**	**18 39 05.7**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=99,slow=2.0,SNR=9.6						
WRA	**Warramunga Arr**	**139.96**	**253**	PKhKP	PKPpre	18 38 57.2	
	comp=Z,0.8nm,0.7s,baz=94,slow=3.2,SNR=9.0						
WRA				PKP	**PKPdf**	**18 39 06.0**	**0.0**
	comp=Z,2.0nm,0.5s,baz=93,slow=2.6,SNR=22						

*IDC **21** 19:00:50.1±2.3,43.59N×105.35W,h0km,mb3.9/1, mb1 3.6/4,mb1mx3.3/43,mbtmp3.4/4,ML3.4/2,Error ellipse: s-maj=59.5km s-min=8.2km az=151.0*
*ISCJB **21** 19:00:51.5±0.3,43.73N±0.03×105.31W±0.04,h0km, mb4.0/1,Error ellipse: s-maj=4.9km s-min=4.5km az=21.2*
*NEIC **21** 19:00:53.1±1.5,43.74N±0.05×105.33W±0.07,h0km±2km, ML3.2/68*

ISC 21 19:00:51.6±0.8,43.73N±0.06×105.34W±0.05,h0km,n47, σ1s62/45,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.02**	**67**		**Pg**	**19 01 11.5**	**+0.4**
K22A	**Casper**	**1.38**	**219**		**Pg**	**19 01 17.9**	**-0.2**
PHWY	**Pilot Hill**	**2.43**	**182**		**Pn**	**19 01 34.1**	**+1.3**
PHWY				IAML		19 02 10.2	
	147nm,0.3s						
PHWY				IAML		19 02 10.3	
	102nm,0.3s						
RWWY	**Rawlins**	**2.46**	**215**		**Pb**	**19 01 35.5**	**-1.3**
RWWY				IAML		19 02 10.1	
	130nm,0.7s						
N23A	**Red Feather La**	**2.87**	**189**		**Pn**	**19 01 40.4**	**+1.6**
N23A				IAML		19 02 25.2	
	comp=E,99nm,0.5s						
LAO	**LASA Array**	**3.02**	**348**		**Pn**	**19 01 41.7**	**+0.9**
LAO				IAML		19 02 33.3	
	comp=E,115nm,0.6s						
RLMT	**Red Lodge**	**3.14**	**298**		**Pn**	**19 01 44.0**	**+1.4**
RLMT				IAML		19 02 39.0	
	comp=E,63nm,0.3s						
RLMT				IAML		19 02 39.5	
	comp=E,69nm,0.6s						
BW06	**Boulder Array**	**3.23**	**254**		**Pn**	**19 01 45.4**	**+1.7**
BW06				IAML		19 02 34.3	
	comp=E,48nm,0.3s						
BW06				IAML		19 02 34.8	
	comp=N,49nm,0.4s						
PD31	**Pinedale Array**	**3.23**	**254**		**Pn**	**19 01 45.4**	**+1.7**
PDAR	**Pinedale Array**	**3.23**	**254**	Pn	**Pn**	**19 01 45.2**	**+1.5**
	comp=N,4.2nm,0.3s,baz=72,slow=16,SNR=53						
PDAR				Pg	**Pb**	**19 01 50.1**	**+0.2**
	comp=N,8.6nm,0.3s,baz=66,slow=20,SNR=31						
PDAR				Lg	Lg	19 02 30.6	
	comp=N,22nm,0.3s,baz=115,slow=19,SNR=15						
YNE	**Yellowstone No**	**3.58**	**293**		**Pn**	**19 01 50.0**	**+1.4**
YMP	**Mirror Lake Pl**	**3.61**	**288**		**Pn**	**19 01 50.9**	**+1.9**
OGNE	**Ogallala**	**3.71**	**137**		**Pn**	**19 01 51.7**	**+1.5**
GCMT	**Greycliff**	**3.71**	**305**		**Pn**	**19 01 52.1**	**+1.9**
LKWY	**Lake**	**3.74**	**285**		**Pn**	**19 01 52.8**	**+2.1**
LKWY				IAML		19 02 18.9	
	comp=N,38nm,0.6s						
H17A	**Grant Village**	**3.83**	**282**		**Pn**	**19 01 54.6**	**+2.6**
H17A				IAML		19 02 56.4	
	comp=E,21nm,0.7s						
H17A				IAML		19 02 58.5	
	comp=N,29nm,1.3s						
FLWY	**Flagg Ranch**	**3.89**	**277**		**Pn**	**19 01 53.7**	**+0.9**
FLWY				IAML		19 03 00.8	
	comp=N,29nm,2.0s						
FLWY				IAML		19 03 07.3	
	comp=N,30nm,1.3s						
ISCO	**Idaho Springs**	**3.93**	**183**		**Pn**	**19 01 54.8**	**+1.3**
YPP	**Pitchstone Pla**	**3.98**	**280**		**Pn**	**19 01 55.8**	**+1.7**
REDW	**Red Top Meadow**	**4.03**	**267**	IAML		19 03 02.5	
	comp=N,36nm,1.4s						
REDW				IAML		19 03 24.4	
	comp=N,40nm,1.0s						
TPAW	**Teton Pass**	**4.08**	**269**	IAML		19 03 35.0	
	comp=N,25nm,1.2s						
O20A	**White River Ci**	**4.19**	**212**		**Pn**	**19 01 58.8**	**+1.9**
O20A				IAML		19 03 12.0	
	comp=N,42nm,1.2s						
SUSD	**Miller**	**4.65**	**79**	Pn	**Pn**	**19 02 05.6**	**+2.5**
SMCO	**Snowmass**	**4.71**	**196**		**Pn**	**19 02 06.6**	**+2.4**
SMCO				IAML		19 03 21.9	
	comp=N,32nm,0.3s						
SMCO				IAML		19 03 28.2	
	comp=N,25nm,1.2s						
Q24A	**Divide**	**4.76**	**178**		**Pn**	**19 02 05.3**	**+0.4**
DGMT	**Dagmar**	**4.81**	**9**		**Pn**	**19 02 06.7**	**+1.4**
HWUT	**Hardware Ranch**	**5.06**	**247**		**Pn**	**19 02 09.7**	**+0.9**
HWUT				IAML		19 03 46.8	
	comp=N,22nm,1.3s						
HWUT				IAML		19 03 57.1	
	comp=N,19nm,1.0s						
KSCO	**Kaye Shedlock'**	**5.13**	**156**		**Pn**	**19 02 11.1**	**+1.2**
EGMT	**Eagleton**	**5.29**	**326**		**Pn**	**19 02 14.3**	**+2.5**
JLU	**Jordanelle**	**5.51**	**238**	Pn	**Pn**	**19 02 17.4**	**+2.2**
MDND	**Maddock**	**5.75**	**42**		**Pn**	**19 02 20.1**	**+2.0**
SPUT	**South Promonto**	**5.78**	**248**		**Pn**	**19 02 20.4**	**+1.6**
BGNE	**Belgrade**	**5.79**	**111**	Pn	**Pn**	**19 02 21.3**	**+2.5**
SDCO	**Great Sand Dun**	**5.98**	**181**		**Pn**	**19 02 22.4**	**+0.8**
ECSD	**EROS Data Cent**	**6.32**	**87**		**Pn**	**19 02 26.9**	**+0.9**
BGU	**Big Grassy Mou**	**6.35**	**246**		**Pn**	**19 02 27.6**	**+1.0**
CBKS	**Cedar Bluff**	**6.47**	**137**	Pn	**Pn**	**19 02 30.1**	**+2.0**
T25A	**Trinidad**	**6.62**	**174**		**Pn**	**19 02 31.2**	**+0.8**
MSU	**Marysvale**	**7.33**	**227**		**Pn**	**19 02 41.3**	**+1.2**
MTPU	**Mount Pierson**	**7.69**	**225**	Pn	**Pn**	**19 02 46.9**	**+1.8**
WALA	**Waterton Lakes**	**7.97**	**315**	Pn	**Pn**	**19 02 49.2**	**+0.5**
PSUT	**Pine Spring**	**8.26**	**234**		**Pn**	**19 02 54.7**	**+1.9**
I10CA	**LAC DU BONNET**	**9.08**	**41**	*i*		19 53 50.0	
	baz=221,slow=332,SNR=3.2						
ULM	**Lac du Bonnet**	**9.18**	**41**	Pn	**Pn**	**19 03 03.8**	**-1.4**
	comp=N,0.6nm,0.3s,baz=228,slow=12,SNR=6.5						
ULM				Pg		19 03 38.9	
	comp=N,0.6nm,0.3s,baz=210,slow=17,SNR=2.8						
ULM				Lg	Lg	19 05 33.9	
	comp=N,0.2nm,0.3s,baz=304,slow=22,SNR=1.4						
ULM	**Lac du Bonnet**	**9.18**	**41**		**Pn**	**19 03 04.1**	**-1.1**
YKA	**Yellowknife Ar**	**19.57**	**347**	P	**P**	**19 05 18.9**	**-1.7**
	baz=167,slow=11,SNR=1.6						
ARCES	**ARCESS Array B**	**61.44**	**18**	P	**P**	**19 11 08.5**	**-0.7**
	comp=N,1.1nm,0.8s,baz=335,slow=8.3,SNR=4.8						

IDC 21 19:02:38.3±8.6,0.24N×99.59W,h0km,mb3.8/5, mb1 4.2/5,mb1mx3.7/33,mbtmp3.8/5,Error ellipse: s-maj=377.1km s-min=126.8km az=99.0,West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**29.19**	**353**	P	P	19 08 42.7	+1.0
	0.6nm,0.6s,baz=190,slow=4.6,SNR=3.6						
PDAR	**Pinedale Array**	**43.27**	**349**	P	P	19 10 41.0	-0.9
	0.8nm,0.8s,baz=156,slow=8.1,SNR=6.3						
YKA	**Yellowknife Ar**	**63.12**	**352**	P	P	19 13 06.9	-0.5
	0.6nm,0.9s,baz=160,slow=6.4,SNR=6.4						
INK	**Inuvik**	**71.80**	**347**	P	P	19 14 03.6	+1.3
	2.1nm,1.0s,baz=173,slow=7.6,SNR=4.0						
ILAR	**Eielson Array**	**72.88**	**341**	P	P	19 14 08.5	-0.4
	0.8nm,0.8s,baz=157,slow=5.0,SNR=9.4						

IDC 21 19:02:38.3±2.0,29.13N×139.75E,h0km,mb3.4/3, mb1 3.6/5,mb1mx3.3/42,mbtmp3.4/5,ML3.1/2,Error ellipse: s-maj=59.4km s-min=25.2km az=74.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**7.51**	**350**	Pn	Pn	19 04 27.5	-1.6
	0.1nm,0.3s,baz=143,slow=11,SNR=4.1						
MJAR				Sn	Sn	19 05 48.7	-6.3
	0.1nm,0.3s,baz=100,slow=28,SNR=5.1						
JOW	**Kunigami**	**10.40**	**260**	Pn	Pn	19 05 07.7	-1.1
	0.7nm,0.3s,baz=86,slow=17,SNR=5.4						
SONM	**Songino Array**	**31.76**	**315**	P	P	19 09 05.3	+1.0
	0.2nm,0.6s,baz=111,slow=11,SNR=1.8						
WRA	**Warramunga Arr**	**49.06**	**187**	P	P	19 11 27.2	-0.2
	0.5nm,0.5s,baz=6.1,slow=7.6,SNR=8.1						
ASAR	**Alice Springs**	**52.79**	**187**	P	P	19 11 55.4	-0.1
	0.2nm,0.5s,baz=1.5,slow=5.6,SNR=13						

*ISCJB **21** 19:35:09.2±0.5,31.54N±0.02×115.51W±0.03,h2km±4km, Error ellipse: s-maj=4.2km s-min=3.0km az=146.9*
*NEIC **21** 19:35:10.0±1.4,31.56N±0.02×115.54W±0.01,h1km±7km*
*PAS **21** 19:35:10.7±2.2,31.54N±0.03×115.53W±0.03,h15km±7km*
*SCEDC **21** 19:35:10.7,31.54N×115.53W,h15km,M3.3,ML3.3, ML3.3(ECX)*
*ANF **21** 19:35:11.7±0.7,31.65N×115.62W,h5km±3km,ML3.0/8, Error ellipse: s-maj=5.3km s-min=3.4km az=34.0*
*MEX **21** 19:35:11.7±0.5,31.51N×115.50W,h2km±8km,MD3.8*
*ECX **21** 19:35:11.1±0.5,31.54N×115.52W,h6km,MD3.1,ML3.3*

ISC 21 19:35:09.5±1.1,31.54N±0.02×115.52W±0.03,h6km±10km, n59,σ0s79/84,2C-1D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**0.50**	**175**	*e*P	**Pb**	**19 35 20.0**	**-0.9**
SPIG				*e*S	**Sg**	**19 35 26.9**	**+1.3**
SPIG	**San Pedro Mart**	**0.50**	**175**	*e*P	**Pg**	**19 35 19.8**	**+0.6**
SPIG				*e*S	**Sg**	**19 35 27.0**	**+1.3**
SPIG	**San Pedro Mart**	**0.50**	**175**		**Pb**	**19 35 20.0**	**-0.9**
SPIG					**Sg**	**19 35 26.9**	**+1.3**
SPX	**San Pedro Mart**	**0.51**	**175**	*e*P	**Pb**	**19 35 20.1**	**-1.0**
SPX				*e*S	**Sg**	**19 35 26.9**	**+1.0**
SPX	**San Pedro Mart**	**0.51**	**175**		**Pb**	**19 35 20.1**	**-1.0**
SPX					**Sg**	**19 35 26.4**	**+0.5**
ESJX	**Sierra Juarez**	**0.59**	**321**	*e*P	**Pg**	**19 35 20.3**	**-0.5**
ESJX				*e*S	**Sg**	**19 35 28.3**	**-0.3**
ESJX				⇓*e*		19 35 29.1	
ESJX				IAML		19 35 29.1	
	comp=N,2μm,0.1s						
SFX	**San Felipe**	**0.76**	**131**	*e*P	**Pb**	**19 35 24.7**	**-0.4**
SFX				*e*S	**Sb**	**19 35 34.7**	**-1.1**
SFX	**San Felipe**	**0.76**	**131**		**Sb**	**19 35 34.7**	**-1.1**
CPBX	**Cerro Prieto**	**0.89**	**12**		**Pg**	**19 35 26.8**	**+0.2**
CPBX					**Sb**	**19 35 39.1**	**-0.4**
SQX	**San Quintin**	**1.01**	**198**	*e*P	**Pg**	**19 35 28.7**	**-0.2**
SQX				*e*S	**Sg**	**19 35 42.0**	**0.0**
CCX	**Cicese**	**1.03**	**289**	*e*P	**Pg**	**19 35 29.0**	**-0.3**
CCX	**Cicese**	**1.03**	**289**		**Pg**	**19 35 28.9**	**-0.4**
CCX					**Sg**	**19 35 42.7**	**0.0**
ERMX	**Rumorosa**	**1.10**	**337**	*e*P	**Pg**	**19 35 30.5**	**-0.1**
ERMX				*e*S	**Sg**	**19 35 44.9**	**+0.1**
ERMX				⇑*e*		19 35 46.9	
ERMX				IAML		19 35 46.9	
	comp=E,575nm,0.3s						
SGL	**Mount Signal**	**1.12**	**351**	*e*P	**Pb**	**19 35 31.1**	**-0.1**
SGL	**Mount Signal**	**1.12**	**351**		**Pb**	**19 35 31.1**	**-0.1**
RMX	**La Rumorosa**	**1.16**	**336**		**Pg**	**19 35 30.4**	**-1.3**
ERPC	**Ernies Place**	**1.20**	**354**		**Pn**	**19 35 33.4**	**+0.5**
IKP	**In-Ko-Pah, Jac**	**1.21**	**336**	P	**Pg**	**19 35 32.4**	**-0.4**
	baz=156,SNR=44						
IKP				S	**Sg**	**19 35 47.9**	**-0.7**
	baz=156						
IKP	**In-Ko-Pah, Jac**	**1.21**	**336**	*e*P	**Pg**	**19 35 32.2**	**-0.5**
CBX	**Cerro Bola**	**1.24**	**308**	*i* P	**Pg**	**19 35 33.0**	**-0.3**
CBX				*e*S	**Sg**	**19 35 49.2**	**-0.3**
CBX				⇑*e*		19 35 49.8	
CBX				IAML		19 35 49.8	
	comp=N,723nm,0.2s						
CBX	**Cerro Bola**	**1.24**	**308**		**Pg**	**19 35 33.0**	**-0.3**
COK2	**Cook Ranch 2**	**1.32**	**352**		**Sn**	**19 35 53.5**	**+1.2**
SNR	**Schaffner Ranc**	**1.32**	**3**		**Sn**	**19 35 53.8**	**+1.5**
TJIG	**Tijuana**	**1.32**	**312**	*i* P	**Pn**	**19 35 34.1**	**-0.5**
TJIG				*e*S	**Sg**	**19 35 51.0**	**-1.2**
TJIG	**Tijuana**	**1.32**	**312**	*e*P	**Pn**	**19 35 34.1**	**-0.5**
TJIG	**Tijuana**	**1.32**	**312**		**Pn**	**19 35 34.1**	**-0.5**
CRR	**Carrizo Plain**	**1.39**	**344**		**Pn**	**19 35 35.5**	**0.0**
SWSC	**Sam W. Stewart**	**1.42**	**350**	P	**Pg**	**19 35 36.5**	**-0.2**
	baz=171,SNR=15						
SWSC				S	**Sn**	**19 35 55.2**	**+0.3**
	baz=171						
SWSC	**Sam W. Stewart**	**1.42**	**350**		**Pg**	**19 35 36.4**	**-0.2**
SWSC					**Sb**	**19 35 54.7**	**-0.1**
CBKC	**Canebrake**	**1.49**	**335**		**Pg**	**19 35 37.8**	**-0.3**
BAR	**Barrett**	**1.50**	**319**	*e*P	**Pn**	**19 35 37.0**	**0.0**
BAR	**Barrett**	**1.50**	**319**	Pn	**Pn**	**19 35 37.1**	**+0.1**
BAR				Sn	**Sn**	**19 35 56.0**	**-1.0**
MONP2	**Monument Peak**	**1.55**	**331**	P	**Pb**	**19 35 38.5**	**-0.3**
	baz=151,SNR=26						
MONP2				S	**Sn**	**19 35 57.9**	**-0.5**
	baz=151						
MONP2	**Monument Peak**	**1.55**	**331**		**Pb**	**19 35 38.5**	**-0.3**
OLP	**Otay Lakes Par**	**1.60**	**312**	*e*P	**Pn**	**19 35 38.7**	**+0.3**
OLP	**Otay Lakes Par**	**1.60**	**312**		**Pn**	**19 35 38.9**	**+0.5**
GLA	**Glamis**	**1.61**	**21**	P	**Pg**	**19 35 40.1**	**-0.4**
	baz=202						
GLA				S	**Sg**	**19 36 01.2**	**-0.1**
	baz=202						
GLA	**Glamis**	**1.61**	**21**		**Pg**	**19 35 39.9**	**-0.5**
GLA				Sn	**Sb**	**19 36 00.3**	**-0.1**
SDRC	**San Diego Road**	**1.70**	**315**	*e*P	**Pn**	**19 35 40.3**	**+0.6**
SDRC	**San Diego Road**	**1.70**	**315**		**Pb**	**19 35 40.6**	**-0.5**
109C	**Camp Elliot, M**	**1.90**	**315**	P	**Pn**	**19 35 43.5**	**+1.0**
	baz=135,SNR=8.9						
109C				S	**Sn**	**19 36 07.5**	**+0.7**
	baz=135						
109C	**Camp Elliot, M**	**1.90**	**315**		**Pb**	**19 35 43.8**	**-0.8**
109C				Sn	**Sb**	**19 36 08.2**	**-0.5**
113A	**Mohawk Valley,**	**1.92**	**50**		**Pb**	**19 35 44.4**	**-0.6**
PLM	**Palomar**	**2.13**	**328**		**Pb**	**19 35 48.4**	**-0.3**
FRD	**Ford Ranch, An**	**2.15**	**335**		**Pb**	**19 35 49.4**	**+0.4**
XPFO	**Pion Flat**	**2.21**	**339**		**Pb**	**19 35 48.5**	**-1.5**
PFO	**Pinyon Flats O**	**2.21**	**339**	Pb	**Pb**	**19 35 50.5**	**+0.5**
	baz=159						
PFO				Sb	**Sb**	**19 36 18.6**	**+0.9**
	baz=159						
PFO	**Pinyon Flats O**	**2.21**	**339**		**Pn**	**19 35 48.2**	**+1.3**
214A	**Organ Pipe Nat**	**2.34**	**79**	*e*P	**Pn**	**19 35 47.6**	**-0.9**
214A				*i* S	**Sn**	**19 36 16.3**	**-1.4**
POB	**Polly Butte**	**2.44**	**331**		**Pb**	**19 35 53.9**	**0.0**
MURC	**Murrieta**	**2.49**	**326**	Pb	**Pb**	**19 35 53.7**	**-1.0**
	baz=145,SNR=6.8						
MURC				Sb	**Sb**	**19 36 25.6**	**-0.1**
	baz=145						
Y14A	**Wickenburg**	**3.19**	**41**		**Pn**	**19 36 00.5**	**+0.1**
EDW2	**Edwards Air Fo**	**3.92**	**329**	Sb	**Sb**	**19 37 09.5**	**+2.6**
	baz=148						
TUC	**Tucson**	**4.09**	**78**	Pn	**Pn**	**19 36 13.5**	**+0.7**
X16A	**Lo Mia Camp, P**	**4.47**	**49**		**Pn**	**19 36 18.3**	**+0.3**
WUAZ	**Wupatki**	**5.26**	**40**	Pn	**Pn**	**19 36 29.8**	**+1.0**
U15A	**North Rim**	**5.56**	**28**	Pn	**Pn**	**19 36 34.5**	**+1.4**
LCMT	**Little Creek M**	**5.77**	**18**	Pn	**Pn**	**19 36 37.5**	**+1.7**
121A	**Cookes Peak, D**	**6.64**	**79**	Pn	**Pn**	**19 36 48.0**	**+0.2**

*BJI **21** 19:42:14.2±0.0,28.80S×66.90W,h134km,mB5.4/3*
*VAO **21** 19:42:16.6±0.4,28.74S×67.03W,h138km,mb4.7*
*NEIC **21** 19:42:16.6±1.7,28.74S±0.05×66.91W±0.03,h131km±5km*
*IDC **21** 19:42:17.8±0.4,28.72S×66.97W,h136km±4km,mb4.4/18, mb1 4.4/24,mb1mx4.3/38,mbtmp4.7/24,MS3.9/2, Ms1 3.9/2,ms1mx3.1/24,Error ellipse: s-maj=12.4km s-min=7.6km az=96.0*

*ISCJB **21** 19:42:17.1±0.1,28.77S±0.02×66.95W±0.03,h150km, mb4.7/28,Error ellipse: s-maj=3.6km s-min=2.4km az=21.3*
*SJA **21** 19:42:17.0,28.76S×66.96W,h153km,MB4.8(NEIC)*

ISC 21 19:42:17.8±0.3,28.75S±0.04×66.98W±0.04,h150km, n397,σ1s80/392,mb4.8/65,1C-1D,Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CYA	**Choya**	**1.07**	**74**	*i* P	**Pn**	**19 42 43.5**	**+0.2**
CYA				*i* S	**Sn**	**19 43 01.6**	**-1.2**
CYA				IAML		19 43 02.6	
	comp=Z,4μm,0.3s						
ACDV	**Cuesta del Vie**	**2.35**	**232**	*i* P	**Pn**	**19 42 57.5**	**+0.2**
ACDV				IAML		19 42 58.3	
	comp=Z,3μm,0.7s						
ACDV				*i* S	**Sn**	**19 43 27.8**	**+0.1**
AMOG	**MOGNA**	**2.55**	**211**	*e*P	**Pn**	**19 42 59.3**	**-0.4**
AMOG				*i* S	**Sn**	**19 43 31.2**	**-0.8**
ACCO	**Cerro Coronel**	**2.58**	**224**	*i* P	**Pn**	**19 42 59.9**	**-0.4**
AROD	**Rodeo**	**2.60**	**236**	*i* P	**Pn**	**19 43 00.7**	**+0.2**
AROD				*i* S	**Sn**	**19 43 33.0**	**-0.3**
CFA	**Coronel Fontan**	**3.05**	**201**	P	**Pn**	**19 43 05.3**	**-0.6**
	comp=Z,366nm,0.3s,baz=352,slow=8.5						
CFA				S	**Sn**	**19 43 40.8**	**-2.3**
	comp=Z,766nm,0.3s,baz=14,slow=16,SNR=52						
CFA	**Coronel Fontan**	**3.05**	**201**	*i* P	**Pn**	**19 43 05.6**	**-0.3**
CFA				*i* S	**Sn**	**19 43 41.0**	**-2.1**
GO03	**Copiap**	**3.10**	**291**		**Pn**	**19 43 05.9**	**-0.6**
GO03				Sn	**Sn**	**19 43 41.6**	**-2.6**
GO03	**Copiap**	**3.10**	**291**	*i* P	**Pn**	**19 43 06.1**	**-0.5**
GO03				*i* S	**Sn**	**19 43 41.5**	**-2.6**
ZON	**Zonda**	**3.16**	**207**	*i* P	**Pn**	**19 43 06.8**	**-0.4**
RTCV	**Cerro Valdivia**	**3.39**	**203**	*i* P	**Pn**	**19 43 09.6**	**-0.6**
ACAN	**Cantantal**	**3.52**	**183**	*e*P	**Pn**	**19 43 11.9**	**0.0**
GO04	**Tololo Observa**	**3.63**	**246**		**Pn**	**19 43 12.6**	**-0.9**
GO04				Sn	**Sn**	**19 43 55.6**	**-0.9**
GO04	**Tololo Observa**	**3.63**	**246**	*e*P	**Pn**	**19 43 12.8**	**-0.7**
GO04				*i* S	**Sn**	**19 43 55.9**	**-0.7**
MRA	**San Martin**	**3.82**	**164**	*e*P	**Pn**	**19 43 15.6**	**-0.2**
MRA				*i* S	**Sn**	**19 43 58.5**	**-2.3**
MRA				IAML		19 44 00.3	
	comp=Z,796nm,0.6s						
ASAL	**Salagasta**	**4.15**	**202**	*i* P	**Pn**	**19 43 19.7**	**-0.5**
GO02	**Mina Guanaco**	**4.26**	**326**		**Pn**	**19 43 21.9**	**0.0**
GO02				Sn	**Sn**	**19 44 10.1**	**-1.6**
ARCO	**CERRO ARCO**	**4.42**	**202**	*e*P	**Pn**	**19 43 23.1**	**-0.5**
ARCO				*i* S	**Sn**	**19 44 12.5**	**-2.5**
ARCO				IAML		19 44 17.6	
	comp=Z,952nm,0.7s						
AAGR	**Agrelo**	**4.61**	**200**	*i* P	**Pn**	**19 43 25.9**	**-0.3**
PEL	**Peldehue**	**5.42**	**215**		**Pn**	**19 43 35.5**	**-1.4**
PEL				Sn	**Sn**	**19 44 37.3**	**-1.2**
PEL	**Peldehue**	**5.42**	**215**	*i* P	**Pn**	**19 43 35.8**	**-1.1**
ROC1	**El Roble**	**5.46**	**218**		**Pn**	**19 43 35.4**	**-2.2**
ROC1				Sn	**Sn**	**19 44 37.2**	**-2.7**
ROC1	**El Roble**	**5.46**	**218**	*i* P	**Pn**	**19 43 35.3**	**-2.2**
PB10	**IPOC Station P**	**6.12**	**328**		**Pn**	**19 43 44.6**	**-1.6**
LVC	**Limon Verde**	**6.36**	**344**	P	**Pn**	**19 43 50.3**	**+0.6**
	comp=Z,16nm,0.3s,baz=208,slow=8.1,SNR=75						
LVC				S	**Sn**	**19 44 59.0**	**-2.5**
	comp=Z,14nm,0.3s,baz=264,slow=20,SNR=12						
LVC	**Limon Verde**	**6.36**	**344**	*e*P	**Pn**	**19 43 48.0**	**-1.7**
LVC				*e*S	**Sn**	**19 44 59.2**	**-2.3**
LVC	**Limon Verde**	**6.36**	**344**	*e*P	**Pn**	**19 43 48.0**	**-1.7**
LVC				*e*S	**Sn**	**19 44 59.2**	**-2.3**
LVC	**Limon Verde**	**6.36**	**344**		**Pn**	**19 43 49.5**	**-0.2**
LVC					**Sn**	**19 44 58.8**	**-2.7**
PB04	**IPOC Station P**	**7.00**	**335**		**Pn**	**19 43 56.1**	**-2.0**
GO05	**Huala**	**7.53**	**213**		**Pn**	**19 44 01.0**	**-3.9**
GO05				Sn	**Sn**	**19 45 23.6**	**-5.5**
CPUP	**Villa Florida**	**8.89**	**77**	P	**Pn**	**19 44 22.4**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=260,slow=11,SNR=26						
CPUP	**Villa Florida**	**8.89**	**77**		**Pn**	**19 44 21.9**	**-1.2**
GO01	**Chusmiza**	**9.26**	**347**		**Pn**	**19 44 27.0**	**-1.6**
PB11	**IPOC Station P**	**9.27**	**344**		**Pn**	**19 44 25.9**	**-2.6**
MNMC	**Minye Minye**	**9.87**	**345**		**Pn**	**19 44 34.0**	**-2.4**
TRQA	**Tornquist**	**10.18**	**157**	*e*P	**Pn**	**19 44 39.0**	**-1.2**
TRQA	**Tornquist**	**10.18**	**157**	*e*P	**Pn**	**19 44 39.0**	**-1.2**
TRQA	**Tornquist**	**10.18**	**157**		**Pn**	**19 44 39.3**	**-0.8**
GO06	**Curaznue**	**11.43**	**198**		**Pn**	**19 44 54.0**	**-2.7**
PLCA	**Paso Flores**	**12.31**	**193**	P	**Pn**	**19 45 07.0**	**-1.2**
	comp=Z,0.3nm,0.

VNA2 **Neumayer--Watz** 53.27 159 P pP 19 51 56.9 +1.6
baz=290,slow=9.8
SNAA **Sanae** 54.90 160 P pP 19 52 08.3 +1.0
SNAA **Sanae** 54.90 160 P **P** **19 51 34.1 +1.7**
comp=Z,1.8nm,0.5s,baz=285,slow=8.2,SNR=6.1
SNAA pP **pP** **19 52 07.1 -0.2**
comp=Z,16nm,1.1s,baz=293,slow=6.2,SNR=11
SNAA **Sanae** 54.90 160 P **P** **19 51 34.0 +1.5**
QSPA **South Pole Qui** 61.48 180 P **P** **19 52 20.6 +2.2**
155A **Kite** 62.78 345 P **P** **19 52 28.3 +1.1**
baz=165
X58A **Rowland** 64.04 349 P **P** **19 52 36.8 +1.5**
baz=168
Y53A **Monroe** 64.22 345 P **P** **19 52 37.2 +0.6**
baz=164
Z50A **Ashland** 64.23 342 P **P** **19 52 37.2 +0.5**
baz=162,SNR=7.5
Z50A **Ashland** 64.23 342 IAmb IAmb 19 52 38.3
comp=Z,16nm,0.9s
X56A **White Oak** 64.29 347 P **P** **19 52 38.5 +1.5**
baz=166
LRAL **Lakeview Retre** 64.31 341 P **P** **19 52 38.3 +1.0**
baz=161
Y52A **Lilburn** 64.34 344 P **P** **19 52 38.8 +1.3**
baz=163
X55A **Gracelyn & Ava** 64.39 347 P **P** **19 52 38.9 +1.2**
baz=166
W58A **Raeford** 64.47 349 P **P** **19 52 39.9 +1.7**
baz=168
X54A **Belton** 64.61 346 P **P** **19 52 40.8 +1.6**
baz=165
Y51A **Rockmart** 64.62 343 P **P** **19 52 40.4 +1.1**
baz=162
833A **Chaparral WMA,** 64.68 328 P **P** **19 52 42.2 +2.4**
baz=149,SNR=6.4
W57A **Gilead** 64.73 348 P **P** **19 52 40.9 +1.0**
baz=167
X53A **Estanollee** 64.78 345 P **P** **19 52 41.6 +1.3**
baz=164
W56A **Indian Trail** 64.82 348 P **P** **19 52 42.0 +1.5**
baz=167
V59A **Middlesex** 65.04 350 P **P** **19 52 43.9 +2.0**
baz=169
W54A **Cherokee Point** 65.09 346 P **P** **19 52 44.0 +1.8**
baz=165
V58A **Windy Hill, Pi** 65.21 349 P **P** **19 52 44.7 +1.7**
baz=168
W53A **Cullowhee** 65.38 345 P **P** **19 52 45.9 +1.6**
baz=164
V56A **Mocksville** 65.46 348 P **P** **19 52 46.6 +1.9**
baz=167
V55A **Taylorsville** 65.64 347 P **P** **19 52 47.3 +1.5**
baz=166
X48A **Hartselle** 65.66 342 IAmb IAmb 19 52 47.8
comp=Z,14nm,0.9s
U58A **Oxford** 65.70 350 P **P** **19 52 47.8 +1.7**
baz=169
V54A **Nebo** 65.71 347 P **P** **19 52 47.5 +1.2**
baz=166
W51A **Cleveland** 65.74 344 P **P** **19 52 47.7 +1.3**
baz=163
V53A **Saluda** 65.79 346 P **P** **19 52 47.6 +0.8**
baz=165
U57A **Blanch** 65.87 349 P **P** **19 52 48.7 +1.5**
baz=168
W50A **Signal Mountai** 65.92 344 P **P** **19 52 48.7 +1.1**
baz=162,SNR=5.5
W50A **Signal Mountai** 65.92 344 IAmb IAmb 19 52 49.5
comp=Z,16nm,0.9s
W49A **Belvidere** 66.08 343 P **P** **19 52 49.3 +0.7**
baz=162
SWET **Sewanee** 66.09 343 P **P** **19 52 49.5 +0.8**
SWET IAmb IAmb 19 52 50.4
comp=Z,18nm,0.9s
T59A **Double "B" Far** 66.12 351 P **P** **19 52 50.8 +2.0**
baz=170
V52A **Sevierville** 66.12 345 P **P** **19 52 49.7 +0.8**
baz=164
T58A **Grand View Acr** 66.24 350 P **P** **19 52 51.2 +1.6**
baz=169
V51A **Loudon** 66.26 345 P **P** **19 52 50.4 +0.6**
baz=163
V50A **Pikeville** 66.31 344 P **P** **19 52 51.1 +1.0**
baz=163,SNR=5.8
U54A **Nelsons Funny** 66.41 347 P **P** **19 52 52.3 +1.6**
baz=166
V49A **McMinnville** 66.60 343 P **P** **19 52 52.6 +0.6**
baz=162,SNR=7.6
JCT **Junction City** 66.70 329 P **P** **19 52 54.7 +2.0**
baz=149
U51A **La Follette** 66.73 345 P **P** **19 52 53.3 +0.6**
baz=164
V48A **Smith Brothers** 66.81 343 IAmb IAmb 19 52 55.0
comp=Z,18nm,0.9s
U50A **Jamestown** 66.96 344 P **P** **19 52 55.3 +1.0**
baz=163
T53A **Wise** 67.00 347 P **P** **19 52 53.9 -0.6**
baz=165
WHTX **Lake Whitney,** 67.00 332 P **P** **19 52 56.6 +2.1**
baz=151
R58B **Mineral** 67.14 351 P **P** **19 52 57.4 +2.1**
baz=170
T51A **Gray** 67.28 345 P **P** **19 52 57.0 +0.8**
baz=164
S55A **Lewisburg** 67.37 348 P **P** **19 52 58.2 +1.4**
baz=167
WVT **Waverly** 67.45 342 P **P** **19 52 57.8 +0.5**
baz=160
WVT **Waverly** 67.45 342 P **P** **19 52 57.7 +0.5**
R57A **Stanardsville** 67.56 350 P **P** **19 52 59.8 +1.9**
baz=169
TX31 **Lajitas Ar. Si** 67.57 326 P **P** **19 52 59.7 +1.4**
TXAR **Lajitas Array** 67.57 326 P **P** **19 53 00.1 +1.8**
comp=Z,2.4nm,0.7s,baz=147,slow=8.2,SNR=14
T49A **Edmonton** 67.78 344 P **P** **19 52 59.9 +0.5**
baz=162
MIAR **Mount Ida** 67.79 336 P **P** **19 53 01.4 +2.0**
baz=155,SNR=5.5
MIAR **Mount Ida** 67.79 336 IAmb IAmb 19 53 01.8
comp=Z,12nm,1.1s
R55A **Marlinton** 67.81 349 P **P** **19 53 01.7 +2.2**
baz=168
R54A **Victor** 67.86 348 P **P** **19 53 01.6 +1.8**
baz=167
W41B **Gary Mavity, V** 67.91 338 P **P** **19 53 01.4 +1.3**
baz=156
S50A **Richmond** 68.07 345 P **P** **19 53 02.1 +1.0**
baz=164
T47A **Sharon Grove** 68.07 343 IAmb IAmb 19 53 02.5
comp=Z,14nm,1.0s
Q57A **Strasburg** 68.27 350 P **P** **19 53 04.8 +2.4**
baz=169,SNR=6.3
LCAR **Lake Charles** 68.37 339 IAmb IAmb 19 53 05.0
comp=Z,17nm,1.0s
Q56A **Snyder Ridge,** 68.39 350 P **P** **19 53 05.7 +2.6**
baz=168
W39A **Magazine** 68.45 337 P **P** **19 53 05.6 +2.1**
baz=155,SNR=5.5
W39A **Magazine** 68.45 337 IAmb IAmb 19 53 06.4
comp=Z,12nm,0.9s
ABTX **Abilene, Hawle** 68.47 331 P **P** **19 53 05.7 +1.9**
baz=150
ABTX **Abilene, Hawle** 68.47 331 IAmb IAmb 19 53 06.3
comp=Z,15nm,1.0s
R51A **Hillsboro** 68.48 346 P **P** **19 53 04.5 +0.8**
baz=164
Q55A **Buckhannon** 68.49 349 P **P** **19 53 05.7 +1.9**
baz=168
FCAR **Ozark Folk Cen** 68.52 338 IAmb IAmb 19 53 05.8
comp=Z,20nm,1.3s
P59A **Jarrettsville** 68.57 352 P **P** **19 53 06.6 +2.4**
baz=171,SNR=6.0
Q54A **Coxs Mills** 68.61 348 P **P** **19 53 05.6 +1.2**
baz=167
P57A **Homestead Farm** 68.66 351 P **P** **19 53 07.2 +2.5**
baz=170,SNR=6.6
P56A **Dayton Farm, R** 68.80 350 P **P** **19 53 08.3 +2.7**
baz=169,SNR=5.7
P55A **Reedsville** 68.95 349 P **P** **19 53 08.2 +1.6**
baz=168
LIC **Lamto** 68.96 70 *e*P **P** **19 53 07.3 +0.1**
comp=Z,52nm,0.8s
WCI **Wyandotte Cave** 69.04 344 P **P** **19 53 07.8 +0.7**
baz=162
SYO **Syowa Base** 69.14 158 *e*X P 19 53 23.1 +16
SYO **Syowa Base** 69.14 158 *e*pP pP 19 53 37.6 -6.2
O58A **Lewisberry** 69.14 352 P **P** **19 53 09.8 +2.1**
baz=171
P54A **Burton** 69.15 349 P **P** **19 53 09.5 +1.7**
baz=167,SNR=5.4
U40A **Yellville** 69.18 338 P **P** **19 53 09.4 +1.4**
baz=156,SNR=8.1
U40A **Yellville** 69.18 338 IAmb IAmb 19 53 10.2
comp=Z,11nm,1.0s
P53A **Whipple** 69.20 348 P **P** **19 53 09.4 +1.3**
baz=166
P53A **Whipple** 69.20 348 IAmb IAmb 19 53 10.4
comp=Z,26nm,1.1s
TIC **Toumodi** 69.20 70 *e*P **P** **19 53 08.8 +0.1**
comp=Z,7.4nm,0.3s
O59A **Robesonia** 69.24 352 P **P** **19 53 10.5 +2.2**
baz=171
KIC **Kosan Boka** 69.27 70 *e*P **P** **19 53 09.4 +0.3**
comp=Z,75nm,1.0s
DBIC **Dimbokro** 69.35 70 P **P** **19 53 10.3 +0.7**
comp=Z,20nm,0.7s,baz=213,slow=6.9,SNR=43
DBIC LR LR 20 20 53.8
comp=Z,80nm,19.2s,baz=345,slow=33
DBIC **Dimbokro** 69.35 70 P **P** **19 53 09.4 -0.1**
Q49A **Aurora** 69.45 345 P **P** **19 53 10.1 +0.5**
baz=163
P52A **Corning** 69.48 348 P **P** **19 53 10.5 +0.7**
baz=166
HHAR **Hobbs** 69.48 337 P **P** **19 53 11.0 +1.1**
O56A **Blue Knob Stat** 69.50 351 P **P** **19 53 12.0 +2.0**
baz=169
O55A **Ligonier** 69.55 350 P **P** **19 53 11.9 +1.7**
baz=168
Q48A **North Vernon** 69.57 344 P **P** **19 53 10.8 +0.4**
baz=162
MGMO **Mountain Grove** 69.72 339 IAmb IAmb 19 53 13.7
comp=Z,18nm,1.0s
SSPA **Standing Stone** 69.77 351 P **P** **19 53 13.4 +1.8**
baz=170
SSPA **Standing Stone** 69.77 351 P **P** **19 53 12.8 +1.3**
SSPA IAmb IAmb 19 53 13.8
comp=Z,18nm,1.1s
P50A **Jamestown** 69.79 346 P **P** **19 53 12.9 +1.2**
baz=164
TUL1 **Leonard** 69.81 335 P **P** **19 53 13.8 +1.9**
baz=153
TUL1 **Leonard** 69.81 335 IAmb IAmb 19 53 14.7
comp=Z,12nm,0.8s
N57A **Milroy** 69.84 351 P **P** **19 53 13.8 +1.8**
baz=170
O52A **Adamsville** 69.89 348 P **P** **19 53 13.4 +1.1**
baz=166
P49A **Miami Univ. Ec** 69.91 345 P **P** **19 53 13.4 +1.0**
baz=164
WMOK **Wichita Mounta** 69.93 332 P **P** **19 53 13.9 +1.2**
baz=151
P48A **Milroy** 70.00 345 P **P** **19 53 13.2 +0.2**
baz=163
VNDA **Vanda** 70.05 190 P **P** **19 53 15.4 +2.6**
comp=Z,1.6nm,0.9s,baz=112,slow=3.7,SNR=3.9
O51A **Pataskala** 70.07 347 P **P** **19 53 14.7 +1.4**
baz=166
N55A **Marion Center** 70.07 350 P **P** **19 53 15.4 +2.0**
baz=169,SNR=6.2
N56A **West Decatur** 70.10 351 P **P** **19 53 15.5 +1.9**
baz=170
CCM **Cathedral Cave** 70.23 340 P **P** **19 53 15.7 +1.2**
baz=158
CCM **Cathedral Cave** 70.23 340 P **P** **19 53 15.4 +1.0**
CCM IAmb IAmb 19 53 16.4
comp=Z,18nm,0.8s
M58A **Price's Panora** 70.32 352 P **P** **19 53 17.0 +2.1**
baz=171
MNTX **Cornudas Mount** 70.34 326 P **P** **19 53 16.7 +1.4**
baz=145
M59A **Waymart** 70.37 353 P **P** **19 53 17.4 +2.2**
baz=172
N54A **Moraine State** 70.40 350 P **P** **19 53 16.9 +1.5**
baz=168
N54A **Moraine State** 70.40 350 IAmb IAmb 19 53 17.9
comp=Z,16nm,0.8s
M56A **Emporium** 70.64 351 P **P** **19 53 19.0 +2.1**
baz=170
M55A **Ridgway** 70.71 351 P **P** **19 53 19.0 +1.7**
baz=169,SNR=5.8
N50A **Nevada** 70.78 347 P **P** **19 53 18.8 +1.2**
baz=165
M54A **Oil Creek Stat** 70.88 350 P **P** **19 53 19.7 +1.4**
baz=168,SNR=6.5
M54A **Oil Creek Stat** 70.88 350 IAmb IAmb 19 53 21.1
comp=Z,30nm,1.1s
L58A **Harry Jones Me** 70.91 353 P **P** **19 53 21.0 +2.6**
baz=172
L59A **Walton** 70.97 354 P **P** **19 53 21.2 +2.3**
baz=172
M53A **Wi Miller and** 70.97 349 P **P** **19 53 20.6 +1.7**
baz=167
MSTX **Muleshoe** 70.99 329 P **P** **19 53 20.8 +1.6**
baz=147,SNR=7.1
MSTX **Muleshoe** 70.99 329 IAmb IAmb 19 53 21.6
comp=Z,18nm,0.9s
N49A **Columbus Grove** 71.13 346 P **P** **19 53 20.5 +0.7**
baz=164,SNR=7.0
HSIG **71.18 320** P **P** **19 53 22.3 +1.9**
HSIG IAmb IAmb 19 53 23.9
comp=Z,13nm,0.9s
M52A **Chesterland** 71.19 349 P **P** **19 53 21.4 +1.2**
baz=167
L56A **Greenwood** 71.20 352 P **P** **19 53 22.0 +1.7**
baz=170
N48A **Decatur** 71.25 346 P **P** **19 53 21.2 +0.7**
baz=163
AMTX **Amarillo** 71.27 330 P **P** **19 53 22.4 +1.5**
baz=148
L55A **Hinsdale** 71.36 351 P **P** **19 53 22.8 +1.6**
baz=169
N47A **Urbana** 71.42 345 P **P** **19 53 22.5 +1.0**
baz=163,SNR=5.1
N47A **Urbana** 71.42 345 IAmb IAmb 19 53 22.8
comp=Z,28nm,1.0s
ERPA **Erie** 71.53 350 P **P** **19 53 23.5 +1.4**
baz=168
L54A **Sinclairville** 71.54 350 P **P** **19 53 24.1 +1.9**
baz=169,SNR=7.2
K58A **Earlville** 71.60 353 P **P** **19 53 24.5 +1.9**
baz=172
M49A **Liberty Center** 71.62 347 P **P** **19 53 23.6 +0.9**
baz=164
M47A **Cromwell** 71.86 345 P **P** **19 53 25.4 +1.2**
baz=163
HDIL **Hopedale** 72.00 342 P **P** **19 53 25.8 +0.8**
baz=160
L48A **N Adams** 72.16 346 P **P** **19 53 26.3 +0.3**
baz=164
L49A **Milan** 72.19 347 P **P** **19 53 27.1 +1.0**
baz=165
J59A **Piesco** 72.19 354 P **P** **19 53 28.1 +2.0**
baz=173
121A **Cookes Peak, D** 72.22 325 P **P** **19 53 29.9 +3.1**
baz=143,SNR=6.0
K52A **Tillsonburg** 72.29 349 P **P** **19 53 28.2 +1.5**
baz=167
L47A **Sherwood** 72.36 346 P **P** **19 53 27.8 +0.7**
baz=163
N41A **Harden Midland** 72.57 341 IAmb IAmb 19 53 29.9
comp=Z,17nm,0.8s
L46A **Eue Claire** 72.63 345 P **P** **19 53 29.2 +0.5**
baz=162
K47A **Vermontville** 72.98 346 P **P** **19 53 31.2 +0.5**
baz=164
H58A **Gabriels** 73.11 355 P **P** **19 53 33.4 +1.9**
baz=173,SNR=5.6
I55A **Frankford** 73.27 352 P **P** **19 53 33.7 +1.3**
baz=170
H59A **Cadyville** 73.30 355 P **P** **19 53 34.5 +1.9**
baz=174
I51A **Listowel** 73.34 349 P **P** **19 53 34.5 +1.7**
baz=167
J48A **Bridge Port** 73.34 347 P **P** **19 53 33.9 +1.1**
baz=165
LONY **Lake Ozonia** 73.34 354 P **P** **19 53 34.8 +1.9**
baz=173
I52A **Shelburne** 73.46 350 P **P** **19 53 35.1 +1.5**
baz=168
H56A **Elgin** 73.48 353 P **P** **19 53 35.6 +2.0**
baz=172
J47A **Sunmer** 73.48 346 P **P** **19 53 34.8 +1.1**
baz=164
J47A **Sunmer** 73.48 346 IAmb IAmb 19 53 35.2
comp=Z,24nm,1.1s
ANMO **Albuquerque** 73.50 327 P **P** **19 53 36.6 +2.4**
baz=144
ANMO **Albuquerque** 73.50 327 P **P** **19 53 35.7 +1.4**
TUC **Tucson** 73.61 322 P **P** **19 53 38.4 +3.5**
baz=141
G64A **Maxfield** 73.66 359 P **P** **19 53 37.1 +2.5**
baz=178
CBKS **Cedar Bluff** 73.85 334 P **P** **19 53 38.1 +2.1**
baz=150
T25A **Trinidad** 74.36 330 P **P** **19 53 41.8 +2.6**
baz=146,SNR=7.7
SCIA **State Center** 74.36 340 IAmb IAmb 19 53 41.0
comp=Z,22nm,1.1s
214A **Organ Pipe Nat** 74.45 321 P **P** **19 53 42.7 +3.0**
baz=139
214A **Organ Pipe Nat** 74.45 321 P **P** **19 53 39.3 -0.4**
JFWS **Jewell Farm** 74.45 342 P **P** **19 53 41.1 +1.8**
baz=159
H46A **Fife Lake** 74.81 347 P **P** **19 53 42.1 +0.8**
baz=164
E58A **La Victoria** 74.98 355 P **P** **19 53 44.0 +1.7**
baz=174
ALGO **Algonquin Park** 75.02 352 P **P** **19 53 44.3 +1.7**
baz=170
I42A **Draeger Farm,** 75.03 344 IAmb IAmb 19 53 44.6
comp=Z,21nm,0.8s
E56A **St. Veronique** 75.29 354 P **P** **19 53 45.2 +1.2**
baz=173
SDCO **Great Sand Dun** 75.35 329 P **P** **19 53 47.6 +2.6**
baz=146
D63A **Stockholm** 75.44 359 P **P** **19 53 46.5 +1.6**
baz=179
I40A **Norwalk** 75.46 343 IAmb IAmb 19 53 47.0
comp=Z,15nm,1.0s
BGNE **Belgrade** 75.53 336 P **P** **19 53 47.6 +2.0**
baz=152,SNR=5.9
D57A **Chemin Vers le** 75.67 355 P **P** **19 53 47.7 +1.5**
baz=174
D58A **Chemin du LacG** 75.68 356 P **P** **19 53 48.1 +1.8**
baz=175,SNR=5.8
E51A **G1948 Merrick** 75.78 351 P **P** **19 53 48.5 +1.7**
baz=169
D55A **Sainte-Anne-du** 75.80 354 P **P** **19 53 48.4 +1.5**
baz=172
E50A **Wahnapitae** 75.85 350 P **P** **19 53 48.8 +1.6**
baz=168
S22A **4UR Ranch, Cre** 75.95 328 P **P** **19 53 50.9 +2.5**
baz=145,SNR=5.8
LATQ **La Tuque** 75.96 356 P **P** **19 53 49.7 +1.9**
baz=175
D54A **Lac Fusel, La** 76.05 353 P **P** **19 53 49.5 +1.1**
baz=171
D52A **ZEK Kipawa Sen** 76.08 352 P **P** **19 53 50.4 +1.9**
baz=170
D53A **Lac Vacive, Po** 76.09 352 P **P** **19 53 50.0 +1.4**
baz=170
E48A **Lockeyer** 76.13 349 P **P** **19 53 50.2 +1.4**
baz=166
Q24A **Divide** 76.20 330 P **P** **19 53 52.5 +2.7**
baz=146
E47A **Iron Bridge** 76.29 348 P **P** **19 53 51.1 +1.3**
baz=165
MVCO **Mesa Verde** 76.31 327 P **P** **19 53 53.1 +2.8**
baz=143
WUAZ **Wupatki** 76.40 324 P **P** **19 53 54.0 +3.2**
baz=141
D48A **Paudash Townsh** 76.75 350 P **P** **19 53 53.5 +1.2**
baz=167
Y12C **Blythe** 76.75 321 P **P** **19 53 55.6 +3.0**
baz=138,SNR=5.5
ECSD **EROS Data Cent** 77.08 338 P **P** **19 53 55.5 +1.2**
baz=154
ECSD **EROS Data Cent** 77.08 338 IAmb IAmb 19 53 56.5
comp=Z,29nm,1.1s
ISCO **Idaho Springs** 77.09 330 P **P** **19 53 57.0 +2.2**
baz=146
SMCO **Snowmass** 77.18 329 P **P** **19 53 57.0 +1.6**
MONP2 **Monument Peak** 77.19 319 P **P** **19 53 57.7 +2.3**
baz=137
BC3 **Big Chuckawall** 77.20 320 P **P** **19 53 58.1 +2.8**
baz=138
SPMN **Marine on St.** 77.29 342 P **P** **19 53 56.3 +0.9**
baz=157
SPMN **Marine on St.** 77.29 342 IAmb IAmb 19 53 57.1
comp=Z,11nm,0.6s
IRM **Iron Mountain** 77.39 321 P **P** **19 53 58.8 +2.5**
baz=138
TPFO **Pinon Flats** 77.73 320 P **P** **19 54 01.1 +2.8**
baz=137
PFO **Pinyon Flats O** 77.73 320 P **P** **19 54 01.2 +2.9**
baz=137
LSQQ **Lebel-sur-Quev** 77.97 353 P **P** **19 54 00.5 +1.4**
baz=171
N23A **Red Feather La** 78.14 331 P **P** **19 54 03.2 +2.6**
baz=146
GMRC **Granite Mounta** 78.14 321 P **P** **19 54 03.5 +2.9**
baz=138,SNR=7.9
E38A **The Farm, Brul** 78.23 343 IAmb IAmb 19 54 02.5
comp=Z,19nm,0.9s
TOA0 **Torodi Ar. Sit** 78.29 68 P **P** **19 54 02.4 +0.8**
TOA0 IAmb IAmb 19 54 03.8
comp=Z,25nm,0.9s
TORD **Torodi Ar. Bea** 78.29 68 P **P** **19 54 02.7 +1.1**
comp=Z,14nm,0.8s,baz=263,slow=5.2,SNR=80
TORD pP **pP** **19 54 35.6 -3.3**
comp=Z,3.9nm,0.8s,baz=263,slow=4.7,SNR=3.2
O20A **White River Ci** 78.53 329 P **P** **19 54 05.5 +2.9**
baz=144,SNR=8.7
CHGQ **Chibougamau** 78.58 355 P **P** **19 54 03.8 +1.4**
baz=173
BOSA **Boshof** 78.59 116 P **P** **19 54 05.3 +2.0**
comp=Z,8.1nm,0.8s,baz=217,slow=4.7,SNR=12
BOSA pP **pP** **19 54 37.9 -2.6**
comp=Z,2.9nm,0.7s,baz=274,slow=4.2,SNR=2.2
BOSA **Boshof** 78.59 116 P **P** **19 54 04.5 +1.2**
MATQ **Matagami** 78.73 353 P **P** **19 54 03.6 +0.4**
baz=170
EYMN **Ely** 79.46 344 P **P** **19 54 09.2 +1.9**
baz=158
LRMC **Laurel Mtn Rad** 79.78 320 P **P** **19 54 12.1 +2.6**
baz=136
K22A **Casper** 79.83 331 P **P** **19 54 12.3 +2.7**
baz=146
RSSD **Black Hills** 80.05 334 P **P** **19 54 12.9 +2.0**
baz=148
RSSD **Black Hills** 80.05 334 P **P** **19 54 11.8 +1.0**
TPNV **Topopah Spring** 80.06 322 P **P** **19 54 13.9 +3.0**
baz=138
MPMC **Manual Prospec** 80.09 321 P **P** **19 54 13.8 +2.6**
baz=137
LBTB **Lobatse** 80.48 113 P **P** **19 54 14.6 +1.1**
LBTB IAmb IAmb 19 54 16.2
comp=Z,11nm,0.8s
DUG **Dugway, Tooele** 80.73 326 P **P** **19 54 16.9 +2.5**
baz=140
R11A **Troy Canyon, C** 80.74 323 P **P** **19 54 17.1 +2.5**
baz=138,SNR=5.5
AGMN **Agassiz Nation** 80.95 341 P **P** **19 54 16.7 +1.5**
baz=155,SNR=8.8
AGMN **Agassiz Nation** 80.95 341 IAmb IAmb 19 54 17.5
comp=Z,13nm,0.8s
BW06 **Boulder Array** 81.23 330 P **P** **19 54 20.0 +2.8**
baz=143
PD31 **Pinedale Array** 81.23 330 P **P** **19 54 17.5 +0.3**
PDAR **Pinedale Array** 81.23 330 P **P** **19 54 18.7 +1.5**
comp=Z,3.5nm,0.7s,baz=124,slow=5.9,SNR=23
MDND **Maddock** 81.69 338 P **P** **19 54 21.4 +2.2**
baz=152,SNR=9.5
NVAR **Mina Array Bea** 82.25 322 P **P** **19 54 24.1 +1.5**
comp=Z,1.8nm,0.9s,baz=160,slow=6.3,SNR=4.7
ULM **Lac du Bonnet** 82.72 342 P **P** **19 54 25.5 +1.1**
comp=Z,7.4nm,0.7s,baz=146,slow=4.6,SNR=17
ULM **Lac du Bonnet** 82.72 342 IAmb IAmb 19 54 26.5
comp=Z,22nm,1.1s
RLMT **Red Lodge** 82.99 331 P **P** **19 54 28.2 +1.9**
baz=144
LAO **LASA Array** 83.05 334 P **P** **19 54 28.0 +1.7**
baz=146
LAO **LASA Array** 83.05 334 IAmb IAmb 19 54 28.9
comp=Z,12nm,0.9s
GCMT **Greycliff** 83.70 331 P **P** **19 54 31.2 +1.4**
DGMT **Dagmar** 83.79 336 P **P** **19 54 32.2 +2.2**
baz=148,SNR=6.7
PFVI **Vila Bisbo** 85.25 43 *e*P **P** **19 54 40.8 +3.2**
comp=Z,90nm,1.9s
MORF **Marmelete** 85.47 43 *e*P **P** **19 54 40.4 +1.7**
PBDV **Barranco-do-Ve** 85.86 43 *e*P **P** **19 54 43.5 +2.9**
comp=Z,71nm,1.6s
PCVE **Castro Verde** 86.05 43 *e*P **P** **19 54 44.1 +2.6**

	comp=Z,29nm,1.6s							
PNCL	**Nicolau / Gran**	**86.08**	**42**	*e*P		**P**	**19 54 44.3**	**+2.7**
	comp=Z,41nm,1.9s							
PVAQ	**Vaqueiros**	**86.10**	**43**	*e*P		**P**	**19 54 44.4**	**+2.7**
	comp=Z,39nm,1.7s							
PVAQ	**Vaqueiros**	**86.10**	**43**	P		**P**	**19 54 42.8**	**+1.1**
PVAQ				IAmb		IAmb	19 54 46.7	
	comp=Z,29nm,1.2s							
PBEJ	**Beja**	**86.42**	**43**	*e*P		**P**	**19 54 46.0**	**+2.7**
	comp=Z,23nm,1.5s							
PMTG	**Montargil**	**86.89**	**42**	*e*P		**P**	**19 54 48.1**	**+2.6**
	comp=Z,69nm,1.7s							
LSZ	**Lusaka**	**87.19**	**106**	P		**P**	**19 54 49.0**	**+1.1**
LSZ				IAmb		IAmb	19 54 52.3	
	comp=Z,11nm,1.1s							
J05D	**Fort Rock, OR**	**87.27**	**324**	P		**P**	**19 54 49.9**	**+2.4**
	baz=135							
WALA	**Waterton Lakes**	**88.05**	**331**	IAmb		IAmb	19 54 53.8	
	comp=Z,14nm,0.9s							
K02D	**Willamette Mer**	**88.15**	**322**	P		**P**	**19 54 54.5**	**+2.9**
	baz=133							
FFC	**Flin Flon**	**88.42**	**341**	P		**P**	**19 54 52.3**	**-0.1**
FFC				IAmb		IAmb	19 54 54.8	
	comp=Z,8.6nm,1.0s							
ESDC	**Sonseca Array**	**89.81**	**43**	P		**P**	**19 55 00.7**	**+1.3**
	comp=Z,3.0nm,1.0s,baz=238,slow=4.8,SNR=12							
YKA	**Yellowknife Ar**	**98.57**	**340**	P		Pdif	19 55 40.1	+1.3
	comp=Z,1.5nm,0.8s,baz=135,slow=4.5,SNR=30							
BRTR	**Keskin Array B**	**115.42**	**57**	PKP		**PKiKP**	**20 00 43.5**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=176,slow=0.3,SNR=4.4							
KBZ	**Khabaz**	**123.09**	**54**	PKP		**PKiKP**	**20 00 58.0**	**+1.4**
	comp=Z,2.0nm,0.8s,baz=166,slow=3.2,SNR=5.6							
ASAR	**Alice Springs**	**124.14**	**203**	PKP		**PKiKP**	**20 00 59.9**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=155,slow=2.4,SNR=14							
ASAR				pPKP		**pPKPdf**	**20 01 38.0**	**-1.8**
	comp=Z,1.5nm,0.8s,baz=149,slow=2.3,SNR=7.4							
WRA	**Warramunga Arr**	**127.40**	**205**	PKP		**PKiKP**	**20 01 06.6**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=169,slow=1.6,SNR=31							
WRA				pPKP		**pPKPdf**	**20 01 43.9**	**-2.1**
	comp=Z,2.4nm,0.5s,baz=163,slow=1.8,SNR=9.4							
ABKAR	**Akbulak array**	**134.99**	**48**			**PKiKP**	**20 01 20.3**	**0.0**
SEY	**Seymchan**	**137.40**	**335**	PKP		**PKiKP**	**20 01 25.3**	**+0.5**
	comp=Z,4.9nm,0.9s,baz=282,slow=2.2,SNR=5.9							
YAK	**Yakutsk**	**144.94**	**346**	PKP		**PKPdf**	**20 01 37.4**	**+1.1**
	comp=Z,26nm,0.8s,baz=181,slow=1.1,SNR=32							
YAK				pPKP		**pPKPdf**	**20 02 14.3**	**-2.9**
	comp=Z,2.0nm,0.3s,baz=259,slow=2.2,SNR=2.2							
YAK	**Yakutsk**	**144.94**	**346**			**PKPdf**	**20 01 37.3**	**+1.0**
ARSB	**Arslanbob**	**145.19**	**58**			**PKPab**	**20 01 38.3**	**+0.4**
NIL	**Nilore**	**145.78**	**72**			**PKPab**	**20 01 39.8**	**-0.4**
NRN	**Naryn**	**147.41**	**57**			**PKiKP**	**20 01 44.7**	**-1.8**
ZAA0	**Zalesovo Array**	**147.49**	**31**			**PKPbc**	**20 01 43.4**	**-0.3**
ZALV	**Zalesovo Beam**	**147.49**	**31**	PKP		**PKPbc**	**20 01 43.6**	**-0.2**
	comp=Z,15nm,0.5s,baz=294,slow=4.1,SNR=41							
ZALV				PKPbc		**PKPab**	**20 01 45.7**	**-0.5**
	comp=Z,15nm,0.5s,baz=309,slow=3.7,SNR=24							
ZALV				pPKPbc		**pPKPbc**	**20 02 22.1**	**-1.3**
	comp=Z,8.0nm,0.7s,baz=306,slow=5.1,SNR=4.2							
KSH	**Kashi**	**147.71**	**61**	PKPbc		**PKPdf**	**20 01 38.1**	**-3.9**
KSH				PP		**PP**	**20 05 13.9**	**+0.4**
KSH				SS		SS	20 24 01.1	-5.0
KSH				AMB		AMB		
	comp=Z,380nm,9.2s							
KSH				LR		LR		
	comp=Z,610nm,9.2s							
KSH				LR		LR		
	comp=Z,1μm,10.4s							
KSH				LR		LR		
	comp=Z,820nm,8.4s							
MAKZ	**Makanchi**	**149.82**	**45**			**PKiKP**	**20 01 50.7**	**-0.2**
MK31	**Makanchi Array**	**150.02**	**45**			**PKiKP**	**20 01 51.7**	**+0.4**
MKAR	**Makanchi Array**	**150.02**	**45**	PKP		**PKPbc**	**20 01 47.6**	**-2.8**
	comp=Z,16nm,0.8s,baz=0.0,slow=1.4,SNR=4.6							
MKAR				PKPbc		**PKiKP**	**20 01 52.5**	**+1.2**
	comp=Z,18nm,0.9s,baz=288,slow=2.6,SNR=63							
MKAR				pPKPbc		**pPKPbc**	**20 02 29.6**	**-0.6**
	comp=Z,6.2nm,0.8s,baz=273,slow=3.7,SNR=3.8							
WMQ	**Urumqi**	**154.77**	**47**	*e*PKPbc		**PKPdf**	**20 01 47.4**	**-5.1**
WMQ				LR		LR		
	comp=Z,570nm,28.9s							
WMQ				LR		LR		
	comp=Z,1μm,29.3s							
WMQ				LR		LR		
	comp=Z,190nm,29.0s							
SONM	**Songino Array**	**160.26**	**13**	PKP		**PKPdf**	**20 02 01.2**	**+1.9**
	comp=Z,1.4nm,0.9s,baz=348,slow=1.5,SNR=8.2							
SONM				PKPab		**PKPab**	**20 02 41.2**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=329,slow=4.1,SNR=9.2							
ULN	**Ulaanbaatar**	**160.36**	**12**			**PKPab**	**20 02 42.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**163.54**	**125**	PKP		**PKPdf**	**20 02 05.8**	**+2.5**
	comp=Z,1.0nm,0.9s,baz=240,slow=1.5,SNR=6.0							
HHC	**Hu-ho-hao-te**	**167.87**	**5**	PKP		**PKPdf**	**20 01 59.8**	**-6.6**
LZH	**Lanzhou**	**169.34**	**44**	*e*PKP		**PKPdf**	**20 01 59.9**	**-7.6**
LZH				pPKP		pPKPdf	20 02 46.1	-2.2
LZH				PKPab		**PKPab**	**20 03 16.0**	**-4.9**
CD2	**Chengdu**	**171.67**	**73**	PKP		**PKPdf**	**20 02 03.3**	**-5.5**
NJ2	**Nanjing**	**173.98**	**305**	*e*PKP		**PKPdf**	**20 02 05.0**	**-4.6**
WHN	**Wuhan**	**177.87**	**328**	PKP		**PKPdf**	**20 02 08.4**	**-2.2**

*ISCJB **21** 19:54:01.7±1.6,46°.7N±0°.3×152°.8E±0°.3,h40km,mb3.8/5, Error ellipse: s-maj=44.8km s-min=15.0km az=146.7*
*IDC **21** 19:54:04.2±3.8,46°.65N×152°.85E,h47km±30km,mb3.6/5, mb1 3.7/7,mb1mx3.3/42,mbtmp3.8/7,ML2.5/2,Error ellipse: s-maj=62.0km s-min=28.7km az=159.0*

ISC 21 19:54:03.4±1.8,46°.6N±0°.3×152°.9E±0°.2,h40km,n10, σ0s91/7,mb3.6/5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.21**	**24**	P	**Pn**	**19 55 46.7**	**+0.5**
	0.1nm,0.3s,baz=185,slow=13,SNR=1.5						
ASAJ	**Asahikawa**	**7.67**	**255**	P	**Pn**	**19 55 52.9**	**+0.3**
	0.1nm,0.3s,baz=242,slow=11,SNR=1.9						
H11S1	**WAKE ISLAND Hy**	**30.23**	**153**	T	T	20 32 51.4	
	baz=341,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**30.24**	**153**	T	T	20 32 52.1	
	baz=341,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**30.25**	**153**	T	T	20 32 52.8	
	baz=341,slow=76,SNR=12						
YKA	**Yellowknife Ar**	**51.13**	**37**	P	**P**	**20 03 02.0**	**+0.3**
	0.4nm,0.8s,baz=296,slow=7.4,SNR=4.1						
FINES	**FINESS Array B**	**64.12**	**335**	P	**P**	**20 04 31.9**	**-1.0**
	7.7nm,1.1s,baz=30,slow=5.3,SNR=5.8						
AKASG	**Malin Array Ge**	**71.59**	**326**	P	**P**	**20 05 19.3**	**-0.8**
	0.7nm,0.4s,baz=33,slow=6.4,SNR=3.3						
TXAR	**Lajitas Array**	**77.69**	**60**	P	**P**	**20 05 55.7**	**-0.3**
	0.2nm,0.5s,baz=328,slow=3.2,SNR=1.9						
BRTR	**Keskin Array B**	**78.40**	**317**	P	**P**	**20 06 00.9**	**+1.0**
	0.5nm,0.8s,baz=19,slow=9.2,SNR=2.1						

IDC 21 20:16:36.3±6.2,7°.63S×118°.37E,h284km±54km,mb2.8/2, mb1 2.9/5,mb1mx2.7/42,mbtmp3.5/5,Error ellipse: s-maj=99.6km s-min=23.9km az=66.0,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.83**	**116**	P	Pn	20 18 03.4	+0.2
	2.8nm,0.3s,baz=263,slow=5.6,SNR=2.4						
BATI				S	S	20 19 13.4	+0.4
	2.2nm,0.3s,baz=280,slow=22,SNR=2.6						
FITZ	**Fitzroy Crossi**	**12.59**	**146**	P	Pn	20 19 26.9	+0.5
	0.1nm,0.3s,baz=345,slow=12,SNR=1.9						
FITZ				S	S	20 21 44.8	-1.5
	0.0nm,0.3s,baz=179,slow=22,SNR=1.1						
WRA	**Warramunga Arr**	**19.73**	**130**	P	P	20 20 45.1	-0.4
	0.1nm,0.3s,baz=306,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**21.83**	**139**	P	P	20 21 06.5	+0.4
	0.4nm,0.4s,baz=310,slow=9.1,SNR=20						
SONM	**Songino Array**	**56.23**	**350**	P	P	20 25 47.2	-0.2
	0.2nm,0.3s,baz=151,slow=6.3,SNR=2.7						

*SOME **21** 20:18:51.4,39°.68N×74°.05E,h5km*
*KRNET **21** 20:18:55.3±0.1,39°.73N×74°.38E,mb3.4*
*ISCJB **21** 20:18:56.9±0.9,39°.66N±0°.05×74°.39E±0°.04,h10km,Error ellipse: s-maj=7.3km s-min=4.4km az=164.0*
*NNC **21** 20:18:59.6±1.7,39°.98N×74°.32E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=13.9km s-min=7.4km az=175.0*

ISC 21 20:18:58.9±1.4,39°.87N±0°.07×74°.33E±0°.03,h10km,n49, σ1s75/77,33C-12D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**1.78**	**325**	⇑*i*P	**Pb**	**20 19 30.8**	**-0.9**
	baz=27						
ARSB				⇑*i*S	**Sg**	**20 19 57.1**	**+0.9**
	baz=27						
ARLS	**Aral**	**1.99**	**360**	⇓*i*P	**Pb**	**20 19 34.2**	**-1.2**
	baz=59						
ARLS				⇓*i*S	**Sg**	**20 20 02.8**	**-0.2**
	baz=59						
NRN	**Naryn**	**2.02**	**39**	⇑*i*P	**Pn**	**20 19 33.1**	**-0.2**
	baz=35						
NRN				⇑*i*S	**Sb**	**20 20 01.4**	**+0.2**
	baz=35						
AML	**Almayashu**	**2.31**	**348**	⇓*i*P	**Pn**	**20 19 38.7**	**+1.2**
	baz=48						
AML				⇓*i*S	**Sb**	**20 20 10.5**	**+0.7**
	baz=48						
AML	**Almayashu**	**2.31**	**348**	P	**Pn**	**20 19 38.9**	**+1.4**
	SNR=70						
KZA	**Kyzart**	**2.32**	**17**	⇑*i*P	**Pn**	**20 19 38.4**	**+0.9**
	baz=15						
KZA				⇑*i*S	**Sb**	**20 20 09.8**	**-0.1**
	baz=15						
KZA	**Kyzart**	**2.32**	**17**	P	**Pn**	**20 19 38.7**	**+1.2**
	SNR=9.6						
UCH	**Uchtor**	**2.36**	**3**	⇑*i*P	**Pn**	**20 19 39.4**	**+1.2**
	baz=2.0						
UCH				⇑*i*S	**Sb**	**20 20 11.5**	**+0.2**
	baz=2.0						
UCH	**Uchtor**	**2.36**	**3**	P	**Pn**	**20 19 39.6**	**+1.4**
	SNR=36						
ARK	**Arkit**	**2.63**	**318**	⇑*i*P	**Pn**	**20 19 42.3**	**+0.7**
	baz=19						
ARK				⇑*i*S	**Sb**	**20 20 17.2**	**-1.5**
	baz=19						
BTK	**Batken**	**2.70**	**275**	⇑*e*P	**Pn**	**20 19 42.9**	**+0.4**
	baz=78						
BTK				⇑*i*S	**Sb**	**20 20 17.8**	**-2.9**
	baz=78						
AAK	**Ala-Archa**	**2.77**	**3**	⇑*i*P	**Pn**	**20 19 45.0**	**+1.5**
	baz=2.0						
AAK				⇑*i*S	**Sb**	**20 20 21.2**	**-1.5**
	baz=2.0						
AAK	**Ala-Archa**	**2.77**	**3**	P	**Pn**	**20 19 45.7**	**+2.2**
	SNR=14						
AAK	**Ala-Archa**	**2.77**	**3**	⇓Pn	**Pn**	**20 19 45.5**	**+2.0**
	23nm,0.6s						
AAK				⇑Lg	Lg	20 20 24.7	
	65nm,1.1s						
ULHL	**Ulahol**	**2.78**	**31**	⇑*e*P	**Pn**	**20 19 44.6**	**+0.8**
	baz=29						
ULHL				⇑*i*S	**Sb**	**20 20 20.6**	**-2.5**
	baz=29						
ULHL	**Ulahol**	**2.78**	**31**	P	**Pb**	**20 19 48.0**	**-0.8**
	SNR=20						
EKS2	**Erkin-Say**	**2.82**	**352**	⇑*i*P	**Pn**	**20 19 45.9**	**+1.7**
	baz=51						
EKS2				⇑*i*S	**Sb**	**20 20 22.5**	**-1.7**
	baz=51						
EKS2	**Erkin-Say**	**2.82**	**352**	P	**Pb**	**20 19 47.3**	**-2.2**
	SNR=9.0						
KBK	**Karagaybulak**	**2.83**	**9**	⇑*i*P	**Pn**	**20 19 45.8**	**+1.5**
	baz=8.0						
KBK				⇑*i*S	**Sb**	**20 20 22.3**	**-2.0**
	baz=8.0						
KBK	**Karagaybulak**	**2.83**	**9**	P	**Pn**	**20 19 46.7**	**+2.4**
	SNR=12						
BOOM	**Boomskoye usch**	**2.89**	**24**	⇓*i*P	**Pn**	**20 19 46.3**	**+1.1**
	baz=23						
BOOM				⇓*i*S	**Sb**	**20 20 23.3**	**-2.9**
	baz=23						
MRKS	**Merke**	**2.99**	**344**	*e*P	**Pn**	**20 19 49.2**	**+2.6**
	15nm,0.3s						
MRKS				*e*S	**Sb**	**20 20 29.1**	**0.0**
	13nm,0.5s						
MRKS	**Merke**	**2.99**	**344**	Pg	**Pb**	**20 19 49.4**	**-3.0**
	4.2nm,0.4s						
MRKS				Lg	Lg	20 20 28.5	
	13nm,0.5s						
CHMS	**Chumysh**	**3.15**	**6**	⇑*i*P	**Pn**	**20 19 49.7**	**+1.1**
	baz=5.0						
CHMS				⇑*i*S	**Sb**	**20 20 30.0**	**-3.4**
	baz=5.0						
TKM2	**Tokmak 2**	**3.20**	**17**	P	**Pn**	**20 19 51.8**	**+2.4**
	SNR=12						
TKM2	**Tokmak 2**	**3.20**	**17**	⇓Pn	**Pn**	**20 19 51.5**	**+2.0**
	3.3nm,0.6s						
TKM2				⇓Pg	**Pb**	**20 19 55.6**	**-0.4**
TKM2				⇓Lg	Lg	20 20 38.0	
	13nm,0.8s						
TARG	**Taragay, Kyrgy**	**3.23**	**54**	⇑*i*P	**Pn**	**20 19 50.5**	**+0.4**
	baz=51						
TARG				⇑*i*S	**Sn**	**20 20 30.2**	**+1.4**
	baz=51						
USP	**Ospenovka**	**3.40**	**2**	⇓*i*P	**Pn**	**20 19 53.7**	**+1.6**
	baz=1.0						
USP				⇓*i*S	**Sn**	**20 20 36.3**	**+3.8**
	baz=1.0						
USP	**Ospenovka**	**3.40**	**2**	P	**Pb**	**20 19 60.0**	**+0.7**
	SNR=5.5						
KST	**Kastek**	**3.40**	**21**	*e*P	**Pb**	**20 19 59.5**	**+0.1**
	12nm,0.2s						
KST				*e*S	**Sg**	**20 20 46.5**	**-1.8**
	34nm,0.8s						
KST	**Kastek**	**3.40**	**21**	Pg	**Pb**	**20 19 59.5**	**+0.1**
	12nm,0.2s						
KST				Lg	Lg	20 20 46.5	
	34nm,0.8s						
TNSS	**Tian-Shan**	**3.73**	**31**	*e*P	**Pb**	**20 20 05.1**	**0.0**
	14nm,0.7s						
TNSS				*e*S	**Sg**	**20 20 56.8**	**-1.9**
	16nm,0.7s						
TNSS	**Tian-Shan**	**3.73**	**31**	Pg	**Pb**	**20 20 05.6**	**+0.5**
	14nm,0.7s						
TNSS				Lg	Lg	20 20 57.3	
	16nm,0.7s						
ANVS	**Anan'yevo**	**3.85**	**40**	⇑*i*P	**Pn**	**20 19 59.4**	**+1.0**
	baz=38						
ANVS				⇑*i*S	**Sn**	**20 20 45.5**	**+1.7**
	baz=38						
MDOK	**Medeo**	**3.88**	**31**	*e*P	**Pb**	**20 20 08.2**	**+0.7**
	8.9nm,0.5s						
MDOK				*e*S	**Sg**	**20 21 01.4**	**-1.9**
	15nm,0.7s						
MDOK	**Medeo**	**3.88**	**31**	Pg	**Pb**	**20 20 07.4**	**-0.1**
	12nm,0.9s						
MDOK				Lg	Lg	20 21 01.7	
	14nm,0.7s						
MDOK	**Medeo**	**3.88**	**31**	Pg	**Pb**	**20 20 08.4**	**+0.9**
	8.9nm,0.5s						
MDOK				Lg	Lg	20 21 01.4	
	15nm,0.7s						
IUG	**Iuzhnay**	**3.97**	**306**	*e*P	**Pn**	**20 20 00.9**	**+1.0**
	1.1nm,0.2s						
IUG				*e*S	**Sn**	**20 20 49.0**	**+2.4**
	28nm,0.3s						
IUG	**Iuzhnay**	**3.97**	**306**	Pg	**Pn**	**20 20 00.9**	**+1.0**
	0.7nm,0.4s						
IUG				Lg	Lg	20 20 49.0	
	17nm,0.4s						
KUU	**Kurty**	**4.29**	**20**	*e*P	**Pb**	**20 20 16.0**	**+1.5**
	4.2nm,0.6s						
KUU				*e*S	**Sg**	**20 21 14.0**	**-2.8**
	14nm,0.6s						
KUU	**Kurty**	**4.29**	**20**	Pg	**Pb**	**20 20 16.0**	**+1.5**
	3.7nm,0.7s						
KUU				Lg	Lg	20 21 14.0	
	8.9nm,0.7s						
KK31	**Karatay Array**	**4.32**	**320**	⇑Pn	**Pn**	**20 20 05.0**	**+0.3**
	0.5nm,0.3s,baz=127,slow=12,SNR=8.7						
KK31				⇑Pg	**Pb**	**20 20 15.5**	**+0.5**
	0.6nm,0.3s,baz=145,slow=16,SNR=7.8						
KK31				⇑Sn	**Sn**	**20 20 56.6**	**+1.5**
	0.9nm,0.3s,baz=66,slow=46,SNR=4.4						
KK31				⇑Lg	Lg	20 21 15.8	
	5.9nm,0.6s,baz=132,slow=28,SNR=4.0						
SATY	**Saty**	**4.42**	**43**	Pg	**Pb**	**20 20 17.9**	**+1.1**
	4.8nm,0.4s						
SATY				Lg	Lg	20 21 17.2	
	7.0nm,0.5s						
CHKK	**Chushkaly**	**4.45**	**26**	*e*P	**Pb**	**20 20 19.1**	**+1.9**
	3.9nm,0.3s						
CHKK				*e*S	**Sg**	**20 21 18.6**	**-3.2**
	9.8nm,0.4s						
CHKK	**Chushkaly**	**4.45**	**26**	Pg	**Pb**	**20 20 18.4**	**+1.2**
	3.9nm,0.3s						
CHKK				Lg	Lg	20 21 18.5	
	10.0nm,0.5s						
UZB	**Uzynbulak**	**4.81**	**46**	Pg	**Pb**	**20 20 24.3**	**+0.9**
	1.1nm,0.5s						
UZB				Lg	Lg	20 21 28.3	
	3.1nm,0.3s						
KPKS	**Kokpek**	**4.86**	**41**	*e*P	**Pb**	**20 20 25.1**	**+1.0**
	5.4nm,0.3s						
KPKS				*e*S	**Sg**	**20 21 29.5**	**-5.3**
	27nm,0.6s						
PDGK	**Podgornoye**	**5.19**	**47**	Pg	**Pb**	**20 20 31.1**	**+1.2**
	1.7nm,0.6s						
PDGK				Lg	Lg	20 21 38.9	
	4.8nm,1.2s						
PDGK	**Podgornoye**	**5.19**	**47**	⇑Pg	**Pb**	**20 20 31.9**	**+2.0**
	5.3nm,0.9s						
PDGK				⇑Lg	Lg	20 21 41.5	
	20nm,1.2s						

IDC 21 20:25:58.4±2.2,7°.31S×128°.45E,h0km,mb3.4/1, mb1 3.6/5,mb1mx3.4/42,mbtmp3.5/5,ML3.4/4,Error ellipse: s-maj=50.5km s-min=30.1km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.54**	**238**	Pn	Pn	20 27 21.6	-0.6
	5.0nm,0.3s,baz=139,slow=1.6,SNR=15						
BATI				Sn	Sn	20 28 24.4	-2.3
	0.9nm,0.3s,baz=67,slow=18,SNR=1.2						
FITZ	**Fitzroy Crossi**	**11.07**	**194**	Pn	Pn	20 28 37.4	-0.7
	0.2nm,0.3s,baz=32,slow=14,SNR=1.7						
FITZ				Sn	Sn	20 30 38.7	-4.0
	0.1nm,0.3s,baz=326,slow=21,SNR=1.1						
WRA	**Warramunga Arr**	**13.80**	**156**	Pn	Pn	20 29 15.2	-0.2
	0.1nm,0.3s,baz=341,slow=13,SNR=5.2						
WRA				Sn	Sn	20 31 44.1	-5.4
	0.1nm,0.3s,baz=337,slow=20,SNR=2.2						
ASAR	**Alice Springs**	**17.09**	**163**	P	P	20 29 60.0	-0.8
	0.1nm,0.3s,baz=344,slow=11,SNR=9.7						
MKAR	**Makanchi Array**	**67.65**	**328**	P	P	20 36 57.4	+0.1
	0.3nm,0.7s,baz=123,slow=8.9,SNR=1.9						

*ISCJB **21** 20:27:25.5±0.8,12°.67N±0°.09×88°.10W±0°.05,h70km±13km, Error ellipse: s-maj=16.9km s-min=4.7km az=21.4*
*UCR **21** 20:27:25.9±1.5,12°.67N×88°.08W,h59km±12km,ML3.9*
*SSS **21** 20:27:26.5,12°.70N×88°.13W,h58km,ML3.9*
*INET **21** 20:27:26.1,12°.67N×88°.08W,h63km,ML4.0*
*SNET **21** 20:27:26.5±0.7,12°.70N×88°.13W,h58km±9km,ML3.9*

ISC 21 20:27:26.0±1.6,12°.7N±0°.1×88°.10W±0°.05,h64km±17km, n25,σ0s36/41,2D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JUCU	**Jucuarįn**	**0.60**	**346**	*e*P	**Pn**	**20 27 38.9**	**-0.6**
JUCU				*e*S	**Sn**	**20 27 48.8**	**-0.6**
JUCU				IAML		20 27 52.2	
	comp=Z,2μm,0.2s						
CNCH	**Conchagua**	**0.66**	**23**	*e*P	**Pn**	**20 27 40.1**	**-0.1**
CNCH				*e*S	**Sn**	**20 27 51.1**	**+0.5**
CNCH	**Conchagua**	**0.66**	**23**	*e*P	**Pn**	**20 27 40.1**	**-0.1**
CNCH				*e*S	**Sn**	**20 27 51.1**	**+0.5**
LCND	**La Caada**	**0.67**	**17**	⇓*i*P	**Pn**	**20 27 40.2**	**0.0**
LCND				*e*S	**Sn**	**20 27 51.1**	**+0.4**
LCND				IAML		20 27 53.7	
	comp=Z,6μm,0.3s						
LCND	**La Caada**	**0.67**	**17**	⇓*i*P	**Pn**	**20 27 40.2**	**0.0**
LCND				*e*S	**Sn**	**20 27 51.1**	**+0.4**
LCND				IAML		20 27 53.7	
	comp=Z,6μm,0.3s						
LCY	**Lacayo**	**0.78**	**346**	*e*P	**Pn**	**20 27 41.3**	**-0.3**
LCY	**Lacayo**	**0.78**	**346**	*e*P	**Pn**	**20 27 41.3**	**-0.3**
ALJI	**Alcalda de J**	**0.80**	**325**	*e*P	**Pn**	**20 27 41.5**	**-0.3**
ALJI				*e*S	**Sn**	**20 27 53.3**	**-0.1**
ALJI				IAML		20 27 56.0	
	comp=Z,3μm,0.2s						
PACA	**Pacayal**	**0.83**	**345**	*e*P	**Pn**	**20 27 42.0**	**-0.3**
PACA				*e*S	**Sn**	**20 27 54.6**	**+0.4**
PACA				IAML		20 27 59.5	
	comp=Z,10μm,0.1s						
PACA	**Pacayal**	**0.83**	**345**	*e*P	**Pn**	**20 27 42.0**	**-0.3**
PACA				*e*S	**Sn**	**20 27 54.6**	**+0.4**
PACA				IAML		20 27 59.5	
	comp=Z,10μm,0.1s						
COEB	**Comit de Eme**	**0.93**	**333**	*e*P	**Pn**	**20 27 43.2**	**-0.3**
COEB				*e*S	**Sn**	**20 27 56.2**	**-0.1**
CRIN	**San Cristobal**	**1.02**	**88**	*e*P	**Pn**	**20 27 45.0**	**+0.4**
CRIN				*e*S	**Sn**	**20 27 59.3**	**+0.9**
CRIN				IAML		20 28 01.9	
	comp=N,4μm,0.4s						
FAGO	**Alcalda de S**	**1.02**	**360**	*e*P	**Pn**	**20 27 44.2**	**-0.4**
FAGO				*e*S	**Sn**	**20 27 58.2**	**-0.2**
COEG	**Centro de Oper**	**1.22**	**321**	*e*P	**Pn**	**20 27 46.9**	**-0.2**
COEG				*e*S	**Sn**	**20 28 02.9**	**-0.1**
COEG				IAML		20 28 07.5	
	comp=Z,1μm,0.2s						
TELN	**Telica**	**1.24**	**93**	*e*P	**Pn**	**20 27 47.2**	**-0.2**
TELN				*e*S	**Sn**	**20 28 03.9**	**+0.5**
LFRS	**El Faro**	**1.34**	**316**	*e*P	**Pn**	**20 27 48.7**	**0.0**
CNGN	**Cerro Negro**	**1.38**	**97**	*e*P	**Pn**	**20 27 49.1**	**-0.1**
LBRS	**Las Brisas**	**1.41**	**319**	*e*P	**Pn**	**20 27 50.1**	**+0.4**
LFU	**La Fuente**	**1.46**	**318**	*e*P	**Pn**	**20 27 50.7**	**+0.2**
LFU	**La Fuente**	**1.46**	**318**	*e*P	**Pn**	**20 27 50.7**	**+0.2**
BOQS	**Boqueron**	**1.57**	**313**	*e*P	**Pn**	**20 27 52.3**	**+0.3**
BOQS

*IDC **21** 20:41:27.7±15.0, 10.01N×84.11W, h0km, mb3.1/4, mb1 3.6/4, mb1mx3.4/39, mbtmp3.1/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/13, Error ellipse: s-maj=358.2km s-min=110.6km az=5.0*

ISC 21 20:41:11.7±1.1, **7.95N**±0.008×**82.96W**±0.005, **h10**km, **n24,** σ1§**42**/28, **mb3.2**/4, **1C, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.70**	**46**	*i* P	**Pg**	**20 41 24.8**	**-0.5**
DVD				eS	**Sg**	**20 41 34.6**	**+0.2**
EDSV	**San Vito**	**0.86**	**359**	eP	**Pg**	**20 41 28.9**	**+0.4**
BRU2	**Volcan**	**0.88**	**18**	*i* P	**Pg**	**20 41 28.5**	**-0.3**
BRU2				eS	**Sb**	**20 41 40.7**	**-0.4**
EDPN	**Palmar Norte**	**1.12**	**334**	eP	**Pb**	**20 41 32.5**	**-0.7**
EDBA	**Buenos Aires**	**1.24**	**346**	eP	**Pn**	**20 41 35.0**	**-0.2**
DRK0	**Durika**	**1.33**	**348**	eP	**Pn**	**20 41 35.9**	**-0.7**
EDLM	**Las Mercedes**	**1.46**	**335**	eP	**Pn**	**20 41 37.9**	**-0.3**
EDDO	**Dominical**	**1.57**	**325**	eP	**Pn**	**20 41 39.3**	**-0.5**
LCR2	**La Lucha 2**	**2.06**	**330**	eP	**Pn**	**20 41 46.6**	**0.0**
CVTR	**Volcan Turrial**	**2.20**	**339**	eP	**Pn**	**20 41 50.9**	**+2.1**
HDC	**Heredia**	**2.33**	**331**	eP	**Pn**	**20 41 51.3**	**+0.9**
HDC				eS	**Sn**	**20 42 20.8**	**+1.6**
PNME	**Penonome**	**2.66**	**78**	eP	**Pn**	**20 41 55.8**	**+1.1**
AZU	**Azuero**	**2.67**	**93**	eP	**Pn**	**20 41 55.2**	**+0.4**
AZU				eS	**Sn**	**20 42 26.9**	**-0.3**
ARE1	**Arenal 1**	**3.04**	**325**	eP	**Pb**	**20 42 03.9**	**-2.1**
JTS	**Las Juntas de**	**3.04**	**320**	eP	**Pn**	**20 42 00.0**	**0.0**
JTS				eS	**Sn**	**20 42 37.6**	**+1.0**
CEDE	**Laguna Cedeo**	**3.05**	**326**	eP	**Pn**	**20 42 02.1**	**+2.0**
BCIP	**Isla Barro Col**	**3.32**	**68**	eP	**Pn**	**20 42 04.1**	**+0.3**
PLVR	**Palo Verde**	**3.35**	**315**	eP	**Pn**	**20 42 04.8**	**+0.4**
UPA	**Univ. de Panam**	**3.54**	**73**	eS	**Sn**	**20 42 48.8**	**0.0**
TXAR	**Lajitas Array**	**28.84**	**320**	P	**P**	**20 47 09.1**	**-1.4**
	0.3nm,0.8s,baz=129,slow=7.1,SNR=2.6						
RPN	**Rapa Nui**	**43.23**	**215**	LR	LR	21 02 45.8	
	comp=Z,66nm,21.0s,baz=174,slow=29						
NVAR	**Mina Array Bea**	**43.98**	**319**	P	**P**	**20 49 16.6**	**-3.0**
	0.1nm,0.3s,baz=114,slow=8.4,SNR=1.0						
YKA	**Yellowknife Ar**	**59.12**	**344**	P	**P**	**20 51 13.1**	**+0.9**
	0.1nm,0.4s,baz=140,slow=7.1,SNR=2.3						
ILAR	**Eielson Array**	**71.90**	**336**	P	**P**	**20 52 39.0**	**+4.2**
	0.3nm,0.6s,baz=110,slow=4.2,SNR=5.9						

*IDC **21** 20:42:08.6±0.8, 2.17S×138.84E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/37, mbtmp3.8/9, ML4.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/22, Error ellipse: s-maj=30.5km s-min=17.2km az=76.0*

*ISCJB **21** 20:42:11.2±0.4, 2.23S±0.05×138.86E±0.04, h29km, mb3.7/8, Error ellipse: s-maj=7.2km s-min=5.5km az=179.2*

*NEIC **21** 20:42:14.0±1.6, 2.22S±0.10×138.91E±0.05, h38km±8km, mb4.2/22*

ISC 21 20:42:13.0±0.5, **2.19S**±0.008×**138.90E**±0.005, **h29**km, **n37,** σ0§**74**/38, **mb4.2**/21, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.83**	**100**	Pn	**Pn**	**20 42 43.1**	**+0.6**
	16nm,0.3s,baz=245,slow=12,SNR=34						
JAY				Sn	**Sn**	**20 43 05.0**	**+0.2**
	31nm,0.3s,baz=124,slow=23,SNR=13						
FAKI	**Fak Fak**	**6.69**	**264**	Pn	**Pn**	**20 43 49.9**	**+0.6**
FAKI				Sn	**Sn**	**20 45 04.0**	**-0.6**
PMG	**Port Moresby**	**10.90**	**131**	LR	LR	20 49 34.4	
	comp=Z,120nm,19.0s,baz=356,slow=41						
COEN	**Coen**	**12.43**	**160**	Pn	**Pn**	**20 45 08.6**	**+0.5**
MTN	**Manton Dam**	**13.09**	**216**	Pn	**Pn**	**20 45 16.9**	**-0.2**
LUWI	**Luwuk**	**16.16**	**274**	Pn	**Pn**	**20 45 59.1**	**+0.9**
LUWI				IAmb	IAmb	20 46 06.2	
	comp=Z,36nm,1.1s						
SOEI	**Soe**	**16.37**	**242**	Pn	**Pn**	**20 46 01.0**	**0.0**
SOEI				IAmb	IAmb	20 46 10.4	
	comp=Z,12nm,0.9s						
KNRA	**Kununurra**	**16.72**	**216**	Pn	**Pn**	**20 46 04.8**	**-0.5**
KNRA				IAmb	IAmb	20 46 22.4	
	comp=Z,29nm,1.3s						
WR0	**Warramunga Arr**	**18.17**	**193**	P	**Pn**	**20 46 22.2**	**-1.1**
WR0				IAmb	IAmb	20 46 29.9	
	comp=Z,7.5nm,1.2s						
WRAB	**Tennant Creek**	**18.19**	**194**	P	**Pn**	**20 46 22.8**	**-0.7**
WRAB				IAmb	IAmb	20 46 23.4	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**18.20**	**194**	P	**Pn**	**20 46 21.9**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=18,slow=12,SNR=17						
FITZ	**Fitzroy Crossi**	**20.48**	**219**	P	**P**	**20 46 49.6**	**+1.0**
FITZ				IAmb	IAmb	20 47 02.6	
	comp=Z,10nm,1.4s						
AS31	**Alice Springs**	**21.89**	**192**	P	**P**	**20 47 03.1**	**-0.8**
AS31				IAmb	IAmb	20 47 12.8	
	comp=Z,1.2nm,0.7s						
ASAR	**Alice Springs**	**21.89**	**192**	P	**P**	**20 47 04.1**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=22,slow=10,SNR=20						
EIDS	**Eidsvold**	**25.86**	**154**	P	**P**	**20 47 42.8**	**+0.5**
EIDS				IAmb	IAmb	20 47 46.7	
	comp=Z,5.3nm,0.8s						
STKA	**Stephens Creek**	**29.64**	**175**	P	**P**	**20 48 17.2**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=4.8,slow=9.4,SNR=3.9						
STKA	**Stephens Creek**	**29.64**	**175**	P	**P**	**20 48 16.0**	**0.0**
STKA				IAmb	IAmb	20 48 23.7	
	comp=Z,1.7nm,1.4s						
MORW	**Morawa**	**34.47**	**217**	P	**P**	**20 48 58.9**	**+0.4**
MORW				IAmb	IAmb	20 49 08.3	
	comp=Z,20nm,1.3s						
WAKE	**Wake Island**	**34.62**	**51**	P	**P**	**20 48 59.2**	**-0.7**
WAKE				IAmb	IAmb	20 49 09.8	
	comp=Z,41nm,0.8s						
RPSI	**Rantau Prapat**	**40.26**	**277**	P	**P**	**20 49 47.3**	**-0.5**
RPSI				IAmb	IAmb	20 49 52.7	
	comp=Z,7.4nm,1.0s						
FUNA	**Funafuti**	**40.58**	**101**	P	**P**	**20 49 49.9**	**-0.6**
FUNA				IAmb	IAmb	20 49 58.1	
	comp=Z,88nm,1.1s						
GSI	**Gunungsitoli**	**41.46**	**274**	P	**P**	**20 49 56.9**	**-0.8**
GSI				IAmb	IAmb	20 50 08.0	
	comp=Z,7.9nm,1.0s						
MSWZ	**Moikau Station**	**50.92**	**145**	P	**P**	**20 51 11.0**	**-0.7**
SONM	**Songino Array**	**57.33**	**335**	P	**P**	**20 51 59.6**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=115,slow=4.3,SNR=3.0						
MKAR	**Makanchi Array**	**69.50**	**322**	P	**P**	**20 53 18.6**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=97,slow=8.5,SNR=9.2						
MAKZ	**Makanchi**	**69.69**	**322**	P	**P**	**20 53 20.4**	**+0.3**
MAKZ				IAmb	IAmb	20 53 21.6	
	comp=Z,6.5nm,1.2s						
ZAA0	**Zalesovo Array**	**71.58**	**330**	P	**P**	**20 53 30.3**	**-1.1**
ZAA0				IAmb	IAmb	20 53 45.7	
	comp=Z,1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**71.58**	**330**	P	**P**	**20 53 31.4**	**0.0**
	comp=Z,0.5nm,0.5s,baz=130,slow=5.9,SNR=3.2						
VNDA	**Vanda**	**76.28**	**175**	P	**P**	**20 53 58.6**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=337,slow=6.5,SNR=5.9						
VNDA	**Vanda**	**76.28**	**175**	P	**P**	**20 53 58.8**	**+0.2**
VNDA				IAmb	IAmb	20 54 14.1	
	comp=Z,5.6nm,1.4s						
BRVK	**Borovoye**	**79.07**	**325**	P	**P**	**20 54 15.3**	**+0.8**
BRVK				IAmb	IAmb	20 54 16.2	
	comp=Z,2.5nm,0.7s						
RC01	**Rabbit Creek A**	**82.99**	**28**	P	**P**	**20 54 36.0**	**+0.8**
RC01				IAmb	IAmb	20 54 37.5	
	comp=Z,7.5nm,1.0s						
ABKAR	**Akbulak array**	**84.45**	**320**	P	**P**	**20 54 42.5**	**-0.4**
ABKAR				IAmb	IAmb	20 54 44.1	
	comp=Z,1.1nm,0.7s						
ILAR	**Eielson Array**	**85.28**	**24**	P	**P**	**20 54 45.7**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=251,slow=5.5,SNR=4.7						
CTGM	**Chitina Glacie**	**86.93**	**29**	P	**P**	**20 54 55.6**	**+0.4**
CTGM				IAmb	IAmb	20 55 02.4	
	comp=Z,11nm,1.3s						
QSPA	**South Pole Qui**	**87.75**	**180**	P	**P**	**20 54 58.6**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=309,slow=23,SNR=7.9						
QSPA	**South Pole Qui**	**87.75**	**180**	P	**P**	**20 54 58.8**	**-0.3**
QSPA				IAmb	IAmb	20 55 11.4	
	comp=Z,2.7nm,1.3s						

*SJA **21** 20:52:39.6±0.6, 25.12S×67.74W, h178km±7km, ML3.3, MW3.3*

*ISCJB **21** 20:52:40.3±0.4, 25.16S±0.03×67.75W±0.04, h161km±8km, mb3.4/1, Error ellipse: s-maj=6.7km s-min=4.8km az=164.6*

*IDC **21** 20:52:40.1±1.2, 25.15S×67.48W, h110km±19km, mb3.4/2, mb1 3.5/7, mb1mx3.4/28, mbtmp3.9/7, Error ellipse: s-maj=26.3km s-min=11.8km az=79.0*

ISC 21 20:52:40.7±1.0, **25.16S**±0.05×**67.75W**±0.06, **h155**km±14km, **n35,** σ1§**13**/39, **Catamarca Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**2.08**	**79**	*i* P	**Pn**	**20 53 17.8**	**+0.5**
SLA				IAML		20 53 18.9	
	comp=Z,130nm,0.5s						
SLA				eS	**Sn**	**20 53 46.9**	**+1.5**
PB14	**IPOC Station P**	**2.47**	**282**	*i* P	**Pn**	**20 53 22.7**	**+0.7**
PB15	**IPOC Station P**	**2.49**	**321**	*i* P	**Pn**	**20 53 22.9**	**+0.6**
PB15				eS	**Sn**	**20 53 54.5**	**+0.3**
AHML	**Horco Molle**	**2.71**	**127**	*i* P	**Pn**	**20 53 25.2**	**+0.4**
AHML				IAML		20 53 25.6	
	comp=Z,24nm,0.2s						
AHML				eS	**Sn**	**20 54 00.2**	**+1.3**
LVC	**Limon Verde**	**2.75**	**337**	P	**Pn**	**20 53 26.1**	**+0.6**
	comp=Z,10nm,0.3s,baz=166,slow=7.8,SNR=37						
LVC				S	**Sn**	**20 53 58.7**	**-1.4**
	comp=Z,51nm,0.3s,baz=162,slow=9.8,SNR=11						
LVC	**Limon Verde**	**2.75**	**337**	*i* P	**Pn**	**20 53 26.1**	**+0.6**
LVC				eS	**Sn**	**20 53 60.0**	**-0.1**
LVC				IAML		20 54 01.0	
	comp=Z,82nm,0.3s						
PB06	**IPOC Station P**	**2.95**	**325**	*i* P	**Pn**	**20 53 28.3**	**+0.4**
PB10	**IPOC Station P**	**3.03**	**302**	*i* P	**Pn**	**20 53 29.6**	**+0.8**
PB05	**IPOC Station P**	**3.21**	**315**	*i* P	**Pn**	**20 53 31.5**	**+0.4**
ASTB	**Santa Barbara**	**3.23**	**69**	*i* P	**Pn**	**20 53 30.6**	**-0.9**
GO03	**Copiap**	**3.30**	**222**	*i* P	**Pn**	**20 53 28.8**	**+0.7**
PB04	**IPOC Station P**	**3.57**	**321**	*i* P	**Pn**	**20 53 35.7**	**0.0**
YJA	**Yavi**	**3.60**	**35**	*i* P	**Pn**	**20 53 37.2**	**+0.7**
YJA				IAML		20 53 38.8	
	comp=Z,10nm,0.3s						
PB09	**IPOC Station P**	**3.61**	**337**	*i* P	**Pn**	**20 53 37.0**	**+0.6**
ACDV	**Cuesta del Vie**	**5.14**	**193**	*i* P	**Pn**	**20 53 57.1**	**+0.8**
AROD	**Rodeo**	**5.22**	**197**	*i* P	**Pn**	**20 53 59.0**	**+1.5**
ACCO	**Cerro Coronel**	**5.54**	**192**	*i* P	**Pn**	**20 54 02.6**	**+1.0**
GO04	**Tololo Observa**	**5.68**	**208**	*i* P	**Pn**	**20 54 03.0**	**-0.5**
AMOG	**MOGNA**	**5.80**	**186**	*i* P	**Pn**	**20 54 05.2**	**+0.3**
RTLL	**Cerro Villicun**	**6.18**	**186**	*i* P	**Pn**	**20 54 10.4**	**+0.4**
RTLL				IAML		20 54 11.3	
	comp=Z,58nm,0.3s						
ZON	**Zonda**	**6.42**	**187**	*i* P	**Pn**	**20 54 13.6**	**+0.5**
ZON				IAML		20 54 16.4	
	comp=Z,7.6nm,0.3s						
CFA	**Coronel Fontan**	**6.44**	**184**	P	**Pn**	**20 54 13.8**	**+0.5**
	comp=Z,4.5nm,0.3s,baz=350,slow=15,SNR=18						
CFA				S	**Sn**	**20 55 24.0**	**-2.0**
	comp=Z,2.0nm,0.3s,baz=256,slow=21,SNR=6.1						
CFA	**Coronel Fontan**	**6.44**	**184**	*i* P	**Pn**	**20 54 13.7**	**+0.3**
RTCV	**Cerro Valdivia**	**6.72**	**186**	*i* P	**Pn**	**20 54 17.5**	**+0.4**
TCA	**Tanti**	**6.76**	**156**	*i* P	**Pn**	**20 54 17.0**	**-0.6**
ACAN	**Cantantal**	**7.11**	**176**	*i* P	**Pn**	**20 54 22.3**	**+0.1**
ASAL	**Salagasta**	**7.47**	**187**	*i* P	**Pn**	**20 54 27.1**	**0.0**
ARCO	**CERRO ARCO**	**7.73**	**187**	*i* P	**Pn**	**20 54 31.8**	**+1.2**
AAGR	**Agrelo**	**7.96**	**187**	*i* P	**Pn**	**20 54 34.3**	**+0.7**
LPAZ	**La Paz**	**8.83**	**358**	P	**Pn**	**20 54 45.8**	**0.0**
	comp=Z,1.1nm,0.3s,baz=125,slow=4.4,SNR=21						
CPUP	**Villa Florida**	**9.47**	**99**	P	**Pn**	**20 54 51.5**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=231,slow=13,SNR=1.5						
SIV	**San Ignacio**	**11.05**	**36**	P	**Pn**	**20 55 11.7**	**-2.9**
	comp=Z,2.2nm,0.3s,baz=243,slow=9.4,SNR=23						
BDFB	**Brasilia**	**20.76**	**67**	P	Pn	20 57 10.3	-3.7
	comp=Z,1.6nm,0.4s,baz=244,slow=5.8,SNR=4.4						
TORD	**Toro di Ar. Bea**	**77.62**	**69**	P	P	21 04 22.1	+1.7
	comp=Z,4nm,0.4s,baz=249,slow=5.8,SNR=5.7						
MKAR	**Makanchi Array**	**147.84**	**40**	PKPbc	**PKPab**	**21 12 13.3**	**+3.0**
	comp=Z,0.2nm,0.7s,baz=253,slow=4.4,SNR=1.7						

*ISCJB **21** 21:04:47.9±0.5, 43.84N±0.05×105.36W±0.06, h0km, Error ellipse: s-maj=7.1km s-min=5.6km az=25.1*

*IDC **21** 21:04:47.0±1.9, 43.63N×105.38W, h0km, mb1 3.6/4, mb1mx3.3/45, mbtmp3.3/4, ML3.2/4, Error ellipse: s-maj=44.8km s-min=8.5km az=150.0*

*NEIC **21** 21:04:49.0±1.4, 43.82N±0.05×105.37W±0.05, h0km±2km, ML3.1/64*

ISC 21 21:04:48.4±1.0, **43.84N**±0.006×**105.33W**±0.004, **h0**km, **n38,** σ1§**43**/36, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.97**	**73**		**Pb**	**21 05 08.3**	**0.0**
K22A	**Casper**	**1.47**	**217**		**Pn**	**21 05 14.8**	**-1.6**
K22A				IAML		21 05 37.3	
	comp=E,328nm,0.3s						
PHWY	**Pilot Hill**	**2.54**	**182**	Pn	**Pn**	**21 05 31.3**	**+0.2**
PHWY				IAML		21 06 07.9	
	comp=E,60nm,0.3s						
RWWY	**Rawlins**	**2.56**	**213**	Pn	**Pn**	**21 05 32.2**	**+0.8**
RWWY				IAML		21 06 08.5	
	comp=E,126nm,0.7s						
LAO	**LASA Array**	**2.92**	**348**	Pn	**Pn**	**21 05 37.0**	**+0.8**
LAO				IAML		21 06 38.1	
	comp=E,90nm,0.8s						
N23A	**Red Feather La**	**2.98**	**189**		**Pn**	**21 05 37.0**	**-0.1**
N23A				IAML		21 06 19.1	
	comp=N,86nm,0.6s						
N23A				IAML		21 06 23.4	
	comp=E,55nm,0.5s						
RLMT	**Red Lodge**	**3.10**	**296**	Pn	**Pn**	**21 05 37.9**	**-0.9**
RLMT				IAML		21 06 28.0	
	comp=E,45nm,0.3s						
RLMT				IAML		21 06 37.7	
	comp=E,56nm,0.3s						
BW06	**Boulder Array**	**3.27**	**252**		**Pn**	**21 05 41.8**	**+0.6**
BW06				IAML		21 06 33.0	
	comp=N,40nm,0.3s						
BW06				IAML		21 06 34.1	
	comp=E,30nm,0.6s						
PD31	**Pinedale Array**	**3.27**	**252**		**Pn**	**21 05 41.5**	**+0.4**
PDAR	**Pinedale Array**	**3.27**	**252**	Pn	**Pn**	**21 05 42.1**	**+1.0**
	comp=E,2.1nm,0.3s,baz=74,slow=17,SNR=5.0						
PDAR				Pg	**Pb**	**21 05 47.0**	**-0.5**
	comp=E,10nm,0.3s,baz=69,slow=20,SNR=38						
PDAR				Lg	Lg	21 06 26.9	
	comp=E,16nm,0.3s,baz=76,slow=31,SNR=5.0						
YNE	**Yellowstone No**	**3.55**	**291**		**Pn**	**21 05 44.6**	**-0.4**
YMP	**Mirror Lake Pl**	**3.58**	**286**	Pn	**Pn**	**21 05 45.6**	**+0.1**
GCMT	**Greycliff**	**3.65**	**304**	Pn	**Pn**	**21 05 46.3**	**0.0**
LKWY	**Lake**	**3.72**	**283**		**Pn**	**21 05 47.2**	**-0.1**
LKWY				IAML		21 06 09.6	
	comp=E,24nm,0.9s						
OGNE	**Ogallala**	**3.78**	**139**		**Pn**	**21 05 48.6**	**+0.6**
H17A	**Grant Village**	**3.82**	**280**		**Pn**	**21 05 49.1**	**+0.3**
H17A				IAML		21 06 54.8	
	comp=N,20nm,0.7s						
FLWY	**Flagg Ranch**	**3.89**	**275**	Pn	**Pn**	**21 05 48.6**	**-1.0**
FLWY				IAML		21 06 58.2	
	comp=N,22nm,1.0s						
FLWY				IAML		21 07 00.4	
	comp=N,27nm,1.9s						
MOOW	**Moose Ponds**	**3.92**	**271**	Pn	**Pn**	**21 05 51.2**	**+1.1**
YNR	**Norris Junctio**	**3.94**	**285**		**Pb**	**21 05 59.8**	**+0.8**
SNOW	**Snow King Moun**	**3.96**	**266**		**Pb**	**21 06 00.9**	**+1.7**
SNOW				IAML		21 07 15.6	
	comp=N,29nm,0.9s						
SNOW				IAML		21 07 19.2	
	comp=N,27nm,1.0s						
YPP	**Pitchstone Pla**	**3.97**	**278**	Pn	**Pn**	**21 05 52.2**	**+1.3**
YPP					**Pb**	**21 06 01.9**	**+2.5**
REDW	**Red Top Meadow**	**4.04**	**265**		**Pb**	**21 06 00.0**	**-0.6**
REDW				IAML		21 07 04.1	
	comp=N,30nm,1.2s						
REDW				IAML		21 07 07.1	
	comp=N,23nm,0.7s						
YHH	**Holmes Hill**	**4.08**	**285**	Pg	**Pg**	**21 06 04.1**	**-2.4**
TPAW	**Teton Pass**	**4.09**	**267**	Pn	**Pn**	**21 05 52.1**	**-0.4**
TPAW				IAML		21 07 14.0	
	comp=N,15nm,1.0s						
TPAW				IAML		21 07 21.1	
	comp=N,29nm,1.0s						
FXWY	**Fox Creek**	**4.13**	**269**	Pn	**Pn**	**21 05 53.2**	**+0.2**
O20A	**White River Ci**	**4.29**	**211**	IAML		21 07 18.9	
	comp=N,32nm,0.8s						
YHB	**Horse Butte**	**4.31**	**284**	Pn	**Pn**	**21 05 53.8**	**-1.6**
YHL	**Hebgen Lake**	**4.32**	**286**		**Pn**	**21 06 00.2**	**+4.5**
RDMU	**Red Mountain**	**4.54**	**225**		**Pn**	**21 05 60.0**	**+1.4**
SMCO	**Snowmass**	**4.82**	**195**	IAML		21 07 20.7	
	comp=N,19nm,0.3s						
SMCO				IAML		21 07 28.3	
	comp=N,14nm,0.3s						
HWUT	**Hardware Ranch**	**5.11**	**246**	IAML		21 07 31.1	
	comp=N,17nm,0.9s						
LRM	**Limekiln Ridge**	**5.44**	**294**	Pn	**Pn**	**21 06 13.6**	**+2.6**
BGNE	**Belgrade**	**5.82**	**112**	Pn	**Pn**	**21 06 18.7**	**+2.7**
P17A	**Butcher Ranch,**	**5.95**	**225**		**Pn**	**21 06 17.9**	**0.0**
I10CA	**LAC DU BONNET**	**8.99**	**42**	*i*		21 56 40.0	
	baz=221,slow=344,SNR=1.6						
ULM	**Lac du Bonnet**	**9.09**	**42**	Pn	**Pn**	**21 06 60.0**	**-0.9**
	comp=N,1.0nm,0.3s,baz=234,slow=11,SNR=9.7						
ULM				Pg		21 07 35.4	
	comp=N,0.6nm,0.3s,baz=220,slow=15,SNR=5.8						
ULM				Lg	Lg	21 09 31.2	
	comp=N,0.3nm,0.3s,baz=150,slow=21,SNR=3.1						
NVAR	**Mina Array Bea**	**11.17**	**246**	Pn	**Pn**	**21 07 29.3**	**-0.3**
	comp=N,0.2nm,0.3s,baz=60,slow=11,SNR=1.7						
YKA	**Yellowknife Ar**	**19.46**	**347**	P	**P**	**21 09 16.5**	**+0.2**
	comp=N,0.1nm,0.3s,baz=163,slow=13,SNR=7.0						

*ISCJB **21** 21:05:08.2±0.8, 16.19N±0.06×95.64W±0.04, h73km±12km, Error ellipse: s-maj=10.8km s-min=7.0km az=4.4*

*NEIC **21** 21:05:10.8±1.1, 16.27N±0.06×95.65W±0.05, h36km±82km*

*MEX **21** 21:05:10.9±0.8, 16.23N×95.64W, h64km±12km, MD4.0*

ISC 21 21:05:10.2±1.3, **16.24N**±0.006×**95.67W**±0.004, **h54**km±23km, **n12,** σ1§**49**/19, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.63**	**222**	eP	**Pn**	**21 05 23.3**	**0.0**
HUIG				eS	**Sn**	**21 05 33.3**	**+0.5**
HUIG	**Huatulco**	**0.63**	**222**		**Pn**	**21 05 23.3**	**0.0**
HUIG					**Sn**	**21 05 33.3**	**+0.5**
CMIG	**Matias Romero**	**1.14**	**41**	*i* P	**Pn**	**21 05 30.0**	**0.0**
CMIG				*i* S	**Sn**	**21 05 43.3**	**-1.2**
CMIG	**Matias Romero**	**1.14**	**41**		**Pn**	**21 05 30.0**	**0.0**
CMIG					**Sn**	**21 05 43.4**	**-1.1**
VHO	**Vista Hermosa**	**1.31**	**309**	eP	**Pn**	**21 05 33.1**	**+0.6**
VHO				eS	**Sn**	**21 05 49.4**	**+0.3**
PNIG	**Pinotepa**	**2.36**	**274**	eP	**Pn**	**21 05 46.2**	**-0.4**
PNIG				*i* S	**Sn**	**21 06 11.6**	**-2.9**
PNIG	**Pinotepa**	**2.36**	**274**		**Pn**	**21 05 46.2**	**-0.4**
PCIG		**2.42**	**102**	*i* P	**Pn**	**21 05 46.8**	**-0.5**
PCIG				*i* S	**Sn**	**21 06 14.1**	**-1.7**
PCIG		**2.42**	**102**		**Pn**	**21 05 50.7**	**+3.4**
SNET	**Serv Nac Est T**	**6.72**	**111**	Pn	**Pn**	**21 06 44.2**	**-2.3**
SNET					Pn	21 06 44.2	-2.2
TEIG	**Tepich**	**8.07**	**59**	Pn	**Pn**	**21 07 04.9**	**+0.1**
833A	**Chaparral WMA,**	**12.51**	**345**	Pn	**Pn**	**21 08 06.5**	**+0.9**

*IDC **21** 21:12:36.2±6.3, 9.27N×104.09W, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.8/26, mbtmp3.6/7, ML3.2/2, MS3.6/13, Ms1 3.6/13, ms1mx3.4/32, Error ellipse: s-maj=117.0km s-min=55.4km az=165.0*

ISC 21 21:12:39.6±4.9, **9.6N**±0.6×**104.1W**±0.2, **h10**km, **n20,** σ0§**94**/7, **mb3.7**/5, **MS3.6**/10, **Northern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**1.32**	**325**	T	T	21 26 08.6	
	SNR=11						
CMIG	**Matias Romero**	**11.67**	**49**	Pn	**Pn**	**21 15 26.2**	**-0.1**
	0.1nm,0.3s,baz=221,slow=11,SNR=8.1						
CMIG				LR	LR	21 18 49.1	
	comp=Z,394nm,20.3s,baz=198,slow=31						
LPIG	**La Paz**	**15.65**	**338**	LR	LR	21 20 29.9	
	comp=Z,276nm,19.2s,baz=176,slow=30						
JTS	**Las Juntas de**	**18.86**	**86**	LR	LR	21 22 32.5	
	comp=Z,108nm,20.6s,baz=330,slow=32						
TXAR	**Lajitas Array**	**19.69**	**1**	P	**Pn**	**21 17 10.3**	**-0.4**
	0.0nm,0.3s,baz=189,slow=14,SNR=6.4						
ANMO	**Albuquerque**	**25.37**	**355**	P	**P**	**21 18 09.0**	**+1.7**
	0.4nm,0.4s,baz=168,slow=12,SNR=3.8						
PFO	**Pinyon Flats O**	**26.52**	**336**	LR	LR	21 26 20.6	
	comp=Z,205nm,20.5s,baz=58,slow=31						
ROSC	**El Rosal**	**29.88**	**97**	LR	LR	21 28 05.8	
	comp=Z,115nm,21.1s,baz=37,slow=31						
ATAH	**Atahualpa**	**30.49**	**122**	LR	LR	21 28 55.2	
	comp=Z,328nm,19.7s,baz=298,slow=32						
NVAR	**Mina Array Bea**	**31.47**	**338**	P	**P**	**21 19 01.1**	**-0.7**
	0.3nm,0.3s,baz=124,slow=7.7,SNR=1.5						
SDV	**Santo Domingo**	**33.01**	**88**	LR	LR	21 31 08.0	
	comp=Z,68nm,20.8s,baz=245,slow=34						
LVC	**Limon Verde**	**46.99**	**133**	LR	LR	21 36 50.0	
	comp=Z,40nm,21.1s,baz=328,slow=31						
MDP	**Montag

VRZ	Vera Road	1.79	40	P		Pn	22 07 24.6	+0.2
MTW	Mount Morrison	1.80	112	P		Pn	22 07 25.2	+0.8
PLWZ	Palliser	1.82	126	P		Pn	22 07 25.3	+0.6
PAWZ	Paruwai Farm	1.84	119	P		Pn	22 07 25.5	+0.6
POWZ	Post Office Ro	1.90	87	P		Pn	22 07 26.2	+0.7
KHZ	Kahutara	1.91	174	P		Pn	22 07 26.5	+1.0
TIWZ	Tintock	1.99	98	P		Pn	22 07 27.3	+0.8
PKVZ	Pokaka	2.00	53	P		Pn	22 07 27.1	+0.4
TRWZ	Traveller	2.02	117	P		Pn	22 07 27.6	+0.8
MTVZ	Mangateitei	2.02	57	P		Pn	22 07 27.3	+0.4
PRWZ	Pori Road	2.04	92	P		Pn	22 07 28.1	+1.0
TMWZ	Te Maipa	2.06	107	P		Pn	22 07 28.0	+0.7
TSZ	Takapari Road	2.10	78	P		Pn	22 07 28.1	+0.5
TRVZ	Turoa	2.12	56	P		Pn	22 07 28.2	0.0
FWVZ	Far West T-bar	2.15	55	P		Pn	22 07 28.5	0.0
WHVZ	Whangaehu Hut	2.16	56	P		Pn	22 07 29.0	+0.5
MOVZ	Moawhango	2.19	60	P		Pn	22 07 28.6	-0.2
TWVZ	Taurewa	2.20	50	P		Pn	22 07 28.8	-0.1
TUVZ	Tukino	2.21	56	P		Pn	22 07 29.3	+0.3
DVHZ	Dannevirke	2.21	85	P		Pn	22 07 29.3	+0.4
NGZ	Ngauruhoe	2.23	54	P		Pn	22 07 29.3	0.0
CPWZ	Castlepoint	2.25	101	P		Pn	22 07 30.6	+1.3
WTVZ	West Tongariro	2.26	52	P		Pn	22 07 29.7	+0.1
BFZ	Birch Farm	2.26	95	P		Pn	22 07 30.1	+0.7
KRVZ	Karewarewa	2.30	53	P		Pn	22 07 30.0	0.0
PNHZ	Pukenui	2.31	76	P		Pn	22 07 30.8	+0.7
HIZ	Hauiti	2.34	32	P		Pn	22 07 30.4	0.0
BHHZ	Black Hill Sta	2.37	65	P		Pn	22 07 30.5	-0.2
LTZ	Lake Taylor	2.39	198	P		Pn	22 07 31.6	+0.7
KATZ	Kakaramea	2.41	51	P		Pn	22 07 31.4	+0.1
ANWZ	Angora Road	2.43	90	P		Pn	22 07 32.1	+0.8
WPHZ	Waipukurau	2.45	40	P		Pn	22 07 32.5	+0.8
GVZ	Greta Valley S	2.46	184	P		Pn	22 07 32.3	+0.6
KRHZ	Kereru	2.52	71	P		Pn	22 07 32.7	+0.2
RATZ	Rangitukua	2.53	50	P		Pn	22 07 33.1	+0.5
PRHZ	Porangahau	2.57	86	P		Pn	22 07 33.9	+0.9
INZ	Inchbonnie	2.60	211	P		Pn	22 07 33.8	+0.4
KWHZ	Kaweka Forest	2.64	67	P		Pn	22 07 34.5	+0.6
AMCZ	Amberley	2.70	190	P		Pn	22 07 34.9	+0.4
PXZ	Pawanui	2.78	81	P		Pn	22 07 36.0	+0.6
BKZ	Black Stump Fm	2.81	62	P		Pn	22 07 35.5	-0.4
MCHZ	McNeill Hill	2.83	69	P		Pn	22 07 36.5	+0.4
KAHZ	Kahuranaki	2.84	76	P		Pn	22 07 37.4	+1.1
MRHZ	Matea Rd	2.94	56	P		Pn	22 07 36.8	-0.7
OXZ	Oxford	2.96	198	P		Pn	22 07 37.5	-0.1
CRLZ	Canterbury Las	3.10	189	P		Pn	22 07 39.1	-0.2
ARHZ	Aropaoanui	3.12	68	P		Pn	22 07 39.6	+0.1
WVZ	Waitaha Valley	3.19	216	P		Pn	22 07 40.5	+0.1
MTHZ	Maungataniwha	3.21	60	P		Pn	22 07 40.1	-0.6
OKCZ	Okains Bay	3.21	183	P		Pn	22 07 40.5	-0.2
MQZ	McQueen's Vall	3.22	188	P		Pn	22 07 40.1	-0.7
RAHZ	Arahi	3.34	63	P		Pn	22 07 42.1	-0.2
AKCZ	Akaroa Harbour	3.37	185	P		Pn	22 07 42.6	+0.1
MUGZ	Murupara	3.38	54	P		Pn	22 07 41.6	-1.2
RTZ	Ruatahuna	3.43	58	P		Pn	22 07 42.5	-1.0
SNGZ	Shannon Statio	3.58	62	P		Pn	22 07 45.6	+0.3
RPZ	Rata Peaks	3.60	207	P		Pn	22 07 45.2	-0.3
	4.9nm,0.3s,baz=211,slow=2.3,SNR=28							
RPZ				S		Sn	22 08 24.9	-4.6
	3.9nm,0.3s,baz=328,slow=21,SNR=10							
RPZ	Rata Peaks	3.60	207	P		Pn	22 07 45.3	-0.3
KNZ	Kokohu	3.69	68	P		Pn	22 07 46.2	-0.5
URZ	Urewera	3.72	54	P		Pn	22 07 45.3	-1.7
	2.2nm,0.3s,baz=243,slow=7.0,SNR=14							
URZ				S		Sn	22 08 27.6	-4.5
	5.3nm,0.3s,baz=239,slow=3.6,SNR=26							
URZ	Urewera	3.72	54	P		Pn	22 07 45.5	-1.6
MHGZ	Mahia Peninsul	3.81	71	P		Pn	22 07 48.1	-0.1
PRGZ	Paritu Road	3.88	67	P		Pn	22 07 48.5	-0.6
RIGZ	Rimuhau	3.90	64	P		Pn	22 07 48.8	-0.5
MWZ	Matawai	3.94	58	P		Pn	22 07 48.8	-1.1
FOZ	Fox Glacier	3.97	219	P		Pn	22 07 49.7	-0.5
RUGZ	Raukumara Rang	4.25	55	P		Pn	22 07 52.2	-1.8
CNGZ	Carnagh Statio	4.31	64	P		Pn	22 07 54.2	-0.3
HAZ	Te Kaha	4.45	53	P		Pn	22 07 54.2	-2.1
LBZ	Lake Benmore	4.50	210	P		Pn	22 07 56.5	-0.4
PKGZ	Pakihiroa	4.55	56	P		Pn	22 07 56.4	-1.3
PUZ	Puketiti	4.56	59	P		Pn	22 07 56.4	-1.4
JCZ	Jackson Bay	4.88	222	P		Pn	22 08 01.2	-0.7
MXZ	Matakaoa Point	4.89	55	P		Pn	22 08 00.9	-1.2
ODZ	Otahua Downs	4.93	202	P		Pn	22 08 01.2	-1.2
WKZ	Wanaka	5.34	215	P		Pn	22 08 06.2	-1.5
EAZ	Earnscleugh	5.55	210	P		Pn	22 08 09.1	-1.3
MSZ	Milford Sound	5.74	222	P		Pn	22 08 12.6	-0.3
WHZ	Wether Hill Ro	6.64	214	P		Pn	22 08 23.4	-1.4
ASAR	Alice Springs	37.01	285	P		P	22 13 43.5	+1.8
	0.3nm,0.6s,baz=120,slow=6.8,SNR=5.2							
WRA	Warramunga Arr	38.99	290	P		P	22 14 00.3	+1.9
	0.4nm,0.3s,baz=126,slow=8.4,SNR=7.9							
BRTR	Keskin Array B	149.32	282	PKPbc		PKiKP	22 26 18.9	+1.1
	0.6nm,0.8s,baz=25,slow=15,SNR=3.8							

IDC 21 22:09:24.3±11.0, **44°17N×150°68E, h0km, mb3.2**/2, **mb1 3.7**/3, **mb1mx3.3**/35, **mbtmp3.5**/3, **ML2.3**/1, **Error ellipse: s-maj=421.1km s-min=117.1km az=102.0, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	Petropavlovsk-	10.07	25	Pn	Pn	22 11 50.6	+0.5
	0.1nm,0.3s,baz=193,slow=12,SNR=4.0						
ILAR	Eielson Array	39.64	37	P	P	22 16 56.6	-0.7
	0.2nm,0.4s,baz=267,slow=7.2,SNR=5.0						
YKA	Yellowknife Ar	54.02	35	P	P	22 18 50.1	+0.4
	0.1nm,0.4s,baz=300,slow=7.2,SNR=4.4						

IDC 21 22:12:36.0±1.7, **23°42S×176°79W, h0km, mb3.7**/2, **mb1 4.0**/2, **mb1mx3.7**/23, **mbtmp3.7**/2, **MS3.3**/1, **Ms1 3.3**/1, **ms1mx2.7**/34, **Error ellipse: s-maj=67.3km s-min=47.1km az=174.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	15.68	198	LR	LR	22 21 25.8	
	comp=Z,112nm,18.5s,baz=7.0,slow=34						
ASAR	Alice Springs	45.02	259	P	P	22 20 54.2	+0.5
	0.7nm,0.9s,baz=92,slow=8.0,SNR=5.7						
WRA	Warramunga Arr	45.38	265	P	P	22 20 55.8	-0.8
	1.4nm,0.9s,baz=102,slow=8.8,SNR=5.6						
AKASG	Malin Array Be	146.10	330	PKPbc	PKPdf	22 32 17.2	+0.3
	2.2nm,0.7s,baz=41,slow=4.2,SNR=8.7						
BRTR	Keskin Array B	149.59	309	PKPbc	PKPbc	22 32 27.3	-0.6
	0.9nm,0.8s,baz=81,slow=4.7,SNR=4.8						
TORD	Torodi Ar. Bea	169.68	172	PKPab	PKPab	22 33 59.1	-0.7
	0.8nm,0.9s,baz=181,slow=5.1,SNR=3.7						

*IDC **21** 22:27:42.5±1.1, 10°64N×126°22E, h0km, mb4.1/8, mb1 4.2/8, mb1mx3.7/59, mbtmp4.1/8, MS3.7/2, Ms1 3.7/2, ms1mx2.8/38, Error ellipse: s-maj=66.9km s-min=16.8km az=66.0*

*NEIC **21** 22:27:50.4±1.4, 10°46N±0°05×125°81E±0°08, h55km±7km, mb4.5/22*

*ISCJB **21** 22:27:54.1±0.4, 10°27N±0°03×125°76E±0°05, h100km, mb3.8/8, Error ellipse: s-maj=7.1km s-min=4.8km az=169.3*

ISC 21 22:27:54.8±0.5, **10°32N±0°04×125°69E±0°07, h100**km, **n45**, σ1§**74**/45, **mb4.3**/20, **1C-1D, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.83	257	P	Pn	22 28 14.7	+1.2
BESP	Borongan	1.30	349	P	Pn	22 28 21.6	+2.9
BESP				S	Sn	22 28 39.4	+2.7
LLP	Lapu-Lapu	1.69	270	⇑P	Pn	22 28 25.2	+1.7
LLP				S	Sn	22 28 46.2	+0.9
CGP	Cagayan de Oro	2.09	208	⇓P	Pn	22 28 29.1	+0.5
CGP				S	Sn	22 28 53.4	-1.1
CNP	Catarman	2.40	335	P	Pn	22 28 35.1	+2.5
CNP				S	Sn	22 29 03.6	+2.0
BUKP	Musuan	2.50	194	P	Pn	22 28 34.9	+0.9
BUKP				S	Sn	22 29 03.4	-0.7
DAV	Davao City (W)	3.23	182	Pn	Pn	22 28 38.4	-5.3
KKM	Kota Kinabalu	10.29	246	Pn	Pn	22 30 19.9	+0.2
TPUB	Ta-pu	13.79	340	Pn	Pn	22 31 02.4	-3.6
SSLB	Suanglung	14.14	342	Pn	Pn	22 31 04.8	-5.8
YOJ	Yonaguni jima	14.30	350	Pn	Pn	22 31 07.6	-5.0
NACB	Ninganchiao	14.32	345	Pn	Pn	22 31 08.6	-4.4
SBUM	Sibu	15.49	241	Pn	Pn	22 31 26.6	-1.2
HKPS	Hong Kong Po S	16.24	318	Pn	Pn	22 31 34.9	-2.2
UGM	Wanagama	23.57	220		P	22 32 58.6	+1.9
IPM	Ipoh	25.12	258	P	P	22 33 11.5	+0.8
IPM				IAmb	IAmb	22 33 23.2	
	comp=Z,10nm,0.9s						
KNRA	Kununurra	26.01	173	P	P	22 33 19.4	+0.8
KNRA				IAmb	IAmb	22 33 21.6	
	comp=Z,9.7nm,1.1s						
KMI	Kunming	26.29	307	P	P	22 33 18.4	-3.1
KMI				IAmb	IAmb	22 33 18.8	
	comp=Z,8.8nm,0.5s						
CMAR	Chiang Mai Arr	27.11	290	P	P	22 33 30.7	+2.1
	comp=Z,0.4nm,0.4s,baz=89,slow=7.5,SNR=1.8						
FITZ	Fitzroy Crossi	28.23	180	P	P	22 33 40.4	+1.9
	comp=Z,2.4nm,1.0s,baz=20,slow=12,SNR=2.2						
MJAR	Matsushiro Arr	28.47	21	LR	LR	22 43 44.5	
	comp=Z,61nm,20.7s,baz=210,slow=34						
PMG	Port Moresby	28.99	132	P	P	22 33 44.7	-0.6
PMG				IAmb	IAmb	22 33 55.7	
	comp=Z,6.1nm,0.8s						
COEN	Coen	29.71	144	P	P	22 33 52.1	+0.4
COEN				IAmb	IAmb	22 33 52.6	
	comp=Z,7.0nm,1.0s						
WRA	Warramunga Arr	31.25	164	P	P	22 34 04.9	-0.4
	comp=Z,0.5nm,0.4s,baz=345,slow=9.2,SNR=12						
USA0B	Ussuriysk Arra	34.20	8	P	P	22 34 26.4	-4.2
USA0B				IAmb	IAmb	22 34 31.7	
	comp=Z,5.3nm,1.0s						
ASAR	Alice Springs	34.72	167	P	P	22 34 36.0	+0.5
	comp=Z,0.7nm,0.4s,baz=348,slow=7.2,SNR=40						
MORW	Morawa	40.25	193	P	P	22 35 22.1	+0.1
MORW				IAmb	IAmb	22 35 40.9	
	comp=Z,14nm,1.1s						
FORT	Forrest	40.92	177	P	P	22 35 29.0	+1.5
BBOO	Buckleboo	44.01	167	P	P	22 35 53.7	+1.2
STKA	Stephens Creek	44.63	161	P	P	22 35 58.5	+1.1
	comp=Z,4.4nm,0.4s,baz=338,slow=8.3,SNR=15						
STKA	Stephens Creek	44.63	161	IAmb	IAmb	22 35 59.1	
	comp=Z,1.3nm,0.8s						
CAN	Canberra	50.46	155	P	P	22 36 43.6	+0.9
CAN				IAmb	IAmb	22 36 45.7	
	comp=Z,5.0nm,0.9s						
TOO	Toolangi	51.13	160	P	P	22 36 48.7	+1.1
TOO				IAmb	IAmb	22 37 06.1	
	comp=Z,5.1nm,1.0s						
MKAR	Makanchi Array	51.64	323	P	P	22 36 52.3	+1.0
	comp=Z,0.4nm,0.6s,baz=122,slow=7.2,SNR=7.0						
MKAR				PcP	PcP	22 38 03.0	-0.8
	comp=Z,0.5nm,0.6s,baz=119,slow=4.7,SNR=4.7						
GAR	Garm	56.82	310	P	P	22 37 27.9	-1.3
LBZ	Lake Benmore	67.72	147	P	P	22 38 42.5	+1.0
BSWZ	Blackbirch Sta	68.09	143	P	P	22 38 43.6	-0.3
BKZ	Black Stump Fm	68.19	140	P	P	22 38 45.6	+0.9
SUA	Susitna One	77.94	29	P	P	22 39 41.1	-0.8
SUA				IAmb	IAmb	22 39 51.0	
	comp=Z,5.2nm,0.8s						
ARCES	ARCESS Array B	83.95	340	P	P	22 40 14.0	+0.5
	comp=Z,1.2nm,0.8s,baz=69,slow=6.6,SNR=5.6						
BRTR	Keskin Array B	85.06	309	LR	LR	23 23 28.1	
	comp=Z,108nm,18.8s,baz=304,slow=39						
FIA1	FINESS Array S	85.58	332	P	P	22 40 22.2	+0.4
FINES	FINESS Array B	85.58	332	P	P	22 40 22.2	+0.4
	comp=Z,3.6nm,0.9s,baz=77,slow=4.3,SNR=12						
BESE	Bessie Mountai	86.17	31	P	P	22 40 26.0	+1.1
BESE				IAmb	IAmb	22 40 33.9	
	comp=Z,6.3nm,1.0s						
ALN	Alexandroupoli	90.51	312	P	P	22 40 45.5	-0.3
ALN				IAmb	IAmb	22 41 00.6	
	comp=Z,4.8nm,1.2s						

*IDC **21** 22:33:03.4±1.3, 43°87N×39°32E, h0km, mb1 3.6/4, mb1mx3.2/44, mbtmp3.4/4, ML2.9/4, Error ellipse: s-maj=31.6km s-min=9.0km az=166.0*

*MOS **21** 22:33:04.9±0.0, 43°77N×39°35E, h6km, MPVA3.6*

ISC 21 22:33:05.9±0.9, **43°88N±0°09×39°48E±0°04, h17**km±7km, **n11**, σ1§**38**/19, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZRR	Lazarevskoye	0.09	307	*i* Pg	Pg	22 33 08.8	-0.5
LZRR				*i* Sg	Sg	22 33 11.4	-0.1
RPOR	Krasnaya Polya	0.60	107	*i* Sg	Sn	22 33 27.8	-1.3
ARXR	Arkhyz	1.34	103	*i* Pg	Pg	22 33 32.3	+0.5
ARXR				*i* Sg	Sg	22 33 52.8	+3.5
ANN	Anapa	1.73	303	*i* Pg	Pb	22 33 37.9	+0.6
ANN				*i* Sg	Sg	22 34 02.2	+0.6
NVNR	Nevinnomyssk	1.93	67	*e*Pg	Pb	22 33 40.9	+0.2
NVNR				*e*Sg	Sg	22 34 09.0	+0.9
SHA1	Shidzhatmaz	2.31	92	*i* Pn	Pb	22 33 47.3	+0.1
SHA1				*i* Sn	Sb	22 34 17.1	+1.6
KVAR	Kislovodsk Arr	2.33	87	Pn	Pb	22 33 46.6	-0.9
	baz=262,slow=23,SNR=14						
KVAR				Pg	Pg	22 33 48.9	-1.6
	baz=260,slow=22,SNR=14						
KVAR				Lg	Lg	22 34 21.5	
	baz=317,slow=19,SNR=4.9						
NEY	Neytrino	2.44	104	*e*Pn	Pg	22 33 50.5	-2.3
NEY				*e*Sn	Sb	22 34 19.3	-0.1
KBZ	Khabaz	2.48	92	Pn	Pb	22 33 49.7	-0.4
	1.8nm,0.3s,baz=296,slow=7.0,SNR=33						
KBZ				Pg	Pg	22 33 52.5	-1.0
	3.1nm,0.3s,baz=330,slow=13,SNR=22						
KBZ				Lg	Lg	22 34 26.7	
	1.7nm,0.3s,baz=72,slow=21,SNR=3.9						
BRTR	Keskin Array B	6.02	228	Pn	Pn	22 34 34.5	+0.1
	0.2nm,0.3s,baz=57,slow=10.0,SNR=12						
FINES	FINESS Array B	19.30	340	P	P	22 37 29.9	+0.1
	0.1nm,0.3s,baz=150,slow=13,SNR=4.7						

*ISCJB **21** 22:50:43.0±0.6, 31°50S±0°03×69°67W±0°04, h123km±6km, Error ellipse: s-maj=5.2km s-min=4.4km az=37.3*

*SJA **21** 22:50:42.7±0.8, 31°54S×69°66W, h119km±4km, ML3.4, MW3.5*

*GUC **21** 22:50:43.8±0.6, 31°55S×70°09W, h158km±4km, ML3.7*

ISC 21 22:50:43.2±1.5, **31°51S±0°03×69°67W±0°04, h123**km±11km, **n29**, σ0§**80**/46, **3C-3D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.43	132	*i* P	Pn	22 51 01.4	0.0
RTLS				*e*S	Sn	22 51 14.3	-0.9
RTLS				IAML		22 51 14.8	
	comp=Z,2μm,0.2s						
ZON	Zonda	0.85	93	*i* P	Pn	22 51 04.0	-0.1
ZON				*e*S	Sn	22 51 19.5	-0.5
ZON				IAML		22 51 23.6	
	comp=Z,272nm,0.3s						
RTCV	Cerro Valdivia	1.03	110	*i* P	Pn	22 51 05.9	+0.1
RTCV				*e*S	Sn	22 51 22.3	-0.6
RTLL	Cerro Villicun	1.04	80	⇑*i*P	Pn	22 51 06.0	0.0
RTLL				*i* S	Sn	22 51 22.3	-0.8
RTLL				IAML		22 51 23.9	
	comp=N,2μm,0.3s						
RTLL	Cerro Villicun	1.04	80	*i* P	Pn	22 51 05.8	-0.2
RTLL				*e*S	Sn	22 51 22.8	-0.4
RTLL				IAML		22 51 23.7	
	comp=Z,654nm,0.3s						
ACCO	Cerro Coronel	1.06	30	*i* P	Pn	22 51 07.2	+0.7
ACCO				*e*S	Sn	22 51 25.2	+1.2
AMOG	MOGNA	1.16	61	*i* P	Pn	22 51 07.7	+0.5
AMOG				*e*S	Sn	22 51 24.9	-0.4
CO02	Combarbal	1.18	285	⇓*i*P	Pn	22 51 07.7	+0.3
CO02				*i* S	Sn	22 51 25.5	-0.2
CFA	Coronel Fontan	1.23	95	*i* P	Pn	22 51 08.0	+0.1
CFA				*e*S	Sn	22 51 26.2	-0.3
ASAL	Salagasta	1.29	147	*i* P	Pn	22 51 09.0	+0.5
AROD	Rodeo	1.35	7	*i* P	Pn	22 51 10.8	+1.3
ARCO	CERRO ARCO	1.47	155	*i* P	Pn	22 51 10.9	+0.3
ARCO				IAML		22 51 34.0	
	comp=Z,868nm,0.4s						
GO04	Tololo Observa	1.65	324	⇑*i*P	Pn	22 51 13.1	+0.3
GO04				*i* S	Sn	22 51 35.2	-0.2
GO04	Tololo Observa	1.65	324	*i* P	Pn	22 51 13.3	+0.5
AAGR	Agrelo	1.72	156	*i* P	Pn	22 51 14.2	+0.7
PEL	Peldehue	1.84	208	⇓*i*P	Pn	22 51 14.8	0.0
PEL				*i* S	Sn	22 51 39.0	0.0
PEL				IAML		22 51 40.0	
	comp=N,553nm,0.4s						
PEL	Peldehue	1.84	208	*i* P	Pn	22 51 14.9	0.0
ROCH	El Roble	1.84	218	⇓*i*P	Pn	22 51 14.8	-0.3
ROCH				*i* S	Sn	22 51 38.3	-1.2
ROCH				IAML		22 51 39.4	
	comp=N,641nm,0.4s						
ROC1	El Roble	1.85	218	*i* P	Pn	22 51 14.9	-0.3
ROC1				*e*S	Sn	22 51 39.2	-0.5
FCH	Farellones	1.88	196	⇑*i*P	Pn	22 51 16.9	+1.2
FCH				*i* S	Sn	22 51 41.9	+1.4
FCH				IAML		22 51 45.5	
	comp=E,617nm,0.2s						
CLCH	Cerro Calan	2.02	201	*e*P	Pn	22 51 17.5	+0.5
CLCH				*i* S	Sn	22 51 43.3	+0.3
CLCH				IAML		22 51 46.0	
	comp=E,831nm,0.4s						
LSCH	La Serena	2.10	319	*e*P	Pn	22 51 18.1	+0.1
LSCH				*i* S	Sn	22 51 43.6	-1.0
LSCH				IAML		22 51 44.7	
	comp=N,339nm,0.4s						
ACAN	Cantantal	2.25	110	*i* P	Pn	22 51 20.2	+0.3
LMEL	Las Melosas	2.37	191	*e*P	Pn	22 51 22.3	+0.7
LMEL				*e*S	Sn	22 51 53.7	+2.6
LMEL				IAML		22 51 57.2	
	comp=E,308nm,0.3s						
MRA	San Martin	3.48	106	*i* P	Pn	22 51 36.4	+0.4
MRA				IAML		22 52 21.3	
	comp=Z,89nm,0.5s						
GO03	Copiap	3.94	353	*i* P	Pn	22 51 42.7	+0.7
GO05	Huala	3.97	208	*i* P	Pn	22 51 40.3	-2.1
TCA	Tanti	4.34	89	*i* P	Pn	22 51 47.4	-0.1
TCA				IAML		22 52 38.7	
	comp=Z,26nm,0.3s						
CYA	Choya	4.54	49	*i* P	Pn	22 51 49.4	-0.7
CYA				IAML		22 51 49.8	
	comp=Z,21nm,0.3s						

WEL 21 23:00:39.2, 45°S±4°×16°8E±°, h72km±6km, **M3.7**/16, **ML3.8**/12, **MLv3.7**/16, **Error ellipse: s-maj=0.0km s-min=0.0km az=71.5, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.40	219	P	Pn	23 00 51.7	+0.3
DCZ				S	Sn	23 01 01.0	+0.7
MLZ	Mavora Lakes	0.48	116	P	Pn	23 00 53.0	+0.9
MLZ				S	Sn	23 01 02.6	+1.1
MSZ	Milford Sound	0.57	31	P	Pn	23 00 52.9	+0.1
MSZ				S	Sn	23 01 04.0	+1.1
WHZ	Wether Hill Ro	0.80	158	P	Pn	23 00 56.6	+1.2
WKZ	Wanaka	1.12	73	P	Pn	23 01 00.3	+0.9
WKZ				S	Sn	23 01 14.8	+0.5
EAZ	Earnscleugh	1.27	94	P	Pn	23 01 02.7	+1.5
EAZ				S	Sn	23 01 18.5	+0.7
JCZ	Jackson Bay	1.42	40	P	Pn	23 01 03.1	-0.1
TUZ	Tuapeka	1.69	119	P	Pn	23 01 07.9	+1.2
TUZ				S	Sn	23 01 28.1	+0.6
APZ	The Paps	1.71	169	P	Pn	23 01 08.1	+1.1
SYZ	Scrubby Hill	1.79	141	P	Pn	23 01 09.5	+1.5
SYZ				S	Sn	23 01 31.6	+1.7
LBZ	Lake Benmore	2.05	69	P	Pn	23 01 11.2	-0.5
ODZ	Otahua Downs	2.22	88	P	Pn	23 01 14.1	+0.2
HHSZ	Highcliff Hill	2.29	110	P	Pn	23 01 16.0	+1.2
FOZ	Fox Glacier	2.32	46	P	Pn	23 01 14.1	-1.1
RPZ	Rata Peaks	2.92	62	P	Pn	23 01 22.0	-1.3
WVZ	Waitaha Valley	3.12	49	P	Pn	23 01 25.1	-0.9
INZ	Inchbonnie	3.74	51	P	Pn	23 01 33.0	-1.5
MQZ	McQueen's Vall	3.96	70	P	Pn	23 01 35.9	-1.6
LTZ	Lake Taylor	4.18	57	P	Pn	23 01 37.9	-2.6
AMCZ	Amberley	4.19	64	P	Pn	23 01 38.8	-1.9
OKCZ	Okains Bay	4.22	72	P	Pn	23 01 40.2	-1.0
GVZ	Greta Valley S	4.54	63	P	Pn	23 01 43.4	-2.1
DSZ	Denniston Nort	4.62	44	P	Pn	23 01 45.4	-1.3
THZ	Tophouse	5.19	51	P	Pn	23 01 51.8	-2.5
QRZ	Quartz Range	5.68	42	P	Pn	23 02 00.1	-0.9
NNZ	Nelson	5.82	49	P	Pn	23 02 03.0	+0.1

*ANF **21** 23:02:25.7±0.4, 37°77N×115°04W, h8km, ML4.0/24, Error ellipse: s-maj=3.4km s-min=2.9km az=144.0*

*IDC **21** 23:02:26.5±0.9, 37°70N×115°14W, h0km, mb3.3/2, mb1 3.4/7, mb1mx3.4/41, mbtmp3.1/7, ML3.5/4, MS2.8/2, Ms1 2.8/2, ms1mx2.3/26, Error ellipse: s-maj=9.4km s-min=7.4km az=133.0*

*REN **21** 23:02:27.5, 37°73N×115°14W, h6km, M3.7, ML3.8, MW3.6(NEIC), MWR3.6(NEIC)*

*NEIC **21** 23:02:28.2±1.8, 37°73N±0°04×115°21W±0°05, h11km±7km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=2.55; $M_{\theta\theta}$=0.62; $M_{\phi\phi}$ 1.92; $M_{r\theta}$=0.59; $M_{\theta\phi}$ 1.79; $M_{\phi r}$=0.01; Fault plane solution: M_o2.97000×10^{14} NP1: ϕ_s227.83000°, δ49.77000°, λ-72.40000°. NP2:ϕ_s21.66000°, $

NEE2				Sb	**Sg**	**23 04 00.9**	**-1.3**
	baz=352								
ELK	**Elko**	**3.02**	**358**	Pn	**Pn**	**23 03 15.3**	**-0.5**
	2.3nm,0.3s,baz=199,slow=10,SNR=17								
ELK				Pg	**Pb**	**23 03 23.1**	**+1.8**
	9.7nm,0.3s,baz=186,slow=14,SNR=48								
ELK				Lg	Lg	23 04 00.3	
	28nm,0.3s,baz=38,slow=13,SNR=15								
ELK				LR	LR	23 04 02.6	
	comp=Z,76nm,21.8s,baz=336,slow=32								
LRMC	**Laurel Mtn Rad**	**3.04**	**223**	Pg	**Pg**	**23 03 26.2**	**+1.4**
	baz=42,SNR=12								
HEC	**Hector,Ludlow**	**3.05**	**199**	Pg	**Pg**	**23 03 25.4**	**+0.5**
	baz=18,SNR=13								
HEC				Sb	**Sg**	**23 04 03.7**	**-0.8**
	baz=18								
DUG	**Dugway, Tooele**	**3.06**	**35**	Pg	**Pb**	**23 03 23.0**	**+1.0**
	baz=217								
DUG				Sg	**Sg**	**23 04 03.9**	**-1.0**
	baz=217								
DUG	**Dugway, Tooele**	**3.06**	**35**		**Pb**	**23 03 22.1**	**+0.2**
OMMB	**Old Mammoth Mi**	**3.07**	**269**		**Pn**	**23 03 16.4**	**-0.2**
MDPB	**Devils Postpil**	**3.14**	**270**	Pn	**Pn**	**23 03 17.4**	**0.0**
BMN	**Battle Mountai**	**3.16**	**330**		**Pn**	**23 03 17.5**	**-0.2**
NLU	**North Lily Min**	**3.27**	**46**		**Pn**	**23 03 19.4**	**+0.2**
Q16A	**Castle Valley**	**3.33**	**68**		**Pn**	**23 03 20.7**	**+0.5**
ISA	**Isabella, Lake**	**3.38**	**234**		**Pn**	**23 03 20.7**	**0.0**
TMUT	**Trail Mountain**	**3.45**	**62**		**Pn**	**23 03 22.2**	**+0.3**
WAKR	**Walker**	**3.49**	**284**		**Pn**	**23 03 22.1**	**-0.1**
IRM	**Iron Mountain**	**3.56**	**180**	Pn	**Pn**	**23 03 22.5**	**-0.6**
	baz=0.1,SNR=6.0								
IRM				Pg	**Pg**	**23 03 34.4**	**-0.4**
	baz=0.1								
IRM				Sb	**Sg**	**23 04 19.4**	**-1.4**
	baz=0.1								
BGU	**Big Grassy Mou**	**3.59**	**26**		**Pn**	**23 03 25.4**	**+1.8**
EDW2	**Edwards Air Fo**	**3.66**	**220**	Pg	**Pg**	**23 03 37.1**	**+0.4**
	baz=38								
EDW2				Sb	**Sg**	**23 04 22.5**	**-1.6**
	baz=38								
WUAZ	**Wupatki**	**3.74**	**125**	Pg	**Pb**	**23 03 35.7**	**+2.2**
	baz=307,SNR=57								
WUAZ				Sb	**Sb**	**23 04 21.7**	**+2.3**
	baz=307								
WUAZ	**Wupatki**	**3.74**	**125**	Pn	**Pn**	**23 03 26.6**	**+1.0**
PNTR	**Pine Nut**	**3.77**	**293**		**Pn**	**23 03 25.0**	**-1.1**
BELC	**Belle Mtn. Jos**	**3.78**	**191**	Pg	**Pg**	**23 03 41.4**	**+2.4**
	baz=10								
P17A	**Butcher Ranch,**	**3.86**	**62**		**Pn**	**23 03 28.6**	**+1.3**
PAHR	**Pah Rah Range**	**3.87**	**302**	Pn	**Pn**	**23 03 28.3**	**+0.8**
SRU	**San Rafael Swe**	**3.87**	**68**		**Pn**	**23 03 27.9**	**+0.4**
VCNR	**Virginia City**	**3.88**	**295**	Pn	**Pn**	**23 03 27.3**	**-0.3**
Y12C	**Blythe**	**3.99**	**173**	Pg	**Pg**	**23 03 42.1**	**-1.0**
	baz=353,SNR=15								
Y12C	**Blythe**	**3.99**	**173**		**Pn**	**23 03 30.5**	**+1.5**
JLU	**Jordanelle**	**4.06**	**44**		**Pn**	**23 03 30.8**	**+0.7**
BC3	**Big Chuckawall**	**4.07**	**184**	Pg	**Pg**	**23 03 45.2**	**+0.7**
	baz=3.5,SNR=12								
SPUT	**South Promonto**	**4.14**	**29**		**Pn**	**23 03 30.8**	**-0.3**
Y14A	**Wickenburg**	**4.15**	**155**		**Pn**	**23 03 31.9**	**+0.6**
CMB	**Columbia Colle**	**4.17**	**276**		**Pn**	**23 03 31.3**	**-0.2**
MWC	**Mount Wilson**	**4.22**	**215**	Pn	**Pn**	**23 03 32.6**	**+0.3**
PFO	**Pinyon Flats O**	**4.24**	**195**	Pn	**Pn**	**23 03 32.6**	**+0.1**
	0.5nm,0.3s,baz=20,slow=13,SNR=6.5								
PFO				Pg	**Pg**	**23 03 47.7**	**-0.1**
	1.5nm,0.3s,baz=20,slow=18,SNR=8.3								
PFO				Lg	Lg	23 04 40.1	
	1.2nm,0.3s,baz=310,slow=14,SNR=3.6								
XPFO	**Pion Flat**	**4.24**	**195**	Pn	**Pn**	**23 03 32.9**	**+0.4**
OSI	**Osito Audit: C**	**4.25**	**224**	Pn	**Pn**	**23 03 32.6**	**0.0**
PASC	**Pasadena Art C**	**4.32**	**216**	Pn	**Pn**	**23 03 33.3**	**-0.3**
X16A	**Lo Mia Camp, P**	**4.45**	**137**	Pn	**Pn**	**23 03 37.1**	**+1.7**
TCUT	**Toone Canyon**	**4.45**	**39**	Pn	**Pn**	**23 03 36.5**	**+1.0**
PAGB	**Antelope Grade**	**4.57**	**246**	Pn	**Pn**	**23 03 38.1**	**+1.2**
BEKR	**Beckworth**	**4.61**	**299**		**Pn**	**23 03 38.2**	**+0.5**
GLA	**Glamis**	**4.67**	**177**	Pg	**Pg**	**23 03 58.3**	**+2.3**
	baz=357								
GLA	**Glamis**	**4.67**	**177**	Pn	**Pn**	**23 03 39.2**	**+0.9**
AFDM	**Forest Hills D**	**4.75**	**287**	Pn	**Pn**	**23 03 39.5**	**0.0**
HWUT	**Hardware Ranch**	**4.76**	**34**		**Pn**	**23 03 39.1**	**-0.5**
PMPB	**Monarch Peak**	**4.78**	**253**	Pn	**Pn**	**23 03 41.6**	**+1.7**
PMPB				Pg	**Pg**	**23 03 57.1**	**-1.1**
113A	**Mohawk Valley,**	**5.07**	**167**	Pn	**Pn**	**23 03 44.6**	**+0.8**
113A					**Pg**	**23 04 00.8**	**-2.8**
W18A	**Petrified Fore**	**5.07**	**119**	Pg	**Pg**	**23 04 01.3**	**-2.4**
	baz=302,SNR=15								
W18A	**Petrified Fore**	**5.07**	**119**	Pn	**Pn**	**23 03 45.0**	**+1.1**
SAO	**San Andreas Ge**	**5.13**	**261**	Pn	**Pn**	**23 03 44.4**	**-0.2**
RDMU	**Red Mountain**	**5.17**	**55**	Pn	**Pn**	**23 03 45.5**	**+0.1**
BAR	**Barrett**	**5.19**	**195**	Pn	**Pn**	**23 03 45.9**	**+0.5**
X18A	**Snowflake**	**5.26**	**126**	Pn	**Pn**	**23 03 47.8**	**+1.1**
MVCO	**Mesa Verde**	**5.30**	**94**	Pg	**Pg**	**23 04 05.7**	**-2.5**
	baz=276,SNR=38								
MVCO	**Mesa Verde**	**5.30**	**94**	Pn	**Pn**	**23 03 47.3**	**+0.1**
ORV	**Oroville**	**5.31**	**292**	Pn	**Pn**	**23 03 48.2**	**+1.0**
WVOR	**Wild Horse Val**	**5.42**	**331**	Pn	**Pn**	**23 03 49.5**	**+0.8**
MOD	**Modoc Plateau**	**5.77**	**318**	Pn	**Pn**	**23 03 53.8**	**+0.2**
O20A	**White River Ci**	**5.89**	**64**	Pn	**Pn**	**23 03 55.4**	**+0.2**
214A	**Organ Pipe Nat**	**6.06**	**161**	Pn	**Pn**	**23 03 58.9**	**+1.4**
TUC	**Tucson**	**6.47**	**145**	Pn	**Pn**	**23 04 04.0**	**+0.9**
REDW	**Red Top Meadow**	**6.51**	**29**	Pn	**Pn**	**23 04 03.5**	**-0.2**
SMCO	**Snowmass**	**6.56**	**75**	Pn	**Pn**	**23 04 04.3**	**-0.4**
S22A	**4UR Ranch, Cre**	**6.58**	**87**	Pn	**Pn**	**23 04 04.6**	**-0.2**
TPAW	**Teton Pass**	**6.58**	**28**	Pn	**Pn**	**23 04 04.8**	**0.0**
BW06	**Boulder Array**	**6.60**	**38**	Pn	**Pn**	**23 04 06.4**	**+1.4**
PD31	**Pinedale Array**	**6.60**	**38**	Pn	**Pn**	**23 04 05.5**	**+0.5**
PDAR	**Pinedale Array**	**6.60**	**38**	Pn	**Pn**	**23 04 07.0**	**+2.0**
	0.2nm,0.3s,baz=208,slow=11,SNR=9.8								
PDAR				Lg	Lg	23 05 55.6	
	0.5nm,0.3s,baz=236,slow=48,SNR=2.5								
SNOW	**Snow King Moun**	**6.63**	**29**	Pn	**Pn**	**23 04 04.9**	**-0.6**
FXWY	**Fox Creek**	**6.68**	**27**	Pn	**Pn**	**23 04 07.0**	**+0.8**
MOOW	**Moose Ponds**	**6.88**	**28**	Pn	**Pn**	**23 04 09.7**	**+0.9**
FLWY	**Flagg Ranch**	**7.18**	**26**	Pn	**Pn**	**23 04 14.3**	**+1.3**
RWWY	**Rawlins**	**7.28**	**55**	Pn	**Pn**	**23 04 15.5**	**+1.2**
BMO	**Blue Mountains**	**7.31**	**348**	Pn	**Pn**	**23 04 15.0**	**+0.3**
YPP	**Pitchstone Pla**	**7.31**	**25**	Pn	**Pn**	**23 04 14.8**	**0.0**
KHMM	**Horse Mountain**	**7.38**	**298**	Pn	**Pn**	**23 04 12.4**	**-3.2**
PLID	**Pearl Lake**	**7.39**	**355**	Pn	**Pn**	**23 04 15.6**	**-0.2**
ANMO	**Albuquerque**	**7.53**	**109**	Pn	**Pn**	**23 04 17.9**	**+0.2**
	0.0nm,0.3s,baz=284,slow=8.3,SNR=1.2								
ANMO				Pg	**Pb**	**23 04 40.3**	**+2.2**
	0.2nm,0.3s,baz=299,slow=20,SNR=4.0								
ANMO				Lg	Lg	23 06 21.0	
	0.5nm,0.3s,baz=189,slow=15,SNR=4.3								
LKWY	**Lake**	**7.71**	**26**	Pn	**Pn**	**23 04 19.6**	**-0.7**
YHL	**Hebgen Lake**	**7.72**	**21**	Pn	**Pn**	**23 04 20.9**	**+0.5**
ISCO	**Idaho Springs**	**7.72**	**71**	Pn	**Pn**	**23 04 20.2**	**-0.2**
HUMO	**Hull Mountain**	**7.73**	**312**	Pn	**Pn**	**23 04 21.5**	**+1.2**
TXAR	**Lajitas Array**	**12.70**	**128**	Lg	Lg	23 09 05.5	
	0.0nm,0.3s,baz=316,slow=32,SNR=3.6								
YKA	**Yellowknife Ar**	**24.80**	**1**	P	**P**	**23 07 49.6**	**-0.3**
	0.6nm,0.8s,baz=181,slow=9.3,SNR=8.5								
ILAR	**Eielson Array**	**32.92**	**335**	P	**P**	**23 09 01.2**	**-1.0**
	0.4nm,0.9s,baz=129,slow=7.2,SNR=2.2								
JTS	**Las Juntas de**	**38.49**	**127**	LR	LR	23 29 31.0	
	comp=Z,28nm,20.2s,baz=100,slow=42								

*ISCJB **21** 23:07:18.5±1.0, 18°.01N±0°.05×72°.56W±0°.03, h15km±9km, Error ellipse: s-maj=8.8km s-min=4.7km az=18.0*
*NEIC **21** 23:07:20.2±1.1, 18°.11N±0°.04×72°.57W±0°.06, h10km±2km, ML3.8/17*
*OSPL **21** 23:07:22.1±2.2, 18°.11N×72°.51W, h7km±9km, MD3.9, ML3.3*

ISC 21 23:07:20.6±1.0, **18°09N**±0°.06×**72°48W**±0°.04, **h15**km±7km, **n39**,σ1§**27**/44, **1C-1D, Haiti region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAKH	**Jacmel**	**0.15**	**346**	*i* P		**Pg**	**23 07 24.7**	**+0.2**
JAKH				*e*S		**Sg**	**23 07 27.3**	**+0.2**
JAKH				IAML			23 07 28.1	
JAKH	**Jacmel**	**0.15**	**346**			**Pg**	**23 07 24.2**	**-0.3**
NQWLB	**Fermate**	**0.43**	**21**			**Pg**	**23 07 28.2**	**-1.1**
LGNH	**Logne**	**0.43**	**344**	i/*i* P		**Pg**	**23 07 28.5**	**-0.9**
LGNH				*e*S		**Sg**	**23 07 35.1**	**-0.2**
LGNH				IAML			23 07 35.5	
LGNH	**Logne**	**0.43**	**344**			**Pg**	**23 07 28.5**	**-0.9**
LGNH				IAML			23 07 41.2	
	comp=N,7μm,0.7s							
LOPE2	**Hotel El Peder**	**0.70**	**95**	*i* P		**Pg**	**23 07 32.7**	**-1.6**
LOPE2				*e*S		**Sg**	**23 07 42.2**	**-1.3**
	comp=Z,2μm,0.5s							
SJM1	**San Juan de la**	**1.39**	**59**	*i* P		**Pn**	**23 07 45.0**	**-0.5**
SDDR	**Presa de Saban**	**1.44**	**52**	i/P		**Pn**	**23 07 45.5**	**-0.8**
SDDR				*e*S		**Sn**	**23 08 05.4**	**+0.5**
SDDR				IAML			23 08 18.1	
	comp=Z,272nm,0.6s							
SDDR	**Presa de Saban**	**1.44**	**52**			**Pn**	**23 07 45.4**	**-0.8**
BANI	**BANI**	**2.04**	**81**			**Pn**	**23 07 55.9**	**+1.3**
SC01	**Santiago de Io**	**2.13**	**51**	*i* P		**Pn**	**23 07 57.4**	**+1.7**
SC01				IAML			23 08 32.8	
	comp=Z,253nm,0.5s							
SC01	**Santiago de Io**	**2.13**	**51**			**Pn**	**23 07 57.3**	**+1.7**
SC01				IAML			23 08 38.6	
	comp=N,551nm,0.7s							
SC01				IAML			23 08 41.9	
	comp=E,494nm,1.0s							
BON1	**Bonao**	**2.15**	**66**	*i* P		**Pn**	**23 07 57.2**	**+1.2**
SDD	**Santo Domingo**	**2.47**	**81**	*i* P		**Pn**	**23 08 02.9**	**+2.5**
SDD				*e*S		**Sn**	**23 08 29.5**	**-0.7**
SDD	**Santo Domingo**	**2.47**	**81**			**Pn**	**23 08 02.8**	**+2.5**
SDD				IAML			23 08 40.6	
	comp=N,646nm,0.9s							
DR12	**Loma Pena Alta**	**3.02**	**76**			**Pn**	**23 08 09.8**	**+1.8**
GTBY	**Guantanamo Bay**	**3.09**	**307**	*i* P		**Pn**	**23 08 08.7**	**-0.1**
GTBY				*e*S		**Sn**	**23 08 44.3**	**-1.3**
GTBY				IAML			23 09 04.4	
	comp=Z,69nm,0.8s							
GTBY	**Guantanamo Bay**	**3.09**	**307**	Pn		**Pn**	**23 08 08.2**	**-0.7**
GTBY				IAML			23 08 53.3	
	comp=Z,208nm,0.6s							
PCDR	**Punta Cana, DR**	**3.92**	**83**	Pn		**Pn**	**23 08 21.0**	**+0.7**
MPR	**Mayaguez**	**5.08**	**88**	Pn		**Pn**	**23 08 37.2**	**+1.0**
CRPR	**Cabo Rojo, PR**	**5.11**	**90**			**Pn**	**23 08 37.9**	**+1.3**
CRPR				IAML			23 10 45.3	
	comp=N,71nm,2.9s							
CRPR				IAML			23 11 48.9	
	comp=E,62nm,2.4s							
MLPR	**Magueyes Islan**	**5.17**	**90**	Pn		**Pn**	**23 08 38.7**	**+1.1**
MLPR				IAML			23 10 36.0	
	comp=N,64nm,2.9s							
MLPR				IAML			23 10 38.5	
	comp=E,53nm,2.8s							
AOPR	**Arecibo Observ**	**5.45**	**86**	Pn		**Pn**	**23 08 43.3**	**+2.0**
OBIP	**Obispado Ponce**	**5.59**	**90**			**Pn**	**23 08 44.0**	**+0.8**
ICMP	**Isla Caja de M**	**5.67**	**91**	Pn		**Pn**	**23 08 45.9**	**+1.6**
SJG	**San Juan**	**6.02**	**89**	Pn		**Pn**	**23 08 47.2**	**-1.9**
GCPR	**Guaynabo City**	**6.08**	**87**	Pn		**Pn**	**23 08 51.3**	**+1.2**
PDPR	**Patillas Dam,**	**6.14**	**90**	Pn		**Pn**	**23 08 52.5**	**+1.6**
CBYP	**Canovanas**	**6.30**	**87**	Pn		Sn	23 08 50.3	-2.8
HUMP	**Col San Antoni**	**6.30**	**89**	Pn		**Pn**	**23 08 54.0**	**+0.9**
MTP	**Monte Pirata**	**6.59**	**89**	Pn		**Pn**	**23 08 58.8**	**+1.8**
CBCY	**The Bluff, Cay**	**7.08**	**285**	Pn		**Pn**	**23 09 02.8**	**-0.9**
STVI	**Saint Thomas**	**7.16**	**87**	Pn		**Pn**	**23 09 06.3**	**+1.5**
FSCY	**Frank Sound, G**	**8.34**	**280**	Pn		**Pn**	**23 09 20.3**	**-0.7**
SABA	**Saba**	**8.81**	**92**	Pn		**Pn**	**23 09 28.5**	**+1.0**
SDV	**Santo Domingo**	**9.32**	**169**	Pn		**Pn**	**23 09 35.4**	**+0.6**
061Z	**Ochoppi**	**11.00**	**316**	Pn		**Pn**	**23 09 57.5**	**0.0**
BCIP	**Isla Barro Col**	**11.39**	**220**	Pn		**Pn**	**23 10 02.9**	**0.0**
GRGR	**Grenville**	**12.01**	**118**	Pn		**Pn**	**23 10 11.2**	**-0.2**

IDC 21 23:07:47.0±11.0, **25°.81N×146°.23E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/31, mbtmp3.4/3, Error ellipse: s-maj=413.7km s-min=33.6km az=74.0, North Pacific Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**38.16**	**316**	P		P	23 15 08.2	-0.1
	0.2nm,0.6s,baz=116,slow=10,SNR=1.7							
WRA	**Warramunga Ar**	**46.92**	**195**	P		P	23 16 19.6	0.0
	0.6nm,0.6s,baz=17,slow=8.6,SNR=8.3							
ASAR	**Alice Springs**	**50.61**	**195**	P		P	23 16 47.5	-0.3
	0.2nm,0.4s,baz=11,slow=6.2,SNR=4.6							

JMA 21 23:21:50.6±0.2, **37°.65N×144°.16E, h43km, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.23**	**288**	P		Pn	23 22 26.3	+1.3
JIKH				*e*S		Sn	23 22 52.5	+1.2
JIO	**Ouri**	**2.36**	**291**	P		Pn	23 22 28.5	+1.7
JIO				*e*S		Sn	23 22 56.3	+1.8
JKMT	**Kesennumamotoy**	**2.41**	**300**	P		Pn	23 22 28.8	+1.3
JKMT				*e*S		Sn	23 22 57.2	+1.4
OFUJ	**Ofunato**	**2.42**	**307**	P		Pn	23 22 29.0	+1.3
OFUJ				*e*S		Sn	23 22 57.0	+0.9
JMK	**Ichinoseki**	**2.65**	**300**	P		Pn	23 22 32.5	+1.7
JMK				*e*S		Sn	23 23 04.1	+2.3
JOM	**Ohasama**	**2.89**	**310**	P		Pn	23 22 35.9	+1.8
JOM				*e*S		Sn	23 23 10.0	+2.3
JFT	**Otama**	**3.04**	**269**	P		Pn	23 22 38.7	+2.5
JFT				*e*S		Sn	23 23 13.9	+2.6
JYK	**Kaneyama**	**3.25**	**294**	P		Pn	23 22 41.5	+2.5
JYK				*e*S		Sn	23 23 19.5	+3.1
JANG	**Nango**	**3.41**	**324**	P		Pn	23 22 42.8	+1.5
JANG				*e*S		Sn	23 23 20.4	-0.1
BSO1	**Boso 1**	**3.95**	**222**	P		Pn	23 22 48.4	+0.3
BSO1				*e*S		Sn	23 23 34.1	+1.2
JOT	**Ohata**	**4.44**	**328**	P		Pn	23 22 57.5	+2.2
JOT				*e*S		Sn	23 23 47.6	+1.9
JRY	**Ryogami san**	**4.52**	**250**	P		Pn	23 22 57.9	+1.3
JRY				*e*S		Sn	23 23 47.9	0.0
JOD2	**Odawara 2**	**4.73**	**241**	P		Pn	23 23 00.5	+1.1
JOD2				*e*S		Sn	23 23 51.6	-1.4
JCH	**Churui**	**5.00**	**353**	P		Pn	23 23 01.7	-1.3
JCH				*e*S		Sn	23 23 56.6	-2.8
JTKR	**Abashiri--Toko**	**6.32**	**358**	P		Pn	23 23 20.5	-0.6
JTKR				*e*S		Sn	23 24 28.9	-3.0

KRSC 21 23:39:26.9±1.1, **56°.11N×164°.56E, h54km**±19**km, ML3.7, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.98**	**276**	*e*P		Pn	23 39 44.8	+0.4
KBG	**Krutoberegovo**	**1.05**	**279**	*e*P		Pn	23 39 45.5	+0.2
KBG				*e*S		Sn	23 39 58.8	-0.1
BKI	**Bering**	**1.21**	**138**	*i* P		Pn	23 39 49.8	+2.3
BKI				*e*S		Sn	23 40 05.1	+2.3
SMKR	**Semkarok**	**1.79**	**287**	*e*P		Pn	23 39 57.1	+1.8
BDR	**Baidarnaya**	**1.92**	**285**	*e*P		Pn	23 39 59.8	+2.6
BDR				*e*S		Sn	23 40 22.7	+2.4
SRKR	**Sorokina**	**1.96**	**287**	*e*P		Pn	23 40 00.5	+2.7
ZLN	**Zelenaya**	**2.11**	**269**	*e*P		Pn	23 40 02.9	+3.1
ZLN				*e*S		Sn	23 40 28.5	+3.6
CIRR	**Tsirk**	**2.14**	**272**	*e*P		Pn	23 40 03.1	+2.9
KLY	**Klyuchi**	**2.19**	**277**	*e*P		Pn	23 40 01.9	+1.1
KLY				*e*S		Sn	23 40 26.5	-0.3
MKZ	**Mys Kozlova**	**2.25**	**227**	*e*P		Pn	23 40 03.0	+1.5
MKZ				*e*S		Sn	23 40 28.9	+0.8
BZWR	**Bezymyannyi-We**	**2.29**	**268**	*e*P		Pn	23 40 05.3	+3.0
KIRR	**Kirishev**	**2.38**	**268**	*e*P		Pn	23 40 06.5	+3.1
KIRR				*e*S		Sn	23 40 35.0	+3.6
KPT	**Kopyto**	**2.44**	**268**	*e*P		Pn	23 40 07.9	+3.6
KMNR	**Kamenistaya**	**2.46**	**263**	*e*P		Pn	23 40 08.5	+3.9
TUMD	**Tumrok D**	**2.53**	**251**	*e*P		Pn	23 40 08.6	+3.2
TUMD				*e*S		Sn	23 40 37.6	+2.5
KZV	**Kizimen**	**2.62**	**249**	*e*P		Pn	23 40 10.2	+3.4
KZV				*e*S		Sn	23 40 40.3	+2.8
KOZ	**Kozyrevsk**	**2.63**	**271**	*e*P		Pn	23 40 11.2	+4.4
TUMR	**Tumrok**	**2.63**	**253**	*e*P		Pn	23 40 11.1	+4.1
TUMR				*e*S		Sn	23 40 41.1	+3.3
SRDR	**Sredinnyy**	**2.71**	**276**	*e*P		Pn	23 40 11.8	+3.8
SRDR				*e*S		Sn	23 40 43.0	+3.4
OSSR	**Ossora**	**3.25**	**346**	*e*P		Pn	23 40 17.4	+2.2
OSSR				*e*S		Sn	23 40 53.6	+1.1
ESO	**Esso**	**3.30**	**269**	*e*P		Pn	23 40 21.0	+5.1
SPN	**Mys Shipunski**	**4.01**	**223**	*e*P		Pn	23 40 27.7	+2.0
SDLR	**Sedlovina**	**4.35**	**232**	*e*P		Pn	23 40 33.9	+3.4
KRER	**Koryakskii**	**4.39**	**233**	*e*P		Pn	23 40 34.9	+3.8
SMAR	**Somma**	**4.40**	**232**	*e*P		Pn	23 40 34.4	+3.2
AVH	**Avacha**	**4.42**	**232**	*e*P		Pn	23 40 34.9	+3.5
KOK	**Koryaka**	**4.45**	**233**	*e*P		Pn	23 40 34.9	+3.1
KRMR	**Karymshinskiy**	**4.99**	**231**	*e*S		Sn	23 41 38.7	+3.3
GRL	**Gorelyy**	**5.21**	**229**	*e*P		Pn	23 40 46.0	+3.8
MTVR	**Mutnovka**	**5.21**	**228**	*e*P		Pn	23 40 46.2	+3.9
ASAK	**Asacha**	**5.41**	**229**	*e*P		Pn	23 40 49.4	+4.5

*IDC **21** 23:49:23.9±1.1, 36°.24S×73°.45W, h0km, mb3.9/8, mb1 4.0/11, mb1mx3.8/48, mbtmp3.9/11, ML3.9/3, MS3.1/4, Ms1 3.1/4, ms1mx2.9/27, Error ellipse: s-maj=33.2km s-min=15.6km az=89.0*
*ISCJB **21** 23:49:25.3±0.6, 36°.27S±0°.03×73°.60W±0°.06, h27km, mb4.0/7, MS3.1/1, Error ellipse: s-maj=7.5km s-min=4.9km az=173.2*
*GUC **21** 23:49:26.4±0.7, 36°.29S×73°.63W, h26km±10km, ML3.7*
*NEIC **21** 23:49:27.4±1.6, 36°.24S±0°.05×73°.5W±0°.1, h26km±5km*

ISC 21 23:49:27.2±0.8, **36°.29S**±0°.05×**73°.54W**±0°.08, **h27**km, **n37**, σ1§**11**/37, **mb4.0/7, 7C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
COCH	**Cobquecura**	**0.62**	**76**	i/*i* P		**Pb**	**23 49 38.9**	**-0.6**
COCH				*i* S		**Sb**	**23 49 48.4**	**+0.5**
COCH				IAML			23 49 50.8	
	comp=N,7μm,0.3s							
CCSP	**San Pedro de C**	**0.65**	**148**	i/*i* P		**Pb**	**23 49 38.1**	**-1.9**
CCSP				*i* S		**Sb**	**23 49 48.0**	**-0.8**
CCSP				IAML			23 49 50.1	
	comp=E,9μm,0.6s							
CCHI	**Chillan**	**1.22**	**105**	i/*i* P		**Pn**	**23 49 48.1**	**-0.3**
CCHI				*i* S		**Sn**	**23 50 04.3**	**+0.3**
CCHI				IAML			23 50 15.4	
	comp=E,4μm,0.6s							
GO05	**Huala**	**1.83**	**46**	i/*i* P		**Pn**	**23 49 55.3**	**-1.6**
GO05				*i* S		**Sb**	**23 50 22.1**	**-0.3**
GO05				IAML			23 50 27.7	
	comp=N,566nm,0.2s							
GO05	**Huala**	**1.83**	**46**	Pn		**Pn**	**23 49 56.3**	**-0.6**
LMEL	**Las Melosas**	**3.66**	**49**	i/*i* P		**Pn**	**23 50 23.4**	**+1.3**
LMEL				IAML			23 51 29.0	
	comp=N,162nm,0.7s							
GO06	**Curarrehue**	**3.67**	**154**	i/*i* P		**Pn**	**23 50 23.0**	**+0.7**
GO06				IAML			23 51 26.1	
	comp=E,44nm,0.5s							
GO06	**Curarrehue**	**3.67**	**154**	Pn		**Pn**	**23 50 23.1**	**+0.7**
ROC1	**El Roble**	**3.90**	**33**	Pn		**Pn**	**23 50 24.7**	**-0.9**
PEL	**Peldehue**	**3.92**	**38**			**Pn**	**23 50 25.3**	**-0.3**
FCH	**Farellones**	**3.98**	**43**	i/*i* P		**Pn**	**23 50 26.3**	**-0.4**
PLCA	**Paso Flores**	**5.02**	**153**	Pn		**Pn**	**23 50 42.0**	**+1.3**
	comp=E,0.9nm,0.3s,baz=352,slow=12,SNR=17							
PLCA				Lg		Lg	23 52 06.1	
	comp=E,1.1nm,0.3s,baz=77,slow=20,SNR=4.9							
PLCA	**Paso Flores**	**5.02**	**153**			**Pn**	**23 50 42.5**	**+1.7**
CFA	**Coronel Fontan**	**6.42**	**45**	Pn		**Pn**	**23 50 59.7**	**-0.3**
	comp=E,7.1nm,0.3s,baz=217,slow=11,SNR=39							
CFA				Sn		**Sn**	**23 52 14.0**	**+1.7**
	comp=E,0.3nm,0.3s,baz=94,slow=23,SNR=1.1							
CFA				Lg		Lg	23 52 37.3	
	comp=E,0.8nm,0.3s,baz=131,slow=19,SNR=1.7							
CFA				LR		LR	23 53 51.3	
	comp=E,124nm,21.7s,baz=260,slow=42

JSA	**Saint Aubin**	**0.98**	**43**	Pg	**Pn**	**00 13 08.8**	**-0.4**
JSA				Sg	**Sn**	**00 13 23.0**	**-0.2**
JVM	**Valle D.L. Mar**	**0.99**	**41**	*e*P	**Pn**	**00 13 09.0**	**-0.3**
JRS	**Jersey**	**1.02**	**45**	*e*P	**Pn**	**00 13 09.4**	**-0.3**
JRS				*e*S	**Sn**	**00 13 23.7**	**-0.5**
JRS				IAML		00 13 25.6	
	comp=E,21nm,0.1s						
JRS				IAML		00 13 25.8	
	comp=N,21nm,0.2s						
JDC	**Jersey Dam (Cr**	**1.04**	**46**	*e*P	**Pn**	**00 13 09.8**	**-0.2**
JDC				*e*S	**Sn**	**00 13 24.5**	**-0.1**
JDG	**Jersey Dam (Ga**	**1.04**	**46**	*e*P	**Pn**	**00 13 10.1**	**0.0**
JDG				*e*S	**Sn**	**00 13 24.2**	**-0.5**
JLP	**Les Platons**	**1.05**	**42**	*e*P	**Pn**	**00 13 09.9**	**-0.3**
JQE	**Queens East**	**1.05**	**46**	*e*P	**Pn**	**00 13 09.9**	**-0.3**
GRR	**Gorron**	**1.55**	**92**	*e*Pg	**Pg**	**00 13 19.1**	**+0.1**
GRR				*e*Sg	**Sg**	**00 13 39.0**	**-0.1**
	comp=N,22nm,0.2s						
FLN	**La Foliniere**	**1.82**	**80**	*e*Pn	**Pn**	**00 13 20.6**	**-0.1**
	baz=256						
FLN	**La Foliniere**	**1.82**	**80**	*e*P	**Pb**	**00 13 22.8**	**+0.1**
FLN	**La Foliniere**	**1.82**	**80**	*e*Pg	**Pg**	**00 13 25.1**	**+1.0**
FLN				*e*Sg	**Sg**	**00 13 47.2**	**-0.4**
	comp=N,5.6nm,0.1s,baz=258						
LDF	**La Druitiere**	**2.04**	**85**	*e*P	**Pb**	**00 13 26.1**	**-0.4**
LDF	**La Druitiere**	**2.04**	**85**	*e*Pg	**Pg**	**00 13 28.4**	**+0.1**
LDF				*e*Sg	**Sg**	**00 13 54.4**	**-0.3**
	comp=N,22nm,0.3s						
CCA1	**Carnmenellis**	**2.17**	**323**	Pg	**Pn**	**00 13 26.0**	**+0.4**
CCA1				Sn	**Sn**	**00 13 51.0**	**-1.7**
MFF	**Saint Martin d**	**2.78**	**131**	*e*Pn	**Pn**	**00 13 33.0**	**-1.0**
MFF	**Saint Martin d**	**2.78**	**131**	*e*Pg	**Pb**	**00 13 41.0**	**+1.9**
MFF				*e*Sn	**Sn**	**00 14 05.3**	**-2.4**
	comp=N,1.3nm,0.3s						
MFF				*e*Sg	**Sg**	**00 14 16.8**	**-1.8**
MFF	**Saint Martin d**	**2.78**	**131**	Pg	**Pb**	**00 13 39.9**	**+0.7**
CHIF	**Chize**	**3.01**	**140**	Pn	**Pn**	**00 13 37.3**	**+0.2**

*IDC **22** 00:21:11.2±0.5, 52°.65N×34°.60W, h0km, mb4.1/27, mb1 4.2/31, mb1mx4.1/59, mbtmp4.1/31, ML3.7/4, MS3.9/4, Ms1 3.9/4, ms1mx3.3/42, Error ellipse: s-maj=14.8km s-min=10.1km az=6.0*

*ISCJB **22** 00:21:12.5±0.2, 52°.63N±0°.04×34°.68W±0°.04, h20km, mb4.1/27, MS3.7/3, Error ellipse: s-maj=6.3km s-min=3.1km az=176.9*

*NEIC **22** 00:21:12.7±1.4, 52°.59N±0°.09×34°.7W±0°.1, h10km±1km, mb4.5/94*

ISC 22 00:21:14.1±0.4, **52°.60N**±0°.07×**34°.68W**±0°.05, **h20**km, **n161,**
σ1§**06**/139, **mb4.4**/107, **MS3.6**/3, **6C-4D, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRS	**Narsarsuaq**	**10.39**	**330**	Pn	**Pn**	**00 23 41.4**	**-0.3**
IVI	**Ivigtut**	**11.33**	**325**	Pn	**Pn**	**00 23 54.4**	**-0.2**
BORG	**Borgarnes**	**13.98**	**24**	Pn	**Pn**	**00 24 30.1**	**-0.6**
	0.4nm,0.3s,baz=252,slow=7.5,SNR=1.9						
DRLN	**Deer Lake**	**14.76**	**266**	Pn	**Pn**	**00 24 38.9**	**-2.6**
SFJD	**Kangerlussuaq**	**16.43**	**338**	Pn	**Pn**	**00 25 03.7**	**+0.6**
	0.3nm,0.3s,baz=149,slow=9.6,SNR=4.1						
SFJD				LR	LR	00 29 55.2	
	comp=Z,803nm,19.3s,baz=112,slow=32						
DSB	**Dublin**	**17.04**	**77**	Pn	**Pn**	**00 25 10.4**	**-0.4**
DSB				IAmb	IAmb	00 25 12.6	
	comp=Z,24nm,1.0s						
ILULI	**Ilulissat**	**18.36**	**341**		**Pn**	**00 25 27.4**	**+0.3**
ILULI				IAmb	IAmb	00 25 46.0	
	comp=Z,21nm,0.9s						
ESK	**Eskdalemuir**	**18.63**	**69**	P	**Pn**	**00 25 29.9**	**-0.6**
ESK				IAmb	IAmb	00 25 44.0	
	comp=Z,22nm,1.0s						
EKA	**Eskdalemuir Ar**	**18.66**	**69**	P	**Pn**	**00 25 29.8**	**-1.0**
	baz=281,slow=9.0,SNR=15						
GBN	**Guysborough**	**18.94**	**258**	P	**P**	**00 25 33.4**	**-0.2**
GBN				IAmb	IAmb	00 25 42.4	
	comp=Z,36nm,1.2s						
SCHQ	**Schefferville**	**19.07**	**290**	P	**P**	**00 25 34.4**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=81,slow=4.6,SNR=6.8						
SCHQ	**Schefferville**	**19.07**	**290**	P	**P**	**00 25 34.4**	**-0.7**
SCHQ				IAmb	IAmb	00 25 42.3	
	comp=Z,13nm,1.0s						
SUMG	**Summit**	**20.12**	**357**	*i* P	Pn	00 25 48.3	-0.3
HAL	**Halifax**	**20.60**	**259**	P	**P**	**00 25 51.0**	**-0.7**
HAL				IAmb	IAmb	00 25 55.0	
	comp=Z,31nm,1.0s						
LMN	**Caledonia Moun**	**20.70**	**263**	P	**P**	**00 25 51.5**	**-1.3**
LMN				IAmb	IAmb	00 25 59.0	
	comp=Z,19nm,1.1s						
FRB	**Frobisher Bay**	**20.78**	**316**	P	**P**	**00 25 53.0**	**-0.5**
	comp=Z,7.7nm,0.9s,baz=105,slow=12,SNR=10						
BATG	**Bathurst New B**	**20.79**	**268**	P	**P**	**00 25 53.9**	**+0.2**
BATG				IAmb	IAmb	00 25 57.6	
	comp=Z,10nm,0.9s						
JMIC	**Jan Mayen**	**21.86**	**23**	LR	LR	00 32 06.2	
	comp=Z,227nm,19.7s,baz=102,slow=30						
MTE	**Manteigas**	**22.16**	**113**	P	**P**	**00 26 07.5**	**-1.1**
MTE				IAmb	IAmb	00 26 23.7	
	comp=Z,11nm,0.9s						
PQI	**Presque Isle**	**22.25**	**268**	P	**P**	**00 26 09.0**	**-0.4**
PQI				IAmb	IAmb	00 26 10.8	
	comp=Z,22nm,1.2s						
GGN	**Saint George**	**22.30**	**263**	P	**P**	**00 26 09.0**	**-1.0**
GGN				IAmb	IAmb	00 26 14.1	
	comp=Z,35nm,1.0s						
E63A	**Oxbow**	**22.62**	**268**	P	**P**	**00 26 14.1**	**+0.8**
E63A				IAmb	IAmb	00 26 19.2	
	comp=Z,19nm,0.8s						
F64A	**Sherman**	**22.84**	**266**	P	**P**	**00 26 16.1**	**+0.4**
F64A				IAmb	IAmb	00 26 24.8	
	comp=Z,20nm,1.1s						
EMMW	**East Machias**	**22.89**	**263**	P	**P**	**00 26 15.1**	**-1.1**
EMMW				IAmb	IAmb	00 26 30.9	
	comp=Z,27nm,0.9s						
PESTR	**Estremoz**	**23.19**	**116**	P	**P**	**00 26 18.7**	**-0.7**
PESTR				IAmb	IAmb	00 26 29.6	
	comp=Z,4.1nm,0.9s						
PMOZ	**Porto Moniz, M**	**23.45**	**141**	P	**P**	**00 26 20.5**	**-1.6**
PKME	**Peaks-Kenny Pk**	**23.72**	**266**	P	**P**	**00 26 24.5**	**0.0**
PKME				IAmb	IAmb	00 26 36.9	
	comp=Z,14nm,1.1s						
F62A	**Pittston Farm,**	**23.81**	**268**	P	**P**	**00 26 25.9**	**+0.5**
F62A				IAmb	IAmb	00 26 35.7	
	comp=Z,14nm,0.9s						
PVAQ	**Vaqueiros**	**24.18**	**118**	P	**P**	**00 26 29.6**	**+0.7**
PVAQ				IAmb	IAmb	00 26 42.4	
	comp=Z,10nm,1.1s						
G62A	**West of Eustis**	**24.50**	**267**	P	**P**	**00 26 33.1**	**+1.3**
G62A				IAmb	IAmb	00 26 42.8	
	comp=Z,11nm,1.1s						
ESBB	**Sonseca Array**	**24.68**	**109**	P	**P**	**00 26 33.8**	**+0.3**
ESBB				IAmb	IAmb	00 26 34.3	
	comp=Z,7.4nm,1.1s						
ESDC	**Sonseca Array**	**24.68**	**109**	P	**P**	**00 26 33.5**	**0.0**
	comp=Z,2.2nm,0.7s,baz=316,slow=8.9,SNR=16						
KONO	**Kongsberg**	**25.25**	**56**	P	**P**	**00 26 34.3**	**-4.1**
KONO				IAmb	IAmb	00 26 49.9	
	comp=Z,24nm,1.1s						
NC204	**NORSAR Array S**	**25.77**	**52**	P	**P**	**00 26 44.0**	**+0.8**
NBO00	**NORSAR Array S**	**25.78**	**53**	P	**P**	**00 26 42.6**	**-0.7**
NBO00				IAmb	IAmb	00 26 47.1	
	comp=Z,21nm,0.9s						
NAO01	**NORSAR Array S**	**25.84**	**53**	P	**P**	**00 26 43.1**	**-0.7**
NAO01				IAmb	IAmb	00 26 57.1	
	comp=Z,13nm,1.1s						
NB2	**NORSAR Subarra**	**25.99**	**53**	P	**P**	**00 26 44.6**	**-0.6**
	comp=Z,5.7nm,1.1s,baz=275,slow=9.3						
NOA	**NORSAR Array B**	**25.99**	**53**	P	**P**	**00 26 44.4**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=274,slow=9.8,SNR=4.1						
NB201	**NORSAR Array S**	**26.03**	**53**	P	**P**	**00 26 45.1**	**-0.4**
NB201				IAmb	IAmb	00 26 54.7	
	comp=Z,0.7nm,0.3s						
NC303	**NORSAR Array S**	**26.06**	**52**	P	**P**	**00 26 45.5**	**-0.3**
NC303				IAmb	IAmb	00 27 00.4	
	comp=Z,41nm,1.1s						
NC602	**NORSAR Array S**	**26.16**	**54**	P	**P**	**00 26 47.3**	**+0.6**
NC602				IAmb	IAmb	00 26 53.5	
	comp=Z,8.6nm,1.1s						
NC405	**NORSAR Array S**	**26.23**	**53**	P	**P**	**00 26 48.1**	**+0.8**
NC405				IAmb	IAmb	00 26 51.2	
	comp=Z,20nm,1.0s						
TRQ	**Mont Tremblant**	**26.45**	**272**	P	**P**	**00 26 47.1**	**-2.5**
HFS	**Hagfors**	**27.27**	**55**	P	**P**	**00 26 56.3**	**-0.4**
	comp=Z,3.4nm,0.8s,baz=246,slow=6.3,SNR=4.2						
NCB	**Newcomb**	**27.39**	**268**	P	**P**	**00 26 58.7**	**+0.7**
NCB				IAmb	IAmb	00 27 18.1	
	comp=Z,7.5nm,1.1s						
SENIN	**Lac Senin/Sane**	**27.66**	**86**	P	**P**	**00 27 00.5**	**0.0**
SENIN				IAmb	IAmb	00 27 12.2	
	comp=Z,3.1nm,1.1s						
L59A	**Walton**	**28.88**	**265**	P	**P**	**00 27 09.4**	**-1.9**
L59A				IAmb	IAmb	00 27 22.2	
	comp=Z,7.9nm,0.9s						
CLL	**Collm**	**29.00**	**73**	P	**P**	**00 27 13.0**	**+0.9**
CLL				IAmb	IAmb	00 27 16.0	
	comp=Z,7.3nm,0.9s						
DAVOX	**Davos/Dischmat**	**29.03**	**83**	P	**P**	**00 27 13.1**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=329,slow=18,SNR=3.7						
MDT	**Midelt**	**29.32**	**120**	P	**P**	**00 27 15.6**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=360,slow=6.7,SNR=3.7						
BRG	**Berggiesshubel**	**29.71**	**74**	*e*(P)	P	00 27 09.2	-9.2
BRG				*e*		00 27 25.2	
	comp=Z,3.2nm,0.8s						
SADO	**Sadowa**	**29.97**	**273**	P	**P**	**00 27 21.5**	**+0.6**
	comp=Z,6.6nm,1.0s,baz=86,slow=14,SNR=3.4						
SADO	**Sadowa**	**29.97**	**273**	IAmb	IAmb	00 27 38.0	
	comp=Z,12nm,1.1s						
N59A	**State Game Lan**	**30.07**	**264**	P	**P**	**00 27 22.0**	**+0.2**
N59A				IAmb	IAmb	00 27 23.1	
	comp=Z,12nm,1.1s						
KHC	**Kasperske Hory**	**30.20**	**77**	*e*P	**P**	**00 27 23.2**	**+0.3**
KHC				*ex*	x	00 27 31.0	
GEC2	**GERESS Array S**	**30.40**	**77**	P	**P**	**00 27 24.2**	**-0.5**
GEC2				IAmb	IAmb	00 27 34.8	
	comp=Z,2.7nm,0.8s						
GERES	**GERESS Array B**	**30.40**	**77**	P	**P**	**00 27 24.6**	**0.0**
	comp=Z,0.9nm,0.6s,baz=301,slow=8.7,SNR=8.5						
MEDO	**Medina**	**30.41**	**270**	P	**P**	**00 27 26.0**	**+1.3**
MEDO				IAmb	IAmb	00 27 39.0	
	comp=Z,12nm,0.8s						
TEOL	**Teolo**	**30.81**	**85**	P	**P**	**00 27 28.4**	**+0.1**
TEOL				IAmb	IAmb	00 27 39.0	
	comp=Z,7.8nm,0.9s						
KBA	**Koelnbreinsper**	**30.98**	**81**	pP	**P**	**00 27 30.2**	**+0.2**
	comp=Z,2.9nm,0.8s						
UPC	**Upice**	**31.06**	**73**	*e*P	**P**	**00 27 33.7**	**+3.3**
DPC	**Dobruska-Polom**	**31.31**	**73**	*e*P	P	00 27 37.7	+5.1
MYKA	**Terra Mystica**	**31.38**	**81**	*e*pP	**P**	**00 27 33.9**	**+0.6**
	comp=Z,4.8nm,0.7s						
SSPA	**Standing Stone**	**31.53**	**265**	P	**P**	**00 27 35.1**	**+0.5**
SSPA				IAmb	IAmb	00 27 46.0	
	comp=Z,5.6nm,0.8s						
ARCES	**ARCESS Array B**	**31.95**	**35**	P	**P**	**00 27 37.1**	**-1.0**
	comp=Z,2.8nm,0.6s,baz=258,slow=7.3,SNR=26						
ARE0	**ARCESS Array S**	**31.95**	**35**	P	**P**	**00 27 37.0**	**-1.1**
ARE0				IAmb	IAmb	00 27 38.0	
	comp=Z,0.5nm,1.1s						
OBKA	**Obir**	**31.98**	**81**	pP	**P**	**00 27 38.7**	**0.0**
	comp=Z,3.3nm,0.7s						
MORC	**Moravsky Berou**	**32.26**	**74**	⇓P	**P**	**00 27 44.6**	**+3.6**
RES	**Resolute Bay**	**32.39**	**334**	P	**P**	**00 27 42.0**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=88,slow=8.2,SNR=6.7						
RES	**Resolute Bay**	**32.39**	**334**	IAmb	IAmb	00 27 52.3	
	comp=Z,2.3nm,0.8s						
N54A	**Moraine State**	**32.61**	**267**	P	**P**	**00 27 44.6**	**+0.5**
N54A				IAmb	IAmb	00 27 55.5	
	comp=Z,7.1nm,0.8s						
FINES	**FINESS Array B**	**33.06**	**50**	P	**P**	**00 27 47.2**	**-0.5**
	comp=Z,4.1nm,0.8s,baz=255,slow=5.1,SNR=13						
VYHS	**Vyhne**	**33.60**	**75**	*e*	**P**	**00 27 55.9**	**+3.2**
LANS	**Liptovska Anna**	**33.67**	**74**	*e*	**P**	**00 27 55.2**	**+1.9**
PSZ	**Piszkesteto**	**34.49**	**75**	⇑P	**P**	**00 27 59.3**	**-1.2**
KEST	**Kesra**	**35.16**	**101**	P	**P**	**00 28 06.4**	**+0.1**
	comp=Z,5.1nm,0.7s,baz=49,slow=3.0,SNR=5.5						
R53A	**Hurricane**	**35.42**	**265**	P	**P**	**00 28 08.3**	**-0.2**
R53A				IAmb	IAmb	00 28 19.2	
	comp=Z,3.0nm,0.7s						
O49A	**Covington**	**35.73**	**270**	P	**P**	**00 28 11.6**	**+0.5**
O49A				IAmb	IAmb	00 28 12.6	
	comp=Z,6.9nm,0.7s						
TRPA	**Tarpa**	**35.94**	**74**	⇓P	**P**	**00 28 13.3**	**+0.5**
BZS	**Buzias**	**36.67**	**78**	⇑P	P	00 28 28.3	+9.2
DRGR		**36.71**	**75**	⇑P	**P**	**00 28 20.7**	**+1.1**
ULM	**Lac du Bonnet**	**37.23**	**292**	P	**P**	**00 28 24.2**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=61,slow=15,SNR=3.2						
ULM	**Lac du Bonnet**	**37.23**	**292**	IAmb	IAmb	00 28 26.4	
	comp=Z,1.7nm,0.8s						
GZR	**Gura Zlata**	**37.48**	**77**	⇓P	P	00 28 32.2	+6.1
ARCR	**ARCALIA**	**37.53**	**74**	⇑P	**P**	**00 28 30.0**	**+3.6**
BUR08	**Bucovina Ar. S**	**37.74**	**73**	P	**P**	**00 28 29.9**	**+1.6**
BUR08				IAmb	IAmb	00 28 39.9	
	comp=Z,4.6nm,0.9s						
BURAR	**Bucovina Array**	**37.77**	**73**	⇑P	**P**	**00 28 29.5**	**+1.0**
WCI	**Wyandotte Cave**	**38.13**	**269**	P	**P**	**00 28 32.2**	**+0.6**
WCI				IAmb	IAmb	00 28 33.5	
	comp=Z,7.7nm,0.8s						
AKASG	**Malin Array Be**	**38.54**	**66**	P	**P**	**00 28 33.9**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=294,slow=8.5,SNR=3.0						
SACV	**Santiago Islan**	**38.56**	**163**	P	**P**	**00 28 34.8**	**-0.5**
SACV				IAmb	IAmb	00 28 51.3	
	comp=Z,31nm,0.9s						
BIZ	**Bicaz**	**38.63**	**73**	⇓P	**P**	**00 28 36.4**	**+0.7**
VOIR		**38.81**	**76**	⇑P	P	00 28 44.2	+6.9
SIUC	**Southern Illin**	**40.24**	**271**	P	**P**	**00 28 50.0**	**+0.8**
SIUC				IAmb	IAmb	00 28 51.1	
	comp=Z,11nm,0.8s						
S44A	**Carbondale**	**40.28**	**271**	P	**P**	**00 28 49.8**	**+0.3**
S44A				IAmb	IAmb	00 28 51.3	
	comp=Z,14nm,0.8s						
LIT	**Litokhoron**	**40.35**	**85**	P	**P**	**00 28 50.5**	**+0.4**
LIT				IAmb	IAmb	00 28 59.5	
	comp=Z,7.6nm,0.9s						
OBN	**Obninsk**	**40.42**	**57**	P	**P**	**00 28 50.0**	**-0.4**
OBN				IAmb	IAmb	00 28 50.8	
	comp=Z,8.6nm,0.6s						
AGG	**Agios Georgios**	**40.92**	**86**	P	**P**	**00 28 55.8**	**+1.0**
AGG				IAmb	IAmb	00 29 05.4	
	comp=Z,7.3nm,0.7s						
ECSD	**EROS Data Cent**	**41.07**	**283**	P	**P**	**00 28 57.2**	**+1.2**
ECSD				IAmb	IAmb	00 29 06.4	
	comp=Z,3.5nm,0.8s						
CCM	**Cathedral Cave**	**41.26**	**273**	P	**P**	**00 28 58.2**	**+0.6**
CCM				IAmb	IAmb	00 29 08.9	
	comp=Z,5.2nm,0.7s						
YKA	**Yellowknife Ar**	**41.29**	**316**	P	**P**	**00 28 56.8**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=62,slow=8.9,SNR=11						
H05N1	**Guadeloupe/Mar**	**41.76**	**220**	T	T	01 13 53.1	
	SNR=13						
ALN	**Alexandroupoli**	**42.02**	**81**	P	**P**	**00 29 04.0**	**+0.3**
ALN				IAmb	IAmb	00 29 19.9	
	comp=Z,4.5nm,1.1s						
MGMO	**Mountain Grove**	**42.46**	**272**	P	**P**	**00 29 07.9**	**+0.4**
MGMO				IAmb	IAmb	00 29 18.7	
	comp=Z,6.0nm,0.8s						
LCAR	**Lake Charles**	**42.49**	**270**	P	**P**	**00 29 07.7**	**0.0**
LCAR				IAmb	IAmb	00 29 08.8	
	comp=Z,6.8nm,0.9s						
U40A	**Yellville**	**43.34**	**272**	P	**P**	**00 29 14.7**	**+0.1**
U40A				IAmb	IAmb	00 29 16.2	
	comp=Z,10nm,1.1s						
W41B	**Gary Mavity, V**	**43.75**	**270**	IAmb	IAmb	00 29 18.8	
	comp=Z,6.2nm,0.8s						
HHAR	**Hobbs**	**44.05**	**273**	P	**P**	**00 29 20.1**	**-0.2**
HHAR				IAmb	IAmb	00 29 21.1	
	comp=Z,9.5nm,1.2s						
X40A	**Basin Creek Fa**	**44.56**	**270**	IAmb	IAmb	00 29 25.6	
	comp=Z,8.9nm,0.8s						
KIRV	**Kirov**	**44.94**	**48**	P	**P**	**00 29 25.9**	**-1.1**
	comp=Z,4.8nm,0.7s,baz=23,slow=2.4,SNR=4.5						
MIAR	**Mount Ida**	**44.98**	**271**	P	**P**	**00 29 28.1**	**+0.4**
MIAR				IAmb	IAmb	00 29 29.4	
	comp=Z,11nm,1.1s						
TUL1	**Leonard**	**45.42**	**274**	P	**P**	**00 29 30.8**	**-0.4**
TUL1				IAmb	IAmb	00 29 32.1	
	comp=Z,11nm,1.1s						
INK	**Inuvik**	**45.52**	**329**	P	**P**	**00 29 32.8**	**+1.2**
INK				IAmb	IAmb	00 29 40.9	
	comp=Z,5.2nm,0.8s						
W35A	**Tecumseh**	**46.58**	**274**	P	**P**	**00 29 40.0**	**-0.4**
BR131	**Keskin Array S**	**47.29**	**77**	P	**P**	**00 29 47.1**	**+1.0**
BR131				IAmb	IAmb	00 29 58.0	
	comp=Z,3.1nm,0.8s						
BRTR	**Keskin Array B**	**47.29**	**77**	P	**P**	**00 29 46.6**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=303,slow=7.2,SNR=6.6						
WALA	**Waterton Lakes**	**47.80**	**299**	IAmb	IAmb	00 29 53.7	
	comp=Z,3.7nm,0.9s						
WMOK	**Wichita Mounta**	**48.02**	**275**	P	**P**	**00 29 52.3**	**+0.6**
WMOK				IAmb	IAmb	00 30 01.5	
	comp=Z,3.5nm,1.1s						
YNE	**Yellowstone No**	**48.08**	**293**	IAmb	IAmb	00 30 02.2	
	comp=Z,6.3nm,0.9s						
N23A	**Red Feather La**	**48.30**	**286**	P	**P**	**00 29 55.1**	**+1.1**
N23A				IAmb	IAmb	00 29 56.4	
	comp=Z,7.9nm,0.9s						
YMP	**Mirror Lake Pl**	**48.33**	**293**	P	**P**	**00 29 55.4**	**+1.1**
YMP				IAmb	IAmb	00 30 04.0	
	comp=Z,7.5nm,1.2s						
ISCO	**Idaho Springs**	**48.80**	**285**	P	**P**	**00 29 58.6**	**+0.7**
ISCO				IAmb	IAmb	00 30 00.1	
	comp=Z,1.9nm,0.8s						
TOA0	**Torodi Ar. Sit**	**48.89**	**130**	P	**P**	**00 29 58.9**	**+0.5**
TOA0				IAmb	IAmb	00 29 60.0	
	comp=Z,4.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**48.89**	**130**	P	**P**	**00 29 57.0**	**-1.4**
	comp=Z,4.0nm,0.9s,baz=331,slow=7.8,SNR=16						
BW06	**Boulder Array**	**49.21**	**290**	IAmb	IAmb	00 30 10.7	
	comp=Z,2.0nm,0.7s						
PD31	**Pinedale Array**	**49.21**	**290**	IAmb	IAmb	00 30 10.8	
	comp=Z,1.7nm,0.7s						
PDAR	**Pinedale Array**	**49.21**	**290**	P	**P**	**00 30 01.0**	**0.0**
	comp=Z,0.7nm,0.6s,baz=60,slow=6.8,SNR=7.9						
AMTX	**Amarillo**	**49.68**	**277**	P	**P**	**00 30 05.4**	**+1.0**
AMTX				IAmb	IAmb	00 30 06.6	
	comp=Z,12nm,0.9s						
RDMU	**Red Mountain**	**50.62**	**288**	P	**P**	**00 30 12.3**	**+0.6**
RDMU				IAmb	IAmb	00 30 22.2	
	comp=Z,6.0nm,1.1s						
MSTX	**Muleshoe**	**50.96**	**277**	IAmb	IAmb	00 30 24.4	
	comp=Z,12nm,1.1s						
GAZ	**Gaziantep**	**51.08**	**77**	P	**P**	**00 30 15.7**	**+0.7**
GAZ				IAmb	IAmb	00 30 28.6	
	comp=Z,4.8nm,0.6s						
HWUT	**Hardware Ranch**	**51.10**	**290**	IAmb	IAmb	00 30 26.5	
	comp=Z,5.7nm,0.7s						
NRIK	**Noril'sk**	**51.29**	**23**	P	**P**	**00 30 16.4**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=349,slow=3.2,SNR=3.5						
SCRK	**Sand Creek**	**51.53**	**328**	P	**P**	**00 30 19.4**	**+1.4**
SCRK				IAmb	IAmb	00 30 30.0	
	comp=Z,4.7nm,0.7s						
DBIC	**Dimbokro**	**51.89**	**141**	P	**P**	**00 30 21.4**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=333,slow=6.8,SNR=5.8						
DBIC	**Dimbokro**	**51.89**	**141**	P	**P**	**00 30 21.6**	**+0.4**
DBIC				IAmb	IAmb	00 30 35.7	
	comp=Z,5.3nm,1.1s						
ILAR	**Eielson Array**	**51.89**	**330**	P	**P**	**00 30 21.1**	**+0.5**
	comp=Z,1.6nm,0.9s,baz=41,slow=6.1,SNR=11						
SRU	**San Rafael Swe**	**52.13**	**287**	P	**P**	**00 30 22.9**	**-0.1**
SRU				IAmb	IAmb	00 30 33.6	
	comp=Z,4.2nm,0.8s						
HDA	**Harding Lake**	**52.17**	**329**	IAmb	IAmb	00 30 26.7	
	comp=Z,6.0nm,0.9s						
NLU	**North Lily Min**	**52.47**	**289**	P	**P**	**00 30 26.4**	**+0.9**
NLU				IAmb	IAmb	00 30 27.4	
	comp=Z,3.8nm,1.0s						
ANMO	**Albuquerque**	**52.52**	**280**	P	**P**	**00 30 27.1**	**+1.2**
ANMO				IAmb	IAmb	00 30 28.0	
	comp=Z,2.0nm,0.9s						
DUG	**Dugway, Tooele**	**52.74**	**290**	P	**P**	**00 30 28.5**	**+1.1**
MCK	**McKinley**	**53.26**	**330**	P	**P**	**00 30 31.7**	**+0.9**
MCK				IAmb	IAmb	00 30 47.2	
	comp=Z,10nm,1.0s						
MSU	**Marysvale**	**53.49**	**288**	P	**P**	**00 30 33.5**	**+0.4**
TXAR	**Lajitas Array**	**54.75**	**273**	P	**P**	**00 30 42.3**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=55,slow=8.1,SNR=10						
U15A	**North Rim**	**54.97**	**286**	P	**P**	**00 30 43.7**	**-0.2**
U15A				IAmb	IAmb	00 30 54.1	
	comp=Z,2.7nm,0.8s						
121A	**Cookes Peak, D**	**54.98**	**279**	P	**P**	**00 30 44.2**	**+0.3**
121A				IAmb	IAmb	00 30 45.7	
	comp=Z,3.7nm,0.7s						
X16A	**Lo Mia Camp, P**	**55.85**	**284**	P	**P**	**00 30 50.8**	**+0.6**
X16A				IAmb	IAmb	00 30 53.2	
	comp=Z,5.4nm,0.8s						
TPNV	**Topopah Spring**	**56.91**	**289**	P	**P**	**00 30 58.4**	**+0.7**
TPNV				IAmb	IAmb	00 31 07.7	
	comp=Z,5.9nm,1.1s						
TUC	**Tucson**	**56.94**	**281**	P	**P**	**00 30 58.2**	**+0.4**
TUC				IAmb	IAmb	00 30 59.7	
	comp=Z,3.5nm,1.0s						
NV11	**Mina Array Sit**	**56.98**	**291**	P	**P**	**

comp=Z,13nm,1.1s
WRAB Tennant Creek 22.14 166 P **P** **00 27 25.6 +1.4**
WRAB IAmb IAmb 00 27 30.8
comp=Z,16nm,0.7s
WRA Warramunga Arr 22.15 166 P **P** **00 27 25.2 +0.9**
comp=Z,9.9nm,0.6s,baz=346,slow=12,SNR=54
WR0 Warramunga Arr 22.21 165 P **P** **00 27 25.7 +0.6**
WR0 IAmb IAmb 00 27 28.2
comp=Z,5.7nm,0.6s
TPUB Ta-pu 22.91 341 P **P** **00 27 30.5 -1.8**
TPUB IAmb IAmb 00 27 48.8
comp=Z,23nm,1.1s
KRVT Keravat (AS076 24.12 104 LR LR 00 35 16.8
comp=Z,166nm,19.1s,baz=258,slow=32
AS31 Alice Springs 25.65 169 P **P** **00 27 58.9 +1.2**
ASAR Alice Springs 25.65 169 P **P** **00 27 58.9 +1.2**
comp=Z,1.7nm,0.5s,baz=346,slow=11,SNR=31
ASAR LR LR 00 39 04.1
comp=Z,98nm,20.3s,baz=10,0,slow=39
FORT Forrest 32.22 181 P **P** **00 28 55.3 -0.6**
CMAR Chiang Mai Arr 33.57 302 LR LR 00 43 46.0
comp=Z,58nm,19.0s,baz=1.5,slow=38
ENH Enshi 33.79 329 P **P** **00 29 08.2 -1.5**
EIDS Eidsvold 34.54 142 P **P** **00 29 17.4 +1.1**
EIDS IAmb IAmb 00 29 22.6
comp=Z,4.4nm,0.9s
BBOO Buckleboo 34.96 169 P **P** **00 29 20.9 +1.2**
BBOO IAmb IAmb 00 29 38.6
comp=Z,9.0nm,1.1s
STKA Stephens Creek 35.51 161 P **P** **00 29 26.1 +1.6**
comp=Z,5.3nm,0.7s,baz=336,slow=9.0,SNR=11
STKA LR LR 00 45 21.2
comp=Z,48nm,18.8s,baz=19,slow=38
STKA Stephens Creek 35.51 161 IAmb IAmb 00 29 27.5
comp=Z,1.1nm,0.6s
KSRS Korea Array 35.67 359 P **P** **00 29 26.6 +0.8**
comp=Z,1.0nm,0.4s,baz=178,slow=9.9,SNR=2.3
KSRS LR LR 00 45 23.0
comp=Z,53nm,18.4s,baz=320,slow=38
MJAR Matsushiro Arr 35.87 13 P **P** **00 29 28.4 +0.9**
comp=Z,2.1nm,0.6s,baz=187,slow=9.6,SNR=5.9
MJAR LR LR 00 42 09.9
comp=Z,48nm,21.0s,baz=255,slow=33
H11N1 WAKE ISLAND Hy 41.52 62 T T 01 14 35.7
baz=248,slow=75,SNR=19
H11N2 WAKE ISLAND Hy 41.54 62 T T 01 14 37.5
baz=248,slow=75,SNR=20
H11N3 WAKE ISLAND Hy 41.54 62 T T 01 14 46.5
baz=248,slow=75,SNR=29
USA0B Ussuriysk Arra 42.51 4 P **P** **00 30 21.3 -1.4**
USA0B IAmb IAmb 00 30 22.6
comp=Z,6.4nm,0.8s
SHL Shillong 42.64 307 P **P** **00 30 25.1 +0.6**
DZM Mont Dzumac 43.79 125 LR LR 00 50 35.0
comp=Z,113nm,18.1s,baz=150,slow=38
TAPN Taplejung 46.78 307 *eP* **P** **00 30 58.8 +1.3**
comp=Z,7.4nm,0.5s
ODAN Odare 46.82 306 *eP* **P** **00 30 59.2 +1.4**
comp=Z,18nm,0.7s
RAMN Ramite 47.50 306 *eP* **P** **00 31 04.7 +1.6**
comp=Z,22nm,0.5s
PALK Pallekele 48.07 278 LR LR 00 52 40.4
comp=Z,51nm,19.1s,baz=24,slow=38
JIRN Jiri 48.13 307 *eP* **P** **00 31 09.5 +1.4**
comp=Z,16nm,0.4s
GUN Gumba 48.49 307 *eP* **P** **00 31 12.0 +1.2**
comp=Z,17nm,0.6s
PKI Pulchoki 48.72 306 *eP* **P** **00 31 13.3 +0.7**
comp=Z,0.5nm,0.3s
PKIN Phulchoki 48.73 306 *eP* **P** **00 31 13.3 +0.7**
comp=Z,4.1nm,0.5s
KKN Kakani 48.92 306 *eP* **P** **00 31 14.9 +1.0**
DMN Daman 48.98 306 *eP* **P** **00 31 15.9 +1.4**
comp=Z,6.2nm,0.5s
GKN Gorkha 49.52 306 *eP* **P** **00 31 19.4 +0.9**
SONM Songino Array 49.90 341 P **P** **00 31 22.2 +1.2**
comp=Z,0.6nm,0.6s,baz=149,slow=8.3,SNR=5.7
KOLN Koldanda 50.27 305 *eP* **P** **00 31 25.7 +1.5**
comp=Z,21nm,0.7s
DANN Dangsing 50.37 306 *eP* **P** **00 31 26.1 +1.0**
comp=Z,28nm,0.6s
PETK Petropavlovsk- 56.70 21 P **P** **00 32 10.7 0.0**
comp=Z,4.5nm,1.0s,baz=194,slow=11,SNR=1.5
MK31 Makanchi Array 60.35 325 P **P** **00 32 36.8 +0.6**
MK31 IAmb IAmb 00 32 37.5
comp=Z,2.2nm,0.8s
MKAR Makanchi Array 60.35 325 P **P** **00 32 36.7 +0.5**
comp=Z,2.2nm,0.4s,baz=113,slow=7.7,SNR=29
MAKZ Makanchi 60.54 325 P **P** **00 32 37.8 +0.3**
MAKZ IAmb IAmb 00 32 38.7
comp=Z,2.3nm,0.6s
ZALV Zalesovo Beam 63.31 333 P **P** **00 32 55.3 -0.6**
comp=Z,1.0nm,0.8s,baz=129,slow=7.1,SNR=2.2
KBL Kabul 64.30 308 P **P** **00 33 02.2 -0.8**
KBL IAmb IAmb 00 33 08.0
comp=Z,2.0nm,0.9s
KURK Kurchatov 64.52 327 P **P** **00 33 03.5 -0.4**
HRA Herat 69.69 306 P **P** **00 33 36.7 -0.7**
HRA IAmb IAmb 00 33 37.6
comp=Z,2.1nm,1.0s
ABKAR Akbulak array 74.97 321 P **P** **00 34 08.1 -0.1**
RDOG Red Dog Mine 80.57 21 P **P** **00 34 37.8 -1.2**
RAYN Ar Rayn 83.04 293 P **P** **00 34 51.8 -1.2**
RAYN IAmb IAmb 00 34 53.2
comp=Z,1.6nm,0.9s
SKT Skwentna 83.81 28 P **P** **00 34 56.3 +0.2**
SKT IAmb IAmb 00 35 12.4
comp=Z,5.5nm,1.1s
RC01 Rabbit Creek A 84.55 29 P **P** **00 34 59.1 -0.7**
RND Reindeer 85.21 27 P **P** **00 35 03.1 -0.1**
IL31 86.20 25 P **P** **00 35 07.8 -0.1**
ILAR Eielson Array 86.20 25 P **P** **00 35 08.0 0.0**
comp=Z,0.2nm,0.4s,baz=244,slow=5.1,SNR=6.0
GAZ Gaziantep 90.15 307 P **P** **00 35 24.5 -3.0**
HYT Haines Junctio 90.50 29 P **P** **00 35 24.4 -4.2**
HYT IAmb IAmb 00 35 39.1
comp=Z,1.9nm,0.8s

*IDC **22** 00:22:36.7±1.6,35°.66N×141°.25E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.6/63, mbtmp3.8/8, ML3.2/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/39, Error ellipse: s-maj=47.5km s-min=21.8km az=70.0*
*ISCJB **22** 00:22:43.4±0.7,35°.67N±0°.06×140°.9E±0°.1, h55km±4km, mb3.7/6, Error ellipse: s-maj=15.6km s-min=8.1km az=152.8*
*JMA **22** 00:22:44.9±0.1,35°.65N×140°.69E, h46km±1km, M3.4 Broadband fault plane solution: P waves. NP1: ϕs=26.00000°, δ82.00000°, λ90.00000°. NP2:ϕs=206.00000°, δ8.00000°, λ90.00000°. Principal axes: T Plg53.0000°, Azm296.0000°; N Plg0.0000°, Azm26.0000°; P Plg37.0000°, Azm116.0000°;*
JMA Felt I J1.

ISC 22 00:22:44.6±0.9,35°.66N±0°.05×140°.79E±0°.08, h46km±7km, n27, σ1§02/21, mb3.7/6, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.07**	**54**	⇑P	**Pn**	**00 22 52.3**	**+0.4**
CHOJ				S	**Sn**	**00 22 57.5**	**+0.4**
JSMT	**Sammumatsuo**	**0.28**	**266**	⇓P	**Pn**	**00 22 52.7**	**-0.5**
JIHU	**Itakohorinouch**	**0.37**	**325**	⇓P	**Pn**	**00 22 54.4**	**+0.2**
JCN	**Nagara**	**0.54**	**243**	⇓P	**Pn**	**00 22 55.7**	**-0.4**
JYT	**Yasato**	**0.74**	**320**	⇓P	**Pn**	**00 22 58.1**	**-0.7**
JYT				*e*S	**Sn**	**00 23 07.6**	**-1.5**
BSO4	**Boso 4**	**0.76**	**209**	P	**Pn**	**00 22 59.0**	**0.0**
BSO3	**Boso 3**	**0.89**	**195**	P	**Pn**	**00 23 00.5**	**0.0**
JHO	**Hitachi**	**0.96**	**349**	⇓P	**Pn**	**00 23 02.0**	**+0.2**
BSO1	**Boso 1**	**1.02**	**171**	P	**Pn**	**00 23 02.6**	**+0.6**
JAG	**Ashikaga**	**1.32**	**306**	P	**Pn**	**00 23 05.9**	**-0.8**
MJAR	**Matsushiro Arr**	**2.27**	**294**	Pn	**Pn**	**00 23 20.9**	**+1.3**
	2.5nm,0.3s,baz=243,slow=19,SNR=112						
MJAR				LR	LR	00 24 22.2	
	comp=Z,209nm,21.3s,baz=25,slow=41						
MAT	**Matsushiro**	**2.27**	**294**	P	**Pn**	**00 23 20.6**	**+1.0**
MAT				S	**Sn**	**00 23 48.7**	**+2.3**
ASAJ	**Asahikawa**	**8.56**	**9**	Pn	Pn	00 24 41.4	-4.5
	0.4nm,0.3s,baz=197,slow=17,SNR=1.4						
KSRS	**Korea Array**	**10.50**	**284**	LR	LR	00 29 08.4	
	comp=Z,98nm,19.2s,baz=100,slow=36						
KLR	**Kul'dur**	**15.10**	**337**	LR	LR	00 31 11.5	
	comp=Z,98nm,18.8s,baz=5.5,slow=34						
H11N2	**WAKE ISLAND Hy**	**27.92**	**118**	T	T	00 57 37.8	
	baz=310,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**27.93**	**118**	T	T	00 57 42.1	
	baz=310,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**27.94**	**118**	T	T	00 57 41.8	
	baz=310,slow=75,SNR=18						
SONM	**Songino Array**	**28.16**	**306**	P	**P**	**00 28 32.0**	**-0.6**
	0.4nm,0.6s,baz=109,slow=9.9,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**28.58**	**120**	T	T	00 58 27.2	
	baz=312,slow=75,SNR=54						
H11S3	**WAKE ISLAND Hy**	**28.58**	**120**	T	T	00 58 31.2	
	baz=312,slow=75,SNR=37						
H11S2	**WAKE ISLAND Hy**	**28.59**	**120**	T	T	00 58 31.4	
	baz=312,slow=75,SNR=35						
ZALV	**Zalesovo Beam**	**42.48**	**313**	P	**P**	**00 30 36.5**	**+1.6**
	0.5nm,0.4s,baz=90,slow=7.4,SNR=5.5						
MKAR	**Makanchi Array**	**44.43**	**303**	P	**P**	**00 30 51.0**	**+0.2**
	1.3nm,0.8s,baz=89,slow=10,SNR=9.0						
WRA	**Warramunga Arr**	**55.64**	**187**	P	**P**	**00 32 15.2**	**-0.7**
	0.4nm,0.5s,baz=2.2,slow=7.6,SNR=5.9						
ASAR	**Alice Springs**	**59.36**	**187**	P	**P**	**00 32 40.7**	**-1.4**
	0.2nm,0.7s,baz=14,slow=9.7,SNR=1.2						
FINES	**FINESS Array B**	**69.79**	**332**	P	**P**	**00 33 49.8**	**+0.1**
	9.8nm,1.1s,baz=52,slow=9.1,SNR=3.4						

*IDC **22** 00:23:00.6±0.6,58°.06N×32°.15W, h0km, mb4.1/19, mb1 4.3/22, mb1mx4.1/55, mbtmp4.2/22, ML2.7/2, MS4.0/8, Ms1 4.0/8, ms1mx3.5/39, Error ellipse: s-maj=19.7km s-min=11.9km az=14.0*
*ISCJB **22** 00:23:01.4±0.2,58°.17N±0°.04×32°.02W±0°.05, h14km, mb4.1/23, MS3.9/7, Error ellipse: s-maj=6.0km s-min=4.0km az=3.7*
*NEIC **22** 00:23:02.8±1.8,58°.17N±0°.09×32°.0W±0°.1, h10km±1km, mb4.5/76*

ISC 22 00:23:03.1±0.4,58°.17N±0°.08×32°.07W±0°.05, h14km, n112, σ1§14/105, mb4.5/53, MS3.9/7, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**7.40**	**300**	Pn	**Pn**	**00 24 50.7**	**+0.2**
ANGG	**Ammassalik, Gr**	**7.92**	**343**	Pn	**Pn**	**00 24 56.3**	**-1.3**
BORG	**Borgarnes**	**8.36**	**33**	Pn	**Pn**	**00 25 04.3**	**+0.6**
	2.1nm,0.3s,baz=204,slow=12,SNR=6.3						
BORG				Sn	**Sn**	**00 26 37.8**	**+0.1**
	0.7nm,0.3s,baz=78,slow=19,SNR=1.1						
IVI	**Ivigtut**	**8.69**	**297**	Pn	**Pn**	**00 25 08.2**	**-0.1**
SCO	**Scoresbysund**	**13.09**	**15**	Pn	**Pn**	**00 26 06.8**	**-1.5**
DSB	**Dublin**	**15.25**	**98**	Pn	**Pn**	**00 26 38.3**	**+0.6**
DSB				IAmb	IAmb	00 26 40.2	
	comp=Z,27nm,1.0s						
DRLN	**Deer Lake**	**17.40**	**250**	P	**P**	**00 27 09.3**	**+2.8**
DRLN				IAmb	IAmb	00 27 19.6	
	comp=Z,29nm,0.9s						
FRB	**Frobisher Bay**	**18.37**	**303**	P	**P**	**00 27 15.6**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=97,slow=9.3,SNR=4.9						
SCHQ	**Schefferville**	**19.34**	**275**	P	**P**	**00 27 25.5**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=95,slow=11,SNR=3.7						
SCHQ				LR	LR	00 33 22.6	
	comp=Z,411nm,19.9s,baz=76,slow=32						
SCHQ	**Schefferville**	**19.34**	**275**	IAmb	IAmb	00 27 30.1	
	comp=Z,10nm,0.9s						
KONO	**Kongsberg**	**21.32**	**68**	P	**P**	**00 27 46.5**	**-2.6**
NOA	**NORSAR Array B**	**21.79**	**64**	P	**P**	**00 27 52.9**	**-1.3**
	comp=Z,1.9nm,1.0s,baz=284,slow=10,SNR=3.2						
NB201	**NORSAR Array S**	**21.82**	**64**	P	**P**	**00 27 55.1**	**+0.5**
NB201				IAmb	IAmb	00 27 58.9	
	comp=Z,16nm,1.0s						
HFS	**Hagfors**	**23.19**	**66**	P	**P**	**00 28 09.7**	**+0.7**
	comp=Z,9.6nm,1.0s,baz=257,slow=13,SNR=4.0						
MTE	**Manteigas**	**23.69**	**128**	P	**P**	**00 28 14.3**	**0.0**
MTE				IAmb	IAmb	00 28 27.3	
	comp=Z,20nm,1.1s						
E63A	**Oxbow**	**24.82**	**258**	P	**P**	**00 28 24.5**	**0.0**
E63A				IAmb	IAmb	00 28 25.0	
	comp=Z,15nm,0.9s						
PESTR	**Estremoz**	**24.97**	**130**	P	**P**	**00 28 25.8**	**-0.1**
F64A	**Sherman**	**25.16**	**257**	P	**P**	**00 28 24.8**	**-2.8**
F64A				IAmb	IAmb	00 28 42.8	
	comp=Z,8.4nm,1.1s						
SPA0	**Spitsbergen Ar**	**25.54**	**21**	P	**P**	**00 28 29.8**	**-1.1**
PAB	**San Pablo**	**25.77**	**124**	P	**P**	**00 28 31.5**	**-1.8**
PAB				IAmb	IAmb	00 28 47.5	
	comp=Z,11nm,1.1s						
ESBB	**Sonseca Array**	**25.84**	**123**	P	**P**	**00 28 34.6**	**+0.8**
ESDC	**Sonseca Array**	**25.84**	**123**	P	**P**	**00 28 33.2**	**-0.6**
	comp=Z,2.7nm,1.0s,baz=324,slow=8.8,SNR=8.7						
ESDC				LR	LR	00 36 32.6	
	comp=Z,207nm,20.2s,baz=305,slow=32						
F62A	**Pittston Farm,**	**25.97**	**258**	P	**P**	**00 28 35.0**	**+0.1**
F62A				IAmb	IAmb	00 28 49.3	
	comp=Z,11nm,1.0s						
PFVI	**Vila Bisbo**	**25.98**	**134**	P	**P**	**00 28 33.5**	**-1.6**
PKME	**Peaks-Kenny Pk**	**26.05**	**257**	P	**P**	**00 28 34.8**	**-0.9**
PKME				IAmb	IAmb	00 28 51.1	
	comp=Z,11nm,1.1s						
PVAQ	**Vaqueiros**	**26.18**	**132**	P	**P**	**00 28 37.0**	**+0.2**
CLL	**Collm**	**26.48**	**85**	*e*P	**P**	**00 28 40.0**	**+0.5**
	comp=Z,5.0nm,0.8s						
ARCES	**ARCESS Array B**	**26.65**	**41**	P	**P**	**00 28 41.0**	**+0.1**
	comp=Z,2.7nm,1.0s,baz=261,slow=11,SNR=1.3						
ARCES				LR	LR	00 37 10.0	
	comp=Z,298nm,19.1s,baz=272,slow=32						
ARE0	**ARCESS Array S**	**26.65**	**41**	P	**P**	**00 28 40.4**	**-0.5**
G62A	**West of Eustis**	**26.72**	**258**	P	**P**	**00 28 41.7**	**0.0**
G62A				IAmb	IAmb	00 28 48.1	
	comp=Z,9.8nm,0.9s						
DAVOX	**Davos/Dischmat**	**27.51**	**96**	LR	LR	00 38 40.6	
	comp=Z,359nm,19.7s,baz=292,slow=34						
I63A	**Otisfield**	**27.55**	**256**	P	**P**	**00 28 49.6**	**+0.4**
LBNH	**Lisbon**	**28.11**	**258**	P	**P**	**00 28 54.4**	**+0.1**
LBNH				IAmb	IAmb	00 29 03.3	
	comp=Z,6.5nm,0.9s						
RES	**Resolute Bay**	**28.14**	**330**	P	**P**	**00 28 53.4**	**-0.8**
	comp=Z,4.7nm,1.0s,baz=82,slow=5.7,SNR=5.1						
FINES	**FINESS Array B**	**28.59**	**59**	LR	LR	00 39 00.5	
	comp=Z,185nm,19.1s,baz=274,slow=34						
FCC	**Fort Churchill**	**31.43**	**298**	P	**P**	**00 29 22.9**	**-0.5**
SADO	**Sadowa**	**31.54**	**266**	P	**P**	**00 29 22.5**	**-2.1**
	comp=Z,7.9nm,0.9s,baz=15,slow=2.8,SNR=3.7						
SADO				LR	LR	00 40 33.9	
	comp=Z,291nm,20.8s,baz=81,slow=34						
PSZ	**Piszkesteto**	**32.10**	**86**	P	**P**	**00 29 29.7**	**+0.2**
PSZ				IAmb	IAmb	00 29 33.2	
	comp=Z,4.7nm,0.9s						
H48A	**Harrisville**	**33.80**	**269**	P	**P**	**00 29 42.5**	**-1.9**
O56A	**Blue Knob Stat**	**34.40**	**259**	P	**P**	**00 29 49.8**	**+0.2**
O56A				IAmb	IAmb	00 29 51.0	
	comp=Z,5.3nm,0.8s						
KEST	**Kesra**	**35.27**	**111**	LR	LR	00 42 44.3	
	comp=Z,225nm,19.0s,baz=282,slow=34						
AKASG	**Malin Array Be**	**35.28**	**75**	P	**P**	**00 29 56.3**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=306,slow=8.5,SNR=4.1						
ULM	**Lac du Bonnet**	**36.84**	**286**	P	**P**	**00 30 09.4**	**-1.0**
	comp=Z,2.6nm,0.9s,baz=58,slow=10,SNR=3.1						
ULM	**Lac du Bonnet**	**36.84**	**286**	IAmb	IAmb	00 30 11.9	
	comp=Z,4.5nm,1.0s						
N49A	**Columbus Grove**	**36.87**	**265**	P	**P**	**00 30 10.3**	**-0.5**
FFC	**Flin Flon**	**37.22**	**296**	P	**P**	**00 30 13.7**	**+0.1**
FFC				IAmb	IAmb	00 30 16.2	
	comp=Z,7.2nm,0.8s						
FNA	**Florina**	**37.68**	**94**	P	**P**	**00 30 18.5**	**+0.8**
FNA				IAmb	IAmb	00 30 19.3	
	comp=Z,6.6nm,1.0s						
YKW3	**Yellowknife Ar**	**38.43**	**312**	P	**P**	**00 30 24.2**	**+0.4**
YKA	**Yellowknife Ar**	**38.46**	**312**	P	**P**	**00 30 23.5**	**-0.5**
	comp=Z,3.2nm,0.9s,baz=58,slow=9.1,SNR=13						
YKA				PcP	**PcP**	**00 32 37.9**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=53,slow=3.4,SNR=7.0						
P48A	**Milroy**	**38.59**	**265**	P	**P**	**00 30 25.5**	**+0.2**
P48A				IAmb	IAmb	00 30 30.5	
	comp=Z,8.9nm,0.8s						
TZTN	**Tazewell**	**39.77**	**260**	P	**P**	**00 30 35.4**	**+0.1**
TZTN				IAmb	IAmb	00 30 39.8	
	comp=Z,13nm,1.1s						
WCI	**Wyandotte Cave**	**39.95**	**264**	P	**P**	**00 30 36.9**	**+0.1**
WCI				IAmb	IAmb	00 30 42.2	
	comp=Z,5.6nm,0.8s						
V53A	**Saluda**	**40.06**	**258**	P	**P**	**00 30 39.2**	**+1.5**
ECSD	**EROS Data Cent**	**41.47**	**279**	P	**P**	**00 30 49.5**	**+0.2**
ECSD				IAmb	IAmb	00 30 54.7	
	comp=Z,10nm,1.1s						
INK	**Inuvik**	**41.58**	**327**	P	**P**	**00 30 50.0**	**+0.2**
	comp=Z,8.8nm,1.1s,baz=28,slow=8.7,SNR=6.2						
INK	**Inuvik**	**41.58**	**327**	P	**P**	**00 30 50.6**	**+0.9**
INK				IAmb	IAmb	00 30 53.8	
	comp=Z,7.9nm,1.1s						
W50A	**Signal Mountai**	**41.72**	**260**	P	**P**	**00 30 51.8**	**+0.4**
W50A				IAmb	IAmb	00 30 59.9	
	comp=Z,9.1nm,1.0s						
S44A	**Carbondale**	**41.91**	**266**	P	**P**	**00 30 52.7**	**-0.2**
S44A				IAmb	IAmb	00 30 58.3	
	comp=Z,6.9nm,0.8s						
GOGA	**Godfrey**	**42.15**	**257**	P	**P**	**00 30 55.6**	**+0.7**
GOGA				IAmb	IAmb	00 31 02.1	
	comp=Z,12nm,1.1s						
BR131	**Keskin Array S**	**44.93**	**84**	P	**P**	**00 31 17.2**	**-0.2**
BRTR	**Keskin Array B**	**44.93**	**84**	P	**P**	**00 31 18.0**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=329,slow=6.0,SNR=4.8						
KBZ	**Khabaz**	**46.86**	**74**	P	**P**	**00 31 34.9**	**+2.5**
	comp=Z,2.5nm,0.8s,baz=173,slow=11,SNR=2.6						
SCRK	**Sand Creek**	**47.64**	**326**	P	**P**	**00 31 39.1**	**+0.8**
YMP	**Mirror Lake Pl**	**47.71**	**290**	P	**P**	**00 31 39.7**	**+0.3**
IL31		**47.87**	**328**	P	**P**	**00 31 40.8**	**+0.9**
IL31				IAmb	IAmb	00 31 45.7	
	comp=Z,6.1nm,0.9s						
ILAR	**Eielson Array**	**47.87**	**328**	P	**P**	**00 31 41.3**	**+1.4**
	comp=Z,1.5nm,1.1s,baz=270,slow=30,SNR=4.7						
ILAR				PcP	**PcP**	**00 33 10.1**	**+1.8**
	comp=Z,0.9nm,0.8s,baz=355,slow=2.6,SNR=6.0						
DOT	**Dot Lake**	**47.91**	**326**	P	**P**	**00 31 41.8**	**+1.4**
MDM	**Murphy Dome**	**48.10**	**329**	P	**P**	**00 31 42.6**	**+0.9**
YHL	**Hebgen Lake**	**48.15**	**290**	P	**P**	**00 31 43.3**	**+0.6**
HDA	**Harding Lake**	**48.17**	**328**	P	**P**	**00 31 43.2**	**+0.9**
YHB	**Horse Butte**	**48.22**	**290**	P	**P**	**00 31 43.9**	**+0.7**
N23A	**Red Feather La**	**48.35**	**283**	P	**P**	**00 31 45.3**	**+1.0**
MLY	**Manley**	**48.71**	**330**	P	**P**	**00 31 47.1**	**+0.6**
MLY				IAmb	IAmb	00 31 52.1	
	comp=Z,4.7nm,0.8s						
MOOW	**Moose Ponds**	**48.72**	**289**	P	**P**	**00 31 47.5**	**+0.4**
BW06	**Boulder Array**	**48.83**	**287**	P	**P**	**00 31 48.6**	**+0.6**
BW06				IAmb	IAmb	00 31 52.1	
	comp=Z,4.3nm,0.8s						
PD31	**Pinedale Array**	**48.83**	**287**	P	**P**	**00 31 48.9**	**+0.9**
PD31				IAmb	IAmb	00 31 52.0	
	comp=Z,4.0nm,0.8s						
PDAR	**Pinedale Array**	**48.83**	**287**	P	**P**	**00 31 47.0**	**-1.0**
	comp=Z,2.9nm,0.6s,baz=65,slow=6.6,SNR=12						
RDOG	**Red Dog Mine**	**49.04**	**338**	P	**P**	**00 31 50.3**	**+1.4**
RDOG				IAmb	IAmb	00 31 52.1	
	comp=Z,7.8nm,1.2s						
REDW	**Red Top Meadow**	**49.05**	**289**	P	**P**	**00 31 50.7**	**+1.1**
REDW				IAmb	IAmb	00 31 56.1	
	comp=Z,5.0nm,1.1s						
RND	**Reindeer**	**49.48**	**328**	P	**P**	**00 31 53.9**	**+1.5**
B08A	**Colville Reser**	**49.56**	**299**	P	**P**	**00 31 54.2**	**+1.0**
B08A				IAmb	IAmb	00 31 58.0	
	comp=Z,6.1nm,0.8s						
RDMU	**Red Mountain**	**50.45**	**285**	P	**P**	**00 32 01.0**	**+0.7**
SDCO	**Great Sand Dun**	**50.45**	**280**	P	**P**	**00 32 01.3**	**+0.9**
HWUT	**Hardware Ranch**	**50.70**	**288**	P	**P**	**00 32 02.5**	**+0.4**
HWUT				IAmb	IAmb	00 32 07.2	
	comp=Z,5.9nm,0.8s						
TCUT	**Toone Canyon**	**50.98**	**287**	P	**P**	**00 32 04.6**	**+0.3**
ABKAR	**Akbulak array**	**51.07**	**57**	P	**P**	**00 32 05.5**	**+0.9**
SPUT	**South Promonto**	**51.36**	**288**	P	**P**	**00 32 07.9**	**+0.8**
SKT	**Skwentna**	**51.37**	**328**	P	**P**	**00 32 08.4**	**+1.8**
TOA0	**Torodi Ar. Sit**	**51.62**	**136**	P	**P**	**00 32 08.9**	**-0.1**
TOA0				IAmb	IAmb	00 32 13.7	
	comp=Z,6.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**51.62**	**136**	P	**P**	**00 32 08.6**	**-0.5**
	comp=Z,6.3nm,1.0s,baz=333,slow=8.1,SNR=9.9						
PSUT	**Pine Spring**	**54.16**	**287**	P	**P**	**00 32 29.1**	**+1.2**
CCUT	**Cedar City**	**54.66**	**286**	P	**P**	**00 32 32.7**	**+1.2**
MOD	**Modoc Plateau**	**54.80**	**294**	P	**P**	**00 32 33.0**	**+0.7**
MOD				IAmb	IAmb	00 32 35.1	
	comp=Z,7.1nm,1.0s						
U15A	**North Rim**	**54.97**	**284**	P	**P**	**00 32 34.7**	**+0.8**
LCMT	**Little Creek M**	**55.02**	**285**	P	**P**	**00 32 35.4**	**+1.4**
KDAK	**Kodiak Island**	**55.12**	**326**	P	**P**	**00 32 36.0**	**+1.8**
TIC	**Toumodi**	**55.50**	**147**	*e*P	**P**	**00 32 36.9**	**-0.6**
DBIC	**Dimbokro**	**55.52**	**147**	P	**P**	**00 32 36.3**	**-1.3**
	comp=Z,4.6nm,1.0s,baz=291,slow=7.4,SNR=5.2						
DBIC	**Dimbokro**	**55.52**	**147**	IAmb	IAmb	00 32 38.1	
	comp=Z,8.5nm,1.1s						
KIC	**Kosan Boka**	**55.85**	**147**	*e*P	**P**	**00 32 38.4**	**-1.6**
	comp=Z,6.5nm,1.1s						
LIC	**Lamto**	**55.90**	**147**	*e*P	**P**	**00 32 36.7**	**-3.6**
	comp=Z,9.9nm,1.3s						
KVN	**Kaiserville**	**55.90**	**290**	P	**P**	**00 32 40.7**	**+0.3**
TXAR	**Lajitas Array**	**55.98**	**272**	P	**P**	**00 32 40.5**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=75,slow=4.8,SNR=2.3						
RYN	**Ryan**	**56.44**	**290**	P	**P**	**00 32 45.7**	**+1.5**
RYN				IAmb	IAmb	00 32 49.1	
	comp=Z,3.0nm,0.8s						
NVAR	**Mina Array Bea**	**56.48**	**290**	P	**P**	**00 32 44.9**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=62,slow=4.2,SNR=3.9						
TUC	**Tucson**	**57.39**	**280**	P	**P**	**00 32 53.1**	**+2.1**
MKAR	**Makanchi Array**	**62.23**	**45**	P	**P**	**00 33 24.0**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=313,slow=6.6,SNR=1.6						
H10S3	**ASCENSION HYDR**	**68.37**	**161**	T	T	01 48 22.6	
	baz=349,slow=74,SNR=36						
H10S2	**ASCENSION HYDR**	**68.38**	**161**	T	T	01 48 23.3	
	baz=231,slow=74,SNR=38						
SONM	**Songino Array**	**68.94**	**29**	P	**P**	**00 34 07.7**	**+0.3**
	comp=Z,1.0nm,1.0s,baz=324,slow=6.8,SNR=2.3						
CMAR	**Chiang Mai Arr**	**93.63**	**46**	LR	LR	01 20 45.0	
	comp=Z,60nm,18.4s,baz=349,slow=37						
ASAR	**Alice Springs**	**144.09**	**22**	PKP	PKPbc

*IDC **22** 01:13:27.4±1.0,11˚.13N×124˚.83E,h0km,mb3.9/11, mb1 4.0/11,mb1mx3.8/52,mbtmp3.9/11,MS3.8/7, Ms1 3.8/7,ms1mx3.3/39,Error ellipse: s-maj=67.1km s-min=16.0km az=66.0*

*MAN **22** 01:13:27.9,11˚.14N×124˚.71E,h6km,MS3.5*

*ISCJB **22** 01:13:28.3±0.8,11˚.14N±0˚.03×124˚.67E±0˚.05,h10km±5km, mb3.9/11,MS3.7/7,Error ellipse: s-maj=8.3km s-min=5.4km az=22.0*

*NEIC **22** 01:13:36.7±1.2,11˚.0N±0˚.1×124˚.6E±0˚.2,h72km±6km, mb4.3/7*

ISC 22 01:13:28.0±1.3,11˚.13N±0˚.03×124˚.70E±0˚.05,h3km±9km, n36,σ1°30/34,mb4.0/15,MS3.5/7,5C,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.12**	**229**	P	**Pg**	**01 13 30.9**	**+0.6**
OCLP				S	**Sg**	**01 13 32.9**	**+1.1**
BESP	**Borongan**	**0.87**	**57**	P	**Pb**	**01 13 45.1**	**-0.6**
BESP				S	**Sn**	**01 13 58.4**	**-1.9**
MSLP	**Maasin**	**1.00**	**171**	P	**Pg**	**01 13 47.1**	**-0.1**
MSLP				S	**Sn**	**01 14 06.7**	**+3.0**
LLP	**Lapu-Lapu**	**1.08**	**222**	⇑P	**Pb**	**01 13 47.4**	**-2.0**
LLP				S	**Sg**	**01 14 03.2**	**+0.5**
CNP	**Catarman**	**1.38**	**359**	P	**Pb**	**01 13 53.7**	**-0.7**
CNP				S	**Sg**	**01 14 11.9**	**-0.3**
RCP	**Roxas**	**1.96**	**283**	⇑P	**Pn**	**01 14 02.7**	**+0.5**
RCP				S	**Sb**	**01 14 29.9**	**+0.6**
CGP	**Cagayan de Oro**	**2.66**	**180**	⇑P	Pn	01 14 04.6	-7.2
CGP				S	**Sb**	**01 14 48.7**	**-0.7**
DCPH	**Dipolog City**	**2.85**	**208**	⇑P	**Pb**	**01 14 17.2**	**-2.5**
BUKP	**Musuan**	**3.25**	**174**	P	**Pn**	**01 14 21.9**	**+2.0**
KCP	**Kidapawan**	**4.11**	**175**	⇑P	**Pn**	**01 14 32.9**	**+1.0**
DAV	**Davao City (W)**	**4.12**	**168**	Pn	Pb	01 14 36.1	-5.2
	11nm,0.3s,baz=45,slow=1.4,SNR=1.2						
SBUM	**Sibu**	**15.08**	**236**	Pn	**P**	**01 17 04.3**	**-3.4**
BATI	**Baumata**	**21.22**	**183**	LR	LR	01 26 52.3	
	comp=Z,130nm,21.6s,baz=18,slow=38						
CMAR	**Chiang Mai Arr**	**25.92**	**289**	P	**P**	**01 19 02.5**	**+0.8**
	0.7nm,0.4s,baz=60,slow=33,SNR=1.3						
KSRS	**Korea Array**	**26.37**	**6**	LR	LR	01 28 18.3	
	comp=Z,78nm,21.8s,baz=238,slow=34						
MJAR	**Matsushiro Arr**	**28.09**	**24**	LR	LR	01 29 39.6	
	comp=Z,79nm,19.5s,baz=170,slow=35						
WRA	**Warramunga Arr**	**32.30**	**163**	P	**P**	**01 19 56.9**	**-1.6**
	0.8nm,0.8s,baz=343,slow=9.2,SNR=4.0						
ASAR	**Alice Springs**	**35.73**	**165**	P	**P**	**01 20 28.0**	**-0.3**
	2.2nm,0.8s,baz=343,slow=6.9,SNR=18						
ASAR	**Alice Springs**	**35.73**	**165**	P	**P**	**01 20 28.0**	**-0.3**
ULN	**Ulaanbaatar**	**39.51**	**341**	P	**P**	**01 21 01.1**	**+0.9**
ULN				IAmb	IAmb	01 21 07.3	
	comp=Z,5.1nm,1.1s						
SONM	**Songino Array**	**39.69**	**341**	P	**P**	**01 21 01.1**	**-0.6**
	comp=Z,1.4nm,1.0s,baz=164,slow=9.0,SNR=5.6						
TLY	**Talaya**	**43.92**	**341**	LR	LR	01 39 31.3	
	comp=Z,62nm,18.6s,baz=184,slow=36						
STKA	**Stephens Creek**	**45.72**	**160**	P	**P**	**01 21 50.7**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=352,slow=8.3,SNR=5.0						
STKA	**Stephens Creek**	**45.72**	**160**	IAmb	IAmb	01 21 52.9	
	comp=Z,1.9nm,1.1s						
MKAR	**Makanchi Array**	**50.41**	**323**	P	**P**	**01 22 27.9**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=91,slow=9.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**53.14**	**332**	P	**P**	**01 22 47.8**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=118,slow=7.0,SNR=4.5						
ZALV				LR	LR	01 46 06.5	
	comp=Z,160nm,18.2s,baz=329,slow=37						
KURK	**Kurchatov**	**54.49**	**326**	P	**P**	**01 22 57.8**	**+0.8**
KURBB	**Kurchatov Arra**	**54.49**	**326**	P	**P**	**01 22 57.4**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=125,slow=6.8,SNR=5.9						
BRVK	**Borovoye**	**60.16**	**326**	P	**P**	**01 23 37.2**	**+0.2**
BRVK				IAmb	IAmb	01 23 38.8	
	comp=Z,2.7nm,1.1s						
TIXI	**Tiksi**	**60.53**	**2**	P	**P**	**01 23 39.7**	**+0.4**
TIXI				IAmb	IAmb	01 23 40.9	
	comp=Z,3.2nm,1.1s						
ABKAR	**Akbulak array**	**65.22**	**319**	P	**P**	**01 24 11.3**	**+0.4**
ABKAR				IAmb	IAmb	01 24 13.1	
	comp=Z,1.9nm,0.8s						
ARU	**Arti**	**67.67**	**327**	P	**P**	**01 24 25.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=120,slow=4.5,SNR=5.2						
ARU	**Arti**	**67.67**	**327**	IAmb	IAmb	01 24 27.9	
	comp=Z,2.1nm,0.6s						
ARCES	**ARCESS Array B**	**82.86**	**340**	P	**P**	**01 25 54.1**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=84,slow=8.3,SNR=5.3						
ARCES				LR	LR	02 07 55.6	
	comp=Z,186nm,18.3s,baz=232,slow=39						
AKASG	**Malin Array Be**	**84.92**	**321**	P	**P**	**01 26 04.9**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=60,slow=5.0,SNR=1.6						
NOA	**NORSAR Array B**	**91.31**	**333**	LR	LR	02 10 17.7	
	comp=Z,91nm,18.6s,baz=260,slow=37						

IDC 22 01:23:04.1±2.8,21˚.70S×147˚.89E,h0km,mb3.2/1, mb1 3.3/3,mb1mx3.2/28,mbtmp3.1/3,ML2.8/2,MS2.9/1, Ms1 2.8/1,ms1mx2.6/13,Error ellipse: s-maj=91.7km s-min=35.1km az=179.0,Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**11.59**	**208**	LR	LR	01 31 08.1	
	comp=Z,56nm,20.6s,baz=23,slow=42						
WRA	**Warramunga Arr**	**12.79**	**275**	Pn	Pn	01 26 06.9	-0.5
	0.1nm,0.3s,baz=93,slow=12,SNR=5.6						
WRA				Lg	Lg	01 29 49.3	
	0.1nm,0.3s,baz=101,slow=28,SNR=5.9						
I07AU	**WARRAMUNGA INF**	**12.80**	**275**	*i*		02 41 30.0	
	baz=98,slow=304,SNR=3.4						
ASAR	**Alice Springs**	**13.06**	**259**	Pn	Pn	01 26 12.4	+1.3
	0.0nm,0.3s,baz=84,slow=13,SNR=2.8						
ASAR				Lg	Lg	01 29 58.7	
	0.1nm,0.3s,baz=92,slow=24,SNR=4.2						
FITZ	**Fitzroy Crossi**	**21.22**	**276**	P	P	01 27 51.9	+0.2
	0.9nm,0.7s,baz=97,slow=8.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**146.71**	**261**	PKPbc	PKPdf	01 42 47.8	+0.6
	0.3nm,0.8s,baz=123,slow=3.6,SNR=4.2						

*IDC **22** 01:23:58.4±3.9,36˚.48N×71˚.35E,h64km±34km,mb3.3/9, mb1 3.6/14,mb1mx3.3/52,mbtmp3.8/14,ML3.7/5,MS3.8/1, Ms1 3.8/1,ms1mx2.8/30,Error ellipse: s-maj=28.3km s-min=20.0km az=177.0*

*NEIC **22** 01:24:03.3±1.8,36˚.77N±0˚.03×71˚.29E±0˚.10,h109km±8km, mb4.0/4*

*NNC **22** 01:24:04.8±1.7,36˚.98N×70˚.88E,h123km±23km,mb3.6, mpv4.4,Error ellipse: s-maj=16.4km s-min=9.1km az=160.0*

ISC 22 01:24:01.6±0.5,36˚.76N±0˚.05×71˚.11E±0˚.05,h100km,n77, σ2°67/79,mb3.5/8,8C-8D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.32**	**345**		**Pn**	**01 24 40.5**	**+1.9**
CHGR	**Chuyangaron**	**2.45**	**321**		**Pn**	**01 24 41.9**	**+1.8**
KBL	**Kabul**	**2.78**	**218**		**Pn**	**01 24 47.9**	**+3.3**
CEP	**Cherat**	**3.00**	**167**	⇓P	**Pn**	**01 24 49.7**	**+2.2**
CEP				S	**Sn**	**01 25 25.0**	**+2.1**
BTK	**Batken**	**3.30**	**356**		**Pn**	**01 24 54.9**	**+3.4**
CHCP	**Chirah Chowk**	**3.56**	**150**	P	**Pn**	**01 24 56.9**	**+2.0**
NIL	**Nilore**	**3.56**	**150**		**Pn**	**01 24 56.9**	**+1.9**
THW	**Thamme Wali**	**3.99**	**172**	P	**Pn**	**01 25 02.2**	**+1.5**
TAS	**Tashkent**	**4.77**	**343**	Pn	**Pn**	**01 25 13.5**	**+2.2**
ARSB	**Arslanbob**	**4.79**	**17**		**Pn**	**01 25 12.7**	**+1.2**
AML	**Almayashu**	**5.72**	**20**	P	**Pn**	**01 25 26.6**	**+2.1**
	SNR=213						
NRN	**Naryn**	**6.02**	**38**		**Pn**	**01 25 29.0**	**+0.6**
UCH	**Uchtor**	**6.06**	**25**	P	**Pn**	**01 25 30.9**	**+1.8**
	SNR=17						
KZA	**Kyzart**	**6.20**	**30**	P	**Pn**	**01 25 32.7**	**+1.7**
	SNR=12						
EKS2	**Erkin-Say**	**6.24**	**18**	P	**Pn**	**01 25 33.7**	**+2.5**
	SNR=12						
KK31	**Karatay Array**	**6.35**	**356**		**Pn**	**01 25 34.4**	**+1.7**
KK31	**Karatay Array**	**6.35**	**356**	P	**Pn**	**01 25 33.4**	**+0.7**
	4.5nm,0.3s,baz=185,slow=14,SNR=76						
KK31				⇑S	**Sn**	**01 26 42.1**	**-1.7**
	6.6nm,0.3s,baz=106,slow=42,SNR=5.9						
KKAR	**Karatay Array**	**6.35**	**356**		**Pn**	**01 25 34.2**	**+1.6**
AAK	**Ala-Archa**	**6.42**	**23**	P	**Pn**	**01 25 36.0**	**+2.2**
	SNR=32						
AAK	**Ala-Archa**	**6.42**	**23**		**Pn**	**01 25 35.1**	**+1.4**
AAK	**Ala-Archa**	**6.42**	**23**	⇑P	**Pn**	**01 25 35.8**	**+2.1**
	25nm,0.7s						
AAK				⇑S	**Sn**	**01 26 45.9**	**+0.2**
	34nm,0.6s						
KBK	**Karagaybulak**	**6.59**	**25**	P	**Pn**	**01 25 38.8**	**+2.8**
	SNR=7.5						
FRU1	**Bishkek**	**6.62**	**23**		**Pn**	**01 25 38.9**	**+2.5**
ULHL	**Ulahol**	**6.76**	**34**	P	**Pn**	**01 25 40.1**	**+1.7**
	SNR=9.0						
BOOM	**Boomskoye usch**	**6.83**	**32**		**Pn**	**01 25 40.7**	**+1.4**
CHMS	**Chumysh**	**6.83**	**23**	P	**Pn**	**01 25 41.2**	**+2.0**
	SNR=18						
USP	**Ospenovka**	**7.00**	**21**	P	**Pn**	**01 25 43.2**	**+1.7**
	SNR=15						
TKM2	**Tokmak 2**	**7.05**	**28**	P	**Pn**	**01 25 44.2**	**+1.8**
	SNR=24						
TKM2	**Tokmak 2**	**7.05**	**28**	⇑P	**Pn**	**01 25 44.2**	**+1.8**
	28nm,0.7s						
TKM2				⇓S	**Sn**	**01 27 03.7**	**+2.6**
	6.1nm,0.6s						
MDOK	**Medeo**	**7.85**	**34**	⇑P	**Pn**	**01 25 56.3**	**+3.2**
	19nm,0.6s						
KNDC	**Almaty**	**7.86**	**33**	⇑P	**Pn**	**01 25 56.2**	**+3.0**
PDGK	**Podgornoye**	**9.18**	**42**	⇓P	**Pn**	**01 26 11.7**	**+0.5**
	7.1nm,0.6s						
JOSI	**Joshimath**	**9.37**	**129**	*e*P	**Pn**	**01 26 12.1**	**-1.8**
KUDL	**Kundal**	**9.71**	**151**	*e*P	Pn	01 26 11.1	-7.3
KUDL				*e*S	Sn	01 27 51.4	-14
GEYT	**Alibeck**	**10.41**	**280**	P	**Pn**	**01 26 27.2**	**-0.7**
	0.8nm,0.3s,baz=103,slow=10,SNR=10						
GEYT				S	**Sn**	**01 28 16.5**	**-6.1**
	1.3nm,0.3s,baz=132,slow=16,SNR=4.5						
GYA0B	**ALIBECK ARRAY**	**10.41**	**280**		**Pn**	**01 26 28.5**	**+0.6**
GYA0B	**ALIBECK ARRAY**	**10.41**	**280**	⇑P	**Pn**	**01 26 27.9**	**0.0**
GYA0B				⇓S	**Sn**	**01 28 20.3**	**-2.4**
MAKZ	**Makanchi**	**12.89**	**35**		**Pn**	**01 27 00.4**	**-0.6**
MAKZ	**Makanchi**	**12.89**	**35**	⇓P	**Pn**	**01 27 00.1**	**-0.8**
	4.3nm,1.1s						
MK31	**Makanchi Array**	**13.03**	**36**		**Pn**	**01 27 02.6**	**-0.2**
MK31	**Makanchi Array**	**13.03**	**36**	⇑P	**Pn**	**01 27 02.5**	**-0.2**
	3.0nm,0.7s,baz=230,slow=10.0,SNR=24						
MKAR	**Makanchi Array**	**13.03**	**36**	P	**Pn**	**01 27 02.9**	**+0.1**
	0.3nm,0.3s,baz=226,slow=13,SNR=25						
DANN	**Dangsing**	**13.56**	**125**	*e*P	Pn	01 27 05.0	-5.1
KOLN	**Koldanda**	**13.84**	**127**	*e*P	**Pn**	**01 27 09.6**	**-4.1**
	24nm,0.3s						
GKN	**Gorkha**	**14.37**	**124**	*e*P	**Pn**	**01 27 15.8**	**-4.7**
	50nm,0.4s						
WMQ	**Urumqi**	**14.48**	**56**	Pn	**Pn**	**01 27 20.2**	**-1.4**
KURBB	**Kurchatov Arra**	**14.85**	**19**	P	**Pn**	**01 27 26.6**	**+0.4**
	0.1nm,0.3s,baz=214,slow=12,SNR=1.3						
KURBB	**Kurchatov Arra**	**14.85**	**19**	⇓P	**Pn**	**01 27 26.2**	**0.0**
	4.6nm,0.7s						
AB31	**Akbulak array**	**14.90**	**330**	P	**Pn**	**01 27 25.9**	**-1.0**
	1.0nm,0.3s,baz=139,slow=12,SNR=121						
AB31				⇓S	**Sn**	**01 30 06.7**	**-4.4**
	2.7nm,0.8s,baz=150,slow=23,SNR=6.5						
ABKAR	**Akbulak array**	**14.90**	**330**		**Pn**	**01 27 27.2**	**+0.3**
DMN	**Daman**	**14.94**	**124**	*e*P	**Pn**	**01 27 23.4**	**-4.4**
	18nm,0.4s						
KKN	**Kakani**	**14.94**	**123**	*e*P	Pn	01 27 22.4	-5.4
	21nm,0.5s						
KURK	**Kurchatov**	**14.96**	**19**	P	**Pn**	**01 27 27.1**	**-0.5**
PKIN	**Phulchoki**	**15.16**	**123**	*e*P	**Pn**	**01 27 26.1**	**-4.5**
	15nm,0.3s						
PKI	**Pulchoki**	**15.17**	**123**	*e*P	**Pn**	**01 27 26.3**	**-4.5**
	1.4nm,0.2s						
GUN	**Gumba**	**15.27**	**121**	*e*P	**Pn**	**01 27 26.8**	**-5.3**
	52nm,0.8s						
JIRN	**Jiri**	**15.64**	**121**	*e*P	**Pn**	**01 27 32.1**	**-4.7**
	78nm,0.5s						
RAMN	**Ramite**	**16.38**	**122**	*e*P	**Pn**	**01 27 41.5**	**-4.3**
	31nm,0.5s						
AKTO	**Aktyubinsk**	**16.60**	**330**	P	**P**	**01 27 50.5**	**+1.6**
	0.4nm,0.3s,baz=135,slow=11,SNR=8.8						
AKTO				S	**Sn**	**01 30 45.1**	**-7.1**
	0.2nm,0.3s,baz=235,slow=19,SNR=2.7						
TAPN	**Taplejung**	**16.89**	**119**	*e*P	**Pn**	**01 27 47.7**	**-4.5**
	24nm,0.5s						
ODAN	**Odare**	**16.97**	**121**	*e*P	**Pn**	**01 27 48.8**	**-4.3**
	30nm,0.7s						
LSA	**Lhasa**	**18.17**	**107**	P	**P**	**01 28 03.4**	**-3.5**
LSA				IAmb	IAmb	01 28 10.9	
	comp=Z,5.5nm,0.7s						
ZAA0	**Zalesovo Array**	**19.64**	**25**	P	**P**	**01 28 22.7**	**+0.5**
ZAA0	**Zalesovo Array**	**19.64**	**25**	⇓P	**P**	**01 28 23.1**	**+0.9**
	comp=Z,0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**19.64**	**25**	P	**Pn**	**01 28 23.4**	**-1.1**
	comp=Z,1.7nm,0.3s,baz=212,slow=10,SNR=20						
GNI	**Garni**	**20.90**	**287**	P	Pn	01 28 40.4	+0.9
	comp=Z,1.9nm,0.6s,baz=153,slow=6.8,SNR=2.4						
GNI	**Garni**	**20.90**	**287**	IAmb	IAmb	01 28 49.1	
	comp=Z,10nm,1.2s						
SHL	**Shillong**	**20.94**	**116**	P	**P**	**01 28 35.9**	**-0.7**
BRTR	**Keskin Array B**	**29.44**	**287**	P	**P**	**01 29 57.8**	**+1.9**
	comp=Z,0.3nm,0.6s,baz=92,slow=8.5,SNR=1.8						
IDI	**Anoyia**	**37.13**	**282**	LR	LR	01 48 11.0	
	comp=Z,116nm,18.6s,baz=308,slow=39						
FINES	**FINESS Array B**	**37.32**	**326**	P	**P**	**01 31 07.7**	**+4.0**
	comp=Z,2.7nm,0.9s,baz=122,slow=10.0,SNR=1.1						
ARCES	**ARCESS Array B**	**40.94**	**337**	P	**P**	**01 31 37.0**	**+3.2**
	comp=Z,3.5nm,1.0s,baz=116,slow=8.1,SNR=2.3						
NOA	**NORSAR Array B**	**44.23**	**323**	P	**P**	**01 32 03.7**	**+3.1**
	comp=Z,0.4nm,0.6s,baz=120,slow=7.2,SNR=1.8						
TORD	**Torodi Ar. Bea**	**65.81**	**269**	P	**P**	**01 34 38.1**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=49,slow=5.5,SNR=8.1						
YKA	**Yellowknife Ar**	**80.98**	**3**	P	**P**	**01 36 06.3**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=350,slow=5.5,SNR=1.6						
WRA	**Warramunga Arr**	**82.05**	**122**	P	**P**	**01 36 10.1**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=328,slow=4.5,SNR=1.9						
ASAR	**Alice Springs**	**84.33**	**125**	P	**P**	**01 36 22.6**	**0.0**
	comp=Z,0.4nm,0.7s,baz=307,slow=4.4,SNR=5.7						

*BEO **22** 01:36:58.7±0.6,43˚.27N×12˚.12E,h10km,ML3.7/16*

*ROM **22** 01:37:00.5±0.0,43˚.377N±0˚.002×12˚.520E±0˚.003, h8km,ML3.6/72,Error ellipse: s-maj=0.2km s-min=0.1km az=352.0*

*ISCJB **22** 01:37:00.7±0.2,43˚.38N±0˚.01×12˚.49E±0˚.01,h16km±1km, mb3.8/6,Error ellipse: s-maj=2.1km s-min=1.6km az=11.4*

*IDC **22** 01:37:00.3±1.2,43˚.42N×12˚.30E,h0km,mb3.7/7, mb1 3.9/12,mb1mx3.6/49,mbtmp3.7/12,ML3.3/5,Error ellipse: s-maj=21.1km s-min=13.5km az=83.0*

*PRU **22** 01:37:00.9±0.0,43˚.40N×12˚.71E,h0km*

*LDG **22** 01:37:02.4±0.1,43˚.33N×12˚.61E,h8km,Ml3.0/20,Error ellipse: s-maj=3.5km s-min=2.5km az=25.0*

ISC 22 01:37:01.0±0.7,43˚.37N±0˚.01×12˚.51E±0˚.01,h7km±4km, n233,σ1°77/303,mb3.8/6,14C-8D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.05**	**94**	P	**Pg**	**01 37 02.5**	**-0.2**
ATFO				S	**Sg**	**01 37 03.4**	**-0.4**
ATVO	**AVT- Monte Val**	**0.07**	**280**	P	**Pg**	**01 37 03.1**	**+0.2**
ATVO				S	**Sg**	**01 37 04.7**	**+0.5**
ATVO				AML	AML		
ATVO				AML	AML		
	comp=E,78200µm,1.4s						
ATVO				AML	AML		
	comp=E,78200µm,1.4s						
ATVO				AML	AML		
MURB	**Monte Urbino**	**0.11**	**172**	P	**Pg**	**01 37 03.9**	**+0.4**
MURB				S	**Sg**	**01 37 06.1**	**+1.0**
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
ATPI	**Pietralunga -**	**0.11**	**317**	P	**Pg**	**01 37 03.7**	**+0.2**
ATPI				S	**Sg**	**01 37 05.8**	**+0.6**
ATPI				AML	AML		
	comp=E,23550µm,0.7s						
ATPI				AML	AML		
	comp=N,20400µm,0.6s						
ATPI				AML	AML		
	comp=N,20400µm,0.6s						
PIEI	**Pieia**	**0.17**	**7**	P	**Pg**	**01 37 04.5**	**+0.1**
ATMI	**Monte Miggiano**	**0.18**	**259**	P	**Pg**	**01 37 05.1**	**+0.5**
ATMI				S	**Sg**	**01 37 08.3**	**+1.3**
ATMI				AML	AML		
	comp=N,35200µm,0.6s						
ATMI				AML	AML		
	comp=E,31700µm,0.9s						
ATMI				AML	AML		
	comp=N,35200µm,0.6s						
FOSV	**Fossato di Vic**	**0.20**	**112**	P	**Pg**	**01 37 05.1**	**+0.1**
FOSV				S	**Sg**	**01 37 08.4**	**+0.6**
FOSV				AML	AML		
	comp=E,27050µm,0.4s						
FOSV				AML	AML		
	comp=N,29500µm,0.3s						
FOSV				AML	AML		
	comp=N,29450µm,0.3s						
ATTE	**AVT- Monte Tez**	**0.20**	**213**	P	**Pg**	**01 37 05.5**	**+0.4**
ATTE				S	**Sg**	**01 37 09.2**	**+1.3**
ATTE				AML	AML		
	comp=E,18850µm,1.0s						
ATTE				AML	AML		
	comp=N,16050µm,0.9s						
ATTE				AML	AML		
	comp=E,18850µm,1.0s						
ATTE				AML	AML		
	comp=N,16050µm,0.9s						
ATCC	**AVT- Casa Cast**	**0.21**	**152**	P	**Pg**	**01 37 05.7**	**+0.5**
ATCC				S	**Sg**	**01 37 09.7**	**+1.7**
ATCC				AML	AML		
	comp=E,74700µm,0.5s						
ATCC				AML	AML		
	comp=N,62100µm,0.3s						
ATCC				AML	AML		
	comp=E,74700µm,0.5s						
ATCC				AML	AML		
	comp=N,62050µm,0.3s						
ATCC				AML	AML		
	comp=N,62050µm,0.3s						
ATCC				AML	AML		
	comp=E,74700µm,0.5s						
SSFR	**Montelago di S**	**0.21**	**72**	P	**Pg**	**01 37 05.2**	**0.0**
SSFR				S	**Sg**	**01 37 08.9**	**+0.8**
SSFR				AML	AML		
	comp=E,63450µm,1.1s						
SSFR				AML	AML		
	comp=N,62200µm,0.6s						
SSFR				AML	AML		
	comp=E,66600µm,1.0s						
SSFR				AML	AML		
	comp=E,63400µm,1.1s						
SSFR				AML	AML		
	comp=N,52950µm,0.6s						
SSFR				AML	AML		
	comp=E,66600µm,1.0s						
SSFR				AML	AML		
	comp=E,63400µm,1.1s						
SSFR				AML	AML		
	comp=N,62250µm,0.6s						
SSFR				AML	AML		
	comp=N,52950µm,0.6s						
CDCA	**Citt' di Caste**	**0.22**	**294**	P	**Pg**	**01 37 05.8**	**+0.5**
CDCA				S	**Sg**		
CDCA				AML	AML		
	comp=N,52150µm,1.2s						
CDCA				AML	AML		
	comp=E,9325µm,1.1s						
CDCA				AML	AML		
	comp=N,14000µm,1.2s						
CDCA				AML	AML		
	comp=E,9345µm,1.1s						
CDCA				AML	AML		
	comp=N,13965µm,1.2s						
CDCA				AML	AML		
	comp=E,20450µm,0.2s						
CDCA				AML	AML		
	comp=N,52200µm,1.2s						
CDCA				AML	AML		
	comp=E,20450µm,0.2s						
CDCA				AML	AML		
	comp=N,52200µm,1.2s						
FRON	**Frontone**	**0.22**	**47**	P	**Pg**	**01 37 05.3**	**-0.1**
FRON				S	**Sg**	**01 37 09.3**	**+1.0**
FRON				AML	AML		
	comp=N,30900µm,0.5s						
FRON				AML	AML		
	comp=E,15000µm,1.2s						
FRON				AML	AML		
	comp=N,30850µm,0.5s						
BADI	**Badiali**	**0.24**	**306**	P	**Pg**	**01 37 06.1**	**+0.4**
BADI				S	**Sg**	**01 37 10.3**	**+1.4**
BADI				AML	AML		
	comp=E,54650µm,0.2s						
BADI				AML	AML		
	comp=N,47950µm,0.2s						
BADI				AML	AML		
	comp=E,54700µm,0.2s						
BADI				AML	AML		
	comp=N,47900µm,0.2s						
BADI				AML	AML		
	comp=E,54700µm,0.2s						
BADI				AML	AML		
	comp=N,47900µm,0.2s						
NARO	**Abbazia di Nar**	**0.25**	**13**	P	**Pg**	**01 37 05.8**	**-0.1**
NARO				S	**Sg**	**01 37 09.8**	**+0.6**
NARO				AML	AML		
	comp=E,7205µm,1.3s						
NARO				AML	AML		
	comp=N,7785µm,1.2s						
MPAG	**Monte Paganucc**	**0.32**	**35**	P	**Pg**	**01 37 07.2**	**-0.1**
MPAG				S	**Sg**	**01 37 12.4**	**+0.9**
MPAG				AML	AML		
	comp=N,11650µm,0.7s						
MPAG				AML	AML		
	comp=E,7530µm,1.2s						
MPAG				AML	AML		
	comp=N,11900µm,0.7s						
MPAG				AML	AML		
	comp=N,11700µm,0.7s						
MPAG				AML	AML		
	comp=E,7525µm,1.2s						
MPAG				AML	AML		
	comp=E,7525µm,1.2s						
PE3	**Peglio**	**0.33**	**359**	P	**Pg**	**01 37 07.6**	**+0.2**
PE3				S	**Sg**	**01 37 13.2**	**+1.4**
PE3				AML	AML		
	comp=E,14150µm,1.3s						
PE3				AML	AML		
	comp=N,14150µm,1.2s						
PE3				AML	AML		
	comp=N,14150µm,1.2s						
PE3				AML	AML		
	comp=E,14200µm,1.3s						
SNTG	**Esanatoglia**	**0.34**	**110**	AML	AML		
	comp=N,54450µm,0.2s						
SNTG				AML	AML		
	comp=E,4365µm,0.3s						
SNTG				AML	AML		
	comp=E,36250µm,0.3s						
SNTG				AML	AML		
	comp=N,54450µm,0.2s						
SNTG				AML	AML		
	comp=N,6755µm,0.2s						
PARC	**Parchiule**	**0.34**	**325**	P	**Pg**	**01 37 07.9**	**+0.2**
PARC				AML	AML		
	comp=E,5040µm,0

FIU1 AML AML
comp=N,55550µm,0.2s
MMUR Monte Murano 0.37 78 P Pg 01 37 08.0 -0.1
MMUR S Sg 01 37 13.9 +0.9
MMUR AML AML
comp=N,32700µm,1.3s
MMUR AML AML
comp=E,46900µm,0.4s
MMUR AML AML
comp=E,46900µm,0.4s
MMUR AML AML
comp=N,32700µm,1.3s
FSSB Fossombrone 0.38 31 P Pg 01 37 08.3 -0.1
FSSB S Sg 01 37 14.5 +1.1
FSSB AML AML
comp=E,17550µm,0.4s
FSSB AML AML
comp=N,19600µm,0.6s
FSSB AML AML
comp=N,19600µm,0.6s
FSSB AML AML
comp=E,17550µm,0.4s
MTL1 Matelica 0.39 107 P Pg 01 37 08.6 +0.1
MTL1 S Sg 01 37 14.8 +1.2
MTL1 AML AML
comp=E,26850µm,0.6s
MTL1 AML AML
comp=N,37100µm,0.4s
MTL1 AML AML
comp=E,26850µm,0.6s
MTL1 AML AML
comp=N,37150µm,0.4s
MTL1 AML AML
comp=N,37150µm,0.4s
MTL1 AML AML
comp=E,26850µm,0.6s
CAFI Castiglion Fio 0.40 264 P Pg 01 37 09.1 +0.4
CAFI S Sg 01 37 15.3 +1.4
CAFI AML AML
comp=E,4310µm,0.1s
CAFI AML AML
comp=N,6090µm,0.5s
CRM1 Catelraimondo 0.43 111 P Pg 01 37 09.5 +0.1
CRM1 S Sb 01 37 16.5 -1.2
CRM1 AML AML
comp=E,32900µm,0.5s
CRM1 AML AML
comp=N,31300µm,0.3s
CRM1 AML AML
comp=E,32850µm,0.5s
CRM1 AML AML
comp=N,31300µm,0.3s
CRM1 AML AML
comp=E,32850µm,0.5s
EL6 Elcito 0.44 95 AML AML
comp=N,33800µm,0.7s
EL6 AML AML
comp=E,18450µm,1.6s
EL6 AML AML
comp=E,18400µm,1.6s
EL6 AML AML
comp=E,18400µm,1.6s
EL6 AML AML
comp=N,33800µm,0.7s
COR1 Corinaldo 0.45 54 P Pg 01 37 10.1 +0.4
CPGN Carpegna, Ital 0.45 343 P Pg 01 37 10.5 +0.7
CPGN AML AML
comp=N,4565µm,0.8s
CPGN AML AML
comp=E,4255µm,0.6s
CPGN AML AML
comp=N,4405µm,0.7s
CPGN AML AML
comp=E,4300µm,0.6s
CPGN AML AML
comp=E,4240µm,0.6s
CPGN AML AML
comp=N,4395µm,0.7s
CESI CESI - Serrava 0.47 141 AML AML
comp=E,2450µm,0.3s
CESI AML AML
comp=N,4975µm,0.7s
CRE Caprese Michel 0.47 302 AML AML
comp=E,3235µm,0.5s
CRE AML AML
comp=N,2925µm,0.8s
CING Cingoli 0.50 89 P Pg 01 37 10.6 -0.2
CING S Sb 01 37 18.6 -1.2
CING AML AML
comp=E,6470µm,1.2s
CING AML AML
comp=N,8645µm,0.8s
FDMO Fiordimonte 0.54 128 AML AML
comp=N,16900µm,0.2s
FDMO AML AML
comp=N,16900µm,0.2s
FDMO AML AML
comp=E,14450µm,0.2s
MGAB Montegabbione 0.54 212 P Pg 01 37 11.7 +0.3
MGAB S Sb 01 37 20.3 -0.5
MGAB AML AML
comp=E,27950µm,0.5s
MGAB AML AML
comp=N,22050µm,0.3s
MGAB AML AML
comp=E,27300µm,0.5s
MGAB AML AML
comp=N,24050µm,0.5s
MGAB AML AML
comp=N,24050µm,0.5s
MGAB AML AML
comp=N,22050µm,0.3s
MGAB AML AML
comp=E,28000µm,0.5s
MGAB AML AML
comp=E,27300µm,0.5s
RSM Repubblica di 0.56 356 P Pb 01 37 12.8 -0.4
MOMA Monte Martano 0.57 175 P Pg 01 37 11.9 -0.1
MOMA AML AML
comp=E,11600µm,1.4s
MOMA AML AML
comp=N,8260µm,0.3s
MOMA AML AML
comp=E,12250µm,1.4s
MOMA AML AML
comp=N,8415µm,0.3s
MOMA AML AML
comp=N,8255µm,0.3s
FEMA Monte Fema 0.57 135 AML AML
comp=N,13550µm,0.3s
FEMA AML AML
comp=N,13600µm,0.3s
FEMA AML AML
comp=E,17700µm,0.6s
CSP1 Cessapalombo 0.58 118 AML AML
comp=E,13300µm,0.4s
CSP1 AML AML
comp=E,13325µm,0.4s
CSP1 AML AML
comp=N,16150µm,0.2s
CSP1 AML AML
comp=E,13325µm,0.4s
PESA Pesaro 0.62 23 P Pg 01 37 13.1 +0.1
PESA AML AML
comp=E,6600µm,0.8s
PESA AML AML
comp=N,6340µm,0.3s
PESA AML AML
comp=E,6605µm,0.8s
SENI Senigallia 0.63 57 AML AML
comp=N,3885µm,1.6s
SENI AML AML
comp=E,19700µm,0.9s
SENI AML AML
comp=N,13850µm,0.5s
SENI AML AML
comp=E,5070µm,1.3s
SENI AML AML
comp=N,13800µm,0.5s
SENI AML AML
comp=E,4870µm,1.3s
SENI AML AML
comp=E,19700µm,0.9s
ASQU Asqua 0.67 310 P Pg 01 37 14.1 +0.1
ASQU AML AML
comp=E,1630µm,1.5s
ASQU AML AML
comp=N,3105µm,0.8s
SACS San Casciano d 0.68 220 P Pg 01 37 14.2 +0.1
SACS AML AML
comp=N,10710µm,0.5s
SACS AML AML
comp=N,10340µm,0.5s
SACS AML AML
comp=E,7785µm,0.6s
SACS AML AML
comp=E,6875µm,0.6s
NRCA Norcia 0.70 140 AML AML
comp=E,8135µm,0.2s
NRCA AML AML
comp=E,8630µm,0.2s
NRCA AML AML
comp=N,14500µm,0.2s
NRCA AML AML
comp=N,15000µm,0.2s
SFI Santa Sofia 0.72 318 P Pg 01 37 14.7 -0.2
SFI AML AML
comp=N,1110µm,0.9s
SFI AML AML
comp=N,1290µm,1.5s
SFI AML AML
comp=N,1325µm,0.8s
SFI AML AML
comp=E,1365µm,0.6s
SFI AML AML
comp=E,1385µm,1.0s
MNTP Montappone 0.74 108 P Pg 01 37 15.6 +0.3
MNTP AML AML
comp=E,11200µm,0.6s
MNTP AML AML
comp=N,9110µm,0.4s
CESX Cesi 0.76 176 P Pg 01 37 15.2 -0.4
CESX AML AML
comp=E,10300µm,0.5s
CESX AML AML
comp=N,8315µm,0.5s
BLLA Bellaria 0.77 358 AML AML
comp=N,2820µm,1.5s
BLLA AML AML
comp=E,2615µm,1.6s
ARRO Arrone 0.81 166 P Pg 01 37 16.3 -0.3
ARRO AML AML
comp=N,3395µm,0.6s
ARRO AML AML
comp=E,3925µm,0.8s
AOI Ancona 0.82 77 P Pg 01 37 16.3 -0.5
AOI AML AML
comp=E,2445µm,0.6s
AOI AML AML
comp=N,2630µm,0.5s
MCIV Monte Civitell 0.85 226 P Pg 01 37 16.7 -0.5
MCIV AML AML
comp=E,1705µm,0.5s
MCIV AML AML
comp=N,1330µm,0.9s
MCIV AML AML
comp=E,1705µm,0.4s
MCIV AML AML
comp=N,1330µm,0.9s
LNSS Leonessa 0.86 153 P Pg 01 37 16.9 -0.6
LNSS AML AML
comp=N,6765µm,0.4s
LNSS AML AML
comp=E,6775µm,0.3s
RUFI Rufina 0.86 303 P Pg 01 37 17.2 -0.3
RUFI AML AML
comp=E,1345µm,0.9s
RUFI AML AML
comp=N,2140µm,0.7s
CSNT Castellina Chi 0.89 277 P Pg 01 37 18.0 -0.1
CSNT AML AML
comp=E,2020µm,0.9s
CSNT AML AML
comp=N,1750µm,0.7s
LATE Laterza 0.91 214 P Pg 01 37 18.5 -0.1
LATE AML AML
comp=E,6125µm,0.7s
LATE AML AML
comp=N,7940µm,0.5s
OSSC Osservatorio P 0.93 280 P Pg 01 37 18.9 0.0
OSSC AML AML
comp=N,1465µm,0.6s
OSSC AML AML
comp=E,1635µm,0.8s
OSSC AML AML
comp=N,1350µm,0.7s
OSSC AML AML
comp=E,1645µm,0.8s
SMA1 SAN MARTINO 0.96 140 P Pg 01 37 18.5 -0.9
SMA1 AML AML
comp=N,3800µm,1.6s
SMA1 AML AML
comp=E,5600µm,1.3s
FROS Frosini 1.00 261 P Pg 01 37 19.9 -0.2
FROS AML AML
comp=N,1960µm,1.6s
FROS AML AML
comp=E,2040µm,1.2s
BRIS BRISIGHELLA 1.06 318 AML AML
comp=N,1565µm,1.1s
BRIS AML AML
comp=E,698µm,0.8s
CAMP Campotosto 1.06 141 P Pg 01 37 20.4 -1.0
SEI Scarperia 1.08 310 AML AML
comp=E,1525µm,0.6s
SEI AML AML
comp=N,2025µm,0.5s
GUMA Gualdo di Mace 1.09 106 AML AML
comp=E,16450µm,0.7s
GUMA AML AML
comp=E,21050µm,0.9s
GUMA AML AML
comp=N,19850µm,0.3s
GUMA AML AML
comp=N,19850µm,0.3s
GUMA AML AML
comp=N,15850µm,0.4s
GUMA AML AML
comp=E,21050µm,0.9s
TERO Teramo 1.10 132 P Pg 01 37 20.7 -1.3
TERO AML AML
comp=N,1435µm,0.8s
TERO AML AML
comp=N,3485µm,0.7s
TERO AML AML
comp=E,2410µm,0.3s
TERO AML AML
comp=E,1062µm,1.2s
T0104 Madonna delle 1.18 148 P Pb 01 37 22.6 -1.2
T0104 AML AML
comp=E,3360µm,0.8s
T0104 AML AML
comp=N,3010µm,1.0s
T0104 AML AML
comp=E,3695µm,0.8s
T0104 AML AML
comp=N,2995µm,1.0s
FIAM Fiamignano 1.19 158 P Pb 01 37 22.3 -1.7
FIAM AML AML
comp=E,2380µm,0.6s
FIAM AML AML
comp=N,1855µm,0.5s
TRIF Trifonti 1.20 258 P Pb 01 37 23.3 -0.8
TRIF AML AML
comp=E,728µm,0.7s
TRIF AML AML
comp=N,792µm,0.8s
AQU L'Aquila 1.21 147 *e*Pn **Pb 01 37 23.0 -1.3**
MTCR Monte La Croce 1.27 302 AML AML
comp=N,1095µm,0.6s
MTCR AML AML
comp=E,524µm,1.0s
CASP Castiglione de 1.33 245 P Pn 01 37 24.6 -1.5
CASP AML AML
comp=N,344µm,1.1s
CASP AML AML
comp=E,363µm,0.8s
MTCE Montecelio 1.36 173 AML AML
comp=E,996µm,1.4s
MTCE AML AML
comp=N,780µm,0.5s
TOLF Tolfa 1.36 196 P Pn 01 37 25.4 -0.9
TOLF AML AML
comp=E,974µm,0.8s
TOLF AML AML
comp=N,804µm,0.8s
FAGN Fagnano 1.36 144 P Pn 01 37 25.6 -0.9
FAGN AML AML
comp=N,3735µm,0.4s
FAGN AML AML
comp=E,3865µm,0.5s
MAON Monte Argentar 1.38 227 P Pn 01 37 25.5 -1.2
MAON AML AML
comp=N,325µm,0.9s
MAON AML AML
comp=E,417µm,1.0s
VCEL Villa Celiera 1.38 134 P Pn 01 37 26.0 -0.8
VCEL AML AML
comp=E,3310µm,1.0s
VCEL AML AML
comp=N,2665µm,0.6s
MAIM Mastiano 1.56 291 AML AML
comp=N,412µm,0.6s
MAIM AML AML
comp=E,496µm,0.9s
INTR Introdacqua 1.71 142 P Pn 01 37 31.1 -0.1
INTR AML AML
comp=E,1225µm,0.8s
INTR AML AML
comp=N,1760µm,0.7s
BRJN Brijuni 1.78 30 *e*Pn **Pn 01 37 32.6 +0.5**
BRJN Sn **Sb 01 37 56.3 -0.1**
DUGI Dugi Otok 1.95 71 *i* Pn **Pn 01 37 34.5 -0.1**
NVLJ Novalja 2.08 54 *i* Pn **Pn 01 37 36.4 0.0**
ZIRJ Zirje 2.30 82 *i* Pn **Pn 01 37 39.5 +0.2**
MORI Morici 2.38 77 *e*Pn **Pn 01 37 40.9 +0.5**
MORI Sn **Sb 01 38 13.4 -0.2**
RIY Rijeka 2.42 35 ePn **Pn 01 37 41.5 +0.6**
RIY Sn **Sn 01 38 12.0 +1.3**
RIY Rijeka 2.42 35 *e*Pn **Pn 01 37 41.5 +0.6**
RIY *e*Sn **Sb 01 38 13.8 -1.0**
RIY Rijeka 2.42 35 *e*Pn **Pn 01 37 40.9 0.0**
SKDS Skadanscina 2.43 26 *i* Pn **Pn 01 37 40.4 -0.7**
comp=Z,73nm,0.3s
TRI Trieste 2.51 21 P Pn 01 37 41.3 -0.9
TRI AML AML
comp=N,276µm,0.6s
TRI AML AML
comp=E,271µm,0.8s
CGRP Cima Grappa 2.56 349 P Pn 01 37 43.3 +0.2
UDBI Udbina 2.62 63 *i* Pn **Pn 01 37 44.9 +1.1**
POLC Polcenigo 2.66 360 AML AML
comp=N,852µm,0.5s
POLC AML AML
comp=E,914µm,0.7s
PGF Pioggiola 2.70 254 *e*Pn **Pn 01 37 44.6 -0.4**
PGF *e*Sn **Sn 01 38 15.7 -2.3**
comp=E,11nm,0.4s
SABO M.te Sabotino 2.72 16 AML AML
comp=E,426µm,1.5s
SABO AML AML
comp=N,655µm,0.7s
CEY Cerknica 2.74 29 *e*Pn **Pn 01 37 45.1 -0.3**
CEY *e*Sn **Sb 01 38 21.8 -2.3**
CEY Cerknica 2.74 29 *i* Pn **Pn 01 37 44.9 -0.5**
CEY Cerknica 2.74 29 ⇑*i* Pn **Pn 01 37 44.9 -0.5**
VOJS Vojsko 2.84 20 *i* Pn **Pn 01 37 46.3 -0.6**
HVAR Hvar 2.89 92 *e*Pn **Pn 01 37 47.6 +0.2**
HVAR Sn **Sn 01 38 22.3 -0.1**
STAL STALIGIAL 2.89 3 AML AML
comp=E,331µm,0.9s
STAL AML AML
comp=E,288µm,1.1s
STAL AML AML
comp=N,236µm,0.8s
STAL AML AML
comp=N,302µm,1.5s
KIJV Kijevo 2.90 76 *e*Pn **Pn 01 37 48.4 +0.8**
BOJS Bojanci 2.90 42 *e*Pn **Pn 01 37 47.9 +0.3**
BOJS *e*Sn **Sb 01 38 26.4 -2.4**
LJU Ljubljana 3.04 28 *e*Pn **Pn 01 37 49.8 +0.3**
LJU *e*Sn **Sn 01 38 28.1 +2.0**
LJU Ljubljana 3.04 28 *e*Pn **Pn 01 37 49.7 +0.3**
LJU Ljubljana 3.04 28 AML AML
comp=N,748µm,0.7s
LJU AML AML
comp=E,458µm,0.9s
OZLJ Ozalj 3.09 42 *i* Pn **Pn 01 37 50.6 +0.5**
CRES Cresnjev 3.24 40 ⇑*i* Pn **Pn 01 37 52.5 +0.3**
MAKA Makarska 3.29 90 *e*Pn **Pn 01 37 53.7 +0.7**
MAKA Sn **Sn 01 38 33.5 +1.1**
MYKA Terra Mystica 3.36 13 *e*Pn **Pn 01 37 54.2 +0.2**
comp=E,1.6nm,0.2s
MYKA Sg **Sg 01 38 46.9 -1.9**
comp=E,31nm,0.6s
RICI Ricice 3.37 86 iPn **Pn 01 37 55.5 +1.4**
RICI Sn **Sn 01 38 36.7 +2.3**
ABTA Abfaltersbach 3.38 0 *e*Pn **Pn 01 37 55.2 +0.9**
comp=E,29nm,0.5s,SNR=22
ABTA *e*Sn **Sn 01 38 36.7 +2.1**
comp=E,53nm,0.6s
OBKA Obir 3.46 24 *e*Pn **Pn 01 37 55.0 -0.4**
comp=E,4.3nm,0.5s,SNR=7.8
OBKA Pg **Pg 01 38 05.9 -1.4**
comp=E,34nm,0.5s
OBKA Sg **Sg 01 38 56.4 +4.3**
comp=E,116nm,0.7s
MGRS Mrkonjic Grad 3.47 71 *e*Pn **Pn 01 37 56.9 +1.4**
ZAG Zagreb 3.50 44 *e*Pn **Pb 01 38 02.5 -0.7**
PTJ Puntijarka 3.54 43 ePn **Pn 01 37 56.4 -0.1**
BLY Banja Luka 3.64 66 *e*Pn **Pn 01 37 58.9 +1.1**
BLY *e*Sn **Sn 01 38 45.2 +4.2**
BLY Banja Luka 3.64 66 *e*Pn **Pn 01 37 58.4 +0.6**
BLY Banja Luka 3.64 66 ⇑P **Pn 01 37 58.8 +1.0**
BLY AML AML 01 39 09.0
SBF Sospel 3.71 279 *e*Pn **Pn 01 37 59.3 +0.4**
SBF *e*Sn **Sn 01 38 41.1 -1.8**
comp=E,20nm,0.4s
KBA Koelnbreinsper 3.76 9 *e*Pn **Pn 01 38 00.5 +0.9**
comp=E,10.0nm,0.3s,SNR=13
KBA *e*Sn **Sn 01 38 45.8 +1.8**
comp=E,8.9nm,0.3s
SOKA Soboth 3.76 28 *e*Pn **Pb 01 38 07.0 -0.8**
comp=E,4.5nm,0.4s
SOKA Sg **Sg 01 39 02.0 +0.2**
comp=E,37nm,0.9s
MOSL Moslavina 3.78 52 *e*Pn **Pn 01 37 59.4 -0.3**
STON Ston 3.83 96 *e*Pn **Pn 01 38 00.4 0.0**
STON Ston 3.83 96 *e*Pn **Pn 01 38 00.9 +0.5**
STON *e*Sn **Sn 01 38 47.4 +1.7**
STON Ston 3.83 96 *e*Pn **Pn 01 38 00.5 0.0**
FETA Feichten 3.86 342 *e*Pn **Pn 01 38 03.2 +2.3**
comp=E,14nm,0.7s,SNR=36
FETA Sn **Sb 01 38 53.4 -3.1**
comp=E,11nm,0.6s
DAVOX Davos/Dischmat 3.88 332 Pn **Pn 01 38 04.2 +2.9**
DAVOX Sn **Sn 01 38 49.2 +1.9**
comp=E,0.8nm,0.3s,baz=138,slow=18,SNR=2.0
KALN Kalnik 3.94 44 *e*Pn **Pn 01 38 01.3 -0.7**
WTTA Wattenberg 3.94 351 *e*Pn **Pn 01 38 04.0 +1.9**
comp=E,2.1nm,0.3s,SNR=5.2
WTTA Sn **Sn 01 38 50.3 +1.7**
comp=E,39nm,0.5s
BAI Bari 3.96 123 ⇓*i* Pn **Pn 01 38 02.7 +0.6**
SQTA Sankt Quirin 3.96 347 *e*Pn **Pn 01 38 05.2 +2.9**
comp=E,12nm,0.3s,SNR=7.2
SQTA *e*Sn **Sb 01 38 54.1 -5.2**
comp=E,34nm,0.5s
SG1 Sgolgore (BA) 4.00 128 ⇓*i* Pn **Pn 01 38 03.7 +0.9**
WATA Walderalm 4.02 351 *e*Pn **Pn 01 38 05.6 +2.5**
comp=E,7.1nm,0.2s
WATA Sn **Sn 01 38 54.9 +4.4**
comp=E,29nm,0.6s
MOTA Moosalm 4.10 347 *e*Pn **Pn 01 38 06.7 +2.6**
comp=E,20nm,0.7s,SNR=7.4
MOTA *e*Sn **Sb 01 38 58.3 -5.0**
comp=E,22nm,0.6s
MATE Matera 4.14 130 ⇓P **Pn 01 38 05.7 +1.1**
MATE ⇓S **Sn 01 38 50.5 -2.8**
MATE AML AML 01 39 26.3
FRF La Foret Royal 4.27 275 *e*Pn **Pn 01 38 06.2 -0.2**
FRF *e*Sn **Sn 01 38 53.7 -2.8**
comp=E,24nm,0.8s
RETA Reutte 4.30 344 *e*Pn **Pn 01 38 09.4 +2.5**
comp=E,11nm,0.4s
RETA Sn **Sn 01 39 01.1 +3.8**
comp=E,15nm,0.5s
DAVA Damuels 4.33 336 *e*Pn **Pn 01 38 10.4 +3.0**
comp=E,30nm,0.6s,SNR=5.3

DAVA Sn Sn 01 39 02.5 +4.3
comp=E,9.5nm,0.3s
TREB Trebinje 4.33 97 *e*Pn Pn 01 38 08.0 +0.7
TREB *e*Sn Sn 01 39 00.2 +2.1
TREB Trebinje 4.33 97 *e*Pn Pn 01 38 07.7 +0.4
MBDF Montbardon 4.35 290 *e*Pn Pn 01 38 07.7 0.0
MBDF *e*Sn Sn 01 38 55.7 -3.0
comp=E,26nm,0.8s
MASS Massafra 4.41 127 *e*Pn Pn 01 38 09.2 +0.9
ARSA Arzberg 4.43 28 *e*Pn Pn 01 38 08.3 -0.3
comp=E,3.7nm,0.5s
ARSA Sn Sn 01 38 59.8 -0.6
comp=E,5.7nm,0.3s
BRY Bratogost 4.44 94 *e*Pn Pn 01 38 09.6 +0.7
HCY Herceg Novi 4.49 100 *e*Pn Pn 01 38 09.9 +0.4
LPG La Plagne 4.64 299 *e*Pn Pn 01 38 12.1 +0.4
LPG *e*Sn Sn 01 39 04.3 -1.7
comp=E,10.0nm,0.6s
MOA Molln 4.65 15 *e*Pn Pn 01 38 12.3 +0.7
comp=E,3.0nm,0.2s
MOA *e*Sn Sn 01 39 07.9 +2.1
comp=E,15nm,0.6s
LPL La Plagne 4.66 299 *e*Pn Pn 01 38 12.4 +0.4
LPL *e*Sn Sn 01 39 04.0 -2.4
comp=E,7.2nm,0.5s
UPM Unac-Piva 4.67 90 *e*Pn Pn 01 38 13.6 +1.4
HAPS Han Pijesak,BI 4.73 79 *e*Pn Pn 01 38 13.3 +0.5
HAPS Han Pijesak,BI 4.73 79 *e*Pn Pn 01 38 13.1 +0.3
RUDO Rudo 5.00 85 *e*Pn Pn 01 38 17.1 +0.6
ORIF Oris-en-Rattie 5.01 290 *e*Pn Pn 01 38 17.3 +0.6
ORIF *e*Sn Sn 01 39 12.5 -2.4
comp=E,8.4nm,0.5s
BBLS Lazići 5.03 82 *e*Pn Pn 01 38 18.7 +1.7
BBLS Lazići 5.03 82 *e*Pn Pn 01 38 18.6 +1.6
PDG Podgorica 5.05 98 *e*Pn Pn 01 38 18.1 +1.0
PDG *e*Sn Sn 01 39 17.5 +1.9
PDG Podgorica 5.05 98⇑ *i*Pn Pn 01 38 18.1 +1.0
PDG Podgorica 5.05 98 ⇑P Pn 01 38 17.4 +0.3
PDG AML AML 01 39 21.1
DRME Dracevica, Mon 5.06 101⇑ *i*Pn Pn 01 38 18.1 +0.9
SMRF Simiane la Rot 5.06 279 *e*Pn Pn 01 38 17.6 +0.2
SMRF *e*Sn Sn 01 39 12.9 -3.2
comp=E,3.8nm,0.6s
CONA Conrad Observa 5.13 26 *e*Pn Pn 01 38 18.2 -0.1
comp=E,2.7nm,0.4s
CONA Sn Sn 01 39 19.1 +1.3
comp=E,7.5nm,0.5s
SOP Sopron 5.17 32 *e*Pn Pn 01 38 19.0 +0.3
SOP Sn Sn 01 39 18.1 -0.6
TIH Tihany 5.20 45 *e*Pn Pn 01 38 19.0 -0.1
TIH Sn Sn 01 39 19.1 -0.2
MPLH Magyarpolny 5.20 41 *e*Pn Pn 01 38 19.1 -0.1
MPLH Sn Sn 01 39 17.1 -2.4
MORH Mrgy, Hungar 5.21 55 *e*Pn Pn 01 38 17.8 -1.5
MORH Mrgy, Hungar 5.21 55 *e*Pn Pn 01 38 19.0 -0.3
MORH Sn Sn 01 38 18.1 -1.6
SJES Sjenica 5.45 89 *e*Pn Pn 01 38 24.2 +1.5
SJES *e*Sn Sn 01 39 27.9 +2.2
DIVS Divibare 5.47 80 *e*Pn Pn 01 38 23.1 +0.1
DIVS Divibare 5.47 80 *e*Pn Pn 01 38 23.6 +0.6
GERES GERESS Array B 5.54 8 Pn Pn 01 38 23.9 0.0
comp=E,1.0nm,0.3s,baz=179,slow=12,SNR=27
GERES Sn Sn 01 39 26.3 -1.6
comp=E,1.6nm,0.3s,baz=195,slow=22,SNR=7.8
FRGS Fruska Gora 5.54 69 *e*Pn Pn 01 38 23.5 -0.4
IVAS Ivanjica 5.57 85 *e*Pn Pn 01 38 24.4 +0.1
IVAS *e*Sn Sn 01 39 29.4 +0.8
CABF La Chapelle 5.59 308 *e*Pn Pn 01 38 25.0 +0.4
CABF *e*Sn Sn 01 39 27.5 -1.6
comp=E,5.9nm,0.6s
TRUS Trudelj 5.78 79 *e*Pn Pn 01 38 27.9 +0.7
KHC Kasperske Hory 5.81 7 *e*PN Pn 01 38 27.8 +0.2
KHC *e*SN Sn 01 39 34.2 -0.3
KHC *e*SG Sg 01 40 15.0 +7.5
TIR Tirane 5.81 108 *e*Pn Pn 01 38 28.1 +0.4
TIR *e*Sn Sn 01 39 34.1 -0.5
TIR Tirane 5.81 108 ⇑P Pn 01 38 28.1 +0.4
TIR AML AML 01 39 40.5
VIVF Saint-Julien-l 5.83 287 *e*Pn Pn 01 38 28.0 +0.1
HINF Hinteralfeld 5.96 320 *e*Pn Pn 01 38 30.6 +1.0
HINF *e*Sn Sn 01 39 35.5 -2.6
comp=E,9.7nm,0.5s
GRUS Gruza 5.98 82 *e*Pn Pn 01 38 30.6 +0.7
GRUS *e*Sn Sn 01 39 39.8 +1.1
MODS Modra-Piesok 6.01 32 *e*PN Pn 01 38 29.0 -1.3
MODS *e*SN Sn 01 39 36.9 -2.5
SMOL Smolenice 6.18 32 *e*PN Pn 01 38 34.0 +1.3
SMOL *e*SN Sn 01 39 34.1 -10
CDF Champ du Feu 6.22 326 *e*Pn Pn 01 38 33.6 +0.3
CDF *e*Sn Sn 01 39 42.8 -1.9
comp=E,2.3nm,0.3s
TREC Trest 6.28 18 *e*PN Pn 01 38 33.4 -0.6
TREC *e*SN Sn 01 39 43.5 -2.4
SELS Selova 6.29 88 *e*Pn Pn 01 38 34.3 +0.1
LASF Ste Croix 6.31 279 *e*Pn Pn 01 38 34.5 +0.1
HAU Haudompre 6.33 319 *e*Pn Pn 01 38 35.2 +0.5
HAU *e*Sn Sn 01 39 44.1 -3.2
comp=E,12nm,0.5s
BANR Banloc 6.50 69 ⇓P Pn 01 38 37.9 +0.8
VRAC Vranov 6.58 24 Pn Pn 01 38 39.6 +1.5
comp=E,0.2nm,0.3s,baz=228,slow=9.3,SNR=2.2
VRAC Sn Sn 01 39 51.6 -1.7
comp=E,0.4nm,0.3s,baz=162,slow=15,SNR=2.2
VRAC Vranov 6.58 24 ⇓P Pn 01 38 43.6 +5.5
TIM Timisoara 6.66 66 ⇓P Pn 01 38 40.3 +1.1
BOVS Bovan 6.70 85 *e*Pn Pn 01 38 40.4 +0.7
GOPC GO Pecny, Ondr 6.73 13 *e*PN Pn 01 38 39.7 -0.5
VYHS Vyhne 6.76 39 *e*PN Pn 01 38 39.5 -1.2
VYHS *e*SN Sn 01 39 53.0 -4.9
PRU Pruhonice 6.77 11 *e*PN Pn 01 38 39.6 -1.1
PRU *e*SN Sn 01 39 53.3 -4.7
MDVR Moldovita 6.78 75 ⇑P Pn 01 38 40.7 -0.3
BARS Barje 6.84 91 *e*Pn Pn 01 38 42.3 +0.6
BARS *e*Sn Sn 01 39 59.0 -0.8
NKC Novy Kostel 6.87 360 *e*PN Pn 01 38 42.2 +0.1
NKC *e*SN Sn 01 39 59.0 -1.5
BZS Buzias 6.89 68 ⇑P Pn 01 38 42.9 +0.5
SMF Signal de Mont 6.96 301 *e*Pn Pn 01 38 43.9 +0.5
SMF *e*Sn Sn 01 40 00.1 -2.6
comp=E,1.4nm,0.4s
PAGF Fort de Pagny 7.01 320 *e*Pn Pn 01 38 44.3 +0.2
PAGF *e*Sn Sn 01 40 01.1 -3.0
ZAGS Zajecar 7.08 83 *e*Pn Pn 01 38 45.7 +0.7
SFTF Sexfontaines 7.11 315 *e*Pn Pn 01 38 46.3 +0.8
baz=136
SFTF *e*Sn Sn 01 40 04.1 -2.4
SIRR Siria 7.12 63 ⇓P Pn 01 38 46.5 +0.9
LOR Lormes 7.23 306 *e*Pn Pn 01 38 48.3 +1.2
baz=128
LOR *e*Sn Sn 01 40 06.8 -2.7
comp=E,1.5nm,0.2s
MEZF Maizieres J'vi 7.30 317 *e*Pn Pn 01 38 48.8 +0.8
MEZF *e*Sn Sn 01 40 08.7 -2.4
AVF Avril sur Loir 7.33 301 *e*Pn Pn 01 38 48.8 +0.4
AVF *e*Sn Sn 01 40 09.4 -2.3
comp=E,0.5nm,0.3s
SSF Saint Saulge 7.35 303 *e*Pn Pn 01 38 48.9 +0.2
SSF *e*Sn Sn 01 40 09.4 -2.9
comp=E,1.3nm,0.3s
BOSS Bosilegrad 7.37 93 *e*Pn Pn 01 38 49.1 0.0
ZAPS Zavoj 7.39 87 *e*Pn Pn 01 38 49.7 +0.4
BLKB Belogradchik 7.40 85 ⇑S Sn 01 40 10.0 -3.7
MTLF Montolieu 7.50 273 *e*Pn Pn 01 38 51.5 +0.7
BGF Bois d'Agland 7.55 298 *e*Pn Pn 01 38 56.7 +5.2
BRG Berggiesshubel 7.57 7 PN Pn 01 38 54.9 +3.2
BRG SN Sn 01 40 12.3 -5.4
comp=E,6.0nm,0.8s
BRG *e* 01 40 27.0
comp=E,7.6nm,1.0s
CHVC Chvalec 7.62 17 *e*PN Pn 01 38 51.2 -1.2
OSTC Ostas 7.62 18 *e*PN Pn 01 38 51.6 -0.9
GZR Gura Zlata 7.63 71 ⇑P Pn 01 38 52.9 +0.2
CAF Calviac 7.67 285 *e*Sn Sn 01 40 15.2 -5.1
comp=E,0.7nm,0.2s
VTS Vitosha 7.90 92 ⇑P Pn 01 38 56.1 -0.4
CLL Collm 7.95 2 *e*Pn Pn 01 38 57.0 +0.1
CLL *e*Sn Sn 01 40 20.0 -7.0
CLL *e*Sg Sg 01 41 23.0 +7.0
HYF Humbligny 7.97 303 *e*Sn Sn 01 40 24.0 -3.6
DRGR 7.99 61 ⇑P Pn 01 38 59.2 +1.6
KEST Kesra 8.01 199 Pn Pn 01 39 01.8 +3.9
comp=E,0.2nm,0.3s,baz=238,slow=4.3,SNR=2.0

TRPA Tarpa 8.48 52 *e*Pn Pn 01 39 03.0 -1.1
TRPA Sn Sn 01 40 33.0 -6.9
VOIR 9.22 73 ⇑P Pn 01 39 14.5 +0.2
MLR Muntele Rosu 9.85 73 Pn Pn 01 39 26.4 +3.3
comp=E,0.1nm,0.3s,baz=293,slow=21,SNR=3.6
AKASG Malin Array Be 13.54 51 Pn P 01 40 19.6 -3.0
comp=E,0.1nm,0.3s,baz=247,slow=12,SNR=1.8
BRTR Keskin Array B 16.23 96 Pn P 01 40 54.5 +1.8
comp=E,0.0nm,0.3s,baz=294,slow=11,SNR=3.0
FINES FINESS Array B 19.83 19 Pn Pn 01 41 35.5 +1.9
comp=E,0.1nm,0.3s,baz=216,slow=6.9,SNR=1.9
MMAI Mount Meron Ar 20.69 112 P Pn 01 41 43.1 -0.9
comp=E,2.7nm,0.9s,baz=316,slow=10,SNR=2.3
KBZ Khabaz 21.98 79 P P 01 41 57.3 +1.9
comp=E,2.7nm,1.0s,baz=258,slow=6.4,SNR=4.6
TORD Torodi Ar. Bea 31.52 200 P P 01 43 23.4 -0.4
comp=E,1.5nm,1.0s,baz=16,slow=9.5,SNR=5.1
ZALV Zalesovo Beam 46.93 50 P P 01 45 33.1 +1.2
comp=E,0.5nm,0.3s,baz=286,slow=5.4,SNR=1.9
MKAR Makanchi Array 47.91 60 P P 01 45 41.1 +1.3
comp=E,0.4nm,0.6s,baz=298,slow=5.2,SNR=4.1
YKA Yellowknife Ar 66.31 336 P P 01 47 50.3 +0.7
comp=E,0.3nm,0.7s,baz=41,slow=6.2,SNR=5.8
CMAR Chiang Mai Arr 75.03 79 P P 01 48 43.5 0.0
comp=E,0.8nm,0.3s,baz=312,slow=8.1,SNR=4.2

IDC 22 01:38:17.8±1.7, 5°59S×152°62E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/33, mbtmp3.5/3, Error ellipse: s-maj=41.1km s-min=20.4km az=97.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
KRVT	**Keravat (AS076**	**1.40**	**335**	Pn		Pb	01	38	45.4 +0.5
	159nm,0.3s,baz=124,slow=1.8,SNR=112								
KRVT				Sn		Sb	01	39	03.5 +0.2
	149nm,0.3s,baz=196,slow=17,SNR=19								
WRA	**Warramunga Arr**	**22.80**	**230**	P		P	01	43	22.0 -0.4
	0.4nm,0.6s,baz=53,slow=9.7,SNR=7.2								
ASAR	**Alice Springs**	**25.46**	**223**	P		P	01	43	47.7 0.0
	0.9nm,0.9s,baz=56,slow=8.9,SNR=9.0								
ILAR	**Eielson Array**	**82.95**	**22**	P		P	01	50	44.4 0.0
	0.6nm,0.7s,baz=251,slow=5.6,SNR=10								

*ISCJB **22** 01:47:28.6±0.7, 18°.24N×0°.08×145°.8E±0°.3, h135km, mb3.3/6, Error ellipse: s-maj=37.2km s-min=9.6km az=10.3*
*IDC **22** 01:47:28.2±4.0, 18°.30N×145°.85E, h115km±41km, mb3.3/6, mb1 3.6/7, mb1mx3.3/35, mbtmp3.7/7, Error ellipse: s-maj=44.4km s-min=26.9km az=110.0*
ISC 22 01:47:30.0±0.8, 18°.2N±0°.1×145°.8E±0°.3, h135km, n13, σ0§98/8, mb3.4/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
GUMO	**Guam**	**4.69**	**192**	P		**Pn**	**01**	**48**	**38.2 -0.8**
	4.9nm,0.3s,baz=192,slow=21,SNR=1.9								
GUMO				S		Sn	01	49	32.9 +0.2
	6.4nm,0.3s,baz=5.4,slow=23,SNR=2.0								
H11S3	**WAKE ISLAND Hy**	**19.80**	**86**	T		T	02	12	39.5
	baz=272,slow=75,SNR=8.1								
H11S1	**WAKE ISLAND Hy**	**19.81**	**86**	T		T	02	12	30.4
	baz=272,slow=75,SNR=10								
H11S2	**WAKE ISLAND Hy**	**19.82**	**86**	T		T	02	12	30.6
	baz=272,slow=75,SNR=9.3								
H11N1	**WAKE ISLAND Hy**	**19.98**	**82**	T		T	02	13	04.4
	baz=267,slow=74,SNR=8.2								
H11N2	**WAKE ISLAND Hy**	**19.98**	**82**	T		T	02	13	02.5
	baz=267,slow=74,SNR=5.7								
H11N3	**WAKE ISLAND Hy**	**19.99**	**82**	T		T	02	13	05.4
	baz=267,slow=74,SNR=8.2								
WRA	**Warramunga Arr**	**39.56**	**197**	P		**P**	**01**	**54**	**48.7 +0.7**
	0.5nm,0.8s,baz=27,slow=8.7,SNR=7.3								
MKAR	**Makanchi Array**	**58.89**	**314**	P		**P**	**01**	**57**	**15.6 +0.8**
	0.5nm,0.9s,baz=74,slow=7.7,SNR=2.6								
ILAR	**Eielson Array**	**64.03**	**26**	P		**P**	**01**	**57**	**47.9 -1.0**
	0.2nm,0.8s,baz=270,slow=4.6,SNR=4.7								
YKA	**Yellowknife Ar**	**78.36**	**28**	P		**P**	**01**	**59**	**15.5 +0.3**
	0.3nm,0.6s,baz=287,slow=5.6,SNR=8.4								
NVAR	**Mina Array Bea**	**83.34**	**52**	P		**P**	**01**	**59**	**43.4 +0.9**
	0.3nm,0.5s,baz=284,slow=4.5,SNR=2.9								
FINES	**FINESS Array B**	**87.38**	**335**	P		**P**	**02**	**00**	**00.6 -1.1**
	2.9nm,1.1s,baz=57,slow=5.1,SNR=1.0								

*SJA **22** 01:53:27.4±1.1, 32°.88S×70°.80W, h100km±4km, ML4.6, MW4.4*
*NEIC **22** 01:53:28.9±1.9, 32°.93S±0°.06×70°.50W±0°.08, h86km±4km*
*ISCJB **22** 01:53:28.2±0.2, 32°.94S±0°.02×70°.64W±0°.03, h106km±2km, mb4.2/11, Error ellipse: s-maj=5.0km s-min=3.4km az=22.9*
*VAO **22** 01:53:28.8±1.1, 32°.74S×70°.34W, h70km±6km, mb4.6*
*GUC **22** 01:53:29.5±0.6, 32°.87S×70°.62W, h95km±3km, ML5.0*
*IDC **22** 01:53:29.3±0.6, 32°.94S×70°.55W, h92km±4km, mb4.0/9, mb1 4.2/12, mb1mx4.0/22, mbtmp4.4/12, MS2.9/1, Ms1 2.9/1, ms1mx2.6/21, Error ellipse: s-maj=14.9km s-min=10.3km az=133.0*
ISC 22 01:53:28.7±0.4, 32°.93S±0°.04×70°.65W±0°.04, h91km±3km, n168, σ1§66/188, mb4.5/15, 4C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
PEL	**Peldehue**	**0.22**	**187**	*e*P		**Pn**	**01**	**53**	**42.5 +0.6**
PEL				*i* S		Sn	01	53	53.1 +1.3
PEL	**Peldehue**	**0.22**	**187**			**Pn**	**01**	**53**	**42.2 +0.2**
PEL				Sn		Sn	01	53	51.9 +0.1
PEL	**Peldehue**	**0.22**	**187**	*e*P		**Pn**	**01**	**53**	**42.5 +0.6**
PEL				*i* S		Sn	01	53	52.4 +1.0
ROCH	**El Roble**	**0.30**	**261**	⇓*i*P		**Pn**	**01**	**53**	**43.4 +0.8**
ROCH				*i* S		Sn	01	53	54.1 +1.3
ROCH				IAML			01	53	55.4
	comp=N,154μm,0.3s								
ROC1	**El Roble**	**0.31**	**261**			**Pn**	**01**	**53**	**42.9 +0.3**
ROC1				Sn		Sn	01	53	53.9 +1.0
ROC1	**El Roble**	**0.31**	**261**	*i* P		Pn	01	53	43.4 +0.8
ROC1				*i* S		Sn	01	53	54.1 +1.2
CLCH	**Cerro Calan**	**0.48**	**168**	⇓*i*P		Pn	01	53	44.4 +0.9
CLCH				*i* S		Sn	01	53	56.1 +1.7
CLCH				IAML			01	54	04.2
	comp=E,54μm,0.4s								
FCH	**Farellones**	**0.50**	**143**	⇓*i*P		**Pn**	**01**	**53**	**44.9 +1.0**
FCH				*i* S		Sn	01	53	56.8 +1.5
FCH				IAML			01	53	59.2
	comp=E,75μm,0.3s								
FSR	**Penalolen**	**0.56**	**169**	⇓*i*P		**Pn**	**01**	**53**	**46.3 +2.1**
FSR				*i* S		Sn	01	53	58.1 +2.5
RCDM	**Rinconada Maip**	**0.58**	**193**	*e*P		**Pn**	**01**	**53**	**45.6 +1.4**
RCDM				*i* S		Sn	01	53	58.1 +2.3
RCDM				IAML			01	53	59.1
	comp=E,118μm,0.4s								
ANTU	**Antumapu**	**0.64**	**179**	⇓*i*P		**Pn**	**01**	**53**	**46.7 +1.9**
ANTU				*i* S		Sn	01	53	59.2 +2.4
ANTU				IAML			01	54	00.2
	comp=E,161μm,0.4s								
VA01	**Torpederas**	**0.84**	**263**	⇑*i*P		**Pn**	**01**	**53**	**48.0 +1.4**
VA01				*i* S		Sn	01	54	01.9 +1.8
LMEL	**Las Melosas**	**0.99**	**158**	⇑*i*P		**Pn**	**01**	**53**	**49.8 +1.3**
LMEL				*i* S		Sn	01	54	05.8 +2.4
LMEL				IAML			01	54	07.9
	comp=N,70μm,0.1s								
ARCO	**CERRO ARCO**	**1.45**	**87**	*i* P		**Pn**	**01**	**53**	**55.8 +1.7**
ARCO				*i* S		Sn	01	54	16.5 +3.3
ARCO				IAML			01	54	20.1
	comp=Z,7μm,0.5s								
UTNM	**Universidad Te**	**1.51**	**89**	*i* P		**Pn**	**01**	**53**	**57.0 +2.3**
AAGR	**Agrelo**	**1.54**	**96**	*i* P		**Pn**	**01**	**53**	**57.0 +1.9**
ASAL	**Salagasta**	**1.57**	**78**	*i* P		**Pn**	**01**	**53**	**57.1 +1.7**
ASAL				*i* S		Sn	01	54	18.6 +2.9
RTLS	**Leoncito**	**1.61**	**46**	*i* P		**Pn**	**01**	**53**	**57.9 +1.8**
RTLS				IAML			01	53	58.5
	comp=Z,7μm,0.5s								
RTLS				*i* S		Sn	01	54	20.4 +3.5
CO02	**Combarbal**	**1.74**	**350**	⇑*i*P		**Pn**	**01**	**53**	**58.0 +0.3**
CO02				*i* S		Sn	01	54	19.8 +0.1
RTCV	**Cerro Valdivia**	**2.08**	**60**	*i* P		**Pn**	**01**	**54**	**03.2 +1.2**
ZON	**Zonda**	**2.17**	**51**	*i* P		**Pn**	**01**	**54**	**04.4 +1.2**
ZON				IAML			01	54	40.3
	comp=Z,1μm,0.4s								
SJA	**San Juan**	**2.25**	**52**	*e*P		**Pn**	**01**	**54**	**05.7 +1.3**
SJA				IAML			01	54	06.5
	comp=Z,2μm,0.2s								
GO05	**Huala**	**2.33**	**207**			**Pn**	**01**	**54**	**05.0 -0.3**
GO05	*Huala*	**2.33**	**207**	*i* P		**Pn**	**01**	**54**	**05.1 -0.3**
COIS	**El Sosneado**	**2.35**	**158**	⇑*i*P		**Pn**	**01**	**54**	**07.8 +2.2**
CFA	**Coronel Fontan**	**2.43**	**58**	P		**Pn**	**01**	**54**	**07.3 +0.7**
	comp=Z,436nm,0.3s,baz=222,slow=11,SNR=8621								
CFA				S		Sn	01	54	36.2 +0.4
	comp=Z,249nm,0.3s,baz=263,slow=9.6,SNR=4.3								
CFA	**Coronel Fontan**	**2.43**	**58**	*e*P		**Pn**	**01**	**54**	**07.5 +0.8**
CFA				*i* S		Sn	01	54	36.6 +0.7
RTLL	**Cerro Villicun**	**2.44**	**50**	*i* P		**Pn**	**01**	**54**	**07.8 +1.0**
RTLL				*i* S		Sn	01	54	37.4 +1.5
RTLL				IAML			01	54	40.0
	comp=Z,3μm,0.4s								
ACCO	**Cerro Coronel**	**2.69**	**31**	*i* P		**Pn**	**01**	**54**	**11.7 +1.3**
AMOG	**MOGNA**	**2.70**	**43**	*e*P		**Pn**	**01**	**54**	**11.3 +1.0**
GO04	**Tololo Observa**	**2.75**	**357**			**Pn**	**01**	**54**	**11.3 +0.3**
PUMA	**Malargue**	**2.75**	**159**	*i* P		**Pn**	**01**	**54**	**12.8 +1.9**
AROD	**Rodeo**	**2.93**	**20**	*i* P		**Pn**	**01**	**54**	**15.8 +2.2**
AROD				*i* S		Sn	01	54	51.3 +3.2
ACAN	**Cantantal**	**3.00**	**78**	*i* P		**Pn**	**01**	**54**	**14.9 +0.7**
ACAN				*i* S		Sn	01	54	48.6 -0.7
ACDV	**Cuesta del Vie**	**3.04**	**26**	*e*P		**Pn**	**01**	**54**	**16.6 +1.6**
ACDV				IAML			01	54	17.8
	comp=Z,2μm,0.5s								
ACDV				*i* S		Sn	01	54	54.3 +3.7
CCHI	**Chillan**	**3.85**	**197**	*i* P		**Pn**	**01**	**54**	**25.5 -0.2**
CANA	**Caviahue**	**4.96**	**184**	⇑*i*P		**Pn**	**01**	**54**	**42.0 +1.0**
GO03	**Copiap**	**5.33**	**4**			**Pn**	**01**	**54**	**44.7 -1.1**
GO03	**Copiap**	**5.33**	**4**	*i* P		**Pn**	**01**	**54**	**45.0 -0.8**
CYA	**Choya**	**6.12**	**44**	*i* P		**Pn**	**01**	**54**	**54.0 -2.6**
CYA				IAML			01	54	54.2
	comp=Z,313nm,0.3s								
GO06	**Curarrehue**	**6.68**	**185**			**Pn**	**01**	**55**	**02.9 -1.3**
GO06	*Curarrehue*	**6.68**	**185**	*i* P		**Pn**	**01**	**55**	**03.8 -0.4**
AHML	**Horco Molle**	**7.67**	**38**	⇑*i*P		**Pn**	**01**	**55**	**14.0 -3.7**
GO02	**Mina Guanaco**	**7.79**	**7**			**Pn**	**01**	**55**	**16.5 -3.1**
PLCA	**Paso Flores**	**7.79**	**179**	P		**Pn**	**01**	**55**	**19.1 -0.3**
	comp=Z,1.6nm,0.3s,baz=17,slow=13,SNR=21								
PLCA				S		Sn	01	56	46.4 +0.4
	comp=Z,0.6nm,0.3s,baz=347,slow=20,SNR=3.1								
PLCA	**Paso Flores**	**7.79**	**179**			**Pn**	**01**	**55**	**18.6 -0.8**
PLCA	*Paso Flores*	**7.79**	**179**	⇑*i*P		**Pn**	**01**	**55**	**18.9 -0.4**
TRQA	**Tornquist**	**8.73**	**128**	*e*P		**Pn**	**01**	**55**	**31.7 -0.4**
TRQA	*Tornquist*	**8.73**	**128**	*e*P		**Pn**	**01**	**55**	**31.7 -0.4**
TRQA	*Tornquist*	**8.73**	**128**	Pn		**Pn**	**01**	**55**	**30.5 -1.6**
TRQA	*Tornquist*	**8.73**	**128**	⇓*i*P		**Pn**	**01**	**55**	**31.4 -0.7**
PB10	**IPOC Station P**	**9.38**	**1**	Pn		**Pn**	**01**	**55**	**41.3 +0.3**
PB15	**IPOC Station P**	**9.74**	**6**	*i* P		**Pn**	**01**	**55**	**41.7 -4.3**
LVC	**Limon Verde**	**10.39**	**9**	P		**Pn**	**01**	**55**	**50.2 -4.9**
	comp=Z,1.7nm,0.3s,baz=162,slow=8.2,SNR=20								
LVC				S		Sn	01	57	40.1 -10
	comp=Z,2.7nm,0.3s,baz=220,slow=20,SNR=1.4								
LVC				LR		LR	01	59	37.6
	comp=Z,68nm,21.0s,baz=236,slow=36								
LVC	**Limon Verde**	**10.39**	**9**	*e*P		Pn	01	55	50.3 -4.8
LVC	*Limon Verde*	**10.39**	**9**	*e*P		Pn	01	55	50.3 -4.8
LVC	*Limon Verde*	**10.39**	**9**			Pn	01	55	50.0 -5.2
PB04	**IPOC Station P**	**10.56**	**3**			**Pn**	**01**	**55**	**54.2 -3.0**
PB09	**IPOC Station P**	**11.16**	**7**	*i* P		**Pn**	**01**	**56**	**00.8 -4.6**
ITQB	**Itaqui**	**12.43**	**79**	*e*P		**Pn**	**01**	**56**	**17.6 -4.6**
ITQB	*Itaqui*	**12.43**	**79**	*e*P		**Pn**	**01**	**56**	**17.6 -4.6**
PB11	**IPOC Station P**	**13.14**	**4**			**Pn**	**01**	**56**	**31.8 -0.2**
GO01	**Chusmiza**	**13.27**	**6**			**Pn**	**01**	**56**	**34.2 +0.3**
CPUP	**Villa Florida**	**13.32**	**64**	P		Pn	01	56	28.4 -5.7
	comp=Z,0.6nm,0.3s,baz=234,slow=11,SNR=15								
CPUP	**Villa Florida**	**13.32**	**64**	*e*P		**Pn**	**01**	**56**	**30.0 -4.0**
CPUP	*Villa Florida*	**13.32**	**64**	*e*P		**Pn**	**01**	**56**	**30.0 -4.0**
MNMC	**Minye Minye**	**13.77**	**4**			**Pn**	**01**	**56**	**40.6 +0.3**
PLTB	**Pedras Altas**	**14.46**	**90**	*e*P		**Pn**	**01**	**56**	**46.7 -2.2**
PLTB	*Pedras Altas*	**14.46**	**90**	*e*P		**Pn**	**01**	**56**	**46.7 -2.2**
LPAZ	**La Paz**	**16.72**	**8**	P		**P**	**01**	**57**	**18.7 -0.1**
	comp=Z,0.6nm,0.3s,baz=174,slow=8.4,SNR=42								
LPAZ	**La Paz**	**16.72**	**8**	*e*P		**Pn**	**01**	**57**	**18.5 +0.5**
LPAZ	*La Paz*	**16.72**	**8**	*e*P		**Pn**	**01**	**57**	**18.5 +0.5**
LPAZ	*La Paz*	**16.72**	**8**	P		**Pn**	**01**	**57**	**17.8 -0.3**
ITAB	**Concordia**	**17.00**	**75**	*e*P		**Pn**	**01**	**57**	**18.2 -2.5**
ITAB	*Concordia*	**17.00**	**75**	*e*P		**Pn**	**01**	**57**	**18.2 -2.5**
CNLB	**Canela**	**17.33**	**83**	*e*P		**Pn**	**01**	**57**	**23.8 -1.1**
CNLB	*Canela*	**17.33**	**83**	*e*P		**Pn**	**01**	**57**	**23.8 -1.1**
AQDB	**Aquidauana**	**18.20**	**51**	*e*P		**P**	**01**	**57**	**33.9 -0.6**
AQDB	*Aquidauana*	**18.20**	**51**	*e*P		**P**	**01**	**57**	**33.9 -0.6**
PTGB	**Pitanga**	**18.21**	**68**	*e*P		**P**	**01**	**57**	**33.6 -1.1**
PTGB	*Pitanga*	**18.21**	**68**	*e*P		**P**	**01**	**57**	**33.6 -1.1**
TRCB	**Terra Rica**	**18.83**	**62**	*e*P		**P**	**01**	**57**	**39.8 -1.7**
TRCB	*Terra Rica*	**18.83**	**62**	*e*P		**P**	**01**	**57**	**39.8 -1.7**
SIV	**San Ignacio**	**18.96**	**30**	P		**P**	**01**	**57**	**42.1 -0.8**
	comp=Z,2.5nm,0.3s,baz=219,slow=9.6,SNR=168								
**PP1

DBIC				pP		**pP**	**02 05 17.6**	**0.0**
	comp=Z,2.6nm,0.7s,baz=237,slow=5.2,SNR=3.1							
DBIC	**Dimbokro**	**73.73**	**71**	P		**P**	**02 04 53.0**	**-0.3**
DBIC				IAmb		IAmb	02 04 53.7	
	comp=Z,5.5nm,0.8s							
121A	**Cookes Peak, D**	**73.93**	**328**	P		P	02 05 00.4	+6.3
T25A	**Trinidad**	**76.49**	**333**	P		**P**	**02 05 10.7**	**+1.9**
T25A				IAmb		IAmb	02 05 34.7	
	comp=Z,7.9nm,1.0s							
Y14A	**Wickenburg**	**77.52**	**325**	P		P	02 05 20.4	+6.0
BOSA	**Boshof**	**79.54**	**117**	P		**P**	**02 05 25.9**	**-0.1**
	comp=Z,2.3nm,0.9s,baz=226,slow=5.5,SNR=3.7							
TOA0	**Torodi Ar. Sit**	**82.75**	**69**	P		**P**	**02 05 43.0**	**+0.1**
TOA0				IAmb		IAmb	02 05 43.6	
	comp=Z,4.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**82.75**	**69**	P		**P**	**02 05 42.6**	**-0.4**
	comp=Z,3.3nm,0.7s,baz=289,slow=6.3,SNR=22							
TORD				pP		**pP**	**02 06 07.8**	**0.0**
	comp=Z,1.4nm,0.6s,baz=281,slow=4.9,SNR=3.2							
PDAR	**Pinedale Array**	**83.34**	**332**	P		**P**	**02 05 46.1**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=129,slow=5.9,SNR=5.2							
PDAR				pP		**pP**	**02 06 10.9**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=149,slow=6.9,SNR=2.4							
NVAR	**Mina Array Bea**	**83.68**	**324**	P		**P**	**02 05 49.2**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=157,slow=6.4,SNR=9.1							
NVAR				pP		**pP**	**02 06 12.4**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=156,slow=5.8,SNR=5.8							
YMR	**Madison River**	**85.49**	**332**	P		**P**	**02 05 58.3**	**+1.9**
VYHS	**Vyhne**	**113.51**	**47**	*e*PDIFF		**Pdif**	**02 08 05.7**	**+2.3**
WRA	**Warramunga Arr**	**122.26**	**208**	PKP		**PKPdf**	**02 12 13.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=167,slow=1.7,SNR=7.4							
WRA				pPKP		**pPKPdf**	**02 12 38.1**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=161,slow=1.6,SNR=2.7							
H11S2	**WAKE ISLAND Hyl**	**26.94**	**269**	T		T	04 31 42.6	
	baz=118,slow=74,SNR=280							
H11S1	**WAKE ISLAND Hyl**	**26.96**	**269**	T		T	04 31 43.5	
	baz=118,slow=74,SNR=243							
H11S3	**WAKE ISLAND Hyl**	**26.96**	**269**	T		T	04 31 54.0	
	baz=118,slow=74,SNR=211							
H11N3	**WAKE ISLAND Hyl**	**27.33**	**271**	T		T	04 32 18.4	
	baz=116,slow=75,SNR=24							
H11N1	**WAKE ISLAND Hyl**	**27.34**	**271**	T		T	04 32 21.2	
	baz=116,slow=75,SNR=12							
H11N2	**WAKE ISLAND Hyl**	**27.35**	**271**	T		T	04 32 23.3	
	baz=116,slow=75,SNR=60							
BRVK	**Borovoye**	**145.64**	**42**			**PKPab**	**02 12 57.0**	**+0.2**
GAR	**Garm**	**148.01**	**68**			**PKiKP**	**02 13 04.7**	**-0.8**
KSH	**Kashi**	**152.39**	**67**	*e*PKPbc		**PKPdf**	**02 13 05.6**	**-1.7**
ZAA0	**Zalesovo Array**	**152.70**	**32**			**PKPbc**	**02 13 14.3**	**0.0**
ZALV	**Zalesovo Beam**	**152.70**	**32**	PKPbc		**PKiKP**	**02 13 14.6**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=304,slow=2.5,SNR=13							
ZALV				pPKPbc		**pPKPbc**	**02 13 39.7**	**-0.2**
	comp=Z,5.1nm,0.6s,baz=302,slow=3.4,SNR=8.0							
MKAR	**Makanchi Array**	**155.19**	**48**	PKPab		**PKPab**	**02 13 36.1**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=298,slow=4.2,SNR=10							
MKAR				pPKPab		**pPKPab**	**02 14 01.8**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=284,slow=4.3,SNR=2.0							
LZH	**Lanzhou**	**174.47**	**54**	*e*PKP		**PKPdf**	**02 13 26.5**	**-1.5**
LZH				pPKP		pPKPdf	02 13 47.3	-6.4
LZH				sPKP			02 13 54.9	
LZH				PKP		**PKPab**	**02 15 00.8**	**-0.6**
LZH				LR		LR		
	comp=N,56nm,18.0s							
LZH				LR		LR		
	comp=E,62nm,17.9s							
LZH				LR		LR		
	comp=Z,79nm,20.1s							
CD2	**Chengdu**	**174.84**	**111**	PKP		**PKPdf**	**02 13 28.9**	**+0.8**

GCG ***22*** *02:02:20.5±0.3, 13°.88N×91°.68W, h44km±37km, MD3.5*
MEX ***22*** *02:02:22.4±0.6, 13°.91N×91°.62W, h35km±549km, MD3.7*
ISC 22 02:02:21.2±3.3, 13°.9N±0°.2×91°.67W±0°.09, h61km, n6,
σ0s82/8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STG3	**Santiaguito 3,**	**0.80**	**7**	*e*P	**Pn**	**02 02 36.4**	**-0.6**
FUG	**Fuego 3**	**0.96**	**56**	*e*P	**Pn**	**02 02 38.5**	**-0.6**
THIG		**1.15**	**330**	*e*P	**Pn**	**02 02 41.4**	**+0.2**
THIG				*e*S	**Sn**	**02 02 56.4**	**+0.2**
IXG	**Ixpaco**	**1.22**	**78**	*e*P	**Pn**	**02 02 42.0**	**-0.4**
NBG	**Las Nubes**	**1.45**	**62**	*e*S	**Sn**	**02 03 05.0**	**+1.3**
PCIG		**2.33**	**320**	*e*P	**Pn**	**02 02 57.6**	**+0.4**
PCIG				*e*S	**Sn**	**02 03 23.9**	**-0.8**

ROM 22 02:10:55.8±0.0, 43°.386N±0°.002×12°.522E±0°.003,
h10km, Md0.6/3, Error ellipse: s-maj=0.2km
s-min=0.1km az=115.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.04**	**118**	P	Pg	02 10 57.8	0.0
ATFO				S	Sg	02 10 59.2	0.0
ATFO				AML	AML		
	comp=N,4895µm,0.2s						
ATFO				AML	AML		
	comp=E,6075µm,0.2s						
ATFO				END			
ATVO	**AVT- Monte Val**	**0.08**	**268**	P	Pg	02 10 58.5	+0.3
ATVO				S	Sg	02 11 00.1	+0.2
ATVO				AML	AML		
	comp=N,6405µm,0.1s						
ATVO				AML	AML		
	comp=E,10155µm,0.3s						
ATVO				END			
ATPI	**Pietralunga -**	**0.11**	**307**	P	Pg	02 10 59.0	+0.5
ATPI				S	Sg	02 11 01.2	+0.7
ATPI				AML	AML		
	comp=N,3215µm,0.4s						
ATPI				AML	AML		
	comp=E,2290µm,0.9s						
ATPI				AML	AML		
	comp=N,3210µm,0.4s						
MURB	**Monte Urbino**	**0.12**	**179**	P	Pg	02 10 59.3	+0.6
MURB				S	Sg	02 11 01.8	+0.9
MURB				AML	AML		
	comp=E,2240µm,0.3s						
MURB				AML	AML		
	comp=N,1680µm,0.2s						
MURB				AML	AML		
	comp=E,2395µm,0.3s						
MURB				AML	AML		
	comp=N,1605µm,0.2s						
MURB				AML	AML		
	comp=N,1725µm,0.4s						
MURB				AML	AML		
	comp=N,1900µm,0.4s						
MURB				AML	AML		
	comp=E,2390µm,0.3s						
MURB				AML	AML		
	comp=E,2245µm,0.3s						
MURB				AML	AML		
	comp=N,1730µm,0.4s						
MURB				END			
PIEI	**Pieia**	**0.15**	**4**	P	Pg	02 10 59.9	+0.7
PIEI				S	Sg	02 11 03.0	+1.4
PIEI				AML	AML		
	comp=N,841µm,0.2s						
PIEI				AML	AML		
	comp=E,960µm,0.4s						
PIEI				AML	AML		
	comp=N,842µm,0.2s						
ATMI	**Monte Miggiano**	**0.19**	**255**	P	Pg	02 11 00.4	+0.5
ATMI				AML	AML		
	comp=E,1165µm,0.3s						
ATMI				AML	AML		
	comp=N,656µm,0.9s						
ATMI				AML	AML		
	comp=N,967µm,0.5s						
FOSV	**Fossato di Vic**	**0.20**	**117**	P	Pg	02 11 00.5	+0.6
FOSV				S	Sg	02 11 04.0	+1.3
FOSV				AML	AML		
	comp=N,544µm,0.4s						
FOSV				AML	AML		
	comp=E,310µm,0.8s						
SSFR	**Montelago di S**	**0.20**	**75**	P	Pg	02 11 00.6	+0.6
SSFR				S	Sg	02 11 04.0	+1.2
SSFR				AML	AML		
	comp=N,1154µm,0.8s						
SSFR				AML	AML		
	comp=E,2185µm,0.2s						
SSFR				AML	AML		
	comp=N,982µm,0.8s						
SSFR				AML	AML		
	comp=E,2235µm,0.2s						
FRON	**Frontone**	**0.20**	**48**	P	Pg	02 11 00.6	+0.6
FRON				S	Sg	02 11 04.3	+1.4
FRON				AML	AML		
	comp=E,592µm,0.6s						
FRON				AML	AML		
	comp=N,1012µm,0.7s						
FRON				AML	AML		
	comp=E,592µm,0.6s						
FRON				AML	AML		
	comp=N,1012µm,0.7s						
ATCC	**AVT- Casa Cast**	**0.22**	**157**	P	Pg	02 11 01.2	+0.8
ATCC				S	Sg	02 11 05.4	+2.0
ATCC				AML	AML		
	comp=E,1344µm,1.0s						
ATCC				AML	AML		
	comp=E,1345µm,1.0s						
ATCC				AML	AML		
	comp=E,1346µm,1.0s						
ATCC				AML	AML		
	comp=N,1165µm,0.5s						
ATTE	**AVT- Monte Tez**	**0.22**	**213**	P	Pg	02 11 00.9	+0.5
ATTE				S	Sg	02 11 05.2	+1.6
ATTE				AML	AML		
	comp=E,453µm,0.3s						
ATTE				AML	AML		
	comp=N,338µm,0.3s						
ATTE				AML	AML		
	comp=E,452µm,0.3s						
NARO	**Abbazia di Nar**	**0.23**	**11**	P	Pg	02 11 01.2	+0.6
NARO				S	Sg	02 11 05.0	+1.3
NARO				AML	AML		
	comp=E,352µm,0.2s						
NARO				AML	AML		
	comp=N,306µm,0.4s						
BADI	**Badiali**	**0.24**	**302**	P	Pg	02 11 01.5	+0.8
BADI				S	Sg	02 11 05.7	+1.7
BADI				AML	AML		
	comp=E,4105µm,0.2s						
BADI				AML	AML		
	comp=N,3150µm,0.2s						
MPAG	**Monte Paganucc**	**0.30**	**35**	P	Pg	02 11 02.5	+0.7
MPAG				S	Sb	02 11 07.6	-0.8
MPAG				AML	AML		
	comp=E,246µm,0.5s						
MPAG				AML	AML		
	comp=N,198µm,1.1s						
PE3	**Peglio**	**0.31**	**357**	P	Pb	02 11 03.3	-0.3
PE3				AML	AML		
	comp=E,374µm,0.9s						
PE3				AML	AML		
	comp=N,416µm,0.5s						
ARVD	**Arcevia**	**0.33**	**70**	P	Pg	02 11 02.8	+0.5
ARVD				AML	AML		
	comp=E,271µm,0.7s						
ARVD				AML	AML		
	comp=N,187µm,0.7s						
ASSB	**Assisi San Ben**	**0.36**	**164**	P	Pg	02 11 03.3	+0.4
ASSB				AML	AML		
	comp=E,207µm,0.6s						
ASSB				AML	AML		
	comp=N,274µm,0.2s						
EL6	**Elcito**	**0.43**	**97**	S	Sb	02 11 13.0	+0.9
CPGN	**Carpegna, Ital**	**0.44**	**341**	S	Sb	02 11 12.0	-0.6
CING	**Cingoli**	**0.49**	**91**	S	Sb	02 11 15.0	+1.1
MGAB	**Montegabbione**	**0.56**	**213**	P	Pg	02 11 07.1	+0.4
MGAB				AML	AML		
	comp=E,310µm,0.2s						
MGAB				AML	AML		
	comp=N,472µm,0.3s						
MGAB				AML	AML		
	comp=E,342µm,0.2s						
MGAB				AML	AML		
	comp=N,432µm,1.5s						

ROM 22 02:11:18.2±0.0, 43°.387N±0°.003×12°.527E±0°.003,
h9km, ML2.1/29, Error ellipse: s-maj=0.3km
s-min=0.1km az=217.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.04**	**122**	P	Pg	02 11 20.1	+0.1
ATFO				S	Sg	02 11 21.6	+0.2
ATFO				AML	AML		
	comp=E,6075µm,0.2s						
ATFO				AML	AML		
	comp=N,4890µm,0.2s						
ATFO				AML	AML		
	comp=N,4895µm,0.2s						
ATVO	**AVT- Monte Val**	**0.09**	**267**	P	Pg	02 11 20.9	+0.3
ATVO				S	Sg	02 11 22.6	+0.3
ATVO				AML	AML		
	comp=N,6405µm,0.1s						
ATVO				AML	AML		
	comp=E,10155µm,0.3s						
ATPI	**Pietralunga -**	**0.11**	**305**	P	Pg	02 11 21.4	+0.5
ATPI				S	Sg	02 11 23.5	+0.7
ATPI				AML	AML		
	comp=E,2290µm,0.9s						
ATPI				AML	AML		
	comp=N,3210µm,0.4s						
ATPI				AML	AML		
	comp=N,3215µm,0.4s						
MURB	**Monte Urbino**	**0.12**	**181**	P	Pg	02 11 21.7	+0.6
MURB				AML	AML		
	comp=E,2240µm,0.3s						
MURB				AML	AML		
	comp=E,2395µm,0.3s						
MURB				AML	AML		
	comp=E,2390µm,0.3s						
MURB				AML	AML		
	comp=N,1725µm,0.4s						
MURB				AML	AML		
	comp=E,2245µm,0.3s						
MURB				AML	AML		
	comp=N,1900µm,0.4s						
MURB				AML	AML		
	comp=N,1730µm,0.4s						
PIEI	**Pieia**	**0.15**	**2**	P	Pg	02 11 22.1	+0.6
PIEI				S	Sg	02 11 24.9	+1.1
PIEI				AML	AML		
	comp=N,841µm,0.2s						
PIEI				AML	AML		
	comp=E,960µm,0.4s						
PIEI				AML	AML		
	comp=N,842µm,0.2s						
SSFR	**Montelago di S**	**0.19**	**75**	P	Pg	02 11 22.8	+0.6
SSFR				S	Sg	02 11 26.2	+1.2
SSFR				AML	AML		
	comp=E,2235µm,0.2s						
SSFR				AML	AML		
	comp=N,982µm,0.8s						
SSFR				AML	AML		
	comp=N,1154µm,0.8s						
SSFR				AML	AML		
	comp=E,2185µm,0.2s						
FOSV	**Fossato di Vic**	**0.19**	**118**	P	Pg	02 11 22.8	+0.6
FOSV				S	Sg	02 11 26.2	+1.3
FOSV				AML	AML		
	comp=E,310µm,0.8s						
FOSV				AML	AML		
	comp=N,544µm,0.4s						
FOSV				AML	AML		
	comp=E,310µm,0.8s						
FOSV				AML	AML		
	comp=N,544µm,0.4s						
FRON	**Frontone**	**0.20**	**48**	P	Pg	02 11 22.8	+0.6
FRON				S	Sg	02 11 26.3	+1.3
FRON				AML	AML		
	comp=E,592µm,0.6s						
FRON				AML	AML		
	comp=N,1014µm,0.7s						
FRON				AML	AML		
	comp=E,592µm,0.6s						
FRON				AML	AML		
	comp=N,1012µm,0.7s						
FRON				AML	AML		
	comp=N,1012µm,0.7s						
ATMI	**Monte Miggiano**	**0.20**	**254**	AML	AML		
	comp=N,967µm,0.5s						
ATMI				AML	AML		
	comp=E,1165µm,0.3s						
ATCC	**AVT- Casa Cast**	**0.22**	**158**	P	Pg	02 11 23.5	+0.8
ATCC				S	Sg	02 11 27.7	+2.0
ATCC				AML	AML		
	comp=E,1345µm,1.0s						
ATCC				AML	AML		
	comp=E,1346µm,1.0s						
ATCC				AML	AML		
	comp=N,1165µm,0.5s						
CDCA	**Citt' di Caste**	**0.23**	**289**	AML	AML		
	comp=E,2255µm,0.6s						
CDCA				AML	AML		
	comp=N,3240µm,0.6s						
CDCA				AML	AML		
	comp=E,754µm,1.6s						
CDCA				AML	AML		
	comp=N,808µm,0.6s						
CDCA				AML	AML		
	comp=N,3245µm,0.6s						
CDCA				AML	AML		
	comp=E,2260µm,0.6s						
NARO	**Abbazia di Nar**	**0.23**	**10**	P	Pg	02 11 23.4	+0.5
NARO				S	Sg	02 11 27.4	+1.4
NARO				AML	AML		
	comp=E,352µm,0.2s						
NARO				AML	AML		
	comp=N,307µm,0.4s						
NARO				AML	AML		
	comp=N,306µm,0.4s						
ATTE	**AVT- Monte Tez**	**0.23**	**214**	AML	AML		
	comp=E,452µm,0.3s						
ATTE				AML	AML		
	comp=E,453µm,0.3s						
ATTE				AML	AML		
	comp=N,338µm,0.3s						
ATTE				AML	AML		
	comp=N,338µm,0.3s						
BADI	**Badiali**	**0.24**	**301**	P	Pg	02 11 23.8	+0.7
BADI				S	Sg	02 11 28.0	+1.7
BADI				AML	AML		
	comp=N,3150µm,0.2s						
BADI				AML	AML		
	comp=E,4105µm,0.2s						
MPAG	**Monte Paganucc**	**0.29**	**35**	P	Pg	02 11 24.7	+0.6
MPAG				S	Sb	02 11 29.8	-1.0
MPAG				AML	AML		
	comp=E,293µm,0.5s						
MPAG				AML	AML		
	comp=E,246µm,0.5s						
MPAG				AML	AML		
	comp=N,198µm,1.1s						
MPAG				AML	AML		
	comp=E,292µm,0.5s						
MPAG				AML	AML		
	comp=E,246µm,0.5s						
MPAG				AML	AML		
	comp=N,198µm,1.1s						
MPAG				AML	AML		
	comp=N,225µm,1.6s						
PE3	**Peglio**	**0.31**	**356**	P	Pb	02 11 25.4	-0.5
PE3				AML	AML		
	comp=E,374µm,0.9s						
PE3				AML	AML		
	comp=N,416µm,0.5s						
PE3				AML	AML		
	comp=N,416µm,0.5s						
PE3				AML	AML		
	comp=E,374µm,0.9s						
ARVD	**Arcevia**	**0.32**	**70**	P	Pg	02 11 25.2	+0.6
ARVD				S	Sb	02 11 30.7	-0.8
ARVD				AML	AML		
	comp=N,187µm,0.7s						
ARVD				AML	AML		
	comp=E,271µm,0.7s						
SNTG	**Esanatoglia**	**0.33**	**113**	P	Pg	02 11 25.3	+0.6
SNTG				S	Sb	02 11 30.8	-0.9
SNTG				AML	AML		
	comp=N,683µm,0.3s						
SNTG				AML	AML		
	comp=E,322µm,0.3s						
PARC	**Parchiule**	**0.34**	**321**	AML	AML		
	comp=E,495µm,0.4s						
PARC				AML	AML		
	comp=N,372µm,0.4s						
FSSB	**Fossombrone**	**0.35**	**31**	P	Pg	02 11 25.8	+0.6
FSSB				S	Sb	02 11 31.9	-0.6
FSSB				AML	AML		
	comp=E,576µm,0.2s						
FSSB				AML	AML		
	comp=N,562µm,0.4s						
ASSB	**Assisi San Ben**	**0.36**	**164**	P	Pg	02 11 25.8	+0.5
ASSB				S	Sb	02 11 31.5	-1.0
ASSB				AML	AML		
	comp=E,207µm,0.6s						
ASSB				AML	AML		
	comp=N,274µm,0.2s						
CAFI	**Castiglion Fio**	**0.41**	**262**	P	Pg	02 11 26.8	+0.5
CAFI				S	Sb	02 11 33.2	-0.9
CAFI				AML	AML		
	comp=E,214µm,0.7s						
CAFI				AML	AML		
	comp=N,143µm,0.8s						
CRE	**Caprese Michel**	**0.48**	**299**	P	Pg	02 11 27.9	+0.4
CRE				S	Sb	02 11 35.9	-0.2
CRE				AML	AML		
	comp=E,214µm,0.3s						
CRE				AML	AML		
	comp=N,331µm,0.3s						
CRE				AML	AML		
	comp=E,214µm,0.3s						
CING	**Cingoli**	**0.49**	**91**	P	Pg	02 11 28.0	+0.3
CING				S	Sb	02 11 36.2	0.0
CING				AML	AML		
	comp=E,102µm,1.5s						
CING				AML	AML		
	comp=N,174µm,0.5s						
FDMO	**Fiordimonte**	**0.54**	**130**	P	Pg	02 11 28.9	+0.3
FDMO				S	Sb	02 11 37.6	-0.1
FDMO				AML	AML		
	comp=E,101µm,0.3s						
FDMO				AML	AML		
	comp=E,101µm,0.3s						
FDMO				AML	AML		
	comp=N,132µm,0.2s						
MGAB	**Montegabbione**	**0.56**	**213**	P	Pg	02 11 29.6	+0.5
MGAB				AML	AML		
	comp=N,473µm,0.3s						
MGAB				AML	AML		
	comp=E,342µm,0.2s						
MGAB				AML	AML		
	comp=N,432µm,1.5s						
MGAB				AML	AML		
	comp=N,472µm,0.3s						
MGAB				AML	AML		
	comp=E,310µm,0.2s						
CSP1	**Cessapalombo**	**0.58**	**121**	P	Pg	02 11 29.9	+0.5
PESA	**Pesaro**	**0.60**	**22**	P	Pb	02 11 30.8	0.0
PESA				AML	AML		
	comp=N,246µm,0.2s						
PESA				AML	AML		
	comp=E,170µm,1.4s						
ASQU	**Asqua**	**0.68**	**308**	P	Pb	02 11 31.8	-0.4
ASQU				AML	AML		
	comp=E,56µm,0.8s						
ASQU				AML	AML		
	comp=N,140µm,0.4s						
NRCA	**Norcia**	**0.70**	**142**	P	Pg	02 11 32.1	+0.4
NRCA				AML	AML		
	comp=E,111µm,0.5s						
NRCA				AML	AML		
	comp=N,112µm,0.3s						
SACS	**San Casciano d**	**0.70**	**220**	P	Pb	02 11 32.4	-0.2
SACS				AML	AML		
	comp=N,86µm,1.5s						
SACS				AML	AML		
	comp=E,71µm,0.5s						
LATE	**Laterza**	**0.94**	**215**	P	Pn	02 11 37.4	-0.2
LATE				AML	AML		
	comp=E,77µm,1.4s						
LATE				AML	AML		
	comp=N,121µm,0.5s						
SEI	**Scarperia**	**1.08**	**309**	P	Pn	02 11 41.6	+2.0
AQU	**L'Aquila**	**1.22**	**148**	S	Sb	02 11 56.0	-1.2

ROM 22 02:12:16.2±0.1, 43°.381N±0°.003×12°.517E±0°.004,
h9km, ML1.4/5, Error ellipse: s-maj=0.3km s-min=0.1km
az=44.0, Central Italy

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

ATFO	**Monte Foce - G**	**0.04**	**110**	P	Pg	02 12 18.2	0.0	
ATFO				S	Sg	02 12 19.3	-0.3	
ATFO				AML	AML			
	comp=E,788μm,0.2s							
ATFO				AML	AML			
	comp=N,1405μm,0.2s							
ATVO	**AVT- Monte Val**	**0.08**	**271**	P	Pg	02 12 18.8	+0.3	
ATVO				S	Sg	02 12 20.4	+0.2	
ATVO				AML	AML			
	comp=E,168μm,0.6s							
ATVO				AML	AML			
	comp=N,309μm,0.2s							
ATPI	**Pietralunga -**	**0.11**	**310**	P	Pg	02 12 19.4	+0.4	
ATPI				S	Sg	02 12 21.5	+0.6	
MURB	**Monte Urbino**	**0.12**	**177**	P	Pg	02 12 19.6	+0.5	
MURB				S	Sg	02 12 21.9	+0.9	
MURB				AML	AML			
	comp=E,364μm,0.2s							
MURB				AML	AML			
	comp=N,289μm,0.9s							
PIEI	**Pieia**	**0.15**	**5**	P	Pg	02 12 20.3	+0.6	
PIEI				S	Sg	02 12 23.3	+1.2	
PIEI				AML	AML			
	comp=E,138μm,0.3s							
PIEI				AML	AML			
	comp=N,140μm,0.3s							
FOSV	**Fossato di Vic**	**0.20**	**116**	P	Pg	02 12 20.9	+0.5	
FOSV				S	Sg	02 12 24.7	+1.5	
SSFR	**Montelago di S**	**0.20**	**74**	P	Pg	02 12 21.0	+0.5	
SSFR				S	Sg	02 12 24.6	+1.3	
FRON	**Frontone**	**0.20**	**48**	P	Pg	02 12 21.0	+0.5	
FRON				S	Sg	02 12 25.0	+1.6	
ATCC	**AVT- Casa Cast**	**0.22**	**155**	P	Pg	02 12 21.6	+0.9	
ATCC				S	Sg	02 12 25.7	+2.0	
BADI	**Badiali**	**0.24**	**303**	P	Pg	02 12 21.9	+0.8	
BADI				S	Sg	02 12 26.1	+1.7	
BADI				AML	AML			
	comp=E,182μm,0.1s							
BADI				AML	AML			
	comp=N,140μm,0.2s							
ARVD	**Arcevia**	**0.33**	**69**	P	Pg	02 12 23.4	+0.6	
ASSB	**Assisi San Ben**	**0.35**	**163**	P	Pg	02 12 23.7	+0.4	
ASSB				S	Sb	02 12 29.5	-0.9	
BLLA	**Bellaria**	**0.76**	**357**	S	Sb	02 12 42.0	-0.1	

ROM 22 02:12:39.9±0.1, 43°.386N±0°.003×12°.519E±0°.005, h6km, Md0.9/4, Error ellipse: s-maj=0.4km s-min=0.1km az=65.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.04**	**116**	P	Pg	02 12 41.4	0.0
ATFO				S	Sg	02 12 42.5	+0.1
ATFO				END			
ATVO	**AVT- Monte Val**	**0.08**	**268**	P	Pg	02 12 42.1	+0.2
ATVO				S	Sg	02 12 43.6	+0.4
ATVO				END			
ATPI	**Pietralunga -**	**0.11**	**307**	P	Pg	02 12 42.8	+0.4
ATPI				S	Sg	02 12 44.8	+0.8
ATPI				END			
MURB	**Monte Urbino**	**0.12**	**178**	P	Pg	02 12 42.9	+0.3
MURB				S	Sg	02 12 45.2	+0.9
MURB				END			
PIEI	**Pieia**	**0.15**	**4**	P	Pg	02 12 43.6	+0.5
PIEI				S	Sg	02 12 46.5	+1.3
FOSV	**Fossato di Vic**	**0.20**	**117**	P	Pg	02 12 44.5	+0.6
FOSV				S	Sg	02 12 48.0	+1.5
ATCC	**AVT- Casa Cast**	**0.22**	**156**	P	Pg	02 12 44.9	+0.6
ATCC				S	Sg	02 12 48.9	+1.7
NARO	**Abbazia di Nar**	**0.23**	**11**	P	Pg	02 12 44.9	+0.4
NARO				S	Sg	02 12 48.9	+1.3

ROM 22 02:12:57.6±0.1, 43°.382N±0°.003×12°.522E±0°.004, h6km, Md1.1/5, Error ellipse: s-maj=0.3km s-min=0.1km az=67.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.04**	**112**	P	Pg	02 12 59.1	+0.1
ATFO				S	Sg	02 13 00.2	+0.1
ATFO				END			
ATVO	**AVT- Monte Val**	**0.08**	**270**	P	Pg	02 12 59.8	+0.2
ATVO				S	Sg	02 13 01.3	+0.4
ATVO				END			
ATPI	**Pietralunga -**	**0.11**	**309**	P	Pg	02 13 00.3	+0.3
ATPI				S	Sg	02 13 02.4	+0.7
ATPI				END			
MURB	**Monte Urbino**	**0.12**	**179**	P	Pg	02 13 00.5	+0.4
MURB				S	Sg	02 13 02.8	+1.0
PIEI	**Pieia**	**0.15**	**4**	P	Pg	02 13 01.3	+0.5
PIEI				S	Sg	02 13 04.2	+1.2
PIEI				END			
FRON	**Frontone**	**0.20**	**47**	P	Pg	02 13 02.0	+0.4
FRON				S	Sg	02 13 05.6	+1.3
FRON				END			

*IDC **22** 02:14:09.4±1.4, 6°.55S×154°.48E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.8/29, mbtmp3.9/10, ML3.1/2, Error ellipse: s-maj=39.0km s-min=20.6km az=117.0*
*ISCJB **22** 02:14:14.8±0.8, 6°.44S±0°.07×154°.28E±0°.08, h48km, mb3.6/8, Error ellipse: s-maj=11.4km s-min=9.6km az=25.9*
*NEIC **22** 02:14:17.7±1.2, 6°.6S±0°.2×154°.4E±0°.2, h64km±7km, mb4.3/5*

ISC 22 02:14:16.6±1.0, 6°.40S±0°.09×154°.3E±0°.1, h48km, n17, σ0s95/17, mb3.7/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.08**	**312**	P	**Pn**	**02 15 02.9**	**+0.1**
	16nm,0.3s,baz=184,slow=2.5,SNR=16						
KRVT				Sn	**Sn**	**02 15 37.4**	**-1.0**
	42nm,0.3s,baz=79,slow=9.1,SNR=7.4						
PMG	**Port Moresby**	**7.69**	**247**	Pn	**Pn**	**02 16 05.8**	**-0.2**
	4.3nm,0.3s,baz=62,slow=9.4,SNR=8.6						
PMG				Sn	**Sn**	**02 17 32.6**	**+0.7**
	1.6nm,0.3s,baz=217,slow=22,SNR=2.4						
PMG	**Port Moresby**	**7.69**	**247**		**Pn**	**02 16 07.3**	**+1.3**
WRA	**Warramunga Arr**	**23.61**	**233**	P	**P**	**02 19 22.6**	**-0.8**
	2.3nm,0.8s,baz=60,slow=9.9,SNR=17						
ASAR	**Alice Springs**	**26.07**	**227**	P	**P**	**02 19 45.5**	**-0.4**
	0.5nm,0.4s,baz=56,slow=9.6,SNR=14						
STKA	**Stephens Creek**	**28.00**	**204**	P	**P**	**02 20 01.4**	**-1.6**
	1.7nm,0.9s,baz=17,slow=15,SNR=2.0						
STKA	**Stephens Creek**	**28.00**	**204**	IAmb	IAmb	02 20 04.4	
	comp=Z,0.4nm,1.0s						
FITZ	**Fitzroy Crossi**	**30.28**	**245**	P	**P**	**02 20 22.4**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=104,slow=8.1,SNR=7.1						
FITZ	**Fitzroy Crossi**	**30.28**	**245**	IAmb	IAmb	02 20 24.5	
	comp=Z,2.5nm,0.8s						
BJT	**Baijiatuau**	**58.04**	**326**	P	**P**	**02 24 05.1**	**+0.3**
XAN	**Xi'an**	**58.81**	**316**	P	**P**	**02 24 09.5**	**-0.8**
SONM	**Songino Array**	**68.47**	**327**	P	**P**	**02 25 14.4**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=142,slow=7.3,SNR=2.8						
MKAR	**Makanchi Array**	**82.51**	**319**	P	**P**	**02 26 35.7**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=122,slow=4.6,SNR=3.6						
ILAR	**Eielson Array**	**83.07**	**22**	P	**P**	**02 26 36.7**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=246,slow=4.9,SNR=1.4						
ZALV	**Zalesovo Beam**	**83.31**	**326**	P	**P**	**02 26 39.2**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=104,slow=6.1,SNR=1.9						
INK	**Inuvik**	**89.40**	**21**	P	**P**	**02 27 07.3**	**-0.4**
INK				IAmb	IAmb	02 27 08.3	
	comp=Z,2.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**152.21**	**286**	PKPbc	**PKiKP**	**02 34 09.2**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=80,slow=2.4,SNR=4.6						

*ISCJB **22** 02:37:52.8±0.7, 19°.06S±0°.03×70°.20W±0°.07, h71km±6km, mb3.7/2, Error ellipse: s-maj=11.1km s-min=5.5km az=174.7*
*GUC **22** 02:37:53.3±0.7, 19°.04S×70°.10W, h61km±4km, ML3.9*
*IDC **22** 02:37:57.4±2.4, 19°.18S×69°.69W, h105km±21km, mb3.6/2, mb1 3.6/5, mb1mx3.3/28, mbtmp3.8/5, Error ellipse: s-maj=43.9km s-min=15.4km az=97.0*

ISC 22 02:37:53.1±1.0, 19°.06S±0°.04×70°.17W±0°.08, h66km±7km, n16, σ1s15/26, 3C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.54**	**176**	i/P	**Pn**	**02 38 06.3**	**+0.3**
PSGC				*i* S	**Sn**	**02 38 15.8**	**+0.3**
MNMC	**Minye Minye**	**0.54**	**98**	⇑*i*P	**Pn**	**02 38 06.2**	**-0.1**
MNMC				*i* S	**Sn**	**02 38 16.1**	**+0.1**
MNMC				IAML		02 38 21.2	
	comp=E,8μm,0.2s						
AP01	**Chacalluta**	**0.71**	**346**	*e*P	**Pn**	**02 38 08.2**	**+0.4**
AP01				*i* S	**Sn**	**02 38 18.9**	**+0.3**
PB11	**IPOC Station P**	**0.85**	**146**	i/P	**Pn**	**02 38 09.8**	**+0.1**
PB11				*i* S	**Sn**	**02 38 22.2**	**+0.3**
PB16	**IPOC Station P**	**0.95**	**41**	⇑*i*P	**Pn**	**02 38 11.6**	**+0.3**
PB16				*i* S	**Sn**	**02 38 25.1**	**+0.2**
GO01	**Chusmiza**	**1.10**	**124**	*e*P	**Pn**	**02 38 13.7**	**+0.6**
GO01				*i* S	**Sn**	**02 38 29.1**	**+1.2**
PB08	**IPOC Station P**	**1.44**	**139**	i/P	**Pn**	**02 38 18.3**	**+0.8**
PB08				*i* S	**Sn**	**02 38 37.1**	**+1.4**
PB08				IAML		02 38 37.6	
	comp=E,4μm,0.2s						
TA01	**Diego Aracena**	**1.50**	**181**	⇑*i*P	**Pn**	**02 38 18.2**	**+0.3**
TA01				*i* S	**Sn**	**02 38 37.5**	**+0.9**
TA01				IAML		02 38 42.3	
	comp=E,1μm,0.2s						
PB09	**IPOC Station P**	**2.86**	**163**	*e*P	**Pn**	**02 38 37.6**	**+1.1**
PB09				*i* S	**Sn**	**02 39 10.8**	**+1.0**
PB09				IAML		02 39 25.1	
	comp=E,467nm,0.5s						
LPAZ	**La Paz**	**3.37**	**35**	P	**Pn**	**02 38 47.2**	**+3.3**
	comp=E,3.0nm,0.3s,baz=254,slow=4.7,SNR=35						
LVC	**Limon Verde**	**3.72**	**162**	P	**Pn**	**02 38 49.8**	**+1.3**
	comp=E,6.4nm,0.3s,baz=354,slow=12,SNR=34						
LVC				S	**Sn**	**02 39 31.5**	**+0.2**
	comp=E,7.4nm,0.3s,baz=61,slow=22,SNR=9.7						
SIV	**San Ignacio**	**9.20**	**72**	P	**Pn**	**02 40 02.3**	**-0.8**
	comp=E,0.6nm,0.3s,baz=264,slow=9.1,SNR=13						
TORD	**Torodi Ar. Bea**	**77.67**	**71**	P	**P**	**02 49 40.4**	**-2.7**
	comp=E,2.1nm,1.3s,baz=255,slow=3.8,SNR=5.0						
YKA	**Yellowknife Ar**	**88.51**	**341**	P	**P**	**02 50 38.0**	**+0.1**
	comp=E,0.5nm,0.6s,baz=133,slow=4.8,SNR=17						
MKAR	**Makanchi Array**	**144.30**	**33**	PKP	**PKPdf**	**02 57 22.0**	**+0.3**
	comp=E,0.1nm,0.5s,baz=349,slow=4.4,SNR=1.9						
SONM	**Songino Array**	**151.16**	**5**	PKPbc	**PKiKP**	**02 57 39.5**	**0.0**
	comp=E,0.8nm,0.7s,baz=316,slow=1.6,SNR=6.0						

IDC 22 03:02:41.2±5.7, 16°.72S×174°.75W, h104km±48km, mb3.2/3, mb1 3.6/4, mb1mx3.3/23, mbtmp3.7/4, Error ellipse: s-maj=372.8km s-min=24.7km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.00**	**46**	P	Pn	03 03 41.9	+1.4
	26nm,0.3s,baz=148,slow=1.3,SNR=24						
AFI				S	Sn	03 04 26.5	0.0
	47nm,0.3s,baz=63,slow=22,SNR=10						
WRA	**Warramunga Arr**	**48.29**	**258**	P	P	03 11 12.7	+0.3
	0.1nm,0.4s,baz=95,slow=8.6,SNR=1.4						
ASAR	**Alice Springs**	**48.48**	**253**	P	P	03 11 13.3	-0.5
	1.0nm,0.8s,baz=89,slow=7.7,SNR=14						
ILAR	**Eielson Array**	**83.98**	**12**	P	P	03 14 59.7	+0.2
	0.4nm,0.7s,baz=228,slow=6.2,SNR=8.7						

IDC 22 03:18:48.9±15.0, 11°.33S×165°.31E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.7/41, mbtmp4.1/4, ML3.9/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/39, Error ellipse: s-maj=257.0km s-min=39.9km az=55.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.74**	**174**	Pn	Pn	03 21 24.1	-0.1
	0.8nm,0.3s,baz=180,slow=20,SNR=6.5						
DZM				Sn	Sn	03 23 24.8	-0.4
	0.1nm,0.3s,baz=126,slow=22,SNR=1.1						
H11S2	**WAKE ISLAND Hy**	**29.66**	**3**	T	T	03 55 10.4	
	baz=181,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**29.66**	**3**	T	T	03 55 10.7	
	baz=181,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**29.68**	**3**	T	T	03 55 11.7	
	baz=181,slow=76,SNR=23						
STKA	**Stephens Creek**	**29.95**	**223**	P	P	03 24 59.9	+0.9
	1.6nm,0.7s,baz=20,slow=12,SNR=2.1						
H11N1	**WAKE ISLAND Hy**	**30.88**	**3**	T	T	03 56 44.3	
	baz=182,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**30.89**	**3**	T	T	03 56 40.8	
	baz=182,slow=76,SNR=7.9						
H11N2	**WAKE ISLAND Hy**	**30.90**	**3**	T	T	03 56 39.5	
	baz=182,slow=76,SNR=6.7						
WRA	**Warramunga Arr**	**30.99**	**250**	P	P	03 25 08.1	-0.2
	2.5nm,0.8s,baz=80,slow=9.0,SNR=14						
WRA				LR	LR	03 35 41.0	
	comp=Z,54nm,20.1s,baz=40,slow=33						
ASAR	**Alice Springs**	**32.28**	**243**	P	P	03 25 19.4	-0.3
	1.0nm,0.7s,baz=70,slow=9.5,SNR=16						
INK	**Inuvik**	**90.30**	**19**	LR	LR	04 09 41.5	
	comp=Z,60nm,19.7s,baz=74,slow=34						

*NEIC **22** 03:23:15.9±1.4, 17°.9S±0°.1×178°.6W±0°.1, h569km±6km, mb4.4/110*
*MOS **22** 03:23:17.5±1.4, 17°.40S×178°.98W, h572km, mb4.4/21, Error ellipse: s-maj=12.1km s-min=10.1km az=141.7*
*IDC **22** 03:23:18.7±1.6, 17°.87S×178°.75W, h598km±17km, mb3.9/24, mb1 4.1/25, mb1mx3.9/42, mbtmp4.8/25, Error ellipse: s-maj=20.3km s-min=9.0km az=149.0*

ISC 22 03:23:15.8±0.4, 17°.9S±0°.1×178°.52W±0°.07, h579km, n346, σ1s02/318, mb4.4/82, 71C-10D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.28**	**273**	P	**P**	**03 24 33.6**	**-1.4**
MSVF	**Nonsavu**	**3.28**	**273**	P	**P**	**03 24 33.6**	**-1.4**
AFI	**Afiamalu**	**7.62**	**59**	P	**P**	**03 25 08.5**	**-2.4**
AFI				S	**S**	**03 26 40.7**	**-4.5**
AFI	**Afiamalu**	**7.62**	**59**	P	**P**	**03 25 08.0**	**-2.9**
	29nm,0.3s,baz=89,slow=5.0,SNR=23						
AFI				S	**S**	**03 26 40.6**	**-4.5**
	2.4nm,0.3s,baz=254,slow=23,SNR=1.4						
AFI	**Afiamalu**	**7.62**	**59**		**P**	**03 25 08.5**	**-2.4**
DZM	**Mont Dzumac**	**14.72**	**251**	P	**P**	**03 26 19.9**	**-2.1**
	6.8nm,0.3s,baz=252,slow=23,SNR=32						
DZM	**Mont Dzumac**	**14.72**	**251**	P	**P**	**03 26 19.0**	**-3.0**
RAR	**Rarotonga**	**17.96**	**103**	P	**P**	**03 26 52.7**	**+0.8**
RAR				pmax	pmax		
	comp=Z,12nm,0.8s						
RAR	**Rarotonga**	**17.96**	**103**	P	**P**	**03 26 52.7**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=265,slow=5.1,SNR=5.3						
RAR	**Rarotonga**	**17.96**	**103**	IAmb	IAmb	03 26 54.2	
	comp=Z,12nm,0.8s						
URZ	**Urewera**	**20.60**	**190**	P	**P**	**03 27 13.4**	**-2.3**
	comp=Z,9.2nm,0.5s,baz=263,slow=1.5,SNR=7.9						
URZ	**Urewera**	**20.60**	**190**	IAmb	IAmb	03 27 15.6	
	comp=Z,17nm,0.8s						
EIDS	**Eidsvold**	**29.16**	**250**	P	**P**	**03 28 31.0**	**-0.5**
ARMA	**Armidale**	**29.84**	**240**	P	**P**	**03 28 37.8**	**+0.4**
CTA	**Charters Tower**	**33.34**	**261**	P	**P**	**03 29 06.6**	**-0.6**
	comp=Z,8.5nm,0.6s,baz=92,slow=11,SNR=13						
CTAO	**Charters Tower**	**33.34**	**261**	P	**P**	**03 29 08.1**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,16nm,0.8s						
CAN	**Canberra**	**33.60**	**233**	P	**P**	**03 29 09.7**	**+0.4**
CAN				pmax	pmax		
	comp=Z,22nm,0.9s						
CAN	**Canberra**	**33.60**	**233**	P	**P**	**03 29 09.7**	**+0.4**
PMG	**Port Moresby**	**34.36**	**280**	⇑*e*P	**P**	**03 29 15.0**	**-0.8**
PMG				pmax	pmax		
	comp=Z,101nm,1.3s						
PMG	**Port Moresby**	**34.36**	**280**	P	**P**	**03 29 16.4**	**+0.6**
	comp=Z,9.8nm,0.5s,baz=64,slow=8.6,SNR=3.9						
PMG	**Port Moresby**	**34.36**	**280**	IAmb	IAmb	03 29 18.3	
	comp=Z,25nm,1.1s						
COEN	**Coen**	**37.00**	**270**	P	**P**	**03 29 36.4**	**-1.2**
TOO	**Toolangi**	**37.07**	**231**	P	**P**	**03 29 39.2**	**+1.3**
TOO				pmax	pmax		
	comp=Z,29nm,0.7s						
TOO	**Toolangi**	**37.07**	**231**	P	**P**	**03 29 39.2**	**+1.3**
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**03 29 50.3**	**+0.5**
STKA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**03 29 50.6**	**+0.9**
	comp=Z,16nm,0.5s,baz=93,slow=10,SNR=55						
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**03 29 50.2**	**+0.5**
STKA				IAmb	IAmb	03 29 51.4	
	comp=Z,7.5nm,1.1s						
BBOO	**Buckleboo**	**43.30**	**241**	P	**P**	**03 30 27.9**	**+0.4**

WR0	**Warramunga Arr**	**44.34**	**260**	P	**P**	**03 30 34.6**	**-1.1**	
WRAB	**Tennant Creek**	**44.52**	**260**	*ce*P	**P**	**03 30 36.5**	**-0.6**	
WRAB				pmax	pmax			
	comp=Z,7.0nm,0.6s							
WRAB	**Tennant Creek**	**44.52**	**260**	P	**P**	**03 30 36.2**	**-0.9**	
WRAB				IAmb	IAmb	03 30 37.0		
	comp=Z,9.3nm,0.6s							
WRA	**Warramunga Arr**	**44.52**	**260**	P	**P**	**03 30 36.3**	**-0.9**	
	comp=Z,7.0nm,0.5s,baz=93,slow=7.0,SNR=74							
WRA				PcP	**PcP**	**03 32 08.3**	**+0.6**	
	comp=Z,1.3nm,0.6s,baz=88,slow=3.4,SNR=5.0							
WRA				S	**S**	**03 36 29.6**	**-1.9**	
	comp=Z,0.6nm,0.8s,baz=63,slow=16,SNR=2.4							
AS31	**Alice Springs**	**44.68**	**254**	P	**P**	**03 30 38.0**	**-0.4**	
ASAR	**Alice Springs**	**44.68**	**254**	P	**P**	**03 30 38.4**	**0.0**	
	comp=Z,87nm,0.5s,baz=89,slow=8.2,SNR=1679							
ASAR				ScP	**ScP**	**03 35 08.1**	**+2.2**	
	comp=Z,0.9nm,0.9s,baz=95,slow=3.7,SNR=4.6							
ASAR				S	**S**	**03 36 31.9**	**-1.8**	
	comp=Z,2.7nm,0.9s,baz=85,slow=16,SNR=16							
MJAR	**Matsushiro Ar**	**67.87**	**323**	P	**P**	**03 33 17.3**	**0.0**	
	comp=Z,11nm,0.7s,baz=143,slow=6.1,SNR=30							
MAT	**Matsushiro**	**67.88**	**323**	P	**P**	**03 33 17.4**	**+0.1**	
ASAJ	**Asahikawa**	**71.26**	**331**	P	**P**	**03 33 38.7**	**+1.4**	
	comp=Z,7.4nm,0.5s,baz=217,slow=4.2,SNR=5.6							
PETK	**Petropavlovsk-**	**73.69**	**345**	P	**P**	**03 33 51.4**	**+0.3**	
	comp=Z,14nm,0.6s,baz=127,slow=7.8,SNR=26							
KSRS	**Korea Array**	**74.66**	**318**	P	**P**	**03 33 58.1**	**+1.3**	
	comp=Z,1.3nm,0.5s,baz=132,slow=6.0,SNR=7.7							
USRK	**Ussuriysk Ar.**	**76.58**	**326**	P	**P**	**03 34 08.2**	**+0.9**	
	comp=Z,2.4nm,0.5s,baz=110,slow=6.2,SNR=7.7							
MWC	**Mount Wilson**	**77.44**	**48**	P	**P**	**03 34 14.2**	**+1.7**	
MWC				pmax	pmax			
	comp=Z,10.0nm,0.6s							
MWC	**Mount Wilson**	**77.44**	**48**	P	**P**	**03 34 14.2**	**+1.7**	
MWC				IAmb	IAmb	03 34 14.6		
	comp=Z,10nm,0.6s							
BAR	**Barrett**	**77.63**	**50**	P	**P**	**03 34 15.0**	**+1.7**	
ISA	**Isabella, Lake**	**77.91**	**46**	P	**P**	**03 34 16.9**	**+2.0**	
ISA				pmax	pmax			
	comp=Z,11nm,1.0s							
ISA	**Isabella, Lake**	**77.91**	**46**	P	**P**	**03 34 16.9**	**+2.0**	
ISA				IAmb	IAmb	03 34 17.9		
	comp=Z,11nm,0.9s							
CMB	**Columbia Colle**	**77.93**	**43**	P	**P**	**03 34 16.5**	**+1.6**	
CMB				pmax	pmax			
	comp=Z,9.0nm,1.0s							
CMB	**Columbia Colle**	**77.93**	**43**	P	**P**	**03 34 16.5**	**+1.6**	
AFDM	**Forest Hills D**	**78.07**	**42**	P	**P**	**03 34 17.2**	**+1.6**	
ORV	**Oroville**	**78.08**	**42**	P	**P**	**03 34 17.1**	**+1.5**	
ORV				pmax	pmax			
	comp=Z,6.0nm,1.1s							
ORV	**Oroville**	**78.08**	**42**	P	**P**	**03 34 17.1**	**+1.5**	
PFO	**Pinyon Flats O**	**78.25**	**49**	⇓*e*P	**P**	**03 34 18.5**	**+1.7**	
PFO				pmax	pmax			
	comp=Z,10.0nm,1.6s							
MDPB	**Devils Postpil**	**78.57**	**44**	P	**P**	**03 34 20.2**	**+1.6**	
MDPB				IAmb	IAmb	03 34 21.4		
	comp=Z,9.7nm,0.8s							
OMMB	**Old Mammoth Mi**	**78.61**	**44**	P	**P**	**03 34 20.8**	**+1.9**	
YBH	**Yreka Blue Hor**	**78.61**	**39**	P	**P**	**03 34 20.6**	**+2.1**	
	comp=Z,8.0nm,0.7s,baz=177,slow=2.4,SNR=24							
WAKR	**Walker**	**78.82**	**43**	P	**P**	**03 34 21.8**	**+2.0**	
WAKR				IAmb	IAmb	03 34 22.8		
	comp=Z,9.9nm,0.9s							
PNTR	**Pine Nut**	**79.03**	**43**	P	**P**	**03 34 22.9**	**+2.0**	
PNTR				IAmb	IAmb	03 34 23.9		
	comp=Z,18nm,0.9s							
VCNR	**Virginia City**	**79.12**	**43**	P	**P**	**03 34 22.6**	**+1.2**	
YERR	**Yerington**	**79.21**	**43**	P	**P**	**03 34 23.3**	**+1.4**	
YERR				IAmb	IAmb	03 34 24.5		
	comp=Z,13nm,0.6s							
RYN	**Ryan**	**79.48**	**44**	P	**P**	**03 34 24.7**	**+1.5**	
PAHR	**Pah Rah Range**	**79.52**	**42**	IAmb	IAmb	03 34 25.7		
	comp=Z,6.8nm,0.7s							
NVAR	**Mina Array Bea**	**79.52**	**44**	P	**P**	**03 34 25.4**	**+1.9**	
	comp=Z,5.5nm,0.7s,baz=225,slow=8.7,SNR=54							
NV11	**Mina Array Sit**	**79.62**	**44**	IAmb	IAmb	03 34 26.9		
	comp=Z,11nm,1.1s							
CN2	**Changchun**	**79.98**	**322**	*e*P	**P**	**03 34 26.3**	**+0.8**	
CN2				pmax	pmax			
	comp=Z,10.0nm,1.2s							
KVN	**Kaiserville**	**79.99**	**43**	IAmb	IAmb	03 34 28.1		
	comp=Z,6.7nm,0.6s							
KLR	**Kul'dur**	**80.09**	**329**	⇓*e*P	**P**	**03 34 25.2**	**-0.8**	
KLR				pmax	pmax			
	comp=Z,31nm,3.8s							
KLR	**Kul'dur**	**80.09**	**329**	P	**P**	**03 34 26.2**	**+0.3**	
	comp=Z,1.9nm,0.6s,baz=136,slow=16,SNR=3.8							
MOD	**Modoc Plateau**	**80.18**	**40**	IAmb	IAmb	03 34 29.4		
	comp=Z,12nm,0.7s							
MA2	**Magadan**	**81.20**	**345**	⇑*e*P	**P**	**03 34 30.9**	**-0.6**	
MA2				pmax	pmax			
	comp=Z,26nm,1.5s							
MA2	**Magadan**	**81.20**	**345**	P	**P**	**03 34 31.2**	**-0.2**	
	comp=Z,4.1nm,0.4s,baz=134,slow=20,SNR=2.5							
MA2	**Magadan**	**81.20**	**345**	IAmb	IAmb	03 34 36.0		
	comp=Z,6.5nm,0.8s							
WVOR	**Wild Horse Val**	**81.50**	**40**	IAmb	IAmb	03 34 36.4		
	comp=Z,16nm,1.1s							
TUC	**Tucson**	**81.80**	**52**	P	**P**	**03 34 37.8**	**+2.5**	
TUC				pmax	pmax			
	comp=Z,10.0nm,1.2s							
TUC	**Tuc

ANMO	Albuquerque	86.20	52	P		P		03 34 59.0	+2.0	
XAN	Xi'an	86.20	307	P		P		03 34 58.5	+1.7	
XAN				pmax	pmax					
	comp=Z,12nm,1.0s									
XAN				pmax	pmax					
	comp=Z,160nm,5.4s									
HIA	Hailar	86.34	325	⇓ eP		P		03 34 55.5	-1.6	
HIA				pmax	pmax					
	comp=Z,23nm,0.9s									
BILL	Bilibino	86.45	354	⇓ eP		P		03 34 56.9	-0.2	
BILL				*PP		pP		03 37 00.0	-1.2	
BILL				*SP		sP		03 37 56.0	-3.2	
BILL				e				03 46 24.1		
BILL				pmax	pmax					
	comp=Z,6.0nm,0.9s									
BILL	Bilibino	86.45	354	P		P		03 34 57.5	+0.4	
BILL				IAmb	IAmb			03 34 58.6		
	comp=Z,7.3nm,0.9s									
MSO	Missoula	86.67	38	P		P		03 34 59.8	+1.0	
MSO				IAmb	IAmb			03 35 01.1		
	comp=Z,3.7nm,0.5s									
DLMT	Dillon	86.75	40	IAmb	IAmb			03 35 02.0		
	comp=Z,6.4nm,0.8s									
TPAW	Teton Pass	86.88	42	IAmb	IAmb			03 35 02.6		
	comp=Z,4.3nm,0.7s									
REDW	Red Top Meadow	86.88	43	IAmb	IAmb			03 35 03.0		
	comp=Z,11nm,1.1s									
SNOW	Snow King Moun	86.99	42	P		P		03 35 02.8	+2.2	
SNOW				IAmb	IAmb			03 35 03.1		
	comp=Z,6.9nm,0.7s									
S22A	4UR Ranch, Cre	87.11	49	IAmb	IAmb			03 35 04.4		
	comp=Z,6.1nm,1.1s									
O20A	White River Ci	87.15	46	IAmb	IAmb			03 35 04.1		
	comp=Z,4.3nm,0.9s									
HHC	Hu-ho-hao-te	87.22	314	P		P		03 35 02.3	+0.8	
HHC				pmax	pmax					
	comp=Z,3.0nm,0.9s									
HHC				pmax	pmax					
	comp=Z,63nm,7.9s									
EGAK	Eagle	87.27	15	IAmb	IAmb			03 35 02.5		
	comp=Z,4.8nm,0.7s									
YMR	Madison River	87.43	41	P		P		03 35 04.4	+1.9	
BW06	Boulder Array	87.45	43	IAmb	IAmb			03 35 04.8		
	comp=Z,5.5nm,0.7s									
PD31	Pinedale Array	87.45	43	IAmb	IAmb			03 35 04.8		
	comp=Z,4.9nm,0.6s									
PDAR	Pinedale Array	87.45	43	P		P		03 35 04.0	+1.2	
	comp=Z,4.6nm,0.5s,baz=215,slow=3.3,SNR=68									
COLD	Coldfoot	87.47	11	IAmb	IAmb			03 35 04.8		
	comp=Z,6.1nm,1.2s									
H17A	Grant Village	87.55	42	IAmb	IAmb			03 35 07.2		
	comp=Z,6.1nm,0.8s									
WALA	Waterton Lakes	87.83	36	IAmb	IAmb			03 35 06.4		
	comp=Z,3.8nm,0.8s									
RLMT	Red Lodge	88.71	41	IAmb	IAmb			03 35 11.0		
	comp=Z,5.7nm,1.1s									
CMAR	Chiang Mai Arr	88.80	290	P		P		03 35 10.8	+1.5	
	comp=Z,0.9nm,0.4s,baz=102,slow=3.4,SNR=7.2									
CD2	Chengdu	89.00	303	eP		P		03 35 09.3	-0.7	
N23A	Red Feather La	89.06	46	IAmb	IAmb			03 35 13.3		
	comp=Z,8.2nm,1.1s									
LZH	Lanzhou	90.83	308	⇓P		P		03 35 20.0	+1.5	
LZH				pP	pP			03 37 21.3	-3.2	
LZH				sP	sP			03 38 15.3	-7.0	
LZH				PP	PP			03 39 07.5	+2.3	
LZH				pmax	pmax					
	comp=Z,19nm,1.4s									
LZH				pmax	pmax					
	comp=Z,72nm,6.2s									
RSSD	Black Hills	91.66	44	P		P		03 35 23.6	+1.4	
RSSD				pmax	pmax					
	comp=Z,6.0nm,1.0s									
RSSD	Black Hills	91.66	44	P		P		03 35 23.6	+1.4	
INK	Inuvik	91.94	15	P		P		03 35 23.0	+0.4	
	comp=Z,6.0nm,0.8s,baz=208,slow=4.3,SNR=14									
ULN	Ulaanbaatar	93.11	319	⇑ eP		P		03 35 26.6	-2.1	
ULN				pmax	pmax					
	comp=Z,2.0nm,0.9s									
SONM	Songino Array	93.51	319	P		P		03 35 30.3	-0.1	
	comp=Z,0.5nm,0.5s,baz=137,slow=3.4,SNR=5.0									
YKA	Yellowknife Ar	94.41	25	P		P		03 35 34.4	+0.4	
	comp=Z,1.7nm,0.7s,baz=245,slow=4.5,SNR=31									
TIXI	Tiksi	96.16	345	P		P		03 35 41.2	-0.5	
	comp=Z,2.3nm,0.8s,baz=171,slow=5.1,SNR=5.4									
TIXI	Tiksi	96.16	345	IAmb	IAmb			03 35 42.0		
	comp=Z,1.9nm,0.8s									
ZALV	Zalesovo Beam	108.20	322	PKiKP		PKiKP		03 40 38.1	-0.3	
	comp=Z,1.1nm,0.5s,baz=254,slow=3.3,SNR=5.2									
MKAR	Makanchi Array	109.08	314	PKiKP		PKiKP		03 40 40.3	0.0	
	comp=Z,1.0nm,0.5s,baz=154,slow=1.1,SNR=9.7									
KURK	Kurchatov	111.78	318	i PKiKP		PKiKP		03 40 45.1	-0.2	
KURK	Kurchatov	111.78	318			PKiKP		03 40 45.1	-0.2	
KURBB	Kurchatov Arra	111.84	318	PKiKP		PKiKP		03 40 45.1	-0.3	
	comp=Z,1.0nm,0.3s,baz=90,slow=1.7,SNR=5.0									
AAK	Ala-Archa	114.32	309	⇓ i PKIKP		PKPdf		03 40 50.2	-0.4	
BVAR	Borovoye Array	116.81	321	PKiKP		PKiKP		03 40 55.0	+0.1	
BVAR	Borovoye Array	116.81	321	PKP		PKiKP		03 40 55.0	+0.1	
	comp=Z,2.4nm,0.4s,baz=119,slow=2.5,SNR=25									
BRVK	Borovoye	116.87	321	⇓ i PKIKP		PKPdf		03 40 54.9	-0.1	
ARU	Arti	122.82	326	i PKIKP		PKiKP		03 41 06.7	+0.1	
ARU								03 42 50.9		
ARU								03 47 26.8		
ARU				SS		SS		03 58 46.2	-7.4	
ARU	Arti	122.82	326	PKP		PKiKP		03 41 07.0	+0.4	
	comp=Z,2.1nm,0.5s,baz=104,slow=1.7,SNR=11									
ARCES	ARCESS Array B	126.33	350	PKP		PKiKP		03 41 13.4	+0.2	
	comp=Z,3.1nm,0.6s,baz=65,slow=1.1,SNR=23									
FINES	FINESS Array B	133.19	344	PKhKP		PKPpre		03 41 14.6		
	comp=Z,3.4nm,0.9s,baz=205,slow=8.4,SNR=3.3									
FINES				PKP		PKPdf		03 41 25.9	0.0	
	comp=Z,2.4nm,0.6s,baz=152,slow=3.1,SNR=9.4									
FINES				SKP				03 44 04.2		
	comp=Z,9.3nm,1.2s,baz=318,slow=2.6,SNR=4.7									
NOA	NORSAR Array B	136.40	353	PKP		PKiKP		03 41 34.1	+0.3	
	comp=Z,0.9nm,0.6s,baz=14,slow=4.1,SNR=3.4									
AKASG	Malin Array Be	140.54	332	PKhKP		PKPpre		03 41 33.7		
	comp=Z,0.7nm,0.3s,baz=44,slow=3.8,SNR=10.0									
SORM	Soroca	142.77	330	⇑ PKHKP		PKPdf		03 41 41.7	-2.1	
SORM	Soroca	142.77	330	⇑ P		PKPdf		03 41 41.7	-2.1	
GAZ	Gaziantep	143.28	309			PKPdf		03 41 45.1	-0.1	
MILM	Milestii Mici	143.38	328	⇑ P		PKPbc		03 41 44.2	+0.7	
LVV	L'vov	143.40	335	eP KHKP		PKPbc		03 41 43.3	-0.2	
LEOM	Leova	143.97	328	⇑ PKIKP		PKPdf		03 41 46.4	+0.5	
LEOM	Leova	143.97	328	⇑ P		PKPdf		03 41 46.4	+0.5	
HPK	Haverah Park	143.97	3	eP		PKPdf		03 41 45.6	-0.1	
LBWR	Ladybower, Pea	144.52	3	eP		PKPab		03 41 47.4	-0.1	
TLCR		144.54	326	⇑ PKIKP		PKPab		03 41 48.7	+0.9	
TLCR		144.54	326	⇑ P		PKPab		03 41 48.7	+0.9	
BUR08	Bucovina Ar. S	144.58	332			PKPab		03 41 48.9	+0.8	
BURAR	Bucovina Array	144.59	332	⇑ PKIKP		PKPab		03 41 49.3	+1.2	
BURAR	Bucovina Array	144.59	332	⇑ P		PKPab		03 41 49.3	+1.2	
OJC	Ojcow	144.61	340	PKIKP		PKPab		03 41 48.1	+0.2	
OJC	Ojcow	144.61	340	eP KP		PKPab		03 41 48.1	+0.2	
OJC				eP KP		PKPab		03 41 48.1	+0.2	
OJC	Ojcow	144.61	340			PKPab		03 41 48.1	+0.2	
BIZ	Bicaz	144.69	330	⇓ P		PKPab		03 41 49.3	+0.9	
BR131	Keskin Array S	144.73	315	PKIKP		PKPab		03 41 49.1	+0.1	
BR131	Keskin Array S	144.73	315			PKPab		03 41 49.1	+0.1	
BRTR	Keskin Array B	144.73	315	PKP		PKPab		03 41 48.8	-0.2	
	comp=Z,4.5nm,0.5s,baz=103,slow=1.9,SNR=50									
TESR	Tescani	144.74	329	⇑ P		PKPab		03 41 48.9	+0.4	
KOLS	Kolonicke sedl	144.79	336	eP KIKP		PKPab		03 41 49.1	+0.4	
KOLS	Kolonicke sedl	144.79	336	eP KP		PKPab		03 41 49.1	+0.4	
FOEL	Foel Wyfa	144.93	5	eP		PKPab		03 41 49.0	-0.2	
TOPG	Topolog	144.98	326	⇑ P		PKPab		03 41 49.9	+0.3	
PETR	Petresti	145.00	328	⇑ P		PKiKP		03 41 51.4	-0.4	
UZH	Uzhgorod	145.03	336	eP KHKP		PKPpre		03 41 39.3		
UZH				i				03 41 49.2		
ODBI	Odobesti	145.06	328	⇑ P		PKPab		03 41 50.8	+0.9	
KSP	Ksiaz	145.11	344	eP KIKP		PKPab		03 41 50.1	+0.2	
KSP	Ksiaz	145.11	344	eP KP		PKPab		03 41 50.1	+0.2	
KSP				eP KP		PKPab		03 41 50.1	+0.2	
NIE	Niedzica	145.12	338	eP KIKP		PKPab		03 41 50.4	+0.4	
NIE	Niedzica	145.12	338	eP KP		PKPab		03 41 50.4	+0.4	
NIE				eP KP		PKPab		03 41 50.4	+0.4	
VRI	Vrincioaia	145.15	329	⇑ PKIKP		PKPab		03 41 50.6	+0.4	
VRI	Vrincioaia	145.15	329	⇑ P		PKPab		03 41 50.6	+0.4	
PLOR	Plostina	145.20	329	⇑ PKIKP		PKPbc		03 41 49.8	+0.5	
PLOR	Plostina	145.20	329	⇑ P		PKPbc		03 41 49.8	+0.5	
CWF	Charnwood Fore	145.21	3	eP		PKPbc		03 41 49.5	+0.5	
ANTO	Ankara	145.23	315	PKIKP		PKPab		03 41 50.3	-0.5	
ANTO	Ankara	145.23	315	⇑ P		PKPab		03 41 51.3	+0.5	
ANTO	Ankara	145.23	315			PKPab		03 41 50.3	-0.5	
BR231	Keskin MP Arra	145.26	315			PKPab		03 41 50.4	-0.6	
HLM1	Long Mynd	145.33	5	eP		PKPbc		03 41 49.9	+0.5	
TRPA	Tarpa	145.34	335	⇑ P		PKPab		03 41 50.3	-0.5	
TRPA	Tarpa	145.34	335	eP KiKP		PKPbc		03 41 50.1	+0.6	
HARR	Harsova	145.34	326	⇑ PKIKP		PKPab		03 41 51.0	0.0	
HARR	Harsova	145.34	326	⇑ P		PKPab		03 41 51.0	0.0	
ARCR	ARCALIA	145.38	332	⇑ P		PKPab		03 41 51.0	-0.1	
OSTC	Ostas	145.39	343	eP KP		PKPab		03 41 51.0	0.0	
CHVC	Chvalec	145.41	344	eP KP		PKPab		03 41 51.0	-0.1	
OZUR		145.45	330	⇑ P		PKPab		03 41 51.3	-0.2	
OKC	Ostrava-Krasne	145.47	341	eP KIKP		PKPab		03 41 50.9	-0.4	
OKC	Ostrava-Krasne	145.47	341	eP KP		PKPab		03 41 50.9	-0.4	
CLL	Collm	145.47	347	PKIKP		PKPbc		03 41 50.2	+0.4	
CLL	Collm	145.47	347	⇑ i PKPbc		PKPab		03 41 50.7	-0.5	
	comp=Z,30nm,1.0s									
CLL				LmV				08 49 00.0		
	comp=Z,700nm,19.8s									
CLL	Collm	145.47	347			PKPbc		03 41 50.1	+0.4	
UPC	Upice	145.49	344	eP KIKP		PKPab		03 41 51.2	-0.2	
UPC	Upice	145.49	344	eP KP		PKPab		03 41 51.2	-0.2	
DPC	Dobruska-Polom	145.55	343	eP KIKP		PKPab		03 41 51.6	-0.1	
DPC	Dobruska-Polom	145.55	343	eP KP		PKPab		03 41 51.6	-0.1	
LANS	Liptovska Anna	145.63	339	eP KIKP		PKPab		03 41 52.4	+0.4	
LANS	Liptovska Anna	145.63	339	eP KP		PKPab		03 41 52.4	+0.4	
KRLC	Kraliky	145.67	342	eP KP2		PKPab		03 41 51.7	-0.4	
KRLC	Kraliky	145.67	342	eP KP		PKPab		03 41 51.7	-0.4	
BRG	Berggiesshubel	145.67	346	i PKP		PKPab		03 41 51.4	-0.6	
	comp=Z,13nm,0.9s									
BRG	Berggiesshubel	145.67	346	i PKIKP		PKPab		03 41 51.4	-0.6	
BRG					pmax	pmax				
	comp=Z,13nm,0.9s									
MORC	Moravsky Berou	145.71	341	PKIKP		PKPbc		03 41 50.9	+0.3	
MORC	Moravsky Berou	145.71	341	⇑ P		PKPab		03 41 51.6	-0.7	
MORC	Moravsky Berou	145.71	341	eP KP		PKPab		03 41 51.6	-0.7	
MORC	Moravsky Berou	145.71	341			PKPbc		03 41 50.9	+0.3	
DOPR	Dopca	145.73	330	⇑ P		PKPab		03 41 52.5	0.0	
ISR	Istrita	145.77	328	⇑ PKP2		PKPab		03 41 52.6	-0.1	
ISR	Istrita	145.77	328	⇑ P		PKPab		03 41 52.6	-0.1	
MLR	Muntele Rosu	145.81	329	PKIKP		PKPbc		03 41 51.5	+0.4	
MLR	Muntele Rosu	145.81	329	⇑ P		PKPbc		03 41 51.9	+0.8	
MLR	Muntele Rosu	145.81	329			PKPbc		03 41 51.5	+0.4	
MBAR	Mbarara	145.82	240	⇓ i PKIKP		PKPab		03 41 53.8	-0.2	
MCH1	Michaelchurch	145.84	5	eP		PKPbc		03 41 51.3	+0.5	
KECS	Kecovo	145.84	337	eP KP2		PKPab		03 41 52.4	-0.4	
KECS	Kecovo	145.84	337	eP KP		PKPab		03 41 52.4	-0.4	
CJR	Cluj-Napoca	146.00	332	⇑ PKP2		PKPab		03 41 53.0	-0.6	
CJR	Cluj-Napoca	146.00	332	⇑ P		PKPab		03 41 53.0	-0.6	
SECR		146.07	328	⇑ P		PKPab		03 41 52.9	-1.0	
LTVH	Ltavrtes, Hu	146.19	335	eP KiKP		PKPbc		03 41 52.0	+0.1	
VOIR		146.28	330	⇑ PKP2		PKiKP		03 41 53.8	-0.8	
VOIR		146.28	330	⇑ P		PKiKP		03 41 53.8	-0.8	
PRA	Prague	146.30	345	eP KP2		PKiKP		03 41 53.3	-1.1	
PRA	Prague	146.30	345	eP KP		PKiKP		03 41 53.3	-1.1	
DRGR		146.32	333	⇑ PKP2		PKiKP		03 41 53.6	-1.1	
DRGR		146.32	333	⇑ P		PKiKP		03 41 53.6	-1.1	
PRU	Pruhonice	146.35	345	eP KP2		PKiKP		03 41 53.5	-1.0	
PRU	Pruhonice	146.35	345	eP KP		PKiKP		03 41 53.5	-1.0	
PRU					ex	x		03 41 55.7		
GOPC	GO Pecny, Ondr	146.36	344	eP KIKP		PKPbc		03 41 53.3	+0.9	
GOPC	GO Pecny, Ondr	146.36	344	eP KP		PKPbc		03 41 53.3	+0.9	
MOX	Moxa	146.38	348	PKP2		PKiKP		03 41 53.1	-0.9	
VRAC	Vranov	146.41	342	⇑ PKP2		PKiKP		03 41 53.7	-1.0	
VRAC	Vranov	146.41	342	⇑ P		PKiKP		03 41 53.7	-1.0	
VRAC	Vranov	146.41	342	eP KP		PKPbc		03 41 53.4	+0.9	
VYHS	Vyhne	146.41	339	eP KP2		PKiKP		03 41 53.7	-1.0	
VYHS	Vyhne	146.41	339	eP KP		PKiKP		03 41 53.7	-1.0	
JAVC	Velka Javorina	146.48	341	eP KP		PKiKP		03 41 55.1	+0.2	
KOLL	Kolacno	146.49	340	eP KP		PKiKP		03 41 54.2	-0.6	
PSZ	Piszkesteto	146.53	337	PKP2		PKPbc		03 41 54.0	+1.0	
PSZ	Piszkesteto	146.53	337	⇑ P		PKiKP		03 41 54.2	-0.9	
PSZ	Piszkesteto	146.53	337	eP KiKP		PKPbc		03 41 53.0	+0.1	
PSZ	Piszkesteto	146.53	337			PKiKP		03 41 54.0	+1.0	
ARR	Arges	146.53	330	⇑ P		PKiKP		03 41 54.8	-0.4	
NKC	Novy Kostel	146.61	347	eP KP2		PKiKP		03 41 54.2	-0.9	
NKC	Novy Kostel	146.61	347	eP KP		PKiKP		03 41 54.2	-0.9	
KRUC	Moravsky	146.69	342	PKP2		PKPbc		03 41 54.3	+1.0	
KRUC	Moravsky	146.69	342	eP KP		PKPbc		03 41 54.2	+1.0	
SMOL	Smolenice	146.86	340	eP KP2		PKiKP		03 41 55.5	-0.1	
SMOL	Smolenice	146.86	340	eP KP		PKiKP		03 41 55.5	-0.1	
HUMR	Humele	146.97	328	⇑ P		PKiKP		03 41 55.1	-0.8	
MODS	Modra-Piesok	147.03	341	eP KP2		PKPbc		03 41 55.1	+0.9	
MODS	Modra-Piesok	147.03	341	eP KP		PKPbc		03 41 55.1	+0.9	
SIRR	Siria	147.18	334	⇑ P		PKPbc		03 41 54.9	+0.2	
MEM	Membach	147.21	355	PKiKP		PKiKP		03 41 55.7	-0.6	
BSTI	Sart Tilman	147.27	355	PKiKP		PKiKP		03 41 56.1	-0.2	
GZR	Gura Zlata	147.38	332	⇑ PKIKP		PKPbc		03 41 56.0	+0.7	
GZR	Gura Zlata	147.38	332	⇑ P		PKPbc		03 41 56.0	+0.7	
KHC	Kasperske Hory	147.38	345	eP KP2		PKiKP		03 41 56.4	-0.3	
KHC	Kasperske Hory	147.38	345	eP KP		PKiKP		03 41 56.4	-0.3	
KHC					ex	x		03 41 59.5		
KHC	Kasperske Hory	147.38	345			PKiKP		03 41 56.2	-0.5	
CSKK	Cskako	147.58	339	eP KiKP		PKPbc		03 41 56.1	+0.4	
BMRD	Maredsous	147.61	356	PKiKP		PKiKP		03 41 56.7	-0.3	
GEC2	GERESS Array S	147.62	345			PKPbc		03 41 56.5	+0.6	
GERES	GERESS Array B	147.62	345	PKPbc		PKiKP		03 41 56.8	-0.5	
	comp=Z,12nm,0.7s,baz=26,slow=3.2,SNR=114									
ELND	Elena	147.63	325	⇑ P		PKiKP		03 41 57.5	+0.1	
BZS	Buzias	147.72	333	⇑ PKP2		PKiKP		03 41 56.9	-0.6	
BZS	Buzias	147.72	333	⇑ P		PKiKP		03 41 56.9	-0.6	
DOU	Dourbes	147.83	356	PKiKP		PKiKP		03 41 57.3	-0.2	
CONA	Conrad Observa	147.86	342	eP KiKP		PKiKP		03 41 57.7	-0.1	
	comp=Z,6.3nm,0.5s,SNR=7.7									
SOP	Sopron	147.87	341	eP KiKP		PKPbc		03 41 57.0	+0.7	
PLVB	Pleven	147.97	327	⇑ P		PKiKP		03 41 57.7	-0.4	
MPLH	Magyarpolny	148.00	339	eP KiKP		PKPbc		03 41 57.1	+0.4	
WLF	Walferdange	148.13	354	PKiKP		PKiKP		03 41 58.8	+0.6	
MDVR	Moldovita	148.33	332	⇑ P		PKPbc		03 41 57.9	+0.2	
MOA	Molln	148.39	343	eP KiKP		PKiKP		03 41 58.7	-0.1	
	comp=Z,2.0nm,0.5s									
MORH	Mrgy. Hungar	148.42	337	⇑ i P		PKPbc		03 41 58.3	+0.5	
MORH	Mrgy. Hungar	148.42	337	eP KiKP		PKPbc		03 41 58.0	+0.3	
STU	Stuttgart	148.62	350	PKP2		PKiKP		03 41 59.6	+0.3	
STU	Stuttgart	148.62	350			PKiKP		03 41 59.6	+0.3	
FRGS	Fruska Gora	148.84	335	⇑ i P		PKPbc		03 41 59.3	+0.4	
BFO	Black Forest	149.18	351	PKHKP		PKiKP		03 42 00.9	+0.4	
BFO	Black Forest	149.18	351			PKiKP		03 42 00.9	+0.4	
VTS	Vitosha	149.23	328	⇑ PKHKP		PKiKP		03 42 01.3	+0.4	
VTS	Vitosha	149.23	328	⇑ P		PKiKP		03 42 01.3	+0.4	
SOKA	Soboth	149.24	342	eP KiKP		PKiKP		03 42 00.4	-0.3	
	comp=Z,4.2nm,0.6s									
PERS	Pernice	149.25	341	eP KPbc		PKPbc		03 42 00.2	+0.3	
GROS	Grobnik	149.29	341	i PKPbc		PKPbc		03 42 00.2	+0.2	
KBA	Koelnbreinsper	149.34	344	eP KiKP		PKPbc		03 42 00.4	+0.2	
	comp=Z,6.3nm,0.5s									
OBKA	Obir	149.53	342	eP KiKP		PKPbc		03 42 00.8	+0.2	
	comp=Z,1.3nm,0.6s									
WATA	Walderalm	149.53	346	eP KiKP		PKiKP		03 42 01.3	-0.1	
	comp=Z,5.5nm,0.5s									
RETA	Reutte	149.56	348	eP KiKP		PKiKP		03 42 01.4	+0.1	
	comp=Z,4.2nm,0.5s									
WTTA	Wattenberg	149.59	346	eP KiKP		PKiKP		03 42 01.7	+0.2	
	comp=Z,13nm,0.5s,SNR=8.4									
DIVS	Divibare	149.62	333	⇑ i P		PKiKP		03 42 01.8	+0.2	
MOTA	Moosalm	149.63	347	eP KiKP		PKiKP		03 42 01.5	-0.1	
	comp=Z,14nm,0.9s									
MYKA	Terra Mystica	149.68	343	eP KiKP		PKPbc		03 42 01.1	+0.2	
	comp=Z,5.1nm,0.5s,SNR=5.3									
SQTA	Sankt Quirin	149.72	347	eP KiKP		PKiKP		03 42 01.9	+0.2	
	comp=Z,14nm,0.6s,SNR=5.9									
ABTA	Abfaltersbach	149.86	345	eP KiKP		PKPbc		03 42 01.6	+0.2	
	comp=Z,15nm,0.7s,SNR=8.2									
CRES	Cresnjev	149.87	340	⇑ i P		PKiKP		03 42 02.0	+0.1	
DAVA	Damuels	149.93	349	i PKiKP		PKiKP		03 42 02.9	+0.7	
	comp=Z,7.3nm,0.8s									
LJU	Ljubljana	149.96	342	⇑ i P		PKiKP		03 42 02.2	+0.1	
CRNS	Crni Vrh	150.00	342	i PKPbc		PKiKP		03 42 02.0	-0.2	
FETA	Feichten	150.02	347	eP KiKP		PKiKP		03 42 02.8	+0.4	
	comp=Z,10nm,0.7s									
BBLS	Lazići	150.06	334	⇑ i P		PKiKP		03 42 02.9	+0.4	
HAPS	Han Pijesak,BI	150.07	334	eP		PKPbc		03 42 02.0	0.0	
BLY	Banja Luka	150.21	337	eP		PKiKP		03 42 03.0	+0.4	
BLY	Banja Luka	150.21	337	⇑ P		PKiKP		03 42 03.8	+1.2	
BLY	Banja Luka	150.21	337			PKiKP		03 42 03.1	+0.5	
BOJS	Bojanci	150.22	340	i PKPbc		PKiKP		03 42 03.2	+0.6	
CEY	Cerknica	150.26	342	⇑ i P		PKiKP		03 42 02.8	0.0	
STAL	STALIGIAL	150.27	344			PKPbc		03 42 02.4	+0.2	
RUDO	Rudo	150.28	333	⇑ i P		PKPbc		03 42 02.5	+0.2	
TRI	Trieste	150.49	342	PKHKP		PKPbc		03 42 02.8	+0.1	
TRI	Trieste	150.49	342			PKPbc		03 42 02.8	+0.1	
FUORN	Ofenpass-Fuorn	150.49	348			PKiKP		03 42 04.0	+0.5	
MGRS	Mrkonjic Grad	150.53	337	eP		PKiKP		03 42 03.6	+0.2	
RIY	Rijeka	150.62	341	⇑ i P		PKiKP		03 42 03.4	-0.1	
UPM	Unac-Piva	150.81	333	⇑ i P		PKPbc		03 42 03.8	0.0	
TUE	Stuetta	150.81	349			PKiKP		03 42 05.1	+1.0	
BRY	Bratogost	151.21	333	⇑ i P		PKPbc		03 42 04.8	+0.1	
PDG	Podgorica	151.28	332	⇑ i P		PKiKP		03 42 05.0	+0.1	
PDG	Podgorica	151.28	332			PKiKP		03 42 05.1	+0.2	
TEOL	Teolo	151.37	345			PKiKP		03 42 05.5	+0.5	
TEOL					PKPab	PKPab		03 42 16.3	+0.6	
TREB	Trebinje	151.44	333	eP		PKPbc		03 42 05.0	0.0	
DRME	Dracevica, Mon	151.51	332	eP		PKiKP		03 42 05.6	+0.2	
FNA	Florina	151.52	327	PKIKP		PKiKP		03 42 05.5	0.0	
FNA	Florina	151.52	327			PKiKP		03 42 05.5	0.0	
STON	Ston	151.59	334	⇑ i P		PKP

1.9nm,0.1s,SNR=61
ECAB S Sn 03 27 26.6 -1.8
8.3nm,0.1s,SNR=19
EADA Adamuz 2.71 0 ⇓P Pn 03 26 57.2 +1.1
0.4nm,0.1s,SNR=18
EADA S Sn 03 27 27.5 -1.2
18nm,0.2s
EMIN Mina Concepcio 2.85 325 ⇓P Pn 03 26 58.8 +0.9
8.8nm,0.1s,SNR=18
EMIN S Sn 03 27 30.1 -1.8
5.8nm,0.1s,SNR=10
EGRO El Granado 3.12 313 ⇓P Pn 03 27 02.5 +1.0
10nm,0.1s,SNR=18
EGRO S Sn 03 27 36.6 -1.6
32nm,0.2s,SNR=17
SESP Santiago Espad 3.13 31 P Pn 03 27 05.2 +3.4
SESP S Sn 03 27 44.5 +5.7
SESP Santiago Espad 3.13 31 P Pn 03 27 04.5 +2.7
0.7nm,0.2s,SNR=7.9
SESP S Sn 03 27 39.6 +0.8
0.9nm,0.1s,SNR=7.9
PVAQ Vaqueiros 3.18 309 *e*P Pn 03 27 03.3 +1.0
PVAQ *e*S Sn 03 27 38.4 -1.3
PVAQ A A 03 27 39.0
32nm,0.1s
PVAQ Vaqueiros 3.18 309 P Pn 03 27 03.2 +1.0
PVAQ S Sn 03 27 39.9 +0.2
PVAQ Vaqueiros 3.18 309 P Pn 03 27 03.3 +1.0
PVAQ S Sn 03 27 38.4 -1.3
32nm,0.1s
PBDV Barranco-do-Ve 3.23 305 *e*P Pn 03 27 04.0 +1.0
PBDV *e*S Sn 03 27 39.8 -1.1
PBDV A A 03 27 43.3
14nm,0.2s
PBDV Barranco-do-Ve 3.23 305 P Pn 03 27 04.0 +1.0
PBDV S Sn 03 27 39.8 -1.1
14nm,0.2s
PBAR Barrancos 3.35 325 *e*P Pn 03 27 05.8 +1.3
PBAR *e*S Sn 03 27 42.2 -1.5
PBAR Barrancos 3.35 325 P Pn 03 27 05.8 +1.3
PBAR S Sn 03 27 42.2 -1.5
PCVE Castro Verde 3.52 309 *e*P Pn 03 27 09.4 +1.1
PCVE *e*S Sn 03 27 46.7 -1.1
PCVE A A 03 27 48.6
14nm,0.4s
PCVE Castro Verde 3.52 309 P Pn 03 27 07.9 +1.1
PCVE S Sn 03 27 46.7 -1.1
14nm,0.4s
PBEJ Beja 3.67 315 *e*P Pn 03 27 09.9 +1.1
PBEJ *e*S Sn 03 27 50.1 -1.3
PBEJ A A 03 27 52.5
6.9nm,0.1s
PBEJ Beja 3.67 315 P Pn 03 27 09.9 +1.1
PBEJ S Sn 03 27 50.1 -1.3
3.5nm,0.1s
MORF Marmelete 3.76 301 *e*P Pn 03 27 10.7 +0.7
MORF *e*S Sn 03 27 51.1 -2.4
MORF AML AML 03 27 54.8
comp=N,35nm,0.2s
MORF Marmelete 3.76 301 *e*P Pn 03 27 10.9 +0.9
MORF *e*S Sn 03 27 52.1 -1.4
MORF A A 03 27 53.3
comp=N,24nm,0.1s
MORF Marmelete 3.76 301 P Pn 03 27 10.9 +0.9
MORF S Sn 03 27 52.1 -1.4
comp=N,24nm,0.1s
PFVI Vila Bisbo 3.81 297 *e*P Pn 03 27 11.7 +1.1
PFVI *e*S Sn 03 27 52.7 -1.9
PFVI A A 03 27 54.8
comp=N,16nm,0.6s
PFVI Vila Bisbo 3.81 297 P Pn 03 27 11.7 +1.1
comp=N,3.3nm,0.1s,SNR=8.2
PFVI S Sn 03 27 52.5 -2.1
comp=N,18nm,0.1s,SNR=8.8
EBAD Badajoz 3.82 330 P Pn 03 27 12.1 +1.3
comp=N,14nm,0.1s,SNR=86
EBAD S Sn 03 27 53.4 -1.6
comp=N,21nm,0.2s,SNR=6.5
PTEO Sao Teotonio 3.92 303 *e*P Pn 03 27 13.8 +1.6
PTEO *e*S Sn 03 27 56.0 -1.5
PTEO A A 03 27 58.4
comp=N,17nm,0.5s
PTEO Sao Teotonio 3.92 303 P Pn 03 27 13.8 +1.6
PTEO S Sn 03 27 56.0 -1.5
comp=N,8.4nm,0.5s
ETOB Tobarra 4.01 37 P Pn 03 27 15.0 +1.5
comp=N,0.9nm,0.2s,SNR=9.7
ETOB S Sn 03 27 59.8 +0.1
comp=N,0.2nm,0.2s
TISM Timmit 4.03 203 P Pn 03 27 13.7 +0.1
TISM S Sn 03 27 58.2 -1.7
PAB San Pablo 4.09 3 P Pn 03 27 15.3 +0.8
comp=N,0.9nm,0.2s,SNR=7.9
PAB S Sn 03 27 58.9 -2.7
comp=N,6.0nm,0.2s,SNR=7.9
EVO Evora 4.11 319 *e*P Pn 03 27 16.1 +1.4
EVO *e*S Sn 03 28 00.4 -1.6
EVO A A 03 28 02.5
comp=N,12nm,0.1s
EVO Evora 4.11 319 *e*P Pn 03 27 16.1 +1.4
EVO *e*S Sn 03 28 00.2 -1.7
EVO Evora 4.11 319 P Pn 03 27 16.1 +1.4
EVO S Sn 03 28 00.4 -1.6
comp=N,12nm,0.1s
PNCL Nicolau / Gran 4.12 311 *e*P Pn 03 27 16.0 +1.2
PNCL *e*S Sn 03 28 00.9 -1.3
PNCL A A 03 28 02.4
comp=N,12nm,0.8s
PNCL Nicolau / Gran 4.12 311 P Pn 03 27 16.0 +1.2
PNCL S Sn 03 28 00.9 -1.3
comp=N,12nm,0.8s
PESTR Estremoz 4.16 326 *e*P Pn 03 27 16.8 +1.4
PESTR *e*S Sn 03 28 01.4 -1.8
PESTR A A 03 28 03.0
comp=N,3.4nm,0.1s
PESTR Estremoz 4.16 326 P Pn 03 27 17.6 +2.2
PESTR S Sn 03 28 00.9 -2.3
ESDC Sonseca Array 4.24 7 P Pn 03 27 17.7 +1.2
comp=N,0.4nm,0.1s,baz=195,slow=13,SNR=7.0
ESDC S Sn 03 28 02.3 -2.9
comp=N,2.2nm,0.1s,baz=193,slow=23,SNR=14
PMRV Marv??o 4.55 332 *e*P Pn 03 27 22.0 +1.4
PMRV *e*S Sn 03 28 10.2 -2.3
PMRV A A 03 28 25.0
comp=N,2.3nm,0.3s
PMRV Marv??o 4.55 332 P Pn 03 27 22.0 +1.4
PMRV S Sn 03 28 10.2 -2.3
comp=N,2.3nm,0.3s
PMTG Montargil 4.62 322 *e*P Pn 03 27 22.8 +1.2
PMTG *e*S Sn 03 28 12.4 -1.9
PMTG A A 03 28 15.4
comp=N,4.9nm,0.6s
PMTG Montargil 4.62 322 P Pn 03 27 22.8 +1.2
PMTG S Sn 03 28 12.4 -1.9
comp=N,4.9nm,0.6s
TZRR Tazzarine 4.73 190 P Pn 03 27 22.2 -0.9
TZRR S Sn 03 28 18.5 +1.6
EPLA Plasencia 4.75 346 P Pn 03 27 24.9 +1.5
comp=N,1.7nm,0.1s,SNR=28
EPLA S Sn 03 28 14.9 -2.4
comp=N,6.0nm,0.1s,SNR=8.1
PCBR Castelo Branco 4.94 333 *e*P Pn 03 27 27.3 +1.5
PCBR *e*S Sn 03 28 19.6 -2.2
PCBR Castelo Branco 4.94 333 P Pn 03 27 27.3 +1.5
PCBR S Sn 03 28 19.6 -2.2
ECHE Chera 5.04 34 P Pn 03 27 29.4 +2.2
comp=N,0.4nm,0.3s,SNR=7.9
ECHE S Sn 03 28 24.2 -0.1
comp=N,0.2nm,0.1s,SNR=7.9
PTOM Tomar 5.14 325 *e*P Pn 03 27 30.6 +2.0
PTOM *e*S Sn 03 28 24.6 -2.2
PTOM Tomar 5.14 325 P Pn 03 27 30.6 +2.0
PTOM S Sn 03 28 24.6 -2.2
GUD Guadarrama 5.19 4 P Pn 03 27 30.4 +1.0
comp=N,0.1nm,0.1s,SNR=7.9
GUD S Sn 03 28 25.1 -3.1
comp=N,0.6nm,0.1s,SNR=7.9
MTE Manteigas 5.46 336 *e*P Pn 03 27 34.7 +1.8
MTE *e*S Sn 03 28 32.6 -1.9
MTE Manteigas 5.46 336 P Pn 03 27 34.7 +1.8
MTE S Sn 03 28 32.6 -1.9
ETOR Torete 5.72 20 P Pn 03 27 37.9 +1.4
comp=N,1.5nm,0.1s,SNR=7.9
ETOR S Sn 03 28 36.0 -4.9
comp=N,4.3nm,0.2s,SNR=7.9

PVIS Viseu 5.86 335 *e*P Pn 03 27 39.4 +1.1
PVIS *e*S Sn 03 28 42.7 -1.5
PVIS Viseu 5.86 335 P Pn 03 27 39.4 +1.1
PVIS S Sn 03 28 42.7 -1.5
MVO Moncorvo 6.01 342 *e*P Pn 03 27 42.4 +2.0
MVO *e*S Sn 03 28 45.8 -2.1
MVO A A 03 28 48.5
comp=N,4.3nm,0.7s
MVO Moncorvo 6.01 342 P Pn 03 27 42.3 +2.0
comp=N,2.7nm,0.2s,SNR=12
MVO S Sn 03 28 45.5 -2.4
comp=N,1.3nm,0.1s,SNR=7.9
PVRL Vila Real 6.31 338 *e*P Pn 03 27 45.8 +1.5
PVRL *e*S Sn 03 28 52.9 -2.1
PVRL A A 03 28 56.4
comp=N,8.5nm,0.1s
PVRL Vila Real 6.31 338 P Pn 03 27 45.8 +1.5
PVRL S Sn 03 28 52.9 -2.1
comp=N,4.2nm,0.1s
PBRG Braganca 6.56 346 *e*P Pn 03 27 50.1 +2.4
PBRG Braganca 6.56 346 P Pn 03 27 50.1 +2.4
ECAL Calabor 6.69 346 S Sn 03 29 00.7 -3.7
comp=N,7.5nm,0.4s,SNR=7.9
PCAB Cabril 6.80 338 *e*P Pn 03 27 53.1 +2.1
PCAB Cabril 6.80 338 P Pn 03 27 53.1 +2.1

ISCJB ***22*** *03:32:04.9±0.4, 59°.87N±0°.03×153°.11W±0°.07, h129km±3km, mb3.7/1, Error ellipse: s-maj=6.3km s-min=3.5km az=27.2*
NEIC ***22*** *03:32:05.4±1.4, 59°.87N±0°.04×153°.2W±0°.1, h126km±4km*
AEIC ***22*** *03:32:07.1±1.9, 59°.89N±0°.04×153°.3W±0°.1, h117km±4km, ML2.8*
IDC ***22*** *03:32:11.3±8.7, 60°.24N×152°.55W, h98km±62km, mb3.6/1, mb1 3.5/3, mb1mx2.9/57, mbtmp3.6/3, ML3.2/2, Error ellipse: s-maj=66.0km s-min=43.7km az=40.0*
ISC 22 03:32:06.9±1.0, 59°.88N±0°.03×153°.18W±0°.05, h120km±6km, n85, σ1§63/103, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.10**	**35**			**Pn**	**03 32 22.6**	**-0.8**
ILS						Sn	03 32 35.4	-0.5
IVE	**Iliamna Volcan**	**0.16**	**31**			**Pn**	**03 32 22.6**	**-0.9**
IVE						Sn	03 32 35.5	-0.7
AUL	**Augustine Lava**	**0.52**	**195**			**Pn**	**03 32 24.3**	**-0.6**
AUL						Sn	03 32 38.0	-0.5
AUP	**Augustine Pinn**	**0.53**	**193**			**Pn**	**03 32 24.7**	**-0.5**
AUH	**Augustine H**	**0.53**	**195**			**Pn**	**03 32 24.5**	**-0.6**
AUQ	**Augustine Qik'**	**0.54**	**193**			**Pn**	**03 32 24.4**	**-0.7**
AUQ						Sn	03 32 38.0	-0.8
AUI	**Augustine Isla**	**0.56**	**193**			**Pn**	**03 32 24.5**	**-0.7**
RED	**Redoubt Volcan**	**0.58**	**20**			**Pn**	**03 32 24.6**	**-0.8**
RSO	**Redoubt South**	**0.62**	**20**			**Pn**	**03 32 25.1**	**-0.8**
RDWB	**Redoubt West**	**0.63**	**15**			**Pn**	**03 32 25.0**	**-0.9**
NCT	**North Crescent**	**0.70**	**10**			**Pn**	**03 32 25.5**	**-0.8**
NCT						Sn	03 32 40.2	-0.8
DFR	**Drift River**	**0.76**	**19**			**Pn**	**03 32 26.0**	**-0.8**
HOM	**Homer**	**0.81**	**105**			**Pn**	**03 32 42.9**	**+0.6**
HOM	**Homer**	**0.81**	**105**			**Pn**	**03 32 27.0**	**0.0**
BRLK	**Bradley Lake**	**1.16**	**95**			**Pn**	**03 32 30.0**	**-0.6**
BRSE	**Bradley Lake S**	**1.24**	**95**			**Pn**	**03 32 30.7**	**-0.6**
CAPN	**Captain Cook N**	**1.35**	**48**			**Pn**	**03 32 33.6**	**+1.2**
CKL	**Chakachamna La**	**1.39**	**17**			**Pn**	**03 32 32.7**	**-0.4**
SPCR	**Spurr Chakacha**	**1.41**	**19**			**Pn**	**03 32 32.7**	**-0.6**
SPWE	**Spurr West**	**1.43**	**12**			**Pn**	**03 32 33.4**	**-0.1**
CRP	**Crater Peak**	**1.48**	**20**			**Pn**	**03 32 34.0**	**-0.2**
SPCP	**Crater Peak Br**	**1.48**	**20**			**Pn**	**03 32 33.9**	**-0.3**
SPCP						Sn	03 32 55.3	+0.3
SPNN	**North Nagishla**	**1.51**	**9**			**Pn**	**03 32 34.0**	**-0.6**
CGLM	**Capps Glacier**	**1.54**	**21**			**Pn**	**03 32 34.5**	**-0.4**
KAHC	**Katmai Hardscr**	**1.55**	**218**			**Pn**	**03 32 33.9**	**-1.1**
KAHG	**Katmai Hook Gl**	**1.56**	**207**			**Pn**	**03 32 34.3**	**-0.7**
SLKM	**Skilak Lake**	**1.61**	**66**			**Sn**	**03 32 55.7**	**-1.7**
KCG	**Knife Ck. Glac**	**1.87**	**213**			**Pn**	**03 32 37.9**	**-0.8**
SEW	**Seward**	**1.89**	**82**			**Pn**	**03 32 38.0**	**-0.8**
SEW	**Seward**	**1.89**	**82**			**Sn**	**03 33 02.2**	**-1.0**
SUA	**Susitna One**	**1.99**	**36**			**Pn**	**03 32 40.1**	**-0.1**
SUA						Sn	03 33 05.0	-0.8
RC01	**Rabbit Creek A**	**2.09**	**53**			**Pn**	**03 32 40.8**	**-0.6**
RC01						Sn	03 33 06.6	-1.2
KDAK	**Kodiak Island**	**2.13**	**171**			**Pn**	**03 32 40.0**	**-1.9**
KDAK	**Kodiak Island**	**2.13**	**171**			**Sn**	**03 33 07.1**	**-1.5**
CAHL	**Cahill**	**2.14**	**212**			**Pn**	**03 32 41.8**	**-0.3**
SKT	**Skwentna**	**2.26**	**20**	Pn		**Pn**	**03 32 43.8**	**+0.3**
SKT						Sn	03 33 12.5	+0.9
PMR	**Palmer**	**2.63**	**47**			**Pn**	**03 32 47.5**	**-0.6**
PMR						Sn	03 33 17.0	-3.0
OHAK	**Old Harbor**	**2.67**	**181**			**Pn**	**03 32 46.5**	**-2.3**
OHAK						Sn	03 33 17.2	-3.6
KNK	**Knik Glacier**	**2.79**	**54**			**Pn**	**03 32 49.4**	**-1.0**
KNK						Sn	03 33 21.4	-2.4
GHO	**Glory Hole Cre**	**2.82**	**46**			**Pn**	**03 32 49.6**	**-1.2**
GHO						Sn	03 33 21.9	-2.7
SML	**Sawmill**	**3.06**	**49**	Pn		**Pn**	**03 32 52.8**	**-1.2**
SML						Sn	03 33 28.6	-1.7
GLI	**Glacier Island**	**3.18**	**69**			**Pn**	**03 32 53.3**	**-2.2**
SII	**Sitkinak Islan**	**3.37**	**190**			**Pn**	**03 32 55.6**	**-2.4**
HIN	**Hinchinbrook I**	**3.38**	**78**	Pn		**Pn**	**03 32 57.7**	**-0.3**
FID	**Port Fidalgo**	**3.45**	**72**			**Pn**	**03 32 56.5**	**-2.5**
JPK	**Jack Peak**	**3.47**	**67**			**Pn**	**03 32 58.3**	**-1.0**
SCM	**Sheep Creek Mo**	**3.47**	**53**			**Pn**	**03 32 58.0**	**-1.3**
WAT1	**Susitna Watana**	**3.71**	**35**			**Pn**	**03 33 01.2**	**-1.1**
EYAK	**Cordova Ski Ar**	**3.77**	**77**	Pn		**Pn**	**03 33 03.0**	**-0.1**
WAT6	**Susitna Watana**	**3.78**	**42**			**Pn**	**03 33 02.2**	**-1.2**
WAT2	**Susitna Watana**	**3.80**	**34**			**Pn**	**03 33 02.7**	**-1.1**
TRF	**Thorofare Moun**	**3.84**	**20**			**Pn**	**03 33 03.4**	**-0.9**
RND	**Reindeer**	**4.10**	**28**			**Pn**	**03 33 06.6**	**-1.0**
DHY	**Denali Highway**	**4.25**	**38**			**Sn**	**03 33 56.0**	**-2.5**
DHY	**Denali Highway**	**4.25**	**38**			**Pn**	**03 33 08.6**	**-1.1**
CHIR	**Chirikof Islan**	**4.27**	**199**			**Pn**	**03 33 07.6**	**-2.4**
GOAT	**Goat Mountain**	**4.27**	**77**			**Pn**	**03 33 09.8**	**-0.2**
MCK	**McKinley**	**4.36**	**26**			**Pn**	**03 33 10.7**	**-0.4**
BPAW	**Bear Paw Mtn.**	**4.36**	**13**			**Pn**	**03 33 10.0**	**-1.1**
PAX	**Paxson**	**4.83**	**47**	Pn		**Pn**	**03 33 16.3**	**-1.1**
PAX						Sn	03 34 09.1	-3.2
GLB	**Gilahina Butte**	**4.87**	**67**	Pn		**Sn**	**03 33 17.4**	**-0.5**
GLB						Sn	03 34 11.9	-1.4
VRDI	**Verde Repeater**	**4.99**	**70**	Pn		**Pn**	**03 33 18.8**	**-0.9**
CRQM	**Cirque**	**5.07**	**76**	Pn		**Pn**	**03 33 20.5**	**-0.3**
WRH	**Wood River Hil**	**5.19**	**25**			**Pn**	**03 33 20.8**	**-1.4**
WAX	**Waxell Ridge**	**5.19**	**79**	Pn		**Pn**	**03 33 22.5**	**+0.2**
TGL	**Tana Glacier**	**5.22**	**76**	Pn		**Pn**	**03 33 22.7**	**0.0**
MCARA	**McCarthy VSAT**	**5.22**	**69**	Pn		**Pn**	**03 33 23.6**	**+1.0**
MCARA						Sn	03 34 25.8	+4.1
MLY	**Manley**	**5.29**	**11**			**Pn**	**03 33 22.2**	**-1.4**
CCB	**Clear Creek Bu**	**5.40**	**25**			**Pn**	**03 33 23.5**	**-1.5**
KIAG	**Kiagna River**	**5.47**	**74**			**Pn**	**03 33 26.0**	**-0.1**
BALM	**Baldy**	**5.49**	**73**			**Pn**	**03 33 25.9**	**-0.4**
RIDG	**Independent Ri**	**5.53**	**42**			**Sn**	**03 34 28.0**	**-1.2**
MDM	**Murphy Dome**	**5.59**	**22**	Pn		**Pn**	**03 33 25.9**	**-1.7**
MESA	**MESA**	**5.64**	**82**	Pn		**Pn**	**03 33 25.4**	**-3.1**
IL31		**5.72**	**28**			**Pn**	**03 33 27.8**	**-1.4**
ILAR	**Eielson Array**	**5.72**	**28**	P		**Pn**	**03 33 27.8**	**-1.5**
	1.0nm,0.3s,baz=216,slow=14,SNR=76							
ILAR				S		**Sn**	**03 34 26.4**	**-7.1**
	0.7nm,0.3s,baz=214,slow=23,SNR=11							
BARN	**Barnard Glacie**	**5.82**	**73**			**Pn**	**03 33 30.9**	**0.0**
CTGM	**Chitina Glacie**	**5.97**	**74**			**Pn**	**03 33 33.3**	**+0.4**
SCRK	**Sand Creek**	**5.97**	**43**	Pn		**Pn**	**03 33 31.6**	**-1.3**
PRP	**Porcupine Dome**	**6.66**	**29**			**Pn**	**03 33 40.8**	**-1.4**
PRP	**Porcupine Dome**	**6.66**	**29**			**Sn**	**03 34 53.6**	**-2.9**
YUK7	**Dusty Glacier**	**7.52**	**79**			**Pn**	**03 33 51.0**	**-2.9**
DHAK	**Deception Hill**	**7.66**	**89**	Pn		**Pn**	**03 33 55.9**	**+0.3**
YKA	**Yellowknife Ar**	**18.58**	**65**	P		**P**	**03 36 14.6**	**+0.4**
	0.1nm,0.3s,baz=277,slow=9.9,SNR=9.1							
ARCES	**ARCESS Array B**	**50.88**	**1**	P		**P**	**03 40 59.0**	**+4.3**
	1.6nm,0.9s,baz=15,slow=7.5,SNR=1.4							

NEIC ***22*** *03:59:48.0±5.3, 16°.54N±0°.07×94°.61W±0°.05, h113km±11km*
MEX 22 03:59:50.2±0.6, 16°.66N×94°.57W, h105km±5km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.53**	**325**	*e*P		Pn	04 00 05.3	-1.4
CMIG				*i* S		Sn	04 00 17.4	-1.8
CMIG	**Matias Romero**	**0.53**	**325**			Pn	04 00 05.3	-1.5
CMIG						Sn	04 00 17.4	-1.8
TGIG		**1.39**	**85**	*i* P		Pn	04 00 14.2	-1.3
TGIG				*i* S		Sn	04 00 32.6	-2.0
TGIG		**1.39**	**85**			Pn	04 00 14.2	-1.3
TGIG						Sn	04 00 32.6	-2.0
PCIG		**1.60**	**126**	*e*P		Pn	04 00 16.7	-1.3
PCIG				*e*S		Sn	04 00 37.8	-1.3
PCIG		**1.60**	**126**			Pn	04 00 16.7	-1.3
HUIG	**Huatulco**	**1.72**	**239**	*i* P		Pn	04 00 15.9	-3.6
HUIG				*i* S		Sn	04 00 38.4	-3.4
VHO	**Vista Hermosa**	**2.12**	**282**	*e*P		Pn	04 00 23.6	-1.0
VHO				*e*S		Sn	04 00 49.2	-1.8
TPIG	**Tehuac#an**	**3.19**	**304**	*i* S		Sn	04 01 14.8	-1.5
PNIG	**Pinotepa**	**3.43**	**266**	*e*P		Pn	04 00 39.1	-2.7
PNIG				*i* S		Sn	04 01 17.3	-4.3
PNIG	**Pinotepa**	**3.43**	**266**			Pn	04 00 39.1	-2.7
PNIG						Sn	04 01 16.5	-5.2
YAIG	**Yautepec**	**4.82**	**298**	*e*P		Pn	04 01 01.2	+0.6
YAIG				*i* S		Sn	04 01 54.8	-0.7
YAIG	**Yautepec**	**4.82**	**298**			Pn	04 01 01.2	+0.6
ARIG	**Puente Sto Nin**	**5.75**	**287**	*i* P		Pn	04 01 13.6	+0.4
ARIG	**Puente Sto Nin**	**5.75**	**287**			Pn	04 01 13.6	+0.4

ISCJB ***22*** *04:01:36.8±0.5, 10°.80N±0°.04×86°.64W±0°.04, h10km, mb3.8/12, MS4.0/1, Error ellipse: s-maj=7.9km s-min=4.0km az=43.4*
IDC ***22*** *04:01:38.3±0.7, 11°.65N×85°.82W, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.8/50, mbtmp3.9/13, ML3.6/1, MS3.5/2, Ms1 3.6/2, ms1mx2.9/27, Error ellipse: s-maj=39.2km s-min=10.4km az=57.0*
UCR ***22*** *04:01:40.3±1.8, 10°.87N×86°.49W, h20km±7km, ML4.0, mb4.2(NEIC)*
NEIC ***22*** *04:01:43.0±2.5, 11°.04N±0°.07×86°.37W±0°.09, h46km±7km, mb4.2/17*
ISC 22 04:01:38.7±0.7, 10°.92N±0°.05×86°.45W±0°.06, h10km, n62, σ1§66/58, mb4.1/18, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BUEV	**Buena Vista**	**1.03**	**97**	*e*P		**Pg**	**04 01 59.0**	**+0.4**
GB1A	**Borinquen Arri**	**1.04**	**95**	*e*P		**Pg**	**04 01 59.4**	**+0.6**
MASN	**Masaya**	**1.10**	**15**	*e*P		**Pb**	**04 02 00.7**	**+0.8**
MASN				*e*P		**Pb**	**04 02 00.8**	**+0.8**
PLVR	**Palo Verde**	**1.22**	**118**	*e*P		**Pn**	**04 02 02.2**	**+0.2**
TISN	**Laguna Tiscapa**	**1.23**	**8**	*e*P		**Pn**	**04 02 02.8**	**+0.7**
MGAN	**Managua**	**1.24**	**9**	*e*P		**Pn**	**04 02 02.9**	**+0.8**
CUI	**Cuipilapa**	**1.29**	**102**	*e*P		**Pn**	**04 02 02.9**	**0.0**
MOMN	**Momotombo**	**1.48**	**357**	*e*P		Pn	04 01 59.3	-6.2
CNGN	**Cerro Negro**	**1.59**	**351**	*e*P		**Pn**	**04 02 07.4**	**+0.4**
CNGN				*e*S		**Sn**	**04 02 29.3**	**+1.6**
JTS	**Las Juntas de**	**1.60**	**113**	Pn		**Pn**	**04 02 07.1**	**0.0**
	71nm,0.3s,baz=171,slow=21,SNR=313							
JTS				Pg		**Pb**	**04 02 10.2**	**+1.8**
	120nm,0.3s,baz=14,slow=22,SNR=29							
JTS				Lg		Lg	04 02 31.3	
	123nm,0.3s,baz=233,slow=22,SNR=14							
JTS	**Las Juntas de**	**1.60**	**113**	*e*P		**Pn**	**04 02 06.8**	**-0.4**
JTS	**Las Juntas de**	**1.60**	**113**	Pn		**Pn**	**04 02 07.9**	**+0.7**
ACON	**Acoyapa**	**1.63**	**50**	*e*P		**Pn**	**04 02 07.8**	**+0.3**
ACON	**Acoyapa**	**1.63**	**50**			**Pn**	**04 02 07.9**	**+0.3**
ARE1	**Arenal 1**	**1.76**	**105**	*e*P		**Pn**	**04 02 09.8**	**+0.4**
CEDE	**Laguna Cedeo**	**1.77**	**104**	*e*P		**Pn**	**04 02 09.9**	**+0.4**
BRAN	**Las Pilas**	**1.79**	**3**	*e*P		Pn	04 02 03.1	-6.6
CRIN	**San Cristobal**	**1.86**	**342**	*e*P		**Pn**	**04 02 11.3**	**+0.5**
CRIN				*e*S		**Sn**	**04 02 36.5**	**+2.0**
CRIN				IAML			04 02 45.9	
	comp=E,2μm,0.5s							
MATN	**Matagalpa**	**2.06**	**14**	*e*P		**Pn**	**04 02 14.3**	**+0.7**
MATN				*e*S		**Sn**	**04 02 41.8**	**+2.4**
SRA1	**San Ramn**	**2.11**	**113**	*e*P		**Pn**	**04 02 16.8**	**+2.6**
ESTN	**Estel**	**2.17**	**2**	*e*P		**Pn**	**04 02 15.8**	**+0.8**
ESTN	**Estel**	**2.17**	**2**	Pn		**Pn**	**04 02 15.6**	**+0.6**
ESPN	**Las Esperanzas**	**2.46**	**59**	*e*P		**Pn**	**04 02 19.9**	**+1.0**
ESPN	**Las Esperanzas**	**2.46**	**59**	Pn		**Pn**	**04 02 19.6**	**+0.6**
HDC	**Heredia**	**2.47**	**111**	Pn		**Pn**	**04 02 21.9**	**+2.7**
LCR2	**La Lucha 2**	**2.68**	**116**	*e*P		**Pn**	**04 02 23.7**	**+1.6**
CVTR	**Volcan Turrial**	**2.79**	**108**	*e*P		**Pn**	**04 02 24.9**	**+1.0**
TGUH	**Tegucigalpa,Un**	**3.22**	**346**	Pn		**Pn**	**04 02 30.7**	**+1.1**
CMIG	**Matias Romero**	**10.23**	**308**	Pn		**Pn**	**04 04 07.2**	**+1.6**
	comp=E,0.5nm,0.3s,baz=54,slow=3.6,SNR=2.8							
CMIG				Sn		**Sn**	**04 06 08.0**	**+7.5**
	comp=E,0.2nm,0.3s,baz=75,slow=12,SNR=1.8							
ATAH	**Atahualpa**	**19.65**	**156**	LR		LR	04 12 42.8	
	comp=E,67nm,19.5s,baz=348,slow=33							
WHTX	**Lake Whitney,**	**23.30**	**336**	P		**P**	**04 06 46.5**	**-0.5**
UALR	**University of**	**24.35**	**348**	P		**P**	**04 06 55.2**	**-1.7**
TXAR	**Lajitas Array**	**24.37**	**321**	P		**P**	**04 06 56.4**	**-1.0**
	comp=E,2.5nm,0.8s,baz=136,slow=9.5,SNR=22							
TXAR				PcP		**PcP**	**04 10 37.6**	**+0.8**
	comp=E,0.4nm,0.8s,baz=120,slow=7.5,SNR=3.9							
TX31	**Lajitas Ar. Si**	**24.37**	**321**	P		**P**	**04 06 56.0**	**-1.3**
TX32	**Lajitas Array**	**24.37**	**321**	P		**P**	**04 06 56.4**	**-0.9**
TX32				IAmb		IAmb	04 06 59.0	
	comp=Z,4.6nm,1.1s							
MIAR	**Mount Ida**	**24.40**	**346**	P		**P**	**04 06 55.6**	**-1.8**
MIAR				IAmb		IAmb	04 06 57.4	
	comp=Z,4.5nm,0.7s							
WHAR	**Wooly Hollow**	**24.84**	**349**	P		**P**	**04 06 59.8**	**-1.6**
H06E1	**SOCORRO T-PHAS**	**24.89**	**291**	T		T	04 32 49.5	
	SNR=4.6							
U40A	**Yellville**	**25.98**	**348**	P		**P**	**04 07 09.9**	**-1.8**
U40A				IAmb		IAmb	04 07 11.1	
	comp=Z,5.6nm,0.7s							
HHAR	**Hobbs**	**26.14**	**346**	P		**P**	**04 07 11.1**	**-2.2**
HHAR				IAmb		IAmb	04 07 11.5	
	comp=Z,5.1nm,0.6s							
WMOK	**Wichita Mounta**	**26.24**	**337**	P		**P**	**04 07 14.1**	**0.0**
WMOK				IAmb		IAmb	04 07 16.1	
	comp=Z,7.1nm,0.9s							
ANMO	**Albuquerque**	**30.07**	**326**	P		**P**	**04 07 48.6**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=146,slow=4.6,SNR=5.4							
ANMO	**Albuquerque**	**30.07**	**326**	IAmb		IAmb	04 07 50.5	
	comp=Z,1.6nm,1.0s							
SDCO	**Great Sand Dun**	**31.72**	**331**	P		**P**	**04 08 02.6**	**-0.6**
SIV	**San Ignacio**	**36.69**	**136**	P		**P**	**04 08 46.8**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=327,slow=8.2,SNR=6.1							
PDAR	**Pinedale Array**	**37.58**	**332**	P		**P**	**04 08 52.0**	**-1.8**
	comp=Z,0.7nm,0.6s,ba

IDC ***22*** *04:05:34.4±7.3, 45.˚80N×147.˚12E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.5/63, mbtmp3.9/8, Error ellipse: s-maj=176.8km s-min=28.3km az=165.0*
MOS ***22*** *04:05:34.7±1.1, 44.˚08N×147.˚71E, h74km, mb4.0/2, Error ellipse: s-maj=17.8km s-min=12.1km az=57.5*
SKHL ***22*** *04:05:35.6±0.5, 44.˚24N×147.˚70E, h100km±9km, mb4.3/4, msh5.5/5*
JMA ***22*** *04:05:35.2±0.4, 43.˚87N×147.˚81E, h14km, M3.5*
ISC 22 04:05:35.2±1.2**, 44.˚09N**±0.˚09×**147.˚91E**±0.˚09**, h83**km±8km**,**
n38,σ1§**35**/55**, mb3.8**/8**, 3C-3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.81**	**254**	*d*	*i*	PN	**Pn**	**04 05 52.1**	**-0.2**
SHO					*i*	S	**Sn**	**04 06 04.1**	**-1.0**
SHO	comp=N,37μm,0.2s				pmax		pmax		
SHO	comp=E,37μm,0.2s				pmax		pmax		
SHO	comp=Z,47μm,0.2s				pmax		pmax		
SHO	comp=N,1μm,0.4s				smax		smax		
SHO	comp=E,796nm,0.3s				smax		smax		
SHO	**Shikotan**	**0.81**	**254**	*i*	P		**Pn**	**04 05 51.9**	**-0.4**
SHO	comp=E,47nm,0.2s				AMB		AMB	04 05 53.0	
SHO				*i*	S		**Sn**	**04 06 04.0**	**-1.0**
SHO	comp=E,111nm,0.3s				A		A	04 06 04.0	
SHO	comp=E,800nm,0.3s				A		A	04 06 04.0	
KUR	**Kuril'sk**	**1.14**	**359**	*d*	*i*	PN	**Pn**	**04 05 55.5**	**-0.6**
KUR					*i*	S	**Sn**	**04 06 10.8**	**-1.0**
KUR	comp=Z,726nm,0.2s				pmax		pmax		
KUR	comp=E,146nm,0.1s				pmax		pmax		
KUR	comp=N,129nm,0.3s				pmax		pmax		
KUR	comp=N,588nm,0.2s				smax		smax		
KUR	comp=E,649nm,0.2s				smax		smax		
KUR	**Kuril'sk**	**1.14**	**359**	*i*	P		**Pn**	**04 05 55.0**	**-1.1**
KUR	comp=E,100nm,0.3s				AMB		AMB	04 05 55.0	
KUR				*i*	S		**Sn**	**04 06 10.0**	**-1.8**
KUR	comp=E,373nm,0.3s				A		A	04 06 11.0	
KUR	comp=E,876nm,0.3s				A		A	04 06 11.0	
YUK	**Yuzh-Kuril'sk**	**1.48**	**268**	*e*	PN		**Pn**	**04 06 00.6**	**+0.3**
YUK					*i*	S	**Sn**	**04 06 18.8**	**-0.5**
YUK	comp=Z,134μm,0.2s				pmax		pmax		
YUK	comp=N,558nm,0.2s				smax		smax		
YUK	comp=E,517nm,0.2s				smax		smax		
YUK	**Yuzh-Kuril'sk**	**1.48**	**268**	*e*	P		**Pn**	**04 06 00.0**	**-0.3**
YUK	comp=E,134nm,0.2s				AMB		AMB	04 06 02.0	
YUK				*i*	S		**Sn**	**04 06 18.0**	**-1.3**
YUK	comp=E,558nm,0.2s				A		A	04 06 21.0	
YUK	comp=E,517nm,0.2s				A		A	04 06 21.0	
GRPR	**Tuman**	**1.54**	**267**	*e*	PN		**Pn**	**04 06 01.3**	**+0.1**
GRPR					*e*	S	**Sn**	**04 06 20.1**	**-0.8**
GRPR	comp=N,70nm,0.1s				pmax		pmax		
GRPR	comp=Z,64nm,0.1s				pmax		pmax		
GRPR	comp=E,397nm,0.4s				smax		smax		
GRPR	comp=N,558nm,0.2s				smax		smax		
GRPR	**Tuman**	**1.54**	**267**	*e*	P		**Pn**	**04 06 01.0**	**-0.2**
GRPR	comp=N,64nm,0.4s				AMB		AMB	04 06 02.0	
GRPR				*e*	S		**Sn**	**04 06 20.0**	**-0.8**
GRPR	comp=N,558nm,0.4s				A		A	04 06 21.0	
GRPR	comp=N,397nm,0.4s				A		A	04 06 21.0	
NEM2	**Nemuro 2**	**1.73**	**246**		P		**Pn**	**04 06 03.5**	**-0.1**
NEM2					*e*	S	**Sn**	**04 06 24.0**	**-1.2**
NMR	**Nemuro--Hokkai**	**1.74**	**246**	*d*	*i*	PN	**Pn**	**04 06 03.5**	**-0.2**
NMR					*i*	S	**Sn**	**04 06 24.1**	**-1.3**
NMR	**Nemuro--Hokkai**	**1.74**	**246**	*i*	P		**Pn**	**04 06 03.0**	**-0.7**
NMR					*i*	S	**Sn**	**04 06 24.0**	**-1.3**
GLVR	**Golovnino**	**1.76**	**259**	*e*	PN		**Pn**	**04 06 03.9**	**-0.1**
GLVR					*i*	S	**Sn**	**04 06 26.5**	**+0.6**
GLVR	comp=N,515nm,0.2s				smax		smax		
GLVR	comp=E,405nm,0.2s				smax		smax		
GLVR	**Golovnino**	**1.76**	**259**	*e*	P		**Pn**	**04 06 04.2**	**+0.2**
GLVR					*i*	S	**Sn**	**04 06 25.3**	**-0.6**
GLVR	comp=E,515nm,0.2s				A		A	04 06 31.0	
GLVR	comp=E,405nm,0.2s				A		A	04 06 31.0	
JRA	**Rausu**	**2.02**	**267**		P		**Pn**	**04 06 08.5**	**+1.1**
JRA					*e*	S	**Sn**	**04 06 33.2**	**+1.3**
JNSB	**Nemuroshibetsu**	**2.12**	**262**		P		**Pn**	**04 06 10.3**	**+1.5**
JNSB					*e*	S	**Sn**	**04 06 35.7**	**+1.3**
JNK	**Nakash**	**2.36**	**259**		P		**Pn**	**04 06 12.8**	**+0.8**
JNK					*e*	S	**Sn**	**04 06 39.8**	**-0.4**
JAK	**Akkeshi**	**2.58**	**246**		P		**Pn**	**04 06 15.1**	**+0.2**
JAK					*e*	S	**Sn**	**04 06 44.3**	**-1.1**
JTKR	**Abashiri--Toko**	**2.89**	**269**		P		**Pn**	**04 06 20.2**	**+1.1**
JAR	**Ashorobuto**	**3.10**	**257**		P		**Pn**	**04 06 23.8**	**+1.8**
JAR					*e*	S	**Sn**	**04 06 58.7**	**+0.6**
JCH	**Churui**	**3.63**	**248**		P		**Pn**	**04 06 29.7**	**+0.6**
JCH					*e*	S	**Sn**	**04 07 10.4**	**-0.4**
JFR	**Furan**	**3.97**	**258**		P		**Pn**	**04 06 36.7**	**+3.0**
ERM	**Erimo**	**4.05**	**241**	⇑	*e*	PN	Pn	04 06 26.4	-8.5
JNBK	**Urakawa-nobuka**	**4.18**	**246**		P		**Pn**	**04 06 36.8**	**+0.2**
SKR	**Severo-Kuril's**	**8.63**	**37**		*i*	PN	**Pn**	**04 07 39.8**	**+2.7**
SKR	**Severo-Kuril's**	**8.63**	**37**		*e*	P	**Pn**	**04 07 39.8**	**+2.7**
PEA0B	**Petropavlovsk-**	**11.10**	**32**	⇑	*e*	PN	**Pn**	**04 08 14.9**	**+4.1**
KLR	**Kul'dur**	**12.23**	**301**	⇑	*e*	PN	Pn	04 08 14.3	-12
SONM	**Songino Array**	**28.85**	**292**		P		**P**	**04 11 25.0**	**-0.7**
	comp=E,0.2nm,0.3s,baz=72,slow=9.5,SNR=2.2								
ILAR	**Eielson Array**	**40.89**	**36**		P		**P**	**04 13 08.5**	**-0.2**
	comp=E,0.3nm,0.9s,baz=268,slow=8.7,SNR=2.2								
MKAR	**Makanchi Array**	**44.91**	**298**		*i*	P	**P**	**04 13 40.7**	**-0.7**
MKAR	comp=Z,1.0nm,0.5s				pmax		pmax		
MKAR	**Makanchi Array**	**44.91**	**298**		P		**P**	**04 13 40.1**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=76,slow=8.2,SNR=8.8								
MKAR	**Makanchi Array**	**44.91**	**298**		*e*	P	**P**	**04 13 40.7**	**-0.7**
INK	**Inuvik**	**45.83**	**31**		P		**P**	**04 13 48.7**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=305,slow=6.2,SNR=9.4								
ARCES	**ARCESS Array B**	**59.12**	**340**		P		**P**	**04 15 23.9**	**-2.5**
	comp=Z,1.2nm,0.6s,baz=53,slow=7.2,SNR=5.8								
FINES	**FINESS Array B**	**64.82**	**333**		*i*	P	**P**	**04 16 03.7**	**-1.0**
FINES	comp=Z,4.0nm,1.0s				pmax		pmax		
FINES	**FINESS Array B**	**64.82**	**333**		P		**P**	**04 16 02.4**	**-2.3**
	comp=Z,3.5nm,1.0s,baz=35,slow=5.6,SNR=10								
NOA	**NORSAR Array B**	**69.48**	**339**		P		**P**	**04 16 32.8**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=30,slow=6.2,SNR=1.5								
HFS	**Hagfors**	**69.58**	**337**		P		**P**	**04 16 33.2**	**-1.7**
	comp=Z,6.0nm,1.1s,baz=72,slow=9.3,SNR=2.0								

BJI ***22*** *04:18:01.1±0.0, 24.˚65N×121.˚65E, h38km, ML3.9/5*
JMA ***22*** *04:18:01.4±0.1, 24.˚57N×121.˚62E, h57km±2km, M4.1*
TAP ***22*** *04:18:02.9, 24.˚61N×121.˚70E, h42km, ML4.4, B*
ISCJB ***22*** *04:18:02.9±0.2, 24.˚65N±0.˚01×121.˚73E±0.˚01, h48km±1km, mb3.6/12, Error ellipse: s-maj=2.3km s-min=1.8km az=135.6*
ASIES ***22*** *04:18:02.9, 24.˚62N×121.˚72E, h45km, MW3.6*
IDC ***22*** *04:18:08.3±3.8, 24.˚56N×121.˚94E, h102km±35km, mb3.4/12, mb1 3.5/13, mb1mx3.3/45, mbtmp3.7/13, MS2.4/1, Ms1 2.4/1, ms1mx2.2/21, Error ellipse: s-maj=25.3km s-min=17.4km az=65.0*
ISC 22 04:18:02.8±0.6**, 24.˚63N**±0.˚02×**121.˚70E**±0.˚02**, h40**km±4km**,**
n147,σ1§**40**/234**, mb3.6**/12**, 26C-23D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWE	**Neicheng**	**0.10**	**339**	⇑	*i*	P	**Pn**	**04 18 10.3**	**+0.8**
TWE	baz=349				S		**Sn**	**04 18 15.1**	**+1.0**
ENTT	**Nioudou**	**0.13**	**274**	⇑	*i*	P	**Pn**	**04 18 10.4**	**+0.8**
ENTT	baz=292				*i*	S	**Sn**	**04 18 15.4**	**+1.0**
TWC	**Suao**	**0.13**	**99**	⇑	*i*	P	**Pn**	**04 18 10.3**	**+0.7**
TWC	baz=91				S		**Sn**	**04 18 15.3**	**+0.9**
SLBB	**Yuanshan**	**0.14**	**333**	⇓	*i*	P	**Pn**	**04 18 09.7**	**-0.1**
SLBB	baz=336				*e*	S	**Sn**	**04 18 14.2**	**-0.4**
ILA	**Ilan**	**0.14**	**17**	⇑	*i*	P	**Pn**	**04 18 10.7**	**+0.9**
ILA	baz=17				S		**Sn**	**04 18 16.5**	**+2.0**
NDT	**Datong Townshi**	**0.18**	**261**		P		**Pn**	**04 18 10.8**	**+0.8**
NDT	baz=274				S		**Sn**	**04 18 15.9**	**+0.9**
ENA	**Nanau**	**0.20**	**171**	⇑	*i*	P	**Pn**	**04 18 10.4**	**+0.1**
ENA	baz=168				S		**Sn**	**04 18 15.9**	**+0.6**
NANB	**Nanao**	**0.21**	**168**	⇑	*i*	P	**Pn**	**04 18 10.3**	**+0.1**
NANB	baz=167				S		**Sn**	**04 18 15.4**	**+0.1**
NWLT	**Wulai**	**0.23**	**308**	⇓		P	**Pn**	**04 18 11.2**	**+0.7**
NWLT	baz=307				S		**Sn**	**04 18 16.6**	**+0.8**
NTC	**Toucheng**	**0.25**	**27**	⇑		P	**Pn**	**04 18 11.5**	**+0.9**
NTC	baz=24				*e*	S	**Sn**	**04 18 17.6**	**+1.6**
EGS		**0.30**	**44**		*e*	P	**Pn**	**04 18 11.8**	**+0.7**
EGS	baz=38				*e*	S	**Sn**	**04 18 18.8**	**+2.0**
YHNB	**Yeheng**	**0.30**	**277**	⇓		P	**Pn**	**04 18 11.9**	**+0.6**
YHNB	baz=277				S		**Sn**	**04 18 17.6**	**+0.5**
NSK	**Sanguang**	**0.32**	**278**	⇓	*i*	P	**Pn**	**04 18 12.0**	**+0.6**
NSK	baz=277				S		**Sn**	**04 18 17.8**	**+0.4**
NNSH	**Datong**	**0.36**	**235**	⇑	*i*	P	**Pn**	**04 18 12.4**	**+0.5**
NNSH	baz=243				*i*	S	**Sn**	**04 18 18.5**	**+0.3**
NNS	**Nan Shan**	**0.36**	**238**	⇑	*i*	P	**Pn**	**04 18 12.5**	**+0.6**
NNS	baz=244				S		**Sn**	**04 18 18.4**	**+0.2**
TIPB	**Shuangxi**	**0.36**	**18**	⇑	*i*	P	**Pn**	**04 18 12.8**	**+0.9**
TIPB	baz=10.0				S		**Sn**	**04 18 19.2**	**+1.1**
TWA	**Mucha**	**0.36**	**343**	⇓	*i*	P	**Pn**	**04 18 12.7**	**+0.8**
TWA	baz=344				S		**Sn**	**04 18 19.2**	**+1.0**
NHDH	**Xindian Distri**	**0.37**	**334**	⇓	*i*	P	**Pn**	**04 18 12.6**	**+0.7**
NHDH	baz=328				S		**Sn**	**04 18 19.2**	**+1.0**
EOS1	**EOS1**	**0.40**	**102**	⇑		P	**Pn**	**04 18 13.4**	**+1.2**
EOS1	baz=92				*e*	S	**Sn**	**04 18 20.2**	**+1.5**
TATO	**Taipei**	**0.40**	**330**	⇓		P	**Pn**	**04 18 12.8**	**+0.6**
TATO	baz=331				S		**Sn**	**04 18 19.5**	**+0.6**
NWF	**Wu-fen Shan**	**0.44**	**9**	⇑	*i*	P	**Pn**	**04 18 13.9**	**+0.9**
NWF	baz=8.0				S		**Sn**	**04 18 21.1**	**+1.1**
WFSB	**Wu-fen Shan**	**0.44**	**9**	⇑		P	**Pn**	**04 18 13.9**	**+1.0**
WFSB	baz=8.0				S		**Sn**	**04 18 21.0**	**+1.1**
TAP	**Taipei**	**0.44**	**336**	⇓	*i*	P	**Pn**	**04 18 13.5**	**+0.6**
TAP	baz=329				S		**Sn**	**04 18 21.1**	**+1.2**
TWB1	**Santiao Chiao**	**0.46**	**34**	⇑	*i*	P	**Pn**	**04 18 13.9**	**+0.9**
TWB1	baz=34				S		**Sn**	**04 18 21.3**	**+1.1**
NACB	**Ninganchiao**	**0.47**	**192**	⇑		P	**Pn**	**04 18 12.4**	**-0.7**
NACB	baz=199				S		**Sn**	**04 18 20.2**	**-0.2**
WLTB	**Daxi**	**0.47**	**298**	⇓	*i*	P	**Pn**	**04 18 14.2**	**+1.1**
WLTB	baz=294				S		**Sn**	**04 18 22.1**	**+1.7**
ETLH	**Xiulin Townshi**	**0.47**	**206**	⇑		P	**Pn**	**04 18 13.2**	**-0.1**
ETLH	baz=201				*e*	S	**Sn**	**04 18 20.5**	**-0.1**
YM01	**YM01**	**0.53**	**347**	⇓		P	**Pn**	**04 18 14.4**	**+0.4**
YM01	baz=337				S		**Sn**	**04 18 22.4**	**+0.5**
TWS1	**Kuangyinshan**	**0.54**	**331**	⇓	*i*	P	**Pn**	**04 18 14.8**	**+0.8**
TWS1	baz=332				*i*	S	**Sn**	**04 18 23.8**	**+1.8**
YM10	**YM10**	**0.54**	**346**	⇓		P	**Pn**	**04 18 14.7**	**+0.5**
YM10	baz=337				S		**Sn**	**04 18 22.6**	**+0.5**
YM11	**YM11**	**0.55**	**348**	⇓	*i*	P	**Pn**	**04 18 14.6**	**+0.3**
YM11	baz=338				*e*	S	**Sn**	**04 18 22.4**	**0.0**
YM08	**YM08**	**0.56**	**349**		P		**Pn**	**04 18 14.7**	**+0.2**
YM08	baz=339				*e*	S	**Sn**	**04 18 22.6**	**-0.1**
ANP	**Anpu**	**0.58**	**343**		*e*	P	**Pn**	**04 18 14.9**	**+0.1**
ANP	baz=344				*e*	S	**Sn**	**04 18 23.0**	**-0.2**
NCU	**National Centr**	**0.58**	**306**	⇓	*i*	P	**Pn**	**04 18 15.4**	**+0.7**
NCU	baz=307				*i*	S	**Sn**	**04 18 24.6**	**+1.5**
NCUH	**Zhongli**	**0.58**	**305**	⇓		P	**Pn**	**04 18 15.5**	**+0.8**
NCUH	baz=307				S		**Sn**	**04 18 24.7**	**+1.6**
NTST	**Danshui**	**0.58**	**336**		P		**Pn**	**04 18 15.4**	**+0.8**
NTST	baz=347				S		**Sn**	**04 18 24.7**	**+1.6**
TDCB	**Techi**	**0.62**	**233**	⇑		P	**Pn**	**04 18 16.4**	**+1.0**
TDCB	baz=235				S		**Sn**	**04 18 24.7**	**+0.3**
LIOB	**Emei**	**0.63**	**271**	⇓	*i*	P	**Pn**	**04 18 16.3**	**+1.0**
LIOB	baz=273				S		**Sn**	**04 18 25.7**	**+1.5**
WHF	**Hehuan Shan**	**0.63**	**220**	⇑	*i*	P	**Pn**	**04 18 15.9**	**+0.1**
WHF	baz=214				S		**Sn**	**04 18 25.4**	**+0.6**
NSTT	**Nanjuang**	**0.64**	**270**	⇓	*i*	P	**Pn**	**04 18 16.3**	**+0.8**
NSTT	baz=278				S		**Sn**	**04 18 25.9**	**+1.4**
TWY	**Chenhua**	**0.65**	**352**	⇑	*i*	P	**Pn**	**04 18 16.5**	**+0.9**
TWY	baz=352				*e*	S	**Sn**	**04 18 25.9**	**+1.1**
HWA	**Hwalien**	**0.66**	**188**		P		**Pn**	**04 18 15.3**	**-0.4**
HWA	baz=196				*e*	S	**Sn**	**04 18 25.8**	**+0.9**
SBCB	**Hsinchu**	**0.67**	**284**	⇓	P		**Pn**	**04 18 16.8**	**+0.9**
SBCB	baz=296				S		**Sn**	**04 18 26.2**	**+0.9**
HSN	**Hsinchu**	**0.69**	**284**		P		**Pn**	**04 18 16.6**	**+0.4**
HSN	baz=289				*e*	S	**Sn**	**04 18 25.6**	**0.0**
ENLB	**Shoufeng**	**0.73**	**187**		*e*	P	**Pn**	**04 18 15.8**	**-0.9**
ENLB	baz=197				S		**Sn**	**04 18 27.5**	**+0.9**
CHGB	**Renai**	**0.75**	**221**	⇑	P		**Pn**	**04 18 17.7**	**+0.5**
CHGB	baz=214				S		**Sn**	**04 18 28.0**	**+0.6**
WHP	**Taichung City**	**0.78**	**243**	⇓	P		**Pn**	**04 18 19.1**	**+1.7**
WHP	baz=244				S		**Sn**	**04 18 29.2**	**+1.3**
OWD	**Renai**	**0.83**	**216**		*e*	P	**Pn**	**04 18 18.8**	**+0.6**
OWD	baz=211				*e*	S	**Sn**	**04 18 29.3**	**0.0**
NMLH	**Miaoli**	**0.84**	**264**		*e*	P	**Pn**	**04 18 19.3**	**+1.1**
NMLH	baz=276				*e*	S	**Sn**	**04 18 32.3**	**+3.0**
ESL	**Shilin**	**0.85**	**197**	⇑	*i*	P	**Pn**	**04 18 17.1**	**-1.2**
NSY	**Sanyi**	**0.89**	**256**	⇓	P		**Pn**	**04 18 20.2**	**+1.4**
NSY	baz=257				*e*	S	**Sn**	**04 18 32.6**	**+2.1**
TWQ1	**Liyutan**	**0.89**	**252**	⇓	*i*	P	**Pn**	**04 18 20.2**	**+1.2**
TWQ1	baz=253				*e*	S	**Sn**	**04 18 32.9**	**+2.1**
DPDB	**Guoxing**	**0.93**	**230**	⇑	P		**Pn**	**04 18 21.0**	**+1.5**
DPDB	baz=233				S		**Sn**	**04 18 33.1**	**+1.5**
PTSB	**Yuanli**	**0.93**	**259**		*e*	P	**Pn**	**04 18 20.2**	**+0.8**
PTSB	baz=272				*e*	S	**Sn**	**04 18 33.4**	**+1.8**
EGFH	**Guangfu**	**0.99**	**195**		*e*	P	**Pn**	**04 18 18.8**	**-1.4**
WDJ	**Dajia District**	**1.01**	**254**		*e*	P	**Pn**	**04 18 21.7**	**+1.2**
WDJ	baz=255				*e*	S	**Sn**	**04 18 35.3**	**+1.8**
VWDT	**VWDT**	**1.01**	**211**	⇑	P		**Pn**	**04 18 21.1**	**+0.5**
VWDT	baz=201				*e*	S	**Sn**	**04 18 34.9**	**+1.3**
SMLT	**Sun Moon Lake**	**1.05**	**225**	⇑	P		**Pn**	**04 18 22.6**	**+1.5**
SMLT	baz=222				S		**Sn**	**04 18 36.2**	**+1.6**
TCU	**Taichung**	**1.05**	**243**		*e*	P	**Pn**	**04 18 22.5**	**+1.4**
TCU	baz=244				*e*	S	**Sn**	**04 18 37.8**	**+3.1**
TYC	**Yuchr**	**1.06**	**227**	⇑	*i*	P	**Pn**	**04 18 22.9**	**+1.7**
TYC	baz=222				*e*	S	**Sn**	**04 18 36.1**	**+1.3**
SSLB	**Suanglung**	**1.08**	**219**	⇑	P		**Pn**	**04 18 22.4**	**+0.8**
SSLB	baz=217				*e*	S	**Sn**	**04 18 36.5**	**+1.1**
JYNG	**Yonagunijimaku**	**1.14**	**99**		P		**Pn**	**04 18 22.9**	**+0.5**
JYNG					*e*	S	**Sn**	**04 18 37.5**	**+0.7**
HGSD	**Ruisui**	**1.16**	**193**		*e*	P	**Pn**	**04 18 22.2**	**-0.4**
WCHH	**Zhanghua**	**1.18**	**243**		*e*	P	**Pn**	**04 18 23.9**	**+1.1**
WCHH	baz=243				*e*	S	**Sn**	**04 18 39.2**	**+1.4**
WNT	**Mingjian**	**1.20**	**231**		*e*	P	**Pn**	**04 18 24.7**	**+1.6**
WJS	**Zhushan**	**1.20**	**228**		*e*	P	**Pn**	**04 18 24.9**	**+1.8**
WJS	baz=243				*e*	S	**Sn**	**04 18 41.1**	**+2.9**
YOJ	**Yonaguni jima**	**1.20**	**98**		P		**Pn**	**04 18 23.7**	**+0.6**
YOJ					*e*	S	**Sn**	**04 18 39.1**	**+0.9**
YOJ	**Yonaguni jima**	**1.20**	**98**	⇓	P		**Pn**	**04 18 23.7**	**+0.6**
YOJ	baz=87				*e*	S	**Sn**	**04 18 38.4**	**+0.2**
WHYT	**Xinyi Township**	**1.21**	**220**		*e*	P	**Pn**	**04 18 25.4**	**+2.0**
WHYT	baz=219				*e*	S	**Sn**	**04 18 42.2**	**+3.6**
YULB	**Yu-li**	**1.29**	**197**		*e*	P	**Pn**	**04 18 22.6**	**-1.8**
TWF1	**Yuli**	**1.33**	**196**		*e*	P	**Pn**	**04 18 23.5**	**-1.4**
YUS	**Yu-Shan**	**1.33**	**211**		*e*	P	**Pn**	**04 18 26.0**	**+0.7**
ALS	**Alishan**	**1.39**	**217**		*e*	P	**Pn**	**04 18 27.8**	**+1.8**
ALS	baz=217				*e*	S	**Sn**	**04 18 46.1**	**+2.8**
CHN5	**Tsauling**	**1.39**	**223**		*e*	P	**Pn**	**04 18 27.9**	**+2.1**
CHN5	baz=223				*e*	S	**Sn**	**04 18 46.2**	**+3.1**
WGK	**Gukeng**	**1.41**	**228**		*e*	P	**Pn**	**04 18 27.6**	**+1.7**
WGK	baz=229				*e*	S	**Sn**	**04 18 46.2**	**+2.9**
WDLH	**Douliu**	**1.42**	**229**		*e*	P	**Pn**	**04 18 27.7**	**+1.6**
RLNB	**Erlin**	**1.43**	**239**		*e*	P	**Pn**	**04 18 27.4**	**+1.1**
FULB	**Fuli**	**1.48**	**195**		*e*	P	**Pn**	**04 18 26.5**	**-0.5**
FULB	baz=196				*e*	S	**Sn**	**04 18 45.6**	**+0.6**
CHKT	**Chengkung**	**1.56**	**192**		*e*	P	**Pn**	**04 18 28.3**	**+0.3**
ELDTW	**Lidau**	**1.57**	**204**		*e*	P	**Pn**	**04 18 28.4**	**+0.1**
CHN2	**Minshiung**	**1.57**	**226**		*e*	P	**Pn**	**04 18 31.4**	**+3.2**
CHY	**Chiayi**	**1.63**	**226**		*e*	P	**Pn**	**04 18 30.4**	**+1.4**
TPUB	**Ta-pu**	**1.65**	**217**		P		**Pn**	**04 18 31.6**	**+2.3**
TPUB	baz=218				*e*	S	**Sn**	**04 18 51.7**	**+2.3**
WSF	**Szhu**	**1.68**	**234**		*e*	P	**Pn**	**04 18 30.6**	**+0.9**
WSF	baz=235				*e*	S	**Sn**	**04 18 51.0**	**+1.1**
STYT	**Tauyuan**	**1.70**	**211**		*e*	P	**Pn**	**04 18 31.8**	**+1.7**
STYT	baz=200				*e*	S	**Sn**	**04 18 52.2**	**+1.6**
WTP	**Ta-pu**	**1.70**	**216**		*e*	P	**Pn**	**04 18 32.2**	**+2.1**
WTP	baz=217				*e*	S	**Sn**	**04 18 52.6**	**+2.0**
WLGB	**Puzi**	**1.72**	**228**		*e*	P	**Pn**	**04 18 31.4**	**+1.1**
TWK	**Hsinying**	**1.76**	**220**		*e*	P	**Pn**	**04 18 33.0**	**+2.2**
TWK	baz=220				*e*	S	**Sn**	**04 18 55.2**	**+3.2**
SNST	**Tainan City**	**1.79**	**218**		*e*	P	**Pn**	**04 18 33.4**	**+2.2**
SNST	baz=219				*e*	S	**Sn**	**04 18 56.1**	**+3.4**
CHN1	**Nanshi**	**1.80**	**217**		*e*	P	**Pn**	**04 18 32.9**	**+1.5**
CHN1	baz=218				*e*	S	**Sn**	**04 18 56.1**	**+3.1**
SGST	**Jiashian**	**1.85**	**214**		*e*	P	**Pn**	**04 18 33.2**	**+1.1**
SGST	baz=227				*e*	S	**Sn**	**04 18 56.2**	**+1.8**
IRIF	**Iriomote-Funau**	**1.87**	**99**		P		**Pn**	**04 18 32.6**	**+0.3**

IRIF				S		Sn	04 18 55.0	+0.3
TWG	**Pinlang**	**1.89**	**198**	*e*P		**Pn**	**04 18 32.9**	**+0.2**
	baz=188							
TWGBT	**Beinan**	**1.89**	**198**	*e*P		**Pn**	**04 18 31.8**	**-0.9**
	baz=188							
SLGT	**Liugui**	**1.90**	**211**	*e*P		**Pn**	**04 18 34.9**	**+2.2**
	baz=200							
TWH	**Lutao**	**1.92**	**186**	*e*P		**Pn**	**04 18 32.1**	**-1.0**
	baz=187							
PTTC	**Pingtan**	**1.96**	**297**	*e*P		**Pn**	**04 18 33.0**	**-0.5**
	baz=296							
HATJ	**Hateruma jima**	**2.00**	**106**	P		**Pn**	**04 18 35.2**	**+1.1**
SCLT	**Jiali**	**2.00**	**224**	*e*P		**Pn**	**04 18 36.8**	**+2.7**
	baz=223							
VWUC	**VWUC**	**2.08**	**280**	⇓*e*P		**Pn**	**04 18 35.0**	**-0.2**
	baz=280							
SSD	**Sandimen**	**2.12**	**208**	*e*P		**Pn**	**04 18 37.1**	**+1.3**
	baz=207							
JKRS	**Kuro-shima**	**2.14**	**100**	P		**Pn**	**04 18 36.5**	**+0.5**
JKRS				S		**Sn**	**04 19 02.6**	**+1.3**
ECL	**Taimali**	**2.14**	**199**	*e*P		**Pn**	**04 18 37.1**	**+1.0**
	baz=191							
TWM1	**Shoushan**	**2.15**	**213**	*e*P		**Pn**	**04 18 37.9**	**+1.7**
	baz=213							
MATB	**Ma-tsu**	**2.20**	**314**	*e*P		**Pn**	**04 18 36.6**	**-0.3**
	baz=312							
PNG	**Penghu**	**2.23**	**242**	*e*P		**Pn**	**04 18 37.1**	**-0.2**
	baz=241							
MASBT	**Mashibuluo**	**2.24**	**206**	*e*P		**Pn**	**04 18 39.0**	**+1.6**
	baz=195							
JIJ	**Ishigaki jima**	**2.24**	**96**	P		**Pn**	**04 18 37.8**	**+0.4**
JIJ				*e*S		**Sn**	**04 19 03.5**	**-0.3**
PHUB	**P'eng-hu**	**2.24**	**241**	*e*P		**Pn**	**04 18 37.3**	**-0.1**
	baz=241							
PHUB				*e*S		**Sn**	**04 19 02.8**	**-1.1**
	baz=241							
EAST	**Anshuo**	**2.37**	**200**	*e*P		**Pn**	**04 18 40.1**	**+0.8**
	baz=191							
JISG	**Ishigakijimahi**	**2.37**	**91**	P		**Pn**	**04 18 39.6**	**+0.4**
JISG				*e*S		**Sn**	**04 19 08.2**	**+1.1**
SSPT	**Xinbi**	**2.38**	**206**	*e*P		**Pn**	**04 18 42.1**	**+2.8**
	baz=195							
WSSB	**Gushan**	**2.38**	**214**	*e*P		**Pn**	**04 18 41.2**	**+1.8**
	baz=214							
PTMZ	**Houxiangcun**	**2.38**	**280**	*e*P		**Pn**	**04 18 39.2**	**-0.1**
	baz=280							
SCZT	**Fangliau**	**2.46**	**204**	*e*P		**Pn**	**04 18 42.1**	**+1.7**
	baz=204							
VCHM	**Qimei**	**2.52**	**236**	*e*P		**Pn**	**04 18 40.5**	**-0.8**
	baz=235							
LAY	**Lan-yu**	**2.58**	**183**	*e*P		**Pn**	**04 18 41.6**	**-0.6**
	baz=193							
LYJJ	**Jianjiangzhen**	**2.59**	**318**	*e*P		**Pn**	**04 18 41.5**	**-0.8**
	baz=316							
XPSS	**Dashiqiu**	**2.67**	**330**	*e*P		**Pn**	**04 18 43.2**	**-0.1**
	baz=327							
JTJ	**Tarama**	**2.73**	**89**	P		**Pn**	**04 18 45.4**	**+1.3**
MHZQ	**Yeshan**	**2.83**	**302**	*e*P		**Pn**	**04 18 45.5**	**0.0**
	baz=300							
QZH	**Quanzhou**	**2.85**	**277**	*i* P		**Pn**	**04 18 45.4**	**-0.3**
QZH				S		**Sn**	**04 19 16.0**	**-2.8**
QZH				smax		smax		
	comp=N,140nm,0.2s							
QZH				smax		smax		
	comp=E,120nm,0.5s							
KNM	**Kinmen**	**2.99**	**267**	*e*P		**Pn**	**04 18 49.4**	**+1.7**
	baz=265							
KNMB	**Chin-men Tao**	**3.02**	**268**	*e*P		**Pn**	**04 18 47.9**	**-0.3**
	baz=266							
JIRB	**Irabujima**	**3.16**	**86**	P		**Pn**	**04 18 51.6**	**+1.5**
JIKM	**Ikemajima**	**3.23**	**84**	P		**Pn**	**04 18 52.6**	**+1.5**
JIKM				*e*S		**Sn**	**04 19 31.7**	**+3.3**
JMJ	**Miyako jima 2**	**3.27**	**86**	*e*P		**Pn**	**04 18 53.7**	**+2.1**
	baz=86							
JMJ2	**Miyako jima3**	**3.30**	**87**	P		**Pn**	**04 18 53.8**	**+1.8**
JMJ2				*e*S		**Sn**	**04 19 32.6**	**+2.7**
AXDP	**Jialang**	**3.41**	**275**	*e*P		**Pn**	**04 18 53.7**	**+0.3**
	baz=276							
AXDP				*e*S		**Sn**	**04 19 30.4**	**-2.1**
	baz=276							
ZPLA	**Ao Xicun**	**3.67**	**260**	*e*P		**Pn**	**04 18 57.1**	**0.0**
	baz=258							
ZZJH	**Jiuhuzhen**	**3.71**	**268**	*e*P		**Pn**	**04 18 57.8**	**+0.1**
	baz=267							
JOW	**Kunigami**	**6.32**	**68**	P		**Pn**	**04 19 36.2**	**+2.7**
	0.6nm,0.3s,baz=114,slow=14,SNR=9.6							
JOW				S		**Sn**	**04 20 45.6**	**+1.2**
	0.3nm,0.3s,baz=75,slow=24,SNR=1.2							
JNU	**Nakatsue**	**11.66**	**41**	P		**Pn**	**04 20 45.1**	**-1.6**
	0.3nm,0.3s,baz=276,slow=10,SNR=1.8							
KSRS	**Korea Array**	**13.84**	**21**	P		**P**	**04 21 25.8**	**+1.8**
	0.6nm,0.3s,baz=197,slow=11,SNR=19							
KSRS				LR		LR	04 27 22.1	
	comp=Z,15nm,19.2s,baz=325,slow=40							
KLR	**Kul'dur**	**25.79**	**15**	P		**P**	**04 23 31.4**	**+1.5**
	2.0nm,0.6s,baz=193,slow=6.7,SNR=4.9							
SONM	**Songino Array**	**26.15**	**336**	P		**P**	**04 23 35.8**	**+2.5**
	1.3nm,0.7s,baz=151,slow=9.2,SNR=8.0							
WMQ	**Urumqi**	**33.69**	**313**	*e*P		**P**	**04 24 41.9**	**+1.8**
WMQ				LR		LR		
	comp=N,340nm,8.3s							
WMQ				LR		LR		
	comp=E,200nm,9.3s							
WMQ				LR		LR		
	comp=Z,200nm,8.3s							
MKAR	**Makanchi Array**	**38.35**	**315**	P		**P**	**04 25 21.3**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=101,slow=9.7,SNR=8.9							
ZALV	**Zalesovo Beam**	**40.13**	**327**	P		**P**	**04 25 34.1**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=106,slow=4.7,SNR=2.5							
WRA	**Warramunga Arr**	**45.98**	**163**	P		**P**	**04 26 20.0**	**-2.3**
	comp=Z,0.4nm,0.6s,baz=346,slow=8.7,SNR=5.6							
ASAR	**Alice Springs**	**49.45**	**165**	P		**P**	**04 26 48.6**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=342,slow=7.4,SNR=1.6							
ILAR	**Eielson Array**	**68.60**	**27**	P		**P**	**04 28 58.8**	**-2.5**
	comp=Z,0.2nm,0.6s,baz=274,slow=5.2,SNR=6.5							
ARCES	**ARCESS Array B**	**69.30**	**338**	P		**P**	**04 29 05.1**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=64,slow=8.1,SNR=1.4							
FINES	**FINESS Array B**	**71.30**	**330**	P		**P**	**04 29 17.4**	**-0.5**
	comp=Z,6.5nm,0.9s,baz=65,slow=4.4,SNR=13							
AKASG	**Malin Array Be**	**72.85**	**318**	P		**P**	**04 29 26.3**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=56,slow=5.3,SNR=2.3							
BRTR	**Keskin Array B**	**73.29**	**306**	P		**P**	**04 29 29.6**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=233,slow=42,SNR=2.1							
YKA	**Yellowknife Ar**	**82.37**	**23**	P		**P**	**04 30 19.2**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=312,slow=5.1,SNR=20							

TAP 22 04:41:15.4,24.61N×122.57E,h6km±1km, ML2.6, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.41**	**261**	P	Pb	04 41 24.9	-0.2
	baz=261						
EOS1				S	Sb	04 41 31.9	+0.3
	baz=261						
YOJ	**Yonaguni jima**	**0.43**	**110**	*e*P	Pb	04 41 25.0	-0.3
	baz=109						
TWC	**Suao**	**0.66**	**270**	P	Pb	04 41 28.9	-0.4
	baz=269						
TWC				S	Sb	04 41 39.5	+0.8
	baz=269						
TWB1	**Santiao Chiao**	**0.66**	**307**	*e*P	Pg	04 41 28.6	+0.5
	baz=306						
TWB1				S	Sg	04 41 37.7	+1.0
	baz=306						
NTC	**Toucheng**	**0.72**	**290**	*e*S	Sb	04 41 41.8	+1.3
	baz=289						
TIPB	**Shuangxi**	**0.77**	**298**	P	Pg	04 41 30.6	+0.4
	baz=297						
TIPB				S	Sb	04 41 41.3	-0.7
	baz=297						
NANB	**Nanao**	**0.77**	**256**	*i* P	Pb	04 41 31.2	0.0
	baz=256						
NANB				*i* S	Sb	04 41 41.9	-0.1
	baz=256						
ENA	**Nanau**	**0.78**	**257**	P	Pb	04 41 31.1	-0.3
	baz=256						
ENA				S	Sb	04 41 43.1	+0.9
	baz=256						
TWE	**Neicheng**	**0.83**	**278**	*i* P	Pb	04 41 32.0	-0.2
	baz=277						
TWE				S	Sn	04 41 45.2	-1.1
	baz=277						
SLBB	**Yuanshan**	**0.86**	**280**	*e*P	Pg	04 41 32.0	0.0
	baz=279						
SLBB				*e*S	Sn	04 41 46.2	-1.0
	baz=279						
ENTT	**Nioudou**	**0.92**	**272**	P	Pn	04 41 34.8	-0.1
	baz=271						
ENTT				S	Sn	04 41 47.3	-1.1
	baz=271						
NDT	**Datong Townshi**	**0.96**	**270**	P	Pb	04 41 34.8	+0.2
	baz=269						
NDT				S	Sb	04 41 48.3	+0.7
	baz=269						
TWA	**Mucha**	**0.97**	**292**	*e*P	Pb	04 41 34.8	+0.1
	baz=292						
TWA				*e*S	Sn	04 41 49.3	-0.5
	baz=292						
NWLT	**Wulai**	**0.99**	**280**	*e*P	Pb	04 41 35.0	0.0
	baz=279						
NWLT				*e*S	Sb	04 41 48.3	0.0
	baz=279						
NACB	**Ninganchiao**	**0.99**	**244**	P	Pb	04 41 35.0	-0.1
	baz=243						
NACB				S	Sb	04 41 49.0	+0.6
	baz=243						
TWD	**Chiawan**	**1.04**	**239**	*e*P	Pg	04 41 35.1	-0.2
	baz=239						
TWD				*e*S	Sn	04 41 50.7	-0.6
	baz=239						
YM01	**YM01**	**1.05**	**301**	*e*P	Pn	04 41 37.2	+0.4
	baz=300						
YM01				*e*S	Sn	04 41 52.8	+1.0
	baz=300						
TAP	**Taipei**	**1.06**	**294**	*e*S	Sn	04 41 52.4	+0.5
	baz=293						
YM10	**YM10**	**1.07**	**301**	*e*P	Pn	04 41 37.2	+0.2
	baz=300						
ETLH	**Xiulin Townshi**	**1.07**	**248**	P	Pn	04 41 37.2	+0.1
	baz=247						
ETLH				S	Sn	04 41 52.2	-0.2
	baz=247						
HWA	**Hwalien**	**1.08**	**235**	*e*S	Sn	04 41 52.4	-0.2
	baz=234						
YHNB	**Yeheng**	**1.09**	**273**	P	Pb	04 41 36.6	-0.2
	baz=273						
YHNB				*e*S	Sn	04 41 52.5	-0.3
	baz=273						
NNSH	**Datong**	**1.10**	**261**	*e*P	Pg	04 41 35.8	-0.7
	baz=260						
NNSH				*e*S	Sn	04 41 52.8	-0.2
	baz=260						
TWY	**Chenhua**	**1.10**	**307**	*e*S	Sn	04 41 53.0	0.0
	baz=306						
NNS	**Nan Shan**	**1.10**	**261**	*e*P	Pn	04 41 37.6	0.0
	baz=260						
NNS				*e*S	Sn	04 41 52.5	-0.7
	baz=260						
ANP	**Anpu**	**1.11**	**301**	*e*S	Sn	04 41 54.0	+0.6
	baz=300						
ENLB	**Shoufeng**	**1.13**	**232**	*e*S	Sg	04 41 52.0	+0.2
	baz=231						
WHF	**Hehuan Shan**	**1.28**	**249**	P	Pb	04 41 40.2	0.0
	baz=248						
WHF				S	Sn	04 41 58.2	+0.3
	baz=248						
ESL	**Shilin**	**1.31**	**233**	*e*P	Pg	04 41 40.5	0.0
	baz=232						
WHP	**Taichung City**	**1.52**	**258**	*e*P	Pb	04 41 44.1	0.0
	baz=257						
WHP				*e*S	Sg	04 42 04.5	+0.3
	baz=257						
VWDT	**VWDT**	**1.56**	**237**	*e*P	Pn	04 41 43.4	-0.3
	baz=236						
VWDT				*e*S	Sg	04 42 05.4	-0.3
	baz=236						
YULB	**Yu-li**	**1.68**	**224**	*e*P	Pn	04 41 45.7	+0.3
	baz=223						
YULB				*e*S	Sb	04 42 08.1	-0.2
	baz=223						
SSLB	**Suanglung**	**1.69**	**241**	*e*P	Pn	04 41 46.2	+0.6
	baz=240						
TWF1	**Yuli**	**1.71**	**223**	*e*S	Sn	04 42 08.1	0.0
	baz=222						
TYC	**Yuchr**	**1.72**	**246**	*e*P	Pn	04 41 45.4	-0.5
	baz=245						
TYC				*e*S	Sn	04 42 08.1	0.0
	baz=245						

JMA 22 04:42:08.4±0.3,25.30N×124.37E,h16km±3km, M2.6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.71**	**184**	P	Pg	04 42 21.9	-0.4
JISG				S	Sg	04 42 31.8	0.0
JTJ	**Tarama**	**0.72**	**155**	P	Pg	04 42 22.1	-0.4
JIRB	**Irabujima**	**0.87**	**123**	P	Pb	04 42 24.6	-0.5
JIRB				*e*S	Sb	04 42 35.8	-0.6
JIKM	**Ikemajima**	**0.88**	**115**	*e*S	Sg	04 42 37.1	0.0
JIJ	**Ishigaki jima**	**0.95**	**193**	P	Pb	04 42 25.9	-0.7
JIJ				*e*S	Sb	04 42 38.6	-0.4
JMJ2	**Miyako jima3**	**1.03**	**122**	P	Pb	04 42 27.5	-0.4
JKRS	**Kuro-shima**	**1.11**	**197**	P	Pb	04 42 28.8	-0.4
IRIF	**Iriomote-Funau**	**1.12**	**211**	P	Pb	04 42 29.0	-0.4
HATJ	**Hateruma jima**	**1.34**	**203**	P	Pn	04 42 32.6	+0.1

ISCJB 22 05:01:38.7±0.6,46.5S±0.1×96.4E±0.2,h10km, mb4.1/4, MS3.9/9, Error ellipse: s-maj=26.5km s-min=10.9km az=42.4
IDC 22 05:01:39.2±1.3,46.48S×96.33E,h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/24, mbtmp4.1/4, MS3.9/9, Ms1 3.9/9, ms1mx3.8/19, Error ellipse: s-maj=56.0km s-min=27.5km az=132.0
NEIC 22 05:01:41.0±1.8,46.5S±0.1×96.4E±0.2,h10km±1km, mb4.4/9

ISC 22 05:01:40.5±0.8,46.4S±0.2×96.4E±0.2,h10km, n32, σ0.98/19, mb4.3/8, MS3.9/9, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.68**	**56**	T	T	05 23 54.9	
	baz=224,slow=74,SNR=33						
H01W3	**Cape Leeuwin H**	**17.69**	**56**	T	T	05 23 56.7	
	baz=224,slow=74,SNR=47						
H01W1	**Cape Leeuwin H**	**17.70**	**56**	T	T	05 23 56.6	
	baz=224,slow=74,SNR=40						
NWAO	**Narrogin (SRO)**	**20.88**	**57**	LR	LR	05 12 35.3	
	comp=Z,428nm,20.8s,baz=232,slow=31						
MORW	**Morawa**	**23.18**	**48**	P	**P**	**05 06 47.1**	**-0.2**
MORW				IAmb	IAmb	05 06 48.1	
	comp=Z,18nm,1.3s						
MAW	**Mawson**	**27.36**	**207**	LR	LR	05 15 31.8	
	comp=Z,125nm,20.2s,baz=56,slow=30						
MAW	**Mawson**	**27.36**	**207**	P	**P**	**05 07 26.1**	**+0.8**
FORT	**Forrest**	**29.03**	**69**	P	**P**	**05 07 41.3**	**+0.6**
FORT				IAmb	IAmb	05 07 42.0	
	comp=Z,22nm,1.0s						
FITZ	**Fitzroy Crossi**	**37.17**	**50**	P	**P**	**05 08 52.7**	**+1.1**
FITZ				IAmb	IAmb	05 08 53.0	
	comp=Z,3.7nm,1.2s						
STKA	**Stephens Creek**	**37.43**	**83**	LR	LR	05 21 26.1	
	comp=Z,293nm,20.6s,baz=208,slow=32						
ASAR	**Alice Springs**	**37.70**	**66**	P	**P**	**05 08 57.1**	**+1.0**
	comp=Z,1.5nm,0.9s,baz=221,slow=8.1,SNR=9.9						
ASAR				LR	LR	05 22 10.6	
	comp=Z,229nm,21.2s,baz=238,slow=33						
AS31	**Alice Springs**	**37.70**	**66**	P	**P**	**05 08 53.8**	**-2.4**
VNDA	**Vanda**	**39.87**	**162**	LR	LR	05 24 30.7	
	comp=Z,138nm,18.2s,baz=262,slow=34						
WRA	**Warramunga Arr**	**40.72**	**62**	P	**P**	**05 09 22.0**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=221,slow=8.3,SNR=15						
WRA				LR	LR	05 24 19.4	
	comp=Z,418nm,20.0s,baz=225,slow=33						
WR0	**Warramunga Arr**	**40.83**	**63**	P	**P**	**05 09 22.3**	**0.0**
WR0				IAmb	IAmb	05 09 25.1	
	comp=Z,3.5nm,0.7s						
H08S2	**Diego Garcia H**	**43.77**	**325**	T	T	05 56 11.0	
	baz=156,slow=76,SNR=12						
H08S1	**Diego Garcia H**	**43.77**	**324**	T	T	05 56 13.7	
	baz=156,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**43.79**	**325**	T	T	05 56 12.5	
	baz=156,slow=76,SNR=14						
SNAA	**Sanae**	**49.45**	**204**	P	**P**	**05 10 30.5**	**+0.3**
SNAA	**Sanae**	**49.45**	**204**	P	**P**	**05 10 30.3**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=131,slow=12,SNR=5.6						
SNAA	**Sanae**	**49.45**	**204**	P	**P**	**05 10 30.6**	**+0.4**
SNAA				IAmb	IAmb	05 10 39.0	
	comp=Z,5.0nm,0.9s						
LHI	**Lord Howe Isla**	**49.69**	**96**	P	**P**	**05 10 31.6**	**-0.9**
VNA2	**Neumayer--Watz**	**51.09**	**204**	P	**P**	**05 10 43.5**	**+0.9**
	baz=115,slow=4.6						
VNA3	**Neumayer Olymp**	**51.56**	**203**	P	**P**	**05 10 45.0**	**-1.1**
BOSA	**Boshof**	**57.26**	**262**	LR	LR	05 30 19.1	
	comp=Z,173nm,21.0s,baz=100,slow=30						
CMAR	**Chiang Mai Arr**	**64.63**	**3**	P	**P**	**05 12 18.7**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=206,slow=5.9,SNR=1.7						
CMAR				LR	LR	05 36 11.1	
	comp=Z,51nm,21.0s,baz=211,slow=32						
KMBO	**Kilima Mbogo**	**68.36**	**293**	LR	LR	05 36 33.8	
	comp=Z,66nm,19.0s,baz=92,slow=31						
KBL	**Kabul**	**84.30**	**338**	P	**P**	**05 14 11.0**	**-1.4**
INK	**Inuvik**	**146.74**	**31**	PKPbc	**PKPbc**	**05 21 21.7**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=360,slow=3.0,SNR=2.2						
INK	**Inuvik**	**146.74**	**31**		**PKPab**	**05 21 22.9**	**+0.4**
NVAR	**Mina Array Bea**	**153.34**	**95**	PKPbc	**PKPbc**	**05 21 38.0**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=235,slow=5.2,SNR=4.9						
YKA	**Yellowknife Ar**	**156.21**	**36**	PKPbc	PKPbc	05 21 43.0	
	comp=Z,0.2nm,0.8s,baz=301,slow=1.6,SNR=3.9						

SJA 22 05:22:55.5±0.8,33.10S×70.26W,h107km±4km, ML2.0, MW2.6
ISCJB 22 05:22:56.4±1.1,33.10S±0.05×70.26W±0.06,h109km±8km, Error ellipse: s-maj=9.7km s-min=6.7km az=143.0
GUC 22 05:22:56.3±0.9,32.98S×70.22W,h106km±6km, ML2.7

ISC 22 05:22:57.8±2.3,33.08S±0.07×70.25W±0.06,h97km±17km, n18,σ0.66/31,1C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.25**	**188**	⇓*i* P	**Pn**	**05 23 11.6**	**-0.7**
FCH				*i* S	**Sn**	**05 23 23.4**	**+0.3**
FCH				IAML		05 23 23.9	
	comp=E,245nm,0.1s						
PEL	**Peldehue**	**0.37**	**260**	⇓*i* P	**Pn**	**05 23 11.8**	**-0.7**
PEL				*i* S	**Sn**	**05 23 23.6**	**+0.1**
PEL				IAML		05 23 24.5	
	comp=N,502nm,0.2s						
PEL	**Peldehue**	**0.37**	**260**	*i* P	**Pn**	**05 23 11.9**	**-0.6**
PEL				*i* S	**Sn**	**05 23 23.6**	**+0.1**
CLCH	**Cerro Calan**	**0.39**	**217**	⇓*i* P	**Pn**	**05 23 12.3**	**-0.5**
CLCH				*i* S	**Sn**	**05 23 24.3**	**+0.5**
CLCH				IAML		05 23 25.2	
	comp=E,446nm,0.4s						
ANTU	**Antumapu**	**0.58**	**213**	*e*P	**Pn**	**05 23 14.0**	**-0.1**
ANTU				*e*S	**Sn**	**05 23 27.4**	**+1.3**
ANTU				IAML		05 23 28.3	
	comp=E,304nm,0.5s						
RCDM	**Rinconada Maip**	**0.62**	**229**	*e*P	**Pn**	**05 23 14.8**	**+0.5**
RCDM				*i* S	**Sn**	**05 23 27.1**	**+0.4**
ROCH	**El Roble**	**0.65**	**280**	⇑*i* P	**Pn**	**05 23 13.9**	**-0.9**
ROCH				*i* S	**Sn**	**05 23 27.3**	**-0.2**
ROCH				IAML		05 23 28.3	
	comp=N,638nm,0.3s						
LMEL	**Las Melosas**	**0.77**	**177**	*e*P	**Pn**	**05 23 15.3**	**-0.5**
LMEL				*i* S	**Sn**	**05 23 30.1**	**+0.8**
LMEL				IAML		05 23 36.3	
	comp=N,139nm,0.1s						
ARCO	**CERRO ARCO**	**1.13**	**78**	*e*P	**Pn**	**05 23 19.4**	**-0.3**
	comp=Z,28nm,0.5s						
ARCO				*i* S	**Sn**	**05 23 36.5**	**+0.3**
ARCO				IAML		05 23 39.3	
	comp=Z,28nm,0.5s						
AAGR	**Agrelo**	**1.19**	**91**	*i* P	**Pn**	**05 23 20.2**	**-0.1**
AAGR				*i* S	**Sn**	**05 23 37.8**	**+0.4**
ASAL	**Salagasta**	**1.29**	**68**	*i* P	**Pn**	**05 23 21.1**	**-0.4**
ASAL				*i* S	**Sn**	**05 23 39.9**	**+0.6**
RTLS	**Leoncito**	**1.51**	**32**	*i* P	**Pn**	**05 23 24.7**	**+0.3**
RTLS				*i* S	**Sn**	**05 23 45.8**	**+1.3**
RTLS				IAML		05 23 48.2	
	comp=Z,11nm,0.8s						
RTCV	**Cerro Valdivia**	**1.89**	**50**	*i* P	**Pn**	**05 23 28.1**	**-0.8**
RTLL	**Cerro Villicun**	**2.31**	**41**	IAML		05 24 02.9	
	comp=Z,6.8nm,0.5s						
AMOG	**MOGNA**	**2.61**	**35**	*i* P	**Pn**	**05 23 37.8**	**-0.5**
AMOG				*i* S	**Sn**	**05 24 08.8**	**-0.7**
ACCO	**Cerro Coronel**	**2.68**	**22**	*i* P	**Pn**	**05 23 39.4**	**-0.2**
ACCO				*i* S	**Sn**	**05 24 12.5**	**+0.8**
ACAN	**Cantantal**	**2.71**	**74**	*i* P	**Pn**	**05 23 38.4**	**-1.2**
AROD	**Rodeo**	**2.98**	**13**	*i* P	**Pn**	**05 23 43.9**	**+0.3**

ISCJB 22 05:37:04.5±0.6,32.58S±0.03×69.77W±0.04,h127km±5km, Error ellipse: s-maj=6.6km s-min=3.7km az=36.8
SJA 22 05:37:04.8±1.1,32.54S×69.69W,h128km±4km, ML3.4, MW3.4
GUC 22 05:37:05.2±0.7,32.34S×69.83W,h70km±17km, ML3.1

ISC 22 05:37:04.5±1.5,32.56S±0.04×69.79W±0.04, h127km±10km,n27,σ1.05/49,5C-2D,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCO	**CERRO ARCO**	**0.78**	**111**	*i* P	**Pn**	**05 37 25.8**	**+0.4**
ARCO				*i* S	**Sn**	**05 37 41.8**	**+0.5**
ARCO				IAML		05 37 42.5	
	comp=Z,719nm,0.2s						
ASAL	**Salagasta**	**0.81**	**92**	*e*P	**Pn**	**05 37 25.9**	**+0.3**
ASAL				*i* S	**Sn**	**05 37 41.9**	**+0.3**
UTNM	**Universidad Te**	**0.86**	**113**	*i* P	**Pn**	**05 37 26.9**	**+0.8**
RTLS	**Leoncito**	**0.87**	**29**	*i* P	**Pn**	**05 37 26.6**	**+0.1**
RTLS				*i* S	**Sn**	**05 37 42.8**	**-0.1**
RTLS				IAML		05 37 43.3	
	comp=Z,1μm,0.3s						
FCH	**Farellones**	**0.87**	**209**	⇓*i* P	**Pn**	**05 37 26.2**	**-0.2**
FCH				*i* S	**Sn**	**05 37 41.9**	**-1.1**
FCH				IAML		05 37 44.8	
	comp=E,487nm,0.2s						
PEL	**Peldehue**	**0.95**	**232**	⇑*i* P	**Pn**	**05 37 26.0**	**-0.8**
PEL				*i* S	**Sn**	**05 37 41.5**	**-2.2**
PEL				IAML		05 37 44.1	
	comp=N,557nm,0.2s						
AAGR	**Agrelo**	**0.97**	**123**	*i* P	**Pn**	**05 37 27.7**	**+0.7**
AAGR				*i* S	**Sn**	**05 37 44.5**	**+0.4**
CLCH	**Cerro Calan**	**1.04**	**217**	⇑*i* P	**Pn**	**05 37 27.5**	**-0.2**
CLCH				*i* S	**Sn**	**05 37 44.7**	**-0.5**
CLCH				IAML		05 37 47.3	
	comp=E,492nm,0.5s						
ROCH	**El Roble**	**1.10**	**248**	⇑*i* P	**Pn**	**05 37

CYA	**Choya**	**5.36**	**41**	*i* P		**Pn**	**05 38 21.4**	**-1.1**
CYA				IAML			05 39 10.6	
	comp=Z,7.0nm,0.5s							
TRQA	**Tornquist**	**8.41**	**133**	*i* P		**Pn**	**05 39 04.1**	**+0.6**

ISCJB ***22*** *06:01:38.0±0.9,32.6′61S±0.0′05×71.0′05W±0.0′06, h82km±9km, Error ellipse: s-maj=8.7km s-min=8.3km az=136.6*
SJA ***22*** *06:01:37.2±1.3,32.6′62S×71.0′00W, h77km±12km, ML2.0, MW2.8*
GUC ***22*** *06:01:38.4±0.7,32.5′52S×70.8′7W, h68km±6km, ML2.6*
ISC 22 06:01:40.3±1.7, 32.6′3S±0.0′05×70.9′5W±0.0′06, h63km±14km, n24, σ1°19/38, 2C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.35**	**189**	⇓*i*P		**Pn**	**06 01 50.8**	**-0.6**
ROCH				*i* S		**Sn**	**06 02 00.3**	**+0.9**
ROC1	**El Roble**	**0.35**	**189**	*i* P		**Pn**	**06 01 50.8**	**-0.6**
ROC1				*e*S		**Sn**	**06 02 00.3**	**+0.8**
PEL	**Peldehue**	**0.56**	**157**	⇓*i*P		**Pn**	**06 01 52.1**	**-1.1**
PEL				*i* S		**Sn**	**06 02 03.1**	**+0.4**
PEL				IAML			06 02 04.1	
	comp=E,386nm,0.2s							
PEL	**Peldehue**	**0.56**	**157**	*e*P		**Pn**	**06 01 52.2**	**-1.1**
PEL				*e*S		**Sn**	**06 02 03.1**	**+0.4**
VA01	**Torpederas**	**0.71**	**236**	⇓*i*P		**Pn**	**06 01 54.7**	**-0.1**
VA01				*i* S		**Sn**	**06 02 06.5**	**+1.1**
CLCH	**Cerro Calan**	**0.84**	**156**	⇑*i*P		**Pn**	**06 01 55.5**	**-1.0**
CLCH				*e*S		**Sn**	**06 02 08.9**	**+0.4**
RCDM	**Rinconada Maip**	**0.87**	**172**	*e*P		**Pn**	**06 01 56.8**	**0.0**
RCDM				*e*S		**Sn**	**06 02 10.4**	**+1.3**
FCH	**Farellones**	**0.89**	**142**	⇓*i*P		**Pn**	**06 01 56.3**	**-1.1**
FCH				*i* S		**Sn**	**06 02 10.2**	**+0.1**
FCH				IAML			06 02 11.7	
	comp=E,228nm,0.2s							
ANTU	**Antumapu**	**0.98**	**164**	⇓*i*P		**Pn**	**06 01 58.3**	**0.0**
ANTU				*i* S		**Sn**	**06 02 12.4**	**+0.9**
ANTU				IAML			06 02 13.7	
	comp=N,205nm,0.3s							
LMEL	**Las Melosas**	**1.37**	**153**	⇑*i*P		**Pn**	**06 02 02.7**	**-0.8**
LMEL				*i* S		**Sn**	**06 02 21.3**	**+0.4**
LMEL				IAML			06 02 22.6	
	comp=N,344nm,0.1s							
RTLS	**Leoncito**	**1.63**	**60**	*i* P		**Pn**	**06 02 06.2**	**-0.8**
RTLS				*e*S		**Sn**	**06 02 27.7**	**+0.5**
RTLS				IAML			06 02 31.8	
	comp=Z,9.1nm,0.2s							
ARCO	**CERRO ARCO**	**1.71**	**98**	*i* P		**Pn**	**06 02 08.1**	**0.0**
ARCO				*e*S		**Sn**	**06 02 31.6**	**+2.5**
ARCO				IAML			06 02 36.6	
	comp=Z,10nm,0.5s							
ASAL	**Salagasta**	**1.79**	**89**	*i* P		**Pn**	**06 02 09.3**	**+0.3**
ASAL				*e*S		**Sn**	**06 02 33.1**	**+2.4**
AAGR	**Agrelo**	**1.84**	**105**	*i* P		**Pn**	**06 02 09.4**	**-0.4**
AAGR				*e*S		**Sn**	**06 02 34.5**	**+2.4**
RTCV	**Cerro Valdivia**	**2.18**	**70**	*i* P		**Pn**	**06 02 13.8**	**-0.5**
ZON	**Zonda**	**2.21**	**61**	*i* P		**Pn**	**06 02 14.1**	**-0.6**
ZON				IAML			06 02 49.6	
	comp=Z,9.0nm,0.4s							
RTLL	**Cerro Villicun**	**2.47**	**59**	*i* P		**Pn**	**06 02 18.4**	**+0.1**
RTLL				IAML			06 02 51.9	
	comp=Z,13nm,0.6s							
CFA	**Coronel Fontan**	**2.52**	**67**	*i* P		**Pn**	**06 02 17.5**	**-1.4**
ACCO	**Cerro Coronel**	**2.59**	**39**	*i* P		**Pn**	**06 02 19.8**	**-0.4**
AMOG	**MOGNA**	**2.69**	**52**	⇑*i*P		**Pn**	**06 02 19.8**	**-1.4**
AROD	**Rodeo**	**2.76**	**28**	*i* P		**Pn**	**06 02 22.5**	**+0.1**
ACAN	**Cantantal**	**3.20**	**85**	*i* P		**Pn**	**06 02 24.4**	**-0.8**
TCA	**Tanti**	**5.55**	**78**	*i* P		**Pn**	**06 02 57.3**	**-3.2**
AHML	**Horco Molle**	**7.60**	**41**	*i* P		**Pn**	**06 03 27.0**	**-1.4**

ISCJB ***22*** *07:27:11.7±1.0,21.8′1S±0.0′05×67.3′5W±0.0′05, h191km±12km, Error ellipse: s-maj=9.5km s-min=6.3km az=38.4*
SJA ***22*** *07:27:11.0±0.5,21.8′3S×67.2′7W, h193km±4km, ML2.2, MW2.8*
GUC ***22*** *07:27:11.9±0.6,21.7′4S×67.9′5W, h238km±6km, ML3.1*
ISC 22 07:27:10.6±2.3, 21.8′1S±0.0′6×67.3′2W±0.0′5, h201km±20km, n18, σ1°16/29, 4C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.67**	**241**	*i* P		**Pn**	**07 27 46.8**	**+0.4**
LVC				*e*S		**Sn**	**07 28 13.6**	**-0.6**
LVC				IAML			07 28 15.0	
	7.6nm,0.1s							
YJA	**Yavi**	**1.72**	**103**	*i* P		**Pn**	**07 27 47.0**	**+0.1**
YJA				*e*S		**Sn**	**07 28 14.1**	**-0.9**
YJA				IAML			07 28 16.5	
	comp=Z,12nm,0.5s							
PB09	**IPOC Station P**	**1.79**	**270**	⇓*i*P		**Pn**	**07 27 48.1**	**+0.9**
PB09				*i* S		**Sn**	**07 28 16.0**	**+0.4**
PB09	**IPOC Station P**	**1.79**	**270**	*i* P		**Pn**	**07 27 48.1**	**+0.9**
PB09				*e*S		**Sn**	**07 28 15.3**	**-0.3**
HJA	**Humahuaca**	**2.25**	**129**	*i* P		**Pn**	**07 27 52.9**	**+0.7**
HJA				IAML			07 28 25.5	
	comp=Z,10nm,0.4s							
PB06	**IPOC Station P**	**2.27**	**246**	*i* P		**Pn**	**07 27 53.3**	**+1.2**
PB03	**IPOC Station P**	**2.27**	**264**	⇓*i*P		**Pn**	**07 27 52.6**	**+0.3**
PB03				*i* S		**Sn**	**07 28 22.9**	**-1.7**
PB03				IAML			07 28 23.5	
	comp=N,151nm,0.1s							
PB07	**IPOC Station P**	**2.39**	**272**	*e*P		**Pn**	**07 27 53.7**	**+0.2**
PB07				*i* S		**Sn**	**07 28 25.0**	**-1.9**
PB07				IAML			07 28 26.3	
	comp=E,124nm,0.1s							
PB08	**IPOC Station P**	**2.39**	**314**	⇑*i*P		**Pn**	**07 27 55.4**	**+1.6**
PB08				*i* S		**Sn**	**07 28 28.1**	**+0.8**
PB08				IAML			07 28 29.2	
	comp=N,21nm,0.3s							
PB15	**IPOC Station P**	**2.42**	**235**	⇓*i*P		**Pn**	**07 27 55.2**	**+1.3**
PB15	**IPOC Station P**	**2.42**	**235**	*i* P		**Pn**	**07 27 54.8**	**+0.9**
GO01	**Chusmiza**	**2.76**	**320**	⇑*i*P		**Pn**	**07 27 59.4**	**+1.3**
GO01				*e*S		**Sn**	**07 28 35.6**	**+0.6**
PB05	**IPOC Station P**	**2.86**	**248**	*i* P		**Pn**	**07 27 59.8**	**+1.0**
PB11	**IPOC Station P**	**2.99**	**313**	⇑*i*P		**Pn**	**07 28 00.7**	**+0.4**
PB11				*i* S		**Sn**	**07 28 37.8**	**-1.4**
SLA	**San Lorenzo**	**3.34**	**150**	*i* P		**Pn**	**07 28 05.0**	**+0.5**
MNMC	**Minye Minye**	**3.42**	**321**	⇑*i*P		**Pn**	**07 28 06.7**	**+1.1**
MNMC				*i* S		**Sn**	**07 28 47.8**	**-0.8**
PSGC	**Pisagua**	**3.43**	**310**	*e*P		**Pn**	**07 28 05.0**	**-0.5**
PSGC				*e*S		**Sn**	**07 28 45.6**	**-2.8**
PB10	**IPOC Station P**	**3.43**	**240**	*i* P		**Pn**	**07 28 06.2**	**+0.8**

ISCJB ***22*** *07:29:02.8±0.2,46.4′45S±0.0′04×96.1′2E±0.0′06, h16km, mb5.0/53, MS5.2/40, Error ellipse: s-maj=6.3km s-min=5.3km az=155.4*
MOS ***22*** *07:29:02.7±1.4,46.4′35S×96.1′3E, h10km, mb5.4/26, Error ellipse: s-maj=15.5km s-min=9.7km az=84.9*
IDC ***22*** *07:29:02.3±0.4,46.4′35S×96.0′4E, h0km, mb4.8/16, mb1 4.9/16, mb1mx4.8/28, mbtmp4.8/16, MS5.2/27, Ms1 5.2/27, ms1mx5.1/32, Error ellipse: s-maj=17.4km s-min=13.8km az=130.0*
BJI ***22*** *07:29:02.0±0.0,46.5′0S×96.0′0E, h10km, mb5.1/51, mB5.4/41, Ms5.4/36, Ms7 5.1/35*
NEIC ***22*** *07:29:03.9±1.9,46.4′45S±0.0′9×96.1′3E±0.0′7, h10km±2km, mb5.3/60, Ms_20 5.5/227, Mwb5.5, Mwc5.6(GCMT), Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.20; Mθθ-2.14; Mφφ1.94; Mrθ0.09; Mθφ-1.19; Mφr-0.25; Fault plane solution: Mo2.39000×10¹⁷ NP1: φs119.61000°, δ85.24000°, λ174.50000°. NP2: φs210.07000°, δ84.52000°, λ4.78000°. Principal axes: T 2.2983, Plg7.0000°, Azm75.0000°; N 0.1658, Plg83.0000°, Azm259.0000°; P -2.4642, Plg1.0000°, Azm165.0000°;*
GCMT ***22*** *07:29:06.9±0.1,46.3′6S±0.0′1×96.1′6E±0.0′1, h13km, MW5.6/140, Moment Tensor Solution. s117,c203; s140,c272; Duration: 1s5 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.87±.04; Mθθ-2.30±.04; Mφφ3.17±.04; Mrθ-0.00±.09; Mθφ-1.60±.03; Mφr0.18±.08; Best double couple: Mo3.17300×10¹⁷ NP1:φs30.00000°, δ89.00000°, λ3.00000°. NP2:φs300.00000°, δ87.00000°, λ179.00000°. Principal axes: T 3.6110, Plg2.0000°, Azm255.0000°; N -0.8720, Plg87.0000°, Azm43.0000°; P -2.7350, Plg1.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***22*** *07:29:08,46.35S×96.09E,h12km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.94; Mθθ-2.37; Mθφ 3.32; Mrθ-0.06; Mθφ-1.53; Mφr0.46; Fault plane solution: Mo3.37000×10¹⁷ NP1:φs301.00000°, δ85.00000°, λ177.00000°. NP2:φs31.00000°, δ87.00000°, λ5.00000°. Principal axes: T 3.7492, Plg6.0000°, Azm256.0000°; N -0.9901, Plg84.0000°, Azm58.0000°; P -2.7591, Plg2.0000°, Azm166.0000°;*
ISC 22 07:29:05.2±0.3, 46.4′5S±0.0′5×96.2′1E±0.0′6, h16km, n499, σ1°42/445, mb5.2/66, MS5.4/151, 6C-2D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.79**	**56**	T		T	07 51 20.2	
	baz=224,slow=74,SNR=107							
H01W3	**Cape Leeuwin H**	**17.80**	**56**	T		T	07 51 12.1	
	baz=224,slow=74,SNR=117							
H01W1	**Cape Leeuwin H**	**17.80**	**56**	T		T	07 51 24.0	
	baz=224,slow=74,SNR=1115							
RKGY	**Rocky Gully**	**19.66**	**60**	P		**P**	**07 33 31.8**	**-1.4**
	baz=20,SNR=4.6							
NWAO	**Narrogin (SRO)**	**20.99**	**57**	P		**P**	**07 33 48.0**	**+0.2**
	baz=21,SNR=9.9							
NWAO	**Narrogin (SRO)**	**20.99**	**57**	P		**P**	**07 33 47.5**	**-0.2**
	45nm,0.9s,baz=234,slow=8.8,SNR=20							
NWAO				LR		LR	07 39 58.2	
	comp=Z,15μm,19.9s,baz=232,slow=31							
NWAO	**Narrogin (SRO)**	**20.99**	**57**	P		**P**	**07 33 47.3**	**-0.4**
NWAO				IAmb		IAmb	07 34 04.5	
	comp=Z,153nm,1.4s							
NWAO	**Narrogin (SRO)**	**20.99**	**57**	P		**P**	**07 33 47.0**	**-0.7**
NWAO				IAmb		IAmb	07 34 04.6	
	comp=Z,125nm,1.4s							
NWAO				IAMs_20		IAMs_20	07 39 36.8	
	comp=Z,13μm,20.0s							
MUN	**Mundaring**	**21.10**	**54**	P		**P**	**07 33 49.1**	**+0.1**
	baz=21,SNR=18							
CASY	**Casey**	**21.30**	**164**	P		**P**	**07 33 49.5**	**-1.2**
CASY	**Casey**	**21.30**	**164**	IAMs_20		IAMs_20	07 39 59.4	
	comp=Z,11μm,19.0s							
KLBR	**Kellerberrin**	**22.27**	**56**	P		**P**	**07 34 00.7**	**-0.7**
	baz=22,SNR=34							
BLDU	**Ballidu**	**22.42**	**52**	P		**P**	**07 34 02.5**	**-0.6**
	baz=22,SNR=14							
MORW	**Morawa**	**23.28**	**49**	P		**P**	**07 34 12.9**	**+0.8**
	baz=23,SNR=8.1							
MORW	**Morawa**	**23.28**	**49**	P		**P**	**07 34 11.5**	**-0.5**
MORW				IAMs_20		IAMs_20	07 40 45.2	
	comp=Z,10μm,20.0s							
KMBL	**Kambalda**	**24.87**	**62**	P		**P**	**07 34 26.9**	**-0.1**
	baz=25,SNR=7.1							
MEEK	**Meekatharra**	**26.58**	**50**	P		**P**	**07 34 42.8**	**+0.3**
	baz=27,SNR=6.3							
MAW	**Mawson**	**27.29**	**207**	P		**P**	**07 34 45.7**	**-2.8**
	baz=27,SNR=12							
MAW	**Mawson**	**27.29**	**207**	P		**P**	**07 34 48.3**	**-0.2**
	comp=Z,20nm,1.0s,baz=54,slow=11,SNR=13							
MAW				LR		LR	07 43 25.8	
	comp=Z,2μm,19.2s,baz=52,slow=32							
MAW	**Mawson**	**27.29**	**207**	P		**P**	**07 34 47.6**	**-1.0**
FORT	**Forrest**	**29.15**	**69**	P		**P**	**07 35 05.2**	**-0.2**
FORT				IAmb		IAmb	07 35 08.8	
	comp=Z,65nm,1.2s							
FORT				IAMs_20		IAMs_20	07 44 23.2	
	comp=Z,12μm,19.0s							
CRZF	**Crozet Islands**	**30.26**	**254**	IAMs_20		IAMs_20	07 44 04.6	
	comp=Z,7μm,19.0s							
PSAD3	**Pilbara Seismi**	**31.30**	**46**	IAMs_20		IAMs_20	07 45 53.5	
	comp=Z,10μm,19.0s							
PSAC3	**Pilbara Seismi**	**31.34**	**46**	IAMs_20		IAMs_20	07 45 34.6	
	comp=Z,9μm,21.0s							
PSAB3	**Pilbara Seismi**	**31.37**	**46**	IAMs_20		IAMs_20	07 45 36.6	
	comp=Z,10μm,21.0s							
PSAA1	**Pilbara Seismi**	**31.38**	**46**	IAMs_20		IAMs_20	07 45 55.7	
	comp=Z,9μm,20.0s							
PSAB1	**Pilbara Seismi**	**31.38**	**46**	IAMs_20		IAMs_20	07 45 26.7	
	comp=Z,9μm,21.0s							
PSA00	**Pilbara Seismi**	**31.39**	**46**	P		**P**	**07 35 24.7**	**-0.6**
PSA00				IAmb		IAmb	07 35 27.4	
	comp=Z,60nm,1.1s							
PSA00				IAMs_20		IAMs_20	07 45 46.9	
	comp=Z,9μm,20.0s							
PSAA3	**Pilbara Seismi**	**31.39**	**46**	IAMs_20		IAMs_20	07 45 27.1	
	comp=Z,9μm,21.0s							
PSAA2	**Pilbara Seismi**	**31.40**	**46**	IAMs_20		IAMs_20	07 45 27.1	
	comp=Z,9μm,20.0s							
PSAC1	**Pilbara Seismi**	**31.40**	**46**	IAMs_20		IAMs_20	07 45 26.5	
	comp=Z,10μm,21.0s							
PSAD2	**Pilbara Seismi**	**31.41**	**46**	IAMs_20		IAMs_20	07 45 58.5	
	comp=Z,12μm,22.0s							
PSAB2	**Pilbara Seismi**	**31.41**	**46**	IAMs_20		IAMs_20	07 45 27.5	
	comp=Z,10μm,21.0s							
PSAC2	**Pilbara Seismi**	**31.42**	**46**	IAMs_20		IAMs_20	07 45 27.9	
	comp=Z,9μm,20.0s							
PSAD1	**Pilbara Seismi**	**31.48**	**46**	IAMs_20		IAMs_20	07 45 29.3	
	comp=Z,10μm,21.0s							
MBWA	**Marble Bar**	**31.68**	**45**	IAMs_20		IAMs_20	07 45 55.8	
	comp=Z,7μm,20.0s							
BBOO	**Buckleboo**	**33.21**	**80**	P		**P**	**07 35 41.1**	**-0.1**
BBOO				IAmb		IAmb	07 35 43.2	
	comp=Z,43nm,1.2s							
BBOO				IAMs_20		IAMs_20	07 46 14.7	
	comp=Z,8μm,20.0s							
WRKA	**Warakurna**	**33.34**	**61**	P		**P**	**07 35 41.9**	**-0.5**
	baz=34,SNR=29							
HTT	**Hallett**	**34.81**	**83**	P		**P**	**07 35 55.2**	**0.0**
	baz=35,SNR=10							
ARPS	**Mount Arapiles**	**35.03**	**91**	P		**P**	**07 35 58.5**	**+1.5**
	baz=35,SNR=6.0							
SYO	**Syowa Base**	**35.80**	**211**	⇓*e*P		**P**	**07 36 01.8**	**-1.4**
SYO	**Syowa Base**	**35.80**	**211**	⇑*e*pP		**P**	**07 36 05.6**	**+2.4**
TAU	**Tasmania Unive**	**36.00**	**103**	IAMs_20		IAMs_20	07 46 56.1	
	comp=Z,5μm,20.0s							
TOO	**Toolangi**	**37.15**	**94**	IAMs_20		IAMs_20	07 47 59.8	
	comp=Z,7μm,19.0s							
FITZ	**Fitzroy Crossi**	**37.27**	**51**	P		**P**	**07 36 16.1**	**-0.1**
	baz=37,SNR=23							
FITZ	**Fitzroy Crossi**	**37.27**	**51**	P		**P**	**07 36 16.4**	**+0.2**
FITZ				IAMs_20		IAMs_20	07 51 33.7	
	comp=Z,4μm,18.0s							
STKA	**Stephens Creek**	**37.55**	**84**	*e*P		**P**	**07 36 18.3**	**-0.3**
STKA	**Stephens Creek**	**37.55**	**84**	P		**P**	**07 36 18.5**	**-0.1**
	comp=Z,26nm,0.9s,baz=209,slow=5.0,SNR=29							
STKA				PcP		**PcP**	**07 38 35.2**	**-1.1**
	comp=Z,8.3nm,0.9s,baz=3.5,slow=1.4,SNR=5.5							
STKA				LR		LR	07 48 39.0	
	comp=Z,9μm,21.6s,baz=230,slow=31							
STKA	**Stephens Creek**	**37.55**	**84**	P		**P**	**07 36 18.3**	**-0.3**
ASAR	**Alice Springs**	**37.81**	**66**	P		**P**	**07 36 20.1**	**-0.8**
	comp=Z,25nm,0.9s,baz=223,slow=7.4,SNR=104							
ASAR				PcP		**PcP**	**07 38 36.0**	**-1.4**
	comp=Z,5.3nm,0.8s,baz=213,slow=2.2,SNR=9.6							
ASAR				LR		LR	07 49 34.3	
	comp=Z,7μm,21.6s,baz=234,slow=32							
AS31	**Alice Springs**	**37.81**	**66**	P		**P**	**07 36 20.3**	**-0.7**
MCQ	**Macquarie Isla**	**39.51**	**125**	P		**P**	**07 36 33.2**	**-1.5**
MCQ				pmax		pmax		
	comp=Z,348nm,1.5s							
MCQ	**Macquarie Isla**	**39.51**	**125**	P		**P**	**07 36 33.2**	**-1.5**
VNDA	**Vanda**	**39.90**	**162**	P		**P**	**07 36 39.4**	**+1.6**
	comp=Z,13nm,1.0s,baz=281,slow=9.3,SNR=14							
VNDA				LR		LR	07 52 02.7	
	comp=Z,6μm,18.2s,baz=282,slow=34							
CMSA	**Cobar Meteorol**	**40.57**	**86**	P		**P**	**07 36 44.3**	**+0.5**
	baz=41,SNR=9.0							
CAN	**Canberra**	**40.73**	**94**	P		**P**	**07 36 43.0**	**-2.2**
CAN				pmax		pmax		
	comp=Z,15nm,1.1s							
CAN	**Canberra**	**40.73**	**94**	P		**P**	**07 36 43.0**	**-2.2**
CAN				IAMs_20		IAMs_20	07 50 20.7	
	comp=Z,5μm,20.0s							
WRA	**Warramunga Arr**	**40.83**	**63**	P		**P**	**07 36 44.9**	**-1.2**
	comp=Z,44nm,0.9s,baz=221,slow=8.2,SNR=113							
WRA				LR		LR	07 51 42.8	
	comp=Z,14μm,20.1s,baz=220,slow=33							
WRAB	**Tennant Creek**	**40.85**	**63**	⇑*i*P		**P**	**07 36 45.2**	**-1.0**
WRAB				pmax		pmax		
	comp=Z,73nm,1.1s							
WRAB	**Tennant Creek**	**40.85**	**63**	P		**P**	**07 36 45.2**	**-1.0**
WRAB				IAmb		IAmb	07 36 47.8	
	comp=Z,68nm,1.1s							
JAGI	**Jajag, Banyuwa**	**40.85**	**28**	P		**P**	**07 36 45.5**	**-0.7**
KNRA	**Kununurra**	**40.94**	**52**	P		**P**	**07 36 47.9**	**+1.0**
	baz=41,SNR=5.1							
KNRA	**Kununurra**	**40.94**	**52**	P		**P**	**07 36 46.9**	**-0.1**
KNRA				IAMs_20		IAMs_20	07 51 21.2	
	comp=Z,4μm,21.0s							
WR0	**Warramunga Arr**	**40.94**	**63**	P		**P**	**07 36 45.8**	**-1.2**
WR0				IAmb		IAmb	07 36 48.6	
	comp=Z,57nm,1.0s							
SBA	**Scott Base**	**40.99**	**162**	P		**P**	**07 36 46.4**	**-0.3**
SBA				pmax		pmax		
	comp=Z,56nm,1.3s							
SBA	**Scott Base**	**40.99**	**162**	P		**P**	**07 36 46.4**	**-0.3**
SBA				IAmb		IAmb	07 36 54.1	
	comp=Z,56nm,1.3s							
RER	**Riviere de l'E**	**41.39**	**294**	P		**P**	**07 36 48.2**	**-2.5**
RER				IAmb		IAmb	07 36 57.9	
	comp=Z,64nm,1.1s							
KLSI		**42.25**	**13**	P		**P**	**07 37 00.5**	**+2.8**
	comp=Z,29nm,1.2s							
QLP	**Quilpie**	**42.64**	**79**	P		**P**	**07 37 02.0**	**+1.2**
	baz=43,SNR=8.9							
SOEI	**Soe**	**43.69**	**42**	P		**P**	**07 37 08.1**	**-1.5**
SOEI				IAmb		IAmb	07 37 19.1	
	comp=Z,57nm,1.0s							
SOEI				IAMs_20		IAMs_20	07 52 46.0	
	comp=Z,6μm,21.0s							
QSPA	**South Pole Qui**	**43.69**	**180**	P		**P**	**07 37 09.1**	**+0.1**
	comp=Z,11nm,1.0s,baz=292,slow=3.3,SNR=17							
QSPA	**South Pole Qui**	**43.69**	**180**	P		**P**	**07 37 08.9**	**-0.1**
QSPA				IAmb		IAmb	07 37 17.3	
	comp=Z,41nm,1.2s							
QSPA	**South Pole Qui**	**43.69**	**180**	IAMs_20		IAMs_20	07 53 54.6	
	comp=Z,7μm,20.0s							
QIS	**Mount Isa**	**43.70**	**69**	P		**P**	**07 37 09.7**	**+0.2**
	baz=44,SNR=9.9							
H08S2	**Diego Garcia H**	**43.70**	**325**	T		T	08 23 43.2	
	baz=156,slow=76,SNR=89							
H08S1	**Diego Garcia H**	**43.71**	**325**	T		T	08 23 40.1	
	baz=156,slow=76,SNR=135							
H08S3	**Diego Garcia H**	**43.72**	**325**	T		T	08 23 47.1	
	baz=156,slow=76,SNR=118							
MTN	**Manton Dam**	**44.56**	**53**	P		**P**	**07 37 16.6**	**+0.2**
	baz=45,SNR=3.4							
MTN	**Manton Dam**	**44.56**	**53**	IAMs_20		IAMs_20	07 54 05.2	
	comp=Z,5μm,21.0s							
NVL	**N'lazarevskaya**	**45.24**	**208**	*e*P		P	07 37 27.1	+5.9
NVL				*e*			07 39 16.4	
NVL				*e*PPP		PPP	07 39 45.9	
NVL				*e*S		**S**	**07 44 02.9**	**+2.7**
NVL				pmax		pmax		
	comp=Z,41nm,1.3s							
ARMA	**Armidale**	**45.34**	**90**	P		**P**	**07 37 24.1**	**+1.6**
	baz=46,SNR=4.8							
ARMA	**Armidale**	**45.34**	**90**	P		**P**	**07 37 22.8**	**+0.2**
ARMA				IAMs_20		IAMs_20	07 53 32.5	
	comp=Z,5μm,20.0s							
KDU	**Kakadu**	**45.44**	**54**	P		**P**	**07 37 24.1**	**+0.8**
	baz=46,SNR=9.9							
H08N1	**Diego Carcia H**	**45.48**	**324**	T		T	08 26 03.3	
	baz=189,slow=77,SNR=9.9							
H08N3	**Diego Garcia H**	**45.49**	**324**	T		T	08 26 13.7	
	baz=189,slow=77,SNR=10							
H08N2	**Diego Garcia H**	**45.51**	**324**	T		T	08 26 04.7	
	baz=189,slow=77,SNR=8.4							
RMQ	**Roma**	**45.79**	**83**	P		**P**	**07 37 25.8**	**-0.3**
	baz=46,SNR=10.0							
BNSI	**Bone**	**46.74**	**34**	P		P	07 37 40.5	+7.0
BKNI	**Bangkinang**	**46.78**	**7**	P		**P**	**07 37 34.3**	**+0.5**
SPSI	**Sidrap Palu**	**47.01**	**33**	P		**P**	**07 37 38.9**	**+3.2**
GSI	**Gunungsitoli**	**47.57**	**2**	P		P	07 37 48.3	+8.3
TTSI	**Tuna Toraja**	**47.87**	**33**	P		P	07 37 50.1	+7.7
EIDS	**Eidsvold**	**48.10**	**84**	P		**P**	**07 37 44.0**	**-0.2**
	baz=48,SNR=4.9							
EIDS	**Eidsvold**	**48.10**	**84**	P		**P**	**07 37 43.7**	**-0.5**
EIDS				IAmb		IAmb	07 37 47.1	
	comp=Z,16nm,0.9s							
EIDS				IAMs_20		IAMs_20	07 54 56.0	
	comp=Z,4μm,21.0s							
STKI	**Sintang**	**48.23**	**21**	P		P	07 37 53.2	+8.1
CTA	**Charters Tower**	**48.39**	**74**	LR		LR	07 56 51.8	
	comp=Z,5μm,18.8s,baz=243,slow=34							
CTAO	**Charters Tower**	**48.39**	**74**	IAMs_20		IAMs_20	07 56 20.7	
	comp=Z,5μm,20.0s							
MLZ	**Mavora Lakes**	**48.41**	**116**	IAMs_20		IAMs_20	07 53 31.0	
	comp=Z,4μm,21.0s							
ABPO	**Ambohimpanom**	**48.45**	**287**	IAMs_20		IAMs_20	07 52 36.7	
	comp=Z,3μm,21.0s							
MTSU	**Mount Surprise**	**48.51**	**71**	P		**P**	**07 37 45.6**	**-1.8**
	baz=49,SNR=4.9							
RPSI	**Rantau Prapat**	**48.99**	**4**	P		**P**	**07 37 50.9**	**-0.1**
RPSI				IAmb		IAmb	07 37 59.2	
	comp=Z,44nm,1.2s							
PSI	**Prapat**	**49.10**	**4**	P		**P**	**

SUR Sutherland 57.82 255 P **P** **07 38 55.3 -0.7**
URZ Urewera 57.89 113 LR LR 08 00 51.1
comp=Z,2μm,18.5s,baz=236,slow=33
JAY Jayapura 58.38 55 LR LR 08 03 33.4
comp=Z,7μm,20.1s,baz=209,slow=35
MXZ Matakaoa Point 59.06 113 IAMs_20 IAMs_20 08 00 20.1
comp=Z,3μm,21.0s
KCP Kidapawan 59.11 34 ⇑P **P** **07 39 02.4 -2.6**
LBTB Lobatse 59.20 265 P **P** **07 39 03.5 -2.2**
LBTB pmax pmax
comp=Z,38nm,1.5s
LBTB Lobatse 59.20 265 LR LR 07 59 22.8
comp=Z,3μm,19.8s,baz=136,slow=31
LBTB Lobatse 59.20 265 P **P** **07 39 03.5 -2.2**
LBTB IAmb IAmb 07 39 17.8
comp=Z,38nm,1.5s
DZM Mont Dzumac 60.87 92 *e*S **S** **07 47 34.6 +0.3**
comp=Z,709nm,26.0s
DZM *e*LR LR 07 57 23.3
comp=Z,5μm,25.6s
MANU Manus Island 62.68 61 P **P** **07 39 29.0 -0.3**
MANU IAMs_20 IAMs_20 08 04 28.4
comp=Z,2μm,22.0s
PBKT Sadao Pong 62.87 5 P **P** **07 39 29.2 -1.0**
KRVT Keravat (AS076 63.81 67 LR LR 08 06 03.0
comp=Z,2μm,18.4s,baz=225,slow=35
LSZ Lusaka 63.97 275 P **P** **07 39 36.3 -1.6**
LSZ pmax pmax
comp=Z,30nm,1.4s
LSZ Lusaka 63.97 275 P **P** **07 39 36.3 -1.6**
LSZ IAmb IAmb 07 39 46.3
comp=Z,30nm,1.4s
LSZ Lusaka 63.97 275 IAMs_20 IAMs_20 08 02 12.5
comp=Z,3μm,20.0s
CM31 Chiang Mai Arr 64.65 3 P **P** **07 39 41.5 -0.5**
CMAR Chiang Mai Arr 64.65 3 *i* P **P** **07 39 41.2 -0.8**
CMAR pmax pmax
comp=Z,16nm,1.0s
CMAR Chiang Mai Arr 64.65 3 P **P** **07 39 40.9 -1.1**
comp=Z,16nm,1.0s,baz=203,slow=6.1,SNR=35
CMAR LR LR 08 03 01.5
comp=Z,2μm,21.8s,baz=186,slow=32
CHTO Chiang Mai 65.00 3 P **P** **07 39 44.0 -0.3**
CHTO pmax pmax
comp=Z,22nm,1.1s
CHTO Chiang Mai 65.00 3 P **P** **07 39 44.0 -0.3**
CHTO IAmb IAmb 07 39 51.2
comp=Z,22nm,1.1s
HNR Honiara 65.20 77 LR LR 08 06 56.0
comp=Z,5μm,18.1s,baz=259,slow=35
QIZ Qiongzhong 66.33 14 P **P** **07 39 52.3 -0.5**
QIZ S **S** **07 48 45.5 +3.7**
QIZ pmax pmax
comp=Z,31nm,1.9s
QIZ LR LR
comp=Z,940nm,18.8s
QIZ LR LR
comp=Z,1μm,17.5s
QIZ LR LR
comp=Z,1μm,22.6s
RAO Raoul Island 66.75 108 LR LR 08 05 20.1
comp=Z,1μm,18.3s,baz=199,slow=33
KMBO Kilima Mbogo 68.25 293 *i* P **P** **07 40 05.3 -0.3**
KMBO pmax pmax
comp=Z,7.0nm,1.0s
KMBO Kilima Mbogo 68.25 293 P **P** **07 40 04.3 -1.2**
comp=Z,7.2nm,1.0s,baz=120,slow=3.6,SNR=11
KMBO LR LR 08 03 18.6
comp=Z,1μm,21.1s,baz=101,slow=30
KMBO Kilima Mbogo 68.25 293 P **P** **07 40 04.3 -1.2**
KMBO IAmb IAmb 07 40 13.3
comp=Z,16nm,1.0s
KMI Kunming 71.48 6 P **P** **07 40 29.6 +4.5**
KMI S **S** **07 49 43.3 +0.2**
KMI sS SKiKP 07 50 00.5 -3.4
KMI SS **SS** **07 54 19.4 +0.6**
KMI pmax pmax
comp=Z,38nm,1.6s
KMI pmax pmax
comp=Z,240nm,4.6s
KMI LR LR
comp=Z,770nm,20.5s
KMI LR LR
comp=Z,670nm,16.5s
KMI LR LR
comp=Z,930nm,17.9s
MBAR Mbarara 72.87 288 *i* P **P** **07 40 31.8 -1.9**
MBAR pmax pmax
comp=Z,3.0nm,1.1s
MBAR Mbarara 72.87 288 P **P** **07 40 34.1 +0.5**
MBAR IAMs_20 IAMs_20 08 08 15.0
comp=Z,2μm,20.0s
GYA Guiyang 73.18 10⇑ *i*P **P** **07 40 35.3 +0.2**
GYA PP **PP** **07 43 16.1 -2.5**
GYA S **SKiKP** **07 50 06.8 +0.5**
GYA SKS **SKSac** **07 50 37.3 -2.9**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,170nm,4.2s
GYA LR LR
comp=Z,450nm,19.6s
GYA LR LR
comp=Z,510nm,19.9s
GYA LR LR
comp=Z,850nm,20.2s
ODAN Odare 73.40 352 *e*P **P** **07 40 35.6 -0.9**
comp=Z,116nm,1.2s
RAMN Ramite 73.57 351 *e*P **P** **07 40 36.5 -1.0**
TAPN Taplejung 73.86 352 *e*P **P** **07 40 38.3 -0.9**
comp=Z,119nm,1.2s
GUMO Guam 74.01 49 LR LR 08 11 35.6
comp=Z,421nm,21.5s,baz=201,slow=34
JIRN Jiri 74.32 351 *e*P **P** **07 40 40.9 -1.1**
comp=Z,155nm,1.1s
PKI Pulchoki 74.32 350 *e*P **P** **07 40 40.1 -1.9**
PKIN Phulchoki 74.33 350 *e*P **P** **07 40 40.3 -1.7**
DMN Daman 74.39 350 *e*P **P** **07 40 41.0 -1.3**
comp=Z,85nm,1.0s
KKN Kakani 74.55 350 *e*P **P** **07 40 41.2 -2.0**
GUN Gumba 74.60 351 *e*P **P** **07 40 42.3 -1.3**
comp=Z,276nm,1.1s
KOLN Koldanda 74.75 348 *e*P **P** **07 40 42.8 -1.5**
comp=Z,126nm,1.1s
GKN Gorkha 74.84 349 *e*P **P** **07 40 43.3 -1.5**
comp=Z,141nm,1.1s
ATD Arta Tunnel 74.88 305 P **P** **07 40 45.5 +0.3**
ATD IAmb IAmb 07 40 53.9
comp=Z,27nm,1.0s
H09W1 TRISTAN DA CUN 75.04 232 T T 09 03 11.8
SNR=4.3
DANN Dangsing 75.30 349 *e*P **P** **07 40 45.3 -2.3**
comp=Z,175nm,1.0s
LSA Lhasa 75.93 355 P **P** **07 40 50.1 -1.3**
LSA pmax pmax
comp=Z,32nm,1.2s
LSA Lhasa 75.93 355 P **P** **07 40 50.1 -1.3**
LSA IAmb IAmb 07 40 58.2
comp=Z,32nm,1.2s
CD2 Chengdu 77.30 7⇑ *i*P **P** **07 40 59.8 +1.2**
CD2 S S 07 50 37.8 -10
CD2 sS sS 07 50 57.3 +2.6
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,120nm,4.2s
CD2 LR LR
comp=Z,2μm,17.3s
CD2 LR LR
comp=Z,2μm,25.3s
CD2 LR LR
comp=Z,1μm,23.7s
ENH Enshi 77.30 12 P **P** **07 40 58.6 0.0**
WHN Wuhan 78.37 16 P **P** **07 41 08.9 +4.4**
NIUE Niue 79.01 106 P **P** **07 41 08.2 -0.2**
NJ2 Nanjing 80.78 19 *e*P **P** **07 41 19.0 +1.5**
NJ2 pmax pmax
comp=Z,11nm,0.6s
XAN Xi'an 80.94 11 P **P** **07 41 16.8 -1.7**
XAN pP pP 07 41 21.4 -1.2
XAN sP sP 07 41 23.8 -0.6
XAN S **S** **07 51 26.6 +0.2**
XAN sS sS 07 51 34.8 +1.5
XAN SS **SS** **07 56 49.1 +7.6**
XAN pmax pmax
comp=Z,6.0nm,1.1s
XAN pmax pmax
comp=Z,190nm,4.0s
XAN LR LR
comp=Z,410nm,21.1s
XAN LR LR
comp=Z,640nm,20.6s
XAN LR LR
comp=Z,1μm,20.1s
XAN Xi'an 80.94 11 P **P** **07 41 16.8 -1.7**
XAN pmax pmax
comp=Z,52nm,1.3s
XAN Xi'an 80.94 11 P **P** **07 41 16.8 -1.7**
XAN IAmb IAmb 07 41 25.1
comp=Z,52nm,1.3s
GO09 Cerro Castillo 82.16 187 IAMs_20 IAMs_20 08 15 48.9
comp=Z,2μm,20.0s
NIL Nilore 82.38 341 P **P** **07 41 23.8 -2.3**
NIL pmax pmax
comp=Z,49nm,0.9s
NIL Nilore 82.38 341 P **P** **07 41 23.8 -2.3**
LZH Lanzhou 82.45 6 *e*P **P** **07 41 25.6 -0.9**
LZH pP PcP 07 41 32.9 +1.3
LZH sP pwP 07 41 36.5 +1.4
LZH pmax pmax
comp=Z,42nm,1.3s
LZH pmax pmax
comp=Z,320nm,8.4s
LZH LR LR
comp=Z,380nm,17.3s
LZH LR LR
comp=Z,790nm,17.4s
LZH LR LR
comp=Z,820nm,18.4s
RAYN Ar Rayn 83.39 314 P **P** **07 41 31.6 +0.1**
RAYN pmax pmax
comp=Z,26nm,1.1s
RAYN Ar Rayn 83.39 314 P **P** **07 41 31.6 +0.1**
RAYN IAmb IAmb 07 41 39.3
comp=Z,26nm,1.1s
RAYN IAMs_20 IAMs_20 08 11 41.4
comp=Z,2μm,21.0s
KBL Kabul 84.26 338 P **P** **07 41 35.1 -0.9**
KBL pmax pmax
comp=Z,55nm,1.1s
KBL Kabul 84.26 338 P **P** **07 41 35.1 -0.9**
KBL IAMs_20 IAMs_20 08 13 35.7
comp=Z,2μm,22.0s
GTA Gaotai 85.54 3 P **P** **07 41 42.6 +0.4**
GTA pP pP 07 41 47.8 +1.2
GTA sP sP 07 41 50.8 +2.6
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA pmax pmax
comp=Z,200nm,4.3s
GTA LR LR
comp=Z,380nm,24.0s
GTA LR LR
comp=Z,400nm,24.7s
GTA LR LR
comp=Z,670nm,23.4s
HRA Herat 86.10 332 P **P** **07 41 45.6 +0.5**
HRA IAmb IAmb 07 41 51.6
comp=Z,34nm,1.2s
KSH Kashi 87.48 344 P **P** **07 41 55.5 +3.8**
KSH S **S** **07 52 37.3 +5.5**
KSH sS sS 07 52 45.8 +6.8
KSH pmax pmax
comp=Z,170nm,1.7s
KSH pmax pmax
comp=Z,550nm,4.4s
KSH LR LR
comp=Z,750nm,9.7s
KSH LR LR
comp=Z,1μm,10.0s
KSH LR LR
comp=Z,1μm,11.1s
BJT Baijiatuau 87.92 15 P **P** **07 41 54.8 +1.2**
BJT pmax pmax
comp=Z,9.0nm,1.0s
BJT Baijiatuau 87.92 15 P **P** **07 41 54.8 +1.2**
BJI Beijing 87.94 15 *e*P P 07 41 58.6 +5.0
BJI S **S** **07 52 41.8 +6.0**
BJI pmax pmax
comp=Z,12nm,1.8s
BJI LR LR
comp=Z,200nm,16.7s
BJI LR LR
comp=Z,470nm,25.5s
BJI LR LR
comp=Z,1μm,73.9s
HHC Hu-ho-hao-te 87.99 12 P **P** **07 41 56.8 +2.7**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,130nm,6.7s
HHC LR LR
comp=Z,580nm,19.9s
HHC LR LR
comp=Z,330nm,20.4s
HHC LR LR
comp=Z,720nm,21.2s
CHGR Chuvangaron 88.13 339 P **P** **07 41 54.7 -0.1**
GAR Garm 88.18 340 P **P** **07 41 54.1 -0.9**
KSRS Korea Array 88.25 25 P **P** **07 41 54.9 -0.3**
comp=Z,0.6nm,0.4s,baz=194,slow=5.7,SNR=2.8
KSRS LR LR 08 21 16.6
comp=Z,135nm,20.5s,baz=170,slow=36
TBI Tubuai 88.69 123 *e*S **S** **07 52 42.0 -2.1**
comp=Z,478nm,32.5s
TBI Tubuai 88.69 123 *e*LQ LQ 08 05 20.8
comp=Z,1μm,34.0s
TBI *e*LR LR 08 10 16.3
comp=Z,1μm,25.5s
BTK Batken 89.07 341 P **P** **07 41 57.9 -1.2**
BTK pmax pmax
comp=Z,32nm,1.5s
BTK Batken 89.07 341 P **P** **07 41 57.9 -1.2**
BTK IAmb IAmb 07 42 05.5
comp=Z,32nm,1.4s
BTK IAMs_20 IAMs_20 08 19 05.1
comp=Z,1μm,19.0s
TARG Taragay, Kyrgy 89.31 346 IAMs_20 IAMs_20 08 17 45.7
comp=Z,1μm,20.0s
NRN Naryn 89.34 345 P **P** **07 42 00.5 -0.2**
NRN pmax pmax
comp=Z,15nm,1.3s
NRN Naryn 89.34 345 P **P** **07 42 00.5 -0.2**
NRN IAmb IAmb 07 42 07.2
comp=Z,15nm,1.3s
NRN IAMs_20 IAMs_20 08 18 12.2
comp=Z,1μm,22.0s
ARSB Arslanbob 89.81 343 P **P** **07 42 03.8 +1.1**
ARSB IAmb IAmb 07 42 09.3
comp=Z,33nm,1.3s
PRZ Przheval'sk 89.96 347 IAMs_20 IAMs_20 08 17 27.4
comp=Z,1μm,21.0s
WMQ Urumqi 90.20 354 *e*P **P** **07 42 05.4 +1.1**
WMQ pP pP 07 42 10.1 +1.3
WMQ pmax pmax
comp=Z,10.0nm,1.7s
WMQ pmax pmax
comp=Z,51nm,4.1s
WMQ LR LR
comp=Z,250nm,8.5s
WMQ LR LR
comp=Z,410nm,9.9s
WMQ LR LR
comp=Z,270nm,11.3s
GEYT Alibeck 90.69 331 P **P** **07 42 06.8 +0.1**
comp=Z,9.0nm,1.1s,baz=165,slow=6.2,SNR=9.2
GEYT LR LR 08 17 27.0
comp=Z,582nm,20.6s,baz=140,slow=32
AAK Ala-Archa 90.78 344⇑ *i*P **P** **07 42 06.3 -0.9**
AAK pmax pmax
comp=Z,10.0nm,1.2s
AAK Ala-Archa 90.78 344 LR LR 08 19 22.8
comp=Z,730nm,19.7s,baz=174,slow=33
AAK Ala-Archa 90.78 344 P **P** **07 42 05.9 -1.3**
PLCA Paso Flores 92.40 190 *e*P **P** **07 42 15.6 +0.6**
PLCA Paso Flores 92.40 190 P **P** **07 42 13.9 -1.1**
comp=Z,4.0nm,1.0s,baz=230,slow=6.3,SNR=5.9
PLCA LR LR 08 24 18.5
comp=Z,623nm,18.5s,baz=194,slow=36
PLCA Paso Flores 92.40 190 P **P** **07 42 15.2 +0.2**
PPT2 Papeete2 93.06 119 *e*S **S** **07 53 21.4 -3.1**
comp=Z,119nm,23.0s
PPT2 Papeete2 93.06 119 *e*LQ LQ 08 08 20.6
comp=Z,2μm,29.0s
PPT2 *e*LR LR 08 12 18.2
comp=Z,1μm,22.5s
PPT Papeete 93.08 119 LR LR 08 16 01.0
comp=Z,536nm,21.5s,baz=224,slow=30
TRQA Tornquist 93.62 197 IAMs_20 IAMs_20 08 29 33.1
comp=Z,872nm,18.0s
MK31 Makanchi Array 93.66 350 P **P** **07 42 19.3 -0.9**
MK31 pmax pmax
comp=Z,6.0nm,1.1s
MK31 Makanchi Array 93.66 350 P **P** **07 42 19.3 -0.9**
MKAR Makanchi Array 93.66 350 P **P** **07 42 18.6 -1.7**
comp=Z,1.3nm,1.0s,baz=152,slow=5.4,SNR=7.1
MKAR LR LR 08 22 27.6
comp=Z,746nm,19.5s,baz=176,slow=34
MAKZ Makanchi 93.71 350 P **P** **07 42 18.7 -1.7**
MAKZ pmax pmax
comp=Z,16nm,1.1s
MAKZ Makanchi 93.71 350 P **P** **07 42 18.7 -1.7**
MAKZ IAmb IAmb 07 42 26.5
comp=Z,16nm,1.1s
MAKZ IAMs_20 IAMs_20 08 22 07.2
comp=Z,1μm,19.0s
SONM Songino Array 94.32 7 P **P** **07 42 23.2 -0.1**
comp=Z,2.7nm,1.1s,baz=198,slow=4.6,SNR=10
SONM LR LR 08 22 49.2
comp=Z,434nm,21.6s,baz=176,slow=34
ULN Ulaanbaatar 94.41 7 *i* P **P** **07 42 23.0 -0.8**
ULN pmax pmax
comp=Z,12nm,1.4s
ULN Ulaanbaatar 94.41 7 P **P** **07 42 23.1 -0.7**
MDJ Mudanjiang 95.36 23 P **P** **07 42 30.5 +2.5**
MDJ pmax pmax
comp=Z,10.0nm,1.8s
MDJ pmax pmax
comp=Z,280nm,5.6s
GNI Garni 97.69 323 *i* P **P** **07 42 37.5 -1.5**
GNI pmax pmax
comp=Z,5.0nm,0.4s
KURBB Kurchatov Arra 97.89 349 PP **PP** **07 46 37.6 -1.0**
comp=Z,1.1nm,0.3s,baz=170,slow=6.4,SNR=4.7
TLY Talaya 97.96 5 LR LR 08 25 42.9
comp=Z,384nm,20.5s,baz=168,slow=35
KURK Kurchatov 97.97 349 *i* P **P** **07 42 38.9 -0.8**
KURK pmax pmax
comp=Z,3.0nm,1.2s
PEL Peldehue 99.89 191 IAMs_20 IAMs_20 08 26 03.1
comp=Z,1μm,22.0s
ZALV Zalesovo Beam 100.49 353 P **Pdif** **07 42 50.5 -0.4**
comp=Z,1.2nm,0.7s,baz=182,slow=4.3,SNR=2.4
YSS Yuzh-Sakhalins 101.57 31 *e*P **Pdif** **07 42 52.3 -3.5**
TORD Torodi Ar. Bea 102.49 276 PP **PP** **07 47 17.2 +3.3**
comp=Z,1.1nm,1.0s,baz=145,slow=5.4,SNR=4.5
GO04 Tololo Observa 102.83 192 IAMs_20 IAMs_20 08 27 28.0
comp=Z,862nm,20.0s
GO03 Copiap 105.29 192 IAMs_20 IAMs_20 08 32 16.0
comp=Z,882nm,19.0s
TAOE Nuku Hiva Isla 105.55 121 *e*LR LR 08 18 02.7
comp=Z,794nm,29.8s
TAM Tamanrasset 106.61 286 IAMs_20 IAMs_20 08 31 14.1
comp=Z,1μm,18.0s
WDD Wied Dalam 109.87 301 IAMs_20 IAMs_20 08 38 58.6
comp=Z,898nm,19.0s
LVC Limon Verde 109.96 195 IAMs_20 IAMs_20 08 30 47.6
comp=Z,927nm,22.0s
BDFB Brasilia 110.30 217 IAMs_20 IAMs_20 08 26 32.0
comp=Z,852nm,20.0s
RCBR Riachuelo 112.86 233 IAMs_20 IAMs_20 08 28 37.7
comp=Z,2μm,18.0s
UZH Uzhgorod 114.43 316 *e*PKIKP **PKiKP** **07 47 47.4 +4.0**
UZH *e* 07 47 49.5
UZH *e* 07 47 55.9
VYHS Vyhne 116.04 314 *e* PKiKP 07 47 58.8 +12
CASP Castiglione de 116.60 305 IAMs_20 IAMs_20 08 39 57.7
comp=Z,1μm,18.0s
GERES GERESS Array B 118.87 312 PKP **PKPdf** **07 47 50.8 -1.3**
comp=Z,0.3nm,0.5s,baz=134,slow=3.9,SNR=4.4
TIXI Tiksi 120.06 11 IAMs_20 IAMs_20 08 41 36.3
comp=Z,809nm,20.0s
FINES FINESS Array B 121.38 328 PKP **PKPdf** **07 47 56.3 0.0**
comp=Z,1.2nm,0.5s,baz=341,slow=4.0,SNR=7.7
NNA Nana 121.50 188 IAMs_20 IAMs_20 08 34 02.5
comp=Z,814nm,22.0s
SAML Samuel 121.85 204 IAMs_20 IAMs_20 08 39 07.0
comp=Z,902nm,18.0s
ESDC Sonseca Array 123.62 294 PKP **PKPdf** **07 48 01.6 +0.1**
comp=Z,0.8nm,0.7s,baz=65,slow=1.1,SNR=5.1
BILL Bilibino 125.50 26⇓ *i*PKIKP **PKPdf** **07 48 04.6 +0.5**
BILL *i* 07 48 08.0
BILL *i* 07 48 10.0
BILL pmax pmax
comp=Z,7.0nm,1.2s
ARCES ARCESS Array B 126.58 336 PKP **PKPdf** **07 48 05.3 -0.8**
comp=Z,3.6nm,0.9s,baz=76,slow=1.5,SNR=5.3
PAYG Puerto Ayora 132.72 171 IAMs_20 IAMs_20 08 38 21.7
comp=Z,1μm,19.0s
SUA Susitna One 139.79 43 **PKPdf** **07 48 30.1 -1.2**
BPAW Bear Paw Mtn. 140.06 39 IAMs_20 IAMs_20 08 47 21.2
comp=Z,817nm,21.0s
MLY Manley 140.27 38 **PKPdf** **07 48 32.5 +0.5**
TRF Thorofare Moun 140.29 40 **PKPdf** **07 48 33.0 +0.8**
BWN Browne 140.73 39 IAMs_20 IAMs_20 08 49 26.8
comp=Z,869nm,21.0s
SDV Santo Domingo 140.91 201 IAMs_20 IAMs_20 08 47 35.9
comp=Z,992nm,20.0s
TOLK Toolik Lake Re 140.91 32 P **PKPdf** **07 48 29.7 -3.3**
baz=270
MCK McKinley 140.93 40 PKIKP **PKPdf** **07 48 32.6 -0.6**
MCK McKinley 140.93 40 **PKPdf** **07 48 32.6 -0.6**
RND Reindeer 140.93 40 PKIKP **PKPdf** **07 48 32.9 -0.4**
RND Reindeer 140.93 40 **PKPdf** **07 48 32.9 -0.4**
RND IAMs_20 IAMs_20 08 47 34.1
comp=Z,889nm,20.0s
WRH Wood River Hil 141.36 39 **PKPdf** **07 48 33.4 -0.5**
CCB Clear Creek Bu 141.49 38 **PKPdf** **07 48 32.8 -1.3**
DHY Denali Highway 141.56 41 IAMs_20 IAMs_20 08 54 30.9
comp=Z,913nm,19.0s
ILAR Eielson Array 141.89 38 PKhKP PKPpre 07 48 28.8
comp=Z,1.6nm,1.0s,baz=285,slow=3.5,SNR=5.5
ILAR PKP **PKPdf** **07 48 35.5 +0.7**
comp=Z,1.6nm,1.0s,baz=268,slow=2.6,SNR=7.7
PAX Paxson 142.42 41 PKIKP **PKPdf** **07 48 34.2 -1.8**
PAX Paxson 142.42 41 **PKPdf** **07 48 34.2 -1.8**
PRP Porcupine Dome 142.49 37 **PKPdf** **07 48 35.0 -1.1**
RIDG Independent Ri 142.74 40 IAMs_20 IAMs_20 08 51 28.0
comp=Z,1μm,18.0s
SCRK Sand Creek 143.13 40 PKPbc 07 48 37.2 +3.0
JTS Las Juntas de 143.95 178 IAMs_20 IAMs_20 08 44 32.9
comp=Z,683nm,19.0s
EGAK Eagle 144.34 38 **PKPab** **07 48 36.8 -0.5**
DAWY Dawson 145.15 39 **PKPbc** **07 48 39.5 -0.8**
DAWY **PKPab** **07 48 42.2 +1.8**
ESPN Las Esperanzas 145.85 179 IAMs_20 IAMs_20 08 46 30.3
comp=Z,700nm,20.0s
EPYK Eagle Plains 146.01 35 P **PKPdf** **07 48 42.2 +0.1**
baz=279
EPYK Eagle Plains 146.01 35 **PKPdf** **07 48 42.2 +0.1**
SABA Saba 146.59 217 IAMs_20 IAMs_20 08 52 07.1
comp=Z,580nm,21.0s
SUMG Summit 146.65 337 PKP2 **PKPdf** **07 48 44.3 +0.8**
SUMG Summit 146.65 337 *i* P **PKPbc** **07 48 46.4 +1.3**
comp=Z,54nm,1.2s
SUMG Summit 146.65 337 **PKPdf** **07 48 44.3 +0.8**
SUMG PKPbc **PKPbc** **07 48 47.1 +2.0**
INK Inuvik 146.81 31 PKIKP **PKPdf** **07 48 42.1 -1.2**
INK 07 48 45.8
INK Inuvik 146.81 31 **PKPdf** **07 48 42.1 -1.2**
INK PKPbc **PKPbc** **07 48 45.8 +0.6**
SKAG Skagway 147.22 48 **PKPdf** **07 48 44.2 -0.1**
TULEG Thule 149.19 353 **PKPdf** **07 48 47.5 +0.5**
TULEG PKPab **PKPab** **07 49 01.3 +5.5**
KULLO Kullorsuaq 149.50 346 *i* PKP2 **PKPbc** **07 48 52.1 0.0**
KULLO pmax pmax
comp=Z,57nm,1.2s
KULLO Kullorsuaq 149.50 346 *i* P **PKPbc** **07 48 52.1 0.0**
comp=Z,57nm,1.2s
C36M Paulatuk 149.61 27 P **PKPdf** **07 48 49.2 +1.4**
baz=298
SDD Santo Domingo 149.82 207 IAMs_20 IAMs_20 08 47 04.5
comp=Z,966nm,22.0s
UNM Universidad Na 150.13 150 IAMs_20 IAMs_20 09 06 46.8
comp=Z,630nm,21.0s
GDXM Geysers 150.54 91 **PKPdf** **07 48 50.6 +0.2**
GDXM PKPab **PKPab** **07 49 02.3 -0.3**
PKM Mcpherson Peak 150.58 100 P **PKPbc** **07 48 57.6 +1.4**

baz=236
CIS Catalina Islan 150.67 104 P PKPbc 07 48 57.4 +1.2
baz=233
SMMC Simmler 150.69 99 P PKPbc 07 48 57.9 +1.7
baz=236
PAGB Antelope Grade 150.75 98 PKPdf 07 48 51.1 +0.3
KHMM Horse Mountain 150.80 86 PKPdf PKPdf 07 48 49.7 -1.2
O02D Mt. Diablo Mer 151.16 88 P PKPbc 07 48 58.9 +1.6
baz=244,SNR=17
OSI Osito Audit: C 151.17 102 P PKPbc 07 48 58.8 +1.4
baz=235
DECC Green Verdugo 151.22 103 P PKPbc 07 48 58.6 +1.1
baz=234
109C Camp Elliot, M 151.23 106 P PKPbc 07 48 58.5 +0.9
baz=232
109C Camp Elliot, M 151.23 106 PKPbc 07 48 58.4 +0.9
RES Resolute Bay 151.26 6 PKIKP PKPdf 07 48 49.8 -0.5
RES 07 48 56.4
RES 07 49 03.0
RES Resolute Bay 151.26 6 PKPdf 07 48 49.8 -0.5
RES PKPbc 07 48 56.4 +0.1
RES PKPab PKPab 07 49 03.0 -1.4
PASC Pasadena Art C 151.28 103 PKPdf PKPdf 07 48 49.9 -1.7
PASC PKPbc 07 48 58.4 +0.8
ARVC Arvin 151.38 101 P PKPbc 07 48 58.9 +1.1
baz=236
BAR Barrett 151.39 107 PKPbc 07 48 58.5 +0.5
MWC Mount Wilson 151.39 103 PKIKP PKPbc 07 48 59.0 +0.9
MWC Mount Wilson 151.39 103 PKPbc 07 48 59.0 +0.9
L02E Cave Junction 151.40 84 P PKPbc 07 48 59.0 +1.4
baz=248
WDC Whiskeytown Da 151.50 88 PKIKP PKPbc 07 48 58.6 +0.7
WDC Whiskeytown Da 151.50 88 PKPbc 07 48 58.6 +0.7
WDC IAMs_20 IAMs_20 08 48 39.2
comp=Z,1µm,21.0s
N02D Trinity Center 151.55 87 P PKPbc 07 48 59.6 +1.4
baz=246,SNR=16
K02D Willamette Mer 151.56 83 P PKPbc 07 48 59.2 +1.1
baz=248
MURC Murrieta 151.60 105 P PKPbc 07 48 59.0 +0.6
baz=233
VES Vestal, Richgr 151.60 99 P PKPbc 07 48 58.7 +0.5
baz=237
M02C Callahan 151.62 86 P PKPbc 07 48 59.8 +1.5
baz=246,SNR=12
BFSC Mount Baldy Ra 151.67 103 P PKPbc 07 49 00.3 +1.6
baz=234
MONP2 Monument Peak 151.69 107 P PKPbc 07 48 59.7 +0.9
baz=232,SNR=13
ORV Oroville 151.78 90 PKIKP PKPbc 07 48 58.6 0.0
ORV Oroville 151.78 90 PKPbc 07 48 60.0 +1.4
ORV IAMs_20 IAMs_20 08 48 07.0
comp=Z,1µm,20.0s
EDW2 Edwards Air Fo 151.81 102 P PKPbc 07 48 59.8 +0.9
baz=235,SNR=23
CMB Columbia Colle 151.84 94 IAMs_20 IAMs_20 08 52 05.0
comp=Z,723nm,19.0s
YBH Yreka Blue Hor 151.85 85 PKIKP PKPbc 07 48 59.2 +0.4
YBH Yreka Blue Hor 151.85 85 PKPbc 07 48 59.1 +0.4
AFDM Forest Hills D 151.87 92 PKPdf 07 48 52.2 -0.2
AFDM PKPbc PKPbc 07 48 59.6 +0.8
AFDM IAMs_20 IAMs_20 08 52 22.9
comp=Z,697nm,20.0s
O03E Paynes Creek 151.89 89 P PKPbc 07 48 59.4 +0.5
baz=245,SNR=16
ZAIG Zacatecas 151.91 141 PKPbc 07 49 01.4 +1.7
ZAIG PKPab sPKPbc 07 49 08.7 +2.9
ISA Isabella, Lake 151.92 100 P PKPbc 07 49 00.1 +1.0
baz=237,SNR=19
ISA Isabella, Lake 151.92 100 PKIKP PKPdf 07 48 52.8 +0.2
ISA Isabella, Lake 151.92 100 PKPdf 07 48 52.8 +0.2
ISA PKPbc 07 49 01.6 +2.5
HUMO Hull Mountain 152.01 84 PKPbc 07 49 00.1 +1.0
PFO Pinyon Flats O 152.10 106 P PKPbc 07 49 00.4 +0.7
baz=233,SNR=13
PFO Pinyon Flats O 152.10 106 PKIKP PKPdf 07 48 53.0 -0.1
PFO 07 49 00.6
PFO 07 49 07.6
PFO Pinyon Flats O 152.10 106 PKPdf PKPdf 07 48 53.0 -0.1
PFO PKPbc 07 49 00.6 +1.0
PFO PKPab PKPab 07 49 07.6 -1.7
TPFO Pinon Flats 152.10 106 P PKPbc 07 49 00.3 +0.7
baz=233,SNR=13
XPFO Pion Flat 152.10 106 PKPdf PKPdf 07 48 52.8 -0.2
XPFO PKPbc 07 49 00.6 +0.9
XPFO PKPab PKPab 07 49 07.3 -2.0
I03D Drain, OR 152.13 81 P PKPbc 07 48 59.7 +0.5
baz=250
L04D Klamath Falls 152.32 85 P PKPbc 07 49 00.5 +0.6
baz=248
LRMC Laurel Mtn Rad 152.36 101 P PKPbc 07 49 00.6 +0.4
baz=236,SNR=8.9
M04C Macdoel 152.47 86 P PKPbc 07 49 01.4 +1.1
baz=247,SNR=5.9
RUBR Rubicon Trail 152.48 92 IAMs_20 IAMs_20 08 54 01.1
comp=Z,802nm,20.0s
MDPB Devils Postpil 152.54 96 IAMs_20 IAMs_20 08 45 00.6
comp=Z,948nm,21.0s
OMMB Old Mammoth Mi 152.58 96 PKPdf PKPdf 07 48 53.5 -0.3
OMMB PKPbc 07 49 01.7 +0.9
CWC Cottonwood Cre 152.61 99 P PKPbc 07 49 01.2 +0.5
baz=238
BELC Belle Mtn. Jos 152.64 106 P PKPbc 07 49 01.3 +0.4
baz=233,SNR=6.0
BEKR Beckworth 152.70 91 PKPbc 07 49 01.4 +0.5
BEKR IAMs_20 IAMs_20 08 48 25.0
comp=Z,939nm,22.0s
MLAC Mammoth, Mammo 152.71 96 P PKPbc 07 49 02.5 +1.5
baz=240
WAKR Walker 152.72 94 PKPbc 07 49 01.9 +0.9
WAKR IAMs_20 IAMs_20 08 48 10.3
comp=Z,1µm,22.0s
BC3 Big Chuckawall 152.79 107 P PKPbc 07 49 01.4 +0.2
baz=232
MPMC Manual Prospec 152.81 100 P PKPbc 07 49 01.7 +0.4
baz=237,SNR=6.0
J04D Umpqua Nationa 152.82 83 P PKPbc 07 49 02.4 +1.3
baz=250
GLA Glamis 152.84 108 P PKPbc 07 49 02.4 +1.2
baz=231
GLA Glamis 152.84 108 PKIKP PKPbc 07 49 01.7 +0.5
GLA Glamis 152.84 108 PKPbc 07 49 01.7 +0.5
GSC Goldstone, Bar 152.85 102 P PKPbc 07 49 02.3 +1.0
baz=236,SNR=10
GSC Goldstone, Bar 152.85 102 PKIKP PKPbc 07 49 02.1 +0.9
GSC Goldstone, Bar 152.85 102 PKPbc 07 49 02.1 +0.9
DAC Darwin (Calif) 152.85 100 PKIKP PKiKP 07 49 03.8 +2.2
DAC Darwin (Calif) 152.85 100 PKiKP 07 49 03.8 +2.2
PNTR Pine Nut 152.88 93 PKPbc 07 49 01.8 +0.4
PNTR IAMs_20 IAMs_20 08 53 55.7
comp=Z,872nm,20.0s
HEC Hector,Ludlow 152.90 104 P PKPbc 07 49 02.5 +1.1
baz=235
VCNR Virginia City 152.94 92 PKPbc 07 49 01.7 +0.3
VCNR IAMs_20 IAMs_20 08 54 25.2
comp=Z,852nm,19.0s
YERR Yerington 153.08 93 PKPbc 07 49 02.2 +0.4
YERR IAMs_20 IAMs_20 08 53 46.9
comp=Z,934nm,20.0s
IRM Iron Mountain 153.30 106 P PKPbc 07 49 03.7 +1.5
baz=233
PAHR Pah Rah Range 153.31 92 PKPdf 07 48 54.6 0.0
PAHR PKPbc PKPbc 07 49 03.5 +1.3
PAHR IAMs_20 IAMs_20 08 54 46.0
comp=Z,816nm,19.0s
GMRC Granite Mounta 153.33 104 P PKPbc 07 49 03.4 +1.1
baz=234
113A Mohawk Valley, 153.35 110 PKPdf PKPdf 07 48 54.5 -0.2
113A PKPbc 07 49 02.4 +0.2
D03D Eldon 153.36 73 P PKPbc 07 49 02.2 +0.4
baz=258
RYN Ryan 153.41 95 PKPdf PKPdf 07 48 56.1 +1.3
RYN PKPbc 07 49 03.5 +1.0
RYN IAMs_20 IAMs_20 08 53 53.6
comp=Z,688nm,20.0s
J05D Fort Rock, OR 153.44 83 P PKPbc 07 49 02.5 +0.1
baz=250
FURC Furnace Creek, 153.45 100 P PKPbc 07 49 02.8 +0.5
baz=238
NVAR Mina Array Bea 153.46 95 PKP PKPdf 07 48 54.7 -0.3
comp=Z,1.1nm,1.0s,baz=214,slow=3.1,SNR=5.3
NVAR PKPbc PKPbc 07 49 02.6 0.0
comp=Z,3.5nm,0.9s,baz=222,slow=3.3,SNR=14
NVAR PKPab PKPab 07 49 17.4 +2.3
comp=Z,3.5nm,1.0s,baz=203,slow=14,SNR=5.1

Y12C Blythe 153.47 108 P PKPbc 07 49 04.1 +1.6
baz=232
Y12C Blythe 153.47 108 PKPdf PKPdf 07 48 55.0 +0.1
Y12C PKPbc 07 49 03.7 +1.2
Y12C IAMs_20 IAMs_20 08 51 10.7
comp=Z,844nm,19.0s
TUQ Turquoise Moun 153.52 103 P PKPbc 07 49 04.6 +1.8
baz=235
NV11 Mina Array Sit 153.57 95 PKPbc 07 49 02.2 -0.6
NV11 IAMs_20 IAMs_20 08 45 00.8
comp=Z,951nm,21.0s
MOD Modoc Plateau 153.58 87 PKPdf 07 48 55.2 +0.3
TEIG Tepich 153.59 170 IAMs_20 IAMs_20 08 53 00.6
comp=Z,658nm,19.0s
I05D Terrebonne, OR 153.71 81 P PKPbc 07 49 02.3 -0.4
baz=252
PINE Pine Mountain 153.81 82 PKPdf 07 48 55.7 +0.4
PINE PKPbc PKPbc 07 49 04.3 +1.1
KVN Kaiserville 153.90 94 PKIKP PKPdf 07 48 55.6 0.0
KVN 07 49 03.9
KVN Kaiserville 153.90 94 PKPdf 07 48 55.6 0.0
KVN PKPbc PKPbc 07 49 03.9 +0.4
TPNV Topopah Spring 154.13 100 P PKPbc 07 49 03.8 -0.2
baz=238
TPNV Topopah Spring 154.13 100 PKIKP PKPbc 07 49 04.0 -0.1
TPNV Topopah Spring 154.13 100 PKPbc 07 49 04.0 -0.1
B05A Bryant 154.16 72 P PKPbc 07 49 02.1 -1.4
baz=260
G06A Carlson Farm, 154.45 79 IAMs_20 IAMs_20 08 49 34.1
comp=Z,834nm,21.0s
Y14A Wickenburg 154.58 109 IAMs_20 IAMs_20 08 52 00.8
comp=Z,983nm,21.0s
SHPR Sheep Range 154.63 102 PKPdf PKPdf 07 48 55.3 -1.3
SHPR PKPbc 07 49 04.6 -0.5
W13A Hualapai Mount 154.69 106 PKPdf PKPdf 07 48 56.5 -0.4
W13A PKPab 07 49 20.4 +0.1
WVOR Wild Horse Val 154.93 87 PKIKP PKPdf 07 48 56.3 -0.5
WVOR Wild Horse Val 154.93 87 PKPdf 07 48 56.2 -0.5
WVOR IAMs_20 IAMs_20 08 50 56.9
comp=Z,1µm,22.0s
TUC Tucson 154.96 115 P PKPdf 07 49 04.2 +7.1
baz=228
TUC Tucson 154.96 115 PKIKP PKPdf 07 48 57.1 0.0
TUC Tucson 154.96 115 PKPdf 07 48 57.1 0.0
BMN Battle Mountai 155.12 92 IAMs_20 IAMs_20 08 56 07.9
comp=Z,880nm,20.0s
R11A Troy Canyon, C 155.29 98 P PKPdf 07 49 04.8 +7.3
baz=240
R11A Troy Canyon, C 155.29 98 PKPdf 07 48 57.8 +0.3
R11A PKPbc PKPbc 07 49 11.1
R11A IAMs_20 IAMs_20 08 54 48.4
comp=Z,823nm,20.0s
X16A Lo Mia Camp, P 155.89 110 IAMs_20 IAMs_20 08 52 51.8
comp=Z,729nm,20.0s
PNT Penticton 155.94 70 PKIKP PKPdf 07 49 01.8 +4.0
YKA Yellowknife Ar 156.29 36 PKP PKPdf 07 48 56.1 -1.6
comp=Z,0.7nm,0.9s,baz=306,slow=1.6,SNR=8.8
CCUT Cedar City 156.40 102 PKPab 07 49 28.4 +0.8
KNB Kanab 156.49 103 PKP2 PKPab 07 49 28.8 +0.9
KNB Kanab 156.49 103 PKPab 07 49 28.8 +0.9
WUAZ Wupatki 156.60 108 PKPdf PKPdf 07 49 01.0 +1.7
baz=234
WUAZ Wupatki 156.60 108 PKPdf 07 48 59.2 -0.2
BMO Blue Mountains 156.61 82 PKP2 PKPab 07 49 28.0 -0.1
BMO Blue Mountains 156.61 82 PKPab 07 49 28.0 -0.1
SZCU Shurtz Canyon 156.61 102 PKPab 07 49 28.0 -0.5
ELK Elko 156.62 93 PKP2 PKPab 07 49 29.0 +0.5
ELK Elko 156.62 93 PKPab 07 49 29.0 +0.5
ELK IAMs_20 IAMs_20 08 56 30.6
comp=Z,711nm,20.0s
TX31 Lajitas Ar. Si 156.91 131 PKPdf PKPdf 07 48 59.1 -0.7
TX31 PKPab 07 49 29.9 +0.1
TX32 Lajitas Array 156.91 131 PKPdf PKPdf 07 48 59.4 -0.4
TX32 PKPab 07 49 29.9 +0.1
TXAR Lajitas Array 156.91 131 PKP PKPdf 07 48 59.9 +0.1
comp=Z,0.8nm,0.8s,baz=220,slow=9.5,SNR=6.0
TXAR PKPab PKPab 07 49 29.9 +0.1
comp=Z,2.9nm,0.9s,baz=192,slow=7.1,SNR=8.4
121A Cookes Peak, D 156.96 119 IAMs_20 IAMs_20 09 00 03.3
comp=Z,793nm,18.0s
W18A Petrified Fore 157.43 111 IAMs_20 IAMs_20 08 56 00.4
comp=Z,729nm,20.0s
MSU Marysvale 157.70 101 PKIKP PKPdf 07 49 00.8 +0.1
MSU Marysvale 157.70 101 PKPdf 07 49 00.8 +0.1
MNTX Cornudas Mount 157.78 124 PKPdf PKPdf 07 49 01.1 +0.4
baz=222
MNTX Cornudas Mount 157.78 124 PKPdf 07 49 00.4 -0.4
DUG Dugway, Tooele 158.05 96 IAMs_20 IAMs_20 09 16 41.6
comp=Z,630nm,20.0s
833A Chaparral WMA, 158.14 140 PKPab PKPab 07 49 35.1 +0.2
baz=210
833A Chaparral WMA, 158.14 140 PKPab 07 49 35.1 +0.2
BGU Big Grassy Mou 158.22 94 PKPdf PKPdf 07 48 59.7 -1.5
BGU PKPab 07 49 35.9 +0.6
Q16A Castle Valley 158.58 101 PKPab 07 49 37.7 +0.8
TMUT Trail Mountain 158.74 100 PKPab 07 49 38.2 +0.4
SPUT South Promonto 158.77 94 PKPdf 07 49 02.4 +0.6
SRU San Rafael Swe 159.12 101 PKIKP PKPdf 07 49 02.3 0.0
SRU San Rafael Swe 159.12 101 PKPdf 07 49 02.3 0.0
ANMO Albuquerque 159.40 116 PKIKP PKPdf 07 49 02.7 -0.1
ANMO 07 49 40.9
ANMO Albuquerque 159.40 116 PKPdf 07 49 02.7 -0.1
ANMO PKPab PKPab 07 49 40.9 +0.3
ANMO Albuquerque 159.40 116 IAMs_20 IAMs_20 09 17 19.3
comp=Z,950nm,21.0s
TCUT Toone Canyon 159.41 95 PKPdf PKPdf 07 49 02.3 -0.4
TCUT PKPab 07 49 40.6 0.0
HWUT Hardware Ranch 159.50 94 PKPdf 07 49 03.5 +0.8
HWUT PKPab PKPab 07 49 41.3 +0.4
HWUT IAMs_20 IAMs_20 09 16 58.0
comp=Z,764nm,20.0s
WALA Waterton Lakes 159.64 72 PKPdf PKPdf 07 49 02.7 +0.2
WALA PKPab 07 49 42.4 +1.2
JCT Junction City 159.78 136 IAMs_20 IAMs_20 09 07 46.4
comp=Z,738nm,22.0s
RDMU Red Mountain 160.44 98 PKPdf PKPdf 07 49 03.9 +0.1
RDMU PKPab 07 49 45.2 +0.1
TPAW Teton Pass 160.59 89 PKPdf 07 49 03.8 -0.2
SNOW Snow King Moun 160.72 89 PKPdf 07 49 04.9 +0.8
MOOW Moose Ponds 160.81 88 PKPdf 07 49 03.9 -0.2
YHL Hebgen Lake 160.81 85 PKPdf 07 49 05.1 +0.9
S22A 4UR Ranch, Cre 160.87 109 PKPdf PKPdf 07 49 05.7 +1.2
baz=236
S22A PKPab PKPab 07 49 47.4 +0.3
baz=236
S22A 4UR Ranch, Cre 160.87 109 PKPab 07 49 47.7 +0.6
MSTX Muleshoe 160.94 124 PKPdf PKPdf 07 49 04.9 +0.4
baz=223
MSTX PKPab PKPab 07 49 47.1 0.0
baz=223
MSTX Muleshoe 160.94 124 PKPdf PKPdf 07 49 04.8 +0.4
MSTX PKPab 07 49 46.4 -0.8
YHH Holmes Hill 161.03 85 PKPdf 07 49 04.1 -0.3
O20A White River Ci 161.15 101 PKPab PKPab 07 49 48.8 +0.6
baz=242
O20A White River Ci 161.15 101 PKPab 07 49 48.2 0.0
PDAR Pinedale Array 161.32 92 PKP PKPdf 07 49 04.4 -0.3
comp=Z,1.0nm,0.9s,baz=75,slow=17,SNR=6.2
PDAR PKPab PKPab 07 49 49.1 +0.3
comp=Z,1.4nm,0.8s,baz=188,slow=2.8,SNR=4.8
SMCO Snowmass 161.54 105 PKPdf 07 49 04.0 -1.3
SMCO PKPab 07 49 50.2 +0.1
SDCO Great Sand Dun 161.73 111 PKPdf PKPdf 07 49 06.1 +0.7
baz=234
SDCO PKPab PKPab 07 49 50.5 -0.3
baz=234
SDCO Great Sand Dun 161.73 111 PKPdf 07 49 03.8 -1.6
SDCO PKPab 07 49 50.4 -0.4
T25A Trinidad 162.07 114 PKPab PKPab 07 49 51.8 -0.4
baz=232
T25A Trinidad 162.07 114 PKPab 07 49 52.0 -0.3
RLMT Red Lodge 162.20 85 PKPdf PKPdf 07 49 06.3 +0.8
baz=257
RLMT Red Lodge 162.20 85 PKPdf 07 49 03.8 -1.7
AMTX Amarillo 162.22 124 PKPdf PKPdf 07 49 07.0 +1.3
baz=224
AMTX Amarillo 162.22 124 PKPdf 07 49 04.8 -0.9
ISCO Idaho Springs 162.76 105 PKPdf PKPdf 07 49 07.6 +1.2
baz=240
ISCO Idaho Springs 162.76 105 PKIKP PKPdf 07 49 05.4 -1.0
ISCO Idaho Springs 162.76 105 PKPdf 07 49 05.4 -1.0
N23A Red Feather La 163.06 101 PKPab PKPab 07 49 57.1 +0.5
baz=243
N23A Red Feather La 163.06 101 PKPdf PKPdf 07 49 05.8 -0.8

N23A PKPab 07 49 55.7 -0.9
K22A Casper 163.37 95 PKPdf PKPdf 07 49 07.7 +1.0
baz=249
K22A Casper 163.37 95 PKPdf 07 49 05.3 -1.4
WMOK Wichita Mounta 163.71 131 PKPdf PKPdf 07 49 07.6 +0.5
baz=219
WMOK PKPab PKPab 07 49 58.5 -0.7
baz=219
WMOK Wichita Mounta 163.71 131 PKIKP PKPdf 07 49 06.1 -1.0
WMOK Wichita Mounta 163.71 131 PKPdf 07 49 06.1 -1.0
X34A Smith Ranch, M 164.09 133 PKPab 07 50 00.3 -0.5
LAO LASA Array 164.57 81 PKPdf PKPdf 07 49 08.2 +0.7
baz=263
LAO LASA Array 164.57 81 PKPdf 07 49 06.6 -0.9
RSSD Black Hills 165.56 92 PKP PKPab 07 50 08.3 +0.9
baz=254
RSSD Black Hills 165.56 92 PKP2 PKPab 07 50 05.9 -1.6
RSSD Black Hills 165.56 92 PKPab 07 50 05.9 -1.6
Z52A Williamson 166.75 178 PKPab PKPab 07 50 12.4 0.0
baz=182
U40A Yellville 167.84 143 PKPdf PKPdf 07 49 10.0 -0.3
baz=211
CCM Cathedral Cave 169.96 144 PKPdf PKPdf 07 49 11.7 +0.1
baz=210
ECSD EROS Data Cent 170.53 102 PKPdf PKPdf 07 49 11.7 -0.1
baz=249
ECSD PKPab PKPab 07 50 29.0 -0.1
baz=249
ECSD EROS Data Cent 170.53 102 PKPdf 07 49 11.5 -0.2
ULM Lac du Bonnet 171.10 60 PKP PKPdf 07 49 11.9 +0.1
comp=Z,2.0nm,0.9s,baz=283,slow=22,SNR=2.2
ULM PKPab PKPab 07 50 32.9 +1.5
comp=Z,6.0nm,1.0s,baz=0.6,slow=14,SNR=4.5

*ISCJB **22** 07:35:48.6±0.5,37°21N±0°02×1°97W±0°02, h7km±3km, Error ellipse: s-maj=3.9km s-min=2.9km az=148.5*
*MDD **22** 07:35:49.9±0.3,37°09N×1°91W, h7km±2km, mbLg3.0/24, Error ellipse: s-maj=4.0km s-min=1.9km az=136.0, PRIMO*
MDD EMS: III INTENSIDAD MAXIMA.
*SFS **22** 07:35:49.0,37°00N×1°90W, h8km, ML3.0, MOJACAR (ALMERIA)*
*INMG **22** 07:35:50.2±0.9,37°12N×1°94W, h10km, ML2.9, Error ellipse: s-maj=2.0km s-min=1.4km az=135.0*
*CNRM **22** 07:35:53.1,37°24N×1°67W, h68km, ml3.7*

ISC 22 07:35:48.4±1.2, 37°14N±0°03×1°87W±0°02, h6km±10km, n71, σ1.9 s67/109, 4C-3D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC h m s	ISC
ENIJ	**Nijar**	**0.32**	**238**	⇓Pg	**Pg**	**07 35 55.2**	**+0.6**
	194nm,0.1s,SNR=18						
ENIJ				Lg	Lg	07 35 58.5	
	2µm,0.2s,SNR=7.9						
TLOR	**Lorca, Murcia**	**0.53**	**15**	Pg	**Pb**	**07 36 00.7**	**+0.4**
	216nm,0.1s,SNR=7.9						
TLOR				Lg	Lg	07 36 08.4	
	2µm,0.2s,SNR=7.9						
CART	**Cartagena**	**0.82**	**57**	⇑*i*P	**Pb**	**07 36 05.0**	**-0.1**
CART				*e*S	**Sg**	**07 36 14.9**	**+0.1**
CART	**Cartagena**	**0.82**	**57**	⇑Pg	**Pb**	**07 36 05.0**	**-0.1**
CART				Lg	Lg	07 36 14.9	
EBER	**Berja**	**0.85**	**254**	⇑Pg	**Pg**	**07 36 04.5**	**-0.3**
	43nm,0.2s,SNR=18						
EBER				Lg	Lg	07 36 15.5	
	446nm,0.4s,SNR=13						
EMUR	**La Murta**	**0.86**	**35**	Pg	**Pn**	**07 36 06.9**	**-0.3**
	9.8nm,0.2s,SNR=157						
EMUR				Lg	Lg	07 36 18.9	
	353nm,0.3s,SNR=14						
GORA	**Gorafe**	**1.00**	**290**	Pg	**Pg**	**07 36 07.4**	**-0.1**
	32nm,0.2s,SNR=7.9						
GORA				Lg	Lg	07 36 20.7	
	463nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**1.12**	**331**	P	**Pn**	**07 36 12.1**	**+1.3**
SESP				S	**Sn**	**07 36 29.8**	**+3.2**
SESP	**Santiago Espad**	**1.12**	**331**	⇓Pg	**Pn**	**07 36 10.7**	**-0.1**
	13nm,0.2s,SNR=18						
SESP				Lg	Lg	07 36 27.7	
	264nm,0.4s,SNR=7.9						
EQES	**Quesada**	**1.16**	**305**	Pg	**Pn**	**07 36 12.0**	**+0.6**
	6.8nm,0.1s,SNR=40						
EQES				Lg	Lg	07 36 26.5	
	115nm,0.5s,SNR=9.1						
ETRV	**Los Montesinos**	**1.24**	**45**	Pn	**Pg**	**07 36 12.4**	**+0.2**
	9.4nm,0.1s,SNR=7.9						
ETRV				Pg	**Pn**	**07 36 14.6**	**+2.2**
	6.6nm,0.1s,SNR=7.9						
ETRV				Lg	Lg	07 36 30.1	
	208nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**1.26**	**273**	Pg	**Pg**	**07 36 12.2**	**-0.4**
	6.7nm,0.1s,SNR=51						
EQUE				Lg	Lg	07 36 28.4	
	75nm,0.3s,SNR=12						
ELGU	**Los Guajares,**	**1.44**	**260**	⇑Pg	**Pn**	**07 36 14.8**	**-0.3**
	8.5nm,0.2s,SNR=18						
ELGU				Lg	Lg	07 36 34.7	
	84nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.52**	**218**	Pg	**Pg**	**07 36 17.6**	**0.0**
	0.2nm,0.1s,SNR=7.9						
EALB				Lg	Lg	07 36 34.9	
	25nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**1.52**	**9**	⇓Pn	**Pb**	**07 36 17.4**	**+0.3**
	11nm,0.3s,SNR=18						
ETOB				Sn	**Sn**	**07 36 36.8**	**+0.3**
	25nm,0.2s,SNR=6.2						
EGOR	**Sierra Gorda,**	**1.79**	**270**	Pg	**Pb**	**07 36 21.5**	**-0.3**
	18nm,0.3s,SNR=7.9						
EGOR				Lg	Lg	07 36 46.5	
	49nm,0.6s,SNR=7.9						
AFON	**Font Roja**	**1.85**	**34**	Pn	**Pn**	**07 36 21.2**	**+0.4**
	0.7nm,0.1s,SNR=7.9						
EBEN2	**Beniarda presa**	**2.03**	**40**	Pn	**Pn**	**07 36 22.9**	**-0.3**
	0.2nm,0.1s,SNR=7.9						
EBEN2				Sn	**Sn**	**07 36 47.1**	**-1.7**
	3.7nm,0.1s,SNR=4.0						
EMAL	**Malaga-Limoner**	**2.09**	**260**	*e*P	**Pn**	**07 36 23.9**	**-0.1**
EMAL				*e*S	**Sn**	**07 36 50.0**	**-0.3**
OKGL	**Djebel Kef Gue**	**2.30**	**118**	Pn	**Pn**	**07 36 27.2**	**+0.3**
	1.9nm,0.1s,SNR=7.9						
OKGL				Sn	**Sn**	**07 36 52.1**	**-3.5**
	5.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.38**	**296**	Pn	**Pn**	**07 36 28.1**	**0.0**
	3.1nm,0.3s,SNR=7.9						
EADA				Lg	Lg	07 37 03.8	
	50nm,0.3s,SNR=5.0						
EMIJ	**Mijas**	**2.40**	**257**	Pn	**Pn**	**07 36 26.5**	**-1.8**
	0.4nm,0.1s,SNR=7.9						
EMIJ				Sn	**Sn**	**07 36 57.3**	**-0.8**
	7.7nm,0.3s,SNR=7.9						
ECHE	**Chera**	**2.55**	**16**	Pn	**Pn**	**07 36 31.7**	**+1.4**
	0.1nm,0.1s,SNR=7.9						
ECHE				Sn	**Sn**	**07 36 59.5**	**-2.2**
	1.4nm,0.2s,SNR=7.9						
HORN	**Hornachuelos**	**2.79**	**286**	P	**Pn**	**07 36 35.0**	**+1.4**
HORN				S	**Sb**	**07 37 11.7**	**-1.3**
LIJA	**Lijar**	**2.84**	**266**	*e*P	**Pn**	**07 36 35.2**	**+0.8**
LIJA	**Lijar**	**2.84**	**266**	Pn	**Pn**	**07 36 35.2**	**+0.8**
ECAB	**El Cabril**	**2.97**	**289**	Pn	**Pn**	**07 36 35.6**	**-0.6**
	2.2nm,0.2s,SNR=45						
ECAB				Sn	**Sn**	**07 37 12.1**	**-0.1**
	13nm,0.4s,SNR=7.9						
ECAB				Lg	Lg	07 37 22.2	
	53nm,0.5s,SNR=11						
ESDC	**Sonseca Array**	**3.02**	**328**	Pn	**Pn**	**07 36 36.5**	**-0.4**
	42µm,0.1s,baz=148,slow=13,SNR=12						
ESDC				Pg	**Pg**	**07 36 47.1**	**+0.8**
	120µm,0.1s,baz=148,slow=17,SNR=57						
ESDC				Sn	**Sn**	**07 37 12.9**	**-0.5**
	baz=99,slow=20,SNR=7.9						
ESDC				Lg	Lg	07 37 24.0	
	6.5nm,0.2s,baz=143,slow=29,SNR=4.3						
PAB	**San Pablo**	**3.09**	**322**	Pn	**Pn**	**07 36 37.9**	**0.0**
	2.1nm,0.3s,SNR=7.9						
PAB				Pg	**Pg**	**07 36 47.0**	**-0.7**
	5.5nm,0.3s,SNR=7.9						
PAB				Sn	**Sn**	**07 37 15.1**	**-0.2**
	2.0nm,0.2s,SNR=7.9						
PAB				Lg	Lg	07 37 27.5	
	15nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.16**	**52**	Pn	**Pn**	**07 36 38.7**	**0.0**
	0.8nm,0.1s,SNR=18						
EIBI				Sn	**Sn**	**07 37 13.9**	**-2.7**
	5.8nm,0.2s,SNR=6.8						

UCM	**Universidad Co**	**3.34**	**342**	*e*P		**Pg**	**07 36 53.3**	**+0.9**
UCM				*e*S		**Sg**	**07 37 34.9**	**-0.8**
EMOS	**Mosqueruela**	**3.40**	**18**	Pn		**Pn**	**07 36 43.8**	**+1.6**
	0.1nm,0.1s,SNR=7.9							
ETOR	**Torete**	**3.68**	**358**	Pn		**Pn**	**07 36 47.2**	**+1.3**
	2.3nm,0.2s,SNR=8.6							
ETOR				Pg		**Pg**	**07 36 59.9**	**+1.0**
	14nm,0.2s,SNR=24							
ETOR				Lg		Lg	07 37 48.5	
	30nm,0.4s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.87**	**281**	Pn		**Pn**	**07 36 48.7**	**+0.1**
	0.3nm,0.2s,SNR=16							
EMIN				Sn		**Sn**	**07 37 33.2**	**-1.2**
	1.5nm,0.2s,SNR=7.9							
EMIN				Lg		Lg	07 37 50.3	
	5.8nm,0.4s,SNR=5.0							
GUD	**Guadarrama**	**3.93**	**334**	Pn		**Pn**	**07 36 51.2**	**+1.8**
	1.1nm,0.1s,SNR=7.9							
GUD				Pg		**Pg**	**07 37 03.8**	**+0.2**
	8.2nm,0.3s,SNR=11							
GUD				Sn		**Sn**	**07 37 33.7**	**-2.2**
	2.5nm,0.2s,SNR=7.9							
GUD				Lg		Lg	07 37 52.6	
	16nm,0.4s,SNR=5.0							
ERTA	**Horta de San J**	**4.18**	**24**	Pn		**Pn**	**07 36 53.9**	**+1.1**
	0.1nm,0.1s,SNR=7.9							
ERTA				Sn		**Sn**	**07 37 41.3**	**-0.7**
	0.2nm,0.3s,SNR=7.9							
EBAD	**Badajoz**	**4.38**	**293**	Pn		**Pn**	**07 36 54.7**	**-0.7**
	1.0nm,0.2s,SNR=7.9							
EBAD				Sn		**Sn**	**07 37 42.9**	**-3.9**
	0.1nm,0.1s,SNR=7.9							
EBAD				Lg		Lg	07 38 07.9	
	16nm,0.3s,SNR=7.9							
EPLA	**Plasencia**	**4.41**	**313**	Pn		**Pn**	**07 36 56.4**	**+0.5**
	0.1nm,0.1s,SNR=7.9							
EPLA				Lg		Lg	07 38 06.2	
	25nm,0.6s,SNR=7.9							
EGRO	**El Granado**	**4.49**	**277**	Pn		**Pn**	**07 36 55.8**	**-1.2**
	0.0nm,0.0s,SNR=5.5							
EGRO				Sn		**Sn**	**07 37 47.2**	**-2.4**
	0.2nm,0.2s,SNR=7.9							
ETOS	**Mallorca**	**4.51**	**53**	Pn		**Pn**	**07 36 57.7**	**+0.3**
	0.2nm,0.1s,SNR=9.2							
ETOS				Sn		**Sn**	**07 37 47.8**	**-2.4**
	2.8nm,0.3s,SNR=7.9							
PVAQ	**Vaqueiros**	**4.67**	**275**	*e*Pn		**Pn**	**07 36 59.3**	**-0.2**
PVAQ	**Vaqueiros**	**4.67**	**275**	Pn		**Pn**	**07 36 59.3**	**-0.2**
PESTR	**Estremoz**	**4.84**	**293**	*e*Pn		**Pn**	**07 37 01.7**	**-0.1**
PESTR				*e*Sg		**Sg**	**07 38 23.2**	**-0.5**
PESTR				A		A	07 38 32.4	
	14nm,0.6s							
PESTR	**Estremoz**	**4.84**	**293**	P		**Pn**	**07 37 05.2**	**+3.4**
PESTR				S		**Sn**	**07 38 03.5**	**+5.3**
PBDV	**Barranco-do-Ve**	**4.84**	**273**	*e*Pn		**Pn**	**07 37 01.5**	**-0.4**
PBDV	**Barranco-do-Ve**	**4.84**	**273**	Pn		**Pn**	**07 37 01.5**	**-0.4**
PBEJ	**Beja**	**4.85**	**282**	*e*Pn		**Pn**	**07 37 02.2**	**+0.3**
PBEJ				*e*Sg		**Sg**	**07 38 22.9**	**-1.1**
PBEJ	**Beja**	**4.85**	**282**	Pn		**Pn**	**07 37 02.2**	**+0.3**
PBEJ				Lg		Lg	07 38 22.9	
MDT	**Midelt**	**4.87**	**208**	P		**Pn**	**07 37 03.9**	**+1.6**
MDT				S		**Sn**	**07 38 02.1**	**+3.1**
MD31	**MD31**	**4.88**	**210**	P		**Pn**	**07 37 04.5**	**+2.1**
MD31				S		**Sn**	**07 38 05.4**	**+6.1**
PMRV	**Marv??o**	**4.91**	**299**	*e*Pn		**Pn**	**07 37 04.4**	**+1.6**
PMRV				*e*Sn		**Sn**	**07 37 57.4**	**-2.6**
PMRV				*e*Sg		**Sg**	**07 38 25.8**	**-0.3**
PMRV				A		A	07 38 26.4	
	22nm,0.5s							
PMRV	**Marv??o**	**4.91**	**299**	Pn		**Pn**	**07 37 04.4**	**+1.6**
PMRV				Sn		**Sn**	**07 37 57.4**	**-2.6**
PMRV				Lg		Lg	07 38 25.8	
	22nm,0.5s							
PCVE	**Castro Verde**	**4.94**	**278**	*e*Pn		**Pn**	**07 37 02.9**	**-0.3**
PCVE	**Castro Verde**	**4.94**	**278**	Pn		**Pn**	**07 37 02.9**	**-0.3**
FIGM	**Figuig**	**5.02**	**174**	P		**Pn**	**07 37 09.1**	**+4.7**
FIGM				S		**Sn**	**07 38 08.0**	**+5.2**
EVO	**Evora**	**5.06**	**288**	*e*P		**Pn**	**07 37 05.0**	**+0.2**
EVO				*e*S		**Sn**	**07 38 04.9**	**+1.3**
EVO	**Evora**	**5.06**	**288**	Pn		**Pn**	**07 37 05.0**	**+0.2**
EVO				Sn		**Sn**	**07 38 04.9**	**+1.3**
PCBR	**Castelo Branco**	**5.16**	**303**	*e*Pn		**Pn**	**07 37 07.1**	**+0.9**
PCBR				*e*Sn		**Sn**	**07 38 05.9**	**-0.2**
PCBR				*e*Sg		**Sg**	**07 38 33.2**	**-0.9**
PCBR				A		A	07 38 41.0	
	12nm,0.6s							
PCBR	**Castelo Branco**	**5.16**	**303**	Pn		**Pn**	**07 37 07.1**	**+0.9**
PCBR				Sn		**Sn**	**07 38 05.9**	**-0.2**
PCBR				Lg		Lg	07 38 33.2	
	5.8nm,0.6s							
PMTG	**Montargil**	**5.37**	**293**	*e*Sn		**Sn**	**07 38 11.1**	**-0.2**
PMTG	**Montargil**	**5.37**	**293**	Sn		**Sn**	**07 38 11.1**	**-0.2**
PNCL	**Nicolau / Gran**	**5.38**	**282**	*e*Pn		**Pn**	**07 37 09.4**	**+0.2**
PNCL	**Nicolau / Gran**	**5.38**	**282**	Pn		**Pn**	**07 37 09.4**	**+0.2**
MTE	**Manteigas**	**5.50**	**308**	*e*Sg		**Sg**	**07 38 44.5**	**-0.5**
MTE	**Manteigas**	**5.50**	**308**	Lg		Lg	07 38 44.5	
MVO	**Moncorvo**	**5.68**	**317**	*e*Pn		**Pn**	**07 37 14.9**	**+1.5**
MVO				*e*Sg		**Sg**	**07 38 50.4**	**-0.3**
MVO	**Moncorvo**	**5.68**	**317**	Pn		**Pn**	**07 37 14.7**	**+1.3**
	0.6nm,0.1s,SNR=7.9							
MVO				Lg		Lg	07 38 49.7	
	21nm,0.5s,SNR=7.9							
PTOM	**Tomar**	**5.71**	**298**	*e*Sg		**Sg**	**07 38 50.3**	**-1.3**
PTOM	**Tomar**	**5.71**	**298**	Lg		Lg	07 38 50.3	
PVIS	**Viseu**	**5.90**	**309**	*e*Pn		**Pn**	**07 37 18.9**	**+2.5**
PVIS	**Viseu**	**5.90**	**309**	Pn		**Pn**	**07 37 18.9**	**+2.5**

BJI ***22*** *07:45:31.2±0.0,37°.32N×71°.81E,h138km,mb4.6/24, mB4.9/17*

ISCJB ***22*** *07:45:31.2±0.2,37°.25N±0°.02×71°.97E±0°.03,h137km±3km, mb4.0/41,Error ellipse: s-maj=3.7km s-min=2.8km az=167.6*

NEIC ***22*** *07:45:32.5±2.1,37°.31N±0°.05×71°.80E±0°.07,h140km±6km, mb4.3/21*

MOS ***22*** *07:45:32.5±0.9,37°.32N×71°.97E,h145km,mb4.3/17,Error ellipse: s-maj=6.6km s-min=4.6km az=89.7*

NNC ***22*** *07:45:34.4±1.6,37°.58N×71°.60E,h157km±26km,mb3.7, mpv4.5,Error ellipse: s-maj=15.3km s-min=8.6km az=169.0*

IDC ***22*** *07:45:34.4±0.8,37°.32N×71°.96E,h151km±6km,mb3.6/24, mb1 3.8/30,mb1mx3.6/66,mbtmp4.2/30,MS3.5/2, Ms1 3.5/2,ms1mx3.0/51,Error ellipse: s-maj=12.2km s-min=9.0km az=169.0*

ISC 22 07:45:32.1±0.4,37°.23N±0°.04×71°.91E±0°.03,h136km±4km, h136km:pP-P,n196,σ2s21/231,mb4.1/42,31C-12D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.17**	**325**			**Pn**	**07 46 08.5**	**0.0**
GAR				Sn		**Sn**	**07 46 34.4**	**-2.1**
CHGR	**Chuyangaron**	**2.60**	**304**			**Pn**	**07 46 13.2**	**-0.7**
CHGR				Sn		**Sn**	**07 46 43.0**	**-3.1**
BTK	**Batken**	**2.95**	**343**	PN		**Pn**	**07 46 19.6**	**+1.3**
BTK	**Batken**	**2.95**	**343**			**Pn**	**07 46 19.6**	**+1.3**
BTK				Sn		**Sn**	**07 46 51.5**	**-2.5**
CEP	**Cherat**	**3.40**	**180**	P		**Pn**	**07 46 26.5**	**+2.3**
CEP				S		**Sn**	**07 47 07.0**	**+2.5**
KBL	**Kabul**	**3.55**	**222**	PN		**Pn**	**07 46 27.9**	**+1.6**
KBL	**Kabul**	**3.55**	**222**			**Pn**	**07 46 27.9**	**+1.6**
KBL				Sn		**Sn**	**07 47 08.2**	**0.0**
CHCP	**Chirah Chowk**	**3.73**	**162**	P		**Pn**	**07 46 31.5**	**+3.0**
NIL	**Nilore**	**3.74**	**163**	PN		**Pn**	**07 46 31.5**	**+2.9**
NIL	**Nilore**	**3.74**	**163**			**Pn**	**07 46 31.4**	**+2.9**
NIL				Sn		**Sn**	**07 47 12.7**	**+0.5**
KSH	**Kashi**	**3.92**	**53**	P		**Pn**	**07 46 28.3**	**-2.7**
KSH				S		**Sn**	**07 47 09.8**	**-7.0**
KSH				smax		smax		
	comp=N,4μm,0.9s							
KSH				smax		smax		
	comp=E,3μm,0.5s							
ARSB	**Arslanbob**	**4.17**	**11**			**Pn**	**07 46 34.2**	**-0.1**
ARSB				Sn		**Sn**	**07 47 21.5**	**-1.2**
THW	**Thamme Wali**	**4.43**	**182**	P		**Pn**	**07 46 39.2**	**+1.5**
TAS	**Tashkent**	**4.56**	**334**	PN		**Pn**	**07 46 39.4**	**-0.1**
TAS	**Tashkent**	**4.56**	**334**	Pn		**Pn**	**07 46 39.4**	**-0.1**
TAS						**Sn**	**07 47 30.5**	**-1.4**
AML	**Almayashu**	**5.08**	**15**	P		**Pn**	**07 46 47.1**	**+0.5**
	SNR=244							
NRN	**Naryn**	**5.26**	**36**	PN		**Pn**	**07 46 48.2**	**-0.8**
NRN							07 47 48.2	
NRN	**Naryn**	**5.26**	**36**			**Pn**	**07 46 48.1**	**-0.8**
NRN				Sn		**Sn**	**07 47 48.2**	**-0.7**
SARP	**Sargodha**	**5.33**	**173**	P		**Pn**	**07 46 50.9**	**+1.2**
UCH	**Uchtor**	**5.38**	**21**	P		**Pn**	**07 46 51.4**	**+0.7**
	SNR=78							
KZA	**Kyzart**	**5.48**	**27**	P		**Pn**	**07 46 52.3**	**+0.2**
	SNR=35							
EKS2	**Erkin-Say**	**5.61**	**14**	P		**Pn**	**07 46 54.3**	**+0.8**
	SNR=42							
THN	**Thein Dam**	**5.72**	**146**	*e*P		**Pn**	**07 46 57.0**	**+2.2**
THN				*e*S		**Sn**	**07 47 57.0**	**-2.4**
AAK	**Ala-Archa**	**5.75**	**19**	*i* PN		**Pn**	**07 46 56.2**	**+0.8**
AAK				pmax		pmax		
	comp=Z,66nm,0.5s							
AAK	**Ala-Archa**	**5.75**	**19**	P		**Pn**	**07 46 56.3**	**+0.9**
	comp=Z,40nm,0.3s,baz=181,slow=6.4,SNR=313							
AAK				S		**Sn**	**07 47 59.0**	**-1.5**
	comp=Z,13nm,0.3s,baz=335,slow=23,SNR=18							
AAK	**Ala-Archa**	**5.75**	**19**	↑P		**Pn**	**07 46 56.4**	**+1.0**
	SNR=55							
AAK	**Ala-Archa**	**5.75**	**19**	↑P		**Pn**	**07 46 55.3**	**-0.1**
	comp=Z,66nm,0.5s							
AAK				↑S		**Sn**	**07 47 58.8**	**-1.7**
	comp=Z,263nm,0.8s							
KBK	**Karagaybulak**	**5.90**	**22**	P		**Pn**	**07 46 58.4**	**+1.0**
	SNR=25							
FRU1	**Bishkek**	**5.95**	**20**	PN		**Pn**	**07 46 58.2**	**+0.2**
FRU1	**Bishkek**	**5.95**	**20**			**Pn**	**07 46 58.2**	**+0.2**
KK31	**Karatay Array**	**5.96**	**350**	PN		**Pn**	**07 46 58.2**	**+0.1**
KK31	**Karatay Array**	**5.96**	**350**			**Pn**	**07 46 58.2**	**+0.1**
KK31				Sn		**Sn**	**07 48 00.2**	**-5.1**
KK31	**Karatay Array**	**5.96**	**350**	↑P		**Pn**	**07 46 57.0**	**-1.1**
	comp=Z,30nm,0.5s,baz=176,slow=13,SNR=374							
KK31				S		**Sn**	**07 47 59.0**	**-6.2**
	comp=Z,65nm,0.5s,baz=175,slow=24,SNR=9.0							
KKAR	**Karatay Array**	**5.96**	**350**	PN		**Pn**	**07 46 58.0**	**-0.1**
KKAR	**Karatay Array**	**5.96**	**350**			**Pn**	**07 46 58.0**	**-0.1**
KKAR				Sn		**Sn**	**07 48 00.3**	**-5.0**
ULHL	**Ulahol**	**6.02**	**32**	P		**Pn**	**07 46 59.8**	**+0.8**
	SNR=48							
BOOM	**Boomskoye usch**	**6.10**	**29**	PN		**Pn**	**07 47 00.8**	**+0.8**
BOOM							07 48 08.6	
BOOM	**Boomskoye usch**	**6.10**	**29**			**Pn**	**07 47 00.8**	**+0.8**
BOOM				Sn		**Sn**	**07 48 08.6**	**-0.2**
DHRM	**DHARAMSHALA**	**6.14**	**143**	*e*P		**Pn**	**07 47 01.7**	**+0.9**
DHRM				*e*S		**Sn**	**07 48 07.3**	**-2.7**
DHRM				IAML			07 48 14.0	
	comp=N,1μm,0.4s							
CHMS	**Chumysh**	**6.16**	**20**	P		**Pn**	**07 47 01.4**	**+0.6**
	SNR=55							
USP	**Ospenovka**	**6.35**	**17**	P		**Pn**	**07 47 03.5**	**+0.3**
	SNR=26							
TKM2	**Tokmak 2**	**6.35**	**25**	PN		**Pn**	**07 47 03.7**	**+0.3**
TKM2				pmax		pmax		
	comp=Z,22nm,0.5s							
TKM2	**Tokmak 2**	**6.35**	**25**	P		**Pn**	**07 47 04.0**	**+0.6**
	SNR=28							
TKM2	**Tokmak 2**	**6.35**	**25**	↑P		**Pn**	**07 47 03.8**	**+0.3**
	comp=Z,22nm,0.5s							
TKM2				↑S		**Sn**	**07 48 12.7**	**-2.1**
	comp=Z,52nm,0.8s							
TARG	**Taragay, Kyrgy**	**6.40**	**44**			**Pn**	**07 47 04.6**	**+0.3**
MDOK	**Medeo**	**7.11**	**32**	PN		**Pn**	**07 47 14.2**	**+0.6**
MDOK				pmax		pmax		
	comp=Z,30nm,1.0s							
MDOK	**Medeo**	**7.11**	**32**	↑P		**Pn**	**07 47 14.2**	**+0.6**
	comp=Z,30nm,1.0s							
MDOK				↑S		**Sn**	**07 48 30.7**	**-2.4**
	comp=Z,56nm,1.0s							
PRZ	**Przheval'sk**	**7.24**	**42**	PN		**Pn**	**07 47 16.8**	**+1.4**
PRZ	**Przheval'sk**	**7.24**	**42**			**Pn**	**07 47 16.8**	**+1.4**
SMLA	**Simla**	**7.48**	**143**	*e*P		**Pn**	**07 47 18.9**	**+0.3**
SMLA				*e*S		**Sn**	**07 48 36.5**	**-5.4**
SMLA				IAML			07 48 41.8	
	comp=E,622nm,0.2s							
SMLA				IAML			07 48 42.4	
	comp=N,488nm,0.2s							
HRA	**Herat**	**8.35**	**253**			**Pn**	**07 47 31.1**	**+0.7**
PDGK	**Podgornoye**	**8.40**	**41**	PN		**Pn**	**07 47 30.4**	**-0.6**
PDGK				pmax		pmax		
	comp=Z,21nm,1.1s							
PDGK	**Podgornoye**	**8.40**	**41**	⇓P		**Pn**	**07 47 30.8**	**-0.1**
	comp=Z,21nm,1.1s							
JOSI	**Joshimath**	**9.20**	**134**	*e*P		**Pn**	**07 47 41.9**	**0.0**
JOSI				*e*S		**Sn**	**07 49 18.3**	**-5.6**
NDI	**New Delhi**	**9.62**	**151**	*e*P		**Pn**	**07 47 47.5**	**+0.3**
NDI				*e*S		**Sn**	**07 49 27.5**	**-6.1**
AYAN	**Aya Nagar**	**9.76**	**152**	*e*P		**Pn**	**07 47 49.0**	**-0.1**
AYAN				*e*S		**Sn**	**07 49 31.2**	**-5.9**
KUDL	**Kundal**	**9.85**	**156**	*e*P		Pn	07 47 43.3	-6.9
KUDL				*e*S		Sn	07 49 26.9	-12
KUDL				IAML			07 49 33.0	
	comp=E,250nm,0.3s							
KUDL				IAML			07 49 33.4	
	comp=N,236nm,0.1s							
GEYT	**Alibeck**	**10.97**	**278**	P		**Pn**	**07 48 01.8**	**-3.4**
	comp=N,3.7nm,0.3s,baz=118,slow=12,SNR=36							
GEYT				S		Sn	07 49 55.0	-11
	comp=N,9.8nm,0.3s,baz=124,slow=15,SNR=8.5							
GYA0B	**ALIBECK ARRAY**	**10.97**	**278**			**Pn**	**07 48 02.4**	**-2.8**
GYA0B	**ALIBECK ARRAY**	**10.97**	**278**	⇓P		**Pn**	**07 48 02.0**	**-3.2**
GYA0B				⇑S		**Sn**	**07 50 01.1**	**-5.1**
MAKZ	**Makanchi**	**12.14**	**35**	P		**Pn**	**07 48 20.1**	**-0.4**
MAKZ	**Makanchi**	**12.14**	**35**			**Pn**	**07 48 20.1**	**-0.4**
MAKZ	**Makanchi**	**12.14**	**35**	⇑P		**Pn**	**07 48 19.3**	**-1.2**
	comp=N,6.0nm,0.8s							
MK31	**Makanchi Array**	**12.27**	**36**	P		**Pn**	**07 48 21.8**	**-0.4**
MK31	**Makanchi Array**	**12.27**	**36**			**Pn**	**07 48 21.9**	**-0.4**
MK31	**Makanchi Array**	**12.27**	**36**	⇓P		**Pn**	**07 48 22.9**	**+0.7**
	comp=N,3.4nm,0.6s,baz=216,slow=15,SNR=11							
MKAR	**Makanchi Array**	**12.27**	**36**	P		**Pn**	**07 48 21.6**	**-0.7**
	comp=N,0.3nm,0.3s,baz=218,slow=16,SNR=15							
DANN	**Dangsing**	**13.32**	**128**	*e*P		**Pn**	**07 48 34.1**	**-2.1**
	comp=N,127nm,0.5s							
KOLN	**Koldanda**	**13.64**	**130**	*e*P		**Pn**	**07 48 38.3**	**-1.9**
	comp=N,35nm,0.3s							
WMQ	**Urumqi**	**13.68**	**56**	*e*P		**Pn**	**07 48 42.5**	**+2.0**
WMQ				LR		LR		
	comp=N,400nm,7.3s							
WMQ				LR		LR		
	comp=N,420nm,8.1s							
WMQ				LR		LR		
	comp=N,250nm,8.9s							
WMQ	**Urumqi**	**13.68**	**56**	P		**Pn**	**07 48 40.1**	**-0.4**
WMQ	**Urumqi**	**13.68**	**56**	Pn		**Pn**	**07 48 40.1**	**-0.4**
GKN	**Gorkha**	**14.12**	**127**	*e*P		**Pn**	**07 48 44.9**	**-1.3**
	comp=N,64nm,0.2s							
KURBB	**Kurchatov Arra**	**14.20**	**17**	P		**Pn**	**07 48 46.0**	**-0.9**
	comp=N,0.1nm,0.3s,baz=206,slow=10,SNR=5.0							
KURK	**Kurchatov**	**14.31**	**17**	*ce*P		**P**	**07 48 50.7**	**-0.7**
KURK				pmax		pmax		
	comp=Z,11nm,1.0s							
KURK	**Kurchatov**	**14.31**	**17**			**Pn**	**07 48 46.9**	**-1.4**
KKN	**Kakani**	**14.68**	**126**	*e*P		**Pn**	**07 48 51.5**	**-1.8**
	comp=Z,68nm,0.5s							
DMN	**Daman**	**14.69**	**127**	*e*P		**Pn**	**07 48 52.0**	**-1.5**
	comp=Z,57nm,0.4s							
AB31	**Akbulak array**	**14.83**	**328**	*e*P		**Pn**	**07 48 54.2**	**-0.6**
AB31				*e*S		Sn	07 51 25.9	-13
AB31				pmax		pmax		
	comp=Z,3.0nm,0.4s							
AB31				smax		smax		
	comp=N,21nm,0.7s							
AB31	**Akbulak array**	**14.83**	**328**	P		**Pn**	**07 48 51.5**	**-3.3**
	comp=N,2.5nm,0.3s,baz=137,slow=13,SNR=118							
AB31				S		Sn	07 51 29.8	-9.2
	comp=N,21nm,0.7s,baz=150,slow=23,SNR=14							
ABKAR	**Akbulak array**	**14.83**	**328**	Pn		**Pn**	**07 48 53.4**	**-1.4**
PKIN	**Phulchoki**	**14.90**	**126**	*e*P		**Pn**	**07 48 54.2**	**-2.0**
	comp=N,56nm,0.5s							
PKI	**Pulchoki**	**14.91**	**126**	*e*P		**Pn**	**07 48 53.9**	**-2.5**
	comp=N,8.4nm,0.5s							
GUN	**Gumba**	**14.99**	**124**	*e*P		**Pn**	**07 48 54.9**	**-2.4**
JIRN	**Jiri**	**15.36**	**124**	*e*P		**Pn**	**07 49 00.3**	**-1.7**
	comp=N,134nm,0.3s							
BVAR	**Borovoye Array**	**15.83**	**357**	P		**Pn**	**07 49 05.2**	**-2.1**
	comp=N,0.3nm,0.3s,baz=143,slow=13,SNR=16							
BRVK	**Borovoye**	**15.87**	**356**	*ce*P		**P**	**07 49 08.7**	**0.0**
BRVK				pmax		pmax		
	comp=Z,14nm,1.7s							
BRVK	**Borovoye**	**15.87**	**356**	P		**Pn**	**07 49 07.6**	**-0.1**
BRVK	**Borovoye**	**15.87**	**356**	↑P		**Pn**	**07 49 05.4**	**-2.3**
	comp=Z,7.8nm,1.1s							
RAMN	**Ramite**	**16.11**	**125**	*e*P		**Pn**	**07 49 09.3**	**-1.8**
	comp=Z,87nm,0.6s							
AKTO	**Aktyubinsk**	**16.54**	**327**	P		**P**	**07 49 16.7**	**+0.6**
AKTO				S		Sn	07 52 05.7	-14
AKTO				pmax		pmax		
	comp=Z,7.0nm,0.8s							
AKTO				smax		smax		
	comp=Z,24nm,0.9s							
AKTO	**Aktyubinsk**	**16.54**	**327**	P		**P**	**07 49 16.9**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=147,slow=6.4,SNR=16							
AKTO				S		Sn	07 52 02.5	-17
	comp=Z,0.1nm,0.3s,baz=159,slow=7.9,SNR=2.0							
AKTO	**Aktyubinsk**	**16.54**	**327**	⇑P		**Pn**	**07 49 11.9**	**-4.0**
	comp=Z,7.3nm,0.8s							
AKTO				⇑S		**Sn**	**07 52 12.1**	**-7.9**
	comp=Z,24nm,0.9s							
TAPN	**Taplejung**	**16.58**	**122**	*e*P		**Pn**	**07 49 15.2**	**-1.7**
	comp=Z,47nm,0.5s							
ODAN	**Odare**	**16.68**	**124**	*e*P		**P**	**07 49 17.5**	**-0.7**
	comp=Z,53nm,0.6s							
LSA	**Lhasa**	**17.70**	**109**	P		**Pn**	**07 49 31.6**	**+1.0**
LSA				pmax		pmax		
	comp=Z,14nm,0.5s							
LSA	**Lhasa**	**17.70**	**109**	P		**Pn**	**07 49 31.6**	**+1.0**
WSAR	**Wadi Sarin**	**18.03**	**223**	P		**Pn**	**07 49 33.9**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=347,slow=21,SNR=2.0							
UOSS	**Minazif**	**18.16**	**232**	P		**P**	**07 49 34.0**	**-0.1**
UOSS				IAmb		IAmb	07 49 50.3	
	comp=Z,25nm,0.9s							
LKRN	**Lenkeran, Azer**	**18.29**	**282**	P		**Pn**	**07 49 37.6**	**+0.5**
ZAA0	**Zalesovo Array**	**18.95**	**24**	P		**P**	**07 49 41.6**	**-0.8**
ZAA0				IAmb		IAmb	07 49 47.2	
	comp=Z,8.9nm,0.6s							
ZALV	**Zalesovo Beam**	**18.95**	**24**	P		**P**	**07 49 42.9**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=212,slow=12,SNR=20							
AKT	**Akhty**	**19.16**	**290**	*e*P		**Pn**	**07 49 46.6**	**-0.7**
AKT				*e*S		**Sn**	**07 53 19.3**	**-3.7**
AKT				pmax		pmax		
	comp=Z,12nm,0.6s							
AKT				smax		smax		
	comp=E,16nm,0.5s							
AKT				smax		smax		
	comp=N,24nm,0.4s							
SEKA	**Sheki**	**19.53**	**289**	P		**P**	**07 49 50.1**	**+1.1**
MNGR	**Mingechevir, A**	**19.60**	**288**	P		**Pn**	**07 49 51.7**	**-0.6**
GANJ	**Ganja**	**20.17**	**288**	P		Pn	07 49 57.8	-1.3
GROC	**Groznyy**	**20.77**	**295**	*e*P		Pn	07 50 08.8	+2.7
GROC				pmax		pmax		
	comp=Z,59nm,1.2s							
NAX	**Nakhchivan**	**20.83**	**283**	P		**P**	**07 50 05.0**	**+2.0**
SVE	**Sverdlovsk**	**21.00**	**343**	*e*P		**P**	**07 50 05.1**	**+0.6**
SVE				pmax		pmax		
	comp=Z,8.0nm,0.9s							
ARU	**Arti**	**21.20**	**339**	*d* iP		**P**	**07 50 08.0**	**+1.4**
ARU							07 50 36.4	
ARU				S		**S**	**07 53 56.9**	**+2.7**
ARU				SS		**SnSn**	**07 54 39.6**	**+10**
ARU				pmax		pmax		
	comp=Z,12nm,1.6s							
ARU	**Arti**	**21.20**	**339**	P		**P**	**07 50 07.3**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=147,slow=8.7,SNR=3.8							
ARU				LR		LR	07 57 46.9	
	comp=Z,88nm,18.9s,baz=290,slow=35							
ARU	**Arti**	**21.20**	**339**	P		**P**	**07 50 05.3**	**-1.3**
GNI	**Garni**	**21.38**	**286**	*i* P		**P**	**07 50 10.9**	**+2.0**
GNI				pmax		pmax		
	comp=Z,72nm,1.0s							
GNI	**Garni**	**21.38**	**286**	P		**P**	**07 50 10.6**	**+1.7**
	comp=Z,11nm,0.8s,baz=126,slow=6.3,SNR=3.2							
GNI	**Garni**	**21.38**	**286**	P		**P**	**07 50 08.3**	**-0.7**
GNI				IAmb		IAmb	07 50 15.7	
	comp=Z,19nm,0.9s							
GTA	**Gaotai**	**21.97**	**76**	↑P		**P**	**07 50 17.8**	**+2.7**
GTA				pP		pP	07 50 44.3	+3.1
GTA				sP		sP	07 51 04.6	+5.9
GTA				pmax		pmax		
	comp=Z,21nm,1.0s							
ZEI	**Tsey**	**22.11**	**293**	*e*P		**P**	**07 50 19.3**	**+2.7**
ZEI				pmax		pmax		
	comp=Z,6.0nm,0.8s							
AKH	**Ak

SORM	Soroca	33.41	303	⇑P	P	07 51 57.8	+0.3
PLOR	Plostina	34.56	299	⇓P	P	07 52 09.7	+2.1
PLOR	Plostina	34.56	299	⇓P	P	07 52 09.7	+2.1
MLR	Muntele Rosu	35.07	298	⇑P	P	07 52 14.5	+2.4
MLR	Muntele Rosu	35.07	298	P	P	07 52 14.4	+2.4
	comp=Z,2.8nm,0.7s,baz=122,slow=8.3,SNR=7.1						
MLR				pP	pP	07 52 46.1	+3.5
	comp=Z,1.7nm,0.6s,baz=149,slow=6.4,SNR=3.0						
MLR	Muntele Rosu	35.07	298	⇑P	P	07 52 14.5	+2.4
MLR	Muntele Rosu	35.07	298	P	P	07 52 10.2	-1.9
MLR				IAmb	IAmb	07 52 16.9	
	comp=Z,4.2nm,1.1s						
DOPR	Dopca	35.44	299	⇓P	P	07 52 16.8	+1.7
ALN	Alexandroupoli	35.49	290	P	P	07 52 14.2	-1.3
ALN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ALN	Alexandroupoli	35.49	290	P	P	07 52 14.2	-1.3
ALN				IAmb	IAmb	07 52 17.3	
	comp=Z,5.3nm,1.0s						
BURAR	Bucovina Array	35.51	302	⇓P	P	07 52 16.2	+0.4
BURAR	Bucovina Array	35.51	302	⇓P	P	07 52 16.2	+0.4
VOIR		35.70	298	⇑P	P	07 52 19.1	+1.7
VOIR		35.70	298	⇑P	P	07 52 19.1	+1.7
ARR	Arges	36.00	298	⇑P	P	07 52 21.9	+1.9
ARCR	ARCALIA	36.11	301	⇑P	P	07 52 22.2	+1.5
ATD	Arta Tunnel	36.54	233	P	P	07 52 26.8	+2.0
	comp=Z,9.7nm,0.7s,baz=249,slow=13,SNR=4.0						
ATD	Arta Tunnel	36.54	233	P	P	07 52 22.8	-2.0
KAAM	Kaadhehdhoo	36.57	178	P	P	07 52 23.9	-1.0
DRGR		37.24	301	⇓P	P	07 52 32.4	+1.9
DRGR		37.24	301	⇓P	P	07 52 32.4	+1.9
FINES	FINESS Array B	37.29	325	P	P	07 52 31.1	+0.5
	comp=Z,1.5nm,0.6s,baz=117,slow=8.1,SNR=9.5						
FINES				pP	pP	07 53 03.9	+2.7
	comp=Z,4.0nm,0.8s,baz=145,slow=7.0,SNR=2.8						
TRPA	Tarpa	37.30	303	⇑P	P	07 52 33.4	+2.6
BZS	Buzias	38.09	299	⇑P	P	07 52 41.4	+3.9
BZS	Buzias	38.09	299	⇑P	P	07 52 41.4	+3.9
VYHS	Vyhne	39.75	304	*eP*	P	07 52 53.5	+2.2
VYHS	Vyhne	39.75	304	*eP*	P	07 52 53.5	+2.2
ARCES	ARCESS Array B	40.75	337	P	P	07 53 00.1	+0.8
	comp=Z,2.7nm,0.8s,baz=114,slow=8.2,SNR=13						
GSI	Gunungsitoli	42.87	140	P	P	07 53 18.0	+0.9
HFS	Hagfors	42.95	321	P	P	07 53 17.6	+0.4
	comp=Z,3.1nm,0.7s,baz=74,slow=11,SNR=7.0						
KSRS	Korea Array	43.95	72	P	P	07 53 26.0	+0.4
KSRS	Korea Array	43.95	72	P	P	07 53 25.9	+0.4
	comp=Z,1.1nm,0.6s,baz=271,slow=5.0,SNR=4.1						
KLR	Kul'dur	44.12	54	P	P	07 53 27.6	+0.8
	comp=Z,1.3nm,0.6s,baz=282,slow=10,SNR=5.6						
NB2	NORSAR Subarra	44.24	323	P	pP	07 54 02.3	+3.2
	comp=Z,1.5nm,0.8s,baz=95,slow=7.9						
NOA	NORSAR Array B	44.24	323	P	P	07 53 27.9	+0.4
	comp=Z,2.1nm,0.9s,baz=96,slow=7.7,SNR=2.4						
NOA				pP	pP	07 54 00.4	+1.3
	comp=Z,0.9nm,0.8s,baz=100,slow=7.9,SNR=2.9						
TIXI	Tiksi	44.82	22	*ceP*	P	07 53 32.4	+0.4
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TIXI	Tiksi	44.82	22	P	P	07 53 31.8	-0.2
TIXI				IAmb	IAmb	07 53 33.2	
	comp=Z,4.4nm,0.9s						
KONO	Kongsberg	44.98	320	P	P	07 53 31.1	-2.3
KONO				pmax	pmax		
	comp=Z,60nm,1.4s						
KONO	Kongsberg	44.98	320	P	P	07 53 31.1	-2.3
MJAR	Matsushiro Arr	52.01	69	P	P	07 54 28.0	+0.5
	comp=Z,1.9nm,0.8s,baz=295,slow=11,SNR=4.6						
BILL	Bilibino	57.63	26	⇓*eP*	P	07 55 08.6	+1.1
BILL				*PP	pP	07 55 42.0	+1.0
BILL				*SP	sP	07 55 54.0	-2.5
BILL						07 55 59.0	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ESDC	Sonseca Array	57.76	298	P	P	07 55 09.3	+0.4
	comp=Z,0.8nm,0.5s,baz=57,slow=7.3,SNR=10						
ESDC				pP	pP	07 55 43.3	+1.3
	comp=Z,0.7nm,0.6s,baz=56,slow=6.7,SNR=3.3						
TORD	Torodi Ar. Bea	66.46	269	P	P	07 56 06.9	-0.4
	comp=Z,0.9nm,0.5s,baz=50,slow=5.9,SNR=13						
INK	Inuvik	73.07	10	P	P	07 56 47.1	+0.4
	comp=Z,2.2nm,0.6s,baz=348,slow=6.5,SNR=18						
IL31		73.88	16	P	P	07 56 51.0	-0.5
ILAR	Eielson Array	73.88	16	P	P	07 56 50.9	-0.7
	comp=Z,1.2nm,0.9s,baz=317,slow=4.6,SNR=11						
HDA	Harding Lake	74.17	16	P	P	07 56 53.2	-0.2
YKA	Yellowknife Ar	80.48	3	P	P	07 57 28.6	+0.1
	comp=Z,2.1nm,0.7s,baz=350,slow=5.5,SNR=65						
YKA				pP	pP	07 58 07.4	+3.7
	comp=Z,0.7nm,0.6s,baz=349,slow=5.5,SNR=3.7						
WRA	Warramunga Arr	81.76	123	P	P	07 57 36.1	+0.2
	comp=Z,0.4nm,0.7s,baz=324,slow=5.1,SNR=5.5						
ASAR	Alice Springs	84.08	126	P	P	07 57 48.1	+0.3
	comp=Z,0.4nm,0.9s,baz=309,slow=4.9,SNR=2.5						

ROM 22 07:49:55.7±0.1, 43°.366N±0°.003×12°.553E±0°.004, h6km, ML0.6/3, Error ellipse: s-maj=0.4km s-min=0.1km az=65.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATFO	Monte Foce - G	0.01	87	P	Pg	07 49 56.9	-0.1
ATFO				S	Sg	07 49 57.8	-0.1
MURB	Monte Urbino	0.10	191	P	Pg	07 49 58.3	+0.3
MURB				S	Sg	07 50 00.4	+0.8
MURB				AML	AML		
	comp=E,90μm,0.2s						
MURB				AML	AML		
	comp=N,106μm,0.3s						
ATVO	AVT- Monte Val	0.11	279	P	Pg	07 49 58.3	+0.2
ATVO				S	Sg	07 50 00.3	+0.7
ATVO				AML	AML		
	comp=E,56μm,0.3s						
ATVO				AML	AML		
	comp=N,46μm,0.4s						
ATPI	Pietralunga -	0.14	308	P	Pg	07 49 59.0	+0.4
ATPI				S	Sg	07 50 01.6	+1.1
FOSV	Fossato di Vic	0.17	115	P	Pg	07 49 59.5	+0.5
FOSV				S	Sg	07 50 02.6	+1.3
PIEI	Pieia	0.17	356	P	Pg	07 49 59.6	+0.5
PIEI				S	Sg	07 50 03.1	+1.6
PIEI				AML	AML		
	comp=E,22μm,0.4s						
PIEI				AML	AML		
	comp=N,17μm,0.4s						
ATCC	AVT- Casa Cast	0.19	161	P	Pg	07 49 59.9	+0.4
ATCC				S	Sg	07 50 03.6	+1.6
NARO	Abbazia di Nar	0.25	5	P	Pg	07 50 01.1	+0.5
NARO				S	Sg	07 50 05.4	+1.6

JMA 22 08:01:19.1±0.1, 23°.15N×121°.58E, h0km, M3.6
ISCJB 22 08:01:21.2±0.3, 23°.15N±0°.01×121°.48E±0°.02, h20km±2km, Error ellipse: s-maj=2.6km s-min=2.2km az=26.7
TAP 22 08:01:21.9, 23°.19N×121°.38E, h19km, ML3.5, B
ISC 22 08:01:21.6±0.8, 23°.16N±0°.02×121°.45E±0°.02, h19km±2km, n111, σ0s85/170, 7C-18D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKT	Chengkung	0.10	232	⇑*iP*	Pg	08 01 26.1	+0.7
CHKT				*i* S	Sg	08 01 29.0	+1.1
	baz=184						
FULB	Fuli	0.15	284	⇑*iP*	Pb	08 01 25.9	+1.2
FULB				S	Sg	08 01 29.3	+0.3
	baz=276						
TWF1	Yuli	0.24	323	⇓*iP*	Pb	08 01 27.2	+0.1
TWF1				S	Sb	08 01 31.2	+0.4
	baz=330						
YULB	Yu-li	0.27	328	⇓P	Pg	08 01 27.6	-0.1
YULB				*e*S	Sb	08 01 31.7	-0.3
	baz=329						
HGSD	Ruisui	0.33	355	⇑*eP*	Pg	08 01 28.8	0.0
EHY	Hungye	0.36	341	⇓*iP*	Pg	08 01 29.2	-0.1
EHY				S	Sg	08 01 34.3	-0.2
	baz=337						
ELDTW	Lidau	0.40	274	⇓*iP*	Pg	08 01 29.0	-1.0
	baz=270						
ELDTW				S	Sg	08 01 33.9	-1.8
	baz=270						
TWH	Lutao	0.45	177	P	Pb	08 01 31.8	+0.8
	baz=168						
TWH				*e*S	Sb	08 01 39.4	+2.0
	baz=168						
TWGBT	Beinan	0.48	225	⇑P	Pg	08 01 31.1	-0.4
	baz=229						
TWGBT				S	Sg	08 01 38.0	-0.1
	baz=229						
TWG	Pinlang	0.49	226	⇑*iP*	Pg	08 01 31.1	-0.4
	baz=229						
TWG				S	Sg	08 01 38.0	-0.2
	baz=229						
TTN	Taitung	0.49	215	*eP*	Pb	08 01 32.4	+0.7
	baz=210						
EGFH	Guangfu	0.51	357	*eP*	Pg	08 01 31.4	-0.5
	baz=349						
YUS	Yu-Shan	0.56	305	⇓*iP*	Pb	08 01 32.2	-0.9
	baz=301						
YUS				S	Sb	08 01 38.7	-2.3
	baz=301						
STYT	Tauyuan	0.64	270	⇓*iP*	Pb	08 01 33.3	-0.9
	baz=267						
STYT				S	Sb	08 01 41.0	-1.8
	baz=267						
ESL	Shilin	0.65	358	*eP*	Pb	08 01 33.6	-0.8
	baz=352						
VWDT	VWDT	0.66	334	⇓P	Pb	08 01 34.2	-0.3
VWDT				S	Sb	08 01 42.0	-1.2
	baz=349						
ALS	Alishan	0.69	300	⇓P	Pb	08 01 34.6	-0.7
	baz=301						
ALS				S	Sb	08 01 43.6	-0.9
	baz=301						
ECL	Taimali	0.73	219	P	Pb	08 01 34.4	-1.3
	baz=223						
ECL				*e*S	Sb	08 01 43.2	-2.1
	baz=223						
ENLB	Shoufeng	0.75	10	*eP*	Pb	08 01 35.3	-0.8
	baz=360						
ENLB				*e*S	Sg	08 01 47.1	+0.7
	baz=360						
SLGT	Liugui	0.76	257	⇓*eP*	Pb	08 01 35.7	-0.6
	baz=259						
SLGT				*e*S	Sb	08 01 45.3	-1.1
	baz=259						
WHYT	Xinyi Township	0.77	314	⇓*eP*	Pb	08 01 36.0	-0.5
	baz=316						
WHYT				S	Sb	08 01 45.7	-0.9
	baz=316						
TPUB	Ta-pu	0.77	281	⇓P	Pb	08 01 36.1	-0.4
	baz=285						
TPUB				S	Sb	08 01 45.9	-0.7
	baz=285						
SSLB	Suanglung	0.77	324	⇓P	Pb	08 01 35.7	-0.9
	baz=334						
SSLB				S	Sb	08 01 44.7	-2.1
	baz=334						
WTP	Ta-pu	0.78	276	⇓*iP*	Pb	08 01 36.2	-0.4
	baz=274						
WTP				S	Sb	08 01 46.5	-0.3
	baz=274						
SGST	Jiashian	0.81	265	*eP*	Pb	08 01 35.8	-1.2
	baz=259						
SGST				*e*S	Sb	08 01 46.4	-1.2
	baz=259						
CHN4	Tsaushan	0.81	284	⇓*iP*	Pb	08 01 37.0	-0.2
	baz=282						
CHN4				S	Sb	08 01 48.0	+0.2
	baz=282						
HWA	Hwalien	0.82	10	*eP*	Pb	08 01 37.1	-0.2
	baz=358						
CHN5	Tsauling	0.83	301	⇓*iP*	Pb	08 01 37.5	-0.1
	baz=302						
CHN5				*e*S	Sb	08 01 48.8	+0.3
	baz=302						
CHN1	Nanshi	0.85	272	⇓*iP*	Pb	08 01 37.8	-0.1
	baz=270						
CHN1				S	Sb	08 01 49.3	+0.3
	baz=270						
SSD	Sandimen	0.86	242	*eP*	Pb	08 01 36.9	-1.1
	baz=234						
SNST	Tainan City	0.88	274	⇓P	Pb	08 01 38.2	-0.1
	baz=272						
SNST				S	Sb	08 01 50.1	+0.3
	baz=272						
TWK	Hsinying	0.89	277	⇓*iP*	Pb	08 01 38.3	-0.3
	baz=275						
TWK				S	Sb	08 01 50.4	+0.2
	baz=275						
TYC	Yuchr	0.92	324	*eP*	Pb	08 01 38.6	-0.4
	baz=336						
TYC				S	Sb	08 01 50.9	+0.1
	baz=336						
TWD	Chiawan	0.92	8	*eP*	Pb	08 01 38.4	-0.7
	baz=359						
TWD				*e*S	Sb	08 01 51.5	+0.5
	baz=359						
CHGB	Renai	0.93	344	P	Pb	08 01 38.9	-0.4
	baz=346						
CHGB				*e*S	Sb	08 01 50.4	-1.0
	baz=346						
MASBT	Mashibuluo	0.93	234	*eP*	Pb	08 01 38.1	-1.1
	baz=225						
WJS	Zhushan	0.94	315	P	Pb	08 01 39.8	+0.5
	baz=315						
WJS				*e*S	Sg	08 01 52.5	+0.2
	baz=315						
EAST	Anshuo	0.95	216	⇑*eP*	Pb	08 01 38.1	-1.6
	baz=213						
EAST				*e*S	Sb	08 01 50.5	-1.4
	baz=213						
WGK	Gukeng	0.97	303	⇑P	Pb	08 01 40.2	+0.4
	baz=303						
WGK				*e*S	Sb	08 01 53.1	+0.8
	baz=303						
CHN2	Minshiung	0.97	293	*eP*	Pb	08 01 39.8	-0.1
	baz=292						
CHN2				S	Sg	08 01 53.8	+0.4
	baz=292						
SGLT	Jiouru	0.99	244	*eP*	Pg	08 01 41.4	+0.6
	baz=242						
WDLH	Douliu	0.99	302	*eP*	Pb	08 01 40.3	+0.1
	baz=302						
DPDB	Guoxing	0.99	331	P	Pb	08 01 40.0	-0.3
	baz=341						
DPDB				*e*S	Sb	08 01 52.2	-0.9
	baz=341						
WHF	Hehuan Shan	0.99	350	*eP*	Pb	08 01 39.5	-1.1
	baz=4.0						
WHF				*e*S	Sb	08 01 52.8	-0.7
	baz=4.0						
CHY	Chiayi	1.00	290	*eP*	Pb	08 01 40.2	-0.2
	baz=289						
CHY				*e*S	Sb	08 01 53.8	+0.5
	baz=289						
WNT	Mingjian	1.00	315	*eP*	Pb	08 01 40.9	+0.5
	baz=316						
WNT				*e*S	Sb	08 01 54.4	+1.1
	baz=316						
TWM1	Shoushan	1.01	251	*eP*	Pb	08 01 40.4	-0.2
	baz=250						
NACB	Ninganchiao	1.02	7	*eP*	Pb	08 01 38.9	-1.7
	baz=358						
NACB				*e*S	Sb	08 01 52.8	-0.9
	baz=358						
ETLH	Xiulin Townshi	1.04	1	*eP*	Pb	08 01 39.5	-1.6
	baz=1.0						
SSPT	Xinbi	1.06	231	*eP*	Pb	08 01 40.9	-0.5
	baz=225						
SCZT	Fangliau	1.10	225	*eP*	Pn	08 01 41.1	-0.9
	baz=213						
SNJT	Kaohsiung City	1.11	249	*eP*	Pg	08 01 43.7	+0.6
	baz=249						
SNJT				*e*S	Sg	08 02 00.9	+3.2
	baz=249						
TDCB	Techi	1.12	346	*eP*	Pn	08 01 41.7	-0.8
	baz=346						
LAY	Lan-yu	1.12	175	*eP*	Pn	08 01 40.9	-1.5
	baz=160						
LAY				*e*S	Sb	08 01 56.8	+0.1
	baz=160						
CHN8	Yiju	1.16	279	*eP*	Pn	08 01 42.9	+0.1
	baz=279						
CHN8				*e*S	Sn	08 01 59.3	+1.1
	baz=279						
SCLT	Jiali	1.16	271	*eP*	Pn	08 01 41.8	-1.1
	baz=286						
SCLT				*e*S	Sn	08 01 59.5	+1.3
	baz=286						
WHP	Taichung City	1.20	337	*eP*	Pb	08 01 44.3	+0.4
	baz=348						
TCU	Taichung	1.21	324	*eP*	Pn	08 01 43.6	0.0
	baz=324						
WSSB	Gushan	1.21	245	*eP*	Pb	08 01 45.0	+1.0
	baz=247						
WSSB				*e*S	Sg	08 02 03.4	+2.3
	baz=247						
WSF	Szhu	1.23	293	*eP*	Pn	08 01 44.0	+0.2
	baz=292						
WSF				*e*S	Sb	08 02 00.3	+0.6
	baz=292						
WCHH	Zhanghua	1.23	318	*eP*	Pn	08 01 44.1	+0.3
	baz=318						
WCHH				*e*S	Sn	08 02 01.0	+1.1
	baz=318						
RLNB	Erlin	1.24	306	*eP*	Pn	08 01 44.2	+0.2
	baz=305						
RLNB				*e*S	Sn	08 02 00.8	+0.6
	baz=305						
NNS	Nan Shan	1.27	357	*eP*	Pn	08 01 44.9	+0.3
	baz=9.0						
WLCH	Liuqiu	1.28	231	*eP*	Pg	08 01 47.2	+0.8
	baz=229						
WTCT	Ta-ch'eng	1.28	303	*eP*	Pn	08 01 44.0	-0.6
	baz=303						
WTCT				*e*S	Sb	08 02 02.0	+0.6
	baz=303						
ENA	Nanau	1.29	12	*eP*	Pn	08 01 43.9	-0.8
	baz=359						
NANB	Nanao	1.29	12	*eP*	Pn	08 01 43.6	-1.1
	baz=359						
TWQ1	Liyutan	1.33	332	*eP*	Pb	08 01 46.4	+0.3
	baz=332						
TWQ1				*e*S	Sb	08 02 04.1	+1.2
	baz=332						
TWK1	Hengchun	1.35	206	*eP*	Pn	08 01 45.3	-0.3
	baz=198						
TWKBT	Hengchun	1.35	206	*eP*	Pn	08 01 45.1	-0.4
	baz=198						
WDJ	Dajia District	1.40	328	*eP*	Pb	08 01 47.5	+0.3
	baz=339						
WDJ				*e*S	Sb	08 02 06.2	+1.6
	baz=339						
NSY	Sanyi	1.40	333	*eP*	Pb	08 01 47.4	+0.1
	baz=333						
NSY				*e*S	Sb	08 02 06.4	+1.6
	baz=333						
NDT	Datong Townshi	1.44	2	*eP*	Pb	08 01 48.0	+0.1
	baz=13						
PTSB	Yuanli	1.45	332	*eP*	Pn	08 01 47.0	+0.1
	baz=331						
PTSB				*e*S	Sb	08 02 07.1	+0.9
	baz=331						
ENTT	Nioudou	1.48	4	*eP*	Pn	08 01 48.2	+0.9
	baz=2.0						
TWC	Suao	1.49	14	*eP*	Pn	08 01 48.0	+0.6
	baz=359						
NMLH	Miaoli	1.50	336	*eP*	Pb	08 01 49.0	+0.1
	baz=334						
YHNB	Yeheng	1.50	357	*eP*	Pn	08 01 47.5	-0.2
	baz=10.0						
YHNB				*e*S	Sn	08 02 06.8	-0.1
	baz=10.0						
NSK	Sanguang	1.51	357	*eP*	Pn	08 01 48.1	+0.3
	baz=8.0						
EOS1	EOS1	1.51	24	*eP*	Pn	08 01 48.1	+0.4
	baz=39						
NSTT	Nanjuang	1.52	344	*eP*	Pn	08 01 48.8	+0.9
	baz=342						
LIOB	Emei	1.53	345	*eP*	Pn	08 01 49.0	+0.9
	baz=343						
TWE	Neicheng	1.56	7	*eP*	Pn	08 01 48.9	+0.4
	baz=5.0						
SLBB	Yuanshan	1.59	6	*eP*	Pn	08 01 48.8	-0.2
	baz=3.0						
NWLT	Wulai	1.61	2	*eP*	Pn	08 01 49.6	+0.5
	baz=13						
WDGT	Dungji	1.65	274	*eP*	Pn	08 01 49.9	+0.2
	baz=274						
PHUB	P'eng-hu	1.76	282	*eP*	Pn	08 01 50.8	-0.4
	baz=281						
PHUB				*e*S	Sn	08 02 11.9	-1.3
	baz=281						
PNG	Penghu	1.79	283	*eP*	Pn	08 01 50.9	-0.6
	baz=283						
TATO	Taipei	1.81	1	*eP*	Pn	08 01 52.9	+1.1
	baz=15						
TIPB	Shuangxi	1.83	11	*eP*	Pn	08 01 52.5	+0.3
	baz=7.0						
VCHM	Qimei	1.86	272	*eP*	Pn	08 01 52.1	-0.5
	baz=272						
WFSB	Wu-fen Shan	1.92	9	*eP*	Pn	08 01 54.4	+0.9
	baz=5.0						
YOJ	Yonaguni jima	1.93	47	P	Pn	08 01 53.6	+0.2
YOJ				*e*S	Sn	08 02 17.5	+0.3
YOJ	Yonaguni jima	1.93	47	*eP*	Pn	08 01 52.5	-0.9
	baz=49						
HATJ	Hateruma jima	2.33	67	P	Pn	08 01 59.0	-0.1
HATJ				*e*S	Sn	08 02 27.1	-0.1
IRIF	Iriomote-Funau	2.39	60	P	Pn	08 02 00.5	+0.7
JKRS	Kuro-shima	2.58	65	P	Pn	08 02 02.9	+0.5
JKRS				*e*S	Sn	08 02 33.3	+0.1
VWUC	VWUC	2.58	315	*eP*	Pn	08 02 01.6	-0.8
	baz=314						
JIJ	Ishigaki jima	2.74	64	P	Pn	08 02 04.7	+0.1
JIJ				*e*S	Sn	08 02 37.7	+0.4
PTTC	Pingtan	2.79	327	*eP*	Pn	08 02 04.8	-0.5
	baz=325						
PTMZ	Houxiangcun	2.84	312	*eP*	Pn	08 02 05.6	-0.3
	baz=310						
JISG	Ishigakijimahi	2.98	61	P	Pn	08 02 07.7	-0.2
JISG				*e*S	Sn	08 02 42.4	-0.7
KNM	Kinmen	3.04	295	*eP*	Pn	08 02 09.7	+1.0
	baz=294						
KNMB	Chin-men Tao	3.09	295	*eP*	Pn	08 02 08.8	-0.7
	baz=295						
MATB	Ma-tsu	3.28	336	*eP*	Pn	08 02 11.8	-0.3
	baz=332						
JTJ	Tarama	3.32	63	P	Pn	08 02 12.6	0.0
JTJ				*e*S	Sn	08 02 51.5	0.0
ZPLA	Ao Xicun	3.48	283	*eP*	Pn	08 02 14.7	-0.1
	baz=283						
AXDP	Jialang	3.62	299	*eP*	Pn	08 02 16.4	-0.4
	baz=299						
MHZQ	Yeshan	3.66	323	*eP*	Pn	08 02 17.5	+0.2
	baz=322						
LYJJ	Jianjiangzhen	3.71	336	*eP*	Pn	08 02 17.8	-0.1
	baz=332						
JMJ	Miyako jima 2	3.88	64	*eP*	Pn	08 02 20.9	+0.6
	baz=69						

ISCJB 22 08:01:28.5±0.2, 7°.32S±0°.03×128°.68E±0°.03, h151km, mb4.4/24, Error ellipse: s-maj=4.4km s-min=3.6km az=24.4
IDC 22 08:01:29.7±1.6, 7°.30S×128°.62E, h142km±14km, mb4.1/15, mb1 4.1/18, mb1mx4.0/37, mbtmp4.5/18, Error ellipse: s-maj=15.7km s-min=9.9km az=96.0
NEIC 22 08:01:30.2±2.2, 7°.38S±0°.06×128°.65E±0°.05, h155km±6km, mb4.6/38
DJA 22 08:01:30.2±0.3, 7°S±3°×12°9E±°, h188km±11km, M5.0/11, mB5.3/6, mb5.0/11, MLv5.2/11, Mw(mB)4.7/6
ISC 22 08:01:29.7±0.3, 7°.40S±0°.04×128°.69E±0°.04, h151km, n108, σ1s65/125, mb4.6/39, 2C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	Saumlaki	2.65	103	P	Pn	08 02 15.6	+2.9
SAUI				S	Sn	08 02 48.4	+2.5
SAUI	Saumlaki	2.65	103		Pn	08 02 14.6	+1.9
SAUI				Sn	Sn	08 02 46.4	+0.5
SOEI	Soe	4.96	242	P	Pn	08 02 43.9	+1.1
	267nm,1.2s,3μm1.8nm						
SOEI	Soe	4.96	242		Pn	08 02 43.6	+0.8
SOEI				Sn	Sn	08 03 40.9	+1.1
FAKI	Fak Fak	5.69	39	P	Pn	08 02 51.5	-0.8
	115nm,0.6s,3μm0.6nm						
FAKI				S	Sn	08 03 52.8	-4.1
	115nm,0.6s,3μm0.6nm						
FAKI	Fak Fak	5.69	39		Pn	08 02 51.5	-0.8
FAKI				Sn	Sn	08 03 55.3	-1.6

BATI	**Baumata**	**5.70**	**240**	P		**Pn**	**08 02 53.4**	**+0.9**
	88nm,0.3s,baz=144,slow=2.5,SNR=57								
BATI				S		**Sn**	**08 03 56.5**	**-0.7**
	77nm,0.3s,baz=14,slow=18,SNR=10								
BATI	**Baumata**	**5.70**	**240**	P		**Pn**	**08 02 53.4**	**+0.9**
	362nm,0.7s,4µm1.3nm								
BATI				S		**Sn**	**08 03 57.4**	**+0.2**
	362nm,0.7s,4µm1.3nm								
MTN	**Manton Dam**	**5.92**	**156**			**Pn**	**08 02 56.0**	**+0.6**
MTN				Sn		**Sn**	**08 03 59.6**	**-2.8**
SANI	**Sanana**	**5.96**	**333**	P		**Pn**	**08 02 58.1**	**+2.2**
	13nm,1.1s,0.1nm								
KMPI	**Kaimana, Papua**	**6.22**	**54**	P		**Pn**	**08 03 00.4**	**+1.0**
	375nm,0.7s,58µm2.4nm								
MMRI	**Maumere**	**6.51**	**259**	Pn		**Pn**	**08 03 04.0**	**+0.7**
SIJI	**Sorong**	**6.97**	**22**	P		**Pn**	**08 03 09.2**	**-0.3**
	19nm,0.3s,baz=226,slow=22,SNR=78								
SIJI				S		**Sn**	**08 04 25.1**	**-2.6**
	5.7nm,0.3s,baz=184,slow=23,SNR=6.6								
SWI	**Sorong**	**6.98**	**22**	P		**Pn**	**08 03 09.5**	**0.0**
	128nm,0.5s,5µm0.8nm								
SWI				S		**Sn**	**08 04 25.9**	**-1.9**
	128nm,0.5s,5µm0.8nm								
RKPI	**Ransiki, Papua**	**8.00**	**43**	P		**Pn**	**08 03 22.9**	**-0.3**
	314nm,0.7s,6µm1.2nm								
KNRA	**Kununurra**	**8.23**	**180**			**Pn**	**08 03 26.1**	**-0.1**
LUWI	**Luwuk**	**8.64**	**317**	Pn		**Pn**	**08 03 29.2**	**-2.6**
FITZ	**Fitzroy Crossi**	**11.04**	**195**	P		**Pn**	**08 04 01.1**	**-2.4**
	4.5nm,0.3s,baz=28,slow=12,SNR=58								
FITZ				S		Sn	08 05 56.1	-10	
	11nm,0.3s,baz=118,slow=9.9,SNR=11								
FITZ	**Fitzroy Crossi**	**11.04**	**195**			**Pn**	**08 04 01.6**	**-1.9**	
FITZ						**Sn**	**08 06 00.4**	**-5.3**	
WRAB	**Tennant Creek**	**13.62**	**157**			**Pn**	**08 04 37.2**	**+0.4**	
WRA	**Warramunga Arr**	**13.62**	**157**	P		**Pn**	**08 04 35.8**	**-1.0**	
	1.8nm,0.3s,baz=331,slow=14,SNR=49								
WRA				S		Sn	08 06 56.9	-11	
	3.7nm,0.3s,baz=333,slow=24,SNR=11								
WR0	**Warramunga Arr**	**13.71**	**156**	Pn		**Pn**	**08 04 34.7**	**-3.3**	
COEN	**Coen**	**15.65**	**116**	Pn		**Pn**	**08 05 02.1**	**-0.1**	
COEN				IAmb		IAmb	08 05 05.8		
	comp=Z,12nm,0.5s								
PSA00	**Pilbara Seismi**	**16.48**	**210**	P		**Pn**	**08 05 12.7**	**+0.4**	
AS31	**Alice Springs**	**16.93**	**163**	P		**Pn**	**08 05 18.9**	**+1.1**	
ASAR	**Alice Springs**	**16.93**	**163**	P		**Pn**	**08 05 19.8**	**+1.9**	
	comp=Z,1.3nm,0.3s,baz=336,slow=9.7,SNR=116								
ASAR				S		**S**	**08 08 16.7**	**-9.4**	
	comp=Z,0.5nm,0.3s,baz=329,slow=19,SNR=8.0								
PMG	**Port Moresby**	**18.38**	**98**	P		**Pn**	**08 05 37.4**	**+2.3**	
	comp=Z,1.4nm,0.3s,baz=288,slow=7.7,SNR=9.1								
PMG	**Port Moresby**	**18.38**	**98**	P		**Pn**	**08 05 37.8**	**+2.8**	
PMG				IAmb		IAmb	08 05 39.5		
	comp=Z,32nm,0.8s								
SBUM	**Sibu**	**19.13**	**300**	P		**Pn**	**08 05 43.6**	**-0.2**	
KSM	**Kuching**	**20.35**	**295**	P		**P**	**08 05 54.4**	**-0.1**	
CISI	**Cisompet, Garu**	**20.70**	**268**	P		**P**	**08 05 59.0**	**+0.7**	
TGY	**Tagaytay City**	**22.70**	**340**	P		**P**	**08 06 17.8**	**-1.1**	
	comp=Z,121nm,0.3s,baz=349,slow=10,SNR=3.3								
FORT	**Forrest**	**23.27**	**181**	P		**P**	**08 06 25.6**	**+1.8**	
MORW	**Morawa**	**24.64**	**207**	P		**P**	**08 06 39.5**	**+3.2**	
BBOO	**Buckleboo**	**26.20**	**166**	P		**P**	**08 06 51.7**	**+1.3**	
STKA	**Stephens Creek**	**27.16**	**155**	P		**P**	**08 07 00.6**	**+1.5**	
	comp=Z,1.3nm,0.3s,baz=348,slow=8.7,SNR=3.7								
STKA	**Stephens Creek**	**27.16**	**155**	P		**P**	**08 06 58.4**	**-0.7**	
NWAO	**Narrogin (SRO)**	**27.54**	**201**	P		**P**	**08 07 03.3**	**+0.9**	
	comp=Z,5.7nm,0.3s,baz=47,slow=7.4,SNR=14								
NWAO	**Narrogin (SRO)**	**27.54**	**201**	P		**P**	**08 07 03.8**	**+1.4**	
NWAO				IAmb		IAmb	08 07 04.0		
	comp=Z,6.0nm,0.4s								
NWAO	**Narrogin (SRO)**	**27.54**	**201**	P		**P**	**08 07 03.7**	**+1.4**	
NWAO				IAmb		IAmb	08 07 20.4		
	comp=Z,23nm,1.5s								
HNR	**Honiara**	**30.98**	**96**	P		**P**	**08 07 33.1**	**0.0**	
RPSI	**Rantau Prapat**	**31.35**	**288**	P		**P**	**08 07 35.9**	**-0.4**	
CMAR	**Chiang Mai Arr**	**39.01**	**312**	P		**P**	**08 08 42.1**	**+0.3**	
	comp=Z,3.5nm,0.6s,baz=143,slow=7.1,SNR=17								
CHTO	**Chiang Mai**	**39.23**	**312**	P		**P**	**08 08 42.6**	**-1.0**	
CHTO				IAmb		IAmb	08 08 44.9		
	comp=Z,13nm,1.1s								
WHN	**Wuhan**	**40.16**	**341**	P		P	08 08 45.5	-5.6	
KMI	**Kunming**	**41.03**	**323**	P		**P**	**08 09 00.0**	**+1.4**	
KMI				pmax		pmax			
	comp=Z,17nm,1.1s								
KSRS	**Korea Array**	**44.62**	**359**	P		**P**	**08 09 27.1**	**+0.1**	
	comp=Z,1.1nm,0.6s,baz=174,slow=9.2,SNR=5.4								
CD2	**Chengdu**	**44.96**	**329**	P		**P**	**08 09 30.1**	**+0.2**	
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
XAN	**Xi'an**	**45.27**	**337**	P		**P**	**08 09 31.1**	**-1.2**	
XAN				pmax		pmax			
	comp=Z,9.0nm,1.0s								
XAN				pmax		pmax			
	comp=Z,170nm,5.4s								
SHL	**Shillong**	**48.52**	**314**	P		**P**	**08 09 57.6**	**-0.4**	
SHL				IAmb		IAmb	08 10 16.8		
	comp=Z,12nm,0.8s								
LZH	**Lanzhou**	**49.16**	**333**	⇓P		**P**	**08 10 03.4**	**+0.9**	
LZH				pP		pP	08 10 38.3	+2.9	
LZH				sP		sP	08 10 55.6	+4.0	
LZH				PP		**PP**	**08 12 00.5**	**+2.7**	
LZH				pmax		pmax			
	comp=Z,23nm,1.3s								
LZH				pmax		pmax			
	comp=Z,78nm,5.8s								
PALK	**Pallekele**	**50.03**	**286**	P		**P**	**08 10 08.2**	**-1.2**	
USA0B	**Ussuriysk Arra**	**51.44**	**3**	P		**P**	**08 10 19.1**	**-0.2**	
USA0B				IAmb		IAmb	08 10 24.7		
	comp=Z,19nm,1.5s								
USRK	**Ussuriysk Ar.**	**51.44**	**3**	P		**P**	**08 10 19.1**	**-0.2**	
	comp=Z,1.4nm,0.5s,baz=201,slow=7.6,SNR=7.3								
ODAN	**Odare**	**52.55**	**312**	*eP*		**P**	**08 10 27.9**	**-0.3**	
TAPN	**Taplejung**	**52.59**	**313**	*eP*		**P**	**08 10 28.2**	**-0.3**	
	comp=Z,20nm,0.4s								
RAMN	**Ramite**	**53.18**	**312**	*eP*		**P**	**08 10 32.9**	**+0.1**	
	comp=Z,40nm,0.5s								
GTA	**Gaotai**	**53.71**	**332**	P		**P**	**08 10 36.6**	**+0.3**	
GTA				pP		pwP	08 11 12.9	-3.2	
GTA				sP		sP	08 11 31.5	+5.9	
GTA				pmax		pmax			
	comp=Z,18nm,0.8s								
JIRN	**Jiri**	**53.88**	**312**	*eP*		**P**	**08 10 37.9**	**-0.1**	
	comp=Z,19nm,0.5s								
GUN	**Gumba**	**54.25**	**312**	*eP*		**P**	**08 10 40.4**	**-0.3**	
	comp=Z,32nm,0.5s								
PKI	**Pulchoki**	**54.41**	**312**	*eP*		**P**	**08 10 41.3**	**-0.5**	
	comp=Z,2.1nm,0.5s								
PKIN	**Phulchoki**	**54.42**	**312**	*eP*		**P**	**08 10 41.1**	**-0.7**	
	comp=Z,9.7nm,0.4s								
KKN	**Kakani**	**54.62**	**312**	*eP*		**P**	**08 10 43.0**	**-0.2**	
DMN	**Daman**	**54.65**	**311**	*eP*		**P**	**08 10 43.2**	**-0.3**	
	comp=Z,11nm,0.6s								
GKN	**Gorkha**	**55.22**	**312**	*eP*		**P**	**08 10 48.0**	**+0.6**	
	comp=Z,28nm,0.4s								
KOLN	**Koldanda**	**55.87**	**311**	*eP*		**P**	**08 10 52.0**	**-0.1**	
	comp=Z,29nm,0.7s								
DANN	**Dangsing**	**56.05**	**311**	*eP*		**P**	**08 10 53.1**	**-0.5**	
	comp=Z,15nm,0.6s								
ULN	**Ulaanbaatar**	**58.25**	**343**	P		**P**	**08 11 09.3**	**+0.8**	
ULN				IAmb		IAmb	08 11 10.9		
	comp=Z,9.7nm,1.4s								
SONM	**Songino Array**	**58.42**	**343**	P		**P**	**08 11 10.3**	**+0.8**	
	comp=Z,2.6nm,0.7s,baz=157,slow=6.2,SNR=15								
WMQ	**Urumqi**	**63.03**	**328**	*eP*		**P**	**08 11 41.5**	**+0.7**	
WMQ				pmax		pmax			
	comp=Z,15nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,210nm,3.7s								
WMQ				LR		LR			
	comp=N,640nm,17.5s								
WMQ				LR		LR			
	comp=E,88nm,16.1s								
WMQ				LR		LR			
	comp=Z,200nm,15.5s								
PETK	**Petropavlovsk-**	**65.11**	**19**	P		**P**	**08 11 55.5**	**+1.4**	
	comp=Z,5.3nm,0.9s,baz=161,slow=5.6,SNR=6.6								
KSH	**Kashi**	**67.44**	**318**	P		**P**	**08 12 10.4**	**+1.0**	
KSH				PP		**PP**	**08 14 44.0**	**+3.8**	
KSH				PcS			08 16 39.3		
KSH				S		**S**	**08 20 49.9**	**-3.6**	
KSH				pmax		pmax			
	comp=Z,20nm,0.5s								
KSH				pmax		pmax			
	comp=Z,560nm,4.4s								
KSH				LR		LR			
	comp=N,670nm,5.5s								
KSH				LR		LR			
	comp=E,480nm,7.0s								
KSH				LR		LR			
	comp=Z,770nm,10.2s								
MK31	**Makanchi Array**	**67.86**	**328**	P		**P**	**08 12 12.1**	**+0.4**	
MK31				IAmb		IAmb	08 12 13.0		
	comp=Z,10nm,0.9s								
MKAR	**Makanchi Array**	**67.86**	**328**	P		**P**	**08 12 12.1**	**+0.4**	
	comp=Z,11nm,0.7s,baz=124,slow=8.1,SNR=100								
MKAR				PcP		**PcP**	**08 12 38.5**	**+1.4**	
	comp=Z,1.8nm,0.6s,baz=118,slow=4.7,SNR=2.7								
MAKZ	**Makanchi**	**68.03**	**327**	P		**P**	**08 12 12.8**	**0.0**	
MAKZ				IAmb		IAmb	08 12 14.0		
	comp=Z,8.6nm,0.8s								
YAK	**Yakutsk**	**69.22**	**0**	P		**P**	**08 12 19.7**	**-0.1**	
AAK	**Ala-Archa**	**70.01**	**320**	P		**P**	**08 12 26.3**	**+0.9**	
	comp=Z,5.9nm,0.8s,baz=116,slow=5.3,SNR=16								
AAK	**Ala-Archa**	**70.01**	**320**	P		**P**	**08 12 26.2**	**+0.9**	
AAK				IAmb		IAmb	08 12 27.2		
	comp=Z,8.3nm,0.9s								
ARSB	**Arslanbob**	**70.33**	**319**	P		**P**	**08 12 27.4**	**+0.2**	
ARSB				IAmb		IAmb	08 12 28.7		
	comp=Z,9.3nm,0.8s								
GAR	**Garm**	**71.03**	**315**	P		**P**	**08 12 31.2**	**-0.3**	
GAR				IAmb		IAmb	08 12 32.4		
	comp=Z,10.0nm,0.9s								
ZAA0	**Zalesovo Array**	**71.37**	**334**	P		**P**	**08 12 32.6**	**-0.4**	
ZAA0				IAmb		IAmb	08 12 33.8		
	comp=Z,6.4nm,0.6s								
ZALV	**Zalesovo Beam**	**71.37**	**334**	P		**P**	**08 12 32.5**	**-0.5**	
	comp=Z,7.7nm,0.6s,baz=133,slow=5.4,SNR=29								
CHGR	**Chuyangaron**	**71.69**	**315**	P		**P**	**08 12 34.9**	**-0.5**	
CHGR				IAmb		IAmb	08 12 36.9		
	comp=Z,10nm,0.8s								
KURBB	**Kurchatov Arra**	**72.18**	**329**	P		**P**	**08 12 38.4**	**+0.4**	
	comp=Z,8.9nm,0.5s,baz=131,slow=5.0,SNR=69								
KURK	**Kurchatov**	**72.19**	**329**	P		**P**	**08 12 38.2**	**+0.2**	
KURK				IAmb		IAmb	08 12 39.9		
	comp=Z,11nm,0.9s								
TAS	**Tashkent**	**72.78**	**317**	P		**P**	**08 12 41.7**	**0.0**	
KK31	**Karatay Array**	**72.79**	**319**	P		**P**	**08 12 41.9**	**+0.2**	
KK31				IAmb		IAmb	08 12 43.6		
	comp=Z,11nm,1.3s								
KKAR	**Karatay Array**	**72.79**	**319**	P		**P**	**08 12 42.1**	**+0.3**	
KKAR				IAmb		IAmb	08 12 43.6		
	comp=Z,11nm,1.3s								
KIWB	**Kanaga Island**	**74.94**	**31**	P		**P**	**08 12 54.0**	**0.0**	
HRA	**Herat**	**75.18**	**308**	P		**P**	**08 12 54.6**	**-1.5**	
BVAR	**Borovoye Array**	**77.71**	**328**	P		**P**	**08 13 09.8**	**+0.1**	
	comp=Z,2.7nm,0.6s,baz=116,slow=5.4,SNR=20								
BRVK	**Borovoye**	**77.78**	**328**	P		**P**	**08 13 09.9**	**-0.2**	
TIXI	**Tiksi**	**78.88**	**0**	P		**P**	**08 13 15.6**	**-0.1**	
GEYT	**Alibeck**	**79.48**	**311**	P		**P**	**08 13 20.4**	**+0.6**	
	comp=Z,1.0nm,0.5s,baz=165,slow=6.2,SNR=3.8								
ABPO	**Ambohimpanom**	**79.59**	**252**	P		**P**	**08 13 19.9**	**-1.1**	
ABPO				IAmb		IAmb	08 13 25.9		
	comp=Z,17nm,1.2s								
NRIK	**Noril'sk**	**81.63**	**346**	P		**P**	**08 13 30.6**	**+0.2**	
	comp=Z,1.6nm,0.5s,baz=128,slow=8.8,SNR=3.8								
NRIK				PP		**PP**	**08 16 37.1**	**-2.2**	
	comp=Z,1.7nm,0.5s,baz=50,slow=4.0,SNR=4.1								
ABKAR	**Akbulak array**	**82.02**	**322**	P		**P**	**08 13 32.6**	**-0.3**	
SYO	**Syowa Base**	**82.82**	**201**⇑	P		**P**	**08 13 38.2**	**+1.5**	
SYO	**Syowa Base**	**82.82**	**201**⇑	*e*PcP		**PcP**	**08 13 41.4**	**+0.2**	
AKTO	**Aktyubinsk**	**83.60**	**323**	P		**P**	**08 13 39.5**	**-1.5**	
	comp=Z,0.9nm,0.4s,baz=112,slow=5.3,SNR=5.0								
ARU	**Arti**	**85.36**	**328**	P		**P**	**08 13 49.2**	**-0.5**	
ARU				IAmb		IAmb	08 13 50.6		
	comp=Z,5.4nm,0.8s								
ILAR	**Eielson Array**	**94.26**	**25**	P		**P**	**08 14 29.9**	**-1.5**	
	comp=Z,0.2nm,0.7s,baz=238,slow=6.3,SNR=2.4								
ARCES	**ARCESS Array B**	**101.50**	**340**	P		**Pdif**	**08 15 04.1**	**+0.2**	
	comp=Z,0.6nm,0.7s,baz=97,slow=7.4,SNR=0.8								
TORD	**Torodi Ar. Bea**	**127.61**	**281**	PKP		**PKiKP**	**08 20 18.2**	**-0.3**	
	comp=Z,0.7nm,0.6s,baz=62,slow=2.2,SNR=6.2								
LVC	**Limon Verde**	**145.55**	**150**	PKPbc		**PKPab**	**08 20 53.4**	**+1.3**	
	comp=Z,2.9nm,0.8s,baz=186,slow=1.8,SNR=2.9								
CPUP	**Villa Florida**	**145.97**	**170**	PKPbc		**PKPab**	**08 20 53.2**	**+0.2**	
	comp=Z,1.6nm,0.7s,baz=188,slow=3.8,SNR=6.0								
LPAZ	**La Paz**	**151.17**	**145**	PKPbc		**PKPbc**	**08 21 07.0**	**0.0**	
	comp=Z,0.6nm,0.4s,baz=33,slow=7.7,SNR=8.0								
LPAZ				PKPab		**PKPab**	**08 21 16.7**	**+1.6**	
	comp=Z,2.1nm,0.6s,baz=156,slow=4.2,SNR=9.9								
SIV	**San Ignacio**	**154.83**	**157**	PKPab		**PKPab**	**08 21 31.3**	**+1.6**	
	comp=Z,0.8nm,0.5s,baz=244,slow=4.4,SNR=8.6								

*ISCJB **22** 08:24:59.6±0.2,37.20N±0.06×135.39E±0.05, h367km±4km, mb3.5/20, Error ellipse: s-maj=9.8km s-min=6.0km az=156.5*
*IDC **22** 08:25:00.1±0.6,37.19N×135.28E, h358km±7km, mb3.2/20, mb1 3.4/25, mb1mx3.2/60, mbtmp4.0/25, Error ellipse: s-maj=10.2km s-min=9.5km az=160.0*
*JMA **22** 08:25:00.1±0.1,37.20N×135.38E, h365km±2km, M3.4*

ISC 22 08:25:00.1±0.6, 37.26N±0.07×135.36E±0.05, h358km±7km, n55, σ1§20/66, mb3.5/20, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**1.18**	**106**	P	**Pn**	**08 25 48.5**	**+1.1**
JKG	**Kaga**	**1.25**	**141**	P	**Pn**	**08 25 48.3**	**+0.5**
JKG				*e*S	**S**	**08 26 25.8**	**-0.2**
JSZ	**Suzu**	**1.61**	**83**	P	**Pn**	**08 25 50.2**	**+0.7**
JOI	**OKI**	**1.95**	**241**	P	**Pn**	**08 25 52.5**	**+0.7**
JWT	**Wachi**	**1.97**	**179**	P	**Pn**	**08 25 52.5**	**+0.5**
JWT				*e*S	**S**	**08 26 32.7**	**-1.0**
JYTA	**Yamagatataniai**	**2.00**	**146**	P	**Pn**	**08 25 52.5**	**+0.4**
JYTA				*e*S	**S**	**08 26 33.1**	**-0.8**
MAT	**Matsushiro**	**2.39**	**107**	P	**Pn**	**08 25 55.8**	**+0.8**
MAT				S	**S**	**08 26 40.7**	**+1.6**
MAT	**Matsushiro**	**2.39**	**107**	P	**Pn**	**08 25 55.8**	**+0.8**
MJAR	**Matsushiro Arr**	**2.39**	**107**	P	**Pn**	**08 25 56.2**	**+1.2**
	3.9nm,0.3s,baz=272,slow=9.6,SNR=406						
MJAR				S	**S**	**08 26 40.4**	**+1.3**
	baz=278,slow=38,SNR=0.5						
JSD	**Sado**	**2.43**	**70**	P	**Pn**	**08 25 56.2**	**+1.0**
JHS	**Saijyo**	**2.90**	**220**	P	**Pn**	**08 25 59.4**	**+0.2**
JIE	**Ise**	**3.06**	**159**	P	**Pn**	**08 26 01.3**	**+0.6**
JRY	**Ryogami san**	**3.11**	**112**	P	**Pn**	**08 26 01.5**	**+0.5**
JYN	**Shimob**	**3.11**	**123**	P	**Pn**	**08 26 01.6**	**+0.4**
JGT2	**ShimaneMisato**	**3.18**	**227**	P	**Pn**	**08 26 02.3**	**+0.6**
JOD2	**Odawara 2**	**3.61**	**122**	P	**Pn**	**08 26 06.1**	**+0.3**
JOD2				*e*S	**S**	**08 26 57.3**	**-1.4**
JTO	**Tosashimizu**	**4.87**	**206**	P	**Pn**	**08 26 19.0**	**+0.3**
JMK	**Ichinoseki**	**4.92**	**68**	P	**Pn**	**08 26 19.5**	**+0.4**
JMK				*e*S	**S**	**08 27 21.3**	**-1.7**
BSO1	**Boso 1**	**5.25**	**118**	P	**Pn**	**08 26 21.0**	**-1.2**
BSO1				*e*S	**S**	**08 27 25.4**	**-3.3**
JNU	**Nakatsue**	**5.52**	**223**	P	**Pn**	**08 26 26.3**	**+0.4**
	0.4nm,0.3s,baz=49,slow=10.0,SNR=4.3						
JNU				S	**S**	**08 27 32.9**	**-2.6**
	0.1nm,0.3s,baz=180,slow=12,SNR=3.8						
KSRS	**Korea Array**	**5.93**	**274**	P	**Pn**	**08 26 31.4**	**+1.1**
	0.7nm,0.3s,baz=94,slow=12,SNR=19						
USRK	**Ussuriysk Ar.**	**7.39**	**341**	P	**P**	**08 26 48.9**	**+0.6**
	baz=158,slow=11,SNR=9.2						
ASAJ	**Asahikawa**	**8.78**	**36**	P	**Pn**	**08 27 03.5**	**+0.2**
	14nm,0.3s,baz=240,slow=12,SNR=68						
ASAJ				S	**S**	**08 28 38.5**	**-5.8**
	1.6nm,0.3s,baz=347,slow=27,SNR=6.9						
SONM	**Songino Array**	**23.68**	**306**	P	**P**	**08 29 40.1**	**-0.9**
	1.5nm,0.5s,baz=109,slow=9.5,SNR=10						
CMAR	**Chiang Mai Arr**	**36.95**	**250**	P	**P**	**08 31 37.4**	**+0.9**
	1.0nm,0.4s,baz=47,slow=7.7,SNR=6.2						
MKAR	**Makanchi Array**	**39.88**	**301**	P	**P**	**08 31 58.9**	**-1.5**
	0.9nm,0.6s,baz=83,slow=11,SNR=6.7						
NRIK	**Noril'sk**	**41.08**	**336**	P	**P**	**08 32 09.6**	**-0.1**
	0.9nm,0.3s,baz=92,slow=8.8,SNR=3.7						
TAPN	**Taplejung**	**41.10**	**270**	*eP*	**P**	**08 32 10.4**	**-0.4**
	9.9nm,0.3s						
KURBB	**Kurchatov Arra**	**42.03**	**307**	P	**P**	**08 32 16.9**	**-0.7**
	1.6nm,0.7s,baz=85,slow=8.4,SNR=13						
RAMN	**Ramite**	**42.16**	**270**	*eP*	**P**	**08 32 19.8**	**+0.5**
JIRN	**Jiri**	**42.18**	**272**	*eP*	**P**	**08 32 20.4**	**+0.9**
GUN	**Gumba**	**42.32**	**272**	*eP*	**P**	**08 32 20.8**	**+0.2**
	13nm,0.4s						
PKI	**Pulchoki**	**42.84**	**272**	*eP*	**P**	**08 32 25.0**	**+0.2**
	1.3nm,0.6s						
KKN	**Kakani**	**42.85**	**272**	*eP*	**P**	**08 32 24.9**	**+0.2**
PKIN	**Phulchoki**	**42.85**	**272**	*eP*	**P**	**08 32 25.5**	**+0.8**
DMN	**Daman**	**43.06**	**272**	*eP*	**P**	**08 32 27.2**	**+0.7**
	6.5nm,0.5s						
GKN	**Gorkha**	**43.27**	**273**	*eP*	**P**	**08 32 27.2**	**-0.7**
	21nm,0.6s						
DANN	**Dangsing**	**43.82**	**274**	*eP*	**P**	**08 32 32.0**	**-0.4**
	29nm,0.6s						
KOLN	**Koldanda**	**44.19**	**273**	*eP*	**P**	**08 32 34.8**	**-0.5**
AAK	**Ala-Archa**	**46.09**	**297**	P	**P**	**08 32 49.3**	**-0.5**
	1.9nm,0.5s,baz=66,slow=7.1,SNR=4.6						
BVAR	**Borovoye Array**	**46.82**	**311**	P	**P**	**08 32 55.2**	**+0.2**
	0.9nm,0.4s,baz=110,slow=7.9,SNR=11						
ILAR	**Eielson Array**	**51.89**	**32**	P	**P**	**08 33 33.4**	**+0.6**
	0.6nm,0.6s,baz=269,slow=5.8,SNR=14						
ARU	**Arti**	**52.95**	**317**	P	**P**	**08 33 40.2**	**-0.4**
	1.2nm,0.5s,baz=114,slow=19,SNR=6.3						
AKTO	**Aktyubinsk**	**54.88**	**310**	P	**P**	**08 33 55.8**	**+1.2**
	0.7nm,0.6s,baz=79,slow=8.3,SNR=4.4						
WRA	**Warramunga Arr**	**56.90**	**181**	P	**P**	**08 34 08.0**	**-1.0**
	2.0nm,0.4s,baz=355,slow=7.6,SNR=42						
ASAR	**Alice Springs**	**60.62**	**182**	P	**P**	**08 34 33.6**	**-0.7**
	0.4nm,0.3s,baz=358,slow=6.8,SNR=19						
RES	**Resolute Bay**	**63.54**	**13**	P	**P**	**08 34 53.1**	**+0.3**
	1.0nm,0.6s,baz=316,slow=6.5,SNR=4.1						
YKA	**Yellowknife Ar**	**65.98**	**29**	P	**P**	**08 35 09.4**	**+0.8**
	0.2nm,0.4s,baz=310,slow=4.3,SNR=11						
YKA				PcP	**PcP**	**08 35 37.1**	**+1.0**
	0.2nm,0.7s,baz=303,slow=3.8,SNR=4.5						
FINES	**FINESS Array B**	**66.29**	**330**	P	**P**	**08 35 10.1**	**-0.5**
	0.7nm,0.4s,baz=52,slow=9.0,SNR=4.7						
AKASG	**Malin Array Be**	**71.08**	**320**	P	**P**	**08 35 39.5**	**-0.6**
	0.3nm,0.5s,baz=51,slow=8.0,SNR=3.0						
NVAR	**Mina Array Bea**	**78.64**	**50**	P	**P**	**08 36 24.5**	**+1.0**
	0.7nm,0.6s,baz=299,slow=5.6,SNR=8.6						
PDAR	**Pinedale Array**	**80.86**	**42**	P	**P**	**08 36 35.7**	**+0.5**
	0.4nm,0.6s,baz=60,slow=26,SNR=3.5						
ULM	**Lac du Bonnet**	**81.86**	**30**	P	**P**	**08 36 40.3**	**+0.3**
	2.6nm,0.8s,baz=206,slow=12,SNR=3.3						
TXAR	**Lajitas Array**	**93.71**	**49**	P	**P**	**08 37 38.4**	**+1.3**
	0.4nm,0.6s,baz=293,slow=3.5,SNR=8.4						
LPAZ	**La Paz**	**150.55**	**51**	PKPbc	**PKPbc**	**08 44 11.3**	**+0.2**
	0.5nm,0.5s,baz=9.6,slow=6.7,SNR=4.6						

*IDC **22** 08:32:08.2±3.2,36.34N×71.34E, h132km±28km, mb3.3/7, mb1 3.4/13, mb1mx3.1/50, mbtmp3.8/13, Error ellipse: s-maj=25.9km s-min=18.4km az=177.0*
*ISCJB **22** 08:32:09.8±0.5,36.58N±0.05×71.33E±0.06, h150km, mb3.5/7, Error ellipse: s-maj=8.2km s-min=5.0km az=43.9*
*NNC **22** 08:32:18.0±2.3,37.11N×71.20E, h123km±38km, mb3.2, mpv3.8, Error ellipse: s-maj=18.9km s-min=13.7km az=14.0*

ISC 22 08:32:10.9±0.7, 36.69N±0.07×71.29E±0.07, h150km, n27, σ2§29/34, mb3.7/7, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.43**	**355**	P	**Pn**	**08 33 44.8**	**+1.5**
	5.6nm,0.4s,baz=181,slow=13,SNR=68						
KK31				⇓S	**Sn**	**08 34 53.3**	**-2.4**
	15nm,0.5s,baz=186,slow=17,SNR=20						
AAK	**Ala-Archa**	**6.43**	**22**	P	**Pn**	**08 33 45.2**

PASC	**Pasadena Art C**	**5.63**	**325**		Lg		08 50 27.4	
X18A	**Snowflake**	**6.15**	**36**		**Pn**		**08 48 52.3**	**+1.5**
121A	**Cookes Peak, D**	**6.31**	**61**		**Pn**		**08 48 54.4**	**+1.4**
WUAZ	**Wupatki**	**6.40**	**22**		**Pn**		**08 48 57.5**	**+3.3**
W18A	**Petrified Fore**	**6.73**	**34**	Pn	**Pn**		**08 49 01.5**	**+2.8**
Y22D	**IRIS PASSCAL I**	**7.71**	**53**	Pn	**Pn**		**08 49 14.3**	**+2.2**
LENM	**Lemitar**	**7.72**	**52**	Pn	**Pn**		**08 49 13.7**	**+1.3**
BNM	**Barren Site**	**7.95**	**53**		**Pn**		**08 49 17.0**	**+1.5**
MNTX	**Cornudas Mount**	**7.97**	**73**		**Pn**		**08 49 17.6**	**+2.0**
ANMO	**Albuquerque**	**8.52**	**49**	Pn	**Pn**		**08 49 24.3**	**+1.0**
	0.3nm,0.3s,baz=220,slow=13,SNR=8.5							
ANMO				Lg	Lg		08 51 48.2	
	0.1nm,0.3s,baz=318,slow=2.6,SNR=2.0							
TX32	**Lajitas Array**	**9.28**	**89**	Pn	**Pn**		**08 49 35.7**	**+2.1**
TXAR	**Lajitas Array**	**9.28**	**89**	Pn	**Pn**		**08 49 35.1**	**+1.5**
	0.2nm,0.3s,baz=261,slow=15,SNR=13							
TXAR				Pg			08 49 54.0	
	0.3nm,0.3s,baz=267,slow=14,SNR=12							
TXAR				Lg	Lg		08 52 03.6	
	0.2nm,0.3s,baz=37,slow=40,SNR=2.5							
NVAR	**Mina Array Bea**	**9.42**	**340**	Pn	Pn		08 49 45.5	+10
	0.1nm,0.3s,baz=152,slow=14,SNR=3.2							
PDAR	**Pinedale Array**	**13.69**	**15**	Pn	**P**		**08 50 41.1**	**-1.8**
	0.0nm,0.3s,baz=126,slow=20,SNR=2.6							

*BJI **22** 08:47:41.6±0.0,35.27N×78.10E,h5km,ML3.3/4*
IDC 22 08:47:45.1±11.0,**36.04N×77.20E,h0**km,**mb4.2**/2,
mb1 4.0/3,**mb1mx3.3**/52,**mbtmp3.9**/3,**ML3.5**/1,**Error ellipse: s-maj=203.9km s-min=46.2km az=135.0,**
Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**11.19**	**43**	*eP*		Pn		08 50 28.0	+1.7
WMQ				*pP*				08 50 31.3	
MKAR	**Makanchi Array**	**11.40**	**18**	Pn		Pn		08 50 32.0	+2.8
	0.3nm,0.3s,baz=204,slow=13,SNR=16								
MKAR				Sn		Sn		08 52 35.6	-1.6
	0.6nm,0.3s,baz=196,slow=25,SNR=10								
FINES	**FINESS Array B**	**40.70**	**325**	P		P		08 55 27.2	+0.1
	3.8nm,0.9s,baz=144,slow=17,SNR=2.0								
ARCES	**ARCESS Array B**	**43.53**	**336**	P		P		08 55 49.5	-0.6
	3.1nm,1.0s,baz=99,slow=7.5,SNR=3.8								

IDC 22 08:48:08.1±1.6,**20.26N×145.56E,h0**km,**mb3.5**/5,
mb1 3.9/5,**mb1mx3.5**/46,**mbtmp3.5**/5,**Error ellipse: s-maj=171.5km s-min=22.9km az=113.0,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.44**	**196**	P		P		08 55 56.6	0.0
	0.9nm,0.8s,baz=19,slow=8.6,SNR=4.6								
ASAR	**Alice Springs**	**45.11**	**195**	P		P		08 56 26.1	-0.2
	0.2nm,0.7s,baz=14,slow=6.5,SNR=6.5								
ILAR	**Eielson Array**	**62.31**	**27**	P		P		08 58 32.0	+0.1
	0.4nm,0.7s,baz=256,slow=5.4,SNR=4.9								
YKA	**Yellowknife Ar**	**76.68**	**28**	P		P		09 00 00.6	-0.1
	0.3nm,0.6s,baz=291,slow=5.3,SNR=6.7								
NVAR	**Mina Array Bea**	**82.28**	**52**	P		P		09 00 32.2	+0.1
	0.5nm,0.8s,baz=258,slow=6.4,SNR=4.9								

IDC 22 09:08:34.1±5.8,**2.12S×104.55W,h0**km,**mb3.2**/3,
mb1 3.6/3,**mb1mx3.3**/39,**mbtmp3.2**/3,**MS3.9**/1,**Ms1 3.9**/1,
ms1mx3.2/21,**Error ellipse: s-maj=143.8km s-min=45.6km az=25.0,Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**31.29**	**1**	P		P		09 14 55.7	-0.4
	0.3nm,0.9s,baz=148,slow=8.6,SNR=2.0								
PCRV	**Puerto La Cruz**	**41.57**	**72**	P		P		09 16 24.2	+0.2
	21nm,1.1s,baz=249,slow=8.6,SNR=3.6								
SJG	**San Juan**	**42.82**	**60**	LR		LR		09 33 45.5	
	comp=Z,131nm,18.0s,baz=359,slow=35								
YKA	**Yellowknife Ar**	**64.89**	**355**	P		P		09 19 15.6	+0.7
	0.3nm,0.8s,baz=165,slow=5.8,SNR=4.4								
ILAR	**Eielson Array**	**73.54**	**342**	P		P		09 20 08.2	-0.4
	0.3nm,0.9s,baz=148,slow=5.3,SNR=4.2								
H11N3	**WAKE ISLAND Hy**	**89.33**	**290**	T		T		11 00 59.9	
	baz=96,slow=75,SNR=23								
H11N2	**WAKE ISLAND Hy**	**89.34**	**290**	T		T		11 01 01.0	
	baz=96,slow=75,SNR=21								
H11N1	**WAKE ISLAND Hy**	**89.35**	**290**	T		T		11 01 00.3	
	baz=96,slow=75,SNR=21								
H11S2	**WAKE ISLAND Hy**	**89.47**	**288**	T		T		11 01 10.8	
	baz=94,slow=74,SNR=14								
H11S1	**WAKE ISLAND Hy**	**89.48**	**288**	T		T		11 01 07.6	
	baz=94,slow=74,SNR=15								
H11S3	**WAKE ISLAND Hy**	**89.49**	**288**	T		T		11 01 08.3	
	baz=94,slow=74,SNR=12								

*NNC **22** 09:16:28.2±0.5,42.13N×77.21E,h0km,mb3.5,mpv3.7,*
Error ellipse: s-maj=3.2km s-min=2.3km az=175.0
*KRNET **22** 09:16:28.1±0.1,42.10N×77.21E,h20km,mb3.5*
*SOME **22** 09:16:28.4,42.13N×77.22E,h15km*
ISC 22 09:16:28.1±0.9,**42.09N**±0.03×**77.16E**±0.02,**h14**km±5km,
n85,σ1§**47**/143,**26C-21D**,**Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.04**	**18**	⇑*iP*		**Pg**		**09 16 30.9**	**0.0**
	baz=41								
KDJ				⇑*iS*		**Sg**		**09 16 33.0**	**+0.2**
	baz=41								
TARG	**Taragay, Kyrgy**	**0.60**	**127**	⇓*iP*		**Pb**		**09 16 39.3**	**-1.3**
	baz=30								
TARG				⇓*iS*		**Sb**		**09 16 47.1**	**-2.0**
	baz=30								
ULHL	**Ulahol**	**0.70**	**283**	⇓*iP*		**Pb**		**09 16 42.1**	**-0.1**
	baz=82								
ULHL				⇓*iS*		**Sb**		**09 16 52.0**	**+0.1**
	baz=82								
ULHL	**Ulahol**	**0.70**	**283**	P		**Pb**		**09 16 42.1**	**-0.1**
	SNR=141								
ANVS	**Anan'yevo**	**0.79**	**28**	⇑*iP*		**Pb**		**09 16 42.9**	**-0.7**
	baz=26								
ANVS				⇑*iS*		**Sb**		**09 16 53.2**	**-1.0**
	baz=26								
TNSS	**Tian-Shan**	**0.96**	**350**	*eP*		**Pb**		**09 16 46.2**	**-0.5**
	53nm,0.1s								
TNSS				*eS*		**Sb**		**09 16 59.1**	**-0.4**
	190nm,0.2s								
TNSS	**Tian-Shan**	**0.96**	**350**	*eP*		**Pb**		**09 16 46.2**	**-0.5**
	baz=48								
TNSS				*eS*		**Sb**		**09 16 59.0**	**-0.4**
	baz=48								
TNSS	**Tian-Shan**	**0.96**	**350**	P		**Pb**		**09 16 46.2**	**-0.5**
	143nm,0.2s								
TNSS				S		**Sb**		**09 16 59.1**	**-0.4**
	190nm,0.2s								
BOOM	**Boomskoye usch**	**0.99**	**294**	⇓*iP*		**Pb**		**09 16 47.1**	**0.0**
	baz=93								
BOOM				⇓*iS*		**Sb**		**09 17 01.0**	**+0.9**
	baz=93								
PRZ	**Przheval'sk**	**1.00**	**66**	⇑*iP*		**Pb**		**09 16 46.4**	**-0.9**
	baz=66								
PRZ				⇑*iS*		**Sb**		**09 16 59.6**	**-0.8**
	baz=66								
MDOK	**Medeo**	**1.07**	**356**	*eP*		**Pb**		**09 16 48.0**	**-0.5**
	58nm,0.2s								
MDOK				*eS*		**Sg**		**09 17 02.0**	**-0.8**
	105nm,0.4s								
MDOK	**Medeo**	**1.07**	**356**	*eP*		**Pb**		**09 16 48.0**	**-0.5**
	baz=54								
MDOK				*eS*		**Sg**		**09 17 02.0**	**-0.8**
	baz=54								
MDOK	**Medeo**	**1.07**	**356**	⇑P		**Pb**		**09 16 48.0**	**-0.5**
	24nm,0.4s								
MDOK				⇓S		**Sg**		**09 17 02.0**	**-0.8**
	73nm,0.6s								
MDOK	**Medeo**	**1.07**	**356**	Pg		**Pb**		**09 16 48.0**	**-0.5**
	58nm,0.2s								
MDOK				Lg		Lg		09 17 02.0	
	105nm,0.4s								
NRN	**Naryn**	**1.09**	**233**	⇑*iP*		**Pn**		**09 16 49.5**	**+0.2**
	baz=34								
NRN				⇑*iS*		**Sn**		**09 17 04.3**	**0.0**
	baz=34								
AAA	**Alma-Ata**	**1.13**	**351**	*eP*		**Pn**		**09 16 49.7**	**+0.1**
	204nm,0.1s								
AAA				*eS*		**Sb**		**09 17 05.1**	**+1.0**
	153nm,0.3s								
AAA	**Alma-Ata**	**1.13**	**351**	*eP*		**Pn**		**09 16 49.7**	**+0.1**
	baz=49								
AAA				*eS*		**Sb**		**09 17 05.1**	**+1.0**
	baz=49								
AAA	**Alma-Ata**	**1.13**	**351**	P		**Pn**		**09 16 49.7**	**+0.1**
	204nm,0.1s								
AAA				S		**Sb**		**09 17 05.1**	**+1.0**
	153nm,0.3s								
KNDC	**Almaty**	**1.13**	**353**	⇓P		**Pn**		**09 16 49.8**	**+0.2**
	50nm,0.2s								
KNDC				⇓S		**Sn**		**09 17 05.6**	**+0.6**
	53nm,0.3s								
KOTS	**Kotyrbulak**	**1.14**	**358**	*eP*		**Pb**		**09 16 49.4**	**-0.3**
	166nm,0.2s								
KOTS				*eS*		**Sb**		**09 17 04.6**	**+0.1**
	285nm,0.4s								
KOTS	**Kotyrbulak**	**1.14**	**358**	*eP*		**Pb**		**09 16 49.4**	**-0.3**
	baz=56								
KOTS				*eS*		**Sb**		**09 17 04.6**	**+0.1**
	baz=56								
KOTS	**Kotyrbulak**	**1.14**	**358**	P		**Pb**		**09 16 49.4**	**-0.3**
	166nm,0.2s								
KOTS				S		**Sb**		**09 17 04.6**	**+0.1**
	285nm,0.4s								
SATY	**Saty**	**1.33**	**43**	*eP*		**Pb**		**09 16 52.3**	**-0.6**
	46nm,0.1s								
SATY				*eS*		**Sb**		**09 17 09.8**	**-0.2**
	184nm,0.1s								
SATY	**Saty**	**1.33**	**43**	P		**Pb**		**09 16 52.3**	**-0.6**
	46nm,0.1s								
SATY				S		**Sb**		**09 17 09.8**	**-0.2**
	184nm,0.1s								
KZA	**Kyzart**	**1.42**	**270**	⇓*iP*		**Pb**		**09 16 55.3**	**+0.6**
	baz=70								
KZA				⇓*iS*		**Sn**		**09 17 14.8**	**+2.1**
	baz=70								
KZA	**Kyzart**	**1.42**	**270**	P		**Pb**		**09 16 55.3**	**+0.6**
	SNR=18								
TKM2	**Tokmak 2**	**1.42**	**306**	⇓*iP*		**Pg**		**09 16 54.8**	**-0.6**
	baz=5.0								
TKM2				⇓*iS*		**Sn**		**09 17 14.1**	**+1.7**
	baz=5.0								
TKM2	**Tokmak 2**	**1.42**	**306**	P		**Pg**		**09 16 54.9**	**-0.6**
	SNR=160								
TKM2	**Tokmak 2**	**1.42**	**306**	⇑P		**Pg**		**09 16 54.9**	**-0.6**
	8.3nm,0.2s								
TKM2				⇑S		**Sn**		**09 17 14.1**	**+1.7**
	31nm,0.2s								
ZHN	**Zhinishke**	**1.43**	**41**	*eP*		**Pg**		**09 16 53.8**	**-1.7**
	21nm,0.2s								
ZHN				*eS*		**Sb**		**09 17 12.3**	**-0.4**
	194nm,0.2s								
ZHN	**Zhinishke**	**1.43**	**41**	*eP*		**Pg**		**09 16 53.8**	**-1.7**
	baz=40								
ZHN				*eS*		**Sb**		**09 17 12.2**	**-0.4**
	baz=40								
ZHN	**Zhinishke**	**1.43**	**41**	P		**Pg**		**09 16 53.8**	**-1.7**
	21nm,0.2s								
ZHN				S		**Sb**		**09 17 12.3**	**-0.4**
	194nm,0.2s								
DGS	**Degeres**	**1.54**	**319**	*eP*		**Pg**		**09 16 56.6**	**-1.0**
	17nm,0.1s								
DGS				*eS*		**Sg**		**09 17 17.1**	**-0.7**
	103nm,0.4s								
DGS	**Degeres**	**1.54**	**319**	*eP*		**Pg**		**09 16 56.6**	**-1.0**
	baz=18								
DGS				*eS*		**Sg**		**09 17 17.0**	**-0.7**
	baz=18								
DGS	**Degeres**	**1.54**	**319**	P		**Pg**		**09 16 56.6**	**-1.0**
	17nm,0.1s								
DGS				S		**Sg**		**09 17 17.1**	**-0.7**
	103nm,0.4s								
KURS	**Kuram**	**1.58**	**28**	*eP*		**Pg**		**09 16 56.6**	**-1.8**
	20nm,0.4s								
KURS				*eS*		**Sg**		**09 17 17.2**	**-1.8**
	42nm,0.4s								
KURS	**Kuram**	**1.58**	**28**	*eP*		**Pg**		**09 16 56.6**	**-1.8**
	baz=27								
KURS				*eS*		**Sg**		**09 17 17.1**	**-1.8**
	baz=27								
KURS	**Kuram**	**1.58**	**28**	P		**Pg**		**09 16 56.6**	**-1.8**
	20nm,0.4s								
KURS				S		**Sg**		**09 17 17.2**	**-1.8**
	42nm,0.4s								
KTBS	**Karatobe**	**1.66**	**348**	*eP*		**Pg**		**09 16 58.6**	**-1.3**
	28nm,0.2s								
KTBS				*eS*		**Sg**		**09 17 20.3**	**-1.1**
	170nm,0.2s								
KTBS	**Karatobe**	**1.66**	**348**	*eP*		**Pg**		**09 16 58.6**	**-1.3**
	baz=42								
KTBS				*eS*		**Sg**		**09 17 20.4**	**-1.1**
	baz=42								
KTBS	**Karatobe**	**1.66**	**348**	P		**Pg**		**09 16 58.6**	**-1.3**
	28nm,0.2s								
KTBS				S		**Sg**		**09 17 20.3**	**-1.1**
	170nm,0.2s								
KBK	**Karagaybulak**	**1.74**	**290**	⇑*iP*		**Pg**		**09 17 00.3**	**-1.1**
	baz=89								
KBK				⇑*iS*		**Sg**		**09 17 23.5**	**-0.4**
	baz=89								
KBK	**Karagaybulak**	**1.74**	**290**	P		**Pg**		**09 17 00.4**	**-1.0**
	SNR=5.5								
CHKK	**Chushkaly**	**1.77**	**356**	*eP*		**Pg**		**09 17 00.5**	**-1.5**
	33nm,0.1s								
CHKK				*eS*		**Sg**		**09 17 23.5**	**-1.4**
	158nm,0.2s								
CHKK	**Chushkaly**	**1.77**	**356**	*eP*		**Pg**		**09 17 00.5**	**-1.5**
	baz=55								
CHKK				*eS*		**Sg**		**09 17 23.5**	**-1.4**
	baz=55								
CHKK	**Chushkaly**	**1.77**	**356**	P		**Pg**		**09 17 00.5**	**-1.5**
	33nm,0.1s								
CHKK				S		**Sg**		**09 17 23.5**	**-1.4**
	158nm,0.2s								
KPKS	**Kokpek**	**1.77**	**39**	*eP*		**Pg**		**09 16 60.0**	**-2.1**
	111nm,0.1s								
KPKS				*eS*		**Sg**		**09 17 22.9**	**-2.2**
	246nm,0.2s								
KPKS	**Kokpek**	**1.77**	**39**	*eP*		**Pg**		**09 17 00.0**	**-2.1**
	baz=38								
KPKS				*eS*		**Sg**		**09 17 22.9**	**-2.2**
	baz=38								
KUU	**Kurty**	**1.90**	**342**	*eP*		**Pb**		**09 17 02.7**	**+0.2**
	32nm,0.2s								
KUU				*eS*		**Sg**		**09 17 27.7**	**-1.5**
	91nm,0.4s								
KUU	**Kurty**	**1.90**	**342**	*eP*		**Pb**		**09 17 02.7**	**+0.2**
	baz=41								
KUU				*eS*		**Sg**		**09 17 27.7**	**-1.5**
	baz=41								
KUU	**Kurty**	**1.90**	**342**	P		**Pb**		**09 17 02.7**	**+0.2**
	32nm,0.2s								
KUU				S		**Sg**		**09 17 27.7**	**-1.5**
	91nm,0.4s								
UCH	**Uchtor**	**1.98**	**275**	⇑*iP*		**Pb**		**09 17 04.0**	**-0.1**
	baz=75								
UCH				⇑*iS*		**Sb**		**09 17 29.3**	**+0.6**
	baz=75								
UCH	**Uchtor**	**1.98**	**275**	P		**Pg**		**09 17 05.0**	**-1.0**
	SNR=9.7								
CHMS	**Chumysh**	**2.00**	**298**	⇑*iP*		**Pb**		**09 17 04.1**	**-0.1**
	baz=97								
CHMS				⇑*iS*		**Sb**		**09 17 29.9**	**+0.9**
	baz=97								
CHMS	**Chumysh**	**2.00**	**298**	P		**Pb**		**09 17 04.6**	**+0.4**
	SNR=7.1								
SHLS	**Shalkode**	**2.00**	**57**	*eP*		Pg		09 17 09.2	+2.7
	9.4nm,0.1s								
SHLS				*eS*		**Sg**		**09 17 38.4**	**+5.9**
	95nm,0.3s								
SHLS	**Shalkode**	**2.00**	**57**	*eP*		Pg		09 17 09.2	+2.7
	baz=61								
SHLS				*eS*		**Sg**		**09 17 38.4**	**+5.9**
	baz=61								
SHLS	**Shalkode**	**2.00**	**57**	Pg		Pg		09 17 09.2	+2.7
	9.4nm,0.1s								
SHLS				Lg		Lg		09 17 38.4	
	95nm,0.3s								
AAK	**Ala-Archa**	**2.05**	**286**	⇓*iP*		**Pb**		**09 17 05.1**	**-0.1**
	baz=86								
AAK				⇓*iS*		**Sb**		**09 17 31.6**	**+0.9**
	baz=86								
AAK	**Ala-Archa**	**2.05**	**286**	P		**Pg**		**09 17 06.2**	**-1.2**
	SNR=12								
AAK	**Ala-Archa**	**2.05**	**286**	⇓Pg		**Pg**		**09 17 06.0**	**-1.4**
	1.7nm,0.3s								
AAK				⇓Lg		Lg		09 17 33.6	
	26nm,0.4s								

PDGK	**Podgornoye**	**2.11**	**53**	Pg		**Pb**		**09 17 05.6**	**-0.6**
	4.1nm,0.3s								
PDGK				Lg		Lg		09 17 32.5	
	58nm,0.6s								
PDGK	**Podgornoye**	**2.11**	**53**	⇑Pg		**Pb**		**09 17 05.4**	**-0.8**
	5.4nm,0.5s								
PDGK				⇑Lg		Lg		09 17 34.6	
	111nm,0.7s								
ARLS	**Aral**	**2.13**	**265**	⇑*iP*		**Pb**		**09 17 05.8**	**-0.7**
	baz=65								
ARLS				⇑*iS*		**Sb**		**09 17 33.0**	**+0.1**
	baz=65								
ARXS	**Arharly**	**2.17**	**13**	*eP*		**Pb**		**09 17 06.4**	**-0.8**
	23nm,0.4s								
ARXS				*eS*		**Sb**		**09 17 34.1**	**-0.1**
	93nm,0.3s								
ARXS	**Arharly**	**2.17**	**13**	Pg		**Pb**		**09 17 06.4**	**-0.8**
	23nm,0.4s								
ARXS				Lg		Lg		09 17 34.1	
	93nm,0.3s								
USP	**Ospenovka**	**2.29**	**302**	⇑*iP*		**Pb**		**09 17 08.1**	**-1.1**
	baz=1.0								
USP				⇑*iS*		**Sb**		**09 17 37.0**	**-0.3**
	baz=1.0								
USP	**Ospenovka**	**2.29**	**302**	P		**Pb**		**09 17 09.1**	**-0.1**
	SNR=18								
EKS2	**Erkin-Say**	**2.57**	**284**	P		**Pg**		**09 17 15.9**	**-1.5**
	SNR=13								
AML	**Almayashu**	**2.58**	**272**	P		**Pg**		**09 17 16.7**	**-0.9**
	SNR=13								
DJR	**Jarkent**	**2.95**	**40**	*eP*		**Pb**		**09 17 20.4**	**-0.1**
	0.9nm,0.2s								
DJR				*eS*		**Sb**		**09 17 57.8**	**+1.3**
	22nm,0.4s								
DJR	**Jarkent**	**2.95**	**40**	Pg		**Pb**		**09 17 20.4**	**-0.1**
	0.9nm,0.2s								
DJR				Lg		Lg		09 17 57.8	
	22nm,0.4s								
MRKS	**Merke**	**2.99**	**284**	*eP*		**Pg**		**09 17 23.0**	**-2.3**
	2.0nm,0.4s								
MRKS				*eS*		**Sg**		**09 18 02.0**	**-2.0**
	22nm,0.2s								
MRKS	**Merke**	**2.99**	**284**	*eP*		**Pg**		**09 17 23.0**	**-2.3**
	baz=84								
MRKS				*eS*		**Sg**		**09 18 02.0**	**-2.0**
	baz=84								
MRKS	**Merke**	**2.99**	**284**	Pg		**Pg**		**09 17 23.0**	**-2.3**
	2.0nm,0.4s								
MRKS				Lg		Lg		09 18 02.0	
	22nm,0.2s								
TDK	**Taldyqorghan**	**3.05**	**17**	*eP*		**Pb**		**09 17 22.4**	**+0.4**
	29nm,0.3s								
TDK				*eS*		**Sb**		**09 18 01.1**	**+2.0**
	84nm,0.3s								
TDK	**Taldyqorghan**	**3.05**	**17**	Pg		**Pb**		**09 17 22.4**	**+0.4**
	29nm,0.3s								
TDK				Lg		Lg		09 18 01.1	
	84nm,0.3s								
KAPS	**Kapalarasan**	**3.57**	**26**	*eP*		**Pb**		**09 17 31.9**	**+1.0**
	7.0nm,0.4s								
KAPS				*eS*		**Sb**		**09 18 17.4**	**+3.2**
	16nm,0.4s								
KAPS	**Kapalarasan**	**3.57**	**26**	Pg		**Pb**		**09 17 31.9**	**+1.0**
	7.0nm,0.4s								
KAPS				Lg		Lg		09 18 17.4	
	16nm,0.4s								
BTLS	**Baital**	**3.72**	**324**	*eP*		**Pb**		**09 17 35.5**	**+2.0**
	2.3nm,0.3s								
BTLS				*eS*		**Sg**		**09 18 23.4**	**-3.9**
	214nm,0.7s								
BTLS	**Baital**	**3.72**	**324**	*eP*		**Pb**		**09 17 35.5**	**+2.0**
	baz=23								
BTLS				*eS*		**Sg**		**09 18 23.5**	**-3.9**
	baz=23								
BTLS	**Baital**	**3.72**	**324**	Pg		**Pb**		**09 17 35.5**	**+2.0**
	2.3nm,0.3s								
BTLS				Lg		Lg		09 18 23.4	
	214nm,0.7s								
KK31	**Karatay Array**	**5.01**	**284**	⇓Pg		**Pb**		**09 17 58.3**	**+2.8**
	0.8nm,0.5s,baz=92,slow=16,SNR=6.4								
KK31				⇑Lg		Lg		09 19 09.5	
	2.7nm,0.5s,baz=101,slow=29,SNR=15								
MAKZ	**Makanchi**	**5.84**	**35**	⇓Lg		Lg		09 19 31.0	
	3.4nm,1.1s								
MK31	**Makanchi Array**	**5.96**	**36**	⇓Pn		**Pn**		**09 17 57.6**	**+1.7**
	0.1nm,0.2s,baz=210,slow=15,SNR=4.2								
MK31				⇑Pg		Pg		09 18 16.6	-5.6
	0.2nm,0.3s,baz=215,slow=14,SNR=4.0								
MK31				⇓Sn		**Sn**		**09 19 06.9**	**+2.9**
	1.3nm,0.5s								
MK31				⇑Lg		Lg		09 19 33.2	
	0.5nm,0.3s								

*ISCJB **22** 09:25:24.1±0.8,26.25S±0.06×27.81E±0.04,h9km±6km,*
Error ellipse: s-maj=9.4km s-min=6.2km az=172.7
*PRE **22** 09:25:24.3±1.7,26.24S×27.79E,h2km,ML2.5*
ISC 22 09:25:23.5±1.3,**26.24S**±0.05×**27.83E**±0.04,**h9**km±10km,
n10,σ1§**24**/18,**South Africa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.23**	**240**	*eP*		**Pg**		**09 25 28.6**	**+0.3**
KLOF				*eS*		**Sg**		**09 25 31.1**	**-0.4**
KLOF					AML	AML		09 25 31.7	
	comp=Z,3μm,0.2s								
ERPM	**east rand prop**	**0.39**	**106**	*eP*		**Pb**		**09 25 32.1**	**-0.6**
ERPM				*eS*		**Sb**		**09 25 38.0**	**-0.7**
ERPM					AML	AML		09 25 41.2	
	comp=Z,295nm,0.6s								
KSR	**Koster**	**0.92**	**294**	*eP*		**Pb**		**09 25 41.8**	**0.0**
KSR				*eS*		**Sb**		**09 25 54.4**	**+0.2**
KSR					AML	AML		09 26 02.7	
	comp=Z,40nm,0.1s								
LBTB	**Lobatse**	**2.35**	**301**	*eP*		**Pb**		**09 26 04.1**	**-2.0**
LBTB				*eS*		**Sn**		**09 26 32.1**	**+0.6**
LBTB					AML	AML		09 26 36.6	
	comp=Z,76nm,0.3s								
SWZ	**

MKAR Makanchi Array 74.80 11 P **P** 09 38 39.5 +0.5
comp=Z,0.3nm,0.7s,baz=207,slow=8.1,SNR=3.0
KURBB Kurchatov Arra 78.00 8 P **P** 09 38 56.1 -0.9
comp=Z,0.2nm,0.5s,baz=200,slow=6.2,SNR=2.4
KURK Kurchatov 78.11 8 P **P** 09 38 57.8 +0.3
KURK IAmb IAmb 09 39 13.4
comp=Z,2.0nm,0.9s
ZALV Zalesovo Beam 82.13 11 P **P** 09 39 19.9 +0.7
comp=Z,0.9nm,0.5s,baz=197,slow=4.1,SNR=5.0
SONM Songino Array 82.56 26 P **P** 09 39 22.6 +0.8
comp=Z,0.4nm,0.7s,baz=197,slow=4.5,SNR=2.9
YKA Yellowknife Ar 144.54 1 PKP **PKPab** 09 46 34.0 +0.8
comp=Z,0.2nm,0.7s,baz=339,slow=3.7,SNR=14

IDC ***22*** *09:49:32.2±0.8, 19.94N×75.86W, h0km, mb3.7/8, mb1 4.0/13, mb1mx3.8/40, mbtmp3.9/13, ML3.9/5, MS3.1/4, Ms1 3.1/4, ms1mx2.8/36, Error ellipse: s-maj=22.6km s-min=20.2km az=21.0*
ISCJB ***22*** *09:49:34.8±0.5, 19.96N±0.03×75.89W±0.02, h29km±4km, mb3.6/8, Error ellipse: s-maj=5.1km s-min=3.7km az=160.7*
NEIC ***22*** *09:49:34.7±2.1, 19.93N±0.07×75.89W±0.04, h13km±4km, mb4.2/8*
JSN ***22*** *09:49:35.5±0.5, 19.81N×75.94W, h0km±85km, MD4.0*
SSNC ***22*** *09:49:37.6±2.8, 20.00N×75.82W, h17km±7km, MD4.0, ML3.8, MW4.0*

ISC 22 09:49:36.0±0.8, **19.93N**±0.04×**75.88W**±0.03, **h27**km±6km, **n72**, σ2s**22**/81, **mb3.9**/9, **2C-9D**, **Cuba region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RCC	**Rio Carpintero**	**0.18**	**69**	↓*i*P		**Pb**	**09 49 41.3**	**-0.4**
RCC				*e*S		**Sb**	**09 49 44.7**	**-0.9**
RCC				IAML			09 49 45.0	
	comp=E,15μm,0.1s							
RCC				IAML			09 49 45.0	
	comp=N,9μm,0.1s							
GTMO	**Guantanamo**	**0.71**	**78**	↓*i*P		**Pb**	**09 49 50.1**	**+0.3**
GTMO				*e*S		**Sb**	**09 49 57.7**	**-1.5**
GTMO				IAML			09 50 04.6	
	comp=E,12μm,0.6s							
GTMO				IAML			09 50 04.8	
	comp=N,20μm,0.4s							
GTBY	**Guantanamo Bay**	**0.72**	**90**			**Pb**	**09 49 49.0**	**-1.0**
GTBY						**Sb**	**09 49 58.6**	**-0.9**
LMGC	**Las Mercedes**	**1.07**	**277**	↓*i*P		**Pn**	**09 49 54.6**	**-0.6**
LMGC				*e*S		**Sn**	**09 50 09.2**	**+0.1**
LMGC				IAML			09 50 10.2	
	comp=N,5μm,0.2s							
LMGC				IAML			09 50 10.7	
	comp=E,2μm,0.2s							
MOAC	**Moa**	**1.13**	**50**	*e*P		**Pn**	**09 49 54.0**	**-1.9**
MOAC				*e*S		**Sn**	**09 50 08.0**	**-2.6**
MASC	**Masc**	**1.57**	**81**	*e*P		**Pn**	**09 50 00.2**	**-1.8**
MASC				*e*S		**Sn**	**09 50 20.9**	**-0.5**
MASC				IAML			09 50 26.1	
	comp=E,2μm,0.5s							
MASC				IAML			09 50 26.3	
	comp=N,2μm,0.7s							
CMJ	**Castle Mountai**	**1.84**	**195**	↓*i*P		**Pn**	**09 50 05.2**	**-0.7**
BNJ	**Bonny Gate**	**1.89**	**213**	↓*i*P		**Pn**	**09 50 06.0**	**-0.6**
BBJ	**Bamboo Saint A**	**2.02**	**221**	↑*i*P		**Pn**	**09 50 07.6**	**-0.7**
STH	**Stony Hill**	**2.04**	**206**	↓*i*P		**Pn**	**09 50 07.6**	**-1.0**
HOJ	**Hope**	**2.08**	**203**	↓*i*P		**Pn**	**09 50 08.4**	**-0.7**
YHJ	**Yallahs**	**2.11**	**196**	↓*i*P		**Pn**	**09 50 09.0**	**-0.5**
CCCC	**Cccc**	**2.17**	**306**	*e*P		**Pn**	**09 50 07.3**	**-3.1**
CCCC				*e*S		**Sn**	**09 50 31.1**	**-5.3**
CCCC				IAML			09 50 36.3	
	comp=N,156nm,0.4s							
CCCC				IAML			09 50 42.0	
	comp=E,318nm,0.6s							
PCJ	**Portland Cotta**	**2.49**	**209**	↓*i*P		**Pn**	**09 50 14.6**	**-0.2**
MCJ	**Malvern**	**2.63**	**221**	↓*i*P		**Pn**	**09 50 16.5**	**-0.2**
MCJ				*i* S		**Sn**	**09 50 47.1**	**-0.7**
LGNH	**Logne**	**3.40**	**114**			**Pn**	**09 50 26.9**	**-0.3**
CBCY	**The Bluff, Cay**	**3.66**	**268**	Pn		**Pn**	**09 50 30.5**	**-0.3**
MGV	**Manicaragua**	**4.40**	**300**	*e*P		**Pn**	**09 50 41.6**	**+0.5**
MGV				*e*S		**Sn**	**09 51 30.7**	**-0.7**
MGV				IAML			09 51 35.2	
	comp=Z,20nm,0.5s							
MGV				IAML			09 51 35.3	
	comp=N,21nm,0.8s							
SDDR	**Presa de Saban**	**4.43**	**102**			**Pn**	**09 50 41.6**	**+0.1**
GRTK	**Grand Turk**	**4.71**	**70**	Pn		**Pn**	**09 50 44.9**	**-0.4**
SC01	**Santiago de lo**	**4.88**	**95**	Pn		**Pn**	**09 50 47.6**	**0.0**
FSCY	**Frank Sound, G**	**5.04**	**264**	Pn		**Pn**	**09 50 48.8**	**-1.0**
DR12	**Loma Pena Alta**	**6.24**	**99**			**Pn**	**09 51 07.3**	**+0.9**
SJG	**San Juan**	**9.38**	**100**	Sn		**Sn**	**09 53 28.1**	**-5.9**
	comp=N,0.5nm,0.3s,baz=163,slow=19,SNR=1.5							
SJG				LR		LR	09 54 49.3	
	comp=N,72nm,18.5s,baz=248,slow=34							
SJG	**San Juan**	**9.38**	**100**	Pn		**Pn**	**09 51 53.7**	**+4.3**
SJCC	**San Jacinto, C**	**10.00**	**176**	*e*P		**Pn**	**09 52 00.2**	**+2.2**
SJCC	**San Jacinto, C**	**10.00**	**176**	*e*P		**Pn**	**09 52 00.2**	**+2.2**
ESPN	**Las Esperanzas**	**11.16**	**228**	Pn		**Pn**	**09 52 15.9**	**+2.1**
SMLC	**San Martn de**	**11.20**	**171**	*e*P		**Pn**	**09 52 16.2**	**+1.8**
SMLC	**San Martn de**	**11.20**	**171**	*e*P		**Pn**	**09 52 16.2**	**+1.8**
BCIP	**Isla Barro Col**	**11.36**	**200**	Pn		**Pn**	**09 52 16.9**	**+0.2**
TEIG	**Tepich**	**11.65**	**274**	Pn		**Pn**	**09 52 22.0**	**+1.4**
	comp=N,3.6nm,0.3s,baz=139,slow=3.1,SNR=3.5							
TEIG				Sn		**Sn**	**09 54 24.6**	**-5.3**
	comp=N,0.1nm,0.3s,baz=319,slow=17,SNR=1.3							
TEIG				LR		LR	09 56 19.3	
	comp=N,122nm,19.7s,baz=228,slow=35							
TEIG	**Tepich**	**11.65**	**274**			**Pn**	**09 52 22.2**	**+1.6**
ACON	**Acoyapa**	**11.94**	**230**	Pn		**Pn**	**09 52 27.5**	**+3.1**
SDV	**Santo Domingo**	**12.09**	**154**	Pn		**Pn**	**09 52 26.8**	**0.0**
	comp=N,0.9nm,0.3s,baz=322,slow=4.4,SNR=7.3							
SDV				Sn		**Sn**	**09 54 32.5**	**-8.5**
	comp=N,0.3nm,0.3s,baz=327,slow=20,SNR=1.4							
ESTN	**Estel**	**12.13**	**238**			**Pn**	**09 52 31.2**	**+4.0**
ZARC	**Zaragoza, Cauc**	**12.40**	**175**	*e*P		**Pn**	**09 52 34.6**	**+3.8**
ZARC	**Zaragoza, Cauc**	**12.40**	**175**	*e*P		**Pn**	**09 52 34.6**	**+3.8**
JTS	**Las Juntas de**	**12.98**	**224**	Pn		**Pn**	**09 52 39.2**	**+0.5**
	comp=N,0.8nm,0.3s,baz=152,slow=21,SNR=8.1							
JTS				LR		LR	09 57 47.0	
	comp=N,56nm,19.9s,baz=116,slow=38							
JTS	**Las Juntas de**	**12.98**	**224**			**Pn**	**09 52 40.7**	**+2.0**
PTBC	**PUERTO BERRIO,**	**13.38**	**174**	*e*P		**Pn**	**09 52 47.2**	**+3.0**
PTBC	**PUERTO BERRIO,**	**13.38**	**174**	*e*P		**Pn**	**09 52 47.2**	**+3.0**
HELC	**Santa Helena**	**13.66**	**179**	*e*P		**Pn**	**09 52 51.6**	**+3.3**
HELC	**Santa Helena**	**13.66**	**179**	*e*P		**Pn**	**09 52 51.6**	**+3.3**
NORC	**Norcasia**	**14.31**	**176**	*e*P		**Pn**	**09 52 59.1**	**+2.1**
NORC	**Norcasia**	**14.31**	**176**	*e*P		**Pn**	**09 52 59.1**	**+2.1**
PCRV	**Puerto La Cruz**	**14.55**	**130**	Pn		**Pn**	**09 53 01.4**	**+1.2**
	comp=N,1.4nm,0.3s,baz=318,slow=2.2,SNR=6.8							
PLCV	**Puerto La Cruz**	**14.59**	**130**			**Pn**	**09 53 01.4**	**+0.7**
GUY2C	**Guyana, Caldas**	**14.63**	**178**	*e*P		**P**	**09 53 06.0**	**-1.8**
GUY2C	**Guyana, Caldas**	**14.63**	**178**	*e*P		**P**	**09 53 06.0**	**-1.8**
RREF	**El Recreo**	**14.95**	**178**	*e*P		**P**	**09 53 10.7**	**-0.8**
RREF	**El Recreo**	**14.95**	**178**	*e*P		**P**	**09 53 10.7**	**-0.8**
ROSC	**El Rosal**	**15.07**	**174**	LR		LR	09 59 24.0	
	comp=N,76nm,18.8s,baz=34,slow=39							
Y49A	**Blount Mountai**	**16.74**	**328**	P		**P**	**09 53 31.9**	**+1.2**
CMIG	**Matias Romero**	**18.24**	**264**	P		**P**	**09 53 45.8**	**-1.5**
	comp=N,0.3nm,0.3s,baz=76,slow=7.7,SNR=6.6							
R50A	**Paris**	**19.70**	**340**	P		**Pn**	**09 54 05.6**	**+0.8**
R50A				IAmb		IAmb	09 54 06.6	
	comp=Z,14nm,1.4s							
O52A	**Adamsville**	**20.76**	**347**	P		Pn	09 54 17.6	+0.4
O52A				IAmb		IAmb	09 54 31.6	
	comp=Z,18nm,1.1s							
MMNY	**Mt. Morris Dam**	**22.80**	**356**	P		**P**	**09 54 35.4**	**-1.1**
TXAR	**Lajitas Array**	**26.88**	**296**	P		**P**	**09 55 16.3**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=109,slow=7.8,SNR=1.9							
LPAZ	**La Paz**	**36.79**	**168**	P		**P**	**09 56 43.7**	**+1.4**
YKA	**Yellowknife Ar**	**50.14**	**338**	P		**P**	**09 58 29.4**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=114,slow=8.2,SNR=9.7							
PLCA	**Paso Flores**	**60.55**	**175**	P		**P**	**09 59 45.6**	**+1.6**
	comp=Z,1.6nm,1.0s,baz=269,slow=12,SNR=2.9							
PLCA	**Paso Flores**	**60.55**	**175**	P		**P**	**09 59 44.9**	**+0.9**
PLCA				IAmb		IAmb	09 59 59.8	
	comp=Z,4.5nm,1.4s							
ILAR	**Eielson Array**	**64.06**	**333**	P		**P**	**10 00 07.7**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=91,slow=6.2,SNR=5.5							
TOA0	**Torodi Ar. Sit**	**74.11**	**82**	P		**P**	**10 01 10.3**	**-0.1**
TOA0				IAmb		IAmb	10 01 17.9	
	comp=Z,2.2nm,1.1s							
TORD	**Torodi Ar. Bea**	**74.11**	**82**	P		**P**	**10 01 10.2**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=278,slow=3.6,SNR=4.4							
KEST	**Kesra**	**74.89**	**57**	P		**P**	**10 01 15.8**	**+1.1**
	comp=Z,3.7nm,0.7s,baz=40,slow=3.6,SNR=3.6							
KEST	**Kesra**	**74.89**	**57**	P		**P**	**10 01 15.8**	**+1.1**
GERES	**GERESS Array B**	**74.99**	**43**	P		**P**	**10 01 15.8**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=276,slow=3.8,SNR=1.9							
FINES	**FINESS Array B**	**78.26**	**29**	P		**P**	**10 01 34.0**	**+1.0**
	comp=Z,2.4nm,0.9s,baz=270,slow=3.6,SNR=5.8							
WRA	**Warramunga Arr**	**151.61**	**265**	PKPbc		**PKPbc**	**10 09 27.6**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=81,slow=3.2,SNR=3.1							
ASAR	**Alice Springs**	**152.12**	**257**	PKPbc		**PKPbc**	**10 09 28.6**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=68,slow=2.5,SNR=4.7							

IDC ***22*** *10:03:07.8±0.5, 46.42S×96.00E, h0km, mb4.6/17, mb1 4.7/17, mb1mx4.5/27, mbtmp4.6/17, MS5.3/25, Ms1 5.3/25, ms1mx5.2/27, Error ellipse: s-maj=17.6km s-min=13.4km az=138.0*
BJI ***22*** *10:03:08.4±0.0, 46.35S×95.91E, h11km, mb4.9/44, mB5.4/35, Ms5.4/34, Ms7 5.2/31*
ISCJB ***22*** *10:03:08.8±0.2, 46.49S±0.04×96.03E±0.06, h16km, mb4.6/26, MS5.3/36, Error ellipse: s-maj=6.6km s-min=6.2km az=140.2*
NEIC ***22*** *10:03:09.8±2.3, 46.44S±0.10×96.0E±0.2, h10km±1km, mb5.3/41, Ms_20 5.5/238, Mwb5.6, Mwc5.7(GCMT), Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.30; Mθθ-2.69; Mφφ2.39; Mrθ-0.52; Mθφ-1.33; Mφr-0.09; Fault plane solution: M₀2.92000×10¹⁷ NP1: φs121.53000°, δ84.44000°, λ-173.19000°. NP2: φs30.86000°, δ83.22000°, λ-5.60000°. Principal axes: T 2.7125, Plg1.0000°, Azm256.0000°; N 0.3816, Plg81.0000°, Azm161.0000°; P -3.0941, Plg9.0000°, Azm346.0000°;*
GCMT ***22*** *10:03:12.8±0.1, 46.39S±0.01×96.07E±0.01, h15km, MW5.6/141, Moment Tensor Solution. s117,c219; s141,c286; Duration: 196 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.43±.04; Mθθ-3.08±.04; Mφφ3.51±.05; Mrθ0.09±.07; Mθφ-1.62±.04; Mφr-0.02±.07; Best double couple: M₀3.67300×10¹⁷ NP1:φs302.00000°, δ89.00000°, λ-178.00000°. NP2:φs212.00000°, δ88.00000°, λ-1.00000°. Principal axes: T 3.8870, Plg1.0000°, Azm77.0000°; N -0.4280, Plg88.0000°, Azm330.0000°; P -3.4590, Plg2.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***22*** *10:03:13, 46.38S×96.00E, h13km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.51; Mθθ-3.17; Mφφ3.68; Mrθ0.23; Mθφ-1.55; Mφr0.24; Fault plane solution: M₀3.80000×10¹⁷ NP1:φs303.00000°, δ85.00000°, λ-178.00000°. NP2:φs213.00000°, δ88.00000°, λ-5.00000°. Principal axes: T 4.0228, Plg2.0000°, Azm258.0000°; N -0.4936, Plg84.0000°, Azm12.0000°; P -3.5292, Plg5.0000°, Azm168.0000°;*

ISC 22 10:03:10.9±0.3, **46.53S**±0.05×**96.02E**±0.07, **h16**km, **n382**, σ1s**46**/167, **mb5.1**/41, **MS5.5**/254, **2C-1D**, **Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**17.94**	**56**	T		T	10 25 27.0	
	baz=224,slow=74,SNR=545							
H01W3	**Cape Leeuwin H**	**17.95**	**56**	T		T	10 25 25.7	
	baz=224,slow=74,SNR=901							
H01W1	**Cape Leeuwin H**	**17.95**	**56**	T		T	10 25 26.1	
	baz=224,slow=74,SNR=707							
RKGY	**Rocky Gully**	**19.81**	**61**	P		**Pn**	**10 07 42.0**	**-0.2**
	baz=20							
NWAO	**Narrogin (SRO)**	**21.14**	**58**	P		**P**	**10 07 55.4**	**+0.3**
	baz=22,SNR=5.2							
NWAO	**Narrogin (SRO)**	**21.14**	**58**	P		**P**	**10 07 53.4**	**-1.7**
	11nm,0.8s,baz=224,slow=7.8,SNR=6.3							
NWAO				LR		LR	10 14 06.3	
	comp=Z,14μm,20.0s,baz=230,slow=31							
NWAO	**Narrogin (SRO)**	**21.14**	**58**	P		**P**	**10 07 55.0**	**-0.1**
NWAO				IAmb		IAmb	10 07 59.9	
	comp=Z,126nm,1.6s							
NWAO	**Narrogin (SRO)**	**21.14**	**58**	P		**P**	**10 07 55.1**	**0.0**
NWAO				IAmb		IAmb	10 07 59.9	
	comp=Z,103nm,1.6s							
NWAO	**Narrogin (SRO)**	**21.14**	**58**	IAMs_20		IAMs_20	10 13 55.3	
	comp=Z,13μm,19.0s							
MUN	**Mundaring**	**21.25**	**54**	P		**P**	**10 07 56.3**	**0.0**
	baz=22,SNR=3.9							
CASY	**Casey**	**21.26**	**164**	P		**P**	**10 07 57.7**	**+1.7**
CASY	**Casey**	**21.26**	**164**	IAMs_20		IAMs_20	10 13 54.0	
	comp=Z,16μm,21.0s							
KLBR	**Kellerberrin**	**22.42**	**56**	P		**P**	**10 08 07.7**	**-1.1**
	comp=Z,23,SNR=7.9							
BLDU	**Ballidu**	**22.57**	**53**	P		**P**	**10 08 09.1**	**-1.3**
	baz=23,SNR=5.8							
MORW	**Morawa**	**23.43**	**49**	P		**P**	**10 08 17.5**	**-1.8**
MORW				IAMs_20		IAMs_20	10 15 06.5	
	comp=Z,10μm,21.0s							
MAW	**Mawson**	**27.17**	**207**	P		**P**	**10 08 52.8**	**-0.3**
	comp=Z,43nm,1.0s,baz=43,slow=13,SNR=13							
MAW				LR		LR	10 16 23.0	
	comp=Z,2μm,20.2s,baz=52,slow=29							
MAW	**Mawson**	**27.17**	**207**	P		**P**	**10 08 51.9**	**-1.3**
MAW				IAMs_20		IAMs_20	10 18 31.1	
	comp=Z,548nm,18.0s							
GIRL	**Giralia**	**28.02**	**38**	IAMs_20		IAMs_20	10 17 29.8	
	comp=Z,4μm,20.0s							
FORT	**Forrest**	**29.30**	**69**	IAMs_20		IAMs_20	10 18 31.5	
	comp=Z,12μm,19.0s							
CRZF	**Crozet Islands**	**30.11**	**254**	IAMs_20		IAMs_20	10 17 48.6	
	comp=Z,9μm,22.0s							
PSAD3	**Pilbara Seismi**	**31.44**	**46**	IAMs_20		IAMs_20	10 19 41.7	
	comp=Z,8μm,21.0s							
PSAC3	**Pilbara Seismi**	**31.48**	**46**	IAMs_20		IAMs_20	10 19 41.8	
	comp=Z,8μm,21.0s							
PSAB3	**Pilbara Seismi**	**31.52**	**46**	IAMs_20		IAMs_20	10 19 42.8	
	comp=Z,8μm,20.0s							
PSAB1	**Pilbara Seismi**	**31.52**	**46**	IAMs_20		IAMs_20	10 19 33.9	
	comp=Z,7μm,20.0s							
PSAA1	**Pilbara Seismi**	**31.53**	**46**	IAMs_20		IAMs_20	10 19 33.9	
	comp=Z,7μm,20.0s							
PSA00	**Pilbara Seismi**	**31.53**	**46**	P		**P**	**10 09 30.9**	**-1.4**
PSA00				IAmb		IAmb	10 09 37.3	
	comp=Z,52nm,1.4s							
PSA00				IAMs_20		IAMs_20	10 19 35.2	
	comp=Z,7μm,20.0s							
PSAA3	**Pilbara Seismi**	**31.53**	**46**	IAMs_20		IAMs_20	10 20 04.2	
	comp=Z,8μm,20.0s							
PSAA2	**Pilbara Seismi**	**31.54**	**46**	IAMs_20		IAMs_20	10 19 34.4	
	comp=Z,7μm,20.0s							
PSAD2	**Pilbara Seismi**	**31.55**	**46**	IAMs_20		IAMs_20	10 20 24.7	
	comp=Z,8μm,21.0s							
PSAB2	**Pilbara Seismi**	**31.56**	**46**	IAMs_20		IAMs_20	10 20 04.8	
	comp=Z,7μm,20.0s							
PSAD1	**Pilbara Seismi**	**31.63**	**46**	IAMs_20		IAMs_20	10 19 37.6	
	comp=Z,7μm,19.0s							
MBWA	**Marble Bar**	**31.83**	**45**	IAMs_20		IAMs_20	10 20 04.2	
	comp=Z,6μm,20.0s							
BBOO	**Buckleboo**	**33.35**	**80**	P		**P**	**10 09 47.9**	**-0.3**
BBOO				IAmb		IAmb	10 09 58.7	
	comp=Z,102nm,2.0s							
BBOO				IAMs_20		IAMs_20	10 20 32.2	
	comp=Z,8μm,20.0s							
WRKA	**Warakurna**	**33.49**	**61**	P		**P**	**10 09 47.7**	**-1.8**
	baz=34,SNR=6.2							
SYO	**Syowa Base**	**35.67**	**211**	↑*e*X		**P**	**10 10 04.6**	**-3.2**
SYO	**Syowa Base**	**35.67**	**211**	↓*e*pP		pP	10 10 10.6	-1.3
TAU	**Tasmania Unive**	**36.11**	**103**	IAMs_20		IAMs_20	10 21 02.6	
	comp=Z,6μm,21.0s							
TOO	**Toolangi**	**37.27**	**94**	IAMs_20		IAMs_20	10 22 07.3	
	comp=Z,7μm,20.0s							
FITZ	**Fitzroy Crossi**	**37.41**	**51**	P		**P**	**10 10 22.0**	**-1.2**
	baz=38,SNR=4.0							
FITZ	**Fitzroy Crossi**	**37.41**	**51**	LR		LR	10 24 54.0	
	comp=Z,3μm,18.3s,baz=226,slow=35							
FITZ	**Fitzroy Crossi**	**37.41**	**51**	P		**P**	**10 10 21.8**	**-1.5**
FITZ				IAmb		IAmb	10 10 28.9	
	comp=Z,44nm,1.4s							
FITZ				IAMs_20		IAMs_20	10 22 47.0	
	comp=Z,4μm,22.0s							
STKA	**Stephens Creek**	**37.69**	**84**	P		**P**	**10 10 24.4**	**-1.0**
	comp=Z,9.7nm,0.8s,baz=224,slow=8.6,SNR=9.1							
STKA				PcP		**PcP**	**10 12 42.5**	**0.0**
	comp=Z,4.3nm,0.8s,baz=284,slow=4.1,SNR=4.8							
STKA				LR		LR	10 22 46.4	
	comp=Z,8μm,21.6s,baz=228,slow=31							
STKA	**Stephens Creek**	**37.69**	**84**	P		**P**	**10 10 25.0**	**-0.5**
STKA				IAMs_20		IAMs_20	10 22 35.0	
	comp=Z,2μm,21.0s							
ASAR	**Alice Springs**	**37.96**	**66**	P		**P**	**10 10 26.1**	**-1.8**
	comp=Z,5.4nm,0.9s,baz=224,slow=7.3,SNR=35							
ASAR				PcP		**PcP**	**10 12 42.5**	**-1.0**
	comp=Z,2.0nm,0.8s,baz=214,slow=1.9,SNR=12							
ASAR				LR		LR	10 23 42.1	
	comp=Z,7μm,21.6s,baz=233,slow=32							
AS31	**Alice Springs**	**37.97**	**66**	P		**P**	**10 10 26.4**	**-1.5**
VNDA	**Vanda**	**39.87**	**162**	P		**P**	**10 10 43.4**	**+0.2**
	comp=Z,6.9nm,0.8s,baz=283,slow=8.7,SNR=13							
VNDA				LR		LR	10 26 07.4	
	comp=Z,8μm,18.2s,baz=280,slow=34							
VNDA	**Vanda**	**39.87**	**162**	P		**P**	**10 10 44.3**	**+1.1**
CISI	**Cisompet, Garu**	**40.13**	**18**	IAMs_20		IAMs_20	10 23 05.6	
	comp=Z,2μm,22.0s							
CMSA	**Cobar Meteorol**	**40.71**	**86**	P		**P**	**10 10 51.3**	**+0.7**
	baz=42,SNR=7.0							
LEM	**Lembang**	**40.80**	**18**	LR		LR	10 23 39.7	
	comp=Z,3μm,21.9s,baz=206,slow=30							
CAN	**Canberra**	**40.86**	**94**	IAMs_20		IAMs_20	10 24 18.1	
	comp=Z,5μm,20.0s							
SBA	**Scott Base**	**40.95**	**162**	IAMs_20		IAMs_20	10 26 11.4	
	comp=Z,5μm,19.0s							
WC4	**Warramunga Arr**	**40.97**	**63**	IAMs_20		IAMs_20	10 25 39.5	
	comp=Z,13μm,20.0s							
WB1	**Warramunga Ar.**	**40.98**	**63**	IAMs_20		IAMs_20	10 25 39.6	
	comp=Z,13μm,19.0s							
JAGI	**Jajag, Banyuwa**	**40.98**	**28**	P		**P**	**10 10 52.8**	**-0.3**
JAGI				IAmb		IAmb	10 10 58.8	
	comp=Z,84nm,1.3s							
WR1	**Warramunga Arr**	**40.98**	**63**	IAMs_20		IAMs_20	10 25 39.9	
	comp=Z,11μm,19.0s							
WRA	**Warramunga Arr**	**40.98**	**63**	P		**P**	**10 10 50.8**	**-2.3**
	comp=Z,5.6nm,1.0s,baz=222,slow=8.3,SNR=23							
WRA				PcP		**PcP**	**10 12 52.3**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=228,slow=3.0,SNR=0.7							
WRA				LR		LR	10 25 50.8	
	comp=Z,13μm,20.2s,baz=220,slow=33							
WC3	**Warramunga Arr**	**40.99**	**63**	IAMs_20		IAMs_20	10 25 40.1	
	comp=Z,13μm,20.0s							
WR2	**Warramunga Arr**	**40.99**	**63**	IAMs_20		IAMs_20	10 25 40.2	
	comp=Z,11μm,20.0s							
WC1	**Warramunga Arr**	**41.00**	**63**	IAMs_20		IAMs_20	10 25 40.2	
	comp=Z,12μm,20.0s							
WRAB	**Tennant Creek**	**41.00**	**63**	P		**P**	**10 10 51.2**	**-2.0**
WRAB				IAmb		IAmb	10 11 04.3	
	comp=Z,57nm,1.4s							
WRAB	**Tennant Creek**	**41.00**	**63**	IAMs_20		IAMs_20	10 25 40.4	
	comp=Z,12μm,19.0s							
WB3	**Warramunga Arr**	**41.01**	**63**	IAMs_20		IAMs_20	10 25 40.5	
	comp=Z,13μm,19.0s							
WR3	**Warramunga Arr**	**41.01**	**63**	IAMs_20		IAMs_20	10 25 40.5	
	comp=Z,13μm,19.0s							
WR4	**Warramunga Arr**	**41.02**	**63**	IAMs_20		IAMs_20	10 25 40.8	
	comp=Z,13μm,19.0s							
WB4	**Warramunga Arr**	**41.02**	**63**	IAMs_20		IAMs_20	10 25 42.0	
	comp=Z,12μm,19.0s							
WR5	**Warramunga Arr**	**41.03**	**63**	IAMs_20		IAMs_20	10 25 42.2	
	comp=Z,13μm,19.0s							
WR6	**Warramunga Arr**	**41.05**	**63**	IAMs_20		IAMs_20	10 25 41.5	
	comp=Z,13μm,19.0s							
WB5	**Warramunga Arr**	**41.05**	**63**	IAMs_20		IAMs_20	10 25 41.6	
	comp=Z,12μm,19.0s							
WR7	**Warramunga Arr**	**41.06**	**63**	IAMs_20		IAMs_20	10 25 41.8	
	comp=Z,14μm,19.0s							
WR8	**Warramunga Arr**	**41.07**	**63**	IAMs_20		IAMs_20	10 25 42.2	
	comp=Z,14μm,19.0s							
WR9	**Warramunga Arr**	**41.08**	**63**	IAMs_20		IAMs_20	10 25 42.4	
	comp=Z,14μm,20.0s							
WB7	**Warramunga Arr**	**41.09**	**63**	IAMs_20		IAMs_20	10 25 42.8	
	comp=Z,11μm,20.0s							
KNRA	**Kununurra**	**41.09**	**52**	IAMs_20		IAMs_20	10 25 30.5	
	comp=Z,4μm,22.0s							

comp=Z,2µm,20.0s
COEN Coen 51.01 66 IAMs_20 IAMs_20 10 31 14.5
comp=Z,4µm,20.0s
KAAM Kaadhehdhoo 51.01 330 IAMs_20 IAMs_20 10 27 28.0
comp=Z,4µm,19.0s
RPZ Rata Peaks 51.14 116 LR LR 10 29 29.2
comp=Z,3µm,21.6s,baz=242,slow=31
RPZ Rata Peaks 51.14 116 IAMs_20 IAMs_20 10 29 19.5
comp=Z,4µm,20.0s
VNA1 Neumayer--Stat 51.30 204 P **P** **10 12 13.9 +0.3**
VNA3 Neumayer Olymp 51.38 203 P **P** **10 12 13.9 -0.4**
LHMI Lhok Sumawe 51.53 1 IAMs_20 IAMs_20 10 28 36.8
comp=Z,2µm,22.0s
KULM Kulim 51.75 6 IAMs_20 IAMs_20 10 31 57.6
comp=Z,2µm,18.0s
CRLZ Canterbury Las 52.18 116 IAMs_20 IAMs_20 10 30 12.1
comp=Z,4µm,20.0s
THZ Tophouse 53.33 115 P **P** **10 12 29.6 +0.4**
KHZ Kahutara 53.37 116 P **P** **10 12 30.9 +1.5**
QRZ Quartz Range 53.60 114 P **P** **10 12 30.3 -0.9**
QRZ IAMs_20 IAMs_20 10 29 41.8
comp=Z,3µm,21.0s
FAKI Fak Fak 53.64 47 IAMs_20 IAMs_20 10 35 25.0
comp=Z,1µm,22.0s
BSWZ Blackbirch Sta 53.96 115 P **P** **10 12 33.9 +0.1**
TUWZ Tuamarina 54.16 115 P **P** **10 12 34.8 -0.4**
MSEY Mahe Island 54.44 307 IAMs_20 IAMs_20 10 30 50.4
comp=Z,4µm,19.0s
SNZO South Karori 54.70 115 P **P** **10 12 39.3 +0.1**
SNZO South Karori 54.70 115 IAMs_20 IAMs_20 10 31 46.9
comp=Z,2µm,20.0s
PALK Pallekele 55.27 341 LR LR 10 31 09.5
comp=Z,2µm,20.1s,baz=171,slow=30
PALK Pallekele 55.27 341 IAMs_20 IAMs_20 10 30 27.0
comp=Z,2µm,21.0s
KKM Kota Kinabalu 55.34 25 IAMs_20 IAMs_20 10 31 48.6
comp=Z,1µm,22.0s
HIZ Hauiti 56.39 112 IAMs_20 IAMs_20 10 32 39.6
comp=Z,2µm,18.0s
HMDM Hanimaadhoo 56.83 333 IAMs_20 IAMs_20 10 31 52.2
comp=Z,4µm,19.0s
PMG Port Moresby 56.98 66 LR LR 10 35 30.0
comp=Z,5µm,19.9s,baz=200,slow=34
PMG Port Moresby 56.98 66 IAMs_20 IAMs_20 10 35 18.9
comp=Z,5µm,19.0s
BOSA Boshof 57.00 262 P **P** **10 12 54.5 -1.5**
comp=Z,18nm,1.0s,baz=138,slow=6.8,SNR=12
BOSA LR LR 10 31 45.0
comp=Z,5µm,21.3s,baz=140,slow=30
BOSA Boshof 57.00 262 P **P** **10 12 54.8 -1.1**
BOSA IAmb IAmb 10 13 01.1
comp=Z,88nm,1.8s
OUZ Omahuta 57.52 109 IAMs_20 IAMs_20 10 32 02.5
comp=Z,2µm,19.0s
SUR Sutherland 57.68 255 P **P** **10 12 59.6 -1.2**
comp=Z,26nm,1.0s,baz=112,slow=10,SNR=8.0
SUR Sutherland 57.68 255 P **P** **10 13 00.4 -0.4**
SUR IAmb IAmb 10 13 04.6
comp=Z,60nm,1.3s
SUR Sutherland 57.68 255 IAMs_20 IAMs_20 10 33 29.7
comp=Z,5µm,18.0s
URZ Urewera 57.98 113 LR LR 10 33 40.6
comp=Z,1µm,21.5s,baz=224,slow=32
URZ Urewera 57.98 113 P **P** **10 13 02.0 -0.5**
URZ IAMs_20 IAMs_20 10 33 29.5
comp=Z,2µm,20.0s
LBTB Lobatse 59.06 265 P **P** **10 13 10.2 -0.2**
LBTB IAmb IAmb 10 13 13.0
comp=Z,32nm,1.2s
MXZ Matakaoa Point 59.15 113 IAMs_20 IAMs_20 10 34 27.5
comp=Z,2µm,20.0s
SRDT SRDT 60.66 3 P P 10 13 29.0 +7.9
DZM Mont Dzumac 61.00 92 *e*S **S** **10 21 41.1 -0.6**
comp=Z,3µm,32.0s
DZM *e*LQ LQ 10 28 53.5
comp=Z,2µm,37.5s
DZM *e*LR LR 10 31 26.7
comp=Z,5µm,25.8s
DZM Mont Dzumac 61.00 92 IAMs_20 IAMs_20 10 35 25.5
comp=Z,2µm,20.0s
UTHA Uthaitani 61.87 4 P P 10 13 35.8 +6.5
CHAI Chaiyaphum 62.37 6 P P 10 13 38.0 +5.3
UMPA Umpang Tak 62.49 3 P P 10 13 39.0 +5.5
MANU Manus Island 62.83 61 IAMs_20 IAMs_20 10 39 08.8
comp=Z,3µm,22.0s
PBKT Sadao Pong 62.96 5 P **P** **10 13 35.9 -0.7**
PBKT Sadao Pong 62.96 5 P **P** **10 13 35.2 -1.3**
PBKT IAMs_20 IAMs_20 10 38 22.6
comp=Z,999nm,22.0s
LSZ Lusaka 63.84 275 P **P** **10 13 41.9 -1.0**
LSZ Lusaka 63.84 275 IAMs_20 IAMs_20 10 36 16.0
comp=Z,3µm,20.0s
UTTA Uttaradit 64.10 5 P P 10 13 52.0 +7.9
MHMT Maesarieng 64.42 2 P **P** **10 13 47.6 +1.4**
NONG Nongkai 64.61 8 P P 10 13 53.8 +6.4
CM31 Chiang Mai Arr 64.73 3 P **P** **10 13 46.4 -1.9**
CM31 IAmb IAmb 10 13 55.3
comp=Z,36nm,1.1s
CMAR Chiang Mai Arr 64.73 3 P **P** **10 13 46.5 -1.7**
comp=Z,5.9nm,0.9s,baz=204,slow=5.9,SNR=15
CMAR LR LR 10 37 08.5
comp=Z,3µm,21.8s,baz=190,slow=32
PHRA Phrae 64.83 4 P **P** **10 13 48.1 -0.8**
CMMT Chiang Mai 65.08 3 P **P** **10 13 51.2 +0.6**
CHTO Chiang Mai 65.08 3 P **P** **10 13 48.5 -2.1**
CHTO IAmb IAmb 10 13 56.6
comp=Z,34nm,1.6s
CHTO Chiang Mai 65.08 3 IAMs_20 IAMs_20 10 37 06.9
comp=Z,2µm,21.0s
HNR Honiara 65.34 77 IAMs_20 IAMs_20 10 40 25.4
comp=Z,5µm,20.0s
PAYA Payao 65.67 4 P **P** **10 13 56.6 +2.3**
SIMRM Sittwe 66.41 357 IAMs_20 IAMs_20 10 41 58.8
comp=Z,400nm,18.0s
QIZ Qiongzhong 66.43 14 P **P** **10 13 59.5 +0.2**
QIZ PcP **PcP** **10 14 28.4 -0.4**
QIZ S **S** **10 22 53.3 +4.5**
QIZ sS **sS** **10 22 57.5 +1.7**
QIZ pmax pmax
comp=Z,630nm,5.3s
QIZ LR LR
comp=Z,1µm,23.5s
QIZ LR LR
comp=Z,1µm,22.6s
QIZ LR LR
comp=Z,2µm,24.5s
QIZ Qiongzhong 66.43 14 IAMs_20 IAMs_20 10 37 48.6
comp=Z,2µm,22.0s
SLVN Son La 67.92 8 P **P** **10 14 08.6 -0.1**
SLVN IAmb IAmb 10 14 26.3
comp=Z,22nm,1.3s
SLVN IAMs_20 IAMs_20 10 39 49.6
comp=Z,1µm,20.0s
KMBO Kilima Mbogo 68.16 293 P **P** **10 14 11.0 +0.2**
comp=Z,2.4nm,0.2s,baz=129,slow=7.1,SNR=8.6
KMBO LR LR 10 37 23.1
comp=Z,1µm,21.7s,baz=103,slow=30
KMBO Kilima Mbogo 68.16 293 P **P** **10 14 10.5 -0.3**
KMBO IAmb IAmb 10 14 15.7
comp=Z,48nm,1.9s
KMBO Kilima Mbogo 68.16 293 IAMs_20 IAMs_20 10 37 11.2
comp=Z,2µm,21.0s
SOCY Socotra 69.53 316 IAMs_20 IAMs_20 10 36 54.8
comp=Z,2µm,20.0s
KMI Kunming 71.57 6 P **P** **10 14 31.8 +0.5**
KMI pP sP 10 14 37.6 +0.5
KMI sP pwP 10 14 42.8 +3.1
KMI S **S** **10 23 54.8 +4.9**
KMI SS **SS** **10 28 24.1 -1.8**
KMI pmax pmax
comp=Z,19nm,2.0s
KMI pmax pmax
comp=Z,230nm,5.0s
KMI LR LR
comp=Z,1µm,18.3s
KMI LR LR
comp=Z,1µm,17.3s
KMI LR LR
comp=Z,1µm,16.9s
KMI Kunming 71.57 6 IAMs_20 IAMs_20 10 44 57.7
comp=Z,1µm,19.0s
SHL Shillong 71.85 356 P **P** **10 14 31.9 -1.0**
SHL IAmb IAmb 10 14 48.5
comp=Z,24nm,1.2s
SHL IAMs_20 IAMs_20 10 47 14.1
comp=Z,928nm,19.0s

MBAR Mbarara 72.77 288 P **P** **10 14 40.4 +1.6**
MBAR IAMs_20 IAMs_20 10 42 20.4
comp=Z,2µm,19.0s
GYA Guiyang 73.28 10⇑ *i*P **P** **10 14 42.8 +1.4**
GYA PP **PP** **10 17 26.5 +1.4**
GYA S **SKiKP** **10 24 11.4 -0.8**
GYA SKS **SKSac** **10 24 45.6 -1.1**
GYA SS **SS** **10 28 50.3 -1.5**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,150nm,6.3s
GYA LR LR
comp=Z,790nm,19.9s
GYA LR LR
comp=Z,810nm,20.5s
GYA LR LR
comp=Z,1µm,20.2s
RAMN Ramite 73.63 351 *e*P **P** **10 14 43.8 +0.2**
comp=Z,70nm,1.4s
TAPN Taplejung 73.91 352 *e*P **P** **10 14 44.0 -1.3**
comp=Z,49nm,1.1s
JIRN Jiri 74.37 351 *e*P **P** **10 14 47.2 -0.9**
comp=Z,61nm,1.0s
PKI Pulchoki 74.37 350 *e*P **P** **10 14 47.3 -0.7**
PKIN Phulchoki 74.38 350 *e*P **P** **10 14 47.2 -0.8**
DMN Daman 74.45 350 *e*P **P** **10 14 47.8 -0.6**
comp=Z,26nm,0.8s
KKN Kakani 74.60 350 *e*P **P** **10 14 48.6 -0.6**
GUN Gumba 74.66 351 *e*P **P** **10 14 47.0 -2.7**
comp=Z,154nm,1.4s
KOLN Koldanda 74.80 349 *e*P **P** **10 14 48.1 -2.2**
comp=Z,101nm,1.5s
ATD Arta Tunnel 74.81 306 IAMs_20 IAMs_20 10 42 48.4
comp=Z,549nm,19.0s
GKN Gorkha 74.89 350 *e*P **P** **10 14 48.2 -2.6**
FURI Furi 75.11 301 IAMs_20 IAMs_20 10 46 14.2
comp=Z,821nm,19.0s
DANN Dangsing 75.35 349 *e*P **P** **10 14 50.5 -3.1**
comp=Z,56nm,0.9s
LSA Lhasa 76.00 356 IAMs_20 IAMs_20 10 45 53.1
comp=Z,895nm,20.0s
DAMY Dhamar 76.46 309 IAMs_20 IAMs_20 10 41 06.0
comp=Z,1µm,21.0s
CD2 Chengdu 77.39 7 *e*P **P** **10 15 05.8 +1.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ENH Enshi 77.41 12 IAMs_20 IAMs_20 10 45 06.4
comp=Z,2µm,21.0s
EFI East Falkland 79.67 196 IAMs_20 IAMs_20 10 46 06.7
comp=Z,996nm,20.0s
UOSS Minazif 79.75 324 IAMs_20 IAMs_20 10 43 42.4
comp=Z,1µm,20.0s
GO10 Punta Arenas 80.08 188 IAMs_20 IAMs_20 10 49 57.5
comp=Z,4µm,19.0s
NJ2 Nanjing 80.89 19 *e*P **P** **10 15 25.1 +1.2**
NJ2 pmax pmax
comp=Z,11nm,0.6s
XAN Xi'an 81.04 11 P **P** **10 15 24.3 -0.4**
XAN pP pP 10 15 28.9 -0.1
XAN PP **PP** **10 18 33.3 +3.1**
XAN S **S** **10 25 33.5 +0.4**
XAN sS SKSac 10 25 42.6 0.0
XAN pmax pmax
comp=Z,10.0nm,1.2s
XAN pmax pmax
comp=Z,290nm,4.6s
XAN LR LR
comp=Z,1µm,20.1s
XAN LR LR
comp=Z,1µm,20.1s
XAN LR LR
comp=Z,2µm,20.1s
XAN Xi'an 81.04 11 P **P** **10 15 24.7 0.0**
XAN IAmb IAmb 10 15 31.2
comp=Z,34nm,1.4s
XAN Xi'an 81.04 11 IAMs_20 IAMs_20 10 48 19.2
comp=Z,2µm,20.0s
GO09 Cerro Castillo 82.07 187 IAMs_20 IAMs_20 10 51 31.0
comp=Z,2µm,18.0s
NIL Nilore 82.41 341 IAMs_20 IAMs_20 10 48 20.8
comp=Z,2µm,19.0s
LZH Lanzhou 82.54 6 *e*P **P** **10 15 29.0 -3.7**
LZH *e*S **S** **10 25 45.0 -3.8**
LZH pmax pmax
comp=Z,26nm,1.5s
LZH pmax pmax
comp=Z,260nm,7.2s
LZH LR LR
comp=Z,670nm,17.1s
LZH LR LR
comp=Z,680nm,17.0s
LZH LR LR
comp=Z,950nm,19.1s
RAYN Ar Rayn 83.35 314 P **P** **10 15 38.2 +1.1**
RAYN IAmb IAmb 10 16 01.3
comp=Z,34nm,1.7s
RAYN IAMs_20 IAMs_20 10 45 59.3
comp=Z,3µm,20.0s
KBL Kabul 84.28 338 P **P** **10 15 41.2 -0.5**
KBL IAmb IAmb 10 15 53.3
comp=Z,20nm,1.2s
KBL IAMs_20 IAMs_20 10 47 42.5
comp=Z,3µm,22.0s
GTA Gaotai 85.62 3 *e*P **P** **10 15 48.4 +0.1**
GTA pP pwP 10 15 56.3 -0.4
GTA sP sP 10 16 00.3 +6.2
GTA S **S** **10 26 21.5 +2.0**
GTA SS **SS** **10 31 54.1 -2.6**
GTA pmax pmax
comp=Z,5.0nm,1.6s
GTA pmax pmax
comp=Z,190nm,5.8s
GTA LR LR
comp=Z,490nm,19.9s
GTA LR LR
comp=Z,550nm,21.0s
GTA LR LR
comp=Z,960nm,19.2s
HRA Herat 86.11 333 IAMs_20 IAMs_20 10 53 01.9
comp=Z,777nm,18.0s
KSH Kashi 87.52 345 P **P** **10 15 58.3 +0.7**
KSH SKS **SKSac** **10 26 23.5 -0.9**
KSH S **S** **10 26 37.3 -0.6**
KSH pmax pmax
comp=Z,570nm,7.1s
KSH LR LR
comp=Z,470nm,8.2s
KSH LR LR
comp=Z,470nm,8.2s
BTO Baotou 87.65 11 *e*P **P** **10 15 56.9 -1.2**
BJT Baijiatuau 88.03 15 IAMs_20 IAMs_20 11 02 43.4
comp=Z,471nm,19.0s
HHC Hu-ho-hao-te 88.09 12 P **P** **10 16 02.8 +2.5**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,61nm,5.2s
HHC LR LR
comp=Z,690nm,21.6s
HHC LR LR
comp=Z,570nm,16.7s
HHC LR LR
comp=Z,1µm,20.6s
CHGR Chuyangaron 88.15 339 P **P** **10 15 59.6 -1.0**
CHGR IAmb IAmb 10 16 11.8
comp=Z,25nm,1.1s
CHGR IAMs_20 IAMs_20 10 53 06.0
comp=Z,4µm,19.0s
GAR Garm 88.20 340 P **P** **10 16 00.1 -0.8**
GAR IAMs_20 IAMs_20 10 50 25.3
comp=Z,5µm,22.0s
KSRS Korea Array 88.37 25 P **P** **10 16 01.6 +0.1**
comp=Z,0.7nm,0.6s,baz=206,slow=3.6,SNR=3.7
TBI Tubuai 88.75 123 *e*LQ LQ 10 40 28.5
comp=Z,1µm,35.5s
TBI *e*LR LR 10 44 22.5
comp=Z,1µm,28.5s
BTK Batken 89.10 341 IAMs_20 IAMs_20 10 53 11.9
comp=Z,2µm,19.0s
NRN Naryn 89.38 345 IAMs_20 IAMs_20 10 52 30.0
comp=Z,2µm,20.0s
KDJ Kajisay 89.85 346 IAMs_20 IAMs_20 10 53 25.5
comp=Z,1µm,20.0s
WMQ Urumqi 90.27 354 *e*P **P** **10 16 10.4 +0.1**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,320nm,4.7s
WMQ LR LR
comp=Z,740nm,8.9s
WMQ LR LR
comp=Z,500nm,11.7s
WMQ LR LR
comp=Z,260nm,16.1s
WMQ Urumqi 90.27 354 IAMs_20 IAMs_20 10 58 25.5
comp=Z,1µm,20.0s
TAS Tashkent 90.66 340 IAMs_20 IAMs_20 10 53 17.2
comp=Z,1µm,20.0s
GEYT Alibeck 90.69 331 P **P** **10 16 13.0 +0.6**
comp=Z,1.6nm,0.7s,baz=139,slow=41,SNR=1.7
GEYT LR LR 10 51 23.1
comp=Z,895nm,21.1s,baz=70,slow=32
GYA0B ALIBECK ARRAY 90.69 331 IAMs_20 IAMs_20 10 51 20.3
comp=Z,984nm,21.0s
AAK Ala-Archa 90.82 344 IAMs_20 IAMs_20 10 53 36.4
comp=Z,1µm,19.0s
FRU1 Bishkek 90.96 344 IAMs_20 IAMs_20 10 55 23.1
comp=Z,985nm,19.0s
WAKE Wake Island 91.21 63 IAMs_20 IAMs_20 10 50 60.0
comp=Z,4µm,18.0s
PLCA Paso Flores 92.30 190 P **P** **10 16 19.8 -0.5**
comp=Z,1.5nm,0.9s,baz=226,slow=6.0,SNR=3.1
PLCA LR LR 10 56 03.3
comp=Z,1µm,21.9s,baz=193,slow=34
PPT2 Papeete2 93.14 120 *e*LQ LQ 10 42 26.4
comp=Z,3µm,34.8s
PPT2 *e*LR LR 10 46 17.3
comp=Z,1µm,22.8s
PPT Papeete 93.16 120 LR LR 10 49 45.3
comp=Z,470nm,21.5s,baz=236,slow=30
TRQA Tornquist 93.51 197 IAMs_20 IAMs_20 11 00 37.0
comp=Z,1µm,18.0s
GO06 Curarrehue 93.54 190 IAMs_20 IAMs_20 10 57 57.7
comp=Z,816nm,19.0s
MKAR Makanchi Array 93.72 351 P **P** **10 16 24.6 -1.6**
comp=Z,0.2nm,0.6s,baz=193,slow=5.9,SNR=2.2
MKAR LR LR 10 56 34.7
comp=Z,1µm,19.4s,baz=174,slow=34
MAKZ Makanchi 93.77 350 P **P** **10 16 27.5 +1.1**
MAKZ IAMs_20 IAMs_20 10 56 13.3
comp=Z,1µm,20.0s
SONM Songino Array 94.42 7 P **P** **10 16 26.5 -3.0**
comp=Z,0.2nm,0.4s,baz=114,slow=32,SNR=3.4
SONM PP **PP** **10 20 19.5 +1.8**
comp=Z,0.4nm,0.8s,baz=179,slow=8.7,SNR=3.7
SONM LR LR 10 56 56.4
comp=Z,779nm,21.6s,baz=182,slow=34
USRK Ussuriysk Ar. 95.78 25 LR LR 11 02 57.6
comp=Z,231nm,18.2s,baz=183,slow=38
HIA Hailar 97.61 15 IAMs_20 IAMs_20 11 01 09.3
comp=Z,762nm,18.0s
GNI Garni 97.68 323 IAMs_20 IAMs_20 10 57 21.4
comp=Z,797nm,20.0s
ASCN Ascension 97.99 250 IAMs_20 IAMs_20 10 46 48.6
comp=Z,19µm,18.0s
KURK Kurchatov 98.02 349 IAMs_20 IAMs_20 10 56 36.9
comp=Z,1µm,22.0s
TLY Talaya 98.05 5 IAMs_20 IAMs_20 10 59 35.5
comp=Z,740nm,20.0s
GO05 Huala 98.11 190 IAMs_20 IAMs_20 10 57 40.7
comp=Z,1µm,22.0s
CSS Mathiatis 98.77 312 IAMs_20 IAMs_20 10 55 49.8
comp=Z,1µm,20.0s
PEL Peldehue 99.79 191 IAMs_20 IAMs_20 11 01 25.2
comp=Z,2µm,19.0s
ZAA0 Zalesovo Array 100.55 353 IAMs_20 IAMs_20 11 01 05.8
comp=Z,921nm,20.0s
BRVK Borovoye 101.62 344 IAMs_20 IAMs_20 11 00 07.1
comp=Z,2µm,20.0s
ELL Elmali 101.91 311 IAMs_20 IAMs_20 10 57 41.0
comp=Z,3µm,20.0s
TOC3 Torodi Ar. Sit 102.35 276 IAMs_20 IAMs_20 11 01 12.4
comp=Z,2µm,19.0s
TOC4 Torodi Ar. Sit 102.35 276 IAMs_20 IAMs_20 11 01 12.5
comp=Z,2µm,19.0s
TOB3 Torodi Ar. Sit 102.36 276 IAMs_20 IAMs_20 11 01 21.7
comp=Z,2µm,19.0s
TOC2 Torodi Ar. Sit 102.36 276 IAMs_20 IAMs_20 11 01 21.8
comp=Z,2µm,19.0s
TOB2 Torodi Ar. Sit 102.37 276 IAMs_20 IAMs_20 11 01 31.9
comp=Z,2µm,19.0s
TOA2 Torodi Ar. Sit 102.37 276 IAMs_20 IAMs_20 11 01 22.0
comp=Z,2µm,19.0s
TOA3 Torodi Ar. Sit 102.37 276 IAMs_20 IAMs_20 11 01 22.0
comp=Z,2µm,19.0s
TOA0 Torodi Ar. Sit 102.37 276 IAMs_20 IAMs_20 11 01 23.1
comp=Z,2µm,19.0s
TOC5 Torodi Ar. Sit 102.37 276 IAMs_20 IAMs_20 11 01 22.1
comp=Z,3µm,19.0s
TORD Torodi Ar. Bea 102.37 276 PP **PP** **10 21 22.2 +3.5**
comp=Z,2.5nm,1.2s,baz=144,slow=8.8,SNR=5.7
TOB4 Torodi Ar. Sit 102.37 276 IAMs_20 IAMs_20 11 01 23.1
comp=Z,2µm,19.0s
TOC1 Torodi Ar. Sit 102.38 276 IAMs_20 IAMs_20 11 01 12.4
comp=Z,2µm,19.0s
TOB5 Torodi Ar. Sit 102.39 276 IAMs_20 IAMs_20 11 01 22.4
comp=Z,2µm,19.0s
TOC7 Torodi Ar. Sit 102.39 276 IAMs_20 IAMs_20 11 01 20.7
comp=Z,2µm,19.0s
GO04 Tololo Observa 102.73 192 IAMs_20 IAMs_20 11 04 30.0
comp=Z,1µm,18.0s
ANTO Ankara 102.86 315 IAMs_20 IAMs_20 10 58 45.9
comp=Z,627nm,20.0s
GO03 Copiap 105.19 193 IAMs_20 IAMs_20 11 05 31.0
comp=Z,1µm,19.0s
TAM Tamanrasset 106.51 286 IAMs_20 IAMs_20 11 03 06.5
comp=Z,1µm,20.0s
GO02 Mina Guanaco 107.47 194 IAMs_20 IAMs_20 11 07 46.5
comp=Z,1µm,19.0s
AGG Agios Georgios 107.61 308 IAMs_20 IAMs_20 11 15 41.0
comp=Z,852nm,21.0s
PB10 IPOC Station P 109.24 193 IAMs_20 IAMs_20 11 07 18.4
comp=Z,820nm,19.0s
WDD Wied Dalam 109.80 301 IAMs_20 IAMs_20 11 15 13.2
comp=Z,1µm,18.0s
LVC Limon Verde 109.85 195 IAMs_20 IAMs_20 11 04 29.5
comp=Z,696nm,21.0s
BDFB Brasilia 110.16 217 IAMs_20 IAMs_20 11 00 34.5
comp=Z,1µm,19.0s
RCBR Riachuelo 112.70 233 IAMs_20 IAMs_20 11 02 58.9
comp=Z,1µm,18.0s
PB11 IPOC Station P 112.76 195 IAMs_20 IAMs_20 11 10 17.8
comp=Z,653nm,19.0s
GO01 Chusmiza 112.77 195 IAMs_20 IAMs_20 11 06 38.1
comp=Z,792nm,22.0s
MNMC Minye Minye 113.37 195 IAMs_20 IAMs_20 11 10 37.9
comp=Z,834nm,19.0s
GERES GERESS Array B 118.82 312 PKP **PKPdf** **10 21 56.5 -1.2**
comp=Z,0.2nm,0.5s,baz=113,slow=4.6,SNR=2.0
TIXI Tiksi 120.16 11 IAMs_20 IAMs_20 11 15 41.8
comp=Z,1µm,19.0s
FINES FINESS Array B 121.38 328 PKP **PKiKP** **10 22 02.1 -0.1**
comp=Z,5.5nm,1.0s,baz=140,slow=4.5,SNR=1.9
NNA Nana 121.40 188 IAMs_20 IAMs_20 11 07 52.6
comp=Z,984nm,21.0s
SAML Samuel 121.73 204 IAMs_20 IAMs_20 11 12 34.7
comp=Z,974nm,19.0s
ESDC Sonseca Array 123.53 294 PKP **PKPdf** **10 22 06.6 -0.4**
comp=Z,0.4nm,0.5s,baz=88,slow=37,SNR=2.7
PVAQ Vaqueiros 124.62 290 IAMs_20 IAMs_20 11 15 11.1
comp=Z,1µm,19.0s
NIKH Nikolski High 127.83 50 IAMs_20 IAMs_20 11 26 30.9
comp=Z,1µm,20.0s
GAMB Gambell 131.32 36 IAMs_20 IAMs_20 11 18 22.2
comp=Z,665nm,22.0s
PAYG Puerto Ayora 132.67 171 IAMs_20 IAMs_20 11 12 07.2
comp=Z,1µm,20.0s
OTAV Otavalo 133.65 188 **PKiKP** **10 22 29.5 +0.6**
OTAV Otavalo 133.65 188 IAMs_20 IAMs_20 11 13 37.1
comp=Z,408nm,21.0s
ANM Nome 134.19 37 IAMs_20 IAMs_20 11 21 21.1
comp=Z,531nm,20.0s
CHIR Chirikof Islan 136.04 51 IAMs_20 IAMs_20 11 32 59.1
comp=Z,1µm,21.0s
RDOG Red Dog Mine 136.07 32 IAMs_20 IAMs_20 11 31 40.4
comp=Z,580nm,20.0s
MLY Manley 140.41 38 PKPpre PKPpre 10 22 34.2
PMR Palmer 140.72 43 PKPpre PKPpre 10 22 31.5
SDV Santo Domingo 140.79 201 IAMs_20 IAMs_20 11 21 38.7
comp=Z,1µm,21.0s
TOLK Toolik Lake Re 141.04 32 PKPpre 10 22 34.3
TOLK IAMs_20 IAMs_20 11 35 56.9
comp=Z,990nm,18.0s

ILAR	**Eielson Array**	**142.03**	**38**	PKhKP	PKPpre	10 22 35.6		
	comp=Z,0.7nm,0.9s,baz=292,slow=3.2,SNR=5.2							
SCRK	**Sand Creek**	**143.27**	**40**	PKPdf	PKPbc	10 22 41.2	+0.8	
JTS	**Las Juntas de**	**143.88**	**178**	IAMs_20	IAMs_20	11 18 56.2		
	comp=Z,933nm,18.0s							
BARN	**Barnard Glacie**	**144.25**	**45**	PKPdf	**PKPdf**	**10 22 44.7**	**-0.4**	
CTGM	**Chitina Glacie**	**144.41**	**45**	PKPdf	**PKPdf**	**10 22 44.5**	**-0.9**	
EGAK	**Eagle**	**144.49**	**38**		**PKPdf**	**10 22 45.0**	**-0.1**	
DAWY	**Dawson**	**145.29**	**39**	PKPdf	**PKPab**	**10 22 46.8**	**+0.2**	
ACON	**Acoyapa**	**145.54**	**178**		**PKPab**	**10 22 49.7**	**+0.9**	
ACON				IAMs_20	IAMs_20	11 38 05.2		
	comp=Z,1µm,20.0s							
ESPN	**Las Esperanzas**	**145.78**	**179**	PKPbc	**PKPab**	**10 22 50.5**	**+0.8**	
EPYK	**Eagle Plains**	**146.15**	**35**		**PKPdf**	**10 22 48.3**	**+0.2**	
SABA	**Saba**	**146.45**	**218**	IAMs_20	IAMs_20	11 20 13.6		
	comp=Z,1µm,21.0s							
SUMG	**Summit**	**146.67**	**337**	*i* P	**PKiKP**	**10 22 55.1**	**+1.5**	
SMRT	**St. Maarten**	**146.76**	**218**	IAMs_20	IAMs_20	11 42 52.8		
	comp=Z,810nm,18.0s							
INK	**Inuvik**	**146.94**	**31**	PKPdf	**PKPdf**	**10 22 47.8**	**-1.4**	
TGUH	**Tegucigalpa,Un**	**147.51**	**174**	IAMs_20	IAMs_20	11 20 34.6		
	comp=Z,925nm,19.0s							
TULEG	**Thule**	**149.25**	**353**	PKPbc	**PKiKP**	**10 22 57.6**	**-0.7**	
SDD	**Santo Domingo**	**149.70**	**207**	IAMs_20	IAMs_20	11 42 48.2		
	comp=Z,1µm,20.0s							
DLBC	**Dease Lake**	**150.15**	**50**	IAMs_20	IAMs_20	11 27 37.9		
	comp=Z,3µm,21.0s							
MCCM	**Marconi Confer**	**150.30**	**92**	IAMs_20	IAMs_20	11 20 14.5		
	comp=Z,1µm,20.0s							
SRIG	**Santa Rosalia**	**150.61**	**121**	IAMs_20	IAMs_20	11 29 16.5		
	comp=Z,812nm,19.0s							
GDXM	**Geysers**	**150.67**	**91**	IAMs_20	IAMs_20	11 19 36.3		
	comp=Z,1µm,20.0s							
OSI	**Osito Audit: C**	**151.28**	**102**	PKPbc	**PKiKP**	**10 23 04.0**	**+0.1**	
RES	**Resolute Bay**	**151.35**	**6**		**PKiKP**	**10 23 02.8**	**+0.1**	
PASC	**Pasadena Art C**	**151.39**	**103**	PKPbc	**PKiKP**	**10 23 04.8**	**+0.8**	
WDC	**Whiskeytown Da**	**151.63**	**88**	IAMs_20	IAMs_20	11 22 35.8		
	comp=Z,1µm,20.0s							
ORV	**Oroville**	**151.91**	**91**	IAMs_20	IAMs_20	11 21 44.1		
	comp=Z,751nm,21.0s							
CMB	**Columbia Colle**	**151.96**	**94**	IAMs_20	IAMs_20	11 21 51.6		
	comp=Z,816nm,22.0s							
AFDM	**Forest Hills D**	**151.99**	**92**	IAMs_20	IAMs_20	11 19 03.4		
	comp=Z,695nm,20.0s							
ISA	**Isabella, Lake**	**152.04**	**100**	IAMs_20	IAMs_20	11 27 01.7		
	comp=Z,1µm,20.0s							
PFO	**Pinyon Flats O**	**152.21**	**106**		**PKiKP**	**10 23 06.8**	**+0.9**	
XPFO	**Pion Flat**	**152.21**	**106**		**PKiKP**	**10 23 07.2**	**+1.3**	
RUBR	**Rubicon Trail**	**152.61**	**93**	IAMs_20	IAMs_20	11 27 30.6		
	comp=Z,926nm,18.0s							
HSIG		**152.63**	**120**	IAMs_20	IAMs_20	11 21 12.1		
	comp=Z,636nm,20.0s							
MDPB	**Devils Postpil**	**152.66**	**96**	IAMs_20	IAMs_20	11 25 35.1		
	comp=Z,815nm,20.0s							
OMMB	**Old Mammoth Mi**	**152.71**	**96**	IAMs_20	IAMs_20	11 25 35.3		
	comp=Z,989nm,20.0s							
BEKR	**Beckworth**	**152.83**	**91**	IAMs_20	IAMs_20	11 22 32.6		
	comp=Z,958nm,21.0s							
WAKR	**Walker**	**152.84**	**94**		**PKPab**	**10 23 17.5**	**-0.6**	
WAKR				IAMs_20	IAMs_20	11 42 42.9		
	comp=Z,858nm,21.0s							
GLA	**Glamis**	**152.94**	**109**	PKPdf	**PKPdf**	**10 23 00.8**	**+0.9**	
GLA					**PKPab**	**10 23 20.4**	**+1.9**	
GSC	**Goldstone, Bar**	**152.96**	**103**		**PKPbc**	**10 23 07.0**	**-0.2**	
GSC				IAMs_20	IAMs_20	11 27 35.2		
	comp=Z,1µm,20.0s							
DAC	**Darwin (Calif)**	**152.97**	**100**		**PKiKP**	**10 23 10.4**	**+2.9**	
VCNR	**Virginia City**	**153.07**	**93**	IAMs_20	IAMs_20	11 27 35.8		
	comp=Z,704nm,20.0s							
PAHR	**Pah Rah Range**	**153.44**	**92**	IAMs_20	IAMs_20	11 29 01.6		
	comp=Z,746nm,18.0s							
214A	**Organ Pipe Nat**	**153.53**	**113**	IAMs_20	IAMs_20	11 27 39.0		
	comp=Z,777nm,20.0s							
RYN	**Ryan**	**153.53**	**95**	IAMs_20	IAMs_20	11 17 56.2		
	comp=Z,935nm,22.0s							
TEIG	**Tepich**	**153.53**	**171**	IAMs_20	IAMs_20	11 27 47.1		
	comp=Z,782nm,18.0s							
Y12C	**Blythe**	**153.57**	**108**	IAMs_20	IAMs_20	11 25 28.2		
	comp=Z,889nm,20.0s							
NVAR	**Mina Array Bea**	**153.59**	**95**	PKPbc	**PKiKP**	**10 23 10.1**	**+1.3**	
	comp=Z,2.0nm,0.7s,baz=231,slow=4.4,SNR=8.5							
NVAR				PKPab	**PKPab**	**10 23 21.3**	**0.0**	
	comp=Z,2.5nm,0.9s,baz=228,slow=5.1,SNR=7.6							
MOD	**Modoc Plateau**	**153.71**	**87**		**PKPab**	**10 23 21.8**	**+0.1**	
KVN	**Kaiserville**	**154.02**	**94**		**PKiKP**	**10 23 10.6**	**+1.0**	
TPNV	**Topopah Spring**	**154.24**	**100**	IAMs_20	IAMs_20	11 28 54.0		
	comp=Z,1µm,20.0s							
Y14A	**Wickenburg**	**154.68**	**109**	IAMs_20	IAMs_20	11 25 45.5		
	comp=Z,791nm,19.0s							
SHPR	**Sheep Range**	**154.74**	**102**		**PKPab**	**10 23 27.1**	**+0.9**	
SHPR				IAMs_20	IAMs_20	11 26 50.3		
	comp=Z,1µm,20.0s							
W13A	**Hualapai Mount**	**154.80**	**106**	IAMs_20	IAMs_20	11 28 46.8		
	comp=Z,899nm,19.0s							
WVOR	**Wild Horse Val**	**155.06**	**87**		**PKPab**	**10 23 30.1**	**+2.8**	
BMN	**Battle Mountai**	**155.24**	**92**	IAMs_20	IAMs_20	11 26 37.5		
	comp=Z,456nm,19.0s							
R11A	**Troy Canyon, C**	**155.41**	**98**	IAMs_20	IAMs_20	11 28 12.0		
	comp=Z,862nm,21.0s							
B08A	**Colville Reser**	**156.14**	**73**	IAMs_20	IAMs_20	11 23 49.4		
	comp=Z,948nm,19.0s							
YKA	**Yellowknife Ar**	**156.43**	**36**	PKP	**PKPdf**	**10 23 01.8**	**-1.9**	
	comp=Z,0.2nm,1.0s,baz=305,slow=2.4,SNR=2.4							
U15A	**North Rim**	**156.62**	**105**	IAMs_20	IAMs_20	11 26 56.1		
	comp=Z,1µm,21.0s							
WUAZ	**Wupatki**	**156.70**	**108**	IAMs_20	IAMs_20	11 29 56.1		
	comp=Z,1µm,20.0s							
ELK	**Elko**	**156.74**	**93**	IAMs_20	IAMs_20	11 30 49.2		
	comp=Z,856nm,20.0s							
BMO	**Blue Mountains**	**156.75**	**82**	IAMs_20	IAMs_20	11 25 35.0		
	comp=Z,990nm,19.0s							
TX32	**Lajitas Array**	**156.96**	**131**		**PKPab**	**10 23 35.5**	**-0.2**	
TXAR	**Lajitas Array**	**156.96**	**131**	PKP	**PKPdf**	**10 23 06.0**	**+0.4**	
	comp=Z,0.5nm,1.0s,baz=5.5,slow=3.9,SNR=3.9							
TXAR				PKPab	**PKPab**	**10 23 36.1**	**+0.4**	
	comp=Z,3.3nm,0.8s,baz=192,slow=8.4,SNR=22							
X18A	**Snowflake**	**157.02**	**112**	IAMs_20	IAMs_20	11 27 39.5		
	comp=Z,856nm,21.0s							
121A	**Cookes Peak, D**	**157.04**	**119**	IAMs_20	IAMs_20	11 30 20.8		
	comp=Z,721nm,20.0s							
EPT	**El Paso**	**157.26**	**122**	IAMs_20	IAMs_20	11 33 57.5		
	comp=Z,806nm,18.0s							
W18A	**Petrified Fore**	**157.52**	**111**	IAMs_20	IAMs_20	11 30 08.9		
	comp=Z,723nm,20.0s							
NEW	**Newport**	**157.59**	**73**	IAMs_20	IAMs_20	11 24 56.7		
	comp=Z,916nm,20.0s							
MNTX	**Cornudas Mount**	**157.85**	**124**		**PKPdf**	**10 23 07.3**	**+0.7**	
MNTX				IAMs_20	IAMs_20	11 45 14.1		
	comp=Z,603nm,19.0s							
DUG	**Dugway, Tooele**	**158.18**	**96**	IAMs_20	IAMs_20	11 27 24.1		
	comp=Z,711nm,20.0s							
Y22D	**IRIS PASSCAL I**	**158.62**	**117**	IAMs_20	IAMs_20	11 48 14.8		
	comp=Z,692nm,21.0s							
ANMO	**Albuquerque**	**159.49**	**116**		**PKPab**	**10 23 46.3**	**-0.4**	
ANMO	**Albuquerque**	**159.49**	**116**	IAMs_20	IAMs_20	11 51 23.7		
	comp=Z,904nm,21.0s							
MVCO	**Mesa Verde**	**159.57**	**108**	IAMs_20	IAMs_20	11 32 53.1		
	comp=Z,804nm,20.0s							
HWUT	**Hardware Ranch**	**159.63**	**94**	IAMs_20	IAMs_20	11 52 10.5		
	comp=Z,930nm,19.0s							
JCT	**Junction City**	**159.81**	**137**	IAMs_20	IAMs_20	11 35 09.6		
	comp=Z,687nm,19.0s							
PDAR	**Pinedale Array**	**161.44**	**92**	PKP	**PKPdf**	**10 23 11.6**	**+1.0**	
	comp=Z,0.3nm,0.6s,baz=122,slow=1.9,SNR=4.1							
PDAR				PKPab	**PKPab**	**10 23 55.3**	**+0.2**	
	comp=Z,1.0nm,0.8s,baz=197,slow=4.6,SNR=4.3							
U40A	**Yellville**	**167.86**	**144**		**PKPab**	**10 24 22.3**	**-0.8**	

PRU ***22*** *10:06:32.7±0.0, 43.˚31N× 12.˚24E, h0km, M4.3*
BEO ***22*** *10:06:34.0±0.8, 43.˚33N× 12.˚13E, h10km±9km, ML4.1/17*
ISCJB ***22*** *10:06:35.8±0.2, 43.˚387N±0.˚010× 12.˚49E±0.˚01, h14km± 1km, mb4.2/30, MS4.4/2, Error ellipse: s-maj=1.7km s-min=1.2km az=18.1*
NEIC ***22*** *10:06:35, 43.˚38N× 12.˚52E, h4km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=9.48; Mθθ 1.64; Mφφ 7.83; Mrθ 1.75; Mθφ -1.56; Mφr -1.82; Fault plane solution: Mo9.26000×10¹⁴ NP1:φs172.61000°, δ38.39000°, λ-79.81000°. NP2:φs339.69000°, δ52.32000°, λ-97.98000°. Principal axes: T 8.4733, Plg7.0000°, Azm75.0000°; N 1.4136, Plg6.0000°, Azm345.0000°; P -9.8868, Plg81.0000°, Azm213.0000°;*
ROM ***22*** *10:06:35.7±0.0, 43.˚381N±0.˚003× 12.˚519E±0.˚003, h9km, ML4.0/134, Mw3.9 Error ellipse: s-maj=0.2km s-min=0.2km az=1.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=8.19; Mθθ 2.24; Mφφ 5.95; Mrθ 1.49; Mθφ -3.94; Mφr -1.42; Fault plane solution: Mo8.56771×10¹⁴ NP1:φs151.00000°, δ38.00000°, λ-85.00000°. NP2:φs324.00000°, δ52.00000°, λ-94.00000°.*
MED_RC ***22*** *10:06:35.0±0.6, 43.˚48N× 12.˚53E, h10km, MW4.3/9, Moment Tensor Solution.Mantle waves: s9,c13; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; Mrr=1.87±.19; Mθθ 0.68±.21; Mφφ 1.18±.14; Mrθ 2.30±.68; Mθφ -0.88±.14; Mφr -1.00±.49; Best double couple: Mo3.11000×10¹⁵ NP1:φs301.00000°, δ73.00000°, λ-103.00000°. NP2: φs158.00000°, δ22.00000°, λ-54.00000°. Principal axes: T 2.9500, Plg26.0000°, Azm41.0000°; N 0.3100, Plg12.0000°, Azm305.0000°; P -3.2700, Plg60.0000°, Azm192.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
IDC ***22*** *10:06:35.8±0.7, 43.˚48N× 12.˚46E, h0km, mb3.9/16, mb1 4.1/23, mb1mx4.0/43, mbtmp3.9/23, ML3.9/6, MS3.1/3, Ms1 3.1/3, ms1mx2.9/43 Error ellipse: s-maj=12.6km s-min=10.4km az=98.0*
NEIC ***22*** *10:06:36.6±2.2, 43.˚33N±0.˚04× 12.˚44E±0.˚03, h9km±5km*
PDG ***22*** *10:06:36.0±0.7, 43.˚38N× 12.˚51E, h12km, ML4.1/10, Error ellipse: s-maj=0.8km s-min=0.9km az=0.0*
LDG ***22*** *10:06:37.5±0.1, 43.˚35N× 12.˚61E, h8km, Ml3.7/35, Error ellipse: s-maj=2.7km s-min=2.0km az=45.0*
MOS ***22*** *10:06:37.0±1.1, 43.˚46N× 12.˚51E, h22km, mb4.2/10, Error ellipse: s-maj=4.0km s-min=3.1km az=97.2*
STR ***22*** *10:06:41.3±1.4, 43.˚N±7.˚× 1.˚2E±1.˚1, h0km, MLv3.6/6*
ISC 22 10:06:36.9±0.6, 43.˚37N±0.˚01× 12.˚49E±0.˚01, h9km±4km, n574, σ1°62/664, mb4.2/39, 36C-17D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.06**	**93**	P	**Pg**	**10 06 37.6**	**-1.4**
ATFO				S	**Sg**	**10 06 38.8**	**-1.8**
ATVO	**AVT- Monte Val**	**0.06**	**282**	P	**Pg**	**10 06 38.3**	**-0.8**
ATVO				S	**Sg**	**10 06 39.8**	**-0.7**
ATVO				AML	AML		
ATVO				AML	AML		
ATPI	**Pietralunga -**	**0.10**	**322**	P	**Pg**	**10 06 38.8**	**-0.8**
ATPI				S	**Sg**	**10 06 40.9**	**-0.6**
ATPI				AML	AML		
ATPI				AML	AML		
ATPI				AML	AML		
MURB	**Monte Urbino**	**0.11**	**166**	P	**Pg**	**10 06 39.1**	**-0.5**
MURB				S	**Sg**	**10 06 41.5**	**0.0**
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
MURB	**Monte Urbino**	**0.11**	**166**		**Pg**	**10 06 39.0**	**-0.7**
ATMI	**Monte Miggiano**	**0.17**	**258**	P	**Pg**	**10 06 40.2**	**-0.3**
ATMI				S	**Sg**	**10 06 43.7**	**+0.8**
ATMI				AML	AML		
ATMI				AML	AML		
PIEI	**Pieia**	**0.17**	**11**	P	**Pg**	**10 06 39.7**	**-0.9**
PIEI				S	**Sg**	**10 06 42.5**	**-0.6**
PIEI				AML	AML		
PIEI				AML	AML		
ATTE	**AVT- Monte Tez**	**0.20**	**210**	P	**Pg**	**10 06 40.7**	**-0.4**
ATTE				S	**Sg**	**10 06 44.3**	**+0.4**
ATTE				AML	AML		
ATTE				AML	AML		
	comp=N,72200µm,1.0s						
ATTE				AML	AML		
ATTE				AML	AML		
	comp=N,72200µm,1.0s						
CDCA	**Citt' di Caste**	**0.21**	**296**	P	**Pg**	**10 06 40.9**	**-0.3**
CDCA				S	**Sg**	**10 06 45.0**	**+1.0**
CDCA				AML	AML		
	comp=E,85050µm,0.6s						
CDCA				AML	AML		
	comp=N,84750µm,0.6s						
CDCA				AML	AML		
CDCA				AML	AML		
CDCA				AML	AML		
	comp=E,85100µm,0.6s						
CDCA				AML	AML		
	comp=N,84300µm,0.6s						
CDCA				AML	AML		
	comp=N,84600µm,0.6s						
CDCA				AML	AML		
CDCA				AML	AML		
CDCA				AML	AML		
	comp=E,85050µm,0.6s						
CDCA				AML	AML		
	comp=N,84600µm,0.6s						
FOSV	**Fossato di Vic**	**0.21**	**110**	P	**Pg**	**10 06 40.4**	**-0.9**
FOSV				S	**Sg**	**10 06 43.8**	**-0.5**
FOSV				AML	AML		
	comp=E,56600µm,1.5s						
FOSV				AML	AML		
	comp=N,56050µm,0.5s						
FOSV				AML	AML		
	comp=E,56550µm,1.5s						
FOSV				AML	AML		
	comp=N,56050µm,0.5s						
FOSV				AML	AML		
	comp=E,56550µm,1.5s						
FOSV				AML	AML		
	comp=N,56050µm,0.5s						
ATCC	**AVT- Casa Cast**	**0.21**	**149**	P	**Pg**	**10 06 41.0**	**-0.4**
ATCC				S	**Sg**	**10 06 44.3**	**0.0**
ATCC				AML	AML		
ATCC				AML	AML		
ATCC				AML	AML		
ATCC				AML	AML		
SSFR	**Montelago di S**	**0.22**	**73**	P	**Pg**	**10 06 40.4**	**-1.1**
SSFR				S	**Sg**	**10 06 44.0**	**-0.6**
SSFR				AML	AML		
SSFR				AML	AML		
SSFR				AML	AML		
SSFR				AML	AML		
SSFR				AML	AML		
SSFR				AML	AML		
BADI	**Badiali**	**0.23**	**308**	P	**Pg**	**10 06 41.2**	**-0.4**
BADI				S	**Sg**	**10 06 45.3**	**+0.6**
BADI				AML	AML		
BADI				AML	AML		
FRON	**Frontone**	**0.23**	**49**	P	**Pg**	**10 06 40.4**	**-1.2**
FRON				S	**Sg**	**10 06 44.2**	**-0.6**
FRON				AML	AML		
FRON				AML	AML		
	comp=E,51000µm,0.9s						
NARO	**Abbazia di Nar**	**0.25**	**15**	P	**Pg**	**10 06 40.9**	**-1.1**
NARO				S	**Sg**	**10 06 44.9**	**-0.5**
NARO				AML	AML		
	comp=E,68300µm,1.1s						
NARO				AML	AML		
	comp=N,49500µm,1.2s						
NARO				AML	AML		
	comp=E,68300µm,1.1s						
MPAG	**Monte Paganucc**	**0.33**	**37**	P	**Pg**	**10 06 42.4**	**-1.1**
MPAG				S	**Sg**	**10 06 46.8**	**-1.0**
MPAG				AML	AML		
	comp=E,30150µm,0.4s						
MPAG				AML	AML		
	comp=N,48650µm,0.6s						
MPAG				AML	AML		
	comp=E,30050µm,0.4s						
MPAG				AML	AML		
	comp=N,49650µm,0.6s						
MPAG				AML	AML		
	comp=E,30150µm,0.4s						
MPAG				AML	AML		
	comp=N,48650µm,0.6s						
MPAG				AML	AML		
	comp=E,30100µm,0.4s						
MPAG				AML	AML		
	comp=E,30150µm,0.4s						
MPAG				AML	AML		
	comp=N,48650µm,0.6s						
MPAG				AML	AML		
	comp=N,49650µm,0.6s						
MPAG				AML	AML		
	comp=E,30100µm,0.4s						
PE3	**Peglio**	**0.33**	**1**	P	**Pg**	**10 06 42.8**	**-0.7**
PE3				S	**Sg**	**10 06 48.3**	**+0.5**
PE3				AML	AML		
PE3				AML	AML		
PE3				AML	AML		
SSP9	**Sansepolcro**	**0.33**	**308**	P	**Pg**	**10 06 43.0**	**-0.5**
SSP9				AML	AML		
	comp=E,23250µm,1.3s						
SSP9				AML	AML		
	comp=N,30200µm,0.8s						
SSP9				AML	AML		
	comp=N,30250µm,0.8s						
SSP9				AML	AML		
	comp=E,23000µm,1.3s						
PARC	**Parchiule**	**0.33**	**327**	P	**Pg**	**10 06 43.0**	**-0.6**
PARC				S	**Sg**	**10 06 48.3**	**+0.3**
PARC				AML	AML		
	comp=N,41250µm,1.0s						
PARC				AML	AML		
	comp=E,39700µm,1.5s						
PARC				AML	AML		
	comp=E,39700µm,1.5s						
ASSB	**Assisi San Ben**	**0.35**	**159**	P	**Pg**	**10 06 43.2**	**-0.7**
ASSB				S	**Sg**	**10 06 49.0**	**+0.5**
ASSB				AML	AML		
	comp=E,41600µm,0.4s						
ASSB				AML	AML		
	comp=N,42250µm,0.3s						
ASSB				AML	AML		
	comp=E,41600µm,0.4s						
SNTG	**Esanatoglia**	**0.35**	**109**	P	**Pg**	**10 06 42.8**	**-1.0**
SNTG				S	**Sg**	**10 06 48.5**	**0.0**
SNTG				AML	AML		
	comp=E,7200µm,0.9s						
SNTG				AML	AML		
	comp=E,7195µm,0.9s						
SNTG				AML	AML		
	comp=E,57200µm,0.9s						
SNTG				AML	AML		
	comp=N,71800µm,0.8s						
SNTG				AML	AML		
	comp=E,57200µm,0.9s						
SNTG				AML	AML		
	comp=N,71800µm,0.8s						
SNTG				AML	AML		
	comp=N,8905µm,0.8s						
ARVD	**Arcevia**	**0.35**	**69**	P	**Pg**	**10 06 42.8**	**-1.1**
ARVD				S	**Sg**	**10 06 48.4**	**-0.2**
ARVD				AML	AML		
	comp=E,28100µm,0.6s						
ARVD				AML	AML		
	comp=N,27250µm,1.1s						
ARVD				AML	AML		
	comp=E,28100µm,0.6s						
FIU1	**Fiuminata**	**0.37**	**119**	P	**Pg**	**10 06 43.2**	**-1.0**
FIU1				S	**Sg**	**10 06 49.2**	**+0.1**
FIU1				AML	AML		
	comp=E,30600µm,1.1s						
FIU1				AML	AML		
	comp=N,91350µm,0.9s						
FIU1				AML	AML		
	comp=E,30550µm,1.1s						
FIU1				AML	AML		
	comp=N,91200µm,0.9s						
FIU1				AML	AML		
	comp=N,91200µm,0.9s						
FIU1				AML	AML		
	comp=E,30550µm,1.1s						
MMUR	**Monte Murano**	**0.38**	**79**	P	**Pg**	**10 06 43.0**	**-1.4**
MMUR				S	**Sg**	**10 06 49.1**	**-0.3**
MMUR				AML	AML		
	comp=E,86750µm,0.9s						
MMUR				AML	AML		
	comp=N,78150µm,1.4s						
MMUR				AML	AML		
	comp=E,87200µm,0.9s						
MMUR				AML	AML		
	comp=N,78150µm,1.4s						
MMUR				AML	AML		
	comp=E,87200µm,0.9s						
MMUR				AML	AML		
	comp=N,78150µm,1.4s						
CAFI	**Castiglion Fio**	**0.38**	**264**	P	**Pg**	**10 06 44.2**	**-0.3**
CAFI				AML	AML		
	comp=E,26300µm,0.3s						
CAFI				AML	AML		
	comp=E,26800µm,0.3s						
CAFI				AML	AML		
	comp=E,26300µm,0.3s						
CAFI				AML	AML		
	comp=N,36650µm,0.4s						
CAFI				AML	AML		
	comp=N,37150µm,0.4s						
CAFI				AML	AML		
	comp=N,36650µm,0.4s						
CAFI				AML	AML		
	comp=E,26800µm,0.3s						
CAFI				AML	AML		
	comp=N,37150µm,0.4s						
FSSB	**Fossombrone**	**0.39**	**33**	P	**Pg**	**10 06 43.5**	**-1.1**
FSSB				S	**Sg**	**10 06 49.6**	**-0.1**
FSSB				AML	AML		
	comp=E,62550µm,0.5s						
FSSB				AML	AML		
	comp=N,64400µm,0.8s						
FSSB				AML	AML		
	comp=E,62550µm,0.5s						
FSSB				AML	AML		
	comp=N,64400µm,0.8s						
MTL1	**Matelica**	**0.40**	**106**	AML	AML		
	comp=N,59700µm,0.5s						
MTL1				AML	AML		
	comp=N,59750µm,0.5s						
MTL1				AML	AML		
	comp=N,59700µm,0.5s						
MTL1				AML	AML		
	comp=E,71250µm,0.6s						
CRM1	**Catelraimondo**	**0.45**	**111**	AML	AML		
	comp=N,59500µm,0.8s						
CRM1				AML	AML		
	comp=E,66450µm,1.1s						
CPGN	**Carpegna, Ital**	**0.45**	**344**	AML	AML		
	comp=E,30350µm,0.6s						
CPGN				AML	AML		
	comp=N,27700µm,0.5s						
CPGN				AML	AML		
	comp=N,25600µm,0.5s						
CPGN				AML	AML		
	comp=E,30300µm,0.6s						
CPGN				AML	AML		
	comp=N,27700µm,0.5s						
CPGN				AML	AML		
	comp=E,29250µm,0.6s						
CPGN				AML	AML		
	comp=N,27700µm,0.5s						
CPGN				AML	AML		
	comp=N,25600µm,0.5s						
CPGN				AML	AML		
	comp=E,30300µm,0.6s						
EL6	**Elcito**	**0.45**	**95**	P	**Pg**	**10 06 44.6**	**-1.1**
EL6				AML	AML		
	comp=E,38450µm,0.8s						
EL6				AML	AML		
	comp=N,60000µm,0.8s						
EL6				AML	AML		
	comp=E,38400µm,0.8s						
EL6				AML	AML		
	comp=N,59950µm,0.8s						
EL6				AML	AML		
	comp=N,59950µm,0.8s						
EL6				AML	AML		
	comp=E,38400µm,0.8s						
COR1	**Corinaldo**	**0.46**	**55**	P	**Pg**	**10 06 45.2**	**-0.6**
COR1				AML	AML		
	comp=E,72200µm,0.5s						
COR1				AML	AML		
	comp=N,49650µm,0.4s						
COR1				AML	AML		
	comp=E,38850µm,0.5s						
COR1				AML	AML		
	comp=N,48500µm,0.4s						
COR1				AML	AML		
	comp=E,72200µm,0.5s						
COR1				AML	AML		
	comp=E,38850µm,0.5s						
COR1				AML	AML		
	comp=N,48550µm,0.4s						
COR1				AML	AML		
	comp=N,49650µm,0.4s						
COR1				AML	AML		
	comp=E,72200µm,0.5s						

COR1 AML AML
comp=N,48550µm,0.4s
COR1 AML AML
comp=E,38850µm,0.5s
CRE Caprese Michel 0.47 303 AML AML
comp=E,22950µm,0.5s
CRE AML AML
comp=N,28850µm,0.2s
CRE AML AML
comp=N,28850µm,0.2s
CESI CESI - Serrava 0.47 140 AML AML
comp=E,3995µm,0.3s
CESI AML AML
comp=N,8985µm,0.4s
CING Cingoli 0.52 89 P **Pg 10 06 45.8 -1.1**
CING S **Sg 10 06 53.5 -0.2**
MGAB Montegabbione 0.53 211 P **Pg 10 06 46.9 -0.4**
MGAB AML AML
MGAB AML AML
MGAB AML AML
MGAB AML AML
MGAB AML AML
MGAB AML AML
MGAB AML AML
FDMO Fiordimonte 0.55 127 P **Pg 10 06 46.5 -1.1**
FDMO AML AML
comp=E,19550µm,0.2s
FDMO AML AML
comp=N,17300µm,0.2s
FDMO AML AML
comp=N,17300µm,0.2s
RSM Repubblica di 0.56 357 P **Pg 10 06 47.9 +0.1**
RSM AML AML
comp=E,15150µm,1.5s
RSM AML AML
comp=N,22450µm,1.6s
RSM AML AML
comp=E,15150µm,1.5s
RSM AML AML
comp=N,22450µm,1.6s
MOMA Monte Martano 0.57 174 AML AML
comp=E,27200µm,0.3s
MOMA AML AML
comp=N,24000µm,0.8s
MOMA AML AML
comp=N,25150µm,0.8s
MOMA AML AML
comp=N,24000µm,0.8s
MOMA AML AML
comp=E,28350µm,0.4s
MOMA AML AML
comp=E,28350µm,0.4s
MOMA AML AML
comp=E,27200µm,0.4s
MOMA AML AML
comp=N,25150µm,0.8s
FEMA Monte Fema 0.58 135 P **Pg 10 06 47.1 -1.0**
FEMA S **Sg 10 06 56.3 +0.6**
FEMA AML AML
comp=E,29600µm,1.3s
FEMA AML AML
comp=N,28600µm,0.3s
FEMA AML AML
comp=E,29600µm,1.3s
FEMA AML AML
comp=N,28550µm,0.3s
FEMA AML AML
comp=N,28550µm,0.3s
FEMA AML AML
comp=E,29600µm,1.3s
CSP1 Cessapalombo 0.59 118 P **Pg 10 06 47.2 -1.2**
CSP1 AML AML
comp=E,25650µm,0.5s
CSP1 AML AML
comp=N,25650µm,0.3s
CSP1 AML AML
comp=E,25650µm,0.5s
CSP1 AML AML
comp=N,25650µm,0.3s
TRE1 Treia 0.60 95 AML AML
comp=E,36650µm,0.7s
TRE1 AML AML
comp=N,42150µm,0.5s
TRE1 AML AML
comp=E,36600µm,0.7s
TRE1 AML AML
comp=N,42200µm,0.5s
TRE1 AML AML
comp=N,42200µm,0.5s
TRE1 AML AML
comp=E,36600µm,0.7s
PESA Pesaro 0.63 24 P **Pg 10 06 48.2 -0.9**
PESA AML AML
comp=E,53450µm,1.6s
PESA AML AML
comp=N,48650µm,0.3s
PESA AML AML
comp=E,53450µm,1.6s
PESA AML AML
comp=N,48650µm,0.3s
SENI Senigallia 0.64 58 AML AML
comp=N,50200µm,0.3s
SENI AML AML
comp=E,62550µm,0.5s
SENI AML AML
comp=N,50200µm,0.3s
SENI AML AML
comp=E,13924µm,1.6s
SENI AML AML
comp=N,11210µm,0.9s
SENI AML AML
comp=E,62550µm,0.5s
SENI AML AML
comp=N,50200µm,0.3s
SENI AML AML
comp=N,11200µm,0.9s
SENI AML AML
comp=E,62550µm,0.5s
SENI AML AML
comp=E,13550µm,1.6s
ASQU Asqua 0.66 310 P **Pg 10 06 48.9 -0.9**
ASQU AML AML
comp=N,16900µm,0.7s
ASQU AML AML
comp=E,9495µm,0.4s
ASQU AML AML
comp=N,16900µm,0.7s
SACS San Casciano d 0.67 219 P **Pg 10 06 49.3 -0.6**
SACS AML AML
comp=E,26900µm,0.8s
SACS AML AML
comp=N,30000µm,0.4s
SACS AML AML
comp=E,25550µm,0.8s
SACS AML AML
comp=N,30050µm,0.4s
SACS AML AML
comp=N,31100µm,0.4s
SACS AML AML
comp=E,26900µm,0.8s
SACS AML AML
comp=E,25550µm,0.8s
SACS AML AML
comp=N,30050µm,0.4s
SACS AML AML
comp=N,31100µm,0.4s
NRCA Norcia 0.70 139 **Pg 10 06 49.1 -1.4**
SFI Santa Sofia 0.71 319 AML AML
comp=N,8260µm,0.6s
SFI AML AML
comp=N,7470µm,0.6s
SFI AML AML
comp=N,8255µm,0.6s
SFI AML AML
comp=E,7765µm,0.6s
SFI AML AML
comp=E,6770µm,0.6s
MNTP Montappone 0.75 108 AML AML
comp=E,26850µm,0.7s
MNTP AML AML
comp=N,23850µm,1.6s
MNTP AML AML
comp=N,23850µm,1.6s
MNTP AML AML
comp=E,26850µm,0.7s
CESX Cesi 0.76 175 P **Pg 10 06 50.5 -1.1**
CESX AML AML
comp=E,34500µm,0.6s
CESX AML AML
comp=N,21950µm,1.6s
BLLA Bellaria 0.77 359 AML AML
comp=N,11400µm,1.3s
BLLA AML AML
comp=E,16200µm,1.3s
ARRO Arrone 0.81 165 AML AML
comp=N,9280µm,0.6s
ARRO AML AML
comp=E,7915µm,0.4s
PP3 Marolino 0.82 89 AML AML
comp=E,18150µm,0.9s
PP3 AML AML
comp=E,16450µm,0.7s
PP3 AML AML
comp=E,18150µm,0.9s
PP3 AML AML
comp=N,23850µm,0.5s
PP3 AML AML
comp=N,24750µm,0.5s
PP3 AML AML
comp=E,16450µm,0.7s
PP3 AML AML
comp=N,23850µm,0.5s
AOI Ancona 0.83 77 P **Pg 10 06 51.5 -1.4**
AOI AML AML
comp=E,5025µm,0.7s
AOI AML AML
comp=N,6810µm,1.0s
MCIV Monte Civitell 0.84 226 AML AML
comp=E,5040µm,0.4s
MCIV AML AML
comp=N,6030µm,1.2s
RUFI Rufina 0.85 304 P **Pg 10 06 52.2 -1.1**
LNSS Leonessa 0.87 152 P **Pg 10 06 52.1 -1.5**
LNSS AML AML
comp=N,18300µm,0.4s
LNSS AML AML
comp=E,15350µm,0.5s
LNSS AML AML
comp=N,18300µm,0.4s
CSNT Castellina Chi 0.88 277 P **Pg 10 06 52.8 -1.1**
CSNT AML AML
comp=N,9275µm,0.5s
CSNT AML AML
comp=E,9370µm,0.5s
LATE Laterza 0.91 214 P **Pg 10 06 53.5 -0.9**
LATE AML AML
comp=N,34150µm,0.5s
LATE AML AML
comp=N,34200µm,0.5s
LATE AML AML
comp=E,20800µm,0.4s
LATE Laterza 0.91 214 **Pg 10 06 53.4 -1.0**
OSSC Osservatorio P 0.92 280 P **Pg 10 06 53.5 -1.1**
OSSC AML AML
comp=N,8310µm,1.3s
OSSC AML AML
comp=N,8330µm,1.3s
OSSC AML AML
comp=N,8165µm,1.3s
OSSC AML AML
comp=E,8055µm,0.8s
OSSC AML AML
comp=E,7755µm,0.8s
OSSC Osservatorio P 0.92 280 **Pg 10 06 53.6 -1.1**
SMA1 SAN MARTINO 0.96 140 AML AML
comp=E,15900µm,0.7s
SMA1 AML AML
comp=N,11525µm,0.5s
SMA1 AML AML
comp=E,15900µm,0.7s
OFFI Offida 0.98 116 P **Pg 10 06 55.2 -0.6**
OFFI AML AML
comp=E,22050µm,0.4s
OFFI AML AML
comp=N,32800µm,0.6s
OFFI AML AML
comp=E,22050µm,0.4s
OFFI AML AML
comp=N,32800µm,0.6s
FROS Frosini 0.99 261 P **Pg 10 06 55.1 -0.8**
FROS AML AML
comp=N,8370µm,1.6s
FROS AML AML
comp=E,10465µm,1.1s
BRIS BRISIGHELLA 1.05 318 AML AML
comp=E,3750µm,1.3s
BRIS AML AML
comp=N,7905µm,0.9s
SEI Scarperia 1.07 310 AML AML
comp=E,9375µm,0.5s
SEI AML AML
comp=N,14550µm,0.6s
GUMA Gualdo di Mace 1.10 106 P Pg 10 06 49.3 -8.8
GUMA AML AML
comp=N,36350µm,0.5s
GUMA AML AML
comp=E,38000µm,0.3s
GUMA AML AML
comp=N,30200µm,0.6s
GUMA AML AML
comp=N,36350µm,0.5s
GUMA AML AML
comp=E,38950µm,0.7s
GUMA AML AML
comp=E,38000µm,0.3s
GUMA AML AML
comp=N,30200µm,0.6s
TERO Teramo 1.11 132 P **Pg 10 06 56.0 -2.1**
TERO AML AML
comp=N,2745µm,0.7s
TERO AML AML
comp=E,2795µm,1.0s
TERO AML AML
comp=E,6555µm,1.0s
TERO AML AML
comp=N,6765µm,0.7s
CRMI Carmignano 1.18 291 P **Pb 10 06 58.3 -1.2**
CRMI AML AML
comp=N,996µm,0.6s
CRMI AML AML
comp=E,1240µm,1.6s
T0104 Madonna delle 1.19 148 AML AML
comp=E,9845µm,0.7s
T0104 AML AML
comp=N,7340µm,0.7s
T0104 AML AML
comp=E,10440µm,0.7s
T0104 AML AML
comp=N,7320µm,0.7s
TRIF Trifonti 1.19 258 P **Pb 10 06 58.4 -1.2**
TRIF AML AML
comp=E,3115µm,1.5s
TRIF AML AML
comp=N,3325µm,0.6s
AQU L'Aquila 1.22 146 P **Pb 10 06 59.0 -1.2**
AQU L'Aquila 1.22 146 ⇑*i*Pn **Pb 10 06 58.1 -2.0**
AQU L'Aquila 1.22 146 AML AML
comp=E,5735µm,0.9s
AQU AML AML
comp=N,5210µm,0.8s
AQU AML AML
comp=E,5595µm,0.6s
AQU AML AML
comp=N,4715µm,0.8s
AQU L'Aquila 1.22 146 **Pb 10 06 59.0 -1.2**
MTRZ Monterenzio 1.25 324 AML AML
comp=E,10025µm,0.7s
MTRZ AML AML
comp=E,10245µm,0.7s
MTRZ AML AML
comp=N,8400µm,1.3s
MTRZ AML AML
comp=N,8290µm,1.3s
MTCR Monte La Croce 1.27 302 AML AML
comp=N,4615µm,0.8s
MTCR AML AML
comp=E,4580µm,1.3s
CASP Castiglione de 1.32 245 P **Pn 10 06 59.7 -1.9**
CASP AML AML
comp=N,996µm,0.6s
CASP AML AML
comp=E,1420µm,0.7s
CASP Castiglione de 1.32 245 **Pn 10 06 60.0 -1.6**
TOLF Tolfa 1.35 196 AML AML
comp=N,3785µm,0.9s
TOLF AML AML
comp=E,2630µm,0.5s
MTCE Montecelio 1.36 172 AML AML
comp=E,2840µm,1.5s
MTCE AML AML
comp=N,1970µm,1.6s
FAGN Fagnano 1.37 143 AML AML
comp=N,6535µm,1.5s
FAGN AML AML
comp=E,12450µm,0.5s
MAON Monte Argentar 1.37 227 P **Pn 10 07 00.6 -1.6**
MAON AML AML
comp=N,902µm,1.6s
MAON AML AML
comp=E,1510µm,0.5s
VCEL Villa Celiera 1.39 134 AML AML
comp=N,6980µm,0.9s
VCEL AML AML
comp=E,10790µm,0.9s
POPM Popiglio 1.43 299 P **Pn 10 07 01.7 -1.3**
POPM Popiglio 1.43 299 AML AML
comp=E,2360µm,1.0s
POPM AML AML
comp=N,2165µm,1.4s
CERT Cerreto 1.47 165 P **Pn 10 07 02.3 -1.3**
CERT AML AML
comp=N,2580µm,0.5s
CERT AML AML
comp=E,4250µm,1.0s
ZCCA Zocca 1.47 312 **Pg 10 07 04.6 -0.6**
PTQR Pietraquaria 1.50 153 AML AML
comp=E,1575µm,0.6s
PTQR AML AML
comp=N,2075µm,0.8s
MAIM Mastiano 1.55 291 P **Pn 10 07 03.2 -1.5**
MAIM S **Sg 10 07 26.6 -0.1**
MAIM Mastiano 1.55 291 P **Pn 10 07 03.2 -1.5**
MAIM AML AML
comp=E,1930µm,0.6s
MAIM AML AML
comp=N,1435µm,1.5s
CARD Cardoso 1.60 295 P **Pn 10 07 03.6 -1.7**
CARD S **Sn 10 07 25.3 -0.8**
CARD Cardoso 1.60 295 AML AML
comp=E,2045µm,0.6s
CARD AML AML
comp=N,2185µm,0.5s
GUAR Guarcino 1.69 159 AML AML
comp=E,2270µm,0.5s
GUAR AML AML
comp=N,2330µm,1.2s
LAV9 Lanuvio 1.70 175 AML AML
comp=N,6040µm,0.8s
LAV9 AML AML
comp=E,5240µm,1.6s
LAV9 AML AML
comp=E,5640µm,1.6s
LAV9 AML AML
comp=N,5935µm,0.8s
INTR Introdacqua 1.71 142 AML AML
comp=E,3875µm,0.7s
INTR AML AML
comp=N,5705µm,0.9s
INTR Introdacqua 1.71 142 **Pn 10 07 06.4 -0.6**
VLC Villacollemand 1.72 298 AML AML
comp=E,1143µm,0.8s
VLC AML AML
comp=N,1145µm,0.9s
VLC AML AML
comp=N,1100µm,0.9s
VLC AML AML
comp=E,1124µm,0.7s
VLC Villacollemand 1.72 298 **Pn 10 07 05.1 -1.9**
SARO Sassorosso 1.72 299 P **Pn 10 07 05.1 -2.0**
SARO Sassorosso 1.72 299 AML AML
comp=E,970µm,0.8s
SARO AML AML
comp=N,904µm,0.5s
BRJN Brijuni 1.78 30 *e*Pn **Pn 10 07 06.7 -1.2**
BRJN Sn **Sg 10 07 33.3 -1.0**
LPEL Lama dei Pelig 1.82 136 AML AML
comp=E,2055µm,1.6s
LPEL AML AML
comp=N,1700µm,0.8s
EQUI Equi 1.87 296 AML AML
comp=N,1053µm,0.6s
EQUI AML AML
comp=E,740µm,1.1s
POFI Posta Fibreno 1.88 151 P **Pn 10 07 09.2 -0.1**
POFI AML AML
comp=N,1755µm,0.8s
POFI AML AML
comp=E,1395µm,1.1s
GIUL Giuliano Di Ro 1.90 162 AML AML
comp=E,986µm,0.7s
GIUL AML AML
comp=N,1500µm,0.8s
DUGI Dugi Otok 1.96 71 *i*Pn **Pn 10 07 09.6 -0.8**
TEOL Teolo 2.08 344 P **Pn 10 07 12.4 +0.5**
TEOL Teolo 2.08 344 **Pn 10 07 11.6 -0.3**
NVLJ Novalja 2.09 54 *i*Pn **Pn 10 07 11.6 -0.6**
PRMA PARMA 2.10 312 **Pb 10 07 14.7 -0.4**
CERA Filignano 2.10 147 P **Pn 10 07 12.0 -0.3**
CERA AML AML
comp=N,2110µm,1.1s
CERA AML AML
comp=E,1775µm,0.9s
CERA AML AML
comp=E,1810µm,0.9s
CERA AML AML
comp=N,2040µm,1.1s
FRES Fresagrandinar 2.13 130 AML AML
comp=E,716µm,0.5s
FRES AML AML
comp=N,750µm,1.6s
MIDA Miranda 2.16 142 P **Pn 10 07 13.5 +0.3**
MIDA AML AML
comp=E,1230µm,0.9s
MIDA AML AML
comp=N,998µm,1.0s
ZIRJ Zirje 2.31 82 *i*Pn **Pn 10 07 14.7 -0.5**
VAGA Valle Agricola 2.34 146 P **Pn 10 07 15.7 +0.1**
VAGA AML AML
comp=E,581µm,1.6s
VAGA AML AML
comp=N,752µm,0.7s
VAGA AML AML
comp=E,600µm,1.6s
VAGA AML AML
comp=N,756µm,0.7s
MSSA Maissana 2.35 295 P **Pn 10 07 14.7 -1.1**
MSSA AML AML
comp=E,544µm,0.5s
MSSA AML AML
comp=N,713µm,0.8s
MSSA Maissana 2.35 295 **Pn 10 07 14.6 -1.1**
MORI Morici 2.39 77 *i*Pn **Pn 10 07 15.8 -0.4**
RIY Rijeka 2.42 35 *i*Pn **Pn 10 07 16.2 -0.5**
RIY Rijeka 2.42 35 *e*Pn **Pn 10 07 16.3 -0.4**
RIY *e*Sn **Sb 10 07 48.2 -2.4**
RIY Rijeka 2.42 35 ⇑*i*Pn **Pn 10 07 16.1 -0.5**
SKDS Skadanscina 2.44 26 *i*Pn **Pn 10 07 15.5 -1.4**
comp=Z,512nm,0.4s
ROVR Rover Verones 2.49 336 P **Pn 10 07 17.9 +0.2**
PIGN Pignataro Magg 2.50 149 AML AML
comp=N,569µm,1.6s
PIGN AML AML
comp=E,632µm,1.6s
TRI Trieste 2.51 21 P **Pn 10 07 16.5 -1.4**
TRI Trieste 2.51 21 P **Pn 10 07 16.6 -1.2**
TRI AML AML
comp=E,1150µm,0.8s
TRI AML AML
comp=N,1049µm,0.5s
TRI Trieste 2.51 21 **Pn 10 07 16.5 -1.4**
KNDS Knezji Dol 2.55 31 *i*Pn **Pn 10 07 17.6 -0.9**
KNDS *e*Sn **Sn 10 07 50.6 +0.9**
comp=Z,788nm,0.8s
CGRP Cima Grappa 2.56 349 P **Pn 10 07 18.3 -0.4**
CGRP AML AML
comp=E,2375µm,0.5s
CGRP AML AML
comp=N,1840µm,1.3s
MELA Melanico ??? S 2.56 130 AML AML
comp=E,1550µm,0.6s

MELA					AML	AML			
	comp=N,1975µm,0.7s								
MELA					AML	AML			
	comp=E,1630µm,0.7s								
MELA					AML	AML			
	comp=N,2045µm,0.7s								
UDBI	**Udbina**	**2.63**	**63**	*i* Pn	**Pn**		**10 07 20.0**	**+0.3**	
SALO	**Salr**	**2.65**	**329**	P	**Pn**		**10 07 20.8**	**+0.9**	
SALO					AML	AML			
	comp=E,1166µm,0.7s								
SALO					AML	AML			
	comp=N,1320µm,1.3s								
SALO	**Salr**	**2.65**	**329**		**Pn**		**10 07 20.8**	**+0.9**	
POLC	**Polcenigo**	**2.66**	**0**	P	**Pn**		**10 07 19.7**	**-0.2**	
POLC					AML	AML			
	comp=N,4120µm,0.5s								
POLC					AML	AML			
	comp=E,2750µm,0.5s								
SMPL	**Sampolo**	**2.68**	**243**	Pg	**Pn**		**10 07 20.9**	**+0.7**	
SMPL				Sg	**Sn**		**10 07 53.1**	**+0.2**	
SMPL	**Sampolo**	**2.68**	**243**	AML	AML				
	comp=E,7800µm,0.5s								
SMPL					AML	AML			
	comp=N,8980µm,0.5s								
PGF	**Pioggiola**	**2.69**	**253**	*e*Pn	**Pn**		**10 07 19.8**	**-0.7**	
PGF				*e*Sn	**Sn**		**10 07 52.6**	**-0.6**	
	comp=N,72nm,0.3s								
PGF	**Pioggiola**	**2.69**	**253**	Pg	**Pn**		**10 07 19.9**	**-0.5**	
PGF	**Pioggiola**	**2.69**	**253**	P	**Pn**		**10 07 21.7**	**+1.2**	
SABO	**M.te Sabotino**	**2.73**	**17**	P	**Pn**		**10 07 20.0**	**-0.9**	
SABO					AML	AML			
	comp=E,2130µm,0.6s								
SABO					AML	AML			
	comp=N,2855µm,0.6s								
CEY	**Cerknica**	**2.74**	**30**	*e*Pn	**Pn**		**10 07 20.2**	**-0.9**	
CEY				*e*Sn	**Sn**		**10 07 55.4**	**+1.0**	
CEY	**Cerknica**	**2.74**	**30**	⇑*i*Pn	**Pn**		**10 07 20.1**	**-1.0**	
MAGA	**Magasa**	**2.75**	**332**	P	**Pn**		**10 07 21.6**	**+0.3**	
MAGA					AML	AML			
	comp=E,4010µm,0.7s								
MAGA					AML	AML			
	comp=N,1910µm,0.5s								
PAOL	**Paolisi**	**2.80**	**146**		**Pn**		**10 07 21.5**	**-0.5**	
SGRT	**San Giovanni R**	**2.90**	**123**	AML	AML				
	comp=E,752µm,0.9s								
SGRT					AML	AML			
	comp=N,733µm,1.6s								
SGRT	**San Giovanni R**	**2.90**	**123**		**Pn**		**10 07 23.1**	**-0.1**	
STAL	**STALIGIAL**	**2.90**	**3**	P	**Pn**		**10 07 22.6**	**-0.7**	
STAL					AML	AML			
	comp=E,1500µm,0.3s								
STAL					AML	AML			
	comp=N,1740µm,0.3s								
STAL					AML	AML			
	comp=N,1315µm,0.3s								
STAL					AML	AML			
	comp=E,1950µm,0.3s								
STAL	**STALIGIAL**	**2.90**	**3**		**Pn**		**10 07 22.5**	**-0.7**	
HVAR	**Hvar**	**2.90**	**92**	*e*Pn	**Pn**		**10 07 22.6**	**-0.6**	
HVAR				Sn	**Sn**		**10 07 57.3**	**-0.8**	
BOJS	**Bojanci**	**2.91**	**42**	*e*Pn	**Pn**		**10 07 23.1**	**-0.3**	
BOJS				*e*Sn	**Sn**		**10 08 00.0**	**+1.5**	
BOJS	**Bojanci**	**2.91**	**42**	AML	AML				
	comp=E,730µm,0.9s								
BOJS					AML	AML			
	comp=N,624µm,0.7s								
KIJV	**Kijevo**	**2.91**	**76**	*e*Pn	**Pn**		**10 07 23.5**	**+0.1**	
GEPF	**Gemona**	**2.94**	**9**	AML	AML				
	comp=E,870µm,0.8s								
GEPF					AML	AML			
	comp=N,1112µm,0.8s								
MSAG	**Monte S. Angel**	**3.02**	**122**	AML	AML				
	comp=E,1082µm,0.6s								
MSAG					AML	AML			
	comp=N,1695µm,0.5s								
MABI	**Malga Bissina**	**3.03**	**333**	AML	AML				
	comp=E,272µm,1.1s								
MABI					AML	AML			
	comp=N,268µm,0.4s								
LJU	**Ljubljana**	**3.04**	**28**	*e*Pn	**Pn**		**10 07 24.6**	**-0.6**	
LJU	**Ljubljana**	**3.04**	**28**	⇑*i*Pn	**Pn**		**10 07 24.7**	**-0.5**	
LJU	**Ljubljana**	**3.04**	**28**	AML	AML				
	comp=E,1910µm,0.7s								
LJU					AML	AML			
	comp=N,2840µm,0.6s								
PCP	**Piancastagn**	**3.08**	**294**	AML	AML				
	comp=N,176µm,0.6s								
PCP					AML	AML			
	comp=E,165µm,1.1s								
OZLJ	**Ozalj**	**3.10**	**42**	*e*Pn	**Pn**		**10 07 25.6**	**-0.3**	
PTCC	**Patocco-Chiusa**	**3.10**	**11**	AML	AML				
	comp=N,625µm,0.6s								
PTCC					AML	AML			
	comp=E,660µm,0.4s								
MDI	**Monti di Nese**	**3.12**	**321**	AML	AML				
	comp=N,400µm,0.7s								
MDI					AML	AML			
	comp=E,444µm,0.4s								
FINB	**Finale Ligure**	**3.12**	**286**	AML	AML				
	comp=N,154µm,1.0s								
FINB					AML	AML			
	comp=E,120µm,1.4s								
KOSI	**Kohlern**	**3.19**	**346**	AML	AML				
	comp=N,1085µm,0.7s								
KOSI					AML	AML			
	comp=E,1015µm,0.6s								
FVI	**Forni Avoltri**	**3.23**	**4**	AML	AML				
	comp=E,709µm,0.7s								
FVI					AML	AML			
	comp=N,856µm,0.6s								
APPI	**Appiano**	**3.24**	**344**	AML	AML				
	comp=E,771µm,1.1s								
APPI					AML	AML			
	comp=N,842µm,0.4s								
CRES	**Cresnjev**	**3.24**	**40**	⇑*i*Pn	**Pn**		**10 07 27.7**	**-0.3**	
ACOM	**Acomizza, Ital**	**3.26**	**13**	AML	AML				
	comp=E,1200µm,1.0s								
ACOM					AML	AML			
	comp=N,1705µm,0.7s								
MAKA	**Makarska**	**3.31**	**90**	*e*Pn	**Pn**		**10 07 28.8**	**0.0**	
MAKA				Sn	**Sn**		**10 08 09.7**	**+1.5**	
VULT	**Monte Vulture**	**3.35**	**135**	P	**Pn**		**10 07 31.9**	**+2.4**	
VULT				S	**Sb**		**10 08 18.0**	**+0.6**	
MYKA	**Terra Mystica**	**3.36**	**14**	*e*Pn	**Pn**		**10 07 29.5**	**-0.1**	
	comp=N,7.1nm,0.2s,SNR=14								
MYKA				Sn	**Sn**		**10 08 12.0**	**+2.3**	
	comp=N,42nm,0.3s								
MYKA	**Terra Mystica**	**3.36**	**14**		**Pn**		**10 07 29.5**	**-0.1**	
MYKA					**Sn**		**10 08 12.0**	**+2.3**	
BRES	**Bressanone**	**3.37**	**351**	P	**Pn**		**10 07 31.1**	**+1.1**	
BRES					AML	AML			
	comp=N,646µm,1.2s								
BRES					AML	AML			
	comp=E,516µm,1.5s								
ABTA	**Abfaltersbach**	**3.38**	**0**	*e*Pn	**Pn**		**10 07 30.2**	**+0.3**	
	comp=E,158nm,0.7s,SNR=103								
ABTA				Sn	**Sn**		**10 08 12.1**	**+2.0**	
	comp=E,235nm,0.6s								
ABTA	**Abfaltersbach**	**3.38**	**0**		**Pn**		**10 07 30.2**	**+0.3**	
ABTA					**Sn**		**10 08 12.1**	**+2.0**	
RICI	**Ricice**	**3.38**	**86**	iPn	**Pn**		**10 07 30.2**	**+0.3**	
RICI				Sn	**Sn**		**10 08 10.5**	**+0.3**	
BRMO	**Bormio**	**3.45**	**335**	P	**Pn**		**10 07 32.8**	**+1.9**	
ABSI	**Aberstueckl**	**3.46**	**347**	P	**Pn**		**10 07 31.4**	**+0.3**	
ABSI					AML	AML			
	comp=N,1485µm,0.6s								
ABSI					AML	AML			
	comp=E,1345µm,0.7s								
MGRO	**Montegrosso**	**3.46**	**283**	P	**Pn**		**10 07 30.6**	**-0.5**	
MGRO					AML	AML			
	comp=N,188µm,0.4s								
MGRO					AML	AML			
	comp=E,158µm,0.5s								
OBKA	**Obir**	**3.46**	**24**	*i* Pn	**Pn**		**10 07 30.2**	**-0.9**	
	comp=E,9.8nm,0.2s,SNR=28								
OBKA				Sg	**Sg**		**10 08 29.0**	**+0.8**	
	comp=E,890nm,1.0s								
OBKA	**Obir**	**3.46**	**24**		**Pn**		**10 07 30.2**	**-0.9**	
OBKA					LR		10 08 29.0		
GBOS	**Grotte di Boss**	**3.48**	**286**	P	**Pn**		**10 07 30.5**	**-0.7**	
GBOS					AML	AML			
	comp=E,102µm,0.5s								
GBOS					AML	AML			
	comp=N,112µm,1.6s								
MGRS	**Mrkonjic Grad**	**3.48**	**71**	*e*Pn	**Pn**		**10 07 31.8**	**+0.5**	
ZAG	**Zagreb**	**3.50**	**44**	ePn	**Pn**		**10 07 32.0**	**+0.5**	
ZAG	**Zagreb**	**3.50**	**44**	*e*Pn	**Pn**		**10 07 33.9**	**+2.4**	
BERNI	**Berninapass**	**3.51**	**331**	P	**Pn**		**10 07 32.9**	**+1.0**	
BERNI					AML	AML			
	comp=N,194µm,0.5s								
BERNI					AML	AML			
	comp=E,238µm,0.7s								
MOSI	**Grossmontoni**	**3.53**	**338**	P	**Pn**		**10 07 34.1**	**+2.0**	
MUGIO	**Muggio**	**3.54**	**317**	P	**Pn**		**10 07 31.9**	**-0.2**	
MUGIO					AML	AML			
	comp=E,210µm,0.7s								
MUGIO					AML	AML			
	comp=N,258µm,0.8s								
PTJ	**Puntijarka**	**3.55**	**43**	iPn	**Pn**		**10 07 31.7**	**-0.5**	
RISI	**Rein**	**3.59**	**356**	P	**Pn**		**10 07 32.0**	**-0.9**	
RISI					AML	AML			
	comp=N,1545µm,0.5s								
RISI					AML	AML			
	comp=E,1405µm,0.6s								
FUORN	**Ofenpass-Fuorn**	**3.61**	**335**	P	**Pn**		**10 07 35.5**	**+2.2**	
FUORN	**Ofenpass-Fuorn**	**3.61**	**335**		**Pn**		**10 07 34.8**	**+1.5**	
SAOF	**Saorge**	**3.63**	**281**	Pn	**Pn**		**10 07 32.7**	**-0.6**	
SAOF	**Saorge**	**3.63**	**281**	P	**Pn**		**10 07 36.1**	**+2.8**	
SAOF	**Saorge**	**3.63**	**281**	P	**Pn**		**10 07 33.5**	**+0.1**	
SAOF					AML	AML			
	comp=E,221µm,0.5s								
SAOF					AML	AML			
	comp=N,282µm,0.9s								
ROSI	**Rosskopf**	**3.64**	**348**	P	**Pn**		**10 07 34.7**	**+1.1**	
ACER	**Acerenza**	**3.64**	**134**	P	**Pn**		**10 07 34.6**	**+1.2**	
ACER					AML	AML			
	comp=E,448µm,1.1s								
ACER					AML	AML			
	comp=N,674µm,0.9s								
ACER					AML	AML			
	comp=E,454µm,0.7s								
ACER					AML	AML			
	comp=N,656µm,0.9s								
ACER	**Acerenza**	**3.64**	**134**		**Pn**		**10 07 34.2**	**+0.8**	
VARE	**Varese**	**3.65**	**315**	P	**Pn**		**10 07 33.7**	**+0.1**	
VARE					AML	AML			
	comp=N,347µm,0.7s								
VARE					AML	AML			
	comp=E,352µm,1.1s								
BLY	**Banja Luka**	**3.65**	**66**	*e*Pn	**Pn**		**10 07 34.0**	**+0.4**	
BLY				*e*Sn	**Sn**		**10 08 19.7**	**+2.9**	
BLY	**Banja Luka**	**3.65**	**66**	⇑*i*Pn	**Pn**		**10 07 33.8**	**+0.2**	
BLY	**Banja Luka**	**3.65**	**66**	⇑P	**Pn**		**10 07 34.1**	**+0.4**	
BLY				AML	AML		10 08 51.2		
BLY	**Banja Luka**	**3.65**	**66**	P	**Pn**		**10 07 33.5**	**-0.1**	
BLY				AML	AML				
	comp=N,536µm,0.9s								
BLY				AML	AML				
	comp=E,784µm,0.7s								
BLY	**Banja Luka**	**3.65**	**66**		**Pn**		**10 07 33.6**	**0.0**	
SBF	**Sospel**	**3.70**	**279**	*e*Pn	**Pn**		**10 07 34.4**	**+0.1**	
SBF				*e*Sn	**Sn**		**10 08 17.4**	**-0.7**	
	comp=E,84nm,0.3s								
SBF	**Sospel**	**3.70**	**279**	P	**Pn**		**10 07 33.2**	**-1.1**	
SBF				S	**Sn**		**10 08 15.7**	**-2.4**	
SBF				smax	smax				
	comp=N,42nm,0.4s								
TURF	**col de Turini**	**3.75**	**281**	Pn	**Pn**		**10 07 34.9**	**-0.1**	
KBA	**Koelnbreinsper**	**3.76**	**9**	P	**Pn**		**10 07 35.5**	**+0.3**	
KBA							10 08 21.1		
KBA	**Koelnbreinsper**	**3.76**	**9**	*e*Pn	**Pn**		**10 07 35.5**	**+0.3**	
	comp=N,84nm,0.6s,SNR=63								
KBA				*e*Sn	**Sn**		**10 08 21.1**	**+1.5**	
	comp=N,142nm,0.6s								
KBA	**Koelnbreinsper**	**3.76**	**9**		**Pn**		**10 07 35.5**	**+0.3**	
KBA					**Sn**		**10 08 21.1**	**+1.5**	
ENR	**Entracque**	**3.77**	**285**	P	**Pn**		**10 07 36.1**	**+0.8**	
ENR				AML	AML				
	comp=N,189µm,0.6s								
ENR				AML	AML				
	comp=E,182µm,0.8s								
SOKA	**Soboth**	**3.77**	**28**	*e*Pn	**Pn**		**10 07 34.4**	**-0.9**	
	comp=E,2.4nm,0.2s								
SOKA				Pg	**Pb**		**10 07 45.3**	**+1.6**	
	comp=E,42nm,0.4s								
SOKA				Sg	**Sg**		**10 08 38.1**	**+0.2**	
	comp=E,105nm,0.5s								
SOKA	**Soboth**	**3.77**	**28**		**Pn**		**10 07 34.4**	**-0.9**	
SOKA					**Pb**		**10 07 45.3**	**+1.6**	
SOKA					LR		10 08 38.1		
MOSL	**Moslavina**	**3.79**	**52**	*e*Pn	**Pn**		**10 07 34.2**	**-1.2**	
SLCN	**Sala Consilina**	**3.79**	**141**	P	**Pn**		**10 07 34.6**	**-1.0**	
SLCN				AML	AML				
	comp=E,222µm,0.8s								
SLCN				AML	AML				
	comp=N,261µm,1.6s								
TUE	**Stuetta**	**3.82**	**325**		**Pn**		**10 07 37.0**	**+0.8**	
STON	**Ston**	**3.85**	**96**	*i* Pn	**Pn**		**10 07 35.7**	**-0.5**	
STON				Sn	**Sn**		**10 08 21.9**	**+0.4**	
STON	**Ston**	**3.85**	**96**	*e*Pn	**Pn**		**10 07 35.9**	**-0.3**	
STON				*e*Sn	**Sn**		**10 08 23.0**	**+1.5**	
STON	**Ston**	**3.85**	**96**	*e*Pn	**Pn**		**10 07 35.7**	**-0.5**	
STON	**Ston**	**3.85**	**96**	P	**Pn**		**10 07 36.0**	**-0.3**	
STON				AML	AML				
	comp=E,246µm,0.5s								
STON				AML	AML				
	comp=N,292µm,0.4s								
FETA	**Feichten**	**3.86**	**342**	*e*Pn	**Pn**		**10 07 38.0**	**+1.4**	
	comp=N,26nm,0.3s,SNR=57								
FETA				Sn	**Sb**		**10 08 30.3**	**-1.8**	
	comp=N,54nm,0.5s								
FETA	**Feichten**	**3.86**	**342**		**Pn**		**10 07 38.0**	**+1.4**	
FETA					**Sb**		**10 08 30.3**	**-1.8**	
DAVOX	**Davos/Dischmat**	**3.88**	**332**	Pn	**Pn**		**10 07 38.8**	**+1.9**	
	comp=N,16nm,0.3s,baz=155,slow=11,SNR=164								
DAVOX				Sn	**Sn**		**10 08 23.7**	**+1.1**	
	comp=N,3.6nm,0.3s,baz=336,slow=24,SNR=2.9								
DAVOX	**Davos/Dischmat**	**3.88**	**332**	P	**Pn**		**10 07 39.3**	**+2.4**	
AMUR	**Altamura**	**3.93**	**127**	P	**Pn**		**10 07 37.7**	**+0.3**	
AMUR				AML	AML				
	comp=E,384µm,0.4s								
AMUR				AML	AML				
	comp=N,400µm,0.5s								
WTTA	**Wattenberg**	**3.94**	**352**	P	**Pn**		**10 07 39.1**	**+1.4**	
WTTA							10 08 27.5		
WTTA	**Wattenberg**	**3.94**	**352**	P	**Pn**		**10 07 40.2**	**+2.5**	
WTTA	**Wattenberg**	**3.94**	**352**	*e*Pn	**Pn**		**10 07 39.1**	**+1.4**	
	comp=N,17nm,0.2s,SNR=19								
WTTA				Sn	**Sn**		**10 08 27.5**	**+3.3**	
	comp=N,208nm,0.6s								
WTTA	**Wattenberg**	**3.94**	**352**		**Pn**		**10 07 39.1**	**+1.4**	
WTTA					**Sn**		**10 08 27.5**	**+3.3**	
KALN	**Kalnik**	**3.95**	**44**	*i* Pn	**Pn**		**10 07 36.6**	**-1.1**	
SQTA	**Sankt Quirin**	**3.96**	**347**	P	**Pn**		**10 07 39.5**	**+1.7**	
SQTA							10 08 27.0		
SQTA	**Sankt Quirin**	**3.96**	**347**	*e*Pn	**Pn**		**10 07 39.5**	**+1.7**	
	comp=N,27nm,0.2s,SNR=46								
SQTA				Sn	**Sn**		**10 08 27.0**	**+2.6**	
	comp=N,150nm,0.5s								
SQTA	**Sankt Quirin**	**3.96**	**347**		**Pn**		**10 07 39.5**	**+1.7**	
SQTA					**Sn**		**10 08 27.0**	**+2.6**	
BAI	**Bari**	**3.97**	**123**	⇓*i*Pn	**Pn**		**10 07 38.0**	**+0.1**	
SG1	**Sgolgore (BA)**	**4.01**	**128**	⇓*i*Pn	**Pn**		**10 07 39.0**	**+0.4**	
WATA	**Walderalm**	**4.02**	**351**	P	**Pn**		**10 07 40.7**	**+1.9**	
WATA							10 08 28.3		
WATA	**Walderalm**	**4.02**	**351**	*e*Pn	**Pn**		**10 07 40.7**	**+1.9**	
	comp=N,43nm,0.2s,SNR=36								
WATA				*e*Sn	**Sn**		**10 08 28.3**	**+2.3**	
	comp=N,96nm,0.4s								
WATA	**Walderalm**	**4.02**	**351**		**Pn**		**10 07 40.7**	**+1.9**	
WATA					**Sn**		**10 08 28.3**	**+2.3**	
ISO	**Isola**	**4.02**	**284**	Pn	**Pn**		**10 07 38.5**	**-0.2**	
ISO	**Isola**	**4.02**	**284**	P	**Pn**		**10 07 40.6**	**+1.9**	
MIGL	**Miglionico**	**4.04**	**132**	P	**Pn**		**10 07 40.8**	**+1.9**	
CALF	**Calern**	**4.06**	**277**	Pn	**Pn**		**10 07 38.9**	**-0.4**	
KOGS	**Kog**	**4.08**	**40**	P	**Pn**		**10 07 38.4**	**-1.0**	
KOGS				AML	AML				
	comp=E,1240µm,0.8s								
KOGS				AML	AML				
	comp=N,1060µm,0.8s								
MOTA	**Moosalm**	**4.09**	**347**	P	**Pn**		**10 07 41.8**	**+2.0**	
MOTA							10 08 31.0		
MOTA	**Moosalm**	**4.09**	**347**	*e*Pn	**Pn**		**10 07 41.8**	**+2.0**	
	comp=N,40nm,0.3s,SNR=41								
MOTA				Sn	**Sn**		**10 08 31.0**	**+3.1**	
	comp=N,86nm,0.6s								
MOTA	**Moosalm**	**4.09**	**347**		**Pn**		**10 07 41.8**	**+2.0**	
MOTA					**Sn**		**10 08 31.0**	**+3.1**	
FUSIO	**Fusio**	**4.11**	**320**	P	**Pn**		**10 07 40.3**	**+0.3**	
FUSIO				AML	AML				
	comp=N,160µm,0.8s								
FUSIO				AML	AML				
	comp=E,207µm,0.5s								
MATE	**Matera**	**4.15**	**129**	⇓P	**Pn**		**10 07 41.2**	**+0.7**	
CUC	**Castrocucco**	**4.19**	**142**	P	**Pn**		**10 07 44.0**	**+3.0**	
SURF	**Saint Ours**	**4.25**	**287**	Pn	**Pn**		**10 07 41.3**	**-0.7**	
FRF	**La Foret Royal**	**4.26**	**275**	*e*Pn	**Pn**		**10 07 41.3**	**-0.6**	
FRF				*e*Sn	**Sn**		**10 08 29.8**	**-1.9**	
	comp=E,27nm,0.4s								
NOCI	**Noci**	**4.27**	**126**	P	**Pn**		**10 07 42.4**	**+0.3**	
NOCI				AML	AML				
	comp=E,218µm,0.3s								
NOCI				AML	AML				
	comp=N,262µm,0.7s								
PLONS	**Plons/SG**	**4.29**	**330**	P	**Pn**		**10 07 45.1**	**+2.8**	
RETA	**Reutte**	**4.29**	**344**	*e*Pn	**Pn**		**10 07 44.3**	**+1.8**	
	comp=N,37nm,0.3s,SNR=25								
RETA				*e*Sn	**Sn**		**10 08 36.1**	**+3.4**	
	comp=N,61nm,0.4s								
RETA	**Reutte**	**4.29**	**344**		**Pn**		**10 07 44.3**	**+1.8**	
RETA					**Sn**		**10 08 36.1**	**+3.4**	
DAVA	**Damuels**	**4.33**	**336**	*e*Pn	**Pn**		**10 07 45.7**	**+2.7**	
	comp=N,74nm,0.4s,SNR=51								
DAVA				Sn	**Sn**		**10 08 37.1**	**+3.5**	
	comp=N,96nm,0.7s								
DAVA	**Damuels**	**4.33**	**336**		**Pn**		**10 07 45.7**	**+2.7**	
DAVA					**Sn**		**10 08 37.1**	**+3.5**	
MBDF	**Montbardon**	**4.34**	**290**	*e*Pn	**Pn**		**10 07 42.2**	**-1.0**	
MBDF				*e*Sn	**Sn**		**10 08 32.6**	**-1.3**	
	comp=N,76nm,0.8s								
MBDF	**Montbardon**	**4.34**	**290**	P	**Pn**		**10 07 42.7**	**-0.5**	
TREB	**Trebinje**	**4.34**	**97**	*e*Pn	**Pn**		**10 07 43.1**	**0.0**	
TREB	**Trebinje**	**4.34**	**97**	*e*Pn	**Pn**		**10 07 43.2**	**+0.1**	
LMR	**La Mourre**	**4.36**	**272**	*e*Pn	**Pn**		**10 07 42.5**	**-0.8**	
LMR				*e*Sn	**Sn**		**10 08 31.7**	**-2.5**	
	comp=N,11nm,0.3s								
MASS	**Massafra**	**4.42**	**127**	⇑*i*Pn	**Pn**		**10 07 44.5**	**+0.4**	
ARSA	**Arzberg**	**4.43**	**28**	P	**Pn**		**10 07 43.5**	**-0.8**	
ARSA				AML	AML				
	comp=N,114µm,0.7s								
ARSA				AML	AML				
	comp=E,121µm,1.1s								
ARSA	**Arzberg**	**4.43**	**28**	*e*Pn	**Pn**		**10 07 43.2**	**-1.1**	
	comp=E,8.5nm,0.2s,SNR=12								
ARSA				Sn	**Sn**		**10 08 32.2**	**-3.8**	
	comp=E,11nm,0.3s								
ARSA	**Arzberg**	**4.43**	**28**		**Pn**		**10 07 43.2**	**-1.1**	
ARSA					**Sn**		**10 08 32.2**	**-3.8**	
OGAG	**Argentiere**	**4.43**	**286**	Pn	**Pn**		**10 07 45.6**	**+1.2**	
BRY	**Bratogost**	**4.45**	**94**	⇑*i*Pn	**Pn**		**10 07 44.7**	**0.0**	
BRY	**Bratogost**	**4.45**	**94**	⇑*i*Pn	**Pn**		**10 07 44.6**	**-0.1**	
BRY				*e*Sn	**Sn**		**10 08 36.7**	**0.0**	
BNI	**Bardonecchia**	**4.50**	**294**	P	**Pn**		**10 07 46.0**	**+0.6**	
BNI	**Bardonecchia**	**4.50**	**294**		**Pn**		**10 07 46.0**	**+0.6**	
HCY	**Herceg Novi**	**4.51**	**100**	*e*Pn	**Pn**		**10 07 45.1**	**-0.2**	
HCY	**Herceg Novi**	**4.51**	**100**	⇑*i*Pn	**Pn**		**10 07 45.4**	**+0.1**	
HCY				*e*Sn	**Sn**		**10 08 37.9**	**+0.1**	
VSL	**Villasalto**	**4.52**	**212**	P	**Pn**		**10 07 47.5**	**+2.0**	
TAR1	**Taranto**	**4.57**	**127**	*e*Pn	**Pn**		**10 07 46.6**	**+0.5**	
LPG	**La Plagne**	**4.63**	**299**	*e*Pn	**Pn**		**10 07 47.5**	**+0.3**	
LPG				*e*Sn	**Sn**		**10 08 40.7**	**-0.5**	
	comp=E,62nm,0.6s								
LPL	**La Plagne**	**4.65**	**299**	*e*Pn	**Pn**		**10 07 47.8**	**+0.3**	
LPL				*e*Sn	**Sn**		**10 08 40.2**	**-1.4**	
	comp=E,30nm,0.4s								
LPL	**La Plagne**	**4.65**	**299**	P	**Pn**		**10 07 47.8**	**+0.3**	
MOA	**Molln**	**4.65**	**15**	*i* Pn	**Pn**		**10 07 47.5**	**+0.2**	
	comp=E,16nm,0.2s,SNR=44								
MOA				*e*Sn	**Sn**		**10 08 42.4**	**+1.0**	
	comp=E,41nm,0.3s								
MOA	**Molln**	**4.65**	**15**		**Pn**		**10 07 47.5**	**+0.2**	
MOA					**Sn**		**10 08 42.4**	**+1.0**	
UPM	**Unac-Piva**	**4.69**	**90**	*e*Pn	**Pn**		**10 07 49.1**	**+1.1**	
UPM	**Unac-Piva**	**4.69**	**90**	⇓*i*Pn	**Pn**		**10 07 48.2**	**+0.2**	
UPM				*e*Sn	**Sn**		**10 08 42.3**	**-0.2**	
HAPS	**Han Pijesak,Bl**	**4.74**	**79**	*e*Pn	**Pn**		**10 07 48.3**	**-0.3**	
HAPS	**Han Pijesak,Bl**	**4.74**	**79**	⇑*i*Pn	**Pn**		**10 07 47.8**	**-0.8**	
SENIN	**Lac Senin/Sane**	**4.75**	**311**		**Pn**		**10 07 49.4**	**+0.5**	
NKME	**Niksic**	**4.77**	**95**	⇑*i*Pn	**Pn**		**10 07 49.3**	**+0.3**	
NKME				*e*Sn	**Sn**		**10 08 44.2**	**-0.3**	
CEME	**Cevo**	**4.79**	**98**	⇑*i*Pn	**Pn**		**10 07 49.3**	**0.0**	
CEME				*e*Sn	**Sn**		**10 08 44.7**	**-0.2**	
RSL	**Roselend**	**4.79**	**301**	P	**Pn**		**10 07 52.5**	**+3.1**	
NKY	**Niksic**	**4.80**	**94**	P	**Pn**		**10 07 49.6**	**+0.2**	
NKY				S	**Sn**		**10 08 44.0**	**-1.1**	
NKY				smax	smax				
	comp=N,77nm,1.0s								
NKY	**Niksic**	**4.80**	**94**	⇑*i*Pn	**Pn**		**10 07 49.6**	**+0.2**	
NKY				*e*Sn	**Sn**		**10 08 44.7**	**-0.4**	
BUM	**Brajici-Budva**	**4.83**	**101**	⇑*i*Pn	**Pn**		**10 07 50.0**	**+0.2**	
BUM				*e*Sn	**Sn**		**10 08 45.7**	**-0.2**	
FUR	**Furstenfeldbru**	**4.87**	**350**	P	**Pn**		**10 07 51.5**	**+1.1**	
ORIF	**Oris-

comp=N,11nm,0.3s,baz=176,slow=21,SNR=9.1
GERES LR LR 10 10 37.7
comp=N,138nm,19.1s,baz=0.5,slow=44
FRGS Fruska Gora 5.55 69 *e*Pn **Pn 10 07 59.8 +0.1**
FRGS Fruska Gora 5.55 69 *e*Pn **Pn 10 07 58.9 -0.8**
SCTE Santa Cesarea 5.55 124 P **Pn 10 08 00.8 +1.0**
SCTE Santa Cesarea 5.55 124 Pn **Pn 10 08 00.1 +0.4**
CABF La Chapelle 5.58 308 *e*Pn **Pn 10 07 59.8 -0.3**
CABF *e*Sn **Sn 10 09 01.8 -2.5**
comp=N,22nm,0.6s
CABF La Chapelle 5.58 308 P **Pn 10 08 00.4 +0.3**
CABF S **Sn 10 09 01.0 -3.3**
IVAS Ivanjica 5.58 85 *e*Pn **Pn 10 08 00.0 -0.1**
CSKK Cskako 5.70 44 *e*Pn **Pn 10 08 06.0 +4.4**
BFO Black Forest 5.75 331 P **Pn 10 08 03.1 +0.7**
BFO Black Forest 5.75 331 **Pn 10 08 03.1 +0.7**
WET Wettzell 5.78 3 P **Pn 10 08 01.9 -1.0**
WET pmax pmax
comp=Z,25nm,0.5s
TRUS Trudelj 5.79 79 *e*Pn **Pn 10 08 02.9 -0.1**
ZST Bratislava 5.80 32 *e* **Sn 10 09 06.7 -3.1**
KHC Kasperske Hory 5.81 7 *i* P **Pn 10 08 02.2 -1.1**
KHC Kasperske Hory 5.81 7 *e*PN **Pn 10 08 02.4 -0.9**
KHC *e*SN **Sn 10 09 07.9 -2.1**
KHC *e*SG **Sg 10 09 46.5 +3.1**
KHC Kasperske Hory 5.81 7 **Pn 10 08 02.6 -0.6**
VIVF Saint-Julien-l 5.82 287 *e*Pn **Pn 10 08 03.7 +0.3**
VIVF *e*Sn **Sn 10 09 07.8 -2.4**
comp=Z,9.0nm,0.5s
VIVF Saint-Julien-l 5.82 287 P **Pn 10 08 03.2 -0.2**
VIVF S **Sn 10 09 08.8 -1.4**
VIVF smax smax
comp=N,4.0nm,0.4s
TIR Tirane 5.83 108 P **Pn 10 08 03.5 +0.1**
TIR Tirane 5.83 108 **Pn 10 08 03.5 +0.1**
HINF Hinteralfeld 5.95 320 *e*Pn **Pn 10 08 05.0 -0.2**
HINF *e*Sn **Sn 10 09 10.4 -3.0**
comp=N,41nm,0.4s
HINF Hinteralfeld 5.95 320 P **Pn 10 08 04.7 -0.5**
HINF S **Sn 10 09 10.3 -3.1**
HINF smax smax
comp=N,23nm,0.4s
GRUS Gruza 5.99 82 *e*Pn **Pn 10 08 05.5 -0.2**
SSB Saint Sauveur 6.01 291 P **Pn 10 08 07.0 +0.9**
SSB Saint Sauveur 6.01 291 **Pn 10 08 07.0 +0.9**
MODS Modra-Piesok 6.02 32 *e*P **Pn 10 08 04.0 -2.1**
MODS *e* 10 09 12.3
MODS Modra-Piesok 6.02 32 *e*PN **Pn 10 08 04.0 -2.1**
MODS *e* 10 09 12.2
SRO Srobarova 6.04 41 *e*P **Pn 10 08 05.0 -1.3**
SRO Srobarova 6.04 41 *e*PN **Pn 10 08 05.0 -1.3**
PHP Peshkopia 6.11 103 P **Pn 10 08 08.2 +0.8**
ECH Echery 6.11 324 P **Pn 10 08 07.5 +0.1**
ECH Echery 6.11 324 **Pn 10 08 07.5 +0.1**
SMOL Smolenice 6.19 32 *e*P **Pn 10 08 08.2 -0.2**
SMOL Smolenice 6.19 32 *e*PN **Pn 10 08 08.2 -0.2**
CDF Champ du Feu 6.22 326 *e*Pn **Pn 10 08 09.1 +0.2**
CDF *e*Sn **Sn 10 09 16.7 -3.4**
comp=N,54nm,0.6s
CDF Champ du Feu 6.22 326 P **Pn 10 08 07.7 -1.2**
TREC Trest 6.28 18 *e*P **Pn 10 08 08.5 -1.2**
TREC *e* 10 09 17.8
TREC Trest 6.28 18 *e*PN **Pn 10 08 08.5 -1.2**
TREC *e*SN **Sn 10 09 17.8 -3.7**
LASF Ste Croix 6.29 279 *e*Pn **Pn 10 08 10.2 +0.3**
SELS Selova 6.30 88 *e*Pn **Pn 10 08 09.6 -0.4**
KRUC Moravsky 6.30 24 P **Pn 10 08 11.9 +1.9**
KRUC pmax pmax
comp=Z,12nm,0.5s
KRUC Moravsky 6.30 24 *e*PN **Pn 10 08 08.3 -1.7**
KRUC *e*SN **Sn 10 09 19.3 -2.8**
HAU Haudompre 6.32 319 *e*Pn **Pn 10 08 10.0 -0.3**
HAU *e*Sn **Sn 10 09 19.3 -3.3**
comp=Z,67nm,0.4s
HAU Haudompre 6.32 319 P **Pn 10 08 09.2 -1.1**
HAU S **Sn 10 09 18.8 -3.8**
HAU smax smax
comp=N,33nm,0.4s
GRA1 Grafenberg Arr 6.38 353 **Pn 10 08 11.6 +0.5**
GRF Grafenberg Arr 6.38 353 P **Pn 10 08 11.6 +0.5**
PBCC Pribram 6.40 9 *e*PN **Pn 10 08 10.5 -0.9**
PBCC *e*SN **Sn 10 09 21.7 -2.8**
JAVC Velka Javorina 6.56 31 *e*PN **Pn 10 08 13.9 +0.3**
OHR Ohrid 6.57 107 P **Pn 10 08 15.2 +1.5**
OHR pmax pmax
comp=Z,45nm,0.9s
VRAC Vranov 6.58 24 ⇓P **Pn 10 08 14.3 +0.4**
VRAC Vranov 6.58 24 Pn **Pn 10 08 12.5 -1.3**
comp=Z,1.5nm,0.3s,baz=225,slow=12,SNR=11
VRAC Sn **Sn 10 09 25.5 -3.5**
comp=Z,0.3nm,0.3s,baz=307,slow=17,SNR=1.9
VRAC Lg Lg 10 10 00.0
comp=Z,1.1nm,0.3s,baz=136,slow=16,SNR=3.4
VRAC Vranov 6.58 24 ⇓P **Pn 10 08 14.3 +0.4**
VRAC Vranov 6.58 24 *e*PN **Pn 10 08 11.9 -1.9**
KEK Kerkira 6.59 121 P **Pn 10 08 13.8 -0.1**
KEK Kerkira 6.59 121 P **Pn 10 08 14.0 +0.1**
KOLL Kolacno 6.64 36 *e*PN **Pn 10 08 14.0 -0.6**
KOLL *e* 10 09 27.5
BOVS Bovan 6.71 85 *e*Pn **Pn 10 08 15.4 -0.1**
GOPC GO Pecny, Ondr 6.74 13 *e*P **Pn 10 08 14.3 -1.6**
GOPC GO Pecny, Ondr 6.74 13 *e*PN **Pn 10 08 14.3 -1.6**
BSZH Besenyszg 6.74 52 *e*Pn **Pn 10 08 16.1 +0.1**
SKO Skopje 6.74 99 P **Pn 10 08 18.4 +2.3**
SKO pmax pmax
comp=Z,45nm,0.7s
PRU Pruhonice 6.77 11 *e*P **Pn 10 08 15.1 -1.3**
PRU *e* 10 09 28.3
PRU Pruhonice 6.77 11 *e*PN **Pn 10 08 15.1 -1.3**
PRU *e*SN **Sn 10 09 28.3 -5.2**
VYHS Vyhne 6.77 39 *e*P **Pn 10 08 15.8 -0.6**
VYHS *e* 10 09 30.3
VYHS Vyhne 6.77 39 *e*PN **Pn 10 08 15.8 -0.6**
VYHS *e* 10 09 30.3
MDVR Moldovita 6.79 75 ⇓P **Pn 10 08 16.2 -0.5**
PRA Prague 6.83 11 *e*P **Pn 10 08 16.6 -0.7**
PRA Prague 6.83 11 *e*PN **Pn 10 08 16.6 -0.7**
BARS Barje 6.85 91 *e*Pn **Pn 10 08 17.4 -0.1**
NKC Novy Kostel 6.87 360 *e*P **Pn 10 08 16.9 -0.8**
NKC *e* 10 09 32.3
NKC Novy Kostel 6.87 360 *e*PN **Pn 10 08 16.9 -0.8**
NKC *e*SN **Sn 10 09 32.3 -3.7**
PSZ Piszkesteto 6.90 46 ⇓P **Pn 10 08 19.5 +1.2**
PSZ Piszkesteto 6.90 46 ⇓P **Pn 10 08 19.5 +1.2**
PSZ Piszkesteto 6.90 46 *e*Pn **Pn 10 08 17.0 -1.2**
PSZ Sn **Sn 10 09 32.1 -4.8**
PSZ Piszkesteto 6.90 46 **Pn 10 08 18.3 +0.1**
BZS Buzias 6.90 68 *e*Pn **Pn 10 08 17.8 -0.4**
BZS Buzias 6.90 68 ⇑P **Pn 10 08 18.1 -0.1**
BZS Buzias 6.90 68 ⇑P **Pn 10 08 18.1 -0.1**
SMF Signal de Mont 6.95 301 *e*Pn **Pn 10 08 18.5 -0.4**
SMF *e*Sn **Sn 10 09 34.5 -3.5**
comp=Z,27nm,0.6s
SMF Signal de Mont 6.95 301 P **Pn 10 08 17.9 -1.0**
PAGF Fort de Pagny 7.01 320 *e*Pn **Pn 10 08 18.5 -1.1**
PAGF *e*Sn **Sn 10 09 35.4 -4.0**
comp=Z,23nm,0.4s
IGT Igoumenitsa 7.03 120 P **Pn 10 08 20.7 +0.7**
IGT Igoumenitsa 7.03 120 P **Pn 10 08 20.4 +0.4**
IGT pmax pmax
comp=Z,65nm,0.5s
NEST Nestorio 7.04 112 P **Pn 10 08 21.6 +1.5**
ZAGS Zajecar 7.09 83 *e*Pn **Pn 10 08 20.2 -0.6**
FNA Florina 7.10 108 P **Pn 10 08 21.6 +0.6**
FNA Florina 7.10 108 P **Pn 10 08 21.8 +0.8**
FNA Florina 7.10 108 **Pn 10 08 21.8 +0.8**
SFTF Sexfontaines 7.11 315 *e*Pn **Pn 10 08 21.1 +0.1**
baz=132
SFTF *e*Sn **Sn 10 09 38.0 -3.8**
comp=Z,19nm,0.4s,baz=130
LOR Lormes 7.22 306 *e*Pn **Pn 10 08 21.8 -0.8**
baz=121
LOR *e*Sn **Sn 10 09 40.2 -4.6**
comp=Z,20nm,0.3s,baz=119
LOR Lormes 7.22 306 P **Pn 10 08 21.2 -1.4**
MORC Moravsky Berou 7.29 27 P **Pn 10 08 24.1 +0.5**
MORC Moravsky Berou 7.29 27 ⇓P **Pn 10 08 22.8 -0.8**
MORC Moravsky Berou 7.29 27 *e*PN **Pn 10 08 22.2 -1.4**
MORC Moravsky Berou 7.29 27 **Pn 10 08 24.1 +0.5**
MEZF Maizieres J'vi 7.29 317 *e*Pn **Pn 10 08 23.2 -0.4**
baz=133
MEZF *e*Sn **Sn 10 09 42.2 -4.2**

comp=Z,12nm,0.4s,baz=129
PVCC Panska Ves 7.30 11 *e*P **Pn 10 08 22.2 -1.5**
PVCC Panska Ves 7.30 11 *e*PN **Pn 10 08 22.2 -1.5**
MOX Moxa 7.30 356 P **Pn 10 08 23.5 -0.2**
MOX pmax pmax
comp=Z,29nm,0.7s
AVF Avril sur Loir 7.32 301 *e*Pn **Pn 10 08 23.5 -0.4**
AVF *e*Sn **Sn 10 09 43.1 -3.9**
comp=Z,2.9nm,0.4s
AVF Avril sur Loir 7.32 301 P **Pn 10 08 22.7 -1.2**
KRLC Kraliky 7.33 22 *e*P **Pn 10 08 23.1 -1.0**
KRLC Kraliky 7.33 22 *e*PN **Pn 10 08 23.1 -1.0**
SSF Saint Saulge 7.34 303 *e*Pn **Pn 10 08 24.1 -0.1**
SSF *e*Sn **Sn 10 09 43.0 -4.5**
comp=Z,7.7nm,0.4s
SSF Saint Saulge 7.34 303 P **Pn 10 08 23.4 -0.8**
BOSS Bosilegrad 7.38 93 *e*Pn **Pn 10 08 24.6 -0.3**
ZAPS Zavoj 7.40 87 *e*Pn **Pn 10 08 25.0 -0.1**
DPC Dobruska-Polom 7.46 19 *e*P **Pn 10 08 23.9 -2.0**
DPC Dobruska-Polom 7.46 19 *e*PN **Pn 10 08 23.9 -2.0**
MTLF Montolieu 7.49 273 *e*Pn **Pn 10 08 25.9 -0.4**
MTLF *e*Sn **Sn 10 09 48.0 -3.2**
comp=Z,12nm,0.8s
MTLF Montolieu 7.49 273 P **Pn 10 08 26.2 -0.1**
UPC Upice 7.54 17 *e*P **Pn 10 08 25.2 -1.7**
UPC Upice 7.54 17 *e*PN **Pn 10 08 25.2 -1.7**
BGF Bois d'Agland 7.54 298 *e*Pn **Pn 10 08 26.6 -0.4**
BGF *e*Sn **Sn 10 09 48.2 -4.4**
comp=Z,12nm,0.4s
BRG Berggiesshubel 7.57 7 PN **Pn 10 08 25.8 -1.6**
comp=Z,8.2nm,0.7s
BRG SN **Sn 10 09 49.3 -4.0**
comp=Z,20nm,1.0s
BRG Berggiesshubel 7.57 7 P **Pn 10 08 25.8 -1.6**
BRG 10 09 49.3
BRG pmax pmax
comp=Z,8.0nm,0.7s
BRG smax smax
comp=N,20nm,1.0s
CHVC Chvalec 7.62 17 *e*PN **Pn 10 08 26.3 -1.8**
OSTC Ostas 7.63 18 *e*PN **Pn 10 08 26.6 -1.6**
GZR Gura Zlata 7.64 71 ⇑P **Pn 10 08 27.8 -0.7**
CAF Calviac 7.66 285 *e*Pn **Pn 10 08 28.0 -0.7**
CAF Calviac 7.66 285 P **Pn 10 08 27.9 -0.7**
WLF Walferdange 7.66 327 P **Pn 10 08 30.7 +2.1**
WLF Walferdange 7.66 327 Pn **Pn 10 08 30.7 +2.1**
LKD2 Lefkada island 7.68 124 P **Pn 10 08 29.6 +0.7**
VAY Valandovo 7.74 102 *e*Pn **Pn 10 08 29.3 -0.5**
VAY Valandovo 7.74 102 P **Pn 10 08 29.3 -0.5**
VAY pmax pmax
comp=Z,43nm,0.8s
GRG Griva 7.75 105 P **Pn 10 08 30.5 +0.6**
GRG pmax pmax
comp=Z,19nm,0.6s
TCF Toulx Ste Croi 7.87 295 *e*Pn **Pn 10 08 31.6 +0.1**
TCF Toulx Ste Croi 7.87 295 *e*Pg **Pg 10 09 04.1 -3.4**
TCF *e*Sn **Sn 10 09 56.6 -4.0**
comp=Z,7.3nm,0.6s
VTS Vitosha 7.91 92 P **Pn 10 08 32.7 +0.4**
VTS Vitosha 7.91 92 ⇑P **Pn 10 08 32.1 -0.1**
VTS ⇑S **Sn 10 09 59.4 -2.6**
VTS Vitosha 7.91 92 **Pn 10 08 32.6 +0.4**
CLL Collm 7.95 2 *i* P **Pn 10 08 31.7 -0.9**
CLL *e* 10 10 00.0
CLL pmax pmax
comp=Z,18nm,0.5s
CLL Collm 7.95 2 *i* Pn **Pn 10 08 31.7 -0.9**
comp=Z,18nm,0.5s
CLL *e*Sn **Sn 10 10 00.0 -2.5**
CLL *e*Sg **Sg 10 10 48.0 -3.9**
comp=Z,46nm,1.1s
CLL Collm 7.95 2 **Pn 10 08 32.0 -0.6**
DRGR 8.00 61 ⇑P **Pn 10 08 34.7 +1.3**
DRGR 8.00 61 ⇑P **Pn 10 08 34.7 +1.3**
KEST Kesra 8.00 199 Pn **Pn 10 08 38.1 +4.6**
comp=Z,0.8nm,0.3s,baz=322,slow=4.8,SNR=10
KEST LR LR 10 11 57.7
comp=Z,164nm,18.8s,baz=356,slow=40
KNT Kendrikon 8.03 102 P **Pn 10 08 35.6 +1.9**
KNT pmax pmax
comp=Z,11nm,0.6s
LIT Litokhoron 8.16 110 P **Pn 10 08 36.4 +0.9**
LIT Litokhoron 8.16 110 Pn **Pn 10 08 36.4 +0.9**
TRPA Tarpa 8.49 52 *e*Pn **Pn 10 08 38.0 -1.9**
TRPA Sn **Sn 10 10 09.0 -6.7**
GIVF Givet 8.54 325 *e*Pn **Pn 10 08 39.9 -0.8**
GIVF *e*Sn **Sn 10 10 12.6 -4.6**
comp=Z,16nm,0.6s
GIVF Givet 8.54 325 P **Pn 10 08 40.0 -0.8**
LFF La Frestale 8.59 285 *e*Pn **Pn 10 08 41.1 -0.3**
LFF *e*Sn **Sn 10 10 13.9 -4.5**
comp=Z,6.5nm,0.6s
AGG Agios Georgios 8.60 117 P **Pn 10 08 42.2 +0.7**
AGG Agios Georgios 8.60 117 Pn **Pn 10 08 42.2 +0.7**
SERG Sergoula 8.77 121 P Pn 10 08 36.6 -7.3
BAIF Baives 8.78 323 *e*Pn **Pn 10 08 43.8 -0.1**
BAIF *e*Sn **Sn 10 10 17.8 -5.1**
comp=Z,6.2nm,0.6s
EPF Esparros 8.88 272 *e*Pn **Pn 10 08 44.9 -0.5**
EPF *e*Sn **Sn 10 10 20.6 -5.0**
comp=Z,0.6nm,0.2s
ARR Arges 8.93 73 ⇑P **Pn 10 08 47.6 +1.5**
PLD Plovdiv 9.08 94 P **Pn 10 08 51.0 +2.9**
PLD pmax pmax
comp=Z,106nm,1.2s
VOIR 9.23 73 ⇓P **Pn 10 08 51.9 +1.7**
VOIR 9.23 73 ⇓P **Pn 10 08 51.9 +1.7**
ETSF Etsaut 9.55 272 *e*Pn **Pn 10 08 54.2 -0.5**
ETSF *e*Sn **Sn 10 10 36.7 -5.4**
comp=Z,0.6nm,0.2s
MLR Muntele Rosu 9.86 73 P **Pn 10 09 00.9 +2.0**
MLR Muntele Rosu 9.86 73 Pn **Pn 10 09 00.7 +1.9**
comp=Z,0.2nm,0.3s,baz=142,slow=22,SNR=3.9
MLR Muntele Rosu 9.86 73 ⇑P **Pn 10 09 00.2 +1.3**
MLR Muntele Rosu 9.86 73 **Pn 10 09 00.9 +2.0**
BUR08 Bucovina Ar. S 9.89 60 **Pn 10 09 01.6 +2.3**
BURAR Bucovina Array 9.89 60 ⇑P **Pn 10 09 01.1 +1.8**
BURAR Bucovina Array 9.89 60 ⇑P **Pn 10 09 01.1 +1.8**
SJPF Ste Jean 10.01 273 *e*Pn **Pn 10 09 00.2 -0.7**
SJPF *e*Sn **Sn 10 10 47.5 -5.8**
comp=Z,1.5nm,0.4s
LDF La Druitiere 10.21 305 *e*Pn **Pn 10 09 02.9 -0.6**
LDF La Druitiere 10.21 305 P **Pn 10 09 00.0 -3.5**
ALN Alexandroupoli 10.37 99 P **Pn 10 09 05.8 +0.1**
ALN Alexandroupoli 10.37 99 Pn **Pn 10 09 05.8 +0.1**
FLN La Foliniere 10.50 305 *e*Pn **Pn 10 09 05.9 -1.6**
GRR Gorron 10.57 303 *e*Pn **Pn 10 09 07.8 -0.6**
GRR *e*Sn **Sn 10 11 01.2 -5.7**
comp=Z,2.8nm,0.3s
ROSF Rostrenen 12.06 300 *e*Pn **Pn 10 09 28.0 -0.8**
IDI Anoyia 12.53 126 Pn **Pn 10 09 39.2 +3.8**
comp=Z,0.5nm,0.3s,baz=202,slow=14,SNR=3.1
IDI Sn **Sn 10 11 47.6 -7.5**
comp=Z,0.3nm,0.3s,baz=50,slow=13,SNR=2.4
IDI LR LR 10 15 56.3
comp=Z,82nm,18.6s,baz=308,slow=44
ESDC Sonseca Array 12.87 259 Pn **Pn 10 09 44.1 +4.1**
comp=Z,0.2nm,0.3s,baz=354,slow=12,SNR=4.3
AKASG Malin Array Be 13.55 51 Pn **Pn 10 09 48.5 -0.6**
comp=Z,0.3nm,0.3s,baz=243,slow=13,SNR=3.6
ELL Elmali 14.88 111 P **P 10 10 15.7 +2.4**
ELL Elmali 14.88 111 P **P 10 10 15.7 +2.4**
EKA Eskdalemuir Ar 15.68 325 Pn **Pn 10 10 18.1 +0.3**
baz=137,slow=14,SNR=6.0
BRTR Keskin Array B 16.24 96 *i* P **P 10 10 31.2 +2.8**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR Keskin Array B 16.24 96 Pn **P 10 10 26.8 -1.6**
comp=Z,0.0nm,0.3s,baz=267,slow=10,SNR=2.2
VSU Vasula 17.52 25 *i* P **Pn 10 10 40.8 -0.3**
VSU pmax pmax
comp=Z,25nm,0.9s
NC303 NORSAR Array S 17.90 358 **P 10 10 48.3 +1.8**
CSS Mathiatis 18.18 110 P **P 10 10 52.3 +2.5**
OBN Obninsk 19.51 45 ⇓*e*P **Pn 10 11 05.0 -0.4**
OBN pmax pmax
comp=Z,7.0nm,0.8s
VSR Storozhevoye 19.64 57 *e*P **P 10 11 04.5 -1.2**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VORD Divnogorie 19.67 58 *e*P **P 10 11 04.7 -1.2**
VORD pmax pmax
comp=Z,5.0nm,0.4s
FINES FINESS Array B 19.83 19 Pn **P 10 11 07.7 0.0**

comp=Z,0.2nm,0.3s,baz=210,slow=11,SNR=8.7
LPSR Galich'ya Gora 19.86 53 *e*P **Pn 10 11 08.8 -0.8**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
MMAI Mount Meron Ar 20.70 112 P **P 10 11 18.0 +0.5**
comp=Z,0.7nm,0.3s,baz=327,slow=10,SNR=1.9
KIV Kislovodsk 21.80 78 *e*P **P 10 11 30.6 +1.4**
KIV pmax pmax
comp=Z,35nm,1.0s
KBZ Khabaz 21.99 79 P **P 10 11 33.0 +2.0**
comp=Z,5.3nm,0.9s,baz=287,slow=12,SNR=8.4
ASF Jabal al Asfar 22.22 112 P **P 10 11 34.8 +1.0**
comp=Z,2.0nm,0.7s,baz=146,slow=8.4,SNR=1.9
GNI Garni 24.19 87 P **P 10 11 55.7 +1.9**
comp=Z,9.5nm,0.5s,baz=248,slow=4.0,SNR=5.1
PRGR Permogore 26.77 35 *e*P **P 10 12 19.5 +2.8**
PRGR pmax pmax
comp=Z,6.0nm,0.4s
TOA0 Torodi Ar. Sit 31.52 200 P **P 10 12 59.1 -0.2**
TOA0 IAmb IAmb 10 13 01.3
comp=Z,3.8nm,0.9s
TORD Torodi Ar. Bea 31.52 200 P **P 10 12 59.0 -0.3**
comp=Z,2.1nm,0.7s,baz=16,slow=8.7,SNR=12
ARU Arti 31.79 49 *d* *i* P **P 10 13 01.6 +0.3**
ARU 10 14 01.0
ARU S **S 10 18 12.7 +1.4**
ARU SS **SnSn 10 19 53.6 -4.5**
ARU pmax pmax
comp=Z,5.0nm,0.7s
ARU Arti 31.79 49 P **P 10 13 02.6 +1.3**
ARU IAmb IAmb 10 13 02.8
comp=Z,4.9nm,0.8s
GEYT Alibeck 34.70 83 P **P 10 13 27.7 +0.7**
comp=Z,1.1nm,0.5s,baz=297,slow=9.5,SNR=2.2
BRVK Borovoye 38.73 55 *i* P **P 10 14 02.0 +0.9**
BRVK pmax pmax
comp=Z,6.0nm,1.4s
KBL Kabul 44.11 82 P **P 10 14 47.5 +1.7**
KBL pmax pmax
comp=Z,5.0nm,0.5s
KBL Kabul 44.11 82 P **P 10 14 47.5 +1.7**
KURK Kurchatov 44.29 56 *i* P **P 10 14 47.2 +0.5**
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK Kurchatov 44.29 56 P **P 10 14 48.3 +1.6**
AAK Ala-Archa 44.41 69 *i* P **P 10 14 49.9 +1.9**
AAK pmax pmax
comp=Z,2.0nm,0.9s
ZALV Zalesovo Beam 46.94 50 *i* P **P 10 15 08.6 +1.0**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 46.94 50 P **P 10 15 07.7 +0.1**
comp=Z,0.6nm,0.4s,baz=282,slow=7.4,SNR=5.1
MK31 Makanchi Array 47.92 60 P **P 10 15 16.5 +1.1**
MK31 pmax pmax
comp=Z,1.0nm,1.0s
MK31 Makanchi Array 47.92 60 P **P 10 15 16.5 +1.1**
MKAR Makanchi Array 47.92 60 *i* P **P 10 15 16.3 +0.9**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 47.92 60 P **P 10 15 15.6 +0.2**
comp=Z,1.0nm,0.6s,baz=296,slow=5.9,SNR=13
SCHQ Schefferville 50.48 313 P **P 10 15 33.8 -1.1**
comp=Z,4.2nm,0.8s,baz=32,slow=15,SNR=2.9
SCHQ Schefferville 50.48 313 IAmb IAmb 10 15 39.6
comp=Z,7.2nm,0.8s
WMQ Urumqi 52.63 62 *e*P **P 10 15 53.8 +2.6**
WMQ pP sP 10 15 57.6 +2.1
WMQ sP pP 10 16 01.8 +7.5
WMQ pmax pmax
comp=Z,10.0nm,0.9s
WMQ pmax pmax
comp=Z,41nm,5.1s
WMQ LR LR
comp=N,360nm,8.1s
WMQ LR LR
comp=E,220nm,9.3s
WMQ LR LR
comp=Z,190nm,11.7s
PQI Presque Isle 54.62 304 P **P 10 16 04.4 -1.2**
E63A Oxbow 54.98 303 P **P 10 16 08.2 0.0**
SONM Songino Array 61.83 50 P **P 10 16 56.5 +0.4**
comp=Z,1.1nm,0.8s,baz=275,slow=8.7,SNR=6.0
SSPA Standing Stone 63.88 302 P **P 10 17 09.5 -0.3**
INK Inuvik 65.77 347 P **P 10 17 22.4 +0.8**
INK pmax pmax
comp=Z,2.0nm,1.0s
INK Inuvik 65.77 347 P **P 10 17 22.4 +0.8**
INK IAmb IAmb 10 17 22.7
comp=Z,1.8nm,1.0s
YKA Yellowknife Ar 66.31 336 P **P 10 17 25.3 +0.2**
comp=Z,1.1nm,0.7s,baz=39,slow=5.8,SNR=34
LZH Lanzhou 67.21 61 *e*P **P 10 17 30.3 -1.3**
LZH pP pP 10 17 32.6 -2.2
LZH sP sP 10 17 33.8 -2.2
LZH *e*PP **PP 10 20 00.5 +1.2**
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,65nm,7.5s
LZH LR LR
comp=N,140nm,15.8s
LZH LR LR
comp=E,140nm,16.2s
LZH LR LR
comp=Z,190nm,18.3s
TOLK Toolik Lake Re 67.51 353 P **P 10 17 36.1 +3.2**
TOLK IAmb IAmb 10 17 37.0
comp=Z,1.5nm,0.9s
FFC Flin Flon 67.53 325 P **P 10 17 35.8 +2.7**
FFC pmax pmax
comp=Z,1.0nm,0.9s
FFC Flin Flon 67.53 325 P **P 10 17 35.8 +2.7**
ULM Lac du Bonnet 67.84 319 P **P 10 17 34.5 -0.7**
comp=Z,1.6nm,0.7s,baz=56,slow=5.4,SNR=3.3
ULM Lac du Bonnet 67.84 319 IAmb IAmb 10 17 40.9
comp=Z,3.2nm,0.9s
HHC Hu-ho-hao-te 68.99 53 P **P 10 17 41.8 -0.8**
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,58nm,6.9s
FYU Fort Yukon 69.07 351 P **P 10 17 44.8 +2.3**
PRP Porcupine Dome 70.11 350 P **P 10 17 50.7 +1.5**
EGAK Eagle 70.23 348 P **P 10 17 50.3 +0.6**
EGAK IAmb IAmb 10 17 50.4
comp=Z,1.4nm,0.5s
CD2 Chengdu 70.37 66 P **P 10 17 49.9 -1.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ILAR Eielson Array 70.99 351 P **P 10 17 55.6 +1.2**
comp=Z,0.6nm,0.9s,baz=8.2,slow=5.6,SNR=7.8
ECSD EROS Data Cent 72.64 314 P **P 10 18 04.3 -0.4**
ECSD IAmb IAmb 10 18 06.5
comp=Z,1.6nm,0.8s
DHY Denali Highway 72.69 351 P **P 10 18 06.0 +1.2**
DHY IAmb IAmb 10 18 08.5
comp=Z,3.9nm,0.9s
LRAL Lakeview Retre 74.32 301 P **P 10 18 13.5 -1.2**
LRAL IAmb IAmb 10 18 15.2
comp=Z,2.6nm,0.8s
SUA Susitna One 74.64 352 P **P 10 18 18.0 +1.7**
SUA IAmb IAmb 10 18 22.4
comp=Z,4.9nm,1.1s
CMAR Chiang Mai Arr 75.04 79 *i* P **P 10 18 20.3 +1.2**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 75.04 79 P **P 10 18 18.2 -0.9**
comp=Z,1.2nm,0.5s,baz=305,slow=8.3,SNR=6.2
U40A Yellville 75.64 307 P **P 10 18 22.9 +0.6**
U40A IAmb IAmb 10 18 30.2
comp=Z,3.7nm,1.1s
NJ2 Nanjing 79.23 56 *e*P **P 10 18 42.9 +0.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
PDAR Pinedale Array 79.75 321 P **P 10 18 44.8 -0.6**
comp=Z,0.2nm,0.5s,baz=40,slow=7.1,SNR=2.0
BMO Blue Mountains 81.43 326 P **P 10 18 55.5 +1.2**
BMO pmax pmax
comp=Z,3.0nm,1.0s
BMO Blue Mountains 81.43 326 P **P 10 18 55.5 +1.2**
BMO IAmb IAmb 10 18 55.6
comp=Z,2.7nm,0.9s
TXAR Lajitas Array 86.97 308 P **P 10 19 23.4 +0.7**
comp=Z,0.4nm,0.6s,baz=53,slow=3.1,SNR=6.5
ASAR Alice Springs 128.44 87 PKP **PKiKP 10 25 44.4 -0.4**

comp=Z,0.4nm,0.8s,baz=324,slow=1.6,SNR=6.0

ATH 22 10:06:56.3, 39°.15N × 22°.11E, h20km ± 2km, ML1.5/4, Error ellipse: s-maj=2.4km s-min=0.9km az=179.0, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
MAKR	**Makrakomi, Fth**	**0.14**	**174**	P		Pb	10 07 00.6	-1.4
MAKR				S		Sb	10 07 03.9	-2.0
MAKR				AML		AML	10 07 04.5	
	comp=N,2439μm,0.2s							
MAKR				AML		AML	10 07 04.7	
	comp=E,5089μm,0.2s							
AGG	**Agios Georgios**	**0.21**	**127**	P		Pb	10 07 01.5	-0.5
AGG				S		Sb	10 07 05.3	-0.7
AGG				AML		AML	10 07 05.8	
	comp=E,476μm,0.2s							
AGG				AML		AML	10 07 05.8	
	comp=N,353μm,0.2s							
EVR	**Evrytania**	**0.33**	**226**	P		Pb	10 07 03.3	-0.2
EVR				S		Sb	10 07 08.8	+0.3
EVR				AML		AML	10 07 09.0	
	comp=N,154μm,0.3s							
EVR				AML		AML	10 07 10.0	
	comp=E,102μm,0.1s							
THL	**Klokotos Trika**	**0.42**	**350**	P		Pb	10 07 04.8	-0.2
THL				S		Sb	10 07 11.4	+0.5
THL				AML		AML	10 07 11.9	
	comp=N,44μm,0.4s							
THL				AML		AML	10 07 12.3	
	comp=E,84μm,0.3s							
SERG	**Sergoula**	**0.73**	**184**	P		Pb	10 07 10.9	+0.6
SERG				S		Sb	10 07 20.5	+0.5
EFP	**Efpalio**	**0.74**	**193**	P		Pb	10 07 10.9	+0.5
EFP				S		Sn	10 07 21.4	-0.7
KALE	**Kalithea**	**0.76**	**178**	P		Pb	10 07 10.8	0.0
KALE				S		Sb	10 07 21.5	+0.8
XOR	**Xorichti**	**0.86**	**75**	P		Pb	10 07 12.7	+0.1
XOR				S		Sn	10 07 25.5	+0.2

RSNC 22 10:07:43.4 ± 0.6, 5°.34N × 72°.65W, h4km ± 3km, ML1.5, 1D, Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
RUSC	**La Rusia**	**0.70**	**322**	↓*i*P		Pg	10 07 56.5	-0.4
RUSC				*e*S		Sg	10 08 06.0	0.0
RUSC				*i*			10 08 09.1	
	comp=Z,4.0nm,0.3s							
PTGC	**Puerto Gaitan,**	**1.24**	**156**	*e*P		Pg	10 08 04.6	-2.7
PTGC				*e*S		Sg	10 08 22.0	-1.5
PTGC				*i*			10 08 29.5	
	comp=Z,26nm,0.3s							
CHIC	**Chingaza**	**1.29**	**237**	*e*P		Pg	10 08 06.2	-2.0
CHIC				*e*S		Sg	10 08 23.9	-1.1
CHIC				*i*			10 08 25.9	
	comp=Z,2.7nm,0.2s							
BARC	**Barichara**	**1.35**	**337**	*e*P		Pn	10 08 07.0	-2.3
BARC				*e*S		Sg	10 08 25.4	-1.5
BARC				*i*			10 08 27.5	
	comp=Z,20nm,0.2s							
SPBC	**San Pablo de B**	**1.45**	**282**	*e*P		Pn	10 08 08.9	-1.7
SPBC				*e*S		Sb	10 08 28.1	-1.9
SPBC				*i*			10 08 30.4	
	comp=Z,8.1nm,0.2s							
PTBC	**PUERTO BERRIO,**	**2.16**	**304**	*e*P		Pn	10 08 13.9	-6.3
PTBC				*i*			10 08 26.1	
	comp=Z,1.4nm,0.5s							

RSNC 22 10:08:23.4 ± 1.1, 6°.80N × 73°.15W, h137km ± 8km, ML1.9, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
BARC	**Barichara**	**0.21**	**190**	*e*P		Pn	10 08 42.2	-0.2
BARC				*i*			10 08 58.2	
	comp=Z,29nm,0.4s							
PAMC	**Pamplona, Colo**	**0.69**	**40**	↑*i*P		Pn	10 08 45.4	+0.3
PAMC				*e*S		Sn	10 09 01.7	+0.3
PAMC				*i*			10 09 04.4	
	comp=Z,37nm,0.6s							
RUSC	**La Rusia**	**0.91**	**176**	*e*P		Pn	10 08 46.5	-0.2
RUSC				*e*S		Sn	10 09 03.6	-0.7
RUSC				*i*			10 09 05.8	
	comp=Z,11nm,0.4s							
PTBC	**PUERTO BERRIO,**	**1.33**	**259**	*e*P		Pn	10 08 49.4	-0.7
PTBC				*e*S		Sn	10 09 10.4	-0.1
PTBC				*i*			10 09 13.4	
	comp=Z,16nm,0.1s							
PTBC	**PUERTO BERRIO,**	**1.33**	**259**	*e*S		Pn	10 08 49.5	-0.7
OCAC	**Ocana**	**1.44**	**353**	*e*P		Pn	10 08 50.7	-0.8
OCAC				*e*S		Sn	10 09 12.0	-0.9
OCAC				*i*			10 09 16.1	
	comp=Z,13nm,0.1s							
SPBC	**San Pablo de B**	**1.47**	**219**	*e*P		Pn	10 08 51.4	-0.3
SPBC				*e*S		Sn	10 09 13.0	-0.3
SPBC				*i*			10 09 17.1	
	comp=Z,13nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.83**	**292**	*e*P		Pn	10 08 56.0	+0.2
ZARC				*e*S		Sn	10 09 21.2	+0.7
NORC	**Norcasia**	**2.11**	**234**	*e*P		Pn	10 08 58.9	-0.2
NORC				*e*S		Sn	10 09 26.1	-0.5
NORC				*i*			10 09 31.7	
	comp=Z,6.3nm,0.2s							
SMLC	**San Martn de**	**2.19**	**335**	*e*P		Pn	10 08 58.6	-1.4
SMLC				*e*S		Sn	10 09 27.4	-0.8
SMLC				*i*			10 09 30.4	
	comp=Z,20nm,0.1s							
CHIC	**Chingaza**	**2.24**	**195**	*e*P		Pn	10 09 00.7	-0.4
CHIC				*e*S		Sn	10 09 28.9	-0.9
CHIC				*i*			10 09 34.0	
	comp=Z,3.1nm,0.3s							
ROSC	**El Rosal**	**2.27**	**211**	*e*P		Pn	10 09 02.6	+1.1
ROSC				*e*S		Sn	10 09 36.6	+5.9
HELC	**Santa Helena**	**2.44**	**256**	*e*P		Pn	10 09 04.3	+0.8
HELC				*e*S		Sn	10 09 34.3	-0.1
HELC				*i*			10 09 39.4	
	comp=Z,3.1nm,0.3s							
GUY2C	**Guyana, Caldas**	**2.71**	**235**	*e*P		Pn	10 09 08.2	+1.3
GUY2C				*e*S		Sn	10 09 37.4	-3.0
GUY2C				*i*			10 09 50.0	
	comp=Z,2.5nm,0.6s							
SJCC	**San Jacinto, C**	**3.67**	**327**	*e*P		Pn	10 09 17.1	-2.0
SJCC				*i*			10 09 36.6	
	comp=Z,1.0nm,0.3s							

ROM 22 10:09:04.1 ± 0.1, 43°.391N ± 0°.004 × 12°.511E ± 0°.005, h7km ± 1km, Md1.1/6, Error ellipse: s-maj=0.4km s-min=0.2km az=354.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
ATVO	**AVT- Monte Val**	**0.08**	**264**	P		Pg	10 09 06.3	+0.2
ATVO				S		Sg	10 09 07.8	+0.2
ATVO				END				
ATPI	**Pietralunga -**	**0.10**	**307**	P		Pg	10 09 06.8	+0.3
ATPI				S		Sg	10 09 08.7	+0.6
ATPI				END				
MURB	**Monte Urbino**	**0.13**	**175**	P		Pg	10 09 07.6	+0.6
MURB				S		Sg	10 09 09.9	+1.1
MURB				AML		AML		
	comp=E,23500μm,0.2s							
MURB				AML		AML		
	comp=N,17150μm,0.3s							
MURB				AML		AML		
	comp=E,26250μm,0.2s							
MURB				AML		AML		
	comp=N,18400μm,0.4s							
MURB				END				
PIEI	**Pieia**	**0.15**	**7**	P		Pg	10 09 07.8	+0.5
PIEI				S		Sg	10 09 10.5	+1.1
PIEI				AML		AML		
	comp=E,6620μm,0.2s							
PIEI				AML		AML		
	comp=N,4100μm,0.9s							
PIEI				END				
FRON	**Frontone**	**0.20**	**51**	P		Pg	10 09 08.7	+0.4
FRON				S		Sg	10 09 12.5	+1.5
FRON				AML		AML		
	comp=E,4185μm,0.5s							
FRON				AML		AML		
	comp=N,8715μm,0.7s							
SSFR	**Montelago di S**	**0.20**	**77**	P		Pg	10 09 08.6	+0.4
SSFR				AML		AML		
	comp=E,25000μm,0.2s							
SSFR				AML		AML		
	comp=N,13300μm,0.2s							
SSFR				AML		AML		
	comp=E,25850μm,0.2s							
SSFR				AML		AML		
	comp=N,12850μm,0.2s							
SSFR				END				
BADI	**Badiali**	**0.23**	**302**	P		Pg	10 09 09.3	+0.7
BADI				S		Sg	10 09 13.4	+1.6
BADI				AML		AML		
	comp=E,10910μm,0.2s							
BADI				AML		AML		
	comp=N,9810μm,0.3s							
BADI				END				

LDG ***22*** *10:10:04.7 ± 0.1, 43°.36N × 12°.59E, h9km, Ml2.2/10, Error ellipse: s-maj=3.0km s-min=2.0km az=17.0*

ROM 22 10:10:03.3 ± 0.0, 43°.383N ± 0°.002 × 12°.527E ± 0°.003, h8km, ML2.9/38, Error ellipse: s-maj=0.2km s-min=0.2km az=358.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
ATFO	**Monte Foce - G**	**0.04**	**117**	P		Pg	10 10 05.2	+0.1
ATFO				S		Sg	10 10 06.4	+0.1
ATFO				AML		AML		
	comp=N,67450μm,0.2s							
ATFO				AML		AML		
	comp=E,78600μm,0.3s							
ATFO				AML		AML		
	comp=N,67450μm,0.2s							
ATFO				AML		AML		
	comp=E,78600μm,0.3s							
ATVO	**AVT- Monte Val**	**0.09**	**269**	P		Pg	10 10 06.0	+0.4
ATVO				S		Sg	10 10 07.7	+0.5
ATVO				AML		AML		
	comp=E,46150μm,0.4s							
ATVO				AML		AML		
	comp=N,21600μm,0.2s							
ATVO				AML		AML		
	comp=E,46150μm,0.4s							
ATPI	**Pietralunga -**	**0.11**	**307**	P		Pg	10 10 06.5	+0.5
ATPI				S		Sg	10 10 08.6	+0.8
ATPI				AML		AML		
	comp=E,12550μm,0.5s							
ATPI				AML		AML		
	comp=N,10915μm,0.4s							
ATPI				AML		AML		
	comp=E,12600μm,0.5s							
ATPI				AML		AML		
	comp=N,10950μm,0.4s							
MURB	**Monte Urbino**	**0.12**	**181**	P		Pg	10 10 06.8	+0.7
MURB				S		Sg	10 10 09.3	+1.3
MURB				AML		AML		
	comp=E,23500μm,0.2s							
MURB				AML		AML		
	comp=N,18400μm,0.4s							
MURB				AML		AML		
	comp=N,17150μm,0.3s							
MURB				AML		AML		
	comp=E,23500μm,0.2s							
MURB				AML		AML		
	comp=N,17150μm,0.3s							
MURB				AML		AML		
	comp=E,26250μm,0.2s							
MURB				AML		AML		
	comp=N,18400μm,0.4s							
PIEI	**Pieia**	**0.15**	**2**	P		Pg	10 10 07.3	+0.7
PIEI				AML		AML		
	comp=N,4100μm,0.9s							
PIEI				AML		AML		
	comp=E,6620μm,0.2s							
FOSV	**Fossato di Vic**	**0.19**	**117**	P		Pg	10 10 07.9	+0.6
FOSV				S		Sg	10 10 11.0	+1.0
FOSV				AML		AML		
	comp=E,3795μm,1.4s							
FOSV				AML		AML		
	comp=N,6470μm,0.3s							
SSFR	**Montelago di S**	**0.19**	**74**	P		Pg	10 10 07.9	+0.6
SSFR				S		Sg	10 10 11.4	+1.3
SSFR				AML		AML		
	comp=N,13300μm,0.2s							
SSFR				AML		AML		
	comp=N,12850μm,0.2s							
SSFR				AML		AML		
	comp=N,13300μm,0.2s							
SSFR				AML		AML		
	comp=E,25000μm,0.2s							
SSFR				AML		AML		
	comp=E,25850μm,0.2s							
SSFR				AML		AML		
	comp=N,13350μm,0.2s							
SSFR				AML		AML		
	comp=E,25850μm,0.2s							
ATMI	**Monte Miggiano**	**0.20**	**256**	P		Pg	10 10 07.9	+0.6
ATMI				S		Sg	10 10 11.1	+1.1
ATMI				AML		AML		
	comp=E,6625μm,0.7s							
ATMI				AML		AML		
	comp=E,6620μm,0.7s							
ATMI				AML		AML		
	comp=N,7055μm,1.2s							
FRON	**Frontone**	**0.20**	**47**	P		Pg	10 10 08.0	+0.6
FRON				S		Sg	10 10 11.4	+1.2
FRON				AML		AML		
	comp=N,8720μm,0.7s							
FRON				AML		AML		
	comp=E,4190μm,0.5s							
FRON				AML		AML		
	comp=N,8715μm,0.7s							
ATCC	**AVT- Casa Cast**	**0.21**	**157**	P		Pg	10 10 08.6	+0.9
ATCC				S		Sg	10 10 12.6	+2.0
ATCC				AML		AML		
	comp=E,14050μm,0.6s							
ATCC				AML		AML		
	comp=E,14045μm,0.6s							
ATCC				AML		AML		
	comp=N,11150μm,0.2s							
ATCC				AML		AML		
	comp=E,14035μm,0.6s							
ATTE	**AVT- Monte Tez**	**0.22**	**214**	P		Pg	10 10 08.4	+0.5
ATTE				S		Sg	10 10 12.0	+1.1
ATTE				AML		AML		
	comp=N,3185μm,0.4s							
ATTE				AML		AML		
	comp=E,3415μm,0.4s							
ATTE				AML		AML		
	comp=N,3190μm,0.4s							
CDCA	**Citt' di Caste**	**0.23**	**289**	P		Pg	10 10 08.5	+0.6
CDCA				AML		AML		
	comp=E,4585μm,0.5s							
CDCA				AML		AML		
	comp=N,4620μm,0.5s							
CDCA				AML		AML		
	comp=N,16350μm,0.5s							
CDCA				AML		AML		
	comp=N,4625μm,0.5s							
CDCA				AML		AML		
	comp=N,16400μm,0.5s							
CDCA				AML		AML		
	comp=E,4590μm,0.5s							
CDCA				AML		AML		
	comp=N,16400μm,0.5s							
CDCA				AML		AML		
	comp=E,13450μm,0.5s							
BADI	**Badiali**	**0.24**	**302**	P		Pg	10 10 08.9	+0.8
BADI				S		Sg	10 10 13.2	+1.7
BADI				AML		AML		
	comp=E,10935μm,0.2s							
BADI				AML		AML		
	comp=N,9800μm,0.3s							
BADI				AML		AML		
	comp=N,9795μm,0.3s							
BADI				AML		AML		
	comp=E,10955μm,0.2s							
BADI				AML		AML		
	comp=N,9810μm,0.3s							
MPAG	**Monte Paganucc**	**0.30**	**34**	P		Pg	10 10 09.9	+0.6
MPAG				S		Sb	10 10 14.9	-1.2
MPAG				AML		AML		
	comp=N,1430μm,0.4s							
MPAG				AML		AML		
	comp=E,1845μm,1.0s							
PE3	**Peglio**	**0.31**	**356**	P		Pb	10 10 10.5	-0.7
PE3				S		Sb	10 10 16.5	+0.1
PE3				AML		AML		
	comp=E,2420μm,0.4s							
PE3				AML		AML		
	comp=N,2255μm,0.6s							
ARVD	**Arcevia**	**0.32**	**69**	P		Pg	10 10 10.3	+0.6
ARVD				S		Sb	10 10 15.8	-1.0
ARVD				AML		AML		
	comp=E,2350μm,1.2s							
ARVD				AML		AML		
	comp=N,1545μm,1.0s							
SNTG	**Esanatoglia**	**0.33**	**113**	P		Pg	10 10 10.3	+0.5
SNTG				S		Sb	10 10 15.9	-1.0
SNTG				AML		AML		
	comp=E,554μm,0.3s							
SNTG				AML		AML		
	comp=N,1115μm,0.3s							
SNTG				AML		AML		
	comp=N,8740μm,0.3s							
SNTG				AML		AML		
	comp=E,555μm,0.3s							
SNTG				AML		AML		
	comp=E,4505μm,0.3s							
PARC	**Parchiule**	**0.34**	**322**	P		Pg	10 10 10.6	+0.6
PARC				S		Sb	10 10 16.4	-0.8
PARC				AML		AML		
	comp=E,2830μm,0.5s							
PARC				AML		AML		
	comp=N,1525μm,0.8s							
SSP9	**Sansepolcro**	**0.34**	**304**	P		Pg	10 10 10.6	+0.5
SSP9				AML		AML		
	comp=E,1050μm,1.4s							
SSP9				AML		AML		
	comp=N,1137μm,0.7s							
SSP9				AML		AML		
	comp=E,1060μm,1.4s							
SSP9				AML		AML		
	comp=N,1130μm,0.7s							
ASSB	**Assisi San Ben**	**0.35**	**164**	P		Pg	10 10 10.8	+0.5
ASSB				S		Sb	10 10 16.7	-0.9
ASSB				AML		AML		
	comp=E,3360μm,0.2s							
ASSB				AML		AML		
	comp=N,5425μm,0.3s							
FIU1	**Fiuminata**	**0.35**	**123**	P		Pg	10 10 11.0	+0.7
FIU1				S		Sb	10 10 16.8	-0.8
FIU1				AML		AML		
	comp=E,6890μm,0.2s							
FIU1				AML		AML		
	comp=N,5115μm,0.4s							
FIU1				AML		AML		
	comp=E,6885μm,0.2s							
FSSB	**Fossombrone**	**0.36**	**30**	P		Pg	10 10 11.0	+0.6
FSSB				S		Sb	10 10 17.0	-0.8
FSSB				AML		AML		
	comp=E,2540μm,0.8s							
FSSB				AML		AML		
	comp=N,2940μm,0.4s							
CAFI	**Castiglion Fio**	**0.41**	**263**	P		Pg	10 10 12.0	+0.6
CAFI				S		Sb	10 10 18.3	-1.0
CAFI				AML		AML		
	comp=E,1110μm,0.2s							
CAFI				AML		AML		
	comp=N,896μm,0.4s							
EL6	**Elcito**	**0.42**	**97**	P		Pg	10 10 12.1	+0.5
EL6				S		Sb	10 10 19.1	-0.6
EL6				AML		AML		
	comp=E,3030μm,1.6s							
EL6				AML		AML		
	comp=N,4355μm,0.7s							
EL6				AML		AML		
	comp=E,3025μm,1.6s							
EL6				AML		AML		
	comp=N,4340μm,0.7s							
COR1	**Corinaldo**	**0.42**	**54**	P		Pb	10 10 13.0	-0.1
CPGN	**Carpegna, Ital**	**0.44**	**340**	P		Pb	10 10 13.2	-0.3
CPGN				AML		AML		
	comp=E,1006μm,1.0s							
CPGN				AML		AML		
	comp=N,877μm,0.6s							
CPGN				AML		AML		
	comp=E,1010μm,1.0s							
CPGN				AML		AML		
	comp=N,860μm,0.6s							
CESI	**CESI - Serrava**	**0.47**	**144**	P		Pg	10 10 12.8	+0.4
CESI				S		Sb	10 10 20.6	-0.3
CESI				AML		AML		
	comp=N,1056μm,0.2s							
CESI				AML		AML		
	comp=E,360μm,0.7s							
CRE	**Caprese Michel**	**0.48**	**300**	P		Pg	10 10 13.1	+0.4
CRE				AML		AML		
	comp=N,1760μm,0.3s							
CRE				AML		AML		
	comp=E,1180μm,0.5s							
CING	**Cingoli**	**0.49**	**91**	P		Pg	10 10 13.3	+0.5
CING				S		Sb	10 10 21.3	-0.2
CING				AML		AML		
	comp=E,915μm,0.5s							
CING				AML		AML		
	comp=N,1645μm,0.5s							
FDMO	**Fiordimonte**	**0.54**	**130**	P		Pg	10 10 14.0	+0.3
FDMO				S		Sb	10 10 22.7	-0.2
FDMO				AML		AML		
	comp=E,1875μm,0.2s							
FDMO				AML		AML		
	comp=N,2610μm,0.2s							
MGAB	**Montegabbione**	**0.56**	**213**	P		Pg	10 10 14.7	+0.5
MGAB				AML		AML		
	comp=N,4465μm,0.2s							
MGAB				AML		AML		
	comp=E,3215μm,0.3s							
MGAB				AML		AML		
	comp=N,4470μm,0.2s							
MGAB				AML		AML		
	comp=E,3085μm,0.3s							
MGAB				AML		AML		
	comp=N,4185μm,0.2s							
CSP1	**Cessapalombo**	**0.57**	**120**	P		Pg	10 10 14.8	+0.3
CSP1				S		Sb	10 10 23.6	-0.4
MOMA	**Monte Martano**	**0.58**	**177**	P		Pg	10 10 15.1	+0.6
MOMA				AML		AML		
	comp=E,986μm,0.5s							
MOMA				AML		AML		
	comp=N,1276μm,1.4s							
MOMA				AML		AML		
	comp=E,1007μm,0.3s							
MOMA				AML		AML		
	comp=E,990μm,0.5s							
MOMA				AML		AML		
	comp=N,1277μm,1.4s							
MOMA				AML		AML		
	comp=N,1157μm,1.4s							
PESA	**Pesaro**	**0.60**	**22**	P		Pb	10 10 15.8	-0.3
PESA				AML		AML		
	comp=E,1235μm,1.6s							
PESA				AML		AML		
	comp=N,1233μm,0.9s							
PESA				AML		AML		
	comp=E,1230μm,1.6s							
ASQU	**Asqua**	**0.68**	**308**	P		Pg	10 10 16.9	+0.5
ASQU				AML		AML		
	comp=N,832μm,0.4s							
ASQU				AML		AML		
	comp=E,356μm,0.5s							
NRCA	**Norcia**	**0.70**	**142**	P		Pg	10 10 16.8	0.0
SACS	**San Casciano d**	**0.70**	**220**	P		Pg	10 10 17.1	+0.3
SACS				AML		AML		
	comp=N,784μm,1.6s							
SACS				AML		AML		
	comp=E,604μm,0.5s							
SACS				AML		AML		
	comp=N,762μm,1.6s							
SACS				AML		AML		
	comp=E,562μm,0.5s							
SACS				AML		AML		
	comp=N,784μm,1.6s							
CESX	**Cesi**	**0.77**	**177**	P		Pb	10 10 19.1	+0.1
CESX				AML		AML		
	comp=N,776μm,0.6s							
CESX				AML		AML		
	comp=E,660μm,0.6s							
LNSS	**Leonessa**	**0.87**	**154**	P		Pg	10 10 19.9	-0.1

LNSS					AML	AML			
	comp=E,763µm,1.2s								
LNSS					AML	AML			
	comp=N,724µm,0.5s								
MCIV	**Monte Civitell**	**0.87**	**226**		P	Pg	10 10 20.1	+0.1	
MCIV					AML	AML			
	comp=E,151µm,0.6s								
MCIV					AML	AML			
	comp=E,150µm,0.6s								
MCIV					AML	AML			
	comp=N,212µm,0.6s								
RUFI	**Rufina**	**0.87**	**302**		P	Pg	10 10 20.2	+0.2	
CSNT	**Castellina Chi**	**0.91**	**276**		AML	AML			
	comp=N,192µm,0.5s								
CSNT					AML	AML			
	comp=E,166µm,1.5s								
LATE	**Laterza**	**0.93**	**215**		P	Pb	10 10 21.7	0.0	
LATE					AML	AML			
	comp=E,652µm,1.2s								
LATE					AML	AML			
	comp=N,1039µm,0.5s								
FROS	**Frosini**	**1.02**	**261**		AML	AML			
	comp=E,286µm,0.7s								
FROS					AML	AML			
	comp=N,250µm,0.7s								
GUMA	**Gualdo di Mace**	**1.08**	**107**		P	Pg	10 10 16.9	-7.1	
GUMA					AML	AML			
	comp=E,3020µm,1.0s								
GUMA					AML	AML			
	comp=N,1900µm,0.8s								
GUMA					AML	AML			
	comp=N,2025µm,0.3s								
GUMA					AML	AML			
	comp=E,2705µm,0.3s								
TRIF	**Trifonti**	**1.22**	**258**		AML	AML			
	comp=E,116µm,0.5s								
TRIF					AML	AML			
	comp=N,94µm,0.8s								
DUGI	**Dugi Otok**	**1.93**	**71**	*e*Pn		Pb	10 10 38.0	-0.8	
NVLJ	**Novalja**	**2.06**	**54**	*i* Pn		Pn	10 10 39.1	+0.9	
NVLJ				Sn		Sb	10 11 05.4	-1.3	
ZIRJ	**Zirje**	**2.28**	**82**	*e*Pn		Pn	10 10 41.3	0.0	
MORI	**Morici**	**2.36**	**77**	*e*Pn		Pn	10 10 43.9	+1.6	
MORI				Sn		Sn	10 11 13.1	+1.7	
UDBI	**Udbina**	**2.60**	**63**	*e*Pn		Pn	10 10 47.8	+2.1	
PGF	**Pioggiola**	**2.72**	**253**	*e*Pn		Pn	10 10 47.7	+0.3	
PGF				*e*Sn		Sn	10 11 19.9	-0.6	
	comp=N,11nm,0.8s								
KIJV	**Kijevo**	**2.88**	**76**	*i* Pn		Pn	10 10 51.6	+2.1	
KIJV				Sn		Sb	10 11 27.7	-2.6	
MAKA	**Makarska**	**3.28**	**90**	*i* Pn		Pn	10 10 56.6	+1.7	
MAKA				Sn		Sn	10 11 36.2	+2.1	
RICI	**Ricice**	**3.36**	**87**	*e*Pn			10 10 57.9		
RICI				Sn		Sn	10 11 39.1	+3.0	
SBF	**Sospel**	**3.73**	**279**	*e*Pn		Pn	10 11 01.7	+0.5	
SBF				*e*Sn		Sn	10 11 43.4	-1.9	
	comp=N,1.5nm,0.2s								
FRF	**La Foret Royal**	**4.28**	**274**	*e*Pn		Pn	10 11 08.9	+0.1	
FRF				*e*Sn		Sn	10 11 56.3	-2.6	
	comp=N,0.4nm,0.2s								
MBDF	**Montbardon**	**4.36**	**290**	*e*Pn		Pn	10 11 09.9	-0.1	
MBDF				*e*Sn		Sn	10 11 59.2	-1.8	
	comp=N,0.5nm,0.3s								
LMR	**La Mourre**	**4.39**	**271**	*e*Pn		Pn	10 11 10.3	+0.1	
LMR				*e*Sn		Sn	10 11 59.6	-1.9	
	comp=N,0.8nm,0.3s								
LPL	**La Plagne**	**4.66**	**299**	*e*Pn		Pn	10 11 14.8	+0.6	
ORIF	**Oris-en-Rattie**	**5.02**	**290**	*e*Pn		Pn	10 11 19.2	+0.2	
ORIF	**Oris-en-Rattie**	**5.02**	**290**	*e*P		Pn	10 11 22.4	+3.4	
ORIF				*e*Sn		Sn	10 12 15.0	-2.3	
	comp=N,0.8nm,0.3s								
SMRF	**Simiane la Rot**	**5.08**	**279**	*e*Pn		Pn	10 11 20.1	+0.4	
SMRF	**Simiane la Rot**	**5.08**	**279**	*e*P		Pn	10 11 23.6	+3.9	
SMRF				*e*Sn		Sn	10 12 16.3	-2.2	
	comp=N,0.1nm,0.2s								
VIVF	**Saint-Julien-l**	**5.84**	**287**	*e*Pn		Pn	10 11 30.4	+0.2	
VIVF				*e*Sn		Sn	10 12 34.6	-2.8	
	comp=N,0.7nm,0.3s								

ROM 22 10:11:01.7±0.1, 43°39'0"N×0°0'3"×12°5'10"E±0°0'0.4, h6km, Md1.1/6, Error ellipse: s-maj=0.3km s-min=0.1km az=48.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.05**	**117**	P	Pg	10 11 03.3	+0.1
ATFO				S	Sg	10 11 04.3	+0.1
ATFO				END			
ATVO	**AVT- Monte Val**	**0.08**	**264**	P	Pg	10 11 03.7	+0.2
ATVO				S	Sg	10 11 05.2	+0.4
ATVO				END			
ATPI	**Pietralunga -**	**0.10**	**308**	P	Pg	10 11 04.1	+0.3
ATPI				S	Sg	10 11 06.1	+0.7
ATPI				END			
MURB	**Monte Urbino**	**0.13**	**175**	P	Pg	10 11 04.7	+0.3
MURB				S	Sg	10 11 07.2	+1.1
MURB				END			
PIEI	**Pieia**	**0.15**	**7**	P	Pg	10 11 05.2	+0.5
PIEI				S	Sg	10 11 07.8	+1.1
PIEI				END			
BADI	**Badiali**	**0.23**	**302**	P	Pg	10 11 06.7	+0.5
BADI				S	Sg	10 11 10.6	+1.4
BADI				END			
PP3	**Marolino**	**0.80**	**90**	S	Sb	10 11 29.0	-0.1

ROM 22 10:11:34.3±0.1, 43°37'4"N×0°0'3"×12°5'18"E±0°0'0.3, h6km, ML0.9/1, Error ellipse: s-maj=0.3km s-min=0.2km az=17.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.04**	**101**	P	Pg	10 11 35.9	+0.2
ATFO				S	Sg	10 11 36.9	+0.1
ATVO	**AVT- Monte Val**	**0.08**	**276**	P	Pg	10 11 36.5	+0.2
ATVO				S	Sg	10 11 38.1	+0.4
ATPI	**Pietralunga -**	**0.11**	**312**	P	Pg	10 11 37.1	+0.4
ATPI				S	Sg	10 11 39.3	+0.8
PIEI	**Pieia**	**0.16**	**4**	P	Pg	10 11 38.0	+0.4
PIEI				S	Sg	10 11 40.9	+1.0
PIEI				AML	AML		
	comp=E,80µm,1.6s						
PIEI				AML	AML		
	comp=N,70µm,0.3s						
CSNT	**Castellina Chi**	**0.90**	**277**	S	Sb	10 12 05.0	+0.5

IDC 22 10:13:34.4±8.6, 47°64S×96°12E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.3/33, mbtmp3.4/2, Error ellipse: s-maj=708.5km s-min=72.5km az=142.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**18.52**	**53**	T	T	10 37 32.9	
	baz=223,slow=74,SNR=8.4						
H01W3	**Cape Leeuwin H**	**18.54**	**53**	T	T	10 37 33.7	
	baz=223,slow=74,SNR=9.0						
H01W1	**Cape Leeuwin H**	**18.54**	**53**	T	T	10 37 35.8	
	baz=223,slow=74,SNR=7.7						
ASAR	**Alice Springs**	**38.36**	**65**	P	P	10 20 57.4	+0.2
	0.2nm,0.6s,baz=214,slow=7.2,SNR=4.3						
WRA	**Warramunga Arr**	**41.44**	**62**	P	P	10 21 22.4	-0.4
	0.8nm,0.8s,baz=221,slow=8.4,SNR=5.3						
NVAR	**Mina Array Bea**	**153.40**	**98**	PKPbc	PKPbc	10 33 34.4	0.0
	0.3nm,0.7s,baz=248,slow=4.8,SNR=2.3						

IDC 22 10:24:14.2±1.1, 20°61N×146°86E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/38, mbtmp3.7/8, Error ellipse: s-maj=39.4km s-min=23.9km az=89.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**18.81**	**93**	T	T	10 48 16.8	
	baz=307						
H11S1	**WAKE ISLAND Hy**	**18.82**	**93**	T	T	10 48 07.4	
	baz=307						
H11S2	**WAKE ISLAND Hy**	**18.82**	**93**	T	T	10 48 07.4	
	baz=307						
H11N1	**WAKE ISLAND Hy**	**18.83**	**89**	T	T	10 48 08.8	
	baz=280						
H11N2	**WAKE ISLAND Hy**	**18.83**	**89**	T	T	10 48 09.2	
	baz=280						
H11N3	**WAKE ISLAND Hy**	**18.85**	**89**	T	T	10 48 11.4	
	baz=280						
WRA	**Warramunga Arr**	**42.13**	**198**	P	P	10 32 09.3	+0.8
	0.7nm,0.6s,baz=19,slow=8.2,SNR=5.3						
SONM	**Songino Array**	**42.37**	**320**	P	P	10 32 12.0	+1.7
	0.7nm,1.0s,baz=159,slow=13,SNR=3.6						
ASAR	**Alice Springs**	**45.79**	**197**	P	P	10 32 36.8	-1.1
	0.3nm,0.8s,baz=13,slow=7.4,SNR=3.2						
ZALV	**Zalesovo Beam**	**57.19**	**322**	P	P	10 34 03.4	+0.5
	0.8nm,0.6s,baz=94,slow=7.1,SNR=5.4						
MKAR	**Makanchi Array**	**57.95**	**313**	P	P	10 34 07.7	-0.8
	0.4nm,0.5s,baz=96,slow=8.7,SNR=4.4						
YKA	**Yellowknife Ar**	**75.79**	**28**	P	P	10 36 01.5	-0.3
	0.3nm,0.9s,baz=289,slow=5.9,SNR=3.0						
NVAR	**Mina Array Bea**	**81.11**	**52**	P	P	10 36 33.1	+1.1
	0.4nm,0.7s,baz=307,slow=7.8,SNR=2.6						
FINES	**FINESS Array B**	**85.61**	**336**	P	P	10 36 52.6	-1.8
	2.6nm,0.8s,baz=85,slow=4.0,SNR=7.6						

GUC 22 10:38:35.7±0.6, 21°47S×68°65W, h124km±5km, ML2.2, 7C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.64**	**239**	*e*P	Pn	10 38 55.8	+0.7
PB09				*i* S	Sn	10 39 10.6	+0.7
PB09				IAML		10 39 14.0	
	comp=E,39nm,0.3s						
PB09	**IPOC Station P**	**0.64**	**239**	*e*P	Pn	10 38 55.9	+0.7
PB09				*e*S	Sn	10 39 11.2	+1.3
LVC	**Limon Verde**	**1.16**	**192**	*i* P	Pn	10 39 00.3	+0.2
LVC				*i* S	Sn	10 39 18.3	-0.3
PB03	**IPOC Station P**	**1.17**	**240**	*i* P	Pn	10 39 00.9	+0.9
PB03				*i* S	Sn	10 39 19.3	+0.9
PB03				IAML		10 39 22.4	
	comp=E,45nm,0.1s						
PB07	**IPOC Station P**	**1.18**	**257**	*i* P	Pn	10 39 00.8	+0.8
PB07				*i* S	Sn	10 39 19.4	+1.0
PB07				IAML		10 39 20.6	
	comp=N,63nm,0.2s						
PB08	**IPOC Station P**	**1.40**	**340**	*i* P	Pn	10 39 03.7	+1.1
PB08				*i* S	Sn	10 39 24.7	+1.6
PB08				IAML		10 39 26.7	
	comp=E,39nm,0.2s						
PB06	**IPOC Station P**	**1.50**	**214**	*i* P	Pn	10 39 04.1	+0.6
PB06				*i* S	Sn	10 39 26.0	+1.3
PB06				IAML		10 39 26.4	
	comp=E,43nm,0.1s						
GO01	**Chusmiza**	**1.86**	**344**	*e*P	Pn	10 39 08.9	+0.8
GO01				*i* S	Sn	10 39 34.5	+1.7
PB15	**IPOC Station P**	**1.89**	**203**	*e*P	Pn	10 39 09.0	+0.8
PB15				*i* S	Sn	10 39 34.5	+1.4
PB11	**IPOC Station P**	**1.94**	**331**	*i* P	Pn	10 39 09.3	+0.5
PB11				*i* S	Sn	10 39 35.1	+1.1

SJA 22 10:39:48.3±0.7, 32°83S×70°22W, h108km±5km, ML1.8, MW2.6, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.69**	**258**	*i* P	Pn	10 40 07.5	+0.9
ROC1				*e*S	Sn	10 40 21.5	+1.1
ARCO	**CERRO ARCO**	**1.08**	**91**	*i* P	Pn	10 40 11.8	+1.4
ARCO				IAML		10 40 12.2	
	comp=Z,13nm,0.5s						
ARCO				*e*S	Sn	10 40 29.3	+2.3
ASAL	**Salagasta**	**1.19**	**79**	*i* P	Pn	10 40 12.8	+1.3
AAGR	**Agrelo**	**1.20**	**103**	*i* P	Pn	10 40 13.0	+1.4
AAGR				*e*S	Sn	10 40 30.5	+1.3
RTLS	**Leoncito**	**1.29**	**37**	*i* P	Pn	10 40 14.4	+1.5
RTLS				*e*S	Sn	10 40 34.1	+2.7
RTLS				IAML		10 40 35.1	
	comp=Z,10nm,0.3s						
RTCV	**Cerro Valdivia**	**1.72**	**56**	*i* P	Pn	10 40 18.6	+0.9
CFA	**Coronel Fontan**	**2.08**	**54**	*i* P	Pn	10 40 22.6	+0.4
RTLL	**Cerro Villicun**	**2.10**	**45**	*i* P	Pn	10 40 28.7	+6.1
RTLL				*e*S	Sn	10 40 50.1	+1.3
RTLL				IAML		10 40 50.3	
	comp=Z,6.1nm,0.4s						
ACCO	**Cerro Coronel**	**2.44**	**24**	*i* P	Pn	10 40 28.3	+1.0
GO04	**Tololo Observa**	**2.69**	**349**	*i* P	Pn	10 40 30.9	+0.4
AROD	**Rodeo**	**2.73**	**14**	*i* P	Pn	10 40 32.8	+1.8
ACDV	**Cuesta del Vie**	**2.81**	**20**	*i* P	Pn	10 40 33.4	+1.5

ISCJB 22 10:47:41.1±0.7, 14°85S±0°07×167°44E±0°10, h150km, mb3.8/7, Error ellipse: s-maj=14.1km s-min=9.0km az=158.7
IDC 22 10:47:42.9±4.3, 14°81S×167°29E, h152km±36km, mb3.6/8, mb1 3.7/9, mb1mx3.5/27, mbtmp4.0/9, MS4.2/1, Ms1 4.2/1, ms1mx3.2/28, Error ellipse: s-maj=28.6km s-min=24.5km az=32.0
NEIC 22 10:47:44.5±2.7, 14°87S±0°09×167°4E±0°1, h172km±7km, mb4.5/12

ISC 22 10:47:41.4±0.7, 14°77S±0°08×167°6E±0°1, h150km, n36, σ1°74/37, mb4.1/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.34**	**188**	P	**Pn**	**10 49 26.9**	**+0.8**
	1.7nm,0.3s,baz=73,slow=5.8,SNR=36						
DZM				S	**Sn**	**10 50 46.3**	**-1.9**
	0.3nm,0.3s,baz=82,slow=22,SNR=1.2						
DZM	**Mont Dzumac**	**7.34**	**188**		**Pn**	**10 49 27.4**	**+1.3**
DZM				Sn	**Sn**	**10 50 46.3**	**-1.9**
HNR	**Honiara**	**9.16**	**305**	Pn	**Pn**	**10 49 52.0**	**+1.7**
EIDS	**Eidsvold**	**18.72**	**233**	P	**Pn**	**10 51 50.0**	**-0.7**
EIDS				IAmb	IAmb	10 51 50.5	
	comp=Z,8.8nm,0.7s						
AFI	**Afiamalu**	**20.02**	**90**		**P**	**10 52 01.7**	**-1.2**
CTA	**Charters Tower**	**21.01**	**252**	P	**P**	**10 52 12.7**	**-0.6**
	comp=Z,3.5nm,0.7s,baz=253,slow=23,SNR=2.6						
URZ	**Urewera**	**24.87**	**162**	P	**P**	**10 52 50.2**	**+0.1**
BHW	**Baring Head**	**27.28**	**168**	P	**P**	**10 53 10.5**	**-1.2**
LTZ	**Lake Taylor**	**28.20**	**173**	P	**P**	**10 53 21.9**	**+1.9**
RPZ	**Rata Peaks**	**29.00**	**175**	P	**P**	**10 53 29.5**	**+2.5**
RPZ				IAmb	IAmb	10 53 30.9	
	comp=Z,21nm,1.1s						
STKA	**Stephens Creek**	**29.19**	**230**	P	**P**	**10 53 29.6**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=42,slow=8.6,SNR=4.7						
STKA	**Stephens Creek**	**29.19**	**230**	P	**P**	**10 53 29.8**	**+0.9**
WRA	**Warramunga Arr**	**32.10**	**256**	P	**P**	**10 53 52.9**	**-1.8**
	comp=Z,0.8nm,0.8s,baz=84,slow=8.9,SNR=4.8						
AS31	**Alice Springs**	**32.93**	**249**	P	**P**	**10 54 00.4**	**-1.5**
ASAR	**Alice Springs**	**32.94**	**249**	P	**P**	**10 54 00.2**	**-1.7**
	comp=Z,0.8nm,0.4s,baz=78,slow=9.4,SNR=12						
ASAR				PcP	**PcP**	**10 56 41.0**	**-1.9**
	comp=Z,0.7nm,0.9s,baz=88,slow=2.5,SNR=4.3						
KNRA	**Kununurra**	**37.43**	**263**	P	**P**	**10 54 40.8**	**+0.4**
KNRA				IAmb	IAmb	10 54 41.3	
	comp=Z,17nm,1.4s						
FITZ	**Fitzroy Crossi**	**40.30**	**259**	P	**P**	**10 55 03.7**	**-0.6**
JNU	**Nakatsue**	**59.13**	**324**	LR	LR	11 21 00.1	
	comp=Z,202nm,20.0s,baz=347,slow=34						
VNDA	**Vanda**	**62.82**	**181**	P	**P**	**10 57 52.2**	**+1.5**
	comp=Z,1.6nm,0.6s,baz=356,slow=7.9,SNR=11						
CASY	**Casey**	**63.60**	**202**	P	**P**	**10 57 57.1**	**+1.3**
CASY				IAmb	IAmb	10 58 04.8	
	comp=Z,10nm,1.2s						
QSPA	**South Pole Qui**	**75.25**	**180**	P	**P**	**10 59 09.0**	**+1.4**
QSPA				IAmb	IAmb	10 59 11.4	
	comp=Z,4.2nm,0.8s						
ILAR	**Eielson Array**	**86.48**	**18**	P	**P**	**11 00 08.8**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=249,slow=4.4,SNR=6.2						
SNAA	**Sanae**	**93.52**	**183**	P	**P**	**11 00 40.1**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=196,slow=13						
SNAA	**Sanae**	**93.52**	**183**	P	**P**	**11 00 40.1**	**+0.2**
SNAA				IAmb	IAmb	11 00 47.2	
	comp=Z,6.7nm,1.4s						
VNA3	**Neumayer Olymp**	**94.17**	**181**	P	**P**	**11 00 42.9**	**+0.1**
VNA2	**Neumayer--Watz**	**94.44**	**182**	P	**P**	**11 00 44.6**	**+0.6**
	baz=185,slow=3.9						
MKAR	**Makanchi Array**	**97.44**	**316**	P	Pdif	11 00 57.7	-0.5
	comp=Z,0.7nm,1.0s,baz=106,slow=3.1,SNR=3.0						
CPUP	**Villa Florida**	**120.20**	**133**	PKPdf	**PKPdf**	**11 06 12.5**	**-2.8**
ARCES	**ARCESS Array B**	**120.37**	**345**	PKP	**PKiKP**	**11 06 15.4**	**+1.0**
	comp=Z,3.9nm,0.9s,baz=74,slow=2.0,SNR=12						
FINES	**FINESS Array B**	**125.88**	**338**	PKP	**PKiKP**	**11 06 26.3**	**+0.8**
	comp=Z,3.5nm,0.9s,baz=181,slow=9.3,SNR=1.6						
FUORN	**Ofenpass-Fuorn**	**143.01**	**334**	PKPdf	**PKiKP**	**11 06 57.9**	**-3.2**
SGRT	**San Giovanni R**	**143.73**	**323**	PKPdf	**PKPdf**	**11 06 58.2**	**-0.8**

SENIN	**Lac Senin/Sane**	**144.43**	**336**	PKPdf	**PKiKP**	**11 07 01.6**	**-2.4**		
NRCA	**Norcia**	**144.46**	**327**		**PKiKP**	**11 07 01.0**	**-2.9**		
TIP	**Timpagrande**	**144.68**	**319**	PKPdf	**PKiKP**	**11 07 01.9**	**-2.6**		
MSSA	**Maissana**	**145.14**	**332**		**PKiKP**	**11 07 01.8**	**-3.5**		

PAS 22 10:55:48.8±1.7, 33°85N±0°02×118°46W±0°03, h12km±3km, ML2.5
NEIC 22 10:55:48.4±1.2, 33°85N±0°01×118°51W±0°04, h14km±4km
ANF 22 10:55:48.3±0.1, 33°85N×118°45W, h14km±1km, ML2.4/21, Error ellipse: s-maj=1.4km s-min=1.3km az=70.0
SCEDC 22 10:55:48.8, 33°85N×118°46W, h12km, ML2.5, ML2.5, ML2.5

ISC 22 10:55:48.6±0.8, 33°85N±0°02×118°46W±0°02, h16km±6km, n79, σ0°78/100, Southern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHPC	**Baldwin Hills**	**0.17**	**28**		**Pg**	**10 55 52.7**	**-0.2**
BHPC					**Sb**	**10 55 56.4**	**-0.1**
LCGC	**La Cienega, Cu**	**0.17**	**23**		**Pg**	**10 55 52.9**	**-0.1**
LCGC					**Sb**	**10 55 56.5**	**-0.1**
FMP	**Fort Macarthur**	**0.19**	**134**	P	**Pg**	**10 55 52.9**	**-0.4**
	baz=315,SNR=9.0						
FMP				S	**Sg**	**10 55 55.9**	**-0.3**
	baz=315						
FMP	**Fort Macarthur**	**0.19**	**134**		**Pg**	**10 55 52.8**	**-0.4**
WTT2	**Watts, South G**	**0.20**	**58**		**Pg**	**10 55 53.6**	**+0.3**
WTT2					**Sb**	**10 55 57.8**	**+0.5**
USC	**University of**	**0.22**	**39**		**Pg**	**10 55 53.7**	**0.0**
USC					**Sb**	**10 55 58.0**	**-0.1**
DLAC	**Del Amo**	**0.30**	**89**		**Pg**	**10 55 55.9**	**+0.2**
HLLC	**North Hollywoo**	**0.34**	**14**		**Pg**	**10 55 55.4**	**-0.4**
HLLC					**Sg**	**10 56 00.0**	**-0.6**
PASC	**Pasadena Art C**	**0.40**	**35**		**Pg**	**10 55 56.0**	**-0.7**
DECC	**Green Verdugo**	**0.42**	**14**	P	**Pg**	**10 55 56.6**	**-0.6**
	baz=195,SNR=17						
CIS	**Catalina Islan**	**0.44**	**176**	P	**Pg**	**10 55 57.5**	**-0.1**
	baz=355,SNR=30						
CIS				S	**Sg**	**10 56 04.2**	**+0.5**
	baz=355						
CIAC	**Catalina I. Ai**	**0.44**	**175**		**Pg**	**10 55 57.5**	**-0.1**
MWC	**Mount Wilson**	**0.50**	**41**	Pg	**Pg**	**10 55 57.9**	**-0.8**
IR2C	**Iron Canyon**	**0.54**	**5**		**Pg**	**10 55 58.8**	**-0.7**
BLG	**Laguna Peak, P**	**0.57**	**298**	P	**Pg**	**10 55 59.2**	**-0.8**
	baz=117,SNR=7.6						
PEM	**Pine Mountain**	**0.58**	**56**		**Pg**	**10 55 59.5**	**-0.7**
PSRC	**Puddingstone R**	**0.59**	**65**		**Pg**	**10 56 00.1**	**-0.3**
PSRC					**Sg**	**10 56 08.4**	**+0.1**
SBI	**Santa Barbara**	**0.60**	**233**		**Pg**	**10 56 00.5**	**0.0**
CHFC	**Chilao Flat St**	**0.60**	**36**		**Pg**	**10 55 59.7**	**-0.9**
CHNC	**Chino**	**0.66**	**76**		**Sg**	**10 56 10.3**	**-0.2**
XTL	**Crystal Lake,**	**0.67**	**47**		**Pg**	**10 56 00.9**	**-0.9**
SSK	**Sunset Peak**	**0.73**	**60**		**Pg**	**10 56 02.4**	**-0.6**
PYR	**Pyramid**	**0.76**	**342**		**Pg**	**10 56 03.4**	**-0.1**
STCC	**Santa Clara**	**0.76**	**307**		**Pg**	**10 56 03.4**	**-0.1**
LRRC	**Littlerock Res**	**0.77**	**27**		**Pg**	**10 56 02.7**	**-0.9**
BFSC	**Mount Baldy Ra**	**0.77**	**59**	P	**Pg**	**10 56 02.9**	**-0.8**
	baz=240,SNR=12						
BFSC	**Mount Baldy Ra**	**0.77**	**59**		**Pg**	**10 56 02.9**	**-0.8**
HOLC	**Holcomb Ridge**	**0.79**	**39**		**Pg**	**10 56 03.0**	**-1.1**
LEOC	**Leona Valley**	**0.79**	**9**		**Pg**	**10 56 02.9**	**-1.2**
OSI	**Osito Audit: C**	**0.80**	**344**	P	**Pg**	**10 56 03.5**	**-0.7**
	baz=164,SNR=8.1						
OSI				S	**Sb**	**10 56 15.4**	**+0.6**
	baz=164						
OSI	**Osito Audit: C**	**0.80**	**344**		**Pg**	**10 56 03.6**	**-0.7**
OSI	**Osito Audit: C**	**0.80**	**344**	Pg	**Pg**	**10 56 03.3**	**-0.9**
BTPC	**Burnt Peak**	**0.84**	**353**		**Pg**	**10 56 03.5**	**-1.5**
SCI2	**San Clemente I**	**0.87**	**185**	P	**Pg**	**10 56 05.7**	**+0.2**
	baz=4.5,SNR=10.0						
SCI2				S	**Sb**	**10 56 17.2**	**+0.6**
	baz=4.5						
SCI2	**San Clemente I**	**0.87**	**185**		**Sg**	**10 56 16.2**	**-0.7**
FOXC	**Fox Airport**	**0.92**	**12**		**Pg**	**10 56 05.1**	**-1.3**
SBB	**Saddle Back Bu**	**0.99**	**32**		**Pb**	**10 56 06.4**	**-1.1**
SCZ2	**Santa Cruz Isl**	**0.99**	**279**	P	**Pb**	**10 56 07.0**	**-0.4**
	baz=98						
SCZ2				S	**Sn**	**10 56 21.5**	**-0.1**
	baz=98						
SNCC	**San Nicolas Is**	**1.07**	**237**	P	**Pb**	**10 56 08.4**	**-0.5**
	baz=55						
SNCC				S	**Sb**	**10 56 23.1**	**+0.5**
	baz=55						
SNCC	**San Nicolas Is**	**1.07**	**237**		**Pb**	**10 56 08.2**	**-0.7**
SNCC	**San Nicolas Is**	**1.07**	**237**		**Pb**	**10 56 07.9**	**-0.9**
PEC	**Perris**	**1.08**	**87**		**Pb**	**10 56 08.1**	**-0.9**
PEC					**Sb**	**10 56 22.8**	**0.0**
MURC	**Murrieta**	**1.08**	**103**	P	**Pb**	**10 56 07.7**	**-1.2**
	baz=284,SNR=12						
MURC				S	**Sb**	**10 56 22.9**	**+0.1**
	baz=284						
MURC	**Murrieta**	**1.08**	**103**		**Sb**	**10 56 22.9**	**+0.1**
EDW2	**Edwards Air Fo**	**1.10**	**20**	P	**Pb**	**10 56 08.5**	**-0.9**
	baz=201,SNR=16						
EDW2				S	**Sg**	**10 56 24.4**	**0.0**
	baz=201						
EDW2	**Edwards Air Fo**	**1.10**	**20**		**Pb**	**10 56 08.5**	**-0.9**
CFT	**Crafton Hills**	**1.13**	**80**		**Pb**	**10 56 09.0**	**-0.9**
BACC	**Bachelor Mtn.**	**1.20**	**101**		**Pb**	**10 56 10.0**	**-0.8**
DGR	**Domenigoni Val**	**1.22**	**99**		**Sb**	**10 56 26.6**	**-0.3**
BBSC	**Beaumont Base**	**1.23**	**86**		**Sb**	**10 56 27.2**	**0.0**
HYS	**Haystack Butte**	**1.25**	**

*MDD **22** 11:04:11.6±0.6,35°.85N×0°.54W,h10km±9km,mbLg2.3/10, Error ellipse: s-maj=8.5km s-min=5.3km az=170.0, PRXIMO*

*CNRM **22** 11:04:15.9,37°.09N×5°.59W,h30km*

ISC 22 11:04:10.8±1.4,35°.87N±0°.04×0°.55W±0°.04,h20km±5km, n28,σ1ᵗ45/42,1D,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	**Oran**	**0.13**	**181**	P	**Pg**	**11 04 14.4**	**-0.6**
USTO	**Oran**	**0.13**	**181**	P	**Pg**	**11 04 14.4**	**-0.6**
OTSS	**Djebel Tessala**	**0.62**	**199**	P	**Pg**	**11 04 23.4**	**+0.3**
OTSS	**Djebel Tessala**	**0.62**	**199**	P	**Pg**	**11 04 23.4**	**+0.3**
ODJA	**Bouhanifia**	**0.63**	**149**	P	**Pb**	**11 04 23.3**	**+0.2**
ODJA	**Bouhanifia**	**0.63**	**149**	P	**Pb**	**11 04 23.3**	**+0.2**
OJBR	**Djebel Berber**	**0.78**	**111**	P	**Pb**	**11 04 25.0**	**-0.7**
OJBR	**Djebel Berber**	**0.78**	**111**	P	**Pb**	**11 04 25.0**	**-0.7**
OKGL	**Djebel Kef Gue**	**0.98**	**80**	P	**Pb**	**11 04 26.0**	**-3.1**
OKGL	**Djebel Kef Gue** 14nm,0.1s,SNR=18	**0.98**	**80**	⇓P	**Pb**	**11 04 29.1**	**0.0**
OKGL	105nm,0.2s,SNR=7.9			S	**Sn**	**11 04 43.4**	**+0.6**
ENIJ	**Nijar** 0.9nm,0.1s,SNR=7.9	**1.73**	**310**	P	**Pn**	**11 04 40.3**	**+0.5**
ENIJ	28nm,0.2s,SNR=7.9			S	**Sn**	**11 04 59.7**	**-1.7**
EMUR	**La Murta** 0.8nm,0.1s,SNR=12	**2.05**	**344**	P	**Pn**	**11 04 44.9**	**+0.7**
EMUR	5.3nm,0.3s,SNR=7.0			S	**Sn**	**11 05 07.3**	**-1.9**
EBER	**Berja** 2.1nm,0.1s,SNR=19	**2.15**	**299**	P	**Pn**	**11 04 46.2**	**+0.5**
EBER	6.4nm,0.3s,SNR=5.6			S	**Sn**	**11 05 12.5**	**+0.6**
ELGU	**Los Guajares,** 1.2nm,0.1s,SNR=7.9	**2.68**	**293**	P	**Pn**	**11 04 52.9**	**0.0**
ELGU	4.3nm,0.2s,SNR=7.9			S	**Sn**	**11 05 24.0**	**-0.8**
EQUE	**Quentar** 0.7nm,0.1s,SNR=18	**2.69**	**301**	P	**Pn**	**11 04 54.4**	**+1.5**
SESP	**Santiago Espad**	**2.76**	**325**	P	**Pn**	**11 04 56.4**	**+2.3**
SESP				S	**Sn**	**11 05 28.1**	**+1.2**
SESP	**Santiago Espad** 4.7nm,0.1s,SNR=7.9	**2.76**	**325**	P	**Pn**	**11 04 56.3**	**+2.2**
SESP	9.8nm,0.1s,SNR=7.9			S	**Sn**	**11 05 28.9**	**+2.0**
EQES	**Quesada** 0.9nm,0.1s,SNR=7.9	**2.80**	**314**	P	**Pn**	**11 04 56.6**	**+2.1**
EQES	6.1nm,0.2s,SNR=7.9			S	**Sn**	**11 05 30.2**	**+2.4**
ETOB	**Tobarra** 0.8nm,0.1s,SNR=9.7	**2.88**	**344**	P	**Pn**	**11 04 57.4**	**+1.7**
ETOB	4.3nm,0.3s,SNR=4.0			S	**Sn**	**11 05 29.6**	**-0.2**
EGOR	**Sierra Gorda,** 2.7nm,0.4s,SNR=7.9	**3.13**	**294**	P	**Pn**	**11 05 00.4**	**+1.3**
EMIJ	**Mijas** 0.4nm,0.1s,SNR=6.1	**3.49**	**283**	P	**Pn**	**11 05 03.3**	**-0.7**
EMIJ	1.5nm,0.2s,SNR=4.0			S	**Sn**	**11 05 42.9**	**-1.8**
EIBI	**Ibiza** 0.4nm,0.1s,SNR=7.9	**3.49**	**25**	P	**Pn**	**11 05 05.3**	**+1.3**
EIBI	1.3nm,0.3s,SNR=7.9			S	**Sn**	**11 05 43.2**	**-1.6**
ECAB	**El Cabril** 0.2nm,0.1s,SNR=4.0	**4.48**	**301**	P	**Pn**	**11 05 18.2**	**+0.6**
ECAB	0.7nm,0.4s,SNR=4.0			S	**Sn**	**11 06 08.0**	**-1.2**
EMOS	**Mosqueruela** 0.5nm,0.1s,SNR=7.9	**4.49**	**1**	P	**Pn**	**11 05 20.2**	**+2.3**
EMOS	0.8nm,0.3s,SNR=7.9			S	**Sn**	**11 06 08.8**	**-0.8**
MDT	**Midelt**	**4.53**	**229**	P	**Pn**	**11 05 19.2**	**+0.7**
MD31	**MD31**	**4.59**	**231**	P	**Pn**	**11 05 20.0**	**+0.8**
PAB	**San Pablo** 1.7nm,0.3s,SNR=7.9	**4.75**	**322**	P	**Pn**	**11 05 23.6**	**+2.2**
PAB	0.5nm,0.3s,SNR=7.9			S	**Sn**	**11 06 13.6**	**-2.3**
EMIN	**Mina Concepcio** 1.2nm,0.3s,SNR=7.9	**5.27**	**293**	P	**Pn**	**11 05 28.4**	**+0.1**

*BJI **22** 11:09:59.6±0.0,20°.71N×146°.75E,h16km,mb4.6/43, mB5.2/34,Ms4.6/11,Ms7 4.4/11*

*ISCJB **22** 11:10:00.0±0.2,20°.78N±0°.03×146°.65E±0°.04,h10km, mb4.5/77,MS4.0/15,Error ellipse: s-maj=5.2km s-min=4.6km az=178.2*

*NEIC **22** 11:10:01.6±1.5,20°.77N±0°.08×146°.7E±0°.1,h11km±3km, mb4.7/73*

*MOS **22** 11:10:05.4±0.9,20°.76N×146°.57E,h54km,mb4.9/33,Error ellipse: s-maj=11.4km s-min=5.6km az=107.5*

*IDC **22** 11:10:07.0±2.7,20°.80N×146°.71E,h52km±24km,mb4.1/33, mb1 4.2/36,mb1mx4.2/63,mbtmp4.4/36,ML3.8/4,MS3.8/12, Ms1 3.8/12,ms1mx3.5/49,Error ellipse: s-maj=15.6km s-min=9.5km az=89.0*

ISC 22 11:10:01.9±0.3,20°.84N±0°.05×146°.68E±0°.07,h10km,n208, σ1ᵗ18/203,mb4.6/98,MS3.8/15,9C-1D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**4.20**	**192**	Pn	**Pn**	**11 11 04.4**	**-1.7**
GUMO	**Guam** 3.3nm,0.3s,baz=294,slow=8.8,SNR=1.5	**7.41**	**194**	P	**Pn**	**11 11 53.8**	**+3.6**
GUMO	5.8nm,0.3s,baz=149,slow=22,SNR=1.3			S	**Sn**	**11 13 16.7**	**+2.3**
GUMO	comp=Z,85nm,18.8s,baz=358,slow=28			LR	LR	11 13 36.4	
JCJ	**Chichijima** 76nm,0.3s,baz=134,slow=22,SNR=4.8	**7.46**	**327**	S	**Sn**	**11 13 10.1**	**-5.5**
INU	**Inuyama**	**16.77**	**332**	P	**P**	**11 13 59.6**	**+0.5**
INU	comp=Z,65nm,1.0s			IAmb	IAmb	11 14 02.8	
MJAR	**Matsushiro Arr** comp=Z,0.1nm,0.3s,baz=154,slow=9.8,SNR=9.5	**17.31**	**336**	P	**Pn**	**11 14 03.9**	**+0.2**
MJAR	comp=Z,0.1nm,0.3s,baz=294,slow=41,SNR=2.1			S	Sn	11 17 06.2	-10
MAJO	**Matsushiro**	**17.31**	**336**	*i* P	**Pn**	**11 14 04.5**	**+0.8**
MAJO	**Matsushiro**	**17.31**	**336**	P	**Pn**	**11 14 04.1**	**+0.4**
MAT	**Matsushiro**	**17.31**	**336**	P	**P**	**11 14 06.4**	**+1.3**
MJB9	**Matsu-Tunnel**	**17.31**	**336**	P	**Pn**	**11 14 04.2**	**+0.5**
MJB9	comp=Z,52nm,1.5s			IAmb	IAmb	11 14 10.5	
JOW	**Kunigami** comp=Z,0.2nm,0.3s,baz=118,slow=15,SNR=4.9	**17.86**	**293**	P	**P**	**11 14 12.5**	**+1.3**
JOW	**Kunigami**	**17.86**	**293**		**P**	**11 14 11.4**	**+0.2**
PATS	**Pohnpei**	**17.91**	**139**		**P**	**11 14 13.2**	**+1.4**
PATS	comp=Z,94nm,1.2s			IAmb	IAmb	11 14 17.8	
JNU	**Nakatsue** comp=Z,0.4nm,0.3s,baz=80,slow=3.2,SNR=6.4	**18.63**	**314**	P	**Pn**	**11 14 21.1**	**+1.1**
JNU	**Nakatsue**	**18.63**	**314**		**Pn**	**11 14 21.8**	**+1.8**
H11S3	**WAKE ISLAND Hy** baz=280,slow=74,SNR=6.6	**18.98**	**94**	T	T	11 32 38.6	
H11N1	**WAKE ISLAND Hy** baz=276,slow=75,SNR=4.9	**18.99**	**90**	T	T	11 32 40.1	
H11S1	**WAKE ISLAND Hy** baz=280,slow=74,SNR=6.4	**19.00**	**94**	T	T	11 32 41.8	
H11N2	**WAKE ISLAND Hy** baz=276,slow=75,SNR=5.0	**19.00**	**90**	T	T	11 32 40.6	
H11S2	**WAKE ISLAND Hy** baz=280,slow=74,SNR=3.8	**19.00**	**94**	T	T	11 32 38.8	
H11N3	**WAKE ISLAND Hy** baz=276,slow=75,SNR=3.7	**19.01**	**90**	T	T	11 32 42.9	
TJN	**Taejon**	**22.90**	**317**	*ce*P	**P**	**11 15 05.4**	**-0.4**
KSRS	**Korea Array** comp=Z,3.8nm,0.8s,baz=145,slow=8.2,SNR=12	**23.22**	**320**	P	**P**	**11 15 08.7**	**-0.4**
KSRS	comp=Z,234nm,19.3s,baz=130,slow=36			LR	LR	11 24 15.2	
KS19	**Wonju Array Si**	**23.29**	**320**	P	**P**	**11 15 10.5**	**+0.7**
KS19	comp=Z,16nm,0.9s			IAmb	IAmb	11 15 22.1	
JKA	**Kamikawa-asahi**	**23.46**	**353**	P	**P**	**11 15 12.8**	**+1.3**
ASAJ	**Asahikawa** comp=Z,19nm,1.1s,baz=135,slow=10.0,SNR=3.0	**23.46**	**353**	P	**P**	**11 15 12.8**	**+1.3**
ASAJ	comp=Z,130nm,18.8s,baz=176,slow=40			LR	LR	11 25 50.5	
DAV	**Davao City (W)** comp=Z,314nm,21.0s,baz=64,slow=33	**24.59**	**239**	LR	LR	11 23 49.0	
TGY	**Tagaytay City** comp=Z,294nm,20.1s,baz=5.5,slow=34	**25.43**	**259**	LR	LR	11 24 30.9	
VLA	**Vladivostok**	**25.44**	**334**	*i* P	**P**	**11 15 31.0**	**+1.2**
VLA	comp=Z,25nm,1.3s			pmax	pmax		
KRVT	**Keravat (AS076** comp=Z,223nm,18.6s,baz=5.1,slow=36	**25.53**	**168**	LR	LR	11 25 38.8	
USA0B	**Ussuriysk Arra**	**26.30**	**336**	P	**P**	**11 15 41.4**	**+3.7**
USA0B	comp=Z,31nm,1.2s			IAmb	IAmb	11 15 42.8	
USRK	**Ussuriysk Ar.** comp=Z,5.6nm,0.8s,baz=147,slow=8.4,SNR=10	**26.30**	**336**	P	**P**	**11 15 39.8**	**+2.2**
NJ2	**Nanjing**	**27.23**	**300**	*e*P	**P**	**11 15 45.1**	**-1.0**
NJ2	comp=Z,9.0nm,0.5s			pmax	pmax		
WHN	**Wuhan**	**30.60**	**295**	P	**P**	**11 16 20.0**	**+3.8**
KLR	**Kul'dur**	**30.73**	**341**	*i* P	**P**	**11 16 17.6**	**+0.5**
KLR	comp=Z,3.0nm,0.8s			pmax	pmax		
HNR	**Honiara** comp=Z,313nm,20.0s,baz=310,slow=36	**32.79**	**155**	LR	LR	11 29 41.2	
PETK	**Petropavlovsk-** comp=Z,2.4nm,0.7s,baz=202,slow=8.4,SNR=4.1	**33.31**	**12**	P	**P**	**11 16 40.6**	**+0.9**
PETK	comp=Z,184nm,21.5s,baz=226,slow=31			LR	LR	11 27 26.5	
XAN	**Xi'an**	**35.79**	**300**	P	**P**	**11 17 03.0**	**+1.5**
XAN	comp=Z,5.0nm,0.7s			pmax	pmax		
XAN	comp=Z,150nm,5.2s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**35.82**	**312**	P	**P**	**11 17 01.8**	**+0.1**
HHC	comp=Z,3.0nm,0.8s			pmax	pmax		
HHC	comp=Z,65nm,6.3s			pmax	pmax		
ZEA	**Zeya**	**36.05**	**340**	*e*P	**P**	**11 17 03.8**	**+0.5**
ZEA	comp=Z,28nm,1.4s			pmax	pmax		
MTN	**Manton Dam**	**36.80**	**206**	P	**P**	**11 17 09.4**	**-0.6**
MTN	comp=Z,28nm,1.4s			IAmb	IAmb	11 17 13.1	
BATI	**Baumata** comp=Z,174nm,19.7s,baz=54,slow=32	**38.26**	**218**	LR	LR	11 30 39.2	
MA2	**Magadan** comp=Z,7.8nm,0.8s,baz=162,slow=11,SNR=2.1	**38.81**	**3**	P	**P**	**11 17 27.1**	**+0.5**
MA2	**Magadan**	**38.81**	**3**	P	**P**	**11 17 28.2**	**+1.6**
CD2	**Chengdu**	**39.69**	**294**	P	**P**	**11 17 32.9**	**-1.6**
CD2	comp=Z,20nm,0.5s			pmax	pmax		
LZH	**Lanzhou**	**40.27**	**302**	*e*P	**P**	**11 17 39.3**	**-0.1**
LZH				pP	sP	11 17 42.5	+0.5
LZH				sP	pwP	11 17 44.3	-2.3
LZH	comp=Z,23nm,1.2s			pmax	pmax		
LZH	comp=Z,78nm,5.6s			pmax	pmax		
LZH	comp=Z,370nm,13.0s			LR	LR		
LZH	comp=Z,370nm,13.2s			LR	LR		
LZH	comp=Z,550nm,16.5s			LR	LR		
KNRA	**Kununurra** comp=Z,10nm,0.8s	**40.33**	**207**	P	**P**	**11 17 39.1**	**-0.6**
KNRA				IAmb	IAmb	11 17 44.0	
KMI	**Kunming** comp=Z,16nm,1.4s	**40.55**	**285**	P	P	11 17 35.1	-6.8
KMI				pmax	pmax		
CTA	**Charters Tower** comp=Z,4.4nm,0.9s,baz=325,slow=12,SNR=2.9	**40.68**	**181**	P	**P**	**11 17 41.6**	**-1.0**
ULN	**Ulaanbaatar**	**41.71**	**320**	*ce*P	**P**	**11 17 51.0**	**0.0**
ULN	comp=Z,13nm,2.5s			pmax	pmax		
ADK	**Adak**	**42.03**	**34**	P	**P**	**11 17 54.6**	**+1.2**
ADK	comp=Z,23nm,0.9s			pmax	pmax		
ADK	**Adak**	**42.03**	**34**	P	**P**	**11 17 54.6**	**+1.2**
ADK	comp=Z,23nm,0.9s			IAmb	IAmb	11 17 54.6	
SONM	**Songino Array** comp=Z,1.4nm,0.4s,baz=137,slow=6.9,SNR=7.1	**42.09**	**319**	P	**P**	**11 17 54.1**	**0.0**
SONM	comp=Z,0.8nm,0.6s,baz=121,slow=4.1,SNR=2.5			PcP	**PcP**	**11 19 48.6**	**-0.2**
SEY	**Seymchan**	**42.25**	**4**	*i* P	**P**	**11 17 55.6**	**+0.6**
SEY	**Seymchan** comp=Z,2.9nm,0.5s,baz=184,slow=9.0,SNR=16	**42.25**	**4**	P	**P**	**11 17 55.4**	**+0.4**
WR0	**Warramunga Arr**	**42.25**	**197**	P	**P**	**11 17 54.3**	**-1.2**
WRAB	**Tennant Creek**	**42.28**	**197**	*ce*P	**P**	**11 17 53.9**	**-1.9**
WRAB	comp=Z,34nm,2.5s			pmax	pmax		
WRAB	**Tennant Creek**	**42.28**	**197**	P	**P**	**11 17 54.6**	**-1.1**
WRAB	comp=Z,8.3nm,0.8s			IAmb	IAmb	11 17 59.6	
WRA	**Warramunga Arr** comp=Z,4.0nm,0.7s,baz=17,slow=8.5,SNR=30	**42.29**	**197**	P	**P**	**11 17 54.5**	**-1.4**
WRA				PcP	**PcP**	**11 19 49.4**	**-0.3**
FITZ	**Fitzroy Crossi** comp=Z,1.8nm,0.7s,baz=6.0,slow=3.4,SNR=5.7	**43.85**	**210**	P	**P**	**11 18 08.1**	**-0.4**
FITZ	comp=Z,6.4nm,0.7s,baz=27,slow=8.2,SNR=18			LR	LR	11 35 19.5	
FITZ	**Fitzroy Crossi** comp=Z,72nm,20.3s,baz=340,slow=34	**43.85**	**210**	P	**P**	**11 18 08.2**	**-0.3**
FITZ	comp=Z,6.7nm,0.8s			IAmb	IAmb	11 18 15.4	
GTA	**Gaotai**	**44.02**	**306**	P	**P**	**11 18 10.1**	**+0.2**
GTA				pP	sP	11 18 13.5	+0.9
GTA				sP	pwP	11 18 16.3	-0.8
GTA	comp=Z,4.0nm,1.2s			pmax	pmax		
GTA	comp=Z,63nm,5.0s			pmax	pmax		
GTA	comp=Z,260nm,16.8s			LR	LR		
GTA	comp=Z,240nm,18.2s			LR	LR		
GTA	comp=Z,280nm,18.9s			LR	LR		
CMAR	**Chiang Mai Arr**	**44.90**	**276**	*ce*P	**P**	**11 18 20.0**	**+3.0**
CMAR	comp=Z,1.0nm,0.5s			pmax	pmax		
CMAR	**Chiang Mai Arr** comp=Z,1.0nm,0.5s,baz=91,slow=5.3,SNR=7.7	**44.90**	**276**	P	**P**	**11 18 17.5**	**+0.4**
CMAR	comp=Z,78nm,21.0s,baz=97,slow=34			LR	LR	11 35 51.4	
ZAK	**Zakamensk**	**45.03**	**322**	*e*P	**P**	**11 18 17.6**	**-0.2**
ZAK	comp=Z,4.0nm,0.9s			pmax	pmax		
TLY	**Talaya**	**45.38**	**323**	*e*P	**P**	**11 18 20.8**	**+0.4**
TLY	comp=Z,22nm,0.7s			pmax	pmax		
TLY	comp=Z,514nm,15.0s			MLR	MLR		
AS31	**Alice Springs**	**45.95**	**196**	P	**P**	**11 18 23.5**	**-1.7**
ASAR	**Alice Springs** comp=Z,1.8nm,0.7s,baz=18,slow=8.3,SNR=24	**45.95**	**196**	P	**P**	**11 18 23.6**	**-1.7**
ASAR	comp=Z,0.9nm,0.6s,baz=18,slow=3.1,SNR=7.6			PcP	**PcP**	**11 20 01.9**	**-0.2**
KULM	**Kulim**	**47.23**	**258**	P	**P**	**11 18 35.8**	**+0.3**
BILL	**Bilibino**	**48.77**	**10**	*i* P	**P**	**11 18 47.3**	**+0.7**
BILL				*e**SP	**pwP**	**11 18 57.8**	**+3.3**
BILL				*e*		11 19 06.0	
BILL				*e*		11 20 10.6	
BILL	comp=Z,9.0nm,1.3s			pmax	pmax		
MSVF	**Nonsavu**	**49.15**	**139**	P	**P**	**11 18 51.1**	**+0.9**
MSVF	comp=Z,34nm,1.4s			pmax	pmax		
MSVF	**Nonsavu**	**49.15**	**139**	P	**P**	**11 18 51.1**	**+0.9**
PSA00	**Pilbara Seismi**	**49.64**	**213**	P	**P**	**11 18 53.6**	**-0.2**
SHL	**Shillong**	**50.30**	**286**	P	**P**	**11 18 58.8**	**-0.4**
SHL	comp=Z,5.0nm,0.7s			pmax	pmax		
SHL	**Shillong**	**50.30**	**286**	P	**P**	**11 18 58.8**	**-0.4**
SHL	comp=Z,5.3nm,0.7s			IAmb	IAmb	11 19 00.1	
LSA	**Lhasa**	**50.59**	**292**	P	**P**	**11 19 02.2**	**+0.6**
LSA	comp=Z,8.6nm,0.8s			IAmb	IAmb	11 19 04.8	
STKA	**Stephens Creek** comp=Z,1.7nm,0.5s,baz=8.8,slow=22,SNR=3.4	**52.64**	**185**	P	**P**	**11 19 14.6**	**-1.6**
WMQ	**Urumqi**	**53.64**	**310**	*e*P	**P**	**11 19 24.9**	**+1.2**
WMQ				pP	pwP	11 19 30.0	-0.9
WMQ	comp=Z,13nm,1.1s			pmax	pmax		
WMQ	comp=Z,270nm,7.7s			pmax	pmax		
WMQ	comp=Z,1μm,24.9s			LR	LR		
WMQ	comp=Z,290nm,23.5s			LR	LR		
WMQ				LR	LR		
	comp=Z,290nm,22.1s						
TAPN	**Taplejung**	**53.81**	**289**	*e*P	**P**	**11 19 25.7**	**+0.2**
AIN	**Ainahou**	**54.10**	**81**	P	**P**	**11 19 27.1**	**-0.4**
ODAN	**Odare**	**54.15**	**289**	*e*P	**P**	**11 19 28.0**	**+0.1**
RAMN	**Ramite** comp=Z,24nm,0.8s	**54.84**	**289**	*e*P	**P**	**11 19 33.2**	**+0.3**
JIRN	**Jiri** comp=Z,80nm,0.8s	**55.11**	**290**	*e*P	**P**	**11 19 35.3**	**+0.3**
GUN	**Gumba** comp=Z,192nm,1.7s	**55.35**	**290**	*e*P	**P**	**11 19 37.1**	**+0.4**
PKI	**Pulchoki**	**55.81**	**290**	*e*P	**P**	**11 19 39.8**	**-0.2**
PKIN	**Phulchoki** comp=Z,20nm,0.9s	**55.82**	**290**	*e*P	**P**	**11 19 39.8**	**-0.2**
KKN	**Kakani** comp=Z,29nm,0.7s	**55.90**	**290**	*e*P	**P**	**11 19 40.7**	**+0.2**
DMN	**Daman** comp=Z,34nm,0.9s	**56.07**	**290**	*e*P	**P**	**11 19 41.9**	**+0.1**
GKN	**Gorkha** comp=Z,86nm,1.0s	**56.43**	**290**	*e*P	**P**	**11 19 44.4**	**+0.2**
ZAA0	**Zalesovo Array**	**56.91**	**322**	P	**P**	**11 19 46.6**	**-0.4**
ZAA0	comp=Z,9.5nm,0.8s			IAmb	IAmb	11 19 47.8	
ZALV	**Zalesovo Beam** comp=Z,10nm,0.5s,baz=108,slow=7.8,SNR=55	**56.91**	**322**	P	**P**	**11 19 46.4**	**-0.5**
DANN	**Dangsing** comp=Z,154nm,0.7s	**57.16**	**291**	*e*P	**P**	**11 19 49.9**	**+0.4**
KOLN	**Koldanda** comp=Z,47nm,0.9s	**57.37**	**290**	*e*P	**P**	**11 19 50.9**	**-0.1**
MK31	**Makanchi Array**	**57.67**	**313**	*i* P	**P**	**11 19 51.9**	**-0.7**
MK31	comp=Z,6.0nm,1.0s			pmax	pmax		
MK31	**Makanchi Array**	**57.67**	**313**	P	**P**	**11 19 52.7**	**+0.2**
MKAR	**Makanchi Array** comp=Z,1.8nm,0.7s,baz=91,slow=8.4,SNR=19	**57.67**	**313**	P	**P**	**11 19 52.5**	**-0.1**
MKAR	comp=Z,0.7nm,0.7s,baz=76,slow=6.3,SNR=3.5			PcP	**PcP**	**11 20 44.3**	**-1.3**
MAKZ	**Makanchi**	**57.89**	**313**	P	**P**	**11 19 53.3**	**-0.8**
MAKZ	comp=Z,9.0nm,1.3s			pmax	pmax		
MAKZ	**Makanchi**	**57.89**	**313**	P	**P**	**11 19 54.0**	**-0.1**
MAKZ	comp=Z,7.9nm,1.1s			IAmb	IAmb	11 19 56.1	
SKT	**Skwentna**	**58.63**	**29**	P	**P**	**11 20 01.1**	**+2.1**
RC01	**Rabbit Creek A**	**59.25**	**30**	P	**P**	**11 20 01.3**	**-2.0**
BPAW	**Bear Paw Mtn.**	**59.44**	**27**	P	**P**	**11 20 04.9**	**+0.4**
BPAW	comp=Z,8.6nm,1.3s			IAmb	IAmb	11 20 08.1	
TRF	**Thorofare Moun**	**59.56**	**28**	P	**P**	**11 20 06.8**	**+1.2**
TRF	comp=Z,10.0nm,1.4s			IAmb	IAmb	11 20 20.1	
PDGK	**Podgornoye** comp=Z,8.0nm,0.9s	**59.58**	**309**	P	**P**	**11 20 05.7**	**-0.3**
PDGK				pmax	pmax		
PMR	**Palmer** comp=Z,10nm,1.4s	**59.65**	**30**	P	**P**	**11 20 05.1**	**-0.8**
PMR				IAmb	IAmb	11 20 07.8	
GHO	**Glory Hole Cre** comp=Z,14nm,1.3s	**59.78**	**30**	P	**P**	**11 20 05.9**	**-1.2**
GHO				IAmb	IAmb	11 20 07.9	
MLY	**Manley**	**59.80**	**26**	P	**P**	**11 20 06.9**	**-0.2**
NRIK	**Norilʹsk** comp=Z,9.1nm,0.6s,baz=111,slow=8.6,SNR=17	**59.94**	**339**	P	**P**	**11 20 07.6**	**-0.3**
KURK	**Kurchatov**	**60.32**	**317**	*ce*P	**P**	**11 20 10.3**	**-0.5**
KURK	comp=Z,32nm,1.7s			pmax	pmax		
KURK	**Kurchatov**	**60.32**	**317**	P	**P**	**11 20 10.8**	**0.0**
KURBB	**Kurchatov Arra** comp=Z,11nm,0.7s,baz=93,slow=7.7,SNR=92	**60.37**	**317**	P	**P**	**11 20 10.8**	**-0.3**
SCM	**Sheep Creek Mo**	**60.53**	**30**	P	**P**	**11 20 11.4**	**-0.8**
FID	**Port Fidalgo**	**60.74**	**31**	P	**P**	**11 20 12.8**	**-0.8**
DHY	**Denali Highway**	**60.76**	**28**	P	**P**	**11 20 13.9**	**+0.1**
TOLK	**Toolik Lake Re**	**61.27**	**22**	P	**P**	**11 20 18.0**	**+1.0**
TOLK	comp=Z,3.4nm,0.7s			IAmb	IAmb	11 20 18.2	
ILAR	**Eielson Array**	**61.33**	**27**	P	**P**	**11 20 16.0**	**-1.5**
ILAR	**Eielson Array** comp=Z,0.9nm,0.9s,baz=252,slow=4.5,SNR=8.9	**61.33**	**27**	P	**P**	**11 20 15.9**	**-1.5**
KSH	**Kashi** comp=Z,550nm,5.9s	**62.41**	**305**	P	**P**	**11 20 27.4**	**+2.1**
KSH				pmax	pmax		
TKM2	**Tokmak 2**	**62.44**	**308**	P	**P**	**11 20 23.4**	**-2.2**
TKM2	comp=Z,7.0nm,0.9s			pmax	pmax		
AAK	**Ala-Archa**	**63.27**	**308**	*ce*P	**P**	**11 20 31.2**	**+0.2**
AAK	comp=Z,2.0nm,0.7s			pmax	pmax		
AAK	**Ala-Archa**	**63.27**	**308**	P	**P**	**11 20 31.3**	**+0.3**
AAK	comp=Z,7.3nm,1.4s			IAmb	IAmb	11 20 45.1	
NIL	**Nilore**	**65.32**	**298**	P	**P**	**11 20 44.0**	**-0.5**
BVAR	**Borovoye Array** comp=Z,15nm,0.5s,baz=91,slow=7.4,SNR=124	**65.43**	**320**	P	**P**	**11 20 44.8**	**0.0**
BRVK	**Borovoye** comp=Z,54nm,2.5s	**65.50**	**320**	*ce*P	**P**	**11 20 45.1**	**-0.1**
BRVK				pmax	pmax		
BRVK	**Borovoye**	**65.50**	**320**	P	**P**	**11 20 44.3**	**-0.9**
KK31	**Karatay Array** comp=Z,13nm,0.9s	**66.14**	**309**	*i* P	**P**	**11 20 49.5**	**-0.1**
KK31				pmax	pmax		
KK31	**Karatay Array**	**66.14**	**309**	P	**P**	**11 20 50.8**	**+1.2**
KKAR	**Karatay Array**	**66.14**	**309**	P	**P**	**11 20 50.8**	**+1.2**
INK	**Inuvik**	**67.05**	**23**	P	**P**	**11 20 54.0**	**-0.9**
INK	**Inuvik** comp=Z,1.4nm,0.8s,baz=294,slow=6.8,SNR=8.3	**67.05**	**23**	P	**P**	**11 20 54.0**	**-0.9**
INK	**Inuvik** comp=Z,4.1nm,1.3s	**67.05**	**23**	P	**P**	**11 20 54.5**	**-0.3**
INK				IAmb	IAmb	11 21 02.5	
CHGR	**Chuyangaron**	**67.78**	**304**	P	**P**	**11 20 60.0**	**-0.2**
WRAK	**Wrangell Islan**	**67.94**	**36**	P	**P**	**11 21 02.5**	**+1.8**
KBL	**Kabul**	**68.60**	**300**	P	**P**	**11 21 04.9**	**-0.6**
SVE	**Sverdlovsk**	**70.68**	**324**	*e*P	**P**	**11 21 17.8**	**+0.1**
SVE	comp=Z,18nm,1.1s			pmax	pmax		
ARU	**Arti**	**71.87**	**324**	*d i*P	**P**	**11 21 24.1**	**-0.8**
ARU						11 23 59.3	
ARU				S	**S**	**11 30 46.6**	**+0.9**
ARU				SS	**SS**	**11 35 22.2**	**+0.7**
ARU	comp=Z,45nm,1.9s			pmax	pmax		
ARU	**Arti**	**71.87**	**324**	P	**P**	**11 21 24.7**	**-0.2**
AB31	**Akbulak array**	**72.42**	**317**	*i* P	**P**	**11 21 27.3**	**-1.1**
AB31	comp=Z,5.0nm,0.7s			pmax	pmax		
ABKAR	**Akbulak array**	**72.42**	**317**	P	**P**	**11 21 28.1**	**-0.3**
ABKAR	comp=Z,7.1nm,0.8s			IAmb	IAmb	11 21 29.6	
PPT	**Papeete** comp=Z,143nm,19.0s,baz=216,slow=31	**73.22**	**117**	LR	LR	11 47 36.0	
AKTO	**Aktyubinsk** comp=Z,6.0nm,0.8s	**73.39**	**318**	P	**P**	**11 21 32.9**	**-1.2**
AKTO				pmax	pmax		
YKA	**Yellowknife Ar** comp=Z,1.5nm,0.6s,baz=288,slow=6.0,SNR=31	**75.67**	**28**	P	**P**	**11 21 46.3**	**-0.8**
GEYT	**Alibeck** comp=Z,1.6nm,0.8s,baz=150,slow=6.2,SNR=4.0	**76.41**	**306**	P	**P**	**11 21 52.2**	**+0.4**
HUMO	**Hull Mountain**	**76.46**	**49**	P	**P**	**11 21 54.4**	**+2.4**
YBH	**Yreka Blue Hor** comp=Z,1.6nm,0.9s,baz=283,slow=7.5,SNR=3.8	**76.87**	**50**	P	**P**	**11 21 53.9**	**-0.6**
YBH	**Yreka Blue Hor** comp=Z,7.3nm,1.4s	**76.87**	**50**	IAmb	IAmb	11 22 09.6	
PRGR	**Permogore**	**76.99**	**331**	*e*P	**P**	**11 21 53.4**	**-1.2**
PRGR	comp=Z,18nm,0.6s			pmax	pmax		
RES	**Resolute Bay**	**77

NVAR	**Mina Array Bea**	**81.10**	**52**	P		**P**	**11 22 17.9**	**0.0**	
	comp=Z,3.6nm,0.7s,baz=264,slow=6.2,SNR=5.0								
MFID	**Camas Ranch**	**81.18**	**47**	P		**P**	**11 22 18.6**	**+0.5**	
NV11	**Mina Array Sit**	**81.21**	**52**	P		**P**	**11 22 18.7**	**+0.2**	
NV11				IAmb		IAmb	11 22 18.9		
	comp=Z,5.9nm,1.1s								
SGF	**Sodankyl**	**81.66**	**340**	P		**P**	**11 22 19.7**	**-0.3**	
SGF				pmax		pmax			
	comp=Z,27nm,2.8s								
MSF	**Maaselka**	**81.70**	**338**	P		**P**	**11 22 19.7**	**-0.6**	
MSF				pmax		pmax			
	comp=Z,17nm,2.0s								
JOF	**Joensuu**	**82.47**	**335**	P		**P**	**11 22 23.2**	**-1.1**	
JOF				pmax		pmax			
	comp=Z,7.0nm,0.6s								
ELK	**Elko**	**82.53**	**49**	P		**P**	**11 22 25.6**	**+0.2**	
ELK				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ELK	**Elko**	**82.53**	**49**	P		**P**	**11 22 25.6**	**+0.2**	
TPNV	**Topopah Spring**	**83.14**	**53**	P		**P**	**11 22 28.4**	**-0.2**	
TPNV				pmax		pmax			
	comp=Z,4.0nm,0.8s								
TPNV	**Topopah Spring**	**83.14**	**53**	P		**P**	**11 22 28.4**	**-0.2**	
TPNV				IAmb		IAmb	11 22 29.3		
	comp=Z,3.8nm,0.8s								
MOS	**Moscow**	**83.17**	**327**	*e*P		**P**	**11 22 26.1**	**-2.0**	
MOS				*e*			11 22 49.6		
OUL	**Oulu**	**83.25**	**339**	P		**P**	**11 22 26.8**	**-1.5**	
YHL	**Hebgen Lake**	**83.76**	**44**	P		**P**	**11 22 32.5**	**+0.7**	
OBN	**Obninsk**	**83.99**	**327**‖	*e*P		**P**	**11 22 31.9**	**-0.4**	
OBN				*SP		**pwP**	**11 22 44.0**	**+3.5**	
OBN				pmax		pmax			
	comp=Z,15nm,1.2s								
PFO	**Pinyon Flats O**	**84.17**	**56**	P		**P**	**11 22 32.9**	**-1.0**	
	comp=Z,1.5nm,0.8s,baz=270,slow=3.5,SNR=5.2								
PFO	**Pinyon Flats O**	**84.17**	**56**	P		**P**	**11 22 33.5**	**-0.4**	
PFO				IAmb		IAmb	11 22 38.1		
	comp=Z,3.5nm,1.1s								
SUF	**Sumiainen**	**84.55**	**337**	P		**P**	**11 22 33.5**	**-1.5**	
SUF				pmax		pmax			
	comp=Z,34nm,0.7s								
HWUT	**Hardware Ranch**	**84.78**	**47**	P		**P**	**11 22 36.3**	**-0.6**	
FFC	**Flin Flon**	**84.80**	**33**	P		**P**	**11 22 36.5**	**0.0**	
FFC				IAmb		IAmb	11 22 36.7		
	comp=Z,6.1nm,1.0s								
RLMT	**Red Lodge**	**84.89**	**44**	P		**P**	**11 22 38.2**	**+0.7**	
RLMT				IAmb		IAmb	11 22 39.5		
	comp=Z,5.1nm,0.7s								
KBZ	**Khabaz**	**85.29**	**315**	P		**P**	**11 22 39.5**	**+0.3**	
	comp=Z,2.5nm,0.8s,baz=65,slow=8.1,SNR=4.3								
FINES	**FINESS Array B**	**85.33**	**335**	P		**P**	**11 22 37.8**	**-1.2**	
	comp=Z,13nm,0.5s,baz=70,slow=4.6,SNR=115								
KNB	**Kanab**	**85.66**	**52**	P		**P**	**11 22 42.2**	**+0.8**	
KNB				pmax		pmax			
	comp=Z,5.0nm,1.0s								
KNB	**Kanab**	**85.66**	**52**	P		**P**	**11 22 41.7**	**+0.3**	
PDAR	**Pinedale Array**	**85.67**	**46**	P		**P**	**11 22 40.5**	**-0.9**	
	comp=Z,0.6nm,0.6s,baz=227,slow=0.6,SNR=7.9								
TMUT	**Trail Mountain**	**85.94**	**50**	P		**P**	**11 22 43.2**	**+0.3**	
Q16A	**Castle Valley**	**86.12**	**50**	P		**P**	**11 22 43.9**	**+0.3**	
LAO	**LASA Array**	**86.15**	**41**	P		**P**	**11 22 43.6**	**+0.1**	
LAO				IAmb		IAmb	11 22 43.9		
	comp=Z,6.0nm,0.7s								
U15A	**North Rim**	**86.28**	**52**	P		**P**	**11 22 45.1**	**+0.5**	
U15A				IAmb		IAmb	11 22 45.2		
	comp=Z,2.9nm,0.9s								
SRU	**San Rafael Swe**	**86.50**	**49**	P		**P**	**11 22 44.6**	**-0.9**	
RDMU	**Red Mountain**	**86.57**	**48**	P		**P**	**11 22 45.9**	**0.0**	
Y14A	**Wickenburg**	**86.72**	**55**	P		**P**	**11 22 46.4**	**-0.1**	
Y14A				IAmb		IAmb	11 22 46.8		
	comp=Z,3.0nm,0.8s								
WUAZ	**Wupatki**	**87.33**	**53**	P		**P**	**11 22 49.3**	**-0.3**	
WUAZ				IAmb		IAmb	11 22 50.7		
	comp=Z,4.2nm,0.8s								
N23A	**Red Feather La**	**88.92**	**46**	P		**P**	**11 22 57.6**	**+0.4**	
N23A				IAmb		IAmb	11 23 05.8		
	comp=Z,8.9nm,1.2s								
S22A	**4UR Ranch, Cre**	**89.71**	**49**	P		**P**	**11 23 01.3**	**+0.4**	
S22A				IAmb		IAmb	11 23 01.4		
	comp=Z,5.0nm,1.2s								
AKASG	**Malin Array Be**	**90.08**	**326**	P		**P**	**11 23 00.8**	**-1.3**	
	comp=Z,0.4nm,0.3s,baz=50,slow=4.4,SNR=6.4								
NOA	**NORSAR Array B**	**90.89**	**340**	P		**P**	**11 23 04.4**	**-1.3**	
	comp=Z,0.7nm,0.8s,baz=38,slow=5.7,SNR=1.7								
BRTR	**Keskin Array B**	**93.28**	**315**	P		**P**	**11 23 14.9**	**-2.4**	
	comp=Z,0.6nm,0.7s,baz=55,slow=4.2,SNR=3.9								
TXAR	**Lajitas Array**	**95.87**	**56**	P		**P**	**11 23 28.4**	**-0.9**	
	comp=Z,0.2nm,0.6s,baz=285,slow=1.5,SNR=4.3								
BOSA	**Boshof**	**126.67**	**249**	PKP		**PKiKP**	**11 29 06.4**	**-0.3**	
	comp=Z,1.8nm,0.8s,baz=70,slow=3.8,SNR=3.5								
TORD	**Torodi Ar. Bea**	**131.78**	**311**	PKP		**PKPdf**	**11 29 15.2**	**-1.0**	
	comp=Z,0.3nm,0.4s,baz=12,slow=2.5,SNR=2.1								
PLCA	**Paso Flores**	**142.73**	**131**	PKP		**PKPdf**	**11 29 32.4**	**-3.4**	
	comp=Z,1.4nm,0.8s,baz=260,slow=7.3,SNR=5.4								
PLCA	**Paso Flores**	**142.73**	**131**	PKPdf		**PKPdf**	**11 29 32.9**	**-2.9**	
GO04	**Tololo Observa**	**145.05**	**113**			**PKPab**	**11 29 39.5**	**-0.3**	
MNMC	**Minye Minye**	**145.91**	**94**			**PKPbc**	**11 29 43.1**	**-0.1**	
PB11	**IPOC Station P**	**145.95**	**95**			**PKPbc**	**11 29 42.7**	**0.0**	
GO01	**Chusmiza**	**146.37**	**94**			**PKPbc**	**11 29 43.7**	**0.7**	
GO02	**Mina Guanaco**	**146.40**	**104**			**PKPbc**	**11 29 44.1**	**-0.1**	
LPAZ	**La Paz**	**146.73**	**88**	PKPbc		**PKPbc**	**11 29 46.0**	**+0.3**	
	comp=Z,4.1nm,0.5s,baz=287,slow=2.2,SNR=32								
LPAZ	**La Paz**	**146.73**	**88**			**PKPbc**	**11 29 45.7**	**0.0**	
LVC	**Limon Verde**	**146.94**	**100**			**PKPbc**	**11 29 45.1**	**-0.7**	
SAML	**Samuel**	**148.88**	**72**			**PKPbc**	**11 29 49.7**	**-1.1**	
TRQA	**Tornquist**	**149.88**	**131**	PKP2		**PKPbc**	**11 29 52.4**	**-0.3**	
TRQA	**Tornquist**	**149.88**	**131**			**PKPbc**	**11 29 51.9**	**-0.8**	

IDC 22 11:13:04.5±17.0, 21°31'S×174°76'W, h0km, mb4.3/5, mb1 4.5/5, mb1mx3.9/44, mbtmp4.3/5, Error ellipse: s-maj=315.1km s-min=148.0km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.43**	**265**	P	P	11 20 12.1	+0.9
	4.2nm,0.5s,baz=100,slow=11,SNR=13						
STKA	**Stephens Creek**	**40.19**	**246**	P	P	11 20 41.7	-1.1
	3.1nm,0.6s,baz=91,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**47.29**	**257**	P	P	11 21 39.5	-0.6
	2.9nm,0.7s,baz=89,slow=7.5,SNR=30						
WRA	**Warramunga Arr**	**47.49**	**262**	P	P	11 21 41.2	-0.4
	1.0nm,0.3s,baz=96,slow=8.4,SNR=43						
FITZ	**Fitzroy Crossi**	**55.92**	**262**	P	P	11 22 45.1	+0.4
	1.9nm,0.9s,baz=76,slow=8.9,SNR=9.1						

*GUC **22** 11:21:42.7±0.5, 31°73'S×70°55'W, h74km±9km, ML2.3*
*ISCJB **22** 11:21:43.9±1.0, 31°75'S±0°03'×70°63'W±0°05, h96km±12km, Error ellipse: s-maj=6.7km s-min=4.7km az=16.8*
*SJA **22** 11:21:43.7±1.1, 31°74'S×70°56'W, h31km±7km, ML1.8, MW2.6*
ISC 22 11:21:45.0±1.9, 31°76'S±0°03'×70°61'W±0°05, h83km±21km, n16, σ1°04'/30, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.65**	**329**‖	*i*P	**Pn**	**11 22 00.3**	**-0.2**
CO02				*e*S	**Sn**	**11 22 12.4**	**+0.5**
RTLS	**Leoncito**	**1.12**	**92**	*i*P	**Pn**	**11 22 05.5**	**-0.5**
RTLS				*e*S	**Sn**	**11 22 21.3**	**-0.4**
RTLS				IAML		11 22 22.9	
	comp=Z,24nm,0.4s						
ROCH	**El Roble**	**1.26**	**196**	*e*P	**Pn**	**11 22 06.8**	**-0.8**
ROCH				*i*S	**Sn**	**11 22 25.1**	**+0.5**
ROCH				IAML		11 22 27.5	
	comp=N,44nm,0.3s						
ROC1	**El Roble**	**1.26**	**196**	*i*P	**Pn**	**11 22 06.9**	**-0.8**
ROC1				*e*S	**Sn**	**11 22 25.8**	**+1.1**
VA01	**Torpederas**	**1.54**	**215**	*i*S	**Sn**	**11 22 30.6**	**+0.1**
VA01				IAML		11 22 30.8	
	comp=N,152nm,0.1s						
GO04	**Tololo Observa**	**1.59**	**354**‖	*e*P	**Pn**	**11 22 10.7**	**-1.2**
GO04				*i*S	**Sn**	**11 22 31.5**	**-0.6**
FCH	**Farellones**	**1.59**	**170**‖	*e*P	**Pn**	**11 22 11.5**	**-0.4**
FCH				*i*S	**Sn**	**11 22 32.6**	**+0.4**
FCH				IAML		11 22 35.0	
	comp=E,39nm,0.4s						
ASAL	**Salagasta**	**1.72**	**119**	*i*P	**Pn**	**11 22 13.3**	**-0.1**
ASAL				*e*S	**Sn**	**11 22 36.4**	**+1.4**
ACCO	**Cerro Coronel**	**1.76**	**49**	*i*P	**Pn**	**11 22 13.9**	**-0.3**
ACCO				*e*S	**Sn**	**11 22 37.5**	**+1.1**
RTCV	**Cerro Valdivia**	**1.77**	**94**	*i*P	**Pn**	**11 22 13.3**	**-0.6**
RTCV				*e*S	**Sn**	**11 22 36.3**	**+0.4**
ARODR	**Rodeo**	**1.86**	**32**	*i*P	**Pn**	**11 22 15.9**	**+0.5**
ARODR				*e*S	**Sn**	**11 22 40.1**	**+1.5**
RTLL	**Cerro Villicun**	**1.87**	**77**	*i*P	**Pn**	**11 22 14.0**	**-1.3**
RTLL				IAML		11 22 38.2	
	comp=Z,7.2nm,0.4s						
AMOG	**MOGNA**	**1.99**	**66**	*i*P	**Pn**	**11 22 16.0**	**-0.9**
AMOG				*e*S	**Sn**	**11 22 39.8**	**-1.4**
AAGR	**Agrelo**	**2.01**	**132**	*i*P	**Pn**	**11 22 17.9**	**+0.7**
AAGR				*e*S	**Sn**	**11 22 42.7**	**+1.0**
CFA	**Coronel Fontan**	**2.03**	**86**	*i*P	**Pn**	**11 22 16.4**	**-1.0**
CFA				*e*S	**Sn**	**11 22 40.6**	**-1.5**
ACDV	**Cuesta del Vie**	**2.04**	**39**	*i*P	**Pn**	**11 22 18.1**	**+0.5**
ACDV				*e*S	**Sn**	**11 22 45.0**	**+2.6**

IDC 22 11:35:37.2±1.0, 20°78'N×146°66'E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.6/36, mbtmp3.9/8, Error ellipse: s-maj=40.4km s-min=22.3km az=76.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.23**	**197**	P	P	11 43 31.5	-0.7
	0.3nm,0.6s,baz=23,slow=8.8,SNR=2.5						
ASAR	**Alice Springs**	**45.89**	**196**	P	P	11 44 01.2	-0.4
	0.3nm,0.8s,baz=17,slow=6.5,SNR=4.2						
ASAR				PcP	PcP	11 45 39.3	+0.4
	0.3nm,0.8s,baz=9.0,slow=3.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**56.95**	**322**	P	P	11 45 23.6	-0.5
	1.3nm,0.5s,baz=106,slow=8.2,SNR=6.3						
MKAR	**Makanchi Array**	**57.70**	**313**	P	P	11 45 30.1	+0.4
	0.3nm,0.6s,baz=89,slow=8.6,SNR=3.6						
KURBB	**Kurchatov Arra**	**60.41**	**317**	P	P	11 45 48.2	-0.1
	1.5nm,0.6s,baz=93,slow=7.7,SNR=13						
BVAR	**Borovoye Array**	**65.47**	**320**	P	P	11 46 22.6	+0.6
	2.0nm,0.4s,baz=82,slow=6.6,SNR=12						
NVAR	**Mina Array Bea**	**81.15**	**52**	P	P	11 47 54.2	-0.9
	0.2nm,0.6s,baz=268,slow=5.3,SNR=2.9						
FINES	**FINESS Array B**	**85.39**	**335**	P	P	11 48 15.6	-0.7
	2.2nm,0.6s,baz=67,slow=3.9,SNR=12						
LPAZ	**La Paz**	**146.75**	**88**	PKPbc	PKPab	11 55 23.7	-0.3
	0.4nm,0.5s,baz=34,slow=3.6,SNR=2.4						

*MEX **22** 11:52:26.5±0.3, 25°51'N×99°40'W, h3km, MD3.6*
*NEIC **22** 11:52:27.2±2.1, 25°40'N±0°03'×99°6'W±0°1, h37km±10km, Md4.0(MEX)*
ISC 22 11:52:17.8±1.5, 25°55'N±0°05'×98°8'W±0°1, h10km, n7, σ2°54'/11, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNIG	**Linares**	**0.87**	**222**	*e*P	**Pn**	**11 52 37.9**	**+1.8**
	baz=5.8,slow=16						
LNIG				*e*S	**Sn**	**11 52 46.8**	**-2.1**
LNIG	**Linares**	**0.87**	**222**		**Pn**	**11 52 37.9**	**+1.8**
LNIG					**Sn**	**11 52 46.8**	**-2.1**
833A	**Chaparral WMA,**	**2.81**	**350**		**Pg**	**11 53 12.4**	**+0.8**
JCT	**Junction City**	**4.98**	**350**		**Pb**	**11 53 40.5**	**-4.7**
TX31	**Lajitas Ar. Si**	**5.71**	**312**	Pn	**Pn**	**11 53 44.6**	**+1.8**
TX31					**Sn**	**11 54 49.3**	**+0.7**
TX32	**Lajitas Array**	**5.71**	**312**	Pn	**Pn**	**11 53 44.6**	**+1.8**
TX32					**Sn**	**11 54 49.6**	**+1.0**
UNM	**Universidad Na**	**6.20**	**183**	Pn	**Pn**	**11 53 52.2**	**+2.4**

*SSS **22** 11:57:32.4, 12°12N×88°44W, h14km, ML3.8*
*SNET **22** 11:57:32.4±1.1, 12°12N×88°44W, h14km±5km, ML3.8*
*UCR **22** 11:57:33.3±1.3, 12°16N×88°44W, h16km±4km, ML3.9, mb4.5(NEIC)*
*ISCJB **22** 11:57:33.8±0.5, 12°10N±0°03'×88°45W±0°03, h38km±3km, mb4.1/13, MS4.0/8, Error ellipse: s-maj=6.5km s-min=3.4km az=41.6*
*NEIC **22** 11:57:36.2±2.4, 12°23N±0°07'×88°30W±0°07, h38km±4km, mb4.5/87*
*IDC **22** 11:57:37.2±1.4, 12°58N×87°92W, h44km±13km, mb3.9/13, mb1 4.1/15, mb1mx3.8/47, mbtmp4.1/15, ML2.9/2, MS3.9/9, Ms1 3.9/9, ms1mx3.5/40, Error ellipse: s-maj=29.5km s-min=8.4km az=47.0*
ISC 22 11:57:36.4±1.2, 12°20N±0°06'×88°38W±0°05, h46km±11km, n202, σ1°45'/196, mb4.5/47, MS4.0/8, 16C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarın**	**1.06**	**7**‖	*i*P	**Pn**	**11 57 53.3**	**-1.7**
JUCU				*e*S	**Sn**	**11 58 09.1**	**+0.5**
JUCU				IAML		11 58 20.1	
	comp=Z,3µm,0.4s						
ALJI	**Alcalda de J**	**1.14**	**350**	*e*P	**Pn**	**11 57 54.2**	**-1.8**
ALJI				*e*S	**Sn**	**11 58 10.8**	**+0.3**
CNCH	**Conchagua**	**1.20**	**26**	*e*P	**Pn**	**11 57 55.7**	**-1.2**
CNCH	**Conchagua**	**1.20**	**26**	*e*P	**Pn**	**11 57 55.7**	**-1.2**
LCND	**La Caada**	**1.20**	**23**‖	*e*P	**Pn**	**11 57 55.4**	**-1.5**
LCND				*e*S	**Sn**	**11 58 12.7**	**+0.6**
LCND				IAML		11 58 15.4	
	comp=Z,2µm,0.3s						
LCND	**La Caada**	**1.20**	**23**‖	*e*P	**Pn**	**11 57 55.4**	**-1.5**
LCND				*e*S	**Sn**	**11 58 12.7**	**+0.6**
LCND				IAML		11 58 15.4	
	comp=Z,2µm,0.3s						
LCY	**Lacayo**	**1.22**	**4**	*e*P	**Pn**	**11 57 55.8**	**-1.4**
LCY	**Lacayo**	**1.22**	**4**	*e*P	**Pn**	**11 57 55.8**	**-1.4**
PACA	**Pacayal**	**1.27**	**2**‖	*i*P	**Pn**	**11 57 56.5**	**-1.4**
PACA	**Pacayal**	**1.27**	**2**‖	*i*P	**Pn**	**11 57 56.5**	**-1.4**
TECA	**Tecapa**	**1.30**	**355**‖	*e*P	**Pn**	**11 57 56.7**	**-1.6**
TECA	**Tecapa**	**1.30**	**355**‖	*e*P	**Pn**	**11 57 56.7**	**-1.6**
COEB	**Comit de Eme**	**1.30**	**353**‖	*e*P	**Pn**	**11 57 56.7**	**-1.6**
COEB				*e*S	**Sn**	**11 58 15.1**	**+0.4**
COEB				IAML		11 58 20.8	
	comp=Z,1µm,0.3s						
CRIN	**San Cristobal**	**1.39**	**69**	*e*P	**Pn**	**11 57 58.4**	**-1.0**
CRIN				*e*S	**Sn**	**11 58 18.9**	**+2.2**
CRIN				IAML		11 58 37.7	
	comp=E,5µm,0.5s						
COEG	**Centro de Oper**	**1.50**	**341**	*e*P	**Pn**	**11 57 59.0**	**-1.9**
COEG				IAML		11 58 23.4	
	comp=Z,1µm,0.4s						
FAGO	**Alcalda de S**	**1.51**	**10**‖	*e*P	**Pn**	**11 58 00.1**	**-1.0**
FAGO				*e*S	**Sn**	**11 58 21.2**	**+1.6**
LFRS	**El Faro**	**1.57**	**335**‖	*e*P	**Pn**	**11 57 59.8**	**-2.1**
PAVA	**Las Pavas**	**1.60**	**340**‖	*e*P	**Pn**	**11 58 00.9**	**-1.5**
PAVA				*e*S	**Sn**	**11 58 24.3**	**+2.2**
PAVA				IAML		11 58 31.6	
	comp=Z,1µm,0.4s						
PAVA	**Las Pavas**	**1.60**	**340**‖	*e*P	**Pn**	**11 58 00.9**	**-1.5**
PAVA				*e*S	**Sn**	**11 58 24.3**	**+2.2**
PAVA				IAML		11 58 31.6	
	comp=Z,1µm,0.4s						
LBRS	**Las Brisas**	**1.67**	**337**	*e*P	**Pn**	**11 58 01.7**	**-1.5**
CNGN	**Cerro Negro**	**1.67**	**79**	*e*P	**Pn**	**11 58 02.3**	**-1.0**
CNGN				*e*S	**Sn**	**11 58 24.6**	**+1.1**
SNET	**Serv Nac Est T**	**1.70**	**331**		**Pn**	**11 58 01.5**	**-2.2**
LFU	**La Fuente**	**1.70**	**335**	*e*P	**Pn**	**11 58 02.2**	**-1.6**
LFU	**La Fuente**	**1.70**	**335**	*e*P	**Pn**	**11 58 02.2**	**-1.6**
BOQS	**Boqueron**	**1.77**	**330**	*e*P	**Pn**	**11 58 03.0**	**-1.8**
VICT	**Victoria**	**1.77**	**352**	*e*P	**Pn**	**11 58 03.9**	**-0.8**
VICT	**Victoria**	**1.77**	**352**	*e*P	**Pn**	**11 58 03.9**	**-0.8**
CEVE	**Cerro Verde**	**2.03**	**323**	*e*P	**Pn**	**11 58 06.8**	**-1.6**
CEVE	**Cerro Verde**	**2.03**	**323**	*e*P	**Pn**	**11 58 06.8**	**-1.6**
SBLS	**San Blas**	**2.04**	**324**	*e*P	**Pn**	**11 58 06.9**	**-1.6**
SBLS	**San Blas**	**2.04**	**324**	*e*P	**Pn**	**11 58 06.9**	**-1.6**
SNJE	**San Jose**	**2.05**	**324**‖	*e*P	**Pn**	**11 58 07.0**	**-1.7**
SNJE	**San Jose**	**2.05**	**324**‖	*e*P	**Pn**	**11 58 07.0**	**-1.7**
TISN	**Laguna Tiscapa**	**2.06**	**91**	*e*P	**Pn**	**11 58 07.5**	**-1.1**
MGAN	**Managua**	**2.08**	**91**	*e*P	**Pn**	**11 58 07.3**	**-1.6**
RTR	**El Retiro**	**2.09**	**324**	*e*P	**Pn**	**11 58 07.9**	**-1.3**
RTR	**El Retiro**	**2.09**	**324**	*e*P	**Pn**	**11 58 07.9**	**-1.3**
TGUH	**Tegucigalpa,Un**	**2.14**	**30**		**Pn**	**11 58 09.2**	**-0.6**
ESTN	**Estel**	**2.16**	**65**		**Pn**	**11 58 08.7**	**-1.3**
MTO3	**Montecristo**	**2.39**	**336**‖	*i*P	**Pn**	**11 58 12.4**	**-0.9**
MTO3	**Montecristo**	**2.39**	**336**‖	*i*P	**Pn**	**11 58 12.4**	**-0.9**
MATN	**Matagalpa**	**2.50**	**73**	*e*P	**Pn**	**11 58 13.4**	**-1.3**
MATN				*e*S	**Sn**	**11 58 46.5**	**+2.4**
ACON	**Acoyapa**	**3.14**	**94**		**Pn**	**11 58 21.5**	**-1.9**
BUEV	**Buena Vista**	**3.23**	**115**	*e*P	**Pn**	**11 58 24.9**	**+0.2**
APG	**El Apazote**	**3.45**	**324**	P	**Pn**	**11 58 27.2**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=157,slow=15,SNR=6.7						
APG				S	**Sn**	**11 59 08.8**	**+1.1**
	comp=Z,2.5nm,0.3s,baz=2.9,slow=19,SNR=4.6						
PLVR	**Palo Verde**	**3.49**	**121**	*e*P	**Pn**	**11 58 27.8**	**-0.7**
CUI	**Cuipilapa**	**3.50**	**116**	*e*P	**Pn**	**11 58 28.1**	**-0.3**
JTS	**Las Juntas de**	**3.86**	**119**	P	**Pn**	**11 58 33.2**	**-0.1**
	comp=Z,2.0nm,0.3s,baz=355,slow=22,SNR=27						
JTS				S	**Sn**	**11 59 14.5**	**-2.9**
	comp=Z,8.7nm,0.3s,baz=331,slow=18,SNR=4.2						
JTS				LR	LR	12 00 15.0	
	comp=Z,759nm,21.3s,baz=10.0,slow=43						
JTS	**Las Juntas de**	**3.86**	**119**	*e*P	**Pn**	**11 58 32.9**	**-0.4**
ARE1	**Arenal 1**	**3.98**	**115**	*e*P	**Pn**	**11 58 35.0**	**0.0**
CEDE	**Laguna Cedeo**	**3.98**	**115**	*e*P	**Pn**	**11 58 35.0**	**-0.1**
ESPN	**Las Esperanzas**	**3.99**	**90**	*e*P	**Pn**	**11 58 30.9**	**-4.2**
ESPN	**Las Esperanzas**	**3.99**	**90**		**Pn**	**11 58 34.5**	**-0.5**
HDC	**Heredia**	**4.72**	**117**		**Pn**	**11 58 45.5**	**+0.3**
LCR2	**La Lucha 2**	**4.94**	**119**	*e*P	**Pn**	**11 58 49.5**	**+1.2**
CMIG	**Matias Romero**	**7.96**	**308**	P	**Pn**	**11 59 29.5**	**0.0**
	comp=Z,0.9nm,0.3s,baz=145,slow=11,SNR=12						
TEIG	**Tepich**	**7.99**	**1**	P	**Pn**	**11 59 28.1**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=319,slow=7.0,SNR=1.7						
TEIG				LR	LR	12 02 52.2	
	comp=Z,849nm,19.0s,baz=227,slow=41						
ZAIG	**Zacatecas**	**17.12**	**310**	P	**P**	**12 01 35.0**	**+0.9**
833A	**Chaparral WMA,**	**19.06**	**329**	P	**Pn**	**12 01 56.1**	**-0.1**
	baz=145,SNR=12						
833A	**Chaparral WMA,**	**19.06**	**329**	P	**Pn**	**12 01 56.1**	**-0.1**
352A	**Blakely**	**19.45**	**9**	P	**Pn**	**12 02 01.3**	**+0.5**
	baz=190						
352A	**Blakely**	**19.45**	**9**	P	**Pn**	**12 02 00.7**	**-0.1**
252A	**Lumpkin**	**19.99**	**9**	P	Pn	12 02 06.4	-0.7
	baz=190,SNR=6.1						
VBMS	**Vicksburg**	**20.02**	**355**	P	Pn	12 02 07.5	-0.1
	baz=174						
VBMS	**Vicksburg**	**20.02**	**355**	P	Pn	12 02 06.8	-0.7
NATX	**Nacogdoches**	**20.31**	**344**	P	Pn	12 02 10.0	-1.0
	baz=162						
NATX	**Nacogdoches**	**20.31**	**344**	P	Pn	12 02 09.7	-1.3
NATX				IAmb	IAmb	12 02 10.5	
	comp=Z,26nm,1.0s						
435B	**Jarrell**	**20.36**	**337**	P	**P**	**12 02 09.1**	**-0.1**
	baz=153						
435B	**Jarrell**	**20.36**	**337**	P	**P**	**12 02 08.0**	**-1.2**
152A	**Waverly Hall**	**20.65**	**9**	P	Pn	12 02 13.9	-1.1
	baz=190						
LRAL	**Lakeview Retre**	**20.78**	**3**	P	Pn	12 02 15.5	-1.0
	baz=184						
155A	**Kite**	**21.04**	**14**	P	**P**	**12 02 17.5**	**+1.0**
	baz=196,SNR=5.2						
JCT	**Junction City**	**21.05**	**332**	P	**P**	**12 02 16.6**	**-0.1**
	baz=147,SNR=7.2						
JCT	**Junction City**	**21.05**	**332**	P	**P**	**12 02 15.8**	**-0.9**
JCT				IAmb	IAmb	12 02 25.3	
	comp=Z,19nm,0.9s						
Z50A	**Ashland**	**21.08**	**6**	P	**P**	**12 02 19.3**	**+2.4**
	baz=186						
Z50A	**Ashland**	**21.08**	**6**	P	**P**	**12 02 19.0**	**+2.0**
Z41A	**Richland Creek**	**21.35**	**350**	P	**P**	**12 02 22.8**	**+3.0**
	baz=168,SNR=5.1						
Z41A	**Richland Creek**	**21.35**	**350**	P	**P**	**12 02 21.9**	**+2.1**
Z41A				IAmb	IAmb	12 02 23.5	
	comp=Z,31nm,0.9s						
Z53A	**Monticello**	**21.44**	**11**	P	**P**	**12 02 22.0**	**+1.2**
	baz=193						
GOGA	**Godfrey**	**21.59**	**11**	P	**P**	**12 02 23.6**	**+1.2**
	baz=193						
GOGA	**Godfrey**	**21.59**	**11**	P	**P**	**12 02 23.6**	**+1.2**
ATAH	**Atahualpa**	**21.62**	**152**	LR	LR	12 10 44.8	
	comp=Z,113nm,18.1s,baz=344,slow=36						
Y51A	**Rockmart**	**21.82**	**7**	P	**P**	**12 02 25.1**	**+0.2**
	baz=188						
CCAR	**Cane Cre

V56A	Mocksville	24.57	16	P		P	12 02 52.2	+0.1	
	baz=199								
T47A	Sharon Grove	24.71	2	IAmb		IAmb	12 02 53.4		
	comp=Z,15nm,1.1s								
U54A	Nelsons Funny	24.93	13	P		P	12 02 57.5	+2.1	
	baz=195								
U54A	Nelsons Funny	24.93	13	IAmb		IAmb	12 02 58.4		
	comp=Z,20nm,0.9s								
V58A	Windy Hill, Pi	24.94	18	P		P	12 02 55.1	-0.4	
	baz=202								
V58A	Windy Hill, Pi	24.94	18	P		P	12 02 55.5	0.0	
MNTX	Cornudas Mount	24.94	324	P		P	12 02 55.7	+0.1	
	baz=137								
U55A	TA2, Sparta	25.09	14	P		P	12 02 58.3	+1.4	
	baz=197								
MGMO	Mountain Grove	25.10	353	IAmb		IAmb	12 02 57.7		
	comp=Z,16nm,1.0s								
MSTX	Muleshoe	25.34	331	P		P	12 02 59.5	+0.2	
	baz=145,SNR=18								
AMTX	Amarillo	25.61	334	P		P	12 03 02.4	+0.7	
	baz=149								
CCM	Cathedral Cave	25.88	355	P		P	12 03 02.9	-1.0	
	baz=173								
CCM	Cathedral Cave	25.88	355	P		P	12 03 03.4	-0.6	
CCM				IAmb		IAmb	12 03 04.4		
	comp=Z,11nm,0.9s								
121A	Cookes Peak, D	26.96	322	P		P	12 03 17.1	+3.0	
	baz=134								
KSU1	Kansas State U	27.77	346	P		P	12 03 20.1	-0.9	
	baz=162								
ANMO	Albuquerque	27.97	327	P		P	12 03 26.0	+2.9	
	baz=140								
ANMO	Albuquerque	27.97	327	P		P	12 03 24.7	+1.7	
	comp=Z,0.9nm,0.7s,baz=148,slow=7.5,SNR=4.9								
ANMO	Albuquerque	27.97	327	P		P	12 03 25.2	+2.2	
T25A	Trinidad	28.70	333	P		P	12 03 31.4	+1.8	
	baz=146								
T25A	Trinidad	28.70	333	IAmb		IAmb	12 03 40.6		
	comp=Z,8.4nm,0.9s								
KSCO	Kaye Shedlock'	29.55	337	P		P	12 03 37.6	+0.6	
	baz=151								
KSCO	Kaye Shedlock'	29.55	337	IAmb		IAmb	12 03 39.8		
	comp=Z,11nm,0.9s								
SDCO	Great Sand Dun	29.70	332	P		P	12 03 40.4	+1.9	
	baz=144,SNR=6.5								
SDCO	Great Sand Dun	29.70	332	P		P	12 03 39.9	+1.4	
S22A	4UR Ranch, Cre	30.33	330	P		P	12 03 45.7	+1.6	
	baz=142								
ISCO	Idaho Springs	31.43	334	P		P	12 03 56.6	+2.8	
	baz=146								
ECSD	EROS Data Cent	32.22	349	P		P	12 03 58.7	-1.6	
	baz=165								
ECSD	EROS Data Cent	32.22	349	IAmb		IAmb	12 03 59.1		
	comp=Z,11nm,1.4s								
SAML	Samuel	32.69	129	P		P	12 04 04.0	-0.7	
SAML				IAmb		IAmb	12 04 19.0		
	comp=Z,5.4nm,1.1s								
O20A	White River Ci	32.89	331	P		P	12 04 08.7	+2.3	
	baz=142								
O20A	White River Ci	32.89	331	IAmb		IAmb	12 04 15.2		
	comp=Z,11nm,1.0s								
SPMN	Marine on St.	33.13	354	P		P	12 04 07.0	-1.3	
	baz=172,SNR=11								
K22A	Casper	34.19	336	P		P	12 04 19.9	+2.2	
	baz=147								
K22A	Casper	34.19	336	P		P	12 04 18.0	+0.2	
K22A				IAmb		IAmb	12 04 25.7		
	comp=Z,7.7nm,1.0s								
PDAR	Pinedale Array	35.57	333	P		P	12 04 30.5	+0.8	
	comp=Z,0.8nm,0.8s,baz=143,slow=8.6,SNR=4.7								
PDAR				PcP		PcP	12 06 58.6	+0.6	
	comp=Z,0.7nm,0.7s,baz=138,slow=4.6,SNR=5.0								
PDAR				LR		LR	12 23 03.6		
	comp=Z,193nm,18.4s,baz=70,slow=43								
MDND	Maddock	36.76	347	P		P	12 04 38.7	-0.8	
	baz=161,SNR=5.5								
MDND	Maddock	36.76	347	P		P	12 04 38.0	-1.5	
NVAR	Mina Array Bea	37.30	320	P		P	12 04 46.0	+1.5	
	comp=Z,1.2nm,0.9s,baz=133,slow=7.6,SNR=6.6								
NVAR				PcP		PcP	12 07 04.5	+1.3	
	comp=Z,1.4nm,0.8s,baz=146,slow=4.3,SNR=9.3								
RLMT	Red Lodge	37.35	335	P		P	12 04 45.2	+0.3	
	baz=145								
RLMT	Red Lodge	37.35	335	IAmb		IAmb	12 04 52.4		
	comp=Z,7.5nm,1.0s								
LAO	LASA Array	37.54	340	P		P	12 04 46.5	+0.3	
	baz=150								
LAO	LASA Array	37.54	340	IAmb		IAmb	12 04 46.9		
	comp=Z,11nm,1.2s								
ULM	Lac du Bonnet	38.44	352	P		P	12 04 51.3	-2.3	
	comp=Z,8.4nm,0.6s,baz=171,slow=9.0,SNR=17								
ULM				LR		LR	12 21 39.0		
	comp=Z,185nm,20.5s,baz=131,slow=38								
EGMT	Eagleton	39.94	338	P		P	12 05 06.9	+0.6	
	baz=146								
MSO	Missoula	40.69	333	P		P	12 05 15.0	+2.4	
	baz=140								
MSO	Missoula	40.69	333	P		P	12 05 14.7	+2.0	
MSO				IAmb		IAmb	12 05 20.8		
	comp=Z,8.5nm,1.2s								
F10A	Beach Ranch, E	41.61	330	P		P	12 05 23.4	+3.3	
FFC	Flin Flon	43.76	349	P		P	12 05 35.5	-1.9	
SCHQ	Schefferville	45.78	17	P		P	12 05 49.9	-3.6	
	comp=Z,7.4nm,0.9s,baz=215,slow=1.8,SNR=5.2								
SCHQ	Schefferville	45.78	17	P		P	12 05 51.3	-2.1	
SCHQ				IAmb		IAmb	12 05 51.7		
	comp=Z,9.7nm,0.9s								
FCC	Fort Churchill	46.67	356	IAmb		IAmb	12 05 59.6		
	comp=Z,11nm,1.1s								
BDFB	Brasilia	48.59	124	P		P	12 06 14.7	-1.2	
	comp=Z,3.0nm,0.6s,baz=296,slow=10,SNR=3.8								
BDFB	Brasilia	48.59	124	P		P	12 06 15.6	-0.4	
CPUP	Villa Florida	48.77	142	P		P	12 06 19.1	+2.1	
	comp=Z,1.0nm,0.6s,baz=344,slow=9.2,SNR=3.4								
CPUP				LR		LR	12 28 03.4		
	comp=Z,178nm,19.5s,baz=353,slow=37								
YKA	Yellowknife Ar	53.62	345	P		P	12 06 51.4	-1.5	
	comp=Z,2.6nm,0.8s,baz=140,slow=7.5,SNR=40								
YKA				PcP		PcP	12 07 58.7	-0.2	
	comp=Z,0.5nm,0.5s,baz=149,slow=3.7,SNR=7.6								
YKW3	Yellowknife Ar	53.68	345	P		P	12 06 52.0	-1.3	
YKW3				IAmb		IAmb	12 06 53.0		
	comp=Z,4.4nm,1.0s								
PLCA	Paso Flores	55.19	164	P		P	12 07 05.7	+1.1	
	comp=Z,2.7nm,1.0s,baz=346,slow=9.3,SNR=3.3								
PLCA	Paso Flores	55.19	164	P		P	12 07 05.4	+0.7	
PLCA				IAmb		IAmb	12 07 12.6		
	comp=Z,6.2nm,1.3s								
SFJD	Kangerlussuaq	60.21	16	LR		LR	12 35 23.6		
	comp=Z,223nm,18.2s,baz=126,slow=38								
RES	Resolute Bay	62.58	358	P		P	12 07 52.9	-2.4	
	comp=Z,1.9nm,0.8s,baz=184,slow=10,SNR=8.5								
RES	Resolute Bay	62.58	358	IAmb		IAmb	12 07 54.5		
	comp=Z,3.2nm,0.9s								
INK	Inuvik	63.18	343	P		P	12 07 58.7	-0.7	
INK				IAmb		IAmb	12 07 59.6		
	comp=Z,5.6nm,1.1s								
IL31		65.89	336	P		P	12 08 16.2	-1.0	
IL31				IAmb		IAmb	12 08 19.6		
	comp=Z,8.0nm,1.4s								
ILAR	Eielson Array	65.89	336	P		P	12 08 15.9	-1.3	
	comp=Z,1.8nm,1.1s,baz=117,slow=4.4,SNR=8.1								
ILAR				PP		PP	12 10 41.5	-0.9	
	comp=Z,0.2nm,0.8s,baz=113,slow=6.9,SNR=3.4								
RND	Reindeer	66.15	335	P		P	12 08 19.1	+0.1	
RND				IAmb		IAmb	12 08 34.4		
	comp=Z,8.5nm,1.2s								
MLY	Manley	67.51	336	P		P	12 08 27.3	-0.3	
NRIK	Noril'sk	98.62	1	LR		LR	13 00 04.2		
	comp=Z,252nm,18.6s,baz=310,slow=38								
KSH	Kashi	126.53	15	PKP		PKiKP	12 16 37.0	+1.4	
KSH				PP		PP	12 18 35.8	+5.8	
KSH				SKS		SKSdf	12 23 42.5	-1.1	
KSH				AMB		AMB			
	comp=Z,330nm,6.2s								
LZH	Lanzhou	130.61	347	*e*PKP		PKPdf	12 16 42.5	-0.6	
LZH				pPKP		pPKPdf	12 16 54.0	-2.5	
LZH				sPKP			12 16 58.1		
LZH				LR		LR			
	comp=N,52nm,17.9s								
LZH				LR		LR			
	comp=E,61nm,18.3s								
LZH				LR		LR			
	comp=Z,83nm,20.2s								
CD2	Chengdu	135.58	345	PKP		PKPdf	12 16 51.4	-1.0	
WRA	Warramunga Arr	138.33	254	PKP		PKPdf	12 16 59.0	+1.3	
	comp=Z,0.3nm,0.7s,baz=90,slow=2.9,SNR=2.7								
ASAR	Alice Springs	138.33	248	PKP		PKiKP	12 16 59.1	-0.6	
	comp=Z,0.3nm,0.8s,baz=91,slow=2.9,SNR=2.8								
CMAR	Chiang Mai Arr	148.70	347	PKPbc		PKPbc	12 17 18.6	-1.0	
	comp=Z,1.1nm,0.6s,baz=340,slow=3.9,SNR=8.1								

IDC ***22*** *12:12:02.6±1.3, 38.°14N×69.°62E, h0km, mb3.8/5, mb1 3.8/11, mb1mx3.5/51, mbtmp3.7/11, ML3.1/6, Error ellipse: s-maj=23.5km s-min=12.9km az=148.0*
ISCJB ***22*** *12:12:03.5±0.5, 38.°35N±0.°05×69.°43E±0.°05, h12km, mb3.8/5, Error ellipse: s-maj=6.8km s-min=5.3km az=171.8*
NNC ***22*** *12:12:08.0±1.8, 38.°53N×69.°48E, h8km±8km, mb4.2, mpv3.9, Error ellipse: s-maj=13.8km s-min=8.6km az=176.0*

ISC 22 12:12:05.3±0.7, 38.°25N±0.°07×69.°48E±0.°06, h12km, n29, σ1s77/36, mb3.9/5, 5C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	4.91	9	Pn	Pn	12 13 18.6	-0.3
	3.4nm,0.4s,baz=181,slow=12,SNR=64						
KK31				Pg	Pb	12 13 32.2	+1.0
	61nm,0.9s,baz=196,slow=24,SNR=33						
KK31				⇓Lg	Lg	12 14 36.1	
	22nm,0.5s,baz=188,slow=30,SNR=7.8						
AML	Almayashu	5.04	38	P	Pn	12 13 24.2	+3.2
	SNR=8.6						
EKS2	Erkin-Say	5.49	35	P	Pn	12 13 30.6	+3.7
	SNR=17						
UCH	Uchtor	5.53	43	P	Pn	12 13 30.6	+2.8
	SNR=11						
AAK	Ala-Archa	5.81	40	Pn	Pn	12 13 31.3	-0.1
	1.1nm,0.3s,baz=199,slow=5.8,SNR=28						
AAK				Sn	Sn	12 14 40.9	+2.8
	0.3nm,0.3s,baz=50,slow=9.3,SNR=2.5						
AAK				Lg	Lg	12 15 05.0	
	1.0nm,0.3s,baz=326,slow=17,SNR=2.2						
AAK	Ala-Archa	5.81	40	P	Pn	12 13 34.5	+3.0
	SNR=10						
AAK	Ala-Archa	5.81	40	⇑Pn	Pn	12 13 31.9	+0.4
	8.4nm,0.8s						
AAK				⇑Sn	Sn	12 14 37.7	-0.4
	37nm,0.9s						
KBK	Karagaybulak	6.06	42	P	Pn	12 13 37.8	+2.9
	SNR=12						
USP	Ospenovka	6.29	36	P	Pn	12 13 41.5	+3.6
	SNR=14						
TKM2	Tokmak 2	6.59	43	⇑Pn	Pn	12 13 42.4	+0.3
	4.3nm,0.6s						
TKM2				⇑Sn	Sn	12 14 57.1	-0.2
	21nm,0.8s						
MDOK	Medeo	7.55	47	⇓Pn	Pn	12 13 57.1	+1.8
	12nm,0.8s						
MDOK				⇓Sn	Sn	12 15 20.1	-0.9
	18nm,0.9s						
GEYT	Alibeck	8.97	271	Pn	Pn	12 14 15.2	+0.5
	0.3nm,0.3s,baz=89,slow=12,SNR=2.0						
GEYT				Sn	Sn	12 15 56.6	+1.0
	0.6nm,0.3s,baz=66,slow=15,SNR=1.8						
MKAR	Makanchi Array	12.72	44	Pn	Pn	12 15 04.4	-1.5
	0.1nm,0.3s,baz=227,slow=13,SNR=8.9						
AB31	Akbulak array	12.97	331	⇓Pn	Pn	12 15 08.6	-0.7
	0.6nm,0.3s,baz=68,slow=42,SNR=51						
AB31				⇓Sn	Sn	12 17 33.2	-0.3
	1.3nm,0.5s,baz=156,slow=23,SNR=3.5						
KURBB	Kurchatov Arra	13.94	25	Pn	Pn	12 15 21.1	-1.4
	0.0nm,0.3s,baz=215,slow=12,SNR=2.6						
KURBB				Lg	Lg	12 19 22.6	
	0.0nm,0.3s,baz=211,slow=29,SNR=5.8						
AKTO	Aktyubinsk	14.66	330	Pn	Pn	12 15 31.4	-1.0
	0.3nm,0.3s,baz=155,slow=12,SNR=6.6						
AKTO	Aktyubinsk	14.66	330	⇑Pn	Pn	12 15 30.9	-1.5
	6.3nm,1.1s						
BVAR	Borovoye Array	14.79	2	Pn	Pn	12 15 31.9	-2.3
	0.0nm,0.3s,baz=141,slow=9.3,SNR=2.9						
GUN	Gumba	17.16	122	*e*P	P	12 16 06.9	+0.1
RAMN	Ramite	18.27	123	*e*P	P	12 16 18.3	-0.7
	11nm,0.5s						
TAPN	Taplejung	18.75	120	*e*P	Pn	12 16 26.1	+1.3
	5.4nm,0.5s						
ODAN	Odare	18.86	122	*e*P	Pn	12 16 26.3	+0.3
	9.3nm,0.5s						
ZALV	Zalesovo Beam	18.89	29	P	P	12 16 22.6	-2.9
	0.6nm,0.3s,baz=220,slow=12,SNR=7.9						
ARU	Arti	19.59	342	P	P	12 16 32.1	-0.9
	0.0nm,0.3s,baz=140,slow=12,SNR=3.5						
FINES	FINESS Array B	35.36	325	P	P	12 19 00.4	+0.2
	3.5nm,0.9s,baz=93,slow=14,SNR=0.8						
ARCES	ARCESS Array B	39.07	337	P	P	12 19 32.2	+0.5
	2.4nm,0.9s,baz=98,slow=6.6,SNR=2.1						
TORD	Torodi Ar. Bea	64.58	267	P	P	12 22 42.4	-0.2
	0.3nm,0.3s,baz=148,slow=37,SNR=4.2						
YKA	Yellowknife Ar	79.55	2	P	P	12 24 10.4	-1.2
	0.2nm,0.5s,baz=350,slow=5.4,SNR=7.9						
WRA	Warramunga Arr	83.93	121	P	P	12 24 35.5	+0.1
	0.6nm,0.7s,baz=324,slow=2.8,SNR=4.5						

MDD 22 12:20:15.4±1.7, 43.°12N×9.°10W, h11km±1km, mbLg1.9/6, Error ellipse: s-maj=13.8km s-min=7.9km az=109.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMAZ	Mazaricos	0.20	152	Pg	Pg	12 20 19.2	-0.4
	1.6nm,0.0s,SNR=7.9						
EMAZ				Lg	Lg	12 20 22.5	
	26nm,0.1s,SNR=7.9						
EAGO	Agolada(Pontev	0.81	113	Pg	Pg	12 20 30.1	-0.9
	0.9nm,0.0s,SNR=7.9						
EAGO				Lg	Lg	12 20 41.8	
	4.9nm,0.0s,SNR=7.9						
EZAM	Zamans	1.02	163	Pg	Pg	12 20 34.1	-0.8
	0.9nm,0.1s,SNR=7.9						
EZAM				Lg	Lg	12 20 47.6	
	3.8nm,0.1s,SNR=7.9						
EPON	Pontenova	1.44	81	Pg	Pn	12 20 41.6	+0.1
	0.3nm,0.1s,SNR=7.9						
EPON				Lg	Lg	12 21 00.9	
	2.5nm,0.1s,SNR=4.0						
ELOB	Lobios	1.47	148	Pg	Pb	12 20 42.8	0.0
	0.6nm,0.1s,SNR=4.0						
ELOB				Lg	Lg	12 21 02.1	
	2.3nm,0.1s,SNR=16						
PCAB	Cabril	1.62	150	*e*Sg	Sb	12 21 06.5	+0.7
PCAB				A	A	12 21 10.8	
	7.1nm,0.4s						
PCAB	Cabril	1.62	150	Lg	Lg	12 21 06.5	
	3.6nm,0.4s						
ECAL	Calabor	2.11	123	Sn	Sn	12 21 14.6	-2.4
	3.0nm,0.4s,SNR=7.9						
ECAL				Lg	Lg	12 21 21.5	
	0.9nm,0.2s,SNR=4.0						
MVO	Moncorvo	2.49	141	Lg	Lg	12 21 33.9	
	0.7nm,0.2s,SNR=7.9						

MDD 22 12:20:42.2±2.1, 43.°11N×9.°07W, h0km, mbLg1.7/6, Error ellipse: s-maj=13.5km s-min=8.9km az=118.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMAZ	Mazaricos	0.18	156	Pg	Pg	12 20 45.4	-0.2
	1.6nm,0.0s,SNR=7.9						
EMAZ				Lg	Lg	12 20 48.6	
	23nm,0.1s,SNR=7.9						
EAGO	Agolada(Pontev	0.79	113	Pg	Pg	12 20 57.2	-0.1
	2.0nm,0.0s,SNR=4.0						
EAGO				Lg	Lg	12 21 07.9	
	3.4nm,0.1s,SNR=7.9						
EZAM	Zamans	1.00	164	Lg	Lg	12 21 14.4	
	1.2nm,0.0s,SNR=7.9						
EPON	Pontenova	1.42	81	Lg	Lg	12 21 26.9	
	0.9nm,0.1s,SNR=4.0						
ELOB	Lobios	1.45	149	Lg	Lg	12 21 28.1	
	3.6nm,0.1s,SNR=8.9						
PCAB	Cabril	1.60	151	Lg	Lg	12 21 32.4	
	2.5nm,0.2s						
PCAB	Cabril	1.60	151	*e*Sg	Sn	12 21 32.4	-0.8
PCAB				A	A	12 21 32.7	
	5.0nm,0.2s						
POLO	Lamas de Olo	1.98	151	*e*Sg	Sb	12 21 44.2	-0.3
POLO				A	A	12 21 50.0	
	1.8nm,0.4s						
POLO	Lamas de Olo	1.98	151	Lg	Lg	12 21 44.2	
	1.8nm,0.4s						
ECAL	Calabor	2.09	123	Lg	Lg	12 21 48.8	
	0.8nm,0.1s,SNR=7.9						
MVO	Moncorvo	2.47	141	Lg	Lg	12 22 00.1	
	0.9nm,0.2s,SNR=7.9						
PVIS	Viseu	2.55	159	*e*Sg	Sb	12 22 02.0	+1.1
PVIS	Viseu	2.55	159	Lg	Lg	12 22 02.0	

ISCJB ***22*** *12:48:44.1±1.5, 34.°77N±0.°08×24.°17E±0.°06, h29km±8km, Error ellipse: s-maj=14.0km s-min=8.3km az=3.5*
ATH ***22*** *12:48:44.5, 34.°81N×24.°20E, h26km±3km, ML2.5/2, Error ellipse: s-maj=4.6km s-min=1.7km az=207.0*
THE ***22*** *12:48:45.4, 34.°83N×24.°19E, h22km±1km, ML2.4/5, Error ellipse: s-maj=2.3km s-min=0.5km az=211.0*

ISC 22 12:48:44.5±2.8, 34.°8N±0.°1×24.°17E±0.°07, h28km±14km, n10, σ0s38/20, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	Gavdhos	0.07	299	P	Pb	12 48 49.3	-0.1
GVD				S	Sb	12 48 52.6	-0.1
	6µm,0.1s						
GVD	Gavdhos	0.07	299	P	Pb	12 48 49.3	-0.1
GVD				S	Sb	12 48 52.6	-0.1
GVD				AML	AML	12 48 52.9	
	comp=E,10128µm,0.1s						
GVD				AML	AML	12 48 53.1	
	comp=N,14991µm,0.1s						
GVDS	Gavdos	0.08	303	P	Pb	12 48 49.5	+0.1
GVDS				S	Sb	12 48 53.0	+0.3
	comp=N,5µm,0.2s						
SIVA	Sivas	0.57	68	P	Pb	12 48 56.4	+0.4
SIVA				S	Sb	12 49 04.3	+0.5
	comp=N,158nm,0.3s						
SIVA	Sivas	0.57	68	P	Pb	12 48 56.3	+0.3
SIVA				S	Sb	12 49 03.8	0.0
SIVA				AML	AML	12 49 10.8	
	comp=N,362µm,0.3s						
SIVA				AML	AML	12 49 14.2	
	comp=E,435µm,0.4s						
VAM	Vamos	0.60	2	P	Pb	12 48 56.2	-0.4
VAM				S	Sb	12 49 05.1	+0.3
	comp=E,232nm,0.5s						
VAM	Vamos	0.60	2	P	Pb	12 48 56.7	+0.1
VAM				S	Sn	12 49 05.9	-0.2
IMMV	Iera Moni Meta	0.67	347	P	Pb	12 48 57.8	+0.1
IMMV				S	Sb	12 49 07.3	+0.5
	comp=E,140nm,0.3s						
IMMV	Iera Moni Meta	0.67	347	P	Pb	12 48 57.9	+0.1
IMMV				S	Sn	12 49 07.6	-0.2
IDI	Anoyia	0.77	51	P	Pb	12 48 58.3	-1.0
IDI				S	Sb	12 49 09.5	+0.1

IDC 22 12:55:42.7±2.5, 44.°59S×94.°51E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/32, mbtmp3.5/2, MS3.8/1, Ms1 3.8/1, ms1mx3.4/23, Error ellipse: s-maj=81.3km s-min=59.6km az=153.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	Cape Leeuwin H	17.89	64	T	T	13 18 13.6	
	baz=223,slow=74,SNR=79						
H01W3	Cape Leeuwin H	17.90	64	T	T	13 18 15.9	
	baz=223,slow=74,SNR=83						
H01W1	Cape Leeuwin H	17.90	64	T	T	13 18 14.3	
	baz=223,slow=74,SNR=56						
FITZ	Fitzroy Crossi	37.08	55	LR	LR	13 16 13.6	
	comp=Z,158nm,20.9s,baz=227,slow=33						
ASAR	Alice Springs	38.23	70	P	P	13 03 03.8	-0.6
	0.4nm,0.8s,baz=215,slow=6.9,SNR=6.6						
WRA	Warramunga Arr	41.11	66	P	P	13 03 29.3	+0.8
	0.7nm,0.7s,baz=221,slow=8.9,SNR=4.4						
H08S2	Diego Garcia H	41.49	326	T	T	13 50 22.3	
	baz=156,slow=76,SNR=12						
H08S1	Diego Garcia H	41.49	326	T	T	13 50 20.6	
	baz=156,slow=76,SNR=10						
H08S3	Diego Garcia H	41.51	326	T	T	13 50 22.3	
	baz=156,slow=76,SNR=15						
INK	Inuvik	145.80	29	PKPbc	PKPab	13 15 23.1	+0.3
	0.9nm,0.7s,baz=262,slow=7.1,SNR=4.5						
YKA	Yellowknife Ar	155.43	33	PKPab	PKPab	13 15 59.9	-2.7
	0.1nm,0.7s,baz=316,slow=1.7,SNR=2.3						
TXAR	Lajitas Array	159.03	130	PKPab	PKPab	13 16 18.8	-0.4
	0.2nm,0.9s,baz=201,slow=4.8,SNR=3.5						

IDC 22 12:55:44.8±3.3, 4.°81S×133.°70E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.3/31, mbtmp3.3/4, ML3.1/3, Error ellipse: s-maj=130.9km s-min=32.3km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	15.05	178	Pn	Pn	12 59 17.0	-2.0
	0.1nm,0.3s,baz=354,slow=14,SNR=1.2						
WRA				Sn	Sn	13 01 51.9	-15
	0.1nm,0.3s,baz=360,slow=23,SNR=2.7						
FITZ	Fitzroy Crossi	15.38	210	Pn	Pn	12 59 23.5	+0.3
	0.1nm,0.3s,baz=24,slow=11,SNR=8.0						
FITZ				Sn	Sn	13 01 59.6	-15
	0.1nm,0.3s,baz=63,slow=12,SNR=1.2						
ASAR	Alice Springs	18.75	179	P	Pn	13 00 06.2	+0.5
	0.0nm,0.3s,baz=8.9,slow=13,SNR=4.1						
MKAR	Makanchi Array	68.50	325	P	P	13 06 49.0	-0.1
	0.5nm,0.9s,baz=108,slow=4.7,SNR=2.9						

IDC ***22*** *12:58:34.5±0.6, 46.°42S×95.°76E, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.1/28, mbtmp4.2/13, MS4.8/20, Ms1 4.8/20, ms1mx4.6/35, Error ellipse: s-maj=21.6km s-min=16.3km az=142.0*
ISCJB ***22*** *12:58:37.2±0.4, 46.°50S±0.°07×96.°0E±0.°1, h16km, mb4.4/21, MS4.8/25, Error ellipse: s-maj=12.3km s-min=8.5km az=33.8*
NEIC ***22*** *12:58:37.0±3.0, 46.°35S±0.°10×95.°8E±0.°2, h10km±1km, mb4.8/17, Ms_20 5.0/84, Mwb5.4, Mwc5.4(GCMT), Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.59; Mθθ=1.72; Mϕϕ 1.14; Mrθ-0.09; Mθϕ-0.57; Mϕr-0.17; Fault plane solution: Mo1.63000×10¹⁷ NP1: ϕs123.62000°, δ79.29000°, λ173.41000°. NP2: ϕs214.85000°, δ83

NWAO				LR	LR	13 09 37.2			
	comp=Z,4μm,19.9s,baz=232,slow=31								
NWAO	**Narrogin (SRO)**	**21.24**	**58**	P	**P**	**13 03 24.4**	**+0.9**		
NWAO				IAmb	IAmb	13 03 31.2			
	comp=Z,36nm,1.3s								
NWAO	**Narrogin (SRO)**	**21.24**	**58**	P	**P**	**13 03 24.4**	**+0.9**		
NWAO				IAmb	IAmb	13 03 31.2			
	comp=Z,26nm,1.2s								
NWAO				IAMs_20	IAMs_20	13 09 25.9			
	comp=Z,3μm,19.0s								
CASY	**Casey**	**21.27**	**164**	P	**P**	**13 03 26.3**	**+2.7**		
CASY				IAmb	IAmb	13 03 35.6			
	comp=Z,41nm,1.2s								
CASY	**Casey**	**21.27**	**164**	IAMs_20	IAMs_20	13 09 20.1			
	comp=Z,5μm,20.0s								
MORW	**Morawa**	**23.52**	**49**	IAMs_20	IAMs_20	13 10 24.1			
	comp=Z,3μm,20.0s								
MAW	**Mawson**	**27.11**	**207**	LR	LR	13 11 49.5			
	comp=Z,730nm,20.3s,baz=54,slow=29								
MAW	**Mawson**	**27.11**	**207**	P	**P**	**13 04 22.6**	**+2.6**		
MAW				IAMs_20	IAMs_20	13 11 27.3			
	comp=Z,202nm,21.0s								
GIRL	**Giralia**	**28.09**	**38**	IAMs_20	IAMs_20	13 15 42.3			
	comp=Z,2μm,19.0s								
FORT	**Forrest**	**29.40**	**69**	IAMs_20	IAMs_20	13 13 42.3			
	comp=Z,4μm,20.0s								
CRZF	**Crozet Islands**	**30.01**	**254**	IAMs_20	IAMs_20	13 13 16.7			
	comp=Z,3μm,21.0s								
PSAD3	**Pilbara Seismi**	**31.53**	**46**	IAMs_20	IAMs_20	13 15 43.2			
	comp=Z,3μm,20.0s								
PSAB1	**Pilbara Seismi**	**31.61**	**46**	IAMs_20	IAMs_20	13 15 06.4			
	comp=Z,2μm,18.0s								
PSAA3	**Pilbara Seismi**	**31.62**	**46**	IAMs_20	IAMs_20	13 15 46.7			
	comp=Z,2μm,20.0s								
PSAA2	**Pilbara Seismi**	**31.63**	**46**	IAMs_20	IAMs_20	13 15 04.9			
	comp=Z,2μm,20.0s								
PSAC1	**Pilbara Seismi**	**31.63**	**46**	IAMs_20	IAMs_20	13 15 55.1			
	comp=Z,2μm,20.0s								
PSAD1	**Pilbara Seismi**	**31.71**	**46**	IAMs_20	IAMs_20	13 15 09.1			
	comp=Z,3μm,19.0s								
MBWA	**Marble Bar**	**31.91**	**46**	IAMs_20	IAMs_20	13 15 13.4			
	comp=Z,2μm,21.0s								
BBOO	**Buckleboo**	**33.46**	**80**	IAMs_20	IAMs_20	13 16 02.2			
	comp=Z,3μm,20.0s								
SYO	**Syowa Base**	**35.61**	**211**	↓↓*eX*	**P**	**13 05 32.4**	**-2.3**		
TOO	**Toolangi**	**37.38**	**94**	IAMs_20	IAMs_20	13 17 27.4			
	comp=Z,2μm,21.0s								
FITZ	**Fitzroy Crossi**	**37.50**	**51**	P	**P**	**13 05 50.7**	**-0.7**		
FITZ				IAmb	IAmb	13 06 02.2			
	comp=Z,11nm,1.2s								
STKA	**Stephens Creek**	**37.79**	**84**	P	**P**	**13 05 52.7**	**-1.1**		
	comp=Z,5.4nm,1.1s,baz=178,slow=9.5,SNR=5.1								
STKA				LR	LR	13 18 16.8			
	comp=Z,2μm,21.6s,baz=231,slow=31								
STKA	**Stephens Creek**	**37.79**	**84**	P	**P**	**13 05 54.3**	**+0.5**		
STKA				IAMs_20	IAMs_20	13 18 15.8			
	comp=Z,460nm,20.0s								
ASAR	**Alice Springs**	**38.06**	**66**	P	**P**	**13 05 54.5**	**-1.7**		
	comp=Z,1.2nm,0.7s,baz=217,slow=6.6,SNR=14								
ASAR				PcP	**PcP**	**13 08 09.3**	**-1.9**		
	comp=Z,1.2nm,0.8s,baz=223,slow=2.3,SNR=6.9								
ASAR				LR	LR	13 19 12.8			
	comp=Z,2μm,21.5s,baz=234,slow=32								
AS31	**Alice Springs**	**38.07**	**66**	P	**P**	**13 05 56.1**	**-0.1**		
AS31				IAMs_20	IAMs_20	13 18 54.8			
	comp=Z,32nm,19.0s								
VNDA	**Vanda**	**39.88**	**162**	P	**P**	**13 06 11.9**	**+1.2**		
	comp=Z,2.5nm,1.0s,baz=163,slow=15,SNR=2.2								
VNDA				LR	LR	13 21 33.6			
	comp=Z,2μm,18.3s,baz=279,slow=34								
CISI	**Cisompet, Garu**	**40.18**	**19**	IAMs_20	IAMs_20	13 18 28.1			
	comp=Z,760nm,22.0s								
CAN	**Canberra**	**40.96**	**94**	IAMs_20	IAMs_20	13 19 48.3			
	comp=Z,2μm,20.0s								
SBA	**Scott Base**	**40.97**	**162**	IAMs_20	IAMs_20	13 21 37.6			
	comp=Z,2μm,19.0s								
WB1	**Warramunga Ar.**	**41.07**	**63**	IAMs_20	IAMs_20	13 21 10.4			
	comp=Z,4μm,20.0s								
WR1	**Warramunga Arr**	**41.08**	**63**	IAMs_20	IAMs_20	13 21 10.7			
	comp=Z,3μm,19.0s								
WRA	**Warramunga Arr**	**41.08**	**63**	P	**P**	**13 06 19.6**	**-1.6**		
	comp=Z,4.2nm,0.8s,baz=223,slow=8.7,SNR=14								
WRA				PcP	**PcP**	**13 08 18.9**	**-1.9**		
	comp=Z,0.8nm,0.9s,baz=230,slow=3.6,SNR=2.9								
WRA				LR	LR	13 21 21.7			
	comp=Z,4μm,20.1s,baz=220,slow=33								
WC3	**Warramunga Arr**	**41.09**	**63**	IAMs_20	IAMs_20	13 21 10.9			
	comp=Z,4μm,19.0s								
WR2	**Warramunga Arr**	**41.09**	**63**	IAMs_20	IAMs_20	13 21 11.0			
	comp=Z,3μm,20.0s								
WC1	**Warramunga Arr**	**41.09**	**63**	IAMs_20	IAMs_20	13 21 11.0			
	comp=Z,4μm,20.0s								
WRAB	**Tennant Creek**	**41.09**	**63**	P	**P**	**13 06 20.3**	**-1.1**		
WRAB				IAmb	IAmb	13 06 30.6			
	comp=Z,36nm,1.9s								
WRAB	**Tennant Creek**	**41.09**	**63**	IAMs_20	IAMs_20	13 21 12.2			
	comp=Z,4μm,19.0s								
WB3	**Warramunga Arr**	**41.11**	**63**	IAMs_20	IAMs_20	13 21 11.3			
	comp=Z,4μm,19.0s								
WR3	**Warramunga Arr**	**41.11**	**63**	IAMs_20	IAMs_20	13 21 11.3			
	comp=Z,4μm,19.0s								
WR4	**Warramunga Arr**	**41.12**	**63**	IAMs_20	IAMs_20	13 21 11.6			
	comp=Z,4μm,19.0s								
WB4	**Warramunga Arr**	**41.12**	**63**	IAMs_20	IAMs_20	13 21 11.8			
	comp=Z,4μm,20.0s								
WR6	**Warramunga Arr**	**41.14**	**63**	IAMs_20	IAMs_20	13 21 12.3			
	comp=Z,4μm,19.0s								
WB5	**Warramunga Arr**	**41.15**	**63**	IAMs_20	IAMs_20	13 21 12.4			
	comp=Z,4μm,19.0s								
WR7	**Warramunga Arr**	**41.16**	**63**	IAMs_20	IAMs_20	13 21 12.6			
	comp=Z,4μm,20.0s								
WR8	**Warramunga Arr**	**41.17**	**63**	IAMs_20	IAMs_20	13 21 14.0			
	comp=Z,4μm,19.0s								
WR9	**Warramunga Arr**	**41.18**	**63**	IAMs_20	IAMs_20	13 21 13.2			
	comp=Z,4μm,19.0s								
KNRA	**Kununurra**	**41.18**	**53**	IAMs_20	IAMs_20	13 21 00.1			
	comp=Z,1μm,22.0s								
WR0	**Warramunga Arr**	**41.19**	**63**	P	**P**	**13 06 19.9**	**-2.3**		
WR0				IAmb	IAmb	13 06 24.1			
	comp=Z,17nm,1.6s								
WR0				IAMs_20	IAMs_20	13 21 22.6			
	comp=Z,4μm,19.0s								
QSPA	**South Pole Qui**	**43.60**	**180**	P	**P**	**13 06 39.9**	**-1.6**		
	comp=Z,5.2nm,1.2s,baz=281,slow=4.4,SNR=4.2								
QSPA				PcP	**PcP**	**13 08 27.4**	**-1.3**		
	comp=Z,3.2nm,0.9s,baz=309,slow=8.8,SNR=3.0								
QSPA	**South Pole Qui**	**43.60**	**180**	P	**P**	**13 06 41.4**	**-0.1**		
QSPA				IAmb	IAmb	13 06 50.6			
	comp=Z,46nm,1.7s								
QSPA	**South Pole Qui**	**43.60**	**180**	IAMs_20	IAMs_20	13 23 14.9			
	comp=Z,3μm,20.0s								
H08S2	**Diego Garcia H**	**43.64**	**325**	T	T	13 53 19.7			
	baz=156,slow=76,SNR=75								
H08S1	**Diego Carcia H**	**43.65**	**325**	T	T	13 53 19.2			
	baz=156,slow=76,SNR=68								
H08S3	**Diego Garcia H**	**43.66**	**325**	T	T	13 53 21.2			
	baz=156,slow=76,SNR=100								
SOEI	**Soe**	**43.92**	**43**	IAMs_20	IAMs_20	13 23 50.7			
	comp=Z,1μm,19.0s								
MMRI	**Maumere**	**43.99**	**39**	IAMs_20	IAMs_20	13 22 03.4			
	comp=Z,501nm,22.0s								
MTN	**Manton Dam**	**44.80**	**53**	IAMs_20	IAMs_20	13 22 49.1			
	comp=Z,1μm,22.0s								
ARMA	**Armidale**	**45.57**	**90**	IAMs_20	IAMs_20	13 23 09.0			
	comp=Z,2μm,20.0s								
EIDS	**Eidsvold**	**48.35**	**84**	IAMs_20	IAMs_20	13 24 34.3			
	comp=Z,1μm,21.0s								
MYKOM	**Kota Tinggi**	**48.64**	**11**	IAMs_20	IAMs_20	13 23 29.4			
	comp=Z,1μm,22.0s								
CTAO	**Charters Tower**	**48.64**	**75**	IAMs_20	IAMs_20	13 26 10.2			
	comp=Z,1μm,19.0s								
RPSI	**Rantau Prapat**	**49.10**	**4**	IAMs_20	IAMs_20	13 23 41.5			
	comp=Z,953nm,20.0s								
SNAA	**Sanae**	**49.21**	**204**	P	**P**	**13 07 27.4**	**+2.1**		
SNAA	**Sanae**	**49.21**	**204**	P	**P**	**13 07 24.8**	**-0.5**		
	comp=Z,11nm,1.1s,baz=113,slow=6.7,SNR=9.9								
SNAA				LR	LR	13 25 08.3			
	comp=Z,1μm,20.3s,baz=126,slow=32								
SNAA	**Sanae**	**49.21**	**204**	P	**P**	**13 07 26.4**	**+1.1**		
SNAA				IAMs_20	IAMs_20	13 24 57.3			
	comp=Z,1μm,19.0s								
LHI	**Lord Howe Isla**	**50.03**	**96**	IAMs_20	IAMs_20	13 25 16.7			
	comp=Z,790nm,20.0s								
VNA2	**Neumayer--Watz**	**50.86**	**204**	P	**P**	**13 07 38.7**	**+1.0**		
	baz=94,slow=7.6								
COEN	**Coen**	**51.11**	**66**	IAMs_20	IAMs_20	13 26 35.4			
	comp=Z,2μm,21.0s								
VNA3	**Neumayer Olymp**	**51.33**	**204**	P	**P**	**13 07 42.0**	**+0.7**		
KULM	**Kulim**	**51.78**	**6**	IAMs_20	IAMs_20	13 25 03.5			
	comp=Z,625nm,20.0s								
OXZ	**Oxford**	**52.04**	**116**	IAMs_20	IAMs_20	13 25 44.8			
	comp=Z,1μm,21.0s								
HIZ	**Hauiti**	**56.48**	**113**	IAMs_20	IAMs_20	13 27 10.3			
	comp=Z,1μm,22.0s								
BOSA	**Boshof**	**56.90**	**262**	P	**P**	**13 08 20.8**	**-1.9**		
	comp=Z,3.3nm,0.9s,baz=117,slow=4.5,SNR=4.7								
BOSA				LR	LR	13 27 21.8			
	comp=Z,2μm,20.7s,baz=153,slow=30								
BOSA	**Boshof**	**56.90**	**262**	P	**P**	**13 08 24.1**	**+1.4**		
BOSA				IAmb	IAmb	13 08 34.5			
	comp=Z,23nm,1.6s								
PMG	**Port Moresby**	**57.08**	**67**	LR	LR	13 31 10.6			
	comp=Z,2μm,19.4s,baz=224,slow=34								
PMG	**Port Moresby**	**57.08**	**67**	IAMs_20	IAMs_20	13 30 58.7			
	comp=Z,1μm,19.0s								
URZ	**Urewera**	**58.06**	**114**	LR	LR	13 29 10.1			
	comp=Z,510nm,20.7s,baz=221,slow=32								
LBTB	**Lobatse**	**58.96**	**265**	P	**P**	**13 08 35.7**	**-1.4**		
	comp=Z,2.3nm,0.8s,baz=108,slow=7.9,SNR=2.5								
LBTB	**Lobatse**	**58.96**	**265**	IAmb	IAmb	13 08 59.5			
	comp=Z,26nm,1.8s								
DZM	**Mont Dzumac**	**61.10**	**92**	*e*S	**S**	**13 17 11.0**	**+0.6**		
	comp=Z,247nm,25.0s								
DZM				*e*LR	LR	13 26 58.5			
	comp=Z,2μm,28.5s								
DZM	**Mont Dzumac**	**61.10**	**92**	LR	LR	13 30 05.9			
	comp=Z,530nm,18.9s,baz=218,slow=31								
PBKT	**Sadao Pong**	**62.98**	**5**	P	**P**	**13 09 04.3**	**+0.1**		
LSZ	**Lusaka**	**63.74**	**275**	P	**P**	**13 09 12.7**	**+3.1**		
LSZ	**Lusaka**	**63.74**	**275**	IAMs_20	IAMs_20	13 31 42.1			
	comp=Z,980nm,20.0s								
CMAR	**Chiang Mai Arr**	**64.75**	**3**	P	**P**	**13 09 14.9**	**-0.9**		
	comp=Z,3.1nm,0.8s,baz=201,slow=5.7,SNR=14								
CMAR				LR	LR	13 33 01.4			
	comp=Z,768nm,21.0s,baz=105,slow=32								
CHTO	**Chiang Mai**	**65.11**	**3**	IAMs_20	IAMs_20	13 32 28.7			
	comp=Z,823nm,21.0s								
KMBO	**Kilima Mbogo**	**68.07**	**293**	P	**P**	**13 09 35.3**	**-2.3**		
	comp=Z,0.7nm,0.4s,baz=79,slow=21,SNR=2.2								
KMBO				LR	LR	13 33 00.1			
	comp=Z,361nm,19.2s,baz=102,slow=30								
KMBO	**Kilima Mbogo**	**68.07**	**293**	IAMs_20	IAMs_20	13 33 28.3			
	comp=Z,419nm,19.0s								
KMBO	**Kilima Mbogo**	**68.07**	**293**	IAmb	IAmb	13 09 50.0			
	comp=Z,23nm,1.8s								
KMI	**Kunming**	**71.60**	**7**	P	**P**	**13 10 00.9**	**+2.0**		
KMI				pP	pwP	13 10 07.3	+0.2		
KMI				pmax	pmax				
	comp=Z,15nm,1.4s								
KMI				pmax	pmax				
	comp=Z,120nm,4.6s								
KMI				LR	LR				
	comp=N,380nm,15.8s								
KMI				LR	LR				
	comp=E,450nm,17.7s								
KMI				LR	LR				
	comp=Z,530nm,16.7s								
KMI	**Kunming**	**71.60**	**7**	IAMs_20	IAMs_20	13 40 41.7			
	comp=Z,656nm,21.0s								
MBAR	**Mbarara**	**72.68**	**288**	IAMs_20	IAMs_20	13 37 56.7			
	comp=Z,686nm,20.0s								
YULB	**Yu-li**	**73.31**	**24**	IAMs_20	IAMs_20	13 42 46.4			
	comp=Z,711nm,20.0s								
SSLB	**Suanglung**	**73.59**	**24**	IAMs_20	IAMs_20	13 45 05.7			
	comp=Z,912nm,22.0s								
GUMO	**Guam**	**74.25**	**50**	IAMs_20	IAMs_20	13 37 23.5			
	comp=Z,5μm,18.0s								
YHNB	**Yeheng**	**74.55**	**24**	IAMs_20	IAMs_20	13 48 51.0			
	comp=Z,1μm,18.0s								
LSA	**Lhasa**	**76.00**	**356**	IAMs_20	IAMs_20	13 41 51.6			
	comp=Z,350nm,20.0s								
WSAR	**Wadi Sarin**	**77.20**	**325**	LR	LR	13 36 43.5			
	comp=Z,445nm,21.1s,baz=158,slow=30								
CD2	**Chengdu**	**77.42**	**7**	P	**P**	**13 10 34.5**	**+2.1**		
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
ENH	**Enshi**	**77.44**	**12**	IAMs_20	IAMs_20	13 39 38.6			
	comp=Z,501nm,20.0s								
JOW	**Kunigami**	**78.70**	**29**	IAMs_20	IAMs_20	13 44 13.3			
	comp=Z,2μm,22.0s								
SSE	**Sheshan**	**80.59**	**22**	IAMs_20	IAMs_20	13 50 27.2			
	comp=Z,2μm,18.0s								
NJ2	**Nanjing**	**80.94**	**20**	*e*P	**P**	**13 10 53.8**	**+2.3**		
NJ2				pmax	pmax				
	comp=Z,16nm,0.6s								
XAN	**Xi'an**	**81.07**	**11**	P	P	13 10 59.0	+6.7		
XAN				pmax	pmax				
	comp=Z,6.0nm,1.1s								
XAN				pmax	pmax				
	comp=Z,170nm,5.7s								
XAN	**Xi'an**	**81.07**	**11**	IAMs_20	IAMs_20	13 44 34.4			
	comp=Z,672nm,20.0s								
NIL	**Nilore**	**82.39**	**341**	IAMs_20	IAMs_20	13 44 08.6			
	comp=Z,669nm,20.0s								
LZH	**Lanzhou**	**82.57**	**7**	*e*P	**P**	**13 11 02.9**	**+2.6**		
LZH				pP	sP	13 11 06.3	+0.1		
LZH				sP	pwP	13 11 07.8	-0.6		
LZH				*e*PP	**PP**	**13 14 15.1**	**+4.8**		
LZH				pmax	pmax				
	comp=Z,17nm,1.3s								
LZH				pmax	pmax				
	comp=Z,69nm,8.2s								
LZH				LR	LR				
	comp=N,120nm,16.8s								
LZH				LR	LR				
	comp=E,130nm,17.0s								
LZH				LR	LR				
	comp=Z,140nm,19.3s								
RAYN	**Ar Rayn**	**83.28**	**315**	IAMs_20	IAMs_20	13 41 28.3			
	comp=Z,837nm,20.0s								
KBL	**Kabul**	**84.26**	**338**	P	**P**	**13 11 07.8**	**-1.3**		
KBL				IAMs_20	IAMs_20	13 43 25.1			
	comp=Z,997nm,22.0s								
JNU	**Nakatsue**	**85.36**	**29**	LR	LR	13 49 51.1			
	comp=Z,358nm,18.6s,baz=130,slow=36								
GTA	**Gaotai**	**85.64**	**3**	*e*P	**P**	**13 11 16.8**	**+1.0**		
GTA				pP	pP	13 11 20.3	+0.1		
GTA				sP	pwP	13 11 22.9	-1.1		
GTA				pmax	pmax				
	comp=Z,2.0nm,1.4s								
KSH	**Kashi**	**87.51**	**345**	*e*P	**P**	**13 11 26.8**	**+1.9**		
BJT	**Baijiatuan**	**88.07**	**15**	IAMs_20	IAMs_20	13 58 01.8			
	comp=Z,994nm,18.0s								
INCN	**Inchon**	**88.09**	**24**	IAMs_20	IAMs_20	13 47 33.3			
	comp=Z,2μm,18.0s								
HHC	**Hu-ho-hao-te**	**88.13**	**12**	P	**P**	**13 11 30.3**	**+2.5**		
HHC				pmax	pmax				
	comp=Z,4.0nm,0.7s								
HHC				pmax	pmax				
	comp=Z,75nm,6.8s								
HHC				LR	LR				
	comp=N,400nm,17.7s								
HHC				LR	LR				
	comp=E,250nm,17.7s								
HHC				LR	LR				
	comp=Z,360nm,18.2s								
GAR	**Garm**	**88.18**	**340**	IAMs_20	IAMs_20	13 45 57.0			
	comp=Z,2μm,20.0s								
TBI	**Tubuai**	**88.83**	**123**	*e*LR	LR	13 39 47.4			
	comp=Z,363nm,28.5s								
INU	**Inuyama**	**89.53**	**33**	IAMs_20	IAMs_20	13 44 12.2			
	comp=Z,3μm,19.0s								
WMQ	**Urumqi**	**90.27**	**354**	*e*P	**P**	**13 11 39.5**	**+1.7**		
WMQ				pP	sP	13 11 43.6	-0.1		
WMQ				pmax	pmax				
	comp=Z,15nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,250nm,5.9s								
WMQ				LR	LR				
	comp=N,420nm,8.1s								
WMQ				LR	LR				
	comp=E,360nm,7.1s								
WMQ				LR	LR				
	comp=Z,180nm,7.1s								
GEYT	**Alibeck**	**90.65**	**331**	LR	LR	13 46 31.7			
	comp=Z,376nm,21.1s,baz=175,slow=32								
WAKE	**Wake Island**	**91.31**	**63**	IAMs_20	IAMs_20	13 43 32.8			
	comp=Z,4μm,22.0s								
PLCA	**Paso Flores**	**92.27**	**190**	LR	LR	13 51 39.0			
	comp=Z,278nm,21.7s,baz=194,slow=34								
PPT2	**Papeete2**	**93.22**	**120**	*e*LR	LR	13 41 55.8			
	comp=Z,485nm,25.8s								
GO06	**Curarrehue**	**93.51**	**190**	IAMs_20	IAMs_20	13 50 35.3			
	comp=Z,622nm,21.0s								
MKAR	**Makanchi Array**	**93.71**	**351**	P	**P**	**13 11 50.9**	**-2.7**		
	comp=Z,0.2nm,0.8s,baz=126,slow=6.4,SNR=1.7								
SONM	**Songino Array**	**94.44**	**7**	P	**P**	**13 11 54.1**	**-3.0**		
	comp=Z,0.4nm,0.7s,baz=193,slow=2.5,SNR=1.8								
ULN	**Ulaanbaatar**	**94.53**	**8**	IAMs_20	IAMs_20	13 58 58.8			
	comp=Z,1μm,19.0s								
MDJ	**Mudanjiang**	**95.53**	**23**	IAMs_20	IAMs_20	13 50 28.6			
	comp=Z,1μm,18.0s								
USA0B	**Ussuriysk Arra**	**95.83**	**25**	IAMs_20	IAMs_20	13 50 00.6			
	comp=Z,1μm,19.0s								
MMAI	**Mount Meron Ar**	**96.12**	**313**	LR	LR	13 51 32.8			
	comp=Z,235nm,18.1s,baz=130,slow=33								
GNI	**Garni**	**97.63**	**323**	LR	LR	13 52 53.5			
	comp=Z,252nm,18.3s,baz=232,slow=33								
HIA	**Hailar**	**97.66**	**16**	IAMs_20	IAMs_20	13 57 46.7			
	comp=Z,725nm,18.0s								
TLY	**Talaya**	**98.07**	**5**	LR	LR	13 54 59.9			
	comp=Z,174nm,19.6s,baz=140,slow=35								
TLY	**Talaya**	**98.07**	**5**	IAMs_20	IAMs_20	14 02 59.5			
	comp=Z,638nm,20.0s								
KIV	**Kislovodsk**	**101.64**	**324**	IAMs_20	IAMs_20	13 56 23.8			
	comp=Z,157nm,19.0s								
ELL	**Elmali**	**101.84**	**311**	IAMs_20	IAMs_20	13 52 01.0			
	comp=Z,1μm,19.0s								
TORD	**Torodi Ar. Bea**	**102.27**	**276**	PP	**PKiKP**	**13 16 53.3**	**-1.6**		
	comp=Z,0.6nm,0.8s,baz=163,slow=11,SNR=3.9								
MWH	**Moku'aweowe**	**116.54**	**89**	PKPdf	**PKiKP**	**13 17 23.0**	**+0.8**		
COLD	**Coldfoot**	**140.85**	**34**	PKPdf	**PKiKP**	**13 18 07.9**	**-0.8**		
TOLK	**Toolik Lake Re**	**141.11**	**32**	PKPpre	PKPpre	13 18 01.2			
ILAR	**Eielson Array**	**142.11**	**38**	PKhKP	PKPpre	13 18 01.6			
	comp=Z,0.4nm,1.0s,baz=186,slow=9.9,SNR=4.2								
EGAK	**Eagle**	**144.56**	**38**		**PKiKP**	**13 18 15.8**	**-0.6**		
DAWY	**Dawson**	**145.37**	**39**		**PKPbc**	**13 18 13.3**	**-0.8**		
EPYK	**Eagle Plains**	**146.22**	**35**		**PKPdf**	**13 18 15.8**	**+0.2**		
INK	**Inuvik**	**147.00**	**31**	PKPbc	**PKPdf**	**13 18 16.8**	**0.0**		
	comp=Z,3.8nm,0.8s,baz=137,slow=3.9,SNR=7.8								
INK	**Inuvik**	**147.00**	**31**	PKPdf	**PKPbc**	**13 18 17.9**	**-0.9**		
AGPR	**Aguadilla, PR**	**148.68**	**212**		**PKPdf**	**13 18 20.8**	**-0.3**		
TULEG	**Thule**	**149.25**	**353**		**PKPbc**	**13 18 24.6**	**0.0**		
LPIG	**La Paz**	**149.30**	**128**	PKPbc	**PKPbc**	**13 18 26.2**	**0.0**		
RES	**Resolute Bay**	**151.37**	**6**		**PKPbc**	**13 18 27.7**	**-1.9**		
BAR	**Barrett**	**151.59**	**108**	PKPdf	**PKPdf**	**13 18 25.1**	**-0.2**		
MWC	**Mount Wilson**	**151.60**	**103**		**PKiKP**	**13 18 33.3**	**+1.2**		
ISA	**Isabella, Lake**	**152.13**	**101**		**PKiKP**	**13 18 34.4**	**+1.3**		
NVAR	**Mina Array Bea**	**153.69**	**96**	PKPbc	**PKPbc**	**13 18 33.4**	**-2.9**		
	comp=Z,0.1nm,0.3s,baz=245,slow=23,SNR=1.9								
YKA	**Yellowknife Ar**	**156.50**	**36**	PKP	**PKPdf**	**13 18 30.2**	**-1.0**		
	comp=Z,0.1nm,0.7s,baz=133,slow=22,SNR=1.5								
TXAR	**Lajitas Array**	**157.02**	**132**	PKPab	**PKPab**	**13 19 03.0**	**-0.3**		
	comp=Z,0.7nm,0.9s,baz=199,slow=6.6,SNR=5.2								

*IDC **22** 13:06:59.6±3.8, 5.86N×95.11E, h0km, mb3.3/5, mb1 3.4/5, mb1mx3.3/41, mbtmp3.3/5, Error ellipse: s-maj=160.8km s-min=24.9km az=61.0*
*ISCJB **22** 13:07:08.0±3.0, 5.9N±0.4×95.1E±0.8, h81km, mb3.2/5, Error ellipse: s-maj=126.2km s-min=14.6km az=153.0*
ISC 22 13:07:09.2±3.5, 5.8N±0.5×95.0E±0.9, h81km, n6, σ0s50/6, mb3.2/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**2.07**	**139**	P	**Pn**	**13 07 42.2**	**+0.1**
	62nm,0.4s						
MKAR	**Makanchi Array**	**42.26**	**347**	P	**P**	**13 14 54.3**	**-0.3**
	0.5nm,0.7s,baz=164,slow=7.6,SNR=4.6						
SONM	**Songino Array**	**42.96**	**11**	P	**P**	**13 15 00.1**	**-0.2**
	0.2nm,0.6s,baz=180,slow=6.8,SNR=2.4						
WRA	**Warramunga Arr**

MW5.3/144,Moment Tensor Solution. s68,c99; s144,c238; Duration: 1ŝ1 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.07±.01; $M_{\theta\theta}$0.33±.01; $M_{\phi\phi}$0.74±.01; $M_{r\theta}$-0.02±.05; $M_{r\phi}$-0.49±.01; $M_{\theta f}$-0.11±.04; Best double couple: $M_0$1.07600×10^{17} NP1:ϕ_s331.00000°,δ47.00000°, λ-84.00000°. NP2:ϕ_s142.00000°,δ43.00000°, λ-96.00000°. Principal axes: T 1.0730, Plg2.0000°, Azm57.0000°; N 0.0050, Plg4.0000°, Azm147.0000°; P -1.0790, Plg85.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

JMA ***22*** *13:32:54.8±0.3,21°.82N×146°.59E,h1km,M6.0*

ISC 22 13:32:47.6±0.5,20°.80N±0°.03×146°.63E±0°.04,h19km±1km, h19km:pP-P,n768,σ1ŝ55/813,mb5.2/259,MS4.7/53, 27C-27D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**4.16**	**191**		**Pn**	**13 33 51.1**	**+0.9**
ANA2	**Anatahan**	**4.52**	**191**		**Pn**	**13 33 54.3**	**-0.9**
JHH2	**Haha-jima-NKT2**	**7.10**	**326**	P	**Pn**	**13 34 30.8**	**+0.3**
GUMO	**Guam**	**7.37**	**193**	P	**Pn**	**13 34 34.2**	**-0.1**
GUMO						13 36 01.2	
GUMO	**Guam**	**7.37**	**193**	Pn	**Pn**	**13 34 38.8**	**+4.6**
	30nm,0.3s,baz=5.6,slow=8.1,SNR=5.1						
GUMO				Sn	**Sn**	**13 36 01.2**	**+3.8**
	28nm,0.3s,baz=167,slow=21,SNR=2.3						
GUMO	**Guam**	**7.37**	**193**	Pn	**Pn**	**13 34 34.2**	**-0.1**
CBIJ	**Chichi jima**	**7.47**	**328**	*e*S	**Sn**	**13 35 52.4**	**-7.5**
JCJ	**Chichijima**	**7.47**	**328**	Pn	**Pn**	**13 34 36.9**	**+1.2**
	27nm,0.3s,baz=289,slow=16,SNR=5.5						
JCJ				Sn	**Sn**	**13 35 55.0**	**-4.9**
	154nm,0.3s,baz=114,slow=23,SNR=14						
JHU	**Hanno**	**16.32**	**338**	P	**Pn**	**13 36 33.7**	**-2.2**
JHU				*e*S	Sn	13 39 24.2	-12
JAO	**Obara**	**16.60**	**332**	P	**Pn**	**13 36 39.7**	**+0.2**
JRY	**Ryogami san**	**16.60**	**338**	P	**Pn**	**13 36 38.2**	**-1.3**
JRY				*e*S	Sn	13 39 32.3	-11
JHO	**Hitachi**	**16.62**	**343**	*e*S	Sn	13 39 29.3	-14
INU	**Inuyama**	**16.78**	**332**		**Pn**	**13 36 42.2**	**+0.5**
JAG	**Ashikaga**	**16.79**	**340**	P	**Pn**	**13 36 40.0**	**-1.7**
JAG				*e*S	Sn	13 39 36.1	-12
JTO	**Tosashimizu**	**17.20**	**317**	P	**P**	**13 36 47.9**	**-0.5**
MJAR	**Matsushiro Arr**	**17.32**	**337**	P	**Pn**	**13 36 48.9**	**+0.4**
	0.2nm,0.3s,baz=151,slow=11,SNR=23						
MJAR				S	**Sn**	**13 39 55.2**	**-5.6**
	0.1nm,0.3s,baz=124,slow=20,SNR=4.6						
MAJO	**Matsushiro**	**17.32**	**337**	*i* P	**Pn**	**13 36 48.7**	**+0.2**
MAJO	**Matsushiro**	**17.32**	**337**		**Pn**	**13 36 48.5**	**-0.1**
MAT	**Matsushiro**	**17.32**	**337**	P	**Pn**	**13 36 47.4**	**-1.1**
MAT				S	**Sn**	**13 39 51.8**	**-9.1**
MJB9	**Matsu-Tunnel**	**17.33**	**337**		**Pn**	**13 36 48.5**	**-0.1**
JMM	**Marumori**	**17.74**	**345**	*e*S	Sn	13 39 53.0	-18
JOW	**Kunigami**	**17.83**	**293**	P	**P**	**13 36 56.9**	**+1.4**
	0.5nm,0.3s,baz=124,slow=14,SNR=9.0						
JOW	**Kunigami**	**17.83**	**293**	P	**P**	**13 36 56.0**	**+0.6**
PATS	**Pohnpei**	**17.91**	**139**		**Pn**	**13 36 55.9**	**0.0**
PATS				IAmb	IAmb	13 37 11.2	
	comp=Z,364nm,1.3s						
JHS	**Saijyo**	**18.48**	**323**	P	**Pn**	**13 37 04.2**	**+1.4**
JNU	**Nakatsue**	**18.62**	**314**	P	**Pn**	**13 37 05.2**	**+0.7**
JNU	**Nakatsue**	**18.62**	**314**	P	**Pn**	**13 37 05.7**	**+1.2**
	comp=Z,2.0nm,0.3s,baz=91,slow=6.0,SNR=23						
JNU	**Nakatsue**	**18.62**	**314**	P	**Pn**	**13 37 04.4**	**-0.1**
WAKE	**Wake Island**	**18.88**	**91**	P	**P**	**13 37 05.8**	**-1.2**
WAKE				IAmb	IAmb	13 37 11.4	
	comp=Z,127nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**19.03**	**93**	T	T	13 56 41.2	
	baz=280,slow=75,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**19.04**	**93**	T	T	13 56 39.5	
	baz=280,slow=75,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**19.04**	**90**	T	T	13 56 44.3	
	baz=276,slow=75,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**19.05**	**90**	T	T	13 56 40.9	
	baz=276,slow=75,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**19.05**	**93**	T	T	13 56 39.8	
	baz=280,slow=75,SNR=3.4						
H11N3	**WAKE ISLAND Hy**	**19.06**	**90**	T	T	13 56 45.7	
	baz=276,slow=75,SNR=5.3						
JOM	**Ohasama**	**19.17**	**347**	*e*S	Sn	13 40 27.8	-18
JFU	**Fukue jima 2**	**19.83**	**310**	P	**Pn**	**13 37 18.6**	**-0.4**
JTU	**Tsushima**	**20.45**	**316**	P	Pn	13 37 25.5	-0.7
ERM	**Erimo**	**21.35**	**353**	*i* P	**P**	**13 37 36.7**	**+2.9**
ERM				pmax	pmax		
	comp=Z,32nm,0.8s						
ERM	**Erimo**	**21.35**	**353**	P	**P**	**13 37 34.0**	**+0.2**
ERM				IAmb	IAmb	13 37 49.6	
	comp=Z,84nm,1.1s						
MANU	**Manus Island**	**22.71**	**178**	P	**P**	**13 37 47.0**	**-1.6**
MANU				IAmb	IAmb	13 37 51.0	
	comp=Z,113nm,0.9s						
TJN	**Taejon**	**22.89**	**317**	*ce*P	**P**	**13 37 50.5**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**23.18**	**359**	P	**P**	**13 37 53.1**	**0.0**
YUK				*i* S	**S**	**13 42 06.7**	**+2.8**
YUK				pmax	pmax		
	comp=Z,956nm,1.8s						
YUK				pmax	pmax		
	comp=Z,551nm,1.3s						
YUK				pmax	pmax		
	comp=N,306nm,0.8s						
YUK				pmax	pmax		
	comp=E,184nm,1.0s						
YUK				MLR	MLR		
	comp=Z,1μm,14.0s						
KSRS	**Korea Array**	**23.22**	**320**	P	**P**	**13 37 54.5**	**+0.8**
	comp=Z,36nm,0.9s,baz=145,slow=8.9,SNR=46						
KSRS				PcP	**PcP**	**13 41 41.4**	**+0.1**
	comp=Z,3.5nm,0.9s,baz=155,slow=1.7,SNR=4.6						
KS19	**Wonju Array Si**	**23.28**	**320**	P	**P**	**13 37 54.7**	**+0.4**
KS19				IAmb	IAmb	13 37 57.7	
	comp=Z,56nm,0.9s						
NACB	**Ninganchiao**	**23.36**	**283**	P	**P**	**13 37 56.0**	**+0.7**
JKA	**Kamikawa-asahi**	**23.49**	**353**	P	**P**	**13 37 58.0**	**+1.7**
ASAJ	**Asahikawa**	**23.49**	**353**	P	**P**	**13 37 58.0**	**+1.7**
ASAJ	**Asahikawa**	**23.49**	**353**	P	**P**	**13 37 58.0**	**+1.7**
	comp=Z,97nm,1.2s,baz=215,slow=16,SNR=8.8						
TATO	**Taipei**	**23.52**	**285**	P	**P**	**13 37 57.9**	**+1.1**
YHNB	**Yeheng**	**23.60**	**284**	P	**P**	**13 37 57.7**	**+0.1**
YHNB				IAmb	IAmb	13 38 03.8	
	comp=Z,47nm,0.8s						
YULB	**Yu-li**	**23.61**	**281**	P	**P**	**13 37 58.5**	**+0.9**
TWG	**Pinlang**	**23.81**	**280**	P	**P**	**13 38 00.1**	**+0.6**
SSLB	**Suanglung**	**23.93**	**282**	P	**P**	**13 38 01.9**	**+1.1**
SSLB				IAmb	IAmb	13 38 09.4	
	comp=Z,69nm,0.9s						
INCN	**Inchon**	**24.03**	**318**	P	**P**	**13 38 00.8**	**-0.7**
INCN				pmax	pmax		
	comp=Z,104nm,0.8s						
INCN	**Inchon**	**24.03**	**318**	P	**P**	**13 38 00.8**	**-0.7**
TPUB	**Ta-pu**	**24.22**	**281**	P	**P**	**13 38 04.2**	**+0.8**
TPUB				IAmb	IAmb	13 38 05.5	
	comp=Z,93nm,1.5s						
DAV	**Davao City (W)**	**24.52**	**239**	LR	LR	13 46 34.2	
	comp=Z,2μm,20.6s,baz=56,slow=34						
SSE	**Sheshan**	**25.02**	**299**	P	**P**	**13 38 08.9**	**-1.7**
SSE				S	**S**	**13 42 34.1**	**+0.3**
SSE				pmax	pmax		
	comp=Z,11nm,0.4s						
SSE				pmax	pmax		
	comp=Z,260nm,3.4s						
SSE				LR	LR		
	comp=Z,1μm,13.8s						
SSE				LR	LR		
	comp=Z,680nm,16.9s						
SSE	**Sheshan**	**25.02**	**299**	P	**P**	**13 38 08.6**	**-1.9**
TGY	**Tagaytay City**	**25.38**	**259**	LR	LR	13 48 19.5	
	comp=Z,1μm,18.2s,baz=88,slow=37						
VLA	**Vladivostok**	**25.45**	**334**	*d* iP	**P**	**13 38 16.1**	**+1.7**
VLA				pmax	pmax		
	comp=Z,175nm,1.1s						
KRVT	**Keravat (AS076**	**25.51**	**167**	P	**P**	**13 38 15.2**	**+0.1**
	comp=Z,220nm,0.9s,baz=123,slow=1.6,SNR=11						
KRVT				LR	LR	13 47 55.0	
	comp=Z,803nm,20.5s,baz=349,slow=36						
TEY	**Ternei**	**25.55**	**343**	⇓*e*P	**P**	**13 38 17.7**	**+2.5**
TEY				*e*		13 38 27.5	
TEY				pmax	pmax		
	comp=Z,200nm,2.3s						
TEY				pmax	pmax		
	comp=Z,70nm,1.0s						
TEY				pmax	pmax		
	comp=E,30nm,1.0s						
TEY				pmax	pmax		
	comp=N,50nm,0.9s						
SIJI	**Sorong**	**26.27**	**217**	P	**P**	**13 38 22.8**	**+0.8**
	comp=N,28nm,0.9s,baz=35,slow=6.9,SNR=4.4						
YSS	**Yuzh-Sakhalins**	**26.28**	**354**	*e*P	**P**	**13 38 22.5**	**+0.7**
YSS				*e**SP	**sP**	**13 38 27.7**	**-0.5**
YSS				*e*		13 39 14.2	
YSS				*e*S	**S**	**13 42 51.4**	**-2.1**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS	**Yuzh-Sakhalins**	**26.28**	**354**	P	**P**	**13 38 20.8**	**-1.0**
YSS				IAmb	IAmb	13 38 35.9	
	comp=Z,39nm,0.9s						
USA0B	**Ussuriysk Arra**	**26.32**	**336**	*i* P	**P**	**13 38 23.4**	**+1.2**
USA0B	**Ussuriysk Arra**	**26.32**	**336**	P	**P**	**13 38 22.9**	**+0.7**
USA0B				IAmb	IAmb	13 38 39.2	
	comp=Z,78nm,0.9s						
USRK	**Ussuriysk Ar.**	**26.32**	**336**	P	**P**	**13 38 23.7**	**+1.5**
	comp=Z,78nm,1.0s,baz=152,slow=8.9,SNR=38						
NJ2	**Nanjing**	**27.20**	**300**	*e*P	**P**	**13 38 30.5**	**+0.2**
NJ2				pP	**pP**	**13 38 33.4**	**-1.4**
NJ2				sP	**sP**	**13 38 37.3**	**+0.5**
NJ2				S	**S**	**13 43 15.8**	**+7.4**
NJ2				sS	**sS**	**13 43 18.0**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,23nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,430nm,5.3s						
NJ2				LR	LR		
	comp=Z,1μm,18.0s						
NJ2				LR	LR		
	comp=Z,2μm,15.5s						
NJ2				LR	LR		
	comp=Z,2μm,16.9s						
MDJ	**Mudanjiang**	**27.63**	**333**	P	**P**	**13 38 35.3**	**+1.3**
MDJ				pP	pP	13 38 37.5	-0.9
MDJ				sP	sP	13 38 39.9	-0.6
MDJ				PP	**PnPn**	**13 39 19.0**	**-0.6**
MDJ				PcP	**PcP**	**13 41 51.8**	**+0.6**
MDJ				S	**S**	**13 43 17.8**	**+3.0**
MDJ				sS	sS	13 43 21.9	-0.6
MDJ				SS	**SnSn**	**13 44 28.5**	**+1.9**
MDJ				ScP	**ScP**	**13 45 33.0**	**+2.0**
MDJ				PcS	**PcS**	**13 45 35.3**	**+2.4**
MDJ				ScS	**ScS**	**13 49 25.8**	**+3.0**
MDJ				pmax	pmax		
	comp=Z,28nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,590nm,6.0s						
MDJ				LR	LR		
	comp=Z,2μm,14.8s						
MDJ				LR	LR		
	comp=Z,1μm,11.3s						
MDJ				LR	LR		
	comp=Z,3μm,16.9s						
MDJ	**Mudanjiang**	**27.63**	**333**	P	**P**	**13 38 33.4**	**-0.7**
MDJ				IAmb	IAmb	13 38 43.6	
	comp=Z,32nm,0.8s						
DL2	**Dalian**	**28.07**	**316**	P	**P**	**13 38 42.0**	**+4.0**
DL2				S	**S**	**13 43 30.5**	**+8.7**
DL2				pmax	pmax		
	comp=Z,46nm,0.9s						
DL2				pmax	pmax		
	comp=Z,430nm,6.1s						
DL2				LR	LR		
	comp=Z,1μm,13.8s						
DL2				LR	LR		
	comp=Z,1μm,14.2s						
DL2				LR	LR		
	comp=Z,2μm,15.0s						
LBMI	**Labuha**	**28.36**	**224**	P	**P**	**13 38 41.7**	**+0.9**
	comp=Z,51nm,1.0s						
SNY	**Shenyang**	**28.60**	**322**	⇑P	**P**	**13 38 42.3**	**-0.4**
SNY				pmax	pmax		
	comp=Z,23nm,0.9s						
SNY				pmax	pmax		
	comp=Z,250nm,9.3s						
SNY				LR	LR		
	comp=Z,730nm,11.4s						
SNY				LR	LR		
	comp=Z,2μm,14.9s						
SNY				LR	LR		
	comp=Z,2μm,13.9s						
CN2	**Changchun**	**28.93**	**327**	*e*P	**P**	**13 38 45.8**	**+0.1**
CN2				PP	**PnPn**	**13 39 39.5**	**+2.1**
CN2				*e*S	**S**	**13 43 34.9**	**-0.5**
CN2				SS	**SnSn**	**13 45 03.8**	**+5.3**
CN2				pmax	pmax		
	comp=Z,20nm,1.1s						
CN2				pmax	pmax		
	comp=Z,400nm,6.0s						
CN2				LR	LR		
	comp=Z,2μm,19.0s						
CN2				LR	LR		
	comp=Z,2μm,19.0s						
CN2				LR	LR		
	comp=Z,2μm,20.0s						
TIA	**Tai'an**	**29.98**	**307**	P	**P**	**13 38 55.3**	**+0.2**
TIA				pmax	pmax		
	comp=Z,38nm,0.9s						
TIA				pmax	pmax		
	comp=Z,430nm,7.2s						
TIA				LR	LR		
	comp=Z,800nm,16.7s						
TIA				LR	LR		
	comp=Z,970nm,21.1s						
TIA				LR	LR		
	comp=Z,1μm,19.1s						
PMG	**Port Moresby**	**30.02**	**179**	*ce*P	**P**	**13 38 54.5**	**-1.0**
PMG				pmax	pmax		
	comp=Z,264nm,1.0s						
PMG	**Port Moresby**	**30.02**	**179**	P	**P**	**13 38 54.6**	**-1.0**
	comp=Z,64nm,1.0s,baz=16,slow=10,SNR=8.6						
PMG	**Port Moresby**	**30.02**	**179**	P	**P**	**13 38 54.5**	**-1.0**
TYV	**Tymovskoe**	**30.16**	**355**	*e*P	**P**	**13 38 56.7**	**+0.2**
TYV				pmax	pmax		
	comp=Z,46nm,1.1s						
TYV				pmax	pmax		
	comp=Z,1μm,3.9s						
AAI	**Ambon**	**30.32**	**219**	P	**P**	**13 38 58.1**	**-0.1**
AAI				pmax	pmax		
	comp=Z,62nm,0.9s						
KLR	**Kul'dur**	**30.76**	**341**	*d* iP	**P**	**13 39 02.2**	**+0.5**
KLR				pmax	pmax		
	comp=Z,26nm,0.9s						
KLR	**Kul'dur**	**30.76**	**341**	P	**P**	**13 39 02.2**	**+0.5**
	comp=Z,23nm,0.8s,baz=143,slow=8.8,SNR=3.7						
KLR				LR	LR	13 51 02.6	
	comp=Z,700nm,22.0s,baz=157,slow=36						
GRNR	**Gornyy**	**30.97**	**347**	⇓*i*P	**P**	**13 39 04.8**	**+1.2**
GRNR				*e*S	**S**	**13 44 13.2**	**+5.9**
GRNR				pmax	pmax		
	comp=Z,20nm,1.0s						
GRNR				smax	smax		
	comp=N,3.0nm,1.3s						
GRNR				MLR	MLR		
	comp=Z,600nm,16.0s						
LUWI	**Luwuk**	**31.88**	**230**	P	**P**	**13 39 10.1**	**-1.9**
LUWI				IAmb	IAmb	13 39 19.3	
	comp=Z,32nm,0.8s						
BJT	**Baijiatuao**	**32.28**	**313**	P	**P**	**13 39 15.0**	**-0.3**
BJT				pmax	pmax		
	comp=Z,21nm,1.5s						
BJT	**Baijiatuau**	**32.28**	**313**	P	**P**	**13 39 14.9**	**-0.3**
BJI	**Beijing**	**32.28**	**313**	*e*P	**P**	**13 39 16.3**	**+1.0**
BJI				S	**S**	**13 44 35.4**	**+7.4**
BJI				pmax	pmax		
	comp=Z,8.0nm,1.7s						
BJI				LR	LR		
	comp=Z,910nm,15.7s						
BJI				LR	LR		
	comp=Z,850nm,15.5s						
BJI				LR	LR		
	comp=Z,570nm,16.2s						
KKM	**Kota Kinabalu**	**32.93**	**248**	P	**P**	**13 39 21.5**	**+0.2**
KKM				IAmb	IAmb	13 39 23.7	
	comp=Z,36nm,1.0s						
PEA0B	**Petropavlovsk-**	**33.36**	**12**	P	**P**	**13 39 25.2**	**+0.6**
PEA0B				pmax	pmax		
	comp=Z,68nm,1.4s						
PEA0B	**Petropavlovsk-**	**33.36**	**12**	P	**P**	**13 39 25.2**	**+0.6**
PEA0B				IAmb	IAmb	13 39 44.1	
	comp=Z,68nm,1.4s						
PETK	**Petropavlovsk-**	**33.36**	**12**	P	**P**	**13 39 25.2**	**+0.7**
	comp=Z,21nm,1.1s,baz=190,slow=6.0,SNR=7.1						
PETK				PcP	**PcP**	**13 42 05.4**	**-0.7**
	comp=Z,13nm,0.9s,baz=159,slow=5.4,SNR=5.9						
PETK				LR	LR	13 56 22.3	
	comp=Z,977nm,18.1s,baz=194,slow=42						
PET	**Petropavlovsk**	**33.48**	**13**	*e*P	**P**	**13 39 27.3**	**+1.8**
PET				*e*S	**S**	**13 44 45.4**	**-0.8**
PET				pmax	pmax		
	comp=Z,12nm,0.7s						
QIZ	**Qiongzhong**	**34.59**	**274**	P	**P**	**13 39 32.4**	**-3.2**
QIZ				pmax	pmax		
	comp=Z,23nm,1.5s						
QIZ				LR	LR		
	comp=Z,950nm,9.8s						
QIZ				LR	LR		
	comp=Z,800nm,17.2s						
ENH	**Enshi**	**34.69**	**293**	P	**P**	**13 39 35.0**	**-1.4**
ENH				IAmb	IAmb	13 39 51.9	
	comp=Z,11nm,0.6s						
COEN	**Coen**	**34.71**	**186**	P	**P**	**13 39 36.0**	**-0.5**
TTSI	**Tana Toraja**	**35.39**	**231**	P	**P**	**13 39 43.2**	**+0.7**
	comp=Z,55nm,1.1s,comp=Z,721nm						
HIA	**Hailar**	**35.57**	**329**	P	**P**	**13 39 43.4**	**-0.4**
HIA				pmax	pmax		
	comp=Z,32nm,1.0s						
HIA	**Hailar**	**35.57**	**329**	P	**P**	**13 39 43.4**	**-0.4**
HIA				IAmb	IAmb	13 39 48.5	
	comp=Z,32nm,1.0s						
XAN	**Xi'an**	**35.77**	**300**	P	**P**	**13 39 47.0**	**+1.2**
XAN				PP	**PP**	**13 41 04.9**	**-2.2**
XAN				S	**S**	**13 45 16.1**	**-6.1**
XAN				sS	sS	13 45 36.4	+7.4
XAN				SS	**SnSn**	**13 47 37.8**	**-7.1**
XAN				ScS	**ScS**	**13 50 02.0**	**-1.9**
XAN				pmax	pmax		
	comp=Z,23nm,0.9s						
XAN				pmax	pmax		
	comp=Z,190nm,6.0s						
XAN				LR	LR		
	comp=Z,610nm,15.7s						
XAN				LR	LR		
	comp=Z,1μm,13.6s						
XAN				LR	LR		
	comp=Z,990nm,14.4s						
XAN	**Xi'an**	**35.77**	**300**	P	**P**	**13 39 44.3**	**-1.5**
XAN				pmax	pmax		
	comp=Z,34nm,1.2s						
XAN	**Xi'an**	**35.77**	**300**	P	**P**	**13 39 44.3**	**-1.5**
XAN				IAmb	IAmb	13 39 47.6	
	comp=Z,34nm,1.2s						
HHC	**Hu-ho-hao-te**	**35.81**	**312**	P	**P**	**13 39 46.8**	**+0.7**
HHC				PP	**PP**	**13 41 09.3**	**+1.8**
HHC				S	**S**	**13 45 22.8**	**0.0**
HHC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,7.2s						
HHC				LR	LR		
	comp=Z,750nm,17.5s						
HHC				LR	LR		
	comp=Z,700nm,16.7s						
HHC				LR	LR		
	comp=Z,800nm,16.5s						
SPSI	**Sidrap Palu**	**36.05**	**230**	P	P	13 39 54.7	+6.5
ZEA	**Zeya**	**36.07**	**340**	*e*P	**P**	**13 39 48.2**	**+0.2**
ZEA				pmax	pmax		
	comp=N,31nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,36nm,0.8s						
MTN	**Manton Dam**	**36.74**	**206**	P	**P**	**13 39 53.0**	**-1.0**
MTN				IAmb	IAmb	13 39 55.5	
	comp=Z,48nm,0.9s						
GYA	**Guiyang**	**36.94**	**287**	⇑*i*P	**P**	**13 39 57.3**	**+1.4**
GYA				S	**S**	**13 45 41.5**	**+1.1**
GYA				SS	**SS**	**13 48 08.6**	**-14**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,270nm,5.0s						
GYA				LR	LR		
	comp=Z,480nm,12.3s						
GYA				LR	LR		
	comp=Z,370nm,11.6s						
GYA				LR	LR		
	comp=Z,650nm,15.1s						
SOEI	**Soe**	**37.49**	**218**	P	**P**	**13 40 00.4**	**-0.2**
	comp=Z,52nm,0.8s						
SOEI	**Soe**	**37.49**	**218**	P	**P**	**13 39 59.3**	**-1.3**
SOEI				IAmb	IAmb	13 40 16.2	
	comp=Z,27nm,0.8s						
MMRI	**Maumere**	**37.82**	**222**	P	**P**	**13 40 03.2**	**-0.1**
MMRI				IAmb	IAmb	13 40 05.5	
	comp=Z,68nm,0.9s						
SBUM	**Sibu**	**38.17**	**246**	P	**P**	**13 40 07.0**	**+0.7**
SBUM	**Sibu**	**38.17**	**246**	P	**P**	**13 40 06.5**	**+0.3**
BATI	**Baumata**	**38.20**	**218**	P	**P**	**13 40 05.2**	**-1.3**
	comp=Z,20nm,0.9s						
MA2	**Magadan**	**38.85**	**3**	*ce*P	**P**	**13 40 12.3**	**+0.9**
MA2				pmax	pmax		
	comp=Z,50nm,1.0s						
MA2	**Magadan**	**38.85**	**3**	P	**P**	**13 40 11.9**	**+0.5**
MA2				IAmb	IAmb	13 40 13.5	
	comp=Z,42nm,0.8s						
CD2	**Chengdu**	**39.66**	**294**	⇑*i*P	**P**	**13 40 18.3**	**-0.4**
CD2				PP	**PP**	**13 41 50.5**	**+0.6**
CD2				S	**S**	**13 46 18.4**	**-3.0**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,630nm,13.7s						
CD2				LR	LR		
	comp=Z,3μm,16.9s						
CD2				LR	LR		
	comp=Z,2μm,15.9s						
CD2				LR	LR		
	comp=Z,2μm,16.3s						
SLVN	**Son La**	**39.78**	**279**	P	**P**	**13 40 19.9**	**+0.1**
LZH	**Lanzhou**	**40.25**	**302**	⇑P	**P**	**13 40 24.8**	**+1.1**
LZH				sP	sP	13 40 31.1	+0.8
LZH				PcP	**PcP**	**13 42 30.3**	**+2.9**
LZH				*e*S	**S**	**13 46 30.9**	**+0.6**
LZH				SS	**SS**	**13 49 27.8**	**-0.9**
LZH				pmax	pmax		
	comp=Z,88nm,1.3s						
LZH				pmax	pmax		
	comp=Z,570nm,6.0s						
LZH				LR	LR		
	comp=Z,1μm,13.0s						
LZH				LR	LR		
	comp=Z,1μm,13.0s						
LZH				LR	LR		
	comp=Z,2μm,16.5s						
KNRA	**Kununurra**	**40.27**	**207**	P	**P**	**13 40 23.5**	**-0.2**
KNRA				IAmb	IAmb	13 40 25.9	
	comp=Z,50nm,0.9s						
KSM	**Kuching**	**40.30**	**246**	P	**P**	**13 40 25.0**	**+0.9**
KSM	**Kuching**	**40.30**	**246**	P	**P**	**13 40 23.5**	**-0.6**
KMI	**Kunming**	**40.51**	**285**	P	**P**	**13 40 27.4**	**+1.4**
KMI				pP	sP	13 40 32.8	+0.5
KMI				sP	pwP	13 40 35.9	+0.2
KMI				S	**S**	**13 46 36.3**	**+1.8**
KMI				sS	sS	13 46 49.8	+9.0
KMI				SS	**SS**	**13 49 32.4**	**-1.9**
KMI				pmax	pmax		
	comp=Z,11nm,1.2s						
KMI				pmax	pmax		
	comp=Z,380nm,9.6s						
KMI				LR	LR		
	comp=Z,670nm,20.6s						
KMI				LR	LR		
	comp=Z,320nm,17.4s						
KMI				LR	LR		
	comp=Z,700nm,24.9s						
CTA	**Charters Tower**	**40.64**	**181**	P	**P**	**13 40 26.8**	**+0.1**
	comp=Z,29nm,0.9s,baz=354,slow=10,SNR=18						
CTAO	**Charters Tower**	**40.64**	**181**	P	**P**	**13 40 26.8**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,35nm,0.9s						
NONG	**Nongkai**	**41.01**	**274**	P	**P**	**13 40 33.5**	**+3.6**
	comp=Z,0.7nm,1.0s,comp=Z,210nm						
TWSI	**Taliwang, Sumb**	**41.43**	**228**	P	**P**	**13 40 33.5**	**+0.1**
	comp

SONM LR LR 13 59 23.0
comp=Z,1µm,18.1s,baz=126,slow=38
WR0 Warramunga Arr 42.20 197 P **P** **13 40 38.2 -1.4**
WRAB Tennant Creek 42.23 197 *ce*P **P** **13 40 39.1 -0.7**
WRAB pmax pmax
comp=Z,18nm,0.8s
WRAB Tennant Creek 42.23 197 P **P** **13 40 38.8 -0.9**
WRA Warramunga Arr 42.24 197 *i* P **P** **13 40 38.0 -1.8**
WRA pmax pmax
comp=Z,17nm,0.8s
WRA Warramunga Arr 42.24 197 P **P** **13 40 38.1 -1.8**
comp=Z,16nm,0.8s,baz=16,slow=8.6,SNR=70
WRA PcP **PcP** **13 42 33.9 +0.1**
comp=Z,23nm,0.9s,baz=7.7,slow=3.4,SNR=12
WRA LR LR 13 58 14.9
comp=Z,1µm,21.9s,baz=5.0,slow=36
SEY Seymchan 42.29 4⇓ *i* P **P** **13 40 40.8 +1.0**
CHAI Chaiyaphum 42.55 271 P **P** **13 40 44.5 +1.9**
comp=Z,25µm,0.8s
YAK Yakutsk 42.84 348 *e*P **P** **13 40 44.0 -0.3**
YAK *e**PP **pwP** **13 40 55.0 +0.7**
YAK *e* 13 42 24.9
YAK *e* 13 42 33.6
YAK *e*S **S** **13 47 07.4 -0.1**
YAK *e*SS **SS** **13 50 20.8 +2.0**
YAK *e* 13 50 40.8
YAK *e*SSS SSS 13 51 02.7
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=Z,20nm,1.4s
YAK pmax pmax
comp=E,38nm,1.5s
YAK smax smax
comp=E,293nm,4.6s
YAK smax smax
comp=N,249nm,5.0s
YAK MLR MLR
comp=Z,484nm,16.0s
YAK MLR MLR
comp=N,321nm,15.0s
YAK MLR MLR
comp=E,165nm,17.0s
YAK Yakutsk 42.84 348 P **P** **13 40 44.0 -0.3**
YAK IAmb IAmb 13 40 58.0
comp=Z,53nm,0.7s
JAGI Jajag, Banyuwa 43.19 231 P **P** **13 40 50.6 +2.9**
PBKT Sadao Pong 43.35 272 P **P** **13 40 51.4 +2.4**
comp=Z,8.6nm,0.9s
PBKT Sadao Pong 43.35 272 P **P** **13 40 48.6 -0.4**
UTTA Uttaradit 43.49 274 P **P** **13 40 53.6 +3.4**
comp=Z,31µm,0.8s
PHRA Phrae 43.65 275 P P 13 41 04.6 +13
FITZ Fitzroy Crossi 43.79 209 P **P** **13 40 52.1 -0.3**
FITZ IAmb IAmb 13 40 57.5
comp=Z,52nm,1.1s
BOD Bodaibo 43.95 335 *e*P **P** **13 40 53.1 -0.2**
BOD pmax pmax
comp=Z,24nm,1.4s
GTA Gaotai 44.01 306 ⇓P **P** **13 40 54.4 +0.2**
GTA PcP **PcP** **13 42 39.9 +0.2**
GTA pmax pmax
comp=Z,11nm,1.1s
GTA pmax pmax
comp=Z,160nm,4.6s
GTA LR LR
comp=Z,980nm,16.8s
GTA LR LR
comp=Z,1µm,17.2s
GTA LR LR
comp=Z,1µm,15.8s
PWJI Pagerwojo 44.63 234 P **P** **13 40 59.2 -0.1**
comp=Z,49nm,1.0s
CMMT Chiang Mai 44.78 276 P **P** **13 41 03.6 +3.1**
comp=Z,6.0nm,0.7s
CHTO Chiang Mai 44.78 276 P **P** **13 41 00.5 -0.1**
CHTO pmax pmax
comp=Z,24nm,1.5s
CHTO Chiang Mai 44.78 276 P **P** **13 41 00.5 -0.1**
CMAR Chiang Mai Arr 44.85 276 *i* P **P** **13 41 03.7 +2.6**
CMAR pmax pmax
comp=Z,6.0nm,0.6s
CMAR Chiang Mai Arr 44.85 276 P **P** **13 41 02.1 +1.0**
comp=Z,6.7nm,0.8s,baz=59,slow=8.6,SNR=31
CMAR LR LR 13 58 01.3
comp=Z,288nm,21.0s,baz=89,slow=34
UTHA Uthaitani 45.01 271 P P 13 41 07.3 +4.9
comp=Z,23µm,0.8s
ZAK Zakamensk 45.03 322 *e*P **P** **13 41 02.3 +0.1**
ZAK *e* 13 42 43.5
ZAK pmax pmax
comp=Z,22nm,1.2s
IRK Irkutsk 45.29 324 *e*P **P** **13 41 04.0 -0.1**
IRK pmax pmax
comp=Z,82nm,1.6s
TLY Talaya 45.38 323 *d i* P **P** **13 41 05.6 +0.7**
TLY pmax pmax
comp=Z,62nm,1.4s
TLY MLR MLR
comp=Z,836nm,17.0s
TLY Talaya 45.38 323 P **P** **13 41 05.6 +0.7**
comp=Z,6.7nm,0.6s,baz=125,slow=7.2,SNR=11
TLY Talaya 45.38 323 P **P** **13 41 05.2 +0.3**
TLY IAmb IAmb 13 41 08.9
comp=Z,70nm,1.4s
UMPA Umpang Tak 45.41 273 P P 13 41 11.2 +5.7
comp=Z,32µm,0.8s
UGM Wanagama 45.53 235 P **P** **13 41 06.9 +0.4**
SRDT SRDT 45.62 270 P P 13 41 13.7 +6.5
comp=Z,15nm,0.7s,comp=Z,1µm
MYKOM Kota Tinggi 45.79 251 P **P** **13 41 09.0 +0.5**
MYKOM Kota Tinggi 45.79 251 P **P** **13 41 08.9 +0.3**
MYKOM IAmb IAmb 13 41 13.0
comp=Z,41nm,0.9s
MHMT Maesarieng 45.85 275 P **P** **13 41 12.4 +3.4**
comp=Z,41nm,0.8s
AS31 Alice Springs 45.90 196 P **P** **13 41 07.4 -1.8**
ASAR Alice Springs 45.90 196 P **P** **13 41 08.2 -1.1**
comp=Z,7.8nm,0.8s,baz=13,slow=5.7,SNR=58
ASAR PcP **PcP** **13 42 46.8 +0.6**
comp=Z,9.4nm,0.9s,baz=16,slow=4.4,SNR=8.0
ASAR LR LR 14 00 30.0
comp=Z,1µm,20.8s,baz=26,slow=36
DZM Mont Dzumac 46.80 154 *e*P **P** **13 41 16.9 +0.5**
comp=Z,220nm,1.1s
DZM Mont Dzumac 46.80 154 *e*LR LR 13 54 15.8
comp=Z,2µm,23.7s
DZM Mont Dzumac 46.80 154 P **P** **13 41 16.5 +0.1**
MOY Mondy 46.87 322 *e*P **P** **13 41 16.6 -0.1**
MOY pmax pmax
comp=Z,37nm,1.8s
LEM Lembang 47.14 239 P **P** **13 41 18.7 -0.6**
comp=Z,50nm,0.8s,baz=15,slow=5.2,SNR=12
IPM Ipoh 47.16 256 P **P** **13 41 20.0 +0.7**
IPM Ipoh 47.16 256 P **P** **13 41 19.7 +0.3**
IPM IAmb IAmb 13 41 22.3
comp=Z,18nm,0.8s
IPM **PcP** **13 42 51.3 +0.3**
KULM Kulim 47.17 258 P **P** **13 41 20.0 +0.6**
KULM Kulim 47.17 258 P **P** **13 41 20.1 +0.7**
KULM IAmb IAmb 13 41 22.7
comp=Z,21nm,0.8s
CISI Cisompet, Garu 47.42 238 P **P** **13 41 19.3 -2.0**
UNV Unalaska Valle 48.44 35 P **P** **13 41 29.1 +0.4**
BILL Bilibino 48.81 10 *d i* P **P** **13 41 31.4 0.0**
BILL *e*SP **sP** **13 41 37.5 -0.4**
BILL *e* 13 41 42.0
BILL S **S** **13 48 42.0 +8.6**
BILL pmax pmax
comp=Z,24nm,0.8s
BILL MLR MLR
comp=Z,483nm,16.0s
BILL Bilibino 48.81 10 P **P** **13 41 31.4 0.0**
BILL IAmb IAmb 13 41 36.0
comp=Z,28nm,0.9s
AKUT Akutan 48.95 35 P **P** **13 41 33.9 +1.3**
MSVF Nonsavu 49.15 139 P **P** **13 41 34.4 -0.3**
MSVF pmax pmax
comp=Z,39nm,1.0s
MSVF Nonsavu 49.15 139 P **P** **13 41 34.4 -0.3**
MSVF IAmb IAmb 13 41 38.4
comp=Z,39nm,0.9s

PSA00 Pilbara Seismi 49.58 213 P **P** **13 41 37.0 -0.8**
PSA00 IAmb IAmb 13 41 51.2
comp=Z,58nm,1.4s
MNAI Manna 49.60 245 P **P** **13 41 36.7 -1.4**
PSI Prapat 49.76 255 P **P** **13 41 39.1 -0.4**
PSI 13 43 00.6
PSI pmax pmax
comp=Z,17nm,0.9s
PSI Prapat 49.76 255 P **P** **13 41 39.5 0.0**
comp=Z,12nm,0.8s,baz=61,slow=3.8,SNR=8.4
PSI PcP **PcP** **13 43 00.9 +0.5**
comp=Z,36nm,0.9s,baz=122,slow=2.4,SNR=10
PSI LR LR 14 05 17.8
comp=Z,239nm,18.1s,baz=83,slow=39
RPSI Rantau Prapat 49.80 255 P **P** **13 41 39.1 -0.6**
RPSI PcP **PcP** **13 43 00.6 +0.2**
RPSI Rantau Prapat 49.80 255 P **P** **13 41 39.5 -0.2**
SHL Shillong 50.26 286 P **P** **13 41 43.5 +0.2**
SHL pmax pmax
comp=Z,20nm,0.8s
SHL Shillong 50.26 286 *e*P **P** **13 41 44.0 +0.7**
SHL *e*P **P** **13 41 45.0 +1.7**
SHL IAmb IAmb 13 41 46.9
comp=Z,12nm,0.6s
SHL Shillong 50.26 286 P **P** **13 41 43.5 +0.2**
SHL IAmb IAmb 13 41 55.6
comp=Z,20nm,0.8s
FALS False Pass 50.50 35 P **P** **13 41 45.5 +1.1**
LSA Lhasa 50.55 292 P **P** **13 41 47.4 +1.6**
LSA Lhasa 50.55 292 P **P** **13 41 47.0 +1.2**
LSA pmax pmax
comp=Z,31nm,0.9s
LSA Lhasa 50.55 292 P **P** **13 41 47.0 +1.2**
LSA IAmb IAmb 13 41 50.0
comp=Z,31nm,0.9s
ARMA Armidale 51.15 174 P **P** **13 41 49.8 +0.1**
ARMA IAmb IAmb 13 42 03.1
comp=Z,55nm,1.3s
OPA Opana 51.37 78 P **P** **13 41 52.9 +1.4**
OPA pmax pmax
comp=Z,45nm,0.7s
OPA Opana 51.37 78 P **P** **13 41 52.9 +1.4**
KIP Kipapa 51.41 79 P **P** **13 41 52.7 +0.9**
KIP pmax pmax
comp=Z,76nm,1.5s
KIP Kipapa 51.41 79 P **P** **13 41 52.7 +0.9**
KIP IAmb IAmb 13 42 11.2
comp=Z,76nm,1.5s
HON Honolulu 51.44 79 P **P** **13 41 53.4 +1.4**
HON pmax pmax
comp=Z,141nm,1.3s
HON Honolulu 51.44 79 P **P** **13 41 53.4 +1.4**
GSI Gunungsitoli 51.61 254 P **P** **13 41 52.0 -1.4**
GSI IAmb IAmb 13 42 08.1
comp=Z,40nm,0.9s
TIXI Tiksi 51.90 353⇑ *e*P **P** **13 41 53.7 -0.9**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
TIXI MLR MLR
comp=Z,506nm,17.0s
TIXI Tiksi 51.90 353 P **P** **13 41 53.9 -0.7**
STKA Stephens Creek 52.60 185 P **P** **13 41 59.3 -1.0**
comp=Z,18nm,1.0s,baz=10,slow=10,SNR=10
STKA LR LR 14 05 38.9
comp=Z,561nm,19.8s,baz=2.7,slow=38
STKA Stephens Creek 52.60 185 P **P** **13 41 59.5 -0.8**
GTK Tadong 52.99 289 *e*P **P** **13 42 04.6 +1.0**
GTK IAmb IAmb 13 42 07.7
comp=Z,58nm,0.9s
GIRL Giralia 53.51 218 P **P** **13 42 07.5 +0.3**
WMQ Urumqi 53.63 310 P **P** **13 42 08.9 +0.9**
WMQ pP sP 13 42 14.4 +0.1
WMQ pmax pmax
comp=Z,53nm,1.5s
WMQ pmax pmax
comp=Z,300nm,7.1s
WMQ LR LR
comp=Z,610nm,19.7s
WMQ LR LR
comp=Z,620nm,14.3s
WMQ LR LR
comp=Z,480nm,16.1s
CHGN Chignik 53.66 35 P **P** **13 42 06.9 -1.0**
TAPN Taplejung 53.78 289⇓ *i* P **P** **13 42 10.4 +0.8**
comp=Z,132nm,0.9s
ANM Nome 53.93 23 P **P** **13 42 09.9 +0.1**
ANM pmax pmax
comp=Z,23nm,1.3s
ANM Nome 53.93 23 P **P** **13 42 09.9 +0.1**
ANM IAmb IAmb 13 42 13.7
comp=Z,23nm,1.3s
ODAN Odare 54.12 289⇓ *i* P **P** **13 42 12.6 +0.6**
comp=Z,155nm,1.0s
BBOO Buckleboo 54.26 191 P **P** **13 42 11.5 -1.0**
BBOO IAmb IAmb 13 42 18.2
comp=Z,21nm,0.9s
FORT Forrest 54.30 200 P **P** **13 42 12.8 0.0**
RAMN Ramite 54.81 289⇓ *i* P **P** **13 42 18.0 +0.9**
comp=Z,128nm,0.9s
JIRN Jiri 55.08 290⇓ *i* P **P** **13 42 20.2 +1.0**
comp=Z,418nm,0.9s
GUN Gumba 55.32 290⇓ *i* P **P** **13 42 22.0 +1.1**
comp=Z,335nm,0.9s
PKI Pulchoki 55.78 290⇓ *i* P **P** **13 42 24.6 +0.4**
comp=Z,21nm,0.9s
PKIN Phulchoki 55.79 290⇓ *i* P **P** **13 42 24.6 +0.4**
comp=Z,126nm,1.1s
CAN Canberra 55.86 178 P **P** **13 42 24.5 +0.4**
CAN pmax pmax
comp=Z,53nm,1.3s
CAN Canberra 55.86 178 P **P** **13 42 24.5 +0.4**
CAN IAmb IAmb 13 42 28.4
comp=Z,53nm,1.3s
KKN Kakani 55.86 290⇓ *i* P **P** **13 42 25.5 +0.8**
comp=Z,257nm,0.9s
BOK Bokaro 55.91 285 *e*P **P** **13 42 26.3 +1.5**
SII Sitkinak Islan 55.99 35 P **P** **13 42 24.8 0.0**
DMN Daman 56.04 290⇓ *i* P **P** **13 42 26.8 +0.8**
comp=Z,218nm,1.0s
GKN Gorkha 56.40 290⇓ *i* P **P** **13 42 29.1 +0.7**
comp=Z,627nm,1.1s
RDOG Red Dog Mine 56.56 20 P **P** **13 42 28.7 0.0**
SVW2 Sparrevohn 56.58 30 P **P** **13 42 28.9 0.0**
OHAK Old Harbor 56.63 34 P **P** **13 42 28.7 -0.6**
ZAA0 Zalesovo Array 56.91 322 P **P** **13 42 30.6 -0.8**
ZALV Zalesovo Beam 56.91 322 P **P** **13 42 31.2 -0.1**
comp=Z,42nm,0.7s,baz=101,slow=6.7,SNR=170
ZALV PcP **PcP** **13 43 25.9 -0.8**
comp=Z,27nm,1.0s,baz=131,slow=4.0,SNR=4.0
ZALV LR LR 14 08 27.9
comp=Z,313nm,18.7s,baz=96,slow=38
TTA Tatalina 56.99 27 P **P** **13 42 32.0 +0.1**
TTA pmax pmax
comp=Z,14nm,1.2s
TTA Tatalina 56.99 27 P **P** **13 42 31.9 +0.1**
DANN Dangsing 57.12 291⇓ *i* P **P** **13 42 34.9 +1.2**
comp=Z,1µm,0.9s
KOLN Koldanda 57.34 290⇓ *i* P **P** **13 42 35.9 +0.7**
comp=Z,307nm,0.9s
MK31 Makanchi Array 57.66 313 *i* P **P** **13 42 36.9 0.0**
MK31 pmax pmax
comp=Z,33nm,0.9s
MK31 Makanchi Array 57.66 313 P **P** **13 42 36.9 0.0**
MK31 IAmb IAmb 13 42 39.7
comp=Z,26nm,0.9s
MKAR Makanchi Array 57.66 313 P **P** **13 42 37.2 +0.3**
comp=Z,27nm,0.8s,baz=94,slow=8.0,SNR=114
MKAR PcP **PcP** **13 43 28.4 -1.4**
comp=Z,8.6nm,0.8s,baz=87,slow=7.4,SNR=4.3
MKAR LR LR 14 08 57.6
comp=Z,480nm,18.1s,baz=78,slow=38
MORW Morawa 57.69 212 P **P** **13 42 36.5 -0.7**
MORW IAmb IAmb 13 42 38.9
comp=Z,31nm,0.9s
MAKZ Makanchi 57.88 313 P **P** **13 42 38.4 0.0**
MAKZ pmax pmax
comp=Z,55nm,1.0s
MAKZ Makanchi 57.88 313 P **P** **13 42 38.4 0.0**
BPAW Bear Paw Mtn. 59.49 27 P **P** **13 42 48.9 -0.4**
BPAW IAmb IAmb 13 42 53.4
comp=Z,18nm,0.9s
PDGK Podgornoye 59.56 309 P **P** **13 42 50.4 +0.1**
PDGK pmax pmax
comp=Z,59nm,0.9s
MLY Manley 59.85 26 P **P** **13 42 51.9 +0.1**

MLY IAmb IAmb 13 42 56.0
comp=Z,16nm,1.0s
NRIK Noril'sk 59.95 339 *i* P **P** **13 42 52.5 +0.1**
NRIK Noril'sk 59.95 339 P **P** **13 42 52.8 +0.4**
comp=Z,60nm,0.8s,baz=111,slow=8.3,SNR=113
KURK Kurchatov 60.31 317 P **P** **13 42 55.7 +0.5**
KURK Kurchatov 60.31 317 P **P** **13 42 54.9 -0.2**
KURBB Kurchatov Arra 60.37 317 P **P** **13 42 55.7 +0.2**
comp=Z,73nm,0.8s,baz=94,slow=7.7,SNR=269
JOSI Joshimath 60.46 294 *e*P **P** **13 42 57.6 +0.8**
COLD Coldfoot 60.69 23 P **P** **13 42 58.0 +0.5**
TARG Taragay, Kyrgy 60.85 307 P **P** **13 42 59.1 -0.4**
COLA College 61.00 26 *i* P **P** **13 43 00.3 +0.7**
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA College 61.00 26 P **P** **13 42 59.1 -0.5**
COLA IAmb IAmb 13 43 02.3
comp=Z,17nm,1.1s
POKR Poker Plat Res 61.23 26 P **P** **13 43 01.2 0.0**
baz=257
OUZ Omahuta 61.31 155 P **P** **13 43 01.4 -0.6**
TOLK Toolik Lake Re 61.33 22 P **P** **13 43 02.5 +0.6**
baz=253
TOLK Toolik Lake Re 61.33 22 P **P** **13 43 02.0 +0.2**
TOLK IAmb IAmb 13 43 06.4
comp=Z,35nm,1.1s
ILAR Eielson Array 61.38 27 P **P** **13 43 00.8 -1.4**
comp=Z,10nm,1.0s,baz=254,slow=6.3,SNR=24
ILAR LR LR 14 12 35.5
comp=Z,278nm,18.0s,baz=262,slow=39
ULHL Ulahol 61.99 308 P **P** **13 43 08.1 +1.1**
SNR=6.5
PRP Porcupine Dome 62.10 26 P **P** **13 43 06.0 -1.2**
NRN Naryn 62.22 307 P **P** **13 43 08.3 -0.3**
NRN pmax pmax
comp=Z,35nm,1.1s
NRN Naryn 62.22 307 P **P** **13 43 08.3 -0.3**
DOT Dot Lake 62.39 28 P **P** **13 43 08.6 -0.5**
DOT IAmb IAmb 13 43 12.5
comp=Z,21nm,1.2s
KSH Kashi 62.39 305 P **P** **13 43 13.3 +3.7**
KSH S **S** **13 51 40.8 +5.1**
KSH SS **SS** **13 55 46.4 +7.1**
KSH pmax pmax
comp=Z,60nm,1.0s
KSH pmax pmax
comp=Z,670nm,9.3s
KSH LR LR
comp=Z,1µm,15.9s
KSH LR LR
comp=Z,620nm,9.3s
KSH LR LR
comp=Z,850nm,6.7s
SMLA Simla 62.41 295 *e*P **P** **13 43 09.9 +0.3**
TKM2 Tokmak 2 62.42 308 P **P** **13 43 10.8 +0.9**
TKM2 pmax pmax
comp=Z,45nm,1.0s
TKM2 Tokmak 2 62.42 308 P **P** **13 43 11.0 +1.2**
SNR=37
FYU Fort Yukon 62.43 25 P **P** **13 43 09.6 +0.4**
FYU IAmb IAmb 13 43 13.0
comp=Z,27nm,1.0s
MENT Mentasta 62.44 29 P **P** **13 43 09.7 +0.3**
MENT IAmb IAmb 13 43 12.9
comp=Z,16nm,1.1s
SCRK Sand Creek 62.48 28 P **P** **13 43 09.5 -0.2**
SCRK IAmb IAmb 13 43 12.5
comp=Z,36nm,1.3s
NGP Nagpur 62.63 284 *e*P **P** **13 43 12.0 +0.7**
NGP IAmb IAmb 13 43 18.0
comp=Z,38nm,1.0s
KZA Kyzart 62.73 307 P **P** **13 43 13.0 +0.8**
SNR=15
NDI New Delhi 62.77 292 *e*P **P** **13 43 12.5 +0.4**
AYAN Aya Nagar 62.88 292 *e*P **P** **13 43 13.1 +0.3**
KBK Karagaybulak 62.92 308 P **P** **13 43 14.1 +1.0**
SNR=33
DHRM DHARAMSHALA 62.98 296 *e*P **P** **13 43 13.4 -0.4**
CHMS Chumysh 63.04 309 P **P** **13 43 14.9 +1.2**
SNR=16
FRU1 Bishkek 63.14 308 P **P** **13 43 13.9 -0.6**
FRU1 pmax pmax
comp=Z,53nm,1.1s
FRU1 Bishkek 63.14 308 P **P** **13 43 13.9 -0.6**
USP Ospenovka 63.20 309 P **P** **13 43 15.6 +0.7**
SNR=25
AAK Ala-Archa 63.25 308 P **P** **13 43 15.8 +0.5**
AAK pmax pmax
comp=Z,24nm,1.1s
AAK Ala-Archa 63.25 308 P **P** **13 43 15.5 +0.1**
comp=Z,12nm,0.8s,baz=115,slow=4.4,SNR=25
AAK Ala-Archa 63.25 308 P **P** **13 43 16.1 +0.8**
SNR=15
AAK Ala-Archa 63.25 308 P **P** **13 43 15.0 -0.3**
AAK IAmb IAmb 13 43 19.6
comp=Z,23nm,1.0s
UCH Uchtor 63.27 308 P **P** **13 43 17.4 +1.6**
SNR=35
TAU Tasmania Unive 63.39 179 P **P** **13 43 15.9 +0.1**
TAU pmax pmax
comp=Z,52nm,1.1s
TAU Tasmania Unive 63.39 179 P **P** **13 43 15.9 +0.1**
KUDL Kundal 63.49 292 *e*P P 13 43 11.9 -5.0
EKS2 Erkin-Say 63.78 308 P **P** **13 43 19.8 +1.0**
SNR=13
EGAK Eagle 63.80 27 P **P** **13 43 17.8 -0.6**
EGAK IAmb IAmb 13 43 21.3
comp=Z,26nm,1.4s
AML Almayashu 63.88 308 P **P** **13 43 21.2 +1.4**
SNR=28
HYB Hyderabad 63.99 280 *i* P **P** **13 43 20.0 -0.4**
DAWY Dawson 64.49 28 P **P** **13 43 23.2 +0.3**
DAWY IAmb IAmb 13 43 27.0
comp=Z,19nm,1.1s
HYT Haines Junctio 65.19 32 P **P** **13 43 27.8 +0.2**
NIL Nilore 65.29 298 P **P** **13 43 28.8 +0.1**
NIL pmax pmax
comp=Z,146nm,1.1s
NIL Nilore 65.29 298 P **P** **13 43 28.8 +0.1**
BVAR Borovoye Array 65.43 320 P **P** **13 43 29.7 +0.5**
comp=Z,87nm,0.5s,baz=90,slow=6.9,SNR=356
BRVK Borovoye 65.50 320 P **P** **13 43 29.5 -0.1**
BRVK pmax pmax
comp=Z,84nm,0.8s
BRVK Borovoye 65.50 320 P **P** **13 43 29.5 -0.1**
EPYK Eagle Plains 65.79 25 P **P** **13 43 31.6 +0.3**
baz=266,SNR=11
EPYK Eagle Plains 65.79 25 P **P** **13 43 30.9 -0.4**
QRZ Quartz Range 65.87 159 P **P** **13 43 32.7 +0.7**
KK31 Karatay Array 66.12 309 P **P** **13 43 34.2 +0.3**
KK31 pmax pmax
comp=Z,42nm,0.8s
KK31 Karatay Array 66.12 309 P **P** **13 43 34.6 +0.7**
KKAR Karatay Array 66.12 309 P **P** **13 43 34.6 +0.7**
KKAR pmax pmax
comp=Z,71nm,0.9s
KKAR Karatay Array 66.12 309 P **P** **13 43 34.6 +0.7**
BTK Batken 66.28 306 P **P** **13 43 35.0 0.0**
BTK pmax pmax
comp=Z,25nm,1.3s
BTK Batken 66.28 306 P **P** **13 43 35.0 0.0**
BTK IAmb IAmb 13 43 37.7
comp=Z,25nm,1.2s
GAR Garm 66.81 305 P **P** **13 43 38.8 +0.3**
INK Inuvik 67.11 23 P **P** **13 43 39.0 -0.6**
comp=Z,20nm,1.1s,baz=257,slow=8.4,SNR=37
INK Inuvik 67.11 23 P **P** **13 43 38.6 -1.0**
INK IAmb IAmb 13 43 42.9
comp=Z,28nm,1.1s
KHZ Kahutara 67.63 159 P **P** **13 43 42.0 -1.1**
CHGR Chuyangaron 67.76 304 P **P** **13 43 44.8 +0.3**
OXZ Oxford 67.95 160 P **P** **13 43 44.4 -0.8**
OXZ IAmb IAmb 13 43 47.3
comp=Z,29nm,1.1s
RPZ Rata Peaks 68.00 161 P **P** **13 43 43.8 -1.8**
comp=Z,34nm,0.9s,baz=29,slow=8.5,SNR=8.2
RPZ Rata Peaks 68.00 161 P **P** **13 43 44.5 -1.0**
POO Poona 68.02 282 *e*P **P** **13 43 45.6 -0.7**
POO *e*P **P** **13 43 46.9 +0.6**
POO IAmb IAmb 13 43 49.8
comp=Z,34nm,0.7s
KAD Karad 68.04 281 *e*P **P** **13 43 45.9 -0.6**
KBL Kabul 68.58 300 P **P** **13 43 49.6 -0.2**
KBL pmax pmax
comp=Z,103nm,0.9s

KBL Kabul 68.58 300 P P 13 43 49.6 -0.2
C36M Paulatuk 70.48 22 P P 13 44 00.1 -0.5
baz=277,SNR=6.6
SVE Sverdlovsk 70.68 324*c i*P P 13 44 02.5 +0.4**
SVE pmax pmax
comp=Z,91nm,0.9s
ARU Arti 71.88 324*d i*P P 13 44 09.3 0.0**
ARU S S 13 53 30.9 +1.7
ARU SS SS 13 57 59.1 -6.0
ARU pmax pmax
comp=Z,86nm,0.8s
ARU Arti 71.88 324 P P 13 44 09.4 0.0
comp=Z,35nm,0.9s,baz=93,slow=3.0,SNR=112
ARU Arti 71.88 324 P P 13 44 09.0 -0.3
ABKAR Akbulak array 72.41 317 P P 13 44 12.2 -0.5
PPT Papeete 73.25 117 LR LR 14 11 09.3
comp=Z,420nm,19.1s,baz=254,slow=31
PPT2 Papeete2 73.26 117 *e*LR LR 14 06 42.6
comp=Z,1µm,28.0s
AKTO Aktyubinsk 73.39 318 P P 13 44 18.1 -0.4
comp=Z,13nm,0.7s,baz=85,slow=6.0,SNR=46
HRA Herat 74.09 301 P P 13 44 23.1 -0.1
HRA IAmb IAmb 13 44 26.1
comp=Z,25nm,0.9s
LLLB Lillooet 75.13 41 P P 13 44 29.4 +0.7
LLLB IAmb IAmb 13 44 32.4
comp=Z,24nm,1.2s
D03D Eldon 75.14 45 P P 13 44 30.1 +1.4
baz=285
B05A Bryant 75.60 44 P P 13 44 32.5 +1.2
baz=285
YKW3 Yellowknife Ar 75.71 28 P P 13 44 30.8 -0.9
YKW3 IAmb IAmb 13 44 33.5
comp=Z,14nm,0.9s
YKA Yellowknife Ar 75.73 28 P P 13 44 31.1 -0.7
comp=Z,12nm,0.9s,baz=290,slow=5.5,SNR=100
YKA PKiKP **PKiKP 13 50 18.4 -0.7**
comp=Z,0.4nm,0.9s,baz=307,slow=2.0,SNR=3.9
YKA LR LR 14 15 38.8
comp=Z,71nm,21.9s,baz=288,slow=34
E04D Cinebar 75.73 45 P P 13 44 33.6 +1.4
baz=285
D05A Enumclaw 75.95 45 P P 13 44 32.9 -0.5
D05A IAmb IAmb 13 44 36.8
comp=Z,28nm,1.0s
I03D Drain, OR 75.95 48 P P 13 44 34.6 +1.2
baz=285
F04A Amboy 76.00 46 P P 13 44 33.4 -0.2
F04A IAmb IAmb 13 44 37.1
comp=Z,32nm,1.0s
KIRV Kirov 76.16 328 P P 13 44 34.6 +0.3
comp=Z,98nm,0.8s,baz=73,slow=0.4,SNR=39
TBI Tubuai 76.17 122 *e*LQ LQ 14 04 15.2
comp=Z,817nm,30.5s
TBI *e*LR LR 14 07 53.0
comp=Z,395nm,24.2s
GEYT Alibeck 76.39 306 P P 13 44 36.6 +0.5
comp=Z,16nm,0.9s,baz=75,slow=1.7,SNR=19
GYA0B ALIBECK ARRAY 76.39 306 P P 13 44 34.9 -1.3
GYA0B IAmb IAmb 13 44 39.3
comp=Z,24nm,1.0s
C06D Leavenworth 76.47 44 P P 13 44 37.4 +1.0
baz=286
I04A Tendick Farm, 76.58 48 P P 13 44 37.8 +0.7
baz=286
LTY Liberty 76.80 44 P P 13 44 38.1 -0.2
M02C Callahan 76.93 51 P P 13 44 40.0 +0.9
baz=286
G05D Wamic, OR 76.93 46 P P 13 44 40.2 +1.1
baz=286
YBH Yreka Blue Hor 76.94 50 P P 13 44 39.3 +0.1
YBH pmax pmax
comp=Z,14nm,1.0s
YBH Yreka Blue Hor 76.94 50 P P 13 44 39.3 +0.1
J04D Umpqua Nationa 76.94 49 P P 13 44 40.1 +0.7
baz=286
PRGR Permogore 77.00 331⇓ *i*P P 13 44 39.2 +0.2**
PRGR *e* 13 44 48.4
PRGR pmax pmax
comp=Z,164nm,0.8s
L04D Klamath Falls 77.09 50 P P 13 44 40.6 +0.5
baz=286
N02D Trinity Center 77.15 51 P P 13 44 41.4 +1.0
baz=286
RES Resolute Bay 77.19 14 P P 13 44 39.6 -0.2
RES pmax pmax
comp=Z,21nm,1.0s
RES Resolute Bay 77.19 14 P P 13 44 39.6 -0.2
RES IAmb IAmb 13 44 42.3
comp=Z,21nm,0.9s
O02D Mt. Diablo Mer 77.32 52 P P 13 44 41.4 +0.1
baz=286
B08A Colville Reser 77.34 43 P P 13 44 40.9 -0.4
B08A IAmb IAmb 13 44 44.4
comp=Z,29nm,1.2s
K04D Chiloquin, OR 77.37 49 P P 13 44 42.4 +0.8
baz=287
WDC Whiskeytown Da 77.38 51 P P 13 44 41.4 -0.2
WDC pmax pmax
comp=Z,12nm,1.1s
WDC Whiskeytown Da 77.38 51 P P 13 44 41.4 -0.2
E07A Sunnyside 77.53 45 P P 13 44 41.4 -0.9
J05D Fort Rock, OR 77.54 48 P P 13 44 43.4 +0.8
baz=287,SNR=12
M04C Macdoel 77.55 50 P P 13 44 43.2 +0.5
baz=287
PINE Pine Mountain 77.60 48 P P 13 44 43.3 +0.2
HAWA Hanford 77.79 45 P P 13 44 43.2 -0.6
HAWA IAmb IAmb 13 44 47.2
comp=Z,26nm,1.4s
O03E Paynes Creek 78.00 51 P P 13 44 45.2 0.0
baz=287
E08A Dider Farm, El 78.08 45 P P 13 44 45.2 -0.2
C09A Chrisman Ranch 78.19 43 P P 13 44 45.6 -0.4
C09A IAmb IAmb 13 44 49.2
comp=Z,24nm,1.3s
ORV Oroville 78.44 52 P P 13 44 47.0 -0.6
ORV pmax pmax
comp=Z,30nm,1.4s
ORV Oroville 78.44 52 P P 13 44 47.0 -0.6
ORV IAmb IAmb 13 44 50.4
comp=Z,30nm,1.4s
MOD Modoc Plateau 78.61 50 P P 13 44 47.9 -0.7
NEW Newport 78.78 43 P P 13 44 49.5 +0.2
baz=289,SNR=12
NEW Newport 78.78 43 P P 13 44 48.8 -0.5
NEW pmax pmax
comp=Z,18nm,1.1s
NEW Newport 78.78 43 P P 13 44 48.8 -0.5
NEW IAmb IAmb 13 44 52.5
comp=Z,18nm,1.1s
LVZ Lovozero 78.80 339*ce*P P 13 44 49.6 +0.6**
LVZ pmax pmax
comp=Z,55nm,1.3s
LVZ Lovozero 78.80 339 P P 13 44 48.7 -0.3
AFDM Forest Hills D 79.02 53 P P 13 44 50.7 -0.1
BEKR Beckworth 79.19 51 P P 13 44 51.7 -0.2
TMCR Tamitsa 79.25 335 *e*P P 13 44 50.0 -1.4**
TMCR pmax pmax
comp=Z,213nm,0.9s
APA Apatity 79.37 339⇑ *i*P P 13 44 51.6 -0.5**
APA pmax pmax
comp=Z,55nm,0.9s
F10A Beach Ranch, E 79.44 45 P P 13 44 52.8 -0.2
RUBR Rubicon Trail 79.59 52 P P 13 44 53.2 -0.9
RUBR IAmb IAmb 13 45 04.2
comp=Z,19nm,1.0s
WVOR Wild Horse Val 79.62 49 P P 13 44 53.5 -0.6
WVOR pmax pmax
comp=Z,20nm,1.1s
WVOR Wild Horse Val 79.62 49 P P 13 44 53.5 -0.6
WVOR IAmb IAmb 13 44 56.8
comp=Z,20nm,1.1s
CMB Columbia Colle 79.74 53 P P 13 44 54.3 -0.4
CMB pmax pmax
comp=Z,44nm,1.5s
CMB Columbia Colle 79.74 53 P P 13 44 54.3 -0.4
CMB IAmb IAmb 13 44 57.9
comp=Z,44nm,1.4s
BMO Blue Mountains 79.76 46 P P 13 44 54.4 -0.4
BMO pmax pmax
comp=Z,35nm,1.4s
BMO Blue Mountains 79.76 46 P P 13 44 54.4 -0.4
BMO IAmb IAmb 13 44 58.0
comp=Z,35nm,1.4s
VCNR Virginia City 79.89 52 P P 13 44 55.3 -0.4

PAHR Pah Rah Range 79.95 51 P P 13 44 55.8 -0.2
PNTR Pine Nut 79.99 52 P P 13 44 56.4 +0.1
YERR Yerington 80.29 52 P P 13 44 57.8 0.0
YERR IAmb IAmb 13 45 01.2
comp=Z,33nm,1.3s
WAKR Walker 80.30 53 P P 13 44 58.1 +0.2
WALA Waterton Lakes 80.52 41 P P 13 44 58.7 -0.1
WALA IAmb IAmb 13 45 01.9
comp=Z,20nm,1.0s
TULEG Thule 80.52 8 P P 13 44 57.8 -0.4
PLID Pearl Lake 80.55 45 P P 13 44 58.6 -0.7
PAGB Antelope Grade 80.57 55 P P 13 44 58.5 -0.8
PAGB IAmb IAmb 13 45 02.2
comp=Z,25nm,1.0s
JTMT Jette 80.75 42 P P 13 44 59.4 -0.7
JTMT IAmb IAmb 13 45 02.7
comp=Z,19nm,0.9s
ARCES ARCESS Array B 80.77 342 P P 13 44 59.5 -0.1
comp=Z,21nm,0.9s,baz=52,slow=6.7,SNR=24
ARE0 ARCESS Array S 80.77 342 P P 13 44 59.5 -0.1
MDPB Devils Postpil 80.85 53 P P 13 45 00.5 -0.5
OMMB Old Mammoth Mi 80.91 53 P P 13 45 01.3 -0.1
RYN Ryan 80.94 52 P P 13 45 01.3 -0.1
RYN IAmb IAmb 13 45 04.0
comp=Z,17nm,0.9s
MLAC Mammoth, Mammo 81.03 53 P P 13 45 02.8 +0.9
baz=289
KVN Kaiserville 81.11 52 P P 13 45 02.1 -0.2
KVN pmax pmax
comp=Z,18nm,0.9s
KVN Kaiserville 81.11 52 P P 13 45 02.1 -0.2
KVN IAmb IAmb 13 45 04.8
comp=Z,18nm,0.9s
NVAR Mina Array Bea 81.16 52 P P 13 45 02.8 +0.2
comp=Z,22nm,0.8s,baz=266,slow=5.1,SNR=90
NVAR LR LR 14 15 25.3
comp=Z,452nm,20.3s,baz=278,slow=32
PKM Mcpherson Peak 81.18 56 P P 13 45 03.4 +0.7
baz=289
MFID Camas Ranch 81.24 47 P P 13 45 02.7 -0.1
MFID IAmb IAmb 13 45 05.4
comp=Z,21nm,0.9s
NV11 Mina Array Sit 81.27 52 P P 13 45 03.1 0.0
NV11 IAmb IAmb 13 45 05.8
comp=Z,16nm,0.9s
MSO Missoula 81.29 43 P P 13 45 04.3 +1.3
baz=291
VES Vestal, Richgr 81.43 55 P P 13 45 03.6 -0.2
baz=289,SNR=6.9
TIN Tinemaha, Big 81.68 54 P P 13 45 06.1 +0.9
baz=290,SNR=10
ARVC Arvin 81.87 56 P P 13 45 08.9 +2.8
baz=290
ISA Isabella, Lake 81.96 55 P P 13 45 06.3 -0.3
baz=290
ISA Isabella, Lake 81.96 55 P P 13 45 06.0 -0.7
ISA pmax pmax
comp=Z,6.0nm,1.0s
ISA Isabella, Lake 81.96 55 P P 13 45 06.0 -0.7
CWC Cottonwood Cre 82.00 54 P P 13 45 07.1 +0.1
baz=290
DAG Danmarks Havn 82.23 357 *i*P P 13 45 06.5 -0.7**
DAG pmax pmax
comp=Z,8.0nm,0.9s
DAG Danmarks Havn 82.23 357 *i*P P 13 45 06.5 -0.7**
comp=Z,7.6nm,0.9s
GRAC Grapevine Rang 82.35 53 P P 13 45 09.1 +0.4
baz=290
DAC Darwin (Calif) 82.42 54 P P 13 45 09.4 +0.2
DAC pmax pmax
comp=Z,9.0nm,1.0s
DAC Darwin (Calif) 82.42 54 P P 13 45 09.4 +0.2
DECC Green Verdugo 82.55 56 P P 13 45 10.3 +0.6
baz=290
MPMC Manual Prospec 82.58 54 P P 13 45 10.1 +0.1
baz=290,SNR=25
ELK Elko 82.59 49 P P 13 45 09.7 -0.4
ELK pmax pmax
comp=Z,18nm,0.9s
ELK Elko 82.59 49 P P 13 45 09.7 -0.4
ELK IAmb IAmb 13 45 12.7
comp=Z,18nm,0.8s
EDW2 Edwards Air Fo 82.59 56 P P 13 45 10.5 +0.5
baz=290
LRM Limekiln Ridge 82.62 44 P P 13 45 09.1 -1.1
LRMC Laurel Mtn Rad 82.63 55 P P 13 45 10.5 +0.2
baz=290,SNR=16
PASC Pasadena Art C 82.69 56 P P 13 45 09.3 -1.1
DLMT Dillon 82.70 44 P P 13 45 09.6 -0.9
MCMT McKenzie Canyo 82.73 45 P P 13 45 09.9 -0.9
MWC Mount Wilson 82.77 56 P P 13 45 10.0 -1.1
MWC pmax pmax
comp=Z,18nm,1.3s
MWC Mount Wilson 82.77 56 P P 13 45 10.0 -1.1
MWC IAmb IAmb 13 45 13.8
comp=Z,18nm,1.2s
CIS Catalina Islan 82.77 57 P P 13 45 11.0 +0.1
baz=290
AKT Akhty 82.87 312 *e*P P 13 45 12.2 +0.8**
AKT *e* 13 45 16.9
AKT pmax pmax
comp=Z,49nm,0.9s
FURC Furnace Creek, 82.91 54 P P 13 45 11.9 +0.4
baz=291,SNR=12
VRH Novokhopyorsk 82.94 322 *e*P P 13 45 11.0 -0.3**
VRH pmax pmax
comp=Z,120nm,0.8s
BFSC Mount Baldy Ra 83.08 56 P P 13 45 14.6 +2.0
baz=290
MOS Moscow 83.17 327 *e*P P 13 45 11.0 -1.5**
MOS *e* 13 48 23.9
MOS pmax pmax
comp=Z,181nm,1.4s
R11A Troy Canyon, C 83.20 52 P P 13 45 13.3 0.0
baz=291,SNR=22
R11A Troy Canyon, C 83.20 52 P P 13 45 12.7 -0.6
R11A IAmb IAmb 13 45 16.5
comp=Z,20nm,1.2s
TPNV Topopah Spring 83.20 53 P P 13 45 13.3 +0.1
baz=291,SNR=29
TPNV Topopah Spring 83.20 53 P P 13 45 12.7 -0.6
TPNV pmax pmax
comp=Z,21nm,0.9s
TPNV Topopah Spring 83.20 53 P P 13 45 12.7 -0.6
TPNV IAmb IAmb 13 45 15.7
comp=Z,21nm,0.8s
GSC Goldstone, Bar 83.36 55 P P 13 45 14.2 +0.1
baz=291,SNR=10.0
GSC Goldstone, Bar 83.36 55 P P 13 45 13.3 -0.7
GSC pmax pmax
comp=Z,33nm,1.5s
GSC Goldstone, Bar 83.36 55 P P 13 45 13.3 -0.7
GSC IAmb IAmb 13 45 17.0
comp=Z,33nm,1.5s
SHOC Shoshone, Teco 83.56 54 P P 13 45 15.3 +0.4
baz=291
GROC Groznyy 83.56 314 *e*P P 13 45 14.5 -0.2**
GROC *e*S S 13 55 35.0 -0.9
GROC pmax pmax
comp=Z,113nm,1.1s
MURC Murrieta 83.66 57 P P 13 45 15.2 -0.3
baz=291
QLMT Earthquake Lak 83.67 44 P P 13 45 15.5 0.0
YHL Hebgen Lake 83.82 44 P P 13 45 16.3 -0.1
YHB Horse Butte 83.85 44 P P 13 45 15.8 -0.7
HEC Hector,Ludlow 83.89 55 P P 13 45 17.2 +0.5
baz=291,SNR=6.1
LPSR Galich'ya Gora 83.90 324 *e*P P 13 45 16.1 -0.2**
LPSR pmax pmax
comp=Z,180nm,0.9s
109C Camp Elliot, M 83.98 57 P P 13 45 17.6 +0.5
baz=291,SNR=5.7
109C Camp Elliot, M 83.98 57 P P 13 45 16.5 -0.6
109C IAmb IAmb 13 45 19.2
comp=Z,20nm,1.0s
OBN Obninsk 84.00 327 *d i*P P 13 45 16.4 -0.3**
OBN *e* 13 45 20.4
OBN *i* 13 45 29.1
OBN SS SS 14 01 14.0 +6.7
OBN pmax pmax
comp=Z,191nm,1.3s
OBN MLR MLR
comp=Z,704nm,16.0s
OBN Obninsk 84.00 327 P P 13 45 16.0 -0.7
YMR Madison River 84.04 44 P P 13 45 17.1 -0.4

YHH Holmes Hill 84.06 44 P P 13 45 17.6 -0.1
BGU Big Grassy Mou 84.08 49 P P 13 45 17.3 -0.4
SHPR Sheep Range 84.18 53 P P 13 45 18.0 -0.3
SHPR IAmb IAmb 13 45 21.1
comp=Z,15nm,1.0s
YNM Yellowstone No 84.18 44 P P 13 45 18.5 +0.3
YNR Norris Junctio 84.20 44 P P 13 45 18.8 +0.5
PFO Pinyon Flats O 84.23 56 P P 13 45 18.4 -0.1
baz=291,SNR=13
PFO Pinyon Flats O 84.23 56⇑ *i*P P 13 45 18.6 +0.1**
PFO pmax pmax
comp=Z,23nm,1.0s
PFO Pinyon Flats O 84.23 56 P P 13 45 18.1 -0.4
PFO IAmb IAmb 13 45 20.6
comp=Z,14nm,1.0s
XPFO Pion Flat 84.23 56 P P 13 45 17.9 -0.6
XPFO IAmb IAmb 13 45 20.6
comp=Z,14nm,1.0s
TPFO Pinon Flats 84.23 56 P P 13 45 18.4 -0.2
baz=291,SNR=12
YPP Pitchstone Pla 84.30 45 P P 13 45 18.3 -0.6
YUF Upper Falls 84.31 44 P P 13 45 19.0 +0.1
SPUT South Promonto 84.34 48 P P 13 45 19.1 +0.1
VSR Storozhevoye 84.38 323⇑ *i*P P 13 45 18.1 -0.7**
VSR pmax pmax
comp=Z,191nm,1.1s
PSUT Pine Spring 84.39 51 P P 13 45 18.7 -0.7
BAR Barrett 84.39 57 P P 13 45 18.6 -0.7
BAR IAmb IAmb 13 45 21.2
comp=Z,12nm,1.0s
H17A Grant Village 84.40 45 P P 13 45 22.1 +2.8
baz=294,SNR=12
H17A Grant Village 84.40 45 P P 13 45 19.6 +0.3
FXWY Fox Creek 84.40 45 P P 13 45 19.3 -0.1
VORD Divnogorie 84.42 323 *e*P P 13 45 18.9 0.0**
VORD pmax pmax
comp=Z,90nm,1.2s
GMRC Granite Mounta 84.42 55 P P 13 45 19.7 +0.2
baz=291,SNR=9.0
GCMT Greycliff 84.43 43 P P 13 45 19.4 +0.1
FLWY Flagg Ranch 84.44 45 P P 13 45 20.1 +0.6
FLWY IAmb IAmb 13 45 22.9
comp=Z,19nm,0.9s
LKWY Lake 84.45 44 P P 13 45 19.7 +0.1
LKWY pmax pmax
comp=Z,20nm,1.1s
LKWY Lake 84.45 44 P P 13 45 19.7 +0.1
LKWY IAmb IAmb 13 45 24.1
comp=Z,20nm,1.1s
BELC Belle Mtn. Jos 84.45 56 P P 13 45 19.1 -0.5
baz=291
TPAW Teton Pass 84.51 46 P P 13 45 19.6 -0.4
DUG Dugway, Tooele 84.51 49 P P 13 45 19.8 -0.1
baz=293,SNR=17
DUG Dugway, Tooele 84.51 49 P P 13 45 19.1 -0.8
DUG pmax pmax
comp=Z,21nm,1.3s
DUG Dugway, Tooele 84.51 49 P P 13 45 19.1 -0.8
DUG IAmb IAmb 13 45 23.8
comp=Z,21nm,1.2s
MONP2 Monument Peak 84.52 57 P P 13 45 20.0 -0.1
baz=291,SNR=13
YNE Yellowstone No 84.52 44 P P 13 45 19.2 -0.8
YMP Mirror Lake Pl 84.54 44 P P 13 45 18.8 -1.3
MOOW Moose Ponds 84.55 45 P P 13 45 18.7 -1.4
REDW Red Top Meadow 84.63 46 P P 13 45 20.4 -0.1
SNOW Snow King Moun 84.65 46 P P 13 45 19.5 -1.2
AHID Auburn Hatcher 84.70 46 P P 13 45 20.3 -0.5
AHID IAmb IAmb 13 45 24.7
comp=Z,18nm,1.1s
HWUT Hardware Ranch 84.84 47 P P 13 45 20.4 -1.2
HWUT IAmb IAmb 13 45 24.6
comp=Z,32nm,1.4s
IKP In-Ko-Pah, Jac 84.85 57 P P 13 45 21.6 0.0
baz=291
FFC Flin Flon 84.86 33 P P 13 45 20.7 -0.4
FFC pmax pmax
comp=Z,41nm,1.3s
FFC Flin Flon 84.86 33 P P 13 45 20.7 -0.4
NCK Nalchik 84.92 315 *i*P P 13 45 21.6 -0.1**
NCK pmax pmax
comp=Z,31nm,1.0s
RLMT Red Lodge 84.96 44 P P 13 45 23.2 +1.1
baz=294,SNR=24
RLMT Red Lodge 84.96 44 P P 13 45 22.2 +0.1
SWSC Sam W. Stewart 84.98 57 P P 13 45 21.9 -0.3
baz=292
BC3 Big Chuckawall 85.00 56 P P 13 45 22.5 +0.1
baz=292,SNR=11
ZEI Tsey 85.00 314 *e*P P 13 45 22.0 -0.3**
ZEI pmax pmax
comp=Z,22nm,1.1s
IRM Iron Mountain 85.05 55 P P 13 45 22.6 0.0
baz=292,SNR=5.8
CCUT Cedar City 85.12 52 P P 13 45 22.6 -0.5
TCUT Toone Canyon 85.14 48 P P 13 45 22.3 -0.8
KBZ Khabaz 85.29 315 P P 13 45 23.1 -0.4
comp=Z,37nm,0.8s,baz=74,slow=3.6,SNR=42
KBZ LR LR 14 27 46.9
comp=Z,482nm,19.0s,baz=62,slow=39
SZCU Shurtz Canyon 85.31 52 P P 13 45 22.2 -1.9
JLU Jordanelle 85.31 48 P P 13 45 22.9 -1.1
KIV Kislovodsk 85.33 315 *e*P P 13 45 25.1 +1.3**
KIV *e* 13 55 49.3
KIV pmax pmax
comp=Z,58nm,1.1s
KIV pmax pmax
comp=Z,337nm,4.7s
KIV MLR MLR
comp=Z,1µm,20.0s
KIV Kislovodsk 85.33 315 P P 13 45 22.4 -1.4
KIV IAmb IAmb 13 45 31.6
comp=Z,15nm,0.9s
FIA1 FINESS Array S 85.35 335 P P 13 45 22.3 -1.1
FINES FINESS Array B 85.35 335 P P 13 45 22.4 -1.0
comp=Z,38nm,0.6s,baz=73,slow=4.4,SNR=133
LCMT Little Creek M 85.42 52 P P 13 45 23.8 -0.6
GNI Garni 85.47 311 P P 13 45 25.2 +0.6
comp=Z,18nm,0.3s,baz=336,slow=3.8,SNR=4.8
NEY Neytrino 85.60 315 *i*P P 13 45 26.4 +1.1**
NEY pmax pmax
comp=Z,4.0nm,0.9s
MSU Marysvale 85.62 51 P P 13 45 25.0 -0.6
MSU Marysvale 85.62 51 P P 13 45 25.0 -0.6
W13A Hualapai Mount 85.66 54 P P 13 45 25.1 -0.7
Y12C Blythe 85.68 56 P P 13 45 26.2 +0.5
baz=292
Y12C Blythe 85.68 56 P P 13 45 24.6 -1.0
GLA Glamis 85.70 56 P P 13 45 26.0 +0.2
baz=292
GLA Glamis 85.70 56 P P 13 45 25.3 -0.6
GLA pmax pmax
comp=Z,12nm,1.0s
GLA Glamis 85.70 56 P P 13 45 25.3 -0.6
GLA IAmb IAmb 13 45 26.9
comp=Z,12nm,0.9s
KNB Kanab 85.73 52 P P 13 45 25.7 -0.4
KNB pmax pmax
comp=Z,59nm,1.3s
KNB Kanab 85.73 52 P P 13 45 25.7 -0.4
BW06 Boulder Array 85.74 46 P P 13 45 25.8 -0.3
baz=294
BW06 Boulder Array 85.74 46 P P 13 45 25.2 -0.9
PD31 Pinedale Array 85.74 46 P P 13 45 24.8 -1.2
PDAR Pinedale Array 85.74 46 P P 13 45 25.6 -0.5
comp=Z,4.1nm,0.8s,baz=266,slow=2.5,SNR=28
PDAR PKKPbc **PKKPbc 14 03 26.2 -2.2**
comp=Z,0.8nm,1.1s,baz=123,slow=5.5,SNR=4.4
PDAR LR LR 14 17 01.5
comp=Z,356nm,21.6s,baz=344,slow=31
MTPU Mount Pierson 85.80 51 P P 13 45 26.5 -0.1
AKH Akhalkalaki 85.83 313 P P 13 45 25.8 -0.7
AKH pmax pmax
comp=Z,13nm,0.9s
AKH Akhalkalaki 85.83 313⇑ P P 13 45 26.6 +0.1**
AKH Akhalkalaki 85.83 313 P P 13 45 25.8 -0.7
AKH IAmb IAmb 13 45 29.3
comp=Z,13nm,0.9s
TMUT Trail Mountain 86.00 49 P P 13 45 26.7 -0.8
Q16A Castle Valley 86.18 50 P P 13 45 28.1 -0.2
LAO LASA Array 86.21 41 P P 13 45 28.5 +0.4
baz=296,SNR=20
LAO LASA Array 86.21 41 P P 13 45 27.7 -0.4
P17A Butcher Ranch, 86.26 49 P P 13 45 28.5 -0.2
U15A North Rim 86.35 52 P P 13 45 29.1 -0.1

FCC	**Fort Churchill**	**86.40**	**27**	P	**P**	**13 45 27.9**	**-0.8**
FCC				pmax	pmax		
	comp=Z,21nm,0.9s						
FCC	**Fort Churchill**	**86.40**	**27**	P	**P**	**13 45 27.9**	**-0.8**
FCC				IAmb	IAmb	13 45 30.5	
	comp=Z,21nm,0.9s						
SRU	**San Rafael Swe**	**86.56**	**49**	P	**P**	**13 45 29.3**	**-0.9**
SRU				pmax	pmax		
	comp=Z,22nm,0.9s						
SRU	**San Rafael Swe**	**86.56**	**49**	P	**P**	**13 45 29.3**	**-0.9**
Y14A	**Wickenburg**	**86.78**	**55**	P	**P**	**13 45 30.4**	**-0.7**
Y14A				IAmb	IAmb	13 45 33.6	
	comp=Z,20nm,0.9s						
SUMG	**Summit**	**86.80**	**2**	*i* P	**P**	**13 45 31.5**	**+0.6**
SUMG	**Summit**	**86.80**	**2**	*i* P	**P**	**13 45 31.5**	**+0.6**
SUMG	**Summit**	**86.80**	**2**	P	**P**	**13 45 31.3**	**+0.4**
SUMG				IAmb	IAmb	13 45 35.7	
	comp=Z,9.6nm,0.8s						
VSU	**Vasula**	**86.83**	**333**	*ce*P	**P**	**13 45 30.2**	**-0.6**
VSU				pmax	pmax		
	comp=Z,83nm,1.3s						
VSU	**Vasula**	**86.83**	**333**	*e*P	**P**	**13 45 30.2**	**-0.6**
WUAZ	**Wupatki**	**87.39**	**53**	P	**P**	**13 45 35.0**	**+0.7**
	baz=294,SNR=29						
WUAZ	**Wupatki**	**87.39**	**53**	P	**P**	**13 45 34.2**	**-0.1**
214A	**Organ Pipe Nat**	**87.70**	**57**	P	**P**	**13 45 36.0**	**+0.4**
	baz=293						
214A	**Organ Pipe Nat**	**87.70**	**57**	P	**P**	**13 45 35.2**	**-0.4**
214A				IAmb	IAmb	13 45 38.3	
	comp=Z,17nm,0.9s						
O20A	**White River Ci**	**87.74**	**48**	P	**P**	**13 45 35.8**	**-0.1**
	baz=295,SNR=12						
O20A	**White River Ci**	**87.74**	**48**	P	**P**	**13 45 34.8**	**-1.0**
X16A	**Lo Mia Camp, P**	**87.78**	**54**	P	**P**	**13 45 35.7**	**-0.5**
K22A	**Casper**	**87.81**	**45**	P	**P**	**13 45 36.2**	**+0.1**
	baz=296						
K22A	**Casper**	**87.81**	**45**	P	**P**	**13 45 35.6**	**-0.5**
K22A				IAmb	IAmb	13 45 38.2	
	comp=Z,18nm,1.1s						
ANN	**Anapa**	**88.34**	**318**	*e*P	**P**	**13 45 37.4**	**-0.9**
ANN				pmax	pmax		
	comp=Z,37nm,0.9s						
MICGM	**Minsk**	**88.61**	**329**	*e*	**P**	**13 45 38.0**	**-1.4**
MNK	**Minsk**	**88.61**	**329**	*e*P	**P**	**13 45 38.0**	**-1.4**
IZAR	**Zarasai**	**88.65**	**331**	*e*P	**P**	**13 45 39.5**	**0.0**
RSSD	**Black Hills**	**88.75**	**43**	P	**P**	**13 45 40.6**	**0.0**
	baz=298						
RSSD	**Black Hills**	**88.75**	**43**	P	**P**	**13 45 39.9**	**-0.7**
RSSD				pmax	pmax		
	comp=Z,17nm,1.3s						
RSSD	**Black Hills**	**88.75**	**43**	P	**P**	**13 45 39.9**	**-0.7**
RSSD				IAmb	IAmb	13 45 44.8	
	comp=Z,17nm,1.2s						
MVCO	**Mesa Verde**	**88.81**	**51**	P	**P**	**13 45 41.4**	**+0.4**
	baz=295,SNR=10						
MVCO	**Mesa Verde**	**88.81**	**51**	P	**P**	**13 45 40.3**	**-0.7**
ISAL	**Salakas**	**88.81**	**331**	*e*P	**P**	**13 45 40.3**	**0.0**
ISAL				IAmb	IAmb	13 45 47.5	
	comp=Z,13nm,0.9s						
X18A	**Snowflake**	**88.86**	**53**	P	**P**	**13 45 41.0**	**-0.3**
X18A				IAmb	IAmb	13 45 44.1	
	comp=Z,14nm,1.0s						
IIGN	**Ignalina**	**88.89**	**330**	*e*P	**P**	**13 45 40.7**	**0.0**
IIGN				IAmb	IAmb	13 45 41.4	
	comp=Z,8.1nm,0.9s						
N23A	**Red Feather La**	**88.98**	**46**	P	**P**	**13 45 42.9**	**+1.1**
	baz=297,SNR=29						
N23A	**Red Feather La**	**88.98**	**46**	P	**P**	**13 45 42.2**	**+0.3**
SMCO	**Snowmass**	**89.04**	**48**	P	**P**	**13 45 42.1**	**-0.2**
SMCO				IAmb	IAmb	13 45 46.2	
	comp=Z,21nm,1.1s						
PHWY	**Pilot Hill**	**89.12**	**46**	P	**P**	**13 45 42.1**	**-0.5**
PHWY				IAmb	IAmb	13 45 46.5	
	comp=Z,19nm,1.3s						
TUC	**Tucson**	**89.13**	**56**	P	**P**	**13 45 43.1**	**+0.7**
	baz=294						
TUC	**Tucson**	**89.13**	**56**	P	**P**	**13 45 41.7**	**-0.7**
TUC				pmax	pmax		
	comp=Z,16nm,1.2s						
TUC	**Tucson**	**89.13**	**56**	P	**P**	**13 45 41.7**	**-0.7**
TUC				IAmb	IAmb	13 45 46.2	
	comp=Z,16nm,1.1s						
ISCO	**Idaho Springs**	**89.70**	**47**	P	**P**	**13 45 45.9**	**+0.7**
	baz=297,SNR=8.7						
ISCO	**Idaho Springs**	**89.70**	**47**	P	**P**	**13 45 45.0**	**-0.3**
ISCO				pmax	pmax		
	comp=Z,13nm,1.2s						
ISCO	**Idaho Springs**	**89.70**	**47**	P	**P**	**13 45 45.0**	**-0.3**
ISCO				IAmb	IAmb	13 45 49.6	
	comp=Z,13nm,1.2s						
S22A	**4UR Ranch, Cre**	**89.77**	**49**	P	**P**	**13 45 46.2**	**+0.6**
	baz=296,SNR=9.8						
S22A	**4UR Ranch, Cre**	**89.77**	**49**	P	**P**	**13 45 45.6**	**0.0**
S22A				IAmb	IAmb	13 45 50.6	
	comp=Z,16nm,1.3s						
PABE	**Paberze**	**89.82**	**331**	*e*P	**P**	**13 45 44.6**	**-0.5**
PABE				IAmb	IAmb	13 45 45.4	
	comp=Z,43nm,0.7s						
AKASG	**Malin Array Be**	**90.08**	**326**	P	**P**	**13 45 45.0**	**-1.4**
	comp=Z,18nm,0.9s,baz=47,slow=4.8,SNR=48						
AKASG				LR	LR	14 30 09.6	
	comp=Z,317nm,19.6s,baz=350,slow=38						
SIM	**Simferopol'**	**90.33**	**319**	*e*P	**P**	**13 45 46.9**	**-0.8**
SIM				pmax	pmax		
	comp=Z,28nm,0.7s						
HSIG		**90.34**	**59**	P	**P**	**13 45 48.0**	**-0.1**
HSIG				IAmb	IAmb	13 45 50.6	
	comp=Z,12nm,0.9s						
ULM	**Lac du Bonnet**	**90.38**	**35**	P	**P**	**13 45 46.6**	**-1.1**
	comp=Z,9.0nm,0.9s,baz=305,slow=5.4,SNR=13						
ULM	**Lac du Bonnet**	**90.38**	**35**	P	**P**	**13 45 47.2**	**-0.6**
ULM				IAmb	IAmb	13 45 48.2	
	comp=Z,13nm,1.0s						
Q24A	**Divide**	**90.40**	**48**	P	**P**	**13 45 49.0**	**+0.4**
	baz=297,SNR=7.4						
Q24A	**Divide**	**90.40**	**48**	P	**P**	**13 45 48.4**	**-0.2**
319A	**Douglas**	**90.68**	**56**	P	**P**	**13 45 49.6**	**-0.1**
319A				IAmb	IAmb	13 45 52.9	
	comp=Z,13nm,0.9s						
NC405	**NORSAR Array S**	**90.70**	**340**	P	**P**	**13 45 47.2**	**-1.8**
SDCO	**Great Sand Dun**	**90.71**	**49**	P	**P**	**13 45 50.3**	**+0.3**
	baz=297,SNR=12						
SDCO	**Great Sand Dun**	**90.71**	**49**	P	**P**	**13 45 49.9**	**-0.1**
HFS	**Hagfors**	**90.77**	**339**	P	**P**	**13 45 48.0**	**-1.4**
	comp=Z,6.5nm,0.5s,baz=83,slow=3.6,SNR=17						
SEVA	**Sevastopol**	**90.81**	**319**	⇓P	**P**	**13 45 49.4**	**-0.6**
SEVA				mb		13 45 53.8	
NB2	**NORSAR Subarra**	**90.91**	**340**	P	**P**	**13 45 48.7**	**-1.4**
	comp=Z,3.4nm,1.1s,baz=45,slow=4.8						
NOA	**NORSAR Array B**	**90.91**	**340**	P	**P**	**13 45 48.6**	**-1.4**
	comp=Z,5.3nm,1.0s,baz=47,slow=4.6,SNR=6.1						
NOA				PP	**PP**	**13 49 25.9**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=6.1,slow=8.2,SNR=3.3						
NOA				LR	LR	14 36 07.8	
	comp=Z,176nm,18.5s,baz=45,slow=42						
SUW	**Suwalki**	**91.11**	**330**	*e*P	**P**	**13 45 49.8**	**-1.3**
SUW	**Suwalki**	**91.11**	**330**	*e*P	**P**	**13 45 49.8**	**-1.3**
SUW				*e*P	**P**	**13 45 49.8**	**-1.3**
SUW	**Suwalki**	**91.11**	**330**	P	**P**	**13 45 49.0**	**-2.1**
ANMO	**Albuquerque**	**91.28**	**52**	P	**P**	**13 45 53.2**	**+0.6**
	baz=296						
ANMO	**Albuquerque**	**91.28**	**52**	*ce*P	**P**	**13 45 52.0**	**-0.6**
ANMO				pmax	pmax		
	comp=Z,22nm,1.7s						
ANMO	**Albuquerque**	**91.28**	**52**	P	**P**	**13 45 52.2**	**-0.3**
ANMO				IAmb	IAmb	13 45 56.8	
	comp=Z,14nm,1.1s						
121A	**Cookes Peak, D**	**91.34**	**54**	P	**P**	**13 45 54.1**	**+1.2**
	baz=296						
121A	**Cookes Peak, D**	**91.34**	**54**	P	**P**	**13 45 53.1**	**+0.2**
121A				IAmb	IAmb	13 45 56.2	
	comp=Z,13nm,1.1s						
RAYN	**Ar Rayn**	**91.47**	**296**	P	**P**	**13 45 52.4**	**-1.0**
RAYN				pmax	pmax		
	comp=Z,15nm,1.1s						
RAYN	**Ar Rayn**	**91.47**	**296**	P	**P**	**13 45 52.4**	**-1.0**
RAYN				IAmb	IAmb	13 45 56.9	
	comp=Z,15nm,1.1s						
AGMN	**Agassiz Nation**	**91.48**	**36**	P	**P**	**13 45 52.4**	**-0.5**
	baz=304						
AGMN	**Agassiz Nation**	**91.48**	**36**	P	**P**	**13 45 52.2**	**-0.8**
AGMN				IAmb	IAmb	13 45 54.6	
	comp=Z,10.0nm,0.8s						
BNM	**Barren Site**	**91.50**	**53**	P	**P**	**13 45 53.0**	**-0.7**
T25A	**Trinidad**	**91.76**	**49**	P	**P**	**13 45 55.4**	**+0.6**
	baz=298,SNR=6.7						
T25A	**Trinidad**	**91.76**	**49**	P	**P**	**13 45 54.8**	**0.0**
T25A				IAmb	IAmb	13 45 58.8	
	comp=Z,15nm,1.1s						
KSCO	**Kaye Shedlock'**	**92.11**	**47**	P	**P**	**13 45 56.9**	**+0.6**
	baz=299,SNR=6.3						
KSCO	**Kaye Shedlock'**	**92.11**	**47**	P	**P**	**13 45 55.8**	**-0.4**
BR131	**Keskin Array S**	**93.27**	**315**	P	**P**	**13 45 59.6**	**-2.0**
BR131				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BR131	**Keskin Array S**	**93.27**	**315**	P	**P**	**13 45 59.6**	**-2.0**
BR131				IAmb	IAmb	13 46 02.6	
	comp=Z,7.4nm,0.9s						
BRTR	**Keskin Array B**	**93.27**	**315**	P	**P**	**13 46 00.4**	**-1.2**
	comp=Z,7.1nm,0.8s,baz=91,slow=3.4,SNR=30						
BRTR				PP	PP	13 49 55.9	+11
	comp=Z,1.8nm,1.0s,baz=79,slow=6.4,SNR=3.6						
LVV	**L'vov**	**93.30**	**327**	*e*P	**P**	**13 45 59.8**	**-1.5**
MNTX	**Cornudas Mount**	**93.54**	**54**	P	**P**	**13 46 03.1**	**+0.3**
	baz=297,SNR=17						
MNTX	**Cornudas Mount**	**93.54**	**54**	P	**P**	**13 46 02.4**	**-0.5**
MNTX				IAmb	IAmb	13 46 07.0	
	comp=Z,12nm,1.1s						
ECSD	**EROS Data Cent**	**93.56**	**40**	P	**P**	**13 46 02.1**	**-0.6**
	baz=303,SNR=6.8						
ECSD	**EROS Data Cent**	**93.56**	**40**	P	**P**	**13 46 01.8**	**-0.9**
ECSD				IAmb	IAmb	13 46 05.5	
	comp=Z,14nm,1.1s						
TOPG	**Topolog**	**93.82**	**321**	⇑P	**P**	**13 46 03.1**	**-0.7**
BIZ	**Bicaz**	**93.93**	**324**	⇑P	**P**	**13 46 03.7**	**-0.6**
BUR08	**Bucovina Ar. S**	**94.00**	**325**	P	**P**	**13 46 02.9**	**-1.9**
BURAR	**Bucovina Array**	**94.01**	**325**	P	**P**	**13 46 04.3**	**-0.5**
BURAR	**Bucovina Array**	**94.01**	**325**	⇑P	**P**	**13 46 04.3**	**-0.5**
BURAR				mb		13 46 06.4	
GDL2	**Guadalupe Moun**	**94.08**	**53**	P	**P**	**13 46 05.0**	**-0.4**
KWP	**Kalwaria Pacla**	**94.09**	**327**	P	**P**	**13 46 04.6**	**-0.4**
KWP	**Kalwaria Pacla**	**94.09**	**327**	P	**P**	**13 46 04.6**	**-0.4**
HARR	**Harsova**	**94.19**	**321**	⇑P	**P**	**13 46 05.4**	**-0.1**
HARR	**Harsova**	**94.19**	**321**	⇑P	**P**	**13 46 05.4**	**-0.1**
VRI	**Vrincioaia**	**94.21**	**323**	⇓P	P	13 46 12.6	+7.0
VRI	**Vrincioaia**	**94.21**	**323**	⇓P	P	13 46 12.6	+7.0
MSTX	**Muleshoe**	**94.43**	**51**	P	**P**	**13 46 07.3**	**+0.3**
	baz=299						
MSTX	**Muleshoe**	**94.43**	**51**	P	P	**13 46 06.1**	**-0.9**
MSTX				IAmb	IAmb	13 46 10.2	
	comp=Z,10nm,1.3s						
ASF	**Jabal al Asfar**	**94.64**	**307**	P	**P**	**13 46 07.0**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=43,slow=3.0,SNR=4.4						
AMTX	**Amarillo**	**94.78**	**50**	P	**P**	**13 46 09.4**	**+0.8**
	baz=299						
AMTX	**Amarillo**	**94.78**	**50**	P	P	**13 46 08.4**	**-0.2**
AMTX				IAmb	IAmb	13 46 12.3	
	comp=Z,17nm,1.1s						
DOPR	**Dopca**	**94.90**	**323**	⇑P	**P**	**13 46 08.7**	**-0.1**
UZH	**Uzhgorod**	**94.93**	**327**	*e*P	**P**	**13 46 07.2**	**-1.6**
UZH				*e*		13 46 12.7	
UZH				*i*		13 46 17.7	
SPMN	**Marine on St.**	**94.96**	**38**	P	**P**	**13 46 08.8**	**-0.3**
	baz=306						
SPMN	**Marine on St.**	**94.96**	**38**	P	P	**13 46 08.5**	**-0.6**
MMAI	**Mount Meron Ar**	**95.35**	**308**	P	**P**	**13 46 10.5**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=64,slow=8.5,SNR=4.7						
ARR	**Arges**	**95.69**	**323**	⇑P	**P**	**13 46 12.2**	**-0.2**
DRGR		**95.87**	**325**	⇑P	**P**	**13 46 12.3**	**-1.0**
DRGR		**95.87**	**325**	⇑P	**P**	**13 46 12.3**	**-1.0**
CSS	**Mathiatis**	**95.89**	**311**	P	**P**	**13 46 13.6**	**0.0**
CSS				IAmb	IAmb	13 46 16.9	
	comp=Z,12nm,1.1s						
TX31	**Lajitas Ar. Si**	**95.93**	**56**	P	**P**	**13 46 13.4**	**-0.6**
TX32	**Lajitas Array**	**95.93**	**56**	P	**P**	**13 46 12.6**	**-1.3**
TXAR	**Lajitas Array**	**95.93**	**56**	P	**P**	**13 46 14.2**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=283,slow=4.3,SNR=11						
TXAR				PKKP	**PKKPdf**	**14 03 04.3**	**+1.7**
	comp=Z,1.3nm,0.9s,baz=144,slow=4.0,SNR=11						
TXAR				LR	LR	14 23 41.1	
	comp=Z,82nm,20.9s,baz=0.0,slow=32						
MORC	**Moravsky Berou**	**96.53**	**330**	*e*P	**P**	**13 46 15.2**	**-0.9**
MORC				*e*PP	**PP**	**13 50 10.7**	**+1.1**
DPC	**Dobruska-Polom**	**96.70**	**331**	*e*P	**P**	**13 46 16.5**	**-0.4**
DPC	**Dobruska-Polom**	**96.70**	**331**	*e*P	**P**	**13 46 16.5**	**-0.4**
UPC	**Upice**	**96.73**	**331**	*e*P	**P**	**13 46 16.4**	**-0.6**
UPC	**Upice**	**96.73**	**331**	*e*P	**P**	**13 46 16.4**	**-0.6**
VYHS	**Vyhne**	**96.77**	**328**	*e*P	**P**	**13 46 16.8**	**-0.4**
VYHS	**Vyhne**	**96.77**	**328**	*e*P	**P**	**13 46 16.8**	**-0.4**
WMOK	**Wichita Mounta**	**96.91**	**49**	P	**P**	**13 46 18.0**	**-0.3**
	baz=301						
WMOK	**Wichita Mounta**	**96.91**	**49**	P	**P**	**13 46 17.4**	**-0.8**
WMOK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WMOK	**Wichita Mounta**	**96.91**	**49**	P	**P**	**13 46 17.4**	**-0.8**
WMOK				IAmb	IAmb	13 46 18.8	
	comp=Z,6.9nm,0.9s						
JAVC	**Velka Javorina**	**97.09**	**329**	*e*P	Pdif	13 46 19.4	+0.6
VRAC	**Vranov**	**97.30**	**330**	P	Pdif	13 46 20.0	+0.3
VRAC	**Vranov**	**97.30**	**330**	P	Pdif	13 46 20.0	+0.3
	comp=Z,5.5nm,1.1s,baz=4.0,slow=2.3,SNR=4.5						
VRAC	**Vranov**	**97.30**	**330**	*e*P	Pdif	13 46 20.9	+1.2
VRAC				*e*PP	**PP**	**13 50 16.8**	**+1.3**
PVCC	**Panska Ves**	**97.37**	**331**	*e*P	**P**	**13 46 19.7**	**-0.2**
PVCC	**Panska Ves**	**97.37**	**331**	*e*P	**P**	**13 46 19.7**	**-0.2**
ABTX	**Abilene, Hawle**	**97.37**	**51**	P	Pdif	13 46 20.4	0.0
	baz=300						
ABTX	**Abilene, Hawle**	**97.37**	**51**	P	**P**	**13 46 19.1**	**-1.3**
BRG	**Berggiesshubel**	**97.40**	**332**	*e*P	**P**	**13 46 19.2**	**-0.8**
	comp=Z,5.1nm,1.0s						
BRG	**Berggiesshubel**	**97.40**	**332**	*e*P	**P**	**13 46 19.2**	**-0.8**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CLL	**Collm**	**97.49**	**333**	*e*P	**P**	**13 46 19.0**	**-1.4**
CLL				*e*		13 50 17.0	
CLL	**Collm**	**97.49**	**333**	*e*P	**P**	**13 46 19.0**	**-1.4**
CLL				*e*PP	**PP**	**13 50 17.0**	**+0.1**
KRUC	**Moravsky**	**97.56**	**330**	*e*P	**P**	**13 46 20.0**	**-0.8**
KRUC				*e*PP	**PP**	**13 50 19.0**	**+1.5**
GOPC	**GO Pecny, Ondr**	**97.71**	**331**	*e*P	**P**	**13 46 20.8**	**-0.7**
GOPC	**GO Pecny, Ondr**	**97.71**	**331**	*e*P	**P**	**13 46 20.8**	**-0.7**
JCT	**Junction City**	**98.33**	**53**	P	**P**	**13 46 24.4**	**-0.2**
	baz=300						
JCT	**Junction City**	**98.33**	**53**	P	**P**	**13 46 23.8**	**-0.9**
JCT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
JCT	**Junction City**	**98.33**	**53**	P	**P**	**13 46 23.8**	**-0.9**
JCT				IAmb	IAmb	13 46 27.2	
	comp=Z,8.4nm,0.8s						
NKC	**Novy Kostel**	**98.52**	**332**	*e*P	**P**	**13 46 24.8**	**-0.3**
NKC	**Novy Kostel**	**98.52**	**332**	*e*P	**P**	**13 46 24.8**	**-0.3**
CONA	**Conrad Observa**	**98.61**	**329**	PcP	**P**	**13 46 22.7**	**-2.9**
	comp=Z,4.9nm,1.0s						
CONA				PP	**PP**	**13 50 27.9**	**+2.3**
	comp=Z,11nm,1.3s						
KHC	**Kasperske Hory**	**98.82**	**331**	*e*P	**P**	**13 46 25.4**	**-1.1**
KHC	**Kasperske Hory**	**98.82**	**331**	*e*P	**P**	**13 46 25.4**	**-1.1**
GERES	**GERESS Array B**	**98.97**	**331**	P	**P**	**13 46 25.9**	**-1.3**
	comp=Z,2.7nm,1.0s,baz=356,slow=4.4,SNR=8.9						
GERES				PP	**PP**	**13 50 34.8**	**+6.4**
	comp=Z,1.1nm,0.9s,baz=59,slow=8.0,SNR=4.5						
GERES				LR	LR	14 36 14.7	
	comp=Z,275nm,18.1s,baz=348,slow=38						
ARSA	**Arzberg**	**99.24**	**329**	pPdiff	**Pdif**	**13 46 28.8**	**+0.4**
	comp=Z,3.0nm,0.9s						
SCHQ	**Schefferville**	**99.42**	**19**	LR	LR	14 30 25.7	
	comp=Z,280nm,21.9s,baz=319,slow=35						
MOA	**Molln**	**99.42**	**330**	pPdiff	**Pdif**	**13 46 28.6**	**-0.6**
	comp=Z,7.8nm,2.0s						
SOKA	**Soboth**	**99.88**	**328**	pPdiff	**Pdif**	**13 46 30.4**	**-1.0**
	comp=Z,4.3nm,1.0s						
SOKA				PP	**PP**	**13 50 37.4**	**+1.9**
	comp=Z,4.0nm,1.0s						
OBKA	**Obir**	**100.24**	**329**	PP	**PP**	**13 50 39.6**	**+1.5**
	comp=Z,12nm,1.1s						
KBA	**Koelnbreinsper**	**100.41**	**330**	PP	**PP**	**13 50 41.7**	**+2.3**
	comp=Z,15nm,1.5s						
PDG	**Podgorica**	**100.55**	**323**	⇓P	**Pdif**	**13 46 33.4**	**-0.8**
MYKA	**Terra Mystica**	**100.59**	**329**	PP	**PP**	**13 50 40.7**	**-0.1**
	comp=Z,16nm,1.6s						
ABTA	**Abfaltersbach**	**101.04**	**330**	Pdiff	**Pdif**	**13 46 31.6**	**-4.9**
	comp=Z,4.4nm,1.0s						
WATA	**Walderalm**	**101.05**	**331**	PP	**PP**	**13 50 44.1**	**-0.1**
	comp=Z,14nm,1.4s						
WTTA	**Wattenberg**	**101.07**	**331**	PP	**PP**	**13 50 43.2**	**-1.3**
	comp=Z,7.4nm,0.9s						
SQTA	**Sankt Quirin**	**101.30**	**331**	pPKiKP	**PKiKP**	**13 51 08.5**	**+6.3**
	comp=Z,8.0nm,1.3s						
FUORN	**Ofenpass-Fuorn**	**102.18**	**331**		**Pdif**	**13 46 40.9**	**-0.9**
ESDC	**Sonseca Array**	**113.86**	**336**	PP	**PP**	**13 52 18.8**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=30,slow=7.4,SNR=8.6						
ESDC				PKKPbc	**PKKPbc**	**14 02 09.1**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=235,slow=3.3,SNR=4.7						
LBTB	**Lobatse**	**125.88**	**254**	PKIKP	**PKPdf**	**13 51 49.1**	**0.0**
LBTB	**Lobatse**	**125.88**	**254**		**PKPdf**	**13 51 49.1**	**0.0**
SNAA	**Sanae**	**126.15**	**191**	PKPdf	**PKPdf**	**13 51 48.3**	**+0.1**
SNAA	**Sanae**	**126.15**	**191**	PKIKP	**PKPdf**	**13 51 48.1**	**-0.1**
SNAA	**Sanae**	**126.15**	**191**		**PKPdf**	**13 51 48.1**	**-0.1**
BOSA	**Boshof**	**126.62**	**249**	PKP	**PKPdf**	**13 51 50.3**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=161,slow=3.7,SNR=5.2						
VNA2	**Neumayer--Watz**	**127.58**	**190**	PKPdf	**PKiKP**	**13 51 51.6**	**+0.2**
	baz=102,slow=1.8						
VNA3	**Neumayer Olymp**	**127.67**	**189**	PKPdf	**PKPdf**	**13 51 51.0**	**-0.1**
VNA1	**Neumayer--Stat**	**127.97**	**190**	PKPdf	**PKiKP**	**13 51 52.8**	**+0.7**
TOA0	**Torodi Ar. Sit**	**131.77**	**311**		**PKPdf**	**13 51 59.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**131.77**	**311**	PKP	**PKPdf**	**13 51 60.0**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=14,slow=1.7,SNR=13						
TORD				PP	**PP**	**13 54 15.7**	**-4.3**
	comp=Z,4.5nm,0.9s,baz=40,slow=5.4,SNR=5.5						
TORD				SKP		13 55 33.8	
	comp=Z,2.8nm,0.9s,baz=26,slow=2.5,SNR=4.5						
SDV	**Santo Domingo**	**132.97**	**55**	*e*P	**PKiKP**	**13 52 05.2**	**+1.0**
SDV	**Santo Domingo**	**132.97**	**55**	*e*P	**PKiKP**	**13 52 05.2**	**+1.0**
DBIC	**Dimbokro**	**140.89**	**311**	PKIKP	**PKPdf**	**13 52 11.4**	**-6.0**
DBIC	**Dimbokro**	**140.89**	**311**	PKhKP	**PKPdf**	**13 52 12.0**	**-5.4**
	comp=Z,6.2nm,0.9s,baz=15,slow=3.6,SNR=9.0						
DBIC	**Dimbokro**	**140.89**	**311**		**PKPdf**	**13 52 11.4**	**-6.0**
TIC	**Toumodi**	**141.02**	**311**	*e*P	**PKPdf**	**13 52 12.9**	**-4.8**
KIC	**Kosan Boka**	**141.02**	**311**	*e*P	**PKPdf**	**13 52 12.4**	**-5.3**
	comp=Z,13nm,1.1s						
LIC	**Lamto**	**141.32**	**311**	*e*P	**PKPdf**	**13 52 14.9**	**-3.3**
	comp=Z,13nm,0.9s						
GO06	**Curarrehue**	**142.47**	**128**		**PKPdf**	**13 52 17.6**	**-2.1**
PLCA	**Paso Flores**	**142.75**	**131**	PKIKP	**PKPdf**	**13 52 17.9**	**-2.2**
PLCA	**Paso Flores**	**142.75**	**131**	PKP	**PKPdf**	**13 52 16.9**	**-3.2**
	comp=Z,14nm,0.9s,baz=278,slow=6.6,SNR=9.7						
PLCA	**Paso Flores**	**142.75**	**131**		**PKPdf**	**13 52 17.9**	**-2.2**
ROC1	**El Roble**	**144.48**	**118**		PKPbc	13 52 22.2	+0.1
PEL	**Peldehue**	**144.73**	**118**	PKIKP	PKPbc	13 52 22.8	+0.1
PEL	**Peldehue**	**144.73**	**118**		PKPbc	13 52 22.8	+0.1
GO04	**Tololo Observa**	**145.08**	**113**	PKPbc	**PKPbc**	**13 52 23.6**	**-0.5**
GO03	**Copiap**	**145.79**	**109**		**PKPdf**	**13 52 26.0**	**+0.2**
MNMC	**Minye Minye**	**145.96**	**94**	PKPbc	**PKPbc**	**13 52 27.1**	**-0.1**
PB11	**IPOC Station P**	**145.99**	**95**		**PKPdf**	**13 52 26.4**	**0.0**
GO01	**Chusmiza**	**146.41**	**94**		**PKPdf**	**13 52 28.1**	**+0.6**
GO02	**Mina Guanaco**	**146.44**	**104**		**PKPbc**	**13 52 28.3**	**-0.3**
LPAZ	**La Paz**	**146.78**	**88**	PKP2	**PKPdf**	**13 52 28.6**	**+0.2**
LPAZ	**La Paz**	**146.78**	**88**	PKPbc	**PKPbc**	**13 52 29.4**	**-0.8**
	comp=Z,29nm,0.8s,baz=353,slow=4.7,SNR=51						
LPAZ	**La Paz**	**146.78**	**88**	*e*P	**PKPdf**	**13 52 28.9**	**+0.5**
LPAZ	**La Paz**	**146.78**	**88**	*e*P	**PKPdf**	**13 52 28.9**	**+0.5**
LPAZ	**La Paz**	**146.78**	**88**	PKPbc	**PKPdf**	**13 52 28.6**	**+0.2**
LVC	**Limon Verde**	**146.98**	**100**	PKP2	**PKPbc**	**13 52 29.5**	**-0.8**
LVC	**Limon Verde**	**146.98**	**100**	*e*P	**PKPbc**	**13 52 29.9**	**-0.3**
LVC	**Limon Verde**	**146.98**	**100**	*e*P	**PKPbc**	**13 52 29.9**	**-0.3**
LVC	**Limon Verde**	**146.98**	**100**		**PKPbc**	**13 52 29.5**	**-0.8**
SAML	**Samuel**	**148.94**	**72**	PKP2

BRVK	Borovoye	16.38	358	P	P	13 39 56.1	-0.4
BRVK				IAmb	IAmb	13 40 00.7	
	comp=Z,14nm,2.0s						
AKTO	Aktyubinsk	16.74	329	P	Pn	13 40 02.4	+0.7
	comp=Z,0.2nm,0.3s,baz=108,slow=13,SNR=2.2						
AKTO				S	S	13 43 01.1	-4.0
	baz=285,slow=22,SNR=1.3						
ZAA0	Zalesovo Array	19.63	24	P	P	13 40 32.6	+0.7
ZALV	Zalesovo Beam	19.63	24	P	P	13 40 32.2	+0.3
	comp=Z,0.3nm,0.3s,baz=222,slow=11,SNR=6.9						
KBZ	Khabaz	22.74	297	LR	LR	13 53 31.0	
	comp=Z,232nm,19.4s,baz=140,slow=45						
SLVN	Son La	32.16	109	P	P	13 42 27.5	-0.3
SLVN				IAmb	IAmb	13 42 36.1	
	comp=Z,16nm,1.3s						
FINES	FINESS Array B	37.47	326	P	P	13 43 13.5	+0.9
	comp=Z,3.0nm,0.9s,baz=118,slow=11,SNR=1.6						
LIT	Litokhoron	38.04	290	P	P	13 43 16.2	-1.6
LIT				IAmb	IAmb	13 43 30.9	
	comp=Z,6.5nm,1.1s						
ARCES	ARCESS Array B	41.06	337	P	P	13 43 43.2	+0.9
	comp=Z,4.8nm,1.0s,baz=111,slow=6.6,SNR=5.1						
HFS	Hagfors	43.07	322	P	P	13 43 59.6	+1.0
	comp=Z,2.8nm,0.8s,baz=94,slow=13,SNR=1.9						
MSEY	Mahe Island	43.74	203	P	P	13 44 04.0	-0.5
NC303	NORSAR Array S	44.32	323	P	P	13 44 09.8	+1.3
SENIN	Lac Senin/Sane	47.70	303	P	P	13 44 36.0	+0.6
SENIN				IAmb	IAmb	13 45 35.0	
	comp=Z,63nm,2.0s						
KBS	Kingsbay	48.48	347	P	P	13 44 41.2	+0.6
KBS				pmax	pmax		
	comp=Z,72nm,1.5s						
KBS	Kingsbay	48.48	347	P	P	13 44 41.2	+0.6
SSB	Saint Sauveur	49.83	302	P	P	13 44 50.9	-0.5
SSB				IAmb	IAmb	13 46 24.3	
	comp=Z,36nm,1.6s						
TORD	Torodi Ar. Bea	65.98	269	P	P	13 46 43.0	-0.9
	comp=Z,0.3nm,0.5s,baz=37,slow=5.5,SNR=2.3						
GUMO	Guam	68.89	89	LR	LR	14 17 34.9	
	comp=Z,104nm,20.6s,baz=108,slow=36						
YKA	Yellowknife Ar	81.04	3	P	P	13 48 11.6	+0.7
	comp=Z,0.2nm,0.5s,baz=352,slow=5.4,SNR=5.4						

*BJI **22** 13:39:50.9±0.0, 20°.67N×146°.86E, h16km, mb4.7/45, mB5.2/35, Ms5.0/23, Ms7 4.8/23*

*NEIC **22** 13:39:53.6±1.2, 20°.75N±0°.06×146°.7E±0°.1, h10km±1km, mb4.9/85*

*MOS **22** 13:39:55.2±0.8, 20°.70N×146°.73E, h33km, mb4.9/31, Error ellipse: s-maj=16.0km s-min=7.6km az=101.1*

*ISCJB **22** 13:39:57.2±1.0, 20°.73N±0°.03×146°.58E±0°.04, h48km±9km, mb4.7/93, MS4.7/8, Error ellipse: s-maj=6.4km s-min=4.9km az=165.9*

*IDC **22** 13:39:58.9±2.5, 20°.76N×146°.68E, h51km±22km, mb4.3/34, mb1 4.4/38, mb1mx4.3/64, mbtmp4.6/38, ML4.6/3, MS4.1/2, Ms1 4.1/2, ms1mx3.5/47, Error ellipse: s-maj=15.7km s-min=9.6km az=86.0*

ISC 22 13:39:56.6±1.8, **20°.80N**±0°.04×**146°.70E**±0°.06, **h30**km±12km, **n242**, σ1^s**24**/251, **mb4.8**/117, **MS4.8**/8, **6C-1D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	Sarigan	4.17	192	Pn	Pn	13 40 58.0	-0.3
GUMO	Guam	7.38	194	P	Pn	13 41 43.5	+1.0
GUMO						13 43 06.8	
GUMO	Guam	7.38	194	P	Pn	13 41 44.9	+2.5
	19nm,0.3s,baz=69,slow=18,SNR=2.3						
GUMO				S	Sn	13 43 06.8	+1.5
	7.4nm,0.3s,baz=38,slow=22,SNR=1.2						
GUMO	Guam	7.38	194	Pn	Pn	13 41 43.5	+1.0
JCJ	Chichijima	7.50	328	P	Pn	13 41 45.5	+1.5
	11nm,0.3s,baz=131,slow=20,SNR=2.6						
JCJ				S	Sn	13 43 02.9	-5.2
	40nm,0.3s,baz=139,slow=23,SNR=5.2						
INU	Inuyama	16.80	332	P	P	13 43 52.0	+0.3
INU				IAmb	IAmb	13 44 04.7	
	comp=Z,78nm,1.1s						
MJAR	Matsushiro Arr	17.34	337	P	P	13 43 58.2	+0.5
	comp=Z,0.1nm,0.3s,baz=152,slow=10,SNR=5.5						
MAJO	Matsushiro	17.35	337	*i* P	P	13 43 57.6	-0.1
PATS	Pohnpei	17.87	139	P	P	13 44 04.2	+0.6
JNU	Nakatsue	18.66	314	P	Pn	13 44 13.6	+0.8
	comp=Z,1.0nm,0.3s,baz=133,slow=2.0,SNR=5.8						
JNU	Nakatsue	18.66	314	P	Pn	13 44 13.9	+1.1
H11N1	WAKE ISLAND Hy	18.98	90	T	T	14 03 46.6	
	baz=276,slow=74,SNR=8.9						
H11N2	WAKE ISLAND Hy	18.98	90	T	T	14 03 46.9	
	baz=276,slow=74,SNR=5.5						
H11N3	WAKE ISLAND Hy	19.00	90	T	T	14 03 47.9	
	baz=276,slow=74,SNR=7.4						
MANU	Manus Island	22.71	178	P	P	13 44 55.1	-1.1
MANU				IAmb	IAmb	13 45 00.2	
	comp=Z,33nm,0.9s						
KSRS	Korea Array	23.26	320	P	P	13 45 01.4	-0.2
	comp=Z,4.7nm,0.7s,baz=147,slow=8.6,SNR=15						
KS19	Wonju Array Si	23.32	320	P	P	13 45 03.0	+0.8
KS19				IAmb	IAmb	13 45 29.4	
	comp=Z,21nm,0.9s						
JKA	Kamikawa-asahi	23.50	353	P	P	13 45 07.1	+3.2
ASAJ	Asahikawa	23.50	353	P	P	13 45 07.1	+3.2
	comp=Z,14nm,1.0s,baz=234,slow=17,SNR=1.5						
YHNB	Yeheng	23.66	284	P	P	13 45 04.4	-1.3
SSLB	Suanglung	23.99	282	P	P	13 45 08.9	0.0
SSLB				IAmb	IAmb	13 45 15.0	
	comp=Z,25nm,0.9s						
TCU	Taichung	24.26	283	P	P	13 45 22.3	+11
TCU				pmax	pmax		
	comp=Z,12nm,0.8s						
VLA	Vladivostok	25.48	334	*i* P	P	13 45 23.8	+1.7
VLA				pmax	pmax		
	comp=Z,20nm,1.1s						
USRK	Ussuriysk Ar.	26.34	336	P	P	13 45 33.2	+3.3
	comp=Z,16nm,0.9s,baz=150,slow=9.7,SNR=8.8						
NJ2	Nanjing	27.25	300	*e*P	P	13 45 36.9	-1.4
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
MDJ	Mudanjiang	27.65	333	P	P	13 45 42.3	+0.5
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,580nm,8.7s						
PMG	Port Moresby	30.02	179	*ce*P	P	13 46 01.9	-1.1
PMG				pmax	pmax		
	comp=Z,217nm,1.7s						
PMG	Port Moresby	30.02	179	P	P	13 46 02.4	-0.7
	comp=Z,28nm,1.0s,baz=338,slow=7.4,SNR=4.3						
PMG	Port Moresby	30.02	179	P	P	13 46 02.2	-0.8
PMG				IAmb	IAmb	13 46 03.2	
	comp=Z,29nm,0.9s						
KLR	Kul'dur	30.77	341	*i* P	P	13 46 09.6	+0.2
KLR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KLR	Kul'dur	30.77	341	P	P	13 46 10.2	+0.7
	comp=Z,3.4nm,0.6s,baz=165,slow=5.8,SNR=8.4						
GRNR	Gornyy	30.98	347	*i* P	P	13 46 08.6	-2.6
GRNR				*e*S	S	13 51 14.1	+0.1
GRNR				pmax	pmax		
	comp=Z,9.0nm,1.4s						
GRNR				smax	smax		
	comp=N,3.0nm,1.2s						
PETK	Petropavlovsk-	33.34	12	P	P	13 46 33.9	+2.0
	comp=N,3.9nm,0.9s,baz=262,slow=9.4,SNR=5.0						
XAN	Xi'an	35.82	300	P	P	13 47 05.5	+12
XAN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,140nm,5.4s						
HHC	Hu-ho-hao-te	35.85	312	P	P	13 46 53.8	-0.2
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,5.7s						
ZEA	Zeya	36.09	340	*e*P	P	13 46 52.8	-2.8
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ZEA				MLR	MLR		
	comp=E,600nm,15.0s						
ZEA				MLR	MLR		
	comp=Z,2µm,15.0s						
ZEA				MLR	MLR		
	comp=N,2µm,16.0s						
MTN	Manton Dam	36.77	206	P	P	13 47 01.9	+0.1
GYA	Guiyang	37.00	287	*e*P	P	13 47 05.6	+1.7
GYA				PP	PP	13 48 26.0	-2.5
GYA				SS	SS	13 55 16.6	-14
GYA				pmax	pmax		
	comp=N,10.0nm,0.4s						
GYA				pmax	pmax		
	comp=N,170nm,5.6s						
GYA				LR	LR		
	comp=N,420nm,11.0s						
GYA				LR	LR		
	comp=N,470nm,15.7s						
GYA				LR	LR		
	comp=N,670nm,14.8s						
SBUM	Sibu	38.23	246	P	P	13 47 14.4	+0.2
BATI	Baumata	38.24	218	LR	LR	14 01 24.1	
	comp=N,410nm,19.8s,baz=74,slow=34						
MA2	Magadan	38.84	3	*i* P	P	13 47 19.5	+0.6
MA2				pmax	pmax		
	comp=Z,34nm,1.1s						
CD2	Chengdu	39.72	294	P	P	13 47 24.6	-2.1
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
KNRA	Kununurra	40.30	207	P	P	13 47 31.1	-0.3
KNRA				IAmb	IAmb	13 47 32.4	
	comp=Z,16nm,0.8s						
LZH	Lanzhou	40.30	302	*e*P	P	13 47 29.8	-1.8
LZH				pP	pP	13 47 33.1	-6.1
LZH				*e*PP	PnPn	13 49 06.9	-1.5
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
LZH				pmax	pmax		
	comp=Z,93nm,5.4s						
LZH				LR	LR		
	comp=Z,470nm,12.9s						
LZH				LR	LR		
	comp=Z,470nm,13.1s						
LZH				LR	LR		
	comp=Z,750nm,16.4s						
CTA	Charters Tower	40.64	181	P	P	13 47 33.1	-1.1
CTA				pmax	pmax		
	comp=Z,20nm,1.9s						
CTAO	Charters Tower	40.64	181	P	P	13 47 32.9	-1.3
CTAO				pmax	pmax		
	comp=Z,18nm,1.9s						
ULN	Ulaanbaatar	41.74	320	*i* P	P	13 47 43.0	-0.3
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	Songino Array	42.13	319	P	P	13 47 46.5	+0.1
	comp=Z,1.7nm,0.7s,baz=125,slow=8.9,SNR=5.5						
SONM				PcP	PcP	13 49 41.1	+0.5
	comp=Z,1.2nm,0.6s,baz=92,slow=4.5,SNR=2.8						
WR0	Warramunga Arr	42.22	197	P	P	13 47 46.4	-0.8
WRAB	Tennant Creek	42.25	197	*ce*P	P	13 47 47.1	-0.3
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WRAB	Tennant Creek	42.25	197	P	P	13 47 46.7	-0.7
WRAB				IAmb	IAmb	13 47 48.6	
	comp=Z,11nm,0.6s						
WRA	Warramunga Arr	42.26	197	P	P	13 47 46.6	-1.0
	comp=Z,7.3nm,0.6s,baz=17,slow=8.5,SNR=38						
WRA				PcP	PcP	13 49 41.7	+0.5
	comp=Z,5.3nm,0.8s,baz=8.0,slow=3.4,SNR=9.3						
SEY	Seymchan	42.28	4	*i* P	P	13 47 47.4	+0.2
SEY	Seymchan	42.28	4	P	P	13 47 47.6	+0.4
	comp=Z,4.4nm,0.6s,baz=176,slow=8.9,SNR=11						
YAK	Yakutsk	42.85	348	*e*P	P	13 47 51.8	0.0
YAK				pmax	pmax		
	comp=Z,15nm,1.1s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.7s						
YAK	Yakutsk	42.85	348	P	P	13 47 52.2	+0.4
YAK				IAmb	IAmb	13 48 03.7	
	comp=Z,14nm,0.8s						
FITZ	Fitzroy Crossi	43.83	210	P	P	13 48 00.0	-0.2
FITZ				IAmb	IAmb	13 48 04.6	
	comp=Z,14nm,0.9s						
GTA	Gaotai	44.05	306	*e*P	P	13 48 01.4	-0.7
GTA				pP	pP	13 48 05.5	-4.3
GTA				sP	sP	13 48 08.3	-4.4
GTA				PcP	PcP	13 49 47.5	+0.3
GTA				LR	LR		
	comp=Z,980nm,16.5s						
GTA				LR	LR		
	comp=Z,1µm,16.8s						
GTA				LR	LR		
	comp=Z,1µm,17.2s						
CHTO	Chiang Mai	44.84	276	P	P	13 48 08.4	-0.1
CHTO				pmax	pmax		
	comp=Z,16nm,1.8s						
CHTO	Chiang Mai	44.84	276	P	P	13 48 08.4	-0.1
CMAR	Chiang Mai Arr	44.91	276	P	P	13 48 09.4	+0.4
	comp=Z,2.2nm,0.6s,baz=68,slow=6.6,SNR=10.0						
ZAK	Zakamensk	45.06	322	*e*P	P	13 48 11.5	+1.6
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TLY	Talaya	45.42	323	*i* P	P	13 48 12.6	0.0
TLY				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TLY	Talaya	45.42	323	P	P	13 48 13.4	+0.8
	comp=Z,2.2nm,0.6s,baz=43,slow=9.0,SNR=1.8						
TLY	Talaya	45.42	323	IAmb	IAmb	13 48 24.8	
	comp=Z,14nm,1.0s						
AS31	Alice Springs	45.92	196	P	P	13 48 15.9	-1.0
ASAR	Alice Springs	45.92	196	P	P	13 48 16.2	-0.7
	comp=Z,2.9nm,0.7s,baz=17,slow=8.1,SNR=23						
ASAR				PcP	PcP	13 49 54.2	+0.6
	comp=Z,2.6nm,0.8s,baz=25,slow=3.3,SNR=7.3						
DZM	Mont Dzumac	46.77	155	P	P	13 48 23.6	0.0
LEM	Lembang	47.19	239	P	P	13 48 26.1	-1.1
	comp=Z,19nm,0.7s,baz=94,slow=9.1,SNR=4.5						
KULM	Kulim	47.23	258	P	P	13 48 27.5	+0.1
KULM				IAmb	IAmb	13 48 41.5	
	comp=Z,13nm,0.9s						
BILL	Bilibino	48.80	10⇑	*e*P	P	13 48 39.5	+0.8
BILL				*i*		13 48 50.0	
BILL				*e*		13 50 04.0	
BILL				*e*S	S	13 55 33.2	-6.5
BILL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BILL	Bilibino	48.80	10	P	P	13 48 39.4	+0.6
BILL				IAmb	IAmb	13 48 51.4	
	comp=Z,10nm,0.8s						
MSVF	Nonsavu	49.11	139	P	P	13 48 43.8	+2.0
MSVF				pmax	pmax		
	comp=Z,144nm,2.0s						
MSVF	Nonsavu	49.11	139	P	P	13 48 43.8	+2.0
PSA00	Pilbara Seismi	49.62	213	P	P	13 48 45.2	-0.3
PSA00				IAmb	IAmb	13 48 48.0	
	comp=Z,12nm,0.9s						
PSI	Prapat	49.82	255	PcP	PcP	13 50 08.0	0.0
	comp=Z,3.3nm,0.5s,baz=104,slow=1.9,SNR=4.5						
RPSI	Rantau Prapat	49.86	255		PcP	13 50 08.0	0.0
LSA	Lhasa	50.61	292	P	P	13 48 54.0	+0.3
LSA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LSA	Lhasa	50.61	292	P	P	13 48 54.0	+0.3
LSA				IAmb	IAmb	13 49 00.0	
	comp=Z,7.3nm,0.7s						
GSI	Gunungsitoli	51.67	254	P	P	13 48 59.0	-2.3
TIXI	Tiksi	51.90	353	*ce*P	P	13 49 02.8	+0.7
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s						
STKA	Stephens Creek	52.61	185	P	P	13 49 07.0	-0.8
STKA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
STKA	Stephens Creek	52.61	185	P	P	13 49 05.9	-1.9
	comp=Z,3.2nm,0.7s,baz=4.1,slow=6.8,SNR=6.8						
STKA	Stephens Creek	52.61	185	P	P	13 49 07.0	-0.8
WMQ	Urumqi	53.67	310	*e*P	P	13 49 16.9	+1.1
WMQ				pP	pP	13 49 21.4	-2.1
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,180nm,4.9s						
WMQ				LR	LR		
	comp=Z,450nm,13.3s						
WMQ				LR	LR		
	comp=Z,760nm,12.3s						
WMQ				LR	LR		
	comp=Z,760nm,13.3s						
TAPN	Taplejung	53.83	289	*e*P	P	13 49 18.2	+0.7
	comp=Z,48nm,0.7s						
ANM	Nome	53.90	23	P	P	13 49 19.0	+2.0
ANM				pmax	pmax		
	comp=Z,26nm,1.8s						
ANM	Nome	53.90	23	P	P	13 49 19.0	+2.0
ANM				IAmb	IAmb	13 50 03.9	
	comp=Z,26nm,1.8s						
ODAN	Odare	54.17	289	*e*P	P	13 49 20.4	+0.5
	comp=Z,32nm,0.6s						
BBOO	Buckleboo	54.27	191	P	P	13 49 19.2	-0.9
RAMN	Ramite	54.86	289	*e*P	P	13 49 25.3	+0.4
	comp=Z,27nm,0.8s						
JIRN	Jiri	55.14	290	*e*P	P	13 49 28.0	+1.0
	comp=Z,114nm,0.9s						
GUN	Gumba	55.38	290	*e*P	P	13 49 29.4	+0.6
	comp=Z,66nm,0.8s						
PKI	Pulchoki	55.84	290	*e*P	P	13 49 32.2	+0.2
PKIN	Phulchoki	55.84	290	*e*P	P	13 49 32.2	+0.2
	comp=Z,22nm,0.5s						
KKN	Kakani	55.92	290	*e*P	P	13 49 32.9	+0.4
	comp=Z,79nm,0.8s						
DMN	Daman	56.10	290	*e*P	P	13 49 34.1	+0.3
	comp=Z,50nm,0.9s						
GKN	Gorkha	56.46	290	*e*P	P	13 49 36.8	+0.5
	comp=Z,116nm,0.9s						
ZAA0	Zalesovo Array	56.94	322	P	P	13 49 38.4	-0.6
ZAA0				IAmb	IAmb	13 49 49.8	
	comp=Z,14nm,0.7s						
ZALV	Zalesovo Beam	56.94	322	P	P	13 49 38.7	-0.3
	comp=Z,7.7nm,0.5s,baz=106,slow=7.3,SNR=31						
ZALV				PcP	PcP	13 50 34.0	-0.1
	comp=Z,4.3nm,0.8s,baz=109,slow=4.0,SNR=1.7						
DANN	Dangsing	57.18	291	*e*P	P	13 49 42.4	+0.9
	comp=Z,315nm,0.7s						
KOLN	Koldanda	57.40	290	*e*P	P	13 49 43.4	+0.4
	comp=Z,89nm,0.8s						
MK31	Makanchi Array	57.71	313	*i* P	P	13 49 44.6	-0.1
MK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MK31	Makanchi Array	57.71	313	P	P	13 49 44.5	-0.1
MKAR	Makanchi Array	57.71	313	P	P	13 49 44.8	+0.1
	comp=Z,3.2nm,0.7s,baz=86,slow=8.3,SNR=16						
MORW	Morawa	57.73	212	P	P	13 49 43.4	-1.5
MORW				IAmb	IAmb	13 49 48.1	
	comp=Z,17nm,1.1s						
MAKZ	Makanchi	57.92	313	P	P	13 49 45.4	-0.7
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MAKZ	Makanchi	57.92	313	P	P	13 49 45.6	-0.6
MAKZ				IAmb	IAmb	13 49 47.4	
	comp=Z,8.7nm,0.9s						
TOO	Toolangi	58.07	181	P	P	13 49 48.4	+1.3
TOO				pmax	pmax		
	comp=Z,90nm,2.0s						
TOO	Toolangi	58.07	181	P	P	13 49 48.4	+1.3
BPAW	Bear Paw Mtn.	59.46	27	P	P	13 49 57.1	+0.6
BPAW				IAmb	IAmb	13 50 19.9	
	comp=Z,10nm,1.1s						
PDGK	Podgornoye	59.61	309	P	P	13 49 57.7	-0.4
PDGK				pmax	pmax		
	comp=Z,12nm,1.0s						
PMR	Palmer	59.67	30	P	P	13 49 58.6	+0.7
PMR				pmax	pmax		
	comp=Z,38nm,1.6s						
PMR	Palmer	59.67	30	P	P	13 49 58.6	+0.7
NRIK	Noril'sk	59.97	339	P	P	13 50 00.3	+0.4
	comp=Z,11nm,0.7s,baz=107,slow=9.2,SNR=18						
KURK	Kurchatov	60.35	317	P	P	13 50 02.9	+0.1
KURK	Kurchatov	60.35	317	P	P	13 50 01.8	-1.1
KURBB	Kurchatov Arra	60.41	317	P	P	13 50 02.9	-0.3
	comp=Z,12nm,0.7s,baz=93,slow=7.7,SNR=60						
TOLK	Toolik Lake Re	61.30	22	P	P	13 50 10.0	+1.0
ILAR	Eielson Array	61.35	27	P	P	13 50 08.0	-1.5
	comp=Z,1.4nm,0.9s,baz=267,slow=5.0,SNR=9.1						
ILAR				PcP	PcP	13 50 50.2	-1.3
	comp=Z,2.9nm,1.1s,baz=264,slow=6.0,SNR=4.5						
KSH	Kashi	62.44	305	P	P	13 50 20.8	+3.5
KSH				PP	PP	13 52 40.5	+5.8
KSH				PcS	PcS	13 55 02.3	+2.3
KSH				S	S	13 58 47.0	+4.3
KSH				ScS	ScS	14 00 09.1	+1.2
KSH				pmax	pmax		
	comp=Z,39nm,1.2s						
KSH				pmax	pmax		
	comp=Z,940nm,8.2s						
KSH				LR	LR		
	comp=Z,1µm,10.6s						
KSH				LR	LR		
	comp=Z,1µm,10.1s						
KSH				LR	LR		
	comp=Z,1µm,12.3s						
TKM2	Tokmak 2	62.47	308	P	P	13 50 18.0	+0.4
TKM2				pmax	pmax		
	comp=Z,11nm,1.1s						
NIL	Nilore	65.35	298	P	P	13 50 36.7	+0.2
NIL				pmax	pmax		
	comp=Z,33nm,1.1s						
NIL	Nilore	65.35	298	P	P	13 50 36.6	+0.2
BVAR	Borovoye Array	65.47	320	P	P	13 50 37.1	+0.2
	comp=Z,16nm,0.4s,baz=89,slow=7.1,SNR=150						
BRVK	Borovoye	65.53	320	*ce*P	P	13 50 37.7	+0.5
BRVK				pmax	pmax		
	comp=Z,24nm,1.0s						
BRVK	Borovoye	65.53	320	P	P	13 50 37.2	-0.1
KK31	Karatay Array	66.17	309	*i* P	P	13 50 41.9	+0.3
KK31				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KK31	Karatay Array	66.17	309	P	P	13 50 41.5	0.0
KKAR	Karatay Array	66.17	309	P	P	13 50 41.5	-0.1
KKAR				pmax	pmax		
	comp=Z,16nm,0.9s						
KKAR	Karatay Array	66.17	309	P	P	13 50 41.5	-0.1
GAR	Garm	66.86	305	P	P	13 50 45.8	-0.4
GAR				IAmb	IAmb	13 51 06.2	
	comp=Z,11nm,0.8s						
RAR	Rarotonga	66.93	125	LR	LR	14 11 57.4	
	comp=Z,108nm,21.3s,baz=116,slow=29						
INK	Inuvik	67.08	23	P	P	13 50 46.7	-0.1
INK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
INK	Inuvik	67.08	23	P	P	13 50 47.0	+0.2
	comp=Z,3.6nm,1.0s,baz=285,slow=4.9,SNR=5.8						
INK	Inuvik	67.08	23	P	P	13 50 46.7	-0.1
INK				IAmb	IAmb	13 50 58.4	
	comp=Z,6.5nm,0.9s						
CHGR	Chuyangaron	67.81	304	P	P	13 50 52.2	0.0
KBL	Kabul	68.63	300	P	P	13 50 56.9	-0.6
KBL				pmax	pmax		
	comp=Z,18nm,1.0s						
KBL	Kabul	68.63	300	P	P	13 50 56.9	-0.6
SVE	Sverdlovsk	70.71	324	*e*P	P	13 51 10.4	+0.7
SVE				pmax	pmax		
	comp=Z,16nm,0.9s						
ARU	Arti	71.91	324*d*	*i*P	P	13 51 16.7	-0.2
ARU						13 53 52.4	
ARU				S	S	14 00 39.8	+3.9
ARU				SS	SS	14 05 12.8	+0.7
ARU				pmax	pmax		
	comp=Z,22nm,0.9s						
ARU	Arti	71.91	324	P	P	13 51 16.6	-0.4
	comp=Z,5.4nm,0.7s,baz=107,slow=4.3,SNR=18						
ARU	Arti	71.91	324	P	P	13 51 16.2	-0.7
AB31	Akbulak array	72.45	317	*i* P	P	13 51 19.8	-0.5
AB31				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ABKAR	Akbulak array	72.45	317	P	P	13 51 19.7	-0.7
ABKAR				IAmb	IAmb	13 51 31.4	
	comp=Z,12nm,0.7s						
AKTO	Aktyubinsk	73.43	318	P	P	13 51 25.5	-0.6
	comp=Z,4.4nm,0.6s,baz=100,slow=8.6,SNR=13						
HRA	Herat	74.14	301	P	P	13 51 30.4	-0.5
HRA				IAmb	IAmb	13 51 32.2	
	comp=Z,5.7nm,0.8s						
YKW3	Yellowknife Ar	75.67	28	P	P	13 51 37.6	-1.3
YKA	Yellowknife Ar	75.70	28	P	P	13 51 38.7	-0.3
	comp=Z,3.6nm,1.0s,baz=291,slow=5.5,SNR=18						
KIRV	Kirov	76.19	328	P	P	13 51 42.4	+0.6
	comp=Z,22nm,0.7s,baz=72,slow=1.4,SNR=8.6						
GEYT	Alibeck	76.44	306	P	P	13 51 44.1	+0.3
	comp=Z,4.6nm,1.0s,baz=8.5,slow=3.0,SNR=5.3						
PRGR	Permogore	77.03	331	*e*P	P	13 51 42.7	-3.8
PRGR				*e*		13 51 56.2	
PRGR				pmax	pmax		
	comp=Z,45nm,0.8s						
RES	Resolute Bay	77.17	14	P	P	13 51 46.7	-0.4
RES				pmax	pmax		
	comp=Z,23nm,1.9s						
RES	Resolute Bay	77.17	14	P	P	13 51 46.7	-0.4
RES				IAmb	IAmb	13 53 15.0	

	comp=Z,23nm,1.9s							
TMCR	**Tamitsa**	**79.27**	**335**	*e*P		**P**	**13 51 58.8**	**-0.1**
TMCR				pmax	pmax			
	comp=Z,38nm,0.6s							
CMB	**Columbia Colle**	**79.69**	**53**	P		**P**	**13 52 02.2**	**+0.4**
CMB				pmax	pmax			
	comp=Z,5.0nm,1.1s							
CMB	**Columbia Colle**	**79.69**	**53**	P		**P**	**13 52 02.2**	**+0.4**
BMO	**Blue Mountains**	**79.69**	**46**	P		**P**	**13 52 02.2**	**+0.3**
BMO				pmax	pmax			
	comp=Z,6.0nm,1.2s							
BMO	**Blue Mountains**	**79.71**	**46**	P		**P**	**13 52 02.2**	**+0.3**
TULEG	**Thule**	**80.51**	**8**	P		**P**	**13 52 05.7**	**+0.3**
TULEG				IAmb	IAmb		13 52 17.4	
	comp=Z,16nm,1.0s							
ARCES	**ARCESS Array B**	**80.79**	**342**	P		**P**	**13 52 07.0**	**-0.1**
ARCES	**ARCESS Array B**	**80.79**	**342**	P		**P**	**13 52 07.0**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=63,slow=9.6,SNR=8.2							
RYN	**Ryan**	**80.89**	**52**	P		**P**	**13 52 08.8**	**+0.3**
KVN	**Kaiserville**	**81.06**	**52**	P		**P**	**13 52 09.8**	**+0.4**
KVN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KVN	**Kaiserville**	**81.06**	**52**	P		**P**	**13 52 09.8**	**+0.4**
NVAR	**Mina Array Bea**	**81.11**	**52**	P		**P**	**13 52 10.2**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=266,slow=6.0,SNR=24							
MFID	**Camas Ranch**	**81.19**	**47**	P		**P**	**13 52 10.2**	**+0.3**
NV11	**Mina Array Sit**	**81.22**	**52**	P		**P**	**13 52 10.7**	**+0.5**
ELK	**Elko**	**82.54**	**49**	P		**P**	**13 52 17.7**	**+0.5**
ELK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
ELK	**Elko**	**82.54**	**49**	P		**P**	**13 52 17.7**	**+0.5**
AKT	**Akhty**	**82.91**	**312**	*e*P		**P**	**13 52 21.8**	**+2.9**
AKT				pmax	pmax			
	comp=Z,38nm,1.8s							
VRH	**Novokhopyorsk**	**82.97**	**322**	*e*P		**P**	**13 52 17.8**	**-1.1**
VRH				*e*			13 52 28.7	
VRH				pmax	pmax			
	comp=Z,20nm,0.8s							
R11A	**Troy Canyon, C**	**83.15**	**52**	P		**P**	**13 52 20.7**	**+0.4**
R11A				IAmb	IAmb		13 52 55.8	
	comp=Z,14nm,1.7s							
TPNV	**Topopah Spring**	**83.15**	**53**	P		**P**	**13 52 20.8**	**+0.4**
TPNV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
TPNV	**Topopah Spring**	**83.15**	**53**	P		**P**	**13 52 20.8**	**+0.4**
TPNV				IAmb	IAmb		13 52 21.8	
	comp=Z,4.8nm,0.9s							
MOS	**Moscow**	**83.21**	**327**	*e*P		**P**	**13 52 19.3**	**-0.7**
YHL	**Hebgen Lake**	**83.78**	**44**	P		**P**	**13 52 23.8**	**+0.2**
LPSR	**Galich'ya Gora**	**83.94**	**324**	*e*P		**P**	**13 52 23.2**	**-0.6**
LPSR				*e*			13 52 34.2	
LPSR				pmax	pmax			
	comp=Z,30nm,0.8s							
OBN	**Obninsk**	**84.03**	**327**	⇑ *i*P		**P**	**13 52 24.3**	**+0.1**
OBN				*e*			13 52 33.6	
OBN				pmax	pmax			
	comp=Z,24nm,1.0s							
SHPR	**Sheep Range**	**84.13**	**53**	P		**P**	**13 52 25.9**	**+0.5**
SHPR				IAmb	IAmb		13 52 40.4	
	comp=Z,6.4nm,1.3s							
VSR	**Storozhevoye**	**84.42**	**323**	*e*P		**P**	**13 52 25.7**	**-0.6**
VSR				*e*			13 52 36.4	
VSR				pmax	pmax			
	comp=Z,30nm,1.1s							
VORD	**Divnogorie**	**84.46**	**323**	*e*P		**P**	**13 52 24.7**	**-1.8**
VORD				*e*			13 52 36.8	
VORD				pmax	pmax			
	comp=Z,10.0nm,0.6s							
DUG	**Dugway, Tooele**	**84.46**	**49**	P		**P**	**13 52 26.7**	**-0.3**
DUG				pmax	pmax			
	comp=Z,10.0nm,1.4s							
DUG	**Dugway, Tooele**	**84.46**	**49**	P		**P**	**13 52 26.7**	**-0.3**
DUG				IAmb	IAmb		13 52 28.5	
	comp=Z,9.6nm,1.4s							
HWUT	**Hardware Ranch**	**84.79**	**48**	P		**P**	**13 52 28.2**	**-0.4**
HWUT				IAmb	IAmb		13 52 30.2	
	comp=Z,5.9nm,1.1s							
FFC	**Flin Flon**	**84.82**	**33**	P		**P**	**13 52 28.7**	**+0.4**
FFC				pmax	pmax			
	comp=Z,15nm,1.4s							
FFC	**Flin Flon**	**84.82**	**33**	P		**P**	**13 52 28.7**	**+0.4**
FFC				IAmb	IAmb		13 52 33.8	
	comp=Z,15nm,1.4s							
RLMT	**Red Lodge**	**84.91**	**44**	P		**P**	**13 52 30.1**	**+0.9**
RLMT				IAmb	IAmb		13 52 43.5	
	comp=Z,6.4nm,0.9s							
CCUT	**Cedar City**	**85.07**	**52**	P		**P**	**13 52 30.8**	**+0.6**
JLU	**Jordanelle**	**85.27**	**48**	P		**P**	**13 52 30.9**	**-0.2**
KBZ	**Khabaz**	**85.33**	**315**	P		**P**	**13 52 30.9**	**-0.1**
	comp=Z,5.1nm,0.8s,baz=78,slow=5.5,SNR=8.2							
LCMT	**Little Creek M**	**85.36**	**52**	P		**P**	**13 52 31.9**	**+0.4**
FIA1	**FINESS Array S**	**85.37**	**335**	P		**P**	**13 52 30.0**	**-0.9**
FINES	**FINESS Array B**	**85.37**	**335**	P		**P**	**13 52 30.1**	**-0.8**
	comp=Z,15nm,0.5s,baz=69,slow=4.7,SNR=97							
KIV	**Kislovodsk**	**85.37**	**315**	*e*P		**P**	**13 52 29.5**	**-1.9**
KIV				pmax	pmax			
	comp=Z,21nm,1.1s							
KNB	**Kanab**	**85.67**	**52**	P		**P**	**13 52 33.8**	**+0.6**
KNB				pmax	pmax			
	comp=Z,10.0nm,1.1s							
KNB	**Kanab**	**85.67**	**52**	P		**P**	**13 52 33.8**	**+0.6**
PD31	**Pinedale Array**	**85.69**	**46**	P		**P**	**13 52 32.8**	**-0.4**
PDAR	**Pinedale Array**	**85.69**	**46**	P		**P**	**13 52 33.2**	**0.0**
	comp=Z,0.8nm,0.7s,baz=277,slow=2.9,SNR=6.6							
Q16A	**Castle Valley**	**86.13**	**50**	P		**P**	**13 52 35.9**	**+0.5**
LAO	**LASA Array**	**86.16**	**41**	P		**P**	**13 52 35.4**	**+0.2**
LAO				IAmb	IAmb		13 52 36.9	
	comp=Z,9.4nm,0.9s							
P17A	**Butcher Ranch,**	**86.22**	**49**	P		**P**	**13 52 36.2**	**+0.4**
U15A	**North Rim**	**86.30**	**52**	P		**P**	**13 52 37.0**	**+0.7**
SRU	**San Rafael Swe**	**86.51**	**49**	P		**P**	**13 52 37.4**	**+0.1**
SRU				pmax	pmax			
	comp=Z,7.0nm,0.9s							
SRU	**San Rafael Swe**	**86.51**	**49**	P		**P**	**13 52 37.4**	**+0.1**
Y14A	**Wickenburg**	**86.72**	**55**	P		**P**	**13 52 38.6**	**+0.4**
Y14A				IAmb	IAmb		13 52 39.8	
	comp=Z,7.0nm,1.2s							
WUAZ	**Wupatki**	**87.34**	**53**	P		**P**	**13 52 41.8**	**+0.5**
WUAZ				IAmb	IAmb		13 52 43.2	
	comp=Z,7.0nm,0.9s							
N23A	**Red Feather La**	**88.93**	**46**	P		**P**	**13 52 49.9**	**+0.9**
N23A				IAmb	IAmb		13 52 51.1	
	comp=Z,9.7nm,1.0s							
SMCO	**Snowmass**	**88.99**	**48**	P		**P**	**13 52 49.6**	**+0.2**
SMCO				IAmb	IAmb		13 53 09.1	
	comp=Z,18nm,1.6s							
AKASG	**Malin Array Be**	**90.11**	**326**	P		**P**	**13 52 52.5**	**-1.4**
	comp=Z,4.0nm,0.9s,baz=46,slow=5.2,SNR=6.0							
AKBB	**Malin Array Si**	**90.11**	**326**	P		**P**	**13 52 52.2**	**-1.7**
AKBB				pmax	pmax			
	comp=Z,6.0nm,0.8s							
AKBB	**Malin Array Si**	**90.11**	**326**	P		**P**	**13 52 52.2**	**-1.7**
AKBB				IAmb	IAmb		13 53 04.4	
	comp=Z,5.9nm,0.8s							
ULM	**Lac du Bonnet**	**90.34**	**35**	P		**P**	**13 52 54.1**	**-0.8**
ULM				pmax	pmax			
	comp=Z,40nm,1.9s							
ULM	**Lac du Bonnet**	**90.34**	**35**	P		**P**	**13 52 54.1**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=268,slow=6.0,SNR=3.7							
ULM	**Lac du Bonnet**	**90.34**	**35**	IAmb	IAmb		13 53 00.8	
	comp=Z,40nm,1.9s							
SDCO	**Great Sand Dun**	**90.66**	**49**	P		**P**	**13 52 57.2**	**+0.1**
HFS	**Hagfors**	**90.78**	**339**	P		**P**	**13 52 55.4**	**-1.4**
	comp=Z,3.8nm,0.7s,baz=78,slow=6.8,SNR=8.9							
BRTR	**Keskin Array B**	**93.31**	**315**	P		**P**	**13 53 08.1**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=98,slow=3.2,SNR=6.5							
MNTX	**Cornudas Mount**	**93.49**	**54**	P		**P**	**13 53 10.7**	**+0.7**
MNTX				IAmb	IAmb		13 53 11.7	
	comp=Z,3.1nm,0.8s							
TXAR	**Lajitas Array**	**95.88**	**56**	P		**P**	**13 53 21.6**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=278,slow=2.6,SNR=3.4							
VYHS	**Vyhne**	**96.80**	**328**	*e*P		**P**	**13 53 24.2**	**-0.5**
VYHS	**Vyhne**	**96.80**	**328**	*e*P		**P**	**13 53 24.2**	**-0.5**
SNAA	**Sanae**	**126.16**	**191**	PKPdf		**PKPdf**	**13 58 55.4**	**-0.1**
VNA2	**Neumayer--Watz**	**127.60**	**190**	PKPdf		**PKiKP**	**13 58 58.9**	**+0.2**
	baz=72,slow=1.2							
VNA3	**Neumayer Olymp**	**127.69**	**189**	PKPdf		**PKiKP**	**13 58 59.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**131.82**	**311**	PKP		**PKPdf**	**13 59 07.0**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=66,slow=0.8,SNR=2.9							
PLCA	**Paso Flores**	**142.70**	**131**	PKP		**PKPdf**	**13 59 25.3**	**-2.0**
	comp=Z,3.0nm,0.8s,baz=237,slow=5.5,SNR=5.6							
GO04	**Tololo Observa**	**145.02**	**113**			**PKPbc**	**13 59 30.8**	**-0.5**
GO03	**Copiap**	**145.74**	**109**			**PKPab**	**13 59 34.2**	**+0.5**
MNMC	**Minye Minye**	**145.89**	**94**			**PKPbc**	**13 59 34.5**	**+0.2**
PB11	**IPOC Station P**	**145.93**	**95**			**PKPdf**	**13 59 33.7**	**+0.1**
GO01	**Chusmiza**	**146.35**	**94**			**PKPbc**	**13 59 35.7**	**-0.3**
GO02	**Mina Guanaco**	**146.38**	**104**			**PKPbc**	**13 59 35.6**	**-0.1**
LPAZ	**La Paz**	**146.72**	**88**	PKP2		**PKPdf**	**13 59 36.1**	**+0.5**
LPAZ	**La Paz**	**146.72**	**88**	PKPbc		**PKPbc**	**13 59 36.7**	**-0.6**
	comp=Z,6.7nm,0.7s,baz=312,slow=2.5,SNR=21							
LPAZ	**La Paz**	**146.72**	**88**			**PKPdf**	**13 59 36.1**	**+0.5**
LVC	**Limon Verde**	**146.92**	**100**	PKP2		**PKPbc**	**13 59 37.2**	**-0.2**
LVC	**Limon Verde**	**146.92**	**100**			**PKPbc**	**13 59 37.2**	**-0.2**
SAML	**Samuel**	**148.88**	**72**	PKP2		**PKPbc**	**13 59 41.8**	**-0.6**
SAML	**Samuel**	**148.88**	**72**			**PKPbc**	**13 59 41.8**	**-0.6**
TRQA	**Tornquist**	**149.85**	**131**	PKP2		**PKPbc**	**13 59 44.3**	**+0.1**
TRQA	**Tornquist**	**149.85**	**131**			**PKPbc**	**13 59 44.3**	**+0.1**

*IPEC **22** 13:45:10.0±0.2, 49.˚83N×18.˚55E, h0km±3km, ML1.1/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*

PRU 22 13:45:11.3±0.0, 49.˚84N×18.˚45E, h0km, 1C, Mining Induced Event Darkov, E=1.5e+04, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.20**	**269**	*e*PG		Pg	13 45 15.3	+0.3
OKC				*e*SG		Sg	13 45 18.9	+1.3
	comp=Z,9.5nm,0.4s							
MORC	**Moravsky Berou**	**0.59**	**264**	*e*PG		Pg	13 45 22.5	-0.1
MORC				*e*SG		Sg	13 45 30.6	+0.3
MORC	**Moravsky Berou**	**0.59**	**264**	*e*Pg		Pg	13 45 22.4	-0.2
	baz=85							
MORC				*e*Sg		Sg	13 45 30.6	+0.3
	5.7nm,0.2s,baz=85							
LANS	**Liptovska Anna**	**0.96**	**136**	*e*PG		Pg	13 45 29.5	-0.1
LANS				*e*SG		Sg	13 45 42.8	+0.8
LANS				*e*LG		Lg	13 45 45.6	
KRLC	**Kraliky**	**1.10**	**283**	*e*SG		Sb	13 45 47.5	-0.7
	comp=Z,6.2nm,0.4s							
VRAC	**Vranov**	**1.32**	**247**	*e*PG		Pg	13 45 36.0	-0.6
VRAC				*e*SG		Sg	13 45 53.3	-0.4
VRAC	**Vranov**	**1.32**	**247**	*e*Pg		Pg	13 45 35.9	-0.7
	baz=67							
VRAC				*e*Sg		Sg	13 45 53.2	-0.5
	2.7nm,0.2s,baz=67							
VYHS	**Vyhne**	**1.37**	**169**	*e*PG		Pg	13 45 36.8	-0.7
VYHS				*e*SG		Sg	13 45 54.9	-0.4
VYHS				*e*			13 50 13.0	
DPC	**Dobruska-Polom**	**1.46**	**291**	*e*PG		Pn	13 45 37.8	-1.2
DPC				*e*SG		Sg	13 45 57.9	-0.4
KRUC	**Moravsky**	**1.55**	**241**	*e*PG		Pn	13 45 39.2	-1.0
KRUC				*e*SG		Sn	13 46 00.3	-0.7
KRUC	**Moravsky**	**1.55**	**241**	*e*Pg		Pn	13 45 39.1	-1.1
	baz=60							
KRUC				*e*Sg		Sn	13 46 00.2	-0.8
	1.6nm,0.2s,baz=60							
OSTC	**Ostas**	**1.60**	**297**	*e*SG		Sn	13 46 02.3	-0.1
CHVC	**Chvalec**	**1.71**	**297**	*e*PG		Pn	13 45 42.2	-0.2
CHVC				*e*SG		Sg	13 46 06.2	-0.1
GOPC	**GO Pecny, Ondr**	**2.37**	**273**	*e*SG		Sg	13 46 26.1	-1.3
PRU	**Pruhonice**	**2.53**	**275**	*e*SG		Sg	13 46 31.7	-0.9
TRPA	**Tarpa**	**3.19**	**121**	⇑P		Pb	13 46 09.6	+0.8
TRPA				mb			13 46 12.3	
KHC	**Kasperske Hory**	**3.25**	**259**	*e*SG		Sg	13 46 54.8	-1.0

*IDC **22** 13:58:56.2±2.0, 5.˚82S×148.˚43E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.5/37, mbtmp3.5/6, ML2.7/2, Error ellipse: s-maj=64.9km s-min=22.6km az=111.0*

ISC 22 13:59:04.3±1.6, 6.˚0S±0.˚1×148.˚3E±0.˚4, h65km, n6, σ1s99/7, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.53**	**198**	Pn		**Pn**	**13 59 56.5**	**-0.2**
	6.2nm,0.3s,baz=42,slow=5.8,SNR=18							
PMG				Sn		**Sn**	**14 00 36.0**	**-1.3**
	8.0nm,0.3s,baz=30,slow=19,SNR=12							
WRA	**Warramunga Arr**	**19.36**	**223**	P		**Pn**	**14 03 25.8**	**-0.7**
	0.1nm,0.3s,baz=50,slow=10,SNR=6.1							
ASAR	**Alice Springs**	**22.34**	**217**	P		**P**	**14 03 57.6**	**+0.7**
	0.6nm,0.5s,baz=53,slow=9.0,SNR=23							
FITZ	**Fitzroy Crossi**	**25.14**	**240**	P		**P**	**14 04 26.3**	**+2.8**
	1.2nm,0.5s,baz=58,slow=8.7,SNR=8.3							
KSRS	**Korea Array**	**47.25**	**338**	P		**P**	**14 07 28.9**	**-2.1**
	1.5nm,0.7s,baz=147,slow=9.1,SNR=4.6							
ILAR	**Eielson Array**	**85.01**	**23**	P		**P**	**14 11 33.4**	**+1.0**
	0.1nm,0.6s,baz=258,slow=4.5,SNR=1.0							

*IDC **22** 14:02:05.4±0.7, 20.˚76N×146.˚66E, h0km, mb3.8/13, mb1 3.9/13, mb1mx3.8/44, mbtmp3.8/13, Error ellipse: s-maj=27.8km s-min=17.5km az=90.0*

*NEIC **22** 14:02:06.8±1.9, 20.˚7N±0.˚1×146.˚6E±0.˚1, h10km±1km, mb4.6/11*

*ISCJB **22** 14:02:08.3±0.5, 20.˚71N±0.˚08×146.˚5E±0.˚1, h34km, mb3.7/13, Error ellipse: s-maj=14.9km s-min=10.1km az=26.1*

ISC 22 14:02:10.1±0.7, 20.˚7N±0.˚1×146.˚6E±0.˚1, h34km, n30, σ0s83/29, mb3.9/18, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KSRS	**Korea Array**	**23.26**	**320**	P		**P**	**14 07 15.0**	**+0.4**
	1.0nm,0.9s,baz=153,slow=11,SNR=2.2							
KKM	**Kota Kinabalu**	**32.87**	**248**	P		**P**	**14 08 40.4**	**-0.7**
KKM				IAmb	IAmb		14 09 54.2	
	comp=Z,44nm,1.3s							
SONM	**Songino Array**	**42.13**	**320**	P		**P**	**14 10 00.0**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=112,slow=6.4,SNR=2.2							
WRAB	**Tennant Creek**	**42.14**	**197**	P		**P**	**14 09 59.6**	**+0.3**
WRA	**Warramunga Arr**	**42.15**	**197**	P		**P**	**14 09 59.8**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=17,slow=8.1,SNR=5.9							
SEY	**Seymchan**	**42.37**	**4**	P		**P**	**14 10 01.9**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=202,slow=19,SNR=1.7							
GSTR	**Great Sitkin T**	**42.62**	**34**	P		**P**	**14 10 02.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**43.70**	**209**	P		**P**	**14 10 13.5**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=83,slow=8.1,SNR=1.9							
FITZ	**Fitzroy Crossi**	**43.70**	**209**	IAmb	IAmb		14 11 19.0	
	comp=Z,18nm,1.8s							
ASAR	**Alice Springs**	**45.81**	**196**	P		**P**	**14 10 28.8**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=18,slow=6.4,SNR=4.9							
ASAR				PcP		**PcP**	**14 12 07.6**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=21,slow=2.7,SNR=4.3							
LHMI	**Lhok Sumawe**	**50.55**	**259**	P		**P**	**14 11 04.1**	**-1.5**
GSI	**Gunungsitoli**	**51.56**	**254**	P		**P**	**14 11 12.7**	**-0.6**
PBA	**Port Blair**	**52.30**	**269**	P		**P**	**14 11 16.6**	**-2.1**
SDPT	**Sand Point**	**52.34**	**35**	P		**P**	**14 11 18.2**	**-0.3**
ZAA0	**Zalesovo Array**	**56.95**	**322**	P		**P**	**14 11 51.9**	**0.0**
ZAA0				IAmb	IAmb		14 11 52.9	
	comp=Z,2.4nm,0.6s							
ZALV	**Zalesovo Beam**	**56.95**	**322**	P		**P**	**14 11 52.2**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=104,slow=7.3,SNR=11							
MK31	**Makanchi Array**	**57.70**	**313**	P		**P**	**14 11 57.6**	**+0.2**
MKAR	**Makanchi Array**	**57.70**	**313**	P		**P**	**14 11 58.3**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=99,slow=7.5,SNR=6.6							
MAKZ	**Makanchi**	**57.92**	**313**	P		**P**	**14 11 59.5**	**+0.6**
MAKZ				IAmb	IAmb		14 12 36.9	
	comp=Z,3.6nm,1.1s							
NRIK	**Noril'sk**	**60.02**	**339**	P		**P**	**14 12 13.2**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=113,slow=20,SNR=5.9							
KURK	**Kurchatov**	**60.36**	**317**	P		**P**	**14 12 15.7**	**+0.1**
KURK				IAmb	IAmb		14 12 17.0	
	comp=Z,3.2nm,0.8s							
NEA	**Nenana**	**60.51**	**27**	P		**P**	**14 12 17.4**	**+0.9**
ILAR	**Eielson Array**	**61.47**	**27**	P		**P**	**14 12 21.4**	**-1.6**
ILAR	**Eielson Array**	**61.47**	**27**	PKPPKP		**P**	**14 12 21.4**	**-1.6**
	comp=Z,1.0nm,1.0s,baz=102,slow=0.6,SNR=5.6							
YKA	**Yellowknife Ar**	**75.82**	**28**	P		**P**	**14 13 51.9**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=291,slow=5.7,SNR=5.7							
NVAR	**Mina Array Bea**	**81.24**	**52**	P		**P**	**14 14 23.7**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=242,slow=5.4,SNR=4.8							
FINES	**FINESS Array B**	**85.41**	**335**	P		**P**	**14 14 43.2**	**-0.7**
	comp=Z,2.7nm,0.6s,baz=75,slow=5.2,SNR=18							
PDAR	**Pinedale Array**	**85.82**	**46**	P		**P**	**14 14 46.3**	**-0.3**
	comp=Z,0.1nm,0.6s,baz=260,slow=3.6,SNR=1.7							
LPAZ	**La Paz**	**146.81**	**88**	PKPbc		**PKPab**	**14 21 51.9**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=339,slow=6.0,SNR=4.1							
LPAZ	**La Paz**	**146.81**	**88**			**PKPab**	**14 21 51.5**	**-0.1**

*HLW **22** 14:04:50.8, 33.˚83N×32.˚00E, h21km±12km, Md3.2*
*NIC **22** 14:04:51.1±0.0, 33.˚60N×31.˚80E, h53km±25km, Md4.1/3, Ml3.9/4*
*ISCJB **22** 14:04:52.8±0.3, 33.˚70N±0.˚02×32.˚11E±0.˚04, h93km±13km, Error ellipse: s-maj=5.9km s-min=2.6km az=146.1*

*ISK **22** 14:04:53.9, 33.˚85N×32.˚24E, h109km±3km, ML3.3/20*
*GII **22** 14:04:53.3±0.0, 33.˚60N×32.˚16E, h10km, MD2.9/10*

ISC 22 14:04:54.5±1.3, 33.˚71N±0.˚04×32.˚12E±0.˚05, h76km±28km, n67, σ0s90/93, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NATA	**Nata**	**1.13**	**19**	P		**Pn**	**14 05 14.2**	**-0.8**
NATA				AML	AML		14 05 48.6	
	3.4nm,1.0s							
SZAC	**Souni**	**1.22**	**31**	P		**Pn**	**14 05 15.5**	**-0.6**
SZAC				AML	AML		14 05 33.6	
	7.2nm,0.5s							
SZAC				AML	AML		14 05 33.6	
	7.2nm,0.5s							
SZAC				S		**Sn**	**14 05 33.8**	**+1.5**
SZAC				AML	AML		14 05 36.0	
	5.9nm,0.4s							
SZAC				AML	AML		14 05 36.0	
	5.9nm,0.4s							
SZAC				AMd			14 06 33.3	
SZAC				AMd			14 06 33.3	
AKMS	**Akamas**	**1.32**	**8**	P		**Pn**	**14 05 15.2**	**-2.1**
AKMS				AMd			14 06 31.5	
ASGA	**Asgata**	**1.43**	**41**	P		**Pn**	**14 05 18.1**	**-0.5**
ASGA				S		**Sn**	**14 05 38.4**	**+1.5**
ASGA				AML	AML		14 05 38.5	
	4.0nm,0.5s							
ASGA				AML	AML		14 05 38.5	
	4.0nm,0.5s							
ASGA				AML	AML		14 05 39.1	
	6.0nm,0.5s							
ASGA				AML	AML		14 05 39.1	
	6.0nm,0.5s							
ASGA				AMd			14 06 29.8	
ASGA				AMd			14 06 29.8	
ALFC	**Alefka**	**1.50**	**15**	P		**Pn**	**14 05 18.6**	**-1.1**
ALFC				AML	AML		14 05 46.2	
	2.0nm,0.6s							
ALFC				AML	AML		14 05 50.0	
	1.0nm,0.6s							
LEF	**Lefka**	**1.55**	**24**	PN		**Pn**	**14 05 19.2**	**-1.0**
LEF				SN		**Sn**	**14 05 39.0**	**-0.7**
CSS	**Mathiatis**	**1.60**	**38**	Pn		**Pn**	**14 05 20.5**	**-0.5**
CSS	**Mathiatis**	**1.60**	**38**	PN		**Pn**	**14 05 20.3**	**-0.7**
CSS				SN		**Sn**	**14 05 40.4**	**-0.7**
CSS	**Mathiatis**	**1.60**	**38**	P		**Pn**	**14 05 20.6**	**-0.4**
CSS				S		**Sn**	**14 05 42.9**	**+1.8**
AKIN	**Akıncılar- Kıb**	**1.72**	**40**	PN		**Pn**	**14 05 21.8**	**-0.7**
MVOU	**Mavrovouni**	**1.81**	**43**	P		**Pn**	**14 05 24.2**	**+0.5**
MVOU				S		**Sn**	**14 05 48.9**	**+3.0**
GAZI	**Gazipasa**	**2.53**	**4**	PN		**Pn**	**14 05 32.6**	**-0.8**
GAZI				SN		**Sn**	**14 06 00.8**	**-2.4**
TEKE	**Tekeli-Mersin**	**2.56**	**18**	PN		**Pn**	**14 05 33.1**	**-0.7**
HNTI	**Hanita**	**2.63**	**103**	Pn		**Pn**	**14 05 34.7**	**1.0**
HNTI				Sn		**Sn**	**14 06 05.9**	**+0.2**
OFRI	**`Ofer**	**2.64**	**113**	Pn		**Pn**	**14 05 34.3**	**-0.6**
OFRI				Sn		**Sn**	**14 06 06.2**	**+0.3**
AKKU	**Akkuyu-Mersin**	**2.71**	**25**	PN		**Pn**	**14 05 34.7**	**-1.2**
BLGI	**Bet Lehem HaGe**	**2.75**	**110**	Pn		**Pn**	**14 05 36.1**	**-0.3**
BLGI				Sn		**Sn**	**14 06 08.9**	**+0.3**
BERE	**Bereket-Mersin**	**2.79**	**19**	PN		**Pn**	**14 05 35.9**	**-1.1**
MMA0B	**Mount Meron ar**	**2.83**	**103**	Pn		**Pn**	**14 05 37.2**	**-0.4**
IKL	**Isikli**	**2.83**	**27**	PN		**Pn**	**14 05 36.3**	**-1.2**
SLTI	**Sal'it**	**2.86**	**120**	Pn		**Pn**	**14 05 37.3**	**-0.5**
SLTI				Sn		**Sn**	**14 06 10.6**	**-0.6**
DQRL	**Deir Qamar**	**2.88**	**89**	*e*P		**Pn**	**14 05 37.7**	**-0.4**
TEVE	**Tevekalti-Mers**	**2.93**	**21**	PN		**Pn**	**14 05 37.8**	**-1.1**
QRWL	**Qaraoun**

KRVT				LR	LR	14 21 08.9			
	comp=Z,122nm,19.9s,baz=354,slow=33								
JAY	**Jayapura**	**6.90**	**303**	P	**Pn**	**14 19 32.1**	**+0.7**		
	1.4nm,0.3s,baz=169,slow=9.3,SNR=3.7								
COEN	**Coen**	**8.23**	**203**		**Pn**	**14 19 51.1**	**+1.5**		
CTA	**Charters Tower**	**13.66**	**181**	P	**P**	**14 21 07.5**	**+0.4**		
	1.4nm,0.3s,baz=357,slow=14,SNR=13								
FAKI	**Fak Fak**	**14.58**	**283**	P	**P**	**14 21 17.8**	**+0.5**		
SIJI	**Sorong**	**16.12**	**289**	P	**P**	**14 21 35.4**	**+1.0**		
	4.1nm,0.3s,baz=100,slow=8.9,SNR=9.3								
SWI	**Sorong**	**16.13**	**289**	P	**P**	**14 21 33.1**	**-1.4**		
	56nm,1.0s								
MTN	**Manton Dam**	**16.44**	**246**		**P**	**14 21 37.1**	**-0.9**		
MTN				IAmb	IAmb	14 21 57.1			
	comp=Z,19nm,1.2s								
WR0	**Warramunga Arr**	**17.82**	**219**	P	**P**	**14 21 52.5**	**-0.6**		
WRAB	**Tennant Creek**	**17.92**	**220**	P	**P**	**14 21 53.3**	**-0.9**		
WRA	**Warramunga Arr**	**17.94**	**220**	P	**P**	**14 21 53.9**	**-0.5**		
	comp=Z,1.2nm,0.3s,baz=40,slow=11,SNR=50								
AAI	**Ambon**	**18.40**	**277**	P	**Pn**	**14 22 00.8**	**-0.1**		
	comp=Z,50nm,0.7s								
EIDS	**Eidsvold**	**19.43**	**167**	Pn	**Pn**	**14 22 12.4**	**-0.4**		
EIDS				IAmb	IAmb	14 22 57.8			
	comp=Z,14nm,1.4s								
KNRA	**Kununurra**	**19.69**	**240**	P	**P**	**14 22 12.2**	**-1.3**		
KNRA				IAmb	IAmb	14 22 48.5			
	comp=Z,72nm,1.9s								
AS31	**Alice Springs**	**21.04**	**214**	P	**P**	**14 22 28.4**	**+0.3**		
AS31				IAmb	IAmb	14 22 31.1			
	comp=Z,3.6nm,0.3s								
ASAR	**Alice Springs**	**21.04**	**214**	P	**P**	**14 22 28.4**	**+0.3**		
	comp=Z,3.8nm,0.5s,baz=50,slow=8.5,SNR=100								
FITZ	**Fitzroy Crossi**	**23.44**	**238**	P	**P**	**14 22 51.8**	**-0.7**		
	comp=Z,7.1nm,0.6s,baz=64,slow=9.6,SNR=28								
FITZ	**Fitzroy Crossi**	**23.44**	**238**	P	**P**	**14 22 51.5**	**-1.0**		
FITZ				IAmb	IAmb	14 22 53.4			
	comp=Z,7.4nm,0.6s								
LUWI	**Luwuk**	**24.22**	**282**	P	**P**	**14 23 00.8**	**+1.2**		
LUWI				IAmb	IAmb	14 23 14.2			
	comp=Z,41nm,0.9s								
ARMA	**Armidale**	**24.43**	**169**	P	**P**	**14 23 03.0**	**+1.6**		
ARMA				IAmb	IAmb	14 23 34.2			
	comp=Z,33nm,1.6s								
STKA	**Stephens Creek**	**25.81**	**190**	P	**P**	**14 23 13.6**	**-0.2**		
	comp=Z,1.5nm,0.5s,baz=358,slow=11,SNR=8.4								
STKA	**Stephens Creek**	**25.81**	**190**	P	**P**	**14 23 13.7**	**-0.1**		
CAN	**Canberra**	**28.93**	**176**	P	**P**	**14 23 39.4**	**-2.3**		
PSA00	**Pilbara Seismi**	**29.87**	**237**	P	**P**	**14 23 50.0**	**-0.1**		
PSA00				IAmb	IAmb	14 24 16.2			
	comp=Z,33nm,1.5s								
TAU	**Tasmania Unive**	**36.42**	**179**	P	**P**	**14 24 48.3**	**+1.5**		
MORW	**Morawa**	**36.55**	**228**	P	**P**	**14 24 47.5**	**-0.7**		
NWAO	**Narrogin (SRO)**	**37.93**	**222**	P	**P**	**14 24 59.0**	**-0.7**		
TPUB	**Ta-pu**	**38.81**	**320**	P	**P**	**14 25 05.7**	**-1.4**		
YHNB	**Yeheng**	**39.34**	**323**	P	**P**	**14 25 10.5**	**-1.2**		
KNTN	**Kanton**	**41.81**	**87**	P	**P**	**14 25 29.5**	**-2.7**		
MQZ	**McQueen's Vall**	**43.74**	**152**	P	**P**	**14 25 45.6**	**-1.6**		
KULM	**Kulim**	**47.18**	**283**	P	**P**	**14 26 14.3**	**-0.5**		
KMI	**Kunming**	**52.79**	**308**	P	**P**	**14 27 05.1**	**+7.7**		
KMI				pmax	pmax				
	comp=Z,16nm,1.5s								
CMAR	**Chiang Mai Arr**	**52.95**	**299**	P	**P**	**14 26 59.1**	**+0.7**		
	comp=Z,1.1nm,0.5s,baz=123,slow=5.3,SNR=6.3								
VNDA	**Vanda**	**71.60**	**177**	P	**P**	**14 29 02.7**	**+0.9**		
	comp=Z,2.5nm,0.9s,baz=341,slow=7.4,SNR=6.1								
MKAR	**Makanchi Array**	**77.43**	**321**	P	**P**	**14 29 36.7**	**+0.7**		
	comp=Z,0.1nm,0.3s,baz=98,slow=7.4,SNR=4.6								
KSH	**Kashi**	**79.22**	**312**	P	**P**	**14 29 47.3**	**+1.1**		
KSH				pP	pP	14 30 18.3	+3.4		
KSH				sP	sP	14 30 32.3	+5.4		
KSH				PP	**PP**	**14 32 50.1**	**+2.8**		
KSH				pmax	pmax				
	comp=Z,480nm,5.9s								
KSH				LR	LR				
	comp=N,790nm,8.8s								
KSH				LR	LR				
	comp=E,820nm,9.9s								
KSH				LR	LR				
	comp=Z,690nm,9.3s								
ILAR	**Eielson Array**	**86.00**	**23**	P	**P**	**14 30 19.3**	**-1.3**		
	comp=Z,0.2nm,0.7s,baz=245,slow=3.9,SNR=4.6								
TORD	**Torodi Ar. Bea**	**144.67**	**284**	PKP	**PKPdf**	**14 37 16.8**	**-0.9**		
	comp=Z,1.0nm,0.7s,baz=66,slow=3.2,SNR=4.9								

IDC ***22*** *14:27:01.2±0.5,20.˚73N×146.˚75E,h0km,mb4.3/25, mb1 4.4/26,mb1mx4.3/47,mbtmp4.3/26,ML2.5/1,MS3.4/2, Ms1 3.4/2,ms1mx2.9/40,Error ellipse: s-maj=18.0km s-min=13.2km az=90.0*

BJI ***22*** *14:27:01.1±0.0,20.˚78N×146.˚61E,h7km,mb4.5/33, mB5.0/25,Ms4.7/9,Ms7 4.5/9*

NEIC ***22*** *14:27:02.8±1.4,20.˚7N±0.˚1×146.˚8E±0.˚1,h10km±1km, mb4.7/42*

MOS ***22*** *14:27:03.1±1.0,20.˚74N×146.˚61E,h23km,mb4.8/29,Error ellipse: s-maj=13.1km s-min=6.3km az=109.5*

ISCJB ***22*** *14:27:08.2±1.6,20.˚77N±0.˚04×146.˚65E±0.˚06, h64km±14km,mb4.5/60,Error ellipse: s-maj=9.8km s-min=6.1km az=2.5*

ISC 22 14:27:01.6±2.2,20.˚83N±0.˚06×146.˚72E±0.˚08,h1km±13km, n143,σ1s24/144,mb4.6/72,MS4.2/3,6C-3D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**7.41**	**194**	LR	LR	14 30 14.5	
	comp=Z,188nm,21.8s,baz=10,slow=26						
GUMO				Sn	**Sn**	**14 30 18.5**	**+2.7**
	5.1nm,0.3s,baz=196,slow=22,SNR=1.6						
JCJ	**Chichijima**	**7.49**	**327**	Sn	**Sn**	**14 30 11.5**	**-6.2**
	19nm,0.3s,baz=288,slow=23,SNR=3.9						
INU	**Inuyama**	**16.80**	**332**	P	**P**	**14 31 01.8**	**+1.4**
INU				IAmb	IAmb	14 31 04.2	
	comp=Z,38nm,0.8s						
MJAR	**Matsushiro Arr**	**17.33**	**336**	P	**Pn**	**14 31 06.7**	**+1.7**
	comp=Z,0.0nm,0.3s,baz=160,slow=11,SNR=3.5						
MAJO	**Matsushiro**	**17.34**	**336**	*i* P	**Pn**	**14 31 04.9**	**-0.1**
MAJO	**Matsushiro**	**17.34**	**336**	P	**P**	**14 31 08.4**	**+2.0**
MJB9	**Matsu-Tunnel**	**17.34**	**336**	P	**P**	**14 31 08.5**	**+2.0**
JOW	**Kunigami**	**17.90**	**293**		**P**	**14 31 14.3**	**+1.6**
JOW				IAmb	IAmb	14 31 52.6	
	comp=Z,95nm,1.8s						
JNU	**Nakatsue**	**18.66**	**314**	P	**Pn**	**14 31 23.3**	**+1.9**
H11S3	**WAKE ISLAND Hy**	**18.95**	**94**	T	T	14 49 38.5	
	baz=281						
H11N1	**WAKE ISLAND Hy**	**18.95**	**90**	T	T	14 49 48.4	
	baz=277						
H11S1	**WAKE ISLAND Hy**	**18.95**	**94**	T	T	14 49 40.1	
	baz=281						
H11N2	**WAKE ISLAND Hy**	**18.96**	**90**	T	T	14 49 46.3	
	baz=277						
H11S2	**WAKE ISLAND Hy**	**18.96**	**94**	T	T	14 49 39.8	
	baz=281						
H11N3	**WAKE ISLAND Hy**	**18.97**	**90**	T	T	14 49 47.2	
	baz=277						
ERM	**Erimo**	**21.34**	**353**	*i* P	**P**	**14 31 50.9**	**+0.8**
ERM				pmax	pmax		
	comp=Z,15nm,0.9s						
KSRS	**Korea Array**	**23.25**	**319**	P	**P**	**14 32 11.8**	**+1.3**
	comp=Z,3.0nm,0.7s,baz=143,slow=8.9,SNR=12						
KS19	**Wonju Array Si**	**23.32**	**320**	P	**P**	**14 32 12.1**	**+0.8**
KS19				IAmb	IAmb	14 32 17.3	
	comp=Z,65nm,1.6s						
VLA	**Vladivostok**	**25.46**	**334**	*i* P	**P**	**14 32 31.4**	**+0.2**
VLA				pmax	pmax		
	comp=Z,70nm,2.4s						
USA0B	**Ussuriysk Arra**	**26.33**	**336**	*i* P	**P**	**14 32 40.5**	**+1.5**
USA0B	**Ussuriysk Arra**	**26.33**	**336**	P	**P**	**14 32 40.4**	**+1.5**
USA0B				IAmb	IAmb	14 32 44.1	
	comp=Z,16nm,1.1s						
USRK	**Ussuriysk Ar.**	**26.33**	**336**	P	**P**	**14 32 40.6**	**+1.6**
	comp=Z,8.9nm,0.9s,baz=144,slow=10.0,SNR=12						
NJ2	**Nanjing**	**27.27**	**300**	*e*P	**P**	**14 32 47.6**	**0.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
FAKI	**Fak Fak**	**27.54**	**213**	P	**P**	**14 32 49.9**	**-0.3**
WHN	**Wuhan**	**30.64**	**295**	P	**P**	**14 33 14.6**	**-3.1**
KLR	**Kul'dur**	**30.76**	**341**	*i* P	**P**	**14 33 19.1**	**+0.6**
KLR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GRNR	**Gornyy**	**30.96**	**347**	*e*P	P	14 33 10.3	-10
GRNR				pmax	pmax		
	comp=Z,5.0nm,1.3s						
PETK	**Petropavlovsk-**	**33.32**	**12**	P	**P**	**14 33 43.0**	**+2.1**
	comp=Z,4.1nm,0.9s,baz=72,slow=19,SNR=2.4						

XAN	**Xi'an**	**35.83**	**300**	P	P	14 34 16.8	+14		
XAN				pmax	pmax				
	comp=Z,5.0nm,0.6s								
XAN				pmax	pmax				
	comp=Z,170nm,3.5s								
HHC	**Hu-ho-hao-te**	**35.86**	**312**	P	**P**	**14 34 04.5**	**+1.3**		
HHC				pmax	pmax				
	comp=Z,5.0nm,0.5s								
HHC				pmax	pmax				
	comp=Z,110nm,6.5s								
ZEA	**Zeya**	**36.07**	**340**	*e*P	**P**	**14 34 05.2**	**+0.5**		
ZEA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
MTN	**Manton Dam**	**36.80**	**206**	P	**P**	**14 34 11.5**	**+0.2**		
MTN				IAmb	IAmb	14 35 29.0			
	comp=Z,48nm,1.8s								
SBUM	**Sibu**	**38.26**	**246**	P	**P**	**14 34 23.9**	**+0.1**		
SBUM				IAmb	IAmb	14 35 47.8			
	comp=Z,33nm,1.9s								
MA2	**Magadan**	**38.82**	**3**	*i* P	**P**	**14 34 29.4**	**+1.5**		
MA2				pmax	pmax				
	comp=Z,24nm,1.2s								
MA2	**Magadan**	**38.82**	**3**	P	**P**	**14 34 29.3**	**+1.4**		
	comp=Z,9.7nm,0.7s,baz=148,slow=8.7,SNR=3.4								
MA2	**Magadan**	**38.82**	**3**	P	**P**	**14 34 29.5**	**+1.5**		
CD2	**Chengdu**	**39.73**	**294**	P	**P**	**14 34 35.1**	**-0.9**		
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
LZH	**Lanzhou**	**40.31**	**302**	*e*P	**P**	**14 34 40.5**	**-0.4**		
LZH				pP		14 34 43.8			
LZH				sP		14 34 45.3			
LZH				*e*PP	**PnPn**	**14 36 17.6**	**+0.5**		
LZH				pmax	pmax				
	comp=Z,23nm,1.2s								
LZH				pmax	pmax				
	comp=Z,76nm,5.3s								
LZH				LR	LR				
	comp=Z,370nm,13.0s								
LZH				LR	LR				
	comp=Z,380nm,12.9s								
LZH				LR	LR				
	comp=Z,550nm,16.5s								
KNRA	**Kununurra**	**40.34**	**207**	P	**P**	**14 34 41.2**	**+0.2**		
KNRA				IAmb	IAmb	14 35 12.0			
	comp=Z,43nm,1.6s								
ULN	**Ulaanbaatar**	**41.74**	**320**	*i* P	**P**	**14 34 52.2**	**-0.3**		
ULN				pmax	pmax				
	comp=Z,1.0nm,0.9s								
SONM	**Songino Array**	**42.12**	**319**	P	**P**	**14 34 56.1**	**+0.5**		
	comp=Z,1.2nm,0.4s,baz=130,slow=7.7,SNR=6.6								
WR0	**Warramunga Arr**	**42.25**	**197**	P	**P**	**14 34 56.3**	**-0.4**		
SEY	**Seymchan**	**42.26**	**4**	*i* P	**P**	**14 34 57.6**	**+1.3**		
SEY	**Seymchan**	**42.26**	**4**	P	**P**	**14 34 57.8**	**+1.5**		
	comp=Z,3.2nm,0.6s,baz=181,slow=8.5,SNR=14								
WRAB	**Tennant Creek**	**42.28**	**197**	*ce*P	**P**	**14 34 56.9**	**-0.1**		
WRAB				pmax	pmax				
	comp=Z,3.0nm,0.8s								
WRAB	**Tennant Creek**	**42.28**	**197**	P	**P**	**14 34 55.9**	**-1.0**		
WRA	**Warramunga Arr**	**42.29**	**197**	P	**P**	**14 34 56.0**	**-1.0**		
	comp=Z,2.1nm,0.7s,baz=16,slow=8.4,SNR=17								
WRA				PcP	**PcP**	**14 36 50.7**	**-0.3**		
	comp=Z,1.7nm,1.0s,baz=12,slow=3.4,SNR=8.6								
WRA				LR	LR	14 52 41.6			
	comp=Z,76nm,18.1s,baz=180,slow=36								
FITZ	**Fitzroy Crossi**	**43.86**	**210**	P	**P**	**14 35 09.3**	**-0.5**		
FITZ				IAmb	IAmb	14 35 14.2			
	comp=Z,28nm,1.9s								
GTA	**Gaotai**	**44.06**	**306**	P	**P**	**14 35 11.8**	**+0.4**		
GTA				pP		14 35 17.0			
GTA				sP		14 35 20.0			
GTA				PcP	**PcP**	**14 36 56.8**	**-0.1**		
GTA				pmax	pmax				
	comp=Z,3.0nm,1.6s								
GTA				LR	LR				
	comp=Z,190nm,16.5s								
GTA				LR	LR				
	comp=Z,170nm,17.2s								
GTA				LR	LR				
	comp=Z,320nm,18.2s								
CMAR	**Chiang Mai Arr**	**44.94**	**276**	P	**P**	**14 35 19.2**	**+0.6**		
	comp=Z,0.6nm,0.6s,baz=72,slow=6.6,SNR=4.8								
AS31	**Alice Springs**	**45.95**	**196**	P	**P**	**14 35 25.6**	**-0.8**		
ASAR	**Alice Springs**	**45.95**	**196**	P	**P**	**14 35 25.2**	**-1.2**		
	comp=Z,0.9nm,0.7s,baz=17,slow=7.8,SNR=16								
ASAR				PcP	**PcP**	**14 37 03.6**	**+0.2**		
	comp=Z,0.8nm,0.7s,baz=17,slow=3.5,SNR=9.7								
BILL	**Bilibino**	**48.77**	**10**	||*i*P	**P**	**14 35 49.6**	**+1.8**	
BILL				*e*		14 35 53.0			
BILL				*e*		14 36 02.8			
BILL						14 37 14.0			
BILL				pmax	pmax				
	comp=Z,14nm,2.5s								
BILL	**Bilibino**	**48.77**	**10**	P	**P**	**14 35 48.7**	**+0.8**		
BILL				IAmb	IAmb	14 35 49.7			
	comp=Z,5.8nm,0.9s								
LSA	**Lhasa**	**50.62**	**292**	P	**P**	**14 36 03.0**	**-0.2**		
LSA				pmax	pmax				
	comp=Z,4.0nm,0.7s								
LSA	**Lhasa**	**50.62**	**292**	P	**P**	**14 36 03.0**	**-0.2**		
LSA				IAmb	IAmb	14 36 06.9			
	comp=Z,4.5nm,0.7s								
TIXI	**Tiksi**	**51.88**	**353**	*ce*P	**P**	**14 36 10.4**	**-0.9**		
TIXI				pmax	pmax				
	comp=Z,4.0nm,1.7s								
CNBA	**Chernabura Isl**	**52.49**	**36**	P	**P**	**14 36 15.7**	**-0.4**		
STKA	**Stephens Creek**	**52.63**	**185**	P	**P**	**14 36 15.7**	**-1.7**		
	comp=Z,2.0nm,0.8s,baz=341,slow=19,SNR=2.9								
STKA	**Stephens Creek**	**52.63**	**185**	P	**P**	**14 36 16.2**	**-1.1**		
WMQ	**Urumqi**	**53.68**	**310**	*e*P	**P**	**14 36 26.0**	**+0.8**		
WMQ				pP		14 36 33.1			
WMQ				pmax	pmax				
	comp=Z,9.0nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,130nm,5.7s								
WMQ				LR	LR				
	comp=Z,230nm,9.1s								
WMQ				LR	LR				
	comp=Z,390nm,8.5s								
WMQ				LR	LR				
	comp=Z,300nm,8.5s								
TAPN	**Taplejung**	**53.85**	**289**	*e*P	**P**	**14 36 27.9**	**+0.9**		
JIRN	**Jiri**	**55.15**	**290**	*e*P	**P**	**14 36 37.3**	**+0.8**		
	comp=Z,34nm,0.8s								
GUN	**Gumba**	**55.40**	**290**	*e*P	**P**	**14 36 39.0**	**+0.7**		
PKI	**Pulchoki**	**55.85**	**290**	*e*P	**P**	**14 36 41.3**	**-0.2**		
PKIN	**Phulchoki**	**55.86**	**290**	*e*P	**P**	**14 36 41.4**	**-0.1**		
KKN	**Kakani**	**55.94**	**290**	*e*P	**P**	**14 36 42.6**	**+0.6**		
DMN	**Daman**	**56.11**	**290**	*e*P	**P**	**14 36 43.5**	**+0.2**		
GKN	**Gorkha**	**56.47**	**290**	*e*P	**P**	**14 36 46.2**	**+0.4**		
	comp=Z,47nm,1.1s								
OHAK	**Old Harbor**	**56.56**	**34**	P	**P**	**14 36 45.2**	**-0.4**		
ZAA0	**Zalesovo Array**	**56.94**	**322**	P	**P**	**14 36 47.8**	**-0.6**		
ZAA0				IAmb	IAmb	14 36 49.0			
	comp=Z,9.1nm,0.7s								
ZALV	**Zalesovo Beam**	**56.94**	**322**	P	**P**	**14 36 48.2**	**-0.2**		
	comp=Z,11nm,0.6s,baz=107,slow=7.7,SNR=47								
ZALV				PcP	**PcP**	**14 37 43.0**	**-0.8**		
	comp=Z,1.7nm,0.6s,baz=134,slow=3.8,SNR=2.4								
DANN	**Dangsing**	**57.20**	**291**	*e*P	**P**	**14 36 51.7**	**+0.6**		
	comp=Z,70nm,0.8s								
KOLN	**Koldanda**	**57.41**	**290**	*e*P	**P**	**14 36 52.5**	**0.0**		
	comp=Z,14nm,0.8s								
MK31	**Makanchi Array**	**57.71**	**313**	P	**P**	**14 36 54.2**	**+0.2**		
MK31				pmax	pmax				
	comp=Z,4.0nm,1.0s								
MK31	**Makanchi Array**	**57.71**	**313**	P	**P**	**14 36 54.2**	**+0.2**		
MKAR	**Makanchi Array**	**57.71**	**313**	P	**P**	**14 36 54.3**	**+0.2**		
	comp=Z,3.6nm,0.9s,baz=93,slow=8.4,SNR=24								
MKAR				PcP	**PcP**	**14 37 46.8**	**-0.3**		
	comp=Z,0.6nm,0.6s,baz=98,slow=2.9,SNR=1.8								
MAKZ	**Makanchi**	**57.92**	**313**	P	**P**	**14 36 55.8**	**+0.3**		
MAKZ				pmax	pmax				
	comp=Z,8.0nm,1.0s								
MAKZ	**Makanchi**	**57.92**	**313**	P	**P**	**14 36 55.8**	**+0.3**		
MAKZ				IAmb	IAmb	14 36 56.8			
	comp=Z,7.7nm,0.9s								
NRIK	**Noril'sk**	**59.96**	**339**	P	**P**	**14 37 10.0**	**+0.7**		
NRIK	**Noril'sk**	**59.96**	**339**	P	**P**	**14 37 10.0**	**+0.7**		
	comp=Z,10nm,0.7s,baz=107,slow=8.4,SNR=28								
KURK	**Kurchatov**	**60.35**	**317**	*ce*P	**P**	**14 37 12.2**	**-0.1**		
KURK				pmax	pmax				
	comp=Z,10.0nm,0.8s								
KURK	**Kurchatov**	**60.35**	**317**	P	**P**	**14 37 12.1**	**-0.2**		
KURK				IAmb	IAmb	14 37 13.1			
	comp=Z,9.3nm,0.8s								

ILAR	**Eielson Array**	**61.32**	**27**	P	**P**	**14 37 17.8**	**-0.8**		
	comp=Z,1.6nm,1.1s,baz=275,slow=5.5,SNR=8.5								
KSH	**Kashi**	**62.45**	**305**	P	**P**	**14 37 30.3**	**+3.5**		
KSH				ScP	**ScP**	**14 42 09.8**	**+0.2**		
KSH				S	**S**	**14 45 58.4**	**+3.3**		
KSH				ScS	**ScS**	**14 47 20.1**	**-0.6**		
KSH				pmax	pmax				
	comp=Z,16nm,1.0s								
KSH				pmax	pmax				
	comp=Z,450nm,7.4s								
KSH				LR	LR				
	comp=Z,760nm,8.3s								
KSH				LR	LR				
	comp=Z,820nm,9.9s								
KSH				LR	LR				
	comp=Z,690nm,9.4s								
AAK	**Ala-Archa**	**63.30**	**308**	*ce*P	**P**	**14 37 31.9**	**-0.6**		
AAK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
AAK	**Ala-Archa**	**63.30**	**308**	P	**P**	**14 37 32.7**	**+0.2**		
	comp=Z,2.5nm,0.9s,baz=81,slow=5.3,SNR=4.9								
AAK	**Ala-Archa**	**63.30**	**308**	IAmb	IAmb	14 37 33.8			
	comp=Z,5.0nm,1.1s								
NIL	**Nilore**	**65.36**	**298**	P	**P**	**14 37 46.3**	**+0.3**		
NIL				pmax	pmax				
	comp=Z,10.0nm,0.8s								
NIL	**Nilore**	**65.36**	**298**	P	**P**	**14 37 46.3**	**+0.3**		
BRVK	**Borovoye**	**65.53**	**320**	*ce*P	**P**	**14 37 46.9**	**+0.2**		
BRVK				pmax	pmax				
	comp=Z,17nm,1.0s								
BRVK	**Borovoye**	**65.53**	**320**	P	**P**	**14 37 46.7**	**0.0**		
KK31	**Karatay Array**	**66.17**	**309**	P	**P**	**14 37 51.3**	**+0.2**		
KK31				pmax	pmax				
	comp=Z,8.0nm,0.8s								
KK31	**Karatay Array**	**66.17**	**309**	P	**P**	**14 37 51.3**	**+0.2**		
KKAR	**Karatay Array**	**66.17**	**309**	P	**P**	**14 37 51.1**	**0.0**		
KKAR				pmax	pmax				
	comp=Z,8.0nm,0.8s								
KKAR	**Karatay Array**	**66.17**	**309**	P	**P**	**14 37 51.1**	**0.0**		
INK	**Inuvik**	**67.05**	**23**	P	**P**	**14 37 55.4**	**-0.7**		
	comp=Z,2.7nm,1.0s,baz=261,slow=6.8,SNR=6.8								
INK				PcP	**PcP**	**14 38 24.0**	**-0.4**		
	comp=Z,1.1nm,0.8s,baz=289,slow=11,SNR=3.4								
INK	**Inuvik**	**67.05**	**23**	P	**P**	**14 37 56.0**	**-0.1**		
INK				IAmb	IAmb	14 38 39.5			
	comp=Z,11nm,1.6s								
CHGR	**Chuyangaron**	**67.81**	**304**	P	**P**	**14 38 01.6**	**-0.1**		
KBL	**Kabul**	**68.64**	**300**	P	**P**	**14 38 06.2**	**-0.9**		
KBL				pmax	pmax				
	comp=Z,10.0nm,1.0s								
KBL	**Kabul**	**68.64**	**300**	P	**P**	**14 38 06.2**	**-0.9**		
KBL				IAmb	IAmb	14 38 08.0			
	comp=Z,10.0nm,0.9s								
SVE	**Sverdlovsk**	**70.71**	**324**	*e*P	**P**	**14 38 19.1**	**-0.1**		
SVE				pmax	pmax				
	comp=Z,13nm,0.9s								
ARU	**Arti**	**71.91**	**324**	*d* iP	**P**	**14 38 26.3**	**-0.1**		
ARU						14 41 02.1			
ARU				S	**S**	**14 47 49.3**	**+1.0**		
ARU				pmax	pmax				
	comp=Z,18nm,0.9s								
ARU	**Arti**	**71.91**	**324**	P	**P**	**14 38 26.5**	**+0.1**		
	comp=Z,4.0nm,0.7s,baz=119,slow=3.9,SNR=24								
ARU	**Arti**	**71.91**	**324**	IAmb	IAmb	14 38 27.2			
	comp=Z,14nm,0.8s								
ABKAR	**Akbulak array**	**72.45**	**317**	P	**P**	**14 38 29.1**	**-0.7**		
ABKAR				IAmb	IAmb	14 38 30.3			
	comp=Z,6.3nm,0.8s								
YKA	**Yellowknife Ar**	**75.67**	**28**	P	**P**	**14 38 48.0**	**-0.3**		
YKA	**Yellowknife Ar**	**75.67**	**28**	P	**P**	**14 38 48.0**	**-0.3**		
	comp=Z,1.9nm,0.8s,baz=289,slow=5.5,SNR=24								
PRGR	**Permogore**	**77.02**	**331**	*e*P	**P**	**14 38 53.8**	**-2.2**		
PRGR				pmax	pmax				
	comp=Z,20nm,0.7s								
TMCR	**Tamitsa**	**79.26**	**335**	*e*P	**P**	**14 39 07.6**	**-0.8**		
TMCR				pmax	pmax				
	comp=Z,17nm,0.6s								
CMB	**Columbia Colle**	**79.65**	**53**	P	**P**	**14 39 11.5**	**+0.3**		
CMB				pmax	pmax				
	comp=Z,3.0nm,0.9s								
CMB	**Columbia Colle**	**79.65**	**53**	P	**P**	**14 39 11.5**	**+0.3**		
BMO	**Blue Mountains**	**79.67**	**46**	P	**P**	**14 39 11.4**	**+0.1**		
BMO				pmax	pmax				
	comp=Z,4.0nm,1.3s								
BMO	**Blue Mountains**	**79.67**	**46**	P	**P**	**14 39 11.4**	**+0.1**		
ARCES	**ARCESS Array B**	**80.77**	**342**	P	**P**	**14 39 16.6**	**0.0**		
	comp=Z,4.8nm,0.8s,baz=51,slow=7.9,SNR=7.9								
NVAR	**

PIEI			END		
CRE	**Caprese Michel**	**0.47 300**	AML	AML	
	comp=N,222µm,0.1s				
CRE			AML	AML	
	comp=E,136µm,0.1s				

*IDC **22** 14:40:14.0±8.1, 17°.62S×171°.61W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/29, mbtmp3.7/3, Error ellipse: s-maj=350.2km s-min=39.1km az=140.0*
*ISCJB **22** 14:40:15.8±1.5, 17°.4S±0°.2×171°.9W±0°.3, h15km, mb3.7/3, Error ellipse: s-maj=35.5km s-min=24.2km az=17.6*
*NEIC **22** 14:40:18.6±1.4, 17°.4S±0°.2×171°.9W±0°.3, h23km±8km, mb4.5/5*

ISC 22 14:40:17.3±1.7, 17°.4S±0°.2×171°.8W±0°.3, h15km, n10, σ1s01/10, mb3.9/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNTN	**Kanton**	**14.53**	**0**	P	**P**	**14 43 49.2**	**+0.1**
BFZ	**Birch Farm**	**25.39**	**202**	P	**P**	**14 45 43.6**	**-0.5**
MSWZ	**Moikau Station**	**26.39**	**202**	P	**P**	**14 45 53.6**	**+0.4**
EIDS	**Eidsvold**	**35.35**	**251**	P	**P**	**14 47 13.3**	**+0.8**
EIDS				IAmb	IAmb	14 47 40.1	
	comp=Z,12nm,1.2s						
ARMA	**Armidale**	**35.68**	**242**	P	**P**	**14 47 15.8**	**+0.5**
WRAB	**Tennant Creek**	**50.88**	**258**	P	**P**	**14 49 15.9**	**-2.2**
WRAB				IAmb	IAmb	14 50 21.5	
	comp=Z,21nm,1.9s						
WRA	**Warramunga Arr**	**50.89**	**258**	P	**P**	**14 49 18.8**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=97,slow=7.6,SNR=8.5						
AS31	**Alice Springs**	**50.96**	**253**	P	**P**	**14 49 18.1**	**-0.6**
AS31				IAmb	IAmb	14 49 19.1	
	comp=Z,0.7nm,0.9s						
ASAR	**Alice Springs**	**50.96**	**253**	P	**P**	**14 49 18.4**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=90,slow=8.5,SNR=43						
ILAR	**Eielson Array**	**84.11**	**10**	P	**P**	**14 52 47.2**	**0.0**
	comp=Z,0.2nm,0.7s,baz=220,slow=6.6,SNR=4.5						

*NCEDC **22** 14:51:01.4±1.3, 37°.977N±0°.010×122°.053W±0°.009, h14km±1km, Md2.8*

NEIC 22 14:51:01.6±0.8, 37°.98N±0°.01×122°.068W±0°.008, h18km±1km, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPIM	**Pinole Ridge**	**0.12**	**273**		Pg	14 51 05.7	+0.1
CRHM	**Round Hill Res**	**0.14**	**154**		Pg	14 51 05.7	-0.1
CRHM					Sg	14 51 09.3	+0.7
CPRB	**Russellman Par**	**0.15**	**119**		Pb	14 51 05.0	+0.5
NLHM	**Lake Herman**	**0.15**	**335**		Pg	14 51 06.0	+0.1
NLHM					Sg	14 51 10.3	+1.5
CVPM	**Vollmer Peak**	**0.16**	**231**		Pg	14 51 06.1	0.0
BDM	**Black Diamond**	**0.16**	**100**		Pg	14 51 05.8	-0.2
BDM					Sg	14 51 08.5	-0.6
BGC	**Bolinger Road**	**0.17**	**178**		Pg	14 51 06.0	-0.1
BKS	**Berkeley--Byer**	**0.17**	**231**		Pg	14 51 06.2	0.0
BKS					Sg	14 51 09.3	+0.1
VAK	**Adit at Lawren**	**0.18**	**234**		Pg	14 51 06.3	0.0
VAK					Sg	14 51 09.7	+0.2
BL88	**Building 88, L**	**0.18**	**234**		Pg	14 51 06.3	-0.1
BL67	**Building 67, L**	**0.18**	**234**		Pg	14 51 06.2	-0.2
BL67					Sg	14 51 09.5	-0.1
BRK	**Berkeley--Havi**	**0.19**	**234**		Pg	14 51 06.3	-0.1
BRK					Sg	14 51 09.7	0.0
CSPM	**San Pablo Ridg**	**0.19**	**262**		Pg	14 51 06.8	+0.3
CMCM	**Mills College**	**0.22**	**203**		Pb	14 51 06.7	+0.1
RFSB	**Richmond Field**	**0.22**	**252**		Pg	14 51 06.9	0.0
CLCB	**Lake Chabot**	**0.24**	**179**		Pg	14 51 07.4	+0.1
CPMM	**Point Molate**	**0.27**	**263**		Pb	14 51 07.8	0.0
CMOB	**Morgan Territo**	**0.27**	**129**		Pg	14 51 07.7	0.0
HMR	**Hamilton Ranch**	**0.27**	**51**		Pb	14 51 08.4	+0.5
CYBM	**Yerba Buena Is**	**0.29**	**234**		Pb	14 51 08.1	-0.1
CYBM					Sb	14 51 13.0	+0.4
NGVM		**0.32**	**339**		Pb	14 51 08.8	+0.1
JPRM	**Presidio of Sa**	**0.37**	**240**		Pb	14 51 09.6	-0.1
CBSNC	**Byron Hot Spri**	**0.38**	**116**		Pb	14 51 09.8	0.0
CNIC	**Niles Canyon**	**0.38**	**168**		Pg	14 51 09.7	+0.1
CVLM	**Vallecito**	**0.40**	**153**		Pb	14 51 10.6	+0.4
CYD1	**Coyote D'meter**	**0.42**	**183**		Pg	14 51 10.1	-0.1
WENL	**Wente Vineyard**	**0.44**	**146**		Pb	14 51 11.0	+0.3
WENL					Sb	14 51 18.5	+1.5
JCPM	**Coyote Point**	**0.44**	**207**		Pg	14 51 10.6	-0.1
JMGM	**Milagra Ridge**	**0.47**	**223**		Pg	14 51 11.2	0.0
CVS	**Carmenet Viney**	**0.47**	**320**		Pg	14 51 11.2	-0.1
NAPC	**Atlas Peak**	**0.48**	**342**		Pg	14 51 11.4	+0.1
NADM	**Allendale**	**0.48**	**9**		Pb	14 51 12.2	+0.7
SAC	**San Andreas**	**0.49**	**215**		Pg	14 51 11.3	-0.1
CMJM	**Mission San Jo**	**0.49**	**162**		Pb	14 51 11.6	-0.1
JCHM	**Cahill Ridge**	**0.53**	**208**		Pg	14 51 12.1	-0.1
OXMT	**Ox Mountain**	**0.56**	**210**		Pb	14 51 12.5	-0.2
OXMT					Sb	14 51 20.4	0.0
JHPM	**Huddart Park**	**0.57**	**199**		Pg	14 51 13.1	+0.1
CALM	**Calaveras Res.**	**0.57**	**158**		Pb	14 51 12.9	0.0
NOLM	**Olema**	**0.57**	**276**		Pg	14 51 13.2	+0.1
JSFB	**Stanford Teles**	**0.58**	**188**		Pg	14 51 13.3	0.0
JRSC	**Jasper Ridge**	**0.59**	**193**		Pb	14 51 13.2	-0.2
CMLM	**Mount Lewis**	**0.60**	**147**		Pg	14 51 13.8	+0.2
NTYM	**Taylor**	**0.62**	**311**		Pg	14 51 14.0	+0.1
JFP	**Foothills Park**	**0.63**	**189**		Pg	14 51 14.0	0.0
JJRM	**Joaquin Road**	**0.65**	**189**		Pg	14 51 14.4	0.0
MCCM	**Marconi Confer**	**0.66**	**284**		Pb	14 51 14.5	0.0
MCCM	**Marconi Confer**	**0.66**	**284**	Pg	Pb	14 51 14.4	-0.1
JBMM	**Black Mountain**	**0.67**	**186**		Pg	14 51 14.7	0.0
BGH	**Bear Gulch**	**0.68**	**199**		Pg	14 51 15.1	+0.1
NSHM	**Saint Helena R**	**0.68**	**322**		Pb	14 51 14.9	0.0
NBPM	**Berryessa Peak**	**0.69**	**352**		Pg	14 51 15.3	+0.1
CMMM	**Mount Mocho**	**0.70**	**139**		Pg	14 51 15.3	-0.1
JSGM	**Saratoga Golf**	**0.70**	**179**		Pg	14 51 15.8	+0.5
JPC	**Peters Creek,**	**0.72**	**189**		Pg	14 51 15.8	0.0
MHC	**Mount Hamilton**	**0.72**	**152**		Pb	14 51 15.4	-0.3
NPRM	**Point Reyes**	**0.75**	**271**		Pb	14 51 15.8	-0.3
ARN	**Arnold Ranch**	**0.76**	**146**		Pb	14 51 16.1	-0.3
MAC	**Mark West Spri**	**0.77**	**318**		Pg	14 51 16.7	+0.1
JHUM	**Huhtala Lane,**	**0.77**	**186**		Pg	14 51 16.8	0.0
JJOM	**Saint Joseph's**	**0.78**	**175**		Pb	14 51 16.6	0.0
CCOB	**Coe Ranch Numb**	**0.79**	**156**		Pg	14 51 17.0	0.0
NDHM	**Dunnigan Hills**	**0.79**	**9**		Pg	14 51 16.9	-0.1
FARB	**Farallon Islan**	**0.79**	**249**		Pb	14 51 16.5	-0.3
NHSM	**Mount Saint He**	**0.80**	**328**		Pb	14 51 17.0	+0.1
JSTM	**Santa Teresa H**	**0.81**	**164**		Pb	14 51 17.1	+0.1
JPSM		**0.81**	**196**		Pb	14 51 16.8	-0.3
JUMM	**Mount Umunhum**	**0.83**	**171**		Pb	14 51 17.6	+0.1
AMC	**Almaden**	**0.84**	**168**		Pg	14 51 17.9	-0.2
JBNB	**Ben Lomond Mou**	**0.86**	**185**		Pb	14 51 17.6	-0.4
JLAB	**Laurel Hill**	**0.87**	**162**		Pb	14 51 18.1	0.0
NMTM	**Middletown**	**0.87**	**340**		Pg	14 51 18.8	+0.1
AASM	**Arroyo Seco**	**0.88**	**59**		Pb	14 51 16.8	-1.5
CADM	**Anderson Res.**	**0.89**	**157**		Pg	14 51 18.9	0.0
JHLM	**Holstrom Ranch**	**0.89**	**168**		Pb	14 51 18.3	-0.2
NMCNC	**Mill Creek, So**	**0.90**	**313**		Pb	14 51 18.0	-0.7
GAXM	**Alexander Vall**	**0.91**	**324**		Pb	14 51 18.4	-0.4
GCRM	**Castle Rock Sp**	**0.94**	**327**		Pb	14 51 18.8	-0.6
MNRC	**McLaughlin Min**	**0.94**	**342**		Pg	14 51 20.4	+0.5
GBGM	**Boggs Mountain**	**0.96**	**330**		Pn	14 51 20.2	0.0
JTGM	**Trout Gulch Ro**	**0.96**	**171**		Pb	14 51 19.4	-0.3
HSPM	**Sheep**	**0.97**	**153**		Pb	14 51 19.4	-0.5
GDXM	**Geysers**	**1.00**	**325**		Pb	14 51 20.1	-0.3
HLPM	**Lions Peak**	**1.00**	**160**		Pb	14 51 19.9	-0.4
MNHB	**New Hogan Dam**	**1.00**	**80**		Pb	14 51 18.8	-1.6
GHS	**Gilroy Hot Spr**	**1.01**	**151**		Pb	14 51 19.5	-1.2
FTR	**Fort Ross**	**1.01**	**302**		Pb	14 51 19.9	-0.8
GSSM	**Skaggs Springs**	**1.03**	**314**		Pb	14 51 20.3	-0.6
JELB	**Ellicott, Sant**	**1.07**	**170**		Pb	14 51 21.1	-0.4
GCVM	**Cloverdale**	**1.08**	**317**		Pn	14 51 22.1	+0.3
HPCM	**Pacheco Lake**	**1.12**	**145**		Pn	14 51 21.7	-0.6
SLD	**San Luis Dam**	**1.13**	**143**		Pn	14 51 21.9	-0.6
HFEM	**San Felipe**	**1.13**	**152**		Pn	14 51 21.6	-0.9
OCR	**O'Connell Ranc**	**1.15**	**157**		Pn	14 51 22.2	-0.6
ANZ	**Anzar Road**	**1.16**	**161**		Pn	14 51 22.7	-0.1
SFJWR	**San Luis Fatjo**	**1.17**	**142**		Pn	14 51 22.6	-0.5
HTUM	**Tustin Road**	**1.20**	**164**		Pn	14 51 22.6	-0.8
GDCM	**Dry Creek**	**1.21**	**311**		Pb	14 51 24.1	+0.1
HERM	**Elkhorn Road**	**1.22**	**166**		Pn	14 51 23.4	-0.2
HOPS	**Hopland Field**	**1.28**	**322**	Pn	Pn	14 51 23.6	-0.9
AFDM	**Forest Hills D**	**1.29**	**41**		Pn	14 51 23.4	-1.3
GSNM	**Snow Mountain**	**1.30**	**318**		Pg	14 51 27.1	+0.4
FRP	**Fremont Peak**	**1.31**	**159**		Pn	14 51 23.8	-1.2
SAO	**San Andreas Ge**	**1.31**	**158**	Pn	Pn	14 51 24.1	-0.9
CMB	**Columbia Colle**	**1.33**	**87**	Pn	Pn	14 51 24.2	-1.0
CMB					Pb	14 51 24.4	-1.6
BVYM	**Vineyard**	**1.34**	**157**		Pn	14 51 24.9	-0.5
BSRM	**Salinas Radio**	**1.39**	**161**		Pn	14 51 24.7	-1.3
HMOM	**Monterey**	**1.39**	**175**		Pn	14 51 24.6	-1.3
BCGM	**Cienega Road**	**1.40**	**155**		Pn	14 51 25.9	-0.2
OHCM	**Honcut**	**1.43**	**19**		Pn	14 51 25.5	-1.0
BPCNC	**Pine Canyon**	**1.45**	**166**		Pn	14 51 26.4	-0.5
SCZ	**Santa Cruz**	**1.48**	**159**		Pn	14 51 25.9	-1.4
BEHM	**Elkhorn Ranch**	**1.50**	**151**		Pn	14 51 27.6	+0.1
BRMM	**Rolling Bench**	**1.52**	**139**		Pn	14 51 27.6	-0.2
BAVM	**Antelope Valle**	**1.57**	**148**		Pn	14 51 27.4	-1.1
ORV	**Oroville**	**1.63**	**16**		Pn	14 51 28.9	-0.5
HAST	**Hastings Reser**	**1.65**	**165**		Pn	14 51 28.6	-1.0
BPIM	**Pinnacles**	**1.66**	**154**		Pn	14 51 29.0	-0.6
BMSM	**Mercy Hot Spri**	**1.67**	**142**		Pn	14 51 30.0	+0.1
BSMM	**Soledad Missio**	**1.68**	**162**		Pn	14 51 29.8	-0.3
BSGM	**Shirttail Gulc**	**1.70**	**157**		Pn	14 51 29.8	-0.5
GNAM	**Navarro Ridge**	**1.72**	**315**		Pn	14 51 27.7	-2.9
BPOM	**Post Ranch**	**1.77**	**172**		Pn	14 51 30.1	-1.2
EMB	**Emerald Bay**	**1.83**	**57**		Pn	14 51 32.7	+0.3
BAPM	**Anderson Peak**	**1.84**	**169**		Pn	14 51 31.9	-0.3
RUBR	**Rubicon Trail**	**1.84**	**54**		Pn	14 51 32.6	+0.2
MGL	**Magalia**	**1.87**	**12**		Pn	14 51 32.5	-0.2
MMIM	**Miami Mountain**	**1.93**	**106**		Pn	14 51 33.6	0.0
IND	**Independence**	**2.01**	**43**		Pn	14 51 35.6	+0.9
PMPB	**Monarch Peak**	**2.03**	**150**	Pn	Pn	14 51 34.6	-0.3
WAKR	**Walker**	**2.14**	**75**		Pn	14 51 37.7	+1.2
PAPM	**Alder Peak**	**2.14**	**164**		Pn	14 51 35.9	-0.5
PNTR	**Pine Nut**	**2.23**	**60**		Pb	14 51 39.6	-1.8
BEKR	**Beckworth**	**2.30**	**35**		Pn	14 51 38.7	-0.1
PEAR	**Peavine Mounta**	**2.31**	**45**		Pn	14 51 40.3	+1.3
MDPB	**Devils Postpil**	**2.39**	**98**		Pn	14 51 41.5	+1.4
MRDM	**Red Cones**	**2.42**	**98**		Pn	14 51 42.0	+1.5
YERR	**Yerington**	**2.43**	**65**	Pn	Pn	14 51 40.1	-0.5
OMMB	**Old Mammoth Mi**	**2.46**	**98**		Pn	14 51 41.2	+0.2
WDC	**Whiskeytown Da**	**2.62**	**352**	Pn	Pn	14 51 41.1	-1.8
PAGB	**Antelope Grade**	**2.68**	**146**	Pn	Pn	14 51 43.9	0.0
PAHR	**Pah Rah Range**	**2.71**	**50**	Pn	Pn	14 51 43.6	-0.8
ORC	**Owens River**	**2.72**	**96**		Pn	14 51 46.1	+1.5
BENR	**Benton**	**2.78**	**94**		Pn	14 51 45.6	+0.2
RYN	**Ryan**	**2.86**	**76**	Pn	Pn	14 51 47.0	+0.6
MLNR	**Milner Canyon**	**2.98**	**96**		Pn	14 51 45.7	-2.3
NV11	**Mina Array Sit**	**3.11**	**81**	Pn	Pn	14 51 49.2	-0.6
KVN	**Kaiserville**	**3.29**	**70**	Pn	Pn	14 51 51.6	-0.7

*ISCJB **22** 14:56:38.0±0.6, 15°.64S±0°.06×75°.2W±0°.1, h26km, mb3.7/4, Error ellipse: s-maj=15.7km s-min=5.1km az=152.1*
*NEIC **22** 14:56:40.0±3.0, 15°.63S±0°.09×75°.4W±0°.1, h48km±8km, mb4.5/3*
*IDC **22** 14:56:43.7±2.0, 15°.59S×75°.44W, h74km±17km, mb3.4/4, mb1 3.9/8, mb1mx3.5/34, mbtmp4.0/8, Error ellipse: s-maj=38.3km s-min=13.1km az=60.0*

ISC 22 14:56:39.0±0.8, 15°.70S±0°.08×75°.4W±0°.1, h26km, n31, σ2s33/27, mb4.2/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.95**	**339**	P	**Pn**	**14 57 38.4**	**+0.5**
	8.2nm,0.3s,baz=126,slow=11,SNR=12						
NNA				S	**Sn**	**14 58 25.8**	**+2.3**
	26nm,0.3s,baz=268,slow=15,SNR=6.6						
NNA	**Nana**	**3.95**	**339**	Pn	**Pn**	**14 57 37.5**	**-0.5**
MNMC	**Minye Minye**	**6.50**	**123**	Pn	**Pn**	**14 58 15.0**	**+1.7**
PB11	**IPOC Station P**	**6.80**	**127**	Pn	**Pn**	**14 58 18.4**	**+1.2**
LPAZ	**La Paz**	**7.01**	**96**	P	**Pn**	**14 58 25.3**	**+4.7**
	3.0nm,0.3s,baz=277,slow=9.4,SNR=62						
LPAZ	**La Paz**	**7.01**	**96**	Pn	**Pn**	**14 58 24.3**	**+3.7**
GO01	**Chusmiza**	**7.11**	**125**	Pn	**Pn**	**14 58 23.9**	**+2.2**
PB04	**IPOC Station P**	**8.26**	**144**	Pn	**Pn**	**14 58 37.0**	**-0.3**
ATAH	**Atahualpa**	**9.00**	**341**	P	**Pn**	**14 58 50.6**	**+2.9**
	0.4nm,0.3s,baz=192,slow=14,SNR=2.2						
ATAH				S	**Sn**	**15 00 33.1**	**+4.5**
	0.5nm,0.3s,baz=109,slow=20,SNR=1.7						
PB10	**IPOC Station P**	**9.01**	**150**	Pn	**Pn**	**14 58 47.0**	**-0.5**
LVC	**Limon Verde**	**9.21**	**139**	P	**Pn**	**14 58 53.8**	**+3.3**
	4.3nm,0.3s,baz=312,slow=9.9,SNR=28						
LVC	**Limon Verde**	**9.21**	**139**	Pn	**Pn**	**14 58 50.5**	**0.0**
GO02	**Mina Guanaco**	**10.87**	**151**	Pn	**Pn**	**14 59 13.9**	**+0.7**
SAML	**Samuel**	**13.68**	**62**	Pn	**Pn**	**14 59 48.6**	**-2.9**
SIV	**San Ignacio**	**13.79**	**93**	P	**Pn**	**14 59 52.1**	**-0.8**
	0.5nm,0.3s,baz=285,slow=7.8,SNR=7.7						
GO06	**Curarrehue**	**24.04**	**173**	P	**P**	**15 01 52.8**	**+0.7**
GO06				IAmb	IAmb	15 01 57.7	
	comp=Z,16nm,1.9s						
PLCA	**Paso Flores**	**25.30**	**171**	P	**P**	**15 02 05.2**	**+1.8**
	comp=Z,1.8nm,0.7s,baz=17,slow=11,SNR=9.6						
PLCA	**Paso Flores**	**25.30**	**171**	P	**P**	**15 02 05.1**	**+1.7**
PLCA				IAmb	IAmb	15 02 41.4	
	comp=Z,21nm,2.0s						
SVB	**Belmont**	**32.00**	**27**	P	**P**	**15 03 01.1**	**-2.3**
OBIP	**Obispado Ponce**	**34.63**	**15**	P	**P**	**15 03 23.5**	**-2.7**
OBIP				IAmb	IAmb	15 03 29.0	
	comp=Z,69nm,1.4s						
TXAR	**Lajitas Array**	**52.44**	**329**	P	**P**	**15 05 47.4**	**-2.3**
	comp=Z,0.2nm,0.5s,baz=143,slow=9.7,SNR=2.6						
TORD	**Torodi Ar. Bea**	**81.44**	**74**	P	**P**	**15 08 53.6**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=254,slow=4.8,SNR=11						
YKA	**Yellowknife Ar**	**83.78**	**343**	P	**P**	**15 09 03.5**	**-2.0**
	comp=Z,0.4nm,0.8s,baz=138,slow=5.4,SNR=12						
H11N3	**WAKE ISLAND Hyl**	**20.79**	**284**	T	T	17 27 40.3	
	baz=97,slow=74,SNR=14						
H11N2	**WAKE ISLAND Hyl**	**20.81**	**284**	T	T	17 27 45.4	
	baz=97,slow=74,SNR=20						
H11N1	**WAKE ISLAND Hyl**	**20.81**	**284**	T	T	17 27 48.8	
	baz=97,slow=74,SNR=8.1						
H11S2	**WAKE ISLAND Hyl**	**20.83**	**282**	T	T	17 27 50.3	
	baz=100,slow=74,SNR=18						
H11S1	**WAKE ISLAND Hyl**	**20.84**	**282**	T	T	17 27 45.5	
	baz=100,slow=74,SNR=16						
H11S3	**WAKE ISLAND Hyl**	**20.85**	**282**	T	T	17 27 50.5	
	baz=100,slow=74,SNR=13						
KSH	**Kashi**	**145.52**	**41**	*e*PKPbc	**PKiKP**	**15 16 18.6**	**-0.7**
SONM	**Songino Array**	**147.92**	**358**	PKPbc	**PKPdf**	**15 16 19.3**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=32,slow=3.8,SNR=2.9						

*ISCJB **22** 15:11:57.4±0.6, 72°.31N±0°.04×75°.9W±0°.1, h10km, Error ellipse: s-maj=6.3km s-min=6.1km az=175.1*
*OTT **22** 15:12:02.2±0.1, 72°.29N×75°.76W, h18km, MN3.6/7, 88km southeast from Pond Inlet, Nu Eastern Arctic Background Seismic Zone.*

ISC 22 15:11:57.7±0.8, 72°.22N±0°.05×75°.64W±0°.05, h10km, n10, σ2s71/19, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLRN	**Clyde River**	**2.87**	**124**	PN	**Pb**	**15 12 47.6**	**-1.3**
CLRN				SN	**Sb**	**15 13 22.2**	**-1.8**
CLRN				Trac		15 13 29.9	
	comp=Z,119nm,0.1s						
CLRN				LG	Lg	15 13 32.8	
ILON	**Igloolik, Nuna**	**3.52**	**218**	PN	**Pn**	**15 12 55.6**	**+3.3**
ILON				SN	**Sn**	**15 13 35.8**	**+1.8**
ILON				LG	Lg	15 13 51.1	
ILON				Trac		15 13 52.5	
	comp=Z,181nm,0.5s						
TULEG	**Thule**	**4.71**	**20**	PN	**Pn**	**15 13 11.0**	**+2.4**
TULEG				SN	**Sn**	**15 14 02.2**	**-0.9**
TULEG				Trac		15 14 05.4	
	comp=Z,18nm,0.2s						
KULLO	**Kullorsuaq**	**5.77**	**57**	*i* P	**Pn**	**15 13 26.0**	**+2.8**
KULLO				*i* S	**Sn**	**15 14 27.1**	**-2.2**
KULLO	**Kullorsuaq**	**5.77**	**57**	PN	**Pn**	**15 13 25.8**	**+2.6**
KULLO				SN	**Sn**	**15 14 28.1**	**-1.2**
KULLO				Trac		15 14 30.8	
	comp=Z,80nm,0.6s						
RES	**Resolute Bay**	**6.01**	**303**	PN	**Pn**	**15 13 29.4**	**+2.9**
RES				SN	**Sn**	**15 14 35.4**	**+0.1**
RES				LG	Lg	15 15 11.9	
RES				Trac		15 15 14.8	
	comp=Z,60nm,0.9s						
EUNU	**Eureka**	**8.26**	**347**	PN	**Pn**	**15 14 00.5**	**+3.1**
EUNU				SN	**Sn**	**15 15 27.1**	**-3.4**
EUNU				Trac		15 15 38.4	
	comp=Z,3µm,6.0s						
FRB	**Frobisher Bay**	**8.91**	**159**	PN	**Pn**	**15 14 08.2**	**+2.0**
FRB				SN	**Sn**	**15 15 44.4**	**-2.2**
FRB				LG	Lg	15 16 42.8	
FRB				Trac		15 16 48.3	
	comp=Z,12nm,0.2s						
CB31	**Cambridge Bay**	**10.17**	**267**	PN	**Pn**	**15 14 22.5**	**-1.0**
CB31				SN	**Sn**	**15 16 12.1**	**-5.3**
CB31				LG	Lg	15 17 17.4	
CB31				Trac		15 17 29.4	
	comp=Z,24nm,0.4s						
SUMG	**Summit**	**11.14**	**71**	*i* P	**Pn**	**15 14 39.0**	**+1.9**

*IDC **22** 15:22:44.0±3.8, 28°.74S×177°.41W, h62km±46km, mb3.3/2, mb1 3.6/2, mb1mx3.3/29, mbtmp3.6/2, Error ellipse: s-maj=137.7km s-min=40.6km az=160.0*

ISC 22 15:22:42.4±2.0, 28°.5S±0°.2×177°.3W±0°.4, h54km, n6, σ0s63/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.89**	**217**	P	**Pn**	**15 22 59.2**	**+0.5**
	1µm,0.3s,baz=86,slow=5.4,SNR=24						
RAO				S	**Sn**	**15 23 10.1**	**-0.5**
	5µm,0.3s,baz=71,slow=19,SNR=26						
RAO				LR	LR	15 23 17.4	
	comp=Z,220nm,21.5s,baz=264,slow=49						
ASAR	**Alice Springs**	**43.84**	**265**	P	**P**	**15 30 43.3**	**-0.2**
	0.4nm,0.5s,baz=104,slow=6.9,SNR=20						
WRA	**Warramunga Arr**	**44.66**	**270**	P	**P**	**15 30 50.3**	**+0.2**
	0.5nm,0.4s,baz=109,slow=7.8,SNR=9.5						
FINES	**FINESS Array B**	**143.60**	**341**	PKP	**PKPdf**	**15 42 10.1**	**-0.3**
	7.4nm,1.2s,baz=90,slow=4.2,SNR=1.3						
AKASG	**Malin Array Be**	**150.16**	**325**	PKPbc	**PKiKP**	**15 42 27.0**	**-0.7**
	0.4nm,0.4s,baz=44,slow=3.8,SNR=4.7						
BRTR	**Keskin Array B**	**152.19**	**302**	PKPbc	**PKiKP**	**15 42 33.1**	**+0.7**
	0.5nm,0.6s,baz=145,slow=4.5,SNR=3.6						

IDC 22 15:26:08.3±1.5, 20°.73N×146°.41E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.3/42, mbtmp3.4/5, Error ellipse: s-maj=57.9km s-min=27.5km az=91.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.11**	**197**	P	P	15 34 01.2	-1.2
	0.4nm,0.8s,baz=18,slow=8.3,SNR=2.5						
ASAR	**Alice Springs**	**45.78**	**196**	P	P	15 34 32.7	+0.8
	0.2nm,0.6s,baz=13,slow=7.1,SNR=1.7						
ZALV	**Zalesovo Beam**	**56.84**	**322**	P	P	15 35 54.2	-0.3
	0.8nm,0.6s,baz=110,slow=8.6,SNR=3.7						
MKAR	**Makanchi Array**	**57.56**	**313**	P	P	15 36 00.3	+0.4
	0.2nm,0.5s,baz=94,slow=9.1,SNR=2.7						
YKA	**Yellowknife Ar**	**75.89**	**28**	P	P	15 37 56.4	-0.1
	0.2nm,0.8s,baz=306,slow=5.1,SNR=3.5						

IDC 22 15:51:15.1±3.4, 32°.49S×178°.72W, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.5/35, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=74.6km s-min=47.5km az=111.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.69**	**209**	Pn	Pn	15 52 53.9	-0.7
	0.6nm,0.3s,baz=255,slow=4.4,SNR=13						
URZ				Sn	Sn	15 54 08.5	-2.9
	3.3nm,0.3s,baz=354,slow=22,SNR=11						
ASAR	**Alice Springs**	**42.43**	**270**	P	P	15 59 11.8	0.0
	0.3nm,0.6s,baz=111,slow=7.6,SNR=4.8						
WRA	**Warramunga Arr**	**43.60**	**275**	P	P	15 59 21.2	-0.1
	0.2nm,0.3s,baz=114,slow=7.9,SNR=7.4						

W35A	**Tecumseh**	**1.31**	**173**			**Pn**	**16 28 52.8**	**-1.2**
U32A	**Winter Ranch,**	**1.57**	**268**			**Pn**	**16 28 58.0**	**+0.5**
X34A	**Smith Ranch, M**	**1.96**	**199**			**Pn**	**16 29 04.1**	**+1.3**
WMOK	**Wichita Mounta**	**2.22**	**220**		P	**Pn**	**16 29 07.4**	**+0.9**
	baz=39							
WMOK					S	**Sn**	**16 29 35.6**	**+1.7**
	baz=39							
WMOK	**Wichita Mounta**	**2.22**	**220**			**Pn**	**16 29 07.4**	**+0.9**
X37A	**Clayton**	**2.32**	**143**			**Pn**	**16 29 08.7**	**+0.9**
HHAR	**Hobbs**	**2.52**	**93**		Pn	**Pn**	**16 29 11.8**	**+1.1**
KSU1	**Kansas State U**	**2.66**	**8**		P	**Pn**	**16 29 14.1**	**+1.5**
	baz=188							
W39A	**Magazine**	**2.94**	**114**		P	**Pn**	**16 29 18.0**	**+1.6**
	baz=296							
W39A					S	**Sn**	**16 29 54.3**	**+2.5**
	baz=296							
W39A	**Magazine**	**2.94**	**114**			**Pn**	**16 29 18.1**	**+1.7**
W39A						**Pb**	**16 29 20.2**	**-2.0**
CBKS	**Cedar Bluff**	**3.17**	**319**		P	**Pn**	**16 29 20.5**	**+0.9**
	baz=138							
CBKS					S	**Sn**	**16 29 59.0**	**+1.5**
	baz=138							
CBKS	**Cedar Bluff**	**3.17**	**319**			**Pn**	**16 29 20.8**	**+1.2**
U40A	**Yellville**	**3.40**	**90**		P	**Pn**	**16 29 23.8**	**+1.1**
	baz=273							
U40A					S	**Sn**	**16 30 04.7**	**+1.7**
	baz=273							
U40A	**Yellville**	**3.40**	**90**		Pn	**Pn**	**16 29 23.6**	**+0.9**
MIAR	**Mount Ida**	**3.42**	**123**		P	**Pn**	**16 29 24.3**	**+1.2**
	baz=305							
MIAR					S	**Sn**	**16 30 05.4**	**+1.7**
	baz=305							
MIAR	**Mount Ida**	**3.42**	**123**			**Pn**	**16 29 24.4**	**+1.4**
MGMO	**Mountain Grove**	**3.91**	**78**		Pn	**Pn**	**16 29 30.9**	**+1.2**
X40A	**Basin Creek Fa**	**3.97**	**118**		P	**Pn**	**16 29 31.7**	**+1.2**
	baz=301							
X40A					S	**Sn**	**16 30 18.5**	**+1.3**
	baz=301							
X40A	**Basin Creek Fa**	**3.97**	**118**			**Pn**	**16 29 31.8**	**+1.2**
FCAR	**Ozark Folk Cen**	**4.03**	**97**			**Pn**	**16 29 32.6**	**+1.2**
WHAR	**Wooly Hollow**	**4.05**	**105**			**Pn**	**16 29 32.7**	**+1.1**
AMTX	**Amarillo**	**4.08**	**249**		P	**Pn**	**16 29 33.1**	**+1.0**
	baz=66							
AMTX	**Amarillo**	**4.08**	**249**			**Pn**	**16 29 30.9**	**-1.2**
W41B	**Gary Mavity, V**	**4.12**	**107**		P	**Pn**	**16 29 33.7**	**+1.2**
	baz=289							
W41B	**Gary Mavity, V**	**4.12**	**107**			**Pn**	**16 29 34.6**	**+2.0**
UALR	**University of**	**4.19**	**112**			**Pn**	**16 29 34.7**	**+1.1**
ABTX	**Abilene, Hawle**	**4.38**	**210**		P	**Pn**	**16 29 37.3**	**+1.1**
	baz=28							
ABTX	**Abilene, Hawle**	**4.38**	**210**		Pn	**Pn**	**16 29 38.7**	**+2.5**
Z41A	**Richland Creek**	**4.74**	**131**		Pn	**Pn**	**16 29 41.6**	**+0.6**
LCAR	**Lake Charles**	**4.79**	**93**			**Pn**	**16 29 42.3**	**+0.5**
CCM	**Cathedral Cave**	**4.91**	**69**		Pn	**Pn**	**16 29 44.8**	**+1.4**
BGNE	**Belgrade**	**5.02**	**351**		Pn	**Pn**	**16 29 46.4**	**-2.6**
NATX	**Nacogdoches**	**5.09**	**156**		Pn	**Pn**	**16 29 46.4**	**+0.4**
KSCO	**Kaye Shedlock'**	**5.10**	**302**		Pn	**Pn**	**16 29 47.9**	**+1.7**
MSTX	**Muleshoe**	**5.29**	**244**		Pn	**Pn**	**16 29 47.7**	**-1.1**
PBMO	**Poplar Bluff**	**5.34**	**85**		Pn	**Pn**	**16 29 50.7**	**+1.3**
T25A	**Trinidad**	**5.94**	**279**			**Pn**	**16 29 58.2**	**+0.4**
S44A	**Carbondale**	**6.36**	**76**		Pn	**Pn**	**16 30 03.3**	**-0.1**
JCT	**Junction City**	**6.39**	**202**		Pn	**Pn**	**16 30 03.6**	**-0.3**
SIUC	**Southern Illin**	**6.39**	**76**		Pn	**Pn**	**16 30 05.1**	**+1.2**
N41A	**Harden Midland**	**6.45**	**47**		Pn	**Pn**	**16 30 05.0**	**+0.3**
HKT	**Hockley**	**6.57**	**171**		Pn	**Pn**	**16 30 06.3**	**0.0**
P43A	**Skaggs, Pawnee**	**6.74**	**60**		Pn	**Pn**	**16 30 08.6**	**0.0**
SDCO	**Great Sand Dun**	**6.87**	**283**			**Pn**	**16 30 11.4**	**+0.8**
Q24A	**Divide**	**6.88**	**294**		Pn	**Pn**	**16 30 11.6**	**+0.8**
ECSD	**EROS Data Cent**	**7.28**	**3**			**Pn**	**16 30 15.4**	**-0.5**
HDIL	**Hopedale**	**7.33**	**54**		Pn	**Pn**	**16 30 16.7**	**0.0**
WVT	**Waverly**	**7.46**	**90**		Pn	**Pn**	**16 30 18.1**	**-0.4**
ANMO	**Albuquerque**	**7.79**	**262**		Pn	Pn	16 30 31.8	+8.6
	0.3nm,0.3s,baz=84,slow=14,SNR=5.2							
ANMO					Pg	Pg	16 30 53.0	-5.8
	0.6nm,0.3s,baz=85,slow=15,SNR=7.9							
ANMO					Sn	Sn	16 32 03.8	+12
	0.4nm,0.3s,baz=21,slow=12,SNR=2.3							
ANMO					Lg	Lg	16 32 33.1	
	0.6nm,0.3s,baz=0.4,slow=18,SNR=3.0							
ANMO	**Albuquerque**	**7.79**	**262**		Pn	**Pn**	**16 30 23.9**	**+0.6**
T47A	**Sharon Grove**	**8.01**	**83**		Pn	**Pn**	**16 30 26.2**	**+0.1**
JFWS	**Jewell Farm**	**8.31**	**37**		Pn	**Pn**	**16 30 29.6**	**-0.6**
MNTX	**Cornudas Mount**	**8.38**	**238**		Pn	**Pn**	**16 30 31.5**	**+0.4**
WCI	**Wyandotte Cave**	**8.76**	**75**		Pn	**Pn**	**16 30 37.3**	**+1.0**
BLO	**Bloomington**	**8.77**	**69**		Pn	**Pn**	**16 30 37.5**	**+1.1**
I40A	**Norwalk**	**8.91**	**32**		Pn	**Pn**	**16 30 40.0**	**+1.7**
LRAL	**Lakeview Retre**	**8.96**	**109**		Pn	**Pn**	**16 30 40.9**	**+1.8**
TX31	**Lajitas Ar. Si**	**9.02**	**220**		Pn	**Pn**	**16 30 41.6**	**+1.7**
TX32	**Lajitas Array**	**9.02**	**220**		Pn	**Pn**	**16 30 41.6**	**+1.7**
TXAR	**Lajitas Array**	**9.02**	**220**		Pn	**Pn**	**16 30 40.4**	**+0.5**
	0.1nm,0.3s,baz=36,slow=10,SNR=5.9							
TXAR					Pg		16 31 07.8	
	0.2nm,0.3s,baz=46,slow=11,SNR=5.8							
TXAR					Lg	Lg	16 33 10.0	
	1.0nm,0.3s,baz=48,slow=24,SNR=5.5							
ULM	**Lac du Bonnet**	**13.81**	**3**		Pn	**Pn**	**16 31 41.5**	**-3.9**
	0.2nm,0.3s,baz=184,slow=15,SNR=2.0							
ULM					Sn	Sn	16 34 04.6	-14
	0.3nm,0.3s,baz=308,slow=3.2,SNR=1.6							
ULM					Lg	Lg	16 35 35.1	
	baz=286,slow=19,SNR=1.7							
YKA	**Yellowknife Ar**	**28.25**	**343**		P	**P**	**16 34 22.3**	**-0.2**
	0.1nm,0.5s,baz=138,slow=7.9,SNR=4.4							
ILAR	**Eielson Array**	**40.76**	**330**		P	**P**	**16 36 12.2**	**+1.7**
	0.4nm,0.7s,baz=109,slow=7.2,SNR=5.2							

*IDC **22** 16:39:13.6±1.7,20.89N×146.75E,h0km,mb3.9/5, mb1 4.0/5,mb1mx3.5/49,mbtmp3.9/5,Error ellipse: s-maj=56.0km s-min=35.5km az=105.0*
*NEIC **22** 16:39:14.4±2.6,20.7N±0.1×146.7E±0.2,h10km±1km, mb4.6/11*
*ISCJB **22** 16:39:16.8±0.8,20.71N±0.09×146.7E±0.2,h37km, mb3.8/5,Error ellipse: s-maj=22.2km s-min=12.7km az=14.2*

ISC 22 16:39:18.8±1.0,20.7N±0.1×146.6E±0.2,h37km,n16,
σ1§17/15,**mb4.3/8,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**13.74**	**335**	Pn	**P**	**16 42 38.0**	**-1.0**
JOW	**Kunigami**	**17.86**	**293**	P	**P**	**16 43 27.0**	**+2.3**
JOW				IAmb	IAmb	16 43 31.2	
	comp=Z,105nm,1.8s						
FAKI	**Fak Fak**	**27.41**	**213**	P	**P**	**16 45 02.3**	**+1.2**
SOEI	**Soe**	**37.44**	**218**	P	**P**	**16 46 28.9**	**+0.1**
MA2	**Magadan**	**38.92**	**3**	P	**P**	**16 46 41.5**	**+0.8**
SLVN	**Son La**	**39.79**	**279**	P	**P**	**16 46 48.0**	**-0.5**
SLVN				IAmb	IAmb	16 48 03.5	
	comp=Z,21nm,1.9s						
FITZ	**Fitzroy Crossi**	**43.73**	**210**	P	**P**	**16 47 22.3**	**+1.7**
	comp=Z,1.8nm,0.9s,baz=68,slow=5.4,SNR=1.0						
FITZ	**Fitzroy Crossi**	**43.73**	**210**	IAmb	IAmb	16 48 03.5	
	comp=Z,11nm,1.4s						
TLY	**Talaya**	**45.44**	**323**	P	**P**	**16 47 33.3**	**-0.7**
TLY				IAmb	IAmb	16 48 45.5	
	comp=Z,6.2nm,0.8s						
AS31	**Alice Springs**	**45.84**	**196**	P	**P**	**16 47 35.8**	**-1.5**
KULM	**Kulim**	**47.16**	**258**	P	**P**	**16 47 46.8**	**-1.1**
BILL	**Bilibino**	**48.88**	**10**	P	**P**	**16 48 00.9**	**+0.5**
BILL				IAmb	IAmb	16 49 12.7	
	comp=Z,16nm,1.9s						
ZALV	**Zalesovo Beam**	**56.96**	**322**	P	**P**	**16 49 00.5**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=107,slow=7.6,SNR=5.4						
MKAR	**Makanchi Array**	**57.71**	**313**	P	**P**	**16 49 06.2**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=89,slow=9.5,SNR=2.6						
YKA	**Yellowknife Ar**	**75.79**	**29**	P	**P**	**16 51 00.5**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=287,slow=6.6,SNR=4.9						
FINES	**FINESS Array B**	**85.41**	**335**	P	**P**	**16 51 51.7**	**-0.4**
	comp=Z,4.5nm,0.8s,baz=66,slow=4.7,SNR=13						

IDC 22 16:43:25.8±2.3,6.82S×128.81E,h0km,mb3.4/1, mb1 3.5/4,mb1mx3.3/30,mbtmp3.3/4,ML3.0/3,Error ellipse: s-maj=94.0km s-min=30.5km az=75.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.63**	**195**	Pn	Pn	16 46 12.4	-0.7
	0.1nm,0.3s,baz=317,slow=24,SNR=2.1						
FITZ				Sn	Sn	16 48 10.9	-13
	0.1nm,0.3s,baz=185,slow=21,SNR=1.0						
WRA	**Warramunga Arr**	**14.11**	**158**	Pn	Pn	16 46 47.0	-0.1
	0.1nm,0.3s,baz=341,slow=13,SNR=5.4						
WRA				Sn	Sn	16 49 16.0	-8.5
	0.2nm,0.3s,baz=336,slow=22,SNR=4.8						
ASAR	**Alice Springs**	**17.45**	**164**	P	Pn	16 47 31.6	+0.7
	0.0nm,0.3s,baz=342,slow=11,SNR=1.8						
ASAR				S	Sn	16 50 37.2	-8.7
	0.0nm,0.3s,baz=230,slow=14,SNR=1.3						
MKAR	**Makanchi Array**	**67.43**	**327**	P	P	16 54 23.4	+0.1
	0.3nm,0.7s,baz=115,slow=7.8,SNR=2.2						

*ISCJB **22** 16:50:02.4±0.4,43.79N±0.03×105.27W±0.04,h0km, mb3.7/1,Error ellipse: s-maj=4.8km s-min=4.4km az=42.5*
*IDC **22** 16:50:03.6±1.8,43.80N×105.58W,h0km,mb3.7/1, mb1 3.6/5,mb1mx3.4/42,mbtmp3.4/5,ML3.2/4,Error ellipse: s-maj=52.2km s-min=8.6km az=148.0*
*NEIC **22** 16:50:04.3±0.9,43.78N±0.05×105.30W±0.03,h0km±2km, ML3.1/54*

ISC 22 16:50:03.3±0.9,43.85N±0.06×105.36W±0.07,h0km,n55,
σ1§44/55,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.00**	**73**		**Pb**	**16 50 23.3**	**-0.3**
K22A	**Casper**	**1.46**	**216**		**Pn**	**16 50 29.8**	**-1.4**
K22A				IAML		16 50 52.7	
	comp=N,264nm,0.6s						
K22A				IAML		16 50 54.9	
	comp=E,216nm,0.4s						
PHWY	**Pilot Hill**	**2.54**	**182**		**Pn**	**16 50 45.8**	**-0.3**
PHWY				IAML		16 51 23.8	
	comp=E,67nm,0.4s						
RWWY	**Rawlins**	**2.55**	**213**		**Pn**	**16 50 46.1**	**0.0**
RWWY				IAML		16 51 24.4	
	comp=E,114nm,0.7s						
LAO	**LASA Array**	**2.91**	**348**		**Pb**	**16 50 52.8**	**-3.3**
N23A	**Red Feather La**	**2.98**	**189**		**Pn**	**16 50 52.4**	**+0.3**
N23A				IAML		16 51 37.7	
	comp=E,67nm,0.7s						
RLMT	**Red Lodge**	**3.07**	**296**		**Pn**	**16 50 55.1**	**+1.8**
RLMT				IAML		16 51 49.9	
	comp=E,47nm,0.3s						
RLMT				IAML		16 51 50.1	
	comp=E,47nm,0.4s						
BW06	**Boulder Array**	**3.25**	**252**		**Pn**	**16 50 56.8**	**+1.1**
BW06				IAML		16 51 47.8	
	comp=N,45nm,0.6s						
BW06				IAML		16 51 50.3	
	comp=E,35nm,0.6s						
PD31	**Pinedale Array**	**3.25**	**252**		**Pn**	**16 50 56.7**	**+1.0**
PDAR	**Pinedale Array**	**3.25**	**252**	Pn	**Pn**	**16 50 57.0**	**+1.2**
	comp=E,3.4nm,0.3s,baz=77,slow=16,SNR=44						
PDAR				Lg	Lg	16 51 39.6	
	comp=E,4.6nm,0.3s,baz=84,slow=34,SNR=4.7						
YNE	**Yellowstone No**	**3.52**	**291**		**Pn**	**16 51 01.3**	**+1.8**
YMP	**Mirror Lake Pl**	**3.56**	**286**		**Pn**	**16 51 01.9**	**+1.9**
GCMT	**Greyclift**	**3.63**	**304**		**Pn**	**16 51 03.3**	**+2.4**
LKWY	**Lake**	**3.69**	**283**	Pn	**Pn**	**16 51 05.4**	**+3.5**
LKWY				IAML		16 51 34.5	
	comp=E,39nm,0.5s						
H17A	**Grant Village**	**3.79**	**280**	Pn	**Pn**	**16 51 04.6**	**+1.3**
H17A				IAML		16 52 10.6	
	comp=N,22nm,0.7s						
OGNE	**Ogallala**	**3.81**	**138**		**Pn**	**16 51 03.8**	**+0.6**
FLWY	**Flagg Ranch**	**3.86**	**275**		**Pn**	**16 51 06.0**	**+1.9**
FLWY				IAML		16 52 16.2	
	comp=N,23nm,0.7s						
FLWY				IAML		16 52 21.6	
	comp=N,26nm,1.6s						
MOOW	**Moose Ponds**	**3.90**	**270**		**Pn**	**16 51 07.1**	**+2.4**
YNR	**Norris Junctio**	**3.92**	**285**	Pn	**Pn**	**16 51 06.5**	**+1.6**
SNOW	**Snow King Moun**	**3.93**	**266**	Pn	**Pn**	**16 51 06.6**	**+1.5**
SNOW				IAML		16 52 09.1	
	comp=N,32nm,0.6s						
SNOW				IAML		16 52 19.6	
	comp=N,25nm,0.8s						
REDW	**Red Top Meadow**	**4.02**	**265**		**Pn**	**16 51 07.8**	**+1.5**
REDW				IAML		16 52 17.2	
	comp=N,26nm,0.8s						
REDW				IAML		16 52 27.8	
	comp=N,29nm,0.7s						
ISCO	**Idaho Springs**	**4.05**	**183**		**Pn**	**16 51 07.1**	**+0.4**
ISCO				IAML		16 52 09.0	
	comp=N,19nm,0.7s						
YHH	**Holmes Hill**	**4.05**	**285**		**Pn**	**16 51 07.7**	**+0.9**
TPAW	**Teton Pass**	**4.07**	**267**		**Pn**	**16 51 08.7**	**+1.6**
TPAW				IAML		16 51 53.2	
	comp=N,20nm,0.6s						
TPAW				IAML		16 52 34.9	
	comp=N,29nm,0.7s						
FXWY	**Fox Creek**	**4.11**	**269**		**Pn**	**16 51 09.7**	**+2.1**
O20A	**White River Ci**	**4.28**	**211**		**Pn**	**16 51 10.9**	**+1.0**
O20A				IAML		16 52 23.4	
	comp=N,29nm,0.6s						
O20A				IAML		16 52 23.8	
	comp=E,27nm,0.5s						
YHL	**Hebgen Lake**	**4.29**	**286**	Pn	**Pn**	**16 51 11.9**	**+1.8**
RDMU	**Red Mountain**	**4.52**	**225**	Pn	**Pn**	**16 51 14.7**	**+1.5**
HWUT	**Hardware Ranch**	**5.09**	**246**		**Pn**	**16 51 23.1**	**+2.2**
KSCO	**Kaye Shedlock'**	**5.25**	**156**		**Pn**	**16 51 23.0**	**-0.1**
SPUT	**South Promonto**	**5.81**	**247**	Pn	**Pn**	**16 51 32.1**	**+1.2**
P17A	**Butcher Ranch,**	**5.94**	**225**		**Pn**	**16 51 33.5**	**+0.8**
SRU	**San Rafael Swe**	**6.11**	**221**	Pn	**Pn**	**16 51 35.2**	**+0.2**
S22A	**4UR Ranch, Cre**	**6.19**	**191**	Pn	**Pn**	**16 51 37.1**	**+0.9**
TMUT	**Trail Mountain**	**6.31**	**226**		**Pn**	**16 51 39.0**	**+1.1**
ECSD	**EROS Data Cent**	**6.33**	**88**	Pn	**Pn**	**16 51 38.9**	**+1.0**
NLU	**North Lily Min**	**6.34**	**234**	Pn	**Pn**	**16 51 39.7**	**+1.5**
BGU	**Big Grassy Mou**	**6.38**	**245**	Pn	**Pn**	**16 51 40.2**	**+1.5**
CBKS	**Cedar Bluff**	**6.57**	**138**	Pn	**Pn**	**16 51 40.8**	**-0.4**
Q16A	**Castle Valley**	**6.58**	**224**		**Pn**	**16 51 42.5**	**+1.0**
DUG	**Dugway, Tooele**	**6.64**	**239**	Pn	**Pn**	**16 51 43.1**	**+0.9**
T25A	**Trinidad**	**6.74**	**174**	Pn	**Pn**	**16 51 43.8**	**+0.2**
MSO	**Missoula**	**6.74**	**299**	Pn	**Pn**	**16 51 45.4**	**+1.8**
MVCO	**Mesa Verde**	**7.04**	**201**	Pn	**Pn**	**16 51 48.1**	**+0.2**
JTMT	**Jette**	**7.35**	**305**	Pn	**Pn**	**16 51 54.2**	**+2.2**
MSU	**Marysvale**	**7.40**	**226**	Pn	**Pn**	**16 51 53.4**	**+0.7**
MTPU	**Mount Pierson**	**7.76**	**224**	Pn	**Pn**	**16 51 58.8**	**+0.9**
WALA	**Waterton Lakes**	**7.87**	**314**	Pn	**Pn**	**16 52 00.3**	**+1.1**
AGMN	**Agassiz Nation**	**7.96**	**53**	Pn	**Pn**	**16 52 00.1**	**-0.1**
PSUT	**Pine Spring**	**8.31**	**233**	Pn	**Pn**	**16 52 05.2**	**-0.1**
CCUT	**Cedar City**	**8.74**	**227**	Pn	**Pn**	**16 52 12.5**	**+1.4**
ULM	**Lac du Bonnet**	**9.11**	**42**	Pn	**Pn**	**16 52 15.8**	**-0.1**
	comp=E,1.2nm,0.3s,baz=230,slow=12,SNR=15						
ULM				Pg		16 52 49.8	
	comp=E,0.8nm,0.3s,baz=223,slow=16,SNR=5.3						
ULM				Lg	Lg	16 54 47.8	
	comp=E,0.3nm,0.3s,baz=161,slow=18,SNR=2.3						
NVAR	**Mina Array Bea**	**11.15**	**245**	Pn	**Pn**	**16 52 45.1**	**+0.9**
	comp=E,0.1nm,0.3s,baz=52,slow=12,SNR=4.4						
YKA	**Yellowknife Ar**	**19.45**	**347**	P	**Pn**	**16 54 31.9**	**-0.3**
	comp=E,0.1nm,0.3s,baz=161,slow=13,SNR=4.3						
MKAR	**Makanchi Array**	**89.49**	**355**	P	**P**	**17 03 02.7**	**+0.5**
	comp=E,0.3nm,0.6s,baz=13,slow=4.6,SNR=2.6						

TAP 22 16:55:21.5,24.27N×121.49E,h11km,ML1.4,A,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi**	**0.06**	**186**	*i* P	Pg	16 55 24.5	+0.6
	baz=185						
ETLH				S	Sg	16 55 25.8	+0.2
	baz=185						
NACB	**Ninganchiao**	**0.14**	**135**	P	Pb	16 55 25.9	-0.3
	baz=135						
NACB				S	Sg	16 55 27.8	+0.8
	baz=135						
NNSH	**Datong**	**0.18**	**328**	P	Pb	16 55 26.7	-0.4
	baz=328						
NNSH				*e*S	Sg	16 55 29.4	+0.9
	baz=328						
NNS	**Nan Shan**	**0.20**	**328**	P	Pb	16 55 27.0	-0.3
	baz=329						
NNS				S	Sg	16 55 29.9	+1.1
	baz=329						
TWD	**Chiawan**	**0.21**	**153**	P	Pb	16 55 27.4	-0.1
	baz=150						
TWD				S	Sg	16 55 30.4	+1.3
	baz=150						
WHF	**Hehuan Shan**	**0.24**	**239**	P	Pb	16 55 27.5	-0.7
	baz=237						
WHF				S	Sg	16 55 30.6	+0.3
	baz=237						
ENA	**Nanau**	**0.28**	**56**	P	Pb	16 55 28.1	-0.5
	baz=56						
ENA				*e*S	Sg	16 55 32.0	+1.0
	baz=56						
NANB	**Nanao**	**0.28**	**57**	P	Pb	16 55 28.4	-0.3
	baz=56						
TWT	**Tachien**	**0.29**	**267**	P	Pb	16 55 28.8	0.0
	baz=265						
TWT				S	Sb	16 55 32.7	-1.1
	baz=265						
TDCB	**Techi**	**0.30**	**267**	P	Pb	16 55 29.0	-0.1
	baz=266						
TDCB				*e*S	Sg	16 55 32.6	+0.8
	baz=266						
NDT	**Datong Townshi**	**0.33**	**4**	*e*P	Pb	16 55 29.4	-0.2
	baz=3.0						
NDT				*e*S	Sb	16 55 35.0	+0.1
	baz=3.0						
CHGB	**Renai**	**0.36**	**234**	P	Pb	16 55 29.8	-0.3
	baz=233						
CHGB				*e*S	Sg	16 55 34.2	+0.7
	baz=233						
ENTT	**Nioudou**	**0.37**	**11**	*e*P	Pb	16 55 29.8	-0.4
	baz=11						
ENTT				S	Sb	16 55 35.8	-0.4
	baz=11						
YHNB	**Yeheng**	**0.41**	**345**	*e*P	Pb	16 55 30.6	-0.3
	baz=345						
YHNB				S	Sb	16 55 36.5	-0.7
	baz=345						
NSK	**Sanguang**	**0.42**	**344**	*e*S	Sb	16 55 37.2	-0.3
	baz=344						
ESL	**Shilin**	**0.46**	**186**	*e*P	Pb	16 55 31.8	+0.1
	baz=185						
ESL				*e*S	Sb	16 55 37.9	-0.5
	baz=185						
TWC	**Suao**	**0.47**	**44**	*e*P	Pb	16 55 32.4	+0.6
	baz=45						
TWC				*e*S	Sb	16 55 39.2	+0.4
	baz=45						
TWE	**Neicheng**	**0.48**	**20**	*e*P	Pb	16 55 31.7	-0.3
	baz=21						
TWE				S	Sb	16 55 39.2	+0.2
	baz=21						
WHP	**Taichung City**	**0.50**	**271**	*e*P	Pb	16 55 32.7	+0.3
	baz=270						
WHP				*e*S	Sb	16 55 39.1	-0.5
	baz=270						
DPDB	**Guoxing**	**0.57**	**245**	*e*P	Pb	16 55 33.8	+0.3
	baz=245						
LIOB	**Emei**	**0.57**	**311**	*e*P	Pb	16 55 33.6	0.0
	baz=310						
LIOB				*e*S	Sb	16 55 42.5	+0.7
	baz=310						
EGFH	**Guangfu**	**0.60**	**185**	*e*S	Sb	16 55 43.0	+0.4
	baz=185						
VWDT	**VWDT**	**0.60**	**212**	*e*S	Sb	16 55 43.5	+0.8
	baz=211						

JMA 22 16:55:59.8±0.1,24.02N×122.59E,h40km±4km,M1.7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.54**	**37**	P	Pn	16 56 10.8	-0.3
JYNG				*e*S	Sn	16 56 18.7	-0.3
YOJ	**Yonaguni jima**	**0.58**	**41**	P	Pn	16 56 11.6	-0.1
YOJ				*e*S	Sn	16 56 19.9	-0.2
IRIF	**Iriomote-Funau**	**1.09**	**73**	P	Pn	16 56 19.1	+0.6
JKRS	**Kuro-shima**	**1.31**	**80**	P	Pn	16 56 22.9	+1.2
JIJ	**Ishigaki jima**	**1.46**	**76**	P	Pn	16 56 24.1	+0.4
JIJ				*e*S	Sn	16 56 41.5	-0.1
JISG	**Ishigakijimahi**	**1.67**	**70**	P	Pn	16 56 26.6	+0.1
JISG				*e*S	Sn	16 56 46.3	-0.4

IDC 22 17:00:30.6±1.4,7.38S×125.15E,h375km±18km,mb2.5/1, mb1 2.8/6,mb1mx2.6/32,mbtmp3.5/6,Error ellipse: s-maj=31.5km s-min=21.7km az=80.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.17**	**208**	P	Pn	17 01 34.8	+1.4
	15nm,0.3s,baz=30,slow=1.5,SNR=30						
BATI				S	S	17 02 23.3	-0.7
	3.7nm,0.3s,baz=10,slow=23,SNR=2.8						
SIJI	**Sorong**	**8.89**	**44**	P	P	17 02 36.2	-0.6
	0.9nm,0.3s,baz=114,slow=23,SNR=5.2						
FITZ	**Fitzroy Crossi**	**10.66**	**177**	P	Pn	17 02 56.9	+0.5
	0.1nm,0.3s,baz=359,slow=8.1,SNR=7.2						
WRA	**Warramunga Arr**	**15.34**	**145**	P	P	17 03 46.7	-1.1
	0.2nm,0.3s,baz=325,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**18.24**	**154**	P	P	17 04 19.1	+0.1
	0.2nm,0.3s,baz=332,slow=11,SNR=20						
MKAR	**Makanchi Array**	**66.00**	**329**	P	P	17 10 37.7	-0.4
	0.1nm,0.5s,baz=127,slow=9.2,SNR=1.6						

*SJA **22** 17:14:47.9±0.4,27.35S×67.32W,h190km±14km,ML3.7, MW3.5*
*ISCJB **22** 17:14:49.3±0.6,27.37S±0.04×67.33W±0.09,h137km, mb3.0/1,Error ellipse: s-maj=11.7km s-min=4.9km az=4.8*
*IDC **22** 17:14:50.9±1.2,27.38S×67.82W,h144km±16km,mb3.0/1, mb1 3.2

WHTX	**Lake Whitney,**	**0.96**	**174**	P		**Pg**	**17 32 13.6**	**+0.4**	
	baz=354								
WHTX				S		**Sg**	**17 32 26.0**	**+0.4**	
	baz=354								
WHTX	**Lake Whitney,**	**0.96**	**174**			**Pg**	**17 32 13.4**	**+0.2**	
WHTX				Sg		**Sg**	**17 32 25.8**	**+0.1**	
X34A	**Smith Ranch, M**	**1.66**	**353**			**Pn**	**17 32 25.1**	**+0.4**	
X34A				Sg		**Sg**	**17 32 49.3**	**+1.2**	
ABTX	**Abilene, Hawle**	**1.77**	**260**	P		**Pn**	**17 32 26.6**	**+0.3**	
	baz=80								
ABTX				S		**Sb**	**17 32 50.6**	**+0.1**	
	baz=80								
ABTX	**Abilene, Hawle**	**1.77**	**260**			**Pb**	**17 32 27.6**	**-0.3**	
ABTX				Sg		**Sg**	**17 32 51.6**	**-0.2**	
ABTX				IAmb_Lg			17 32 51.7		
	comp=Z,208nm,0.8s								
WMOK	**Wichita Mounta**	**2.05**	**331**	P		**Pn**	**17 32 30.3**	**+0.3**	
	baz=151								
WMOK				S		**Sn**	**17 32 56.7**	**+0.6**	
	baz=151								
WMOK	**Wichita Mounta**	**2.05**	**331**			**Pn**	**17 32 30.1**	**0.0**	
WMOK				Sn		**Sn**	**17 32 56.5**	**+0.5**	
435B	**Jarrell**	**2.16**	**180**	P		**Pn**	**17 32 31.2**	**-0.4**	
	baz=0.2								
435B				S		**Sn**	**17 33 00.1**	**+1.3**	
	baz=0.2								
435B	**Jarrell**	**2.16**	**180**			**Pn**	**17 32 31.5**	**-0.1**	
W35A	**Tecumseh**	**2.27**	**15**			**Pn**	**17 32 34.1**	**+1.0**	
FNO	**Franklin**	**2.31**	**4**			**Pb**	**17 32 35.8**	**-1.2**	
OKCSW	**OKLAHOMA CITY**	**2.45**	**3**			**Pn**	**17 32 35.5**	**-0.1**	
X37A	**Clayton**	**2.46**	**48**	Pn		**Pn**	**17 32 35.4**	**-0.3**	
X37A				Sn		**Sn**	**17 33 06.3**	**+0.1**	
X37A				IAmb_Lg			17 33 19.0		
	comp=Z,131nm,0.8s								
OKCFA	**Oklahoma City**	**2.46**	**2**			**Pn**	**17 32 35.0**	**-0.7**	
NATX	**Nacogdoches**	**2.74**	**115**	P		**Pn**	**17 32 39.9**	**+0.4**	
	baz=296								
NATX	**Nacogdoches**	**2.74**	**115**			**Pn**	**17 32 39.0**	**-0.5**	
NATX				IAmb_Lg			17 33 26.2		
	comp=Z,82nm,0.7s								
JCT	**Junction City**	**3.11**	**218**	P		**Pn**	**17 32 45.0**	**+0.3**	
	baz=37								
JCT				S		**Sn**	**17 33 22.3**	**-0.1**	
	baz=37								
JCT	**Junction City**	**3.11**	**218**			**Pn**	**17 32 44.3**	**-0.4**	
TUL1	**Leonard**	**3.30**	**26**	P		**Pn**	**17 32 48.4**	**+1.1**	
	baz=207								
TUL1	**Leonard**	**3.30**	**26**			**Pn**	**17 32 46.9**	**-0.4**	
TUL1				IAmb_Lg			17 33 42.0		
	comp=Z,56nm,0.8s								
HKT	**Hockley**	**3.34**	**153**			**Pn**	**17 32 48.2**	**+0.5**	
U32A	**Winter Ranch,**	**3.62**	**341**			**Pn**	**17 32 52.0**	**+0.4**	
U32A				IAmb_Lg			17 33 47.5		
	comp=Z,101nm,0.9s								
MIAR	**Mount Ida**	**3.69**	**63**	P		**Pn**	**17 32 53.3**	**+0.6**	
	baz=245								
MIAR				S		**Sn**	**17 33 38.1**	**+1.5**	
	baz=245								
MIAR	**Mount Ida**	**3.69**	**63**			**Pn**	**17 32 52.3**	**-0.3**	
MIAR				IAmb_Lg			17 33 57.7		
	comp=Z,58nm,0.7s								
WLAR	**White Oak Lake**	**3.81**	**78**			**Pn**	**17 32 54.0**	**-0.2**	
WLAR				IAmb_Lg			17 34 05.7		
	comp=Z,60nm,0.8s								
W39A	**Magazine**	**3.86**	**53**			**Pn**	**17 32 55.9**	**+1.0**	
AMTX	**Amarillo**	**3.92**	**301**			**Pn**	**17 32 56.4**	**+0.5**	
Z41A	**Richland Creek**	**4.01**	**84**			**Pn**	**17 32 56.8**	**-0.3**	
Z41A				IAmb_Lg			17 34 09.3		
	comp=Z,53nm,0.7s								
X40A	**Basin Creek Fa**	**4.24**	**67**			**Pn**	**17 32 59.2**	**-0.9**	
MSTX	**Muleshoe**	**4.46**	**285**			**Pn**	**17 33 03.5**	**+0.1**	
HHAR	**Hobbs**	**4.47**	**41**	IAmb_Lg			17 34 22.8		
	comp=Z,43nm,1.1s								
UALR	**University of**	**4.72**	**66**	Pn		**Pn**	**17 33 06.3**	**-0.4**	
833A	**Chaparral WMA,**	**4.87**	**199**			**Pn**	**17 33 09.5**	**+0.6**	
833A				IAmb_Lg			17 34 30.3		
	comp=Z,42nm,0.9s								
W41B	**Gary Mavity, V**	**4.95**	**62**	Pn		**Pn**	**17 33 09.6**	**-0.3**	
CCAR	**Cane Creek**	**4.95**	**77**	Pn		**Pn**	**17 33 09.5**	**-0.4**	
CCAR				IAmb_Lg			17 34 42.3		
	comp=Z,53nm,0.7s								
WHAR	**Wooly Hollow**	**4.97**	**61**			**Pn**	**17 33 10.0**	**-0.2**	
U40A	**Yellville**	**5.16**	**48**			**Pn**	**17 33 12.7**	**-0.2**	
X43A	**Marvell**	**5.79**	**73**	Pn		**Pn**	**17 33 20.9**	**-0.6**	
X43A				IAmb_Lg			17 35 07.7		
	comp=Z,31nm,0.8s								
MGMO	**Mountain Grove**	**6.04**	**45**	Pn		**Pn**	**17 33 24.4**	**-0.6**	
MGMO				IAmb_Lg			17 35 20.9		
	comp=Z,43nm,1.0s								
CBKS	**Cedar Bluff**	**6.11**	**344**	IAmb_Lg			17 35 18.3		
	comp=Z,43nm,0.8s								
TX31	**Lajitas Ar. Si**	**6.35**	**237**	Pn		**Pn**	**17 33 28.7**	**-0.6**	
TX32	**Lajitas Array**	**6.35**	**237**	Pn		**Pn**	**17 33 28.5**	**-0.7**	
MNTX	**Cornudas Mount**	**6.73**	**261**			**Pn**	**17 33 34.2**	**-0.2**	
MNTX				IAmb_Lg			17 35 30.6		
	comp=Z,42nm,0.8s								
T25A	**Trinidad**	**6.99**	**309**	Pn		**Pn**	**17 33 38.2**	**0.0**	
PBMO	**Poplar Bluff**	**7.00**	**55**	IAmb_Lg			17 35 48.9		
	comp=Z,27nm,0.9s								
CCM	**Cathedral Cave**	**7.25**	**44**	IAmb_Lg			17 35 54.3		
	comp=Z,41nm,1.0s								
CCM	**Cathedral Cave**	**7.25**	**44**	IAmb_Lg			17 35 54.4		
	comp=Z,40nm,0.9s								
KSCO	**Kaye Shedlock'**	**7.30**	**327**	IAmb_Lg			17 36 01.4		
	comp=Z,46nm,0.9s								
ANMO	**Albuquerque**	**7.64**	**288**	IAmb_Lg			17 35 58.3		
	comp=Z,19nm,0.7s								
UTMT	**University of**	**7.93**	**62**	Pn		**Pn**	**17 33 49.8**	**-1.1**	
SDCO	**Great Sand Dun**	**8.05**	**309**	Pn		**Pn**	**17 33 52.9**	**+0.1**	
SDCO				IAmb_Lg			17 36 18.8		
	comp=Z,30nm,1.2s								
SLM	**Saint Louis**	**8.23**	**44**	IAmb_Lg			17 36 15.6		
	comp=Z,30nm,1.0s								
SIUC	**Southern Illin**	**8.32**	**53**	Pn		**Pn**	**17 33 56.5**	**+0.3**	
BGNE	**Belgrade**	**8.46**	**357**	Pn		**Pn**	**17 33 58.1**	**0.0**	
Q24A	**Divide**	**8.58**	**316**	IAmb_Lg			17 36 41.8		
	comp=Z,37nm,1.0s								
121A	**Cookes Peak, D**	**8.61**	**270**	IAmb_Lg			17 36 46.2		
	comp=Z,20nm,0.8s								
WVT	**Waverly**	**8.64**	**66**	Pn		**Pn**	**17 33 59.1**	**-1.5**	
OGNE	**Ogallala**	**8.74**	**337**	Pn		**Pn**	**17 34 02.0**	**0.0**	
P43A	**Skaggs, Pawnee**	**9.31**	**42**	Pn		**Pn**	**17 34 10.2**	**+0.4**	
P43A				IAmb_Lg			17 36 57.4		
	comp=Z,26nm,0.9s								
V48A	**Smith Brothers**	**9.31**	**70**	Pn		**Pn**	**17 34 10.1**	**+0.2**	
Y49A	**Blount Mountai**	**9.38**	**81**	Pn		**Pn**	**17 34 11.2**	**+0.4**	
ISCO	**Idaho Springs**	**9.42**	**319**	Pn		**Pn**	**17 34 11.4**	**-0.2**	
ISCO				IAmb_Lg			17 37 10.4		
	comp=Z,17nm,0.9s								
N41A	**Harden Midland**	**9.43**	**33**	IAmb_Lg			17 37 12.7		
	comp=Z,26nm,0.9s								
T47A	**Sharon Grove**	**9.49**	**62**	IAmb_Lg			17 37 08.0		
	comp=Z,18nm,1.3s								
MVCO	**Mesa Verde**	**9.91**	**298**	IAmb_Lg			17 37 34.4		
	comp=Z,20nm,1.3s								
N23A	**Red Feather La**	**10.38**	**322**	Pn		**Pn**	**17 34 24.2**	**-0.4**	
Z51A	**Franklin**	**10.40**	**85**	Pn		**Pn**	**17 34 25.4**	**+0.6**	
ECSD	**EROS Data Cent**	**10.79**	**4**	Pn		**Pn**	**17 34 28.5**	**-1.6**	

IDC ***22*** *18:03:59.7±1.0,37.89N×22.86E,h0km,mb3.6/8, mb1 3.6/12,mb1mx3.5/50,mbtmp3.5/12,ML3.2/4,Error ellipse: s-maj=20.3km s-min=17.6km az=45.0*
ISK ***22*** *18:04:00.3,37.90N×22.79E,h5km,ML3.5/24*
ATH ***22*** *18:04:02.1,37.85N×22.76E,h27km,ML3.5/29,Error ellipse: s-maj=0.8km s-min=0.5km az=13.0*
ISCJB ***22*** *18:04:03.1±0.2,37.87N±0.01×22.76E±0.02,h26km±2km, mb3.6/7,Error ellipse: s-maj=2.5km s-min=1.9km az=27.3*
THE ***22*** *18:04:03.0,37.84N×22.73E,h11km,ML3.5/15,Error ellipse: s-maj=0.9km s-min=0.2km az=34.0*

ISC 22 18:04:02.8±0.8,37.85N±0.02×22.73E±0.01,h19km±2km, n171,σ1%10/213,mb3.7/7,16C-5D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
THAL	**Thalero**	**0.19**	**345**	Op P	ISC **Pg**	**18 04 07.5**	**-0.2**
THAL				S	**Sg**	**18 04 11.0**	**0.0**
	121μm,0.6s						
THAL	**Thalero**	**0.19**	**345**	P	**Pg**	**18 04 07.4**	**-0.2**
THAL				S	**Sg**	**18 04 12.2**	**+1.2**
THAL				AML	AML	18 04 14.6	
THAL				AML	AML	18 04 16.5	
LOUT	**Loutraki**	**0.24**	**56**	P	**Pb**	**18 04 08.0**	**-0.3**
LOUT				S	**Sb**	**18 04 12.1**	**+0.1**
	16μm,0.5s						
LTK	**Loutraki**	**0.26**	**49**	P	**Pg**	**18 04 08.3**	**-0.4**
LTK				S	**Sg**	**18 04 12.3**	**-0.4**
	11μm,0.4s						
LTK	**Loutraki**	**0.26**	**49**	P	**Pg**	**18 04 08.2**	**-0.5**
LTK				S	**Sb**	**18 04 13.1**	**+0.5**
LTK				AML	AML	18 04 15.3	
	comp=N,23029μm,0.4s						
LTK				AML	AML	18 04 16.2	
	comp=E,22371μm,0.5s						
PROD	**Prodromos**	**0.43**	**19**	P	**Pg**	**18 04 11.4**	**-0.2**
PROD				S	**Sb**	**18 04 18.4**	**+0.4**
PROD	**Prodromos**	**0.43**	**19**	P	**Pg**	**18 04 11.5**	**-0.2**
PROD				S	**Sb**	**18 04 17.8**	**-0.2**
PROD				AML	AML	18 04 19.3	
	comp=N,19045μm,0.2s						
PROD				AML	AML	18 04 19.3	
	comp=E,16797μm,0.3s						
KLV	**Kalavryta, Ach**	**0.49**	**293**	P	**Pg**	**18 04 12.6**	**-0.2**
KLV				S	**Sb**	**18 04 19.8**	**0.0**
KLV	**Kalavryta, Ach**	**0.49**	**293**	P	**Pg**	**18 04 12.6**	**-0.2**
KLV				S	**Sb**	**18 04 20.5**	**+0.7**
KLV				AML	AML	18 04 23.8	
	comp=E,4575μm,0.3s						
KLV				AML	AML	18 04 26.6	
	comp=N,5844μm,0.6s						
DID	**Didima**	**0.53**	**130**	P	**Pg**	**18 04 13.2**	**-0.4**
DID				S	**Sg**	**18 04 20.9**	**+0.1**
	comp=N,8μm,0.4s						
DID	**Didima**	**0.53**	**130**	P	**Pg**	**18 04 13.1**	**-0.5**
DID				S	**Sg**	**18 04 20.7**	**-0.1**
DID				AML	AML	18 04 21.8	
	comp=N,22420μm,0.3s						
DID				AML	AML	18 04 25.9	
	comp=E,17461μm,0.3s						
VLX	**Vlachokerasia**	**0.56**	**210**	P	**Pg**	**18 04 13.6**	**-0.4**
VLX				S	**Sg**	**18 04 21.4**	**-0.1**
	comp=E,9μm,0.6s						
VLX	**Vlachokerasia**	**0.56**	**210**	P	**Pg**	**18 04 13.6**	**-0.4**
VLX				S	**Sb**	**18 04 21.7**	**+0.1**
VLX				AML	AML	18 04 25.0	
	comp=N,17087μm,0.5s						
VLX				AML	AML	18 04 28.9	
	comp=E,24594μm,0.4s						
VILL	**Villia**	**0.56**	**56**	P	**Pg**	**18 04 13.6**	**-0.4**
VILL				S	**Sb**	**18 04 22.3**	**+0.7**
	comp=E,5μm,0.5s						
VIL2	**Platees**	**0.56**	**50**	P	**Pb**	**18 04 13.4**	**-0.6**
VIL2				AML	AML	18 04 24.0	
	comp=N,6821μm,0.4s						
VIL2				AML	AML	18 04 24.2	
	comp=E,11981μm,0.6s						
KRND	**KRANIDI**	**0.58**	**144**	P	**Pb**	**18 04 14.1**	**-0.2**
KRND				S	**Sg**	**18 04 22.6**	**+0.4**
	comp=E,20μm,0.5s						
KRND	**KRANIDI**	**0.58**	**144**	P	**Pb**	**18 04 14.0**	**-0.2**
KRND				S	**Sb**	**18 04 22.2**	**+0.1**
KRND				AML	AML	18 04 23.7	
	comp=N,34846μm,0.5s						
KRND				AML	AML	18 04 26.7	
	comp=E,43881μm,0.5s						
ALIK	**Aliki, Aigiali**	**0.63**	**310**	P	**Pg**	**18 04 15.4**	**0.0**
ALIK				S	**Sg**	**18 04 24.7**	**+0.9**
DLFA	**Delphi**	**0.65**	**344**	P	**Pb**	**18 04 15.2**	**-0.3**
DLFA				S	**Sg**	**18 04 24.6**	**+0.2**
DLFA				AML	AML	18 04 25.3	
	comp=N,10307μm,0.3s						
DLFA				AML	AML	18 04 25.4	
	comp=E,8785μm,0.3s						
LAKA	**Lakka**	**0.70**	**303**	P	**Pb**	**18 04 16.5**	**-0.1**
LAKA				S	**Sg**	**18 04 26.8**	**+0.7**
	comp=E,2μm,0.5s						
LAKA	**Lakka**	**0.70**	**303**	P	**Pb**	**18 04 16.4**	**-0.1**
LAKA				AML	AML	18 04 29.2	
	comp=N,4808μm,0.4s						
LAKA				AML	AML	18 04 29.6	
	comp=E,5190μm,0.5s						
KALE	**Kalithea**	**0.71**	**319**	P	**Pb**	**18 04 16.4**	**-0.2**
KALE				S	**Sn**	**18 04 27.3**	**-1.1**
	comp=E,7μm,0.5s						
KALE	**Kalithea**	**0.71**	**319**	P	**Pb**	**18 04 16.4**	**-0.2**
KALE				S	**Sg**	**18 04 26.7**	**+0.4**
KALE				AML	AML	18 04 29.1	
	comp=N,11210μm,0.3s						
KALE				AML	AML	18 04 29.2	
	comp=E,17589μm,0.6s						
TRIZ	**Trizonia**	**0.72**	**315**	P	**Pb**	**18 04 16.9**	**0.0**
TRIZ				S	**Sg**	**18 04 27.4**	**+0.7**
	comp=E,6μm,0.4s						
TRIZ	**Trizonia**	**0.72**	**315**	P	**Pb**	**18 04 16.9**	**0.0**
SERG	**Sergoula**	**0.77**	**317**	P	**Pb**	**18 04 17.5**	**-0.1**
SERG				S	**Sn**	**18 04 28.9**	**-0.9**
	comp=E,4μm,0.3s						
SERG	**Sergoula**	**0.77**	**317**	P	**Pb**	**18 04 17.6**	**-0.1**
SERG				S	**Sg**	**18 04 28.7**	**+0.6**
SERG				AML	AML	18 04 30.6	
	comp=N,7731μm,0.3s						
SERG				AML	AML	18 04 31.8	
	comp=E,7309μm,0.3s						
YDRA	**Hydra**	**0.77**	**130**	P	**Pb**	**18 04 17.4**	**-0.3**
YDRA				S	**Sb**	**18 04 28.1**	**+0.2**
YDRA				AML	AML	18 04 31.2	
	comp=N,14284μm,0.5s						
YDRA				AML	AML	18 04 31.8	
	comp=E,21351μm,0.5s						
ATH	**Athens Observa**	**0.79**	**81**	P	**Pb**	**18 04 18.0**	**0.0**
ATH	**Athens Observa**	**0.79**	**81**	P	**Pb**	**18 04 17.6**	**-0.4**
ATH				S	**Sb**	**18 04 28.0**	**-0.4**
ATH				AML	AML	18 04 30.3	
	comp=E,15856μm,0.4s						
ATH				AML	AML	18 04 30.8	
	comp=N,8914μm,0.2s						
DRO	**Drossia**	**0.81**	**277**	P	**Pg**	**18 04 18.5**	**-0.2**
DRO				S	**Sn**	**18 04 30.3**	**-0.5**
	comp=N,7μm,0.4s						
DRO	**Drossia**	**0.81**	**277**	P	**Pg**	**18 04 18.5**	**-0.2**
DRO				AML	AML	18 04 32.5	
	comp=N,12828μm,0.3s						
DRO				AML	AML	18 04 32.8	
	comp=E,13056μm,0.5s						
ATHU	**Athens Univers**	**0.84**	**82**	P	**Pb**	**18 04 18.8**	**-0.1**
ATHU	**Athens Univers**	**0.84**	**82**	P	**Pb**	**18 04 18.4**	**-0.5**
ATHU				S	**Sb**	**18 04 30.1**	**+0.1**
VLY	**Voula,Athens**	**0.85**	**90**	P	**Pb**	**18 04 19.1**	**+0.2**
VLY				S	**Sg**	**18 04 30.9**	**+0.3**
	comp=E,5μm,0.5s						
VLY	**Voula,Athens**	**0.85**	**90**	P	**Pb**	**18 04 18.2**	**-0.7**
VLY				S	**Sb**	**18 04 29.8**	**-0.1**
VLY				AML	AML	18 04 31.2	
	comp=N,8745μm,0.5s						
VLY				AML	AML	18 04 31.8	
	comp=E,10196μm,0.4s						
UPR	**University Cam**	**0.86**	**300**	P	**Pn**	**18 04 19.7**	**-0.2**
UPR				S	**Sn**	**18 04 31.8**	**-0.1**
UPR	**University Cam**	**0.86**	**300**	P	**Pn**	**18 04 19.8**	**-0.2**
EFP	**Efpalio**	**0.86**	**312**	P	**Pg**	**18 04 19.5**	**-0.2**
EFP	**Efpalio**	**0.86**	**312**	P	**Pg**	**18 04 19.5**	**-0.2**
EFP				AML	AML	18 04 35.3	
	comp=N,4570μm,0.3s						
EFP				AML	AML	18 04 36.4	
	comp=E,5638μm,0.3s						
AMT	**Artemida-Makis**	**0.87**	**249**	P	**Pb**	**18 04 19.3**	**0.0**
AMT				S	**Sn**	**18 04 32.0**	**-0.3**
	comp=E,4μm,0.4s						
AMT	**Artemida-Makis**	**0.87**	**249**	P	**Pb**	**18 04 19.4**	**+0.1**
AXAR	**Agios Charalam**	**0.91**	**357**	P	**Pb**	**18 04 20.2**	**+0.1**
AXAR				AML	AML	18 04 37.2	
	comp=E,23319μm,0.6s						
AXAR				AML	AML	18 04 39.2	
	comp=N,31488μm,0.6s						
PTL	**Penteli**	**0.92**	**77**	P	**Pb**	**18 04 20.2**	**-0.1**
PTL	**Penteli**	**0.92**	**77**	P	**Pb**	**18 04 19.9**	**-0.3**
PTL				S	**Sb**	**18 04 32.1**	**0.0**
PTL				AML	AML	18 04 33.6	
	comp=N,6322μm,0.4s						
PTL				AML	AML	18 04 33.9	
	comp=E,8281μm,0.6s						
ITM	**Ithomi**	**0.93**	**224**	P	**Pb**	**18 04 20.2**	**-0.1**
ITM	**Ithomi**	**0.93**	**224**	P	**Pb**	**18 04 20.2**	**-0.1**
ITM				S	**Sg**	**18 04 32.7**	**-0.3**
ITM				AML	AML	18 04 35.4	
	comp=E,4509μm,0.4s						
ITM				AML	AML	18 04 36.5	
	comp=N,4089μm,0.6s						
ITM	**Ithomi**	**0.93**	**224**	PG	**Pb**	**18 04 20.2**	**-0.1**
KLMT	**Kalamata**	**0.95**	**214**	P	**Pb**	**18 04 20.8**	**+0.1**
RLS	**Riolos of Patr**	**1.01**	**282**	P	**Pb**	**18 04 21.7**	**-0.1**
RLS				S	**Sn**	**18 04 37.2**	**+1.3**
	comp=N,2μm,0.4s						
RLS	**Riolos of Patr**	**1.01**	**282**	P	**Pb**	**18 04 21.7**	**-0.1**
RLS				AML	AML	18 04 37.6	
	comp=E,2530μm,0.4s						
RLS				AML	AML	18 04 40.3	
	comp=N,3515μm,0.4s						
MRKA	**Markates**	**1.09**	**38**	P	**Pb**	**18 04 22.5**	**-0.6**
MRKA				AML	AML	18 04 45.1	
	comp=E,2588μm,0.6s						
MRKA				AML	AML	18 04 45.7	
	comp=N,2286μm,0.6s						
EREA	**Eretria**	**1.11**	**59**	P	**Pb**	**18 04 23.5**	**+0.1**
EREA				AML	AML	18 04 40.5	
	comp=E,3818μm,0.4s						
EREA				AML	AML	18 04 42.8	
	comp=N,2850μm,0.2s						
DYR	**Agios Nikonas**	**1.13**	**196**	P	**Pn**	**18 04 23.7**	**-0.1**
DYR	**Agios Nikonas**	**1.13**	**196**	P	**Pn**	**18 04 23.5**	**-0.2**
MNVA	**Monemvasia**	**1.19**	**168**	P	**Pn**	**18 04 24.2**	**-0.3**
AGG	**Agios Georgios**	**1.21**	**345**	P	**Pb**	**18 04 25.2**	**+0.1**
AGG				AML	AML	18 04 43.8	
	comp=E,4510μm,0.6s						
AGG				AML	AML	18 04 44.7	
	comp=N,3102μm,0.4s						
AGG	**Agios Georgios**	**1.21**	**345**	PN	**Pn**	**18 04 24.5**	**-0.3**
AGG				SN	**Sg**	**18 04 41.5**	**-0.5**
PVO	**Paravola**	**1.21**	**309**	P	**Pg**	**18 04 25.8**	**-0.5**
PVO				AML	AML	18 04 51.2	
	comp=N,2851μm,0.5s						
PVO				AML	AML	18 04 51.3	
	comp=E,2654μm,0.5s						
PYL	**PYLOS**	**1.24**	**220**	P	**Pb**	**18 04 25.8**	**+0.2**
PYL	**PYLOS**	**1.24**	**220**	P	**Pb**	**18 04 25.8**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.25**	**338**	P	**Pn**	**18 04 25.2**	**-0.1**
MAKR				AML	AML	18 04 47.2	
	comp=E,3553μm,0.5s						
MAKR				AML	AML	18 04 49.4	
	comp=N,4593μm,0.7s						
EVR	**Evrytania**	**1.28**	**326**	P	**Pg**	**18 04 27.2**	**-0.5**
EVR				AML	AML	18 04 46.5	
	comp=N,4043μm,0.6s						
EVR				AML	AML	18 04 48.8	
	comp=E,3582μm,0.7s						
KARY	**Karystos**	**1.36**	**82**	P	**Pn**	**18 04 26.9**	**0.0**
KARY				AML	AML	18 04 48.5	
	comp=N,1868μm,0.3s						
KARY				AML	AML	18 04 53.9	
	comp=E,1007μm,0.4s						
SKIA	**Skiathos**	**1.43**	**24**	P	**Pn**	**18 04 27.9**	**0.0**
SKIA				AML	AML	18 04 52.4	
	comp=E,1738μm,0.7s						
SKIA				AML	AML	18 04 56.4	
	comp=N,1526μm,0.6s						
NEO	**Neokhori**	**1.50**	**15**	P	**Pn**	**18 04 28.7**	**-0.1**
XOR	**Xorichti**	**1.55**	**13**	P	**Pn**	**18 04 29.4**	**-0.2**
SERI	**Serifos**	**1.56**	**116**	P	**Pn**	**18 04 29.6**	**-0.1**
ALNA	**Alonissos**	**1.57**	**34**	P	**Pn**	**18 04 30.2**	**+0.4**
AOS	**Alonnisos**	**1.60**	**34**	P	**Pn**	**18 04 29.7**	**-0.4**
AOS	**Alonnisos**	**1.60**	**34**	PN	**Pn**	**18 04 29.7**	**-0.4**
KTHA	**Kythira Island**	**1.62**	**170**	P	**Pn**	**18 04 30.6**	**+0.2**
KTHA	**Kythira Island**	**1.62**	**170**	PN	**Pb**	**18 04 31.8**	**-0.3**
VLMS	**Volimes, Zakyn**	**1.63**	**271**	P	**Pb**	**18 04 32.4**	**0.0**
VLS	**Valsamata**	**1.72**	**281**	P	**Pb**	**18 04 33.7**	**-0.1**
MHLA	**Plaka, Milos I**	**1.75**	**129**	P	**Pn**	**18 04 32.3**	**+0.1**
MHLO	**Agia Marina, M**	**1.77**	**130**	P	**Pn**	**18 04 32.6**	**+0.1**
THL	**Klokotos Trika**	**1.80**	**342**	P	**Pn**	**18 04 33.5**	**+0.7**
EVGI	**Lefkada island**	**1.80**	**296**	P	**Pb**	**18 04 35.6**	**+0.4**
LKD2	**Lefkada island**	**1.88**	**300**	P	**Pb**	**18 04 36.8**	**+0.3**
TSLK	**Tsoukalades, L**	**1.89**	**301**	P	**Pb**	**18 04 37.3**	**+0.5**
ANKY	**Antikythira Is**	**2.04**	**167**	P	**Pn**	**18 04 36.6**	**+0.4**
PAIG	**Paliouri**	**2.20**	**20**	P	**Pn**	**18 04 38.4**	**0.0**
LIT	**Litokhoron**	**2.25**	**355**	P	**Pn**	**18 04 39.6**	**+0.5**
IOSP	**Ios island**	**2.34**	**118**	P	**Pn**	**18 04 40.2**	**-0.1**
APE	**Apeiranthos**	**2.37**	**108**	P	**Pn**	**18 04 41.0**	**+0.3**
APE	**Apeiranthos**	**2.37**	**108**	⇑P	**Pn**	**18 04 41.0**	**+0.3**
APE				⇑S	**Sn**	**18 05 08.0**	**-1.3**
APE	**Apeiranthos**	**2.37**	**108**	PN	**Pn**	**18 04 41.2**	**+0.5**
PLG	**Polygyros**	**2.58**	**12**	P	**Pn**	**18 04 43.6**	**0.0**
THT2	**Imerovigli**	**2.58**	**123**	PN	**Pn**	**18 04 45.0**	**+1.4**
IMMV	**Iera Moni Meta**	**2.59**	**157**	P	**Pn**	**18 04 44.4**	**+0.6**
IMMV	**Iera Moni Meta**	**2.59**	**157**	PN	**Pn**	**18 04 44.7**	**+0.9**
SANT	**Santorini**	**2.64**	**123**	PN	**Pn**	**18 04 45.7**	**+1.2**
PENT	**Pentalofos**	**2.64**	**333**	P	**Pn**	**18 04 46.2**	**+1.6**
OUR	**Ouranopolis**	**2.66**	**21**	PN	**Pn**	**18 04 44.4**	**-0.3**
CHOS	**Chios island**	**2.68**	**78**	P	**Pn**	**18 04 45.4**	**+0.4**
CHOS	**Chios island**	**2.68**	**78**	PN	**Pn**	**18 04 45.6**	**+0.5**
VAM	**Vamos**	**2.71**	**154**	P	**Pn**	**18 04 46.0**	**+0.5**
AMGA	**Amorgos Island**	**2.72**	**111**	P	**Pn**	**18 04 46.2**	**+0.6**
HORT	**Hortiatis**	**2.75**	**6**	PN	**Pn**	**18 04 45.8**	**-0.3**
SIGR	**SIGRI**	**2.80**	**60**	PN	**Pn**	**18 04 47.0**	**+0.3**
KEK	**Kerkira**	**2.

MLR	**Muntele Rosu**	**8.00**	**16**	⇓P	**Pn**	**18 05 59.1**	**+0.9**
DOPR	**Dopca**	**8.35**	**13**	⇑P	**Pn**	**18 06 04.0**	**+1.2**
BRAG	**Branistea**	**8.49**	**25**	⇑P	Pn	18 06 12.2	+7.5
PLOR	**Plostina**	**8.51**	**19**	⇑P	**Pn**	**18 06 07.1**	**+2.0**
VRI	**Vrincioaia**	**8.54**	**19**	⇑P	**Pn**	**18 06 08.1**	**+2.5**
BRTR	**Keskin Array B**	**8.72**	**74**	Pn	**Pn**	**18 06 09.4**	**+1.2**
	comp=N,0.2nm,0.3s,baz=257,slow=13,SNR=7.9						
CRES	**Cresnjev**	**9.63**	**328**	*e*Pn	**Pn**	**18 06 18.7**	**-1.7**
BURAR	**Bucovina Array**	**9.93**	**10**	⇑P	**Pn**	**18 06 28.1**	**+3.6**
CEY	**Cerknica**	**10.02**	**324**	*e*Pn	**Pn**	**18 06 23.4**	**-2.3**
GERES	**GERESS Array B**	**12.79**	**332**	Pn	**Pn**	**18 07 05.7**	**+2.1**
	comp=N,0.1nm,0.3s,baz=146,slow=13,SNR=2.2						
ESDC	**Sonseca Array**	**20.87**	**283**	P	**P**	**18 08 43.6**	**-0.1**
	comp=N,0.3nm,0.5s,baz=72,slow=10,SNR=2.3						
HFS	**Hagfors**	**23.03**	**348**	P	**P**	**18 09 06.0**	**-0.6**
	comp=N,1.3nm,0.5s,baz=140,slow=12,SNR=6.4						
EKA	**Eskdalemuir Ar**	**24.71**	**323**	P	**P**	**18 09 23.0**	**+0.4**
	comp=N,1.5nm,0.6s,baz=116,slow=9.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**30.93**	**223**	P	**P**	**18 10 18.9**	**+0.3**
	comp=N,0.4nm,0.5s,baz=35,slow=9.3,SNR=2.8						
MKAR	**Makanchi Array**	**43.99**	**59**	P	**P**	**18 12 06.7**	**-2.2**
	comp=N,0.7nm,0.5s,baz=275,slow=7.3,SNR=13						
ZALV	**Zalesovo Beam**	**44.61**	**48**	P	**P**	**18 12 12.3**	**-1.4**
	comp=N,1.5nm,0.3s,baz=271,slow=8.7,SNR=14						
SONM	**Songino Array**	**59.31**	**51**	P	**P**	**18 14 02.6**	**-0.9**
	comp=N,0.3nm,0.5s,baz=289,slow=8.7,SNR=2.4						
YKA	**Yellowknife Ar**	**74.28**	**341**	P	**P**	**18 15 38.2**	**-0.2**
	comp=N,0.1nm,0.4s,baz=30,slow=5.2,SNR=3.0						

IDC 22 18:11:35.6±1.6, 2°41'S × 139°10'E, h0 km, mb3.5/2, mb1 3.7/3, mb1mx3.4/37, mbtmp3.5/3, ML3.5/1, MS3.2/3, Ms1 3.2/3, ms1mx3.0/24, Error ellipse: s-maj=31.3km s-min=15.9km az=177.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.61**	**94**	Pn	Pn	18 12 04.9	-0.5
	14nm,0.3s,baz=240,slow=9.8,SNR=24						
JAY				Lg	Lg	18 12 27.1	
	28nm,0.3s,baz=112,slow=23,SNR=8.4						
JAY				LR	LR	18 12 42.1	
	comp=Z,210nm,21.3s,baz=16,slow=41						
PMG	**Port Moresby**	**10.61**	**131**	LR	LR	18 19 21.1	
	comp=Z,113nm,20.7s,baz=290,slow=44						
WRA	**Warramunga Arr**	**18.04**	**195**	P	Pn	18 15 47.4	-0.5
	0.2nm,0.3s,baz=18,slow=12,SNR=8.9						
FITZ	**Fitzroy Crossi**	**20.43**	**219**	LR	LR	18 25 05.1	
	comp=Z,61nm,18.7s,baz=52,slow=40						
ASAR	**Alice Springs**	**21.72**	**193**	P	P	18 16 28.2	-0.4
	0.5nm,0.5s,baz=18,slow=11,SNR=17						
ASAR				LR	LR	18 26 27.9	
	comp=Z,81nm,19.5s,baz=4.0,slow=41						
MKAR	**Makanchi Array**	**69.79**	**322**	P	P	18 22 48.5	+0.6
	1.2nm,1.2s,baz=99,slow=4.5,SNR=2.0						

*ISCJB **22** 18:49:38.6±0.9, 37°.72N×0°.07×32°.0W×0°.2, h10 km, mb3.4/6, MS3.7/4, Error ellipse: s-maj=18.7km s-min=9.8km az=14.3*

*IDC **22** 18:49:39.2±1.3, 37°.83N×31°.91W, h0 km, mb3.4/6, mb1 3.6/6, mb1mx3.4/39, mbtmp3.4/6, MS3.8/4, Ms1 3.7/4, ms1mx3.3/28, Error ellipse: s-maj=24.8km s-min=22.1km az=98.0*

ISC 22 18:49:40.8±1.1, 37°.85N±0°.09×31°.9W±0°.1, h10 km, n11, σ1s 8/10, mb3.5/6, MS3.6/4, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H07S1	**FLORES T-PHASE**	**1.62**	**19**	Pn	**Pn**	**18 50 08.2**	**-1.2**
H07S1				Sn	**Sg**	**18 50 32.9**	**+0.1**
H07N1	**FLORES T-PHASE**	**1.93**	**18**	Pn	**Pn**	**18 50 14.4**	**+0.7**
H07N1				Sn	**Sb**	**18 50 40.3**	**-0.1**
ESDC	**Sonseca Array**	**21.82**	**77**	P	**P**	**18 54 35.1**	**+2.0**
	0.9nm,0.6s,baz=277,slow=9.0,SNR=8.3						
SCHQ	**Schefferville**	**29.10**	**317**	LR	LR	19 06 08.0	
	comp=Z,147nm,19.7s,baz=45,slow=34						
TORD	**Torodi Ar. Bea**	**38.69**	**120**	P	**P**	**18 57 04.8**	**-0.1**
	1.0nm,1.0s,baz=309,slow=7.3,SNR=4.3						
TORD				LR	LR	19 11 01.7	
	comp=Z,96nm,19.3s,baz=325,slow=33						
DBIC	**Dimbokro**	**39.56**	**135**	LR	LR	19 11 30.2	
	comp=Z,74nm,19.9s,baz=335,slow=33						
BRTR	**Keskin Array B**	**50.06**	**66**	P	**P**	**18 58 34.6**	**-1.3**
	0.2nm,0.4s,baz=285,slow=7.9,SNR=1.8						
YKA	**Yellowknife Ar**	**54.01**	**325**	P	**P**	**18 59 05.4**	**+0.7**
	0.2nm,0.8s,baz=70,slow=7.3,SNR=2.9						
PDAR	**Pinedale Array**	**57.47**	**301**	LR	LR	19 23 12.8	
	comp=Z,160nm,19.4s,baz=36,slow=35						
TXAR	**Lajitas Array**	**59.08**	**285**	P	**P**	**18 59 41.3**	**-0.2**
	0.4nm,0.8s,baz=86,slow=7.6,SNR=3.5						
MKAR	**Makanchi Array**	**77.22**	**40**	P	**P**	**19 01 34.8**	**-0.1**
	0.7nm,0.9s,baz=272,slow=4.5,SNR=4.4						

IDC 22 18:52:08.2±1.4, 20°.00N×146°.43E, h0 km, mb3.4/3, mb1 3.7/3, mb1mx3.3/38, mbtmp3.4/3, Error ellipse: s-maj=104.8km s-min=27.6km az=103.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.42**	**197**	P	P	18 59 56.8	+0.1
	0.6nm,0.6s,baz=16,slow=8.7,SNR=8.9						
ASAR	**Alice Springs**	**45.09**	**196**	P	P	19 00 25.8	-0.5
	0.2nm,0.6s,baz=10,slow=6.1,SNR=4.8						
YKA	**Yellowknife Ar**	**76.52**	**28**	P	P	19 03 59.3	-0.7
	0.1nm,0.7s,baz=289,slow=5.4,SNR=1.6						
FINES	**FINESS Array B**	**85.99**	**335**	P	P	19 04 51.1	+0.8
	7.3nm,1.1s,baz=68,slow=1.0,SNR=5.0						

*IDC **22** 19:16:54.1±9.9, 23°.65S×177°.38W, h192 km±84 km, mb3.9/11, mb1 4.1/11, mb1mx3.7/39, mbtmp4.4/11, Error ellipse: s-maj=38.2km s-min=30.5km az=118.0*

*ISCJB **22** 19:16:56.6±1.1, 23°.7S±0°.3×177°.6W±0°.2, h223 km, mb4.0/11, Error ellipse: s-maj=42.0km s-min=11.6km az=148.8*

*NEIC **22** 19:16:57.2±1.0, 23°.8S±0°.2×177°.5W±0°.2, h222 km±7 km, mb4.7/14*

ISC 22 19:16:57.2±0.9, 23°.6S±0°.2×177°.4W±0°.1, h223 km, n37, σ1s 36/38, mb4.4/17, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.83**	**269**	P	**P**	**19 23 19.9**	**+1.2**
	3.7nm,0.3s,baz=96,slow=10,SNR=20						
PMG	**Port Moresby**	**36.64**	**287**	P	**P**	**19 23 43.0**	**+0.3**
	25nm,1.0s,baz=92,slow=5.3,SNR=4.7						
PMG	**Port Moresby**	**36.64**	**287**	P	**P**	**19 23 42.6**	**-0.1**
PMG				IAmb	IAmb	19 23 44.2	
	comp=Z,31nm,1.0s						
STKA	**Stephens Creek**	**37.00**	**248**	P	**P**	**19 23 46.1**	**+0.6**
	comp=Z,2.5nm,0.6s,baz=93,slow=9.3,SNR=11						
STKA	**Stephens Creek**	**37.00**	**248**	P	**P**	**19 23 45.3**	**-0.3**
BBOO	**Buckleboo**	**41.71**	**247**	P	**P**	**19 24 23.8**	**-0.6**
BBOO				IAmb	IAmb	19 24 24.1	
	comp=Z,48nm,1.7s						
AS31	**Alice Springs**	**44.39**	**260**	P	**P**	**19 24 45.9**	**-0.2**
ASAR	**Alice Springs**	**44.40**	**260**	P	**P**	**19 24 46.0**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=95,slow=6.4,SNR=38						
WR0	**Warramunga Arr**	**44.58**	**265**	P	**P**	**19 24 47.2**	**-0.4**
WR0				IAmb	IAmb	19 25 30.4	
	comp=Z,16nm,1.7s						
WRAB	**Tennant Creek**	**44.76**	**265**	P	**P**	**19 24 48.1**	**-0.9**
WRA	**Warramunga Arr**	**44.77**	**265**	P	**P**	**19 24 48.2**	**-0.8**
	comp=Z,5.2nm,0.8s,baz=102,slow=8.4,SNR=42						
WRA				PcP	**PcP**	**19 26 26.9**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=108,slow=3.3,SNR=4.9						
JAY	**Jayapura**	**45.59**	**291**	P	**P**	**19 24 54.9**	**-0.7**
	comp=Z,31nm,0.9s,baz=161,slow=5.4,SNR=3.8						
FORT	**Forrest**	**48.60**	**249**	P	**P**	**19 25 17.8**	**-0.8**
FORT				IAmb	IAmb	19 25 18.9	
	comp=Z,15nm,0.7s						
KNRA	**Kununurra**	**51.04**	**269**	P	**P**	**19 25 37.2**	**+0.1**
KNRA				IAmb	IAmb	19 26 26.4	
	comp=Z,37nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.19**	**265**	P	**P**	**19 25 52.9**	**0.0**
	comp=Z,3.7nm,0.9s,baz=114,slow=7.2,SNR=8.0						
FITZ	**Fitzroy Crossi**	**53.19**	**265**	P	**P**	**19 25 53.1**	**+0.2**
FITZ				IAmb	IAmb	19 25 53.6	
	comp=Z,11nm,1.3s						
SIJI	**Sorong**	**54.59**	**287**	P	**P**	**19 26 03.2**	**+0.2**
	comp=Z,40nm,0.8s,baz=67,slow=7.0,SNR=22						
SPIA	**Saint Paul Isl**	**80.71**	**4**		pP	19 29 38.4	+0.8
CHIR	**Chirikof Islan**	**81.28**	**12**	P	**P**	**19 28 50.5**	**+2.4**
NVAR	**Mina Array Bea**	**82.94**	**43**	P	**P**	**19 28 58.7**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=224,slow=6.3,SNR=2.1						
SUA	**Susitna One**	**87.48**	**12**	P	**P**	**19 29 19.9**	**+0.7**
SUA				IAmb	IAmb	19 30 25.4	
	comp=Z,58nm,1.9s						
GHO	**Glory Hole Cre**	**88.13**	**13**	P	**P**	**19 29 23.1**	**+0.9**
SCM	**Sheep Creek Mo**	**88.53**	**14**	P	**P**	**19 29 24.9**	**+0.8**
TRF	**Thorofare Moun**	**89.38**	**12**	P	**P**	**19 29 28.4**	**+0.2**
TRF				IAmb	IAmb	19 29 28.4	
	comp=Z,69nm,1.9s						
ILAR	**Eielson Array**	**91.23**	**13**	P	**P**	**19 29 36.2**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=230,slow=6.2,SNR=4.6						
CMAR	**Chiang Mai Arr**	**91.64**	**289**	P	**P**	**19 29 41.0**	**+1.5**
	comp=Z,1.3nm,1.0s,baz=147,slow=3.4,SNR=7.8						
KURBB	**Kurchatov Arra**	**116.67**	**316**	PKP	**PKPdf**	**19 35 13.6**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=77,slow=1.9,SNR=3.5						
AKASG	**Malin Array Be**	**145.97**	**329**	PKPbc	**PKPbc**	**19 36 10.3**	**-0.1**
	comp=Z,4.2nm,0.7s,baz=44,slow=4.3,SNR=24						
AKBB	**Malin Array Si**	**145.97**	**329**		**PKPdf**	**19 36 09.7**	**+0.5**
BRTR	**Keskin Array B**	**149.26**	**309**	PKPbc	**PKPbc**	**19 36 19.9**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=149,slow=2.8,SNR=5.4						
MMAI	**Mount Meron Ar**	**149.72**	**295**	PKPbc	**PKiKP**	**19 36 22.1**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=81,slow=7.8,SNR=12						
OSTC	**Ostas**	**151.09**	**342**	*e*PKP	**PKiKP**	**19 36 24.5**	**+0.4**
OSTC				*ex*	x	19 36 31.4	
CLL	**Collm**	**151.21**	**346**	*e*(PKPab)	**PKPab**	**19 36 30.0**	**-2.5**
DPC	**Dobruska-Polom**	**151.24**	**342**	*e*PKP	**PKPab**	**19 36 31.3**	**-1.4**
PRU	**Pruhonice**	**152.06**	**343**	*e*PKP	**PKPab**	**19 36 32.7**	**-3.4**
KHC	**Kasperske Hory**	**153.10**	**344**	*e*PKP	**PKPab**	**19 36 35.5**	**-5.1**
KHC				*ex*	x	19 36 41.2	
TORD	**Torodi Ar. Bea**	**169.55**	**175**	PKP	**PKPdf**	**19 36 38.1**	**-0.5**
	comp=Z,1.2nm,1.2s,baz=186,slow=4.0,SNR=2.5						
TORD				PKPab	**PKPab**	**19 37 52.5**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=180,slow=2.9,SNR=1.7						

*NEIC **22** 19:25:01.0±0.9, 3°.3N±0°.2×126°.6E±0°.4, h35 km±2 km, mb4.2/9*

*IDC **22** 19:25:22.6±18.0, 3°.06N×126°.40E, h250 km±192 km, mb3.2/6, mb1 3.4/6, mb1mx2.9/58, mbtmp3.8/6, Error ellipse: s-maj=98.3km s-min=22.7km az=59.0*

ISC 22 19:25:00.9±1.1, 3°.5N±0°.2×127°.2E±0°.4, h35 km, n16, σ0s 92/16, mb3.9/8, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**4.09**	**329**	⇓P	**Pn**	**19 26 02.2**	**+1.2**
KNRA	**Kununurra**	**19.09**	**175**	P	**Pn**	**19 29 21.4**	**-0.4**
KNRA				IAmb	IAmb	19 29 48.9	
	comp=Z,29nm,1.4s						
FITZ	**Fitzroy Crossi**	**21.49**	**184**	P	**P**	**19 29 48.5**	**+1.7**
	comp=Z,1.1nm,0.5s,baz=20,slow=10,SNR=9.8						
FITZ	**Fitzroy Crossi**	**21.49**	**184**	P	**P**	**19 29 46.4**	**-0.4**
FITZ				IAmb	IAmb	19 30 01.2	
	comp=Z,16nm,1.6s						
WRAB	**Tennant Creek**	**24.30**	**163**	P	**P**	**19 30 15.3**	**-0.1**
WRAB				IAmb	IAmb	19 31 00.8	
	comp=Z,30nm,2.0s						
WRA	**Warramunga Arr**	**24.31**	**163**	P	**P**	**19 30 15.4**	**0.0**
	comp=Z,3.0nm,0.7s,baz=334,slow=11,SNR=19						
WR0	**Warramunga Arr**	**24.38**	**163**	P	**P**	**19 30 16.4**	**+0.3**
WR0				IAmb	IAmb	19 30 18.0	
	comp=Z,5.7nm,1.0s						
AS31	**Alice Springs**	**27.76**	**167**	P	**P**	**19 30 46.5**	**-0.1**
ASAR	**Alice Springs**	**27.76**	**167**	P	**P**	**19 30 46.5**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=346,slow=7.1,SNR=22						
FORT	**Forrest**	**34.07**	**179**	P	**P**	**19 31 41.4**	**-0.8**
BBOO	**Buckleboo**	**37.05**	**168**	P	**P**	**19 32 07.8**	**0.0**
STKA	**Stephens Creek**	**37.73**	**160**	P	**P**	**19 32 14.3**	**+0.8**
	comp=Z,4.5nm,0.7s,baz=315,slow=6.8,SNR=7.9						
STKA	**Stephens Creek**	**37.73**	**160**	P	**P**	**19 32 14.1**	**+0.6**
STKA				IAmb	IAmb	19 33 36.3	
	comp=Z,4.3nm,1.6s						
SONM	**Songino Array**	**47.69**	**341**	P	**P**	**19 33 34.4**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=134,slow=8.2,SNR=2.0						
MK31	**Makanchi Array**	**58.03**	**325**	P	**P**	**19 34 48.7**	**-1.8**
MKAR	**Makanchi Array**	**58.03**	**325**	P	**P**	**19 34 49.2**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=124,slow=7.8,SNR=11						

*BJI **22** 19:39:36.8±0.0, 20°.66N×146°.77E, h5 km, mb4.6/48, mB5.1/36, Ms4.7/11, Ms7 4.4/11*

*ISCJB **22** 19:39:38.2±0.2, 20°.79N±0°.04×146°.64E±0°.05, h4 km, mb4.6/81, Error ellipse: s-maj=6.8km s-min=5.5km az=174.0*

*IDC **22** 19:39:39.1±0.5, 20°.79N×146°.62E, h0 km, mb4.5/39, mb1 4.6/42, mb1mx4.5/64, mbtmp4.5/42, ML3.4/2, MS3.2/4, Ms1 3.3/4, ms1mx2.9/47, Error ellipse: s-maj=14.5km s-min=11.6km az=72.0*

*NEIC **22** 19:39:40.3±1.3, 20°.82N±0°.07×146°.6E±0°.1, h7 km±3 km, mb4.7/43*

*MOS **22** 19:39:40.5±0.9, 20°.79N×146°.59E, h20 km, mb5.0/18, Error ellipse: s-maj=11.3km s-min=6.0km az=109.0*

ISC 22 19:39:39.3±1.2, 20°.86N±0°.05×146°.74E±0°.07, h2 km±7 km, n169, σ1s 62/178, mb4.7/91, 11C-3D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**4.24**	**193**	Pn	**Pn**	**19 40 45.2**	**+0.1**
GUMO	**Guam**	**7.45**	**194**	LR	LR	19 43 43.7	
	comp=Z,139nm,20.4s,baz=114,slow=33						
JCJ	**Chichijima**	**7.47**	**327**	Pn	**Pn**	**19 41 28.3**	**-1.1**
	13nm,0.3s,baz=303,slow=19,SNR=1.5						
JCJ				Sn	**Sn**	**19 42 48.9**	**-5.9**
	33nm,0.3s,baz=125,slow=24,SNR=11						
INU	**Inuyama**	**16.77**	**331**		**Pn**	**19 43 35.5**	**+0.1**
INU				IAmb	IAmb	19 43 41.7	
	comp=Z,76nm,0.9s						
MJAR	**Matsushiro Arr**	**17.31**	**336**	P	**Pn**	**19 43 41.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=155,slow=10,SNR=9.0						
MAT	**Matsushiro**	**17.31**	**336**	P	**P**	**19 43 44.4**	**+0.7**
JNU	**Nakatsue**	**18.65**	**314**	P	**Pn**	**19 43 59.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=116,slow=6.8,SNR=4.6						
JNU	**Nakatsue**	**18.65**	**314**	P	**Pn**	**19 43 58.8**	**0.0**
H11N1	**WAKE ISLAND Hy**	**18.94**	**90**	T	T	20 03 32.9	
	baz=276,slow=74,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**18.94**	**90**	T	T	20 03 33.0	
	baz=276,slow=74,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**18.95**	**90**	T	T	20 03 34.0	
	baz=276,slow=74,SNR=4.3						
KSRS	**Korea Array**	**23.24**	**319**	P	**P**	**19 44 47.8**	**-0.2**
	comp=Z,5.4nm,0.9s,baz=144,slow=8.2,SNR=16						
KSRS				LR	LR	19 53 54.0	
	comp=Z,52nm,18.9s,baz=110,slow=37						
YHNB	**Yeheng**	**23.68**	**284**	P	**P**	**19 44 51.3**	**-1.3**
DAV	**Davao City (W)**	**24.65**	**239**	LR	LR	19 53 28.0	
	comp=Z,81nm,19.3s,baz=34,slow=34						
TEY	**Ternei**	**25.52**	**343**	⇑*i*P	P	19 45 22.5	+13
TEY				*e*		19 46 03.3	
TEY				pmax	pmax		
	comp=N,20nm,0.8s						
TEY				pmax	pmax		
	comp=E,20nm,1.2s						
TEY				pmax	pmax		
	comp=Z,40nm,1.0s						
TEY				pmax	pmax		
	comp=Z,80nm,6.4s						
USA0B	**Ussuriysk Arra**	**26.30**	**336**	P	**P**	**19 45 17.4**	**+1.1**
USA0B				pmax	pmax		
	comp=Z,14nm,0.9s						
USA0B	**Ussuriysk Arra**	**26.30**	**336**	P	**P**	**19 45 17.4**	**+1.1**
USA0B				IAmb	IAmb	19 45 21.2	
	comp=Z,14nm,0.8s						
USRK	**Ussuriysk Ar.**	**26.30**	**336**	P	**P**	**19 45 16.4**	**+0.1**
	comp=Z,14nm,0.8s,baz=155,slow=12,SNR=4.8						
NJ2	**Nanjing**	**27.26**	**300**	*e*P	**P**	**19 45 25.3**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KLR	**Kul'dur**	**30.73**	**341**	*i*P	**P**	**19 45 57.4**	**+1.6**
KLR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KLR	**Kul'dur**	**30.73**	**341**	P	**P**	**19 45 56.5**	**+0.8**
	comp=Z,5.4nm,0.6s,baz=150,slow=5.7,SNR=16						
PEA0B	**Petropavlovsk-**	**33.28**	**12**	P	**P**	**19 46 17.4**	**-0.7**
PEA0B				pmax	pmax		
	comp=Z,27nm,1.2s						
PEA0B	**Petropavlovsk-**	**33.28**	**12**	P	**P**	**19 46 17.4**	**-0.7**
PEA0B				IAmb	IAmb	19 46 19.6	
	comp=Z,27nm,1.1s						
PETK	**Petropavlovsk-**	**33.28**	**12**	P	**P**	**19 46 19.9**	**+1.8**
	comp=Z,5.2nm,0.9s,baz=169,slow=8.6,SNR=4.4						
XAN	**Xi'an**	**35.83**	**300**	P	P	19 46 50.4	+10
XAN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,130nm,3.8s						
HHC	**Hu-ho-hao-te**	**35.85**	**312**	P	**P**	**19 46 41.9**	**+1.2**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,5.7s						
ZEA	**Zeya**	**36.05**	**340**	*e*P	**P**	**19 46 42.8**	**+0.8**
ZEA				pmax	pmax		
	comp=Z,15nm,0.8s						
GYA	**Guiyang**	**37.02**	**287**	*e*P	P	19 46 56.3	+5.4
GYA				PP	**PP**	**19 48 05.5**	**-10**
GYA				S	**S**	**19 52 45.1**	**+7.5**
GYA				SS	SnSn	19 54 33.6	-37
GYA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA				pmax	pmax		
	comp=Z,50nm,4.1s						
GYA				LR	LR		
	comp=N,180nm,9.8s						
GYA				LR	LR		
	comp=E,140nm,9.5s						
GYA				LR	LR		
	comp=Z,160nm,9.0s						
SBUM	**Sibu**	**38.29**	**246**	P	**P**	**19 47 00.4**	**-1.2**
SBUM				IAmb	IAmb	19 47 12.5	
	comp=Z,12nm,1.4s						
MA2	**Magadan**	**38.78**	**3**	*ce*P	**P**	**19 47 07.0**	**+1.9**
MA2				pmax	pmax		
	comp=Z,23nm,1.3s						
CD2	**Chengdu**	**39.73**	**294**	P	**P**	**19 47 11.8**	**-1.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
LZH	**Lanzhou**	**40.31**	**302**	*e*P	**P**	**19 47 17.8**	**-0.6**
LZH				pP	pP	19 47 19.3	+1.6
LZH				*e*PP	**PP**	**19 48 55.4**	**+4.4**
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
LZH				pmax	pmax		
	comp=Z,83nm,5.6s						
LZH				LR	LR		
	comp=Z,360nm,13.2s						
LZH				LR	LR		
	comp=Z,370nm,12.8s						
LZH				LR	LR		
	comp=Z,550nm,16.6s						
KNRA	**Kununurra**	**40.38**	**207**	P	**P**	**19 47 18.0**	**-0.9**
KNRA				IAmb	IAmb	19 47 19.3	
	comp=Z,10nm,0.8s						
CTAO	**Charters Tower**	**40.70**	**181**	P	**P**	**19 47 20.9**	**-0.7**
ULN	**Ulaanbaatar**	**41.72**	**320**	*ce*P	**P**	**19 47 30.0**	**+0.1**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.7s						
SONM	**Songino Array**	**42.11**	**319**	P	**P**	**19 47 32.5**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=125,slow=8.4,SNR=9.3						
SEY	**Seymchan**	**42.22**	**4**	P	**P**	**19 47 35.5**	**+2.0**
	comp=Z,6.6nm,0.5s,baz=298,slow=0.6,SNR=15						
WR0	**Warramunga Arr**	**42.29**	**197**	P	**P**	**19 47 33.9**	**-0.8**
WR0				IAmb	IAmb	19 47 45.5	
	comp=Z,8.1nm,0.6s						
WRAB	**Tennant Creek**	**42.32**	**197**	*ce*P	**P**	**19 47 33.5**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,16nm,1.7s						
WRAB	**Tennant Creek**	**42.32**	**197**	P	**P**	**19 47 33.9**	**-0.9**
WRA	**Warramunga Arr**	**42.33**	**197**	P	**P**	**19 47 34.1**	**-0.8**
	comp=Z,3.1nm,0.7s,baz=17,slow=8.7,SNR=40						
WRA				PcP	**PcP**	**19 49 29.0**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=4.9,slow=3.3,SNR=8.4						
YAK	**Yakutsk**	**42.80**	**348**	*i*P	**P**	**19 47 38.6**	**+0.4**
YAK				pmax	pmax		
	comp=Z,11nm,0.8s						
YAK	**Yakutsk**	**42.80**	**348**	P	**P**	**19 47 39.1**	**+0.9**
YAK				IAmb	IAmb	19 47 39.6	
	comp=Z,10nm,0.8s						
FITZ	**Fitzroy Crossi**	**43.90**	**210**	P	**P**	**19 47 47.4**	**-0.2**
BOD	**Bodaibo**	**43.94**	**335**	*e*P	**P**	**19 47 48.0**	**+0.5**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s						
GTA	**Gaotai**	**44.05**	**306**	P	**P**	**19 47 49.0**	**+0.1**
GTA				pP	pwP	19 47 52.3	-1.7
GTA				sP	pP	19 47 55.0	+6.8
GTA				PcP	**PcP**	**19 49 35.4**	**+1.0**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,77nm,4.2s						
GTA				LR	LR		
	comp=Z,180nm,16.8s						
GTA				LR	LR		
	comp=Z,160nm,17.2s						
GTA				LR	LR		
	comp=Z,260nm,18.9s						
CHTO	**Chiang Mai**	**44.88**	**276**	P	**P**	**19 47 54.6**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CHTO	**Chiang Mai**	**44.88**	**276**

ODAN	**Odare**	**54.20**	**289**	*eP*	**P**	**19 49 07.2**	**+0.2**
	comp=Z,19nm,0.8s							
JIRN	**Jiri**	**55.16**	**290**	*eP*	**P**	**19 49 14.7**	**+0.6**
	comp=Z,56nm,0.7s							
GUN	**Gumba**	**55.40**	**290**	*eP*	**P**	**19 49 16.5**	**+0.7**
	comp=Z,15nm,0.5s							
PKI	**Pulchoki**	**55.85**	**290**	*eP*	**P**	**19 49 19.3**	**+0.2**
	comp=Z,1.6nm,0.5s							
PKIN	**Phulchoki**	**55.87**	**290**	*eP*	**P**	**19 49 19.2**	**+0.1**
	comp=Z,12nm,0.5s							
KKN	**Kakani**	**55.94**	**290**	*eP*	**P**	**19 49 19.9**	**+0.3**
	comp=Z,42nm,0.9s							
DMN	**Daman**	**56.12**	**290**	*eP*	**P**	**19 49 21.0**	**+0.1**
	comp=Z,14nm,0.5s							
GKN	**Gorkha**	**56.48**	**290**	*eP*	**P**	**19 49 23.7**	**+0.4**
	comp=Z,60nm,0.8s							
ZAA0	**Zalesovo Array**	**56.92**	**322**	P	**P**	**19 49 25.7**	**-0.1**
ZAA0				IAmb	IAmb	19 49 26.6		
	comp=Z,11nm,0.8s							
ZALV	**Zalesovo Beam**	**56.92**	**322**	P	**P**	**19 49 25.9**	**0.0**
	comp=Z,11nm,0.7s,baz=105,slow=7.5,SNR=52							
ZALV				PcP	**PcP**	**19 50 20.8**	**-0.5**
	comp=Z,2.4nm,0.6s,baz=130,slow=4.8,SNR=4.1							
DANN	**Dangsing**	**57.20**	**291**	*eP*	**P**	**19 49 29.4**	**+0.8**
	comp=Z,168nm,0.7s							
KOLN	**Koldanda**	**57.42**	**290**	*eP*	**P**	**19 49 30.5**	**+0.4**
	comp=Z,42nm,0.9s							
MK31	**Makanchi Array**	**57.70**	**313**	P	**P**	**19 49 31.0**	**-0.5**
MK31				pmax	pmax			
	comp=Z,5.0nm,1.1s							
MK31	**Makanchi Array**	**57.70**	**313**	P	**P**	**19 49 31.1**	**-0.5**
MKAR	**Makanchi Array**	**57.70**	**313**	*ceP*	**P**	**19 49 31.8**	**+0.3**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
MKAR	**Makanchi Array**	**57.70**	**313**	P	**P**	**19 49 31.3**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=93,slow=8.4,SNR=24							
MKAR				PcP	**PcP**	**19 50 24.2**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=77,slow=5.5,SNR=3.9							
MAKZ	**Makanchi**	**57.91**	**313**	P	**P**	**19 49 33.0**	**0.0**
MAKZ				pmax	pmax			
	comp=Z,7.0nm,1.0s							
MAKZ	**Makanchi**	**57.91**	**313**	P	**P**	**19 49 33.0**	**0.0**
MAKZ				IAmb	IAmb	19 49 34.5		
	comp=Z,7.1nm,0.9s							
NRIK	**Noril'sk**	**59.93**	**339⇑**	*eP*	**P**	**19 49 47.8**	**+1.2**
NRIK	**Noril'sk**	**59.93**	**339**	P	**P**	**19 49 47.4**	**+0.8**
	comp=Z,16nm,0.7s,baz=107,slow=7.9,SNR=11							
KURK	**Kurchatov**	**60.34**	**317**	*ceP*	**P**	**19 49 49.8**	**0.0**
KURK				pmax	pmax			
	comp=Z,15nm,0.8s							
KURK	**Kurchatov**	**60.34**	**317**	P	**P**	**19 49 49.7**	**0.0**
KURBB	**Kurchatov Arra**	**60.39**	**317**	P	**P**	**19 49 50.3**	**+0.2**
	comp=Z,16nm,0.8s,baz=94,slow=7.7,SNR=108							
ILAR	**Eielson Array**	**61.28**	**27**	P	**P**	**19 49 56.1**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=186,slow=12,SNR=12							
KSH	**Kashi**	**62.44**	**305**	P	**P**	**19 50 07.9**	**+3.6**
KSH				PcP	**PcP**	**19 50 45.9**	**+2.1**
KSH				PP	**PP**	**19 52 27.8**	**+6.3**
KSH				PcS	**PcS**	**19 54 47.5**	**+0.3**
KSH				S	**S**	**19 58 34.3**	**+1.8**
KSH				sS	pS	19 58 42.8	+11	
KSH				ScS	**SKKSac**	**19 59 56.0**	**-2.1**
KSH				pmax	pmax			
	comp=Z,19nm,1.0s							
KSH				pmax	pmax			
	comp=Z,830nm,9.0s							
KSH				LR	LR			
	comp=Z,890nm,12.8s							
KSH				LR	LR			
	comp=Z,780nm,9.9s							
KSH				LR	LR			
	comp=Z,1μm,9.3s							
AAK	**Ala-Archa**	**63.30**	**308**	P	**P**	**19 50 09.8**	**-0.2**
AAK				pmax	pmax			
	comp=Z,7.0nm,1.4s							
AAK	**Ala-Archa**	**63.30**	**308**	P	**P**	**19 50 10.0**	**0.0**
	comp=Z,2.4nm,0.8s,baz=177,slow=3.8,SNR=6.2							
AAK	**Ala-Archa**	**63.30**	**308**	P	**P**	**19 50 09.8**	**-0.2**
AAK				IAmb	IAmb	19 50 21.5		
	comp=Z,7.1nm,1.4s							
NIL	**Nilore**	**65.36**	**298**	P	**P**	**19 50 24.0**	**+0.5**
NIL				pmax	pmax			
	comp=Z,16nm,0.8s							
NIL	**Nilore**	**65.36**	**298**	P	**P**	**19 50 24.0**	**+0.5**
BVAR	**Borovoye Array**	**65.45**	**320**	P	**P**	**19 50 24.3**	**+0.6**
	comp=Z,15nm,0.4s,baz=92,slow=7.5,SNR=132							
BRVK	**Borovoye**	**65.51**	**320**	*ceP*	**P**	**19 50 24.7**	**+0.6**
BRVK				pmax	pmax			
	comp=Z,28nm,1.3s							
BRVK	**Borovoye**	**65.51**	**320**	P	**P**	**19 50 24.4**	**+0.3**
KK31	**Karatay Array**	**66.16**	**309**	P	**P**	**19 50 29.3**	**+0.7**
KK31				pmax	pmax			
	comp=Z,12nm,0.8s							
KK31	**Karatay Array**	**66.16**	**309**	P	**P**	**19 50 29.3**	**+0.7**
KKAR	**Karatay Array**	**66.16**	**309**	P	**P**	**19 50 29.3**	**+0.7**
KKAR				pmax	pmax			
	comp=Z,12nm,0.8s							
KKAR	**Karatay Array**	**66.16**	**309**	P	**P**	**19 50 29.3**	**+0.7**
GAR	**Garm**	**66.86**	**305**	P	**P**	**19 50 33.5**	**+0.3**
INK	**Inuvik**	**67.00**	**23**	P	**P**	**19 50 33.5**	**+0.2**
	comp=Z,4.5nm,1.0s,baz=258,slow=11,SNR=11							
INK	**Inuvik**	**67.00**	**23**	P	**P**	**19 50 34.1**	**+0.7**
INK				IAmb	IAmb	19 50 35.0		
	comp=Z,5.6nm,1.0s							
CHGR	**Chuyangaron**	**67.81**	**304**	P	**P**	**19 50 39.2**	**0.0**
KBL	**Kabul**	**68.63**	**300**	P	**P**	**19 50 44.9**	**+0.3**
KBL				pmax	pmax			
	comp=Z,18nm,0.9s							
SVE	**Sverdlovsk**	**70.69**	**324**	*eP*	**P**	**19 50 57.6**	**+1.0**
SVE				pmax	pmax			
	comp=Z,15nm,0.9s							
ARU	**Arti**	**71.89**	**324**	*d iP*	**P**	**19 51 03.9**	**+0.1**
ARU				S	**S**	**20 00 27.0**	**+1.5**
ARU				SS	**SS**	**20 04 59.6**	**-1.6**
ARU				pmax	pmax			
	comp=Z,22nm,0.9s							
ARU	**Arti**	**71.89**	**324**	P	**P**	**19 51 04.1**	**+0.2**
	comp=Z,5.0nm,0.6s,baz=78,slow=0.8,SNR=38							
ARU	**Arti**	**71.89**	**324**	P	**P**	**19 51 04.3**	**+0.4**
ABKAR	**Akbulak array**	**72.44**	**317**	P	**P**	**19 51 07.2**	**-0.1**
ABKAR				IAmb	IAmb	19 51 08.1		
	comp=Z,8.9nm,0.8s							
AKTO	**Aktyubinsk**	**73.41**	**318**	P	**P**	**19 51 12.8**	**-0.2**
	comp=Z,3.0nm,0.6s,baz=84,slow=7.8,SNR=14							
YKA	**Yellowknife Ar**	**75.63**	**28**	P	**P**	**19 51 26.0**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=290,slow=5.6,SNR=34							
KIRV	**Kirov**	**76.16**	**328**	P	**P**	**19 51 29.1**	**+0.4**
	comp=Z,29nm,0.7s,baz=141,slow=0.7,SNR=7.5							
GEYT	**Alibeck**	**76.44**	**306**	P	**P**	**19 51 30.8**	**-0.1**
	comp=Z,3.7nm,0.9s,baz=316,slow=4.1,SNR=7.7							
YBH	**Yreka Blue Hor**	**76.81**	**50**	P	**P**	**19 51 34.5**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=293,slow=5.8,SNR=4.4							
PRGR	**Permogore**	**77.00**	**331**	*eP*	**P**	**19 51 33.4**	**0.0**
PRGR				pmax	pmax			
	comp=Z,36nm,0.9s							
RES	**Resolute Bay**	**77.10**	**14**	P	**P**	**19 51 32.1**	**-1.7**
RES				pmax	pmax			
	comp=Z,6.0nm,0.9s							
NEW	**Newport**	**78.66**	**43**	P	**P**	**19 51 43.6**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=296,slow=6.9,SNR=3.8							
NEW	**Newport**	**78.66**	**43**	P	**P**	**19 51 43.9**	**+0.8**
TMCR	**Tamitsa**	**79.23**	**335**	*eP*	**P**	**19 51 45.9**	**+0.1**
TMCR				pmax	pmax			
	comp=Z,23nm,0.7s							
BMO	**Blue Mountains**	**79.64**	**46**	P	**P**	**19 51 49.9**	**+1.3**
BMO				pmax	pmax			
	comp=Z,7.0nm,1.2s							
BMO	**Blue Mountains**	**79.64**	**46**	P	**P**	**19 51 49.9**	**+1.3**
BMO				IAmb	IAmb	19 51 50.7		
	comp=Z,7.2nm,1.2s							
TULEG	**Thule**	**80.45**	**8**	P	**P**	**19 51 53.1**	**+0.9**
TULEG				IAmb	IAmb	19 51 54.0		
	comp=Z,13nm,1.0s							
ARCES	**ARCESS Array B**	**80.74**	**342**	P	**P**	**19 51 54.3**	**+0.3**
	comp=Z,4.1nm,0.7s,baz=54,slow=7.4,SNR=13							
NVAR	**Mina Array Bea**	**81.04**	**52**	P	**P**	**19 51 57.6**	**+1.1**
	comp=Z,5.2nm,0.8s,baz=266,slow=6.3,SNR=29							
NV11	**Mina Array Sit**	**81.15**	**52**	P	**P**	**19 51 57.4**	**+0.5**
NV11				IAmb	IAmb	19 51 59.1		
	comp=Z,5.1nm,0.9s							
ELK	**Elko**	**82.47**	**49**	P	**P**	**19 52 05.1**	**+1.1**
	comp=Z,4.2nm,0.8s,baz=319,slow=2.5,SNR=7.9							
VRH	**Novokhopyorsk**	**82.95**	**322**	*eP*	**P**	**19 52 05.5**	**-0.4**
VRH				pmax	pmax			
	comp=Z,20nm,0.8s							
TPNV	**Topopah Spring**	**83.08**	**53**	P	**P**	**19 52 08.3**	**+1.2**
TPNV				pmax	pmax			
	comp=Z,6.0nm,1.0s							
TPNV	**Topopah Spring**	**83.08**	**53**	P	**P**	**19 52 08.2**	**+1.2**
TPNV				IAmb	IAmb	19 52 08.9		
	comp=Z,5.8nm,0.9s							
LPSR	**Galich'ya Gora**	**83.91**	**324**	*eP*	**P**	**19 52 11.0**	**+0.2**
LPSR				pmax	pmax			
	comp=Z,30nm,0.8s							
OBN	**Obninsk**	**84.00**	**327⇓**	*eP*	**P**	**19 52 11.1**	**-0.1**
OBN				*i*		19 52 15.4		
OBN				*e*		19 52 21.5		
OBN				pmax	pmax			
	comp=Z,35nm,1.3s							
OBN	**Obninsk**	**84.00**	**327**	P	**P**	**19 52 11.1**	**-0.1**
	comp=Z,3.3nm,0.5s,baz=59,slow=23,SNR=3.3							
OBN	**Obninsk**	**84.00**	**327**	P	**P**	**19 52 11.0**	**-0.1**
PFO	**Pinyon Flats O**	**84.11**	**56**	P	**P**	**19 52 12.8**	**+0.4**
PFO				pmax	pmax			
	comp=Z,3.0nm,1.0s							
PFO	**Pinyon Flats O**	**84.11**	**56**	P	**P**	**19 52 13.0**	**+0.6**
	comp=Z,2.4nm,0.8s,baz=284,slow=6.2,SNR=4.4							
PFO	**Pinyon Flats O**	**84.11**	**56**	P	**P**	**19 52 12.8**	**+0.4**
PFO				IAmb	IAmb	19 52 14.0		
	comp=Z,3.5nm,1.0s							
VSR	**Storozhevoye**	**84.39**	**323**	*eP*	**P**	**19 52 12.8**	**-0.5**
VSR				pmax	pmax			
	comp=Z,20nm,1.0s							
VORD	**Divnogorie**	**84.44**	**323**	*eP*	**P**	**19 52 13.1**	**-0.4**
VORD				pmax	pmax			
	comp=Z,10.0nm,0.6s							
FFC	**Flin Flon**	**84.75**	**33**	P	**P**	**19 52 15.9**	**+0.9**
FFC				pmax	pmax			
	comp=Z,6.0nm,1.0s							
FFC	**Flin Flon**	**84.75**	**33**	P	**P**	**19 52 15.9**	**+0.9**
FFC				IAmb	IAmb	19 52 16.8		
	comp=Z,5.5nm,1.0s							
KBZ	**Khabaz**	**85.31**	**315**	P	**P**	**19 52 18.4**	**+0.3**
	comp=Z,6.1nm,1.0s,baz=63,slow=5.9,SNR=7.8							
FINES	**FINESS Array B**	**85.33**	**336**	P	**P**	**19 52 17.3**	**-0.5**
	comp=Z,16nm,0.5s,baz=72,slow=4.5,SNR=139							
TUC	**Tucson**	**89.01**	**56**	P	**P**	**19 52 38.1**	**+1.7**
AKASG	**Malin Array Be**	**90.09**	**326**	P	**P**	**19 52 39.3**	**-1.6**
	comp=Z,4.0nm,0.9s,baz=49,slow=4.2,SNR=8.0							
ULM	**Lac du Bonnet**	**90.27**	**35**	P	**P**	**19 52 39.7**	**-2.0**
	comp=Z,2.5nm,0.8s,baz=298,slow=4.1,SNR=3.6							
NOA	**NORSAR Array B**	**90.89**	**340**	P	**P**	**19 52 44.1**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=39,slow=5.7,SNR=1.7							
ANMO	**Albuquerque**	**91.16**	**52**	*ceP*	**P**	**19 52 47.4**	**+0.9**
ANMO				pmax	pmax			
	comp=Z,3.0nm,1.3s							
BRTR	**Keskin Array B**	**93.30**	**315**	*i* P	**P**	**19 52 55.2**	**-1.1**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
BRTR	**Keskin Array B**	**93.30**	**315**	P	**P**	**19 52 54.7**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=77,slow=2.7,SNR=7.2							
MNTX	**Cornudas Mount**	**93.42**	**54**	P	**P**	**19 52 57.9**	**+1.1**
MNTX				IAmb	IAmb	19 52 58.5		
	comp=Z,2.3nm,0.8s							
TXAR	**Lajitas Array**	**95.81**	**56**	P	**P**	**19 53 08.0**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=261,slow=4.9,SNR=3.5							
VYHS	**Vyhne**	**96.77**	**328**	*e*	P	19 53 24.7	+13	
CLL	**Collm**	**97.48**	**333**	*eP*	**P**	**19 53 14.0**	**-0.9**
CLL	**Collm**	**97.48**	**333**	*eP*	**P**	**19 53 14.0**	**-0.9**
GERES	**GERESS Array B**	**98.97**	**331**	P	**P**	**19 53 19.8**	**-2.0**
	comp=Z,0.4nm,0.6s,baz=286,slow=35,SNR=3.1							
SNAA	**Sanae**	**126.23**	**191**	PKPdf	**PKiKP**	**19 58 43.3**	**-0.1**
VNA2	**Neumayer--Watz**	**127.67**	**190**	PKPdf	**PKiKP**	**19 58 46.3**	**+0.2**
	baz=342,slow=1.9							
VNA3	**Neumayer Olymp**	**127.75**	**189**	PKPdf	**PKPdf**	**19 58 45.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**131.81**	**312**	PKP	**PKPdf**	**19 58 54.5**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=52,slow=2.4,SNR=2.7							
PLCA	**Paso Flores**	**142.71**	**131**	PKP	**PKPdf**	**19 59 15.1**	**+0.5**
	comp=Z,2.1nm,0.9s,baz=260,slow=5.3,SNR=4.2							
LPAZ	**La Paz**	**146.68**	**88**	PKPbc	**PKPab**	**19 59 25.3**	**-0.2**
	comp=Z,12nm,1.0s,baz=337,slow=2.6,SNR=24							
TRQA	**Tornquist**	**149.86**	**131**	PKP2	**PKiKP**	**19 59 32.1**	**-0.3**
TRQA	**Tornquist**	**149.86**	**131**		**PKiKP**	**19 59 32.1**	**-0.3**

JMA 22 19:48:10.1, 35°.41N×137°.36E, h52km±1km, M0.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAO	**Obara**	**0.17**	**210**	P	Pn	19 48 18.5	0.0
JAO				S	Sn	19 48 24.5	0.0
JGF	**Kuroka**	**0.19**	**359**	P	Pn	19 48 18.5	-0.2
JGF				S	Sn	19 48 24.7	-0.1
JYTA	**Yamagatataniai**	**0.54**	**290**	P	Pn	19 48 22.1	+0.1
JYTA				S	Sn	19 48 30.8	+0.3

JMA 22 19:48:23.1, 36°.84N×138°.69E, h6km±2km, M1.4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGK	**Kuni**	**0.28**	**188**	P	Pg	19 48 28.8	+0.2
JKT	**Katashina**	**0.45**	**99**	P	Pg	19 48 31.9	0.0
JKT				S	Sg	19 48 38.0	+0.1
JHK	**Hiroka**	**0.48**	**33**	P	Pg	19 48 32.5	0.0
MAT	**Matsushiro**	**0.49**	**233**	P	Pg	19 48 32.2	-0.3
MAT				S	Sg	19 48 38.4	-0.5
MAT	**Matsushiro**	**0.49**	**233**	P	Pg	19 48 32.2	-0.3
MAT				S	Sg	19 48 38.4	-0.5
JNG	**Nsakai**	**0.64**	**228**	P	Pg	19 48 35.2	-0.3
JNG				S	Sg	19 48 43.2	-0.6
JIZZ	**Izumozaki**	**0.69**	**1**	*e*S	Sb	19 48 48.8	+1.5
JAG	**Ashikaga**	**0.74**	**124**	P	Pg	19 48 37.4	+0.1
JRY	**Ryogami san**	**0.84**	**168**	P	Pg	19 48 38.7	-0.5
JRY				S	Sg	19 48 49.6	-0.5

*PAS **22** 19:57:29.0±1.5, 32°.25N±0°.03×115°.32W±0°.02, h13km±5km, ML3.4*
*SCEDC **22** 19:57:29.0, 32°.25N×115°.32W, h13km, ML3.3, ML3.4, ML3.4*
*NEIC **22** 19:57:29.6±2.1, 32°.29N±0°.03×115°.310W±0°.010, h18km±5km*
*ISCJB **22** 19:57:29.3±0.4, 32°.30N±0°.02×115°.32W±0°.02, h22km±3km, Error ellipse: s-maj=4.1km s-min=2.9km az=9.5*
*ANF **22** 19:57:29.1±0.6, 32°.34N×115°.35W, h13km±3km, ML3.1/14, Error ellipse: s-maj=6.2km s-min=2.5km az=8.0*
*MEX **22** 19:57:30.7±0.4, 32°.35N×115°.31W, h5km, MD4.1*

ISC 22 19:57:28.7±1.0, 32°.30N±0°.02×115°.32W±0°.02, h19km±3km, n82, σ1°21/106, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.12**	**7**		**Pg**	**19 57 32.5**	**-0.3**
CPBX					**Sg**	**19 57 36.3**	**+0.8**
UABX	**UABC, Campus M**	**0.35**	**343**		**Pb**	**19 57 36.5**	**0.0**
SGL	**Mount Signal**	**0.49**	**316**		**Pb**	**19 57 39.0**	**+0.2**
DREC	**Desert Rsrch C**	**0.52**	**348**		**Pn**	**19 57 40.5**	**-0.7**
DREC					**Sn**	**19 57 49.4**	**-0.1**
ERPC	**Ernies Place**	**0.53**	**327**		**Pn**	**19 57 40.4**	**-0.9**
SNR	**Schaffner Ranc**	**0.57**	**350**		**Pn**	**19 57 41.1**	**-0.7**
WESC	**Westside Schoo**	**0.57**	**323**		**Pb**	**19 57 40.5**	**+0.4**
WESC					**Sb**	**19 57 49.4**	**+1.5**
COA	**Coachella**	**0.59**	**17**		**Pn**	**19 57 41.5**	**-0.6**
COK2	**Cook Ranch 2**	**0.65**	**328**		**Pg**	**19 57 42.0**	**+0.4**
COK2					**Sg**	**19 57 51.7**	**+1.5**
RMX	**La Rumorosa**	**0.71**	**296**		**Pb**	**19 57 41.5**	**-1.0**
IKP	**In-Ko-Pah, Jac**	**0.75**	**298**	P	**Pb**	**19 57 43.3**	**0.0**
	baz=121,SNR=118							
IKP				S	**Sb**	**19 57 52.7**	**-0.5**
	baz=121							
IKP	**In-Ko-Pah, Jac**	**0.75**	**298**		**Pb**	**19 57 43.3**	**0.0**
SWSC	**Sam W. Stewart**	**0.76**	**328**	P	**Pb**	**19 57 43.2**	**-0.2**
	baz=150,SNR=42							
SWSC	**Sam W. Stewart**	**0.76**	**328**		**Pb**	**19 57 43.2**	**-0.2**
SWSC					**Sb**	**19 57 53.0**	**-0.4**
CRR	**Carrizo Plain**	**0.80**	**317**		**Pb**	**19 57 44.1**	**0.0**
CLIC	**Calipatria**	**0.86**	**348**		**Pg**	**19 57 45.0**	**-0.4**
GLA	**Glamis**	**0.86**	**29**	P	**Pn**	**19 57 45.4**	**-0.5**
	baz=207,SNR=37							
GLA				S	**Sg**	**19 57 56.4**	**-0.6**
	baz=207							
GLA	**Glamis**	**0.86**	**29**		**Pn**	**19 57 45.2**	**-0.7**
GLA	**Glamis**	**0.86**	**29**		**Sn**	**19 57 56.7**	**-1.4**
GLA	**Glamis**	**0.86**	**29**		**Sg**	**19 57 56.4**	**-0.6**
ERRC	**Elmore Ranch**	**0.92**	**333**		**Pn**	**19 57 46.4**	**-0.2**
ERRC					**Sg**	**19 57 59.4**	**+0.6**
CBKC	**Canebrake**	**0.99**	**308**		**Pn**	**19 57 47.7**	**+0.1**
MONP2	**Monument Peak**	**1.10**	**303**	P	**Pb**	**19 57 49.6**	**+0.3**
	baz=124,SNR=115							
MONP2				S	**Sb**	**19 58 03.2**	**-0.2**
	baz=124							
MONP2	**Monument Peak**	**1.10**	**303**		**Pn**	**19 57 49.0**	**-0.4**
SALN	**Salton City**	**1.13**	**330**		**Sg**	**19 58 05.7**	**+0.3**
CBX	**Cerro Bola**	**1.14**	**271**		**Pn**	**19 57 49.8**	**0.0**
CBX					**Sb**	**19 58 04.4**	**+0.1**
TJIG	**Tijuana**	**1.15**	**277**	*eP*	**Pn**	**19 57 49.7**	**-0.2**
TJIG				*eS*	**Sb**	**19 58 04.3**	**-0.4**
TJIG	**Tijuana**	**1.15**	**277**		**Pn**	**19 57 49.7**	**-0.2**
TJIG					**Sb**	**19 58 04.3**	**-0.4**
BAR	**Barrett**	**1.20**	**289**	Pn	**Pn**	**19 57 50.6**	**0.0**
BAR				Sn	**Sb**	**19 58 05.8**	**-0.4**
CCX	**Cicese**	**1.22**	**250**		**Pg**	**19 57 52.1**	**-0.1**
BATC	**Bat Cave Butte**	**1.24**	**340**		**Pg**	**19 57 52.0**	**-0.7**
SPIG	**San Pedro Mart**	**1.25**	**186**	*eP*	**Pg**	**19 57 51.9**	**-1.1**
SPIG				*eS*	**Sg**	**19 58 09.6**	**+0.1**
SPIG	**San Pedro Mart**	**1.25**	**186**		**Pg**	**19 57 51.9**	**-1.1**
SPIG					**Sg**	**19 58 09.6**	**+0.1**
SPX	**San Pedro Mart**	**1.26**	**186**		**Pb**	**19 57 52.0**	**-0.2**
SFX	**San Felipe**	**1.32**	**162**		**Pg**	**19 57 54.5**	**+0.3**
BORC	**Borrego Spring**	**1.34**	**317**		**Sb**	**19 58 10.7**	**+0.7**
BC3	**Big Chuckawall**	**1.36**	**355**	P	**Pn**	**19 57 52.4**	**-0.4**
	baz=175,SNR=86							
BC3	**Big Chuckawall**	**1.36**	**355**		**Sg**	**19 58 11.9**	**-0.8**
OLP	**Otay Lakes Par**	**1.39**	**283**		**Pn**	**19 57 53.4**	**+0.2**
113A	**Mohawk Valley,**	**1.40**	**70**	Pn	**Pb**	**19 57 53.7**	**-0.5**
113A				Sn	**Sb**	**19 58 11.1**	**-0.6**
EML	**El Monte Cty P**	**1.42**	**295**		**Pn**	**19 57 53.6**	**+0.1**
EML					**Sn**	**19 58 12.4**	**+0.7**
SDRC	**San Diego Road**	**1.44**	**288**		**Pn**	**19 57 54.2**	**+0.4**
HAY	**Hayfield**	**1.44**	**348**		**Pb**	**19 57 54.7**	**-0.2**
DPP	**Dos Picos Cty**	**1.53**	**298**		**Pb**	**19 57 56.6**	**0.0**
Y12C	**Blythe**	**1.60**	**25**	Pg	**Pg**	**19 57 59.8**	**+0.3**
	baz=204,SNR=39							
Y12C	**Blythe**	**1.60**	**25**		**Pb**	**19 57 57.2**	**-0.4**
FRD	**Ford Ranch, An**	**1.61**	**318**		**Sn**	**19 58 17.3**	**+0.8**
109C	**Camp Elliot, M**	**1.62**	**292**	P	**Pn**	**19 57 56.4**	**+0.2**
	baz=113,SNR=24							
109C				S	**Sb**	**19 58 18.1**	**+0.1**
	baz=113							
109C	**Camp Elliot, M**	**1.62**	**292**		**Pn**	**19 57 56.5**	**+0.2**
109C				Sn	**Sn**	**19 58 17.7**	**+1.1**
XPFO	**Pion Flat**	**1.62**	**324**		**Pn**	**19 57 55.8**	**-0.6**
XPFO				Sn	**Sn**	**19 58 17.5**	**+0.6**
XPFO	**Pion Flat**	**1.62**	**324**		**Pn**	**19 57 55.9**	**-0.6**
PFO	**Pinyon Flats O**	**1.62**	**324**	P	**Pn**	**19 57 55.8**	**-0.6**
	baz=145,SNR=18							
PFO				S	**Sb**	**19 58 18.1**	**-0.2**
	baz=145							
PFO	**Pinyon Flats O**	**1.62**	**324**	Pn	**Pn**	**19 57 55.7**	**-0.8**
PIX	**Pinacate**	**1.75**	**114**		**Pg**	**19 58 00.4**	**-1.9**
IRM	**Iron Mountain**	**1.86**	**5**	P	**Pn**	**19 58 00.0**	**+0.3**
	baz=184							
DGR	**Domenigoni Val**	**1.96**	**314**		**Pg**	**19 58 05.6**	**-0.7**
MURC	**Murrieta**	**2.04**	**310**	Sb	**Sb**	**19 58 32.4**	**+2.1**
	baz=130							
214A	**Organ Pipe Nat**	**2.16**	**98**	P	**Pn**	**19 58 03.9**	**+0.1**
	baz=278,SNR=30							
214A				Sb	**Sg**	**19 58 38.6**	**+0.4**
	baz=278							
214A	**Organ Pipe Nat**	**2.16**	**98**	*i* P	**Pn**	**19 58 04.0**	**+0.2**
214A				*i* S	**Sb**	**19 58 30.8**	**-2.8**
214A	**Organ Pipe Nat**	**2.16**	**98**		**Pn**	**19 58 03.8**	**+0.1**
Y14A	**Wickenburg**	**2.54**	**49**		**Pb**	**19 58 10.9**	**-2.9**
CIS	**Catalina Islan**	**2.83**	**294**	Sb	**Sb**	**19 58 55.2**	**+2.3**
	baz=113							
MWC	**Mount Wilson**	**2.99**	**311**		**Pn**	**19 58 16.2**	**+0.8**
W13A	**Hualapai Mount**	**3.04**	**23**	Pn	**Pn**	**19 58 17.5**	**+1.5**
GSC	**Goldstone, Bar**	**3.24**	**338**		**Pn**	**19 58 20.4**	**+1.7**
EDW2	**Edwards Air Fo**	**3.41**	**320**	Pg	**Pg**	**19 58 31.6**	**-2.4**
	baz=139,SNR=11							
EDW2				Sb	**Sg**	**19 59 14.5**	**-3.7**
	baz=139							
TUC	**Tucson**	**3.84**	**89**	Pg	**Pg**	**19 58 44.2**	**+

NNSH				S		Sn	20 00 22.4	-1.0
	baz=286							
NNS	**Nan Shan**	**0.77**	**288**	P		**Pn**	**20 00 12.3**	**-0.9**
	baz=287							
NNS				*e*S		**Sn**	**20 00 23.1**	**-0.6**
	baz=287							
ESL	**Shilin**	**0.79**	**240**	P		**Pn**	**20 00 12.2**	**-1.0**
	baz=238							
ESL				*e*S		**Sn**	**20 00 22.7**	**-1.1**
	baz=238							
YOJ	**Yonaguni jima**	**0.80**	**71**	P		**Pn**	**20 00 13.3**	**-0.1**
YOJ				S		**Sn**	**20 00 24.6**	**+0.4**
YOJ	**Yonaguni jima**	**0.80**	**71**	*e*P		**Pn**	**20 00 12.4**	**-1.0**
	baz=73							
YOJ				S		**Sn**	**20 00 24.8**	**+0.6**
	baz=73							
TWB1	**Santiao Chiao**	**0.82**	**348**	*e*S		**Sn**	**20 00 23.6**	**-1.0**
	baz=350							
TIPB	**Shuangxi**	**0.83**	**337**	P		**Pn**	**20 00 14.2**	**+0.3**
	baz=338							
TIPB				*e*S		**Sn**	**20 00 24.4**	**-0.5**
	baz=338							
WHF	**Hehuan Shan**	**0.84**	**266**	P		**Pn**	**20 00 13.4**	**-0.9**
	baz=255							
WHF				*e*S		**Sn**	**20 00 25.5**	**-0.2**
	baz=255							
NWLT	**Wulai**	**0.84**	**313**	P		**Pn**	**20 00 13.6**	**-0.3**
	baz=303							
NWLT				S		**Sn**	**20 00 24.8**	**-0.4**
	baz=303							
YHNB	**Yeheng**	**0.87**	**302**	P		**Pn**	**20 00 13.9**	**-0.5**
	baz=302							
YHNB				S		**Sn**	**20 00 25.2**	**-0.8**
	baz=302							
EGFH	**Guangfu**	**0.87**	**232**	*e*P		**Pn**	**20 00 13.4**	**-1.0**
	baz=223							
EGFH				*e*S		**Sn**	**20 00 25.0**	**-0.9**
	baz=223							
NSK	**Sanguang**	**0.88**	**302**	*j*P		**Pn**	**20 00 13.8**	**-0.8**
	baz=302							
NSK				*e*S		**Sn**	**20 00 24.2**	**-2.1**
	baz=302							
TWT	**Tachien**	**0.92**	**273**	P		**Pn**	**20 00 15.0**	**-0.2**
	baz=272							
TWT				*e*S		**Sn**	**20 00 27.0**	**-0.4**
	baz=272							
CHGB	**Renai**	**0.93**	**261**	P		**Pn**	**20 00 14.9**	**-0.5**
	baz=251							
CHGB				*e*S		**Sn**	**20 00 26.4**	**-1.2**
	baz=251							
TDCB	**Techi**	**0.93**	**273**	P		**Pn**	**20 00 15.1**	**-0.2**
	baz=272							
TDCB				S		**Sn**	**20 00 26.6**	**-1.1**
	baz=272							
NWF	**Wu-fen Shan**	**0.94**	**337**	*e*P		**Pn**	**20 00 14.8**	**-0.5**
	baz=350							
NWF				*e*S		**Sn**	**20 00 27.0**	**-0.7**
	baz=350							
WFSB	**Wu-fen Shan**	**0.94**	**337**	*e*P		**Pn**	**20 00 15.3**	**+0.1**
	baz=351							
WFSB				*e*S		**Sn**	**20 00 26.8**	**-0.7**
	baz=351							
TWA	**Mucha**	**0.94**	**325**	P		**Pn**	**20 00 16.0**	**+0.6**
	baz=326							
TWA				*e*S		**Sn**	**20 00 28.3**	**+0.6**
	baz=326							
OWD	**Renai**	**0.95**	**255**	*e*S		**Sn**	**20 00 27.9**	**-0.2**
	baz=253							
NHDH	**Xindian Distri**	**0.96**	**322**	P		**Pn**	**20 00 16.1**	**+0.4**
	baz=322							
NHDH				*e*S		**Sn**	**20 00 29.3**	**+1.1**
	baz=322							
HGSD	**Ruisui**	**0.99**	**224**	*e*P		**Pn**	**20 00 14.2**	**-1.8**
	baz=218							
HGSD				*e*S		**Sn**	**20 00 29.2**	**+0.3**
	baz=218							
TATO	**Taipei**	**0.99**	**321**	P		**Pn**	**20 00 16.2**	**+0.2**
	baz=321							
TATO				*e*S		**Sn**	**20 00 29.9**	**+1.0**
	baz=321							
TAP1	**Taipei**	**1.02**	**324**	*e*P		**Pn**	**20 00 16.2**	**-0.2**
	baz=324							
TAP1				*e*S		**Sb**	**20 00 31.6**	**+0.9**
	baz=324							
EHY	**Hungye**	**1.05**	**229**	*e*P		**Pn**	**20 00 16.0**	**-0.8**
	baz=226							
EHY				*e*S		**Sn**	**20 00 28.5**	**-1.8**
	baz=226							
VWDT	**VWDT**	**1.05**	**245**	P		**Pn**	**20 00 17.0**	**+0.2**
	baz=234							
VWDT				*e*S		**Sn**	**20 00 29.3**	**-1.0**
	baz=234							
WLTB	**Daxi**	**1.06**	**308**	*e*S		**Sn**	**20 00 31.9**	**+1.2**
	baz=299							
YM01	**YM01**	**1.09**	**330**	P		**Pn**	**20 00 17.6**	**+0.1**
	baz=342							
YM01				*e*S		**Sn**	**20 00 30.8**	**-0.5**
	baz=342							
YM10	**YM10**	**1.10**	**329**	P		**Pn**	**20 00 17.0**	**-0.6**
	baz=342							
YM10				*i*S		**Sn**	**20 00 31.0**	**-0.7**
	baz=342							
YM11	**YM11**	**1.10**	**330**	*e*P		**Pn**	**20 00 17.5**	**-0.2**
	baz=342							
YM11				*e*S		**Sn**	**20 00 30.6**	**-1.2**
	baz=342							
YM05	**YM05**	**1.10**	**330**	P		**Pn**	**20 00 17.3**	**-0.3**
	baz=342							
YM05				*e*S		**Sn**	**20 00 32.4**	**+0.5**
	baz=342							
YM04	**YM04**	**1.11**	**328**	*e*P		**Pn**	**20 00 17.6**	**-0.1**
	baz=329							
YM04				S		**Sn**	**20 00 31.1**	**-0.8**
	baz=329							
YM08	**YM08**	**1.11**	**331**	*e*P		**Pn**	**20 00 16.5**	**-1.3**
	baz=343							
YM08				*e*S		**Sn**	**20 00 30.6**	**-1.4**
	baz=343							
WHP	**Taichung City**	**1.13**	**274**	P		**Pn**	**20 00 18.4**	**+0.4**
	baz=273							
WHP				*e*S		**Sn**	**20 00 32.5**	**+0.1**
	baz=273							
TWS1	**Kuangyinshan**	**1.13**	**322**	P		**Pn**	**20 00 18.1**	**+0.2**
	baz=330							
TWS1				*e*S		**Sn**	**20 00 33.0**	**+0.7**
	baz=330							
YULB	**Yu-li**	**1.14**	**225**	P		**Pn**	**20 00 17.4**	**-0.7**
	baz=235							
YULB				S		**Sn**	**20 00 31.6**	**-1.1**
	baz=235							
ANP	**Anpu**	**1.15**	**329**	*e*P		**Pn**	**20 00 16.6**	**-1.6**
	baz=329							
LIOB	**Emei**	**1.15**	**293**	P		**Pn**	**20 00 18.6**	**+0.4**
	baz=292							
LIOB				*e*S		**Sn**	**20 00 33.7**	**+0.9**
	baz=292							
NSTT	**Nanjuang**	**1.15**	**292**	P		**Pn**	**20 00 18.6**	**+0.3**
	baz=291							
NSTT				*e*S		**Sn**	**20 00 34.4**	**+1.5**
	baz=291							
DPDB	**Guoxing**	**1.16**	**262**	P		**Pn**	**20 00 18.4**	**0.0**
	baz=255							
DPDB				*e*S		**Sn**	**20 00 33.2**	**+0.1**
	baz=255							
NTST	**Danshui**	**1.16**	**325**	*e*P		**Pn**	**20 00 19.6**	**+1.2**
	baz=337							
NTST				*e*S		**Sn**	**20 00 33.7**	**+0.5**
	baz=337							
TWF1	**Yuli**	**1.17**	**224**	P		**Pn**	**20 00 17.8**	**-0.8**
	baz=233							
TWF1				*e*S		**Sn**	**20 00 32.3**	**-1.1**
	baz=233							
SSLB	**Suanglung**	**1.20**	**250**	P		**Pn**	**20 00 19.0**	**+0.1**
	baz=249							
SSLB				*e*S		**Sn**	**20 00 32.9**	**-1.1**
	baz=249							
TYC	**Yuchr**	**1.25**	**256**	*e*P		**Pn**	**20 00 19.4**	**-0.2**
	baz=247							
FULB	**Fuli**	**1.29**	**219**	*e*P		**Pn**	**20 00 19.9**	**-0.3**
	baz=208							
FULB				*e*S		**Sn**	**20 00 35.8**	**-0.5**
	baz=208							
TWQ1	**Liyutan**	**1.29**	**277**	P		**Pn**	**20 00 20.6**	**+0.5**
	baz=276							
TWQ1				*e*S		**Sn**	**20 00 38.2**	**+1.9**
	baz=276							
WHYT	**Xinyi Township**	**1.31**	**248**	P		**Pn**	**20 00 20.1**	**-0.4**
	baz=246							
WHYT				*e*S		**Sn**	**20 00 37.9**	**+1.0**
	baz=246							
CHKT	**Chengkung**	**1.33**	**214**	*e*P		**Pn**	**20 00 19.5**	**-1.2**
	baz=203							
CHKT				*e*S		**Sn**	**20 00 34.4**	**-2.8**
	baz=203							
TCU	**Taichung**	**1.37**	**268**	*e*P		**Pn**	**20 00 22.6**	**+1.3**
	baz=267							
TCU				*e*S		**Sn**	**20 00 39.9**	**+1.5**
	baz=267							
WJS	**Zhushan**	**1.38**	**254**	*e*P		**Pn**	**20 00 22.9**	**+1.5**
	baz=249							
WJS				*e*S		**Sb**	**20 00 40.8**	**-0.2**
	baz=249							
WNT	**Mingjian**	**1.41**	**257**	*e*P		**Pn**	**20 00 23.0**	**+1.2**
	baz=256							
WNT				*e*S		**Sn**	**20 00 39.0**	**-0.2**
	baz=256							
IRIF	**Iriomote-Funau**	**1.42**	**84**	P		**Pn**	**20 00 21.7**	**-0.2**
IRIF				*e*S		**Sn**	**20 00 39.4**	**-0.1**
ALS	**Alishan**	**1.44**	**241**	*e*P		**Pn**	**20 00 23.7**	**+1.2**
	baz=231							
ELDTW	**Lidau**	**1.47**	**227**	*e*P		**Pn**	**20 00 21.1**	**-1.6**
	baz=225							
HATJ	**Hateruma jima**	**1.49**	**95**	P		**Pn**	**20 00 23.6**	**+0.7**
HATJ				*e*S		**Sn**	**20 00 42.5**	**+1.2**
CHN5	**Tsauling**	**1.50**	**247**	*e*P		**Pn**	**20 00 24.6**	**+1.4**
	baz=235							
CHN5				*e*S		**Sn**	**20 00 43.2**	**+1.6**
	baz=235							
WGK	**Gukeng**	**1.57**	**251**	*e*P		**Pn**	**20 00 25.3**	**+1.3**
	baz=250							
WGK				*e*S		**Sb**	**20 00 46.2**	**-0.1**
	baz=250							
WDLH	**Douliu**	**1.59**	**251**	P		**Pn**	**20 00 25.4**	**+1.2**
	baz=251							
WDLH				*e*S		**Sn**	**20 00 45.7**	**+2.1**
	baz=251							
STYT	**Tauyuan**	**1.67**	**232**	*e*P		**Pn**	**20 00 26.8**	**+1.5**
	baz=223							
STYT				*e*S		**Sn**	**20 00 46.3**	**+0.6**
	baz=223							
JKRS	**Kuro-shima**	**1.67**	**89**	P		**Pn**	**20 00 25.7**	**+0.3**
JKRS				*e*S		**Sn**	**20 00 45.9**	**+0.2**
TPUB	**Ta-pu**	**1.68**	**238**	P		**Pn**	**20 00 26.3**	**+0.8**
	baz=237							
TPUB				S		**Sn**	**20 00 47.2**	**+1.2**
	baz=237							
CHN4	**Tsaushan**	**1.68**	**240**	*e*P		**Pn**	**20 00 27.3**	**+1.7**
	baz=230							
CHN4				*e*S		**Sn**	**20 00 47.9**	**+1.9**
	baz=230							
RLNB	**Erlin**	**1.69**	**260**	*e*P		**Pn**	**20 00 26.2**	**+0.5**
	baz=260							
RLNB				*e*S		**Sn**	**20 00 48.6**	**+2.4**
	baz=260							
TWGBT	**Beinan**	**1.71**	**216**	*e*P		**Pn**	**20 00 24.8**	**-1.2**
	baz=215							
TWGBT				*e*S		**Sn**	**20 00 44.2**	**-2.4**
	baz=215							
TWG	**Pinlang**	**1.71**	**217**	*e*S		**Sn**	**20 00 45.0**	**-1.7**
	baz=215							
WTP	**Ta-pu**	**1.72**	**237**	*e*P		**Pn**	**20 00 27.6**	**+1.5**
	baz=236							
WTP				*e*S		**Sn**	**20 00 48.5**	**+1.4**
	baz=236							
JIJ	**Ishigaki jima**	**1.80**	**85**	P		**Pn**	**20 00 27.0**	**-0.1**
JIJ				S		**Sn**	**20 00 48.1**	**-0.7**
TWK	**Hsinying**	**1.81**	**239**	*e*P		**Pn**	**20 00 29.2**	**+1.8**
	baz=229							
TWK				*e*S		**Sn**	**20 00 50.8**	**+1.6**
	baz=229							
CHN1	**Nanshi**	**1.82**	**236**	*e*P		**Pn**	**20 00 29.0**	**+1.5**
	baz=235							
SNST	**Tainan City**	**1.83**	**238**	*e*S		**Sn**	**20 00 51.7**	**+2.2**
	baz=237							
SGST	**Jiashian**	**1.84**	**233**	*e*P		**Pn**	**20 00 28.0**	**+0.2**
	baz=232							
SGST				*e*S		**Sn**	**20 00 51.1**	**+1.1**
	baz=232							
SLGT	**Liugui**	**1.85**	**230**	P		**Pn**	**20 00 28.5**	**+0.6**
	baz=229							
SLGT				*e*S		**Sn**	**20 00 52.0**	**+1.8**
	baz=229							
WLGB	**Puzi**	**1.87**	**248**	*e*S		**Sb**	**20 00 53.8**	**-1.1**
	baz=235							
WSF	**Szhu**	**1.88**	**253**	*e*P		**Pn**	**20 00 29.0**	**+0.8**
	baz=266							
WSF				*e*S		**Sn**	**20 00 53.4**	**+2.6**
	baz=266							
JISG	**Ishigakijimahi**	**1.98**	**79**	P		**Pn**	**20 00 29.1**	**-0.5**
JISG				*e*S		**Sn**	**20 00 52.6**	**-0.7**
SSD	**Sandimen**	**2.03**	**225**	*e*P		**Pn**	**20 00 32.1**	**+1.8**
	baz=224							
SSD				*e*S		**Sn**	**20 00 56.4**	**+1.8**
	baz=224							
MASBT	**Mashibuluo**	**2.13**	**222**	P		**Pn**	**20 00 32.0**	**+0.3**
	baz=222							
MASBT				*e*S		**Sn**	**20 00 59.9**	**+2.8**
	baz=222							
JTJ	**Tarama**	**2.34**	**79**	P		**Pn**	**20 00 35.1**	**+0.5**
JTJ				*e*S		**Sn**	**20 01 02.5**	**+0.3**
PTTC	**Pingtan**	**2.54**	**301**	*e*S		**Sn**	**20 01 04.5**	**-2.6**
	baz=299							
PTMZ	**Houxiangcun**	**2.91**	**287**	*e*P		**Pn**	**20 00 41.5**	**-0.8**
	baz=287							

IDC 22 20:10:00.5±1.3, 46.56S×97.08E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/26, mbtmp3.9/4, MS3.5/4, Ms1 3.6/4, ms1mx3.4/16, Error ellipse: s-maj=52.5km s-min=28.8km az=134.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
H01W2	**Cape Leeuwin H**	**17.35**	**54**	T		T	20	32	13.7	
	baz=224,slow=74,SNR=33									
H01W3	**Cape Leeuwin H**	**17.37**	**54**	T		T	20	32	14.0	
	baz=224,slow=74,SNR=41									
H01W1	**Cape Leeuwin H**	**17.37**	**54**	T		T	20	32	16.7	
	baz=224,slow=74,SNR=31									
NWAO	**Narrogin (SRO)**	**20.55**	**56**	LR		LR	20	20	53.7	
	comp=Z,136nm,21.6s,baz=190,slow=32									
MAW	**Mawson**	**27.48**	**208**	P		P	20	15	47.1	-0.8
	2.5nm,0.9s,baz=68,slow=7.4,SNR=2.5									
STKA	**Stephens Creek**	**36.96**	**83**	LR		LR	20	31	15.3	
	comp=Z,106nm,18.3s,baz=206,slow=34									
ASAR	**Alice Springs**	**37.31**	**65**	P		P	20	17	13.9	-0.5
	1.3nm,0.9s,baz=224,slow=8.2,SNR=9.5									
ASAR				LR		LR	20	30	40.6	
	comp=Z,78nm,21.0s,baz=208,slow=33									
WRA	**Warramunga Arr**	**40.35**	**62**	P		P	20	17	39.0	-0.8
	1.6nm,0.9s,baz=221,slow=8.7,SNR=11									
H08S2	**Diego Garcia H**	**44.14**	**324**	T		T	21	04	30.5	
	baz=156,slow=76,SNR=9.8									
H08S1	**Diego Carcia H**	**44.15**	**324**	T		T	21	04	32.5	
	baz=156,slow=76,SNR=14									
H08S3	**Diego Garcia H**	**44.16**	**324**	T		T	21	04	29.8	
	baz=156,slow=76,SNR=10									
CMAR	**Chiang Mai Arr**	**64.73**	**2**	P		P	20	20	39.2	-1.1
	1.1nm,1.1s,baz=209,slow=7.0,SNR=4.6									
CMAR				LR		LR	20	47	02.1	
	comp=Z,29nm,19.0s,baz=355,slow=34									
INK	**Inuvik**	**146.58**	**31**	PKPbc		PKPab	20	29	43.6	+0.1
	1.2nm,0.7s,baz=232,slow=2.0,SNR=5.0									
YKA	**Yellowknife Ar**	**156.01**	**37**	PKPab		PKPab	20	30	24.2	+1.5
	0.2nm,0.9s,baz=301,slow=4.8,SNR=2.3									

*ISCJB **22** 21:04:34.3±0.3, 13.44S×167.10E±0.07, h200km, mb4.1/17, Error ellipse: s-maj=9.5km s-min=6.5km az=175.2*

*IDC **22** 21:04:37.0±1.9, 13.43S×167.05E, h204km±16km, mb3.9/17, mb1 4.0/17, mb1mx3.8/42, mbtmp4.4/17, Error ellipse: s-maj=16.4km s-min=10.3km az=113.0*

*NEIC **22** 21:04:37.0±1.3, 13.42S±0.10×167.1E±0.1, h210km±5km, mb4.4/27*

ISC 22 21:04:35.9±0.5, 13.39S±0.07×167.1E±0.1, h200km, n64, σ0.98/76, mb4.4/31, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
DZM	**Mont Dzumac**	**8.66**	**184**	Pn		**Pn**	**21**	**06**	**39.1**	**+1.3**
DZM				S		**Sn**	**21**	**08**	**16.2**	**+1.1**
EIDS	**Eidsvold**	**19.21**	**229**	P		**P**	**21**	**08**	**44.9**	**0.0**
CTA	**Charters Tower**	**21.02**	**249**	P		**P**	**21**	**09**	**04.7**	**+0.4**
	1.8nm,0.7s,baz=88,slow=12,SNR=5.7									
ARMA	**Armidale**	**22.16**	**218**	P		**P**	**21**	**09**	**15.8**	**0.0**
ARMA				IAmb		IAmb	21	09	33.1	
	comp=Z,9.2nm,1.1s									
URZ	**Urewera**	**26.32**	**162**	P		**P**	**21**	**09**	**52.9**	**-0.3**
URZ				IAmb		IAmb	21	10	04.1	
	comp=Z,12nm,1.1s									
BFZ	**Birch Farm**	**28.35**	**165**	P		**P**	**21**	**10**	**11.1**	**-0.1**
TUWZ	**Tuamarina**	**28.57**	**169**	P		**P**	**21**	**10**	**13.9**	**+0.7**
THZ	**Tophouse**	**28.72**	**171**	P		**P**	**21**	**10**	**14.6**	**0.0**
MSWZ	**Moikau Station**	**28.82**	**167**	P		**P**	**21**	**10**	**13.3**	**-2.0**
BSWZ	**Blackbirch Sta**	**28.83**	**169**	P		**P**	**21**	**10**	**15.6**	**+0.1**
PLWZ	**Palliser**	**28.96**	**167**	P		**P**	**21**	**10**	**16.1**	**-0.7**
KHZ	**Kahutara**	**29.46**	**170**	P		**P**	**21**	**10**	**21.3**	**+0.3**
KHZ				IAmb		IAmb	21	10	33.7	
	comp=Z,8.3nm,0.8s									
LTZ	**Lake Taylor**	**29.63**	**172**	P		**P**	**21**	**10**	**20.0**	**-2.6**
STKA	**Stephens Creek**	**29.75**	**228**	P		**P**	**21**	**10**	**25.2**	**+1.5**
	comp=Z,3.3nm,0.4s,baz=49,slow=9.6,SNR=15									
STKA				PcP		**PcP**	**21**	**13**	**22.6**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=80,slow=4.6,SNR=8.0									
STKA	**Stephens Creek**	**29.75**	**228**	P		**P**	**21**	**10**	**24.8**	**+1.0**
STKA						**PcP**	**21**	**13**	**22.2**	**-0.3**
FOZ	**Fox Glacier**	**30.13**	**176**	P		**P**	**21**	**10**	**27.7**	**+0.8**
RPZ	**Rata Peaks**	**30.41**	**174**	P		**P**	**21**	**10**	**30.1**	**+0.6**
	comp=Z,13nm,0.7s,baz=74,slow=3.6,SNR=5.1									
RPZ	**Rata Peaks**	**30.41**	**174**	P		**P**	**21**	**10**	**30.0**	**+0.6**
MQZ	**McQueen's Vall**	**30.59**	**172**	P		**P**	**21**	**10**	**31.2**	**+0.3**
MQZ				IAmb		IAmb	21	10	47.0	
	comp=Z,16nm,1.1s									
TOO	**Toolangi**	**30.83**	**215**	P		**P**	**21**	**10**	**33.1**	**-0.2**
TOO				IAmb		IAmb	21	10	50.5	
	comp=Z,9.0nm,1.1s									
LBZ	**Lake Benmore**	**31.00**	**176**	P		**P**	**21**	**10**	**35.1**	**+0.5**
LBZ				IAmb		IAmb	21	10	50.4	
	comp=Z,17nm,1.1s									
WRAB	**Tennant Creek**	**31.99**	**254**	P		**P**	**21**	**10**	**42.8**	**-0.8**
WRA	**Warramunga Arr**	**32.01**	**254**	P		**P**	**21**	**10**	**43.2**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=85,slow=9.1,SNR=8.1									
WRA				PcP		**PcP**	**21**	**13**	**29.1**	**+0.4**
	comp=Z,1.2nm,1.0s,baz=7.4,slow=1.0,SNR=5.8									
WRA				ScP		**ScP**	**21**	**16**	**55.8**	**+2.3**
	comp=Z,0.9nm,0.8s,baz=85,slow=3.2,SNR=6.2									
AS31	**Alice Springs**	**33.01**	**247**	P		**P**	**21**	**10**	**51.7**	**-0.8**
ASAR	**Alice Springs**	**33.01**	**247**	P		**P**	**21**	**10**	**52.3**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=75,slow=9.3,SNR=56									
ASAR				PcP		**PcP**	**21**	**13**	**31.8**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=74,slow=2.1,SNR=17									
ASAR				S		**S**	**21**	**15**	**54.1**	**-2.1**
	comp=Z,1.3nm,0.9s,baz=77,slow=17,SNR=9.4									
ASAR				ScP		**ScP**	**21**	**16**	**59.1**	**+2.2**
	comp=Z,1.2nm,0.8s,baz=90,slow=3.2,SNR=9.1									
BBOO	**Buckleboo**	**34.28**	**230**	P		**P**	**21**	**11**	**01.7**	**-1.5**
BBOO				IAmb		IAmb	21	11	11.5	
	comp=Z,11nm,1.1s									
KNRA	**Kununurra**	**37.14**	**262**	P		**P**	**21**	**11**	**27.8**	**+0.1**
KNRA				IAmb		IAmb	21	11	41.2	
	comp=Z,13nm,1.1s									
FORT	**Forrest**	**39.84**	**238**	P		**P**	**21**	**11**	**49.6**	**-0.5**
FORT				IAmb		IAmb	21	11	56.5	
	comp=Z,22nm,1.1s									
PSA00	**Pilbara Seismi**	**45.65**	**253**	P		**P**	**21**	**12**	**36.7**	**-0.2**
PSA00				IAmb		IAmb	21	12	38.3	
	comp=Z,11nm,0.9s									
NWAO	**Narrogin (SRO)**	**49.30**	**238**	P		**P**	**21**	**13**	**03.8**	**-1.1**
MJAR	**Matsushiro Arr**	**56.64**	**332**	P		**P**	**21**	**13**	**58.1**	**-0.2**
	comp=Z,3.0nm,0.5s,baz=167,slow=7.2,SNR=11									
JKA	**Kamikawa-asahi**	**61.43**	**340**	P		**P**	**21**	**14**	**32.7**	**+1.7**
ASAJ	**Asahikawa**	**61.43**	**340**	P		**P**	**21**	**14**	**32.7**	**+1.7**
	comp=Z,12nm,0.5s,baz=230,slow=7.1,SNR=15									
USRK	**Ussuriysk Ar.**	**65.62**	**333**	P		**P**	**21**	**15**	**00.1**	**+1.7**
	comp=Z,1.8nm,0.6s,baz=155,slow=3.7,SNR=5.2									
PETK	**Petropavlovsk-**	**66.72**	**354**	P		**P**	**21**	**15**	**06.4**	**+1.2**
	comp=Z,6.0nm,0.8s,baz=165,slow=6.0,SNR=14									
KLR	**Kul'dur**	**69.72**	**336**	P		**P**	**21**	**15**	**25.4**	**+1.5**
	comp=Z,1.6nm,0.6s,baz=133,slow=5.2,SNR=8.6									
CMAR	**Chiang Mai Arr**	**74.25**	**294**	P		**P**	**21**	**15**	**53.3**	**+1.7**
	comp=Z,3.6nm,0.7s,baz=127,slow=4.5,SNR=26									
CHTO	**Chiang Mai**	**74.37**	**294**	P		**P**	**21**	**15**	**51.2**	**-1.1**
CHTO				IAmb		IAmb	21	15	54.3	
	comp=Z,4.6nm,1.0s									
QSPA	**South Pole Qui**	**76.63**	**180**	P		**P**	**21**	**16**	**05.1**	**+0.7**
	comp=Z,5.0nm,0.5s,baz=12,slow=0.7,SNR=23									
QSPA	**South Pole Qui**	**76.63**	**180**	P		**P**	**21**	**16**	**04.4**	**0.0**
QSPA				IAmb		IAmb	21	16	06.0	
	comp=Z,7.8nm,0.8s									
BRLK	**Bradley Lake**	**80.36**	**20**	P		**P**	**21**	**16**	**23.1**	**-1.6**
ULN	**Ulaanbaatar**	**80.96**	**324**	P		**P**	**21**	**16**	**28.1**	**-0.1**
SONM	**Songino Array**	**81.32**	**324**	P		**P**	**21**	**16**	**30.8**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=132,slow=4.3,SNR=11									
HDA	**Harding Lake**	**85.03**	**18**	P		**P**	**21**	**16**	**48.6**	**0.0**
HDA				IAmb		IAmb	21	16	49.4	
	comp=Z,6.1nm,0.9s									
IL31		**85.31**	**18**	P		**P**	**21**	**16**	**49.5**	**-0.3**
IL31				IAmb		IAmb	21	16	50.2	
	comp=Z,2.8nm,0.7s									
ILAR	**Eielson Array**	**85.31**	**18**	P		**P**	**21**	**16**	**49.0**	**-0.9**
	comp=Z,2.3nm,0.6s,baz=242,slow=5.0,SNR=55									
RLMT	**Red Lodge**	**94.95**	**45**	P		**P**	**21**	**17**	**35.1**	**-0.7**
VNA3	**Neumayer Olymp**	**95.54**	**181**	P		**P**	**21**	**17**	**37.2**	**-0.6**
VNA2	**Neumayer--Watz**	**95.81**	**182**	P		**P**	**21**	**17**	**38.2**	**-0.8**
	baz=211,slow=3.5									
MK31	**Makanchi Array**	**96.12**	**317**	P		**P**	**21**	**17**	**40.8**	**-0.1**
MK31				IAmb		I

JCH	**Churui**	**5.49**	**352**	P	Pn	21 05 56.0	-0.6
JCH				*e*S	Sn	21 06 54.6	-3.8
JTKR	**Abashiri--Toko**	**6.80**	**357**	P	Pn	21 06 14.0	-0.5
JTKR				*e*S	Sn	21 07 26.1	-4.5

IDC ***22*** *21:29:25.0±0.7, 32.60S×178.13W, h0km, mb4.4/7, mb1 4.5/10, mb1mx4.1/40, mbtmp4.4/10, ML4.0/3, MS3.8/2, Ms1 3.8/2, ms1mx3.2/40, Error ellipse: s-maj=23.5km s-min=20.7km az=45.0*

ISCJB ***22*** *21:29:26.0±0.6, 32.70S±0.04×178.12W±0.1, h20km, mb4.5/8, MS3.4/1, Error ellipse: s-maj=13.6km s-min=4.6km az=13.2*

NEIC ***22*** *21:29:29.7±1.6, 32.60S±0.08×178.3W±0.2, h32km±4km, mb4.6/9*

ISC 22 21:29:27.2±0.6, **32.62S**±0.05×**178.05W**±0.09, **h20**km, **n91**, σ1§**85**/97, **mb4.6**/11, **2D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.35**	**2**	P	**Pn**	**21 30 14.6**	**-3.8**
GLKZ				S	**Sn**	**21 30 53.3**	**-4.2**
RAO	**Raoul Island**	**3.36**	**2**	Pn	**Pn**	**21 30 19.9**	**+1.4**
	68nm,0.3s,baz=72,slow=20,SNR=2.1						
RAO				Sn	**Sn**	**21 30 53.5**	**-4.3**
	85nm,0.3s,baz=112,slow=22,SNR=3.8						
MXZ	**Matakaoa Point**	**5.77**	**210**	P	**Pn**	**21 30 50.4**	**-1.3**
MXZ	**Matakaoa Point**	**5.77**	**210**	Pn	**Pn**	**21 30 50.6**	**-1.0**
MXZ					**Sn**	**21 31 55.5**	**-1.7**
WMGZ	**Waiomatatini S**	**5.94**	**208**	P	**Pn**	**21 30 53.3**	**-0.8**
PKGZ	**Pakihiroa**	**6.14**	**210**	P	**Pn**	**21 30 56.6**	**-0.3**
PKGZ				S	**Sn**	**21 32 05.8**	**-0.8**
HAZ	**Te Kaha**	**6.16**	**213**	P	**Pn**	**21 30 57.1**	**+0.1**
HAZ				S	**Sn**	**21 32 07.8**	**+1.0**
PUZ	**Puketiti**	**6.22**	**208**	P	**Pn**	**21 30 56.2**	**-1.8**
PUZ				S	**Sn**	**21 32 08.6**	**+0.1**
RUGZ	**Raukumara Rang**	**6.38**	**212**	P	**Pn**	**21 30 59.6**	**-0.5**
RUGZ				S	**Sn**	**21 32 13.5**	**+1.1**
GRZ	**Great Barrier**	**6.48**	**234**	P	**Pn**	**21 31 01.2**	**-0.1**
KUZ	**Kuaotunu**	**6.58**	**230**	P	**Pn**	**21 31 04.7**	**+1.9**
CNGZ	**Carnagh Statio**	**6.60**	**206**	P	**Pn**	**21 31 02.8**	**-0.3**
CNGZ				S	**Sn**	**21 32 16.8**	**-1.0**
TKGZ	**Te Karaka**	**6.71**	**209**	P	**Pn**	**21 31 03.9**	**-0.6**
TKGZ				S	**Sn**	**21 32 19.1**	**-1.2**
MWZ	**Matawai**	**6.75**	**211**	P	**Pn**	**21 31 04.4**	**-0.8**
MARZ	**Manawahe**	**6.88**	**217**	P	**Pn**	**21 31 07.1**	**+0.1**
URZ	**Urewera**	**6.88**	**214**	Pn	**Pn**	**21 31 06.7**	**-0.2**
	4.6nm,0.3s,baz=59,slow=8.5,SNR=17						
URZ				Sn	**Sn**	**21 32 20.5**	**-4.0**
	6.9nm,0.3s,baz=161,slow=18,SNR=3.4						
URZ	**Urewera**	**6.88**	**214**	P	**Pn**	**21 31 06.7**	**-0.2**
URZ	**Urewera**	**6.88**	**214**	Pn	**Pn**	**21 31 06.5**	**-0.4**
URZ					**Sn**	**21 32 23.7**	**-0.9**
RAGZ	**Rawiri**	**6.93**	**211**	P	**Pn**	**21 31 06.6**	**-1.1**
RIGZ	**Rimuhau**	**6.97**	**208**	P	**Pn**	**21 31 07.8**	**-0.3**
WIAZ	**Waiheke Island**	**6.99**	**232**	P	**Pn**	**21 31 11.4**	**+2.9**
PRGZ	**Paritu Road**	**7.11**	**207**	P	**Pn**	**21 31 08.1**	**-2.0**
WCZ	**Waipu Caves**	**7.12**	**240**	P	**Pn**	**21 31 13.5**	**+3.3**
MKAZ	**Moumakai**	**7.16**	**229**	P	Pn	21 31 14.6	+3.9
MUGZ	**Murupara**	**7.21**	**214**	P	**Pn**	**21 31 11.1**	**-0.4**
RTZ	**Ruatahuna**	**7.23**	**213**	P	**Pn**	**21 31 10.4**	**-1.4**
KNZ	**Kokohu**	**7.28**	**207**	P	**Pn**	**21 31 10.8**	**-1.5**
OUZ	**Omahuta**	**7.42**	**247**	P	Pn	21 31 18.2	+3.9
RAHZ	**Arahi**	**7.43**	**211**	P	**Pn**	**21 31 14.8**	**+0.4**
MTHZ	**Maungataniwha**	**7.48**	**212**	P	**Pn**	**21 31 15.6**	**+0.4**
WHHZ	**Waihua**	**7.50**	**209**	P	**Pn**	**21 31 16.9**	**+1.4**
ARHZ	**Aropaoanui**	**7.75**	**210**	P	**Pn**	**21 31 18.5**	**-0.4**
MCHZ	**McNeill Hill**	**8.03**	**211**	P	**Pn**	**21 31 22.2**	**-0.5**
KWHZ	**Kaweka Forest**	**8.14**	**212**	P	**Pn**	**21 31 23.7**	**-0.6**
KAHZ	**Kahuranaki**	**8.25**	**208**	P	**Pn**	**21 31 23.2**	**-2.6**
PXZ	**Pawanui**	**8.46**	**208**	P	**Pn**	**21 31 27.5**	**-1.1**
BFZ	**Birch Farm**	**9.26**	**208**	P	**Pn**	**21 31 36.7**	**-2.9**
MSWZ	**Moikau Station**	**10.29**	**209**	Pn	**Pn**	**21 31 54.0**	**+0.4**
MSWZ					**Sn**	**21 33 41.0**	**-7.3**
PLWZ	**Palliser**	**10.41**	**209**	Pn	**Pn**	**21 31 52.8**	**-2.6**
SNZO	**South Karori**	**10.43**	**212**	Pn	**Pn**	**21 31 56.0**	**+0.4**
TUWZ	**Tuamarina**	**10.88**	**214**	Pn	**Pn**	**21 32 01.6**	**-0.1**
THZ	**Tophouse**	**11.63**	**216**	Pn	**Pn**	**21 32 10.7**	**-1.3**
KHZ	**Kahutara**	**11.84**	**212**	Pn	**Pn**	**21 32 11.3**	**-3.5**
LTZ	**Lake Taylor**	**12.71**	**214**	Pn	**Pn**	**21 32 24.2**	**-2.6**
OXZ	**Oxford**	**13.24**	**213**	Pn	**Pn**	**21 32 33.7**	**-0.2**
MQZ	**McQueen's Vall**	**13.26**	**211**	Pn	**Pn**	**21 32 30.5**	**-3.7**
RPZ	**Rata Peaks**	**13.99**	**215**	Pn	**Pn**	**21 32 39.7**	**-4.6**
	1.1nm,0.3s,baz=14,slow=16,SNR=2.0						
RPZ				Sn	Sn	21 35 04.6	-14
	1.8nm,0.3s,baz=20,slow=19,SNR=7.6						
RPZ	**Rata Peaks**	**13.99**	**215**		**Pn**	**21 32 40.6**	**-3.8**
DZM	**Mont Dzumac**	**17.31**	**304**	P	**P**	**21 33 28.3**	**-0.8**
	0.1nm,0.3s,baz=114,slow=19,SNR=2.4						
DZM				LR	LR	21 39 04.0	
	comp=Z,599nm,19.8s,baz=213,slow=34						
DZM	**Mont Dzumac**	**17.31**	**304**	P	**Pn**	**21 33 25.6**	**-2.2**
DZM				IAmb	IAmb	21 33 45.1	
	comp=Z,20nm,1.0s						
PPT	**Papeete**	**29.70**	**67**	LR	LR	21 47 06.5	
	comp=Z,92nm,18.9s,baz=230,slow=36						
STKA	**Stephens Creek**	**34.00**	**260**	P	**P**	**21 36 11.2**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=107,slow=8.7,SNR=3.7						
STKA	**Stephens Creek**	**34.00**	**260**	P	**P**	**21 36 07.6**	**-2.1**
CTA	**Charters Tower**	**34.18**	**282**	P	**P**	**21 36 12.2**	**+0.8**
	comp=Z,5.8nm,0.5s,baz=112,slow=10,SNR=18						
KRVT	**Keravat (AS076**	**39.70**	**309**	P	**P**	**21 36 59.2**	**+0.8**
	comp=Z,72nm,0.7s,baz=176,slow=1.0,SNR=7.9						
AS31	**Alice Springs**	**43.00**	**269**	P	**P**	**21 37 24.3**	**-1.1**
ASAR	**Alice Springs**	**43.00**	**269**	P	**P**	**21 37 25.3**	**-0.1**
	comp=Z,7.1nm,0.7s,baz=111,slow=7.8,SNR=97						
ASAR				PcP	**PcP**	**21 39 15.6**	**0.0**
	comp=Z,0.4nm,0.6s,baz=116,slow=4.3,SNR=1.1						
WR0	**Warramunga Arr**	**44.01**	**275**	P	**P**	**21 37 32.6**	**-1.0**
WR0				IAmb	IAmb	21 37 34.1	
	comp=Z,19nm,1.3s						
WRAB	**Tennant Creek**	**44.18**	**274**	P	**P**	**21 37 33.2**	**-1.8**
WRAB				IAmb	IAmb	21 37 35.1	
	comp=Z,9.1nm,0.7s						
WRA	**Warramunga Arr**	**44.19**	**274**	P	**P**	**21 37 34.6**	**-0.3**
	comp=Z,5.5nm,0.4s,baz=114,slow=7.6,SNR=84						
FORT	**Forrest**	**45.48**	**257**	P	**P**	**21 37 44.1**	**-1.1**
QSPA	**South Pole Qui**	**57.50**	**180**	P	**P**	**21 39 17.8**	**+3.0**
	comp=Z,0.6nm,0.3s,baz=14,slow=2.5,SNR=1.3						
QSPA	**South Pole Qui**	**57.50**	**180**	P	**P**	**21 39 16.7**	**+1.9**
SYO	**Syowa Base**	**74.95**	**193**	*e*P	**P**	**21 41 08.0**	**+1.6**
SYO	**Syowa Base**	**74.95**	**193**	*e*pP	pP	21 41 16.6	+5.4
SNAA	**Sanae**	**75.95**	**178**	P	P	21 41 22.2	+10
SNAA	**Sanae**	**75.95**	**178**	P	**P**	**21 41 12.4**	**+0.2**
SNAA				IAmb	IAmb	21 41 25.4	
	comp=Z,5.7nm,1.0s						
VNA3	**Neumayer Olymp**	**76.10**	**176**	P	P	21 41 25.6	+13
VNA2	**Neumayer--Watz**	**76.53**	**177**	P	P	21 41 28.2	+13
	baz=170,slow=5.1						
VNA1	**Neumayer--Stat**	**76.77**	**177**	P	P	21 41 29.5	+13
PLCA	**Paso Flores**	**81.03**	**133**	P	**P**	**21 41 43.5**	**+2.7**
	comp=Z,1.5nm,0.9s,baz=341,slow=8.2,SNR=3.1						
PLCA	**Paso Flores**	**81.03**	**133**	P	**P**	**21 41 42.5**	**+1.7**
PLCA				IAmb	IAmb	21 42 24.4	
	comp=Z,19nm,2.0s						
PETK	**Petropavlovsk-**	**87.94**	**346**	P	**P**	**21 42 16.6**	**+1.5**
	comp=Z,1.7nm,0.6s,baz=108,slow=8.3,SNR=5.8						
MKAR	**Makanchi Array**	**119.15**	**309**	PKP	**PKPdf**	**21 48 13.7**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=202,slow=1.6,SNR=8.3						
KURK	**Kurchatov**	**122.54**	**313**	PKPdf	**PKPdf**	**21 48 21.0**	**+0.3**
KURBB	**Kurchatov Arra**	**122.57**	**313**	PKP	**PKPdf**	**21 48 21.1**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=113,slow=1.9,SNR=15						
AAK	**Ala-Archa**	**123.29**	**303**	PKP	**PKiKP**	**21 48 23.5**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=138,slow=7.0,SNR=4.3						
AAK	**Ala-Archa**	**123.29**	**303**		**PKPdf**	**21 48 22.9**	**+0.2**
BVAR	**Borovoye Array**	**127.94**	**315**	PKP	**PKiKP**	**21 48 32.2**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=38,slow=2.4,SNR=8.0						
ARU	**Arti**	**134.76**	**319**	PKP	**PKiKP**	**21 48 45.8**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=190,slow=5.9,SNR=2.4						
AKTO	**Aktyubinsk**	**135.54**	**311**	PKP	**PKiKP**	**21 48 47.6**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=116,slow=4.8,SNR=2.5						
KBZ	**Khabaz**	**146.27**	**301**	PKPbc	**PKPab**	**21 49 07.0**	**+0.2**
	comp=Z,2.5nm,0.9s,baz=164,slow=6.8,SNR=4.3						
FINES	**FINESS Array B**	**147.20**	**339**	PKPbc	**PKPbc**	**21 49 08.3**	**+0.1**
	comp=Z,5.6nm,0.7s,baz=35,slow=4.0,SNR=22						
ASF	**Jabal al Asfar**	**150.57**	**279**	PKPbc	**PKiKP**	**21 49 18.8**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=115,slow=3.0,SNR=3.9						
NB2	**NORSAR Subarra**	**150.93**	**351**	PKP	**PKPbc**	**21 49 18.4**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.93**	**351**	PKPbc	**PKiKP**	**21 49 19.6**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=62,slow=1.9,SNR=1.4						
EIL	**Elat**	**151.67**	**273**	PKPbc	**PKPbc**	**21 49 19.9**	**-0.5**
	comp=Z,7.1nm,0.9s,baz=331,slow=13,SNR=4.4						
MMAI	**Mount Meron Ar**	**151.95**	**280**	PKPbc	**PKiKP**	**21 49 21.7**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=72,slow=6.2,SNR=11						
AKASG	**Malin Array Be**	**153.00**	**320**	PKPbc	**PKPbc**	**21 49 22.1**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=44,slow=2.7,SNR=5.4						
BRTR	**Keskin Array B**	**153.55**	**295**	PKPbc	**PKPbc**	**21 49 24.8**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=134,slow=3.6,SNR=8.5						
TORD	**Torodi Ar. Bea**	**160.62**	**179**	PKP	**PKPdf**	**21 49 27.0**	**+0.8**
	comp=Z,0.9nm,1.1s,baz=217,slow=3.7,SNR=3.6						
TORD				PKPab	**PKPab**	**21 50 07.2**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=168,slow=3.7,SNR=8.0						

IDC 22 21:29:36.5±52.0, **44.17S×97.46E, h0**km, **mb3.7**/3, **mb1 4.0**/3, **mb1mx3.6**/38, **mbtmp3.7**/3, **MS3.7**/6, **Ms1 3.8**/6, **ms1mx3.4**/32, **Error ellipse: s-maj=1225.0km s-min=50.2km az=23.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.83**	**60**	T	T	21 51 43.8	
	baz=224,slow=74,SNR=43						
H01W3	**Cape Leeuwin H**	**15.84**	**60**	T	T	21 51 43.2	
	baz=224,slow=74,SNR=36						
H01W1	**Cape Leeuwin H**	**15.84**	**60**	T	T	21 51 46.2	
	baz=224,slow=74,SNR=46						
ASAR	**Alice Springs**	**36.11**	**68**	P	P	21 36 39.9	-0.3
	1.0nm,0.9s,baz=225,slow=8.0,SNR=6.9						
STKA	**Stephens Creek**	**36.46**	**86**	LR	LR	21 49 41.9	
	comp=Z,344nm,18.4s,baz=193,slow=33						
WRA	**Warramunga Arr**	**39.02**	**64**	P	P	21 37 05.1	+0.2
	1.1nm,0.8s,baz=221,slow=8.4,SNR=7.5						
WRA				LR	LR	21 52 05.6	
	comp=Z,117nm,20.1s,baz=145,slow=35						
VNDA	**Vanda**	**41.80**	**163**	LR	LR	21 51 42.0	
	comp=Z,134nm,19.3s,baz=316,slow=32						
H08S2	**Diego Garcia H**	**42.41**	**322**	T	T	22 24 01.5	
	baz=156,slow=76,SNR=12						
H08S1	**Diego Carcia H**	**42.41**	**322**	T	T	22 24 01.1	
	baz=156,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**42.43**	**322**	T	T	22 24 00.7	
	baz=156,slow=76,SNR=13						
QSPA	**South Pole Qui**	**45.97**	**180**	LR	LR	21 54 13.1	
	comp=Z,113nm,20.4s,baz=312,slow=32						
PSI	**Prapat**	**46.78**	**2**	LR	LR	21 57 03.7	
	comp=Z,51nm,18.1s,baz=173,slow=35						
CMAR	**Chiang Mai Arr**	**62.34**	**2**	P	P	21 40 00.7	-0.1
	0.8nm,0.8s,baz=187,slow=6.9,SNR=4.9						
CMAR				LR	LR	22 03 45.4	
	comp=Z,25nm,21.4s,baz=290,slow=33						

IDC 22 21:33:24.3±2.3, **28.33S×177.47W, h0**km, **mb3.7**/2, **mb1 3.9**/2, **mb1mx3.5**/49, **mbtmp3.7**/2, **MS4.1**/2, **Ms1 4.1**/2, **ms1mx3.3**/36, **Error ellipse: s-maj=58.0km s-min=29.4km az=98.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.00**	**203**	Pn	Pn	21 33 45.5	-0.1
	579nm,0.3s,baz=298,slow=9.7,SNR=31						
RAO				Sn	Sg	21 33 56.7	+0.2
	3μm,0.3s,baz=21,slow=22,SNR=36						
CTA	**Charters Tower**	**33.98**	**276**	LR	LR	21 53 52.5	
	comp=Z,295nm,18.4s,baz=338,slow=36						
ASAR	**Alice Springs**	**43.72**	**265**	P	P	21 41 31.1	-0.4
	0.5nm,0.4s,baz=98,slow=6.5,SNR=7.6						
WRA	**Warramunga Arr**	**44.52**	**270**	P	P	21 41 37.9	0.0
	0.4nm,0.3s,baz=109,slow=7.6,SNR=7.7						
BATI	**Baumata**	**57.87**	**276**	LR	LR	22 07 12.9	
	comp=Z,129nm,18.1s,baz=130,slow=35						
H10N3	**ASCENSION HYDR**	**140.46**	**153**	T	T	00 30 00.5	
	baz=204,slow=75,SNR=4.7						
H10N1	**ASCENSION HYDR**	**140.47**	**153**	T	T	00 29 57.4	
	baz=204,slow=75,SNR=4.7						
H10N2	**ASCENSION HYDR**	**140.48**	**153**	T	T	00 30 01.2	
	baz=204,slow=75,SNR=5.0						
AKASG	**Malin Array Be**	**149.90**	**325**	PKPbc	PKPbc	21 53 14.8	-1.4
	0.3nm,0.3s,baz=46,slow=3.1,SNR=4.7						
BRTR	**Keskin Array B**	**151.96**	**302**	PKPbc	PKiKP	21 53 22.8	+0.9
	0.5nm,0.7s,baz=106,slow=2.9,SNR=2.9						

IDC ***22*** *21:36:29.9±3.1, 21.10S×70.22W, h79km±26km, mb3.2/2, mb1 3.4/4, mb1mx3.1/44, mbtmp3.5/4, MS2.4/1, Ms1 2.5/1, ms1mx2.3/16, Error ellipse: s-maj=51.8km s-min=20.7km az=73.0*

SJA ***22*** *21:36:31.9±0.7, 21.00S×69.31W, h120km±5km, ML3.0, MW3.3*

ISCJB ***22*** *21:36:32.4±0.6, 20.95S±0.03×69.34W±0.07, h115km±6km, mb3.3/2, Error ellipse: s-maj=10.3km s-min=4.3km az=179.1*

GUC ***22*** *21:36:32.1±0.8, 20.91S×69.26W, h110km±5km, ML3.4*

ISC 22 21:36:32.8±0.9, **20.95S**±0.03×**69.34W**±0.06, **h111**km±7km, **n27**, σ0§**85**/40, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB02	**IPOC Station P**	**0.64**	**235**	*e*P	**Pn**	**21 36 51.4**	**+0.5**
PB02				*i* S	**Sn**	**21 37 05.4**	**+0.8**
PB02				IAML		21 37 06.0	
	comp=N,2μm,0.6s						
PB08	**IPOC Station P**	**0.82**	**12**	*e*P	**Pn**	**21 36 52.4**	**-0.5**
PB08				*i* S	**Sn**	**21 37 07.2**	**-0.7**
PB08				IAML		21 37 08.6	
	comp=N,1μm,0.2s						
PB09	**IPOC Station P**	**0.84**	**174**	*e*P	**Pn**	**21 36 52.8**	**-0.1**
PB09				*i* S	**Sn**	**21 37 08.3**	**+0.4**
PB09	**IPOC Station P**	**0.84**	**174**	*i* P	**Pn**	**21 36 53.0**	**+0.1**
PB09				*e*S	**Sn**	**21 37 08.2**	**+0.4**
TA01	**Diego Aracena**	**0.88**	**296**	*e*P	**Pn**	**21 36 53.2**	**+0.3**
TA01				*i* S	**Sn**	**21 37 08.6**	**+0.6**
TA01				IAML		21 37 09.5	
	comp=E,2μm,0.2s						
PB07	**IPOC Station P**	**0.93**	**213**	*e*P	**Pn**	**21 36 54.1**	**+0.5**
PB07				*i* S	**Sn**	**21 37 09.6**	**+0.4**
PB07				IAML		21 37 10.9	
	comp=E,834nm,0.2s						
PB03	**IPOC Station P**	**1.16**	**199**	*e*P	**Pn**	**21 36 56.3**	**+0.3**
PB03				*i* S	**Sn**	**21 37 14.0**	**+0.5**
PB11	**IPOC Station P**	**1.22**	**346**	*e*P	**Pn**	**21 36 56.4**	**-0.4**
PB11				*i* S	**Sn**	**21 37 14.5**	**-0.2**
PB11				IAML		21 37 15.1	
	comp=N,1μm,0.2s						
GO01	**Chusmiza**	**1.28**	**6**	*e*P	**Pn**	**21 36 57.4**	**-0.3**
GO01				*i* S	**Sn**	**21 37 16.2**	**-0.3**
PSGC	**Pisagua**	**1.54**	**331**	*e*P	**Pn**	**21 36 59.7**	**-0.6**
PSGC				*i* S	**Sn**	**21 37 20.8**	**-0.3**
PB04	**IPOC Station P**	**1.57**	**209**	*i* P	**Pn**	**21 37 00.9**	**+0.2**
LVC	**Limon Verde**	**1.70**	**167**	P	**Pn**	**21 37 02.9**	**+0.4**
	comp=N,7.3nm,0.3s,baz=23,slow=13,SNR=31						
LVC				S	**Sn**	**21 37 25.1**	**+0.1**
	comp=N,9.3nm,0.3s,baz=307,slow=7.1,SNR=6.7						
LVC	**Limon Verde**	**1.70**	**167**	*i* P	**Pn**	**21 37 02.5**	**0.0**
LVC				*e*S	**Sn**	**21 37 24.7**	**-0.3**
LVC				IAML		21 37 25.8	
	comp=Z,106nm,0.5s						
PB06	**IPOC Station P**	**1.76**	**187**	*e*P	**Pn**	**21 37 03.2**	**+0.2**
PB06				*i* S	**Sn**	**21 37 25.5**	**-0.5**
PB06	**IPOC Station P**	**1.76**	**187**	*i* P	**Pn**	**21 37 03.2**	**+0.2**
PB05	**IPOC Station P**	**2.06**	**203**	*i* P	**Pn**	**21 37 07.0**	**+0.3**
PB15	**IPOC Station P**	**2.25**	**183**	*i* P	**Pn**	**21 37 09.1**	**-0.2**
PB15				*e*S	**Sn**	**21 37 36.9**	**-0.3**
PB15				IAML		21 37 41.9	
	comp=Z,472nm,0.2s						
PB10	**IPOC Station P**	**2.79**	**204**	*i* P	**Pn**	**21 37 15.5**	**-0.6**
YJA	**Yavi**	**3.76**	**110**	*i* P	**Pn**	**21 37 29.8**	**+0.4**
YJA				IAML		21 37 33.4	
	comp=Z,5.0nm,0.6s						
PB14	**IPOC Station P**	**3.79**	**195**	*i* P	**Pn**	**21 37 29.4**	**-0.3**
HJA	**Humahuaca**	**4.28**	**122**	*i* P	**Pn**	**21 37 36.8**	**+0.5**
LPAZ	**La Paz**	**4.78**	**14**	P	**Pn**	**21 37 44.9**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=214,slow=5.9,SNR=15						
LPAZ				LR	LR	21 39 35.5	
	comp=Z,36nm,19.5s,baz=104,slow=36						
CFA	**Coronel Fontan**	**10.65**	**175**	P	**Pn**	**21 38 58.1**	**-4.2**
	comp=Z,0.3nm,0.3s,baz=334,slow=11,SNR=4.6						
TORD	**Torodi Ar. Bea**	**77.55**	**71**	P	P	21 48 23.1	+6.1
	comp=Z,0.3nm,0.6s,baz=251,slow=5.6,SNR=2.3						
YKA	**Yellowknife Ar**	**90.54**	**341**	P	**P**	**21 49 22.4**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=134,slow=4.2,SNR=4.9						
ZALV	**Zalesovo Beam**	**141.62**	**25**	PKP	**PKiKP**	**21 55 53.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=359,slow=5.8,SNR=1.9						
MKAR	**Makanchi Array**	**145.42**	**35**	PKPbc	**PKPab**	**21 55 58.5**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=309,slow=4.5,SNR=3.5						

IDC ***22*** *21:40:12.0±1.4, 5.03S×153.11E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.5/55, mbtmp3.9/4, Error ellipse: s-maj=35.6km s-min=23.8km az=119.0*

ISCJB ***22*** *21:40:17.5±1.5, 5.05S±0.1×152.9E±0.2, h43km, mb3.7/4, Error ellipse: s-maj=25.2km s-min=13.1km az=147.8*

ISC 22 21:40:18.7±1.4, **5.05S**±0.1×**152.8E**±0.2, **h43**km, **n6**, σ0§**87**/8, **mb3.7**/4, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.03**	**308**	Pn	**Pn**	**21 40 37.8**	**+1.0**
	25nm,0.3s,baz=120,slow=0.4,SNR=22						
KRVT				Sn	**Sn**	**21 40 49.2**	**-0.9**
	110nm,0.3s,baz=141,slow=22,SNR=13						
WRA	**Warramunga Arr**	**23.38**	**229**	P	**P**	**21 45 24.2**	**+0.3**
	1.1nm,0.3s,baz=53,slow=9.8,SNR=13						
ASAR	**Alice Springs**	**26.07**	**223**	P	**P**	**21 45 49.3**	**+0.8**
	0.9nm,0.4s,baz=55,slow=8.9,SNR=9.8						
FITZ	**Fitzroy Crossi**	**29.62**	**242**	P	**P**	**21 46 19.5**	**-0.7**
	1.2nm,0.4s,baz=66,slow=7.1,SNR=2.9						
ILAR	**Eielson Array**	**82.28**	**22**	P	**P**	**21 52 35.2**	**-0.2**
	0.5nm,0.7s,baz=249,slow=5.3,SNR=8.1						
TORD	**Torodi Ar. Bea**	**150.39**	**288**	PKPbc	**PKPbc**	**22 00 06.0**	**-0.7**
	0.1nm,0.3s,baz=86,slow=1.8,SNR=6.0						
TORD				PKPab	**pPKPdf**	**22 00 14.7**	**+0.4**
	0.3nm,0.4s,baz=62,slow=1.5,SNR=7.4						

NEIC ***22*** *21:40:19.5±1.6, 31.32S±0.08×178.5W±0.2, h32km±4km, mb4.5/9*

IDC ***22*** *21:40:25.2±2.7, 31.08S×178.47W, h76km±22km, mb4.1/7, mb1 4.3/7, mb1mx3.8/50, mbtmp4.4/7, MS3.4/2, Ms1 3.4/2, ms1mx2.9/35, Error ellipse: s-maj=26.4km s-min=16.7km az=146.0*

ISC 22 21:40:22.8±0.5, **31.30S**±0.07×**178.6W**±0.1, **h61**km, **n43**, σ1§**71**/46, **mb4.5**/10, **2C, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.12**	**16**	P	**Pn**	**21 40 56.2**	**+0.2**
	170nm,0.3s,baz=41,slow=22,SNR=8.6						
RAO				S	**Sn**	**21 41 18.2**	**-3.0**
	405nm,0.3s,baz=137,slow=22,SNR=4.9						
RAO	**Raoul Island**	**2.12**	**16**	Pn	**Pn**	**21 40 53.2**	**-2.7**
RAO					**Sn**	**21 41 17.9**	**-3.2**
URZ	**Urewera**	**7.79**	**206**	P	**Pn**	**21 42 10.3**	**-3.1**
	0.7nm,0.3s,baz=270,slow=3.8,SNR=8.3						
URZ				S	**Sn**	**21 43 38.3**	**-1.8**
	3.8nm,0.3s,baz=71,slow=16,SNR=13						
URZ	**Urewera**	**7.79**	**206**		**Pn**	**21 42 10.8**	**-2.6**
URZ					**Sn**	**21 43 37.8**	**-2.3**
BFZ	**Birch Farm**	**10.25**	**203**	Pn	**Pn**	**21 42 44.6**	**-2.4**
THZ	**Tophouse**	**12.47**	**211**	Pn	**Pn**	**21 43 15.3**	**-2.2**
KHZ	**Kahutara**	**12.75**	**207**	Pn	Pn	21 43 15.2	-6.0
DZM	**Mont Dzumac**	**16.20**	**301**	LR	LR	21 49 33.7	

SNR=31
BANOM S Sn 21 50 08.9 -3.6
BANOM Banah 5.61 261 P Pn 21 49 11.0 +3.1
SNR=31
BANOM S Sn 21 50 10.0 -2.5
GENO Geno 5.61 276 *e*Pn Pn 21 49 11.2 +3.1
GENO IAMB IAmb 21 50 12.5
comp=Z,0.0nm,0.2s
NGRK Negar Kerman 5.71 299 *e*Pn Pn 21 49 13.1 +3.4
NGRK IAMB IAmb 21 49 17.3
comp=Z,0.0nm,0.2s
SHME Shamm 5.72 262 *i* P Pn 21 49 12.3 +2.8
SNR=8.8
SHME Shamm 5.72 262 *e*Pn Pn 21 49 13.7 +4.2
HOQ Hoqain 5.73 235 P Pn 21 49 12.3 +2.7
HOQ S Sn 21 50 10.7 -4.8
MDH Madha 5.77 255 *i* P Pn 21 49 12.3 +2.2
SNR=13
MDH Madha 5.77 255 P Pn 21 49 13.0 +2.9
SNR=13
MDH S Sn 21 50 12.4 -4.0
MDH Madha 5.77 255 *e*Pn Pn 21 49 12.8 +2.7
TVBK TV Kerman 5.85 302 *e*Pn Pn 21 49 14.2 +2.7
TVBK IAMB IAmb 21 49 17.1
comp=Z,0.0nm,0.2s
MSFE Esma-Masafi 5.87 256 *e*Pn Pn 21 49 13.3 +1.8
UOSS Minazif 5.96 252 *i* P Pn 21 49 15.0 +2.2
SNR=12
UOSS Minazif 5.96 252 *e*Pn Pn 21 49 15.3 +2.5
JMDO Jabal Madar 6.03 222 P Pn 21 49 18.7 +4.9
JMDO S Sn 21 50 21.3 -1.6
HATD Hatta, Dubai 6.07 251 P Pn 21 49 17.2 +3.0
HATD Hatta, Dubai 6.07 251 P Pn 21 49 17.4 +3.1
HATD S Sn 21 50 17.9 -5.9
HATD Hatta, Dubai 6.07 251 *e*Pn Pn 21 49 16.6 +2.4
ASHO Ashiyiah 6.18 250 P Pn 21 49 19.5 +3.7
ASHO Ashiyiah 6.18 250 *e*Pn Pn 21 49 18.9 +3.0
IDAH Dahanechah 6.19 339 *e*Pn Pn 21 49 17.0 +0.8
IKOO Kooshah 6.23 332 *e*Pn Pn 21 49 16.7 +0.1
IKOO IAMB IAmb 21 49 17.4
comp=Z,504nm,0.2s
KHGB Koh Gabri 6.26 304 *e*Pn Pn 21 49 18.4 +1.3
KHGB IAMB IAmb 21 49 20.7
comp=Z,0.0nm,0.4s
BSY Bisya 6.34 230 P Pn 21 49 23.4 +5.4
BSY S Sn 21 50 30.3 -0.3
ARQ Araqi 6.46 237 P Pn 21 49 26.0 +6.3
SNR=33
ARQ S Sn 21 50 35.0 +1.5
ALNE Al Ain 6.70 246 P Pn 21 49 28.6 +5.7
ALNE Al Ain 6.70 246 *e*Pn Pn 21 49 28.8 +5.9
ITEG Tejag 6.74 332 *e*Pn Pn 21 49 23.8 +0.1
ITEG IAMB IAmb 21 49 25.1
comp=Z,266nm,0.1s
ASUD Al Ashush, Dub 6.82 252 *i* P Pn 21 49 29.4 +4.9
SNR=11
ASUD Al Ashush, Dub 6.82 252 P Pn 21 49 30.4 +5.9
SNR=11
AFRZ Afriz 7.11 336 *e*Pn Pn 21 49 28.8 +0.2
IBAF Bafgh 7.58 309 *e*Pn Pn 21 49 37.5 +2.3
TPRV Parvadeh(Tabas 7.85 322 *e*Pn Pn 21 49 40.1 +1.3
JHRM Jahrom 8.01 283 *e*Pn Pn 21 49 43.6 +2.6
TKDS Koohdasht(Taba 8.08 327 *e*Pn Pn 21 49 42.9 +0.9
IMEH Mehriz 8.15 305 *e*Pn Pn 21 49 46.7 +3.6
LMD1 Lamerd 8.28 275 *e*Pn Pn 21 49 48.3 +3.7
ISRV Sarvestan 8.59 289 *e*Pn Pn 21 49 51.0 +1.9
JRKH Jarkhoshk 9.11 349 *e*Pn Pn 21 49 56.3 +0.2
ANAR Anarak 9.78 312 *e*Pn Pn 21 50 07.7 +2.4
THW Thamme Wali 9.95 52 P Pn 21 50 08.3 +0.8
IAKL Akhelmad 10.12 343 *e*Pn Pn 21 50 11.1 +1.0
SBZV Sabzevar 10.27 338 *e*Pn Pn 21 50 13.0 +0.9
CEP Cherat 10.66 48 P Pn 21 50 18.4 +1.1
KRSH Karshahi 11.32 311 *e*Pn Pn 21 50 28.0 +1.6
GEYT Alibeck 11.54 343 Pn Pn 21 50 26.3 -3.0
comp=Z,0.1nm,0.3s,baz=165,slow=17,SNR=2.5
RAYN Ar Rayn 15.71 261 *i* P Pn 21 51 26.3 +0.3
SNR=8.2
AAK Ala-Archa 18.49 29 P P 21 52 00.6 -0.1
comp=Z,0.1nm,0.3s,baz=183,slow=12,SNR=2.1
MKAR Makanchi Array 25.26 33 P P 21 53 10.8 +0.1
comp=Z,1.4nm,0.8s,baz=209,slow=9.7,SNR=8.5
KURBB Kurchatov Arra 26.64 23 P P 21 53 21.7 -1.4
comp=Z,0.7nm,0.6s,baz=219,slow=8.6,SNR=6.1
ZALV Zalesovo Beam 31.62 25 P P 21 54 06.1 -1.3
comp=Z,0.4nm,0.4s,baz=232,slow=8.4,SNR=2.8
MLR Muntele Rosu 34.40 312 P P 21 54 32.6 +0.6
comp=Z,1.6nm,0.6s,baz=153,slow=4.5,SNR=5.7
SONM Songino Array 39.99 47 P P 21 55 20.5 +1.1
comp=Z,0.6nm,0.9s,baz=273,slow=2.7,SNR=2.7
FINES FINESS Array B 42.21 335 P P 21 55 36.1 -1.2
comp=Z,1.0nm,0.3s,baz=148,slow=8.1,SNR=15
GERES GERESS Array B 43.35 314 P P 21 55 45.0 -1.8
comp=Z,0.7nm,0.6s,baz=91,slow=8.8,SNR=2.8
NRIK Noril'sk 44.91 12 P P 21 55 57.8 -1.1
comp=Z,1.8nm,0.5s,baz=232,slow=3.1,SNR=4.4
HFS Hagfors 46.78 329 P P 21 56 12.7 -1.2
comp=Z,3.9nm,0.9s,baz=116,slow=10,SNR=7.3
ARCES ARCESS Array B 47.71 343 P P 21 56 19.4 -1.6
comp=Z,3.9nm,0.9s,baz=25,slow=15,SNR=5.1
NOA NORSAR Array B 48.26 329 P P 21 56 23.6 -1.7
comp=Z,0.3nm,0.5s,baz=120,slow=5.2,SNR=1.2
EKA Eskdalemuir Ar 54.51 320 P P 21 57 10.7 -1.6
comp=Z,2.7nm,0.8s,baz=100,slow=7.2,SNR=1.7
TORD Torodi Ar. Bea 58.22 269 P P 21 57 38.7 -0.6
comp=Z,0.2nm,0.5s,baz=73,slow=6.7,SNR=4.1
ASAR Alice Springs 85.39 119 P P 22 00 22.6 +0.2
comp=Z,0.4nm,0.7s,baz=306,slow=6.5,SNR=2.7
YKA Yellowknife Ar 90.84 359 P P 22 00 47.4 -0.4
comp=Z,0.3nm,0.8s,baz=358,slow=4.7,SNR=5.7

*ISCJB **22** 21:55:09.6±0.4,35°.34N±0°.03×23°.33E±0°.04, h70km±3km, mb3.8/16, Error ellipse: s-maj=6.3km s-min=3.4km az=44.1*
*ATH **22** 21:55:11.6, 35°.45N×23°.45E, h43km±1km, ML3.6/15, Error ellipse: s-maj=1.7km s-min=0.8km az=225.0*
*ISK **22** 21:55:11.9, 35°.43N×23°.48E, h26km, ML3.8/13*
*HLW **22** 21:55:12.3, 35°.21N×23°.98E, h23km±10km, Md3.5, MlI3.7*
*THE **22** 21:55:12.4, 35°.39N×23°.38E, h22km±1km, ML3.5/5, Error ellipse: s-maj=2.1km s-min=0.6km az=66.0*
*IDC **22** 21:55:14.9±1.6, 35°.81N×23°.67E, h68km±15km, mb3.8/16, mb1 3.7/19, mb1mx3.5/64, mbtmp4.0/19, Error ellipse: s-maj=35.4km s-min=16.0km az=29.0*
ISC 22 21:55:10.1±0.8, **35°.40N**±0°.04×**23°.40E**±0°.04, **h49**km±7km, **n125**, σ**2**s**25**/155, **mb4.0**/16, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	**0.47**	**350**	P	**Pn**	**21 55 22.1**	**+1.1**
ANKY				S	**Sn**	**21 55 29.6**	**+0.9**
	13μm,0.4s						
ANKY	**Antikythira Is**	**0.47**	**350**	P	**Pn**	**21 55 22.0**	**+1.1**
ANKY				S	**Sn**	**21 55 30.2**	**+1.5**
ANKY				AML	AML	21 55 31.6	
	comp=N,31395μm,0.3s						
ANKY				AML	AML	21 55 32.1	
	comp=E,18862μm,0.4s						
IMMV	**Iera Moni Meta**	**0.48**	**83**	P	**Pn**	**21 55 22.0**	**+1.0**
IMMV				S	**Sn**	**21 55 29.5**	**+0.6**
	comp=E,8μm,0.4s						
IMMV	**Iera Moni Meta**	**0.48**	**83**	P	**Pn**	**21 55 22.0**	**+1.0**
IMMV				S	**Sn**	**21 55 30.0**	**+1.1**
IMMV				AML	AML	21 55 30.9	
	comp=E,15746μm,0.5s						
IMMV				AML	AML	21 55 31.1	
	comp=N,16679μm,0.3s						
IMMV	**Iera Moni Meta**	**0.48**	**83**	PG	**Pn**	**21 55 21.8**	**+0.8**
IMMV				SG	**Sn**	**21 55 28.9**	**0.0**
CHAN	**Chania**	**0.54**	**77**	P	**Pn**	**21 55 23.0**	**+1.3**
CHAN				S	**Sn**	**21 55 31.9**	**+1.8**
VAM	**Vamos**	**0.66**	**89**	P	**Pn**	**21 55 24.6**	**+1.4**
VAM				S	**Sn**	**21 55 35.1**	**+2.4**
	comp=N,5μm,0.8s						
VAM	**Vamos**	**0.66**	**89**	P	**Pn**	**21 55 24.8**	**+1.6**
VAM				S	**Sn**	**21 55 34.5**	**+1.8**
VAM				AML	AML	21 55 36.6	
	comp=N,9780μm,1.0s						
VAM				AML	AML	21 55 37.6	
	comp=E,8823μm,0.5s						
GVDS	**Gavdos**	**0.80**	**134**	P	**Pn**	**21 55 26.6**	**+1.6**
GVDS				S	**Sn**	**21 55 38.5**	**+2.6**
	comp=E,3μm,0.5s						
GVD	**Gavdhos**	**0.80**	**135**	P	**Pn**	**21 55 26.7**	**+1.6**
GVD				S	**Sn**	**21 55 39.2**	**+3.2**
	comp=E,3μm,0.5s						
GVD	**Gavdhos**	**0.80**	**135**	P	**Pn**	**21 55 27.0**	**+2.0**
GVD				S	**Sn**	**21 55 39.0**	**+3.1**
GVD				AML	AML	21 55 40.5	
	comp=E,5629μm,0.6s						
GVD				AML	AML	21 55 40.7	
	comp=N,6662μm,0.5s						
GVD	**Gavdhos**	**0.80**	**135**	PG	**Pn**	**21 55 26.9**	**+1.8**
GVD				SG	**Sn**	**21 55 38.5**	**+2.5**
KTHA	**Kythira Island**	**0.90**	**342**	P	**Pn**	**21 55 29.0**	**+2.6**
KTHA				S	**Sn**	**21 55 41.4**	**+3.1**
KTHA	**Kythira Island**	**0.90**	**342**	P	**Pn**	**21 55 29.0**	**+2.6**
KTHA				S	**Sn**	**21 55 41.2**	**+2.8**
KTHA				AML	AML	21 55 44.8	
	comp=N,17180μm,0.3s						
KTHA				AML	AML	21 55 47.0	
	comp=E,24420μm,0.6s						
KTHA	**Kythira Island**	**0.90**	**342**	PG	**Pn**	**21 55 29.0**	**+2.6**
KTHA				SG	**Sn**	**21 55 41.9**	**+3.6**
PRNS	**Prines Rethymn**	**0.90**	**92**	P	**Pn**	**21 55 28.1**	**+1.7**
PRNS				S	**Sn**	**21 55 40.2**	**+1.7**
SIVA	**Sivas**	**1.22**	**108**	P	**Pn**	**21 55 33.2**	**+2.5**
SIVA	**Sivas**	**1.22**	**108**	P	**Pn**	**21 55 33.5**	**+2.8**
SIVA				S	**Sn**	**21 55 48.9**	**+2.8**
SIVA				AML	AML	21 56 05.0	
	comp=N,3599μm,0.7s						
SIVA				AML	AML	21 56 09.9	
	comp=E,4843μm,0.5s						
IDI	**Anoyia**	**1.23**	**95**	P	**Pn**	**21 55 33.6**	**+2.7**
	comp=E,21nm,0.3s,baz=260,slow=12,SNR=141						
IDI				LR	LR	21 55 42.2	
	comp=E,92nm,20.1s,baz=308,slow=24						
IDI				S	**Sn**	**21 55 50.4**	**+4.0**
	comp=E,56nm,0.3s,baz=45,slow=20,SNR=16						
IDI	**Anoyia**	**1.23**	**95**	P	**Pn**	**21 55 33.3**	**+2.5**
IDI				S	**Sn**	**21 55 48.3**	**+2.0**
IDI				AML	AML	21 55 56.9	
	comp=E,1753μm,0.7s						
IDI				AML	AML	21 55 58.1	
	comp=N,1727μm,0.6s						
IDI	**Anoyia**	**1.23**	**95**	PN	**Pn**	**21 55 33.0**	**+2.1**
IDI				SN	**Sn**	**21 55 48.1**	**+1.7**
MNVA	**Monemvasia**	**1.31**	**347**	P	**Pn**	**21 55 34.5**	**+2.5**
MNVA				S	**Sn**	**21 55 50.8**	**+2.4**
MNVA				AML	AML	21 55 55.3	
	comp=N,3206μm,0.5s						
MNVA				AML	AML	21 55 55.8	
	comp=E,5748μm,0.9s						
MHLO	**Agia Marina, M**	**1.52**	**32**	P	**Pn**	**21 55 36.5**	**+1.7**
MHLO				S	**Sn**	**21 55 55.0**	**+1.6**
MHLO				AML	AML	21 56 01.2	
	comp=E,12818μm,0.4s						
MHLO				AML	AML	21 56 12.8	
	comp=N,9925μm,0.8s						
MHLA	**Plaka, Milos I**	**1.58**	**31**	P	**Pn**	**21 55 37.4**	**+1.8**
MHLA				S	**Sn**	**21 55 57.0**	**+2.1**
MHLA				AML	AML	21 56 03.4	
	comp=N,4379μm,0.9s						
MHLA				AML	AML	21 56 11.0	
	comp=E,6375μm,1.0s						
DYR	**Agios Nikonas**	**1.61**	**328**	P	**Pn**	**21 55 38.9**	**+2.8**
DYR				S	**Sn**	**21 55 58.1**	**+2.5**
DYR				AML	AML	21 56 12.8	
	comp=N,822μm,0.7s						
DYR				AML	AML	21 56 13.2	
	comp=E,863μm,0.9s						
LAST	**Lasithi**	**1.72**	**97**	P	**Pn**	**21 55 40.5**	**+2.9**
LAST				S	**Sn**	**21 56 00.5**	**+2.0**
LAST				AML	AML	21 56 17.5	
	comp=E,829μm,0.8s						
LAST				AML	AML	21 56 17.9	
	comp=N,1263μm,1.1s						
NPS	**Neapolis**	**1.82**	**94**	P	**Pn**	**21 55 41.7**	**+2.8**
NPS				S	**Sn**	**21 56 02.6**	**+1.9**
NPS				AML	AML	21 56 16.7	
	comp=E,1250μm,1.1s						
NPS				AML	AML	21 56 16.8	
	comp=N,1061μm,0.7s						
SAP1	**Santorini-Akro**	**1.88**	**59**	P	**Pn**	**21 55 41.7**	**+1.9**
THR6	**Thira Island,**	**1.88**	**59**	P	**Pn**	**21 55 42.0**	**+2.2**
SAP3	**Santorini-Thir**	**1.89**	**56**	P	**Pn**	**21 55 41.8**	**+1.9**
THR3	**Thira Island,**	**1.91**	**58**	P	**Pn**	**21 55 42.0**	**+1.8**
SANT	**Santorini**	**1.93**	**59**	P	**Pn**	**21 55 42.5**	**+2.0**
SANT				S	**Sn**	**21 56 04.9**	**+1.3**
SANT				AML	AML	21 56 21.1	
	comp=N,1830μm,0.9s						
SANT				AML	AML	21 56 22.7	
	comp=E,1465μm,0.4s						
SANT	**Santorini**	**1.93**	**59**	PN	**Pn**	**21 55 42.2**	**+1.7**
YDRA	**Hydra**	**1.94**	**2**	P	**Pn**	**21 55 42.9**	**+2.2**
YDRA				S	**Sn**	**21 56 06.5**	**+2.7**
YDRA				AML	AML	21 56 10.4	
	comp=E,3743μm,0.4s						
YDRA				AML	AML	21 56 12.1	
	comp=N,2023μm,0.3s						
SERI	**Serifos**	**1.96**	**26**	P	**Pn**	**21 55 42.4**	**+1.5**
THR8	**Santorini-Mono**	**1.96**	**59**	P	**Pn**	**21 55 42.8**	**+1.9**
KRND	**KRANIDI**	**1.99**	**354**	P	**Pn**	**21 55 44.1**	**+2.9**
PYL	**PYLOS**	**2.00**	**319**	P	**Pn**	**21 55 44.0**	**+2.5**
IOSP	**Ios Island**	**2.02**	**49**	P	**Pn**	**21 55 43.2**	**+1.5**
DID	**Didima**	**2.10**	**357**	P	**Pn**	**21 55 45.3**	**+2.4**
VLX	**Vlachokerasia**	**2.13**	**338**	P	**Pn**	**21 55 46.0**	**+2.7**
ITM	**Ithomi**	**2.13**	**327**	P	**Pn**	**21 55 45.5**	**+2.6**
ITM	**Ithomi**	**2.13**	**327**	PN	**Pn**	**21 55 47.2**	**+3.9**
ZKR	**Zakros**	**2.33**	**96**	P	**Pn**	**21 55 49.1**	**+3.2**
ZKR	**Zakros**	**2.33**	**96**	PN	**Pn**	**21 55 48.0**	**+2.1**
APE	**Apeiranthos**	**2.40**	**45**	P	**Pn**	**21 55 48.7**	**+1.8**
APE	**Apeiranthos**	**2.40**	**45**	PN	**Pn**	**21 55 49.1**	**+2.2**
VLY	**Voula,Athens**	**2.47**	**7**	P	**Pn**	**21 55 49.9**	**+2.1**
LTK	**Loutraki**	**2.64**	**353**	P	**Pn**	**21 55 52.7**	**+2.5**
KARP	**Karpathos**	**3.08**	**86**	P	**Pn**	**21 55 57.7**	**+1.5**
KARP	**Karpathos**	**3.08**	**86**	PN	**Pn**	**21 55 58.2**	**+2.0**
BODT	**Bodrum**	**3.57**	**61**	PN	**Pn**	**21 56 05.8**	**+2.9**
CHOS	**Chios island**	**3.66**	**35**	PN	**Pn**	**21 56 06.9**	**+2.6**
AGG	**Agios Georgios**	**3.71**	**347**	PN	**Pn**	**21 56 08.6**	**+3.7**
GCAM	**G?zelcaml?**	**3.85**	**52**	PN	**Pn**	**21 56 09.5**	**+2.8**
URLA	**Izmir**	**3.91**	**40**	PN	**Pn**	**21 56 10.3**	**+2.7**
ARG	**Arkhangelos**	**3.93**	**77**	PN	**Pn**	**21 56 10.4**	**+2.6**
SLUM	**Salum**	**4.18**	**158**	P	**Pn**	**21 56 10.6**	**-0.8**
	baz=164						
SLUM				S	**Sn**	**21 56 52.9**	**-6.1**
	baz=164						
SLUM				AMP		21 57 00.0	
	baz=164						
AYDB	**Zeytinkoy-Aydi**	**4.42**	**54**	PN	**Pn**	**21 56 17.2**	**+2.6**
TURN	**Turunc**	**4.46**	**69**	PN	**Pn**	**21 56 13.5**	**-1.6**
SWA2		**6.38**	**164**	P	**Pn**	**21 56 41.6**	**0.0**
	baz=167						
SWA2				AMP		21 57 00.0	
	baz=167						
SWA2				S	**Sn**	**21 57 46.8**	**-6.3**
	baz=167						
MASS	**Massafra**	**7.18**	**318**	*e*Pn	**Pn**	**21 56 52.2**	**-0.3**
DRME	**Dracevica, Mon**	**7.53**	**335**	*e*Pn	**Pn**	**21 56 55.6**	**-1.6**
VAE	**Valguarnera**	**7.53**	**289**	S	**Sn**	**21 58 14.6**	**-6.8**
	comp=N,1.1nm,0.3s,baz=276,slow=23,SNR=2.1						
SG1	**Sgolgore (BA)**	**7.58**	**318**	*e*Pn	**Pn**	**21 56 57.6**	**-0.3**
SG1				Sn	**Sn**	**21 58 16.3**	**-6.2**
PDG	**Podgorica**	**7.72**	**337**	*e*Pn	**Pn**	**21 56 58.5**	**-1.3**
TREB	**Trebinje**	**8.29**	**333**	*e*Pn	**Pn**	**21 57 04.6**	**-3.0**
BRY	**Bratogost**	**8.38**	**335**	*e*Pn	**Pn**	**21 57 07.6**	**-1.4**
UPM	**Unac-Piva**	**8.53**	**337**	*e*Pn	**Pn**	**21 57 10.6**	**-0.5**
STON	**Ston**	**8.67**	**331**	*i*Pn	**Pn**	**21 57 10.7**	**-2.1**
STON	**Ston**	**8.67**	**331**	*e*Pn	**Pn**	**21 57 11.2**	**-1.6**
BBLS	**Lazići**	**8.99**	**341**	*e*Pn	**Pn**	**21 57 15.1**	**-2.2**
DIVS	**Divibare**	**9.07**	**344**	*e*Pn	**Pn**	**21 57 15.8**	**-2.6**
BRTR	**Keskin Array B**	**9.20**	**59**	P	**Pn**	**21 57 20.2**	**-0.1**
	comp=N,0.1nm,0.3s,baz=241,slow=13,SNR=18						
HFRF	**Wahat Farafira**	**9.24**	**152**	P	**Pn**	**21 57 20.3**	**-0.4**
	baz=154						
HFRF				S	Sn	21 58 53.6	-10
	baz=154						
MAKA	**Makarska**	**9.29**	**330**	*e*Pn	**Pn**	**21 57 19.4**	**-1.9**
HAPS	**Han Pijesak,Bl**	**9.32**	**340**	*e*Pn	**Pn**	**21 57 18.6**	**-3.2**
RICI	**Ricice**	**9.42**	**331**	*e*Pn	**Pn**	**21 57 21.2**	**-1.9**
HVAR	**Hvar**	**9.45**	**327**	*e*Pn	**Pn**	**21 57 21.3**	**-2.2**
SUZ	**Suez**	**9.70**	**122**	P	**Pn**	**21 57 25.2**	**-1.8**
	baz=123						
KIJV	**Kijevo**	**10.14**	**330**	*e*Pn	**Pn**	**21 57 31.2**	**-1.7**
ZIRJ	**Zirje**	**10.18**	**326**	*e*Pn	**Pn**	**21 57 31.3**	**-2.2**
MMAI	**Mount Meron Ar**	**10.22**	**100**	P	**Pn**	**21 57 32.8**	**-1.4**
	comp=N,0.7nm,0.3s,baz=285,slow=9.4,SNR=6.2						
MLR	**Muntele Rosu**	**10.26**	**10**	P	Pn	21 57 39.6	+4.9
	comp=N,0.1nm,0.3s,baz=227,slow=8.6,SNR=3.2						
MORI	**Morici**	**10.32**	**327**	*i* Pn	**Pn**	**21 57 33.6**	**-1.7**
DUGI	**Dugi Otok**	**10.71**	**326**	*e*Pn	**Pn**	**21 57 40.0**	**-0.8**
UDBI	**Udbina**	**10.83**	**330**	*e*Pn	**Pn**	**21 57 41.4**	**-1.0**
NVLJ	**Novalja**	**11.24**	**327**	*e*Pn	**Pn**	**21 57 46.7**	**-1.2**
EIL	**Elat**	**11.30**	**117**	P	**Pn**	**21 57 47.2**	**-1.6**
	comp=N,0.1nm,0.3s,baz=356,slow=6.2,SNR=7.2						
EIL				S	Sn	21 59 43.3	-10
	comp=N,0.3nm,0.3s,baz=7.4,slow=6.5,SNR=1.3						
MORH	**Mrgy, Hungar**	**11.38**	**343**	*e*Pn	**Pn**	**21 57 45.4**	**-4.5**
CRES	**Cresnjev**	**12.03**	**332**	*e*Pn	**Pn**	**21 57 56.1**	**-2.6**
CEY	**Cerknica**	**12.36**	**329**	*e*Pn	**Pn**	**21 58 01.8**	**-1.5**
OBKA	**Obir**	**12.94**	**332**	*e*Pn	**Pn**	**21 58 10.6**	**-0.7**
	comp=N,0.5nm,0.3s						
VYHS	**Vyhne**	**13.51**	**347**	*e*PN	**P**	**21 58 27.2**	**+0.4**
MODS	**Modra-Piesok**	**13.73**	**343**	*e*PN	**P**	**21 58 30.0**	**+0.7**
SMOL	**Smolenice**	**13.83**	**343**	*e*PN	**P**	**21 58 31.5**	**+1.2**
ABTA	**Abfaltersbach**	**13.98**	**327**	Pn	**Pn**	**21 58 28.3**	**+2.9**
	comp=N,2.4nm,0.6s						
MOA	**Molln**	**14.17**	**334**	*e*Pn	**Pn**	**21 58 26.4**	**-1.6**
	comp=N,0.6nm,0.4s						
VRAC	**Vranov**	**14.77**	**342**	P	**P**	**21 58 41.5**	**+0.7**
	comp=N,0.3nm,0.3s,baz=142,slow=10,SNR=11						
SQTA	**Sankt Quirin**	**14.92**	**326**	P	**P**	**21 58 44.4**	**+1.9**
	comp=N,1.9nm,0.5s						
OKC	**Ostrava-Krasne**	**14.93**	**347**	*e*P	**P**	**21 58 44.2**	**+1.7**
FETA	**Feichten**	**15.00**	**325**	Pn	**P**	**21 58 42.4**	**-1.1**
	comp=N,3.2nm,0.7s,SNR=4.9						
GERES	**GERESS Array B**	**15.22**	**335**	P	**Pn**	**21 58 41.0**	**-0.8**
	comp=N,0.2nm,0.3s,baz=143,slow=12,SNR=3.8						
KHC	**Kasperske Hory**	**15.51**	**335**	*e*P	**P**	**21 58 49.1**	**+0.1**
DPC	**Doruska-Polom**	**15.80**	**343**	*e*P	**P**	**21 58 53.2**	**+0.9**
GOPC	**GO Pecny, Ondr**	**15.81**	**339**	*e*P	**P**	**21 58 52.8**	**+0.5**
AKASG	**Malin Array Be**	**15.86**	**14**	P	**Pn**	**21 58 46.7**	**-3.2**
	comp=N,0.2nm,0.3s,baz=208,slow=9.9,SNR=3.3						
PRU	**Pruhonice**	**15.95**	**339**	*e*P	**P**	**21 58 54.2**	**+0.4**
BRG	**Berggiesshubel**	**16.91**	**339**	*i* P	**P**	**21 59 05.0**	**+0.5**
	comp=N,8.8nm,1.3s						
HFS	**Hagfors**	**25.54**	**349**	P	**P**	**22 00 33.3**	**-0.5**
	comp=N,5.2nm,0.7s,baz=153,slow=9.7,SNR=6.5						
NOA	**NORSAR Array B**	**26.82**	**347**	P	**P**	**22 00 44.9**	**-0.5**
	comp=N,0.4nm,0.7s,baz=65,slow=11,SNR=3.8						
EKA	**Eskdalemuir Ar**	**27.02**	**326**	P	**P**	**22 00 49.6**	**+2.3**
	comp=N,1.9nm,0.6s,baz=122,slow=8.3,SNR=8.7						
GEYT	**Alibeck**	**27.87**	**74**	P	**P**	**22 00 54.5**	**-0.7**
	comp=N,1.4nm,0.5s,baz=298,slow=3.2,SNR=4.7						
ARU	**Arti**	**31.73**	**37**	P	**P**	**22 01 29.0**	**0.0**
	comp=N,0.5nm,0.4s,baz=231,slow=7.3,SNR=6.1						
ARCES	**ARCESS Array B**	**34.21**	**1**	P	**P**	**22 01 49.2**	**-1.3**
	comp=N,2.0nm,0.6s,baz=182,slow=9.2,SNR=6.9						
BVAR	**Borovoye Array**	**37.23**	**47**	P	**P**	**22 02 15.6**	**-1.0**
	comp=N,1.0nm,0.7s,baz=266,slow=7.0,SNR=6.0						
KURBB	**Kurchatov Arra**	**42.09**	**51**	P	**P**	**22 02 57.0**	**-0.1**
	comp=N,1.6nm,0.5s,baz=281,slow=8.6,SNR=13						
SPITS	**Spitsbergen Ar**	**42.99**	**358**	P	**P**	**22 03 04.1**	**+0.1**
	comp=N,15nm,1.0s,baz=141,slow=12,SNR=5.1						
MKAR	**Makanchi Array**	**44.84**	**57**	P	**P**	**22 03 18.5**	**-0.8**
	comp=N,1.7nm,0.7s,baz=286,slow=6.5,SNR=17						
ZALV	**Zalesovo Beam**	**45.88**	**46**	P	**P**	**22 03 26.7**	**-0.6**
	comp=N,1.2nm,0.4s,baz=273,slow=9.6,SNR=9.9						
SONM	**Songino Array**	**60.44**	**50**	P	**P**	**22 05 14.6**	**-0.1**
	comp=N,0.3nm,0.4s,baz=249,slow=9.7,SNR=3.5						
YKA	**Yellowknife Ar**	**76.77**	**341**	P	**P**	**22 06 56.7**	**+0.8**
	comp=N,0.5nm,0.6s,baz=32,slow=5.4,SNR=13						
USRK	**Ussuriysk Ar.**	**77.68**	**44**	P	**P**	**22 07 01.1**	**-0.2**
	comp=N,2.3nm,0.7s,baz=328,slow=6.4,SNR=6.9						
KSRS	**Korea Array**	**79.27**	**52**	P	**P**	**22 07 10.3**	**+0.1**
	comp=N,1.6nm,0.7s,baz=313,slow=4.2,SNR=4.4						
ILAR	**Eielson Array**	**79.86**	**356**	P	**P**	**22 07 14.0**	**+1.0**
	comp=N,0.2nm,0.5s,baz=347,slow=3.7,SNR=3.7						

*ISCJB **22** 22:09:08.8±0.2, 5°.83S±0°.03×127°.79E±0°.03, h400km, mb3.7/13, Error ellipse: s-maj=4.4km s-min=3.5km az=3.5*
*IDC **22** 22:09:09.4±1.0, 5°.85S×127°.92E, h390km±10km, mb3.5/14, mb1 3.7/17, mb1mx3.6/32, mbtmp4.4/17, Error ellipse: s-maj=13.9km s-min=7.7km az=86.0*
*NEIC **22** 22:09:10.2±1.5, 5°.86S±0°.08×127°.83E±0°.07, h404km±6km, mb4.2/23*
*DJA **22** 22:09:10.2±0.2, 6°S±3°×12°8E±°, h402km±5km, M4.7/17, mB5.1/10, mb4.6/17, MLv5.0/14, Mw(mB)4.5/10*
ISC 22 22:09:09.6±0.4, **5°.86S**±0°.04×**127°.88E**±0°.05, **h400**km, **n83**, σ**1**s**54**/98, **mb4.0**/20, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**2.18**	**8**	P	**Pn**	**22 10 07.6**	**+0.8**
BNDI	**Bandanaira**	**2.41**	**57**	S	**S**	**22 10 57.4**	**+1.6**
MSAI	**Masohi**	**2.71**	**23**	P	**Pn**	**22 10 09.6**	**-1.0**
MSAI				S	**S**	**22 10 55.9**	**-3.9**
NLAI	**Namlea**	**2.72**	**343**	P	**Pn**	**22 10 11.8**	**+1.1**
SAUI	**Saumlaki**	**4.00**	**122**	P	**Pn**	**22 10 23.7**	**+2.0**
SAUI	**Saumlaki**	**4.00**	**122**		**Pn**	**22 11 22.1**	**+0.4**
SAUI	

AS31				S	**S**	**22 16 10.2**	**-1.1**		
ASAR	**Alice Springs**	**18.63**	**162**	P	**P**	**22 13 01.9**	**+0.9**		
	comp=Z,19nm,0.3s,baz=343,slow=12,SNR=987								
ASAR				S	**S**	**22 16 10.2**	**-1.1**		
	comp=Z,0.1nm,0.3s,baz=333,slow=17,SNR=17								
ASAR				PcP	**PcP**	**22 17 09.4**	**+0.2**		
	comp=Z,0.2nm,0.3s,baz=314,slow=1.5,SNR=5.5								
KSM	**Kuching**	**19.00**	**292**	P	**P**	**22 13 04.6**	**-0.2**		
KSM				IAmb	IAmb	22 13 05.7			
	comp=Z,16nm,1.0s								
LEM	**Lembang**	**20.16**	**266**	P	**P**	**22 13 18.3**	**+2.4**		
	comp=Z,7.9nm,0.4s,baz=350,slow=19,SNR=3.9								
GIRL	**Giralia**	**21.26**	**217**	P	**P**	**22 13 25.0**	**-0.6**		
FORT	**Forrest**	**24.79**	**180**	P	**P**	**22 13 58.2**	**+0.8**		
MORW	**Morawa**	**25.66**	**205**	P	**P**	**22 14 05.4**	**+0.2**		
MORW				IAmb	IAmb	22 14 11.2			
	comp=Z,7.2nm,0.9s								
BKNI	**Bangkinang**	**27.49**	**282**	P	**P**	**22 14 20.8**	**-0.8**		
BBOO	**Buckleboo**	**27.88**	**165**	P	**P**	**22 14 25.4**	**+0.6**		
BBOO				IAmb	IAmb	22 14 26.4			
	comp=Z,14nm,0.5s								
NWAO	**Narrogin (SRO)**	**28.70**	**199**	P	**P**	**22 14 32.7**	**+0.7**		
	comp=Z,5.6nm,0.9s,baz=9.3,slow=6.3,SNR=2.1								
NWAO	**Narrogin (SRO)**	**28.70**	**199**	P	**P**	**22 14 32.5**	**+0.5**		
NWAO	**Narrogin (SRO)**	**28.70**	**199**	P	**P**	**22 14 32.7**	**+0.7**		
NWAO				IAmb	IAmb	22 14 49.9			
	comp=Z,7.8nm,1.1s								
STKA	**Stephens Creek**	**28.89**	**155**	P	**P**	**22 14 35.2**	**+1.5**		
	comp=Z,12nm,0.5s,baz=333,slow=8.5,SNR=56								
STKA	**Stephens Creek**	**28.89**	**155**	P	**P**	**22 14 34.1**	**+0.4**		
RPSI	**Rantau Prapat**	**30.14**	**286**	P	**P**	**22 14 44.6**	**-0.3**		
RPSI				IAmb	IAmb	22 14 46.9			
	comp=Z,12nm,1.0s								
GSI	**Gunungsitoli**	**31.09**	**282**	P	**P**	**22 14 51.5**	**-1.7**		
GSI				IAmb	IAmb	22 14 53.7			
	comp=Z,16nm,1.0s								
CM31	**Chiang Mai Arr**	**37.40**	**311**	P	**P**	**22 15 47.9**	**+1.3**		
CM31				IAmb	IAmb	22 15 51.5			
	comp=Z,6.1nm,0.8s								
CMAR	**Chiang Mai Arr**	**37.40**	**311**	P	**P**	**22 15 47.0**	**+0.5**		
	comp=Z,3.1nm,0.7s,baz=148,slow=8.6,SNR=9.5								
CMMT	**Chiang Mai**	**37.61**	**311**	P	**P**	**22 15 52.8**	**+4.5**		
CHTO	**Chiang Mai**	**37.61**	**311**	P	**P**	**22 15 48.4**	**0.0**		
CHTO				IAmb	IAmb	22 15 53.2			
	comp=Z,5.9nm,0.7s								
KSRS	**Korea Array**	**43.09**	**0**	P	**P**	**22 16 32.6**	**+0.3**		
	comp=Z,1.1nm,0.6s,baz=172,slow=9.7,SNR=3.2								
MJAR	**Matsushiro Arr**	**43.27**	**12**	P	**P**	**22 16 32.9**	**-0.9**		
	comp=Z,1.4nm,0.7s,baz=194,slow=9.5,SNR=2.8								
USRK	**Ussuriysk Ar.**	**49.97**	**4**	P	**P**	**22 17 25.4**	**+0.5**		
	comp=Z,1.7nm,0.6s,baz=162,slow=8.9,SNR=4.6								
TAPN	**Taplejung**	**50.97**	**312**	*eP*	**P**	**22 17 32.6**	**-0.4**		
	comp=Z,2.7nm,0.4s								
RAMN	**Ramite**	**51.57**	**311**	*eP*	**P**	**22 17 37.3**	**0.0**		
	comp=Z,8.5nm,0.5s								
GUN	**Gumba**	**52.63**	**312**	*eP*	**P**	**22 17 44.7**	**-0.4**		
	comp=Z,5.8nm,0.5s								
GKN	**Gorkha**	**53.60**	**311**	*eP*	**P**	**22 17 51.6**	**-0.3**		
	comp=Z,7.7nm,0.2s								
KOLN	**Koldanda**	**54.26**	**310**	*eP*	**P**	**22 17 57.1**	**+0.4**		
	comp=Z,3.4nm,0.3s								
DANN	**Dangsing**	**54.44**	**311**	*eP*	**P**	**22 17 57.9**	**-0.2**		
	comp=Z,7.5nm,0.6s								
ULN	**Ulaanbaatar**	**56.56**	**343**	P	**P**	**22 18 10.6**	**-1.8**		
SONM	**Songino Array**	**56.72**	**343**	P	**P**	**22 18 14.6**	**+1.1**		
	comp=Z,1.1nm,0.6s,baz=163,slow=6.5,SNR=5.7								
PETK	**Petropavlovsk-**	**63.93**	**19**	P	**P**	**22 19 01.8**	**+0.4**		
	comp=Z,2.2nm,0.5s,baz=203,slow=9.0,SNR=6.3								
MK31	**Makanchi Array**	**66.13**	**328**	P	**P**	**22 19 15.8**	**+0.2**		
MKAR	**Makanchi Array**	**66.13**	**328**	P	**P**	**22 19 15.9**	**+0.3**		
	comp=Z,1.2nm,0.4s,baz=115,slow=8.7,SNR=43								
ZALV	**Zalesovo Beam**	**69.64**	**335**	P	**P**	**22 19 36.6**	**-0.4**		
	comp=Z,1.2nm,0.5s,baz=132,slow=5.8,SNR=7.3								
VNDA	**Vanda**	**73.83**	**173**	P	**P**	**22 20 01.8**	**+0.5**		
	comp=Z,2.0nm,0.8s,baz=316,slow=11,SNR=2.5								
TIXI	**Tiksi**	**77.36**	**0**	P	**P**	**22 20 20.5**	**-0.6**		
TIXI				IAmb	IAmb	22 20 21.5			
	comp=Z,2.9nm,0.5s								
QSPA	**South Pole Qui**	**84.11**	**180**	P	**P**	**22 20 57.0**	**+0.3**		
	comp=Z,1.3nm,0.2s,baz=354,slow=2.4,SNR=4.9								
ILAR	**Eielson Array**	**93.22**	**25**	P	**P**	**22 21 40.6**	**+1.1**		
	comp=Z,0.2nm,0.5s,baz=270,slow=5.4,SNR=4.0								
FRB	**Frobisher Bay**	**121.01**	**8**	PKP	**PKPdf**	**22 27 14.6**	**-0.5**		
	comp=Z,0.7nm,0.5s,baz=18,slow=6.4,SNR=1.6								
TXAR	**Lajitas Array**	**126.13**	**58**	PKP	**PKPdf**	**22 27 26.4**	**+0.3**		
	comp=Z,0.2nm,0.4s,baz=202,slow=2.2,SNR=6.3								
TORD	**Torodi Ar. Bea**	**126.52**	**282**	PKP	**PKPdf**	**22 27 27.1**	**+0.1**		
	comp=Z,0.5nm,0.5s,baz=106,slow=2.6,SNR=7.2								
GO02	**Mina Guanaco**	**144.79**	**152**		PKPbc	22 28 00.3	-0.6		
LVC	**Limon Verde**	**147.28**	**150**	PKPbc	**PKiKP**	**22 28 09.9**	**-0.2**		
	comp=Z,3.7nm,0.4s,baz=115,slow=0.5,SNR=8.5								
CPUP	**Villa Florida**	**147.60**	**171**	PKPbc	**PKPbc**	**22 28 09.0**	**+0.5**		
	comp=Z,2.4nm,0.6s,baz=173,slow=3.9,SNR=7.7								
CPUP	**Villa Florida**	**147.60**	**171**		**PKPbc**	**22 28 08.2**	**-0.3**		
MNMC	**Minye Minye**	**149.78**	**146**		**PKPbc**	**22 28 13.1**	**-1.4**		
LPAZ	**La Paz**	**152.88**	**144**	PKPbc	**PKiKP**	**22 28 23.2**	**+1.1**		
	comp=Z,1.1nm,0.5s,baz=310,slow=2.0,SNR=7.3								

*ISCJB **22** 22:16:29.6±1.1, 46.4S±0.2×96.1E±0.3, h16km, mb4.1/6, MS3.8/12, Error ellipse: s-maj=37.6km s-min=19.4km az=44.9*
*IDC **22** 22:16:29.2±1.3, 46.43S×96.10E, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.9/31, mbtmp4.2/6, MS3.8/12, Ms1 3.8/12, ms1mx3.6/29, Error ellipse: s-maj=44.4km s-min=25.1km az=137.0*
*NEIC **22** 22:16:30.6±0.7, 46.5S±0.2×96.2E±0.3, h10km±1km, mb4.4/4*

ISC 22 22:16:31.8±1.2, 46.5S±0.2×96.2E±0.2, h16km, n25, σ0.59/11, mb4.2/6, MS3.8/12, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.82**	**56**	T	T	22 38 47.4	
	baz=223,slow=74,SNR=138						
H01W3	**Cape Leeuwin H**	**17.83**	**56**	T	T	22 38 48.6	
	baz=223,slow=74,SNR=134						
H01W1	**Cape Leeuwin H**	**17.83**	**56**	T	T	22 38 48.5	
	baz=223,slow=74,SNR=111						
NWAO	**Narrogin (SRO)**	**21.02**	**57**	P	**P**	**22 21 15.6**	**+0.9**
	11nm,0.9s,baz=221,slow=9.0,SNR=6.0						
NWAO				LR	LR	22 27 27.7	
	comp=Z,297nm,19.5s,baz=269,slow=31						
NWAO	**Narrogin (SRO)**	**21.02**	**57**	P	**P**	**22 21 14.0**	**-0.7**
NWAO				IAmb	IAmb	22 21 16.8	
	comp=Z,12nm,0.8s						
MAW	**Mawson**	**27.27**	**207**	LR	LR	22 30 58.4	
	comp=Z,73nm,18.1s,baz=56,slow=32						
FITZ	**Fitzroy Crossi**	**37.30**	**51**	P	**P**	**22 23 43.0**	**-0.1**
STKA	**Stephens Creek**	**37.58**	**84**	P	**P**	**22 23 45.2**	**-0.2**
	comp=Z,4.3nm,0.9s,baz=218,slow=3.4,SNR=4.8						
STKA				LR	LR	22 36 08.4	
	comp=Z,153nm,21.5s,baz=210,slow=31						
STKA	**Stephens Creek**	**37.58**	**84**	P	**P**	**22 23 45.0**	**-0.5**
ASAR	**Alice Springs**	**37.85**	**66**	P	**P**	**22 23 48.0**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=223,slow=8.0,SNR=20						
ASAR				LR	LR	22 37 14.6	
	comp=Z,82nm,21.5s,baz=230,slow=33						
VNDA	**Vanda**	**39.90**	**162**	LR	LR	22 39 19.8	
	comp=Z,113nm,18.4s,baz=268,slow=34						
WRA	**Warramunga Arr**	**40.87**	**63**	P	**P**	**22 24 12.5**	**-0.5**
	comp=Z,4.0nm,0.9s,baz=222,slow=8.4,SNR=19						
QSPA	**South Pole Qui**	**43.68**	**180**	LR	LR	22 41 33.7	
	comp=Z,173nm,20.1s,baz=310,slow=34						
H08S2	**Diego Garcia H**	**43.69**	**325**	T	T	23 11 08.2	
	baz=153,slow=76,SNR=25						
H08S1	**Diego Carcia H**	**43.70**	**325**	T	T	23 11 07.7	
H08S3	**Diego Garcia H**	**43.71**	**325**	T	T	23 11 09.6	
	baz=151,slow=76,SNR=38						
SNAA	**Sanae**	**49.36**	**204**	P	**P**	**22 25 19.8**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=97,slow=4.3,SNR=6.0						
SNAA	**Sanae**	**49.36**	**204**	P	**P**	**22 25 19.9**	**-0.1**
SNAA				IAmb	IAmb	22 25 21.5	
	comp=Z,7.7nm,1.3s						
PALK	**Pallekele**	**55.24**	**341**	LR	LR	22 47 44.7	
	comp=Z,54nm,18.1s,baz=226,slow=34						
PMG	**Port Moresby**	**56.86**	**66**	LR	LR	22 48 28.5	
	comp=Z,83nm,18.4s,baz=145,slow=34						
BOSA	**Boshof**	**57.11**	**262**	LR	LR	22 45 06.1	
	comp=Z,105nm,20.4s,baz=141,slow=30						
CMAR	**Chiang Mai Arr**	**64.66**	**3**	P	**P**	**22 27 08.4**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=201,slow=6.1,SNR=4.8						
CMAR				LR	LR	22 51 22.6	
	comp=Z,59nm,19.8s,baz=199,slow=32						
HNR	**Honiara**	**65.23**	**77**	LR	LR	22 54 45.5	
	comp=Z,166nm,18.1s,baz=252,slow=35						
PLCA	**Paso Flores**	**92.38**	**190**	LR	LR	23 12 09.4	
	comp=Z,41nm,18.1s,baz=166,slow=36						
NVAR	**Mina Array Bea**	**153.49**	**95**	PKPbc	**PKiKP**	**22 36 30.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=200,slow=4.8,SNR=2.4						

NNC 22 22:23:37.4±3.5, 39.83N×81.72E, h3km±18km, mb3.7, mpv3.4, Error ellipse: s-maj=37.0km s-min=21.8km az=70.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.73**	**334**	Pg	Pb	22 24 43.2	-0.8
	2.8nm,0.2s						
SHLS				Lg	Lg	22 25 31.5	
	8.7nm,0.6s						
PDGK	**Podgornoye**	**3.88**	**335**	Pn	Pn	22 24 37.0	-0.9
	3.4nm,1.1s						
PDGK				Lg	Lg	22 25 41.4	
	6.1nm,0.8s						
UZB	**Uzynbulak**	**3.88**	**329**	Pg	Pb	22 24 47.7	+1.2
	0.9nm,0.2s						
UZB				Lg	Lg	22 25 39.3	
	4.8nm,0.3s						
SATY	**Saty**	**4.08**	**323**	Pg	Pb	22 24 52.4	+2.6
	5.8nm,0.4s						
SATY				Lg	Lg	22 25 47.2	
	7.5nm,0.4s						
MK31	**Makanchi Array**	**6.97**	**3**	Pn	Pn	22 25 22.0	+1.7
	baz=185,slow=12						
MK31				Sn	Sn	22 26 41.6	+1.4
	baz=179,slow=22						

*ISCJB **22** 22:29:01.4±0.5, 60.22S±0.08×46.4W±0.2, h10km, mb4.0/9, MS3.2/4, Error ellipse: s-maj=16.4km s-min=7.3km az=143.4*
*IDC **22** 22:29:01.1±0.7, 60.33S×46.67W, h0km, mb4.1/10, mb1 4.1/10, mb1mx4.0/19, mbtmp4.1/10, MS3.2/5, Ms1 3.2/5, ms1mx3.0/22, Error ellipse: s-maj=33.7km s-min=15.7km az=54.0*
*NEIC **22** 22:29:02.5±2.0, 60.3S±0.1×46.6W±0.3, h10km±1km, mb4.4/13*

ISC 22 22:29:02.6±0.6, 60.26S±0.10×46.7W±0.1, h10km, n45, σ0.92/37, mb4.2/13, MS3.2/4, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.15**	**47**	Pn	**Pn**	**22 31 00.5**	**-0.3**
PMSA	**Palmer Station**	**9.20**	**233**	LR	LR	22 34 11.7	
	comp=Z,73nm,21.4s,baz=4.5,slow=34						
VNA3	**Neumayer Olymp**	**18.38**	**142**	P	**P**	**22 33 17.9**	**+0.8**
VNA1	**Neumayer--Stat**	**18.65**	**140**	P	**Pn**	**22 33 21.1**	**+0.6**
VNA2	**Neumayer--Watz**	**19.00**	**140**	P	**Pn**	**22 33 24.6**	**-0.1**
	baz=292,slow=13						
SNAA	**Sanae**	**20.60**	**141**	P	**P**	**22 33 41.9**	**+0.4**
SNAA	**Sanae**	**20.60**	**141**	P	**P**	**22 33 41.2**	**-0.3**
	9.5nm,0.9s,baz=281,slow=10,SNR=16						
SNAA	**Sanae**	**20.60**	**141**	P	**P**	**22 33 42.0**	**+0.4**
SNAA				IAmb	IAmb	22 33 45.7	
	comp=Z,13nm,1.0s						
TRQA	**Tornquist**	**24.25**	**330**	P	**P**	**22 34 20.3**	**+0.8**
TRQA				IAmb	IAmb	22 34 25.2	
	comp=Z,9.3nm,0.9s						
PLCA	**Paso Flores**	**24.50**	**312**	P	**P**	**22 34 21.3**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=166,slow=7.0,SNR=7.8						
PLCA				LR	LR	22 44 30.0	
	comp=Z,45nm,18.2s,baz=135,slow=38						
PLCA	**Paso Flores**	**24.50**	**312**	P	**P**	**22 34 21.5**	**-0.5**
QSPA	**South Pole Qui**	**29.98**	**180**	P	**P**	**22 35 10.1**	**-0.8**
	comp=Z,2.1nm,0.4s,baz=168,slow=3.4,SNR=10						
QSPA	**South Pole Qui**	**29.98**	**180**	P	**P**	**22 35 10.9**	**0.0**
QSPA				IAmb	IAmb	22 35 11.6	
	comp=Z,8.6nm,1.1s						
CFA	**Coronel Fontan**	**32.03**	**324**	P	**P**	**22 35 31.3**	**+2.1**
	comp=Z,1.0nm,0.3s,baz=159,slow=6.6,SNR=4.5						
GO04	**Tololo Observa**	**34.15**	**321**	P	**P**	**22 35 50.1**	**+2.3**
CPUP	**Villa Florida**	**34.70**	**343**	LR	LR	22 49 05.8	
	comp=Z,27nm,21.2s,baz=192,slow=35						
GO02	**Mina Guanaco**	**38.49**	**325**	P	**P**	**22 36 25.2**	**+0.2**
GO02				IAmb	IAmb	22 36 29.0	
	comp=Z,6.1nm,0.7s						
LVC	**Limon Verde**	**40.73**	**328**	P	**P**	**22 36 44.7**	**+0.9**
	comp=Z,2.6nm,0.7s,baz=180,slow=3.0,SNR=1.7						
LVC	**Limon Verde**	**40.73**	**328**	P	**P**	**22 36 44.5**	**+0.8**
VNDA	**Vanda**	**41.34**	**189**	LR	LR	22 55 47.2	
	comp=Z,47nm,18.1s,baz=147,slow=39						
MAW	**Mawson**	**42.55**	**148**	P	**P**	**22 36 58.7**	**+0.9**
	comp=Z,2.3nm,0.5s,baz=224,slow=11,SNR=3.7						
MAW				LR	LR	22 53 08.9	
	comp=Z,55nm,19.7s,baz=236,slow=34						
MNMC	**Minye Minye**	**44.23**	**328**	P	**P**	**22 37 13.4**	**+1.3**
SIV	**San Ignacio**	**45.43**	**340**	P	**P**	**22 37 22.1**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=154,slow=7.3,SNR=5.3						
LPAZ	**La Paz**	**46.59**	**331**	P	**P**	**22 37 31.8**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=337,slow=14,SNR=4.2						
LPAZ	**La Paz**	**46.59**	**331**	P	**P**	**22 37 31.3**	**+0.1**
SAML	**Samuel**	**52.68**	**339**	P	**P**	**22 38 15.9**	**-1.1**
SAML				IAmb	IAmb	22 38 20.5	
	comp=Z,2.7nm,0.7s						
H10S2	**ASCENSION HYDR**	**56.52**	**39**	T	T	23 40 29.3	
	baz=199,slow=74,SNR=18						
H10S3	**ASCENSION HYDR**	**56.52**	**39**	T	T	23 40 31.0	
	baz=21,slow=74,SNR=14						
BOSA	**Boshof**	**56.71**	**90**	P	**P**	**22 38 45.8**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=219,slow=6.7,SNR=9.5						
BOSA	**Boshof**	**56.71**	**90**	P	**P**	**22 38 46.0**	**-0.4**
BOSA				IAmb	IAmb	22 38 53.6	
	comp=Z,6.3nm,1.1s						
H10N3	**ASCENSION HYDR**	**57.62**	**39**	T	T	23 41 52.6	
	baz=199,slow=75,SNR=14						
H10N1	**ASCENSION HYDR**	**57.62**	**39**	T	T	23 41 53.3	
	baz=199,slow=75,SNR=10						
H10N2	**ASCENSION HYDR**	**57.64**	**39**	T	T	23 41 55.6	
	baz=199,slow=75,SNR=18						
LBTB	**Lobatse**	**59.86**	**88**	P	**P**	**22 39 07.9**	**-0.5**
OTAV	**Otavalo**	**65.14**	**325**	P	**P**	**22 39 42.8**	**-1.3**
OTAV				IAmb	IAmb	22 39 48.4	
	comp=Z,2.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**82.73**	**47**	P	**P**	**22 41 27.1**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=204,slow=5.3,SNR=5.6						
AKASG	**Malin Array Be**	**126.29**	**50**	PKP	**PKiKP**	**22 48 04.3**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=234,slow=1.4,SNR=4.3						
FINES	**FINESS Array B**	**133.57**	**39**	PKP	**PKPdf**	**22 48 17.3**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=205,slow=12,SNR=1.5						
AAK	**Ala-Archa**	**140.85**	**90**	PKP	**PKPdf**	**22 48 31.4**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=56,slow=12,SNR=2.7						
AAK	**Ala-Archa**	**140.85**	**90**		**PKPdf**	**22 48 31.1**	**-0.9**
IL31		**145.19**	**312**		**PKPbc**	**22 48 37.6**	**-0.7**
ILAR	**Eielson Array**	**145.19**	**312**	PKPbc	**PKPbc**	**22 48 36.5**	**-1.8**
	comp=Z,1.4nm,0.7s,baz=155,slow=2.6,SNR=19						
BVAR	**Borovoye Array**	**145.89**	**74**	PKPbc	**PKPdf**	**22 48 40.0**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=206,slow=9.9,SNR=7.1						
MK31	**Makanchi Array**	**147.71**	**91**	PKPdf	**PKPdf**	**22 48 43.1**	**-0.4**
MKAR	**Makanchi Array**	**147.71**	**91**	PKPbc	**PKPdf**	**22 48 44.8**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=235,slow=3.9,SNR=15						

*ISCJB **22** 22:52:14.5±0.3, 10.12N±0.04×84.23W±0.04, h100km±2km, mb4.0/13, Error ellipse: s-maj=8.2km s-min=3.2km az=39.9*
*NEIC **22** 22:52:14.6±1.3, 10.08N±0.09×84.22W±0.03, h98km±5km, mb4.5/34, Mwr4.6(UCR)*
*IDC **22** 22:52:14.6±0.9, 10.26N×84.15W, h88km±10km, mb3.8/13, mb1 4.1/15, mb1mx3.8/30, mbtmp4.2/15, MS3.1/4, Ms1 3.1/4, ms1mx2.8/32, Error ellipse: s-maj=28.8km s-min=16.4km az=36.0*
*UCR **22** 22:52:14.9±1.8, 10.15N×84.18W, h94km±10km, ML3.8, mb4.6(NEIC)*

ISC 22 22:52:15.3±0.7, 10.14N±0.05×84.14W±0.05, h98km±6km, n313, σ1.42/319, mb4.5/30, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDC	**Heredia**	**0.14**	**168**	*eP*	**Pn**	**22 52 28.0**	**-1.2**
HDC	**Heredia**	**0.14**	**168**		**Pn**	**22 52 28.1**	**-1.1**
HDC				Sn	**Sn**	**22 52 38.5**	**-1.1**
SJS	**Escuela Geolog**	**0.21**	**156**	*eP*	**Pn**	**22 52 28.4**	**-1.1**
SRA1	**San Ramn**	**0.34**	**262**	*eP*	**Pn**	**22 52 28.6**	**-1.4**
LCR2	**La Lucha 2**	**0.41**	**161**	*eP*	**Pn**	**22 52 29.4**	**-1.1**
ARE1	**Arenal 1**	**0.65**	**300**	*eP*	**Pn**	**22 52 31.2**	**-0.9**
CEDE	**Laguna Cedeo**	**0.65**	**302**	*eP*	**Pn**	**22 52 31.2**	**-0.9**
JTS	**Las Juntas de**	**0.81**	**281**	P	**Pn**	**22 52 32.5**	**-1.1**
	1μm,0.3s,baz=85,slow=3.6,SNR=7691						
JTS				S	**Sn**	**22 52 45.8**	**-1.5**
	3μm,0.3s,baz=231,slow=24,SNR=15						
JTS				LR	LR	22 53 03.6	
	comp=Z,1μm,22.0s,baz=352,slow=62						
JTS	**Las Juntas de**	**0.81**	**281**	*eP*	**Pn**	**22 52 32.5**	**-1.1**
JTS				*eP*	**Pn**	**22 52 32.5**	**-1.1**
EDDO	**Dominical**	**0.92**	**163**	*eP*	**Pn**	**22 52 34.5**	**-0.1**
EDLM	**Las Mercedes**	**1.01**	**147**	*eP*	**Pn**	**22 52 35.5**	**-0.2**
CUI	**Cuipilapa**	**1.13**	**297**	*eP*	**Pn**	**22 52 36.3**	**-0.7**
PLVR	**Palo Verde**	**1.21**	**280**	*eP*	**Pn**	**22 52 37.3**	**-0.7**
DRK0	**Durika**	**1.24**	**134**	*eP*	**Pn**	**22 52 38.1**	**-0.4**
EDBA	**Buenos Aires**	**1.29**	**138**	*eP*	**Pn**	**22 52 38.3**	**-0.6**
EDPN	**Palmar Norte**	**1.35**	**150**	*eP*	**Pn**	**22 52 39.7**	**+0.1**
BUEV	**Buena Vista**	**1.41**	**298**	*eP*	**Pn**	**22 52 39.7**	**-0.7**
GB1A	**Borinquen Arri**	**1.41**	**299**	*eP*	**Pn**	**22 52 39.8**	**-0.6**
BRU2	**Volcan**	**1.96**	**133**	*eP*	**Pn**	**22 52 47.7**	**+0.3**
CONN	**Concepcion**	**2.04**	**314**	*eP*	**Pn**	**22 52 46.4**	**-1.8**
ESPN	**Las Esperanzas**	**2.05**	**356**	*eP*	**Pn**	**22 52 47.8**	**-0.6**
ESPN	**Las Esperanzas**	**2.05**	**356**		**Pn**	**22 52 47.9**	**-0.6**
ESPN				Sn	**Sn**	**22 53 13.4**	**-0.4**
ACON	**Acoyapa**	**2.08**	**331**	*eP*	**Pn**	**22 52 48.0**	**-0.9**
ACON				*eS*	**Sn**	**22 53 13.5**	**-1.0**
ACON	**Acoyapa**	**2.08**	**331**		**Pn**	**22 52 48.1**	**-0.8**
ACON				Sn	**Sn**	**22 53 14.1**	**-0.5**
MGAN	**Managua**	**2.87**	**314**	*eP*	**Pn**	**22 52 58.6**	**-0.7**
MATN	**Matagalpa**	**3.28**	**328**	*eP*	**Pn**	**22 53 03.8**	**-1.1**
CNGN	**Cerro Negro**	**3.44**	**313**	*eP*	**Pn**	**22 53 06.9**	**0.0**
CNGN				IAML		22 53 57.6	
	comp=N,210nm,0.4s						
ESTN	**Estel**	**3.67**	**324**	*eP*	**Pn**	**22 53 10.5**	**+0.5**
ESTN	**Estel**	**3.67**	**324**		**Pn**	**22 53 10.2**	**+0.1**
ESTN				Sn	**Sn**	**22 53 52.0**	**-0.5**
CRIN	**San Cristobal**	**3.82**	**312**	*eP*	**Pn**	**22 53 12.0**	**-0.2**
CRIN				IAML		22 54 04.8	
	comp=E,726nm,0.3s						
BCIP	**Isla Barro Col**	**4.35**	**102**	*eP*	**Pn**	**22 53 19.8**	**+0.6**
BCIP				*eS*	**Sn**	**22 54 04.9**	**-4.0**
BCIP	**Isla Barro Col**	**4.35**	**102**	*eP*	**Pn**	**22 53 19.8**	**+0.6**
BCIP				*eS*	**Sn**	**22 54 04.9**	**-4.0**
BCIP	**Isla Barro Col**	**4.35**	**102**		**Pn**	**22 53 19.7**	**+0.5**
BCIP				Sn	**Sn**	**22 54 09.4**	**+0.5**
TGUH	**Tegucigalpa,Un**	**4.96**	**322**		**Pn**	**22 53 27.0**	**-0.5**
TGUH				Sn	**Sn**	**22 54 22.4**	**-1.4**
SNET	**Serv Nac Est T**	**6.10**	**306**		**Pn**	**22 53 42.8**	**-0.2**
SBLS	**San Blas**	**6.50**	**305**	*eP*	**Pn**	**22 53 51.2**	**+2.5**
SNJE	**San Jose**	**6.51**	**305**	*eP*	**Pn**	**22 53 51.7**	**+3.1**
SNJE				*eS*	Sn	22 54 19.2	-42
MTO3	**Montecristo**	**6.63**	**310**	IAML		22 54 28.4	
	comp=Z,24nm,0.5s						
LCBC	**Los crdobas,**	**7.77**	**99**	*eP*	**Pn**	**22 54 08.9**	**+3.2**
LCBC	**Los crdobas,**	**7.77**	**99**	*eP*	**Pn**	**22 54 08.9**	**+3.2**
APG	**El Apazote**	**7.84**	**309**	P	**Pn**	**22 54 09.1**	**+2.2**
	comp=Z,1.4nm,0.3s,baz=125,slow=5.9,SNR=20						
APG				LR	LR	22 56 37.9	
	comp=Z,83nm,21.5s,baz=92,slow=34						
DBBC	**Dabeiba**	**8.43**	**111**	*eP*	**Pn**	**22 54 17.7**	**+2.9**
DBBC	**Dabeiba**	**8.43**	**111**	*eP*	**Pn**	**22 54 17.7**	**+2.9**
SJCC	**San Jacinto, C**	**8.83**	**91**	*eP*	**Pn**	**22 54 21.0**	**+0.8**
**SJ

comp=Z,22nm,0.8s
JSC **Jenkinsville** 24.18 6 P **P** 22 57 23.5 +1.0
JSC IAmb IAmb 22 57 25.3

comp=Z,19nm,1.4s
Y59A **Loris** 24.23 11 P **P** 22 57 24.7 +1.7
baz=193
X53A **Estanollee** 24.27 2 P **P** 22 57 24.6 +1.3
baz=182
X51A **Calhoun** 24.33 359 P **P** 22 57 24.6 +0.7
baz=178
X55A **Gracelyn & Ava** 24.33 5 P **P** 22 57 25.1 +1.2
baz=186,SNR=5.4
X54A **Belton** 24.35 4 P **P** 22 57 24.5 +0.4
baz=184
Z41A **Richland Creek** 24.36 342 P **P** 22 57 24.9 +0.8
baz=159
X56A **White Oak** 24.41 6 P **P** 22 57 26.0 +1.3
baz=188
X57A **Johnson Farm,** 24.50 8 P **P** 22 57 26.5 +1.1
baz=190
BIRD **Birdtown, Kers** 24.63 7 P **P** 22 57 26.2 -0.4
BIRD IAmb IAmb 22 57 30.3

comp=Z,17nm,1.0s
PAULI **Pauline** 24.66 5 IAmb IAmb 22 57 29.3
comp=Z,14nm,1.0s
BG3 **Lake Jocassee** 24.77 2 P **P** 22 57 28.1 +0.2
W52A **Murphy** 24.84 0 P **P** 22 57 29.2 +0.6
baz=181
W54A **Cherokee Point** 24.90 4 P **P** 22 57 30.5 +1.4
baz=185
W51A **Cleveland** 24.92 359 P **P** 22 57 31.0 +1.8
baz=179
W53A **Cullowhee** 24.94 2 P **P** 22 57 30.4 +0.8
baz=182
W49A **Belvidere** 24.95 356 P **P** 22 57 31.4 +1.9
baz=175
JCT **Junction City** 24.95 326 P **P** 22 57 30.4 +0.7
baz=141
W50A **Signal Mountai** 24.97 358 P **P** 22 57 31.8 +1.9
baz=177
SWET **Sewanee** 25.02 357 P **P** 22 57 28.2 -2.0
SWET IAmb IAmb 22 57 34.0

comp=Z,19nm,0.9s
KMSC **Kings Mountain** 25.02 5 P **P** 22 57 31.2 +1.0
baz=187
KMSC **Kings Mountain** 25.02 5 IAmb IAmb 22 57 33.0
comp=Z,26nm,1.1s
W56A **Indian Trail** 25.10 7 P **P** 22 57 32.2 +1.3
baz=188
W58A **Raeford** 25.17 10 P **P** 22 57 33.2 +1.7
baz=192
W57A **Gilead** 25.19 8 P **P** 22 57 33.0 +1.3
baz=190
W57A **Gilead** 25.19 8 IAmb IAmb 22 57 33.7
comp=Z,12nm,0.8s
V50A **Pikeville** 25.44 358 P **P** 22 57 34.9 +0.9
baz=178
V53A **Saluda** 25.45 3 P **P** 22 57 35.3 +1.2
baz=183
W60A **Pink Hill** 25.49 12 P **P** 22 57 37.7 +3.3
baz=195
V51A **Loudon** 25.55 360 P **P** 22 57 35.6 +0.6
baz=180
V49A **McMinnville** 25.57 357 P **P** 22 57 38.3 +3.2
baz=176,SNR=5.3
V52A **Sevierville** 25.59 1 P **P** 22 57 36.1 +0.7
baz=181
V54A **Nebo** 25.60 4 P **P** 22 57 36.6 +1.1
baz=185
V56A **Mocksville** 25.77 7 P **P** 22 57 37.6 +0.7
baz=188
MIAR **Mount Ida** 25.79 342 P **P** 22 57 38.3 +1.2
baz=158
V57A **Coltrane Farms** 25.94 8 P **P** 22 57 39.6 +1.0
baz=190
V58A **Windy Hill, Pi** 25.95 9 P **P** 22 57 39.5 +0.9
baz=192,SNR=6.2
W41B **Gary Mavity, V** 26.00 345 P **P** 22 57 40.1 +1.1
baz=162
V59A **Middlesex** 26.07 11 P **P** 22 57 40.9 +1.2
baz=193
WVT **Waverly** 26.09 353 P **P** 22 57 40.5 +0.6
baz=172
U53A **Fall Branch** 26.15 3 P **P** 22 57 41.2 +0.8
baz=184
U50A **Jamestown** 26.17 359 P **P** 22 57 41.4 +0.8
baz=179
U49A **Red Boiling Sp** 26.30 357 P **P** 22 57 42.5 +0.8
baz=176
U55A **TA2, Sparta** 26.40 6 P **P** 22 57 43.2 +0.5
baz=187
TXAR **Lajitas Array** 26.43 319 P **P** 22 57 44.1 +1.0
comp=Z,0.7nm,0.6s,baz=136,slow=11,SNR=9.8
W39A **Magazine** 26.45 342 P **P** 22 57 44.3 +1.2
baz=158
U57A **Blanch** 26.54 9 P **P** 22 57 44.7 +0.8
baz=191
U58A **Oxford** 26.63 10 P **P** 22 57 45.5 +0.8
baz=192
U59A **Littleton** 26.73 11 P **P** 22 57 46.6 +1.0
baz=194
T50A **Nancy** 26.77 359 P **P** 22 57 46.2 +0.2
baz=179
T49A **Edmonton** 26.88 358 P **P** 22 57 47.8 +0.9
baz=177
T54A **Tazewell** 26.91 5 P **P** 22 57 47.9 +0.6
baz=186
T57A **Hurt** 27.11 9 P **P** 22 57 49.1 +0.1
baz=191
BLA **Blacksburg** 27.17 7 P **P** 22 57 50.1 +0.6
baz=188
U40A **Yellville** 27.27 345 P **P** 22 57 51.0 +0.5
baz=161
T59A **Double "B" Far** 27.37 12 P **P** 22 57 52.6 +1.2
baz=194
S51A **Beattyville** 27.39 1 P **P** 22 57 51.8 +0.3
baz=181
S50A **Richmond** 27.43 360 P **P** 22 57 52.5 +0.7
baz=180
S49A **Springfield** 27.55 358 P **P** 22 57 53.3 +0.4
baz=178
S54A **Dingess, Beckl** 27.66 5 P **P** 22 57 54.8 +0.8
baz=186
S55A **Lewisburg** 27.71 6 P **P** 22 57 55.4 +0.9
baz=188
MGMO **Mountain Grove** 27.88 346 P **P** 22 57 55.3 -0.7
S57A **Dark Hollow, R** 27.90 9 P **P** 22 57 56.4 +0.3
baz=191
S58A **Poland Farm, P** 27.90 10 P **P** 22 57 57.1 +1.0
baz=193
R50A **Paris** 28.03 360 P **P** 22 57 58.1 +1.0
baz=180
WCI **Wyandotte Cave** 28.04 356 P **P** 22 57 57.5 +0.2
baz=176
R51A **Hillsboro** 28.05 1 P **P** 22 57 58.0 +0.6
baz=181
R49A **Shelbyville** 28.05 358 P **P** 22 57 58.2 +0.8
baz=178
R53A **Hurricane** 28.14 4 P **P** 22 57 59.0 +0.8
baz=185
S59A **Mechanicsville** 28.19 12 P **P** 22 58 00.2 +1.6
baz=194
R55A **Marlinton** 28.26 7 P **P** 22 58 00.8 +1.4
baz=188
R57A **Stanardsville** 28.49 9 P **P** 22 58 02.7 +1.4
baz=192
CCM **Cathedral Cave** 28.52 348 P **P** 22 58 01.8 +0.2
baz=165
CCM **Cathedral Cave** 28.52 348 P **P** 22 58 01.2 -0.4
CCM IAmb IAmb 22 58 02.9

comp=Z,13nm,0.7s
R58A **Rapidan** 28.58 10 P **P** 22 58 03.0 +0.9
baz=193
Q50A **Georgetown** 28.59 0 P **P** 22 58 03.0 +0.9
baz=180
R59A **King George, V** 28.65 12 P **P** 22 58 03.2 +0.5
baz=195
Q53A **Leroy** 28.70 4 P **P** 22 58 04.5 +1.4
baz=186
Q48A **North Vernon** 28.71 357 P **P** 22 58 02.9 -0.4
baz=177
Q52A **Bidwell** 28.75 3 P **P** 22 58 04.1 +0.4
baz=184
Q49A **Aurora** 28.76 359 P **P** 22 58 04.5 +0.8
baz=179
Q51A **Peebles** 28.78 1 P **P** 22 58 05.0 +1.2
baz=182
Q54A **Coxs Mills** 28.88 5 P **P** 22 58 05.9 +1.1
baz=187
Q55A **Buckhannon** 28.97 7 P **P** 22 58 07.5 +1.9
baz=188
P51A **Williamsport** 29.24 2 P **P** 22 58 08.7 +0.8
baz=182
Q58A **Fox Den Farm,** 29.26 10 P **P** 22 58 09.3 +1.2
baz=193
P53A **Whipple** 29.33 4 P **P** 22 58 10.1 +1.4
baz=186
P52A **Corning** 29.43 3 P **P** 22 58 11.1 +1.4
baz=184
P55A **Reedsville** 29.50 7 P **P** 22 58 12.2 +1.9
baz=189
P54A **Burton** 29.53 6 P **P** 22 58 11.4 +0.9
baz=187
MCWV **Mont Chateau** 29.65 7 P **P** 22 58 12.4 +0.9
baz=189
P57A **Homestead Farm** 29.73 10 P **P** 22 58 13.6 +1.3
baz=192
P58A **Pank, Wackersv** 29.86 11 P **P** 22 58 14.8 +1.4
baz=194
O50A **Cable** 29.89 1 P **P** 22 58 14.1 +0.4
baz=181
O51A **Pataskala** 29.92 2 P **P** 22 58 14.5 +0.6
baz=183
O52A **Adamsville** 29.93 4 P **P** 22 58 13.8 -0.3
baz=185
O49A **Covington** 29.93 360 P **P** 22 58 14.0 -0.1
baz=180
ACSO **Alum Creek Sta** 29.99 2 P **P** 22 58 15.1 +0.5
baz=182
O48A **Farmland** 30.01 358 P **P** 22 58 15.0 +0.3
baz=178
O53A **New Philadelph** 30.10 4 P **P** 22 58 16.8 +1.2
baz=186
P59A **Jarrettsville** 30.15 12 P **P** 22 58 17.3 +1.4
baz=195
O55A **Ligonier** 30.26 7 P **P** 22 58 18.2 +1.3
baz=190
O56A **Blue Knob Stat** 30.42 8 P **P** 22 58 18.3 -0.1
baz=191
O57A **Amberson** 30.50 10 P **P** 22 58 20.4 +1.2
baz=193
P60A **Greenville** 30.51 13 P **P** 22 58 20.5 +1.4
baz=197
O58A **Lewisberry** 30.55 11 P **P** 22 58 21.4 +1.9
baz=194
N47A **Urbana** 30.65 358 P **P** 22 58 21.9 +1.5
baz=177
LPAZ **La Paz** 30.66 149 LR LR 23 10 24.8
comp=Z,35nm,18.4s,baz=30,slow=35
N53A **Lisbon** 30.69 5 P **P** 22 58 22.2 +1.5
baz=186
N51A **Ashland** 30.70 3 P **P** 22 58 22.2 +1.3
baz=184
N55A **Marion Center** 30.86 8 P **P** 22 58 23.2 +1.0
baz=190
O59A **Robesonia** 30.87 12 P **P** 22 58 23.8 +1.5
baz=196
SSPA **Standing Stone** 30.88 9 P **P** 22 58 23.7 +1.3
baz=192
KSU1 **Kansas State U** 30.92 341 P **P** 22 58 23.6 +0.8
baz=156
O60A **Telford** 31.04 13 P **P** 22 58 25.8 +1.9
baz=197
N56A **West Decatur** 31.09 9 P **P** 22 58 25.2 +0.9
baz=191
N58A **Sunbury** 31.28 11 P **P** 22 58 27.7 +1.8
baz=194
M54A **Oil Creek Stat** 31.50 6 P **P** 22 58 28.7 +0.9
baz=189
N59A **State Game Lan** 31.54 12 P **P** 22 58 30.1 +1.8
baz=196
M55A **Ridgway** 31.57 8 P **P** 22 58 29.4 +1.0
baz=190
N60A **Cedar Hill Far** 31.64 13 P **P** 22 58 32.0 +2.9
baz=197
M56A **Emporium** 31.66 9 P **P** 22 58 30.6 +1.3
baz=191
M57A **Sunshine Farm,** 31.69 10 P **P** 22 58 30.9 +1.4
baz=193
M57A **Sunshine Farm,** 31.69 10 IAmb IAmb 22 58 40.9
comp=Z,5.9nm,0.8s
N61A **South Mountain** 31.71 14 P **P** 22 58 31.5 +1.7
baz=199
L47A **Sherwood** 31.73 358 P **P** 22 58 30.2 +0.3
baz=178
M58A **Price's Panora** 31.84 11 P **P** 22 58 32.6 +1.7
baz=194
L49A **Milan** 31.85 1 P **P** 22 58 31.3 +0.4
baz=181
L53A **Girard** 31.88 5 P **P** 22 58 31.4 +0.3
baz=187
L44A **Lake County Fo** 32.09 355 P **P** 22 58 34.6 +1.6
baz=173
M59A **Waymart** 32.21 12 P **P** 22 58 35.7 +1.6
baz=196
L55A **Hinsdale** 32.31 8 P **P** 22 58 36.5 +1.4
baz=191
M61A **Granite Spring** 32.37 15 P **P** 22 58 36.8 +1.3
baz=199
L57A **Andrews Acres** 32.38 10 P **P** 22 58 37.2 +1.6
baz=194
L56A **Greenwood** 32.40 9 P **P** 22 58 37.1 +1.3
baz=192
K50A **Casco** 32.54 2 P **P** 22 58 38.3 +1.3
baz=183
L58A **Harry Jones Me** 32.61 11 P **P** 22 58 39.0 +1.5
baz=195
K54A **Basiliko Farm,** 32.70 7 P **P** 22 58 39.9 +1.6
baz=190
BINY **Binghamton** 32.73 11 P **P** 22 58 39.2 +0.5
baz=195
K55A **Perry** 32.90 8 P **P** 22 58 40.9 +0.8
baz=191
L60A **Shokan** 32.91 14 P **P** 22 58 41.4 +1.2
baz=198
L59A **Walton** 32.91 12 P **P** 22 58 41.8 +1.5
baz=197
K56A **Middlesex** 32.98 9 P **P** 22 58 41.7 +0.9
baz=192
K61A **Williamstown** 33.78 14 P **P** 22 58 49.5 +1.8
baz=200
J58A **Remsen** 33.99 12 P **P** 22 58 50.3 +0.8
baz=196
K63A **Dunstable** 34.26 17 P **P** 22 58 54.4 +2.6
baz=202
J60A **Lant Hill Farm** 34.28 14 P **P** 22 58 54.0 +1.9
baz=199
J61A **Chester** 34.59 15 P **P** 22 58 56.8 +2.0
baz=200
J62A **Henniker** 34.67 16 P **P** 22 58 57.8 +2.4
baz=202
SADO **Sadowa** 34.78 6 P **P** 22 58 55.7 -0.6
comp=Z,8.0nm,0.8s,baz=186,slow=2.8,SNR=5.6
I60A **Shoreham** 34.88 14 P **P** 22 58 58.9 +1.7
baz=199
H56A **Elgin** 35.00 10 P **P** 22 58 59.5 +1.2
baz=194
H57A **Richville** 35.03 11 P **P** 22 58 59.4 +0.9
baz=195
ECSD **EROS Data Cent** 35.18 344 IAmb IAmb 22 59 01.6
comp=Z,3.4nm,0.7s
LONY **Lake Ozonia** 35.34 12 P **P** 22 59 01.3 +0.2
baz=196
G55A **Calabogie** 35.57 9 P **P** 22 59 02.8 -0.3
baz=193
G57A **Newington** 35.72 11 P **P** 22 59 04.7 +0.3
baz=196
F51A **Arnstein** 35.85 5 P **P** 22 59 05.0 -0.5
baz=187
H61A **Lyndonville** 35.86 15 P **P** 22 59 04.9 -0.8
baz=201
G58A **Ormstown** 35.95 12 P **P** 22 59 08.7 +2.3
baz=197
ALGO **Algonquin Park** 36.07 7 P **P** 22 59 07.3 -0.1
baz=190
F55A **Otter Lake** 36.19 9 P **P** 22 59 08.7 +0.3
baz=193
H63A **New Sharon** 36.49 17 P **P** 22 59 12.5 +1.5
baz=204
E56A **St. Veronique** 37.10 10 P **P** 22 59 17.3 +1.2
baz=195
D53A **Lac Vacive, Po** 37.22 7 P **P** 22 59 17.6 +0.4
baz=191
PKME **Peaks-Kenny Pk** 37.26 17 P **P** 22 59 19.2 +1.7
baz=205
D54A **Lac Fusel, La** 37.44 8 P **P** 22 59 19.3 +0.3
baz=192
D55A **Sainte-Anne-du** 37.49 10 P **P** 22 59 19.8 +0.4
baz=194
LSQQ **Lebel-sur-Quev** 39.26 7 P **P** 22 59 33.2 -1.0
baz=191
PD31 **Pinedale Array** 39.36 330 P **P** 22 59 35.9 +0.5
PDAR **Pinedale Array** 39.36 330 P **P** 22 59 36.1 +0.7
comp=Z,0.4nm,0.6s,baz=132,slow=11,SNR=4.1
MDND **Maddock** 39.79 344 P **P** 22 59 38.5 -0.2
baz=156
MATQ **Matagami** 39.87 7 P **P** 22 59 38.5 -0.7
baz=190
H17A **Grant Village** 41.07 331 P **P** 22 59 50.6 +1.0
baz=138
ULM **Lac du Bonnet** 41.16 349 P **P** 22 59 47.8 -2.0
comp=Z,6.7nm,0.7s,baz=167,slow=9.1,SNR=11
ULM **Lac du Bonnet** 41.16 349 P **P** 22 59 47.9 -2.0
ULM IAmb IAmb 22 59 49.7

comp=Z,9.0nm,0.8s
NVAR **Mina Array Bea** 41.57 318 P **P** 22 59 54.6 +0.8
comp=Z,0.8nm,0.7s,baz=119,slow=7.9,SNR=5.8
DGMT **Dagmar** 41.75 340 P **P** 22 59 55.9 +1.1
baz=150
BDFB **Brasilia** 44.00 125 P **P** 23 00 15.3 +1.8
comp=Z,2.0nm,0.6s,baz=209,slow=9.9,SNR=3.8
BDFB LR LR 23 18 26.1

comp=Z,54nm,20.0s,baz=245,slow=36
MSO **Missoula** 44.46 331 P **P** 23 00 17.2 +0.5
baz=136
K04D **Chiloquin, OR** 46.08 321 P **P** 23 00 30.2 +0.5
baz=124
SCHQ **Schefferville** 46.65 14 P **P** 23 00 32.7 -1.1
comp=Z,6.4nm,0.9s,baz=241,slow=5.7,SNR=5.4
SCHQ **Schefferville** 46.65 14 P **P** 23 00 33.0 -0.8
FFC **Flin Flon** 46.68 346 P **P** 23 00 33.9 -0.1
FFC IAmb IAmb 23 00 35.2

comp=Z,5.8nm,0.8s
YKA **Yellowknife Ar** 56.71 344 P **P** 23 01 46.9 -1.5
comp=Z,3.0nm,0.8s,baz=137,slow=7.2,SNR=47
YKA PcP **PcP** 23 02 42.8 -0.6

comp=Z,0.2nm,0.6s,baz=142,slow=4.1,SNR=2.5
RES **Resolute Bay** 64.81 357 IAmb IAmb 23 02 42.8
comp=Z,5.2nm,0.7s
INK **Inuvik** 66.38 342 P **P** 23 02 52.9 -0.5
INK IAmb IAmb 23 02 54.8

comp=Z,6.0nm,1.1s
HDA **Harding Lake** 69.33 336 P **P** 23 03 12.1 +0.1
baz=111
IL31 **69.44 336** P **P** 23 03 11.6 -1.0
ILAR **Eielson Array** 69.44 336 P **P** 23 03 12.1 -0.6
comp=Z,1.2nm,0.6s,baz=118,slow=4.5,SNR=25
MLY **Manley** 71.08 336 P **P** 23 03 21.8 -0.9
ESDC **Sonseca Array** 76.07 52 P **P** 23 03 53.1 +0.6
comp=Z,2.4nm,0.7s,baz=277,slow=5.5,SNR=17
TORD **Torodi Ar. Bea** 83.73 78 P **P** 23 04 33.7 -0.5
comp=Z,0.6nm,0.7s,baz=297,slow=4.7,SNR=2.8
NB2 **NORSAR Subarra** 83.80 29 P **P** 23 04 33.7 0.0
comp=Z,0.7nm,0.6s,baz=280,slow=5.1
NOA **NORSAR Array B** 83.80 29 P **P** 23 04 33.6 -0.1
comp=Z,0.8nm,0.7s,baz=275,slow=5.1,SNR=4.4
ARCES **ARCESS Array B** 87.29 19 P **P** 23 04 49.8 -1.0
comp=Z,8.3nm,1.1s,baz=252,slow=3.5,SNR=3.8
SONM **Songino Array** 121.53 352 PKP **PKPdf** 23 10 56.5 -1.3
comp=Z,0.4nm,0.7s,baz=326,slow=2.8,SNR=2.9
MKAR **Makanchi Array** 122.05 11 PKP **PKPdf** 23 10 56.5 -2.2
comp=Z,0.2nm,0.5s,baz=309,slow=3.0,SNR=5.6
KSRS **Korea Array** 123.93 329 PKP **PKPdf** 23 11 02.5 0.0
comp=Z,0.5nm,0.3s,baz=95,slow=26,SNR=4.5
KSH **Kashi** 127.26 19 PKP **PKiKP** 23 11 09.5 0.0
KSH PP **PP** 23 13 13.8 +5.7
KSH PKS **PKSdf** 23 14 44.4 -1.3
KSH AMB AMB

comp=Z,530nm,9.8s
KSH LR LR

comp=N,420nm,6.0s
KSH LR LR

comp=E,800nm,7.9s
KSH LR LR

comp=Z,800nm,7.6s
STKA **Stephens Creek** 132.57 236 PKP **PKiKP** 23 11 20.7 +0.5
comp=Z,1.6nm,0.7s,baz=73,slow=8.6,SNR=3.2
STKA **Stephens Creek** 132.57 236 **PKPdf** 23 11 17.7 -1.3
ASAR **Alice Springs** 141.33 245 PKhKP **PKPdf** 23 11 31.8 -3.8
comp=Z,1.3nm,0.6s,baz=106,slow=3.5,SNR=20
WRA **Warramunga Arr** 141.66 251 PKhKP **PKPdf** 23 11 33.2 -3.0
comp=Z,1.2nm,0.6s,baz=95,slow=2.8,SNR=14
CMAR **Chiang Mai Arr** 151.43 354 PKPbc **PKPbc** 23 11 58.2 -0.5
comp=Z,1.4nm,0.4s,baz=336,slow=3.2,SNR=9.3

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*ISCJB **22** 23:09:02.0±0.4, 17°.52S±0°.04×69°.49W±0°.07, h167km±4km, mb3.8/4, Error ellipse: s-maj=10.9km s-min=5.9km az=14.1*
*NEIC **22** 23:09:02.4±2.6, 17°.54S±0°.04×69°.40W±0°.08, h155km±7km, mb4.1/6*
*IDC **22** 23:09:02.6±1.1, 17°.52S×69°.44W, h149km±8km, mb3.8/5, mb1 3.8/9, mb1mx3.4/32, mbtmp4.3/9, Error ellipse: s-maj=15.0km s-min=11.9km az=102.0*
*GUC **22** 23:09:03.5±0.6, 17°.61S×69°.60W, h158km±4km, ML3.7*
ISC 22 23:09:02.2±0.7, 17°.50S±0°.04×69°.47W±0°.07, h159km±7km, n37,σ1s82/50, mb4.0/5, 2C-6D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.83**	**183**	↑*i*	P		**Pn**	**23 09 28.9**	**+1.7**
PB16				*e*	S		**Sn**	**23 09 48.4**	**+2.0**
AP01	**Chacalluta**	**1.20**	**224**	↑*i*	P		**Pn**	**23 09 30.1**	**+0.6**
AP01				*i*	S		**Sn**	**23 09 50.5**	**0.0**
MNMC	**Minye Minye**	**1.62**	**184**	↓*i*	P		**Pn**	**23 09 35.5**	**+1.5**
MNMC				*i*	S		**Sn**	**23 09 59.4**	**+0.8**
MNMC					IAML			23 10 03.0	

comp=N,1µm,0.3s

MNMC	**Minye Minye**	**1.62**	**184**		Pn		**Pn**	**23 09 35.3**	**+1.3**
MNMC					Sn		**Sn**	**23 09 57.2**	**-1.3**
LPAZ	**La Paz**	**1.76**	**47**	↓*i*	P		**Pn**	**23 09 37.0**	**+1.2**
LPAZ				*i*	S		**Sn**	**23 10 00.7**	**-1.0**
LPAZ	**La Paz**	**1.76**	**47**		P		**Pn**	**23 09 37.0**	**+1.2**

comp=N,48nm,0.3s,baz=246,slow=6.5,SNR=1017

LPAZ					S		**Sn**	**23 10 00.9**	**-0.7**

comp=N,6.3nm,0.3s,baz=41,slow=19,SNR=5.2

LPAZ	**La Paz**	**1.76**	**47**				**Pn**	**23 09 36.9**	**+1.1**
GO01	**Chusmiza**	**2.17**	**173**	↓*i*	P		**Pn**	**23 09 42.2**	**+1.9**
GO01				*i*	S		**Sn**	**23 10 12.4**	**+2.6**
GO01					IAML			23 10 19.6	

comp=E,361nm,0.1s

GO01	**Chusmiza**	**2.17**	**173**		Pn		**Pn**	**23 09 40.2**	**-0.1**
PSGC	**Pisagua**	**2.17**	**196**	*e*	P		**Pn**	**23 09 40.5**	**+0.6**
PSGC				*i*	S		**Sn**	**23 10 08.2**	**-1.0**
PSGC					IAML			23 10 08.8	

comp=N,409nm,0.4s

PB11	**IPOC Station P**	**2.25**	**184**	↓*i*	P		**Pn**	**23 09 41.9**	**+0.9**
PB11				*i*	S		**Sn**	**23 10 11.4**	**+0.4**
PB11					IAML			23 10 12.5	

comp=E,450nm,0.1s

PB11	**IPOC Station P**	**2.25**	**184**		Pn		**Pn**	**23 09 41.7**	**+0.8**
PB08	**IPOC Station P**	**2.64**	**174**	↓*i*	P		**Pn**	**23 09 47.5**	**+1.7**
PB08				*i*	S		**Sn**	**23 10 21.2**	**+1.6**
PB08					IAML			23 10 25.0	

comp=E,135nm,0.1s

TA01	**Diego Aracena**	**3.12**	**192**	↓*i*	P		**Pn**	**23 09 51.4**	**0.0**
TA01				*i*	S		**Sn**	**23 10 26.0**	**-3.6**
TA01					IAML			23 10 29.1	

comp=N,230nm,0.2s

PB03	**IPOC Station P**	**4.53**	**183**	*e*	P		**Pn**	**23 10 10.3**	**+0.6**
PB03				*i*	S		**Sn**	**23 10 58.0**	**-4.5**
PB04	**IPOC Station P**	**4.85**	**187**				**Pn**	**23 10 14.3**	**+0.4**
LVC	**Limon Verde**	**5.11**	**174**		P		**Pn**	**23 10 19.0**	**+1.5**

comp=N,16nm,0.3s,baz=356,slow=7.0,SNR=144

LVC					S		**Sn**	**23 11 14.1**	**-2.3**

comp=N,2.3nm,0.3s,baz=103,slow=21,SNR=1.8

PB10	**IPOC Station P**	**6.07**	**189**				**Pn**	**23 10 29.1**	**-0.7**
PB10							**Sn**	**23 11 35.6**	**-3.0**
GO02	**Mina Guanaco**	**7.62**	**181**		Pn		**Pn**	**23 10 50.5**	**-0.3**
SIV	**San Ignacio**	**8.18**	**81**		P		**Pn**	**23 10 57.6**	**-0.4**

comp=N,8.0nm,0.3s,baz=282,slow=11,SNR=95

SIV					S		**Sn**	**23 12 23.9**	**-5.5**

comp=N,0.0nm,0.3s,baz=335,slow=21,SNR=2.2

NNA	**Nana**	**8.99**	**307**		P		**Pn**	**23 11 09.9**	**+1.1**

comp=N,1.1nm,0.3s,baz=127,slow=11,SNR=2.4

NNA					S		**Sn**	**23 12 45.4**	**-3.6**

comp=N,2.6nm,0.3s,baz=180,slow=12,SNR=4.8

GO03	**Copiap**	**10.07**	**184**		Pn		**Pn**	**23 11 21.5**	**-1.5**
SAML	**Samuel**	**10.47**	**37**		Pn		**Pn**	**23 11 28.1**	**-0.3**
GO04	**Tololo Observa**	**12.67**	**185**		Pn		**Pn**	**23 11 55.2**	**-1.9**

CFA	**Coronel Fontan**	**14.09**	**176**	P		**P**		**23 12 17.1**	**-0.6**
	comp=N,0.9nm,0.3s,baz=352,slow=14,SNR=16								
BDFB	**Brasilia**	**20.65**	**88**	P		Pn		23 13 32.5	-1.5
	comp=N,4.0nm,0.5s,baz=258,slow=8.9,SNR=10								
BDFB	**Brasilia**	**20.65**	**88**	P		**P**		**23 13 30.0**	**+0.3**
BDFB				IAmb		IAmb		23 13 33.3	
	comp=Z,3.9nm,0.6s								
TRQA	**Tornquist**	**21.51**	**164**	P		**P**		**23 13 37.2**	**-1.3**
TRQA				IAmb		IAmb		23 13 43.0	
	comp=Z,1.7nm,0.9s								
PLCA	**Paso Flores**	**23.17**	**182**	P		**P**		**23 13 55.6**	**+0.9**
PCDR	**Punta Cana, DR**	**35.81**	**2**	P		**P**		**23 15 45.9**	**-0.5**
DBIC	**Dimbokro**	**68.17**	**75**	P		**P**		**23 19 46.5**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=217,slow=9.0,SNR=7.3								
DBIC	**Dimbokro**	**68.17**	**75**	IAmb		IAmb		23 20 01.5	
	comp=Z,6.2nm,1.2s								
ULM	**Lac du Bonnet**	**71.36**	**342**	P		**P**		**23 20 05.9**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=165,slow=12,SNR=1.5								
ULM	**Lac du Bonnet**	**71.36**	**342**	IAmb		IAmb		23 20 17.9	
	comp=Z,8.6nm,1.3s								
TORD	**Torodi Ar. Bea**	**76.55**	**71**	P		**P**		**23 20 36.3**	**+0.9**
	comp=Z,6.4nm,0.6s,baz=254,slow=5.2,SNR=103								
YKA	**Yellowknife Ar**	**87.26**	**341**	P		**P**		**23 21 32.5**	**+2.3**
	comp=Z,0.3nm,0.5s,baz=133,slow=5.0,SNR=8.8								
SONM	**Songino Array**	**149.56**	**6**	PKPbc		**PKiKP**		**23 28 35.4**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=315,slow=3.3,SNR=2.3								

IDC 22 23:09:12.1±8.4, 49°63N×113°88W, h0km, mb1 3.9/1, mb1mx3.1/35, mbtmp3.5/1, ML2.4/1, Error ellipse: s-maj=144.3km s-min=55.8km az=59.0, Alberta

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I56US	**NEWPORT INFRAS**	**2.54**	**239**	*i*		23 26 50.0	
	baz=55,slow=333,SNR=2.1						
I10CA	**LAC DU BONNET**	**11.53**	**80**	*i*		00 22 50.0	
	baz=268,slow=313,SNR=3.2						
YKA	**Yellowknife Ar**	**12.90**	**358**	Pn	Pn	23 12 12.2	-4.2
	0.0nm,0.3s,baz=180,slow=13,SNR=14						

IDC 22 23:19:57.6±5.7, 49°99N×113°42W, h0km, mb1 3.4/1, mb1mx2.9/40, mbtmp3.1/1, ML2.6/1, Error ellipse: s-maj=97.3km s-min=41.9km az=78.0, Alberta

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I56US	**NEWPORT INFRAS**	**2.98**	**236**	*i*		23 38 00.0	
	baz=52,slow=327,SNR=3.8						
I10CA	**LAC DU BONNET**	**11.18**	**82**	*i*		00 35 00.0	
	baz=271,slow=304,SNR=3.1						
YKA	**Yellowknife Ar**	**12.55**	**357**	Pn	Pn	23 22 53.2	-4.0
	0.1nm,0.3s,baz=180,slow=13,SNR=5.5						
YKA				Sn	Sn	23 25 07.0	-10
	0.0nm,0.3s,baz=174,slow=22,SNR=6.6						
YKA				Lg	Lg	23 26 26.3	
	baz=172,slow=26,SNR=3.5						

*UCR **22** 23:30:29.4±1.5, 13°.25N×90°.18W, h31km±4km, MD4.0, ML4.5, mb4.6(NEIC)*
*SNET **22** 23:30:29.3±1.2, 13°.24N×90°.16W, h27km±4km, ML4.7*
*NEIC **22** 23:30:30.9±2.7, 13°.29N±0°.06×90°.13W±0°.06, h74km±5km*
*ISCJB **22** 23:30:30.5±0.3, 13°.38N±0°.03×90°.04W±0°.02, h85km±2km, mb4.1/17, Error ellipse: s-maj=5.1km s-min=3.1km az=36.0*
*MEX **22** 23:30:31.2±0.7, 13°.40N×90°.19W, h25km±21km, MD4.6*
*GCG **22** 23:30:32.3±0.7, 13°.47N×90°.32W, h33km±8km, MD4.3*
*IDC **22** 23:30:33.1±1.0, 13°.60N×89°.67W, h87km±8km, mb3.9/18, mb1 4.1/20, mb1mx4.0/34, mbtmp4.2/20, MS3.5/16, Ms1 3.5/16, ms1mx3.4/37, Error ellipse: s-maj=23.0km s-min=7.9km az=53.0*

ISC 22 23:30:29.7±1.0, 13°.27N±0°.05×90°.19W±0°.04, h64km±8km, n442, σ1$25/435, mb4.5/57, 11C-7D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEVE	**Cerro Verde**	**0.78**	**45**	*eP*	**Pn**	**23 30 44.7**	**-0.7**
CEVE				*eS*	**Sn**	**23 30 56.9**	**0.0**
CEVE				IAML		23 30 58.2	
	comp=Z,180μm,0.4s						
CEVE	**Cerro Verde**	**0.78**	**45**	*eP*	**Pn**	**23 30 44.7**	**-0.7**
CEVE				*eS*	**Sn**	**23 30 56.9**	**0.0**
CEVE				IAML		23 30 58.2	
	comp=Z,180μm,0.4s						
SBLS	**San Blas**	**0.79**	**44**	*eP*	**Pn**	**23 30 44.6**	**-0.9**
SBLS				⇑*iP*		23 30 44.7	
SBLS	**San Blas**	**0.79**	**44**	⇑*iP*	**Pn**	**23 30 44.7**	**-0.9**
RTR	**El Retiro**	**0.82**	**40**	*eP*	**Pn**	**23 30 45.1**	**-0.7**
RTR	**El Retiro**	**0.82**	**40**	*eP*	**Pn**	**23 30 45.1**	**-0.7**
SNJE	**San Jose**	**0.82**	**44**	⇑*iP*	**Pn**	**23 30 45.1**	**-0.8**
SNJE	**San Jose**	**0.82**	**44**	⇑*iP*	**Pn**	**23 30 45.1**	**-0.8**
IXG	**Ixpaco**	**0.93**	**345**	⇑*iP*	**Pn**	**23 30 46.4**	**-0.8**
IXG	**Ixpaco**	**0.93**	**345**	⇑*iP*	**Pn**	**23 30 46.4**	**-0.8**
UNIC	**Universidad Ca**	**0.94**	**41**	*eP*	**Pn**	**23 30 46.5**	**-0.7**
UNIC				*eS*	**Sn**	**23 31 00.2**	**0.0**
UNIC	**Universidad Ca**	**0.94**	**41**	*eP*	**Pn**	**23 30 46.5**	**-0.7**
UNIC				*eS*	**Sn**	**23 31 00.2**	**0.0**
BQQS	**Boqueron**	**1.00**	**62**	⇑*iP*	**Pn**	**23 30 47.5**	**-0.6**
SNET	**Serv Nac Est T**	**1.02**	**66**	*eP*	**Pn**	**23 30 47.6**	**-0.7**
SNET				*eS*	**Sn**	**23 31 02.0**	**0.0**
SNET				IAML		23 31 07.8	
	comp=Z,14μm,0.3s						
SNET	**Serv Nac Est T**	**1.02**	**66**	*eP*	**Pn**	**23 30 47.6**	**-0.7**
SNET				*eS*	**Sn**	**23 31 02.0**	**0.0**
SNET				IAML		23 31 07.8	
	comp=Z,14μm,0.3s						
SNET	**Serv Nac Est T**	**1.02**	**66**		**Pn**	**23 30 47.5**	**-0.7**
UEES	**Universidad Ev**	**1.02**	**64**	*eP*	**Pn**	**23 30 47.8**	**-0.5**
UEES				IAML		23 31 03.8	
	comp=Z,19μm,0.4s						
UEES	**Universidad Ev**	**1.02**	**64**	*eP*	**Pn**	**23 30 47.8**	**-0.5**
UEES				IAML		23 31 03.8	
	comp=Z,19μm,0.4s						
OPAM	**Oficina de Pla**	**1.06**	**65**	*eP*	**Pn**	**23 30 48.4**	**-0.4**
OPAM	**Oficina de Pla**	**1.06**	**65**	*eP*	**Pn**	**23 30 48.4**	**-0.4**
UDBS	**Universidad Do**	**1.10**	**66**	*eP*	**Pn**	**23 30 48.9**	**-0.3**
UDBS	**Universidad Do**	**1.10**	**66**	*eP*	**Pn**	**23 30 48.9**	**-0.3**
AEIL	**Aeropuerto Ilo**	**1.12**	**68**	*eP*	**Pn**	**23 30 49.5**	**-0.1**
AEIL				*eS*	**Sn**	**23 31 05.4**	**+0.9**
AEIL				IAML		23 31 09.5	
	comp=Z,18μm,0.4s						
LFRS	**El Faro**	**1.15**	**72**	⇑*iP*	**Pn**	**23 30 49.3**	**-0.7**
PCG	**Pacaya**	**1.19**	**340**	⇑*eP*	**Pn**	**23 30 50.3**	**-0.3**
PCG	**Pacaya**	**1.19**	**340**	⇑*eP*	**Pn**	**23 30 50.3**	**-0.3**
LBRS	**Las Brisas**	**1.21**	**67**	⇑*iP*	**Pn**	**23 30 50.6**	**-0.1**
PAVA	**Las Pavas**	**1.29**	**70**	*eP*	**Pn**	**23 30 52.1**	**+0.2**
PAVA	**Las Pavas**	**1.29**	**70**	*eP*	**Pn**	**23 30 52.1**	**+0.2**
NBG	**Las Nubes**	**1.32**	**353**	⇓*eP*	**Pn**	**23 30 53.3**	**+1.0**
NBG	**Las Nubes**	**1.32**	**353**	⇓*eP*	**Pn**	**23 30 53.3**	**+1.0**
COEG	**Centro de Oper**	**1.32**	**75**	*eP*	**Pn**	**23 30 51.9**	**-0.2**
COEG				*eS*	**Sn**	**23 31 09.2**	**+0.2**
COEG				IAML		23 31 11.9	
	comp=Z,12μm,0.3s						
FUG	**Fuego 3**	**1.33**	**332**	⇓*eP*	**Pn**	**23 30 51.7**	**-0.7**
FUG	**Fuego 3**	**1.33**	**332**	⇓*eP*	**Pn**	**23 30 51.7**	**-0.7**
MTO3	**Montecristo**	**1.38**	**36**	*eP*	**Pn**	**23 30 52.9**	**-0.2**
MTO3				*eS*	**Sn**	**23 31 12.3**	**+1.7**
MTO3	**Montecristo**	**1.38**	**36**	*eP*	**Pn**	**23 30 52.9**	**-0.2**
MTO3				*eS*	**Sn**	**23 31 12.3**	**+1.7**
UESV	**Universidad de**	**1.41**	**75**	*eP*	**Pn**	**23 30 52.4**	**+0.1**
UESV				*eS*	**Sn**	**23 31 12.0**	**+0.9**
UESV				IAML		23 31 18.4	
	comp=Z,11μm,0.6s						
UESV	**Universidad de**	**1.41**	**75**	*eP*	**Pn**	**23 30 53.4**	**+0.1**
UESV				*eS*	**Sn**	**23 31 12.0**	**+0.9**
UESV				IAML		23 31 18.4	
	comp=Z,11μm,0.6s						
LLGN	**La Laguna**	**1.50**	**54**	*eP*	**Pn**	**23 30 54.2**	**-0.3**
LLGN				IAML		23 31 17.7	
	comp=Z,4μm,0.6s						
LLGN	**La Laguna**	**1.50**	**54**	*eP*	**Pn**	**23 30 54.2**	**-0.3**
LLGN				IAML		23 31 17.7	
	comp=Z,4μm,0.6s						
ALJI	**Alcalda de J**	**1.58**	**88**	*eP*	**Pn**	**23 30 55.1**	**-0.4**
ALJI				*eS*	**Sn**	**23 31 15.9**	**+0.9**
ALJI				IAML		23 31 18.8	
	comp=Z,3μm,0.5s						
COEB	**Comit de Eme**	**1.63**	**82**	*eP*	**Pn**	**23 30 56.0**	**-0.3**
COEB				*eS*	**Sn**	**23 31 16.4**	**0.0**
COEB				IAML		23 31 26.4	
	comp=Z,5μm,0.3s						
TECA	**Tecapa**	**1.66**	**82**	*eP*	**Pn**	**23 30 56.4**	**-0.3**
TECA	**Tecapa**	**1.66**	**82**	*eP*	**Pn**	**23 30 56.4**	**-0.3**
APG	**El Apazote**	**1.74**	**351**	P	**Pn**	**23 30 58.2**	**+0.2**
	comp=Z,509nm,0.3s,baz=193,slow=10,SNR=596						
APG				S	**Sn**	**23 31 20.7**	**+1.3**
	comp=Z,1μm,0.3s,baz=291,slow=13,SNR=35						
APG				LR	LR	23 31 43.4	
	comp=Z,9μm,22.0s,baz=61,slow=44						
ERG	**Entre ros, C**	**1.77**	**311**	*eP*	**Pn**	**23 30 57.8**	**-0.3**
PACA	**Pacayal**	**1.83**	**84**	*eP*	**Pn**	**23 30 58.9**	**-0.1**
PACA	**Pacayal**	**1.83**	**84**	*eP*	**Pn**	**23 30 58.9**	**-0.1**
MRL	**Marmol**	**1.86**	**15**	⇓*eP*	**Pn**	**23 31 00.6**	**+1.0**
MRL	**Marmol**	**1.86**	**15**	⇓*eP*	**Pn**	**23 31 00.6**	**+1.0**
JUCU	**Jucuarɨn**	**1.89**	**90**	*eP*	**Pn**	**23 30 59.4**	**-0.3**
STG3	**Santiaguito 3,**	**1.96**	**317**	⇓*eP*	**Pn**	**23 31 00.3**	**-0.6**
FAGO	**Alcalda de S**	**2.07**	**78**	*eP*	**Pn**	**23 31 01.9**	**-0.3**
FAGO				*eS*	**Sn**	**23 31 25.8**	**-1.1**
LCND	**La Caada**	**2.24**	**89**	*eP*	**Pn**	**23 31 04.6**	**+0.1**
LCND				*eS*	**Sn**	**23 31 31.8**	**+0.7**
LCND				IAML		23 31 35.6	
	comp=Z,4μm,0.4s						
LCND	**La Caada**	**2.24**	**89**	*eP*	**Pn**	**23 31 04.6**	**+0.1**
LCND				*eS*	**Sn**	**23 31 31.8**	**+0.7**
LCND				IAML		23 31 35.6	
	comp=Z,4μm,0.4s						
CNCH	**Conchagua**	**2.29**	**90**	*eP*	**Pn**	**23 31 05.3**	**0.0**
CNCH				IAML		23 31 39.8	
	comp=Z,10μm,0.3s						
CNCH	**Conchagua**	**2.29**	**90**	*eP*	**Pn**	**23 31 05.3**	**0.0**
CNCH				IAML		23 31 39.8	
	comp=Z,10μm,0.3s						
THIG		**2.59**	**309**	*eP*	**Pn**	**23 31 08.5**	**-0.7**
THIG				*eS*	**Sn**	**23 31 37.9**	**-1.7**
THIG		**2.59**	**309**		**Pn**	**23 31 08.5**	**-0.7**
THIG					**Sn**	**23 31 37.9**	**-1.7**
TGUH	**Tegucigalpa,Un**	**2.94**	**74**	*eP*	**Pn**	**23 31 14.2**	**0.0**
TGUH	**Tegucigalpa,Un**	**2.94**	**74**	*iP*	**Pn**	**23 31 14.0**	**-0.2**
TGUH	**Tegucigalpa,Un**	**2.94**	**74**		**Pn**	**23 31 14.0**	**-0.2**
CRIN	**San Cristobal**	**3.11**	**100**	*eP*	**Pn**	**23 31 16.3**	**-0.1**
CNGN	**Cerro Negro**	**3.49**	**102**	*eP*	**Pn**	**23 31 21.6**	**0.0**
MOMN	**Momotombo**	**3.66**	**103**	*eP*	Pn	23 31 14.7	-9.2
ESTN	**Estel**	**3.72**	**92**	*eP*	**Pn**	**23 31 24.8**	**0.0**
ESTN	**Estel**	**3.72**	**92**		**Pn**	**23 31 24.1**	**-0.7**
PCIG		**3.80**	**310**	*i* P	**Pn**	**23 31 25.6**	**-0.2**
PCIG		**3.80**	**310**		**Pn**	**23 31 25.6**	**-0.2**
TISN	**Laguna Tiscapa**	**3.98**	**106**	*eP*	**Pn**	**23 31 27.4**	**-0.9**
MATN	**Matagalpa**	**4.17**	**94**	*eP*	**Pn**	**23 31 30.5**	**-0.4**
MATN				*eS*	**Sn**	**23 32 17.9**	**-0.6**
MATN				IAML		23 32 21.7	
	comp=E,1μm,0.5s						
TGIG		**4.49**	**321**	*eP*	**Pn**	**23 31 35.5**	**+0.2**
TGIG		**4.49**	**321**		**Pn**	**23 31 35.5**	**+0.2**
ACON	**Acoyapa**	**5.06**	**104**	*eP*	**Pn**	**23 31 42.4**	**-0.7**
ACON	**Acoyapa**	**5.06**	**104**		**Pn**	**23 31 42.2**	**-0.8**
GB1A	**Borinquen Arri**	**5.28**	**117**	*eP*	**Pn**	**23 31 48.4**	**+2.3**
BUEV	**Buena Vista**	**5.28**	**117**	*eP*	**Pn**	**23 31 47.9**	**+1.7**
PLVR	**Palo Verde**	**5.56**	**121**	*eP*	**Pn**	**23 31 51.5**	**+1.5**
CUI	**Cuipilapa**	**5.56**	**117**	*eP*	**Pn**	**23 31 51.3**	**+1.3**
ESPN	**Las Esperanzas**	**5.84**	**100**	*eP*	**Pn**	**23 31 53.8**	**0.0**
ESPN	**Las Esperanzas**	**5.84**	**100**		**Pn**	**23 31 53.9**	**+0.1**
CMIG	**Matias Romero**	**5.91**	**311**	P	**Pn**	**23 31 55.3**	**+0.6**
	comp=E,6.1nm,0.3s,baz=107,slow=9.5,SNR=42						
CMIG				S	**Sn**	**23 32 58.3**	**-2.8**
	comp=E,22nm,0.3s,baz=51,slow=21,SNR=3.3						
CMIG				LR	LR	23 34 31.4	
	comp=E,352nm,21.1s,baz=129,slow=39						
CMIG	**Matias Romero**	**5.91**	**311**	*eP*	**Pn**	**23 31 54.5**	**-0.2**
CMIG	**Matias Romero**	**5.91**	**311**		**Pn**	**23 31 54.5**	**-0.2**
JTS	**Las Juntas de**	**5.92**	**119**	P	**Pn**	**23 31 56.1**	**+1.3**
	comp=E,12nm,0.3s,baz=2.1,slow=23,SNR=79						
JTS				S	**Sn**	**23 32 57.9**	**-3.4**
	comp=E,7.8nm,0.3s,baz=349,slow=21,SNR=1.8						
JTS	**Las Juntas de**	**5.92**	**119**	*eP*	**Pn**	**23 31 56.1**	**+1.3**
JTS	**Las Juntas de**	**5.92**	**119**		**Pn**	**23 31 55.8**	**+1.0**
ARE1	**Arenal 1**	**6.04**	**117**	*eP*	**Pn**	**23 31 58.3**	**+1.8**
CEDE	**Laguna Cedeo**	**6.04**	**117**	*eP*	**Pn**	**23 31 58.5**	**+2.0**
HUIG	**Huatulco**	**6.25**	**294**	*eP*	**Pn**	**23 31 59.2**	**-0.1**
HUIG	**Huatulco**	**6.25**	**294**		**Pn**	**23 31 59.2**	**-0.1**
HDC	**Heredia**	**6.78**	**118**	Pn	**Pn**	**23 32 07.3**	**+0.6**
LCR2	**La Lucha 2**	**7.00**	**119**	*eP*	**Pn**	**23 32 11.4**	**+1.5**
TEIG	**Tepich**	**7.16**	**15**	P	**Pn**	**23 32 12.8**	**+1.0**
	comp=E,1.1nm,0.3s,baz=122,slow=0.4,SNR=5.6						
TEIG				LR	LR	23 35 17.9	
	comp=E,642nm,19.2s,baz=231,slow=42						
TEIG	**Tepich**	**7.16**	**15**	*eP*	**Pn**	**23 32 12.7**	**+1.0**
TEIG	**Tepich**	**7.16**	**15**		**Pn**	**23 32 13.1**	**+1.4**
VHO	**Vista Hermosa**	**7.36**	**302**	*eP*	**Pn**	**23 32 19.3**	**+4.5**
FSCY	**Frank Sound, G**	**10.53**	**54**		**Pn**	**23 32 57.8**	**0.0**
833A	**Chaparral WMA,**	**17.26**	**332**	P	**P**	**23 34 27.8**	**+0.7**
	baz=148						
833A	**Chaparral WMA,**	**17.26**	**332**	Pn	**P**	**23 34 28.0**	**+1.0**
HKT	**Hockley**	**17.40**	**343**	P	**P**	**23 34 29.4**	**+0.9**
OTAV	**Otavalo**	**17.41**	**137**	P	**P**	**23 34 29.6**	**+0.3**
ROSC	**El Rosal**	**17.76**	**117**	LR	LR	23 41 39.1	
	comp=E,94nm,20.0s,baz=274,slow=38						
435B	**Jarrell**	**18.72**	**340**	P	**Pn**	**23 34 44.1**	**0.0**
	baz=157						
352A	**Blakely**	**18.76**	**14**	P	**Pn**	**23 34 44.8**	**+0.2**
	baz=196						
353A	**Camilla**	**18.81**	**16**	P	**Pn**	**23 34 45.4**	**+0.1**
	baz=198						
NATX	**Nacogdoches**	**18.86**	**348**	P	**Pn**	**23 34 46.0**	**+0.2**
	baz=166						
NATX	**Nacogdoches**	**18.86**	**348**	P	**P**	**23 34 45.1**	**+0.5**
NATX				IAmb	IAmb	23 34 50.0	
	comp=Z,23nm,0.8s						
VBMS	**Vicksburg**	**18.86**	**359**	P	**Pn**	**23 34 46.4**	**+0.5**
	baz=179						
VBMS	**Vicksburg**	**18.86**	**359**	P	**Pn**	**23 34 47.0**	**+1.2**
250A	**Grady**	**18.96**	**10**	P	**Pn**	**23 34 48.0**	**+0.9**
250A				IAmb	IAmb	23 35 03.4	
	comp=Z,73nm,1.2s						
TIGA	**Tifton**	**19.07**	**17**	P	**Pn**	**23 34 49.4**	**+1.0**
	baz=200						
254A	**Abbeville**	**19.64**	**18**	P	**P**	**23 34 53.4**	**+0.3**
	baz=200						
SDV	**Santo Domingo**	**19.68**	**101**	P	**P**	**23 34 52.9**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=275,slow=5.8,SNR=16						
SDV	**Santo Domingo**	**19.68**	**101**	P	**P**	**23 34 53.0**	**-0.9**
WHTX	**Lake Whitney,**	**19.79**	**341**	P	**P**	**23 34 55.1**	**+0.3**
	baz=159						
WHTX	**Lake Whitney,**	**19.79**	**341**	P	**P**	**23 34 55.4**	**+0.6**
WHTX				IAmb	IAmb	23 34 55.6	
	comp=Z,18nm,0.5s						
LRAL	**Lakeview Retre**	**19.89**	**8**	P	**Pn**	**23 34 57.4**	**-0.5**
	baz=189						
LRAL	**Lakeview Retre**	**19.89**	**8**	P	**Pn**	**23 34 57.5**	**-0.5**
LRAL				IAmb	IAmb	23 35 13.8	
	comp=Z,41nm,1.2s						
152A	**Waverly Hall**	**19.95**	**14**	P	**P**	**23 34 57.5**	**+1.0**
	baz=196						
152A	**Waverly Hall**	**19.95**	**14**	P	**P**	**23 34 57.6**	**+1.0**
152A				IAmb	IAmb	23 35 09.7	
	comp=Z,19nm,1.0s						
Z41A	**Richland Creek**	**20.04**	**354**	P	Pn	23 35 01.2	+1.5
	baz=172						
Z41A	**Richland Creek**	**20.04**	**354**	P	Pn	23 35 00.3	+0.6
256A	**Glennville**	**20.12**	**21**	P	**P**	**23 34 59.3**	**+1.0**
	baz=204						
Z50A	**Ashland**	**20.27**	**10**	P	**P**	**23 35 00.7**	**+0.7**
	baz=192						
Z50A	**Ashland**	**20.27**	**10**	IAmb	IAmb	23 35 17.7	
	comp=Z,49nm,1.1s						
TXAR	**Lajitas Array**	**20.30**	**324**	P	Pn	23 35 03.0	+0.1
	comp=Z,2.6nm,0.5s,baz=146,slow=12,SNR=38						
TXAR				PcP	**PcP**	**23 39 14.1**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=153,slow=4.4,SNR=5.8						
TXAR				LR	LR	23 43 49.1	
	comp=Z,40nm,19.6s,baz=0.0,slow=39						
154A	**Montrose**	**20.32**	**17**	P	**P**	**23 35 00.8**	**+0.4**
	baz=200						
Z51A	**Franklin**	**20.47**	**12**	P	Pn	23 35 04.0	-0.9
Z51A				IAmb	IAmb	23 35 06.2	
	comp=Z,26nm,0.7s						
Z52A	**Williamson**	**20.52**	**14**	P	**P**	**23 35 03.4**	**+0.8**
	baz=196						
155A	**Kite**	**20.52**	**19**	P	**P**	**23 35 03.0**	**+0.4**
	baz=202						
Z53A	**Monticello**	**20.81**	**16**	P	**P**	**23 35 06.1**	**+0.3**
	baz=198						
GOGA	**Godfrey**	**20.96**	**16**	P	**P**	**23 35 07.6**	**+0.2**
	baz=198						
GOGA	**Godfrey**	**20.96**	**16**	IAmb	IAmb	23 35 26.6	
	comp=Z,19nm,1.1s						
Z54A	**Sparta**	**20.98**	**17**	P	**P**	**23 35 08.9**	**+1.3**
	baz=200						
Y51A	**Rockmart**	**21.06**	**12**	P	**P**	**23 35 09.3**	**+0.8**
	baz=194,SNR=14						
157A	**Early Branch**	**21.07**	**22**	P	**P**	**23 35 11.3**	**+2.7**
	baz=205						
ABTX	**Abilene, Hawle**	**21.12**	**337**	P	**P**	**23 35 10.9**	**+1.7**
	baz=154						
ABTX	**Abilene, Hawle**	**21.12**	**337**	IAmb	IAmb	23 35 15.4	
	comp=Z,10nm,0.5s						
Y52A	**Lilburn**	**21.25**	**14**	P	**P**	**23 35 11.0**	**+0.5**
	baz=196						
Y52A	**Lilburn**	**21.25**	**14**	IAmb	IAmb	23 35 28.0	
	comp=Z,25nm,0.9s						
X40A	**Basin Creek Fa**	**21.26**	**354**	P	**P**	**23 35 11.2**	**+0.6**
	baz=173						
X40A	**Basin Creek Fa**	**21.26**	**354**	P	**P**	**23 35 13.4**	**+2.8**
X48A	**Hartselle**	**21.28**	**7**	IAmb	IAmb	23 35 28.1	
	comp=Z,25nm,1.1s						
Y53A	**Monroe**	**21.36**	**15**	P	**P**	**23 35 11.6**	**-0.1**
	baz=198						
MIAR	**Mount Ida**	**21.40**	**352**	P	**P**	**23 35 13.6**	**+1.4**
	baz=171						
MIAR	**Mount Ida**	**21.40**	**352**	P	**P**	**23 35 12.6**	**+0.4**
158A	**Hollywood**	**21.42**	**24**	P	**P**	**23 35 13.4**	**+1.0**
	baz=207						
UALR	**University of**	**21.50**	**355**	P	**P**	**23 35 14.3**	**+1.1**
UALR				IAmb	IAmb	23 35 24.2	
	comp=Z,45nm,1.4s						
Z56A	**Williston**	**21.52**	**20**	P	**P**	**23 35 14.4**	**+1.0**
	baz=204						
Z56A	**Williston**	**21.52**	**20**	P	**P**	**23 35 15.4**	**+1.9**
Z56A				IAmb	IAmb	23 35 15.7	
	comp=Z,23nm,0.6s						
FPAL	**Fort Paine**	**21.58**	**10**	P	**P**	**23 35 13.9**	**-0.2**
Y54A	**Tignall**	**21.61**	**17**	P	**P**	**23 35 14.0**	**-0.3**
	baz=200						
PLAL	**Pickwick Lake**	**21.70**	**5**	IAmb	IAmb	23 35 17.3	
	comp=Z,17nm,0.7s						
X51A	**Calhoun**	**21.75**	**12**	P	**P**	**23 35 15.6**	**-0.2**
	baz=194						
LPIG	**La Paz**	**21.86**	**302**	LR	LR	23 43 00.4	
	comp=Z,85nm,18.8s,baz=34,slow=34						
W41B	**Gary Mavity, V**	**21.89**	**355**	P	**P**	**23 35 17.6**	**+0.3**
	baz=175						
W41B	**Gary Mavity, V**	**21.89**	**355**	IAmb	IAmb	23 35 28.6	
	comp=Z,51nm,1.4s						
Y55A	**Saluda**	**21.92**	**19**	P	**P**	**23 35 17.2**	**-0.5**
	baz=202						
WHAR	**Wooly Hollow**	**22.01**	**355**	P	**P**	**23 35 19.7**	**+1.1**
WHAR				IAmb	IAmb	23 35 30.8	
	comp=Z,48nm,1.4s						
W49A	**Belvidere**	**22.04**	**9**	P	**P**	**23 35 19.2**	**+0.2**
	baz=190						
X53A	**Estanollee**	**22.04**	**15**	P	**P**	**23 35 18.6**	**-0.4**
	baz=198						
W39A	**Magazine**	**22.07**	**352**	P	**P**	**23 35 20.1**	**+0.8**
	baz=171						
HODGE	**Hodges**	**22.07**	**18**	IAmb	IAmb	23 35 20.3	
	comp=Z,9.3nm,0.6s						
Z58A	**St. Stephen**	**22.10**	**24**	P	**P**	**23 35 19.7**	**+0.1**
	baz=208						
SWET	**Sewanee**	**22.19**	**9**	IAmb	IAmb	23 35 38.4	
	comp=Z,31nm,0.9s						
W50A	**Signal Mountai**	**22.27**	**11**	P	**P**	**23 35 20.9**	**-0.7**
	baz=192						
W50A	**Signal Mountai**	**22.27**	**11**	IAmb	IAmb	23 35 38.3	
	comp=Z,18nm,1.0s						
X54A	**Belton**	**22.34**	**17**	P	**P**	**23 35 21.8**	**-0.4**
	baz=200						
X34A	**Smith Ranch, M**	**22.34**	**343**	IAmb	IAmb	23 35 40.3	
	comp=Z,22nm,1.0s						
W51A	**Cleveland**	**22.34**	**12**	P	**P**	**23 35 22.2**	**0.0**
	baz=194						
W52A	**Murphy**	**22.45**	**14**	P	**P**	**23 35 23.4**	**-0.1**
	baz=196						
X55A	**Gracely

W58A Raeford 23.81 23 P P 23 35 35.7 -1.0
baz=207
U52A Thorn Hill 23.83 14 P P 23 35 35.8 -1.0
baz=196
V55A Taylorsville 23.89 18 P P 23 35 36.5 -1.0
baz=202
V55A Taylorsville 23.89 18 P P 23 35 37.2 -0.3
V55A IAmb IAmb 23 35 38.2
comp=Z,9.9nm,0.6s
X60A Albert Glenn T 23.93 25 P P 23 35 36.4 -1.3
baz=210
TZTN Tazewell 23.93 13 P P 23 35 37.0 -0.8
baz=196
U53A Fall Branch 23.99 15 P P 23 35 37.7 -0.7
baz=198
V56A Mocksville 24.08 20 P P 23 35 37.8 -1.3
baz=204
T49A Edmonton 24.10 9 P P 23 35 38.7 -0.6
baz=191
T49A Edmonton 24.10 9 IAmb IAmb 23 35 56.8
comp=Z,25nm,0.9s
T50A Nancy 24.13 11 P P 23 35 38.7 -0.9
baz=193
MTP Monte Pirata 24.19 75 P P 23 35 39.1 -1.2
MTP IAmb IAmb 23 35 55.8
comp=Z,31nm,1.1s
T51A Gray 24.25 12 P P 23 35 40.1 -0.6
baz=195
U54A Nelsons Funny 24.34 17 P P 23 35 41.0 -0.5
baz=200
V57A Coltrane Farms 24.39 21 P P 23 35 41.0 -1.0
baz=205
V58A Windy Hill, Pi 24.55 22 P P 23 35 42.5 -0.9
baz=207
V58A Windy Hill, Pi 24.55 22 IAmb IAmb 23 35 43.0
comp=Z,17nm,0.7s
U55A TA2, Sparta 24.55 18 P P 23 35 42.7 -0.8
baz=202
T53A Wise 24.59 15 P P 23 35 42.9 -0.9
baz=198
T52A Hallie 24.60 14 P P 23 35 42.8 -1.1
baz=197
U56A King 24.61 19 P P 23 35 43.5 -0.5
baz=203
CCM Cathedral Cave 24.70 358 P P 23 35 44.1 -0.7
baz=178
CCM Cathedral Cave 24.70 358 P P 23 35 43.9 -0.8
CCM IAmb IAmb 23 35 46.9
comp=Z,7.9nm,0.6s
S49A Springfield 24.80 9 P P 23 35 45.2 -0.4
baz=191
S50A Richmond 24.85 11 P P 23 35 45.6 -0.6
baz=193
V59A Middlesex 24.85 24 P P 23 35 45.7 -0.4
baz=208
T54A Tazewell 24.91 17 P P 23 35 45.9 -0.9
baz=200
S51A Beattyville 24.97 12 P P 23 35 46.6 -0.6
baz=195
S51A Beattyville 24.97 12 P P 23 35 46.4 -0.8
S51A IAmb IAmb 23 35 46.6
comp=Z,24nm,1.5s
121A Cookes Peak, D 25.04 323 P P 23 35 49.9 +1.8
baz=136
121A Cookes Peak, D 25.04 323 P P 23 35 49.2 +1.1
121A IAmb IAmb 23 35 54.2
comp=Z,8.5nm,0.8s
121A PcP 23 39 25.6 +4.0
U57A Blanch 25.04 21 P P 23 35 47.0 -0.9
baz=206
WCI Wyandotte Cave 25.10 7 P P 23 35 47.5 -0.9
baz=189
WCI Wyandotte Cave 25.10 7 P P 23 35 47.8 -0.5
S52A Salyersville 25.12 13 P P 23 35 47.5 -1.1
baz=196
V60A Jim Taylor Roa 25.24 25 P P 23 35 48.8 -0.9
baz=210
U58A Oxford 25.29 22 P P 23 35 48.9 -1.2
baz=207
R49A Shelbyville 25.32 9 P P 23 35 49.1 -1.2
baz=191
R49A Shelbyville 25.32 9 IAmb IAmb 23 35 49.7
comp=Z,8.5nm,0.5s
S53A Williamson 25.35 15 P P 23 35 49.8 -0.9
baz=198
BLA Blacksburg 25.39 18 P P 23 35 50.1 -1.0
baz=202
OLIL Olney 25.43 4 IAmb IAmb 23 36 09.0
comp=Z,19nm,0.8s
R50A Paris 25.45 11 P P 23 35 50.9 -0.7
baz=193
R50A Paris 25.45 11 IAmb IAmb 23 35 51.4
comp=Z,8.1nm,0.6s
U59A Littleton 25.54 24 P P 23 35 51.3 -1.1
baz=209
BNM Barren Site 25.59 327 P P 23 35 54.7 +1.5
R51A Hillsboro 25.61 12 P P 23 35 52.1 -0.9
baz=195
S54A Dingess, Beckl 25.68 16 P P 23 35 52.3 -1.4
baz=200
LENM Lemitar 25.79 327 P P 23 35 56.2 +1.3
Q48A North Vernon 25.86 8 P P 23 35 54.0 -1.3
baz=190
U60A Pendleton 25.89 25 P P 23 35 54.2 -1.4
baz=210
Q49A Aurora 26.06 9 P P 23 35 56.0 -1.1
baz=192
ANMO Albuquerque 26.12 328 P P 23 35 59.8 +1.9
comp=Z,0.7nm,0.5s,baz=133,slow=6.1,SNR=3.8
T59A Double "B" Far 26.17 23 P P 23 35 57.3 -0.8
baz=209
Q51A Peebles 26.36 12 P P 23 35 58.6 -1.1
baz=195
P48A Milroy 26.42 8 P P 23 35 58.7 -1.6
baz=190
Q52A Bidwell 26.53 14 P P 23 35 59.9 -1.5
baz=197
S58A Poland Farm, P 26.55 22 P P 23 36 00.1 -1.4
baz=207
Q53A Leroy 26.62 15 P P 23 36 00.7 -1.4
baz=199
TUC Tucson 26.73 319 P P 23 36 04.6 +1.3
P50A Jamestown 26.83 11 P P 23 36 02.7 -1.3
baz=194
P51A Williamsport 26.86 12 P P 23 36 03.4 -0.9
baz=195
Q54A Coxs Mills 26.92 16 P P 23 36 03.5 -1.3
baz=200
R57A Stanardsville 27.00 21 P P 23 36 04.6 -0.9
baz=206
SFIN Lafayette 27.14 5 P P 23 36 05.5 -1.2
baz=186
HDIL Hopedale 27.19 1 P P 23 36 06.0 -1.2
baz=182
Q48A Farmland 27.24 8 P P 23 36 06.2 -1.5
baz=191
O49A Covington 27.30 10 P P 23 36 06.8 -1.4
baz=192
O50A Cable 27.39 11 P P 23 36 07.9 -1.1
baz=194
R59A King George, V 27.41 23 P P 23 36 08.6 -0.6
baz=208
Q56A Snyder Ridge, 27.45 19 P P 23 36 08.9 -0.7
baz=204
O51A Pataskala 27.59 13 P P 23 36 09.8 -1.0
baz=196
P54A Burton 27.59 16 P P 23 36 10.1 -0.8
baz=201
ACSO Alum Creek Sta 27.59 12 P P 23 36 09.9 -1.0
baz=195
Q57A Strasburg 27.70 20 P P 23 36 10.8 -1.0
baz=205
O52A Adamsville 27.73 14 P P 23 36 10.8 -1.3
baz=198
N47A Urbana 27.79 7 P P 23 36 11.6 -0.9
baz=189
214A Organ Pipe Nat 27.86 316 P P 23 36 14.7 +1.3
baz=127
P56A Dayton Farm, R 27.99 19 P P 23 36 13.6 -0.8
baz=204
N49A Columbus Grove 28.04 10 P P 23 36 13.1 -1.7
baz=192
N50A Nevada 28.08 11 P P 23 36 14.0 -1.2
baz=195
O54A Avella 28.16 16 P P 23 36 14.4 -1.5
baz=200
Q59A Harwood 28.17 23 P P 23 36 14.2 -1.7
baz=209

P57A Homestead Farm 28.24 20 P P 23 36 15.5 -1.1
baz=206
M47A Cromwell 28.27 7 P P 23 36 15.6 -1.3
baz=189
NNA Nana 28.37 152 LR LR 23 45 35.6
comp=Z,73nm,18.9s,baz=316,slow=32
N52A McGinn's Farm, 28.43 14 P P 23 36 16.3 -2.0
baz=198
S22A 4UR Ranch, Cre 28.53 332 P P 23 36 21.1 +1.5
baz=144
X16A Lo Mia Camp, P 28.54 321 P P 23 36 20.9 +1.3
M50A Fremont 28.71 11 P P 23 36 19.7 -1.1
baz=194
L47A Sherwood 28.93 8 P P 23 36 20.9 -1.8
baz=190
N54A Moraine State 29.00 16 P P 23 36 21.7 -1.6
baz=201
L48A N Adams 29.00 9 P P 23 36 22.1 -1.3
baz=192
M52A Chesterland 29.20 14 P P 23 36 25.1 0.0
baz=198
M52A Chesterland 29.20 14 P P 23 36 24.4 -0.7
WUAZ Wupatki 29.25 323 P P 23 36 27.5 +1.6
baz=134
WUAZ Wupatki 29.25 323 P P 23 36 26.5 +0.7
SSPA Standing Stone 29.32 19 P P 23 36 25.5 -0.7
baz=205
L50A Kingsville 29.38 11 P P 23 36 25.3 -1.4
baz=195
P60A Greenville 29.38 23 P P 23 36 25.8 -1.0
baz=210
N56A West Decatur 29.44 19 P P 23 36 26.0 -1.4
baz=204
JFWS Jewell Farm 29.54 360 P P 23 36 27.0 -1.1
baz=180
K47A Vermontville 29.64 8 P P 23 36 26.9 -2.0
baz=190
K48A Perry 29.89 9 P P 23 36 29.9 -1.4
baz=192
K49A Clarkson 29.98 10 P P 23 36 30.4 -1.6
baz=193
M56A Emporium 30.00 18 P P 23 36 30.5 -1.7
baz=204
M57A Sunshine Farm, 30.20 20 P P 23 36 32.3 -1.7
baz=206
J47A Sumner 30.22 8 P P 23 36 32.2 -1.9
baz=190
U15A North Rim 30.41 323 P P 23 36 37.1 +0.8
M58A Price's Panora 30.45 21 P P 23 36 34.7 -1.5
baz=207
J49A Marlette 30.59 10 P P 23 36 35.5 -2.0
baz=194
BC3 Big Chuckawall 30.66 316 P P 23 36 41.0 +2.8
baz=126
I45A Fountain 30.85 6 P P 23 36 38.3 -1.3
baz=187
ECSD EROS Data Cent 30.86 351 P P 23 36 38.9 -0.8
baz=168
ECSD EROS Data Cent 30.86 351 P P 23 36 38.6 -1.2
ECSD IAmb IAmb 23 36 39.2
comp=Z,15nm,1.4s
K54A Basiliko Farm, 30.88 17 P P 23 36 38.8 -1.2
baz=202
L57A Andrews Acres 30.89 20 P P 23 36 38.9 -1.2
baz=206
KNB Kanab 31.13 323 P P 23 36 44.0 +1.5
K55A Perry 31.17 17 P P 23 36 40.8 -1.8
baz=203
BINY Binghamton 31.35 21 P P 23 36 42.1 -2.1
baz=207
K56A Middlesex 31.36 18 P P 23 36 42.9 -1.4
baz=204
H45A Beulah 31.45 6 P P 23 36 42.9 -2.0
baz=188
MTPU Mont Pierson 31.49 326 P P 23 36 47.2 +1.4
K57A Scipio Center 31.65 19 P P 23 36 45.1 -1.7
baz=206
L60A Shokan 31.80 23 P P 23 36 47.5 -0.6
baz=210
I52A Shelburne 31.87 14 P P 23 36 47.1 -1.6
baz=199
G45A Suttons Bay 31.90 6 P P 23 36 47.3 -1.6
baz=188
SPMN Marine on St. 31.93 357 P P 23 36 47.9 -1.3
baz=205
K58A Earlville 31.97 20 P P 23 36 47.8 -1.7
baz=207
K58A Earlville 31.97 20 P P 23 36 48.4 -1.1
J56A Wolcott 32.03 19 P P 23 36 48.3 -1.8
baz=205
J56A Wolcott 32.03 19 P P 23 36 48.4 -1.6
J57A Williamstown 32.43 19 P P 23 36 51.6 -1.9
baz=206
J57A Williamstown 32.43 19 P P 23 36 51.8 -1.8
BFSC Mount Baldy Ra 32.50 315 P P 23 36 56.6 +2.1
baz=123
GSC Goldstone, Bar 32.52 317 P P 23 36 56.5 +1.9
baz=126
F45A CMU Biological 32.55 6 P P 23 36 53.5 -1.1
baz=188
J58A Remsen 32.62 20 P P 23 36 54.0 -1.3
baz=208
I55A Frankford 32.65 17 P P 23 36 53.6 -1.8
baz=203
H53A Bobzygeon 32.74 15 P P 23 36 54.9 -1.4
baz=201
EDW2 Edwards Air Fo 33.08 315 P P 23 37 01.7 +2.2
baz=124
TPNV Topopah Spring 33.15 320 P P 23 37 01.4 +1.2
baz=129
LRMC Laurel Mtn Rad 33.21 317 P P 23 37 01.7 +1.0
baz=125
MPMC Manual Prospec 33.41 318 P P 23 37 04.0 +1.5
baz=126
R11A Troy Canyon, C 33.64 323 P P 23 37 06.6 +2.1
baz=131
R11A Troy Canyon, C 33.64 323 P P 23 37 05.6 +1.1
ARVC Arvin 33.79 315 P P 23 37 07.5 +1.9
baz=123
PDAR Pinedale Array 33.83 334 P P 23 37 07.3 +1.3
comp=Z,0.2nm,0.5s,baz=128,slow=12,SNR=3.5
PDAR PcP PcP 23 39 44.4 +0.5
comp=Z,0.6nm,0.7s,baz=123,slow=5.5,SNR=4.2
PDAR LR LR 23 54 21.0
comp=Z,115nm,18.2s,baz=82,slow=42
ISA Isabella, Lake 33.84 316 P P 23 37 07.9 +1.7
baz=124
G55A Calabogie 33.87 17 P P 23 37 04.6 -1.5
baz=204
H58A Gabriels 33.93 21 P P 23 37 04.6 -2.0
baz=209
LONY Lake Ozonia 33.97 20 P P 23 37 05.1 -1.9
baz=206
CWC Cottonwood Cre 34.02 318 P P 23 37 09.4 +1.6
baz=126
ALGO Algonquin Park 34.16 15 P P 23 37 06.6 -2.0
baz=201
PKM Mcpherson Peak 34.35 314 P P 23 37 12.9 +2.2
baz=122
VES Vestal, Richgr 34.35 316 P P 23 37 12.5 +2.1
baz=124
E51A G1948 Merrick 34.36 13 P P 23 37 08.6 -1.7
baz=199
D48A Paudash Townsh 34.52 10 P P 23 37 09.7 -2.0
baz=194
EYMN Ely 34.59 358 P P 23 37 10.5 -1.8
baz=178
EYMN Ely 34.59 358 P P 23 37 10.4 -1.9
SMMC Simmler 34.70 314 P P 23 37 15.8 +2.3
baz=122
SAML Samuel 34.73 128 P P 23 37 13.9 0.0
D51A Lot 18 Range I 34.91 13 P P 23 37 13.4 -1.7
baz=198
F57A Harrington 34.99 19 P P 23 37 14.0 -1.8
baz=207
E55A Montcerf-Lytto 35.16 17 P P 23 37 15.5 -1.7
baz=204
NV11 Mina Array Sit 35.26 320 P P 23 37 19.7 +1.3
NV11 IAmb IAmb 23 37 21.8
comp=Z,6.9nm,0.8s
D53A Lac Vacive, Po 35.30 15 P P 23 37 17.4 -1.0
baz=201
OMMB Old Mammoth Mi 35.30 319 P P 23 37 20.8 +1.8
NVAR Mina Array Bea 35.35 320 P P 23 37 22.2 +3.0
comp=Z,7.5nm,0.7s,baz=133,slow=7.9,SNR=59
NVAR PcP PcP 23 39 50.3 +1.9
comp=Z,2.4nm,0.7s,baz=134,slow=3.5,SNR=11
NVAR LR LR 23 53 33.6

comp=Z,115nm,18.7s,baz=80,slow=39
MDND Maddock 35.36 349 P P 23 37 18.2 -0.8
baz=164
MDPB Devils Postpil 35.37 318 P P 23 37 20.5 +1.0
MDPB IAmb IAmb 23 37 23.2
comp=Z,6.0nm,0.8s
E56A St. Veronique 35.54 18 P P 23 37 19.5 -1.0
baz=206
KVN Kaiserville 35.60 321 P P 23 37 22.8 +1.4
D54A Lac Fusel, La 35.63 16 P P 23 37 20.1 -1.2
baz=203
D55A Sainte-Anne-du 35.84 17 P P 23 37 21.4 -1.7
baz=205
WAKR Walker 36.10 319 P P 23 37 27.0 +1.2
WAKR IAmb IAmb 23 37 31.7
comp=Z,5.1nm,1.0s
YERR Yerington 36.27 320 P P 23 37 28.3 +1.2
YERR IAmb IAmb 23 37 30.3
comp=Z,5.3nm,0.6s
D57A Chemin Vers le 36.32 19 P P 23 37 25.1 -2.1
baz=207
CMB Columbia Colle 36.44 318 P P 23 37 30.1 +1.7
PNTR Pine Nut 36.55 320 P P 23 37 31.5 +1.9
PNTR IAmb IAmb 23 37 33.6
comp=Z,5.8nm,0.6s
LPAZ La Paz 36.58 143 P P 23 37 31.8 +1.4
comp=Z,2.2nm,0.8s,baz=327,slow=9.5,SNR=10
LPAZ LR LR 23 53 24.0
comp=Z,54nm,20.4s,baz=341,slow=38
LPAZ La Paz 36.58 143 P P 23 37 30.4 0.0
D58A Chemin du LacG 36.71 20 P P 23 37 28.6 -1.9
baz=209
DGMT Dagmar 36.97 344 P P 23 37 31.7 -1.1
baz=157
LATQ La Tuque 37.00 20 P P 23 37 31.0 -1.8
baz=209
ULM Lac du Bonnet 37.17 354 P P 23 37 32.4 -1.9
comp=Z,9.0nm,0.6s,baz=171,slow=9.0,SNR=22
ULM LR LR 23 53 05.1
comp=Z,138nm,21.2s,baz=160,slow=37
ULM Lac du Bonnet 37.17 354 IAmb IAmb 23 37 32.9
comp=Z,9.3nm,0.6s
LSQQ Lebel-sur-Quev 37.31 14 P P 23 37 33.9 -1.6
baz=201
BEKR Beckworth 37.49 321 P P 23 37 39.0 +1.5
BEKR IAmb IAmb 23 37 41.4
comp=Z,9.3nm,1.2s
MATQ Matagami 37.82 13 P P 23 37 38.1 -1.7
baz=200
MNMC Minye Minye 38.06 147 P P 23 37 43.7 +1.2
MNMC IAmb IAmb 23 37 46.3
comp=Z,17nm,1.1s
O03E Paynes Creek 38.64 320 P P 23 37 48.7 +1.7
baz=125
GO01 Chusmiza 38.71 147 P P 23 37 49.7 +1.5
GO01 IAmb IAmb 23 37 51.7
comp=Z,15nm,1.4s
MSO Missoula 38.95 334 P P 23 37 52.1 +2.5
baz=142
O02D Mt. Diablo Mer 39.19 319 P P 23 37 52.4 +0.8
baz=124
M04C Macdoel 39.53 322 P P 23 37 56.2 +1.7
baz=127
N02D Trinity Center 39.59 320 P P 23 37 56.8 +1.9
baz=125
M02C Callahan 39.92 321 P P 23 37 59.2 +1.5
baz=125
L04D Klamath Falls 40.07 322 P P 23 37 59.7 +0.8
baz=127
J04D Umpqua Nationa 40.57 324 P P 23 38 03.8 +0.6
baz=128
I05D Terrebonne, OR 40.82 325 P P 23 38 06.6 +1.6
baz=130
I04A Tendick Farm, 41.08 324 P P 23 38 07.7 +0.5
baz=128
I03D Drain, OR 41.56 323 P P 23 38 11.6 +0.6
baz=127
FFC Flin Flon 42.38 350 P P 23 38 17.1 -0.4
SCHQ Schefferville 45.31 19 P P 23 38 38.6 -2.5
comp=Z,13nm,0.5s,baz=207,slow=7.6,SNR=28
SCHQ Schefferville 45.31 19 P P 23 38 38.8 -2.3
BDFB Brasilia 50.65 123 P P 23 39 23.1 +0.2
comp=Z,1.3nm,0.4s,baz=312,slow=2.9,SNR=3.2
BDFB LR LR 00 01 20.4
comp=Z,59nm,20.6s,baz=320,slow=37
BDFB Brasilia 50.65 123 IAmb IAmb 23 39 37.3
comp=Z,4.6nm,1.1s
CPUP Villa Florida 50.70 141 P P 23 39 22.5 -0.5
comp=Z,2.3nm,1.0s,baz=335,slow=8.3,SNR=5.4
CPUP Villa Florida 50.70 141 IAmb IAmb 23 39 23.3
comp=Z,3.9nm,1.0s
YKA Yellowknife Ar 52.15 346 P P 23 39 32.1 -1.2
comp=Z,1.0nm,0.5s,baz=138,slow=7.0,SNR=30
YKA PcP PcP 23 40 43.8 -0.5
comp=Z,0.3nm,0.6s,baz=150,slow=3.9,SNR=3.2
PLCA Paso Flores 56.73 162 P P 23 40 07.9 +1.0
comp=Z,2.6nm,1.0s,baz=12,slow=13,SNR=4.0
PLCA LR LR 23 59 23.4
comp=Z,50nm,18.7s,baz=30,slow=30
PLCA Paso Flores 56.73 162 IAmb IAmb 23 40 09.4
comp=Z,9.5nm,1.4s
ILAR Eielson Array 64.20 337 P P 23 40 56.5 -1.0
comp=Z,0.4nm,0.4s,baz=131,slow=4.9,SNR=7.2
NEA Nenana 64.98 336 P P 23 41 06.4 +3.8
ESDC Sonseca Array 78.78 52 P P 23 42 22.8 -3.1
comp=Z,0.5nm,0.5s,baz=291,slow=4.6,SNR=7.2
DBIC Dimbokro 83.97 85 P P 23 42 51.8 -1.8
comp=Z,1.5nm,0.6s,baz=260,slow=5.2,SNR=3.9
DBIC LR LR 00 20 54.3
comp=Z,65nm,18.3s,baz=331,slow=36
ARCES ARCESS Array B 86.27 19 P P 23 43 02.0 -2.1
comp=Z,2.8nm,0.8s,baz=310,slow=4.4,SNR=4.5
TORD Torodi Ar. Bea 88.83 77 P P 23 43 15.3 -2.1
comp=Z,0.5nm,0.7s,baz=290,slow=3.8,SNR=4.9
BOSA Boshof 118.45 115 PKP PKiKP 23 49 11.3 +0.4
comp=Z,4.1nm,0.7s,baz=257,slow=0.5,SNR=11
MKAR Makanchi Array 119.83 6 PKP PKPdf 23 49 11.2 -1.7
comp=Z,0.3nm,0.4s,baz=322,slow=3.3,SNR=5.8
KSH Kashi 125.92 13 PKP PKiKP 23 49 28.3 +2.9
KSH PP PP 23 51 26.0 +8.8
KSH PKS PKSdf 23 53 03.1 +1.4
KSH SKKS 23 58 14.4
KSH AMB AMB
comp=Z,240nm,5.4s
KSH LR LR
comp=N,720nm,9.4s
KSH LR LR
comp=E,610nm,6.1s
KSH LR LR
comp=Z,530nm,10.3s
LZH Lanzhou 129.15 345 ePKP PKiKP 23 49 33.3 +1.3
LZH pPKP pPKPdf 23 49 48.5 -1.4
LZH sPKP 23 49 54.8
LZH LR LR
comp=N,53nm,18.0s
LZH LR LR
comp=E,59nm,18.1s
LZH LR LR
comp=Z,78nm,20.2s
CD2 Chengdu 134.07 343 PKP PKPdf 23 49 39.8 -0.7
WRA Warramunga Arr 136.91 255 PKP PKiKP 23 49 47.2 -0.6
comp=Z,2.1nm,0.8s,baz=89,slow=2.0,SNR=16
ASAR Alice Springs 137.07 250 PKP PKPdf 23 49 46.9 +0.7
comp=Z,0.6nm,0.6s,baz=77,slow=1.2,SNR=6.7
CMAR Chiang Mai Arr 147.21 344 PKPbc PKPdf 23 50 05.4 +1.0
comp=Z,3.0nm,0.6s,baz=335,slow=3.3,SNR=12

NNC **22** *23:55:34.3±2.9, 36°.99N×70°.35E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=24.8km s-min=23.1km az=132.0*
IDC **22** *23:55:38.0±8.9, 36°.95N×70°.44E, h214km±58km, mb3.8/1, mb1 3.2/4, mb1mx2.7/53, mbtmp3.7/4, Error ellipse: s-maj=92.2km s-min=63.4km az=160.0*

ISC 22 23:55:37.9±2.6, 36°.9N±0°.2×70°.5E±0°.2, h200km, n8, σ1§27/11, 2C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.18	0	⇑P			Pn	23 57 06.3	-1.0
	0.8nm,0.2s,baz=180,slow=13								
KK31				⇑S			Sn	23 58 17.5	-0.7
	11nm,0.8s								
AAK	Ala-Archa	6.51	27	P			Pn	23 57 11.3	-0.4
	1.0nm,0.3s,baz=186,slow=7.4,SNR=20								
AAK				S			Sn	23 58 26.7	+0.6
	0.6nm,0.3s,baz=326,slow=19,SNR=15								
AAK	Ala-Archa	6.51	27	⇓P			Pn	23 57 11.4	-0.4

	3.5nm,0.7s									
AAK					⇓S		Sn	23 58 26.8	+0.6	
	8.3nm,0.6s									
TKM2	**Tokmak 2**	7.18	32	⇓P			Pn	23 57 20.1	-0.5	
	4.9nm,0.5s									
MKAR	**Makanchi Array**	13.22	38	P			Pn	23 58 39.2	+1.2	
	0.1nm,0.3s,baz=207,slow=9.1,SNR=6.5									
AB31	**Akbulak array**	14.50	332	⇓P			P	23 58 57.2	+2.2	
	0.4nm,0.3s									
ZALV	**Zalesovo Beam**	19.73	26	P			P	23 59 50.7	-1.4	
	0.3nm,0.3s,baz=214,slow=11,SNR=5.3									
ARCES	**ARCESS Array B**	40.59	338	P			P	00 02 56.1	-1.4	
	6.2nm,1.1s,baz=113,slow=8.9,SNR=2.1									

*IDC **22** 23:59:14.4±0.9, 1.°43N× 122.°51E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.7/45, mbtmp4.0/8, MS3.4/8, Ms1 3.5/8, ms1mx3.2/44, Error ellipse: s-maj=110.7km s-min=16.1km az=66.0*

*ISCJB **22** 23:59:16.8±0.5, 1.°43N±0.°06× 122.°22E±0.°08, h38km, mb3.9/7, MS3.6/4, Error ellipse: s-maj=12.6km s-min=7.1km az=158.1*

*NEIC **22** 23:59:18.3±1.8, 1.°42N±0.°09× 122.°2E±0.°1, h35km±3km, mb4.3/14*

ISC 22 23:59:19.0±0.7, 1.°40N±0.°08×122.°2E±0.°1, h38km, n36, σ1s67/27, mb4.2/14, MS3.3/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
LUWI	**Luwuk**	2.49	167	Pn		Pn		23 59 59.0	+2.1
BKB	**Balikpapan**	5.93	244	Pn		Pn		00 00 45.1	+0.8
DAV	**Davao City (W)**	6.56	31	LR		LR		00 03 52.1	
	comp=Z,262nm,18.1s,baz=151,slow=44								
KKM	**Kota Kinabalu**	7.55	308	Pn		Pn		00 01 06.2	-0.5
BATI	**Baumata**	11.62	173	LR		LR		00 06 22.7	
	comp=Z,160nm,21.6s,baz=336,slow=37								
UGM	**Wanagama**	14.87	231	Pn		Pn		00 02 46.7	-0.1
LEM	**Lembang**	16.69	241	LR		LR		00 10 04.3	
	comp=Z,138nm,20.9s,baz=56,slow=38								
KNRA	**Kununurra**	18.16	159			P		00 03 28.5	+0.1
KNRA						IAmb	IAmb	00 03 32.7	
	comp=Z,21nm,1.1s								
FITZ	**Fitzroy Crossi**	19.66	170	P		P		00 03 44.6	-0.2
FITZ				LR		LR		00 11 12.5	
	comp=Z,57nm,21.1s,baz=340,slow=37								
FITZ	**Fitzroy Crossi**	19.66	170	IAmb		IAmb		00 03 45.0	
	comp=Z,8.4nm,1.1s								
YULB	**Yu-li**	21.88	358	P		P		00 04 06.7	-2.1
SSLB	**Suanglung**	22.29	357	P		P		00 04 10.3	-2.9
SSLB				IAmb		IAmb		00 04 21.5	
	comp=Z,8.7nm,0.8s								
MBWA	**Marble Bar**	22.55	186	P		P		00 04 11.2	-4.8
PSAD1	**Pilbara Seismi**	22.83	186	P		P		00 04 17.6	-1.3
PSAD1				IAmb		IAmb		00 04 19.2	
	comp=Z,13nm,1.1s								
PSAC1	**Pilbara Seismi**	22.91	186	P		P		00 04 18.6	-1.1
PSAC1				IAmb		IAmb		00 04 21.0	
	comp=Z,12nm,1.1s								
PSA00	**Pilbara Seismi**	22.94	186	P		P		00 04 18.9	-1.1
PSA00				IAmb		IAmb		00 04 19.4	
	comp=Z,5.7nm,0.8s								
WRA	**Warramunga Arr**	24.32	151	P		P		00 04 32.5	-0.8
	comp=Z,2.9nm,0.7s,baz=328,slow=10,SNR=27								
WR0	**Warramunga Arr**	24.43	151	P		P		00 04 34.0	-0.3
WR0				IAmb		IAmb		00 04 39.9	
	comp=Z,6.4nm,0.8s								
COEN	**Coen**	25.78	127	P		P		00 04 46.1	-0.5
COEN				IAmb		IAmb		00 04 57.6	
	comp=Z,10nm,1.1s								
ASAR	**Alice Springs**	27.39	156	P		P		00 05 01.7	+0.6
	comp=Z,1.1nm,0.8s,baz=346,slow=15,SNR=9.3								
CMAR	**Chiang Mai Arr**	28.43	308	LR		LR		00 18 35.3	
	comp=Z,52nm,18.2s,baz=170,slow=40								
FORT	**Forrest**	32.48	171	P		P		00 05 45.1	-0.9
NWAO	**Narrogin (SRO)**	34.46	187	P		P		00 06 02.6	-0.6
NWAO				IAmb		IAmb		00 06 18.1	
	comp=Z,3.0nm,0.8s								
KSRS	**Korea Array**	36.27	8	LR		LR		00 22 58.9	
	comp=Z,38nm,18.1s,baz=330,slow=39								
BBOO	**Buckleboo**	36.45	160	P		P		00 06 19.6	-0.8
STKA	**Stephens Creek**	37.86	153	P		P		00 06 32.0	-0.3
	comp=Z,3.3nm,0.7s,baz=304,slow=9.2,SNR=5.6								
STKA	**Stephens Creek**	37.86	153	IAmb		IAmb		00 06 40.8	
	comp=Z,0.9nm,1.1s								
MJAR	**Matsushiro Arr**	37.98	21	LR		LR		00 20 45.2	
	comp=Z,64nm,19.8s,baz=0.0,slow=34								
CAN	**Canberra**	44.29	148	P		P		00 07 25.4	+0.1
SONM	**Songino Array**	48.24	346	P		P		00 07 57.3	+1.1
	comp=Z,0.8nm,0.9s,baz=169,slow=8.3,SNR=5.6								
MKAR	**Makanchi Array**	57.02	328	P		P		00 09 03.0	+1.9
	comp=Z,0.4nm,0.5s,baz=126,slow=8.6,SNR=7.4								
KURBB	**Kurchatov Arra**	61.37	330	P		P		00 09 32.5	+1.5
	comp=Z,1.0nm,0.9s,baz=119,slow=5.5,SNR=7.2								
KURK	**Kurchatov**	61.38	330	P		P		00 09 31.2	+0.1
KBZ	**Khabaz**	81.31	314	LR		LR		00 51 02.4	
	comp=Z,178nm,20.5s,baz=340,slow=38								
VNDA	**Vanda**	81.73	172	P		P		00 11 33.5	+0.4
	comp=Z,2.4nm,0.9s,baz=335,slow=6.3,SNR=5.6								
TORD	**Torodi Ar. Bea**	119.27	286	PKP		PKiKP		00 18 08.6	+3.3
	comp=Z,0.3nm,0.7s,baz=110,slow=3.1,SNR=1.5								

IDC 23 00:04:51.7±2.8, 32.°66S×178.°42W, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.8/27, mbtmp4.1/3, ML3.6/1, Error ellipse: s-maj=66.8km s-min=35.4km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
URZ	**Urewera**	6.67	212	Pn		Pn	Pn	00 06 30.9	0.0
	1.2nm,0.3s,baz=68,slow=4.3,SNR=7.6								
URZ				Sn		Sn	Sn	00 07 47.8	+0.2
	4.0nm,0.3s,baz=118,slow=22,SNR=12								
ASAR	**Alice Springs**	42.68	270	P		P	P	00 12 50.5	0.0
	1.9nm,0.7s,baz=105,slow=7.2,SNR=23								
WRA	**Warramunga Arr**	43.87	275	P		P	P	00 12 59.9	-0.3
	2.2nm,0.7s,baz=116,slow=7.5,SNR=16								
FINES	**FINESS Array B**	147.12	338	PKPbc		PKPbc	PKPbc	00 24 35.2	-0.8
	4.1nm,0.9s,baz=61,slow=6.5,SNR=11								

IDC 23 00:18:20.6±27.0, 22.°14S×178.°26E, h681km±238km, mb3.1/4, mb1 3.3/4, mb1mx2.8/36, mbtmp4.3/4, Error ellipse: s-maj=304.8km s-min=120.9km az=118.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
CTA	**Charters Tower**	29.90	268	P		P	P	00 23 39.4	+1.4
	7.3nm,0.3s,baz=95,slow=11,SNR=25								
ASAR	**Alice Springs**	40.77	259	P		P	P	00 25 05.8	-0.9
	0.9nm,0.4s,baz=98,slow=7.3,SNR=16								
WRA	**Warramunga Arr**	40.95	265	P		P	P	00 25 07.6	-0.6
	0.6nm,0.3s,baz=91,slow=8.1,SNR=26								
FITZ	**Fitzroy Crossi**	49.38	265	P		P	P	00 26 11.9	+0.1
	1.4nm,0.4s,baz=87,slow=6.1,SNR=9.2								
HFS	**Hagfors**	140.50	348	PKhKP		PKPpre		00 36 22.9	
	1.1nm,0.3s,baz=50,slow=4.6,SNR=8.0								
BRTR	**Keskin Array B**	145.24	308	PKPbc		PKPbc		00 36 44.8	-0.2
	0.6nm,0.8s,baz=65,slow=3.8,SNR=3.9								

*NCEDC **23** 00:20:33.5±0.8, 38.°82N±0.°02× 122.°81W±0.°03, h3km±2km, Md2.6*

NEIC 23 00:20:33.9±0.9, 38.°84N±0.°02×122.°79W±0.°03, h4km±5km, Northern California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
GDXM	**Geysers**	0.04	188	Pg		Pg	Pg	00 20 34.3	-0.7
GDXM				Sg		Sg	Sg	00 20 35.0	-0.7
GACM	**Adobe Creek**	0.07	297				Pg	00 20 35.1	-0.3
GSGM	**Seigler Mounta**	0.07	69				Pg	00 20 35.8	+0.4
GBGM	**Boggs Mountain**	0.09	169				Pg	00 20 35.9	+0.1
GCRM	**Castle Rock Sp**	0.09	141				Pg	00 20 35.4	-0.5
GPMM	**Pine Mountain**	0.12	272				Pg	00 20 36.1	-0.4
GMKM	**Mount Konoctai**	0.13	0				Pg	00 20 37.1	+0.6
GAXM	**Alexander Vall**	0.14	169				Pg	00 20 35.9	-0.7
GCVM	**Cloverdale**	0.19	247				Pg	00 20 37.3	-0.4
GSSM	**Skaggs Springs**	0.23	231				Pg	00 20 38.0	-0.3
NHSM	**Mount Saint He**	0.23	144				Pg	00 20 38.1	-0.3
GHLM	**Highland Sprin**	0.27	318				Pg	00 20 39.1	0.0
HOPS	**Hopland Field**	0.27	304				Sg	00 20 39.2	-3.4
HOPS	**Hopland Field**	0.27	304		Pg		Pg	00 20 39.1	0.0
NMCNC	**Mill Creek, So**	0.27	201				Pg	00 20 38.9	-0.3
NMTM	**Middletown**	0.27	98				Pg	00 20 39.5	+0.3
MNRC	**McLaughlin Min**	0.27	82				Pg	00 20 40.0	+0.8
MAC	**Mark West Spri**	0.30	170				Pg	00 20 39.5	-0.2
GWKM	**Walker Ridge**	0.31	48				Pg	00 20 40.6	+0.6
GSNM	**Snow Mountain**	0.33	287				Pg	00 20 40.3	0.0
NSHM	**Saint Helena R**	0.35	156				Pg	00 20 40.4	-0.3
GDCM	**Dry Creek**	0.36	258				Pg	00 20 40.8	-0.1
GBMM	**Baldy Mountain**	0.38	38				Pb	00 20 42.3	-0.9
GHCM	**House Creek**	0.40	234				Pg	00 20 41.4	-0.2
FTR	**Fort Ross**	0.43	222				Pg	00 20 42.2	0.0
NTYM	**Taylor**	0.46	168				Pg	00 20 42.8	0.0
GTSM	**Trough Springs**	0.49	17				Pb	00 20 44.4	-0.9
NBPM	**Berryessa Peak**	0.50	110				Pb	00 20 44.5	-0.8
GGUM	**Gualala**	0.55	272				Pg	00 20 44.5	-0.1
CVS	**Carmenet Viney**	0.56	152				Pg	00 20 44.4	-0.3
NAPC	**Atlas Peak**	0.58	134				Pg	00 20 45.0	-0.1
GFC	**Funks Creek**	0.62	39				Pn	00 20 48.8	-0.7
GHOM	**Hamilton Openi**	0.62	289				Pg	00 20 45.9	+0.1
GHMM	**Hull Mountain**	0.66	350				Pb	00 20 48.2	0.0
NDHM	**Dunnigan Hills**	0.69	96				Pb	00 20 49.0	+0.5
MCCM	**Marconi Confer**	0.70	186				Pg	00 20 47.1	-0.2
GNAM	**Navarro Ridge**	0.75	299				Pg	00 20 48.8	+0.5
NADM	**Allendale**	0.75	121				Pb	00 20 49.6	+0.2
GCK	**Clark Valley**	0.75	21				Pn	00 20 50.9	-0.4
KRKM	**Rackout Spring**	0.78	337				Pb	00 20 50.0	-0.2
NOLM	**Olema**	0.80	180				Pg	00 20 49.4	+0.1
GASB	**Alder Springs**	0.81	4				Pb	00 20 51.2	+0.5
GTC	**Three Chop Rid**	0.81	313				Pg	00 20 49.7	+0.1
SUTB	**Sutter Butte**	0.87	63				Pg	00 20 50.9	+0.2
NLHM	**Lake Herman**	0.88	145				Pg	00 20 50.6	-0.2
GVV	**Valley View**	0.94	5				Pn	00 20 54.1	0.0
KFPM	**Farley Peak**	0.94	328				Pb	00 20 52.8	0.0
CSPM	**San Pablo Ridg**	0.96	157				Pg	00 20 52.4	0.0
CPIM	**Pinole Ridge**	0.96	152				Pg	00 20 52.3	-0.1
KCPM	**Cahto Peak**	1.04	324				Pg	00 20 54.2	+0.3
BRIB	**Briones**	1.05	151				Pg	00 20 53.0	-1.1
VAK	**Adit at Lawren**	1.05	156				Pg	00 20 53.8	-0.3
CVPM	**Vollmer Peak**	1.06	155				Pg	00 20 53.8	-0.4
BKS	**Berkeley--Byer**	1.06	156				Pg	00 20 53.6	-0.6
JPRM	**Presidio of Sa**	1.08	167				Pg	00 20 54.1	-0.4
KBNM	**Bluenose Ridge**	1.09	343				Pn	00 20 56.7	+0.5
KIPM	**Iron Peak**	1.10	331				Pn	00 20 56.6	+0.3
BDM	**Black Diamond**	1.15	140				Pg	00 20 55.6	-0.3
CRPB	**Russellman Par**	1.16	143				Pg	00 20 55.0	-1.2
ORV	**Oroville**	1.23	54	Pg		Pg	Pg	00 20 57.5	0.0
ORV	**Oroville**	1.23	54				Pg	00 20 56.0	-1.5
CLCB	**Lake Chabot**	1.24	152				Pg	00 20 56.9	-0.8
KBSM	**Bell Springs**	1.24	330				Pn	00 20 59.5	+1.3
O02D	**Mt. Diablo Mer**	1.33	0				Pb	00 21 01.8	+2.2
JCHM	**Cahill Ridge**	1.36	166				Pn	00 20 59.6	-0.2
AASM	**Arroyo Seco**	1.38	107				Pn	00 20 57.3	-2.6
CNIC	**Niles Canyon**	1.39	152				Pn	00 20 58.9	-1.3
AFDM	**Forest Hills D**	1.42	85	Pn		Pn	Pn	00 20 58.6	-2.0
KMRM	**Mail Ridge**	1.55	333	Pn		Pg	Pg	00 21 03.7	+0.1
WDC	**Whiskeytown Da**	1.75	6				Pn	00 21 05.3	+0.2
BEKR	**Beckworth**	2.14	61				Pn	00 21 10.9	+0.2
SAO	**San Andreas Ge**	2.33	152	Pn		Pn	Pn	00 21 12.1	-1.0
VCNR	**Virginia City**	2.48	79				Pn	00 21 15.7	+0.3
PNTR	**Pine Nut**	2.50	83				Pn	00 21 16.4	+0.8
WAKR	**Walker**	2.65	96				Pn	00 21 18.6	+1.0
YERR	**Yerington**	2.77	86				Pn	00 21 20.4	+1.1
PAHR	**Pah Rah Range**	2.78	71				Pn	00 21 19.4	0.0
MDPB	**Devils Postpil**	3.16	111				Pn	00 21 25.4	+0.6
OMMB	**Old Mammoth Mi**	3.23	111				Pn	00 21 25.7	0.0
RYN	**Ryan**	3.34	92				Pn	00 21 27.6	+0.4
KBO	**Bosley Butte**	3.54	342	Pn		Pn	Pn	00 21 29.1	-0.6
MOD	**Modoc Plateau**	3.60	31	Pn		Pn	Pn	00 21 28.1	-2.5
NV11	**Mina Array Sit**	3.65	95				Pn	00 21 31.5	+0.1
KVN	**Kaiserville**	3.66	85				Pn	00 21 31.7	+0.1

*IDC **23** 00:25:19.5±1.1, 9.°09S×150.°32E, h0km, mb3.9/7, mb1 4.1/10, mb1mx3.9/32, mbtmp4.0/10, ML3.7/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/28, Error ellipse: s-maj=35.5km s-min=18.2km az=119.0*

*NEIC **23** 00:25:21.6±1.4, 9.°2S±0.°1×150.°5E±0.°2, h17km±5km, mb4.4/7*

*ISCJB **23** 00:25:22.6±0.7, 9.°16S±0.°09×150.°3E±0.°1, h33km, mb3.8/7, MS3.2/1, Error ellipse: s-maj=19.5km s-min=7.0km az=33.6*

ISC 23 00:25:24.3±0.8, 9.°2S±0.°1×150.°5E±0.°1, h35km, n19, σ1s34/20, mb4.0/11, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PMG	**Port Moresby**	3.27	266	Pn		Pn	Pn	00 26 11.9	-1.1
	11nm,0.3s,baz=39,slow=4.1,SNR=10								
PMG				Sn		Sn	Sn	00 26 53.5	+2.8
	14nm,0.3s,baz=93,slow=17,SNR=3.7								
KRVT	**Keravat (AS076**	5.12	18	Pn		Pn	Pn	00 26 38.1	-0.5
	13nm,0.3s,baz=199,slow=4.6,SNR=6.6								
KRVT				Sn		Sn	Sn	00 27 38.5	+1.9
	8.5nm,0.3s,baz=349,slow=19,SNR=1.5								
KRVT				LR		LR	LR	00 28 22.9	
	comp=Z,156nm,20.9s,baz=196,slow=36								
COEN	**Coen**	8.55	236	Pn		Pn	Pn	00 27 24.5	-1.2
WRA	**Warramunga Arr**	18.88	234	P		P	P	00 29 41.5	-0.4
	0.2nm,0.3s,baz=62,slow=11,SNR=14								
WRA				LR		LR	LR	00 36 01.6	
	comp=Z,71nm,19.8s,baz=125,slow=34								
ASAR	**Alice Springs**	21.38	226	P		P	P	00 30 08.9	-0.1
	2.5nm,0.7s,baz=62,slow=9.3,SNR=16								
KNRA	**Kununurra**	22.13	251			P	P	00 30 16.1	-1.0
KNRA						IAmb	IAmb	00 30 16.9	
	comp=Z,17nm,1.0s								
STKA	**Stephens Creek**	24.00	199	P		P	P	00 30 36.0	+0.1
	comp=Z,4.8nm,0.8s,baz=1.9,slow=13,SNR=7.3								
STKA	**Stephens Creek**	24.00	199	IAmb		IAmb		00 30 38.0	
	comp=Z,1.5nm,0.9s								
FITZ	**Fitzroy Crossi**	25.66	247	P		P	P	00 30 50.3	-0.8
	comp=Z,2.5nm,0.6s,baz=69,slow=5.3,SNR=8.4								
FITZ				LR		LR		00 41 08.6	
	comp=Z,78nm,19.2s,baz=94,slow=37								
FITZ	**Fitzroy Crossi**	25.66	247	IAmb		IAmb		00 30 52.8	
	comp=Z,3.7nm,0.8s								
VNDA	**Vanda**	68.54	177	P		P	P	00 36 25.2	+2.4
	comp=Z,2.3nm,1.0s,baz=8.9,slow=4.1,SNR=2.0								
ULN	**Ulaanbaatar**	68.58	330	P		P	P	00 36 23.9	+0.2
ULN						P	P	00 36 24.3	+0.5
ULN				IAmb		IAmb	IAmb	00 36 28.4	
	comp=Z,1.8nm,0.6s								
MKAR	**Makanchi Array**	82.15	320	P		P	P	00 37 41.0	-0.6
	comp=Z,0.4nm,0.7s,baz=131,slow=6.9,SNR=4.0								
TTA	**Tatalina**	82.70	22	P		P	P	00 37 44.8	+0.6
TTA				IAmb		IAmb	IAmb	00 37 49.2	
	comp=Z,1.8nm,1.1s								
ZALV	**Zalesovo Beam**	83.55	327	P		P	P	00 37 46.9	-1.8
	comp=Z,0.3nm,0.3s,baz=134,slow=6.2,SNR=2.3								
RAGM	**Ragged Mountai**	85.98	27	P		P	P	00 37 59.2	-1.6
RAGM				IAmb		IAmb	IAmb	00 38 01.3	
	comp=Z,32nm,0.8s								
ILAR	**Eielson Array**	87.10	22	P		P	P	00 38 06.1	-0.1
	comp=Z,0.6nm,0.7s,baz=253,slow=5.3,SNR=6.2								
MESA	**MESA**	87.12	28	P		P	P	00 38 05.4	-1.2
TORD	**Torodi Ar. Bea**	149.12	280	PKPbc		PKPbc	PKPbc	00 45 10.5	+0.4
	comp=Z,0.7nm,0.6s,baz=44,slow=3.1,SNR=10.0								

*ISCJB **23** 00:28:55.2±0.4, 75.°96N±0.°03×7.°3E±0.°2, h9km, mb3.6/14, MS3.9/28, Error ellipse: s-maj=5.4km s-min=5.0km az=7.4*

*NAO **23** 00:28:57.0±2.6, 75.°90N×7.°03E, ML4.0*

*IDC **23** 00:28:59.6±0.6, 75.°87N×7.°53E, h0km, mb3.6/14, mb1 3.9/17, mb1mx3.7/44, mbtmp3.7/17, ML3.5/3, MS3.9/34, Ms1 3.9/34, ms1mx3.8/52, Error ellipse: s-maj=15.5km s-min=10.4km az=53.0*

*GCMT **23** 00:29:01.0±0.3, 76.°03N±0.°04×7.°2E±0.°1, h14km±1km, MW4.8/95, Moment Tensor Solution. s14,c15; s95,c124; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.75±.16; Mθθ0.37±.09; Mφφ1.38±.11; Mrθ0.49±.27; Mrφ0.83±.06; Mθφ-0.90±.23; Best double couple: M◎2.06000×10^16 NP1:ϕs7.00000°, δ58.00000°, λ-116.00000°. NP2: ϕs229.00000°, δ40.00000°, λ-55.00000°. Principal axes: T 1.9350, Plg9.0000°, Azm115.0000°; N 0.2460, Plg22.0000°, Azm22.0000°; P -2.1850, Plg66.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

*BER **23** 00:29:01.5±4.3, 75.°93N×7.°62E, h21km±30km, ML2.6, ML4.0(NAO), Confirmed Earthquake*

*IEPN **23** 00:29:03.0, 76.°10N×8.°59E, h15km*

ISC 23 00:28:58.1±0.5, 75.°88N±0.°05×7.°30E±0.°04, h9km, n82, σ3s36/80, mb3.7/14, MS3.9/28, 3C-2D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
HSPB	**Hornsund (broa**	2.24	56	Pn		Pn	Pn	00 29 35.0	-0.3
HSPB				Sn		Sn	Sn	00 29 57.7	-5.3
HSPB	**Hornsund (broa**	2.24	56	⇓*i*P		Pn	Pn	00 29 34.8	-0.4
HSPB				*i* S		Sn	Sn	00 29 57.5	-5.6
HSPB	**Hornsund (broa**	2.24	56	*e*P		Pn	Pn	00 29 34.9	-0.4
HSPB				*e*S		Sn	Sn	00 29 58.0	-5.0
HSPB				IAML				00 30 00.1	
	comp=Z,91nm,0.6s								
BRBB	**Barentsburg B**	2.72	32	Pn		Pn	Pn	00 29 40.9	-0.9
BRBB				Sn		Sn	Sn	00 30 11.9	-2.8
BRBB	**Barentsburg B**	2.72	32	Pn		Pn	Pn	00 29 40.9	-0.9
BRBB				Sn		Sn	Sn	00 30 11.9	-2.8
SPA0	**Spitsbergen Ar**	3.08	37	Pn		Pn	Pn	00 29 47.2	+0.3
	baz=205,slow=14								
SPA0				Sn		Sn	Sn	00 30 19.6	-4.1
	baz=235,slow=37								
SPA0	**Spitsbergen Ar**	3.08	37	⇑*i*P		Pn	Pn	00 29 47.1	+0.2
SPA0				*i* S		Sn	Sn	00 30 19.7	-4.1
SPA0	**Spitsbergen Ar**	3.08	37	Pn		Pn	Pn	00 29 47.2	+0.3
	baz=205,slow=14								
SPA0				Sn		Sn	Sn	00 30 19.6	-4.1
	baz=235,slow=37								
SPITS	**Spitsbergen Ar**	3.08	37	Pn		Pn	Pn	00 29 47.1	+0.2
	baz=198,slow=13,SNR=368								
SPITS				Sn		Sn	Sn	00 30 20.2	-3.5
	baz=229,slow=30,SNR=16								
SPITS				LR		LR	LR	00 30 54.8	
	comp=Z,543nm,20.9s,baz=200,slow=38								
KBS	**Kingsbay**	3.22	16	Pn		Pn	Pn	00 29 48.1	-0.7
KBS				Sn		Sn	Sn	00 30 21.0	-6.2
KBS	**Kingsbay**	3.22	16	⇑*i*P		Pn	Pn	00 29 48.6	-0.2
KBS				*e*S		Sn	Sn	00 30 22.1	-5.1
KBS	**Kingsbay**	3.22	16	*e*P		Pn	Pn	00 29 48.4	-0.4
KBS				*e*S		Sn	Sn	00 30 22.2	-5.0
KBS				IAML				00 30 27.2	
	comp=Z,54nm,0.8s								
BJO1	**Bjornoya**	3.31	109	Pn		Pn	Pn	00 29 52.1	+2.2
BJO1	**Bjornoya**	3.31	109	*e*P		Pn	Pn	00 29 52.0	+2.1
BJO1				*e*S		Sn	Sn	00 30 28.0	-1.2
BJO1	**Bjornoya**	3.31	109	*e*P		Pn	Pn	00 29 50.4	+0.5
BJO1				*e*S		Sn	Sn	00 30 25.0	-4.2
BJO1				IAML				00 30 29.3	
	comp=Z,45nm,0.4s								
HOPEN	**Hopen**	4.28	73	Pn		Pn	Pn	00 30 03.1	-0.2
HOPEN				Sn		Sn	Sn	00 30 48.5	-4.7
HOPEN	**Hopen**	4.28	73	⇑*i*P		Pn	Pn	00 30 03.1	-0.2
HOPEN				*i* S		Sn	Sn	00 30 47.3	-6.0
HOPEN	**Hopen**	4.28	73	*e*P		Pn	Pn	00 30 03.5	+0.2
HOPEN				IAML				00 30 53.6	
	comp=Z,77nm,0.4s								
DAG	**Danmarks Havn**	6.19	291	*i* P		Pn	Pn	00 30 27.0	-2.4
DAG	**Danmarks Havn**	6.19	291	*i* P		Pn	Pn	00 30 27.0	-2.4
DAG				*i* S		Sn	Sn	00 31 32.3	-7.8
DAG				IAML				00 31 35.0	
	comp=Z,37nm,0.5s								
JMIC	**Jan Mayen**	6.65	230	LR		LR	LR	00 32 29.8	
	comp=Z,686nm,18.0s,baz=75,slow=31								
HAMF	**Hammerfest**	7.04	130	Pn		Pn	Pn	00 30 40.6	-0.6
HAMF				Sn		Sn	Sn	00 31 53.7	-7.5
HAMF	**Hammerfest**	7.04	130	*e*P		Pn	Pn	00 30 41.0	-0.2
TRO	**Tromso**	7.15	145	Pn	

ZALV				LR	LR	00 55 36.5			
	comp=Z,169nm,18.1s,baz=332,slow=45								
ESDC	**Sonseca Array**	**36.66**	**195**	P	**P**	**00 36 08.1**	**+3.5**		
	comp=Z,0.3nm,0.6s,baz=12,slow=11,SNR=2.5								
YKA	**Yellowknife Ar**	**37.03**	**319**	P	**P**	**00 36 09.6**	**+2.1**		
	comp=Z,0.7nm,1.0s,baz=9.0,slow=8.7,SNR=8.7								
YKA				LR	LR	00 51 05.9			
	comp=Z,13nm,19.9s,baz=34,slow=36								
ILAR	**Eielson Array**	**38.63**	**343**	P	P	00 36 24.7	+3.7		
	comp=Z,1.8nm,0.9s,baz=3.5,slow=6.5,SNR=15								
KEST	**Kesra**	**40.25**	**177**	LR	LR	00 52 12.9			
	comp=Z,82nm,21.4s,baz=264,slow=35								
IDI	**Anoyia**	**41.50**	**158**	LR	LR	00 53 43.8			
	comp=Z,106nm,18.5s,baz=316,slow=36								
MKAR	**Makanchi Array**	**41.58**	**89**	P	**P**	**00 36 49.2**	**+3.5**		
	comp=Z,1.4nm,0.8s,baz=354,slow=6.4,SNR=14								
MKAR				LR	LR	00 57 42.9			
	comp=Z,350nm,19.4s,baz=334,slow=42								
GEYT	**Alibeck**	**44.27**	**119**	P	**P**	**00 37 11.6**	**+4.0**		
	comp=Z,1.2nm,0.8s,baz=310,slow=7.6,SNR=4.2								
GEYT				LR	LR	00 57 52.0			
	comp=Z,229nm,19.5s,baz=345,slow=39								
ULM	**Lac du Bonnet**	**44.98**	**298**	LR	LR	00 56 10.4			
	comp=Z,356nm,19.7s,baz=27,slow=36								
SONM	**Songino Array**	**46.35**	**67**	P	**P**	**00 37 27.6**	**+3.5**		
	comp=Z,0.8nm,1.0s,baz=343,slow=4.5,SNR=3.4								
EIL	**Elat**	**48.19**	**147**	LR	LR	00 59 57.9			
	comp=Z,90nm,19.3s,baz=302,slow=39								
PDAR	**Pinedale Array**	**54.96**	**307**	P	P	00 38 33.4	+4.2		
	comp=Z,0.4nm,0.8s,baz=16,slow=11,SNR=1.9								
PDAR				LR	LR	01 02 28.1			
	comp=Z,285nm,18.3s,baz=21,slow=36								
USRK	**Ussuriysk Ar.**	**55.04**	**46**	LR	LR	01 04 41.7			
	comp=Z,173nm,18.1s,baz=338,slow=39								
NVAR	**Mina Array Bea**	**60.80**	**313**	P	**P**	**00 39 13.2**	**+2.9**		
	comp=Z,0.1nm,0.5s,baz=44,slow=5.3,SNR=1.9								
NVAR				LR	LR	01 04 23.4			
	comp=Z,140nm,19.2s,baz=28,slow=35								
KSRS	**Korea Array**	**60.82**	**52**	LR	LR	01 07 28.4			
	comp=Z,103nm,19.1s,baz=350,slow=38								
TORD	**Torodi Ar. Bea**	**62.80**	**186**	P	**P**	**00 39 26.4**	**+2.8**		
	comp=Z,0.8nm,0.7s,baz=352,slow=5.0,SNR=5.5								
TORD				LR	LR	01 09 14.0			
	comp=Z,108nm,18.5s,baz=310,slow=38								
TXAR	**Lajitas Array**	**66.69**	**297**	P	**P**	**00 39 51.1**	**+2.1**		
	comp=Z,0.5nm,0.8s,baz=66,slow=4.7,SNR=5.0								
TXAR				LR	LR	01 10 13.9			
	comp=Z,141nm,18.3s,baz=0.0,slow=37								
CMAR	**Chiang Mai Arr**	**72.64**	**84**	LR	LR	01 17 49.4			
	comp=Z,85nm,18.9s,baz=295,slow=40								
ASAR	**Alice Springs**	**121.41**	**60**	PKP	**PKiKP**	**00 47 52.2**	**+1.1**		
	comp=Z,0.4nm,0.8s,baz=217,slow=39,SNR=2.6								

*SJA **23** 00:29:46.8±0.5, 32°.92S×71°.36W, h31km±1km, ML2.5, MW2.8*
*GUC **23** 00:29:48.6±0.7, 32°.88S×71°.01W, h46km±3km, ML3.3*
ISC 23 00:29:46.7±2.0, 33°.06S±0°.06×71°.5W±0°.1, h34km±4km, n13, σ1s60/23, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.37**	**77**	*i* P	**Pb**	**00 29 55.2**	**-0.6**
ROC1				*e*S	**Sn**	**00 30 00.9**	**-0.8**
ROCH	**El Roble**	**0.38**	**76**	⇑*i* P	**Pb**	**00 29 55.8**	**-0.1**
ROCH				*i* S	**Sn**	**00 30 00.9**	**-1.0**
ROCH				IAML		00 30 01.5	
	comp=N,4μm,0.1s						
PEL	**Peldehue**	**0.65**	**97**	*e*P	**Pn**	**00 29 58.0**	**-1.4**
PEL				*e*S	**Sn**	**00 30 05.7**	**-2.8**
PEL				IAML		00 30 06.7	
	comp=E,3μm,0.4s						
CLCH	**Cerro Calan**	**0.83**	**114**	*e*P	**Pn**	**00 30 01.9**	**-0.1**
CLCH				*i* S	**Sn**	**00 30 11.3**	**-1.8**
CLCH				IAML		00 30 13.3	
	comp=N,2μm,0.3s						
ANTU	**Antumapu**	**0.85**	**127**	*e*P	**Pn**	**00 30 03.2**	**+1.0**
ANTU				*e*S	**Sn**	**00 30 14.0**	**+0.5**
ANTU				IAML		00 30 15.5	
	comp=E,1μm,0.5s						
FCH	**Farellones**	**1.01**	**105**	⇓*i* P	**Pn**	**00 30 03.8**	**-0.8**
FCH				*i* S	**Sn**	**00 30 15.1**	**-2.7**
FCH				IAML		00 30 15.5	
	comp=E,4μm,0.2s						
LMEL	**Las Melosas**	**1.30**	**127**	⇑*i* P	**Pn**	**00 30 09.7**	**+1.1**
LMEL				*i* S	**Sn**	**00 30 25.2**	**+0.4**
LMEL				IAML		00 30 27.0	
	comp=N,1μm,0.2s						
CO02	**Combarbal**	**1.89**	**12**	*e*P	**Pn**	**00 30 16.6**	**-0.1**
CO02				*i* S	**Sn**	**00 30 37.7**	**-1.7**
ARCO	**CERRO ARCO**	**2.13**	**85**	*i* P	**Pn**	**00 30 21.8**	**+1.8**
ARCO				IAML		00 30 31.4	
	comp=Z,35nm,0.4s						
ARCO				*e*S	**Sn**	**00 30 47.0**	**+1.8**
AAGR	**Agrelo**	**2.20**	**91**	*i* P	**Pn**	**00 30 22.8**	**+1.9**
ASAL	**Salagasta**	**2.25**	**79**	*i* P	**Pn**	**00 30 23.3**	**+1.7**
ASAL				*e*S	**Sn**	**00 30 50.0**	**+1.8**
GO04	**Tololo Observa**	**2.94**	**11**	*i* P	**Pn**	**00 30 31.8**	**+0.7**
AROD	**Rodeo**	**3.34**	**31**	*i* P	**Pn**	**00 30 38.5**	**+1.7**

*KRNET **23** 00:39:45.5±0.1, 40°.96N×73°.08E, h14km, mb3.6*
*NNC **23** 00:39:46.6±1.2, 41°.01N×73°.06E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=9.7km s-min=4.9km az=174.0*
*SOME **23** 00:39:46.2, 40°.97N×73°.13E, h15km*
ISC 23 00:39:45.8±0.9, 40°.97N±0°.04×73°.11E±0°.02, h10km, n63, σ1s85/101, 27C-22D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**0.37**	**345**	⇓*e*P	**Pg**	**00 39 53.0**	**-0.1**
	baz=48						
ARSB				⇓*i*S	**Sg**	**00 39 57.8**	**-0.2**
	baz=48						
AML	**Almayashu**	**1.24**	**21**	⇓*i*P	**Pn**	**00 40 09.4**	**-0.2**
	baz=21						
AML				⇓*i*S	**Sn**	**00 40 26.4**	**-0.2**
	baz=21						
AML	**Almayashu**	**1.24**	**21**	P	**Pn**	**00 40 09.4**	**-0.2**
	SNR=112						
ARLS	**Aral**	**1.28**	**45**	⇑*i*P	**Pn**	**00 40 09.5**	**-0.4**
	baz=45						
ARLS				⇑*i*S	**Sb**	**00 40 27.0**	**+0.4**
	baz=45						
UCH	**Uchtor**	**1.64**	**40**	⇑*i*P	**Pb**	**00 40 16.7**	**+0.3**
	baz=40						
UCH				⇑*i*S	**Sg**	**00 40 39.1**	**+0.5**
	baz=40						
UCH	**Uchtor**	**1.64**	**40**	P	**Pb**	**00 40 16.5**	**+0.1**
	SNR=284						
EKS2	**Erkin-Say**	**1.76**	**16**	⇑*i*P	**Pb**	**00 40 18.5**	**+0.1**
	baz=17						
EKS2				⇑*i*S	**Sg**	**00 40 42.2**	**-0.3**
	baz=17						
EKS2	**Erkin-Say**	**1.76**	**16**	P	**Pb**	**00 40 18.4**	**+0.1**
	SNR=42						
MRKS	**Merke**	**1.78**	**3**	*e*P	**Pb**	**00 40 18.5**	**0.0**
	62nm,0.4s						
MRKS				*e*S	**Sg**	**00 40 42.0**	**-0.9**
	82nm,0.5s						
MRKS	**Merke**	**1.78**	**3**	P	**Pb**	**00 40 18.5**	**0.0**
	69nm,0.3s						
MRKS				S	**Sg**	**00 40 42.4**	**-0.5**
	89nm,0.3s						
KZA	**Kyzart**	**1.95**	**55**	⇓*i*P	**Pb**	**00 40 22.2**	**+0.5**
	baz=55						
KZA				⇓*i*S	**Sg**	**00 40 48.4**	**-0.2**
	baz=55						
KZA	**Kyzart**	**1.95**	**55**	P	**Pb**	**00 40 22.3**	**+0.6**
	SNR=83						
AAK	**Ala-Archa**	**1.96**	**31**	⇑*i*P	**Pb**	**00 40 22.0**	**+0.3**
	baz=32						
AAK				⇑*i*S	**Sg**	**00 40 47.9**	**-1.0**
	baz=32						
AAK	**Ala-Archa**	**1.96**	**31**	P	**Pb**	**00 40 22.4**	**+0.6**
	SNR=128						
AAK	**Ala-Archa**	**1.96**	**31**	⇓Pg	**Pb**	**00 40 22.5**	**+0.8**
	90nm,0.4s						
AAK				⇓Lg	Lg	00 40 50.4	
	46nm,0.5s						
BTK	**Batken**	**1.97**	**243**	⇑*e*P	**Pb**	**00 40 21.0**	**-0.8**
	baz=43						
BTK				⇑*i*S	**Sb**	**00 40 46.5**	**+0.1**
	baz=43						
FRU1	**Bishkek**	**2.16**	**31**	⇑*i*P	**Pb**	**00 40 24.5**	**-0.6**
	baz=31						
FRU1				⇑*i*S	**Sb**	**00 40 52.4**	**+0.4**
	baz=31						
KBK	**Karagaybulak**	**2.18**	**39**	⇓*i*P	**Pb**	**00 40 25.0**	**-0.4**
	baz=39						
KBK				⇓*i*S	**Sb**	**00 40 53.1**	**+0.6**
	baz=39						
KBK	**Karagaybulak**	**2.18**	**39**	P	**Pb**	**00 40 26.0**	**+0.6**
	SNR=95						
NRN	**Naryn**	**2.23**	**77**	⇑*i*P	**Pb**	**00 40 25.6**	**-0.8**
	baz=77						
NRN				⇑*i*S	**Sb**	**00 40 54.7**	**+0.5**
	baz=77						
DZA	**Taraz**	**2.33**	**326**	*e*P	**Pg**	**00 40 29.1**	**-1.4**
	23nm,0.1s						
DZA				*e*S	**Sg**	**00 40 59.6**	**-1.2**
	217nm,0.5s						
CHMS	**Chumysh**	**2.37**	**31**	⇑*i*P	**Pb**	**00 40 27.2**	**-1.4**
	baz=31						
CHMS				⇑*i*S	**Sb**	**00 40 57.6**	**-0.3**
	baz=31						
CHMS	**Chumysh**	**2.37**	**31**	P	**Pb**	**00 40 28.0**	**-0.6**
	SNR=38						
USP	**Ospenovka**	**2.52**	**24**	⇓*i*P	**Pb**	**00 40 29.5**	**-1.6**
	baz=24						
USP				⇓*i*S	**Sb**	**00 41 01.1**	**-1.1**
	baz=24						
USP	**Ospenovka**	**2.52**	**24**	P	**Pb**	**00 40 32.4**	**+1.3**
	SNR=35						
IUG	**Iuzhnay**	**2.59**	**298**	*e*P	**Pb**	**00 40 32.5**	**+0.1**
	10nm,0.5s						
IUG				*e*S	**Sg**	**00 41 06.1**	**-3.0**
	78nm,0.4s						
IUG	**Iuzhnay**	**2.59**	**298**	Pg	**Pb**	**00 40 32.5**	**+0.1**
	8.8nm,0.5s						
IUG				Lg	Lg	00 41 06.1	
	78nm,0.5s						
BOOM	**Boomskoye usch**	**2.61**	**53**	⇓*i*P	**Pb**	**00 40 30.7**	**-2.0**
	baz=54						
BOOM				⇓*i*S	**Sb**	**00 41 04.2**	**-0.7**
	baz=54						
ULHL	**Ulahol**	**2.67**	**60**	⇓*i*P	**Pb**	**00 40 32.0**	**-1.9**
	baz=61						
ULHL				⇓*i*S	**Sb**	**00 41 05.9**	**-0.9**
	baz=61						
ULHL	**Ulahol**	**2.67**	**60**	P	**Pg**	**00 40 36.4**	**-0.6**
	SNR=5.9						
TKM2	**Tokmak 2**	**2.69**	**43**	⇓*i*P	**Pb**	**00 40 32.2**	**-2.0**
	baz=43						
TKM2				⇓*i*S	**Sb**	**00 41 05.9**	**-1.5**
	baz=43						
TKM2	**Tokmak 2**	**2.69**	**43**	P	**Pb**	**00 40 33.3**	**-0.9**
	SNR=10						
TKM2	**Tokmak 2**	**2.69**	**43**	⇑Pg	**Pb**	**00 40 33.6**	**-0.6**
	7.9nm,0.3s						
TKM2				⇑Lg	Lg	00 41 10.1	
	27nm,0.6s						
SGDS	**Sogindy**	**2.73**	**24**	Pg	**Pb**	**00 40 35.7**	**+1.0**
	33nm,0.4s						
SGDS				Lg	Lg	00 41 11.8	
	25nm,0.5s						
KK31	**Karatay Array**	**2.88**	**319**	⇑Pn	**Pn**	**00 40 32.7**	**+1.0**
	0.8nm,0.3s,baz=139,slow=14,SNR=22						
KK31				⇑Pg	**Pg**	**00 40 38.7**	**-2.2**
	1.1nm,0.3s,baz=147,slow=17,SNR=9.3						
KK31				⇓Lg	Lg	00 41 15.8	
	8.2nm,0.4s,baz=143,slow=27,SNR=11						
TAS	**Tashkent**	**2.90**	**278**	⇑*i*P	**Pn**	**00 40 33.7**	**+1.6**
	baz=79						
TAS				⇑*i*S	**Sn**	**00 41 09.2**	**+2.0**
	baz=79						
KST	**Kastek**	**2.97**	**45**	*e*P	**Pb**	**00 40 39.9**	**+1.0**
	15nm,0.3s						
KST				*e*S	**Sb**	**00 41 18.3**	**+3.0**
	41nm,0.7s						
KST	**Kastek**	**2.97**	**45**	Pg	**Pb**	**00 40 39.9**	**+1.0**
	16nm,0.3s						
KST				Lg	Lg	00 41 18.4	
	32nm,0.6s						
DGS	**Degeres**	**3.02**	**40**	*e*P	**Pb**	**00 40 41.6**	**+2.0**
	18nm,0.6s						
DGS				*e*S	**Sg**	**00 41 21.7**	**-0.9**
	74nm,0.6s						
DGS	**Degeres**	**3.02**	**40**	Pg	**Pb**	**00 40 41.6**	**+2.0**
	23nm,0.6s						
DGS				Lg	Lg	00 41 21.7	
	68nm,0.5s						
BRLS	**Boroldday**	**3.19**	**311**	*e*P	**Pb**	**00 40 43.1**	**+0.5**
	0.6nm,0.3s						
BRLS				*e*S	**Sb**	**00 41 23.6**	**+2.1**
	25nm,0.7s						
KDJ	**Kajisay**	**3.27**	**68**	⇑*e*P	**Pn**	**00 40 40.4**	**+3.1**
	baz=68						
KDJ				⇑*i*S	**Sn**	**00 41 19.8**	**+3.5**
	baz=68						
MTBS	**Maitube**	**3.28**	**48**	*e*P	**Pb**	**00 40 46.0**	**+1.8**
	9.3nm,0.5s						
MTBS				*e*S	**Sg**	**00 41 28.6**	**-2.6**
	37nm,0.5s						
TNSS	**Tian-Shan**	**3.53**	**53**	*e*P	**Pg**	**00 40 51.6**	**-1.8**
	7.4nm,0.5s						
TNSS				*e*S	**Sg**	**00 41 38.6**	**-0.6**
	27nm,0.6s						
TNSS	**Tian-Shan**	**3.53**	**53**	Pg	**Pg**	**00 40 51.7**	**-1.8**
	7.0nm,0.6s						
TNSS				Lg	Lg	00 41 38.6	
	28nm,0.6s						
KNDC	**Almaty**	**3.65**	**51**	⇑Pg	**Pg**	**00 40 56.0**	**+0.4**
	9.0nm,0.4s						
KNDC				⇓Lg	Lg	00 41 42.4	
	61nm,0.8s						
MDOK	**Medeo**	**3.66**	**52**	*e*P	**Pg**	**00 40 53.8**	**-2.1**
	6.6nm,0.6s						
MDOK				*e*S	**Sg**	**00 41 42.1**	**-1.3**
	24nm,0.9s						
MDOK	**Medeo**	**3.66**	**52**	⇑Pg	**Pg**	**00 40 56.0**	**0.0**
	4.4nm,0.6s						
MDOK				⇓Lg	Lg	00 41 41.8	
	21nm,0.6s						
KOTS	**Kotyrbulak**	**3.74**	**51**	*e*P	**Pg**	**00 40 55.3**	**-2.2**
	22nm,0.5s						
KOTS				*e*S	**Sg**	**00 41 45.3**	**-0.6**
	40nm,0.7s						
KOTS	**Kotyrbulak**	**3.74**	**51**	Pg	**Pg**	**00 40 55.3**	**-2.2**
	22nm,0.5s						
KOTS				Lg	Lg	00 41 45.4	
	46nm,0.6s						
KUU	**Kurty**	**3.78**	**38**	*e*P	**Pb**	**00 40 55.1**	**+2.5**
	5.2nm,0.5s						
KUU				*e*S	**Sg**	**00 41 44.3**	**-2.8**
	40nm,0.8s						
KTBS	**Karatobe**	**3.81**	**43**	*e*P	**Pb**	**00 40 55.8**	**+2.7**
	11nm,0.6s						
KTBS				*e*S	**Sg**	**00 41 45.7**	**-2.5**
	24nm,0.9s						
KTBS	**Karatobe**	**3.81**	**43**	Pg	**Pb**	**00 40 55.8**	**+2.7**
	9.1nm,0.5s						
KTBS				Lg	Lg	00 41 45.7	
	36nm,0.5s						
CHKK	**Chushkaly**	**4.07**	**44**	*e*P	**Pb**	**00 41 00.7**	**+3.1**
	7.6nm,0.7s						
CHKK				*e*S	**Sg**	**00 41 53.8**	**-2.7**
	18nm,0.6s						
BTLS	**Baital**	**4.13**	**9**	*e*P	**Pb**	**00 41 00.7**	**+2.2**
	0.9nm,0.5s						
BTLS				*e*S	**Sg**	**00 41 54.4**	**-3.9**
	5.4nm,0.5s						
BTLS	**Baital**	**4.13**	**9**	Pg	**Pb**	**00 41 00.7**	**+2.2**
	0.4nm,0.2s						
BTLS				Lg	Lg	00 41 54.4	
	12nm,0.5s						
SATY	**Saty**	**4.47**	**60**	*e*P	**Pb**	**00 41 07.7**	**+3.3**
	6.4nm,0.6s						
SATY				*e*S	**Sg**	**00 42 06.4**	**-2.7**
	20nm,1.0s						
SATY	**Saty**	**4.47**	**60**	Pg	**Pb**	**00 41 07.7**	**+3.3**
	6.9nm,0.5s						
SATY				Lg	Lg	00 42 06.4	
	13nm,0.4s						
ARXS	**Arharly**	**4.76**	**45**	*e*P	**Pb**	**00 41 12.4**	**+3.1**
	3.0nm,0.6s						
ARXS				*e*S	**Sg**	**00 42 14.3**	**-4.3**
	18nm,0.6s						
ARXS	**Arharly**	**4.76**	**45**	Pg	**Pb**	**00 41 12.4**	**+3.1**
	3.8nm,0.6s						
ARXS				Lg	Lg	00 42 14.3	
	15nm,0.5s						
KPKS	**Kokpek**	**4.83**	**57**	*e*P	**Pg**	**00 41 14.7**	**-3.7**
	11nm,0.8s						
KPKS				*e*S	**Sg**	**00 42 17.8**	**-3.2**
	24nm,0.7s						
UZB	**Uzynbulak**	**4.91**	**62**	*e*P	**Pb**	**00 41 16.0**	**+4.0**
	2.6nm,0.4s						
UZB				*e*S	**Sg**	**00 42 20.2**	**-3.2**
	10nm,0.6s						
PDGK	**Podgornoye**	**5.30**	**61**	⇓Pg	**Pg**	**00 41 24.9**	**-2.3**
	2.2nm,0.6s						
PDGK				⇑Lg	Lg	00 42 32.0	
	13nm,0.7s						

IDC 23 00:55:51.2±1.5, 3°.96S×152°.10E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.6/42, mbtmp4.0/4, Error ellipse: s-maj=55.5km s-min=14.0km az=97.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.35**	**191**	LR	LR	00 56 03.2	
	comp=Z,133nm,18.8s,baz=132,slow=34						
KRVT				Pn	Pn	00 56 03.4	-0.2
	98nm,0.3s,baz=208,slow=2.6,SNR=18						
KRVT				Sn	Sb	00 56 12.0	+5.6
	200nm,0.3s,baz=159,slow=22,SNR=34						
WRA	**Warramunga Arr**	**23.49**	**226**	P	P	01 01 03.6	+0.7
	1.8nm,0.9s,baz=49,slow=9.6,SNR=9.9						
ASAR	**Alice Springs**	**26.31**	**220**	P	P	01 01 30.5	+1.6
	0.4nm,0.6s,baz=56,slow=7.4,SNR=4.7						
ILAR	**Eielson Array**	**81.66**	**22**	P	P	01 08 12.0	+0.9
	0.4nm,0.8s,baz=236,slow=6.4,SNR=2.6						
BVAR	**Borovoye Array**	**88.15**	**323**	P	P	01 08 42.2	-1.8
	0.6nm,0.6s,baz=93,slow=5.9,SNR=4.2						

*ISCJB **23** 01:12:08.9±0.4, 24°.08N±0°.02×122°.25E±0°.02, h23km±5km, Error ellipse: s-maj=3.9km s-min=2.8km az=144.4*
*TAP **23** 01:12:08.5, 24°.10N×122°.22E, h18km±1km, ML2.6, D*
*JMA **23** 01:12:09.0±0.1, 24°.06N×122°.27E, h22km±3km, M2.4*
ISC 23 01:12:08.8±1.1, 24°.08N±0°.03×122°.24E±0°.02, h22km±6km, n43, σ0s42/80, 2C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.47**	**347**	P	**Pb**	**01 12 18.5**	**+0.1**
	baz=349						
EOS1				S	**Sb**	**01 12 25.8**	**+0.8**
	baz=349						
NANB	**Nanao**	**0.56**	**307**	⇑*i*P	**Pb**	**01 12 19.6**	**-0.5**
	baz=307						
NANB				S	**Sb**	**01 12 27.9**	**+0.1**
	baz=307						
ENA	**Nanau**	**0.57**	**307**	⇑*i*P	**Pb**	**01 12 19.5**	**-0.6**
	baz=307						
ENA				S	**Sb**	**01 12 27.8**	**-0.1**
	baz=307						
TWD	**Chiawan**	**0.59**	**270**	P	**Pb**	**01 12 19.9**	**-0.6**
	baz=267						
TWD				*e*S	**Sb**	**01 12 28.9**	**+0.4**
	baz=267						
NACB	**Ninganchiao**	**0.60**	**279**	P	**Pb**	**01 12 21.1**	**+0.5**
	baz=277						
NACB				*e*S	**Sb**	**01 12 29.5**	**+0.8**
	baz=277						
TWC	**Suao**	**0.63**	**326**	⇓*i*P	**Pb**	**01 12 20.6**	**-0.6**
	baz=327						
TWC				*i* S	**Sb**	**01 12 29.2**	**-0.5**
	baz=327						
ETLH	**Xiulin Townshi**	**0.70**	**280**	*e*P	**Pn**	**01 12 23.2**	**-0.3**
	baz=278						
ETLH				*e*S	**Sb**	**01 12 32.3**	**+0.5**
	baz=278						
JYNG	**Yonagunijimaku**	**0.74**	**60**	P	**Pb**	**01 12 22.6**	**-0.4**
JYNG				S	**Sb**	**01 12 32.0**	**-0.6**
ESL	**Shilin**	**0.79**	**250**	P	**Pb**	**01 12 23.2**	**-0.6**
	baz=247						
ESL				S	**Sb**	**01 12 34.5**	**+0.5**
	baz=247						
YOJ	**Yonaguni jima**	**0.80**	**62**	P	**Pb**	**01 12 23.6**	**-0.3**
YOJ				S	**Sb**	**01 12 33.9**	**-0.4**
YOJ	**Yonaguni jima**	**0.80**	**62**	P	**Pb**	**01 12 23.6**	**-0.3**
	baz=63						
YOJ				*e*S	**Sn**	**01 12 35.8**	**-0.1**
	baz=63						
EGS		**0.81**	**340**	*e*P	**Pb**	**01 12 23.9**	**-0.2**
	baz=341						
EGS				S	**Sb**	**01 12 35.2**	**+0.6**
	baz=341						
TWE	**Neicheng**	**0.82**	**321**	P	**Pb**	**01 12 24.1**	**-0.3**
	baz=321						
TWE				S	**Sb**	**01 12 35.9**	**+0.8**
	baz=321						
ENTT	**Nioudou**	**0.83**	**312**	*i* P	**Pb**	**01 12 24.5**	**0.0**
	baz=312						
ENTT				*i* S	**Sb**	**01 12 35.4**	**+0.2**
	baz=312						
NDT	**Datong Townshi**	**0.84**	**308**	*e*P	**Pn**	**01 12 25.1**	**-0.3**
	baz=307						
NDT				S	**Sb**	**01 12 35.8**	**+0.2**
	baz=307						
NTC	**Toucheng**	**0.85**	**334**	S	**Sn**	**01 12 36.8**	**-0.5**
	baz=334						
NNSH	**Datong**	**0.85**	**294**	*e*P	**Pb**	**01 12 24.8**	**-0.3**
	baz=293						
NNSH				*e*S	**Sn**	**01 12 37.1**	**-0.5**
	baz=293						
SLBB	**Yuanshan**	**0.87**	**320**	P	**Pb**	**01 12 24.4**	**-0.8**
	baz=320						
SLBB				S	**Sb**	**01 12 36.7**	**+0.3**
	baz=320						
NNS	**Nan Shan**	**0.87**	**294**	*e*P	**Pb**	**01 12 24.6**	**-0.6**
	baz=293						
NNS				*e*S	**Sb**	**01 12 35.8**	**-0.7**
	baz=293						
WHF	**Hehuan Shan**	**0.89**	**274**	*i* P	**Pn**	**01 12 26.2**	**-0.2**
	baz=272						
WHF				*e*S	**Sb**	**01 12 37.8**	**+0.3**
	baz=272						
TWB1	**Santiao Chiao**	**0.95**	**346**	P	**Pb**	**01 12 26.4**	**-0.1**
	baz=347						
TWB1				S	**Sn**	**01 12 39.5**	**-0.1**
	baz=347						
HGSD	**Ruisui**	**0.95**	**232**	*e*P	**Pn**	**01 12 27.8**	**+0.9**
	baz=230						
TIPB	**Shuangxi**	**0.96**	**337**	P	**Pn**	**01 12 27.2**	**+0.2**
	baz=337						
TIPB				S	**Sb**	**01 12 39.5**	**+0.4**
	baz=337						
NWLT	**Wulai**	**0.96**	**316**	*e*P	**Pb**	**01 12 26.9**	**+0.1**
	baz=315						
NWLT				*e*S	**Sb**	**01 12 39.6**	**+0.5**
	baz=315						
CHGB	**Renai**	**0.98**	**269**	P	**Pb**	**01 12 27.1**	**-0.1**
	baz=267						
CHGB				S	**Sn**	**01 12 40.9**	**+0.2**
	baz=267						
YHNB	**Yeheng**	**0.98**	**307**	P	**Pn**	**01 12 27.8**	**+0.5**
	baz=306						
YHNB				*e*S	**Sb**	**01 12 39.8**	**+0.1**
	baz=306						

SSLB	**Suanglung**	**1.21**	**256**	*eP*	**Pb**	**01 12 30.9**	**-0.2**
	baz=254							
SSLB				*eS*	**Sb**	**01 12 46.1**	**-0.3**
	baz=254							
YM01	**YM01**	**1.22**	**330**	*eP*	**Pn**	**01 12 30.7**	**+0.1**
	baz=330							
YM11	**YM11**	**1.24**	**331**	*eP*	**Pb**	**01 12 31.7**	**+0.2**
	baz=331							
YM04	**YM04**	**1.24**	**329**	*eP*	**Pn**	**01 12 30.6**	**-0.3**
	baz=329							
YM04				*eS*	**Sn**	**01 12 47.2**	**+0.2**
	baz=329							
LIOB	**Emei**	**1.25**	**297**	*eP*	**Pn**	**01 12 31.2**	**+0.2**
	baz=296							
IRIF	**Iriomote-Funau**	**1.38**	**79**	P	**Pb**	**01 12 33.4**	**-0.5**
IRIF				*eS*	**Sn**	**01 12 50.4**	**0.0**
HATJ	**Hateruma jima**	**1.43**	**91**	P	**Pb**	**01 12 34.6**	**-0.1**
JKRS	**Kuro-shima**	**1.62**	**84**	P	**Pb**	**01 12 37.4**	**-0.6**
JKRS				*eS*	**Sn**	**01 12 56.8**	**+0.5**
JIJ	**Ishigaki jima**	**1.76**	**81**	P	**Pb**	**01 12 38.5**	**+0.6**
JIJ				*eS*	**Sn**	**01 13 00.2**	**+0.5**
JISG	**Ishigakijimahi**	**1.95**	**75**	P	**Pn**	**01 12 41.2**	**+0.6**
JISG				*eS*	**Sn**	**01 13 04.6**	**+0.1**

IDC ***23*** *01:28:18.1±9.8, 52.°18N×164.°94W, h0km, mb3.3/4, mb1 3.7/5, mb1mx3.4/42, mbtmp3.3/5, ML2.9/1, Error ellipse: s-maj=175.5km s-min=37.0km az=80.0*
ISCJB ***23*** *01:28:20.8±0.7, 52.°23N±0.°05×164.°80W±0.°06, h33km, mb3.5/3, Error ellipse: s-maj=7.9km s-min=4.9km az=18.6*
NEIC ***23*** *01:28:22.2±1.5, 52.°38N±0.°04×164.°83W±0.°05, h21km±9km*
AEIC ***23*** *01:28:22.1±0.9, 52.°23N±0.°06×164.°74W±0.°09, h32km±6km, ML3.2*

ISC 23 01:28:22.8±1.1, 52°25N±0°08×164°80W±0°05, h35km, n29, σ1°71/40, mb3.5/3, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UNV	**Unalaska Valle**	**1.90**	**328**		**Pn**	**01 28 52.1**	**-0.5**
UNV					**Sn**	**01 29 11.7**	**-3.6**
MREP	**Makushin Rep't**	**1.95**	**324**		**Pn**	**01 28 52.7**	**-0.8**
AKSA	**Akutan Strait**	**1.96**	**344**		**Pn**	**01 28 52.2**	**-1.4**
AKSA					**Sn**	**01 29 16.1**	**-0.9**
AKBBA	**Akutan Broad B**	**1.97**	**340**		**Pn**	**01 28 52.6**	**-1.0**
AKBBA					**Sn**	**01 29 18.3**	**+1.1**
AKUT	**Akutan**	**1.98**	**343**	Pn	**Pn**	**01 28 53.1**	**-0.6**
AKUT					**Sn**	**01 29 13.1**	**-4.1**
AKMO	**Akutan Morgan**	**1.98**	**339**		**Pn**	**01 28 53.3**	**-0.5**
AKMO					**Sn**	**01 29 17.4**	**0.0**
MGOD	**Makushin Gods**	**1.99**	**322**		**Pn**	**01 28 53.1**	**-0.9**
MNAT	**Makushin Natee**	**1.99**	**326**		**Pn**	**01 28 53.3**	**-0.6**
AKRB	**Akutan Reef Bi**	**2.03**	**338**		**Pn**	**01 28 54.1**	**-0.4**
AKRB					**Sn**	**01 29 19.8**	**+1.2**
MSW	**Makushin Switc**	**2.05**	**325**		**Pn**	**01 28 54.1**	**-0.7**
MSW					**Sn**	**01 29 18.7**	**-0.4**
MTBL	**Makushin Table**	**2.06**	**327**		**Pn**	**01 28 54.6**	**-0.3**
MTBL					**Sn**	**01 29 19.9**	**+0.5**
MCIR	**Makushin Cirqu**	**2.12**	**324**		**Pn**	**01 28 55.6**	**-0.1**
OKFG	**Magazine Ridge**	**2.21**	**303**		**Pn**	**01 28 55.2**	**-1.8**
OKFG					**Sn**	**01 29 22.6**	**-0.5**
WESE	**West Dahl East**	**2.23**	**3**		**Pn**	**01 28 56.0**	**-1.3**
OKTU	**Okmok Mt. Tuli**	**2.27**	**301**		**Pn**	**01 28 57.0**	**-0.7**
OKCE	**Okmok Cone E**	**2.35**	**301**		**Sn**	**01 29 26.6**	**-0.1**
SSBA	**Shishaldin**	**2.56**	**9**		**Pn**	**01 29 01.0**	**-0.8**
SSBA					**Sn**	**01 29 31.6**	**-0.1**
NIKH	**Nikolski High**	**2.57**	**288**		**Sn**	**01 29 31.4**	**-0.6**
NIKH	**Nikolski High**	**2.57**	**288**	Pn	**Pn**	**01 28 59.7**	**-2.2**
NIKH				Sn	**Sn**	**01 29 27.5**	**-4.5**
FALS	**False Pass**	**2.74**	**17**		**Pn**	**01 29 02.9**	**-1.3**
SDPT	**Sand Point**	**4.03**	**38**		**Sn**	**01 30 03.1**	**-4.6**
SDPT	**Sand Point**	**4.03**	**38**		**Pn**	**01 29 20.5**	**-1.4**
CNBA	**Chernabura Isl**	**4.04**	**48**		**Pn**	**01 29 20.1**	**-1.9**
ILAR	**Eielson Array**	**15.57**	**29**	Pn	**Pn**	**01 31 59.0**	**-0.4**
	0.0nm,0.3s,baz=224,slow=11,SNR=5.9						
DLBC	**Dease Lake**	**20.55**	**59**	P	**P**	**01 32 58.5**	**+0.4**
	22nm,0.9s,baz=341,slow=3.4,SNR=3.9						
INK	**Inuvik**	**21.95**	**31**	P	**P**	**01 33 14.1**	**+1.2**
	0.7nm,0.5s,baz=255,slow=9.0,SNR=9.2						
YKA	**Yellowknife Ar**	**28.21**	**49**	P	**P**	**01 34 13.8**	**+2.1**
	0.0nm,0.3s,baz=273,slow=10.0,SNR=1.1						
PDAR	**Pinedale Array**	**37.66**	**82**	P	**P**	**01 35 35.5**	**+1.0**
	0.4nm,0.5s,baz=288,slow=2.7,SNR=5.6						
TXAR	**Lajitas Array**	**49.94**	**92**	P	**P**	**01 37 14.1**	**+0.9**
	0.5nm,0.4s,baz=301,slow=6.4,SNR=12						

IDC ***23*** *01:39:31.2±2.6, 45.°08N×111.°16W, h0km, mb1 3.5/1, mb1mx3.1/41, mbtmp3.1/1, ML3.0/1, Error ellipse: s-maj=46.3km s-min=16.3km az=65.0*
ISCJB ***23*** *01:39:34.5±0.4, 44.°76N±0.°02×111.°51W±0.°03, h6km±3km, Error ellipse: s-maj=3.8km s-min=3.1km az=28.8*
NEIC ***23*** *01:39:35.7±2.3, 44.°79N±0.°03×111.°44W±0.°03, h11km±4km*
ANF ***23*** *01:39:35.7±1.5, 44.°82N×111.°43W, h10km, ML3.0/7, Error ellipse: s-maj=19.8km s-min=8.2km az=46.0*
BUT ***23*** *01:39:35.9, 44.°82N×111.°45W, h10km, MD3.1*

ISC 23 01:39:34.8±0.9, 44°80N±0°02×111°44W±0°02, h15km±6km, n62, σ1°47/81, Hebgen Lake region, Montana

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QLMT	**Earthquake Lak**	**0.04**	**10**		**Pg**	**01 39 37.4**	**-0.4**
YHB	**Horse Butte**	**0.18**	**104**		**Pb**	**01 39 39.9**	**-0.1**
YHL	**Hebgen Lake**	**0.19**	**73**		**Pg**	**01 39 40.0**	**+0.5**
YMR	**Madison River**	**0.36**	**111**		**Pb**	**01 39 43.4**	**+0.3**
YMR				Sg	**Sg**	**01 39 46.9**	**-0.4**
YHH	**Holmes Hill**	**0.42**	**91**		**Pb**	**01 39 44.1**	**0.0**
YHH				Sg	**Sg**	**01 39 48.1**	**-1.0**
YNM	**Yellowstone No**	**0.53**	**97**		**Pb**	**01 39 46.3**	**+0.4**
YNM				Sg	**Sg**	**01 39 52.9**	**+0.5**
YNR	**Norris Junctio**	**0.55**	**98**		**Pb**	**01 39 46.7**	**+0.5**
YNR				Sg	**Sg**	**01 39 53.8**	**+0.8**
YUF	**Upper Falls**	**0.67**	**97**		**Pb**	**01 39 49.0**	**+0.7**
YPP	**Pitchstone Pla**	**0.69**	**139**		**Pb**	**01 39 49.7**	**+0.9**
YPP				Sg	**Sg**	**01 39 57.3**	**-0.3**
H17A	**Grant Village**	**0.73**	**123**	P	**Pn**	**01 39 50.6**	**-0.3**
	baz=305						
H17A				S	**Sb**	**01 40 00.9**	**+1.4**
	baz=305						
H17A	**Grant Village**	**0.73**	**123**		**Pn**	**01 39 50.7**	**-0.3**
H17A				Sg	**Sg**	**01 39 57.7**	**-1.1**
LKWY	**Lake**	**0.78**	**107**		**Pn**	**01 39 51.5**	**0.0**
FLWY	**Flagg Ranch**	**0.89**	**143**		**Pn**	**01 39 53.0**	**0.0**
YMP	**Mirror Lake Pl**	**0.92**	**93**		**Pn**	**01 39 54.3**	**+0.9**
DLMT	**Dillon**	**1.00**	**305**		**Pg**	**01 39 54.1**	**0.0**
DLMT					**Sb**	**01 40 06.6**	**-0.3**
MCMT	**McKenzie Canyo**	**1.00**	**272**		**Pn**	**01 39 54.6**	**0.0**
YNE	**Yellowstone No**	**1.04**	**78**		**Pn**	**01 39 55.4**	**+0.3**
MOOW	**Moose Ponds**	**1.16**	**154**		**Pg**	**01 39 57.5**	**+0.3**
MOOW					**Sn**	**01 40 12.6**	**+0.1**
FXWY	**Fox Creek**	**1.20**	**166**		**Pg**	**01 39 57.9**	**+0.1**
SNOW	**Snow King Moun**	**1.42**	**160**		**Pg**	**01 40 02.2**	**0.0**
REDW	**Red Top Meadow**	**1.49**	**163**		**Pg**	**01 40 03.6**	**0.0**
RLMT	**Red Lodge**	**1.58**	**77**	Pb	**Pg**	**01 40 05.0**	**0.0**
	baz=260						
RLMT				S	**Sb**	**01 40 24.5**	**+0.8**
	baz=260						
RLMT	**Red Lodge**	**1.58**	**77**		**Pg**	**01 40 05.1**	**0.0**
RLMT					**Sn**	**01 40 21.2**	**-1.5**
GCMT	**Greycliff**	**1.60**	**51**		**Pg**	**01 40 05.0**	**-0.5**
AHID	**Auburn Hatcher**	**2.04**	**173**		**Pb**	**01 40 11.3**	**-0.5**
BW06	**Boulder Array**	**2.44**	**145**	Pb	**Pb**	**01 40 18.9**	**+0.3**
	baz=327						
BW06				Sb	**Sg**	**01 40 52.2**	**-1.2**
	baz=327						
BW06	**Boulder Array**	**2.44**	**145**		**Pn**	**01 40 16.1**	**+1.7**
PD31	**Pinedale Array**	**2.44**	**145**		**Pb**	**01 40 17.6**	**-1.0**
PDAR	**Pinedale Array**	**2.44**	**145**	Pg	**Pb**	**01 40 19.1**	**+0.4**
	5.5nm,0.3s,baz=340,slow=15,SNR=66						
PDAR				Lg	Lg	01 40 53.1	
	2.7nm,0.3s,baz=337,slow=25,SNR=4.2						
MSO	**Missoula**	**2.68**	**320**	P	**Pn**	**01 40 19.1**	**+1.5**
	baz=138						
MSO				Sb	**Sg**	**01 40 58.7**	**-2.3**
	baz=138						
MSO	**Missoula**	**2.68**	**320**		**Pn**	**01 40 17.3**	**-0.3**
HVU	**Hansel Valley**	**3.17**	**198**		**Pn**	**01 40 23.8**	**-0.6**
HWUT	**Hardware Ranch**	**3.19**	**182**		**Pn**	**01 40 25.7**	**+1.0**
HWUT				Pg	**Pg**	**01 40 35.7**	**-0.2**
PLID	**Pearl Lake**	**3.25**	**277**		**Pn**	**01 40 25.8**	**+0.3**
EGMT	**Eagleton**	**3.43**	**19**	P	**Pn**	**01 40 30.1**	**+2.2**
	baz=201						
EGMT					**Sb**	**01 41 19.9**	**+2.9**
	baz=201						
EGMT	**Eagleton**	**3.43**	**19**		**Pn**	**01 40 29.6**	**+1.7**
MFID	**Camas Ranch**	**3.45**	**248**		**Pn**	**01 40 29.7**	**+1.6**
JTMT	**Jette**	**3.55**	**327**		**Pn**	**01 40 31.7**	**+2.2**
SPUT	**South Promonto**	**3.56**	**192**		**Pn**	**01 40 30.6**	**+0.8**
BGU	**Big Grassy Mou**	**4.04**	**197**		**Pn**	**01 40 35.8**	**-0.5**
LAO	**LASA Array**	**4.11**	**61**		**Sb**	**01 41 40.8**	**+4.3**
	baz=245						
LAO	**LASA Array**	**4.11**	**61**		**Pn**	**01 40 39.0**	**+1.8**
LAO				Pg	**Pg**	**01 40 51.4**	**-2.1**
K22A	**Casper**	**4.16**	**119**		**Pn**	**01 40 40.2**	**+2.3**
BMO	**Blue Mountains**	**4.17**	**273**		**Pn**	**01 40 38.8**	**+0.7**
JLU	**Jordanelle**	**4.19**	**180**		**Pn**	**01 40 39.7**	**+1.2**
F10A	**Beach Ranch, E**	**4.25**	**288**		**Pn**	**01 40 40.8**	**+1.7**
RWWY	**Rawlins**	**4.38**	**134**	Pn	**Pn**	**01 40 40.1**	**-0.9**
RDMU	**Red Mountain**	**4.44**	**161**		**Pn**	**01 40 43.1**	**+1.3**
RDMU				Pg	**Pg**	**01 40 56.8**	**-3.1**
WALA	**Waterton Lakes**	**4.59**	**339**		**Pn**	**01 40 43.5**	**-0.3**
DUG	**Dugway, Tooele**	**4.71**	**193**	Pb	**Pb**	**01 40 58.9**	**+1.8**
	baz=12						
DUG	**Dugway, Tooele**	**4.71**	**193**		**Pn**	**01 40 46.5**	**+1.1**
NLU	**North Lily Min**	**4.86**	**186**		**Pn**	**01 40 46.6**	**-1.0**
ELK	**Elko**	**4.92**	**216**		**Pn**	**01 40 48.2**	**-0.2**
O20A	**White River Ci**	**5.22**	**152**		**Pn**	**01 40 52.3**	**-0.3**
NEW	**Newport**	**5.24**	**314**		**Pn**	**01 40 54.5**	**+1.9**
NEW				Pg	**Pg**	**01 41 12.9**	**-2.1**
RSSD	**Black Hills**	**5.34**	**95**	Pn	**Pn**	**01 40 55.1**	**+0.9**
RSSD					**Pg**	**01 41 14.6**	**-2.4**
TMUT	**Trail Mountain**	**5.50**	**178**	Pn	**Pn**	**01 40 59.0**	**+2.5**
HAWA	**Hanford**	**5.90**	**289**		**Pn**	**01 41 04.6**	**+2.9**
E07A	**Sunnyside**	**6.16**	**290**		**Pn**	**01 41 08.1**	**+2.9**
B08A	**Colville Reser**	**6.50**	**306**	Sn	**Sn**	**01 42 21.5**	**-2.4**
NVAR	**Mina Array Bea**	**8.18**	**221**	Pg	**Pb**	**01 41 59.1**	**+2.8**
	0.1nm,0.3s,baz=39,slow=19,SNR=3.8						
NVAR				Lg	Lg	01 43 53.0	
	0.1nm,0.3s,baz=38,slow=34,SNR=2.4						
YKA	**Yellowknife Ar**	**17.83**	**355**	P	**Pn**	**01 43 39.2**	**-2.9**
	0.1nm,0.3s,baz=172,slow=12,SNR=8.6						

IDC 23 01:46:11.2±4.9, 22°81S×179°54E, h510km±37km, mb3.0/4, mb1 3.4/4, mb1mx3.0/32, mbtmp3.9/4, Error ellipse: s-maj=201.1km s-min=23.3km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.81**	**260**	P	P	01 53 15.7	-0.3
	1.7nm,0.7s,baz=98,slow=6.7,SNR=15						
ASAR				ScP	ScP	01 58 01.5	-0.5
	0.9nm,0.8s,baz=106,slow=4.4,SNR=6.3						
WRA	**Warramunga Arr**	**42.07**	**265**	P	P	01 53 18.2	0.0
	3.4nm,0.6s,baz=101,slow=8.3,SNR=38						
NVAR	**Mina Array Bea**	**84.27**	**44**	P	P	01 57 49.0	-0.2
	0.2nm,0.6s,baz=230,slow=9.3,SNR=3.2						
TXAR	**Lajitas Array**	**90.22**	**58**	P	P	01 58 17.4	+0.1
	0.4nm,0.7s,baz=207,slow=5.8,SNR=5.4						

SNET ***23*** *01:58:17.9±1.0, 13.°53N×88.°56W, h189km±6km, ML3.5*
UCR ***23*** *01:58:18.5±1.1, 13.°56N×88.°56W, h186km±3km, ML3.4*
ISCJB ***23*** *01:58:19.2±0.9, 13.°6N±0.°1×88.°54W±0.°09, h183km±6km, Error ellipse: s-maj=24.6km s-min=9.0km az=28.2*

ISC 23 01:58:20.2±2.2, 13°6N±0°1×88°55W±0°08, h179km±12km, n37, σ0°59/43, 1C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COEB	**Comit de Eme**	**0.11**	**168**	*eP*	**Pn**	**01 58 43.8**	**-0.2**
COEB				*eS*	**Sn**	**01 59 04.0**	**+1.7**
COEB				IAML		01 59 22.2	
	comp=Z,323nm,0.3s						
TECA	**Tecapa**	**0.12**	**156**	*eP*	**Pn**	**01 58 43.9**	**-0.2**
TECA	**Tecapa**	**0.12**	**156**	*eP*	**Pn**	**01 58 43.9**	**-0.2**
PACA	**Pacayal**	**0.26**	**121**	*eP*	**Pn**	**01 58 44.0**	**-0.3**
PACA	**Pacayal**	**0.26**	**121**	*eP*	**Pn**	**01 58 44.0**	**-0.3**
ALJI	**Alcalda de J**	**0.28**	**184**	*eP*	**Pn**	**01 58 43.4**	**-0.7**
ALJI				*eS*	**Sn**	**01 59 02.7**	**+0.1**
ALJI				IAML		01 59 12.0	
	comp=Z,643nm,0.2s						
COEG	**Centro de Oper**	**0.32**	**273**	*eP*	**Pn**	**01 58 43.7**	**-0.6**
COEG				*eS*	**Sn**	**01 59 04.2**	**+1.5**
COEG				IAML		01 59 17.4	
	comp=Z,362nm,0.2s						
JUCU	**Jucuarįn**	**0.46**	**140**	*eP*	**Pn**	**01 58 44.1**	**-0.7**
JUCU				*eS*	**Sn**	**01 59 03.4**	**-0.2**
JUCU				IAML		01 59 17.6	
	comp=Z,629nm,0.2s						
LFRS	**El Faro**	**0.49**	**272**	⇑*iP*	**Pn**	**01 58 44.1**	**-0.8**
LFU	**La Fuente**	**0.56**	**285**	*eP*	**Pn**	**01 58 44.8**	**-0.4**
LFU	**La Fuente**	**0.56**	**285**	*eP*	**Pn**	**01 58 44.8**	**-0.4**
SNET	**Serv Nac Est T**	**0.67**	**277**	*eP*	**Pn**	**01 58 45.2**	**-0.4**
SNET	**Serv Nac Est T**	**0.67**	**277**	*eP*	**Pn**	**01 58 45.2**	**-0.4**
UEES	**Universidad Ev**	**0.68**	**279**	*eP*	**Pn**	**01 58 45.1**	**-0.7**
UEES	**Universidad Ev**	**0.68**	**279**	*eP*	**Pn**	**01 58 45.1**	**-0.7**
LCND	**La Caada**	**0.71**	**115**	*eP*	**Pn**	**01 58 45.2**	**-0.6**
LCND				*eS*	**Sn**	**01 59 05.5**	**-0.1**
LCND				IAML		01 59 23.2	
	comp=Z,407nm,0.3s						
LCND	**La Caada**	**0.71**	**115**	*eP*	**Pn**	**01 58 45.2**	**-0.6**
LCND				*eS*	**Sn**	**01 59 05.5**	**-0.1**
LCND				IAML		01 59 23.2	
	comp=Z,407nm,0.3s						
BOQS	**Boqueron**	**0.72**	**280**	*eP*	**Pn**	**01 58 45.5**	**-0.7**
SNJE	**San Jose**	**1.06**	**284**	*eP*	**Pn**	**01 58 47.9**	**-0.5**
SNJE	**San Jose**	**1.06**	**284**	*eP*	**Pn**	**01 58 47.9**	**-0.5**
SBLS	**San Blas**	**1.06**	**283**	*eP*	**Pn**	**01 58 48.0**	**-0.5**
SBLS	**San Blas**	**1.06**	**283**	*eP*	**Pn**	**01 58 48.0**	**-0.5**
MTO3	**Montecristo**	**1.11**	**315**	*eP*	**Pn**	**01 58 48.6**	**-0.2**
MTO3	**Montecristo**	**1.11**	**315**	*eP*	**Pn**	**01 58 48.6**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.32**	**70**	⇓*iP*	**Pn**	**01 58 50.2**	**-0.3**
CRIN	**San Cristobal**	**1.72**	**121**	*eP*	**Pn**	**01 58 54.5**	**+0.2**
CNGN	**Cerro Negro**	**2.12**	**121**	*eP*	**Pn**	**01 58 57.6**	**-0.8**
ESTN	**Estel**	**2.18**	**103**	⇓*iP*	**Pn**	**01 58 58.9**	**-0.4**
MATN	**Matagalpa**	**2.65**	**104**	⇓*iP*	**Pn**	**01 59 04.1**	**-0.5**
MATN				IAML		02 00 03.5	
	comp=N,129nm,0.7s						
ACON	**Acoyapa**	**3.68**	**116**	*eP*	**Pn**	**01 59 17.1**	**-0.1**
GB1A	**Borinquen Arri**	**4.15**	**132**	*eP*	**Pn**	**01 59 23.2**	**-0.1**
BUEV	**Buena Vista**	**4.15**	**132**	*eP*	**Pn**	**01 59 23.3**	**0.0**
CUI	**Cuipilapa**	**4.42**	**131**	*eP*	**Pn**	**01 59 26.8**	**0.0**
PLVR	**Palo Verde**	**4.50**	**136**	*eP*	**Pn**	**01 59 28.2**	**+0.3**
JTS	**Las Juntas de**	**4.82**	**133**	*eP*	**Pn**	**01 59 31.8**	**-0.1**
ARE1	**Arenal 1**	**4.88**	**129**	*eP*	**Pn**	**01 59 31.8**	**-0.9**
LCR2	**La Lucha 2**	**5.88**	**130**	*eP*	**Pn**	**01 59 45.7**	**-0.2**

KRNET ***23*** *02:16:32.9±0.1, 39.°15N×72.°80E, mb3.1*
SOME ***23*** *02:16:33.8, 39.°50N×72.°78E, h10km*
NNC ***23*** *02:16:35.3±3.8, 39.°52N×72.°61E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=30.0km s-min=17.3km az=170.0*

ISC 23 02:16:40.8±3.5, 39°7N±0°1×73°00E±0°06, h11km±17km, n30, σ1°76/49, 17C-12D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**1.63**	**359**	⇑*iP*	**Pn**	**02 17 08.8**	**-0.9**
	baz=4.0						
ARSB				⇑*iS*	**Sg**	**02 17 35.8**	**+2.5**
	baz=4.0						
BTK	**Batken**	**1.72**	**283**	⇑*iP*	Pn	02 17 03.5	-7.3
	baz=1.0						
BTK				⇑*iS*	Sn	02 17 26.1	-6.8
	baz=1.0						
ARLS	**Aral**	**2.39**	**24**	⇑*iP*	**Pn**	**02 17 19.4**	**-0.7**
	baz=23						
ARLS				⇑*iS*	**Sb**	**02 17 54.2**	**+0.7**
	baz=23						
AML	**Almayashu**	**2.49**	**12**	⇑*iP*	**Pn**	**02 17 21.3**	**-0.5**
	baz=13						
AML				⇑*iS*	**Sb**	**02 17 57.6**	**+0.8**
	baz=13						
UCH	**Uchtor**	**2.78**	**24**	⇓*iP*	**Pn**	**02 17 25.7**	**-0.1**
	baz=22						
UCH				⇓*iS*	**Sb**	**02 18 05.1**	**0.0**
	baz=22						
NRN	**Naryn**	**2.87**	**52**	⇓*iP*	**Pn**	**02 17 25.9**	**-1.0**
	baz=46						
NRN				⇓*iS*	**Sb**	**02 18 05.4**	**-2.2**
	baz=46						
KZA	**Kyzart**	**2.93**	**35**	⇓*eP*	**Pn**	**02 17 27.8**	**0.0**
	baz=32						
KZA				⇓*iS*	**Sb**	**02 18 08.7**	**-0.6**
	baz=32						
EKS2	**Erkin-Say**	**3.02**	**11**	⇑*iP*	**Pn**	**02 17 28.5**	**-0.3**
	baz=12						
EKS2				⇑*iS*	**Sb**	**02 18 09.9**	**-1.9**
	baz=12						
MRKS	**Merke**	**3.06**	**3**	*eP*	**Pb**	**02 17 34.1**	**-1.2**
	9.7nm,0.3s						
MRKS				*eS*	**Sg**	**02 18 17.6**	**-1.4**
	12nm,0.4s						
MRKS	**Merke**	**3.06**	**3**	Pg	**Pb**	**02 17 34.1**	**-1.2**
	11nm,0.4s						
MRKS				Lg	Lg	02 18 18.3	
	12nm,0.4s						
AAK	**Ala-Archa**	**3.15**	**20**	⇓*iP*	**Pn**	**02 17 30.5**	**-0.1**
	baz=20						
AAK				⇓*iS*	**Sb**	**02 18 13.5**	**-2.0**
	baz=20						
AAK	**Ala-Archa**	**3.15**	**20**	⇑Pn	**Pn**	**02 17 31.0**	**+0.4**
	4.0nm,0.5s						
AAK				⇑Sn	**Sb**	**02 18 15.0**	**-0.4**
	11nm,0.6s						
KBK	**Karagaybulak**	**3.31**	**26**	⇑*eP*	**Pn**	**02 17 32.9**	**+0.2**
	baz=24						
KBK				⇑*iS*	**Sb**	**02 18 17.5**	**-2.4**
	baz=24						
IUG	**Iuzhnay**	**3.33**	**318**	Pg	**Pn**	**02 17 31.9**	**-1.1**
	2.7nm,0.3s						
IUG				Lg	Lg	02 18 13.6	
	31nm,0.5s						
ULHL	**Ulahol**	**3.54**	**43**	⇓*iP*	**Pn**	**02 17 36.1**	**+0.1**
	baz=39						
ULHL				⇓*iS*	**Sb**	**02 18 23.0**	**-3.7**
	baz=39						
BOOM	**Boomskoye usch**	**3.57**	**37**	⇑*iP*	**Pn**	**02 17 36.4**	**+0.1**
	baz=35						
BOOM				⇑*iS*	**Sb**	**02 18 23.4**	**-4.1**
	baz=35						
TKM2	**Tokmak 2**	**3.77**	**30**	⇓Pn	**Pn**	**02 17 39.1**	**-0.1**
	0.8nm,0.4s						
TKM2				⇑Sn	**Sb**	**02 18 30.6**	**-2.8**
	1.8nm,0.5s						
KK31	**Karatay Array**	**3.89**	**332**	Pn	**Pn**	**02 17 39.0**	**-1.6**
	0.6nm,0.3s,baz=137,slow=13,SNR=19						
KK31				⇓Sn	**Sn**	**02 18 29.4**	**+3.1**
	2.1nm,0.3s,baz=138,slow=19,SNR=8.7						
SGDS	**Sogindy**	**3.95**	**17**	Pg	**Pb**	**02 17 51.7**	**+1.1**
	3.8nm,0.7s						
SGDS				Lg	Lg	02 18 48.0	
	4.9nm,0.6s						
KST	**Kastek**	**4.02**	**33**	*eP*	**Pb**	**02 17 53.5**	**+1.7**
	4.3nm,0.7s						
KST				*eS*	**Sg**	**02 18 50.7**	**+0.8**
	8.5nm,0.6s						
KST	**Kastek**	**4.02**	**33**	Pg	**Pb**	**02 17 53.5**	**+1.7**
	3.6nm,0.5s						
KST				Lg	Lg	02 18 50.7	
	7.4nm,0.5s						
DGS	**Degeres**	**4.11**	**29**	*eP*	**Pb**	**02 17 55.9**	**+2.6**
	2.0nm,0.4s						
DGS				*eS*	**Sg**	**02 18 54.8**	**+2.0**
	8.1nm,0.6s						
DGS	**Degeres**	**4.11**	**29**	Pg	**Pb**	**02 17 55.9**	**+2.6**
	2.4nm,0.5s						
DGS				Lg	Lg	02 18 54.8	
	7.4nm,0.5s						
KOTS	**Kotyrbulak**	**4.70**	**40**	*eP*	**Pb**	**02 18 04.4**	**+1.1**
	6.7nm,0.5s						
KOTS				*eS*	**Sg**	**02 19 09.8**	**-1.8**
	14nm,0.6s						
KOTS	**Kotyrbulak**	**4.70**	**40**	Pg	**Pb**	**02 18 04.4**	**+1.1**
	5.2nm,0.5s						
KOTS				Lg	Lg	02 19 09.8	
	12nm,0.6s						
KTBS	**Karatobe**	**4.87**	**33**	*eP*	**Pb**	**02 18 08.0**	**+1.8**
	1.9nm,1.2s						
KTBS				*eS*	**Sg**	**02 19 15.7**	**-1.4**
	7.5nm,0.6s						
KTBS	**Karatobe**	**4.87**	**33**	Pg	**Pb**	**02 18 08.0**	**+1.8**
	1.6nm,0.6s						
KTBS				Lg	Lg	02 19 15.7	
	6.8nm,0.5s						
KUU	**Kurty**	**4.88**	**30**	*eP*	**Pb**	**02 18 07.6**	**+1.2**
	1.1nm,0.5s						
KUU				*eS*	**Sg**	**02 19 15.3**	**-2.2**
	6.3nm,0.

1.1nm,0.5s,baz=328,slow=9.5,SNR=4.1
MKAR Makanchi Array 67.63 327 P P 02 39 57.7 +0.1
0.5nm,0.6s,baz=120,slow=8.1,SNR=9.8

SJA ***23*** *02:31:11.4±0.8,24.6°60S×68.9°96W,h132km±10km,ML4.0, MW3.7*
ISCJB ***23*** *02:31:12.2±0.5,24.6°61S±0.04×68.9°91W±0.06,h117km±7km, mb3.5/4,Error ellipse: s-maj=11.7km s-min=5.9km az=3.3*
GUC ***23*** *02:31:13.2±0.5,24.5°54S×68.9°97W,h104km±5km,ML3.4*
IDC ***23*** *02:31:20.0±1.5,23.8°83S×68.7°41W,h136km±12km,mb3.3/4, mb1 3.4/7,mb1mx3.3/26,mbtmp3.7/7,Error ellipse: s-maj=27.1km s-min=24.2km az=59.0*

ISC 23 02:31:13.5±0.9,24.57S±0.04×68.90W±0.06,h104km±9km, n31,σ1§38/43,mb3.7/4,5C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO02	**Mina Guanaco**	**0.86**	**227**	⇑*i*	**Pn**	**02 31 33.3**	**+0.1**
GO02				*i* S	**Sn**	**02 31 48.4**	**+0.4**
GO02				IAML		02 31 50.8	
	comp=E,3μm,0.1s						
PB14	**IPOC Station P**	**1.37**	**267**	⇑*i* P	**Pn**	**02 31 38.6**	**-0.1**
PB14				*i* S	**Sn**	**02 31 57.9**	**0.0**
PB14				IAML		02 32 04.2	
	comp=N,247nm,0.5s						
PB14	**IPOC Station P**	**1.37**	**267**	⇑*i* P	**Pn**	**02 31 38.7**	**-0.1**
PB14				*e*S	**Sn**	**02 31 58.9**	**+0.9**
PB15	**IPOC Station P**	**1.45**	**339**	⇑*e*P	**Pn**	**02 31 39.8**	**+0.1**
PB15				*i* S	**Sn**	**02 31 59.6**	**+0.2**
PB15	**IPOC Station P**	**1.45**	**339**	*i* P	**Pn**	**02 31 40.0**	**+0.3**
PB15				*e*S	**Sn**	**02 32 02.2**	**+2.8**
PB15				IAML		02 32 04.3	
	comp=Z,3μm,0.2s						
PB10	**IPOC Station P**	**1.84**	**304**	⇓*e*P	**Pn**	**02 31 43.8**	**-0.5**
PB10				*i* S	**Sn**	**02 32 06.7**	**-1.0**
PB10				IAML		02 32 17.5	
	comp=N,337nm,0.4s						
PB10	**IPOC Station P**	**1.84**	**304**	*i* P	**Pn**	**02 31 44.4**	**+0.1**
LVC	**Limon Verde**	**1.95**	**360**	*e*P	**Pn**	**02 31 46.0**	**0.0**
LVC				*i* S	**Sn**	**02 32 10.9**	**+0.3**
LVC	**Limon Verde**	**1.95**	**360**	P	**Pn**	**02 31 46.2**	**+0.2**
	comp=N,18nm,0.3s,baz=168,slow=8.5,SNR=123						
LVC				S	**Sn**	**02 32 10.8**	**+0.1**
	comp=N,36nm,0.3s,baz=200,slow=11,SNR=8.6						
LVC	**Limon Verde**	**1.95**	**360**	*i* P	**Pn**	**02 31 46.1**	**+0.2**
LVC				*e*S	**Sn**	**02 32 12.3**	**+1.6**
PB06	**IPOC Station P**	**1.95**	**341**	⇑*i* P	**Pn**	**02 31 46.1**	**+0.3**
PB06				*i* S	**Sn**	**02 32 10.6**	**+0.2**
PB06				IAML		02 32 17.7	
	comp=E,347nm,0.2s						
PB06	**IPOC Station P**	**1.95**	**341**	*i* P	**Pn**	**02 31 46.2**	**+0.3**
PB06				*e*S	**Sn**	**02 32 12.1**	**+1.6**
PB05	**IPOC Station P**	**2.08**	**325**	⇑*i* P	**Pn**	**02 31 47.3**	**-0.2**
PB05				*e*S	**Sn**	**02 32 13.1**	**-0.3**
PB05				IAML		02 32 21.4	
	comp=E,349nm,0.4s						
PB05	**IPOC Station P**	**2.08**	**325**	*i* P	**Pn**	**02 31 47.6**	**+0.2**
PB05				*e*S	**Sn**	**02 32 13.6**	**+0.2**
PB04	**IPOC Station P**	**2.50**	**332**	*i* P	**Pn**	**02 31 52.9**	**0.0**
PB09	**IPOC Station P**	**2.78**	**353**	*e*P	**Pn**	**02 31 56.6**	**+0.1**
PB09				*i* S	**Sn**	**02 32 25.1**	**-4.6**
PB09				IAML		02 32 38.2	
	comp=N,268nm,0.3s						
PB09	**IPOC Station P**	**2.78**	**353**	*i* P	**Pn**	**02 31 57.2**	**+0.6**
PB09				IAML		02 32 39.4	
	comp=Z,203nm,0.5s						
GO03	**Copiap**	**3.25**	**201**	*i* P	**Pn**	**02 32 01.4**	**-1.2**
HJA	**Humahuaca**	**3.47**	**68**	*i* P	**Pn**	**02 32 07.1**	**+1.2**
AROD	**Rodeo**	**5.60**	**185**	*i* P	**Pn**	**02 32 33.9**	**-0.8**
ACCO	**Cerro Coronel**	**6.00**	**181**	*i* P	**Pn**	**02 32 39.2**	**-0.9**
AMOG	**MOGNA**	**6.36**	**177**	*i* P	**Pn**	**02 32 43.1**	**-1.6**
CFA	**Coronel Fontan**	**7.04**	**175**	P	Pn	02 33 10.4	+17
	comp=Z,0.4nm,0.3s,baz=342,slow=12,SNR=3.8						
LPAZ	**La Paz**	**8.27**	**5**	P	**Pn**	**02 33 08.6**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=195,slow=6.8,SNR=2.0						
SIV	**San Ignacio**	**11.25**	**42**	P	Pn	02 33 45.9	-5.3
	comp=Z,0.9nm,0.3s,baz=242,slow=11,SNR=19						
BDFB	**Brasilia**	**21.50**	**70**	P	**P**	**02 35 51.1**	**-3.2**
	comp=Z,2.1nm,0.6s,baz=249,slow=12,SNR=4.4						
TXAR	**Lajitas Array**	**63.16**	**326**	P	**P**	**02 41 31.4**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=150,slow=9.3,SNR=1.6						
TORD	**Torodi Ar. Bea**	**78.39**	**70**	P	**P**	**02 43 02.2**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=261,slow=5.2,SNR=19						
YKA	**Yellowknife Ar**	**94.07**	**341**	P	**P**	**02 44 19.7**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=135,slow=4.4,SNR=7.1						
ZALV	**Zalesovo Beam**	**144.69**	**27**	PKP	**PKPab**	**02 50 36.6**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=310,slow=5.4,SNR=9.2						
MKAR	**Makanchi Array**	**148.06**	**39**	PKPbc	**PKPdf**	**02 50 46.9**	**+3.4**
	comp=Z,1.3nm,0.7s,baz=306,slow=3.1,SNR=13						

BJI ***23*** *02:41:31.0±0.0,0.7°10S×132.7°40E,h10km,mb4.6/3, mB5.0/2,Ms4.8/1,Ms7 4.8/2*
IDC ***23*** *02:41:31.6±0.7,0.2°25S×132.7°32E,h0km,mb4.2/9, mb1 4.3/11,mb1mx4.0/40,mbtmp4.2/11,ML4.0/2,MS3.5/12, Ms1 3.5/12,ms1mx3.3/45,Error ellipse: s-maj=21.3km s-min=12.8km az=82.0*
ISCJB ***23*** *02:41:34.7±0.5,0.2°26S±0.05×132.7°40E±0.05,h33km, mb4.2/9,MS3.8/9,Error ellipse: s-maj=7.1km s-min=6.7km az=11.4*
DJA ***23*** *02:41:34.0±1.7,0.7°S±10.7°×13.7°2E±7.7°,h20km±14km,M4.8/7, mb5.1/1,MLv4.6/7*
NEIC ***23*** *02:41:37.7±1.3,0.3°S±0.1°×132.7°29E±0.09,h43km±6km, mb4.3/14*

ISC 23 02:41:36.8±0.6,0.41S±0.06×132.36E±0.06,h33km,n48, σ2§44/42,mb4.2/14,MS3.7/9,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**1.18**	**247**	Pn	**Pn**	**02 41 55.4**	**-1.7**
	79nm,0.3s,baz=50,slow=12,SNR=122						
SIJI				Sn	**Sn**	**02 42 13.5**	**+1.4**
	145nm,0.3s,baz=164,slow=19,SNR=14						
SWI	**Sorong**	**1.19**	**248**	P	**Pn**	**02 41 57.2**	**+0.1**
SWI				S	**Sn**	**02 42 14.1**	**+2.0**
RKPI	**Ransiki, Papua**	**2.12**	**121**	P	**Pb**	**02 42 13.1**	**-1.6**
RKPI				S	**Sb**	**02 42 41.2**	**+0.4**
FAKI	**Fak Fak**	**2.50**	**182**	P	**Pn**	**02 42 18.2**	**+3.0**
FAKI	**Fak Fak**	**2.50**	**182**		**Pn**	**02 42 16.8**	**+1.6**
KMPI	**Kaimana, Papua**	**3.50**	**157**	P	**Pn**	**02 42 31.4**	**+2.4**
MSAI	**Masohi**	**4.50**	**230**	P	Pn	02 42 48.2	+5.4
BNDI	**Bandanaira**	**4.76**	**211**	P	Pb	02 42 56.4	-3.3
AAI	**Ambon**	**5.28**	**232**	P	Pn	02 42 58.6	+5.1
NLAI	**Namlea**	**5.96**	**242**	P	**Pn**	**02 43 03.7**	**+0.9**
LUWI	**Luwuk**	**9.60**	**266**	Pn	**Pn**	**02 43 52.4**	**-0.5**
SOEI	**Soe**	**12.29**	**221**	P	P	02 44 38.2	-3.4
MTN	**Manton Dam**	**12.41**	**186**		**Pn**	**02 44 30.7**	**-0.6**
MTN					**Sn**	**02 46 46.3**	**-2.3**
BATI	**Baumata**	**13.02**	**221**	LR	LR	02 50 08.0	
	comp=Z,146nm,18.0s,baz=61,slow=39						
KNRA	**Kununurra**	**15.58**	**193**		**Pn**	**02 45 12.7**	**-1.4**
KNRA				IAmb	IAmb	02 45 18.8	
	comp=Z,29nm,0.7s						
KNRA				Sn	**Sn**	**02 47 58.6**	**-7.3**
COEN	**Coen**	**17.20**	**142**	Pn	**Pn**	**02 45 33.7**	**-1.1**
GUMO	**Guam**	**18.63**	**41**	LR	LR	02 52 10.7	
	comp=Z,155nm,18.0s,baz=100,slow=34						
FITZ	**Fitzroy Crossi**	**18.78**	**200**	P	**P**	**02 45 52.1**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=23,slow=10,SNR=5.0						
FITZ				S	Sn	02 49 12.6	-11
	comp=Z,0.2nm,0.3s,baz=234,slow=20,SNR=2.9						
FITZ				LR	LR	02 55 22.6	
	comp=Z,50nm,18.1s,baz=38,slow=44						
WRAB	**Tennant Creek**	**19.50**	**174**	P	**P**	**02 46 02.7**	**+1.3**
WRAB				IAmb	IAmb	02 46 10.8	
	comp=Z,8.7nm,0.6s						
WRA	**Warramunga Arr**	**19.51**	**174**	P	**P**	**02 46 02.1**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=357,slow=13,SNR=36						
WRA				S	**S**	**02 49 32.9**	**-7.4**
	comp=Z,0.5nm,0.3s,baz=0.0,slow=23,SNR=9.1						
WRA				LR	LR	02 54 53.5	
	comp=Z,108nm,18.3s,baz=15,slow=4.1						
WR0	**Warramunga Arr**	**19.55**	**174**	P	**P**	**02 46 03.2**	**+1.3**
WR0				IAmb	IAmb	02 46 06.0	
	comp=Z,17nm,1.0s						
KRVT	**Keravat (AS076**	**20.03**	**101**	LR	LR	02 52 57.3	
	comp=Z,74nm,18.8s,baz=275,slow=34						
AS31	**Alice Springs**	**23.17**	**176**	P	**P**	**02 46 42.2**	**+1.5**
AS31				IAmb	IAmb	02 46 45.1	
	comp=Z,6.1nm,0.8s						
ASAR	**Alice Springs**	**23.17**	**176**	P	**P**	**02 46 41.8**	**+1.0**
	comp=Z,33nm,0.8s,baz=354,slow=7.8,SNR=98						
ASAR				S	**S**	**02 50 57.6**	**+7.3**
	comp=Z,0.6nm,0.7s,baz=208,slow=10,SNR=2.8						
CTA	**Charters Tower**	**23.82**	**146**	P	**P**	**02 46 48.5**	**+1.4**
	comp=Z,10nm,1.0s,baz=329,slow=12,SNR=6.6						
PSA00	**Pilbara Seismi**	**24.32**	**209**	P	**P**	**02 46 52.0**	**+0.4**
STKA	**Stephens Creek**	**32.50**	**165**	P	**P**	**02 48 05.2**	**+0.7**
	comp=Z,4.8nm,0.9s,baz=359,slow=7.5,SNR=8.0						
STKA				LR	LR	03 03 10.7	
	comp=Z,95nm,18.3s,baz=17,slow=40						
STKA	**Stephens Creek**	**32.50**	**165**	IAmb	IAmb	02 48 08.4	
	comp=Z,1.9nm,1.1s						
RPSI	**Rantau Prapat**	**33.56**	**275**	P	**P**	**02 48 13.8**	**-0.3**
ARMA	**Armidale**	**35.02**	**150**	P	**P**	**02 48 27.9**	**+1.2**
MJAR	**Matsushiro Arr**	**37.16**	**8**	LR	LR	03 00 57.7	
	comp=Z,102nm,21.9s,baz=180,slow=32						
KSRS	**Korea Array**	**37.90**	**354**	LR	LR	03 03 17.1	
	comp=Z,93nm,19.6s,baz=42,slow=35						
SONM	**Songino Array**	**53.09**	**338**	P	**P**	**02 50 50.6**	**-0.6**
	comp=Z,1.2nm,1.0s,baz=107,slow=9.9,SNR=5.5						
MK31	**Makanchi Array**	**64.16**	**324**	IAmb	IAmb	02 52 11.5	
	comp=Z,3.6nm,1.2s						
MKAR	**Makanchi Array**	**64.16**	**324**	P	**P**	**02 52 07.5**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=117,slow=8.3,SNR=13						
MAKZ	**Makanchi**	**64.35**	**324**	P	**P**	**02 52 08.9**	**-0.5**
MAKZ				IAmb	IAmb	02 52 27.2	
	comp=Z,3.9nm,1.1s						
KSH	**Kashi**	**64.93**	**315**	P	**P**	**02 52 15.1**	**+1.6**
KSH				sP	pP	02 52 22.5	-0.8
KSH				PcS		02 56 50.5	
KSH				S	**S**	**03 00 55.4**	**+2.2**
KSH				ScS	**SKSac**	**03 02 05.9**	**-0.3**
KSH				LR	LR		
	comp=Z,390nm,10.3s						
ZALV	**Zalesovo Beam**	**66.84**	**332**	P	**P**	**02 52 23.7**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=130,slow=6.2,SNR=5.0						
TIXI	**Tiksi**	**71.97**	**359**	LR	LR	03 27 53.9	
	comp=Z,44nm,18.9s,baz=318,slow=39						
TIXI	**Tiksi**	**71.97**	**359**	P	**P**	**02 52 55.4**	**-1.3**
TIXI				IAmb	IAmb	02 52 56.3	
	comp=Z,2.6nm,0.8s						
NRIK	**Noril'sk**	**75.81**	**345**	LR	LR	03 29 12.4	
	comp=Z,70nm,18.9s,baz=242,slow=38						
GEYT	**Alibeck**	**77.85**	**309**	P	**P**	**02 53 31.8**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=189,slow=5.7,SNR=3.7						
VNDA	**Vanda**	**78.68**	**174**	P	**P**	**02 53 36.0**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=320,slow=8.3,SNR=7.1						
VNDA				LR	LR	03 29 10.2	
	comp=Z,33nm,18.2s,baz=356,slow=36						
ABKAR	**Akbulak array**	**78.89**	**320**	IAmb	IAmb	02 53 44.4	
	comp=Z,7.9nm,1.4s						
ILAR	**Eielson Array**	**86.42**	**25**	P	**P**	**02 54 13.7**	**-2.1**
	comp=Z,0.7nm,0.7s,baz=261,slow=4.1,SNR=12						
OBN	**Obninsk**	**93.65**	**325**	LR	LR	03 39 46.4	
	comp=Z,36nm,18.3s,baz=352,slow=37						
TORD	**Torodi Ar. Bea**	**129.52**	**287**	PKP	**PKPdf**	**03 00 42.7**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=96,slow=1.4,SNR=1.8						
CPUP	**Villa Florida**	**151.82**	**161**	PKPbc	**PKPbc**	**03 01 29.6**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=61,slow=1.2,SNR=4.2						

IDC 23 03:04:04.5±1.7,0.7°6N×123.2°26E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.4/42,mbtmp3.6/5,ML4.0/1,Error ellipse: s-maj=129.8km s-min=26.0km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.89**	**173**	P	Pn	03 08 27.1	0.0
	0.4nm,0.3s,baz=11,slow=6.9,SNR=13						
WRA	**Warramunga Arr**	**23.27**	**153**	P	P	03 09 14.2	+0.3
	0.8nm,0.5s,baz=327,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**26.39**	**158**	P	P	03 09 42.1	-0.7
	0.2nm,0.5s,baz=347,slow=14,SNR=5.3						
STKA	**Stephens Creek**	**36.82**	**153**	P	P	03 11 14.4	0.0
	0.3nm,0.2s,baz=354,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**58.11**	**328**	P	P	03 13 59.8	0.0
	0.1nm,0.3s,baz=115,slow=9.7,SNR=1.9						

KRSC 23 03:12:11.5±1.0,55.61N×166.21E,h37km±12km,ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.43**	**199**	*e*P	Pn	03 12 22.2	+1.4
BKI				*e*S	Sn	03 12 28.3	+0.6
KBTR	**Krutoberegovo**	**2.00**	**289**	*e*P	Pn	03 12 44.2	+1.5
BDR	**Baidarnaya**	**2.97**	**291**	*e*P	Pn	03 13 00.0	+4.0
SRKR	**Sorokina**	**3.01**	**292**	*e*P	Pn	03 13 00.0	+3.4
ZLN	**Zelenaya**	**3.08**	**280**	*e*P	Pn	03 13 01.6	+4.0
ZLN				*e*S	Sn	03 13 39.3	+6.1
CIRR	**Tsirk**	**3.12**	**282**	*e*P	Pn	03 13 02.4	+4.2
BZGR	**Bezymyannyi-Gr**	**3.13**	**278**	*e*P	Pn	03 13 02.5	+4.2
LGNR	**Loginova**	**3.15**	**281**	*e*P	Pn	03 13 02.2	+3.5
KLY	**Klyuchi**	**3.21**	**285**	*e*P	Pn	03 13 01.1	+1.9
KLY				*e*S	Sn	03 13 38.2	+2.1
KRSR	**Krestovskiy**	**3.24**	**283**	*e*P	Pn	03 13 03.2	+3.5
KRSR				*e*S	Sn	03 13 41.0	+4.0
BZWR	**Bezymyannyi-We**	**3.25**	**279**	*e*P	Pn	03 13 04.0	+4.0
KIRR	**Kirishev**	**3.33**	**278**	*e*P	Pn	03 13 04.9	+3.8
TUMD	**Tumrok D**	**3.34**	**265**	*e*P	Pn	03 13 04.8	+3.7
TUMD				*e*S	Sn	03 13 43.9	+4.4
KMNR	**Kamenistaya**	**3.39**	**275**	*e*P	Pn	03 13 06.0	+4.2
KPT	**Kopyto**	**3.40**	**279**	*e*P	Pn	03 13 06.1	+4.1
KZV	**Kizimen**	**3.42**	**264**	*e*P	Pn	03 13 05.8	+3.6
KZV				*e*S	Sn	03 13 45.3	+3.8
TUMR	**Tumrok**	**3.47**	**267**	*e*P	Pn	03 13 07.1	+4.1
TUMR				*e*S	Sn	03 13 48.3	+5.5
SRDR	**Sredinnyy**	**3.72**	**284**	*e*P	Pn	03 13 10.4	+4.1
SDLR	**Sedlovina**	**4.87**	**244**	*e*P	Pn	03 13 26.7	+4.5
SMAR	**Somma**	**4.92**	**245**	*e*P	Pn	03 13 27.7	+4.7
KRER	**Koryakskii**	**4.93**	**245**	*e*P	Pn	03 13 27.6	+4.5
AVH	**Avacha**	**4.95**	**245**	*e*P	Pn	03 13 28.4	+5.1
KOK	**Koryaka**	**4.99**	**245**	P	Pn	03 13 28.3	+4.5
KRMR	**Karymshinskiy**	**5.50**	**243**	*e*P	Pn	03 13 35.9	+5.2
MTVR	**Mutnovka**	**5.67**	**240**	*e*P	Pn	03 13 37.5	+4.3

ISCJB ***23*** *03:57:48.6±0.8,35.3°30N±0.05×23.3°31E±0.09,h65km±9km, Error ellipse: s-maj=12.3km s-min=6.8km az=157.7*
HLW ***23*** *03:57:48.5,35.4°44N×24.0°4E,h21km±10km,Md3.7,MI3.6*
ATH ***23*** *03:57:51.1,35.4°49N×23.8°49E,h51km±3km,ML2.4/4,Error ellipse: s-maj=4.2km s-min=1.6km az=223.0*
THE ***23*** *03:57:52.0,35.3°39N×23.6°38E,h23km±2km,ML2.3/6,Error ellipse: s-maj=3.0km s-min=0.8km az=74.0*

ISC 23 03:57:47.4±1.2,35.32N±0.05×23.32E±0.07,h72km±10km, n26,σ2§28/38,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	**0.55**	**359**	P	**Pn**	**03 58 01.2**	**+0.4**
ANKY				S	**Sn**	**03 58 09.8**	**-0.9**
	335nm,0.4s						
ANKY	**Antikythira Is**	**0.55**	**359**	P	**Pn**	**03 58 01.2**	**+0.4**
ANKY				S	**Sn**	**03 58 10.2**	**-0.5**
ANKY				AML	AML	03 58 10.7	
	comp=N,830μm,0.3s						
ANKY				AML	AML	03 58 11.4	
	comp=E,509μm,0.5s						
IMMV	**Iera Moni Meta**	**0.56**	**75**	P	**Pn**	**03 58 01.3**	**+0.3**
IMMV				S	**Sn**	**03 58 09.6**	**-1.4**
	comp=E,952nm,0.5s						
IMMV	**Iera Moni Meta**	**0.56**	**75**	P	**Pn**	**03 58 01.5**	**+0.5**
IMMV				S	**Sn**	**03 58 09.6**	**-1.4**
IMMV				AML	AML	03 58 10.7	
	comp=E,1826μm,0.3s						
IMMV				AML	AML	03 58 11.0	
	comp=N,1980μm,0.7s						
CHAN	**Chania**	**0.63**	**71**	P	**Pn**	**03 58 02.5**	**+0.9**
CHAN				S	**Sn**	**03 58 11.2**	**-0.9**
	comp=N,122nm,0.5s						
VAM	**Vamos**	**0.73**	**83**	P	**Pn**	**03 58 04.5**	**+1.8**
VAM				S	**Sn**	**03 58 14.5**	**+0.4**
	comp=N,262nm,0.4s						
VAM	**Vamos**	**0.73**	**83**	P	**Pn**	**03 58 04.2**	**+1.5**
VAM				S	**Sn**	**03 58 13.6**	**-0.5**
VAM				AML	AML	03 58 17.8	
	comp=N,580μm,0.3s						
VAM				AML	AML	03 58 19.4	
	comp=E,384μm,0.5s						
GVDS	**Gavdos**	**0.79**	**127**	P	**Pn**	**03 58 06.1**	**+2.6**
GVDS				S	**Sn**	**03 58 18.7**	**+3.3**
	comp=E,272nm,0.3s						
GVD	**Gavdos**	**0.79**	**127**	P	**Pn**	**03 58 06.5**	**+3.1**
GVD	**Gavdos**	**0.79**	**127**	P	**Pn**	**03 58 06.6**	**+3.1**
KTHA	**Kythira Island**	**0.96**	**348**	P	**Pn**	**03 58 08.0**	**+2.5**
KTHA				S	**Sn**	**03 58 21.1**	**+2.2**
	comp=E,272nm,0.5s						
KTHA	**Kythira Island**	**0.96**	**348**	P	**Pn**	**03 58 08.1**	**+2.6**
KTHA				AML	AML	03 58 23.9	
	comp=N,326μm,0.4s						
KTHA				AML	AML	03 58 26.1	
	comp=E,764μm,0.6s						
SIVA	**Sivas**	**1.26**	**103**	P	**Pn**	**03 58 12.6**	**+3.4**
IDI	**Anoyia**	**1.29**	**91**	P	**Pn**	**03 58 12.7**	**+3.0**
MHLO	**Agia Marina, M**	**1.63**	**32**	P	**Pn**	**03 58 14.8**	**+0.7**
LAST	**Lasithi**	**1.78**	**94**	P	**Pn**	**03 58 19.8**	**+3.7**
NPS	**Neapolis**	**1.88**	**91**	P	**Pn**	**03 58 19.8**	**+2.3**
THR5	**Thira Island,**	**1.98**	**56**	P	**Pn**	**03 58 20.5**	**+1.7**
THR6	**Thira Island,**	**1.98**	**58**	P	**Pn**	**03 58 20.2**	**+1.4**
THR3	**Thira Island,**	**2.01**	**57**	P	**Pn**	**03 58 21.5**	**+2.3**
IOSP	**Ios Island**	**2.13**	**48**	P	**Pn**	**03 58 22.4**	**+1.6**
APE	**Apeiranthos**	**2.50**	**45**	P	**Pn**	**03 58 27.8**	**+1.9**
SLUM	**Salum**	**4.13**	**157**	P	**Pn**	**03 58 49.8**	**+1.7**
	baz=165						
SLUM				AMP		03 59 00.0	
	baz=165						
SLUM				S	**Sn**	**03 59 34.4**	**-0.7**
	baz=165						
SWA2		**6.32**	**163**	P	**Pn**	**03 59 20.8**	**+2.8**
	baz=168						
SWA2				S	**Sn**	**04 00 28.3**	**-0.5**
	baz=168						
HFRF	**Wahat Farafira**	**9.20**	**151**	P	**Pn**	**03 59 59.0**	**+1.8**
	baz=155						
HFRF				AMP		04 01 00.0	
	baz=155						
HFRF				S	**Sn**	**04 01 34.4**	**-4.8**
	baz=155						
RICI	**Ricice**	**9.46**	**332**	ePg	Pg	04 01 37.1	
RICI				Sg	**Sn**	**04 01 41.5**	**-4.0**

IDC ***23*** *04:10:41.8±2.2,17.2°28N×145.9°90E,h177km±20km,mb3.5/9, mb1 3.7/10,mb1mx3.3/66,mbtmp4.0/10,Error ellipse: s-maj=63.2km s-min=14.0km az=114.0*
ISCJB ***23*** *04:10:42.3±0.6,17.2°20N±0.09×145.9°E±0.2,h200km, mb3.6/9,Error ellipse: s-maj=33.0km s-min=8.6km az=16.8*
NEIC ***23*** *04:10:42.7±1.2,17.3°31N±0.08×145.8°E±0.3,h185km±6km, mb4.0/3*

ISC 23 04:10:43.5±0.7,17.2°N±0.1×145.9°E±0.3,h200km,n22, σ1§57/17,mb3.7/11,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**0.49**	**189**		**Pn**	**04 11 08.7**	**-2.0**
ANA2	**Anatahan**	**0.85**	**190**		**Pn**	**04 11 11.5**	**-1.0**
ANA2					**Sn**	**04 11 31.2**	**-3.6**
GUMO	**Guam**	**3.70**	**195**	P	**Pn**	**04 11 40.8**	**-0.8**
	18nm,0.3s,baz=344,slow=14,SNR=1.7						
GUMO				S	**Sn**	**04 12 26.5**	**-0.9**
	35nm,0.3s,baz=17,slow=23,SNR=3.2						
GUMO	**Guam**	**3.70**	**195**		**Sn**	**04 12 26.0**	**-1.3**
H11S3	**WAKE ISLAND Hy**	**19.87**	**83**	T	T	04 36 11.6	
	baz=139,slow=77,SNR=6.2						
H11S1	**WAKE ISLAND Hy**	**19.88**	**83**	T	T	04 36 12.4	
	baz=139,slow=77,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**19.89**	**83**	T	T	04 36 13.6	
	baz=139,slow=77,SNR=13						
H11N1	**WAKE ISLAND Hy**	**20.11**	**80**	T	T	04 36 22.0	
	baz=264,slow=74,SNR=11						
H11N2	**WAKE ISLAND Hy**	**20.12**	**80**	T	T	04 36 14.3	
	baz=264,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**20.13**	**80**	T	T	04 36 15.7	
	baz=264,slow=74,SNR=12						
SIJI	**Sorong**	**22.99**	**220**	P	**P**	**04 15 33.1**	**+2.1**
	19nm,0.5s,baz=27,slow=10,SNR=9.0						
HIA	**Hailar**	**38.36**	**332**	P	**P**	**04 17 44.4**	**-0.8**
HIA				IAmb	IAmb	04 17 48.3	
	comp=Z,6.4nm,0.6s						
WRA	**Warramunga Arr**	**38.59**	**198**	P	**P**	**04 17 47.9**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=19,slow=8.7,SNR=17						
FITZ	**Fitzroy Crossi**	**40.31**	**211**	P	**P**	**04 18 02.7**	**+1.1**
FITZ				IAmb	IAmb	04 18 19.4	
	comp=Z,4.2nm,1.2s						
ASAR	**Alice Springs**	**42.25**	**196**	P	**P**	**04 18 18.8**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=15,slow=11,SNR=8.0						
STKA	**Stephens Creek**	**48.95**	**185**	P	**P**	**04 19 09.9**	**+0.2**
	comp

TCW	**Tory Channel**	**4.15**	**233**	P	Pn	04 16 49.8	-1.9
GVZ	**Greta Valley S**	**5.98**	**224**	P	Pn	04 17 15.0	-1.7
CTZ	**Chatham Island**	**6.12**	**146**	P	Pn	04 17 20.1	+1.6
LTZ	**Lake Taylor**	**6.29**	**228**	P	Pn	04 17 19.1	-1.9

IDC 23 04:18:54.7±2.3, 5°26S × 147°29E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/28, mbtmp3.5/4, ML3.8/1, MS3.8/1, Ms1 3.8/1, ms1mx2.6/29, Error ellipse: s-maj=139.0km s-min=30.9km az=126.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.12**	**182**	Sn	Sb	04 20 58.0	-0.7
	2.6nm,0.3s,baz=324,slow=23,SNR=1.9						
WRA	**Warramunga Arr**	**19.28**	**220**	P	Pn	04 23 22.7	+0.5
	0.3nm,0.3s,baz=50,slow=12,SNR=16						
ASAR	**Alice Springs**	**22.39**	**214**	P	P	04 23 54.8	-0.1
	0.8nm,0.8s,baz=52,slow=8.7,SNR=5.3						
FITZ	**Fitzroy Crossi**	**24.70**	**237**	P	P	04 24 17.0	-0.8
	1.7nm,0.5s,baz=52,slow=10,SNR=8.6						
AFI	**Afiamalu**	**41.21**	**105**	LR	LR	04 43 37.5	
	comp=Z,114nm,18.7s,baz=135,slow=36						
ILAR	**Eielson Array**	**84.69**	**23**	P	P	04 31 30.4	+0.1
	0.1nm,0.7s,baz=235,slow=7.5,SNR=1.2						

BEO ***23*** *04:20:36.2±4.3, 37°.93N × 15°.03E, h66km, ML3.8/10*
IDC ***23*** *04:20:37.8±0.8, 38°.23N × 15°.70E, h0km, mb3.9/8, mb1 3.8/12, mb1mx3.6/42, mbtmp3.7/12, ML3.2/4, MS2.9/2, Ms1 2.9/2, ms1mx2.5/54, Error ellipse: s-maj=22.0km s-min=12.6km az=129.0*
ISCJB ***23*** *04:20:38.5±0.2, 38°.26N±0°.02×15°.60E±0°.02, h19km±2km, mb3.8/8, Error ellipse: s-maj=2.6km s-min=2.1km az=160.4*
ROM ***23*** *04:20:38.5±0.1, 38°.215N±0°.007×15°.569E±0°.007, h10km, ML3.8/64, Error ellipse: s-maj=0.7km s-min=0.4km az=337.0*
THE ***23*** *04:20:39.1, 38°.15N × 15°.75E, h4km±8km, ML3.4/6, Error ellipse: s-maj=12.1km s-min=0.7km az=240.0*
LDG ***23*** *04:20:39.1±0.1, 38°.20N × 15°.56E, h10km, Ml2.9/6*
NEIC ***23*** *04:20:41.7±3.5, 38°.25N±0°.04×15°.69E±0°.05, h26km±4km*
ISC 23 04:20:39.1±0.7, 38°.24N±0°.02×15°.57E±0°.02, h14km±4km, n215, σ1°78/242, mb3.9/9, 4C-6D, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSRU	**Castanea**	**0.05**	**298**	P	**Pg**	**04 20 41.3**	**-0.5**
MSRU				S	**Sg**	**04 20 43.0**	**-0.7**
MSCL	**Scilla**	**0.17**	**92**	P	**Pg**	**04 20 42.9**	**-0.4**
MSCL				S	**Sg**	**04 20 46.0**	**-0.2**
MSCL				AML	AML		
MSCL				AML	AML		
MPNC	**Port Mandanici**	**0.19**	**241**	P	**Pg**	**04 20 42.5**	**-1.1**
MPNC				S	**Sg**	**04 20 45.4**	**-1.3**
MPNC				AML	AML		
MPNC				AML	AML		
CEL	**Celeste**	**0.26**	**85**	P	**Pg**	**04 20 44.5**	**-0.2**
CEL				S	**Sg**	**04 20 48.4**	**0.0**
CEL				AML	AML		
	comp=N,37850μm,0.9s						
CEL				AML	AML		
	comp=E,47700μm,0.4s						
CEL				AML	AML		
	comp=N,37900μm,0.9s						
CEL				AML	AML		
	comp=E,39550μm,0.3s						
CEL				AML	AML		
	comp=N,46850μm,0.9s						
CEL				AML	AML		
	comp=N,46850μm,0.9s						
CEL				AML	AML		
	comp=N,37900μm,0.9s						
CEL				AML	AML		
	comp=E,47700μm,0.4s						
CEL				AML	AML		
	comp=N,37850μm,0.9s						
CEL				AML	AML		
	comp=E,39550μm,0.3s						
CEL	**Celeste**	**0.26**	**85**		**Pg**	**04 20 44.1**	**-0.5**
MILZ	**Milazzo**	**0.27**	**277**	P	**Pg**	**04 20 44.5**	**-0.2**
MILZ				S	**Sg**	**04 20 49.0**	**+0.4**
MILZ				AML	AML		
	comp=E,57850μm,0.4s						
MILZ				AML	AML		
	comp=N,74400μm,0.6s						
MILZ				AML	AML		
	comp=N,74400μm,0.6s						
MILZ				AML	AML		
	comp=E,57850μm,0.4s						
MCSR	**Castroreale**	**0.30**	**235**	P	**Pg**	**04 20 44.5**	**-1.0**
AIO	**Antillo**	**0.38**	**225**	P	**Pg**	**04 20 45.5**	**-1.2**
NOV	**Novara**	**0.40**	**238**	P	**Pg**	**04 20 46.1**	**-1.1**
NOV				S	**Sg**	**04 20 51.6**	**-1.1**
NOV				AML	AML		
	comp=E,37150μm,1.1s						
NOV				AML	AML		
	comp=E,37150μm,1.1s						
NOV				AML	AML		
	comp=N,33000μm,0.3s						
SOI	**Samo**	**0.42**	**113**	P	**Pg**	**04 20 46.6**	**-0.8**
SOI				S	**Sg**	**04 20 52.9**	**-0.2**
SOI				AML	AML		
	comp=E,21450μm,1.3s						
SOI				AML	AML		
	comp=N,29550μm,0.3s						
SOI				AML	AML		
	comp=N,29600μm,0.3s						
SOI				AML	AML		
	comp=E,21400μm,1.3s						
SOI				AML	AML		
	comp=N,29600μm,0.3s						
JOPP	**Joppolo**	**0.44**	**34**	P	**Pb**	**04 20 48.5**	**-0.2**
JOPP				S	**Sb**	**04 20 55.8**	**+0.6**
JOPP				AML	AML		
	comp=N,14550μm,0.4s						
JOPP				AML	AML		
	comp=N,14550μm,0.4s						
JOPP				AML	AML		
	comp=E,10115μm,1.4s						
MPAZ	**Palizzi**	**0.45**	**129**	P	**Pg**	**04 20 47.0**	**-1.0**
MPAZ				S	**Sg**	**04 20 53.6**	**-0.5**
MPAZ				AML	AML		
	comp=E,34050μm,1.6s						
MPAZ				AML	AML		
	comp=N,43900μm,0.4s						
MPAZ				AML	AML		
	comp=N,43900μm,0.4s						
MPAZ				AML	AML		
	comp=E,34050μm,1.6s						
VPL	**Vulcano Piano**	**0.48**	**287**	P	**Pg**	**04 20 48.7**	**+0.1**
VPL				AML	AML		
VPL				AML	AML		
LLI	**Lipari**	**0.53**	**293**	P	**Pg**	**04 20 49.9**	**+0.4**
LLI				AML	AML		
LLI				AML	AML		
MUCR	**Ucria**	**0.58**	**251**	P	**Pg**	**04 20 49.6**	**-0.9**
MUCR				AML	AML		
	comp=E,12650μm,0.3s						
MUCR				AML	AML		
	comp=N,23300μm,0.3s						
MUCR				AML	AML		
	comp=N,23300μm,0.3s						
IST3	**Stromboli F**	**0.62**	**335**	P	**Pb**	**04 20 52.2**	**+0.5**
IST3				AML	AML		
	comp=N,12165μm,0.2s						
IST3				AML	AML		
	comp=E,11150μm,1.0s						
IST3				AML	AML		
	comp=N,15600μm,0.4s						
ISTR	**Stromboli Gino**	**0.62**	**332**	P	**Pg**	**04 20 51.7**	**+0.4**
ISTR				AML	AML		
	comp=E,9735μm,1.4s						
ISTR				AML	AML		
	comp=N,12250μm,0.6s						
ISTR				AML	AML		
	comp=E,12750μm,0.9s						
ISTR				AML	AML		
	comp=N,13100μm,0.3s						
MCPD	**Capo d'Orlando**	**0.67**	**260**	P	**Pg**	**04 20 51.3**	**-0.9**
MCPD				AML	AML		
	comp=E,17000μm,0.4s						
MCPD				AML	AML		
	comp=N,10220μm,0.4s						
PLAC	**Placanica**	**0.72**	**73**	P	**Pg**	**04 20 52.8**	**-0.2**
PLAC				AML	AML		
	comp=E,9025μm,0.5s						
PLAC				AML	AML		
	comp=E,11150μm,0.6s						
PLAC				AML	AML		
	comp=N,10820μm,0.6s						
PLAC				AML	AML		
	comp=N,10850μm,0.6s						
PLAC				AML	AML		
	comp=N,9335μm,0.5s						
ESLN	**Serra La Nave**	**0.72**	**221**	P	**Pg**	**04 20 52.9**	**-0.2**
ESLN				AML	AML		
	comp=N,8010μm,0.6s						
ESLN				AML	AML		
	comp=E,9595μm,0.4s						
ESML	**S. M. di Licod**	**0.83**	**222**	P	**Pg**	**04 20 55.0**	**-0.1**
IFIL	**Filicudi I Eol**	**0.85**	**293**	P	**Pg**	**04 20 54.5**	**-1.1**
IFIL				AML	AML		
	comp=N,9005μm,0.3s						
IFIL				AML	AML		
	comp=E,28700μm,0.7s						
GRI	**Girifalco**	**0.89**	**49**	P	**Pg**	**04 20 55.7**	**-0.6**
GRI				AML	AML		
	comp=E,5755μm,0.4s						
GRI				AML	AML		
	comp=N,5170μm,1.3s						
GALF	**Gagliano Caste**	**0.95**	**237**	P	**Pg**	**04 20 57.4**	**-0.1**
GALF				AML	AML		
	comp=N,9030μm,0.6s						
GALF				AML	AML		
	comp=E,12600μm,0.6s						
IACL	**Alicudi**	**1.00**	**288**	P	**Pg**	**04 20 56.5**	**-1.8**
IACL				AML	AML		
	comp=N,8405μm,0.3s						
IACL				AML	AML		
	comp=E,12450μm,1.6s						
HAGA	**Augusta**	**1.01**	**199**	P	**Pg**	**04 20 57.0**	**-1.5**
HAGA				AML	AML		
	comp=E,4545μm,0.4s						
HAGA				AML	AML		
	comp=N,4500μm,0.6s						
AGST	**Augusta-Monte**	**1.02**	**196**	P	**Pg**	**04 20 57.2**	**-1.5**
AGST				AML	AML		
	comp=N,8705μm,1.1s						
AGST				AML	AML		
	comp=E,6705μm,0.2s						
AGST				AML	AML		
	comp=N,8700μm,1.1s						
CAGR	**Agira**	**1.04**	**234**	P	**Pn**	**04 21 00.3**	**+1.0**
CAGR				AML	AML		
	comp=E,9120μm,0.5s						
CAGR				AML	AML		
	comp=N,8715μm,1.3s						
HLNI	**Lentini**	**1.05**	**212**	P	**Pb**	**04 20 57.6**	**-1.3**
HLNI				AML	AML		
	comp=E,2535μm,0.3s						
HLNI				AML	AML		
	comp=E,2540μm,0.3s						
HLNI				AML	AML		
	comp=N,4115μm,0.6s						
CAR1	**CAROLEI**	**1.13**	**26**	P	**Pb**	**04 20 59.3**	**-1.1**
CAR1				AML	AML		
	comp=E,5435μm,0.5s						
CAR1				AML	AML		
	comp=N,6285μm,0.5s						
CAR1				AML	AML		
	comp=N,5125μm,0.9s						
CAR1				AML	AML		
	comp=E,4340μm,0.8s						
CAR1				AML	AML		
	comp=N,6280μm,0.5s						
CAR1				AML	AML		
	comp=E,4335μm,0.8s						
SSY	**Sortino**	**1.15**	**200**	P	**Pb**	**04 20 59.4**	**-1.3**
SERS	**Sersale**	**1.19**	**47**	P	**Pb**	**04 21 01.0**	**-0.3**
SERS				AML	AML		
	comp=N,1605μm,1.0s						
SERS				AML	AML		
	comp=E,1580μm,0.5s						
SERS				AML	AML		
	comp=N,1590μm,1.6s						
SERS				AML	AML		
	comp=E,1465μm,1.6s						
VAE	**Valguarnera**	**1.19**	**231**	Pn	**Pg**	**04 21 03.5**	**+1.6**
	comp=E,32nm,0.3s,baz=254,slow=8.8,SNR=36						
VAE				Sn	**Sn**	**04 21 24.2**	**+7.0**
	comp=E,93nm,0.3s,baz=45,slow=8.6,SNR=6.7						
PETRA	**Petralia Sopra**	**1.22**	**251**	P	**Pn**	**04 21 01.3**	**-0.5**
PETRA				AML	AML		
	comp=E,6965μm,0.5s						
PETRA				AML	AML		
	comp=N,6765μm,0.7s						
GIB	**Gibilmanna**	**1.24**	**259**	P	**Pn**	**04 21 01.0**	**-1.1**
GIB				AML	AML		
	comp=E,6375μm,0.8s						
GIB				AML	AML		
	comp=N,8235μm,0.5s						
HVZN	**Vizzini**	**1.26**	**213**	P	**Pn**	**04 21 01.4**	**-0.8**
HVZN				AML	AML		
	comp=E,19000μm,0.5s						
HVZN				AML	AML		
	comp=N,25950μm,0.5s						
HVZN				AML	AML		
	comp=N,25950μm,0.5s						
TIP	**Timpagrande**	**1.32**	**44**	P	**Pn**	**04 21 02.9**	**-0.2**
TIP				S	**Sg**	**04 21 22.0**	**+0.2**
TIP	**Timpagrande**	**1.32**	**44**	P	**Pn**	**04 21 02.9**	**-0.2**
TIP				AML	AML		
	comp=N,816μm,0.5s						
TIP				AML	AML		
	comp=E,1102μm,0.5s						
TIP				AML	AML		
	comp=N,1034μm,0.5s						
TIP				AML	AML		
	comp=E,926μm,0.5s						
TIP	**Timpagrande**	**1.32**	**44**		**Pn**	**04 21 03.1**	**0.0**
TIP					**Sb**	**04 21 19.5**	**-1.0**
CET2	**Cetraro**	**1.32**	**13**	P	**Pn**	**04 21 02.3**	**-0.8**
CET2				AML	AML		
	comp=E,4020μm,0.5s						
CET2				AML	AML		
	comp=N,6605μm,0.4s						
HAVL	**Avola**	**1.32**	**196**	P	**Pn**	**04 21 01.9**	**-1.2**
HAVL				AML	AML		
	comp=E,8580μm,0.3s						
HAVL				AML	AML		
	comp=N,9650μm,0.3s						
HAVL				AML	AML		
	comp=E,8575μm,0.3s						
CELI	**Celico**	**1.38**	**32**	P	**Pn**	**04 21 03.1**	**-0.8**
CELI				AML	AML		
	comp=E,3430μm,0.7s						
CELI				AML	AML		
	comp=N,3755μm,1.0s						
CELI				AML	AML		
	comp=N,1540μm,1.0s						
CELI				AML	AML		
	comp=E,1400μm,0.7s						
RAFF	**Raffo Rosso**	**1.39**	**224**	P	**Pn**	**04 21 04.2**	**+0.2**
RAFF				AML	AML		
	comp=N,3975μm,1.5s						
RAFF				AML	AML		
	comp=E,6010μm,0.5s						
RAFF	**Raffo Rosso**	**1.39**	**224**		**Pn**	**04 21 04.2**	**+0.2**
HBSP	**Bosco Santo Pi**	**1.40**	**218**	P	**Pn**	**04 21 03.8**	**-0.3**
HBSP				AML	AML		
	comp=E,10650μm,1.1s						
HBSP				AML	AML		
	comp=N,7040μm,1.0s						
HMDC	**Modica**	**1.42**	**206**	P	**Pn**	**04 21 03.6**	**-0.9**
HMDC				AML	AML		
	comp=E,3430μm,0.3s						
HMDC				AML	AML		
	comp=N,3510μm,1.1s						
ALJA	**Alia**	**1.52**	**252**	P	**Pn**	**04 21 06.2**	**+0.5**
ALJA				AML	AML		
	comp=N,2875μm,0.7s						
ALJA				AML	AML		
	comp=E,2735μm,1.5s						
LADO	**San Nicola del**	**1.52**	**46**	P	**Pb**	**04 21 06.9**	**-0.1**
T0702	**Acquaformosa (**	**1.53**	**15**	P	**Pn**	**04 21 05.1**	**-0.9**
HPAC	**Pachino**	**1.58**	**193**	P	**Pn**	**04 21 06.1**	**-0.5**
HPAC				AML	AML		
	comp=E,6955μm,0.5s						
HPAC				AML	AML		
	comp=N,4790μm,0.4s						
PIPA	**Pietrapaola**	**1.58**	**38**	P	**Pb**	**04 21 07.8**	**-0.3**
PIPA				AML	AML		
	comp=E,1645μm,1.0s						
PIPA				AML	AML		
	comp=N,1140μm,0.8s						
PIPA				AML	AML		
	comp=N,1102μm,0.7s						
PIPA				AML	AML		
	comp=E,1520μm,1.0s						
SOLUN	**Solunto**	**1.61**	**265**	P	**Pn**	**04 21 05.7**	**-1.3**
SOLUN				AML	AML		
	comp=E,754μm,0.7s						
SOLUN				AML	AML		
	comp=N,400μm,0.8s						
CLTA	**Licata**	**1.67**	**230**	P	**Pb**	**04 21 09.4**	**-0.1**
T0721	**Laino Castello**	**1.73**	**10**	P	**Pn**	**04 21 08.8**	**+0.1**
T0721				AML	AML		
	comp=E,2375μm,1.2s						
T0721				AML	AML		
	comp=N,1960μm,0.7s						
SALB	**San Lorenzo Be**	**1.75**	**20**	P	**Pn**	**04 21 08.8**	**-0.1**
SALB				AML	AML		
	comp=E,716μm,0.9s						
SALB				AML	AML		
	comp=N,531μm,0.7s						
SALB				AML	AML		
	comp=E,694μm,0.4s						
SALB				AML	AML		
	comp=N,534μm,0.7s						
CUC	**Castrocucco**	**1.76**	**6**	P	**Pn**	**04 21 08.7**	**-0.4**
CUC				AML	AML		
	comp=E,1320μm,0.5s						
CUC				AML	AML		
	comp=N,1100μm,0.8s						
CUC				AML	AML		
	comp=E,1640μm,0.5s						
CUC				AML	AML		
	comp=N,1390μm,0.8s						
FAVR	**Favara**	**1.79**	**238**	P	**Pb**	**04 21 12.2**	**+0.6**
CORL	**Corleone**	**1.82**	**260**	P	**Pn**	**04 21 09.7**	**-0.2**
CORL				AML	AML		
	comp=N,1410μm,0.7s						
CORL				AML	AML		
	comp=E,1985μm,1.2s						
CORL	**Corleone**	**1.82**	**260**		**Pn**	**04 21 09.7**	**-0.2**
MGR	**Morigerati**	**1.90**	**360**	P	**Pn**	**04 21 10.3**	**-0.7**
MGR				AML	AML		
	comp=E,664μm,0.6s						
MGR				AML	AML		
	comp=N,588μm,0.4s						
USI	**Ustica**	**1.93**	**285**	P	**Pn**	**04 21 09.5**	**-2.0**
USI				AML	AML		
	comp=N,1265μm,0.5s						
USI				AML	AML		
	comp=E,1115μm,0.9s						
ORI	**Oriolo Calabro**	**1.95**	**20**	P	**Pn**	**04 21 12.5**	**+0.8**
ORI				AML	AML		
	comp=N,2045μm,0.4s						
ORI				AML	AML		
	comp=E,1635μm,0.4s						
SIRI	**Monte Sirino -**	**1.96**	**7**	P	**Pn**	**04 21 11.3**	**-0.5**
SIRI				AML	AML		
	comp=N,1068μm,0.8s						
SIRI				AML	AML		
	comp=N,1079μm,0.8s						
SIRI				AML	AML		
	comp=E,925μm,0.5s						
SIRI				AML	AML		
	comp=E,926μm,0.5s						
CLTB	**Caltabellotta**	**1.97**	**251**		**Pn**	**04 21 13.2**	**+1.1**
SCHR	**S. Chirico Rap**	**2.00**	**11**	AML	AML		
	comp=E,586μm,0.6s						
SCHR				AML	AML		
	comp=N,477μm,1.2s						
MTSN	**Montesano sull**	**2.03**	**4**	P	**Pn**	**04 21 12.6**	**-0.3**
MTSN				AML	AML		
	comp=E,876μm,1.2s						
MTSN				AML	AML		
	comp=N,878μm,0.9s						
CMPR	**Campora**	**2.09**	**354**	P	**Pn**	**04 21 13.0**	**-0.7**
CMPR				AML	AML		
	comp=E,546μm,0.3s						
CMPR				AML	AML		
	comp=N,558μm,0.3s						
MCEL	**Monticello**	**2.09**	**5**	AML	AML		
	comp=E,560μm,0.5s						
MCEL				AML	AML		
	comp=N,732μm,0.7s						
MCEL				AML	AML		
	comp=E,567μm,0.5s						
MCEL				AML	AML		
	comp=N,728μm,0.7s						
SLCN	**Sala Consilina**	**2.15**	**1**	AML	AML		
	comp=N,786μm,0.5s						
SLCN				AML	AML		
	comp=E,1030μm,0.5s						
CDRU	**Civita di Ruta**	**2.26**	**355**	AML	AML		
	comp=N,274μm,1.2s						
CDRU				AML	AML		
	comp=E,394μm,1.2s						
MIGL	**Miglionico**	**2.46**	**16**	AML	AML		
	comp=E,1218μm,1.5s						
MIGL				AML	AML		
	comp=N,1385μm,0.7s						
MRLC	**Muro Lucano**	**2.52**	**359**	AML	AML		
	comp=E,302μm,0.4s						
MRLC				AML	AML		
	comp=N,326μm,0.5s						
WDD	**Wied Dalam**	**2.54**	**200**	AML	AML		
	comp=E,774μm,1.4s						
WDD				AML	AML		
	comp=N,579μm,1.2s						
WDD	**Wied Dalam**	**2.54**	**200**	Pn	**Pn**	**04 21 20.1**	**+0.4**
ACER	**Acerenza**	**2.56**	**6**	AML	AML		
	comp=N,644μm,0.5s						
ACER				AML	AML		
	comp=N,664μm,0.5s						
ACER				AML	AML		
	comp=E,973μm,0.7s						
ACER				AML	AML		
	comp=E,994μm,0.7s						
ACER	**Acerenza**	**2.56**	**6**		**Pn**	**04 21 21.7**	**+1.6**
MATE	**Matera**	**2.56**	**20**	⇓P	**Pb**	**04 21 24.6**	**-0.1**
MATE	**Matera**	**2.56**	**20**	AML	AML		
	comp=E,279μm,1.0s						
MATE				AML	AML		
	comp=N,255μm,0.8s						
TAR1	**Taranto**	**2.64**	**30**	*e*Pn	**Pn**	**04 21 21.1**	**-0.1**
MASS	**Massafra**	**2.69**	**27**	*e*Pn	**Pn**	**04 21 21.7**	**-0.1**
SG1	**Sgolgore (BA)**	**2.74**	**18**	*e*Pn	**Pn**	**04 21 23.2**	**+0.7**
AMUR	**Altamura**	**2.78**	**16**	AML	AML		
	comp=E,228μm,1.5s						
AMUR				AML	AML		
	comp=N,321μm,1.6s						
NOCI	**Noci**	**2.80**	**24**	AML	AML		
	comp=E,244μm,0.8s						
NOCI				AML	AML		
	comp=N,204μm,0.5s						
CGL1	**Ceglie Messapi**	**2.83**	**31**	*e*Pn	**Pn**	**04 21 23.8**	**0.0**
PAOL	**Paolisi**	**2.90**	**345**		**Pn**	**04 21 25.2**	**+0.5**
SCTE	**Santa Cesarea**	**2.90**	**50**		**Pn**	**04 21 25.0**	**+0.2**
BAI	**Bari**	**3.04**	**19**	*e*Pn	**Pn**	**04 21 28.8**	**+2.2**
MSAG	**Monte S. Angel**	**3.48**	**4**	AML	AML		
	comp=E,126μm,0.4s						
MSAG				AML	AML		
	comp=N,316μm,0.4s						
SGRT	**San Giovanni R**	**3.52**	**2**	AML	AML		
	comp=E,144μm,0.5s						
SGRT				AML	AML		
	comp=N,190μm,0.8s						
SGRT	**San Giovanni R**	**3.52**	**2**		**Pn**	**04 21 33.9**	**+0.6**
KEK	**Kerkira**	**3.61**	**65**	P	**Pn**	**04 21 34.4**	**-0.1**
KEK				S	**Sn**	**04 22 17.2**	**+0.3**
	comp=N,170nm,0.5s						
FSK	**Fiskardo**	**3.93**	**85**	P	**Pn**	**04 21 39.2**	**+0.3**
FSK				S	**Sn**	**04 22 24.6**	**-0.2**
	comp=N,102nm,0.5s						
IGT	**Igoumenitsa**	**3.94**	**69**	P	**Pn**	**04 21 39.2**	**+0.2**
VLS	**Valsamata**	**3.96**	**89**	P	**Pn**	**04 21 38.9**	**-0.4**
VLS				S	**Sn**	**04 22 24.5**	**-0.9**
	comp=N,152nm,0.7s						
VLS	**Valsamata**	**3.96**	**89**	AML	AML		
	comp=N,66μm,1.1s						
VLS				AML	AML		
	comp=E,41μm,1.0s						
INTR	**Introdacqua**	**3.98**	**342**		**Pn**	**04 21 41.7**	**+2.1**
EVGI	**Lefkada island**	**4.01**	**83**	P	**Pn**	**04 21 40.2**	**+0.2**

LKD2	**Lefkada island**	4.03	81	P		Pn	04 21 40.3	0.0
LKD2				S		Sn	04 22 27.3	0.0
	comp=E,100nm,0.5s							
TSLK	**Tsoukalades, L**	4.03	80	P		Pn	04 21 40.7	+0.4
TSLK				S		Sn	04 22 27.1	-0.2
	comp=E,158nm,0.5s							
KFL	**Anninata**	4.12	90	P		Pn	04 21 41.2	-0.2
KFL				S		Sn	04 22 28.0	-1.4
AQU	**L'Aquila**	4.43	339			Pn	04 21 47.3	+1.5
TIR	**Tirane**	4.54	45	*e*Pn		Pn	04 21 47.8	+0.5
TIR				*e*Sn		Sn	04 22 39.7	-0.1
TIR	**Tirane**	4.54	45	⇓P		Pn	04 21 47.6	+0.4
TIR	**Tirane**	4.54	45			Pn	04 21 47.8	+0.5
PVO	**Paravola**	4.69	84	P		Pn	04 21 49.8	+0.4
PVO				S		Sn	04 22 43.4	-0.2
	comp=E,130nm,0.5s							
HCY	**Herceg Novi**	4.76	27	*e*Pn		Pn	04 21 49.2	-1.1
DRME	**Dracevica, Mon**	4.82	34	*e*Pn		Pn	04 21 50.3	-0.8
KPRO	**Kipourio**	4.82	67	P		Pn	04 21 53.1	+1.9
DRO	**Drossia**	4.85	91	P		Pn	04 21 52.5	+0.9
STON	**Ston**	4.91	19	*e*Pn		Pn	04 21 51.5	-0.7
STON	**Ston**	4.91	19	*e*Pn		Pn	04 21 52.7	+0.4
STON				*e*Sn		Sn	04 22 46.3	-2.4
STON	**Ston**	4.91	19	*e*Pn		Pn	04 21 52.4	+0.1
AMT	**Artemida-Makis**	4.91	96	P		Pn	04 21 53.1	+0.7
TREB	**Trebinje**	4.95	24	*e*Pn		Pn	04 21 52.5	-0.4
TREB				*e*Sn		Sn	04 22 49.0	-0.9
TREB	**Trebinje**	4.95	24	*e*Pn		Pn	04 21 52.1	-0.8
NRCA	**Norcia**	4.96	339			Pn	04 21 56.1	+3.1
HVAR	**Hvar**	4.98	7	*e*Pn		Pn	04 21 53.3	0.0
HVAR				Sn		Sn	04 22 50.0	-0.6
EFP	**Efpalio**	4.99	86	P		Pn	04 21 55.6	+2.2
PDG	**Podgorica**	5.05	33	*e*Pn		Pn	04 21 54.3	0.0
PDG				*e*Sn		Sn	04 22 50.8	-1.4
PDG	**Podgorica**	5.05	33	*e*Pn		Pn	04 21 53.1	-1.1
PDG	**Podgorica**	5.05	33			Pn	04 21 54.2	0.0
PDG				Sn		Sn	04 22 51.6	-0.7
PYL	**PYLOS**	5.08	103	P		Pn	04 21 54.4	-0.4
SERG	**Sergoula**	5.11	86	P		Pn	04 21 57.4	+2.3
ITM	**Ithomi**	5.15	100	P		Pn	04 21 56.0	+0.3
ITM	**Ithomi**	5.15	100			Pn	04 21 56.3	+0.6
ITM						Sn	04 22 52.2	-2.7
FNA	**Florina**	5.16	59			Pn	04 21 57.4	+1.5
MAKA	**Makarska**	5.17	12	*i* Pn		Pn	04 21 55.6	-0.2
KALE	**Kalithea**	5.17	86	P		Pn	04 21 58.1	+2.1
BRY	**Bratogost**	5.18	25	*e*Pn		Pn	04 21 55.2	-1.0
KLV	**Kalavryta, Ach**	5.19	90	P		Pn	04 21 56.8	+0.5
AGG	**Agios Georgios**	5.35	79	P		Pn	04 22 00.3	+1.8
AGG	**Agios Georgios**	5.35	79			Pn	04 22 00.6	+2.1
RICI	**Ricice**	5.38	12	ePn		Pn	04 21 58.7	-0.2
RICI				Sn		Sn	04 22 59.0	-1.6
ZIRJ	**Zirje**	5.41	1	*i* Pn		Pn	04 22 00.0	+0.8
ZIRJ				Sn		Sn	04 23 00.1	-1.1
UPM	**Unac-Piva**	5.57	26	*e*Pn		Pn	04 22 02.2	+0.6
KEST	**Kesra**	5.57	245	Pn		Pn	04 22 03.4	+1.8
	comp=E,0.4nm,0.3s,baz=58,slow=7.1,SNR=11							
KEST				Sn		Sn	04 23 09.0	+3.6
	comp=E,0.6nm,0.3s,baz=2.6,slow=22,SNR=1.9							
KEST				LR		LR	04 24 06.5	
	comp=E,98nm,20.4s,baz=240,slow=37							
KEST	**Kesra**	5.57	245	Pn		Pn	04 22 04.5	+2.9
MORI	**Morici**	5.62	1	*e*Pn		Pn	04 22 02.3	+0.2
MORI				Sn		Sn	04 23 05.4	-1.1
LIT	**Litokhoron**	5.69	69	P		Pn	04 22 04.6	+1.5
LIT	**Litokhoron**	5.69	69			Pn	04 22 05.0	+1.9
LIT						Sn	04 23 08.1	-0.1
DUGI	**Dugi Otok**	5.76	356	*e*Pn		Pn	04 22 04.6	+0.5
KIJV	**Kijevo**	5.80	6	*i* Pn		Pn	04 22 05.2	+0.7
SJES	**Sjenica**	6.03	32	*e*Pn		Pn	04 22 08.1	+0.3
SJES				*e*Sn		Sn	04 23 15.2	-1.5
RUDO	**Rudo**	6.10	27	*e*Pn		Pn	04 22 08.4	-0.3
DID	**Didima**	6.11	95	P		Pn	04 22 09.4	+0.5
MGRS	**Mrkonjic Grad**	6.28	10	*e*Pn		Pn	04 22 14.2	+3.0
UDBI	**Udbina**	6.29	1	*i* Pn		Pn	04 22 13.7	+2.4
BBLS	**Lazići**	6.33	26	*e*Pn		Pn	04 22 12.4	+0.5
BBLS				*e*Sn		Sn	04 23 21.7	-2.2
BBLS	**Lazići**	6.33	26	*e*Pn		Pn	04 22 12.6	+0.7
NVLJ	**Novalja**	6.34	355	*i* Pn		Pn	04 22 12.8	+0.8
IVAS	**Ivanjica**	6.36	32	*e*Pn		Pn	04 22 12.6	+0.2
IVAS				*e*Sn		Sn	04 23 22.9	-1.9
HAPS	**Han Pijesak,Bl**	6.38	23	*e*Pn		Pn	04 22 12.0	-0.6
HAPS	**Han Pijesak,Bl**	6.38	23	*e*Pn		Pn	04 22 13.0	+0.4
SELS	**Selova**	6.52	39	*e*Pn		Pn	04 22 14.9	+0.4
BARS	**Barje**	6.60	44	*e*Pn		Pn	04 22 17.0	+1.4
BARS				*e*Sn		Sn	04 23 29.2	-1.3
PGF	**Pioggiola**	6.61	313	*e*Pn		Pn	04 22 14.3	-1.5
PGF	**Pioggiola**	6.61	313	*e*P		Pn	04 22 19.4	+3.6
PGF				*e*Sn		Sn	04 23 26.1	-4.8
	comp=E,1.6nm,0.3s							
BLY	**Banja Luka**	6.62	10	*e*Pn		Pn	04 22 17.1	+1.3
BLY	**Banja Luka**	6.62	10			Pn	04 22 18.7	+2.9
DIVS	**Divibare**	6.74	28	*e*Pn		Pn	04 22 16.9	-0.6
DIVS				*e*Sn		Sn	04 23 31.4	-2.7
DIVS	**Divibare**	6.74	28	*e*Pn		Pn	04 22 16.9	-0.6
BOSS	**Bosilegrad**	6.78	49	*e*Pn		Pn	04 22 19.2	+1.2
BOVS	**Bovan**	7.12	39	*e*Pn		Pn	04 22 23.4	+0.8
BOVS				*e*Sn		Sn	04 23 40.8	-2.4
VTS	**Vitosha**	7.30	51	⇓P		Pn	04 22 28.2	+2.9
VTS	**Vitosha**	7.30	51			Pn	04 22 26.0	+0.6
VTS						Sn	04 23 45.0	-3.1
ZAPS	**Zavoj**	7.35	45	*e*Pn		Pn	04 22 26.1	+0.2
ZAPS	**Zavoj**	7.35	45	*e*Pn		Pn	04 22 26.2	+0.3
OZLJ	**Ozalj**	7.37	359	*e*Pn		Pn	04 22 28.2	+2.1
ZAGS	**Zajecar**	7.51	40	*e*Pn		Pn	04 22 29.0	+1.0
CEY	**Cerknica**	7.54	354	*e*Pn		Pn	04 22 32.2	+3.7
CRES	**Cresnjev**	7.58	359	*e*Pn		Pn	04 22 30.5	+1.4
IDI	**Anoyia**	8.04	109	Pn		Pn	04 22 39.4	+4.0
	comp=E,0.7nm,0.3s,baz=325,slow=17,SNR=8.7							
IDI				Sn		Sn	04 24 00.7	-5.4
	comp=E,3.1nm,0.3s,baz=334,slow=23,SNR=12							
IDI				LR		LR	04 25 35.5	
	comp=E,80nm,19.3s,baz=304,slow=38							
MORH	**Mrgy, Hungar**	8.29	15	*e*Pn		Pn	04 22 39.0	+0.3
STAL	**STALIGIAL**	8.29	346	Pn		Pn	04 22 41.7	+2.9
OBKA	**Obir**	8.30	355	*i* Pn		Pn	04 22 40.9	+1.9
	comp=E,1.4nm,0.5s							
SBF	**Sospel**	8.32	315	*e*Pn		Pn	04 22 37.7	-1.6
SBF				*e*Sn		Sn	04 24 06.4	-6.7
	comp=E,18nm,0.8s							
ALN	**Alexandroupoli**	8.52	69	Pn		Pn	04 22 42.5	+0.6
LMR	**La Mourre**	8.55	309	*e*Pn		Pn	04 22 41.1	-1.2
LMR				*e*Sn		Sn	04 24 12.1	-6.4
	comp=E,0.7nm,0.4s							
PLVB	**Pleven**	8.57	50	⇓P		Pn	04 22 43.4	+0.7
FRF	**La Foret Royal**	8.59	311	*e*Pn		Pn	04 22 41.0	-1.9
FRF	**La Foret Royal**	8.59	311	*e*P		Pn	04 22 46.2	+3.3
FRF				*e*Sn		Sn	04 24 13.1	-6.5
	comp=E,0.4nm,0.3s							
BZS	**Buzias**	8.64	29	⇑P		Pn	04 22 45.5	+2.0
ABTA	**Abfaltersbach**	8.80	346	*i* Pn		Pn	04 22 47.5	+1.7
	comp=E,0.9nm,0.4s							
GZR	**Gura Zlata**	8.95	35	⇑P		Pn	04 22 50.4	+2.6
ARSA	**Arzberg**	9.01	360	*i* Pn		Pn	04 22 48.0	-0.6
	comp=E,0.5nm,0.2s							
FUORN	**Ofenpass-Fuorn**	9.25	337	Pn		Pn	04 22 53.0	+0.9
MBDF	**Montbardon**	9.25	317	*e*Pn		Pn	04 22 50.2	-1.8
MBDF	**Montbardon**	9.25	317	*e*P		Pn	04 22 55.8	+3.8
MBDF				*e*Sn		Sn	04 24 29.1	-6.8
	comp=E,0.1nm,0.1s							
SMRF	**Simiane la Rot**	9.47	310	*e*Pn		Pn	04 22 54.0	-1.0
FETA	**Feichten**	9.47	339	*i* Pn		Pn	04 22 56.7	+1.6
DAVOX	**Davos/Dischmat**	9.51	336	Pn		Pn	04 22 58.0	+2.4
	comp=E,0.1nm,0.3s,baz=188,slow=19,SNR=1.6							
MOA	**Molln**	9.65	355	*i* Pn		Pn	04 22 59.7	+2.3
	comp=E,1.4nm,0.4s							
KARP	**Karpathos**	9.67	103	Pn		Pn	04 22 57.4	-0.3
KARP						Sn	04 24 41.0	-5.0
CONA	**Conrad Observa**	9.69	1	*i* Pn		Pn	04 23 00.3	+2.3
	comp=E,0.3nm,0.2s							
ARR	**Arges**	9.82	41	⇓P		Pn	04 23 05.8	+6.0
VOIR		10.08	41	⇓P		Pn	04 23 03.9	+0.5
MLR	**Muntele Rosu**	10.60	44	⇑P		Pn	04 23 15.8	+5.4
	comp=E,0.2nm,0.3s,baz=169,slow=9.5,SNR=3.9							
MLR	**Muntele Rosu**	10.60	44	⇑P		Pn	04 23 16.4	+6.0
GEC2	**GERESS Array S**	10.69	353	Pn		Pn	04 23 14.8	+3.2
GERES	**GERESS Array B**	10.69	353	Pn		Pn	04 23 14.3	+2.6
	comp=E,0.1nm,0.3s,baz=183,slow=8.6,SNR=1.7							
KHC	**Kasperske Hory**	10.98	353	*e*P		Pn	04 23 19.5	+3.8
PLOR	**Plostina**	11.21	44	⇑P		Pn	04 23 23.2	+4.5
ELL	**Elmali**	11.49	93	Pn		Pn	04 23 24.5	+1.8
AKASG	**Malin Array Be**	15.79	33	Pn		Pn	04 24 20.7	0.0
	comp=E,0.2nm,0.3s,baz=231,slow=11,SNR=1.9							

ASF	**Jabal al Asfar**	18.43	103	P		Pn	04 24 57.0	+2.8
	comp=E,0.3nm,0.3s,baz=269,slow=11,SNR=2.2							
EKA	**Eskdalemuir Ar**	21.26	330	P		P	04 25 26.4	+1.8
	comp=E,1.3nm,0.6s,baz=138,slow=11,SNR=4.5							
FINES	**FINESS Array B**	24.14	12	P		P	04 25 53.1	-1.0
	comp=E,0.4nm,0.3s,baz=342,slow=36,SNR=1.0							
TORD	**Torodi Ar. Bea**	27.87	210	P		P	04 26 28.7	+0.4
	comp=E,2.4nm,1.0s,baz=20,slow=8.1,SNR=8.7							
ARCES	**ARCESS Array B**	31.81	7	P		P	04 27 03.3	+0.5
	comp=E,3.6nm,1.0s,baz=192,slow=8.0,SNR=1.7							
KMBO	**Kilima Mbogo**	43.98	148	P		P	04 28 48.0	+1.8
	comp=E,1.1nm,0.8s,baz=358,slow=5.9,SNR=3.2							
KMBO	**Kilima Mbogo**	43.98	148	IAmb	IAmb		04 28 49.2	
	comp=Z,1.8nm,1.1s							
ZALV	**Zalesovo Beam**	48.54	48	P		P	04 29 21.7	+0.3
	comp=Z,2.3nm,0.6s,baz=278,slow=7.9,SNR=10							
MK31	**Makanchi Array**	48.57	57	P		P	04 29 22.3	+0.5
MK31				IAmb	IAmb		04 29 24.8	
	comp=Z,1.1nm,0.6s							
MKAR	**Makanchi Array**	48.57	57	P		P	04 29 22.4	+0.6
	comp=Z,1.1nm,0.4s,baz=280,slow=7.4,SNR=22							
SONM	**Songino Array**	63.40	49	P		P	04 31 07.8	-0.2
	comp=Z,0.4nm,0.6s,baz=299,slow=7.6,SNR=4.1							

ROM 23 04:21:31.8±0.1, 38°.182N±0°.009×15°.563E±0°.006, h9km, Md1.5/7, Error ellipse: s-maj=1.0km s-min=0.3km az=355.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSRU	**Castanea**	0.09	332	P	Pg	04 21 34.7	+0.5
MSRU				S	Sg	04 21 36.5	+0.5
MSRU				END			
MPNC	**Port Mandanici**	0.17	258	P	Pg	04 21 35.9	+0.5
MPNC				S	Sg	04 21 38.6	+0.7
MPNC				END			
MSCL	**Scilla**	0.19	74	P	Pg	04 21 36.4	+0.7
MSCL				S	Sg	04 21 39.7	+1.3
MSCL				END			
CEL	**Celeste**	0.27	73	P	Pg	04 21 37.9	+0.7
CEL				S	Sg	04 21 42.2	+1.2
CEL				END			
MILZ	**Milazzo**	0.28	289	P	Pg	04 21 38.0	+0.7
MILZ				S	Sb	04 21 42.7	-0.9
MILZ				END			
NOV	**Novara**	0.37	246	P	Pb	04 21 39.9	-0.6
NOV				S	Sg	04 21 45.1	+1.1
NOV				END			
SOI	**Samo**	0.40	106	P	Pg	04 21 40.2	+0.5
SOI				S	Sb	04 21 46.2	-1.1
MPAZ	**Palizzi**	0.42	123	P	Pb	04 21 40.7	-0.6
MPAZ				END			
VPL	**Vulcano Piano**	0.50	294	P	Pb	04 21 42.7	0.0
AGST	**Augusta-Monte**	0.96	196	P	Pb	04 21 50.8	+0.2

*IDC **23** 04:41:13.3±6.8, 31°.86S×179°.47E, h441km±78km, mb2.8/2, mb1 3.2/3, mb1mx2.9/26, mbtmp3.9/3, Error ellipse: s-maj=88.2km s-min=37.2km az=13.0*
*WEL **23** 04:41:19.0±1.2, 32°.S±7°×18°.0E±1°.7, h374km±18km, M4.4/14, mB4.6/5, MLv4.7/14, Mw(mB)3.8/5, Error ellipse: s-maj=0.0km s-min=0.0km az=107.7*

ISC 23 04:41:12.6±1.0, 31°.90S±0°.09×179°.9E±0°.1, h450km, n22, σ2s59/27, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	3.22	36	P	**P**	**04 42 21.8**	**+0.5**
GLKZ				S	**S**	**04 43 16.2**	**-0.9**
MXZ	**Matakaoa Point**	5.80	193	P	**P**	**04 42 47.0**	**+2.2**
MXZ				S	**S**	**04 43 57.5**	**-2.6**
KUZ	**Kuaotunu**	5.95	215	P	**P**	**04 42 50.1**	**+3.8**
WMGZ	**Waiomatatini S**	6.04	191	P	**P**	**04 42 49.7**	**+2.6**
WMGZ				S	**S**	**04 44 03.3**	**-1.1**
HAZ	**Te Kaha**	6.10	196	P	**P**	**04 42 49.9**	**+2.2**
HAZ				S	**S**	**04 44 03.5**	**-2.2**
WCZ	**Waipu Caves**	6.14	227	P	**P**	**04 42 51.5**	**+3.3**
OUZ	**Omahuta**	6.23	236	P	**P**	**04 42 51.6**	**+2.4**
PUZ	**Puketiti**	6.31	192	P	**P**	**04 42 52.5**	**+2.6**
RUGZ	**Raukumara Rang**	6.33	196	P	**P**	**04 42 52.5**	**+2.3**
OPRZ	**Ohinepanea**	6.54	204	P	**P**	**04 42 56.8**	**+4.4**
MWZ	**Matawai**	6.71	196	P	**P**	**04 42 55.2**	**+1.0**
TKGZ	**Te Karaka**	6.74	194	P	**P**	**04 42 58.7**	**+4.3**
URZ	**Urewera**	6.75	199	P	**P**	**04 42 55.6**	**+1.1**
	5.7nm,0.3s,baz=263,slow=4.0,SNR=57						
URZ				S	**S**	**04 44 15.4**	**-2.7**
	8.0nm,0.3s,baz=327,slow=22,SNR=16						
URZ	**Urewera**	6.75	199	P	**P**	**04 42 55.9**	**+1.4**
OMRZ	**Omania**	6.84	204	P	**P**	**04 42 59.4**	**+3.8**
RAGZ	**Rawiri**	6.89	197	P	**P**	**04 42 58.7**	**+2.6**
RIGZ	**Rimuhau**	7.02	194	P	**P**	**04 42 59.4**	**+2.0**
MUGZ	**Murupara**	7.05	201	P	**P**	**04 43 00.0**	**+2.3**
ASAR	**Alice Springs**	41.28	270	P	**P**	**04 48 15.6**	**-1.8**
	0.4nm,0.6s,baz=105,slow=7.5,SNR=6.2						
WRA	**Warramunga Arr**	42.41	275	P	**P**	**04 48 24.6**	**-1.9**
	0.4nm,0.3s,baz=111,slow=8.0,SNR=8.5						
FINES	**FINESS Array B**	145.90	338	PKPbc	**PKPbc**	**05 00 00.3**	**+0.3**
	8.5nm,1.1s,baz=10,slow=3.1,SNR=11						
BRTR	**Keskin Array B**	151.69	295	PKPbc	**PKPbc**	**05 00 15.3**	**-0.1**
	0.2nm,0.5s,baz=162,slow=1.4,SNR=2.0						

IDC 23 04:52:09.2±549.0, 52°.02N×139°.21E, h0km, Error ellipse: s-maj=190.0km s-min=153.1km az=33.0, Primorye

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I45RU	**USSURIYSK INFR**	9.20	215	*i*		05 48 30.0	
	baz=29,slow=336,SNR=2.2						
I44RU	**PETROPAVLOVSK1**	11.32	77	*i*		06 04 40.0	
	baz=272,slow=332,SNR=4.7						
I30JP	**ISUMI INFRASON**	16.73	177	*i*		06 37 40.0	
	baz=360,slow=326,SNR=0.8						

ROM 23 04:57:52.6±0.1, 38°.187N±0°.010×15°.563E±0°.006, h10km, Md1.7/10, Error ellipse: s-maj=1.1km s-min=0.2km az=353.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSRU	**Castanea**	0.09	331	P	Pg	04 57 55.5	+0.5
MSRU				S	Sg	04 57 57.2	+0.5
MSRU				AML	AML		
	comp=E,50550µm,0.3s						
MSRU				AML	AML		
	comp=N,52300µm,0.4s						
MSRU				AML	AML		
	comp=E,50550µm,0.3s						
MSRU				AML	AML		
	comp=N,52300µm,0.4s						
MSRU				END			
MPNC	**Port Mandanici**	0.17	256	P	Pg	04 57 56.8	+0.5
MPNC				S	Sg	04 57 59.5	+0.6
MPNC				AML	AML		
	comp=N,21450µm,0.2s						
MPNC				AML	AML		
	comp=E,27700µm,1.5s						
MPNC				AML	AML		
	comp=N,21450µm,0.2s						
MPNC				AML	AML		
	comp=E,27700µm,1.5s						
MPNC				END			
MSCL	**Scilla**	0.18	76	P	Pg	04 57 57.2	+0.6
MSCL				S	Sg	04 58 00.5	+1.2
MSCL				AML	AML		
	comp=N,9915µm,1.3s						
MSCL				AML	AML		
	comp=E,15450µm,0.5s						
MSCL				AML	AML		
	comp=E,15500µm,0.5s						
MSCL				AML	AML		
	comp=E,15500µm,0.5s						
MSCL				END			
CEL	**Celeste**	0.27	74	P	Pg	04 57 58.7	+0.6
CEL				S	Sg	04 58 02.8	+1.0
CEL				AML	AML		
	comp=N,2135µm,0.6s						
CEL				AML	AML		
	comp=N,2705µm,0.4s						
CEL				AML	AML		
	comp=E,2440µm,0.9s						
CEL				AML	AML		
	comp=N,2140µm,0.6s						
CEL				AML	AML		
	comp=E,2435µm,0.9s						
CEL				AML	AML		
	comp=E,2975µm,0.9s						
CEL				END			
MCSR	**Castroreale**	0.28	244	P	Pg	04 57 58.9	+0.7
MCSR				S	Sb	04 58 03.4	-1.1
MCSR				END			
MILZ	**Milazzo**	0.28	288	P	Pg	04 57 58.8	+0.6
MILZ				S	Sg	04 58 03.1	+1.2
MILZ				AML	AML		
	comp=E,5060µm,0.8s						
MILZ				AML	AML		
	comp=N,5335µm,0.3s						
MILZ				END			
NOV	**Novara**	0.37	245	P	Pg	04 58 00.4	+0.4
NOV				S	Sg	04 58 05.8	+0.9
NOV				AML	AML		
	comp=E,2840µm,0.9s						
NOV				AML	AML		
	comp=N,2165µm,1.5s						
NOV				END			
SOI	**Samo**	0.40	106	P	Pg	04 58 00.9	+0.4
SOI				S	Sg	04 58 06.9	+1.0
SOI				AML	AML		
	comp=E,1725µm,0.4s						
SOI				AML	AML		
	comp=N,1830µm,0.2s						
SOI				AML	AML		
	comp=N,1835µm,0.2s						
SOI				END			
MPAZ	**Palizzi**	0.42	124	P	Pg	04 58 01.3	+0.4
MPAZ				AML	AML		
	comp=E,2370µm,0.9s						
MPAZ				AML	AML		
	comp=N,2205µm,0.4s						
MPAZ				AML	AML		
	comp=N,2445µm,0.3s						
MPAZ				END			
JOPP	**Joppolo**	0.49	31	P	Pg	04 58 02.7	+0.5
JOPP				AML	AML		
	comp=E,540µm,0.5s						
JOPP				AML	AML		
	comp=N,720µm,0.4s						
JOPP				AML	AML		
	comp=N,745µm,0.9s						
JOPP				AML	AML		
	comp=E,542µm,0.9s						
JOPP				END			
VPL	**Vulcano Piano**	0.49	293	P	Pb	04 58 03.0	-0.5
VPL				AML	AML		
	comp=E,11310µm,0.4s						
VPL				AML	AML		
	comp=E,10820µm,0.4s						
VPL				AML	AML		
	comp=N,10400µm,0.8s						
LLI	**Lipari**	0.55	298	P	Pb	04 58 04.2	-0.1
LLI				AML	AML		
	comp=E,17900µm,0.5s						
LLI				AML	AML		
	comp=N,25300µm,0.3s						
LLI				AML	AML		
	comp=E,20550µm,0.4s						
LLI				AML	AML		
	comp=N,27050µm,0.3s						
LLI				AML	AML		
	comp=N,27050µm,0.3s						
MUCR	**Ucria**	0.56	255	P	Pb	04 58 04.4	-0.3
MUCR				AML	AML		
	comp=E,711µm,1.5s						
MUCR				AML	AML		
	comp=N,686µm,0.7s						
MUCR				AML	AML		
	comp=E,926µm,0.5s						
MUCR				AML	AML		
	comp=N,1585µm,1.0s						
MCPD	**Capo d'Orlando**	0.66	264	P	Pg	04 58 05.6	+0.2
MCPD				AML	AML		
	comp=E,432µm,0.9s						
MCPD				AML	AML		
	comp=N,398µm,0.3s						
MCPD				AML	AML		
	comp=E,1054µm,0.3s						
MCPD				AML	AML		
	comp=N,634µm,0.3s						
PLAC	**Placanica**	0.74	69	P	Pg	04 58 07.2	+0.3
PLAC				AML	AML		
	comp=E,250µm,0.7s						
PLAC				AML	AML		
	comp=N,326µm,0.6s						
PLAC				AML	AML		
	comp=E,319µm,0.6s						
PLAC				AML	AML		
	comp=N,250µm,0.7s						
PLAC				AML	AML		
	comp=N,583µm,0.3s						
PLAC				AML	AML		
	comp=E,620µm,0.4s						
PLAC				AML	AML		
	comp=N,520µm,0.5s						
PLAC				AML	AML		
	comp=E,510µm,0.5s						
IFIL	**Filicudi I Eol**	0.87	296	P	Pg	04 58 08.8	-0.6
IFIL				AML	AML		
	comp=E,1170µm,0.5s						
IFIL				AML	AML		
	comp=N,419µm,0.1s						
GRI	**Girifalco**	0.93	46	AML	AML		
	comp=N,284µm,0.6s						
GRI				AML	AML		
	comp=E,170µm,0.7s						
GRI				AML	AML		
	comp=N,228µm,1.1s						
GRI				AML	AML		
	comp=E,372µm,0.3s						
HAGA	**Augusta**	0.96	200	P	Pn	04 58 11.9	-0.2
HLNI	**Lentini**	1.00	213	P	Pn	04 58 12.5	-0.2
HLNI				AML	AML		
	comp=E,127µm,0.2s						
HLNI				AML	AML		
	comp=N,138µm,1.5s						
HLNI				AML	AML		
	comp=N,228µm,0.6s						
HLNI				AML	AML		
	comp=E,174µm,1.2s						
CAR1	**CAROLEI**	1.18	25	AML	AML		
	comp=N,290µm,1.6s						
CAR1				AML	AML		
	comp=E,279µm,1.1s						
CAR1				AML	AML		
	comp=E,270µm,0.5s						
CAR1				AML	AML

MSCL				S	Sg	04 58 18.4	+1.2
MSCL				AML	AML		
	comp=E,15500μm,0.5s						
MSCL				AML	AML		
	comp=E,15450μm,0.5s						
MSCL				AML	AML		
	comp=N,9915μm,1.3s						
CEL	**Celeste**	**0.27**	**73**	P	Pg	04 58 16.9	+0.7
CEL				S	Sg	04 58 21.0	+1.2
CEL				AML	AML		
	comp=E,2440μm,0.9s						
CEL				AML	AML		
	comp=N,2135μm,0.6s						
CEL				AML	AML		
	comp=E,2975μm,0.9s						
CEL				AML	AML		
	comp=E,2435μm,0.9s						
CEL				AML	AML		
	comp=N,2140μm,0.6s						
CEL				AML	AML		
	comp=N,2705μm,0.4s						
MCSR	**Castroreale**	**0.27**	**245**	P	Pg	04 58 17.2	+0.9
MILZ	**Milazzo**	**0.28**	**289**	P	Pg	04 58 17.0	+0.7
MILZ				S	Sb	04 58 21.7	-1.3
MILZ				AML	AML		
	comp=N,5335μm,0.3s						
MILZ				AML	AML		
	comp=E,5060μm,0.8s						
NOV	**Novara**	**0.37**	**246**	P	Pg	04 58 18.8	+0.8
NOV				S	Sg	04 58 24.1	+1.1
NOV				AML	AML		
	comp=E,2840μm,0.9s						
NOV				AML	AML		
	comp=N,2165μm,1.5s						
SOI	**Samo**	**0.40**	**105**	P	Pg	04 58 19.2	+0.6
SOI				AML	AML		
	comp=E,1725μm,0.4s						
SOI				AML	AML		
	comp=N,1835μm,0.2s						
SOI				AML	AML		
	comp=N,1830μm,0.2s						
MPAZ	**Palizzi**	**0.41**	**123**	P	Pg	04 58 19.6	+0.7
MPAZ				S	Sb	04 58 26.2	-0.7
MPAZ				AML	AML		
	comp=N,2445μm,0.3s						
MPAZ				AML	AML		
	comp=E,2370μm,0.9s						
JOPP	**Joppolo**	**0.49**	**30**	P	Pg	04 58 21.0	+0.6
JOPP				AML	AML		
	comp=N,745μm,0.9s						
JOPP				AML	AML		
	comp=E,542μm,0.9s						
VPL	**Vulcano Piano**	**0.50**	**294**	P	Pb	04 58 21.2	-0.7
VPL				AML	AML		
	comp=E,11310μm,0.4s						
VPL				AML	AML		
	comp=N,10400μm,0.8s						
MUCR	**Ucria**	**0.56**	**256**	P	Pb	04 58 22.6	-0.4
MUCR				AML	AML		
	comp=N,1585μm,1.0s						
MUCR				AML	AML		
	comp=E,926μm,0.5s						
MCPD	**Capo d'Orlando**	**0.66**	**265**	P	Pg	04 58 23.8	+0.2
MCPD				AML	AML		
	comp=E,1054μm,0.3s						
MCPD				AML	AML		
	comp=N,634μm,0.3s						
PLAC	**Placanica**	**0.74**	**68**	P	Pb	04 58 26.4	+0.4
GALF	**Gagliano Caste**	**0.92**	**240**	P	Pb	04 58 29.4	+0.4
GALF				AML	AML		
	comp=N,508μm,0.7s						
GALF				AML	AML		
	comp=E,652μm,0.5s						
HAGA	**Augusta**	**0.95**	**200**	P	Pn	04 58 30.0	-0.5
HAGA				AML	AML		
	comp=N,318μm,1.6s						
HAGA				AML	AML		
	comp=E,262μm,0.3s						
AGST	**Augusta-Monte**	**0.96**	**196**	P	Pg	04 58 29.4	+0.2
AGST				AML	AML		
	comp=E,422μm,0.2s						
AGST				AML	AML		
	comp=N,470μm,1.1s						
HLNI	**Lentini**	**0.99**	**214**	P	Pb	04 58 30.3	0.0
HLNI				AML	AML		
	comp=E,174μm,1.2s						
HLNI				AML	AML		
	comp=N,228μm,0.6s						
IACL	**Alicudi**	**1.01**	**291**	AML	AML		
	comp=N,758μm,0.2s						
IACL				AML	AML		
	comp=E,940μm,0.5s						
SIRI	**Monte Sirino -**	**2.01**	**7**	AML	AML		
	comp=N,74μm,0.7s						
SIRI				AML	AML		
	comp=E,77μm,1.0s						
MTSN	**Montesano sull**	**2.09**	**4**	AML	AML		
	comp=E,52μm,0.4s						
MTSN				AML	AML		
	comp=N,64μm,0.6s						
CMPR	**Campora**	**2.15**	**355**	AML	AML		
	comp=E,51μm,1.1s						
CMPR				AML	AML		
	comp=N,41μm,0.3s						
CDRU	**Civita di Ruta**	**2.32**	**355**	AML	AML		
	comp=N,18μm,0.7s						
CDRU				AML	AML		
	comp=E,43μm,0.4s						

IDC 23 05:24:30.4±10.0, 48.82N×105.67E, h0km, Error ellipse: s-maj=58.3km s-min=22.9km az=154.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**1.10**	**153**	Pg	Pg	05 24 51.8	+0.4
	0.2nm,0.3s,baz=332,slow=16,SNR=4.2						
SONM				Lg	Lg	05 25 06.4	
	0.5nm,0.3s,baz=318,slow=26,SNR=4.8						
I34MN	**SONGINO INFRAS**	**1.13**	**154**	*i*		05 32 02.3	
	baz=335,slow=334,SNR=2.2						
I45RU	**USSURIYSK INFR**	**18.65**	**94**	*i*		07 22 00.0	
	baz=291,slow=339,SNR=2.6						

IDC 23 05:29:27.4±4.0, 20.86N×146.72E, h0km, mb3.9/6, mb1 3.9/6, mb1mx3.5/62, mbtmp3.9/6, Error ellipse: s-maj=160.5km s-min=33.3km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.32**	**197**	P	P	05 37 23.1	-0.2
	0.6nm,1.2s,baz=12,slow=8.6,SNR=2.7						
ZALV	**Zalesovo Beam**	**56.92**	**322**	P	P	05 39 14.0	-0.2
	0.9nm,0.5s,baz=101,slow=7.5,SNR=4.1						
MKAR	**Makanchi Array**	**57.69**	**313**	P	P	05 39 19.9	0.0
	0.2nm,0.5s,baz=91,slow=8.5,SNR=3.4						
KURBB	**Kurchatov Arra**	**60.38**	**317**	P	P	05 39 38.8	+0.4
	0.5nm,0.2s,baz=89,slow=7.7,SNR=5.1						
BVAR	**Borovoye Array**	**65.44**	**320**	P	P	05 40 12.2	+0.1
	0.9nm,0.3s,baz=91,slow=7.9,SNR=8.1						
FINES	**FINESS Array B**	**85.33**	**335**	P	P	05 42 05.6	-0.6
	3.8nm,1.0s,baz=52,slow=5.2,SNR=2.9						

*ISCJB **23** 05:32:41.7±0.7, 20.67N±0.07×146.8E±0.2, h10km, mb4.0/12, Error ellipse: s-maj=24.5km s-min=9.8km az=171.8*

*IDC **23** 05:32:42.0±0.8, 20.73N×146.77E, h0km, mb4.0/12, mb1 4.1/13, mb1mx3.8/64, mbtmp4.0/13, ML3.5/1, MS3.2/3, Ms1 3.3/3, ms1mx2.9/52, Error ellipse: s-maj=28.8km s-min=17.2km az=74.0*

*NEIC **23** 05:32:43.6±0.7, 20.7N±0.1×146.8E±0.2, h10km±1km, mb4.5/11*

ISC 23 05:32:43.5±0.7, 20.7N±0.1×146.8E±0.2, h10km, n36, σ0°63/30, mb4.4/19, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**17.45**	**336**	P	**P**	**05 36 48.5**	**+0.3**
	0.2nm,0.3s,baz=172,slow=11,SNR=6.0						
MAT	**Matsushiro**	**17.45**	**336**	P	**P**	**05 36 49.1**	**+0.8**
H11S3	**WAKE ISLAND Hy**	**18.86**	**93**	T	T	05 55 21.2	
	baz=280,slow=75,SNR=5.9						
H11S1	**WAKE ISLAND Hy**	**18.87**	**93**	T	T	05 55 22.7	
	baz=280,slow=75,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**18.88**	**90**	T	T	05 55 22.1	
	baz=276,slow=74,SNR=5.7						
H11S2	**WAKE ISLAND Hy**	**18.88**	**93**	T	T	05 55 18.2	
	baz=280,slow=75,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**18.88**	**90**	T	T	05 55 22.3	
	baz=276,slow=74,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**18.89**	**90**	T	T	05 55 23.8	
	baz=276,slow=74,SNR=4.0						
KSRS	**Korea Array**	**23.38**	**320**	P	**P**	**05 37 54.1**	**+1.8**
	1.9nm,0.9s,baz=150,slow=11,SNR=4.4						
KSRS				LR	LR	05 48 02.8	
	comp=Z,78nm,18.1s,baz=20,slow=39						
MTN	**Manton Dam**	**36.76**	**206**	P	**P**	**05 39 51.5**	**+0.1**
WRA	**Warramunga Arr**	**42.23**	**198**	P	**P**	**05 40 36.6**	**-0.3**
	0.8nm,0.5s,baz=21,slow=8.5,SNR=8.3						
WRA				PcP	**PcP**	**05 42 31.7**	**+0.7**
	0.6nm,1.0s,baz=16,slow=3.6,SNR=5.3						
SONM	**Songino Array**	**42.25**	**319**	P	**P**	**05 40 36.1**	**-0.9**
	0.3nm,0.5s,baz=125,slow=7.0,SNR=3.0						
FITZ	**Fitzroy Crossi**	**43.82**	**210**	P	**P**	**05 40 50.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**45.02**	**276**	LR	LR	05 58 41.7	
	comp=Z,12nm,20.9s,baz=300,slow=35						
ASAR	**Alice Springs**	**45.89**	**197**	P	**P**	**05 41 05.5**	**-0.9**
	0.5nm,0.7s,baz=17,slow=8.0,SNR=7.0						
ASAR				PcP	**PcP**	**05 42 44.4**	**+1.0**
	0.3nm,0.6s,baz=17,slow=3.2,SNR=2.7						
STKA	**Stephens Creek**	**52.55**	**186**	P	**P**	**05 41 57.2**	**0.0**
ZAA0	**Zalesovo Array**	**57.06**	**322**	P	**P**	**05 42 29.6**	**0.0**
ZAA0				IAmb	IAmb	05 43 59.3	
	comp=Z,6.7nm,1.1s						
ZALV	**Zalesovo Beam**	**57.06**	**322**	P	**P**	**05 42 29.4**	**-0.3**
	comp=Z,3.2nm,0.5s,baz=111,slow=7.6,SNR=11						
MK31	**Makanchi Array**	**57.83**	**313**	P	**P**	**05 42 35.8**	**+0.5**
MKAR	**Makanchi Array**	**57.83**	**313**	P	**P**	**05 42 35.5**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=87,slow=8.3,SNR=22						
MAKZ	**Makanchi**	**58.05**	**313**	P	**P**	**05 42 37.2**	**+0.4**
MAKZ				IAmb	IAmb	05 42 40.2	
	comp=Z,9.7nm,1.6s						
KURK	**Kurchatov**	**60.48**	**317**	P	**P**	**05 42 53.8**	**+0.3**
KURK				IAmb	IAmb	05 44 06.4	
	comp=Z,17nm,1.9s						
KURBB	**Kurchatov Arra**	**60.53**	**317**	P	**P**	**05 42 53.9**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=92,slow=7.7,SNR=19						
ILAR	**Eielson Array**	**61.37**	**27**	LR	LR	06 10 19.3	
	comp=Z,41nm,18.9s,baz=282,slow=37						
BVAR	**Borovoye Array**	**65.59**	**320**	P	**P**	**05 43 27.7**	**+0.2**
	comp=Z,2.7nm,0.4s,baz=91,slow=7.4,SNR=26						
BRVK	**Borovoye**	**65.65**	**320**	P	**P**	**05 43 28.2**	**+0.3**
BRVK				IAmb	IAmb	05 43 29.0	
	comp=Z,3.0nm,0.8s						
KK31	**Karatay Array**	**66.29**	**309**	P	**P**	**05 43 31.7**	**-0.5**
KK31				IAmb	IAmb	05 43 33.4	
	comp=Z,2.3nm,0.8s						
KKAR	**Karatay Array**	**66.29**	**309**	P	**P**	**05 43 32.0**	**-0.2**
KKAR				IAmb	IAmb	05 43 33.4	
	comp=Z,2.3nm,0.8s						
ARU	**Arti**	**72.03**	**324**	P	**P**	**05 44 07.4**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=122,slow=9.5,SNR=4.1						
ARU	**Arti**	**72.03**	**324**	P	**P**	**05 44 07.5**	**0.0**
ABKAR	**Akbulak array**	**72.58**	**317**	P	**P**	**05 44 10.9**	**0.0**
ABKAR				IAmb	IAmb	05 45 34.6	
	comp=Z,9.8nm,1.8s						
YKA	**Yellowknife Ar**	**75.71**	**28**	P	**P**	**05 44 28.5**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=286,slow=5.9,SNR=6.6						
NVAR	**Mina Array Bea**	**81.07**	**52**	P	**P**	**05 45 00.0**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=267,slow=6.4,SNR=5.4						
FINES	**FINESS Array B**	**85.48**	**336**	P	**P**	**05 45 20.0**	**-1.3**
	comp=Z,5.1nm,1.0s,baz=58,slow=5.2,SNR=7.6						
LPAZ	**La Paz**	**146.62**	**88**	PKPbc	**PKPab**	**05 52 28.0**	**0.0**
	comp=Z,1.1nm,0.7s,baz=322,slow=0.8,SNR=6.4						
LPAZ	**La Paz**	**146.62**	**88**		**PKPdf**	**05 52 25.8**	**+0.4**

*IDC **23** 05:48:53.5±0.7, 55.68S×26.92W, h0km, mb4.2/7, mb1 4.3/8, mb1mx4.0/22, mbtmp4.1/8, ML3.6/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/23, Error ellipse: s-maj=29.2km s-min=18.3km az=70.0*

*ISCJB **23** 05:48:56.4±0.5, 55.67S±0.07×27.2W±0.1, h25km, mb4.2/7, MS3.1/2, Error ellipse: s-maj=13.1km s-min=6.7km az=43.3*

*NEIC **23** 05:48:59.1±1.5, 55.7S±0.1×27.12W±0.06, h35km±1km, mb4.5/18*

ISC 23 05:48:57.7±0.6, 55.7S±0.1×27.12W±0.10, h25km, n43, σ1°92/46, mb4.4/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.58**	**281**	Pn	**Pn**	**05 50 17.9**	**-1.0**
HOPE				Sn	**Sn**	**05 51 22.4**	**+0.3**
VNA1	**Neumayer--Stat**	**17.11**	**159**	P	**P**	**05 52 56.2**	**0.0**
VNA3	**Neumayer Olymp**	**17.31**	**161**	P	**P**	**05 53 00.0**	**+1.6**
VNA2	**Neumayer--Watz**	**17.50**	**158**	P	**P**	**05 53 00.6**	**0.0**
	baz=325,slow=11						
SNAA	**Sanae**	**19.05**	**157**	P	**P**	**05 53 16.6**	**-1.1**
SNAA	**Sanae**	**19.05**	**157**	P	**P**	**05 53 16.7**	**-1.0**
	0.2nm,0.3s,baz=286,slow=13,SNR=13						
SNAA				PcP	**PcP**	**05 57 40.5**	**-0.8**
	0.1nm,0.3s,baz=282,slow=2.0,SNR=5.4						
SNAA	**Sanae**	**19.05**	**157**	P	**P**	**05 53 17.0**	**-0.6**
SNAA					**PcP**	**05 57 41.1**	**-0.2**
PMSA	**Palmer Station**	**20.16**	**228**	P	Pn	05 53 33.9	+2.2
	11nm,0.7s,baz=78,slow=9.3,SNR=4.8						
PMSA	**Palmer Station**	**20.16**	**228**	P	**P**	**05 53 29.6**	**0.0**
PMSA				IAmb	IAmb	05 53 46.5	
	comp=Z,32nm,1.2s						
USHA	**Ushuaia**	**23.31**	**255**	P	**P**	**05 54 02.9**	**-0.4**
	comp=Z,6.5nm,1.0s,baz=104,slow=12,SNR=2.8						
TRQA	**Tornquist**	**29.22**	**292**	P	**P**	**05 54 58.2**	**+1.0**
QSPA	**South Pole Qui**	**34.55**	**180**	P	**P**	**05 55 43.4**	**-0.4**
	comp=Z,2.6nm,0.5s,baz=201,slow=2.0,SNR=30						
QSPA				PcP	**PcP**	**05 58 18.4**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=201,slow=2.1,SNR=3.9						
QSPA	**South Pole Qui**	**34.55**	**180**	P	**P**	**05 55 43.5**	**-0.3**
QSPA				IAmb	IAmb	05 55 46.5	
	comp=Z,3.3nm,0.6s						
QSPA					**PcP**	**05 58 18.1**	**+0.2**
CPUP	**Villa Florida**	**36.61**	**311**	P	**P**	**05 56 01.7**	**+0.1**
CPUP				LR	LR	06 08 49.5	
	comp=Z,31nm,20.5s,baz=108,slow=33						
CPUP	**Villa Florida**	**36.61**	**311**	P	**P**	**05 56 02.1**	**+0.4**
GO05	**Huala**	**36.82**	**285**	P	**P**	**05 56 02.2**	**-1.2**
CFA	**Coronel Fontan**	**37.46**	**293**	LR	LR	06 11 33.3	
	comp=Z,28nm,20.7s,baz=184,slow=36						
ROC1	**El Roble**	**37.87**	**288**	P	**P**	**05 56 10.2**	**-2.4**
GO02	**Mina Guanaco**	**43.37**	**297**	P	**P**	**05 56 58.7**	**+0.6**
GO02				IAmb	IAmb	05 56 59.4	
	comp=Z,11nm,0.5s						
LVC	**Limon Verde**	**45.16**	**300**	P	**P**	**05 57 14.0**	**+1.5**
LVC				IAmb	IAmb	05 57 23.7	
	comp=Z,4.7nm,0.8s						
PB10	**IPOC Station P**	**45.22**	**297**	P	**P**	**05 57 13.2**	**+0.6**
PB10				IAmb	IAmb	05 57 17.9	
	comp=Z,12nm,1.0s						
PB04	**IPOC Station P**	**46.00**	**299**	P	**P**	**05 57 19.4**	**+0.4**
SBA	**Scott Base**	**46.43**	**184**	P	**P**	**05 57 23.3**	**+1.8**
VNDA	**Vanda**	**46.92**	**183**	P	**P**	**05 57 26.3**	**+0.9**
	comp=Z,2.2nm,0.6s,baz=175,slow=7.2,SNR=14						
VNDA	**Vanda**	**46.92**	**183**	P	**P**	**05 57 26.7**	**+1.3**
VNDA				IAmb	IAmb	05 57 27.2	
	comp=Z,2.8nm,0.7s						
GO01	**Chusmiza**	**47.79**	**302**	P	**P**	**05 57 34.1**	**+0.7**
GO01				IAmb	IAmb	05 57 35.2	
	comp=Z,5.4nm,0.8s						
PB11	**IPOC Station P**	**47.94**	**301**	P	**P**	**05 57 34.9**	**+0.8**
PB11				IAmb	IAmb	05 57 45.6	
	comp=Z,6.1nm,0.9s						
MNMC	**Minye Minye**	**48.45**	**301**	P	**P**	**05 57 39.6**	**+1.4**
H10N1	**ASCENSION HYDR**	**48.77**	**17**	T	T	06 50 20.7	
	baz=189,slow=75,SNR=7.0						
H10N3	**ASCENSION HYDR**	**48.77**	**17**	T	T	06 50 20.6	
	baz=189,slow=75,SNR=25						
H10N2	**ASCENSION HYDR**	**48.79**	**17**	T	T	06 50 21.8	
	baz=189,slow=75,SNR=14						
LPAZ	**La Paz**	**50.21**	**305**	P	**P**	**05 57 52.7**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=178,slow=7.3,SNR=12						
LPAZ	**La Paz**	**50.21**	**305**	P	**P**	**05 57 52.5**	**+0.5**
LPAZ				IAmb	IAmb	05 57 53.8	
	comp=Z,3.6nm,0.7s						
SAML	**Samuel**	**54.58**	**314**	P	**P**	**05 58 24.0**	**+0.3**
SAML				IAmb	IAmb	05 58 34.7	
	comp=Z,4.3nm,1.2s						
TOA0	**Torodi Ar. Sit**	**72.73**	**29**	P	**P**	**06 00 23.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**72.73**	**29**	P	**P**	**06 00 22.9**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=203,slow=6.5,SNR=10						
ASAR	**Alice Springs**	**99.31**	**162**	P	**Pdif**	**06 02 35.2**	**-2.3**
	comp=Z,0.5nm,0.9s,baz=179,slow=3.7,SNR=3.5						
YKA	**Yellowknife Ar**	**135.94**	**318**	PKP	**PKPdf**	**06 08 13.6**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=129,slow=2.3,SNR=6.7						
INK	**Inuvik**	**145.56**	**321**	PKPbc	**PKPbc**	**06 08 31.9**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=63,slow=3.4,SNR=28						
ILAR	**Eielson Array**	**149.91**	**312**	PKPbc	**PKPbc**	**06 08 43.6**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=141,slow=2.1,SNR=18						
SONM	**Songino Array**	**150.67**	**86**	PKPbc	**PKPbc**	**06 08 46.0**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=214,slow=3.4,SNR=6.0						
TOLK	**Toolik Lake Re**	**151.44**	**320**	PKPbc	**PKPbc**	**06 08 47.6**	**-0.1**
TOLK				PKPab	**PKPab**	**06 08 58.5**	**+2.3**
BPAW	**Bear Paw Mtn.**	**151.54**	**310**		**PKPdf**	**06 08 40.8**	**-1.0**
BPAW				PKPbc	**PKiKP**	**06 08 48.3**	**-0.1**
BPAW				PKPab	**PKPab**	**06 08 58.2**	**+1.5**

*KRAR **23** 05:51:29.7±0.1, 54.23N×86.55E, M1.8, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

IDC 23 05:51:27.6±3.0, 54.31N×87.42E, h0km, mb1 3.0/2, mb1mx2.9/60, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=24.9km s-min=16.7km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**258**	*i*		05 59 17.0	
	baz=74,slow=345,SNR=4.9						
ZALV	**Zalesovo Beam**	**1.57**	**258**	Pg	Pn	05 51 55.0	-1.7
	1.2nm,0.3s,baz=75,slow=15,SNR=13						
ZALV				Lg	Lg	05 52 17.8	
	1.2nm,0.3s,baz=74,slow=28,SNR=9.1						
KURBB	**Kurchatov Arra**	**6.57**	**239**	Pn	Pn	05 53 06.2	+0.9
	0.1nm,0.3s,baz=52,slow=14,SNR=4.8						
KURBB				Lg	Lg	05 54 57.9	
	0.1nm,0.3s,baz=59,slow=33,SNR=4.4						
MKAR	**Makanchi Array**	**8.20**	**205**	Pn	Pn	05 53 29.2	+1.4
	0.1nm,0.3s,baz=24,slow=15,SNR=8.9						
MKAR				Sn	Sn	05 54 58.9	-2.3
	0.1nm,0.3s,baz=28,slow=26,SNR=3.8						
MKAR				Lg	Lg	05 55 49.0	
	0.1nm,0.3s,baz=25,slow=21,SNR=2.9						

*IDC **23** 05:57:35.3±1.1, 12.05N×140.69E, h0km, mb3.8/12, mb1 3.9/12, mb1mx3.8/45, mbtmp3.8/12, MS3.1/2, Ms1 3.2/2, ms1mx2.8/32, Error ellipse: s-maj=44.4km s-min=16.7km az=81.0*

*ISCJB **23** 05:57:37.9±0.5, 12.00N±0.07×140.6E±0.1, h30km, mb3.8/12, MS2.8/1, Error ellipse: s-maj=17.5km s-min=9.4km az=0.5*

*NEIC **23** 05:57:41.1±1.1, 12.0N±0.1×140.6E±0.2, h38km±9km, mb4.4/8*

ISC 23 05:57:40.0±0.7, 12.0N±0.1×140.6E±0.1, h30km, n22, σ0°76/21, mb4.0/16, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANA2	**Anatahan**	**6.58**	**48**	Pn	**Pn**	**05 59 15.1**	**+0.3**
JAY	**Jayapura**	**14.42**	**180**	LR	LR	06 05 51.3	
	comp=Z,183nm,22.0s,baz=104,slow=34						
WR0	**Warramunga Arr**	**32.31**	**191**	P	**P**	**06 04 06.3**	**-0.2**
WR0				IAmb	IAmb	06 04 07.8	
	comp=Z,4.8nm,1.2s						
WRAB	**Tennant Creek**	**32.32**	**191**	P	**P**	**06 04 05.0**	**-1.7**
WRA	**Warramunga Arr**	**32.33**	**191**	P	**P**	**06 04 06.7**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=2.2,slow=9.5,SNR=9.1						
ASAR	**Alice Springs**	**36.05**	**190**	P	**P**	**06 04 39.9**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=19,slow=12,SNR=18						
KLR	**Kul'dur**	**37.83**	**351**	P	**P**	**06 04 54.4**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=140,slow=7.9,SNR=4.0						
CMAR	**Chiang Mai Arr**	**40.62**	**284**	P	**P**	**06 05 18.1**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=88,slow=6.7,SNR=6.0						
CMAR				LR	LR	06 21 24.2	
	comp=Z,12nm,19.8s,baz=10,slow=35						
STKA	**Stephens Creek**	**43.64**	**179**	P	**P**	**06 05 41.8**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=5.4,slow=10,SNR=2.9						
STKA	**Stephens Creek**	**43.64**	**179**	P	**P**	**06 05 42.1**	**+0.2**
FORT	**Forrest**	**44.21**	**196**	P	**P**	**06 05 47.2**	**+0.7**
FORT				IAmb	IAmb	06 05 48.3	
	comp=Z,22nm,1.3s						
BBOO	**Buckleboo**	**44.77**	**185**	P	**P**	**06 05 51.5**	**+0.5**
SONM	**Songino Array**	**45.74**	**328**	P	**P**	**06 05 59.5**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=120,slow=12,SNR=2.7						
MKAR	**Makanchi Array**	**59.77**	**317**	P	**P**	**06 07 42.4**	**+0.1**
	comp=Z,1.4nm,1.0s,baz=97,slow=8.7,SNR=5.4						
ZALV	**Zalesovo Beam**	**60.53**	**326**	P	**P**	**06 07 47.1**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=118,slow=2.1,SNR=2.8						
KURK	**Kurchatov**	**63.14**	**321**	P	**P**	**06 08 04.7**	**-0.2**
KURK				IAmb	IAmb	06 08 05.6	
	comp=Z,3.1nm,0.8s						
KURBB	**Kurchatov Arra**	**63.17**	**321**	P	**P**	**06 08 04.8**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=102,slow=7.0,SNR=17						
BVAR	**Borovoye Array**	**68.60**	**322**	P	**P**	**06 08 40.3**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=89,slow=10,SNR=11						
BRVK	**Borovoye**	**68.67**	**322**	P	**P**	**06 08 40.2**	**-0.3**
ABKAR	**Akbulak array**	**74.91**	**318**	P	**P**	**06 09 17.2**	**-0.9**
ABKAR				IAmb	IAmb	06 09 17.8	
	comp=Z,4.6nm,1.4s						
YKA	**Yellowknife Ar**	**86.17**	**27**	P	**P**	**06 10 18.1**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=294,slow=5.5,SNR=3.5						
FINES	**FINESS Array B**	**90.79**	**334**	P	**P**	**06 10 38.3**	**-1.8**
	comp=Z,1.7nm,0.6s,baz=86,slow=7.8,SNR=6.5						

*ISCJB **23** 06:03:07.2±0.2, 15.37S±0.03×72.80W±0.04, h102km, mb4.1/13, Error ellipse: s-maj=6.8km s-min=2.7km az=142.0*

*ARE **23** 06:03:07.3±2.5, 15.39S±0.07×72.91W±0.07, h44km±5km*

*NEIC **23** 06:03:09.4±2.2, 15.34S±0.07×72.76W±0.07, h105km±5km, mb4.7/85, ML4.2(ARE)*

*IDC **23** 06:03:10.5±0.7, 15.32S×72.78W, h111km±5km, mb3.9/14, mb1 4.0/17, mb1mx3.9/36, mbtmp4.2/17, MS2.6/2, Ms1 2.6/2, ms1mx2.5/26, Error ellipse: s-maj=20.3km s-min=12.0km az=58.0*

*VAO **23** 06:03:20.0±1.1, 15.09S×72.00W, h146km±8km, mb4.3*

ISC 23 06:03:08.6±0.3, 15.49S±0.05×72.95W±0.05, h102km, n188, σ1°71/208, mb4.6/47, 6C-1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.80**	**139**	*eP*	**Pn**	**06 04 03.5**	**-1.7**
AP01

PB04	**IPOC Station P**	**7.31**	**159**			**Pn**		06 04 51.0	-1.9
PB04					Sn	**Sn**		06 06 09.8	-4.6
LVC	**Limon Verde**	**8.05**	**152**		P	**Pn**		06 05 02.7	-0.5
	comp=E,2.9nm,0.3s,baz=14,slow=7.9,SNR=39								
LVC					S	**Sn**		06 06 29.2	-3.5
	comp=E,3.9nm,0.3s,baz=260,slow=21,SNR=10								
LVC					LR	LR		06 08 27.7	
	comp=E,29nm,21.2s,baz=342,slow=39								
LVC	**Limon Verde**	**8.05**	**152**			**Pn**		06 05 02.5	-0.6
LVC					Sn	**Sn**		06 06 30.9	-1.9
PB10	**IPOC Station P**	**8.30**	**165**		Pn	**Pn**		06 05 03.9	-2.3
PB10					Sn	**Sn**		06 06 32.8	-5.4
GO02	**Mina Guanaco**	**10.13**	**162**		Pn	**Pn**		06 05 31.3	0.0
GO02					Sn	**Sn**		06 07 20.1	-3.1
SIV	**San Ignacio**	**11.45**	**94**		P	**Pn**		06 05 45.2	-3.8
	comp=E,1.7nm,0.3s,baz=275,slow=12,SNR=21								
SIV					S	**Sn**		06 07 48.0	-6.9
	comp=E,0.2nm,0.3s,baz=225,slow=23,SNR=3.3								
SAML	**Samuel**	**11.54**	**57**			Pn		06 05 44.9	-5.4
OTAV	**Otavalo**	**16.54**	**340**	*eP*		P		06 07 03.2	+7.4
OTAV	**Otavalo**	**16.54**	**340**	*eP*		P		06 07 03.2	+7.4
CFA	**Coronel Fontan**	**16.61**	**166**		P	**P**		06 06 57.1	+1.0
	comp=E,0.5nm,0.3s,baz=338,slow=13,SNR=16								
SALV	**Santo Antonio**	**16.62**	**94**	*eP*		**Pn**		06 06 53.6	-2.0
SALV	**Santo Antonio**	**16.62**	**94**	*eP*		**Pn**		06 06 53.6	-2.0
CLDB	**Colider**	**17.32**	**77**	*eP*		**P**		06 07 00.5	-3.5
CLDB	**Colider**	**17.32**	**77**	*eP*		**P**		06 07 00.5	-3.5
PP1B	**Ponte de Pedra**	**17.45**	**99**	*eP*		**P**		06 07 03.5	-2.0
PP1B	**Ponte de Pedra**	**17.45**	**99**	*eP*		**P**		06 07 03.5	-2.0
ROC1	**El Roble**	**17.50**	**175**		P	**Pn**		06 07 07.2	+0.8
CPUP	**Villa Florida**	**18.13**	**129**		P	**P**		06 07 12.8	0.0
	comp=E,0.1nm,0.3s,baz=321,slow=13,SNR=3.6								
CPUP	**Villa Florida**	**18.13**	**129**	*eP*		**Pn**		06 07 17.0	+3.2
CPUP	**Villa Florida**	**18.13**	**129**	*eP*		**Pn**		06 07 17.0	+3.2
CPUP	**Villa Florida**	**18.13**	**129**		P	**P**		06 07 12.2	-0.6
GO05	**Huala**	**19.46**	**177**		P	**P**		06 07 27.9	+0.6
C2SB	**Chapadao do Su**	**19.49**	**103**	*eP*		**Pn**		06 07 28.9	-1.2
C2SB	**Chapadao do Su**	**19.49**	**103**	*eP*		**Pn**		06 07 28.9	-1.2
ROSC	**El Rosal**	**20.24**	**356**		P	**P**		06 07 35.7	-0.6
	comp=E,2.3nm,0.4s,baz=120,slow=20,SNR=1.8								
ARAG	**Araguaiana, MT**	**20.36**	**93**	*eP*		**P**		06 07 36.6	-0.6
ARAG	**Araguaiana, MT**	**20.36**	**93**	*eP*		**P**		06 07 36.6	-0.6
TRCB	**Terra Rica**	**20.51**	**114**	*eP*		**P**		06 07 38.4	-0.4
TRCB	**Terra Rica**	**20.51**	**114**	*eP*		**P**		06 07 38.4	-0.4
ITQB	**Itaqui**	**20.62**	**136**	*eP*		Pn		06 07 43.2	+0.2
ITQB	**Itaqui**	**20.62**	**136**	*eP*		Pn		06 07 43.2	+0.2
PTGB	**Pitanga**	**21.63**	**118**	*eP*		**P**		06 07 51.9	+1.0
PTGB	**Pitanga**	**21.63**	**118**	*eP*		**P**		06 07 51.9	+1.0
ITRB	**Iturama**	**21.93**	**104**	*eP*		**P**		06 07 53.8	-0.2
ITRB	**Iturama**	**21.93**	**104**	*eP*		**P**		06 07 53.8	-0.2
FRTB	**Fartura**	**23.38**	**113**	*eP*		**P**		06 08 08.0	-0.4
FRTB	**Fartura**	**23.38**	**113**	*eP*		**P**		06 08 08.0	-0.4
IPMB	**Ipameri, GO**	**23.82**	**99**	*eP*		**P**		06 08 11.6	-0.9
IPMB	**Ipameri, GO**	**23.82**	**99**	*eP*		**P**		06 08 11.6	-0.9
BB19B	**Bebedouro**	**23.83**	**107**	*eP*		**P**		06 08 13.3	+0.7
BB19B	**Bebedouro**	**23.83**	**107**	*eP*		**P**		06 08 13.3	+0.7
PLTB	**Pedras Altas**	**23.95**	**136**	*eP*		**P**		06 08 18.1	+4.7
PLTB	**Pedras Altas**	**23.95**	**136**	*eP*		**P**		06 08 18.1	+4.7
BDFB	**Brasilia**	**24.02**	**94**		P	**P**		06 08 14.2	-0.2
	comp=E,4.5nm,0.7s,baz=265,slow=13,SNR=8.5								
BDFB	**Brasilia**	**24.02**	**94**		P	**P**		06 08 12.3	-2.1
GO06	**Curarrehue**	**24.04**	**177**		P	**P**		06 08 16.3	+1.9
SDV	**Santo Domingo**	**24.32**	**6**		P	**P**		06 08 16.4	-0.7
	comp=E,3.6nm,0.8s,baz=157,slow=14,SNR=3.5								
SDV	**Santo Domingo**	**24.32**	**6**	*eP*		**P**		06 08 19.6	+2.4
SDV	**Santo Domingo**	**24.32**	**6**	*eP*		**P**		06 08 19.6	+2.4
SDV	**Santo Domingo**	**24.32**	**6**		P	**P**		06 08 15.8	-1.3
SDV					IAmb	IAmb		06 08 22.2	
	comp=Z,32nm,1.9s								
TRQA	**Tornquist**	**24.48**	**159**		P	**P**		06 08 19.1	+0.9
TRQA					IAmb	IAmb		06 08 19.9	
	comp=Z,34nm,1.9s								
CNLB	**Canela**	**24.57**	**128**	*eP*		**P**		06 08 22.4	+3.2
CNLB	**Canela**	**24.57**	**128**	*eP*		**P**		06 08 22.4	+3.2
RCLB	**Rio Claro- Sao**	**24.99**	**110**	*eP*		**P**		06 08 23.5	+0.5
RCLB	**Rio Claro- Sao**	**24.99**	**110**	*eP*		**P**		06 08 23.5	+0.5
PLCA	**Paso Flores**	**25.24**	**176**		P	**P**		06 08 27.6	+2.4
	comp=Z,5.9nm,0.9s,baz=0.7,slow=11,SNR=5.5								
PLCA	**Paso Flores**	**25.24**	**176**		P	**P**		06 08 26.9	+1.7
SPB	**Sao Paulo**	**25.33**	**113**	*eP*		**P**		06 08 28.4	+2.3
SPB	**Sao Paulo**	**25.33**	**113**	*eP*		**P**		06 08 28.4	+2.3
PMNB	**Patos De Minas**	**25.52**	**101**	*eP*		**P**		06 08 27.8	-0.2
PMNB	**Patos De Minas**	**25.52**	**101**	*eP*		**P**		06 08 27.8	-0.2
VAO	**Valinhos**	**25.62**	**111**	*eP*		**P**		06 08 29.1	+0.3
VAO	**Valinhos**	**25.62**	**111**	*eP*		**P**		06 08 29.1	+0.3
USHA	**Ushuaia**	**39.42**	**176**		P	**P**		06 10 30.7	+2.3
	comp=Z,5.0nm,0.8s,baz=7.1,slow=9.6,SNR=2.8								
PMSA	**Palmer Station**	**49.61**	**175**		P	**P**		06 11 51.0	+1.7
	comp=Z,16nm,0.9s,baz=321,slow=13,SNR=3.0								
Z50A	**Ashland**	**50.02**	**346**		P	**P**		06 11 52.2	-0.6
Y49A	**Blount Mountai**	**50.72**	**346**		P	**P**		06 11 57.7	-0.3
W50A	**Signal Mountai**	**51.75**	**347**		P	**P**		06 12 04.7	-1.1
W50A					IAmb	IAmb		06 13 53.6	
	comp=Z,26nm,1.6s								
SWET	**Sewanee**	**51.91**	**346**		P	**P**		06 12 06.3	-0.5
SWET					IAmb	IAmb		06 12 46.5	
	comp=Z,43nm,1.9s								
V52A	**Sevierville**	**52.03**	**349**		P	**P**		06 12 07.5	-0.3
T59A	**Double "B" Far**	**52.35**	**355**		P	**P**		06 12 10.4	+0.3
T52A	**Hallie**	**53.16**	**350**		P	**P**		06 12 15.3	-0.7
MIAR	**Mount Ida**	**53.48**	**339**		P	**P**		06 12 18.2	-0.2
MIAR					IAmb	IAmb		06 13 46.4	
	comp=Z,25nm,1.8s								
TXAR	**Lajitas Array**	**53.53**	**326**		P	**P**		06 12 19.3	+0.3
	comp=Z,0.6nm,0.7s,baz=153,slow=9.0,SNR=14								
TXAR					pP	**pP**		06 12 46.1	+1.4
	comp=Z,0.1nm,0.5s,baz=150,slow=9.1,SNR=1.9								
TX31	**Lajitas Ar. Si**	**53.53**	**326**		P	**P**		06 12 20.0	+0.9
TX32	**Lajitas Array**	**53.53**	**326**		P	**P**		06 12 19.4	+0.3
TX32					IAmb	IAmb		06 12 42.3	
	comp=Z,10.0nm,1.9s								
T49A	**Edmonton**	**53.63**	**348**		P	**P**		06 12 18.8	-0.7
T49A					IAmb	IAmb		06 12 19.6	
	comp=Z,8.1nm,0.8s								
ABTX	**Abilene, Hawle**	**54.23**	**332**		P	**P**		06 12 24.1	+0.1
ABTX					IAmb	IAmb		06 12 25.3	
	comp=Z,11nm,0.7s								
PBMO	**Poplar Bluff**	**54.54**	**343**		P	**P**		06 12 25.1	-1.0
PBMO					IAmb	IAmb		06 14 05.9	
	comp=Z,35nm,2.0s								
Q56A	**Snyder Ridge,**	**54.55**	**354**		P	**P**		06 12 27.0	+0.8
S44A	**Carbondale**	**55.07**	**344**		P	**P**		06 12 29.6	-0.3
S44A					IAmb	IAmb		06 12 48.7	
	comp=Z,17nm,1.0s								
SIUC	**Southern Illin**	**55.08**	**344**		P	**P**		06 12 29.6	-0.4
SIUC					IAmb	IAmb		06 13 35.7	
	comp=Z,14nm,0.9s								
X34A	**Smith Ranch, M**	**55.14**	**335**		P	**P**		06 12 31.0	+0.5
X34A					IAmb	IAmb		06 12 31.9	
	comp=Z,12nm,0.7s								
HHAR	**Hobbs**	**55.18**	**339**		P	**P**		06 12 29.0	-1.8
HHAR					IAmb	IAmb		06 12 36.8	
	comp=Z,26nm,1.8s								
TUL1	**Leonard**	**55.50**	**338**		P	**P**		06 12 31.8	-1.3
TUL1					IAmb	IAmb		06 12 33.9	
	comp=Z,12nm,1.0s								
FNO	**Franklin**	**55.54**	**336**		P	**P**		06 12 34.1	+0.7
WMOK	**Wichita Mounta**	**55.65**	**334**		P	**P**		06 12 33.8	-0.4
WMOK					IAmb	IAmb		06 13 06.3	
	comp=Z,19nm,1.9s								
SSPA	**Standing Stone**	**56.02**	**355**		P	**P**		06 12 35.6	-1.1
MNTX	**Cornudas Mount**	**56.30**	**327**		P	**P**		06 12 37.8	-1.1
MNTX					IAmb	IAmb		06 14 26.2	
	comp=Z,13nm,2.0s								
M57A	**Sunshine Farm,**	**56.66**	**356**		P	**P**		06 12 41.6	+0.4
MSTX	**Muleshoe**	**56.80**	**330**		P	**P**		06 12 42.7	+0.2
MSTX					IAmb	IAmb		06 12 44.0	
	comp=Z,7.6nm,1.1s								
M56A	**Emporium**	**56.89**	**355**		P	**P**		06 12 42.8	0.0
P43A	**Skaggs, Pawnee**	**56.98**	**345**		P	**P**		06 12 42.7	-0.8
N49A	**Columbus Grove**	**57.08**	**350**		P	**P**		06 12 43.1	-1.1
LCCO2	**Lakeland CC 2,**	**57.36**	**353**		P	**P**		06 12 46.3	+0.1
L56A	**Greenwood**	**57.49**	**356**		P	**P**		06 12 47.5	+0.4
WVNY	**West Valley, N**	**57.84**	**355**		P	**P**		06 12 49.5	0.0
MMNY	**Mt. Morris Dam**	**58.11**	**356**		P	**P**		06 12 51.4	+0.1
ANMO	**Albuquerque**	**59.39**	**328**		P	**P**		06 13 01.3	+0.6
T25A	**Trinidad**	**60.15**	**331**		P	**P**		06 13 06.8	+0.9
T25A					IAmb	IAmb		06 13 07.5	
	comp=Z,4.7nm,0.9s								
SDCO	**Great Sand Dun**	**61.15**	**331**		P	**P**		06 13 13.5	+0.8
SDCO					IAmb	IAmb		06 13 14.5	
	comp=Z,6.1nm,0.8s								
BGNE	**Belgrade**	**61.22**	**339**		P	**P**		06 13 12.9	+0.1
X16A	**Lo Mia Camp, P**	**61.67**	**324**		P	**P**		06 13 16.0	-0.2
X16A					IAmb	IAmb		06 13 19.1	
	comp=Z,7.0nm,1.2s								
Y14A	**Wickenburg**	**62.22**	**323**		P	**P**		06 13 21.1	+1.4
D53A	**Lac Vacive, Po**	**62.42**	**356**		P	**P**		06 13 20.2	-0.5
WUAZ	**Wupatki**	**62.44**	**325**		P	**P**		06 13 22.8	+1.6
WUAZ					IAmb	IAmb		06 13 23.8	
	comp=Z,6.9nm,1.0s								
BATG	**Bathurst New B**	**62.78**	**5**		P	**P**		06 13 22.9	-0.1
ECSD	**EROS Data Cent**	**62.78**	**341**		P	**P**		06 13 23.3	+0.1
ECSD					IAmb	IAmb		06 14 37.0	
	comp=Z,30nm,1.9s								
U15A	**North Rim**	**63.61**	**325**		P	**P**		06 13 30.8	+1.6
KNB	**Kanab**	**64.33**	**325**		P	**P**		06 13 35.7	+2.0
O20A	**White River Ci**	**64.34**	**331**		P	**P**		06 13 34.7	+0.9
O20A					IAmb	IAmb		06 13 38.6	
	comp=Z,16nm,1.6s								
LCMT	**Little Creek M**	**64.56**	**325**		P	**P**		06 13 36.9	+1.7
SRU	**San Rafael Swe**	**64.67**	**328**		P	**P**		06 13 37.2	+1.3
MTPU	**Mount Pierson**	**64.73**	**326**		P	**P**		06 13 38.1	+1.5
SZCU	**Shurtz Canyon**	**64.89**	**326**		P	**P**		06 13 39.4	+1.9
CCUT	**Cedar City**	**65.01**	**325**		P	**P**		06 13 40.5	+2.3
P17A	**Butcher Ranch,**	**65.06**	**328**		P	**P**		06 13 39.4	+1.0
MSU	**Marysvale**	**65.08**	**327**		P	**P**		06 13 40.5	+1.8
TMUT	**Trail Mountain**	**65.16**	**328**		P	**P**		06 13 40.4	+1.1
SHPR	**Sheep Range**	**65.28**	**323**		P	**P**		06 13 41.6	+1.8
RDMU	**Red Mountain**	**65.32**	**330**		P	**P**		06 13 40.4	+0.3
PSUT	**Pine Spring**	**65.99**	**326**		P	**P**		06 13 46.0	+1.5
TPNV	**Topopah Spring**	**66.21**	**323**		P	**P**		06 13 47.7	+1.8
TPNV					IAmb	IAmb		06 15 01.8	
	comp=Z,20nm,2.0s								
JLU	**Jordanelle**	**66.27**	**329**		P	**P**		06 13 47.3	+1.1
DUG	**Dugway, Tooele**	**66.65**	**328**		P	**P**		06 13 49.9	+1.3
DUG					IAmb	IAmb		06 13 51.1	
	comp=Z,7.5nm,1.1s								
AGMN	**Agassiz Nation**	**66.70**	**344**		P	**P**		06 13 48.2	-0.3
AGMN					IAmb	IAmb		06 13 48.4	
	comp=Z,40nm,1.9s								
R11A	**Troy Canyon, C**	**66.81**	**325**		P	**P**		06 13 51.4	+1.7
PDAR	**Pinedale Array**	**67.02**	**332**		P	**P**		06 13 51.3	+0.3
	comp=Z,0.6nm,0.6s,baz=122,slow=5.6,SNR=7.1								
HWUT	**Hardware Ranch**	**67.08**	**329**		P	**P**		06 13 51.6	+0.3
VNA1	**Neumayer--Stat**	**67.20**	**161**		P	**P**		06 13 53.4	+2.0
VNA2	**Neumayer--Watz**	**67.56**	**161**		P	**P**		06 13 55.3	+1.6
	baz=270,slow=5.9								
REDW	**Red Top Meadow**	**68.08**	**331**		P	**P**		06 13 58.6	+1.0
REDW					IAmb	IAmb		06 15 05.6	
	comp=Z,17nm,1.9s								
NVAR	**Mina Array Bea**	**68.41**	**323**		P	**P**		06 14 01.2	+1.4
	comp=Z,0.9nm,0.8s,baz=145,slow=6.6,SNR=7.6								
ULM	**Lac du Bonnet**	**68.49**	**344**		P	**P**		06 13 59.0	-0.7
	comp=Z,4.3nm,0.5s,baz=150,slow=5.8,SNR=11								
ULM	**Lac du Bonnet**	**68.49**	**344**		P	**P**		06 13 58.9	-0.9
ULM					IAmb	IAmb		06 14 55.8	
	comp=Z,34nm,1.9s								
FLWY	**Flagg Ranch**	**68.56**	**332**		P	**P**		06 14 01.9	+1.2
FLWY					IAmb	IAmb		06 14 02.7	
	comp=Z,6.8nm,0.9s								
YNE	**Yellowstone No**	**68.97**	**333**		P	**P**		06 14 04.3	+1.2
SNAA	**Sanae**	**69.18**	**161**		P	**P**		06 14 05.2	+1.4
SNAA	**Sanae**	**69.18**	**161**		P	**P**		06 14 05.3	+1.4
SNAA					IAmb	IAmb		06 14 05.8	
	comp=Z,7.7nm,0.6s								
YHH	**Holmes Hill**	**69.18**	**332**		P	**P**		06 14 04.3	-0.2
GCMT	**Greycliff**	**69.44**	**333**		P	**P**		06 14 06.6	+0.7
PAHR	**Pah Rah Range**	**69.89**	**323**		P	**P**		06 14 10.9	+2.0
MFID	**Camas Ranch**	**70.54**	**328**		P	**P**		06 14 11.0	-1.6
MFID					IAmb	IAmb		06 14 15.2	
	comp=Z,7.5nm,1.1s								
DBIC	**Dimbokro**	**70.93**	**77**		P	**P**		06 14 16.8	+1.3
	comp=Z,2.0nm,0.6s,baz=252,slow=8.9,SNR=5.7								
DBIC	**Dimbokro**	**70.93**	**77**		P	**P**		06 14 14.0	-1.4
DBIC					IAmb	IAmb		06 16 30.1	
	comp=Z,15nm,1.4s								
ORV	**Oroville**	**71.03**	**322**		P	**P**		06 14 15.9	+0.4
WDC	**Whiskeytown Da**	**72.30**	**322**		P	**P**		06 14 23.1	0.0
WDC					IAmb	IAmb		06 15 23.1	
	comp=Z,21nm,1.9s								
BMO	**Blue Mountains**	**72.31**	**329**		P	**P**		06 14 22.4	-0.9
JTMT	**Jette**	**72.97**	**332**		P	**P**		06 14 27.4	+0.2
QSPA	**South Pole Qui**	**74.67**	**180**		P	**P**		06 14 39.0	+2.1
QSPA					IAmb	IAmb		06 16 39.0	
	comp=Z,17nm,1.8s								
FCC	**Fort Churchill**	**75.98**	**349**		P	**P**		06 14 44.0	-0.1
FCC					IAmb	IAmb		06 15 26.8	
	comp=Z,25nm,1.9s								
TOA0	**Torodi Ar. Sit**	**79.12**	**73**		P	**P**		06 15 00.9	-1.6
TOA0					IAmb	IAmb		06 15 02.0	
	comp=Z,6.7nm,0.8s								
TOA0					PcP	**PcP**		06 15 09.5	-1.1
TORD	**Torodi Ar. Bea**	**79.12**	**73**		P	**P**		06 15 01.3	-1.3
	comp=Z,5.4nm,0.7s,baz=256,slow=5.1,SNR=26								
SYO	**Syowa Base**	**83.44**	**160**	*eP*		sP		06 16 02.2	-1.4
YKA	**Yellowknife Ar**	**84.29**	**342**		P	**P**		06 15 28.4	-0.3
	comp=Z,2.3nm,0.7s,baz=135,slow=5.1,SNR=55								
YKA					pP	**pP**		06 15 57.6	+0.8
	comp=Z,1.3nm,0.9s,baz=137,slow=5.1,SNR=5.4								
YKA					sP	**sP**		06 16 08.9	+0.6
	comp=Z,0.4nm,0.7s,baz=138,slow=5.2,SNR=1.6								
YKW3	**Yellowknife Ar**	**84.35**	**342**		P	**P**		06 15 29.4	+0.4
YKW3					IAmb	IAmb		06 16 22.6	
	comp=Z,12nm,1.7s								
ILAR	**Eielson Array**	**97.20**	**335**		P	**P**		06 16 29.2	-0.1
	comp=Z,0.3nm,0.7s,baz=110,slow=2.8,SNR=4.8								
ABKAR	**Akbulak array**	**129.08**	**38**		PKPdf	**PKiKP**		06 22 05.5	+0.1
ASAR	**Alice Springs**	**133.06**	**215**		PKP	**PKiKP**		06 22 13.7	-0.6
	comp=Z,0.4nm,0.7s,baz=129,slow=2.1,SNR=6.6								
WRA	**Warramunga Arr**	**135.74**	**218**		PKP	**PKPdf**		06 22 18.8	+0.7
	comp=Z,1.6nm,0.8s,baz=146,slow=1.5,SNR=9.1								
ZAA0	**Zalesovo Array**	**137.86**	**19**		PKPdf	**PKiKP**		06 22 22.9	-0.1
ZALV	**Zalesovo Beam**	**137.86**	**19**		PKP	**PKiKP**		06 22 22.1	-0.9
	comp=Z,1.4nm,0.7s,baz=318,slow=2.0,SNR=7.7								
KURBB	**Kurchatov Arra**	**138.09**	**27**		PKP	**PKiKP**		06 22 22.8	-0.7
	comp=Z,0.5nm,0.6s,baz=313,slow=2.1,SNR=4.5								
MKAR	**Makanchi Array**	**142.59**	**28**		PKiKP	**PKPdf**		06 22 27.0	-2.8
	comp=Z,0.4nm,0.7s,baz=343,slow=1.3,SNR=4.2								
KSH	**Kashi**	**143.79**	**43**		PKP	**PKPdf**		06 22 32.8	+0.5
KSH					sPKP			06 23 10.9	
KSH					PKS	**PKSdf**		06 26 07.3	-0.8
USRK	**Ussuriysk Ar.**	**144.41**	**329**		PKP	**PKPab**		06 22 31.4	0.0
	comp=Z,1.3nm,0.6s,baz=60,slow=6.8,SNR=5.3								
MJAR	**Matsushiro Arr**	**145.26**	**313**		PKPbc	**PKPab**		06 22 35.2	+0.3
	comp=Z,4.8nm,0.9s,baz=72,slow=4.6,SNR=8.3								
MAT	**Matsushiro**	**145.26**	**313**		PKP	**PKPbc**		06 22 34.7	0.0
SONM	**Songino Array**	**147.74**	**1**		PKPbc	**PKPbc**		06 22 42.2	+0.5
	comp=Z,2.4nm,0.8s,baz=337,slow=2.1,SNR=14								
SONM					pPKPbc	**pPKPab**		06 23 12.3	-0.4
	comp=Z,0.7nm,0.7s,baz=352,slow=2.0,SNR=2.9								
KSRS	**Korea Array**	**151.35**	**324**		PKPbc	**PKiKP**		06 22 51.7	+0.5
	comp=Z,3.7nm,0.7s,baz=355,slow=1.4,SNR=11								
LZH	**Lanzhou**	**159.28**	**7**	*e*	PKP	**PKPdf**		06 22 54.0	-1.6
LZH					pPKP	pPKPdf		06 23 21.0	-4.1
LZH					sPKP			06 23 31.5	
LZH					PKP	**PKPab**		06 23 34.3	+1.1
LZH					LR	LR			
	comp=N,52nm,18.2s								
LZH					LR	LR			
	comp=E,57nm,18.1s								
LZH					LR	LR			
	comp=Z,73nm,20.3s								
CD2	**Chengdu**	**164.35**	**11**		PKP	**PKPdf**		06 22 59.6	-1.2

*THR **23** 06:11:07.9,30.00N×57.55E,h14km,ML3.2*
*TEH **23** 06:11:07.8,29.97N×57.64E,h10km,ML3.7*
ISC 23 06:11:08.5±0.9,29.93N±0.05×57.51E±0.04,h11km±8km,
n30,σ0.86/28,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CHMN	**Cheshme madani**	**0.07**	**158**	*e*Pg	**Pg**	**06 11 11.2**		**0.0**
CHMN				*e*Sg	**Sg**	**06 11 13.5**		**+0.4**
KRBR	**Kerman**	**0.65**	**275**	*e*Pg	**Pg**	**06 11 21.2**		**0.0**
KRBR	**Kerman**	**0.65**	**275**	*e*Pg	**Pg**	**06 11 21.2**		**0.0**
TVBK	**TV Kerman**	**0.65**	**275**	*e*Pg	**Pb**	**06 11 22.8**		**+0.7**
NGRK	**Negar Kerman**	**0.73**	**247**	*e*Pg	**Pn**	**06 11 24.8**		**-0.4**
KHGB	**Koh Gabri**	**1.00**	**297**	*e*Pg	**Pg**	**06 11 27.8**		**+0.1**
KHGB				IAMB	IAmb	06 11 48.6		
	comp=Z,0.0nm,0.3s							
KHNJ	**Kahnooj**	**1.98**	**175**	*e*Pn	**Pb**	**06 11 43.4**		**-1.3**
IBAF	**Bafgh**	**2.35**	**315**	*e*Pn	**Pb**	**06 11 49.9**		**-1.1**
IBAF				IAMB	IAmb	06 12 29.0		
	comp=Z,3μm,0.3s							
BSRN	**Basiran**	**2.46**	**34**	*e*AML	AML	06 12 23.9		
BSRN				*e*Pn	**Pn**	**06 11 48.2**		**-0.5**
BSRN	**Basiran**	**2.46**	**34**	*e*AML	AML	06 12 23.9		
	comp=N,101nm,0.3s							
NHDN	**Nehbandan**	**2.63**	**56**	*e*Pn	**Pn**	**06 11 50.2**		**-0.9**
NHDN				IAMB	IAmb	06 12 28.9		
	comp=Z,0.0nm,0.3s							
IKOO	**Kooshah**	**2.80**	**27**	*e*Pn	**Pn**	**06 11 52.7**		**-0.8**
IKOO				IAMB	IAmb	06 12 41.1		
	comp=Z,3μm,0.3s							
ZHSF	**Zahedan**	**2.86**	**96**	*e*Pn	**Pn**	**06 11 55.1**		**+0.8**
ZHSF	**Zahedan**	**2.86**	**96**	*e*Pn	**Pn**	**06 11 55.1**		**+0.8**
ZHSF	**Zahedan**	**2.86**	**96**	*e*Sg	**Sb**	**06 12 36.1**		**+1.3**
IMEH	**Mehriz**	**2.89**	**301**	*e*Pn	**Pb**	**06 11 58.3**		**-1.9**
ITEG	**Tejag**	**3.14**	**19**	*e*Pn	**Pn**	**06 11 57.5**		**-0.7**
ITEG				IAMB	IAmb	06 12 05.9		
	comp=Z,2μm,0.3s							
TPRV	**Parvadeh(Tabas**	**3.17**	**347**	*e*Pn	**Pn**	**06 11 59.4**		**+1.0**
TPRV				IAMB	IAmb	06 12 55.0		
	comp=Z,0.0nm,0.5s							
IDAH	**Dahanechah**	**3.45**	**35**	*e*Pn	**Pn**	**06 12 02.6**		**+0.1**
IDAH				IAMB	IAmb	06 13 02.1		
	comp=N,2μm,0.4s							
YZKH	**Yazd**	**3.50**	**315**	*e*AML	AML	06 13 09.1		
	comp=N,43nm,0.4s							
YZKH	**Yazd**	**3.50**	**315**	*e*AML	AML	06 13 09.8		
	comp=E,45nm,0.4s							
TKDS	**Koohdasht(Taba**	**3.69**	**355**	*e*Pn	**Pn**	**06 12 06.5**		**+0.9**
TKDS				IAMB	IAmb	06 13 12.4		
	comp=Z,0.0nm,0.6s							
AFRZ	**Afriz**	**3.71**	**20**

EMIN S Sn 06 14 05.0 -2.8
81nm,0.3s,SNR=19
TLOR Lorca, Murcia 2.85 46 P Pn 06 13 34.9 +1.6
293nm,0.3s,SNR=7.9
TLOR S Sn 06 14 06.8 -1.4
1µm,0.4s,SNR=7.9
MD31 MD31 2.85 188 P Pb 06 13 36.3 -2.2
MD31 S Sb 06 14 11.4 -2.4
MDT Midelt 2.89 186 Pn Pn 06 13 36.0 +2.0
11nm,0.3s,baz=5.1,slow=17,SNR=447
MDT Sn Sn 06 14 10.2 +0.8
96nm,0.3s,baz=324,slow=17,SNR=22
MDT Lg Lg 06 14 20.9
29nm,0.3s,baz=311,slow=20,SNR=9.8
MDT LR LR 06 15 01.2
comp=Z,178nm,21.7s,baz=64,slow=46
MDT Midelt 2.89 186 P Pb 06 13 36.4 -2.7
MDT S Sn 06 14 10.9 +1.6
EGRO El Granado 3.17 306 ⇑P Pn 06 13 37.8 0.0
22nm,0.1s,SNR=18
EGRO S Sn 06 14 12.5 -3.7
113nm,0.2s,SNR=11
CART Cartagena 3.23 53 *e*P Pn 06 13 39.3 +0.7
CART *e*S Sn 06 14 11.4 -6.2
CART Cartagena 3.23 53 P Pn 06 13 39.3 +0.7
CART S Sn 06 14 11.4 -6.2
EMUR La Murta 3.24 48 ⇓P Pn 06 13 39.7 +1.0
44nm,0.4s,SNR=18
EMUR S Sn 06 14 15.9 -2.0
220nm,0.4s,SNR=8.9
PVAQ Vaqueiros 3.26 303⇑*e*P Pn 06 13 38.9 -0.1
PVAQ *e*S Sn 06 14 15.4 -3.0
PVAQ A A 06 14 16.2
112nm,0.3s
PVAQ Vaqueiros 3.26 303 P Pn 06 13 38.6 -0.4
PVAQ S Sn 06 14 14.1 -4.3
PVAQ Vaqueiros 3.26 303 P Pn 06 13 38.9 -0.1
PVAQ S Sn 06 14 15.4 -3.0
112nm,0.3s
PBAR Barrancos 3.33 319 *e*P Pn 06 13 40.0 +0.1
PBAR *e*S Sn 06 14 17.6 -2.4
PBAR A A 06 14 18.8
95nm,0.4s
PBAR Barrancos 3.33 319 P Pn 06 13 40.0 +0.1
PBAR S Sn 06 14 17.6 -2.4
95nm,0.4s
PBDV Barranco-do-Ve 3.33 299⇑*e*P Pn 06 13 39.9 -0.1
PBDV *e*S Sn 06 14 16.8 -3.4
PBDV A A 06 14 21.2
94nm,0.4s
PBDV Barranco-do-Ve 3.33 299 P Pn 06 13 39.9 -0.1
PBDV S Sn 06 14 16.8 -3.4
94nm,0.4s
PCVE Castro Verde 3.60 304 *e*P Pn 06 13 43.5 -0.1
PCVE *e*S Sn 06 14 23.7 -3.0
PCVE A A 06 14 29.2
128nm,0.5s
PCVE Castro Verde 3.60 304 P Pn 06 13 43.5 -0.1
PCVE S Sn 06 14 23.7 -3.0
128nm,0.5s
ETRV Los Montesinos 3.64 49 P Pn 06 13 45.2 +1.0
32nm,0.2s,SNR=4.0
ETRV S Sn 06 14 25.9 -1.9
260nm,0.5s,SNR=7.9
ETOB Tobarra 3.66 36 P Pn 06 13 46.3 +1.8
20nm,0.2s,SNR=72
ETOB S Sn 06 14 28.3 0.0
131nm,0.6s,SNR=7.9
PBEJ Beja 3.71 310 *e*P Pn 06 13 45.4 +0.3
PBEJ *e*S Sn 06 14 27.2 -2.2
PBEJ A A 06 14 29.6
60nm,0.4s
PBEJ Beja 3.71 310 P Pn 06 13 45.4 +0.3
PBEJ S Sn 06 14 27.2 -2.2
30nm,0.4s
EBAD Badajoz 3.76 325 P Pn 06 13 45.7 -0.1
9.1nm,0.2s,SNR=31
EBAD S Sn 06 14 28.4 -2.3
164nm,0.3s,SNR=5.3
PAB San Pablo 3.84 359 P Pn 06 13 48.2 +1.1
7.3nm,0.2s,SNR=7.9
PAB S Sn 06 14 31.8 -1.1
51nm,0.5s,SNR=7.9
MORF Marmelete 3.88 296 *e*P Pn 06 13 47.2 -0.3
MORF *e*S Sn 06 14 29.6 -4.2
MORF AML AML 06 14 33.7
comp=N,141nm,0.4s
MORF Marmelete 3.88 296 *e*P Pn 06 13 47.3 -0.3
MORF *e*S Sn 06 14 29.9 -3.9
MORF A A 06 14 36.2
comp=N,72nm,0.2s
MORF Marmelete 3.88 296 P Pn 06 13 47.3 -0.3
MORF S Sn 06 14 29.9 -3.9
comp=N,72nm,0.2s
PFVI Vila Bisbo 3.95 293 *e*P Pn 06 13 48.2 -0.2
PFVI *e*S Sn 06 14 31.3 -4.1
PFVI A A 06 14 37.9
comp=N,62nm,0.4s
PFVI Vila Bisbo 3.95 293 P Pn 06 13 48.0 -0.5
PFVI S Sn 06 14 33.3 -2.0
PFVI Vila Bisbo 3.95 293 P Pn 06 13 48.2 -0.2
comp=N,6.9nm,0.1s,SNR=19
PFVI S Sn 06 14 31.7 -3.6
comp=N,47nm,0.1s,SNR=7.9
ESDC Sonseca Array 3.98 3 Pn Pn 06 13 50.2 +1.3
comp=N,14nm,0.3s,baz=184,slow=12,SNR=192
Sn Sn
ESDC comp=N,14nm,0.3s,baz=183,slow=21,SNR=6.5 06 14 32.5 -3.7
ESDC Lg Lg 06 14 50.7
comp=N,20nm,0.3s,baz=183,slow=29,SNR=7.5
ESDC Sonseca Array 3.98 3 P Pn 06 13 50.2 +1.3
comp=N,6.5nm,0.2s,baz=182,slow=12,SNR=157
ESDC S Sn 06 14 34.0 -2.2
baz=187,slow=22,SNR=7.9
OKGL Djebel Kef Gue 4.00 84 P Pn 06 13 49.1 -0.1
comp=N,16nm,0.2s,SNR=7.9
OKGL S Sn 06 14 34.9 -1.7
comp=N,140nm,0.3s,SNR=7.9
GOLM Goulmima 4.02 188 P Pn 06 13 52.8 +3.2
GOLM S Sn 06 14 41.5 +4.1
PTEO Sao Teotonio 4.04 299 *e*P Pn 06 13 49.6 0.0
PTEO *e*S Sn 06 14 34.4 -3.0
PTEO A A 06 14 50.5
comp=N,69nm,0.5s
PTEO Sao Teotonio 4.04 299 P Pn 06 13 49.6 0.0
PTEO S Sn 06 14 34.4 -3.0
comp=N,34nm,0.5s
EVO Evora 4.12 314 *e*P Pn 06 13 51.0 +0.2
EVO *e*S Sn 06 14 37.0 -2.6
EVO A A 06 14 40.6
comp=N,78nm,0.3s
EVO Evora 4.12 314 *e*P Pn 06 13 51.0 +0.2
EVO Evora 4.12 314 *e*P Pn 06 13 51.0 +0.2
EVO *e*S Sn 06 14 36.0 -3.6
EVO Evora 4.12 314 P Pn 06 13 51.0 +0.2
EVO S Sn 06 14 36.0 -3.6
PESTR Estremoz 4.13 321 *e*P Pn 06 13 51.2 +0.3
PESTR *e*S Sn 06 14 37.4 -2.4
PESTR A A 06 14 50.0
comp=N,52nm,0.6s
PESTR Estremoz 4.13 321 P Pn 06 13 51.3 +0.3
PESTR S Sn 06 14 36.6 -3.2
PNCL Nicolau / Gran 4.18 306⇑*e*P Pn 06 13 51.6 0.0
PNCL *e*S Sn 06 14 37.6 -3.5
PNCL A A 06 14 43.0
comp=N,48nm,0.5s
PNCL Nicolau / Gran 4.18 306 P Pn 06 13 51.6 0.0
PNCL S Sn 06 14 37.6 -3.5
comp=N,48nm,0.5s
AFON Font Roja 4.20 44 P Pn 06 13 53.9 +1.9
comp=N,23nm,0.2s,SNR=37
AFON S Sn 06 14 40.7 -0.9
comp=N,83nm,0.5s,SNR=7.9
FIGM Figuig 4.34 144 P Pn 06 13 56.3 +2.3
FIGM S Sb 06 14 52.2 -4.7
TISM Timmit 4.36 205 P Pn 06 13 53.7 -0.4
TISM S Sn 06 14 44.2 -1.2
EBEN2 Beniarda presa 4.41 46 P Pn 06 13 56.5 +1.7
comp=N,6.5nm,0.2s,SNR=7.9
EBEN2 S Sn 06 14 42.8 -3.9
comp=N,45nm,0.4s,SNR=7.9
PMRV Marv??o 4.48 327 *e*P Pn 06 13 55.7 0.0
PMRV *e*S Sn 06 14 44.5 -3.9
PMRV A A 06 14 48.3
comp=N,28nm,0.5s
PMRV Marv??o 4.48 327 P Pn 06 13 55.7 0.0
PMRV S Sn 06 14 44.5 -3.9
comp=N,28nm,0.5s
EPLA Plasencia 4.59 342 P Pn 06 13 58.3 +0.9
comp=N,4.1nm,0.2s,SNR=26
EPLA S Sn 06 14 48.9 -2.3
comp=N,16nm,0.2s,SNR=7.9
PMTG Montargil 4.61 318 *e*P Pn 06 13 57.8 +0.2
PMTG *e*S Sn 06 14 48.4 -3.3
PMTG A A 06 15 11.6
comp=N,33nm,0.5s
PMTG Montargil 4.61 318 P Pn 06 13 57.8 +0.2
PMTG S Sn 06 14 48.4 -3.3
comp=N,33nm,0.5s
UCM Universidad Co 4.67 10⇓*i*P Pn 06 14 00.3 +1.8
UCM *e*S Sn 06 14 49.9 -3.4
ECHE Chera 4.69 33 ⇑P Pn 06 13 59.9 +1.3
comp=N,6.2nm,0.2s,SNR=18
ECHE S Sn 06 14 51.9 -1.7
comp=N,8.7nm,0.2s,SNR=7.9
PCBR Castelo Branco 4.86 329 *e*P Pn 06 14 01.6 +0.7
PCBR *e*S Sn 06 14 54.8 -2.9
PCBR A A 06 14 56.5
comp=N,32nm,0.4s
PCBR Castelo Branco 4.86 329 P Pn 06 14 01.6 +0.7
PCBR S Sn 06 14 54.8 -2.9
comp=N,16nm,0.4s
GUD Guadarrama 4.94 1 P Pn 06 14 03.4 +1.2
comp=N,9.0nm,0.3s,SNR=64
GUD S Sn 06 14 57.6 -2.4
comp=N,22nm,0.5s,SNR=7.9
TZRR Tazzarine 5.02 193 P Pn 06 14 05.8 +2.6
TZRR S Sn 06 15 05.2 +3.3
PTOM Tomar 5.11 321 *e*P Pn 06 14 04.7 +0.3
PTOM *e*S Sn 06 14 59.0 -5.1
PTOM A A 06 15 03.2
comp=N,80nm,0.4s
PTOM Tomar 5.11 321 P Pn 06 14 04.7 +0.3
PTOM S Sn 06 14 59.0 -5.1
comp=N,40nm,0.4s
PMAFR Mafra 5.16 311 *e*P Pn 06 14 05.5 +0.5
PMAFR *e*S Sn 06 15 01.6 -3.5
PMAFR A A 06 15 04.9
comp=N,64nm,0.3s
PMAFR Mafra 5.16 311 P Pn 06 14 05.9 +0.9
comp=N,19nm,0.2s,SNR=9.8
PMAFR S Sn 06 15 01.6 -3.5
comp=N,131nm,0.4s,SNR=7.9
MTE Manteigas 5.36 332 *e*P Pn 06 14 08.5 +0.6
MTE *e*S Sn 06 15 06.9 -3.4
MTE A A 06 15 58.6
comp=N,52nm,0.6s
MTE Manteigas 5.36 332 P Pn 06 14 08.5 +0.6
MTE S Sn 06 15 06.9 -3.4
comp=N,26nm,0.6s
OUK Oukaimeden 5.39 215 P Pn 06 14 09.2 +0.5
OUK S Sn 06 15 09.7 -1.8
ETOR Torete 5.40 18 P Pn 06 14 09.5 +1.0
comp=N,66nm,0.4s,SNR=91
ETOR S Sn 06 15 07.7 -3.6
comp=N,54nm,0.5s,SNR=7.9
EMOS Mosqueruela 5.54 32 P Pn 06 14 11.9 +1.4
comp=N,12nm,0.4s,SNR=30
EMOS S Sn 06 15 11.2 -3.6
comp=N,29nm,0.7s,SNR=7.9
EIBI Ibiza 5.57 52 P Pn 06 14 11.8 +1.1
comp=N,12nm,0.3s,SNR=24
EIBI S Sn 06 15 10.0 -5.3
comp=N,28nm,0.4s,SNR=7.9
COI Coimbra 5.57 325 *e*P Pn 06 14 11.2 +0.5
COI *e*S Sn 06 15 12.3 -3.0
COI A A 06 15 12.9
comp=N,76nm,0.6s
COI Coimbra 5.57 325 P Pn 06 14 11.2 +0.5
COI S Sn 06 15 12.3 -3.0
comp=N,38nm,0.6s
ZGR Zagora 5.68 192 P Pn 06 14 14.9 +2.6
ZGR S Sn 06 15 22.7 +4.6
PVIS Viseu 5.77 331 *e*P Pn 06 14 13.9 +0.4
PVIS A A 06 15 20.3
comp=N,28nm,0.4s
PVIS Viseu 5.77 331 P Pn 06 14 13.9 +0.4
MVO Moncorvo 5.88 339 *e*P Pn 06 14 15.3 +0.3
MVO *e*S Sn 06 15 18.7 -4.2
MVO A A 06 15 44.9
comp=N,34nm,0.7s
MVO Moncorvo 5.88 339 P Pn 06 14 15.5 +0.5
comp=N,11nm,0.1s,SNR=41
MVO S Sn 06 15 18.3 -4.6
comp=N,51nm,0.4s,SNR=7.9
PVRL Vila Real 6.19 335 *e*P Pn 06 14 19.8 +0.5
PVRL *e*S Sn 06 15 25.4 -5.3
PVRL A A 06 15 31.4
comp=N,60nm,0.2s
PVRL Vila Real 6.19 335 P Pn 06 14 19.8 +0.5
PVRL S Sn 06 15 25.4 -5.3
comp=N,30nm,0.2s
TTIG Tnine Tigouga, 6.21 215 P Pn 06 14 18.1 -1.6
TTIG S Sn 06 15 31.6 +0.2
ERTA Horta de San J 6.38 33 P Pn 06 14 23.5 +1.7
comp=N,9.0nm,0.3s,SNR=20
ERTA S Sn 06 15 31.9 -3.3
comp=N,12nm,0.4s,SNR=7.9
PBRG Braganca 6.40 343 *e*P Pn 06 14 23.2 +1.0
PBRG *e*S Sn 06 15 31.9 -3.9
PBRG A A 06 15 36.1
comp=N,22nm,0.6s
PBRG Braganca 6.40 343 P Pn 06 14 23.2 +1.0
PBRG S Sn 06 15 31.9 -3.9
comp=N,11nm,0.6s
ECAL Calabor 6.53 344 P Pn 06 14 25.3 +1.4
comp=N,10nm,0.2s,SNR=15
ECAL S Sn 06 15 34.1 -5.0
comp=N,67nm,0.6s,SNR=7.9
PCAB Cabril 6.69 335 *e*P Pn 06 14 27.2 +1.1
PCAB *e*S Sn 06 15 38.7 -4.2
PCAB A A 06 15 41.3
comp=N,30nm,0.5s
PCAB Cabril 6.69 335 P Pn 06 14 27.2 +1.1
PCAB S Sn 06 15 38.7 -4.2
comp=N,15nm,0.5s
ELOB Lobios 6.84 335 P Pn 06 14 28.7 +0.5
comp=N,4.0nm,0.2s,SNR=4.0
ELOB S Sn 06 15 41.4 -5.3
comp=N,38nm,0.4s,SNR=7.9
ETOS Mallorca 6.93 52 P Pn 06 14 31.2 +1.8
comp=N,29nm,0.7s,SNR=29
ETOS S Sn 06 15 45.5 -3.2
comp=N,4.3nm,0.4s,SNR=7.9
EZAM Zamans 7.31 333 P Pn 06 14 35.1 +0.5
comp=N,0.5nm,0.1s,SNR=4.0
EZAM S Sn 06 15 53.2 -5.0
comp=N,21nm,0.6s,SNR=7.9
EORO Oroz-Betelu 7.54 17 P Pn 06 14 39.2 +1.3
comp=N,12nm,0.3s,SNR=20
ELAN Lanestosa 7.55 5 P Pn 06 14 39.0 +1.1
comp=N,5.7nm,0.3s,SNR=12
ELAN S Sn 06 16 00.2 -4.0
comp=N,3.9nm,0.3s,SNR=7.9
EARI Arriondas 7.63 355 P Pn 06 14 41.0 +1.9
comp=N,1.1nm,0.1s,SNR=13
EARI S Sn 06 16 00.8 -5.3
comp=N,8.6nm,0.5s,SNR=7.9
EMIR Miracle 7.68 34 P Pn 06 14 41.3 +1.6
comp=N,3.0nm,0.2s,SNR=27
EAGO Agolada(Pontev 7.69 338 P Pn 06 14 41.8 +2.0
comp=N,1.4nm,0.1s,SNR=7.9
EAGO S Sn 06 16 02.8 -4.7
comp=N,3.8nm,0.3s,SNR=7.9
ETSF Etsaut 7.75 21 *e*Pn Pn 06 14 38.1 -2.5
ETSF Etsaut 7.75 21 *e*P Pn 06 14 43.5 +2.9
ETSF *e*Sn Sn 06 16 01.3 -7.6
comp=N,5.6nm,0.4s
ECHI Chisagues Biel 7.77 25 P Pn 06 14 42.2 +1.1
comp=N,1.2nm,0.2s,SNR=7.9
SJPF Ste Jean 7.77 17 *e*Pn Pn 06 14 39.0 -1.9
SJPF Ste Jean 7.77 17 *e*P Pn 06 14 43.9 +3.0
SJPF *e*Sn Sn 06 16 02.0 -7.5
comp=N,4.0nm,0.3s
EALK Alkurruntz 7.81 15 ⇑P Pn 06 14 43.0 +1.4
comp=N,24nm,0.3s,SNR=18
EALK S Sn 06 16 06.2 -4.4
comp=N,27nm,0.5s,SNR=7.9
ATE Arette 7.88 19 ⇓P Pn 06 14 44.7 +2.2
comp=N,14nm,0.4s,SNR=18
ATE S Sn 06 16 06.7 -5.4
comp=N,4.9nm,0.5s,SNR=7.9
CSOR Sort 7.88 31 P Pn 06 14 44.0 +1.5
comp=N,4.4nm,0.2s,SNR=17
CSOR S Sn 06 16 07.6 -4.8
comp=N,10nm,0.4s,SNR=5.8
EPON Pontenova 7.94 345 P Pn 06 14 45.0 +1.7
comp=N,8.4nm,0.3s,SNR=4.0
EPON S Sn 06 16 06.8 -6.8
comp=N,4.6nm,0.3s,SNR=7.9
CFON Fontmartina 8.00 39 P Pn 06 14 45.3 +1.1
comp=N,1.6nm,0.2s,SNR=7.9
EPF Esparros 8.15 25 *e*Pn Pn 06 14 44.0 -2.1
EPF Esparros 8.15 25 *e*P Pn 06 14 49.5 +3.4
EPF *e*Sn Sn 06 16 11.1 -7.7
comp=N,7.3nm,0.5s
CLLI Llivia 8.33 34 P Pn 06 14 50.6 +1.9
comp=N,0.8nm,0.3s,SNR=12
MTLF Montolieu 9.13 31 *e*Pn Pn 06 14 57.4 -2.1
MTLF *e*Sn Sn 06 16 34.5 -8.4
comp=N,1.4nm,0.4s
LFF La Frestale 9.99 21 *e*Pn Pn 06 15 08.8 -2.5
LFF La Frestale 9.99 21 *e*P Pn 06 15 14.8 +3.5
LFF *e*Sn Sn 06 16 55.1 -8.9
comp=N,3.1nm,0.4s
CAF Calviac 10.40 26 *e*Pn Pn 06 15 14.5 -2.6
CAF Calviac 10.40 26 *e*P Pn 06 15 20.2 +3.1
RJF Les Rejaudoux 10.55 23 *e*Pn Pn 06 15 16.5 -2.6
RJF Les Rejaudoux 10.55 23 *e*P Pn 06 15 22.7 +3.6
RJF *e*Sn Sn 06 17 08.9 -9.0
comp=N,1.9nm,0.4s
QUIF Quistinic 12.24 3 *e*P Pn 06 15 45.1 +3.0
SMF Signal de Mont 12.52 27 *e*Pn Pn 06 15 43.4 -2.5
SMF Signal de Mont 12.52 27 *e*P Pn 06 15 49.8 +3.9
SGMF Saint Gilles 12.61 5 P Pn 06 15 50.6 +3.4
ROSF Rostrenen 12.65 3 *e*P Pn 06 15 50.9 +3.2
GERES GERESS Array B 18.63 40 P Pn 06 17 06.8 +0.9
comp=N,0.4nm,0.3s,baz=198,slow=8.3,SNR=7.7
KHC Kasperske Hory 18.75 39 *e*P Pn 06 17 09.4 +2.1
KHC *ep*P pwP 06 17 17.0 +10
PRU Pruhonice 19.77 38 *e*P Pn 06 17 19.7 +0.1
BRG Berggiesshubel 20.06 35 *e*P Pn 06 17 23.0 +0.1
comp=N,6.0nm,0.9s
MODS Modra-Piesok 20.32 45 *e*P P 06 17 25.1 +1.0
VRAC Vranov 20.44 42 P P 06 17 26.1 +0.7
comp=N,2.5nm,0.6s,baz=253,slow=7.3,SNR=3.9
SMOL Smolenice 20.48 45 *e*P Pn 06 17 27.4 -0.5
DPC Dobruska-Polom 20.90 39 *e*P Pn 06 17 31.7 -1.2
CHVC Chvalec 20.91 38 *e*P P 06 17 31.7 +1.2
KRLC Kraliky 20.98 40 *e*P Pn 06 17 33.1 -0.7
VYHS Vyhne 21.29 46 *e*P P 06 17 35.2 +0.7
LANS Liptovska Anna 21.97 45 *e*P P 06 17 43.3 +1.4
TORD Torodi Ar. Bea 23.09 165 P P 06 17 54.5 +0.6
comp=N,1.4nm,0.5s,baz=344,slow=11,SNR=12
HFS Hagfors 27.07 20 P P 06 18 30.1 -0.4
comp=N,4.0nm,0.8s,baz=203,slow=9.7,SNR=6.9
FINES FINESS Array B 32.12 27 P P 06 19 15.0 -0.2
comp=N,13nm,1.2s,baz=243,slow=8.4,SNR=5.2
ARCES ARCESS Array B 37.60 17 P P 06 20 02.7 +0.2
comp=N,2.0nm,0.8s,baz=210,slow=8.9,SNR=4.6
KURBB Kurchatov Arra 59.15 47 P P 06 22 48.8 0.0
comp=N,1.1nm,0.6s,baz=294,slow=7.7,SNR=8.4
MKAR Makanchi Array 62.89 50 P P 06 23 14.3 -0.1
comp=N,0.3nm,0.5s,baz=287,slow=6.1,SNR=4.2
YKA Yellowknife Ar 67.47 332 P P 06 23 44.5 +0.8
comp=N,0.2nm,0.6s,baz=59,slow=6.4,SNR=6.9
SIV San Ignacio 74.36 237 P P 06 24 27.5 +1.2
comp=N,0.5nm,0.5s,baz=66,slow=5.6,SNR=11
CPUP Villa Florida 79.47 227 P P 06 24 55.7 +0.8
comp=N,2.0nm,0.9s,baz=20,slow=8.1,SNR=4.2

*ISCJB **23** 06:24:59.9±0.5,21°.70S±0°.03×68°.68W±0°.08, h124km±6km, mb3.5/2, Error ellipse: s-maj=12.1km s-min=4.7km az=179.6*

*IDC **23** 06:25:00.7±0.9,21°.74S×68°.42W, h108km±11km, mb3.4/2, mb1 3.4/6, mb1mx3.2/21, mbtmp3.6/6, MS3.3/1, Ms1 3.3/1, ms1mx2.5/10, Error ellipse: s-maj=29.7km s-min=18.1km az=112.0*

*GUC **23** 06:25:00.7±0.6,21°.66S×68°.76W, h118km±4km, ML3.7*

ISC 23 06:24:59.4±0.8,21°.70S±0°.04×68°.52W±0°.07, h112km±9km, n23, σ1°.77/39, 9C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.68**	**262**⇑	*e*P	**Pn**	**06 25 19.0**	**+1.0**
PB09				*i* S	**Sn**	**06 25 32.4**	**+0.4**
PB09				IAML		06 25 35.5	
	comp=E,3µm,0.8s						
LVC	**Limon Verde**	**0.97**	**202**⇑	*i*P	**Pn**	**06 25 22.6**	**+1.7**
LVC				*i* S	**Sn**	**06 25 38.2**	**+1.1**
LVC	**Limon Verde**	**0.97**	**202**	P	**Pn**	**06 25 22.6**	**+1.7**
	comp=E,34nm,0.3s,baz=25,slow=7.2,SNR=93						
LVC				S	**Sn**	**06 25 38.2**	**+1.1**
	comp=E,167nm,0.3s,baz=162,slow=16,SNR=96						
PB03	**IPOC Station P**	**1.20**	**253**	*e*P	**Pn**	**06 25 23.6**	**+0.5**
PB03				*i* S	**Sn**	**06 25 40.3**	**-0.6**
PB03				IAML		06 25 41.8	
	comp=E,2µm,0.2s						
PB07	**IPOC Station P**	**1.27**	**269**⇑	*e*P	**Pn**	**06 25 23.7**	**-0.1**
PB07				*i* S	**Sn**	**06 25 41.5**	**-0.9**
PB07				IAML		06 25 43.0	
	comp=E,2µm,0.5s						
PB06	**IPOC Station P**	**1.40**	**224**	*e*P	**Pn**	**06 25 24.0**	**-1.3**
PB06				*i* S	**Sn**	**06 25 45.6**	**+0.7**
PB06				IAML		06 25 46.8	
	comp=E,2µm,0.3s						
PB04	**IPOC Station P**	**1.64**	**247**	*e*P	**Pn**	**06 25 28.4**	**+0.3**
PB04				*i* S	**Sn**	**06 25 49.2**	**-0.9**
PB04				IAML		06 25 54.5	
	comp=N,1µm,0.3s						
PB08	**IPOC Station P**	**1.66**	**339**⇑	*e*P	**Pn**	**06 25 30.4**	**+1.8**
PB08				*i* S	**Sn**	**06 25 52.3**	**+1.5**
PB08				IAML		06 25 54.3	
	comp=E,2µm,0.3s						
PB15	**IPOC Station P**	**1.74**	**210**	*e*P	**Pn**	**06 25 30.8**	**+1.3**
PB15				*i* S	**Sn**	**06 25 54.6**	**+2.2**
TA01	**Diego Aracena**	**1.92**	**306**⇑	*e*P	**Pn**	**06 25 31.2**	**-0.2**
TA01				*e*S	**Sn**	**06 25 54.4**	**-1.5**
TA01				IAML		06 25 57.6	
	comp=E,732nm,0.3s						
PB05	**IPOC Station P**	**1.93**	**233**	*e*P	**Pn**	**06 25 32.5**	**+0.7**
PB05				*i* S	**Sn**	**06 25 56.0**	**-0.5**
PB05				IAML		06 26 02.6	
	comp=N,437nm,0.4s						
GO01	**Chusmiza**	**2.12**	**343**⇑	*i*P	**Pn**	**06 25 35.9**	**+1.4**
GO01				*i* S	**Sn**	**06 26 02.5**	**+1.3**
GO01				IAML		06 26 05.4	
	comp=N,998nm,0.1s						
PB11	**IPOC Station P**	**2.20**	**331**⇑	*e*P	**Pn**	**06 25 35.8**	**+0.6**
PB11				*i* S	**Sn**	**06 26 02.5**	**-0.1**
PSGC	**Pisagua**	**2.57**	**324**⇑	*i*P	**Pn**	**06 25 39.2**	**-0.8**
PSGC				*e*S	**Sn**	**06 26 09.6**	**-1.5**
PSGC				IAML		06 26 15.8	
	comp=E,425nm,0.7s						
MNMC	**Minye Minye**	**2.75**	**338**⇑	*e*P	**Pn**	**06 25 43.1**	**+0.7**
MNMC				*i* S	**Sn**	**06 26 16.0**	**+0.6**
MNMC				IAML		06 26 19.6	
	comp=N,586nm,0.4s						
LPAZ	**La Paz**	**5.40**	**4**	P	**Pn**	**06 26 20.7**	**+2.5**
	comp=N,0.8nm,0.3s,baz=192,slow=8.6,SNR=19						
SIV	**San Ignacio**	**9.05**	**52**	P	**Pn**	**06 27 06.1**	**-1.1**
	comp=N,0.6nm,0.3s,baz=252,slow=12,SNR=12						
SIV				S	**Sn**	**06 28 41.8**	**-5.6**
	comp=N,0.2nm,0.3s,baz=310,slow=23,SNR=9.9						
CFA	**Coronel Fontan**	**9.87**	**179**	P	**Pn**	**06 27 16.4**	**-1.8**
	comp=N,0.5nm,0.3s,baz=356,slow=16,SNR=6.1						
CFA				S	**Sn**	**06 29 02.4**	**-4.7**
	comp=N,0.5nm,0.3s,baz=223,slow=21,SNR=4.5						
CPUP	**Villa Florida**	**11.22**	**116**	P	**Pn**	**06 27 37.1**	**+0.7**
	comp=N,0.1nm,0.3s,baz=294,slow=16,SNR=3.0						
PLCA	**Paso Flores**	**19.05**	**185**	P	**P**	**06 29 14.6**	**+1.8**
	comp=N,0.1nm,0.3s,baz=26,slow=9.3,SNR=6.2						
ROSC	**El Rosal**	**26.98**	**347**	LR	LR	06 42 18.9	
	comp=N,54nm,18.8s,baz=259,slow=38						
TORD	**Torodi Ar. Bea**	**77.08**	**70**	P	**P**	**06 36 42.3**	**+1.4**
	comp=N,0.4nm,0.3s,baz=254,slow=5.2,SNR=7.4						
YKA	**Yellowknife Ar**	**91.50**	**340**	P	**P**	**06 37 54.3**	**+1.7**
	comp=N,0.3nm,0.8s,baz=133,slow=4.4,SNR=7.3						

ROM 23 06:40:06.6±0.1,38°.166N±0°.002×15°.040E±0°.003, h10km, Md1.3/3, Error ellipse: s-maj=0.2km s-min=0.2km az=82.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOV	**Novara**	**0.16**	**151**	P	Pg	06 40 10.8	+0.7
NOV				S	Sg	06 40 13.6	+1.0
NOV				AML	AML		
	comp=E,202μm,0.9s						
NOV				AML	AML		
	comp=N,174μm,0.4s						
NOV				END			
MUCR	**Ucria**	**0.18**	**227**	P	Pg	06 40 11.0	+0.5
MUCR				S	Sg	06 40 14.2	+1.0
MUCR				AML	AML		
	comp=E,64μm,0.4s						
MUCR				AML	AML		
	comp=N,68μm,0.9s						
MUCR				END			
MILZ	**Milazzo**	**0.18**	**55**	P	Pg	06 40 11.2	+0.6
MILZ				S	Sg	06 40 14.3	+1.1
MILZ				AML	AML		
	comp=E,308μm,0.3s						
MILZ				AML	AML		
	comp=N,375μm,0.3s						
VPL	**Vulcano Piano**	**0.22**	**348**	P	Pb	06 40 11.9	-0.7
VPL				S	Sg	06 40 15.6	+1.4
VPL				AML	AML		
	comp=E,858μm,0.3s						
VPL				AML	AML		
	comp=N,786μm,0.3s						
VPL				END			
AIO	**Antillo**	**0.25**	**142**	P	Pg	06 40 12.3	+0.6
AIO				S	Sg	06 40 16.6	+1.5

ROM 23 06:40:31.4±0.1, 38°.160N±0°.007 × 15°.565E±0°.005, h7km, ML2.0/8, Error ellipse: s-maj=0.7km s-min=0.3km az=346.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSRU	**Castanea**	**0.11**	**337**	P	Pg	06 40 34.5	+0.6
MSRU				S	Sg	06 40 36.1	+0.4
MSRU				AML	AML		
	comp=N,3375μm,0.4s						
MSRU				AML	AML		
	comp=E,3375μm,1.1s						
MPNC	**Port Mandanici**	**0.17**	**265**	P	Pg	06 40 35.8	+0.9
MPNC				S	Sg	06 40 38.4	+1.2
MPNC				AML	AML		
	comp=E,1390μm,1.1s						
MPNC				AML	AML		
	comp=N,1590μm,0.4s						
MSCL	**Scilla**	**0.19**	**68**	P	Pg	06 40 36.2	+0.9
MSCL				S	Sg	06 40 39.4	+1.4
MSCL				AML	AML		
	comp=E,965μm,0.4s						
MSCL				AML	AML		
	comp=E,964μm,0.4s						
MSCL				AML	AML		
	comp=N,498μm,0.4s						
MCSR	**Castroreale**	**0.27**	**249**	P	Pg	06 40 37.2	+0.5
MCSR				S	Sb	06 40 42.0	-1.4
CEL	**Celeste**	**0.28**	**69**	P	Pg	06 40 37.8	+0.8
CEL				S	Sb	06 40 42.3	-1.4
MILZ	**Milazzo**	**0.28**	**293**	P	Pg	06 40 37.8	+0.8
MILZ				S	Sg	06 40 42.3	+1.4
MILZ				AML	AML		
	comp=N,375μm,0.3s						
MILZ				AML	AML		
	comp=E,308μm,0.3s						
AIO	**Antillo**	**0.32**	**234**	P	Pb	06 40 39.0	-0.5
AIO				S	Sb	06 40 44.0	-1.0
NOV	**Novara**	**0.36**	**249**	P	Pb	06 40 39.5	-0.8
NOV				S	Sb	06 40 45.1	-1.1
NOV				AML	AML		
	comp=N,174μm,0.4s						
NOV				AML	AML		
	comp=E,202μm,0.9s						
SOI	**Samo**	**0.40**	**103**	P	Pb	06 40 40.0	-0.8
SOI				S	Sb	06 40 45.9	-1.2
SOI				AML	AML		
	comp=E,105μm,0.4s						
SOI				AML	AML		
	comp=N,97μm,0.8s						
MPAZ	**Palizzi**	**0.41**	**120**	P	Pb	06 40 40.4	-0.6
MPAZ				AML	AML		
	comp=E,119μm,0.3s						
MPAZ				AML	AML		
	comp=E,120μm,0.3s						
MPAZ				AML	AML		
	comp=N,153μm,1.2s						
VPL	**Vulcano Piano**	**0.51**	**296**	P	Pb	06 40 42.1	-0.6
VPL				S	Sb	06 40 50.5	+0.2
VPL				AML	AML		
	comp=E,858μm,0.3s						
VPL				AML	AML		
	comp=N,785μm,0.3s						
VPL				AML	AML		
	comp=E,858μm,0.3s						
VPL				AML	AML		
	comp=N,786μm,0.3s						
JOPP	**Joppolo**	**0.51**	**29**	P	Pg	06 40 41.8	+0.4
JOPP				S	Sb	06 40 49.3	-1.2
JOPP				AML	AML		
	comp=E,46μm,1.6s						
JOPP				AML	AML		
	comp=N,62μm,0.4s						
MUCR	**Ucria**	**0.56**	**258**	P	Pb	06 40 43.4	-0.2
LLI	**Lipari**	**0.56**	**301**	P	Pb	06 40 44.0	+0.3
PLAC	**Placanica**	**0.74**	**67**	P	Pb	06 40 46.9	+0.1

BEO ***23*** *06:50:01.2±1.2, 37°.28N×25°.26E, h1km±8km, ML3.9/3*
SOF ***23*** *06:50:26.0, 39°.64N×25°.60E, h10km*
ATH ***23*** *06:50:27.4, 39°.61N×25°.48E, h28km±1km, ML3.1/17, Error ellipse: s-maj=1.4km s-min=0.8km az=110.0*
ISK ***23*** *06:50:27.3, 39°.62N×25°.52E, h6km, ML3.5/34*
ISCJB ***23*** *06:50:27.4±0.5, 39°.62N±0°.02×25°.48E±0°.02, h7km±4km, Error ellipse: s-maj=2.9km s-min=2.7km az=160.8*
THE ***23*** *06:50:27.9, 39°.64N×25°.50E, h9km±1km, ML3.2/10, Error ellipse: s-maj=1.7km s-min=0.6km az=100.0*

ISC 23 06:50:27.7±1.0, 39°.62N±0°.02×25°.50E±0°.02, h11km±9km, n114, σ1§27/139, 9C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFSA	**Agios Efstrati**	**0.41**	**259**	P	**Pg**	**06 50 35.8**	**0.0**
EFSA				S	**Sb**	**06 50 43.1**	**+0.1**
EFSA				AML	AML	06 50 50.1	
	comp=E,17776μm,0.9s						
EFSA				AML	AML	06 50 51.2	
	comp=N,6722μm,0.8s						
BOZC	**Bozcaada**	**0.48**	**62**	PG	**Pg**	**06 50 36.8**	**-0.3**
SIGR	**SIGRI**	**0.49**	**146**	P	**Pg**	**06 50 37.5**	**+0.2**
SIGR				S	**Sb**	**06 50 45.1**	**-0.4**
	comp=N,4μm,0.5s						
SIGR	**SIGRI**	**0.49**	**146**	P	**Pg**	**06 50 37.5**	**+0.2**
SIGR				S	**Sb**	**06 50 45.3**	**-0.2**
SIGR				AML	AML	06 50 46.4	
	comp=E,8156μm,0.5s						
SIGR				AML	AML	06 50 47.7	
	comp=N,8099μm,0.6s						
SIGR	**SIGRI**	**0.49**	**146**	PG	**Pg**	**06 50 37.5**	**+0.2**
SIGR				SG	**Sb**	**06 50 44.9**	**-0.6**
GADA	**Gvkgeada**	**0.64**	**28**	P	**Pg**	**06 50 39.9**	**-0.3**
GADA				S	**Sg**	**06 50 48.5**	**-0.2**
GADA	**Gvkgeada**	**0.64**	**28**	PG	**Pb**	**06 50 40.4**	**-0.6**
GADA				SG	**Sb**	**06 50 49.1**	**-0.9**
EZN	**Ezine**	**0.67**	**72**	P	**Pg**	**06 50 40.1**	**-0.5**
EZN				S	**Sb**	**06 50 49.7**	**-0.8**
	comp=N,1μm,0.6s						
EZN	**Ezine**	**0.67**	**72**	⇓P	**Pn**	**06 50 42.5**	**-0.5**
EZN				⇑S	**Sn**	**06 50 51.9**	**-1.6**
EZN	**Ezine**	**0.67**	**72**	PG	**Pg**	**06 50 40.3**	**-0.3**
EZN				SG	**Sg**	**06 50 49.6**	**+0.2**
PRK	**Paraskevi**	**0.70**	**122**	P	**Pb**	**06 50 42.5**	**+0.6**
PRK				S	**Sb**	**06 50 51.6**	**0.0**
	comp=N,4μm,0.5s						
PRK	**Paraskevi**	**0.70**	**122**	P	**Pb**	**06 50 42.1**	**+0.2**
PRK				S	**Sb**	**06 50 51.8**	**+0.2**
PRK				AML	AML	06 50 57.6	
	comp=N,7201μm,0.4s						
PRK				AML	AML	06 50 58.2	
	comp=E,7599μm,0.4s						
SMTH	**Samothraki Isl**	**0.85**	**1**	P	**Pg**	**06 50 43.7**	**-0.4**
SMTH				S	**Sb**	**06 50 56.3**	**+0.5**
	comp=E,685nm,0.5s						
SMTH	**Samothraki Isl**	**0.85**	**1**	P	**Pb**	**06 50 44.2**	**-0.3**
SMTH				S	**Sb**	**06 50 56.4**	**+0.5**
SMTH				AML	AML	06 50 58.0	
	comp=E,1623μm,0.5s						
SMTH				AML	AML	06 51 04.1	
	comp=N,1069μm,0.5s						
SKY	**Skiros Island**	**1.05**	**225**	P	**Pb**	**06 50 47.8**	**-0.1**
SKY				S	**Sn**	**06 51 02.4**	**-0.5**
	comp=N,3μm,0.3s						
SKY	**Skiros Island**	**1.05**	**225**	P	**Pb**	**06 50 47.7**	**-0.2**
SKY				AML	AML	06 51 04.1	
	comp=N,3401μm,0.2s						
SKY				AML	AML	06 51 04.3	
	comp=E,7618μm,0.3s						
GELI	**Tayfur-Gelibol**	**1.07**	**44**	PG	**Pb**	**06 50 47.9**	**-0.4**
PSRA	**Psara**	**1.08**	**178**	P	**Pb**	**06 50 47.8**	**-0.5**
ENZZ	**Sultanice-Enez**	**1.10**	**26**	PN	**Pn**	**06 50 48.8**	**-0.2**
THAS	**Thassos island**	**1.15**	**329**	P	**Pb**	**06 50 48.7**	**-0.9**
THAS				S	**Sg**	**06 51 04.7**	**-0.2**
	comp=E,1μm,0.6s						
THAS	**Thassos island**	**1.15**	**329**	P	**Pb**	**06 50 49.0**	**-0.6**
THAS				S	**Sg**	**06 51 04.7**	**-0.2**
THAS				AML	AML	06 51 08.0	
	comp=N,2158μm,0.5s						
THAS				AML	AML	06 51 09.1	
	comp=E,3145μm,0.6s						
DKL	**Dikili**	**1.22**	**116**	PN	**Pb**	**06 50 50.6**	**-0.1**
LPK	**Lapseki**	**1.22**	**52**	PN	**Pg**	**06 50 50.9**	**-0.3**
ERIK	**Erikli-Kesan**	**1.30**	**36**	PN	**Pb**	**06 50 51.8**	**-0.4**
CHOS	**Chios island**	**1.31**	**161**	P	**Pn**	**06 50 51.7**	**-0.2**
CHOS				S	**Sn**	**06 51 09.5**	**+0.1**
	comp=E,1μm,0.6s						
CHOS	**Chios island**	**1.31**	**161**	P	**Pn**	**06 50 51.8**	**-0.1**
CHOS				S	**Sb**	**06 51 08.7**	**-0.3**
CHOS				AML	AML	06 51 14.8	
	comp=N,1739μm,0.8s						
CHOS				AML	AML	06 51 16.2	
	comp=E,2545μm,0.6s						
CHOS	**Chios island**	**1.31**	**161**	PN	**Pn**	**06 50 51.7**	**-0.2**
KRBN	**Karaburun**	**1.31**	**141**	PN	**Pb**	**06 50 52.1**	**-0.2**
FOCM	**Foa**	**1.32**	**133**	PN	**Pg**	**06 50 52.9**	**-0.1**
AOS	**Alonnisos**	**1.34**	**251**	P	**Pn**	**06 50 51.8**	**-0.5**
AOS	**Alonnisos**	**1.34**	**251**	P	**Pb**	**06 50 52.7**	**-0.1**
AOS				AML	AML	06 51 17.3	
	comp=N,960μm,0.5s						
AOS				AML	AML	06 51 18.6	
	comp=E,1028μm,0.6s						
AOS	**Alonnisos**	**1.34**	**251**	PN	**Pg**	**06 50 53.2**	**-0.2**
ALN	**Alexandroupoli**	**1.34**	**18**	P	**Pb**	**06 50 52.4**	**-0.4**
ALN				S	**Sg**	**06 51 10.2**	**-0.7**
	comp=E,420nm,0.7s						
ALN	**Alexandroupoli**	**1.34**	**18**	P	**Pb**	**06 50 52.8**	**0.0**
ALN				S	**Sg**	**06 51 11.0**	**+0.1**
ALN				AML	AML	06 51 14.6	
	comp=E,1194μm,0.9s						
ALN				AML	AML	06 51 26.8	
	comp=N,846μm,0.8s						
ALN	**Alexandroupoli**	**1.34**	**18**	PN	**Pg**	**06 50 53.1**	**-0.4**
OUR	**Ouranopolis**	**1.37**	**302**	P	**Pb**	**06 50 53.0**	**-0.3**
OUR				S	**Sb**	**06 51 10.6**	**-0.2**
	comp=N,1μm,0.7s						
OUR	**Ouranopolis**	**1.37**	**302**	P	**Pn**	**06 50 52.8**	**+0.1**
OUR				AML	AML	06 51 16.0	
	comp=E,1628μm,0.6s						
OUR				AML	AML	06 51 19.6	
	comp=N,2470μm,0.8s						
OUR	**Ouranopolis**	**1.37**	**302**	PN	**Pb**	**06 50 53.4**	**+0.1**
CESE	**eme**	**1.43**	**154**	PN	**Pn**	**06 50 53.4**	**-0.2**
PAIG	**Paliouri**	**1.44**	**283**	P	**Pn**	**06 50 53.2**	**-0.5**
PAIG	**Paliouri**	**1.44**	**283**	P	**Pn**	**06 50 53.1**	**-0.5**
PAIG				AML	AML	06 51 22.0	
	comp=N,687μm,1.3s						
PAIG				AML	AML	06 51 23.8	
	comp=E,451μm,0.6s						
URLA	**Izmir**	**1.52**	**146**	PN	**Pn**	**06 50 54.8**	**0.0**
RDO	**Rodhopi**	**1.52**	**1**	P	**Pn**	**06 50 54.6**	**-0.2**
RDO	**Rodhopi**	**1.52**	**1**	PN	**Pb**	**06 50 55.3**	**-0.6**
KAVA	**Kavala**	**1.57**	**331**	P	**Pn**	**06 50 54.9**	**-0.6**
KAVA				S	**Sn**	**06 51 15.1**	**-0.7**
	comp=E,392nm,0.6s						
KAVA	**Kavala**	**1.57**	**331**	P	**Pn**	**06 50 55.1**	**-0.4**
KAVA				S	**Sn**	**06 51 15.6**	**-0.2**
KAVA				AML	AML	06 51 21.3	
	comp=N,772μm,0.5s						
KAVA				AML	AML	06 51 21.6	
	comp=E,806μm,0.7s						
KVLA	**Kavala**	**1.57**	**327**	P	**Pn**	**06 50 55.1**	**-0.4**
KVLA				S	**Sn**	**06 51 15.1**	**-0.6**
KRGG	**Karabiga-Canak**	**1.58**	**60**	PN	**Pb**	**06 50 56.7**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.67**	**50**	PN	**Pb**	**06 50 57.4**	**-1.0**
BLCB	**Balcova**	**1.72**	**135**	PN	**Pn**	**06 50 58.1**	**+0.6**
GONE	**Gonen-Balikesi**	**1.73**	**75**	PN	**Pb**	**06 50 58.4**	**-1.1**
UKOP	**Uzunkopru-Edir**	**1.73**	**29**	PN	**Pb**	**06 50 59.1**	**-0.4**
PLG	**Polygyros**	**1.75**	**296**	P	**Pn**	**06 50 58.3**	**+0.3**
PLG				AML	AML	06 51 34.5	
	comp=E,473μm,0.7s						
PLG				AML	AML	06 51 36.6	
	comp=N,436μm,1.0s						
NEO	**Neokhori**	**1.79**	**261**	P	**Pn**	**06 50 59.4**	**+0.8**
NEO				AML	AML	06 51 30.7	
	comp=N,697μm,0.5s						
NEO				AML	AML	06 51 37.4	
	comp=E,509μm,0.7s						
XOR	**Xorichti**	**1.81**	**263**	P	**Pn**	**06 50 58.2**	**-0.6**
XOR				AML	AML	06 51 29.8	
	comp=N,541μm,0.5s						
XOR				AML	AML	06 51 36.8	
	comp=E,438μm,0.6s						
BALB	**Balikesir**	**1.83**	**89**	PN	**Pn**	**06 50 59.7**	**+0.6**
MRMT	**Marmara Adasi**	**1.88**	**58**	PN	**Pn**	**06 51 00.4**	**+0.6**
EDC	**Edincik**	**1.95**	**67**	PN	**Pb**	**06 51 01.8**	**-1.5**
PTL	**Penteli**	**2.03**	**220**	P	**Pn**	**06 51 01.2**	**-0.6**
KDZ	**Kurdzhali**	**2.03**	**358**	P	**Pn**	**06 51 01.3**	**-0.5**
KDZ	**Kurdzhali**	**2.03**	**358**	PN	**Pn**	**06 51 01.9**	**+0.1**
SOH	**Sokhos**	**2.04**	**307**	P	**Pn**	**06 51 01.7**	**-0.3**
TKR	**Tekirdag**	**2.07**	**48**	PN	**Pb**	**06 51 03.6**	**-1.7**
HORT	**Hortiatis**	**2.09**	**299**	P	**Pn**	**06 51 03.0**	**+0.3**
HORT				AML	AML	06 51 40.8	
	comp=N,412μm,0.8s						
HORT				AML	AML	06 51 46.9	
	comp=E,265μm,0.8s						
HORT	**Hortiatis**	**2.09**	**299**	PN	**Pn**	**06 51 03.5**	**+0.8**
NVR	**Nevrokopi**	**2.13**	**325**	P	**Pn**	**06 51 03.8**	**+0.6**
RZN	**Rozhen**	**2.15**	**344**	*i* P	**Pn**	**06 51 03.9**	**+0.3**
VLY	**Voula,Athens**	**2.22**	**218**	P	**Pn**	**06 51 03.4**	**-0.9**
KCTX	**Karacabey (Bur**	**2.29**	**73**	PN	**Pn**	**06 51 06.0**	**+0.6**
LIT	**Litokhoron**	**2.37**	**283**	P	**Pn**	**06 51 06.3**	**-0.2**
MMB	**Musomoiste**	**2.39**	**326**	*i* P	**Pn**	**06 51 06.5**	**-0.3**
EDRB	**Edirne**	**2.41**	**23**	PN	**Pn**	**06 51 08.8**	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**2.50**	**131**	PN	**Pn**	**06 51 09.5**	**+1.0**
KNT	**Kendrikon**	**2.52**	**309**	P	**Pn**	**06 51 08.9**	**+0.4**
KNT				AML	AML	06 51 52.4	
	comp=N,463μm,0.5s						
KNT				AML	AML	06 51 58.5	
	comp=E,474μm,0.7s						
KNT	**Kendrikon**	**2.52**	**309**	PN	**Pn**	**06 51 10.3**	**+1.8**
PHSR	**Pinarhisar**	**2.53**	**37**	PN	**Pn**	**06 51 09.7**	**+1.0**
AGG	**Agios Georgios**	**2.53**	**257**	P	**Pn**	**06 51 09.4**	**+0.6**
AGG	**Agios Georgios**	**2.53**	**257**	P	**Pn**	**06 51 09.1**	**+0.3**
AGG	**Agios Georgios**	**2.54**	**257**	PN	**Pn**	**06 51 10.0**	**+1.2**
LTK	**Lautraki**	**2.54**	**232**	P	**Pn**	**06 51 08.9**	**0.0**
SLVT	**Silivri**	**2.62**	**51**	PN	**Pn**	**06 51 11.1**	**+1.2**
THL	**Klokotos Trika**	**2.70**	**270**	P	**Pn**	**06 51 11.1**	**+0.1**
GRG	**Griva**	**2.72**	**300**	P	**Pn**	**06 51 12.2**	**+0.8**
GRG	**Griva**	**2.72**	**300**	PN	**Pn**	**06 51 13.2**	**+1.8**
DID	**Didima**	**2.76**	**221**	P	**Pn**	**06 51 11.1**	**-0.8**
CTKS	**Kestanelik-??a**	**2.80**	**54**	PN	**Pn**	**06 51 14.5**	**+2.1**
VAY	**Valandovo**	**2.81**	**308**	*e*Pg	**Pg**	**06 51 22.8**	**+1.3**
VAY				*e*Sn	**Sg**	**06 52 02.6**	**+4.7**
BODT	**Bodrum**	**2.92**	**150**	PN	**Pn**	**06 51 15.2**	**+1.1**
KLV	**Kalavryta, Ach**	**3.06**	**240**	P	**Pn**	**06 51 15.8**	**-0.2**
KAVV	**Kandilli-Istan**	**3.08**	**61**	PN	**Pn**	**06 51 17.9**	**+1.7**
GEDZ	**Gediz**	**3.08**	**100**	PN	**Pn**	**06 51 17.9**	**+1.5**
YLV	**Yalova**	**3.11**	**71**	⇑P	**Pg**	**06 51 26.2**	**-1.2**
YLV				AML	AML	06 52 26.8	
YLV	**Yalova**	**3.11**	**71**	PN	**Pn**	**06 51 18.5**	**+1.7**
KLYT	**Kilyos**	**3.15**	**58**	⇑P	**Pb**	**06 51 25.4**	**+1.7**
KLYT				AML	AML	06 52 22.9	
ELND	**Elena**	**3.32**	**5**	⇓P	**Pb**	**06 51 22.8**	**-3.7**
ELND				AML	AML	06 52 23.3	
VTS	**Vitosha**	**3.45**	**331**	*e*Pn	**Pn**	**06 51 23.3**	**+1.8**
VTS	**Vitosha**	**3.45**	**331**	*i* P	**Pn**	**06 51 23.7**	**+2.2**
BOSS	**Bosilegrad**	**3.67**	**322**	*e*Pn	**Pn**	**06 51 26.2**	**+1.8**
BARS	**Barje**	**4.23**	**320**	*e*Pn	**Pn**	**06 51 32.6**	**+0.5**
ZAPS	**Zavoj**	**4.24**	**330**	*e*Pn	**Pn**	**06 51 35.0**	**+2.8**
ZAPS				*e*Sn	**Sg**	**06 52 45.4**	**+1.6**
ZAGS	**Zajecar**	**4.85**	**331**	*e*Pn	**Pn**	**06 51 42.2**	**+1.6**
ZAGS				*e*Sn	**Sg**	**06 52 59.3**	**-4.1**
BOVS	**Bovan**	**4.92**	**326**	*e*Pn	**Pn**	**06 51 42.6**	**+1.1**
MDVR	**Moldovita**	**5.87**	**333**	⇑P	**Pn**	**06 51 55.3**	**+0.6**
MLR	**Muntele Rosu**	**5.88**	**3**	⇑P	**Pn**	**06 51 58.1**	**+3.3**
DIVS	**Divibare**	**6.08**	**319**	*e*Pn	**Pn**	**06 51 55.9**	**-1.6**
GZR	**Gura Zlata**	**6.11**	**342**	⇑P	**Pn**	**06 51 58.4**	**+0.4**
PLOR	**Plostina**	**6.28**	**7**	⇑P	**Pn**	**06 52 04.6**	**+4.3**
VRI	**Vrincioaia**	**6.31**	**8**	⇓P	**Pn**	**06 52 04.7**	**+4.1**
DOPR	**Dopca**	**6.34**	**359**	⇓P	**Pn**	**06 52 03.7**	**+2.6**
OZUR		**6.47**	**2**	⇓P	**Pn**	**06 52 07.0**	**+4.1**
BZS	**Buzias**	**6.64**	**336**	⇑P	**Pn**	**06 52 04.6**	**-0.5**
TESR	**Tescani**	**6.94**	**7**	⇓P	Pn	06 52 14.0	+4.8
DRGR		**7.45**	**345**	⇑P	**Pn**	**06 52 18.3**	**+1.9**
VYHS	**Vyhne**	**10.08**	**334**	*e*SN	Sn	06 54 25.9	-19

NIED ***23*** *06:57:00, 35°.70N×142°.20E, h5km, Mw5.5 Best double couple: M0 2.10000×10^17 NP1:φs175.00000°, δ39.00000°, λ62.00000°. NP2:φs30.00000°, δ57.00000°, λ111.00000°.*
IDC ***23*** *06:57:27.4±0.5, 35°.46N×142°.13E, h0km, mb4.5/32, mb1 4.6/37, mb1mx4.6/48, mbtmp4.6/37, ML3.4/4, MS5.2/42, Ms1 5.2/42, ms1mx5.0/65, Error ellipse: s-maj=12.9km s-min=11.7km az=98.0*
JMA ***23*** *06:57:28.6±0.6, 35°.63N×142°.20E, h42km, M5.9*
JMA Felt I J1.
ISCJB ***23*** *06:57:29.0±0.7, 35°.62N±0°.02×142°.04E±0°.02, h18km±4km, mb5.1/176, MS5.6/112, Error ellipse: s-maj=3.6km s-min=2.4km az=162.7*
NEIC ***23*** *06:57:29.1±2.6, 35°.69N±0°.05×142°.14E±0°.07, h8km±1km, mb5.4/241, Ms_20 5.4/427, Mwb5.6, Mwc5.6(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr1.03; Mθθ-0.52; Mφφ-0.51; Mrθ1.58; Mθφ0.08; Mφr3.19; Fault plane solution: M0 3.67000×10^17 NP1: φs199.28000°, δ5.91000°, λ83.24000°. NP2:φs26.07000°, δ84.13000°, λ90.70000°. Principal axes: T 3.9211, Plg51.0000°, Azm297.0000°; N -0.5807, Plg1.0000°, Azm206.0000°; P -3.3404, Plg39.0000°, Azm115.0000°;*
BJI ***23*** *06:57:29.0±0.0, 35°.69N×141°.86E, h10km, mb5.1/59, mB5.8/76, Ms5.9/87, Ms7 5.7/82*
MOS ***23*** *06:57:30.2±1.4, 35°.67N×142°.05E, h23km, mb5.4/104, MS5.4/43, Error ellipse: s-maj=6.1km s-min=3.8km az=115.7*
NEIC ***23*** *06:57:32, 35°.52N×142°.28E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr1.52; Mθθ-0.25; Mφφ-1.27; Mrθ0.63; Mθφ-0.65; Mφr1.81; Fault plane solution: M0 2.47000×10^17 NP1:φs212.00000°, δ20.00000°, λ100.00000°. NP2:φs21.00000°, δ71.00000°, λ86.00000°. Principal axes: T 2.4413, Plg64.0000°, Azm285.0000°; N 0.0483, Plg3.0000°, Azm22.0000°; P -2.4895, Plg25.0000°, Azm113.0000°;*
GCMT ***23*** *06:57:32.1±0.1, 35°.52N±0°.01×142°.23E±0°.01, h12km, MW5.5/156, Moment Tensor Solution. s110,c194; s156,c317; Duration: 1§3 Moment tensor: Scale 10^17 Nm; Mrr1.50±.01; Mθθ-0.26±.01; Mφφ-1.25±.01; Mrθ0.44±.04; Mθφ-0.60±.01; Mφr1.15±.04; Best double couple: M0 1.95200×10^17 NP1:φs22.00000°, δ65.00000°, λ88.00000°. NP2:φs208.00000°, δ26.00000°, λ95.00000°. Principal axes: T 1.9380, Plg70.0000°, Azm287.0000°; N 0.0230, Plg2.0000°, Azm23.0000°; P -1.9670, Plg20.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 06:57:32.6±0.5, 35°.68N±0°.03×142°.04E±0°.03, h27km±3km, h26km:pP-P, n1065, σ1§90/930, mb5.3/248, MS5.4/303, 50C-25D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.96**	**272**	P	**Pn**	**06 57 47.9**	**-2.4**
JSMT	**Sammumatsuo**	**1.29**	**269**	P	**Pn**	**06 57 53.3**	**-1.6**
BSO1	**Boso 1**	**1.34**	**220**	P	**Pn**	**06 57 51.8**	**-3.3**
JHYU	**Hitachinakayam**	**1.35**	**300**	P	**Pn**	**06 57 53.5**	**-2.1**
I30JP	**ISUMI INFRASON**	**1.45**	**256**	Pn	**Pb**	**06 58 01.1**	**+2.2**
	baz=91,slow=27,SNR=2.3						
JHO	**Hitachi**	**1.51**	**308**	P	**Pn**	**06 57 54.9**	**-2.9**
BSO3	**Boso 3**	**1.52**	**235**	P	**Pn**	**06 57 55.3**	**-2.5**
JAG	**Ashikaga**	**2.22**	**290**	⇑P	**Pn**	**06 58 05.6**	**-2.0**
JFT	**Otama**	**2.29**	**324**	P	**Pn**	**06 58 07.3**	**-1.3**
JFT				*e*S	**Sn**	**06 58 36.6**	**+0.7**
JSGW	**Sagamiharawaka**	**2.30**	**269**	P	**Pn**	**06 58 08.0**	**-0.8**
JIM2	**Oshima 3**	**2.34**	**246**	P	**Pn**	**06 58 06.4**	**-2.9**
JOD2	**Odawara 2**	**2.44**	**261**	P	**Pn**	**06 58 08.4**	**-2.3**
JKT	**Katashina**	**2.50**	**296**	P	**Pn**	**06 58 10.5**	**-1.1**
JRY	**Ryogami san**	**2.57**	**278**	P	**Pn**	**06 58 11.3**	**-1.2**
JHTM	**Izuhatsuma**	**2.58**	**255**	P	**Pn**	**06 58 11.7**	**-0.9**
JFNN	**Fujinakano**	**2.78**	**261**	P	**Pn**	**06 58 15.0**	**-0.3**
JYN	**Shimob**	**2.85**	**267**	P	**Pn**	**06 58 14.6**	**-1.8**
JHJ2	**Mitsune**	**3.15**	**216**	Pn	**Pn**	**06 58 20.1**	**-0.4**
JHJ2				Sn	**Sn**	**06 58 54.5**	**-2.7**
MJAR	**Matsushiro Arr**	**3.21**	**287**	Pn	**Pn**	**06 58 20.8**	**-0.6**
	2.2nm,0.3s,baz=94,slow=10,SNR=87						
MJAR				Sn	**Sn**	**06 58 58.1**	**-0.7**
	3.2nm,0.3s,baz=136,slow=25,SNR=7.2						
MAJO	**Matsushiro**	**3.22**	**287**	*c i* P	**Pn**	**06 58 20.9**	**-0.5**
MAJO	**Matsushiro**	**3.22**	**287**		**Pn**	**06 58 20.7**	**-0.6**
MAJO				Sn	**Sn**	**06 58 59.6**	**+0.8**
MAT	**Matsushiro**	**3.22**	**287**	P	**Pn**	**06 58 20.6**	**-0.9**
MAT				*e*S	**Sn**	**06 58 57.1**	**-1.7**
MAT	**Matsushiro**	**3.22**	**287**	P	**Pn**	**06 58 20.6**	**-0.8**
MAT				*e*S	**Sn**	**06 58 59.5**	**+0.7**
MJB9	**Matsu-Tunnel**	**3.22**	**287**		**Pn**	**06 58 20.9**	**-0.6**
MJB9				Sn	**Sn**	**06 58 58.9**	**0.0**
JNG	**Nsakai**	**3.27**	**284**	P

	comp=N,15nm,0.4s								
SHO					MLR	MLR			
	comp=E,11µm,11.0s								
SHO					MLR	MLR			
	comp=Z,12µm,11.0s								
SHO					MLR	MLR			
	comp=N,9µm,10.0s								
JNU	**Nakatsue**	**9.56**	**258**		Pn	**Pn**	**06**	**59**	**47.9 -0.7**
	comp=N,0.7nm,0.3s,baz=72,slow=9.7,SNR=10								
JNU					LR	LR	07	03	32.3
	comp=N,17µm,20.1s,baz=84,slow=38								
JNU	**Nakatsue**	**9.56**	**258**			**Pn**	**06**	**59**	**47.7 -0.8**
JNU					Sn	**Sn**	**07**	**01**	**38.2 +3.0**
TEY	**Ternei**	**10.22**	**338**	⇑	*eP*	**Pn**	**07**	**00**	**00.0 +2.6**
TEY					pmax	pmax			
	comp=E,20nm,1.0s								
TEY					pmax	pmax			
	comp=N,30nm,1.1s								
TEY					pmax	pmax			
	comp=Z,30nm,1.0s								
TEY					MLR	MLR			
	comp=N,2µm,13.0s								
TEY					MLR	MLR			
	comp=E,2µm,13.0s								
TEY					MLR	MLR			
	comp=Z,3µm,13.0s								
VLA	**Vladivostok**	**10.80**	**316**	*c*	*iP*	**Pn**	**07**	**00**	**06.0 +0.6**
MSHR	**Mys Shultsa**	**10.89**	**312**	*c*	*eP*	**Pn**	**07**	**00**	**06.7 0.0**
YSS	**Yuzh-Sakhalins**	**11.28**	**3**	⇑	*iP*	**Pn**	**07**	**00**	**10.9 -1.0**
YSS					*eS*	**Sn**	**07**	**02**	**14.7 -2.2**
YSS					pmax	pmax			
	comp=Z,70nm,1.0s								
YSS					MLR	MLR			
	comp=E,30µm,15.0s								
YSS					MLR	MLR			
	comp=Z,30µm,15.0s								
YSS					MLR	MLR			
	comp=N,10µm,13.0s								
YSS	**Yuzh-Sakhalins**	**11.28**	**3**			**Pn**	**07**	**00**	**10.5 -1.4**
USA0B	**Ussuriysk Arra**	**11.47**	**321**		P	**Pn**	**07**	**00**	**13.0 -1.6**
USA0B	**Ussuriysk Arra**	**11.47**	**321**			**Pn**	**07**	**00**	**13.0 -1.6**
USRK	**Ussuriysk Ar.**	**11.47**	**321**		Pn	**Pn**	**07**	**00**	**16.8 +2.2**
	baz=136,slow=12,SNR=26								
USRK					LR	LR	07	04	20.4
	comp=N,11µm,18.5s,baz=130,slow=35								
KSRS	**Korea Array**	**11.49**	**283**		Pn	**Pn**	**07**	**00**	**16.2 +1.4**
	comp=N,0.4nm,0.3s,baz=96,slow=12,SNR=18								
KSRS					LR	LR	07	04	33.7
	comp=N,14µm,19.2s,baz=94,slow=37								
KS19	**Wonju Array Si**	**11.54**	**283**		Pn	**Pn**	**07**	**00**	**13.9 -1.6**
TJN	**Taejon**	**11.90**	**278**	*c*	*iP*	**Pn**	**07**	**00**	**21.5 +1.0**
MDJ	**Mudanjiang**	**13.03**	**317**		P	**Pn**	**07**	**00**	**33.9 -2.0**
MDJ					pP	P	07	00	38.8 -7.2
MDJ					sP		07	00	41.8
MDJ					PP	**PnPn**	**07**	**00**	**43.3 -0.5**
MDJ					S	**Sn**	**07**	**02**	**59.0 -1.0**
MDJ					SS	S	07	03	12.8 -12
MDJ					pmax	pmax			
	comp=N,5µm,10.1s								
MDJ					LR	LR			
	comp=N,47µm,13.2s								
MDJ					LR	LR			
	comp=N,33µm,12.8s								
MDJ					LR	LR			
	comp=N,45µm,13.9s								
MDJ	**Mudanjiang**	**13.03**	**317**		Pn	**Pn**	**07**	**00**	**36.0 0.0**
UGL	**Uglegorsk**	**13.39**	**0**		*eP*	**P**	**07**	**00**	**45.6 -4.3**
UGL					S	**Sn**	**07**	**03**	**05.1 -3.4**
UGL					pmax	pmax			
	comp=Z,2µm,6.0s								
UGL					smax	smax			
	comp=N,3µm,13.2s								
UGL					MLR	MLR			
	comp=Z,24µm,16.0s								
UGL					MLR	MLR			
	comp=E,15µm,14.0s								
UGL					MLR	MLR			
	comp=N,26µm,15.0s								
JOW	**Kunigami**	**14.69**	**237**		Pn	**Pn**	**07**	**01**	**00.7 +2.0**
CN2	**Changchun**	**15.10**	**307**		*eP*	**Pn**	**07**	**01**	**02.0 -2.0**
CN2					*eS*	**Sn**	**07**	**03**	**44.0 -6.4**
CN2					pmax	pmax			
	comp=N,20nm,1.6s								
CN2					pmax	pmax			
	comp=N,3µm,12.0s								
CN2					LR	LR			
	comp=N,21µm,16.0s								
CN2					LR	LR			
	comp=N,41µm,16.0s								
CN2					LR	LR			
	comp=N,42µm,14.0s								
TYV	**Tymovskoe**	**15.18**	**2**		*eP*	**P**	**07**	**01**	**15.0 +5.2**
TYV					pmax	pmax			
	comp=Z,2µm,4.3s								
TYV					pmax	pmax			
	comp=Z,57nm,1.1s								
TYV					MLR	MLR			
	comp=E,34µm,15.0s								
TYV					MLR	MLR			
	comp=Z,22µm,15.0s								
KLR	**Kul'dur**	**15.50**	**334**	⇓	*eP*	**Pn**	**07**	**01**	**11.2 +2.0**
KLR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
KLR	**Kul'dur**	**15.50**	**334**		Pn	**Pn**	**07**	**01**	**06.8 -2.4**
	comp=Z,0.3nm,0.3s,baz=135,slow=12,SNR=6.5								
KLR					LR	LR	07	07	03.2
	comp=Z,17µm,18.7s,baz=142,slow=37								
GRNR	**Gornyy**	**15.62**	**347**	⇓	*iP*	Pn	07	00	58.7 -12
GRNR					*eSS*	**Sn**	**07**	**04**	**05.1 +2.2**
GRNR					pmax	pmax			
	comp=Z,30nm,1.2s								
GRNR					MLR	MLR			
	comp=Z,22µm,15.0s								
SNY	**Shenyang**	**15.64**	**299**	⇓	P	**Pn**	**07**	**01**	**09.6 -1.5**
SNY					pmax	pmax			
	comp=Z,4µm,11.2s								
SNY					LR	LR			
	comp=Z,27µm,14.3s								
SNY					LR	LR			
	comp=Z,27µm,13.7s								
SNY					LR	LR			
	comp=Z,40µm,14.2s								
DL2	**Dalian**	**16.55**	**287**	⇑	*iP*	**Pn**	**07**	**01**	**21.3 -1.5**
DL2					S	**Sn**	**07**	**04**	**20.8 -4.9**
DL2					pmax	pmax			
	comp=Z,66nm,1.2s								
DL2					pmax	pmax			
	comp=Z,3µm,5.2s								
DL2					LR	LR			
	comp=Z,30µm,14.6s								
DL2					LR	LR			
	comp=Z,13µm,14.8s								
DL2					LR	LR			
	comp=Z,18µm,11.9s								
NKL	**Nikolayevsk**	**17.49**	**357**		*eP*	**Pn**	**07**	**01**	**32.8 -1.6**
NKL					pmax	pmax			
	comp=Z,25nm,1.9s								
NKL					pmax	pmax			
	comp=E,6.0nm,1.7s								
NKL					pmax	pmax			
	comp=N,5.0nm,1.0s								
OKH	**Okha**	**17.88**	**2**	*d*	*iP*	**P**	**07**	**01**	**39.9 +0.3**
OKH					pmax	pmax			
	comp=Z,1µm,11.9s								
OKH					MLR	MLR			
	comp=Z,24µm,16.0s								
SSE	**Sheshan**	**17.99**	**261**		P	**Pn**	**07**	**01**	**39.9 -0.9**
SSE					S	**Sn**	**07**	**05**	**01.1 +0.4**
SSE					pmax	pmax			
	comp=Z,18nm,0.7s								
SSE					pmax	pmax			
	comp=Z,1µm,11.8s								
SSE					LR	LR			
	comp=Z,8µm,16.4s								
SSE					LR	LR			
	comp=Z,5µm,16.0s								
NJ2	**Nanjing**	**19.58**	**266**		*eP*	**P**	**07**	**01**	**56.9 -1.6**
NJ2					S	**S**	**07**	**05**	**32.8 -5.2**
NJ2					pmax	pmax			
	comp=Z,20nm,0.5s								
NJ2					pmax	pmax			
	comp=Z,2µm,9.5s								
NJ2					LR	LR			
	comp=Z,24µm,15.6s								
NJ2					LR	LR			
	comp=Z,10µm,16.6s								
NJ2					LR	LR			
	comp=Z,13µm,12.8s								
TIA	**Tai'an**	**20.16**	**279**		P	**P**	**07**	**02**	**03.0 -1.9**
TIA					S	Sn	07	05	53.0 -0.1
TIA					pmax	pmax			
	comp=Z,2µm,12.1s								
TIA					LR	LR			
	comp=Z,12µm,14.2s								
TIA					LR	LR			
	comp=Z,7µm,17.1s								
TIA					LR	LR			
	comp=Z,10µm,14.2s								
PEA0B	**Petropavlovsk-**	**20.63**	**28**		P	**P**	**07**	**02**	**09.0 -0.8**
PEA0B					pmax	pmax			
	comp=Z,154nm,1.3s								
PEA0B	**Petropavlovsk-**	**20.63**	**28**		P	**P**	**07**	**02**	**09.0 -0.8**
PETK	**Petropavlovsk-**	**20.63**	**28**		P	**P**	**07**	**02**	**10.5 +0.7**
	comp=Z,24nm,1.0s,baz=215,slow=13,SNR=4.1								
PETK					LR	LR	07	11	56.5
	comp=Z,4µm,18.4s,baz=214,slow=42								
ZEA	**Zeya**	**20.81**	**335**		*eP*	**P**	**07**	**02**	**09.0 -2.7**
ZEA					*e*		07	02	38.0
ZEA					*eS*	**S**	**07**	**06**	**05.0 +2.5**
ZEA					pmax	pmax			
	comp=N,86nm,1.2s								
ZEA					pmax	pmax			
	comp=E,35nm,1.0s								
ZEA					pmax	pmax			
	comp=Z,120nm,1.0s								
ZEA					pmax	pmax			
	comp=N,2µm,9.0s								
ZEA					pmax	pmax			
	comp=E,900nm,9.0s								
ZEA					pmax	pmax			
	comp=Z,3µm,9.0s								
ZEA					pmax	pmax			
	comp=Z,3µm,11.0s								
ZEA					pmax	pmax			
	comp=E,1µm,8.0s								
ZEA					smax	smax			
	comp=E,10µm,9.0s								
ZEA					smax	smax			
	comp=N,11µm,10.0s								
ZEA					MLR	MLR			
	comp=Z,43µm,14.0s								
ZEA					MLR	MLR			
	comp=E,17µm,13.0s								
ZEA					MLR	MLR			
	comp=N,30µm,14.0s								
BJI	**Beijing**	**20.85**	**290**	⇓	*iP*	**P**	**07**	**02**	**08.8 -3.4**
BJI					sP	**pwP**	**07**	**02**	**25.4 +2.8**
BJI					S	**S**	**07**	**05**	**59.3 -4.1**
BJI					pmax	pmax			
	comp=N,2µm,13.9s								
BJI					LR	LR			
	comp=N,8µm,12.6s								
BJI					LR	LR			
	comp=N,14µm,12.9s								
BJI					LR	LR			
	comp=N,5µm,15.7s								
BJT	**Baijiatuau**	**20.85**	**290**		P	**P**	**07**	**02**	**10.0 -2.3**
BJT					pmax	pmax			
	comp=Z,233nm,1.7s								
BJT					MLR	MLR			
	comp=Z,6µm,20.0s								
BJT	**Baijiatuau**	**20.85**	**290**		P	**P**	**07**	**02**	**10.0 -2.3**
BJT					IAmb	IAmb	07	02	38.2
	comp=Z,233nm,1.7s								
PET	**Petropavlovsk**	**20.93**	**29**		*eP*	Pn	07	02	18.6 +3.0
PET					*eS*	**S**	**07**	**06**	**03.8 -1.0**
PET					pmax	pmax			
	comp=Z,1µm,8.5s								
PET					pmax	pmax			
	comp=Z,112nm,1.4s								
PET					MLR	MLR			
	comp=Z,7µm,19.0s								
HIA	**Hailar**	**21.22**	**317**		P	**P**	**07**	**02**	**14.1 -2.1**
HIA					pmax	pmax			
	comp=Z,54nm,1.1s								
HIA					MLR	MLR			
	comp=Z,8µm,18.0s								
HIA	**Hailar**	**21.22**	**317**		P	**P**	**07**	**02**	**14.1 -2.1**
YULB	**Yu-li**	**21.75**	**241**		P	**P**	**07**	**02**	**22.9 +0.8**
SSLB	**Suanglung**	**21.76**	**243**		P	**P**	**07**	**02**	**21.4 -0.8**
QZH	**Quanzhou**	**22.84**	**249**	⇓	*iP*	**P**	**07**	**02**	**31.8 -1.9**
QZH					S	**S**	**07**	**06**	**30.9 -11**
QZH					pmax	pmax			
	comp=Z,920nm,9.0s								
QZH					LR	LR			
	comp=Z,8µm,14.9s								
QZH					LR	LR			
	comp=Z,15µm,15.4s								
QZH					LR	LR			
	comp=Z,12µm,14.1s								
WHN	**Wuhan**	**23.71**	**265**	⇑	P	**P**	**07**	**02**	**38.8 -3.5**
WHN					pP	**pP**	**07**	**02**	**50.8 +1.8**
WHN					PP	**PnPn**	**07**	**03**	**15.1 +5.0**
WHN					S	**S**	**07**	**06**	**53.6 -2.2**
WHN					pmax	pmax			
	comp=Z,3µm,8.6s								
WHN					LR	LR			
	comp=Z,42µm,13.2s								
WHN					LR	LR			
	comp=Z,23µm,12.1s								
WHN					LR	LR			
	comp=Z,46µm,12.5s								
TIY	**Taiyuan**	**23.78**	**284**		*eP*	**P**	**07**	**02**	**42.8 -0.2**
TIY					S	**S**	**07**	**06**	**47.1 -10**
TIY					pmax	pmax			
	comp=Z,2µm,6.9s								
TIY					LR	LR			
	comp=Z,15µm,14.6s								
TIY					LR	LR			
	comp=Z,20µm,13.2s								
TIY					LR	LR			
	comp=Z,23µm,13.7s								
HHC	**Hu-ho-hao-te**	**24.41**	**291**		P	**P**	**07**	**02**	**48.4 -0.5**
HHC					PP	pwP	07	03	23.6 +24
HHC					S	**S**	**07**	**07**	**01.8 -5.2**
HHC					pmax	pmax			
	comp=Z,1µm,7.2s								
HHC					LR	LR			
	comp=Z,5µm,12.0s								
HHC					LR	LR			
	comp=Z,6µm,13.3s								
HHC					LR	LR			
	comp=Z,8µm,13.5s								
MA2	**Magadan**	**24.58**	**11**	*c*	*iP*	**P**	**07**	**02**	**49.7 -0.4**
MA2					pmax	pmax			
	comp=Z,127nm,3.1s								
MA2	**Magadan**	**24.58**	**11**		P	**P**	**07**	**02**	**50.8 +0.7**
	comp=Z,11nm,0.9s,baz=199,slow=22,SNR=1.6								
MA2					LR	LR	07	13	17.4
	comp=Z,4µm,19.4s,baz=196,slow=38								
MA2	**Magadan**	**24.58**	**11**		P	**P**	**07**	**02**	**48.5 -1.6**
MA2					IAmb	IAmb	07	03	03.1
	comp=Z,278nm,1.6s								
BTO	**Baotou**	**25.57**	**291**		*eP*	**P**	**07**	**02**	**56.9 -2.5**
CIT	**Chita**	**26.01**	**318**		*eP*	**P**	**07**	**03**	**04.5 +1.3**
CIT					*e*		07	03	18.6
CIT					*e*		07	03	50.2
CIT					*e*		07	07	34.0
CIT					pmax	pmax			
	comp=Z,431nm,2.2s								
H11N2	**WAKE ISLAND Hy**	**27.04**	**119**		T	T	07	31	25.5
	baz=311,slow=75,SNR=32								
H11N1	**WAKE ISLAND Hy**	**27.04**	**119**		T	T	07	31	25.7
	baz=311,slow=75,SNR=18								
H11N3	**WAKE ISLAND Hy**	**27.05**	**119**		T	T	07	31	26.9
	baz=311,slow=75,SNR=25								
XAN	**Xi'an**	**27.15**	**276**		P	**P**	**07**	**03**	**12.6 -1.1**
XAN					pP	pP	07	03	19.8 -0.8
XAN					sP	sP	07	03	22.9 -0.3
XAN					PP	**PnPn**	**07**	**04**	**00.1 +2.9**
XAN					S	**S**	**07**	**07**	**47.9 -2.8**
XAN					sS	pS	07	08	00.3 +1.7
XAN					SS	**SnSn**	**07**	**09**	**07.4 +8.7**
XAN					pmax	pmax			
	comp=Z,44nm,1.5s								
XAN					pmax	pmax			
	comp=Z,2µm,7.9s								
XAN					LR	LR			
	comp=Z,9µm,14.6s								
XAN					LR	LR			
	comp=Z,18µm,14.6s								
XAN					LR	LR			
	comp=Z,20µm,15.4s								
XAN	**Xi'an**	**27.15**	**276**		P	**P**	**07**	**03**	**12.3 -1.4**
XAN					pmax	pmax			
	comp=Z,296nm,2.0s								
XAN					MLR	MLR			
	comp=Z,9µm,19.0s								
XAN	**Xi'an**	**27.15**	**276**		P	**P**	**07**	**03**	**12.2 -1.4**
XAN					IAmb	IAmb	07	03	22.1
	comp=Z,296nm,2.0s								
XAN	**Xi'an**	**27.15**	**276**		IAMs_20	IAMs_20	07	15	56.6
	comp=Z,9µm,19.0s								
YAK	**Yakutsk**	**27.50**	**347**		*eP*	**P**	**07**	**03**	**15.1 -1.3**
YAK					*e**PP	**sP**	**07**	**03**	**25.6 -0.4**
YAK					*eS*	**S**	**07**	**07**	**55.0 -0.4**
YAK					*e**SS	**pS**	**07**	**08**	**04.4 +1.9**
YAK					*e*SSS	SSS	07	09	37.3
YAK					pmax	pmax			
	comp=Z,43nm,1.0s								
YAK					pmax	pmax			
	comp=E,7.0nm,1.1s								
YAK					pmax	pmax			
	comp=N,24nm,1.3s								
YAK					pmax	pmax			
	comp=Z,228nm,1.5s								
YAK					pmax	pmax			
	comp=E,152nm,2.0s								
YAK					pmax	pmax			
	comp=N,383nm,2.5s								
YAK					smax	smax			
	comp=E,1µm,4.9s								
YAK					MLR	MLR			
	comp=Z,14µm,15.0s								
YAK					MLR	MLR			
	comp=E,3µm,14.0s								
YAK					MLR	MLR			
	comp=N,15µm,17.0s								
YAK	**Yakutsk**	**27.50**	**347**		P	**P**	**07**	**03**	**17.2 +0.9**
	comp=N,6.6nm,0.4s,baz=285,slow=0.6,SNR=10								
YAK	**Yakutsk**	**27.50**	**347**		P	**P**	**07**	**03**	**15.3 -1.1**
H11S1	**WAKE ISLAND Hy**	**27.71**	**122**		T	T	07	32	18.1
	baz=313,slow=76,SNR=34								
H11S3	**WAKE ISLAND Hy**	**27.71**	**122**		T	T	07	32	16.5
	baz=313,slow=76,SNR=34								
H11S2	**WAKE ISLAND Hy**	**27.73**	**122**		T	T	07	32	18.9
	baz=313,slow=76,SNR=26								
ENH	**Enshi**	**27.75**	**268**		P	**P**	**07**	**03**	**17.9 -1.2**
ENH					IAMs_20	IAMs_20	07	16	03.5
	comp=Z,10µm,18.0s								
SEY	**Seymchan**	**28.02**	**10**	⇓	*eP*	**P**	**07**	**03**	**20.4 -0.7**
SEY	**Seymchan**	**28.02**	**10**		P	**P**	**07**	**03**	**22.6 +1.5**
	comp=Z,6.1nm,0.8s,baz=180,slow=5.5,SNR=7.7								
SEY					LR	LR	07	16	06.6
	comp=Z,9µm,18.5s,baz=212,slow=40								
ULN	**Ulaanbaatar**	**28.54**	**306**	*c*	*iP*	**P**	**07**	**03**	**25.8 -0.3**
ULN					pmax	pmax			
	comp=Z,64nm,1.7s								
ULN					MLR	MLR			
	comp=Z,15µm,14.0s								
ULN	**Ulaanbaatar**	**28.54**	**306**		P	**P**	**07**	**03**	**25.9 -0.3**
BOD	**Bodaibo**	**28.94**	**329**		*eP*	**P**	**07**	**03**	**33.9 +4.6**
BOD					pmax	pmax			
	comp=Z,215nm,2.0s								
SONM	**Songino Array**	**28.97**	**306**		P	**P**	**07**	**03**	**30.1 +0.2**
	comp=Z,18nm,0.9s,baz=103,slow=7.5,SNR=64								
SONM					LR	LR	07	14	16.6
	comp=Z,4µm,20.2s,baz=101,slow=35								
LZH	**Lanzhou**	**30.82**	**282**	⇑	P	**P**	**07**	**03**	**44.9 -1.5**
LZH					PP	**PnPn**	**07**	**04**	**46.0 -0.9**
LZH					PcP	**PcP**	**07**	**06**	**48.5 +5.4**
LZH					S	**S**	**07**	**08**	**43.0 -5.4**
LZH					sS	sS	07	09	02.3 +2.2
LZH					SS	**ScP**	**07**	**10**	**25.4 +1.4**
LZH					pmax	pmax			
	comp=Z,68nm,1.0s								
LZH					pmax	pmax			
	comp=Z,2µm,7.1s								
LZH					LR	LR			
	comp=Z,16µm,13.6s								
LZH					LR	LR			
	comp=Z,15µm,14.6s								
LZH					LR	LR			
	comp=Z,17µm,16.3s								
IRK	**Irkutsk**	**31.39**	**314**		*eP*	**P**	**07**	**03**	**52.2 +1.2**
IRK					*e*		07	05	10.9
IRK					pmax	pmax			
	comp=Z,151nm,2.6s								
ZAK	**Zakamensk**	**31.51**	**310**		*eP*	**P**	**07**	**03**	**53.5 +1.2**
ZAK					pmax	pmax			
	comp=Z,26nm,1.2s								
GYA	**Guiyang**	**31.52**	**263**	⇑	*iP*	**P**	**07**	**03**	**49.8 -2.8**
GYA					pP	pP	07	04	01.8 +2.0
GYA					PP	**PnPn**	**07**	**04**	**56.6 +0.4**
GYA					S	**S**	**07**	**08**	**54.1 -5.5**
GYA					pmax	pmax			
	comp=Z,20nm,1.0s								
GYA					pmax	pmax			
	comp=Z,640nm,8.4s								
GYA					LR	LR			
	comp=Z,10µm,13.5s								
GYA					LR	LR			
	comp=Z,10µm,15.3s								
GYA					LR	LR			
	comp=Z,14µm,15.7s								
TLY	**Talaya**	**31.60**	**312**	*c*	*iP*	**P**	**07**	**03**	**52.4 -0.6**
TLY					*e*		07	04	54.5
TLY					*eS*	**S**	**07**	**09**	**05.1 +4.9**
TLY					pmax	pmax			
	comp=Z,162nm,2.1s								
TLY					MLR	MLR			
	comp=Z,35µm,12.0s								
TLY	**Talaya**	**31.60**	**312**		P	**P**	**07**	**03**	**54.8 +1.8**
	comp=Z,11nm,0.9s,baz=121,slow=10,SNR=9.5								
TLY	**Talaya**	**31.60**	**312**		P	**P**	**07**	**03**	**51.8 -1.2**
TLY					IAmb	IAmb	07	04	17.1
	comp=Z,61nm,1.2s								
TLY					IAMs_20	IAMs_20	07	17	52.5
	comp=Z,9µm,18.0s								
CD2	**Chengdu**	**32.21**	**273**	⇑	*iP*	**P**	**07**	**03**	**56.4 -2.1**
CD2					pP	pP	07	04	07.0 +1.5
CD2					S	**S**	**07**	**09**	**07.5 -2.5**
CD2					sS	sS	07	09	23.1 +1.5
CD2					ScS	**ScS**	**07**	**14**	**25.5 -2.2**
CD2					pmax	pmax			
	comp=Z,40nm,1.5s								
CD2					pmax	pmax			
	comp=Z,2µm,6.0s								
CD2					LR	LR			
	comp=Z,26µm,15.0s								
CD2					LR	LR			
	comp=Z,21µm,17.1s								
CD2					LR	LR			
	comp=Z,17µm,12.5s								
DAV	**Davao City (W)**	**32.23**	**212**		LR	LR	07	14	50.5
	comp=Z,4µm,21.8s,baz=52,slow=32								
PATS	**Pohnpei**	**32.36**	**149**		IAMs_20	IAMs_20	07	15	23.1
	comp=Z,5µm,19.0s								
QIZ	**Qiongzhong**	**32.86**	**248**		P	**P**	**07**	**04**	**03.3 -1.0**
QIZ					S	**S**	**07**	**09**	**19.0 -1.3**
QIZ					pmax	pmax			
	comp=Z,660nm,8.8s								
QIZ					LR	LR			
	comp=Z,8µm,14.7s								
QIZ					LR	LR			
	comp=Z,6µm,13.7s								
QIZ					LR	LR			
	comp=Z,5µm,12.7s								
MOY	**Mondy**	**33.20**	**312**		*eP*	**P**	**07**	**04**	**07.8 +0.7**
MOY					pmax	pmax			
	comp=Z,157nm,3.4s								
GTA	**Gaotai**	**33.46**	**289**		P	**P**	**07**	**04**	**08.6 -0.9**
GTA					pP	pwP	07	04	20.8 +0.4
GTA					PP	**PP**	**07**	**05**	**23.8 -1.5**
GTA					PcP	**PcP**	**07**	**06**	**55.0 +4.7**
GTA					S	**S**	**07**	**09**	**28.3 -1.3**
GTA					ScS	**ScS**	**07**	**14**	**33.8 -0.2**
GTA					pmax	pmax			
	comp=Z,31nm,1.6s								
GTA					pmax	pmax			
	comp=Z,1µm,5.2s								
GTA					LR	LR			
	comp=Z,9µm,14.1s								
GTA					LR	LR			
	comp=Z,7µm,14.8s								
GTA					LR	LR			
	comp=Z,11µm,14.8s								
BILL	**Bilibino**	**35.19**	**16**	⇓	*iP*	**P**	**07**	**04**	**24.0 +0.1**

BILL *e* 07 04 34.3
BILL *e* 07 05 39.7
BILL *e* 07 06 53.5
BILL *e*S **S** **07 09 54.4 -0.9**
BILL pmax pmax
comp=Z,31nm,1.0s
BILL MLR MLR
comp=Z,9µm,17.0s
BILL Bilibino 35.19 16 P **P** **07 04 24.1 +0.1**
BILL IAmb IAmb 07 04 35.4
comp=Z,72nm,1.2s
KMI Kunming 35.28 264 P **P** **07 04 23.0 -2.5**
KMI pP sP 07 04 36.5 +1.5
KMI PP **PP** **07 05 45.8 0.0**
KMI S **S** **07 09 53.8 -4.3**
KMI sS sS 07 10 11.6 +1.5
KMI pmax pmax
comp=Z,20nm,1.0s
KMI pmax pmax
comp=Z,810nm,7.3s
KMI LR LR
comp=Z,7µm,13.8s
KMI LR LR
comp=Z,16µm,15.9s
KMI LR LR
comp=Z,16µm,15.9s
KMI Kunming 35.28 264 P **P** **07 04 24.4 -1.1**
KMI pmax pmax
comp=Z,66nm,1.4s
KMI MLR MLR
comp=Z,11µm,18.0s
KMI Kunming 35.28 264 P **P** **07 04 24.4 -1.1**
KMI IAmb IAmb 07 04 41.9
comp=Z,66nm,1.4s
SLVN Son La 36.19 257 IAMs_20 IAMs_20 07 20 18.0
comp=Z,6µm,19.0s
TIXI Tiksi 36.69 353*c i*P **P** **07 04 35.9 -0.8**
TIXI pmax pmax
comp=Z,15nm,1.3s
TIXI MLR MLR
comp=Z,10µm,16.0s
TIXI Tiksi 36.69 353 P **P** **07 04 36.2 -0.6**
comp=Z,3.3nm,0.6s,baz=180,slow=24,SNR=9.2
TIXI Tiksi 36.69 353 P **P** **07 04 36.7 -0.1**
TNTI Ternate 37.32 205 P **P** **07 04 38.8 -3.9**
comp=Z,148nm,1.4s,comp=Z,2µm
TNTI Ternate 37.32 205 P **P** **07 04 41.1 -1.5**
SMPI Sarmi 37.60 185 P **P** **07 04 49.1 +4.0**
comp=Z,104nm,1.5s
SIJI Sorong 37.73 198 P **P** **07 04 43.2 -2.9**
comp=Z,3.2nm,0.3s,baz=28,slow=23,SNR=2.2
JAY Jayapura 38.02 182 LR LR 07 19 45.8
comp=Z,916nm,18.3s,baz=354,slow=35
GENI Genyem 38.12 183 P **P** **07 04 53.1 +3.7**
comp=Z,74nm,0.6s
SKNT Sakolnakorn 38.56 251 P **P** **07 04 56.2 +3.0**
comp=Z,50nm,1.2s
NONG Nongkai 38.57 253 P **P** **07 04 56.1 +2.8**
comp=Z,1.0nm,1.1s,comp=Z,39nm
LBMI Labuha 38.59 204 P **P** **07 04 51.7 -1.7**
comp=Z,199nm,1.0s
FAKI Fak Fak 39.48 195 IAMs_20 IAMs_20 07 22 01.8
comp=Z,5µm,18.0s
SANI Sanana 40.42 205 P **P** **07 05 04.3 -4.4**
comp=Z,80nm,0.9s,comp=Z,2µm
PHRA Phrae 40.62 256 P P 07 05 00.0 -10
comp=Z,3.5nm,1.4s
PHRA P **P** **07 05 13.9 +3.5**
comp=Z,3.5nm,1.4s
LUWI Luwuk 40.72 210 P **P** **07 05 07.7 -3.4**
comp=Z,60nm,0.7s,comp=Z,2µm
LUWI Luwuk 40.72 210 P **P** **07 05 08.9 -2.2**
LUWI IAmb IAmb 07 05 22.6
comp=Z,220nm,1.6s
MSAI Masohi 40.72 200 P **P** **07 05 10.2 -0.9**
comp=Z,38nm,1.4s,comp=Z,806nm
CHAI Chaiyaphum 40.73 252 P **P** **07 05 12.5 +1.2**
comp=Z,40µm,0.8s,comp=Z,652µm
UTTA Uttaradit 40.78 255 P **P** **07 05 14.4 +2.7**
comp=Z,27µm,0.7s
APSI Ampana 41.07 212 P **P** **07 05 11.7 -2.4**
comp=Z,172nm,1.3s,comp=Z,2µm
PBKT Sadao Pong 41.13 253 P **P** **07 05 13.3 -1.3**
NLAI Namlea 41.17 203 P **P** **07 05 14.1 -0.7**
comp=Z,40nm,0.8s,comp=Z,3µm
CMMT Chiang Mai 41.47 258 P P 07 05 25.0 +7.6
comp=Z,12nm,2.6s
CHTO Chiang Mai 41.47 258 P **P** **07 05 16.1 -1.3**
CHTO pmax pmax
comp=Z,24nm,1.3s
CHTO MLR MLR
comp=Z,7µm,18.0s
CHTO Chiang Mai 41.47 258 P **P** **07 05 16.1 -1.3**
CHTO Chiang Mai 41.47 258 IAMs_20 IAMs_20 07 25 50.5
comp=Z,7µm,18.0s
CMAR Chiang Mai Arr 41.66 257 P **P** **07 05 18.6 -0.3**
comp=Z,0.9nm,0.3s,baz=46,slow=7.8,SNR=4.2
CMAR LR LR 07 23 37.2
comp=Z,4µm,18.4s,baz=53,slow=38
WMQ Urumqi 41.91 298 P **P** **07 05 20.6 -0.2**
WMQ S **S** **07 11 42.8 +5.4**
WMQ SS **SS** **07 14 37.0 -7.2**
WMQ pmax pmax
comp=Z,38nm,2.3s
WMQ pmax pmax
comp=Z,2µm,4.7s
WMQ LR LR
comp=Z,6µm,14.1s
WMQ LR LR
comp=Z,2µm,20.1s
WMQ LR LR
comp=Z,2µm,17.5s
WMQ Urumqi 41.91 298 P **P** **07 05 21.1 +0.3**
WMQ pmax pmax
comp=Z,393nm,1.7s
WMQ MLR MLR
comp=Z,4µm,18.0s
WMQ Urumqi 41.91 298 P **P** **07 05 21.1 +0.3**
WMQ Urumqi 41.91 298 IAMs_20 IAMs_20 07 22 05.6
comp=Z,4µm,18.0s
ANM Nome 42.50 31 P **P** **07 05 22.2 -3.0**
ANM pmax pmax
comp=Z,56nm,1.2s
ANM MLR MLR
comp=Z,3µm,18.0s
ANM Nome 42.50 31 P **P** **07 05 22.2 -3.0**
LSA Lhasa 42.85 277 P **P** **07 05 30.0 +0.9**
LSA S **S** **07 11 57.4 +5.0**
LSA LR LR
comp=Z,22µm,16.4s
LSA LR LR
comp=Z,20µm,15.0s
LSA LR LR
comp=Z,38µm,17.1s
LSA Lhasa 42.85 277 P **P** **07 05 28.5 -0.6**
LSA pmax pmax
comp=Z,68nm,1.5s
LSA MLR MLR
comp=Z,3µm,19.0s
LSA Lhasa 42.85 277 P **P** **07 05 28.4 -0.6**
UMPA Umpang Tak 42.99 255 P P 07 05 38.1 +8.3
comp=Z,24µm,0.9s
SBUM Sibu 43.08 227 P **P** **07 05 30.0 -0.5**
SBUM Sibu 43.08 227 P **P** **07 05 29.1 -1.4**
ZAA0 Zalesovo Array 43.20 313 P **P** **07 05 30.4 -0.7**
ZAA0 IAMs_20 IAMs_20 07 26 52.1
comp=Z,4µm,19.0s
ZALV Zalesovo Beam 43.20 313 P **P** **07 05 31.5 +0.5**
comp=Z,9.2nm,0.7s,baz=87,slow=6.1,SNR=19
ZALV PcP **PcP** **07 07 21.6 +1.5**
comp=Z,2.8nm,0.6s,baz=98,slow=3.0,SNR=2.3
ZALV LR LR 07 24 28.3
comp=Z,2µm,19.7s,baz=85,slow=37
BKB Balikpapan 43.60 218 P **P** **07 05 34.2 -0.5**
TTSI Tana Toraja 43.78 213 P **P** **07 05 33.2 -2.9**
comp=Z,28nm,1.1s
SHL Shillong 43.91 271 P **P** **07 05 35.7 -1.6**
SHL pmax pmax
comp=Z,131nm,1.9s
SHL Shillong 43.91 271 P **P** **07 05 35.7 -1.6**
SHL IAmb IAmb 07 05 48.6
comp=Z,131nm,1.9s
PHET Kaeng Krachan 44.35 250 P **P** **07 05 44.9 +4.2**
comp=Z,57µm,0.9s
RDOG Red Dog Mine 44.49 26 P **P** **07 05 40.4 -0.8**
RDOG IAmb IAmb 07 05 54.0
comp=Z,57nm,1.2s
NRIK Noril'sk 44.70 336 P **P** **07 05 43.3 +0.4**
comp=Z,19nm,1.2s,baz=117,slow=5.9,SNR=13
NRIK LR LR 07 26 36.0
comp=Z,11µm,18.4s,baz=102,slow=39
KSM Kuching 45.00 228 P **P** **07 05 46.0 +0.1**
MK31 Makanchi Array 45.27 303 *i* P **P** **07 05 47.7 -0.1**
MK31 pmax pmax
comp=Z,38nm,0.9s
MK31 Makanchi Array 45.27 303 P **P** **07 05 48.1 +0.3**
MK31 IAmb IAmb 07 06 03.1
comp=Z,28nm,0.8s
MKAR Makanchi Array 45.27 303 *i* P **P** **07 05 48.2 +0.4**
MKAR pmax pmax
comp=Z,18nm,1.0s
MKAR Makanchi Array 45.27 303 P **P** **07 05 47.7 -0.1**
comp=Z,18nm,1.0s,baz=90,slow=9.7,SNR=25
MKAR LR LR 07 24 43.6
comp=Z,3µm,21.2s,baz=80,slow=36
STKJ Sintang 45.44 226 P P 07 05 57.2 +7.9
MAKZ Makanchi 45.48 303 P **P** **07 05 48.4 -1.0**
MAKZ pmax pmax
comp=Z,39nm,1.0s
MAKZ Makanchi 45.48 303 P **P** **07 05 49.6 +0.2**
MAKZ IAmb IAmb 07 06 04.9
comp=Z,39nm,0.9s
MAKZ IAMs_20 IAMs_20 07 24 28.0
comp=Z,4µm,22.0s
SIMRM Sittwe 45.65 264 P **P** **07 05 52.4 +1.4**
SIMRM IAmb IAmb 07 06 00.7
comp=Z,45nm,1.1s
TTA Tatalina 46.25 34 P **P** **07 05 54.6 -0.7**
TTA pmax pmax
comp=Z,29nm,1.3s
TTA MLR MLR
comp=Z,2µm,19.0s
TTA Tatalina 46.25 34 P **P** **07 05 54.6 -0.7**
TAPN Taplejung 46.55 276 *eP* **P** **07 05 57.5 -1.0**
ODAN Odare 47.02 275 *eP* **P** **07 06 01.2 -0.8**
KURK Kurchatov 47.17 309*c i*P **P** **07 06 01.0 -1.6**
KURK pmax pmax
comp=Z,37nm,1.8s
KURK MLR MLR
comp=Z,9µm,14.0s
KURK Kurchatov 47.17 309 P **P** **07 06 02.5 0.0**
KURBB Kurchatov Arra 47.23 309 P **P** **07 06 01.8 -1.3**
comp=Z,7.4nm,0.8s,baz=86,slow=8.4,SNR=26
SURT Suratani 47.49 247 P **P**
comp=Z,28nm,1.0s,comp=Z,1µm
TRTT Trang 47.56 245 P **P** **07 06 10.8 +4.8**
comp=Z,27nm,1.4s,comp=Z,1µm
RAMN Ramite 47.62 276 *eP* **P** **07 06 06.1 -0.6**
comp=Z,109nm,0.9s
JIRN Jiri 47.66 277 *eP* **P** **07 06 06.6 -0.5**
comp=Z,310nm,1.2s
RSO Redoubt South 47.66 37 P **P** **07 06 07.7 +1.1**
GUN Gumba 47.80 277 *eP* **P** **07 06 07.6 -0.7**
comp=Z,688nm,1.8s
PDGK Podgornoye 47.86 299 P **P** **07 06 08.3 +0.1**
PDGK pmax pmax
comp=Z,113nm,1.1s
MMRI Maumere 47.87 207 P **P** **07 06 11.3 +2.9**
SOEI Soe 48.20 204 P **P** **07 06 12.6 +1.5**
JRMM Jerantut 48.29 238 P **P** **07 06 11.0 -0.7**
PKI Pulchoki 48.32 277 *eP* **P** **07 06 11.9 -0.4**
comp=Z,8.5nm,1.0s
PKIN Phulchoki 48.33 277 *eP* **P** **07 06 11.4 -0.9**
KKN Kakani 48.34 277 *eP* **P** **07 06 11.3 -0.9**
comp=Z,134nm,1.0s
DMN Daman 48.55 277 *eP* **P** **07 06 13.4 -0.5**
comp=Z,68nm,1.0s
BPAW Bear Paw Mtn. 48.58 33 IAMs_20 IAMs_20 07 29 54.5
comp=Z,3µm,19.0s
KULM Kulim 48.59 241 P **P** **07 06 13.0 -1.0**
KULM Kulim 48.59 241 P **P** **07 06 15.1 +1.1**
SUA Susitna One 48.64 36 P **P** **07 06 14.3 +0.3**
SUA IAmb IAmb 07 07 38.8
comp=Z,31nm,0.6s
MLY Manley 48.73 31 P **P** **07 06 15.3 +0.7**
MLY IAmb IAmb 07 06 27.4
comp=Z,47nm,1.1s
GKN Gorkha 48.77 278 *eP* **P** **07 06 14.5 -1.0**
comp=Z,245nm,1.1s
PRZ Przheval'sk 48.84 298 IAMs_20 IAMs_20 07 28 22.2
comp=Z,3µm,19.0s
TRF Thorofare Moun 48.87 33 IAMs_20 IAMs_20 07 30 43.2
comp=Z,3µm,19.0s
IPM Ipoh 48.89 240 P **P** **07 06 17.0 +0.7**
IPM Ipoh 48.89 240 P **P** **07 06 14.4 -1.9**
IPM IAmb IAmb 07 06 28.4
comp=Z,48nm,1.0s
RC01 Rabbit Creek A 49.14 37 P **P** **07 06 17.7 0.0**
RC01 IAmb IAmb 07 06 29.3
comp=Z,58nm,1.1s
BWN Browne 49.25 33 IAMs_20 IAMs_20 07 31 06.4
comp=Z,3µm,18.0s
SEW Seward 49.31 38 P **P** **07 06 16.8 -2.2**
DANN Dangsing 49.34 279 *eP* **P** **07 06 19.4 -0.6**
comp=Z,285nm,0.9s
MTN Manton Dam 49.35 194 P **P** **07 06 21.0 +1.3**
COEN Coen 49.38 179 P **P** **07 06 23.3 +3.4**
PMR Palmer 49.42 36 P **P** **07 06 20.1 +0.4**
PMR pmax pmax
comp=Z,83nm,1.3s
PMR Palmer 49.42 36 P **P** **07 06 20.1 +0.4**
PMR IAmb IAmb 07 06 31.2
comp=Z,83nm,1.3s
NEA Nenana 49.43 32 P **P** **07 06 19.3 -0.5**
TOLK Toolik Lake Re 49.45 27 P **P** **07 06 20.4 +0.4**
baz=265
TOLK Toolik Lake Re 49.45 27 P **P** **07 06 21.5 +1.5**
TOLK IAmb IAmb 07 06 32.8
comp=Z,42nm,1.1s
TARG Taragay, Kyrgy 49.46 297 P **P** **07 06 19.9 -1.0**
TARG IAmb IAmb 07 06 44.7
comp=Z,40nm,0.9s
TARG IAMs_20 IAMs_20 07 29 08.5
comp=Z,5µm,18.0s
MCK McKinley 49.48 33 P **P** **07 06 21.3 +1.0**
MCK pmax pmax
comp=Z,43nm,1.4s
MCK MLR MLR
comp=Z,3µm,18.0s
MCK McKinley 49.48 33 P **P** **07 06 21.3 +1.0**
MCK IAmb IAmb 07 06 32.3
comp=Z,43nm,1.4s
MCK IAMs_20 IAMs_20 07 30 34.3
comp=Z,3µm,18.0s
GHO Glory Hole Cre 49.51 36 P **P** **07 06 18.0 -2.6**
RND Reindeer 49.52 34 P **P** **07 06 18.8 -1.8**
RND pmax pmax
comp=Z,75nm,1.4s
RND MLR MLR
comp=Z,3µm,19.0s
RND Reindeer 49.52 34 P **P** **07 06 18.8 -1.8**
RND IAmb IAmb 07 06 32.3
comp=Z,75nm,1.4s
RND IAMs_20 IAMs_20 07 30 48.2
comp=Z,3µm,19.0s
KOLN Koldanda 49.70 278 *eP* **P** **07 06 21.9 -0.8**
comp=Z,376nm,1.6s
AAA Alma-Ata 49.72 300 *eP* **P** **07 06 23.0 +0.6**
AAA *e*S S 07 13 39.5 +10
AAA pmax pmax
comp=Z,1µm,6.3s
AAA smax smax
comp=E,1µm,11.9s
AAA MLR MLR
comp=Z,6µm,14.0s
KNK Knik Glacier 49.74 36 P **P** **07 06 25.1 +2.8**
KNK IAmb IAmb 07 06 35.5
comp=Z,114nm,1.5s
SML Sawmill 49.79 36 P **P** **07 06 22.8 +0.1**
SML pmax pmax
comp=Z,37nm,0.8s
SML Sawmill 49.79 36 P **P** **07 06 22.6 -0.1**
SML IAmb IAmb 07 06 34.6
comp=Z,38nm,0.8s
MDM Murphy Dome 49.80 32 P **P** **07 06 21.9 -0.8**
MDM IAmb IAmb 07 06 35.3
comp=Z,70nm,1.1s
KDJ Kajisay 49.80 298 IAMs_20 IAMs_20 07 28 53.7
comp=Z,3µm,18.0s
PLAI Plampang 49.83 212 P **P** **07 06 21.7 -1.7**
comp=Z,77nm,1.8s,comp=Z,2µm
WRH Wood River Hil 49.85 32 P **P** **07 06 22.6 -0.5**
WRH IAMs_20 IAMs_20 07 31 27.1
comp=Z,2µm,18.0s
TCOL CIGO, UAF Yank 49.95 32 P **P** **07 06 24.9 +1.1**
baz=270
TPI Tanjungpandan 49.95 227 P **P** **07 06 23.7 -0.7**
comp=Z,46nm,0.9s,comp=Z,1µm
COLA College 49.96 32*ce*P **P** **07 06 24.4 +0.6**
COLA pmax pmax
comp=Z,44nm,3.0s
COLA MLR MLR
comp=Z,2µm,18.0s
COLA College 49.96 32 P **P** **07 06 24.2 +0.4**
CCB Clear Creek Bu 49.98 32 P **P** **07 06 25.6 +1.7**
POKR Poker Plat Res 50.14 31 P **P** **07 06 26.0 +0.8**
baz=270
TWSI Taliwang, Sumb 50.15 213 P **P** **07 06 25.2 -0.6**
comp=Z,58nm,1.7s,comp=Z,1µm
DHY Denali Highway 50.19 34 P **P** **07 06 26.9 +1.0**
SCM Sheep Creek Mo 50.27 36 P **P** **07 06 26.2 -0.1**
SCM pmax pmax
comp=Z,227nm,1.8s
SCM Sheep Creek Mo 50.27 36 P **P** **07 06 26.2 -0.1**
HDA Harding Lake 50.35 32 P **P** **07 06 26.1 -0.7**
baz=271
HDA Harding Lake 50.35 32 P **P** **07 06 25.6 -1.2**
HDA IAmb IAmb 07 06 38.3
comp=Z,52nm,1.2s
IL31 50.37 32 P **P** **07 06 27.1 +0.2**
IL31 IAmb IAmb 07 06 38.5
comp=Z,39nm,1.1s
ILAR Eielson Array 50.37 32 P **P** **07 06 26.0 -1.0**
comp=Z,6.3nm,0.9s,baz=269,slow=6.0,SNR=29
ILAR LR LR 07 29 08.8
comp=Z,1µm,20.4s,baz=284,slow=38
PPBI Pangkal Pinang 50.41 229 P P 07 06 22.4 -5.5
BOOM Boomskoye usch 50.59 299 IAMs_20 IAMs_20 07 31 03.5
comp=Z,3µm,20.0s
TKM2 Tokmak 2 50.72 300 P **P** **07 06 29.9 -0.3**
TKM2 pmax pmax
comp=Z,117nm,1.5s
TKM2 Tokmak 2 50.72 300 P **P** **07 06 31.3 +1.1**
SNR=8.1
NRN Naryn 50.84 298 P **P** **07 06 30.4 -0.9**
NRN pmax pmax
comp=Z,98nm,1.9s
NRN MLR MLR
comp=Z,4µm,18.0s
NRN Naryn 50.84 298 P **P** **07 06 30.4 -0.9**
NRN IAmb IAmb 07 07 00.2
comp=Z,98nm,1.9s
NRN IAMs_20 IAMs_20 07 29 53.6
comp=Z,4µm,18.0s
PRP Porcupine Dome 50.93 31 P **P** **07 06 31.3 -0.1**
FYU Fort Yukon 51.03 29 P **P** **07 06 30.0 -1.9**
FYU IAMs_20 IAMs_20 07 31 49.0
comp=Z,3µm,19.0s
KBK Karagaybulak 51.25 299 P P 07 06 41.3 +7.1
SNR=8.2
CHMS Chumysh 51.30 300 P P 07 06 41.2 +6.9
SNR=6.9
RIDG Independent Ri 51.30 33 P **P** **07 06 33.9 -0.2**
USP Ospenovka 51.40 300 P P 07 06 42.2 +7.0
SNR=7.7
KSH Kashi 51.42 295 P **P** **07 06 39.4 +4.0**
KSH PcP **PcP** **07 07 53.1 +3.4**
KSH PcS **PcS** **07 11 49.8 +2.2**
KSH S **S** **07 13 56.1 +2.4**
KSH ScS **ScS** **07 16 24.4 +0.2**
KSH pmax pmax
comp=Z,38nm,1.3s
KSH LR LR
comp=Z,8µm,14.8s
KSH LR LR
comp=Z,9µm,11.6s
KSH LR LR
comp=Z,7µm,12.1s
FRU1 Bishkek 51.44 300 IAMs_20 IAMs_20 07 28 01.8
comp=Z,3µm,19.0s
PSI Prapat 51.55 241 P **P** **07 06 36.5 -0.1**
PSI pmax pmax
comp=Z,26nm,1.0s
AAK Ala-Archa 51.58 299⇓ *e*P **P** **07 06 37.0 +0.3**
AAK pmax pmax
comp=Z,30nm,1.8s
AAK MLR MLR
comp=Z,3µm,14.0s
AAK Ala-Archa 51.58 299 P P 07 06 44.1 +7.5
SNR=6.2
AAK Ala-Archa 51.58 299 P **P** **07 06 36.9 +0.3**
AAK Ala-Archa 51.58 299 IAMs_20 IAMs_20 07 28 16.6
comp=Z,3µm,20.0s
RPSI Rantau Prapat 51.62 241 P **P** **07 06 36.5 -0.5**
DOT Dot Lake 51.66 33 IAMs_20 IAMs_20 07 32 28.6
comp=Z,2µm,18.0s
SCRK Sand Creek 51.66 33 P **P** **07 06 36.9 0.0**
SCRK IAmb IAmb 07 06 48.7
comp=Z,57nm,1.2s
UCH Uchtor 51.68 299 P P 07 06 43.8 +6.0
SNR=6.5
BKNI Bangkinang 51.85 237 P **P** **07 06 39.2 +0.5**
MENT Mentasta 51.87 34 P **P** **07 06 35.2 -3.1**
BRVK Borovoye 51.91 313*ce*P **P** **07 06 38.5 -0.2**
BRVK pmax pmax
comp=Z,21nm,1.3s
BRVK MLR MLR
comp=Z,6µm,14.0s
BRVK Borovoye 51.91 313 P **P** **07 06 38.9 +0.2**
BRVK IAmb IAmb 07 07 05.0
comp=Z,41nm,1.1s
BRVK Borovoye 51.91 313 IAMs_20 IAMs_20 07 31 53.6
comp=Z,4µm,19.0s
VRDI Verde Repeater 52.17 36 P **P** **07 06 41.9 +1.2**
VRDI IAmb IAmb 07 06 53.3
comp=Z,86nm,1.4s
AML Almayashu 52.29 299 P **P** **07 06 43.3 +1.1**
SNR=16
MCARA McCarthy VSAT 52.35 36 P **P** **07 06 43.4 +1.5**
MCARA IAmb IAmb 07 06 54.6
comp=Z,73nm,1.2s
CRQM Cirque 52.37 37 P **P** **07 06 42.2 -0.1**
CRQM IAmb IAmb 07 06 54.8
comp=Z,86nm,1.2s
KNRA Kununurra 52.60 196 P **P** **07 06 43.0 -1.1**
BALM Baldy 52.72 36 P **P** **07 06 44.3 -0.5**
BALM IAmb IAmb 07 06 57.0
comp=Z,57nm,1.4s
EGAK Eagle 52.82 32 P **P** **07 06 45.1 -0.1**
EGAK IAmb IAmb 07 07 02.2
comp=Z,71nm,1.9s
ARSB Arslanbob 53.04 298 P **P** **07 06 45.5 -2.0**
ARSB IAmb IAmb 07 07 06.1
comp=Z,97nm,1.2s
CTGM Chitina Glacie 53.22 36 P **P** **07 06 46.7 -1.8**
CTGM IAmb IAmb 07 07 00.9
comp=Z,50nm,1.3s
LEM Lembang 53.25 224 P **P** **07 06 45.5 -3.7**
LEM pmax pmax
comp=Z,113nm,1.3s
KLSI 53.25 229 P **P** **07 06 47.9 -1.2**
KRJI Kerinci 53.35 234 P P 07 06 44.2 -5.7
comp=Z,174nm,0.6s,comp=Z,9µm
GSI Gunungsitoli 53.55 241 P **P** **07 06 50.4 -0.9**
comp=Z,264nm,1.8s,comp=Z,5µm
GSI Gunungsitoli 53.55 241 P **P** **07 06 50.4 -0.9**
MASI Maura Aman, Be 53.63 233 P **P** **07 06 50.5 -1.4**
comp=Z,243nm,1.4s,comp=Z,4µm
DAWY Dawson 53.67 32 P **P** **07 06 50.5 -1.1**
SNSI Sinabang, Aceh 53.68 243 P **P** **07 06 49.8 -2.4**
comp=Z,153nm,1.2s
KASI Kota Agung 54.05 229 P P 07 06 48.8 -6.1
KK31 Karatay Array 54.24 301 P **P** **07 06 56.0 -0.1**
KK31 pmax pmax
comp=Z,43nm,1.1s
KK31 Karatay Array 54.24 301 P **P** **07 06 56.3 +0.2**
KK31 IAmb IAmb 07 07 14.1
comp=Z,51nm,1.1s
KKAR Karatay Array 54.24 301 P **P** **07 06 56.2 +0.1**
KKAR pmax pmax
comp=Z,51nm,1.2s
KKAR Karatay Array 54.24 301 P **P** **07 06 56.2 +0.1**
KKAR IAmb IAmb 07 07 14.1
comp=Z,51nm,1.1s
EPYK Eagle Plains 54.45 29 P **P** **07 06 56.8 -0.5**
baz=279
EPYK Eagle Plains 54.45 29 P **P** **07 06 57.8 +0.6**
EPYK IAMs_20 IAMs_20 07 33 55.5

comp=Z,3µm,19.0s
BTK Batken 55.01 298 P **P** **07 07 00.1 -1.7**
BTK pmax pmax
comp=Z,63nm,1.6s
BTK MLR MLR
comp=Z,6µm,19.0s
BTK Batken 55.01 298 P **P** **07 07 00.1 -1.7**
BTK IAmb IAmb 07 07 24.5
comp=Z,63nm,1.6s
HYT Haines Junctio 55.09 36 P **P** **07 07 01.0 -1.0**
HYT IAMs_20 IAMs_20 07 28 07.7
comp=Z,2µm,20.0s
INK Inuvik 55.36 27 P **P** **07 07 02.0 -1.7**
INK pmax pmax
comp=Z,30nm,1.0s
INK MLR MLR
comp=Z,4µm,19.0s
INK Inuvik 55.36 27 P **P** **07 07 04.4 +0.7**
comp=Z,3.2nm,0.7s,baz=292,slow=6.7,SNR=14
INK Inuvik 55.36 27 P **P** **07 07 02.0 -1.7**
INK IAmb IAmb 07 07 16.0
comp=Z,30nm,1.0s
INK IAMs_20 IAMs_20 07 34 40.4
comp=Z,4µm,19.0s
NIL Nilore 55.52 289 P **P** **07 07 05.2 -0.3**
NIL pmax pmax
comp=Z,213nm,1.9s
NIL Nilore 55.52 289 P **P** **07 07 05.2 -0.3**
TAS Tashkent 55.67 299 IAMs_20 IAMs_20 07 31 20.8
comp=Z,3µm,18.0s
FITZ Fitzroy Crossi 55.70 199 P **P** **07 07 05.0 -1.6**
GAR Garm 55.74 296 P **P** **07 07 06.1 -1.0**
WRAB Tennant Creek 55.79 189*de* P **P** **07 07 04.2 -3.1**
WRAB pmax pmax
comp=Z,25nm,1.2s
WRAB Tennant Creek 55.79 189 P **P** **07 07 05.3 -2.0**
WR0 Warramunga Arr 55.79 189 P **P** **07 07 05.6 -1.7**
WRA Warramunga Arr 55.80 189 *i* P **P** **07 07 04.1 -3.3**
WRA pmax pmax
comp=Z,16nm,0.9s
WRA Warramunga Ar 55.80 189 P **P** **07 07 04.2 -3.2**
comp=Z,16nm,0.9s,baz=7.3,slow=7.4,SNR=59
WRA LR LR 07 30 04.1
comp=Z,1µm,20.4s,baz=30,slow=35
NGP Nagpur 56.39 273 *eP* **P** **07 07 11.0 -0.8**
NGP *eS* **S** **07 14 58.9 -2.1**
SKAG Skagway 56.46 37 IAMs_20 IAMs_20 07 35 46.0
comp=Z,2µm,18.0s
SVE Sverdlovsk 56.49 319 *eP* **P** **07 07 14.4 +2.4**
SVE *eS* **S** **07 15 00.8 -0.6**
SVE pmax pmax
comp=Z,50nm,1.3s
SVE MLR MLR
comp=Z,12µm,14.0s
CHGR Chuyangaron 56.71 296 P **P** **07 07 13.7 -0.3**
BESE Bessie Mountai 56.92 38 IAMs_20 IAMs_20 07 35 49.3
comp=Z,2µm,20.0s
ARU Arti 57.71 319*c i* P **P** **07 07 20.7 +0.1**
ARU S **S** **07 15 23.4 +6.0**
ARU SS **SS** **07 19 08.1 +0.7**
ARU pmax pmax
comp=Z,27nm,1.3s
ARU MLR MLR
comp=Z,7µm,14.0s
ARU Arti 57.71 319 LR LR 07 33 42.8
comp=Z,2µm,20.4s,baz=71,slow=38
ARU Arti 57.71 319 P **P** **07 07 19.1 -1.5**
ARU IAmb IAmb 07 07 40.0
comp=Z,89nm,1.3s
ARU IAMs_20 IAMs_20 07 31 55.4
comp=Z,3µm,20.0s
KBL Kabul 58.38 292 P **P** **07 07 24.2 -1.8**
KBL pmax pmax
comp=Z,29nm,1.3s
KBL MLR MLR
comp=Z,2µm,18.0s
KBL Kabul 58.38 292 P **P** **07 07 24.1 -1.8**
KBL IAMs_20 IAMs_20 07 35 51.9
comp=Z,2µm,18.0s
C36M Paulatuk 58.45 25 P **P** **07 07 24.7 -0.8**
baz=288
HYB Hyderabad 58.68 270 *i* P **P** **07 07 30.0 +2.0**
HYB *eS* **S** **07 15 32.0 +0.8**
AB31 Akbulak array 59.20 311 *i* P **P** **07 07 30.8 -0.3**
AB31 pmax pmax
comp=Z,11nm,0.8s
ABKAR Akbulak array 59.20 311 P **P** **07 07 30.0 -1.1**
ABKAR IAmb IAmb 07 07 59.1
comp=Z,93nm,1.9s
AS31 Alice Springs 59.52 189 P **P** **07 07 32.3 -1.3**
ASAR Alice Springs 59.52 189 P **P** **07 07 31.2 -2.4**
comp=Z,8.1nm,0.9s,baz=9.4,slow=6.9,SNR=37
ASAR LR LR 07 32 19.7
comp=Z,801nm,20.4s,baz=5.5,slow=35
AKTO Aktyubinsk 59.95 313 P **P** **07 07 37.0 +0.7**
AKTO pmax pmax
comp=Z,17nm,0.9s
AKTO Aktyubinsk 59.95 313 LR LR 07 36 47.5
comp=Z,4µm,18.3s,baz=63,slow=39
PSAC2 Pilbara Seismi 60.67 204 P **P** **07 07 41.3 -0.2**
PSAC2 IAmb IAmb 07 07 50.7
comp=Z,54nm,1.1s
PSAC1 Pilbara Seismi 60.67 204 P **P** **07 07 42.6 +1.2**
PSAB2 Pilbara Seismi 60.68 204 P **P** **07 07 41.9 +0.4**
PSAA2 Pilbara Seismi 60.69 204 P **P** **07 07 42.3 +0.8**
PSA00 Pilbara Seismi 60.70 204 P **P** **07 07 42.0 +0.4**
PSAA3 Pilbara Seismi 60.70 204 P **P** **07 07 41.5 -0.2**
PSAD2 Pilbara Seismi 60.70 204 P **P** **07 07 41.9 +0.2**
PSAB1 Pilbara Seismi 60.70 204 P **P** **07 07 41.9 +0.2**
PSAB3 Pilbara Seismi 60.72 204 P **P** **07 07 42.9 +1.2**
PSAC3 Pilbara Seismi 60.75 204 P **P** **07 07 43.2 +1.2**
EIDS Eidsvold 61.32 171 P **P** **07 07 45.2 -0.5**
EIDS IAmb IAmb 07 07 55.6
comp=Z,55nm,1.6s
DZM Mont Dzumac 61.92 154 *eP* P 07 07 55.6 +5.6
comp=Z,194nm,1.4s
DZM *eS* **S** **07 16 15.0 +2.6**
comp=Z,962nm,23.8s
DZM Mont Dzumac 61.92 154 *e* LR LR 07 26 22.3
comp=Z,4µm,20.9s
DZM Mont Dzumac 61.92 154 LR LR 07 34 21.5
comp=Z,3µm,18.9s,baz=331,slow=36
DZM Mont Dzumac 61.92 154 P **P** **07 07 49.0 -1.0**
DZM IAMs_20 IAMs_20 07 33 02.6
comp=Z,4µm,20.0s
PRGR Permogore 62.17 328 *eP* **P** **07 07 51.4 +0.3**
PRGR pmax pmax
comp=Z,44nm,1.0s
PALK Pallekele 62.58 259 IAMs_20 IAMs_20 07 35 08.2
comp=Z,2µm,20.0s
HRA Herat 63.53 295 IAMs_20 IAMs_20 07 38 16.1
comp=Z,2µm,18.0s
RES Resolute Bay 63.78 14 P **P** **07 08 01.5 -0.2**
comp=Z,20nm,1.0s,baz=301,slow=5.9,SNR=6.7
RES Resolute Bay 63.78 14 P **P** **07 08 02.4 +0.7**
RES IAMs_20 IAMs_20 07 38 03.2
comp=Z,2µm,20.0s
APA Apatity 64.12 336⇓ *i* P P 07 08 09.5 +5.5
APA pmax pmax
comp=Z,15nm,0.9s
TMCR Tamitsa 64.17 332 *eP* **P** **07 08 03.7 -0.6**
TMCR *eS* **S** **07 16 45.9 +6.4**
YKW3 Yellowknife Ar 64.69 30 IAMs_20 IAMs_20 07 41 20.1
comp=Z,2µm,19.0s
YKA Yellowknife Ar 64.72 30 P **P** **07 08 08.2 +0.2**
comp=Z,1.2nm,0.9s,baz=293,slow=6.6,SNR=10
GEYT Alibeck 64.93 300 P **P** **07 08 10.4 +0.5**
comp=Z,7.2nm,1.1s,baz=104,slow=3.1,SNR=6.2
ARCES ARCESS Array B 65.44 340 P **P** **07 08 13.0 +0.5**
comp=Z,13nm,1.1s,baz=34,slow=6.9,SNR=4.4
ARCES LR LR 07 42 07.8
comp=Z,6µm,18.1s,baz=36,slow=41
AFI Afiamalu 65.88 130 LR LR 07 38 12.0
comp=Z,1µm,18.6s,baz=314,slow=37
TULEG Thule 66.37 8 P **P** **07 08 17.5 -1.0**
DAG Danmarks Havn 67.16 355 *eP* **P** **07 08 25.9 +2.4**
DAG pmax pmax
comp=Z,190nm,2.0s
DAG Danmarks Havn 67.16 355 *i* P **P** **07 08 25.9 +2.4**
comp=Z,187nm,2.0s
STKA Stephens Creek 67.20 180 P **P** **07 08 22.1 -2.1**
comp=Z,1.0nm,0.6s,baz=333,slow=2.3,SNR=2.7
STKA LR LR 07 44 54.8
comp=Z,800nm,18.0s,baz=0.7,slow=42
STKA Stephens Creek 67.20 180 P **P** **07 08 26.6 +2.4**
FORT Forrest 67.40 193 P **P** **07 08 24.8 -0.7**

D03D Eldon 67.66 47 P **P** **07 08 26.6 -0.5**
baz=299
B05A Bryant 67.89 46 P **P** **07 08 28.0 -0.5**
baz=299
B06A Marblemount 68.12 45 P **P** **07 08 28.9 -1.0**
E04D Cinebar 68.44 48 P **P** **07 08 33.2 +1.1**
baz=300
MOS Moscow 68.63 324 *eP* **P** **07 08 35.5 +2.5**
MOS *e* 07 11 11.7
MOS pmax pmax
comp=Z,100nm,1.5s
MOS MLR MLR
comp=Z,6µm,14.0s
G03D McMinnville, O 68.68 49 P **P** **07 08 35.6 +2.1**
baz=300
VRH Novokhopyorsk 68.92 318 *eP* **P** **07 08 35.6 +0.7**
VRH pmax pmax
comp=Z,30nm,1.3s
VRH MLR MLR
comp=Z,10µm,13.0s
H04D Lebanon 69.35 50 P **P** **07 08 36.1 -1.6**
baz=300
I03D Drain, OR 69.38 51 P **P** **07 08 36.9 -1.0**
baz=300
B08A Colville Reser 69.44 45 P **P** **07 08 39.5 +1.2**
B08A IAmb IAmb 07 08 50.4
comp=Z,48nm,1.5s
OBN Obninsk 69.48 324 *eP* **P** **07 08 39.8 +1.5**
OBN *e* 07 08 56.0
OBN *e* 07 11 11.0
OBN *e*PPP PPP 07 12 52.7
OBN *eS* **S** **07 17 47.3 +3.4**
OBN *e*SS **SS** **07 22 12.3 +1.7**
OBN pmax pmax
comp=Z,31nm,1.3s
OBN MLR MLR
comp=Z,4µm,15.0s
LPSR Galich'ya Gora 69.66 321 *eP* **P** **07 08 39.9 +0.4**
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR MLR MLR
comp=Z,8µm,12.0s
K02D Willamette Mer 69.68 52 P **P** **07 08 38.5 -1.4**
baz=300
MAK Makhachkala 69.69 309 *eP* P 07 08 34.3 -5.5
MAK *eS* **S** **07 17 41.5 -5.3**
MAK pmax pmax
comp=Z,16nm,0.3s
MAK MLR MLR
comp=Z,8µm,14.0s
I04A Tendick Farm, 69.92 50 P **P** **07 08 39.6 -1.7**
baz=301
E07A Sunnyside 70.06 47 P **P** **07 08 41.7 -0.5**
E07A IAmb IAmb 07 08 54.6
comp=Z,69nm,1.7s
FINES FINESS Array B 70.24 333 P **P** **07 08 43.9 +1.0**
comp=Z,7.2nm,0.9s,baz=27,slow=6.3,SNR=4.8
FINES LR LR 07 40 35.5
comp=Z,891nm,20.1s,baz=30,slow=37
G06A Carlson Farm, 70.27 48 P **P** **07 08 44.6 +1.1**
G06A IAmb IAmb 07 09 10.1
comp=Z,73nm,1.9s
VSR Storozhevoye 70.28 319 *eP* **P** **07 08 43.1 -0.2**
VSR pmax pmax
comp=Z,40nm,1.2s
VSR MLR MLR
comp=Z,9µm,14.0s
AKT Akhty 70.29 307 *eP* **P** **07 08 43.9 +0.2**
AKT *e* 07 09 04.9
AKT pmax pmax
comp=Z,25nm,1.0s
C09A Chrisman Ranch 70.34 45 P **P** **07 08 43.2 -0.6**
C09A IAmb IAmb 07 08 55.8
comp=Z,34nm,1.2s
F07A Phinny Hill Vi 70.36 47 P **P** **07 08 44.3 +0.4**
F07A IAmb IAmb 07 08 56.4
comp=Z,50nm,1.6s
J04D Umpqua Nationa 70.39 51 P **P** **07 08 43.2 -1.1**
baz=301
E08A Dider Farm, El 70.56 46 P **P** **07 08 45.0 -0.1**
GROC Groznyy 70.64 310 P **P** **07 08 47.9 +2.2**
GROC *e* 07 09 07.7
GROC *e* 07 11 25.5
GROC pmax pmax
comp=Z,27nm,0.6s
NEW Newport 70.75 44 P **P** **07 08 45.4 -0.9**
baz=302
NEW Newport 70.75 44 P **P** **07 08 45.0 -1.3**
NEW pmax pmax
comp=Z,38nm,1.4s
NEW MLR MLR
comp=Z,2µm,19.0s
NEW Newport 70.75 44 P **P** **07 08 45.0 -1.3**
NEW IAmb IAmb 07 08 58.3
comp=Z,38nm,1.4s
NEW Newport 70.75 44 IAMs_20 IAMs_20 07 44 49.5
comp=Z,1µm,19.0s
L04D Klamath Falls 70.79 52 P **P** **07 08 45.9 -0.9**
baz=301
PINE Pine Mountain 70.83 50 P **P** **07 08 46.8 -0.3**
PINE IAmb IAmb 07 08 59.9
comp=Z,62nm,1.4s
J05D Fort Rock, OR 70.91 50 P **P** **07 08 47.9 +0.4**
baz=302
CAN Canberra 70.94 174 IAMs_20 IAMs_20 07 45 45.8
comp=Z,1µm,19.0s
N02D Trinity Center 71.17 53 P **P** **07 08 49.1 +0.1**
baz=301
M04C Macdoel 71.31 52 P **P** **07 08 51.4 +1.5**
baz=302
GOF Gofitskoye 71.37 312⇑ *eP* **P** **07 08 51.5 +1.4**
GOF pmax pmax
comp=Z,23nm,1.0s
O02D Mt. Diablo Mer 71.53 54 P **P** **07 08 49.7 -1.5**
baz=302
JMIC Jan Mayen 71.56 350 LR LR 07 41 44.3
comp=Z,699nm,19.2s,baz=22,slow=37
HOPS Hopland Field 71.95 55 IAMs_20 IAMs_20 07 45 00.6
comp=Z,2µm,18.0s
SUMG Summit 72.03 0 P **P** **07 08 55.5 +1.4**
SUMG pmax pmax
comp=Z,137nm,1.8s
SUMG Summit 72.03 0 *i* P **P** **07 08 56.9 +2.8**
SUMG Summit 72.03 0 P **P** **07 08 55.5 +1.4**
ZEI Tsey 72.05 310 *eP* **P** **07 08 53.7 -0.8**
ZEI pmax pmax
comp=Z,9.0nm,0.9s
TBLG Delisi 72.08 309 P **P** **07 08 55.9 +1.4**
TBLG Delisi 72.08 309 P **P** **07 08 55.9 +1.4**
NWAO Narrogin (SRO) 72.10 202 P **P** **07 08 54.8 +0.4**
NWAO pmax pmax
comp=Z,97nm,1.5s
NWAO Narrogin (SRO) 72.10 202 P **P** **07 08 55.6 +1.2**
NWAO Narrogin (SRO) 72.10 202 P **P** **07 08 54.8 +0.4**
NWAO IAmb IAmb 07 09 04.3
comp=Z,97nm,1.4s
O03E Paynes Creek 72.11 53 P **P** **07 08 55.0 +0.2**
baz=302
KBZ Khabaz 72.17 311 P **P** **07 08 55.8 +0.9**
comp=Z,7.1nm,1.0s,baz=27,slow=2.2,SNR=8.7
KIV Kislovodsk 72.17 312 *eP* **P** **07 08 55.9 +0.9**
KIV *eS* **S** **07 18 20.1 +4.2**
KIV *e*SS **SS** **07 22 59.2 +6.4**
KIV pmax pmax
comp=Z,531nm,4.2s
KIV pmax pmax
comp=Z,92nm,1.1s
KIV Kislovodsk 72.17 312⇑ P **P** **07 08 57.4 +2.4**
KIV Kislovodsk 72.17 312 P **P** **07 08 55.6 +0.6**
KIV IAmb IAmb 07 09 08.2
comp=Z,47nm,1.1s
ONI Oni 72.43 310 *eP* **P** **07 08 54.8 -1.8**
BMO Blue Mountains 72.48 47 P **P** **07 08 56.2 -0.7**
BMO pmax pmax
comp=Z,53nm,1.9s
BMO MLR MLR
comp=Z,1µm,20.0s
BMO Blue Mountains 72.48 47 P **P** **07 08 56.1 -0.7**
BMO IAmb IAmb 07 09 09.2
comp=Z,53nm,1.9s
MCCM Marconi Confer 72.53 55 P **P** **07 08 56.5 -0.5**
NEY Neytrino 72.53 311⇑ *eP* **P** **07 08 58.5 +1.2**
NEY MLR MLR
comp=Z,816nm,16.0s
JTMT Jette 72.63 43 P **P** **07 08 58.0 +0.2**
JTMT IAmb IAmb 07 09 09.3

comp=Z,40nm,1.3s
GNI Garni 72.92 307*c i* P **P** **07 08 59.7 +0.1**
GNI pmax pmax
comp=Z,39nm,1.0s
GNI MLR MLR
comp=Z,7µm,14.0s
GNI Garni 72.92 307 *eP* **P** **07 08 58.8 -0.8**
GNI Garni 72.92 307 IAMs_20 IAMs_20 07 42 36.8
comp=Z,1µm,18.0s
TOO Toolangi 72.95 177 IAMs_20 IAMs_20 07 47 19.8
comp=Z,2µm,18.0s
WVOR Wild Horse Val 72.98 50 P **P** **07 09 00.4 +0.5**
WVOR pmax pmax
comp=Z,21nm,1.7s
AKH Akhalkalaki 73.04 309 P **P** **07 08 59.3 -1.1**
AKH pmax pmax
comp=Z,76nm,1.9s
AKH MLR MLR
comp=Z,2µm,19.0s
AKH Akhalkalaki 73.04 309⇓ P **P** **07 09 02.0 +1.6**
AKH Akhalkalaki 73.04 309 *eP* **P** **07 08 58.5 -1.9**
AKH Akhalkalaki 73.04 309 P **P** **07 08 59.3 -1.1**
AKH IAmb IAmb 07 09 13.9
comp=Z,76nm,1.9s
AKH IAMs_20 IAMs_20 07 42 22.9
comp=Z,2µm,19.0s
PLID Pearl Lake 73.12 46 P **P** **07 09 01.5 +0.6**
MSO Missoula 73.34 44 P **P** **07 09 00.8 -1.2**
baz=305
MSO Missoula 73.34 44 P **P** **07 09 01.8 -0.2**
AFDM Forest Hills D 73.37 54 P **P** **07 09 00.7 -1.4**
AFDM IAmb IAmb 07 09 14.4
comp=Z,46nm,1.8s
MICGM Minsk 73.89 326 *eP* P 07 09 14.0 +9.1
MICGM *e*LQ LQ 07 41 56.0
MICGM *e*LR LR 07 44 28.0
MICGM LRM MLR 07 46 46.0
comp=Z,12nm,10.0s
MNK Minsk 73.89 326 *eP* P 07 09 14.0 +9.1
MNK MLR MLR
comp=Z,12µm,10.0s
NACGM Naroch 74.13 327 *e* P 07 09 15.0 +8.8
NACGM *e*LQ LQ 07 39 06.0
NACGM *e*LR LR 07 43 12.0
NACGM LRM MLR 07 45 31.0
comp=Z,17nm,14.0s
MFID Camas Ranch 74.16 48 P **P** **07 09 07.3 +0.4**
MFID IAmb IAmb 07 09 19.2
comp=Z,45nm,1.6s
SOC Sochi 74.17 312 *eP* **P** **07 09 06.5 -0.2**
SOC *e* 07 11 49.4
SOC *e*PPP PPP 07 13 35.8
SOC *eS* **S** **07 18 41.9 +3.6**
SOC *e*SS **SS** **07 23 26.6 +3.5**
SOC *e*SSS SSS 07 26 31.9
SOC pmax pmax
comp=Z,38nm,1.1s
SOC MLR MLR
comp=Z,3µm,16.0s
SENK Senkaya-Erzuru 74.23 309 *eP* **P** **07 09 07.4 0.0**
CMB Columbia Colle 74.25 54 P **P** **07 09 07.1 -0.3**
CMB pmax pmax
comp=Z,67nm,1.8s
CMB Columbia Colle 74.25 54 P **P** **07 09 07.1 -0.3**
CMB IAmb IAmb 07 09 19.6
comp=Z,67nm,1.8s
CMB IAMs_20 IAMs_20 07 33 47.9
comp=Z,1µm,18.0s
AGRB Hanur-Agry 74.36 308 *eP* **P** **07 09 08.2 0.0**
FFC Flin Flon 74.57 33 P **P** **07 09 08.3 -0.6**
FFC pmax pmax
comp=Z,22nm,1.3s
FFC Flin Flon 74.57 33 P **P** **07 09 08.3 -0.6**
WAKR Walker 74.61 54 P **P** **07 09 11.4 +1.7**
WAKR IAmb IAmb 07 09 22.4
comp=Z,50nm,1.7s
WAKR IAMs_20 IAMs_20 07 42 51.0
comp=Z,1µm,19.0s
VANB Van 74.64 307 *eP* **P** **07 09 09.9 +0.2**
LRM Limekiln Ridge 74.76 44 P **P** **07 09 07.8 -2.7**
ANN Anapa 74.83 314 *eP* **P** **07 09 07.3 -3.2**
ANN *e**PP **P** **07 09 10.4 -0.1**
ANN *e* 07 09 18.9
ANN *e* 07 11 57.2
ANN *e*PPP PPP 07 13 40.1
ANN *eS* **S** **07 18 45.3 -0.3**
ANN *e*SS **SS** **07 23 39.7 +6.7**
ANN pmax pmax
comp=Z,25nm,1.3s
CHOM Cayeli-Rize 74.93 310 *eP* **P** **07 09 09.9 -1.3**
DLMT Dillon 74.95 45 P **P** **07 09 10.9 -0.5**
DLMT IAmb IAmb 07 09 23.5
comp=Z,35nm,1.2s
EGMT Eagleton 74.95 41 P **P** **07 09 10.7 -0.6**
baz=307
BMN Battle Mountai 74.97 51 P **P** **07 09 11.7 +0.1**
BMN MLR MLR
comp=Z,1µm,18.0s
BMN Battle Mountai 74.97 51 P **P** **07 09 11.7 +0.1**
BMN IAMs_20 IAMs_20 07 47 02.9
comp=Z,1µm,18.0s
FCC Fort Churchill 74.98 27 P **P** **07 09 10.3 -0.8**
FCC pmax pmax
comp=Z,56nm,1.3s
FCC MLR MLR
comp=Z,2µm,22.0s
FCC Fort Churchill 74.98 27 P **P** **07 09 10.3 -0.8**
FCC IAmb IAmb 07 09 22.3
comp=Z,56nm,1.3s
FCC IAMs_20 IAMs_20 07 41 51.0
comp=Z,2µm,22.0s
RYN Ryan 75.14 53 IAMs_20 IAMs_20 07 47 32.6
comp=Z,1µm,18.0s
KVN Kaiserville 75.18 53 P **P** **07 09 12.2 -0.7**
KVN pmax pmax
comp=Z,63nm,1.6s
KVN Kaiserville 75.18 53 P **P** **07 09 12.2 -0.7**
KVN IAmb IAmb 07 09 25.3
comp=Z,63nm,1.6s
CUKT Cukurca 75.24 305 *eP* **P** **07 09 10.9 -2.3**
MDPB Devils Postpil 75.33 54 P **P** **07 09 12.5 -1.4**
OMMB Old Mammoth Mi 75.39 54 IAMs_20 IAMs_20 07 46 25.7
comp=Z,1µm,18.0s
NVAR Mina Array Bea 75.40 53 P **P** **07 09 14.8 +0.6**
comp=Z,1.6nm,0.8s,baz=286,slow=6.0,SNR=10
NVAR LR LR 07 44 10.4
comp=Z,565nm,18.1s,baz=296,slow=37
NC303 NORSAR Array S 75.43 338 P **P** **07 09 13.0 -0.7**
NV11 Mina Array Sit 75.49 53 IAMs_20 IAMs_20 07 47 58.8
comp=Z,2µm,18.0s
GURO Guroymak-BITLI 75.55 307 *eP* **P** **07 09 14.5 -0.5**
NC204 NORSAR Array S 75.58 338 P **P** **07 09 12.9 -1.8**
VRTB Varto-Mus 75.58 308 *eP* **P** **07 09 14.7 -0.5**
PAGB Antelope Grade 75.60 56 P **P** **07 09 14.8 -0.4**
PAGB IAmb IAmb 07 09 27.7
comp=Z,80nm,1.4s
NB2 NORSAR Subarra 75.62 338 P **P** **07 09 14.5 -0.4**
comp=Z,35nm,1.1s,baz=38,slow=5.9
NB2 NORSAR Subarra 75.62 338 P **P** **07 09 14.5 -0.4**
baz=38,slow=5.9
NOA NORSAR Array B 75.62 338 P **P** **07 09 14.3 -0.5**
comp=Z,3.6nm,1.0s,baz=40,slow=5.6,SNR=3.9
NOA LR LR 07 47 12.4
comp=Z,4µm,18.6s,baz=35,slow=39
AKASG Malin Array Be 75.67 323 P **P** **07 09 14.8 -0.4**
comp=Z,1.6nm,0.5s,baz=45,slow=6.3,SNR=18
AKASG LR LR 07 44 47.9
comp=Z,2µm,18.4s,baz=50,slow=37
AKBB Malin Array Si 75.67 323 IAMs_20 IAMs_20 07 44 36.3
comp=Z,2µm,19.0s
SIRT Sirnak 75.87 306 *eP* **P** **07 09 15.8 -1.0**
SMMC Simmler 76.00 57 P **P** **07 09 18.0 +0.5**
baz=304
YHL Hebgen Lake 76.06 45 P **P** **07 09 18.3 +0.3**
YMR Madison River 76.29 45 P **P** **07 09 20.9 +1.7**
SVAN Silvan-Diyarba 76.32 307 *eP* **P** **07 09 17.9 -1.3**
VES Vestal, Richgr 76.33 56 P **P** **07 09 18.2 -1.1**
baz=304
GCMT Greycliff 76.35 43 P **P** **07 09 19.5 +0.1**
OUZ Omahuta 76.43 154 IAMs_20 IAMs_20 07 40 24.0
comp=Z,2µm,19.0s
YPP Pitchstone Pla 76.62 45 P **P** **07 09 22.2 +1.0**
YNE Yellowstone No 76.63 44 P **P** **07 09 19.2 -1.9**
SIM Simferopol' 76.64 316*d i* P **P** **07 09 23.3 +2.4**
SIM *eS* **S** **07 19 12.0 +6.3**

SIM pmax pmax
comp=Z,23nm,0.8s
CWC Cottonwood Cre 76.66 55 P **P** **07 09 20.5 -0.9**
baz=305
LKWY Lake 76.68 44 IAMs_20 IAMs_20 07 48 15.3
comp=Z,2µm,18.0s
H17A Grant Village 76.68 45 P **P** **07 09 23.2 +1.7**
baz=307
H17A Grant Village 76.68 45 P **P** **07 09 22.4 +0.9**
H17A IAmb IAmb 07 09 35.4
comp=Z,58nm,1.3s
GRAC Grapevine Rang 76.82 54 P **P** **07 09 21.4 -0.7**
baz=305
ISA Isabella, Lake 76.84 56 P **P** **07 09 22.1 -0.1**
baz=305
ISA Isabella, Lake 76.84 56 P **P** **07 09 20.7 -1.6**
ISA pmax pmax
comp=Z,19nm,1.4s
ISA Isabella, Lake 76.84 56 P **P** **07 09 20.7 -1.6**
FXWY Fox Creek 76.87 45 P **P** **07 09 20.4 -2.2**
ARVC Arvin 76.90 56 P **P** **07 09 21.8 -0.8**
baz=305
HVU Hansel Valley 76.94 48 P **P** **07 09 22.7 -0.2**
HVU pmax pmax
comp=Z,41nm,1.4s
HVU Hansel Valley 76.94 48 P **P** **07 09 22.7 -0.2**
RLMT Red Lodge 76.98 43 IAMs_20 IAMs_20 07 48 52.2
comp=Z,1µm,18.0s
SCZ2 Santa Cruz Isl 76.99 58 P **P** **07 09 22.3 -0.8**
baz=305
DAC Darwin (Calif) 77.08 55 IAMs_20 IAMs_20 07 47 08.2
comp=Z,1µm,19.0s
DYBB Diyarbakir 77.12 307 *e*P **P** **07 09 22.3 -1.5**
SNOW Snow King Moun 77.14 46 P **P** **07 09 23.8 -0.3**
SFJD Kangerlussuaq 77.19 5 LR LR 07 43 43.0
comp=Z,2µm,20.6s,baz=352,slow=36
R11A Troy Canyon, C 77.20 52 P **P** **07 09 23.4 -1.0**
baz=306
R11A Troy Canyon, C 77.20 52 P **P** **07 09 22.8 -1.6**
R11A IAmb IAmb 07 09 36.8
comp=Z,50nm,1.6s
OSI Osito Audit: C 77.26 57 IAMs_20 IAMs_20 07 34 18.2
comp=Z,2µm,22.0s
MPMC Manual Prospec 77.27 55 P **P** **07 09 24.2 -0.6**
baz=305
SPUT South Promonto 77.42 48 P **P** **07 09 25.0 -0.6**
FURC Furnace Creek, 77.45 54 P **P** **07 09 23.9 -1.7**
baz=305
RSDY Resadiye-TOKAT 77.47 311 *e*P **P** **07 09 24.7 -1.0**
LRMC Laurel Mtn Rad 77.47 55 P **P** **07 09 24.5 -1.4**
baz=305
SNCC San Nicolas Is 77.48 58 IAMs_20 IAMs_20 07 40 42.2
comp=Z,2µm,19.0s
TPNV Topopah Spring 77.58 53 P **P** **07 09 25.9 -0.6**
baz=306
EDW2 Edwards Air Fo 77.60 56 P **P** **07 09 26.0 -0.6**
baz=305
LAO LASA Array 77.67 41 P **P** **07 09 26.4 -0.3**
baz=310
SORM Soroca 77.75 321 ⇑P **P** **07 09 29.1 +2.0**
SORM Soroca 77.75 321 ⇑P **P** **07 09 29.1 +2.0**
HWUT Hardware Ranch 77.78 47 P **P** **07 09 28.2 +0.6**
HWUT IAmb IAmb 07 09 40.1
comp=Z,49nm,1.3s
KVT Kavak 77.84 312 *e*P **P** **07 09 30.2 +2.4**
DUG Dugway, Tooele 77.86 49 P **P** **07 09 27.7 -0.3**
baz=307
DUG Dugway, Tooele 77.86 49 P **P** **07 09 28.9 +0.9**
DUG pmax pmax
comp=Z,34nm,1.5s
PASC Pasadena Art C 77.88 57 P **P** **07 09 26.8 -1.2**
PASC Pasadena Art C 77.88 57 IAMs_20 IAMs_20 07 43 50.6
comp=Z,1µm,19.0s
MWC Mount Wilson 77.93 57 P **P** **07 09 27.8 -0.8**
MWC pmax pmax
comp=Z,36nm,1.5s
MWC Mount Wilson 77.93 57 P **P** **07 09 27.8 -0.8**
MWC IAmb IAmb 07 09 40.5
comp=Z,36nm,1.5s
SVSK Karacayir 77.95 311 *e*P **P** **07 09 26.9 -1.4**
FRB Frobisher Bay 77.97 13 P **P** **07 09 29.1 +1.2**
FRB pmax pmax
comp=Z,31nm,2.7s
FRB Frobisher Bay 77.97 13 LR LR 07 48 43.6
comp=Z,3µm,18.2s,baz=353,slow=39
TOKT Tokat 77.99 311 *e*P **P** **07 09 26.3 -2.3**
GSC Goldstone, Bar 78.16 55 P **P** **07 09 29.7 0.0**
baz=306
GSC Goldstone, Bar 78.16 55 P **P** **07 09 28.1 -1.6**
GSC pmax pmax
comp=Z,48nm,1.9s
GSC Goldstone, Bar 78.16 55 P **P** **07 09 28.1 -1.6**
GSC IAmb IAmb 07 09 40.9
comp=Z,48nm,1.9s
PSUT Pine Spring 78.19 51 P **P** **07 09 29.0 -0.9**
BFSC Mount Baldy Ra 78.20 56 P **P** **07 09 28.6 -1.4**
baz=305
KIS Kishinev 78.25 320 *e*P P 07 09 24.0 -5.8
KIS Kishinev 78.25 320 *e*PcP **P** **07 09 32.0 +2.2**
KIS *e*L L 07 36 12.0
KIS LRM MLR 07 47 44.0
comp=Z,14µm,15.0s
KIS Kishinev 78.25 320 *e*P P 07 09 24.0 -5.8
KIS *e* 07 09 32.0
KIS *e* 07 19 25.0
KIS *e* 07 20 16.0
KIS MLR MLR
comp=Z,14µm,15.0s
PD31 Pinedale Array 78.25 46 P **P** **07 09 29.3 -1.0**
PDAR Pinedale Array 78.25 46 P **P** **07 09 30.1 -0.2**
comp=Z,2.2nm,0.9s,baz=280,slow=2.1,SNR=12
PDAR LR LR 07 45 22.1
comp=Z,261nm,18.6s,baz=347,slow=37
URFA Urfa 78.26 308 *e*P **P** **07 09 29.2 -1.0**
JLU Jordanelle 78.45 48 P **P** **07 09 30.1 -1.3**
DARE Darende-Malaty 78.45 309 *e*P **P** **07 09 31.2 -0.1**
NLU North Lily Min 78.46 49 P **P** **07 09 30.5 -1.0**
BZK Bozkurt 78.53 314 *e*P **P** **07 09 28.1 -3.4**
SHPR Sheep Range 78.55 53 P **P** **07 09 30.2 -1.7**
TUQ Turquoise Moun 78.67 55 P **P** **07 09 32.6 0.0**
baz=306
HEC Hector,Ludlow 78.75 55 P **P** **07 09 33.1 +0.1**
baz=306
LVV L'vov 78.77 324 *e*P **P** **07 09 35.3 +2.7**
LVV *e* 07 12 37.4
LVV *e*S **S** **07 19 29.0 +0.5**
LVV MLR MLR
comp=E,5µm,15.0s
LVV MLR MLR
comp=N,4µm,14.0s
LVV MLR MLR
comp=Z,6µm,15.0s
MURC Murrieta 78.88 57 P **P** **07 09 33.8 +0.2**
baz=306
RAR Rarotonga 78.96 126 LR LR 07 43 14.5
comp=Z,2µm,18.0s,baz=281,slow=35
CCUT Cedar City 79.09 52 P **P** **07 09 35.1 +0.1**
YOZ Yozgat 79.15 311 *e*P **P** **07 09 32.2 -3.0**
GMRC Granite Mounta 79.22 55 P **P** **07 09 35.8 +0.2**
baz=306
SZCU Shurtz Canyon 79.24 51 P **P** **07 09 34.1 -1.7**
ILGA Ilgaz 79.26 313 P **P** **07 09 35.6 -0.2**
ILGA IAmb IAmb 07 09 49.3
comp=Z,77nm,1.5s
MSU Marysvale 79.26 50 P **P** **07 09 36.4 +0.5**
MSU Marysvale 79.26 50 P **P** **07 09 36.4 +0.5**
BNN Bunyan 79.31 310 *e*P **P** **07 09 34.9 -1.1**
109C Camp Elliot, M 79.35 57 P **P** **07 09 34.5 -1.7**
109C IAmb IAmb 07 09 48.1
comp=Z,41nm,1.4s
PFO Pinyon Flats O 79.37 56 P **P** **07 09 35.6 -0.8**
baz=306
PFO Pinyon Flats O 79.37 56 P **P** **07 09 36.8 +0.3**
PFO pmax pmax
comp=Z,38nm,1.3s
PFO Pinyon Flats O 79.37 56 P **P** **07 09 36.8 +0.3**
PFO IAmb IAmb 07 09 48.3
comp=Z,38nm,1.2s
PFO Pinyon Flats O 79.37 56 IAMs_20 IAMs_20 07 36 06.2
comp=Z,1µm,18.0s
XPFO Pion Flat 79.38 56 P **P** **07 09 36.1 -0.3**
XPFO IAmb IAmb 07 09 48.3
comp=Z,38nm,1.2s
XPFO Pion Flat 79.38 56 IAMs_20 IAMs_20 07 36 07.2
comp=Z,1µm,18.0s

TPFO Pinon Flats 79.38 56 P **P** **07 09 35.4 -1.1**
baz=306
TMUT Trail Mountain 79.39 49 P **P** **07 09 34.8 -1.9**
KMRS Kahramanmaras 79.45 309 *e*P **P** **07 09 36.2 -0.5**
BELC Belle Mtn. Jos 79.46 56 P **P** **07 09 36.7 -0.2**
baz=306
GAZ Gaziantep 79.46 308 P **P** **07 09 35.8 -0.9**
LCMT Little Creek M 79.49 52 P **P** **07 09 36.4 -0.6**
KWP Kalwaria Pacla 79.52 325 *e*P **P** **07 09 39.1 +2.3**
KWP Kalwaria Pacla 79.52 325 *e*P **P** **07 09 39.1 +2.3**
KWP *e*P **P** **07 09 39.1 +2.3**
KWP Kalwaria Pacla 79.52 325 P **P** **07 09 39.2 +2.3**
MTPU Mount Pierson 79.54 51 P **P** **07 09 36.6 -1.0**
P17A Butcher Ranch, 79.57 49 P **P** **07 09 37.1 -0.4**
Q16A Castle Valley 79.64 49 P **P** **07 09 37.5 -0.4**
BUR08 Bucovina Ar. S 79.67 322 P **P** **07 09 36.6 -1.1**
BURAR Bucovina Array 79.68 322 ⇑P **P** **07 09 39.2 +1.4**
BIZ Bicaz 79.69 321 ⇑P **P** **07 09 39.9 +2.1**
TESR Tescani 79.69 321 ⇑P **P** **07 09 39.6 +1.8**
KNB Kanab 79.75 52 P **P** **07 09 37.4 -1.1**
KNB pmax pmax
comp=Z,54nm,1.4s
KNB Kanab 79.75 52 P **P** **07 09 37.4 -1.1**
BAR Barrett 79.77 57 P **P** **07 09 40.3 +1.8**
MONP2 Monument Peak 79.82 57 P **P** **07 09 39.0 0.0**
baz=306
TOPG Topolog 79.86 319 ⇑P **P** **07 09 40.1 +1.4**
SRU San Rafael Swe 79.92 49 P **P** **07 09 37.7 -1.7**
SRU pmax pmax
comp=Z,29nm,1.2s
SRU San Rafael Swe 79.92 49 P **P** **07 09 37.7 -1.7**
IRM Iron Mountain 79.94 55 P **P** **07 09 38.8 -0.6**
baz=307
BC3 Big Chuckawall 80.03 56 P **P** **07 09 40.0 +0.1**
baz=306
K22A Casper 80.07 44 P **P** **07 09 39.8 -0.3**
baz=310
K22A Casper 80.07 44 P **P** **07 09 42.2 +2.0**
K22A IAmb IAmb 07 09 51.8
comp=Z,61nm,1.6s
VRI Vrincioaia 80.08 320 ⇑P **P** **07 09 40.9 +1.0**
VRI Vrincioaia 80.08 320 ⇑P **P** **07 09 40.9 +1.0**
BR131 Keskin Array S 80.12 312 P **P** **07 09 39.7 -0.7**
BR131 pmax pmax
comp=Z,16nm,1.1s
BR131 Keskin Array S 80.12 312 P **P** **07 09 39.7 -0.7**
BRTR Keskin Array B 80.12 312 *i*P **P** **07 09 39.9 -0.5**
BRTR pmax pmax
comp=Z,6.0nm,1.0s
BRTR Keskin Array B 80.12 312 P **P** **07 09 40.7 +0.3**
comp=Z,5.6nm,1.0s,baz=94,slow=3.7,SNR=21
BRTR Keskin Array B 80.12 312 *e*P **P** **07 09 39.3 -1.1**
PLOR Plostina 80.13 320 ⇓P **P** **07 09 42.3 +2.1**
PLOR Plostina 80.13 320 ⇓P **P** **07 09 42.3 +2.1**
KOZT Kozan 80.15 309 *e*P **P** **07 09 39.4 -1.0**
IKP In-Ko-Pah, Jac 80.17 57 P **P** **07 09 40.7 0.0**
baz=306
KOLS Kolonicke sedl 80.21 324 *e*P **P** **07 09 40.5 0.0**
KOLS pmax pmax
comp=Z,14nm,1.1s
KOLS Kolonicke sedl 80.21 324 *e*P **P** **07 09 40.5 0.0**
SWSC Sam W. Stewart 80.21 57 P **P** **07 09 40.2 -0.6**
baz=306
W13A Hualapai Mount 80.21 54 P **P** **07 09 40.2 -0.9**
MDND Maddock 80.29 37 P **P** **07 09 41.3 +0.4**
baz=314
MDND Maddock 80.29 37 P **P** **07 09 39.3 -1.7**
MDND IAmb IAmb 07 09 52.5
comp=Z,65nm,1.3s
MDND IAMs_20 IAMs_20 07 51 00.2
comp=Z,2µm,19.0s
ULM Lac du Bonnet 80.35 33 P **P** **07 09 41.2 -0.1**
ULM pmax pmax
comp=Z,55nm,1.9s
ULM Lac du Bonnet 80.35 33 P **P** **07 09 42.1 +0.8**
comp=Z,2.1nm,0.8s,baz=323,slow=15,SNR=2.4
ULM LR LR 07 51 54.8
comp=Z,530nm,18.7s,baz=331,slow=41
ULM Lac du Bonnet 80.35 33 P **P** **07 09 41.2 -0.1**
UZH Uzhgorod 80.41 324 *e*P **P** **07 09 43.8 +2.2**
UZH *e* 07 12 42.6
UZH *e* 07 14 43.8
UZH *e*S **S** **07 19 45.0 -0.9**
UZH *e* 07 20 44.0
UZH *e* 07 28 21.0
UZH MLR MLR
comp=N,1µm,14.0s
UZH MLR MLR
comp=E,2µm,14.0s
UZH MLR MLR
comp=Z,500nm,14.0s
OZUR 80.42 321 ⇓P **P** **07 09 43.5 +1.8**
URZ Urewera 80.42 153 LR LR 07 45 47.0
comp=Z,614nm,18.0s,baz=1.5,slow=36
URZ Urewera 80.42 153 IAMs_20 IAMs_20 07 48 33.5
comp=Z,2µm,19.0s
OJC Ojcow 80.44 327 P **P** **07 09 40.2 -1.5**
OJC pmax pmax
comp=Z,59nm,1.4s
OJC Ojcow 80.44 327 *e*P **P** **07 09 43.8 +2.1**
OJC *e*P **P** **07 09 43.8 +2.1**
OJC Ojcow 80.44 327 P **P** **07 09 40.2 -1.5**
OJC IAmb IAmb 07 10 18.1
comp=Z,59nm,1.4s
U15A North Rim 80.45 52 P **P** **07 09 41.7 -0.7**
U15A IAmb IAmb 07 09 55.2
comp=Z,90nm,2.0s
U15A IAMs_20 IAMs_20 07 50 21.9
comp=Z,1µm,18.0s
ARCR ARCALIA 80.47 322 ⇓P **P** **07 09 44.3 +2.3**
CEYT Ceyhan 80.49 309 *e*P **P** **07 09 41.4 -0.8**
RSSD Black Hills 80.50 42 P **P** **07 09 41.2 -1.3**
baz=311
RSSD Black Hills 80.50 42 P **P** **07 09 41.7 -0.8**
RSSD pmax pmax
comp=Z,33nm,1.7s
RSSD Black Hills 80.50 42 P **P** **07 09 41.6 -0.8**
RSSD Black Hills 80.50 42 IAMs_20 IAMs_20 07 51 22.3
comp=Z,1µm,18.0s
ANTO Ankara 80.54 313 P **P** **07 09 42.4 -0.2**
ANTO pmax pmax
comp=Z,71nm,1.6s
ANTO Ankara 80.54 313 *e*P **P** **07 09 42.2 -0.4**
ANTO Ankara 80.54 313 P **P** **07 09 42.4 -0.2**
ANTO IAmb IAmb 07 09 49.6
comp=Z,71nm,1.6s
Y12C Blythe 80.59 55 P **P** **07 09 42.0 -0.8**
baz=307
Y12C Blythe 80.59 55 P **P** **07 09 41.5 -1.4**
Y12C IAmb IAmb 07 09 55.0
comp=Z,48nm,1.6s
TRPA Tarpa 80.64 324 ⇑P **P** **07 09 44.3 +1.5**
TRPA Tarpa 80.64 324 *e*P **P** **07 09 44.1 +1.3**
SERE Sereflikochisa 80.65 311 *e*P **P** **07 09 41.2 -2.1**
O20A White River Ci 80.67 47 P **P** **07 09 42.7 -0.7**
baz=309
O20A White River Ci 80.67 47 P **P** **07 09 43.1 -0.3**
DOPR Dopca 80.71 321 ⇑P **P** **07 09 45.0 +1.7**
MLR Muntele Rosu 80.74 320 P **P** **07 09 42.8 -0.8**
MLR pmax pmax
comp=Z,57nm,1.7s
MLR MLR MLR
comp=Z,3µm,18.0s
MLR Muntele Rosu 80.74 320 ⇑P **P** **07 09 45.0 +1.4**
MLR Muntele Rosu 80.74 320 P **P** **07 09 42.8 -0.8**
MLR IAmb IAmb 07 10 14.7
comp=Z,57nm,1.7s
KARA Karaisali 80.77 309 *e*P **P** **07 09 43.2 -0.6**
NIE Niedzica 80.79 326 *e*P **P** **07 09 45.8 +2.1**
NIE Niedzica 80.79 326 *e*P **P** **07 09 45.8 +2.1**
NIE *e*P **P** **07 09 45.8 +2.1**
GLA Glamis 80.81 56 P **P** **07 09 44.0 -0.1**
baz=307
GLA Glamis 80.81 56 P **P** **07 09 42.1 -2.0**
GLA pmax pmax
comp=Z,32nm,1.2s
GLA Glamis 80.81 56 P **P** **07 09 42.1 -2.0**
YUVA Yuva-Kibriscik 80.87 314 *e*P **P** **07 09 42.8 -1.6**
QRZ Quartz Range 81.13 157 IAMs_20 IAMs_20 07 40 54.4
comp=Z,1µm,19.0s
SULT Sultanhani-AKS 81.15 311 *e*P **P** **07 09 43.4 -2.5**
VOIR 81.24 321 ⇑P **P** **07 09 47.2 +1.0**
VOIR 81.24 321 ⇑P **P** **07 09 47.2 +1.0**
MERS Mersin 81.35 309 *e*P **P** **07 09 44.2 -2.7**

LANS Liptovska Anna 81.36 326 *e*P **P** **07 09 46.5 -0.2**
LANS pmax pmax
comp=Z,29nm,1.8s
LANS Liptovska Anna 81.36 326 *e*P **P** **07 09 46.5 -0.2**
OKC Ostrava-Krasne 81.45 327 AMS AMS 07 53 20.0
comp=Z,5µm,12.6s
DRGR 81.49 323 ⇑P **P** **07 09 49.2 +1.7**
DRGR 81.49 323 ⇑P **P** **07 09 49.2 +1.7**
Y14A Wickenburg 81.49 54 P **P** **07 09 47.5 -0.2**
ARR Arges 81.50 321 ⇑P **P** **07 09 49.5 +1.9**
KSP Ksiaz 81.51 329 *e*P **P** **07 09 49.0 +1.6**
KSP Ksiaz 81.51 329 *e*P **P** **07 09 49.0 +1.6**
KSP *e*P **P** **07 09 49.0 +1.6**
N23A Red Feather La 81.53 45 P **P** **07 09 47.2 -0.9**
baz=311
N23A Red Feather La 81.53 45 P **P** **07 09 47.2 -0.9**
N23A IAmb IAmb 07 10 00.5
comp=Z,54nm,1.2s
N23A IAMs_20 IAMs_20 07 49 14.9
comp=Z,1µm,19.0s
GULT Gulveren 81.54 314 *e*P **P** **07 09 46.2 -1.7**
SILT Sile 81.58 315 *e*P **P** **07 09 44.0 -3.9**
WUAZ Wupatki 81.59 52 P **P** **07 09 48.4 0.0**
baz=308
WUAZ Wupatki 81.59 52 P **P** **07 09 47.4 -1.0**
RAYN Ar Rayn 81.64 293 P **P** **07 09 48.1 -0.5**
RAYN pmax pmax
comp=Z,37nm,1.4s
RAYN Ar Rayn 81.64 293 P **P** **07 09 48.1 -0.5**
RAYN IAmb IAmb 07 10 01.3
comp=Z,37nm,1.4s
RAYN IAMs_20 IAMs_20 07 53 12.9
comp=Z,1µm,19.0s
113A Mohawk Valley, 81.69 56 P **P** **07 09 48.1 -0.5**
KIZT Kizilcal 81.72 312 *e*P **P** **07 09 47.3 -1.6**
NNZ Nelson 81.76 157 IAMs_20 IAMs_20 07 49 51.0
comp=Z,1µm,18.0s
OSTC Ostas 81.76 328 AMS AMS 07 50 50.0
comp=Z,8µm,12.9s
MORC Moravsky Berou 81.76 327 P **P** **07 09 46.8 -2.1**
MORC pmax pmax
comp=Z,36nm,1.5s
MORC Moravsky Berou 81.76 327 ⇓P **P** **07 09 51.2 +2.4**
MORC Moravsky Berou 81.76 327 *e*P **P** **07 09 50.7 +1.8**
MORC Moravsky Berou 81.76 327 P **P** **07 09 46.8 -2.1**
MORC IAmb IAmb 07 10 25.3
comp=Z,36nm,1.5s
HRT Hereke 81.78 315 *e*P **P** **07 09 46.4 -2.7**
CHVC Chvalec 81.81 329 *e*P **P** **07 09 53.7 +4.7**
CHVC *ex* x 07 09 58.6
CHVC AMS AMS 07 51 00.0
comp=Z,9µm,13.8s
KIZK Mersin 81.83 309 *e*P **P** **07 09 47.9 -1.5**
LADK Ladik-KONYA 81.85 311 *e*P **P** **07 09 48.5 -1.1**
KLYT Kilyos 81.86 315 *e*P P 07 09 39.1 -10
DPC Dobruska-Polom 81.87 328 *e*P **P** **07 09 51.4 +2.0**
DPC *e* 07 09 59.2
DPC MLR MLR
comp=Z,8µm,13.2s
DPC Dobruska-Polom 81.87 328 *e*P **P** **07 09 51.4 +2.0**
DPC *e*pP **sP** **07 09 59.2 +0.1**
DPC AMS AMS 07 51 40.0
comp=Z,8µm,13.2s
KRLC Kraliky 81.88 328 AMS AMS 07 51 20.0
comp=Z,9µm,14.3s
UPC Upice 81.88 329 *e*P P 07 09 54.6 +5.2
UPC *e* 07 09 59.0
UPC MLR MLR
comp=Z,9µm,13.1s
UPC Upice 81.88 329 *e*P P 07 09 54.6 +5.2
UPC *e*pP pP 07 09 59.0 +2.0
UPC AMS AMS 07 51 00.0
comp=Z,9µm,13.1s
BORA Eskisehir 81.93 314 *e*P **P** **07 09 49.5 -0.5**
ISK Istanbul-Kandi 81.97 315 *e*P **P** **07 09 49.1 -0.9**
KAVV Kandilli-Istan 81.97 315 *e*P **P** **07 09 48.5 -1.5**
KONT Konya--Tatoy 82.02 311 *e*P **P** **07 09 48.9 -1.5**
PSZ Piszkesteto 82.05 325 P **P** **07 09 49.9 -0.5**
PSZ pmax pmax
comp=Z,32nm,1.0s
PSZ Piszkesteto 82.05 325 ⇑P P 07 09 59.0 +8.6
PSZ Piszkesteto 82.05 325 *e*P **P** **07 09 52.1 +1.7**
PSZ Piszkesteto 82.05 325 P **P** **07 09 49.9 -0.5**
PSZ IAmb IAmb 07 10 01.5
comp=Z,32nm,1.0s
CAVI Cavuskoy 82.08 314 *e*P **P** **07 09 49.3 -1.4**
THZ Tophouse 82.10 157 IAMs_20 IAMs_20 07 40 54.1
comp=Z,1µm,20.0s
YLV Yalova 82.11 315 *e*P **P** **07 09 47.0 -3.9**
VYHS Vyhne 82.12 326 *e*P **P** **07 09 52.1 +1.4**
VYHS Vyhne 82.12 326 *e*P **P** **07 09 52.1 +1.4**
CTKS Kestanelik-??a 82.17 316 *e*P **P** **07 09 48.7 -2.4**
X16A Lo Mia Camp, P 82.22 53 P **P** **07 09 50.5 -1.2**
IKL Isikli 82.27 309 *e*P **P** **07 09 49.5 -2.2**
SNZO South Karori 82.28 156 IAMs_20 IAMs_20 07 42 09.7
comp=Z,1µm,20.0s
SLVT Silivri 82.34 316 *e*P **P** **07 09 49.7 -2.3**
MVCO Mesa Verde 82.35 49 P **P** **07 09 52.9 +0.5**
baz=310
MVCO Mesa Verde 82.35 49 IAMs_20 IAMs_20 07 51 01.6
comp=Z,1µm,19.0s
ISCO Idaho Springs 82.43 46 P **P** **07 09 52.3 -0.6**
baz=311
ISCO Idaho Springs 82.43 46 P **P** **07 09 51.4 -1.5**
ISCO pmax pmax
comp=Z,11nm,1.2s
ISCO MLR MLR
comp=Z,1µm,19.0s
ISCO Idaho Springs 82.43 46 P **P** **07 09 51.4 -1.5**
ISCO IAMs_20 IAMs_20 07 49 42.8
comp=Z,1µm,19.0s
GZR Gura Zlata 82.43 322 ⇑P **P** **07 09 54.2 +1.7**
GZR Gura Zlata 82.43 322 ⇑P **P** **07 09 54.2 +1.7**
PHSR Pinarhisar 82.47 317 *e*P **P** **07 09 51.9 -0.7**
BRG Berggiesshubel 82.47 330 *e*P **P** **07 09 52.4 -0.1**
comp=Z,15nm,1.5s
BRG *e* 07 09 58.2
comp=Z,14nm,1.3s
BRG *e*PP PP 07 13 09.8 +8.8
comp=Z,50nm,1.9s
comp=N,9µm,13.9s
comp=E,4µm,13.8s
comp=Z,13µm,13.5s
BRG Berggiesshubel 82.47 330 *e*P **P** **07 09 52.4 -0.1**
BRG *e* 07 09 58.2
BRG *e* 07 13 09.8
BRG pmax pmax
comp=Z,15nm,1.5s
BRG pmax pmax
comp=Z,14nm,1.3s
BRG pmax pmax
comp=Z,50nm,1.9s
BRG MLR MLR
comp=N,9µm,13.9s
BRG MLR MLR
comp=E,4µm,13.8s
BRG MLR MLR
comp=Z,13µm,13.5s
PVCC Panska Ves 82.47 329 AMS AMS 07 51 40.0
comp=Z,8µm,14.6s
BERE Bereket-Mersin 82.49 310 *e*P **P** **07 09 51.1 -1.9**
CLL Collm 82.52 331 ⇓ *i*P **P** **07 09 53.4 +0.7**
CLL *i* 07 10 01.9
CLL *e*S **S** **07 20 08.0 +0.4**
CLL pmax pmax
comp=Z,32nm,1.0s
CLL Collm 82.52 331 ⇓ *i*P **P** **07 09 53.4 +0.7**
comp=Z,19nm,1.4s
CLL *i* Pmax 07 10 01.9
comp=Z,32nm,1.0s
CLL *e*PP **PP** **07 13 09.0 +7.6**
CLL *e*S **S** **07 20 08.0 +0.4**
CLL *e*SS **SS** **07 25 30.0 +2.2**
CLL *e*SSS SSS 07 29 12.0
CLL Lmax 07 52 00.0
CLL Collm 82.52 331 P **P** **07 09 52.4 -0.3**
CLL IAmb IAmb 07 10 02.9
comp=Z,26nm,0.9s
VRAC Vranov 82.53 327 ⇑P **P** **07 09 55.0 +2.2**
VRAC Vranov 82.53 327 ⇑P **P** **07 09 55.0 +2.2**
VRAC Vranov 82.53 327 *e*P **P** **07 09 54.8 +2.0**
TEKE Tekeli-Mersin 82.69 309 *e*P **P** **07 09 52.9 -1.0**
SHUT Suhut-Afyon 82.72 313 *e*P **P** **07 09 50.7 -3.5**
KRUC Moravsky 82.80 327 P **P** **07 09 54.5 +0.3**

KRUC pmax pmax
comp=Z,22nm,2.1s
KRUC Moravsky 82.80 327 *e*P **P** **07 09 56.1 +1.9**
214A Organ Pipe Nat 82.82 56 P **P** **07 09 54.4 -0.3**
baz=308
214A Organ Pipe Nat 82.82 56 P **P** **07 09 54.6 -0.1**
214A IAmb IAmb 07 10 07.0
comp=Z,48nm,1.5s
LTZ Lake Taylor 82.83 158 IAMs_20 IAMs_20 07 41 17.4
comp=Z,2µm,20.0s
GOPC GO Pecny, Ondr 82.85 329 *e*P **P** **07 09 57.5 +3.0**
GOPC *e* 07 10 03.1
GOPC MLR MLR
comp=Z,8µm,13.8s
GOPC GO Pecny, Ondr 82.85 329 *e*P **P** **07 09 57.5 +3.0**
GOPC *e*pP **pP** **07 10 03.1 +1.0**
GOPC AMS AMS 07 54 30.0
comp=Z,8µm,13.8s
BZS Buzias 82.86 322 ⇑P **P** **07 09 55.1 +0.5**
BZS Buzias 82.86 322 ⇑P **P** **07 09 55.1 +0.5**
PRA Prague 82.88 329 AMS AMS 07 51 50.0
comp=Z,10µm,13.5s
KHZ Kahutara 82.89 157 IAMs_20 IAMs_20 07 42 04.0
comp=Z,2µm,20.0s
W18A Petrified Fore 82.89 52 P **P** **07 09 54.2 -1.0**
baz=309
W18A Petrified Fore 82.89 52 IAMs_20 IAMs_20 07 51 23.6
comp=Z,1µm,18.0s
KCTX Karacabey (Bur 82.90 315 *e*P **P** **07 09 52.1 -2.8**
PRU Pruhonice 82.90 329 *e*P **P** **07 09 56.8 +2.1**
PRU *e* 07 10 02.7
PRU MLR MLR
comp=Z,8µm,13.6s
PRU Pruhonice 82.90 329 *e*P **P** **07 09 56.8 +2.1**
PRU *ex* x 07 10 02.7
PRU AMS AMS 07 51 40.0
comp=Z,8µm,13.6s
SUSD Miller 82.97 39 IAMs_20 IAMs_20 07 53 11.3
comp=Z,1µm,18.0s
TREC Trest 83.02 328 P **P** **07 09 57.4 +2.0**
TREC pmax pmax
comp=Z,8.0nm,2.3s
TREC Trest 83.02 328 AMS AMS 07 51 50.0
comp=Z,9µm,13.7s
S22A 4UR Ranch, Cre 83.03 48 P **P** **07 09 56.3 +0.2**
baz=310
S22A 4UR Ranch, Cre 83.03 48 P **P** **07 09 56.0 0.0**
S22A IAmb IAmb 07 10 09.9
comp=Z,54nm,1.7s
X18A Snowflake 83.12 52 P **P** **07 09 54.3 -2.1**
X18A IAmb IAmb 07 10 08.8
comp=Z,48nm,1.5s
EDC Edincik 83.12 315 *e*P **P** **07 09 53.8 -2.3**
CSKK Cskako 83.21 325 *e*P P 07 10 03.1 +6.7
ISP Isparta 83.21 312 IAMs_20 IAMs_20 07 52 28.6
comp=Z,2µm,18.0s
Q24A Divide 83.25 46 P **P** **07 09 56.4 -0.7**
baz=311
OXZ Oxford 83.25 158 IAMs_20 IAMs_20 07 42 45.4
comp=Z,2µm,20.0s
RKY Sarkoy-Tekirda 83.29 316 *e*P **P** **07 09 54.4 -2.6**
CSS Mathiatis 83.29 308 *e*P **P** **07 09 55.9 -1.2**
CSS Mathiatis 83.29 308 P **P** **07 09 57.1 0.0**
UKOP Uzunkopru-Edir 83.30 317 *e*P **P** **07 09 56.6 -0.3**
RPZ Rata Peaks 83.32 159 LR LR 07 40 32.9
comp=Z,889nm,21.5s,baz=333,slow=31
MDVR Moldovita 83.40 322 ⇓P **P** **07 09 58.2 +0.7**
KRBG Karabiga-Canak 83.42 316 *e*P **P** **07 09 58.3 +0.8**
LEF Lefka 83.47 309 *e*P **P** **07 09 56.7 -1.2**
MMLI Mount Malkishu 83.50 305 *e*P **P** **07 09 57.7 -0.5**
NKC Novy Kostel 83.57 330 P **P** **07 10 01.2 +3.0**
NKC pmax pmax
comp=Z,8.0nm,0.4s
NKC Novy Kostel 83.57 330 AMS AMS 07 51 30.0
comp=Z,11µm,13.9s
PPT Papeete 83.58 117 LR LR 07 43 52.8
comp=Z,999nm,18.5s,baz=263,slow=33
BALB Balikesir 83.58 315 *e*P **P** **07 09 57.9 -0.5**
PPT2 Papeete2 83.59 117 *e*S **S** **07 20 18.4 -1.1**
comp=Z,2µm,31.8s
PPT2 Papeete2 83.59 117 *e*LR LR 07 36 11.5
comp=Z,3µm,26.2s,baz=311
KDZ Kurdzhali 83.62 318 *e*P **P** **07 10 00.8 +2.2**
KDZ Kurdzhali 83.62 318 *e*P **P** **07 09 58.6 0.0**
MPLH Magyarpolny 83.69 326 *e*P **P** **07 10 01.0 +2.2**
PLD Plovdiv 83.70 318 *e*P **P** **07 09 58.7 -0.3**
PLD Plovdiv 83.70 318 P **P** **07 10 01.2 +2.2**
PLD pmax pmax
comp=Z,4.0nm,2.6s
PLD Plovdiv 83.70 318 *e*P **P** **07 09 57.3 -1.7**
OGNE Ogallala 83.72 43 IAMs_20 IAMs_20 07 53 41.6
comp=Z,1µm,21.0s
SOP Sopron 83.75 326 P **P** **07 10 01.0 +1.8**
SOP pmax pmax
comp=Z,30nm,1.7s
ALN Alexandroupoli 83.78 317 P **P** **07 09 57.8 -1.6**
ALN pmax pmax
comp=Z,21nm,1.2s
ALN Alexandroupoli 83.78 317 *e*P **P** **07 09 57.2 -2.2**
ALN Alexandroupoli 83.78 317 P **P** **07 09 57.8 -1.6**
ALN IAmb IAmb 07 10 10.0
comp=Z,21nm,1.2s
ALN IAMs_20 IAMs_20 07 54 15.4
comp=Z,2µm,18.0s
SDCO Great Sand Dun 83.84 47 P **P** **07 10 00.6 +0.5**
baz=311
SDCO Great Sand Dun 83.84 47 P **P** **07 09 59.3 -0.8**
KORT Korkueli 83.85 312 *e*P **P** **07 09 57.7 -2.3**
MORH Mrgy, Hungar 83.87 324 *e*P **P** **07 09 59.1 -0.7**
CONA Conrad Observa 83.88 327 *i* P **P** **07 09 57.4 -2.6**
comp=Z,14nm,1.4s
RDO Rodhopi 83.90 317 *e*P **P** **07 09 56.4 -3.6**
MANT Manisa 83.95 314 P **P** **07 09 59.4 -1.3**
KHC Kasperske Hory 83.96 329 P **P** **07 09 59.1 -1.1**
KHC pmax pmax
comp=Z,7.0nm,0.9s
KHC MLR MLR
comp=Z,2µm,18.0s
KHC Kasperske Hory 83.96 329 *e*P **P** **07 10 01.3 +1.1**
KHC *ex* x 07 10 07.6
KHC AMS AMS 07 53 30.0
comp=Z,8µm,13.8s
KHC Kasperske Hory 83.96 329 P **P** **07 09 59.1 -1.1**
KHC IAMs_20 IAMs_20 07 51 38.8
comp=Z,2µm,18.0s
TUC Tucson 83.96 54 P **P** **07 10 01.3 +0.6**
baz=309
TUC Tucson 83.96 54 P **P** **07 10 00.0 -0.6**
TUC pmax pmax
comp=Z,35nm,1.2s
TUC Tucson 83.96 54 P **P** **07 09 60.0 -0.6**
TUC IAmb IAmb 07 10 12.7
comp=Z,35nm,1.2s
TUC Tucson 83.96 54 IAMs_20 IAMs_20 07 53 56.4
comp=Z,1µm,19.0s
RZN Rozhen 83.98 318 *e*P **P** **07 10 02.8 +2.1**
GERES GERESS Array B 84.12 329 P **P** **07 09 59.6 -1.5**
comp=Z,0.8nm,0.7s,baz=46,slow=4.6,SNR=4.3
GERES LR LR 07 49 29.0
comp=Z,3µm,19.9s,baz=24,slow=37
VTS Vitosha 84.13 319 *e*P **P** **07 10 02.7 +1.3**
VTS Vitosha 84.13 319 P **P** **07 10 02.2 +0.8**
VTS pmax pmax
comp=Z,47nm,1.0s
VTS Vitosha 84.13 319 P **P** **07 10 02.2 +0.8**
VTS IAmb IAmb 07 10 12.7
comp=Z,47nm,1.0s
WET Wettzell 84.24 329 P **P** **07 10 02.1 +0.4**
WET pmax pmax
comp=Z,14nm,2.5s
ELL Elmali 84.28 312 P **P** **07 10 00.9 -1.3**
ELL Elmali 84.28 312 P **P** **07 10 00.9 -1.3**
GRA1 Grafenberg Arr 84.49 330 P **P** **07 10 02.0 -0.9**
GRA1 IAMs_20 IAMs_20 07 49 30.8
comp=Z,1µm,20.0s
GRF Grafenberg Arr 84.49 330 P **P** **07 10 02.0 -0.9**
GRF pmax pmax
comp=Z,115nm,1.4s
GRF MLR MLR
comp=Z,1µm,20.0s
ARSA Arzberg 84.54 327 *i* P **P** **07 10 00.8 -2.5**
comp=Z,16nm,1.5s
MMB Musomiste 84.58 318 *e*P **P** **07 10 04.1 +0.5**
MOA Molln 84.64 328 *i* P **P** **07 10 01.4 -2.4**
comp=Z,9.8nm,1.4s

ECSD EROS Data Cent 84.67 38 P **P** **07 10 02.9 -1.0**
baz=316
ECSD EROS Data Cent 84.67 38 P **P** **07 10 02.0 -1.9**
ECSD IAmb IAmb 07 10 14.2
comp=Z,27nm,1.6s
ECSD EROS Data Cent 84.67 38 IAMs_20 IAMs_20 07 50 30.1
comp=Z,1µm,19.0s
KSCO Kaye Shedlock' 84.69 45 P **P** **07 10 01.7 -2.6**
KSCO IAmb IAmb 07 10 15.9
comp=Z,48nm,1.3s
KSCO IAMs_20 IAMs_20 07 53 26.4
comp=Z,2µm,19.0s
KKB Krupnik 84.74 319 *e*P **P** **07 10 04.6 +0.3**
AKAS Kas 84.80 311 *e*P P 07 09 57.6 -7.3
T25A Trinidad 84.89 47 P **P** **07 10 04.9 -0.5**
baz=312
T25A Trinidad 84.89 47 P **P** **07 10 05.6 +0.2**
T25A IAmb IAmb 07 10 31.9
comp=Z,94nm,2.0s
BLCB Balcova 84.91 314 *e*P **P** **07 10 03.3 -1.9**
YER Yerkesik 85.01 313 *e*P **P** **07 10 02.9 -2.9**
ANMO Albuquerque 85.07 50 P **P** **07 10 06.0 -0.4**
baz=311
ANMO Albuquerque 85.07 50 P **P** **07 10 05.9 -0.4**
ANMO pmax pmax
comp=Z,39nm,1.3s
ANMO MLR MLR
comp=Z,1µm,20.0s
ANMO Albuquerque 85.07 50 LR LR 07 49 56.7
comp=Z,487nm,19.1s,baz=326,slow=37
ANMO Albuquerque 85.07 50 P **P** **07 10 05.9 -0.4**
ANMO IAmb IAmb 07 10 18.7
comp=Z,39nm,1.2s
ANMO Albuquerque 85.07 50 IAMs_20 IAMs_20 07 49 37.2
comp=Z,1µm,20.0s
URLA Izmir 85.18 315 *e*P **P** **07 10 05.5 -1.1**
SOKA Soboth 85.20 327 *i* P **P** **07 10 04.1 -2.5**
comp=Z,14nm,0.9s
HRFI Mount Harif 85.25 304 *e*P **P** **07 10 05.1 -2.0**
LENM Lemitar 85.25 51 P **P** **07 10 05.8 -1.4**
KNT Kendrikon 85.33 319 P **P** **07 10 11.2 +3.9**
TAOE Nuku Hiva Isla 85.36 104 *e*LR LR 07 37 12.9
comp=Z,2µm,25.9s
SPMN Marine on St. 85.44 35 IAMs_20 IAMs_20 07 53 51.3
comp=Z,2µm,18.0s
BNM Barren Site 85.48 51 P **P** **07 10 06.3 -2.2**
319A Douglas 85.54 54 P **P** **07 10 06.5 -2.1**
319A IAmb IAmb 07 10 20.6
comp=Z,46nm,1.2s
319A IAMs_20 IAMs_20 07 55 20.3
comp=Z,1µm,18.0s
BODT Bodrum 85.64 313 *e*P **P** **07 10 08.9 0.0**
KBA Koelnbreinsper 85.64 328 *i* P **P** **07 10 08.0 -0.9**
comp=Z,6.1nm,0.8s
ARG Arkhangelos 85.71 312 *e*P **P** **07 10 05.9 -3.3**
GRG Griva 85.74 319 P **P** **07 10 11.6 +2.2**
GRG pmax pmax
comp=Z,21nm,2.2s
MEM Membach 85.74 334 pP pP 07 10 19.1 +2.4
121A Cookes Peak, D 85.78 53 P **P** **07 10 10.2 +0.3**
baz=310
121A Cookes Peak, D 85.78 53 P **P** **07 10 08.5 -1.4**
121A IAmb IAmb 07 10 22.2
comp=Z,46nm,1.2s
MYKA Terra Mystica 85.85 327 *i* P **P** **07 10 08.4 -1.4**
comp=Z,5.8nm,0.8s
HSIG 85.89 57 P **P** **07 10 08.2 -2.1**
HSIG IAmb IAmb 07 10 22.1
comp=Z,26nm,1.2s
SRIG Santa Rosalia 86.06 59 IAMs_20 IAMs_20 07 56 15.3
comp=Z,1µm,18.0s
BCLA Clavier 86.15 334 PcP **P** **07 10 11.9 +0.7**
WATA Walderalm 86.19 329 *i* PcP **P** **07 10 11.0 -0.6**
comp=Z,3.5nm,1.0s
WTTA Wattenberg 86.23 329 *i* P **P** **07 10 10.5 -1.4**
comp=Z,14nm,1.5s
ABTA Abfaltersbach 86.25 328 *i* P **P** **07 10 10.4 -1.4**
comp=Z,4.4nm,1.1s
LIT Litokhoron 86.29 318 IAMs_20 IAMs_20 07 55 37.7
comp=Z,2µm,20.0s
PDG Podgorica 86.33 321 ⇓P **P** **07 10 12.2 +0.1**
PDG Podgorica 86.33 321 P **P** **07 10 09.9 -2.2**
PDG IAmb IAmb 07 10 23.2
comp=Z,52nm,1.1s
MOTA Moosalm 86.39 329 *i* P **P** **07 10 09.6 -3.0**
comp=Z,9.8nm,1.2s
FNA Florina 86.41 319 P **P** **07 10 10.9 -1.8**
FNA pmax pmax
comp=Z,83nm,1.9s
FNA Florina 86.41 319 P **P** **07 10 10.9 -1.8**
FNA IAmb IAmb 07 10 23.4
comp=Z,82nm,1.9s
FNA IAMs_20 IAMs_20 07 46 29.6
comp=Z,1µm,21.0s
RETA Reutte 86.42 329 *i* P **P** **07 10 11.0 -1.6**
comp=Z,15nm,1.8s
CBKS Cedar Bluff 86.47 44 IAMs_20 IAMs_20 07 55 47.3
comp=Z,2µm,18.0s
SCHQ Schefferville 86.50 16 LR LR 07 50 16.7
comp=Z,1µm,21.2s,baz=345,slow=37
G40A Rib Lake 86.61 34 IAMs_20 IAMs_20 07 53 27.2
comp=Z,1µm,21.0s
DOU Dourbes 86.67 334 pP pP 07 10 24.2 +3.4
BFO Black Forest 86.73 331 P **P** **07 10 13.0 -1.1**
BFO pmax pmax
comp=Z,20nm,0.9s
BFO Black Forest 86.73 331 P **P** **07 10 13.0 -1.1**
BFO IAmb IAmb 07 10 24.3
comp=Z,20nm,0.9s
BFO IAMs_20 IAMs_20 07 54 29.9
comp=Z,2µm,21.0s
KARP Karpathos 86.74 312 IAMs_20 IAMs_20 07 53 30.2
comp=Z,1µm,18.0s
FETA Feichten 86.80 329 *i* P **P** **07 10 13.0 -1.6**
comp=Z,7.4nm,1.3s
DAVA Damuels 86.94 330 *i* P **P** **07 10 14.0 -1.3**
comp=Z,8.3nm,1.3s
AGG Agios Georgios 87.14 317 IAMs_20 IAMs_20 07 55 48.5
comp=Z,2µm,18.0s
F42A Maple Grove Fa 87.16 33 IAMs_20 IAMs_20 07 56 07.5
comp=Z,1µm,18.0s
E43A Lone Tree Farm 87.17 32 IAMs_20 IAMs_20 07 53 51.6
comp=Z,1µm,21.0s
SANT Santorini 87.20 314 IAMs_20 IAMs_20 07 54 18.1
comp=Z,909nm,18.0s
TBI Tubuai 87.40 121 *e*S **S** **07 21 00.5 +3.9**
comp=Z,882nm,28.0s
TBI Tubuai 87.40 121 *e*LR LR 07 37 49.8
comp=Z,3µm,27.2s,baz=314
E44A Grand Marais A 87.43 31 IAMs_20 IAMs_20 07 53 33.7
comp=Z,2µm,19.0s
I40A Norwalk 87.47 35 IAMs_20 IAMs_20 07 55 18.0
comp=Z,2µm,19.0s
MNTX Cornudas Mount 87.87 52 P **P** **07 10 19.5 -0.4**
baz=312
MNTX Cornudas Mount 87.87 52 P **P** **07 10 19.6 -0.3**
MNTX IAmb IAmb 07 10 31.7
comp=Z,41nm,1.9s
MATQ Matagami 87.96 24 P **P** **07 10 18.9 -1.1**
baz=329
KSU1 Kansas State U 87.99 42 P **P** **07 10 19.4 -0.9**
baz=316
KSU1 Kansas State U 87.99 42 IAMs_20 IAMs_20 07 54 17.4
comp=Z,1µm,19.0s
AMTX Amarillo 88.04 48 P **P** **07 10 20.9 +0.1**
AMTX IAmb IAmb 07 10 31.9
comp=Z,26nm,1.4s
AMTX IAMs_20 IAMs_20 07 57 09.5
comp=Z,1µm,18.0s
JFWS Jewell Farm 88.39 36 IAMs_20 IAMs_20 07 48 07.4
comp=Z,1µm,20.0s
L40A Anamosa 88.57 37 IAMs_20 IAMs_20 07 55 34.3
comp=Z,2µm,19.0s
LSQQ Lebel-sur-Quev 88.78 24 P **P** **07 10 21.6 -2.3**
baz=329
G45A Suttons Bay 88.80 32 IAMs_20 IAMs_20 07 54 40.8
comp=Z,2µm,19.0s
CHGQ Chibougamau 88.89 23 P **P** **07 10 22.6 -1.7**
baz=331
NRCA Norcia 89.02 325 P **P** **07 10 23.7 -1.5**
NRCA IAmb IAmb 07 10 35.6
comp=Z,20nm,0.9s
E48A Lockeyer 89.06 29 P **P** **07 10 24.3 -0.9**
baz=326
ACER Acerenza 89.21 322 P **P** **07 10 24.9 -1.3**
INTR Introdacqua 89.28 324 P **P** **07 10 24.4 -2.0**

INTR IAmb IAmb 07 10 37.3
comp=Z,23nm,1.1s
WMOK Wichita Mounta 89.86 46 P **P** **07 10 28.2 -1.0**
baz=315
TX31 Lajitas Ar. Si 90.54 53 P **P** **07 10 31.2 -1.4**
TX31 IAmb IAmb 07 10 44.4
comp=Z,22nm,1.1s
TX32 Lajitas Array 90.54 53 P **P** **07 10 31.0 -1.6**
TX32 IAmb IAmb 07 10 44.4
comp=Z,23nm,1.1s
TXAR Lajitas Array 90.54 53 P **P** **07 10 32.1 -0.5**
comp=Z,5.2nm,1.0s,baz=300,slow=2.7,SNR=20
TXAR LR LR 07 51 14.8
comp=Z,281nm,18.0s,baz=0.0,slow=36
TUL1 Leonard 90.74 43 P **P** **07 10 32.3 -0.9**
baz=317
TUL1 Leonard 90.74 43 P **P** **07 10 30.4 -2.9**
TUL1 IAMs_20 IAMs_20 07 57 34.4
comp=Z,1µm,19.0s
ABTX Abilene, Hawle 90.82 48 P **P** **07 10 33.2 -0.6**
baz=314
ABTX Abilene, Hawle 90.82 48 P **P** **07 10 32.6 -1.1**
ABTX IAmb IAmb 07 10 45.6
comp=Z,58nm,1.6s
ABTX IAMs_20 IAMs_20 07 55 34.4
comp=Z,1µm,19.0s
D55A Sainte-Anne-du 91.05 25 P **P** **07 10 34.0 -0.5**
baz=330
J49A Marlette 91.22 31 P **P** **07 10 36.4 +1.1**
baz=325
HHAR Hobbs 91.49 42 P **P** **07 10 35.9 -0.9**
G54A Lake Saint Pet 91.52 27 P **P** **07 10 37.2 +0.5**
baz=329
D57A Chemin Vers le 91.58 24 P **P** **07 10 37.1 +0.2**
baz=332
CCM Cathedral Cave 91.59 39 P **P** **07 10 36.6 -0.6**
baz=320
CCM Cathedral Cave 91.59 39 P **P** **07 10 37.0 -0.2**
CCM pmax pmax
comp=Z,13nm,1.1s
CCM MLR MLR
comp=Z,2µm,20.0s
CCM Cathedral Cave 91.59 39 P **P** **07 10 37.0 -0.2**
CCM Cathedral Cave 91.59 39 IAMs_20 IAMs_20 07 55 16.6
comp=Z,2µm,20.0s
MGMO Mountain Grove 91.74 40 P **P** **07 10 37.6 -0.3**
MGMO IAmb IAmb 07 10 47.9
comp=Z,35nm,1.5s
MGMO IAMs_20 IAMs_20 07 58 46.5
comp=Z,1µm,18.0s
SFIN Lafayette 91.85 35 IAMs_20 IAMs_20 08 00 09.8
comp=Z,1µm,18.0s
U40A Yellville 92.02 41 P **P** **07 10 38.6 -0.6**
U40A IAmb IAmb 07 10 49.4
comp=Z,45nm,1.4s
U40A IAMs_20 IAMs_20 07 55 17.1
comp=Z,1µm,19.0s
N47A Urbana 92.10 34 IAMs_20 IAMs_20 07 56 55.4
comp=Z,1µm,20.0s
JCT Junction City 92.22 50 P **P** **07 10 39.8 -0.5**
JCT pmax pmax
comp=Z,76nm,1.9s
JCT Junction City 92.22 50 P **P** **07 10 39.8 -0.5**
WHTX Lake Whitney, 92.58 47 P **P** **07 10 38.8 -3.0**
WHTX IAMs_20 IAMs_20 07 58 13.8
comp=Z,1µm,18.0s
OLIL Olney 92.65 37 IAMs_20 IAMs_20 07 55 01.4
comp=Z,1µm,19.0s
N49A Columbus Grove 92.75 33 IAMs_20 IAMs_20 07 54 54.5
comp=Z,1µm,20.0s
S44A Carbondale 92.89 38 IAMs_20 IAMs_20 07 58 38.6
comp=Z,2µm,19.0s
SIUC Southern Illin 92.89 38 IAMs_20 IAMs_20 07 58 28.5
comp=Z,2µm,20.0s
MIAR Mount Ida 92.97 43 P **P** **07 10 43.4 -0.2**
baz=318
MIAR Mount Ida 92.97 43 P **P** **07 10 42.9 -0.7**
MIAR pmax pmax
comp=Z,39nm,1.5s
MIAR MLR MLR
comp=Z,1µm,19.0s
MIAR Mount Ida 92.97 43 P **P** **07 10 42.9 -0.7**
MIAR IAmb IAmb 07 10 54.5
comp=Z,38nm,1.5s
MIAR IAMs_20 IAMs_20 07 55 43.4
comp=Z,1µm,19.0s
PBMO Poplar Bluff 92.98 40 P **P** **07 10 42.8 -0.8**
PBMO IAmb IAmb 07 10 54.2
comp=Z,12nm,1.1s
WHAR Wooly Hollow 93.12 42 IAMs_20 IAMs_20 07 59 33.3
comp=Z,2µm,18.0s
P48A Milroy 93.36 35 IAMs_20 IAMs_20 07 55 36.7
comp=Z,1µm,21.0s
435B Jarrell 93.36 48 IAMs_20 IAMs_20 07 58 35.6
comp=Z,1µm,18.0s
M52A Chesterland 93.47 31 IAMs_20 IAMs_20 07 54 43.6
comp=Z,1µm,21.0s
HENM Henderson Moun 93.53 39 IAMs_20 IAMs_20 07 59 03.7
comp=Z,1µm,18.0s
N51A Ashland 93.55 32 IAMs_20 IAMs_20 07 58 44.5
comp=Z,2µm,19.0s
ERPA Erie 93.55 30 IAMs_20 IAMs_20 08 01 27.4
comp=Z,2µm,18.0s
PVMO Portageville 93.64 39 IAMs_20 IAMs_20 07 56 24.7
comp=Z,1µm,18.0s
PENMO Penman 93.65 39 IAMs_20 IAMs_20 08 01 15.0
comp=Z,1µm,18.0s
WDD Wied Dalam 93.69 320 IAMs_20 IAMs_20 07 58 16.3
comp=Z,2µm,20.0s
HICK Hickman 93.79 39 IAMs_20 IAMs_20 07 59 21.6
comp=Z,2µm,19.0s
J56A Wolcott 93.79 27 IAMs_20 IAMs_20 07 59 15.5
comp=Z,2µm,19.0s
ACSO Alum Creek Sta 93.84 33 IAMs_20 IAMs_20 07 58 33.4
comp=Z,2µm,20.0s
WVNY West Valley, N 93.86 29 IAMs_20 IAMs_20 07 57 33.6
comp=Z,2µm,20.0s
GLAT Glass 93.96 39 IAMs_20 IAMs_20 07 59 26.3
comp=Z,2µm,20.0s
LNXT Lenox 93.99 39 IAMs_20 IAMs_20 08 01 34.9
comp=Z,1µm,20.0s
NCB Newcomb 94.14 25 IAMs_20 IAMs_20 08 00 29.1
comp=Z,2µm,19.0s
HALT Halls 94.21 39 IAMs_20 IAMs_20 08 01 48.9
comp=Z,988nm,19.0s
R49A Shelbyville 94.41 35 IAMs_20 IAMs_20 08 00 17.7
comp=Z,1µm,18.0s
P51A Williamsport 94.42 33 IAMs_20 IAMs_20 07 59 04.7
comp=Z,1µm,19.0s
O52A Adamsville 94.44 32 IAMs_20 IAMs_20 07 59 21.1
comp=Z,1µm,19.0s
J59A Piesco 94.49 26 IAMs_20 IAMs_20 08 00 35.8
comp=Z,2µm,19.0s
T47A Sharon Grove 94.51 37 IAMs_20 IAMs_20 07 57 39.5
comp=Z,949nm,20.0s
WVT Waverly 94.82 38 IAMs_20 IAMs_20 07 59 42.8
comp=Z,1µm,19.0s
HKT Hockley 95.01 48 IAMs_20 IAMs_20 08 02 14.3
comp=Z,2µm,19.0s
T49A Edmonton 95.18 36 IAMs_20 IAMs_20 07 58 13.3
comp=Z,1µm,19.0s
PLAL Pickwick Lake 95.58 39 IAMs_20 IAMs_20 08 00 23.2
comp=Z,2µm,19.0s
V48A Smith Brothers 95.63 38 IAMs_20 IAMs_20 08 00 35.3
comp=Z,1µm,18.0s
MCWV Mont Chateau 95.67 31 IAMs_20 IAMs_20 08 00 44.6
comp=Z,911nm,19.0s
ZAIG Zacatecas 95.67 57 P **P** **07 10 55.5 -1.1**
ZAIG IAmb IAmb 07 11 09.0
comp=Z,16nm,1.3s
ZAIG IAMs_20 IAMs_20 08 02 28.9
comp=Z,1µm,18.0s
N58A Sunbury 95.94 29 IAMs_20 IAMs_20 07 56 21.4
comp=Z,2µm,20.0s
KEST Kesra 96.40 323 LR LR 07 59 15.4
comp=Z,2µm,18.7s,baz=326,slow=38
SWET Sewanee 96.49 38 IAMs_20 IAMs_20 08 01 26.9
comp=Z,1µm,20.0s
X48A Hartselle 96.53 39 IAMs_20 IAMs_20 08 00 51.1
comp=Z,1µm,19.0s
S54A Dingess, Beckl 96.58 33 IAMs_20 IAMs_20 08 00 32.9
comp=Z,2µm,20.0s
R55A Marlinton 96.70 32 IAMs_20 IAMs_20 07 57 54.0
comp=Z,2µm,18.0s
SDMD Soldier's Deli 97.11 29 IAMs_20 IAMs_20 08 00 01.6
comp=Z,888nm,18.0s
V52A Sevierville 97.12 36 IAMs_20 IAMs_20 08 01 08.6
comp=Z,2µm,18.0s

TKL	**Tuckaleechee C**	**97.19**	**36**	IAMs_20	IAMs_20	07 48 29.3		
	comp=Z,1µm,21.0s							
U54A	**Nelsons Funny**	**97.40**	**34**	IAMs_20	IAMs_20	08 01 18.8		
	comp=Z,1µm,20.0s							
X51A	**Calhoun**	**97.54**	**37**	IAMs_20	IAMs_20	07 58 57.7		
	comp=Z,1µm,20.0s							
W52A	**Murphy**	**97.57**	**36**	IAMs_20	IAMs_20	08 02 51.5		
	comp=Z,1µm,18.0s							
V53A	**Saluda**	**97.64**	**35**	IAMs_20	IAMs_20	07 59 27.1		
	comp=Z,1µm,20.0s							
S57A	**Dark Hollow, R**	**97.64**	**32**	IAMs_20	IAMs_20	07 59 25.8		
	comp=Z,1µm,19.0s							
Z50A	**Ashland**	**98.04**	**39**	IAMs_20	IAMs_20	08 02 04.3		
	comp=Z,2µm,19.0s							
BG3	**Lake Jocassee**	**98.13**	**36**	IAMs_20	IAMs_20	08 01 56.2		
	comp=Z,948nm,19.0s							
S58A	**Poland Farm, P**	**98.15**	**31**	IAMs_20	IAMs_20	08 00 17.2		
	comp=Z,2µm,20.0s							
T57A	**Hurt**	**98.15**	**32**	IAMs_20	IAMs_20	07 58 46.4		
	comp=Z,2µm,19.0s							
U56A	**King**	**98.20**	**33**	IAMs_20	IAMs_20	08 03 29.7		
	comp=Z,2µm,19.0s							
V55A	**Taylorsville**	**98.23**	**34**	IAMs_20	IAMs_20	08 01 41.7		
	comp=Z,2µm,19.0s							
Y52A	**Lilburn**	**98.49**	**37**	IAMs_20	IAMs_20	08 00 07.0		
	comp=Z,1µm,19.0s							
ESDC	**Sonseca Array**	**98.72**	**334**	LR	LR	08 01 05.5		
	comp=Z,2µm,18.8s,baz=30,slow=39							
KMSC	**Kings Mountain**	**98.76**	**35**	IAMs_20	IAMs_20	08 02 02.8		
	comp=Z,2µm,20.0s							
PAULI	**Pauline**	**98.80**	**35**	IAMs_20	IAMs_20	08 04 19.9		
	comp=Z,2µm,18.0s							
250A	**Grady**	**98.87**	**40**	IAMs_20	IAMs_20	08 02 28.3		
	comp=Z,1µm,19.0s							
GOGA	**Godfrey**	**99.15**	**37**	IAMs_20	IAMs_20	08 03 03.4		
	comp=Z,1µm,18.0s							
V58A	**Windy Hill, Pi**	**99.22**	**33**	IAMs_20	IAMs_20	08 04 57.0		
	comp=Z,1µm,18.0s							
U59A	**Littleton**	**99.33**	**32**	IAMs_20	IAMs_20	08 00 32.4		
	comp=Z,2µm,20.0s							
JSC	**Jenkinsville**	**99.50**	**35**	IAMs_20	IAMs_20	08 02 57.5		
	comp=Z,976nm,19.0s							
BIRD	**Birdtown, Kers**	**99.57**	**34**	IAMs_20	IAMs_20	08 03 45.3		
	comp=Z,1µm,20.0s							
V60A	**Jim Taylor Roa**	**100.05**	**32**	IAMs_20	IAMs_20	08 01 35.6		
	comp=Z,2µm,19.0s							
Z56A	**Williston**	**100.24**	**36**	IAMs_20	IAMs_20	08 03 28.0		
	comp=Z,1µm,19.0s							
UNM	**Universidad Na**	**100.32**	**57**	IAMs_20	IAMs_20	08 04 00.1		
	comp=Z,893nm,19.0s							
Y59A	**Loris**	**100.84**	**34**	IAMs_20	IAMs_20	08 06 09.8		
	comp=Z,2µm,19.0s							
NHSC	**New Hope**	**100.98**	**35**	IAMs_20	IAMs_20	08 04 20.5		
	comp=Z,1µm,19.0s							
Y60A	**Bolivia**	**101.12**	**33**	IAMs_20	IAMs_20	08 06 05.2		
	comp=Z,1µm,19.0s							
257A	**Skidaway Islan**	**101.51**	**36**	IAMs_20	IAMs_20	08 04 07.7		
	comp=Z,2µm,19.0s							
KMBO	**Kilima Mbogo**	**102.65**	**278**	IAMs_20	IAMs_20	08 03 33.9		
	comp=Z,785nm,18.0s							
060A	**Indiantown**	**105.89**	**39**	IAMs_20	IAMs_20	08 05 49.0		
	comp=Z,1µm,20.0s							
061Z	**Ochoppi**	**106.56**	**40**	IAMs_20	IAMs_20	08 06 23.9		
	comp=Z,1µm,20.0s							
TAM	**Tamanrasset**	**108.75**	**318**	IAMs_20	IAMs_20	08 07 34.3		
	comp=Z,1µm,20.0s							
ESPN	**Las Esperanzas**	**115.32**	**51**	IAMs_20	IAMs_20	08 12 57.7		
	comp=Z,674nm,21.0s							
LSZ	**Lusaka**	**118.02**	**271**	IAMs_20	IAMs_20	08 07 53.0		
	comp=Z,906nm,19.0s							
SDD	**Santo Domingo**	**118.23**	**35**	IAMs_20	IAMs_20	08 11 16.2		
	comp=Z,1µm,20.0s							
TORD	**Torodi Ar. Bea**	**118.64**	**315**	PKP	**PKiKP**	**07 16 18.8**	**+0.1**	
	comp=Z,0.5nm,0.6s,baz=24,slow=2.9,SNR=3.3							
OBIP	**Obispado Ponce**	**120.07**	**32**	IAMs_20	IAMs_20	08 11 41.8		
	comp=Z,1µm,20.0s							
SJG	**San Juan**	**120.20**	**31**	IAMs_20	IAMs_20	08 13 45.4		
	comp=Z,874nm,20.0s							
PAYG	**Puerto Ayora**	**120.29**	**66**	IAMs_20	IAMs_20	08 06 21.1		
	comp=Z,1µm,18.0s							
SMRT	**St. Maarten**	**121.50**	**28**	IAMs_20	IAMs_20	08 16 26.4		
	comp=Z,992nm,20.0s							
SABA	**Saba**	**121.83**	**29**	IAMs_20	IAMs_20	08 17 29.1		
	comp=Z,1µm,21.0s							
QSPA	**South Pole Qui**	**125.43**	**180**		**PKPdf**	**07 16 28.1**	**-2.0**	
QSPA	**South Pole Qui**	**125.43**	**180**	IAMs_20	IAMs_20	08 09 51.2		
	comp=Z,507nm,18.0s							
SDV	**Santo Domingo**	**126.02**	**41**		**PKPdf**	**07 16 30.9**	**-2.2**	
SDV	**Santo Domingo**	**126.02**	**41**	IAMs_20	IAMs_20	08 17 31.9		
	comp=Z,841nm,19.0s							
SVB	**Belmont**	**126.56**	**29**	IAMs_20	IAMs_20	08 12 36.4		
	comp=Z,1µm,22.0s							
SYO	**Syowa Base**	**127.22**	**206**	*e*PKPdf	**PKiKP**	**07 16 34.4**	**+0.5**	
SYO	**Syowa Base**	**127.22**	**206**	*e*PKPdf	pPKPdf	07 16 37.8	-2.9	
SYO	**Syowa Base**	**127.22**	**206**	*e*X	**PKiKP**	**07 16 41.4**	**+7.5**	
OTAV	**Otavalo**	**128.08**	**56**	IAMs_20	IAMs_20	08 16 55.6		
	comp=Z,515nm,18.0s							
NNA	**Nana**	**137.73**	**66**	*i* P	PKiKP	07 17 14.8	+18	
SNAA	**Sanae**	**139.60**	**196**	PKiKP	**PKiKP**	**07 16 59.7**	**+0.7**	
SNAA	**Sanae**	**139.60**	**196**	IAMs_20	IAMs_20	08 26 11.7		
	comp=Z,603nm,18.0s							
VNA2	**Neumayer--Watz**	**141.16**	**195**	PKiKP	**PKiKP**	**07 17 01.9**	**-0.2**	
VNA3	**Neumayer Olymp**	**141.39**	**194**	PKiKP	**PKiKP**	**07 17 03.0**	**+0.4**	
VNA1	**Neumayer--Stat**	**141.55**	**195**	PKiKP	**PKiKP**	**07 17 03.1**	**+0.1**	
SAML	**Samuel**	**144.83**	**47**	PKiKP	**PKPab**	**07 17 04.0**	**-2.6**	
SAML	**Samuel**	**144.83**	**47**		**PKPab**	**07 17 04.0**	**-2.6**	
SAML	**Samuel**	**144.83**	**47**	IAMs_20	IAMs_20	08 35 38.2		
	comp=Z,741nm,18.0s							
LPAZ	**La Paz**	**146.91**	**62**	*i* P	**PKPbc**	**07 17 12.9**	**-0.8**	
LPAZ	**La Paz**	**146.91**	**62**	PKPbc	**PKPdf**	**07 17 12.5**	**+0.6**	
	comp=Z,7.2nm,1.0s,baz=317,slow=3.4,SNR=8.1							
PB16	**IPOC Station P**	**147.21**	**67**	*e*P	**PKiKP**	**07 17 17.0**	**+0.1**	
PSGC	**Pisagua**	**147.50**	**69**	*e*P	**PKPdf**	**07 17 09.9**	**-2.2**	
MNMC	**Minye Minye**	**147.62**	**68**	*i* P	**PKPbc**	**07 17 15.9**	**+0.6**	
PB11	**IPOC Station P**	**147.95**	**69**	*e*P	**PKPbc**	**07 17 15.4**	**-0.6**	
PB11	**IPOC Station P**	**147.95**	**69**		**PKPbc**	**07 17 15.9**	**-0.1**	
PB11				IAMs_20	IAMs_20	08 15 14.4		
	comp=Z,684nm,20.0s							
GO01	**Chusmiza**	**148.25**	**68**	*i* P	**PKPab**	**07 17 24.6**	**+4.4**	
GO01	**Chusmiza**	**148.25**	**68**		**PKPbc**	**07 17 17.4**	**+0.2**	
GO01				PKPab	**PKPab**	**07 17 23.6**	**+3.4**	
GO01				IAMs_20	IAMs_20	08 17 02.2		
	comp=Z,738nm,19.0s							
PB08	**IPOC Station P**	**148.56**	**69**	*i* P	**PKPab**	**07 17 20.6**	**-0.8**	
PB07	**IPOC Station P**	**148.90**	**72**	*i* P	**PKiKP**	**07 17 19.1**	**-0.7**	
PB04	**IPOC Station P**	**149.02**	**73**	*i* P	**PKiKP**	**07 17 19.9**	**-0.2**	
PB04	**IPOC Station P**	**149.02**	**73**	PKPab	**PKPab**	**07 17 24.9**	**+1.9**	
PB03	**IPOC Station P**	**149.18**	**73**	*i* P	**PKPbc**	**07 17 18.8**	**-0.4**	
PB05	**IPOC Station P**	**149.25**	**74**	*i* P	**PKPbc**	**07 17 19.5**	**+0.2**	
PB10	**IPOC Station P**	**149.32**	**76**	*i* P	**PKiKP**	**07 17 22.1**	**+1.6**	
PB10	**IPOC Station P**	**149.32**	**76**	IAMs_20	IAMs_20	08 33 29.2		
	comp=Z,742nm,18.0s							
PB09	**IPOC Station P**	**149.43**	**72**	*i* P	**PKiKP**	**07 17 21.0**	**+0.1**	
PB06	**IPOC Station P**	**149.67**	**73**	*i* P	**PKPbc**	**07 17 20.6**	**+0.3**	
PB14	**IPOC Station P**	**149.99**	**77**	*e*P	**PKiKP**	**07 17 23.0**	**+0.8**	
PB15	**IPOC Station P**	**150.01**	**74**	*e*P	**PKPbc**	**07 17 21.0**	**-0.3**	
PB15				*e*P	**PKiKP**	**07 17 22.1**	**0.0**	
LVC	**Limon Verde**	**150.13**	**73**	IAMs_20	IAMs_20	08 34 53.6		
	comp=Z,705nm,19.0s							
GO02	**Mina Guanaco**	**150.90**	**78**	*i* P	**PKiKP**	**07 17 25.7**	**+1.7**	
GO02	**Mina Guanaco**	**150.90**	**78**		**PKPbc**	**07 17 21.7**	**-1.7**	
GO03	**Copiap**	**151.46**	**83**	*i* P	**PKPab**	**07 17 32.6**	**-0.1**	
GO03	**Copiap**	**151.46**	**83**		**PKPbc**	**07 17 22.3**	**-2.1**	
GO03				IAMs_20	IAMs_20	08 13 58.9		
	comp=Z,698nm,20.0s							
COCH	**Cobquecura**	**151.88**	**101**	*i* P	**PKPab**	**07 17 38.1**	**+3.9**	
GO04	**Tololo Observa**	**151.98**	**88**	*i* P	**PKPdf**	**07 17 22.1**	**+2.9**	
GO04	**Tololo Observa**	**151.98**	**88**	PKPdf	**PKPdf**	**07 17 15.9**	**-3.3**	
GO04					**PKPbc**	**07 17 25.0**	**-0.7**	
GO04				PKPab	**PKPab**	**07 17 34.7**	**-0.4**	
CO02	**Combarbal**	**152.15**	**90**	*i* P	**PKPab**	**07 17 34.1**	**-1.6**	
GO05	**Huala**	**152.36**	**99**	*i* P	**PKPdf**	**07 17 21.7**	**+2.4**	
PEL	**Peldehue**	**152.95**	**94**	*e*P	**PKPdf**	**07 17 18.7**	**-1.6**	
PEL	**Peldehue**	**152.95**	**94**		**PKPbc**	**07 17 25.6**	**-1.9**	
PEL					**PKPab**	**07 17 36.4**	**-2.5**	
PEL				IAMs_20	IAMs_20	08 20 00.8		
	comp=Z,727nm,20.0s							
CLCH	**Cerro Calan**	**153.14**	**95**	*i* P	**PKPab**	**07 17 36.3**	**-3.4**	
FCH	**Farellones**	**153.32**	**94**	*i* P	**PKiKP**	**07 17 29.4**	**+0.5**	
PLCA	**Paso Flores**	**153.99**	**111**	PKPab	**PKPab**	**07 17 39.7**	**-3.4**	
	comp=Z,5.5nm,1.1s,baz=292,slow=3.1,SNR=7.6							
CYA	**Choya**	**155.38**	**81**	*i* P	PKPab	07 17 37.0	-12	
BDFB	**Brasilia**	**158.11**	**27**	IAMs_20	IAMs_20	08 28 43.1		
	comp=Z,843nm,20.0s							

ROM 23 07:08:03.2±0.1, 43°.387N±0°.003×12°.529E±0°.004, h8km, ML1.2/8, Error ellipse: s-maj=0.3km s-min=0.1km az=310.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.04**	**123**	P	Pg	07 08 04.8	0.0
ATFO				S	Sg	07 08 05.9	-0.1
ATVO	**AVT- Monte Val**	**0.09**	**267**	P	Pg	07 08 05.6	+0.2
ATVO				S	Sg	07 08 07.3	+0.3
ATVO				AML	AML		
	comp=E,261µm,0.3s						
ATVO				AML	AML		
	comp=E,260µm,0.3s						
ATVO				AML	AML		
	comp=N,134µm,0.3s						
ATPI	**Pietralunga -**	**0.11**	**305**	P	Pg	07 08 06.2	+0.4
ATPI				S	Sg	07 08 08.4	+0.8
ATPI				AML	AML		
	comp=E,117µm,0.3s						
ATPI				AML	AML		
	comp=N,156µm,0.4s						
ATPI				AML	AML		
	comp=E,116µm,0.3s						
MURB	**Monte Urbino**	**0.12**	**181**	P	Pg	07 08 06.4	+0.5
MURB				AML	AML		
	comp=E,216µm,0.2s						
MURB				AML	AML		
	comp=N,196µm,0.4s						
MURB				AML	AML		
	comp=E,217µm,0.2s						
PIEI	**Pieia**	**0.15**	**2**	P	Pg	07 08 07.0	+0.6
PIEI				S	Sg	07 08 09.9	+1.3
PIEI				AML	AML		
	comp=E,131µm,0.2s						
PIEI				AML	AML		
	comp=N,86µm,0.3s						
SSFR	**Montelago di S**	**0.19**	**75**	P	Pg	07 08 07.6	+0.5
SSFR				S	Sg	07 08 11.1	+1.3
SSFR				AML	AML		
	comp=N,147µm,0.2s						
SSFR				AML	AML		
	comp=E,353µm,0.2s						
FRON	**Frontone**	**0.19**	**48**	P	Pg	07 08 07.7	+0.6
FRON				S	Sg	07 08 11.3	+1.5
ATCC	**AVT- Casa Cast**	**0.22**	**158**	P	Pg	07 08 08.3	+0.7
ATCC				S	Sg	07 08 12.5	+2.0
ATCC				AML	AML		
	comp=E,84µm,0.3s						
ATCC				AML	AML		
	comp=N,78µm,0.3s						
ATCC				AML	AML		
	comp=N,78µm,0.3s						
ATCC				AML	AML		
	comp=E,84µm,0.3s						
NARO	**Abbazia di Nar**	**0.23**	**10**	P	Pg	07 08 08.4	+0.7
NARO				S	Sg	07 08 12.4	+1.6
BADI	**Badiali**	**0.24**	**301**	P	Pg	07 08 08.6	+0.6
BADI				S	Sg	07 08 12.9	+1.7
BADI				AML	AML		
	comp=N,123µm,0.2s						
BADI				AML	AML		
	comp=E,256µm,0.2s						
BADI				AML	AML		
	comp=N,123µm,0.2s						
MPAG	**Monte Paganucc**	**0.29**	**35**	P	Pg	07 08 09.7	+0.6
MPAG				S	Sb	07 08 14.7	-1.2
MPAG				AML	AML		
	comp=E,25µm,1.4s						
MPAG				AML	AML		
	comp=N,29µm,1.4s						
FSSB	**Fossombrone**	**0.35**	**31**	P	Pb	07 08 11.0	-0.8
FSSB				S	Sb	07 08 16.8	-0.8

*NEIC **23** 07:11:07.3±1.3, 20°.7N±0°.1×146°.77E±0°.09, h10km±1km, mb4.4/7*
*ISCJB **23** 07:11:08.7±0.6, 20°.72N±0°.09×146°.8E±0°.2, h34km, mb3.8/9, Error ellipse: s-maj=22.5km s-min=12.9km az=7.3*
*IDC **23** 07:11:45.5±14.0, 20°.53N×146°.45E, h375km±154km, mb3.1/9, mb1 3.3/9, mb1mx3.1/55, mbtmp3.9/9, Error ellipse: s-maj=43.0km s-min=16.5km az=72.0*

ISC 23 07:11:10.4±0.9, 20°.7N±0°.1×146°.9E±0°.2, h34km, n17, σ1§24/17, mb4.1/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**42.19**	**198**	P	**P**	**07 18 58.9**	**-1.2**
WRA	**Warramunga Arr**	**42.20**	**198**	P	**P**	**07 19 00.7**	**+0.4**
	1.3nm,0.7s,baz=20,slow=8.6,SNR=7.7						
SONM	**Songino Array**	**42.30**	**319**	P	**P**	**07 19 02.9**	**+2.0**
	0.4nm,0.7s,baz=116,slow=6.6,SNR=2.8						
FITZ	**Fitzroy Crossi**	**43.80**	**210**	P	**P**	**07 19 13.9**	**+0.8**
	1.6nm,0.6s,baz=28,slow=9.5,SNR=3.7						
FITZ	**Fitzroy Crossi**	**43.80**	**210**	P	**P**	**07 19 14.4**	**+1.2**
FITZ				IAmb	IAmb	07 19 15.0	
	comp=Z,4.7nm,1.1s						
ASAR	**Alice Springs**	**45.86**	**197**	P	**P**	**07 19 29.9**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=19,slow=9.1,SNR=11						
ZALV	**Zalesovo Beam**	**57.12**	**322**	P	**P**	**07 20 52.8**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=99,slow=5.8,SNR=5.2						
MKAR	**Makanchi Array**	**57.88**	**313**	P	**P**	**07 20 59.0**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=92,slow=8.4,SNR=7.4						
KURK	**Kurchatov**	**60.53**	**317**	P	**P**	**07 21 17.2**	**+0.1**
KURK				IAmb	IAmb	07 21 19.3	
	comp=Z,2.6nm,0.9s						
TOLK	**Toolik Lake Re**	**61.35**	**22**	P	**P**	**07 21 23.9**	**+1.4**
TOLK				IAmb	IAmb	07 21 40.3	
	comp=Z,4.1nm,1.4s						
IL31		**61.38**	**27**	P	**P**	**07 21 23.2**	**+0.5**
KK31	**Karatay Array**	**66.35**	**309**	P	**P**	**07 21 56.1**	**+0.3**
KK31				IAmb	IAmb	07 21 57.2	
	comp=Z,3.1nm,1.1s						
KKAR	**Karatay Array**	**66.35**	**309**	P	**P**	**07 21 56.0**	**+0.2**
KKAR				IAmb	IAmb	07 21 57.2	
	comp=Z,3.1nm,1.1s						
ABKAR	**Akbulak array**	**72.63**	**317**	P	**P**	**07 22 34.0**	**-0.4**
YKA	**Yellowknife Ar**	**75.73**	**28**	P	**P**	**07 22 51.9**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=287,slow=5.9,SNR=8.5						
NVAR	**Mina Array Bea**	**81.07**	**52**	P	**P**	**07 23 23.1**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=263,slow=5.5,SNR=5.7						
FINES	**FINESS Arrvo B**	**85.53**	**336**	P	**P**	**07 23 41.5**	**-3.3**
	comp=Z,2.2nm,0.7s,baz=51,slow=7.3,SNR=3.2						

*BJI **23** 07:16:37.4±0.0, 2°.21S×100°.34E, h55km, mb4.8/36, mB5.2/2, Ms5.2/6, Ms7 5.0/6*
*DJA **23** 07:16:39.6±0.2, 2°.3S×100°.0E±°, h10km, M4.7/19, mB5.2/2, mb4.7/7, MLv4.8/19, Mw(mB)4.5/2*
*ISCJB **23** 07:16:40.6±0.4, 1°.54S±0°.03×100°.46E±0°.03, h48km±3km, mb4.5/39, MS4.8/3, Error ellipse: s-maj=5.8km s-min=3.6km az=141.0*
*NEIC **23** 07:16:40.7±2.2, 1°.51S±0°.05×100°.43E±0°.06, h35km±1km, mb4.7/39*
*IDC **23** 07:16:40.1±3.4, 1°.59S×100°.47E, h33km±24km, mb4.2/28, mb1 4.3/30, mb1mx4.2/60, mbtmp4.4/30, ML4.3/2, Error ellipse: s-maj=23.0km s-min=11.0km az=52.0*

ISC 23 07:16:40.0±1.1, 1°.57S±0°.03×100°.43E±0°.04, h30km±7km, n165, σ1§28/170, mb4.7/56, MS4.8/3, 1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**0.66**	**3**	P	**Pb**	**07 16 51.8**	**-1.3**
KRJI	**Kerinci**	**1.16**	**116**	P	**Pn**	**07 17 00.1**	**-0.1**
KRJI				S	**Sb**	**07 17 16.2**	**0.0**
SDSI	**Sungai Dareh**	**1.19**	**58**	P	**Pn**	**07 17 00.8**	**+0.2**
PPSI	**Pulau Pagai**	**1.25**	**199**	P	**Pn**	**07 17 01.2**	**-0.3**
PPSI				S	**Sb**	**07 17 19.3**	**+0.4**
SISI	**Saibi**	**1.36**	**280**	P	**Pn**	**07 17 02.4**	**-0.5**
SISI				S	**Sb**	**07 17 22.6**	**+0.8**
BKNI	**Bangkinang**	**1.98**	**18**	P	**Pb**	**07 17 13.5**	**-2.0**
BKNI	**Bangkinang**	**1.98**	**18**		**Pb**	**07 17 13.5**	**-2.0**
BKNI				Sn	**Sn**	**07 17 33.7**	**-1.7**
RGRI	**Rengat**	**2.26**	**58**	P	Pn	07 17 01.5	-14
MASI	**Maura Aman, Be**	**2.39**	**131**	P	**Pn**	**07 17 17.4**	**+0.2**
PBSI	**Pulau Batu**	**2.62**	**305**	P	**Pn**	**07 17 22.1**	**+1.8**
KSI	**Kapahiang**	**2.99**	**134**	P	**Pn**	**07 17 26.8**	**+1.3**
MNAI	**Manna**	**3.75**	**138**	P	**Pb**	**07 17 42.9**	**-2.7**
MNAI	**Manna**	**3.75**	**138**		**Pn**	**07 17 38.1**	**+2.2**
MNAI				Sn	**Sn**	**07 18 22.0**	**+3.0**
GSI	**Gunungsitoli**	**4.04**	**315**	P	**Pn**	**07 17 40.8**	**+1.0**
GSI	**Gunungsitoli**	**4.04**	**315**		**Pn**	**07 17 40.8**	**+1.0**
GSI				Sn	**Sn**	**07 18 27.8**	**+1.7**
RPSI	**Rantau Prapat**	**4.50**	**341**		**Pn**	**07 17 48.8**	**+2.7**
RPSI				Sn	**Sn**	**07 18 34.6**	**-2.8**
RPSI	**Rantau Prapat**	**4.50**	**341**		**Pn**	**07 17 48.6**	**+2.5**
PSI	**Prapat**	**4.60**	**341**	Pn	**Pn**	**07 17 48.6**	**+1.0**
	4.4nm,0.3s,baz=160,slow=12,SNR=34						
PSI				Lg	Lg	07 19 07.8	
	2.1nm,0.3s,baz=286,slow=19,SNR=3.1						
MDSI	**Maura Dua**	**4.74**	**128**	P	**Pn**	**07 17 51.6**	**+2.2**
MYKOM	**Kota Tinggi**	**4.78**	**46**		**Pn**	**07 17 51.8**	**+1.7**
MYKOM				Sn	**Sn**	**07 18 42.3**	**-2.2**
TPRI	**Tanjung Pinang**	**4.79**	**59**	P	**Pn**	**07 17 53.2**	**+3.1**
LWLI	**Liwa**	**4.99**	**133**	P	**Pn**	**07 17 56.4**	**+3.4**
KASI	**Kota Agung**	**5.65**	**134**	P	**Pn**	**07 18 05.2**	**+3.2**
	127nm,0.8s,2µm0.5nm						
KCSI	**Kotacane, Aceh**	**5.71**	**332**	P	**Pn**	**07 18 03.6**	**+0.7**
	84nm,0.6s,2µm1.0nm						
TPTI		**5.79**	**326**	P	**Pn**	**07 18 06.8**	**+2.9**
	12nm,0.6s,0.2nm						
IPM	**Ipoh**	**6.04**	**6**		**Pn**	**07 18 08.8**	**+1.4**
KULM	**Kulim**	**6.82**	**2**		**Pn**	**07 18 18.5**	**+0.4**
MLSI	**Meulaboh, Aceh**	**7.06**	**325**	P	**Pn**	**07 18 22.9**	**+1.6**
	79nm,0.6s,0.4nm						
TRTT	**Trang**	**9.38**	**356**	P	Pn	07 18 58.5	+5.4
	22nm,0.9s						
CISI	**Cisompet, Garu**	**9.46**	**129**	Pn	**Pn**	**07 18 56.7**	**+2.2**
UTTA	**Uttaradit**	**19.20**	**0**	P	**Pn**	**07 21 04.9**	**+2.3**
	16µm,0.9s						
PHRA	**Phrae**	**19.95**	**359**	P	Pn	07 21 12.6	+1.1
	1.4nm,0.9s						
CM31	**Chiang Mai Arr**	**19.96**	**356**	P	**P**	**07 21 09.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**19.96**	**356**	P	**Pn**	**07 21 11.1**	**-0.6**
	0.9nm,0.3s,baz=186,slow=10,SNR=5.7						
CHTO	**Chiang Mai**	**20.31**	**356**	P	**P**	**07 21 14.3**	**+0.6**
PALK	**Pallekele**	**21.55**	**294**	P	**P**	**07 21 27.9**	**+0.7**
PALK				IAmb	IAmb	07 21 35.8	
	comp=Z,40nm,1.4s						
MRSI	**Marisa**	**21.61**	**85**	P	**P**	**07 21 30.3**	**+2.5**
LUWI	**Luwuk**	**22.35**	**89**	P	**P**	**07 21 35.0**	**-0.7**
LUWI				IAmb	IAmb	07 21 42.2	
	comp=Z,34nm,0.8s						
KMI	**Kunming**	**26.63**	**5**	P	**P**	**07 22 19.3**	**+2.9**
KMI				pP	sP	07 22 33.9	+5.1
KMI				sP	pP	07 22 41.0	+16
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
KMI				LR	LR		
	comp=Z,2µm,13.0s						
KMI				LR	LR		
	comp=Z,2µm,15.1s						
KMI				LR	LR		
	comp=Z,1µm,15.1s						
SHL	**Shillong**	**28.22**	**344**	P	**P**	**07 22 28.5**	**-2.0**
SHL				IAmb	IAmb	07 22 31.0	
	comp=Z,16nm,1.3s						
GYA	**Guiyang**	**28.51**	**12**	*e*P	**P**	**07 22 35.3**	**+2.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**29.70**	**125**	P	**P**	**07 22 43.6**	**0.0**
	comp=Z,2.5nm,0.7s,baz=318,slow=6.7,SNR=6.0						
FITZ	**Fitzroy Crossi**	**29.70**	**125**	P	**P**	**07 22 43.9**	**+0.3**
ODAN	**Odare**	**30.94**	**337**	*e*P	**P**	**07 22 55.3**	**+0.6**
	comp=Z,33nm,0.8s						
TAPN	**Taplejung**	**31.25**	**338**	*e*P	**P**	**07 22 58.8**	**+1.2**
	comp=Z,62nm,1.0s						
KNRA	**Kununurra**	**31.26**	**118**	P	**P**	**07 22 56.1**	**-1.3**
KNRA				IAmb	IAmb	07 22 59.0	
	comp=Z,13nm,1.2s						
RAMN	**Ramite**	**31.33**	**336**	*e*P	**P**	**07 22 59.5**	**+1.3**
JIRN	**Jiri**	**32.13**	**336**	*e*P	**P**	**07 23 06.4**	**+1.1**
	comp=Z,80nm,0.8s						
LSA	**Lhasa**	**32.34**	**345**	P	**P**	**07 23 07.7**	**+0.5**
LSA				IAmb	IAmb	07 23 09.0	
	comp=Z,11nm,1.1s						
PKI	**Pulchoki**	**32.38**	**335**	*e*P	**P**	**07 23 08.0**	**+0.5**
	comp=Z,1.1nm,0.6s						
PKIN	**Phulchoki**	**32.39**	**335**	*e*P	**P**	**07 23 08.1**	**+0.6**
CD2	**Chengdu**	**32.46**	**5**	P	**P**	**07 23 08.1**	**+0.3**
CD2

KSH	**Kashi**	**46.64**	**334**	P	**P**	**07 25 05.6**	**-0.2**
KSH				PcP	**PcP**	**07 26 39.0**	**-0.4**
KSH				pmax	pmax		
	comp=Z,22nm,0.8s						
KSH				pmax	pmax		
	comp=Z,510nm,6.0s						
TARG	**Taragay, Kyrgy**	**47.73**	**337**	P	**P**	**07 25 14.4**	**-0.3**
NRN	**Naryn**	**48.21**	**335**	P	**P**	**07 25 19.2**	**+1.0**
KDJ	**Kajisay**	**48.32**	**337**	P	**P**	**07 25 20.6**	**+1.6**
ULHL	**Ulahol**	**48.79**	**336**	P	**P**	**07 25 23.2**	**+0.6**
	SNR=5.7						
GAR	**Garm**	**48.95**	**329**	P	**P**	**07 25 24.0**	**+0.3**
GAR				IAmb	IAmb	07 25 29.6	
	comp=Z,8.1nm,0.8s						
KZA	**Kyzart**	**49.06**	**335**	P	**P**	**07 25 26.4**	**+1.5**
	SNR=12						
BOOM	**Boomskoye usch**	**49.12**	**336**	P	**P**	**07 25 26.1**	**+1.1**
STKA	**Stephens Creek**	**49.12**	**132**	P	**P**	**07 25 24.6**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=307,slow=11,SNR=6.9						
STKA	**Stephens Creek**	**49.12**	**132**	P	**P**	**07 25 24.8**	**-0.3**
CHGR	**Chuyangaron**	**49.31**	**328**	P	**P**	**07 25 25.8**	**-0.7**
ARSB	**Arslanbob**	**49.44**	**333**	P	**P**	**07 25 28.6**	**+1.0**
SONM	**Songino Array**	**49.48**	**5**	P	**P**	**07 25 27.7**	**0.0**
	comp=Z,9.3nm,0.8s,baz=187,slow=9.1,SNR=49						
SONM				PcP	**PcP**	**07 26 49.3**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=188,slow=3.5,SNR=8.7						
BTK	**Batken**	**49.49**	**330**	P	**P**	**07 25 28.5**	**+0.7**
BTK				IAmb	IAmb	07 25 31.2	
	comp=Z,9.2nm,1.0s						
UCH	**Uchtor**	**49.49**	**335**	P	**P**	**07 25 29.4**	**+1.1**
	SNR=12						
ULN	**Ulaanbaatar**	**49.58**	**6**	P	**P**	**07 25 28.5**	**0.0**
ULN				IAmb	IAmb	07 25 29.3	
	comp=Z,6.0nm,0.8s						
TKM2	**Tokmak 2**	**49.61**	**336**	P	**P**	**07 25 29.9**	**+1.0**
	SNR=48						
KBK	**Karagaybulak**	**49.66**	**335**	P	**P**	**07 25 30.9**	**+1.7**
	SNR=14						
AML	**Almayashu**	**49.77**	**334**	P	**P**	**07 25 31.5**	**+1.2**
	SNR=15						
AAK	**Ala-Archa**	**49.84**	**335**	P	**P**	**07 25 31.9**	**+1.4**
	SNR=7.1						
AAK	**Ala-Archa**	**49.84**	**335**	P	**P**	**07 25 31.5**	**+0.9**
AAK				IAmb	IAmb	07 25 34.1	
	comp=Z,12nm,1.1s						
CHMS	**Chumysh**	**50.02**	**335**	P	**P**	**07 25 32.7**	**+0.8**
	SNR=9.4						
EKS2	**Erkin-Say**	**50.16**	**334**	P	**P**	**07 25 34.5**	**+1.5**
	SNR=25						
USP	**Ospenovka**	**50.35**	**335**	P	**P**	**07 25 35.2**	**+1.0**
	SNR=18						
MK31	**Makanchi Array**	**50.74**	**344**	P	**P**	**07 25 37.2**	**+0.1**
MK31				IAmb	IAmb	07 25 38.1	
	comp=Z,5.2nm,0.8s						
MKAR	**Makanchi Array**	**50.74**	**344**	P	**P**	**07 25 37.3**	**+0.2**
	comp=Z,5.4nm,0.7s,baz=148,slow=7.9,SNR=64						
MAKZ	**Makanchi**	**50.84**	**344**	P	**P**	**07 25 37.9**	**+0.1**
MAKZ				IAmb	IAmb	07 25 38.8	
	comp=Z,6.6nm,1.0s						
KK31	**Karatay Array**	**51.97**	**332**	P	**P**	**07 25 47.1**	**+0.7**
KKAR	**Karatay Array**	**51.97**	**332**	P	**P**	**07 25 47.1**	**+0.7**
TLY	**Talaya**	**53.13**	**3**	P	**P**	**07 25 55.3**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=225,slow=8.6,SNR=3.7						
TLY	**Talaya**	**53.13**	**3**	P	**P**	**07 25 54.1**	**-0.7**
TLY				IAmb	IAmb	07 25 56.5	
	comp=Z,4.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**53.58**	**28**	P	**P**	**07 25 57.7**	**-0.6**
	comp=Z,3.2nm,0.7s,baz=220,slow=3.7,SNR=7.1						
KURBB	**Kurchatov Arra**	**55.26**	**343**	P	**P**	**07 26 10.4**	**+0.1**
	comp=Z,10nm,0.8s,baz=162,slow=6.9,SNR=90						
KURK	**Kurchatov**	**55.32**	**343**	P	**P**	**07 26 11.2**	**+0.4**
GEYT	**Alibeck**	**55.40**	**320**	P	**P**	**07 26 11.5**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=150,slow=9.8,SNR=4.8						
ZAA0	**Zalesovo Array**	**56.83**	**349**	P	**P**	**07 26 21.2**	**-0.3**
ZAA0				IAmb	IAmb	07 26 22.3	
	comp=Z,20nm,1.2s						
ZALV	**Zalesovo Beam**	**56.83**	**349**	P	**P**	**07 26 21.0**	**-0.5**
	comp=Z,11nm,0.7s,baz=178,slow=6.3,SNR=31						
BVAR	**Borovoye Array**	**59.93**	**340**	P	**P**	**07 26 42.4**	**-0.8**
	comp=Z,9.7nm,0.7s,baz=147,slow=8.9,SNR=63						
BRVK	**Borovoye**	**60.00**	**340**	P	**P**	**07 26 43.4**	**-0.3**
BRVK				IAmb	IAmb	07 26 44.0	
	comp=Z,11nm,0.9s						
ABKAR	**Akbulak array**	**61.47**	**331**	P	**P**	**07 26 53.5**	**-0.2**
AKTO	**Aktyubinsk**	**63.19**	**331**	P	**P**	**07 27 04.1**	**-1.1**
	comp=Z,1.6nm,0.4s,baz=109,slow=7.5,SNR=8.2						
ARU	**Arti**	**66.99**	**336**	P	**P**	**07 27 29.4**	**-0.3**
	comp=Z,1.8nm,0.2s,baz=197,slow=0.9,SNR=9.2						
ARU	**Arti**	**66.99**	**336**	P	**P**	**07 27 29.3**	**-0.5**
ARU				IAmb	IAmb	07 27 30.3	
	comp=Z,14nm,1.0s						
KBZ	**Khabaz**	**68.27**	**319**	P	**P**	**07 27 38.7**	**+0.6**
	comp=Z,6.1nm,0.7s,baz=120,slow=6.4,SNR=16						
NRIK	**Noril'sk**	**71.31**	**355**	P	**P**	**07 27 55.5**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=167,slow=6.7,SNR=4.4						
BR131	**Keskin Array S**	**73.35**	**312**	P	**P**	**07 28 08.9**	**-0.5**
BRTR	**Keskin Array B**	**73.35**	**312**	P	**P**	**07 28 08.6**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=133,slow=7.1,SNR=16						
TIXI	**Tiksi**	**75.37**	**9**	P	**P**	**07 28 19.3**	**-0.9**
	comp=Z,3.0nm,0.5s,baz=237,slow=4.3,SNR=11						
TIXI	**Tiksi**	**75.37**	**9**	P	**P**	**07 28 19.0**	**-1.2**
TIXI				IAmb	IAmb	07 28 20.6	
	comp=Z,14nm,1.4s						
BOSA	**Boshof**	**76.23**	**241**	P	**P**	**07 28 26.9**	**+0.7**
	comp=Z,3.1nm,0.9s,baz=133,slow=5.2,SNR=5.0						
KARP	**Karpathos**	**77.35**	**307**	P	**P**	**07 28 32.8**	**+0.5**
SYO	**Syowa Base**	**78.41**	**199**	*e*PcP	**PcP**	**07 28 44.4**	**-2.1**
AKASG	**Malin Array Be**	**79.41**	**322**	P	**P**	**07 28 42.2**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=90,slow=4.7,SNR=4.0						
MLR	**Muntele Rosu**	**80.28**	**317**	P	**P**	**07 28 48.3**	**0.0**
	comp=Z,2.8nm,0.8s,baz=193,slow=3.5,SNR=5.5						
BUR08	**Bucovina Ar. S**	**81.24**	**319**	P	**P**	**07 28 54.6**	**+1.3**
LIT	**Litokhoron**	**81.79**	**311**	P	**P**	**07 28 54.5**	**-1.9**
LIT				IAmb	IAmb	07 28 56.5	
	comp=Z,5.5nm,0.7s						
KOLS	**Kolonicke sedl**	**83.41**	**319**	*e*P	**P**	**07 29 06.5**	**+2.0**
FINES	**FINESS Array B**	**83.93**	**332**	P	**P**	**07 29 07.0**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=100,slow=5.1,SNR=10						
ARCES	**ARCESS Array B**	**86.22**	**340**	P	**P**	**07 29 18.7**	**+0.5**
	comp=Z,3.8nm,0.9s,baz=92,slow=5.4,SNR=8.4						
GERES	**GERESS Array B**	**89.01**	**319**	P	**P**	**07 29 32.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=116,slow=2.3,SNR=4.0						
HFS	**Hagfors**	**89.72**	**330**	P	**P**	**07 29 35.5**	**+0.4**
	comp=Z,4.4nm,0.9s,baz=140,slow=9.1,SNR=3.4						
SPITS	**Spitsbergen Ar**	**90.31**	**348**	P	**P**	**07 29 36.0**	**-1.6**
	comp=Z,9.5nm,0.9s,baz=68,slow=9.5,SNR=3.7						
DAVOX	**Davos/Dischmat**	**91.51**	**317**	P	**P**	**07 29 44.7**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=108,slow=9.3,SNR=4.1						
NVAR	**Mina Array Bea**	**129.00**	**39**	PKP	**PKPdf**	**07 35 46.1**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=278,slow=2.6,SNR=2.8						
ANMO	**Albuquerque**	**138.42**	**34**	PKhKP	PKPpre	07 35 55.9	
	comp=Z,0.5nm,0.4s,baz=156,slow=23,SNR=4.7						
ANMO				PKP	**PKPdf**	**07 36 02.1**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=278,slow=4.2,SNR=4.0						
TX31	**Lajitas Ar. Si**	**144.11**	**37**		PKPbc	07 36 12.0	+0.4
TX32	**Lajitas Array**	**144.11**	**37**		PKPbc	07 36 11.9	+0.2
TXAR	**Lajitas Array**	**144.11**	**37**	PKP	PKPbc	07 36 11.9	+0.2
	comp=Z,4.4nm,0.6s,baz=290,slow=0.8,SNR=58						
BDFB	**Brasilia**	**144.42**	**240**	PKP	PKPbc	07 36 13.6	+0.6
	comp=Z,2.5nm,0.7s,baz=106,slow=7.2,SNR=4.4						
T52A	**Hallie**	**144.50**	**5**	PKPdf	**PKPab**	**07 36 12.2**	**-0.1**
MIAR	**Mount Ida**	**144.69**	**20**		**PKPab**	**07 36 13.0**	**-0.1**
WVT	**Waverly**	**144.77**	**12**		**PKPab**	**07 36 12.6**	**-0.7**
UALR	**University of**	**144.89**	**18**		**PKPab**	**07 36 13.2**	**-0.5**
CPUP	**Villa Florida**	**144.91**	**216**	PKP	**PKPdf**	**07 36 15.1**	**+0.1**
	comp=Z,8.4nm,0.8s,baz=132,slow=3.5,SNR=21						
CPUP	**Villa Florida**	**144.91**	**216**		**PKPab**	**07 36 14.2**	**0.0**
X40A	**Basin Creek Fa**	**144.99**	**19**		**PKPab**	**07 36 14.2**	**0.0**
TZTN	**Tazewell**	**145.01**	**6**		**PKPab**	**07 36 13.7**	**-0.5**
CLTN	**Cedars of Leba**	**145.09**	**10**		**PKPbc**	**07 36 14.0**	**-0.4**
V48A	**Smith Brothers**	**145.34**	**10**		**PKPbc**	**07 36 14.7**	**-0.6**
JCT	**Junction City**	**145.44**	**32**		**PKPbc**	**07 36 15.8**	**0.0**
V52A	**Sevierville**	**145.70**	**6**		**PKPdf**	**07 36 15.1**	**-1.0**
PLAL	**Pickwick Lake**	**145.83**	**12**		**PKPdf**	**07 36 15.9**	**-0.5**
V53A	**Saluda**	**145.94**	**5**		**PKPdf**	**07 36 16.4**	**-0.2**
CPCT	**Cooper Cave**	**145.98**	**7**		**PKPdf**	**07 36 16.4**	**-0.2**
SWET	**Sewanee**	**146.01**	**9**		**PKPdf**	**07 36 16.3**	**-0.4**
X48A	**Hartselle**	**146.55**	**11**	PKPbc	**PKPdf**	**07 36 17.8**	**+0.2**
KMSC	**Kings Mountain**	**146.56**	**3**	PKPbc	**PKPdf**	**07 36 18.2**	**+0.6**
BG3	**Lake Jocassee**	**146.60**	**5**	PKPbc	**PKPdf**	**07 36 18.6**	**+0.9**
Y49A	**Blount Mountai**	**147.25**	**11**		**PKPdf**	**07 36 19.5**	**+0.7**

ROM 23 07:17:03.3±0.3, 38°169N±0°006×15°024E±0°006, h11km±1km, Md1.3/5, Error ellipse: s-maj=0.7km

s-min=0.2km az=164.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOV	**Novara**	**0.17**	**148**	P	Pg	07 17 07.6	+0.5
NOV				S	Sg	07 17 10.5	+0.8
NOV				AML	AML		
	comp=E,210μm,1.2s						
NOV				AML	AML		
	comp=N,130μm,0.2s						
NOV				AML	AML		
	comp=E,2665μm,0.2s						
NOV				AML	AML		
	comp=N,1650μm,0.2s						
NOV				END			
MUCR	**Ucria**	**0.17**	**223**	P	Pg	07 17 07.8	+0.6
MUCR				S	Sg	07 17 11.0	+1.1
MUCR				AML	AML		
	comp=E,67μm,0.9s						
MUCR				AML	AML		
	comp=N,120μm,0.6s						
MUCR				AML	AML		
	comp=E,1800μm,0.3s						
MUCR				AML	AML		
	comp=N,2675μm,0.6s						
MUCR				END			
MILZ	**Milazzo**	**0.19**	**58**	P	Pg	07 17 07.9	+0.4
MILZ				S	Sg	07 17 11.1	+0.8
MILZ				AML	AML		
	comp=E,140μm,0.5s						
MILZ				AML	AML		
	comp=N,81μm,0.3s						
MILZ				AML	AML		
	comp=E,2375μm,0.4s						
MILZ				AML	AML		
	comp=N,1340μm,0.3s						
MILZ				END			
MCSR	**Castroreale**	**0.21**	**120**	P	Pg	07 17 08.0	+0.2
MCSR				S	Sg	07 17 12.3	+1.5
MCSR				END			
VPL	**Vulcano Piano**	**0.21**	**351**	P	Pb	07 17 08.7	-0.5
VPL				AML	AML		
	comp=E,266μm,0.8s						
VPL				AML	AML		
	comp=N,289μm,0.5s						
VPL				AML	AML		
	comp=E,4385μm,0.2s						
VPL				AML	AML		
	comp=N,4485μm,0.5s						
MCPD	**Capo d'Orlando**	**0.24**	**258**	P	Pg	07 17 08.7	+0.4
MCPD				S	Sg	07 17 12.5	+1.0
MCPD				AML	AML		
	comp=E,47μm,0.5s						
MCPD				AML	AML		
	comp=N,49μm,0.3s						
MCPD				AML	AML		
	comp=E,874μm,0.5s						
MCPD				AML	AML		
	comp=N,1000μm,0.3s						
MCPD				END			
MPNC	**Port Mandanici**	**0.26**	**95**	P	Pg	07 17 09.1	+0.4
MPNC				S	Sb	07 17 13.5	-1.0
MPNC				AML	AML		
	comp=E,138μm,1.3s						
MPNC				AML	AML		
	comp=N,183μm,0.8s						
MPNC				AML	AML		
	comp=E,2510μm,0.2s						
MPNC				AML	AML		
	comp=N,3265μm,0.8s						
MSRU	**Castanea**	**0.39**	**76**	P	Pg	07 17 11.4	+0.3
MSRU				S	Sb	07 17 17.6	-0.8
MSRU				AML	AML		
	comp=E,758μm,0.3s						
MSRU				AML	AML		
	comp=N,711μm,0.3s						

ROM 23 07:17:46.4±0.1, 38°179N±0°005×15°032E±0°006, h8km, ML2.4/14, Error ellipse: s-maj=0.5km

s-min=0.2km az=16.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOV	**Novara**	**0.17**	**151**	P	Pg	07 17 50.6	+0.7
NOV				S	Sg	07 17 53.4	+1.0
NOV				AML	AML		
	comp=N,1650μm,0.2s						
NOV				AML	AML		
	comp=E,2665μm,0.2s						
MILZ	**Milazzo**	**0.18**	**59**	P	Pg	07 17 50.9	+0.8
MILZ				S	Sg	07 17 54.0	+1.4
MILZ				AML	AML		
	comp=N,1340μm,0.3s						
MILZ				AML	AML		
	comp=E,2375μm,0.4s						
MUCR	**Ucria**	**0.18**	**223**	P	Pg	07 17 50.9	+0.7
MUCR				S	Sg	07 17 53.9	+1.1
MUCR				AML	AML		
	comp=N,2675μm,0.6s						
MUCR				AML	AML		
	comp=E,1800μm,0.3s						
VPL	**Vulcano Piano**	**0.20**	**349**	P	Pg	07 17 51.6	+1.0
VPL				S	Sg	07 17 54.8	+1.5
VPL				AML	AML		
	comp=N,4485μm,0.5s						
VPL				AML	AML		
	comp=N,4480μm,0.5s						
VPL				AML	AML		
	comp=E,4385μm,0.2s						
MCSR	**Castroreale**	**0.21**	**124**	P	Pg	07 17 51.0	+0.4
MCSR				S	Sg	07 17 55.2	+1.7
MCPD	**Capo d'Orlando**	**0.24**	**256**	P	Pg	07 17 51.7	+0.4
MCPD				S	Sg	07 17 55.3	+0.7
MCPD				AML	AML		
	comp=E,874μm,0.5s						
MCPD				AML	AML		
	comp=N,1000μm,0.3s						
MCPD				AML	AML		
	comp=E,874μm,0.5s						
MCPD				AML	AML		
	comp=N,1000μm,0.3s						
MPNC	**Port Mandanici**	**0.26**	**97**	P	Pg	07 17 52.1	+0.7
MPNC				S	Sg	07 17 56.2	+1.3
MPNC				AML	AML		
	comp=N,3265μm,0.8s						
MPNC				AML	AML		
	comp=E,2510μm,0.2s						
LLI	**Lipari**	**0.27**	**346**	P	Pb	07 17 53.0	-0.6
LLI				AML	AML		
	comp=E,3525μm,0.5s						
LLI				AML	AML		
	comp=N,3580μm,0.4s						
MSRU	**Castanea**	**0.39**	**77**	P	Pg	07 17 54.4	+0.5
MSRU				S	Sb	07 18 00.3	-1.3
MSRU				AML	AML		
	comp=E,758μm,0.3s						
MSRU				AML	AML		
	comp=N,711μm,0.3s						
IFIL	**Filicudi I Eol**	**0.53**	**317**	P	Pg	07 17 57.1	+0.4
IFIL				S	Sb	07 18 06.0	+0.2
IFIL				AML	AML		
	comp=N,1220μm,0.2s						
IFIL				AML	AML		
	comp=E,2350μm,0.6s						
MSCL	**Scilla**	**0.60**	**85**	P	Pg	07 17 57.9	-0.1
MSCL				AML	AML		
	comp=E,500μm,1.3s						
MSCL				AML	AML		
	comp=E,500μm,1.3s						
MSCL				AML	AML		
	comp=N,406μm,0.6s						
IACL	**Alicudi**	**0.64**	**304**	P	Pg	07 17 58.6	-0.1
IACL				S	Sb	07 18 08.9	0.0
IACL				AML	AML		
	comp=E,677μm,0.2s						
IACL				AML	AML		
	comp=N,590μm,0.3s						
JOPP	**Joppolo**	**0.80**	**57**	P	Pg	07 18 01.4	-0.3
JOPP				AML	AML		
	comp=N,77μm,0.5s						
JOPP				AML	AML		
	comp=E,62μm,1.2s						
MPAZ	**Palizzi**	**0.80**	**106**	P	Pg	07 18 01.5	-0.3
MPAZ				AML	AML		
	comp=E,100μm,0.4s						
MPAZ				AML	AML		
	comp=N,172μm,0.3s						
MPAZ				AML	AML		
	comp=E,99μm,0.4s						
SOI	**Samo**	**0.81**	**97**	P	Pg	07 18 01.5	-0.5
SOI				S	Sb	07 18 14.0	+0.1
HLNI	**Lentini**	**0.84**	**189**	P	Pb	07 18 02.9	-0.3
HAGA	**Augusta**	**0.90**	**174**	P	Pb	07 18 04.0	-0.2
HAGA				S	Sn	07 18 17.6	-0.9
HAGA				AML	AML		
	comp=N,114μm,0.8s						
HAGA				AML	AML		
	comp=E,113μm,1.0s						
HAVL	**Avola**	**1.22**	**176**	P	Pb	07 18 09.0	-0.7

*ISCJB **23** 07:28:18.7±1.6, 32°.94S±0°.08×177°.5W±0°.3, h26km, mb4.2/3, MS4.4/1, Error ellipse: s-maj=32.6km s-min=6.9km az=15.3*
*NEIC **23** 07:28:19.0±1.7, 32°.85S±0°.09×177°.3W±0°.3, h25km±11km, mb4.6/4*
*IDC **23** 07:28:21.2±2.8, 32°.71S×178°.12W, h0km, mb4.3/3, mb1 4.4/4, mb1mx3.9/29, mbtmp4.3/4, ML4.0/1, MS4.4/1, Ms1 4.4/1, ms1mx3.3/29, Error ellipse: s-maj=60.6km s-min=35.3km az=118.0*
ISC 23 07:28:19.3±1.7, 32°.85S±0°.08×177°.4W±0°.2, h26km, n19, σ2s 07/23, mb4.4/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.62**	**353**	Pn	**Pn**	**07 29 14.3**	**+0.6**
RAO				Sn	**Sn**	**07 29 52.4**	**-3.1**
MXZ	**Matakaoa Point**	**5.86**	**216**	Pn	**Pn**	**07 29 45.7**	**+1.2**
MXZ				Sn	**Sn**	**07 30 48.8**	**-2.0**
URZ	**Urewera**	**7.00**	**218**	Pn	**Pn**	**07 30 02.5**	**+2.3**
	2.7nm,0.3s,baz=311,slow=2.6,SNR=11						
URZ				Sn	**Sn**	**07 31 18.4**	**-0.5**
	7.1nm,0.3s,baz=111,slow=22,SNR=12						
URZ	**Urewera**	**7.00**	**218**	Pn	**Pn**	**07 30 00.2**	**+0.1**
URZ				Sn	**Sn**	**07 31 18.1**	**-0.8**
OUZ	**Omahuta**	**7.83**	**250**	Pn	**Pn**	**07 30 13.9**	**+2.3**
BFZ	**Birch Farm**	**9.32**	**211**	Pn	**Pn**	**07 30 33.0**	**+1.0**
BHW	**Baring Head**	**10.53**	**214**	Pn	**Pn**	**07 30 49.4**	**+1.0**
BHW				Sn	**Sn**	**07 32 39.1**	**-6.4**
NNZ	**Nelson**	**11.12**	**219**	Pn	**Pn**	**07 30 56.9**	**+0.3**
THZ	**Tophouse**	**11.76**	**218**	Pn	**Pn**	**07 31 07.5**	**+2.1**
KHZ	**Kahutara**	**11.93**	**214**	Pn	**Pn**	**07 31 08.6**	**+0.9**
MSVF	**Nonsavu**	**15.60**	**344**	P	**P**	**07 32 00.1**	**-1.6**
MSVF				IAmb	IAmb	07 32 14.0	
	comp=Z,40nm,1.5s						
CTA	**Charters Tower**	**34.75**	**282**	P	**P**	**07 35 08.6**	**+1.0**
	comp=Z,2.2nm,0.5s,baz=116,slow=8.6,SNR=6.6						
AS31	**Alice Springs**	**43.53**	**269**	P	**P**	**07 36 21.9**	**+0.9**
ASAR	**Alice Springs**	**43.53**	**269**	P	**P**	**07 36 21.8**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=106,slow=7.6,SNR=53						
WRA	**Warramunga Arr**	**44.74**	**274**	P	**P**	**07 36 31.2**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=112,slow=8.1,SNR=35						
FORT	**Forrest**	**45.95**	**257**	P	**P**	**07 36 40.9**	**+0.7**
FORT				IAmb	IAmb	07 36 46.5	
	comp=Z,8.7nm,0.8s						
KNRA	**Kununurra**	**51.43**	**276**	P	**P**	**07 37 21.9**	**-0.6**
BATI	**Baumata**	**58.49**	**279**	LR	LR	08 02 39.0	
	comp=Z,283nm,18.1s,baz=272,slow=36						
FINES	**FINESS Array B**	**147.61**	**339**	PKPbc	**PKiKP**	**07 48 04.9**	**+2.3**
	comp=Z,4.7nm,0.8s,baz=45,slow=3.2,SNR=12						

*IDC **23** 07:44:18.9±3.5, 51°.69N×179°.03W, h0km, mb3.5/6, mb1 3.9/6, mb1mx3.5/68, mbtmp3.5/6, Error ellipse: s-maj=74.3km s-min=40.2km az=32.0*
*ISCJB **23** 07:44:22.3±1.1, 51°.3N±0°.1×178°.96W±0°.10, h58km±5km, mb3.4/6, Error ellipse: s-maj=16.9km s-min=9.9km az=177.1*
*AEIC **23** 07:44:22.5±1.3, 51°.27N±0°.08×178°.9W±0°.1, h44km±4km, mb4.1/27(NEIC)*
*NEIC **23** 07:44:22.1±1.3, 51°.23N±0°.08×179°.0W±0°.1, h42km±8km*
ISC 23 07:44:23.2±3.1, 51°.3N±0°.2×179°.0W±0°.1, h47km±19km, n60, σ0s 91/63, mb4.0/14, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**0.50**	**16**		**Pn**	**07 44 34.1**	**-0.2**
TASE	**Tanaga Southea**	**0.79**	**47**		**Pn**	**07 44 37.6**	**-0.4**
TANO	**Tanaga North**	**0.81**	**40**		**Pn**	**07 44 38.2**	**-0.1**
TANO					**Sn**	**07 44 50.4**	**+1.1**
TAFP	**Tanaga Falls P**	**0.86**	**45**		**Pn**	**07 44 38.5**	**-0.4**
TAFP					**Sn**	**07 44 51.3**	**+0.9**
TAPA	**Tanaga Point A**	**0.89**	**54**		**Pn**	**07 44 38.8**	**-0.5**
KIMD	**Kanaga Island**	**1.18**	**66**		**Pn**	**07 44 42.2**	**-0.9**
KIMD					**Sn**	**07 44 57.4**	**-0.7**
KIWB	**Kanaga Island**	**1.26**	**63**		**Pn**	**07 44 43.8**	**-0.6**
KIWB					**Sn**	**07 44 59.9**	**-0.3**
KIKV	**Kanaga Island**	**1.26**	**62**		**Pn**	**07 44 43.9**	**-0.5**
KIKV					**Sn**	**07 45 01.1**	**+0.9**
KICM	**Kanaga Island**	**1.27**	**60**		**Pn**	**07 44 44.2**	**-0.2**
KIRH	**Kanaga Island**	**1.31**	**62**		**Pn**	**07 44 44.6**	**-0.5**
ADK	**Adak**	**1.54**	**67**		**Pn**	**07 44 47.8**	**-0.4**
ADK				Sn	**Sn**	**07 45 06.8**	**0.0**
ADAG	**Mount Adagdak**	**1.62**	**64**		**Pn**	**07 44 49.5**	**+0.3**
GSTD	**Great Sitkin T**	**1.91**	**66**		**Pn**	**07 44 54.1**	**+0.8**
GSTD					**Sn**	**07 45 17.9**	**+1.7**
GSMY	**Great Sitkin M**	**1.96**	**66**		**Pn**	**07 44 54.1**	**+0.2**
GSTR	**Great Sitkin T**	**1.98**	**65**	Pn	**Pn**	**07 44 53.6**	**-0.5**
GSTR				Sn	**Sn**	**07 45 17.0**	**-0.7**
GSIG	**Igitkin Island**	**2.02**	**69**		**Pn**	**07 44 54.9**	**+0.2**
ATKA	**Atka Island**	**3.10**	**71**		**Pn**	**07 45 07.3**	**-2.1**
ATKA				Sn	**Sn**	**07 45 44.8**	**-0.4**
UNV	**Unalaska Valle**	**8.01**	**67**	Pn	**Pn**	**07 46 17.8**	**+1.1**
GHO	**Glory Hole Cre**	**19.41**	**46**	P	**P**	**07 48 44.5**	**-0.6**
GHO				IAmb	IAmb	07 48 50.1	
	comp=Z,23nm,1.3s						
TRF	**Thorofare Moun**	**19.46**	**40**	P	**Pn**	**07 48 47.4**	**+0.1**
TRF				IAmb	IAmb	07 48 55.8	
	comp=Z,9.9nm,1.3s						
BPAW	**Bear Paw Mtn.**	**19.48**	**38**	P	**P**	**07 48 45.8**	**+0.1**
KNK	**Knik Glacier**	**19.51**	**47**	P	**P**	**07 48 46.1**	**-0.1**
KNK				IAmb	IAmb	07 49 00.7	
	comp=Z,13nm,1.3s						
SML	**Sawmill**	**19.69**	**46**	P	**P**	**07 48 48.

FCC	**Fort Churchill**	**46.09**	**46**	P	**P**	**07 52 40.8**	**-1.2**
FCC				IAmb	IAmb	07 52 41.8	
	comp=Z,5.4nm,1.2s						
BW06	**Boulder Array**	**46.43**	**72**	P	**P**	**07 52 45.0**	**-0.2**
BW06				IAmb	IAmb	07 52 59.5	
	comp=Z,1.9nm,1.1s						
PD31	**Pinedale Array**	**46.43**	**72**	P	**P**	**07 52 45.6**	**+0.4**
PDAR	**Pinedale Array**	**46.43**	**72**	P	**P**	**07 52 45.5**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=307,slow=3.9,SNR=15						
O20A	**White River Ci**	**48.80**	**74**	P	**P**	**07 53 03.2**	**-0.4**
O20A				IAmb	IAmb	07 53 12.6	
	comp=Z,2.5nm,1.1s						
RSSD	**Black Hills**	**48.88**	**67**	P	**P**	**07 53 05.0**	**+0.8**
RSSD				IAmb	IAmb	07 53 11.4	
	comp=Z,1.5nm,0.8s						
TXAR	**Lajitas Array**	**58.77**	**81**	P	**P**	**07 54 18.8**	**+2.4**
	comp=Z,0.2nm,0.5s,baz=311,slow=4.5,SNR=2.8						
P48A	**Milroy**	**62.44**	**61**	P	**P**	**07 54 39.8**	**-1.3**
T49A	**Edmonton**	**64.05**	**63**	P	**P**	**07 54 51.4**	**-0.5**
TZTN	**Tazewell**	**65.56**	**62**	P	**P**	**07 55 01.8**	**+0.1**
V51A	**Loudon**	**65.65**	**63**	P	**P**	**07 55 01.8**	**-0.5**
CPCT	**Cooper Cave**	**65.81**	**63**	P	**P**	**07 55 02.7**	**-0.6**
CPCT				IAmb	IAmb	07 55 22.0	
	comp=Z,6.0nm,1.4s						
FINES	**FINESS Array B**	**65.84**	**347**	P	**P**	**07 55 03.0**	**0.0**
	comp=Z,3.4nm,0.9s,baz=37,slow=10,SNR=3.5						
BTK	**Batken**	**70.58**	**310**	P	**P**	**07 55 33.1**	**-0.1**

*ISCJB **23** 07:58:09.2±0.4,8.°14S±0.°05×108.°25E±0.°03,h89km±3km, mb4.2/17,Error ellipse: s-maj=8.7km s-min=3.8km az=25.1*

*NEIC **23** 07:58:10.0±2.8,8.°12S±0.°08×108.°27E±0.°06,h87km±5km, mb4.5/19*

*DJA **23** 07:58:11.5±0.4,8.°5S±4.′×10.°8E±.°,h39km±6km,M4.8/19, mb4.9/7,mB5.2/6,MLv4.9/19,Mw(mB)4.7/6*

*IDC **23** 07:58:14.2±1.0,7.°72S±108.°53E,h108km±9km,mb3.8/13, mb1 4.0/14,mb1mx3.7/45,mbtmp4.2/14,MS3.0/1, Ms1 3.2/1,ms1mx2.9/43,Error ellipse: s-maj=33.2km s-min=11.4km az=49.0*

ISC 23 07:58:09.9±0.8,8.°19S±0.°07×108.°25E±0.°04,h81km±6km, n89,σ1°97/104,mb4.4/27,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.45**	**26**	P	**Pn**	**07 58 22.5**	**-0.8**
CMJI				S	**Sn**	**07 58 31.1**	**-2.2**
CISI	**Cisompet, Garu**	**0.77**	**326**	P	**Pn**	**07 58 26.2**	**-0.3**
CISI				S	**Sn**	**07 58 36.9**	**-1.8**
CISI	**Cisompet, Garu**	**0.77**	**326**		**Pn**	**07 58 26.1**	**-0.3**
CISI				Sn	**Sn**	**07 58 37.8**	**-1.0**
KPJI	**Karang Pucung**	**1.09**	**38**	P	**Pn**	**07 58 30.4**	**+0.4**
KPJI				S	**Sn**	**07 58 45.1**	**-0.1**
CNJI	**Cibinong**	**1.42**	**308**	P	**Pn**	**07 58 34.6**	**+0.4**
CNJI				S	**Sn**	**07 58 52.1**	**-0.4**
LEM	**Lembang**	**1.50**	**335**	P	**Pn**	**07 58 37.3**	**+1.9**
	165nm,0.3s,baz=89,slow=23,SNR=26						
LEM				S	**Sn**	**07 58 56.8**	**+2.2**
	114nm,0.3s,baz=308,slow=19,SNR=6.6						
LEM				LR	LR	07 59 25.1	
	comp=Z,493nm,21.1s,baz=166,slow=56						
LEM	**Lembang**	**1.50**	**335**	P	**Pn**	**07 58 37.0**	**+1.6**
YOGI	**Yogyakarta**	**2.06**	**80**	P	**Pn**	**07 58 42.4**	**-0.2**
UGM	**Wanagama**	**2.27**	**83**	P	**Pn**	**07 58 45.6**	**+0.2**
UGM				S	**Sn**	**07 59 11.6**	**-1.0**
UGM	**Wanagama**	**2.27**	**83**		**Pn**	**07 58 45.7**	**+0.3**
UGM				Sn	**Sn**	**07 59 12.0**	**-0.6**
SMRI	**Semarang**	**2.45**	**62**	P	**Pn**	**07 58 49.8**	**+2.0**
SMRI				S	**Sn**	**07 59 19.0**	**+2.1**
SMRI	**Semarang**	**2.45**	**62**		**Pn**	**07 58 49.6**	**+1.7**
SMRI				Sn	**Sn**	**07 59 15.7**	**-1.2**
PCJI	**Pacitan**	**2.90**	**90**	P	**Pn**	**07 58 54.7**	**+0.9**
PCJI				S	**Sn**	**07 59 26.5**	**-1.2**
NGJI	**Ngawi**	**3.28**	**76**	P	**Pn**	**07 59 02.4**	**+3.3**
NGJI				S	**Sn**	**07 59 33.2**	**-3.9**
PWJI	**Pagerwojo**	**3.52**	**87**	P	**Pn**	**07 59 03.1**	**+0.8**
TBJI	**Tambak Boyo**	**3.82**	**69**	P	**Pn**	**07 59 07.6**	**+1.3**
GRJI	**Gresik**	**4.38**	**73**	P	**Pn**	**07 59 15.6**	**+1.6**
KASI	**Kota Agung**	**4.58**	**305**	P	**Pn**	**07 59 19.1**	**+2.4**
KLSI		**4.94**	**315**	P	Pn	07 59 32.7	+11
GMJI	**Gumukmas**	**5.14**	**91**	P	**Pn**	**07 59 27.7**	**+3.3**
	100nm,0.6s,2µm0.9nm						
MDSI	**Maura Dua**	**5.47**	**312**	P	**Pn**	**07 59 29.9**	**+1.0**
	40nm,0.8s,0.1nm						
JAGI	**Jajag, Banyuwa**	**5.84**	**93**	P	**Pn**	**07 59 36.4**	**+2.4**
	116nm,0.9s,3µm1.5nm						
JAGI	**Jajag, Banyuwa**	**5.84**	**93**		**Pn**	**07 59 35.4**	**+1.4**
JAGI				Sn	**Sn**	**08 00 39.1**	**-0.6**
MNAI	**Manna**	**6.50**	**306**	Pn	**Pn**	**07 59 42.4**	**-0.5**
MNAI				Sn	**Sn**	**08 00 53.5**	**-2.1**
IGBI	**Denpasar**	**6.85**	**96**	P	**Pn**	**07 59 49.6**	**+1.9**
	76nm,0.9s,3µm0.6nm						
PLAI	**Plampang**	**9.44**	**95**	P	**Pn**	**08 00 24.5**	**+1.4**
	65nm,0.8s,873nm						
RGRI	**Rengat**	**9.77**	**323**	P	**Pn**	**08 00 29.4**	**+1.8**
PPSI	**Pulau Pagai**	**9.82**	**303**	P	**Pn**	**08 00 30.0**	**+1.8**
	79nm,0.6s						
KSM	**Kuching**	**9.82**	**12**	Pn	**Pn**	**08 00 27.8**	**-0.5**
MYKOM	**Kota Tinggi**	**10.85**	**336**	Pn	**Pn**	**08 00 41.6**	**-0.6**
BKNI	**Bangkinang**	**11.10**	**319**	Pn	**Pn**	**08 00 43.7**	**-2.1**
SBUM	**Sibu**	**11.29**	**21**	Pn	**Pn**	**08 00 47.6**	**-0.7**
MPSI	**Mapaga**	**14.37**	**54**	P	**P**	**08 01 35.9**	**+1.8**
KDI	**Kendari**	**14.89**	**74**	P	**P**	**08 01 43.6**	**+3.8**
BATI	**Baumata**	**15.34**	**99**	S	Sn	08 04 21.4	-10
	5.5nm,0.3s,baz=41,slow=20,SNR=3.0						
BATI	**Baumata**	**15.34**	**99**	P	P	08 01 52.2	+7.3
GIRL	**Giralia**	**15.48**	**159**	Pn	**Pn**	**08 01 43.4**	**-0.2**
SOEI	**Soe**	**15.90**	**97**	P	**P**	**08 01 57.3**	**+6.2**
SOEI	**Soe**	**15.90**	**97**		**Pn**	**08 01 47.1**	**-1.9**
MRSI	**Marisa**	**16.14**	**58**	P	**P**	**08 01 54.7**	**+1.0**
PSA00	**Pilbara Seismi**	**17.38**	**141**	P	**Pn**	**08 02 07.5**	**+0.3**
NLAI	**Namlea**	**19.38**	**76**	P	**Pn**	**08 02 32.0**	**+0.7**
FITZ	**Fitzroy Crossi**	**19.57**	**122**	P	**Pn**	**08 02 34.3**	**+0.8**
	0.4nm,0.3s,baz=296,slow=3.4,SNR=8.0						
FITZ				S	**S**	**08 05 59.8**	**-8.4**
	0.6nm,0.3s,baz=0.0,slow=20,SNR=6.4						
FITZ	**Fitzroy Crossi**	**19.57**	**122**	P	**P**	**08 02 30.4**	**-1.0**
FITZ					**S**	**08 06 02.5**	**-5.7**
KNRA	**Kununurra**	**21.39**	**112**	P	**P**	**08 02 51.1**	**+0.1**
KNRA				IAmb	IAmb	08 02 57.7	
	comp=Z,23nm,0.9s						
MTN	**Manton Dam**	**22.96**	**104**	P	**P**	**08 03 08.3**	**+0.6**
MTN				IAmb	IAmb	08 03 09.5	
	comp=Z,32nm,1.2s						
WRA	**Warramunga Arr**	**27.82**	**118**	P	**P**	**08 03 53.5**	**+1.7**
	comp=Z,4.6nm,1.0s,baz=289,slow=11,SNR=16						
WRAB	**Tennant Creek**	**27.83**	**118**	P	**P**	**08 03 48.3**	**-3.5**
WRAB				IAmb	IAmb	08 03 57.5	
	comp=Z,11nm,0.6s						
WR0	**Warramunga Ar**	**28.00**	**117**	P	**P**	**08 03 52.2**	**-1.1**
WR0				IAmb	IAmb	08 04 40.9	
	comp=Z,11nm,1.0s						
CMAR	**Chiang Mai Arr**	**28.03**	**341**	P	**P**	**08 03 53.2**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=173,slow=7.9,SNR=3.9						
CMAR				LR	LR	08 14 54.7	
	comp=Z,32nm,19.4s,baz=140,slow=36						
ASAR	**Alice Springs**	**28.99**	**125**	P	**P**	**08 04 04.0**	**+1.9**
	comp=Z,2.5nm,0.7s,baz=303,slow=8.7,SNR=24						
AS31	**Alice Springs**	**28.99**	**125**	P	**P**	**08 04 01.0**	**-1.1**
FORT	**Forrest**	**29.11**	**143**	P	**P**	**08 04 03.1**	**+0.1**
FORT				IAmb	IAmb	08 04 39.1	
	comp=Z,8.4nm,0.8s						
KMI	**Kunming**	**33.55**	**351**	P	**P**	**08 04 43.8**	**+1.5**
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
COEN	**Coen**	**34.72**	**103**	P	**P**	**08 04 53.2**	**+0.8**
COEN				IAmb	IAmb	08 04 54.4	
	comp=Z,7.6nm,0.8s						
H08S2	**Diego Garcia H**	**35.41**	**268**	T	T	08 42 58.3	
	baz=93,slow=76,SNR=33						
H08S3	**Diego Garcia H**	**35.43**	**268**	T	T	08 42 49.0	
	baz=93,slow=76,SNR=38						
H08S1	**Diego Carcia H**	**35.43**	**268**	T	T	08 42 53.8	
	baz=93,slow=76,SNR=43						
BBOO	**Buckleboo**	**35.54**	**137**	P	**P**	**08 05 01.2**	**+2.0**
BBOO				IAmb	IAmb	08 05 47.2	
	comp=Z,18nm,1.3s						
STKA	**Stephens Creek**	**38.92**	**132**	P	**P**	**08 05 30.8**	**+2.9**
	comp=Z,5.6nm,0.5s,baz=313,slow=8.6,SNR=28						
STKA	**Stephens Creek**	**38.92**	**132**	P	**P**	**08 05 30.1**	**+2.2**
CD2	**Chengdu**	**39.12**	**354**	P	**P**	**08 05 29.8**	**+0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						

NJ2	**Nanjing**	**41.28**	**14**	*eP*	**P**	**08 05 48.5**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC	**Hu-ho-hao-te**	**48.89**	**3**	P	**P**	**08 06 48.8**	**+1.2**
HHC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,6.4s						
KSRS	**Korea Array**	**49.00**	**21**	P	**P**	**08 06 46.3**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=213,slow=9.0,SNR=4.6						
MJAR	**Matsushiro Arr**	**52.64**	**30**	P	**P**	**08 07 12.3**	**-3.5**
	comp=Z,4.8nm,0.9s,baz=201,slow=7.1,SNR=9.5						
WMQ	**Urumqi**	**55.02**	**342**	*eP*	**P**	**08 07 33.9**	**+0.8**
WMQ				LR	LR		
	comp=N,580nm,14.3s						
WMQ				LR	LR		
	comp=E,460nm,16.1s						
WMQ				LR	LR		
	comp=Z,530nm,12.5s						
SONM	**Songino Array**	**55.81**	**358**	P	**P**	**08 07 37.3**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=163,slow=5.6,SNR=3.2						
KSH	**Kashi**	**56.10**	**330**	P	**P**	**08 07 42.3**	**+1.3**
KSH				pP	pP	08 08 06.4	+5.1
KSH				PP	**PP**	**08 09 50.5**	**+3.5**
KSH				S	**S**	**08 15 22.6**	**-1.4**
KSH				pmax	pmax		
	comp=Z,1µm,7.2s						
KSH				LR	LR		
	comp=N,910nm,13.2s						
KSH				LR	LR		
	comp=E,1µm,14.0s						
KSH				LR	LR		
	comp=Z,970nm,7.5s						
MK31	**Makanchi Array**	**59.43**	**340**	P	**P**	**08 08 02.5**	**-1.5**
MK31				IAmb	IAmb	08 08 46.1	
	comp=Z,5.3nm,1.8s						
MKAR	**Makanchi Array**	**59.43**	**340**	P	**P**	**08 08 02.7**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=152,slow=8.4,SNR=8.6						
KLR	**Kudur**	**60.78**	**17**	P	**P**	**08 08 11.3**	**-1.8**
	comp=Z,0.9nm,0.6s,baz=225,slow=7.5,SNR=4.3						
KURK	**Kurchatov**	**64.04**	**340**	P	**P**	**08 08 34.3**	**-0.6**
KURK				IAmb	IAmb	08 08 35.2	
	comp=Z,4.3nm,0.8s						
GEYT	**Alibeck**	**65.47**	**318**	P	**P**	**08 08 44.6**	**0.0**
	comp=Z,1.4nm,0.4s,baz=170,slow=8.8,SNR=3.8						
BVAR	**Borovoye Array**	**68.95**	**337**	P	**P**	**08 09 04.7**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=134,slow=8.3,SNR=3.3						
ABKAR	**Akbulak array**	**71.07**	**329**	P	**P**	**08 09 18.1**	**-1.1**
ABKAR				IAmb	IAmb	08 09 20.2	
	comp=Z,5.4nm,1.1s						
TBLG	**Delisi**	**76.32**	**316**	P	**P**	**08 09 50.4**	**+0.3**
QSPA	**South Pole Qui**	**81.80**	**180**	P	**P**	**08 10 20.9**	**+1.1**
BR131	**Keskin Array S**	**83.54**	**312**	P	**P**	**08 10 30.2**	**+0.8**
BR131				IAmb	IAmb	08 11 34.0	
	comp=Z,8.6nm,1.9s						
BRTR	**Keskin Array B**	**83.54**	**312**	P	**P**	**08 10 30.1**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=127,slow=7.9,SNR=7.9						
ARCES	**ARCESS Array B**	**95.08**	**339**	P	**P**	**08 11 22.8**	**-0.6**
	comp=Z,5.9nm,1.0s,baz=116,slow=4.1,SNR=3.5						
YKA	**Yellowknife Ar**	**117.54**	**21**	PKP	**PKPdf**	**08 16 46.6**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=318,slow=1.6,SNR=6.6						
TXAR	**Lajitas Array**	**143.39**	**51**	PKP	**PKPdf**	**08 17 35.8**	**0.0**
	comp=Z,0.2nm,0.5s,baz=270,slow=0.6,SNR=3.6						
TUL1	**Leonard**	**144.74**	**35**		**PKPab**	**08 17 36.3**	**-0.5**
CCM	**Cathedral Cave**	**145.44**	**28**		**PKPbc**	**08 17 39.4**	**+0.4**
HHAR	**Hobbs**	**145.49**	**33**		**PKPbc**	**08 17 40.0**	**+0.8**
PBMO	**Poplar Bluff**	**146.86**	**28**	PKPdf	**PKPdf**	**08 17 39.3**	**-2.1**
PBMO				PKPbc	**PKPbc**	**08 17 41.5**	**-1.8**
PBMO				PKPab	**PKPab**	**08 17 43.8**	**-0.9**
MIAR	**Mount Ida**	**146.98**	**34**		**PKPbc**	**08 17 43.8**	**+0.1**
WVT	**Waverly**	**148.56**	**25**		**PKPbc**	**08 17 47.2**	**-0.7**
WVT				PKPab	**PKiKP**	**08 17 49.3**	**-0.1**

IDC 23 08:01:28.7±3.3,55.°66N×85.°91E,h0km,mb1 2.9/2, mb1mx2.8/42,mbtmp2.9/2,ML2.4/2,Error ellipse: s-maj=26.9km s-min=25.0km az=44.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.82**	**201**	*i*		08 12 32.3	
	baz=19,slow=346,SNR=6.2						
ZALV	**Zalesovo Beam**	**1.82**	**201**	Pn	Pn	08 01 59.8	-1.5
	2.1nm,0.3s,baz=18,slow=16,SNR=14						
ZALV				Lg	Lg	08 02 26.9	
	2.2nm,0.3s,baz=19,slow=26,SNR=9.8						
ZALV				*i*		08 12 30.8	
	0.5nm,0.3s,baz=38,slow=24,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.72**	**224**	Pn	Pn	08 03 08.4	0.0
	0.1nm,0.3s,baz=43,slow=14,SNR=4.5						
KURBB				Lg	Lg	08 05 03.5	
	0.0nm,0.3s,baz=54,slow=29,SNR=3.6						
MKAR	**Makanchi Array**	**9.16**	**196**	Pn	Pn	08 03 42.3	+0.3
	0.0nm,0.3s,baz=19,slow=14,SNR=3.2						
MKAR				Lg	Lg	08 06 16.5	
	0.0nm,0.3s,baz=26,slow=31,SNR=2.2						

*ISCJB **23** 08:23:46.4±0.5,6.°72S±0.°04×127.°99E±0.°05,h309km, mb3.6/6,Error ellipse: s-maj=7.3km s-min=5.0km az=19.5*

*NEIC **23** 08:23:47.4±2.1,6.°77S±0.°08×128.°02E±0.°06,h293km±10km, mb4.2/8*

*IDC **23** 08:23:47.5±1.5,6.°82S×127.°94E,h297km±18km,mb3.4/6, mb1 3.7/10,mb1mx3.3/48,mbtmp4.3/10,Error ellipse: s-maj=21.4km s-min=12.9km az=89.0*

*DJA **23** 08:23:48.7±0.7,7.°5S±12.′8E±1.′4,h282km±27km, M4.5/6,mB4.9/1,mb4.1/6,MLv4.7/4,Mw(mB)4.2/1*

ISC 23 08:23:47.6±0.6,6.°77S±0.°05×128.°04E±0.°06,h309km,n30, σ2°08/40,mb3.7/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**3.63**	**345**	P	**Pn**	**08 24 54.5**	**+4.1**
SOEI	**Soe**	**4.76**	**231**	P	**Pn**	**08 25 02.8**	**-0.1**
SOEI				S	**S**	**08 26 00.0**	**-3.5**
SOEI	**Soe**	**4.76**	**231**		**Pn**	**08 25 01.6**	**-1.3**
SOEI				S	**S**	**08 25 59.5**	**-4.0**
BATI	**Baumata**	**5.51**	**231**	P	**Pn**	**08 25 11.4**	**-0.1**
	84nm,0.3s,baz=77,slow=3.6,SNR=32						
BATI				S	**S**	**08 26 15.5**	**-3.5**
	30nm,0.3s,baz=290,slow=12,SNR=12						
BATI	**Baumata**	**5.51**	**231**	P	**Pn**	**08 25 11.2**	**-0.2**
	126nm,0.5s,2µm0.6nm						
FAKI	**Fak Fak**	**5.68**	**48**	P	**Pn**	**08 25 13.0**	**-0.4**
	31nm,1.2s,0.3nm						
FAKI	**Fak Fak**	**5.68**	**48**	Pn	**Pn**	**08 25 12.8**	**-0.6**
FAKI				S	**S**	**08 26 18.3**	**-4.4**
SIJI	**Sorong**	**6.69**	**29**	P	**Pn**	**08 25 25.5**	**0.0**
	0.6nm,0.3s,baz=180,slow=20,SNR=4.8						
SIJI				S	**S**	**08 26 38.9**	**-5.7**
	0.6nm,0.3s,baz=270,slow=20,SNR=2.9						
MTN	**Manton Dam**	**6.76**	**153**		**Pn**	**08 25 26.2**	**-0.1**
MTN				S	**S**	**08 26 45.4**	**-0.7**
KNRA	**Kununurra**	**8.88**	**175**		**Pn**	**08 25 52.8**	**+0.8**
KNRA				S	**S**	**08 27 31.7**	**-1.7**
FITZ	**Fitzroy Crossi**	**11.50**	**192**	P	**Pn**	**08 26 22.3**	**-1.7**
	0.3nm,0.3s,baz=37,slow=11,SNR=5.3						
FITZ				S	**S**	**08 28 31.9**	**-0.5**
	0.5nm,0.3s,baz=321,slow=13,SNR=4.1						
FITZ	**Fitzroy Crossi**	**11.50**	**192**	Pn	**Pn**	**08 26 22.6**	**-1.4**
FITZ					**S**	**08 28 31.3**	**-1.1**
WRAB	**Tennant Creek**	**14.45**	**156**		**P**	**08 26 56.0**	**-2.3**
WRA	**Warramunga Arr**	**14.45**	**156**	P	**P**	**08 26 59.0**	**+0.7**
	2.6nm,0.3s,baz=334,slow=11,SNR=136						
WRA				S	**S**	**08 29 34.4**	**-2.3**
	0.1nm,0.3s,baz=333,slow=19,SNR=4.9						
WR0	**Warramunga Arr**	**14.55**	**155**		**P**	**08 27 00.5**	**+1.1**
COEN	**Coen**	**16.51**	**117**	P	**P**	**08 27 22.9**	**+2.1**
COEN				IAmb	IAmb	08 27 36.4	
	comp=Z,6.0nm,1.0s						
PSA00	**Pilbara Seismi**	**16.71**	**207**	P	**P**	**08 27 23.8**	**+0.9**
PSA00				IAmb	IAmb	08 27 24.8	
	comp=Z,10nm,0.8s						
AS31	**Alice Springs**	**17.72**	**162**	P	**P**	**08 27 35.6**	**+1.8**
ASAR	**Alice Springs**	**17.72**	**162**	P	**P**	**08 27 35.3**	**+1.4**
	comp=Z,4.9nm,0.3s,baz=344,slow=12,SNR=637						
FORT	**Forrest**	**23.88**	**180**	P	**P**	**08 28 35.3**	**+1.3**
FORT				IAmb	IAmb	08 28 35.6	
	comp=Z,8.8nm,0.7s						
BBOO	**Buckleboo**	**26.96**	**165**	P	**P**	**08 29 02.9**	**+1.4**
NWAO	**Narrogin (SRO)**	**27.90**	**200**	P	**P**	**08 29 09.4**	**-0.4**
	comp=Z,2.9nm,0.5s,baz=45,slow=13,SNR=4.4						
NWAO	**Narrogin (SRO)**	**27.90**	**200**	P	**P**	**08 29 10.3**	**+0.5**

NWAO	**Narrogin (SRO)**	**27.90**	**200**	P	**P**	**08 29 10.2**	**+0.5**
NWAO				IAmb	IAmb	08 29 11.3	
	comp=Z,4.7nm,0.8s						
STKA	**Stephens Creek**	**28.00**	**155**	P	**P**	**08 29 11.7**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=327,slow=14,SNR=7.2						
STKA	**Stephens Creek**	**28.00**	**155**	P	**P**	**08 29 11.9**	**+1.1**
SONM	**Songino Array**	**57.63**	**343**	P	**P**	**08 33 08.7**	**+2.6**
	comp=Z,0.2nm,0.5s,baz=170,slow=5.1,SNR=4.1						
PETK	**Petropavlovsk-**	**64.73**	**19**	P	**P**	**08 33 54.2**	**+0.9**
	comp=Z,12nm,1.1s,baz=164,slow=5.7,SNR=3.6						
MKAR	**Makanchi Array**	**66.98**	**328**	P	**P**	**08 34 09.0**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=111,slow=7.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**70.53**	**335**	P	**P**	**08 34 29.5**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=116,slow=3.4,SNR=3.0						

IDC 23 08:31:03.3±522.0,38.°18N×4.°93E,h0km,Error ellipse: s-maj=210.4km s-min=101.2km az=116.0,Balearic Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I48TN	**KESRA INFRASON**	**4.24**	**123**	*i*		08 56 20.0	
	baz=306,slow=316,SNR=1.5						
I26DE	**FREYUNG INFRAS**	**12.41**	**28**	*i*		09 49 30.0	
	baz=214,slow=324,SNR=1.2						
I31KZ	**AKTYUBINSK INF**	**39.12**	**54**	*i*		12 32 00.0	
	baz=276,slow=329,SNR=2.0						

AUST 23 08:52:51.7±0.1,31.°18S×116.°26E,h7km,Error ellipse: s-maj=1.3km s-min=0.6km az=272.0,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLDU	**Ballidu**	**0.68**	**34**	P	Pg	08 53 04.7	-0.1
	baz=0.7,SNR=64						
BLDU				S	Sg	08 53 13.4	-0.3
	baz=0.7,SNR=9.2						
MUN	**Mundaring**	**0.80**	**183**	P	Pg	08 53 07.0	0.0
	baz=0.8,SNR=59						
MUN				S	Sg	08 53 17.0	-0.4
	baz=0.8,SNR=19						
KLBR	**Kellerberrin**	**1.34**	**108**	P	Pn	08 53 16.8	-0.1
	baz=1.3,SNR=232						
KLBR				S	Sb	08 53 34.3	-0.3
	baz=1.3,SNR=15						
NWAO	**Narrogin (SRO)**	**1.93**	**155**	P	Pn	08 53 24.9	0.0
	baz=1.9,SNR=67						
NWAO				S	Sn	08 53 50.0	+0.6
	baz=1.9,SNR=11						
MORW	**Morawa**	**2.11**	**355**	P	Pn	08 53 28.2	+0.8
	baz=2.1,SNR=35						
MORW				S	Sn	08 53 55.4	+1.4
	baz=2.1,SNR=18						
RKGY	**Rocky Gully**	**3.47**	**170**	P	Pn	08 53 46.0	-0.2
	baz=3.5,SNR=16						
RKGY				S	Sn	08 54 29.0	+1.5
	baz=3.5,SNR=4.4						
INKA	**Innaminka**	**21.58**	**87**	S	S	09 01 31.5	-10
	baz=22,SNR=5.2						

*NEIC **23** 08:59:05.8±1.7,22.°52S±0.°04×66.°0W±0.°2,h244km±16km, mb4.3/3*

*ISCJB **23** 08:59:06.6±0.4,22.°48S±0.°03×66.°24W±0.°04,h269km±5km, mb3.4/2,Error ellipse: s-maj=6.7km s-min=4.8km az=172.3*

*SJA **23** 08:59:06±3.5,22.°40S±0.°08×66.°1W±0.°1,h269km±7km*

*IDC **23** 08:59:06.4±1.4,22.°41S×66.°04W,h244km±18km,mb3.3/2, mb1 3.5/6,mb1mx3.2/26,mbtmp3.9/6,Error ellipse: s-maj=27.5km s-min=16.6km az=108.0*

*GUC **23** 08:59:08.4±0.6,22.°28S×66.°67W,h293km±14km,ML4.1*

ISC 23 08:59:06.8±0.8,22.°46S±0.°05×66.°22W±0.°06,h263km±8km, n50,σ1°45/75,8C-2D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.71**	**67**	*i* P	**Pn**	**08 59 42.6**	**+0.1**
YJA				IAML		08 59 43.1	
	comp=Z,177nm,0.5s						
YJA				*e*S	**S**	**09 00 09.7**	**-0.8**
HJA	**Humahuaca**	**1.06**	**135**	*i* P	**Pn**	**08 59 44.7**	**+0.7**
HJA				IAML		08 59 45.0	
	comp=Z,196nm,0.3s						
SLA	**San Lorenzo**	**2.35**	**164**	*i* P	**Pn**	**08 59 54.5**	**+0.8**
SLA				IAML		08 59 56.6	
	comp=Z,8.5nm,0.6s						
LVC	**Limon Verde**	**2.49**	**266**	P	**Pn**	**08 59 56.5**	**+1.2**
	comp=Z,15nm,0.3s,baz=71,slow=7.6,SNR=237						
LVC				S	**S**	**09 00 33.8**	**+0.1**
	comp=Z,15nm,0.3s,baz=205,slow=22,SNR=61						
LVC	**Limon Verde**	**2.49**	**266**	Pn	**Pn**	**08 59 56.7**	**+1.4**
LVC		

CFA	**Coronel Fontan**	**9.29**	**191**	P		**Pn**	**09 01 16.1**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=35,slow=11,SNR=34							
CFA				S		**S**	**09 02 55.8**	**-5.5**
	comp=Z,3.0nm,0.3s,baz=177,slow=19,SNR=16							
CFA	**Coronel Fontan**	**9.29**	**191**	*i* P		**Pn**	**09 01 16.3**	**0.0**
ACAN	**Cantantal**	**9.82**	**185**	*i* P		**Pn**	**09 01 22.3**	**-0.7**
ASAL	**Salagasta**	**10.36**	**192**	*i* P		**Pn**	**09 01 30.8**	**+1.1**
ROC1	**El Roble**	**11.31**	**201**	*i* P		**P**	**09 01 48.4**	**+3.3**
TRQA	**Tornquist**	**15.97**	**168**	Pn		**P**	**09 02 36.9**	**+0.5**
TRQA				IAmb		IAmb	09 03 02.4	
	comp=Z,43nm,2.0s							
GO06	**Curarrehue**	**17.65**	**193**	P		**P**	**09 02 54.6**	**-0.3**
GO06				IAmb		IAmb	09 02 58.9	
	comp=Z,14nm,1.6s							
PLCA	**Paso Flores**	**18.59**	**190**	P		**P**	**09 03 04.9**	**0.0**
PLCA				IAmb		IAmb	09 03 09.2	
	comp=Z,18nm,1.9s							
TORD	**Torodi Ar. Bea**	**75.34**	**69**	P		**P**	**09 10 22.4**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=256,slow=6.0,SNR=5.6							
YKA	**Yellowknife Ar**	**92.93**	**340**	P		**P**	**09 11 51.4**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=130,slow=4.5,SNR=10							

ISCJB ***23*** *08:59:11.9±0.5, 8.67°N±0.04°×83.03°W±0.03, h19km±4km, Error ellipse: s-maj=7.1km s-min=2.6km az=34.2*
UPA ***23*** *08:59:11.5±1.9, 8.73°N×82.99°W, h6km±6km, MW4.5*
UCR ***23*** *08:59:12.0±2.1, 8.67°N×83.05°W, h13km±5km*
ISC 23 08:59:11.0±1.1, 8.65°N±0.04°×83.06°W±0.03, h15km±8km, n43, σ1§05/73, 5C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EDSV	**San Vito**	**0.19**	**26**	*e*P		**Pb**	**08 59 16.9**	**+0.6**
EDSV				*e*S		**Sb**	**08 59 21.2**	**+1.4**
LESP3	**La Esperanza,**	**0.36**	**132**	⇑*i*P		**Pg**	**08 59 19.3**	**+0.3**
LESP3				*e*S		**Sb**	**08 59 25.6**	**+1.1**
BRU2	**Volcan**	**0.39**	**68**	*e*P		**Pg**	**08 59 19.4**	**+0.4**
BRU2				*e*S		**Sb**	**08 59 25.3**	**-0.3**
BRU2	**Volcan**	**0.39**	**68**	⇓*i*P		**Pg**	**08 59 19.3**	**+0.4**
BRU2				*e*S		**Sg**	**08 59 24.1**	**-0.3**
EDPN	**Palmar Norte**	**0.51**	**308**	*e*P		**Pg**	**08 59 21.6**	**+0.5**
BCO2	**Palmira**	**0.53**	**82**	⇓*i*P		**Pg**	**08 59 21.6**	**+0.1**
BCO2				*e*S		**Sb**	**08 59 29.4**	**-0.1**
BAGA3	**Bagala, Chiriq**	**0.55**	**109**	⇑*i*P		**Pb**	**08 59 22.5**	**+0.1**
BAGA3				*e*S		**Sb**	**08 59 30.5**	**+0.3**
EDBA	**Buenos Aires**	**0.56**	**337**	*e*P		**Pb**	**08 59 22.8**	**+0.3**
EDBA				*e*S		**Sb**	**08 59 31.6**	**+1.3**
DVD	**David**	**0.63**	**109**	⇓*i*P		**Pg**	**08 59 23.6**	**+0.1**
DVD				*i* S		**Sb**	**08 59 32.5**	**0.0**
DVD	**David**	**0.63**	**109**	⇓*i*P		**Pg**	**08 59 23.6**	**+0.1**
DVD				*i* S		**Sb**	**08 59 32.5**	**0.0**
DRK0	**Durika**	**0.64**	**343**	⇑*i*P		**Pg**	**08 59 23.6**	**-0.1**
DRK0				*e*S		**Sg**	**08 59 32.5**	**+0.3**
DRK0	**Durika**	**0.64**	**343**	⇑*i*P		**Pg**	**08 59 23.6**	**-0.1**
DRK0				*e*S		**Sg**	**08 59 32.4**	**+0.3**
LOCO3	**Loma Colorada,**	**0.67**	**110**	*i* P		**Pg**	**08 59 24.2**	**0.0**
LOCO3				*e*S		**Sb**	**08 59 33.4**	**-0.3**
LOMA3	**Las Lomas, Chi**	**0.69**	**108**	⇑*i*P		**Pg**	**08 59 24.5**	**-0.1**
LOMA3				*e*S		**Sb**	**08 59 33.9**	**-0.2**
GUAL3	**Gualaca, Chiri**	**0.76**	**99**	*e*P		**Pb**	**08 59 25.4**	**-0.6**
GUAL3				*e*S		**Sb**	**08 59 35.9**	**-0.2**
CHIR3	**Chiriqui UPA,**	**0.76**	**109**	*e*P		**Pb**	**08 59 25.5**	**-0.5**
EDLM	**Las Mercedes**	**0.82**	**320**	*e*P		**Pb**	**08 59 26.7**	**-0.4**
CHGR2	**Aguacate**	**0.95**	**72**	*e*P		**Pb**	**08 59 27.7**	**-1.4**
CHGR2				*e*S		**Sb**	**08 59 39.3**	**-2.2**
CNI2	**El Empalme, Bo**	**0.96**	**37**	*e*P		**Pb**	**08 59 28.2**	**-1.2**
CNI2				*e*S		**Sb**	**08 59 39.6**	**-2.4**
EDDO	**Dominical**	**1.00**	**307**	*e*P		**Pb**	**08 59 28.9**	**-1.2**
LCR2	**La Lucha 2**	**1.44**	**319**	*e*P		**Pn**	**08 59 35.7**	**-1.0**
SJS	**Escuela Geolog**	**1.62**	**323**	*e*P		**Pn**	**08 59 38.9**	**-0.2**
HDC	**Heredia**	**1.70**	**322**	*e*P		**Pn**	**08 59 40.5**	**+0.2**
HDC				*e*S		**Sn**	**09 00 03.0**	**+1.0**
HDC	**Heredia**	**1.70**	**322**	*e*P		**Pn**	**08 59 40.5**	**+0.2**
HDC				*e*S		**Sn**	**09 00 03.0**	**+1.0**
CNAZ3	**Canazas, Verag**	**1.85**	**99**	*e*P		**Pn**	**08 59 42.6**	**+0.4**
CNAZ3				*e*S		**Sn**	**09 00 04.9**	**-0.5**
SRA1	**San Ramn**	**2.00**	**316**	*e*P		**Pn**	**08 59 44.5**	**0.0**
GMAL	**Guarumal, Vera**	**2.01**	**116**	*e*P		**Pn**	**08 59 43.6**	**-0.8**
GMAL				*e*S		**Sn**	**09 00 10.0**	**+0.7**
CALO3	**Calobre, Verag**	**2.21**	**98**	*e*P		**Pb**	**08 59 49.1**	**-1.6**
CALO3				*e*S		**Sb**	**09 00 17.5**	**-0.5**
ARE1	**Arenal 1**	**2.44**	**318**	*e*P		**Pn**	**08 59 51.0**	**+0.7**
CRIS3	**El Cristo, Coc**	**2.44**	**99**	*e*P		**Pn**	**08 59 51.1**	**+0.7**
CRIS3				*e*S		**Sn**	**09 00 21.5**	**+1.5**
CEDE	**Laguna Cedeo**	**2.45**	**318**	*e*P		**Pn**	**08 59 51.7**	**+1.2**
JTS	**Las Juntas de**	**2.48**	**311**	*e*P		**Pn**	**08 59 51.4**	**+0.4**
JTS				*e*S		**Sb**	**09 00 24.3**	**-1.6**
JTS	**Las Juntas de**	**2.48**	**311**	*e*P		**Pn**	**08 59 51.9**	**+0.9**
JTS				*e*S		**Sb**	**09 00 24.3**	**-1.6**
CACAO	**El Cacao, Vera**	**2.53**	**121**	*e*P		**Pn**	**08 59 52.9**	**+1.3**
CACAO				*e*S		**Sn**	**09 00 18.9**	**-3.3**
PLVR	**Palo Verde**	**2.83**	**307**	*e*P		**Pb**	**08 59 59.5**	**-1.8**
AZU	**Azuero**	**2.88**	**107**	*e*P		**Pn**	**08 59 57.7**	**+1.3**
AZU				*e*S		**Sb**	**09 00 38.5**	**+1.2**
AZU	**Azuero**	**2.88**	**107**	*e*P		**Pb**	**09 00 00.0**	**-2.2**
AZU				*e*S		**Sb**	**09 00 38.5**	**+1.2**
CUI	**Cuipilapa**	**2.88**	**314**	*e*P		**Pn**	**08 59 57.5**	**+1.0**
BUEV	**Buena Vista**	**3.15**	**313**	*e*P		**Pn**	**09 00 01.7**	**+1.5**
GB1A	**Borinquen Arri**	**3.16**	**313**	*e*P		**Pb**	**09 00 06.8**	**-0.2**
BCIP	**Isla Barro Col**	**3.22**	**81**	*e*P		**Pn**	**09 00 01.8**	**+0.7**
BCIP				*e*S		**Sb**	**09 00 47.2**	**+0.1**
BCIP	**Isla Barro Col**	**3.22**	**81**	*e*P		**Pn**	**09 00 01.8**	**+0.7**
BCIP				*e*S		**Sb**	**09 00 47.2**	**+0.1**
CHOR3	**La Chorrera**	**3.26**	**85**	*e*P		**Pb**	**09 00 08.3**	**-0.4**
CHOR3				*e*S		**Sb**	**09 00 50.8**	**+2.6**

NIED ***23*** *09:11:00, 36.10°N×142.50°E, h5km, Mw5.2 Best double couple: M0 7.65000×10^16 NP1:φs178.00000°, δ43.00000°, λ57.00000°. NP2:φs40.00000°, δ56.00000°, λ117.00000°.*
IDC ***23*** *09:11:30.3±0.7, 36.11°N×142.36°E, h0km, mb4.7/33, mb1 4.8/39, mb1mx4.7/57, mbtmp4.7/39, ML3.9/6, MS4.8/9, Ms1 4.8/9, ms1mx4.2/67, Error ellipse: s-maj=18.2km s-min=11.9km az=173.0*
NEIC ***23*** *09:11:31.4±1.6, 36.09°N±0.06°×142.41°E±0.09, h7km±3km, mb5.0/198, Mwc5.3(GCMT)*
BJI ***23*** *09:11:31.7±0.0, 36.21°N×142.01°E, h10km, mb5.1/68, mB5.4/64, Ms5.6/79, Ms7 5.4/76*
ISCJB ***23*** *09:11:31.2±0.7, 36.19°N±0.02°×142.34°E±0.02, h12km±4km, mb5.1/126, MS5.5/36, Error ellipse: s-maj=3.6km s-min=2.4km az=169.6*
JMA ***23*** *09:11:31.3±0.2, 36.09°N×142.53°E, h59km, M5.5*
MOS ***23*** *09:11:33.6±1.1, 36.45°N×142.34°E, h23km, mb5.4/65, MS5.4/15, Error ellipse: s-maj=7.6km s-min=4.6km az=112.8*
NEIC ***23*** *09:11:36, 36.11°N×142.64°E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 0.83; Mθθ -0.39; Mφφ -0.45; Mrθ -0.08; Mθφ -0.46; Mrφ 0.74; Fault plane solution: M0 1.14000×10^17 NP1:φs243.00000°, δ34.00000°, λ132.00000°. NP2:φs16.00000°, δ65.00000°, λ66.00000°. Principal axes: T 1.2179, Plg62.0000°, Azm249.0000°; N -0.1875, Plg22.0000°, Azm27.0000°; P -1.0304, Plg17.0000°, Azm124.0000°;*
GCMT ***23*** *09:11:36.4±0.3, 36.15°N±0.02°×142.65°E±0.03, h12km, MW5.3/90, Moment Tensor Solution. s36,c44; s90,c143; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr 0.84±.03; Mθθ -0.38±.03; Mφφ -0.46±.03; Mrθ -0.31±.10; Mθφ -0.39±.02; Mrφ 0.65±.09; Best double couple: M0 1.05600×10^17 NP1:φs11.00000°, δ62.00000°, λ62.00000°. NP2:φs241.00000°, δ39.00000°, λ132.00000°. Principal axes: T 1.2340, Plg61.0000°, Azm236.0000°; N -0.3550, Plg25.0000°, Azm25.0000°; P -0.8780, Plg13.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 23 09:11:34.2±0.5, 36.20°N±0.04°×142.39°E±0.04, h25km±3km, h25km:pP-P, n602, σ1§67/573, mb5.0/202, MS5.6/36, 57C-14D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.34**	**249**	⇑P		**Pn**	**09 11 55.2**	**-2.1**
CHOJ				S		**Sn**	**09 12 12.8**	**-1.5**
JHYU	**Hitachinakayam**	**1.46**	**276**	⇑P		**Pn**	**09 11 57.7**	**-1.3**
JHYU				S		**Sn**	**09 12 17.2**	**-0.2**
JHO	**Hitachi**	**1.52**	**286**	P		**Pn**	**09 11 58.3**	**-1.5**
ONAJ	**Iwakimizuishiy**	**1.56**	**305**	⇑P		**Pn**	**09 11 59.5**	**-0.9**
JSMT	**Sammumatsuo**	**1.67**	**251**	P		**Pn**	**09 12 00.4**	**-1.5**
JFK	**Kawauchi**	**1.68**	**314**	⇑P		**Pn**	**09 12 01.0**	**-1.0**
JFK				S		**Sn**	**09 12 23.8**	**+1.0**
JFFD	**Fukushimafurud**	**1.72**	**302**	⇑P		**Pn**	**09 12 01.4**	**-1.1**
JFFD				S		**Sn**	**09 12 23.9**	**+0.2**
JYT	**Yasato**	**1.78**	**271**	⇑P		**Pn**	**09 12 01.5**	**-1.8**
BSO1	**Boso 1**	**1.93**	**217**	P		**Pn**	**09 12 02.2**	**-2.7**
JMST	**Minamisoumatoc**	**1.94**	**322**	P		**Pn**	**09 12 04.5**	**-1.0**
BSO3	**Boso 3**	**2.08**	**228**	P		**Pn**	**09 12 04.7**	**-2.5**
JMM	**Marumori**	**2.09**	**323**	⇑P		**Pn**	**09 12 06.8**	**-0.9**
JMM				S		**Sn**	**09 12 33.7**	**+0.8**
JFT	**Otama**	**2.11**	**309**	P		**Pn**	**09 12 08.1**	**+0.3**
JSB	**Shiboa**	**2.13**	**292**	⇑P		**Pn**	**09 12 08.0**	**-0.2**
JIKH	**Ishinomakikobu**	**2.23**	**341**	⇑P		**Pn**	**09 12 08.4**	**-1.1**
JIKH				S		**Sn**	**09 12 36.5**	**+0.3**
JAG	**Ashikaga**	**2.38**	**276**	P		**Pn**	**09 12 10.2**	**-1.4**
JIO	**Ouri**	**2.40**	**340**	⇑P		**Pn**	**09 12 10.9**	**-0.9**
JIO				S		**Sn**	**09 12 40.8**	**+0.5**
JFY	**Yanaizu**	**2.47**	**300**	⇑P		**Pn**	**09 12 12.7**	**-0.1**
JYAR	**Yonezawaarcadi**	**2.48**	**314**	S		**Sn**	**09 12 41.5**	**-0.9**
JKT	**Katashina**	**2.59**	**283**	⇑P		**Pn**	**09 12 14.2**	**-0.4**
JSGW	**Sagamiharawaka**	**2.65**	**258**	⇑P		**Pn**	**09 12 14.3**	**-1.1**
JOFO	**Osakifurukawao**	**2.67**	**334**	P		**Pn**	**09 12 15.4**	**-0.1**
JKMT	**Kesennumamotoy**	**2.70**	**345**	⇑P		**Pn**	**09 12 15.0**	**-1.0**
JRY	**Ryogami san**	**2.83**	**267**	⇑P		**Pn**	**09 12 16.4**	**-1.4**
JIM2	**Oshima 3**	**2.83**	**239**	P		**Pn**	**09 12 15.0**	**-2.9**
JOD2	**Odawara 2**	**2.85**	**252**	⇑P		**Pn**	**09 12 16.1**	**-1.9**
JMK	**Ichinoseki**	**2.90**	**342**	⇑P		**Pn**	**09 12 18.2**	**-0.5**
JMK				S		**Sn**	**09 12 53.5**	**+0.8**
JHK	**Hiroka**	**2.90**	**292**	⇑P		**Pn**	**09 12 18.9**	**+0.1**
OFUJ	**Ofunato**	**2.93**	**349**	P		**Pn**	**09 12 17.8**	**-1.3**
JHTM	**Izuhatsuma**	**3.02**	**247**	P		**Pn**	**09 12 18.1**	**-2.4**
JYK	**Kaneyama**	**3.15**	**330**	⇑P		**Pn**	**09 12 22.0**	**-0.2**
JIZS	**Izushimoda**	**3.23**	**244**	S		**Sn**	**09 12 59.0**	**-1.9**
JOM	**Ohasama**	**3.38**	**345**	P		**Pn**	**09 12 24.4**	**-0.9**
MJAR	**Matsushiro Arr**	**3.39**	**277**	Pn		**Pn**	**09 12 25.1**	**-0.4**
	2.7nm,0.3s,baz=94,slow=9.1,SNR=110							
MJAR				LR		LR	09 13 55.8	
	comp=Z,14μm,20.2s,baz=95,slow=43							
MAJO	**Matsushiro**	**3.39**	**277**	*i* P		**Pn**	**09 12 25.6**	**0.0**
MAJO	**Matsushiro**	**3.39**	**277**			**Pn**	**09 12 25.2**	**-0.3**
MAT	**Matsushiro**	**3.39**	**277**	P		**Pn**	**09 12 25.5**	**-0.1**
MAT				S		**Sn**	**09 13 02.6**	**-2.4**
MAT	**Matsushiro**	**3.39**	**277**	P		**Pn**	**09 12 25.5**	**-0.1**
MJB9	**Matsu-Tunnel**	**3.40**	**277**			**Pn**	**09 12 25.5**	**-0.1**
JNT	**Takato**	**3.46**	**266**	P		**Pn**	**09 12 26.8**	**+0.2**
JNG	**Nsakai**	**3.47**	**275**	⇑P		**Pn**	**09 12 26.4**	**-0.3**
JRG	**Rokugo**	**3.48**	**337**	⇑P		**Pn**	**09 12 26.8**	**+0.1**
JJN	**Nakama**	**3.52**	**286**	P		**Pn**	**09 12 28.1**	**+0.9**
SHZ3	**Shizuoka 3**	**3.59**	**253**	S		**Sn**	**09 13 09.1**	**-0.8**
JHJ2	**Mitsune**	**3.74**	**215**	S		**Sn**	**09 13 08.0**	**-5.6**
JHJ2	**Mitsune**	**3.74**	**215**			**Pn**	**09 12 30.9**	**+0.5**
JHJ2					Sn	**Sn**	**09 13 08.1**	**-5.6**
JSD	**Sado**	**3.77**	**300**	P		**Pn**	**09 12 30.2**	**-0.6**
JNY	**Yasuok**	**3.78**	**258**	P		**Pn**	**09 12 30.4**	**-0.5**
JTT	**Ttatey**	**4.10**	**277**	P		**Pn**	**09 12 37.4**	**+2.2**
JGN	**Niukaw**	**4.10**	**272**	P		**Pn**	**09 12 36.2**	**+0.8**
JAH	**Hinai**	**4.21**	**341**	P		**Pn**	**09 12 36.7**	**-0.1**
JSZ	**Suzu**	**4.22**	**289**	P		**Pn**	**09 12 38.7**	**+1.8**
INU	**Inuyama**	**4.45**	**261**			**Pn**	**09 12 38.6**	**-1.5**
JYTA	**Yamagatataniai**	**4.63**	**264**	P		**Pn**	**09 12 42.3**	**-0.2**
JHG	**Hegura jima**	**4.67**	**292**	P		**Pn**	**09 12 43.6**	**+0.5**
JIE	**Ise**	**4.99**	**250**	P		**Pn**	**09 12 47.8**	**+0.3**
JKN2	**Miekihoku**	**5.38**	**250**	P		**Pn**	**09 12 51.7**	**-1.1**
JMMH	**Miemihama**	**5.74**	**247**	P		**Pn**	**09 12 56.5**	**-1.3**
ERM	**Erimo**	**5.83**	**6**	*d* P		**Pn**	**09 12 57.1**	**-1.9**
ERM	**Erimo**	**5.83**	**6**			**Pn**	**09 12 57.2**	**-1.8**
NMR	**Nemuro--Hokkai**	**7.60**	**19**	*d* P		**Pn**	**09 13 19.6**	**-3.7**
NMR				*i* S		**Sn**	**09 14 42.1**	**-6.5**
GLVR	**Golovnino**	**7.90**	**17**	P		**Pn**	**09 13 24.8**	**-2.6**
GLVR				*i* S		**Sn**	**09 14 50.6**	**-5.3**
GLVR					pmax	pmax		
	comp=E,53nm,0.5s							
GLVR					pmax	pmax		
	comp=Z,148nm,0.5s							
GLVR					pmax	pmax		
	comp=N,124nm,0.6s							
GLVR					pmax	pmax		
	comp=Z,2μm,1.1s							
GLVR					smax	smax		
	comp=N,2μm,1.6s							
GLVR					smax	smax		
	comp=E,2μm,1.0s							
JKA	**Kamikawa-asahi**	**7.90**	**1**			**Pn**	**09 13 26.4**	**-1.0**
JKA						**Sn**	**09 14 56.1**	**+0.1**
ASAJ	**Asahikawa**	**7.91**	**1**	Pn		**Pn**	**09 13 26.4**	**-1.0**
	comp=E,12nm,0.3s,baz=240,slow=9.0,SNR=38							
ASAJ				Sn		**Sn**	**09 14 56.1**	**0.0**
	comp=E,4.7nm,0.3s,baz=360,slow=33,SNR=3.8							
GRPR	**Tuman**	**8.20**	**17**	*e*P		**Pn**	**09 13 28.0**	**-3.5**
GRPR				*i* S		**Sn**	**09 14 57.1**	**-6.2**
GRPR					pmax	pmax		
	comp=Z,100nm,0.3s							
GRPR					pmax	pmax		
	comp=N,52nm,0.1s							
GRPR					pmax	pmax		
	comp=E,51nm,0.1s							
GRPR					pmax	pmax		
	comp=Z,278nm,1.1s							
SHO	**Shikotan**	**8.38**	**23**	*e*P		**Pn**	**09 13 30.0**	**-3.9**
SHO				*i* S		**Sn**	**09 15 01.0**	**-6.7**
SHO					pmax	pmax		
	comp=Z,276nm,1.5s							
SHO					pmax	pmax		
	comp=Z,39nm,0.6s							
SHO					pmax	pmax		
	comp=N,33nm,0.7s							
SHO					pmax	pmax		
	comp=E,34nm,0.3s							
SHO					smax	smax		
	comp=E,334nm,0.9s							
SHO					smax	smax		
	comp=N,376nm,1.0s							
JCJ	**Chichijima**	**9.08**	**181**	Pn		Pn	09 13 37.9	-5.8
	comp=N,43nm,0.3s,baz=108,slow=22,SNR=14							
JCJ				Sn		Sn	09 15 10.8	-14
	comp=N,96nm,0.3s,baz=298,slow=20,SNR=7.3							
TEY	**Ternei**	**9.86**	**335**	⇑*e*P		**Pn**	**09 13 56.2**	**+2.0**
TEY					pmax	pmax		
	comp=Z,30nm,1.2s							
TEY					pmax	pmax		
	comp=N,40nm,0.8s							
TEY					pmax	pmax		
	comp=E,10.0nm,1.4s							
TEY					MLR	MLR		
	comp=E,400nm,11.0s							
TEY					MLR	MLR		
	comp=N,1μm,14.0s							
TEY					MLR	MLR		
	comp=Z,1μm,14.0s							
KUR	**Kuril'sk**	**9.93**	**23**	*e*P		**Pn**	**09 13 51.4**	**-3.8**
KUR				*e*S		**Sn**	**09 15 40.5**	**-5.2**
KUR					pmax	pmax		
	comp=Z,65nm,0.5s							
KUR					pmax	pmax		
	comp=N,31nm,0.6s							
KUR					pmax	pmax		
	comp=E,29nm,0.5s							
KUR					smax	smax		
	comp=N,98nm,0.7s							
KUR					smax	smax		
	comp=E,26nm,0.4s							
KUR					MLR	MLR		
	comp=Z,7μm,11.0s							
KUR					MLR	MLR		
	comp=E,14μm,10.0s							
JNU	**Nakatsue**	**9.97**	**255**	Pn		**Pn**	**09 13 54.9**	**-0.9**
	comp=E,1.1nm,0.3s,baz=121,slow=2.9,SNR=9.0							
JNU				LR		LR	09 18 17.8	
	comp=E,12μm,19.7s,baz=89,slow=41							
JNU	**Nakatsue**	**9.97**	**255**			**Pn**	**09 13 56.2**	**+0.3**
YSS	**Yuzh-Sakhalins**	**10.74**	**1**	⇑*e*P		**Pn**	**09 14 06.5**	**+0.2**
YSS				*e*S		**Sn**	**09 16 00.0**	**-5.7**
YSS					pmax	pmax		
	comp=Z,80nm,0.9s							
YSS					pmax	pmax		
	comp=N,60nm,1.1s							
YSS					smax	smax		
	comp=N,980nm,9.2s							
YSS					MLR	MLR		
	comp=Z,14μm,12.0s							
YSS					MLR	MLR		
	comp=N,8μm,16.0s							
YSS					MLR	MLR		
	comp=E,12μm,12.0s							
YSS	**Yuzh-Sakhalins**	**10.74**	**1**			**Pn**	**09 14 07.1**	**+0.7**
MSHR	**Mys Shultsa**	**10.77**	**310**	⇑*e*P		**Pn**	**09 14 06.9**	**+0.2**
USA0B	**Ussuriysk Arra**	**11.26**	**318**	P		**Pn**	**09 14 13.9**	**+0.4**
USA0B	**Ussuriysk Arra**	**11.26**	**318**			**Pn**	**09 14 13.9**	**+0.4**
USRK	**Ussuriysk Ar.**	**11.26**	**318**	Pn		**Pn**	**09 14 14.3**	**+0.8**
	baz=133,slow=13,SNR=27							
USRK				LR		LR	09 18 24.8	
	comp=E,10μm,19.5s,baz=130,slow=37							
KSRS	**Korea Array**	**11.66**	**280**	P		**Pn**	**09 14 19.0**	**0.0**
KSRS	**Korea Array**	**11.66**	**280**	Pn		**Pn**	**09 14 19.0**	**0.0**
	comp=E,0.4nm,0.3s,baz=103,slow=14,SNR=31							
KSRS				LR		LR	09 18 41.2	
	comp=E,3μm,18.8s,baz=52,slow=37							
KS19	**Wonju Array Si**	**11.71**	**281**			**Pn**	**09 14 20.4**	**+0.7**
TJN	**Taejon**	**12.13**	**275**	⇑*e*P		**Pn**	**09 14 26.7**	**+1.3**
MDJ	**Mudanjiang**	**12.86**	**315**	P		**Pn**	**09 14 34.6**	**-0.7**
MDJ				sP		P	09 14 41.8	-4.1
MDJ				S		**Sn**	**09 16 57.8**	**+0.2**
MDJ				SS			09 17 15.6	
MDJ				pmax		pmax		
	comp=E,8.0nm,0.6s							
MDJ				pmax		pmax		
	comp=E,2μm,10.5s							
MDJ				LR		LR		
	comp=E,18μm,13.2s							
MDJ				LR		LR		
	comp=E,6μm,10.8s							
MDJ				LR		LR		
	comp=E,13μm,11.6s							
MDJ	**Mudanjiang**	**12.86**	**315**			**Pn**	**09 14 38.0**	**+2.7**
UGL	**Uglegorsk**	**12.87**	**359**	P		Pn	09 14 25.9	-9.5
UGL				MLR		MLR		
	comp=Z,15μm,15.0s							
UGL				MLR		MLR		
	comp=N,14μm,14.0s							
UGL				MLR		MLR		
	comp=E,8μm,14.0s							
TYV	**Tymovskoe**	**14.65**	**1**	*e*P		**Pn**	**09 14 56.4**	**-3.3**
TYV				*e*S		**Sn**	**09 17 36.1**	**-5.1**
TYV					pmax	pmax		
	comp=Z,20nm,1.2s							
TYV					pmax	pmax		
	comp=Z,1μm,4.9s							
TYV					smax	smax		
	comp=N,20nm,1.4s							
TYV					smax	smax		
	comp=N,2μm,7.7s							
CN2	**Changchun**	**15.02**	**306**	*e*P		**Pn**	**09 15 02.8**	**-1.9**
CN2				*e*S		**Sn**	**09 17 46.3**	**-4.0**
CN2					pmax	pmax		
	comp=N,1μm,10.0s							
CN2					LR	LR		
	comp=N,12μm,14.0s							
CN2					LR	LR		
	comp=N,15μm,14.0s							
CN2					LR	LR		
	comp=N,14μm,13.0s							
KLR	**Kul'dur**	**15.16**	**332**	⇓*e*P		**Pn**	**09 15 05.5**	**-1.1**
KLR					pmax	pmax		
	comp=Z,5.0nm,1.1s							
KLR	**Kul'dur**	**15.16**	**332**	Pn		**Pn**	**09 15 04.7**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=151,slow=6.9,SNR=13							
KLR				LR		LR	09 20 57.6	
	comp=Z,6μm,18.5s,baz=140,slow=37							
GRNR	**Gornyy**	**15.18**	**345**	⇓*i*P		Pn	09 14 52.1	-15
GRNR				*e*SS		**Sn**	**09 17 44.8**	**-9.3**
GRNR					pmax	pmax		
	comp=Z,80nm,0.8s							
GRNR					MLR	MLR		
	comp=Z,15μm,15.0s							
JOW	**Kunigami**	**15.22**	**236**	P		**P**	**09 15 12.0**	**-0.3**
JOW				IAmb		IAmb	09 15 17.9	
	comp=Z,55nm,1.2s							
SNY	**Shenyang**	**15.65**	**297**	⇑P		**Pn**	**09 15 11.1**	**-1.9**
SNY					pmax	pmax		
	comp=Z,2μm,10.0s							
SNY					LR	LR		
	comp=Z,14μm,12.9s							
SNY					LR	LR		
	comp=Z,13μm,12.9s							
SNY					LR	LR		
	comp=Z,16μm,13.5s							
DL2	**Dalian**	**16.68**	**286**	⇑P		**Pn**	**09 15 26.3**	**+0.1**
DL2					pmax	pmax		
	comp=Z,90nm,1.2s							
DL2					pmax	pmax		
	comp=Z,2μm,7.2s							
DL2					LR	LR		
	comp=Z,9μm,13.2s							
DL2					LR	LR		
	comp=Z,13μm,13.1s							
DL2

BJT	**Baijiatuau**	**20.95**	**288**	P	**P**	**09 16 13.2**	**-2.0**
BJT				IAmb	IAmb	09 16 28.0		
	comp=Z,80nm,1.4s							
HIA	**Hailar**	**21.05**	**315**⇑	*e*P	**P**	**09 16 15.1**	**-1.1**
HIA				pmax	pmax			
	comp=Z,38nm,0.9s							
HIA	**Hailar**	**21.05**	**315**	IAmb	IAmb	09 16 31.4		
	comp=Z,80nm,1.3s							
NACB	**Ninganchiao**	**21.56**	**242**	P	**P**	**09 16 20.8**	**-1.0**
SSLB	**Suanglung**	**22.25**	**242**	P	**P**	**09 16 27.5**	**-1.8**
SSLB				IAmb	IAmb	09 16 35.3		
	comp=Z,79nm,1.3s							
GUMO	**Guam**	**22.63**	**174**	LR	LR	09 31 34.0		
	comp=Z,431nm,18.0s,baz=26,slow=53							
TWG	**Pinlang**	**22.79**	**240**	P	**P**	**09 16 35.5**	**+0.5**
TPUB	**Ta-pu**	**22.79**	**242**	P	**P**	**09 16 35.7**	**+0.7**
TPUB				IAmb	IAmb	09 16 55.1		
	comp=Z,34nm,0.9s							
QZH	**Quanzhou**	**23.30**	**248**	P	**P**	**09 16 33.8**	**-6.4**
QZH				S	**S**	**09 20 42.3**	**-8.9**
TIY	**Taiyuan**	**23.94**	**283**	*e*P	**P**	**09 16 47.4**	**+1.0**
MA2	**Magadan**	**24.01**	**10**⇓	*e*P	**P**	**09 16 48.2**	**+1.5**
MA2				pmax	pmax			
	comp=Z,29nm,0.9s							
WHN	**Wuhan**	**24.04**	**265**	P	**P**	**09 16 47.5**	**+0.2**
WHN				S	**S**	**09 21 00.8**	**-2.3**
WHN				LR	LR			
	comp=Z,18μm,13.1s							
WHN				LR	LR			
	comp=Z,7μm,14.6s							
WHN				LR	LR			
	comp=Z,22μm,16.2s							
HHC	**Hu-ho-hao-te**	**24.49**	**290**	P	**P**	**09 16 51.3**	**-0.2**
HHC				PP	**PnPn**	**09 17 25.0**	**+2.4**
HHC				S	**S**	**09 21 06.8**	**-3.6**
HHC				pmax	pmax			
	comp=Z,510nm,5.6s							
HHC				LR	LR			
	comp=Z,2μm,14.2s							
HHC				LR	LR			
	comp=Z,3μm,12.8s							
HHC				LR	LR			
	comp=Z,4μm,13.7s							
BTO	**Baotou**	**25.66**	**290**	*e*P	**P**	**09 17 03.3**	**+1.2**
BTO				S	**S**	**09 21 28.9**	**-0.2**
CIT	**Chita**	**25.82**	**317**	*e*P	**P**	**09 17 03.8**	**+0.5**
CIT				*e*		09 17 44.0		
CIT				*e*		09 17 52.5		
CIT				pmax	pmax			
	comp=Z,359nm,1.7s							
H11N2	**WAKE ISLAND Hy**	**27.05**	**121**	T	T	09 45 15.3		
	baz=312,slow=75,SNR=7.2							
YAK	**Yakutsk**	**27.05**	**347**	*e*P	**P**	**09 17 14.2**	**0.0**
YAK				*e**PP	**pP**	**09 17 20.8**	**+0.7**
YAK				*e*S	**S**	**09 21 53.0**	**+2.6**
YAK				*e**SS	**sS**	**09 22 03.3**	**+2.3**
YAK				*e*SS	**SnSn**	**09 22 54.0**	**-3.5**
YAK				pmax	pmax			
	comp=Z,64nm,1.1s							
YAK				pmax	pmax			
	comp=E,18nm,1.3s							
YAK				pmax	pmax			
	comp=N,46nm,1.3s							
YAK				smax	smax			
	comp=N,329nm,3.0s							
YAK				smax	smax			
	comp=E,522nm,4.0s							
YAK				MLR	MLR			
	comp=Z,12μm,15.0s							
YAK				MLR	MLR			
	comp=E,3μm,13.0s							
YAK				MLR	MLR			
	comp=N,9μm,14.0s							
YAK	**Yakutsk**	**27.05**	**347**	P	**P**	**09 17 15.4**	**+1.2**
	comp=N,19nm,0.7s,baz=152,slow=3.2,SNR=13							
YAK	**Yakutsk**	**27.05**	**347**	P	**P**	**09 17 14.0**	**-0.2**
H11N1	**WAKE ISLAND Hy**	**27.06**	**121**	T	T	09 45 16.0		
	baz=312,slow=75,SNR=6.8							
H11N3	**WAKE ISLAND Hy**	**27.07**	**121**	T	T	09 45 16.3		
	baz=312,slow=75,SNR=5.7							
XAN	**Xi'an**	**27.39**	**275**	P	**P**	**09 17 16.3**	**-1.3**
XAN				pP	pP	09 17 25.6	+1.7	
XAN				sP	pwP	09 17 29.9	+1.4	
XAN				S	**S**	**09 22 00.1**	**+3.7**
XAN				pmax	pmax			
	comp=N,48nm,1.3s							
XAN				pmax	pmax			
	comp=N,980nm,6.2s							
XAN				LR	LR			
	comp=N,4μm,14.6s							
XAN				LR	LR			
	comp=N,7μm,14.6s							
XAN				LR	LR			
	comp=N,8μm,16.5s							
XAN	**Xi'an**	**27.39**	**275**	P	**P**	**09 17 17.2**	**-0.4**
XAN				pmax	pmax			
	comp=Z,153nm,1.2s							
XAN	**Xi'an**	**27.39**	**275**	P	**P**	**09 17 17.2**	**-0.4**
SEY	**Seymchan**	**27.46**	**10**⇑	*e*P	**P**	**09 17 20.7**	**+2.8**
SEY	**Seymchan**	**27.46**	**10**	P	**P**	**09 17 19.7**	**+1.8**
	comp=Z,5.3nm,0.9s,baz=169,slow=8.9,SNR=7.3							
H11S1	**WAKE ISLAND Hy**	**27.75**	**123**	T	T	09 46 14.3		
	baz=315,slow=76,SNR=12							
H11S3	**WAKE ISLAND Hy**	**27.75**	**123**	T	T	09 46 13.3		
	baz=315,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**27.77**	**123**	T	T	09 46 12.8		
	baz=315,slow=76,SNR=10							
ULN	**Ulaanbaatar**	**28.47**	**305***c*	*i*P	**P**	**09 17 28.1**	**+0.8**
ULN				pmax	pmax			
	comp=Z,48nm,1.2s							
ULN	**Ulaanbaatar**	**28.47**	**305**	P	**P**	**09 17 27.6**	**+0.3**
BOD	**Bodaibo**	**28.65**	**328**	*e*P	**P**	**09 17 29.0**	**+0.4**
BOD				pmax	pmax			
	comp=Z,212nm,1.8s							
SONM	**Songino Array**	**28.90**	**305**	P	**P**	**09 17 31.9**	**+0.7**
	comp=Z,17nm,0.8s,baz=107,slow=7.7,SNR=87							
LZH	**Lanzhou**	**30.99**	**281**	⇑P	**P**	**09 17 49.1**	**-0.7**
LZH				sP	sP	09 17 59.0	+0.3	
LZH				PP	**PnPn**	**09 18 51.0**	**0.0**
LZH				S	**S**	**09 22 50.8**	**-2.4**
LZH				pmax	pmax			
	comp=Z,46nm,1.1s							
LZH				pmax	pmax			
	comp=Z,780nm,6.0s							
LZH				LR	LR			
	comp=Z,6μm,11.4s							
LZH				LR	LR			
	comp=Z,6μm,13.0s							
LZH				LR	LR			
	comp=Z,6μm,16.3s							
ZAK	**Zakamensk**	**31.40**	**309**	*e*P	**P**	**09 17 53.7**	**+0.6**
ZAK				pmax	pmax			
	comp=Z,41nm,1.3s							
TLY	**Talaya**	**31.47**	**312***c*	*i*P	**P**	**09 17 56.5**	**+2.9**
TLY				*e*		09 19 16.3		
TLY				pmax	pmax			
	comp=Z,159nm,1.5s							
TLY				MLR	MLR			
	comp=Z,13μm,13.0s							
TLY	**Talaya**	**31.47**	**312**	P	**P**	**09 17 53.2**	**-0.4**
	comp=Z,12nm,0.8s,baz=112,slow=3.5,SNR=9.9							
TLY				LR	LR	09 31 17.6		
	comp=Z,2μm,21.8s,baz=114,slow=38							
TLY	**Talaya**	**31.47**	**312**	P	**P**	**09 17 53.8**	**+0.2**
GYA	**Guiyang**	**31.87**	**262**⇑	*i*P	**P**	**09 17 55.9**	**-1.7**
GYA				S	**S**	**09 23 04.3**	**-2.8**
GYA				pmax	pmax			
	comp=Z,40nm,1.1s							
GYA				pmax	pmax			
	comp=Z,190nm,5.0s							
GYA				LR	LR			
	comp=Z,6μm,18.0s							
GYA				LR	LR			
	comp=Z,2μm,14.1s							
GYA				LR	LR			
	comp=Z,3μm,13.9s							
CD2	**Chengdu**	**32.48**	**272**	P	**P**	**09 18 01.3**	**-1.4**
CD2				sP	pP	09 18 08.4	-0.6	
CD2				PP	**PP**	**09 19 13.1**	**-3.1**
CD2				S	**S**	**09 23 16.8**	**+0.6**
CD2				sS	pS	09 23 22.6	-1.1	
CD2				pmax	pmax			
	comp=Z,20nm,1.3s							
CD2				pmax	pmax			
	comp=Z,690nm,9.2s							
CD2				LR	LR			
	comp=Z,11μm,15.7s							
CD2				LR	LR			
	comp=Z,11μm,13.7s							
CD2				LR	LR			
	comp=Z,11μm,15.5s							
MOY	**Mondy**	**33.07**	**311**	*e*P	**P**	**09 18 10.4**	**+2.6**
MOY				pmax	pmax			
	comp=Z,57nm,2.1s							
GTA	**Gaotai**	**33.56**	**289**	⇑P	**P**	**09 18 12.4**	**+0.1**
GTA				pP	pP	09 18 17.8	-0.6	
GTA				sP	sP	09 18 21.0	+0.1	
GTA				PP	**PP**	**09 19 25.8**	**-2.5**
GTA				S	**S**	**09 23 33.8**	**+0.6**
GTA				sS	sS	09 23 44.1	+0.5	
GTA				pmax	pmax			
	comp=Z,34nm,1.4s							
GTA				pmax	pmax			
	comp=Z,630nm,6.1s							
GTA				LR	LR			
	comp=Z,4μm,14.1s							
GTA				LR	LR			
	comp=Z,4μm,15.5s							
GTA				LR	LR			
	comp=Z,5μm,15.8s							
BILL	**Bilibino**	**34.61**	**16**	*e*P	**P**	**09 18 20.8**	**0.0**
BILL				*e*		09 19 36.3		
BILL				*e*PPP	PPP	09 19 50.4		
BILL				pmax	pmax			
	comp=Z,12nm,1.2s							
BILL	**Bilibino**	**34.61**	**16**	P	**P**	**09 18 21.1**	**+0.4**
BILL				IAmb	IAmb	09 18 31.3		
	comp=Z,24nm,1.3s							
KMI	**Kunming**	**35.63**	**263**	P	**P**	**09 18 29.3**	**-1.1**
KMI				pP	sP	09 18 38.8	-0.1	
KMI				S	**S**	**09 24 03.5**	**-1.9**
KMI				pmax	pmax			
	comp=Z,33nm,0.5s							
KMI				pmax	pmax			
	comp=Z,480nm,7.6s							
KMI				LR	LR			
	comp=Z,2μm,17.3s							
KMI				LR	LR			
	comp=Z,6μm,14.2s							
KMI				LR	LR			
	comp=Z,5μm,14.9s							
TIXI	**Tiksi**	**36.21**	**353**⇓	*e*P	**P**	**09 18 34.9**	**+0.4**
TIXI				pmax	pmax			
	comp=Z,9.0nm,1.4s							
TIXI	**Tiksi**	**36.21**	**353**	P	**P**	**09 18 35.4**	**+0.9**
	comp=Z,2.1nm,0.4s,baz=180,slow=24,SNR=5.9							
TIXI	**Tiksi**	**36.21**	**353**	P	**P**	**09 18 34.6**	**+0.1**
JAY	**Jayapura**	**38.55**	**183**	LR	LR	09 32 55.0		
	comp=Z,564nm,21.8s,baz=302,slow=33							
SKNT	**Sakolnakorn**	**39.00**	**251**	P	**P**	**09 18 59.2**	**+0.5**
	comp=Z,46nm,1.5s,comp=Z,3μm							
NONG	**Nongkai**	**39.00**	**253**	P	**P**	**09 18 58.8**	**+0.1**
	comp=Z,1.0nm,1.1s							
PAYA	**Payao**	**40.84**	**257**	P	P	09 19 19.2	+5.2	
	comp=Z,34μm,1.2s							
PHRA	**Phrae**	**41.03**	**256**	P	**P**	**09 19 15.3**	**-0.3**
	comp=Z,8.0nm,1.3s							
CHAI	**Chaiyaphum**	**41.17**	**251**	P	**P**	**09 19 16.4**	**-0.4**
	comp=Z,65μm,1.0s							
LAMP	**Lampang**	**41.48**	**257**	P	**P**	**09 19 21.0**	**+1.7**
	comp=Z,45μm,0.8s							
PBKT	**Sadao Pong**	**41.56**	**253**	P	**P**	**09 19 19.6**	**-0.2**
	comp=Z,33nm,1.3s,comp=Z,1μm							
PBKT	**Sadao Pong**	**41.56**	**253**	P	**P**	**09 19 19.7**	**-0.2**
CMMT	**Chiang Mai**	**41.86**	**257**	P	**P**	**09 19 22.1**	**-0.3**
	comp=Z,18nm,1.3s,comp=Z,902nm							
CHTO	**Chiang Mai**	**41.87**	**257**	P	**P**	**09 19 22.1**	**-0.3**
CHTO				pmax	pmax			
	comp=Z,59nm,1.4s							
CHTO	**Chiang Mai**	**41.87**	**257**	P	**P**	**09 19 22.1**	**-0.3**
CHTO				IAmb	IAmb	09 19 33.5		
	comp=Z,59nm,1.4s							
ANM	**Nome**	**41.90**	**31**	P	**P**	**09 19 22.5**	**+0.3**
ANM				pmax	pmax			
	comp=Z,7.0nm,0.9s							
ANM	**Nome**	**41.90**	**31**	P	**P**	**09 19 22.5**	**+0.3**
WMQ	**Urumqi**	**41.92**	**298**	*e*P	**P**	**09 19 24.6**	**+1.9**
WMQ				pP	sP	09 19 32.3	+0.8	
WMQ				sP	pwP	09 19 36.5	+2.2	
WMQ				pmax	pmax			
	comp=Z,29nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,630nm,4.7s							
WMQ				LR	LR			
	comp=Z,3μm,11.7s							
WMQ				LR	LR			
	comp=Z,2μm,12.9s							
WMQ				LR	LR			
	comp=Z,2μm,16.3s							
CMAR	**Chiang Mai Arr**	**42.06**	**257**	*i* P	**P**	**09 19 24.0**	**-0.1**
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**42.06**	**257**	P	**P**	**09 19 23.4**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=43,slow=8.4,SNR=10							
MHMT	**Maesariang**	**43.02**	**257**	P	**P**	**09 19 33.0**	**+1.2**
	comp=Z,27nm,1.1s,comp=Z,3μm							
ZAA0	**Zalesovo Array**	**43.05**	**313**	IAmb	IAmb	09 19 45.9		
	comp=Z,46nm,1.2s							
ZALV	**Zalesovo Beam**	**43.05**	**313**	*i* P	**P**	**09 19 32.2**	**+0.5**
ZALV				pmax	pmax			
	comp=Z,18nm,0.7s							
ZALV	**Zalesovo Beam**	**43.05**	**313**	P	**P**	**09 19 32.3**	**+0.6**
	comp=Z,18nm,0.7s,baz=93,slow=6.2,SNR=45							
LSA	**Lhasa**	**43.08**	**277**	P	**P**	**09 19 35.3**	**+2.5**
LSA				S	**S**	**09 25 58.4**	**+0.7**
LSA				pmax	pmax			
	comp=Z,66nm,1.3s							
LSA				LR	LR			
	comp=Z,8μm,13.5s							
LSA				LR	LR			
	comp=Z,24μm,14.9s							
LSA	**Lhasa**	**43.08**	**277**	P	**P**	**09 19 35.5**	**+2.7**
LSA				pmax	pmax			
	comp=Z,38nm,1.0s							
LSA	**Lhasa**	**43.08**	**277**	P	**P**	**09 19 35.5**	**+2.7**
LSA				IAmb	IAmb	09 19 47.4		
	comp=Z,38nm,1.0s							
UTHA	**Uthaitani**	**43.33**	**253**	P	**P**	**09 19 35.6**	**+1.2**
	comp=Z,33μm,1.2s							
UMPA	**Umpang Tak**	**43.41**	**254**	P	**P**	**09 19 37.9**	**+2.9**
	comp=Z,53μm,1.4s							
SHL	**Shillong**	**44.19**	**271**	*e*P	**P**	**09 19 43.0**	**+1.5**
SRDT	**SRDT**	**44.31**	**252**	P	**P**	**09 19 43.7**	**+1.5**
	comp=Z,28nm,1.5s,comp=Z,2μm							
NRIK	**Noril'sk**	**44.35**	**335**	P	**P**	**09 19 42.4**	**+0.5**
	comp=Z,3.8nm,0.4s,baz=108,slow=6.7,SNR=11							
PHET	**Kaeng Krachan**	**44.80**	**250**	P	**P**	**09 19 48.2**	**+2.0**
	comp=Z,201μm,1.0s							
MK31	**Makanchi Array**	**45.23**	**303**	*i* P	**P**	**09 19 48.9**	**-0.4**
MK31				pmax	pmax			
	comp=Z,48nm,1.0s							
MKAR	**Makanchi Array**	**45.23**	**303**	P	**P**	**09 19 49.5**	**+0.2**
	comp=Z,14nm,0.8s,baz=84,slow=9.6,SNR=49							
MKAR				LR	LR	09 39 11.5		
	comp=Z,2μm,18.9s,baz=78,slow=37							
MAKZ	**Makanchi**	**45.44**	**303**	P	**P**	**09 19 50.9**	**0.0**
MAKZ				pmax	pmax			
	comp=Z,72nm,1.4s							
MAKZ	**Makanchi**	**45.44**	**303**	P	**P**	**09 19 51.2**	**+0.3**
KURK	**Kurchatov**	**47.06**	**309***c*	*i*P	**P**	**09 20 03.6**	**+0.1**
KURK				pmax	pmax			
	comp=Z,68nm,1.1s							
KURK	**Kurchatov**	**47.06**	**309**	P	**P**	**09 20 03.7**	**+0.1**
KURBB	**Kurchatov Arra**	**47.13**	**309**	P	**P**	**09 20 04.2**	**+0.1**
	comp=Z,34nm,0.8s,baz=85,slow=7.7,SNR=73							
PDGK	**Podgornoye**	**47.86**	**299**	P	**P**	**09 20 09.0**	**-1.1**
PDGK				pmax	pmax			
	comp=Z,57nm,0.7s							
MLY	**Manley**	**48.14**	**32**	P	P	09 20 15.1	+3.3	
MLY				IAmb	IAmb	09 20 25.0		
	comp=Z,18nm,1.4s							
BWN	**Browne**	**48.66**	**33**	P	**P**	**09 20 17.0**	**+1.2**
PRZ	**Przheval'sk**	**48.85**	**298**	P	**P**	**09 20 20.5**	**+2.7**
PRZ				pmax	pmax			
	comp=Z,87nm,1.1s							
PRZ	**Przheval'sk**	**48.85**	**298**	P	**P**	**09 20 20.5**	**+2.7**
TOLK	**Toolik Lake Re**	**48.85**	**27**	P	**P**	**09 20 19.1**	**+1.8**
	baz=265							
COLA	**College**	**49.36**	**32**⇓	*e*P	**P**	**09 20 23.0**	**+1.9**
COLA				pmax	pmax			
	comp=Z,5.0nm,1.2s							
POKR	**Poker Plat Res**	**49.54**	**32**	P	**P**	**09 20 24.1**	**+1.5**
	baz=270							
HDA	**Harding Lake**	**49.76**	**32**	P	**P**	**09 20 25.8**	**+1.7**
	baz=271							
IL31		**49.78**	**32**	P	**P**	**09 20 24.6**	**+0.4**
ILAR	**Eielson Array**	**49.78**	**32**	P	**P**	**09 20 25.0**	**+0.7**
ILAR	**Eielson Array**	**49.78**	**32**	P	**P**	**09 20 25.0**	**+0.7**
	comp=Z,5.1nm,0.9s,baz=277,slow=6.1,SNR=31							
KDJ	**Kajisay**	**49.81**	**298**	P	**P**	**09 20 28.0**	**+2.8**
KDJ				pmax	pmax			
	comp=Z,55nm,1.5s							
KDJ	**Kajisay**	**49.81**	**298**	P	**P**	**09 20 27.9**	**+2.8**
TKM2	**Tokmak 2**	**50.72**	**299**	P	**P**	**09 20 32.6**	**+0.6**
TKM2				pmax	pmax			
	comp=Z,118nm,1.4s							
TKM2	**Tokmak 2**	**50.72**	**299**	P	**P**	**09 20 33.0**	**+0.9**
	SNR=33							
NRN	**Naryn**	**50.86**	**297**	IAmb	IAmb	09 20 53.3		
	comp=Z,30nm,1.4s							
KBK	**Karagaybulak**	**51.25**	**299**	P	**P**	**09 20 36.8**	**+0.8**
	SNR=15							
USP	**Ospenovka**	**51.39**	**300**	P	**P**	**09 20 37.4**	**+0.5**
	SNR=9.2							
KSH	**Kashi**	**51.47**	**295**	P	P	09 20 42.6	+5.0	
KSH				pP	pwP	09 20 50.4	+1.1	
KSH				PP	**PP**	**09 22 41.3**	**+6.6**
KSH				ScP	**ScP**	**09 25 50.4**	**+3.7**
KSH				PcS	**PcS**	**09 25 55.3**	**+5.6**
KSH				S	**S**	**09 28 02.4**	**+6.1**
KSH				SS	**SS**	**09 31 37.9**	**+5.9**
KSH				pmax	pmax			
	comp=Z,23nm,1.2s							
KSH				pmax	pmax			
	comp=Z,2μm,7.2s							
KSH				LR	LR			
	comp=Z,3μm,10.8s							
KSH				LR	LR			
	comp=Z,9μm,15.5s							
KSH				LR	LR			
	comp=Z,3μm,11.9s							
AAK	**Ala-Archa**	**51.58**	**299**⇑	*e*P	**P**	**09 20 38.8**	**+0.4**
AAK				pmax	pmax			
	comp=Z,11nm,1.4s							
AAK	**Ala-Archa**	**51.58**	**299**	P	**P**	**09 20 38.7**	**+0.2**
	comp=Z,8.7nm,0.7s,baz=111,slow=1.6,SNR=9.2							
AAK	**Ala-Archa**	**51.58**	**299**	P	**P**	**09 20 38.9**	**+0.4**
	SNR=9.5							
AAK	**Ala-Archa**	**51.58**	**299**	P	**P**	**09 20 38.8**	**+0.4**
AAK				IAmb	IAmb	09 20 55.2		
	comp=Z,27nm,1.1s							
UCH	**Uchtor**	**51.68**	**299**	P	**P**	**09 20 40.9**	**+1.4**
	SNR=5.9							
BVAR	**Borovoye Array**	**51.71**	**313**	P	**P**	**09 20 39.3**	**+0.2**
	comp=Z,3.3nm,0.5s,baz=81,slow=9.2,SNR=19							
BRVK	**Borovoye**	**51.77**	**313**⇑	*e*P	**P**	**09 20 39.4**	**-0.1**
BRVK				pmax	pmax			
	comp=Z,13nm,1.2s							
BRVK	**Borovoye**	**51.77**	**313**	P	**P**	**09 20 39.6**	**+0.1**
BRVK				IAmb	IAmb	09 20 50.3		
	comp=Z,22nm,1.1s							
AML	**Almayashu**	**52.29**	**299**	P	**P**	**09 20 45.2**	**+1.2**
	SNR=20							
EPYK	**Eagle Plains**	**53.86**	**30**	P	**P**	**09 20 55.8**	**+1.1**
	baz=279							
EPYK	**Eagle Plains**	**53.86**	**30**	IAmb	IAmb	09 21 11.7		
	comp=Z,30nm,1.2s							
KK31	**Karatay Array**	**54.22**	**301**	*i* P	**P**	**09 20 57.2**	**-0.6**
KK31				pmax	pmax			
	comp=Z,58nm,1.3s							
INK	**Inuvik**	**54.77**	**27**	P	**P**	**09 21 02.1**	**+0.9**
	comp=Z,4.3nm,0.7s,baz=303,slow=8.1,SNR=21							
BTK	**Batken**	**55.03**	**297**	P	**P**	**09 21 03.3**	**-0.5**
BTK				pmax	pmax			
	comp=Z,26nm,1.3s							
BTK	**Batken**	**55.03**	**297**	P	**P**	**09 21 03.2**	**-0.5**
BTK				IAmb	IAmb	09 21 15.8		
	comp=Z,26nm,1.2s							
NIL	**Nilore**	**55.63**	**289**	P	**P**	**09 21 08.9**	**+0.8**
NIL				pmax	pmax			
	comp=Z,48nm,1.5s							
NIL	**Nilore**	**55.63**	**289**	P	**P**	**09 21 08.9**	**+0.8**
SVE	**Sverdlovsk**	**56.29**	**319**⇑	*e*P	**P**	**09 21 13.5**	**+1.1**
SVE				pmax	pmax			
	comp=Z,61nm,1.3s							
SVE				MLR	MLR			
	comp=Z,4μm,14.0s							
WRA	**Warramunga Arr**	**56.36**	**189**	P	**P**	**09 21 12.8**	**-0.5**
	comp=Z,54nm,1.2s,baz=8.0,slow=7.8,SNR=3.5							
ARU	**Arti**	**57.50**	**319***c*	*i*P	**P**	**09 21 21.2**	**+0.2**
ARU				*PP	**sP**	**09 21 29.0**	**-0.9**
ARU						09 22 13.1		
ARU						09 23 24.1		
ARU				S	**S**	**09 29 19.0**	**+2.3**
ARU				SS	**SS**	**09 33 05.8**	**-0.3**
ARU				pmax	pmax			
	comp=Z,35nm,0.9s							
ARU				MLR	MLR			
	comp=Z,2μm,15.0s							
ARU	**Arti**	**57.50**	**319**	P	**P**	**09 21 21.3**	**+0.3**
	comp=Z,6.5nm,0.6s,baz=65,slow=3.4,SNR=22							
ARU	**Arti**	**57.50**	**319**	P	**P**	**09 21 20.5**	**-0.5**
C36M	**Paulatuk**	**57.85**	**25**	P	**P**	**09 21 24.9**	**+1.6**
	baz=288							
KBL	**Kabul**	**58.45**	**292**	P	**P**	**09 21 28.3**	**0.0**
KBL				pmax	pmax			
	comp=Z,23nm,1.2s							
KBL	**Kabul**	**58.45**	**292**	P	**P**	**09 21 28.3**	**0.0**
KBL				IAmb	IAmb	09 21 43.9		
	comp=Z,23nm,1.2s							
HYB	**Hyderabad**	**58.98**	**270**	*i* P	**P**	**09 21 30.0**	**-1.9**
ABKAR	**Akbulak array**	**59.08**	**311**	IAmb	IAmb	09 21 42.3		
	comp=Z,17nm,1.1s							
AKTO	**Aktyubinsk**	**59.81**	**313**	P	**P**	**09 21 37.3**	**+0.1**
	comp=Z,16nm,0.9s,baz=76,slow=7.6,SNR=20							
MBWA	**Marble Bar**	**60.95**	**204**	P	**P**	**09 21 47.6**	**+2.5**
KIRV	**Kirov**	**61.38**	**323**	P	**P**	**09 21 48.3**	**+0.6**
	comp=Z,32nm,0.7s,baz=360,slow=6.5,SNR=12							
PRGR	**Permogore**	**61.89**	**327**	*e*P	**P**	**09 21 50.3**	**-0.8**
PRGR				pmax	pmax			
	comp=Z,34nm,1.1s							
RES	**Resolute Bay**	**63.21**	**15**	P	**P**	**09 22 00.3**	**+0.6**
	comp=Z,13nm,1.0s,baz=313,slow=9.5							
TMCR	**Tamitsa**	**63.85**	**332**	*e*P	**P**	**09 22 04.9**	**+0.8**
TMCR				pmax	pmax			
	comp=Z,64nm,1.0s							
YKA	**Yellowknife Ar**	**64.13**	**30**	P	**P**	**09 22 06.5**	**+0.6**
	comp=Z,2.5nm,0.9s,baz=295,slow=6.6,SNR=15							
GEYT	**Alibeck**	**64.93**	**300**	P	**P**	**09 22 11.9**	**+0.2**
	comp=Z,6.7nm,1.0s,baz=0.0,slow=0.3,SNR=9.7							
ARCES	**ARCESS Array B**	**65.05**	**340**	P	**P**	**09 22 13.0**	**+1.1**
ARCES	**ARCESS Array B**	**65.05**	**340**	P	**P**	**09 22 13.0**	**+1.1**
	comp=Z,3.6nm,0.9s,baz=60,slow=6.1,SNR=3.5							
DAG	**Danmarks Havn**	**66.67**	**355**	*i* P	**P**	**09 22 23.0**	**+0.8**
DAG	**Danmarks Havn**	**66.67**	**355**	*i* P	**P**	**09 22 23.0**	**+0.8**
JOF	**Joensuu**	**67.06**	**332**	P	**P**	**09 22 26.2**	**+1.3**
JOF				pmax	pmax			
	comp=Z,14nm,2.0s							
D03D	**Eldon**	**67.09**	**47**	P	**P**	**09 22 27.0**	**+1.6**
	baz=299							
B05A	**Bryant**	**67.32**	**

H04D	**Lebanon**	**68.79**	**50**	P		**P**	**09 22 36.9**	**+0.8**
	baz=300							
I03D	**Drain, OR**	**68.82**	**51**	P		**P**	**09 22 37.6**	**+1.3**
	baz=300							
B08A	**Colville Reser**	**68.87**	**45**	IAmb		IAmb	09 22 40.5	
	comp=Z,16nm,1.2s							
SUF	**Sumiainen**	**69.08**	**334**	P		**P**	**09 22 37.7**	**+0.2**
SUF				pmax		pmax		
	comp=Z,44nm,1.3s							
K02D	**Willamette Mer**	**69.12**	**52**	P		**P**	**09 22 39.5**	**+1.2**
	baz=300							
OBN	**Obninsk**	**69.23**	**324**	*e*P		**P**	**09 22 39.2**	**+0.6**
OBN				*e*			09 23 03.0	
OBN				pmax		pmax		
	comp=Z,8.0nm,0.4s							
G05D	**Wamic, OR**	**69.29**	**49**	P		**P**	**09 22 40.4**	**+1.1**
	baz=301							
I04A	**Tendick Farm,**	**69.36**	**50**	P		**P**	**09 22 40.8**	**+1.1**
	baz=301							
L02E	**Cave Junction**	**69.44**	**52**	P		**P**	**09 22 41.1**	**+0.9**
	baz=301							
E07A	**Sunnyside**	**69.49**	**47**	IAmb		IAmb	09 22 45.3	
	comp=Z,18nm,1.2s							
HUMO	**Hull Mountain**	**69.62**	**52**	P		**P**	**09 22 42.8**	**+1.5**
G06A	**Carlson Farm,**	**69.71**	**48**	P		**P**	**09 22 43.2**	**+1.3**
G06A				IAmb		IAmb	09 22 45.5	
	comp=Z,22nm,1.3s							
I05D	**Terrebonne, OR**	**69.74**	**49**	P		**P**	**09 22 43.0**	**+0.8**
	baz=301							
C09A	**Chrisman Ranch**	**69.76**	**45**	IAmb		IAmb	09 22 55.6	
	comp=Z,14nm,1.0s							
HAWA	**Hanford**	**69.77**	**47**	IAmb		IAmb	09 22 55.3	
	comp=Z,18nm,1.3s							
J04D	**Umpqua Nationa**	**69.83**	**51**	P		**P**	**09 22 43.8**	**+0.9**
	baz=301							
FINES	**FINESS Array B**	**69.91**	**333**	P		**P**	**09 22 43.5**	**+0.7**
	comp=Z,13nm,1.0s,baz=27,slow=13,SNR=10							
E08A	**Dider Farm, El**	**70.00**	**47**	IAmb		IAmb	09 22 48.2	
	comp=Z,16nm,1.3s							
VSR	**Storozhevoye**	**70.07**	**319**	⇓*i*P		**P**	**09 22 44.0**	**+0.1**
VSR				pmax		pmax		
	comp=Z,136nm,3.4s							
NEW	**Newport**	**70.17**	**44**	P		**P**	**09 22 45.6**	**+0.9**
	baz=302							
NEW	**Newport**	**70.17**	**44**	P		**P**	**09 22 45.3**	**+0.6**
NEW				pmax		pmax		
	comp=Z,17nm,1.2s							
NEW	**Newport**	**70.17**	**44**	IAmb		IAmb	09 22 49.7	
	comp=Z,11nm,1.1s							
AKT	**Akhty**	**70.20**	**307**	*e*P		**P**	**09 22 44.8**	**-0.3**
AKT				*e*			09 23 07.4	
AKT				pmax		pmax		
	comp=Z,25nm,1.3s							
L04D	**Klamath Falls**	**70.23**	**52**	P		**P**	**09 22 46.1**	**+0.9**
	baz=301							
M02C	**Callahan**	**70.31**	**53**	P		**P**	**09 22 46.6**	**+1.0**
	baz=301							
J05D	**Fort Rock, OR**	**70.36**	**50**	P		**P**	**09 22 47.2**	**+1.2**
	baz=302							
N02D	**Trinity Center**	**70.62**	**53**	P		**P**	**09 22 49.0**	**+1.4**
	baz=302							
M04C	**Macdoel**	**70.76**	**52**	P		**P**	**09 22 49.7**	**+1.2**
	baz=302							
WDC	**Whiskeytown Da**	**70.93**	**53**	IAmb		IAmb	09 22 52.9	
	comp=Z,10nm,1.1s							
O02D	**Mt. Diablo Mer**	**70.98**	**54**	P		**P**	**09 22 50.9**	**+1.1**
	baz=302							
GOF	**Gofitskoye**	**71.23**	**312**	⇑*e*P		**P**	**09 22 52.0**	**+0.9**
GOF				pmax		pmax		
	comp=Z,32nm,0.7s							
SUMG	**Summit**	**71.51**	**0**	*i*P		**P**	**09 22 54.0**	**+1.2**
SUMG	**Summit**	**71.51**	**0**	*i*P		**P**	**09 22 54.0**	**+1.2**
O03E	**Paynes Creek**	**71.56**	**53**	P		**P**	**09 22 53.9**	**+0.6**
	baz=302							
MOD	**Modoc Plateau**	**71.67**	**51**	IAmb		IAmb	09 22 57.3	
	comp=Z,8.2nm,0.8s							
BMO	**Blue Mountains**	**71.91**	**47**	IAmb		IAmb	09 23 08.5	
	comp=Z,11nm,1.1s							
ZEI	**Tsey**	**71.93**	**310**	*e*P		**P**	**09 22 53.4**	**-2.2**
ZEI				pmax		pmax		
	comp=Z,9.0nm,1.1s							
KBZ	**Khabaz**	**72.04**	**311**	P		**P**	**09 22 56.5**	**+0.5**
	comp=Z,13nm,0.9s,baz=54,slow=2.7,SNR=19							
KIV	**Kislovodsk**	**72.04**	**312**	*e*P		**P**	**09 22 57.3**	**+1.2**
KIV				pmax		pmax		
	comp=Z,110nm,1.0s							
KIV	**Kislovodsk**	**72.04**	**312**	⇓P		**P**	**09 22 57.8**	**+1.6**
KIV				mb			09 23 08.1	
KIV	**Kislovodsk**	**72.04**	**312**	P		**P**	**09 22 57.8**	**+1.6**
JTMT	**Jette**	**72.05**	**44**	IAmb		IAmb	09 22 59.7	
	comp=Z,14nm,1.1s							
NEY	**Neytrino**	**72.41**	**311**	⇓*e*P		**P**	**09 23 00.9**	**+2.5**
NEY				pmax		pmax		
	comp=Z,3.0nm,1.1s							
WVOR	**Wild Horse Val**	**72.42**	**50**	P		**P**	**09 22 59.7**	**+1.2**
WVOR				pmax		pmax		
	comp=Z,13nm,1.1s							
WVOR	**Wild Horse Val**	**72.42**	**50**	IAmb		IAmb	09 23 17.1	
	comp=Z,14nm,1.2s							
PLID	**Pearl Lake**	**72.56**	**47**	IAmb		IAmb	09 23 12.6	
	comp=Z,16nm,1.4s							
BEKR	**Beckworth**	**72.73**	**53**	IAmb		IAmb	09 23 03.9	
	comp=Z,16nm,1.0s							
MSO	**Missoula**	**72.76**	**44**	P		**P**	**09 23 01.1**	**+0.7**
	baz=305							
MSO	**Missoula**	**72.76**	**44**	IAmb		IAmb	09 23 16.1	
	comp=Z,9.9nm,1.1s							
GNI	**Garni**	**72.83**	**307**	*c i*P		**P**	**09 23 01.8**	**+0.8**
GNI				pmax		pmax		
	comp=Z,53nm,1.4s							
AKH	**Akhalkalaki**	**72.94**	**309**	P		**P**	**09 23 03.5**	**+1.9**
AKH				pmax		pmax		
	comp=Z,9.0nm,1.0s							
AKH	**Akhalkalaki**	**72.94**	**309**	⇑P		**P**	**09 23 03.4**	**+1.7**
PAHR	**Pah Rah Range**	**73.44**	**53**	IAmb		IAmb	09 23 07.8	
	comp=Z,11nm,1.0s							
PNTR	**Pine Nut**	**73.64**	**53**	IAmb		IAmb	09 23 21.8	
	comp=Z,12nm,1.0s							
CMB	**Columbia Colle**	**73.71**	**55**	IAmb		IAmb	09 23 10.5	
	comp=Z,13nm,1.1s							
YERR	**Yerington**	**73.94**	**53**	IAmb		IAmb	09 23 12.1	
	comp=Z,31nm,1.3s							
FFC	**Flin Flon**	**73.97**	**33**	P		**P**	**09 23 08.4**	**+1.2**
FFC				pmax		pmax		
	comp=Z,12nm,1.0s							
FFC	**Flin Flon**	**73.97**	**33**	P		**P**	**09 23 08.4**	**+1.2**
FFC				IAmb		IAmb	09 23 20.4	
	comp=Z,12nm,0.9s							
SOC	**Sochi**	**74.04**	**312**	*e*P		**P**	**09 23 06.5**	**-1.3**
SOC				*e*			09 25 50.5	
SOC				*e*PPP		PPP	09 27 36.9	
SOC				*e*S		**S**	**09 32 39.3**	**+0.5**
SOC				*e*SS		**SS**	**09 37 23.3**	**+0.3**
SOC				*e*SSS		SSS	09 40 40.8	
SOC				pmax		pmax		
	comp=Z,42nm,1.1s							
SOC				MLR		MLR		
	comp=Z,2µm,18.0s							
WAKR	**Walker**	**74.07**	**54**	IAmb		IAmb	09 23 24.3	
	comp=Z,13nm,1.2s							
EGMT	**Eagleton**	**74.37**	**42**	P		**P**	**09 23 10.7**	**+0.9**
	baz=307,SNR=5.9							
EGMT	**Eagleton**	**74.37**	**42**	IAmb		IAmb	09 23 13.5	
	comp=Z,16nm,1.1s							
FCC	**Fort Churchill**	**74.39**	**27**	IAmb		IAmb	09 23 12.3	
	comp=Z,19nm,1.3s							
BMN	**Battle Mountai**	**74.42**	**51**	IAmb		IAmb	09 23 15.2	
	comp=Z,19nm,1.2s							
RYN	**Ryan**	**74.60**	**53**	IAmb		IAmb	09 23 23.8	
	comp=Z,13nm,1.1s							
KVN	**Kaiserville**	**74.64**	**53**	P		**P**	**09 23 11.2**	**-0.4**
KVN				pmax		pmax		
	comp=Z,19nm,1.1s							
KVN	**Kaiserville**	**74.64**	**53**	P		**P**	**09 23 11.2**	**-0.4**
KVN				IAmb		IAmb	09 23 15.6	
	comp=Z,19nm,1.1s							
ANN	**Anapa**	**74.67**	**315**	*e*P		P	09 23 03.6	-7.8
ANN				*e**PP		pP	09 23 11.2	-6.9
ANN				*e*			09 23 23.3	
ANN				*e*			09 25 57.6	
ANN				pmax		pmax		
	comp=Z,34nm,1.3s							
MDPB	**Devils Postpil**	**74.79**	**54**	P		**P**	**09 23 13.1**	**+0.4**
NVAR	**Mina Array Bea**	**74.85**	**53**	P		**P**	**09 23 14.1**	**+1.1**
	comp=Z,11nm,0.9s,baz=294,slow=5.1,SNR=39							
MLAC	**Mammoth, Mammo**	**74.95**	**54**	P		**P**	**09 23 13.8**	**+0.2**
	baz=304							
NB2	**NORSAR Subarra**	**75.25**	**338**	P		**P**	**09 23 14.5**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=38,slow=5.9							
NOA	**NORSAR Array B**	**75.25**	**338**	P		**P**	**09 23 14.8**	**+0.3**
	comp=Z,3.3nm,0.6s,baz=39,slow=5.7,SNR=12							
NORES	**NORESS Array B**	**75.39**	**337**	P		P	09 23 19.5	+4.2
NORES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**75.43**	**323**	*i*P		**P**	**09 23 15.5**	**-0.2**
AKASG				pmax		pmax		
	comp=Z,8.0nm,0.7s							
AKASG	**Malin Array Be**	**75.43**	**323**	P		**P**	**09 23 15.2**	**-0.5**
	comp=Z,6.7nm,0.8s,baz=44,slow=6.0,SNR=16							
AKBB	**Malin Array Si**	**75.43**	**323**	IAmb		IAmb	09 23 26.7	
	comp=Z,13nm,1.0s							
SMMC	**Simmler**	**75.47**	**57**	P		**P**	**09 23 17.6**	**+1.3**
	baz=304							
ELK	**Elko**	**75.48**	**50**	P		**P**	**09 23 16.3**	**-0.2**
ELK				pmax		pmax		
	comp=Z,6.0nm,1.0s							
ELK	**Elko**	**75.48**	**50**	P		**P**	**09 23 16.3**	**-0.2**
YHL	**Hebgen Lake**	**75.48**	**45**	P		**P**	**09 23 16.9**	**+0.3**
TIN	**Tinemaha, Big**	**75.68**	**55**	P		**P**	**09 23 18.7**	**+1.2**
	baz=305							
PKM	**Mcpherson Peak**	**75.84**	**57**	P		**P**	**09 23 19.5**	**+0.9**
	baz=304,SNR=8.9							
YNR	**Norris Junctio**	**75.85**	**45**	P		**P**	**09 23 20.6**	**+2.0**
H17A	**Grant Village**	**76.10**	**45**	P		**P**	**09 23 21.7**	**+1.6**
	baz=305,SNR=17							
CWC	**Cottonwood Cre**	**76.12**	**55**	P		**P**	**09 23 20.8**	**+0.7**
	baz=305							
SBC	**Santa Barbara**	**76.16**	**57**	P		**P**	**09 23 20.2**	**0.0**
	baz=305							
FLWY	**Flagg Ranch**	**76.22**	**45**	IAmb		IAmb	09 23 37.6	
	comp=Z,24nm,1.2s							
GRAC	**Grapevine Rang**	**76.28**	**54**	P		**P**	**09 23 21.6**	**+0.7**
	baz=305,SNR=7.5							
ISA	**Isabella, Lake**	**76.30**	**56**	P		**P**	**09 23 21.2**	**+0.1**
	baz=305							
ARVC	**Arvin**	**76.37**	**56**	P		**P**	**09 23 21.8**	**+0.4**
	baz=305							
MOOW	**Moose Ponds**	**76.40**	**46**	IAmb		IAmb	09 23 38.1	
	comp=Z,13nm,1.2s							
RLMT	**Red Lodge**	**76.40**	**44**	P		**P**	**09 23 22.0**	**+0.3**
	baz=308							
RLMT	**Red Lodge**	**76.40**	**44**	IAmb		IAmb	09 23 35.7	
	comp=Z,16nm,1.4s							
SNOW	**Snow King Moun**	**76.56**	**46**	IAmb		IAmb	09 23 40.1	
	comp=Z,16nm,1.1s							
REDW	**Red Top Meadow**	**76.57**	**46**	IAmb		IAmb	09 23 36.8	
	comp=Z,20nm,1.2s							
R11A	**Troy Canyon, C**	**76.65**	**52**	P		**P**	**09 23 23.9**	**+0.7**
	baz=306,SNR=22							
R11A	**Troy Canyon, C**	**76.65**	**52**	IAmb		IAmb	09 23 27.7	
	comp=Z,12nm,1.1s							
OSI	**Osito Audit: C**	**76.73**	**57**	P		**P**	**09 23 24.1**	**+0.6**
	baz=305							
MPMC	**Manual Prospec**	**76.73**	**55**	P		**P**	**09 23 24.4**	**+0.7**
	baz=305,SNR=11							
AHID	**Auburn Hatcher**	**76.78**	**46**	IAmb		IAmb	09 23 40.2	
	comp=Z,12nm,1.1s							
FURC	**Furnace Creek,**	**76.91**	**54**	P		**P**	**09 23 25.7**	**+1.4**
	baz=306,SNR=12							
LRMC	**Laurel Mtn Rad**	**76.94**	**56**	P		**P**	**09 23 25.2**	**+0.5**
	baz=305,SNR=6.7							
TPNV	**Topopah Spring**	**77.03**	**54**	P		**P**	**09 23 26.0**	**+0.6**
	baz=306,SNR=10							
TPNV	**Topopah Spring**	**77.03**	**54**	IAmb		IAmb	09 23 43.1	
	comp=Z,14nm,1.1s							
EDW2	**Edwards Air Fo**	**77.07**	**56**	P		**P**	**09 23 26.6**	**+1.1**
	baz=305,SNR=9.0							
LAO	**LASA Array**	**77.08**	**41**	P		**P**	**09 23 25.5**	**+0.2**
	baz=310							
LAO	**LASA Array**	**77.08**	**41**	IAmb		IAmb	09 23 28.8	
	comp=Z,18nm,1.0s							
DUG	**Dugway, Tooele**	**77.30**	**49**	P		**P**	**09 23 27.7**	**+0.9**
	baz=307,SNR=22							
DUG	**Dugway, Tooele**	**77.30**	**49**	P		**P**	**09 23 28.3**	**+1.6**
DUG				pmax		pmax		
	comp=Z,21nm,0.8s							
DUG	**Dugway, Tooele**	**77.30**	**49**	IAmb		IAmb	09 23 32.1	
	comp=Z,16nm,0.9s							
MWC	**Mount Wilson**	**77.41**	**57**	P		**P**	**09 23 28.5**	**+1.0**
MWC				pmax		pmax		
	comp=Z,22nm,1.4s							
MWC	**Mount Wilson**	**77.41**	**57**	P		**P**	**09 23 28.5**	**+1.0**
MWC				IAmb		IAmb	09 23 39.3	
	comp=Z,22nm,1.4s							
SORM	**Soroca**	**77.53**	**321**	P		**P**	**09 23 28.0**	**+0.4**
SORM	**Soroca**	**77.53**	**321**	⇑P		**P**	**09 23 28.1**	**+0.4**
GSC	**Goldstone, Bar**	**77.62**	**55**	P		**P**	**09 23 30.0**	**+1.4**
	baz=306,SNR=6.3							
GSC	**Goldstone, Bar**	**77.62**	**55**	P		**P**	**09 23 28.2**	**-0.4**
GSC				pmax		pmax		
	comp=Z,8.0nm,1.1s							
GSC	**Goldstone, Bar**	**77.62**	**55**	P		**P**	**09 23 28.2**	**-0.4**
SHOC	**Shoshone, Teco**	**77.63**	**55**	P		**P**	**09 23 29.4**	**+0.9**
	baz=306							
PSUT	**Pine Spring**	**77.64**	**51**	P		**P**	**09 23 29.1**	**+0.4**
BFSC	**Mount Baldy Ra**	**77.67**	**57**	P		**P**	**09 23 29.1**	**+0.3**
	baz=306							
BW06	**Boulder Array**	**77.68**	**46**	P		**P**	**09 23 29.2**	**+0.3**
	baz=308							
PDAR	**Pinedale Array**	**77.68**	**46**	P		**P**	**09 23 29.4**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=280,slow=0.7,SNR=30							
KVT	**Kavak**	**77.71**	**312**	P		**P**	**09 23 31.0**	**+2.1**
KIS	**Kishinev**	**78.03**	**320**	*e*P		P	09 23 45.0	+15
KIS				LRM		MLR	10 01 24.0	
	comp=Z,4µm,15.0s							
KIS	**Kishinev**	**78.03**	**320**	*e*P		P	09 23 45.0	+15
KIS				MLR		MLR		
	comp=Z,4µm,15.0s							
TUQ	**Turquoise Moun**	**78.13**	**55**	P		**P**	**09 23 32.1**	**+0.7**
	baz=306							
MURC	**Murrieta**	**78.35**	**57**	P		**P**	**09 23 33.4**	**+0.8**
	baz=306							
BEL	**Belsk**	**78.57**	**327**	*e*P		P	09 23 43.5	+10
BEL	**Belsk**	**78.57**	**327**	*e*P		P	09 23 43.5	+10
BEL				*e*P		P	09 23 43.5	+10
GMRC	**Granite Mounta**	**78.69**	**55**	P		**P**	**09 23 35.4**	**+0.9**
	baz=306,SNR=5.2							
109C	**Camp Elliot, M**	**78.83**	**57**	P		**P**	**09 23 36.1**	**+0.9**
	baz=306							
PFO	**Pinyon Flats O**	**78.84**	**57**	P		**P**	**09 23 35.9**	**+0.5**
	baz=306,SNR=6.1							
PFO	**Pinyon Flats O**	**78.84**	**57**	*e*P		**P**	**09 23 37.5**	**+2.1**
PFO	**Pinyon Flats O**	**78.84**	**57**	P		**P**	**09 23 37.5**	**+2.1**
XPFO	**Pion Flat**	**78.85**	**57**	P		**P**	**09 23 36.1**	**+0.7**
BELC	**Bell Mtn. Jos**	**78.92**	**56**	P		**P**	**09 23 36.4**	**+0.6**
	baz=306							
LCMT	**Little Creek M**	**78.94**	**52**	P		**P**	**09 23 36.4**	**+0.6**
ILGA	**Ilgaz**	**79.11**	**313**	P		**P**	**09 23 37.0**	**+0.2**
ILGA				IAmb		IAmb	09 23 49.1	
	comp=Z,31nm,1.3s							
KNB	**Kanab**	**79.20**	**52**	P		**P**	**09 23 37.9**	**+0.5**
KNB				pmax		pmax		
	comp=Z,30nm,1.2s							
KNB	**Kanab**	**79.20**	**52**	P		**P**	**09 23 37.9**	**+0.5**
BAR	**Barrett**	**79.25**	**57**	P		**P**	**09 23 39.6**	**+2.1**
MONP2	**Monument Peak**	**79.29**	**57**	P		**P**	**09 23 38.5**	**+0.5**
	baz=306							
IRM	**Iron Mountain**	**79.40**	**55**	P		**P**	**09 23 39.1**	**+0.8**
	baz=307							
BUR08	**Bucovina Ar. S**	**79.44**	**322**	P		**P**	**09 23 38.8**	**+0.4**
BUR08				IAmb		IAmb	09 23 49.3	
	comp=Z,19nm,1.4s							
BURAR	**Bucovina Array**	**79.45**	**322**	P		**P**	**09 23 38.5**	**+0.1**
BURAR	**Bucovina Array**	**79.45**	**322**	⇑P		**P**	**09 23 38.6**	**+0.1**
BURAR				mb			09 23 50.2	
BIZ	**Bicaz**	**79.46**	**321**	⇑P		**P**	**09 23 39.1**	**+0.7**
TESR	**Tescani**	**79.47**	**321**	⇑P		**P**	**09 23 38.7**	**+0.2**
BC3	**Big Chuckawall**	**79.49**	**56**	P		**P**	**09 23 39.8**	**+0.8**
	baz=307							
K22A	**Casper**	**79.50**	**44**	P		**P**	**09 23 39.2**	**+0.3**
	baz=310							
K22A	**Casper**	**79.50**	**44**	IAmb		IAmb	09 23 50.7	
	comp=Z,19nm,1.2s							
IKP	**In-Ko-Pah, Jac**	**79.64**	**57**	P		**P**	**09 23 40.7**	**+1.0**
	baz=306							
TOPG	**Topolog**	**79.66**	**319**	⇑P		**P**	**09 23 40.5**	**+1.1**
SWSC	**Sam W. Stewart**	**79.68**	**57**	P		**P**	**09 23 41.3**	**+1.5**
	baz=307							
MDND	**Maddock**	**79.70**	**37**	P		**P**	**09 23 40.3**	**+0.7**
	baz=314							
ULM	**Lac du Bonnet**	**79.76**	**34**	P		**P**	**09 23 39.2**	**-0.7**
	comp=Z,5.1nm,1.1s,baz=281,slow=8.0,SNR=3.2							
VRI	**Vrincioaia**	**79.87**	**320**	P		**P**	**09 23 41.8**	**+1.2**
VRI	**Vrincioaia**	**79.87**	**320**	⇓P		**P**	**09 23 41.8**	**+1.2**
RSSD	**Black Hills**	**79.92**	**42**	P		**P**	**09 23 41.4**	**+0.2**
	baz=311							
RSSD	**Black Hills**	**79.92**	**42**	P		**P**	**09 23 41.7**	**+0.5**
RSSD				pmax		pmax		
	comp=Z,17nm,1.5s							
RSSD	**Black Hills**	**79.92**	**42**	P		**P**	**09 23 41.7**	**+0.5**
KOLS	**Kolonicke sedl**	**79.95**	**325**	*e*P		**P**	**09 23 41.7**	**+0.7**
KOLS				pmax		pmax		
	comp=Z,21nm,1.6s							
KOLS	**Kolonicke sedl**	**79.95**	**325**	*e*P		**P**	**09 23 41.7**	**+0.7**
BRTR	**Keskin Array B**	**79.99**	**312**	*i*P		**P**	**09 23 42.0**	**+0.4**
BRTR				pmax		pmax		
	comp=Z,5.0nm,1.0s							
BRTR	**Keskin Array B**	**79.99**	**312**	P		**P**	**09 23 41.9**	**+0.3**
	comp=Z,4.8nm,1.0s,baz=104,slow=4.2,SNR=19							
Y12C	**Blythe**	**80.06**	**55**	P		**P**	**09 23 42.6**	**+0.8**
	baz=307							
O20A	**White River Ci**	**80.10**	**47**	P		**P**	**09 23 42.3**	**+0.1**
	baz=309,SNR=6.3							
O20A	**White River Ci**	**80.10**	**47**	IAmb		IAmb	09 23 45.7	
	comp=Z,16nm,1.1s							
UZH	**Uzhgorod**	**80.16**	**324**	*e*P		P	09 23 49.6	+7.5
UZH				*e*			09 23 57.2	
UZH				*e*			09 24 04.0	
OJC	**Ojcow**	**80.16**	**327**	*e*P		**P**	**09 23 42.7**	**+0.6**
OJC	**Ojcow**	**80.16**	**327**	*e*P		**P**	**09 23 42.7**	**+0.6**
OJC				*e*P		**P**	**09 23 42.7**	**+0.6**
OJC	**Ojcow**	**80.16**	**327**	P		**P**	**09 23 41.7**	**-0.4**
OJC				IAmb		IAmb	09 23 57.4	
	comp=Z,20nm,1.1s							
GLA	**Glamis**	**80.27**	**56**	P		**P**	**09 23 44.1**	**+1.0**
	baz=307							
GLA	**Glamis**	**80.27**	**56**	P		**P**	**09 23 43.7**	**+0.6**
GLA				pmax		pmax		
	comp=Z,9.0nm,1.0s							
GLA	**Glamis**	**80.27**	**56**	P		**P**	**09 23 43.7**	**+0.6**
TRPA	**Tarpa**	**80.39**	**324**	⇑P		**P**	**09 23 44.1**	**+0.8**
TRPA				mb			09 23 56.0	
TRPA	**Tarpa**	**80.39**	**324**	*e*P		**P**	**09 23 43.0**	**-0.3**
DOPR	**Dopca**	**80.48**	**321**	⇑P		**P**	**09 23 44.9**	**+0.9**
NIE	**Niedzica**	**80.52**	**326**	*e*P		**P**	**09 23 44.9**	**+0.8**
NIE	**Niedzica**	**80.52**	**326**	*e*P		**P**	**09 23 44.9**	**+0.8**
NIE				*e*P		**P**	**09 23 44.9**	**+0.8**
N23A	**Red Feather La**	**80.96**	**46**	P		**P**	**09 23 47.6**	**+0.7**
	baz=311							
N23A	**Red Feather La**	**80.96**	**46**	IAmb		IAmb	09 24 04.0	
	comp=Z,23nm,1.1s							
PHWY	**Pilot Hill**	**80.97**	**45**	P		**P**	**09 23 47.1**	**+0.1**
PHWY				IAmb		IAmb	09 23 59.6	
	comp=Z,18nm,1.5s							
WUAZ	**Wupatki**	**81.05**	**52**	P		**P**	**09 23 48.1**	**+0.8**
	baz=308							
WUAZ	**Wupatki**	**81.05**	**52**	IAmb		IAmb	09 23 51.9	
	comp=Z,20nm,1.2s							
LANS	**Liptovska Anna**	**81.09**	**326**	*e*P		**P**	**09 23 48.9**	**+1.8**
LANS				pmax		pmax		
	comp=Z,9.0nm,1.1s							
LANS	**Liptovska Anna**	**81.09**	**326**	*e*P		**P**	**09 23 48.9**	**+1.8**
LANS				*e*			09 57 03.2	
LANS				*e*			09 57 32.6	
KECS	**Kecovo**	**81.11**	**325**	*e*P		**P**	**09 23 48.4**	**+1.2**
KECS				pmax		pmax		
	comp=Z,6.0nm,1.1s							
KECS	**Kecovo**	**81.11**	**325**	*e*P		**P**	**09 23 48.4**	**+1.2**
OKC	**Ostrava-Krasne**	**81.17**	**327**	*e*P		**P**	**09 23 49.1**	**+1.6**
OKC	**Ostrava-Krasne**	**81.17**	**327**	*e*P		**P**	**09 23 49.1**	**+1.6**
KSP	**Ksiaz**	**81.22**	**329**	*e*P		**P**	**09 23 48.1**	**+0.4**
KSP	**Ksiaz**	**81.22**	**329**	*e*P		**P**	**09 23 48.1**	**+0.4**
KSP				*e*P		**P**	**09 23 48.1**	**+0.4**
DRGR		**81.25**	**323**	P		**P**	**09 23 49.0**	**+0.9**
DRGR				pmax		pmax		
	comp=Z,58nm,2.0s							
DRGR		**81.25**	**323**	⇓P		**P**	**09 23 47.3**	**-0.8**
OSTC	**Ostas**	**81.47**	**329**	*e*P		**P**	**09 23 50.6**	**+1.5**
OSTC				AMS		AMS	10 04 50.0	
	comp=Z,2µm,14.8s							
MORC	**Moravsky Berou**	**81.48**	**327**	P		**P**	**09 23 50.2**	**+1.0**
MORC				pmax		pmax		
	comp=Z,11nm,1.0s							
MORC	**Moravsky Berou**	**81.48**	**327**	⇓P		**P**	**09 23 49.4**	**+0.2**
MORC				mb			09 23 51.0	
MORC	**Moravsky Berou**	**81.48**	**327**	*e*P		**P**	**09 23 50.0**	**+0.8**
CHVC	**Chvalec**	**81.51**	**329**	*e*P		**P**	**09 23 48.9**	**-0.4**
CHVC				AMS		AMS	10 04 50.0	
	comp=Z,3µm,15.8s							
DPC	**Dobruska-Polom**	**81.58**	**328**	*e*P		**P**	**09 23 50.7**	**+1.0**
DPC				MLR		MLR		
	comp=Z,3µm,14.6s							
DPC	**Dobruska-Polom**	**81.58**	**328**	*e*P		**P**	**09 23 50.7**	**+1.0**
DPC				AMS		AMS	10 04 50.0	
	comp=Z,3µm,14.6s							
KRLC	**Kraliky**	**81.

VRAC	**Vranov**	**82.24**	**328**	⇑P		**P**	**09 23 52.7**	**-0.5**
VRAC				mb			09 24 07.7	
VRAC	**Vranov**	**82.24**	**328**	*eP*		**P**	**09 23 54.3**	**+1.1**
SUSD	**Miller**	**82.38**	**39**	P		**P**	**09 23 54.7**	**+0.7**
	baz=314							
S22A	**4UR Ranch, Cre**	**82.47**	**48**	P		**P**	**09 23 56.1**	**+1.1**
	baz=310							
S22A	**4UR Ranch, Cre**	**82.47**	**48**	IAmb	IAmb		09 24 11.1	
	comp=Z,17nm,1.5s							
KRUC	**Moravsky**	**82.51**	**328**	*eP*		**P**	**09 23 55.4**	**+0.8**
GOPC	**GO Pecny, Ondr**	**82.55**	**329**	*eP*		**P**	**09 23 55.3**	**+0.5**
GOPC				*e*			09 24 04.2	
GOPC				MLR	MLR			
	comp=Z,3μm,16.8s							
GOPC	**GO Pecny, Ondr**	**82.55**	**329**	*eP*		**P**	**09 23 55.3**	**+0.5**
GOPC				*ex*	x		09 24 04.2	
GOPC				AMS	AMS		10 05 50.0	
	comp=Z,3μm,16.8s							
PRA	**Prague**	**82.58**	**329**	AMS	AMS		10 06 00.0	
	comp=Z,3μm,18.8s							
PRU	**Pruhonice**	**82.60**	**329**	*eP*		**P**	**09 23 55.6**	**+0.6**
PRU				*e*			09 24 05.1	
PRU				MLR	MLR			
	comp=Z,3μm,13.9s							
PRU	**Pruhonice**	**82.60**	**329**	*eP*		**P**	**09 23 55.6**	**+0.6**
PRU				*ex*	x		09 24 05.1	
PRU				AMS	AMS		10 07 40.0	
	comp=Z,3μm,13.9s							
BZS	**Buzias**	**82.62**	**323**	P		**P**	**09 23 56.3**	**+1.1**
MODS	**Modra-Piesok**	**82.64**	**327**	*eP*		**P**	**09 23 56.0**	**+0.7**
MODS	**Modra-Piesok**	**82.64**	**327**	*eP*		**P**	**09 23 56.0**	**+0.7**
Q24A	**Divide**	**82.68**	**47**	P		**P**	**09 23 56.9**	**+0.8**
	baz=311							
TREC	**Trest**	**82.73**	**328**	*eP*		**P**	**09 23 57.2**	**+1.5**
TREC				MLR	MLR			
	comp=Z,2μm,16.0s							
TREC	**Trest**	**82.73**	**328**	*eP*		**P**	**09 23 57.2**	**+1.5**
TREC				AMS	AMS		10 06 50.0	
	comp=Z,2μm,16.0s							
PBCC	**Pribram**	**83.06**	**329**	*eP*		**P**	**09 23 57.8**	**+0.4**
OGNE	**Ogallala**	**83.14**	**43**	P		**P**	**09 23 58.5**	**+0.4**
	baz=313							
MDVR	**Moldovita**	**83.17**	**322**	⇑P		**P**	**09 23 58.9**	**+0.8**
NKC	**Novy Kostel**	**83.26**	**330**	AMS	AMS		10 05 50.0	
	comp=Z,4μm,12.7s							
SDCO	**Great Sand Dun**	**83.27**	**48**	P		**P**	**09 23 59.9**	**+0.8**
	baz=311							
SDCO	**Great Sand Dun**	**83.27**	**48**	IAmb	IAmb		09 24 15.1	
	comp=Z,10nm,1.2s							
TUC	**Tucson**	**83.42**	**55**	P	P		09 24 02.6	+2.9
TUC				pmax	pmax			
	comp=Z,8.0nm,1.3s							
TUC	**Tucson**	**83.42**	**55**	P	P		09 24 02.6	+2.9
TIH	**Tihany**	**83.46**	**325**	*eP*		**P**	**09 24 00.0**	**+0.5**
SOP	**Sopron**	**83.48**	**327**	P		**P**	**09 24 02.0**	**+2.4**
SOP				pmax	pmax			
	comp=Z,58nm,1.2s							
ALN	**Alexandroupoli**	**83.60**	**317**	P		**P**	**09 24 00.3**	**0.0**
ALN				pmax	pmax			
	comp=Z,14nm,1.3s							
ALN	**Alexandroupoli**	**83.60**	**317**	P		**P**	**09 24 00.3**	**0.0**
ALN				IAmb	IAmb		09 24 01.7	
	comp=Z,14nm,1.3s							
CONA	**Conrad Observa**	**83.60**	**327**	*i* P		**P**	**09 24 00.1**	**-0.3**
	comp=Z,13nm,1.2s							
KHC	**Kasperske Hory**	**83.66**	**329**	*eP*		**P**	**09 24 00.8**	**+0.2**
KHC				*e*			09 24 10.3	
KHC				MLR	MLR			
	comp=Z,3μm,14.9s							
KHC	**Kasperske Hory**	**83.66**	**329**	*eP*		**P**	**09 24 00.8**	**+0.2**
KHC				*ex*	x		09 24 10.3	
KHC				AMS	AMS		10 06 30.0	
	comp=Z,3μm,14.9s							
KHC	**Kasperske Hory**	**83.66**	**329**	IAmb	IAmb		09 24 12.6	
	comp=Z,9.4nm,1.3s							
MANT	**Manisa**	**83.80**	**314**	P		**P**	**09 24 00.4**	**-1.4**
GERES	**GERESS Array B**	**83.83**	**329**	P		**P**	**09 24 01.5**	**0.0**
	comp=Z,3.7nm,0.8s,baz=57,slow=4.9,SNR=21							
VTS	**Vitosha**	**83.92**	**320**	P		**P**	**09 24 02.9**	**+0.7**
VTS				pmax	pmax			
	comp=Z,29nm,1.4s							
VTS	**Vitosha**	**83.92**	**320**	⇑P		**P**	**09 24 03.0**	**+0.7**
VTS				mb			09 24 14.8	
VTS	**Vitosha**	**83.92**	**320**	P		**P**	**09 24 02.9**	**+0.7**
ECSD	**EROS Data Cent**	**84.08**	**39**	P		**P**	**09 24 03.3**	**+0.5**
	baz=316							
ECSD	**EROS Data Cent**	**84.08**	**39**	P		**P**	**09 24 04.3**	**+1.5**
ECSD				IAmb	IAmb		09 24 15.3	
	comp=Z,15nm,1.4s							
KSCO	**Kaye Shedlock'**	**84.11**	**45**	P		**P**	**09 24 04.3**	**+1.0**
	baz=313							
ELL	**Elmali**	**84.15**	**312**	P		**P**	**09 24 02.7**	**-0.7**
ELL				pmax	pmax			
	comp=Z,49nm,1.0s							
ELL	**Elmali**	**84.15**	**312**	P		**P**	**09 24 02.7**	**-0.7**
EZN	**Ezine**	**84.18**	**316**	P		**P**	**09 24 03.1**	**-0.2**
GRF	**Grafenberg Arr**	**84.18**	**331**	P		**P**	**09 24 05.9**	**+2.7**
ARSA	**Arzberg**	**84.27**	**327**	*i* pP		**P**	**09 24 03.6**	**-0.1**
	comp=Z,3.1nm,0.9s							
T25A	**Trinidad**	**84.32**	**48**	P		**P**	**09 24 05.4**	**+1.0**
	baz=312							
T25A	**Trinidad**	**84.32**	**48**	IAmb	IAmb		09 24 21.2	
	comp=Z,13nm,1.0s							
MOA	**Molln**	**84.36**	**328**	*i* pP		**P**	**09 24 04.2**	**0.0**
	comp=Z,1.2nm,0.4s							
ANMO	**Albuquerque**	**84.52**	**50**	P		**P**	**09 24 06.3**	**+0.9**
	baz=311							
ANMO	**Albuquerque**	**84.52**	**50**	*eP*		**P**	**09 24 06.7**	**+1.3**
ANMO	**Albuquerque**	**84.52**	**50**	P		**P**	**09 24 06.7**	**+1.3**
ANMO				IAmb	IAmb		09 24 21.2	
	comp=Z,11nm,1.1s							
SOKA	**Soboth**	**84.92**	**327**	*i* P		**P**	**09 24 06.6**	**-0.5**
	comp=Z,9.4nm,1.3s							
BGNE	**Belgrade**	**84.94**	**41**	P		**P**	**09 24 07.7**	**+0.5**
	baz=315							
319A	**Douglas**	**85.00**	**55**	IAmb	IAmb		09 24 23.8	
	comp=Z,11nm,0.9s							
121A	**Cookes Peak, D**	**85.24**	**53**	P		**P**	**09 24 09.8**	**+0.8**
	baz=310							
121A	**Cookes Peak, D**	**85.24**	**53**	IAmb	IAmb		09 24 13.0	
	comp=Z,10nm,1.1s							
OBKA	**Obir**	**85.26**	**327**	*i* P		**P**	**09 24 08.3**	**-0.5**
KBA	**Koelnbreinsper**	**85.35**	**328**	*i* P		**P**	**09 24 09.0**	**-0.4**
	comp=Z,3.5nm,0.8s							
MEM	**Membach**	**85.40**	**334**	PcP		**P**	**09 24 11.1**	**+1.8**
MEM				pP		**pP**	**09 24 15.9**	**0.0**
MEM				x	x		09 24 19.6	
STU	**Stuttgart**	**85.71**	**331**	P		**P**	**09 24 09.1**	**-1.8**
BCLA	**Clavier**	**85.81**	**334**	PcP		**P**	**09 24 13.0**	**+1.7**
BCLA				sP		**sP**	**09 24 20.3**	**-0.1**
CBKS	**Cedar Bluff**	**85.89**	**44**	P		**P**	**09 24 12.8**	**+0.8**
	baz=314							
WATA	**Walderalm**	**85.90**	**329**	*i* pP		**P**	**09 24 12.0**	**0.0**
	comp=Z,7.7nm,1.5s							
WTTA	**Wattenberg**	**85.93**	**329**	*i* P		**P**	**09 24 09.6**	**-2.7**
	comp=Z,4.3nm,1.1s							
MOTA	**Moosalm**	**86.09**	**329**	*i* P		**P**	**09 24 12.0**	**-1.0**
	comp=Z,9.3nm,1.3s							
LIT	**Litokhoron**	**86.10**	**318**	IAmb	IAmb		09 24 29.2	
	comp=Z,12nm,0.7s							
PDG	**Podgorica**	**86.10**	**322**	⇑P		**P**	**09 24 13.0**	**+0.1**
PDG	**Podgorica**	**86.10**	**322**	IAmb	IAmb		09 24 16.0	
	comp=Z,13nm,1.0s							
RETA	**Reutte**	**86.11**	**329**	*i* pP		**P**	**09 24 13.2**	**+0.2**
	comp=Z,15nm,1.1s							
WLF	**Walferdange**	**86.13**	**333**	PcP		**P**	**09 24 14.1**	**+1.1**
WLF				pP		**pP**	**09 24 19.1**	**-0.5**
WLF				sP		**sP**	**09 24 22.1**	**+0.1**
SQTA	**Sankt Quirin**	**86.14**	**329**	*i* pP		**P**	**09 24 13.2**	**0.0**
	comp=Z,9.4nm,1.3s							
FNA	**Florina**	**86.20**	**319**	P		**P**	**09 24 10.4**	**-3.1**
FNA				pmax	pmax			
	comp=Z,25nm,0.7s							
DOU	**Dourbes**	**86.33**	**334**	P		**P**	**09 24 12.7**	**-1.2**
DOU				PcP		**PcP**	**09 24 15.6**	**-0.8**
BFO	**Black Forest**	**86.41**	**331**	*eP*		**P**	**09 24 14.1**	**-0.3**
BFO	**Black Forest**	**86.41**	**331**	P		**P**	**09 24 14.1**	**-0.3**
BFO				IAmb	IAmb		09 24 16.4	
	comp=Z,12nm,0.9s							
FETA	**Feichten**	**86.50**	**329**	*i* PcP		**PcP**	**09 24 15.1**	**-2.4**
	comp=Z,4.3nm,1.0s							
DAVA	**Damuels**	**86.64**	**330**	*i* P		**P**	**09 24 15.2**	**-0.5**
	comp=Z,7.9nm,0.9s							
FUORN	**Ofenpass-Fuorn**	**87.01**	**329**	P		**P**	**09 24 17.5**	**-0.1**
MNTX	**Cornudas Mount**	**87.32**	**52**	P		**P**	**09 24 20.0**	**+0.8**
	baz=312							
KSU1	**Kansas State U**	**87.41**	**42**	P		**P**	**09 24 19.5**	**+0.1**
	baz=316							
AMTX	**Amarillo**	**87.47**	**48**	P		**P**	**09 24 20.8**	**+0.9**
	baz=314							
AMTX	**Amarillo**	**87.47**	**48**	IAmb	IAmb		09 24 35.8	
	comp=Z,13nm,1.1s							
LSQQ	**Lebel-sur-Quev**	**88.19**	**25**	P		**P**	**09 24 23.5**	**+0.6**
	baz=329							
CHGQ	**Chibougamau**	**88.30**	**23**	P		**P**	**09 24 24.1**	**+0.7**
	baz=331							
SGRT	**San Giovanni R**	**88.34**	**323**	IAmb	IAmb		09 24 34.4	
	comp=Z,12nm,1.0s							
NRCA	**Norcia**	**88.75**	**325**	IAmb	IAmb		09 24 36.9	
	comp=Z,15nm,1.3s							
ACER	**Acerenza**	**88.98**	**322**	IAmb	IAmb		09 24 28.4	
	comp=Z,9.4nm,0.8s							
D51A	**Lot 18 Range I**	**89.02**	**27**	P		**P**	**09 24 27.2**	**+0.4**
	baz=328							
INTR	**Introdacqua**	**89.03**	**324**	IAmb	IAmb		09 24 29.2	
	comp=Z,9.6nm,0.9s							
E51A	**G1948 Merrick**	**89.44**	**27**	P		**P**	**09 24 29.3**	**+0.5**
	baz=328							
D54A	**Lac Fusel, La**	**89.94**	**25**	P		**P**	**09 24 31.6**	**+0.5**
	baz=330							
E52A	**Mattawa**	**89.96**	**27**	P		**P**	**09 24 31.1**	**-0.2**
	baz=328							
TX31	**Lajitas Ar. Si**	**90.00**	**53**	IAmb	IAmb		09 24 48.2	
	comp=Z,10nm,1.2s							
TX32	**Lajitas Array**	**90.00**	**53**	IAmb	IAmb		09 24 48.2	
	comp=Z,9.9nm,1.1s							
TXAR	**Lajitas Array**	**90.00**	**53**	P		**P**	**09 24 31.7**	**-0.2**
	comp=Z,4.6nm,0.9s,baz=304,slow=3.3,SNR=21							
ABTX	**Abilene, Hawle**	**90.26**	**48**	P		**P**	**09 24 32.0**	**-1.0**
	baz=315							
CCM	**Cathedral Cave**	**91.01**	**39**	P		**P**	**09 24 36.8**	**+0.5**
	baz=320							
U40A	**Yellville**	**91.44**	**42**	P		**P**	**09 24 38.8**	**+0.4**
	baz=319							
U40A	**Yellville**	**91.44**	**42**	IAmb	IAmb		09 24 40.5	
	comp=Z,8.3nm,0.8s							
N47A	**Urbana**	**91.51**	**34**	P		**P**	**09 24 38.7**	**+0.1**
	baz=323							
N48A	**Decatur**	**91.83**	**34**	P		**P**	**09 24 40.1**	**+0.1**
	baz=324							
WHTX	**Lake Whitney,**	**92.02**	**47**	P		**P**	**09 24 41.9**	**+0.8**
	baz=316							
MIAR	**Mount Ida**	**92.39**	**43**	P		**P**	**09 24 43.5**	**+0.8**
	baz=318							
X40A	**Basin Creek Fa**	**92.84**	**43**	P		**P**	**09 24 45.4**	**+0.5**
	baz=318							
MAW	**Mawson**	**119.13**	**206**	PKIKP		**PKiKP**	**09 30 18.5**	**-1.3**
MAW	**Mawson**	**119.13**	**206**			**PKiKP**	**09 30 18.5**	**-1.3**
SDV	**Santo Domingo**	**125.44**	**41**	PKP		**PKiKP**	**09 30 34.7**	**+0.5**
	comp=Z,3.4nm,0.8s,baz=349,slow=3.5,SNR=4.2							
SYO	**Syowa Base**	**127.82**	**206**	⇑*ep*Pdiff		pPdif	09 27 24.0	-2.4
NVL	**N'lazarevskaya**	**136.81**	**202**	*e*PKiKP		**PKiKP**	**09 30 52.4**	**-2.7**
NVL				pmax	pmax			
	comp=Z,9.0nm,0.9s							
LPAZ	**La Paz**	**146.41**	**62**	PKPbc		**PKPab**	**09 31 13.1**	**-2.0**
	comp=Z,1.4nm,0.6s,baz=43,slow=2.4,SNR=5.5							
LPAZ	**La Paz**	**146.41**	**62**			**PKiKP**	**09 31 13.7**	**-3.5**
MNMC	**Minye Minye**	**147.16**	**67**			**PKiKP**	**09 31 16.9**	**-1.4**
PB11	**IPOC Station P**	**147.49**	**68**			**PKiKP**	**09 31 18.9**	**+0.1**
SIV	**San Ignacio**	**151.00**	**52**	PKP		**PKPdf**	**09 31 19.6**	**0.0**
	comp=Z,1.2nm,0.8s,baz=161,slow=0.9,SNR=4.6							
SIV				PKPbc		**PKPbc**	**09 31 26.6**	**+1.2**
	comp=Z,9.9nm,1.1s,baz=320,slow=2.6,SNR=12							

BJI ***23*** *09:12:24.7±0.0, 12.˚66N×143.˚38E, h109km, mb5.8/74, mB6.1/57*

NEIC ***23*** *09:12:27.1±1.7, 12.˚77N±0.˚07×143.˚04E±0.˚07, h92km±1km, mb5.6/269, Mwb5.9, Mww5.8, Mwc5.9(GCMT), Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=4.80; Mθθ=6.73; Mφφ=-1.93; Mrθ=-3.93; Mφθ=0.81; Mφr=-2.29; Fault plane solution: M₀7.57000×10¹⁷ NP1:φ₁≈65.93000°, δ65.64000°, λ=-110.73000°. NP2:φ₂≈288.46000°, δ31.57000°, λ=-51.99000°. Principal axes: T 8.1539, Plg18.0000°, Azm171.0000°; N -1.3446, Plg19.0000°, Azm75.0000°; P -6.8093, Plg63.0000°, Azm302.0000°;*

ISCJB ***23*** *09:12:28.5±0.5, 12.˚79N±0.˚02×143.˚10E±0.˚02, h122km±4km, mb5.7/171 Error ellipse: s-maj=3.4km s-min=2.8km az=2.0*

MOS ***23*** *09:12:28.3±0.8, 12.˚81N×143.˚09E, h122km, mb5.6/75, Error ellipse: s-maj=8.1km s-min=4.9km az=106.9*

IDC ***23*** *09:12:28.4±0.8, 12.˚82N×143.˚04E, h104km±6km, mb5.2/44, mb1 5.2/48, mb1mx5.2/50, mbtmp5.6/48, MS5.0/28, Ms1 5.0/28, ms1mx4.8/50, Error ellipse: s-maj=8.0km s-min=6.7km az=76.0*

DJA ***23*** *09:12:29.6±0.6, 13.˚N±4.˚×14.˚3E±.˚, h113km±13km, M5.7/20, mB6.1/19, mb5.6/20, MLv5.7/1, Mw(mB)5.8/19, Mwp5.8/10*

NEIC ***23*** *09:12:29, 12.˚56N×143.˚03E, h110km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=4.04; Mθθ4.20; Mφφ-0.15; Mrθ-3.98; Mφθ-1.77; Mφr-2.09; Fault plane solution: M₀6.35000×10¹⁷ NP1:φ₁≈313.00000°, δ33.00000°, λ=-42.00000°. NP2:φ₂≈80.00000°, δ69.00000°, λ=-115.00000°. Principal axes: T 5.9407, Plg20.0000°, Azm189.0000°; N 0.7534, Plg24.0000°, Azm90.0000°; P -6.6940, Plg58.0000°, Azm315.0000°;*

NEIC ***23*** *09:12:30, 12.˚62N×143.˚04E, h102km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=4.02; Mθθ4.76; Mφφ-0.74; Mrθ-4.54; Mφθ-2.58; Mφr-2.72; Fault plane solution: M₀7.37000×10¹⁷ NP1:φ₁≈320.00000°, δ36.00000°, λ=-34.00000°. NP2:φ₂≈79.00000°, δ71.00000°, λ=-121.00000°. Principal axes: T 6.9415, Plg20.0000°, Azm192.0000°; N 0.7966, Plg30.0000°, Azm90.0000°; P -7.7381, Plg53.0000°, Azm310.0000°;*

GCMT ***23*** *09:12:30.1±0.1, 12.˚61N×143.˚02E, h101km, MW5.8/160, Moment Tensor Solution. s157,c331; s160,c481; Duration: 2ŝ0 Moment tensor: Scale 10¹⁷Nm; Mrr-3.84±.05; Mθθ4.53±.06; Mφφ-0.69±.06; Mrθ-4.43±.04; Mφθ-2.49±.06; Mφr-2.66±.04; Best double couple: M₀7.09000×10¹⁷ NP1:φ₁≈78.00000°, δ71.00000°, λ=-121.00000°. NP2:φ₂≈320.00000°, δ36.00000°, λ=-33.00000°. Principal axes: T 6.6760, Plg20.0000°, Azm192.0000°; N 0.8230, Plg30.0000°, Azm90.0000°; P -7.5030, Plg53.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 23 09:12:28.7±0.3, 12.77N±0.03×143.09E±0.03, h112km±2km, h113km:pP-P,n820,σ1961/842,mb5.6/277,14C-50D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.91**	**65**	P			**Pn**	**09 13 00.6**	**-0.1**
	917nm,0.3s,baz=223,slow=6.6,SNR=151				S				
GUMO							**Sn**	**09 13 25.0**	**-0.2**
	4μm,0.3s,baz=182,slow=22,SNR=14								
GUMO	**Guam**	**1.91**	**65**				**Pn**	**09 13 00.8**	**+0.1**
GUMO					Sn		**Sn**	**09 13 26.1**	**+0.9**
ANA2	**Anatahan**	**4.36**	**35**				**Pn**	**09 13 34.0**	**+1.0**
SARN	**Sarigan**	**4.69**	**33**		Pn		**Pn**	**09 13 39.4**	**+2.0**
JCJ	**Chichijima**	**14.27**	**357**	P			**Pn**	**09 15 46.2**	**+0.6**
	37nm,0.3s,baz=12,slow=11,SNR=4.5								
SMPI	**Sarmi**	**15.30**	**197**	P			**Pn**	**09 15 59.8**	**+1.1**
	2μm,2.1s,30μm								
MANU	**Manus Island**	**15.32**	**164**				**Pn**	**09 16 00.1**	**+1.1**
MANU					IAmb		IAmb	09 16 05.9	
	comp=Z,1μm,1.9s								
JAY	**Jayapura**	**15.37**	**189**	P			**Pn**	**09 15 59.9**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=343,slow=7.1,SNR=47								
JAY					S		**Sn**	**09 18 47.4**	**-2.6**
	comp=Z,2.4nm,0.3s,baz=0.0,slow=20,SNR=3.2								
JAY					LR		LR	09 21 00.8	
	comp=Z,9μm,18.9s,baz=351,slow=33								
BAKI	**Biak**	**15.51**	**207**	P			**Pn**	**09 16 01.8**	**+0.4**
GENI	**Genyem**	**15.54**	**191**	P			**Pn**	**09 16 03.1**	**-0.6**
	comp=Z,2μm,1.6s,comp=Z,44μmcomp=Z,21μm								
PATS	**Pohnpei**	**16.12**	**110**	P			**Pn**	**09 16 08.9**	**0.0**
	baz=16								
PATS	**Pohnpei**	**16.12**	**110**				**Pn**	**09 16 08.3**	**-0.7**
RKPI	**Ransiki, Papua**	**16.72**	**213**	P			**Pn**	**09 16 16.0**	**-0.4**
	comp=Z,596nm,1.4s,comp=Z,13μm								
SWI	**Sorong**	**17.93**	**222**	P			**Pn**	**09 16 32.0**	**+1.1**
SWI				pmax	pmax				
	comp=Z,335nm,2.8s								
SWI	**Sorong**	**17.93**	**222**	P			**Pn**	**09 16 32.0**	**+1.1**
	comp=Z,338nm,2.2s,comp=Z,12μmcomp=Z,12μm								
SIJI	**Sorong**	**17.93**	**222**	P			**Pn**	**09 16 31.8**	**+0.8**
	comp=Z,3.0nm,0.3s,baz=30,slow=12,SNR=32								
SIJI					S		**Sn**	**09 19 52.9**	**+1.5**
	comp=Z,1.2nm,0.3s,baz=253,slow=19,SNR=2.0								
SIJI					LR		LR	09 22 02.6	
	comp=Z,5μm,21.8s,baz=36,slow=32								
DAV	**Davao City (W)**	**18.15**	**253**	P			**Pn**	**09 16 35.0**	**+1.3**
	comp=Z,47nm,0.3s,baz=31,slow=5.4,SNR=7.7								
DAV					LR		LR	09 22 08.3	
	comp=Z,2μm,20.0s,baz=68,slow=32								
DAV	**Davao City (W)**	**18.15**	**253**	⇓*i*P			**Pn**	**09 16 33.2**	**-0.4**
DDMP	**Don Marcelino,**	**18.37**	**250**	P			**Pn**	**09 16 35.5**	**-0.7**
BUKP	**Musuan**	**18.39**	**256**	P			**Pn**	**09 16 36.0**	**-0.4**
CGP	**Cagayan de Oro**	**18.58**	**258**	⇓P			**Pn**	**09 16 39.2**	**+0.4**
KCP	**Kidapawan**	**18.63**	**254**	⇑P			**Pn**	**09 16 38.6**	**-0.8**
KMPI	**Kaimana, Papua**	**18.80**	**210**	P			**Pn**	**09 16 40.7**	**-0.7**
	comp=Z,755nm,1.7s,comp=Z,18μm								
FAKI	**Fak Fak**	**18.95**	**215**	P			**Pn**	**09 16 42.5**	**-0.6**
	comp=Z,783nm,0.8s,comp=Z,24μmcomp=Z,14μm								
FAKI	**Fak Fak**	**18.95**	**215**	P			**P**	**09 16 41.5**	**+0.3**
KRVT	**Keravat (AS076**	**19.15**	**152**	P			**Pn**	**09 16 45.4**	**-0.1**
	comp=Z,10.0nm,0.3s,baz=356,slow=23,SNR=23								
KRVT					LR		LR	09 23 11.2	
	comp=Z,4μm,20.4s,baz=347,slow=34								
CTBH	**Cotabato--PC H**	**19.35**	**255**	⇓P			**P**	**09 16 38.7**	**-6.9**
TNTI	**Ternate**	**19.62**	**234**	P			**P**	**09 16 49.0**	**+0.5**
	comp=Z,236nm,1.9s,comp=Z,5μmcomp=Z,8μm								
TNTI	**Ternate**	**19.62**	**234**	P			**P**	**09 16 48.2**	**-0.3**
TNTI					IAmb		IAmb	09 17 35.0	
	comp=Z,441nm,1.4s								
JOW	**Kunigami**	**19.71**	**317**	P			**Pn**	**09 16 52.0**	**0.0**
	comp=Z,13nm,0.3s,baz=149,slow=12,SNR=127								
JOW	**Kunigami**	**19.71**	**317**	P			**Pn**	**09 16 51.3**	**-0.7**
JOW					IAmb		IAmb	09 16 55.2	
	comp=Z,380nm,0.8s								
AUQP	**San Andres**	**19.89**	**274**	P			**Pn**	**09 16 54.3**	**+0.1**
AUQP	**San Andres**	**19.89**	**274**	P			**Pn**	**09 16 54.3**	**+0.1**
RCP	**Roxas**	**19.92**	**269**	⇓P			**P**	**09 16 52.5**	**+0.7**
LBMI	**Labuha**	**20.41**	**230**	P			**P**	**09 16 58.3**	**+1.2**
	comp=Z,247nm,1.0s,comp=Z,11μm								
OTRP	**Odiongan**	**20.57**	**271**	P			**P**	**09 16 59.3**	**+0.6**
OTRP	**Odiongan**	**20.57**	**271**	P			**P**	**09 16 59.3**	**+0.6**
BOAC	**Boac**	**20.70**	**274**	P			Pn	09 17 02.4	-1.1
CAUP	**Cauayan**	**20.96**	**284**	P			**P**	**09 17 04.6**	**+1.6**
LQP	**Lukban**	**21.00**	**276**	⇓P			**P**	**09 17 04.0**	**+0.4**
BALP	**Baler**	**21.05**	**281**	P			**P**	**09 17 03.3**	**-0.6**
BALP	**Baler**	**21.05**	**281**	P			**P**	**09 17 03.5**	**-0.5**
MMPI	**Merauke**	**21.27**	**187**	P			**P**	**09 17 07.8**	**+1.6**
MNI	**Manado**	**21.30**	**240**	P			**P**	**09 17 07.1**	**+0.5**
MNI				pmax	pmax				
	comp=Z,558nm,1.0s								
MSAI	**Masohi**	**21.32**	**222**	P			**P**	**09 17 08.0**	**+1.3**
	comp=Z,175nm,0.8s,comp=Z,3μm								
SJMP	**San Jose**	**21.44**	**272**	P			**P**	**09 17 09.5**	**+1.4**
SJMP	**San Jose**	**21.44**	**272**	P			**P**	**09 17 09.5**	**+1.4**
TGY	**Tagaytay City**	**21.59**	**276**	P			**P**	**09 17 11.3**	**+1.6**
	comp=Z,4μm,0.9s,baz=183,slow=1.6,SNR=50								
TGY					LR		LR	09 25 13.0	
	comp=Z,2μm,20.1s,baz=93,slow=36								
SMPP	**San Manuel, Pa**	**21.95**	**281**	P			**P**	**09 17 13.5**	**0.0**
SMPP					S		**S**	**09 21 02.6**	**-6.4**
AAI	**Ambon**	**22.05**	**223**	P			**P**	**09 17 14.5**	**-0.1**
AAI				pmax	pmax				
	comp=Z,442nm,1.1s								
AAI	**Ambon**	**22.05**	**223**	P			**P**	**09 17 14.1**	**-0.5**
	comp=Z,441nm,1.1s,comp=Z,9μmcomp=Z,16μm								
LUBP	**Lubang**	**22.25**	**275**	P			**P**	**09 17 17.3**	**+0.6**
YOJ	**Yonaguni jima**	**22.26**	**304**	P			**P**	**09 17 16.7**	**+0.1**
YOJ				pmax	pmax				
	comp=Z,997nm,1.6s								
YOJ	**Yonaguni jima**	**22.26**	**304**	P			**P**	**09 17 16.7**	**+0.1**
PMG	**Port Moresby**	**22.40**	**169**	*c* *i*P			**P**	**09 17 17.2**	**-0.9**
PMG				pmax	pmax				
	comp=Z,2μm,2.5s								
PMG	**Port Moresby**	**22.40**	**169**	P			**P**	**09 17 17.8**	**-0.3**
	comp=Z,31nm,0.5s,baz=68,slow=4.6,SNR=19								
PMG	**Port Moresby**	**22.40**	**169**	P			**P**	**09 17 17.9**	**-0.3**
SANI	**Sanana**	**22.

KDU **Kakadu** 27.40 203 P **P** 09 18 03.3 -0.5
baz=28,SNR=24
TJN **Taejon** 27.43 332 *d* P **P** 09 18 03.9 0.0
HNR **Honiara** 27.70 142 P **P** 09 18 06.4 -0.1
HNR pmax pmax
comp=Z,511nm,1.1s
HNR pmax pmax
comp=Z,477nm,1.2s
HNR **Honiara** 27.70 142 P **P** 09 18 08.0 +1.5
HNR **Honiara** 27.70 142 P **P** 09 18 06.4 -0.1
HNR **Honiara** 27.70 142 **P** 09 18 06.8 +0.2
HNR IAmb IAmb 09 18 57.5
comp=Z,511nm,1.1s
TTSI **Tana Toraja** 27.95 237 P **P** 09 18 11.5 +2.7
KSRS **Korea Array** 28.07 334 P **P** 09 18 09.4 -0.2
comp=Z,34nm,0.6s,baz=148,slow=8.8,SNR=49
KSRS PcP **PcP** 09 21 22.6 +1.2
comp=Z,5.5nm,0.6s,baz=143,slow=2.6,SNR=8.9
KSRS ScP **ScP** 09 24 53.0 +0.7
comp=Z,3.3nm,0.9s,baz=127,slow=2.4,SNR=5.7
MTN **Manton Dam** 28.08 205 P **P** 09 18 09.5 -0.3
baz=28,SNR=15
MTN **Manton Dam** 28.08 205 IAmb IAmb 09 19 06.5
comp=Z,122nm,0.9s
KS19 **Wonju Array Si** 28.14 334 IAmb IAmb 09 19 10.3
comp=Z,202nm,1.8s
BNSI **Bone** 28.50 235 P **P** 09 18 15.8 +2.1
SPSI **Sidrap Palu** 28.52 236 P **P** 09 18 14.8 +0.9
INCN **Inchon** 28.67 332 P **P** 09 18 15.2 +0.2
INCN pmax pmax
comp=Z,65nm,0.9s
INCN **Inchon** 28.67 332 P **P** 09 18 15.2 +0.2
ERM **Erimo** 29.13 0 P **P** 09 18 20.4 +1.4
ERM pmax pmax
comp=Z,73nm,1.1s
ERM **Erimo** 29.13 0 P **P** 09 18 20.4 +1.4
SOEI **Soe** 29.16 221 P **P** 09 18 22.7 +3.0
NJ2 **Nanjing** 29.37 315 *eP* **P** 09 18 21.3 0.0
NJ2 PcP **PcP** 09 21 26.0 +1.1
NJ2 S **S** 09 23 09.9 +3.1
NJ2 pmax pmax
comp=Z,28nm,0.8s
NJ2 pmax pmax
comp=Z,1μm,5.7s
NJ2 LR LR
comp=Z,2μm,12.3s
NJ2 LR LR
comp=Z,4μm,11.4s
NJ2 LR LR
comp=Z,6μm,18.9s
MMRI **Maumere** 29.69 225 P **P** 09 18 24.9 +0.7
MMRI IAmb IAmb 09 19 25.5
comp=Z,265nm,1.2s
BATI **Baumata** 29.89 221 P **P** 09 18 25.1 -1.0
comp=Z,77nm,0.5s,baz=82,slow=1.6,SNR=15
BATI **Baumata** 29.89 221 P **P** 09 18 25.3 -0.7
ASAJ **Asahikawa** 31.23 359 P **P** 09 18 37.8 +0.3
comp=Z,33nm,0.5s,baz=227,slow=7.5,SNR=16
ASAJ PcP **PcP** 09 21 29.9 +0.4
comp=Z,37nm,0.7s,baz=212,slow=2.4,SNR=8.0
ASAJ ScP **ScP** 09 25 04.0 +1.7
comp=Z,15nm,0.8s,baz=235,slow=5.4,SNR=5.8
YUK **Yuzh-Kuril'sk** 31.24 4 *eP* **P** 09 18 37.4 -0.2
YUK *i* S **S** 09 23 36.4 +0.7
YUK pmax pmax
comp=N,276nm,1.1s
YUK pmax pmax
comp=Z,752nm,1.1s
YUK pmax pmax
comp=E,218nm,1.0s
MSHR **Mys Shultsa** 31.45 343 ⇑ *eP* **P** 09 18 40.3 +0.9
KNRA **Kununurra** 31.62 207 P **P** 09 18 41.6 +0.4
baz=32,SNR=30
KNRA **Kununurra** 31.62 207 P **P** 09 18 41.2 0.0
VLA **Vladivostok** 31.75 344 ⇓ *eP* **P** 09 18 43.4 +1.4
WHN **Wuhan** 31.89 308 ⇓ P **P** 09 18 44.3 +0.9
WHN pmax pmax
comp=E,100nm,0.8s
SBUM **Sibu** 32.23 254 P **P** 09 18 47.1 +0.5
DL2 **Dalian** 32.24 328 ⇓ P **P** 09 18 47.1 +0.7
DL2 pmax pmax
comp=E,180nm,1.0s
QIZ **Qiongzhong** 32.53 285 P **P** 09 18 48.3 -1.0
QIZ S **S** 09 23 56.0 -0.5
QIZ pmax pmax
comp=E,1μm,4.9s
QIZ LR LR
comp=E,3μm,16.7s
QIZ LR LR
comp=E,3μm,15.7s
QIZ LR LR
comp=E,2μm,15.7s
QIZ **Qiongzhong** 32.53 285 P **P** 09 18 51.1 +1.9
QIZ IAmb IAmb 09 18 52.8
comp=Z,106nm,1.0s
KUR **Kuril'sk** 32.60 6 ⇓ *eP* **P** 09 18 50.9 +1.4
USRK **Ussuriysk Ar.** 32.73 345 P **P** 09 18 51.5 +0.8
comp=Z,103nm,0.6s,baz=143,slow=4.6,SNR=126
USRK ScP **ScP** 09 25 10.8 +3.4
comp=Z,3.1nm,0.8s,baz=144,slow=8.7,SNR=4.9
CTA **Charters Tower** 32.80 175 P **P** 09 18 52.5 +1.0
CTA pmax pmax
comp=Z,180nm,1.6s
CTAO **Charters Tower** 32.80 175 P **P** 09 18 52.5 +1.0
CTAO pmax pmax
comp=Z,169nm,1.6s
TIA **Tai'an** 33.01 319 P **P** 09 18 53.5 +0.3
TIA pmax pmax
comp=Z,46nm,1.0s
QIS **Mount Isa** 33.30 186 P **P** 09 18 56.3 +0.5
baz=33,SNR=76
WR0 **Warramunga Arr** 33.60 195 IAmb IAmb 09 19 35.0
comp=Z,149nm,1.1s
WRAB **Tennant Creek** 33.62 195 *ceP* **P** 09 18 58.7 +0.1
WRAB pmax pmax
comp=Z,206nm,0.9s
WRAB **Tennant Creek** 33.62 195 P **P** 09 18 58.8 +0.1
WRA **Warramunga Arr** 33.63 195 *i* P **P** 09 18 56.7 -2.0
WRA pmax pmax
comp=Z,93nm,0.7s
WRA **Warramunga Arr** 33.63 195 P **P** 09 18 58.6 -0.2
comp=Z,92nm,0.7s,baz=15,slow=9.2,SNR=160
WRA S **S** 09 24 10.0 -3.4
comp=Z,10nm,1.1s,baz=9.5,slow=14,SNR=5.3
WRA ScP **ScP** 09 25 11.6 +0.6
comp=Z,4.0nm,0.7s,baz=12,slow=3.4,SNR=5.3
MDJ **Mudanjiang** 33.77 343 P **P** 09 19 00.8 +1.1
MDJ pmax pmax
comp=Z,25nm,0.9s
MDJ LR LR
comp=Z,20μm,12.9s
MDJ LR LR
comp=Z,24μm,11.1s
MDJ LR LR
comp=Z,24μm,13.2s
MDJ **Mudanjiang** 33.77 343 P **P** 09 19 00.4 +0.7
STKI **Sintang** 33.79 250 P **P** 09 19 01.1 +0.9
DLV **T Lat** 33.80 272 IAmb IAmb 09 19 03.4
comp=Z,118nm,1.0s
YSS **Yuzh-Sakhalins** 34.07 360 ⇑ *eP* **P** 09 19 02.3 +0.1
YSS *e**SP **pwP** 09 19 33.5 +2.3
YSS *e* 09 20 13.4
YSS *e*S **S** 09 24 23.2 +3.6
YSS pmax pmax
comp=Z,60nm,0.5s
YSS MLR MLR
comp=N,14μm,15.0s
YSS MLR MLR
comp=Z,9μm,15.0s
YSS **Yuzh-Sakhalins** 34.07 360 P **P** 09 19 03.0 +0.8
YSS IAmb IAmb 09 19 34.6
comp=Z,64nm,0.9s
KSM **Kuching** 34.35 254 P **P** 09 19 05.0 -0.1
KSM **Kuching** 34.35 254 P **P** 09 19 04.8 -0.4
CN2 **Changchun** 34.44 337 *eP* **P** 09 19 04.9 -0.6
PBKI **Pangkalan Bun** 34.78 246 P **P** 09 19 11.4 +2.6
FITZ **Fitzroy Crossi** 35.18 210 P **P** 09 19 12.0 -0.1
baz=35,SNR=57
FITZ **Fitzroy Crossi** 35.18 210 P **P** 09 19 12.0 -0.1
FITZ IAmb IAmb 09 19 14.0
comp=Z,128nm,1.2s
JAGI **Jajag, Banyuwa** 35.66 235 P **P** 09 19 16.9 +0.6
JAGI **Jajag, Banyuwa** 35.66 235 IAmb IAmb 09 19 16.5
comp=Z,64nm,0.6s
BJI **Beijing** 36.04 324 ⇓ *i* P **P** 09 19 19.8 +0.6
BJI pP **pP** 09 19 43.3 -0.2
BJI pmax pmax
comp=Z,120nm,0.5s
BJI pmax pmax
comp=Z,2μm,3.5s
GMJI **Gumukmas** 36.12 236 P **P** 09 19 20.6 +0.4
GYA **Guiyang** 36.77 297 ⇓ *i* P **P** 09 19 27.6 +1.8
GYA PP **PnPn** 09 20 55.0 +1.9
GYA S **S** 09 25 02.0 +0.3
GYA pmax pmax
comp=Z,50nm,0.9s
GYA pmax pmax
comp=Z,2μm,5.0s
GYA LR LR
comp=Z,3μm,11.9s
GYA LR LR
comp=Z,3μm,14.8s
GYA LR LR
comp=Z,6μm,14.4s
TIY **Taiyuan** 36.93 318 *eP* **P** 09 19 27.8 +0.9
TIY pP **pwP** 09 19 58.8 +3.3
TIY PP **PnPn** 09 21 00.0 +5.2
TIY S **S** 09 25 07.4 +3.6
TIY pmax pmax
comp=Z,130nm,0.9s
TIY pmax pmax
comp=Z,2μm,3.8s
TIY LR LR
comp=Z,3μm,13.2s
TIY LR LR
comp=Z,4μm,12.1s
TIY LR LR
comp=Z,4μm,12.3s
NGJI **Ngawi** 37.26 239 P **P** 09 19 34.2 +4.3
AS31 **Alice Springs** 37.31 194 IAmb IAmb 09 19 32.1
comp=Z,32nm,0.4s
ASAR **Alice Springs** 37.31 194 P **P** 09 19 30.4 +0.2
comp=Z,31nm,0.4s,baz=23,slow=12,SNR=732
ASAR PP **PP** 09 20 58.5 +0.8
comp=Z,85nm,1.2s,baz=15,slow=12,SNR=7.0
ASAR PcP **PcP** 09 21 47.8 +0.4
comp=Z,11nm,0.6s,baz=28,slow=3.6,SNR=6.3
ASAR S **S** 09 25 03.4 -6.3
comp=Z,1.9nm,0.9s,baz=19,slow=17,SNR=2.9
ASAR ScP **ScP** 09 25 26.2 +1.8
comp=Z,2.7nm,0.8s,baz=18,slow=3.5,SNR=4.2
ASAR LR LR 09 35 52.6
comp=Z,2μm,18.6s,baz=16,slow=38
ASAR P3KPbc 09 49 49.9
comp=Z,0.4nm,0.6s,baz=188,slow=4.1,SNR=12
PWJI **Pagerwojo** 37.33 238 P **P** 09 19 30.1 -0.3
KLR **Kul'dur** 37.54 348 *de*P **P** 09 19 32.3 +0.5
KLR pmax pmax
comp=Z,290nm,2.0s
KLR **Kul'dur** 37.54 348 P **P** 09 19 32.4 +0.5
comp=Z,79nm,0.6s,baz=163,slow=9.6,SNR=111
KLR ScP **ScP** 09 25 25.6 +0.8
comp=Z,4.0nm,0.8s,baz=119,slow=6.3,SNR=3.8
KLR LR LR 09 32 38.9
comp=Z,5μm,20.6s,baz=147,slow=32
XAN **Xi'an** 37.56 310 P **P** 09 19 32.5 +0.2
XAN pP pwP 09 20 00.1 -1.3
XAN sP sP 09 20 12.1 +3.2
XAN S **S** 09 25 09.8 -3.6
XAN pmax pmax
comp=Z,60nm,0.9s
XAN pmax pmax
comp=Z,2μm,6.5s
XAN LR LR
comp=Z,4μm,13.3s
XAN LR LR
comp=Z,4μm,13.0s
XAN LR LR
comp=Z,3μm,16.3s
PCJI **Pacitan** 37.94 238 P **P** 09 19 36.1 +0.5
SKNT **Sakolnakorn** 37.98 281 P **P** 09 19 37.8 +1.8
comp=Z,147nm,1.1s
TYV **Tymovskoe** 37.98 360 *eP* **P** 09 19 35.6 +0.1
TYV pmax pmax
comp=Z,54nm,0.9s
TYV pmax pmax
comp=Z,3μm,5.4s
GRNR **Gornyy** 38.28 353 ⇓ *i* P **P** 09 19 38.5 +0.5
GRNR *e*S **S** 09 25 27.8 +4.1
GRNR pmax pmax
comp=Z,70nm,1.0s
GRNR smax smax
comp=N,10.0nm,1.0s
GRNR MLR MLR
comp=Z,7μm,15.0s
SLVN **Son La** 38.33 288 IAmb IAmb 09 19 42.6
comp=Z,40nm,0.7s
UGM **Wanagama** 38.33 239 P **P** 09 19 40.0 +1.0
TPI **Tanjungpandan** 38.42 249 P **P** 09 19 40.8 +1.1
YOGI **Yogyakarta** 38.47 240 P **P** 09 19 41.9 +1.8
EIDS **Eidsvold** 38.70 168 P **P** 09 19 41.9 +0.1
baz=39,SNR=29
EIDS **Eidsvold** 38.70 168 IAmb IAmb 09 19 43.4
comp=Z,138nm,1.1s
QLP **Quilpie** 39.14 178 P **P** 09 19 45.0 -0.4
baz=39,SNR=12
HHC **Hu-ho-hao-te** 39.29 321 P **P** 09 19 49.0 +2.3
HHC pmax pmax
comp=Z,49nm,1.2s
HHC pmax pmax
comp=Z,720nm,5.8s
KPJI **Karang Pucung** 39.38 241 P **P** 09 19 48.5 +0.8
RMQ **Roma** 39.41 172 P **P** 09 19 47.8 0.0
baz=40,SNR=17
CHAI **Chaiyaphum** 39.90 280 P **P** 09 19 52.9 +0.9
comp=Z,279μm,0.9s
KMI **Kunming** 39.94 294 P **P** 09 19 53.5 +1.0
KMI pP pP 09 20 18.3 +1.3
KMI PP **PP** 09 21 25.3 -1.2
KMI S **S** 09 25 52.1 +2.4
KMI SS **SS** 09 28 48.3 -2.6
KMI pmax pmax
comp=Z,73nm,1.1s
KMI pmax pmax
comp=Z,2μm,7.0s
KMI LR LR
comp=Z,3μm,14.1s
KMI LR LR
comp=Z,2μm,11.7s
KMI LR LR
comp=Z,4μm,13.9s
WRKA **Warakurna** 40.26 201 P **P** 09 19 54.9 +0.1
baz=40,SNR=409
LEM **Lembang** 40.27 243 P **P** 09 19 56.4 +1.2
LEM pmax pmax
comp=Z,131nm,0.9s
MYKOM **Kota Tinggi** 40.35 258 IAmb IAmb 09 19 59.4
comp=Z,88nm,1.0s
CISI **Cisompet, Garu** 40.45 242 P **P** 09 19 55.8 -0.8
CD2 **Chengdu** 40.46 303 ⇓ *i* P **P** 09 19 55.9 -0.6
CD2 PP **PP** 09 21 33.5 +1.6
CD2 S **S** 09 25 56.4 -0.6
CD2 pmax pmax
comp=Z,550nm,1.1s
CD2 pmax pmax
comp=Z,4μm,5.1s
CD2 LR LR
comp=Z,20μm,16.0s
CD2 LR LR
comp=Z,19μm,14.2s
CD2 LR LR
comp=Z,18μm,16.4s
PBKT **Sadao Pong** 40.87 281 P **P** 09 20 02.0 +2.1
PBKT IAmb IAmb 09 20 03.9
comp=Z,121nm,0.9s
CNJI **Cibinong** 40.92 243 P **P** 09 20 00.3 -0.1
PSA00 **Pilbara Seismi** 41.06 214 P **P** 09 20 01.5 +0.1
PSA00 IAmb IAmb 09 20 03.4
comp=Z,229nm,1.1s
PATY **Pattaya** 41.13 275 P **P** 09 20 05.3 +3.2
comp=Z,158μm,0.9s
HIA **Hailar** 41.17 337 *d* *i* P **P** 09 20 02.6 +0.6
HIA pmax pmax
comp=Z,1μm,2.0s
HIA **Hailar** 41.17 337 P **P** 09 20 03.4 +1.3
HIA IAmb IAmb 09 20 05.2
comp=Z,56nm,0.7s
DZM **Mont Dzumac** 41.52 146 *eP* **P** 09 20 06.9 +1.6
comp=Z,524nm,1.3s
DZM *ep*P **pP** 09 20 28.7 -1.2
comp=Z,482nm,1.4s
DZM *e*S **S** 09 26 07.6 -5.3
comp=Z,950nm,29.3s
DZM *e*LQ LQ 09 29 39.0
comp=Z,4μm,37.2s
DZM *e*LR LR 09 31 22.6
comp=Z,7μm,35.6s
DZM **Mont Dzumac** 41.52 146 P **P** 09 20 06.5 +1.2
comp=Z,88nm,0.7s,baz=300,slow=5.1,SNR=102
DZM **Mont Dzumac** 41.52 146 P **P** 09 20 06.9 +1.6
BLSI **Bandar Lampung** 41.70 247 P **P** 09 20 07.8 +1.0
KLSI 41.87 248 P **P** 09 20 08.5 +0.3
PEA0B **Petropavlovsk-** 41.89 13 P **P** 09 20 09.5 +1.7
PEA0B pmax pmax
comp=Z,228nm,1.5s
PEA0B **Petropavlovsk-** 41.89 13 P **P** 09 20 09.5 +1.7
PEA0B IAmb IAmb 09 20 43.4
comp=Z,228nm,1.5s
PETK **Petropavlovsk-** 41.89 13 P **P** 09 20 09.2 +1.4
comp=Z,9.6nm,0.7s,baz=134,slow=5.6,SNR=13
PETK PcP **PcP** 09 22 01.7 +0.3
comp=Z,6.2nm,0.5s,baz=165,slow=4.5,SNR=8.1
PETK ScP **ScP** 09 25 41.8 +0.2
comp=Z,12nm,0.9s,baz=204,slow=3.3,SNR=4.4
PETK LR LR 09 34 44.2
comp=Z,4μm,21.5s,baz=206,slow=32
PAYA **Payao** 41.96 285 P **P** 09 20 10.2 +1.3
comp=Z,280μm,0.7s
PET **Petropavlovsk** 42.03 14 *eP* **P** 09 20 05.4 -3.5
PET *e**PP **pP** 09 20 29.8 -3.8
PET *e*S **S** 09 26 17.3 -2.1
PET *e*SS **SS** 09 29 22.5 -8.4
PET pmax pmax
comp=Z,83nm,1.5s
PET pmax pmax
comp=Z,1μm,10.4s
SKLT **Songkhla** 42.16 267 P **P** 09 20 12.1 +1.6
comp=Z,411nm,0.8s,comp=Z,4μm
LAMP **Lampang** 42.16 284 P **P** 09 20 12.2 +1.7
comp=Z,199μm,1.1s
LZH **Lanzhou** 42.20 310 ⇓ P **P** 09 20 12.1 +1.3
LZH pP pP 09 20 37.0 +1.5
LZH PP **PP** 09 21 51.0 +0.3
LZH pmax pmax
comp=Z,310nm,1.2s
LZH pmax pmax
comp=Z,2μm,6.1s
LZH LR LR
comp=Z,6μm,14.1s
LZH LR LR
comp=Z,8μm,13.6s
LZH LR LR
comp=Z,7μm,16.5s
MDSI **Maura Dua** 42.29 249 P **P** 09 20 11.5 -0.1
PHET **Kaeng Krachan** 42.33 275 P **P** 09 20 14.8 +2.9
comp=Z,202μm,1.0s
IPM **Ipoh** 42.34 263 P **P** 09 20 12.6 +0.5
IPM IAmb IAmb 09 20 14.8
comp=Z,96nm,0.9s
UTHA **Uthaitani** 42.35 279 P **P** 09 20 13.9 +1.8
comp=Z,250μm,1.1s
KASI **Kota Agung** 42.44 247 P **P** 09 20 13.6 +0.8
KULM **Kulim** 42.52 264 P **P** 09 20 14.6 +1.1
LWLI **Liwa** 42.62 248 P **P** 09 20 17.5 +3.1
SRDT **SRDT** 42.72 277 P **P** 09 20 17.7 +2.6
comp=Z,43nm,1.3s,comp=Z,2μm
ZEA **Zeya** 42.75 346 *eP* **P** 09 20 15.0 +0.2
ZEA pmax pmax
comp=N,89nm,1.0s
ZEA pmax pmax
comp=Z,130nm,1.0s
CM31 **Chiang Mai Arr** 42.81 283 P **P** 09 20 17.7 +1.9
SNR=8.8
CM31 **Chiang Mai Arr** 42.81 283 IAmb IAmb 09 20 20.0
comp=Z,140nm,0.8s
CMAR **Chiang Mai Arr** 42.81 283 *i* P **P** 09 20 17.1 +1.3
CMAR pmax pmax
comp=Z,139nm,1.0s
CMAR **Chiang Mai Arr** 42.81 283 P **P** 09 20 17.1 +1.3
comp=Z,129nm,1.0s,baz=86,slow=6.0,SNR=57
CMAR PcP **PcP** 09 22 06.8 +1.6
comp=Z,19nm,0.8s,baz=104,slow=2.0,SNR=6.0
CMAR PKP2ab 09 53 20.0
comp=Z,0.5nm,0.3s,baz=308,slow=4.4,SNR=4.5
CHTO **Chiang Mai** 42.82 284 P **P** 09 20 16.4 +0.6
CHTO pmax pmax
comp=Z,31nm,1.1s
CHTO **Chiang Mai** 42.82 284 P **P** 09 20 16.4 +0.6
UMPA **Umpang Tak** 42.90 280 P **P** 09 20 18.7 +2.2
comp=Z,190μm,1.0s
TRTT **Trang** 42.94 268 P **P** 09 20 18.3 +1.4
comp=Z,212nm,1.0s
KSI **Kapahiang** 43.41 251 P **P** 09 20 22.9 +2.2
BKNI **Bangkinang** 43.48 257 P **P** 09 20 23.0 +1.8
BKNI **Bangkinang** 43.48 257 P **P** 09 20 21.2 0.0
BKNI IAmb IAmb 09 21 01.1
comp=Z,212nm,1.1s
SDSI **Sungai Dareh** 43.51 255 P **P** 09 20 22.0 +0.5
MASI **Maura Aman, Be** 43.54 251 P **P** 09 20 25.5 +3.8
SURT **Suratani** 43.62 270 P **P** 09 20 22.3 -0.1
comp=Z,202nm,1.0s,comp=Z,2μm
ARMA **Armidale** 43.72 169 P **P** 09 20 23.2 +0.3
baz=44,SNR=15
MHMT **Maesarieng** 43.77 283 P **P** 09 20 25.2 +1.7
comp=Z,172nm,1.0s,comp=Z,3μm
CMSA **Cobar Meteorol** 44.13 177 P **P** 09 20 26.3 +0.3
baz=44,SNR=114
PKDT **Phuket** 44.25 268 P **P** 09 20 29.2 +1.8
comp=Z,302nm,1.1s,comp=Z,6μm
STKA **Stephens Creek** 44.42 182 P **P** 09 20 28.2 -0.1
comp=Z,45nm,0.4s,baz=2.4,slow=7.8,SNR=300
STKA PcP **PcP** 09 22 11.2 +0.9
comp=Z,10nm,0.5s,baz=76,slow=4.2,SNR=2.9
STKA LR LR 09 40 15.8
comp=Z,2μm,20.4s,baz=355,slow=38
RPSI **Rantau Prapat** 44.82 261 IAmb IAmb 09 20 34.2
comp=Z,121nm,0.8s
GIRL **Giralia** 45.15 219 P **P** 09 20 36.2 +1.9
baz=45,SNR=5.4
FORT **Forrest** 45.65 198 P **P** 09 20 38.9 +0.8
baz=46,SNR=67
FORT **Forrest** 45.65 198 P **P** 09 20 38.7 +0.6
KCSI **Kotacane, Aceh** 45.72 262 P **P** 09 20 38.7 -0.4
CIT **Chita** 45.79 335 *eP* **P** 09 20 39.7 +0.6
CIT *e* 09 21 06.1
CIT pmax pmax
comp=Z,296nm,2.6s
BBOO **Buckleboo** 45.82 188 P **P** 09 20 39.6 +0.1
baz=46,SNR=165
BBOO **Buckleboo** 45.82 188 P **P** 09 20 39.4 0.0
BBOO IAmb IAmb 09 20 40.9
comp=Z,110nm,0.8s
MEEK **Meekatharra** 45.83 211 P **P** 09 20 39.4 -0.3
baz=46,SNR=34
SISI **Saibi** 45.85 255 P **P** 09 20 39.0 -1.0
JOHN **Johnston Islan** 45.91 79 P **P** 09 20 41.2 +0.8
MSVF **Nonsavu** 45.94 131 P **P** 09 20 42.7 +2.0
MSVF pmax pmax
comp=Z,87nm,1.0s
MSVF **Nonsavu** 45.94 131 P **P** 09 20 42.7 +2.0
MSVF IAmb IAmb 09 21 22.0
comp=Z,87nm,1.0s
ULN **Ulaanbaatar** 46.08 327 P **P** 09 20 42.5 +0.9
ULN **Ulaanbaatar** 46.08 327 *d* *i* P **P** 09 20 42.5 +0.9
ULN pmax pmax
comp=Z,95nm,1.0s
ULN **Ulaanbaatar** 46.08 327 P **P** 09 20 42.7 +1.1
ULN IAmb IAmb 09 20 44.9
comp=Z,66nm,0.8s
HTT **Hallett** 46.12 185 P **P** 09 20 42.1 +0.2
baz=46,SNR=22
LHMI **Lhok Sumawe** 46.13 265 P **P** 09 20 44.9 +2.7
TPTI 46.36 262 P **P** 09 20 43.8 -0.2
SONM **Songino Airray** 46.42 326 P **P** 09 20 45.0 +0.9
comp=Z,57nm,0.5s,baz=141,slow=7.0,SNR=99
SONM ScP **ScP** 09 26 00.8 +0.4
comp=Z,4.1nm,0.8s,baz=150,slow=3.2,SNR=3.8
SONM LR LR 09 41 36.9
comp=Z,2μm,18.9s,baz=127,slow=38
GTA **Gaotai** 46.43 313 ⇓ P **P** 09 20 45.3 +0.9
GTA pP pP 09 21 09.4 0.0
GTA PP **PP** 09 22 38.3 +3.1
GTA ScP **ScP** 09 25 59.5 -1.2
GTA ScS **ScS** 09 30 26.5 -2.0
GTA pmax pmax
comp=Z,98nm,0.9s
GTA pmax pmax

GTA LR LR
comp=Z,2µm,14.4s
GTA LR LR
comp=Z,3µm,15.8s
GTA LR LR
comp=Z,4µm,15.8s
GSI Gunungsitoli 46.49 260 P **P** **09 20 44.3 -0.8**
GSI Gunungsitoli 46.49 260 P **P** **09 20 44.8 -0.3**
MLSI Meulaboh, Aceh 46.87 264 P **P** **09 20 47.4 -0.6**
MA2 Magadan 47.06 5*d* iP **P** **09 20 48.5 -0.3**
MA2 pmax pmax
comp=Z,137nm,1.7s
MA2 Magadan 47.06 5 P **P** **09 20 48.8 0.0**
comp=Z,30nm,0.6s,baz=193,slow=10,SNR=17
MA2 Magadan 47.06 5 IAmb IAmb 09 21 20.2
comp=Z,99nm,0.9s
YNG Young 47.08 174 P **P** **09 20 50.0 +0.7**
baz=47,SNR=30
SNSI Sinabang, Aceh 47.40 261 P **P** **09 20 53.8 +1.7**
KOHI KOHIMA 47.75 293 *eP* **P** **09 20 53.8 -1.1**
CAN Canberra 48.16 174 P **P** **09 20 58.7 +1.1**
CAN pmax pmax
comp=Z,284nm,1.7s
CAN Canberra 48.16 174 P **P** **09 20 58.7 +1.1**
CAN IAmb IAmb 09 21 26.6
comp=Z,284nm,1.7s
CNB Canberra Magne 48.19 173 P **P** **09 20 58.9 +1.0**
baz=48,SNR=31
KMBL Kambalda 48.38 204 P **P** **09 20 59.5 +0.1**
baz=48,SNR=20
SAIH SAIHA 48.52 289 *eP* **P** **09 21 01.2 +0.4**
AZL Aizawl 48.87 290 *eP* **P** **09 21 02.9 -0.5**
AZL IAmb IAmb 09 21 07.3
comp=Z,86nm,0.8s
MORW Morawa 49.12 212 P **P** **09 21 05.2 +0.1**
baz=49,SNR=53
MORW Morawa 49.12 212 P **P** **09 21 05.2 +0.1**
ARPS Mount Arapiles 49.29 181 P **P** **09 21 07.2 +1.0**
baz=50,SNR=100
ZAK Zakamensk 49.57 327 *eP* **P** **09 21 08.3 0.0**
ZAK *e* 09 21 32.0
ZAK pmax pmax
comp=Z,107nm,1.2s
ZAK pmax pmax
comp=Z,55nm,1.6s
SHL Shillong 49.73 293 P **P** **09 21 10.4 +0.3**
SNR=17
SHL Shillong 49.73 293 P **P** **09 21 10.1 0.0**
SHL pmax pmax
comp=Z,191nm,0.8s
SHL Shillong 49.73 293 *eP* **P** **09 21 10.0 0.0**
SHL IAmb IAmb 09 21 13.7
comp=Z,119nm,1.1s
SHL *i* pP **pwP** **09 21 39.3 -1.1**
SHL Shillong 49.73 293 P **P** **09 21 10.1 0.0**
SHL Shillong 49.73 293 ⇓*i* P **P** **09 21 10.0 0.0**
GUWA GUWAHATI 49.96 293 *eP* **P** **09 21 11.4 -0.2**
BLDU Ballidu 50.05 210 P **P** **09 21 12.3 +0.2**
baz=50,SNR=26
BOD Bodaibo 50.07 340 *eP* **P** **09 21 12.3 +0.4**
BOD pmax pmax
comp=Z,143nm,1.3s
YAK Yakutsk 50.12 352*d* iP **P** **09 21 11.7 -0.5**
YAK *e**PP **pP** **09 21 37.8 +0.3**
YAK *e*S **S** **09 28 14.9 0.0**
YAK pmax pmax
comp=Z,252nm,0.9s
YAK pmax pmax
comp=E,21nm,0.8s
YAK pmax pmax
comp=N,75nm,1.1s
YAK smax smax
comp=N,66nm,1.2s
YAK smax smax
comp=E,115nm,1.5s
YAK Yakutsk 50.12 352 P **P** **09 21 11.8 -0.3**
comp=E,136nm,0.6s,baz=133,slow=0.7,SNR=40
YAK S **S** **09 28 13.8 -1.1**
comp=E,6.0nm,0.4s,baz=244,slow=19,SNR=9.8
YAK LR LR 09 40 59.8
comp=E,3µm,19.5s,baz=156,slow=34
YAK Yakutsk 50.12 352 P **P** **09 21 12.7 +0.5**
TOO Toolangi 50.13 178 P **P** **09 21 14.2 +1.6**
baz=50,SNR=116
TLY Talaya 50.13 329 P **P** **09 21 13.1 +0.6**
TLY Talaya 50.13 329*d* iP **P** **09 21 13.4 +0.9**
TLY *e* 09 21 46.0
TLY pmax pmax
comp=Z,126nm,0.9s
TLY Talaya 50.13 329 P **P** **09 21 13.5 +1.0**
comp=Z,23nm,0.6s,baz=154,slow=3.8,SNR=22
TLY Talaya 50.13 329 P **P** **09 21 13.2 +0.6**
TLY IAmb IAmb 09 21 15.9
comp=Z,36nm,0.8s
IRK Irkutsk 50.16 330 *eP* **P** **09 21 12.0 -0.7**
IRK pmax pmax
comp=Z,256nm,2.6s
KLBR Kellerberrin 50.36 208 P **P** **09 21 14.6 +0.2**
baz=50,SNR=69
SEY Seymchan 50.52 5 P **P** **09 21 15.7 +0.5**
comp=Z,22nm,0.8s,baz=177,slow=7.8,SNR=19
SEY LR LR 09 43 48.9
comp=Z,3µm,18.5s,baz=203,slow=37
ADK Adak 50.65 31 P **P** **09 21 18.4 +2.1**
ADK pmax pmax
comp=Z,174nm,1.3s
ADK Adak 50.65 31 P **P** **09 21 18.4 +2.1**
LSA Lhasa 50.83 298 P **P** **09 21 20.2 +1.5**
LSA Lhasa 50.83 298 P **P** **09 21 20.2 +1.5**
LSA Lhasa 50.83 298 P **P** **09 21 20.1 +1.5**
LSA Lhasa 50.83 298 IAmb IAmb 09 21 22.3
comp=Z,82nm,0.8s
MUN Mundaring 51.41 209 P **P** **09 21 22.7 +0.4**
baz=52,SNR=21
MOY Mondy 51.48 328 *eP* **P** **09 21 22.9 +0.1**
MOY pmax pmax
comp=Z,234nm,3.3s
NWAO Narrogin (SRO) 51.72 208 P **P** **09 21 25.2 +0.6**
baz=52,SNR=7.4
NWAO Narrogin (SRO) 51.72 208 P **P** **09 21 25.0 +0.4**
NWAO pmax pmax
comp=Z,102nm,1.3s
NWAO Narrogin (SRO) 51.72 208 P **P** **09 21 25.0 +0.4**
NWAO IAmb IAmb 09 21 53.4
comp=Z,102nm,1.2s
AFI Afiamalu 51.99 119 P **P** **09 21 28.7 +1.8**
comp=Z,33nm,0.7s,baz=71,slow=22,SNR=5.2
AFI LR LR 09 40 27.0
comp=Z,690nm,19.1s,baz=295,slow=32
AFI Afiamalu 51.99 119 IAmb IAmb 09 21 52.1
comp=Z,131nm,1.2s
GTK Tadong 52.81 295 *eP* **P** **09 21 33.7 +0.7**
RKGY Rocky Gully 53.25 207 P **P** **09 21 36.8 +1.0**
baz=53,SNR=27
TAPN Taplejung 53.60 295 *eP* **P** **09 21 39.3 +0.3**
ODAN Odare 53.85 294 *eP* **P** **09 21 40.5 -0.3**
comp=Z,112nm,0.5s
RAMN Ramite 54.56 294 *eP* **P** **09 21 46.2 +0.3**
JIRN Jiri 54.97 295 *eP* **P** **09 21 49.4 +0.4**
comp=Z,386nm,0.7s
KEKH Kekaha 55.09 72 P **P** **09 21 51.0 +1.5**
BOK Bokaro 55.10 290 *eP* **P** **09 21 49.0 -0.5**
BOK IAmb IAmb 09 21 52.8
comp=Z,225nm,1.1s
GUN Gumba 55.26 295 *eP* **P** **09 21 51.5 +0.4**
comp=Z,753nm,0.9s
PKI Pulchoki 55.65 295 *eP* **P** **09 21 53.7 -0.2**
comp=Z,11nm,0.5s
PKIN Phulchoki 55.67 295 *eP* **P** **09 21 53.7 -0.2**
comp=Z,106nm,0.5s
KKN Kakani 55.78 295 *eP* **P** **09 21 54.6 0.0**
comp=Z,192nm,0.8s
OUZ Omahuta 55.80 150 P **P** **09 21 57.1 +2.9**
OUZ Omahuta 55.80 150 P **P** **09 21 56.7 +2.4**
DMN Daman 55.92 295 *eP* **P** **09 21 55.9 +0.2**
comp=Z,361nm,0.8s
GKN Gorkha 56.36 295 *eP* **P** **09 21 58.9 +0.2**
WMQ Urumqi 56.45 314 *eP* **P** **09 21 59.9 +0.9**
WMQ pP pP 09 22 25.3 +0.5
WMQ PcP **PcP** **09 22 55.8 +1.2**
WMQ S **S** **09 29 40.1 -1.4**
WMQ pmax pmax
comp=Z,93nm,1.1s
WMQ pmax pmax
comp=Z,910nm,4.1s
WMQ LR LR
comp=Z,3µm,28.8s
WMQ LR LR
comp=Z,8µm,29.1s
WMQ LR LR
comp=Z,2µm,28.1s
KIP Kipapa 56.68 73 P **P** **09 22 02.0 +1.2**
KIP pmax pmax
comp=Z,370nm,1.9s
KIP Kipapa 56.68 73 P **P** **09 22 02.0 +1.2**
HON Honolulu 56.69 73 P **P** **09 22 02.7 +1.8**
HON pmax pmax
comp=Z,88nm,0.8s
HON Honolulu 56.69 73 P **P** **09 22 02.7 +1.8**
HON IAmb IAmb 09 22 04.3
comp=Z,88nm,0.8s
WCZ Waipu Caves 56.74 150 P **P** **09 22 03.4 +2.5**
UNV Unalaska Valle 56.95 33 P **P** **09 22 01.9 -0.2**
UNV IAmb IAmb 09 22 33.0
comp=Z,82nm,1.2s
DANN Dangsing 57.15 296 *eP* **P** **09 22 04.7 +0.2**
comp=Z,606nm,0.6s
BILL Bilibino 57.26 10*d* iP **P** **09 22 03.2 -0.9**
BILL *i* 09 22 33.5
BILL *e* 09 22 57.9
BILL *e* 09 24 11.3
BILL pmax pmax
comp=Z,106nm,2.5s
BILL MLR MLR
comp=Z,5µm,18.0s
BILL Bilibino 57.26 10 P **P** **09 22 05.3 +1.2**
BILL IAmb IAmb 09 22 34.4
comp=Z,86nm,1.1s
KOLN Koldanda 57.27 295 *eP* **P** **09 22 05.2 0.0**
comp=Z,254nm,0.8s
GRZ Great Barrier 57.54 149 P **P** **09 22 09.2 +2.6**
KUZ Kuaotunu 58.06 149 P **P** **09 22 11.9 +1.7**
HLK Haleakala 58.35 73 P **P** **09 22 14.4 +1.5**
TOZ Tahuroa Road 58.73 150 P **P** **09 22 16.7 +2.0**
HUH Hualalai 58.79 75 P **P** **09 22 17.6 +1.7**
HUH IAmb IAmb 09 23 28.4
comp=Z,84nm,0.9s
KHU Kahuku 59.02 75 P **P** **09 22 18.7 +1.1**
KHU pmax pmax
comp=Z,189nm,1.1s
KHU Kahuku 59.02 75 P **P** **09 22 18.7 +1.1**
ZSN Zaisan 59.33 318 ⇓*i* P **P** **09 22 19.1 +0.1**
comp=Z,538nm,4.2s
ZSN *ep*P **pP** **09 22 46.6 +1.5**
ZSN Zaisan 59.33 318*d* iP **P** **09 22 19.1 +0.1**
ZSN *e**PP **pP** **09 22 46.5 +1.5**
TIXI Tiksi 59.47 355*de*P **P** **09 22 18.4 -1.0**
TIXI pmax pmax
comp=Z,52nm,0.8s
TIXI Tiksi 59.47 355 P **P** **09 22 18.6 -0.8**
comp=Z,38nm,0.5s,baz=180,slow=24,SNR=31
TIXI Tiksi 59.47 355 P **P** **09 22 18.6 -0.8**
TIXI IAmb IAmb 09 22 20.9
comp=Z,42nm,0.7s
VRZ Vera Road 59.48 152 P **P** **09 22 21.9 +2.0**
QRZ Quartz Range 59.89 154 P **P** **09 22 24.5 +1.8**
QRZ Quartz Range 59.89 154 P **P** **09 22 23.9 +1.2**
DSZ Denniston Nort 60.36 156 P **P** **09 22 27.0 +1.0**
JBP Jabalpur 60.52 289 *ex* **P** **09 22 28.3 +0.9**
NNZ Nelson 60.58 154 P **P** **09 22 27.9 +0.6**
SDPT Sand Point 60.76 33 IAmb IAmb 09 23 40.4
comp=Z,73nm,0.8s
THZ Tophouse 60.83 155 P **P** **09 22 29.8 +0.7**
THZ Tophouse 60.83 155 P **P** **09 22 30.0 +0.8**
THZ IAmb IAmb 09 22 51.9
comp=Z,96nm,1.3s
MK31 Makanchi Array 60.88 317 *i* P **P** **09 22 29.9 +0.4**
MK31 pmax pmax
comp=Z,33nm,0.6s
MKAR Makanchi Array 60.88 317 P **P** **09 22 30.2 +0.7**
comp=Z,47nm,0.6s,baz=96,slow=7.4,SNR=57
MKAR PKP2bc 09 51 55.2
comp=Z,4.0nm,0.8s,baz=270,slow=4.9,SNR=7.1
KIW Kapiti Island 60.95 153 P **P** **09 22 30.5 +0.5**
TUWZ Tuamarina 60.99 154 P **P** **09 22 30.4 +0.3**
OGWZ Otaki Gorge 61.03 153 P **P** **09 22 31.1 +0.6**
MAKZ Makanchi 61.09 317 P **P** **09 22 31.5 +0.5**
MAKZ pmax pmax
comp=Z,114nm,0.7s
CAW Cannon Point 61.22 153 P **P** **09 22 32.2 +0.4**
HOWZ Holdsworth Sta 61.25 152 P **P** **09 22 32.7 +0.7**
ZALV Zalesovo Beam 61.28 325 P **P** **09 22 32.0 -0.1**
ZALV Zalesovo Beam 61.28 325 P **P** **09 22 31.9 -0.1**
comp=Z,159nm,0.4s,baz=111,slow=7.3,SNR=237
ZALV LR LR 09 49 33.9
comp=Z,1µm,19.4s,baz=95,slow=36
ZALV PKPPKP **P'P'df** **09 51 47.9 +1.1**
comp=Z,1.5nm,0.5s,baz=297,slow=3.4,SNR=4.9
CMWZ Cape Campbell 61.37 154 P **P** **09 22 33.6 +0.8**
BHW Baring Head 61.38 153 P **P** **09 22 33.2 +0.4**
LTZ Lake Taylor 61.42 156 IAmb IAmb 09 22 35.6
comp=Z,98nm,1.4s
MTW Mount Morrison 61.46 153 P **P** **09 22 33.8 +0.5**
PALK Pallekele 61.56 271 P **P** **09 22 35.2 +0.5**
PALK Pallekele 61.56 271 P **P** **09 22 35.2 +0.5**
PALK Pallekele 61.56 271 P **P** **09 22 35.4 +0.7**
PALK pmax pmax
comp=Z,60nm,1.1s
PALK Pallekele 61.56 271 P **P** **09 22 35.4 +0.7**
PALK IAmb IAmb 09 22 37.3
comp=Z,60nm,1.1s
TMWZ Te Maipa 61.59 152 P **P** **09 22 35.1 +0.8**
KHZ Kahutara 61.63 155 P **P** **09 22 34.8 +0.3**
KHZ IAmb IAmb 09 23 02.2
comp=Z,74nm,1.2s
RPZ Rata Peaks 61.74 157 LR LR 09 45 40.2
comp=Z,833nm,21.0s,baz=328,slow=32
RPZ Rata Peaks 61.74 157 P **P** **09 22 35.9 +0.7**
LBZ Lake Benmore 61.99 158 IAmb IAmb 09 23 00.1
comp=Z,120nm,1.3s
MLZ Mavora Lakes 62.14 160 P **P** **09 22 39.3 +1.4**
SHLS Shalkode 62.17 312 ⇓*i* P **P** **09 22 36.6 -1.8**
comp=Z,25nm,0.4s
SHLS Shalkode 62.17 312*d* iP **P** **09 22 36.6 -1.8**
SHLS pmax pmax
comp=Z,25nm,0.4s
PDGK Podgornoye 62.17 312 P **P** **09 22 38.5 0.0**
PDGK pmax pmax
comp=Z,67nm,0.7s
DDI Dehra Dun 62.20 298 *eP* **P** **09 22 39.4 +0.6**
HYB Hyderabad 62.24 283 *i* P **P** **09 22 38.0 -1.2**
HYB *ep*P **pP** **09 23 03.0 -2.5**
HYB *e*PcP **sP** **09 23 17.5 +0.1**
HYB Hyderabad 62.24 283 *eP* **P** **09 22 37.1 -2.0**
UZB Uzunbulak 62.48 312 ⇓*i* P **P** **09 22 40.8 +0.2**
comp=Z,312nm,3.8s
UZB *ep*P **pP** **09 23 05.3 -1.6**
UZB Uzunbulak 62.48 312*d* iP **P** **09 22 40.7 +0.2**
UZB *e**PP **pP** **09 23 05.3 -1.6**
UZB pmax pmax
comp=Z,312nm,3.8s
KPKS Kokpek 62.78 312 ⇓*i* P **P** **09 22 42.4 0.0**
comp=Z,56nm,0.7s
KPKS Kokpek 62.78 312*d* iP **P** **09 22 42.4 0.0**
KPKS pmax pmax
comp=Z,55nm,0.7s
PRZ Przheval'sk 62.85 311 P **P** **09 22 43.6 +0.6**
PRZ pmax pmax
comp=Z,156nm,0.8s
PRZ Przheval'sk 62.85 311 P **P** **09 22 43.6 +0.6**
ZHN Zhinishke 62.91 312 ⇓*eP* **P** **09 22 43.5 +0.2**
comp=Z,150nm,3.0s
ZHN Zhinishke 62.91 312*deP* **P** **09 22 43.5 +0.2**
ZHN pmax pmax
comp=Z,150nm,3.0s
SATY Saty 62.92 312 ⇓*deP* **P** **09 22 43.9 +0.5**
comp=Z,394nm,2.9s
SATY Saty 62.92 312*deP* **P** **09 22 43.9 +0.5**
SATY pmax pmax
comp=Z,394nm,2.9s
SMLA Simla 62.98 298 *eP* **P** **09 22 43.8 0.0**
SMLA IAmb IAmb 09 22 47.1
comp=Z,132nm,0.4s
SMLA *i* x x 09 23 13.9
TDK Taldyqorghan 63.20 314 *eP* **P** **09 22 45.8 +0.6**
comp=Z,308nm,0.7s
TDK Taldyqorghan 63.20 314 *eP* **P** **09 22 45.7 +0.6**
TDK pmax pmax
comp=Z,308nm,0.7s
DHRM DHARAMSHALA 63.74 300 *eP* **P** **09 22 48.5 -0.7**
DHRM IAmb IAmb 09 22 53.0
comp=Z,70nm,0.7s
MDOK Medeo 63.92 312 *eP* **P** **09 22 50.6 +0.5**
MDOK Medeo 63.92 312 *eP* **P** **09 22 50.5 +0.5**
AAA Alma-Ata 64.02 312 *eP* **P** **09 22 51.9 +1.3**
AAA *eS* **S** **09 31 20.9 +2.7**
AAA pmax pmax
comp=Z,900nm,3.9s
AAA smax smax
comp=E,600nm,14.3s
KURK Kurchatov 64.09 320 P **P** **09 22 51.1 +0.3**
KURK Kurchatov 64.09 320*d* iP **P** **09 22 50.9 +0.1**
KURK pmax pmax
comp=Z,342nm,0.7s
KURK Kurchatov 64.09 320 P **P** **09 22 51.1 +0.3**
KURBB Kurchatov Arra 64.13 320 P **P** **09 22 51.1 +0.1**
comp=Z,327nm,0.6s,baz=106,slow=6.8,SNR=246
KURBB PKP2bc 09 51 47.9
comp=Z,3.7nm,0.8s,baz=282,slow=3.7,SNR=14
KSH Kashi 64.36 308 P **P** **09 22 56.1 +3.2**
KSH PcP **sP** **09 23 29.8 -1.5**
KSH PcS 09 27 31.3
KSH S **S** **09 31 25.6 +2.9**
KSH pmax pmax
comp=Z,110nm,0.6s
KSH pmax pmax
comp=Z,2µm,4.7s
KSH LR LR
comp=Z,5µm,11.9s
KSH LR LR
comp=Z,8µm,12.8s
KSH LR LR
comp=Z,13µm,13.6s
ULHL Ulahol 64.41 311 P **P** **09 22 54.6 +1.3**
SNR=20
NRN Naryn 64.50 310 IAmb IAmb 09 22 56.9
comp=Z,100nm,1.3s
BOOM Boomskoye usch 64.65 311 IAmb IAmb 09 22 57.7
comp=Z,68nm,0.5s
TKM2 Tokmak 2 64.95 311 P **P** **09 22 57.1 +0.3**
TKM2 pmax pmax
comp=Z,43nm,0.8s
TKM2 Tokmak 2 64.95 311 P **P** **09 22 57.4 +0.6**
SNR=15
TRD Trivandrum 64.99 274 *eP* **P** **09 22 58.5 +1.2**
TRD IAmb IAmb 09 23 00.3
comp=Z,40nm,0.7s
KZA Kyzart 65.12 311 P **P** **09 22 59.6 +1.4**
SNR=32
KBK Karagaybulak 65.40 311 P **P** **09 23 00.4 +0.7**
SNR=22
CHMS Chumysh 65.58 312 P **P** **09 23 00.8 +0.2**
SNR=14
FRU1 Bishkek 65.65 311 IAmb IAmb 09 23 03.9
comp=Z,90nm,0.9s
UCH Uchtor 65.68 311 P **P** **09 23 03.1 +1.2**
SNR=17
AAK Ala-Archa 65.73 311 *i* P **P** **09 23 02.0 +0.2**
SNR=15
AAK Ala-Archa 65.73 311 *i* P **P** **09 23 02.0 +0.2**
SNR=15
AAK Ala-Archa 65.73 311 P **P** **09 23 02.0 +0.2**
AAK Ala-Archa 65.73 311*d* iP **P** **09 23 01.9 +0.2**
AAK pmax pmax
comp=Z,25nm,0.7s
AAK Ala-Archa 65.73 311 P **P** **09 23 01.3 -0.5**
comp=Z,25nm,0.5s,baz=108,slow=5.4,SNR=35
AAK PKP2bc 09 51 43.4
comp=Z,1.8nm,0.5s,baz=242,slow=4.0,SNR=4.6
AAK Ala-Archa 65.73 311 P **P** **09 23 02.6 +0.8**
SNR=14
AAK Ala-Archa 65.73 311 IAmb IAmb 09 23 04.6
comp=Z,50nm,1.1s
USP Ospenovka 65.78 312 P **P** **09 23 02.2 +0.2**
SNR=13
EKS2 Erkin-Say 66.26 311 P **P** **09 23 05.5 +0.4**
SNR=11
BTLS Baital 66.28 314 *eP* **P** **09 23 04.7 -0.3**
BTLS *ep*P **pP** **09 23 30.0 -1.7**
BTLS Baital 66.28 314 *eP* **P** **09 23 04.7 -0.3**
BTLS *e**PP **pP** **09 23 30.0 -1.7**
AML Almayashu 66.28 310 P **P** **09 23 06.7 +1.0**
SNR=22
NIL Nilore 66.32 301 P **P** **09 23 06.4 +0.8**
NIL Nilore 66.32 301 P **P** **09 23 06.2 +0.7**
NIL pmax pmax
comp=Z,439nm,0.7s
NIL Nilore 66.32 301 P **P** **09 23 06.2 +0.7**
NRIK Noril'sk 66.34 341 P **P** **09 23 04.9 -0.1**
comp=Z,70nm,0.6s,baz=114,slow=7.1,SNR=39
NRIK LR LR 09 53 19.1
comp=Z,5µm,18.2s,baz=110,slow=37
POO Poona 66.58 285 *eP* **P** **09 23 07.1 -0.4**
POO IAmb IAmb 09 23 09.2
comp=Z,113nm,0.9s
POO Poona 66.58 285 *ex* **P** **09 23 05.0 -2.5**
BRLK Bradley Lake 67.04 30 IAmb IAmb 09 24 05.2
comp=Z,176nm,1.6s
SUA Susitna One 67.54 28 IAmb IAmb 09 25 32.6
comp=Z,39nm,0.7s
BRZS Berezniki 67.73 319 ⇓*iP* **P** **09 23 14.1 -0.1**
comp=Z,284nm,2.6s
BRZS *ep*P **PcP** **09 23 38.8 -1.5**
BRZS Berezniki 67.73 319*d* iP **P** **09 23 14.0 -0.1**
BRZS *e**PP **PcP** **09 23 38.7 -1.5**
BRZS pmax pmax
comp=Z,284nm,2.6s
SEW Seward 67.82 30 IAmb IAmb 09 24 42.4
comp=Z,217nm,1.6s
RC01 Rabbit Creek A 67.92 29 IAmb IAmb 09 23 28.6
comp=Z,45nm,0.6s
DZA Taraz 68.07 311 *eP* **P** **09 23 15.7 -0.8**
DZA Taraz 68.07 311 *eP* **P** **09 23 15.7 -0.8**
PMR Palmer 68.32 28 P **P** **09 23 16.0 -1.6**
PMR pmax pmax
comp=Z,43nm,0.7s
PMR Palmer 68.32 28 P **P** **09 23 16.0 -1.6**
PMR IAmb IAmb 09 23 29.9
comp=Z,43nm,0.7s
GHO Glory Hole Cre 68.46 28 IAmb IAmb 09 24 12.8
comp=Z,70nm,1.1s
MLY Manley 68.52 25 P **P** **09 23 18.5 -0.4**
KNK Knik Glacier 68.60 29 IAmb IAmb 09 24 16.1
comp=Z,59nm,0.9s
JBG Jabagly 68.63 311*d* iP **P** **09 23 20.6 +0.5**
JBG *e**PP **pP** **09 23 45.8 -1.1**
JBG pmax pmax
comp=Z,126nm,1.4s
KK31 Karatay Array 68.68 311 *i* P **P** **09 23 20.3 +0.1**
KK31 pmax pmax
comp=Z,38nm,0.6s
KK31 Karatay Array 68.68 311 IAmb IAmb 09 23 22.9
comp=Z,60nm,0.7s
KKAR Karatay Array 68.68 311 IAmb IAmb 09 23 22.9
comp=Z,60nm,0.7s
MCK McKinley 68.93 26 IAmb IAmb 09 24 08.6
comp=Z,172nm,2.0s
SCM Sheep Creek Mo 69.21 28 IAmb IAmb 09 24 10.2
comp=Z,112nm,1.1s
FID Port Fidalgo 69.40 30 IAmb IAmb 09 24 31.0
comp=Z,69nm,0.9s
DHY Denali Highway 69.46 27 IAmb IAmb 09 24 15.6
comp=Z,130nm,1.9s
BVAR Borovoye Array 69.49 322 P **P** **09 23 25.3 +0.3**
comp=Z,327nm,0.4s,baz=109,slow=7.4,SNR=681
TAS Tashkent 69.54 309 P **P** **09 23 27.2 +1.6**
TAS pmax pmax
comp=Z,175nm,0.4s
BRVK Borovoye 69.56 322 P **P** **09 23 26.0 +0.6**
BRVK Borovoye 69.56 322*d* iP **P** **09 23 25.6 +0.2**
BRVK pmax pmax
comp=Z,226nm,0.6s
BRVK Borovoye 69.56 322 P **P** **09 23 25.7 +0.3**
COLA College 69.66 25¶ *eP* **P** **09 23 27.0 +1.2**
COLA pmax pmax
comp=Z,36nm,2.1s
COLA College 69.66 25 P **P** **09 23 26.8 +1.0**
EYAK Cordova Ski Ar 69.72 30 IAmb IAmb 09 24 23.8
comp=Z,179nm,1.7s
KBL Kabul 69.80 302 P **P** **09 23 27.4 -0.1**
KBL Kabul 69.80 302 P **P** **09 23 27.2 -0.3**
KBL pmax pmax
comp=Z,209nm,1.4s
KBL Kabul 69.80 302 P **P** **09 23 27.2 -0.3**
KBL IAmb IAmb 09 23 30.9

comp=Z,209nm,1.4s
TOLK Toolik Lake Re 69.99 21 IAmb IAmb 09 24 50.7
comp=Z,131nm,1.6s
IL31 70.04 25 P **P** **09 23 26.1 -2.0**
IL31 IAmb IAmb 09 24 14.9
comp=Z,162nm,1.9s
ILAR Eielson Array 70.04 25 P **P** **09 23 26.2 -2.0**
comp=Z,16nm,0.6s,baz=248,slow=5.5,SNR=54
ILAR PKiKP **PKiKP** **09 29 40.5 +0.7**
comp=Z,0.5nm,0.6s,baz=263,slow=3.5,SNR=4.3
ILAR PKP2bc 09 51 28.7
comp=Z,0.2nm,0.7s,baz=51,slow=2.9,SNR=4.3
HMT Hamilton 70.41 30 IAmb IAmb 09 24 25.6
comp=Z,67nm,1.0s
RIDG Independent Ri 70.71 27 IAmb IAmb 09 24 21.0
comp=Z,124nm,1.5s
GLB Gilahina Butte 70.80 29 IAmb IAmb 09 24 20.7
comp=Z,199nm,1.8s
CRQM Cirque 71.02 30 IAmb IAmb 09 24 31.6
comp=Z,75nm,1.0s
FYU Fort Yukon 71.09 24 IAmb IAmb 09 24 24.2
comp=Z,244nm,1.6s
MCARA McCarthy VSAT 71.16 29 IAmb IAmb 09 24 21.5
comp=Z,61nm,1.0s
BALM Baldy 71.44 30 IAmb IAmb 09 24 23.7
comp=Z,127nm,1.6s
PPT Papeete 72.98 113 P **P** **09 23 48.6 +1.9**
comp=Z,106nm,0.8s,baz=81,slow=3.8,SNR=11
PPT LR LR 09 49 41.5
comp=Z,661nm,19.3s,baz=266,slow=31
PPT2 Papeete2 72.99 113 *e*P **P** **09 23 50.0 +3.3**
comp=Z,119nm,1.0s
PPT2 *e*pP **pP** **09 24 13.9 0.0**
comp=Z,334nm,1.5s
PPT2 *e*S **S** **09 33 01.2 -3.9**
comp=Z,770nm,25.8s
PPT2 Papeete2 72.99 113 *e*LR LR 09 45 58.0
comp=Z,3µm,36.2s
PPTF Pamatai, Papee 73.00 113 P **P** **09 23 46.5 -0.3**
PAE Paea 73.01 113 *e*P **P** **09 23 49.8 +3.0**
comp=Z,24nm,1.2s
PAE *e*pP **pP** **09 24 13.8 -0.1**
comp=Z,40nm,1.3s
TVO Taravao 73.34 113 *e*P **P** **09 23 52.4 +3.6**
comp=Z,40nm,0.8s
TVO *e*pP **pP** **09 24 16.2 +0.2**
comp=Z,242nm,1.6s
HYT Haines Junctio 73.78 30 IAmb IAmb 09 24 38.5
comp=Z,79nm,1.2s
EPYK Eagle Plains 74.45 24 IAmb IAmb 09 24 43.8
comp=Z,74nm,1.2s
TBI Tubuai 75.09 119 *e*LR LR 09 46 53.0
comp=Z,2µm,37.5s
SVE Sverdlovsk 75.29 326 *ce*P **P** **09 23 59.6 +0.3**
SVE pmax pmax
comp=Z,89nm,0.9s
HRA Herat 75.41 302 IAmb IAmb 09 24 03.4
comp=Z,86nm,0.8s
INK Inuvik 75.78 22 P **P** **09 24 00.7 -1.2**
comp=Z,6.3nm,0.7s,baz=280,slow=4.3,SNR=13
INK PKiKP **PKiKP** **09 29 48.5 +0.5**
comp=Z,2.3nm,0.5s,baz=280,slow=4.8,SNR=9.7
AB31 Akbulak array 75.98 318 *i* P **P** **09 24 03.0 -0.4**
AB31 pmax pmax
comp=Z,54nm,0.5s
ARU Arti 76.44 325 *d* iP **P** **09 24 05.6 -0.3**
ARU S **S** **09 33 44.7 +2.5**
ARU SS **SS** **09 38 33.0 -5.7**
ARU pmax pmax
comp=Z,65nm,0.6s
ARU Arti 76.44 325 P **P** **09 24 05.7 -0.3**
comp=Z,43nm,0.6s,baz=106,slow=2.6,SNR=49
ARU Arti 76.44 325 P **P** **09 24 05.7 -0.3**
ARU IAmb IAmb 09 24 07.3
comp=Z,92nm,0.5s
AKTO Aktyubinsk 77.14 319 P **P** **09 24 09.4 -0.6**
comp=Z,45nm,0.6s,baz=92,slow=8.1,SNR=61
DLBC Dease Lake 77.60 33 P **P** **09 24 12.7 +0.2**
comp=Z,7.0nm,0.5s,baz=323,slow=6.8,SNR=4.7
DLBC Dease Lake 77.60 33 IAmb IAmb 09 25 18.0
comp=Z,102nm,1.5s
GEYT Alibeck 78.34 306 P **P** **09 24 17.4 +0.5**
comp=Z,25nm,0.7s,baz=68,slow=0.8,SNR=18
GEYT LR LR 10 02 36.6
comp=Z,594nm,20.2s,baz=65,slow=38
TAOE Nuku Hiva Isla 79.21 102 *e*LR LR 09 48 59.2
comp=Z,1µm,23.5s
WBK Wadi Bani Khal 79.84 291 P **P** **09 24 25.8 +0.4**
WSAR Wadi Sarin 80.05 292 P **P** **09 24 26.8 +0.3**
BIDO Bidbid 80.45 292 P **P** **09 24 29.3 +0.7**
SNR=6.3
SMDO Samad 80.60 292 P **P** **09 24 29.4 -0.2**
JMDO Jabal Madar 80.67 291 P **P** **09 24 29.6 -0.3**
KIRV Kirov 81.12 328 P **P** **09 24 32.1 +0.8**
comp=Z,66nm,0.5s,baz=93,slow=1.3,SNR=12
KIRV LR LR 10 01 51.1
comp=Z,2µm,21.9s,baz=67,slow=36
HOQ Hoqain 81.18 292 P **P** **09 24 32.7 +0.2**
SNR=6.8
BSY Bisya 81.43 291 P **P** **09 24 33.8 0.0**
DQM DQM 81.62 289 P **P** **09 24 35.1 +0.2**
BANOM Banah 81.68 295 P **P** **09 24 36.0 +0.9**
BANOM Banah 81.68 295 P **P** **09 24 36.0 +0.9**
MDH Madha 81.79 294 P **P** **09 24 36.6 +0.9**
MDH Madha 81.79 294 P **P** **09 24 36.6 +0.9**
SHME Shamm 81.80 295 P **P** **09 24 37.0 +1.2**
SHME Shamm 81.80 295 P **P** **09 24 37.0 +1.2**
MSFE Esma-Masafi 81.90 294 P **P** **09 24 36.5 +0.1**
MSFE Esma-Masafi 81.90 294 P **P** **09 24 36.5 +0.1**
UOSS Minazif 81.94 294 P **P** **09 24 36.5 0.0**
UOSS Minazif 81.94 294 P **P** **09 24 36.5 0.0**
UOSS Minazif 81.94 294 P **P** **09 24 36.8 +0.3**
UOSS Minazif 81.94 294 P **P** **09 24 37.1 +0.7**
UOSS IAmb IAmb 09 24 39.6
comp=Z,46nm,0.7s
ARQ Araqi 81.94 292 P **P** **09 24 36.8 +0.2**
SNR=7.2
HATD Hatta, Dubai 82.02 294 P **P** **09 24 36.9 0.0**
HATD Hatta, Dubai 82.02 294 P **P** **09 24 36.9 0.0**
HATD Hatta, Dubai 82.02 294 P **P** **09 24 37.3 +0.4**
ASHO Ashiyiah 82.11 293 *i* P **P** **09 24 36.8 -0.6**
SNR=5.8
ASHO Ashiyiah 82.11 293 *i* P **P** **09 24 36.8 -0.6**
SNR=5.8
ASHO Ashiyiah 82.11 293 P **P** **09 24 37.4 0.0**
PRGR Permogore 82.38 331 ↓ *i* P **P** **09 24 37.7 -0.3**
PRGR *i* *PP **pP** **09 25 03.9 -1.8**
PRGR pmax pmax
comp=Z,119nm,0.6s
NAZ Nazwa, Dubai 82.41 294 P **P** **09 24 39.3 +0.4**
NAZ Nazwa, Dubai 82.41 294 P **P** **09 24 39.3 +0.4**
CASY Casey 82.43 193 P **P** **09 24 39.0 +1.0**
CASY IAmb IAmb 09 25 08.4
comp=Z,169nm,1.6s
ALNE Al Ain 82.50 293 P **P** **09 24 39.7 +0.2**
ALNE Al Ain 82.50 293 P **P** **09 24 39.7 +0.2**
NLWA Neilton Lookou 82.76 43 IAmb IAmb 09 25 29.7
comp=Z,110nm,1.6s
ASUD Al Ashush, Dub 82.78 294 P **P** **09 24 41.3 +0.4**
ASUD Al Ashush, Dub 82.78 294 P **P** **09 24 41.3 +0.4**
LLLB Lillooet 83.41 40 IAmb IAmb 09 25 17.9
comp=Z,86nm,1.6s
SHAO Shalim 83.76 287 *i* P **P** **09 24 46.0 -0.1**
SNR=17
SHAO Shalim 83.76 287 *i* P **P** **09 24 46.0 -0.1**
SNR=17
D05A Enumclaw 84.06 43 IAmb IAmb 09 25 56.5
comp=Z,80nm,1.4s
B06A Marblemount 84.10 42 IAmb IAmb 09 25 48.0
comp=Z,58nm,1.2s
YKA Yellowknife Ar 84.37 27 *i* P **P** **09 24 47.1 -1.1**
YKA pmax pmax
comp=Z,12nm,0.5s
YKA Yellowknife Ar 84.37 27 P **P** **09 24 48.3 +0.1**
comp=Z,12nm,0.5s,baz=286,slow=4.8,SNR=87
YKA PKiKP **PKiKP** **09 30 01.2 -0.4**
comp=Z,2.4nm,0.7s,baz=298,slow=1.5,SNR=22
YKA PKKPbc **PKKPbc** **09 42 59.8 -1.9**
comp=Z,0.2nm,0.5s,baz=120,slow=2.3,SNR=8.2
YKA LR LR 10 00 16.5
comp=Z,78nm,21.1s,baz=294,slow=34
DMTO DMTO 84.45 287 P **P** **09 24 49.1 -0.4**
KCPM Cahto Peak 84.49 51 IAmb IAmb 09 25 22.5
comp=Z,78nm,1.1s
SPA0 Spitsbergen Ar 84.56 350 *e*P **P** **09 24 49.6 +0.6**
SPITS Spitsbergen Ar 84.56 350 PKKPbc PKKPbc 09 42 58.7 -3.0
comp=Z,11nm,0.9s,baz=26,slow=2.1,SNR=6.8
KBS Kingsbay 84.75 352 P **P** **09 24 50.4 +0.6**
KBS Kingsbay 84.75 352 *e*P **P** **09 24 50.9 +1.1**
KBS Kingsbay 84.75 352 P **P** **09 24 50.4 +0.6**
LVZ Lovozero 85.03 339 ↑ *e*P **P** **09 24 50.5 -1.0**
LVZ pmax pmax
comp=Z,74nm,1.4s
LVZ Lovozero 85.03 339 P **P** **09 24 51.1 -0.4**
LVZ IAmb IAmb 09 27 31.2
comp=Z,238nm,1.9s
TMCR Tamitsa 85.04 335 *e*P **P** **09 24 49.8 -1.7**
TMCR *e*S **SKSac** **09 35 03.8 -1.7**
TMCR pmax pmax
comp=Z,55nm,0.5s
WDC Whiskeytown Da 85.08 50 P **P** **09 24 53.3 +1.1**
WDC pmax pmax
comp=Z,48nm,1.4s
WDC Whiskeytown Da 85.08 50 P **P** **09 24 53.3 +1.1**
RBK Rabkut 85.19 287 P **P** **09 24 54.4 +1.1**
SNR=6.5
MAK Makhachkala 85.44 313 *e*P P 09 24 47.6 -6.3
MAK *e**PP pP 09 25 18.7 -3.1
MAK *e**SP sP 09 25 29.6 -3.8
MAK *e*S **SKSac** **09 35 00.0 -8.9**
MAK pmax pmax
comp=Z,32nm,0.4s
HSPB Hornsund (broa 85.45 350 *e*P **pP** **09 25 19.4 -1.9**
HSPB *e*P pP 09 25 19.4 -1.9
HSPB Hornsund (broa 85.45 350 *e*P **P** **09 24 53.4 +0.1**
WHFO Wadi Hawf 85.51 287 P **P** **09 24 54.0 -0.9**
PINE Pine Mountain 85.53 46 IAmb IAmb 09 25 27.6
comp=Z,66nm,1.1s
B08A Colville Reser 85.53 42 IAmb IAmb 09 25 55.2
comp=Z,51nm,1.0s
APA Apatity 85.60 339 ↓ *i* P **P** **09 24 52.7 -1.5**
APA *i* *PP **pP** **09 25 19.8 -2.3**
APA pmax pmax
comp=Z,24nm,0.7s
AKT Akhty 85.61 311 *e*P **P** **09 24 55.5 +0.5**
AKT *e**PP **pwP** **09 25 25.0 -2.6**
AKT *e**SP **sP** **09 25 35.0 +0.5**
AKT *e* 09 28 15.4
AKT pmax pmax
comp=Z,57nm,0.6s
E07A Sunnyside 85.62 43 IAmb IAmb 09 25 27.8
comp=Z,173nm,1.8s
RES Resolute Bay 85.73 13 P **P** **09 24 55.0 +0.2**
RES Resolute Bay 85.73 13 P **P** **09 24 55.0 +0.2**
comp=Z,24nm,0.5s,baz=321,slow=4.5,SNR=33
RES PKiKP **PKiKP** **09 30 03.3 -0.1**
comp=Z,3.1nm,0.5s,baz=248,slow=2.4,SNR=6.8
RES Resolute Bay 85.73 13 IAmb IAmb 09 24 58.0
comp=Z,29nm,0.7s
HAWA Hanford 85.88 43 IAmb IAmb 09 25 28.1
comp=Z,63nm,1.5s
ABTO Aybut 86.07 287 P **P** **09 24 57.5 -0.1**
SNR=10.0
E08A Dider Farm, El 86.17 43 IAmb IAmb 09 25 30.4
comp=Z,76nm,1.4s
C09A Chrisman Ranch 86.36 42 IAmb IAmb 09 25 43.8
comp=Z,182nm,2.0s
MOD Modoc Plateau 86.42 48 IAmb IAmb 09 25 31.0
comp=Z,109nm,1.9s
SOCY Socotra 86.50 282 IAmb IAmb 09 25 01.6
comp=Z,124nm,1.2s
GROC Groznyy 86.60 313 *e*P **P** **09 24 58.5 -1.2**
GROC pmax pmax
comp=Z,41nm,1.3s
VRH Novokhopyorsk 87.14 322 *e*P **P** **09 25 00.4 -1.7**
VRH pmax pmax
comp=Z,60nm,0.6s
VRH pmax pmax
comp=Z,100nm,0.6s
HAMF Hammerfest 87.28 343 *e*P **P** **09 25 02.8 +0.4**
ARCES ARCESS Array B 87.32 342 P **P** **09 25 02.0 -0.6**
comp=Z,32nm,0.4s,baz=75,slow=7.2,SNR=225
ARCES PKiKP **PKiKP** **09 30 06.1 -0.1**
comp=Z,2.4nm,0.5s,baz=101,slow=1.1,SNR=13
ARCES PKKPbc **PKKPbc** **09 42 52.9 -2.2**
comp=Z,4.4nm,0.8s,baz=266,slow=2.7,SNR=6.1
ARE0 ARCESS Array S 87.32 342 *e*P **P** **09 25 02.6 0.0**
PNTR Pine Nut 87.63 51 P **P** **09 25 06.8 +1.7**
BMO Blue Mountains 87.79 45 IAmb IAmb 09 25 38.1
comp=Z,87nm,1.4s
MSF Maaselka 87.87 338 P **P** **09 25 06.2 +0.9**
MSF pmax pmax
comp=Z,40nm,0.7s
GOF Gofitskoye 88.03 316 ↑ *e*P **P** **09 25 07.3 +0.8**
SGF Sodankyl 88.03 340 P **P** **09 25 06.8 +0.8**
SGF pmax pmax
comp=Z,146nm,0.8s
MOS Moscow 88.05 327 *e*P **P** **09 25 03.4 -2.9**
MOS *e* 09 25 30.2
MOS pmax pmax
comp=Z,52nm,1.0s
ZEI Tsey 88.05 313 *e*P **P** **09 25 04.5 -2.4**
ZEI pmax pmax
comp=Z,12nm,0.6s
KTK1 Kautokeino 88.28 342 *e*P **P** **09 25 07.0 -0.2**
LPSR Galich'ya Gora 88.36 324 *e*P **P** **09 25 06.5 -1.4**
LPSR pmax pmax
comp=Z,30nm,0.8s
LPSR pmax pmax
comp=Z,40nm,0.8s
KBZ Khabaz 88.50 314 P **P** **09 25 07.7 -1.0**
comp=Z,5.5nm,0.6s,baz=52,slow=1.8,SNR=11
KBZ LR LR 10 11 12.8
comp=Z,1µm,18.3s,baz=48,slow=40
KIV Kislovodsk 88.58 315 *e*P **P** **09 25 10.0 +0.7**
KIV pmax pmax
comp=Z,48nm,0.9s
KIV Kislovodsk 88.58 315 P **P** **09 25 10.2 +0.9**
VSR Storozhevoye 88.67 322 *e*P **P** **09 25 07.4 -2.0**
VSR pmax pmax
comp=Z,60nm,0.5s
VSR pmax pmax
comp=Z,270nm,1.4s
VORD Divnogorie 88.68 322 *e*P **P** **09 25 07.4 -2.0**
VORD pmax pmax
comp=Z,40nm,0.5s
NEY Neytrino 88.75 314 ↑ *e*P **P** **09 25 09.7 -0.5**
NEY pmax pmax
comp=Z,4.0nm,0.6s
NVAR Mina Array Bea 88.78 51 P **P** **09 25 10.9 +0.4**
comp=Z,12nm,0.6s,baz=268,slow=5.1,SNR=37
NVAR PKKPbc **PKKPbc** **09 42 51.0 +0.3**
comp=Z,0.7nm,0.4s,baz=123,slow=3.5,SNR=13
NVAR LR LR 09 58 20.6
comp=Z,539nm,20.1s,baz=288,slow=31
OBN Obninsk 88.83 327 ↓ *e*P **P** **09 25 08.8 -1.2**
OBN *e**SP **pwP** **09 25 44.3 +1.5**
OBN *e* 09 28 39.2
OBN pmax pmax
comp=Z,80nm,1.7s
TULEG Thule 88.88 7 IAmb IAmb 09 26 01.5
comp=Z,54nm,1.4s
TRO Tromso 89.20 343 *e*P **P** **09 25 11.0 -0.4**
MFID Camas Ranch 89.21 46 IAmb IAmb 09 25 45.2
comp=Z,80nm,1.4s
OUL Oulu 89.42 338 P **P** **09 25 12.8 +0.2**
OUL pmax pmax
comp=Z,62nm,1.7s
DAG Danmarks Havn 89.97 356 P **P** **09 25 15.5 +0.5**
DAG pmax pmax
comp=Z,21nm,1.7s
MWC Mount Wilson 90.08 55 IAmb IAmb 09 26 03.3
comp=Z,58nm,1.4s
PUL Pulkovo 90.09 332 ↓ *e*P **P** **09 25 16.8 +1.0**
PUL pmax pmax
comp=Z,69nm,0.9s
ELK Elko 90.41 48 PKKPbc PKKPbc 09 42 47.3 +0.5
comp=Z,0.7nm,0.4s,baz=180,slow=0.9,SNR=5.1
ELK LR LR 09 59 45.3
comp=Z,736nm,21.5s,baz=282,slow=31
ELK Elko 90.41 48 IAmb IAmb 09 25 51.0
comp=Z,34nm,1.1s
SUF Sumiainen 90.50 336 P **P** **09 25 17.5 -0.2**
SUF pmax pmax
comp=Z,48nm,0.6s
TPNV Topopah Spring 90.75 52 IAmb IAmb 09 25 51.9
comp=Z,35nm,1.1s
VNDA Vanda 90.77 176 P **P** **09 25 20.0 +1.5**
comp=Z,10nm,0.6s,baz=325,slow=5.9,SNR=38
VNDA LR LR 10 06 09.9
comp=Z,801nm,19.5s,baz=346,slow=36
VNDA Vanda 90.77 176 P **P** **09 25 20.1 +1.5**
VNDA IAmb IAmb 09 25 21.3
comp=Z,23nm,0.9s
GSC Goldstone, Bar 90.78 54 IAmb IAmb 09 26 06.0
comp=Z,107nm,1.7s
FINES FINESS Array B 91.16 335 *i* P **P** **09 25 19.0 -1.7**
FINES pmax pmax
comp=Z,43nm,0.4s
FINES FINESS Array B 91.16 335 P **P** **09 25 19.3 -1.5**
comp=Z,43nm,0.4s,baz=65,slow=4.5,SNR=227
FINES PKiKP **PKiKP** **09 30 13.4 +0.6**
comp=Z,5.2nm,0.8s,baz=79,slow=3.0,SNR=3.7
FINES PKKPbc **PKKPbc** **09 42 44.4 -1.0**
comp=Z,1.3nm,0.8s,baz=354,slow=1.9,SNR=4.8
109C Camp Elliot, M 91.21 56 IAmb IAmb 09 25 52.4
comp=Z,54nm,1.2s
STEI Steigen 91.31 343 *e*P **P** **09 25 20.4 -0.9**
PFO Pinyon Flats O 91.53 55 ↓ *e*P **P** **09 25 22.7 -0.6**
XPFO Pion Flat 91.53 55 P **P** **09 25 23.3 0.0**
XPFO IAmb IAmb 09 25 55.0
comp=Z,52nm,1.4s
BAR Barrett 91.62 56 IAmb IAmb 09 25 50.5
comp=Z,41nm,1.4s
LOF Lofoten 91.66 343 *e*P **P** **09 25 23.0 +0.1**
VAF Ylistaro 91.69 337 P **P** **09 25 23.7 +0.5**
VAF pmax pmax
comp=Z,45nm,0.6s
SHPR Sheep Range 91.72 52 P **P** **09 25 25.7 +1.6**
SHPR IAmb IAmb 09 26 52.9
comp=Z,23nm,1.2s
RAYN Ar Rayn 91.78 294 *i* P **P** **09 25 23.4 -1.2**
SNR=7.8
RAYN Ar Rayn 91.78 294 *i* P **P** **09 25 23.4 -1.2**
SNR=7.8
RAYN Ar Rayn 91.78 294 P **P** **09 25 23.5 -1.0**
RAYN pmax pmax
comp=Z,13nm,0.7s
ANN Anapa 91.90 317 *e*P **P** **09 25 21.0 -3.5**
ANN *e**PP **pP** **09 25 48.4 -4.2**
ANN *e* 09 29 00.5
ANN *e*S **SKSac** **09 35 43.6 -3.6**
ANN pmax pmax
comp=Z,52nm,1.3s
VSU Vasula 92.33 332 *ce*P **P** **09 25 27.9 +1.7**
VSU pmax pmax
comp=Z,143nm,1.7s
H17A Grant Village 92.50 44 IAmb IAmb 09 26 30.4
comp=Z,26nm,1.1s
FLWY Flagg Ranch 92.52 44 IAmb IAmb 09 26 17.1
comp=Z,33nm,1.0s
MOR8 Moi Rana 92.68 341 *e*P **P** **09 25 25.2 -2.5**
AHID Auburn Hatcher 92.70 45 IAmb IAmb 09 26 17.6
comp=Z,22nm,1.1s
CCUT Cedar City 92.77 51 P **P** **09 25 29.4 +0.3**
KONS Konsvik 92.87 342 *e*P **P** **09 25 29.0 +0.4**
GLA Glamis 93.00 55 P **P** **09 25 30.3 +0.4**
GLA pmax pmax
comp=Z,33nm,1.2s
GLA Glamis 93.00 55 P **P** **09 25 30.3 +0.4**
GLA IAmb IAmb 09 26 01.2
comp=Z,33nm,1.1s
Y12C Blythe 93.03 55 IAmb IAmb 09 26 21.0
comp=Z,15nm,0.8s
RLMT Red Lodge 93.11 43 IAmb IAmb 09 25 46.2
comp=Z,12nm,0.7s
W13A Hualapai Mount 93.13 53 P **P** **09 25 30.8 0.0**
W13A IAmb IAmb 09 26 18.3
comp=Z,49nm,1.8s
KNB Kanab 93.35 51 P **P** **09 25 35.1 +3.4**
KNB pmax pmax
comp=Z,34nm,1.2s
KNB Kanab 93.35 51 P **P** **09 25 35.1 +3.4**
FFC Flin Flon 93.42 32 P **P** **09 25 30.9 -0.5**
FFC pmax pmax
comp=Z,14nm,1.0s
FFC Flin Flon 93.42 32 P **P** **09 25 30.9 -0.5**
PDAR Pinedale Array 93.76 45 P **P** **09 25 33.2 -0.3**
comp=Z,0.6nm,0.4s,baz=284,slow=0.4,SNR=12
PDAR PKiKP **PKiKP** **09 30 20.8 +2.6**
comp=Z,1.3nm,0.7s,baz=91,slow=2.4,SNR=4.8
PDAR PKKPbc **PKKPdf** **09 42 36.8 +0.4**
comp=Z,0.3nm,0.4s,baz=118,slow=4.7,SNR=6.8
PDAR LR LR 10 02 25.9
comp=Z,317nm,20.2s,baz=332,slow=32
KVT Kavak 94.15 314 P **P** **09 25 34.0 -1.1**
Y14A Wickenburg 94.18 54 P **P** **09 25 35.8 +0.4**
Y14A IAmb IAmb 09 26 06.5
comp=Z,18nm,1.1s
LAO LASA Array 94.47 40 IAmb IAmb 09 26 25.4
comp=Z,40nm,0.9s
NSS Namsos 94.55 341 *e*P **P** **09 25 37.0 +0.7**
AKASG Malin Array Be 94.67 324 *i* P **P** **09 25 36.7 -0.5**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 94.67 324 P **P** **09 25 36.3 -0.9**
comp=Z,2.7nm,0.4s,baz=57,slow=5.3,SNR=6.3
AKASG PKiKP **PKiKP** **09 30 19.8 +0.7**
comp=Z,0.9nm,0.5s,baz=52,slow=2.6,SNR=3.3
AKASG PKKPbc **PKKPdf** **09 42 34.6 +0.1**
comp=Z,2.1nm,0.5s,baz=268,slow=2.6,SNR=13
AKASG LR LR 10 11 55.2
comp=Z,1µm,18.1s,baz=45,slow=38
BRTR Keskin Array B 96.35 313 *i* P **P** **09 25 43.5 -1.8**
BRTR pmax pmax
comp=Z,2.0nm,0.5s
BRTR Keskin Array B 96.35 313 P **P** **09 25 43.3 -2.0**
comp=Z,2.2nm,0.5s,baz=124,slow=3.2,SNR=14
BRTR PP PP 09 29 31.1 -8.8
comp=Z,2.9nm,0.7s,baz=89,slow=7.3,SNR=5.6
BRTR PKKPbc **PKKPdf** **09 42 32.1 +0.4**
comp=Z,0.6nm,0.5s,baz=203,slow=4.7,SNR=4.4
HFS Hagfors 96.87 337 PP **PP** **09 29 39.8 -3.1**
comp=Z,7.5nm,0.7s,baz=17,slow=5.4,SNR=5.1
NC405 NORSAR Array S 96.95 339 P **P** **09 25 45.1 -2.3**
NB2 NORSAR Subarra 97.18 339 P **P** **09 25 46.1 -2.3**
comp=Z,10.0nm,0.6s,baz=49,slow=4.4
NB2 NORSAR Subarra 97.18 339 P **P** **09 25 46.1 -2.3**
baz=49,slow=4.4
NOA NORSAR Array B 97.18 339 P **P** **09 25 46.5 -1.9**
comp=Z,6.2nm,0.6s,baz=48,slow=4.6,SNR=18
NOA PP **PP** **09 29 42.6 -2.7**
comp=Z,3.1nm,0.7s,baz=45,slow=7.5,SNR=8.2
DOMB Dombas 97.22 340 *e*P **P** **09 25 48.3 -0.3**
NC602 NORSAR Array S 97.27 338 *e*P **P** **09 25 47.5 -1.3**
NORES NORESS Array B 97.27 338 P **P** **09 25 48.5 -0.3**
NORES pmax pmax
comp=Z,2.0nm,0.4s
MOL Molde 97.34 341 *e*P **P** **09 25 47.2 -1.8**
MAW Mawson 98.01 202 P Pdif 09 25 52.7 +0.9
MAW pmax pmax
comp=Z,6.0nm,1.3s
MAW Mawson 98.01 202 P **P** **09 25 51.6 -0.2**
comp=Z,5.4nm,0.7s,baz=34,slow=5.5,SNR=10
MAW PP **PP** **09 29 51.0 -1.1**
comp=Z,9.1nm,1.1s,baz=88,slow=8.8,SNR=5.1
MAW LR LR 10 07 46.1
comp=Z,269nm,19.1s,baz=64,slow=34
MAW Mawson 98.01 202 P Pdif 09 25 52.7 +0.9
CSS Mathiatis 98.37 309 IAmb IAmb 09 25 54.9
comp=Z,10nm,0.7s
KONO Kongsberg 98.72 338 *e*P **P** **09 25 53.1 -2.2**
ULM Lac du Bonnet 98.89 34 P **P** **09 25 55.2 -1.0**
comp=Z,2.6nm,0.6s,baz=344,slow=5.8,SNR=4.5
ULM LR LR 10 06 44.7
comp=Z,712nm,19.7s,baz=315,slow=33
ULM Lac du Bonnet 98.89 34 IAmb IAmb 09 29 43.2
comp=Z,38nm,1.9s
ANMO Albuquerque 98.91 51 LR LR 10 04 44.5
comp=Z,557nm,20.7s,baz=306,slow=32
KOLS Kolonicke sedl 99.46 325 *e*P **Pdif** **09 26 00.1 +1.2**
KOLS Kolonicke sedl 99.46 325 *e*PDIFF **Pdif** **09 26 00.1 +1.2**
OPO Ambohidratompo 99.48 253 P **Pdif** **09 25 59.1 -0.6**
comp=Z,7.8nm,0.5s,baz=62,slow=5.0,SNR=12
LANS Liptovska Anna 100.89 326 *e*P **Pdif** **09 26 04.7 -0.6**
LANS Liptovska Anna 100.89 326 *e*PDIFF **Pdif** **09 26 04.7 -0.6**
VYHS Vyhne 101.61 326 *e*P **Pdif** **09 26 08.1 -0.3**
VYHS Vyhne 101.61 326 *e*PDIFF **Pdif** **09 26 08.1 -0.3**
KRLC Kraliky 101.78 328 *e*PP **PKiKP** **09 30 33.1 +1.2**
DPC Dobruska-Polom 101.85 328 *e*PP **PKiKP** **09 30 35.0 +3.0**
MODS Modra-Piesok 102.52 326 *e*P **Pdif** **09 26 11.5 -1.0**
MODS Modra-Piesok 102.52 326 *e*PDIFF **Pdif** **09 26 11.5 -1.0**
CLL Collm 102.90 330 *e*P **Pdif** **09 26 14.0 -0.1**
CLL Collm 102.90 330 *e*Pdif **Pdif** **09 26 14.0 -0.1**
CLL *e*PP **PP** **09 30 25.0 -3.8**
TXAR Lajitas Array 103.25 56 PKiKP **PKiKP** **09 30 37.7 +2.5**
comp=Z,0.7nm,0.6s,baz=357,slow=1.0,SNR=7.7
TXAR PKKPbc **PKKPbc** **09 42 11.7 +0.3**

comp=Z,0.8nm,0.7s,baz=129,slow=5.3,SNR=7.1
TXAR PKPPKP **P'P'df** 09 50 29.5 -2.7
comp=Z,0.3nm,0.8s,baz=109,slow=5.0,SNR=3.4
KHC Kasperske Hory 104.01 329 *e*PP **PKiKP** 09 30 37.8 +1.8
GERES GERESS Array B 104.12 328 Pdiff **Pdif** 09 26 19.3 -0.4
comp=Z,0.8nm,0.6s,baz=50,slow=5.3,SNR=4.5
GERES PKiKP **PKiKP** 09 30 37.0 +0.7
comp=Z,1.6nm,0.6s,baz=50,slow=2.5,SNR=8.4
GERES PKKPbc **PKKPbc** 09 42 07.6 -1.9
comp=Z,1.2nm,0.6s,baz=212,slow=2.8,SNR=9.3
ARSA Arzberg 104.14 326 *i* Pdiff **Pdif** 09 26 18.9 -0.9
comp=Z,6.6nm,0.9s
IDI Anoyia 104.52 312 PKiKP **PKiKP** 09 30 37.9 +0.5
comp=Z,4.0nm,0.4s,baz=0.0,slow=2.0,SNR=4.0
SOKA Soboth 104.76 326 *i* Pdiff **Pdif** 09 26 21.1 -1.5
comp=Z,8.3nm,1.2s
KBA Koelnbreinsper 105.42 327 *i* PKiKP **PKiKP** 09 30 39.7 +0.9
comp=Z,4.5nm,0.8s
MYKA Terra Mystica 105.54 326 *i* PKiKP **PKiKP** 09 30 38.6 -0.3
comp=Z,10nm,1.0s
ABTA Abfaltersbach 106.07 327 *i* PKiKP **PKiKP** 09 30 39.3 -0.7
comp=Z,3.1nm,0.6s
WATA Walderalm 106.18 328 *i* PKiKP **PKiKP** 09 30 38.4 -1.8
comp=Z,3.4nm,0.5s
WTTA Wattenberg 106.20 328 *i* PKiKP **PKiKP** 09 30 40.8 +0.6
comp=Z,17nm,1.7s
MOTA Moosalm 106.42 328 *i* PKiKP **PKiKP** 09 30 40.2 -0.4
comp=Z,2.5nm,0.5s
EKA Eskdalemuir Ar 106.45 341 PKiKP **PKiKP** 09 30 40.7 +0.5
comp=Z,0.7nm,0.4s,baz=16,slow=3.6,SNR=6.1
EKA PKKPbc **PKKPbc** 09 42 01.4 -1.1
comp=Z,1.2nm,0.5s,baz=226,slow=3.0,SNR=6.6
SQTA Sankt Quirin 106.45 328 *i* PKiKP **PKiKP** 09 30 40.3 -0.3
comp=Z,2.9nm,0.6s
RETA Reutte 106.50 328 *i* PKiKP **PKiKP** 09 30 41.2 +0.5
comp=Z,0.4nm,0.4s
SYO Syowa Base 106.68 201⇑ *e*PKPdf **PKiKP** 09 30 37.4 -2.7
FETA Feichten 106.83 328 *i* PKiKP **PKiKP** 09 30 41.6 +0.2
comp=Z,2.0nm,0.6s
DAVA Damuels 107.08 329 *i* PKiKP **PKiKP** 09 30 41.0 -0.9
comp=Z,5.8nm,0.9s
SCHQ Schefferville 108.06 18 PKiKP **PKiKP** 09 30 43.9 +0.7
comp=Z,3.1nm,0.5s,baz=302,slow=0.6,SNR=7.2
MBAR Mbarara 111.92 275 PKiKP **PKiKP** 09 30 52.5 +0.7
comp=Z,6.7nm,0.3s,baz=51,slow=5.2,SNR=17
KEST Kesra 114.90 320 PKiKP PKPdf 09 30 57.1 +0.2
comp=Z,4.9nm,0.8s,baz=56,slow=1.4,SNR=5.6
CMIG Matias Romero 115.51 64 PKP **PKiKP** 09 30 59.5 +1.1
comp=Z,2.7nm,0.7s,baz=268,slow=3.3,SNR=4.7
BG3 Lake Jocassee 115.52 41 **PKPdf** 09 30 59.5 +1.5
BLA Blacksburg 115.63 38 PKiKP **PKPdf** 09 30 58.6 +0.4
BLA Blacksburg 115.63 38 **PKPdf** 09 30 58.6 +0.4
MVL Millersville 115.98 33 **PKPdf** 09 31 00.1 +1.3
PAULI Pauline 116.33 40 **PKiKP** 09 31 00.7 +1.1
LSZ Lusaka 117.00 259 P **PKiKP** 09 31 02.3 +0.9
LSZ Lusaka 117.00 259 PKP **PKiKP** 09 31 02.0 +0.6
comp=Z,35nm,0.5s,baz=350,slow=0.4,SNR=48
LSZ SKP 09 34 28.3
comp=Z,1.9nm,0.3s,baz=21,slow=3.9,SNR=3.0
MATP Matopo 117.19 253 *i* P **PKiKP** 09 31 02.4 +0.7
MATP Matopo 117.19 253 *i* P **PKiKP** 09 31 02.4 +0.7
SNAA Sanae 117.65 192 PKKP **PKKPab** 09 41 23.0 -3.1
SNAA Sanae 117.65 192 PKiKP **PKPdf** 09 31 00.7 -0.4
SNAA Sanae 117.65 192 PKKPbc PKKPbc 09 41 22.6 -3.3
comp=Z,1.1nm,0.5s,baz=318,slow=10,SNR=13
PBRG Braganca 118.99 335 *e*PKPdf **PKiKP** 09 31 05.4 +0.8
VNA2 Neumayer--Watz 119.12 191 PKKP **PKKPab** 09 41 18.4 -1.3
baz=343,slow=4.6
VNA2 Neumayer--Watz 119.12 191 PKiKP **PKiKP** 09 31 03.9 0.0
baz=158,slow=1.3
VNA3 Neumayer Olymp 119.24 190 PKKP **PKKPab** 09 41 17.6 -1.5
VNA3 Neumayer Olymp 119.24 190 PKiKP **PKPdf** 09 31 03.8 -0.3
ESDC Sonseca Array 119.48 331 PKP **PKiKP** 09 31 05.8 +0.1
comp=Z,1.6nm,0.4s,baz=8.1,slow=2.4,SNR=11
ESDC PP **PP** 09 32 28.9 +1.1
comp=Z,2.9nm,0.7s,baz=27,slow=6.6,SNR=8.3
ESDC PKKPbc **PKKPbc** 09 41 18.9 +0.4
comp=Z,1.4nm,0.6s,baz=238,slow=3.7,SNR=7.0
ESDC PKKP **PKKPdf** 09 41 47.3 -1.4
comp=Z,1.8nm,0.8s,baz=227,slow=4.1,SNR=5.9
VNA1 Neumayer--Stat 119.50 191 PKKP **PKKPab** 09 41 17.8 -0.1
VNA1 Neumayer--Stat 119.50 191 PKiKP **PKPdf** 09 31 04.5 0.0
MVO Moncorvo 119.64 334 *e*PKPdf **PKiKP** 09 31 06.7 +0.8
TEIG Tepich 119.77 58 PKKPbc PKKPbc 09 41 16.2 -0.6
comp=Z,3.9nm,0.5s,baz=139,slow=11,SNR=7.1
POLO Lamas de Olo 119.79 335 *e*PKPdf **PKiKP** 09 31 07.6 +1.3
PVRL Vila Real 119.84 335 *e*PKPdf **PKiKP** 09 31 06.8 +0.5
LBTB Lobatse 120.06 248 PKiKP **PKiKP** 09 31 07.5 +0.3
LBTB Lobatse 120.06 248 **PKiKP** 09 31 07.5 +0.3
APG El Apazote 120.23 64 PKP **PKPdf** 09 31 07.3 -0.5
comp=Z,3.7nm,0.7s,baz=333,slow=16,SNR=2.3
BOSA Boshof 120.34 244 *i* P **PKiKP** 09 31 08.1 +0.5
BOSA Boshof 120.34 244 PKP **PKiKP** 09 31 07.8 +0.1
comp=Z,11nm,0.7s,baz=101,slow=1.9,SNR=28
BOSA PKKPbc **PKKPbc** 09 41 14.6 -0.4
comp=Z,0.7nm,0.4s,baz=192,slow=9.3,SNR=3.0
BOSA Boshof 120.34 244 *i* P **PKiKP** 09 31 08.1 +0.5
PVIS Viseu 120.38 335 *e*PKPdf **PKiKP** 09 31 08.4 +1.0
MTE Manteigas 120.49 334 *e*PKPdf **PKiKP** 09 31 07.9 +0.3
PCBR Castelo Branco 120.93 334 *e*PKPdf **PKPdf** 09 31 08.1 -0.2
PMRV Marv??o 121.23 333 *e*PKPdf **PKiKP** 09 31 09.4 +0.4
PTOM Tomar 121.51 334 *e*PKPdf **PKiKP** 09 31 10.2 +0.7
PMTG Montargil 121.89 334 *e*PKPdf **PKiKP** 09 31 10.8 +0.5
EVO Evora 122.25 333 *e*PKPdf **PKiKP** 09 31 11.6 +0.6
PBEJ Beja 122.60 333 *e*PKPdf **PKiKP** 09 31 12.2 +0.5
PCVE Castro Verde 123.00 333 *e*PKPdf **PKiKP** 09 31 13.1 +0.6
MORF Marmelete 123.54 333 *e*PKPdf **PKiKP** 09 31 13.8 +0.1
MORF Marmelete 123.54 333 *e*PKPdf **PKiKP** 09 31 14.7 +1.0
SUR Sutherland 123.91 240 P **PKiKP** 09 31 15.8 +1.2
SUR Sutherland 123.91 240 PKP **PKiKP** 09 31 15.6 +0.9
baz=191,slow=4.9
MDT Midelt 125.16 327 PKP **PKiKP** 09 31 17.0 -0.1
comp=Z,8.4nm,0.9s,baz=83,slow=4.6,SNR=5.3
MDT PKKPbc **PKKPab** 09 40 58.7 +1.8
comp=Z,0.6nm,0.5s,baz=165,slow=4.2,SNR=3.7
TAM Tamanrasset 125.44 310 PKiKP **PKiKP** 09 31 18.8 +0.8
JTS Las Juntas de 127.08 67 PKiKP **PKPdf** 09 31 21.0 +0.2
JTS Las Juntas de 127.08 67 PKP **PKPdf** 09 31 21.0 +0.2
comp=Z,4.9nm,0.6s,baz=339,slow=16,SNR=5.0
TOA0 Torodi Ar. Sit 133.87 303 P **PKiKP** 09 31 34.7 -0.1
TORD Torodi Ar. Bea 133.87 303 PKhKP PKPpre 09 31 16.3
comp=Z,1.0nm,0.5s,baz=44,slow=3.1,SNR=9.1
TORD PKP **PKiKP** 09 31 34.5 -0.4
comp=Z,12nm,0.6s,baz=38,slow=2.2,SNR=24
TORD PP **PP** 09 34 04.3 +0.3
comp=Z,6.5nm,0.8s,baz=47,slow=5.3,SNR=5.8
TORD SKPbc **SKPbc** 09 34 52.3 -0.3
comp=Z,4.1nm,0.7s,baz=47,slow=1.9,SNR=5.3
SOLC Bahia Solano 135.55 67 *e*P **PKiKP** 09 31 39.0 +0.7
SOLC Bahia Solano 135.55 67 *e*P **PKiKP** 09 31 39.0 +0.7
DBBC Dabeiba 136.28 65 *e*P **PKiKP** 09 31 39.7 -0.3
DBBC Dabeiba 136.28 65 *e*P **PKiKP** 09 31 39.7 -0.3
UREC San Jos de Ur 136.54 64 *e*P **PKPdf** 09 31 31.0 -7.6
UREC San Jos de Ur 136.54 64 *e*P **PKPdf** 09 31 31.0 -7.6
PLMC San Jos del P 137.12 68 *e*P **PKPdf** 09 31 39.7 -0.1
PLMC San Jos del P 137.12 68 *e*P **PKPdf** 09 31 39.7 -0.1
BBAC Balboa, Cauca 137.35 73 *e*P **PKPdf** 09 31 39.0 -1.4
BBAC Balboa, Cauca 137.35 73 *e*P **PKPdf** 09 31 39.0 -1.4
YOTC Yotoco, Valle 137.44 70 *e*P **PKPdf** 09 31 39.2 -1.2
YOTC Yotoco, Valle 137.44 70 *e*P **PKPdf** 09 31 39.2 -1.2
CRUC La Cruz 137.79 73 *e*P **PKPdf** 09 31 40.3 -1.1
CRUC La Cruz 137.79 73 *e*P **PKPdf** 09 31 40.3 -1.1
SJG San Juan 137.88 44 PKhKP PKPpre 09 31 33.4
comp=Z,12nm,0.4s,baz=331,slow=19,SNR=3.6
SOTA Rioblanco 137.90 72 *e*P **PKPdf** 09 31 42.3 +0.6
SOTA Rioblanco 137.90 72 *e*P **PKPdf** 09 31 42.3 +0.6
TOLC Tolima 138.12 68 *e*P **PKPdf** 09 31 41.7 -0.3
TOLC Tolima 138.12 68 *e*P **PKPdf** 09 31 41.7 -0.3
ATAH Atahualpa 138.80 86 PKhKP PKPpre 09 31 34.7
comp=Z,2.8nm,0.6s,baz=135,slow=4.3,SNR=2.9
ATAH PKP **PKPdf** 09 31 43.6 +0.4
comp=Z,11nm,0.7s,baz=290,slow=2.1,SNR=7.7
ATAH SKPbc **SKiKP** 09 35 10.3 -1.1
comp=Z,16nm,0.8s,baz=239,slow=1.3,SNR=7.0
ROSC El Rosal 138.92 67 PKhKP PKPpre 09 31 33.7
comp=Z,4.8nm,0.4s,baz=78,slow=20,SNR=2.0
ROSC PKP **PKPdf** 09 31 44.2 +0.8
comp=Z,12nm,0.6s,baz=109,slow=14,SNR=5.8
CTAB Cerro Tablazo, 138.95 67 *e*P PKPdf 09 31 35.7 -8.0
CTAB Cerro Tablazo, 138.95 67 *e*P PKPdf 09 31 35.7 -8.0
BARC Barichara 139.14 64 *e*P **PKPdf** 09 31 36.4 -7.3
BARC Barichara 139.14 64 *e*P **PKPdf** 09 31 36.4 -7.3
PAMC Pamplona, Colo 139.21 63 *e*P **PKPdf** 09 31 37.0 -7.1
PAMC Pamplona, Colo 139.21 63 *e*P **PKPdf** 09 31 37.0 -7.1
PLCA Paso Flores 139.47 140 PKhKP PKPpre 09 31 34.0
comp=Z,2.6nm,0.6s,baz=274,slow=3.2,SNR=17
PLCA PKP **PKiKP** 09 31 44.9 -0.8
comp=Z,8.1nm,0.5s,baz=268,slow=2.7,SNR=29
PLCA SKPbc **SKPbc** 09 35 09.3 +0.6
comp=Z,4.4nm,0.7s,baz=248,slow=4.9,SNR=5.9
PLCA PKKP **PKKPdf** 09 41 11.1 +0.1
comp=Z,0.6nm,0.6s,baz=92,slow=4.1,SNR=3.3
GO06 Curarrehue 139.49 138 **PKiKP** 09 31 44.7 -1.1
CHIC Chingaza 139.54 67 *e*P PKPdf 09 31 36.4 -8.3
CHIC Chingaza 139.54 67 *e*P PKPdf 09 31 36.4 -8.3
RUSC La Rusia 139.55 65 *e*P **PKPdf** 09 31 37.0 -7.8
RUSC La Rusia 139.55 65 *e*P **PKPdf** 09 31 37.0 -7.8
VILC Villavicencio, 139.79 68 *e*P **PKPdf** 09 31 40.3 -4.4
VILC Villavicencio, 139.79 68 *e*P **PKPdf** 09 31 40.3 -4.4
SDV Santo Domingo 140.18 59 PKhKP PKPpre 09 31 37.8
comp=Z,10nm,0.5s,baz=344,slow=11,SNR=20
SDV SKPbc **SKiKP** 09 35 13.2 -0.8
comp=Z,11nm,0.8s,baz=259,slow=4.4,SNR=4.9
MACC Macarena, Meta 140.45 71 *e*P PKPdf 09 31 37.7 -8.1
MACC Macarena, Meta 140.45 71 *e*P PKPdf 09 31 37.7 -8.1
NNA Nana 141.02 93 PKiKP **PKPdf** 09 31 45.3 -1.5
NNA Nana 141.02 93 PKhKP **PKPdf** 09 31 43.4 -3.4
comp=Z,16nm,0.7s,baz=253,slow=6.0,SNR=11
NNA Nana 141.02 93 **PKPdf** 09 31 45.3 -1.5
DBIC Dimbokro 142.75 299 PKhKP **PKPdf** 09 31 45.8 -4.1
comp=Z,27nm,0.4s,baz=33,slow=3.7,SNR=76
KIC Kosan Boka 142.81 299 *e*PKP1 **PKPdf** 09 31 45.8 -4.2
comp=Z,18nm,0.5s
TIC Toumodi 142.90 300 *e*PKP1 **PKPdf** 09 31 46.3 -3.9
ROCH El Roble 142.95 129 *e*P **PKPdf** 09 31 47.3 -2.7
LIC Lamto 143.12 299 *e*PKP1 PKPab 09 31 46.9 +0.7
comp=Z,42nm,0.3s
PEL Peldehue 143.12 129 PKiKP PKPbc 09 31 47.5 +0.2
PEL Peldehue 143.12 129 *e*P PKPbc 09 31 47.3 0.0
CLCH Cerro Calan 143.12 129 *e*P PKPbc 09 31 47.1 -0.2
FCH Farellones 143.34 130 *e*P PKPbc 09 31 48.6 +0.4
CO02 Combarbal 143.66 126 *e*P PKPbc 09 31 49.4 +0.5
GO04 Tololo Observa 144.21 124 *e*P **PKPab** 09 31 50.5 +0.1
PCRV Puerto La Cruz 144.25 52 PKP **PKPab** 09 31 50.5 -0.1
comp=Z,11nm,0.5s,baz=346,slow=3.5,SNR=12
GO03 Copiap 145.56 120 **PKPab** 09 31 55.3 +0.1
RTLL Cerro Villicun 145.59 128 *e*P **PKPdf** 09 31 54.3 -0.1
CFA Coronel Fontan 145.65 128 PKPbc **PKPab** 09 31 55.4 0.0
comp=Z,140nm,0.5s,baz=248,slow=2.9,SNR=185
PB14 IPOC Station P 146.25 115⇓ *e*P **PKPdf** 09 31 56.5 +0.5
TRQA Tornquist 146.35 143 PKiKP **PKPbc** 09 31 56.4 -0.5
PB10 IPOC Station P 146.38 113 *e*P **PKPbc** 09 31 57.4 0.0
PB10 IPOC Station P 146.38 113 **PKPbc** 09 31 57.6 +0.3
TOSP Speyside 146.51 45 **PKPab** 09 31 58.5 -0.5
GO02 Mina Guanaco 146.83 117 **PKPdf** 09 31 56.7 -0.3
PB04 IPOC Station P 146.98 111 *e*P **PKPbc** 09 31 59.2 -0.1
TA01 Diego Aracena 147.25 108 *e*P **PKPbc** 09 31 59.8 -0.1
PB07 IPOC Station P 147.33 110 *e*P **PKPdf** 09 31 58.7 +0.9
PB03 IPOC Station P 147.40 111 *e*P **PKPdf** 09 31 58.9 +1.1
LVC Limon Verde 148.05 112 PKP2 **PKiKP** 09 32 03.5 -0.7
LVC Limon Verde 148.05 112 PKPbc **PKPbc** 09 32 03.0 +0.6
comp=Z,62nm,0.7s,baz=272,slow=3.7,SNR=52
LVC Limon Verde 148.05 112 **PKiKP** 09 32 03.5 -0.7
LPAZ La Paz 149.60 100 PKPbc **PKiKP** 09 32 07.7 -0.1
comp=Z,33nm,0.6s,baz=5.7,slow=4.7,SNR=40
SHEL Horse Pasture 149.66 260 PKP2 **PKiKP** 09 32 07.6 +0.4
SAML Samuel 153.93 84 PKiKP **PKPdf** 09 32 08.8 +0.9
SAML Samuel 153.93 84 **PKPdf** 09 32 08.8 +0.9
MDP Montagnes des 156.34 42 PKP **PKPdf** 09 32 12.1 +0.8
comp=Z,20nm,0.7s,baz=288,slow=2.4,SNR=9.5
SIV San Ignacio 156.38 101 PKP **PKPdf** 09 32 10.7 -0.5
comp=Z,4.0nm,0.8s,baz=20,slow=1.8,SNR=3.4
CPUP Villa Florida 156.55 128 PKP **PKPdf** 09 32 10.4 -0.7
comp=Z,2.5nm,0.6s,baz=232,slow=0.3,SNR=6.7
CPUP PKPab **pPKPdf** 09 32 42.2 +1.4
comp=Z,28nm,0.7s,baz=256,slow=4.0,SNR=26
BDFB Brasilia 168.87 106 PKiKP **PKPdf** 09 32 24.0 +0.4
BDFB Brasilia 168.87 106 PKP **PKPdf** 09 32 24.0 +0.4
comp=Z,10nm,0.7s,baz=188,slow=2.4,SNR=14
RCBR Riachuelo 173.03 352 PKP **PKPdf** 09 32 25.9 +0.2
comp=Z,86nm,0.9s,baz=9.6,slow=1.1,SNR=3.9

NIED ***23*** *09:25:00,35.70N×142.30E,h5km,Mw5.3 Best double couple: M0 9.29000×10^16 NP1:φs180.00000°,δ32.00000°, λ66.00000°. NP2:φs27.00000°,δ61.00000°,λ104.00000°.*
IDC ***23*** *09:25:09.1±0.5,35.41N×142.19E,h0km,mb4.4/35, mb1 4.5/40,mb1mx4.4/73,mbtmp4.4/40,ML3.4/4,MS4.9/16, Ms1 4.9/16,ms1mx4.5/57,Error ellipse: s-maj=13.0km s-min=11.1km az=24.0*
JMA ***23*** *09:25:09.9±0.3,35.58N×142.27E,h62km,M5.7*
JMA Felt I J1.
BJI ***23*** *09:25:11.0±0.0,35.80N×141.95E,h10km,mb5.1/39, mB5.6/23,Ms5.6/52,Ms7 5.4/52*
NEIC ***23*** *09:25:12.3±2.5,35.50N±0.06×142.30E±0.07,h17km±3km, mb5.1/154*
ISCJB ***23*** *09:25:13.5±0.2,35.70N±0.03×142.13E±0.02,h32km, mb5.0/125,MS5.5/43,Error ellipse: s-maj=4.1km s-min=2.4km az=170.8*
MOS ***23*** *09:25:14.5±1.4,35.74N×142.04E,h33km,mb5.3/60, MS5.6/6,Error ellipse: s-maj=7.1km s-min=4.4km az=114.8*
GCMT ***23*** *09:25:15.3±0.3,35.40N±0.03×142.25E±0.03,h16km±1km, MW5.3/95,Moment Tensor Solution. s22,c26; s95,c143; Duration: 1⇑1 Moment tensor: Scale 10^17Nm; Mrr0.80±.06; Mθθ-0.28±.04; Mφφ-0.52±.04; Mrθ0.60±.12; Mθφ-0.29±.02; Mφr0.63±.10; Best double couple: M0 1.15100×10^17 NP1:φs41.00000°,δ70.00000°, λ94.00000°. NP2:φs209.00000°,δ21.00000°,λ79.00000°. Principal axes: T 1.1990, Plg65.0000°, Azm318.0000°; N -0.0970, Plg4.0000°, Azm219.0000°; P -1.1020, Plg24.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 23 09:25:11.6±0.7,35.58N±0.04×142.26E±0.04,h12km±3km, n542,σ1‡99/441,mb5.0/175,**MS5.4**/43,**37C-24D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.14**	**276**	⇑P	**Pn**	**09 25 30.5**	**-2.9**
CHOJ				*e*S	**Sb**	**09 25 45.4**	**-2.7**
JIHU	**Itakohorinouch**	**1.46**	**286**	⇑P	**Pn**	**09 25 35.2**	**-2.5**
JSMT	**Sammumatsuo**	**1.47**	**273**	P	**Pn**	**09 25 35.4**	**-2.6**
JHYU	**Hitachinakayam**	**1.55**	**300**	⇑P	**Pn**	**09 25 36.1**	**-2.9**
I30JP	**ISUMI INFRASON**	**1.61**	**261**	Pn	**Pn**	**09 25 40.2**	**+0.4**
I30JP	baz=97,slow=30,SNR=1.1			Sn	**Sb**	**09 26 01.4**	**-0.2**
BSO3	**Boso 3**	**1.63**	**242**	P	**Pn**	**09 25 37.3**	**-2.5**
JFK	**Kawauchi**	**2.10**	**328**	⇑P	**Pn**	**09 25 43.7**	**-2.9**
JFK				S	**Sn**	**09 26 08.6**	**-4.1**
JAG	**Ashikaga**	**2.42**	**291**	⇑P	**Pn**	**09 25 48.2**	**-2.8**
JFT	**Otama**	**2.47**	**322**	⇑P	**Pn**	**09 25 49.7**	**-2.1**
JFT				S	**Sn**	**09 26 19.2**	**-2.7**
JOD2	**Odawara 2**	**2.61**	**264**	⇑P	**Pn**	**09 25 50.7**	**-2.9**
JRY	**Ryogami san**	**2.76**	**280**	P	**Pn**	**09 25 53.7**	**-2.0**
JFNN	**Fujinakano**	**2.94**	**263**	P	**Pn**	**09 25 55.4**	**-2.8**
JFNN				*e*S	**Sn**	**09 26 29.3**	**-4.2**
JYN	**Shimodate**	**3.03**	**269**	P	**Pn**	**09 25 56.7**	**-2.7**
JHJ2	**Mitsune**	**3.19**	**220**		**Pn**	**09 26 02.1**	**+0.6**
MJAR	**Matsushiro Arr** 5.6nm,0.3s,baz=86,slow=10,SNR=174	**3.42**	**287**	Pn	**Pn**	**09 26 03.3**	**-1.4**
MJAR	1.8nm,0.3s,baz=105,slow=23,SNR=6.9			Sn	**Sn**	**09 26 42.7**	**-2.5**
MAJO	**Matsushiro**	**3.42**	**287**	*c i*P	**Pn**	**09 26 03.1**	**-1.6**
MAJO	**Matsushiro**	**3.42**	**287**		**Pn**	**09 26 03.3**	**-1.4**
MAT	**Matsushiro**	**3.42**	**287**	P	**Pn**	**09 26 03.3**	**-1.4**
MAT				S	**Sn**	**09 26 43.8**	**-1.4**
MAT	**Matsushiro**	**3.42**	**287**	P	**Pn**	**09 26 03.3**	**-1.4**
MAT				*e*S	**Sn**	**09 26 43.6**	**-1.6**
MJB9	**Matsu-Tunnel**	**3.42**	**288**		**Pn**	**09 26 03.1**	**-1.7**
INU	**Inuyama**	**4.28**	**268**		**Pn**	**09 26 16.9**	**+0.3**
ERM	**Erimo**	**6.46**	**6**	⇓ *e*P	**Pn**	**09 26 45.1**	**-1.4**
ERM	**Erimo**	**6.46**	**6**		**Pn**	**09 26 44.7**	**-1.8**
NMR	**Nemuro--Hokkai**	**8.23**	**18**	*e*P	**Pn**	**09 27 07.9**	**-2.8**
NMR				*i* S	**Sn**	**09 28 35.6**	**-8.0**
JCJ	**Chichijima** 8.3nm,0.3s,baz=287,slow=19,SNR=3.0	**8.46**	**180**	Pn	**Pn**	**09 27 10.5**	**-3.5**
JCJ	11nm,0.3s,baz=335,slow=19,SNR=1.9			Sn	**Sn**	**09 28 46.9**	**-2.5**
GLVR	**Golovnino**	**8.53**	**16**	P	**Pn**	**09 27 13.0**	**-1.8**
GLVR				*i* S	**Sn**	**09 28 45.3**	**-5.6**
GLVR				pmax	pmax		
GLVR				pmax	pmax		
GLVR	comp=N,136nm,0.4s			pmax	pmax		
GLVR	comp=E,235nm,0.9s			pmax	pmax		
GLVR	comp=Z,2μm,1.5s			smax	smax		
GLVR	comp=N,2μm,1.9s			smax	smax		
GLVR	comp=E,2μm,1.5s						
ASAJ	**Asahikawa**	**8.53**	**2**	Pn	**Pn**	**09 27 13.8**	**-1.1**
ASAJ	comp=E,4.8nm,0.3s,baz=204,slow=10,SNR=31			Sn	**Sn**	**09 28 44.0**	**-7.0**
JKA	**Kamikawa-asahi**	**8.53**	**2**		**Pn**	**09 27 13.8**	**-1.1**
GRPR	**Tuman**	**8.82**	**17**	*e*P	**Pn**	**09 27 16.7**	**-2.2**
GRPR				*i* S	**Sn**	**09 28 50.2**	**-8.1**
GRPR				pmax	pmax		
GRPR	comp=Z,94nm,0.4s			pmax	pmax		
GRPR	comp=E,53nm,0.2s			smax	smax		
GRPR	comp=N,376nm,1.3s			smax	smax		
GRPR	comp=E,1μm,1.5s						
YUK	**Yuzh-Kuril'sk**	**8.88**	**17**	P	**Pn**	**09 27 18.1**	**-1.6**
YUK				*i* S	**Sn**	**09 28 52.6**	**-7.2**
YUK				pmax	pmax		
YUK	comp=Z,115nm,0.4s			pmax	pmax		
YUK	comp=N,43nm,0.2s			pmax	pmax		
YUK	comp=E,74nm,0.2s			pmax	pmax		
YUK	comp=Z,574nm,1.1s			smax	smax		
YUK	comp=E,2μm,1.5s			smax	smax		
YUK	comp=N,983nm,1.4s						
SHO	**Shikotan**	**8.99**	**22**	*e*P	**Pn**	**09 27 16.8**	**-4.4**
SHO				pmax	pmax		
SHO	comp=Z,430nm,2.0s			pmax	pmax		
SHO	comp=Z,39nm,0.6s			pmax	pmax		
SHO	comp=E,14nm,0.4s			pmax	pmax		
SHO	comp=N,14nm,0.5s						
JNU	**Nakatsue**	**9.72**	**259**	Pn	**Pn**	**09 27 30.1**	**-1.3**
JNU	comp=N,0.5nm,0.3s,baz=70,slow=8.6,SNR=9.8 **Nakatsue**	**9.72**	**259**		**Pn**	**09 27 30.5**	**-0.8**
TEY	**Ternei**	**10.38**	**337⇑**	*e*P	Pn	09 27 47.8	+7.6
TEY				pmax	pmax		
TEY	comp=Z,30nm,1.1s			pmax	pmax		
TEY	comp=E,10.0nm,0.9s			pmax	pmax		
TEY	comp=N,20nm,0.8s			MLR	MLR		
TEY	comp=E,1μm,13.0s			MLR	MLR		
TEY	comp=N,700nm,14.0s			MLR	MLR		
TEY	comp=Z,2μm,13.0s						
VLA	**Vladivostok**	**11.00**	**316**	*ce*P	**Pn**	**09 27 47.9**	**-0.8**
VLA				pmax	pmax		
VLA	comp=Z,138nm,1.4s						
YSS	**Yuzh-Sakhalins**	**11.37**	**2⇑**	*e*P	**Pn**	**09 27 52.9**	**-0.8**
YSS				*e*S	**Sn**	**09 29 56.3**	**-4.4**
YSS				pmax	pmax		
YSS	comp=Z,90nm,0.8s			MLR	MLR		
YSS	comp=Z,10μm,14.0s			MLR	MLR		
YSS	comp=E,15μm,15.0s						
YSS	**Yuzh-Sakhalins**	**11.37**	**2**		**Pn**	**09 27 53.0**	**-0.8**
USA0B	**Ussuriysk Arra**	**11.66**	**321**	P	**Pn**	**09 27 57.4**	**-0.4**
USA0B	**Ussuriysk Arra**	**11.66**	**321**		**Pn**	**09 27 57.4**	**-0.4**
USRK	**Ussuriysk Ar.** baz=140,slow=12,SNR=15	**11.66**	**321**	Pn	**Pn**	**09 27 57.5**	**-0.3**
KSRS	**Korea Array**	**11.68**	**283**	Pn	**Pn**	**09 27 58.2**	**+0.1**
KSRS	comp=E,0.4nm,0.3s,baz=94,slow=14,SNR=21			LR	LR	09 32 15.1	
KSRS	comp=E,7μm,18.7s,baz=105,slow=36			LR	LR	09 32 15.1	
KS19	**Wonju Array Si**	**11.73**	**284**		**Pn**	**09 27 60.0**	**+1.2**
TJN	**Taejon**	**12.09**	**278⇓**	*e*P	**Pn**	**09 28 04.3**	**+0.6**
MDJ	**Mudanjiang**	**13.23**	**317**	P	**Pn**	**09 28 18.8**	**-0.4**
MDJ				S	**Sn**	**09 30 48.9**	**+2.7**
MDJ				pmax	pmax		
MDJ	comp=E,2μm,10.4s			LR	LR		
MDJ	comp=E,26μm,13.0s			LR	LR		
MDJ	comp=E,22μm,12.9s			LR	LR		
MDJ	comp=E,24μm,13.9s			LR	LR		
JOW	**Kunigami**	**14.79**	**238**	P	**P**	**09 28 44.5**	**-2.1**
TYV	**Tymovskoe**	**15.28**	**1**	*e*P	**Pn**	**09 28 48.5**	**+1.5**
TYV				*e*S	**Sn**	**09 31 39.8**	**+3.8**
TYV				pmax	pmax		
TYV	comp=Z,18nm,1.5s			pmax	pmax		
TYV	comp=Z,2μm,5.5s			smax	smax		
TYV	comp=E,25nm,1.6s			smax	smax		
TYV	comp=E,2μm,6.2s			MLR	MLR		
TYV	comp=N,24μm,15.0s			MLR	MLR		
TYV	comp=Z,15μm,15.0s						
KLR	**Kul'dur**	**15.67**	**334⇓**	*e*P	**Pn**	**09 28 53.7**	**+1.6**
KLR				pmax	pmax		
KLR	comp=Z,27nm,1.8s						
KLR	**Kul'dur**	**15.67**	**334**	Pn	**Pn**	**09 28 49.6**	**-2.5**
GRNR	comp=Z,0.2nm,0.3s,baz=137,slow=12,SNR=4.0 **Gornyy**	**15.76**	**346**	*i* P	Pn	09 28 43.9	-9.4
GRNR				pmax	pmax		
GRNR	comp=Z,8.0nm,0.7s			MLR	MLR		
GRNR	comp=Z,16μm,14.0s						
DL2	**Dalian**	**16.75**	**288**	P	**Pn**	**09 29 04.6**	**-1.5**
DL2				*e*S	**Sn**	**09 32 07.3**	**-4.8**
DL2				pmax	pmax		
DL2	comp=Z,120nm,1.0s			LR	LR		
DL2	comp=Z,16μm,14.1s			LR	LR		
DL2	comp=Z,4μm,13.6s			LR	LR		
DL2	comp=Z,10μm,16.6s			LR	LR		
NJ2	**Nanjing**	**19.75**	**266**	*e*P	**Pn**	**09 29 45.3**	**+2.5**
NJ2				LR	LR		
NJ2	comp=Z,5μm,16.6s			LR	LR		
NJ2	comp=Z,12μm,15.2s			LR	LR		
NJ2	comp=Z,10μm,16.1s						
PEA0B	**Petropavlovsk

BJI LR LR
comp=N,8µm,12.7s
BJI LR LR
comp=N,9µm,12.6s
BJI LR LR
comp=N,2µm,13.1s
BJT Baijiatuau 21.05 290 P **P** **09 29 56.5 +1.1**
BJT pmax pmax
comp=Z,88nm,1.3s
BJT Baijiatuau 21.05 290 P **P** **09 29 56.5 +1.1**
BJT IAmb IAmb 09 30 14.2
comp=Z,88nm,1.3s
HIA Hailar 21.42 317⇓ *e*P **P** **09 30 01.1 +1.8**
HIA pmax pmax
comp=Z,128nm,1.2s
HIA Hailar 21.42 317 P **P** **09 30 01.9 +2.6**
HIA IAmb IAmb 09 30 20.9
comp=Z,39nm,0.9s
WHN Wuhan 23.88 266 P **P** **09 30 26.8 +1.7**
WHN S **S** **09 34 42.0 +0.9**
WHN LR LR
comp=Z,27µm,12.9s
HHC Hu-ho-hao-te 24.61 292 P **P** **09 30 31.9 +0.1**
HHC pmax pmax
comp=Z,18nm,0.5s
MA2 Magadan 24.64 10⇓ *e*P **P** **09 30 33.2 +1.4**
MA2 pmax pmax
comp=Z,39nm,1.3s
MA2 Magadan 24.64 10 P **P** **09 30 33.1 +1.4**
comp=Z,18nm,1.0s,baz=193,slow=9.8,SNR=3.9
MA2 Magadan 24.64 10 P **P** **09 30 33.4 +1.6**
CIT Chita 26.20 318 *e*P **P** **09 30 44.2 -1.9**
CIT *e* 09 30 54.9
CIT *e* 09 31 30.9
CIT *e* 09 35 16.0
CIT pmax pmax
comp=Z,196nm,3.9s
H11N2 WAKE ISLAND Hy 26.83 120 T T 09 59 01.6
baz=311,slow=75,SNR=19
H11N1 WAKE ISLAND Hy 26.84 120 T T 09 59 01.9
baz=311,slow=75,SNR=16
H11N3 WAKE ISLAND Hy 26.85 120 T T 09 59 02.0
baz=311,slow=75,SNR=17
XAN Xi'an 27.34 277 P **P** **09 30 53.8 -2.7**
XAN sS sS 09 35 42.8 +3.1
XAN pmax pmax
comp=Z,33nm,1.3s
XAN LR LR
comp=Z,4µm,14.9s
XAN LR LR
comp=Z,10µm,13.3s
XAN LR LR
comp=Z,10µm,13.8s
XAN Xi'an 27.34 277 P **P** **09 30 54.4 -2.2**
XAN pmax pmax
comp=Z,91nm,1.1s
XAN Xi'an 27.34 277 P **P** **09 30 54.4 -2.2**
H11S1 WAKE ISLAND Hy 27.51 122 T T 09 59 52.7
baz=313,slow=75,SNR=12
H11S3 WAKE ISLAND Hy 27.51 122 T T 09 59 50.4
baz=313,slow=75,SNR=8.7
H11S2 WAKE ISLAND Hy 27.52 122 T T 09 59 56.7
baz=313,slow=75,SNR=9.9
YAK Yakutsk 27.63 347 *e*P **P** **09 30 59.0 +0.3**
YAK *e**PP **pwP** **09 31 06.9 -1.0**
YAK *e* 09 31 46.7
YAK *e*S **S** **09 35 45.1 +5.0**
YAK *e**SS sS 09 35 56.4 +13
YAK *e*SS **SnSn** **09 36 49.4 -1.9**
YAK *e*SSS SSS 09 37 18.5
YAK pmax pmax
comp=Z,55nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.8s
YAK pmax pmax
comp=N,30nm,1.2s
YAK pmax pmax
comp=Z,185nm,2.0s
YAK smax smax
comp=N,3µm,4.1s
YAK smax smax
comp=E,1µm,3.0s
YAK MLR MLR
comp=Z,17µm,14.0s
YAK MLR MLR
comp=E,7µm,12.0s
YAK MLR MLR
comp=N,15µm,14.0s
YAK Yakutsk 27.63 347 P **P** **09 30 59.7 +1.0**
comp=N,16nm,0.6s,baz=158,slow=3.8,SNR=11
YAK Yakutsk 27.63 347 P **P** **09 30 59.4 +0.7**
ENH Enshi 27.93 268 P **P** **09 31 00.1 -1.7**
SEY Seymchan 28.09 10⇓ *e*P **P** **09 31 04.5 +1.6**
SEY Seymchan 28.09 10 P **P** **09 31 03.5 +0.6**
comp=N,5.5nm,1.0s,baz=223,slow=8.9,SNR=4.0
ULN Ulaanbaatar 28.75 306⇓ *e*P **P** **09 31 09.2 +0.1**
ULN pmax pmax
comp=Z,66nm,2.7s
ULN Ulaanbaatar 28.75 306 P **P** **09 31 08.3 -0.7**
ULN IAmb IAmb 09 31 19.0
comp=Z,60nm,1.1s
BOD Bodaibo 29.12 329 *e*P **P** **09 31 08.1 -4.0**
BOD pmax pmax
comp=Z,95nm,1.7s
SONM Songino Array 29.17 306 P **P** **09 31 12.4 -0.5**
comp=Z,8.5nm,0.8s,baz=101,slow=8.8,SNR=18
SONM S **S** **09 36 07.5 +2.6**
comp=Z,0.4nm,0.8s,baz=115,slow=9.7,SNR=2.3
LZH Lanzhou 31.01 282⇑ *i*P **P** **09 31 26.8 -2.5**
LZH pP pP 09 31 31.8 +0.6
LZH sP sP 09 31 35.3 +3.2
LZH PP **PP** **09 32 28.6 -11**
LZH pmax pmax
comp=Z,38nm,1.1s
LZH pmax pmax
comp=Z,170nm,4.9s
LZH LR LR
comp=Z,5µm,11.9s
LZH LR LR
comp=Z,4µm,12.5s
LZH LR LR
comp=Z,6µm,15.2s
GYA Guiyang 31.69 263⇑ *i*P **P** **09 31 38.3 +3.0**
GYA S **S** **09 36 45.1 +0.4**
GYA pmax pmax
comp=Z,20nm,0.7s
GYA pmax pmax
comp=Z,230nm,5.6s
GYA LR LR
comp=Z,4µm,12.8s
GYA LR LR
comp=Z,5µm,13.0s
GYA LR LR
comp=Z,8µm,13.5s
ZAK Zakamensk 31.71 310 *e*P **P** **09 31 33.7 -1.5**
ZAK pmax pmax
comp=Z,33nm,1.1s
TLY Talaya 31.80 313⇑ *e*P **P** **09 31 35.4 -0.5**
TLY pmax pmax
comp=Z,30nm,2.1s
TLY Talaya 31.80 313 P **P** **09 31 36.3 +0.4**
comp=Z,1.7nm,0.6s,baz=69,slow=5.3,SNR=4.9
TLY LR LR 09 45 46.0
comp=Z,3µm,19.2s,baz=106,slow=39
TLY Talaya 31.80 313 P **P** **09 31 35.2 -0.7**
TLY IAmb IAmb 09 31 45.8
comp=Z,37nm,1.0s
DAV Davao City (W) 32.24 212 LR LR 09 42 31.3
comp=Z,2µm,20.8s,baz=64,slow=32
CD2 Chengdu 32.39 273 P **P** **09 31 44.8 +3.5**
CD2 S **S** **09 36 50.1 -5.4**
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 pmax pmax
comp=Z,5µm,13.7s
QIZ Qiongzhong 32.99 249 P **P** **09 31 47.8 +1.2**
QIZ S **S** **09 37 05.6 +0.7**
QIZ LR LR
comp=Z,3µm,10.8s
QIZ LR LR
comp=Z,3µm,12.8s
QIZ LR LR
comp=Z,2µm,13.2s
MOY Mondy 33.40 312 *e*P **P** **09 31 49.2 -0.8**
MOY pmax pmax
comp=Z,113nm,3.1s

GTA Gaotai 33.66 289⇑ P **P** **09 31 51.0 -1.4**
GTA pP pwP 09 32 00.4 -0.9
GTA sP sP 09 32 03.8 +8.6
GTA ScS ScS 09 42 15.4 -2.8
GTA pmax pmax
comp=Z,19nm,1.6s
GTA LR LR
comp=Z,4µm,15.5s
GTA LR LR
comp=Z,4µm,15.8s
GTA LR LR
comp=Z,6µm,15.5s
BILL Bilibino 35.23 15⇓ *e*P **P** **09 32 05.4 -0.1**
BILL *i* 09 32 15.1
BILL *e* 09 33 24.9
BILL *e*PPP PPP 09 33 37.8
BILL pmax pmax
comp=Z,30nm,1.2s
BILL Bilibino 35.23 15 P **P** **09 32 05.8 +0.3**
KMI Kunming 35.45 264 P **P** **09 32 12.0 +3.8**
KMI pP sP 09 32 14.0 +3.6
KMI sP pwP 09 32 15.9 -2.6
KMI pmax pmax
comp=Z,10.0nm,0.5s
KMI LR LR
comp=Z,7µm,15.8s
KMI LR LR
comp=Z,5µm,16.4s
KMI LR LR
comp=Z,3µm,17.2s
TIXI Tiksi 36.81 353⇑ *e*P **P** **09 32 20.4 +1.5**
TIXI pmax pmax
comp=Z,18nm,1.4s
TIXI Tiksi 36.81 353 P **P** **09 32 18.8 -0.1**
comp=Z,8.2nm,0.9s,baz=180,slow=24,SNR=5.6
TIXI Tiksi 36.81 353 P **P** **09 32 18.2 -0.7**
TIXI IAmb IAmb 09 32 28.8
comp=Z,34nm,1.1s
TNTI Ternate 37.30 205 P P 09 32 32.9 +9.2
TNTI Ternate 37.30 205 P **P** **09 32 23.8 +0.1**
SKNT Sakolnakorn 38.70 251 P P 09 32 42.9 +7.4
comp=Z,29nm,1.3s,comp=Z,4µm
NONG Nongkai 38.72 254 P **P** **09 32 39.1 +3.4**
comp=Z,1.1nm,0.9s
MRSI Marisa 39.72 213 P **P** **09 32 44.0 0.0**
comp=Z,55nm,1.6s,comp=Z,2µm
SANI Sanana 40.41 206 P **P** **09 32 50.8 +1.0**
comp=Z,73nm,1.3s,comp=Z,1µm
MSAI Masohi 40.69 201 P P 09 33 07.0 +15
LUWI Luwuk 40.72 211 P **P** **09 32 53.5 +1.2**
LUWI IAmb IAmb 09 33 02.6
comp=Z,41nm,1.0s
PHRA Phrae 40.77 257 P **P** **09 32 54.5 +1.7**
comp=Z,2.6nm,0.9s,comp=Z,995nm
MPSI Mapaga 40.78 216 P P 09 33 02.1 +9.3
CHAI Chaiyaphum 40.87 252 P **P** **09 32 58.0 +4.4**
comp=Z,86µm,0.9s
UTTA Uttaradit 40.93 255 P **P** **09 32 56.0 +1.9**
comp=Z,33µm,0.9s
APSI Ampana 41.09 212 P P 09 33 06.5 +11
LAMP Lampang 41.23 257 P P 09 33 04.4 +7.8
comp=Z,31µm,0.8s
PBKT Sadao Pong 41.27 254 P **P** **09 32 59.0 +2.1**
comp=Z,17nm,1.0s
PBKT Sadao Pong 41.27 254 IAmb IAmb 09 33 05.2
comp=Z,22nm,0.9s
CMMT Chiang Mai 41.62 258 P **P** **09 33 04.2 +4.4**
comp=Z,8.2nm,0.8s,comp=Z,664nm
CHTO Chiang Mai 41.62 258 P **P** **09 32 57.5 -2.4**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 41.62 258 P **P** **09 32 57.5 -2.4**
CMAR Chiang Mai Arr 41.82 258 P **P** **09 32 59.7 -1.7**
comp=Z,1.2nm,0.3s,baz=40,slow=7.1,SNR=3.7
CMAR LR LR 09 51 09.3
comp=Z,1µm,18.8s,baz=45,slow=37
WMQ Urumqi 42.12 298 *e*P **P** **09 33 04.3 +0.6**
WMQ sP pwP 09 33 15.3 +2.7
WMQ LR LR
comp=Z,1µm,12.1s
WMQ LR LR
comp=Z,1µm,14.3s
WMQ LR LR
comp=Z,1µm,13.1s
WMQ Urumqi 42.12 298 P **P** **09 33 03.8 +0.1**
WMQ pmax pmax
comp=Z,93nm,1.1s
WMQ Urumqi 42.12 298 P **P** **09 33 03.8 +0.1**
ANM Nome 42.49 30 P **P** **09 33 07.7 +1.4**
ANM pmax pmax
comp=Z,28nm,1.0s
ANM Nome 42.49 30 P **P** **09 33 07.7 +1.4**
ANM IAmb IAmb 09 33 18.9
comp=Z,28nm,1.0s
UTHA Uthaitani 43.05 254 P P 09 33 19.8 +8.4
comp=Z,16µm,1.2s
UMPA Umpang Tak 43.14 255 P P 09 33 22.6 +10
SBUM Sibu 43.15 227 P P 09 33 20.0 +7.8
SBUM Sibu 43.15 227 P **P** **09 33 12.2 0.0**
ZAA0 Zalesovo Array 43.40 314 IAmb IAmb 09 33 22.9
comp=Z,31nm,1.1s
ZALV Zalesovo Beam 43.40 314 P **P** **09 33 12.9 -0.9**
comp=Z,5.6nm,0.6s,baz=97,slow=6.8,SNR=11
PATY Pattaya 43.53 249 P P 09 33 23.4 +8.1
comp=Z,29µm,0.8s
SHL Shilong 44.09 271 IAmb IAmb 09 33 27.4
comp=Z,41nm,0.9s
PHET Kaeng Krachan 44.49 250 P P 09 33 30.9 +7.9
comp=Z,86µm,0.8s
RDOG Red Dog Mine 44.50 26 IAmb IAmb 09 33 34.7
comp=Z,34nm,1.1s
SPSI Sidrap Palu 44.63 213 P P 09 33 35.1 +11
NRIK Noril'sk 44.87 336 P **P** **09 33 25.3 -0.1**
comp=Z,6.0nm,0.9s,baz=146,slow=7.3,SNR=2.3
BNSI Bone 44.88 212 P **P** **09 33 28.7 +2.6**
comp=Z,84nm,1.2s,comp=Z,2µm
KSM Kuching 45.07 228 P **P** **09 33 27.7 +0.1**
MK31 Makanchi Array 45.48 303 *i* P **P** **09 33 29.2 -1.4**
MK31 pmax pmax
comp=Z,58nm,0.9s
MKAR Makanchi Array 45.48 303 *i* P **P** **09 33 32.0 +1.4**
MKAR pmax pmax
comp=Z,9.0nm,0.9s
MKAR Makanchi Array 45.48 303 P **P** **09 33 30.5 -0.1**
comp=Z,9.2nm,0.9s,baz=91,slow=9.1,SNR=33
MKAR S **S** **09 40 15.0 +3.0**
comp=Z,0.8nm,1.1s,baz=93,slow=20,SNR=2.9
MKAR LR LR 09 51 58.8
comp=Z,1µm,18.2s,baz=72,slow=35
MAKZ Makanchi 45.69 304 P **P** **09 33 32.6 +0.3**
MAKZ pmax pmax
comp=Z,55nm,0.9s
MAKZ Makanchi 45.69 304 P **P** **09 33 32.6 +0.3**
TAPN Taplejung 46.74 276 *e*P **P** **09 33 39.9 -1.3**
comp=Z,87nm,1.0s
KURK Kurchatov 47.37 309 *ce*P **P** **09 33 46.8 +1.4**
KURK pmax pmax
comp=Z,26nm,0.6s
KURK Kurchatov 47.37 309 P **P** **09 33 45.2 -0.2**
SURT Suratani 47.61 247 P P 09 33 56.7 +9.0
comp=Z,34nm,1.1s
RSO Redoubt South 47.63 37 P **P** **09 33 48.3 +0.8**
RAMN Ramite 47.81 276 *e*P **P** **09 33 47.7 -1.7**
comp=Z,214nm,0.9s
JIRN Jiri 47.85 277 *e*P **P** **09 33 48.5 -1.3**
comp=Z,236nm,1.1s
GUN Gumba 48.00 277 *e*P **P** **09 33 49.3 -1.7**
comp=Z,138nm,1.0s
PDGK Podgornoye 48.06 299 P **P** **09 33 51.2 +0.1**
PDGK pmax pmax
comp=Z,98nm,1.1s
SOEI Soe 48.19 204 P P 09 34 00.1 +7.9
comp=Z,118nm,1.1s
SOEI Soe 48.19 204 P **P** **09 33 52.9 +0.7**
JRMM Jerantut 48.39 239 P P 09 34 02.0 +8.3
PKI Pulchoki 48.52 277 *e*P **P** **09 33 53.0 -2.0**
comp=Z,14nm,1.1s
PKIN Phulchoki 48.52 277 *e*P **P** **09 33 52.8 -2.2**
KKN Kakani 48.53 278 *e*P **P** **09 33 53.3 -1.6**
comp=Z,116nm,1.1s
KULM Kulim 48.70 242 P P 09 34 04.0 +7.9
MLY Manley 48.73 31 IAmb IAmb 09 34 08.1
comp=Z,19nm,0.8s
DMN Daman 48.74 277 *e*P **P** **09 33 55.1 -1.5**
comp=Z,41nm,0.8s
GKN Gorkha 48.96 278 *e*P **P** **09 33 56.5 -1.7**

comp=Z,341nm,1.0s
IPM Ipoh 48.99 241 P P 09 34 06.0 +7.6
IPM Ipoh 48.99 241 P **P** **09 34 00.0 +1.6**
PRZ Przheval'sk 49.04 298 P **P** **09 33 59.7 +1.0**
PRZ pmax pmax
comp=Z,93nm,0.9s
PRZ Przheval'sk 49.04 298 P **P** **09 33 59.7 +1.0**
COEN Coen 49.27 179 P **P** **09 34 00.0 -0.3**
COEN IAmb IAmb 09 34 10.9
comp=Z,24nm,0.8s
PMR Palmer 49.39 36 IAmb IAmb 09 34 11.9
comp=Z,20nm,0.9s
NEA Nenana 49.42 32 P **P** **09 34 01.0 0.0**
TOLK Toolik Lake Re 49.45 27 P **P** **09 34 01.8 +0.5**
baz=265
TOLK Toolik Lake Re 49.45 27 P **P** **09 34 01.0 -0.3**
TOLK IAmb IAmb 09 34 15.7
comp=Z,15nm,1.1s
MCK McKinley 49.47 33 P **P** **09 34 02.7 +1.3**
MCK pmax pmax
comp=Z,23nm,1.2s
MCK McKinley 49.47 33 P **P** **09 34 02.7 +1.3**
MCK IAmb IAmb 09 34 12.3
comp=Z,23nm,1.2s
DANN Dangsing 49.53 279 *e*P **P** **09 34 01.3 -1.4**
comp=Z,384nm,1.0s
MDM Murphy Dome 49.79 31 P **P** **09 34 05.0 +1.2**
KOLN Koldanda 49.89 278 *e*P **P** **09 34 04.1 -1.3**
comp=Z,262nm,1.4s
TCOL CIGO, UAF Yank 49.95 32 P **P** **09 34 06.0 +1.0**
baz=270
COLA College 49.95 32⇑ *e*P **P** **09 34 08.8 +3.8**
COLA pmax pmax
comp=Z,9.0nm,1.0s
COLA College 49.95 32 P **P** **09 34 06.9 +1.9**
COLA IAmb IAmb 09 34 17.9
comp=Z,21nm,0.9s
CCB Clear Creek Bu 49.97 32 P **P** **09 34 07.3 +2.2**
KDJ Kajisay 50.01 298 P **P** **09 34 07.5 +1.5**
KDJ pmax pmax
comp=Z,28nm,0.8s
KDJ Kajisay 50.01 298 P **P** **09 34 07.5 +1.5**
KDJ IAmb IAmb 09 34 19.9
comp=Z,28nm,0.8s
POKR Poker Flat Res 50.13 31 P **P** **09 34 07.4 +1.0**
baz=270
TWSI Taliwang, Sumb 50.16 213 P P 09 34 21.7 +15
HDA Harding Lake 50.34 32 P **P** **09 34 08.3 +0.3**
baz=271
HDA Harding Lake 50.34 32 IAmb IAmb 09 34 18.9
comp=Z,21nm,1.0s
IL31 50.36 32 IAmb IAmb 09 34 19.2
comp=Z,21nm,0.8s
ILAR Eielson Array 50.36 32 P **P** **09 34 08.3 +0.2**
comp=Z,4.6nm,0.9s,baz=268,slow=6.6,SNR=25
BOOM Boomskoye usch 50.80 299 P **P** **09 34 12.5 +0.5**
BOOM pmax pmax
comp=Z,47nm,1.2s
BOOM Boomskoye usch 50.80 299 P **P** **09 34 12.5 +0.5**
BOOM IAmb IAmb 09 34 26.3
comp=Z,47nm,1.1s
TKM2 Tokmak 2 50.93 300 P **P** **09 34 12.2 -0.8**
TKM2 pmax pmax
comp=Z,138nm,1.6s
TKM2 Tokmak 2 50.93 300 P P 09 34 17.9 +4.9
SNR=16
KZA Kyzart 51.41 299 P **P** **09 34 18.9 +2.1**
SNR=8.2
KBK Karagaybulak 51.46 300 P P 09 34 21.8 +4.9
SNR=12
USP Ospenovka 51.61 300 P **P** **09 34 22.4 +4.5**
SNR=7.0
KSH Kashi 51.63 295 P **P** **09 34 21.4 +3.2**
KSH sP pwP 09 34 28.5 +1.4
KSH S **S** **09 41 42.1 +2.9**
KSH pmax pmax
comp=Z,24nm,0.9s
KSH pmax pmax
comp=Z,2µm,11.4s
SCRK Sand Creek 51.65 33 IAmb IAmb 09 34 29.4
comp=Z,21nm,1.0s
PSI Prapat 51.66 241 P **P** **09 34 19.7 +1.0**
PSI pmax pmax
comp=Z,25nm,0.9s
RPSI Rantau Prapat 51.73 241 P **P** **09 34 19.7 +0.6**
RPSI IAmb IAmb 09 34 28.1
comp=Z,25nm,0.9s
AAK Ala-Archa 51.79 300⇑ *e*P **P** **09 34 22.2 +2.8**
AAK pmax pmax
comp=Z,24nm,2.1s
AAK Ala-Archa 51.79 300 P **P** **09 34 22.2 +2.8**
SNR=6.0
AAK Ala-Archa 51.79 300 P **P** **09 34 22.7 +3.3**
AAK IAmb IAmb 09 34 33.6
comp=Z,31nm,0.9s
PWJI Pagerwojo 52.01 220 P P 09 34 28.0 +7.0
BRVK Borovoye 52.11 313 P **P** **09 34 21.5 +0.1**
BRVK pmax pmax
comp=Z,31nm,1.0s
BRVK Borovoye 52.11 313 P **P** **09 34 21.5 +0.1**
BRVK IAmb IAmb 09 34 39.1
comp=Z,31nm,0.9s
MLSI Meulaboh, Aceh 52.48 244 P P 09 34 32.0 +7.3
AML Almayashu 52.50 299 P **P** **09 34 26.6 +1.6**
SNR=12
SDSI Sungai Dareh 52.60 235 P **P** **09 34 27.1 +1.6**
KPJI Karang Pucung 52.98 223 P P 09 34 35.5 +7.3
LEM Lembang 53.30 225 P **P** **09 34 30.9 0.0**
LEM pmax pmax
comp=Z,77nm,1.2s
MDSI Maura Dua 53.51 230 P **P** **09 34 31.6 -0.6**
MASI Maura Aman, Be 53.71 233 P P 09 34 42.7 +8.9
PBSI Pulau Batu 54.12 239 P P 09 34 45.0 +8.3
KK31 Karatay Array 54.45 301 *i* P **P** **09 34 37.9 -0.9**
KK31 pmax pmax
comp=Z,34nm,1.0s
EPYK Eagle Plains 54.45 29 P **P** **09 34 39.0 +0.5**
baz=276
SISI Saibi 54.48 237 P P 09 34 45.9 +6.6
INK Inuvik 55.37 27 P **P** **09 34 45.9 +0.8**
comp=Z,3.2nm,0.9s,baz=267,slow=7.8,SNR=7.0
INK Inuvik 55.37 27 IAmb IAmb 09 34 56.7
comp=Z,16nm,0.9s
FITZ Fitzroy Crossi 55.66 199 P **P** **09 34 46.7 -0.9**
WRAB Tennant Creek 55.72 189⇓ *e*P **P** **09 34 45.9 -2.1**
WRAB pmax pmax
comp=Z,59nm,1.5s
WRAB Tennant Creek 55.72 189 P **P** **09 34 46.0 -2.1**
WRA Warramunga Arr 55.73 189 P **P** **09 34 45.9 -2.2**
comp=Z,17nm,0.9s,baz=8.1,slow=7.5,SNR=44
WRA LR LR 09 57 54.7
comp=Z,411nm,19.6s,baz=270,slow=35
SVE Sverdlovsk 56.69 319⇑ *e*P P 09 35 03.3 +8.6
SVE pmax pmax
comp=Z,58nm,1.5s
SVE MLR MLR
comp=Z,8µm,14.0s
CHGR Chuyangaron 56.91 297 P **P** **09 34 56.5 -0.1**
ARU Arti 57.90 319 *d* *i*P **P** **09 35 03.6 +0.4**
ARU 09 35 54.8
ARU S **S** **09 43 04.2 +1.5**
ARU SS **SS** **09 46 56.7 +3.7**
ARU pmax pmax
comp=Z,36nm,2.6s
ARU MLR MLR
comp=Z,4µm,15.0s
ARU Arti 57.90 319 P **P** **09 35 02.1 -1.1**
comp=Z,0.8nm,0.3s,baz=320,slow=0.5,SNR=5.6
ARU Arti 57.90 319 P **P** **09 35 03.9 +0.7**
ARU IAmb IAmb 09 35 20.5
comp=Z,29nm,1.0s
C36M Paulatuk 58.46 25 P **P** **09 35 06.7 -0.2**
baz=287
KBL Kabul 58.58 292 P **P** **09 35 09.1 +0.5**
KBL pmax pmax
comp=Z,21nm,0.9s
HYB Hyderabad 58.86 270 *i* P **P** **09 35 11.0 +0.5**
AB31 Akbulak array 59.40 311 *i* P **P** **09 35 12.9 -0.9**
AB31 pmax pmax
comp=Z,14nm,0.8s
ABKAR Akbulak array 59.40 311 IAmb IAmb 09 35 23.8
comp=Z,25nm,1.1s
AS31 Alice Springs 59.45 189 IAmb IAmb 09 35 31.4
comp=Z,7.7nm,0.6s
ASAR Alice Springs 59.45 189 P **P** **09 35 12.3 -2.1**
comp=Z,7.4nm,1.0s,baz=7.8,slow=5.1,SNR=31

ASAR LR LR 09 59 40.8
comp=Z,277nm,20.2s,baz=17,slow=35
AKTO Aktyubinsk 60.15 313 P **P 09 35 18.6 -0.4**
comp=Z,2.0nm,0.7s,baz=63,slow=13,SNR=6.8
PSA00 Pilbara Seismi 60.68 204 P **P 09 35 23.0 +0.2**
KIRV Kirov 61.82 324 P **P 09 35 30.0 -0.1**
KIRV Kirov 61.82 324 P **P 09 35 29.9 -0.1**
comp=Z,8.9nm,0.6s,baz=55,slow=16,SNR=3.3
POO Poona 62.12 274 *ex* **P 09 35 31.0 -1.8**
PRGR Permogore 62.35 328 *eP* P 09 35 38.7 +5.1
PRGR pmax pmax
comp=Z,15nm,0.4s
HRA Herat 63.73 295 P **P 09 35 44.3 +0.8**
RES Resolute Bay 63.84 14 P **P 09 35 43.6 +0.3**
RES pmax pmax
comp=Z,24nm,1.1s
RES Resolute Bay 63.84 14 P **P 09 35 43.5 +0.3**
RES IAmb IAmb 09 35 54.0
comp=Z,21nm,1.0s
APA Apatity 64.29 336 ⇓ *iP* P 09 35 55.0 +8.6
APA pmax pmax
comp=Z,8.0nm,1.0s
YKA Yellowknife Ar 64.72 30 *i* P **P 09 35 51.1 +1.8**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 64.72 30 P **P 09 35 49.4 +0.2**
comp=Z,0.9nm,1.0s,baz=296,slow=6.5,SNR=5.7
GEYT Alibeck 65.14 300 P **P 09 35 52.6 +0.1**
comp=Z,7.2nm,0.9s,baz=70,slow=12,SNR=3.5
STKA Stephens Creek 67.11 181 LR LR 10 12 08.0
comp=Z,326nm,18.1s,baz=8.7,slow=42
DAG Danmarks Havn 67.28 355 *i* P P 09 36 15.0 +10
DAG Danmarks Havn 67.28 355 *i* P P 09 36 15.0 +10
FORT Forrest 67.35 193 P **P 09 36 04.9 -1.6**
JOF Joensuu 67.56 332 P **P 09 36 07.0 -0.5**
JOF pmax pmax
comp=Z,10.0nm,2.0s
D03D Eldon 67.59 47 P **P 09 36 07.8 -0.2**
baz=299
B05A Bryant 67.83 46 P **P 09 36 10.7 +1.2**
baz=299
MOS Moscow 68.82 324 *eP* P 09 36 22.8 +7.3
MOS pmax pmax
comp=Z,77nm,1.2s
MORW Morawa 68.89 204 P **P 09 36 16.3 +0.1**
VRH Novokhopyorsk 69.11 319 *eP* P 09 36 22.8 +5.4
VRH pmax pmax
comp=Z,50nm,2.3s
J01E Myrtle Point 69.20 51 P **P 09 36 18.3 +0.2**
baz=300
I03D Drain, OR 69.30 51 P **P 09 36 21.4 +2.7**
baz=300
B08A Colville Reser 69.39 45 IAmb IAmb 09 36 30.4
comp=Z,12nm,1.1s
K02D Willamette Mer 69.60 52 P **P 09 36 22.7 +2.0**
baz=300
OBN Obninsk 69.67 324 ⇓ *eP* **P 09 36 22.2 +1.5**
OBN *e* 09 36 45.1
OBN *e* 09 38 55.8
OBN *e*PPP PPP 09 40 37.8
OBN pmax pmax
comp=Z,119nm,2.4s
G05D Wamic, OR 69.79 48 P **P 09 36 23.8 +2.1**
baz=300
I04A Tendick Farm, 69.84 50 P **P 09 36 23.7 +1.5**
baz=300
LPSR Galich'ya Gora 69.85 321 *eP* P 09 36 27.8 +5.8
LPSR pmax pmax
comp=Z,60nm,1.6s
L02E Cave Junction 69.90 52 P **P 09 36 23.8 +1.2**
baz=300
I05D Terrebonne, OR 70.23 49 P **P 09 36 26.8 +2.2**
baz=301
C09A Chrisman Ranch 70.28 45 IAmb IAmb 09 36 35.8
comp=Z,12nm,1.0s
J04D Umpqua Nationa 70.31 51 P **P 09 36 25.3 +0.1**
baz=301
FINES FINESS Array B 70.41 333 P **P 09 36 25.5 +0.2**
comp=Z,5.5nm,0.9s,baz=57,slow=8.4,SNR=3.2
VSR Storozhevoye 70.47 319 *eP* **P 09 36 25.8 0.0**
VSR pmax pmax
comp=Z,50nm,1.4s
AKT Akhty 70.49 307 *eP* **P 09 36 29.6 +3.3**
AKT *e* 09 36 50.8
AKT pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 70.54 319 *eP* **P 09 36 26.6 +0.4**
VORD pmax pmax
comp=Z,20nm,1.2s
NEW Newport 70.69 44 P **P 09 36 27.5 +0.2**
baz=302
NEW Newport 70.69 44 P **P 09 36 28.2 +0.9**
NEW pmax pmax
comp=Z,14nm,1.2s
NEW Newport 70.69 44 IAmb IAmb 09 36 38.3
comp=Z,12nm,1.1s
L04D Klamath Falls 70.71 52 P **P 09 36 28.0 +0.3**
baz=301
PINE Pine Mountain 70.76 50 IAmb IAmb 09 36 40.5
comp=Z,20nm,1.1s
M02C Callahan 70.77 53 P **P 09 36 27.9 -0.1**
baz=301
J05D Fort Rock, OR 70.84 50 P **P 09 36 29.8 +1.4**
baz=301
N02D Trinity Center 71.08 53 P **P 09 36 31.9 +2.0**
baz=301
M04C Macdoel 71.23 52 P **P 09 36 31.3 +0.5**
baz=301
O02D Mt. Diablo Mer 71.44 54 P **P 09 36 33.3 +1.3**
baz=301
GOF Gofitskoye 71.57 312 ⇑ *eP* P 09 36 40.5 +7.9
GOF pmax pmax
comp=Z,72nm,1.4s
O03E Paynes Creek 72.02 53 P **P 09 36 36.5 +1.0**
baz=302
NWAO Narrogin (SRO) 72.07 202 P **P 09 36 35.8 +0.3**
NWAO pmax pmax
comp=Z,21nm,0.8s
NWAO Narrogin (SRO) 72.07 202 P **P 09 36 35.8 +0.3**
NWAO IAmb IAmb 09 36 44.6
comp=Z,20nm,0.8s
SUMG Summit 72.13 0 *i* P P 09 36 46.0 +10
SUMG Summit 72.13 0 *i* P P 09 36 46.0 +10
ZEI Tsey 72.25 310 *eP* **P 09 36 41.3 +4.3**
ZEI pmax pmax
comp=Z,13nm,1.2s
KBZ Khabaz 72.37 311 P **P 09 36 38.5 +1.2**
comp=Z,2.6nm,0.8s,baz=193,slow=8.3,SNR=4.2
KVAR Kislovodsk Arr 72.37 312 P **P 09 36 36.9 -0.7**
comp=Z,1.7nm,0.4s,baz=197,slow=18,SNR=3.6
KIV Kislovodsk 72.37 312 *eP* **P 09 36 39.2 +1.6**
KIV pmax pmax
comp=Z,96nm,1.1s
BMO Blue Mountains 72.41 47 P **P 09 36 40.7 +2.9**
BMO pmax pmax
comp=Z,6.0nm,1.0s
JTMT Jette 72.58 43 IAmb IAmb 09 36 50.5
comp=Z,12nm,0.9s
NEY Neytrino 72.73 311 ⇓ *eP* **P 09 36 41.8 +2.0**
NEY pmax pmax
comp=Z,1.0nm,1.0s
WVOR Wild Horse Val 72.91 50 P **P 09 36 42.1 +1.3**
WVOR pmax pmax
comp=Z,9.0nm,1.8s
GNI Garni 73.12 307 P **P 09 36 43.2 +1.1**
comp=Z,8.9nm,0.4s,baz=148,slow=13,SNR=1.9
GNI Garni 73.12 307 IAmb IAmb 09 37 01.6
comp=Z,30nm,1.1s
AKH Akhalkalaki 73.24 309 ⇑ P P 09 36 48.8 +5.9
MICGM Minsk 74.08 326 *eP* P 09 36 56.0 +8.7
MICGM *e*LR LR 09 58 10.0
MNK Minsk 74.08 326 *eP* P 09 36 56.0 +8.7
MFID Camas Ranch 74.09 48 P **P 09 36 47.1 -0.7**
PNTR Pine Nut 74.10 53 P **P 09 36 47.7 -0.3**
CMB Columbia Colle 74.16 54 IAmb IAmb 09 36 59.5
comp=Z,14nm,1.2s
NACGM Naroch 74.31 327 *e* P 09 37 06.0 +17
NACGM *e*LQ LQ 09 55 16.0
NACGM *e*LR LR 09 58 08.0
SOC Sochi 74.37 313 *eP* **P 09 36 48.0 -1.2**
SOC *e* 09 39 38.7
SOC *e*PPP PPP 09 41 18.2
SOC *e*S **S 09 46 25.2 +1.7**
SOC *e*SS **SS 09 51 12.3 +3.6**
SOC *e*SSS SSS 09 54 24.1

YERR Yerington 74.39 53 IAmb IAmb 09 37 01.1
comp=Z,11nm,1.1s
FFC Flin Flon 74.56 33 P **P 09 36 50.3 +0.2**
FFC pmax pmax
comp=Z,22nm,1.4s
FFC Flin Flon 74.56 33 P **P 09 36 50.3 +0.2**
FFC IAmb IAmb 09 37 05.5
comp=Z,22nm,1.4s
DLMT Dillon 74.89 45 IAmb IAmb 09 37 04.1
comp=Z,15nm,1.1s
BMN Battle Mountai 74.89 51 P **P 09 36 53.3 +0.7**
BMN pmax pmax
comp=Z,9.0nm,1.0s
BMN Battle Mountai 74.89 51 P **P 09 36 53.3 +0.7**
EGMT Eagleton 74.91 41 P **P 09 36 51.4 -0.9**
baz=307
EGMT Eagleton 74.91 41 IAmb IAmb 09 37 03.2
comp=Z,20nm,1.0s
FCC Fort Churchill 74.99 27 IAmb IAmb 09 37 03.0
comp=Z,44nm,1.4s
ANN Anapa 75.03 315 *eP* **P 09 36 51.3 -1.7**
ANN *e* 09 37 05.3
ANN *e* 09 39 40.0
ANN *e*S **S 09 46 28.6 -2.1**
ANN *e*SS **SS 09 51 20.1 +1.5**
ANN pmax pmax
comp=Z,24nm,1.1s
NVAR Mina Array Bea 75.31 53 P **P 09 36 56.0 +0.9**
comp=Z,1.0nm,0.7s,baz=299,slow=4.5,SNR=6.5
HFS Hagfors 75.69 336 P **P 09 36 57.3 +0.8**
comp=Z,8.4nm,1.1s,baz=353,slow=5.8,SNR=2.7
NB2 NORSAR Subarra 75.78 338 P **P 09 36 57.9 +0.8**
comp=Z,6.6nm,0.9s,baz=40,slow=5.9
NOA NORSAR Array B 75.78 338 P **P 09 36 56.5 -0.6**
comp=Z,2.0nm,0.9s,baz=38,slow=5.8,SNR=4.8
AKASG Malin Array Be 75.86 323 *i* P **P 09 36 57.9 +0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 75.86 323 P **P 09 36 56.6 -1.0**
comp=Z,1.7nm,0.5s,baz=48,slow=6.1,SNR=10
AKBB Malin Array Si 75.86 323 P **P 09 36 57.6 -0.1**
AKBB pmax pmax
comp=Z,69nm,1.5s
AKBB Malin Array Si 75.86 323 P **P 09 36 57.6 -0.1**
ELK Elko 75.96 50 P **P 09 36 56.3 -2.5**
ELK pmax pmax
comp=Z,6.0nm,1.1s
ELK Elko 75.96 50 P **P 09 36 56.3 -2.5**
YHL Hebgen Lake 76.00 45 P **P 09 36 56.0 -3.0**
VES Vestal, Richgr 76.23 56 P **P 09 37 00.5 +0.4**
baz=304
PKM Mcpherson Peak 76.27 57 P **P 09 36 59.3 -1.3**
baz=304
CWC Cottonwood Cre 76.57 55 P **P 09 37 02.5 +0.3**
baz=304
H17A Grant Village 76.62 45 P **P 09 37 04.3 +1.9**
baz=307
H17A Grant Village 76.62 45 IAmb IAmb 09 37 16.0
comp=Z,18nm,1.0s
GRAC Grapevine Rang 76.73 54 P **P 09 37 02.7 -0.3**
baz=305
FLWY Flagg Ranch 76.74 45 IAmb IAmb 09 37 16.0
comp=Z,26nm,1.2s
ISA Isabella, Lake 76.74 56 P **P 09 37 03.9 +0.8**
baz=304
ARVC Arvin 76.80 56 P **P 09 37 05.3 +2.0**
baz=304
RLMT Red Lodge 76.93 44 P **P 09 37 04.1 -0.1**
baz=308
R11A Troy Canyon, C 77.12 52 P **P 09 37 05.4 +0.1**
baz=305
MPMC Manual Prospec 77.18 55 P **P 09 37 02.6 -3.1**
baz=305
AHID Auburn Hatcher 77.29 46 IAmb IAmb 09 37 17.3
comp=Z,11nm,1.1s
FURC Furnace Creek, 77.36 54 P **P 09 37 06.1 -0.3**
baz=305
LRMC Laurel Mtn Rad 77.38 55 P **P 09 37 06.2 -0.5**
baz=305
TPNV Topopah Spring 77.49 54 P **P 09 37 07.1 -0.2**
baz=305
EDW2 Edwards Air Fo 77.51 56 P **P 09 37 05.7 -1.7**
baz=305
LAO LASA Array 77.62 41 P **P 09 37 06.7 -1.1**
baz=309
HWUT Hardware Ranch 77.71 47 IAmb IAmb 09 37 20.6
comp=Z,14nm,1.1s
DUG Dugway, Tooele 77.79 49 P **P 09 37 09.4 +0.4**
baz=305
DUG Dugway, Tooele 77.79 49 P **P 09 37 10.4 +1.4**
DUG pmax pmax
comp=Z,16nm,1.0s
DUG Dugway, Tooele 77.79 49 IAmb IAmb 09 37 21.0
comp=Z,11nm,1.0s
SORM Soroca 77.94 321 ⇓ P **P 09 37 09.8 +0.4**
SORM Soroca 77.94 321 ⇓ P **P 09 37 09.8 +0.4**
FRB Frobisher Bay 78.03 13 P **P 09 37 10.2 +0.6**
comp=Z,4.3nm,0.6s,baz=339,slow=5.8,SNR=5.0
GSC Goldstone, Bar 78.07 55 P **P 09 37 10.9 +0.4**
baz=305
BFSC Mount Baldy Ra 78.10 56 P **P 09 37 09.7 -1.0**
baz=305
BW06 Boulder Array 78.20 46 P **P 09 37 11.4 +0.1**
baz=308
PDAR Pinedale Array 78.20 46 P **P 09 37 11.2 -0.1**
comp=Z,2.0nm,0.9s,baz=301,slow=1.4,SNR=9.3
KIS Kishinev 78.44 320 *eP* P 09 37 20.0 +7.8
KIS Kishinev 78.44 320 *eP*cP **PcP 09 37 29.0 +7.6**
KIS LRM MLR 10 15 44.0
comp=Z,6μm,15.0s
KIS Kishinev 78.44 320 *eP* P 09 37 20.0 +7.8
KIS *e* 09 37 29.0
KIS MLR MLR
comp=Z,6μm,15.0s
TUQ Turquoise Moun 78.58 55 P **P 09 37 13.4 0.0**
baz=306
HEC Hector,Ludlow 78.66 55 P **P 09 37 11.7 -2.1**
baz=306
MURC Murrieta 78.78 57 P **P 09 37 13.2 -1.3**
baz=305
LVV L'vov 78.95 324 *eP* **P 09 37 11.1 -3.9**
GMRC Granite Mounta 79.13 55 P **P 09 37 15.7 -0.7**
baz=306
BORG Borgarnes 79.17 353 LR LR 10 15 10.8
comp=Z,1μm,19.0s,baz=12,slow=38
PFO Pinyon Flats O 79.28 56 P **P 09 37 16.7 -0.5**
baz=306
PFO Pinyon Flats O 79.28 56 P **P 09 37 17.7 +0.4**
PFO pmax pmax
comp=Z,12nm,1.2s
PFO Pinyon Flats O 79.28 56 LR LR 10 08 06.8
comp=Z,343nm,18.5s,baz=304,slow=32
PFO Pinyon Flats O 79.28 56 P **P 09 37 17.7 +0.4**
PFO IAmb IAmb 09 37 28.9
comp=Z,12nm,1.1s
XPFO Pion Flat 79.28 56 P **P 09 37 17.7 +0.4**
XPFO IAmb IAmb 09 37 28.9
comp=Z,12nm,1.1s
MTPU Mount Pierson 79.47 51 P **P 09 37 18.8 +0.3**
KWP Kalwaria Pacla 79.70 325 *eP* **P 09 37 21.1 +1.9**
KWP Kalwaria Pacla 79.70 325 *eP* **P 09 37 21.1 +1.9**
KWP *eP* **P 09 37 21.1 +1.9**
MONP2 Monument Peak 79.72 57 P **P 09 37 20.1 +0.3**
baz=306
IRM Iron Mountain 79.84 55 P **P 09 37 19.6 -0.6**
baz=306
BUR08 Bucovina Ar. S 79.86 322 P **P 09 37 21.4 +1.3**
BUR08 IAmb IAmb 09 37 30.1
comp=Z,22nm,1.5s
BURAR Bucovina Array 79.87 322 ⇑ P **P 09 37 22.3 +2.1**
BURAR Bucovina Array 79.87 322 ⇑ P **P 09 37 22.3 +2.1**
BIZ Bicaz 79.88 321 ⇑ P **P 09 37 23.3 +3.1**
TESR Tescani 79.89 321 ⇓ P **P 09 37 20.6 +0.5**
BC3 Big Chuckawall 79.93 56 P **P 09 37 20.3 -0.5**
baz=306
K22A Casper 80.02 44 P **P 09 37 22.4 +1.2**
baz=310
TOPG Topolog 80.05 319 ⇑ P P 09 37 26.5 +5.4
IKP In-Ko-Pah, Jac 80.08 57 P **P 09 37 20.6 -1.0**
baz=306
SWSC Sam W. Stewart 80.11 57 P **P 09 37 21.5 -0.2**
baz=306
URZ Urewera 80.25 153 LR LR 10 09 27.7
comp=Z,402nm,19.1s,baz=360,slow=33
VRI Vrincioaia 80.27 320 ⇑ P P 09 37 29.0 +6.7
VRI Vrincioaia 80.27 320 ⇑ P P 09 37 28.9 +6.7

PLOR Plostina 80.32 320 ⇓ P P 09 37 31.4 +8.8
PLOR Plostina 80.32 320 ⇓ P P 09 37 31.4 +8.8
BR131 Keskin Array S 80.33 312 P **P 09 37 24.5 +1.7**
BR131 pmax pmax
comp=Z,35nm,1.4s
BR131 Keskin Array S 80.33 312 P **P 09 37 24.5 +1.7**
BR131 IAmb IAmb 09 37 32.6
comp=Z,34nm,1.4s
BRTR Keskin Array B 80.33 312 *i* P **P 09 37 23.8 +0.9**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 80.33 312 P **P 09 37 23.4 +0.5**
comp=Z,2.7nm,0.9s,baz=107,slow=3.8,SNR=7.1
RSSD Black Hills 80.45 42 P **P 09 37 22.4 -1.2**
baz=311
Y12C Blythe 80.50 55 P **P 09 37 23.5 -0.2**
baz=307
UZH Uzhgorod 80.60 324 *eP* P 09 37 29.9 +6.0
O20A White River Ci 80.60 47 P **P 09 37 23.8 -0.6**
baz=309
O20A White River Ci 80.60 47 IAmb IAmb 09 37 35.6
comp=Z,13nm,0.9s
OJC Ojcow 80.62 327 *eP* P 09 37 29.8 +5.7
OJC Ojcow 80.62 327 *eP* P 09 37 29.8 +5.7
OJC *eP* P 09 37 29.8 +5.7
ANTO Ankara 80.74 313 P **P 09 37 29.5 +4.5**
TRPA Tarpa 80.83 324 ⇑ P P 09 37 31.4 +6.2
TRPA Tarpa 80.83 324 *eP* **P 09 37 24.0 -1.1**
DOPR Dopca 80.90 321 ⇑ P P 09 37 34.4 +8.8
NIE Niedzica 80.97 326 *eP* P 09 37 34.9 +8.9
NIE Niedzica 80.97 326 *eP* P 09 37 34.9 +8.9
NIE *eP* P 09 37 34.9 +8.9
Y14A Wickenburg 81.40 54 IAmb IAmb 09 37 40.3
comp=Z,10nm,1.0s
VOIR 81.43 321 ⇑ P P 09 37 36.7 +8.1
VOIR 81.43 321 ⇑ P P 09 37 36.7 +8.1
N23A Red Feather La 81.47 45 P **P 09 37 27.9 -1.2**
baz=310
N23A Red Feather La 81.47 45 IAmb IAmb 09 37 41.0
comp=Z,21nm,1.0s
WUAZ Wupatki 81.51 52 P **P 09 37 29.4 +0.1**
baz=308
WUAZ Wupatki 81.51 52 IAmb IAmb 09 37 41.3
comp=Z,13nm,0.9s
OKC Ostrava-Krasne 81.63 327 AMS AMS 10 18 50.0
comp=Z,4μm,13.3s
DRGR 81.68 323 ⇑ P P 09 37 35.1 +5.2
DRGR 81.68 323 ⇑ P P 09 37 35.1 +5.3
KSP Ksiaz 81.69 329 P **P 09 37 31.1 +1.4**
KSP pmax pmax
comp=Z,16nm,2.0s
KSP Ksiaz 81.69 329 *eP* P 09 37 38.5 +8.7
KSP *eP* P 09 37 38.5 +8.7
OSTC Ostas 81.94 329 AMS AMS 10 18 40.0
comp=Z,5μm,11.8s
MORC Moravsky Berou 81.94 327 ⇓ P **P 09 37 32.4 +1.2**
MORC Moravsky Berou 81.94 327 ⇓ P **P 09 37 32.4 +1.2**
MORC Moravsky Berou 81.94 327 *eP* P 09 37 39.1 +7.9
CHVC Chvalec 81.98 329 AMS AMS 10 18 50.0
comp=Z,5μm,12.8s
DPC Dobruska-Polom 82.05 328 AMS AMS 10 19 10.0
comp=Z,5μm,13.3s
KRLC Kraliky 82.06 328 *eP* **pP 09 37 37.7 +3.9**
KRLC *e* 09 37 50.7
KRLC MLR MLR
comp=Z,4μm,14.4s
KRLC Kraliky 82.06 328 *ep*P **pP 09 37 37.7 +3.9**
KRLC *ex* x 09 37 50.7
KRLC AMS AMS 10 19 10.0
comp=Z,4μm,14.4s
UPC Upice 82.06 329 AMS AMS 10 18 40.0
comp=Z,5μm,14.2s
MVCO Mesa Verde 82.28 50 P **P 09 37 33.3 -0.1**
baz=309
MVCO Mesa Verde 82.28 50 IAmb IAmb 09 37 52.5
comp=Z,11nm,1.1s
VYHS Vyhne 82.31 326 *eP* **P 09 37 33.7 +0.7**
VYHS Vyhne 82.31 326 *eP* **P 09 37 33.7 +0.7**
ISCO Idaho Springs 82.37 46 P **P 09 37 33.4 -0.6**
baz=310
JAVC Velka Javorina 82.56 327 *eP* P 09 37 44.8 +10
GZR Gura Zlata 82.62 322 ⇑ P **P 09 37 36.5 +1.7**
GZR Gura Zlata 82.62 322 ⇑ P **P 09 37 36.5 +1.7**
BRG Berggiesshubel 82.65 330 *e*(P) P 09 37 42.2 +7.4
comp=Z,22nm,1.6s
BRG Berggiesshubel 82.65 330 *eP* P 09 37 42.2 +7.5
BRG pmax pmax
comp=Z,23nm,1.6s
PVCC Panska Ves 82.65 329 AMS AMS 10 19 10.0
comp=Z,4μm,15.5s
CLL Collm 82.69 331 *eP* **P 09 37 36.0 +1.0**
CLL *i* 09 37 43.4
CLL Collm 82.69 331 *eP* **P 09 37 36.0 +1.0**
CLL *i*S **pwP 09 37 43.4 -0.6**
comp=Z,53nm,1.8s
VRAC Vranov 82.71 328 *eP* P 09 37 44.0 +8.9
214A Organ Pipe Nat 82.73 56 P **P 09 37 36.0 +0.4**
baz=308
S22A 4UR Ranch, Cre 82.97 48 P **P 09 37 36.7 -0.4**
baz=310
S22A 4UR Ranch, Cre 82.97 48 IAmb IAmb 09 37 50.4
comp=Z,14nm,1.1s
KRUC Moravsky 82.98 328 *eP* P 09 37 44.9 +8.4
GOPC GO Pecny, Ondr 83.03 329 AMS AMS 10 22 10.0
comp=Z,4μm,14.5s
BZS Buzias 83.05 323 P **P 09 37 40.3 +3.4**
PRA Prague 83.06 329 AMS AMS 10 19 30.0
comp=Z,5μm,13.5s
PRU Pruhonice 83.07 329 P **P 09 37 38.4 +1.4**
PRU pmax pmax
comp=Z,6.0nm,2.4s
PRU Pruhonice 83.07 329 AMS AMS 10 19 20.0
comp=Z,5μm,11.5s
RPZ Rata Peaks 83.16 159 LR LR 10 16 54.8
comp=Z,512nm,18.0s,baz=346,slow=37
TREC Trest 83.20 328 AMS AMS 10 19 10.0
comp=Z,4μm,15.3s
MMAI Mount Meron Ar 83.36 306 P **P 09 37 38.7 -0.2**
comp=Z,0.4nm,0.2s,baz=29,slow=3.3,SNR=3.5
PPT Papeete 83.37 117 LR LR 10 14 32.0
comp=Z,628nm,18.1s,baz=316,slow=36
MDVR Moldovita 83.59 322 ⇓ P **P 09 37 39.8 0.0**
NKC Novy Kostel 83.75 330 AMS AMS 10 19 00.0
comp=Z,5μm,15.3s
SDCO Great Sand Dun 83.77 48 P **P 09 37 40.6 -0.5**
baz=311
SDCO Great Sand Dun 83.77 48 IAmb IAmb 09 37 54.2
comp=Z,9.7nm,1.2s
TUC Tucson 83.87 55 P **P 09 37 42.0 +0.5**
baz=308
TUC Tucson 83.87 55 P **P 09 37 42.9 +1.4**
TUC pmax pmax
comp=Z,12nm,1.0s
TUC Tucson 83.87 55 P **P 09 37 42.9 +1.4**
TUC IAmb IAmb 09 37 53.3
comp=Z,12nm,1.0s
MPLH Magyarpolny 83.87 326 *eP* **P 09 37 43.0 +1.9**
MORH Mrgy, Hungar 84.06 324 *eP* **P 09 37 43.0 +1.0**
CONA Conrad Observa 84.06 327 *i* P **P 09 37 41.2 -1.0**
comp=Z,25nm,1.8s
KHC Kasperske Hory 84.14 329 *eP* **P 09 37 43.6 +1.1**
KHC *e* 09 37 50.5
KHC MLR MLR
comp=Z,4μm,13.9s
KHC Kasperske Hory 84.14 329 *eP* **P 09 37 43.6 +1.1**
KHC *ep*P **pwP 09 37 50.5 -1.0**
KHC AMS AMS 10 20 50.0
comp=Z,4μm,13.9s
RZN Rozhen 84.17 318 *eP* **P 09 37 44.8 +1.8**
GERES GERESS Array B 84.30 329 P **P 09 37 42.8 -0.6**
comp=Z,1.3nm,0.8s,baz=32,slow=5.3,SNR=7.1
GERES LR LR 10 19 47.5
comp=Z,2μm,18.9s,baz=36,slow=39
VTS Vitosha 84.32 320 *eP* **P 09 37 45.4 +1.6**
VTS Vitosha 84.32 320 ⇓ P **P 09 37 45.1 +1.4**
VTS Vitosha 84.32 320 ⇓ P **P 09 37 45.1 +1.4**
VTS Vitosha 84.32 320 P **P 09 37 45.3 +1.6**
ELL Elmali 84.48 312 P **P 09 37 46.6 +2.0**
EZN Ezine 84.55 316 P **P 09 37 48.0 +3.3**
ECSD EROS Data Cent 84.63 39 P **P 09 37 43.7 -1.4**
baz=316
ARSA Arzberg 84.72 327 *i* P **P 09 37 44.2 -1.4**
comp=Z,13nm,1.8s
MMB Musomiste 84.78 319 *eP* P 09 37 53.6 +7.7
T25A Trinidad 84.82 47 P **P 09 37 47.2 +0.8**

baz=311
T25A Trinidad 84.82 47 IAmb IAmb 09 37 59.2
comp=Z,11nm,0.9s
MOA Molln 84.82 328 *i* P **P** **09 37 45.8 -0.2**
comp=Z,10nm,1.0s
KKB Krupnik 84.93 319 *e*P **P** **09 37 47.6 +1.0**
ANMO Albuquerque 85.00 50 P **P** **09 37 47.5 +0.1**
baz=310
ANMO Albuquerque 85.00 50 P **P** **09 37 48.1 +0.7**
baz=260,slow=4.2
ANMO Albuquerque 85.00 50 IAmb IAmb 09 37 59.2
comp=Z,11nm,0.9s
SOKA Soboth 85.38 327 *i* P **P** **09 37 48.3 -0.6**
comp=Z,20nm,1.8s
319A Douglas 85.45 54 IAmb IAmb 09 38 01.2
comp=Z,17nm,0.9s
121A Cookes Peak, D 85.70 53 P **P** **09 37 51.0 +0.2**
baz=310
121A Cookes Peak, D 85.70 53 IAmb IAmb 09 38 02.8
comp=Z,16nm,0.9s
OBKA Obir 85.72 327 *i* P **P** **09 37 48.9 -1.7**
comp=Z,2.3nm,0.7s
KBA Koelnbreinsper 85.82 328 *i* P **P** **09 37 50.3 -0.9**
comp=Z,4.0nm,1.1s
MYKA Terra Mystica 86.03 327 *i* PcP **P** **09 37 52.6 +0.5**
comp=Z,4.1nm,1.0s
WATA Walderalm 86.37 329 *i* P **P** **09 37 52.6 -1.2**
comp=Z,15nm,1.7s
WTTA Wattenberg 86.40 329 *i* P **P** **09 37 51.8 -2.2**
comp=Z,16nm,1.8s
ABTA Abfaltersbach 86.43 328 *i* P **P** **09 37 52.3 -1.8**
comp=Z,6.4nm,1.3s
MOTA Moosalm 86.56 329 *i* P **P** **09 37 51.6 -3.2**
comp=Z,19nm,1.5s
RETA Reutte 86.59 329 *i* P **P** **09 37 54.2 -0.7**
comp=Z,11nm,1.4s
BMRD Maredsous 86.61 334 PcP **P** **09 37 55.4 +0.6**
SQTA Sankt Quirin 86.62 329 *i* P **P** **09 37 50.7 -4.3**
comp=Z,6.2nm,1.2s
DOU Dourbes 86.84 334 PcP **P** **09 37 57.3 +1.4**
BFO Black Forest 86.90 331 P **P** **09 37 57.2 +0.9**
BFO pmax pmax
comp=Z,11nm,1.5s
DAVA Damuels 87.12 330 *i* PcP **P** **09 37 57.1 -0.4**
comp=Z,14nm,1.2s
MNTX Cornudas Mount 87.79 52 P **P** **09 38 00.4 -0.5**
baz=311
KSU1 Kansas State U 87.94 42 P **P** **09 38 01.0 -0.5**
baz=316
LSQQ Lebel-sur-Quev 88.80 25 P **P** **09 38 04.7 -0.6**
baz=329
WMOK Wichita Mounta 89.80 46 P **P** **09 38 09.5 -0.8**
baz=315
E51A G1948 Merrick 90.04 27 P **P** **09 38 10.2 -1.0**
baz=327
TX31 Lajitas Ar. Si 90.46 53 IAmb IAmb 09 38 25.0
comp=Z,11nm,0.9s
TX32 Lajitas Array 90.46 53 IAmb IAmb 09 38 25.0
comp=Z,12nm,0.9s
TXAR Lajitas Array 90.46 53 P **P** **09 38 14.0 +0.4**
comp=Z,3.4nm,0.9s,baz=292,slow=3.7,SNR=16
HHAR Hobbs 91.44 42 IAmb IAmb 09 38 27.7
comp=Z,7.5nm,1.0s
CCM Cathedral Cave 91.56 39 P **P** **09 38 19.4 +1.0**
CCM pmax pmax
comp=Z,11nm,1.0s
CCM Cathedral Cave 91.56 39 P **P** **09 38 19.4 +1.0**
CCM IAmb IAmb 09 38 28.3
comp=Z,11nm,0.9s
MGMO Mountain Grove 91.70 41 IAmb IAmb 09 38 30.8
comp=Z,8.5nm,0.9s
U40A Yellville 91.98 41 P **P** **09 38 19.1 -1.2**
baz=318
MIAR Mount Ida 92.92 43 P **P** **09 38 24.2 -0.5**
baz=319
MIAR Mount Ida 92.92 43 IAmb IAmb 09 38 35.1
comp=Z,14nm,1.1s
KEST Kesra 96.59 323 LR LR 10 25 45.3
comp=Z,1μm,18.1s,baz=344,slow=38
ESDC Sonseca Array 98.89 334 P Pdif 09 38 52.7 +0.8
comp=Z,0.2nm,0.4s,baz=82,slow=2.7,SNR=2.3
ESDC LR LR 10 26 59.6
comp=Z,1μm,21.6s,baz=35,slow=38
QSPA South Pole Qui 125.33 180 **PKPdf** **09 44 11.5 +0.1**
SDV Santo Domingo 125.98 42 **PKiKP** **09 44 16.2 +1.3**
SYO Syowa Base 127.21 206↑ *e*pPKPdf pPKPdf 09 44 22.4 +6.1
SNAA Sanae 139.55 196 PKPdf **PKPdf** **09 44 38.0 -0.1**
SNAA Sanae 139.55 196 PKP **PKPdf** **09 44 35.5 -2.6**
comp=Z,2.1nm,0.8s,baz=31,slow=18,SNR=2.7
VNA2 Neumayer--Watz 141.11 195 PKPdf **PKPdf** **09 44 40.5 -0.3**
VNA3 Neumayer Olymp 141.33 194 PKPdf **PKPdf** **09 44 42.0 +0.7**
SAML Samuel 144.76 47 PKIKP **PKPab** **09 44 47.1 -0.7**
SAML Samuel 144.76 47 **PKPab** **09 44 47.1 -0.7**
LPAZ La Paz 146.80 63 PKPbc **PKPbc** **09 44 54.4 -0.5**
comp=Z,3.1nm,0.5s,baz=284,slow=1.6,SNR=20
PB11 IPOC Station P 147.82 69 **PKPbc** **09 44 55.9 -1.2**
LVC Limon Verde 149.99 73 PKIKP **PKiKP** **09 45 03.7 0.0**
LVC Limon Verde 149.99 73 PKPbc **PKPbc** **09 45 02.9 0.0**
comp=Z,8.8nm,1.0s,baz=98,slow=0.9,SNR=7.3
LVC Limon Verde 149.99 73 **PKiKP** **09 45 03.7 0.0**
RCBR Riachuelo 150.34 356 PKPbc **PKiKP** **09 45 04.6 +0.3**
comp=Z,51nm,0.5s,baz=108,slow=1.4,SNR=2.3
SIV San Ignacio 151.46 53 PKPbc **PKPbc** **09 45 04.6 -1.4**
comp=Z,9.1nm,0.9s,baz=318,slow=2.8,SNR=22
SIV PKPab **PKPab** **09 45 14.2 -0.1**
comp=Z,17nm,0.9s,baz=7.5,slow=0.3,SNR=18
GO04 Tololo Observa 151.80 88 **PKPbc** **09 45 06.2 -0.5**
CFA Coronel Fontan 154.34 90 PKPbc **PKPbc** **09 45 11.8 -0.2**
comp=Z,1.2nm,0.4s,baz=340,slow=6.1,SNR=3.7

*ISCJB **23** 09:36:03.7±0.5, 17.°09S±0.°10×178.°10W±0.°08, h10km, mb4.1/7, Error ellipse: s-maj=14.5km s-min=9.5km az=156.9*
*IDC **23** 09:36:04.0±0.9, 16.°90S×178.°01W, h0km, mb4.1/7, mb1 4.4/8, mb1mx4.0/38, mbtmp4.1/8, ML3.5/1, Error ellipse: s-maj=48.0km s-min=18.3km az=148.0*
*NEIC **23** 09:36:05.5±1.4, 17.°0S±0.°1×178.°08W±0.°09, h10km±4km, mb4.7/11*

ISC 23 09:36:05.0±0.6, 17.°0S±0.°1×178.°07W±0.°09, h10km, n23, σ1§19/23, mb4.5/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.79**	**258**	Pn	**Pn**	**09 37 01.0**	**-2.5**
AFI	**Afiamalu**	**6.78**	**64**	Pn	**Pn**	**09 37 42.6**	**-2.1**
	0.9nm,0.3s,baz=314,slow=11,SNR=5.7						
RAO	**Raoul Island**	**12.22**	**179**	Pn	**Pn**	**09 38 59.4**	**+0.2**
	144nm,0.3s,baz=16,slow=19,SNR=5.4						
RAR	**Rarotonga**	**17.79**	**107**	Pn	**Pn**	**09 40 12.5**	**-0.4**
RAR				IAmb	IAmb	09 40 22.6	
	comp=Z,58nm,1.3s						
WHZ	**Wether Hill Ro**	**31.11**	**199**	P	**P**	**09 42 23.8**	**+0.3**
COEN	**Coen**	**37.44**	**269**	P	**P**	**09 43 19.2**	**+0.5**
COEN				IAmb	IAmb	09 43 26.0	
	comp=Z,11nm,1.0s						
STKA	**Stephens Creek**	**39.37**	**240**	P	**P**	**09 43 36.7**	**+1.8**
	comp=Z,2.0nm,0.7s,baz=89,slow=13,SNR=4.2						
STKA	**Stephens Creek**	**39.37**	**240**	P	**P**	**09 43 36.0**	**+1.1**
BBOO	**Buckleboo**	**44.15**	**240**	P	**P**	**09 44 13.9**	**-0.2**
BBOO				IAmb	IAmb	09 44 22.0	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**45.13**	**259**	P	**P**	**09 44 22.8**	**+0.8**
	comp=Z,2.2nm,0.4s,baz=96,slow=7.1,SNR=54						
AS31	**Alice Springs**	**45.37**	**253**	P	**P**	**09 44 24.4**	**+0.5**
AS31				IAmb	IAmb	09 44 25.5	
	comp=Z,4.2nm,0.5s						
ASAR	**Alice Springs**	**45.37**	**253**	P	**P**	**09 44 24.6**	**+0.7**
	comp=Z,14nm,0.6s,baz=87,slow=8.6,SNR=234						
MTN	**Manton Dam**	**49.16**	**268**	P	**P**	**09 44 54.5**	**+1.0**
FORT	**Forrest**	**50.71**	**244**	P	**P**	**09 45 03.0**	**-2.1**
FORT				IAmb	IAmb	09 45 08.7	
	comp=Z,21nm,1.4s						
KNRA	**Kununurra**	**50.92**	**263**	P	**P**	**09 45 07.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**53.51**	**260**	P	**P**	**09 45 25.5**	**-0.6**
BEKR	**Beckworth**	**77.98**	**42**	P	**P**	**09 48 04.9**	**+1.1**
NVAR	**Mina Array Bea**	**78.52**	**44**	P	**P**	**09 48 07.7**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=224,slow=7.5,SNR=5.1						
SCM	**Sheep Creek Mo**	**82.24**	**14**	P	**P**	**09 48 27.3**	**+1.1**
TRF	**Thorofare Moun**	**83.03**	**12**	P	**P**	**09 48 31.1**	**+0.7**
TRF				IAmb	IAmb	09 48 42.9	
	comp=Z,7.9nm,1.3s						
ILAR	**Eielson Array**	**84.91**	**13**	P	**P**	**09 48 39.6**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=222,slow=5.1,SNR=8.3						
TXAR	**Lajitas Array**	**85.22**	**58**	P	**P**	**09 48 43.6**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=210,slow=7.2,SNR=6.7						
PDAR	**Pinedale Array**	**86.45**	**43**	P	**P**	**09 48 47.8**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=240,slow=1.8,SNR=5.2						

*NEIC **23** 09:39:17.7±1.0, 59.°38N±0.°05×151.°95W±0.°04, h70km±6km*
AEIC 23 09:39:19.1±1.5, 59.°41N±0.°05×152.°03W±0.°06, h59km±6km, ML3.2, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOM	**Homer**	**0.32**	**38**	Pn	**Pn**	09 39 28.9	-0.3
HOM				Sn	Sn	09 39 37.5	+0.9
BRLK	**Bradley Lake**	**0.68**	**58**	Pn	**Pn**	09 39 31.9	-1.2
BRLK				Sn	Sn	09 39 42.5	-0.8
AU22	**Augustine Moun**	**0.68**	**267**	Pn	**Pn**	09 39 32.8	-0.3
AU22				Sn	Sn	09 39 43.9	+0.7
AUQ	**Augustine Qik'**	**0.71**	**266**	Pn	**Pn**	09 39 33.3	-0.2
AUQ				Sn	Sn	09 39 45.0	+0.9
AUP	**Augustine Pinn**	**0.72**	**267**	Pn	**Pn**	09 39 33.4	-0.2
AUL	**Augustine Lava**	**0.72**	**268**	Pn	**Pn**	09 39 33.3	-0.3
AUL				Sn	Sn	09 39 44.9	+0.8
AUH	**Augustine H**	**0.73**	**267**	Pn	**Pn**	09 39 33.4	-0.3
BRSE	**Bradley Lake S**	**0.73**	**63**	Pn	**Pn**	09 39 32.7	-1.1
BRSE				Sn	Sn	09 39 44.0	-0.5
ILS	**Iliamna Low So**	**0.76**	**316**	Pn	**Pn**	09 39 33.4	-0.8
IVE	**Iliamna Volcan**	**0.79**	**321**	Pn	**Pn**	09 39 33.6	-0.9
ILIM	**Iliamna**	**0.82**	**325**	Pn	**Pn**	09 39 34.0	-0.9
ILW	**Iliamna West**	**0.86**	**320**	Pn	**Pn**	09 39 34.8	-0.7
FOSS	**Fourpeaked Sta**	**1.06**	**235**	Pn	**Pn**	09 39 37.5	-0.4
RED	**Redoubt Volcan**	**1.08**	**340**	Pn	**Pn**	09 39 37.4	-0.8
RED				Sn	Sn	09 39 51.8	-0.6
RSO	**Redoubt South**	**1.12**	**341**	Pn	**Pn**	09 39 38.1	-0.7
RDWB	**Redoubt West**	**1.16**	**340**	Pn	**Pn**	09 39 38.5	-0.9
RDWB				Sn	Sn	09 39 53.5	-0.8
DFR	**Drift River**	**1.23**	**345**	Pn	**Pn**	09 39 39.4	-0.9
DFR				Sn	Sn	09 39 55.6	-0.4
NCT	**North Crescent**	**1.24**	**339**	Pn	**Pn**	09 39 39.7	-0.7
NCT				Sn	Sn	09 39 55.8	-0.5
SLKM	**Skilak Lake**	**1.43**	**39**	Pn	**Pn**	09 39 41.9	-0.9
CAPN	**Captain Cook N**	**1.43**	**17**	Pn	**Pn**	09 39 43.7	+0.9
SEW	**Seward**	**1.48**	**61**	Pn	**Pn**	09 39 41.8	-1.6
KDAK	**Kodiak Island**	**1.66**	**190**	Pn	**Pn**	09 39 44.3	-1.6
KAHC	**Katmai Hardscr**	**1.72**	**245**	Pn	**Pn**	09 39 45.6	-1.3
CKL	**Chakachamna La**	**1.80**	**355**	Pn	**Pn**	09 39 47.6	-0.3
SPCR	**Spurr Chakacha**	**1.80**	**357**	Pn	**Pn**	09 39 47.4	-0.4
SPBG	**Spurr Blockage**	**1.86**	**355**	Pn	**Pn**	09 39 48.6	-0.1
SPBG				Sn	Sn	09 40 12.0	+0.7
SPCP	**Crater Peak Br**	**1.86**	**358**	Pn	**Pn**	09 39 48.7	-0.1
SPWE	**Spurr West**	**1.89**	**352**	Pn	**Pn**	09 39 49.0	-0.1
CGLM	**Capps Glacier**	**1.90**	**0**	Pn	**Pn**	09 39 49.0	-0.3
FIS	**Fire Island**	**1.96**	**27**	Pn	**Pn**	09 39 50.4	+0.4
SPNN	**North Nagishla**	**1.99**	**351**	Pn	**Pn**	09 39 50.6	+0.1
RC01	**Rabbit Creek A**	**2.03**	**33**	Pn	**Pn**	09 39 50.8	-0.3
SUA	**Susitna One**	**2.15**	**17**	Pn	**Pn**	09 39 52.4	-0.4
CAHL	**Cahill**	**2.19**	**233**	Pn	**Pn**	09 39 52.4	-0.7
OHAK	**Old Harbor**	**2.29**	**197**	Pn	**Pn**	09 39 52.6	-2.0
PWL	**Port Wells**	**2.35**	**50**	Pn	**Pn**	09 39 54.2	-1.1
SVW2	**Sparrevohn**	**2.45**	**315**	Sn	**Pn**	09 40 26.8	+1.3
SVW2	**Sparrevohn**	**2.45**	**315**	Pn	**Pn**	09 39 55.9	-0.8
SKT	**Skwentna**	**2.59**	**5**	Sn	**Pn**	09 40 29.5	+0.6
PMR	**Palmer**	**2.62**	**32**	Pn	**Pn**	09 39 57.8	-1.1
KNK	**Knik Glacier**	**2.68**	**40**	Pn	**Pn**	09 39 58.7	-1.1
KNK				Sn	Sn	09 40 29.1	-1.9
PLK3	**Peulik 3**	**2.82**	**234**	Pn	**Pn**	09 40 00.9	-0.8
GHO	**Glory Hole Cre**	**2.82**	**32**	Pn	**Pn**	09 40 00.8	-1.0
GLI	**Glacier Island**	**2.87**	**57**	Pn	**Pn**	09 40 00.1	-2.3
MID	**Middleton Isla**	**2.91**	**87**	Pn	**Pn**	09 40 01.5	-1.4
HIN	**Hinchinbrook I**	**2.95**	**68**	Sn	**Pn**	09 40 35.3	-2.5
HIN	**Hinchinbrook I**	**2.95**	**68**	Pn	**Pn**	09 40 01.9	-1.7
SML	**Sawmill**	**3.02**	**36**	Pn	**Pn**	09 40 03.2	-1.3
SII	**Sitkinak Islan**	**3.08**	**203**	Pn	**Pn**	09 40 03.5	-1.8
FID	**Port Fidalgo**	**3.09**	**62**	Pn	**Pn**	09 40 02.7	-2.7
FID				Sn	Sn	09 40 36.1	-4.9
JPK	**Jack Peak**	**3.17**	**56**	Pn	**Pn**	09 40 04.7	-1.8
EYAK	**Cordova Ski Ar**	**3.35**	**67**	Sn	**Pn**	09 40 43.1	-4.4
EYAK	**Cordova Ski Ar**	**3.35**	**67**	Pn	**Pn**	09 40 07.7	-1.3
SCM	**Sheep Creek Mo**	**3.35**	**42**	Pn	**Pn**	09 40 08.4	-0.7
WAT6	**Susitna Watana**	**3.80**	**31**	Pn	**Pn**	09 40 14.6	-0.8
WAT1	**Susitna Watana**	**3.82**	**25**	Pn	**Pn**	09 40 14.7	-0.8
RAGM	**Ragged Mountai**	**3.83**	**72**	Sn	**Pn**	09 40 56.6	-2.7
RAGM	**Ragged Mountai**	**3.83**	**72**	Pn	**Pn**	09 40 13.8	-1.8
GOAT	**Goat Mountain**	**3.85**	**69**	Pn	**Pn**	09 40 13.9	-1.9
WAT2	**Susitna Watana**	**3.93**	**24**	Pn	**Pn**	09 40 16.6	-0.4
PS12	**TAPS Pump St12**	**3.99**	**56**	Pn	**Pn**	09 40 16.3	-1.4
TT01	**Tatalina**	**4.00**	**333**	Pn	**Pn**	09 40 17.2	-0.7
HMT	**Hamilton**	**4.02**	**73**	Pn	**Pn**	09 40 16.7	-1.5
HMT	**Hamilton**	**4.02**	**73**	Sn	**Pn**	09 41 00.5	-3.5
TTA	**Tatalina**	**4.02**	**333**	Pn	**Pn**	09 40 17.1	-1.1
TRF	**Thorofare Moun**	**4.14**	**11**	Pn	**Pn**	09 40 19.7	-0.2
NICHA	**Nichawak Mount**	**4.15**	**75**	Pn	**Pn**	09 40 18.7	-1.2
SUCK	**Suckling Hills**	**4.23**	**77**	Pn	**Pn**	09 40 19.8	-1.2
RND	**Reindeer**	**4.29**	**19**	Pn	**Pn**	09 40 20.4	-1.4
BERG	**Berg Lake**	**4.31**	**73**	Pn	**Pn**	09 40 20.4	-1.6
DHY	**Denali Highway**	**4.31**	**29**	Pn	**Pn**	09 40 21.5	-0.7
GRIN	**Grindle Hills**	**4.48**	**75**	Pn	**Pn**	09 40 23.2	-1.2
KHIT	**Khitrov Hills**	**4.54**	**73**	Pn	**Pn**	09 40 23.8	-1.5
GLB	**Gilahina Butte**	**4.55**	**60**	Pn	**Pn**	09 40 23.7	-1.8
MCK	**McKinley**	**4.58**	**17**	Pn	**Pn**	09 40 25.1	-0.7
VRDI	**Verde Repeater**	**4.63**	**63**	Pn	**Pn**	09 40 24.8	-1.9
CRQM	**Cirque**	**4.65**	**69**	Pn	**Pn**	09 40 25.0	-1.9
BPAW	**Bear Paw Mtn.**	**4.73**	**6**	Pn	**Pn**	09 40 26.9	-0.9
WAX	**Waxell Ridge**	**4.73**	**73**	Pn	**Pn**	09 40 26.2	-1.7
KULT	**Kultieth River**	**4.77**	**76**	Pn	**Pn**	09 40 27.1	-1.3
TGL	**Tana Glacier**	**4.80**	**70**	Pn	**Pn**	09 40 27.0	-1.9
MCARA	**McCarthy VSAT**	**4.88**	**62**	Pn	**Pn**	09 40 28.4	-1.5
KIAG	**Kiagna River**	**5.06**	**68**	Pn	**Pn**	09 40 30.4	-2.1
PTPK	**Patty Peak**	**5.08**	**65**	Pn	**Pn**	09 40 30.9	-1.8
BALM	**Baldy**	**5.09**	**67**	Pn	**Pn**	09 40 30.8	-2.1
GRNC	**Granite Creek**	**5.31**	**71**	Pn	**Pn**	09 40 34.6	-1.4
WRH	**Wood River Hil**	**5.41**	**18**	Pn	**Pn**	09 40 36.0	-1.0
BARN	**Barnard Glacie**	**5.42**	**68**	Pn	**Pn**	09 40 36.1	-1.4
RKAV	**Rock Avalanche**	**5.46**	**76**	Pn	**Pn**	09 40 37.1	-0.8
CTGM	**Chitina Glacie**	**5.56**	**69**	Pn	**Pn**	09 40 38.4	-0.9
HDA	**Harding Lake**	**5.56**	**23**	Pn	**Pn**	09 40 38.6	-0.5
CCB	**Clear Creek Bu**	**5.62**	**19**	Pn	**Pn**	09 40 39.0	-0.9
MLY	**Manley**	**5.67**	**6**	Pn	**Pn**	09 40 40.8	+0.1
SAMH	**Samovar Hills**	**5.73**	**78**	Pn	**Pn**	09 40 40.5	-1.1
COLA	**College**	**5.82**	**18**	Pn	**Pn**	09 40 41.6	-1.1
MDM	**Murphy Dome**	**5.84**	**16**	Pn	**Pn**	09 40 42.2	-0.9
IL01		**5.89**	**22**	Pn	**Pn**	09 40 42.5	-1.2
IL31		**5.89**	**22**	Pn	**Pn**	09 40 42.6	-1.1
YUK2	**White River**	**6.00**	**62**	Pn	**Pn**	09 40 44.0	-1.3
POKR	**Poker Flat Res**	**6.11**	**19**	Pn	**Pn**	09 40 45.3	-1.4
SDPT	**Sand Point**	**6.12**	**232**	Pn	**Pn**	09 40 45.9	-1.0
BC03		**6.15**	**49**	Pn	**Pn**	09 40 45.9	-1.3
YUK3	**Moose Creek**	**6.17**	**62**	Pn	**Pn**	09 40 46.1	-1.7
YUK1	**Sand Pete Hill**	**6.26**	**59**	Pn	**Pn**	09 40 47.4	-1.6
PNL	**Peninsula**	**6.43**	**82**	Pn	**Pn**	09 40 49.5	-1.6
IM03		**6.64**	**354**	Pn	**Pn**	09 40 52.6	-1.3
YUK4	**Talbot Arm**	**6.91**	**68**	Pn	**Pn**	09 40 57.1	-0.7
YUK6	**Outpost Mounta**	**6.99**	**71**	Pn	**Pn**	09 40 57.8	-1.1
YUK7	**Dusty Glacier**	**7.06**	**75**	Pn	**Pn**	09 40 58.5	-1.4
DHAK	**Deception Hill**	**7.09**	**87**	Pn	**Pn**	09 40 58.6	-1.5
YUK5	**Granite Creek**	**7.25**	**70**	Pn	**Pn**	09 41 01.4	-1.1
HYT	**Haines Junctio**	**7.39**	**73**	Pn	**Pn**	09 41 03.1	-1.3
DAWY	**Dawson**	**7.59**	**47**	Pn	**Pn**	09 41 05.5	-1.5
PLBC	**Pleasant Camp**	**7.99**	**83**	Pn	**Pn**	09 41 11.3	-1.0
ANM	**Nome**	**8.12**	**315**	Pn	**Pn**	09 41 12.7	-1.5
SKAG	**Skagway**	**8.51**	**82**	Pn	**Pn**	09 41 18.8	-0.7
BM03	**Burnt Mountain**	**8.69**	**19**	Pn	**Pn**	09 41 20.5	-1.5
BESE	**Bessie Mountai**	**8.90**	**88**	Pn	**Pn**	09 41 23.2	-1.7
JIS	**Juneau Island**	**9.22**	**89**	Pn	**Pn**	09 41 27.5	-1.6

*NNC **23** 09:45:16.4±2.1, 53.°70N×87.°75E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=19.0km s-min=13.6km az=177.0, Suspected Mining explosion.*

ASRS 23 09:45:11.7, 53.°80N×88.°21E, M3.0, 5C-3D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.65**	**246**	⇑Pn	Pn	09 46 51.2	+0.5
	3.1nm,0.5s						
KURK				⇑Sn	Sn	09 48 05.7	-1.3
	4.8nm,0.7s						
KURK				⇑Lg	Lg	09 48 39.6	
	14nm,0.7s						
KURBB	**Kurchatov Arra**	**6.75**	**246**	⇑Pn	Pn	09 46 53.0	+1.0
	12nm,0.3s						
KURBB				⇓Sn	Sn	09 48 07.2	-2.2
	23nm,0.7s						
KURBB				⇑Lg	Lg	09 48 44.8	
	24nm,0.6s						
MK31	**Makanchi Array**	**7.97**	**211**	⇓Pn	Pn	09 47 10.4	+1.6
	0.2nm,0.2s,baz=27,slow=13,SNR=31						
MK31				Sn	Sn	09 48 40.3	+0.6
	1.3nm,0.5s,baz=29,slow=29,SNR=8.5						
MK31				⇓Lg	Lg	09 49 21.4	
	5.4nm,0.7s,baz=21,slow=28,SNR=3.6						

*BJI **23** 10:05:20.3±0.0, 27.°60S×175.°87W, h33km, mb5.2/15, mB5.6/2, Ms5.6/3, Ms7 5.3/3*
*IDC **23** 10:05:21.6±0.6, 26.°60S×176.°22W, h0km, mb4.4/16, mb1 4.6/17, mb1mx4.5/32, mbtmp4.4/17, ML4.8/1, MS4.1/5, Ms1 4.1/5, ms1mx3.5/36, Error ellipse: s-maj=22.2km s-min=16.3km az=142.0*
*NEIC **23** 10:05:22.3±2.1, 26.°85S±0.°04×176.°14W±0.°09, h10km±2km, mb4.8/23*
*ISCJB **23** 10:05:24.6±0.4, 26.°86S±0.°05×176.°34W±0.°08, h31km, mb4.6/21, MS4.2/5, Error ellipse: s-maj=11.1km s-min=6.6km az=15.4*

ISC 23 10:05:25.6±0.4, 26.°90S±0.°06×176.°10W±0.°08, h31km, n84, σ1§94/82, mb4.7/26, MS4.1/5, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.84**	**214**	Pn	**Pn**	**10 06 11.8**	**+3.0**
	136nm,0.3s,baz=56,slow=6.4,SNR=10.0						
RAO				Sn	**Sb**	**10 06 48.6**	**-1.3**
	329nm,0.3s,baz=81,slow=24,SNR=7.8						
RAO	**Raoul Island**	**2.84**	**214**	Pn	**Pn**	**10 06 09.5**	**+0.7**
RAO	**Raoul Island**	**2.84**	**214**		**Pn**	**10 06 11.3**	**+2.5**
RAO					**Sb**	**10 06 48.4**	**-1.5**
NIUE	**Niue**	**9.64**	**37**		Pn	10 07 33.1	-9.1
MSVF	**Nonsavu**	**10.61**	**328**		**Pn**	**10 07 55.6**	**+0.1**
OUZ	**Omahuta**	**12.11**	**224**	Pn	**Pn**	**10 08 16.9**	**+0.9**
URZ	**Urewera**	**12.69**	**205**	Pn	**Pn**	**10 08 21.1**	**-2.7**
	0.7nm,0.3s,baz=80,slow=7.7,SNR=7.0						
URZ				Sn	**Sn**	**10 10 38.3**	**-5.7**
	1.9nm,0.3s,baz=63,slow=22,SNR=8.8						
URZ	**Urewera**	**12.69**	**205**	Pn	**Pn**	**10 08 22.3**	**-1.5**
AFI	**Afiamalu**	**13.54**	**18**	Pn	Pn	10 08 26.4	-9.3
	4.6nm,0.3s,baz=108,slow=8.2,SNR=6.2						
AFI				Sn	Sn	10 10 45.2	-20
	4.6nm,0.3s,baz=282,slow=23,SNR=4.1						
AFI	**Afiamalu**	**13.54**	**18**		**Pn**	10 08 28.3	-7.4
HIZ	**Hauiti**	**13.85**	**211**	Pn	**Pn**	**10 08 38.5**	**-1.1**
BFZ	**Birch Farm**	**15.14**	**203**		**P**	**10 09 01.1**	**-0.8**
BFZ				IAmb	IAmb	10 09 16.8	
	comp=Z,113nm,1.5s						
RAR	**Rarotonga**	**15.94**	**73**	Pn	Pn	10 08 57.9	-10
	comp=Z,2.0nm,0.3s,baz=224,slow=8.8,SNR=6.4						
MSWZ	**Moikau Station**	**16.14**	**204**		**Pn**	**10 09 10.6**	**+0.5**
PLWZ	**Palliser**	**16.27**	**204**	P	**P**	**10 09 16.6**	**+2.0**
DZM	**Mont Dzumac**	**16.60**	**283**	Pn	**P**	**10 09 21.6**	**+3.2**
	comp=Z,0.7nm,0.3s,baz=93,slow=17,SNR=6.3						
DZM				LR	LR	10 13 35.3	
	comp=Z,609nm,18.0s,baz=30,slow=30						
DZM	**Mont Dzumac**	**16.60**	**283**	P	**P**	**10 09 18.8**	**+0.4**
DZM				IAmb	IAmb	10 09 27.1	
	comp=Z,30nm,0.9s						
TUWZ	**Tuamarina**	**16.65**	**207**	P	**Pn**	**10 09 15.1**	**-1.5**
NNZ	**Nelson**	**16.71**	**209**	P	**Pn**	**10 09 15.6**	**-1.7**
NNZ				IAmb	IAmb	10 09 26.6	
	comp=Z,103nm,1.4s						
THZ	**Tophouse**	**17.36**	**209**	P	**Pn**	**10 09 25.6**	**+0.1**
KHZ	**Kahutara**	**17.65**	**206**	P	**Pn**	**10 09 26.6**	**-2.3**
KHZ				IAmb	IAmb	10 09 39.6	
	comp=Z,25nm,0.7s						
LTZ	**Lake Taylor**	**18.47**	**208**	P	**P**	**10 09 38.0**	**-0.8**
OXZ	**Oxford**	**19.01**	**207**	P	**P**	**10 09 43.7**	**-1.1**
KNTN	**Kanton**	**24.36**	**11**	P	**P**	**10 10 40.2**	**-0.7**
HNR	**Honiara**	**28.54**	**303**	LR	LR	10 20 22.1	
	comp=Z,265nm,19.1s,baz=314,sl

LZH				pP	pP	10 19 08.8	+1.3
LZH				sP	pwP	10 19 13.3	-0.1
LZH				*e*PP	**PP**	**10 23 01.5**	**+3.1**
LZH				pmax	pmax		
	comp=Z,17nm,1.4s						
LZH				pmax	pmax		
	comp=Z,83nm,6.2s						
LZH				LR	LR		
	comp=Z,140nm,17.2s						
LZH				LR	LR		
	comp=Z,140nm,17.0s						
WMQ	**Urumqi**	**112.36**	**309**	*e*PKP	**PKiKP**	**10 23 52.9**	**-5.5**
WMQ				LR	LR		
	comp=Z,290nm,7.7s						
ZALV	**Zalesovo Beam**	**116.51**	**319**	PKP	**PKPdf**	**10 24 04.9**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=91,slow=0.6,SNR=5.5						
MKAR	**Makanchi Array**	**116.78**	**311**	PKP	**PKPdf**	**10 24 06.6**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=72,slow=4.0,SNR=10						
MAKZ	**Makanchi**	**116.99**	**311**		**PKPdf**	**10 24 07.0**	**-0.1**
KSH	**Kashi**	**119.86**	**302**	PKP	**PKPdf**	**10 24 10.4**	**-2.6**
KSH				PKS	**PKSdf**	**10 27 45.0**	**-4.7**
FINES	**FINESS Array B**	**142.38**	**343**	PKhKP	PKPpre	10 24 50.5	
	comp=Z,3.1nm,0.8s,baz=5.7,slow=1.9,SNR=5.6						
KBZ	**Khabaz**	**144.40**	**308**	PKP	**PKPdf**	**10 24 58.2**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=94,slow=14,SNR=4.3						
AKH	**Akhalkalaki**	**144.51**	**304**		**PKPdf**	**10 24 59.9**	**+0.8**
NB2	**NORSAR Subarra**	**145.51**	**354**	PKP	**PKPdf**	**10 24 59.8**	**-0.2**
	comp=Z,4.9nm,0.8s,baz=12,slow=3.8						
NOA	**NORSAR Array B**	**145.51**	**354**	PKPbc	**PKPdf**	**10 24 59.9**	**-0.2**
	comp=Z,7.6nm,0.8s,baz=8.0,slow=2.4,SNR=19						
NACGM	**Naroch**	**147.41**	**335**	*e*PKP	**PKPbc**	**10 25 07.0**	**+1.2**
AKASG	**Malin Array Be**	**149.39**	**328**	PKPbc	**PKPbc**	**10 25 11.4**	**+0.3**
	comp=Z,4.3nm,0.7s,baz=41,slow=3.4,SNR=19						
AKBB	**Malin Array Si**	**149.39**	**328**		**PKPbc**	**10 25 11.6**	**+0.4**
BR131	**Keskin Array S**	**152.19**	**305**		**PKiKP**	**10 25 19.0**	**+0.3**
BRTR	**Keskin Array B**	**152.19**	**305**	PKPbc	**PKiKP**	**10 25 18.9**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=131,slow=3.4,SNR=9.2						
KOLS	**Kolonicke sedl**	**153.79**	**332**	*e*PKP	**PKPdf**	**10 25 11.6**	**-1.9**
CLL	**Collm**	**154.66**	**347**	*e*PKPdf	**PKPdf**	**10 25 12.0**	**-2.6**
CLL				*e*PKPab	**PKPab**	**10 25 34.0**	**-3.9**
	comp=Z,18nm,1.6s						
VYHS	**Vyhne**	**155.50**	**336**	*e*PKP	**PKPab**	**10 25 41.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**166.16**	**171**	PKP	**PKPdf**	**10 25 30.0**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=344,slow=2.4,SNR=3.3						
TORD				PKPab	**PKPab**	**10 26 30.2**	**+1.4**
	comp=Z,4.6nm,1.0s,baz=192,slow=3.3,SNR=11						

IDC 23 10:24:10.6±5.8, 7°61S×118°47E, h271km±50km, mb3.1/2, mb1 3.2/5, mb1mx2.9/40, mbtmp3.8/5, Error ellipse: s-maj=94.7km s-min=22.3km az=66.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.75**	**117**	P	Pn	10 25 35.8	-0.4
	5.1nm,0.3s,baz=200,slow=0.3,SNR=6.4						
BATI				S	S	10 26 45.5	+0.7
	4.9nm,0.3s,baz=150,slow=20,SNR=2.2						
FITZ	**Fitzroy Crossi**	**12.55**	**147**	P	P	10 27 01.5	-0.7
	0.2nm,0.3s,baz=325,slow=11,SNR=1.9						
FITZ				S	S	10 29 19.4	-0.7
	0.2nm,0.3s,baz=357,slow=3.9,SNR=3.1						
WRA	**Warramunga Arr**	**19.67**	**130**	P	P	10 28 19.9	-0.1
	0.4nm,0.3s,baz=304,slow=10,SNR=17						
ASAR	**Alice Springs**	**21.78**	**139**	P	P	10 28 41.1	+0.1
	0.7nm,0.3s,baz=314,slow=8.9,SNR=50						
SONM	**Songino Array**	**56.23**	**350**	P	P	10 33 22.8	-0.1
	0.5nm,0.4s,baz=171,slow=8.4,SNR=4.0						

IDC 23 10:55:52.8±1.5, 10°15S×119°.08E, h0km, mb4.0/3, mb1 3.8/7, mb1mx3.6/45, mbtmp3.7/7, ML3.3/4, Error ellipse: s-maj=54.7km s-min=19.7km az=44.0
ISCJB 23 10:55:55.4±0.4, 10°.51S±0°.05×119°.05E±0°.04, h41km, mb4.0/3, Error ellipse: s-maj=8.3km s-min=4.3km az=29.4
NEIC 23 10:55:57.4±2.0, 10°.40S±0°.09×119°.07E±0°.06, h42km±7km, mb4.3/2
DJA 23 10:55:57.9±1.4, 10°S±9°×11°9E±°, h10km, M3.9/4, MLv3.9/4

ISC 23 10:55:57.3±0.7, 10°.52S±0°.07×119°.07E±0°.06, h41km, n19, σ2§2/22/25, mb4.2/4, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.12**	**323**	P	**Pn**	**10 56 30.2**	**0.0**
PLAI				S	**Sn**	**10 56 55.5**	**+0.2**
TWSI	**Taliwang, Sumb**	**2.80**	**309**	P	**Pn**	**10 56 40.2**	**+0.7**
MMRI	**Maumere**	**3.64**	**59**	Pn	**Pn**	**10 56 50.9**	**-0.2**
BATI	**Baumata**	**4.53**	**86**	Pn	**Pn**	**10 57 02.9**	**-0.5**
	4.1nm,0.3s,baz=309,slow=18,SNR=3.0						
BATI				Sn	**Sn**	**10 57 55.8**	**+1.0**
	6.8nm,0.3s,baz=209,slow=20,SNR=6.1						
JAGI	**Jajag, Banyuwa**	**5.27**	**292**	Pn	**Pn**	**10 57 12.2**	**-1.3**
JAGI				Sn	**Sn**	**10 58 11.4**	**-1.6**
UGM	**Wanagama**	**8.83**	**286**	Pn	**Pn**	**10 58 02.8**	**+0.4**
UGM				Sn	**Sn**	**10 59 39.6**	**-1.1**
FITZ	**Fitzroy Crossi**	**9.86**	**141**	Pn	**Pn**	**10 58 19.5**	**+3.0**
	0.2nm,0.3s,baz=328,slow=6.7,SNR=6.9						
FITZ				Sn	**Sn**	**11 00 01.5**	**-4.3**
	0.6nm,0.3s,baz=194,slow=22,SNR=7.4						
FITZ	**Fitzroy Crossi**	**9.86**	**141**		**Pn**	**10 58 18.9**	**+2.4**
KNRA	**Kununurra**	**10.74**	**120**	Pn	**Pn**	**10 58 28.9**	**+0.3**
PSA00	**Pilbara Seismi**	**11.01**	**176**	Pn	**Pn**	**10 58 33.8**	**+1.5**
MTN	**Manton Dam**	**12.03**	**102**	Pn	**Pn**	**10 58 47.6**	**+1.3**
GIRL	**Giralia**	**12.91**	**200**	Pn	**Pn**	**10 59 00.9**	**+2.7**
WRA	**Warramunga Arr**	**17.44**	**124**	P	**P**	**10 59 59.4**	**+1.0**
	0.1nm,0.3s,baz=297,slow=14,SNR=5.1						
WRA				S	Sn	11 03 01.1	-10
	0.1nm,0.3s,baz=295,slow=21,SNR=3.1						
MORW	**Morawa**	**18.67**	**188**	P	**Pn**	**11 00 13.2**	**+0.7**
MORW				IAmb	IAmb	11 00 28.4	
	comp=Z,5.7nm,0.8s						
ASAR	**Alice Springs**	**19.25**	**135**	P	**Pn**	**11 00 22.7**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=320,slow=13,SNR=9.6						
ASAR				S	**S**	**11 03 47.9**	**-6.6**
	comp=Z,0.1nm,0.3s,baz=312,slow=25,SNR=4.6						
SONM	**Songino Array**	**59.18**	**350**	P	**P**	**11 05 54.0**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=166,slow=7.8,SNR=4.2						
MKAR	**Makanchi Array**	**65.84**	**333**	P	**P**	**11 06 37.7**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=141,slow=7.4,SNR=7.8						
ARSB	**Arslanbob**	**66.78**	**324**	P	**P**	**11 06 45.4**	**+0.6**
ARSB				IAmb	IAmb	11 06 45.9	
	comp=Z,7.1nm,0.8s						
ZALV	**Zalesovo Beam**	**70.48**	**339**	P	**P**	**11 07 06.4**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=159,slow=5.2,SNR=3.9						

AZER 23 11:01:31.8±0.8, 38°48N×44°.76E, h1km±3km, ml3.1/17, Error ellipse: s-maj=9.2km s-min=6.0km az=242.0
NSSP 23 11:01:33.3, 38°.57N×44°.67E, h10km, Ms3.0
ISK 23 11:01:34.5, 38°.60N×44°.55E, h5km, ML3.1/9
DDA 23 11:01:34.2, 38°.55N×44°.66E, h0km±2km, MW3.5

ISC 23 11:01:35.4±1.2, 38°.53N±0°.02×44°.63E±0°.02, h1km±10km, n44, σ1§53/72, 1C-1D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.83**	**318**	*i* P	**Pg**	**11 01 48.8**	**-2.4**
CLDR				*i* S	**Sg**	**11 02 01.6**	**-0.3**
CLDR				IAML		11 02 03.0	
	comp=E,336nm,0.3s						
CLDR				IAML		11 02 04.0	
	comp=N,330nm,0.3s						
CLDR	**Caldiran**	**0.83**	**318**	PG	**Pg**	**11 01 48.6**	**-2.6**
CLDR				SG	**Sg**	**11 02 01.0**	**-1.0**
NAX	**Nakhchivan**	**0.93**	**46**	P	**Pg**	**11 01 52.2**	**-1.1**
	SNR=22						
NAX				S	**Sb**	**11 02 07.2**	**-0.2**
VMUR	**Van-Muradiye**	**0.94**	**299**	*i* P	**Pg**	**11 01 52.5**	**-1.0**
VMUR				*i* S	**Sb**	**11 02 07.5**	**-0.4**
VMUR				IAML		11 02 11.0	
	comp=E,245nm,0.4s						
VMUR				IAML		11 02 12.0	
	comp=N,294nm,0.5s						
TVAN	**Van**	**0.96**	**270**	*i* P	**Pg**	**11 01 52.9**	**-0.8**
TVAN				*i* S	**Sn**	**11 02 12.1**	**+1.4**
TVAN				IAML		11 02 28.0	
	comp=E,342nm,1.6s						
TVAN				IAML		11 02 32.0	
	comp=N,321nm,1.3s						
VANB	**Van**	**0.97**	**274**	PG	**Pg**	**11 01 53.2**	**-0.8**
YOVA	**Hakkari_Yksek**	**0.98**	**196**	*i* P	**Pg**	**11 01 53.6**	**-0.5**
YOVA				*i* S	**Sb**	**11 02 08.6**	**-0.2**
YOVA				IAML		11 02 19.0	
	comp=N,137nm,1.9s						
YOVA				IAML		11 02 20.0	
	comp=E,153nm,0.9s						
SBZ	**Shahbuz**	**1.13**	**39**	P	**Pg**	**11 01 55.5**	**-1.5**
	SNR=29						
SBZ				S	**Sn**	**11 02 14.0**	**-0.7**
ORD	**Ordubad**	**1.14**	**69**	P	**Pg**	**11 01 56.0**	**-1.3**
	SNR=134						
ORD				S	**Sb**	**11 02 12.3**	**-1.1**
HYR	**Heyderabad**	**1.20**	**8**	P	**Pn**	**11 01 59.0**	**-0.5**
	SNR=18						
HYR				S	**Sn**	**11 02 19.7**	**+3.3**
DYDN	**Diyadin**	**1.25**	**324**	*e*P	**Pg**	**11 01 58.5**	**-0.8**
DYDN				*i* S	**Sg**	**11 02 15.5**	**-0.1**
DYDN				IAML		11 02 24.0	
	comp=E,133nm,0.5s						
DYDN				IAML		11 02 28.0	
	comp=N,143nm,0.7s						
GEVA	**Gevas**	**1.25**	**261**	*i* P	**Pg**	**11 01 58.1**	**-1.2**
GEVA				*i* S	**Sn**	**11 02 18.3**	**+0.4**
GEVA				IAML		11 02 22.0	
	comp=N,182nm,0.6s						
GEVA				IAML		11 02 26.0	
	comp=E,104nm,0.7s						
AKDM	**Akdamar-Van**	**1.31**	**262**	PN	**Pg**	**11 01 59.1**	**-1.4**
AKDM				SN	**Sb**	**11 02 18.4**	**+0.1**
IGDI	**IGDIR**	**1.40**	**342**	*i* P	**Pn**	**11 02 01.5**	**-0.7**
IGDI				*i* S	**Sn**	**11 02 21.0**	**-0.5**
IGDI				IAML		11 02 25.0	
	comp=E,88nm,1.3s						
IGDI				IAML		11 02 32.0	
	comp=N,74nm,0.6s						
NRKZ	**NAREK**	**1.47**	**1**	*i* P	**Pb**	**11 02 02.8**	**-0.8**
NRKZ				*i* S	**Sg**	**11 02 24.0**	**+1.5**
TASB	**TASBURUN-IGDIR**	**1.48**	**348**	PN	**Pn**	**11 02 02.4**	**-0.9**
CUKT	**Cukurca**	**1.51**	**213**	*e*P	**Pb**	**11 02 03.7**	**-0.7**
CUKT				*i* S	**Sg**	**11 02 28.3**	**+4.3**
CUKT				IAML		11 02 32.0	
	comp=E,177nm,1.0s						
CUKT				IAML		11 02 35.0	
	comp=N,229nm,1.0s						
CUKT	**Cukurca**	**1.51**	**213**	PN	**Pg**	**11 02 04.3**	**-0.1**
GNI	**Garni**	**1.62**	**3**	*i* P	**Pb**	**11 02 05.5**	**-0.7**
GNI				*i* S	**Sg**	**11 02 28.1**	**+0.7**
GNI	**Garni**	**1.62**	**3**	PN	**Pn**	**11 02 04.3**	**-1.0**
GRS	**Goris**	**1.65**	**53**	*i* P	**Pg**	**11 02 07.0**	**+0.1**
GRS				‖ *i* S	**Sg**	**11 02 31.0**	**+2.8**
AGRB	**Hanur-Agry**	**1.65**	**310**	PN	**Pn**	**11 02 04.5**	**-1.2**
METS	**Metsamor**	**1.67**	**345**	*e*P	**Pg**	**11 02 08.4**	**+1.0**
METS				*e*S	**Sg**	**11 02 34.1**	**+5.0**
VNNZ	**Vanand**	**1.69**	**339**	*i* P	**Pb**	**11 02 07.0**	**-0.3**
VNNZ				S	**Sg**	**11 02 31.1**	**+1.4**
KAPZ	**Kaputan**	**1.79**	**2**	*i* P	**Pn**	**11 02 07.7**	**0.0**
KAPZ				*i* S	**Sg**	**11 02 32.2**	**-0.7**
ARUZ	**Aruch**	**1.80**	**347**	*e*P	**Pg**	**11 02 10.7**	**+0.8**
ARUZ				*e*S	**Sg**	**11 02 37.8**	**+4.5**
SIRT	**Sirnak**	**2.01**	**240**	PN	**Pn**	**11 02 10.8**	**+0.2**
GURO	**Guroymak-BITLI**	**2.04**	**271**	PN	**Pn**	**11 02 10.6**	**-0.4**
SRTM	**Siirt_Merkez**	**2.20**	**257**	*i* P	**Pb**	**11 02 14.7**	**-1.3**
SRTM				*i* S	**Sg**	**11 02 46.6**	**+0.6**
SRTM				IAML		11 02 52.0	
	comp=E,88nm,1.0s						
SRTM				IAML		11 02 57.0	
	comp=N,168nm,0.8s						
EAK	**Akyaka**	**2.29**	**340**	*i* P	**Pg**	**11 02 18.4**	**-0.9**
EAK				*i* S	**Sg**	**11 02 52.9**	**+3.8**
QRD	**Qoradiz**	**2.29**	**65**	P	**Pn**	**11 02 13.6**	**-0.8**
	SNR=8.2						
GDB	**GEDABAY**	**2.35**	**21**	P	**Pn**	**11 02 16.1**	**+0.7**
	SNR=5.6						
GDB				S	**Sb**	**11 02 48.7**	**+0.3**
GANJ	**Ganja**	**2.49**	**31**	P	**Pn**	**11 02 17.0**	**0.0**
	SNR=5.0						
GANJ				S	**Sb**	**11 02 51.4**	**-0.6**
AGDM	**Agdam**	**2.49**	**50**	P	**Pn**	**11 02 16.9**	**-0.1**
	SNR=6.3						
BLQ	**Beylaqan**	**2.57**	**62**	P	**Pn**	**11 02 17.6**	**-0.6**
	SNR=2.8						
QZX	**Qazax, Azerbai**	**2.59**	**13**	P	**Pn**	**11 02 19.0**	**+0.6**
	SNR=7.6						
QZX				S	**Sb**	**11 02 54.9**	**-0.1**
HOMI	**Horasan**	**2.60**	**306**	*i* P	**Pb**	**11 02 23.1**	**+0.1**
BRDA	**Brd**	**2.63**	**48**	P	**Pn**	**11 02 18.6**	**-0.3**
	SNR=4.2						
YRD	**Yardimli**	**2.85**	**81**	P	**Pn**	**11 02 20.7**	**-1.5**
	SNR=7.1						
YRD				S	**Sn**	**11 02 57.9**	**+0.5**
LRK	**Lerik**	**2.91**	**87**	P	**Pn**	**11 02 21.7**	**-1.4**
	SNR=26						
LRK				S	**Sn**	**11 02 59.6**	**+0.8**
LKRN	**Lenkeran, Azer**	**3.26**	**86**	P	**Pn**	**11 02 25.5**	**-2.1**
	SNR=2.8						
ASTR	**Astara**	**3.26**	**88**	P	**Pn**	**11 02 26.7**	**-1.0**
	SNR=4.9						
SEKA	**Sheki**	**3.33**	**36**	P	**Pn**	**11 02 29.2**	**+0.5**
	SNR=4.1						
XNQ	**Khinaliq**	**3.78**	**45**	P	**Pn**	**11 02 33.1**	**-1.9**
	SNR=25						

NEIC 23 11:23:28.8±1.8, 17°.5N±0°.1×91°.20W±0°.05, h92km±9km

MEX 23 11:23:29.1±0.6, 17°.63N×91°.18W, h17km±63km, MD4.3, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGIG		**2.04**	**246**	*e*P	Pn	11 23 59.9	-2.9
TGIG				*e*S	Sn	11 24 23.1	-4.9
TGIG		**2.04**	**246**		Pn	11 24 00.7	-2.1
TGIG					Sn	11 24 24.1	-3.8
PCIG		**2.74**	**226**	*e*P	Pn	11 24 09.2	-3.1
PCIG				*e*S	Sn	11 24 41.5	-3.5
PCIG		**2.74**	**226**		Pn	11 24 09.2	-3.1
PCIG					Sn	11 24 41.5	-3.5
CMIG	**Matias Romero**	**3.58**	**262**	*e*P	Pn	11 24 24.4	+0.4
CMIG				*e*S	Sn	11 25 08.6	+2.7
CMIG	**Matias Romero**	**3.58**	**262**		Pn	11 24 24.4	+0.4
HUIG	**Huatulco**	**5.07**	**249**	*e*P	Pn	11 24 41.7	-2.8
HUIG	**Huatulco**	**5.07**	**249**		Pn	11 24 41.7	-2.8

IDC 23 11:33:33.0±2.1, 2°17N×128°36E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/35, mbtmp3.4/4, Error ellipse: s-maj=151.8km s-min=25.2km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.74**	**165**	P	P	11 38 36.6	-0.3
	0.4nm,0.8s,baz=346,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**26.24**	**168**	P	P	11 39 09.6	-0.4
	0.2nm,0.6s,baz=341,slow=8.2,SNR=6.9						
STKA	**Stephens Creek**	**36.12**	**161**	P	P	11 40 37.5	+0.6
	0.8nm,0.5s,baz=329,slow=12,SNR=1.6						
MKAR	**Makanchi Array**	**59.76**	**325**	P	P	11 43 39.8	0.0
	0.4nm,0.6s,baz=124,slow=8.1,SNR=4.9						

IDC 23 11:45:01.9±2.3, 9°.82S×119°.55E, h0km, mb3.8/1, mb1 3.5/4, mb1mx3.4/28, mbtmp3.3/4, ML3.1/3, Error ellipse: s-maj=204.4km s-min=25.3km az=52.0
DJA 23 11:45:04.2±1.1, 10°S±10°×11°9E±°, h10km, M3.7/5, MLv3.7/5

ISC 23 11:45:03.3±1.0, 10°.4S±0°.1×119°.04E±0°.08, h10km, n9, σ1§60/10, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.43**	**60**	P	**Pn**	**11 45 29.6**	**+0.3**
PLAI	**Plampang**	**1.98**	**321**	P	**Pn**	**11 45 38.1**	**+1.1**
PLAI				S	**Sn**	**11 46 02.5**	**+0.5**
TWSI	**Taliwang, Sumb**	**2.68**	**307**	P	**Pn**	**11 45 48.4**	**+1.8**
IGBI	**Denpasar**	**4.14**	**292**	P	**Pn**	**11 46 06.6**	**-0.1**
JAGI	**Jajag, Banyuwa**	**5.18**	**291**	P	**Pn**	**11 46 19.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**9.99**	**141**	Pn	**Pn**	**11 47 27.6**	**+0.6**
	0.1nm,0.3s,baz=315,slow=10.0,SNR=2.9						
FITZ				Sn	Sn	11 49 08.3	-11
	0.1nm,0.3s,baz=162,slow=20,SNR=2.6						
WRA	**Warramunga Arr**	**17.55**	**125**	P	**Pn**	**11 49 05.6**	**-2.7**
	0.1nm,0.3s,baz=295,slow=14,SNR=2.3						
WRA				S	Sn	11 52 08.4	-15
	0.1nm,0.3s,baz=309,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**19.38**	**135**	P	**Pn**	**11 49 31.9**	**+1.2**
	0.1nm,0.3s,baz=322,slow=14,SNR=7.2						
ASAR				S	Sn	11 52 56.0	-12
	0.0nm,0.3s,baz=308,slow=23,SNR=2.4						
MKAR	**Makanchi Array**	**65.70**	**333**	P	**P**	**11 55 46.5**	**-1.6**
	0.6nm,0.6s,baz=149,slow=7.0,SNR=7.7						

ISCJB 23 12:05:46.1±0.2, 56°.18S±0°.04×25°.98W±0°.09, h10km, mb4.8/23, MS4.1/16, Error ellipse: s-maj=7.9km s-min=5.1km az=138.8
BJI 23 12:05:48.0±0.0, 56°.20S×25°.90W, h10km, mB5.5/3, Ms5.5/4, Ms7 5.3/6
MOS 23 12:05:48.3±1.2, 56°.16S×26°.00W, h23km, mb5.0/14, Error ellipse: s-maj=19.7km s-min=11.6km az=113.1
NEIC 23 12:05:49.1±1.5, 56°.1S±0°.1×26°.0W±0°.2, h19km±3km, mb5.1/43
IDC 23 12:05:50.2±2.4, 56°.15S×25°.87W, h28km±15km, mb4.6/11, mb1 4.7/12, mb1mx4.5/19, mbtmp4.8/12, ML4.5/1, MS4.0/15, Ms1 4.0/15, ms1mx3.9/23, Error ellipse: s-maj=18.7km s-min=15.3km az=61.0

ISC 23 12:05:47.5±0.3, 56°.23S±0°.07×25°.99W±0°.06, h10km, n199, σ1§11/198, mb4.9/34, MS4.0/16, 4C-5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.31**	**284**	P	**Pn**	**12 07 20.0**	**-0.5**
HOPE						12 08 30.6	
HOPE	**Hope Point**	**6.31**	**284**		**Pn**	**12 07 20.0**	**-0.5**
HOPE				Sn	**Sn**	**12 08 30.6**	**-2.0**
VNA1	**Neumayer--Stat**	**16.39**	**159**	P	**P**	**12 09 39.1**	**-1.0**
VNA3	**Neumayer Olymp**	**16.61**	**161**	P	**Pn**	**12 09 39.7**	**-0.4**
VNA2	**Neumayer--Watz**	**16.78**	**159**	P	**Pn**	**12 09 42.1**	**-0.1**
	baz=332,slow=12						
SNAA	**Sanae**	**18.31**	**157**	P	**P**	**12 10 02.3**	**+0.9**
SNAA	**Sanae**	**18.31**	**157**	*d* iP	**P**	**12 10 02.0**	**+0.6**
SNAA	**Sanae**	**18.31**	**157**	P	**P**	**12 10 01.8**	**+0.4**
	1.6nm,0.3s,baz=306,slow=9.8,SNR=88						
SNAA				S	Sn	12 13 14.2	-11
	0.1nm,0.3s,baz=342,slow=20,SNR=1.9						
SNAA				PcP	**PcP**	**12 14 33.0**	**+0.6**
	0.1nm,0.3s,baz=225,slow=2.3,SNR=3.5						
SNAA				LR	LR	12 15 47.8	
	comp=Z,198nm,21.0s,baz=346,slow=33						
SNAA				ScP	**ScP**	**12 18 04.5**	**-3.0**
	0.0nm,0.3s,baz=21,slow=1.8,SNR=3.5						
SNAA	**Sanae**	**18.31**	**157**	P	**P**	**12 10 02.5**	**+1.1**
EFI	**East Falkland**	**19.31**	**270**	‖ *e*P	**Pn**	**12 10 14.4**	**+0.9**
EFI				pmax	pmax		
	comp=Z,51nm,1.4s						
EFI	**East Falkland**	**19.31**	**270**	P	**P**	**12 10 12.0**	**-0.4**
PMSA	**Palmer Station**	**20.30**	**230**	P	Pn	12 10 25.3	+0.3
	comp=Z,87nm,0.9s,baz=73,slow=8.3,SNR=18						
PMSA				LR	LR	12 17 12.6	
	comp=Z,516nm,19.7s,baz=90,slow=34						
PMSA	**Palmer Station**	**20.30**	**230**	*e*P	Pn	12 10 25.7	+0.7
PMSA	**Palmer Station**	**20.30**	**230**	*e*P	Pn	12 10 25.7	+0.7
PMSA	**Palmer Station**	**20.30**	**230**	P	Pn	12 10 24.5	-0.6
PMSA				IAmb	IAmb	12 10 29.4	
	comp=Z,124nm,1.1s						
NVL	**N'lazarevskaya**	**21.75**	**147**	*e*P	**P**	**12 10 36.7**	**-1.9**
NVL				*e*S	Sn	12 14 47.6	-0.4
NVL				pmax	pmax		
	comp=Z,35nm,0.9s						
USHA	**Ushuaia**	**23.79**	**255**	P	**P**	**12 11 00.1**	**+0.1**
	comp=Z,5.2nm,0.7s,baz=55,slow=11,SNR=2.5						
USHA				LR	LR	12 18 06.5	
	comp=Z,724nm,21.6s,baz=102,slow=31						
TRQA	**Tornquist**	**30.01**	**292**	*e*P	**P**	**12 11 55.7**	**-0.5**
TRQA	**Tornquist**	**30.01**	**292**	*e*P	**P**	**12 11 55.9**	**-0.4**
TRQA	**Tornquist**	**30.01**	**292**	*e*P	**P**	**12 11 55.9**	**-0.4**
TRQA	**Tornquist**	**30.01**	**292**	P	**P**	**12 11 55.7**	**-0.5**
TRQA				IAmb	IAmb	12 11 57.3	
	comp=Z,11nm,0.9s						
SYO	**Syowa Base**	**31.02**	**140**	‖ *e*P	**P**	**12 12 02.6**	**-2.1**
SYO	**Syowa Base**	**31.02**	**140**	‖ pP	pP	12 12 08.0	+1.9
PLTB	**Pedras Altas**	**31.12**	**310**	*e*P	**P**	**12 12 06.6**	**+0.6**
PLTB	**Pedras Altas**	**31.12**	**310**	*e*P	**P**	**12 12 06.6**	**+0.6**
CNLB	**Canela**	**32.16**	**316**	*e*P	**P**	**12 12 16.7**	**+1.5**
CNLB	**Canela**	**32.16**	**316**	*e*P	**P**	**12 12 16.7**	**+1.5**
PLCA	**Paso Flores**	**32.70**	**279**	*e*P	**P**	**12 12 17.0**	**-2.9**
PLCA	**Paso Flores**	**32.70**	**279**	P	**P**	**12 12 17.6**	**-2.2**
	comp=Z,0.6nm,0.5s,baz=118,slow=1.9,SNR=4.3						
PLCA				ScP	**ScP**	**12 18 45.0**	**-4.0**
	comp=Z,1.6nm,0.8s,baz=176,slow=3.0,SNR=6.4						
PLCA				LR	LR	12 25 06.9	
	comp=Z,318nm,20.5s,baz=159,slow=35						
PLCA	**Paso Flores**	**32.70**	**279**	*e*P	**P**	**12 12 20.0**	**+0.1**
PLCA	**Paso Flores**	**32.70**	**279**	*e*P	**P**	**12 12 20.0**	**+0.1**
PLCA	**Paso Flores**	**32.70**	**279**	P	**P**	**12 12 18.1**	**-1.7**
GO06	**Curarrehue**	**34.00**	**280**	P	**P**	**12 12 30.8**	**-0.5**
QSPA	**South Pole Qui**	**34.02**	**180**	P	**P**	**12 12 32.3**	**+1.0**
ITQB	**Itaqui**	**34.23**	**308**	*e*P	**P**	**12 12 33.6**	**+0.4**
ITQB	**Itaqui**	**34.23**	**308**	*e*P	**P**	**12 12 33

	comp=Z,20nm,0.8s							
SALV	**Santo Antonio**	**46.16**	**319**	*e*P	**P**	12 14 12.7	+0.6	
SALV	**Santo Antonio**	**46.16**	**319**	*e*P	**P**	12 14 12.7	+0.6	
VNDA	**Vanda**	**46.43**	**182**	P	**P**	12 14 14.8	+1.2	
VNDA				pmax	pmax			
	comp=Z,20nm,0.8s							
VNDA	**Vanda**	**46.43**	**182**	P	**P**	12 14 14.4	+0.8	
	comp=Z,18nm,0.7s,baz=187,slow=6.7,SNR=72							
VNDA				ScP	**ScP**	12 19 39.6	-1.5	
	comp=Z,2.0nm,0.9s,baz=105,slow=3.1,SNR=3.6							
VNDA				LR	LR	12 32 49.5		
	comp=Z,53nm,19.2s,baz=163,slow=35							
VNDA	**Vanda**	**46.43**	**182**	P	**P**	12 14 14.8	+1.2	
VNDA				IAmb	IAmb	12 14 15.8		
	comp=Z,20nm,0.8s							
PB04	**IPOC Station P**	**46.82**	**298**	P	**P**	12 14 17.1	-0.4	
LBTB	**Lobatse**	**48.42**	**72**	P	**P**	12 14 29.3	-0.5	
LBTB				pmax	pmax			
	comp=Z,11nm,0.8s							
LBTB	**Lobatse**	**48.42**	**72**	LR	LR	12 31 33.5		
	comp=Z,210nm,18.3s,baz=209,slow=32							
LBTB	**Lobatse**	**48.42**	**72**	P	**P**	12 14 29.3	-0.5	
LBTB				IAmb	IAmb	12 14 29.9		
	comp=Z,11nm,0.8s							
GO01	**Chusmiza**	**48.61**	**301**	P	**P**	12 14 32.1	+0.3	
PB11	**IPOC Station P**	**48.76**	**300**	P	**P**	12 14 32.7	+0.1	
MNMC	**Minye Minye**	**49.27**	**301**	P	**P**	12 14 37.3	+0.7	
CLDB	**Colider**	**50.84**	**321**	*e*P	**P**	12 14 46.1	-2.2	
CLDB	**Colider**	**50.84**	**321**	*e*P	**P**	12 14 46.1	-2.2	
RCBR	**Riachuelo**	**50.87**	**347**	*e*P	**P**	12 14 50.8	+2.3	
RCBR	**Riachuelo**	**50.87**	**347**	*e*P	**P**	12 14 50.8	+2.3	
LPAZ	**La Paz**	**51.03**	**304**	P	**P**	12 14 50.8	+0.4	
	comp=Z,12nm,0.5s,baz=120,slow=4.9,SNR=61							
LPAZ				LR	LR	12 36 41.0		
	comp=Z,57nm,20.6s,baz=171,slow=36							
LPAZ	**La Paz**	**51.03**	**304**	*e*P	**P**	12 14 51.0	+0.6	
LPAZ	**La Paz**	**51.03**	**304**	*e*P	**P**	12 14 51.0	+0.6	
LPAZ	**La Paz**	**51.03**	**304**	P	**P**	12 14 50.7	+0.4	
LPAZ				IAmb	IAmb	12 14 51.9		
	comp=Z,16nm,0.7s							
CASY	**Casey**	**53.51**	**160**	P	**P**	12 15 08.8	+1.3	
CASY				IAmb	IAmb	12 15 19.8		
	comp=Z,18nm,1.4s							
NBMO	**Morrinhos-CE**	**53.95**	**343**	*e*P	**P**	12 15 13.6	+2.3	
NBMO	**Morrinhos-CE**	**53.95**	**343**	*e*P	**P**	12 15 13.6	+2.3	
SAML	**Samuel**	**55.41**	**313**	P	**P**	12 15 21.8	-0.1	
SAML				pmax	pmax			
	comp=Z,8.0nm,0.8s							
SAML	**Samuel**	**55.41**	**313**	*e*P	**P**	12 15 21.5	-0.4	
SAML	**Samuel**	**55.41**	**313**	*e*P	**P**	12 15 21.5	-0.4	
SAML	**Samuel**	**55.41**	**313**	P	**P**	12 15 21.8	-0.1	
SAML				IAmb	IAmb	12 15 22.5		
	comp=Z,7.9nm,0.8s							
LSZ	**Lusaka**	**57.81**	**68**	P	**P**	12 15 38.7	-0.5	
LSZ				pmax	pmax			
	comp=Z,5.0nm,0.9s							
LSZ	**Lusaka**	**57.81**	**68**	LR	LR	12 37 34.6		
	comp=Z,229nm,19.0s,baz=172,slow=33							
LSZ	**Lusaka**	**57.81**	**68**	P	**P**	12 15 38.7	-0.5	
NNA	**Nana**	**58.93**	**298**	‖ *i*P	**P**	12 15 47.0	+0.2	
NNA				pmax	pmax			
	comp=Z,96nm,1.8s							
NNA	**Nana**	**58.93**	**298**	P	**P**	12 15 46.6	-0.3	
NNA				IAmb	IAmb	12 15 47.7		
	comp=Z,29nm,1.0s							
LIC	**Lamto**	**64.58**	**23**	*e*P	**P**	12 16 24.0	-0.8	
	comp=Z,2.3nm,0.3s							
KIC	**Kosan Boka**	**64.78**	**23**	*e*P	**P**	12 16 28.1	+2.0	
	comp=Z,12nm,0.8s							
TIC	**Toumodi**	**64.99**	**23**	*e*P	**P**	12 16 27.6	+0.1	
DBIC	**Dimbokro**	**65.05**	**23**	P	**P**	12 16 27.8	-0.1	
DBIC				pmax	pmax			
	comp=Z,8.0nm,1.1s							
DBIC	**Dimbokro**	**65.05**	**23**	P	**P**	12 16 27.7	-0.2	
	comp=Z,3.0nm,0.8s,baz=192,slow=9.7,SNR=3.8							
DBIC				LR	LR	12 37 57.3		
	comp=Z,105nm,20.7s,baz=160,slow=30							
DBIC	**Dimbokro**	**65.05**	**23**	P	**P**	12 16 27.8	-0.1	
DBIC				IAmb	IAmb	12 16 43.5		
	comp=Z,8.3nm,1.1s							
OTAV	**Otavalo**	**70.31**	**303**	P	**P**	12 17 02.2	+0.5	
OTAV				pmax	pmax			
	comp=Z,62nm,1.6s							
OTAV	**Otavalo**	**70.31**	**303**	*e*P	**P**	12 17 02.6	+0.9	
OTAV	**Otavalo**	**70.31**	**303**	*e*P	**P**	12 17 02.6	+0.9	
OTAV	**Otavalo**	**70.31**	**303**	P	**P**	12 17 02.2	+0.5	
OTAV				IAmb	IAmb	12 17 05.3		
	comp=Z,62nm,1.6s							
MBAR	**Mbarara**	**71.63**	**62** ⇑	*e*P	**P**	12 17 09.2	-0.2	
MBAR				pmax	pmax			
	comp=Z,7.0nm,1.2s							
MBAR	**Mbarara**	**71.63**	**62**	P	**P**	12 17 10.2	+0.8	
MBAR				IAmb	IAmb	12 17 31.3		
	comp=Z,9.4nm,1.3s							
ROSC	**El Rosal**	**72.52**	**309**	LR	LR	12 51 59.3		
	comp=Z,61nm,19.3s,baz=176,slow=38							
ROSC	**El Rosal**	**72.52**	**309**	P	**P**	12 17 15.1	+0.2	
TOA0	**Torodi Ar. Sit**	**72.88**	**28**	P	**P**	12 17 16.5	0.0	
TOA0				IAmb	IAmb	12 17 33.9		
	comp=Z,14nm,0.8s							
TORD	**Torodi Ar. Bea**	**72.88**	**28**	P	**P**	12 17 15.9	-0.6	
	comp=Z,8.3nm,0.8s,baz=202,slow=6.5,SNR=43							
TORD				LR	LR	12 44 38.2		
	comp=Z,87nm,18.3s,baz=350,slow=32							
GRGR	**Grenville**	**74.31**	**324**	P	**P**	12 17 25.1	+0.2	
SDV	**Santo Domingo**	**74.61**	**314**	*e*P	**P**	12 17 28.4	+1.4	
SDV	**Santo Domingo**	**74.61**	**314**	*e*P	**P**	12 17 28.4	+1.4	
SDV	**Santo Domingo**	**74.61**	**314**	P	**P**	12 17 27.2	+0.2	
SDV				IAmb	IAmb	12 17 28.9		
	comp=Z,10nm,0.8s							
WKZ	**Wanaka**	**78.53**	**191**	P	**P**	12 17 50.1	+1.4	
BCIP	**Isla Barro Col**	**78.81**	**306**	P	**P**	12 17 51.0	+0.6	
BCIP				pmax	pmax			
	comp=Z,58nm,1.5s							
BCIP	**Isla Barro Col**	**78.81**	**306**	P	**P**	12 17 51.0	+0.6	
BCIP				IAmb	IAmb	12 17 51.4		
	comp=Z,58nm,1.5s							
THZ	**Tophouse**	**81.08**	**194**	P	**P**	12 18 03.7	+1.1	
THZ				IAmb	IAmb	12 18 27.6		
	comp=Z,44nm,1.3s							
MTP	**Monte Pirata**	**81.18**	**322**	P	**P**	12 18 03.6	+0.5	
MTP				IAmb	IAmb	12 18 05.7		
	comp=Z,29nm,1.0s							
JTS	**Las Juntas de**	**82.18**	**302**	*ce*P	**P**	12 18 10.5	+2.0	
JTS				pmax	pmax			
	comp=Z,13nm,1.0s							
JTS	**Las Juntas de**	**82.18**	**302**	P	**P**	12 18 08.5	0.0	
JTS				IAmb	IAmb	12 18 11.7		
	comp=Z,12nm,0.9s							
ACON	**Acoyapa**	**83.74**	**302**	P	**P**	12 18 16.5	-0.1	
CAN	**Canberra**	**88.71**	**176**	P	**P**	12 18 41.7	+0.6	
CAN				pmax	pmax			
	comp=Z,49nm,1.6s							
CAN	**Canberra**	**88.71**	**176**	P	**P**	12 18 41.7	+0.6	
STKA	**Stephens Creek**	**91.61**	**169**	*e*P	**P**	12 18 55.1	+0.6	
STKA	**Stephens Creek**	**91.61**	**169**	P	**P**	12 18 54.5	0.0	
	comp=Z,4.3nm,1.0s,baz=151,slow=6.1,SNR=6.8							
STKA	**Stephens Creek**	**91.61**	**169**	P	**P**	12 18 55.0	+0.4	
ASAR	**Alice Springs**	**98.61**	**161**	P	**P**	12 19 25.9	-0.8	
	comp=Z,2.2nm,0.9s,baz=189,slow=3.8,SNR=13							
ASAR				PP	**PP**	12 23 26.4	0.0	
	comp=Z,1.0nm,1.0s,baz=176,slow=5.8,SNR=5.5							
ASAR				PKKP	**PKKPdf**	12 35 54.0	-0.5	
	comp=Z,0.2nm,0.8s,baz=20,slow=2.4,SNR=5.7							
WRA	**Warramunga Arr**	**102.33**	**161**	P	**Pdif**	12 19 41.9	-1.3	
	comp=Z,0.7nm,0.9s,baz=196,slow=3.2,SNR=5.4							
STHS	**Stebnicka Huta**	**112.36**	**31**	*e*P	**Pdif**	12 20 26.1	-0.8	
PDAR	**Pinedale Array**	**121.01**	**301**	PKP	**PKPdf**	12 24 38.4	-1.3	
	comp=Z,0.3nm,0.6s,baz=152,slow=4.1,SNR=3.0							
VSU	**Vasula**	**121.86**	**29** ⇑	*i*PKIKP	**PKiKP**	12 24 41.6	+1.1	
OBN	**Obninsk**	**122.08**	**37**	*e*PKIKP	**PKiKP**	12 24 43.1	+2.1	
OBN				*e*		12 26 18.2		
OBN				*e*PPP	PPP	12 28 53.8		
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
NVAR	**Mina Array Bea**	**122.09**	**292**	PKP	**PKPdf**	12 24 40.9	-1.0	
	comp=Z,0.9nm,0.8s,baz=141,slow=3.0,SNR=4.2							
BEKR	**Beckworth**	**124.22**	**292**		**PKPdf**	12 24 45.8	0.0	
FINES	**FINESS Array B**	**124.23**	**27**	PKIKP	**PKPdf**	12 24 44.0	-0.9	
FINES	**FINESS Array B**	**124.23**	**27**	PKP	**PKPdf**	12 24 44.0	-0.9	
	comp=Z,3.5nm,1.0s,baz=230,slow=11,SNR=3.7							
CMAR	**Chiang Mai Arr**	**124.37**	**109**	PKP	**PKPdf**	12 24 45.4	-1.2	
	comp=Z,1.9nm,0.9s,baz=230,slow=2.2,SNR=8.5							
WVOR	**Wild Horse Val**	**125.22**	**295**	PKIKP	**PKiKP**	12 24 48.4	+0.4	
WVOR	**Wild Horse Val**	**125.22**	**295**		**PKiKP**	12 24 48.4	+0.4	
MOD	**Modoc Plateau**	**125.69**	**294**		**PKiKP**	12 24 49.2	+0.3	
BMO	**Blue Mountains**	**126.31**	**298**	PKIKP	**PKPdf**	12 24 49.5	-0.1	
BMO	**Blue Mountains**	**126.31**	**298**		**PKPdf**	12 24 49.5	-0.1	
KSH	**Kashi**	**127.97**	**74**	PKP	**PKiKP**	12 24 55.3	+1.8	
KSH				LR	LR			
	comp=Z,460nm,12.0s							
AAK	**Ala-Archa**	**129.40**	**70**	PKIKP	**PKiKP**	12 24 56.1	-0.3	
AAK	**Ala-Archa**	**129.40**	**70**		**PKiKP**	12 24 56.1	-0.3	
TMCR	**Tamitsa**	**129.68**	**31**	*e*PKIKP	**PKPdf**	12 24 54.4	-0.7	
TMCR				pmax	pmax			
	comp=Z,15nm,0.8s							
PRGR	**Permogore**	**130.14**	**36**	*e*PKIKP	**PKPdf**	12 24 51.2	-4.9	
PRGR				pmax	pmax			
	comp=Z,15nm,1.2s							
ARCES	**ARCESS Array B**	**130.86**	**21**	PKP	**PKPdf**	12 24 56.3	-1.0	
	comp=Z,5.7nm,1.0s,baz=217,slow=0.9,SNR=5.0							
LVZ	**Lovozero**	**131.62**	**26** ‖	*i*PKIKP	**PKiKP**	12 25 03.2	+3.4	
BVAR	**Borovoye Array**	**134.31**	**57**	PKP	**PKPdf**	12 25 02.4	-1.9	
	comp=Z,0.5nm,0.5s,baz=179,slow=5.1,SNR=3.8							
YKA	**Yellowknife Ar**	**136.75**	**317**	PKP	**PKPdf**	12 25 07.4	-1.1	
	comp=Z,2.3nm,0.8s,baz=124,slow=2.3,SNR=20							
YKA				PP	**PP**	12 27 50.7	-1.6	
	comp=Z,0.4nm,0.7s,baz=117,slow=6.7,SNR=5.3							
YKA				SKPbc	**SKPbc**	12 28 37.6	-3.3	
	comp=Z,0.7nm,0.9s,baz=129,slow=2.9,SNR=5.9							
KURBB	**Kurchatov Arra**	**136.77**	**64**	PKP	**PKiKP**	12 25 10.0	-0.8	
	comp=Z,0.6nm,0.3s,baz=233,slow=3.8,SNR=5.2							
CD2	**Chengdu**	**136.96**	**104**	Pdif	**Pdif**	12 22 16.9	+0.1	
WMQ	**Urumqi**	**137.28**	**78**	*e*PKP	**PKiKP**	12 25 12.0	-0.1	
WMQ				LR	LR			
	comp=Z,260nm,6.9s							
RES	**Resolute Bay**	**138.27**	**338**	PKIKP	**PKPdf**	12 25 11.5	+0.5	
RES	**Resolute Bay**	**138.27**	**338**		**PKPdf**	12 25 11.5	+0.5	
LZH	**Lanzhou**	**140.91**	**99**	*e*PKP	**PKPdf**	12 25 18.5	+1.2	
LZH				sPKP		12 25 23.1		
LZH				LR	LR			
	comp=Z,140nm,18.0s							
LZH				LR	LR			
	comp=Z,150nm,17.9s							
LZH				LR	LR			
	comp=Z,180nm,20.1s							
GTA	**Gaotai**	**141.04**	**92**	*e*PKP	**PKPdf**	12 25 16.5	-0.9	
ZALV	**Zalesovo Beam**	**141.84**	**63**	PKP	**PKPdf**	12 25 16.8	-1.3	
	comp=Z,0.5nm,0.5s,baz=250,slow=2.7,SNR=3.3							
XAN	**Xi'an**	**142.15**	**107**	P	PKiKP	12 25 30.6	+8.2	
XAN				pmax	pmax			
	comp=Z,4.0nm,1.1s							
XAN				pmax	pmax			
	comp=Z,63nm,3.5s							
HYT	**Haines Junctio**	**145.44**	**307**		**PKPab**	12 25 24.8	+0.1	
NJ2	**Nanjing**	**145.67**	**120**	*e*PKPbc	**PKPbc**	12 25 25.8	-0.1	
INK	**Inuvik**	**146.37**	**320**	PKP2	**PKPbc**	12 25 26.8	-0.1	
INK	**Inuvik**	**146.37**	**320**	PKPbc	**PKPbc**	12 25 26.6	-0.2	
	comp=Z,32nm,1.0s,baz=42,slow=3.0,SNR=30							
INK	**Inuvik**	**146.37**	**320**		**PKPbc**	12 25 26.8	-0.1	
EPYK	**Eagle Plains**	**147.02**	**316**		**PKPbc**	12 25 28.5	-0.4	
DAWY	**Dawson**	**147.41**	**311**		**PKPbc**	12 25 29.3	-0.7	
BTO	**Baotou**	**147.53**	**100**	*e*PKPbc	**PKPbc**	12 25 30.5	-0.7	
EGAK	**Eagle**	**148.35**	**312**		**PKPdf**	12 25 30.5	+1.6	
HHC	**Hu-ho-hao-te**	**148.55**	**101**	PKPbc	**PKPbc**	12 25 34.0	+0.1	
NRIK	**Noril'sk**	**148.72**	**39**	PKPbc	**PKPbc**	12 25 33.1	-0.2	
	comp=Z,2.7nm,0.6s,baz=254,slow=0.9,SNR=5.4							
MENT	**Mentasta**	**148.93**	**308**		**PKPbc**	12 25 33.8	-0.3	
SCRK	**Sand Creek**	**149.33**	**310**		**PKPbc**	12 25 35.4	+0.2	
ZAK	**Zakamensk**	**149.72**	**79**	*e*PKHKP	**PKPbc**	12 25 34.7	-1.8	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.2s							
SONM	**Songino Array**	**150.07**	**86**	PKPbc	**PKPbc**	12 25 36.2	-1.2	
	comp=Z,3.3nm,0.8s,baz=227,slow=3.4,SNR=13							
DHY	**Denali Highway**	**150.57**	**308**		**PKPdf**	12 25 33.8	+1.0	
ILAR	**Eielson Array**	**150.74**	**311**	PKPbc	**PKPbc**	12 25 38.1	-0.3	
	comp=Z,14nm,0.9s,baz=131,slow=1.5,SNR=52							
COLA	**College**	**151.16**	**311**	PKIKP	**PKPbc**	12 25 39.4	+0.1	
COLA	**College**	**151.16**	**311**		**PKPbc**	12 25 39.4	+0.1	
JNU	**Nakatsue**	**151.90**	**136**	PKPbc	**PKPbc**	12 25 41.2	-0.9	
	comp=Z,9.3nm,0.8s,baz=300,slow=1.5,SNR=4.7							
JNU	**Nakatsue**	**151.90**	**136**		**PKPbc**	12 25 41.8	-0.4	
MLY	**Manley**	**152.40**	**311**		**PKiKP**	12 25 42.4	-0.1	
KSRS	**Korea Array**	**154.35**	**126**	PKPbc	**PKPbc**	12 25 46.4	-0.9	
	comp=Z,0.9nm,0.7s,baz=244,slow=1.5,SNR=3.6							
MJAR	**Matsushiro Arr**	**157.60**	**145**	PKPab	**PKPab**	12 26 15.3	-0.1	
	comp=Z,2.5nm,0.8s,baz=214,slow=5.9,SNR=5.3							
BILL	**Bilibino**	**166.87**	**339**	*e*PKIKP	**PKPdf**	12 25 52.0	+0.4	
BILL				*e*PPP	PPP	12 34 41.2		
BILL				pmax	pmax			
	comp=Z,4.0nm,1.5s							

ISCJB ***23*** *12:31:09.6±0.2, 6.34S±0.03×154.92E±0.03, h56km, mb4.5/22, MS3.5/6, Error ellipse: s-maj=5.0km s-min=4.4km az=23.3*

IDC ***23*** *12:31:10.0±0.7, 6.33S×154.94E, h48km±5km, mb4.3/19, mb1 4.4/21, mb1mx4.2/34, mbtmp4.5/21, MS3.5/9, Ms1 3.5/9, ms1mx3.2/42, Error ellipse: s-maj=16.8km s-min=12.3km az=91.0*

BJI ***23*** *12:31:12.0±0.0, 6.17S×155.04E, h79km, mb4.9/14, mB5.3/20, Ms5.3/5, Ms7 5.0/2*

NEIC ***23*** *12:31:13.4±1.4, 6.34S±0.07×154.92E±0.06, h79km±5km, mb4.8/64*

ISC 23 12:31:11.2±0.3, **6.33S**±0.05×**154.93E**±0.05, **h56**km, **n124,** σ1**s22**/130, **mb4.8**/52, **MS3.5**/6, **1C, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.84**	**122**	P	**P**	**n**	**12 32 38.2**	**+2.9**
	18nm,0.3s,baz=169,slow=23,SNR=7.7							
HNR				S		**Sn**	**12 33 43.2**	**+2.2**
	18nm,0.3s,baz=341,slow=18,SNR=2.9							
HNR				LR	LR		12 34 52.1	
	comp=Z,358nm,19.8s,baz=292,slow=38							
HNR	**Honiara**	**5.84**	**122**	P		Pn	12 32 20.0	-15
HNR	**Honiara**	**5.84**	**122**	Pn		**Pn**	**12 32 38.1**	**+2.8**
HNR				Sn		**Sn**	**12 33 43.4**	**+2.4**
PMG	**Port Moresby**	**8.28**	**248**	P		**Pn**	**12 33 10.2**	**+1.4**
	20nm,0.3s,baz=59,slow=7.6,SNR=40							
PMG				S		**Sn**	**12 34 43.5**	**+2.6**
	2.5nm,0.3s,baz=49,slow=20,SNR=3.7							
PMG				LR	LR		12 36 23.9	
	comp=Z,368nm,18.6s,baz=7.0,slow=38							
PMG	**Port Moresby**	**8.28**	**248**			**Pn**	**12 33 09.7**	**+0.9**
PMG				Sn		**Sn**	**12 34 44.0**	**+3.1**
MANU	**Manus Island**	**8.66**	**299**	Pn		**Pn**	**12 33 15.7**	**+1.8**
PATS	**Pohnpei**	**13.51**	**15**	Pn		**Pn**	**12 34 20.5**	**+0.3**
PATS				Sn		**Sn**	**12 36 49.1**	**+0.2**
COEN	**Coen**	**13.82**	**236**	Pn		**Pn**	**12 34 24.9**	**+0.4**
CTA	**Charters Tower**	**16.06**	**211**	P		**Pn**	**12 34 53.7**	**+0.2**
	0.3nm,0.3s,baz=218,slow=22,SNR=3.3							
DZM	**Mont Dzumac**	**19.20**	**146**	P		**Pn**	**12 35 31.8**	**-0.3**
	2.2nm,0.3s,baz=288,slow=9.6,SNR=23							
DZM				LR	LR		12 41 41.0	
	comp=Z,113nm,19.8s,baz=346,slow=33							
DZM	**Mont Dzumac**	**19.20**	**146**	P		**Pn**	**12 35 31.5**	**-0.6**
EIDS	**Eidsvold**	**19.28**	**191**	P		**P**	**12 35 31.9**	**+0.3**
FAKI	**Fak Fak**	**22.86**	**277**	P		**P**	**12 36 11.0**	**+0.9**
FAKI				IAmb	IAmb		12 36 26.3	
	comp=Z,26nm,0.9s							
WR0	**Warramunga Arr**	**23.99**	**234**	P		**P**	**12 36 21.2**	**+0.3**
WR0				IAmb	IAmb		12 36 22.8	
	comp=Z,68nm,1.6s							
WRAB	**Tennant Creek**	**24.13**	**234**	P		**P**	**12 36 22.7**	**+0.6**
WRAB				IAmb	IAmb		12 36 23.6	
	comp=Z,46nm,1.6s							
WRA	**Warramunga Arr**	**24.14**	**234**	P		**P**	**12 36 22.3**	**0.0**
	comp=Z,8.7nm,0.7s,baz=57,slow=9.7,SNR=58							
WRA				PcP		**PcP**	**12 40 01.6**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=58,slow=2.8,SNR=9.6							
WRA				pPcP			12 40 16.3	
	comp=Z,1.6nm,0.7s,baz=52,slow=2.0,SNR=5.7							
WRA				LR	LR		12 45 25.8	
	comp=Z,94nm,19.7s,baz=85,slow=35							
ARMA	**Armidale**	**24.16**	**187**	P		**P**	**12 36 23.1**	**+0.7**
ARMA				IAmb	IAmb		12 36 23.6	
	comp=Z,69nm,1.6s							
SIJI	**Sorong**	**24.23**	**282**	P		**P**	**12 36 23.9**	**+0.8**
	comp=Z,8.0nm,0.4s,baz=90,slow=20,SNR=5.5							
AS31	**Alice Springs**	**26.56**	**227**	P		**P**	**12 36 43.7**	**-0.5**
ASAR	**Alice Springs**	**26.57**	**227**	P		**P**	**12 36 43.7**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=57,slow=9.4,SNR=119							
ASAR				PcP		**PcP**	**12 40 06.8**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=60,slow=2.5,SNR=14							
ASAR				pPcP			12 40 20.9	
	comp=Z,1.5nm,0.8s,baz=39,slow=2.8,SNR=5.9							

KNRA	**Kununurra**	**27.28**	**248**	P	**P**	**12 36 50.3**	**-0.4**	
KNRA				IAmb	IAmb	12 37 10.6		
	comp=Z,24nm,1.1s							
WAKE	**Wake Island**	**27.95**	**24**	P	**P**	**12 36 56.6**	**0.0**	
STKA	**Stephens Creek**	**28.30**	**204**	P	**P**	**12 36 58.5**	**-1.1**	
	comp=Z,1.3nm,0.6s,baz=7.9,slow=9.2,SNR=5.5							
STKA	**Stephens Creek**	**28.30**	**204**	P	**P**	**12 36 58.6**	**-1.0**	
H11N1	**WAKE ISLAND Hy**	**28.43**	**24**	T	T	13 06 44.0		
	baz=204							
H11N3	**WAKE ISLAND Hy**	**28.45**	**24**	T	T	13 06 39.3		
	baz=204,slow=74							
H11N2	**WAKE ISLAND Hy**	**28.45**	**24**	T	T	13 06 47.0		
	baz=204,slow=74							
SOEI	**Soe**	**30.54**	**262**	P	**P**	**12 37 20.1**	**+0.2**	
SOEI				IAmb	IAmb	12 37 36.8		
	comp=Z,36nm,1.3s							
FITZ	**Fitzroy Crossi**	**30.86**	**245**	LR	LR	12 50 20.1		
	comp=Z,111nm,18.7s,baz=100,slow=37							
FITZ	**Fitzroy Crossi**	**30.86**	**245**	P	**P**	**12 37 21.8**	**-0.7**	
BBOO	**Buckleboo**	**31.66**	**211**	P	**P**	**12 37 28.1**	**-1.3**	
BBOO				IAmb	IAmb	12 37 38.3		
	comp=Z,21nm,1.5s							
DAV	**Davao City (W)**	**32.17**	**294**	LR	LR	12 51 09.8		
	comp=Z,67nm,18.2s,baz=93,slow=37							
OUZ	**Omahuta**	**33.49**	**152**	P	**P**	**12 37 45.2**	**-0.1**	
FORT	**Forrest**	**35.03**	**223**	P	**P**	**12 37 58.0**	**-0.7**	
FORT				IAmb	IAmb	12 37 58.6		
	comp=Z,13nm,0.7s							
HIZ	**Hauiti**	**36.77**	**153**	P	**P**	**12 38 13.7**	**+0.2**	
PSA00	**Pilbara Seismi**	**37.14**	**242**	P	**P**	**12 38 15.9**	**-1.0**	
PSA00				IAmb	IAmb	12 38 16.4		
	comp=Z,12nm,1.1s							
URZ	**Urewera**	**37.61**	**151**	P	**P**	**12 38 20.3**	**-0.3**	
	comp=Z,4.0nm,0.3s,baz=296,slow=2.2,SNR=5.9							
URZ	**Urewera**	**37.61**	**151**	P	**P**	**12 38 20.7**	**+0.1**	
URZ				IAmb	IAmb	12 38 28.9		
	comp=Z,16nm,0.9s							
THZ	**Tophouse**	**38.73**	**158**	P	**P**	**12 38 29.1**	**-1.0**	
THZ				IAmb	IAmb	12 38 36.3		
	comp=Z,17nm,0.9s							
RPZ	**Rata Peaks**	**39.84**	**162**	P	**P**	**12 38 38.2**	**-1.0**	
	comp=Z,14nm,0.9s,baz=308,slow=2.3,SNR=8.5							
RPZ	**Rata Peaks**	**39.84**	**162**	P	**P**	**12 38 38.4**	**-0.8**	
WKZ	**Wanaka**	**40.27**	**164**	P	**P**	**12 38 42.4**	**-0.4**	
KKM	**Kota Kinabalu**	**40.55**	**287**	P	**P**	**12 38 45.2**	**-0.4**	
KKM				IAmb	IAmb	12 39 04.7		
	comp=Z,28nm,1.1s							
MORW	**Morawa**	**43.09**	**234**	P	**P**	**12 39 05.2**	**-0.9**	
MORW				IAmb	IAmb	12 39 24.7		
	comp=Z,14nm,1.1s							
NWAO	**Narrogin (SRO)**	**43.88**	**228**	P	**P**	**12 39 10.8**	**-1.6**	
NWAO				IAmb	IAmb	12 39 27.3		
	comp=Z,22nm,1.6s							
YULB	**Yu-li**	**44.18**	**313**	P	**P**	**12 39 14.3**	**-0.6**	
YULB				IAmb	IAmb	12 39 26.2		
	comp=Z,15nm,0.9s							
TPUB	**Ta-pu**	**44.62**	**312**	P	**P**	**12 39 17.9**	**-0.5**	
KSM	**Ku

HDA					IAmb	IAmb	12 43 29.1		
	comp=Z,24nm,1.6s								
ILAR	**Eielson Array**	**82.79**	**22**	P	**P**		**12 43 27.6**	**-1.4**	
	comp=Z,0.7nm,0.5s,baz=233,slow=5.4,SNR=9.3								
MK31	**Makanchi Array**	**82.87**	**319**	P	**P**		**12 43 29.4**	**-0.5**	
MKAR	**Makanchi Array**	**82.87**	**319**	P	**P**		**12 43 28.7**	**-1.1**	
	comp=Z,5.7nm,0.7s,baz=93,slow=6.1,SNR=42								
MKAR				pP	**pP**		**12 43 43.6**	**-2.1**	
	comp=Z,4.6nm,0.7s,baz=102,slow=6.0,SNR=11								
MAKZ	**Makanchi**	**83.08**	**319**	P	**P**		**12 43 30.5**	**-0.5**	
MAKZ				IAmb	IAmb		12 43 31.7		
	comp=Z,7.2nm,0.8s								
ZAA0	**Zalesovo Array**	**83.60**	**326**	P	**P**		**12 43 32.1**	**-1.3**	
ZALV	**Zalesovo Beam**	**83.60**	**326**	P	**P**		**12 43 31.9**	**-1.6**	
	comp=Z,3.0nm,0.6s,baz=112,slow=5.3,SNR=15								
ZALV				pP	**pP**		**12 43 46.5**	**-2.7**	
	comp=Z,2.3nm,0.6s,baz=105,slow=5.1,SNR=5.6								
QSPA	**South Pole Qui**	**83.64**	**180**	P	**P**		**12 43 33.0**	**-0.6**	
QSPA				IAmb	IAmb		12 43 34.4		
	comp=Z,24nm,1.4s								
HYT	**Haines Junctio**	**84.82**	**27**	P	**P**		**12 43 40.4**	**+0.8**	
HYT				IAmb	IAmb		12 43 43.7		
	comp=Z,9.8nm,1.1s								
EGAK	**Eagle**	**84.94**	**23**	P	**P**		**12 43 40.2**	**+0.3**	
MAW	**Mawson**	**84.98**	**203**	P	**P**		**12 43 39.7**	**-0.4**	
	comp=Z,6.7nm,0.5s,baz=95,slow=5.5,SNR=14								
MAW	**Mawson**	**84.98**	**203**	P	**P**		**12 43 39.9**	**-0.2**	
KSH	**Kashi**	**85.54**	**310**	P	**P**		**12 43 45.6**	**+1.9**	
KSH				PP	**PP**		**12 47 07.8**	**+4.8**	
KSH				SKS	**SKSac**		**12 54 01.1**	**-3.5**	
KSH				S	**S**		**12 54 10.1**	**-1.3**	
KSH				SS	**SS**		**12 59 52.8**	**+4.5**	
KSH				pmax	pmax				
	comp=Z,260nm,6.7s								
KURK	**Kurchatov**	**86.28**	**322**	P	**P**		**12 43 46.3**	**-0.6**	
EPYK	**Eagle Plains**	**87.28**	**22**	P	**P**		**12 43 52.0**	**+0.5**	
EPYK				IAmb	IAmb		12 43 53.0		
	comp=Z,20nm,1.4s								
INK	**Inuvik**	**89.13**	**21**	P	**P**		**12 43 59.8**	**-0.4**	
	comp=Z,0.7nm,0.6s,baz=267,slow=6.1,SNR=5.6								
INK	**Inuvik**	**89.13**	**21**	IAmb	IAmb		12 44 02.9		
	comp=Z,8.4nm,1.6s								
NVAR	**Mina Array Bea**	**91.36**	**52**	P	**P**		**12 44 11.8**	**+0.1**	
	comp=Z,2.1nm,0.9s,baz=258,slow=6.5,SNR=13								
NVAR				pP	**pP**		**12 44 26.1**	**-1.6**	
	comp=Z,1.8nm,1.0s,baz=257,slow=6.5,SNR=5.9								
KVN	**Kaiserville**	**91.59**	**51**	P	**P**		**12 44 12.6**	**0.0**	
SYO	**Syowa Base**	**92.93**	**199**⇑*e*	pP	pP		12 44 39.0	+5.1	
YKA	**Yellowknife Ar**	**95.78**	**28**	P	**P**		**12 44 31.0**	**-0.1**	
	comp=Z,1.1nm,0.6s,baz=265,slow=4.5,SNR=24								
YKA				pP	**pP**		**12 44 44.6**	**-2.6**	
	comp=Z,1.6nm,0.9s,baz=268,slow=4.4,SNR=8.1								
PDAR	**Pinedale Array**	**98.31**	**48**	P	**P**		**12 44 42.5**	**-0.7**	
	comp=Z,0.5nm,0.8s,baz=234,slow=4.3,SNR=3.8								
BOSA	**Boshof**	**120.38**	**232**	PKP	**PKPdf**		**12 49 56.3**	**-0.9**	
	comp=Z,1.0nm,0.6s,baz=211,slow=2.0,SNR=5.1								
BOSA	**Boshof**	**120.38**	**232**		**PKPdf**		**12 49 56.5**	**-0.7**	
GERES	**GERESS Array B**	**126.46**	**329**	PKP	**PKPdf**		**12 50 07.2**	**-1.0**	
	comp=Z,0.2nm,0.5s,baz=48,slow=2.0,SNR=4.9								
SDV	**Santo Domingo**	**134.79**	**84**		**PKPdf**		**12 50 24.4**	**-0.6**	
TORD	**Torodi Ar. Bea**	**152.78**	**286**	PKPbc	**PKPbc**		**12 51 01.6**	**-1.4**	
	comp=Z,1.4nm,0.3s,baz=86,slow=2.3,SNR=22								
DBIC	**Dimbokro**	**159.31**	**272**	PKPab	**PKPab**		**12 51 44.1**	**-0.6**	
	comp=Z,5.0nm,0.8s,baz=92,slow=6.7,SNR=5.7								

IDC ***23*** *12:48:33.9±5.2,5.˚96S×147.˚52E, h0km, mb4.4/3, mb1 4.4/5, mb1mx3.8/40, mbtmp4.3/5, ML4.2/1, Error ellipse: s-maj=79.6km s-min=42.9km az=57.0*
ISCJB ***23*** *12:48:43.7±0.9, 6.˚43S±0.˚09×147.˚34E±0.˚08, h63km, mb4.2/3, Error ellipse: s-maj=12.6km s-min=10.9km az=19.1*
NEIC ***23*** *12:48:46.2±0.7, 6.˚45S±0.˚10×147.˚4E±0.˚1, h71km±10km, mb4.1/14*

ISC 23 12:48:45.0±1.0, **6.˚34S**±0.˚10×**147.˚3E**±0.˚1, **h63**km, **n23,** σ1°**29**/25, **mb4.3**/8, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.05**	**183**	Pn	**Pn**	**12 49 30.1**	**-0.7**
	6.6nm,0.3s,baz=354,slow=9.2,SNR=16						
PMG				Sn	**Sn**	**12 50 11.3**	**+5.1**
	27nm,0.3s,baz=42,slow=19,SNR=7.1						
PMG	**Port Moresby**	**3.05**	**183**		**Pn**	**12 49 29.9**	**-0.9**
PMG				Sn	**Sn**	**12 50 04.1**	**-2.1**
COEN	**Coen**	**8.61**	**208**	Pn	**Pn**	**12 50 47.5**	**+0.6**
HNR	**Honiara**	**12.86**	**105**	Pn	**Pn**	**12 51 46.0**	**+0.9**
MTN	**Manton Dam**	**17.23**	**247**		**P**	**12 52 42.1**	**-0.2**
MTN				IAmb	IAmb	12 52 48.5	
	comp=Z,9.5nm,1.0s						
WR0	**Warramunga Arr**	**18.38**	**221**	P	**Pn**	**12 52 55.0**	**-0.6**
WRAB	**Tennant Creek**	**18.49**	**222**	P	**P**	**12 52 56.0**	**-0.1**
WRAB				IAmb	IAmb	12 53 03.0	
	comp=Z,5.0nm,0.6s						
WRA	**Warramunga Arr**	**18.50**	**222**	P	**P**	**12 52 56.0**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=44,slow=12,SNR=21						
EIDS	**Eidsvold**	**19.26**	**170**	P	**P**	**12 53 03.9**	**-0.6**
KNRA	**Kununurra**	**20.44**	**241**	P	**P**	**12 53 17.1**	**-0.3**
KNRA				IAmb	IAmb	12 53 26.5	
	comp=Z,3.2nm,0.6s						
AS31	**Alice Springs**	**21.53**	**215**	P	**P**	**12 53 29.5**	**+0.4**
AS31				IAmb	IAmb	12 53 31.3	
	comp=Z,4.9nm,0.3s						
ASAR	**Alice Springs**	**21.53**	**215**	P	**P**	**12 53 29.1**	**0.0**
	comp=Z,4.0nm,0.4s,baz=52,slow=8.8,SNR=116						
ASAR				S	Sn	12 57 32.3	-3.9
	comp=Z,0.6nm,0.6s,baz=42,slow=23,SNR=6.4						
FITZ	**Fitzroy Crossi**	**24.18**	**239**	P	**P**	**12 53 55.9**	**+0.2**
	comp=Z,15nm,0.5s,baz=57,slow=7.6,SNR=101						
FITZ	**Fitzroy Crossi**	**24.18**	**239**	P	**P**	**12 53 55.8**	**+0.2**
ARMA	**Armidale**	**24.29**	**171**	P	**P**	**12 53 55.6**	**-1.0**
ARMA				IAmb	IAmb	12 54 03.8	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**25.97**	**191**	P	**P**	**12 54 11.1**	**-0.7**
	comp=Z,1.7nm,0.4s,baz=21,slow=7.6,SNR=15						
STKA	**Stephens Creek**	**25.97**	**191**	P	**P**	**12 54 11.3**	**-0.5**
BBOO	**Buckleboo**	**28.35**	**200**	P	**P**	**12 54 32.9**	**-0.3**
BBOO				IAmb	IAmb	12 54 33.6	
	comp=Z,3.6nm,1.1s						
FORT	**Forrest**	**30.30**	**214**	P	**P**	**12 54 50.4**	**-0.2**
FORT				IAmb	IAmb	12 54 51.2	
	comp=Z,7.3nm,0.6s						
PSA00	**Pilbara Seismi**	**30.59**	**238**	P	**P**	**12 54 53.3**	**+0.1**
PSA00				IAmb	IAmb	12 54 53.4	
	comp=Z,7.7nm,1.0s						
MORW	**Morawa**	**37.20**	**229**	P	**P**	**12 55 50.4**	**0.0**
YHNB	**Yeheng**	**39.87**	**322**	P	**P**	**12 56 13.6**	**+0.7**
NNZ	**Nelson**	**41.77**	**150**	P	**P**	**12 56 27.6**	**-0.7**

NCEDC ***23*** *12:53:49.9±0.3, 40.˚16N×121.˚07W, ML2.9*
NEIC ***23*** *12:53:50.2±1.6, 40.˚150N±0.˚006×121.˚06W±0.˚02, h8km±5km*
ANF ***23*** *12:53:50.2±1.1, 40.˚20N×121.˚16W, ML3.0/9, Error ellipse: s-maj=8.5km s-min=4.5km az=141.0*

ISC 23 12:53:49.9±1.0, **40.˚16N**±0.˚02×**121.˚08W**±0.˚02, **h8**km±9km, **n126,** σ0°**88**/150, **Northern California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCMM	**Colby Mountain**	**0.34**	**268**		**Pg**	**12 53 57.4**	**+0.7**
LRDM	**Redding Peak**	**0.42**	**316**		**Pg**	**12 53 58.6**	**+0.5**
MGL	**Magalia**	**0.51**	**227**		**Pg**	**12 53 59.8**	**+0.1**
LMEM	**Manzanita Entr**	**0.53**	**315**		**Pg**	**12 54 00.8**	**+0.6**
O03E	**Paynes Creek**	**0.57**	**284**	P	**Pg**	**12 54 00.8**	**0.0**
	baz=104,SNR=1000						
O03E				S	**Sg**	**12 54 09.0**	**+0.6**
	baz=104						
O03E	**Paynes Creek**	**0.57**	**284**		**Pg**	**12 54 00.9**	**0.0**
O03E					**Sg**	**12 54 09.0**	**+0.6**
LDBM	**Digger Butte**	**0.60**	**297**		**Pg**	**12 54 01.6**	**0.0**
BEKR	**Beckworth**	**0.63**	**118**		**Pg**	**12 54 01.8**	**-0.2**
BEKR					**Sg**	**12 54 10.0**	**-0.2**
ORV	**Oroville**	**0.69**	**208**	Pg	**Pg**	**12 54 02.7**	**-0.4**
ORV	**Oroville**	**0.69**	**208**		**Pg**	**12 54 02.8**	**-0.3**
ORV	**Oroville**	**0.69**	**208**		**Sg**	**12 54 11.9**	**-0.2**
LBCM	**Butte Creek Ri**	**0.70**	**343**		**Pg**	**12 54 03.6**	**+0.1**
HATC	**Hat Creek Radi**	**0.71**	**336**		**Pg**	**12 54 03.9**	**+0.2**
PAM	**Palermo**	**0.79**	**206**		**Pg**	**12 54 04.5**	**-0.5**
PAM					**Sg**	**12 54 15.2**	**-0.1**
LTCM	**Tuscan Springs**	**0.80**	**274**		**Pg**	**12 54 05.6**	**+0.3**
LOY	**Loyalton**	**0.82**	**128**		**Pg**	**12 54 05.4**	**-0.3**
LOY					**Sg**	**12 54 16.1**	**-0.2**
OHCM	**Honcut**	**0.88**	**201**		**Pg**	**12 54 06.2**	**-0.6**
BABR	**Babbit Peak**	**0.94**	**126**		**Pg**	**12 54 07.7**	**-0.2**
BABR					**Sg**	**12 54 20.0**	**-0.1**
IND	**Independence**	**0.95**	**140**		**Pg**	**12 54 08.0**	**-0.1**
DONR	**Donner Summit**	**1.00**	**144**		**Pg**	**12 54 08.4**	**-0.7**
PEAR	**Peavine Mounta**	**1.02**	**122**		**Pg**	**12 54 09.4**	**-0.1**
VPK	**Verdi Peak**	**1.06**	**130**		**Pg**	**12 54 09.7**	**-0.5**
LTIM	**Timbered Crate**	**1.06**	**343**		**Pg**	**12 54 10.0**	**-0.3**
SUTB	**Sutter Butte**	**1.08**	**211**		**Pg**	**12 54 10.1**	**-0.5**
SUTB					**Sg**	**12 54 24.8**	**+0.2**
MPK	**Martis Peak**	**1.19**	**137**		**Pg**	**12 54 12.1**	**-0.5**
WDC	**Whiskeytown Da**	**1.19**	**291**		**Sg**	**12 54 26.6**	**-1.7**
WDC	**Whiskeytown Da**	**1.19**	**291**	Pg	**Pb**	**12 54 11.4**	**-1.3**
GCK	**Clark Valley**	**1.21**	**240**		**Pb**	**12 54 13.3**	**+0.3**
AFDM	**Forest Hills D**	**1.22**	**176**		**Pb**	**12 54 12.0**	**-1.2**
AFDM					**Sg**	**12 54 28.6**	**-0.4**
TAHR	**Tahoe**	**1.23**	**145**		**Pg**	**12 54 13.0**	**-0.6**
GROM	**Round Mountain**	**1.25**	**259**		**Pn**	**12 54 13.0**	**-0.7**
GFC	**Funks Creek**	**1.25**	**229**		**Pn**	**12 54 13.8**	**+0.2**
GVV	**Valley View**	**1.28**	**253**		**Pn**	**12 54 13.9**	**-0.3**
O02D	**Mt. Diablo Mer**	**1.31**	**271**	P	**Pn**	**12 54 13.7**	**-0.9**
	baz=90,SNR=152						
O02D				S	**Sb**	**12 54 31.5**	**-0.2**
	baz=90						
O02D	**Mt. Diablo Mer**	**1.31**	**271**		**Pn**	**12 54 13.7**	**-0.9**
O02D					**Sb**	**12 54 32.3**	**+0.6**
RUBR	**Rubicon Trail**	**1.32**	**147**		**Pn**	**12 54 14.4**	**-0.4**
RUBR				Sg	**Sb**	**12 54 31.7**	**-0.5**
LBMM	**Black Fox Moun**	**1.33**	**333**		**Pn**	**12 54 14.7**	**-0.3**
GASB	**Alder Springs**	**1.36**	**249**		**Pn**	**12 54 15.1**	**-0.1**
M03C	**McCloud**	**1.36**	**325**		**Pn**	**12 54 15.3**	**0.0**
M03C					**Sn**	**12 54 34.1**	**+0.4**
ASMM	**Slate Mountain**	**1.37**	**167**		**Pn**	**12 54 15.1**	**-0.4**
PAHR	**Pah Rah Range**	**1.38**	**109**		**Pn**	**12 54 15.6**	**0.0**
PAHR				Sn	**Sb**	**12 54 33.4**	**-0.5**
VCNR	**Virginia City**	**1.40**	**128**		**Pn**	**12 54 16.3**	**+0.4**
EMB	**Emerald Bay**	**1.41**	**147**		**Pn**	**12 54 15.9**	**-0.1**
GTSM	**Trough Springs**	**1.45**	**235**		**Pn**	**12 54 16.5**	**0.0**
LGBM	**Gray Butte**	**1.45**	**325**		**Pn**	**12 54 16.7**	**0.0**
N02D	**Trinity Center**	**1.48**	**304**	P	**Pn**	**12 54 16.4**	**-0.5**
	baz=123,SNR=118						
N02D				S	**Sn**	**12 54 35.7**	**-0.8**
	baz=123						
N02D	**Trinity Center**	**1.48**	**304**		**Pn**	**12 54 16.4**	**-0.5**
N02D					**Sn**	**12 54 35.1**	**-1.3**
LMHM	**Little Mount H**	**1.48**	**343**		**Pn**	**12 54 17.2**	**+0.1**
LASM	**Arnica Sink**	**1.48**	**345**		**Pn**	**12 54 16.9**	**-0.2**
GBMM	**Baldy Mountain**	**1.49**	**227**		**Pn**	**12 54 17.9**	**+0.8**
LBKM	**Bonanza King**	**1.52**	**308**		**Pn**	**12 54 17.2**	**-0.2**
LGPM	**Granite Peak**	**1.53**	**300**		**Pn**	**12 54 16.9**	**-0.7**
NDHM	**Dunnigan Hills**	**1.54**	**205**		**Pn**	**12 54 18.4**	**+0.9**
LGMM	**Garner Mountai**	**1.55**	**339**		**Pn**	**12 54 18.3**	**+0.4**
GNO	**Genoa**	**1.55**	**142**		**Pb**	**12 54 18.8**	**-0.2**
LMPM	**Military Pass**	**1.56**	**329**		**Pn**	**12 54 18.8**	**+0.7**
PNTR	**Pine Nut**	**1.57**	**133**		**Pb**	**12 54 19.4**	**+0.2**
PNTR					**Sb**	**12 54 39.8**	**+0.5**
GHMM	**Hull Mountain**	**1.57**	**246**		**Pn**	**12 54 18.6**	**+0.4**
LCSM	**College of the**	**1.60**	**322**		**Pn**	**12 54 19.4**	**+0.9**
KBNM	**Bluenose Ridge**	**1.65**	**261**		**Pn**	**12 54 19.9**	**+0.7**
MNRC	**McLaughlin Min**	**1.66**	**220**		**Pn**	**12 54 19.4**	**+0.1**
MNRC					**Sn**	**12 54 40.8**	**0.0**
LHEM	**Herd Peak**	**1.70**	**330**		**Pn**	**12 54 21.1**	**+1.1**
BFC	**Buffalo Canyon**	**1.70**	**138**		**Pb**	**12 54 21.6**	**0.0**
KHBM	**Hayfork Bally**	**1.71**	**288**		**Pn**	**12 54 19.8**	**-0.4**
M04C	**Macdoel**	**1.72**	**341**	P	**Pn**	**12 54 21.3**	**+1.1**
	baz=160,SNR=43						
M04C				S	**Sb**	**12 54 45.0**	**-0.1**
	baz=160						
M04C	**Macdoel**	**1.72**	**341**		**Pn**	**12 54 21.3**	**+1.1**
NMTM	**Middletown**	**1.72**	**218**		**Pb**	**12 54 21.4**	**-0.4**
NBPM	**Berryessa Peak**	**1.72**	**210**		**Pn**	**12 54 21.2**	**+1.0**
KRKM	**Rackout Spring**	**1.73**	**250**		**Pb**	**12 54 21.7**	**-0.2**
AASM	**Arroyo Seco**	**1.73**	**181**		**Pn**	**12 54 20.8**	**+0.5**
KPPM	**Pickett Peak**	**1.76**	**277**		**Pn**	**12 54 21.8**	**+1.1**
GMKM	**Mount Konoctai**	**1.78**	**228**		**Pn**	**12 54 21.8**	**+0.9**
M02C	**Callahan**	**1.82**	**313**	P	**Pn**	**12 54 22.2**	**+0.6**
	baz=132,SNR=70						
M02C				S	**Sb**	**12 54 46.9**	**+0.3**
	baz=132						
M02C	**Callahan**	**1.82**	**313**		**Pn**	**12 54 22.5**	**+0.9**
NADM	**Allendale**	**1.83**	**202**		**Pb**	**12 54 23.3**	**-0.4**
MOD	**Modoc Plateau**	**1.84**	**18**	Pn	**Pn**	**12 54 23.1**	**+1.2**
MOD				Sn	**Sb**	**12 54 47.5**	**+0.5**
YERR	**Yerington**	**1.84**	**129**		**Pb**	**12 54 23.2**	**-0.7**
LAMM	**Antelope Mount**	**1.86**	**321**		**Pn**	**12 54 23.4**	**+1.2**
GHLM	**Highland Sprin**	**1.87**	**234**		**Pn**	**12 54 22.7**	**+0.4**
KFPM	**Farley Peak**	**1.88**	**255**		**Pn**	**12 54 23.9**	**+1.5**
KIPM	**Iron Peak**	**1.88**	**260**		**Pn**	**12 54 23.7**	**-0.4**
KCSM	**Cold Springs**	**1.90**	**282**		**Pb**	**12 54 25.0**	**+0.1**
NHSM	**Mount Saint He**	**1.92**	**219**		**Pn**	**12 54 23.2**	**+0.3**
HOPS	**Hopland Field**	**1.93**	**233**	Pn	**Pn**	**12 54 23.4**	**+0.3**
GAXM	**Alexander Vall**	**1.94**	**222**		**Pn**	**12 54 23.9**	**+0.7**
KBSM	**Bell Springs**	**1.95**	**264**		**Pb**	**12 54 25.1**	**-0.5**
NAPC	**Atlas Peak**	**1.95**	**208**		**Pn**	**12 54 24.3**	**+1.1**
B040	**Montague**	**1.95**	**329**		**Pn**	**12 54 24.9**	**+1.5**
KCPM	**Cahto Peak**	**1.98**	**257**		**Pn**	**12 54 25.2**	**+1.3**
YBH	**Yreka Blue Hor**	**2.00**	**322**		**Pn**	**12 54 25.0**	**+1.0**
KMRM	**Mail Ridge**	**2.01**	**273**		**Pn**	**12 54 25.8**	**+1.6**
NSHM	**Saint Helena R**	**2.02**	**216**		**Pn**	**12 54 24.5**	**+0.2**
MNHB	**New Hogan Dam**	**2.02**	**174**		**Pn**	**12 54 25.4**	**+1.2**
MAC	**Mark West Spri**	**2.05**	**219**		**Pn**	**12 54 25.5**	**+0.8**
GTC	**Three Chop Rid**	**2.05**	**249**		**Pn**	**12 54 25.8**	**+1.1**
HMR	**Hamilton Ranch**	**2.08**	**196**		**Pb**	**12 54 27.7**	**-0.2**
WAKR	**Walker**	**2.09**	**142**		**Pb**	**12 54 27.1**	**-1.0**
CVS	**Carmenet Viney**	**2.11**	**211**		**Pn**	**12 54 26.1**	**+0.6**
KCRM	**Chalk Rock**	**2.11**	**278**		**Pn**	**12 54 27.5**	**+1.9**
KOMM	**Orleans Mounta**	**2.12**	**303**		**Pn**	**12 54 27.0**	**+1.3**
HOG	**Hogback Mounta**	**2.13**	**347**		**Pb**	**12 54 28.5**	**-0.4**
LKVW	**Lakeview**	**2.13**	**15**		**Pb**	**12 54 28.1**	**-0.7**
KHMM	**Horse Mountain**	**2.14**	**290**		**Pn**	**12 54 27.6**	**+1.6**
CMB	**Columbia Colle**	**2.19**	**166**	Pn	**Pn**	**12 54 27.7**	**+1.1**
GHOM	**Hamilton Openi**	**2.20**	**240**		**Pn**	**12 54 28.4**	**+1.6**
MCUB	**Copperopolis B**	**2.21**	**171**		**Pn**	**12 54 28.2**	**+1.3**
L04D	**Klamath Falls**	**2.25**	**336**	P	**Pn**	**12 54 28.5**	**+1.0**
	baz=155,SNR=12						
L04D				S	**Sg**	**12 55 01.9**	**-0.4**
	baz=155						
L04D	**Klamath Falls**	**2.25**	**336**		**Pb**	**12 54 29.7**	**-1.2**
CPIM	**Pinole Ridge**	**2.34**	**203**		**Pn**	**12 54 29.4**	**+0.8**
RYN	**Ryan**	**2.50**	**127**		**Pn**	**12 54 30.0**	**+0.9**
K04D	**Chiloquin, OR**	**2.51**	**349**	Pb	**Pb**	**12 54 34.3**	**-1.0**
	baz=168,SNR=9.4						
K04D				Sb	**Sg**	**12 55 09.3**	**-1.3**
	baz=168						
KVN	**Kaiserville**	**2.56**	**115**		**Pn**	**12 54 32.4**	**+0.6**
L02E	**Cave Junction**	**2.76**	**317**	Pb	**Pb**	**12 54 38.3**	**-1.1**
	baz=136						
HUMO	**Hull Mountain**	**2.82**	**331**		**Pn**	**12 54 37.3**	**+2.0**
NV11	**Mina Array Sit**	**2.85**	**126**		**Pn**	**12 54 36.8**	**+0.9**
WVOR	**Wild Horse Val**	**2.92**	**38**	Pn	**Pn**	**12 54 37.4**	**+0.6**
WVOR					**Sg**	**12 54 52.5**	**+0.2**
BMN	**Battle Mountai**	**2.96**	**84**		**Pn**	**12 54 38.1**	**+0.7**
MDPB	**Devils Postpil**	**2.97**	**148**		**Pn**	**12 54 39.3**	**+1.8**
J05D	**Fort Rock, OR**	**3.12**	**358**	Pb	**Pb**	**12 54 44.7**	**-1.1**
	baz=178,SNR=27						
J05D				Sb	**Sg**	**12 55 27.5**	**-2.7**
	baz=178						
J04D	**Umpqua Nationa**	**3.17**	**346**	Pb	**Pb**	**12 54 46.1**	**-0.5**
	baz=166						
SAO	**San Andreas Ge**	**3.41**	**185**		**Pn**	**12 54 45.1**	**+1.8**
PINE	**Pine Mountain**	**3.63**	**2**		**Pn**	**12 54 48.3**	**+1.8**
PMPB	**Monarch Peak**	**3.95**	**177**	Pn	**Pn**	**12 54 52.5**	**+1.7**
ELK	**Elko**	**4.49**	**81**		**Pn**	**12 55 01.9**	**+2.5**
R11A	**Troy Canyon, C**	**4.63**	**111**		**Pn**	**12 55 02.2**	**+1.8**
MFID	**Camas Ranch**	**5.10**	**49**		**Pn**	**12 55 08.6**	**+1.9**

KRNET ***23*** *12:59:32.0±0.1, 40.˚27N×72.˚72E, h24km, mb3.2*
ISCJB ***23*** *12:59:33.3±0.8, 40.˚24N±0.˚05×72.˚71E±0.˚05, h10km, Error ellipse: s-maj=7.7km s-min=4.4km az=155.7*
NNC ***23*** *12:59:33.6±2.3, 40.˚46N×72.˚58E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=18.9km s-min=8.9km az=172.0*
SOME ***23*** *12:59:34.2, 40.˚47N×72.˚75E, h10km*

ISC 23 12:59:32.2±1.1, **40.˚28N**±0.˚06×**72.˚75E**±0.˚03, **h10**km, **n53,** σ2°**51**/82, **35C-6D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**1.06**	**9**⇑*iP*		**Pg**	**12 59 52.6**	**0.0**
	baz=11						
ARSB				⇑*iS*	**Sb**	**13 00 07.5**	**+0.7**
BTK	**Batken**	**1.50**	**262**⇑*iP*		**Pb**	**12 59 59.2**	**-0.9**
	baz=62						
BTK				⇑*iS*	**Sg**	**13 00 19.6**	**-0.7**
	baz=62						
ARK	**Arkit**	**1.63**	**339**⇑*iP*		**Pb**	**13 00 01.9**	**-0.6**
	baz=40						
ARK				⇑*iS*	**Sb**	**13 00 23.0**	**-0.2**
	baz=40						
ARLS	**Aral**	**1.98**	**36**⇓*eP*		**Pb**	**13 00 08.3**	**-0.1**
	baz=37						
ARLS				⇓*iS*	**Sg**	**13 00 35.2**	**-0.6**
	baz=37						
AML	**Almayashu**	**1.99**	**21**⇑*iP*		**Pb**	**13 00 08.2**	**-0.4**
	baz=21						
AML				⇑*iS*	**Sb**	**13 00 35.1**	**+1.5**
	baz=21						
AML	**Almayashu**	**1.99**	**21**	P	**Pb**	**13 00 08.0**	**-0.7**
	SNR=132						
UCH	**Uchtor**	**2.36**	**34**⇑*iP*		**Pb**	**13 00 13.6**	**-1.5**
	baz=34						
UCH				⇑*iS*	**Sb**	**13 00 44.1**	**-0.3**
	baz=34						
UCH	**Uchtor**	**2.36**	**34**	P	**Pb**	**13 00 13.5**	**-1.5**
	SNR=16						
MRKS	**Merke**	**2.49**	**8**	*eP*	**Pb**	**13 00 17.9**	**+0.8**
	35nm,0.3s						
MRKS				*eS*	**Sb**	**13 00 50.0**	**+2.1**
	93nm,0.6s						
MRKS	**Merke**	**2.49**	**8**	Pg	**Pb**	**13 00 17.9**	**+0.8**
	35nm,0.3s						
MRKS				Lg	Lg	13 00 50.6	
	51nm,0.3s						
EKS2	**Erkin-Say**	**2.50**	**18**⇑*iP*		**Pb**	**13 00 15.3**	**-2.0**
	baz=18						
EKS2				⇑*iS*	**Sb**	**13 00 47.4**	**-0.9**
	baz=18						
EKS2	**Erkin-Say**	**2.50**	**18**	P	**Pb**	**13 00 16.5**	**-0.9**
	SNR=19						
KZA	**Kyzart**	**2.61**	**46**⇑*iP*		**Pb**	**13 00 17.2**	**-2.0**
	baz=46						
KZA				⇑*iS*	**Sb**	**13 00 49.7**	**-1.8**
	baz=46						
KZA	**Kyzart**	**2.61**	**46**	P	**Pb**	**13 00 17.6**	**-1.7**
	SNR=12						
AAK	**Ala-Archa**	**2.70**	**28**⇑*iP*		**Pn**	**13 00 18.2**	**+2.4**
	baz=29						
AAK				⇑*iS*	**Sb**	**13 00 51.8**	**-2.1**
	baz=29						
AAK	**Ala-Archa**	**2.70**	**28**	P	**Pb**	**13 00 22.0**	**+1.3**
	SNR=15						
AAK	**Ala-Archa**	**2.70**	**28**	⇑Pg	**Pb**	**13 00 22.3**	**+1.7**
	4.5nm,0.3s						
AAK				Lg	Lg	13 00 57.1	
	20nm,0.3s						
NRN	**Naryn**	**2.72**	**64**⇑*iP*		**Pn**	**13 00 18.3**	**+2.1**
	baz=64						
NRN				⇑*iS*	**Sn**	**13 00 52.5**	**+3.1**
	baz=64						
IUG	**Iuzhnay**	**2.78**	**313**	Pg	**Pn**	**13 00 18.2**	**+1.4**
	2.

KTBS	**Karatobe**	**4.51**	**39**	Pg	**Pb**	**13 00 55.1**	**+3.6**
	2.9nm,0.4s							
KTBS				Lg	Lg	13 01 53.5		
	26nm,0.5s							
CHKK	**Chushkaly**	**4.77**	**40**	*eP*	**Pb**	**13 00 59.5**	**+3.7**
	0.9nm,0.1s							
CHKK				*eS*	**Sg**	**13 02 00.6**	**-4.6**
	14nm,0.4s							
CHKK	**Chushkaly**	**4.77**	**40**	Pg	**Pb**	**13 00 59.5**	**+3.7**
	0.9nm,0.1s							
CHKK				Lg	Lg	13 02 00.6		
	14nm,0.4s							
SATY	**Saty**	**5.07**	**55**	*eP*	**Pg**	**13 01 06.1**	**-3.0**
	6.1nm,0.7s							
SATY				*eS*	**Sg**	**13 02 11.8**	**-2.9**
	7.6nm,0.6s							
AB31	**Akbulak array**	**12.77**	**319**	P	**Pn**	**13 02 30.9**	**-2.8**
	0.2nm,0.5s,baz=126,slow=13,SNR=5.4							

IDC 23 13:00:56.5±1.5, 6°31'S×147°13'E, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.4/35, mbtmp3.4/4, ML2.2/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/23, Error ellipse: s-maj=58.6km s-min=23.8km az=106.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.07**	**179**	Pn	Pn	13 01 47.5	+1.1
	4.2nm,0.3s,baz=349,slow=5.2,SNR=14						
PMG				Sn	Sn	13 02 23.8	0.0
	4.6nm,0.3s,baz=330,slow=20,SNR=2.2						
WRA	**Warramunga Arr**	**18.38**	**221**	P	Pn	13 05 11.1	-2.0
	0.0nm,0.3s,baz=46,slow=12,SNR=7.1						
ASAR	**Alice Springs**	**21.43**	**215**	P	P	13 05 46.4	-0.1
	0.7nm,0.7s,baz=52,slow=9.5,SNR=18						
JNU	**Nakatsue**	**42.15**	**340**	LR	LR	13 25 31.7	
	comp=Z,63nm,19.1s,baz=86,slow=35						
ILAR	**Eielson Array**	**85.72**	**23**	P	P	13 13 36.6	-0.5
	0.2nm,0.6s,baz=257,slow=4.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**145.29**	**284**	PKPbc	PKPab	13 20 37.3	+0.1
	1.5nm,0.8s,baz=108,slow=4.1,SNR=6.8						

IDC 23 13:07:22.1±3.5, 62°75S×148°34E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.5/32, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=345.2km s-min=24.7km az=79.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.45**	**169**	Pn	Pn	13 10 59.6	-1.4
	0.0nm,0.3s,baz=337,slow=16,SNR=2.2						
VNDA				Sn	Sn	13 13 42.1	-10
	0.2nm,0.3s,baz=128,slow=12,SNR=5.7						
QSPA	**South Pole Qui**	**27.34**	**180**	P	P	13 13 08.9	+0.4
	0.8nm,0.9s,baz=356,slow=5.2,SNR=5.3						
ASAR	**Alice Springs**	**40.26**	**339**	P	P	13 15 00.7	+0.1
	0.1nm,0.6s,baz=172,slow=8.4,SNR=4.2						
WRA	**Warramunga Arr**	**43.85**	**341**	P	P	13 15 29.4	-0.4
	0.3nm,0.6s,baz=171,slow=6.9,SNR=4.7						

*ANF **23** 13:11:33.9±0.4, 32°.95N×97°.55W, h5km, ML4.0/12, Error ellipse: s-maj=5.5km s-min=3.6km az=99.0*
*NEIC **23** 13:11:34.0±0.9, 32°.93N±0°.04×97°.58W±0°.06, h6km±6km, mb_Lg3.3/53*

ISC 23 13:11:33.8±1.7, 32°92N±0°.04×97°58W±0°.04, h3km±14km, n63, σ1s02/62, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTX	**Lake Whitney,**	**0.93**	**174**	P	**Pg**	**13 11 52.0**	**+0.3**
	baz=354						
WHTX				S	**Sg**	**13 12 04.9**	**+1.1**
	baz=354						
WHTX	**Lake Whitney,**	**0.93**	**174**	Pg	**Pg**	13 11 51.8	+0.1
X34A	**Smith Ranch, M**	**1.69**	**353**		**Pn**	**13 12 03.2**	**-1.1**
X34A				lAmb_Lg		13 12 31.8	
	comp=Z,221nm,1.1s						
ABTX	**Abilene, Hawle**	**1.76**	**261**	P	**Pn**	**13 12 05.2**	**-0.1**
	baz=80						
ABTX				S	**Sb**	**13 12 28.9**	**-0.5**
	baz=80						
ABTX	**Abilene, Hawle**	**1.76**	**261**		**Pn**	**13 12 04.9**	**-0.5**
WMOK	**Wichita Mounta**	**2.07**	**331**	P	**Pn**	**13 12 09.0**	**-0.5**
	baz=151						
WMOK				S	**Sn**	**13 12 35.2**	**-0.7**
	baz=151						
WMOK	**Wichita Mounta**	**2.07**	**331**		**Pn**	**13 12 08.9**	**-0.6**
435B	**Jarrell**	**2.13**	**180**	P	**Pn**	**13 12 10.8**	**+0.3**
	baz=0.2						
435B				S	**Sg**	**13 12 42.1**	**-0.2**
	baz=0.2						
435B	**Jarrell**	**2.13**	**180**		**Pn**	**13 12 10.7**	**+0.3**
435B				lAmb_Lg		13 12 45.9	
	comp=Z,188nm,0.8s						
W35A	**Tecumseh**	**2.30**	**15**		**Pn**	**13 12 12.5**	**-0.2**
FNO	**Franklin**	**2.33**	**4**		**Pn**	**13 12 13.4**	**+0.2**
OKCSW	**OKLAHOMA CITY**	**2.48**	**3**		**Pn**	**13 12 15.3**	**+0.1**
OKCFA	**Oklahoma City**	**2.49**	**2**		**Pn**	**13 12 15.3**	**-0.1**
OKCFA				lAmb_Lg		13 12 51.3	
	comp=Z,172nm,0.8s						
NATX	**Nacogdoches**	**2.73**	**114**	P	**Pn**	**13 12 18.7**	**+0.1**
	baz=296						
NATX				Sb	**Sg**	**13 12 59.8**	**-1.7**
	baz=296						
NATX	**Nacogdoches**	**2.73**	**114**		**Pn**	**13 12 18.2**	**-0.4**
NATX				lAmb_Lg		13 13 04.9	
	comp=Z,140nm,0.9s						
JCT	**Junction City**	**3.08**	**218**	P	**Pn**	**13 12 23.8**	**+0.3**
	baz=37						
JCT				S	**Sn**	**13 13 01.1**	**+0.1**
	baz=37						
JCT	**Junction City**	**3.08**	**218**		**Pn**	**13 12 23.3**	**-0.2**
HKT	**Hockley**	**3.32**	**153**		**Pn**	**13 12 27.0**	**+0.4**
TUL1	**Leonard**	**3.33**	**26**	P	**Pn**	**13 12 27.1**	**+0.3**
	baz=207						
TUL1				S	**Sn**	**13 13 07.4**	**+0.5**
	baz=207						
TUL1	**Leonard**	**3.33**	**26**		**Pn**	**13 12 26.7**	**-0.2**
TUL1				lAmb_Lg		13 13 22.0	
	comp=Z,107nm,1.2s						
U32A	**Winter Ranch,**	**3.64**	**342**		**Pn**	**13 12 30.5**	**-0.7**
MIAR	**Mount Ida**	**3.71**	**63**	P	**Pn**	**13 12 31.1**	**-1.0**
	baz=245						
MIAR				S	**Sn**	**13 13 16.4**	**+0.1**
	baz=245						
MIAR	**Mount Ida**	**3.71**	**63**		**Pn**	**13 12 30.4**	**-1.7**
MIAR				lAmb_Lg		13 13 36.0	
	comp=Z,59nm,0.8s						
W39A	**Magazine**	**3.88**	**53**	P	**Pn**	**13 12 34.1**	**-0.3**
	baz=235						
W39A				Sb	**Sb**	**13 13 33.0**	**+2.6**
	baz=235						
W39A	**Magazine**	**3.88**	**53**	Pn	**Pn**	**13 12 34.9**	**+0.5**
W39A				lAmb_Lg		13 13 43.3	
	comp=Z,86nm,0.8s						
AMTX	**Amarillo**	**3.93**	**301**	P	**Pn**	**13 12 34.9**	**-0.3**
	baz=119						
AMTX				Sb	**Sb**	**13 13 34.8**	**+2.8**
	baz=119						
AMTX	**Amarillo**	**3.93**	**301**		**Pn**	**13 12 34.6**	**-0.6**
Z41A	**Richland Creek**	**4.02**	**84**	P	**Pn**	**13 12 35.4**	**-1.0**
	baz=267						
Z41A				S	**Sn**	**13 13 23.3**	**-0.8**
	baz=267						
Z41A	**Richland Creek**	**4.02**	**84**		**Pn**	**13 12 35.4**	**-1.0**
Z41A				lAmb_Lg		13 13 44.0	
	comp=Z,59nm,0.8s						
X40A	**Basin Creek Fa**	**4.25**	**67**	P	**Pn**	**13 12 37.9**	**-1.6**
	baz=250						
X40A	**Basin Creek Fa**	**4.25**	**67**		**Pn**	**13 12 37.9**	**-1.6**
MSTX	**Muleshoe**	**4.46**	**285**		**Pn**	**13 12 41.8**	**-0.7**
HHAR	**Hobbs**	**4.50**	**41**	Pn	**Pn**	**13 12 42.1**	**-0.8**
UALR	**University of**	**4.73**	**66**	Pn	**Pn**	**13 12 44.9**	**-1.2**
UALR				lAmb_Lg		13 14 13.0	
	comp=Z,38nm,0.8s						
833A	**Chaparral WMA,**	**4.84**	**199**		**Pn**	**13 12 48.6**	**+0.9**
833A				lAmb_Lg		13 14 21.7	
	comp=Z,56nm,0.8s						
W41B	**Gary Mavity, V**	**4.96**	**62**		**Pn**	**13 12 48.1**	**-1.1**
WHAR	**Wooly Hollow**	**4.99**	**60**	Pn	**Pn**	**13 12 48.5**	**-1.1**
U40A	**Yellville**	**5.19**	**47**		**Pn**	**13 12 50.8**	**-1.6**
CLNB	**Carlsbad**	**5.36**	**265**		**Pn**	**13 12 54.1**	**-0.7**
GDL2	**Guadalupe Moun**	**5.77**	**265**	Pn	**Pn**	**13 12 59.7**	**-0.9**
MGMO	**Mountain Grove**	**6.07**	**44**	Pn	**Pn**	**13 13 03.6**	**-0.8**
MGMO				lAmb_Lg		13 14 58.1	
	comp=Z,39nm,0.8s						
CBKS	**Cedar Bluff**	**6.13**	**344**		**Pn**	**13 13 04.1**	**-1.3**
CBKS				lAmb_Lg		13 14 56.5	
	comp=Z,50nm,0.9s						
TX31	**Lajitas Ar. Si**	**6.33**	**237**		**Pn**	**13 13 07.2**	**-1.0**
TX32	**Lajitas Array**	**6.33**	**237**		**Pn**	**13 13 07.2**	**-0.9**
MNTX	**Cornudas Mount**	**6.72**	**262**		**Pn**	**13 13 12.6**	**-0.9**
T25A	**Trinidad**	**7.01**	**309**		**Pn**	**13 13 16.5**	**-1.1**
PBMO	**Poplar Bluff**	**7.02**	**55**	lAmb_Lg		13 15 27.0	
	comp=Z,27nm,0.9s						
CCM	**Cathedral Cave**	**7.28**	**43**	Pn	**Pn**	**13 13 20.4**	**-0.7**
KSCO	**Kaye Shedlock'**	**7.33**	**327**	Pn	**Pn**	**13 13 21.3**	**-0.6**
KSCO				lAmb_Lg		13 15 36.1	
	comp=Z,46nm,0.8s						
ANMO	**Albuquerque**	**7.65**	**288**	lAmb_Lg		13 15 42.1	
	comp=Z,25nm,0.9s						
ANMO	**Albuquerque**	**7.65**	**288**	lAmb_Lg		13 15 39.2	
	comp=Z,34nm,1.1s						
BNM	**Barren Site**	**7.65**	**282**	Pn	**Pn**	**13 13 26.5**	**0.0**
LPM	**Los Pinos Moun**	**7.68**	**283**	Pg	Pg	13 13 54.8	-6.1
SDCO	**Great Sand Dun**	**8.06**	**309**		**Pn**	**13 13 32.5**	**+0.4**
SDCO				lAmb_Lg		13 15 53.5	
	comp=Z,27nm,1.1s						
S44A	**Carbondale**	**8.30**	**53**	lAmb_Lg		13 15 54.2	
	comp=Z,19nm,0.9s						
SIUC	**Southern Illin**	**8.34**	**53**	lAmb_Lg		13 16 06.5	
	comp=Z,23nm,1.0s						
BGNE	**Belgrade**	**8.48**	**357**	Pn	**Pn**	**13 13 35.0**	**-2.7**
Q24A	**Divide**	**8.60**	**317**	lAmb_Lg		13 16 17.0	
	comp=Z,28nm,0.8s						
121A	**Cookes Peak, D**	**8.61**	**270**	lAmb_Lg		13 16 11.4	
	comp=Z,29nm,0.8s						
S22A	**4UR Ranch, Cre**	**8.96**	**305**	lAmb_Lg		13 16 40.3	
	comp=Z,17nm,1.1s						
P43A	**Skaggs, Pawnee**	**9.34**	**42**	lAmb_Lg		13 16 35.0	
	comp=Z,29nm,1.0s						
N41A	**Harden Midland**	**9.46**	**33**	lAmb_Lg		13 16 38.9	
	comp=Z,22nm,0.8s						
OLIL	**Olney**	**9.63**	**50**	lAmb_Lg		13 16 54.9	
	comp=Z,31nm,1.2s						

*IDC **23** 13:12:10.9±0.9, 20°.72N×146°.88E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.8/46, mbtmp3.9/9, ML3.9/1, Error ellipse: s-maj=33.3km s-min=20.2km az=79.0*
*NEIC **23** 13:12:12.8±1.3, 20°.7N±0°.1×146°.8E±0°.2, h10km±1km, mb4.5/17*
*ISCJB **23** 13:12:15.8±0.6, 20°.67N±0°.06×146°.8E±0°.1, h44km, mb3.8/8, Error ellipse: s-maj=14.3km s-min=9.2km az=175.4*

ISC 23 13:12:17.6±0.7, 20°.7N±0°.1×146°.8E±0°.1, h44km, n35, σ0s83/37, mb4.3/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INU	**Inuyama**	**16.93**	**332**	P	**P**	**13 16 12.7**	**-0.1**
JNU	**Nakatsue**	**18.78**	**315**	P	**P**	**13 16 33.2**	**0.0**
	0.3nm,0.3s,baz=138,slow=15,SNR=3.6						
JNU	**Nakatsue**	**18.78**	**315**	P	**P**	**13 16 32.9**	**-0.3**
JNU				lAmb	lAmb	13 16 34.1	
	comp=Z,54nm,1.4s						
YOJ	**Yonaguni jima**	**22.23**	**284**	P	**P**	**13 17 09.1**	**-1.6**
KSRS	**Korea Array**	**23.38**	**320**	P	**P**	**13 17 22.1**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=144,slow=8.5,SNR=7.7						
PEA0B	**Petropavlovsk-**	**33.45**	**12**	P	**P**	**13 18 53.2**	**+1.0**
PET	**Petropavlovsk**	**33.56**	**13**	P	**P**	**13 18 54.7**	**+1.5**
MTN	**Manton Dam**	**36.69**	**206**	P	**P**	**13 19 21.5**	**+1.0**
SBUM	**Sibu**	**38.23**	**246**	P	**P**	**13 19 34.2**	**+0.6**
SBUM				lAmb	lAmb	13 19 57.7	
	comp=Z,11nm,1.5s						
WRAB	**Tennant Creek**	**42.16**	**198**	P	**P**	**13 20 04.1**	**-2.0**
WRAB				lAmb	lAmb	13 20 21.2	
	comp=Z,22nm,1.7s						
WRA	**Warramunga Arr**	**42.17**	**198**	P	**P**	**13 20 05.8**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=18,slow=8.8,SNR=3.7						
WRA				PcP	**PcP**	**13 22 00.6**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=8.1,slow=3.4,SNR=4.8						
FITZ	**Fitzroy Crossi**	**43.75**	**210**	P	**P**	**13 20 19.2**	**+0.3**
CM31	**Chiang Mai Arr**	**44.98**	**276**	P	**P**	**13 20 29.4**	**+0.5**
CM31				lAmb	lAmb	13 22 07.0	
	comp=Z,4.1nm,1.0s						
ASAR	**Alice Springs**	**45.83**	**197**	P	**P**	**13 20 34.9**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=14,slow=6.1,SNR=4.7						
ASAR				PcP	**PcP**	**13 22 12.6**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=21,slow=3.2,SNR=4.1						
ARMA	**Armidale**	**51.03**	**175**	P	**P**	**13 21 15.9**	**+0.4**
TAPN	**Taplejung**	**53.92**	**289**	*eP*	**P**	**13 21 38.5**	**+1.1**
ODAN	**Odare**	**54.26**	**289**	*eP*	**P**	**13 21 40.6**	**+0.8**
JIRN	**Jiri**	**55.22**	**290**	*eP*	**P**	**13 21 48.1**	**+1.1**
	comp=Z,24nm,0.7s						
GUN	**Gumba**	**55.47**	**290**	*eP*	**P**	**13 21 49.8**	**+1.1**
	comp=Z,17nm,0.9s						
PKIN	**Phulchoki**	**55.93**	**290**	*eP*	**P**	**13 21 52.4**	**+0.5**
	comp=Z,5.5nm,0.5s						
KKN	**Kakani**	**56.01**	**290**	*eP*	**P**	**13 21 53.2**	**+0.8**
DMN	**Daman**	**56.19**	**290**	*eP*	**P**	**13 21 54.5**	**+0.8**
GKN	**Gorkha**	**56.55**	**290**	*eP*	**P**	**13 21 56.8**	**+0.6**
ZAA0	**Zalesovo Array**	**57.06**	**322**	P	**P**	**13 21 58.6**	**-0.6**
ZALV	**Zalesovo Beam**	**57.06**	**322**	P	**P**	**13 21 58.8**	**-0.4**
	comp=Z,4.6nm,0.5s,baz=106,slow=7.9,SNR=24						
DANN	**Dangsing**	**57.27**	**291**	*eP*	**P**	**13 22 02.5**	**+1.0**
	comp=Z,42nm,0.8s						
MK31	**Makanchi Array**	**57.82**	**313**	P	**P**	**13 22 04.8**	**+0.1**
MKAR	**Makanchi Array**	**57.82**	**313**	P	**P**	**13 22 05.0**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=86,slow=7.9,SNR=16						
MAKZ	**Makanchi**	**58.04**	**313**	P	**P**	**13 22 06.0**	**-0.3**
MAKZ				lAmb	lAmb	13 22 07.0	
	comp=Z,2.8nm,0.7s						
KURK	**Kurchatov**	**60.47**	**317**	P	**P**	**13 22 22.5**	**-0.4**
KURK				lAmb	lAmb	13 22 23.6	
	comp=Z,3.8nm,0.7s						
BRVK	**Borovoye**	**65.65**	**320**	P	**P**	**13 22 57.5**	**+0.3**
ABKAR	**Akbulak array**	**72.57**	**317**	P	**P**	**13 23 39.8**	**-0.4**
YKA	**Yellowknife Ar**	**75.78**	**28**	P	**P**	**13 23 57.9**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=283,slow=5.6,SNR=5.4						
NVAR	**Mina Array Bea**	**81.14**	**52**	P	**P**	**13 24 28.7**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=273,slow=5.1,SNR=3.5						
FINES	**FINESS Array B**	**85.50**	**336**	P	**P**	**13 24 49.3**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=62,slow=3.3,SNR=9.0						

*IDC **23** 13:15:47.4±43.0, 23°.52S×177°.34W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/30, mbtmp4.0/3, Error ellipse: s-maj=798.6km s-min=150.1km az=87.0*
*NEIC **23** 13:16:57.1±1.2, 25°.6S±0°.2×180°.0E±0°.3, h513km±26km, mb4.6/18*

ISC 23 13:16:55.1±1.9, 25°.6S±0°.1×179°.9W±0°.3, h500km, n25, σ1s13/25, mb4.4/9, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**16.41**	**201**	P	**P**	**13 20 21.2**	**+1.3**
NNZ	**Nelson**	**16.52**	**198**	P	**P**	**13 20 21.7**	**+0.7**
CMWZ	**Cape Campbell**	**16.80**	**195**	P	**P**	**13 20 26.3**	**+2.5**
THZ	**Tophouse**	**17.16**	**199**	P	**P**	**13 20 27.5**	**0.0**
LTZ	**Lake Taylor**	**18.28**	**199**	P	**P**	**13 20 38.9**	**+1.0**
OXZ	**Oxford**	**18.85**	**199**	P	**P**	**13 20 44.8**	**+1.8**
ARMA	**Armidale**	**25.57**	**253**	P	**P**	**13 21 45.1**	**+1.3**
ARMA				lAmb	lAmb	13 22 18.4	
	comp=Z,34nm,1.5s						
EIDS	**Eidsvold**	**26.20**	**264**	P	**P**	**13 21 49.2**	**0.0**
EIDS				lAmb	lAmb	13 22 45.0	
	comp=Z,18nm,1.5s						
TOO	**Toolangi**	**31.64**	**239**	P	**P**	**13 22 37.0**	**+0.5**
TOO				lAmb	lAmb	13 23 10.1	
	comp=Z,31nm,1.4s						
STKA	**Stephens Creek**	**34.22**	**250**	P	**P**	**13 22 59.1**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=104,slow=12,SNR=6.4						
STKA	**Stephens Creek**	**34.22**	**250**	P	**P**	**13 22 59.1**	**+0.6**
PMG	**Port Moresby**	**35.21**	**291**	P	**P**	**13 23 06.8**	**-0.1**
KWAJ	**Kwajalein Atol**	**36.34**	**339**	P	**P**	**13 23 17.4**	**+1.2**
COEN	**Coen**	**36.54**	**281**	P	**P**	**13 23 18.3**	**+0.2**
BBOO	**Buckleboo**	**38.90**	**249**	P	**P**	**13 23 37.0**	**-0.2**
BBOO				lAmb	lAmb	13 25 02.3	
	comp=Z,59nm,1.9s						
AS31	**Alice Springs**	**41.90**	**262**	P	**P**	**13 24 01.2**	**-0.2**
ASAR	**Alice Springs**	**41.90**	**262**	P	**P**	**13 24 00.8**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=88,slow=7.5,SNR=65						
ASAR	**Alice Springs**	**41.90**	**262**	P	**P**	**13 24 00.8**	**-0.5**
WRAB	**Tennant Creek**	**42.43**	**268**	P	**P**	**13 24 04.2**	**-1.3**
WRAB				lAmb	lAmb	13 24 31.9	
	comp=Z,6.6nm,0.6s						
WRA	**Warramunga Arr**	**42.44**	**268**	P	**P**	**13 24 04.3**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=103,slow=7.9,SNR=16						
WRA	**Warramunga Arr**	**42.44**	**268**	P	**P**	**13 24 04.3**	**-1.3**
MTN	**Manton Dam**	**47.73**	**276**	P	**P**	**13 24 45.6**	**-0.7**
KNRA	**Kununurra**	**48.82**	**271**	P	**P**	**13 24 54.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**50.84**	**267**	P	**P**	**13 25 09.3**	**0.0**
FITZ				lAmb	lAmb	13 26 14.0	
	comp=Z,28nm,1.8s						
SYO	**Syowa Base**	**81.36**	**193**	*eP*	**P**	**13 28 16.3**	**-2.2**

TRN 23 13:30:46.0, 10°.83N×62°.08W, h103km, MD3.6, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.69**	**105**	*iP*	Pn	13 31 03.9	+0.3
TRN				*eS*	Sn	13 31 16.3	-0.5
TBH	**Brigand Hill**	**1.05**	**109**	*eP*	Pn	13 31 08.1	+0.9
TBH	**Brigand Hill**	**1.05**	**109**	*e*	Pn	13 31 13.7	+6.5
TBH				*eS*	Sn	13 31 22.5	-0.7
GRGR	**Grenville**	**1.36**	**18**	*eP*	Pn	13 31 10.1	-0.8
GRGR				*eS*	Sn	13 31 28.9	-0.7
GRHS	**Sauteurs**	**1.46**	**17**	*eP*	Pn	13 31 12.3	+0.4
GRHS				*eS*	Sn	13 31 31.2	-0.2
GRSS	**Sisters**	**1.53**	**17**	*eP*	Pn	13 31 13.6	+0.8
GRSS				*eS*	Sn	13 31 33.1	-0.1
TOSP	**Speyside**	**1.59**	**73**	*eP*	Pn	13 31 13.6	+0.1
TOSP	**Speyside**	**1.59**	**73**	*e*	Pn	13 31 19.4	+5.9
TOSP				*eS*	Sn	13 31 34.1	-0.3
SVB	**Belmont**	**2.56**	**18**	*eP*	Pn	13 31 26.4	+0.3
SVB				*eS*	Sn	13 31 55.9	-0.9
SVCV	**St. Vincent, C**	**2.60**	**20**	*eP*	Pn	13 31 26.5	-0.1
SVCV				*eS*	Sn	13 31 56.5	-1.1
SVV	**Soufriere Volc**	**2.62**	**19**	*eP*	Pn	13 31 27.0	+0.2
SVV				*eS*	Sn	13 31 57.0	-1.1
MCLT	**Moule a Chique**	**3.08**	**21**	*eP*	Pn	13 31 33.0	+0.2
MCLT				*eS*	Sn	13 32 06.7	-2.3
SLB	**Belfond**	**3.15**	**19**	*eP*	Pn	13 31 33.7	-0.2
SLB				*eS*	Sn	13 32 09.5	-1.4
SLBI	**Saint Lucia, B**	**3.36**	**19**	*eP*	Pn	13 31 36.3	-0.3
SLBI				*eS*	Sn	13 32 14.3	-1.3

*BJI **23** 13:39:23.0±0.0, 36°.10N×118°.10W, h5km, mb4.7/4*
*ISCJB **23** 13:39:25.8±0.2, 36°.129N±0°.009×118°.03W±0°.01, h5km±2km, mb4.2/14, MS3.9/6, Error ellipse: s-maj=1.7km s-min=1.5km az=7.3*
*ANF **23** 13:39:25.9±0.2, 36°.10N×118°.04W, ML4.8/46, ML4.7/46, Error ellipse: s-maj=2.0km s-min=1.6km az=105.0*
*REN **23** 13:39:25±1.7, 36°.10N±0°.01×118°.05W±0°.01, h5km±3km*
*IDC **23** 13:39:25.9±0.6, 36°.11N×117°.97W, h0km, mb4.3/14, mb1 4.4/21, mb1mx4.1/53, mbtmp4.2/21, ML3.7/7, MS3.6/12, Ms1 3.6/12, ms1mx3.4/49, Error ellipse: s-maj=14.5km s-min=8.3km az=68.0*
*PAS **23** 13:39:26.3±1.6, 36°.14N±0°.01×118°.07W±0°.02, h2km±3km, Mwr4.3, mb4.6/31(NEIC), Mwr4.2(REN), Mwr4.3(NEIC)*
*SCEDC **23** 13:39:26.5±1.5, 36°.11N±0°.01×118°.06W±0°.02, h3km±3km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=2.48; Mθθ=0.85; Mϕϕ3.33; Mrθ=0.85; Mθϕ=0.15; Mϕr=0.20; Fault plane solution: Mo3.12000×10¹⁵ NP1:ϕ=23.03000°, δ51.52000°, λ=60.32000°. NP2:ϕ=160.54000°, δ47.14000°, λ=121.92000°. Principal axes: T 3.3435, Plg2.0000°, Azm93.0000°; N -0.5021, Plg23.0000°, Azm184.0000°; P -2.8414, Plg67.0000°, Azm357.0000°;*

ISC 23 13:39:26.4±1.0, 36°12N±0°.01×118°06W±0°.02, h5km±6km, n323, σ1s30/355, mb4.5/26, MS3.9/6, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.17**	**90**		**Pg**	**13 39 29.7**	**-0.1**
RVCM	**Rose Valley Ce**	**0.18**	**127**		**Pg**	**13 39 30.1**	**+0.2**
WCHM	**Chimney Peak**	**0.23**	**182**		**Pg**	**13 39 31.2**	**+0.2**
JRC2	**Joshua Ridge**	**0.25**	**123**		**Pg**	**13 39 31.4**	**+0.2**
JRC2					**Sg**	**13 39 35.3**	**+0.9**
WCSM	**Coso Springs S**	**0.26**	**110**		**Pg**	**13 39 31.5**	**+0.1**
VPEM	**Volcano Peak E**	**0.26**	**130**		**Pg**	**13 39 31.8**	**+0.3**
CWC	**Cottonwood Cre**	**0.32**	**358**	P	**Pg**	**13 39 32.0**	**-0.8**
	baz=178						
CWC				S	**Sg**	**13 39 35.9**	**-1.1**
	baz=178						
CWC	**Cottonwood Cre**	**0.32**	**358**		**Pg**	**13 39 31.9**	**-0.8**
CWC					**Sg**	**13 39 36.0**	**-1.1**
TOW	**Tower One**	**0.39**	**142**		**Pg**	**13 39 34.5**	**-1.3**
DAC	**Darwin (Calif)**	**0.41**	**67**	Pg	**Pg**	**13 39 36.4**	**+0.2**
WORM	**Onyx Ranch**	**0.44**	**199**		**Pg**	**13 39 35.0**	**+0.1**
MPMC	**Manual Prospec**	**0.47**	**97**	P	**Pg**	**13 39 34.9**	**-0.5**
	baz=280,SNR=1000						
MPMC				S	**Sg**	**13 39 41.4**	**-0.2**
	baz=280						
MPMC	**Manual Prospec**	**0.47**	**97**		**Pg**	**13 39 35.2**	**-0.2**
MPMC					**Sg**	**13 39 41.9**	**+0.3**
WHFM	**Hanning Flat**	**0.48**	**209**		**Pg**	**13 39 35.8**	**+0.2**
CGO	**Cerro Gordo**	**0.48**	**26**		**

GSC				S		Sn	13 40 08.5	-0.7
	baz=310							
GSC	Goldstone, Bar	1.31	128	Pg		Pg	13 39 50.6	-0.8
FLSC	Flash Two Peak	1.42	144			Pn	13 39 51.7	-1.1
SBB	Saddle Back Bu	1.44	172			Pn	13 39 52.8	-0.3
ALPC	Antelope	1.44	188			Pb	13 39 53.1	-0.6
SHOC	Shoshone, Teco	1.47	98	P		Pn	13 39 52.3	-1.1
	baz=280,SNR=1000							
SHOC				S		Sn	13 40 12.8	-0.2
	baz=280							
SHOC	Shoshone, Teco	1.47	98			Pn	13 39 52.3	-1.1
AMDNV	Amargosa	1.48	76			Pn	13 39 52.7	-0.9
LEOC	Leona Valley	1.50	188			Pb	13 39 54.1	-0.5
RRX	Edison Barstow	1.51	145	P		Pn	13 39 54.0	-0.1
	baz=326,SNR=90							
RRX				S		Sg	13 40 14.8	-0.2
	baz=326							
RRX	Edison Barstow	1.51	145			Pn	13 39 54.1	-0.1
MPI	Mount Pinos, F	1.57	214			Pn	13 39 55.0	-0.2
ABL	Mount Abel	1.58	217			Pn	13 39 55.2	0.0
TMB	Temblor Range	1.58	230			Pb	13 39 55.8	-0.3
FRI	Friant	1.59	304			Pn	13 39 54.4	-0.7
OSI	Osito Audit: C	1.59	200	P		Pb	13 39 55.5	-0.7
	baz=19,SNR=207							
OSI				Sb		Sg	13 40 17.7	+0.2
	baz=19							
OSI	Osito Audit: C	1.59	200	Pn		Pb	13 39 55.8	-0.4
BCW	Bitter Crk WRg	1.61	224			Pb	13 39 55.8	-0.8
CRGC	Crocker Grade	1.61	238			Pb	13 39 56.3	-0.3
MLAC	Mammoth, Mammo	1.63	338	P		Pn	13 39 56.3	+0.3
	baz=157,SNR=1000							
MLAC				S		Sb	13 40 18.1	0.0
	baz=157							
MLAC	Mammoth, Mammo	1.63	338			Pn	13 39 56.3	+0.3
BENR	Benton	1.65	346			Pn	13 39 56.2	0.0
CARC	Carrizo Plain	1.66	241			Pb	13 39 56.9	-0.5
OMMB	Old Mammoth Mi	1.67	334			Pn	13 39 56.6	+0.1
MCSM	Casa Diablo Ho	1.68	337			Pn	13 39 57.1	+0.5
TPNV	Topopah Spring	1.68	60	P		Pn	13 39 56.4	-0.2
	baz=242,SNR=1000							
TPNV				S		Sb	13 40 19.2	-0.2
	baz=242							
TPNV	Topopah Spring	1.68	60			Pn	13 39 56.2	-0.3
YEG	Yeguas Mountai	1.68	247			Pb	13 39 57.3	-0.5
MDPB	Devils Postpil	1.72	332			Pn	13 39 57.5	+0.3
IR2C	Iron Canyon	1.75	189			Pn	13 39 57.5	+0.2
SMMC	Simmler	1.76	244	P		Pb	13 39 58.2	-1.0
	baz=62,SNR=838							
SMMC				S		Sb	13 40 21.4	-0.2
	baz=62							
SMMC	Simmler	1.76	244			Pb	13 39 58.2	-1.0
CHFC	Chilao Flat St	1.78	179			Pb	13 39 58.8	-0.8
RYS	Reyes Peak	1.81	216			Pb	13 39 59.4	-0.6
PAGB	Antelope Grade	1.82	258			Pn	13 39 58.6	+0.3
XTL	Crystal Lake,	1.82	175			Pn	13 39 58.5	0.0
OAT	Oat Mountain	1.82	194			Pb	13 40 00.2	-0.1
TUQ	Turquoise Moun	1.87	111	P		Pn	13 39 58.1	-0.9
	baz=293,SNR=1000							
TUQ	Turquoise Moun	1.87	111			Pn	13 39 58.2	-0.9
DSCC	Desert Studies	1.87	121			Pn	13 39 57.9	-1.1
DECC	Green Verdugo	1.87	187	P		Pn	13 39 59.5	+0.5
	baz=6.6,SNR=118							
MMIM	Miami Mountain	1.87	314			Pb	13 40 00.1	-1.0
PKM	Mcpherson Peak	1.88	230	P		Pn	13 39 59.9	+0.5
	baz=48,SNR=743							
PKM				S		Sb	13 40 24.3	-0.9
	baz=48							
PKM	Mcpherson Peak	1.88	230			Pb	13 40 00.1	-1.2
MWC	Mount Wilson	1.89	180			Pn	13 39 60.0	+0.6
BCH	Branch Mountai	1.89	241			Pn	13 39 59.9	+0.5
BFSC	Mount Baldy Ra	1.90	170	P		Pn	13 39 59.5	-0.1
	baz=350,SNR=683							
BFSC				Sb		Sg	13 40 26.9	-0.6
	baz=350							
BFSC	Mount Baldy Ra	1.90	170			Pn	13 39 60.0	+0.4
HEC	Hector,Ludlow	1.91	132	P		Pn	13 39 58.9	-0.7
	baz=313,SNR=859							
HEC				Sb		Sg	13 40 26.7	-0.9
	baz=313							
HEC	Hector,Ludlow	1.91	132			Pn	13 39 58.9	-0.7
SSK	Sunset Peak	1.93	171			Pb	13 40 00.6	-1.4
SLCC	Black Canyon	1.93	195			Pn	13 39 57.8	-2.1
PASC	Pasadena Art C	1.94	183			Pn	13 40 00.3	+0.3
PEM	Pine Mountain	1.95	175			Pn	13 40 00.7	+0.6
DJJ	Donna J Jenkin	2.03	189			Pn	13 40 01.6	+0.4
PSRC	Puddingstone R	2.03	174			Pb	13 40 02.6	-1.1
BBRC	Big Bear Solar	2.07	153	P		Pn	13 40 01.6	-0.4
	baz=334,SNR=93							
BBRC				Sb		Sg	13 40 32.3	-0.7
	baz=334							
FIGC	Figueroa Mtn.	2.10	229			Pb	13 40 04.0	-0.9
MTPC	Mountain Pass	2.13	106			Pn	13 40 02.0	-0.8
SBC	Santa Barbara	2.15	219	P		Pn	13 40 02.5	-0.3
	baz=38,SNR=115							
SBC				Sb		Sg	13 40 34.9	-0.5
	baz=38							
SBC	Santa Barbara	2.15	219			Pg	13 40 06.3	-1.2
BLG	Laguna Peak, P	2.17	203	P		Pn	13 40 03.1	+0.1
	baz=22,SNR=27							
BLG				Sb		Sb	13 40 33.1	-0.1
	baz=22							
PMPB	Monarch Peak	2.22	273			Pn	13 40 04.1	+0.2
SYP	Santa Ynez Pea	2.23	225			Pb	13 40 06.8	-0.4
NV11	Mina Array Sit	2.31	358			Pn	13 40 04.9	-0.3
NVAR	Mina Array Bea	2.32	355	Pn		Pn	13 40 05.3	0.0
	25nm,0.3s,baz=178,slow=16,SNR=311							
NVAR					Pg	Pb	13 40 08.7	-0.1
	122nm,0.3s,baz=174,slow=17,SNR=173							
NVAR					Lg	Lg	13 40 38.6	
	87nm,0.3s,baz=192,slow=16,SNR=4.3							
SME	Santa Rosa Min	2.36	166			Pn	13 40 06.0	+0.3
GMRC	Granite Mounta	2.37	123	P		Pn	13 40 04.6	-1.4
	baz=305,SNR=239							
GMRC	Granite Mounta	2.37	123			Pn	13 40 04.6	-1.4
SHPR	Sheep Range	2.38	80			Pn	13 40 06.0	-0.1
BLDC	Black Mountain	2.38	257			Pn	13 40 06.3	+0.2
FMP	Fort Macarthur	2.41	185	P		Pn	13 40 06.8	+0.4
	baz=4.4,SNR=32							
DCD	Diablo Creek	2.44	249			Pn	13 40 07.6	+0.8
BLAC	Blackrock camp	2.46	146			Pn	13 40 07.1	-0.2
SCZ2	Santa Cruz Isl	2.48	212	P		Pn	13 40 07.2	-0.1
	baz=30,SNR=61							
GATR	Gnd/Air Tx Cnt	2.53	233			Pb	13 40 10.1	-2.2
RYN	Ryan	2.53	352			Pn	13 40 08.1	-0.2
EW2	E Wide Canyon	2.56	147			Pn	13 40 08.4	-0.1
POB	Polly Butte	2.60	159			Pn	13 40 09.3	+0.2
DGR	Domenigoni Val	2.61	160			Pn	13 40 09.4	+0.2
MURC	Murrieta	2.61	164	P		Pn	13 40 09.4	+0.2
	baz=345,SNR=67							
WAKR	Walker	2.62	336			Pn	13 40 10.6	+1.1
CMB	Columbia Colle	2.67	317			Pn	13 40 11.8	+1.8
BELC	Belle Mtn. Jos	2.71	141	P		Pn	13 40 10.2	-0.5
	baz=322,SNR=51							
CIS	Catalina Islan	2.72	186	P		Pn	13 40 10.7	-0.1
	baz=5.9,SNR=38							
CIS				Sb		Sg	13 40 52.0	-1.9
	baz=5.9							
CRY	Cary Ranch	2.77	156			Pn	13 40 11.9	+0.4
SAO	San Andreas Ge	2.80	284			Pn	13 40 12.2	+0.3
PFO	Pinyon Flats O	2.83	152	P		Pn	13 40 12.0	-0.2
	baz=333,SNR=71							
PFO				S		Sn	13 40 46.8	0.0
	baz=333							
PFO	Pinyon Flats O	2.83	152	Pn		Pn	13 40 12.1	-0.2
	8.5nm,0.3s,baz=337,slow=14,SNR=109							
PFO					Lg	Lg	13 40 55.2	
	102nm,0.3s,baz=58,slow=18,SNR=13							
XPFO	Pion Flat	2.83	152			Pn	13 40 11.9	-0.4
XPFO	Pion Flat	2.83	152			Pn	13 40 12.1	-0.2
KVN	Kaiserville	2.93	359			Pn	13 40 13.7	-0.1
R11A	Troy Canyon, C	2.98	41	P		Pn	13 40 13.7	-0.7
	baz=223,SNR=43							
R11A				Sb		Sg	13 40 59.5	-2.6
	baz=223							
R11A	Troy Canyon, C	2.98	41			Pn	13 40 13.7	-0.7
YERR	Yerington	3.01	342			Pn	13 40 15.2	+0.3
IRM	Iron Mountain	3.09	128	P		Pn	13 40 14.4	-1.3
	baz=311,SNR=74							
IRM	Iron Mountain	3.09	128			Pn	13 40 14.5	-1.3
SNCC	San Nicolas Is	3.10	203	P		Pn	13 40 15.7	-0.3
	baz=22,SNR=11							
SNCC	San Nicolas Is	3.10	203			Pn	13 40 15.8	-0.2
NEE2	Needles Airpor	3.12	115	P		Pn	13 40 15.0	-1.2
	baz=297,SNR=24							
NEE2	Needles Airpor	3.12	115			Pn	13 40 15.4	-0.8
SCI2	San Clemente I	3.15	187	P		Pn	13 40 16.7	+0.1
	baz=7.0,SNR=13							
PNTR	Pine Nut	3.21	338			Pn	13 40 18.4	+0.8
BC3	Big Chuckawall	3.26	138	P		Pn	13 40 17.0	-1.2
	baz=320,SNR=28							
109C	Camp Elliot, M	3.31	166	P		Pn	13 40 18.8	-0.1
	baz=347,SNR=8.9							
109C	Camp Elliot, M	3.31	166			Pn	13 40 19.0	+0.2
RUBR	Rubicon Trail	3.37	331			Pn	13 40 22.5	+2.7
VCNR	Virginia City	3.41	339			Pn	13 40 21.2	+0.7
MONP2	Monument Peak	3.49	157	P		Pn	13 40 20.9	-0.5
	baz=338,SNR=20							
W13A	Hualapai Mount	3.55	105			Pn	13 40 21.6	-0.7
BAR	Barrett	3.62	161			Pn	13 40 23.2	+0.1
AFDM	Forest Hills D	3.65	322			Pn	13 40 26.3	+2.8
SWSC	Sam W. Stewart	3.67	149	P		Pn	13 40 22.6	-1.2
	baz=330							
PAHR	Pah Rah Range	3.73	344			Pn	13 40 25.4	+0.6
Y12C	Blythe	3.75	128	P		Pn	13 40 23.3	-1.4
	baz=310,SNR=35							
Y12C	Blythe	3.75	128			Pn	13 40 23.2	-1.6
IKP	In-Ko-Pah, Jac	3.82	154	P		Pn	13 40 25.0	-0.9
	baz=336,SNR=17							
LCMT	Little Creek M	3.98	76			Pn	13 40 28.7	+0.5
CCUT	Cedar City	4.03	68			Pn	13 40 29.7	+0.7
GLA	Glamis	4.06	138	P		Pn	13 40 27.7	-1.5
	baz=320,SNR=7.8							
GLA	Glamis	4.06	138	Pn		Pn	13 40 27.6	-1.5
PSUT	Pine Spring	4.13	53			Pn	13 40 30.4	0.0
BEKR	Beckworth	4.16	335			Pn	13 40 33.1	+2.4
SZCU	Shurtz Canyon	4.25	68			Pn	13 40 32.5	+0.5
KNB	Kanab	4.31	76			Pn	13 40 33.4	+0.7
MCCM	Marconi Confer	4.35	299			Pn	13 40 33.7	+0.7
ORV	Oroville	4.38	323			Pn	13 40 35.1	+1.6
GDXM	Geysers	4.62	307			Pn	13 40 37.5	+0.5
U15A	North Rim	4.67	84			Pn	13 40 38.9	+1.1
Y14A	Wickenburg	4.69	116			Pn	13 40 36.8	-1.0
PKCU	Pink Cliffs	4.80	72			Pn	13 40 40.9	+1.3
113A	Mohawk Valley,	4.87	132			Pn	13 40 41.2	+0.9
HOPS	Hopland Field	4.91	307	Pn		Pn	13 40 42.7	+2.0
MTPU	Mount Pierson	5.08	66			Pn	13 40 44.6	+1.2
O03E	Paynes Creek	5.11	326	P		Pn	13 40 46.8	+3.3
	baz=144							
TCRU	Three Creeks R	5.12	59	Pn		Pn	13 40 45.3	+1.4
ELK	Elko	5.13	25	Pn		Pn	13 40 44.6	+0.6
	5.9nm,0.3s,baz=217,slow=9.8,SNR=288							
ELK					Lg	Lg	13 42 06.5	
	14nm,0.3s,baz=176,slow=9.8,SNR=8.6							
ELK	Elko	5.13	25			Pn	13 40 44.9	+0.9
MSU	Marysvale	5.27	61			Pn	13 40 47.9	+2.0
WUAZ	Wupatki	5.47	94	P		Pn	13 40 50.9	+2.2
	baz=278							
WUAZ	Wupatki	5.47	94			Pn	13 40 51.0	+2.4
O02D	Mt. Diablo Mer	5.50	319	P		Pn	13 40 51.8	+2.8
	baz=136							
KCPM	Cahto Peak	5.63	311			Pn	13 40 53.7	+2.9
X16A	Lo Mia Camp, P	5.68	105			Pn	13 40 52.4	+0.9
WDC	Whiskeytown Da	5.68	323	Pn		Pn	13 40 53.1	+1.8
DUG	Dugway, Tooele	5.80	44	P		Pn	13 40 55.5	+2.3
	baz=227							
DUG	Dugway, Tooele	5.80	44			Pn	13 40 54.7	+1.5
214A	Organ Pipe Nat	6.02	132	P		Pn	13 40 54.3	-1.8
	baz=315							
214A	Organ Pipe Nat	6.02	132			Pn	13 40 54.2	-1.8
MOD	Modoc Plateau	6.04	344	Pn		Pn	13 40 57.6	+1.3
KMRM	Mail Ridge	6.05	314	Pn		Pn	13 40 58.4	+1.9
N02D	Trinity Center	6.06	325	P		Pn	13 40 60.0	+3.3
	baz=142							
NLU	North Lily Min	6.08	49			Pn	13 40 59.5	+2.4
Q16A	Castle Valley	6.15	61	Pn		Pn	13 41 00.3	+2.2
BGU	Big Grassy Mou	6.21	38			Pn	13 41 00.5	+1.6
TMUT	Trail Mountain	6.29	58	Pn		Pn	13 41 02.3	+2.2
WVOR	Wild Horse Val	6.33	356			Pn	13 41 02.5	+2.2
M04C	Macdoel	6.38	334	P		Pn	13 41 05.0	+4.0
	baz=151							
M02C	Callahan	6.46	326	P		Pn	13 41 06.6	+4.5
	baz=143							
KHMM	Horse Mountain	6.50	319	Pn		Pn	13 41 05.5	+2.6
JCC	Jacoby Creek,	6.63	317	Pn		Pn	13 41 06.8	+2.4
YBH	Yreka Blue Hor	6.67	329	Pn		Pn	13 41 08.4	+3.3
	0.2nm,0.3s,baz=125,slow=12,SNR=27							
YBH					Lg	Lg	13 42 52.8	
	0.6nm,0.3s,baz=94,slow=22,SNR=3.0							
YBH					LR	LR	13 43 26.7	
	comp=Z,293nm,21.5s,baz=168,slow=36							
YBH	Yreka Blue Hor	6.67	329			Pn	13 41 06.4	+1.3
SRU	San Rafael Swe	6.69	61	Pn		Pn	13 41 05.8	+0.4
X18A	Snowflake	6.82	101	Pn		Pn	13 41 08.8	+1.6
W18A	Petrified Fore	6.86	96	P		Pn	13 41 10.6	+2.9
	baz=281							
W18A	Petrified Fore	6.86	96	Pn		Pn	13 41 08.5	+0.8
JLU	Jordanelle	6.86	47	Pn		Pn	13 41 07.7	0.0
L04D	Klamath Falls	6.93	333	P		Pn	13 41 12.0	+3.4
	baz=150							
HVU	Hansel Valley	7.00	34			Pn	13 41 09.9	+0.4
TUC	Tucson	7.12	120	P		Pn	13 41 10.0	-1.3
	baz=304							
TUC	Tucson	7.12	120			Pn	13 41 10.7	-0.6
L02E	Cave Junction	7.41	326	P		Pn	13 41 16.9	+1.8
	baz=143							
MFID	Camas Ranch	7.49	13			Pn	13 41 16.2	-0.1
HUMO	Hull Mountain	7.51	331	Pn		Pn	13 41 17.9	+1.5
J05D	Fort Rock, OR	7.56	342	P		Pn	13 41 21.4	+4.0
	baz=160							
MVCO	Mesa Verde	7.76	79	P		Pn	13 41 23.0	+2.8
	baz=265							
MVCO	Mesa Verde	7.76	79	Pn		Pn	13 41 20.0	-0.2
PINE	Pine Mountain	7.98	345	Pn		Pn	13 41 25.0	+1.9
I05D	Terrebonne, OR	8.59	344	P		Pn	13 41 33.7	+2.4
	baz=162							
I03D	Drain, OR	8.59	333	P		Pn	13 41 31.8	+0.6
	baz=150							
319A	Douglas	8.71	120			Pn	13 41 33.2	+0.2
O20A	White River Ci	8.72	60	P		Pn	13 41 35.7	+2.4
	baz=246							
S22A	4UR Ranch, Cre	9.14	76	Pn		Pn	13 41 39.5	+0.4
121A	Cookes Peak, D	9.22	110	P		Pn	13 41 42.0	+1.8
	baz=296							
121A	Cookes Peak, D	9.22	110			Pn	13 41 40.4	+0.2
FXWY	Fox Creek	9.25	34	Pn		Pn	13 41 40.2	-0.4
BW06	Boulder Array	9.34	42	P		Pn	13 41 45.2	+3.3
	baz=228							
PD31	Pinedale Array	9.34	42	Pn		Pn	13 41 40.2	-1.7
PDAR	Pinedale Array	9.34	42	Pn		Pn	13 41 44.5	+2.6
	0.1nm,0.3s,baz=229,slow=9.2,SNR=25							
PDAR					Sn	Sn	13 43 28.0	+0.5
	0.1nm,0.3s,baz=220,slow=15,SNR=2.4							
PDAR					Lg	Lg	13 44 18.4	
	0.2nm,0.3s,baz=214,slow=14,SNR=3.5							
PDAR					LR	LR	13 45 17.7	
	comp=Z,200nm,18.0s,baz=240,slow=38							
G05D	Wamic, OR	9.44	346	P		Pn	13 41 47.0	+4.0
	baz=164							
ANMO	Albuquerque	9.53	94	P		Pn	13 41 47.7	+3.3
	baz=280							
ANMO	Albuquerque	9.53	94	Pn		Pn	13 41 44.9	+0.4
	0.1nm,0.3s,baz=301,slow=8.8,SNR=8.1							
ANMO					Lg	Lg	13 44 25.3	
	0.2nm,0.3s,baz=162,slow=19,SNR=2.9							
ANMO					LR	LR	13 45 47.2	
	comp=Z,392nm,19.5s,baz=278,slow=40							
ANMO	Albuquerque	9.53	94	Pn		Pn	13 41 44.7	+0.3
F07A	Phinny Hill Vi	9.87	352	Pn		Pn	13 41 48.1	-0.8
YHL	Hebgen Lake	10.17	29	Pn		Pn	13 41 53.8	+0.6
SDCO	Great Sand Dun	10.19	77	P		Pn	13 41 57.4	+3.9
	baz=265							
YHH	Holmes Hill	10.25	30	Pn		Pn	13 41 54.9	+0.5
ISCO	Idaho Springs	10.49	66	P		Pn	13 42 01.2	+3.5
	baz=254							
N23A	Red Feather La	10.62	60	P		Pn	13 42 02.7	+3.3
	baz=247							
MSO	Missoula	11.14	15	P		Pn	13 42 09.4	+3.1
	baz=198							
MNTX	Cornudas Mount	11.42	109	P		Pn	13 42 13.0	+2.9
	baz=296							
GCMT	Greycliff	11.55	31	Pn		Pn	13 42 12.8	+0.7
NEW	Newport	12.16	3	P		Pn	13 42 24.2	+4.0
	baz=184							
NEW	Newport	12.16	3	Pn		Pn	13 42 27.3	+7.1
	0.1nm,0.3s,baz=207,slow=17,SNR=4.4							
NEW					LR	LR	13 46 48.7	
	comp=Z,118nm,19.0s,baz=204,slow=36							
MSTX	Muleshoe	12.71	95	P		Pn	13 42 30.2	+2.3
	baz=284							
RSSD	Black Hills	13.37	49	P		Pn	13 42 36.8	-0.1
	baz=238							
RSSD	Black Hills	13.37	49			Pn	13 42 36.5	-0.4
AMTX	Amarillo	13.41	90	P		Pn	13 42 40.1	+2.7
	baz=280							
LPIG	La Paz	13.72	149	LR		LR	13 47 47.1	
	comp=Z,159nm,18.1s,baz=3.0,slow=37							
LAO	LASA Array	13.79	36	P		Pn	13 42 43.3	+0.9
	baz=224							
LAO	LASA Array	13.79	36			Pn	13 42 41.7	-0.7
TX31	Lajitas Ar. Si	13.87	115	Pn		Pn	13 42 43.2	-0.5
TX32	Lajitas Array	13.87	115	Pn		Pn	13 42 43.3	-0.4
TXAR	Lajitas Array	13.87	115	Pn		Pn	13 42 45.3	+1.6
	0.2nm,0.3s,baz=289,slow=12,SNR=24							
TXAR					LR	LR	13 48 39.0	
	comp=Z,138nm,18.4s,baz=0.0,slow=40							
JCT	Junction City	16.26	105	P		P	13 43 18.6	0.0
BGNE	Belgrade	16.40	65	P		P	13 43 19.9	-0.2
BGNE					IAmb	IAmb	13 43 25.4	
	comp=Z,60nm,1.4s							
KSU1	Kansas State U	17.25	74	P		Pn	13 43 27.8	-0.2
	baz=267							
WHTX	Lake Whitney,	17.56	98	P		Pn	13 43 31.9	+0.1
	baz=289							
MDND	Maddock	18.00	44	P		Pn	13 43 36.3	-0.9
	baz=236							
MDND	Maddock	18.00	44	P		P	13 43 38.1	+0.4
MDND					IAmb	IAmb	13 43 41.1	
	comp=Z,32nm,0.9s							
TUL1	Leonard	18.02	84	P		Pn	13 43 37.5	0.0
ECSD	EROS Data Cent	18.09	59	P		Pn	13 43 37.7	-0.7
	baz=252							
ECSD	EROS Data Cent	18.09	59	P		P	13 43 38.9	+0.1
MIAR	Mount Ida	20.03	87	P		P	13 43 59.0	-1.1
	baz=282							
AGMN	Agassiz Nation	20.38	46	P		P	13 44 03.5	-0.2
W41B	Gary Mavity, V	20.99	85	P		P	13 44 09.3	-1.1
	baz=280							
SPMN	Marine on St.	21.14	57	P		P	13 44 12.1	+0.1
SPMN					IAmb	IAmb	13 44 17.0	
	comp=Z,30nm,1.4s							
ULM	Lac du Bonnet	21.37	42	P		P	13 44 14.0	-0.5
	comp=Z,19nm,0.8s,baz=232,slow=11,SNR=20							
ULM	Lac du Bonnet	21.37	42	P		P	13 44 14.4	0.0
ULM					IAmb	IAmb	13 44 18.3	
	comp=Z,28nm,0.9s							
L40A	Anamosa	21.62	66	P		P	13 44 17.7	+0.6
L40A					IAmb	IAmb	13 44 24.0	
	comp=Z,50nm,1.4s							
FFC	Flin Flon	21.67	26	P		P	13 44 17.0	-0.6
I40A	Norwalk	22.34	61	P		P	13 44 25.1	+0.1
YKA	Yellowknife Ar	26.49	4	P		P	13 45 04.7	+0.5
	comp=Z,4.4nm,0.9s,baz=182,slow=9.2,SNR=46							
YKA					PcP	PcP	13 48 29.3	+0.4
	comp=Z,0.6nm,0.8s,baz=178,slow=2.3,SNR=5.5							
YKW3	Yellowknife Ar	26.56	4	P		P	13 45 05.3	+0.5
TKL	Tuckaleechee C	27.70	81	LR		LR	13 56 47.3	
	comp=Z,133nm,20.4s,baz=329,slow=38							
CMIG	Matias Romero	27.96	127	LR		LR	13 57 15.1	
	comp=Z,141nm,18.5s,baz=270,slow=38							
SADO	Sadowa	30.62	61	LR		LR	13 58 40.1	
	comp=Z,344nm,20.5s,baz=283,slow=38							
DAWY	Dawson	30.83	342	P		P	13 45 45.1	+2.1
DAWY					IAmb	IAmb	13 45 51.8	
	comp=Z,23nm,1.9s							
J55A	Hilton	31.55	64	P		P	13 45 47.9	-1.6
SCRK	Sand Creek	32.02	339	P		P	13 45 55.2	+1.7
SCRK					IAmb	IAmb	13 45 56.6	
	comp=Z,8.2nm,0.9s							
EPYK	Eagle Plains	32.19	346	P		P	13 45 56.1	+1.2
DHY	Denali Highway	32.44	335	P		P	13 45 56.6	-0.7
INK	Inuvik	33.39	350	P		P	13 46 06.8	+1.4
	comp=Z,6.8nm,1.1s,baz=158,slow=7.9,SNR=8.2							
INK					PcP	PcP	13 48 47.0	+0.4
	comp=Z,1.0nm,0.8s,baz=220,slow=2.6,SNR=3.9							
INK					LR	LR	13 59 42.1	
	comp=Z,150nm,18.1s,baz=84,slow=36							
INK	Inuvik	33.39	350	P		P	13 46 06.7	+1.4
INK					IAmb	IAmb	13 46 10.4	
	comp=Z,13nm,1.2s							
IL31		33.46	338	P		P	13 46 08.2	+2.3
IL31					IAmb	IAmb	13 46 11.9	
	comp=Z,10nm,1.1s							
ILAR	Eielson Array	33.46	338	P		P	13 46 08.2	+2.2
	comp=Z

VPEM	**Volcano Peak E**	**0.28**	**134**		**Pg**	**14 01 36.4**	**+0.3**
CWC	**Cottonwood Cre**	**0.30**	**357**	P	**Pg**	**14 01 36.6**	**0.0**
	baz=178						
CWC				S	**Sg**	**14 01 40.7**	**+0.2**
	baz=178						
CWC	**Cottonwood Cre**	**0.30**	**357**		**Pg**	**14 01 36.6**	**0.0**
CWC					**Sg**	**14 01 40.7**	**+0.2**
DAC	**Darwin (Calif)**	**0.40**	**70**	Pg	**Pb**	**14 01 41.0**	**+0.4**
TOW	**Tower One**	**0.41**	**144**		**Pg**	**14 01 39.1**	**+0.4**
CGO	**Cerro Gordo**	**0.46**	**27**		**Pg**	**14 01 39.8**	**+0.1**
CGO					**Sg**	**14 01 46.5**	**+0.8**
WORM	**Onyx Ranch**	**0.47**	**198**		**Pg**	**14 01 39.7**	**-0.1**
WORM					**Sg**	**14 01 45.9**	**0.0**
MPMC	**Manual Prospec**	**0.47**	**100**	P	**Pg**	**14 01 39.9**	**+0.1**
	baz=280,SNR=656						
MPMC				S	**Sg**	**14 01 46.3**	**+0.3**
	baz=280						
MPMC	**Manual Prospec**	**0.47**	**100**		**Pg**	**14 01 39.9**	**+0.1**
MPMC					**Sg**	**14 01 46.6**	**+0.7**
CLC	**China Lake**	**0.50**	**131**		**Pg**	**14 01 40.4**	**+0.1**
CLC					**Sg**	**14 01 47.4**	**+0.7**
WHFM	**Hanning Flat**	**0.50**	**208**		**Pg**	**14 01 40.4**	**0.0**
WASM	**Alta Sierra Ca**	**0.57**	**225**		**Pg**	**14 01 41.8**	**+0.1**
SPG2	**Springville 2**	**0.57**	**276**		**Pg**	**14 01 41.6**	**-0.2**
SPG2					**Sg**	**14 01 49.2**	**0.0**
ISA	**Isabella, Lake**	**0.58**	**215**	P	**Pg**	**14 01 41.9**	**-0.1**
	baz=34,SNR=119						
ISA				S	**Sg**	**14 01 49.7**	**+0.1**
	baz=34						
ISA	**Isabella, Lake**	**0.58**	**215**		**Pg**	**14 01 41.9**	**-0.1**
ISA	**Isabella, Lake**	**0.58**	**215**		**Sg**	**14 01 49.6**	**+0.1**
LRMC	**Laurel Mtn Rad**	**0.73**	**155**	P	**Pg**	**14 01 44.5**	**-0.2**
	baz=335,SNR=150						
LRMC				S	**Sg**	**14 01 54.4**	**+0.2**
	baz=335						
WOFM	**Oak Flat**	**0.81**	**221**		**Pg**	**14 01 46.1**	**-0.1**
CCCA	**Chr Cany lake**	**0.84**	**137**		**Pg**	**14 01 47.0**	**+0.1**
VES	**Vestal, Richgr**	**0.88**	**250**	P	**Pg**	**14 01 47.7**	**0.0**
	baz=70,SNR=210						
VES				S	**Sg**	**14 01 59.8**	**+0.6**
	baz=70						
VES	**Vestal, Richgr**	**0.88**	**250**		**Pg**	**14 01 47.7**	**0.0**
VES					**Sb**	**14 01 59.9**	**-1.0**
TIN	**Tinemaha, Big**	**0.92**	**352**	P	**Pg**	**14 01 48.4**	**0.0**
	baz=172,SNR=206						
TIN				S	**Sg**	**14 02 01.1**	**+0.7**
	baz=172						
TIN	**Tinemaha, Big**	**0.92**	**352**		**Pg**	**14 01 48.4**	**0.0**
RCTC	**Rector, Farmer**	**0.97**	**280**		**Pg**	**14 01 48.9**	**-0.5**
QSM	**Queen of Sheba**	**0.98**	**100**		**Pg**	**14 01 49.4**	**-0.2**
FURC	**Furnace Creek,**	**1.02**	**71**	P	**Pg**	**14 01 50.4**	**+0.1**
	baz=252,SNR=156						
FURC				S	**Sg**	**14 02 04.3**	**+0.7**
	baz=252						
FURC	**Furnace Creek,**	**1.02**	**71**		**Pg**	**14 01 50.5**	**+0.1**
GRAC	**Grapevine Rang**	**1.02**	**33**	P	**Pg**	**14 01 50.2**	**-0.2**
	baz=214,SNR=212						
GRAC				S	**Sb**	**14 02 04.6**	**-0.4**
	baz=214						
GRAC	**Grapevine Rang**	**1.02**	**33**		**Pg**	**14 01 50.2**	**-0.2**
TEJ	**El Tejon**	**1.04**	**210**		**Pg**	**14 01 50.2**	**-0.6**
VOG	**Valley Oaks Go**	**1.08**	**280**	P	**Pg**	**14 01 51.1**	**-0.4**
	baz=99,SNR=20						
VOG				S	**Sg**	**14 02 06.0**	**+0.4**
	baz=99						
VOG	**Valley Oaks Go**	**1.08**	**280**		**Pg**	**14 01 51.2**	**-0.4**
FMT	**Funeral Mounta**	**1.14**	**64**		**Pg**	**14 01 52.3**	**-0.4**
ARVC	**Arvin**	**1.19**	**212**	P	**Pg**	**14 01 53.3**	**-0.3**
	baz=31,SNR=142						
ARVC				S	**Sg**	**14 02 09.0**	**0.0**
	baz=31						
ARVC	**Arvin**	**1.19**	**212**		**Pg**	**14 01 53.3**	**-0.3**
EDW2	**Edwards Air Fo**	**1.26**	**178**	P	**Pg**	**14 01 54.0**	**-0.9**
	baz=357,SNR=296						
EDW2				S	**Sg**	**14 02 10.3**	**-0.9**
	baz=357						
EDW2	**Edwards Air Fo**	**1.26**	**178**		**Sg**	**14 02 10.5**	**-0.7**
GSC	**Goldstone, Bar**	**1.32**	**129**	P	**Pg**	**14 01 55.3**	**-0.8**
	baz=310,SNR=335						
GSC				S	**Sb**	**14 02 13.7**	**+0.1**
	baz=310						
GSC	**Goldstone, Bar**	**1.32**	**129**		**Pg**	**14 01 55.3**	**-0.8**
GSC	**Goldstone, Bar**	**1.32**	**129**	Pg	**Pg**	**14 01 55.2**	**-0.8**
THC	**Tehachapi Micr**	**1.32**	**202**		**Pg**	**14 01 55.3**	**-0.9**
SHOC	**Shoshone, Teco**	**1.47**	**99**	P	**Pn**	**14 01 57.1**	**-1.1**
	baz=280,SNR=51						
SHOC				S	**Sg**	**14 02 18.3**	**+0.4**
	baz=280						
SHOC	**Shoshone, Teco**	**1.47**	**99**		**Pn**	**14 01 57.1**	**-1.1**
AMDNV	**Amargosa**	**1.47**	**77**		**Pn**	**14 01 57.4**	**-0.8**
AMDNV					**Sg**	**14 02 18.3**	**+0.3**
RRX	**Edison Barstow**	**1.53**	**145**	S	**Sg**	**14 02 20.0**	**0.0**
	baz=326						
FRI	**Friant**	**1.57**	**303**		**Pn**	**14 01 59.0**	**-0.6**
ABL	**Mount Abel**	**1.60**	**217**		**Pn**	**14 02 00.4**	**+0.2**
MLAC	**Mammoth, Mammo**	**1.61**	**338**	Pb	**Pb**	**14 02 01.1**	**-0.2**
	baz=157						
MLAC				S	**Sb**	**14 02 22.4**	**+0.2**
	baz=157						
MLAC	**Mammoth, Mammo**	**1.61**	**338**		**Pb**	**14 02 01.0**	**-0.4**
OSI	**Osito Audit: C**	**1.62**	**200**	Pb	**Pb**	**14 02 00.8**	**-0.5**
	baz=19,SNR=16						
OSI				S	**Sb**	**14 02 22.2**	**+0.1**
	baz=19						
OSI	**Osito Audit: C**	**1.62**	**200**		**Pn**	**14 02 00.3**	**0.0**
OMMB	**Old Mammoth Mi**	**1.65**	**333**		**Pn**	**14 02 01.2**	**+0.2**
MCSM	**Casa Diablo Ho**	**1.66**	**336**		**Pb**	**14 02 01.8**	**-0.3**
TPNV	**Topopah Spring**	**1.67**	**61**	P	**Pn**	**14 02 00.9**	**-0.1**
	baz=242,SNR=186						
TPNV				Sb	**Sg**	**14 02 24.9**	**+0.5**
	baz=242						
TPNV	**Topopah Spring**	**1.67**	**61**		**Pn**	**14 02 00.7**	**-0.4**
CARC	**Carrizo Plain**	**1.67**	**241**		**Pb**	**14 02 01.7**	**-0.6**
MDPB	**Devils Postpil**	**1.70**	**332**		**Pn**	**14 02 02.1**	**+0.6**
SMMC	**Simmler**	**1.78**	**243**	P	**Pn**	**14 02 02.8**	**+0.4**
	baz=62,SNR=53						
SMMC				Sb	**Sg**	**14 02 27.8**	**-0.1**
	baz=62						
SMMC	**Simmler**	**1.78**	**243**		**Pn**	**14 02 02.9**	**+0.4**
PAGB	**Antelope Grade**	**1.82**	**258**		**Pn**	**14 02 03.4**	**+0.3**
XTL	**Crystal Lake,**	**1.85**	**175**		**Pn**	**14 02 04.4**	**+0.9**
MMIM	**Miami Mountain**	**1.86**	**314**		**Pb**	**14 02 04.8**	**-0.7**
TUQ	**Turquoise Moun**	**1.87**	**111**	P	**Pn**	**14 02 03.0**	**-0.9**
	baz=293,SNR=57						
TUQ				Sb	**Sg**	**14 02 30.8**	**-0.2**
	baz=293						
TUQ	**Turquoise Moun**	**1.87**	**111**		**Pn**	**14 02 03.2**	**-0.6**
DECC	**Green Verdugo**	**1.90**	**187**	Sg	**Sg**	**14 02 33.4**	**+1.7**
	baz=6.5						
PKM	**Mcpherson Peak**	**1.90**	**229**	P	**Pn**	**14 02 04.5**	**+0.2**
	baz=48						
PKM				S	**Sn**	**14 02 29.2**	**+0.3**
	baz=48						
BCH	**Branch Mountai**	**1.90**	**241**		**Pn**	**14 02 04.6**	**+0.3**
MWC	**Mount Wilson**	**1.91**	**180**		**Pn**	**14 02 04.7**	**+0.2**
HEC	**Hector,Ludlow**	**1.92**	**132**	P	**Pn**	**14 02 03.5**	**-1.0**
	baz=313,SNR=14						
HEC				Sb	**Sg**	**14 02 32.1**	**-0.4**
	baz=313						
BFSC	**Mount Baldy Ra**	**1.93**	**170**	Pb	**Pb**	**14 02 06.3**	**-0.3**
	baz=350						
BFSC				Sb	**Sg**	**14 02 32.1**	**-0.6**
	baz=350						
BLCC	**Black Canyon**	**1.96**	**195**		**Pb**	**14 02 07.1**	**0.0**
PASC	**Pasadena Art C**	**1.97**	**183**		**Pn**	**14 02 05.4**	**+0.4**
BBRC	**Big Bear Solar**	**2.09**	**153**	Pb	**Pb**	**14 02 09.0**	**-0.5**
	baz=334						
BBRC				Sb	**Sg**	**14 02 37.5**	**-0.6**
	baz=334						
SBC	**Santa Barbara**	**2.17**	**219**	Pb	**Pb**	**14 02 10.6**	**-0.1**
	baz=38						
PMPB	**Monarch Peak**	**2.22**	**273**		**Pn**	**14 02 09.0**	**+0.4**
NV11	**Mina Array Sit**	**2.29**	**358**		**Pn**	**14 02 09.7**	**+0.1**
SHPR	**Sheep Range**	**2.37**	**80**		**Pn**	**14 02 10.7**	**0.0**
GMRC	**Granite Mounta**	**2.38**	**124**	P	**Pn**	**14 02 09.4**	**-1.5**
	baz=305,SNR=37						
BLDC	**Black Mountain**	**2.39**	**256**		**Pn**	**14 02 11.3**	**+0.4**
DPD	**Davis Peak**	**2.39**	**249**		**Pn**	**14 02 11.9**	**+1.0**
RYN	**Ryan**	**2.51**	**352**		**Pn**	**14 02 12.9**	**+0.2**
WAKR	**Walker**	**2.60**	**335**		**Pb**	**14 02 16.8**	**-1.4**
CMB	**Columbia Colle**	**2.65**	**316**		**Pb**	**14 02 16.9**	**-2.1**
CIS	**Catalina Islan**	**2.75**	**186**	Sb	**Sb**	**14 02 56.3**	**+1.6**
	baz=5.8						
SAO	**San Andreas Ge**	**2.80**	**284**		**Pn**	**14 02 16.9**	**+0.4**
PFO	**Pinyon Flats O**	**2.85**	**152**	P	**Pn**	**14 02 16.7**	**-0.6**
	baz=333						
PFO	**Pinyon Flats O**	**2.85**	**152**	Pn	**Pn**	**14 02 16.6**	**-0.6**
XPFO	**Pinon Flat**	**2.85**	**152**		**Pn**	**14 02 16.6**	**-0.7**
KVN	**Kaiserville**	**2.91**	**359**		**Pn**	**14 02 18.0**	**-0.1**
R11A	**Troy Canyon, C**	**2.96**	**41**	P	**Pn**	**14 02 18.8**	**0.0**
	baz=223						
R11A				Sb	**Sg**	**14 03 04.4**	**-1.5**
	baz=223						
R11A	**Troy Canyon, C**	**2.96**	**41**		**Pn**	**14 02 18.9**	**0.0**
YERR	**Yerington**	**2.99**	**342**		**Pn**	**14 02 19.9**	**+0.6**
IRM	**Iron Mountain**	**3.10**	**129**	P	**Pn**	**14 02 19.3**	**-1.4**
	baz=310						
IRM				Sb	**Sg**	**14 03 07.9**	**-2.5**
	baz=310						
HAY	**Hayfield**	**3.12**	**141**		**Pn**	**14 02 21.8**	**+0.9**
SNCC	**San Nicolas Is**	**3.13**	**203**	S	**Sn**	**14 02 59.6**	**+0.7**
	baz=22						
SCI2	**San Clemente I**	**3.18**	**187**	Sb	**Sg**	**14 03 11.7**	**-1.2**
	baz=7.0						
PNTR	**Pine Nut**	**3.19**	**338**		**Pn**	**14 02 23.0**	**+1.0**
109C	**Camp Elliot, M**	**3.34**	**166**	Sb	**Sb**	**14 03 14.8**	**+3.2**
	baz=347						
W13A	**Hualapai Mount**	**3.56**	**106**	Pn	**Pn**	**14 02 26.8**	**-0.3**
BAR	**Barrett**	**3.64**	**161**		**Pn**	**14 02 28.3**	**+0.3**
Y12C	**Blythe**	**3.76**	**128**		**Pn**	**14 02 28.1**	**-1.5**
LCMT	**Little Creek M**	**3.97**	**76**		**Pn**	**14 02 33.2**	**+0.5**
CCUT	**Cedar City**	**4.02**	**68**		**Pn**	**14 02 34.9**	**+1.4**
PSUT	**Pine Spring**	**4.12**	**53**		**Pn**	**14 02 35.5**	**+0.7**
BEKR	**Beckworth**	**4.14**	**335**	Pn	**Pn**	**14 02 35.1**	**0.0**
SZCU	**Shurtz Canyon**	**4.24**	**69**	Pn	**Pn**	**14 02 36.2**	**-0.3**
KNB	**Kanab**	**4.31**	**77**	Pn	**Pn**	**14 02 37.1**	**-0.3**
MCCM	**Marconi Confer**	**4.34**	**299**	Pn	**Pn**	**14 02 39.3**	**+1.7**
ORV	**Oroville**	**4.36**	**322**	Pn	**Pn**	**14 02 38.1**	**+0.2**
U15A	**North Rim**	**4.67**	**85**	Pn	**Pn**	**14 02 44.4**	**+2.0**
Y14A	**Wickenburg**	**4.69**	**116**	Pn	**Pn**	**14 02 42.4**	**-0.2**
MTPU	**Mount Pierson**	**5.07**	**66**	Pn	**Pn**	**14 02 47.7**	**-0.2**
ELK	**Elko**	**5.10**	**25**		**Pn**	**14 02 48.8**	**+0.4**
WUAZ	**Wupatki**	**5.47**	**95**	Pn	**Pn**	**14 02 53.8**	**+0.5**
MOD	**Modoc Plateau**	**6.01**	**344**	Pn	**Pn**	**14 03 01.2**	**+0.4**
G06A	**Carlson Farm,**	**9.29**	**349**	Pn	**Pn**	**14 03 45.6**	**0.0**

*IDC **23** 14:01:33.3±2.8, 36.°47N×142.°29E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.2/62, mbtmp3.4/3, ML2.4/1, Error ellipse: s-maj=62.5km s-min=34.3km az=41.0*
*ISCJB **23** 14:01:34.6±1.1, 36.°14N±0.°06×142.°2E±0.°1, h23km, mb3.4/2, Error ellipse: s-maj=11.8km s-min=9.3km az=175.9*
*JMA **23** 14:01:35.2±0.3, 36.°15N×142.°24E, h43km, M3.2*

ISC 23 14:01:33.7±1.8, 36.°18N±0.°05×142.°24E±0.°10, h23km, n24, σ1§80/20, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.21**	**247**	P	**Pb**	**14 01 56.2**	**+0.2**
JHYU	**Hitachinakayam**	**1.34**	**277**	P	**Pb**	**14 01 58.1**	**-0.1**
JHYU				*eS*	**Sb**	**14 02 15.5**	**+0.6**
JIHU	**Itakohorinouch**	**1.40**	**262**	P	**Pb**	**14 01 59.2**	**0.0**
JHO	**Hitachi**	**1.41**	**288**	P	**Pb**	**14 01 59.0**	**-0.4**
ONAJ	**Iwakimizuishiy**	**1.48**	**309**	P	**Pb**	**14 02 00.2**	**-0.3**
JFK	**Kawauchi**	**1.61**	**318**	P	**Pb**	**14 02 02.5**	**-0.3**
BSO1	**Boso 1**	**1.83**	**214**	P	**Pb**	**14 02 04.4**	**-1.9**
BSO3	**Boso 3**	**1.97**	**226**	P	**Pb**	**14 02 06.7**	**-2.0**
JFT	**Otama**	**2.03**	**312**	P	**Pb**	**14 02 09.3**	**-0.6**
JAG	**Ashikaga**	**2.26**	**277**	P	**Pn**	**14 02 10.9**	**+1.2**
JFY	**Yanaizu**	**2.37**	**302**	P	**Pb**	**14 02 13.9**	**-1.9**
JIO	**Ouri**	**2.38**	**343**	P	**Pb**	**14 02 13.5**	**-2.4**
JRY	**Ryogami san**	**2.70**	**268**	P	**Pn**	**14 02 17.0**	**+1.2**
JOD2	**Odawara 2**	**2.72**	**251**	P	**Pn**	**14 02 17.7**	**+1.7**
MJAR	**Matsushiro Arr**	**3.27**	**278**	Pn	**Pn**	**14 02 25.6**	**+2.0**
	0.4nm,0.3s,baz=96,slow=8.7,SNR=19						
MJAR				Sn	**Sb**	**14 03 06.8**	**-3.6**
	0.2nm,0.3s,baz=90,slow=12,SNR=4.7						
MAT	**Matsushiro**	**3.27**	**278**	P	**Pn**	**14 02 25.4**	**+1.8**
MAT				*eS*	**Sn**	**14 02 59.1**	**-2.7**
H11N2	**WAKE ISLAND Hy**	**27.14**	**121**	T	T	14 35 48.3	
	baz=313						
H11N1	**WAKE ISLAND Hy**	**27.15**	**121**	T	T	14 35 45.6	
	baz=313						
H11N3	**WAKE ISLAND Hy**	**27.16**	**121**	T	T	14 35 52.1	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**27.84**	**123**	T	T	14 36 36.7	
	baz=314						
H11S3	**WAKE ISLAND Hy**	**27.84**	**123**	T	T	14 36 44.8	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**27.86**	**123**	T	T	14 36 46.1	
	baz=314						
MKAR	**Makanchi Array**	**45.13**	**303**	P	**P**	**14 09 50.4**	**+2.1**
	0.7nm,0.9s,baz=91,slow=6.1,SNR=5.3						
WRA	**Warramunga Arr**	**56.31**	**189**	P	P	14 11 17.9	+5.2
	0.1nm,0.3s,baz=2.2,slow=7.3,SNR=3.2						

MDD 23 14:07:41.1±4.2, 32.°25N×7.°65W, h0km, mb3.8/2, Error ellipse: s-maj=58.0km s-min=37.3km az=111.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORF	**Marmelete**	**5.11**	**351**	*eP*	Pn	14 08 57.7	-1.3
MORF	**Marmelete**	**5.11**	**351**	P	Pn	14 08 57.7	-1.3
PVAQ	**Vaqueiros**	**5.14**	**359**	*eP*	Pn	14 08 58.3	-1.1
PVAQ				*eS*	Sn	14 09 54.2	-5.2
PVAQ				A	A	14 09 55.5	
	4.2nm,0.5s						
PVAQ	**Vaqueiros**	**5.14**	**359**	P	Pn	14 08 58.3	-1.1
PVAQ				S	Sn	14 09 54.2	-5.2
	4.2nm,0.5s						
EGRO	**El Granado**	**5.27**	**1**	P	Pn	14 08 59.7	-1.5
	5.8nm,0.5s,SNR=7.9						
EGRO				S	Sn	14 09 58.2	-4.4
	10nm,4.3s,SNR=7.9						
PCVE	**Castro Verde**	**5.38**	**357**	*eP*	Pn	14 09 01.8	-0.8
PCVE	**Castro Verde**	**5.38**	**357**	P	Pn	14 09 01.8	-0.8
EMIN	**Mina Concepcio**	**5.56**	**8**	P	Pn	14 09 02.7	-2.5
	7.2nm,1.0s,SNR=7.9						
EMIN				S	Sn	14 10 05.1	-4.7
	148nm,2.2s,SNR=6.0						
PNCL	**Nicolau / Gran**	**5.89**	**353**	*eP*	Pn	14 09 08.6	-1.1
PNCL	**Nicolau / Gran**	**5.89**	**353**	P	Pn	14 09 08.6	-1.1
EADA	**Adamuz**	**6.42**	**22**	P	Pn	14 09 16.2	-0.7
	1.4nm,0.6s,SNR=7.9						
EADA				S	Sn	14 10 25.2	-5.7
	71nm,2.6s,SNR=7.9						
PMTG	**Montargil**	**6.82**	**356**	*eP*	Pn	14 09 21.6	-0.8
PMTG	**Montargil**	**6.82**	**356**	P	Pn	14 09 21.6	-0.8
PMRV	**Marv??o**	**7.17**	**2**	*eP*	Pn	14 09 26.0	-1.2
PMRV	**Marv??o**	**7.17**	**2**	P	Pn	14 09 26.0	-1.2

*KRNET **23** 14:24:12.2±0.1, 42.°58N×79.°56E, h35km, mb2.3*
*NNC **23** 14:24:12.9±0.4, 42.°77N×79.°17E, h0km, mpv2.7, Error ellipse: s-maj=3.1km s-min=1.0km az=0.0*
*SOME **23** 14:24:12.9, 42.°73N×79.°15E, h15km*
*ISCJB **23** 14:24:16.3±1.1, 42.°89N±0.°07×79.°10E±0.°08, h26km±9km, Error ellipse: s-maj=11.7km s-min=9.9km az=154.3*

ISC 23 14:24:16.2±1.3, 42.°85N±0.°06×79.°05E±0.°05, h25km±13km, n13, σ1§85/26, 10C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.43**	**44**	*eP*	**Pb**	**14 24 25.6**	**+0.3**
	4.4nm,0.1s						
SHLS				*eS*	**Sn**	**14 24 35.2**	**+1.1**
	12nm,0.2s						
SHLS	**Shalkode**	**0.43**	**44**	*eP*	Pn	**14 24 25.9**	**-1.1**
	baz=22						
SHLS				*eS*	**Sn**	**14 24 35.2**	**+1.1**
	baz=22						
SHLS	**Shalkode**	**0.43**	**44**	P	**Pb**	**14 24 25.7**	**+0.3**
	4.4nm,0.1s						
SHLS				S	**Sn**	**14 24 34.9**	**+0.8**
	12nm,0.2s						
SATY	**Saty**	**0.52**	**294**	*eP*	**Pb**	**14 24 25.3**	**-1.5**
	0.8nm,0.1s						
SATY				*eS*	**Sb**	**14 24 34.6**	**+0.5**
	8.2nm,0.1s						
SATY	**Saty**	**0.52**	**294**	P	**Pb**	**14 24 25.6**	**-1.2**
	0.8nm,0.1s						
SATY				S	**Sb**	**14 24 34.3**	**+0.2**
	8.2nm,0.1s						
ZHN	**Zhinishke**	**0.55**	**305**	*eP*	**Pb**	**14 24 26.1**	**-1.3**
	2.8nm,0.1s						
ZHN				*eS*	**Sb**	**14 24 35.6**	**+1.0**
	1.9nm,0.1s						
ZHN	**Zhinishke**	**0.55**	**305**	P	**Pb**	**14 24 26.1**	**-1.3**
	2.8nm,0.1s						
ZHN				S	**Sb**	**14 24 35.6**	**+0.6**
	1.9nm,0.1s						
PRZ	**Przheval'sk**	**0.60**	**233**	⇑*iP*	**Pn**	**14 24 29.3**	**-0.1**
	baz=64						
PRZ				⇑*iS*	**Sn**	**14 24 41.0**	**+2.5**
	baz=64						
KPKS	**Kokpek**	**0.67**	**336**	*eP*	**Pb**	**14 24 27.7**	**-1.7**
	0.9nm,0.1s						
KPKS				*eS*	**Sb**	**14 24 38.5**	**+0.1**
	2.7nm,0.3s						
ANVS	**Anan'yevo**	**1.02**	**267**	⇑*iP*	**Pb**	**14 24 37.2**	**+1.9**
	baz=79						
ANVS				⇑*iS*	**Sb**	**14 24 54.0**	**+5.6**
	baz=79						
TARG	**Taragay, Kyrgy**	**1.45**	**220**	⇑*iP*	**Pn**	**14 24 38.6**	**-2.7**
	baz=38						
TARG				⇑*iS*	**Sn**	**14 24 56.8**	**-2.9**
	baz=38						
KDJ	**Kajisay**	**1.56**	**243**	⇑*iP*	**Pn**	**14 24 42.3**	**-0.2**
	baz=56						
KDJ				⇑*iS*	**Sb**	**14 25 03.2**	**-0.7**
	baz=56						
ULHL	**Ulahol**	**2.16**	**255**	⇑*iP*	**Pn**	**14 24 52.2**	**+1.3**
	baz=63						
ULHL				⇑*iS*	**Sb**	**14 25 20.1**	**-1.2**
	baz=63						

*ISCJB **23** 14:24:55.3±0.5, 15.°5S±0.°1×177.°10W±0.°06, h10km, mb3.7/6, MS3.5/9, Error ellipse: s-maj=15.2km s-min=8.3km az=166.3*
*IDC **23** 14:24:57.0±1.4, 15.°26S×177.°19W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.8/38, mbtmp3.8/7, ML4.0/1, MS3.4/8, Ms1 3.4/8, ms1mx3.2/40, Error ellipse: s-maj=77.0km s-min=19.6km az=149.0*
*NEIC **23** 14:24:56.8±1.2, 15.°6S±0.°1×177.°07W±0.°05, h10km±1km, mb4.4/11*

ISC 23 14:24:57.1±0.6, 15.°6S±0.°1×177.°08W±0.°08, h10km, n31, σ1§45/22, mb3.9/8, MS3.5/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.14**	**244**	Pn	**Pn**	**14 26 13.7**	**-0.6**
AFI	**Afiamalu**	**5.39**	**73**	Pn	**Pn**	**14 26 18.0**	**+0.3**
	4.3nm,0.3s,baz=148,slow=13,SNR=7.8						
AFI				LR	LR	14 28 24.2	
	comp=Z,76nm,18.6s,baz=255,slow=38						
AFI	**Afiamalu**	**5.39**	**73**		**Pn**	**14 26 16.5**	**-1.1**
NIUE	**Niue**	**7.68**	**118**	Pn	**Pn**	**14 26 48.0**	**-1.1**
DZM	**Mont Dzumac**	**16.88**	**245**	*e*LR	LR	14 33 09.8	
	comp=Z,223nm,24.4s						
RAR	**Rarotonga**	**17.36**	**111**		**P**	**14 29 00.1**	**-0.8**
HNR	**Honiara**	**23.23**	**282**	P	**P**	**14 30 01.4**	**-3.2**
HIZ	**Hauiti**	**23.94**	**196**	P	**P**	**14 30 12.4**	**+1.0**
BFZ	**Birch Farm**	**25.70**	**192**	P	**P**	**14 30 29.7**	**+2.3**
PPT	**Papeete**	**26.43**	**98**	LR	LR	14 38 31.1	
	comp=Z,109nm,18.5s,baz=190,slow=31						
PPT2	**Papeete2**	**26.43**	**98**	*e*LR	LR	14 37 15.9	
	comp=Z,152nm,26.0s						
TBI	**Tubuai**	**27.14**	**111**	*e*LR	LR	14 37 44.0	
	comp=Z,219nm,28.0s						
OXZ	**Oxford**	**29.20**	**196**	P	**P**	**14 30 58.4**	**-0.4**
CAN	**Canberra**	**36.15**	**231**	P	**P**	**14 31 59.1**	**-0.7**
TAOE	**Nuku Hiva Isla**	**36.67**	**84**	P	**P**	**14 32 04.3**	**-0.1**
STKA	**Stephens Creek**	**40.90**	**239**	P	**P**	**14 32 43.1**	**+3.5**
	1.7nm,0.7s,baz=53,slow=10,SNR=4.0						
STKA				LR	LR	14 47 27.2	
	comp=Z,52nm,20.6s,baz=27,slow=33						
STKA	**Stephens Creek**	**40.90**	**239**	P	**P**	**14 32 40.6**	**+1.0**
BBOO	**Buckleboo**	**45.67**	**239**	P	**P**	**14 33 18.4**	**+0.1**
WR0	**Warramunga Arr**	**46.16**	**257**	P	**P**	**14 33 21.8**	**-0.5**
WR0				IAmb	IAmb	14 34 16.4	
	comp=Z,7.9nm,0.5s						
WRA	**Warramunga Arr**	**46.35**	**257**	P	**P**	**14 33 25.3**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=95,slow=6.8,SNR=3.2						
AS31	**Alice Springs**	**46.68**	**252**	P	**P**	**14 33 25.9**	**-0.5**
AS31				IAmb	IAmb	14 34 10.3	
	comp=Z,1.3nm,1.2s						
ASAR	**Alice Springs**	**46.69**	**252**	P	**P**	**14 33 25.7**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=84,slow=8.2,SNR=23						
JCJ	**Chichijima**	**57.97**	**317**	LR	LR	14 54 06.4	
	comp=Z,107nm,21.5s,baz=100,slow=30						
RPN	**Rapa Nui**	**63.50**	**113**	LR	LR	14 56 44.8	
	comp=Z,51nm,21.2s,baz=245,slow=30						
**KSR

*IDC **23** 14:53:41.8±1.4,9.°01S×79.°93W,h0km,mb3.7/2,mb1 3.9/5, mb1mx3.6/44,mbtmp3.8/5,ML3.8/3,MS2.9/6,Ms1 2.9/6, ms1mx2.8/36,Error ellipse: s-maj=40.7km s-min=29.8km az=58.0*

*ISCJB **23** 14:53:46.9±0.9,9.°01S±0.°06×79.°7W±0.°1,h45km,MS3.1/1, Error ellipse: s-maj=15.2km s-min=8.1km az=171.1*

*NEIC **23** 14:53:49.4±1.9,8.°98S±0.°06×79.°6W±0.°1,h54km±8km, mb4.6/3*

ISC 23 14:53:48.6±0.9,8.°99S±0.°06×79.°6W±0.°1,h45km,n17, σ1§69/16,Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.20**	**33**	Pn	**Pn**	**14 54 24.0**	**+0.9**
	28nm,0.3s,baz=219,slow=6.5,SNR=155						
ATAH				Sn	**Sn**	**14 54 50.0**	**+0.8**
	76nm,0.3s,baz=69,slow=14,SNR=9.8						
ATAH				LR	LR	14 55 24.1	
	comp=Z,186nm,18.3s,baz=155,slow=43						
NNA	**Nana**	**4.03**	**138**	Pn	**Pn**	**14 54 48.2**	**+0.2**
	20nm,0.3s,baz=318,slow=11,SNR=26						
NNA				Sn	**Sn**	**14 55 33.2**	**-0.8**
	62nm,0.3s,baz=273,slow=22,SNR=11						
NNA				LR	LR	14 56 24.0	
	comp=Z,83nm,20.9s,baz=256,slow=38						
NNA	**Nana**	**4.03**	**138**		**Pn**	**14 54 47.7**	**-0.3**
OTAV	**Otavalo**	**9.24**	**7**	Pn	**Pn**	**14 56 00.1**	**+0.3**
LPAZ	**La Paz**	**13.34**	**124**	Pn	**Pn**	**14 56 58.5**	**+2.5**
	0.1nm,0.3s,baz=299,slow=10,SNR=2.5						
LPAZ				LR	LR	15 03 16.6	
	comp=Z,42nm,18.1s,baz=266,slow=42						
MNMC	**Minye Minye**	**13.99**	**137**	P	**P**	**14 57 10.8**	**-0.8**
ROSC	**El Rosal**	**14.71**	**21**	LR	LR	15 03 19.9	
	comp=Z,94nm,19.0s,baz=232,slow=39						
SAML	**Samuel**	**16.22**	**91**	Pn	**Pn**	**14 57 29.4**	**-4.2**
SAML				IAmb	IAmb	14 57 46.9	
	comp=Z,4.6nm,0.8s						
LVC	**Limon Verde**	**17.00**	**144**	LR	LR	15 03 35.8	
	comp=Z,34nm,21.6s,baz=274,slow=35						
SIV	**San Ignacio**	**19.38**	**113**	P	**Pn**	**14 58 14.8**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=301,slow=13,SNR=2.8						
CFA	**Coronel Fontan**	**24.86**	**156**	LR	LR	15 07 12.9	
	comp=Z,50nm,18.2s,baz=274,slow=32						
O44A	**Mansfield**	**49.58**	**351**	P	**P**	**15 02 33.9**	**-1.4**
O44A				IAmb	IAmb	15 02 34.3	
	comp=Z,15nm,0.5s						
YKA	**Yellowknife Ar**	**76.22**	**344**	P	**P**	**15 05 31.7**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=139,slow=6.3,SNR=7.0						
QSPA	**South Pole Qui**	**81.12**	**180**	P	**P**	**15 06 00.7**	**+1.5**
QSPA				IAmb	IAmb	15 07 50.4	
	comp=Z,21nm,2.0s						
TORD	**Torodi Ar. Bea**	**83.66**	**76**	P	**P**	**15 06 12.8**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=270,slow=4.7,SNR=4.9						
ASAR	**Alice Springs**	**133.89**	**225**	PKP	**PKPdf**	**15 13 01.3**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=124,slow=2.7,SNR=6.6						
WRA	**Warramunga Arr**	**135.92**	**229**	PKP	**PKPdf**	**15 13 05.3**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=124,slow=1.7,SNR=5.0						

*IGIL **23** 15:07:53.7,36.°37N×7.°45W,h10km,ML2.6*

*CNRM **23** 15:07:54.5,36.°18N×7.°48W,h52km*

*MDD **23** 15:07:55.4±1.1,36.°44N×7.°51W,h16km±6km,mbLg2.3/23, Error ellipse: s-maj=8.9km s-min=5.2km az=19.0,PRXIMO*

*INMG **23** 15:07:55.3±1.2,36.°44N×7.°44W,h11km±5km,ML2.2,Error ellipse: s-maj=3.8km s-min=3.7km az=19.0*

ISC 23 15:07:52.6±1.1,36.°30N±0.°03×7.°48W±0.°03,h30km±12km, n56,σ1§43/109,1D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**1.01**	**339**	*eP*	**Pb**	**15 08 11.5**	**0.0**
PBDV				*eS*	**Sn**	**15 08 23.3**	**-0.5**
PBDV				A	A	15 08 26.9	
	34nm,0.6s						
PBDV	**Barranco-do-Ve**	**1.01**	**339**	P	**Pb**	**15 08 11.5**	**0.0**
PBDV				S	**Sn**	**15 08 23.3**	**-0.5**
	34nm,0.6s						
PVAQ	**Vaqueiros**	**1.11**	**350**	*i*eP	**Pb**	**15 08 13.0**	**-0.3**
PVAQ				*e*S	**Sn**	**15 08 26.1**	**-0.4**
PVAQ				A	A	15 08 33.3	
	25nm,0.2s						
PVAQ	**Vaqueiros**	**1.11**	**350**	S	**Sb**	**15 08 30.8**	**+3.4**
PVAQ	**Vaqueiros**	**1.11**	**350**	P	**Pb**	**15 08 13.0**	**-0.3**
PVAQ				S	**Sn**	**15 08 26.1**	**-0.4**
	25nm,0.2s						
EGRO	**El Granado**	**1.23**	**360**	P	**Pb**	**15 08 14.8**	**-0.4**
	2.7nm,0.1s,SNR=38						
EGRO				S	**Sn**	**15 08 29.0**	**-0.2**
	13nm,0.1s,SNR=6.2						
PFVI	**Vila Bisbo**	**1.36**	**308**	*e*P	**Pb**	**15 08 16.7**	**-0.8**
PFVI				*e*S	**Sb**	**15 08 35.2**	**+0.6**
PFVI				A	A	15 08 41.4	
	23nm,0.4s						
PFVI	**Vila Bisbo**	**1.36**	**308**	P	**Pb**	**15 08 18.5**	**+1.0**
PFVI				S	**Sb**	**15 08 36.5**	**+1.9**
PFVI	**Vila Bisbo**	**1.36**	**308**	P	**Pb**	**15 08 16.7**	**-0.8**
	0.8nm,0.3s,SNR=12						
PFVI				S	**Sn**	**15 08 32.9**	**+0.3**
	29nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**1.38**	**317**	*e*P	**Pn**	**15 08 16.6**	**+0.8**
MORF				*e*S	**Sb**	**15 08 33.8**	**-1.2**
MORF				AML	AML	15 08 38.5	
	comp=N,69nm,0.4s						
MORF	**Marmelete**	**1.38**	**317**	*e*P	**Pn**	**15 08 16.5**	**+0.8**
MORF				*e*S	**Sb**	**15 08 36.6**	**+1.7**
MORF				A	A	15 08 39.0	
	comp=N,31nm,0.2s						
MORF	**Marmelete**	**1.38**	**317**	P	**Pn**	**15 08 16.5**	**+0.8**
MORF				S	**Sb**	**15 08 33.8**	**-1.2**
	comp=N,69nm,0.4s						
PCVE	**Castro Verde**	**1.40**	**341**	*e*P	**Pb**	**15 08 17.3**	**-0.8**
PCVE				*e*S	**Sn**	**15 08 33.6**	**+0.1**
PCVE				A	A	15 08 40.0	
	comp=N,20nm,0.3s						
PCVE	**Castro Verde**	**1.40**	**341**	P	**Pb**	**15 08 17.3**	**-0.8**
PCVE				S	**Sn**	**15 08 33.6**	**+0.1**
	comp=N,20nm,0.3s						
PTEO	**Sao Teotonio**	**1.59**	**321**	*e*P	**Pb**	**15 08 20.1**	**-1.3**
PTEO				*e*S	**Sb**	**15 08 38.9**	**-2.2**
PTEO				A	A	15 08 47.7	
	comp=N,26nm,0.3s						
PTEO	**Sao Teotonio**	**1.59**	**321**	P	**Pb**	**15 08 20.1**	**-1.3**
PTEO				S	**Sb**	**15 08 38.9**	**-2.2**
	comp=N,13nm,0.3s						
EMIN	**Mina Concepcio**	**1.60**	**24**	P	**Pn**	**15 08 20.2**	**+1.4**
	comp=N,0.2nm,0.2s,SNR=11						
EMIN				S	**Sn**	**15 08 37.1**	**-1.2**
	comp=N,3.9nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**1.75**	**350**	*e*P	**Pn**	**15 08 21.9**	**+1.1**
PBEJ				*e*S	**Sb**	**15 08 44.1**	**-1.4**
PBEJ				A	A	15 08 52.2	
	comp=N,13nm,0.5s						
PBEJ	**Beja**	**1.75**	**350**	P	**Pn**	**15 08 21.9**	**+1.1**
PBEJ				S	**Sb**	**15 08 44.1**	**-1.4**
	comp=N,6.6nm,0.5s						
PNCL	**Nicolau / Gran**	**1.99**	**335**	*e*P	**Pn**	**15 08 25.2**	**+1.0**
PNCL				*e*S	**Sn**	**15 08 48.5**	**+0.4**
PNCL				A	A	15 08 56.7	
	comp=N,15nm,0.3s						
PNCL	**Nicolau / Gran**	**1.99**	**335**	P	**Pn**	**15 08 25.2**	**+1.0**
PNCL				S	**Sn**	**15 08 48.5**	**+0.4**
	comp=N,15nm,0.3s						
EVO	**Evora**	**2.27**	**349**	*e*P	**Pn**	**15 08 29.0**	**+1.0**
EVO				*e*S	**Sn**	**15 08 54.3**	**-0.6**
EVO				A	A	15 09 07.9	
	comp=N,12nm,0.1s						
EVO	**Evora**	**2.27**	**349**	P	**Pn**	**15 08 29.0**	**+1.0**
EVO				S	**Sn**	**15 08 54.3**	**-0.6**
	comp=N,12nm,0.1s						
HORN	**Hornachuelos**	**2.35**	**48**	P	**Pb**	**15 08 32.9**	**-1.3**
HORN				S	**Sn**	**15 09 00.5**	**+3.6**
ECAB	**El Cabril**	**2.41**	**42**	P	**Pn**	**15 08 33.3**	**+3.3**
	comp=N,0.6nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**15 08 59.1**	**+0.6**
	comp=N,9.1nm,0.4s,SNR=7.9						
EBAD	**Badajoz**	**2.48**	**8**	P	**Pn**	**15 08 31.7**	**+0.9**
	comp=N,1.5nm,0.3s,SNR=9.0						
EBAD				S	**Sn**	**15 08 59.9**	**-0.1**
	comp=N,4.6nm,0.1s,SNR=6.0						
PESTR	**Estremoz**	**2.56**	**358**	*e*P	**Pn**	**15 08 33.1**	**+1.1**
PESTR				*e*S	**Sn**	**15 09 02.5**	**+0.3**
PESTR				A	A	15 09 14.5	
	comp=N,4.8nm,0.8s						
PESTR	**Estremoz**	**2.56**	**358**	P	**Pn**	**15 08 34.5**	**+2.5**
PESTR				S	**Sb**	**15 09 07.3**	**-1.6**
PMTG	**Montargil**	**2.82**	**348**	*e*P	**Pn**	**15 08 36.8**	**+1.2**
PMTG				*e*S	**Sn**	**15 09 08.8**	**+0.2**
PMTG				A	A	15 09 27.7	
	comp=N,5.6nm,0.2s						
PMTG	**Montargil**	**2.82**	**348**	P	**Pn**	**15 08 36.8**	**+1.2**
PMTG				S	**Sn**	**15 09 08.8**	**+0.2**
	comp=N,5.6nm,0.2s						
ZHG	**ZHG**	**2.93**	**166**	P	**Pn**	**15 08 39.4**	**+2.2**
ZHG				S	**Sn**	**15 09 14.6**	**+3.2**
EADA	**Adamuz**	**2.97**	**50**	P	**Pn**	**15 08 39.5**	**+1.9**
	comp=N,0.1nm,0.3s,SNR=7.9						
EADA				S	**Sn**	**15 09 12.4**	**+0.2**
	comp=N,1.9nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**3.01**	**332**	*e*P	**Pn**	**15 08 39.9**	**+1.7**
PMAFR				*e*S	**Sn**	**15 09 13.7**	**+0.4**
PMAFR				A	A	15 09 14.9	
	comp=N,20nm,0.4s						
PMAFR	**Mafra**	**3.01**	**332**	P	**Pn**	**15 08 39.9**	**+1.7**
	comp=N,3.4nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**15 09 12.1**	**-1.1**
	comp=N,25nm,0.3s,SNR=7.9						
PMRV	**Marv??o**	**3.12**	**1**	*e*P	**Pn**	**15 08 40.7**	**+1.0**
PMRV				*e*S	**Sn**	**15 09 15.8**	**-0.2**
PMRV				A	A	15 09 18.0	
	comp=N,10nm,0.5s						
PMRV	**Marv??o**	**3.12**	**1**	P	**Pn**	**15 08 40.7**	**+1.0**
PMRV				S	**Sn**	**15 09 15.8**	**-0.2**
	comp=N,10nm,0.5s						
ELGU	**Los Guajares,**	**3.15**	**79**	P	**Pn**	**15 08 43.3**	**+3.1**
	comp=N,0.4nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**15 09 19.1**	**+2.4**
	comp=N,2.7nm,0.3s,SNR=7.9						
LCRM	**LCR**	**3.38**	**140**	P	**Pn**	**15 08 43.1**	**-0.4**
LCRM				S	**Sn**	**15 09 23.0**	**+0.3**
PTOM	**Tomar**	**3.39**	**348**	*e*P	**Pn**	**15 08 45.0**	**+1.6**
PTOM	**Tomar**	**3.39**	**348**	P	**Pn**	**15 08 45.0**	**+1.6**
AKLM	**AKL**	**3.45**	**120**	P	**Pn**	**15 08 43.8**	**-0.5**
AKLM				S	**Sn**	**15 09 23.1**	**-1.1**
PCBR	**Castelo Branco**	**3.53**	**360**	*e*P	**Pn**	**15 08 46.5**	**+1.2**
PCBR				*e*S	**Sn**	**15 09 25.6**	**-0.5**
PCBR				A	A	15 09 28.3	
	comp=N,2.9nm,0.7s						
PCBR	**Castelo Branco**	**3.53**	**360**	P	**Pn**	**15 08 46.5**	**+1.2**
PCBR				S	**Sn**	**15 09 25.6**	**-0.5**
	comp=N,1.4nm,0.7s						
EPLA	**Plasencia**	**3.91**	**16**	P	**Pn**	**15 08 52.4**	**+1.8**
	comp=N,0.8nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**15 09 33.8**	**-1.7**
	comp=N,1.6nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**4.07**	**36**	P	**Pn**	**15 08 54.2**	**+1.3**
	comp=N,0.3nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**15 09 36.6**	**-2.9**
	comp=N,0.9nm,0.2s,SNR=7.9						
MD31	**MD31**	**4.10**	**146**	P	**Pn**	**15 08 54.5**	**+1.3**
MD31				S	**Sn**	**15 09 38.4**	**-1.7**
MDT	**Midelt**	**4.21**	**145**	P	**Pn**	**15 08 56.1**	**+1.3**
MDT				S	**Sn**	**15 09 41.5**	**-1.5**
ESDC	**Sonseca Array**	**4.36**	**38**	P	**Pn**	**15 08 58.4**	**+1.6**
	comp=N,2.8nm,0.1s,baz=224,slow=13,SNR=5.6						
ESDC				S	**Sn**	**15 09 46.3**	**-0.4**
	comp=N,0.5nm,0.3s,baz=224,slow=24,SNR=4.7						
JBK	**JBK**	**4.47**	**115**	P	**Pn**	**15 08 58.9**	**+0.5**
JBK				S	**Sn**	**15 09 47.5**	**-2.0**
TISM	**Timmit**	**4.65**	**169**	P	**Pn**	**15 08 60.0**	**-0.7**
TISM				S	**Sn**	**15 09 52.7**	**-1.0**
MVO	**Moncorvo**	**4.87**	**4**	*e*P	**Pn**	**15 09 04.9**	**+1.1**
MVO				*e*S	**Sn**	**15 09 56.4**	**-2.7**
MVO				A	A	15 09 59.5	
	comp=N,2.7nm,0.3s						
MVO	**Moncorvo**	**4.87**	**4**	P	**Pn**	**15 09 05.0**	**+1.3**
	comp=N,3.3nm,0.1s,SNR=7.7						
MVO				S	**Sn**	**15 09 56.1**	**-3.0**
	comp=N,4.6nm,0.3s,SNR=7.9						
OUK	**Oukaimeden**	**5.09**	**184**	P	**Pn**	**15 09 08.9**	**+1.7**
OUK				S	**Sn**	**15 10 03.4**	**-1.8**
ETOB	**Tobarra**	**5.26**	**62**	P	**Pn**	**15 09 10.3**	**+1.1**
	comp=N,0.1nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**15 10 07.7**	**-1.2**
	comp=N,1.1nm,0.3s,SNR=7.9						
TZRR	**Tazzarine**	**5.73**	**163**	P	**Pn**	**15 09 15.8**	**+0.2**
TZRR				S	**Sn**	**15 10 19.0**	**-1.4**
ETOR	**Torete**	**6.19**	**42**	P	**Pn**	**15 09 23.3**	**+1.3**
	comp=N,1.0nm,0.3s,SNR=4.0						
ETOR				S	**Sn**	**15 10 30.1**	**-1.7**
	comp=N,1.3nm,0.2s,SNR=7.9						

*JMA **23** 15:28:40.9,24.°40N×121.°89E,h26km±3km,M2.5*

*ISCJB **23** 15:28:41.1±0.3,24.°46N±0.°01×121.°96E±0.°02,h15km±2km, Error ellipse: s-maj=2.4km s-min=2.0km az=12.3*

*TAP **23** 15:28:41.0,24.°46N×121.°90E,h21km,ML3.1,B*

ISC 23 15:28:41.0±0.9,24.°44N±0.°02×121.°91E±0.°02,h20km±3km, n97,σ0§52/144,5C-14D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NANB	**Nanao**	**0.15**	**265**	*i*P	**Pg**	**15 28 45.6**	**+0.1**
	baz=259						
NANB				S	**Sg**	**15 28 48.6**	**+0.2**
	baz=259						
ENA	**Nanau**	**0.16**	**266**	*i*P	**Pg**	**15 28 45.6**	**0.0**
	baz=258						
ENA				S	**Sg**	**15 28 48.7**	**0.0**
	baz=258						
TWC	**Suao**	**0.18**	**341**	*i*P	**Pg**	**15 28 46.0**	**+0.1**
	baz=346						
TWC				*i* S	**Sg**	**15 28 48.8**	**-0.3**
	baz=346						
EOS1	**EOS1**	**0.23**	**61**	↑P	**Pg**	**15 28 47.0**	**+0.6**
	baz=60						
EOS1				S	**Sg**	**15 28 51.6**	**+1.4**
	baz=60						
ILA	**Ilan**	**0.36**	**335**	*i*P	**Pb**	**15 28 49.0**	**+0.3**
	baz=333						
ILA				S	**Sb**	**15 28 54.4**	**+0.4**
	baz=333						
TWE	**Neicheng**	**0.36**	**321**	*i*P	**Pb**	**15 28 48.8**	**0.0**
	baz=323						
TWE				S	**Sg**	**15 28 53.3**	**-0.6**
	baz=323						
ENTT	**Nioudou**	**0.37**	**302**	*i*P	**Pg**	**15 28 49.0**	**+0.1**
	baz=302						
ENTT				S	**Sg**	**15 28 54.3**	**0.0**
	baz=302						
NACB	**Ninganchiao**	**0.39**	**228**	P	**Pg**	**15 28 48.9**	**-0.4**
	baz=226						
NACB				S	**Sg**	**15 28 55.1**	**+0.2**
	baz=226						
NDT	**Datong Townshi**	**0.40**	**294**	*i*P	**Pb**	**15 28 49.6**	**+0.1**
	baz=293						
NDT				S	**Sg**	**15 28 55.0**	**-0.1**
	baz=293						
SLBB	**Yuanshan**	**0.40**	**321**	*i*P	**Pg**	**15 28 48.8**	**-0.7**
	baz=321						
SLBB				*e*S	**Sg**	**15 28 53.8**	**-1.4**
	baz=321						
EGS		**0.40**	**2**	P	**Pb**	**15 28 49.7**	**+0.1**
	baz=5.0						
EGS				*e*S	**Sg**	**15 28 54.8**	**-0.4**
	baz=5.0						
NTC	**Toucheng**	**0.42**	**350**	↑*e*P	**Pb**	**15 28 49.9**	**0.0**
	baz=357						
ETLH	**Xiulin Townshi**	**0.46**	**240**	*e*P	**Pg**	**15 28 50.1**	**-0.4**
	baz=237						
TWD	**Chiawan**	**0.46**	**219**	↑P	**Pg**	**15 28 50.3**	**-0.2**
	baz=219						
NNSH	**Datong**	**0.48**	**269**	P	**Pg**	**15 28 51.0**	**0.0**
	baz=268						
NNSH				*e*S	**Sg**	**15 28 57.3**	**-0.3**
	baz=268						
NNS	**Nan Shan**	**0.49**	**270**	*e*P	**Pg**	**15 28 50.9**	**-0.2**
	baz=269						
NNS				*e*S	**Sg**	**15 28 57.5**	**-0.3**
	baz=269						
NWLT	**Wulai**	**0.50**	**312**	*e*P	**Pg**	**15 28 51.2**	**-0.1**
	baz=312						
NWLT				*e*S	**Sg**	**15 28 57.9**	**-0.3**
	baz=312						
TIPB	**Shuangxi**	**0.54**	**351**	P	**Pg**	**15 28 51.8**	**-0.1**
	baz=357						
TIPB				S	**Sb**	**15 28 58.5**	**-0.6**
	baz=357						
HWA	**Hwalien**	**0.54**	**211**	*e*P	**Pn**	**15 28 53.0**	**-0.6**
	baz=214						
YHNB	**Yeheng**	**0.54**	**295**	↓P	**Pb**	**15 28 51.9**	**+0.1**
	baz=295						
YHNB				*e*S	**Sb**	**15 28 58.9**	**-0.3**
	baz=295						
NSK	**Sanguang**	**0.56**	**295**	↓P	**Pb**	**15 28 52.1**	**-0.1**
	baz=295						
NSK				S	**Sb**	**15 28 59.2**	**-0.5**
	baz=295						
TWB1	**Santiao Chiao**	**0.57**	**7**	⇑P	**Pb**	**15 28 52.3**	**-0.1**
	baz=3.0						
TWB1				S	**Sb**	**15 28 59.3**	**-0.7**
	baz=3.0						
ENLB	**Shoufeng**	**0.60**	**208**	*e*P	**Pg**	**15 28 53.4**	**+0.2**
	baz=215						
ENLB				*e*S	**Sn**	**15 29 03.9**	**+0.1**
	baz=215						
NHDH	**Xindian Distri**	**0.63**	**326**	*e*P	**Pg**	**15 28 54.0**	**+0.4**
	baz=319						
NHDH				*e*S	**Sb**	**15 29 01.6**	**-0.1**
	baz=319						
NWF	**Wu-fen Shan**	**0.64**	**349**	*e*P	**Pg**	**15 28 54.1**	**+0.3**
	baz=342						
NWF				*e*S	**Sb**	**15 29 01.8**	**-0.3**
	baz=342						
WFSB	**Wu-fen Shan**	**0.64**	**349**	*e*P	**Pg**	**15 28 53.9**	**+0.1**
	baz=342						
WFSB				*e*S	**Sb**	**15 29 01.6**	**-0.5**
	baz=342						
TATO	**Taipei**	**0.66**	**324**	*e*P	**Pg**	**15 28 54.2**	**+0.1**
	baz=317						
TATO				*e*S	**Sb**	**15 29 02.5**	**0.0**
	baz=317						
WHF	**Hehuan Shan**	**0.66**	**244**	⇑*i*P	**Pb**	**15 28 53.9**	**-0.2**
	baz=250						
WHF				*e*S	**Sn**	**15 29 04.8**	**-0.9**
	baz=250						
TWT	**Tachien**	**0.70**	**255**	*e*P	**Pg**	**15 28 55.1**	**+0.2**
	baz=250						
TWT				*e*S	**Sg**	**15 29 05.2**	**+1.0**
	baz=250						
TAP	**Taipei**	**0.70**	**328**	*e*P	**Pg**	**15 28 54.8**	**-0.1**
	baz=322						
TAP				*e*S	**Sg**	**15 29 04.7**	**+0.3**
	baz=322						
TDCB	**Techi**	**0.71**	**255**	*e*P	**Pb**	**15 28 54.9**	**0.0**
	baz=253						
WLTB	**Daxi**	**0.73**	**304**	*e*P	**Pg**	**15 28 55.8**	**+0.4**
	baz=310						
WLTB				*e*S	**Sg**	**15 29 05.9**	**+0.8**
	baz=310						
ESL	**Shilin**	**0.76**	**215**	*e*P	**Pb**	**15 28 55.5**	**-0.2**
	baz=228						
YM01	**YM01**	**0.77**	**336**	P	**Pg**	**15 28 56.4**	**+0.3**
	baz=336						
YM01				*e*S	**Sg**	**15 29 06.7**	**+0.2**
	baz=336						
CHGB	**Renai**	**0.77**	**241**	↓P	**Pb**	**15 28 56.0**	**0.0**
	baz=247						
CHGB				*e*S	**Sn**	**15 29 08.3**	**+0.1**
	baz=247						
YM10	**YM10**	**0.78**	**336**	*e*P	**Pn**	**15 28 56.8**	**-0.2**
	baz=336						
YM10				S	**Sg**	**15 29 07.0**	**+0.1**
	baz=336						
YM11	**YM11**	**0.79**	**337**	*e*P	**Pg**	**15 28 56.7**	**+0.2**
	baz=337						
TWS1	**Kuangyinshan**	**0.80**	**326**	*e*P	**Pn**	**15 28 57.3**	**+0.1**
	baz=320						
TWS1				*e*S	**Sg**	**15 29 07.8**	**+0.5**
	baz=320						
ANP	**Anpu**	**0.82**	**334**	*e*P	**Pb**	**15 28 57.0**	**+0.2**
	baz=335						
NTST	**Danshui**	**0.83**	**330**	*e*P	**Pn**	**15 28 57.9**	**+0.2**
	baz=329						
LIOB	**Emei**	**0.84**	**284**	*e*P	**Pn**	**15 28 57.8**	**0.0**
	baz=283						
NCUH	**Zhongli**	**0.84**	**309**	*e*P	**Pn**	**15 28 57.9**	**0.0**
	baz=308						
NSTT	**Nanjuang**	**0.85**	**283**	*e*P	**Pn**	**15 28 57.9**	**0.0**
	baz=278						
NSTT				*e*S	**Sg**	**15 29 09.2**	**+0.2**
	baz=278						
EGFH	**Guangfu**	**0.89**	**210**	*e*P	**Pb**	**15 28 57.8**	**0.0**
	baz=223						
WHP	**Taichung City**	**0.90**	**260**	*e*P	**Pn**	**15 28 58.9**	**+0.2**
	baz=258						
SBCB	**Hsinchu**	**0.91**	**293**	*e*P	**Pn**	**15 28 58.7**	**-0.1**
	baz=292						
HSN	**Hsinchu**	**0.93**	**293**	*e*P	**Pn**	**15 28 59.4**	**+0.1**
	baz=295						
VWDT	**VWDT**	**0.98**	**226**	*e*P	**Pn**	**15 28 59.7**	**0.0**
	baz=227						
VWDT				*e*S	**Sg**	**15 29 13.6**	**+0.5**
	baz=227						
DPDB	**Guoxing**	**0.99**	**246**	*e*P	**Pn**	**15 29 00.1**	**+0.2**
	baz=252						
YOJ	**Yonaguni jima**	**1.00**	**89**	P	**Pb**	**15 28 59.4**	**-0.3**
YOJ				S	**Sb**	**15 29 12.6**	**+0.1**
HGSD	**Ruisui**	**1.04**	**205**	*e*P	**Pn**	**15 29 00.9**	**+0.3**
	baz=221						
NSY	**Sanyi**	**1.05**	**269**	*e*P	**Pg**	**15 29 02.2**	**+0.8**
	baz=280						
EHY	**Hungye**	**1.07**	**210**	*e*P	**Pb**	**15 29 00.0**	**-1.0**
	baz=209						
SSLB	**Suanglung**	**1.09**	**234**	P	**Pb**	**15 29 01.5**	**+0.2**
	baz=234						
SSLB				*e*S	**Sb**	**15 29 15.6**	**+0.5**
	baz=234						
TYC	**Yuchr**	**1.10**	**241**	*e*P	**Pg**	**15 29 02.1**	**-0.3**
	baz=250						
TYC				*e*S	**Sg**	**15 29 17.0**	**0.0**
	baz=250						
TCU	**Taichung**	**1.17**	**256**	*e*P	**Pg**	**15 29 03.8**	**+0.1**
	baz=255						
YULB	**Yu-li**	**1.19**	**209**	*e*P	**Pn**	**15 29 01.4**	**-1.2**
	baz=208						
WHYT	**Xinyi Township**	**1.22**	**233**	*e*P	**Pg**	**15 29 04.4**	**-0.3**
	baz=225						
TWF1	**Yuli**	**1.22**	**208**	*e*P	**Pn**	**15 29 02.1**	**-0.9**
	baz=219						
WJS	**Zhushan**	**1.25**	**241**	*e*P	**Pg**	**15 29 05.5**	**+0.3**
	baz=225						
WNT	**Mingjian**	**1.25**	**244**	*e*P	**Pg**	**15 29 05.6**	**+0.3**
	baz=243						
YUS	**Yu-Shan**	**1.29**	**223**	*e*P	**Pn**	**15 29 04.3**	**-0.1**
	baz=222						
FULB	**Fuli**	**1.36**	**205**	*e*P	**Pn**	**15 29 05.2**	**+0

baz=237
SNST Tainan City 1.78 227 *e*P Pb 15 29 13.0 0.0
baz=227
CHN1 Nanshi 1.78 226 *e*P Pb 15 29 13.1 +0.1
baz=227
CHN1 *e*S Sg 15 29 37.5 -1.0
baz=227
TWG Pinlang 1.79 206 *e*P Pn 15 29 11.5 +0.7
baz=191
TWGBT Beinan 1.79 205 *e*P Pn 15 29 11.3 +0.5
baz=191
SGST Jiashian 1.82 222 *e*P Pn 15 29 12.6 +1.4
baz=222
SLGT Liugui 1.85 219 *e*P Pb 15 29 14.0 -0.2
baz=219
JKRS Kuro-shima 1.92 96 P Pn 15 29 13.1 +0.4
JKRS eS Sn 15 29 36.3 0.0
JIJ Ishigaki jima 2.03 92 P Pn 15 29 14.5 +0.3
JIJ eS Sn 15 29 37.7 -1.4
SSD Sandimen 2.06 215 *e*P Pn 15 29 15.4 +0.9
baz=199
TWM1 Shoushan 2.11 221 *e*P Pb 15 29 17.7 -0.9
baz=221
MASBT Mashibuluo 2.17 213 *e*P Pn 15 29 17.6 +1.6
baz=197
JISG Ishigakijimahi 2.19 86 P Pn 15 29 16.0 -0.3
JISG eS Sn 15 29 42.5 -0.4
EAST Anshuo 2.27 206 *e*P Pn 15 29 17.8 +0.3
baz=195
VWUC VWUC 2.31 284 *e*P Pn 15 29 18.2 +0.2
baz=284
PHUB P'eng-hu 2.33 247 *e*P Pn 15 29 18.5 +0.2
baz=248
SCZT Fangliau 2.38 210 *e*P Pn 15 29 21.0 +2.1
baz=196
PTMZ Houxiangcun 2.61 284 *e*P Pn 15 29 22.5 +0.4
baz=283
KNMB Chin-men Tao 3.21 271 *e*P Pn 15 29 30.8 +0.4
baz=271
AXDP Jialang 3.62 278 *e*P Pn 15 29 36.8 +0.9
baz=278

ISCJB ***23*** *15:45:46.5±0.4, 6°.67S±0°.04×128°.52E±0°.06, h250km, mb3.7/4, Error ellipse: s-maj=7.7km s-min=5.3km az=12.4*
NEIC ***23*** *15:45:47.0±1.9, 6°.56S±0°.08×128°.38E±0°.10, h266km±9km, mb4.5/5*
IDC ***23*** *15:45:47.1±1.5, 6°.58S×128°.34E, h262km±17km, mb3.4/4, mb1 3.7/8, mb1mx3.4/30, mbtmp4.3/8, Error ellipse: s-maj=20.9km s-min=11.0km az=82.0*
DJA ***23*** *15:45:48.8±0.2, 7°S±3°×12°9E±°, h242km±6km, M4.5/13, mB5.1/3, mb4.2/13, MLv4.6/9, Mw(mB)4.4/3*
ISC 23 15:45:47.0±0.7, **6°.62S**±0°.05×**128°.49E**±0°.07, **h250**km, **n31, σ2°03/36, mb3.7/5, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.10**	**116**	P	**Pn**	**15 46 43.8**	**+3.1**
SAUI	**Saumlaki**	**3.10**	**116**	Pn	**Pn**	**15 46 44.6**	**+3.9**
SANI	**Sanana**	**5.18**	**331**	P	**Pn**	**15 47 06.9**	**+1.8**
	38nm,0.7s,0.1nm						
SOEI	**Soe**	**5.21**	**233**	P	**Pn**	**15 47 06.7**	**+1.2**
	81nm,0.4s,6µm0.7nm						
SOEI	**Soe**	**5.21**	**233**		**Pn**	**15 47 05.7**	**+0.2**
FAKI	**Fak Fak**	**5.25**	**46**	P	**Pn**	**15 47 07.8**	**+1.8**
FAKI	**Fak Fak**	**5.25**	**46**	Pn	**Pn**	**15 47 06.8**	**+0.9**
BATI	**Baumata**	**5.95**	**233**	P	**Pn**	**15 47 15.1**	**+0.4**
	81nm,0.3s,baz=102,slow=3.8,SNR=115						
BATI				S	**S**	**15 48 23.0**	**-1.8**
	27nm,0.3s,baz=92,slow=2.6,SNR=11						
BATI	**Baumata**	**5.95**	**233**	P	**Pn**	**15 47 14.9**	**+0.2**
	168nm,0.7s,2µm0.7nm						
KMPI	**Kaimana, Papua**	**5.97**	**61**	P	**Pn**	**15 47 17.1**	**+2.2**
	185nm,1.0s,0.8nm						
SIJI	**Sorong**	**6.35**	**26**	P	**Pn**	**15 47 20.1**	**+0.4**
	2.5nm,0.3s,baz=58,slow=7.6,SNR=18						
SIJI				S	**S**	**15 48 30.9**	**-3.0**
	2.7nm,0.3s,baz=248,slow=23,SNR=8.3						
MTN	**Manton Dam**	**6.71**	**157**		**Pn**	**15 47 25.0**	**+0.9**
RKPI	**Ransiki, Papua**	**7.62**	**48**	P	**Pn**	**15 47 37.6**	**+2.0**
KNRA	**Kununurra**	**9.00**	**178**	Pn	**Pn**	**15 47 54.1**	**+1.1**
MRSI	**Marisa**	**9.61**	**317**	P	**Pn**	**15 48 02.6**	**+1.8**
	29nm,0.7s						
FITZ	**Fitzroy Crossi**	**11.74**	**193**	P	**Pn**	**15 48 27.2**	**-0.2**
	0.9nm,0.3s,baz=8.1,slow=8.5,SNR=21						
FITZ				S	**S**	**15 50 38.2**	**-0.3**
	0.6nm,0.3s,baz=99,slow=18,SNR=3.6						
FITZ	**Fitzroy Crossi**	**11.74**	**193**	P	**Pn**	**15 48 29.6**	**+2.1**
WRAB	**Tennant Creek**	**14.41**	**157**	P	**Pn**	**15 48 59.5**	**-0.7**
WRA	**Warramunga Arr**	**14.41**	**157**	P	**Pn**	**15 48 59.7**	**-0.5**
	3.0nm,0.3s,baz=335,slow=12,SNR=71						
WRA				S	**S**	**15 51 34.8**	**-5.0**
	0.1nm,0.3s,baz=330,slow=22,SNR=4.7						
WR0	**Warramunga Arr**	**14.50**	**157**	P	**Pn**	**15 49 00.6**	**-0.8**
COEN	**Coen**	**16.18**	**118**		**P**	**15 49 21.0**	**+1.1**
COEN				IAmb	IAmb	15 49 22.4	
	comp=Z,17nm,1.0s						
AS31	**Alice Springs**	**17.73**	**163**	P	**P**	**15 49 37.2**	**+0.3**
AS31				IAmb	IAmb	15 49 37.9	
	comp=Z,10nm,0.6s						
ASAR	**Alice Springs**	**17.73**	**163**	P	**P**	**15 49 37.3**	**+0.4**
	comp=Z,4.4nm,0.3s,baz=342,slow=12,SNR=586						
ASAR				S	**S**	**15 52 49.1**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=345,slow=25,SNR=6.6						
TNG	**Tangerang**	**21.71**	**270**	P	**P**	**15 50 23.7**	**+5.1**
FORT	**Forrest**	**24.04**	**181**	P	**P**	**15 50 38.2**	**-1.4**
FORT				IAmb	IAmb	15 50 58.2	
	comp=Z,15nm,0.9s						
BBOO	**Buckleboo**	**26.99**	**166**	P	**P**	**15 51 05.1**	**-1.0**
STKA	**Stephens Creek**	**27.95**	**156**	P	**P**	**15 51 14.3**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=342,slow=7.7,SNR=3.2						
STKA	**Stephens Creek**	**27.95**	**156**	P	**P**	**15 51 14.2**	**-0.5**
KSRS	**Korea Array**	**43.85**	**359**	P	**P**	**15 53 27.2**	**-1.5**
	comp=Z,1.6nm,0.6s,baz=175,slow=9.2,SNR=7.7						
MKAR	**Makanchi Array**	**67.09**	**327**	P	**P**	**15 56 12.0**	**-1.8**
	comp=Z,1.5nm,0.4s,baz=115,slow=8.7,SNR=38						
ZALV	**Zalesovo Beam**	**70.59**	**334**	P	**P**	**15 56 32.5**	**-2.5**
	comp=Z,0.8nm,0.6s,baz=116,slow=10,SNR=4.1						

ISCJB ***23*** *15:54:45.7±1.1, 1°.1N±0°.1×127°.57E±0°.10, h10km, mb3.9/4, Error ellipse: s-maj=16.6km s-min=12.0km az=38.2*
IDC ***23*** *15:54:47.7±1.9, 0°.74N×127°.00E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/42, mbtmp3.9/4, Error ellipse: s-maj=156.1km s-min=25.0km az=65.0*
NEIC ***23*** *15:54:49.0±0.8, 0°.80N±0°.06×127°.13E±0°.04, h10km±2km, mb4.3/7*
DJA ***23*** *15:54:49.0±0.4, 1°N±4°×12°7E±°, h10km, M3.6/7, MLv3.6/7*
ISC 23 15:54:48.1±1.4, **1°.0N**±0°.1×**127°.5E**±0°.1, **h10**km, **n16, σ1°33/15, mb4.0/6, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.23**	**201**	P	**Pg**	**15 54 54.0**	**+1.2**
TNTI	**Ternate**	**0.23**	**201**		**Pg**	**15 54 53.8**	**+1.0**
LBMI	**Labuha**	**1.61**	**178**	P	**Pn**	**15 55 17.6**	**+0.9**
SANI	**Sanana**	**3.35**	**206**	P	**Pn**	**15 55 41.3**	**+0.7**
KMSI	**Cibinong**	**3.49**	**263**	P	**Pn**	**15 55 44.2**	**+1.7**
JAGI	**Jajag, Banyuwa**	**16.24**	**234**	P	**Pn**	**15 58 34.6**	**-2.1**
KNRA	**Kununurra**	**16.61**	**176**	Pn	**Pn**	**15 58 40.3**	**-0.9**
KNRA				IAmb	IAmb	15 58 52.8	
	comp=Z,34nm,1.4s						
KSM	**Kuching**	**17.14**	**272**	P	**Pn**	**15 58 45.9**	**-2.2**
KSM				IAmb	IAmb	15 59 38.8	
	comp=Z,51nm,1.3s						
WRAB	**Tennant Creek**	**21.86**	**162**	P	**P**	**15 59 39.4**	**-1.8**
WRAB				IAmb	IAmb	15 59 42.7	
	comp=Z,5.8nm,0.8s						
WRA	**Warramunga Arr**	**21.87**	**162**	P	**P**	**15 59 41.5**	**+0.2**
	comp=Z,4.1nm,0.7s,baz=340,slow=11,SNR=26						
WR0	**Warramunga Arr**	**21.95**	**162**	P	**P**	**15 59 42.5**	**+0.4**
WR0				IAmb	IAmb	16 00 00.2	
	comp=Z,28nm,1.8s						
AS31	**Alice Springs**	**25.29**	**166**	P	**P**	**16 00 14.2**	**-0.8**
ASAR	**Alice Springs**	**25.29**	**166**	P	**P**	**16 00 14.9**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=343,slow=10,SNR=33						
STKA	**Stephens Creek**	**35.33**	**159**	P	**P**	**16 01 44.0**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=337,slow=14,SNR=3.5						
STKA	**Stephens Creek**	**35.33**	**159**	IAmb	IAmb	16 02 27.5	
	comp=Z,6.0nm,1.9s						
MKAR	**Makanchi Array**	**60.21**	**326**	P	**P**	**16 04 57.3**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=120,slow=8.5,SNR=4.8						

IDC 23 16:00:26.8±4.1, **27°.48N×67°.36E, h0**km, **mb3.6/4, mb1 3.7/4, mb1mx3.3/34, mbtmp3.6/4, Error ellipse: s-maj=110.8km s-min=36.3km az=143.0, Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**22.58**	**27**	P	P	16 05 28.8	+0.1
	0.7nm,0.7s,baz=209,slow=12,SNR=4.9						
NOA	**NORSAR Array B**	**50.07**	**328**	P	P	16 09 23.0	-0.2
	0.5nm,0.6s,baz=108,slow=7.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**62.59**	**271**	P	P	16 10 53.2	0.0
	0.4nm,0.6s,baz=53,slow=6.3,SNR=4.8						
YKA	**Yellowknife Ar**	**90.32**	**1**	P	P	16 13 29.4	0.0
	0.2nm,0.6s,baz=351,slow=5.0,SNR=5.5						

ISCJB ***23*** *16:16:46.9±0.3, 20°.65N±0°.05×94°.75E±0°.05, h100km, mb3.8/6, Error ellipse: s-maj=9.2km s-min=3.9km az=41.9*
IDC ***23*** *16:16:48.8±2.3, 20°.54N×94°.72E, h97km±22km, mb3.6/6, mb1 3.7/7, mb1mx3.2/43, mbtmp3.8/7, MS4.1/1, Ms1 4.1/1, ms1mx2.8/36, Error ellipse: s-maj=61.6km s-min=14.3km az=52.0*
NEIC ***23*** *16:16:48.4±1.1, 20°.56N±0°.09×94°.73E±0°.05, h94km±9km, mb4.8/12*
ISC 23 16:16:48.6±0.6, **20°.65N**±0°.07×**94°.77E**±0°.07, **h100**km, **n37, σ1°26/39, mb4.5/11, Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIMRM	**Sittwe**	**1.84**	**254**	Pn	**Pn**	**16 17 17.6**	**-1.6**
BRDH	**Bariadhala**	**3.54**	**305**	P	**Pn**	**16 17 42.3**	**+0.7**
	0.1nm,0.3s,baz=90,slow=20,SNR=3.9						
BRDH				S	**Sn**	**16 18 21.6**	**-1.0**
	0.6nm,0.3s,baz=280,slow=24,SNR=44						
CHTO	**Chiang Mai**	**4.33**	**114**		**Pn**	**16 17 52.2**	**-0.1**
CMMT	**Chiang Mai**	**4.34**	**114**	P	**Pn**	**16 17 53.4**	**+1.0**
	4.5nm,0.6s,0.1nm						
CM31	**Chiang Mai Arr**	**4.50**	**118**	Pn	**Pn**	**16 17 54.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**4.50**	**118**	P	**Pn**	**16 17 54.1**	**-0.5**
	0.8nm,0.3s,baz=292,slow=14,SNR=14						
CMAR				S	**Sn**	**16 18 43.7**	**-2.1**
	0.8nm,0.3s,baz=293,slow=22,SNR=4.2						
KOHI	**KOHIMA**	**5.08**	**353**	*e*P	**Pn**	**16 18 02.4**	**-0.2**
KOHI				*e*S	**Sn**	**16 18 60.0**	**-0.1**
KOHI				IAmb	IAmb	16 19 05.8	
	comp=E,37nm,0.6s						
KOHI				IAmb	IAmb	16 19 05.8	
	comp=N,30nm,0.5s						
SHL	**Shillong**	**5.57**	**332**	*e*P	Pn	16 18 03.8	-5.4
SHL				*e*S	**Sn**	**16 19 08.4**	**-3.6**
SHL				IAML		16 19 12.0	
	comp=N,131nm,0.2s						
SHL				IAML		16 19 12.2	
	comp=E,100nm,0.5s						
PBKT	**Sadae Pong**	**7.14**	**124**	Pn	**Pn**	**16 18 30.6**	**+0.1**
ODAN	**Odan**	**9.16**	**314**	*e*P	**Pn**	**16 18 56.2**	**-1.9**
TAPN	**Taplejung**	**9.28**	**317**	*e*P	**Pn**	**16 18 58.8**	**-1.0**
	comp=E,7.2nm,0.4s						
RAMN	**Ramite**	**9.76**	**312**	*e*P	**Pn**	**16 19 05.7**	**-0.6**
	comp=E,7.6nm,0.4s						
JIRN	**Jiri**	**10.49**	**313**	*e*P	**Pn**	**16 19 15.1**	**-1.2**
GUN	**Gumba**	**10.86**	**313**	*e*P	**Pn**	**16 19 19.7**	**-1.6**
DMN	**Daman**	**11.21**	**310**	*e*P	**Pn**	**16 19 24.1**	**-2.0**
GKN	**Gorkha**	**11.78**	**310**	*e*P	**Pn**	**16 19 31.9**	**-1.7**
	comp=E,5.4nm,0.2s						
KOLN	**Koldanda**	**12.41**	**307**	*e*P	**Pn**	**16 19 40.8**	**-1.2**
DANN	**Dangsing**	**12.61**	**310**	*e*P	**Pn**	**16 19 42.8**	**-1.9**
IPM	**Ipoh**	**17.19**	**158**		**P**	**16 20 42.0**	**-0.8**
IPM				IAmb	IAmb	16 21 08.2	
	comp=Z,61nm,1.8s						
NIL	**Nilore**	**23.06**	**309**	P	**P**	**16 21 45.2**	**-0.3**
MK31	**Makanchi Array**	**27.99**	**342**	P	**P**	**16 22 31.5**	**+1.6**
MKAR	**Makanchi Array**	**27.99**	**342**	P	**P**	**16 22 31.4**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=155,slow=8.1,SNR=5.6						
KURK	**Kurchatov**	**32.59**	**341**	P	**P**	**16 23 11.1**	**+0.7**
KS19	**Wonju Array Si**	**33.22**	**52**	P	**P**	**16 23 16.4**	**+0.3**
KS19				IAmb	IAmb	16 24 08.9	
	comp=Z,87nm,1.9s						
ZALV	**Zalesovo Beam**	**34.10**	**349**	P	**P**	**16 23 25.1**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=163,slow=10,SNR=2.5						
DGAR	**Diego Garcia**	**35.49**	**220**	P	**P**	**16 23 37.4**	**+1.6**
ABKAR	**Akbulak array**	**39.77**	**324**	P	**P**	**16 24 12.5**	**+0.9**
ABKAR				IAmb	IAmb	16 24 13.2	
	comp=Z,15nm,2.0s						
FITZ	**Fitzroy Crossi**	**48.98**	**140**	P	**P**	**16 25 25.2**	**-0.1**
FITZ				IAmb	IAmb	16 26 35.8	
	comp=Z,29nm,1.9s						
KNRA	**Kununurra**	**49.17**	**135**	P	**P**	**16 25 26.9**	**+0.2**
TIXI	**Tiksi**	**54.67**	**13**	P	**P**	**16 26 07.5**	**+0.6**
TIXI				IAmb	IAmb	16 27 56.5	
	comp=Z,9.2nm,1.7s						
FURI	**Furi**	**55.24**	**267**	P	**P**	**16 26 11.9**	**-0.3**
WRA	**Warramunga Arr**	**55.92**	**134**	P	**P**	**16 26 16.8**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=317,slow=7.9,SNR=11						
WR0	**Warramunga Arr**	**56.07**	**134**	P	**P**	**16 26 17.9**	**+0.3**
WR0				IAmb	IAmb	16 28 10.2	
	comp=Z,29nm,1.9s						
PETK	**Petropavlovsk-**	**57.54**	**40**	LR	LR	16 55 31.8	
	comp=Z,155nm,19.1s,baz=64,slow=40						
ASAR	**Alice Springs**	**58.26**	**137**	P	**P**	**16 26 33.1**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=321,slow=7.1,SNR=14						
FINES	**FINESS Array B**	**61.90**	**330**	P	**P**	**16 26 57.7**	**+0.4**
	comp=Z,5.4nm,1.1s,baz=104,slow=5.9,SNR=3.4						
ARCES	**ARCESS Array B**	**63.59**	**338**	P	**P**	**16 27 09.0**	**+0.6**
	comp=Z,4.1nm,0.9s,baz=98,slow=7.6,SNR=3.7						

IDC ***23*** *16:32:53.2±3.3, 12°.67N×102°.67W, h0km, mb3.5/5, mb1 3.9/6, mb1mx3.7/40, mbtmp3.5/6, ML3.7/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/27, Error ellipse: s-maj=168.5km s-min=43.2km az=91.0*
NEIC ***23*** *16:32:55.5±0.8, 12°.7N±0°.2×102°.5W±0°.3, h15km±7km, mb4.0/3*
ISC 23 16:32:58.7±3.1, **12°.8N**±0°.3×**102°.5W**±0°.7, **h35**km, **n18, σ0°71/11, mb3.6/6, Northern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H06E1	**SOCORRO T-PHAS**	**10.04**	**307**	T	T	16 45 00.7	
	SNR=25						
LPIG	**La Paz**	**13.45**	**328**	LR	LR	16 39 57.4	
	comp=Z,185nm,18.8s,baz=197,slow=32						
TXAR	**Lajitas Array**	**16.48**	**356**	Pn	**P**	**16 36 49.1**	**-0.6**
	0.1nm,0.3s,baz=183,slow=14,SNR=5.0						
TXAR				LR	LR	16 42 43.3	
	comp=Z,73nm,18.0s,baz=0.0,slow=36						
JCT	**Junction City**	**17.76**	**8**		**Pn**	**16 37 03.2**	**-0.1**
JCT				IAmb	IAmb	16 37 49.4	
	comp=Z,24nm,1.9s						
BNM	**Barren Site**	**21.57**	**351**	P	**P**	**16 37 44.8**	**-0.8**
LENM	**Lemitar**	**21.64**	**350**	P	**P**	**16 37 46.1**	**-0.2**
ANMO	**Albuquerque**	**22.33**	**351**	P	**P**	**16 37 55.3**	**+1.7**
	comp=Z,1.2nm,0.8s,baz=142,slow=8.4,SNR=2.7						
ANMO				LR	LR	16 46 26.6	
	comp=Z,101nm,18.1s,baz=171,slow=36						
ANMO	**Albuquerque**	**22.33**	**351**	IAmb	IAmb	16 38 03.0	
	comp=Z,9.4nm,1.8s						
WUAZ	**Wupatki**	**23.98**	**342**	P	**P**	**16 38 10.2**	**-0.1**
WUAZ				IAmb	IAmb	16 38 14.4	
	comp=Z,4.5nm,0.9s						
PFO	**Pinyon Flats O**	**24.30**	**331**	LR	LR	16 45 57.6	
	comp=Z,77nm,20.9s,baz=178,slow=32						
NVAR	**Mina Array Bea**	**29.13**	**334**	P	**P**	**16 38 56.4**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=166,slow=5.4,SNR=2.7						
PDAR	**Pinedale Array**	**30.47**	**350**	P	**P**	**16 39 08.7**	**+0.2**
	comp=Z,1.6nm,1.0s,baz=180,slow=8.1,SNR=7.3						
YKA	**Yellowknife Ar**	**50.36**	**353**	P	**P**	**16 41 52.0**	**0.0**
	comp=Z,0.5nm,0.8s,baz=164,slow=7.6,SNR=7.3						
ILAR	**Eielson Array**	**60.14**	**340**	P	**P**	**16 43 02.8**	**+0.3**
	comp=Z,0.5nm,1.0s,baz=154,slow=6.9,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**86.31**	**289**	T	T	18 20 12.0	
	baz=76						
H11N2	**WAKE ISLAND Hy**	**86.31**	**289**	T	T	18 20 14.9	
	baz=76						
H11N1	**WAKE ISLAND Hy**	**86.32**	**289**	T	T	18 20 17.6	
	baz=76						
ASAR	**Alice Springs**	**125.65**	**250**	PKP	**PKPdf**	**16 51 57.1**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=81,slow=2.9,SNR=3.9						

IDC 23 16:34:30.0±1.4, **25°.13N×141°.46E, h0**km, **mb3.4/3, mb1 3.8/3, mb1mx3.3/36, mbtmp3.4/3, Error ellipse: s-maj=58.0km s-min=32.1km az=96.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.34**	**189**	P	P	16 42 49.9	-0.1
	0.3nm,0.3s,baz=8.6,slow=8.7,SNR=7.2						
MKAR	**Makanchi Array**	**51.24**	**311**	P	P	16 43 35.5	0.0
	0.1nm,0.4s,baz=95,slow=8.9,SNR=3.2						
YKA	**Yellowknife Ar**	**74.17**	**28**	P	P	16 46 08.1	-0.1
	0.4nm,0.6s,baz=293,slow=5.8,SNR=7.0						

ISCJB ***23*** *16:45:48.6±0.1, 25°.76N±0°.01×66°.69W±0°.01, h6km, mb5.3/213, MS4.4/38, Error ellipse: s-maj=1.6km s-min=1.3km az=138.0*
MOS ***23*** *16:45:49.4±0.8, 25°.70N×66°.63W, h12km, mb5.5/91, Error ellipse: s-maj=4.4km s-min=3.5km az=68.8*
NEIC ***23*** *16:45:49.3±1.7, 25°.72N±0°.04×66°.61W±0°.07, h2km±2km, mb5.5/552, Mwb5.2, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr7.88; Mθθ-0.72; Mϕϕ-7.15; Mrθ1.10; Mθϕ-0.58; Mϕr-2.42; Fault plane solution: M₀8.02000×10¹⁶ NP1:ϕs176.57000°, δ54.11000°, λ80.33000°. NP2:ϕs12.78000°, δ37.00000°, λ103.07000°. Principal axes: T 8.4080, Plg78.0000°, Azm51.0000°; N -0.8529, Plg8.0000°, Azm182.0000°; P -7.5552, Plg9.0000°, Azm273.0000°;*
IDC ***23*** *16:45:49.9±0.3, 25°.75N×66°.59W, h0km, mb5.2/47, mb1 5.3/51, mb1mx5.3/57, mbtmp5.2/51, ML4.7/3, MS4.3/35, Ms1 4.3/35, ms1mx4.3/44 Error ellipse: s-maj=9.8km s-min=7.4km az=97.0*
GCMT ***23*** *16:45:52.3±0.1, 25°.89N±0°.01×66°.69W±0°.01, h17km, MW5.3/146, Moment Tensor Solution. s99,c150; s146,c250; Duration: 1¹1 Moment tensor: Scale 10¹⁷ Nm; Mrr1.03±.02; Mθθ-0.02±.01; Mϕϕ-1.01±.02; Mrθ0.01±.04; Mθϕ0.07±.01; Mϕr0.07±.04; Best double couple: M₀1.02500×10¹⁷ NP1:ϕs357.00000°, δ47.00000°, λ91.00000°. NP2:ϕs175.00000°, δ43.00000°, λ88.00000°. Principal axes: T 1.0320, Plg88.0000°, Azm297.0000°; N -0.0190, Plg1.0000°, Azm176.0000°; P -1.0170, Plg2.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
OSPL ***23*** *16:45:56.0±3.0, 25°.79N×66°.38W, h80km±999km, MD5.3, ML6.1*
ISC 23 16:45:50.9±0.9, **25°.66N**±0°.03×**66°.62W**±0°.04, **h12**km±5km, **n1869, σ1°69/1887, mb5.4/378, MS4.4/38, 60C-16D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRTK	**Grand Turk**	**5.84**	**226**		**Pn**	**16 47 15.8**	**-1.6**
GRTK				Sn	**Sn**	**16 48 15.4**	**-9.0**
PSBMU	**Warwick Parish**	**6.79**	**13**		**Pn**	**16 47 26.3**	**-4.1**
PSBMU					Sn	16 48 32.5	-15
BBSR	**BB Station**	**6.90**	**14**		**Pn**	**16 47 27.7**	**-4.2**
BBSR					Sn	16 48 34.9	-15
EMPR	**Esperanza - Ma**	**7.14**	**179**		**Pn**	**16 47 35.9**	**+0.6**
AGPR	**Aguadilla, PR**	**7.17**	**184**	*i* P	**Pn**	**16 47 36.4**	**+0.7**
AGPR				*e*S	**Sn**	**16 48 50.1**	**-7.0**
AGPR				IAML		16 48 54.0	
	comp=Z,1µm,0.4s						
AGPR	**Aguadilla, PR**	**7.17**	**184**		**Pn**	**16 47 36.1**	**+0.4**
ABVI	**Anegada Island**	**7.21**	**162**		**Pn**	**16 47 35.1**	**-1.1**
SC01	**Santiago de lo**	**7.27**	**212**	*i* P	**Pn**	**16 47 38.8**	**+1.8**
SC01				*e*S	**Sn**	**16 48 54.1**	**-5.4**
SC01				IAML		16 49 01.9	
	comp=Z,2µm,0.4s						
SC01	**Santiago de lo**	**7.27**	**212**		**Pn**	**16 47 38.5**	**+1.5**
AOPR	**Arecibo Observ**	**7.27**	**181**		**Pn**	**16 47 37.6**	**+0.5**
PCDR	**Punta Cana, DR**	**7.29**	**193**	*i* P	**Pn**	**16 47 38.5**	**+1.1**
PCDR				*e*S	**Sn**	**16 48 52.9**	**-7.2**
PCDR				IAML		16 48 59.9	
	comp=Z,6µm,0.5s						
PCDR	**Punta Cana, DR**	**7.29**	**193**		**Pn**	**16 47 38.1**	**+0.7**
DR12	**Loma Pena Alta**	**7.30**	**201**		**Pn**	**16 47 37.7**	**+0.3**
GCPR	**Guaynabo City**	**7.33**	**176**		**Pn**	**16 47 37.7**	**-0.1**
CBYP	**Canovanas**	**7.38**	**174**		**Pn**	**16 47 38.0**	**-0.7**
CUPR	**Culebra, Puert**	**7.42**	**170**		**Pn**	**16 47 38.4**	**-0.6**
MPR	**Mayaguez**	**7.42**	**184**	*i* P	**Pn**	**16 47 40.1**	**+1.0**
MPR				*e*S	**Sn**	**16 48 56.9**	**-6.4**
MPR				IAML		16 49 02.5	
	comp=Z,702nm,0.7s						
MPR	**Mayaguez**	**7.42**	**184**		**Pn**	**16 47 39.9**	**+0.8**
STVI	**Saint Thomas**	**7.43**	**168**		**Pn**	**16 47 38.4**	**-0.8**
HUMP	**Col San Antoni**	**7.51**	**174**		**Pn**	**16 47 39.8**	**-0.5**
SJG	**San Juan**	**7.52**	**177**	Pn	**Pn**	**16 47 41.1**	**+0.7**
	comp=Z,63nm,0.3s,baz=358,slow=16,SNR=52						
SJG				Sn	**Sn**	**16 48 58.0**	**-7.7**
	comp=Z,222nm,0.3s,baz=261,slow=19,SNR=16						
SJG				LR	LR	16 51 14.1	
	comp=Z,1µm,18.7s,baz=312,slow=43						
SJG	**San Juan**	**7.52**	**177**		**Pn**	**16 47 40.7**	**+0.3**
BON1	**Bonao**	**7.54**	**208**	*i* P	**Pn**	**16 47 42.0**	**+1.3**
BON1				*e*S	**Sn**	**16 49 00.5**	**-5.7**
BON1				*e*S	**Sn**	**16 49 00.5**	**-5.7**
BON1				IAML		16 49 03.6	
	comp=Z,3µm,0.8s						
OBIP	**Obispado Ponce**	**7.58**	**180**		**Pn**	**16 47 41.4**	**+0.2**
MTP	**Monte Pirata**	**7.59**	**172**		**Pn**	**16 47 41.0**	**-0.4**
PDPR	**Patillas Dam,**	**7.62**	**176**		**Pn**	**16 47 42.7**	**+0.2**
CRPR	**Cabo Rojo, PR**	**7.62**	**184**		**Pn**	**16 47 42.7**

V62A	Hyde County Ai	12.73 323			Pn	16 48 50.3	-1.4	
SLBI	Saint Lucia, B	12.73 154	*e*	P	Pn	16 48 45.6	-6.3	
SLBI	Saint Lucia, B	12.73 154	*e*	S	Sn	16 51 02.5	-11	
MCJ	Malvern	12.84 235	⇑	*i*	P	**16 48 52.7**	**-0.7**	
MCJ			⇓	*i*	P	16 48 53.2	-11	
061Z	Ochoppi	12.88 274		P	Pn	**16 48 51.3**	**-2.6**	
	baz=88,SNR=39							
061Z	Ochoppi	12.88 274			Pn	**16 48 50.7**	**-3.2**	
SLB	Belfond	12.88 155	*e*	S	Sn	**16 51 15.2**	**-2.2**	
W61A	Ground Anchor	13.04 319		P	Pn	**16 48 54.4**	**-1.6**	
	baz=134,SNR=16							
W61A				S	Sn	16 51 00.8	-20	
	baz=134							
Y60A	Bolivia	13.05 312		P	Pn	**16 48 54.0**	**-2.2**	
	baz=126							
Y60A	Bolivia	13.05 312			Pn	**16 48 55.0**	**-1.1**	
V61A	Roper	13.24 322		P	Pn	**16 48 57.0**	**-1.6**	
	baz=137,SNR=16							
V61A	Roper	13.24 322			Pn	**16 48 57.7**	**-1.0**	
X60A	Albert Glenn T	13.25 315		P	Pn	**16 48 57.1**	**-1.7**	
	baz=129,SNR=29							
X60A				S	Sn	16 51 06.5	-20	
	baz=129							
SVB	Belmont	13.31 157	*e*	P	Pn	**16 48 57.4**	**-2.4**	
SVB	Belmont	13.31 157			Pn	**16 48 57.1**	**-2.8**	
SVCV	St. Vincent, C	13.35 156	*e*	P	Pn	**16 48 57.3**	**-3.1**	
SVCV	St. Vincent, C	13.35 156			Pn	**16 48 57.3**	**-3.1**	
Z59A	Georgetown, SC	13.37 307		P	Pn	**16 48 58.8**	**-1.6**	
	baz=121,SNR=18							
W60A	Pink Hill	13.39 317		P	Pn	**16 48 59.4**	**-1.4**	
	baz=131,SNR=37							
DWPF	Disney Wildern	13.45 284		P	Pn	**16 49 00.6**	**-1.0**	
	baz=97							
DWPF	Disney Wildern	13.45 284			Pn	**16 49 00.8**	**-0.9**	
CBCY	The Bluff, Cay	13.48 247			Pn	**16 48 58.1**	**-4.0**	
Y59A	Loris	13.49 311		P	Pn	**16 49 00.4**	**-1.7**	
	baz=125,SNR=28							
Y59A	Loris	13.49 311			Pn	**16 49 00.1**	**-2.1**	
U61A	Possum Corner	13.57 324		P	Pn	**16 49 01.1**	**-2.1**	
	baz=139							
U61A	Possum Corner	13.57 324			Pn	**16 49 01.4**	**-1.8**	
V60A	Jim Taylor Roa	13.61 320		P	Pn	**16 49 01.7**	**-2.0**	
	baz=135,SNR=11							
V60A	Jim Taylor Roa	13.61 320			Pn	16 48 58.4	-5.3	
CNNC	Cliffs of the	13.62 317		P	Pn	**16 49 02.6**	**-1.3**	
	baz=131							
CNNC	Cliffs of the	13.62 317			Pn	**16 49 02.5**	**-1.4**	
X59A	McDuffie Farm,	13.65 313		P	Pn	**16 49 02.0**	**-2.3**	
	baz=127							
158A	Hollywood	13.79 304		P	Pn	**16 49 05.6**	**-0.7**	
	baz=117,SNR=52							
Z58A	St. Stephen	13.80 307		P	Pn	**16 49 05.0**	**-1.4**	
	baz=120,SNR=183							
CSU	Charleston Sou	13.82 305			Pn	**16 49 07.0**	**+0.4**	
RGRS	Roger Stewart	13.87 305			Pn	**16 49 06.2**	**-1.2**	
W59A	Clinton	13.92 316		P	Pn	**16 49 06.4**	**-1.6**	
	baz=130,SNR=16							
W59A				S	Sn	16 51 21.8	-21	
	baz=130							
NHSC	New Hope	13.95 305		P	Pn	**16 49 07.0**	**-1.5**	
	baz=118							
NHSC	New Hope	13.95 305			Pn	**16 49 08.7**	**+0.3**	
Y58A	Scranton	13.99 309		P	Pn	**16 49 07.4**	**-1.6**	
	baz=122,SNR=32							
Y58A	Scranton	13.99 309			Pn	**16 49 08.0**	**-1.0**	
U60A	Pendleton	14.05 323		P	Pn	**16 49 07.1**	**-2.8**	
	baz=137,SNR=28							
257A	Skidaway Islan	14.11 300		P	Pn	**16 49 08.6**	**-2.0**	
	baz=113,SNR=20							
257A	Skidaway Islan	14.11 300			Pn	**16 49 10.1**	**-0.5**	
BBGH	Gun Hill	14.11 151		P	P	**16 49 18.8**	**+0.4**	
X58A	Rowland	14.13 312		Pn	Pn	16 49 06.0	-4.9	
V59A	Middlesex	14.18 318		P	Pn	**16 49 08.3**	**-3.3**	
	baz=132,SNR=38							
S61A	Accomac	14.24 329		P	Pn	**16 49 09.4**	**-3.1**	
	baz=145							
S61A	Accomac	14.24 329			Pn	**16 49 10.6**	**-1.8**	
GRGR	Grenville	14.24 160			Pn	**16 49 12.5**	**-0.1**	
U59A	Littleton	14.32 321		P	Pn	**16 49 10.3**	**-3.2**	
	baz=135,SNR=35							
U59A	Littleton	14.32 321			Pn	**16 49 11.9**	**-1.7**	
T60A	Surry	14.33 325		P	Pn	**16 49 10.4**	**-3.3**	
	baz=140,SNR=27							
T60A	Surry	14.33 325			Pn	**16 49 12.2**	**-1.5**	
W58A	Raeford	14.33 314		P	Pn	**16 49 09.7**	**-4.0**	
	baz=127,SNR=86							
157A	Early Branch	14.37 302		P	Pn	**16 49 11.4**	**-2.9**	
	baz=115,SNR=115							
Z57A	Bowman	14.43 305		P	Pn	**16 49 13.4**	**-1.6**	
	baz=118,SNR=116							
Y57A	Sumter	14.56 308		P	Pn	**16 49 13.5**	**-3.3**	
	baz=121,SNR=136							
Y57A	Sumter	14.56 308			Pn	**16 49 14.3**	**-2.5**	
X57A	Johnson Farm,	14.59 310		P	Pn	**16 49 14.0**	**-3.3**	
	baz=123,SNR=78							
R61A	Willards	14.63 332		P	Pn	**16 49 14.7**	**-3.1**	
	baz=147							
R61A	Willards	14.63 332			Pn	**16 49 15.8**	**-1.9**	
T59A	Double "B" Far	14.64 323		P	Pn	**16 49 14.1**	**-3.7**	
	baz=137,SNR=38							
T59A	Double "B" Far	14.64 323			Pn	**16 49 14.9**	**-2.9**	
S60A	Water View	14.73 327		P	Pn	16 49 13.9	-5.2	
	baz=142,SNR=18							
V58A	Windy Hill, Pi	14.74 316		P	Pn	16 49 14.9	-4.4	
	baz=130,SNR=32							
V58A	Windy Hill, Pi	14.74 316		Pn	Pn	16 49 14.8	-4.4	
156A	Sylvania	14.74 302		P	Pn	**16 49 15.2**	**-4.2**	
	baz=114,SNR=19							
256A	Glennville	14.79 299		P	Pn	16 49 14.9	-5.0	
	baz=111,SNR=249							
U58A	Oxford	14.79 319		P	Pn	16 49 14.9	-5.1	
	baz=133,SNR=46							
FSCY	Frank Sound, G	14.86 248			Pn	**16 49 18.9**	**-2.1**	
W57A	Gilead	14.91 313		P	Pn	16 49 16.1	-5.5	
	baz=126,SNR=33							
W57A	Gilead	14.91 313			Pn	16 49 16.6	-5.0	
Z56A	Williston	14.94 304		P	Pn	**16 49 17.8**	**-4.2**	
	baz=117,SNR=53							
Z56A	Williston	14.94 304			Pn	16 49 17.0	-4.9	
BIRD	Birdtown, Kers	14.94 310			Pn	16 49 17.3	-4.7	
Q61A	Milford	15.09 333		P	Pn	**16 49 19.3**	**-4.7**	
	baz=148							
S59A	Mechanicsville	15.09 326		P	Pn	**16 49 20.0**	**-3.9**	
	baz=140,SNR=46							
Y56A	Pelion	15.11 306		P	Pn	**16 49 19.1**	**-5.1**	
	baz=118,SNR=79							
R60A	Leonardtown, M	15.14 329		P	Pn	**16 49 19.8**	**-4.8**	
	baz=143							
T58A	Grand View Acr	15.16 321		P	Pn	**16 49 19.7**	**-5.3**	
	baz=134,SNR=45							
V57A	Coltrane Farms	15.21 315		P	Pn	**16 49 19.9**	**-5.7**	
	baz=128,SNR=56							
255A	Hazlehurst	15.24 298		P	Pn	**16 49 21.9**	**-4.0**	
	baz=110,SNR=101							
255A	Hazlehurst	15.24 298		Pn	Pn	**16 49 22.7**	**-3.2**	
X56A	White Oak	15.26 309		P	Pn	**16 49 21.8**	**-4.4**	
	baz=121,SNR=124							
U57A	Blanch	15.29 318		P	Pn	**16 49 21.7**	**-4.9**	
	baz=131,SNR=22							
W56A	Indian Trail	15.30 311		P	Pn	**16 49 21.8**	**-4.9**	
	baz=124,SNR=71							
JSC	Jenkinsville	15.31 308		P	Pn	**16 49 23.8**	**-3.2**	
JSC				pmax	pmax			
	comp=Z,358nm,0.9s							
JSC	Jenkinsville	15.31 308			Pn	**16 49 23.8**	**-3.2**	
R59A	King George, V	15.34 327		P	Pn	**16 49 22.0**	**-5.3**	
	baz=142,SNR=19							
S58A	Poland Farm, P	15.38 324		P	Pn	**16 49 23.3**	**-4.5**	
	baz=138,SNR=61							
S58A	Poland Farm, P	15.38 324		Pn	Pn	**16 49 26.0**	**-1.7**	
TOSP	Speyside	15.40 157		Pn	Pn	**16 49 27.5**	**-0.6**	
Q60A	Greensboro	15.41 332		P	Pn	**16 49 24.1**	**-4.0**	
	baz=147,SNR=11							
Q60A	Greensboro	15.41 332			Pn	**16 49 26.8**	**-1.3**	
Z55A	Blythe	15.47 303		P	Pn	**16 49 25.0**	**-4.0**	
	baz=115,SNR=95							
CBN	Corbin Frederi	15.47 327		P	Pn	**16 49 25.0**	**-4.0**	
	baz=141							
CBN	Corbin Frederi	15.47 327		P	Pn	**16 49 27.0**	**-2.0**	
155A	Kite	15.48 300		P	Pn	**16 49 23.9**	**-5.2**	
	baz=112,SNR=178							
PCRV	Puerto La Cruz	15.51 173		Pn	Pn	**16 49 31.0**	**+1.4**	
	comp=Z,1.5nm,0.3s,baz=34,slow=7.3,SNR=4.5							
PCRV				Sn	Sn	16 52 06.7	-15	
	comp=Z,0.9nm,0.3s,baz=72,slow=9.0,SNR=2.3							
PLCV	Puerto La Cruz	15.53 173			Pn	**16 49 31.0**	**+1.2**	
PLCV					Sn	16 52 06.7	-15	
R58B	Mineral	15.55 325		P	Pn	**16 49 24.7**	**-5.3**	
	baz=139,SNR=46							
R58B	Mineral	15.55 325		Pn	Pn	**16 49 27.4**	**-2.5**	
R58B				IAmb	IAmb	16 49 30.5		
	comp=Z,181nm,0.5s							
P61A	Hammonton	15.57 336		P	Pn	**16 49 25.8**	**-4.4**	
	baz=151							
P61A	Hammonton	15.57 336		Pn	Pn	**16 49 27.1**	**-3.2**	
Y55A	Salida	15.58 306		P	Pn	**16 49 26.0**	**-4.5**	
	baz=118							
T57A	Hurt	15.62 319		P	Pn	**16 49 25.5**	**-5.4**	
	baz=133,SNR=60							
T57A	Hurt	15.62 319		Pn	Pn	**16 49 27.1**	**-3.8**	
T57A				IAmb	IAmb	16 49 33.1		
	comp=Z,169nm,0.5s							
V56A	Mocksville	15.63 314		P	Pn	**16 49 27.1**	**-4.0**	
	baz=126,SNR=97							
Q59A	Harwood	15.65 330		P	Pn	**16 49 27.0**	**-4.4**	
	baz=144							
X55A	Gracelyn & Ava	15.68 308		P	Pn	**16 49 26.7**	**-5.0**	
	baz=120,SNR=110							
TRN	Trinidad (W)	15.72 161	*e*		Pn	**16 49 32.4**	**0.0**	
KMSC	Kings Mountain	15.81 310		P	Pn	**16 49 28.6**	**-4.9**	
	baz=123,SNR=97							
KMSC	Kings Mountain	15.81 310		Pn	Pn	**16 49 28.4**	**-5.0**	
KMSC				IAmb	IAmb	16 49 49.6		
	comp=Z,342nm,0.8s							
M66A	Nantucket	15.84 350		P	Pn	**16 49 27.8**	**-5.9**	
	baz=168							
O61A	Allentown	15.85 337		P	Pn	**16 49 29.2**	**-4.7**	
	baz=153,SNR=11							
R58A	Rapidan	15.86 325		P	Pn	**16 49 29.2**	**-4.9**	
	baz=139,SNR=111							
U56A	King	15.88 315		P	Pn	**16 49 29.4**	**-5.0**	
	baz=128,SNR=129							
U56A	King	15.88 315		Pn	Pn	**16 49 30.5**	**-3.9**	
254A	Abbeville	15.89 297		P	Pn	**16 49 30.2**	**-4.3**	
	baz=109,SNR=78							
S57A	Dark Hollow, R	15.97 322		P	Pn	**16 49 30.8**	**-4.8**	
	baz=135,SNR=75							
S57A	Dark Hollow, R	15.97 322		Pn	Pn	**16 49 31.1**	**-4.5**	
S57A				IAmb	IAmb	16 49 37.5		
	comp=Z,279nm,0.7s							
154A	Montrose	15.98 300		P	Pn	**16 49 31.8**	**-3.8**	
	baz=111,SNR=94							
154A	Montrose	15.98 300		Pn	Pn	**16 49 32.5**	**-3.2**	
PAULI	Pauline	15.98 308			Pn	**16 49 31.5**	**-4.2**	
PAULI				IAmb	IAmb	16 49 53.6		
	comp=Z,455nm,1.0s							
TIGA	Tifton	15.98 295		P	Pn	**16 49 30.9**	**-4.8**	
	baz=107							
TIGA	Tifton	15.98 295			Pn	**16 49 31.3**	**-4.4**	
HODGE	Hodges	16.01 306			Pn	**16 49 31.1**	**-5.0**	
P60A	Greenville	16.01 334		P	Pn	**16 49 31.4**	**-4.6**	
	baz=149,SNR=13							
P60A	Greenville	16.01 334			Pn	**16 49 33.9**	**-2.0**	
Z54A	Sparta	16.01 302		P	Pn	**16 49 31.6**	**-4.4**	
	baz=114,SNR=66							
N63A	Mattituck	16.06 344		P	Pn	**16 49 32.1**	**-4.4**	
	baz=160							
T56A	Rocky Mt	16.10 318		P	Pn	**16 49 32.5**	**-4.6**	
	baz=131,SNR=43							
SMRC	Santa Marta, M	16.11 208	*e*	P	Pn	**16 49 35.1**	**-2.3**	
SMRC	Santa Marta, M	16.11 208	*e*	P	Pn	**16 49 35.1**	**-2.3**	
V55A	Taylorsville	16.13 313		P	Pn	**16 49 32.7**	**-4.8**	
	baz=125							
V55A	Taylorsville	16.13 313			Pn	**16 49 33.4**	**-4.2**	
V55A				IAmb	IAmb	16 49 40.6		
	comp=Z,329nm,0.7s							
R57A	Stanardsville	16.13 324		P	Pn	**16 49 33.2**	**-4.3**	
	baz=138,SNR=110							
Y54A	Tignall	16.16 304		P	Pn	**16 49 33.3**	**-4.7**	
	baz=116,SNR=174							
P59A	Jarrettsville	16.17 332		P	Pn	**16 49 33.2**	**-4.8**	
	baz=146,SNR=30							
SDMD	Soldier's Deli	16.18 330			Pn	**16 49 34.7**	**-3.4**	
Q58A	Fox Den Farm,	16.20 328		P	Pn	**16 49 34.3**	**-4.1**	
	baz=142,SNR=50							
M65A	Busby, Falmout	16.21 349		P	Pn	**16 49 35.1**	**-3.4**	
	baz=167							
M65A	Busby, Falmout	16.21 349		Pn	Pn	**16 49 36.8**	**-1.7**	
X54A	Belton	16.25 307		P	Pn	**16 49 34.4**	**-4.6**	
	baz=119,SNR=154							
S56A	Natural Bridge	16.26 321		P	Pn	**16 49 34.9**	**-4.3**	
	baz=134,SNR=84							
CPNY	Central Park	16.29 340		P	Pn	**16 49 39.4**	**0.0**	
M64A	Tiverton	16.30 348		P	Pn	**16 49 36.7**	**-3.0**	
	baz=165,SNR=6.8							
M63A	Gales Ferry	16.34 345		P	Pn	**16 49 36.3**	**-3.8**	
	baz=162							
N61A	South Mountain	16.36 339		P	Pn	**16 49 35.7**	**-4.7**	
	baz=155							
O60A	Telford	16.36 336		P	Pn	**16 49 37.4**	**-3.1**	
	baz=151,SNR=29							
553A	Crawfordville	16.38 290		P	Pn	**16 49 41.2**	**+0.5**	
W54A	Cherokee Point	16.38 309		P	Pn	**16 49 36.8**	**-3.9**	
	baz=121,SNR=96							
BRNJ	Basking Ridge	16.39 338		P	Pn	**16 49 40.4**	**-0.3**	
BRNJ				IAmb	IAmb	16 50 03.2		
	comp=Z,225nm,0.8s							
U55A	TA2, Sparta	16.40 315		P	Pn	**16 49 36.9**	**-4.2**	
	baz=127,SNR=80							
WSPT	Westport, CT	16.45 342		P	Pn	**16 49 40.6**	**-1.0**	
WSPT				IAmb	IAmb	16 49 48.3		
	comp=Z,299nm,1.2s							
P58A	Pank, Wackersv	16.45 330		P	Pn	**16 49 37.2**	**-4.4**	
	baz=144,SNR=47							
BLA	Blacksburg	16.45 318		P	Pn	**16 49 36.5**	**-5.2**	
	baz=130							
BLA	Blacksburg	16.45 318		P	Pn	**16 49 43.2**	**+1.5**	
BLA				pmax	pmax			
	comp=Z,620nm,0.7s							
BLA	Blacksburg	16.45 318		Pn	Pn	**16 49 38.5**	**-3.2**	
BLA				P	Pn	**16 49 43.2**	**+1.5**	
BLA				IAmb	IAmb	16 49 46.2		
	comp=Z,620nm,0.7s							
MVL	Millersville	16.46 333		P	Pn	**16 49 41.5**	**-0.2**	
PAL	Palisades	16.47 340		P	Pn	**16 49 36.8**	**-5.0**	
	baz=156							
PAL	Palisades	16.47 340		P	Pn	**16 49 41.7**	**-0.1**	
PAL				pmax	pmax			
	comp=Z,350nm,1.0s							
PAL	Palisades	16.47 340		P	Pn	**16 49 41.7**	**-0.1**	
PAL				IAmb	IAmb	16 49 46.4		
	comp=Z,350nm,1.0s							
353A	Camilla	16.47 294		P	Pn	**16 49 37.7**	**-4.2**	
	baz=106,SNR=145							
YLE	Yale	16.48 343		Pn	Pn	**16 49 40.1**	**-1.7**	
GOGA	Godfrey	16.56 302		P	Pn	**16 49 38.8**	**-4.3**	
	baz=113							
GOGA	Godfrey	16.56 302		P	Pn	**16 49 44.1**	**+1.1**	
GOGA				pmax	pmax			
	comp=Z,454nm,0.8s							
GOGA	Godfrey	16.56 302		P	Pn	**16 49 44.1**	**+1.1**	
GOGA				IAmb	IAmb	16 49 45.9		
	comp=Z,454nm,0.8s							
153A	Fort Valley	16.56 299		P	Pn	**16 49 39.7**	**-3.4**	
	baz=110,SNR=45							
L65A	Cape Cod Natio	16.58 351		P	Pn	**16 49 37.3**	**-5.8**	
	baz=169							
V54A	Nebo	16.58 311		P	Pn	**16 49 39.5**	**-3.8**	
	baz=123,SNR=69							
M62A	Hamden	16.58 343		P	Pn	**16 49 39.7**	**-3.6**	
	baz=160,SNR=22							
Z53A	Monticello	16.59 301		P	Pn	**16 49 39.7**	**-3.7**	
	baz=113,SNR=166							
253A	Americus	16.61 297		P	Pn	**16 49 40.9**	**-2.8**	
	baz=108,SNR=23							
253A	Americus	16.61 297			Pn	**16 49 41.2**	**-2.4**	
253A				P	P	**16 49 46.0**	**-0.1**	
253A				IAmb	IAmb	16 50 01.7		
	comp=Z,832nm,0.7s							
L64A	Middleborough	16.61 349		P	Pn	**16 49 40.4**	**-3.1**	
	baz=166,SNR=7.5							
T55A	Pulaski	16.62 317		P	Pn	**16 49 40.3**	**-3.5**	
	baz=129,SNR=35							
Q57A	Strasburg	16.63 326		P	Pn	**16 49 40.9**	**-3.0**	
	baz=140,SNR=36							
O59A	Robesonia	16.66 334		P	Pn	**16 49 42.0**	**-2.3**	
	baz=148,SNR=68							
L63A	North Scituate	16.68 347		P	Pn	**16 49 42.5**	**-2.1**	
	baz=164,SNR=6.5							
R56A	Bull Pasture M	16.68 323		P	Pn	**16 49 41.7**	**-3.0**	
	baz=136,SNR=39							
M61A	Granite Spring	16.70 341		P	Pn	**16 49 41.8**	**-3.0**	
	baz=157,SNR=29							
BRYW	Bryant College	16.72 347		P	Pn	**16 49 44.8**	**-0.2**	
N60A	Cedar Hill Far	16.73 337		P	Pn	**16 49 42.1**	**-3.1**	
	baz=152,SNR=81							
ODNJ	Ogdensburg	16.76 339		P	Pn	**16 49 46.4**	**+0.9**	
P57A	Homestead Farm	16.78 328		P	Pn	**16 49 43.2**	**-2.5**	
	baz=142,SNR=64							
P57A	Homestead Farm	16.78 328		P	Pn	**16 49 45.6**	**-0.2**	
O58A	Lewisberry	16.80 332		P	Pn	**16 49 42.6**	**-3.5**	
	baz=146,SNR=44							
PAGS	Pennsylvania G	16.81 332		P	Pn	**16 49 46.0**	**-0.1**	
PAGS				IAmb	IAmb	16 49 53.4		
	comp=Z,360nm,0.9s							
Y53A	Monroe	16.83 303		P	Pn	**16 49 43.5**	**-3.0**	
	baz=114,SNR=118							
BG3	Lake Jocassee	16.86 307			Pn	**16 49 43.6**	**-3.2**	
BG3				P	P	**16 49 48.6**	**-0.3**	
BG3				IAmb	IAmb	16 50 03.4		
	comp=Z,378nm,0.6s							
S55A	Lewisburg	16.87 319		P	Pn	**16 49 43.6**	**-3.4**	
	baz=132,SNR=121							
X53A	Estanollee	16.90 305		P	Pn	**16 49 43.5**	**-3.9**	
	baz=117							
U54A	Nelsons Funny	16.91 313		P	Pn	**16 49 44.2**	**-3.4**	
	baz=126,SNR=83							
U54A	Nelsons Funny	16.91 313		P	P	**16 49 49.6**	**0.0**	
U54A				IAmb	IAmb	16 49 55.6		
	comp=Z,359nm,0.8s							
CODC	Agustn Codazz	16.92 204	*e*	P	P	**16 49 50.1**	**+0.5**	
CODC	Agustn Codazz	16.92 204	*e*	P	P	**16 49 50.1**	**+0.5**	
M60A	Port Jervis	16.98 339		P	Pn	**16 49 45.0**	**-3.4**	
	baz=154							
R55A	Marlinton	17.00 321		P	Pn	**16 49 44.9**	**-3.7**	
	baz=134							
R55A	Marlinton	17.00 321		P	P	**16 49 50.8**	**+0.3**	
KSCT	Kent School, K	17.01 342		P	Pn	**16 49 48.5**	**-0.1**	
N59A	State Game Lan	17.02 336		P	Pn	**16 49 46.0**	**-2.8**	
	baz=151							
N59A	State Game Lan	17.02 336		P	Pn	**16 49 49.0**	**+0.2**	
N59A				IAmb	IAmb	16 49 57.0		
	comp=Z,406nm,1.3s							
Q56A	Snyder Ridge,	17.03 325		P	Pn	**16 49 45.2**	**-3.8**	
	baz=138							
Q56A	Snyder Ridge,	17.03 325			Pn	**16 49 46.4**	**-2.6**	
Q56A				P	P	**16 49 50.8**	**0.0**	
Q56A				IAmb	IAmb	16 49 57.8		
	comp=Z,329nm,0.7s							
BCX	Boston College	17.06 348		P	Pn	**16 49 49.3**	**+0.1**	
T54A	Tazewell	17.08 315		P	Pn	**16 49 45.8**	**-3.8**	
	baz=127,SNR=55							
252A	Lumpkin	17.08 296		P	Pn	**16 49 46.4**	**-3.2**	
	baz=107							
L62A	Suffield	17.08 345		P	Pn	**16 49 45.2**	**-4.4**	
	baz=161							
352A	Blakely	17.09 294		P	Pn	**16 49 46.9**	**-2.8**	
	baz=105							
352A	Blakely	17.09 294		P	P	**16 49 51.2**	**-0.2**	
SDV	Santo Domingo	17.11 194	*e*	P	P	**16 49 53.5**	**+1.5**	
SDV	Santo Domingo	17.11 194	*e*	P	P	**16 49 53.5**	**+1.5**	
SDV	Santo Domingo	17.11 194		P	P	**16 49 51.9**	**0.0**	
	comp=Z,7.1nm,0.3s,baz=303,slow=9.0,SNR=26							
SDV				S	Sn	16 52 46.6	-14	
	comp=Z,1.8nm,0.3s,baz=300,slow=20,SNR=4.1							
SDV	Santo Domingo	17.11 194	*e*	P	P	**16 49 52.1**	**+0.2**	
SDV	Santo Domingo	17.11 194	*e*	P	P	**16 49 52.1**	**+0.2**	
SDV	Santo Domingo	17.11 194		P	P	**16 49 52.7**	**+0.8**	
W53A	Cullowhee	17.11 308		P	Pn	**16 49 46.3**	**-3.9**	
	baz=119,SNR=150							
V53A	Saluda	17.12 310		P	Pn	**16 49 45.9**	**-4.2**	
	baz=121							
V53A	Saluda	17.12 310			Pn	**16 49 48.1**	**-2.1**	
V53A				P	P	**16 49 52.7**	**+0.9**	
V53A				IAmb	IAmb	16 49 54.5		
	comp=Z,394nm,0.6s							
WES	Weston	17.13 348		P	Pn	**16 49 50.4**	**+0.2**	
WES				pmax	pmax			
	comp=Z,109nm,1.0s							
WES	Weston	17.13 348		P	Pn	**16 49 50.4**	**+0.2**	
O57A	Amberson	17.19 330		P	Pn	**16 49 47.5**	**-3.4**	
	baz=144,SNR=82							
Y52A	Lilburn	17.20 302		P	Pn	**16 49 48.6**	**-2.5**	
	baz=114,SNR=99							
Y52A	Lilburn	17.20 302		Pn	Pn	**16 49 49.1**	**-2.0**	
Y52A				P	P	**16 49 52.8**	**+0.2**	
Y52A				IAmb	IAmb	16 49 58.1		
	comp=Z,753nm,0.9s							
P56A	Dayton Farm, R	17.20 326		P	Pn	**16 49 48.0**	**-3.1**	
	baz=140,SNR=41							
Z52A	Williamson	17.22 300		P	Pn	**16 49 48.2**	**-3.1**	
	baz=111,SNR=108							
QUA2	Belchertown	17.24 346		P	Pn	**16 49 51.6**	**+0.1**	
152A	Waverly Hall	17.27 298		P	Pn	**16 49 50.0**	**-2.1**	
	baz=109,SNR=225							
152A	Waverly Hall	17.27 298		P	P	**16 49 53.6**	**+0.1**	
HRV	Adam Dziewonsk	17.29 348		P	Pn	**16 49 50.3**	**-1.9**	
	baz=165							
HRV	Adam Dziewonsk	17.29 348		P	Pn	**16 49 51.6**	**-0.6**	
HRV				pmax	pmax			
	comp=Z,311nm,1.2s							
HRV	Adam Dziewonsk	17.29 348			Pn	**16 49 51.6**	**-0.6**	
HRV				IAmb	IAmb	16 49 59.6		
	comp=Z,311nm,1.2s							
ARGC	Ariguani, Magd	17.30 206	*e*	P	P	**16 49 58.0**	**+4.2**	
ARGC	Ariguani, Magd	17.30 206	*e*	P	P	**16 49 58.0**	**+4.2**	
N58A	Sunbury	17.32 333		P	Pn	**16 49 49.8**	**-2.7**	
	baz=148,SNR=39							
N58A	Sunbury	17.32 333		P	Pn	**16 49 52.6**	**+0.1**	
N58A				IAmb	IAmb	16 49 59.5		
	comp=Z,141nm,0.6s							
U53A	Fall Branch	17.33 312		P	Pn	**16 49 49.6**	**-3.2**	
	baz=124,SNR=137							
S54A	Dingess, Beckl	17.38 318		P	Pn	**16 49 50.3**	**-3.0**	
	baz=130,SNR=63							
S54A	Dingess, Beckl	17.38 318		Pn	Pn	**16 49 50.6**	**-2.7**	
S54A				P	P	**16 49 55.1**	**+0.5**	
S54A				IAmb	IAmb	16 49 58

comp=Z,1µm,20.2s,baz=117,slow=34
TKL Tuckaleechee C 17.79 308 Pn 16 49 57.6 -0.9
S53A Williamson 17.80 316 P Pn 16 49 57.0 -1.7
baz=128,SNR=92
K61A Williamstown 17.83 344 P Pn 16 49 57.2 -1.7
baz=160,SNR=13
Z51A Franklin 17.85 300 Pn Pn 16 49 56.4 -2.9
Z51A IAmb IAmb 16 50 20.4
comp=Z,549nm,0.8s
U52A Thorn Hill 17.88 311 P Pn 16 49 57.8 -1.7
baz=122,SNR=27
Q54A Coxs Mills 17.89 321 P Pn 16 49 57.7 -1.9
baz=134,SNR=61
Q54A Coxs Mills 17.89 321 P P 16 50 00.9 +0.7
Q54A IAmb IAmb 16 50 16.1
comp=Z,185nm,0.5s
L59A Walton 17.90 339 P Pn 16 49 58.2 -1.6
baz=154,SNR=13
L59A Walton 17.90 339 Pn Pn 16 49 58.0 -1.7
L59A P P 16 50 00.7 +0.4
L59A IAmb IAmb 16 50 16.3
comp=Z,138nm,0.9s
M57A Sunshine Farm, 17.91 333 P Pn 16 49 57.8 -2.0
baz=148,SNR=39
M57A Sunshine Farm, 17.91 333 P P 16 50 01.3 +0.9
K60A Five Rivers En 17.95 342 P Pn 16 49 57.9 -2.3
baz=158
J63A Strafford 17.96 349 P Pn 16 49 58.3 -2.1
baz=167,SNR=8.8
O55A Ligonier 17.97 327 P Pn 16 49 58.3 -2.3
baz=140,SNR=32
Y51A Rockmart 17.98 302 P Pn 16 49 57.1 -3.7
baz=112
TRY Troy 17.99 343 P P 16 50 01.6 +0.3
T52A Hallie 18.02 313 P Pn 16 49 59.4 -1.9
baz=125,SNR=14
T52A Hallie 18.02 313 Pn 16 49 59.7 -1.6
L58A Harry Jones Me 18.04 337 P Pn 16 50 00.1 -1.3
baz=152,SNR=17
J62A Henniker 18.04 348 P Pn 16 50 00.4 -1.0
baz=165,SNR=12
N56A West Decatur 18.05 330 P Pn 16 50 00.3 -1.4
baz=144,SNR=24
TZTN Tazewell 18.08 311 P Pn 16 49 59.9 -2.2
baz=122
TZTN Tazewell 18.08 311 Pn Pn 16 49 59.5 -2.6
TZTN IAmb IAmb 16 50 18.3
comp=Z,265nm,0.8s
X51A Calhoun 18.09 304 P Pn 16 49 59.8 -2.3
baz=114
X51A Calhoun 18.09 304 Pn 16 50 00.4 -1.7
R53A Hurricane 18.10 318 P Pn 16 50 00.0 -2.2
baz=130,SNR=55
R53A Hurricane 18.10 318 P Pn 16 50 00.6 -1.7
P54A Burton 18.13 323 P Pn 16 50 00.7 -1.8
baz=136
Q53A Leroy 18.20 320 P Pn 16 50 01.1 -2.3
baz=132,SNR=32
SMLC San Martn de 18.20 204 eP P 16 50 05.8 +2.0
SMLC San Martn de 18.20 204 eP P 16 50 05.8 +2.0
BINY Binghamton 18.22 337 P Pn 16 50 01.5 -2.2
baz=152
BINY Binghamton 18.22 337 P Pn 16 50 02.0 -1.6
CPCT Cooper Cave 18.23 307 P Pn 16 50 02.7 -1.1
FFD Franklin Falls 18.24 348 P Pn 16 50 02.0 -1.9
N55A Marion Center 18.26 329 P Pn 16 50 02.5 -1.7
baz=142,SNR=11
V51A Loudon 18.27 308 P Pn 16 50 02.9 -1.4
baz=119,SNR=103
V51A Loudon 18.27 308 P Pn 16 50 03.4 -1.0
W51A Cleveland 18.27 306 P Pn 16 50 02.8 -1.5
baz=116,SNR=148
J61A Chester 18.30 346 P Pn 16 50 03.2 -1.5
baz=163,SNR=12
U51A La Follette 18.32 310 P Pn 16 50 03.2 -1.7
baz=121,SNR=164
250A Grady 18.32 295 P Pn 16 50 03.0 -2.1
L57A Andrews Acres 18.36 335 P Pn 16 50 03.6 -1.9
baz=149,SNR=21
K59A Cooperstown 18.37 340 P P 16 50 04.0 -1.6
baz=156,SNR=25
I64A Boothbay 18.39 353 P P 16 50 03.9 -1.8
baz=171
S52A Salyersville 18.41 315 P P 16 50 04.4 -1.6
baz=126
J60A Lant Hill Farm 18.41 344 P P 16 50 04.9 -1.0
baz=160,SNR=26
Z50A Ashland 18.42 299 P P 16 50 05.0 -1.2
baz=109,SNR=120
Z50A Ashland 18.42 299 P P 16 50 05.2 -1.0
Z50A IAmb IAmb 16 50 35.6
comp=Z,254nm,0.7s
OCAC Ocana 18.46 201 eP Pn 16 50 08.6 +1.7
OCAC Ocana 18.46 201 eP Pn 16 50 08.6 +1.7
M56A Emporium 18.47 332 P P 16 50 04.8 -1.8
baz=145,SNR=51
M56A Emporium 18.47 332 P P 16 50 04.6 -2.0
M56A IAmb IAmb 16 50 14.4
comp=Z,234nm,1.0s
PRVC Isla de Provid 18.48 231 eP Pn 16 50 11.3 +4.3
PRVC Isla de Provid 18.48 231 eP Pn 16 50 11.3 +4.3
O54A Avella 18.49 325 P P 16 50 05.1 -1.8
baz=137,SNR=58
O54A Avella 18.49 325 P P 16 50 05.3 -1.6
O54A IAmb IAmb 16 50 12.5
comp=Z,337nm,0.8s
R52A Catlettsburg 18.53 317 P P 16 50 04.7 -2.6
baz=128,SNR=22
P53A Whipple 18.54 322 P P 16 50 04.9 -2.5
baz=134,SNR=30
P53A Whipple 18.54 322 P P 16 50 06.1 -1.3
P53A IAmb IAmb 16 50 26.7
comp=Z,206nm,0.8s
T51A Gray 18.58 312 P P 16 50 05.0 -2.8
baz=122,SNR=44
I62A Tamworth 18.58 349 P P 16 50 05.1 -2.7
baz=166,SNR=15
I62A Tamworth 18.58 349 P P 16 50 07.4 -0.4
HNH Hanover 18.59 347 P P 16 50 07.2 -0.7
K58A Earlville 18.61 339 P P 16 50 05.1 -3.0
baz=154,SNR=21
K58A Earlville 18.61 339 P P 16 50 06.8 -1.3
K58A IAmb IAmb 16 50 13.2
comp=Z,508nm,1.6s
I63A Otisfield 18.63 351 P P 16 50 06.0 -2.4
baz=169
I63A Otisfield 18.63 351 P Pn 16 50 09.2 +0.5
FPAL Fort Paine 18.65 303 P P 16 50 06.5 -2.2
FPAL IAmb IAmb 16 50 26.7
comp=Z,144nm,0.5s
W50A Signal Mountai 18.69 305 P P 16 50 06.9 -2.2
baz=115,SNR=154
W50A Signal Mountai 18.69 305 P Pn 16 50 10.1 +0.6
W50A IAmb IAmb 16 50 20.2
comp=Z,373nm,0.7s
Q52A Bidwell 18.70 319 P P 16 50 06.6 -2.5
baz=130,SNR=123
M55A Ridgway 18.71 330 P P 16 50 06.7 -2.6
baz=144,SNR=16
M55A Ridgway 18.71 330 P P 16 50 08.3 -1.0
M55A IAmb IAmb 16 50 13.2
comp=Z,487nm,1.9s
S51A Beattyville 18.72 314 P P 16 50 06.9 -2.5
baz=125,SNR=50
S51A Beattyville 18.72 314 P P 16 50 08.2 -1.2
S51A IAmb IAmb 16 50 20.1
comp=Z,175nm,0.7s
V50A Pikevile 18.75 307 P P 16 50 07.7 -2.0
baz=117,SNR=136
L56A Greenwood 18.75 334 P P 16 50 07.0 -2.8
baz=148,SNR=27
L56A Greenwood 18.75 334 P P 16 50 09.1 -0.7
L56A IAmb IAmb 16 50 18.6
comp=Z,209nm,0.8s
BRAL Brewton 18.79 292 P P 16 50 08.2 -2.0
baz=102
BRAL Brewton 18.79 292 P P 16 50 09.3 -0.8
I61A Oroboro, Fairl 18.80 347 P P 16 50 07.6 -2.5
baz=164,SNR=9.1
N54A Moraine State 18.88 327 P P 16 50 09.4 -1.8
baz=140,SNR=49
N54A Moraine State 18.88 327 P P 16 50 11.7 +0.5
N54A IAmb IAmb 16 50 18.0
comp=Z,212nm,0.8s
J59A Piesco 18.90 342 P P 16 50 09.6 -1.7
baz=158,SNR=15
J59A Piesco 18.90 342 P P 16 50 11.7 +0.3
U50A Jamestown 18.91 309 P P 16 50 09.7 -1.9
baz=119,SNR=319
I60A Shoreham 18.94 345 P P 16 50 10.2 -1.6
baz=161,SNR=13
O53A New Philadelph 18.98 324 P P 16 50 11.1 -1.2
baz=136,SNR=26
Y49A Blount Mountai 19.01 300 P P 16 50 13.0 +0.4
Y49A IAmb IAmb 16 50 41.1
comp=Z,284nm,0.7s
EMMW East Machias 19.02 358 P Pn 16 50 14.9 +1.5
WVL Waterville 19.03 353 P P 16 50 13.4 +0.7
J58A Remsen 19.03 340 P P 16 50 12.3 -0.4
baz=155,SNR=20
J58A Remsen 19.03 340 P P 16 50 12.4 -0.4
LBNH Lisbon 19.04 348 P P 16 50 11.6 -1.3
baz=165
LBNH Lisbon 19.04 348 P P 16 50 13.1 +0.2
LBNH pmax pmax
comp=Z,71nm,0.9s
LBNH Lisbon 19.04 348 P P 16 50 13.1 +0.2
H65A Eastbrook 19.04 356 P P 16 50 12.0 -0.9
baz=175
H64A Troy 19.06 354 P P 16 50 11.7 -1.4
baz=173
P52A Corning 19.06 321 P P 16 50 12.4 -0.8
baz=132,SNR=39
R51A Hillsboro 19.09 315 P P 16 50 12.6 -0.9
baz=126,SNR=77
H66A Whiting 19.10 358 P P 16 50 11.7 -1.7
baz=178
HAL Halifax 19.10 7 P P 16 50 13.2 -0.3
HAL pmax pmax
comp=Z,468nm,2.0s
HAL Halifax 19.10 7 P P 16 50 13.2 -0.3
HAL IAmb IAmb 16 50 23.9
comp=Z,468nm,2.0s
LCBC Los crdobas, 19.11 211 eP Pn 16 50 20.9 +6.3
LCBC Los crdobas, 19.11 211 eP Pn 16 50 20.9 +6.3
PAMC Pamplona, Colo 19.12 199 eP Pn 16 50 16.9 +1.7
PAMC Pamplona, Colo 19.12 199 eP Pn 16 50 16.9 +1.7
K56A Middlesex 19.14 335 P P 16 50 12.9 -1.1
baz=149,SNR=33
L55A Hinsdale 19.15 332 P P 16 50 12.8 -1.3
baz=146,SNR=10
M54A Oil Creek Stat 19.15 329 P P 16 50 13.4 -0.7
baz=142,SNR=27
M54A Oil Creek Stat 19.15 329 P P 16 50 13.7 -0.5
SWET Sewanee 19.16 304 P P 16 50 12.7 -1.6
SWET IAmb IAmb 16 50 41.9
comp=Z,156nm,0.8s
H63A New Sharon 19.16 353 P P 16 50 13.1 -1.1
baz=170,SNR=5.9
N53A Lisbon 19.19 325 P P 16 50 13.6 -0.9
baz=138,SNR=38
N53A Lisbon 19.19 325 P P 16 50 13.8 -0.7
N53A IAmb IAmb 16 50 22.9
comp=Z,255nm,1.0s
LRAL Lakeview Retre 19.21 297 P P 16 50 13.8 -1.0
baz=107
LRAL Lakeview Retre 19.21 297 P Pn 16 50 15.6 -0.1
LRAL IAmb IAmb 16 50 23.2
comp=Z,291nm,1.0s
T50A Nancy 19.21 310 P P 16 50 13.7 -1.2
baz=121,SNR=80
O52A Adamsville 19.23 322 P P 16 50 13.2 -1.7
baz=134,SNR=16
O52A Adamsville 19.23 322 P P 16 50 15.3 +0.3
H62A Milan 19.23 350 P P 16 50 14.2 -0.7
baz=167,SNR=5.8
H62A Milan 19.23 350 P P 16 50 15.3 +0.4
H62A Pn 16 50 15.7 -0.3
H62A IAmb IAmb 16 50 49.9
comp=Z,99nm,0.9s
S50A Richmond 19.27 313 P P 16 50 14.7 -0.8
baz=123,SNR=28
NCB Newcomb 19.29 343 P P 16 50 16.3 +0.6
J57A Williamstown 19.30 339 P P 16 50 15.0 -0.7
baz=154,SNR=10
J57A Williamstown 19.30 339 P P 16 50 14.7 -1.0
H61A Lyndonville 19.32 348 P P 16 50 15.6 -0.3
baz=165,SNR=9.4
W49A Belvidere 19.37 304 P P 16 50 15.8 -0.8
baz=114,SNR=20
V49A McMinnville 19.37 306 P P 16 50 16.1 -0.5
baz=116,SNR=46
Q51A Peebles 19.39 318 P P 16 50 16.3 -0.4
baz=128,SNR=66
Q51A Peebles 19.39 318 P P 16 50 15.6 -1.2
Q51A IAmb IAmb 16 50 35.4
comp=Z,279nm,0.6s
MMNY Mt. Morris Dam 19.39 334 P P 16 50 14.5 -2.3
MMNY IAmb IAmb 16 50 23.9
comp=Z,276nm,1.0s
WVNY West Valley, N 19.40 332 P P 16 50 15.7 -1.2
WVNY IAmb IAmb 16 50 24.3
comp=Z,198nm,1.0s
K55A Perry 19.45 334 P P 16 50 17.0 -0.5
baz=147,SNR=24
J56A Wolcott 19.47 337 P P 16 50 17.0 -0.6
baz=151,SNR=12
J56A Wolcott 19.47 337 P P 16 50 16.1 -1.5
J56A Pn 16 50 17.9 -0.9
J56A IAmb IAmb 16 50 29.1
comp=Z,160nm,0.7s
ALLY Alegheny Colle 19.49 328 P P 16 50 17.4 -0.4
H60A Morristown 19.50 347 P P 16 50 17.0 -0.9
baz=163
P51A Williamsport 19.50 319 P P 16 50 17.4 -0.6
baz=130,SNR=38
P51A Williamsport 19.50 319 P P 16 50 17.8 -0.1
P51A IAmb IAmb 16 50 34.9
comp=Z,181nm,0.6s
R50A Paris 19.56 314 P P 16 50 18.7 +0.1
baz=125,SNR=41
R50A Paris 19.56 314 P P 16 50 17.4 -1.2
R50A IAmb IAmb 16 50 27.7
comp=Z,268nm,0.6s
G63A Kingsbury 19.57 354 P P 16 50 18.2 -0.5
baz=172
L54A Sinclairville 19.57 331 P P 16 50 18.7 0.0
baz=144,SNR=7.7
K54A Basiliko Farm, 19.61 333 P P 16 50 18.7 -0.4
baz=146,SNR=10
U49A Red Boiling Sp 19.62 308 P P 16 50 18.6 -0.7
baz=118,SNR=111
G64A Maxfield 19.63 356 P P 16 50 18.2 -1.1
baz=174
N52A McGinn's Farm, 19.64 324 P P 16 50 19.0 -0.4
baz=136,SNR=22
BRRC Barranca, Sant 19.65 201 eP Pn 16 50 21.1 0.0
BRRC Barranca, Sant 19.65 201 eP Pn 16 50 21.1 0.0
Q50A Georgetown 19.67 316 P P 16 50 19.4 -0.4
baz=127,SNR=57
I57A Carthage 19.67 340 P P 16 50 18.7 -1.1
baz=155,SNR=11
O51A Pataskala 19.68 321 P P 16 50 19.3 -0.6
baz=132,SNR=46
PKME Peaks-Kenny Pk 19.68 354 P P 16 50 18.5 -1.4
baz=173
PKME Peaks-Kenny Pk 19.68 354 P 16 50 20.5 +0.7
ZARC Zaragoza, Cauc 19.70 205 eP Pn 16 50 23.3 +1.6
ZARC Zaragoza, Cauc 19.70 205 eP Pn 16 50 23.3 +1.6
H58A Gabriels 19.70 344 P P 16 50 19.4 -0.7
baz=159
X48A Hartselle 19.71 301 P P 16 50 20.7 +0.5
X48A IAmb IAmb 16 50 49.1
comp=Z,142nm,0.8s
UREC San Jos de Ur 19.73 207 eP Pn 16 50 23.1 +1.0
UREC San Jos de Ur 19.73 207 eP Pn 16 50 23.1 +1.0
T49A Edmonton 19.74 310 P P 16 50 18.8 -1.8
baz=120,SNR=77
T49A Edmonton 19.74 310 P P 16 50 21.4 +0.8
T49A IAmb IAmb 16 51 10.8
comp=Z,180nm,0.8s
TAMC Tame, Arauca 19.74 195 eP Pn 16 50 27.4 +5.1
TAMC Tame, Arauca 19.74 195 eP Pn 16 50 27.4 +5.1
G62A West of Eustis 19.77 352 P P 16 50 20.2 -0.7
baz=170
G62A West of Eustis 19.77 352 P 16 50 21.3 +0.4
ERPA Erie 19.78 329 P P 16 50 20.1 -0.8
baz=142
ERPA Erie 19.78 329 P P 16 50 19.5 -1.5
ERPA IAmb IAmb 16 50 32.1
comp=Z,198nm,0.8s
H59A Cadyville 19.80 345 P P 16 50 20.9 -0.3
baz=161,SNR=8.4
J55A Hilton 19.81 335 P P 16 50 19.8 -1.5
baz=149
J55A Hilton 19.81 335 P P 16 50 20.7 -0.6
CLTN Cedars of Leba 19.83 306 Pn 16 50 23.2 +0.1
S49A Springfield 19.92 312 P P 16 50 22.2 -0.3
baz=122,SNR=20
G60A Masonville 19.94 348 P P 16 50 21.2 -1.5
baz=165
ACSO Alum Creek Sta 19.95 321 P P 16 50 22.2 -0.7
baz=132
ACSO Alum Creek Sta 19.95 321 P 16 50 23.4 +0.6
ACSO IAmb IAmb 16 50 36.3
comp=Z,313nm,1.1s
BARC Barichara 19.97 199 eP Pn 16 50 25.1 0.0
BARC Barichara 19.97 199 eP Pn 16 50 25.1 0.0
MEDO Medina 19.97 334 P 16 50 23.8 +0.7
MEDO IAmb IAmb 16 50 35.6
comp=Z,218nm,1.1s
G61A St-Isidore-de- 19.98 350 P P 16 50 21.4 -1.7
baz=167
LONY Lake Ozonia 19.99 343 P P 16 50 21.3 -1.9
baz=158
LONY Lake Ozonia 19.99 343 P 16 50 23.7 +0.5
M52A Chesterland 20.00 326 P P 16 50 21.8 -1.5
baz=138
M52A Chesterland 20.00 326 Pn 16 50 24.7 -0.4
P50A Jamestown 20.02 318 P P 16 50 22.5 -1.2
baz=129,SNR=44
V48A Smith Brothers 20.04 305 Pn 16 50 25.2 -0.4
V48A IAmb IAmb 16 50 56.3
comp=Z,115nm,0.7s
H57A Richville 20.07 341 P P 16 50 23.9 -0.2
baz=156,SNR=11
N51A Ashland 20.08 323 P P 16 50 23.5 -0.8
baz=134,SNR=6.0
N51A Ashland 20.08 323 P 16 50 25.0 +0.7
N51A IAmb IAmb 16 50 30.7
comp=Z,199nm,1.1s
G59A Clarenceville 20.09 346 P P 16 50 22.3 -2.0
baz=162
R49A Shelbyville 20.11 313 P P 16 50 23.6 -1.1
baz=123,SNR=19
R49A Shelbyville 20.11 313 P P 16 50 25.1 +0.4
R49A IAmb IAmb 16 50 36.2
comp=Z,168nm,0.5s
GBN Guysborough 20.13 10 P 16 50 24.7 0.0
GBN IAmb IAmb 16 50 32.2
comp=Z,368nm,1.8s
J54A Appleton 20.14 334 P P 16 50 23.1 -1.7
baz=147
J54A Appleton 20.14 334 P P 16 50 23.6 -1.3
LMN Caledonia Moun 20.21 4 P P 16 50 25.9 +0.3
LMN IAmb IAmb 16 50 32.8
comp=Z,308nm,1.6s
F64A Sherman 20.21 356 P P 16 50 24.2 -1.5
baz=175,SNR=16
F64A Sherman 20.21 356 P P 16 50 24.2 -1.5
O50A Cable 20.26 320 P P 16 50 25.1 -1.1
baz=130,SNR=46
M51A Elyria 20.27 324 P P 16 50 25.4 -0.9
baz=136
G58A Ormstown 20.36 345 P P 16 50 25.7 -1.5
baz=160,SNR=10
F62A Pittston Farm, 20.38 353 P P 16 50 26.1 -1.4
baz=171
F62A Pittston Farm, 20.38 353 P 16 50 28.5 +1.1
N50A Nevada 20.41 322 P P 16 50 27.0 -0.8
baz=132,SNR=26
PTBC PUERTO BERRIO, 20.43 203 eP Pn 16 50 30.7 +0.3
PTBC PUERTO BERRIO, 20.43 203 eP Pn 16 50 30.7 +0.3
H56A Elgin 20.45 340 P P 16 50 27.2 -0.9
baz=154,SNR=5.9
G57A Newington 20.55 343 P P 16 50 27.7 -1.5
baz=158,SNR=14
F61A St Evariste 20.58 351 P P 16 50 29.3 -0.3
baz=169
I55A Frankford 20.58 337 P P 16 50 28.2 -1.4
baz=150,SNR=7.2
RUSC La Rusia 20.60 199 eP P 16 50 31.4 +0.8
RUSC La Rusia 20.60 199 eP P 16 50 31.4 +0.8
K52A Tillsonburg 20.63 329 P P 16 50 28.5 -1.7
baz=141,SNR=13
TEIG Tepich 20.66 259 P Pn 16 50 32.5 -0.5
comp=Z,167nm,0.9s,baz=139,slow=1.3,SNR=38
TEIG LR LR 16 57 33.8
comp=Z,1µm,21.9s,baz=143,slow=34
TEIG Tepich 20.66 259 P Pn 16 50 31.9 -1.1
TEIG IAmb IAmb 16 50 36.5
comp=Z,386nm,1.3s
BCIP Isla Barro Col 20.66 220 eP Pn 16 50 32.9 -0.2
BCIP Isla Barro Col 20.66 220 eP Pn 16 50 32.9 -0.2
BCIP Isla Barro Col 20.66 220 P Pn 16 50 32.6 -0.4
BCIP pmax pmax
comp=Z,315nm,1.0s
BCIP Isla Barro Col 20.66 220 Pn 16 50 32.6 -0.4
BCIP IAmb IAmb 16 50 39.0
comp=Z,315nm,0.9s
DBBC Dabeiba 20.67 208 eP Pn 16 50 34.2 +0.9
DBBC Dabeiba 20.67 208 eP Pn 16 50 34.2 +0.9
PLAL Pickwick Lake 20.69 302 P 16 50 31.6 +0.7
PLAL IAmb IAmb 16 50 43.1
comp=Z,158nm,0.6s
H55A Tweed 20.70 338 P P 16 50 29.1 -1.9
baz=152,SNR=11
O49A Covington 20.71 319 P P 16 50 30.7 -0.4
baz=129,SNR=36
O49A Covington 20.71 319 Pn P 16 50 32.0 +0.8
F60A Warwick 20.72 349 P P 16 50 30.5 -0.7
baz=166,SNR=18
E64A Bridgewater 20.74 358 P P 16 50 31.2 -0.2
baz=177
F59A Saint Gilaume 20.75 348 P P 16 50 30.8 -0.7
baz=164
E63A Oxbow 20.77 356 P P 16 50 31.3 -0.4
baz=175
E63A Oxbow 20.77 356 P 16 50 30.3 -1.4
M50A Fremont 20.78 323 P P 16 50 31.3 -0.6
baz=134,SNR=14
M50A Fremont 20.78 323 Pn P 16 50 33.1 +1.3
M50A IAmb IAmb 16 50 46.2
comp=Z,110nm,0.6s
T47A Sharon Grove 20.79 308 P 16 50 32.7 +0.7
WCI Wyandotte Cave 20.83 312 P P 16 50 31.8 -0.6
baz=121
WCI Wyandotte Cave 20.83 312 P P 16 50 32.9 +0.5
WCI pmax pmax
comp=Z,145nm,0.7s
WCI Wyandotte Cave 20.83 312 P 16 50 32.9 +0.5
WCI IAmb IAmb 16 51 03.2
comp=Z,145nm,0.7s
Q48A North Vernon 20.83 314 P P 16 50 31.9 -0.5
baz=124,SNR=16
P48A Milroy 20.94 316 P P 16 50 32.7 -0.9
baz=125,SNR=32
P48A Milroy 20.94 316 P P 16 50 31.4 -2.2
P48A IAmb IAmb 16 50 45.1
comp=Z,148nm,0.6s
WVT Waverly 20.94 305 P P 16 50 32.7 -0.9
baz=114
WVT Waverly 20.94 305 P P 16 50 33.9 +0.2
WVT pmax pmax
comp=Z,197nm,0.5s
WVT Waverly 20.94 305 P 16 50 33.9 +0.2
WVT IAmb IAmb 16 50 46.2
comp=Z,197nm,0.5s
K51A Iona Station 20.96 328 P P 16 50 32.8 -0.9
baz=140
F58A St-Lin Laurent 20.98 346 P P 16 50 33.0 -0.9
baz=162
PQI Presque Isle 21.00 357 P P 16 50 33.8 -0.4
E60A Ste Agathe de 21.03 351 P P 16 50 33.6 -0.9
baz=168,SNR=6.2
N49A Columbus Grove 21.09 321 P P 16 50 34.3 -0.9
baz=131,SNR=12
N49A Columbus Grove 21.09 321 P P 16 50 35.1 -0.1
L50A Kingsville 21.11 325 P P 16 50 35.0 -0.4
baz=136,SNR=11
SPBC San Pablo de B 21.13 201 eP P 16 50 37.8 +1.9
SPBC San Pablo de B 21.13 201 eP P 16 50 37.8 +1.9
F57A Harrington 21.13 344 P P 16 50 34.7 -0.9
baz=159
G55A Calabogie 21.18 340 P P 16 50 34.5 -1.6
baz=154,SNR=20
H53A Bobcaygeon 21.22 336 P P 16 50 36.0 -0.6
baz=149,SNR=16

O48A Farmland 21.25 318 P P 16 50 36.3 -0.6
baz=128,SNR=30
PTAC Punta Ardita, 21.28 212 *e*P P 16 50 39.9 +2.4
PTAC Punta Ardita, 21.28 212 *e*P P 16 50 39.9 +2.4
E59A St. Maurice 21.31 349 P P 16 50 37.0 -0.5
baz=165
M49A Liberty Center 21.34 322 P P 16 50 36.9 -1.0
baz=132
E58A La Victoria 21.35 347 P P 16 50 37.0 -0.9
baz=163
D63A Stockholm 21.37 357 P P 16 50 37.7 -0.5
baz=176,SNR=13
I52A Shelburne 21.42 332 P P 16 50 38.0 -0.8
baz=145,SNR=25
NORC Norcasia 21.48 203 *e*P P 16 50 42.0 +2.3
NORC Norcasia 21.48 203 *e*P P 16 50 42.0 +2.3
TRQ Mont Tremblant 21.48 345 P P 16 50 37.2 -2.3
D60A Saint Jean D'O 21.49 352 P P 16 50 38.0 -1.4
baz=169,SNR=24
N48A Decatur 21.54 319 P P 16 50 39.1 -1.0
baz=129,SNR=32
K50A Casco 21.54 326 P P 16 50 39.0 -1.0
baz=137,SNR=6.7
K50A Casco 21.54 326 P P 16 50 39.4 -0.7
K50A IAmb IAmb 16 50 56.0
comp=Z,138nm,0.9s
I51A Listowel 21.57 331 P P 16 50 39.6 -0.8
baz=142,SNR=14
BATG Bathurst New B 21.58 1 P P 16 50 39.9 -0.5
SADO Sadowa 21.59 335 P P 16 50 40.2 -0.4
comp=Z,105nm,0.8s,baz=154,slow=4.3,SNR=38
SADO S S 16 54 26.9 -13
comp=Z,16nm,0.5s,baz=281,slow=10,SNR=4.2
SADO LR LR 16 58 50.8
comp=Z,2µm,18.7s,baz=173,slow=36
SADO Sadowa 21.59 335 P P 16 50 38.9 -1.7
SADO IAmb IAmb 16 50 44.0
comp=Z,125nm,0.8s
F55A Otter Lake 21.60 341 P P 16 50 40.6 0.0
baz=156,SNR=14
CBOC Ciudad Bolivar 21.64 206 *e*P P 16 50 44.2 +2.8
CBOC Ciudad Bolivar 21.64 206 *e*P P 16 50 44.2 +2.8
L49A Milan 21.66 324 P P 16 50 41.2 -0.1
baz=134,SNR=10.0
D61A St Aubert, Com 21.69 353 P P 16 50 41.6 0.0
baz=171,SNR=12
G54A Lake Saint Pet 21.76 338 P P 16 50 41.9 -0.4
baz=151,SNR=32
M48A Edgerton 21.76 321 P P 16 50 41.1 -1.3
baz=131
M48A Edgerton 21.76 321 P P 16 50 41.3 -1.1
M48A IAmb IAmb 16 50 56.3
comp=Z,164nm,0.8s
UTMT University of 21.80 305 P P 16 50 42.1 -0.7
VBMS Vicksburg 21.89 293 P P 16 50 43.9 +0.1
baz=101
VBMS Vicksburg 21.89 293 P P 16 50 43.4 -0.4
L48A N Adams 21.91 322 P P 16 50 43.6 -0.4
baz=132,SNR=38
N47A Urbana 21.95 318 P P 16 50 43.5 -1.0
baz=128,SNR=26
N47A Urbana 21.95 318 P P 16 50 43.1 -1.3
N47A IAmb IAmb 16 50 47.5
comp=Z,156nm,0.8s
D58A Chemin du LacG 21.97 349 P P 16 50 44.1 -0.4
baz=165,SNR=21
K49A Clarkson 21.97 325 P P 16 50 44.3 -0.4
baz=136,SNR=9.7
ROSC El Rosal 21.98 201 *e*P P 16 50 48.2 +2.9
ROSC El Rosal 21.98 201 *e*P P 16 50 48.2 +2.9
ROSC El Rosal 21.98 201 P P 16 50 48.8 +3.5
comp=Z,664nm,0.8s,baz=38,slow=3.8,SNR=84
ROSC LR LR 17 00 19.4
comp=Z,562nm,19.2s,baz=356,slow=39
ROSC El Rosal 21.98 201 P P 16 50 46.4 +1.1
PTGC Puerto Gaitan, 21.98 195 *e*P P 16 50 48.2 +3.2
PTGC Puerto Gaitan, 21.98 195 *e*P P 16 50 48.2 +3.2
HALT Halls 21.99 303 P P 16 50 43.6 -1.3
CHIC Chingaza 21.99 199 *e*P P 16 50 46.1 +0.6
CHIC Chingaza 21.99 199 *e*P P 16 50 46.1 +0.6
E55A Montcerf-Lytto 22.08 342 P P 16 50 45.1 -0.7
baz=157,SNR=13
GLAT Glass 22.08 304 P P 16 50 45.2 -0.7
D57A Chemin Vers le 22.09 347 P P 16 50 45.3 -0.6
baz=162
HICK Hickman 22.14 305 P P 16 50 45.5 -1.1
LNXT Lenox 22.17 303 P P 16 50 45.9 -1.0
LNXT IAmb IAmb 16 51 39.3
comp=Z,268nm,0.9s
ACON Acoyapa 22.18 236 P P 16 50 46.0 -1.2
ACON IAmb IAmb 16 50 55.4
comp=Z,196nm,1.1s
CVER Cruz Verde, Cu 22.20 200 *e*P P 16 50 52.3 +4.5
CVER Cruz Verde, Cu 22.20 200 *e*P P 16 50 52.3 +4.5
M47A Cromwell 22.21 320 P P 16 50 46.8 -0.4
baz=129,SNR=26
J49A Marlette 22.23 327 P P 16 50 46.8 -0.6
baz=137,SNR=14
LATQ La Tuque 22.23 349 P P 16 50 47.2 -0.1
baz=165
LATQ La Tuque 22.23 349 P P 16 50 47.0 -0.4
ALGO Algonquin Park 22.23 339 P P 16 50 46.5 -0.9
baz=152
RREF El Recreo 22.27 204 *e*P P 16 50 50.6 +1.9
RREF El Recreo 22.27 204 *e*P P 16 50 50.6 +1.9
OLIL Olney 22.30 311 P P 16 50 47.9 -0.3
K48A Perry 22.33 324 P P 16 50 47.9 -0.6
baz=134,SNR=32
L47A Sherwood 22.36 321 P P 16 50 48.0 -0.8
baz=131,SNR=17
HENM Henderson Moun 22.39 305 P P 16 50 49.3 +0.1
PENMO Penman 22.41 304 P P 16 50 47.0 -2.4
PENMO IAmb IAmb 16 51 36.4
comp=Z,275nm,1.0s
PVMO Portageville 22.45 304 P P 16 50 48.8 -1.0
PVMO IAmb IAmb 16 51 25.5
comp=Z,227nm,0.8s
D55A Sainte-Anne-du 22.45 344 P P 16 50 49.6 -0.2
baz=159
PEBM Pemiscott Bayo 22.46 303 P P 16 50 48.8 -1.1
PEBM IAmb IAmb 16 51 15.7
comp=Z,164nm,0.8s
VILC Villavicencio, 22.47 199 *e*P P 16 50 51.9 +1.6
VILC Villavicencio, 22.47 199 *e*P P 16 50 51.9 +1.6
E53A Dumoine, Ponti 22.48 340 P P 16 50 50.0 -0.1
baz=153
I49A Point Hope 22.51 328 P P 16 50 49.7 -0.7
I49A IAmb IAmb 16 50 55.4
comp=Z,265nm,0.9s
J48A Bridge Port 22.51 326 P P 16 50 49.4 -1.0
baz=136,SNR=13
J48A Bridge Port 22.51 326 P P 16 50 48.4 -2.0
J48A IAmb IAmb 16 51 09.6
comp=Z,213nm,1.1s
SFIN Lafayette 22.52 316 P P 16 50 50.4 -0.2
baz=124,SNR=62
SFIN Lafayette 22.52 316 P P 16 50 49.5 -1.0
SFIN IAmb IAmb 16 50 53.4
comp=Z,263nm,0.8s
GNAR Gosnell 22.52 303 P P 16 50 49.2 -1.4
TOLC Tolima 22.55 203 *e*P P 16 50 54.6 +3.1
TOLC Tolima 22.55 203 *e*P P 16 50 54.6 +3.1
TGUH Tegucigalpa,Un 22.56 243 P P 16 50 51.8 +0.5
PARMO Parma 22.58 305 P P 16 50 50.0 -1.2
PARMO IAmb IAmb 16 51 21.3
comp=Z,206nm,0.7s
LPAR Lepanto 22.61 302 P P 16 50 50.7 -0.8
SIUC Southern Illin 22.62 308 P P 16 50 51.2 -0.4
SIUC IAmb IAmb 16 51 22.1
comp=Z,240nm,0.8s
PLMC San Jos del P 22.62 206 *e*P P 16 50 55.3 +3.5
PLMC San Jos del P 22.62 206 *e*P P 16 50 55.3 +3.5
S44A Carbondale 22.63 307 P P 16 50 51.6 -0.2
K47A Vermontville 22.71 323 P P 16 50 51.4 -1.2
baz=132,SNR=17
E52A Mattawa 22.73 338 P P 16 50 51.4 -1.3
baz=151,SNR=14
X43A Marvell 22.73 299 P P 16 50 52.3 -0.5
baz=106
X43A Marvell 22.73 299 P P 16 50 52.2 -0.7
F51A Arnstein 22.87 336 P P 16 50 52.9 -1.2
baz=148,SNR=32
HBAR Harrisburg 22.87 301 P P 16 50 53.9 -0.4
HBAR IAmb IAmb 16 51 04.4
comp=Z,254nm,1.0s

D54A Lac Fusel, La 22.89 342 P P 16 50 53.7 -0.7
baz=156,SNR=19
J47A Sunmer 23.00 324 P P 16 50 54.9 -0.7
baz=134,SNR=20
J47A Sunmer 23.00 324 P P 16 50 55.1 -0.5
J47A IAmb IAmb 16 50 57.7
comp=Z,198nm,0.9s
L46A Eue Claire 23.01 320 P P 16 50 54.1 -1.6
baz=129
L46A Eue Claire 23.01 320 P P 16 50 54.7 -1.0
L46A IAmb IAmb 16 51 32.4
comp=Z,162nm,1.0s
I48A Sherman Twp 23.11 327 P P 16 50 56.2 -0.5
baz=138,SNR=14
PBMO Poplar Bluff 23.13 304 P P 16 50 56.5 -0.4
PBMO IAmb IAmb 16 51 18.0
comp=Z,143nm,0.8s
JTS Las Juntas de 23.14 232 *d i*P P 16 51 00.2 +2.9
JTS pmax pmax
comp=Z,280nm,1.4s
JTS MLR MLR
comp=Z,1µm,16.0s
JTS Las Juntas de 23.14 232 P P 16 50 59.7 +2.4
comp=Z,118nm,0.8s,baz=105,slow=3.7,SNR=22
JTS LR LR 16 58 44.4
comp=Z,1µm,21.6s,baz=112,slow=33
JTS Las Juntas de 23.14 232 P P 16 50 56.9 -0.4
JTS IAmb IAmb 16 51 06.4
comp=Z,241nm,1.1s
K46A Dorr 23.15 322 P P 16 50 55.9 -1.2
baz=131,SNR=6.7
ORTC Ortega, Tolima 23.16 202 *e*P P 16 50 59.6 +2.2
ORTC Ortega, Tolima 23.16 202 *e*P P 16 50 59.6 +2.2
E51A G1948 Merrick 23.23 337 P P 16 50 57.2 -0.7
baz=149,SNR=14
D52A ZEK Kipawa Sen 23.25 339 P P 16 50 56.9 -1.2
baz=152
O44A Mansfield 23.27 314 P P 16 50 57.7 -0.7
O44A IAmb IAmb 16 51 28.6
comp=Z,169nm,0.9s
CCAR Cane Creek 23.29 297 P P 16 50 57.6 -1.0
H48A Harrisville 23.32 329 P P 16 50 57.7 -1.1
baz=139
H48A Harrisville 23.32 329 P P 16 50 56.8 -2.0
I47A Gladwin 23.39 326 P P 16 50 58.1 -1.5
baz=136,SNR=6.7
Gladwin 23.39 326 P P 16 50 56.3 -3.3
I47A IAmb IAmb 16 51 48.0
comp=Z,138nm,1.1s
LCAR Lake Charles 23.42 302 P P 16 50 59.3 -0.6
LCAR IAmb IAmb 16 51 11.2
comp=Z,180nm,1.4s
YOTC Yotoco, Valle 23.48 205 *e*P P 16 51 03.2 +2.4
YOTC Yotoco, Valle 23.48 205 *e*P P 16 51 03.2 +2.4
J46A Howard City 23.52 323 P P 16 50 59.3 -1.5
baz=132
H47A Mio 23.66 327 P P 16 51 01.9 -0.4
baz=137
D51A Lot 18 Range I 23.67 338 P P 16 51 01.5 -0.7
baz=150,SNR=18
M44A Midewin, Mildew 23.68 317 P P 16 51 01.5 -0.9
P43A Skaggs, Pawnee 23.71 312 P P 16 51 02.9 +0.1
SLM Saint Louis 23.74 309 P P 16 51 02.8 -0.2
SLM pmax pmax
comp=Z,394nm,0.7s
SLM Saint Louis 23.74 309 P P 16 51 02.9 -0.2
MALC Bahia Malaga 23.85 207 *e*P P 16 51 08.0 +3.8
MALC Bahia Malaga 23.85 207 *e*P P 16 51 08.0 +3.8
F48A Evansville 23.87 332 P P 16 51 02.8 -1.4
baz=142,SNR=9.8
G47A Hillman 23.92 329 P P 16 51 03.7 -1.0
baz=139,SNR=7.0
UALR University of 23.96 298 P P 16 51 04.5 -0.7
UALR IAmb IAmb 16 51 42.4
comp=Z,152nm,0.8s
VLDQ Val d'Or 23.98 342 P P 16 51 06.0 +0.7
Z41A Richland Creek 23.98 295 P P 16 51 03.9 -1.5
baz=101
Z41A Richland Creek 23.98 295 P P 16 51 05.2 -0.2
W41B Gary Mavity, V 24.00 299 P P 16 51 04.4 -1.1
baz=106,SNR=28
W41B Gary Mavity, V 24.00 299 P P 16 51 04.8 -0.7
W41B IAmb IAmb 16 51 29.5
comp=Z,220nm,1.2s
HDIL Hopedale 24.02 314 P P 16 51 05.5 -0.2
baz=121
HDIL Hopedale 24.02 314 P P 16 51 05.6 -0.1
GLMI Grayling 24.03 327 P P 16 51 04.0 -1.7
baz=137
GLMI Grayling 24.03 327 P P 16 51 04.8 -0.9
L44A Lake County Fo 24.06 319 P P 16 51 06.1 +0.1
baz=126,SNR=7.4
L44A Lake County Fo 24.06 319 P P 16 51 05.7 -0.3
WHAR Wooly Hollow 24.06 300 P P 16 51 06.0 -0.1
FCAR Ozark Folk Cen 24.11 301 P P 16 51 06.2 -0.3
FCAR IAmb IAmb 16 51 11.9
comp=Z,138nm,1.1s
H46A Fife Lake 24.11 326 P P 16 51 06.3 -0.2
baz=135,SNR=10
CCM Cathedral Cave 24.22 307 P P 16 51 07.1 -0.5
baz=114
CCM Cathedral Cave 24.22 307 P P 16 51 07.2 -0.3
CCM pmax pmax
comp=Z,171nm,0.7s
CCM Cathedral Cave 24.22 307 P P 16 51 07.2 -0.3
X40A Basin Creek Fa 24.28 297 P P 16 51 08.0 -0.2
baz=104,SNR=68
X40A Basin Creek Fa 24.28 297 P P 16 51 08.2 0.0
X40A IAmb IAmb 16 51 40.6
comp=Z,157nm,0.8s
I45A Fountain 24.30 324 P P 16 51 07.8 -0.4
baz=132
I45A Fountain 24.30 324 P P 16 51 06.6 -1.6
WLAR White Oak Lake 24.32 295 P P 16 51 09.2 +0.6
BETC Betania 24.37 202 *e*P P 16 51 11.9 +2.8
BETC Betania 24.37 202 *e*P P 16 51 11.9 +2.8
MACC Macarena, Meta 24.39 198 *e*P P 16 51 10.5 +1.3
MACC Macarena, Meta 24.39 198 *e*P P 16 51 10.5 +1.3
MDP Montagnes des 24.43 144 P P 16 51 11.5 +1.8
comp=Z,25nm,0.6s,baz=328,slow=10.0,SNR=13
H45A Beulah 24.60 325 P P 16 51 10.8 -0.2
baz=134
DRLN Deer Lake 24.61 14 P P 16 51 10.1 -0.9
DRLN IAmb IAmb 16 51 12.8
comp=Z,96nm,0.9s
D48A Paudash Townsh 24.62 335 P P 16 51 10.7 -0.5
baz=145,SNR=26
K43A Burlington 24.62 319 P P 16 51 10.7 -0.5
K43A IAmb IAmb 16 51 13.8
comp=Z,116nm,0.9s
MGMO Mountain Grove 24.64 304 P P 16 51 10.7 -0.7
MGMO IAmb IAmb 16 51 24.8
comp=Z,86nm,0.9s
E47A Iron Bridge 24.65 332 P P 16 51 10.5 -0.9
baz=142,SNR=15
G45A Suttons Bay 24.70 326 P P 16 51 11.1 -0.8
baz=135
G45A Suttons Bay 24.70 326 P P 16 51 10.6 -1.2
G45A IAmb IAmb 16 51 40.2
comp=Z,134nm,1.0s
APG El Apazote 24.70 249 P P 16 51 14.9 +2.5
comp=Z,129nm,0.8s,baz=139,slow=9.3,SNR=50
APG LR LR 16 59 56.5
comp=Z,499nm,20.4s,baz=74,slow=34
LSQQ Lebel-sur-Quev 24.72 344 P P 16 51 11.4 -0.6
baz=157
U40A Yellville 24.82 302 P P 16 51 13.2 +0.2
baz=108,SNR=92
U40A Yellville 24.82 302 P P 16 51 11.7 -1.3
U40A IAmb IAmb 16 51 26.4
comp=Z,131nm,0.8s
MIAR Mount Ida 24.89 297 P P 16 51 13.9 +0.2
baz=104
MIAR Mount Ida 24.89 297 P P 16 51 12.8 -0.9
MIAR pmax pmax
comp=Z,116nm,1.0s
MIAR Mount Ida 24.89 297 P P 16 51 12.8 -0.9
MIAR IAmb IAmb 16 52 04.5
comp=Z,116nm,0.9s
POPC Popayan, Colom 24.94 204 *e*P P 16 51 16.1 +1.6
POPC Popayan, Colom 24.94 204 *e*P P 16 51 16.1 +1.6
CHGQ Chibougamau 24.95 348 P P 16 51 13.9 -0.2
baz=163
E46A Sault Ste Mari 25.03 330 P P 16 51 14.4 -0.4
PCON Cinco Dias 25.03 204 *e*P P 16 51 18.9 +3.2
PCON Cinco Dias 25.03 204 *e*P P 16 51 18.9 +3.2

L42A Oliver, Polo 25.03 316 P P 16 51 14.2 -0.7
F45A CMU Biological 25.09 328 P P 16 51 15.5 +0.2
baz=136,SNR=9.1
N41A Harden Midland 25.12 313 P P 16 51 15.7 -0.1
N41A IAmb IAmb 16 52 02.9
comp=Z,129nm,0.8s
W39A Magazine 25.21 299 P P 16 51 16.9 +0.3
baz=105,SNR=49
W39A Magazine 25.21 299 P P 16 51 17.1 +0.5
W39A IAmb IAmb 16 51 24.9
comp=Z,188nm,1.1s
SOTA Rioblanco 25.29 204 *e*P P 16 51 20.3 +2.3
SOTA Rioblanco 25.29 204 *e*P P 16 51 20.3 +2.3
NATX Nacogdoches 25.30 290 P P 16 51 17.4 +0.1
baz=97
NATX Nacogdoches 25.30 290 P P 16 51 17.5 +0.1
NATX IAmb IAmb 16 52 12.4
comp=Z,103nm,0.8s
H43A Windswept, Lux 25.41 323 P P 16 51 18.3 0.0
H43A IAmb IAmb 16 51 20.5
comp=Z,208nm,1.2s
MATQ Matagami 25.54 343 P P 16 51 19.2 -0.1
baz=156
BBAC Balboa, Cauca 25.63 205 *e*P P 16 51 22.9 +2.1
BBAC Balboa, Cauca 25.63 205 *e*P P 16 51 22.9 +2.1
HHAR Hobbs 25.63 301 P P 16 51 20.0 -0.4
I42A Draeger Farm, 25.68 321 P P 16 51 20.8 0.0
I42A IAmb IAmb 16 51 23.8
comp=Z,167nm,1.0s
JFWS Jewell Farm 25.90 318 P P 16 51 22.7 0.0
baz=124
JFWS Jewell Farm 25.90 318 P P 16 51 22.2 -0.5
JFWS pmax pmax
comp=Z,98nm,0.7s
JFWS Jewell Farm 25.90 318 P P 16 51 22.2 -0.5
JFWS IAmb IAmb 16 52 00.5
comp=Z,98nm,0.7s
CRUC La Cruz 25.94 204 *e*P P 16 51 26.7 +3.0
CRUC La Cruz 25.94 204 *e*P P 16 51 26.7 +3.0
E44A Grand Marais A 25.96 329 P P 16 51 23.2 0.0
baz=137
L40A Anamosa 26.04 315 P P 16 51 23.8 -0.3
L40A IAmb IAmb 16 52 12.7
comp=Z,104nm,0.8s
HKT Hockley 26.16 286 P P 16 51 25.5 +0.3
HKT pmax pmax
comp=Z,82nm,1.2s
HKT Hockley 26.16 286 P P 16 51 25.5 +0.3
HKT IAmb IAmb 16 51 33.5
comp=Z,82nm,1.2s
E43A Lone Tree Farm 26.30 327 P P 16 51 26.4 0.0
E43A IAmb IAmb 16 51 56.2
comp=Z,82nm,1.1s
X37A Clayton 26.35 297 P P 16 51 26.7 -0.2
X37A IAmb IAmb 16 52 24.8
comp=Z,105nm,1.1s
F42A Maple Grove Fa 26.45 325 P P 16 51 26.9 -0.9
F42A IAmb IAmb 16 52 11.6
comp=Z,52nm,0.5s
I40A Norwalk 26.67 319 P P 16 51 29.2 -0.5
TUL1 Leonard 26.98 299 P P 16 51 32.0 -0.6
baz=104
TUL1 Leonard 26.98 299 P P 16 51 32.1 -0.5
TUL1 IAmb IAmb 16 52 14.1
comp=Z,55nm,0.8s
G40A Rib Lake 27.25 322 P P 16 51 34.7 -0.3
G40A IAmb IAmb 16 52 11.8
comp=Z,82nm,0.8s
SCIA State Center 27.26 313 P P 16 51 35.0 0.0
baz=118
SCIA State Center 27.26 313 P P 16 51 34.8 -0.3
CMIG Matias Romero 27.62 258 P P 16 51 41.0 +2.4
comp=Z,4.9nm,0.7s,baz=48,slow=9.6,SNR=2.9
CMIG LR LR 17 03 32.6
comp=Z,416nm,18.1s,baz=46,slow=38
W35A Tecumseh 27.67 297 P P 16 51 38.8 0.0
WHTX Lake Whitney, 27.69 290 P P 16 51 39.4 +0.5
baz=95
WHTX Lake Whitney, 27.69 290 P P 16 51 37.9 -1.1
WHTX IAmb IAmb 16 52 13.5
comp=Z,77nm,0.8s
435B Jarrell 27.71 288 P P 16 51 39.6 +0.4
baz=93
OTAV Otavalo 27.73 206 *e*P P 16 51 42.7 +2.7
OTAV Otavalo 27.73 206 *e*P P 16 51 42.7 +2.7
OTAV Otavalo 27.73 206 P P 16 51 41.5 +1.5
OTAV pmax pmax
comp=Z,57nm,1.1s
OTAV Otavalo 27.73 206 *e*P P 16 51 39.1 -0.9
OTAV Otavalo 27.73 206 *e*P P 16 51 39.1 -0.9
OTAV Otavalo 27.73 206 P P 16 51 41.5 +1.5
OTAV IAmb IAmb 16 51 56.8
comp=Z,57nm,1.1s
FNO Franklin 28.11 297 P P 16 51 42.2 -0.5
X34A Smith Ranch, M 28.34 296 P P 16 51 44.6 -0.2
X34A IAmb IAmb 16 52 34.7
comp=Z,150nm,1.1s
KSU1 Kansas State U 28.51 305 P P 16 51 46.3 0.0
baz=109
SPMN Marine on St. 28.71 320 P P 16 51 48.0 -0.1
baz=124
SPMN Marine on St. 28.71 320 P P 16 51 47.5 -0.6
SPMN IAmb IAmb 16 51 49.3
comp=Z,105nm,1.1s
E38A The Farm, Brul 28.82 323 P P 16 51 48.0 -0.9
E38A IAmb IAmb 16 52 33.0
comp=Z,56nm,0.8s
WMOK Wichita Mounta 29.14 296 P P 16 51 52.2 +0.3
baz=99
WMOK Wichita Mounta 29.14 296 P P 16 51 52.0 +0.1
WMOK pmax pmax
comp=Z,75nm,1.2s
WMOK Wichita Mounta 29.14 296 P P 16 51 52.0 +0.1
WMOK IAmb IAmb 16 52 44.0
comp=Z,75nm,1.1s
SCHQ Schefferville 29.15 360 P P 16 51 51.5 -0.2
comp=Z,48nm,0.9s,baz=185,slow=7.5,SNR=25
SCHQ PcP **PcP** 16 54 59.4 +0.2
comp=Z,28nm,0.7s,baz=202,slow=2.3,SNR=11
SCHQ LR LR 17 02 47.9
comp=Z,650nm,18.6s,baz=181,slow=35
SCHQ Schefferville 29.15 360 P P 16 51 51.4 -0.3
SCHQ IAmb IAmb 16 51 52.7
comp=Z,63nm,0.9s
SCHQ **PcP** 16 54 59.6 +0.5
833A Chaparral WMA, 29.28 283 P P 16 51 53.3 +0.1
baz=87
833A Chaparral WMA, 29.28 283 P P 16 51 52.1 -1.1
833A IAmb IAmb 16 52 35.6
comp=Z,57nm,1.1s
ABTX Abilene, Hawle 29.59 291 P P 16 51 56.3 +0.4
baz=95
ABTX Abilene, Hawle 29.59 291 P P 16 51 54.3 -1.6
ABTX IAmb IAmb 16 52 49.8
comp=Z,53nm,0.8s
JCT Junction City 29.61 287 P P 16 51 56.4 +0.2
baz=91
JCT Junction City 29.61 287 P P 16 51 55.5 -0.7
JCT pmax pmax
comp=Z,121nm,1.3s
JCT Junction City 29.61 287 P P 16 51 55.5 -0.7
JCT IAmb IAmb 16 52 43.6
comp=Z,121nm,1.3s
U32A Winter Ranch, 29.61 299 P P 16 51 55.2 -1.0
U32A IAmb IAmb 16 52 53.5
comp=Z,102nm,0.8s
EYMN Ely 29.63 325 P P 16 51 55.5 -0.7
baz=130
EYMN Ely 29.63 325 P P 16 51 55.4 -0.7
EYMN IAmb IAmb 16 51 57.3
comp=Z,99nm,1.4s
ECSD EROS Data Cent 30.32 314 P P 16 52 01.9 -0.3
baz=117
ECSD EROS Data Cent 30.32 314 P P 16 52 01.7 -0.6
ECSD IAmb IAmb 16 53 06.7
comp=Z,55nm,0.7s
BGNE Belgrade 30.41 309 P P 16 52 03.5 +0.3
baz=111
BGNE Belgrade 30.41 309 P P 16 52 02.6 -0.5
CBKS Cedar Bluff 30.76 303 P P 16 52 05.4 -0.8
baz=105
CBKS Cedar Bluff 30.76 303 P P 16 52 06.0 -0.3
CBKS pmax pmax
comp=Z,166nm,0.9s
CBKS Cedar Bluff 30.76 303 P P 16 52 06.0 -0.3

AMTX **Amarillo** 31.52 295 P **P** 16 52 12.9 -0.1
baz=97
AMTX **Amarillo** 31.52 295 P **P** 16 52 13.0 0.0
AMTX IAmb IAmb 16 53 11.7
comp=Z,71nm,0.9s
SUSD **Miller** 32.15 314 P **P** 16 52 17.6 -0.8
baz=115,SNR=7.5
SUSD **Miller** 32.15 314 P **P** 16 52 17.5 -0.9
AGMN **Agassiz Nation** 32.18 322 P **P** 16 52 18.8 +0.2
baz=124
AGMN **Agassiz Nation** 32.18 322 P **P** 16 52 18.1 -0.5
AGMN IAmb IAmb 16 52 20.5
comp=Z,142nm,1.4s
D32A **Dogwood Acres,** 32.21 320 P **P** 16 52 18.4 -0.4
D32A IAmb IAmb 16 52 19.8
comp=Z,62nm,1.1s
MSTX **Muleshoe** 32.32 293 P **P** 16 52 19.7 -0.4
baz=95,SNR=19
MSTX **Muleshoe** 32.32 293 P **P** 16 52 20.3 +0.2
MSTX IAmb IAmb 16 52 26.6
comp=Z,70nm,1.1s
ZAIG **Zacatecas** 32.85 273 P **P** 16 52 25.0 -0.1
TXAR **Lajitas Array** 32.98 285 P **P** 16 52 26.6 +0.6
comp=Z,14nm,1.0s,baz=99,slow=8.1,SNR=50
TXAR PcP **PcP** 16 55 11.2 +1.3
comp=Z,8.7nm,0.9s,baz=101,slow=2.6,SNR=4.7
TXAR LR LR 17 08 22.4
comp=Z,375nm,18.1s,baz=0.0,slow=41
TX31 **Lajitas Ar. Si** 32.98 285 P **P** 16 52 25.7 -0.3
TX32 **Lajitas Array** 32.98 285 P **P** 16 52 25.6 -0.4
KSCO **Kaye Shedlock'** 32.99 303 P **P** 16 52 26.3 +0.3
baz=103,SNR=11
KSCO **Kaye Shedlock'** 32.99 303 P **P** 16 52 25.4 -0.6
OGNE **Ogallala** 33.04 306 P **P** 16 52 26.2 -0.2
baz=106
OGNE **Ogallala** 33.04 306 P **P** 16 52 25.3 -1.1
OGNE IAmb IAmb 16 53 37.1
comp=Z,80nm,0.8s
ULM **Lac du Bonnet** 33.32 325 P **P** 16 52 27.9 -0.7
comp=Z,34nm,0.9s,baz=126,slow=8.5,SNR=39
ULM LR LR 17 06 04.6
comp=Z,787nm,18.8s,baz=132,slow=36
ULM **Lac du Bonnet** 33.32 325 P **P** 16 52 27.8 -0.7
ULM IAmb IAmb 16 52 29.2
comp=Z,54nm,1.0s
GDL2 **Guadalupe Moun** 33.55 290 P **P** 16 52 30.4 -0.5
T25A **Trinidad** 34.02 299 P **P** 16 52 35.9 +0.7
baz=99,SNR=21
T25A **Trinidad** 34.02 299 P **P** 16 52 35.7 +0.5
T25A IAmb IAmb 16 52 41.9
comp=Z,64nm,1.1s
MDND **Maddock** 34.09 319 P **P** 16 52 35.3 0.0
baz=119,SNR=17
MDND **Maddock** 34.09 319 P **P** 16 52 34.6 -0.7
MNTX **Cornudas Mount** 34.41 289 P **P** 16 52 38.1 -0.2
baz=90
MNTX **Cornudas Mount** 34.41 289 P **P** 16 52 38.1 -0.2
ATAH **Atahualpa** 34.55 201 P **P** 16 52 41.8 +1.8
comp=Z,13nm,0.8s,baz=356,slow=7.8,SNR=12
ATAH LR LR 17 08 28.8
comp=Z,490nm,21.6s,baz=16,slow=39
SAML **Samuel** 34.56 174 P **P** 16 52 40.1 +0.5
SAML pmax pmax
comp=Z,154nm,1.2s
SAML **Samuel** 34.56 174 *e*P **P** 16 52 40.4 +0.8
SAML **Samuel** 34.56 174 *e*P **P** 16 52 40.4 +0.8
SAML **Samuel** 34.56 174 P **P** 16 52 40.1 +0.5
Q24A **Divide** 34.91 302 P **P** 16 52 43.2 +0.3
baz=101
Q24A **Divide** 34.91 302 P **P** 16 52 43.2 +0.3
SDCO **Great Sand Dun** 34.97 300 P **P** 16 52 43.8 +0.4
baz=99
SDCO **Great Sand Dun** 34.97 300 P **P** 16 52 44.4 +1.0
SDCO IAmb IAmb 16 52 46.5
comp=Z,71nm,1.1s
RSSD **Black Hills** 35.41 311 P **P** 16 52 46.7 -0.4
baz=109
RSSD **Black Hills** 35.41 311 P **P** 16 52 46.6 -0.4
RSSD pmax pmax
comp=Z,21nm,0.7s
RSSD **Black Hills** 35.41 311 P **P** 16 52 46.6 -0.4
ISCO **Idaho Springs** 35.42 303 P **P** 16 52 47.4 +0.1
baz=101
ISCO **Idaho Springs** 35.42 303 P **P** 16 52 46.2 -1.1
ISCO pmax pmax
comp=Z,24nm,0.9s
ISCO **Idaho Springs** 35.42 303 P **P** 16 52 46.2 -1.1
ANMO **Albuquerque** 35.43 295 P **P** 16 52 48.5 +1.3
baz=94
ANMO **Albuquerque** 35.43 295*c i*P **P** 16 52 48.6 +1.3
ANMO pmax pmax
comp=Z,46nm,1.3s
ANMO **Albuquerque** 35.43 295 P **P** 16 52 47.0 -0.3
BNM **Barren Site** 35.52 293 P **P** 16 52 48.9 +0.8
LPM **Los Pinos Moun** 35.53 294 P **P** 16 52 49.1 +1.0
PHWY **Pilot Hill** 35.63 306 P **P** 16 52 49.6 +0.5
PHWY IAmb IAmb 16 52 51.7
comp=Z,138nm,1.2s
Y22D **IRIS PASSCAL I** 35.76 293 P **P** 16 52 51.4 +1.3
baz=92
Y22D **IRIS PASSCAL I** 35.76 293 P **P** 16 52 51.1 +1.0
LENM **Lemitar** 35.81 293 P **P** 16 52 51.3 +0.8
N23A **Red Feather La** 35.90 305 P **P** 16 52 51.5 +0.2
baz=103,SNR=13
N23A **Red Feather La** 35.90 305 P **P** 16 52 51.1 -0.2
S22A **4UR Ranch, Cre** 36.02 299 P **P** 16 52 52.0 -0.3
baz=98,SNR=28
S22A **4UR Ranch, Cre** 36.02 299 P **P** 16 52 53.0 +0.6
SMCO **Snowmass** 36.34 302 P **P** 16 52 55.0 -0.3
121A **Cookes Peak, D** 36.45 291 P **P** 16 52 56.3 +0.2
baz=90,SNR=16
121A **Cookes Peak, D** 36.45 291 P **P** 16 52 55.6 -0.4
121A IAmb IAmb 16 53 03.0
comp=Z,71nm,1.3s
K22A **Casper** 36.73 308 P **P** 16 52 57.7 -0.6
baz=104,SNR=22
K22A **Casper** 36.73 308 P **P** 16 52 57.7 -0.6
K22A IAmb IAmb 16 52 60.0
comp=Z,89nm,1.4s
RWWY **Rawlins** 37.00 306 P **P** 16 53 00.3 -0.4
MVCO **Mesa Verde** 37.27 298 P **P** 16 53 02.9 -0.2
baz=96
MVCO **Mesa Verde** 37.27 298 P **P** 16 53 03.5 +0.4
O20A **White River Ci** 37.47 303 P **P** 16 53 04.3 -0.3
baz=100,SNR=16
O20A **White River Ci** 37.47 303 P **P** 16 53 05.2 +0.6
LAO **LASA Array** 37.72 314 P **P** 16 53 04.7 -1.8
baz=110
LAO **LASA Array** 37.72 314 P **P** 16 53 06.1 -0.4
319A **Douglas** 37.74 289 P **P** 16 53 05.9 -1.1
FRB **Frobisher Bay** 38.11 359 P **P** 16 53 09.1 -0.3
comp=Z,116nm,0.8s,baz=176,slow=8.6,SNR=147
FRB PcP **PcP** 16 55 24.8 +0.7
comp=Z,16nm,0.9s,baz=182,slow=7.0,SNR=4.7
W18A **Petrified Fore** 38.12 295 P **P** 16 53 10.0 -0.2
baz=92,SNR=21
W18A **Petrified Fore** 38.12 295 P **P** 16 53 09.9 -0.4
W18A IAmb IAmb 16 53 17.1
comp=Z,112nm,1.1s
X18A **Snowflake** 38.28 294 P **P** 16 53 12.6 +1.0
X18A IAmb IAmb 16 53 18.6
comp=Z,90nm,1.1s
FCC **Fort Churchill** 38.30 337 P **P** 16 53 10.6 -0.4
FCC pmax pmax
comp=Z,76nm,0.9s
FCC **Fort Churchill** 38.30 337 P **P** 16 53 10.6 -0.4
FCC IAmb IAmb 16 53 12.0
comp=Z,76nm,0.8s
NRS **Narsarsuaq** 38.32 16 P **P** 16 53 09.2 -2.0
NRS pmax pmax
comp=Z,109nm,1.3s
RDMU **Red Mountain** 38.54 304 P **P** 16 53 13.8 +0.1
NBMO **Morrinhos-CE** 38.63 134 *e*P **P** 16 53 15.9 +1.5
NBMO **Morrinhos-CE** 38.63 134 *e*P **P** 16 53 15.9 +1.5
NNA **Nana** 38.72 196*c i*P **P** 16 53 16.1 +1.0
NNA pmax pmax
comp=Z,52nm,0.8s
NNA **Nana** 38.72 196 P **P** 16 53 16.2 +1.1
comp=Z,22nm,0.5s,baz=356,slow=9.7,SNR=14
NNA LR LR 17 12 21.2
comp=Z,351nm,20.2s,baz=336,slow=41
NNA **Nana** 38.72 196 P **P** 16 53 15.9 +0.8
BW06 **Boulder Array** 38.93 307 P **P** 16 53 15.9 -1.1
baz=102
BW06 **Boulder Array** 38.93 307 P **P** 16 53 16.9 -0.1

PD31 **Pinedale Array** 38.93 307 P **P** 16 53 16.9 -0.1
PDAR **Pinedale Array** 38.93 307 P **P** 16 53 17.7 +0.7
comp=Z,22nm,1.0s,baz=110,slow=8.5,SNR=79
PDAR PKiKP **PKiKP** 17 02 39.4 -1.4
comp=Z,0.7nm,0.6s,baz=129,slow=3.7,SNR=3.9
PDAR LR LR 17 09 48.3
comp=Z,486nm,18.5s,baz=115,slow=37
FFC **Flin Flon** 38.95 328 P **P** 16 53 16.3 -0.3
FFC pmax pmax
comp=Z,166nm,1.8s
FFC **Flin Flon** 38.95 328 P **P** 16 53 16.3 -0.3
FFC IAmb IAmb 16 53 17.6
comp=Z,166nm,1.8s
TUC **Tucson** 38.99 290 P **P** 16 53 17.5 +0.1
baz=88
TUC **Tucson** 38.99 290 P **P** 16 53 17.7 +0.3
TUC pmax pmax
comp=Z,46nm,1.1s
TUC **Tucson** 38.99 290 P **P** 16 53 17.7 +0.3
SRU **San Rafael Swe** 39.06 301 P **P** 16 53 18.2 +0.1
SRU pmax pmax
comp=Z,51nm,1.0s
SRU **San Rafael Swe** 39.06 301 P **P** 16 53 18.2 +0.1
P17A **Butcher Ranch,** 39.27 302 P **P** 16 53 20.4 +0.6
RLMT **Red Lodge** 39.28 311 P **P** 16 53 19.6 -0.2
baz=105
RLMT **Red Lodge** 39.28 311 P **P** 16 53 19.4 -0.4
WUAZ **Wupatki** 39.48 295 P **P** 16 53 21.3 -0.2
baz=92
WUAZ **Wupatki** 39.48 295 P **P** 16 53 21.8 +0.2
X16A **Lo Mia Camp, P** 39.51 294 P **P** 16 53 22.4 +0.5
Q16A **Castle Valley** 39.55 301 P **P** 16 53 21.7 -0.4
TMUT **Trail Mountain** 39.62 301 P **P** 16 53 22.5 -0.3
GCMT **Greycliff** 39.73 312 P **P** 16 53 23.0 -0.4
YNE **Yellowstone No** 39.76 310 P **P** 16 53 23.0 -0.9
YMP **Mirror Lake Pl** 39.80 310 P **P** 16 53 23.2 -1.0
LKWY **Lake** 39.92 310 P **P** 16 53 25.7 +0.4
LKWY pmax pmax
comp=Z,21nm,1.0s
LKWY **Lake** 39.92 310 P **P** 16 53 25.6 +0.4
SNOW **Snow King Moun** 39.94 308 P **P** 16 53 25.9 +0.5
JLU **Jordanelle** 39.96 303 P **P** 16 53 25.7 +0.1
REDW **Red Top Meadow** 39.98 308 P **P** 16 53 25.6 -0.2
REDW IAmb IAmb 16 53 27.7
comp=Z,101nm,1.2s
MOOW **Moose Ponds** 39.99 308 P **P** 16 53 25.0 -0.8
TCUT **Toone Canyon** 40.00 304 P **P** 16 53 25.8 -0.1
H17A **Grant Village** 40.01 309 P **P** 16 53 26.0 0.0
baz=103
FLWY **Flagg Ranch** 40.02 309 P **P** 16 53 24.9 -1.2
YUF **Upper Falls** 40.03 310 P **P** 16 53 25.6 -0.6
AHID **Auburn Hatcher** 40.05 307 P **P** 16 53 26.0 -0.2
AHID IAmb IAmb 16 53 28.9
comp=Z,127nm,1.1s
YPP **Pitchstone Pla** 40.14 309 P **P** 16 53 26.9 -0.1
YNR **Norris Junctio** 40.15 310 P **P** 16 53 26.8 -0.3
FXWY **Fox Creek** 40.16 308 P **P** 16 53 26.7 -0.5
HWUT **Hardware Ranch** 40.19 305 P **P** 16 53 27.5 +0.1
HWUT IAmb IAmb 16 53 29.4
comp=Z,138nm,1.3s
U15A **North Rim** 40.25 297 P **P** 16 53 29.1 +0.9
MTPU **Mount Pierson** 40.26 299 P **P** 16 53 28.9 +0.7
YHH **Holmes Hill** 40.29 310 P **P** 16 53 28.8 +0.5
MSU **Marysvale** 40.29 300 P **P** 16 53 29.3 +1.0
MSU **Marysvale** 40.29 300 P **P** 16 53 29.3 +1.0
PKCU **Pink Cliffs** 40.32 298 P **P** 16 53 28.9 +0.2
YMR **Madison River** 40.34 310 P **P** 16 53 28.7 0.0
NLU **North Lily Min** 40.35 302 P **P** 16 53 29.1 +0.3
EGMT **Eagleton** 40.42 315 P **P** 16 53 28.9 -0.2
baz=108
EGMT **Eagleton** 40.42 315 P **P** 16 53 28.8 -0.4
TCRU **Three Creeks R** 40.51 300 P **P** 16 53 31.3 +1.1
YHB **Horse Butte** 40.52 310 P **P** 16 53 28.7 -1.5
YHL **Hebgen Lake** 40.53 310 P **P** 16 53 31.2 +0.8
QLMT **Earthquake Lak** 40.70 310 P **P** 16 53 33.0 +1.4
KNB **Kanab** 40.70 298 P **P** 16 53 32.1 +0.4
KNB pmax pmax
comp=Z,13nm,0.8s
KNB **Kanab** 40.70 298 P **P** 16 53 32.1 +0.4
214A **Organ Pipe Nat** 40.72 290 P **P** 16 53 32.4 +0.6
baz=87,SNR=14
214A **Organ Pipe Nat** 40.72 290 P **P** 16 53 32.3 +0.6
SPUT **South Promonto** 40.81 304 P **P** 16 53 33.3 +0.8
Y14A **Wickenburg** 40.81 293 P **P** 16 53 32.9 +0.4
DUG **Dugway, Tooele** 40.94 302 P **P** 16 53 33.7 +0.1
baz=96
DUG **Dugway, Tooele** 40.94 302 P **P** 16 53 34.6 +1.0
DUG pmax pmax
comp=Z,51nm,0.9s
DUG **Dugway, Tooele** 40.94 302 P **P** 16 53 34.6 +1.0
SZCU **Shurtz Canyon** 40.95 299 P **P** 16 53 33.4 -0.4
LCMT **Little Creek M** 41.04 298 P **P** 16 53 34.9 +0.4
HVU **Hansel Valley** 41.11 305 P **P** 16 53 35.3 +0.3
HVU pmax pmax
comp=Z,72nm,1.0s
HVU **Hansel Valley** 41.11 305 P **P** 16 53 35.3 +0.3
CCUT **Cedar City** 41.16 298 P **P** 16 53 35.9 +0.3
BGU **Big Grassy Mou** 41.19 304 P **P** 16 53 36.1 +0.4
113A **Mohawk Valley,** 41.49 291 P **P** 16 53 38.8 +0.8
W13A **Hualapai Mount** 41.53 295 P **P** 16 53 39.6 +1.1
PSUT **Pine Spring** 41.60 300 P **P** 16 53 40.8 +1.7
DLMT **Dillon** 41.62 310 P **P** 16 53 39.9 +0.7
LRM **Limekiln Ridge** 41.62 311 P **P** 16 53 39.7 +0.5
MCMT **McKenzie Canyo** 41.69 309 P **P** 16 53 40.9 +1.2
LPAZ **La Paz** 41.72 182 *e*P **P** 16 53 41.6 +1.0
LPAZ **La Paz** 41.72 182 P **P** 16 53 41.4 +0.8
comp=Z,23nm,1.0s,baz=4.0,slow=9.4,SNR=51
LPAZ PcP **PcP** 16 55 37.5 +0.3
comp=Z,9.9nm,0.6s,baz=32,slow=3.8,SNR=6.7
LPAZ **La Paz** 41.72 182 *e*P **P** 16 53 39.6 -1.0
LPAZ **La Paz** 41.72 182 *e*P **P** 16 53 39.6 -1.0
LPAZ **La Paz** 41.72 182 P **P** 16 53 40.6 0.0
SIV **San Ignacio** 41.75 172 P **P** 16 53 41.2 +1.0
comp=Z,63nm,0.6s,baz=2.6,slow=7.2,SNR=313
SIV LR LR 17 12 01.4
comp=Z,348nm,19.6s,baz=354,slow=38
Y12C **Blythe** 42.08 293 P **P** 16 53 42.8 0.0
baz=88
Y12C **Blythe** 42.08 293 P **P** 16 53 43.4 +0.6
NEE2 **Needles Airpor** 42.13 294 P **P** 16 53 43.1 -0.2
baz=89
GLA **Glamis** 42.37 292 P **P** 16 53 45.1 -0.1
baz=87
GLA **Glamis** 42.37 292 P **P** 16 53 45.5 +0.3
GLA **Glamis** 42.37 292 P **P** 16 53 45.5 +0.3
SFJD **Kangerlussuaq** 42.53 9 P **P** 16 53 45.6 -0.4
comp=Z,18nm,0.9s,baz=180,slow=4.9,SNR=4.4
SFJD **Kangerlussuaq** 42.53 9 P **P** 16 53 45.6 -0.4
SFJD IAmb IAmb 16 54 25.2
comp=Z,149nm,1.8s
SHPR **Sheep Range** 42.57 297 P **P** 16 53 46.7 -0.3
IRM **Iron Mountain** 42.58 293 P **P** 16 53 47.1 +0.1
baz=88
SALV **Santo Antonio** 42.65 164 *e*P **P** 16 53 48.4 +0.9
SALV **Santo Antonio** 42.65 164 *e*P **P** 16 53 48.4 +0.9
ELK **Elko** 42.84 303 P **P** 16 53 49.5 +0.3
ELK **Elko** 42.84 303 P **P** 16 53 49.5 +0.3
MSO **Missoula** 42.85 312 P **P** 16 53 48.9 -0.2
baz=103
MSO **Missoula** 42.85 312 P **P** 16 53 48.3 -0.7
BC3 **Big Chuckawall** 42.86 293 P **P** 16 53 49.1 -0.2
baz=87
R11A **Troy Canyon, C** 42.95 299 P **P** 16 53 50.2 +0.1
baz=92,SNR=42
R11A **Troy Canyon, C** 42.95 299 P **P** 16 53 49.4 -0.7
GMRC **Granite Mounta** 42.99 294 P **P** 16 53 50.4 0.0
baz=88
SWSC **Sam W. Stewart** 43.19 292 P **P** 16 53 50.9 -1.0
baz=86
TUQ **Turquoise Moun** 43.19 295 P **P** 16 53 51.5 -0.5
baz=89
JTMT **Jette** 43.28 313 P **P** 16 53 52.6 0.0
JTMT IAmb IAmb 16 53 54.6
comp=Z,86nm,1.0s
BELC **Belle Mtn. Jos** 43.30 293 P **P** 16 53 53.7 +0.8
baz=87
PMOZ **Porto Moniz, M** 43.39 69 P **P** 16 53 54.5 +0.9
TPNV **Topopah Spring** 43.45 297 P **P** 16 53 55.0 +0.9
baz=90
TPNV **Topopah Spring** 43.45 297 P **P** 16 53 55.2 +1.1
TPNV pmax pmax
comp=Z,31nm,1.0s
TPNV **Topopah Spring** 43.45 297 P **P** 16 53 55.2 +1.1
IKP **In-Ko-Pah, Jac** 43.47 291 P **P** 16 53 54.3 +0.1

baz=86
SHOC **Shoshone, Teco** 43.47 296 P **P** 16 53 54.8 +0.7
baz=89
HEC **Hector,Ludlow** 43.54 294 P **P** 16 53 55.4 +0.6
baz=88
ARAG **Araguaiana, MT** 43.57 159 *e*P **P** 16 53 56.5 +1.6
ARAG **Araguaiana, MT** 43.57 159 *e*P **P** 16 53 56.5 +1.6
MFID **Camas Ranch** 43.57 307 P **P** 16 53 55.0 +0.1
MFID IAmb IAmb 16 53 57.3
comp=Z,88nm,1.0s
XPFO **Pion Flat** 43.70 293 P **P** 16 53 55.9 -0.3
PFO **Pinyon Flats O** 43.70 293 P **P** 16 53 57.4 +1.3
baz=87
PFO **Pinyon Flats O** 43.70 293*d i*P **P** 16 53 57.9 +1.8
PFO pmax pmax
comp=Z,60nm,1.4s
PFO **Pinyon Flats O** 43.70 293 P **P** 16 53 56.0 -0.2
MONP2 **Monument Peak** 43.71 292 P **P** 16 53 56.4 +0.1
baz=86
GSC **Goldstone, Bar** 43.91 295 P **P** 16 53 58.2 +0.4
baz=88
GSC **Goldstone, Bar** 43.91 295 P **P** 16 53 58.5 +0.7
GSC pmax pmax
comp=Z,39nm,1.1s
GSC **Goldstone, Bar** 43.91 295 P **P** 16 53 58.5 +0.7
PLID **Pearl Lake** 43.93 309 P **P** 16 53 57.7 -0.3
BAR **Barrett** 43.94 291 P **P** 16 53 58.5 +0.6
FURC **Furnace Creek,** 43.94 297 P **P** 16 53 57.6 -0.2
baz=89
BBRC **Big Bear Solar** 44.05 294 P **P** 16 53 59.8 +0.7
baz=87
RRX **Edison Barstow** 44.09 294 P **P** 16 53 59.9 +0.8
baz=88
109C **Camp Elliot, M** 44.29 292 P **P** 16 54 00.3 -0.4
baz=86
109C **Camp Elliot, M** 44.29 292 P **P** 16 54 00.5 -0.2
MURC **Murrieta** 44.31 293 P **P** 16 54 01.3 +0.4
baz=86
BMN **Battle Mountai** 44.32 302 P **P** 16 54 01.5 +0.4
BMN pmax pmax
comp=Z,70nm,1.0s
BMN **Battle Mountai** 44.32 302 P **P** 16 54 01.5 +0.4
BMN IAmb IAmb 16 54 03.6
comp=Z,70nm,1.0s
GRAC **Grapevine Rang** 44.34 297 P **P** 16 54 02.1 +1.0
baz=90
MPMC **Manual Prospec** 44.45 296 P **P** 16 54 03.3 +1.0
baz=89
PP1B **Ponte de Pedra** 44.49 164 *e*P **P** 16 54 04.1 +1.8
PP1B **Ponte de Pedra** 44.49 164 *e*P **P** 16 54 04.1 +1.8
MNMC **Minye Minye** 44.61 184 P **P** 16 54 02.1 -1.4
MNMC IAmb IAmb 16 54 03.8
comp=Z,68nm,1.0s
LRMC **Laurel Mtn Rad** 44.62 295 P **P** 16 54 03.5 0.0
baz=88
BFSC **Mount Baldy Ra** 44.66 294 P **P** 16 54 04.2 +0.3
baz=87
BMO **Blue Mountains** 44.82 309 P **P** 16 54 04.3 -0.6
BMO pmax pmax
comp=Z,41nm,1.1s
BMO **Blue Mountains** 44.82 309 P **P** 16 54 04.2 -0.6
BDFB **Brasilia** 44.87 154 P **P** 16 54 06.9 +1.4
BDFB pmax pmax
comp=Z,59nm,0.8s
BDFB **Brasilia** 44.87 154 P **P** 16 54 07.4 +1.9
comp=Z,60nm,0.8s,baz=326,slow=8.8,SNR=44
BDFB LR LR 17 13 20.5
comp=Z,395nm,20.8s,baz=333,slow=37
BDFB **Brasilia** 44.87 154 P **P** 16 54 06.9 +1.4
BDFB IAmb IAmb 16 54 08.5
comp=Z,59nm,0.8s
EDW2 **Edwards Air Fo** 44.90 295 P **P** 16 54 07.0 +1.3
baz=87
CWC **Cottonwood Cre** 44.92 297 P **P** 16 54 07.2 +1.3
baz=89
F10A **Beach Ranch, E** 44.92 310 P **P** 16 54 06.0 +0.3
KVN **Kaiserville** 44.94 300 P **P** 16 54 06.4 +0.3
KVN pmax pmax
comp=Z,42nm,1.0s
KVN **Kaiserville** 44.94 300 P **P** 16 54 06.4 +0.3
KVN IAmb IAmb 16 54 08.1
comp=Z,42nm,1.0s
NV11 **Mina Array Sit** 44.97 300 P **P** 16 54 07.1 +0.8
NV11 IAmb IAmb 16 54 08.8
comp=Z,68nm,1.1s
MWC **Mount Wilson** 44.99 294 P **P** 16 54 07.2 +0.7
MWC pmax pmax
comp=Z,35nm,1.2s
MWC **Mount Wilson** 44.99 294 P **P** 16 54 07.2 +0.7
TIN **Tinemaha, Big** 45.03 298 P **P** 16 54 07.6 +0.9
baz=89
NVAR **Mina Array Bea** 45.09 300 P **P** 16 54 08.8 +1.5
comp=Z,26nm,0.9s,baz=94,slow=7.3,SNR=127
NVAR PcP **PcP** 16 55 49.8 +1.8
comp=Z,9.3nm,1.0s,baz=96,slow=4.9,SNR=4.0
NVAR LR LR 17 13 54.5
comp=Z,362nm,18.6s,baz=91,slow=38
PASC **Pasadena Art C** 45.10 294 P **P** 16 54 07.9 +0.7
GO01 **Chusmiza** 45.12 183 P **P** 16 54 07.0 -0.9
GO01 IAmb IAmb 16 54 08.8
comp=Z,126nm,1.4s
DECC **Green Verdugo** 45.22 294 P **P** 16 54 08.7 +0.6
baz=86
FMP **Fort Macarthur** 45.22 293 P **P** 16 54 08.4 +0.3
baz=86
PB11 **IPOC Station P** 45.24 184 P **P** 16 54 07.4 -1.1
NEW **Newport** 45.26 313 P **P** 16 54 08.4 +0.1
baz=101
NEW **Newport** 45.26 313 P **P** 16 54 08.1 -0.2
NEW pmax pmax
comp=Z,46nm,0.9s
NEW **Newport** 45.26 313 P **P** 16 54 08.1 -0.2
NEW IAmb IAmb 16 54 09.8
comp=Z,46nm,0.9s
ISA **Isabella, Lake** 45.26 296 P **P** 16 54 09.9 +1.3
baz=88
ISA **Isabella, Lake** 45.26 296 P **P** 16 54 08.9 +0.3
ISA pmax pmax
comp=Z,44nm,1.2s
ISA **Isabella, Lake** 45.26 296 P **P** 16 54 08.9 +0.3
RYN **Ryan** 45.26 300 P **P** 16 54 08.6 0.0
RYN IAmb IAmb 16 55 51.5
comp=Z,67nm,1.7s
CIS **Catalina Islan** 45.34 292 P **P** 16 54 10.2 +1.1
baz=86
SCI2 **San Clemente I** 45.49 292 P **P** 16 54 11.7 +1.5
baz=85
MLAC **Mammoth, Mammo** 45.51 298 P **P** 16 54 12.3 +1.7
baz=90
OSI **Osito Audit: C** 45.52 294 P **P** 16 54 10.7 +0.2
baz=86
OSI **Osito Audit: C** 45.52 294 P **P** 16 54 10.2 -0.4
WVOR **Wild Horse Val** 45.52 305 P **P** 16 54 10.9 +0.3
WVOR pmax pmax
comp=Z,134nm,1.1s
WVOR **Wild Horse Val** 45.52 305 P **P** 16 54 10.9 +0.3
ARVC **Arvin** 45.58 295 P **P** 16 54 12.5 +1.5
baz=87
OMMB **Old Mammoth Mi** 45.64 298 P **P** 16 54 12.9 +1.1
OMMB IAmb IAmb 16 54 14.9
comp=Z,44nm,1.0s
MDPB **Devils Postpil** 45.70 298 P **P** 16 54 13.6 +1.3
MDPB IAmb IAmb 16 54 15.5
comp=Z,43nm,1.0s
VES **Vestal, Richgr** 45.75 296 P **P** 16 54 13.1 +0.8
baz=88
YERR **Yerington** 45.83 300 P **P** 16 54 11.6 -1.5
YERR IAmb IAmb 16 55 53.5
comp=Z,49nm,1.2s
BLG **Laguna Peak, P** 45.83 294 P **P** 16 54 13.1 +0.1
baz=86
C09A **Chrisman Ranch** 45.93 313 P **P** 16 54 11.9 -1.7
PAHR **Pah Rah Range** 45.95 301 P **P** 16 54 13.0 -1.0
VOG **Valley Oaks Go** 45.97 297 P **P** 16 54 14.3 +0.2
baz=88
WAKR **Walker** 45.98 300 P **P** 16 54 15.1 +0.7
WAKR IAmb IAmb 16 54 17.2
comp=Z,55nm,1.2s
PNTR **Pine Nut** 46.11 300 P **P** 16 54 14.9 -0.5
C2SB **Chapadao do Su** 46.15 162 *e*P **P** 16 54 17.4 +2.0
C2SB **Chapadao do Su** 46.15 162 *e*P **P** 16 54 17.4 +2.0
VCNR **Virginia City** 46.15 301 P **P** 16 54 14.5 -1.2
E08A **Dider Farm, El** 46.26 311 P **P** 16 54 15.7 -0.4
E08A IAmb IAmb 16 54 18.0
comp=Z,45nm,1.2s
SNCC **San Nicolas Is** 46.28 292 P **P** 16 54 17.2 +0.6

baz=85
SNCC San Nicolas Is 46.28 292 P **P** 16 54 17.1 +0.6
SNCC IAmb IAmb 16 54 18.9
comp=Z,78nm,1.2s
SCZ2 Santa Cruz Isl 46.31 293 P **P** 16 54 16.9 +0.1
baz=86
SBC Santa Barbara 46.34 294 P **P** 16 54 16.3 -0.7
baz=86
PKM Mcpherson Peak 46.40 295 P **P** 16 54 18.6 +0.9
baz=86
SMMC Simmler 46.52 295 P **P** 16 54 18.8 +0.4
baz=86
RUBR Rubicon Trail 46.54 300 P **P** 16 54 18.6 -0.2
RUBR IAmb IAmb 16 55 56.1
comp=Z,33nm,1.0s
HAWA Hanford 46.57 311 P **P** 16 54 18.5 -0.1
PAGB Antelope Grade 46.70 296 P **P** 16 54 19.9 0.0
PAGB IAmb IAmb 16 54 25.2
comp=Z,46nm,1.1s
BEKR Beckworth 46.71 301 P **P** 16 54 19.7 -0.3
BEKR IAmb IAmb 16 54 21.5
comp=Z,28nm,0.9s
MOD Modoc Plateau 46.72 304 P **P** 16 54 19.6 -0.5
MOD IAmb IAmb 16 54 21.9
comp=Z,32nm,0.8s
B08A Colville Reser 46.73 313 P **P** 16 54 19.4 -0.5
B08A IAmb IAmb 16 54 21.7
comp=Z,23nm,0.8s
CMB Columbia Colle 46.73 299 P **P** 16 54 19.6 -0.5
CMB pmax pmax
comp=Z,44nm,1.0s
CMB Columbia Colle 46.73 299 P **P** 16 54 19.6 -0.5
CMB IAmb IAmb 16 54 22.6
comp=Z,44nm,0.9s
F07A Phinny Hill Vi 46.78 310 P **P** 16 54 20.3 +0.1
F07A IAmb IAmb 16 54 22.0
comp=Z,30nm,1.1s
E07A Sunnyside 46.81 311 P **P** 16 54 19.6 -0.9
E07A IAmb IAmb 16 54 22.7
comp=Z,58nm,1.2s
IPMB Ipameri, GO 46.93 156 *eP* **P** 16 54 23.0 +1.3
IPMB Ipameri, GO 46.93 156 *eP* **P** 16 54 23.0 +1.3
AQDB Aquidauana 47.07 166 *eP* **P** 16 54 23.8 +1.1
AQDB Aquidauana 47.07 166 *eP* **P** 16 54 23.8 +1.1
PNT Penticton 47.08 314 P P 16 54 14.9 -7.6
PNT pmax pmax
comp=Z,16nm,0.8s
PMPB Monarch Peak 47.12 297 P **P** 16 54 22.1 -1.1
PMPB IAmb IAmb 16 54 24.9
comp=Z,60nm,1.2s
AFDM Forest Hills D 47.18 300 P **P** 16 54 22.1 -1.4
G06A Carlson Farm, 47.20 309 P **P** 16 54 21.9 -1.7
PINE Pine Mountain 47.30 307 P **P** 16 54 23.9 -0.7
PINE IAmb IAmb 16 54 27.7
comp=Z,46nm,0.9s
LTY Liberty 47.46 312 P **P** 16 54 25.1 -0.5
LTY IAmb IAmb 16 54 27.4
comp=Z,51nm,1.1s
J05D Fort Rock, OR 47.48 306 P **P** 16 54 26.0 0.0
baz=93,SNR=25
ORV Oroville 47.58 301 P **P** 16 54 25.7 -0.9
ORV pmax pmax
comp=Z,24nm,0.8s
ORV Oroville 47.58 301 P **P** 16 54 25.7 -0.9
ORV IAmb IAmb 16 54 29.1
comp=Z,24nm,0.8s
SAO San Andreas Ge 47.62 297 P **P** 16 54 26.8 -0.2
SAO pmax pmax
comp=Z,50nm,1.1s
SAO San Andreas Ge 47.62 297 P **P** 16 54 26.8 -0.2
SAO IAmb IAmb 16 54 29.4
comp=Z,50nm,1.1s
I05D Terrebonne, OR 47.63 308 P **P** 16 54 27.5 +0.5
baz=94,SNR=12
G05D Wamic, OR 47.69 309 P **P** 16 54 27.7 +0.4
baz=95,SNR=8.7
C06D Leavenworth 47.70 312 P **P** 16 54 27.0 -0.4
baz=98
O03E Paynes Creek 47.82 302 P **P** 16 54 28.1 -0.4
baz=90,SNR=12
PB04 IPOC Station P 47.83 184 P **P** 16 54 27.7 -1.1
PB04 IAmb IAmb 16 54 29.4
comp=Z,28nm,0.9s
K04D Chiloquin, OR 47.83 305 P **P** 16 54 29.1 +0.4
baz=92,SNR=48
F05D White Salmon 47.84 310 P **P** 16 54 29.7 +1.2
baz=95
M04C Macdoel 47.87 304 P **P** 16 54 28.8 -0.2
baz=91,SNR=28
LVC Limon Verde 48.03 183 P **P** 16 54 30.6 +0.1
comp=Z,25nm,0.7s,baz=4.4,slow=6.5,SNR=22
LVC PcP **PcP** 16 56 00.7 +2.2
comp=Z,10nm,0.7s,baz=21,slow=4.0,SNR=3.9
LVC Limon Verde 48.03 183 *eP* **P** 16 54 30.9 +0.3
LVC Limon Verde 48.03 183 *eP* **P** 16 54 30.9 +0.3
LVC Limon Verde 48.03 183 P **P** 16 54 30.1 -0.4
LVC IAmb IAmb 16 54 31.6
comp=Z,31nm,0.8s
J04D Umpqua Nationa 48.12 306 P **P** 16 54 31.4 +0.5
baz=93,SNR=28
B06A Marblemount 48.17 313 P **P** 16 54 29.4 -1.6
B06A IAmb IAmb 16 54 31.9
comp=Z,52nm,1.2s
LON Longmire 48.17 311 P **P** 16 54 30.8 -0.4
LON pmax pmax
comp=Z,89nm,1.9s
LON Longmire 48.17 311 P **P** 16 54 30.8 -0.4
LON IAmb IAmb 16 54 32.8
comp=Z,89nm,1.9s
L04D Klamath Falls 48.23 305 P **P** 16 54 31.8 0.0
baz=92,SNR=41
D05A Enumclaw 48.34 311 P **P** 16 54 30.3 -2.0
D05A IAmb IAmb 16 55 07.5
comp=Z,56nm,1.2s
I04A Tendick Farm, 48.37 307 P **P** 16 54 32.5 -0.2
baz=93,SNR=22
WDC Whiskeytown Da 48.38 302 P **P** 16 54 30.6 -2.2
WDC pmax pmax
comp=Z,11nm,0.7s
WDC Whiskeytown Da 48.38 302 P **P** 16 54 30.6 -2.2
N02D Trinity Center 48.51 303 P **P** 16 54 32.9 -0.9
baz=90,SNR=12
F04A Amboy 48.52 310 P **P** 16 54 33.5 -0.3
F04A IAmb IAmb 16 54 34.8
comp=Z,44nm,0.9s
YBH Yreka Blue Hor 48.52 304 P **P** 16 54 33.0 -1.0
YBH pmax pmax
comp=Z,56nm,0.7s
YBH Yreka Blue Hor 48.52 304 P **P** 16 54 33.0 -1.0
B05A Bryant 48.54 313 P **P** 16 54 32.1 -1.7
baz=97,SNR=9.7
YKA Yellowknife Ar 48.56 333 P **P** 16 54 32.8 -1.0
comp=Z,30nm,0.9s,baz=105,slow=7.5,SNR=240
YKA PcP **PcP** 16 55 59.5 +0.1
comp=Z,10nm,0.9s,baz=106,slow=5.5,SNR=9.7
YKA LR LR 17 14 54.1
comp=Z,116nm,18.8s,baz=116,slow=36
O02D Mt. Diablo Mer 48.57 302 P **P** 16 54 34.1 -0.3
baz=89
YKW3 Yellowknife Ar 48.59 333 P **P** 16 54 32.4 -1.7
YKW3 IAmb IAmb 16 54 34.5
comp=Z,49nm,1.2s
YKW3 **PcP** 16 55 59.2 -0.3
M02C Callahan 48.62 304 P **P** 16 54 33.7 -1.0
baz=90,SNR=14
H04D Lebanon 48.64 308 P **P** 16 54 34.5 -0.2
baz=93,SNR=11
E04D Cinebar 48.67 310 P **P** 16 54 34.4 -0.6
baz=95
MCCM Marconi Confer 48.69 299 P **P** 16 54 35.8 +0.6
HUMO Hull Mountain 48.72 305 P **P** 16 54 34.7 -0.7
HUMO IAmb IAmb 16 54 36.8
comp=Z,107nm,1.4s
LLLB Lillooet 48.73 316 P **P** 16 54 35.2 -0.2
HOPS Hopland Field 48.81 300 P **P** 16 54 37.7 +1.5
D04E Lakebay 48.87 311 P **P** 16 54 35.3 -1.1
baz=96
F04D Rainier, OR 48.94 310 P **P** 16 54 35.9 -1.0
baz=94
A04D Lummi Island 49.00 313 P **P** 16 54 36.2 -1.1
baz=97
PB10 IPOC Station P 49.03 185 P **P** 16 54 37.9 +0.1
PB10 IAmb IAmb 16 54 39.3
comp=Z,73nm,1.0s
I03D Drain, OR 49.04 307 P **P** 16 54 37.7 -0.1
baz=92

G03D McMinnville, O 49.05 309 P **P** 16 54 37.5 -0.3
baz=94,SNR=6.0
D03D Eldon 49.12 312 P **P** 16 54 37.0 -1.4
baz=96
L02E Cave Junction 49.19 305 P **P** 16 54 38.9 -0.1
baz=91
K02D Willamette Mer 49.24 305 P **P** 16 54 39.3 -0.2
baz=91,SNR=16
KMRM Mail Ridge 49.28 302 P **P** 16 54 39.6 -0.2
KHMM Horse Mountain 49.28 303 P **P** 16 54 39.7 -0.2
KHMM IAmb IAmb 16 54 42.3
comp=Z,56nm,0.9s
KRMB Red Mountain 49.41 304 P **P** 16 54 40.9 +0.1
KRMB IAmb IAmb 16 54 42.0
comp=Z,30nm,0.6s
I02D Swisshome 49.41 307 P **P** 16 54 39.0 -1.7
baz=92,SNR=7.1
SUMG Summit 49.44 11 *i* P **P** 16 54 41.4 +0.5
SUMG pmax pmax
comp=Z,170nm,1.1s
SUMG Summit 49.44 11 *i* P **P** 16 54 41.4 +0.5
comp=Z,172nm,1.1s
SUMG Summit 49.44 11 P **P** 16 54 41.0 +0.1
SUMG IAmb IAmb 16 54 45.1
comp=Z,97nm,1.3s
J01E Myrtle Point 49.45 306 P **P** 16 54 38.8 -2.1
baz=91,SNR=9.2
JCC Jacoby Creek, 49.51 303 P **P** 16 54 42.4 +0.9
JCC IAmb IAmb 16 54 48.7
comp=Z,68nm,1.2s
NLWA Neilton Lookou 49.63 311 P **P** 16 54 42.1 -0.3
KBO Bosley Butte 49.65 305 P **P** 16 54 43.2 +0.6
BB19B Bebedouro 49.65 158 *eP* **P** 16 54 43.4 +0.7
BB19B Bebedouro 49.65 158 *eP* **P** 16 54 43.4 +0.7
KEBM Edson Butte 49.74 305 P **P** 16 54 43.5 +0.2
PTEO Sao Teotonio 50.02 61 *eP* **P** 16 54 43.5 -1.8
TRCB Terra Rica 50.03 163 *eP* **P** 16 54 46.9 +1.4
TRCB Terra Rica 50.03 163 *eP* **P** 16 54 46.9 +1.4
MORF Marmelete 50.09 62 *eP* **P** 16 54 46.1 +0.1
MORF AMb AMB 16 54 54.5
comp=Z,68nm,2.4s
MORF *eS* **S** 17 01 58.7 +1.4
MORF Marmelete 50.09 62 *eP* **P** 16 54 47.1 +1.1
comp=Z,68nm,1.5s
MORF Marmelete 50.09 62 *eP* **P** 16 54 46.1 +0.1
MORF *eS* **S** 17 01 58.7 +1.4
PNCL Nicolau / Gran 50.13 61 *eP* **P** 16 54 47.5 +1.3
comp=Z,50nm,1.5s
PMTG Montargil 50.32 59 *eP* **P** 16 54 48.1 +0.5
comp=Z,49nm,1.5s
PCAB Cabril 50.39 56 *eP* **P** 16 54 49.0 +0.9
PVIS Viseu 50.51 57 *eP* **P** 16 54 49.3 +0.2
PCVE Castro Verde 50.55 61 *eP* **P** 16 54 50.9 +1.5
comp=Z,55nm,1.6s
SJMB Sao Joao De Ma 50.56 148 *eP* **P** 16 54 51.1 +1.6
SJMB Sao Joao De Ma 50.56 148 *eP* **P** 16 54 51.1 +1.6
POLO Lamas de Olo 50.57 56 *eP* **P** 16 54 50.1 +0.5
GO02 Mina Guanaco 50.60 183 P **P** 16 54 49.8 -0.3
GO02 IAmb IAmb 16 54 51.8
comp=Z,68nm,0.9s
PVRL Vila Real 50.63 57 *eP* **P** 16 54 51.0 +1.0
comp=Z,75nm,2.2s
PBEJ Beja 50.66 61 *eP* **P** 16 54 51.7 +1.5
PBDV Barranco-do-Ve 50.67 62 *eP* **P** 16 54 50.8 +0.5
MTE Manteigas 50.78 58 *eP* **P** 16 54 49.0 -2.2
PVAQ Vaqueiros 50.83 62 *eP* P 16 54 56.3 +4.8
PVAQ Vaqueiros 50.83 62 P **P** 16 54 51.5 0.0
PVAQ IAmb IAmb 16 55 21.1
comp=Z,101nm,1.9s
BSFB Barra de Sao F 50.83 148 *eP* **P** 16 54 52.4 +0.8
BSFB Barra de Sao F 50.83 148 *eP* **P** 16 54 52.4 +0.8
PCBR Castelo Branco 50.86 58 *eP* **P** 16 54 50.2 -1.5
comp=Z,71nm,1.5s
PMRV Marv??o 50.95 59 *eP* **P** 16 54 52.7 +0.3
comp=Z,39nm,1.5s
TULEG Thule 50.96 359 P **P** 16 54 52.1 +0.3
TULEG IAmb IAmb 16 54 53.6
comp=Z,84nm,1.0s
MVO Moncorvo 51.15 57 *eP* **P** 16 54 54.5 +0.5
comp=Z,82nm,1.7s
RES Resolute Bay 51.22 351 P **P** 16 54 53.9 0.0
comp=Z,26nm,0.9s,baz=162,slow=9.2,SNR=42
RES Resolute Bay 51.22 351 P **P** 16 54 53.4 -0.4
RES IAmb IAmb 16 54 55.0
comp=Z,45nm,1.1s
RCLB Rio Claro- Sao 51.25 157 *eP* **P** 16 54 56.3 +1.6
RCLB Rio Claro- Sao 51.25 157 *eP* **P** 16 54 56.3 +1.6
PBRG Braganca 51.35 56 *eP* **P** 16 54 56.5 +1.1
comp=Z,84nm,1.8s
FRTB Fartura 51.44 160 *eP* **P** 16 54 57.4 +1.3
FRTB Fartura 51.44 160 *eP* **P** 16 54 57.4 +1.3
VAO Valinhos 51.98 157 *eP* **P** 16 55 01.6 +1.3
VAO Valinhos 51.98 157 *eP* **P** 16 55 01.6 +1.3
ZHG ZHG 52.13 66 P **P** 16 55 03.0 +1.5
ZHG ZHG 52.13 66 P **P** 16 55 03.0 +1.5
ZHG ZHG 52.13 66 P **P** 16 55 03.0 +1.5
ZHG ZHG 52.13 66 P **P** 16 55 03.0 +1.5
OUZM OUZ 52.44 70 P **P** 16 55 06.0 +2.2
OUZM OUZ 52.44 70 P **P** 16 55 06.0 +2.2
OUZM OUZ 52.44 70 P **P** 16 55 06.0 +2.2
OUZM OUZ 52.44 70 P **P** 16 55 06.0 +2.2
CPUP Villa Florida 52.45 169 P **P** 16 55 03.5 -0.1
comp=Z,12nm,0.7s,baz=352,slow=7.9,SNR=37
CPUP PcP **PcP** 16 56 15.4 +1.2
comp=Z,10nm,0.9s,baz=350,slow=5.7,SNR=5.0
CPUP LR LR 17 20 50.0
comp=Z,78nm,18.4s,baz=0.5,slow=40
CPUP Villa Florida 52.45 169 P **P** 16 55 02.8 -0.8
BBB Bella Bella 52.81 317 P **P** 16 55 06.4 +0.4
BBB IAmb IAmb 16 55 08.6
comp=Z,130nm,1.4s
GO03 Copiap 53.06 184 P **P** 16 55 08.5 +0.4
LAWE Loch Awe, Argy 53.14 38 *eP* **P** 16 55 09.1 +0.6
LAWE IAmb IAmb 16 55 09.1
comp=Z,76nm,0.9s
KPL Plockton 53.18 36 *eP* **P** 16 55 09.2 +0.6
KPL IAmb IAmb 16 55 10.3
comp=Z,67nm,1.1s
PAB San Pablo 53.29 59 P **P** 16 55 10.2 +0.3
PAB pmax pmax
comp=Z,67nm,1.9s
PAB San Pablo 53.29 59 P **P** 16 55 10.2 +0.3
TZRR Tazzarine 53.47 70 P **P** 16 55 15.0 +3.6
TZRR Tazzarine 53.47 70 P **P** 16 55 15.0 +3.6
TZRR Tazzarine 53.47 70 P **P** 16 55 15.0 +3.6
TZRR Tazzarine 53.47 70 P **P** 16 55 15.0 +3.6
ZGR Zagora 53.55 70 P **P** 16 55 14.2 +2.2
ZGR Zagora 53.55 70 P **P** 16 55 14.2 +2.2
ESDC Sonseca Array 53.57 58 P **P** 16 55 12.5 +0.5
comp=Z,11nm,0.7s,baz=280,slow=7.3,SNR=52
ESDC LR LR 17 14 46.2
comp=Z,316nm,18.5s,baz=260,slow=32
ESBB Sonseca Array 53.58 58 P **P** 16 55 12.2 +0.2
EAB Aberfoyle 53.72 38 *eP* **P** 16 55 12.8 +0.2
INVG Invergeldie, C 53.91 38 *eP* **P** 16 55 14.0 -0.1
MDT Midelt 53.92 67 P **P** 16 55 16.2 +1.5
comp=Z,4.3nm,0.4s,baz=130,slow=1.2,SNR=19
MDT PcP **PcP** 16 56 21.5 +1.4
comp=Z,7.9nm,0.9s,baz=216,slow=1.9,SNR=5.6
MDT Midelt 53.92 67 P **P** 16 55 16.5 +1.8
MDT Midelt 53.92 67 P **P** 16 55 16.5 +1.8
FOEL Foel Wylfa 54.04 42 *eP* **P** 16 55 15.5 +0.5
FOEL IAmb IAmb 16 55 15.8
comp=Z,62nm,0.9s
PALE Palemas 54.10 64 P **P** 16 55 17.3 +1.5
PALE Palemas 54.10 64 P **P** 16 55 17.3 +1.5
PALE Palemas 54.10 64 P **P** 16 55 17.3 +1.5
PALE Palemas 54.10 64 P **P** 16 55 17.3 +1.5
HLM1 Long Mynd 54.20 43 *eP* **P** 16 55 16.7 +0.4
HLM1 IAmb IAmb 16 55 17.6
comp=Z,45nm,1.0s
ESK Eskdalemuir 54.25 39 *eP* **P** 16 55 17.3 +0.7
ESK Eskdalemuir 54.25 39 P **P** 16 55 16.3 -0.3
ESK pmax pmax
comp=Z,259nm,2.0s
ESK Eskdalemuir 54.25 39 P **P** 16 55 16.3 -0.3
EKA Eskdalemuir Ar 54.28 39 P **P** 16 55 15.8 -1.0
EKA pmax pmax
comp=Z,2.0nm,0.6s
DLBC Dease Lake 54.64 325 P **P** 16 55 20.2 +0.8
DLBC IAmb IAmb 16 55 22.2
comp=Z,63nm,0.8s
C36M Paulatuk 54.91 339 P **P** 16 55 18.9 -2.2
baz=112

LBWR Ladybower, Pea 54.96 41 *eP* **P** 16 55 22.2 +0.4
LBWR IAmb IAmb 16 55 23.1
comp=Z,91nm,0.9s
CWF Charnwood Fore 55.17 42 *eP* **P** 16 55 24.6 +1.3
CWF IAmb IAmb 16 55 25.6
comp=Z,35nm,1.0s
JBK JBK 55.35 65 P **P** 16 55 27.0 +1.9
JBK JBK 55.35 65 P **P** 16 55 27.0 +1.9
JBK JBK 55.35 65 P **P** 16 55 27.0 +1.9
JBK JBK 55.35 65 P **P** 16 55 27.0 +1.9
GDLE Glaisdale, N Y 55.55 40 *eP* **P** 16 55 26.6 +0.6
GDLE IAmb IAmb 16 55 26.9
comp=Z,183nm,1.0s
AROD Rodeo 55.57 183 *eP* **P** 16 55 28.7 +2.0
GO04 Tololo Observa 55.66 184 P **P** 16 55 27.7 +0.5
ETSF Etsaut 55.86 54 *eP* **P** 16 55 29.0 +0.5
ETSF pmax pmax
comp=Z,20nm,1.0s
LDF La Druitiere 55.88 47 *eP* **P** 16 55 28.5 +0.1
LDF pmax pmax
comp=Z,111nm,1.8s
ACCO Cerro Coronel 55.97 183 *eP* **P** 16 55 30.7 +1.1
DAG Danmarks Havn 56.07 12 *i* P **P** 16 55 29.0 -0.4
DAG Danmarks Havn 56.07 12 *i* P **P** 16 55 29.0 -0.4
EPF Esparros 56.51 54 *eP* **P** 16 55 33.7 +0.6
EPF pmax pmax
comp=Z,23nm,1.1s
TCA Tanti 56.70 178 *eP* **P** 16 55 34.2 -0.3
CNLB Canela 56.71 164 *eP* **P** 16 55 35.5 +1.0
CNLB Canela 56.71 164 *eP* **P** 16 55 35.5 +1.0
FIGM Figuig 56.82 67 P **P** 16 55 38.0 +2.4
FIGM Figuig 56.82 67 P **P** 16 55 38.0 +2.4
ZON Zonda 56.91 182 *eP* **P** 16 55 36.9 +0.9
CFA Coronel Fontan 56.96 182 P **P** 16 55 37.6 +1.4
comp=Z,53nm,0.8s,baz=355,slow=7.0,SNR=95
RJF Les Rejaudoux 57.16 51 *eP* **P** 16 55 37.4 -0.3
RJF pmax pmax
comp=Z,130nm,2.1s
BESE Bessie Mountai 57.17 325 P **P** 16 55 37.8 +0.2
BESE IAmb IAmb 16 55 39.9
comp=Z,42nm,0.9s
RTCV Cerro Valdivia 57.23 182 *eP* **P** 16 55 39.6 +1.4
SKAG Skagway 57.48 326 P **P** 16 55 39.6 0.0
SKAG IAmb IAmb 16 55 52.5
comp=Z,37nm,0.9s
TCF Toulx Ste Croi 57.57 50 *eP* **P** 16 55 40.3 -0.2
TCF pmax pmax
comp=Z,59nm,1.5s
CAF Calviac 57.58 52 *eP* **P** 16 55 40.7 +0.1
CAF pmax pmax
comp=Z,29nm,1.0s
ACAN Cantantal 57.61 181 *eP* **P** 16 55 40.2 -0.7
MTLF Montolieu 57.84 53 *eP* **P** 16 55 43.6 +1.1
MTLF pmax pmax
comp=Z,40nm,1.6s
INK Inuvik 57.90 336 P **P** 16 55 41.7 -0.8
comp=Z,38nm,1.1s,baz=91,slow=8.5,SNR=37
INK Inuvik 57.90 336 P **P** 16 55 41.5 -1.0
INK IAmb IAmb 16 55 43.0
comp=Z,72nm,1.2s
ASAL Salagasta 57.96 182 *eP* **P** 16 55 44.9 +1.6
AVF Avril sur Loir 58.31 49 *eP* **P** 16 55 45.3 -0.4
AVF pmax pmax
comp=Z,28nm,1.2s
SSF Saint Saulge 58.40 49 *eP* **P** 16 55 46.0 -0.3
SSF pmax pmax
comp=Z,43nm,1.4s
PLTB Pedras Altas 58.43 167 *eP* **P** 16 55 47.5 +0.9
PLTB Pedras Altas 58.43 167 *eP* **P** 16 55 47.5 +0.9
AAGR Agrelo 58.45 182 *eP* **P** 16 55 48.5 +1.7
ROC1 El Roble 58.46 184 P **P** 16 55 47.7 0.0
ROC1 El Roble 58.46 184 *eP* **P** 16 55 48.1 +1.1
PEL Peldehue 58.60 184 P **P** 16 55 48.3 +0.5
PEL pmax pmax
comp=Z,66nm,1.0s
PEL Peldehue 58.60 184 P **P** 16 55 48.3 +0.5
PEL IAmb IAmb 16 55 49.9
comp=Z,66nm,1.0s
LOR Lormes 58.62 49 *eP* **P** 16 55 47.5 -0.4
LOR pmax pmax
comp=Z,96nm,1.8s
BAIF Baives 58.65 45 *eP* **P** 16 55 47.0 -1.0
BAIF pmax pmax
comp=Z,137nm,1.9s
HYT Haines Junctio 58.66 327 P **P** 16 55 48.6 +0.6
HYT IAmb IAmb 16 55 50.8
comp=Z,50nm,1.1s
SMF Signal de Mont 58.66 49 *eP* **P** 16 55 47.9 -0.3
SMF pmax pmax
comp=Z,50nm,1.3s
EPYK Eagle Plains 58.81 334 P **P** 16 55 47.9 -1.1
baz=97
EPYK Eagle Plains 58.81 334 P **P** 16 55 48.3 -0.7
EPYK IAmb IAmb 16 55 49.8
comp=Z,31nm,0.9s
GIVF Givet 59.04 45 *eP* **P** 16 55 50.4 -0.3
GIVF pmax pmax
comp=Z,23nm,0.8s
SSB Saint Sauveur 59.29 51 P **P** 16 55 53.2 +0.6
SSB pmax pmax
comp=Z,65nm,1.9s
SSB Saint Sauveur 59.29 51 P **P** 16 55 53.2 +0.6
SSB IAmb IAmb 16 56 14.5
comp=Z,65nm,1.9s
VIVF Saint-Julien-l 59.43 51 *eP* **P** 16 55 54.4 +0.8
VIVF pmax pmax
comp=Z,35nm,1.1s
DAWY Dawson 59.72 331 P **P** 16 55 55.6 +0.3
MEM Membach 59.76 45 *eP* **P** 16 55 56.8 +1.1
MEM pmax pmax
comp=Z,53nm,1.7s
WLF Walferdange 59.93 46 P **P** 16 55 57.2 +0.3
WLF pmax pmax
comp=Z,81nm,1.6s
WLF Walferdange 59.93 46 P **P** 16 55 57.2 +0.3
WLF IAmb IAmb 16 56 29.2
comp=Z,81nm,1.6s
CABF La Chapelle 60.20 49 *eP* **P** 16 55 58.8 -0.1
CABF pmax pmax
comp=Z,84nm,1.8s
HAU Haudompre 60.22 48 *eP* **P** 16 55 58.7 -0.3
HAU pmax pmax
comp=Z,42nm,1.6s
ORIF Oris-en-Rattie 60.27 51 *eP* **P** 16 56 00.1 +0.7
ORIF pmax pmax
comp=Z,11nm,1.0s
BUG Bochum--Univer 60.49 44 P **P** 16 56 01.4 +0.8
BUG pmax pmax
comp=Z,32nm,1.6s
EGAK Eagle 60.52 332 P **P** 16 56 00.6 0.0
EGAK IAmb IAmb 16 56 02.3
comp=Z,54nm,1.2s
GO05 Huala 60.54 185 P **P** 16 56 00.9 -0.2
H10N3 ASCENSION HYDR 60.61 116 T T 18 01 30.7
baz=305,slow=75,SNR=6.0
H10N2 ASCENSION HYDR 60.61 116 T T 18 01 36.5
baz=305,slow=75,SNR=6.8
H10N1 ASCENSION HYDR 60.63 116 T T 18 01 35.5
baz=305,slow=75,SNR=5.8
BARN Barnard Glacie 60.69 327 P **P** 16 56 03.3 +1.2
ECH Echery 60.74 47 P **P** 16 56 02.0 -0.5
ECH pmax pmax
comp=Z,17nm,1.0s
ECH Echery 60.74 47 P **P** 16 56 02.0 -0.5
LPL La Plagne 60.79 51 *eP* **P** 16 56 03.5 +0.4
LPL pmax pmax
comp=Z,12nm,0.8s
CDF Champ du Feu 60.80 47 *eP* **P** 16 56 02.5 -0.4
CDF pmax pmax
comp=Z,91nm,2.2s
LPG La Plagne 60.80 51 *eP* **P** 16 56 03.8 +0.5
LPG pmax pmax
comp=Z,24nm,1.2s
BNI Bardonecchia 60.82 51 P **P** 16 56 03.2 0.0
BNI pmax pmax
comp=Z,34nm,1.3s
BNI Bardonecchia 60.82 51 P **P** 16 56 03.2 0.0
BNI IAmb IAmb 16 56 05.5
comp=Z,34nm,1.3s
MBDF Montbardon 60.93 51 *eP* **P** 16 56 04.6 +0.6
MBDF pmax pmax
comp=Z,14nm,1.0s
LMR La Mourre 60.95 53 *eP* **P** 16 56 04.1 +0.2
LMR pmax pmax

comp=Z,21nm,1.3s
FRF La Foret Royal 61.01 53 *e*P **P 16 56 04.5 +0.1**
FRF pmax pmax
comp=Z,27nm,1.3s
BALM Baldy 61.02 327 P **P 16 56 04.5 +0.2**
BALM IAmb IAmb 16 56 07.0
comp=Z,54nm,1.0s
MUD Monsted U'grnd 61.24 38 *i* P **P 16 56 07.0 +1.4**
MUD pmax pmax
comp=Z,63nm,0.9s
MUD Monsted U'grnd 61.24 38 *i* P **P 16 56 07.0 +1.4**
comp=Z,63nm,0.9s
TGL Tana Glacier 61.27 327 P **P 16 56 06.5 +0.6**
TGL IAmb IAmb 16 56 08.4
comp=Z,58nm,1.0s
KONO Kongsberg 61.30 34*c e*P **P 16 56 06.3 +0.2**
KONO pmax pmax
comp=Z,61nm,1.2s
KONO Kongsberg 61.30 34 P **P 16 56 06.8 +0.8**
KONO IAmb IAmb 16 56 08.4
comp=Z,70nm,1.2s
MCARA McCarthy VSAT 61.34 328 P **P 16 56 07.1 +0.8**
TNS Taunus Mts 61.35 45 P **P 16 56 07.8 +1.2**
TNS pmax pmax
comp=Z,22nm,1.4s
SBF Sospel 61.53 52 *e*P **P 16 56 08.1 +0.1**
SBF pmax pmax
comp=Z,27nm,1.0s
VRDI Verde Repeater 61.56 328 P **P 16 56 08.4 +0.4**
TIC Toumodi 61.58 97 *e*P **P 16 56 09.2 +0.5**
comp=Z,36nm,0.7s
TIC Toumodi 61.58 97 P **P 16 56 09.2 +0.5**
TIC Toumodi 61.58 97 P **P 16 56 09.2 +0.5**
SAOF Saorge 61.60 52 P **P 16 56 09.5 +1.1**
SAOF pmax pmax
comp=Z,28nm,2.0s
SLE Schleitheim 61.69 48 P **P 16 56 09.7 +0.8**
SLE pmax pmax
comp=Z,26nm,1.4s
DBIC Dimbokro 61.71 96 P **P 16 56 10.1 +0.6**
comp=Z,14nm,0.6s,baz=275,slow=8.9,SNR=23
DBIC LR LR 17 17 26.4
comp=Z,370nm,22.0s,baz=266,slow=31
DBIC Dimbokro 61.71 96 P **P 16 56 09.5 0.0**
DBIC IAmb IAmb 16 56 11.1
comp=Z,32nm,1.1s
GLB Gilahina Butte 61.72 328 P **P 16 56 09.9 +0.9**
SCRK Sand Creek 61.74 331 P **P 16 56 09.8 +0.7**
LIC Lamto 61.75 97 *e*P **P 16 56 10.4 +0.6**
comp=Z,87nm,1.0s
LIC Lamto 61.75 97 P **P 16 56 10.4 +0.6**
DOT Dot Lake 61.78 330 P **P 16 56 10.1 +0.9**
NC204 NORSAR Array S 61.82 32 P **P 16 56 10.1 +0.5**
NA001 NORSAR Array S 61.90 33 P **P 16 56 10.7 +0.6**
KIC Kosan Boka 61.95 97 *e*P **P 16 56 11.8 +0.7**
comp=Z,45nm,1.1s
KIC Kosan Boka 61.95 97 P **P 16 56 11.8 +0.7**
STU Stuttgart 62.02 47 P **P 16 56 11.6 +0.5**
NB2 NORSAR Subarra 62.05 33 P **P 16 56 11.7 +0.6**
comp=Z,46nm,1.0s,baz=275,slow=6.9
NB2 NORSAR Subarra 62.05 33 P **P 16 56 11.7 +0.6**
baz=275,slow=6.9
NOA NORSAR Array B 62.05 33 P **P 16 56 11.7 +0.6**
comp=Z,18nm,0.8s,baz=275,slow=6.8,SNR=31
NOA LR LR 17 20 56.6
comp=Z,218nm,18.0s,baz=265,slow=34
NB201 NORSAR Array S 62.09 33 P **P 16 56 11.8 +0.4**
NC303 NORSAR Array S 62.11 32 P **P 16 56 11.9 +0.4**
RIDG Independent Ri 62.12 330 P **P 16 56 12.0 +0.4**
RAGM Ragged Mountai 62.19 327 P **P 16 56 12.8 +0.7**
RAGM IAmb IAmb 16 56 15.5
comp=Z,49nm,1.0s
NC602 NORSAR Array S 62.22 33 P **P 16 56 12.8 +0.5**
NORES NORESS Array B 62.22 33 P **P 16 56 13.6 +1.4**
NORES pmax pmax
comp=Z,27nm,0.8s
FYU Fort Yukon 62.23 334 P **P 16 56 11.8 -0.3**
FYU IAmb IAmb 16 56 13.5
comp=Z,65nm,1.3s
NC405 NORSAR Array S 62.29 32 P **P 16 56 13.3 +0.6**
PRP Porcupine Dome 62.37 333 P **P 16 56 13.2 -0.1**
TUE Stuetta 62.45 49 P **P 16 56 14.9 +0.6**
TUE IAmb IAmb 16 56 27.0
comp=Z,22nm,1.0s
DAVA Damuels 62.69 48 *i* pP **P 16 56 15.7 -0.1**
comp=Z,18nm,1.3s
DAVOX Davos/Dischmat 62.77 49 P **P 16 56 17.4 +1.1**
comp=Z,12nm,0.9s,baz=284,slow=5.8,SNR=24
PGF Pioggiola 62.88 54 P **P 16 56 17.6 +0.5**
PGF pmax pmax
comp=Z,22nm,0.9s
IL31 62.97 332 P **P 16 56 16.6 -0.6**
ILAR Eielson Array 62.97 332 P **P 16 56 17.4 +0.2**
comp=Z,37nm,0.9s,baz=84,slow=6.1,SNR=263
ILAR LR LR 17 24 01.3
comp=Z,490nm,18.8s,baz=99,slow=36
ILAR PKPPKP **P'P'df 17 25 20.2 -3.5**
comp=Z,0.6nm,1.0s,baz=271,slow=2.1,SNR=4.4
HDA Harding Lake 63.02 331 P **P 16 56 16.8 -0.7**
baz=87
HDA Harding Lake 63.02 331 P **P 16 56 17.0 -0.5**
HDA IAmb IAmb 16 56 23.7
comp=Z,62nm,1.6s
FUORN Ofenpass-Fuorn 63.05 49 P **P 16 56 18.3 0.0**
FUORN IAmb IAmb 16 56 35.5
comp=Z,20nm,0.9s
POKR Poker Plat Res 63.19 332 P **P 16 56 18.3 -0.4**
baz=87,SNR=19
GRF Grafenberg Arr 63.20 45 P **P 16 56 18.6 -0.4**
RETA Reutte 63.24 48 *i* pP **P 16 56 19.5 +0.1**
comp=Z,18nm,1.4s
DHY Denali Highway 63.30 330 P **P 16 56 19.6 0.0**
FETA Feichten 63.30 48 *i* pP **P 16 56 21.1 +1.2**
comp=Z,34nm,1.1s,SNR=9.4
CCB Clear Creek Bu 63.37 332 P **P 16 56 19.3 -0.6**
CCB IAmb IAmb 16 56 20.8
comp=Z,38nm,1.0s
COLA College 63.38 332*c i*P **P 16 56 19.4 -0.4**
COLA pmax pmax
comp=Z,87nm,1.9s
COLA College 63.38 332 P **P 16 56 19.7 -0.1**
COLA IAmb IAmb 16 56 21.1
comp=Z,43nm,1.0s
TCOL CIGO, UAF Yank 63.38 332 P **P 16 56 18.9 -1.0**
baz=86
MOTA Moosalm 63.50 48 *i* pP **P 16 56 21.6 +0.4**
comp=Z,31nm,1.3s,SNR=7.7
WRH Wood River Hil 63.51 331 P **P 16 56 20.1 -0.7**
WRH IAmb IAmb 16 56 23.3
comp=Z,37nm,1.1s
TRQA Tornquist 63.52 176 P **P 16 56 21.5 +0.4**
TRQA pmax pmax
comp=Z,29nm,1.4s
TRQA Tornquist 63.52 176 *e*P **P 16 56 20.7 -0.4**
TRQA Tornquist 63.52 176 *e*P **P 16 56 20.7 -0.4**
TRQA Tornquist 63.52 176 P **P 16 56 21.5 +0.4**
TRQA IAmb IAmb 16 56 23.5
comp=Z,29nm,1.4s
MDM Murphy Dome 63.53 332 P **P 16 56 20.7 -0.2**
SQTA Sankt Quirin 63.59 48 *i* pP **P 16 56 22.1 +0.4**
comp=Z,31nm,1.1s,SNR=7.9
SPITS Spitsbergen Ar 63.64 13 P **P 16 56 21.7 +0.3**
comp=Z,28nm,1.1s,baz=288,slow=5.9,SNR=9.9
WATA Walderalm 63.82 48 *i* pP **P 16 56 23.5 +0.2**
comp=Z,28nm,1.5s,SNR=7.5
TOLK Toolik Lake Re 63.82 336 P **P 16 56 22.0 -0.8**
baz=86,SNR=20
TOLK Toolik Lake Re 63.82 336 P **P 16 56 22.0 -0.8**
TOLK IAmb IAmb 16 56 24.0
comp=Z,30nm,1.2s
SML Sawmill 63.85 328 P **P 16 56 22.0 -1.1**
SML pmax pmax
comp=Z,103nm,0.9s
SML Sawmill 63.85 328 P **P 16 56 23.0 -0.1**
WTTA Wattenberg 63.87 48 *i* pP **P 16 56 24.0 +0.3**
comp=Z,35nm,2.0s,SNR=7.6
NKC Novy Kostel 63.90 45 *e*P **P 16 56 24.0 +0.4**
NKC Novy Kostel 63.90 45 *e*P **P 16 56 24.0 +0.4**
NEA Nenana 63.93 332 P **P 16 56 22.9 -0.6**
NEA IAmb IAmb 16 56 24.8
comp=Z,56nm,1.0s
RND Reindeer 63.94 330 P **P 16 56 23.7 0.0**
RND pmax pmax
comp=Z,124nm,1.2s
RND Reindeer 63.94 330 P **P 16 56 23.7 0.0**

MCK McKinley 63.94 331 P **P 16 56 23.5 -0.1**
MCK pmax pmax
comp=Z,30nm,0.9s
MCK McKinley 63.94 331 P **P 16 56 23.5 -0.1**
MCK IAmb IAmb 16 56 24.4
comp=Z,30nm,0.9s
KNK Knik Glacier 63.95 328 P **P 16 56 24.4 +0.6**
ZCCA Zocca 63.95 51 P **P 16 56 23.2 -0.9**
ZCCA IAmb IAmb 16 56 43.6
comp=Z,30nm,1.2s
CLL Collm 64.07 43⇑ *i*P **P 16 56 25.0 +0.3**
CLL *i* 16 56 29.0
CLL pmax pmax
comp=Z,27nm,1.4s
CLL Collm 64.07 43⇑ *i*P **P 16 56 25.0 +0.3**
comp=Z,27nm,1.4s
CLL *i* 16 56 29.0
CLL Collm 64.07 43 P **P 16 56 24.0 -0.7**
CLL IAmb IAmb 16 56 26.3
comp=Z,32nm,1.4s
GHO Glory Hole Cre 64.14 328 P **P 16 56 25.3 +0.3**
COLD Coldfoot 64.16 335 P **P 16 56 25.0 0.0**
COLD IAmb IAmb 16 56 26.9
comp=Z,59nm,1.1s
TEOL Teolo 64.24 50 P **P 16 56 25.3 -0.6**
TEOL IAmb IAmb 16 56 27.0
comp=Z,49nm,0.9s
PMR Palmer 64.25 328 P **P 16 56 25.9 +0.3**
PMR Palmer 64.25 328 P **P 16 56 25.9 +0.3**
OSSC Osservatorio P 64.31 52 P **P 16 56 25.4 -1.0**
WET Wettzell 64.36 46 P **P 16 56 27.7 +1.1**
WET pmax pmax
comp=Z,25nm,1.5s
ABTA Abfaltersbach 64.55 48 *i* pP **P 16 56 28.0 -0.1**
comp=Z,19nm,1.2s,SNR=6.4
TRF Thorofare Moun 64.57 330 P **P 16 56 27.6 -0.4**
MLY Manley 64.59 332 P **P 16 56 27.6 -0.4**
RC01 Rabbit Creek A 64.60 328 P **P 16 56 27.9 -0.1**
RC01 IAmb IAmb 16 56 30.1
comp=Z,50nm,1.2s
BSD Bornholm Skovb 64.61 39 *e*P **P 16 56 26.8 -1.3**
BSD pmax pmax
comp=Z,66nm,1.0s
BSD Bornholm Skovb 64.61 39 *i* P **P 16 56 26.8 -1.3**
comp=Z,66nm,1.0s
KEST Kesra 64.63 61 P **P 16 56 29.7 +1.0**
comp=Z,40nm,0.9s,baz=255,slow=3.0,SNR=28
KEST LR LR 17 20 30.3
comp=Z,184nm,19.8s,baz=4.5,slow=32
KEST Kesra 64.63 61 P **P 16 56 28.7 0.0**
BRG Berggiesshubel 64.73 44 *i* P **P 16 56 29.5 +0.5**
comp=Z,28nm,1.3s
BRG *e* 16 56 41.7
comp=Z,16nm,1.3s
BRG Berggiesshubel 64.73 44 *i* P **P 16 56 29.5 +0.5**
BRG pmax pmax
comp=Z,28nm,1.3s
STAL STALIGIAL 64.78 49 P **P 16 56 28.8 -0.7**
BPAW Bear Paw Mtn. 64.80 331 P **P 16 56 28.9 -0.3**
KHC Kasperske Hory 64.81 46⇓ *i*P **P 16 56 30.4 +0.8**
KHC Kasperske Hory 64.81 46 *e*P **P 16 56 29.9 +0.3**
KHC *ex* x 16 56 40.0
KHC Kasperske Hory 64.81 46 P **P 16 56 29.1 -0.6**
KTH Kantishna Hill 64.84 331 P **P 16 56 29.0 -0.6**
LATE Laterza 64.90 53 P **P 16 56 29.8 -0.5**
LATE IAmb IAmb 16 56 31.9
comp=Z,84nm,1.6s
GEC2 GERESS Array S 64.94 46 P **P 16 56 31.4 +0.8**
GEC2 pmax pmax
comp=Z,19nm,1.8s
GEC2 GERESS Array S 64.94 46 P **P 16 56 30.5 0.0**
GEC2 IAmb IAmb 16 56 32.1
comp=Z,25nm,1.2s
GERES GERESS Array B 64.94 46 P **P 16 56 30.6 0.0**
comp=Z,7.5nm,1.0s,baz=273,slow=5.2,SNR=26
GERES LR LR 17 21 19.4
comp=Z,484nm,18.8s,baz=273,slow=33
PBCC Pribram 64.97 45 *e*P **P 16 56 31.5 +0.9**
TOA0 Torodi Ar. Sit 65.03 87 P **P 16 56 31.5 0.0**
TOA0 IAmb IAmb 16 56 33.1
comp=Z,27nm,0.8s
TORD Torodi Ar. Bea 65.03 87 P **P 16 56 31.8 +0.3**
comp=Z,23nm,0.8s,baz=296,slow=7.0,SNR=82
TORD LR LR 17 24 12.7
comp=Z,473nm,18.1s,baz=320,slow=35
TORD PKPPKP **P'P'df 17 25 14.8 -2.9**
comp=Z,1.8nm,1.1s,baz=76,slow=2.4,SNR=3.6
KBA Koelnbreinsper 65.05 48 P **P 16 56 31.9 +0.5**
KBA pmax pmax
comp=Z,17nm,0.9s
KBA Koelnbreinsper 65.05 48 *i* pP **P 16 56 31.7 +0.3**
comp=Z,18nm,1.1s,SNR=7.5
GO06 Curarrehue 65.06 184 P **P 16 56 31.2 0.0**
TAM Tamanrasset 65.08 76 P **P 16 56 33.8 +1.8**
TAM pmax pmax
comp=Z,17nm,1.2s
PVCC Panska Ves 65.18 44 P **P 16 56 33.0 +1.1**
PVCC pmax pmax
comp=Z,5.0nm,1.4s
PRU Pruhonice 65.27 45 *e*P **P 16 56 33.3 +0.8**
PRU Pruhonice 65.27 45 *e*P **P 16 56 33.3 +0.8**
MURB Monte Urbino 65.28 52 P **P 16 56 31.5 -1.2**
MURB IAmb IAmb 16 56 32.8
comp=Z,19nm,0.9s
MYKA Terra Mystica 65.34 48 *i* pP **P 16 56 33.0 -0.1**
comp=Z,4.7nm,0.7s
CADS Cadrg 65.49 49 *e*P **P 16 56 33.8 -0.3**
PPLA Purkeypile 65.50 330 P **P 16 56 34.1 +0.1**
MOA Molln 65.51 47 *i* pP **P 16 56 34.2 +0.1**
comp=Z,20nm,1.1s,SNR=7.9
TRI Trieste 65.61 49 P **P 16 56 34.3 -0.5**
TRI pmax pmax
comp=Z,24nm,1.1s
TRI Trieste 65.61 49 P **P 16 56 34.3 -0.5**
TRI IAmb IAmb 16 56 36.2
comp=Z,24nm,1.1s
NRCA Norcia 65.79 53 P **P 16 56 34.8 -1.4**
OBKA Obir 65.98 48 *i* pP **P 16 56 37.2 -0.1**
comp=Z,29nm,0.9s,SNR=13
TREC Trest 66.00 45 P **P 16 56 36.3 -1.0**
TREC pmax pmax
comp=Z,7.0nm,0.7s
LJU Ljubljana 66.06 49 *i* P **P 16 56 38.2 +0.5**
LJU Ljubljana 66.06 49 *e*P **P 16 56 38.2 +0.5**
UPC Upice 66.09 44 *e*P **P 16 56 38.6 +0.8**
UPC Upice 66.09 44 *e*P **P 16 56 38.6 +0.8**
UPC *ex* x 16 56 49.6
CHVC Chvalec 66.10 44 *e*P **P 16 56 37.9 0.0**
AQU L'Aquila 66.11 53 P **P 16 56 39.1 +0.9**
AQU pmax pmax
comp=Z,18nm,1.2s
PLCA Paso Flores 66.15 183 P **P 16 56 38.7 +0.5**
PLCA pmax pmax
comp=Z,41nm,1.0s
PLCA Paso Flores 66.15 183 P **P 16 56 39.3 +1.1**
comp=Z,31nm,0.9s,baz=22,slow=6.9,SNR=78
PLCA LR LR 17 30 16.7
comp=Z,139nm,18.1s,baz=42,slow=40
PLCA Paso Flores 66.15 183 *e*P **P 16 56 39.1 +0.9**
PLCA Paso Flores 66.15 183 *e*P **P 16 56 39.1 +0.9**
PLCA Paso Flores 66.15 183 P **P 16 56 38.7 +0.5**
PLCA IAmb IAmb 16 56 43.7
comp=Z,41nm,0.9s
RSO Redoubt South 66.16 327 P **P 16 56 36.8 -1.5**
KSP Ksiaz 66.20 43 *e*P **P 16 56 39.2 +0.7**
KSP Ksiaz 66.20 43 *e*P **P 16 56 39.2 +0.7**
KSP *e*P **P 16 56 39.2 +0.7**
OSTC Ostas 66.21 44 *e*P **P 16 56 39.0 +0.4**
SOKA Soboth 66.27 48 *i* pP **P 16 56 38.9 -0.3**
comp=Z,30nm,1.0s,SNR=17
GKP Gorka Klasztor 66.28 41 *e*P **P 16 56 40.7 +1.8**
GKP Gorka Klasztor 66.28 41 *e*P **P 16 56 40.7 +1.8**
GKP *e*P **P 16 56 40.7 +1.8**
DPC Dobruska-Polom 66.31 44 *e*P **P 16 56 40.0 +0.7**
DPC Dobruska-Polom 66.31 44 *e*P **P 16 56 40.0 +0.7**
DPC *ex* x 16 56 50.0
ARSA Arzberg 66.47 47 *i* pP **P 16 56 40.5 +0.2**
comp=Z,18nm,1.0s,SNR=8.5
CONA Conrad Observa 66.54 47 *i* pP **P 16 56 41.1 +0.2**
comp=Z,10nm,0.8s
KRUC Moravsky 66.64 45 P **P 16 56 42.0 +0.6**
KRUC pmax pmax
comp=Z,16nm,2.6s
KRUC Moravsky 66.64 45 *e*P **P 16 56 41.8 +0.4**

VRAC Vranov 66.71 45 P **P 16 56 42.6 +0.8**
VRAC pmax pmax
comp=Z,23nm,1.6s
VRAC Vranov 66.71 45⇑P **P 16 56 42.5 +0.6**
VRAC mb 16 56 43.5
VRAC Vranov 66.71 45 *e*P **P 16 56 42.4 +0.6**
CRES Cresnjev 66.74 49⇑ *i*P **P 16 56 42.1 0.0**
ARCES ARCESS Array B 66.96 22 P **P 16 56 43.4 +0.3**
comp=Z,38nm,0.9s,baz=290,slow=3.0,SNR=31
SOP Sopron 67.05 47 P **P 16 56 44.8 +0.8**
SOP pmax pmax
comp=Z,21nm,2.1s
OHAK Old Harbor 67.06 324 P **P 16 56 43.3 -0.5**
VAF Ylistaro 67.15 30 P **P 16 56 45.7 +1.4**
VAF pmax pmax
comp=Z,94nm,1.1s
MORC Moravsky Berou 67.21 44 P **P 16 56 44.0 -1.0**
MORC pmax pmax
comp=Z,38nm,1.4s
MORC Moravsky Berou 67.21 44⇑P **P 16 56 45.9 +0.9**
MORC mb 16 56 46.9
MORC Moravsky Berou 67.21 44 *e*P **P 16 56 45.9 +0.9**
MORC Moravsky Berou 67.21 44 P **P 16 56 44.0 -1.0**
MORC IAmb IAmb 16 56 46.9
comp=Z,38nm,1.4s
TTA Tatalina 67.22 330 P **P 16 56 44.1 -0.8**
TTA pmax pmax
comp=Z,54nm,1.2s
TTA Tatalina 67.22 330 P **P 16 56 44.1 -0.8**
TTA IAmb IAmb 16 56 45.7
comp=Z,54nm,1.2s
MODS Modra-Piesok 67.36 46 *e*P **P 16 56 46.2 +0.2**
MODS pmax pmax
comp=Z,62nm,1.3s
MODS Modra-Piesok 67.36 46 *e*P **P 16 56 46.2 +0.2**
SMOL Smolenice 67.43 46 *e*P **P 16 56 47.7 +1.3**
SMOL pmax pmax
comp=Z,14nm,1.3s
SMOL Smolenice 67.43 46 *e*P **P 16 56 47.7 +1.3**
JAVC Velka Javorina 67.50 45 *e*P **P 16 56 48.6 +1.7**
OKC Ostrava-Krasne 67.58 44 *e*P **P 16 56 48.2 +0.9**
OKC Ostrava-Krasne 67.58 44 *e*P **P 16 56 48.2 +0.9**
SGF Sodankyl 67.78 25 P **P 16 56 49.3 +1.0**
SGF pmax pmax
comp=Z,102nm,1.1s
MPLH Magyarpolny 67.82 47 *e*P **P 16 56 49.0 +0.1**
OUL Oulu 68.08 27 P **P 16 56 51.1 +0.9**
OUL pmax pmax
comp=Z,118nm,0.9s
SRO Srobarova 68.17 46 *e*P **P 16 56 52.0 +0.9**
SRO pmax pmax
comp=Z,18nm,1.1s
SRO Srobarova 68.17 46 *e*P **P 16 56 52.0 +0.9**
BLY Banja Luka 68.19 50 *e*P **P 16 56 51.5 +0.2**
BLY Banja Luka 68.19 50 P **P 16 56 50.5 -0.7**
BLY IAmb IAmb 16 56 53.0
comp=Z,31nm,1.4s
VYHS Vyhne 68.34 46 *e*P **P 16 56 53.2 +1.0**
VYHS pmax pmax
comp=Z,19nm,1.1s
VYHS Vyhne 68.34 46 *e*P **P 16 56 53.2 +1.0**
ACER Acerenza 68.35 54 P **P 16 56 51.3 -1.1**
ACER IAmb IAmb 16 56 52.9
comp=Z,48nm,1.6s
OJC Ojcow 68.52 44 *e*P **P 16 56 54.4 +1.2**
OJC Ojcow 68.52 44 *e*P **P 16 56 54.4 +1.2**
OJC *e*P **P 16 56 54.4 +1.2**
OJC Ojcow 68.52 44 P **P 16 56 52.3 -0.9**
OJC IAmb IAmb 16 56 55.2
comp=Z,38nm,1.1s
LANS Liptovska Anna 68.58 45 *e*P **P 16 56 55.5 +1.8**
LANS pmax pmax
comp=Z,7.0nm,1.0s
LANS Liptovska Anna 68.58 45 *e*P **P 16 56 55.5 +1.8**
BEL Belsk 68.71 42 *e*P **P 16 56 55.7 +1.3**
BEL Belsk 68.71 42 *e*P **P 16 56 55.7 +1.3**
BEL *e*P **P 16 56 55.7 +1.3**
SUF Sumiainen 68.77 30 P **P 16 56 55.6 +1.1**
SUF pmax pmax
comp=Z,79nm,1.0s
RDOG Red Dog Mine 68.79 336 P **P 16 56 53.5 -1.1**
MORH Mrgy, Hungar 68.80 48 *i*P **P 16 56 55.0 0.0**
MORH Mrgy, Hungar 68.80 48 *e*P **P 16 56 55.0 0.0**
MATE Matera 68.94 54⇑P **P 16 56 55.1 -0.9**
MATE mb 16 56 56.6
NIE Niedzica 69.03 44 *e*P **P 16 56 57.9 +1.4**
NIE Niedzica 69.03 44 *e*P **P 16 56 57.9 +1.4**
NIE *e*P **P 16 56 57.9 +1.4**
STON Ston 69.05 52 *e*P **P 16 56 56.1 -0.5**
FINES FINESS Array B 69.07 31 P **P 16 56 56.9 +0.5**
comp=Z,17nm,0.6s,baz=269,slow=4.9,SNR=55
FINES LR LR 17 23 47.8
comp=Z,128nm,18.6s,baz=253,slow=33
FIA1 FINESS Array S 69.07 31 P **P 16 56 56.3 -0.1**
FIA1 IAmb IAmb 16 57 00.9
comp=Z,62nm,1.1s
MSF Maaselka 69.14 26 P **P 16 56 57.9 +1.1**
MSF pmax pmax
comp=Z,45nm,1.2s
PSZ Piszkesteto 69.17 46 P **P 16 56 57.7 +0.2**
PSZ pmax pmax
comp=Z,39nm,1.2s
PSZ Piszkesteto 69.17 46⇑P **P 16 56 58.9 +1.5**
PSZ mb 16 57 01.5
PSZ Piszkesteto 69.17 46 *e*P **P 16 56 58.1 +0.7**
PSZ Piszkesteto 69.17 46 P **P 16 56 57.6 +0.2**
PSZ IAmb IAmb 16 56 59.8
comp=Z,39nm,1.2s
TIP Timpagrande 69.40 56⇑P **P 16 56 56.8 -2.2**
TIP mb 16 57 00.2
TIP Timpagrande 69.40 56 P **P 16 56 57.6 -1.4**
KECS Kecovo 69.40 45 *e*P **P 16 57 00.0 +1.2**
KECS pmax pmax
comp=Z,6.0nm,1.0s
KECS Kecovo 69.40 45 *e*P **P 16 57 00.0 +1.2**
SUW Suwalki 69.54 39 P **P 16 56 59.7 +0.2**
SUW pmax pmax
comp=Z,62nm,0.9s
SUW Suwalki 69.54 39 *e*P **P 16 57 00.2 +0.7**
SUW *e*P **P 16 57 00.2 +0.7**
SUW Suwalki 69.54 39 P **P 16 56 59.7 +0.2**
PABE Paberze 69.58 37 *e*P **P 16 57 00.4 +0.7**
PABE IAmb IAmb 16 57 01.6
comp=Z,79nm,1.0s
HAPS Han Pijesak,Bl 69.59 50 *e*P **P 16 57 00.2 +0.1**
UPM Unac-Piva 69.80 51 *e*P **P 16 57 02.1 +0.5**
FRGS Fruska Gora 69.87 49⇑ *i*P **P 16 57 01.7 -0.1**
BBLS Lazići 69.96 50⇑ *i*P **P 16 57 03.1 +0.7**
CHGN Chignik 70.02 324 P **P 16 57 01.6 -0.7**
CHGN IAmb IAmb 16 57 13.9
comp=Z,51nm,0.8s
VSU Vasula 70.21 34*d i*P **P 16 57 03.8 +0.3**
VSU pmax pmax
comp=Z,122nm,0.8s
VSU Vasula 70.21 34 *e*P **P 16 57 03.7 +0.2**
PDG Podgorica 70.27 52⇑ *i*P **P 16 57 04.7 +0.5**
PDG Podgorica 70.27 52⇑P **P 16 57 04.2 0.0**
PDG mb 16 57 10.3
PDG Podgorica 70.27 52 P **P 16 57 03.7 -0.5**
PDG IAmb IAmb 16 57 06.2
comp=Z,36nm,1.1s
DRME Dracevica, Mon 70.29 52⇑ *i*P **P 16 57 05.4 +1.0**
DIVS Divibare 70.30 50⇑ *i*P **P 16 57 05.1 +0.6**
SCTE Santa Cesarea 70.40 54 P **P 16 57 04.7 -0.3**
SCTE IAmb IAmb 16 57 06.8
comp=Z,40nm,1.0s
KOLS Kolonicke sedl 70.41 44 *e*P **P 16 57 06.3 +1.3**
KOLS Kolonicke sedl 70.41 44 *e*P **P 16 57 06.3 +1.3**
KWP Kalwaria Pacla 70.48 44 *e*P **P 16 57 07.3 +1.9**
KWP Kalwaria Pacla 70.48 44 *e*P **P 16 57 07.3 +1.9**
KWP *e*P **P 16 57 07.3 +1.9**
UZH Uzhgorod 70.51 45 *e*P **P 16 57 05.8 +0.3**
UZH *e* 16 57 09.6
UZH *e* 16 57 29.6
LVZ Lovozero 70.62 23⇓ *e*P **P 16 57 07.3 +1.4**
LVZ pmax pmax
comp=Z,65nm,1.1s
LTVH Ltavrtes, Hu 70.62 46 *e*P P 16 57 00.0 -6.2
ISAL Salakas 70.74 37 *e*P **P 16 57 07.7 +0.9**
IZAR Zarasai 70.75 37 *e*P **P 16 57 07.4 +0.5**
IZAR IAmb IAmb 16 57 09.2
comp=Z,27nm,1.0s
SIRR Siria 70.79 47⇑P **P 16 57 08.0 +0.6**

TRPA **Tarpa** **70.82** **45** ⇑P **P** **16 57 08.7 +1.3**
TRPA mb 16 57 09.7
TRPA Tarpa **70.82** **45** *eP* **P** **16 57 08.0 +0.6**
IIGN Ignalina **70.86** **37** *eP* **P** **16 57 08.5 +1.0**
IIGN IAmb IAmb 16 57 09.8
comp=Z,52nm,1.1s
BZS Buzias **70.96** **48** ⇑P **P** **16 57 08.7 +0.3**
JOF Joensuu **70.98** **29** P **P** **16 57 09.4 +1.3**
JOF pmax pmax
comp=Z,35nm,2.4s
LVV L'vov **71.25** **43** *eP* **P** **16 57 09.5 -0.5**
MDVR Moldovita **71.28** **49** ⇑P **P** **16 57 11.1 +0.8**
NACGM Naroch **71.30** **37** *eP* P 16 57 04.0 -6.2
NACGM PM 16 57 12.0
comp=Z,0.3nm,1.0s
DRGR **71.33** **46** P **P** **16 57 11.7 +1.0**
DRGR pmax pmax
comp=Z,63nm,1.1s
DRGR **71.33** **46** ⇑P **P** **16 57 11.4 +0.7**
MORS Morshin **71.37** **44** P **P** **16 57 13.0 +2.2**
KEK Kerkira **71.48** **54** P **P** **16 57 12.2 +0.6**
PUL Pulkovo **71.56** **32***ce*P **P** **16 57 12.9 +1.2**
PUL pmax pmax
comp=Z,83nm,0.7s
DEV Deva **71.74** **47** P **P** **16 57 13.3 +0.3**
DEV pmax pmax
comp=Z,22nm,1.7s
DEV Deva **71.74** **47** ⇑P **P** **16 57 12.8 -0.2**
GZR Gura Zlata **71.80** **48** P **P** **16 57 14.3 +0.8**
IGT Igoumenitsa **71.93** **54** P **P** **16 57 15.0 +0.6**
IGT pmax pmax
comp=Z,17nm,1.4s
CJR Cluj-Napoca **71.93** **46** P **P** **16 57 14.1 -0.2**
CJR Cluj-Napoca **71.93** **46** ⇑P **P** **16 57 14.1 -0.2**
MICGM Minsk **72.03** **38** *eP* **P** **16 57 15.0 +0.4**
MNK Minsk **72.03** **38** *eP* **P** **16 57 15.0 +0.4**
FNA Florina **72.29** **53** P **P** **16 57 16.9 +0.4**
FNA Florina **72.29** **53** P **P** **16 57 16.3 -0.2**
FNA pmax pmax
comp=Z,26nm,0.9s
FNA Florina **72.29** **53** P **P** **16 57 16.3 -0.2**
FNA IAmb IAmb 16 57 18.4
comp=Z,26nm,0.9s
LKD2 Lefkada island **72.41** **55** P **P** **16 57 18.2 +0.9**
FSK Fiskardo **72.45** **55** P **P** **16 57 18.1 +0.7**
KPRO Kipourio **72.55** **54** P **P** **16 57 18.9 +0.8**
BUR08 Bucovina Ar. S **72.67** **45** P **P** **16 57 18.6 -0.1**
BURAR Bucovina Array **72.69** **45** P **P** **16 57 20.0 +1.2**
BURAR Bucovina Array **72.69** **45** ⇓P **P** **16 57 20.0 +1.2**
BURAR mb 16 57 24.4
KZN Kozani **72.73** **53** P **P** **16 57 19.9 +0.7**
KZN Kozani **72.73** **53** P **P** **16 57 19.9 +0.7**
HORU Horodok **72.92** **43** P **P** **16 57 21.1 +1.0**
GRG Griva **72.97** **52** P **P** **16 57 20.6 0.0**
GRG Griva **72.97** **52** P **P** **16 57 21.6 +1.0**
GRG pmax pmax
comp=Z,44nm,1.5s
VTS Vitosha **73.01** **51** P **P** **16 57 21.4 +0.5**
VTS Vitosha **73.01** **51** *i* P **P** **16 57 21.2 +0.3**
VTS Vitosha **73.01** **51** P **P** **16 57 20.6 -0.3**
VTS pmax pmax
comp=Z,22nm,1.1s
VTS Vitosha **73.01** **51** P **P** **16 57 20.6 -0.3**
MPEP Malo Peshtene **73.11** **50** *i* P **P** **16 57 21.8 +0.5**
EVR Evrytania **73.22** **55** P **P** **16 57 23.8 +1.7**
KNT Kendrikon **73.26** **52** P **P** **16 57 21.7 -0.5**
KNT Kendrikon **73.26** **52** P **P** **16 57 23.7 +1.5**
KNT pmax pmax
comp=Z,20nm,1.8s
VOIR **73.30** **47** P **P** **16 57 22.7 +0.2**
VOIR pmax pmax
comp=Z,15nm,0.8s
VOIR **73.30** **47** ⇑P **P** **16 57 23.2 +0.7**
LIT Litokhoron **73.32** **53** P **P** **16 57 22.8 +0.2**
LIT Litokhoron **73.32** **53** P **P** **16 57 22.3 -0.3**
LIT pmax pmax
comp=Z,20nm,1.2s
LIT Litokhoron **73.32** **53** P **P** **16 57 22.3 -0.3**
TMCR Tamitsa **73.32** **26** *eP* **P** **16 57 22.3 +0.2**
TMCR pmax pmax
comp=Z,49nm,0.6s
DOPR Dopca **73.35** **47** ⇑P **P** **16 57 23.5 +0.8**
MAKR Makrakomi, Fth **73.42** **54** P **P** **16 57 24.4 +1.1**
DRO Drossia **73.47** **56** P **P** **16 57 24.1 +0.6**
THE Thessaloniki **73.48** **53** P **P** **16 57 24.7 +1.2**
THE pmax pmax
comp=Z,15nm,1.6s
BIZ Bicaz **73.49** **46** ⇑P **P** **16 57 25.0 +1.6**
AGG Agios Georgios **73.56** **54** P **P** **16 57 25.0 +0.9**
AGG Agios Georgios **73.56** **54** P **P** **16 57 24.2 +0.1**
AGG pmax pmax
comp=Z,45nm,1.4s
AGG Agios Georgios **73.56** **54** P **P** **16 57 24.2 +0.1**
AGG IAmb IAmb 16 57 26.3
comp=Z,44nm,1.4s
HUMR Humele **73.56** **48** ⇑P **P** **16 57 24.6 +0.7**
OZUR **73.57** **46** ⇑P **P** **16 57 24.9 +0.9**
SERG Sergoula **73.57** **55** P **P** **16 57 25.4 +1.3**
HORT Hortiatis **73.59** **53** P **P** **16 57 25.0 +0.7**
TRIZ Trizonia **73.60** **55** P **P** **16 57 25.5 +1.3**
AMT Artemida-Makis **73.61** **56** P **P** **16 57 25.7 +1.3**
SOH Sokhos **73.69** **52** P **P** **16 57 26.5 +1.6**
SOH pmax pmax
comp=Z,16nm,1.5s
MMB Musomiste **73.70** **51** *i* P **P** **16 57 25.3 +0.4**
KLV Kalavryta, Ach **73.77** **55** P **P** **16 57 26.2 +0.9**
PYL PYLOS **73.85** **57** P **P** **16 57 26.4 +0.6**
MLR Muntele Rosu **73.88** **47** P **P** **16 57 26.6 +0.6**
MLR pmax pmax
comp=Z,65nm,1.1s
MLR Muntele Rosu **73.88** **47** ⇑P **P** **16 57 27.1 +1.1**
MLR mb 16 57 29.1
MLR Muntele Rosu **73.88** **47** P **P** **16 57 26.6 +0.6**
MLR IAmb IAmb 16 57 28.8
comp=Z,65nm,1.1s
ITM Ithomi **73.89** **56** P **P** **16 57 26.5 +0.5**
ITM Ithomi **73.89** **56** P **P** **16 57 26.2 +0.2**
ITM IAmb IAmb 16 57 28.1
comp=Z,51nm,1.3s
TESR Tescani **73.98** **46** ⇑P **P** **16 57 26.6 +0.2**
XOR Xorichti **74.08** **54** P **P** **16 57 26.7 -0.4**
AKASG Malin Array Be **74.10** **41** P **P** **16 57 27.2 +0.2**
comp=Z,17nm,0.9s,baz=287,slow=4.9,SNR=30
AKASG LR LR 17 28 12.5
comp=Z,418nm,18.8s,baz=270,slow=34
AKBB Malin Array Si **74.10** **41** P **P** **16 57 26.8 -0.1**
AKBB pmax pmax
comp=Z,42nm,1.3s
AKBB Malin Array Si **74.10** **41** P **P** **16 57 26.8 -0.1**
AKBB IAmb IAmb 16 57 28.2
comp=Z,42nm,1.3s
VLX Vlachokerasia **74.17** **56** P **P** **16 57 29.2 +1.5**
PLD Plovdiv **74.21** **51** P **P** **16 57 29.0 +1.3**
PLOR Plostina **74.22** **46** P **P** **16 57 28.8 +1.0**
PLOR Plostina **74.22** **46** ⇑P **P** **16 57 28.9 +1.0**
PAIG Paliouri **74.24** **53** P **P** **16 57 28.9 +0.9**
PAIG Paliouri **74.24** **53** P **P** **16 57 29.2 +1.2**
PAIG pmax pmax
comp=Z,57nm,1.1s
VRI Vrincioaia **74.26** **46** P **P** **16 57 29.6 +1.6**
VRI pmax pmax
comp=Z,16nm,0.9s
VRI Vrincioaia **74.26** **46** ⇑P **P** **16 57 29.0 +0.9**
OUR Ouranopolis **74.31** **53** P P 16 57 18.4 -10
RZN Rozhen **74.36** **51** *i* P **P** **16 57 29.3 +0.4**
ISR Istrita **74.40** **47** P **P** **16 57 29.7 +0.8**
ISR pmax pmax
comp=Z,46nm,1.1s
SORM Soroca **74.49** **44** P **P** **16 57 29.2 0.0**
SORM Soroca **74.49** **44** ⇑P **P** **16 57 29.3 0.0**
VILL Villia **74.58** **55** P **P** **16 57 29.4 -0.7**
MRKA Markates **74.59** **54** P **P** **16 57 30.3 +0.2**
AOS Alonnisos **74.65** **54** P **P** **16 57 30.8 +0.4**
ELND Elena **74.73** **50** ⇑P **P** **16 57 31.6 +0.8**
KRND KRANIDI **74.74** **56** P **P** **16 57 31.4 +0.5**
DID Didima **74.76** **56** P **P** **16 57 31.8 +0.7**
PGOR Pogoanele **74.77** **47** ⇑P **P** **16 57 31.8 +0.8**
KDZ Kurdzhali **74.87** **51** *i* P **P** **16 57 31.0 -0.6**
EREA Eretria **74.95** **54** P **P** **16 57 33.0 +0.8**
VLY Voula,Athens **75.05** **55** P **P** **16 57 32.6 -0.1**
RDO Rodhopi **75.13** **51** P **P** **16 57 33.5 +0.4**
MILM Milestii Mici **75.23** **45** ⇑P **P** **16 57 32.9 -0.6**

HARR Harsova **75.48** **47** P **P** **16 57 34.4 -0.6**
HARR Harsova **75.48** **47** ⇑P **P** **16 57 34.5 -0.6**
HARR mb 16 57 35.5
ALN Alexandroupoli **75.58** **51** P **P** **16 57 36.1 +0.4**
ALN pmax pmax
comp=Z,12nm,1.2s
ALN Alexandroupoli **75.58** **51** P **P** **16 57 36.1 +0.4**
TOPG Topolog **75.70** **47** ⇑P **P** **16 57 35.9 -0.4**
GADA Gvkgeada **75.73** **52** P **P** **16 57 36.3 -0.3**
TLCR **75.88** **47** P **P** **16 57 37.1 -0.2**
TLCR **75.88** **47** ⇑P **P** **16 57 37.2 -0.2**
TLCR mb 16 57 42.7
TIRR Tirgusor **75.88** **47** P **P** **16 57 36.8 -0.6**
TIRR pmax pmax
comp=Z,45nm,1.0s
TIRR Tirgusor **75.88** **47** ⇑P **P** **16 57 37.4 0.0**
TIRR Tirgusor **75.88** **47** P **P** **16 57 36.8 -0.6**
TIRR IAmb IAmb 16 57 38.5
comp=Z,45nm,1.0s
MHLO Agia Marina, M **75.92** **56** P **P** **16 57 38.8 +1.1**
EZN Ezine **76.17** **52** P **P** **16 57 40.6 +1.5**
OBN Obninsk **76.46** **35***c* *i*P **P** **16 57 40.9 +0.5**
OBN *e* 16 57 51.5
OBN *e* 17 00 31.9
OBN pmax pmax
comp=Z,180nm,1.3s
OBN MLR MLR
comp=Z,158nm,11.0s
OBN Obninsk **76.46** **35** P **P** **16 57 40.1 -0.3**
MOS Moscow **76.73** **34** *eP* **P** **16 57 41.6 -0.3**
MOS *e* 16 57 52.7
MOS pmax pmax
comp=Z,85nm,1.2s
SANT Santorini **76.83** **56** P **P** **16 57 42.5 -0.5**
SANT IAmb IAmb 16 57 44.2
comp=Z,68nm,1.1s
LAST Lasithi **77.30** **57** P **P** **16 57 46.5 +0.8**
SMG Samos **77.34** **54** P **P** **16 57 46.0 +0.2**
PRGR Permogore **77.58** **27** ⇓*i*P **P** **16 57 47.9 +1.3**
PRGR *e* 16 57 57.8
PRGR pmax pmax
comp=Z,110nm,0.9s
MANT Manisa **78.29** **53** P **P** **16 57 50.9 -0.5**
KARP Karpathos **78.42** **56** P **P** **16 57 50.7 -1.2**
KARP Karpathos **78.42** **56** P **P** **16 57 51.5 -0.4**
KARP IAmb IAmb 16 57 53.2
comp=Z,44nm,0.9s
BILL Bilibino **78.81** **342** ⇓*i*P **P** **16 57 54.0 +0.7**
BILL *e* 16 57 57.9
BILL *e* 16 58 04.0
BILL *e* 17 00 48.0
BILL pmax pmax
comp=Z,38nm,1.0s
BILL MLR MLR
comp=Z,356nm,19.0s
BILL Bilibino **78.81** **342** P **P** **16 57 53.1 -0.2**
BILL IAmb IAmb 16 57 54.9
comp=Z,66nm,1.4s
LPSR Galich'ya Gora **78.83** **37** *eP* **P** **16 57 53.9 +0.2**
LPSR pmax pmax
comp=Z,110nm,1.0s
FETY Fethiye **79.41** **55** P **P** **16 57 57.0 -0.3**
VSR Storozhevoye **79.61** **38** *eP* **P** **16 57 57.4 -0.6**
VSR pmax pmax
comp=Z,30nm,1.1s
VORD Divnogorie **79.80** **38** *eP* **P** **16 57 58.4 -0.6**
VORD pmax pmax
comp=Z,30nm,1.4s
ELL Elmali **79.97** **54** P **P** **16 58 00.9 +0.5**
ELL pmax pmax
comp=Z,116nm,1.1s
ELL Elmali **79.97** **54** P **P** **16 58 00.9 +0.5**
ELL IAmb IAmb 16 58 03.1
comp=Z,116nm,1.1s
KSL Kastellorizon **79.98** **55** P **P** **16 58 00.0 -0.3**
BR231 Keskin MP Arra **80.71** **50** P **P** **16 58 05.1 +0.7**
BR231 IAmb IAmb 16 58 06.6
comp=Z,36nm,1.0s
ANTO Ankara **80.72** **50** P **P** **16 58 04.5 +0.2**
ANTO pmax pmax
comp=Z,34nm,1.0s
ANTO Ankara **80.72** **50** P **P** **16 58 04.5 +0.2**
ANTO IAmb IAmb 16 58 06.6
comp=Z,34nm,1.0s
POHA Pohakuloa **80.75** **287** P **P** **16 58 04.8 -0.2**
VRH Novokhopyorsk **81.02** **37** *eP* **P** **16 58 05.6 0.0**
VRH pmax pmax
comp=Z,60nm,0.9s
BR131 Keskin Array S **81.36** **50** P **P** **16 58 07.0 -0.9**
BR131 pmax pmax
comp=Z,25nm,1.3s
BR131 Keskin Array S **81.36** **50** P **P** **16 58 07.0 -0.9**
BRTR Keskin Array B **81.36** **50** P **P** **16 58 08.5 +0.6**
comp=Z,9.9nm,0.9s,baz=284,slow=5.0,SNR=52
BRTR PKKPbc **PKKPbc** **17 16 42.7 +0.5**
comp=Z,1.3nm,0.8s,baz=114,slow=5.5,SNR=9.2
BRTR LR LR 17 33 59.1
comp=Z,119nm,18.0s,baz=302,slow=36
ANN Anapa **81.58** **44** *eP* **P** **16 58 06.8 -1.9**
ANN *e**PP **pP** **16 58 09.1 -1.8**
ANN *e* 16 58 13.6
ANN *e* 17 01 09.4
ANN *e*S **S** **17 08 17.4 -3.2**
ANN pmax pmax
comp=Z,53nm,1.2s
TIXI Tiksi **82.36** **355***c* *i*P **P** **16 58 12.3 0.0**
TIXI pmax pmax
comp=Z,60nm,1.3s
TIXI MLR MLR
comp=Z,346nm,19.0s
TIXI Tiksi **82.36** **355** P **P** **16 58 12.7 +0.4**
comp=Z,25nm,0.8s,baz=180,slow=24,SNR=68
TIXI Tiksi **82.36** **355** P **P** **16 58 11.9 -0.4**
TIXI IAmb IAmb 16 58 13.7
comp=Z,37nm,0.9s
CSS Mathiatis **83.25** **55** P **P** **16 58 18.8 +1.1**
CSS Mathiatis **83.25** **55** P **P** **16 58 17.4 -0.3**
CSS IAmb IAmb 16 58 20.4
comp=Z,39nm,1.3s
NRIK Noril'sk **83.44** **9** P **P** **16 58 18.6 +0.6**
comp=Z,23nm,1.0s,baz=19,slow=2.5,SNR=20
NRIK LR LR 17 37 14.3
comp=Z,320nm,18.5s,baz=1.0,slow=37
SOC Sochi **83.61** **45***c* *i*P **P** **16 58 19.9 +0.6**
SOC *e* 17 01 33.1
SOC *e*PPP PPP 17 03 28.7
SOC *e*S **S** **17 08 40.2 -1.2**
SOC pmax pmax
comp=Z,51nm,0.9s
GOF Gofitskoye **84.92** **42** ⇑*eP* **P** **16 58 27.4 +1.4**
GOF pmax pmax
comp=Z,22nm,0.7s
KIV Kislovodsk **85.28** **43** *eP* **P** **16 58 29.1 +1.2**
KIV pmax pmax
comp=Z,107nm,1.0s
KIV MLR MLR
comp=Z,723nm,20.0s
KIV Kislovodsk **85.28** **43** ⇑P **P** **16 58 29.6 +1.7**
KIV mb 16 58 31.3
KIV Kislovodsk **85.28** **43** P **P** **16 58 28.4 +0.5**
KIV IAmb IAmb 16 58 30.6
comp=Z,50nm,1.2s
KBZ Khabaz **85.52** **43** P **P** **16 58 31.0 +2.0**
KBZ Khabaz **85.52** **43** P **P** **16 58 31.0 +2.0**
comp=Z,15nm,0.9s,baz=311,slow=0.6,SNR=32
ARU Arti **86.03** **27***d* *i*P **P** **16 58 32.9 +1.6**
ARU 17 01 45.9
ARU S **S** **17 08 58.4 -6.7**
ARU SS **SS** **17 14 42.8 +0.9**
ARU pmax pmax
comp=Z,83nm,1.2s
ARU Arti **86.03** **27** P **P** **16 58 31.7 +0.4**
SEY Seymchan **86.44** **343** P **P** **16 58 33.9 +0.7**
comp=Z,8.4nm,0.7s,baz=36,slow=3.3,SNR=16
SEY LR LR 17 37 42.1
comp=Z,258nm,21.8s,baz=152,slow=36
BINT Bingol **86.45** **48** P **P** **16 58 35.8 +1.9**
SVE Sverdlovsk **86.60** **26** ⇑*i*P **P** **16 58 35.2 +1.2**
SVE pmax pmax
comp=Z,80nm,1.3s
ZEI Tsey **86.64** **44** *eP* **P** **16 58 34.4 -0.4**
ZEI pmax pmax
comp=Z,19nm,0.9s
AKH Akhalkalaki **87.12** **45** P **P** **16 58 37.2 +0.1**

AKH pmax pmax
comp=Z,24nm,1.0s
AKH Akhalkalaki **87.12** **45** ⇑P **P** **16 58 38.8 +1.7**
AKH Akhalkalaki **87.12** **45** P **P** **16 58 37.2 +0.1**
AKH IAmb IAmb 16 58 39.7
comp=Z,24nm,1.0s
TBLG Delisi **87.73** **44** P **P** **16 58 40.5 +0.6**
TBLG pmax pmax
comp=Z,23nm,0.8s
TBLG Delisi **87.73** **44** P **P** **16 58 40.5 +0.6**
TBLG IAmb IAmb 16 58 42.4
comp=Z,23nm,0.8s
GNI Garni **88.59** **46***ce*P **P** **16 58 45.6 +1.4**
GNI pmax pmax
comp=Z,122nm,1.2s
GNI Garni **88.59** **46** P **P** **16 58 44.8 +0.6**
GNI IAmb IAmb 16 58 47.1
comp=Z,35nm,1.1s
MA2 Magadan **89.67** **342** ⇓*i*P **P** **16 58 50.0 +1.3**
MA2 pmax pmax
comp=Z,79nm,2.5s
MA2 Magadan **89.67** **342** P **P** **16 58 49.0 +0.3**
comp=Z,19nm,0.9s,baz=46,slow=9.0,SNR=5.1
MA2 Magadan **89.67** **342** IAmb IAmb 16 58 50.9
comp=Z,44nm,1.1s
PMSA Palmer Station **90.15** **179** *eP* **P** **16 58 50.0 -0.4**
PMSA Palmer Station **90.15** **179** *eP* **P** **16 58 50.0 -0.4**
PPT Papeete **91.36** **251** LR LR 17 33 54.3
comp=Z,121nm,18.1s,baz=41,slow=32
ABKAR Akbulak array **91.54** **32** P **P** **16 58 57.8 +0.3**
ABKAR IAmb IAmb 16 58 59.3
comp=Z,24nm,1.3s
YAK Yakutsk **91.64** **352** *eP* **P** **16 58 56.7 -1.0**
YAK pmax pmax
comp=Z,28nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=N,13nm,1.3s
YAK Yakutsk **91.64** **352** P **P** **16 58 56.9 -0.8**
YAK IAmb IAmb 16 58 59.2
comp=Z,51nm,1.2s
PETK Petropavlovsk- **92.62** **335** P **P** **16 59 03.3 +0.8**
comp=Z,7.6nm,1.0s,baz=33,slow=8.6,SNR=4.5
PETK LR LR 17 43 15.1
comp=Z,237nm,19.4s,baz=62,slow=37
BRVK Borovoye **93.12** **24** ⇓*i*P **P** **16 59 06.1 +1.3**
BRVK pmax pmax
comp=Z,38nm,1.7s
BRVK Borovoye **93.12** **24** P **P** **16 59 05.0 +0.2**
BRVK IAmb IAmb 16 59 06.9
comp=Z,17nm,0.9s
BOD Bodaibo **96.85** **360** *eP* **P** **16 59 20.7 -1.0**
BOD pmax pmax
comp=Z,18nm,1.7s
ZAA0 Zalesovo Array **96.96** **17** P **P** **16 59 21.1 -1.2**
ZAA0 IAmb IAmb 16 59 22.8
comp=Z,7.4nm,0.8s
ZALV Zalesovo Beam **96.96** **17** P **P** **16 59 22.0 -0.3**
ZALV Zalesovo Beam **96.96** **17** P **P** **16 59 21.9 -0.3**
comp=Z,7.2nm,0.8s,baz=323,slow=5.8,SNR=23
ZALV PKIKP **PKiKP** **17 04 01.2 +2.9**
comp=Z,0.9nm,0.5s,baz=332,slow=0.7,SNR=4.6
KURK Kurchatov **97.99** **21** ⇓*eP* Pdif 16 59 27.4 +0.4
KURK pmax pmax
comp=Z,8.0nm,1.1s
KURK Kurchatov **97.99** **21** P **P** **16 59 26.6 -0.4**
GEYT Alibeck **98.23** **41** LR LR 17 43 20.4
comp=Z,120nm,19.8s,baz=10.0,slow=35
MKAR Makanchi Array **102.60** **21** PKKPbc PKKPbc 17 15 46.2 -1.9
comp=Z,0.6nm,0.8s,baz=127,slow=3.8,SNR=4.2
AAK Ala-Archa **103.17** **28** ⇓*eP* **Pdif** **16 59 50.4 -0.1**
SONM Songino Array **106.58** **5** PKKPbc PKKPbc 17 15 33.8 -2.6
comp=Z,0.2nm,0.4s,baz=180,slow=2.6,SNR=4.4
SONM PKKP 17 15 51.1
comp=Z,2.0nm,0.8s,baz=172,slow=5.0,SNR=6.8
HHC Hu-ho-hao-te **113.81** **2** PKP **PKiKP** **17 04 28.9 -1.1**
MAT Matsushiro **113.85** **338** PKP **PKiKP** **17 04 29.5 -0.5**
MJAR Matsushiro Arr **113.85** **338** PKiKP **PKiKP** **17 04 29.8 -0.3**
comp=Z,3.2nm,0.9s,baz=31,slow=2.1,SNR=6.0
GTA Gaotai **114.04** **11** PKP PKPdf 17 04 30.8 +0.3
GTA LR LR
comp=Z,250nm,19.2s
GTA LR LR
comp=Z,190nm,21.0s
GTA LR LR
comp=Z,310nm,20.6s
QSPA South Pole Qui **115.57** **180** PKP **PKPdf** **17 04 32.9 +0.7**
comp=Z,3.0nm,0.7s,baz=248,slow=1.4,SNR=15
QSPA South Pole Qui **115.57** **180** **PKPdf** **17 04 32.7 +0.4**
KSRS Korea Array **115.75** **347** PKP **PKPdf** **17 04 33.8 +0.2**
comp=Z,3.0nm,0.9s,baz=47,slow=1.2,SNR=9.9
KSRS PKKPbc **PKKPbc** **17 15 05.7 -0.3**
comp=Z,0.9nm,0.8s,baz=250,slow=2.3,SNR=4.2
DANN Dangsing **119.22** **30** *eP* **PKPdf** **17 04 41.0 +0.1**
comp=Z,61nm,0.8s
SYO Syowa Base **119.50** **157** ⇑*eP* PKPpre 17 04 15.0
SYO Syowa Base **119.50** **157** ⇑*eP* PKPdf **PKPdf** **17 04 38.3 -1.4**
KOLN Koldanda **119.64** **30** *eP* **PKPdf** **17 04 41.1 -0.5**
comp=Z,27nm,1.0s
GKN Gorkha **119.91** **29** *eP* **PKPdf** **17 04 41.9 -0.2**
comp=Z,71nm,0.8s
KKN Kakani **120.37** **29** *eP* **PKPdf** **17 04 42.7 -0.4**
comp=Z,38nm,0.7s
DMN Daman **120.45** **29** *eP* **PKPdf** **17 04 42.8 -0.5**
comp=Z,22nm,0.7s
XAN Xi'an **120.48** **4** PKP **PKPdf** **17 04 43.0 +0.1**
XAN Xi'an **120.48** **4** PKIKP **PKPdf** **17 04 42.7 -0.2**
XAN Xi'an **120.48** **4** **PKPdf** **17 04 42.7 -0.2**
GUN Gumba **120.53** **28** *eP* **PKPdf** **17 04 43.1 -0.4**
comp=Z,35nm,0.8s
PKI Pulchoki **120.62** **29** *eP* **PKPdf** **17 04 43.0 -0.7**
comp=Z,3.5nm,0.7s
JIRN Jiri **120.88** **28** *eP* **PKPdf** **17 04 43.8 -0.4**
LSA Lhasa **120.97** **23** PKIKP **PKPdf** **17 04 44.3 -0.2**
LSA Lhasa **120.97** **23** **PKPdf** **17 04 44.3 -0.2**
RAMN Ramite **121.67** **28** *eP* **PKPdf** **17 04 45.3 -0.3**
comp=Z,53nm,0.6s
TAPN Taplejung **121.79** **27** *eP* **PKPdf** **17 04 45.6 -0.3**
comp=Z,26nm,0.7s
ODAN Odare **122.09** **28** *eP* **PKPdf** **17 04 45.9 -0.5**
comp=Z,57nm,1.1s
NJ2 Nanjing **122.38** **354** *ePKP* **PKiKP** **17 04 46.8 +0.1**
CD2 Chengdu **123.00** **10** PKP **PKPdf** **17 04 45.6 -2.2**
VNDA Vanda **123.40** **191** PKIKP **PKiKP** **17 04 47.9 +0.6**
VNDA Vanda **123.40** **191** PKP **PKiKP** **17 04 48.3 +1.1**
comp=Z,5.2nm,1.0s,baz=30,slow=0.8,SNR=8.4
VNDA Vanda **123.40** **191** **PKiKP** **17 04 47.9 +0.6**
WHN Wuhan **124.11** **359** ⇓PKP **PKPdf** **17 04 50.0 +0.1**
ENH Enshi **124.27** **4** **PKPdf** **17 04 49.7 -0.5**
SHL Shillong **125.00** **24** PKIKP **PKPdf** **17 04 51.0 -1.0**
SHL Shillong **125.00** **24** **PKPdf** **17 04 51.0 -1.0**
URZ Urewera **125.45** **240** PKP **PKiKP** **17 04 52.9 +0.5**
comp=Z,30nm,0.7s,baz=126,slow=2.4,SNR=19
URZ Urewera **125.45** **240** **PKiKP** **17 04 52.4 0.0**
JOW Kunigami **125.88** **344** PKP **PKiKP** **17 04 54.2 +0.5**
comp=Z,2.4nm,0.7s,baz=114,slow=14,SNR=5.2
GYA Guiyang **127.78** **8** ⇑*i*PKP **PKPdf** **17 04 57.6 +0.4**
GYA PP **PP** **17 07 00.4 +3.2**
GYA SKKS 17 13 51.8
GYA SS SS 17 24 13.5 +5.0
MAW Mawson **128.15** **158** PKIKP **PKiKP** **17 04 57.2 +0.3**
MAW Mawson **128.15** **158** PKP **PKiKP** **17 04 57.5 +0.6**
comp=Z,13nm,0.7s,baz=262,slow=2.8,SNR=24
MAW Mawson **128.15** **158** **PKiKP** **17 04 57.2 +0.3**
RPZ Rata Peaks **130.28** **233** PKP **PKPdf** **17 05 01.6 +0.5**
comp=Z,15nm,1.0s,baz=13,slow=3.4,SNR=3.5
SSLB Suanglung **130.31** **351** **PKPdf** **17 05 02.2 +0.3**
CHTO Chiang Mai **133.62** **19** PKIKP **PKPdf** **17 05 07.5 -0.8**
CHTO Chiang Mai **133.62** **19** **PKPdf** **17 05 07.5 -0.8**
CM31 Chiang Mai Arr **133.96** **19** **PKPdf** **17 05 08.5 -0.4**
CMAR Chiang Mai Arr **133.96** **19** PKhKP PKPpre 17 04 56.9
comp=Z,0.6nm,0.6s,baz=316,slow=4.0,SNR=4.8
CMAR PKP **PKPdf** **17 05 09.2 +0.4**
comp=Z,7.1nm,0.7s,baz=316,slow=2.9,SNR=40
CMAR PP **PP** **17 07 34.1 -3.2**
comp=Z,1.4nm,1.1s,baz=335,slow=8.0,SNR=4.1
PALK Pallekele **134.39** **49** PKIKP **PKPdf** **17 05 09.0 -0.8**
PALK Pallekele **134.39** **49** **PKPdf** **17 05 09.0 -0.8**
PBKT Sadao Pong **136.32** **17** **PKPdf** **17 05 12.3 -1.0**
CASY Casey **139.33** **178** **PKPdf** **17 05 17.8 +0.5**
TGY Tagaytay City **139.80** **349** PKP **PKiKP** **17 05 21.5 -0.7**
comp=Z,40nm,0.3s,baz=280,slow=11,SNR=3.9
PMG Port Moresby **144.11** **291** PKIKP PKPbc 17 05 25.9 +0.5
PMG Port Moresby **144.11** **291** PKPbc 17 05 25.9 +0.5

DAV	**Davao City (W)**	**145.38**	**338**	PKPbc	**PKPdf**	17 05 30.8	**+1.1**
	comp=Z,260nm,0.8s,baz=68,slow=2.7,SNR=21							
KCP	**Kidapawan**	**145.59**	**339**	⇓P	**PKPab**	17 05 31.0	**+0.5**
ARMA	**Armidale**	**146.02**	**253**	PKPbc	**PKPab**	17 05 31.8	**0.0**
EIDS	**Eidsvold**	**146.05**	**262**	PKPbc	**PKPbc**	17 05 31.2	**-0.2**
KULM	**Kulim**	**146.85**	**24**	PKPbc	**PKPdf**	17 05 32.9	**+0.7**
IPM	**Ipoh**	**147.73**	**24**		**PKPdf**	17 05 33.8	**+0.1**
CAN	**Canberra**	**147.98**	**244**	PKP2	**PKPbc**	17 05 36.4	**-0.2**
CAN	**Canberra**	**147.98**	**244**		**PKPbc**	17 05 36.4	**-0.2**
KKM	**Kota Kinabalu**	**148.37**	**355**	PKPbc	**PKPdf**	17 05 36.6	**+1.7**
PSI	**Prapat**	**148.43**	**28**	PKIKP	**PKPdf**	17 05 34.2	**-0.8**
PSI						17 05 37.7		
PSI	**Prapat**	**148.43**	**28**	PKPbc	**PKPbc**	17 05 38.6	**+0.1**
	comp=Z,79nm,0.8s,baz=268,slow=4.2,SNR=11							
RPSI	**Rantau Prapat**	**148.53**	**29**		**PKPdf**	17 05 34.1	**-0.8**
RPSI				PKPbc	**pPKPdf**	17 05 37.7	**+0.5**
RPSI	**Rantau Prapat**	**148.53**	**29**		**PKPbc**	17 05 38.6	**+0.1**
GSI	**Gunungsitoli**	**149.14**	**32**		**PKPdf**	17 05 35.4	**-0.6**
GSI				PKPbc	**PKPbc**	17 05 40.0	**-0.1**
CTA	**Charters Tower**	**149.26**	**274**	PKP	**PKPdf**	17 05 36.7	**+0.7**
	comp=Z,21nm,0.8s,baz=59,slow=2.8,SNR=18							
CTA				PKPbc	**PKPbc**	17 05 40.6	**+0.4**
	comp=Z,21nm,0.8s,baz=79,slow=4.3,SNR=18							
COEN	**Coen**	**149.73**	**287**		**PKPbc**	17 05 41.8	**+0.3**
TOO	**Toolangi**	**150.33**	**239**	PKIKP	**PKPdf**	17 05 37.7	**+0.5**
TOO						17 05 42.0		
TOO	**Toolangi**	**150.33**	**239**		**PKPdf**	17 05 37.7	**+0.5**
TOO				PKPbc	**PKPbc**	17 05 42.0	**-0.4**
TNTI	**Ternate**	**150.45**	**331**	PKPbc	**PKPbc**	17 05 42.0	**-1.3**
MYKOM	**Kota Tinggi**	**151.20**	**20**		**PKPbc**	17 05 45.0	**-0.1**
SBUM	**Sibu**	**152.04**	**2**		**PKPdf**	17 05 39.1	**-1.3**
LUWI	**Luwuk**	**153.91**	**338**		**PKPdf**	17 05 41.8	**-1.4**
LUWI					**PKPbc**	17 05 50.0	**-1.1**
STKA	**Stephens Creek**	**154.55**	**249**	PKP	**PKPdf**	17 05 44.2	**+0.6**
	comp=Z,9.3nm,0.8s,baz=92,slow=1.2,SNR=19							
STKA				PKPbc	**PKiKP**	17 05 52.5	**+0.5**
	comp=Z,19nm,0.8s,baz=53,slow=1.9,SNR=23							
STKA	**Stephens Creek**	**154.55**	**249**		**PKPdf**	17 05 43.1	**-0.4**
STKA				PKPbc	**PKPbc**	17 05 52.2	**+0.3**
WR0	**Warramunga Arr**	**159.70**	**282**		**PKPdf**	17 05 49.6	**-0.9**
WR0					**PKPab**	17 06 28.9	**-0.1**
WRA	**Warramunga Arr**	**159.87**	**282**	PKP	**PKPdf**	17 05 50.8	**+0.1**
	comp=Z,15nm,0.9s,baz=44,slow=1.1,SNR=82							
WRA				PKPab	**PKPab**	17 06 30.5	**+0.6**
	comp=Z,15nm,0.7s,baz=69,slow=4.8,SNR=48							
AS31	**Alice Springs**	**161.24**	**272**		**PKPdf**	17 05 51.4	**-0.7**
ASAR	**Alice Springs**	**161.24**	**272**	PKP	**PKPdf**	17 05 52.0	**-0.1**
	comp=Z,14nm,0.8s,baz=98,slow=1.4,SNR=106							
ASAR				PKPab	**PKPab**	17 06 36.4	**+0.5**
	comp=Z,15nm,0.8s,baz=83,slow=4.6,SNR=24							
FORT	**Forrest**	**166.09**	**245**		**PKPdf**	17 05 55.4	**-0.9**
FITZ	**Fitzroy Crossi**	**166.37**	**301**	PKP	**PKPdf**	17 05 57.1	**+0.3**
	comp=Z,7.2nm,0.9s,baz=31,slow=5.9,SNR=8.2							
FITZ				PKPab	**PKPab**	17 06 59.0	**+0.7**
	comp=Z,7.4nm,0.8s,baz=47,slow=4.6,SNR=8.2							
FITZ	**Fitzroy Crossi**	**166.37**	**301**		**PKPdf**	17 05 56.0	**-0.8**
FITZ					**PKPab**	17 06 58.6	**+0.3**
NWAO	**Narrogin (SRO)**	**172.01**	**204**	PKP	**PKPdf**	17 05 59.5	**-0.5**
	comp=Z,14nm,1.0s,baz=154,slow=3.7,SNR=5.2							

NIED ***23*** *16:48:00,28˚.40N×141˚.70E,h62km,Mw4.2 Best double couple: M₀1.97000×10¹⁵ NP1:φ₀179.00000°,δ38.00000°, λ149.00000°. NP2:φ₀295.00000°, δ72.00000°, λ56.00000°.*

ISCJB ***23*** *16:48:37.5±0.2,28˚.43N±0˚.02×141˚.63E±0˚.07,h36km, mb4.2/20,MS3.3/1,Error ellipse: s-maj=9.2km s-min=2.8km az=166.6*

IDC ***23*** *16:48:40.9±1.5,28˚.34N×141˚.69E,h52km±12km,mb3.9/20, mb1 4.1/22,mb1mx3.9/55,mbtmp4.2/22,ML3.7/2,MS3.1/4, Ms1 3.1/4,ms1mx2.8/35,Error ellipse: s-maj=21.3km s-min=10.6km az=81.0*

NEIC ***23*** *16:48:41.3±1.2,28˚.32N±0˚.06×141˚.7E±0˚.1,h58km±5km, mb4.8/25*

ISC 23 16:48:39.2±0.4,28˚.44N±0˚.04×141˚.82E±0˚.08,h36km,n98, σ1s66/104,mb4.5/29,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CBIJ	**Chichi jima**	**1.38**	**166**	P		**Pn**	**16 49 02.4**	**+0.6**
CBIJ				*eS*		**Sn**	**16 49 17.6**	**-1.2**
JCJ	**Chichijima**	**1.38**	**166**	P		**Pn**	**16 49 02.5**	**+0.7**
	535nm,0.3s,baz=352,slow=19,SNR=201							
JCJ				S		**Sn**	**16 49 18.1**	**-0.7**
	833nm,0.3s,baz=270,slow=20,SNR=16							
JCJ				LR		LR	16 49 37.0	
	comp=Z,360nm,19.1s,baz=2.5,slow=43							
JHH2	**Haha-jima-NKT2**	**1.83**	**170**	P		**Pn**	**16 49 08.9**	**+0.9**
JHH2				*eS*		**Sn**	**16 49 30.7**	**+0.8**
JAOM	**Aogashimamukai**	**4.39**	**337**	*eS*		**Sn**	**16 50 31.3**	**-1.8**
JHCJ	**Hachijojimakas**	**4.93**	**340**	P		**Pn**	**16 49 52.3**	**+1.6**
JHCJ				*eS*		**Sn**	**16 50 46.2**	**-0.4**
JHJ2	**Mitsune**	**4.96**	**340**	P		**Pn**	**16 49 53.5**	**+2.3**
JHJ2				*eS*		**Sn**	**16 50 47.3**	**0.0**
JHJ2	**Mitsune**	**4.96**	**340**	Pn		**Pn**	**16 49 53.8**	**+2.6**
BSO1	**Boso 1**	**6.24**	**354**	P		**Pn**	**16 50 09.6**	**+1.5**
BSO1				*eS*		**Sn**	**16 51 16.8**	**-1.1**
BSO3	**Boso 3**	**6.44**	**350**	P		**Pn**	**16 50 12.1**	**+0.9**
BSO4	**Boso 4**	**6.65**	**349**	P		**Pn**	**16 50 16.8**	**+2.6**
JOD2	**Odawara 2**	**7.19**	**342**	P		**Pn**	**16 50 23.1**	**+1.4**
JOD2				*eS*		**Sn**	**16 51 40.3**	**-1.8**
JIE	**Ise**	**7.37**	**325**	P		Pn	16 50 28.9	+4.7
JTNC	**Tanabenakahech**	**7.55**	**317**	P		**Pn**	**16 50 31.2**	**+4.5**
JHU	**Hanno**	**7.70**	**344**	P		**Pn**	**16 50 30.1**	**+1.4**
JHU				*eS*		**Sn**	**16 51 50.8**	**-3.8**
JYT	**Yasato**	**7.89**	**350**	*eS*		**Sn**	**16 51 56.9**	**-2.3**
JRY	**Ryogami san**	**7.95**	**343**	P		**Pn**	**16 50 33.5**	**+1.3**
JRY				*eS*		**Sn**	**16 51 59.2**	**-1.6**
INU	**Inuyama**	**8.01**	**331**	Pn		**Pn**	**16 50 37.3**	**+4.4**
JAG	**Ashikaga**	**8.21**	**347**	P		**Pn**	**16 50 35.6**	**-0.1**
JHO	**Hitachi**	**8.21**	**353**	P		**Pn**	**16 50 35.7**	**-0.1**
MJAR	**Matsushiro Arr**	**8.63**	**340**	P		**Pn**	**16 50 44.3**	**+2.8**
	1.8nm,0.3s,baz=160,slow=13,SNR=79							
MJAR				S		**Sn**	**16 52 15.7**	**-2.0**
	0.2nm,0.3s,baz=146,slow=13,SNR=3.0							
MAJO	**Matsushiro**	**8.63**	**340**			**Pn**	**16 50 44.9**	**+3.3**
MAT	**Matsushiro**	**8.63**	**340**	P		**Pn**	**16 50 43.5**	**+1.9**
MAT				S		**Sn**	**16 52 17.8**	**+0.1**
MJB9	**Matsu-Tunnel**	**8.64**	**340**			**Pn**	**16 50 44.9**	**+3.3**
JTO	**Tosashimizu**	**8.93**	**302**	P		Pn	16 50 50.3	+4.7
JFK	**Kawauchi**	**8.94**	**355**	P		**Pn**	**16 50 45.5**	**-0.2**
JMZ	**Minamidaito 2**	**9.80**	**257**	P		Pn	16 51 01.9	+4.4
JMK	**Ichinoseki**	**10.50**	**357**	P		**Pn**	**16 51 06.8**	**-0.2**
JMK				*eS*		**Sn**	**16 52 56.8**	**-6.5**
JNU	**Nakatsue**	**10.50**	**299**	LR		LR	16 55 03.0	
	comp=Z,28nm,19.5s,baz=78,slow=36							
JAMN	**Amaminishikomi**	**11.14**	**272**	P		Pn	16 51 23.6	+7.7
ERM	**Erimo**	**13.59**	**4**	Pn		**Pn**	**16 51 47.5**	**-1.8**
KSRS	**Korea Array**	**14.71**	**311**	P		**P**	**16 52 10.4**	**+0.2**
	0.3nm,0.3s,baz=117,slow=11,SNR=11							
KSRS				LR		LR	16 56 59.5	
	comp=Z,103nm,20.2s,baz=83,slow=34							
ASAJ	**Asahikawa**	**15.66**	**2**	P		**Pn**	**16 52 16.7**	**-0.3**
	2.8nm,0.3s,baz=206,slow=12,SNR=31							
ASAJ				LR		LR	16 59 05.9	
	comp=Z,46nm,20.1s,baz=310,slow=40							
JKA	**Kamikawa-asahi**	**15.66**	**2**	P		**Pn**	**16 52 16.7**	**-0.3**
YOJ	**Yonaguni jima**	**17.30**	**261**	Pn		**Pn**	**16 52 34.4**	**-3.6**
USRK	**Ussuriysk Ar.**	**17.59**	**336**	P		**Pn**	**16 52 41.2**	**-0.1**
	baz=142,slow=9.5,SNR=16							
USA0B	**Ussuriysk Arra**	**17.59**	**336**	Pn		**Pn**	**16 52 40.8**	**-0.6**
MDJ	**Mudanjiang**	**18.86**	**332**	P		**Pn**	**16 52 57.4**	**+0.5**
YULB	**Yu-li**	**19.13**	**259**	P		**P**	**16 52 58.6**	**-0.6**
YULB					IAmb	IAmb	16 53 37.0	
	comp=Z,88nm,1.9s							
KLR	**Kul'dur**	**22.15**	**342**	P		**P**	**16 53 31.9**	**+0.2**
	comp=Z,7.5nm,0.5s,baz=162,slow=13,SNR=19							
KLR				LR		LR	17 01 37.3	
	comp=Z,119nm,18.8s,baz=106,slow=35							
H11N2	**WAKE ISLAND Hy 24.44**	**105**		T		T	17 19 29.7	
	baz=296,slow=75,SNR=124							
H11N1	**WAKE ISLAND Hy 24.45**	**105**		T		T	17 19 34.2	
	baz=296,slow=75,SNR=97							
H11N3	**WAKE ISLAND Hy 24.46**	**105**		T		T	17 19 30.9	
	baz=296,slow=75,SNR=99							
H11S3	**WAKE ISLAND Hy 24.82**	**108**		T		T	17 19 36.0	
	baz=298,slow=75,SNR=13							
H11S1	**WAKE ISLAND Hy 24.82**	**108**		T		T	17 19 51.8	
	baz=298,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy 24.84**	**108**		T		T	17 19 35.0	
	baz=298,slow=75,SNR=7.2							
SONM	**Songino Array**	**33.53**	**315**	P		**P**	**16 55 15.0**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=108,slow=4.7,SNR=2.5							

YAK	**Yakutsk**	**34.54**	**350**	P		**P**	**16 55 23.7**	**-0.2**
SEY	**Seymchan**	**35.18**	**8**	P		**P**	**16 55 30.4**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=204,slow=20,SNR=3.9							
COEN	**Coen**	**42.17**	**178**	P		**P**	**16 56 28.6**	**+0.2**
COEN				IAmb		IAmb	16 57 58.7	
	comp=Z,24nm,1.4s							
BATI	**Baumata**	**42.24**	**207**	P		**P**	**16 56 28.1**	**-1.0**
	comp=Z,6.0nm,0.4s,baz=90,slow=13,SNR=3.4							
MTN	**Manton Dam**	**42.32**	**196**	P		**P**	**16 56 28.5**	**-1.2**
TIXI	**Tiksi**	**43.84**	**354**	P		**P**	**16 56 41.9**	**+0.5**
KNRA	**Kununurra**	**45.64**	**198**	P		**P**	**16 56 55.6**	**-0.6**
ZALV	**Zalesovo Beam**	**48.27**	**318**	P		**P**	**16 57 16.8**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=107,slow=7.1,SNR=5.7							
WR0	**Warramunga Arr**	**48.63**	**189**	P		**P**	**16 57 18.1**	**-1.4**
WR0				IAmb		IAmb	16 57 19.2	
	comp=Z,9.6nm,0.8s							
WRAB	**Tennant Creek**	**48.63**	**189**	P		**P**	**16 57 18.7**	**-0.9**
WRA	**Warramunga Arr**	**48.64**	**189**	P		**P**	**16 57 18.6**	**-1.0**
	comp=Z,14nm,0.7s,baz=12,slow=8.7,SNR=97							
WRA				SCP		**ScP**	**17 02 33.4**	**-3.5**
	comp=Z,0.4nm,0.8s,baz=16,slow=4.8,SNR=4.7							
FITZ	**Fitzroy Crossi**	**48.84**	**201**	P		**P**	**16 57 20.6**	**-0.6**
	comp=Z,3.4nm,0.5s,baz=13,slow=7.6,SNR=12							
FITZ	**Fitzroy Crossi**	**48.84**	**201**	P		**P**	**16 57 20.5**	**-0.6**
FITZ				IAmb		IAmb	16 57 21.6	
	comp=Z,6.1nm,0.9s							
SDPT	**Sand Point**	**48.88**	**40**	P		**P**	**16 57 22.6**	**+1.5**
MK31	**Makanchi Array**	**49.38**	**309**	P		**P**	**16 57 24.3**	**-0.9**
MKAR	**Makanchi Array**	**49.38**	**309**	P		**P**	**16 57 24.6**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=83,slow=9.8,SNR=12							
MKAR				SCP		**ScP**	**17 02 36.6**	**-3.2**
	comp=Z,0.4nm,0.5s,baz=90,slow=3.6,SNR=5.2							
MAKZ	**Makanchi**	**49.59**	**309**	P		**P**	**16 57 26.0**	**-0.8**
NRIK	**Noril'sk**	**51.28**	**338**	P		**P**	**16 57 39.9**	**+0.8**
	comp=Z,4.3nm,0.7s,baz=94,slow=8.8,SNR=7.8							
KURK	**Kurchatov**	**51.82**	**314**	P		**P**	**16 57 43.0**	**-0.4**
KURK				IAmb		IAmb	16 59 28.1	
	comp=Z,5.4nm,0.9s							
AS31	**Alice Springs**	**52.36**	**189**	P		**P**	**16 57 46.3**	**-1.4**
ASAR	**Alice Springs**	**52.36**	**189**	P		**P**	**16 57 46.2**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=8.7,slow=6.6,SNR=36							
ASAR				SCP		**ScP**	**17 02 50.0**	**-2.8**
	comp=Z,0.2nm,0.5s,baz=4.4,slow=5.1,SNR=3.2							
KDJ	**Kajisay**	**53.33**	**303**	P		**P**	**16 57 54.5**	**-0.5**
KDJ				IAmb		IAmb	16 58 21.2	
	comp=Z,6.0nm,0.9s							
DZM	**Mont Dzumac**	**55.56**	**152**	P		**P**	**16 58 10.9**	**-0.3**
DZM				IAmb		IAmb	17 00 00.9	
	comp=Z,16nm,1.1s							
MCK	**McKinley**	**55.73**	**30**	P		**P**	**16 58 13.8**	**+2.0**
MCK				IAmb		IAmb	16 58 14.4	
	comp=Z,19nm,1.4s							
BRVK	**Borovoye**	**56.90**	**317**	P		**P**	**16 58 21.3**	**+0.9**
KK31	**Karatay Array**	**58.04**	**305**	P		**P**	**16 58 28.4**	**-0.3**
KK31				IAmb		IAmb	16 58 33.8	
	comp=Z,8.7nm,1.7s							
KKAR	**Karatay Array**	**58.04**	**305**	P		**P**	**16 58 28.4**	**-0.3**
KKAR				IAmb		IAmb	16 58 33.8	
	comp=Z,8.7nm,1.7s							
CHGR	**Chuyangaron**	**59.99**	**300**	P		**P**	**16 58 41.6**	**-0.7**
CHGR				IAmb		IAmb	16 58 42.5	
	comp=Z,9.6nm,0.6s							
INK	**Inuvik**	**61.95**	**25**	P		**P**	**16 58 55.7**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=74,slow=18,SNR=2.5							
INK	**Inuvik**	**61.95**	**25**	P		**P**	**16 58 55.5**	**+0.7**
INK				IAmb		IAmb	16 59 20.7	
	comp=Z,12nm,1.4s							
YKA	**Yellowknife Ar**	**71.12**	**28**	P		**P**	**16 59 53.5**	**0.0**
	comp=Z,0.5nm,0.5s,baz=297,slow=6.3,SNR=4.8							
YKA				pP		**sP**	**17 00 10.2**	**+2.6**
	comp=Z,0.6nm,0.5s,baz=295,slow=6.4,SNR=4.4							
ARCES	**ARCESS Array B**	**72.17**	**341**	P		**P**	**17 00 01.5**	**+1.7**
	comp=Z,3.6nm,0.9s,baz=58,slow=6.9,SNR=5.9							
FINES	**FINESS Array B**	**76.60**	**334**	P		**P**	**17 00 26.7**	**+1.0**
	comp=Z,4.8nm,0.8s,baz=101,slow=4.6,SNR=11							
KBZ	**Khabaz**	**76.86**	**313**	P		**P**	**17 00 28.3**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=130,slow=4.1,SNR=3.3							
NVAR	**Mina Array Bea**	**79.94**	**52**	P		**P**	**17 00 45.7**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=301,slow=5.6,SNR=9.8							
NVAR				pP		**sP**	**17 01 00.6**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=293,slow=5.5,SNR=3.7							
AKASG	**Malin Array Be**	**81.35**	**324**	P		**P**	**17 00 51.8**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=49,slow=5.8,SNR=4.4							
NB2	**NORSAR Subarra**	**82.25**	**338**	P		**P**	**17 00 56.2**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=41,slow=5.3							
NOA	**NORSAR Array B**	**82.25**	**338**	P		**P**	**17 00 56.5**	**0.0**
	comp=Z,0.5nm,0.7s,baz=48,slow=4.6,SNR=3.5							
BRTR	**Keskin Array B**	**84.86**	**313**	P		**P**	**17 01 10.5**	**0.0**
	comp=Z,0.8nm,0.6s,baz=54,slow=2.1,SNR=6.9							
TXAR	**Lajitas Array**	**95.06**	**53**	P		**P**	**17 01 59.4**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=276,slow=2.4,SNR=3.6							
QSPA	**South Pole Qui**	**118.21**	**180**	PKP		**PKPdf**	**17 07 20.4**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=19,slow=0.8,SNR=6.3							
QSPA	**South Pole Qui**	**118.21**	**180**			**PKPdf**	**17 07 20.3**	**-1.4**
TORD	**Torodi Ar. Bea**	**123.45**	**312**	PKP		**PKPdf**	**17 07 31.7**	**-1.6**
	comp=Z,0.2nm,0.5s,baz=327,slow=29,SNR=2.3							
SNAA	**Sanae**	**132.59**	**194**	PKPdf		**PKPdf**	**17 07 48.3**	**-0.8**
SNAA	**Sanae**	**132.59**	**194**	PKP		**PKPdf**	**17 07 48.7**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=42,slow=1.8,SNR=3.4							
SNAA	**Sanae**	**132.59**	**194**			**PKPdf**	**17 07 48.9**	**-0.2**
VNA2	**Neumayer--Watz**	**134.12**	**194**	PKPdf		**PKPdf**	**17 07 51.0**	**-0.9**
VNA3	**Neumayer Olymp**	**134.32**	**192**	PKPdf		**PKPdf**	**17 07 51.1**	**-1.2**
LPAZ	**La Paz**	**149.87**	**73**	PKPbc		**PKPbc**	**17 08 27.2**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=300,slow=1.8,SNR=6.7							
LPAZ	**La Paz**	**149.87**	**73**			**PKPbc**	**17 08 26.8**	**-0.2**
PLCA	**Paso Flores**	**150.83**	**123**	PKPbc		**PKiKP**	**17 08 28.4**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=275,slow=3.7,SNR=6.8							
PLCA	**Paso Flores**	**150.83**	**123**			**PKPbc**	**17 08 27.2**	**-0.7**

ISCJB ***23*** *16:55:26.8±0.7,2˚.67N±0˚.08×128˚.44E±0˚.09,h250km, mb3.5/8,Error ellipse: s-maj=13.0km s-min=11.2km az=25.7*

DJA ***23*** *16:55:27.0±0.8,3˚N±5˚×12˚8E±˚,h228km±7km,M3.8/7, mb3.9/1,MLv3.8/7*

IDC ***23*** *16:55:46.5±13.0,2˚.29N×128˚.14E,h453km±176km, mb2.9/8,mb1 3.0/8,mb1mx2.8/40,mbtmp3.7/8,Error ellipse: s-maj=101.4km s-min=17.4km az=52.0*

ISC 23 16:55:28.3±0.9,2.52N±0.09×128˚.4E±0˚.1,h250km,n12, σ1s74/14,mb3.5/8,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**2.02**	**211**	P		**Pn**	**16 56 10.6**	**-0.4**
KMSI	**Cibinong**	**4.82**	**246**	P		**Pn**	**16 56 41.4**	**-0.6**
KMSI				S		**S**	**16 57 41.6**	**+1.0**
SANI	**Sanana**	**5.14**	**208**	P		**Pn**	**16 56 45.3**	**-0.6**
SANI				S		**S**	**16 57 44.3**	**-3.5**
FITZ	**Fitzroy Crossi**	**20.67**	**187**	P		**P**	**16 59 50.7**	**+1.1**
	0.9nm,0.4s,baz=19,slow=12,SNR=5.8							
WRA	**Warramunga Arr**	**23.07**	**166**	P		**P**	**17 00 14.1**	**+1.9**
	0.6nm,0.4s,baz=346,slow=10,SNR=9.7							
ASAR	**Alice Springs**	**26.58**	**169**	P		**P**	**17 00 45.4**	**+1.6**
	0.7nm,0.4s,baz=353,slow=7.3,SNR=17							
CMAR	**Chiang Mai Arr**	**32.92**	**301**	P		**P**	**17 01 41.8**	**+2.2**
	0.6nm,0.7s,baz=104,slow=7.5,SNR=5.8							
STKA	**Stephens Creek**	**36.44**	**161**	P		**P**	**17 02 10.8**	**+1.3**
	0.5nm,0.3s,baz=339,slow=10,SNR=5.6							
MKAR	**Makanchi Array**	**59.49**	**325**	P		**P**	**17 05 05.2**	**-0.2**
	0.6nm,0.4s,baz=113,slow=8.3,SNR=11							
ZALV	**Zalesovo Beam**	**62.42**	**333**	P		**P**	**17 05 23.4**	**-1.4**
	0.4nm,0.3s,baz=110,slow=4.7,SNR=2.6							
ILAR	**Eielson Array**	**85.47**	**25**	P		**P**	**17 07 36.7**	**-1.0**
	0.1nm,0.4s,baz=252,slow=5.6,SNR=2.7							
ARCES	**ARCESS Array B**	**92.15**	**340**	P		**P**	**17 08 07.4**	**-1.7**
	4.0nm,0.9s,baz=81,slow=5.6,SNR=3.6							

IDC ***23*** *17:03:13.9±1.6,4˚.56N×75˚.83W,h0km,mb1 4.1/1, mb1mx3.2/26,mbtmp4.1/1,ML3.0/1,Error ellipse: s-maj=96.6km s-min=15.5km az=166.0*

RSNC ***23*** *17:03:17.2±1.2,3˚.35N×74˚.12W,h22km±7km,ML3.4, Mw3.5*

ISC 23 17:03:17.3±1.2,3.37N±0˚.03×74˚.21W±0˚.03,h22km±13km, n32,σ2s21/53,1C-1D,Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VILC	**Villavicencio,**	**0.90**	**35**	⇑*eP*		**Pb**	**17 03 32.9**	**-1.3**
VILC				*eS*		**Sn**	**17 03 45.8**	**-1.3**
VILC				*i*			17 03 49.6	
	comp=Z,1μm,0.4s							
CVER	**Cruz Verde, Cu**	**1.15**	**7**	*eP*		**Pn**	**17 03 37.2**	**-1.2**
CVER				*i*			17 03 55.6	
	comp=Z,6μm,0.5s							
ORTC	**Ortega, Tolima**	**1.16**	**297**	*eP*		Pn	17 03 33.9	-4.4
ORTC				*eS*		**Sn**	**17 03 47.9**	**-5.6**
ORTC				*i*			17 03 54.8	
	comp=Z,522nm,0.1s							
ORTC				*i*			17 03 54.8	
	comp=Z,534nm,0.1s							
MACC	**Macarena, Meta**	**1.27**	**163**	*eP*		**Pn**	**17 03 37.7**	**-2.1**
MACC				*eS*		**Sn**	**17 03 54.7**	**-1.5**
MACC				*i*			17 03 57.4	
	comp=Z,627nm,0.2s							
MACC				*i*			17 03 59.4	
	comp=Z,375nm,0.1s							
CHIC	**Chingaza**	**1.34**	**21**	*eP*		**Pn**	**17 03 39.5**	**-1.5**
CHIC				*eS*		**Sb**	**17 03 58.4**	**-0.3**
CHIC				*i*			17 04 01.9	
	comp=Z,345nm,0.4s							
CHIC				*i*			17 04 02.3	
	comp=Z,340nm,0.7s							
BETC	**Betania**	**1.41**	**241**	⇓*eP*		**Pn**	**17 03 38.2**	**-3.5**
BETC				*i*			17 04 00.6	
	comp=Z,84nm,0.7s							
ROSC	**El Rosal**	**1.46**	**356**	*eP*		**Pn**	**17 03 42.1**	**-0.6**
ROSC				*eS*		**Sn**	**17 04 01.7**	**+0.3**
ROSC				*i*			17 04 06.8	
	comp=Z,292nm,0.4s							
ROSC	**El Rosal**	**1.46**	**356**	Pg		**Pn**	**17 03 42.2**	**-0.5**
	comp=Z,136nm,0.3s,baz=188,slow=9.1,SNR=120							
ROSC				Lg		Lg	17 04 02.3	
	comp=Z,101nm,0.3s,baz=291,slow=20,SNR=11							
GUVC	**San Jose del G**	**1.78**	**117**	*eP*		**Pb**	**17 03 47.4**	**-1.9**
GUVC				*eS*		**Sb**	**17 04 12.4**	**+1.2**
GUVC				*i*			17 04 16.9	
	comp=Z,2μm,0.2s							
RREF	**El Recreo**	**1.90**	**323**	*eP*		**Pn**	**17 03 47.2**	**-1.6**
RREF				*eS*		**Sn**	**17 04 10.0**	**-2.4**
RREF				*i*			17 04 12.5	
	comp=Z,289nm,0.3s							
GUY2C	**Guyana, Caldas**	**2.17**	**328**	*eP*		**Pn**	**17 03 51.7**	**-0.8**
GUY2C				*eS*		**Sn**	**17 04 18.9**	**0.0**
GUY2C				*i*			17 04 20.3	
	comp=Z,229nm,0.6s							
GUY2C				*i*			17 04 20.8	
	comp=Z,172nm,0.7s							
YOTC	**Yotoco, Valle**	**2.21**	**286**	*eP*		**Pn**	**17 03 50.4**	**-2.4**

σ1907/69, **mb4.5**/35, **MS3.6**/8, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.45**	**195**	P	**Pn**	**17 47 38.9**	**+2.2**
	6.7nm,0.3s,baz=135,slow=19,SNR=2.3						
GUMO				S	**Sn**	**17 48 59.2**	**-0.7**
	5.5nm,0.3s,baz=278,slow=15,SNR=1.7						
JCJ	**Chichijima**	**7.52**	**327**	S	**Sn**	**17 48 56.6**	**-5.2**
	24nm,0.3s,baz=262,slow=20,SNR=8.2						
INU	**Inuyama**	**16.82**	**331**	P	**P**	**17 49 44.4**	**-0.4**
MJAR	**Matsushiro Arr**	**17.35**	**336**	P	**Pn**	**17 49 50.0**	**+0.3**
	0.0nm,0.3s,baz=138,slow=9.3,SNR=3.3						
JNU	**Nakatsue**	**18.71**	**314**	P	**Pn**	**17 50 07.2**	**+0.8**
	0.2nm,0.3s,baz=192,slow=7.6,SNR=2.8						
H11S3	**WAKE ISLAND Hy**	**18.87**	**94**	T	T	18 09 30.9	
	baz=280						
H11N1	**WAKE ISLAND Hy**	**18.88**	**90**	T	T	18 09 28.1	
	baz=276						
H11S1	**WAKE ISLAND Hy**	**18.88**	**94**	T	T	18 09 34.1	
	baz=280						
H11N2	**WAKE ISLAND Hy**	**18.88**	**90**	T	T	18 09 34.8	
	baz=276						
H11S2	**WAKE ISLAND Hy**	**18.89**	**94**	T	T	18 09 30.8	
	baz=280						
H11N3	**WAKE ISLAND Hy**	**18.89**	**90**	T	T	18 09 28.1	
	baz=276						
MANU	**Manus Island**	**22.75**	**179**	P	**P**	**17 50 47.1**	**-2.4**
MANU				IAmb	IAmb	17 51 25.4	
	comp=Z,26nm,1.2s						
KSRS	**Korea Array**	**23.29**	**319**	P	**P**	**17 50 55.9**	**+1.1**
	comp=Z,3.2nm,0.9s,baz=142,slow=9.3,SNR=7.7						
KSRS				LR	LR	18 00 21.1	
	comp=Z,83nm,19.0s,baz=165,slow=37						
JKA	**Kamikawa-asahi**	**23.47**	**352**	P	**P**	**17 50 57.5**	**+1.0**
ASAJ	**Asahikawa**	**23.47**	**352**	P	**P**	**17 50 57.5**	**+1.0**
	comp=Z,6.3nm,1.1s,baz=195,slow=14,SNR=2.5						
ASAJ				LR	LR	18 01 15.0	
	comp=Z,119nm,18.3s,baz=164,slow=39						
YULB	**Yu-li**	**23.76**	**281**	P	**P**	**17 50 58.7**	**-0.7**
YULB				IAmb	IAmb	17 51 31.9	
	comp=Z,53nm,1.5s						
KRVT	**Keravat (AS076**	**25.51**	**168**	P	**P**	**17 51 14.7**	**-0.8**
	comp=Z,24nm,0.8s,baz=78,slow=1.3,SNR=4.3						
USRK	**Ussuriysk Ar.**	**26.35**	**336**	P	**P**	**17 51 24.0**	**+1.3**
	comp=Z,8.0nm,1.0s,baz=126,slow=14,SNR=6.9						
USRK				LR	LR	18 04 02.4	
	comp=Z,57nm,18.5s,baz=104,slow=41						
HNR	**Honiara**	**32.74**	**155**	LR	LR	18 05 25.3	
	comp=Z,185nm,18.2s,baz=332,slow=36						
PETK	**Petropavlovsk-**	**33.28**	**12**	LR	LR	18 03 10.9	
	comp=Z,120nm,20.8s,baz=236,slow=31						
MTN	**Manton Dam**	**36.85**	**206**	P	**P**	**17 52 54.2**	**-1.0**
SBUM	**Sibu**	**38.34**	**246**	P	**P**	**17 53 08.3**	**+0.4**
SBUM				IAmb	IAmb	17 53 12.6	
	comp=Z,18nm,1.5s						
KNRA	**Kununurra**	**40.38**	**207**	P	**P**	**17 53 24.8**	**0.0**
SONM	**Songino Array**	**42.16**	**319**	P	**P**	**17 53 40.4**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=120,slow=8.5,SNR=3.3						
SONM				PcP	**PcP**	**17 55 31.6**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=157,slow=4.1,SNR=2.4						
SEY	**Seymchan**	**42.23**	**4**	P	**P**	**17 53 41.3**	**+1.8**
	comp=Z,3.5nm,0.7s,baz=172,slow=6.8,SNR=7.9						
WRA	**Warramunga Arr**	**42.33**	**198**	P	**P**	**17 53 39.5**	**-1.3**
	comp=Z,4.8nm,0.7s,baz=21,slow=8.6,SNR=34						
PBKT	**Sadao Pong**	**43.51**	**272**	P	**P**	**17 53 51.2**	**+0.8**
PBKT				IAmb	IAmb	17 53 56.4	
	comp=Z,23nm,1.9s						
FITZ	**Fitzroy Crossi**	**43.91**	**210**	P	**P**	**17 53 53.1**	**-0.5**
FITZ				IAmb	IAmb	17 53 53.8	
	comp=Z,8.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**45.01**	**276**	P	**P**	**17 54 03.4**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=91,slow=6.1,SNR=8.7						
UGM	**Wanagama**	**45.69**	**235**	P	**P**	**17 54 07.2**	**-0.7**
AS31	**Alice Springs**	**45.99**	**197**	P	**P**	**17 54 09.1**	**-1.0**
ASAR	**Alice Springs**	**45.99**	**197**	P	**P**	**17 54 08.8**	**-1.3**
	comp=Z,15nm,0.4s,baz=19,slow=8.2,SNR=44						
KULM	**Kulim**	**47.34**	**258**	P	**P**	**17 54 22.1**	**+1.2**
BILL	**Bilibino**	**48.74**	**10**	P	**P**	**17 54 31.8**	**+0.8**
GSI	**Gunungsitoli**	**51.78**	**255**	P	**P**	**17 54 54.0**	**-0.7**
GSI				IAmb	IAmb	17 56 09.4	
	comp=Z,7.9nm,0.8s						
TIXI	**Tiksi**	**51.88**	**353**	P	**P**	**17 54 54.4**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=180,slow=24,SNR=4.3						
STKA	**Stephens Creek**	**52.66**	**186**	P	**P**	**17 54 59.6**	**-1.2**
	comp=Z,2.4nm,1.0s,baz=329,slow=7.8,SNR=4.5						
STKA	**Stephens Creek**	**52.66**	**186**	P	**P**	**17 54 59.9**	**-0.9**
AFI	**Afiamalu**	**53.37**	**127**	P	**P**	**17 55 05.9**	**-0.6**
TAPN	**Taplejung**	**53.92**	**289**	*e*P	**P**	**17 55 11.5**	**+0.8**
	comp=Z,31nm,1.0s						
ODAN	**Odare**	**54.26**	**289**	*e*P	**P**	**17 55 13.7**	**+0.6**
	comp=Z,18nm,0.7s						
FORT	**Forrest**	**54.40**	**200**	P	**P**	**17 55 14.3**	**+0.8**
FORT				IAmb	IAmb	17 56 16.2	
	comp=Z,15nm,1.1s						
RAMN	**Ramite**	**54.95**	**289**	*e*P	**P**	**17 55 18.2**	**0.0**
	comp=Z,10nm,0.7s						
JIRN	**Jiri**	**55.22**	**290**	*e*P	**P**	**17 55 21.4**	**+1.1**
	comp=Z,42nm,0.8s						
GUN	**Gumba**	**55.46**	**290**	*e*P	**P**	**17 55 22.3**	**+0.3**
PKI	**Pulchoki**	**55.92**	**290**	*e*P	**P**	**17 55 25.5**	**+0.3**
KKN	**Kakani**	**56.00**	**290**	*e*P	**P**	**17 55 25.9**	**+0.2**
	comp=Z,19nm,0.8s						
DMN	**Daman**	**56.18**	**290**	*e*P	**P**	**17 55 27.3**	**+0.3**
	comp=Z,22nm,1.0s						
GKN	**Gorkha**	**56.54**	**290**	*e*P	**P**	**17 55 29.9**	**+0.4**
	comp=Z,61nm,1.2s						
ZAA0	**Zalesovo Array**	**56.98**	**322**	P	**P**	**17 55 31.4**	**-0.5**
ZAA0				IAmb	IAmb	17 55 32.5	
	comp=Z,4.4nm,0.7s						
ZALV	**Zalesovo Beam**	**56.98**	**322**	P	**P**	**17 55 31.6**	**-0.3**
	comp=Z,3.5nm,0.5s,baz=106,slow=7.3,SNR=19						
DANN	**Dangsing**	**57.26**	**291**	*e*P	**P**	**17 55 35.4**	**+0.7**
	comp=Z,79nm,0.6s						
KOLN	**Koldanda**	**57.48**	**290**	*e*P	**P**	**17 55 36.6**	**+0.4**
	comp=Z,12nm,0.7s						
MK31	**Makanchi Array**	**57.76**	**313**	P	**P**	**17 55 37.5**	**-0.1**
MKAR	**Makanchi Array**	**57.76**	**313**	P	**P**	**17 55 37.7**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=92,slow=8.3,SNR=19						
MAKZ	**Makanchi**	**57.97**	**313**	P	**P**	**17 55 39.3**	**+0.2**
MAKZ				IAmb	IAmb	17 55 40.4	
	comp=Z,5.6nm,0.9s						
KURK	**Kurchatov**	**60.40**	**317**	P	**P**	**17 55 55.9**	**+0.2**
KURK				IAmb	IAmb	17 55 56.7	
	comp=Z,6.8nm,1.0s						
TOLK	**Toolik Lake Re**	**61.23**	**22**	P	**P**	**17 56 02.1**	**+0.9**
ILAR	**Eielson Array**	**61.27**	**27**	P	**P**	**17 56 00.6**	**-0.9**
	comp=Z,1.4nm,0.9s,baz=267,slow=5.4,SNR=8.4						
ILAR				LR	LR	18 20 22.2	
	comp=Z,51nm,20.4s,baz=270,slow=34						
BRVK	**Borovoye**	**65.57**	**320**	P	**P**	**17 56 31.0**	**+0.9**
BRVK				IAmb	IAmb	17 56 31.9	
	comp=Z,13nm,1.1s						
KK31	**Karatay Array**	**66.22**	**309**	P	**P**	**17 56 35.1**	**+0.6**
KK31				IAmb	IAmb	17 56 35.9	
	comp=Z,5.4nm,0.8s						
KKAR	**Karatay Array**	**66.22**	**309**	P	**P**	**17 56 35.1**	**+0.6**
KKAR				IAmb	IAmb	17 56 35.9	
	comp=Z,5.4nm,0.8s						
INK	**Inuvik**	**67.00**	**23**	P	**P**	**17 56 38.5**	**-0.5**
	comp=Z,2.1nm,1.0s,baz=257,slow=12,SNR=5.1						
INK	**Inuvik**	**67.00**	**23**	P	**P**	**17 56 38.9**	**-0.1**
INK				IAmb	IAmb	17 58 24.8	
	comp=Z,15nm,1.7s						
CHGR	**Chuyangaron**	**67.87**	**304**	P	**P**	**17 56 45.9**	**+0.7**
ARU	**Arti**	**71.94**	**324**	P	**P**	**17 57 09.8**	**+0.2**
ARU				IAmb	IAmb	17 57 10.5	
	comp=Z,7.4nm,0.7s						
ABKAR	**Akbulak array**	**72.50**	**317**	P	**P**	**17 57 13.1**	**0.0**
YKA	**Yellowknife Ar**	**75.62**	**28**	P	**P**	**17 57 30.8**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=288,slow=5.5,SNR=13						
NVAR	**Mina Array Bea**	**81.01**	**52**	P	**P**	**17 58 02.4**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=266,slow=5.9,SNR=14						
NVAR				LR	LR	18 29 49.7	
	comp=Z,46nm,19.1s,baz=302,slow=32						
ELK	**Elko**	**82.44**	**49**	P	**P**	**17 58 08.7**	**-0.5**
KBZ	**Khabaz**	**85.37**	**315**	P	**P**	**17 58 24.5**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=67,slow=1.0,SNR=8.3						
FINES	**FINESS Array B**	**85.38**	**336**	P	**P**	**17 58 22.9**	**-0.5**
	comp=Z,4.9nm,0.9s,baz=112,slow=6.2,SNR=10						
PDAR	**Pinedale Array**	**85.59**	**46**	P	**P**	**17 58 25.2**	**0.0**
	comp=Z,0.5nm,0.7s,baz=325,slow=1.1,SNR=4.9						
PDAR				LR	LR	18 30 50.7	
	comp=Z,42nm,19.8s,baz=7.5,slow=32						
AKASG	**Malin Array Be**	**90.14**	**326**	P	**P**	**17 58 45.7**	**-0.8**
	comp=Z,0.1nm,0.2s,baz=42,slow=4.9,SNR=5.0						
LPAZ	**La Paz**	**146.62**	**88**	PKPbc	**PKPab**	**18 05 30.4**	**-0.1**
	comp=Z,4.2nm,0.9s,baz=321,slow=2.4,SNR=12						

IDC 23 17:49:12.9±1.0, 22°.27N×142°.99E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/44, mbtmp3.6/6, Error ellipse: s-maj=39.2km s-min=24.3km az=102.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**22.45**	**92**	T	T	18 17 22.8	
	baz=280,slow=75,SNR=8.4						
H11N2	**WAKE ISLAND Hy**	**22.46**	**92**	T	T	18 17 23.9	
	baz=280,slow=75,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**22.47**	**92**	T	T	18 17 24.2	
	baz=280,slow=75,SNR=5.3						
H11S3	**WAKE ISLAND Hy**	**22.52**	**95**	T	T	18 17 29.6	
	baz=284,slow=75,SNR=39						
H11S1	**WAKE ISLAND Hy**	**22.53**	**95**	T	T	18 17 30.3	
	baz=284,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy**	**22.54**	**95**	T	T	18 17 30.9	
	baz=284,slow=75,SNR=28						
WRA	**Warramunga Arr**	**42.80**	**192**	P	P	17 57 12.6	+0.1
	0.4nm,0.7s,baz=14,slow=8.6,SNR=3.3						
ASAR	**Alice Springs**	**46.51**	**192**	P	P	17 57 41.7	-0.5
	9.6nm,0.3s,baz=21,slow=8.0,SNR=2.5						
ZALV	**Zalesovo Beam**	**53.66**	**321**	P	P	17 58 35.7	-0.4
	0.7nm,0.6s,baz=99,slow=6.3,SNR=4.0						
MKAR	**Makanchi Array**	**54.18**	**312**	P	P	17 58 40.5	+0.3
	0.6nm,0.9s,baz=92,slow=8.8,SNR=3.7						
ILAR	**Eielson Array**	**61.62**	**27**	P	P	17 59 31.4	-0.6
	0.5nm,0.7s,baz=252,slow=5.4,SNR=5.2						
YKA	**Yellowknife Ar**	**76.04**	**28**	P	P	18 01 02.1	+0.3
	0.4nm,0.5s,baz=292,slow=5.9,SNR=8.0						
NVAR	**Mina Array Bea**	**82.93**	**51**	P	P	18 01 40.6	+0.4
	0.2nm,0.5s,baz=282,slow=4.5,SNR=4.0						

ROM 23 17:55:27.4±0.1, 38°.171N±0°.004×15°.028E±0°.002, h11km, Md1.0/4, Error ellipse: s-maj=0.5km s-min=0.2km az=358.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOV	**Novara**	**0.17**	**149**	P	Pg	17 55 31.8	+0.6
NOV				S	Sg	17 55 34.7	+0.9
NOV				AML	AML		
	comp=E,1166μm,1.3s						
NOV				AML	AML		
	comp=N,800μm,0.2s						
NOV				AML	AML		
	comp=N,800μm,0.2s						
NOV				END			
MUCR	**Ucria**	**0.18**	**224**	P	Pg	17 55 32.0	+0.7
MUCR				S	Sg	17 55 35.2	+1.1
MUCR				AML	AML		
	comp=E,339μm,0.7s						
MUCR				AML	AML		
	comp=N,681μm,0.6s						
MUCR				AML	AML		
	comp=N,680μm,0.6s						
MUCR				END			
MCSR	**Castroreale**	**0.20**	**121**	P	Pg	17 55 32.1	+0.3
MCSR				AML	AML		
	comp=E,132μm,0.1s						
MCSR				AML	AML		
	comp=N,1122μm,0.2s						
MCSR				END			
MCPD	**Capo d'Orlando**	**0.24**	**258**	P	Pg	17 55 33.0	+0.6
MCPD				S	Sg	17 55 36.8	+1.0
MCPD				AML	AML		
	comp=N,302μm,0.3s						
MCPD				AML	AML		
	comp=E,269μm,0.5s						
MCPD				AML	AML		
	comp=N,303μm,0.3s						
MCPD				END			
AIO	**Antillo**	**0.26**	**141**	P	Pg	17 55 33.3	+0.5
AIO				S	Sb	17 55 37.6	-1.0
AIO				AML	AML		
	comp=E,248μm,0.1s						
AIO				AML	AML		
	comp=N,324μm,1.1s						
AIO				AML	AML		
	comp=E,248μm,0.1s						
MPNC	**Port Mandanici**	**0.26**	**96**	P	Pg	17 55 33.3	+0.5
MPNC				S	Sb	17 55 37.6	-1.0
MPNC				AML	AML		
	comp=E,701μm,0.2s						
MPNC				AML	AML		
	comp=N,870μm,0.8s						
MPNC				AML	AML		
	comp=E,702μm,0.2s						
MPNC				AML	AML		
	comp=N,866μm,0.8s						
ATN	**Antennamare**	**0.34**	**92**	P	Pg	17 55 34.7	+0.3
ATN				AML	AML		
	comp=E,238μm,0.3s						
ATN				AML	AML		
	comp=N,200μm,1.4s						
ATN				AML	AML		
	comp=E,243μm,1.3s						
ATN				AML	AML		
	comp=N,230μm,0.2s						

ROM 23 17:55:52.1±0.0, 38°.168N±0°.002×15°.035E±0°.002, h10km, ML2.0/10, Error ellipse: s-maj=0.2km s-min=0.2km az=300.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOV	**Novara**	**0.16**	**150**	P	Pg	17 55 56.4	+0.7
NOV				S	Sg	17 55 59.3	+1.1
NOV				AML	AML		
	comp=N,800μm,0.2s						
NOV				AML	AML		
	comp=N,800μm,0.2s						
NOV				AML	AML		
	comp=E,1166μm,1.3s						
MUCR	**Ucria**	**0.18**	**226**	P	Pg	17 55 56.7	+0.7
MUCR				S	Sg	17 55 59.8	+1.1
MUCR				AML	AML		
	comp=N,681μm,0.6s						
MUCR				AML	AML		
	comp=N,680μm,0.6s						
MUCR				AML	AML		
	comp=E,339μm,0.7s						
MILZ	**Milazzo**	**0.19**	**56**	P	Pg	17 55 56.8	+0.7
MILZ				S	Sg	17 56 00.0	+1.2
MILZ				AML	AML		
	comp=E,875μm,0.5s						
MILZ				AML	AML		
	comp=N,446μm,0.8s						
MCSR	**Castroreale**	**0.20**	**121**	P	Pg	17 55 56.8	+0.4
MCSR				AML	AML		
	comp=E,132μm,0.1s						
MCSR				AML	AML		
	comp=N,1122μm,0.2s						
VPL	**Vulcano Piano**	**0.21**	**349**	P	Pg	17 55 57.3	+0.7
VPL				S	Sg	17 56 01.2	+1.6
VPL				AML	AML		
	comp=E,1285μm,0.3s						
VPL				AML	AML		
	comp=N,1199μm,0.4s						
AIO	**Antillo**	**0.25**	**141**	P	Pg	17 55 57.9	+0.6
AIO				S	Sb	17 56 02.2	-1.0
AIO				AML	AML		
	comp=E,248μm,0.1s						
AIO				AML	AML		
	comp=E,248μm,0.1s						
AIO				AML	AML		
	comp=N,324μm,1.1s						
MPNC	**Port Mandanici**	**0.25**	**95**	P	Pg	17 55 57.9	+0.7
MPNC				S	Sb	17 56 02.2	-1.0
MPNC				AML	AML		
	comp=E,701μm,0.2s						
MPNC				AML	AML		
	comp=N,870μm,0.8s						
MPNC				AML	AML		
	comp=E,702μm,0.2s						
MPNC				AML	AML		
	comp=N,866μm,0.8s						
ATN	**Antennamare**	**0.34**	**91**	P	Pg	17 55 59.4	+0.4
ATN				S	Sb	17 56 04.7	-1.1
ATN				AML	AML		
	comp=N,230μm,0.2s						
ATN				AML	AML		
	comp=E,243μm,1.3s						
MSRU	**Castanea**	**0.39**	**76**	S	Sg	17 56 05.9	+1.0
MSRU				AML	AML		
	comp=N,268μm,1.1s						
MSRU				AML	AML		
	comp=E,264μm,0.3s						
IFIL	**Filicudi I Eol**	**0.54**	**317**	P	Pg	17 56 02.9	+0.3
IFIL				AML	AML		
	comp=N,290μm,0.2s						
IFIL				AML	AML		
	comp=E,740μm,0.6s						
IFIL				AML	AML		
	comp=N,290μm,0.2s						
IACL	**Alicudi**	**0.65**	**305**	P	Pg	17 56 04.3	-0.3
IACL				AML	AML		
	comp=E,178μm,0.9s						
IACL				AML	AML		
	comp=N,148μm,1.2s						

IDC 23 18:01:49.6±5.8, 14°.65S×168°.72E, h0km, mb4.5/2, mb1 4.8/2, mb1mx3.7/25, mbtmp4.5/2, Error ellipse: s-maj=348.0km s-min=37.4km az=142.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**34.01**	**249**	P	P	18 08 35.5	0.0
	10nm,0.3s,baz=76,slow=9.7,SNR=17						
ILAR	**Eielson Array**	**86.02**	**17**	P	P	18 14 31.8	+0.1
	0.4nm,0.6s,baz=234,slow=6.1,SNR=4.8						
ARCES	**ARCESS Array B**	**120.52**	**346**	PKP	PKPdf	18 20 42.3	-0.4
	3.9nm,0.9s,baz=46,slow=2.6,SNR=8.7						

*ANF **23** 18:03:49.5±0.1, 36°.14N×118°.06W, h10km±1km, ML3.3/28, ML3.2/28, Error ellipse: s-maj=1.1km s-min=0.9km az=145.0*
*SCEDC **23** 18:03:50.1, 36°.14N×118°.07W, h1km, ML3.2, ML3.1, ML3.1*
*PAS **23** 18:03:50.1±1.2, 36°.14N±0°.01×118°.067W±0°.007, h1km±.5km, ML3.1*
*NEIC **23** 18:03:50.2±1.2, 36°.134N±0°.008×118°.06W±0°.01, h1km±.5km*

ISC 23 18:03:50.1±1.0, 36°.15N±0°.01×118°.06W±0°.01, h3km±10km, n118, σ0°.84/148, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.17**	**100**		**Pg**	**18 03 53.7**	**+0.4**
JRC2	**Joshua Ridge**	**0.26**	**129**		**Pg**	**18 03 55.4**	**+0.3**
WCHM	**Chimney Peak**	**0.26**	**183**		**Pg**	**18 03 55.1**	**-0.1**
WCSM	**Coso Springs S**	**0.26**	**117**		**Pg**	**18 03 55.5**	**+0.3**
VPEM	**Volcano Peak E**	**0.28**	**135**		**Pg**	**18 03 55.8**	**+0.3**
CWC	**Cottonwood Cre**	**0.29**	**356**	P	**Pg**	**18 03 55.7**	**-0.1**
	baz=178						
CWC				S	**Sg**	**18 03 59.8**	**0.0**
	baz=178						
CWC	**Cottonwood Cre**	**0.29**	**356**		**Pg**	**18 03 55.8**	**-0.1**
CWC					**Sg**	**18 03 59.8**	**0.0**
DAC	**Darwin (Calif)**	**0.40**	**70**	Pg	**Pg**	**18 03 59.9**	**0.0**
TOW	**Tower One**	**0.41**	**145**		**Pg**	**18 03 58.4**	**+0.5**
CGO	**Cerro Gordo**	**0.45**	**27**		**Pg**	**18 03 59.0**	**+0.1**
CGO					**Sg**	**18 04 05.5**	**+0.7**
MPMC	**Manual Prospec**	**0.47**	**101**	P	**Pg**	**18 03 59.1**	**+0.1**
	baz=280,SNR=810						
MPMC				S	**Sg**	**18 04 05.6**	**+0.4**
	baz=280						
MPMC	**Manual Prospec**	**0.47**	**101**		**Pg**	**18 03 59.2**	**+0.1**
MPMC					**Sg**	**18 04 05.9**	**+0.8**
WORM	**Onyx Ranch**	**0.47**	**199**		**Pg**	**18 03 59.0**	**-0.2**
CLC	**China Lake**	**0.50**	**131**		**Pg**	**18 03 59.8**	**+0.2**
CLC					**Sg**	**18 04 06.7**	**+0.6**
WHFM	**Hanning Flat**	**0.51**	**208**		**Pg**	**18 03 59.8**	**-0.1**
WHFM					**Sg**	**18 04 06.7**	**+0.3**
SRTC	**Snort**	**0.52**	**151**		**Pg**	**18 04 00.5**	**+0.5**
WASM	**Alta Sierra Ca**	**0.57**	**225**		**Pg**	**18 04 01.0**	**-0.1**
SPG2	**Springville 2**	**0.58**	**276**		**Pg**	**18 04 00.9**	**-0.3**
SPG2					**Sg**	**18 04 08.5**	**-0.2**
ISA	**Isabella, Lake**	**0.59**	**215**	P	**Pg**	**18 04 01.1**	**-0.3**
	baz=34,SNR=91						
ISA				S	**Sg**	**18 04 08.9**	**-0.2**
	baz=34						
ISA	**Isabella, Lake**	**0.59**	**215**		**Sg**	**18 04 09.2**	**+0.1**
ISA	**Isabella, Lake**	**0.59**	**215**		**Pg**	**18 04 01.0**	**-0.3**
LRMC	**Laurel Mtn Rad**	**0.73**	**155**	P	**Pg**	**18 04 03.8**	**-0.3**
	baz=335,SNR=90						
LRMC				S	**Sg**	**18 04 13.6**	**+0.1**
	baz=335						
WOFM	**Oak Flat**	**0.81**	**222**		**Pg**	**18 04 05.3**	**-0.3**
TMO	**Tin Mountain**	**0.84**	**38**		**Pg**	**18 04 06.0**	**-0.2**
JFS	**Joseph F. Stat**	**0.85**	**158**		**Pg**	**18 04 06.0**	**-0.4**
VES	**Vestal, Richgr**	**0.89**	**250**	P	**Pg**	**18 04 06.8**	**-0.3**
	baz=70,SNR=100						
VES				S	**Sg**	**18 04 19.0**	**+0.5**
	baz=70						
VES	**Vestal, Richgr**	**0.89**	**250**		**Pg**	**18 04 06.9**	**-0.2**
VES					**Sg**	**18 04 19.1**	**+0.5**
DTP	**Desert Tortois**	**0.89**	**169**		**Pg**	**18 04 06.9**	**-0.3**
TIN	**Tinemaha, Big**	**0.92**	**351**	P	**Pg**	**18 04 07.5**	**-0.2**
	baz=172,SNR=57						
TIN				S	**Sg**	**18 04 20.3**	**+0.7**
	baz=172						
TIN	**Tinemaha, Big**	**0.92**	**351**		**Pg**	**18 04 07.7**	**-0.1**
TIN					**Sg**	**18 04 20.3**	**+0.7**
RCTC	**Rector, Farmer**	**0.97**	**280**		**Pg**	**18 04 08.0**	**-0.7**
QSM	**Queen of Sheba**	**0.98**	**100**		**Pg**	**18 04 08.7**	**-0.1**
GRAC	**Grapevine Rang**	**1.01**	**33**	P	**Pg**	**18 04 09.3**	**-0.3**
	baz=214,SNR=42						
GRAC				S	**Sg**	**18 04 23.5**	**+0.7**
	baz=214						
GRAC	**Grapevine Rang**	**1.01**	**33**		**Pg**	**18 04 09.5**	**-0.1**
GRAC					**Sb**	**18 04 24.3**	**+0.2**
FURC	**Furnace Creek,**	**1.02**	**71**	P	**Pg**	**18 04 09.6**	**0.0**
	baz=252,SNR=143						
FURC				S	**Sg**	**18 04 23.4**	**+0.6**
	baz=252						
FURC	**Furnace Creek,**	**1.02**	**71**		**Sb**	**18 04 23.8**	**-0.2**
GVN	**Grapevine**	**1.03**	**34**		**Pg**	**18 04 09.7**	**-0.1**
TEJ	**El Tejon**	**1.05**	**210**		**Pg**	**18 04 09.4**	**-0.8**
TEJ					**Sg**	**18 04 23.3**	**-0.4**
VOG	**Valley Oaks Go**	**1.09**	**280**	P	**Pg**	**18 04 10.3**	**-0.6**
	baz=99						
VOG				S	**Sg**	**18 04 25.4**	**+0.4**
	baz=99						
VOG	**Valley Oaks Go**	**1.09**	**280**		**Pg**	**18 04 10.4**	**-0.6**
FMT	**Funeral Mounta**	**1.14**	**64**		**Pg**	**18 04 11.5**	**-0.5**
ARVC	**Arvin**	**1.20**	**212**	P	**Pg**	**18 04 12.6**	**-0.4**
	baz=31,SNR=18						
ARVC				S	**Sg**	**18 04 28.2**	**-0.3**
	baz=31						
BLKC	**Black Mountain**	**1.26**	**147**		**Pg**	**18 04 13.1**	**-1.0**
EDW2	**Edwards Air Fo**	**1.26**	**178**	P	**Pg**	**18 04 13.2**	**-1.1**
	baz

TPNV	Topopah Spring	1.66	61		Pn	18 04 20.2	-0.1
CARC	Carrizo Plain	1.68	241		Pn	18 04 20.9	+0.5
HOLC	Holcomb Ridge	1.69	174		Pg	18 04 22.4	-0.1
MDPB	Devils Postpil	1.70	331		Pn	18 04 21.1	+0.3
SMMC	Simmler	1.78	243	Pb	Pn	18 04 22.2	+0.3
	baz=62						
SMMC				Sb	Sb	18 04 45.9	-0.3
	baz=62						
PAGB	Antelope Grade	1.83	258		Pn	18 04 22.6	+0.2
MMIM	Miami Mountain	1.86	314		Pn	18 04 24.0	+1.0
TUQ	Turquoise Moun	1.87	112	P	Pn	18 04 22.0	-1.2
	baz=293,SNR=22						
DECC	Green Verdugo	1.90	187	Sg	Sg	18 04 51.9	+0.7
	baz=6.5						
PKM	Mcpherson Peak	1.91	229	Pb	Pn	18 04 24.4	+0.7
	baz=48						
PKM				Sb	Sb	18 04 49.4	-0.5
	baz=48						
BCH	Branch Mountai	1.91	240		Pn	18 04 24.1	+0.5
MWC	Mount Wilson	1.92	180		Pn	18 04 24.2	+0.3
HEC	Hector,Ludlow	1.92	133	P	Pn	18 04 22.7	-1.0
	baz=313						
HEC				Sg	Sg	18 04 52.1	+0.3
	baz=313						
BFSC	Mount Baldy Ra	1.93	170	Sb	Sb	18 04 51.1	+0.6
	baz=350						
PASC	Pasadena Art C	1.97	183		Pn	18 04 24.3	-0.1
PSMM	Smith Mountain	2.06	269		Pn	18 04 26.6	+0.9
DJJ	Donna J Jenkin	2.06	189		Pb	18 04 28.8	+0.7
BBRC	Big Bear Solar	2.10	153	Sb	Sb	18 04 55.9	+0.5
	baz=334						
SBC	Santa Barbara	2.17	219	Sg	Sg	18 05 01.0	+1.0
	baz=38						
PMPB	Monarch Peak	2.22	273		Pn	18 04 28.3	+0.4
NV11	Mina Array Sit	2.28	358		Pn	18 04 29.1	+0.2
SHPR	Sheep Range	2.37	80		Pn	18 04 30.1	+0.1
GMRC	Granite Mounta	2.38	124	P	Pn	18 04 28.5	-1.6
	baz=305,SNR=20						
GMRC				Sb	Sb	18 05 04.5	+1.0
	baz=305						
BLDC	Black Mountain	2.40	256		Pn	18 04 30.8	+0.5
RYN	Ryan	2.51	352		Pb	18 04 36.1	+0.2
WAKR	Walker	2.60	335		Pn	18 04 34.5	+1.2
MURC	Murrieta	2.64	164	Sb	Sb	18 05 11.8	+1.1
	baz=344						
CMB	Columbia Colle	2.65	316		Pb	18 04 36.4	-1.9
BELC	Belle Mtn. Jos	2.73	141	P	Pn	18 04 33.9	-1.0
	baz=322						
SBI	Santa Barbara	2.78	197		Pn	18 04 35.7	+0.3
SAO	San Andreas Ge	2.80	284		Pn	18 04 36.7	+0.9
PFO	Pinyon Flats O	2.85	152	P	Pn	18 04 35.9	-0.7
	baz=333						
PFO	Pinyon Flats O	2.85	152		Pn	18 04 36.1	-0.5
XPFO	Pion Flat	2.85	152		Pn	18 04 36.1	-0.5
KVN	Kaiserville	2.90	359		Pn	18 04 37.8	+0.5
R11A	Troy Canyon, C	2.95	41		Pn	18 04 38.5	+0.5
YERR	Yerington	2.99	342		Pn	18 04 38.8	+0.3
IRM	Iron Mountain	3.10	129	P	Pn	18 04 38.3	-1.7
	baz=311						
PNTR	Pine Nut	3.18	338		Pn	18 04 43.1	+1.8
RUBR	Rubicon Trail	3.35	331		Pn	18 04 44.7	+1.1
VCNR	Virginia City	3.39	339		Pn	18 04 43.4	-0.7
W13A	Hualapai Mount	3.55	106		Pn	18 04 46.0	-0.4
AFDM	Forest Hills D	3.63	321	Pn	Pn	18 04 46.8	-0.5
BAR	Barrett	3.64	161	Pn	Pn	18 04 46.4	-1.0
PAHR	Pah Rah Range	3.71	344		Pb	18 04 57.4	+1.1
LCMT	Little Creek M	3.97	76		Pn	18 04 52.5	+0.5
CCUT	Cedar City	4.02	68		Pn	18 04 51.8	-1.0
PSUT	Pine Spring	4.11	53		Pb	18 05 02.2	-1.0
BEKR	Beckworth	4.14	335		Pb	18 05 02.1	-1.5
KNB	Kanab	4.30	77		Pn	18 04 56.7	+0.1
BMN	Battle Mountai	4.33	8		Pn	18 04 57.3	+0.3
U15A	North Rim	4.67	85		Pb	18 05 15.4	+2.7
Y14A	Wickenburg	4.69	117		Pb	18 05 15.8	+2.8
MTPU	Mount Pierson	5.06	66		Pb	18 05 24.0	-3.1
ELK	Elko	5.10	25		Pn	18 05 08.0	+0.4
TCRU	Three Creeks R	5.10	59	Pn	Pn	18 05 07.7	+0.1
MSU	Marysvale	5.25	61		Pg	18 05 28.3	-2.3
WUAZ	Wupatki	5.46	95	Pg	Pg	18 05 31.0	-3.8

*IDC **23** 18:22:41.3±0.7,5.62N×127.09E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.8/41, mbtmp4.0/11, ML4.3/1, MS4.7/1, Ms1 4.7/1, ms1mx3.0/39, Error ellipse: s-maj=36.6km s-min=11.8km az=61.0*
*MAN **23** 18:22:43.6, 5.27N×126.82E, h9km, MS3.8*
*DJA **23** 18:22:47.6±0.7, 5.7N±5×12.7E±, h10km, M4.5/10, mb4.6/6, mB4.8/1, MLv4.4/10, Mw(mB)4.1/1*
*NEIC **23** 18:22:48.1±2.0, 5.58N±0.07×127.0E±0.1, h49km±5km, mb4.3/7*

ISC 23 18:22:45.1±1.5, 5.60N±0.05×126.99E±0.07, h24km±11km, n41, σ1.73/46, mb4.1/14, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	1.37	292	P	Pn	18 23 07.7	-1.0
DDMP				S	Sb	18 23 27.4	+0.4
MATI	Mati	1.52	331	P	Pb	18 23 12.2	-0.5
MATI				S	Sb	18 23 34.6	+3.1
DAV	Davao City (W)	2.02	316	Pn	Pn	18 23 19.3	+1.6
	102nm,0.3s,baz=85,slow=1.6,SNR=20						
DAV				Lg	Lg	18 23 48.1	
	166nm,0.3s,baz=228,slow=19,SNR=13						
DAV	Davao City (W)	2.02	316		Pb	18 23 20.4	-0.8
GSPH	General Santos	2.09	283	⇑P	Pn	18 23 15.7	-3.0
KCP	Kidapawan	2.35	307	⇓P	Pn	18 23 23.6	+1.3
KCP				S	Sb	18 23 55.0	-0.4
SKMP	Bagumbayan, Su	2.60	291	P	Pn	18 23 26.0	+0.4
SKMP				S	Sn	18 23 55.2	-1.3
BUKP	Musuan	2.96	320	P	Sb	18 23 32.2	+2.5
BUKP				S	Sb	18 24 12.1	-1.1
CTBH	Cotabato--PC H	3.17	301	⇓P	Pn	18 23 35.5	+2.0
CTBH				S	Sn	18 24 08.3	-2.3
BUTP	Butuan	3.61	338	P	Pb	18 23 45.0	-3.2
CGP	Cagayan de Oro	3.64	321	⇓P	Pn	18 23 43.2	+3.2
CGP				S	Sb	18 24 29.4	-3.0
TNTI	Ternate	4.81	176	P	Pb	18 24 05.0	-3.8
TNTI	Ternate	4.81	176		Pn	18 23 57.2	+1.1
KMSI	Cibinong	5.83	211	P	Pn	18 24 11.4	+1.3
	77nm,0.9s,0.3nm						
MRSI	Marisa	7.16	225	P	Pn	18 24 29.1	+0.6
	42nm,0.6s,678nm0.2nm						
SANI	Sanana	7.67	188	P	Pn	18 24 34.1	-1.2
	11nm,0.7s,0.1nm						
LUWI	Luwuk	7.83	213	P	Pn	18 24 40.1	+2.5
	64nm,0.9s,0.3nm						
LUWI	Luwuk	7.83	213		Pn	18 24 40.6	+3.0
APSI	Ampana	8.38	220	P	Pn	18 24 48.3	+3.1
SBUM	Sibu	15.06	259	P	P	18 26 21.1	-0.5
BATI	Baumata	16.05	192	Pn	P	18 26 32.4	-0.3
	1.7nm,0.3s,baz=31,slow=12,SNR=3.0						
FITZ	Fitzroy Crossi	23.59	183	P	P	18 27 53.2	-0.9
	1.7nm,0.6s,baz=13,slow=10,SNR=8.9						
FITZ	Fitzroy Crossi	23.59	183	P	P	18 27 53.3	-0.9
FITZ				IAmb	IAmb	18 28 11.7	
	comp=Z,10nm,1.2s						
WRA	Warramunga Arr	26.39	164	P	P	18 28 20.7	+0.7
	comp=Z,1.7nm,0.6s,baz=344,slow=10,SNR=13						
ASAR	Alice Springs	29.86	167	P	P	18 28 50.9	0.0
	comp=Z,0.4nm,0.6s,baz=352,slow=8.1,SNR=9.7						
ASAR				PcP	PcP	18 31 53.5	-0.4
	comp=Z,0.3nm,0.8s,baz=352,slow=1.9,SNR=3.2						
CMAR	Chiang Mai Arr	30.20	297	LR	LR	18 41 55.3	
	comp=Z,50nm,18.0s,baz=174,slow=38						
STKA	Stephens Creek	39.79	160	P	P	18 30 16.6	+0.2
	comp=Z,2.1nm,0.7s,baz=322,slow=10,SNR=3.8						
STKA	Stephens Creek	39.79	160	IAmb	IAmb	18 31 22.3	
	comp=Z,5.9nm,1.9s						
WAKE	Wake Island	40.93	67	P	P	18 30 25.1	-0.9
SONM	Songino Array	45.62	341	P	P	18 31 04.7	+1.0
	comp=Z,0.4nm,0.5s,baz=141,slow=9.6,SNR=3.7						
MK31	Makanchi Array	56.19	324	P	P	18 32 22.2	-0.9
MK31				IAmb	IAmb	18 32 31.4	
	comp=Z,5.3nm,1.4s						
MKAR	Makanchi Array	56.19	324	P	P	18 32 22.3	-0.8
	comp=Z,1.3nm,0.6s,baz=121,slow=7.1,SNR=14						
ZALV	Zalesovo Beam	59.05	332	P	P	18 32 43.1	0.0
	comp=Z,0.8nm,0.5s,baz=148,slow=8.6,SNR=4.1						
ABKAR	Akbulak array	70.88	320	P	P	18 34 00.3	+0.1
ABKAR				IAmb	IAmb	18 36 06.0	
	comp=Z,4.9nm,1.4s						
RDOG	Red Dog Mine	77.46	21	P	P	18 34 39.1	+0.9
RDOG				IAmb	IAmb	18 37 21.9	

	comp=Z,3.8nm,0.8s						
OPO	Ambohidratompo	82.16	250	LR	LR	19 07 39.1	
	comp=Z,399nm,20.4s,baz=202,slow=33						
ILAR	Eielson Array	83.31	26	P	P	18 35 10.0	+0.2
	comp=Z,0.1nm,0.5s,baz=240,slow=5.1,SNR=3.6						
ARCES	ARCESS Array B	88.79	340	P	P	18 35 35.9	-0.8
	comp=Z,2.2nm,0.7s,baz=76,slow=5.1,SNR=6.7						
BRTR	Keskin Array B	89.03	310	P	P	18 35 38.0	-0.6
	comp=Z,0.3nm,0.5s,baz=72,slow=4.7,SNR=2.8						
FINES	FINESS Array B	90.32	332	P	P	18 35 44.6	+0.7
	comp=Z,4.1nm,1.0s,baz=76,slow=5.9,SNR=5.9						
TORD	Torodi Ar. Bea	122.57	289	PKP	PKPdf	18 41 39.6	-0.2
	comp=Z,0.8nm,0.8s,baz=58,slow=4.4,SNR=4.4						

*SCEDC **23** 18:24:47.9, 36.15N×118.06W, h1km, ML3.1, ML3.0, ML3.0*
*ANF **23** 18:24:47.3±0.1, 36.15N×118.07W, h10km±1km, ML3.0/24, ML3.0/24, Error ellipse: s-maj=1.1km s-min=1.1km az=41.0*
*PAS **23** 18:24:47.9±0.9, 36.15N±0.01×118.06W±0.02, h1km±7km, ML3.0*
*NEIC **23** 18:24:48.0±0.9, 36.14N±0.01×118.07W±0.02, h1km±7km*

ISC 23 18:24:47.9±1.0, 36.14N±0.02×118.06W±0.02, h4km±10km, n85, σ0.58/106, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	McCloud Flat S	0.16	97		Pg	18 24 51.4	+0.2
JRC2	Joshua Ridge	0.25	127		Pg	18 24 53.1	+0.2
JRC2					Sg	18 24 56.9	+0.7
WCHM	Chimney Peak	0.25	184		Pg	18 24 53.0	+0.1
WCSM	Coso Springs S	0.26	115		Pg	18 24 53.1	+0.2
VPEM	Volcano Peak E	0.27	134		Pg	18 24 53.5	+0.3
CWC	Cottonwood Cre	0.30	356	P	Pg	18 24 53.5	-0.4
	baz=177						
CWC				S	Sg	18 24 57.5	-0.4
	baz=177						
CWC	Cottonwood Cre	0.30	356		Pg	18 24 53.5	-0.4
CWC					Sg	18 24 57.5	-0.4
DAC	Darwin (Calif)	0.40	69	Pg	Pb	18 24 57.6	0.0
TOW	Tower One	0.40	144		Pg	18 24 56.2	+0.5
CGO	Cerro Gordo	0.46	26		Pg	18 24 56.7	-0.2
CGO					Sg	18 25 03.2	+0.3
MPMC	Manual Prospec	0.47	99	P	Pg	18 24 56.9	-0.1
	baz=281,SNR=392						
MPMC				S	Sg	18 25 03.3	+0.3
	baz=281						
MPMC	Manual Prospec	0.47	99		Pg	18 24 56.9	-0.1
WORM	Onyx Ranch	0.47	199		Pg	18 24 56.8	-0.1
CLC	China Lake	0.49	131		Pg	18 24 57.5	+0.1
CLC					Sg	18 25 04.3	+0.6
SRTC	Snort	0.51	151		Pg	18 24 58.2	+0.5
SPG2	Springville 2	0.58	277		Pg	18 24 58.8	-0.3
ISA	Isabella, Lake	0.58	216	P	Pg	18 24 59.0	-0.1
	baz=35,SNR=50						
ISA				S	Sg	18 25 06.6	-0.1
	baz=35						
ISA	Isabella, Lake	0.58	216		Pg	18 24 59.1	-0.1
LRMC	Laurel Mtn Rad	0.72	155	P	Pg	18 25 01.6	-0.2
	baz=335,SNR=44						
LRMC				S	Sg	18 25 11.5	+0.4
	baz=335						
WOFM	Oak Flat	0.80	222		Pg	18 25 03.0	-0.3
CCCA	Chr Cany lake	0.83	137		Pg	18 25 04.1	+0.3
TMO	Tin Mountain	0.85	38		Pg	18 25 03.8	-0.5
VES	Vestal, Richgr	0.89	251	P	Pg	18 25 04.8	-0.2
	baz=70,SNR=41						
VES				S	Sg	18 25 16.4	0.0
	baz=70						
TIN	Tinemaha, Big	0.93	351	P	Pg	18 25 05.3	-0.5
	baz=171,SNR=40						
TIN				S	Sg	18 25 18.1	+0.3
	baz=171						
TIN	Tinemaha, Big	0.93	351		Pg	18 25 05.3	-0.5
RCTC	Rector, Farmer	0.98	280		Pg	18 25 06.0	-0.7
FURC	Furnace Creek,	1.02	71	P	Pg	18 25 07.3	-0.1
	baz=252,SNR=50						
FURC				S	Sg	18 25 21.1	+0.4
	baz=252						
FURC	Furnace Creek,	1.02	71		Pg	18 25 07.4	-0.1
GRAC	Grapevine Rang	1.02	33	P	Pg	18 25 07.0	-0.5
	baz=213,SNR=84						
GRAC				S	Sg	18 25 21.3	+0.5
	baz=213						
GVN	Grapevine	1.03	33		Pg	18 25 07.4	-0.4
TEJ	El Tejon	1.04	210		Pg	18 25 07.2	-0.7
TEJ					Sg	18 25 21.1	-0.3
VOG	Valley Oaks Go	1.09	280	P	Pg	18 25 08.3	-0.6
	baz=99						
VOG				S	Sg	18 25 23.3	+0.3
	baz=99						
VOG	Valley Oaks Go	1.09	280		Pg	18 25 08.2	-0.6
FMT	Funeral Mounta	1.14	64		Pg	18 25 09.1	-0.7
ARVC	Arvin	1.19	212	S	Sg	18 25 26.3	+0.2
	baz=31						
BLKC	Black Mountain	1.25	147		Pg	18 25 11.3	-0.6
EDW2	Edwards Air Fo	1.25	178	P	Pg	18 25 10.9	-1.0
	baz=358,SNR=68						
EDW2				S	Sg	18 25 27.7	-0.5
	baz=358						
EDW2	Edwards Air Fo	1.25	178		Pg	18 25 11.0	-1.0
EDW2					Sg	18 25 27.5	-0.7
GSC	Goldstone, Bar	1.31	129	P	Pg	18 25 12.2	-0.9
	baz=310,SNR=48						
GSC				S	Sg	18 25 30.4	+0.3
	baz=310						
GSC	Goldstone, Bar	1.31	129	Pg	Pg	18 25 12.3	-0.8
HYS	Haystack Butte	1.33	163		Pg	18 25 12.6	-0.8
SBB	Saddle Back Bu	1.46	173		Sg	18 25 33.9	-0.8
SHOC	Shoshone, Teco	1.46	99	P	Pn	18 25 13.9	-1.1
	baz=280,SNR=21						
SHOC	Shoshone, Teco	1.46	99		Pb	18 25 15.8	+0.1
FRI	Friant	1.58	303		Pn	18 25 16.2	-0.5
OSI	Osito Audit: C	1.61	200	Sb	Sn	18 25 38.8	+0.3
	baz=19						
OSI	Osito Audit: C	1.61	200		Pg	18 25 19.0	+0.1
MLAC	Mammoth, Mammo	1.62	337	Pg	Pn	18 25 17.9	+0.5
	baz=157						
MLAC				Sb	Sn	18 25 39.2	+0.4
	baz=157						
MLAC	Mammoth, Mammo	1.62	337		Pn	18 25 17.9	+0.5
OMMB	Old Mammoth Mi	1.66	333		Pn	18 25 18.1	+0.1
MCSM	Casa Diablo Ho	1.66	336		Pn	18 25 18.7	+0.6
TPNV	Topopah Spring	1.67	60	Pg	Pb	18 25 19.2	-0.1
	baz=242						
TPNV				Sb	Sb	18 25 40.7	+0.1
	baz=242						
TPNV	Topopah Spring	1.67	60		Pn	18 25 17.8	-0.2
MDPB	Devils Postpil	1.70	332		Pn	18 25 18.9	+0.2
SMMC	Simmler	1.78	243	Sb	Sb	18 25 43.8	+0.1
	baz=62						
PAGB	Antelope Grade	1.83	258		Pn	18 25 20.4	+0.3
MMIM	Miami Mountain	1.86	314		Pn	18 25 21.8	+1.1
TUQ	Turquoise Moun	1.87	111	P	Pn	18 25 19.9	-0.8
	baz=293,SNR=16						
PKM	Mcpherson Peak	1.90	230	Pb	Pn	18 25 21.8	+0.6
	baz=48						
PKM				Sb	Sb	18 25 47.3	-0.1
	baz=48						
BCH	Branch Mountai	1.91	241		Pn	18 25 21.6	+0.4
MWC	Mount Wilson	1.91	180		Pn	18 25 22.0	+0.6
HEC	Hector,Ludlow	1.92	132	P	Pn	18 25 20.5	-0.9
	baz=314						
HEC				Sb	Sb	18 25 48.4	+0.7
	baz=314						
BFSC	Mount Baldy Ra	1.92	170	Sb	Sb	18 25 48.7	+0.7
	baz=350						
PASC	Pasadena Art C	1.96	183	Pn	Pn	18 25 22.5	+0.5
PSMM	Smith Mountain	2.06	269		Pn	18 25 24.4	+1.0
PMPB	Monarch Peak	2.22	273		Pn	18 25 26.2	+0.6
NV11	Mina Array Sit	2.29	358		Pn	18 25 26.9	+0.3
SHPR	Sheep Range	2.37	80		Pn	18 25 27.9	+0.2
GMRC	Granite Mounta	2.38	124	P	Pn	18 25 26.2	-1.5
	baz=306						
RYN	Ryan	2.52	352		Pn	18 25 30.1	+0.4
WAKR	Walker	2.61	335		Pb	18 25 35.8	+0.4
CMB	Columbia Colle	2.66	316		Pb	18 25 34.4	-1.7
CRY	Cary Ranch	2.78	157		Pn	18 25 32.2	-1.1
SAO	San Andreas Ge	2.81	284		Pn	18 25 34.9	+1.4
PFO	Pinyon Flats O	2.84	152	P	Pn	18 25 33.6	-0.5
	baz=333						
PFO	Pinyon Flats O	2.84	152		Pn	18 25 33.9	-0.3
XPFO	Pion Flat	2.84	152		Pn	18 25 33.9	-0.3
KVN	Kaiserville	2.91	359		Pn	18 25 35.3	+0.2
R11A	Troy Canyon, C	2.96	41	Pg	Pg	18 25 44.0	-0.7
	baz=222						
R11A	Troy Canyon, C	2.96	41		Pn	18 25 35.9	+0.1
YERR	Yerington	3.00	342		Pb	18 25 41.3	-0.7
PNTR	Pine Nut	3.19	338		Pn	18 25 39.7	+0.6
AFDM	Forest Hills D	3.64	321		Pb	18 25 52.1	-0.8
PAHR	Pah Rah Range	3.72	344		Pb	18 25 55.3	+1.1
BEKR	Beckworth	4.14	335		Pb	18 26 02.0	+0.5

IDC 23 18:34:40.5±19.0, 19.74N×39.79E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/28, mbtmp3.5/4, Error ellipse: s-maj=386.6km s-min=60.5km az=34.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	Keskin Array B	20.61	346	P	P	18 39 21.1	-0.3
	0.9nm,0.8s,baz=166,slow=13,SNR=4.4						
MKAR	Makanchi Array	43.85	42	P	P	18 42 47.4	-1.1
	0.4nm,0.6s,baz=241,slow=7.4,SNR=5.0						
ZALV	Zalesovo Beam	48.37	34	P	P	18 43 25.2	+1.3
	0.5nm,0.6s,baz=240,slow=8.0,SNR=3.9						
SONM	Songino Array	59.99	46	P	P	18 44 48.9	-0.2
	0.5nm,0.7s,baz=270,slow=7.1,SNR=3.2						

*ANF **23** 18:36:31.4±0.1, 36.13N×118.06W, h9km±1km, ML3.1/27, ML3.1/27, Error ellipse: s-maj=1.0km s-min=0.9km az=108.0*
*SCEDC **23** 18:36:32.1, 36.14N×118.06W, h1km, ML3.1, ML3.0, ML3.0*
*PAS **23** 18:36:32.1±1.2, 36.14N±0.04×118.06W±0.05, h1km±7km, ML3.0*
*NEIC **23** 18:36:32.3±1.4, 36.14N±0.02×118.03W±0.05, h1km±7km*

ISC 23 18:36:32.2±1.1, 36.14N±0.01×118.05W±0.02, h2km±10km, n98, σ0.86/125, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WCHM	Chimney Peak	0.25	185		Pg	18 36 37.1	0.0
CWC	Cottonwood Cre	0.30	355	P	Pg	18 36 37.9	-0.2
	baz=176						
CWC				S	Sg	18 36 42.0	-0.1
	baz=176						
CWC	Cottonwood Cre	0.30	355		Pg	18 36 37.9	-0.2
CWC					Sg	18 36 42.0	-0.1
CGO	Cerro Gordo	0.46	26		Pg	18 36 41.0	0.0
CGO					Sg	18 36 47.4	+0.4
MPMC	Manual Prospec	0.46	100	P	Pg	18 36 41.0	0.0
	baz=280,SNR=513						
MPMC				S	Sg	18 36 47.6	+0.6
	baz=280						
MPMC	Manual Prospec	0.46	100		Pg	18 36 41.0	0.0
MPMC					Sg	18 36 47.6	+0.6
WORM	Onyx Ranch	0.47	200		Pg	18 36 41.0	-0.1
CLC	China Lake	0.49	131		Pg	18 36 41.6	+0.1
CLC					Sg	18 36 48.4	+0.6
WHFM	Hanning Flat	0.50	209		Pg	18 36 41.7	-0.1
WHFM					Sg	18 36 48.7	+0.4
WASM	Alta Sierra Ca	0.57	226		Pg	18 36 43.1	-0.1
ISA	Isabella, Lake	0.58	216	P	Pg	18 36 43.2	-0.2
	baz=35,SNR=83						
ISA				S	Sg	18 36 51.0	0.0
	baz=35						
ISA	Isabella, Lake	0.58	216		Pg	18 36 43.2	-0.2
ISA					Sg	18 36 51.2	+0.3
SPG2	Springville 2	0.58	277		Sg	18 36 50.8	-0.1
LRMC	Laurel Mtn Rad	0.72	155	P	Pg	18 36 45.7	-0.2
	baz=335,SNR=63						
LRMC				S	Sg	18 36 55.4	+0.1
	baz=335						
WOFM	Oak Flat	0.81	222		Pg	18 36 47.3	-0.3
CCCA	Chr Cany lake	0.82	137		Pg	18 36 48.1	+0.1
CCCA					Sg	18 36 59.9	+1.3
JFS	Joseph F. Stat	0.84	158		Pg	18 36 47.8	-0.5
TMO	Tin Mountain	0.85	38		Pg	18 36 48.0	-0.4
DTP	Desert Tortois	0.88	169		Pg	18 36 48.7	-0.4
VES	Vestal, Richgr	0.89	251	P	Pg	18 36 49.0	-0.3
	baz=70,SNR=64						
VES				S	Sg	18 37 00.4	-0.3
	baz=70						
TIN	Tinemaha, Big	0.93	351	P	Pg	18 36 49.7	-0.3
	baz=171,SNR=61						
TIN				S	Sg	18 37 02.5	+0.5
	baz=171						
TIN	Tinemaha, Big	0.93	351		Pg	18 36 49.7	-0.3
TIN					Sg	18 37 02.5	+0.5
FURC	Furnace Creek,	1.01	71	P	Pg	18 36 51.4	-0.2
	baz=252,SNR=96						
FURC				S	Sg	18 37 05.5	+0.8
	baz=252						
GRAC	Grapevine Rang	1.02	32	P	Pg	18 36 51.4	-0.4
	baz=213,SNR=72						
GRAC				S	Sg	18 37 05.5	+0.6
	baz=213						
GVN	Grapevine	1.03	33		Pg	18 36 51.7	-0.3
TEJ	El Tejon	1.04	210		Pg	18 36 51.3	-0.8
VOG	Valley Oaks Go	1.09	280	P	Pg	18 36 52.5	-0.6
	baz=99						
VOG				S	Sg	18 37 06.9	-0.4
	baz=99						
VOG	Valley Oaks Go	1.09	280		Pg	18 36 52.5	-0.6
FMT	Funeral Mounta	1.14	64		Pg	18 36 53.3	-0.7
ARVC	Arvin	1.19	213	P	Pg	18 36 54.6	-0.4
	baz=32,SNR=35						
ARVC				S	Sg	18 37 10.0	-0.4
	baz=32						
EDW2	Edwards Air Fo	1.25	178	P	Pg	18 36 55.2	-1.0
	baz=358,SNR=90						
EDW2				S	Sg	18 37 11.6	-0.9
	baz=358						
EDW2	Edwards Air Fo	1.25	178		Pg	18 36 55.2	-1.0
GSC	Goldstone, Bar	1.31	129	P	Pg	18 36 56.3	-1.0
	baz=310,SNR=118						
GSC				S	Sg	18 37 14.5	+0.3
	baz=310

PSMM	Smith Mountain	2.06	269			Pn	18 37 08.7	+0.7
BBRC	Big Bear Solar baz=334	2.08	153		Sb	Sb	18 37 38.2	+0.9
PMPB	Monarch Peak	2.23	273			Pn	18 37 10.2	+0.1
NV11	Mina Array Sit	2.29	358			Pn	18 37 11.0	-0.2
SHPR	Sheep Range	2.36	80			Pn	18 37 12.3	+0.2
GMRC	Granite Mounta baz=305	2.37	124	P		Pn	18 37 10.4	-1.8
GMRC					Sb	Sb	18 37 46.4	+1.0
	baz=305							
RYN	Ryan	2.52	352			Pb	18 37 17.9	-0.2
WAKR	Walker	2.61	335			Pb	18 37 19.8	0.0
CMB	Columbia Colle	2.66	316			Pb	18 37 18.4	-2.2
SBI	Santa Barbara	2.77	197			Pn	18 37 18.2	+0.7
SAO	San Andreas Ge	2.81	284			Pn	18 37 18.8	+0.6
DNR	Dunn Ranch,Anz	2.82	155			Pn	18 37 18.3	0.0
PFO	Pinyon Flats O baz=333	2.84	152	P		Pn	18 37 17.9	-0.7
PFO	Pinyon Flats O	2.84	152			Pg	18 37 25.9	-0.6
XPFO	Pion Flat	2.84	152			Pg	18 37 25.9	-0.7
KVN	Kaiserville	2.91	359			Pb	18 37 25.9	+1.0
R11A	Troy Canyon, C baz=222	2.96	41	P		Pn	18 37 19.7	-0.7
R11A	Troy Canyon, C	2.96	41			Pn	18 37 20.5	+0.2
YERR	Yerington	3.00	342			Pn	18 37 21.1	+0.2
IRM	Iron Mountain baz=311	3.09	129	Pg		Pg	18 37 30.8	-0.6
PNTR	Pine Nut	3.19	338			Pb	18 37 28.8	-1.0
RUBR	Rubicon Trail	3.36	331			Pb	18 37 32.0	-0.5
W13A	Hualapai Mount	3.55	106			Pb	18 37 36.0	+0.2
AFDM	Forest Hills D	3.64	321			Pb	18 37 37.2	-0.1
PAHR	Pah Rah Range	3.72	344			Pb	18 37 39.7	+1.1
LCMT	Little Creek M	3.96	76			Pb	18 37 43.4	+0.5
CCUT	Cedar City	4.02	68			Pg	18 37 46.7	-2.4
PSUT	Pine Spring	4.11	53			Pg	18 37 48.4	-2.6
BEKR	Beckworth	4.15	335			Pb	18 37 48.4	+2.4
KNB	Kanab	4.30	77			Pb	18 37 50.2	+1.6
ORV	Oroville	4.37	322			Pb	18 37 51.7	+2.0
V15A	North Rim	4.66	85			Pb	18 37 56.5	+1.7
Y14A	Wickenburg	4.68	116			Pb	18 37 57.1	+2.0
PKCU	Pink Cliffs	4.79	72			Pb	18 37 57.6	+0.6
MTPU	Mount Pierson	5.06	66			Pg	18 38 06.6	-2.5
ELK	Elko	5.10	25			Pn	18 37 50.5	+0.7
MSU	Marysvale	5.25	61			Pb	18 38 06.6	+1.9
WUAZ	Wupatki	5.46	95			Pg	18 38 15.0	-1.7

IDC ***23*** *18:41:35.8±0.6, 19°.11N×39°.21E, h0km, mb4.1/23, mb1 4.2/28,mb1mx4.1/47,mbtmp4.1/28,ML3.6/5, Error ellipse: s-maj=16.0km s-min=12.5km az=104.0*
MOS ***23*** *18:41:35.9±1.3, 19°.05N×39°.26E, h12km,mb4.7/20, Error ellipse: s-maj=12.1km s-min=5.6km az=79.4*
BJI ***23*** *18:41:35.0±0.0, 19°.10N×39°.20E, h10km, mb4.2/16*
ISCJB ***23*** *18:41:35.4±0.3, 19°.08N±0°.04×39°.25E±0°.05, h10km, mb4.3/51, Error ellipse: s-maj=6.4km s-min=5.9km az=144.1*
NEIC ***23*** *18:41:36.8±1.4, 19°.1N±0°.1×39°.2E±0°.1, h10km±1km, mb4.5/37*
SGS ***23*** *18:41:41, 19°.45N×39°.80E, h13km, Ml3.8*

ISC 23 18:41:37.8±0.4,**19°.21N**±0°.05×**39°.31E**±0°.06,**h10km**,**n116**, σ1§**90**/120,**mb4.4**/56,**2C-9D**,**Red Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LTHS	Al Lith	1.48	44	P		Pn	18 41 59.5	-5.0
QNFDS	Al Qunfudhah	1.65	69	P		Pn	18 42 02.3	-4.6
QNFDS				S		Sn	18 42 16.6	-12
QNF01	Al Qunfudhah	1.87	84	P		Pn	18 42 05.2	-4.7
QNF02	Al Qunfudhah	2.07	94	P		Pn	18 42 08.6	-4.0
BAHS	BAHS	2.29	70	P		Pn	18 42 12.4	-3.5
ATD	Arta Tunnel 0.7nm,0.3s,baz=37,slow=20,SNR=2.6	8.36	155	Pn		Pn	18 43 39.7	+0.4
ATD				Sn		Sn	18 45 19.8	+5.9
	0.9nm,0.3s,baz=72,slow=20,SNR=2.5							
EIL	Elat 0.6nm,0.3s,baz=135,slow=10.0,SNR=3.0	11.14	340	Pn		Pn	18 44 18.6	+1.4
ASF	Jabal al Asfar 0.2nm,0.3s,baz=139,slow=0.5,SNR=9.3	13.09	351	Pn		Pn	18 44 45.2	+1.3
MMAI	Mount Meron Ar 0.3nm,0.3s,baz=161,slow=15,SNR=2.8	14.19	346	Pn		Pn	18 45 00.7	+1.8
CSS	Mathiatis	16.56	343	P		Pn	18 45 30.1	-0.1
UOSS	Minazif	16.66	67	P		Pn	18 45 32.4	+0.9
UOSS				IAmb		IAmb	18 45 38.6	
	comp=Z,61nm,1.2s							
WSAR	Wadi Sarin comp=Z,0.3nm,0.3s,baz=291,slow=15,SNR=2.6	18.45	74	P		P	18 45 52.9	-0.9
KMBO	Kilima Mbogo	20.31	186	P		P	18 46 12.0	-2.4
KMBO	Kilima Mbogo comp=Z,0.6nm,0.2s,baz=45,slow=19,SNR=3.0	20.31	186	P		P	18 46 12.0	-2.4
IDI	Anoyia comp=Z,6.8nm,0.9s,baz=139,slow=17,SNR=3.1	20.47	324	P		P	18 46 16.3	+0.4
BR131	Keskin Array S	21.02	348	P		P	18 46 22.5	+0.7
BR131				pmax		pmax		
	comp=Z,12nm,1.2s							
BR131	Keskin Array S	21.02	348	P		P	18 46 22.5	+0.7
BRTR	Keskin Array B comp=Z,6.7nm,0.9s,baz=168,slow=13,SNR=35	21.02	348	P		P	18 46 23.9	+2.1
BR231	Keskin MP Arra	21.32	346	P		P	18 46 25.4	+0.4
BR231				IAmb		IAmb	18 46 39.5	
	comp=Z,12nm,0.8s							
ANTO	Ankara	21.34	346	P		P	18 46 25.7	+0.5
ANTO				pmax		pmax		
	comp=Z,16nm,1.0s							
ANTO	Ankara	21.34	346	P		P	18 46 25.7	+0.5
ANTO				IAmb		IAmb	18 46 39.7	
	comp=Z,16nm,1.0s							
MANT	Manisa	21.36	336	P		P	18 46 25.1	-0.5
GNI	Garni	21.39	11	P		P	18 46 26.0	+0.3
GNI				pmax		pmax		
	comp=Z,28nm,1.4s							
GNI	Garni	21.39	11	P		P	18 46 26.0	+0.3
GNI				IAmb		IAmb	18 46 43.8	
	comp=Z,28nm,1.4s							
MBAR	Mbarara	21.41	204	P		P	18 46 25.7	-0.5
	comp=Z,3.2nm,0.2s,baz=32,slow=11,SNR=6.2							
MBAR	Mbarara	21.41	204	P		P	18 46 24.2	-2.0
ILGA	Ilgaz	22.29	349	P		P	18 46 35.6	+0.1
ILGA				IAmb		IAmb	18 46 51.1	
	comp=Z,38nm,1.6s							
AKH	Akhalkalaki	22.41	8	P		P	18 46 37.9	+1.1
AKH				pmax		pmax		
	comp=Z,12nm,1.1s							
AKH	Akhalkalaki	22.41	8	P		P	18 46 37.9	+1.1
AKH				IAmb		IAmb	18 46 44.6	
	comp=Z,12nm,1.1s							
ZEI	Tsey	23.82	8	*e*P		P	18 46 53.2	+2.0
ZEI				pmax		pmax		
	comp=Z,11nm,0.9s							
KBZ	Khabaz comp=Z,5.4nm,1.1s,baz=177,slow=3.8,SNR=8.9	24.63	6	P		P	18 47 00.2	+1.8
GEYT	Alibeck comp=Z,3.3nm,0.8s,baz=216,slow=8.9,SNR=7.9	24.83	37	P		P	18 47 01.6	+1.2
GYA0B	ALIBECK ARRAY	24.83	37	P		P	18 47 00.6	+0.2
KIV	Kislovodsk	24.83	6	*e*P		P	18 47 04.0	+3.6
KIV				pmax		pmax		
	comp=Z,50nm,1.1s							
KIV	Kislovodsk	24.83	6	P		P	18 47 01.6	+1.2
KIV				IAmb		IAmb	18 47 11.5	
	comp=Z,13nm,0.9s							
KVAR	Kislovodsk Arr comp=Z,6.2nm,0.9s,baz=90,slow=20,SNR=7.7	24.83	6	P		P	18 47 03.6	+3.2
HRA	Herat	25.36	49	P		P	18 47 06.0	+0.5
ANN	Anapa	25.56	357	*e*P		P	18 47 05.9	-0.9
ANN				*e**PP		pP	18 47 08.3	-1.3
ANN				*e*S		S	18 51 34.3	-0.2
ANN				pmax		pmax		
	comp=Z,23nm,1.0s							
GOF	Gofitskoye	25.96	6	*i* P		P	18 47 15.6	+5.1
GOF				pmax		pmax		
	comp=Z,17nm,0.8s							
ISR	Istrita	27.93	340	P		P	18 47 30.4	+2.1
ISR				pmax		pmax		
	comp=Z,16nm,2.0s							
MLR	Muntele Rosu comp=Z,1.1nm,0.6s,baz=129,slow=11,SNR=3.3	28.45	340	P		P	18 47 34.8	+1.8
DRGR		30.70	337	P		P	18 47 53.4	+0.6
DRGR				pmax		pmax		
	comp=Z,15nm,1.5s							
CHGR	Chuyangaron	32.31	47	P		P	18 48 08.0	+0.8
AKASG	Malin Array Be	32.43	348	*e*P		P	18 48 08.6	+0.7
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.8s							
AKASG	Malin Array Be	32.43	348	P		P	18 48 07.4	-0.5
	comp=Z,2.4nm,1.0s,baz=165,slow=7.1,SNR=8.7							
GAR	Garm	33.27	47	P		P	18 48 15.6	0.0
NIL	Nilore	33.45	58	P		P	18 48 17.0	-0.2
NIL				pmax		pmax		
	comp=Z,7.0nm,1.0s							
NIL	Nilore	33.45	58	P		P	18 48 17.0	-0.2
NIL				IAmb		IAmb	18 48 21.8	
	comp=Z,6.8nm,1.0s							
ABKAR	Akbulak array	34.26	24	P		P	18 48 23.9	0.0
VLC	Villacollemand	34.67	322	P		P	18 48 26.6	-1.0
TEOL	Teolo	34.70	325	P		P	18 48 26.2	-1.6
KK31	Karatay Array	35.44	41	P		P	18 48 33.4	-0.9
KK31				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KK31	Karatay Array	35.44	41	P		P	18 48 33.4	-0.9
KKAR	Karatay Array	35.44	41	P		P	18 48 33.2	-1.1
KKAR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KKAR	Karatay Array	35.44	41	P		P	18 48 33.1	-1.1
OBN	Obninsk	35.90	357	*e*P		P	18 48 39.4	+1.4
OBN				*e*			18 49 59.3	
OBN				pmax		pmax		
	comp=Z,59nm,2.6s							
LSZ	Lusaka comp=Z,1.0nm,0.4s,baz=35,slow=12,SNR=3.5	35.98	198	P		P	18 48 38.9	-0.3
GEC2	GERESS Array S	36.05	331	P		P	18 48 38.6	-0.9
GEC2				IAmb		IAmb	18 48 39.9	
	comp=Z,6.4nm,1.2s							
GERES	GERESS Array B	36.05	331	*e*P		P	18 48 39.5	0.0
GERES				pmax		pmax		
	comp=Z,2.0nm,0.8s							
GERES	GERESS Array B comp=Z,1.7nm,0.8s,baz=140,slow=8.4,SNR=9.9	36.05	331	P		P	18 48 39.2	-0.3
KHC	Kasperske Hory	36.31	331	*e*P		P	18 48 41.6	-0.1
KHC				pmax		pmax		
	comp=Z,26nm,1.8s							
KHC	Kasperske Hory	36.31	331	*e*P		P	18 48 40.0	-1.7
KHC	Kasperske Hory	36.31	331	P		P	18 48 41.2	-0.4
TOA0	Torodi Ar. Sit	36.57	266	P		P	18 48 42.3	-1.9
TOA0				IAmb		IAmb	18 48 50.1	
	comp=Z,9.4nm,1.0s							
TORD	Torodi Ar. Bea comp=Z,4.4nm,0.9s,baz=80,slow=9.1,SNR=15	36.57	266	P		P	18 48 42.2	-2.0
KSH	Kashi	37.47	49	P		P	18 48 52.5	+0.7
KSH				S		S	18 54 34.0	-6.6
AAK	Ala-Archa	37.75	44	*e*P		P	18 48 54.9	+0.7
AAK				pmax		pmax		
	comp=Z,7.0nm,2.1s							
AAK	Ala-Archa	37.75	44	P		P	18 48 55.5	+1.4
AAK				IAmb		IAmb	18 49 07.7	
	comp=Z,11nm,1.6s							
FRU1	Bishkek	37.92	44	P		P	18 48 55.6	+0.1
FRU1				pmax		pmax		
	comp=Z,7.0nm,0.7s							
FRU1	Bishkek	37.92	44	P		P	18 48 55.6	+0.1
FRU1				IAmb		IAmb	18 49 01.1	
	comp=Z,7.3nm,0.7s							
ARU	Arti	39.86	17	*d* iP		P	18 49 14.5	+3.1
ARU							18 50 42.8	
ARU				S		S	18 55 22.5	+6.6
ARU				pmax		pmax		
	comp=Z,10.0nm,1.8s							
VSU	Vasula	40.27	350	*e*P		P	18 49 17.2	+2.5
VSU				pmax		pmax		
	comp=Z,314nm,2.9s							
BRVK	Borovoye	41.42	28	*e*P		P	18 49 25.8	+1.4
BRVK				pmax		pmax		
	comp=Z,10.0nm,1.9s							
ESDC	Sonseca Array	42.35	308	P		P	18 49 31.5	-0.8
	comp=Z,0.3nm,0.5s,baz=107,slow=6.2,SNR=5.4							
FINES	FINESS Array B	43.21	351	*e*P		P	18 49 38.6	-0.2
FINES				pmax		pmax		
	comp=Z,9.0nm,1.1s							
FINES	FINESS Array B comp=Z,8.6nm,1.1s,baz=259,slow=1.9,SNR=3.4	43.21	351	P		P	18 49 38.0	-0.8
KURK	Kurchatov	44.17	35	*e*P		P	18 49 48.3	+1.6
KURK				pmax		pmax		
	comp=Z,7.0nm,1.0s							
KURK	Kurchatov	44.17	35	P		P	18 49 47.5	+0.8
KURK				IAmb		IAmb	18 49 51.3	
	comp=Z,5.5nm,0.9s							
MAKZ	Makanchi	44.36	42	P		P	18 49 48.5	+0.2
MAKZ				pmax		pmax		
	comp=Z,8.0nm,0.9s							
MAKZ	Makanchi	44.36	42	P		P	18 49 48.5	+0.2
MAKZ				IAmb		IAmb	18 49 53.0	
	comp=Z,8.0nm,0.8s							
MK31	Makanchi Array	44.55	42	P		P	18 49 50.4	+0.5
MK31				pmax		pmax		
	comp=Z,6.0nm,0.8s							
MK31	Makanchi Array	44.55	42	P		P	18 49 50.4	+0.5
MK31				IAmb		IAmb	18 49 54.5	
	comp=Z,5.9nm,0.8s							
MKAR	Makanchi Array comp=Z,5.4nm,0.7s,baz=240,slow=6.9,SNR=32	44.55	42	P		P	18 49 50.1	+0.3
DBIC	Dimbokro comp=Z,1.6nm,0.8s,baz=44,slow=5.2,SNR=3.3	44.68	260	P		P	18 49 49.1	-2.2
LBTB	Lobatse comp=Z,4.3nm,1.0s,baz=22,slow=7.2,SNR=2.7	45.94	197	P		P	18 49 59.3	-1.8
NOA	NORSAR Array B	46.25	342	*e*P		P	18 50 05.8	+2.6
NOA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
NOA	NORSAR Array B comp=Z,1.7nm,0.9s,baz=124,slow=4.9,SNR=3.3	46.25	342	P		P	18 50 01.5	-1.7
WMQ	Urumqi	47.16	48	P		P	18 50 10.4	-0.2
WMQ				pmax		pmax		
	comp=Z,9.0nm,1.0s							
WMQ	Urumqi	47.16	48	P		P	18 50 10.4	-0.2
WMQ				IAmb		IAmb	18 50 25.6	
	comp=Z,8.9nm,1.0s							
SHL	Shillong	48.77	73	P		P	18 50 22.8	-0.7
SHL				pmax		pmax		
	comp=Z,38nm,2.0s							
SHL	Shillong	48.77	73	P		P	18 50 22.8	-0.7
ZAA0	Zalesovo Array	49.06	34	P		P	18 50 24.7	-0.3
ZAA0				IAmb		IAmb	18 50 29.1	
	comp=Z,7.3nm,0.9s							
ZALV	Zalesovo Beam comp=Z,7.9nm,1.0s,baz=248,slow=7.8,SNR=15	49.06	34	P		P	18 50 25.6	+0.6
GTA	Gaotai	55.44	55	*e*P		P	18 51 13.4	+0.5
GTA				pP		sP	18 51 22.4	+5.6
GTA				sP		pP	18 51 26.5	+11
GTA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
CMAR	Chiang Mai Arr	56.20	80	*e*P		P	18 51 22.6	+4.1
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
CMAR	Chiang Mai Arr comp=Z,0.6nm,0.8s,baz=264,slow=9.0,SNR=6.0	56.20	80	P		P	18 51 19.2	+0.8
NRIK	Noril'sk comp=Z,1.6nm,0.3s,baz=251,slow=11,SNR=3.7	58.05	18	P		P	18 51 31.8	+1.0
PBKT	Sadao Pong	58.48	82	P		P	18 51 34.3	-0.2
TLY	Talaya	59.28	41	*de*P		P	18 51 41.2	+1.5
TLY				pmax		pmax		
	comp=Z,7.0nm,1.3s							
SONM	Songino Array	60.69	45	*e*P		P	18 51 52.7	+3.2
SONM				pmax		pmax		
	comp=Z,3.0nm,0.8s							
SONM	Songino Array comp=Z,3.0nm,0.8s,baz=278,slow=7.9,SNR=12	60.69	45	P		P	18 51 49.5	0.0
ULN	Ulaanbaatar	61.13	45	*e*P		P	18 51 55.0	+2.4
ULN				pmax		pmax		
	comp=Z,6.0nm,1.5s							
TIXI	Tiksi	71.79	19	*i* P		P	18 53 00.4	+0.3
TIXI				pmax		pmax		
	comp=Z,11nm,2.4s							
TIXI	Tiksi	71.79	19	P		P	18 52 59.2	-0.9
TIXI				IAmb		IAmb	18 53 00.6	
	comp=Z,5.2nm,1.1s							
YAK	Yakutsk	73.41	29	P		P	18 53 09.4	-0.5
YAK				pmax		pmax		
	comp=Z,9.0nm,0.8s							
YAK	Yakutsk	73.41	29	P		P	18 53 09.4	-0.5
YAK				IAmb		IAmb	18 53 10.8	
	comp=Z,9.0nm,0.8s							
KLR	Kul'dur	77.25	42	*e*P		P	18 53 33.9	+1.6
KLR				pmax		pmax		
	comp=Z,25nm,4.0s							
SEY	Seymchan	83.03	25	*e*P		P	18 54 05.1	+1.9
BILL	Bilibino	84.88	18	*e*P		P	18 54 13.0	+0.4
BILL				*e*			18 54 16.7	
BILL				pmax		pmax		
	comp=Z,7.0nm,1.0s							
BILL	Bilibino	84.88	18	P		P	18 54 12.6	0.0
MJA0	Matsu Arr-Jizo	85.66	53	*e*P		P	18 54 18.6	+1.4
MJA0				pmax		pmax		
	comp=Z,2.0nm,0.8s							
NWAO	Narrogin (SRO)	90.61	125	P		P	18 54 39.6	-1.1
NWAO				pmax		pmax		
	comp=Z,13nm,1.0s							
NWAO	Narrogin (SRO)	90.61	125	P		P	18 54 39.6	-1.1
YKA	Yellowknife Ar	95.99	348	P		P	18 55 03.3	-1.7
	comp=Z,0.3nm,0.8s,baz=29,slow=4.8,SNR=5.4							
ILAR	Eielson Array comp=Z,0.5nm,0.9s,baz=343,slow=2.8,SNR=3.0	96.15	3	P		P	18 55 04.6	-1.1
ASAR	Alice Springs comp=Z,0.3nm,0.8s,baz=285,slow=3.6,SNR=4.0	101.54	111	P		Pdif	18 55 28.7	-1.9

ISCJB ***23*** *18:44:20.0±0.9, 19°.06N±0°.02×39°.29E±0°.02, h9km±5km, mb5.1/193, MS4.7/49, Error ellipse: s-maj=3.9km s-min=2.1km az=26.7*
GCMT ***23*** *18:44:20.0±0.1, 19°.07N±0°.01×39°.22E±0°.01, h12km, MW5.2/136, Moment Tensor Solution. s61,c84; s136,c228; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr-0.91±.01; Mθθ0.47±.01; Mϕϕ0.43±.01; Mrθ0.06±.04; Mθϕ-0.42±.01; Mϕr-0.29±.04; Best double couple: M0.93700×10^17 NP1:ϕs324.00000°, δ54.00000°, λ-79.00000°. NP2:ϕs125.00000°, δ38.00000°, λ-105.00000°. Principal axes: T 0.9070, Plg8.0000°, Azm45.0000°; N 0.0620, Plg9.0000°, Azm137.0000°; P -0.9680, Plg78.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***23*** *18:44:20.0±0.0, 19°.10N×39°.20E, h10km, mb5.0/63, mB5.5/48, Ms5.3/52, Ms7 5.1/50*
MOS ***23*** *18:44:20.7±1.0, 19°.11N×39°.26E, h13km, mb5.4/67, MS4.8/7, Error ellipse: s-maj=5.1km s-min=2.8km az=99.1*
IDC ***23*** *18:44:20.4±0.4, 19°.13N×39°.28E, h0km, mb4.7/42, mb1 4.8/46,mb1mx4.7/56,mbtmp4.7/46,ML3.8/4, MS4.6/32, Ms1 4.6/32,ms1mx4.6/36,Error ellipse: s-maj=12.3km s-min=10.1km az=110.0*
NEIC ***23*** *18:44:22.0±2.0, 19°.18N±0°.05×39°.24E±0°.07, h10km±1km, mb5.3/148*
SGS ***23*** *18:44:21.4, 19°.17N×39°.39E, h9km, Ml4.4*

ISC 23 18:44:22.2±1.0,**19°.16N**±0°.03×**39°.30E**±0°.04,**h12**km±6km, **n882**,σ1§**60**/890,**mb5.1**/233,**MS4.8**/50,**29C-24D**,**Red Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LTHS	Al Lith	1.52	43	P		Pn	18 44 46.0	-3.3
LTHS				S		Sn	18 45 04.2	-4.8
QNFDS	Al Qunfudhah	1.67	67	P		Pn	18 44 47.4	-3.9
QNF01	Al Qunfudhah	1.88	83	P		Pn	18 44 50.9	-3.2
LBNS	Jabal Laban	1.96	17	P		Pn	18 44 52.1	-3.1
QNF02	Al Qunfudhah	2.07	92	P		Pn	18 44 53.5	-3.2
FRAS	Faraa	2.21	31	P		Pn	18 44 56.7	-2.2
AMGES	AMGES	2.23	108	P		Pn	18 44 54.8	-4.1
BAHS	BAHS	2.31	69	P		Pn	18 44 58.2	-2.1
BAHS				S		Sn	18 45 24.6	-4.1
JEDS	Jeddah	2.55	2	P		Pn	18 45 00.8	-2.5
NAMS	An Nimas	2.74	89	P		Pn	18 45 03.7	-2.6
NAMS				S		Sn	18 45 36.2	-3.3
ENMS	ENMS	3.09	91	P		Pn	18 45 09.0	-2.0
DRBS	Ad Darb	3.14	114	P		Pn	18 45 08.5	-2.9
DRBS				S		Sn	18 45 43.6	-5.2
FRJS	Jabal Farasan	3.41	1	P		Pn	18 45 14.5	-1.0
FRSS	Farasan al Kab	3.60	132	P		Pn	18 45 14.7	-3.1
FRSS				S		Sn	18 45 56.0	-4.2
HAJR	Hajar	3.74	5	P		Pn	18 45 17.5	-2.2
BESHS	BESHS	3.80	117	P		Pn	18 45 17.8	-2.9
BESHS				S		Sn	18 46 00.7	-4.7
JAZS	Jizan	4.02	121	P		Pn	18 45 20.6	-2.9
JAZS				S		Sn	18 46 05.8	-4.8
KNGHS	KNGHS	4.07	102	P		Pn	18 45 24.4	-0.1
DJNS	Zahran al Janu	4.28	109	P		Pn	18 45 27.1	-0.3
YOBS		5.20	354	P		Pn	18 45 37.8	-2.0
YOBS				S		Sn	18 46 34.0	-5.7
UMJS	Umm Lajj	6.32	343	P		Pn	18 45 53.0	-2.2
DAMY	Dhamar	6.67	132			Pn	18 46 02.5	+2.1
ATD	Arta Tunnel	8.32	155	P		Pn	18 46 26.2	+3.5
ATD	Arta Tunnel	8.32	155	*e*P		Pn	18 46 25.1	+2.3
ATD				*e*S		Sb	18 48 23.6	-1.7
ATD	Arta Tunnel 0.9nm,0.3s,baz=108,slow=20,SNR=3.2	8.32	155	Pn		Pn	18 46 25.5	+2.8
ATD				Sn		Sn	18 48 05.8	+9.1
	1.5nm,0.3s,baz=90,slow=20,SNR=2.3							
ATD				LR		LR	18 49 05.7	
	comp=Z,4μm,20.9s,baz=350,slow=34							
ATD	Arta Tunnel	8.32	155			Pn	18 46 24.4	+1.6
AAE	Adis Abeba	10.09	183	*e*		Pn	18 46 50.2	+3.0
AAE				*e*S		Sn	18 49 20.5	+40
FURI	Furi	10.22	183	*e*P		Pn	18 46 48.1	-1.0
FURI				*e*S		Sn	18 49 38.4	+55
EIL	Elat	11.19	340	Pn		Pn	18 47 04.2	+2.2
EIL	Elat 0.8nm,0.3s,baz=181,slow=11,SNR=5.4	11.19	340	Pn		Pn	18 47 02.6	+0.6
EIL				LR		LR	18 50 37.9	
	comp=Z,3μm,20.2s,baz=162,slow=34							
EIL	Elat 46nm,1.4s	11.19	340	P		Pn	18 47 04.3	+2.3
AQBJ	Aqaba 73nm,1.0s	11.21	341	P		Pn	18 47 03.9	+1.6
MBRI	Mt Berech	11.31	340	Pn		Pn	18 47 07.2	+3.4
HRFI	Mount Harif	11.50	341	Pn		Pn	18 47 08.6	+2.3
HRFI	Mount Harif 65nm,2.5s	11.50	341	P		Pn	18 47 08.9	+2.6
KRMI	Paran Flat	11.68	340	Pn		Pn	18 47 10.7	+2.0
PRNI	Paran	11.81	342	Pn		Pn	18 47 12.8	+2.3
ZFRI	Zfri	11.95	343	Pn		Pn	18 47 15.1	+2.8
KZIT	Kziot	12.51	340	Pn		Pn	18 47 22.0	+1.9
KZIT	Kziot 81nm,1.5s	12.51	340

SNR=8.0
ASHO Ashiyiah 16.48 68 *i* Pn **Pn** 18 48 13.1 -0.3
SNR=19
ASHO Ashiyiah 16.48 68 P **P** 18 48 15.2 -0.9
SNR=8.4
ARQ Araqi 16.58 72 P **P** 18 48 17.0 -0.1
SNR=14
HATD Hatta, Dubai 16.59 67 *i* Pn **Pn** 18 48 13.7 -1.0
SNR=14
HATD Hatta, Dubai 16.59 67 P **P** 18 48 16.5 -0.7
SNR=7.4
CSS Mathiatis 16.61 343 P **P** 18 48 16.3 -1.1
34nm,1.3s
CSS Mathiatis 16.61 343 P **Pn** 18 48 15.9 +1.0
CSS IAmb IAmb 18 48 24.7
comp=Z,250nm,1.4s
UOSS Minazif 16.69 67 *i* Pn **Pn** 18 48 15.7 -0.3
SNR=6.2
UOSS Minazif 16.69 67 P **P** 18 48 17.0 -1.3
UOSS Minazif 16.69 67 **P** 18 48 17.0 -1.3
UOSS IAmb IAmb 18 48 23.5
comp=Z,186nm,1.1s
MSFE Esma-Masafi 16.77 65 *i* Pn **Pn** 18 48 16.5 -0.6
SNR=12
MDH Madha 16.87 66 *i* Pn **Pn** 18 48 17.2 -1.1
SNR=11
MDH Madha 16.87 66 P **P** 18 48 19.0 -1.3
SNR=10
BANOM Banah 17.07 64 *i* Pn **Pn** 18 48 19.1 -1.8
SNR=13
BANOM Banah 17.07 64 P **P** 18 48 21.5 -1.1
SNR=8.7
BSY Bisya 17.09 75 P **P** 18 48 23.0 +0.2
SNR=19
DQM DQM 17.21 84 P **P** 18 48 22.1 -2.0
SNR=6.8
HOQ Hoqain 17.34 72 P **P** 18 48 26.6 +1.1
SNR=18
AKKU Akkuyu-Mersin 17.68 345 *eP* **P** 18 48 29.6 +0.4
KRTS Karatas 17.69 350 *eP* **P** 18 48 30.1 +0.8
IKL Isikli 17.72 345 *eP* **P** 18 48 30.0 +0.4
KIZK Mersin 17.84 346 *eP* **P** 18 48 31.2 +0.2
JMDO Jabal Madar 17.87 76 P **P** 18 48 31.8 +0.4
SNR=35
KEBE Keben-Mersin 17.91 345 *eP* **P** 18 48 32.7 +0.9
SMDO Samad 17.91 74 P **P** 18 48 32.4 +0.4
SNR=17
BERE Bereket-Mersin 17.94 344 *eP* **P** 18 48 32.8 +0.6
TEVE Tevekalti-Mers 17.97 345 *eP* **P** 18 48 33.0 +0.5
GAZ Gaziantep 18.04 355 P **P** 18 48 32.8 -0.4
CEYT Ceyhan 18.06 351 *eP* **P** 18 48 38.3 +5.0
BIDO Bidbid 18.06 73 P **P** 18 48 35.7 +2.2
SNR=20
GAZI Gazipasa 18.09 342 *eP* **P** 18 48 33.9 +0.2
MERS Mersin 18.14 348 *eP* **P** 18 48 35.6 +1.3
URFA Urfa 18.22 359 *eP* **P** 18 48 37.6 +2.4
CUKT Cukurca 18.41 11 *eP* **P** 18 48 41.6 +4.2
KARA Karaisali 18.41 349 *eP* **P** 18 48 36.9 -0.4
WSAR Wadi Sarin 18.47 74 P **P** 18 48 39.4 +1.3
SNR=13
WSAR Wadi Sarin 18.47 74 P **P** 18 48 38.8 +0.7
comp=Z,0.7nm,0.3s,baz=286,slow=6.9,SNR=15
WSAR LR LR 18 57 00.1
comp=Z,7µm,18.5s,baz=290,slow=41
KOZT Kozan 18.51 351 *eP* **Pn** 18 48 41.6 +3.1
WBK Wadi Bani Khal 18.69 76 P **Pn** 18 48 41.8 +1.0
SNR=15
DYBB Diyarbakir 18.74 2 *eP* **Pn** 18 48 44.9 +3.5
AKAS Kas 19.03 335 *eP* **Pn** 18 48 45.4 +0.4
ELL Elmali 19.37 337 P **Pn** 18 48 49.4 +0.4
ELL pmax pmax
comp=Z,256nm,1.2s
ELL Elmali 19.37 337 P **Pn** 18 48 49.4 +0.4
ELL IAmb IAmb 18 48 57.7
comp=Z,256nm,1.2s
KORT Korkueli 19.43 338 *eP* **Pn** 18 48 51.7 +1.9
KARP Karpathos 19.54 329 P **P** 18 48 49.8 +0.2
KARP Karpathos 19.54 329 P **Pn** 18 48 50.3 -0.6
FETY Fethiye 19.59 335 *eP* **Pn** 18 48 51.8 +0.2
SULT Sultanhani-AKS 19.63 346 *eP* **Pn** 18 48 54.3 +2.2
ARG Arkhangelos 19.64 332 P **Pn** 18 48 51.8 -0.3
ARG Arkhangelos 19.64 332 P **Pn** 18 48 52.7 +0.6
ZKR Zakros 19.67 327 P **Pn** 18 48 52.3 -0.2
KONT Konya--Tatoy 19.67 344 *eP* **Pn** 18 48 54.1 +1.5
BNN Bunyan 19.85 352 *eP* **Pn** 18 48 56.7 +1.9
LADK Ladik-KONYA 19.91 344 *eP* **Pn** 18 48 56.5 +1.0
TURN Turunc 19.99 334 *eP* **P** 18 48 54.7 +0.2
VRTB Varto-Mus 20.02 5 *eP* **Pn** 18 48 58.7 +1.9
LAST Lasithi 20.10 325 P **P** 18 48 53.9 -1.9
NPS Neapolis 20.10 326 P Pn 18 48 57.1 -0.5
NPS Neapolis 20.10 326 P Pn 18 48 57.1 -0.5
CHBY Cihanbeyli 20.14 345 *eP* Pn 18 48 59.8 +1.6
KMBO Kilima Mbogo 20.26 186 P Pn 18 49 00.2 +0.3
KMBO pmax pmax
comp=Z,103nm,1.9s
KMBO Kilima Mbogo 20.26 186 *eP* Pn 18 49 00.7 +0.8
KMBO *eS* Sn 18 52 49.1 +1.0
KMBO Kilima Mbogo 20.26 186 P Pn 18 49 00.4 +0.5
comp=Z,4.5nm,1.0s,baz=344,slow=10,SNR=17
KMBO LR LR 18 56 38.1
comp=Z,4µm,18.4s,baz=4.5,slow=36
KMBO Kilima Mbogo 20.26 186 *i* P Pn 18 49 01.7 +1.8
KMBO Kilima Mbogo 20.26 186 P Pn 18 49 00.2 +0.4
YAYX Yaylak 20.28 348 *eP* Pn 18 49 01.1 +1.3
CLDR Caldiran 20.31 10 *eP* Pn 18 49 05.6 +5.3
YER Yerkesik 20.34 334 P Pn 18 49 00.6 +0.1
SIVA Sivas 20.36 324 P Pn 18 49 00.2 -0.4
HRKL Herakleio 20.41 325 P Pn 18 49 01.8 +0.5
IDI Anoyia 20.51 324 P Pn 18 49 01.8 -0.7
comp=Z,82nm,1.2s,baz=146,slow=15,SNR=17
KULU Kulu 20.55 346 *eP* Pn 18 49 03.6 +0.6
AGRB Hanur-Agry 20.59 8 *eP* Pn 18 49 03.6 0.0
GVD Gavdhos 20.64 322 P **P** 18 49 02.6 +1.0
NAX Nakhchivan 20.65 14 P Pn 18 49 04.3 +0.2
KIZT Kizilcal 20.68 343 *eP* Pn 18 49 04.6 +0.1
MLSB Milas 20.70 333 *eP* Pn 18 49 04.0 0.0
BODT Bodrum 20.70 332 P **P** 18 49 03.0 +0.7
SHUT Suhut-Afyon 20.77 340 *eP* Pn 18 49 05.7 +0.2
SVSK Karacayir 20.78 355 *eP* Pn 18 49 06.4 +0.9
KOPR Koprukoy-ERZUR 20.88 6 *eP* Pn 18 49 06.1 -0.8
AFSR Afar-Bala (An 20.92 346 *eP* Pn 18 49 08.2 +0.9
VAM Vamos 20.98 324 P **P** 18 49 06.9 +1.6
VAM Vamos 20.98 324 P **P** 18 49 06.9 +1.6
SANT Santorini 21.03 327 P **P** 18 49 06.8 +0.9
SANT Santorini 21.03 327 P **P** 18 49 06.1 +0.2
SANT IAmb IAmb 18 49 10.1
comp=Z,151nm,1.1s
THR8 Santorini-Mono 21.05 328 P **P** 18 49 06.6 +0.6
THR6 Thira Island, 21.05 327 P **P** 18 49 08.4 +2.3
SAP1 Santorini-Akro 21.05 327 P **P** 18 49 07.1 +1.0
BR131 Keskin Array S 21.07 348 P **P** 18 49 08.5 +2.1
SNR=116
BR131 Keskin Array S 21.07 348 P **P** 18 49 07.9 +1.5
BR131 pmax pmax
comp=Z,124nm,1.2s
BR131 Keskin Array S 21.07 348 P **P** 18 49 07.9 +1.5
BR131 IAmb IAmb 18 49 13.8
comp=Z,124nm,1.2s
BRTR Keskin Array B 21.07 348 P **P** 18 49 08.4 +2.0
comp=Z,69nm,1.0s,baz=166,slow=12,SNR=126
BRTR PcP **PcP** 18 53 12.2 -0.7
comp=Z,1.9nm,1.0s,baz=167,slow=2.5,SNR=7.4
BRTR LR LR 18 57 35.9
comp=Z,914nm,18.1s,baz=140,slow=38
THR3 Thira Island, 21.09 327 P **P** 18 49 06.7 +0.2
THT2 Imerovigli 21.10 327 P **P** 18 49 07.7 +1.1
THR5 Thira Island, 21.12 327 P **P** 18 49 08.4 +1.6
IMMV Iera Moni Meta 21.14 323 P **P** 18 49 08.3 +1.2
LKRN Lenkeran, Azer 21.15 21 P **P** 18 49 09.3 +2.2
AMGA Amorgos Island 21.18 329 P **P** 18 49 08.8 +1.4
TASB TASBURUN-IGDIR 21.18 11 *eP* **P** 18 49 11.8 +4.2
RSDY Resadiye-TOKAT 21.23 356 *eP* **P** 18 49 11.5 +3.4
GCAM G?zelcaml? 21.27 333 *eP* **P** 18 49 10.9 +2.5
SVRH Sivrihisar-ESK 21.31 343 *eP* **P** 18 49 12.1 +3.2
MBAR Mbarara 21.36 204 P **P** 18 49 10.6 +0.9
comp=Z,20nm,0.7s,baz=31,slow=8.7,SNR=24
MBAR Mbarara 21.36 204 P **P** 18 49 10.3 +0.5
MBAR IAmb IAmb 18 49 14.5
comp=Z,120nm,1.3s
BR231 Keskin MP Arra 21.37 346 P **P** 18 49 11.9 +2.3
BR231 IAmb IAmb 18 49 16.2
comp=Z,226nm,1.3s
ANTO Ankara 21.39 346 P **P** 18 49 12.2 +2.5
ANTO pmax pmax
comp=Z,194nm,1.2s
ANTO Ankara 21.39 346 ⇑P **P** 18 49 12.5 +2.8
ANTO mb 18 49 17.1
ANTO Ankara 21.39 346 P **P** 18 49 12.2 +2.5
ANTO IAmb IAmb 18 49 16.4
comp=Z,194nm,1.2s
IOSP Ios Island 21.39 328 P **P** 18 49 10.6 +0.9
KIBK Kibwezi 21.40 183 P **P** 18 49 12.2 +2.2
SNR=9.1
KIBK Kibwezi 21.40 183 *i* P **P** 18 49 07.8 -2.3
MANT Manisa 21.41 336 P **P** 18 49 11.7 +1.6
GNI Garni 21.44 11 *i* P **P** 18 49 11.3 +0.9
SNR=24
GNI Garni 21.44 11 P **P** 18 49 12.5 +2.1
comp=Z,30nm,1.0s,baz=148,slow=0.9,SNR=10
GNI LR LR 18 58 11.9
comp=Z,3µm,18.7s,baz=200,slow=39
GNI Garni 21.44 11 P **P** 18 49 11.4 +1.0
GNI IAmb IAmb 18 49 20.5
comp=Z,159nm,1.2s
SMG Samos 21.45 332 P **P** 18 49 11.8 +1.4
SENK Senkaya-Erzuru 21.49 6 *eP* **P** 18 49 14.6 +3.6
APE Apeiranthos 21.54 329 P **P** 18 49 12.0 +0.6
APE Apeiranthos 21.54 329 *de*P **P** 18 49 12.2 +0.8
APE Apeiranthos 21.54 329 ⇓P **P** 18 49 12.8 +1.5
APE mb 18 49 18.1
ANKY Antikythira Is 21.82 323 P **P** 18 49 16.3 +2.0
MHLO Agia Marina, M 21.82 326 P **P** 18 49 15.2 +0.9
CHOM Cayeli-Rize 21.90 3 *eP* **P** 18 49 18.8 +3.6
CANT Cankiri 21.93 348 *eP* **P** 18 49 18.5 +3.0
KVT Kavak 22.03 353 P **P** 18 49 18.6 +2.0
KVT Kavak 22.03 353 *eP* **P** 18 49 19.2 +2.6
SRCK Saricakaya, Es 22.11 342 *eP* **P** 18 49 19.6 +2.1
SERI Serifos 22.14 327 P **P** 18 49 19.0 +1.2
KTHA Kythira Island 22.23 323 P **P** 18 49 18.8 0.0
GANJ Ganja 22.25 14 P **P** 18 49 22.0 +3.1
KTHP Kythira 22.27 323 P **P** 18 49 20.2 +1.0
ILGA Ilgaz 22.34 349 P **P** 18 49 22.5 +2.3
CHOS Chios island 22.36 332 P **P** 18 49 22.6 +2.4
AKH Akhalkalaki 22.46 8 P **P** 18 49 23.8 +2.4
AKH pmax pmax
comp=Z,141nm,1.3s
AKH Akhalkalaki 22.46 8 ⇑P **P** 18 49 24.7 +3.3
AKH Akhalkalaki 22.46 8 P **P** 18 49 23.9 +2.4
AKH IAmb IAmb 18 49 30.3
comp=Z,141nm,1.3s
BATM Batumi 22.46 5 P **P** 18 49 25.1 +3.9
BATM Batumi 22.46 5 ⇑P **P** 18 49 25.1 +3.9
CAVI Cavuskoy 22.50 341 *eP* **P** 18 49 23.7 +2.1
GULT Gulveren 22.51 342 *eP* **P** 18 49 22.1 +0.3
DIKM Dikmen 22.68 352 ⇑P **P** 18 49 26.1 +2.6
DIKM mb 18 49 33.1
DIKM Dikmen 22.68 352 *eP* **P** 18 49 26.0 +2.5
TBLG Delisi 22.97 10 P **P** 18 49 28.6 +2.0
TBLG pmax pmax
comp=Z,142nm,1.3s
TBLG Delisi 22.97 10 P **P** 18 49 28.6 +2.0
TBLG IAmb IAmb 18 49 35.0
comp=Z,142nm,1.3s
PRK Paraskevi 22.97 333 P **P** 18 49 30.1 +3.5
SEKA Sheki 22.99 15 P **P** 18 49 29.7 +2.9
KRND KRANIDI 23.00 325 P **P** 18 49 24.7 -2.2
DYR Agios Nikonas 23.00 323 P **P** 18 49 28.4 +1.4
VLY Voula,Athens 23.02 327 P **P** 18 49 27.3 +0.2
KCTX Karacabey (Bur 23.05 338 *eP* **P** 18 49 27.4 0.0
DID Didima 23.05 326 P **P** 18 49 26.7 -0.7
ATHU Athens Univers 23.11 327 P **P** 18 49 29.7 +1.7
SIGR SIGRI 23.12 333 P **P** 18 49 31.1 +3.0
PTL Penteli 23.13 328 P **P** 18 49 29.5 +1.2
ATH Athens Observa 23.15 327 P **P** 18 49 29.8 +1.4
VLX Vlachokerasia 23.41 324 P **P** 18 49 32.1 +0.9
PYL PYLOS 23.44 323 P **P** 18 49 31.6 +0.3
EZN Ezine 23.44 334 P **P** 18 49 34.0 +2.7
EZN Ezine 23.44 334 P **P** 18 49 32.2 +0.9
SKY Skiros Island 23.45 330 P **P** 18 49 33.9 +2.5
VILL Villia 23.50 327 P **P** 18 49 31.7 -0.3
ISK Istanbul-Kandi 23.53 340 P **P** 18 49 33.8 +1.6
ISK Istanbul-Kandi 23.53 340 P **P** 18 49 33.8 +1.6
ITM Ithomi 23.53 323 P **P** 18 49 32.0 -0.3
ITM Ithomi 23.53 323 P **P** 18 49 31.3 -1.0
ITM IAmb IAmb 18 49 45.3
comp=Z,102nm,1.3s
LOUT Loutraki 23.55 326 P **P** 18 49 33.4 +1.0
LTK Loutraki 23.58 326 P **P** 18 49 32.4 -0.3
THAL Thalero 23.75 326 P **P** 18 49 35.0 +0.7
MRKA Markates 23.78 328 P **P** 18 49 35.9 +1.2
ZEI Tsey 23.88 8 *eP* **P** 18 49 36.5 +0.7
ZEI pmax pmax
comp=Z,106nm,1.1s
AMT Artemida-Makis 23.90 324 P **P** 18 49 34.5 -1.4
GADA Gvkgeada 23.92 334 P **P** 18 49 37.9 +1.9
AOS Alonnisos 24.00 329 P **P** 18 49 38.0 +1.3
KLV Kalavryta, Ach 24.03 325 P **P** 18 49 37.9 +0.8
SKIA Skiathos 24.19 329 P **P** 18 49 40.5 +1.9
DRO Drossia 24.20 324 P **P** 18 49 40.5 +1.8
KALE Kalithea 24.29 326 P **P** 18 49 39.5 0.0
TRIZ Trizonia 24.30 326 P **P** 18 49 39.7 +0.1
SMTH Samothraki Isl 24.31 334 P **P** 18 49 38.0 -1.6
SERG Sergoula 24.35 326 P **P** 18 49 38.6 -1.4
SOC Sochi 24.35 1*c* *i*P **P** 18 49 41.2 +1.2
SOC *e*PPP PPP 18 50 16.7
SOC *e*S **S** 18 54 02.3 +3.3
SOC pmax pmax
comp=Z,120nm,1.5s
SOC MLR MLR
comp=Z,745nm,14.0s
RLS Riolos of Patr 24.41 324 P **P** 18 49 40.2 -0.3
NEO Neokhori 24.42 329 P **P** 18 49 40.6 -0.1
ALN Alexandroupoli 24.46 335 P **P** 18 49 42.3 +1.3
ALN Alexandroupoli 24.46 335 P **P** 18 49 42.5 +1.5
ALN pmax pmax
comp=Z,24nm,1.1s
ALN Alexandroupoli 24.46 335 P **P** 18 49 42.5 +1.5
XOR Xorichti 24.48 329 P **P** 18 49 42.1 +0.9
AGG Agios Georgios 24.65 327 P **P** 18 49 42.8 0.0
AGG Agios Georgios 24.65 327 P **P** 18 49 42.2 -0.6
AGG pmax pmax
comp=Z,191nm,1.8s
AGG Agios Georgios 24.65 327 P **P** 18 49 42.2 -0.6
AGG IAmb IAmb 18 50 00.3
comp=Z,191nm,1.8s
KBZ Khabaz 24.68 6 P **P** 18 49 43.9 +1.0
comp=Z,46nm,1.0s,baz=196,slow=6.1,SNR=41
KBZ LR LR 19 00 14.4
comp=Z,2µm,18.6s,baz=196,slow=39
PAIG Paliouri 24.69 330 P **P** 18 49 45.9 +2.9
MAK Makhachkala 24.72 15 *eP* **P** 18 49 41.9 -1.4
MAK *eS* **S** 18 54 05.1 +0.2
MAK pmax pmax
comp=Z,14nm,0.4s
MAK MLR MLR
comp=Z,2µm,17.0s
MAKR Makrakomi, Fth 24.75 327 P **P** 18 49 44.2 +0.5
EVR Evrytania 24.85 326 P **P** 18 49 45.5 +0.9
GEYT Alibeck 24.87 37 P **P** 18 49 45.8 +1.0
comp=Z,13nm,0.9s,baz=232,slow=7.3,SNR=19
GYA0B ALIBECK ARRAY 24.87 37 P **P** 18 49 45.6 +0.8
OUR Ouranopolis 24.87 331 P **P** 18 49 44.4 -0.3
RDO Rodhopi 24.87 335 P **P** 18 49 46.4 +1.7
KIV Kislovodsk 24.89 6 *i* P **P** 18 49 45.4 +0.5
SNR=40
KIV Kislovodsk 24.89 6 *eP* **P** 18 49 47.2 +2.3
KIV *eS* **S** 18 54 10.8 +3.0
KIV pmax pmax
comp=Z,597nm,4.2s
KIV pmax pmax
comp=Z,384nm,1.1s
KIV Kislovodsk 24.89 6 P **P** 18 49 46.9 +2.0
KVAR Kislovodsk Arr 24.89 6 P **P** 18 49 46.5 +1.6
comp=Z,31nm,1.0s,baz=270,slow=20,SNR=19
KVAR LR LR 19 00 17.0
comp=Z,2µm,18.9s,baz=104,slow=38
VLS Valsamata 24.98 323 P **P** 18 49 47.8 +2.0
EDRB Edirne 25.01 337 P **P** 18 49 47.1 +1.1
FSK Fiskardo 25.20 324 P **P** 18 49 48.1 +0.4
KDZ Kurdzhali 25.35 335 *i* P **P** 18 49 50.5 +1.5
LIT Litokhoron 25.39 329 P **P** 18 49 45.6 -3.9
LIT Litokhoron 25.39 329 P **P** 18 49 49.4 0.0
LIT pmax pmax
comp=Z,105nm,1.8s
LIT Litokhoron 25.39 329 P **P** 18 49 49.4 0.0
LIT IAmb IAmb 18 50 23.0
comp=Z,105nm,1.8s
HRA Herat 25.40 49 P **P** 18 49 51.5 +1.7
HRA IAmb IAmb 18 50 05.4
comp=Z,168nm,1.9s
JMB Yambol 25.61 338 *i* P **P** 18 49 54.9 +3.5
ANN Anapa 25.61 357 *eP* **P** 18 49 48.9 -2.4
ANN *e**PP **pP** 18 49 52.7 -2.0
ANN *eS* **S** 18 54 17.4 -1.8
ANN pmax pmax
comp=Z,72nm,1.2s
RZN Rozhen 25.66 334 *i* P **P** 18 49 53.7 +1.6
NVR Nevrokopi 25.75 333 P **P** 18 49 53.8 +1.1
MEV Metsovon 25.79 327 P **P** 18 49 54.5 +1.3
KTI Kastanea 25.80 329 P **P** 18 49 53.4 +0.1
MMB Musomiste 26.00 333 *i* P **P** 18 49 54.1 -0.9
GOF Gofitskoye 26.01 6⇑ *eP* **P** 18 49 57.1 +2.1
GOF pmax pmax
comp=Z,168nm,1.1s
PLD Plovdiv 26.02 335 *i* P **P** 18 49 56.7 +1.6
PLD Plovdiv 26.02 335 P **P** 18 49 56.9 +1.8
PLD pmax pmax
comp=Z,225nm,2.0s
SIM Simferopol' 26.08 352 *eP* **P** 18 49 56.4 +0.8
SIM S **S** 18 54 19.0 -7.5
SIM pmax pmax
comp=Z,30µm,1.0s
GRG Griva 26.10 330 P **P** 18 49 56.5 +0.6
ELND Elena 26.27 337 ⇑P **P** 18 49 58.3 +0.9
FNA Florina 26.46 328 P **P** 18 49 59.3 +0.1
FNA pmax pmax
comp=Z,18nm,1.2s
FNA Florina 26.46 328 P **P** 18 49 59.3 +0.1
KEK Kerkira 26.50 325 P **P** 18 49 58.6 -0.9
SZH Strazhica 26.54 338 *i* P **P** 18 50 01.0 +1.2
RAZG Razgrad 26.61 339 ⇓P **P** 18 50 01.7 +1.3
TIRR Tirgusor 26.82 343 P **P** 18 50 02.5 +0.3
TIRR pmax pmax
comp=Z,115nm,1.2s
TIRR Tirgusor 26.82 343 P **P** 18 50 02.5 +0.3
TIRR IAmb IAmb 18 50 04.6
comp=Z,115nm,1.2s
JURR Jurilovca 26.97 343 ⇑P **P** 18 50 05.5 +1.8
JURR mb 18 50 06.4
VTS Vitosha 27.05 333 P **P** 18 50 03.4 -1.2
VTS Vitosha 27.05 333 *i* P **P** 18 50 05.3 +0.6
VTS Vitosha 27.05 333 P **P** 18 50 05.2 +0.6
VTS pmax pmax
comp=Z,68nm,1.8s
VTS Vitosha 27.05 333 ⇑P **P** 18 50 06.1 +1.5
VTS mb 18 50 09.2
VTS Vitosha 27.05 333 P **P** 18 50 05.2 +0.6
PLVB Pleven 27.13 336 ⇑P **P** 18 50 06.5 +1.3
TOPG Topolog 27.21 343 ⇑P **P** 18 50 06.6 +0.8
MPEP Malo Peshtene 27.45 335 *i* P **P** 18 50 08.7 +0.7
TIR Tirane 27.64 327 P **P** 18 50 09.1 -0.7
TIR pmax pmax
comp=Z,98nm,1.8s
TIR Tirane 27.64 327 P **P** 18 50 09.1 -0.7
TIR IAmb IAmb 18 50 31.2
comp=Z,98nm,1.8s
CEL Celeste 27.86 318 P **P** 18 50 12.4 +0.6
TIP Timpagrande 27.89 320 ⇑P **P** 18 50 12.9 +0.8
TIP mb 18 50 14.1
TIP Timpagrande 27.89 320 P **P** 18 50 12.8 +0.8
ISR Istrita 27.98 341 P **P** 18 50 13.8 +1.1
ISR Istrita 27.98 341 ⇑P **P** 18 50 13.9 +1.1
VAE Valguarnera 28.38 315 LR LR 19 02 01.5
comp=Z,683nm,18.5s,baz=170,slow=37
MLR Muntele Rosu 28.50 340 P **P** 18 50 19.3 +1.8
MLR pmax pmax
comp=Z,62nm,1.5s
MLR Muntele Rosu 28.50 340 P **P** 18 50 19.1 +1.6
comp=Z,5.8nm,0.9s,baz=144,slow=5.6,SNR=15
MLR Muntele Rosu 28.50 340 ⇑P **P** 18 50 18.5 +1.0
MLR Muntele Rosu 28.50 340 P **P** 18 50 19.3 +1.8
MLR IAmb IAmb 18 50 22.1
comp=Z,62nm,1.5s
VRI Vrincioaia 28.59 341 P **P** 18 50 20.1 +1.9
VRI Vrincioaia 28.59 341 ⇑P **P** 18 50 20.2 +1.9
PLOR Plostina 28.60 341 P **P** 18 50 20.0 +1.7
PLOR Plostina 28.60 341 ⇓P **P** 18 50 20.1 +1.7
PDG Podgorica 28.75 328 ⇓P **P** 18 50 20.1 +0.5
PDG mb 18 50 21.5
PDG Podgorica 28.75 328 P **P** 18 50 19.7 +0.2
OZUR 29.09 340 ⇑P **P** 18 50 22.8 +0.2
DOPR Dopca 29.10 340 ⇓P **P** 18 50 23.2 +0.5
TESR Tescani 29.20 342 ⇓P **P** 18 50 25.0 +1.4
LOT Lotru 29.21 337 ⇓P **P** 18 50 24.5 +0.7
ACER Acerenza 29.40 322 P **P** 18 50 26.8 +1.3
ACER IAmb IAmb 18 50 57.9
comp=Z,92nm,1.7s
MDVR Moldovita 29.45 334 ⇑P **P** 18 50 26.4 +0.5
GZR Gura Zlata 29.54 336 ⇑P **P** 18 50 27.3 +0.7
BIZ Bicaz 29.75 342 ⇓P **P** 18 50 29.7 +1.3
SGRT San Giovanni R 30.14 323 P **P** 18 50 31.1 -0.9
BZS Buzias 30.18 335 P **P** 18 50 32.3 +0.1
BZS pmax pmax
comp=Z,28nm,1.3s
BZS Buzias 30.18 335 ⇓P **P** 18 50 32.4 +0.1
SORM Soroca 30.24 345 ⇑P **P** 18 50 32.9 +0.2
CJR Cluj-Napoca 30.36 338 P **P** 18 50 35.4 +1.6
CJR Cluj-Napoca 30.36 338 ⇑P **P** 18 50 35.5 +1.6
KBL Kabul 30.49 54 P **P** 18 50 36.9 +1.5
KBL pmax pmax
comp=Z,35nm,1.2s
KBL Kabul 30.49 54 P **P** 18 50 36.9 +1.5
BURAR Bucovina Array 30.62 341 P **P** 18 50 38.7 +2.5
BURAR Bucovina Array 30.62 341 ⇓P **P** 18 50 37.5 +1.2
BURAR mb 18 50 44.3
BUR08 Bucovina Ar. S 30.65 341 P **P** 18 50 37.7 +1.2
SIRR Siria 30.70 336 ⇑P **P** 18 50 37.7 +0.9
DRGR 30.74 337 P **P** 18 50 38.3 +1.0
DRGR pmax pmax
comp=Z,29nm,1.3s
DRGR 30.74 337 ⇓P **P** 18 50 37.9 +0.7
KEST Kesra 31.13 308 P **P** 18 50 42.3 +1.4
comp=Z,8.6nm,1.0s,baz=76,slow=15,SNR=4.7
KEST LR LR 19 03 38.5
comp=Z,1µm,20.8s,baz=18,slow=37
KEST Kesra 31.13 308 P **P** 18 50 40.7 -0.2
KEST IAmb IAmb 18 50 52.8
comp=Z,47nm,1.4s
INTR Introdacqua 31.36 322 P **P** 18 50 41.9 -0.9
INTR IAmb IAmb 18 50 45.4
comp=Z,58nm,1.4s
BLY Banja Luka 31.47 329 P **P** 18 50 42.9 -0.8
LTVH Ltavrtes, Hu 31.54 337 *eP* **P** 18 50 45.1 +0.9
TAM Tamanrasset 31.71 283 P **P** 18 50 46.3 +0.1
TAM pmax pmax
comp=Z,39nm,1.4s
TAM Tamanrasset 31.71 283 P **P** 18 50 46.3 +0.1
TAM IAmb IAmb 18 50 49.1
comp=Z,39nm,1.4s
HORU Horodok 31.73 344 P **P** 18 50 45.8 0.0
VORD Divnogorie 31.74 360 *eP* **P** 18 50 46.5 +0.6
VORD pmax pmax
comp=Z,20nm,1.5s
TRSU Trosnyk 31.77 339 P **P** 18 50 47.1 +0.9
AQU L'Aquila 31.87 322 P **P** 18 50 48.0 +0.8
AQU pmax pmax
comp=Z,45nm,1.3s
AQU L'Aquila 31.87 322 P **P** 18 50 48.0 +0.8
AQU IAmb IAmb 18 50 50.2
comp=Z,45nm,1.3s
MORH Mrgy, Hungar 31.90 332 *eP* **P** 18 50 47.0 -0.4
TRPA Tarpa 31.94 339 *eP* **P** 18 50 48.1 +0.4
VSR Storozhevoye 31.99 360 *eP* **P** 18 50 47.3 -0.8
VSR pmax pmax
comp=Z,40nm,1.7s
VRH Novokhopyorsk 32.03 3 *eP* **P** 18 50 48.7 +0.2
VRH pmax pmax
comp=Z,60nm,1.7s
NRCA Norcia 32.33 323 P **P** 18 50 51.0 -0.4
NRCA IAmb IAmb 18 50 54.3
comp=Z,50nm,1.8s
CHGR Chuyangaron 32.34 47 P **P** 18 50 52.8 +1.2
MORS Morshin 32.38 341 P **P** 18 50 52.2 +0.7
UZH Uzhgorod 32.46 339 *eP* **P** 18 50 51.8 -0.4
UZH *e* 18 51 02.0
KIEV Kiev 32.47 348 P **P** 18 50 52.0 -0.3
AKASG Malin Array Be 32.48 348 *i* P **P** 18 50 52.5 +0.1
AKASG pmax pmax
comp=Z,18nm,1.0s

AKASG **Malin Array Be** 32.48 348 P **P** 18 50 52.5 +0.1
comp=Z,17nm,1.1s,baz=165,slow=7.5,SNR=26
AKASG PcP **PcP** 18 53 38.6 -0.6
comp=Z,4.7nm,1.1s,baz=163,slow=2.4,SNR=7.8
AKASG LR LR 19 05 10.7
comp=Z,460nm,21.2s,baz=160,slow=38
AKBB Malin Array Si 32.48 348 P **P** 18 50 52.2 -0.2
AKBB pmax pmax
comp=Z,51nm,1.3s
AKBB Malin Array Si 32.48 348 P **P** 18 50 52.2 -0.2
AKBB lAmb lAmb 18 50 53.8
comp=Z,51nm,1.2s
KOLS Kolonicke sedl 32.73 339 *e*P **P** 18 50 56.1 +1.5
KOLS pmax pmax
comp=Z,30nm,1.6s
KOLS Kolonicke sedl 32.73 339 *e*P **P** 18 50 56.1 +1.5
PSZ Piszkesteto 32.74 336 P **P** 18 50 54.0 -0.8
PSZ pmax pmax
comp=Z,34nm,1.3s
PSZ Piszkesteto 32.74 336 ⇑P **P** 18 50 55.1 +0.3
PSZ mb 18 50 56.9
PSZ Piszkesteto 32.74 336 *e*P **P** 18 50 55.0 +0.1
PSZ Piszkesteto 32.74 336 P **P** 18 50 54.0 -0.8
TIH Tihany 32.76 332 *e*P **P** 18 50 57.1 +2.1
MURB Monte Urbino 32.94 323 P **P** 18 50 56.7 0.0
MURB lAmb lAmb 18 51 25.7
comp=Z,61nm,1.8s
LVV L'vov 32.94 342 *e*P **P** 18 50 58.4 +1.9
LATE Laterza 32.96 321 P **P** 18 50 55.0 -1.8
LATE lAmb lAmb 18 50 58.5
comp=Z,38nm,1.2s
CSKK Cskako 32.96 333 *e*P **P** 18 50 56.1 -0.7
MPLH Magyarpolny 33.12 332 *e*P **P** 18 50 59.1 +0.9
KWP Kalwaria Pacla 33.19 340 *e*P **P** 18 51 00.1 +1.4
KWP Kalwaria Pacla 33.19 340 *e*P **P** 18 51 00.1 +1.4
KWP *e*P **P** 18 51 00.1 +1.4
KWP Kalwaria Pacla 33.19 340 P **P** 18 50 59.4 +0.8
GAR Garm 33.30 47 P **P** 18 51 02.2 +2.2
LPSR Galich'ya Gora 33.38 360 *e*P **P** 18 51 00.2 0.0
LPSR pmax pmax
comp=Z,60nm,1.5s
NIL Nilore 33.48 58 P **P** 18 51 03.0 +1.5
NIL pmax pmax
comp=Z,42nm,1.2s
NIL Nilore 33.48 58 P **P** 18 51 03.0 +1.5
NIL lAmb lAmb 18 51 07.5
comp=Z,42nm,1.1s
VYHS Vyhne 33.62 335 *e*P **P** 18 51 03.6 +1.1
VYHS pmax pmax
comp=Z,65nm,1.4s
VYHS Vyhne 33.62 335 *e*P **P** 18 51 03.6 +1.1
CASP Castiglione de 33.62 321 P **P** 18 51 02.5 -0.1
LJU Ljubljana 33.71 328 *i* P **P** 18 51 04.5 +1.3
NIE Niedzica 33.83 338 *e*P **P** 18 51 05.6 +1.3
NIE Niedzica 33.83 338 *e*P **P** 18 51 05.6 +1.3
NIE *e*P **P** 18 51 05.6 +1.3
TRI Trieste 33.86 327 P **P** 18 51 04.2 -0.4
TRI pmax pmax
comp=Z,44nm,1.3s
TRI Trieste 33.86 327 P **P** 18 51 04.2 -0.4
TRI lAmb lAmb 18 51 06.6
comp=Z,44nm,1.3s
SOKA Soboth 33.91 330 *i* pP **P** 18 51 05.8 +0.8
comp=Z,15nm,1.1s,SNR=6.3
LANS Liptovska Anna 33.91 336 *e*P **P** 18 51 06.9 +1.9
LANS pmax pmax
comp=Z,14nm,1.2s
LANS Liptovska Anna 33.91 336 *e*P **P** 18 51 06.9 +1.9
MOZS Mozjanca 33.92 329 *i* P **P** 18 51 06.6 +1.4
SOP Sopron 33.95 332 *e*P P 18 50 59.1 -6.2
OBKA Obir 34.02 329 *i* pP **P** 18 51 06.7 +0.6
comp=Z,21nm,1.4s,SNR=7.8
ARSA Arzberg 34.09 331 *i* pP **P** 18 51 07.7 +1.1
comp=Z,24nm,1.2s,SNR=9.4
BTK Batken 34.14 46 P **P** 18 51 08.4 +1.2
BTK pmax pmax
comp=Z,59nm,1.3s
BTK Batken 34.14 46 P **P** 18 51 08.4 +1.2
BTK lAmb lAmb 18 51 14.2
comp=Z,59nm,1.2s
MODS Modra-Piesok 34.17 334 *e*P **P** 18 51 07.5 +0.3
MODS pmax pmax
comp=Z,85nm,1.4s
MODS Modra-Piesok 34.17 334 *e*P **P** 18 51 07.5 +0.3
SMOL Smolenice 34.21 334 *e*P **P** 18 51 08.6 +1.0
SMOL Smolenice 34.21 334 *e*P **P** 18 51 08.6 +1.0
AB31 Akbulak array 34.30 24 *i* P **P** 18 51 06.9 -1.5
AB31 pmax pmax
comp=Z,21nm,1.1s
ABKAR Akbulak array 34.30 24 P **P** 18 51 07.8 -0.5
ABKAR **PcP** 18 53 43.3 -1.1
JAVC Velka Javorina 34.38 334 *e*P **P** 18 51 11.0 +1.9
CONA Conrad Observa 34.44 332 *i* pP **P** 18 51 10.7 +1.0
comp=Z,32nm,1.3s,SNR=12
CHM Chimkent 34.50 41 *e*P **P** 18 51 10.3 +0.1
CHM Chimkent 34.50 41 *e*P **P** 18 51 10.2 +0.1
MYKA Terra Mystica 34.55 328 *i* P **P** 18 51 10.8 +0.1
comp=Z,25nm,1.9s
AKTO Aktyubinsk 34.58 21 P **P** 18 51 11.0 +0.3
AKTO pmax pmax
comp=Z,38nm,1.5s
PGF Pioggiola 34.62 319 *e*P **P** 18 51 10.3 -1.1
PGF pmax pmax
comp=Z,59nm,1.8s
OJC Ojcow 34.67 338 *e*P **P** 18 51 12.4 +0.8
OJC Ojcow 34.67 338 *e*P **P** 18 51 12.4 +0.8
OJC *e*P **P** 18 51 12.4 +0.8
OJC Ojcow 34.67 338 P **P** 18 51 10.1 -1.5
OJC lAmb lAmb 18 51 13.1
comp=Z,49nm,1.2s
IUG Iuzhnay 34.67 42 *e*P **P** 18 51 12.5 +0.6
IUG Iuzhnay 34.67 42 *e*P **P** 18 51 12.4 +0.6
TEOL Teolo 34.73 325 P **P** 18 51 11.6 -0.6
STAL STALIGIAL 34.77 327 P **P** 18 51 12.9 +0.3
OKC Ostrava-Krasne 34.97 336 *e*P **P** 18 51 14.5 +0.4
OKC Ostrava-Krasne 34.97 336 *e*P **P** 18 51 14.5 +0.4
KBA Koelnbreinsper 35.01 329 P **P** 18 51 16.0 +1.3
KBA Koelnbreinsper 35.01 329 *i* pP **P** 18 51 15.7 +1.0
comp=Z,16nm,1.2s,SNR=6.3
KRUC Moravsky 35.07 334 *e*P **P** 18 51 15.5 +0.5
MOA Molln 35.11 330 *i* P **P** 18 51 15.8 +0.3
comp=Z,21nm,1.1s,SNR=5.4
PRMA PARMA 35.12 323 P **P** 18 51 14.3 -1.2
PRMA lAmb lAmb 18 51 51.5
comp=Z,28nm,0.6s
JBG Jabagly 35.14 42 *e*P **P** 18 51 16.7 +0.8
JBG pmax pmax
comp=Z,87nm,2.9s
JBG MLR MLR
comp=Z,638nm,14.0s
MORC Moravsky Berou 35.16 335 P **P** 18 51 15.4 -0.4
MORC pmax pmax
comp=Z,39nm,1.2s
MORC Moravsky Berou 35.16 335 *e*P **P** 18 51 16.3 +0.5
MORC Moravsky Berou 35.16 335 P **P** 18 51 15.4 -0.4
MORC lAmb lAmb 18 51 17.7
comp=Z,39nm,1.2s
VRAC Vranov 35.18 334 LR LR 19 08 49.8
comp=Z,304nm,19.6s,baz=144,slow=42
VRAC Vranov 35.18 334 *e*P **P** 18 51 16.4 +0.5
ABTA Abfaltersbach 35.20 327 *i* pP **P** 18 51 17.3 +1.0
comp=Z,24nm,1.4s,SNR=6.6
KK31 Karatay Array 35.48 41 *i* P **P** 18 51 19.9 +1.2
KK31 pmax pmax
comp=Z,25nm,1.1s
KK31 Karatay Array 35.48 41 P **P** 18 51 19.7 +1.0
KK31 lAmb lAmb 18 51 25.4
comp=Z,33nm,1.1s
KKAR Karatay Array 35.48 41 P **P** 18 51 19.5 +0.8
KKAR pmax pmax
comp=Z,33nm,1.1s
KKAR Karatay Array 35.48 41 P **P** 18 51 19.5 +0.8
KKAR lAmb lAmb 18 51 25.4
comp=Z,33nm,1.1s
DZA Taraz 35.88 42 *e*P **P** 18 51 22.7 +0.6
DZA Taraz 35.88 42 *e*P **P** 18 51 22.7 +0.6
LSZ Lusaka 35.93 198 P **P** 18 51 23.7 +0.9
comp=Z,5.0nm,0.7s,baz=20,slow=8.7,SNR=12
LSZ Lusaka 35.93 198 P **P** 18 51 23.2 +0.5
OBN Obninsk 35.95 357 *e*P **P** 18 51 23.0 +0.6
OBN *e* 18 52 38.1
OBN *e*PPP PPP 18 53 01.9
OBN pmax pmax
comp=Z,127nm,1.3s
OBN MLR MLR
comp=Z,766nm,18.0s
OBN Obninsk 35.95 357 P **P** 18 51 23.0 +0.6
comp=Z,9.9nm,0.9s,baz=177,slow=18,SNR=5.0
OBN Obninsk 35.95 357 P **P** 18 51 22.8 +0.4
WTTA Wattenberg 35.99 327 *i* pP **P** 18 51 23.9 +0.7
comp=Z,23nm,1.1s
WATA Walderalm 36.07 327 *i* P **P** 18 51 23.5 -0.3
comp=Z,17nm,1.2s
GEC2 GERESS Array S 36.09 331 P **P** 18 51 23.2 -0.7
GEC2 lAmb lAmb 18 51 25.5
comp=Z,52nm,1.2s
GERES GERESS Array B 36.09 331 P **P** 18 51 24.1 +0.2
comp=Z,11nm,1.0s,baz=134,slow=7.6,SNR=44
GERES PcP **PcP** 18 53 49.0 -0.8
comp=Z,1.8nm,0.9s,baz=157,slow=3.8,SNR=4.0
GERES LR LR 19 08 45.3
comp=Z,341nm,18.1s,baz=123,slow=41
DPC Dobruska-Polom 36.10 335 *e*P **P** 18 51 24.4 +0.5
DPC Dobruska-Polom 36.10 335 *e*P **P** 18 51 24.4 +0.5
SQTA Sankt Quirin 36.18 327 *i* pP **P** 18 51 25.0 +0.3
comp=Z,14nm,1.2s
ARSB Arslanbob 36.19 45 P **P** 18 51 26.3 +1.4
ARSB lAmb lAmb 18 51 49.9
comp=Z,116nm,1.9s
FUORN Ofenpass-Fuorn 36.29 326 P **P** 18 51 26.3 +0.4
FUORN lAmb lAmb 18 51 49.9
comp=Z,87nm,1.8s
OSTC Ostas 36.30 335 *e*P **P** 18 51 26.0 +0.4
FETA Feichten 36.30 326 *i* pP **P** 18 51 26.4 +0.6
comp=Z,17nm,1.1s
MOTA Moosalm 36.32 327 *i* P **P** 18 51 25.7 -0.2
comp=Z,18nm,1.2s
UPC Upice 36.34 335 *e*P **P** 18 51 26.4 +0.5
UPC Upice 36.34 335 *e*P **P** 18 51 26.4 +0.5
MICGM Minsk 36.35 349 *e*P **P** 18 51 26.0 +0.1
MNK Minsk 36.35 349 *e*P **P** 18 51 26.0 +0.1
KHC Kasperske Hory 36.35 331⇓*e*P **P** 18 51 25.9 -0.2
KHC pmax pmax
comp=Z,50nm,1.3s
KHC Kasperske Hory 36.35 331 *e*P **P** 18 51 25.7 -0.4
KHC *ex* x 18 52 10.0
KHC Kasperske Hory 36.35 331 P **P** 18 51 25.5 -0.6
CHVC Chvalec 36.39 335 *e*P **P** 18 51 26.6 +0.3
GOPC GO Pecny, Ondr 36.40 333 *e*P **P** 18 51 26.2 -0.2
GOPC GO Pecny, Ondr 36.40 333 *e*P **P** 18 51 26.2 -0.2
KSP Ksiaz 36.49 335 *e*P **P** 18 51 28.0 +0.8
KSP Ksiaz 36.49 335 *e*P **P** 18 51 28.0 +0.8
KSP *e*P **P** 18 51 28.0 +0.8
MOS Moscow 36.54 358 *e*P **P** 18 51 26.5 -1.0
MOS *e* 18 52 51.3
MOS pmax pmax
comp=Z,116nm,1.5s
MOS pmax pmax
comp=N,96nm,1.8s
PRU Pruhonice 36.56 333 *e*P **P** 18 51 28.5 +0.7
PRU Pruhonice 36.56 333 *e*P **P** 18 51 28.5 +0.7
TOA0 Torodi Ar. Sit 36.56 266 P **P** 18 51 27.5 -0.8
SNR=25
TOA0 Torodi Ar. Sit 36.56 266 P **P** 18 51 26.8 -1.4
TORD Torodi Ar. Bea 36.56 266 P **P** 18 51 27.2 -1.0
comp=N,55nm,1.0s,baz=78,slow=6.9,SNR=88
TORD PcP **PcP** 18 53 51.2 -0.5
comp=N,3.6nm,1.2s,baz=93,slow=2.9,SNR=3.1
TORD LR LR 19 07 05.0
comp=N,2μm,20.6s,baz=5.0,slow=37
RETA Reutte 36.59 327 *i* P **P** 18 51 27.7 -0.4
comp=N,11nm,1.5s
DAVOX Davos/Dischmat 36.60 326 PcP **PcP** 18 53 51.5 0.0
comp=N,2.4nm,0.8s,baz=27,slow=2.3,SNR=4.7
DAVOX LR LR 19 08 26.7
comp=N,233nm,18.1s,baz=106,slow=40
FRF La Foret Royal 36.62 319 *e*P **P** 18 51 28.5 +0.1
FRF pmax pmax
comp=Z,33nm,1.4s
DAVA Damuels 36.92 326 *i* P **P** 18 51 30.5 -0.6
comp=Z,31nm,1.1s,SNR=6.3
SUW Suwalki 36.94 344 *e*P **P** 18 51 31.1 +0.2
SUW Suwalki 36.94 344 *e*P **P** 18 51 31.1 +0.2
SUW *e*P **P** 18 51 31.1 +0.2
SUW Suwalki 36.94 344 P **P** 18 51 30.9 0.0
PVCC Panska Ves 36.95 334 *e*P **P** 18 51 32.0 +0.9
PVCC Panska Ves 36.95 334 *e*P **P** 18 51 32.0 +0.9
AML Almayashu 37.03 44 P **P** 18 51 34.5 +2.1
SNR=27
MBDF Montbardon 37.16 321 *e*P **P** 18 51 33.0 -0.2
MBDF pmax pmax
comp=Z,76nm,1.6s
EKS2 Erkin-Say 37.34 44 P **P** 18 51 36.6 +2.0
SNR=19
BNI Bardonecchia 37.40 321 P **P** 18 51 34.4 -0.7
BNI pmax pmax
comp=Z,39nm,1.4s
BNI Bardonecchia 37.40 321 P **P** 18 51 34.4 -0.7
IIGN Ignalina 37.47 348 *e*P **P** 18 51 35.6 +0.2
IIGN lAmb lAmb 18 51 37.7
comp=Z,21nm,1.1s
BRG Berggiesshubel 37.48 334 *i* P P 18 51 45.5 +10
comp=Z,44nm,1.2s
BRG Berggiesshubel 37.48 334 *i* P P 18 51 45.5 +10
KSH Kashi 37.51 49 P **P** 18 51 35.3 -0.9
KSH S **S** 18 57 20.6 -4.4
KSH sS sS 18 57 28.6 -2.1
KSH pmax pmax
comp=Z,70nm,1.2s
KSH pmax pmax
comp=Z,900nm,6.9s
KSH LR LR
comp=Z,2μm,13.3s
KSH LR LR
comp=Z,6μm,16.5s
KSH LR LR
comp=Z,4μm,14.6s
LPG La Plagne 37.60 322 *e*P **P** 18 51 37.3 +0.3
LPG pmax pmax
comp=Z,26nm,1.4s
LPL La Plagne 37.62 322 *e*P **P** 18 51 37.4 +0.3
LPL pmax pmax
comp=Z,16nm,1.3s
UCH Uchtor 37.62 45 P **P** 18 51 39.4 +1.9
SNR=22
NKC Novy Kostel 37.66 332 *e*P **P** 18 51 37.2 +0.1
NKC Novy Kostel 37.66 332 *e*P **P** 18 51 37.2 +0.1
ISAL Salakas 37.70 348 *e*P **P** 18 51 37.7 +0.4
SENIN Lac Senin/Sane 37.77 323 P **P** 18 51 37.2 -1.1
SENIN lAmb lAmb 18 51 40.1
comp=Z,149nm,1.9s
AAK Ala-Archa 37.79 44 *i* P **P** 18 51 39.8 +1.2
SNR=29
AAK Ala-Archa 37.79 44 *de*P **P** 18 51 40.7 +2.1
AAK pmax pmax
comp=Z,30nm,1.0s
AAK Ala-Archa 37.79 44 P **P** 18 51 41.3 +2.7
SNR=18
AAK Ala-Archa 37.79 44 P **P** 18 51 40.7 +2.1
ORIF Oris-en-Rattie 37.80 320 *e*P **P** 18 51 40.3 +1.8
ORIF pmax pmax
comp=Z,88nm,1.9s
IZAR Zarasai 37.84 348 *e*P **P** 18 51 38.9 +0.4
IZAR lAmb lAmb 18 51 40.8
comp=Z,26nm,1.0s
GRA1 Grafenberg Arr 37.84 330 P **P** 18 51 37.0 -1.7
GRA1 lAmb lAmb 18 52 28.9
comp=Z,114nm,1.9s
GRF Grafenberg Arr 37.84 330 P **P** 18 51 37.0 -1.7
GRF pmax pmax
comp=Z,114nm,1.9s
FRU1 Bishkek 37.96 44 P **P** 18 51 42.0 +2.1
FRU1 pmax pmax
comp=Z,69nm,1.1s
FRU1 Bishkek 37.96 44 P **P** 18 51 42.0 +2.1
FRU1 lAmb lAmb 18 51 46.8
comp=Z,69nm,1.1s
KZA Kyzart 38.04 45 P **P** 18 51 42.5 +1.5
SNR=10
USP Ospenovka 38.09 43 P **P** 18 51 43.1 +2.2
SNR=18
KBK Karagaybulak 38.10 44 P **P** 18 51 42.7 +1.6
SNR=14
PABE Paberze 38.10 346 *e*P **P** 18 51 40.6 -0.1
PABE lAmb lAmb 18 51 42.5
comp=Z,105nm,1.2s
CHMS Chumysh 38.13 44 P **P** 18 51 42.6 +1.4
SNR=28
CLL Collm 38.20 333 *i* P **P** 18 51 40.9 -0.7
CLL pmax pmax
comp=Z,30nm,1.2s
CLL Collm 38.20 333 *i* P **P** 18 51 40.9 -0.7
comp=Z,30nm,1.2s
CLL *e* 18 51 55.0
CLL *e*PP **PnPn** 18 53 14.0 +3.5
CLL *e* 18 53 23.0
CLL Collm 38.20 333 P **P** 18 51 40.6 -1.0
STU Stuttgart 38.22 328 P **P** 18 51 39.7 -2.2
STU pmax pmax
comp=Z,61nm,1.7s
STU Stuttgart 38.22 328 P **P** 18 51 39.7 -2.2
SGDS Sogindy 38.26 43 *e*P **P** 18 51 43.4 +1.0
comp=Z,82nm,2.3s
BFO Black Forest 38.39 326 P **P** 18 51 42.7 -0.6
BFO pmax pmax
comp=Z,24nm,1.2s
BFO Black Forest 38.39 326 P **P** 18 51 42.7 -0.6
VIVF Saint-Julien-l 38.51 320 *e*P **P** 18 51 44.4 0.0
VIVF pmax pmax
comp=Z,81nm,1.8s
FIGM Figuig 38.56 298 P **P** 18 51 46.0 +0.8
FIGM Figuig 38.56 298 P **P** 18 51 46.0 +0.8
FIGM Figuig 38.56 298 P **P** 18 51 46.0 +0.8
FIGM Figuig 38.56 298 P **P** 18 51 46.0 +0.8
CABF La Chapelle 38.60 323 *e*P **P** 18 51 44.8 -0.4
CABF pmax pmax
comp=Z,92nm,1.6s
TKM2 Tokmak 2 38.64 44 P **P** 18 51 47.3 +1.5
TKM2 pmax pmax
comp=Z,36nm,1.3s
TKM2 Tokmak 2 38.64 44 P **P** 18 51 47.0 +1.2
SNR=23
ABPO Ambohimpanom 38.73 168 P **P** 18 51 46.1 -0.5
ABPO pmax pmax
comp=Z,38nm,1.4s
ABPO Ambohimpanom 38.73 168 P **P** 18 51 46.1 -0.5
SSB Saint Sauveur 38.80 320 P **P** 18 51 45.6 -1.3
SSB Saint Sauveur 38.80 320 P **P** 18 51 45.6 -1.3
SSB lAmb lAmb 18 51 48.0
comp=Z,113nm,2.0s
HINF Hinteralfeld 38.87 325 *e*P **P** 18 51 47.2 -0.2
HINF pmax pmax
comp=Z,41nm,1.5s
ECH Echery 38.94 326 P **P** 18 51 47.6 -0.3
ECH pmax pmax
comp=Z,66nm,1.7s
ECH Echery 38.94 326 P **P** 18 51 47.6 -0.3
HAU Haudompre 39.25 325 *e*P **P** 18 51 50.4 -0.2
HAU pmax pmax
comp=Z,42nm,1.6s
MTLF Montolieu 39.35 316 *e*P **P** 18 51 51.4 0.0
MTLF pmax pmax
comp=Z,23nm,1.4s
KDJ Kajisay 39.37 46 P **P** 18 51 54.5 +2.6
KDJ pmax pmax
comp=Z,45nm,1.1s
KDJ Kajisay 39.37 46 P **P** 18 51 54.5 +2.6
TNSS Tian-Shan 39.59 45 *e*P **P** 18 51 55.0 +1.1
TNSS Tian-Shan 39.59 45 *e*P **P** 18 51 55.0 +1.1
AAA Alma-Ata 39.64 44 *e*LR LR 19 09 36.2
comp=Z,1μm,19.1s
TARG Taragay, Kyrgy 39.64 47 P **P** 18 51 54.4 0.0
MDOK Medeo 39.71 45 *e*P **P** 18 51 54.5 -0.2
MDOK *e*LR LR 19 09 21.8
comp=Z,2μm,20.9s
MDOK Medeo 39.71 45 *e*P **P** 18 51 54.4 -0.2
MDOK MLR MLR
comp=Z,2μm,21.0s
ARU Arti 39.91 17 *d* iP **P** 18 51 57.2 +1.3
ARU 18 54 01.8
ARU S **S** 18 58 03.1 +2.6
ARU SS **SS** 19 00 55.0 -2.0
ARU pmax pmax
comp=Z,60nm,1.5s
ARU MLR MLR
comp=Z,1μm,16.0s
ARU Arti 39.91 17 P **P** 18 51 56.7 +0.8
comp=Z,4.6nm,1.0s,baz=200,slow=10
ARU Arti 39.91 17 P **P** 18 51 56.2 +0.3
ARU lAmb lAmb 18 52 02.1
comp=Z,101nm,1.5s
SMF Signal de Mont 39.92 321 *e*P **P** 18 51 55.6 -0.6
SMF pmax pmax
comp=Z,36nm,1.5s
TAF Taforalt 40.01 302 P **P** 18 51 59.0 +1.9
TAF Taforalt 40.01 302 P **P** 18 51 59.0 +1.9
TAF Taforalt 40.01 302 P **P** 18 51 59.0 +1.9
TAF Taforalt 40.01 302 P **P** 18 51 59.0 +1.9
TAF Taforalt 40.01 302 P **P** 18 51 59.0 +1.9
TAF Taforalt 40.01 302 P **P** 18 51 59.0 +1.9
JBK JBK 40.03 301 P **P** 18 51 59.0 +1.5
JBK JBK 40.03 301 P **P** 18 51 59.0 +1.5
JBK JBK 40.03 301 P **P** 18 51 59.0 +1.5
JBK JBK 40.03 301 P **P** 18 51 59.0 +1.5
JBK JBK 40.03 301 P **P** 18 51 59.0 +1.5
JBK JBK 40.03 301 P **P** 18 51 59.0 +1.5
KIRV Kirov 40.06 8 P **P** 18 51 57.5 +0.5
comp=Z,22nm,1.0s,baz=240,slow=1.9,SNR=12
CAF Calviac 40.16 318 *e*P **P** 18 51 58.8 +0.6
CAF pmax pmax
comp=Z,60nm,1.7s
LOR Lormes 40.24 322 *e*P **P** 18 51 58.6 -0.2
LOR pmax pmax
comp=Z,70nm,1.5s
AVF Avril sur Loir 40.29 321 *e*P **P** 18 51 58.8 -0.3
AVF pmax pmax
comp=Z,67nm,1.6s
VSU Vasula 40.32 350⇓*e*P **P** 18 52 00.3 +1.1
VSU pmax pmax
comp=Z,121nm,1.3s
WLF Walferdange 40.34 327 P **P** 18 51 58.2 -1.3
comp=Z,23nm,1.5s
PRZ Przheval'sk 40.34 46 P **P** 18 51 59.8 -0.1
PRZ pmax pmax
comp=Z,136nm,1.6s
PRZ Przheval'sk 40.34 46 P **P** 18 51 59.8 -0.1
PRZ lAmb lAmb 18 52 07.8
comp=Z,136nm,1.6s
SATY Saty 40.57 45 *e*P **P** 18 52 02.2 +0.4
comp=Z,213nm,3.0s
SATY Saty 40.57 45 *e*P **P** 18 52 02.1 +0.4
SATY pmax pmax
comp=Z,213nm,3.0s
SVE Sverdlovsk 40.84 18 *e*P **P** 18 52 04.2 +0.7
SVE pmax pmax
comp=Z,38nm,1.4s
KPKS Kokpek 40.92 45 *e*P **P** 18 52 05.5 +0.9
comp=Z,140nm,3.0s
KPKS *e*LR LR 19 10 41.3
comp=Z,2μm,17.8s
KPKS Kokpek 40.92 45 *e*P **P** 18 52 05.4 +0.9
KPKS pmax pmax
comp=Z,140nm,3.0s
KPKS MLR MLR
comp=Z,2μm,18.0s
LFF La Frestale 41.01 318 *e*P **P** 18 52 05.6 +0.5
LFF pmax pmax
comp=Z,59nm,1.5s
UZB Uzynbulak 41.02 45 *e*P **P** 18 52 06.2 +0.7
comp=Z,101nm,2.8s
UZB Uzynbulak 41.02 45 *e*P **P** 18 52 06.2 +0.7
UZB pmax pmax
comp=Z,101nm,2.8s
ETSF Etsaut 41.02 314 *e*P **P** 18 52 07.5 +2.1
ETSF pmax pmax
comp=Z,117nm,1.7s
SHLS Shalkode 41.32 46 *e*P **P** 18 52 11.2 +3.2
comp=Z,77nm,2.7s
SHLS Shalkode 41.32 46 *e*P **P** 18 52 11.1 +3.2
SHLS pmax pmax
comp=Z,77nm,2.7s
KOLN Koldanda 41.35 70 *e*P **P** 18 52 08.8 +0.4
comp=Z,359nm,1.4s
TDK Taldygorghan 41.38 43 *e*LR LR 19 10 31.6
comp=Z,3μm,22.3s
DOU Dourbes 41.41 326 P **P** 18 52 08.5 +0.2
PDGK Podgornoye 41.41 45 P **P** 18 52 08.1 -0.5
PDGK pmax pmax
comp=Z,26nm,1.2s
BMRD Maredsous 41.44 327 P **P** 18 52 08.6 0.0
MDT Midelt 41.46 298 P **P** 18 52 10.1 +0.9
comp=Z,6.8nm,1.0s,baz=111,slow=10,SNR=14
MDT LR LR 19 08 39.2
comp=Z,712nm,21.4s,baz=112,slow=35

MDT Midelt 41.46 298 P P 18 52 10.5 +1.3
MDT Midelt 41.46 298 P P 18 52 10.5 +1.3
MDT Midelt 41.46 298 P P 18 52 10.5 +1.3
MDT Midelt 41.46 298 P P 18 52 10.5 +1.3
MDT Midelt 41.46 298 P P 18 52 10.5 +1.3
MDT Midelt 41.46 298 P P 18 52 10.5 +1.3
BRVK Borovoye 41.47 28 *de*P P 18 52 09.5 +0.7
BRVK pmax pmax
comp=Z,33nm,1.2s
BRVK Borovoye 41.47 28 P P 18 52 09.9 +1.0
DANN Dangsing 41.51 69 *e*P P 18 52 10.5 +0.6
comp=Z,284nm,1.2s
PALK Pallekele 41.88 101 P P 18 52 11.2 -1.6
PALK pmax pmax
comp=Z,28nm,1.3s
PALK Pallekele 41.88 101 LR LR 19 06 49.4
comp=Z,944nm,21.9s,baz=301,slow=32
PALK Pallekele 41.88 101 P P 18 52 11.2 -1.6
ZGR Zagora 42.03 294 P P 18 52 15.0 +1.1
ZGR Zagora 42.03 294 P P 18 52 15.0 +1.1
ZGR Zagora 42.03 294 P P 18 52 15.0 +1.1
ZGR Zagora 42.03 294 P P 18 52 15.0 +1.1
ZGR Zagora 42.03 294 P P 18 52 15.0 +1.1
ZGR Zagora 42.03 294 P P 18 52 15.0 +1.1
TZRR Tazzarine 42.04 295 P P 18 52 16.0 +2.0
TZRR Tazzarine 42.04 295 P P 18 52 16.0 +2.0
TZRR Tazzarine 42.04 295 P P 18 52 16.0 +2.0
TZRR Tazzarine 42.04 295 P P 18 52 16.0 +2.0
TZRR Tazzarine 42.04 295 P P 18 52 16.0 +2.0
TZRR Tazzarine 42.04 295 P P 18 52 16.0 +2.0
GKN Gorkha 42.27 69 *e*P P 18 52 16.1 +0.1
comp=Z,133nm,1.4s
ESBB Sonseca Array 42.38 308 P P 18 52 16.8 +0.3
ESBB IAmb IAmb 18 52 19.1
comp=Z,130nm,1.9s
ESDC Sonseca Array 42.38 308 P P 18 52 16.4 -0.2
comp=Z,7.7nm,1.0s,baz=100,slow=7.3,SNR=22
ESDC LR LR 19 10 49.0
comp=Z,278nm,18.2s,baz=75,slow=38
PAB San Pablo 42.63 308 P P 18 52 18.9 +0.3
PAB pmax pmax
comp=Z,107nm,2.0s
PAB San Pablo 42.63 308 P P 18 52 18.9 +0.3
PAB IAmb IAmb 18 52 21.0
comp=Z,107nm,1.9s
PRGR Permogore 42.67 4 *e*P P 18 52 16.8 -1.6
PRGR pmax pmax
comp=Z,41nm,1.1s
DMN Daman 42.68 70 *e*P P 18 52 19.9 +0.5
comp=Z,77nm,1.1s
GUD Guadarrama 42.79 310 P P 18 52 20.3 +0.3
KKN Kakani 42.84 70 *e*P P 18 52 20.9 +0.3
comp=Z,203nm,1.4s
TISM Timmit 42.87 296 P P 18 52 23.0 +2.5
TISM Timmit 42.87 296 P P 18 52 23.0 +2.5
TISM Timmit 42.87 296 P P 18 52 23.0 +2.5
TISM Timmit 42.87 296 P P 18 52 23.0 +2.5
TISM Timmit 42.87 296 P P 18 52 23.0 +2.5
TISM Timmit 42.87 296 P P 18 52 23.0 +2.5
PKI Pulchoki 42.95 70 *e*P P 18 52 21.7 +0.1
comp=Z,23nm,1.4s
FINES FINESS Array B 43.26 351 P P 18 52 23.3 0.0
comp=Z,9.6nm,1.0s,baz=142,slow=9.6,SNR=5.9
FINES LR LR 19 12 27.5
comp=Z,399nm,18.9s,baz=180,slow=39
SFS San Fernando 43.36 303 P P 18 52 24.7 +0.3
SFS pmax pmax
comp=Z,59nm,0.8s
SFS San Fernando 43.36 303 P P 18 52 24.7 +0.3
SFS IAmb IAmb 18 53 46.7
comp=Z,59nm,0.8s
GUN Gumba 43.37 69 *e*P P 18 52 25.0 -0.1
comp=Z,176nm,1.1s
FLN La Foliniere 43.51 322 *e*P P 18 52 24.7 -0.8
FLN pmax pmax
comp=Z,179nm,1.7s
JIRN Jiri 43.64 70 *e*P P 18 52 27.4 +0.1
comp=Z,100nm,1.1s
RAMN Ramite 44.00 71 *e*P P 18 52 30.2 +0.1
comp=Z,198nm,1.5s
OUK Oukaimeden 44.04 295 P P 18 52 32.0 +1.5
OUK Oukaimeden 44.04 295 P P 18 52 32.0 +1.5
OUK Oukaimeden 44.04 295 P P 18 52 32.0 +1.5
OUK Oukaimeden 44.04 295 P P 18 52 32.0 +1.5
OUK Oukaimeden 44.04 295 P P 18 52 32.0 +1.5
OUK Oukaimeden 44.04 295 P P 18 52 32.0 +1.5
KURK Kurchatov 44.21 35 *d i*P P 18 52 32.5 +1.4
KURK pmax pmax
comp=Z,59nm,1.0s
KURK Kurchatov 44.21 35 P P 18 52 31.7 +0.6
KURK IAmb IAmb 18 52 37.5
comp=Z,76nm,1.2s
MAKZ Makanchi 44.40 42 P P 18 52 33.0 +0.3
MAKZ pmax pmax
comp=Z,58nm,1.0s
MAKZ Makanchi 44.40 42 P P 18 52 33.0 +0.3
MAKZ IAmb IAmb 18 52 38.7
comp=Z,58nm,1.0s
TTIG Tnine Tigouga, 44.49 294 P P 18 52 37.0 +3.2
TTIG Tnine Tigouga, 44.49 294 P P 18 52 37.0 +3.2
TTIG Tnine Tigouga, 44.49 294 P P 18 52 37.0 +3.2
TTIG Tnine Tigouga, 44.49 294 P P 18 52 37.0 +3.2
MK31 Makanchi Array 44.59 42 P P 18 52 35.1 +0.9
MK31 pmax pmax
comp=Z,66nm,1.0s
MK31 Makanchi Array 44.59 42 P P 18 52 34.9 +0.7
MK31 IAmb IAmb 18 52 40.1
comp=Z,43nm,0.9s
MKAR Makanchi Array 44.59 42 P P 18 52 35.0 +0.8
comp=Z,41nm,0.9s,baz=242,slow=6.4,SNR=53
MKAR LR LR 19 15 02.1
comp=Z,486nm,18.0s,baz=237,slow=41
DBIC Dimbokro 44.66 260 P P 18 52 34.6 -0.6
comp=Z,24nm,1.1s,baz=51,slow=9.3,SNR=19
DBIC LR LR 19 11 25.9
comp=Z,2µm,19.1s,baz=51,slow=36
DBIC Dimbokro 44.66 260 P P 18 52 33.9 -1.3
DBIC IAmb IAmb 18 52 36.0
comp=Z,62nm,1.2s
KIC Kosan Boka 44.66 259 *e*P P 18 52 34.7 -0.5
comp=Z,159nm,1.4s
KIC Kosan Boka 44.66 259 P P 18 52 34.7 -0.5
ODAN Odare 44.71 71 *e*P P 18 52 35.8 +0.1
comp=Z,256nm,1.7s
PVAQ Vaqueiros 44.72 304 *e*P P 18 52 35.1 -0.3
PVAQ Vaqueiros 44.72 304 P P 18 52 33.7 -1.7
PVAQ IAmb IAmb 18 52 36.2
comp=Z,44nm,1.3s
TIC Toumodi 44.82 260 *e*P P 18 52 36.0 -0.5
TIC Toumodi 44.82 260 P P 18 52 36.0 -0.5
TIC Toumodi 44.82 260 P P 18 52 36.0 -0.5
HFS Hagfors 44.84 342 P P 18 52 35.4 -0.6
comp=Z,11nm,1.1s,baz=153,slow=10.0,SNR=4.3
HFS LR LR 19 11 53.5
comp=Z,229nm,18.9s,baz=152,slow=37
PBDV Barranco-do-Ve 44.86 304 *e*P P 18 52 37.3 +0.7
PMRV Marv??o 44.89 307 *e*P P 18 52 36.6 -0.1
PBEJ Beja 44.96 305 *e*P P 18 52 36.9 -0.4
LIC Lamto 44.98 259 *e*P P 18 52 37.1 -0.6
comp=Z,142nm,1.5s
LIC Lamto 44.98 259 P P 18 52 37.1 -0.6
TMCR Tamitsa 44.98 359 *e*P P 18 52 36.2 -0.8
TMCR pmax pmax
comp=Z,85nm,1.3s
TAPN Taplejung 44.99 70 *e*P P 18 52 37.9 -0.1
comp=Z,158nm,1.7s
LBTB Lobatse 45.89 197 P P 18 52 45.6 +0.8
comp=Z,17nm,1.0s,baz=14,slow=8.4,SNR=16
LBTB Lobatse 45.89 197 P P 18 52 45.1 +0.3
LBTB IAmb IAmb 18 52 47.3
comp=Z,39nm,1.2s
NC602 NORSAR Array S 45.96 341 P P 18 52 44.5 -0.3
NC405 NORSAR Array S 46.21 342 P P 18 52 46.5 -0.4
NAO01 NORSAR Array S 46.25 341 P P 18 52 47.0 -0.1
NB2 NORSAR Subarra 46.30 342 P P 18 52 46.5 -1.1
comp=Z,92nm,1.4s,baz=139,slow=8.6
NB2 NORSAR Subarra 46.30 342 P P 18 52 46.5 -1.1
baz=139,slow=8.6
NOA NORSAR Array B 46.30 342 P P 18 52 46.9 -0.7
comp=Z,20nm,1.1s,baz=138,slow=8.2,SNR=16
NOA LR LR 19 13 12.5
comp=Z,347nm,21.7s,baz=140,slow=37
NBO00 NORSAR Array S 46.42 341 P P 18 52 48.4 -0.1
ZSN Zaisan 46.47 42 *e*P P 18 52 49.0 -0.1
ZSN Zaisan 46.47 42 *e*P P 18 52 49.0 -0.1
NC204 NORSAR Array S 46.62 341 P P 18 52 50.2 +0.1
WMQ Urumqi 47.20 48 *e*P P 18 52 56.1 +1.2
WMQ pP sP 18 53 00.6 +0.8
WMQ sP pP 18 53 03.0 +4.5
WMQ pmax pmax
comp=Z,37nm,1.5s
WMQ pmax pmax
comp=Z,390nm,3.7s
WMQ LR LR
comp=Z,550nm,17.3s
WMQ LR LR
comp=Z,1µm,21.1s
WMQ LR LR
comp=Z,2µm,24.9s
WMQ Urumqi 47.20 48 P P 18 52 56.3 +1.4
WMQ pmax pmax
comp=Z,108nm,1.1s
WMQ Urumqi 47.20 48 P P 18 52 56.3 +1.4
LSA Lhasa 48.02 67 P P 18 53 04.0 +2.0
LSA pmax pmax
comp=Z,81nm,2.0s
LSA Lhasa 48.02 67 *i* P P 18 53 03.7 +1.7
SNR=10.0
LSA Lhasa 48.02 67 P P 18 53 02.3 +0.3
LSA pmax pmax
comp=Z,71nm,1.8s
LSA Lhasa 48.02 67 P P 18 53 02.3 +0.3
LSA IAmb IAmb 18 53 07.6
comp=Z,70nm,1.8s
EKA Eskdalemuir Ar 48.23 329 P P 18 53 01.1 -1.5
comp=Z,2.2nm,0.7s,baz=114,slow=7.1,SNR=2.9
APA Apatity 48.54 357⇓*i*P P 18 53 04.6 -0.2
APA pmax pmax
comp=Z,21nm,1.0s
SHL Shillong 48.79 72 P P 18 53 08.0 +0.4
SNR=25
SHL Shillong 48.79 72 P P 18 53 07.0 -0.7
SHL pmax pmax
comp=Z,74nm,1.3s
SHL Shillong 48.79 72 P P 18 53 07.0 -0.7
ZAA0 Zalesovo Array 49.10 34 P P 18 53 09.0 -0.4
ZALV Zalesovo Beam 49.10 34 P P 18 53 09.9 +0.5
comp=Z,49nm,1.0s,baz=249,slow=7.8,SNR=64
ZALV LR LR 19 16 18.0
comp=Z,1µm,19.0s,baz=241,slow=39
BOSA Boshof 49.40 196 P P 18 53 12.4 +0.4
comp=Z,6.0nm,1.1s,baz=34,slow=6.3,SNR=3.8
BOSA LR LR 19 14 25.1
comp=Z,2µm,18.9s,baz=20,slow=37
BOSA Boshof 49.40 196 P P 18 53 11.1 -0.9
BOSA IAmb IAmb 18 53 14.1
comp=Z,79nm,1.8s
ARCES ARCESS Array B 51.08 354 P P 18 53 24.0 -0.2
comp=Z,8.3nm,1.0s,baz=191,slow=5.9,SNR=6.4
SUR Sutherland 54.22 199 LR LR 19 15 54.4
comp=Z,1µm,18.6s,baz=27,slow=35
MHMT Maesarieng 55.32 81 P P 18 53 56.7 +0.5
comp=Z,51nm,1.1s,comp=Z,848nm
GTA Gaotai 55.47 55 P P 18 53 58.1 +0.9
GTA pP sP 18 54 01.3 -0.7
GTA sP pP 18 54 04.0 +3.3
GTA pmax pmax
comp=Z,25nm,1.6s
GTA pmax pmax
comp=Z,340nm,5.1s
GTA LR LR
comp=Z,590nm,16.8s
GTA LR LR
comp=Z,960nm,16.1s
GTA LR LR
comp=Z,1µm,17.2s
CHTO Chiang Mai 56.14 80 P P 18 54 01.8 -0.3
CHTO pmax pmax
comp=Z,13nm,1.3s
CHTO Chiang Mai 56.14 80 P P 18 54 01.8 -0.3
CMMT Chiang Mai 56.15 80 P P 18 54 02.2 +0.1
comp=Z,4.0nm,1.9s
CM31 Chiang Mai Arr 56.21 80 P P 18 54 01.5 -1.1
CM31 IAmb IAmb 18 54 07.6
comp=Z,67nm,1.8s
CMAR Chiang Mai Arr 56.21 80 P P 18 54 02.6 +0.1
comp=Z,4.5nm,1.0s,baz=290,slow=7.6,SNR=20
CMAR PcP PcP 18 55 00.9 +0.6
comp=Z,2.2nm,0.9s,baz=281,slow=5.4,SNR=4.5
CMAR LR LR 19 20 49.5
comp=Z,176nm,20.9s,baz=319,slow=39
UMPA Umpang Tak 56.59 83 P P 18 54 07.3 +2.0
comp=Z,21µm,1.3s,comp=Z,270µm
LAMP Lampang 56.84 80 P P 18 54 08.1 +1.1
comp=Z,36µm,1.2s,comp=Z,472µm
SRDT SRDT 57.25 85 P P 18 54 16.3 +6.3
UTHA Uthaitani 57.28 83 P P 18 54 11.1 +0.9
comp=Z,24µm,1.2s,comp=Z,315µm
PHRA Phrae 57.40 80 P P 18 54 11.4 +0.4
comp=Z,3.5nm,2.0s
MOY Mondy 57.69 40 *e*P P 18 54 13.2 +0.5
MOY pmax pmax
comp=Z,47nm,2.5s
NANT Nan 57.78 79 P P 18 54 14.7 +1.0
comp=Z,293µm,1.0s
UTTA Uttaradit 57.85 81 P P 18 54 15.0 +0.8
comp=Z,19µm,1.7s,comp=Z,247µm
NRIK Noril'sk 58.10 18 P P 18 54 16.2 +1.1
comp=Z,25nm,1.1s,baz=229,slow=5.3,SNR=20
NRIK LR LR 19 24 25.3
comp=Z,2µm,18.2s,baz=233,slow=41
PBKT Sadao Pong 58.49 82 P P 18 54 19.3 +0.7
comp=Z,14nm,1.7s,comp=Z,536nm
PBKT Sadao Pong 58.49 82 P P 18 54 18.4 -0.2
PBKT IAmb IAmb 18 54 23.7
comp=Z,32nm,1.2s
KMI Kunming 58.60 72 P P 18 54 20.8 +1.1
KMI pP sP 18 54 24.0 -0.4
KMI sP pP 18 54 25.6 +2.3
KMI pmax pmax
comp=Z,18nm,1.8s
KMI LR LR
comp=Z,650nm,18.4s
KMI LR LR
comp=Z,880nm,22.0s
KMI LR LR
comp=Z,940nm,23.1s
LZH Lanzhou 58.64 59 ⇓P P 18 54 21.0 +1.3
LZH pP sP 18 54 24.4 -0.1
LZH sP pP 18 54 25.5 +2.2
LZH PP PP 18 56 32.1 +2.8
LZH pmax pmax
comp=Z,61nm,1.3s
LZH pmax pmax
comp=Z,530nm,7.2s
LZH LR LR
comp=Z,1µm,15.7s
LZH LR LR
comp=Z,2µm,16.3s
LZH LR LR
comp=Z,2µm,18.4s
CD2 Chengdu 58.86 65 P P 18 54 20.8 -0.4
CD2 pmax pmax
comp=Z,30nm,0.5s
ZAK Zakamensk 58.93 42 *e*P P 18 54 21.3 -0.1
ZAK pmax pmax
comp=Z,13nm,1.4s
TLY Talaya 59.33 41 *c i*P P 18 54 25.6 +1.6
TLY pmax pmax
comp=Z,19nm,1.3s
TLY Talaya 59.33 41 P P 18 54 23.1 -0.9
TLY IAmb IAmb 18 54 29.9
comp=Z,25nm,1.3s
GSI Gunungsitoli 59.71 100 P P 18 54 30.8 +3.6
comp=Z,36nm,1.5s
GSI Gunungsitoli 59.71 100 P P 18 54 28.2 +1.0
IRK Irkutsk 59.79 40 *e*P P 18 54 27.7 +0.6
IRK pmax pmax
comp=Z,65nm,2.6s
SPA0 Spitsbergen Ar 60.08 355 P P 18 54 28.4 -0.3
NONG Nongkai 60.20 80 P P 18 54 30.6 +0.1
comp=Z,0.9nm,1.7s,comp=Z,269nm
SLVN Son La 60.26 76 P P 18 54 30.2 -0.8
SLVN IAmb IAmb 18 54 33.1
comp=Z,68nm,1.9s
PSI Prapat 60.44 98 P P 18 54 31.6 -0.8
PSI pmax pmax
comp=Z,44nm,1.6s
RPSI Rantau Prapat 60.48 98 P P 18 54 31.6 -0.8
RPSI IAmb IAmb 18 54 39.6
comp=Z,44nm,1.6s
SONM Songino Array 60.73 45 P P 18 54 34.6 +0.8
comp=Z,18nm,1.0s,baz=266,slow=8.0,SNR=49
SONM LR LR 19 23 28.5
comp=Z,879nm,19.2s,baz=249,slow=39
ULN Ulaanbaatar 61.17 45 *de*P P 18 54 37.4 +0.5
ULN pmax pmax
comp=Z,17nm,1.0s
SKNT Sakolnakorn 61.21 81 P P 18 54 39.7 +2.3
comp=Z,42nm,2.0s
KULM Kulim 61.23 95 P P 18 54 38.0 +0.4
KULM Kulim 61.23 95 P P 18 54 37.3 -0.3
IPM Ipoh 61.85 95 P P 18 54 41.0 -0.8
IPM Ipoh 61.85 95 P P 18 54 40.1 -1.7
GYA Guiyang 61.92 70⇑*i*P P 18 54 42.3 +0.1
GYA PP PP 18 57 01.4 +2.9
GYA S S 19 03 07.5 +1.1
GYA SS SS 19 07 12.8 +4.2
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,140nm,4.6s
GYA LR LR
comp=Z,430nm,16.9s
GYA LR LR
comp=Z,220nm,18.5s
GYA LR LR
comp=Z,530nm,17.8s
SISI Saibi 62.09 102 P P 18 54 46.2 +2.8
comp=Z,13nm,1.4s
XAN Xi'an 62.92 61 P P 18 54 49.1 +0.3
XAN pP sP 18 54 59.5 +6.0
XAN sP pP 18 55 03.3 +11
XAN PP PP 18 57 11.8 +4.7
XAN S S 19 03 22.1 +3.4
XAN pmax pmax
comp=Z,26nm,1.3s
XAN pmax pmax
comp=Z,280nm,4.3s
XAN LR LR
comp=Z,820nm,15.2s
XAN LR LR
comp=Z,1µm,20.6s
XAN LR LR
comp=Z,1µm,17.4s
XAN Xi'an 62.92 61 P P 18 54 48.9 +0.1
XAN pmax pmax
comp=Z,47nm,1.3s
XAN Xi'an 62.92 61 P P 18 54 48.9 +0.1
XAN IAmb IAmb 18 54 50.3
comp=Z,47nm,1.3s
UBPT Khong Chiam 62.99 82 P P 18 54 54.5 +5.1
comp=Z,21nm,2.0s
UBPT Khong Chiam 62.99 82 P P 18 54 49.6 +0.2
PDSI Padang 63.20 101 P P 18 54 52.3 +1.4
comp=Z,12nm,1.2s
BKNI Bangkinang 63.29 100 P P 18 54 50.8 -0.6
BTO Baotou 63.31 54 *e*P P 18 54 51.8 +0.5
JRMM Jerantut 63.41 95 P P 18 54 52.0 -0.2
ENH Enshi 63.84 65 P P 18 54 54.6 -0.3
SDSI Sungai Dareh 64.11 101 P P 18 54 59.5 +2.7
comp=Z,18nm,1.1s,comp=Z,2µm
DAG Danmarks Havn 64.34 347 *i* P P 18 54 57.0 -0.3
DAG pmax pmax
comp=Z,19nm,1.2s
DAG Danmarks Havn 64.34 347 *i* P P 18 54 57.0 -0.3
comp=Z,19nm,1.2s
TIY Taiyuan 65.40 57 *e*P P 18 55 06.5 +1.5
TIY S S 19 03 57.0 +7.7
TIY pmax pmax
comp=Z,360nm,3.5s
TIY LR LR
comp=Z,530nm,12.1s
TIY LR LR
comp=Z,2µm,23.3s
TIY LR LR
comp=Z,1µm,19.3s
BOD Bodaibo 65.85 34 *e*P P 18 55 06.7 -0.7
BOD pmax pmax
comp=Z,39nm,1.7s
QIZ Qiongzhong 66.19 77 P P 18 55 08.3 -2.0
QIZ S S 19 03 58.0 -1.4
QIZ pmax pmax
comp=Z,340nm,5.9s
QIZ LR LR
comp=Z,490nm,24.5s
KSI Kapahiang 66.21 103 P P 18 55 14.2 +3.7
comp=Z,57nm,2.0s
WHN Wuhan 67.95 64 ⇑P P 18 55 22.3 +1.0
MDSI Maura Dua 67.99 103 P P 18 55 22.0 +0.3
comp=Z,20nm,1.4s
BJI Beijing 68.04 54⇑*i*P P 18 55 23.4 +1.7
BJI S S 19 04 29.3 +8.2
BJI pmax pmax
comp=Z,16nm,1.1s
BJI LR LR
comp=Z,850nm,16.5s
BJI LR LR
comp=Z,1µm,18.8s
BJI LR LR
comp=Z,2µm,22.6s
SUMG Summit 68.19 342 *i* P P 18 55 22.8 +0.2
SUMG Summit 68.19 342 *i* P P 18 55 22.8 +0.2
SUMG Summit 68.19 342 P P 18 55 22.5 0.0
SUMG IAmb IAmb 18 57 38.0
comp=Z,51nm,1.8s
HKPS Hong Kong Po S 69.39 73 P P 18 55 31.4 +0.9
NJ2 Nanjing 71.47 62 *e*P P 18 55 42.1 -0.8
NJ2 S S 19 05 01.8 +0.2
NJ2 pmax pmax
comp=Z,31nm,1.2s
NJ2 pmax pmax
comp=Z,400nm,6.6s
NJ2 LR LR
comp=Z,490nm,13.7s
NJ2 LR LR
comp=Z,490nm,14.7s
NJ2 LR LR
comp=Z,590nm,17.1s
TIXI Tiksi 71.84 19 *de*P P 18 55 44.3 -0.1
TIXI pmax pmax
comp=Z,53nm,2.5s
TIXI Tiksi 71.84 19 P P 18 55 43.9 -0.5
comp=Z,7.3nm,0.9s,baz=331,slow=3.9,SNR=14
TIXI Tiksi 71.84 19 P P 18 55 43.9 -0.5
TIXI IAmb IAmb 18 55 45.8
comp=Z,44nm,1.5s
SBUM Sibu 73.06 93 P P 18 55 53.5 +0.7
YAK Yakutsk 73.45 29 *e*P P 18 55 51.5 -2.7
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK Yakutsk 73.45 29 P P 18 55 53.2 -1.0
YAK IAmb IAmb 18 55 54.8
comp=Z,28nm,1.0s
ZEA Zeya 73.59 38 *e*P P 18 55 56.2 +1.0
ZEA pmax pmax
comp=Z,94nm,2.0s
ZEA MLR MLR
comp=N,500nm,16.0s
ZEA MLR MLR
comp=E,700nm,16.0s
CN2 Changchun 74.27 49 *e*P P 18 56 00.0 +0.6
CN2 *e*S S 19 05 32.3 -0.9
CN2 pmax pmax
comp=E,20nm,1.3s
CN2 pmax pmax
comp=E,200nm,4.0s
CN2 LR LR
comp=E,600nm,16.0s
CN2 LR LR
comp=E,600nm,16.0s
CN2 LR LR
comp=E,900nm,17.0s
TULEG Thule 75.63 347 P P 18 56 06.5 -0.1
TULEG IAmb IAmb 18 56 08.6
comp=Z,71nm,1.7s
INCN Inchon 76.54 55 P P 18 56 11.8 -0.8
INCN pmax pmax
comp=Z,64nm,1.4s
INCN Inchon 76.54 55 P P 18 56 11.8 -0.8
MDJ Mudanjiang 77.00 47 P P 18 56 16.0 +1.0
MDJ pmax pmax

	comp=Z,9.0nm,0.9s								
MDJ					pmax	pmax			
	comp=Z,160nm,5.4s								
KLR	**Kul'dur**	**77.30**	**42**	*de*	**P**	**P**	**18 56 16.3**	**-0.3**	
KLR					pmax	pmax			
	comp=Z,17nm,1.1s								
KSRS	**Korea Array**	**77.54**	**55**		P	**P**	**18 56 18.7**	**+0.5**	
	comp=Z,4.0nm,1.0s,baz=273,slow=5.5,SNR=8.3								
JAGI	**Jajag, Banyuwa**	**78.66**	**103**		P	**P**	**18 56 24.4**	**-0.3**	
JAGI	**Jajag, Banyuwa**	**78.66**	**103**		P	**P**	**18 56 23.6**	**-1.1**	
USA0B	**Ussuriysk Arra**	**78.77**	**47**		P	**P**	**18 56 24.3**	**-0.5**	
USA0B					pmax	pmax			
	comp=Z,92nm,2.0s								
USA0B	**Ussuriysk Arra**	**78.77**	**47**		P	**P**	**18 56 24.4**	**-0.5**	
USA0B					IAmb	IAmb	18 56 29.3		
	comp=Z,92nm,1.9s								
USRK	**Ussuriysk Ar.**	**78.77**	**47**		P	**P**	**18 56 24.4**	**-0.5**	
	comp=Z,6.4nm,0.9s,baz=255,slow=4.1,SNR=8.6								
GRNR	**Gornyy**	**79.77**	**40**	*e*	P	P	18 56 25.4	-4.8	
GRNR					MLR	MLR			
	comp=Z,630nm,15.0s								
JOW	**Kunigami**	**80.70**	**65**		P	**P**	**18 56 35.7**	**0.0**	
JOW					IAmb	IAmb	18 59 00.9		
	comp=Z,36nm,1.3s								
JNU	**Nakatsue**	**81.05**	**58**		P	**P**	**18 56 37.8**	**+0.3**	
JNU					IAmb	IAmb	18 58 22.1		
	comp=Z,81nm,1.7s								
RES	**Resolute Bay**	**81.99**	**349**		P	**P**	**18 56 42.1**	**+0.5**	
RES					pmax	pmax			
	comp=Z,23nm,1.7s								
RES	**Resolute Bay**	**81.99**	**349**		P	**P**	**18 56 41.4**	**-0.2**	
	comp=Z,2.7nm,1.1s,baz=46,slow=4.5,SNR=5.1								
RES	**Resolute Bay**	**81.99**	**349**		P	**P**	**18 56 42.1**	**+0.5**	
SEY	**Seymchan**	**83.07**	**25**	*i*	P	**P**	**18 56 48.8**	**+1.3**	
SEY	**Seymchan**	**83.07**	**25**		P	**P**	**18 56 48.3**	**+0.8**	
	comp=Z,15nm,1.2s,baz=270,slow=5.1,SNR=4.8								
SCHQ	**Schefferville**	**83.45**	**326**		P	**P**	**18 56 48.2**	**-1.4**	
	comp=Z,9.4nm,1.1s,baz=39,slow=3.9,SNR=4.8								
SCHQ	**Schefferville**	**83.45**	**326**		P	**P**	**18 56 49.3**	**-0.3**	
MA2	**Magadan**	**83.98**	**28**	*e*	P	**P**	**18 56 52.8**	**+0.6**	
MA2					pmax	pmax			
	comp=Z,59nm,1.6s								
MA2	**Magadan**	**83.98**	**28**		P	**P**	**18 56 52.7**	**+0.4**	
LUWI	**Luwuk**	**84.17**	**93**		P	**P**	**18 56 57.0**	**+3.0**	
LUWI	**Luwuk**	**84.17**	**93**		P	**P**	**18 56 53.3**	**-0.7**	
BILL	**Bilibino**	**84.92**	**18**	*d*	*i*P	**P**	**18 56 58.0**	**+1.2**	
BILL					*e*		18 57 00.9		
BILL					*e*		19 00 15.8		
BILL					*e*PPP	PPP	19 02 08.7		
BILL					pmax	pmax			
	comp=Z,71nm,1.4s								
BILL	**Bilibino**	**84.92**	**18**		P	**P**	**18 56 57.1**	**+0.3**	
MJB9	**Matsu-Tunnel**	**85.66**	**53**		P	**P**	**18 57 00.8**	**-0.3**	
MJB9					IAmb	IAmb	18 57 06.9		
	comp=Z,32nm,1.4s								
MAJO	**Matsushiro**	**85.67**	**53**	*e*	P	**P**	**18 57 01.0**	**-0.2**	
MAJO					pmax	pmax			
	comp=Z,23nm,1.4s								
MAJO	**Matsushiro**	**85.67**	**53**		P	**P**	**18 57 00.7**	**-0.5**	
MAJO					IAmb	IAmb	18 57 06.9		
	comp=Z,32nm,1.4s								
MAT	**Matsushiro**	**85.67**	**53**		P	**P**	**18 57 00.4**	**-0.8**	
MAT				*e*	S	**S**	**19 07 28.0**	**-5.6**	
MJAR	**Matsushiro Arr**	**85.67**	**53**		P	**P**	**18 57 01.0**	**-0.2**	
MJAR	**Matsushiro Arr**	**85.67**	**53**		P	**P**	**18 57 01.0**	**-0.2**	
	comp=Z,7.9nm,1.1s,baz=268,slow=6.9,SNR=11								
E63A	**Oxbow**	**87.91**	**319**		P	**P**	**18 57 12.4**	**+0.5**	
	baz=64								
MAW	**Mawson**	**88.24**	**171**		P	**P**	**18 57 13.4**	**+0.7**	
	comp=Z,3.0nm,1.0s,baz=358,slow=7.8,SNR=3.9								
MAW					LR	LR	19 33 32.2		
	comp=Z,244nm,18.2s,baz=290,slow=34								
MAW	**Mawson**	**88.24**	**171**		P	**P**	**18 57 13.3**	**+0.5**	
SOEI	**Soe**	**88.46**	**101**		P	**P**	**18 57 15.1**	**-0.1**	
PSA00	**Pilbara Seismi**	**88.55**	**113**		P	**P**	**18 57 14.9**	**-0.4**	
D61A	**St Aubert, Com**	**88.65**	**320**		P	**P**	**18 57 15.7**	**+0.4**	
	baz=63								
F61A	**St Evariste**	**89.70**	**319**		P	**P**	**18 57 20.9**	**+0.5**	
	baz=62								
G62A	**West of Eustis**	**89.77**	**318**		P	**P**	**18 57 20.9**	**+0.2**	
	baz=63								
I64A	**Boothbay**	**89.78**	**317**		P	**P**	**18 57 20.6**	**-0.2**	
	baz=63								
E60A	**Ste Agathe de**	**89.80**	**320**		P	**P**	**18 57 20.8**	**0.0**	
	baz=62								
CHGQ	**Chibougamau**	**89.80**	**324**		P	**P**	**18 57 19.7**	**-1.1**	
	baz=60								
LATQ	**La Tuque**	**90.12**	**321**		P	**P**	**18 57 22.5**	**+0.2**	
	baz=61								
F60A	**Warwick**	**90.30**	**319**		P	**P**	**18 57 23.1**	**0.0**	
	baz=62								
D58A	**Chemin du LacG**	**90.33**	**321**		P	**P**	**18 57 23.2**	**-0.1**	
	baz=61								
I63A	**Otisfield**	**90.33**	**317**		P	**P**	**18 57 22.2**	**-1.1**	
	baz=63								
G61A	**St-Isidore-de-**	**90.36**	**319**		P	**P**	**18 57 23.8**	**+0.3**	
	baz=62								
NWAO	**Narrogin (SRO)**	**90.59**	**125**		P	**P**	**18 57 24.6**	**0.0**	
NWAO					pmax	pmax			
	comp=Z,60nm,1.7s								
NWAO	**Narrogin (SRO)**	**90.59**	**125**		P	**P**	**18 57 24.6**	**0.0**	
PEA0B	**Petropavlovsk-**	**90.61**	**32**		P	**P**	**18 57 23.2**	**-1.3**	
PEA0B					pmax	pmax			
	comp=Z,77nm,1.3s								
PEA0B	**Petropavlovsk-**	**90.61**	**32**		P	**P**	**18 57 23.2**	**-1.3**	
F59A	**Saint Guilaume**	**90.87**	**320**		P	**P**	**18 57 26.1**	**+0.3**	
	baz=61								
I62A	**Tamworth**	**90.90**	**317**		P	**P**	**18 57 25.4**	**-0.6**	
	baz=62								
E58A	**La Victoria**	**90.91**	**320**		P	**P**	**18 57 26.3**	**+0.3**	
	baz=61								
C36M	**Paulatuk**	**90.94**	**354**		P	**P**	**18 57 25.2**	**-0.4**	
	baz=16								
D57A	**Chemin Vers le**	**90.96**	**321**		P	**P**	**18 57 25.6**	**-0.6**	
	baz=60								
H61A	**Lyndonville**	**90.96**	**318**		P	**P**	**18 57 25.8**	**-0.5**	
	baz=62								
LBNH	**Lisbon**	**91.10**	**318**		P	**P**	**18 57 27.0**	**+0.1**	
	baz=62								
I61A	**Oroboro, Fairl**	**91.43**	**318**		P	**P**	**18 57 29.6**	**+1.2**	
	baz=62								
H60A	**Morristown**	**91.44**	**318**		P	**P**	**18 57 28.0**	**-0.5**	
	baz=61								
J62A	**Henniker**	**91.51**	**317**		P	**P**	**18 57 28.7**	**-0.1**	
	baz=62								
RDOG	**Red Dog Mine**	**91.53**	**8**		P	**P**	**18 57 29.1**	**+0.7**	
RDOG					IAmb	IAmb	18 57 30.1		
	comp=Z,22nm,1.3s								
MATQ	**Matagami**	**91.69**	**325**		P	**P**	**18 57 29.8**	**+0.3**	
	baz=57								
LSQQ	**Lebel-sur-Quev**	**91.70**	**324**		P	**P**	**18 57 29.2**	**-0.4**	
	baz=58								
E56A	**St. Veronique**	**91.88**	**321**		P	**P**	**18 57 30.6**	**+0.1**	
	baz=60								
D55A	**Sainte-Anne-du**	**91.90**	**322**		P	**P**	**18 57 30.5**	**-0.1**	
	baz=59								
G58A	**Ormstown**	**91.99**	**319**		P	**P**	**18 57 30.9**	**-0.1**	
	baz=60								
K62A	**Royalston**	**92.05**	**317**		P	**P**	**18 57 31.6**	**+0.2**	
	baz=62								
I60A	**Shoreham**	**92.16**	**318**		P	**P**	**18 57 31.7**	**-0.1**	
	baz=61								
TOLK	**Toolik Lake Re**	**92.21**	**3**		P	**P**	**18 57 32.9**	**+1.3**	
	baz=352								
TOLK	**Toolik Lake Re**	**92.21**	**3**		P	**P**	**18 57 32.8**	**+1.1**	
L61B	**Northampton**	**92.44**	**317**		P	**P**	**18 57 34.1**	**+0.9**	
	baz=61								
FITZ	**Fitzroy Crossi**	**92.48**	**108**		P	**P**	**18 57 33.9**	**+0.2**	
FITZ					IAmb	IAmb	18 57 35.2		
	comp=Z,20nm,1.5s								
INK	**Inuvik**	**92.63**	**357**		P	**P**	**18 57 33.0**	**-0.5**	
INK					pmax	pmax			
	comp=Z,36nm,1.6s								
INK	**Inuvik**	**92.63**	**357**		P	**P**	**18 57 32.4**	**-1.0**	
	comp=Z,8.0nm,1.2s,baz=16,slow=8.3,SNR=8.3								
INK	**Inuvik**	**92.63**	**357**		P	**P**	**18 57 33.0**	**-0.5**	
FCC	**Fort Churchill**	**93.44**	**338**		P	**P**	**18 57 36.9**	**-0.5**	
FCC					pmax	pmax			
	comp=Z,25nm,1.3s								
FCC	**Fort Churchill**	**93.44**	**338**		P	**P**	**18 57 36.9**	**-0.5**	
FCC					IAmb	IAmb	18 57 38.4		
	comp=Z,25nm,1.3s								
COLD	**Coldfoot**	**93.58**	**4**		P	**P**	**18 57 37.4**	**-0.5**	
D52A	**ZEK Kipawa Sen**	**93.63**	**323**		P	**P**	**18 57 37.7**	**-0.9**	
	baz=57								
YKA	**Yellowknife Ar**	**96.04**	**348**		P	**P**	**18 57 49.0**	**-0.2**	
	comp=Z,2.0nm,1.0s,baz=26,slow=4.9,SNR=18								
YKA					PP	**PP**	**19 01 37.5**	**-3.4**	
	comp=Z,1.2nm,1.0s,baz=18,slow=7.2,SNR=5.6								
YKA					LR	LR	19 44 30.5		
	comp=Z,11nm,18.6s,baz=15,slow=38								
ILAR	**Eielson Array**	**96.20**	**3**		P	**P**	**18 57 48.9**	**-1.0**	
	comp=Z,0.8nm,0.9s,baz=336,slow=5.5,SNR=6.3								
ILAR					PP	**PP**	**19 01 45.2**	**+3.1**	
	comp=Z,1.4nm,1.1s,baz=8.9,slow=6.4,SNR=5.4								
WRA	**Warramunga Arr**	**100.88**	**107**		P	**Pdif**	**18 58 11.0**	**-0.8**	
	comp=Z,1.0nm,1.0s,baz=304,slow=3.8,SNR=3.6								
ASAR	**Alice Springs**	**101.52**	**111**		P	**Pdif**	**18 58 14.6**	**0.0**	
	comp=Z,0.7nm,0.9s,baz=295,slow=4.9,SNR=6.0								
NVAR	**Mina Array Bea**	**118.98**	**340**		PKP	**PKPdf**	**19 03 11.1**	**-0.3**	
	comp=Z,1.8nm,1.1s,baz=205,slow=0.6,SNR=7.2								
TXAR	**Lajitas Array**	**120.00**	**323**		PKP	**PKPdf**	**19 03 12.7**	**-0.8**	
	comp=Z,0.9nm,1.0s,baz=117,slow=1.4,SNR=5.3								
DZM	**Mont Dzumac**	**130.64**	**103**	*e*	LR	LR	19 45 00.6		
	comp=Z,258nm,22.9s								
TBI	**Tubuai**	**170.83**	**119**	*e*	LR	LR	20 03 38.4		
	comp=Z,513nm,29.5s								
PPT2	**Papeete2**	**171.43**	**81**	*e*	LR	LR	20 03 54.0		
	comp=Z,532nm,23.0s								

SJA ***23*** *18:49:53.0±1.4, 32°.95S×70°.73W, h102km±13km, ML2.6, MW3.0*
ISCJB ***23*** *18:49:54.4±1.0, 32°.91S±0°.05×70°.72W±0°.05, h100km±8km, Error ellipse: s-maj=8.6km s-min=6.8km az=30.4*
GUC ***23*** *18:49:55.0±0.8, 32°.83S×70°.58W, h79km±5km, ML3.1*

ISC 23 18:49:55.9±1.9, 32°.92S±0°.06×70°.69W±0°.05, h88km±13km, n21, σ1°33/34, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.23**	**179**		*e*P		**Pn**	**18 50 08.2**	**-0.7**
PEL					*e*S		**Sn**	**18 50 18.2**	**-0.3**
PEL					IAML			18 50 19.4	
	comp=N,499nm,0.2s								
PEL	**Peldehue**	**0.23**	**179**		*e*P		**Pn**	**18 50 08.2**	**-0.7**
PEL					*e*S		**Sn**	**18 50 18.9**	**+0.4**
ROCH	**El Roble**	**0.28**	**258**		*i*P		**Pn**	**18 50 08.9**	**-0.4**
ROCH					*i* S		**Sn**	**18 50 19.5**	**+0.3**
ROCH					IAML			18 50 20.6	
	comp=N,2μm,0.1s								
ROC1	**El Roble**	**0.28**	**258**		*e*P		**Pn**	**18 50 08.9**	**-0.4**
ROC1					*e*S		**Sn**	**18 50 19.6**	**+0.2**
FCH	**Farellones**	**0.53**	**141**		*i*P		**Pn**	**18 50 10.5**	**-0.7**
FCH					*e*S		**Sn**	**18 50 22.0**	**-0.4**
FCH					IAML			18 50 24.5	
	comp=E,884nm,0.2s								
RCDM	**Rinconada Maip**	**0.58**	**190**		*e*P		**Pn**	**18 50 11.4**	**+0.2**
RCDM					*e*S		**Sn**	**18 50 23.3**	**+0.7**
RCDM					IAML			18 50 24.4	
	comp=E,2μm,0.1s								
ANTU	**Antumapu**	**0.65**	**176**		*e*P		**Pn**	**18 50 12.0**	**+0.1**
ANTU					*e*S		**Sn**	**18 50 24.9**	**+1.1**
ANTU					IAML			18 50 25.1	
	comp=E,702nm,0.2s								
VA01	**Torpederas**	**0.81**	**262**		*e*P		**Pn**	**18 50 13.6**	**+0.2**
VA01					*e*S		**Sn**	**18 50 27.5**	**+1.0**
VA01					IAML			18 50 28.8	
	comp=E,1μm,0.1s								
LMEL	**Las Melosas**	**1.01**	**156**		*e*P		**Pn**	**18 50 15.8**	**0.0**
LMEL					*e*S		**Sn**	**18 50 31.7**	**+0.9**
LMEL					IAML			18 50 34.7	
	comp=E,869nm,0.2s								
ARCO	**CERRO ARCO**	**1.48**	**88**		*e*P		**Pn**	**18 50 21.4**	**-0.1**
ARCO					*e*S		**Sn**	**18 50 42.0**	**+1.1**
AAGR	**Agrelo**	**1.57**	**97**		*e*P		**Pn**	**18 50 22.4**	**-0.2**
AAGR					*e*S		**Sn**	**18 50 42.7**	**-0.2**
AAGR					IAML			18 50 45.4	
	comp=Z,80nm,0.4s								
ASAL	**Salagasta**	**1.60**	**79**		*e*P		**Pn**	**18 50 22.6**	**-0.3**
ASAL					*e*S		**Sn**	**18 50 45.7**	**+2.3**
ASAL					IAML			18 50 45.9	
	comp=Z,36nm,0.4s								
CO02	**Combarbal**	**1.73**	**351**		*i*P		**Pn**	**18 50 23.6**	**-1.0**
CO02					*i* S		**Sn**	**18 50 45.9**	**-0.6**
CO02					IAML			18 50 51.6	
	comp=N,583nm,0.2s								
RTCV	**Cerro Valdivia**	**2.10**	**61**		*e*P		**Pn**	**18 50 28.8**	**-0.6**
RTCV					IAML			18 51 02.1	
	comp=Z,16nm,0.3s								
ZON	**Zonda**	**2.19**	**52**		*e*S		**Sn**	**18 51 02.0**	**+4.9**
ZON					IAML			18 51 03.5	
	comp=Z,44nm,0.2s								
CFA	**Coronel Fontan**	**2.46**	**58**		*e*P		**Pn**	**18 50 33.0**	**-1.2**
ACCO	**Cerro Coronel**	**2.70**	**31**		*e*P		**Pn**	**18 50 37.3**	**-0.5**
ACCO					IAML			18 51 18.3	
	comp=Z,33nm,0.6s								
AMOG	**MOGNA**	**2.72**	**44**		*e*P		**Pn**	**18 50 36.8**	**-0.9**
AMOG					IAML			18 51 12.9	
	comp=Z,31nm,0.2s								
AROD	**Rodeo**	**2.93**	**21**		*e*P		**Pn**	**18 50 41.3**	**+0.5**
ACAN	**Cantantal**	**3.02**	**79**		*e*P		**Pn**	**18 50 40.5**	**-1.3**
ACAN					IAML			18 51 18.0	
	comp=Z,12nm,0.8s								
TCA	**Tanti**	**5.41**	**75**	*i*	P		**Pn**	**18 51 10.9**	**-3.2**
TCA					IAML			18 52 42.7	
	comp=Z,3.0nm,1.2s								

ANF ***23*** *18:56:01.1±0.1, 36°.13N×118°.07W, ML3.4/28, ML3.4/28, Error ellipse: s-maj=1.0km s-min=0.8km az=136.0*
SCEDC ***23*** *18:56:01.7, 36°.14N×118°.07W, h0km, ML3.3, ML3.3, ML3.3*
PAS ***23*** *18:56:01.7±1.2, 36°.14N±0°.03×118°.07W±0°.04, h0km±6km, ML3.3*
NEIC ***23*** *18:56:02.2±1.9, 36°.10N±0°.03×118°.07W±0°.04, h2km±6km*

ISC 23 18:56:01.9±1.0, 36°.13N±0°.01×118°.08W±0°.01, h6km±8km, n116, σ0°96/143, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.18**	**93**				**Pg**	**18 56 05.4**	**-0.2**
WCHM	**Chimney Peak**	**0.24**	**179**				**Pg**	**18 56 06.8**	**0.0**
JRC2	**Joshua Ridge**	**0.26**	**123**				**Pg**	**18 56 07.0**	**-0.1**
JRC2							**Sg**	**18 56 10.9**	**+0.4**
WCSM	**Coso Springs S**	**0.27**	**111**				**Pg**	**18 56 07.1**	**-0.2**
VPEM	**Volcano Peak E**	**0.28**	**130**				**Pg**	**18 56 07.4**	**0.0**
CWC	**Cottonwood Cre**	**0.31**	**360**		P		**Pg**	**18 56 07.4**	**-0.7**
	baz=178								
CWC					S		**Sg**	**18 56 11.5**	**-0.8**
	baz=178								
CWC	**Cottonwood Cre**	**0.31**	**360**				**Pg**	**18 56 07.5**	**-0.7**
WORM	**Onyx Ranch**	**0.45**	**197**				**Pg**	**18 56 10.6**	**0.0**
CGO	**Cerro Gordo**	**0.48**	**28**				**Pg**	**18 56 10.6**	**-0.6**
WHFM	**Hanning Flat**	**0.48**	**207**				**Pg**	**18 56 11.4**	**+0.2**
MPMC	**Manual Prospec**	**0.48**	**98**		P		**Pg**	**18 56 10.8**	**-0.4**
	baz=281,SNR=686								
MPMC					S		**Sg**	**18 56 17.4**	**-0.2**
	baz=281								
MPMC	**Manual Prospec**	**0.48**	**98**				**Pg**	**18 56 10.9**	**-0.4**
MPMC							**Sg**	**18 56 17.6**	**0.0**
CLC	**China Lake**	**0.50**	**128**				**Pg**	**18 56 11.4**	**-0.1**
CLC							**Sg**	**18 56 18.4**	**+0.4**
SRTC	**Snort**	**0.51**	**148**				**Pg**	**18 56 12.1**	**+0.4**
SPG2	**Springville 2**	**0.56**	**278**				**Sg**	**18 56 20.1**	**0.0**
ISA	**Isabella, Lake**	**0.56**	**215**		P		**Pg**	**18 56 12.8**	**+0.1**
	baz=34,SNR=166								
ISA					S		**Sg**	**18 56 20.3**	**+0.2**
	baz=34								
ISA	**Isabella, Lake**	**0.56**	**215**				**Pg**	**18 56 12.8**	**+0.1**
ISA	**Isabella, Lake**	**0.56**	**215**				**Sg**	**18 56 20.7**	**+0.6**
LRMC	**Laurel Mtn Rad**	**0.72**	**153**		P		**Pg**	**18 56 15.5**	**-0.3**
	baz=335,SNR=100								
LRMC					S		**Sg**	**18 56 25.3**	**+0.1**
	baz=335								
CCCA	**Chr Cany lake**	**0.83**	**136**				**Pg**	**18 56 17.9**	**0.0**
CCCA							**Sb**	**18 56 29.8**	**-0.6**
JFS	**Joseph F. Stat**	**0.84**	**157**				**Pg**	**18 56 17.7**	**-0.4**
JFS							**Sb**	**18 56 29.5**	**-1.2**
VES	**Vestal, Richgr**	**0.86**	**251**		P		**Pg**	**18 56 18.5**	**0.0**
	baz=69,SNR=123								
VES					S		**Sb**	**18 56 30.7**	**-0.5**
	baz=69								
TMO	**Tin Mountain**	**0.87**	**39**				**Pg**	**18 56 17.6**	**-1.0**
DTP	**Desert Tortois**	**0.88**	**167**				**Pg**	**18 56 18.5**	**-0.2**
TIN	**Tinemaha, Big**	**0.93**	**353**		P		**Pg**	**18 56 19.2**	**-0.7**
	baz=172,SNR=56								
TIN					S		**Sg**	**18 56 31.9**	**-0.1**
	baz=172								
TIN	**Tinemaha, Big**	**0.93**	**353**				**Pg**	**18 56 19.3**	**-0.6**
RCTC	**Rector, Farmer**	**0.96**	**281**				**Pg**	**18 56 19.7**	**-0.6**
TEJ	**El Tejon**	**1.02**	**209**				**Pg**	**18 56 21.1**	**-0.5**
TEJ							**Sb**	**18 56 34.9**	**-0.8**
FURC	**Furnace Creek,**	**1.04**	**71**		P		**Pg**	**18 56 21.2**	**-0.6**
	baz=252,SNR=81								
FURC					S		**Sg**	**18 56 35.4**	**0.0**
	baz=252								
FURC	**Furnace Creek,**	**1.04**	**71**				**Pg**	**18 56 21.4**	**-0.5**
GRAC	**Grapevine Rang**	**1.04**	**33**		P		**Pg**	**18 56 21.1**	**-0.7**
	baz=214,SNR=141								
GRAC					S		**Sg**	**18 56 35.3**	**-0.1**
	baz=214								
GRAC	**Grapevine Rang**	**1.04**	**33**				**Pg**	**18 56 20.9**	**-1.0**
GVN	**Grapevine**	**1.05**	**34**				**Pg**	**18 56 21.4**	**-0.8**
VOG	**Valley Oaks Go**	**1.07**	**281**		P		**Pb**	**18 56 21.9**	**-1.0**
	baz=99								
VOG					S		**Sg**	**18 56 36.6**	**+0.2**
	baz=99								
FMT	**Funeral Mounta**	**1.16**	**64**				**Pb**	**18 56 23.1**	**-1.4**
ARVC	**Arvin**	**1.17**	**212**		P		**Pb**	**18 56 24.1**	**-0.4**
	baz=31,SNR=51								
ARVC					S		**Sg**	**18 56 39.7**	**+0.2**
	baz=31								
ARVC	**Arvin**	**1.17**	**212**				**Pb**	**18 56 24.1**	**-0.4**
ARVC							**Sn**	**18 56 40.0**	**-1.1**
TJR	**Tejon Ranch**	**1.22**	**206**				**Sg**	**18 56 41.2**	**0.0**
EDW2	**Edwards Air Fo**	**1.24**	**177**		P		**Pn**	**18 56 24.9**	**-1.0**
	baz=357,SNR=190								
EDW2					S		**Sg**	**18 56 41.4**	**-0.5**
	baz=357								
EDW2	**Edwards Air Fo**	**1.24**	**177**				**Pn**	**18 56 24.9**	**-1.0**
EDW2							**Sg**	**18 56 41.4**	**-0.5**
BLKC	**Black Mountain**	**1.25**	**146**				**Pn**	**18 56 25.2**	**-0.8**
THC	**Tehachapi Micr**	**1.30**	**202**				**Pn**	**18 56 26.0**	**-0.9**
GSC	**Goldstone, Bar**	**1.32**	**128**		P		**Pn**	**18 56 26.2**	**-0.8**
	baz=310,SNR=111								
GSC					S		**Sg**	**18 56 44.7**	**+0.3**
	baz=310								
GSC	**Goldstone, Bar**	**1.32**	**128**				**Pn**	**18 56 26.2**	**-0.8**
HYS	**Haystack Butte**	**1.33**	**162**				**Pn**	**18 56 26.4**	**-0.6**
SHOC	**Shoshone, Teco**	**1.48**	**98**		Pb		**Pb**	**18 56 29.3**	**-0.5**
	baz=280,SNR=96								
SHOC					S		**Sg**	**18 56 49.2**	**-0.2**
	baz=280								
RRX	**Edison Barstow**	**1.53**	**144**		S		**Sg**	**18 56 51.8**	**+0.8**
	baz=326								
FRI	**Friant**	**1.57**	**304**				**Pn**	**18 56 29.9**	**-0.4**
TMB	**Temblor Range**	**1.58**	**229**				**Pb**	**18 56 31.3**	**-0.2**
ABL	**Mount Abel**	**1.58**	**217**				**Pn**	**18 56 30.7**	**+0.1**
OSI	**Osito Audit: C**	**1.60**	**199**		S		**Sg**	**18 56 53.0**	**-0.2**
	baz=19								
OSI	**Osito Audit: C**	**1.60**	**199**				**Pg**	**18 56 32.0**	**-0.5**
MLAC	**Mammoth, Mammo**	**1.62**	**338**		Pb		**Pn**	**18 56 31.9**	**+0.6**
	baz=157,SNR=27								
MLAC					S		**Sn**	**18 56 52.8**	**+0.3**
	baz=157								
OMMB	**Old Mammoth Mi**	**1.66**	**334**				**Pn**	**18 56 32.0**	**+0.2**
MCSM	**Casa Diablo Ho**	**1.66**	**337**				**Pn**	**18 56 32.7**	**+0.8**
TPNV	**Topopah Spring**	**1.69**	**60**		P		**Pn**	**18 56 31.8**	**-0.3**
	baz=242,SNR=105								
TPNV					S		**Sb**	**18 56 55.1**	**+0.1**
	baz=242								
TPNV	**Topopah Spring**	**1.69**	**60**				**Pn**	**18 56 31.7**	**-0.3**
MDPB	**Devils Postpil**	**1.70**	**332**				**Pn**	**18 56 33.1**	**+0.6**
SMMC	**Simmler**	**1.76**	**243**		P		**Pn**	**18 56 33.5**	**+0.5**
	baz=62,SNR=9.5								
SMMC					S		**Sb**	**18 56 57.5**	**+0.6**
	baz=62								
PAGB	**Antelope Grade**	**1.81**	**258**				**Pn**	**18 56 34.1**	**+0.6**
MMIM	**Miami Mountain**	**1.86**	**314**				**Pn**	**18 56 35.6**	**+1.2**
PKM	**Mcpherson Peak**	**1.88**	**229**		Pb		**Pb**	**18 56 35.6**	**-1.2**
	baz=48,SNR=42								
PKM					S		**Sb**	**18 57 00.5**	**-0.1**
	baz=48								
DECC	**Green Verdugo**	**1.88**	**186**		Sb		**Sg**	**18 57 03.0**	**+0.7**
	baz=6.5								
TUQ	**Turquoise Moun**	**1.88**	**111**		P		**Pn**	**18 56 34.0**	**-0.8**
	baz=293,SNR

0.2nm,0.3s,baz=262,slow=19,SNR=2.0
WSAR LR LR 19 14 16.9
comp=Z,198nm,20.2s,baz=352,slow=40
IDI Anoyia 20.53 325 P **P** **19 06 32.9 -0.1**
4.4nm,1.0s,baz=139,slow=11,SNR=2.1
BR131 Keskin Array S 21.14 348 P **P** **19 06 41.7 +2.1**
BR131 IAmb IAmb 19 06 46.3
comp=Z,24nm,1.8s
BRTR Keskin Array B 21.14 348 P **P** **19 06 40.5 +0.9**
comp=Z,3.9nm,0.9s,baz=171,slow=13,SNR=19
BRTR PcP **PcP** **19 10 44.7 -0.8**
comp=Z,0.4nm,0.7s,baz=177,slow=2.9,SNR=3.4
MBAR Mbarara 21.25 204 P **P** **19 06 43.2 +2.1**
comp=Z,2.5nm,0.2s,baz=28,slow=16,SNR=5.3
MBAR Mbarara 21.25 204 P **P** **19 06 43.5 +2.4**
MBAR IAmb IAmb 19 06 44.2
comp=Z,28nm,1.8s
MANT Manisa 21.45 337 P **P** **19 06 44.9 +1.8**
ILGA Ilgaz 22.41 349 P **P** **19 06 54.5 +1.2**
ILGA IAmb IAmb 19 07 00.4
comp=Z,11nm,1.1s
AKH Akhalkalaki 22.56 8 P **P** **19 06 56.5 +1.5**
AKH IAmb IAmb 19 07 00.8
comp=Z,20nm,1.5s
KBZ Khabaz 24.78 6 P **P** **19 07 17.5 +1.3**
comp=Z,2.7nm,1.1s,baz=203,slow=9.2,SNR=4.2
AKASG Malin Array Be 32.54 348 P **P** **19 08 25.1 -0.3**
comp=Z,0.3nm,0.4s,baz=172,slow=7.5,SNR=4.1
ABKAR Akbulak array 34.42 24 P **P** **19 08 41.6 -0.2**
ABKAR IAmb IAmb 19 09 08.3
comp=Z,5.3nm,1.6s
AKTO Aktyubinsk 34.69 21 P **P** **19 08 43.5 -0.6**
comp=Z,0.8nm,0.6s,baz=180,slow=6.1,SNR=2.5
GERES GERESS Array B 36.13 331 P **P** **19 08 56.3 -0.3**
comp=Z,0.7nm,0.7s,baz=120,slow=5.8,SNR=5.4
TOA0 Torodi Ar. Sit 36.48 266 P **P** **19 09 00.4 +0.5**
TOA0 IAmb IAmb 19 09 02.5
comp=Z,7.0nm,0.9s
TORD Torodi Ar. Bea 36.48 266 P **P** **19 08 59.4 -0.6**
comp=Z,5.4nm,0.9s,baz=78,slow=8.8,SNR=18
AAK Ala-Archa 37.91 44 P **P** **19 09 12.7 +0.6**
ARU Arti 40.02 17 P **P** **19 09 29.2 -0.1**
comp=Z,0.5nm,0.5s,baz=244,slow=3.3,SNR=3.9
ARU Arti 40.02 17 P **P** **19 09 29.5 +0.3**
ARU IAmb IAmb 19 09 32.5
comp=Z,7.3nm,1.1s
BVAR Borovoye Array 41.61 28 P **P** **19 09 42.6 +0.2**
comp=Z,0.6nm,0.6s,baz=230,slow=8.9,SNR=4.7
BVAR PcP **PcP** **19 11 39.2 -0.2**
comp=Z,0.8nm,0.8s,baz=252,slow=2.9,SNR=4.2
ESDC Sonseca Array 42.37 308 P **P** **19 09 48.4 -0.5**
comp=Z,0.5nm,0.6s,baz=103,slow=6.2,SNR=3.6
KURK Kurchatov 44.33 35 P **P** **19 10 05.1 +0.6**
KURK IAmb IAmb 19 10 08.5
comp=Z,4.9nm,1.1s
MAKZ Makanchi 44.52 42 P **P** **19 10 07.9 +1.7**
MAKZ IAmb IAmb 19 10 11.2
comp=Z,3.8nm,1.0s
DBIC Dimbokro 44.57 260 P **P** **19 10 06.2 -0.7**
comp=Z,2.7nm,0.9s,baz=58,slow=7.3,SNR=4.3
MK31 Makanchi Array 44.71 42 P **P** **19 10 08.0 +0.3**
MKAR Makanchi Array 44.71 42 P **P** **19 10 06.9 -0.8**
comp=Z,1.3nm,0.7s,baz=242,slow=6.2,SNR=13
LBTB Lobatse 45.78 197 P **P** **19 10 15.4 -1.0**
ZAA0 Zalesovo Array 49.22 34 P **P** **19 10 42.5 -0.3**
ZALV Zalesovo Beam 49.22 34 P **P** **19 10 41.6 -1.1**
comp=Z,2.9nm,1.0s,baz=245,slow=9.6,SNR=8.9
GTA Gaotai 55.59 55 *eP* **P** **19 11 31.3 +0.8**
GTA pP sP 19 11 35.3 -0.2
GTA sP pP 19 11 38.3 +4.1
GTA pmax pmax
comp=Z,4.0nm,1.5s
CMAR Chiang Mai Arr 56.30 80 P **P** **19 11 35.2 -0.5**
comp=Z,0.5nm,0.6s,baz=290,slow=8.3,SNR=3.2
SONM Songino Array 60.84 45 P **P** **19 12 06.5 -0.5**
comp=Z,1.0nm,0.7s,baz=270,slow=8.5,SNR=6.2
SEY Seymchan 83.19 25 P **P** **19 14 21.0 +0.5**
comp=Z,0.6nm,0.5s,baz=334,slow=9.4,SNR=3.3
ILAR Eielson Array 96.29 3 P **P** **19 15 22.2 -0.6**
comp=Z,0.2nm,0.5s,baz=339,slow=4.8,SNR=2.5

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*ISCJB **23** 19:08:04.2±0.4,53.52S±0.06×8.9E±0.1,h10km,mb4.2/20, MS4.1/6,Error ellipse: s-maj=11.1km s-min=8.2km az=9.7*
*IDC **23** 19:08:04.3±0.5,53.53S×8.90E,h0km,mb4.3/20, mb1 4.3/21,mb1mx4.2/34,mbtmp4.3/21,ML4.4/1,MS4.1/7, Ms1 4.1/7,ms1mx3.8/21,Error ellipse: s-maj=17.0km s-min=14.4km az=97.0*
*NEIC **23** 19:08:06.1±1.6,53.5S±0.1×8.9E±0.2,h10km±1km, mb4.8/16*
*GCMT **23** 19:08:11.1±0.3,53.58S±0.02×9.22E±0.03,h22km±2km, MW5.0/78,Moment Tensor Solution. s15,c17; s78,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.42±.21; $M_{\theta\theta}$3.22±.16; $M_{\phi\phi}$-2.80±.15; $M_{r\theta}$1.38±.29; $M_{r\phi}$0.27±.12; $M_{\theta\phi}$-0.89±.28; Best double couple: $M_0$3.43200×10^{16} NP1:χ_{θ}311.00000°,δ88.00000°,λ-29.00000°. NP2: ϕ_s42.00000°,δ61.00000°,λ-178.00000°. Principal axes: T 3.6840, Plg19.0000°, Azm0.0000°; N -0.5070, Plg61.0000°, Azm128.0000°; P -3.1800, Plg21.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 19:08:05.9±0.5,53.50S±0.08×8.9E±0.1,h10km,n62, σ0.81/55,mb4.6/24,MS4.0/6,3D,Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**18.85**	**198**	P	**Pn**	**19 12 26.6**	**+0.5**
VNA1				S	Sn	19 15 37.5	-19
VNA2	**Neumayer--Watz**	**18.93**	**197**	P	**Pn**	**19 12 27.1**	**-0.1**
	baz=23,slow=13						
VNA2				S	Sn	19 15 39.1	-20
	baz=29,slow=25						
SNAA	**Sanae**	**18.95**	**191**	P	**Pn**	**19 12 27.2**	**-0.2**
SNAA				S	Sn	19 15 37.7	-22
SNAA	**Sanae**	**18.95**	**191**	P	**P**	**19 12 26.7**	**-0.1**
	1.2nm,0.3s,baz=18,slow=11,SNR=45						
SNAA				S	Sn	19 15 42.3	-17
	0.4nm,0.3s,baz=338,slow=16,SNR=6.1						
SNAA				LR	LR	19 17 53.3	
	comp=Z,407nm,21.7s,baz=351,slow=31						
SNAA	**Sanae**	**18.95**	**191**	P	**Pn**	**19 12 27.1**	**-0.2**
SNAA				IAmb	IAmb	19 12 31.1	
	comp=Z,50nm,0.9s						
VNA3	**Neumayer Olymp**	**19.60**	**198**	P	**P**	**19 12 33.8**	**-0.1**
VNA3				S	S	19 15 56.9	-18
SYO	**Syowa Base**	**21.07**	**149**	↓*eP*	**P**	**19 12 48.4**	**-1.4**
SYO	**Syowa Base**	**21.07**	**149**	↓*i*Pn	**P**	**19 12 50.0**	**+0.2**
SYO	**Syowa Base**	**21.07**	**149**	↓*ep*Pn	**P**	**19 12 53.4**	**+3.6**
SUR	**Sutherland**	**22.79**	**27**	P	**P**	**19 13 09.3**	**+0.6**
	comp=Z,9.6nm,0.8s,baz=174,slow=11,SNR=5.3						
SUR	**Sutherland**	**22.79**	**27**	P	**P**	**19 13 08.9**	**+0.2**
SUR				IAmb	IAmb	19 13 16.7	
	comp=Z,76nm,1.7s						
BOSA	**Boshof**	**27.62**	**32**	P	**P**	**19 13 53.1**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=207,slow=11,SNR=3.7						
BOSA				LR	LR	19 22 53.8	
	comp=Z,349nm,18.7s,baz=196,slow=32						
BOSA	**Boshof**	**27.62**	**32**	P	**P**	**19 13 52.3**	**-1.3**
BOSA				IAmb	IAmb	19 14 08.0	
	comp=Z,17nm,1.4s						
MAW	**Mawson**	**28.91**	**140**	P	**P**	**19 14 04.8**	**+0.2**
	comp=Z,2.5nm,0.9s,baz=287,slow=11,SNR=4.7						
MAW	**Mawson**	**28.91**	**140**	P	**P**	**19 14 05.4**	**+0.9**
MAW				IAmb	IAmb	19 14 44.2	
	comp=Z,1.2nm,0.9s						
LBTB	**Lobatse**	**31.09**	**30**	P	**P**	**19 14 24.2**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=184,slow=9.9,SNR=3.7						
LBTB				LR	LR	19 25 34.2	
	comp=Z,184nm,19.0s,baz=192,slow=34						
LBTB	**Lobatse**	**31.09**	**30**	P	**P**	**19 14 24.5**	**+0.1**
LBTB				IAmb	IAmb	19 14 37.2	
	comp=Z,5.2nm,0.8s						
QSPA	**South Pole Qui**	**36.73**	**180**	P	**P**	**19 15 12.6**	**-0.5**
	comp=Z,6.6nm,0.7s,baz=187,slow=1.3,SNR=19						
QSPA	**South Pole Qui**	**36.73**	**180**	P	**P**	**19 15 12.6**	**-0.5**
QSPA				IAmb	IAmb	19 15 14.3	
	comp=Z,27nm,1.4s						
VNDA	**Vanda**	**48.16**	**172**	P	**P**	**19 16 45.7**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=200,slow=5.9,SNR=9.5						
VNDA	**Vanda**	**48.16**	**172**	P	**P**	**19 16 46.5**	**+0.9**
VNDA				IAmb	IAmb	19 17 07.3	
	comp=Z,12nm,1.0s						
TRQA	**Tornquist**	**49.69**	**258**	P	**P**	**19 16 58.6**	**+0.7**
TRQA				IAmb	IAmb	19 16 59.8	
	comp=Z,16nm,1.4s						
PLCA	**Paso Flores**	**52.81**	**250**	P	**P**	**19 17 21.3**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=97,slow=4.5,SNR=4.7						
PLCA	**Paso Flores**	**52.81**	**250**	P	**P**	**19 17 21.5**	**+0.3**
PLCA				IAmb	IAmb	19 17 50.7	
	comp=Z,4.6nm,1.1s						
GO06	**Curarrehue**	**54.11**	**250**	P	**P**	**19 17 30.5**	**-0.4**
GO06				IAmb	IAmb	19 18 40.1	
	comp=Z,17nm,1.8s						
CPUP	**Villa Florida**	**55.25**	**272**	P	**P**	**19 17 39.2**	**+0.1**
	comp=Z,7.4nm,0.9s,baz=137,slow=6.1,SNR=13						
CPUP	**Villa Florida**	**55.25**	**272**	P	**P**	**19 17 39.5**	**+0.3**
CPUP				IAmb	IAmb	19 17 40.7	
	comp=Z,17nm,1.2s						
CFA	**Coronel Fontan**	**57.87**	**259**	P	**P**	**19 17 57.2**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=127,slow=9.4,SNR=4.5						
BDFB	**Brasilia**	**58.05**	**288**	P	**P**	**19 17 59.1**	**-0.2**
	comp=Z,4.8nm,0.8s,baz=126,slow=11,SNR=3.8						
DBIC	**Dimbokro**	**61.06**	**344**	P	**P**	**19 18 20.2**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=139,slow=7.6,SNR=8.1						
DBIC				LR	LR	19 40 25.8	
	comp=Z,77nm,19.9s,baz=120,slow=32						
DBIC	**Dimbokro**	**61.06**	**344**	P	**P**	**19 18 19.8**	**0.0**
DBIC				IAmb	IAmb	19 19 51.5	
	comp=Z,33nm,1.9s						
GO02	**Mina Guanaco**	**63.43**	**263**	P	**P**	**19 18 36.8**	**+0.7**
GO02				IAmb	IAmb	19 18 58.8	
	comp=Z,11nm,1.2s						
LVC	**Limon Verde**	**64.96**	**265**	P	**P**	**19 18 45.5**	**-0.8**
	comp=Z,3.2nm,0.7s,baz=107,slow=4.6,SNR=3.9						
LVC	**Limon Verde**	**64.96**	**265**	P	**P**	**19 18 45.1**	**-1.1**
LVC				IAmb	IAmb	19 19 04.0	
	comp=Z,8.3nm,1.1s						
SIV	**San Ignacio**	**65.39**	**276**	P	**P**	**19 18 48.1**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=162,slow=7.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**66.67**	**352**	P	**P**	**19 18 56.7**	**0.0**
	comp=Z,2.0nm,1.0s,baz=179,slow=8.7,SNR=7.5						
TORD				LR	LR	19 43 15.6	
	comp=Z,101nm,20.2s,baz=0.0,slow=32						
PB11	**IPOC Station P**	**67.59**	**267**	P	**P**	**19 19 03.1**	**+0.3**
PB11				IAmb	IAmb	19 19 23.7	
	comp=Z,11nm,1.2s						
H08N3	**Diego Garcia H**	**68.54**	**71**	T	T	20 34 01.5	
	baz=215						
H08N1	**Diego Garcia H**	**68.56**	**71**	T	T	20 33 57.4	
	baz=215						
H08N2	**Diego Garcia H**	**68.56**	**71**	T	T	20 34 00.6	
	baz=215						
LPAZ	**La Paz**	**69.36**	**270**	P	**P**	**19 19 15.2**	**+0.6**
	comp=Z,10nm,1.0s,baz=116,slow=4.6,SNR=23						
LPAZ				LR	LR	19 49 48.1	
	comp=Z,702nm,18.3s,baz=78,slow=36						
LPAZ	**La Paz**	**69.36**	**270**	P	**P**	**19 19 14.7**	**+0.1**
LPAZ				IAmb	IAmb	19 19 16.9	
	comp=Z,15nm,1.1s						
H01W2	**Cape Leeuwin H**	**70.87**	**123**	T	T	20 37 47.2	
	baz=218,slow=75,SNR=84						
H01W3	**Cape Leeuwin H**	**70.89**	**123**	T	T	20 37 49.2	
	baz=218,slow=75,SNR=82						
H01W1	**Cape Leeuwin H**	**70.89**	**123**	T	T	20 37 40.0	
	baz=218,slow=75,SNR=84						
STKA	**Stephens Creek**	**85.60**	**141**	P	**P**	**19 20 44.3**	**-0.1**
	comp=Z,2.3nm,1.1s,baz=135,slow=1.4,SNR=2.4						
KEST	**Kesra**	**88.87**	**0**	P	**P**	**19 21 00.5**	**+0.7**
	comp=Z,3.1nm,0.7s,baz=225,slow=7.1,SNR=3.7						
KEST				LR	LR	19 57 25.7	
	comp=Z,90nm,19.0s,baz=317,slow=33						
ASAR	**Alice Springs**	**89.67**	**131**	P	**P**	**19 21 03.2**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=188,slow=5.6,SNR=3.7						
WRA	**Warramunga Arr**	**93.10**	**130**	P	**P**	**19 21 19.8**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=216,slow=6.0,SNR=2.5						
BRTR	**Keskin Array B**	**95.29**	**19**	P	**P**	**19 21 29.8**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=173,slow=6.4,SNR=5.1						
MKAR	**Makanchi Array**	**117.74**	**48**	PKP	**PKPdf**	**19 26 50.2**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=198,slow=4.3,SNR=2.3						
TXAR	**Lajitas Array**	**126.22**	**272**	PKP	**PKPdf**	**19 27 07.7**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=172,slow=3.7,SNR=4.3						
SHPR	**Sheep Range**	**138.12**	**269**	PKPdf	**PKPdf**	**19 27 31.5**	**+0.8**
PDAR	**Pinedale Array**	**138.77**	**281**	PKP	**PKPdf**	**19 27 30.7**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=123,slow=3.3,SNR=3.6						
NVAR	**Mina Array Bea**	**141.26**	**269**	PKhKP	PKPpre	19 27 31.1	
	comp=Z,0.1nm,0.4s,baz=129,slow=3.6,SNR=3.6						
RES	**Resolute Bay**	**144.19**	**334**		**PKPdf**	**19 27 41.0**	**+0.8**
F10A	**Beach Ranch, E**	**145.12**	**280**		**PKPdf**	**19 27 43.7**	**+0.9**
YBH	**Yreka Blue Hor**	**145.96**	**270**		**PKPab**	**19 27 45.7**	**0.0**
TIXI	**Tiksi**	**148.78**	**32**		**PKPbc**	**19 27 50.4**	**-1.5**
YKA	**Yellowknife Ar**	**149.69**	**310**	PKPbc	**PKPbc**	**19 27 54.9**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=102,slow=2.4,SNR=29						
YKW3	**Yellowknife Ar**	**149.71**	**310**		**PKPbc**	**19 27 55.0**	**+0.6**
ILAR	**Eielson Array**	**163.35**	**322**	PKPab	**PKPab**	**19 28 58.6**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=48,slow=4.0,SNR=2.9						

IDC 23 19:36:35.2±11.0,0.02N×121.83E,h207km±111km, mb2.7/3,mb1 2.9/3,mb1mx2.6/48,mbtmp3.2/3,Error ellipse: s-maj=236.5km s-min=29.1km az=60.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.32**	**149**	P	P	19 41 24.9	-0.1
	0.1nm,0.3s,baz=325,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**26.30**	**154**	P	P	19 41 52.1	+0.1
	0.2nm,0.6s,baz=338,slow=11,SNR=2.3						
ASAR				PcP	PcP	19 45 12.3	-0.4
	0.5nm,1.0s,baz=348,slow=1.8,SNR=2.3						
MKAR	**Makanchi Array**	**57.99**	**329**	P	P	19 46 06.2	0.0
	0.2nm,0.3s,baz=134,slow=7.7,SNR=2.4						

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*ISCJB **23** 19:39:07.2±0.3,24.41N±0.02×122.26E±0.01,h18km±3km, Error ellipse: s-maj=2.8km s-min=1.9km az=164.7*
*JMA **23** 19:39:07.5,24.35N×122.21E,h35km±3km,M2.9*
*TAP **23** 19:39:08.2,24.44N×122.14E,h23km,ML3.1,C*

ISC 23 19:39:07.3±0.9,24.41N±0.02×122.23E±0.02,h23km±7km, n92,σ0.82/161,4D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.17**	**326**	↓*i*P	**Pb**	**19 39 12.8**	**+0.4**
	baz=354						
EOS1				S	**Sb**	**19 39 16.4**	**+0.7**
	baz=354						
TWC	**Suao**	**0.40**	**300**	↓P	**Pb**	**19 39 15.2**	**-0.6**
	baz=304						
TWC				*e*S	**Sb**	**19 39 19.8**	**-1.7**
	baz=304						
NANB	**Nanao**	**0.44**	**272**	*e*P	**Pb**	**19 39 15.9**	**-0.5**
	baz=273						
NANB				*e*S	**Sb**	**19 39 21.8**	**-0.9**
	baz=273						
ENA	**Nanau**	**0.45**	**272**	↓P	**Pb**	**19 39 16.0**	**-0.6**
	baz=273						
ENA				*e*S	**Sb**	**19 39 22.0**	**-0.8**
	baz=273						
ILA	**Ilan**	**0.56**	**309**	*e*P	**Pb**	**19 39 18.8**	**+0.2**
	baz=308						
ILA				*e*S	**Sb**	**19 39 25.7**	**-0.5**
	baz=308						
NTC	**Toucheng**	**0.57**	**321**	*e*P	**Pb**	**19 39 19.0**	**+0.2**
	baz=326						
NTC				*e*S	**Sn**	**19 39 26.8**	**-2.0**
	baz=326						
TWE	**Neicheng**	**0.60**	**301**	P	**Pb**	**19 39 18.8**	**-0.3**
	baz=304						
TWE				*e*S	**Sb**	**19 39 26.1**	**-1.1**
	baz=304						
NACB	**Ninganchiao**	**0.62**	**248**	*e*P	**Pb**	**19 39 19.3**	**-0.3**
	baz=245						
NACB				*e*S	**Sb**	**19 39 27.8**	**-0.2**
	baz=245						
TWB1	**Santiao Chiao**	**0.63**	**340**	*e*P	**Pb**	**19 39 20.2**	**+0.4**
	baz=350						
TWB1				*e*S	**Sb**	**19 39 28.1**	**-0.1**
	baz=350						
SLBB	**Yuanshan**	**0.64**	**302**	P	**Pb**	**19 39 18.9**	**-1.0**
	baz=305						
SLBB				*e*S	**Sb**	**19 39 28.1**	**-0.4**
	baz=305						
ENTT	**Nioudou**	**0.65**	**291**	*i*P	**Pb**	**19 39 19.9**	**-0.1**
	baz=291						
ENTT				*e*S	**Sb**	**19 39 27.5**	**-1.1**
	baz=291						
JYNG	**Yonagunijimaku**	**0.65**	**86**	P	**Pb**	**19 39 20.4**	**+0.3**
JYNG				*e*S	**Sb**	**19 39 29.5**	**+0.7**
TWD	**Chiawan**	**0.67**	**240**	*e*P	**Pb**	**19 39 20.4**	**+0.1**
	baz=239						
TWD				*e*S	**Sb**	**19 39 29.2**	**+0.1**
	baz=239						
TIPB	**Shuangxi**	**0.67**	**327**	↓*e*P	**Pb**	**19 39 20.6**	**+0.2**
	baz=325						
TIPB				*e*S	**Sb**	**19 39 28.9**	**-0.4**
	baz=325						
NDT	**Datong Townshi**	**0.68**	**286**	P	**Pb**	**19 39 20.6**	**0.0**
	baz=286						
NDT				*e*S	**Sb**	**19 39 28.8**	**-0.8**
	baz=286						
ETLH	**Xiulin Townshi**	**0.71**	**254**	P	**Pb**	**19 39 20.9**	**-0.3**
	baz=254						
ETLH				*e*S	**Sb**	**19 39 30.5**	**-0.1**
	baz=254						
YOJ	**Yonaguni jima**	**0.71**	**86**	P	**Pb**	**19 39 21.4**	**+0.3**
YOJ				*e*S	**Sb**	**19 39 31.1**	**+0.6**
NWLT	**Wulai**	**0.76**	**299**	*e*P	**Pn**	**19 39 21.9**	**-0.7**
	baz=296						
NWLT				*e*S	**Sb**	**19 39 30.9**	**-0.8**
	baz=296						
NNSH	**Datong**	**0.77**	**271**	*e*P	**Pb**	**19 39 21.9**	**-0.2**
	baz=274						
NNSH				*e*S	**Sb**	**19 39 31.7**	**-0.6**
	baz=274						
NWF	**Wu-fen Shan**	**0.77**	**328**	P	**Pn**	**19 39 22.6**	**-0.4**
	baz=323						
NWF				*e*S	**Sn**	**19 39 32.6**	**-1.3**
	baz=323						
WFSB	**Wu-fen Shan**	**0.77**	**328**	*e*P	**Pn**	**19 39 22.6**	**-0.3**
	baz=323						
WFSB				*e*S	**Sn**	**19 39 32.6**	**-1.2**
	baz=323						
NNS	**Nan Shan**	**0.78**	**272**	P	**Pb**	**19 39 22.1**	**-0.2**
	baz=275						
NNS				*e*S	**Sb**	**19 39 31.9**	**-0.7**
	baz=275						
TWA	**Mucha**	**0.82**	**314**	*e*P	**Pn**	**19 39 23.5**	**0.0**
	baz=317						
TWA				*e*S	**Sn**	**19 39 33.4**	**-1.5**
	baz=317						
YHNB	**Yeheng**	**0.82**	**289**	*e*P	**Pn**	**19 39 22.9**	**-0.7**
	baz=291						
YHNB				*e*S	**Sb**	**19 39 32.4**	**-1.3**
	baz=291						
NSK	**Sanguang**	**0.84**	**289**	P	**Pn**	**19 39 23.1**	**-0.7**
	baz=291						
NSK				*e*S	**Sb**	**19 39 33.2**	**-0.9**
	baz=291						
NHDH	**Xindian Distri**	**0.84**	**311**	*e*P	**Pn**	**19 39 24.2**	**+0.4**
	baz=319						
NHDH				*e*S	**Sn**	**19 39 34.4**	**-1.2**
	baz=319						
TAP1	**Taipei**	**0.90**	**314**	*e*P	**Pn**	**19 39 25.2**	**+0.7**
	baz=322						
TAP1				*e*S	**Sn**	**19 39 36.4**	**-0.3**
	baz=322						
TAP	**Taipei**	**0.91**	**314**	*e*P	**Pn**	**19 39 25.7**	**+1.0**
	baz=322						
TAP				*e*S	**Sn**	**19 39 36.6**	**-0.5**
	baz=322						
WHF	**Hehuan Shan**	**0.92**	**253**	P	**Pb**	**19 39 24.7**	**-0.1**
	baz=257						
WHF				*e*S	**Sn**	**19 39 36.9**	**-1.1**
	baz=257						
ESL	**Shilin**	**0.94**	**231**	*e*P	**Pb**	**19 39 24.7**	**-0.3**
	baz=211						
YM01	**YM01**	**0.95**	**321**	*e*P	**Pn**	**19 39 25.1**	**-0.2**
	baz=324						
YM01				*e*S	**Sn**	**19 39 37.6**	**-0.6**
	baz=324						
YM10	**YM10**	**0.96**	**321**	*e*P	**Pb**	**19 39 25.1**	**-0.2**
	baz=324						
YM10				*e*S	**Sn**	**19 39 38.0**	**-0.5**
	baz=324						
YM11	**YM11**	**0.96**	**322**	*e*P	**Pn**	**19 39 26.3**	**+0.8**
	baz=324						
YM05	**YM05**	**0.96**	**321**	*e*P	**Pn**	**19 39 26.3**	**+0.8**
	baz=324						
YM08	**YM08**	**0.97**	**323**	*e*P	**Pn**	**19 39 26.5**	**+0.9**
	baz=321						
YM08				*e*S	**Sn**	**19 39 37.9**	**-0.8**
	baz=321						
YM04	**YM04**	**0.97**	**320**	*e*P	**Pb**	**19 39 25.1**	**-0.4**
	baz=323						
YM04				*e*S	**Sn**	**19 39 37.9**	**-0.8**
	baz=323						
TWT	**Tachien**	**0.97**	**261**	*e*P	**Pn**	**19 39 26.4**	**+0.6**
	baz=262						
TWT				*e*S	**Sn**	**19 39 39.0**	**0.0**
	baz=262						
TDCB	**Techi**	**0.99**	**261**	*e*P	**Pn**	**19 39 26.2**	**+0.3**
	baz=262						
TDCB				*e*S	**Sn**	**19 39 38.3**	**-1.0**
	baz=262						
WLTB	**Daxi**	**0.99**	**297**	*e*P	**Pn**	**19 39 26.9**	**+1.1**
	baz=289						
ANP	**Anpu**	**1.01**	**320**	*e*P	**Pn**	**19 39 26.8**	**+0.7**
	baz=323						
TWS1	**Kuangyinshan**	**1.01**	**313**	*e*P	**Pn**	**19 39 26.4**	**+0.3**
	baz=321						
TWS1				*e*S	**Sn**	**19 39 39.8**	**+0.2**
	baz=321						
CHGB	**Renai**	**1.02**	**250**	*e*P	**Pn**	**19 39 26.9**	**+0.4**
	baz=232						
CHGB				*e*S	**Sn**	**19 39 40.7**	**+0.4**
	baz=232						
NTST	**Danshui**	**1.03**	**317**	*e*P	**Pn**	**19 39 27.9**	**+1.5**
	baz=319						
NTST				*e*S	**Sn**	**19 39 40.2**	**0.0**
	baz=319						
TWY	**Chenhua**	**1.03**	**327**	*e*P	**Pn**	**19 39 27.6**	**+1.1**
	baz=330						
TWY				*e*S	**Sn**	**19 39 40.1**	**-0.1**
	baz=330						
EGFH	**Guangfu**	**1.04**	**225**	*e*P	**Pn**	**19 39 26.3**	**-0.2**
	baz=206						
LIOB	**Emei**	**1.13**	**282**	*e*P	**Pb**	**19 39 29.2**	**+1.0**
	baz=281						
LIOB				*e*S	**Sn**	**19 39 43.7**	**+1.0**
	baz=281						
NSTT	**Nanjuang**	**1.14**	**281**	*e*P	**Pb**	**19 39 29.4**	**+1.0**
	baz=280						
NSTT				*e*S	**Sn**	**19 39 43.1**	**+0.3**
	baz=280						
HGSD	**Ruisui**	**1.17**	**219**	*e*P	**Pn**	**19 39 27.9**	**-0.5**
	baz=203						
HGSD				*e*S	**Sn**	**19 39 43.9**	**+0.2**
	baz=203						
WHP	**Taichung City**	**1.18**	**264**	*e*P	**Pb**	**19 39 30.3**	**+1.2**
	baz=261						
WHP				*e*S	**Sn**	**19 39 44.9**	**+1.0**
	baz=261						
VWDT	**VWDT**	**1.19**	**237**	*e*P	**Pb**	**19

TWF1	**Yuli**	**1.36**	**219**	P		**Pn**	**19 39 30.5**	**-0.4**
	baz=204							
IRIF	**Iriomote-Funau**	**1.37**	**93**	P		**Pn**	**19 39 30.8**	**-0.3**
IRIF				S		**Sn**	**19 39 48.3**	**-0.2**
WHYT	**Xinyi Township**	**1.45**	**241**	*eP*		**Pb**	**19 39 33.7**	**+0.1**
	baz=225							
FULB	**Fuli**	**1.48**	**216**	*eP*		**Pn**	**19 39 31.7**	**-0.9**
	baz=199							
FULB				*eS*		**Sn**	**19 39 51.7**	**+0.4**
	baz=199							
HATJ	**Hateruma jima**	**1.48**	**103**	P		**Pn**	**19 39 33.0**	**+0.4**
HATJ				*eS*		**Sn**	**19 39 51.2**	**0.0**
WJS	**Zhushan**	**1.49**	**247**	*eP*		**Pb**	**19 39 35.6**	**+1.3**
	baz=229							
WNT	**Mingjian**	**1.51**	**250**	*eP*		**Pb**	**19 39 35.6**	**+1.0**
	baz=245							
WNT				*eS*		**Sb**	**19 39 55.6**	**+2.3**
	baz=245							
ALS	**Alishan**	**1.58**	**236**	P		**Pb**	**19 39 35.9**	**-0.2**
	baz=219							
ALS				*eS*		**Sb**	**19 39 55.1**	**-0.7**
	baz=219							
CHN5	**Tsauling**	**1.63**	**241**	*eP*		**Pb**	**19 39 36.3**	**-0.5**
	baz=222							
CHN5				*eS*		**Sb**	**19 39 58.4**	**+1.4**
	baz=222							
JKRS	**Kuro-shima**	**1.63**	**96**	P		**Pn**	**19 39 34.9**	**+0.2**
JKRS				S		**Sn**	**19 39 54.8**	**-0.2**
ELDTW	**Lidau**	**1.65**	**223**	*eP*		**Pn**	**19 39 34.8**	**-0.2**
	baz=208							
WDLH	**Douliu**	**1.71**	**245**	*eP*		**Pb**	**19 39 37.8**	**-0.2**
	baz=227							
JIJ	**Ishigaki jima**	**1.75**	**91**	P		**Pn**	**19 39 35.8**	**-0.4**
JIJ				*eS*		**Sn**	**19 39 55.9**	**-1.9**
RLNB	**Erlin**	**1.78**	**254**	*eP*		**Pb**	**19 39 39.0**	**-0.4**
	baz=249							
CHN4	**Tsaushan**	**1.83**	**235**	*eP*		**Pb**	**19 39 39.9**	**-0.3**
	baz=218							
CHN4				*eS*		**Sb**	**19 40 03.2**	**+0.5**
	baz=218							
TPUB	**Ta-pu**	**1.83**	**233**	*eP*		**Pb**	**19 39 39.2**	**-1.1**
	baz=219							
TPUB				*eS*		**Sb**	**19 40 02.6**	**-0.1**
	baz=219							
WTP	**Ta-pu**	**1.88**	**232**	*eP*		**Pb**	**19 39 40.0**	**-1.1**
	baz=218							
WTP				*eS*		**Sb**	**19 40 03.4**	**-0.8**
	baz=218							
TWGBT	**Beinan**	**1.90**	**214**	*eP*		**Pn**	**19 39 39.3**	**+0.9**
	baz=211							
JISG	**Ishigakijimahi**	**1.91**	**84**	P		**Pn**	**19 39 37.9**	**-0.5**
JISG				*eS*		**Sn**	**19 40 00.7**	**-1.0**
TWK	**Hsinying**	**1.96**	**235**	*eP*		**Pb**	**19 39 41.3**	**-1.1**
	baz=218							
TWK				*eS*		**Sb**	**19 40 06.2**	**-0.2**
	baz=218							
CHN1	**Nanshi**	**1.98**	**232**	*eP*		**Pb**	**19 39 41.8**	**-0.9**
	baz=216							
CHN1				*eS*		**Sb**	**19 40 07.1**	**+0.2**
	baz=216							
SGST	**Jiashian**	**2.01**	**229**	*eP*		**Pb**	**19 39 42.1**	**-1.1**
	baz=213							
SGST				*eS*		**Sn**	**19 40 04.2**	**0.0**
	baz=213							
SLGT	**Liugui**	**2.02**	**226**	*eP*		**Pb**	**19 39 42.5**	**-0.9**
	baz=222							
ECL	**Taimali**	**2.15**	**213**	*eP*		**Pn**	**19 39 42.2**	**+0.3**
	baz=211							
SSD	**Sandimen**	**2.21**	**222**	*eP*		**Pn**	**19 39 43.8**	**+1.2**
	baz=206							
SSD				*eS*		**Sb**	**19 40 12.4**	**-1.2**
	baz=206							
JTJ	**Tarama**	**2.26**	**84**	P		**Pn**	**19 39 43.8**	**+0.4**
JTJ				*eS*		**Sn**	**19 40 10.4**	**-0.2**
MASBT	**Mashibuluo**	**2.31**	**220**	*eP*		**Pn**	**19 39 45.3**	**+1.2**
	baz=209							
MASBT				*eS*		**Sb**	**19 40 15.1**	**-1.5**
	baz=209							
EAST	**Anshuo**	**2.38**	**212**	*eP*		**Pn**	**19 39 46.2**	**+1.2**
	baz=210							
PTTC	**Pingtan**	**2.48**	**296**	*eS*		**Sn**	**19 40 16.8**	**+0.9**
	baz=296							
JIRB	**Irabujima**	**2.71**	**81**	P		**Pn**	**19 39 50.1**	**+0.6**
JIRB				*eS*		**Sn**	**19 40 21.3**	**-0.3**
JMJ2	**Miyako jima3**	**2.84**	**83**	P		**Pn**	**19 39 52.2**	**+0.9**
KNMB	**Chin-men Tao**	**3.50**	**272**	*eP*		**Pn**	**19 40 00.9**	**+0.5**
	baz=266							
AXDP	**Jialang**	**3.91**	**278**	*eP*		**Pn**	**19 40 06.3**	**+0.4**
	baz=273							

*IDC **23** 19:42:24.9±1.1,44°.99N×106°.87W,h0km,mb1 3.4/3, mb1mx3.1/53,mbtmp3.2/3,ML3.1/3,Error ellipse: s-maj=32.0km s-min=8.3km az=132.0*
*NEIC **23** 19:42:26.3±2.0,45°.19N±0°.04×106°.79W±0°.05,h0km±2km, ML3.3/56*

ISC 23 19:42:29.2±1.6,**44°.84N**±0°.08×**107°.47W**±0°.08,**h0**km,**n42,** σ1ᵑ**34**/34,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLMT	**Red Lodge**	**1.31**	**283**		**Pn**	**19 42 55.8**	**+0.9**
YNE	**Yellowstone No**	**1.81**	**276**		**Pb**	**19 43 03.5**	**0.0**
GCMT	**Greycliff**	**1.82**	**302**		**Pn**	**19 43 01.8**	**-0.2**
YMP	**Mirror Lake Pl**	**1.92**	**268**		**Pb**	**19 43 05.3**	**+0.1**
LAO	**LASA Array**	**2.04**	**25**		Pn	19 42 55.1	-10
LAO				IAML		19 43 24.7	
	360nm,0.8s						
LAO				IAML		19 43 26.8	
	284nm,0.8s						
LKWY	**Lake**	**2.11**	**264**	Pn	**Pb**	**19 43 08.3**	**-0.2**
LKWY				IAML		19 43 58.7	
	127nm,0.7s						
LKWY				IAML		19 44 04.7	
	101nm,0.9s						
YUF	**Upper Falls**	**2.17**	**268**	Pn	**Pg**	**19 43 10.8**	**0.0**
H17A	**Grant Village**	**2.27**	**260**	Pn	**Pg**	**19 43 12.8**	**+0.2**
H17A				IAML		19 43 52.7	
	comp=N,69nm,0.7s						
K22A	**Casper**	**2.29**	**162**	Pn	**Pn**	**19 43 08.3**	**-0.1**
K22A				IAML		19 43 45.9	
	comp=N,205nm,0.7s						
K22A				IAML		19 43 50.9	
	comp=E,161nm,0.7s						
YNR	**Norris Junctio**	**2.29**	**268**	Pn	**Pg**	**19 43 12.6**	**-0.5**
YNM	**Yellowstone No**	**2.31**	**268**	Pn	**Pb**	**19 43 12.7**	**+0.8**
YHH	**Holmes Hill**	**2.41**	**270**	Pn	**Pb**	**19 43 14.2**	**+0.6**
FLWY	**Flagg Ranch**	**2.44**	**253**		**Pg**	**19 43 15.9**	**+0.1**
FLWY				IAML		19 44 25.0	
	comp=E,116nm,2.1s						
FLWY				IAML		19 44 35.9	
	comp=E,73nm,2.7s						
YPP	**Pitchstone Pla**	**2.45**	**258**		**Pg**	**19 43 17.0**	**+0.8**
YMR	**Madison River**	**2.50**	**267**		**Pg**	**19 43 17.1**	**0.0**
RSSD	**Black Hills**	**2.56**	**105**		Pn	19 43 05.0	-7.2
RSSD				IAML		19 43 49.1	
	comp=E,164nm,0.8s						
BW06	**Boulder Array**	**2.56**	**217**		**Pg**	**19 43 16.8**	**-1.6**
BW06				IAML		19 44 01.6	
	comp=N,63nm,1.6s						
PD31	**Pinedale Array**	**2.56**	**217**		**Pg**	**19 43 16.8**	**-1.6**
PDAR	**Pinedale Array**	**2.56**	**217**	Pn	**Pb**	**19 43 15.7**	**-0.5**
	comp=N,2.6nm,0.3s,baz=53,slow=15,SNR=30						
PDAR				Lg	Lg	19 43 57.6	
	comp=N,8.6nm,0.3s,baz=47,slow=31,SNR=15						
MOOW	**Moose Ponds**	**2.59**	**246**	Pn	**Pg**	**19 43 17.7**	**-1.2**
YHL	**Hebgen Lake**	**2.64**	**272**	Pn	**Pg**	**19 43 19.6**	**-0.3**
YHB	**Horse Butte**	**2.66**	**269**	Pn	**Pb**	**19 43 18.1**	**+0.3**
SNOW	**Snow King Moun**	**2.74**	**241**		**Pg**	**19 43 20.1**	**-1.5**
SNOW				IAML		19 44 16.7	
	comp=N,62nm,0.7s						
SNOW				IAML		19 44 30.4	
	comp=N,78nm,1.0s						
QLMT	**Earthquake Lak**	**2.82**	**271**		**Pb**	**19 43 19.1**	**-1.5**
FXWY	**Fox Creek**	**2.83**	**246**		**Pb**	**19 43 20.4**	**-0.3**
REDW	**Red Top Meadow**	**2.85**	**240**		**Pg**	**19 43 27.2**	**+3.4**
REDW				IAML		19 44 12.5	
	comp=N,87nm,1.0s						
REDW				IAML		19 44 23.0	
	comp=N,72nm,0.7s						
AHID	**Auburn Hatcher**	**3.35**	**233**		**Pn**	**19 43 22.9**	**-0.1**
EGMT	**Eagleton**	**3.56**	**334**		Pn	19 43 18.6	-7.2
LRM	**Limekiln Ridge**	**3.65**	**287**		**Pn**	**19 43 27.3**	**+0.1**
DLMT	**Dillon**	**3.67**	**280**	Pn	**Pn**	**19 43 27.9**	**+0.5**
DLMT				IAML		19 44 35.9	
	comp=N,43nm,1.5s						
DLMT				IAML		19 44 41.3	
	comp=N,42nm,2.2s						
PHWY	**Pilot Hill**	**3.83**	**157**	Pg	**Pb**	**19 43 36.6**	**-1.2**
PHWY				IAML		19 44 39.0	
	comp=N,62nm,0.7s						
MCMT	**McKenzie Canyo**	**3.83**	**272**		**Pn**	**19 43 31.1**	**+1.5**
N23A	**Red Feather La**	**4.10**	**164**		**Pn**	**19 43 34.6**	**+1.3**
DGMT	**Dagmar**	**4.28**	**31**		Pn	19 43 28.5	-7.0
SMCO	**Snowmass**	**5.67**	**176**		**Pb**	**19 44 11.2**	**+2.0**
MFID	**Camas Ranch**	**6.18**	**260**	Pn	**Pb**	**19 44 14.0**	**-3.8**
NEW	**Newport**	**7.49**	**301**	Lg	Lg	19 46 29.8	
	comp=N,0.4nm,0.3s,baz=125,slow=0.9,SNR=5.2						
MVCO	**Mesa Verde**	**7.66**	**186**		**Pn**	**19 44 22.0**	**-0.2**
BMN	**Battle Mountai**	**8.43**	**242**		**Pn**	**19 44 35.1**	**+2.4**
I10CA	**LAC DU BONNET**	**9.41**	**51**	*i*		20 38 11.5	
	baz=233,slow=326,SNR=2.9						
ULM	**Lac du Bonnet**	**9.52**	**51**	Pn	Pn	19 44 35.5	-12
	comp=N,0.8nm,0.3s,baz=240,slow=12,SNR=8.4						
ULM				Lg	Lg	19 47 07.1	
	comp=N,0.3nm,0.3s,baz=324,slow=22,SNR=3.9						
YKA	**Yellowknife Ar**	**18.17**	**349**	Pn	Pn	19 46 32.2	-10
	comp=N,0.0nm,0.3s,baz=162,slow=12,SNR=2.8						
YKA				Lg	Lg	19 51 44.7	
	comp=N,0.0nm,0.3s,baz=160,slow=28,SNR=5.0						

*ISCJB **23** 19:42:27.9±0.5,20°.81N±0°.08×146°.89E±0°.09,h10km, mb4.0/24,Error ellipse: s-maj=12.4km s-min=11.0km az=13.0*
*IDC **23** 19:42:28.0±0.6,20°.80N×146°.86E,h0km,mb4.1/24, mb1 4.2/26,mb1mx4.1/62,mbtmp4.1/26,ML3.3/2,Error ellipse: s-maj=18.7km s-min=13.9km az=86.0*
*NEIC **23** 19:42:29.4±1.2,20°.80N±0°.07×146°.9E±0°.1,h10km±4km, mb4.6/11*

ISC 23 19:42:29.5±0.7,**20°.8N**±0°.1×**146°.9E**±0°.1,**h10**km,**n50,** σ0ᵑ**63**/49,**mb4.2**/32,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**17.41**	**336**	P	**Pn**	**19 46 32.3**	**-0.2**
	0.0nm,0.3s,baz=169,slow=14,SNR=2.2						
JNU	**Nakatsue**	**18.77**	**314**	P	**P**	**19 46 47.7**	**-1.2**
	0.2nm,0.3s,baz=146,slow=7.3,SNR=2.5						
KSRS	**Korea Array**	**23.36**	**319**	P	**P**	**19 47 38.6**	**+0.5**
	2.3nm,0.9s,baz=148,slow=8.8,SNR=5.1						
USRK	**Ussuriysk Ar.**	**26.41**	**335**	P	**P**	**19 48 06.0**	**-0.2**
	2.6nm,0.8s,baz=128,slow=9.3,SNR=3.1						
PETK	**Petropavlovsk-**	**33.31**	**12**	P	**P**	**19 49 07.1**	**-0.2**
	6.1nm,1.1s,baz=194,slow=11,SNR=2.4						
SONM	**Songino Array**	**42.23**	**319**	P	**P**	**19 50 22.2**	**-0.7**
	0.6nm,0.8s,baz=133,slow=6.4,SNR=3.1						
SONM				PcP	**PcP**	**19 52 17.4**	**+0.5**
	0.3nm,0.6s,baz=155,slow=4.8,SNR=2.5						
SEY	**Seymchan**	**42.27**	**4**	P	**P**	**19 50 22.4**	**-0.5**
	2.6nm,0.7s,baz=178,slow=10.0,SNR=5.9						
WRA	**Warramunga Arr**	**42.31**	**198**	P	**P**	**19 50 23.4**	**-0.2**
	2.7nm,0.7s,baz=21,slow=8.6,SNR=17						
WRA				PcP	**PcP**	**19 52 17.5**	**+0.2**
	0.5nm,0.8s,baz=11,slow=3.4,SNR=3.5						
CMAR	**Chiang Mai Arr**	**45.07**	**276**	P	**P**	**19 50 45.8**	**-0.2**
	0.5nm,0.5s,baz=67,slow=7.4,SNR=5.6						
ASAR	**Alice Springs**	**45.97**	**197**	P	**P**	**19 50 52.9**	**-0.1**
	1.1nm,0.6s,baz=18,slow=8.3,SNR=29						
LSA	**Lhasa**	**50.76**	**292**	P	**P**	**19 51 30.8**	**+0.3**
LSA				IAmb	IAmb	19 51 33.4	
	comp=Z,4.3nm,0.8s						
STKA	**Stephens Creek**	**52.62**	**186**	P	**P**	**19 51 43.1**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=11,slow=8.0,SNR=4.1						
STKA	**Stephens Creek**	**52.62**	**186**	IAmb	IAmb	19 53 23.7	
	comp=Z,5.8nm,1.9s						
TAPN	**Taplejung**	**53.98**	**289**	*eP*	**P**	**19 51 55.2**	**+0.9**
	comp=Z,15nm,0.8s						
ODAN	**Odare**	**54.32**	**289**	*eP*	**P**	**19 51 57.7**	**+0.9**
	comp=Z,10nm,0.6s						
RAMN	**Ramite**	**55.01**	**289**	*eP*	**P**	**19 52 02.6**	**+0.8**
	comp=Z,14nm,0.8s						
JIRN	**Jiri**	**55.28**	**290**	*eP*	**P**	**19 52 04.8**	**+0.9**
	comp=Z,60nm,0.9s						
GUN	**Gumba**	**55.53**	**290**	*eP*	**P**	**19 52 06.8**	**+1.2**
	comp=Z,13nm,0.8s						
PKI	**Pulchoki**	**55.98**	**290**	*eP*	**P**	**19 52 09.4**	**+0.6**
PKIN	**Phulchoki**	**55.99**	**290**	*eP*	**P**	**19 52 09.6**	**+0.8**
	comp=Z,6.2nm,0.8s						
KKN	**Kakani**	**56.07**	**290**	*eP*	**P**	**19 52 10.3**	**+1.0**
	comp=Z,17nm,0.9s						
DMN	**Daman**	**56.24**	**290**	*eP*	**P**	**19 52 11.6**	**+1.0**
	comp=Z,10.0nm,0.8s						
GKN	**Gorkha**	**56.61**	**290**	*eP*	**P**	**19 52 14.1**	**+1.0**
	comp=Z,26nm,0.9s						
ZAA0	**Zalesovo Array**	**57.04**	**322**	P	**P**	**19 52 14.9**	**-0.7**
ZAA0				IAmb	IAmb	19 52 16.4	
	comp=Z,3.4nm,0.7s						
ZALV	**Zalesovo Beam**	**57.04**	**322**	P	**P**	**19 52 15.9**	**+0.4**
	comp=Z,3.0nm,0.5s,baz=105,slow=7.4,SNR=14						
DANN	**Dangsing**	**57.33**	**291**	*eP*	**P**	**19 52 19.6**	**+1.2**
	comp=Z,33nm,0.6s						
KOLN	**Koldanda**	**57.55**	**290**	*eP*	**P**	**19 52 20.1**	**+0.3**
MKAR	**Makanchi Array**	**57.82**	**313**	P	**P**	**19 52 21.7**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=88,slow=8.9,SNR=14						
KURK	**Kurchatov**	**60.46**	**317**	P	**P**	**19 52 39.1**	**-0.3**
KURK				IAmb	IAmb	19 52 40.6	
	comp=Z,3.2nm,0.8s						
KURBB	**Kurchatov Arra**	**60.52**	**317**	P	**P**	**19 52 40.1**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=94,slow=7.7,SNR=34						
ILAR	**Eielson Array**	**61.28**	**27**	P	**P**	**19 52 44.7**	**-0.1**
	comp=Z,0.8nm,1.0s,baz=255,slow=6.4,SNR=3.4						
BVAR	**Borovoye Array**	**65.57**	**320**	P	**P**	**19 53 14.1**	**+0.7**
	comp=Z,7.3nm,0.8s,baz=92,slow=7.4,SNR=40						
BRVK	**Borovoye**	**65.64**	**320**	P	**P**	**19 53 14.4**	**+0.6**
BRVK				IAmb	IAmb	19 53 15.3	
	comp=Z,3.9nm,0.8s						
KK31	**Karatay Array**	**66.29**	**309**	P	**P**	**19 53 18.8**	**+0.6**
KK31				IAmb	IAmb	19 53 19.8	
	comp=Z,3.1nm,0.8s						
KKAR	**Karatay Array**	**66.29**	**309**	P	**P**	**19 53 18.4**	**+0.2**
KKAR				IAmb	IAmb	19 53 19.8	
	comp=Z,3.1nm,0.8s						
INK	**Inuvik**	**67.02**	**23**	P	**P**	**19 53 22.4**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=269,slow=8.8,SNR=3.9						
INK	**Inuvik**	**67.02**	**23**	IAmb	IAmb	19 54 41.2	
	comp=Z,24nm,1.9s						
CHGR	**Chuyangaron**	**67.94**	**304**	P	**P**	**19 53 29.2**	**+0.3**
CHGR				IAmb	IAmb	19 53 33.4	
	comp=Z,9.9nm,0.5s						
ARU	**Arti**	**72.00**	**324**	P	**P**	**19 53 53.5**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=109,slow=7.1,SNR=8.2						
ARU	**Arti**	**72.00**	**324**	IAmb	IAmb	19 54 36.9	
	comp=Z,22nm,1.7s						
ABKAR	**Akbulak array**	**72.56**	**317**	P	**P**	**19 53 56.6**	**-0.2**
ABKAR				IAmb	IAmb	19 53 57.4	
	comp=Z,2.3nm,0.8s						
AKTO	**Aktyubinsk**	**73.53**	**318**	P	**P**	**19 54 02.6**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=63,slow=7.6,SNR=4.1						
YKA	**Yellowknife Ar**	**75.63**	**28**	P	**P**	**19 54 14.9**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=287,slow=5.9,SNR=7.6						
ARCES	**ARCESS Array B**	**80.84**	**342**	P	**P**	**19 54 44.2**	**+0.9**
	comp=Z,5.6nm,1.0s,baz=40,slow=6.0,SNR=2.8						
NVAR	**Mina Array Bea**	**80.99**	**52**	P	**P**	**19 54 45.3**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=275,slow=5.2,SNR=11						
FINES	**FINESS Array B**	**85.44**	**336**	P	**P**	**19 55 06.7**	**-0.5**
	comp=Z,9.2nm,1.1s,baz=108,slow=6.2,SNR=7.3						
KBZ	**Khabaz**	**85.44**	**315**	P	**P**	**19 55 07.4**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=60,slow=2.9,SNR=4.2						
PDAR	**Pinedale Array**	**85.58**	**46**	P	**P**	**19 55 08.5**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=276,slow=2.6,SNR=3.7						
BRTR	**Keskin Array B**	**93.43**	**315**	P	**P**	**19 55 44.9**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=41,slow=4.6,SNR=2.7						
LPAZ	**La Paz**	**146.56**	**88**	PKPbc	**PKPbc**	**20 02 12.3**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=327,slow=4.4,SNR=6.2						

*MDD **23** 20:04:50.1±2.4,35°.62N×12°.63W,h0km,mb4.3/4,Error ellipse: s-maj=26.8km s-min=20.4km az=164.0,PRXIMO*
*INMG **23** 20:04:50.8±1.6,35°.12N×12°.81W,h10km,ML2.2,Error ellipse: s-maj=12.5km s-min=6.5km az=142.0*
*IGIL **23** 20:04:50.5,35°.66N×12°.69W,h1km,ML2.2*
*CNRM **23** 20:04:53.8,34°.95N×12°.25W,h81km*

ISC 23 20:04:58.9±2.2,**35°.19N**±0°.03×**11°.2W**±0°.1,**h10**km,**n40,** σ2ᵑ**68**/72,**Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.72**	**44**	*eP*	**Pn**	**20 05 43.2**	**+0.6**
PFVI				*eS*	**Sg**	**20 06 23.4**	**-2.9**
PFVI				A	A	20 06 25.5	
	3.0nm,0.1s						
PFVI	**Vila Bisbo**	**2.72**	**44**	P	**Pn**	**20 05 43.3**	**+0.6**
	2.9nm,0.1s,SNR=8.2						
PFVI				S	**Sg**	**20 06 22.4**	**-3.9**
	3.6nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**2.94**	**43**	*eP*	**Pn**	**20 05 46.3**	**+0.5**
MORF				*eS*	**Sb**	**20 06 26.9**	**-0.5**
MORF				AML	AML	20 06 32.4	
	comp=N,6.3nm,0.3s						
MORF	**Marmelete**	**2.94**	**43**	*eP*	**Pn**	**20 05 46.4**	**+0.7**
MORF				*eS*	**Sb**	**20 06 28.7**	**+1.2**
MORF				A	A	20 06 34.2	
	comp=N,3.3nm,0.2s						
MORF	**Marmelete**	**2.94**	**43**	P	**Pn**	**20 05 46.3**	**+0.5**
MORF				S	**Sb**	**20 06 26.9**	**-0.5**
	comp=N,6.3nm,0.3s						
PTEO	**Sao Teotonio**	**3.08**	**39**	*eP*	**Pn**	**20 05 47.6**	**+0.1**
PTEO				*eS*	**Sb**	**20 06 30.5**	**-0.8**
PTEO	**Sao Teotonio**	**3.08**	**39**	P	**Pn**	**20 05 47.6**	**+0.1**
PTEO				S	**Sb**	**20 06 30.5**	**-0.8**
PBDV	**Barranco-do-Ve**	**3.34**	**51**	*eP*	**Pn**	**20 05 53.1**	**+2.0**
PBDV				*eS*	**Sb**	**20 06 38.9**	**+0.1**
PBDV				A	A	20 06 41.3	
	comp=N,4.0nm,0.9s						
PBDV	**Barranco-do-Ve**	**3.34**	**51**	P	**Pn**	**20 05 53.1**	**+2.0**
PBDV				S	**Sb**	**20 06 38.9**	**+0.1**
	comp=N,4.0nm,0.9s						
PCVE	**Castro Verde**	**3.52**	**45**	*eP*	**Pn**	**20 05 54.5**	**+0.9**
PCVE				*eS*	**Sb**	**20 06 42.4**	**-1.6**
PCVE				A	A	20 06 44.7	
	comp=N,2.6nm,0.5s						
PVAQ	**Vaqueiros**	**3.57**	**51**	*eP*	**Pn**	**20 05 55.9**	**+1.6**
PVAQ				*eS*	**Sb**	**20 06 44.0**	**-1.4**
PVAQ				A	A	20 06 48.6	
	comp=N,3.1nm,0.2s						
PVAQ	**Vaqueiros**	**3.57**	**51**	P	**Pn**	**20 05 55.9**	**+1.6**
PVAQ				S	**Sb**	**20 06 44.0**	**-1.4**
	comp=N,3.1nm,0.2s						
PNCL	**Nicolau / Gran**	**3.62**	**35**	*eP*	**Pn**	**20 05 53.8**	**-1.1**
PNCL				*eS*	**Sn**	**20 06 40.9**	**+3.3**
PNCL				A	A	20 06 44.9	
	comp=N,1.7nm,0.1s						
PNCL	**Nicolau / Gran**	**3.62**	**35**	P	**Pn**	**20 05 53.8**	**-1.1**
PNCL				S	**Sn**	**20 06 40.9**	**+3.3**
	comp=N,1.7nm,0.1s						
EGRO	**El Granado**	**3.80**	**51**	P	**Pn**	**20 05 58.9**	**+1.5**
	comp=N,1.6nm,0.1s,SNR=7.9						
EGRO				S	**Sb**	**20 06 49.9**	**-2.0**
	comp=N,4.4nm,0.3s,SNR=7.9						
PBEJ	**Beja**	**3.89**	**42**	*eP*	**Pn**	**20 05 58.9**	**+0.2**
PBEJ	**Beja**	**3.89**	**42**	P	**Pn**	**20 05 58.9**	**+0.2**
ZHG	**ZHG**	**4.14**	**114**	P	**Pn**	**20 06 03.8**	**+1.6**
ZHG				S	**Sb**	**20 07 00.8**	**-1.2**
EMIN	**Mina Concepcio**	**4.46**	**53**	P	**Pn**	**20 06 08.1**	**+1.6**
	comp=N,0.5nm,0.1s,SNR=9.3						
EMIN				S	**Sb**	**20 07 05.9**	**-5.0**
	comp=N,4.2nm,0.4s,SNR=7.9						
PMTG	**Montargil**	**4.54**	**31**	*eP*	**Pn**	**20 06 04.9**	**-2.7**
PMTG				*eS*	**Sn**	**20 07 00.8**	**+0.4**
PMTG	**Montargil**	**4.54**	**31**	P	**Pn**	**20 06 04.9**	**-2.7**
PMTG				S	**Sn**	**20 07 00.8**	**+0.4**
PESTR	**Estremoz**	**4.66**	**37**	*eP*	**Pn**	**20 06 08.3**	**-1.1**
PESTR				*eS*	**Sn**	**20 07 06.2**	**+2.7**
OUK	**Oukaimeden**	**4.85**	**144**	P	**Pn**	**20 06 11.4**	**-0.8**
OUK				S	**Sn**	**20 07 10.8**	**+2.2**
EBAD	**Badajoz**	**4.88**	**42**	P	**Pn**	**20 06 11.3**	**-1.0**
	comp=N,1.2nm,0.1s,SNR=20						
EBAD				S	**Sn**	**20 07 12.0**	**+3.2**
	comp=N,3.5nm,0.5s,SNR=7.9						
TTIG	**Tnine Tigouga,**	**5.17**	**153**	P	Pn	20 06 11.1	-5.3
TTIG				S	**Sn**	**20 07 14.2**	**-2.0**
PMRV	**Marv??o**	**5.20**	**34**	*eP*	**Pn**	**20 06 14.1**	**-2.6**
PMRV				*eS*	**Sn**	**20 07 17.9**	**+1.1**
PMRV	**Marv??o**	**5.20**	**34**	P	**Pn**	**20 06 14.1**	**-2.6**
PMRV				S	**Sn**	**20 07 17.9**	**+1.1**
TISM	**Timmit**	**5.26**	**130**	P	**Pn**	**20 06 17.1**	**-0.4**
TISM				S	**Sn**	**20 07 22.1**	**+3.9**
ECAB	**El Cabril**	**5.46**	**56**	P	**Pn**	**20 06 22.4**	**+2.1**
	comp=N,0.4nm,0.1s,SNR=7.5						
ECAB				S	**Sn**	**20 07 29.5**	**+6.3**
	comp=N,2.2nm,0.4s,SNR=7.9						
OUZM	**OUZ**	**5.66**	**138**	P	**Pn**	**20 06 21.5**	**-1.6**
OUZM				S	**Sn**	**20 07 28.6**	**+0.4**
MD31	**MD31**	**5.81**	**112**	P	Pn	20 06 29.6	+4.4
MD31				S	**Sb**	**20 07 41.3**	**-

	comp=E,1025µm,0.5s								
SIVA						AML	AML	20 17 44.6	
	comp=N,856µm,0.6s								
ZKR	**Zakros**	**1.50**	**19**		P	**Pg**	**20 17 10.8**	**-0.4**
ZKR					S	**Sb**	**20 17 29.5**	**+1.2**
	comp=N,108nm,0.5s								
ZKR	**Zakros**	**1.50**	**19**		P	**Pb**	**20 17 10.6**	**+1.0**
TMBK	**Timbaki Herakl**	**1.53**	**333**		P	**Pb**	**20 17 11.1**	**+0.8**
STIA	**Sitia Lasithi**	**1.55**	**15**		P	**Pg**	**20 17 11.9**	**-0.3**
STIA					S	**Sn**	**20 17 29.7**	**+1.0**
NPS	**Neapolis**	**1.56**	**0**		P	**Pb**	**20 17 11.3**	**+0.6**
NPS					S	**Sn**	**20 17 29.2**	**+0.2**
	comp=N,160nm,0.2s								
IDI	**Anoyia**	**1.69**	**340**		Pn	**Pb**	**20 17 12.9**	**-0.1**
	comp=N,2.9nm,0.3s,baz=171,slow=16,SNR=29								
IDI	**Anoyia**	**1.69**	**340**		P	**Pb**	**20 17 13.2**	**+0.1**
GVD	**Gavdhos**	**1.70**	**312**		P	**Pg**	**20 17 14.3**	**-0.7**
GVD					S	**Sg**	**20 17 36.0**	**-1.1**
	comp=N,170nm,0.5s								
GVD	**Gavdhos**	**1.70**	**312**		P	**Pb**	**20 17 13.8**	**+0.7**
GVD					AML	AML	20 17 56.1	
	comp=E,391µm,0.6s								
GVD					AML	AML	20 17 57.2	
	comp=N,273µm,0.5s								
GVDS	**Gavdos**	**1.70**	**313**		P	**Pg**	**20 17 14.6**	**-0.5**
GVDS					S	**Sg**	**20 17 36.1**	**-1.0**
	comp=N,90nm,0.4s								
PRNS	**Prines Rethymn**	**1.89**	**331**		P	**Pb**	**20 17 17.2**	**+0.8**
VAM	**Vamos**	**2.06**	**326**		P	**Pb**	**20 17 18.8**	**-0.5**
VAM	**Vamos**	**2.06**	**326**		P	**Pb**	**20 17 18.7**	**-0.5**
IMMV	**Iera Moni Meta**	**2.21**	**323**		P	**Pb**	**20 17 20.9**	**-0.9**
IMMV					S	**Sb**	**20 17 48.3**	**-0.6**
	comp=N,85nm,0.9s								
IMMV	**Iera Moni Meta**	**2.21**	**323**		P	**Pb**	**20 17 20.9**	**-0.9**
KARP	**Karpathos**	**2.24**	**34**		P	**Pb**	**20 17 21.9**	**-0.5**
KARP					S	**Sn**	**20 17 48.1**	**+2.2**
	comp=N,78nm,0.7s								
KARP	**Karpathos**	**2.24**	**34**		P	**Pb**	**20 17 21.8**	**-0.5**
KARP					S	**Sb**	**20 17 49.3**	**-0.5**
KARP					AML	AML	20 17 50.9	
	comp=E,176µm,0.7s								
KARP					AML	AML	20 17 52.1	
	comp=N,134µm,0.7s								
IOSP	**Ios island**	**3.03**	**355**		P	**Pn**	**20 17 31.3**	**+1.9**
DAT	**Datca**	**3.42**	**28**	*i* P		**Pn**	**20 17 36.5**	**+1.5**
DAT				*i* S		**Sn**	**20 18 12.3**	**-2.8**
DAT				IAML			20 18 14.0	
	comp=E,2.5nm,1.0s								
DAT				IAML			20 18 18.0	
	comp=N,3.4nm,0.3s								
TURN	**Turunc**	**4.00**	**37**	*i* P		**Pn**	**20 17 41.9**	**-0.9**
TURN				*i* S		**Sn**	**20 18 21.4**	**-7.8**
TURN				IAML			20 18 23.0	
	comp=N,13nm,0.5s								
TURN				IAML			20 18 27.0	
	comp=E,7.6nm,0.7s								
FETY	**Fethiye**	**4.08**	**43**	*i* P		**Pn**	**20 17 45.5**	**+1.5**
FETY				*i* S		**Sn**	**20 18 28.6**	**-2.7**
FETY				IAML			20 18 39.0	
	comp=E,3.0nm,0.6s								
AKAS	**Kas**	**4.14**	**51**	*i* P		**Pn**	**20 17 46.7**	**+1.9**
AKAS				*i* S		**Sn**	**20 18 31.5**	**-1.3**
AYDN	**Tasoluk**	**4.36**	**24**	*i* P		**Pn**	**20 17 49.6**	**+1.8**
TAVA	**DENIZLI_Tavas**	**4.62**	**35**	*i* P		**Pn**	**20 17 53.8**	**+2.4**
TAVA				IAML			20 18 46.0	
	comp=N,3.0nm,0.4s								
TAVA				IAML			20 18 52.0	
	comp=E,5.1nm,0.5s								
GOLH	**Golhisar**	**4.78**	**41**	*i* P		**Pn**	**20 17 55.6**	**+2.0**
GOLH				*i* S		**Sn**	**20 18 47.1**	**-1.4**
GOLH				IAML			20 18 57.0	
	comp=N,10nm,0.6s								
MMAI	**Mount Meron Ar**	**8.22**	**92**		Pn	**Pn**	**20 18 41.8**	**+0.9**
	comp=N,0.5nm,0.3s,baz=288,slow=12,SNR=3.5								
MMAI					Sn	**Sn**	**20 20 12.5**	**-0.9**
	comp=N,1.3nm,0.3s,baz=266,slow=23,SNR=4.7								
EIL	**Elat**	**8.92**	**114**		Pn	Pn	20 18 56.0	+5.6	
	comp=N,0.3nm,0.3s,baz=324,slow=17,SNR=4.2								
AKASG	**Malin Array Be**	**17.19**	**8**		Pn	**Pn**	**20 20 38.0**	**-3.6**
	comp=N,0.2nm,0.3s,baz=197,slow=11,SNR=2.6								
GERES	**GERESS Array B**	**17.54**	**333**		P	**P**	**20 20 47.2**	**+0.2**
	comp=N,0.1nm,0.3s,baz=144,slow=12,SNR=8.3								
HFS	**Hagfors**	**27.58**	**347**		P	**P**	**20 22 29.2**	**+1.1**
	comp=N,1.9nm,0.8s,baz=150,slow=12,SNR=3.4								
FINES	**FINESS Array B**	**27.76**	**0**		P	**P**	**20 22 29.8**	**+0.1**
	comp=N,2.0nm,0.8s,baz=163,slow=13,SNR=5.0								
ARCES	**ARCESS Array B**	**35.88**	**360**		P	**P**	**20 23 40.6**	**-0.4**
	comp=N,2.4nm,0.9s,baz=185,slow=9.0,SNR=3.4								
MKAR	**Makanchi Array**	**44.28**	**55**		P	**P**	**20 24 52.0**	**+1.1**
	comp=N,0.2nm,0.6s,baz=264,slow=6.8,SNR=3.0								
ZALV	**Zalesovo Beam**	**45.76**	**45**		P	**P**	**20 25 04.3**	**+1.8**
	comp=N,0.3nm,0.3s,baz=274,slow=6.0,SNR=2.8								

*IDC **23** 20:37:56.2±0.9,20˚.75N×146˚.85E,h0km,mb3.9/11, mb1 4.0/11,mb1mx3.7/67,mbtmp3.9/11,MS4.1/1, Ms1 4.1/1,ms1mx2.8/39,Error ellipse: s-maj=33.8km s-min=19.5km az=92.0*

*ISCJB **23** 20:38:00.4±0.8,20˚.7N±0˚.1×146˚.7E±0˚.2,h40km,mb3.9/11, MS4.1/1,Error ellipse: s-maj=29.5km s-min=17.1km az=2.5*

ISC 23 20:38:02.0±1.0,20˚.7N±0˚.2×146˚.8E±0˚.3,h40km,n12, σ0s55/11,mb3.7/11,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.23**	**198**	P	**P**	**20 45 52.0**	**+0.6**
	1.2nm,0.7s,baz=23,slow=8.6,SNR=9.9						
SEY	**Seymchan**	**42.34**	**4**	P	**P**	**20 45 52.4**	**+0.6**
	2.0nm,0.3s,baz=77,slow=5.1,SNR=7.4						
ASAR	**Alice Springs**	**45.89**	**197**	P	**P**	**20 46 20.3**	**-0.4**
	0.5nm,0.6s,baz=19,slow=8.2,SNR=11						
AFI	**Afiamalu**	**53.31**	**127**	LR	LR	21 08 09.5	
	comp=Z,165nm,18.0s,baz=156,slow=34						
ZALV	**Zalesovo Beam**	**57.05**	**322**	P	**P**	**20 47 43.5**	**-0.4**
	1.2nm,0.4s,baz=111,slow=5.7,SNR=4.4						
MKAR	**Makanchi Array**	**57.82**	**313**	P	**P**	**20 47 49.7**	**+0.2**
	0.5nm,0.8s,baz=94,slow=8.9,SNR=4.1						
KURBB	**Kurchatov Arra**	**60.52**	**317**	P	**P**	**20 48 08.5**	**+0.5**
	0.9nm,0.4s,baz=93,slow=7.7,SNR=6.0						
BVAR	**Borovoye Array**	**65.58**	**320**	P	**P**	**20 48 42.3**	**+0.7**
	1.5nm,0.4s,baz=102,slow=6.6,SNR=9.9						
ARU	**Arti**	**72.02**	**324**	P	**P**	**20 49 21.2**	**-0.4**
	0.4nm,0.5s,baz=292,slow=10,SNR=2.9						
YKA	**Yellowknife Ar**	**75.71**	**28**	P	**P**	**20 49 42.7**	**-0.3**
	0.3nm,0.6s,baz=285,slow=5.9,SNR=5.3						
NVAR	**Mina Array Bea**	**81.08**	**52**	P	**P**	**20 50 13.6**	**+0.2**
	0.4nm,0.7s,baz=272,slow=6.6,SNR=4.6						
FINES	**FINESS Array B**	**85.47**	**336**	P	**P**	**20 50 34.7**	**-0.6**
	7.4nm,1.1s,baz=64,slow=3.2,SNR=3.1						

*ISCJB **23** 21:00:52.8±0.3,43˚.81N±0˚.03×105˚.24W±0˚.03,h0km, mb3.5/1,Error ellipse: s-maj=3.9km s-min=3.4km az=38.8*

*ANF **23** 21:00:53.9±0.3,43˚.77N×105˚.38W,ML3.4/10,Error ellipse: s-maj=4.1km s-min=3.5km az=140.0*

*IDC **23** 21:00:53.4±1.6,43˚.79N×105˚.46W,h0km,mb3.6/1, mb1 3.6/5,mb1mx3.4/44,mbtmp3.3/5,ML3.3/4,Error ellipse: s-maj=45.4km s-min=8.6km az=147.0*

*NEIC **23** 21:00:54.4±1.4,43˚.78N±0˚.05×105˚.27W±0˚.06,h0km±2km, ML3.3/64*

ISC 23 21:00:54.0±0.7,43˚.82N±0˚.03×105˚.34W±0˚.03,h0km,n56, σ1s43/62,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.99**	**72**	P	**Pg**	**21 01 13.2**	**+0.3**
	baz=251						
RSSD				S	**Sb**	**21 01 27.6**	**-0.2**
	baz=251						
RSSD	**Black Hills**	**0.99**	**72**		**Pg**	**21 01 13.0**	**+0.1**
K22A	**Casper**	**1.46**	**217**	P	**Pn**	**21 01 19.9**	**-1.9**
	baz=36,SNR=166						
K22A				S	**Sg**	**21 01 40.3**	**-0.5**
	baz=36						
K22A	**Casper**	**1.46**	**217**		**Pn**	**21 01 19.8**	**-1.9**
K22A				IAML		21 01 42.7	
	comp=N,557nm,0.4s						
K22A				IAML		21 01 47.1	
	comp=E,320nm,0.3s						
PHWY	**Pilot Hill**	**2.52**	**182**		**Pn**	**21 01 35.8**	**-0.7**
PHWY				IAML		21 02 17.1	
	comp=E,84nm,0.6s						
RWWY	**Rawlins**	**2.54**	**213**		**Pn**	**21 01 37.4**	**+0.7**

LAO	**LASA Array**	**2.93**	**348**		P	**Pn**	**21 01 42.8**	**+0.9**
	baz=168								
LAO					Sb	**Sg**	**21 02 26.7**	**-1.5**
	baz=168								
LAO	**LASA Array**	**2.93**	**348**			**Pn**	**21 01 42.9**	**+1.0**
N23A	**Red Feather La**	**2.96**	**189**		P	**Pn**	**21 01 42.5**	**0.0**
	baz=8.1,SNR=31								
N23A					Sb	**Sb**	**21 02 23.7**	**-0.8**
	baz=8.1								
N23A	**Red Feather La**	**2.96**	**189**			**Pn**	**21 01 42.7**	**+0.2**
N23A					IAML		21 02 24.4		
	comp=N,110nm,0.6s								
N23A					IAML		21 02 27.3		
	comp=E,75nm,0.7s								
RLMT	**Red Lodge**	**3.10**	**296**		P	**Pn**	**21 01 44.8**	**+0.5**
	baz=114								
RLMT					Sb	**Sb**	**21 02 30.6**	**+2.1**
	baz=114								
RLMT	**Red Lodge**	**3.10**	**296**			**Pn**	**21 01 45.5**	**+1.2**
RLMT					IAML		21 02 38.5		
	comp=E,54nm,0.7s								
BW06	**Boulder Array**	**3.25**	**253**		P	**Pn**	**21 01 46.9**	**+0.4**
	baz=70,SNR=31								
BW06					Sb	**Sb**	**21 02 32.1**	**-1.0**
	baz=70								
BW06	**Boulder Array**	**3.25**	**253**			**Pn**	**21 01 47.0**	**+0.4**
BW06					IAML		21 02 36.9		
	comp=N,44nm,0.3s								
PD31	**Pinedale Array**	**3.25**	**253**			**Pn**	**21 01 47.1**	**+0.6**
PDAR	**Pinedale Array**	**3.25**	**253**		Pn	**Pn**	**21 01 46.9**	**+0.3**
	comp=N,3.9nm,0.3s,baz=71,slow=16,SNR=58								
PDAR					Lg	Lg	21 02 32.7		
	comp=N,9.6nm,0.3s,baz=77,slow=29,SNR=4.3								
YNE	**Yellowstone No**	**3.55**	**291**			**Pn**	**21 01 51.3**	**+0.8**
YMP	**Mirror Lake Pl**	**3.58**	**287**			**Pn**	**21 01 52.1**	**+1.1**
GCMT	**Greycliff**	**3.65**	**304**			**Pn**	**21 01 53.4**	**+1.4**
LKWY	**Lake**	**3.71**	**283**			**Pn**	**21 01 54.0**	**+1.1**
LKWY					IAML		21 02 25.3		
	comp=N,60nm,0.6s								
OGNE	**Ogallala**	**3.78**	**138**		P	**Pn**	**21 01 53.6**	**0.0**
	baz=320,SNR=7.9								
OGNE					Sg	**Sg**	**21 02 58.1**	**+2.8**
	baz=320								
OGNE	**Ogallala**	**3.78**	**138**			**Pn**	**21 01 53.6**	**0.0**
H17A	**Grant Village**	**3.81**	**280**		Sb	**Sb**	**21 02 51.2**	**+2.1**
	baz=98								
H17A	**Grant Village**	**3.81**	**280**			**Pn**	**21 01 55.7**	**+1.5**
H17A					IAML		21 02 58.2		
	comp=N,26nm,0.8s								
FLWY	**Flagg Ranch**	**3.88**	**276**			**Pn**	**21 01 56.4**	**+1.3**
FLWY					IAML		21 03 04.0		
	comp=N,35nm,0.8s								
FLWY					IAML		21 03 13.5		
	comp=N,39nm,1.0s								
SNOW	**Snow King Moun**	**3.95**	**267**			**Pn**	**21 01 57.7**	**+1.6**
SNOW					IAML		21 03 19.1		
	comp=N,36nm,1.0s								
SNOW					IAML		21 03 24.7		
	comp=N,37nm,0.9s								
YPP	**Pitchstone Pla**	**3.96**	**278**		Pn	**Pn**	**21 01 56.7**	**+0.3**
YPP					P	**Pb**	**21 02 07.1**	**+2.2**
ISCO	**Idaho Springs**	**4.03**	**183**		P	**Pn**	**21 01 56.7**	**-0.4**
	baz=2.5								
ISCO					Sb	**Sb**	**21 02 56.8**	**+1.6**
	baz=2.5								
REDW	**Red Top Meadow**	**4.03**	**265**			**Pn**	**21 01 58.5**	**+1.3**
REDW					IAML		21 03 04.9		
	comp=N,35nm,1.0s								
REDW					IAML		21 03 08.7		
	comp=N,36nm,1.2s								
YHH	**Holmes Hill**	**4.07**	**286**			**Pn**	**21 01 58.7**	**+0.9**
YMR	**Madison River**	**4.13**	**284**			**Pn**	**21 02 00.2**	**+1.7**
O20A	**White River Ci**	**4.27**	**211**		P	**Pn**	**21 02 00.6**	**+0.2**
	baz=29,SNR=7.7								
O20A					Sb	**Sb**	**21 03 06.1**	**+3.8**
	baz=29								
O20A	**White River Ci**	**4.27**	**211**		IAML		21 03 22.3		
	comp=E,46nm,0.8s								
O20A					IAML		21 03 24.2		
	comp=N,44nm,0.9s								
AHID	**Auburn Hatcher**	**4.34**	**258**		IAML		21 03 16.9		
	comp=N,29nm,0.8s								
AHID					IAML		21 03 18.1		
	comp=E,34nm,0.8s								
RDMU	**Red Mountain**	**4.52**	**225**			**Pn**	**21 02 03.6**	**-0.3**
RDMU						**Sn**	**21 02 51.3**	**-6.0**
SMCO	**Snowmass**	**4.80**	**195**			**Pn**	**21 02 08.2**	**+0.3**
SMCO					IAML		21 03 31.5		
	comp=E,25nm,0.9s								
SMCO					IAML		21 03 47.0		
	comp=E,20nm,0.9s								
Q24A	**Divide**	**4.86**	**178**		IAML		21 03 24.2		
	comp=N,14nm,0.7s								
Q24A					IAML		21 03 28.9		
	comp=E,24nm,0.6s								
HWUT	**Hardware Ranch**	**5.09**	**246**		IAML		21 03 47.6		
	comp=E,24nm,1.0s								
EGMT	**Eagleton**	**5.21**	**325**			**Pn**	**21 02 14.4**	**+1.2**
KSCO	**Kaye Shedlock'**	**5.22**	**156**			**Pn**	**21 02 13.2**	**-0.3**
MDND	**Maddock**	**5.68**	**43**			**Pn**	**21 02 18.0**	**-1.6**
ECSD	**EROS Data Cent**	**6.32**	**88**		P	**Pn**	**21 02 28.6**	**+0.2**
	baz=273								
ECSD	**EROS Data Cent**	**6.32**	**88**			**Pn**	**21 02 28.9**	**+0.5**
CBKS	**Cedar Bluff**	**6.54**	**138**		P	**Pn**	**21 02 31.1**	**-0.4**
	baz=321								
CBKS	**Cedar Bluff**	**6.54**	**138**			**Pn**	**21 02 30.0**	**-1.6**
DUG	**Dugway, Tooele**	**6.64**	**239**		P	**Pn**	**21 02 32.2**	**-0.8**
	baz=55								
MVCO	**Mesa Verde**	**7.03**	**201**			**Pn**	**21 02 39.0**	**+0.6**
AGMN	**Agassiz Nation**	**7.96**	**53**		P	**Pn**	**21 02 50.8**	**-0.2**
	baz=239								
AGMN	**Agassiz Nation**	**7.96**	**53**			**Pn**	**21 02 50.9**	**0.0**
ULM	**Lac du Bonnet**	**9.11**	**42**		Pn	**Pn**	**21 03 05.4**	**-1.2**
	comp=E,1.2nm,0.3s,baz=232,slow=12,SNR=14								
ULM					Lg	Lg	21 05 33.6		
	comp=E,0.2nm,0.3s,baz=139,slow=20,SNR=2.1								
ULM	**Lac du Bonnet**	**9.11**	**42**			**Pn**	**21 03 06.3**	**-0.4**
FFC	**Flin Flon**	**11.13**	**10**			**Pn**	**21 03 33.8**	**-0.4**
NVAR	**Mina Array Bea**	**11.16**	**246**		Pn	**Pn**	**21 03 36.6**	**+1.6**
	comp=E,0.1nm,0.3s,baz=51,slow=13,SNR=3.1								
TXAR	**Lajitas Array**	**14.52**	**174**		Pg	Pg	21 05 21.6		
	comp=E,0.0nm,0.3s,baz=336,slow=13,SNR=2.7								
TXAR					Lg	Lg	21 08 23.6		
	comp=E,0.0nm,0.3s,baz=12,slow=23,SNR=3.5								
YKA	**Yellowknife Ar**	**19.47**	**347**		P	**P**	**21 05 21.3**	**-0.8**
	comp=E,0.1nm,0.3s,baz=163,slow=12,SNR=4.5								
MKAR	**Makanchi Array**	**89.52**	**355**		P	**P**	**21 13 52.5**	**-0.4**
	comp=E,0.2nm,0.6s,baz=10,slow=8.8,SNR=3.0								

WEL 23 21:08:05.2,41˚.5±3˚×17˚.5E±˚,h48km±2km,M3.5/33, ML3.8/13,MLv3.5/33,Error ellipse: s-maj=0.0km s-min=0.0km az=129.9,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHW	**Baring Head**	**0.15**	**102**	P	Pn	21 08 16.5	+3.5
BHW				S	Sn	21 08 22.6	+4.1
TCW	**Tory Channel**	**0.35**	**299**	P	Pn	21 08 15.3	+0.6
TCW				S	Sn	21 08 22.2	+0.9
CAW	**Cannon Point**	**0.40**	**47**	P	Pn	21 08 16.1	+0.9
MSWZ	**Moikau Station**	**0.43**	**95**	P	Pn	21 08 16.2	+0.7
PLWZ	**Palliser**	**0.47**	**114**	P	Pn	21 08 16.7	+0.6
CMWZ	**Cape Campbell**	**0.51**	**223**	P	Pn	21 08 17.3	+0.9
KIW	**Kapiti Island**	**0.55**	**19**	P	Pn	21 08 17.7	+0.8
TUWZ	**Tuamarina**	**0.56**	**265**	P	Pn	21 08 17.0	0.0
TUWZ				S	Sn	21 08 25.0	-0.5
PAWZ	**Paruwai Farm**	**0.56**	**91**	P	Pn	21 08 17.5	+0.4
MTW	**Mount Morrison**	**0.66**	**71**	P	Pn	21 08 18.7	+0.3
OGWZ	**Otaki Gorge**	**0.67**	**34**	P	Pn	21 08 19.1	+0.6
BSWZ	**Blackbirch Sta**	**0.69**	**241**	P	Pn	21 08 18.9	+0.1
TRWZ	**Traveller**	**0.76**	**92**	P	Pn	21 08 19.9	+0.2
HOWZ	**Holdsworth Sta**	**0.80**	**53**	P	Pn	21 08 20.2	0.0
DUWZ	**D'Urville Isla**	**0.81**	**315**	P	Pn	21 08 20.9	+0.6
TMWZ	**Te Maipa**	**0.95**	**74**	P	Pn	21 08 22.2	-0.2
MRZ	**Mangatainoka R**	**0.99**	**44**	P	Pn	21 08 22.8	+0.1
NNZ	**Nelson**	**0.99**	**279**	P	Pn	21 08 22.6	-0.2
TIWZ	**Tintock**	**1.09**	**57**	P	Pn	21 08 23.9	-0.3
CPWZ	**Castlepoint**	**1.24**	**68**	P	Pn	21 08 26.0	-0.2
OHWZ	**Ohakea**	**1.27**	**23**	P	Pn	21 08 27.7	+1.2
PRWZ	**Pori Road**	**1.28**	**50**	P	Pn	21 08 26.4	-0.3
POWZ	**Post Office Ro**	**1.29**	**40**	P	Pn	21 08 26.6	-0.2
KHZ	**Kahutara**	**1.34**	**219**	P	Pn	21 08 27.0	-0.5
BFZ	**Birch Farm**	**1.38**	**60**	P	Pn	21 08 27.2	-0.8
THZ	**Tophouse**	**1.38**	**253**	P	Pn	21 08 27.4	-0.7

DVHZ	**Dannevirke**	**1.56**	**47**		P	Pn	21 08 29.7	-0.9	
WAZ	**Wanganui**	**1.64**	**8**		P	Pn	21 08 33.3	+1.6	
TSZ	**Takapari Road**	**1.64**	**37**		P	Pn	21 08 31.3	-0.4	
ANWZ	**Angora Road**	**1.64**	**57**		P	Pn	21 08 30.6	-1.0	
QRZ	**Quartz Range**	**1.71**	**288**		P	Pn	21 08 33.1	+0.4	
PRHZ	**Porangahau**	**1.85**	**54**		P	Pn	21 08 33.3	-1.3	
PNHZ	**Pukenui**	**1.87**	**39**		P	Pn	21 08 34.2	-0.6	
WPHZ	**Waipukurau**	**1.88**	**46**		P	Pn	21 08 34.0	-0.9	
LREZ	**Lake Rotokare**	**1.93**	**354**		P	Pn	21 08 37.2	+1.6	
GVZ	**Greta Valley S**	**2.00**	**217**		P	Pn	21 08 35.5	-1.1	
NMEZ	**Namu Road**	**2.06**	**342**		P	Pn	21 08 38.7	+1.4	
PREZ	**Palmer Road**	**2.07**	**349**		P	Pn	21 08 39.6	+2.1	
MOVZ	**Moawhango**	**2.13**	**23**		P	Pn	21 08 38.4	-0.1	
PXZ	**Pawanui**	**2.14**	**52**		P	Pn	21 08 36.8	-1.6	
KHEZ	**Kahui Hut**	**2.14**	**346**		P	Pn	21 08 40.0	+1.4	
PKVZ	**Pokaka**	**2.15**	**14**		P	Pn	21 08 39.6	+1.0	
KRHZ	**Kereru**	**2.16**	**37**		P	Pn	21 08 38.0	-0.8	
BHHZ	**Black Hill Sta**	**2.16**	**30**		P	Pn	21 08 38.7	-0.1	
TRVZ	**Turoa**	**2.18**	**18**		P	Pn	21 08 39.8	+0.5	
DSZ	**Denniston Nort**	**2.19**	**259**		P	Pn	21 08 38.5	-0.6	
NBEZ	**Newall Road No**	**2.20**	**343**		P	Pn	21 08 40.5	+1.3	
WHVZ	**Whangaehu Hut**	**2.21**	**19**		P	Pn	21 08 40.2	+0.6	
FWVZ	**Far West T-bar**	**2.23**	**18**		P	Pn	21 08 40.5	+0.7	
TUVZ	**Tukino**	**2.24**	**20**		P	Pn	21 08 40.6	+0.7	
PKE	**Pukeiti**	**2.25**	**346**		P	Pn	21 08 41.4	+1.4	
VRZ	**Vera Road**	**2.25**	**2**		P	Pn	21 08 41.4	+1.3	
KAHZ	**Kahuranaki**	**2.30**	**47**		P	Pn	21 08 39.4	-1.4	
NGZ	**Ngauruhoe**	**2.31**	**18**		P	Pn	21 08 41.6	+0.7	
MHEZ	**Mangahewa**	**2.32**	**353**		P	Pn	21 08 42.9	+2.1	
AMCZ	**Amberley**	**2.34**	**219**		P	Pn	21 08 40.0	-1.2	
KWHZ	**Kaweka Forest**	**2.36**	**35**		P	Pn	21 08 40.7	-0.9	
WTVZ	**West Tongariro**	**2.37**	**17**		P	Pn	21 08 42.3	+0.6	
TWVZ	**Taurewa**	**2.38**	**14**		P	Pn	21 08 42.3	+0.5	
KRVZ	**Karewarewa**	**2.40**	**18**		P	Pn	21 08 42.8	+0.6	
MCHZ	**McNeill Hill**	**2.47**	**39**		P	Pn	21 08 42.1	-0.9	
RITZ	**Rihia Road**	**2.56**	**21**		P	Pn	21 08 44.6	+0.3	
ARHZ	**Aropaoanui**	**2.76**	**41**		P	Pn	21 08 46.3	-0.7	
INZ	**Inchbonnie**	**2.76**	**240**		P	Pn	21 08 45.6	-1.3	
OXZ	**Oxford**	**2.76**	**224**		P	Pn	21 08 46.8	-0.2	
MQZ	**McQueen's Vall**	**2.77**	**212**		P	Pn	21 08 44.5	-2.5	
AKCZ	**Akaroa Harbour**	**2.81**	**207**		P	Pn	21 08 45.9	-1.8	
HIZ	**Hauiti**	**2.87**	**3**		P	Pn	21 08 49.6	+1.2	
RTZ	**Ruatahuna**	**3.28**	**33**		P	Pn	21 08 53.0	-1.2	
MUGZ	**Murupara**	**3.31**	**30**		P	Pn	21 08 53.0	-1.6	
PRGZ	**Paritu Road**	**3.47**	**46**		P	Pn	21 08 54.8	-2.0	
RPZ	**Rata Peaks**	**3.55**	**228**		P	Pn	21 08 56.7	-1.1	
URZ	**Urewera**	**3.64**	**32**		P	Pn	21 08 58.4	-0.5	
TOZ	**Tahuroa Road**	**3.70**	**10**		P	Pn	21 09 00.1	+0.2	
FOZ	**Fox Glacier**	**4.19**	**237**		P	Pn	21 09 04.9	-1.7	
KBAZ	**Karaka Road Bo**	**4.28**	**2**		P	Pn	21 09 08.2	+1.1	
MKAZ	**Moumakai**	**4.29**	**5**		P	Pn	21 09 08.2	+0.3	
AWAZ	**Awhitu Peninsu**	**4.31**	**360**		P	Pn	21 09 09.2	+0.9	
ETAZ	**East Tamaki Re**	**4.42**	**3**		P	Pn	21 09 10.8	+1.0	
WTAZ	**Waiatarua**	**4.44**	**359**		P	Pn	21 09 11.4	+1.4	
LBZ	**Lake Benmore**	**4.46**	**226**		P	Pn	21 09 08.4	-1.9	
WIAZ	**Waiheke Island**	**4.59**	**5**		P	Pn	21 09 12.6	+0.5	
MBAZ	**Motutapu North**	**4.61**	**2**		P	Pn	21 09 12.9	+0.6	
ODZ	**Otahua Downs**	**4.70**	**217**		P	Pn	21 09 12.1	-1.5	
ABAZ	**Army Bay**	**4.77**	**2**		P	Pn	21 09 14.1	-0.4	
WCZ	**Waipu Caves**	**5.44**	**357**	

comp=N,6900µm,0.2s
ATVO END
ATPI Pietralunga - 0.10 309 P Pg 21 25 31.0 +0.4
ATPI S Sg 21 25 33.0 +0.6
ATPI AML AML
comp=N,2520µm,0.4s
ATPI AML AML
comp=N,2525µm,0.4s
ATPI AML AML
comp=E,1485µm,0.4s
ATPI END
MURB Monte Urbino 0.12 175 P Pg 21 25 31.6 +0.6
MURB S Sg 21 25 34.0 +1.1
MURB AML AML
comp=E,6015µm,0.2s
MURB AML AML
comp=N,7255µm,0.2s
MURB AML AML
comp=E,6605µm,1.4s
MURB AML AML
comp=E,6010µm,0.2s
MURB AML AML
comp=N,7250µm,0.2s
MURB AML AML
comp=N,6205µm,0.2s
MURB AML AML
comp=E,6010µm,0.2s
MURB END
PIEI Pieia 0.15 7 P Pg 21 25 32.0 +0.6
PIEI S Sg 21 25 34.8 +1.2
PIEI AML AML
comp=E,2405µm,0.3s
PIEI AML AML
comp=N,2445µm,0.3s
PIEI END
ATMI Monte Miggiano 0.18 253 P Pg 21 25 32.5 +0.6
ATMI S Sg 21 25 35.9 +1.4
ATMI AML AML
comp=E,1840µm,0.6s
ATMI AML AML
comp=N,1244µm,0.6s
ATMI END
FRON Frontone 0.20 50 P Pg 21 25 32.9 +0.6
FRON S Sg 21 25 36.6 +1.5
FRON AML AML
comp=N,1198µm,1.2s
FRON AML AML
comp=E,564µm,0.1s
FRON AML AML
comp=N,1200µm,1.2s
FRON END
SSFR Montelago di S 0.20 76 P Pg 21 25 32.9 +0.6
SSFR S Sg 21 25 36.5 +1.4
SSFR AML AML
comp=E,3085µm,0.2s
SSFR AML AML
comp=N,2165µm,0.9s
SSFR AML AML
comp=E,3090µm,0.2s
SSFR AML AML
comp=N,2165µm,0.9s
SSFR AML AML
comp=E,2905µm,0.2s
SSFR AML AML
comp=N,2010µm,0.9s
FOSV Fossato di Vic 0.20 117 P Pg 21 25 32.9 +0.6
FOSV AML AML
comp=E,438µm,0.4s
FOSV AML AML
comp=N,530µm,0.3s
FOSV END
CDCA Citt' di Caste 0.21 289 AML AML
comp=N,630µm,1.0s
CDCA AML AML
comp=E,634µm,1.1s
ATTE AVT- Monte Tez 0.22 211 P Pg 21 25 33.1 +0.5
ATTE S Sg 21 25 36.8 +1.1
ATTE END
ATCC AVT- Casa Cast 0.22 155 P Pg 21 25 33.5 +0.9
ATCC S Sg 21 25 37.7 +2.1
ATCC AML AML
comp=N,1535µm,0.2s
ATCC AML AML
comp=E,1180µm,0.3s
ATCC AML AML
comp=N,1540µm,0.2s
BADI Badiali 0.23 302 P Pg 21 25 33.5 +0.7
BADI S Sg 21 25 37.5 +1.6
BADI AML AML
comp=E,1915µm,0.2s
BADI AML AML
comp=N,3320µm,0.2s
BADI AML AML
comp=N,3315µm,0.2s
NARO Abbazia di Nar 0.23 13 P Pg 21 25 33.3 +0.6
NARO S Sg 21 25 37.2 +1.4
NARO AML AML
comp=E,514µm,1.3s
NARO AML AML
comp=N,359µm,0.6s
NARO AML AML
comp=N,358µm,0.6s
MPAG Monte Paganucc 0.30 37 P Pg 21 25 34.7 +0.6
MPAG S Sb 21 25 40.0 -0.7
MPAG AML AML
comp=E,254µm,0.8s
MPAG AML AML
comp=N,253µm,0.9s
MPAG AML AML
comp=E,255µm,0.8s
MPAG AML AML
comp=N,254µm,0.9s
PE3 Peglio 0.31 358 P Pb 21 25 35.1 -0.7
PE3 AML AML
comp=E,760µm,1.0s
PE3 AML AML
comp=N,758µm,0.3s
PE3 AML AML
comp=N,758µm,0.3s
PARC Parchiule 0.33 323 P Pg 21 25 35.3 +0.7
PARC AML AML
comp=E,312µm,0.2s
PARC AML AML
comp=N,246µm,1.0s
PARC AML AML
comp=E,312µm,0.2s
ARVD Arcevia 0.33 70 P Pg 21 25 35.3 +0.7
ARVD AML AML
comp=E,320µm,0.9s
ARVD AML AML
comp=E,319µm,0.9s
ARVD AML AML
comp=N,212µm,1.4s
SNTG Esanatoglia 0.34 113 P Pg 21 25 35.4 +0.6
SNTG AML AML
comp=E,572µm,0.9s
SNTG AML AML
comp=N,678µm,0.2s
ASSB Assisi San Ben 0.36 163 P Pg 21 25 35.6 +0.5
ASSB AML AML
comp=E,429µm,0.1s
ASSB AML AML
comp=N,548µm,0.3s
FSSB Fossombrone 0.36 32 P Pg 21 25 35.8 +0.7
FSSB AML AML
comp=N,585µm,1.2s
FSSB AML AML
comp=E,704µm,0.4s
CAFI Castiglion Fio 0.40 262 P Pb 21 25 36.7 -0.6
CAFI AML AML
comp=E,250µm,1.1s
CAFI AML AML
comp=N,4425µm,1.2s
CAFI AML AML
comp=E,258µm,1.1s
CAFI AML AML
comp=N,210µm,0.4s
CAFI AML AML
comp=E,258µm,1.1s
CAFI AML AML
comp=N,210µm,0.4s
EL6 Elcito 0.43 97 AML AML
comp=E,500µm,1.4s
EL6 AML AML
comp=N,634µm,0.4s
CRE Caprese Michel 0.47 300 AML AML
comp=N,291µm,0.3s
CRE AML AML
comp=N,290µm,0.3s
CRE AML AML
comp=E,224µm,0.4s
CESI CESI - Serrava 0.48 143 AML AML
comp=N,91µm,1.6s
CESI AML AML
comp=E,35µm,0.3s
CESI AML AML
comp=E,35µm,0.3s
CING Cingoli 0.50 91 AML AML
comp=E,138µm,1.6s
CING AML AML
comp=N,152µm,0.9s
FDMO Fiordimonte 0.55 130 AML AML
comp=N,296µm,0.1s
FDMO AML AML
comp=E,233µm,0.2s
MGAB Montegabbione 0.56 212 AML AML
comp=E,480µm,0.3s
MGAB AML AML
comp=E,420µm,0.4s
MGAB AML AML
comp=N,652µm,0.3s
MGAB AML AML
comp=N,652µm,0.3s
MGAB AML AML
comp=N,674µm,0.3s

*ROM **23** 21:25:41.5±0.0,43°.387N±0°.002×12°.514E±0°.003, h9km, ML2.2/23, Error ellipse: s-maj=0.2km s-min=0.2km az=359.0*
*ISCJB **23** 21:25:42.4±0.3,43°.39N±0°.02×12°.51E±0°.03, h7km±3km, Error ellipse: s-maj=3.4km s-min=3.1km az=157.2*

ISC 23 21:25:42.0±0.9, 43°.39N±0°.02×12°.52E±0°.02, h6km±6km, n31, σ0s98/47, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.04**	**120**	P	**Pg**	**21 25 43.6**	**+0.1**
ATFO				S	**Sg**	**21 25 44.6**	**0.0**
ATFO				AML	AML		
	comp=E,18100µm,0.4s						
ATFO				AML	AML		
	comp=N,20800µm,0.4s						
ATFO				AML	AML		
	comp=E,18100µm,0.4s						
ATVO	**AVT- Monte Val**	**0.08**	**265**	P	**Pg**	**21 25 44.0**	**0.0**
ATVO				S	**Sg**	**21 25 45.5**	**+0.1**
ATVO				AML	AML		
	comp=E,3755µm,0.4s						
ATVO				AML	AML		
	comp=N,6900µm,0.2s						
ATPI	**Pietralunga -**	**0.10**	**306**	P	**Pg**	**21 25 44.5**	**+0.2**
ATPI				S	**Sg**	**21 25 46.5**	**+0.5**
ATPI				AML	AML		
	comp=N,2520µm,0.4s						
ATPI				AML	AML		
	comp=N,2525µm,0.4s						
ATPI				AML	AML		
	comp=E,1485µm,0.4s						
MURB	**Monte Urbino**	**0.13**	**178**	P	**Pg**	**21 25 45.0**	**+0.3**
MURB				S	**Sg**	**21 25 47.5**	**+1.0**
MURB				AML	AML		
	comp=E,6015µm,0.2s						
MURB				AML	AML		
	comp=E,6010µm,0.2s						
MURB				AML	AML		
	comp=N,7255µm,0.2s						
MURB				AML	AML		
	comp=E,6605µm,1.4s						
MURB				AML	AML		
	comp=N,6205µm,0.2s						
MURB				AML	AML		
	comp=N,7250µm,0.2s						
PIEI	**Pieia**	**0.15**	**5**	P	**Pg**	**21 25 45.4**	**+0.3**
PIEI				S	**Sg**	**21 25 48.2**	**+1.0**
PIEI				AML	AML		
	comp=E,2405µm,0.3s						
PIEI				AML	AML		
	comp=N,2445µm,0.3s						
ATMI	**Monte Miggiano**	**0.19**	**253**	P	**Pg**	**21 25 46.0**	**+0.2**
ATMI				S	**Sg**	**21 25 49.3**	**+0.9**
ATMI				AML	AML		
	comp=E,1840µm,0.6s						
ATMI				AML	AML		
	comp=N,1244µm,0.6s						
ATMI				AML	AML		
	comp=N,1243µm,0.6s						
FRON	**Frontone**	**0.20**	**49**	P	**Pg**	**21 25 46.3**	**+0.3**
FRON				S	**Sg**	**21 25 50.2**	**+1.5**
FRON				AML	AML		
	comp=E,564µm,0.1s						
FRON				AML	AML		
	comp=N,1200µm,1.2s						
FOSV	**Fossato di Vic**	**0.20**	**118**	P	**Pg**	**21 25 46.3**	**+0.3**
FOSV				S	**Sg**	**21 25 49.8**	**+1.1**
FOSV				AML	AML		
	comp=E,438µm,0.4s						
FOSV				AML	AML		
	comp=N,530µm,0.3s						
FOSV				AML	AML		
	comp=E,438µm,0.4s						
FOSV				AML	AML		
	comp=N,530µm,0.3s						
CDCA	**Citt' di Caste**	**0.22**	**289**	P	**Pg**	**21 25 47.0**	**+0.6**
CDCA				AML	AML		
	comp=N,2190µm,0.7s						
CDCA				AML	AML		
	comp=E,1900µm,1.3s						
ATCC	**AVT- Casa Cast**	**0.22**	**156**	P	**Pg**	**21 25 47.0**	**+0.6**
ATCC				S	**Sg**	**21 25 51.0**	**+1.7**
ATCC				AML	AML		
	comp=E,1180µm,0.3s						
ATCC				AML	AML		
	comp=N,1535µm,0.2s						
ATTE	**AVT- Monte Tez**	**0.23**	**212**	P	**Pg**	**21 25 46.6**	**+0.1**
ATTE				S	**Sg**	**21 25 50.3**	**+0.8**
ATTE				AML	AML		
	comp=E,770µm,1.0s						
ATTE				AML	AML		
	comp=E,770µm,1.0s						
ATTE				AML	AML		
	comp=N,672µm,0.7s						
NARO	**Abbazia di Nar**	**0.23**	**12**	P	**Pg**	**21 25 46.8**	**+0.3**
NARO				S	**Sg**	**21 25 50.6**	**+1.1**
NARO				AML	AML		
	comp=E,514µm,1.3s						
NARO				AML	AML		
	comp=N,358µm,0.6s						
BADI	**Badiali**	**0.23**	**301**	P	**Pg**	**21 25 47.0**	**+0.4**
BADI				S	**Sg**	**21 25 51.0**	**+1.3**
BADI				AML	AML		
	comp=E,1915µm,0.2s						
BADI				AML	AML		
	comp=N,3315µm,0.2s						
BADI				AML	AML		
	comp=E,1920µm,0.2s						
BADI				AML	AML		
	comp=N,3320µm,0.2s						
MPAG	**Monte Paganucc**	**0.30**	**36**	P	**Pg**	**21 25 48.2**	**+0.3**
MPAG				S	**Sb**	**21 25 53.4**	**-1.6**
MPAG				AML	AML		
	comp=E,255µm,0.8s						
MPAG				AML	AML		
	comp=N,254µm,0.9s						
MPAG				AML	AML		
	comp=N,254µm,0.9s						
PE3	**Peglio**	**0.31**	**357**	P	**Pg**	**21 25 48.7**	**+0.7**
PE3				AML	AML		
	comp=N,758µm,0.3s						
PE3				AML	AML		
	comp=E,760µm,1.0s						
PE3				AML	AML		
	comp=N,758µm,0.3s						
ARVD	**Arcevia**	**0.33**	**70**	P	**Pg**	**21 25 48.7**	**+0.3**
ARVD				AML	AML		
	comp=N,212µm,1.4s						
ARVD				AML	AML		
	comp=E,319µm,0.9s						
SNTG	**Esanatoglia**	**0.34**	**113**	P	**Pg**	**21 25 48.8**	**+0.2**
SNTG				S	**Sb**	**21 25 54.5**	**-1.6**
SNTG				AML	AML		
	comp=E,572µm,0.9s						
SNTG				AML	AML		
	comp=N,678µm,0.2s						
FSSB	**Fossombrone**	**0.36**	**32**	P	**Pg**	**21 25 49.3**	**+0.3**
FSSB				AML	AML		
	comp=N,585µm,1.2s						
FSSB				AML	AML		
	comp=E,704µm,0.4s						
ASSB	**Assisi San Ben**	**0.36**	**163**	P	**Pg**	**21 25 49.5**	**+0.4**
ASSB				S	**Sb**	**21 25 55.1**	**-1.7**
ASSB				AML	AML		
	comp=N,548µm,0.3s						
ASSB				AML	AML		
	comp=E,429µm,0.1s						
CAFI	**Castiglion Fio**	**0.41**	**262**	P	**Pg**	**21 25 50.1**	**+0.2**
CAFI				AML	AML		
	comp=N,210µm,0.4s						
CAFI				AML	AML		
	comp=E,258µm,1.1s						
EL6	**Elcito**	**0.43**	**98**	P	**Pg**	**21 25 50.8**	**+0.5**
EL6				AML	AML		
	comp=N,635µm,0.4s						
EL6				AML	AML		
	comp=E,519µm,1.4s						
CESI	**CESI - Serrava**	**0.48**	**144**	P	**Pg**	**21 25 51.4**	**+0.1**
CESI				AML	AML		
	comp=E,35µm,0.3s						
CESI				AML	AML		
	comp=N,91µm,1.6s						
CING	**Cingoli**	**0.49**	**91**	AML	AML		
	comp=E,138µm,1.6s						
CING				AML	AML		
	comp=N,152µm,0.9s						
BRJN	**Brijuni**	**1.76**	**30**	*i* Pn	**Pb**	**21 26 13.6**	**-1.0**
DUGI	**Dugi Otok**	**1.94**	**71**	*i* Pn	**Pb**	**21 26 16.5**	**-1.2**
NVLJ	**Novalja**	**2.06**	**55**	*e*Pn	**Pn**	**21 26 16.5**	**-0.7**
ZIRJ	**Zirje**	**2.29**	**82**	*e*Pn	**Pn**	**21 26 20.8**	**+0.5**
ZIRJ					Sn	**21 26 49.9**	**+1.1**
MORI	**Morici**	**2.36**	**77**	*e*Pn	**Pn**	**21 26 22.1**	**+0.8**
UDBI	**Udbina**	**2.61**	**63**	*e*Pn	**Pn**	**21 26 26.0**	**+1.3**
KIJV	**Kijevo**	**2.88**	**76**	*e*Pn	**Pn**	**21 26 29.7**	**+1.2**
KIJV					Sn	**21 27 06.7**	**-2.7**
RICI	**Ricice**	**3.36**	**87**	ePn	**Pn**	**21 26 36.5**	**+1.4**

DJA 23 22:11:49.9±0.5, 0°N±4°×12°2E±°, h136km±5km, M3.5/7, MLv3.5/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.33**	**307**	P	Pn	22 12 09.6	+0.8
MRSI				S	Sn	22 12 24.8	+1.6
APSI	**Ampana**	**1.30**	**205**	P	Pn	22 12 17.3	+1.0
LUWI	**Luwuk**	**1.43**	**156**	P	Pn	22 12 18.3	+0.6
LUWI				S	Sn	22 12 39.9	+1.0
KMSI	**Cibinong**	**1.81**	**81**	P	Pn	22 12 23.1	+1.2
MPSI	**Mapaga**	**2.30**	**271**	P	Pn	22 12 27.7	-0.2
MPSI				S	Sn	22 12 58.8	+1.7
SANI	**Sanana**	**4.44**	**121**	P	Pn	22 12 52.8	-2.8
SANI				S	Sn	22 13 41.1	-5.6
WSI	**Waingapu**	**10.06**	**191**	P	Pn	22 13 59.0	-12

*IDC **23** 22:17:31.2±1.6,34°.49N±25°.92E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.4/31, mbtmp3.7/4, Error ellipse: s-maj=68.9km s-min=26.7km az=137.0*
*ISCJB **23** 22:17:37.3±1.0,34°.41N±0°.09×26°.17E±0°.05, h59km±9km, mb3.6/4, Error ellipse: s-maj=15.0km s-min=5.6km az=161.1*
*ATH **23** 22:17:38.7,34°.55N×26°.10E, h41km±2km, ML2.3/5, Error ellipse: s-maj=6.4km s-min=2.0km az=345.0*
*DDA **23** 22:17:39.5,34°.70N×26°.71E, h9km±2km, ML1.9*
*THE **23** 22:17:39.0,34°.50N×26°.11E, h10km±2km, ML2.5/1, Error ellipse: s-maj=5.2km s-min=1.1km az=335.0*

ISC 23 22:17:37.5±1.7, 34°.4N±0°.1×26°.18E±0°.04, h46km±17km, n50, σ1s69/61, mb3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.71**	**2**	P	**Pn**	**22 17 50.6**	**-0.6**
ZKR	**Zakros**	**0.71**	**2**	P	**Pn**	**22 17 50.8**	**-0.4**
ZKR				S	**Sn**	**22 18 01.4**	**+0.3**
ZKR				AML	AML	22 18 15.1	
	comp=N,468µm,0.4s						
ZKR				AML	AML	22 18 19.0	
	comp=E,898µm,0.7s						
FRMA	**Ierapetra Chan**	**0.71**	**329**	P	**Pn**	**22 17 50.5**	**-0.7**
STIA	**Sitia Lasithi**	**0.80**	**355**	P	**Pn**	**22 17 52.5**	**+0.1**
STIA				S	**Sn**	**22 18 03.3**	**+0.1**
LAST	**Lasithi**	**0.95**	**323**	P	**Pn**	**22 17 54.3**	**-0.1**
LAST	**Lasithi**	**0.95**	**323**	P	**Pn**	**22 17 54.4**	**-0.1**
LAST				AML	AML	22 18 16.1	
	comp=N,361µm,0.5s						
LAST				AML	AML	22 18 19.1	
	comp=E,494µm,0.5s						
NPS	**Neapolis**	**0.97**	**331**	P	**Pn**	**22 17 55.0**	**+0.2**
NPS	**Neapolis**	**0.97**	**331**	P	**Pn**	**22 17 55.5**	**+0.7**
NPS				AML	AML	22 18 19.7	
	comp=E,448µm,0.6s						
NPS				AML	AML	22 18 20.0	
	comp=N,355µm,0.5s						
SIVA	**Sivas**	**1.28**	**299**	P	**Pn**	**22 18 00.0**	**+1.1**
SIVA	**Sivas**	**1.28**	**299**	P	**Pn**	**22 18 00.0**	**+1.1**
IDI	**Anoyia**	**1.38**	**310**	P	**Pn**	**22 18 01.4**	**+1.1**
IDI				AML	AML	22 18 30.7	
	comp=N,162µm,0.4s						
IDI				AML	AML	22 18 45.5	
	comp=E,108µm,0.6s						
KARP	**Karpathos**	**1.39**	**35**	P	**Pn**	**22 18 02.4**	**+1.9**
KARP				S	**Sn**	**22 18 20.6**	**+2.8**
	comp=E,155nm,0.7s						
KARP	**Karpathos**	**1.39**	**35**	P	**Pn**	**22 18 02.5**	**+2.0**
KARP				AML	AML	22 18 42.3	
	comp=N,291µm,0.8s						
KARP				AML	AML	22 18 43.5	
	comp=E,338µm,0.6s						
GVD	**Gavdhos**	**1.78**	**285**	P	**Pn**	**22 18 06.3**	**+0.6**
VAM	**Vamos**	**1.91**	**302**	P	**Pn**	**22 18 08.9**	**+1.4**
VAM	**Vamos**	**1.91**	**302**	P	**Pn**	**22 18 09.0**	**+1.5**
SNT2	**Vlychada, Sant**	**2.02**	**343**	P	**Pn**	**22 18 09.0**	**-0.1**
SANT	**Santorini**	**2.04**	**343**	P	**Pn**	**22 18 10.2**	**+0.7**
IMMV	**Iera Moni Meta**	**2.09**	**301**	P	**Pn**	**22 18 11.5**	**+1.5**
IMMV	**Iera Moni Meta**	**2.09**	**301**	P	**Pn**	**22 18 11.3**	**+1.3**
THR3	**Thira Island,**	**2.10**	**343**	P	**Pn**	**22 18 11.0**	**+0.9**
THR3	**Thira Island,**	**2.10**	**343**	P	**Pn**	**22 18 10.7**	**+0.7**
THR5	**Thira Island,**	**2.12**	**342**	P	**Pn**	**22 18 11.2**	**+0.8**
THR5	**Thira Island,**	**2.12**	**342**	P	**Pn**	**22 18 11.3**	**+0.8**
SAP3	**Santorini-Thir**	**2.13**	**342**	P	**Pn**	**22 18 10.9**	**+0.3**
NISR	**Nisiros**	**2.33**	**19**	P	**Pn**	**22 18 14.8**	**+1.5**
ARG	**Arkhangelos**	**2.41**	**41**	P	**Pn**	**22 18 16.4**	**+2.1**
ARG	**Arkhangelos**	**2.41**	**41**	P	**Pn**	**22 18 16.2**	**+1.9**
ARG				S	**Sn**	**22 18 44.5**	**+1.9**
IOSP	**Ios island**	**2.42**	**343**	P	**Pn**	**22 18 15.4**	**+0.8**
AMGA	**Amorgos Island**	**2.43**	**355**	P	**Pn**	**22 18 15.6**	**+0.9**
DAT	**Datca**	**2.58**	**26**	*i* P	**Pn**	**22 18 17.8**	**+0.9**
DAT				*i* S	**Sn**	**22 18 48.2**	**+1.2**
DAT				IAML		22 18 54.0	
	comp=E,4.4nm,0.2s						
DAT				IAML		22 18 54.0	
	comp=N,6.4nm,0.2s						
DAT	**Datca**	**2.58**	**26**	*e*P	**Pn**	**22 18 18.1**	**+1.2**
DAT				S	**Sn**	**22 18 49.5**	**+2.4**
APE	**Apeiranthos**	**2.71**	**349**	P	**Pn**	**22 18 19.4**	**+0.8**
ANKY	**Antikythira Is**	**2.77**	**302**	P	**Pn**	**22 18 20.3**	**+0.9**
TURN	**Turunc**	**3.15**	**38**	*i* P	**Pn**	**22 18 22.2**	**-2.4**
TURN				*i* S	**Sn**	**22 18 53.9**	**-7.0**
TURN				IAML		22 19 05.0	
	comp=N,11nm,0.3s						
TURN				IAML		22 19 10.0	
	comp=E,6.4nm,0.3s						
TURN	**Turunc**	**3.15**	**38**	*e*P	**Pn**	**22 18 22.5**	**-2.1**
TURN				S	**Sn**	**22 18 56.9**	**-4.1**
YER	**Yerkesik**	**3.21**	**32**	*e*P	**Pn**	**22 18 27.1**	**+1.6**
FETY	**Fethiye**	**3.25**	**46**	*i* P	**Pn**	**22 18 26.6**	**+0.6**
FETY				*i* S	**Sn**	**22 19 01.5**	**-1.9**
FETY				IAML		22 19 11.0	
	comp=N,3.8nm,0.5s						
FETY				IAML		22 19 12.0	
	comp=E,3.4nm,0.3s						
FETY	**Fethiye**	**3.25**	**46**	*e*P	**Pn**	**22 18 27.1**	**+1.2**
AKAS	**Kas**	**3.34**	**56**	*i* P	**Pn**	**22 18 27.8**	**+0.5**
AKAS				*i* S	**Sn**	**22 19 03.5**	**-2.3**
AKAS				IAML		22 19 16.0	

comp=N,14nm,0.5s
AKAS IAML 22 19 17.0
comp=E,11nm,0.4s
AKAS Kas 3.34 56 *e*P **Pn 22 18 28.3 +1.0**
AYDN Tasoluk 3.53 22 *i* P **Pn 22 18 31.2 +1.4**
TAVA DENIZLI_Tavas 3.77 35 *i* P **Pn 22 18 34.1 +0.9**
TAVA *i* S **Sn 22 19 16.7 +0.4**
TAVA IAML 22 19 25.0
comp=E,4.7nm,0.3s
TAVA IAML 22 19 27.0
comp=N,5.0nm,0.5s
ELL Elmali 3.83 51 *e*P **Pn 22 18 35.3 +1.3**
GOLH Golhisar 3.94 43 *i* P **Pn 22 18 36.8 +1.3**
KORT Korkueli 4.27 51 *e*P **Pn 22 18 41.6 +1.6**
TORD Torodi Ar. Bea 30.67 232 P **P 22 23 46.6 -1.2**
comp=N,0.2nm,0.4s,baz=33,slow=8.8,SNR=6.0
ARCES ARCESS Array B 35.18 360 P **P 22 24 25.8 -0.9**
comp=N,2.2nm,0.9s,baz=170,slow=6.4,SNR=1.4
MKAR Makanchi Array 43.49 56 P **P 22 25 37.3 +1.1**
comp=N,0.5nm,0.6s,baz=270,slow=7.6,SNR=4.9
ZALV Zalesovo Beam 44.92 46 P **P 22 25 48.1 +0.6**
comp=N,0.5nm,0.4s,baz=258,slow=9.0,SNR=4.1

*ISCJB **23** 22:25:33.3±1.1,17°.1S±0°.3×178°.9W±0°.2,h539km,mb3.3/8, Error ellipse: s-maj=51.2km s-min=17.2km az=147.7*
*IDC **23** 22:25:37.9±6.4,17°.26S×178°.88W,h587km±74km,mb2.8/8, mb1 3.1/8,mb1mx2.9/39,mbtmp3.6/8,Error ellipse: s-maj=44.3km s-min=27.1km az=139.0*
ISC 23 22:25:33.7±1.2,17°.2S±0°.3×178°.8W±0°.2,h539km,n10, σ0s89/11,mb3.2/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.64**	**240**	P	**P**	**22 32 11.5**	**+0.4**
	0.8nm,0.2s,baz=53,slow=20,SNR=2.9						
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**22 32 56.7**	**0.0**
	0.4nm,0.4s,baz=98,slow=7.2,SNR=4.6						
ASAR	**Alice Springs**	**44.62**	**254**	P	**P**	**22 32 59.2**	**+0.7**
	0.3nm,0.6s,baz=86,slow=9.4,SNR=9.9						
ASAR				PcP	**PcP**	**22 34 27.8**	**-2.0**
	0.2nm,0.4s,baz=99,slow=3.1,SNR=3.2						
MJAR	**Matsushiro Arr**	**67.10**	**323**	P	**P**	**22 35 33.7**	**0.0**
	0.8nm,0.4s,baz=119,slow=7.1,SNR=3.5						
ILAR	**Eielson Array**	**85.28**	**13**	P	**P**	**22 37 13.9**	**+0.8**
	0.2nm,0.4s,baz=221,slow=4.4,SNR=5.5						
TXAR	**Lajitas Array**	**85.94**	**58**	P	**P**	**22 37 17.9**	**+0.7**
	0.4nm,0.7s,baz=232,slow=6.1,SNR=5.3						
PDAR	**Pinedale Array**	**87.10**	**44**	P	**P**	**22 37 22.0**	**-0.6**
	0.2nm,0.6s,baz=227,slow=8.5,SNR=2.4						
YKA	**Yellowknife Ar**	**93.84**	**25**	P	**P**	**22 37 52.7**	**-0.2**
	0.1nm,0.5s,baz=105,slow=6.2,SNR=2.5						
BRTR	**Keskin Array B**	**144.00**	**315**	PKP	**PKPab**	**22 44 07.4**	**-0.5**
	0.2nm,0.5s,baz=83,slow=5.1,SNR=2.9						
GERES	**GERESS Array B**	**146.82**	**345**	PKPbc	**PKPbc**	**22 44 15.6**	**0.0**
	0.7nm,0.6s,baz=29,slow=3.0,SNR=6.1						

IDC 23 22:32:59.0±8.4,17°.38S×178°.45W,h560km±89km, mb2.8/4,mb1 3.2/4,mb1mx2.8/45,mbtmp3.7/4,Error ellipse: s-maj=102.4km s-min=34.1km az=147.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.69**	**259**	P	P	22 40 22.4	-0.5
	0.4nm,0.5s,baz=95,slow=7.1,SNR=9.2						
ASAR	**Alice Springs**	**44.90**	**254**	P	P	22 40 24.7	+0.2
	1.9nm,0.6s,baz=87,slow=8.7,SNR=32						
ASAR				PcP	PcP	22 41 53.1	-0.9
	0.3nm,0.5s,baz=102,slow=4.2,SNR=3.3						
ILAR	**Eielson Array**	**85.38**	**13**	P	P	22 44 36.6	-0.4
	0.2nm,0.4s,baz=220,slow=5.2,SNR=8.1						
TXAR	**Lajitas Array**	**85.75**	**58**	P	P	22 44 39.7	0.0
	0.5nm,0.9s,baz=220,slow=4.9,SNR=4.2						
BRTR	**Keskin Array B**	**144.38**	**315**	PKP	PKPbc	22 51 31.9	-0.2
	0.4nm,0.7s,baz=41,slow=3.7,SNR=3.0						
GERES	**GERESS Array B**	**147.09**	**345**	PKPbc	PKPbc	22 51 39.2	-0.3
	0.5nm,0.5s,baz=20,slow=4.3,SNR=7.0						

*ISCJB **23** 22:59:24.8±0.6,15°.87S±0°.10×173°.78W±0°.10,h100km, mb3.9/7,Error ellipse: s-maj=16.4km s-min=10.0km az=139.4*
*NEIC **23** 22:59:25.4±0.7,15°.89S±0°.07×173°.82W±0°.08,h88km±7km, mb4.3/5*
*IDC **23** 22:59:25.3±2.9,15°.79S×173°.89W,h84km±25km,mb3.7/7, mb1 4.0/8,mb1mx3.7/37,mbtmp4.1/8,Error ellipse: s-maj=57.1km s-min=17.4km az=144.0*
ISC 23 22:59:26.4±0.6,15°.90S±0°.07×173°.60W±0°.09,h100km, n22,σ1s53/26,mb4.2/9,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.65**	**42**	P	**Pn**	**23 00 07.9**	**+0.3**
	45nm,0.3s,baz=67,slow=0.1,SNR=29						
AFI				S	**Sn**	**23 00 36.1**	**-3.2**
	117nm,0.3s,baz=234,slow=23,SNR=17						
AFI	**Afiamalu**	**2.65**	**42**		**Pn**	**23 00 08.2**	**+0.6**
AFI					**Sn**	**23 00 37.0**	**-2.2**
NIUE	**Niue**	**4.72**	**133**		**Pn**	**23 00 36.5**	**+1.2**
NIUE				Sn	**Sn**	**23 01 26.2**	**-2.8**
URZ	**Urewera**	**23.73**	**198**	P	**P**	**23 04 28.6**	**-0.8**
URZ				IAmb	IAmb	23 04 35.4	
	comp=Z,13nm,1.2s						
THZ	**Tophouse**	**28.28**	**202**	P	**P**	**23 05 09.9**	**-0.5**
STKA	**Stephens Creek**	**43.62**	**240**	P	**P**	**23 07 20.1**	**-1.0**
	comp=Z,4.1nm,0.5s,baz=86,slow=9.6,SNR=15						
STKA	**Stephens Creek**	**43.62**	**240**	P	**P**	**23 07 20.3**	**-0.8**
BBOO	**Buckleboo**	**48.40**	**240**	P	**P**	**23 07 57.5**	**-1.1**
WRA	**Warramunga Arr**	**49.54**	**257**	P	**P**	**23 08 05.4**	**-2.1**
	comp=Z,1.5nm,0.5s,baz=93,slow=7.3,SNR=19						
WRA				PcP	**PcP**	**23 09 27.5**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=95,slow=6.3,SNR=2.9						
AS31	**Alice Springs**	**49.77**	**252**	P	**P**	**23 08 08.0**	**-1.3**
AS31				IAmb	IAmb	23 08 09.2	
	comp=Z,2.4nm,0.6s						
ASAR	**Alice Springs**	**49.77**	**252**	P	**P**	**23 08 08.0**	**-1.3**
	comp=Z,9.2nm,0.6s,baz=84,slow=8.5,SNR=84						
TXAR	**Lajitas Array**	**81.05**	**56**	P	**P**	**23 11 32.6**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=241,slow=5.0,SNR=3.1						
PDAR	**Pinedale Array**	**82.76**	**42**	P	**P**	**23 11 39.6**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=308,slow=7.3,SNR=3.8						
ILAR	**Eielson Array**	**92.97**	**11**	P	**P**	**23 11 40.8**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=210,slow=6.0,SNR=4.8						
MAW	**Mawson**	**87.26**	**199**	P	**P**	**23 12 02.3**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=162,slow=6.4,SNR=4.1						
ARCES	**ARCESS Array B**	**125.07**	**352**	PKP	**PKPdf**	**23 18 14.7**	**+0.2**
	comp=Z,7.1nm,1.0s,baz=11,slow=0.9,SNR=4.3						
KMBO	**Kilima Mbogo**	**145.14**	**244**	PKP	**PKPbc**	**23 18 54.1**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=58,slow=16,SNR=4.5						
BRTR	**Keskin Array B**	**146.42**	**320**	PKPbc	**PKPdf**	**23 18 56.4**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=111,slow=2.4,SNR=8.1						
GERES	**GERESS Array B**	**146.60**	**351**	PKPbc	**PKPdf**	**23 18 55.5**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=54,slow=2.5,SNR=4.0						
ARSA	**Arzberg**	**147.83**	**348**	*i* PKPab	**PKPbc**	**23 19 01.6**	**+1.7**
	comp=Z,6.5nm,1.9s						
RETA	**Reutte**	**148.29**	**354**	*i* PKPbc	**PKPdf**	**23 18 59.6**	**+1.9**
	comp=Z,14nm,1.7s						
WTTA	**Wattenberg**	**148.42**	**353**	*i* PKPdf	**PKPdf**	**23 18 56.5**	**-1.5**
	comp=Z,11nm,1.8s						

*ISCJB **23** 23:14:32.9±0.3,3°.99S±0°.03×142°.26E±0°.04,h10km, mb4.5/20,MS3.8/12,Error ellipse: s-maj=6.4km s-min=4.3km az=167.6*
*IDC **23** 23:14:32.3±0.8,3°.94S×142°.41E,h0km,mb4.4/10, mb1 4.7/14,mb1mx4.3/34,mbtmp4.5/14,ML4.5/4,MS3.5/16, Ms1 3.5/16,ms1mx3.4/42,Error ellipse: s-maj=24.9km s-min=16.5km az=90.0*
*DJA **23** 23:14:40.4±2.4,4°.S±4°.4×14°.2E±°,h11km±18km,M4.7/17, mB5.2/5,mb4.7/17,MLv4.7/5,Mw(mB)4.6/5*
*NEIC **23** 23:14:41.8±2.2,3°.92S±0°.06×141°.98E±0°.04,h65km±6km, mb4.7/36*
ISC 23 23:14:35.0±0.5,4°.04S±0°.05×142°.15E±0°.07,h10km,n99, σ2s20/94,mb4.8/35,MS3.7/12,2C,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.10**	**316**	Pn	**Pn**	**23 15 10.7**	**+0.4**
	88nm,0.3s,baz=153,slow=10,SNR=227						
JAY				Sn	**Sn**	**23 15 33.5**	**-2.9**
	94nm,0.3s,baz=49,slow=19,SNR=23						
JAY				LR	LR	23 15 53.6	
	comp=Z,425nm,21.8s,baz=118,slow=37						
JAY	**Jayapura**	**2.10**	**316**	P	**Pb**	**23 15 11.4**	**-1.8**
JAY				S	**Sn**	**23 15 36.6**	**+0.2**
GENI	**Genyem**	**2.45**	**306**	P	**Pn**	**23 15 16.4**	**+1.3**
GENI				S	**Sn**	**23 15 45.4**	**+0.3**
SMPI	**Sarmi**	**4.00**	**301**	P	**Pn**	**23 15 40.4**	**+4.0**
PMG	**Port Moresby**	**7.29**	**137**	LR	LR	23 19 36.2	
	comp=Z,461nm,20.1s,baz=280,slow=42						
PMG	**Port Moresby**	**7.29**	**137**		Pb	23 16 27.5	-14
KRVT	**Keravat (AS076**	**9.85**	**92**	LR	LR	23 19 56.9	
	comp=Z,150nm,20.0s,baz=281,slow=34						
COEN	**Coen**	**9.90**	**174**		Pn	23 17 02.9	+5.3
COEN				Sn	**Sn**	**23 18 51.4**	**+2.4**
FAKI	**Fak Fak**	**9.95**	**276**	P	**Pn**	**23 17 01.7**	**+3.5**
	36nm,1.4s						
FAKI	**Fak Fak**	**9.95**	**276**	Pn	**Pn**	**23 17 00.4**	**+2.2**
SIJI	**Sorong**	**11.32**	**286**	Pn	**Pn**	**23 17 20.6**	**+3.5**
	1.3nm,0.3s,baz=70,slow=8.5,SNR=4.3						
SWI	**Sorong**	**11.33**	**286**	P	**Pn**	**23 17 20.8**	**+3.7**
	25nm,0.6s,2μm						
MTN	**Manton Dam**	**13.97**	**231**		**Pn**	**23 17 55.3**	**+2.1**
MTN					**Sn**	**23 20 25.0**	**-3.4**
SANI	**Sanana**	**16.26**	**277**	P	P	23 18 34.1	+7.3
WR0	**Warramunga Arr**	**17.48**	**205**	P	**P**	**23 18 40.4**	**+0.1**
KNRA	**Kununurra**	**17.53**	**228**		**Pn**	**23 18 39.9**	**+0.3**
WRAB	**Tennant Creek**	**17.53**	**205**	P	**P**	**23 18 42.5**	**+1.7**
WRAB				IAmb	IAmb	23 19 01.1	
	comp=Z,30nm,0.7s						
WRA	**Warramunga Arr**	**17.55**	**205**	P	**Pn**	**23 18 39.5**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=27,slow=13,SNR=32						
WRA				S	**Sn**	**23 21 48.1**	**-7.4**
	baz=25,slow=22,SNR=2.7						
WRA				Lg	Lg	23 23 58.0	
	baz=27,slow=28,SNR=3.6						
WRA				LR	LR	23 26 10.7	
	comp=Z,198nm,20.9s,baz=15,slow=39						
GUMO	**Guam**	**17.72**	**9**	LR	LR	23 23 52.8	
	comp=Z,243nm,20.0s,baz=141,slow=32						
SOEI	**Soe**	**18.64**	**251**	P	**Pn**	**23 18 56.6**	**+3.1**
	comp=Z,107nm,0.9s						
SOEI	**Soe**	**18.64**	**251**	P	**Pn**	**23 18 56.1**	**+2.6**
BATI	**Baumata**	**19.34**	**251**	P	**Pn**	**23 19 03.5**	**+1.7**
	comp=Z,7.8nm,0.3s,baz=139,slow=1.1,SNR=11						
BATI				S	**S**	**23 22 34.6**	**-5.3**
	comp=Z,0.8nm,0.3s,baz=143,slow=20,SNR=2.4						
BATI				LR	LR	23 28 08.5	
	comp=Z,134nm,19.1s,baz=86,slow=42						
BATI	**Baumata**	**19.34**	**251**	P	**Pn**	**23 19 04.4**	**+2.6**
	comp=Z,32nm,0.7s						
MRSI	**Marisa**	**20.69**	**282**	P	Pn	23 19 21.1	+3.2
	comp=Z,46nm,0.6s,comp=Z,2μm						
APSI	**Ampana**	**20.72**	**278**	P	Pn	23 19 20.7	+2.5
	comp=Z,30nm,1.2s,comp=Z,536nm						
AS31	**Alice Springs**	**21.07**	**201**	P	**P**	**23 19 21.5**	**+1.9**
ASAR	**Alice Springs**	**21.07**	**201**	P	**P**	**23 19 20.7**	**+1.0**
	comp=Z,30nm,0.8s,baz=30,slow=9.7,SNR=114						
ASAR				S	**S**	**23 23 12.7**	**-1.7**
	comp=Z,2.1nm,0.9s,baz=20,slow=23,SNR=3.1						
ASAR				LR	LR	23 28 02.5	
	comp=Z,187nm,20.3s,baz=30,slow=38						
FITZ	**Fitzroy Crossi**	**21.36**	**228**	P	**P**	**23 19 22.9**	**+0.2**
	comp=Z,15nm,0.7s,baz=47,slow=9.5,SNR=32						
FITZ				S	**S**	**23 23 15.7**	**-4.4**
	comp=Z,11nm,0.8s,baz=96,slow=18,SNR=3.8						
FITZ				LR	LR	23 28 13.9	
	comp=Z,224nm,18.3s,baz=48,slow=38						
BNSI	**Bone**	**21.99**	**268**	P	**P**	**23 19 35.1**	**+5.6**
	comp=Z,58nm,1.0s						
BKSI	**Bulukumba**	**21.99**	**266**	P	**P**	**23 19 32.2**	**+2.6**
TTSI	**Tana Toraja**	**22.31**	**272**	P	P	23 19 46.1	+13
EIDS	**Eidsvold**	**22.88**	**159**	P	**P**	**23 19 42.9**	**+4.1**
PSAD2	**Pilbara Seismi**	**27.73**	**229**	P	**P**	**23 20 24.6**	**+0.6**
PSAD1	**Pilbara Seismi**	**27.74**	**229**	P	**P**	**23 20 23.7**	**-0.3**
PSAD1				IAmb	IAmb	23 20 30.0	
	comp=Z,20nm,1.1s						
PSAC2	**Pilbara Seismi**	**27.75**	**229**	P	**P**	**23 20 24.9**	**+0.8**
PSAC2				IAmb	IAmb	23 20 30.1	
	comp=Z,16nm,0.9s						
PSAB2	**Pilbara Seismi**	**27.77**	**229**	P	**P**	**23 20 24.2**	**-0.2**
PSAA2	**Pilbara Seismi**	**27.79**	**229**	P	**P**	**23 20 24.5**	**+0.1**
PSAA3	**Pilbara Seismi**	**27.79**	**229**	P	**P**	**23 20 25.2**	**+0.7**
PSAA3				IAmb	IAmb	23 20 30.5	
	comp=Z,23nm,1.1s						
PSA00	**Pilbara Seismi**	**27.80**	**229**	P	**P**	**23 20 24.6**	**+0.1**
PSAB3	**Pilbara Seismi**	**27.80**	**229**	P	**P**	**23 20 24.5**	**-0.1**
PSAB3				IAmb	IAmb	23 20 28.4	
	comp=Z,17nm,1.1s						
PSAC1	**Pilbara Seismi**	**27.80**	**229**	P	**P**	**23 20 25.2**	**+0.6**
PSAC1				IAmb	IAmb	23 20 30.1	
	comp=Z,37nm,1.4s						
PSAA1	**Pilbara Seismi**	**27.81**	**229**	P	**P**	**23 20 24.6**	**-0.1**
PSAA1				IAmb	IAmb	23 20 31.1	
	comp=Z,17nm,1.0s						
PSAB1	**Pilbara Seismi**	**27.81**	**229**	P	**P**	**23 20 24.9**	**+0.2**
PSAD3	**Pilbara Seismi**	**27.89**	**229**	P	**P**	**23 20 25.7**	**+0.3**
PSAD3				IAmb	IAmb	23 20 31.4	
	comp=Z,17nm,1.1s						
BBOO	**Buckleboo**	**29.18**	**191**	P	**P**	**23 20 37.5**	**+0.7**
BBOO				IAmb	IAmb	23 20 49.4	
	comp=Z,22nm,1.4s						
DZM	**Mont Dzumac**	**29.59**	**129**	LR	LR	23 31 53.3	
	comp=Z,143nm,21.5s,baz=20,slow=35						
FORT	**Forrest**	**29.73**	**205**	P	**P**	**23 20 43.9**	**+2.2**
FORT				IAmb	IAmb	23 20 53.7	
	comp=Z,18nm,0.9s						
NJ2	**Nanjing**	**42.18**	**330**	*e*P	**P**	**23 22 29.0**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KSRS	**Korea Array**	**43.35**	**343**	LR	LR	23 41 17.4	
	comp=Z,41nm,18.1s,baz=314,slow=37						
THZ	**Tophouse**	**46.54**	**148**	P	**P**	**23 23 02.7**	**-0.3**
BSWZ	**Blackbirch Sta**	**47.02**	**147**	P	**P**	**23 23 08.3**	**+1.6**
KHZ	**Kahutara**	**47.34**	**148**	P	**P**	**23 23 09.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**48.08**	**299**	P	**P**	**23 23 14.8**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=125,slow=6.6,SNR=9.8						
CMAR				LR	LR	23 44 21.1	
	comp=Z,13nm,18.2s,baz=85,slow=37						
XAN	**Xi'an**	**49.16**	**323**	P	**P**	**23 23 22.9**	**-0.5**
XAN				pP	sP	23 23 39.4	+12
XAN				pmax	pmax		
	comp=Z,13nm,1.2s						
XAN				pmax	pmax		
	comp=Z,170nm,5.7s						
XAN	**Xi'an**	**49.16**	**323**	P	**P**	**23 23 22.2**	**-1.3**
CD2	**Chengdu**	**50.49**	**316**	P	**P**	**23 23 33.3**	**-0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**52.71**	**331**	P	P	23 23 52.8	+2.7
HHC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,70nm,5.8s						
LZH	**Lanzhou**	**53.63**	**321**	*e*P	**P**	**23 23 57.5**	**+0.5**
LZH				pP	sP	23 24 15.1	+14
LZH				sP	pP	23 24 23.6	+23
LZH				*e*PP	**PP**	**23 26 00.8**	**+2.9**
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,75nm,7.0s						
LZH				LR	LR		
	comp=N,230nm,14.9s						
LZH				LR	LR		
	comp=E,240nm,15.0s						
LZH				LR	LR		
	comp=Z,350nm,18.1s						
KLR	**Kul'dur**	**53.82**	**352**	LR	LR	23 43 44.9	
	comp=Z,63nm,18.5s,baz=149,slow=33						
GTA	**Gaotai**	**58.20**	**322**	⇑P		**23 24 30.3**	**+0.6**
GTA				pP	sP	23 24 49.4	+15
GTA				sP	PcP	23 24 58.5	-23
GTA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
RAR	**Rarotonga**	**58.84**	**112**	LR	LR	23 48 06.4	
	comp=Z,57nm,20.9s,baz=65,slow=34						
SONM	**Songino Array**	**60.42**	**333**	P	**P**	**23 24 45.0**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=140,slow=7.0,SNR=4.4						
TAPN	**Taplejung**	**61.05**	**304**	*e*P	**P**	**23 24 49.4**	**-0.4**
	comp=Z,31nm,1.2s						
ODAN	**Odare**	**61.14**	**304**	*e*P	**P**	**23 24 49.7**	**-0.6**
	comp=Z,9.7nm,0.7s						
RAMN	**Ramite**	**61.83**	**303**	*e*P	**P**	**23 24 54.7**	**-0.3**
	comp=Z,23nm,1.0s						
GUN	**Gumba**	**62.77**	**304**	*e*P	**P**	**23 25 00.9**	**-0.5**
	comp=Z,30nm,1.0s						
PKI	**Pulchoki**	**63.04**	**304**	*e*P	**P**	**23 25 02.3**	**-0.9**
PKIN	**Phulchoki**	**63.05**	**304**	*e*P	**P**	**23 25 02.5**	**-0.7**
KKN	**Kakani**	**63.22**	**304**	*e*P	**P**	**23 25 03.7**	**-0.6**
	comp=Z,27nm,0.9s						
DMN	**Daman**	**63.30**	**304**	*e*P	**P**	**23 25 04.6**	**-0.3**
	comp=Z,33nm,1.0s						
GKN	**Gorkha**	**63.83**	**304**	*e*P	**P**	**23 25 07.7**	**-0.5**
	comp=Z,41nm,1.0s						
KOLN	**Koldanda**	**64.61**	**303**	*e*P	**P**	**23 25 13.0**	**-0.4**
	comp=Z,31nm,1.0s						
DANN	**Dangsing**	**64.68**	**304**	*e*P	**P**	**23 25 13.2**	**-0.7**
	comp=Z,24nm,0.8s						
PPT	**Papeete**	**68.08**	**107**	LR	LR	23 51 13.8	
	comp=Z,79nm,18.1s,baz=96,slow=32						
WMQ	**Urumqi**	**68.20**	**321**	*e*P	**P**	**23 25 35.8**	**-0.1**
WMQ				pP	PcP	23 25 52.8	-8.9
WMQ				sP	sP	23 26 00.3	+20
WMQ				pmax	pmax		
	comp=Z,13nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,300nm,5.1s						
WMQ				LR	LR		
	comp=N,75nm,29.2s						
WMQ				LR	LR		
	comp=E,730nm,28.9s						
WMQ				LR	LR		
	comp=Z,130nm,21.3s						
WMQ	**Urumqi**	**68.20**	**321**	IAmb	IAmb	23 25 37.0	
	comp=Z,8.7nm,0.8s						
MK31	**Makanchi Array**	**72.95**	**322**	P	**P**	**23 26 03.8**	**-1.0**
MK31				IAmb	IAmb	23 26 05.5	
	comp=Z,9.3nm,1.1s						
MKAR	**Makanchi Array**	**72.95**	**322**	P	**P**	**23 26 04.4**	**-0.4**
	comp=Z,4.7nm,0.8s,baz=108,slow=7.8,SNR=33						
MAKZ	**Makanchi**	**73.15**	**321**	P	**P**	**23 26 04.7**	**-1.2**
MAKZ				IAmb	IAmb	23 26 06.6	
	comp=Z,13nm,1.1s						
VNDA	**Vanda**	**74.18**	**176**	P	**P**	**23 26 11.6**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=327,slow=7.1,SNR=9.9						
VNDA				LR	LR	23 58 05.1	
	comp=Z,34nm,18.1s,baz=338,slow=35						
KSH	**Kashi**	**74.50**	**313**	P	**P**	**23 26 15.8**	**+1.6**
KSH				sP	PcP	23 26 43.6	+15
KSH				PP	**PP**	**23 29 05.8**	**+5.0**
KSH				S	**SKiKP**	**23 35 42.4**	**+1.3**
KSH				ScS	**SKSac**	**23 36 15.6**	**-7.2**
KSH				pmax	pmax		
	comp=Z,68nm,1.7s						
KSH				pmax	pmax		
	comp=Z,180nm,6.6s						
KSH				LR	LR		
	comp=N,480nm,6.6s						
KSH				LR	LR		
	comp=E,350nm,5.5s						
KSH				LR	LR		
	comp=Z,880nm,7.4s						
ZALV	**Zalesovo Beam**	**74.82**	**329**	P	**P**	**23 26 13.7**	**-1.9**
	comp=Z,2.2nm,0.8s,baz=111,slow=5.6,SNR=9.4						
NIL	**Nilore**	**74.88**	**306**	P	**P**	**23 26 15.3**	**-1.0**
NIL				IAmb	IAmb	23 26 16.8	
	comp=Z,8.4nm,1.1s						
KURK	**Kurchatov**	**76.78**	**324**	P	**P**	**23 26 25.9**	**-1.0**
NRIK	**Noril'sk**	**81.97**	**343**	P	**P**	**23 26 54.1**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=135,slow=4.3,SNR=3.8						
MAW	**Mawson**	**82.20**	**202**	P	**P**	**23 26 56.4**	**+0.4**
	comp=Z,3.5nm,0.5s,baz=84,slow=9.5,SNR=10.0						
MAW				LR	LR	00 02 26.1	
	comp=Z,33nm,18.0s,baz=60,slow=35						
MAW	**Mawson**	**82.20**	**202**	P	**P**	**23 26 55.7**	**-0.3**
KTH	**Kantishna Hill**	**83.54**	**24**	P	**P**	**23 27 02.1**	**-1.1**
KTH				IAmb	IAmb	23 27 02.5	
	comp=Z,12nm,1.2s						
MLY	**Manley**	**84.18**	**23**	P	**P**	**23 27 05.6**	**-0.8**
MLY				IAmb	IAmb	23 27 21.5	
	comp=Z,6.7nm,1.1s						
RND	**Reindeer**	**84.35**	**25**	IAmb	IAmb	23 27 06.5	
	comp=Z,9.6nm,1.0s						
CCB	**Clear Creek Bu**	**85.22**	**24**	P	**P**	**23 27 09.7**	**-1.8**
CCB				IAmb	IAmb	23 27 10.8	
	comp=Z,7.6nm,1.0s						
ILAR	**Eielson Array**	**85.63**	**24**	P	**P**	**23 27 11.1**	**-2.5**
	comp=Z,3.6nm,0.6s,baz=261,slow=4.1,SNR=40						
QSPA	**South Pole Qui**	**85.91**	**180**	P	**P**	**23 27 14.9**	**-0.3**
SYO	**Syowa Base**	**90.74**	**201⇑**	*e*X	P	23 27 44.0	+6.1
YKA	**Yellowknife Ar**	**99.68**	**27**	P	**Pdif**	**23 28 17.2**	**-1.6**
	comp=Z,0.1nm,0.5s,baz=288,slow=5.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**139.92**	**286**	PKP	**PKiKP**	**23 34 03.9**	**-3.2**
	comp=Z,0.2nm,0.5s,baz=64,slow=2.4,SNR=3.0						
LPAZ	**La Paz**	**143.88**	**125**	PKP	**PKPdf**	**23 34 10.3**	**-2.2**
	comp=Z,1.1nm,0.5s,baz=299,slow=2.6,SNR=5.6						
CPUP	**Villa Florida**	**144.40**	**149**	PKP	**PKPdf**	**23 34 10.5**	**-1.9**
	comp=Z,0.7nm,0.5s,baz=315,slow=2.9,SNR=2.7						
DBIC	**Dimbokro**	**147.06**	**276**	PKPbc	**PKPbc**	**23 34 16.9**	**-2.4**
	comp=Z,2.0nm,0.6s,baz=49,slow=3.4,SNR=4.6						

**IDC 23 23:52:39.6±1.1,20°.81N×146°.58E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.6/50,mbtmp3.8/5,Error ellipse: s-maj=44.0km s-min=29

	comp=Z,19nm,1.4s							
ANTO	**Ankara**	**21.47**	**346**	P		**P**	**23 58 50.8**	**-0.2**
ANTO				IAmb		IAmb	23 59 02.7	
	comp=Z,19nm,1.3s							
GNI	**Garni**	**21.49**	**11**	LR		LR	00 07 44.3	
	comp=Z,210nm,19.8s,baz=221,slow=38							
MANT	**Manisa**	**21.50**	**336**	P		**P**	**23 58 53.2**	**+1.7**
ILGA	**Ilgaz**	**22.42**	**349**	P		**P**	**23 59 00.1**	**-1.3**
ILGA				IAmb		IAmb	23 59 23.9	
	comp=Z,42nm,1.7s							
AKH	**Akhalkalaki**	**22.52**	**8**	P		**P**	**23 59 04.1**	**+1.7**
AKH				IAmb		IAmb	23 59 12.2	
	comp=Z,15nm,1.4s							
TBLG	**Delisi**	**23.02**	**10**	P		**P**	**23 59 08.4**	**+0.9**
TBLG				IAmb		IAmb	23 59 16.2	
	comp=Z,24nm,1.7s							
KBZ	**Khabaz**	**24.74**	**6**	LR		LR	00 10 21.5	
	comp=Z,135nm,18.2s,baz=203,slow=39							
GEYT	**Alibeck**	**24.88**	**37**	LR		LR	00 10 13.1	
	comp=Z,317nm,19.9s,baz=335,slow=39							
KIV	**Kislovodsk**	**24.94**	**6**	P		**P**	**23 59 27.5**	**+1.7**
KIV				IAmb		IAmb	23 59 33.9	
	comp=Z,19nm,1.5s							
TIRR	**Tirgusor**	**26.90**	**342**	P		**P**	**23 59 44.8**	**+1.4**
SCTE	**Santa Cesarea**	**27.58**	**324**	P		**P**	**23 59 47.6**	**-2.0**
SCTE				IAmb		IAmb	23 59 51.6	
	comp=Z,31nm,1.8s							
KEST	**Kesra**	**31.23**	**308**	LR		LR	00 14 56.0	
	comp=Z,57nm,18.5s,baz=300,slow=40							
KEST	**Kesra**	**31.23**	**308**	P		**P**	**00 00 21.1**	**-0.9**
GERES	**GERESS Array B**	**36.19**	**331**	P		**P**	**00 01 05.5**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=126,slow=10,SNR=4.6							
GERES				LR		LR	00 16 04.8	
	comp=Z,37nm,20.3s,baz=330,slow=36							
TOA0	**Torodi Ar. Sit**	**36.63**	**266**	P		**P**	**00 01 07.1**	**-2.1**
TOA0				IAmb		IAmb	00 01 14.5	
	comp=Z,12nm,1.4s							
TORD	**Torodi Ar. Bea**	**36.63**	**266**	P		**P**	**00 01 08.3**	**-0.9**
	comp=Z,2.6nm,0.9s,baz=82,slow=7.2,SNR=10.0							
TORD				LR		LR	00 16 54.8	
	comp=Z,172nm,19.6s,baz=20,slow=36							
MDT	**Midelt**	**41.55**	**298**	LR		LR	00 21 36.5	
	comp=Z,82nm,20.3s,baz=73,slow=40							
ESDC	**Sonseca Array**	**42.48**	**308**	P		**P**	**00 01 58.5**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=90,slow=5.6,SNR=3.8							
KURK	**Kurchatov**	**44.22**	**35**	P		**P**	**00 02 12.0**	**+0.4**
MK31	**Makanchi Array**	**44.59**	**42**	P		**P**	**00 02 16.7**	**+2.0**
MKAR	**Makanchi Array**	**44.59**	**42**	P		**P**	**00 02 16.4**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=235,slow=5.7,SNR=7.9							
MKAR				LR		LR	00 23 13.7	
	comp=Z,160nm,18.7s,baz=294,slow=39							
DBIC	**Dimbokro**	**44.72**	**260**	LR		LR	00 21 39.0	
	comp=Z,137nm,19.0s,baz=48,slow=37							
HFS	**Hagfors**	**44.92**	**342**	LR		LR	00 20 46.3	
	comp=Z,89nm,19.7s,baz=328,slow=36							
NAO01	**NORSAR Array S**	**46.33**	**341**	P		**P**	**00 02 27.4**	**-0.7**
ZAA0	**Zalesovo Array**	**49.12**	**34**	P		**P**	**00 02 51.1**	**+1.3**
ZAA0				IAmb		IAmb	00 02 56.6	
	comp=Z,6.5nm,1.3s							
ZALV	**Zalesovo Beam**	**49.12**	**34**	P		**P**	**00 02 52.8**	**+2.9**
	comp=Z,0.7nm,0.5s,baz=258,slow=7.2,SNR=7.7							
ZALV				LR		LR	00 27 47.3	
	comp=Z,91nm,18.7s,baz=272,slow=41							
BOSA	**Boshof**	**49.35**	**196**	LR		LR	00 24 13.7	
	comp=Z,170nm,18.9s,baz=20,slow=37							
CMAR	**Chiang Mai Arr**	**56.15**	**80**	LR		LR	00 29 19.0	
	comp=Z,17nm,19.7s,baz=285,slow=38							
NRIK	**Noril'sk**	**58.14**	**18**	LR		LR	00 33 48.8	
	comp=Z,157nm,18.1s,baz=286,slow=41							
TLY	**Talaya**	**59.33**	**41**	LR		LR	00 33 41.4	
	comp=Z,87nm,19.2s,baz=276,slow=40							
PSI	**Prapat**	**60.36**	**98**	LR		LR	00 30 16.2	
	comp=Z,44nm,18.1s,baz=316,slow=36							
SONM	**Songino Array**	**60.72**	**45**	P		**P**	**00 04 15.7**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=260,slow=8.6,SNR=5.9							
SONM				LR		LR	00 33 10.9	
	comp=Z,106nm,18.9s,baz=319,slow=39							
MAW	**Mawson**	**88.17**	**171**	LR		LR	00 38 51.1	
	comp=Z,40nm,21.6s,baz=60,slow=31							
TXAR	**Lajitas Array**	**120.09**	**323**	PKP		**PKPdf**	**00 12 54.4**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=35,slow=3.3,SNR=2.3							

*ISK **23** 23:55:12.8,38˚.73N×26˚.01E,h11km,ML2.6/27*
*ATH **23** 23:55:12.8,38˚.73N×26˚.02E,h24km±4km,ML2.5/5, Error ellipse: s-maj=4.2km s-min=1.3km az=272.0*
*ISCJB **23** 23:55:13.3±0.4,38˚.71N±0˚.01×26˚.00E±0˚.03,h13km±3km, Error ellipse: s-maj=3.7km s-min=2.4km az=174.3*
*DDA **23** 23:55:13.1,38˚.72N×26˚.04E,h7km±3km,ML2.1*
*THE **23** 23:55:13.6,38˚.72N×25˚.97E,h11km±1km,ML2.3/8, Error ellipse: s-maj=1.8km s-min=0.6km az=87.0*

ISC 23 23:55:13.1±0.9, 38˚.75N±0˚.02×26˚.04E±0˚.02, h15km±8km, n64, σ0s63/91, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.36**	**178**	P	**Pg**		**Pg**	**23 55 20.6**	**+0.1**
CHOS				S	**Sg**		**Sg**	**23 55 25.8**	**+0.2**
	2μm,0.3s								
CHOS	**Chios island**	**0.36**	**178**	P	**Pg**		**Pg**	**23 55 20.6**	**+0.1**
CHOS				S	**Sg**		**Sg**	**23 55 25.7**	**+0.1**
CHOS				AML	AML		AML	23 55 27.0	
	comp=E,4419μm,0.3s								
CHOS				AML	AML		AML	23 55 27.4	
	comp=N,2338μm,0.3s								
CHOS	**Chios island**	**0.36**	**178**	PG	**Pg**		**Pg**	**23 55 20.5**	**+0.1**
CHOS				SG	**Sg**		**Sg**	**23 55 25.6**	**+0.1**
KRBN	**Karaburun**	**0.43**	**111**	PG	**Pb**		**Pb**	**23 55 22.2**	**-0.1**
PSRA	**Psara**	**0.43**	**241**	P	**Pb**		**Pb**	**23 55 22.4**	**+0.1**
PSRA				S	**Sg**		**Sg**	**23 55 27.4**	**-0.1**
PSRA				AML	AML		AML	23 55 29.0	
	comp=N,3791μm,0.3s								
PSRA				AML	AML		AML	23 55 29.6	
	comp=E,2939μm,0.1s								
CESE	**eme**	**0.46**	**154**	PG	**Pg**		**Pg**	**23 55 21.9**	**-0.4**
SIGR	**SIGRI**	**0.49**	**343**	P	**Pb**		**Pb**	**23 55 23.2**	**-0.1**
SIGR				S	**Sb**		**Sb**	**23 55 30.2**	**0.0**
	comp=E,302nm,0.3s								
SIGR	**SIGRI**	**0.49**	**343**	P	**Pb**		**Pb**	**23 55 23.0**	**-0.3**
SIGR				S	**Sb**		**Sb**	**23 55 29.8**	**-0.5**
SIGR				AML	AML		AML	23 55 34.3	
	comp=N,652μm,0.2s								
SIGR				AML	AML		AML	23 55 34.5	
	comp=E,567μm,0.4s								
SIGR	**SIGRI**	**0.49**	**343**	PG	**Pb**		**Pb**	**23 55 23.2**	**-0.1**
SIGR				SG	**Sb**		**Sb**	**23 55 30.3**	**0.0**
PRK	**Paraskevi**	**0.53**	**20**	P	**Pn**		**Pn**	**23 55 25.0**	**-1.1**
PRK				S	**Sb**		**Sb**	**23 55 32.8**	**+1.3**
	comp=E,282nm,0.3s								
PRK	**Paraskevi**	**0.53**	**20**	P	**Pb**		**Pb**	**23 55 24.3**	**+0.3**
PRK				S	**Sb**		**Sb**	**23 55 32.2**	**+0.7**
PRK				AML	AML		AML	23 55 34.1	
	comp=N,494μm,0.4s								
PRK				AML	AML		AML	23 55 36.8	
	comp=E,644μm,0.3s								
FOCM	**Foa**	**0.54**	**93**	PG	**Pb**		**Pb**	**23 55 24.4**	**+0.2**
URLA	**Izmir**	**0.58**	**132**	*i* P	**Pb**		**Pb**	**23 55 24.9**	**0.0**
URLA				*i* S	**Sg**		**Sg**	**23 55 32.2**	**-0.1**
URLA				IAML				23 55 36.0	
	comp=N,62nm,0.4s								
URLA				IAML				23 55 37.0	
	comp=E,73nm,0.2s								
URLA	**Izmir**	**0.58**	**132**	PG	**Pb**		**Pb**	**23 55 24.9**	**0.0**
URLA				SG	**Sb**		**Sb**	**23 55 33.0**	**0.0**
ZEY	**zmir**	**0.62**	**144**	*i* P	**Pg**		**Pg**	**23 55 25.5**	**+0.2**
ZEY				*i* S	**Sg**		**Sg**	**23 55 33.6**	**0.0**
ZEY				IAML				23 55 35.0	
	comp=N,170nm,0.4s								
ZEY				IAML				23 55 37.0	
	comp=E,187nm,0.3s								
DKL	**Dikili**	**0.75**	**64**	PG	**Pb**		**Pb**	**23 55 28.2**	**+0.4**
AYVA	**Ayvalik**	**0.75**	**42**	*i* P	**Pb**		**Pb**	**23 55 28.1**	**+0.2**
AYVA				*i* S	**Sn**		**Sn**	**23 55 39.0**	**-1.2**
AYVA				IAML				23 55 42.0	
	comp=E,100nm,0.3s								
AYVA				IAML				23 55 44.0	
	comp=N,119nm,0.6s								
ZEDA	**zmir-Bergama**	**0.84**	**75**	*i* P	**Pn**		**Pn**	**23 55 29.8**	**-0.5**
ZEDA				*i* S	**Sn**		**Sn**	**23 55 41.7**	**-0.6**
ZEDA				IAML				23 55 42.0	
	comp=N,38nm,0.3s								
ZEDA				IAML				23 55 46.0	
	comp=E,34nm,0.2s								
BLCB	**Balcova**	**0.86**	**114**	PG	**Pb**		**Pb**	**23 55 30.0**	**+0.3**
DGB	**zmir**	**0.96**	**136**	*i* P	**Pb**		**Pb**	**23 55 31.4**	**0.0**
DGB				*i* S	**Sg**		**Sg**	**23 55 44.2**	**0.0**
DGB				IAML				23 55 45.0	
	comp=E,65nm,0.5s								
DGB				IAML				23 55 46.0	
	comp=N,73nm,0.4s								
BAYC	**CANAKKALE_Bayr**	**1.07**	**21**	*i* P	**Pn**		**Pn**	**23 55 33.5**	**0.0**
BAYC				*i* S	**Sn**		**Sn**	**23 55 48.5**	**+0.4**
BAYC				IAML				23 55 51.0	
	comp=N,32nm,0.3s								
BAYC				IAML				23 55 53.0	
	comp=E,45nm,0.3s								
BOZC	**Bozcaada**	**1.09**	**0**	*i* P	**Pg**		**Pg**	**23 55 34.1**	**-0.1**
BOZC				*i* S	**Sn**		**Sn**	**23 55 48.4**	**-0.3**
BOZC				IAML				23 55 49.0	
	comp=N,83nm,0.9s								
BOZC				IAML				23 55 53.0	
	comp=E,59nm,0.3s								
BOZC	**Bozcaada**	**1.09**	**0**	PN	**Pg**		**Pg**	**23 55 33.9**	**-0.3**
EZN	**Ezine**	**1.10**	**11**	P	**Pg**		**Pg**	**23 55 34.3**	**0.0**
EZN				S	**Sn**		**Sn**	**23 55 50.3**	**+1.5**
	comp=E,140nm,0.4s								
EZN	**Ezine**	**1.10**	**11**	PN	**Pg**		**Pg**	**23 55 34.3**	**0.0**
SMG	**Samos**	**1.21**	**149**	P	**Pn**		**Pn**	**23 55 35.3**	**-0.2**
SMG				S	**Sg**		**Sg**	**23 55 53.6**	**+1.4**
	comp=E,300nm,0.5s								
SMG	**Samos**	**1.21**	**149**	P	**Pn**		**Pn**	**23 55 35.3**	**-0.2**
SMG				AML	AML		AML	23 55 55.2	
	comp=E,696μm,0.4s								
SMG				AML	AML		AML	23 55 56.1	
	comp=N,495μm,0.6s								
AKHS	**Akhisar**	**1.39**	**84**	*i* P	**Pg**		**Pg**	**23 55 40.3**	**+0.5**
AKHS				*i* S	**Sb**		**Sb**	**23 55 56.0**	**-0.3**
AKHS				IAML				23 56 00.0	
	comp=E,14nm,0.5s								
TNSA	**Tinos**	**1.39**	**210**	P	**Pn**		**Pn**	**23 55 38.0**	**+0.1**
GCAM	**G?zelcaml?**	**1.40**	**138**	*i* P	**Pb**		**Pb**	**23 55 39.5**	**+0.5**
GCAM				*i* S	**Sg**		**Sg**	**23 55 58.0**	**-0.3**
GCAM				IAML				23 56 02.0	
	comp=N,69nm,0.4s								
GCAM				IAML				23 56 07.0	
	comp=E,29nm,0.7s								
GCAM	**G?zelcaml?**	**1.40**	**138**	PN	**Pb**		**Pb**	**23 55 39.5**	**+0.5**
GADA	**Gvkgeada**	**1.45**	**356**	P	**Pb**		**Pb**	**23 55 39.3**	**-0.4**
GADA				S	**Sg**		**Sg**	**23 55 58.9**	**-0.8**
GADA	**Gvkgeada**	**1.45**	**356**	PN	**Pb**		**Pb**	**23 55 39.2**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.45**	**64**	*i* P	**Pg**		**Pg**	**23 55 40.4**	**-0.5**
STEP				*i* S	**Sg**		**Sg**	**23 55 59.1**	**-0.7**
STEP				IAML				23 56 10.0	
	comp=E,42nm,0.8s								
STEP				IAML				23 56 13.0	
	comp=N,47nm,0.9s								
BALY	**Balya**	**1.57**	**50**	*i* P	**Pg**		**Pg**	**23 55 43.7**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.66**	**118**	PN	**Pn**		**Pn**	**23 55 42.3**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.68**	**11**	PN	**Pb**		**Pb**	**23 55 43.9**	**+0.2**
BALB	**Balikesir**	**1.68**	**57**	PN	**Pb**		**Pb**	**23 55 43.1**	**-0.6**
LPK	**Lapseki**	**1.71**	**19**	PN	**Pb**		**Pb**	**23 55 43.7**	**-0.6**
APE	**Apeiranthos**	**1.72**	**194**	P	**Pn**		**Pn**	**23 55 41.9**	**-0.7**
APE				S	**Sn**		**Sn**	**23 56 03.8**	**-0.5**
	comp=N,50nm,0.5s								
APE	**Apeiranthos**	**1.72**	**194**	PN	**Pn**		**Pn**	**23 55 42.3**	**-0.3**
AOS	**Alonnisos**	**1.74**	**285**	P	**Pn**		**Pn**	**23 55 43.7**	**+1.0**
AYDN	**Tasoluk**	**1.81**	**126**	*i* P	**Pn**		**Pn**	**23 55 43.9**	**+0.2**
AYDN				IAML				23 56 18.0	
	comp=E,14nm,0.3s								
AYDN				IAML				23 56 20.0	
	comp=N,15nm,0.4s								
KNL	**Balıkesir**	**1.91**	**37**	*i* P	**Pg**		**Pg**	**23 55 51.5**	**+1.9**
KRBG	**Karabiga-Canak**	**1.91**	**30**	PN	**Pb**		**Pb**	**23 55 46.5**	**-1.1**
AMGA	**Amorgos Island**	**1.92**	**184**	P	**Pn**		**Pn**	**23 55 44.7**	**-0.5**
AMGA				S	**Sn**		**Sn**	**23 56 08.4**	**-0.6**
	comp=N,52nm,0.4s								
ERIK	**Erikli-Kesan**	**1.96**	**11**	PN	**Pb**		**Pb**	**23 55 47.1**	**-1.3**
BODT	**Bodrum**	**1.96**	**149**	P	**Pn**		**Pn**	**23 55 46.0**	**+0.3**
BODT	**Bodrum**	**1.96**	**149**	PN	**Pn**		**Pn**	**23 55 46.1**	**+0.3**
MANT	**Manisa**	**1.99**	**97**	*i* P	**Pg**		**Pg**	**23 55 50.5**	**-0.7**
MANT				*i* S	**Sg**		**Sg**	**23 56 17.4**	**+0.4**
MANT				IAML				23 56 19.0	
	comp=E,17nm,0.4s								
MANT				IAML				23 56 19.0	
	comp=N,15nm,0.7s								
MLSB	**Milas**	**1.99**	**136**	PN	**Pb**		**Pb**	**23 55 48.4**	**-0.7**
DURS	**Dursunbey**	**2.07**	**65**	*i* P	**Pg**		**Pg**	**23 55 52.3**	**-0.6**
DEMI	**Demirci**	**2.11**	**81**	*i* P	**Pg**		**Pg**	**23 55 54.2**	**+0.7**
IOSP	**Ios island**	**2.11**	**197**	P	**Pn**		**Pn**	**23 55 47.1**	**-0.7**
IOSP				S	**Sn**		**Sn**	**23 56 13.1**	**-0.6**
	comp=N,80nm,0.5s								
THAS	**Thassos island**	**2.12**	**332**	P	**Pn**		**Pn**	**23 55 48.3**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.13**	**24**	PN	**Pb**		**Pb**	**23 55 50.7**	**-0.6**
SART	**Tekirdag**	**2.13**	**24**	*i* P	**Pb**		**Pb**	**23 55 51.9**	**+0.5**
KESN	**Edirne-Kesan**	**2.13**	**13**	*i* P	**Pn**		**Pn**	**23 55 49.7**	**+1.2**
ALN	**Alexandroupoli**	**2.15**	**0**	PN	**Pn**		**Pn**	**23 55 48.6**	**+0.3**
MRMT	**Marmara Adasi**	**2.21**	**32**	PN	**Pn**		**Pn**	**23 55 50.6**	**+1.4**
KCTX	**Karacabey (Bur**	**2.35**	**49**	PN	**Pb**		**Pb**	**23 55 53.5**	**-1.5**
DAT	**Datca**	**2.35**	**148**	*i* P	**Pn**		**Pn**	**23 55 51.4**	**+0.2**
DAT	**Datca**	**2.35**	**148**	PN	**Pn**		**Pn**	**23 55 51.5**	**+0.2**
SANT	**Santorini**	**2.42**	**191**	PN	**Pn**		**Pn**	**23 55 53.1**	**+1.0**

WEL 24 00:06:34.2,40˚S±2˚×17˚5E±˚, h23km±4km, M3.4/41, ML3.7/32, MLv3.4/41, Error ellipse: s-maj=0.0km s-min=0.0km az=26.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OHWZ	**Ohakea**	**0.28**	**108**	P	Pb			00 06 41.2	+0.4
OHWZ				S	Sn			00 06 47.0	-1.3
WAZ	**Wanganui**	**0.36**	**2**	P	Pb			00 06 42.4	+0.3
WAZ				S	Sb			00 06 48.7	+1.2
POWZ	**Post Office Ro**	**0.67**	**114**	P	Pb			00 06 47.6	+0.3
POWZ				S	Sn			00 06 57.2	-0.8
MRZ	**Mangatainoka R**	**0.71**	**140**	P	Pb			00 06 48.2	+0.2
MRZ				S	Sb			00 06 58.2	+0.8
OGWZ	**Otaki Gorge**	**0.71**	**168**	P	Pb			00 06 47.7	-0.3
OGWZ				S	Sb			00 06 57.4	0.0
KIW	**Kapiti Island**	**0.74**	**184**	P	Pb			00 06 47.6	-0.9
TSZ	**Takapari Road**	**0.76**	**86**	P	Pb			00 06 49.1	+0.3
LREZ	**Lake Rotokare**	**0.79**	**326**	P	Pn			00 06 49.7	-0.1
MTVZ	**Mangateitei**	**0.83**	**28**	P	Pb			00 06 49.5	-0.4
PKVZ	**Pokaka**	**0.88**	**19**	P	Pb			00 06 50.2	-0.6
PRWZ	**Pori Road**	**0.88**	**120**	P	Pn			00 06 51.7	+0.6
HOWZ	**Holdsworth Sta**	**0.88**	**152**	P	Pb			00 06 51.0	+0.2
HOWZ				S	Sb			00 07 02.5	+0.2
TRVZ	**Turoa**	**0.93**	**29**	P	Pb			00 06 51.2	-0.7
MOVZ	**Moawhango**	**0.93**	**41**	P	Pb			00 06 50.8	-1.0
DVHZ	**Dannevirke**	**0.93**	**102**	P	Pb			00 06 52.8	+0.8
DRZ	**Dome Shelter**	**0.96**	**29**	P	Pn			00 06 51.8	-0.5
TIWZ	**Tintock**	**0.96**	**134**	P	Pn			00 06 52.6	+0.3
WHVZ	**Whangaehu Hut**	**0.96**	**30**	P	Pb			00 06 51.8	-0.6
PNHZ	**Pukenui**	**0.97**	**78**	P	Pb			00 06 52.3	0.0
FWVZ	**Far West T-bar**	**0.97**	**28**	P	Pb			00 06 51.7	-0.8
CAW	**Cannon Point**	**0.99**	**176**	P	Pn			00 06 52.3	-0.4
TUVZ	**Tukino**	**1.00**	**32**	P	Pn			00 06 52.4	-0.5
VRZ	**Vera Road**	**1.00**	**351**	P	Pn			00 06 52.8	-0.1
BHHZ	**Black Hill Sta**	**1.05**	**54**	P	Pn			00 06 52.7	-0.8
DUWZ	**D'Urville Isla**	**1.05**	**229**	P	Pn			00 06 52.4	-1.1
NGZ	**Ngauruhoe**	**1.06**	**28**	P	Pn			00 06 53.1	-0.7
NMEZ	**Namu Road**	**1.10**	**310**	P	Pb			00 06 54.5	0.0
DREZ	**Durham Road**	**1.10**	**327**	P	Pb			00 06 54.7	+0.1
KHEZ	**Kahui Hut**	**1.10**	**318**	P	Pb			00 06 54.7	0.0
TWVZ	**Taurewa**	**1.11**	**19**	P	Pn			00 06 53.4	-1.0
WTVZ	**West Tongariro**	**1.11**	**26**	P	Pn			00 06 53.6	-0.8
MTW	**Mount Morrison**	**1.11**	**159**	P	Pb			00 06 54.7	-0.1
BFZ	**Birch Farm**	**1.13**	**120**	P	Pb			00 06 55.2	+0.2
WPHZ	**Waipukurau**	**1.13**	**88**	P	Pb			00 06 56.2	+1.2
KRVZ	**Karewarewa**	**1.15**	**27**	P	Pn			00 06 54.3	-0.6
MHEZ	**Mangahewa**	**1.15**	**334**	P	Pb			00 06 55.7	+0.2
KRHZ	**Kereru**	**1.18**	**67**	P	Pb			00 06 55.7	-0.2
PKE	**Pukeiti**	**1.20**	**320**	P	Pb			00 06 56.2	0.0
ANWZ	**Angora Road**	**1.20**	**107**	P	Pb			00 06 56.9	+0.7
NBEZ	**Newall Road No**	**1.20**	**315**	P	Pb			00 06 56.2	-0.1
TMWZ	**Te Maipa**	**1.21**	**145**	P	Pn			00 06 56.0	+0.3
TCW	**Tory Channel**	**1.21**	**206**	P	Pn			00 06 54.9	-0.8
KATZ	**Kakaramea**	**1.27**	**26**	P	Pn			00 06 56.9	+0.2
PRHZ	**Porangahau**	**1.28**	**97**	P	Pb			00 06 58.1	+0.5
BHW	**Baring Head**	**1.29**	**183**	P	Pn			00 06 56.9	+0.1
PAWZ	**Paruwai Farm**	**1.31**	**165**	P	Pb			00 06 58.0	-0.2
MSWZ	**Moikau Station**	**1.31**	**171**	P	Pb			00 06 57.8	-0.5
KWHZ	**Kaweka Forest**	**1.32**	**59**	P	Pb			00 06 58.3	0.0
RITZ	**Rihia Road**	**1.33**	**31**	P	Pb			00 06 58.0	-0.5
TRWZ	**Traveller**	**1.39**	**157**	P	Pb			00 06 59.6	+0.1
RATZ	**Rangitukua**	**1.40**	**27**	P	Pn			00 06 58.9	+0.6
PLWZ	**Palliser**	**1.47**	**172**	P	Pn			00 06 60.0	+0.7
MCHZ	**McNeill Hill**	**1.49**	**64**	P	Pb			00 07 01.7	+0.5
KAHZ	**Kahuranaki**	**1.50**	**78**	P	Pb			00 07 00.8	-0.6
HATZ	**Hinemaiaia**	**1.50**	**36**	P	Pn			00 07 00.3	+0.6
TUWZ	**Tuamarina**	**1.52**	**210**	P	Pn			00 06 59.9	-0.1
WATZ	**Wairara**	**1.53**	**23**	P	Pn			00 07 00.1	+0.1
HIZ	**Hauiti**	**1.60**	**357**	P	Pn			00 07 01.3	+0.2
NNZ	**Nelson**	**1.63**	**227**	P	Pn			00 07 01.0	-0.5
WHTZ	**Whakaora**	**1.64**	**28**	P	Pb			00 07 04.9	+1.1
CKHZ	**Cape Kidnapper**	**1.69**	**75**	P	Pb			00 07 06.7	+2.2
MRHZ	**Matea Rd**	**1.70**	**42**	P	Pb			00 07 03.7	-1.1
KUTZ	**Kaahu Road**	**1.76**	**22**	P	Pb			00 07 05.4	-0.4
ARHZ	**Aropaoanui**	**1.78**	**62**	P	Pb			00 07 05.5	-0.6
BSWZ	**Blackbirch Sta**	**1.80**	**207**	P	Pn			00 07 04.9	+1.2
TLZ	**Tolley Road**	**1.84**	**14**	P	Pn			00 07 04.2	-0.2
WPRZ	**Whakapapatarin**	**1.84**	**30**	P	Pb			00 07 07.4	+0.1
MTHZ	**Maungataniwha**	**1.92**	**49**	P	Pn			00 07 06.3	+0.8
PRRZ	**Plateau Road**	**1.96**	**35**	P	Pb			00 07 08.3	-0.8
QRZ	**Quartz Range**	**1.99**	**248**	P	Pn			00 07 06.4	0.0
HRRZ	**Handcock Road**	**2.00**	**31**	P	Pn			00 07 07.8	+1.1
RAHZ	**Arahi**	**2.03**	**54**	P	Pn			00 07 08.4	+1.4
WHHZ	**Waihua**	**2.04**	**60**	P	Pb			00 07 11.8	+1.3
RRRZ	**Republican Roa**	**2.14**	**35**	P	Pb			00 07 11.0	-1.4
MUGZ	**Murupara**	**2.15**	**41**	P	Pn			00 07 10.4	+1.8
RTZ	**Ruatahuna**	**2.16**	**47**	P	Pb			00 07 11.1	-1.6
TARZ	**Mount Tarawera**	**2.23**	**33**	P	Pb			00 07 12.9	-0.9
THZ	**Tophouse**	**2.27**	**223**	P	Pn			00 07 11.1	+0.8
SNGZ	**Shannon Statio**	**2.27**	**55**	P	Pb			00 07 17.1	+2.6
TOZ	**Tahuroa Road**	**2.42**	**10**	P	Pn			00 07 11.8	-0.5
URZ	**Urewera**	**2.49**	**43**	P	Pn			00 07 13.3	0.0
RAGZ	**Rawiri**	**2.50**	**50**	P	Pb			00 07 17.4	-1.0
KHZ	**Kahutara**	**2.54**	**205**	P	Pn			00 07 13.9	0.0
PRGZ	**Paritu Road**	**2.55**	**63**	P	Pn			00 07 14.9	+0.8
RIGZ	**Rimuhau**	**2.58**	**58**	P	Pn			00 07 15.1	+0.5
TGRZ	**Tauranga**	**2.59**	**23**	P	Pb			00 07 17.9	-2.0
RUGZ	**Raukumara Rang**	**3.01**	**45**	P	Pn			00 07 21.6	+1.1
MKAZ	**Moumakai**	**3.01**	**3**	P	Pn			00 07 20.1	-0.3
HAZ	**Te Kaha**	**3.22**	**44**	P	Pn			00 07 24.1	+0.8
LTZ	**Lake Taylor**	**3.35**	**216**	P	Pb			00 07 31.6	-1.2
OUZ	**Omahuta**	**5.01**	**347**	P	Pn			00 07 50.2	+2.3

*IDC **24** 00:30

	baz=53							
ANVS				⇓*i*	S	**Sb**	**00 59 33.2**	**-0.7**
	baz=53							
ARLS	**Aral**	**3.30**	**314**	⇑*i*	P	**Pb**	**00 58 55.5**	**-1.5**
	baz=14							
ARLS				⇑*i*	S	**Sg**	**00 59 42.6**	**-2.3**
	baz=14							
TNSS	**Tian-Shan**	**3.47**	**354**	*e*	P	**Pb**	**00 58 59.7**	**-0.4**
	16nm,0.6s							
TNSS				*e*	S	**Sg**	**00 59 49.4**	**-0.8**
	20nm,0.5s							
TNSS	**Tian-Shan**	**3.47**	**354**	Pg		**Pb**	**00 58 59.6**	**-0.4**
	16nm,0.6s							
TNSS				Lg		Lg	00 59 49.3	
	20nm,0.5s							
IZV	**Izvestkoviy**	**3.50**	**350**	*e*	P	**Pb**	**00 58 58.6**	**-1.9**
	3.5nm,0.5s							
IZV				*e*	S	**Sb**	**00 59 47.9**	**+5.0**
	31nm,0.6s							
IZV	**Izvestkoviy**	**3.50**	**350**	Pg		**Pb**	**00 58 58.6**	**-1.9**
	3.5nm,0.5s							
IZV				Lg		Lg	00 59 48.8	
	31nm,0.6s							
SATY	**Saty**	**3.54**	**11**	*e*	P	**Pb**	**00 59 00.2**	**-0.9**
	9.9nm,0.6s							
SATY				*e*	S	**Sg**	**00 59 50.3**	**-2.1**
	18nm,0.5s							
SATY	**Saty**	**3.54**	**11**	Pg		**Pb**	**00 59 00.2**	**-0.9**
	9.9nm,0.6s							
SATY				Lg		Lg	00 59 50.3	
	18nm,0.5s							
MDOK	**Medeo**	**3.58**	**355**	*e*	P	**Pb**	**00 59 01.3**	**-0.6**
	5.2nm,0.5s							
MDOK				*e*	S	**Sg**	**00 59 52.5**	**-1.5**
	20nm,0.5s							
MDOK	**Medeo**	**3.58**	**355**	Pg		**Pb**	**00 59 01.3**	**-0.6**
	5.3nm,0.6s							
MDOK				Lg		Lg	00 59 52.5	
	18nm,0.6s							
MDOK	**Medeo**	**3.58**	**355**	Pg		**Pb**	**00 59 01.3**	**-0.6**
	5.2nm,0.5s							
MDOK				Lg		Lg	00 59 52.5	
	20nm,0.5s							
TKM2	**Tokmak 2**	**3.62**	**338**	⇑Pg		**Pb**	**00 59 01.3**	**-1.1**
	2.2nm,0.4s							
TKM2				⇑Lg		Lg	00 59 53.6	
	15nm,0.7s							
MTBS	**Maitube**	**3.62**	**348**	*e*	P	**Pb**	**00 59 02.2**	**-0.3**
	3.2nm,0.2s							
MTBS				*e*	S	**Sg**	**00 59 53.9**	**-1.3**
	13nm,0.5s							
MTBS	**Maitube**	**3.62**	**348**	Pg		**Pb**	**00 59 02.2**	**-0.3**
	3.2nm,0.2s							
MTBS				Lg		Lg	00 59 53.9	
	13nm,0.5s							
KST	**Kastek**	**3.63**	**342**	*e*	P	**Pb**	**00 59 02.4**	**-0.3**
	5.8nm,0.4s							
KST				*e*	S	**Sg**	**00 59 54.2**	**-1.3**
	8.8nm,0.5s							
KST	**Kastek**	**3.63**	**342**	Pg		**Pb**	**00 59 02.4**	**-0.3**
	5.8nm,0.4s							
KST				Lg		Lg	00 59 54.9	
	8.8nm,0.5s							
AAA	**Alma-Ata**	**3.64**	**354**	Pg		**Pb**	**00 59 02.9**	**+0.1**
	23nm,0.1s							
AAA				Lg		Lg	00 59 55.6	
	15nm,0.3s							
ZHN	**Zhinishke**	**3.65**	**11**	*e*	P	**Pb**	**00 59 02.7**	**-0.2**
	3.5nm,0.2s							
ZHN				*e*	S	**Sg**	**00 59 54.6**	**-1.3**
	5.8nm,0.4s							
ZHN	**Zhinishke**	**3.65**	**11**	Pg		**Pb**	**00 59 02.7**	**-0.2**
	3.5nm,0.2s							
ZHN				Lg		Lg	00 59 54.6	
	5.8nm,0.4s							
KOTS	**Kotyrbulak**	**3.65**	**356**	*e*	P	**Pb**	**00 59 02.9**	**-0.1**
	11nm,0.3s							
KOTS				*e*	S	**Sg**	**00 59 55.0**	**-1.1**
	32nm,0.5s							
KOTS	**Kotyrbulak**	**3.65**	**356**	Pg		**Pb**	**00 59 02.5**	**-0.5**
	11nm,0.3s							
KOTS				Lg		Lg	00 59 55.0	
	32nm,0.5s							
UZB	**Uzynbulak**	**3.74**	**18**	*e*	P	**Pb**	**00 59 02.9**	**-1.6**
	2.6nm,0.4s							
UZB				*e*	S	**Sg**	**00 59 55.0**	**-3.9**
	6.2nm,0.5s							
UZB	**Uzynbulak**	**3.74**	**18**	Pg		**Pb**	**00 59 02.9**	**-1.6**
	2.6nm,0.4s							
UZB				Lg		Lg	00 59 55.0	
	6.2nm,0.5s							
AAK	**Ala-Archa**	**3.79**	**324**	⇓Pg		**Pb**	**00 59 03.0**	**-2.3**
	7.7nm,1.1s							
AAK				Lg		Lg	00 59 59.9	
	15nm,0.8s							
ARSB	**Arslanbob**	**3.84**	**298**	⇑*i*	P	**Pb**	**00 59 02.8**	**-3.5**
	baz=0.0							
ARSB				⇑*i*	S	**Sb**	**00 59 55.7**	**+3.2**
	baz=0.0							
SHLS	**Shalkode**	**3.86**	**22**	*e*	P	**Pb**	**00 59 07.2**	**+0.5**
	2.6nm,0.4s							
SHLS				*e*	S	**Sg**	**01 00 02.3**	**-0.6**
	13nm,0.6s							
SHLS	**Shalkode**	**3.86**	**22**	Pg		**Pb**	**00 59 07.2**	**+0.5**
	2.6nm,0.4s							
SHLS				Lg		Lg	01 00 02.3	
	13nm,0.6s							
DGS	**Degeres**	**3.87**	**341**	*e*	P	**Pb**	**00 59 06.2**	**-0.5**
	3.6nm,0.5s							
DGS				*e*	S	**Sg**	**01 00 00.6**	**-2.5**
	9.4nm,0.5s							
DGS	**Degeres**	**3.87**	**341**	Pg		**Pb**	**00 59 06.2**	**-0.5**
	3.6nm,0.5s							
DGS				Lg		Lg	01 00 01.1	
	9.4nm,0.5s							
FRU1	**Bishkek**	**3.87**	**327**	⇑*i*	P	**Pb**	**00 59 02.7**	**-4.0**
	baz=24							
FRU1				⇑*i*	S	**Sb**	**00 59 55.4**	**+2.2**
	baz=24							
KURS	**Kuram**	**3.93**	**7**	*e*	P	**Pb**	**00 59 07.4**	**-0.3**
	6.9nm,0.6s							
KURS				*e*	S	**Sg**	**01 00 02.9**	**-2.1**
	9.9nm,0.7s							
KURS	**Kuram**	**3.93**	**7**	Pg		**Pb**	**00 59 07.4**	**-0.3**
	6.9nm,0.6s							
KURS				Lg		Lg	01 00 02.9	
	9.9nm,0.7s							
KPKS	**Kokpek**	**3.98**	**13**	*e*	P	**Pb**	**00 59 08.2**	**-0.3**
	4.4nm,0.3s							
KPKS				*e*	S	**Sg**	**01 00 04.3**	**-2.2**
	30nm,0.5s							
PDGK	**Podgornoye**	**4.03**	**21**	Pg		**Pb**	**00 59 08.5**	**-0.9**
	1.1nm,0.4s							
PDGK				Lg		Lg	01 00 04.7	
	6.9nm,0.8s							
PDGK	**Podgornoye**	**4.03**	**21**	⇓Pg		**Pb**	**00 59 08.5**	**-0.9**
	1.9nm,0.7s							
PDGK				⇓Lg		Lg	01 00 04.6	
	31nm,0.9s							
KTBS	**Karatobe**	**4.16**	**352**	*e*	P	**Pb**	**00 59 12.0**	**+0.4**
	4.7nm,0.8s							
KTBS				*e*	S	**Sg**	**01 00 10.6**	**-1.9**
	12nm,0.5s							
KTBS	**Karatobe**	**4.16**	**352**	Pg		**Pb**	**00 59 11.6**	**0.0**
	4.7nm,0.8s							
KTBS				Lg		Lg	01 00 10.6	
	12nm,0.5s							
CHKK	**Chushkaly**	**4.28**	**355**	*e*	P	**Pb**	**00 59 13.8**	**+0.3**
	3.1nm,0.3s							
CHKK				*e*	S	**Sg**	**01 00 14.0**	**-2.1**
	18nm,0.4s							
CHKK	**Chushkaly**	**4.28**	**355**	Pg		**Pb**	**00 59 13.8**	**+0.3**
	3.1nm,0.3s							
CHKK				Lg		Lg	01 00 14.0	
	18nm,0.4s							
KUU	**Kurty**	**4.38**	**349**	*e*	P	**Pb**	**00 59 15.3**	**-0.1**
	2.6nm,0.4s							
KUU				*e*	S	**Sg**	**01 00 16.5**	**-3.0**
	5.0nm,0.3s							
KUU	**Kurty**	**4.38**	**349**	Pg		**Pb**	**00 59 15.3**	**-0.1**
	2.6nm,0.4s							
KUU				Lg		Lg	01 00 16.5	
	5.0nm,0.3s							
SGDS	**Sogindy**	**4.41**	**332**	Pg		**Pb**	**00 59 17.6**	**+1.7**
	3.1nm,0.7s							
SGDS				Lg		Lg	01 00 20.1	
	3.0nm,0.7s							
MRKS	**Merke**	**4.50**	**316**	*e*	P	**Pb**	**00 59 17.9**	**+0.5**
	3.5nm,0.4s							
MRKS				*e*	S	**Sg**	**01 00 20.7**	**-2.5**
	9.0nm,0.7s							
MRKS	**Merke**	**4.50**	**316**	Pg		**Pb**	**00 59 17.4**	**0.0**
	3.5nm,0.4s							
MRKS				Lg		Lg	01 00 20.7	
	9.0nm,0.7s							
ARXS	**Arharly**	**4.63**	**3**	*e*	P	**Pb**	**00 59 19.9**	**+0.3**
	2.3nm,0.5s							
ARXS				*e*	S	**Sg**	**01 00 24.0**	**-3.4**
	13nm,0.5s							
ARXS	**Arharly**	**4.63**	**3**	Pg		**Pb**	**00 59 19.5**	**-0.1**
	2.3nm,0.5s							
ARXS				Lg		Lg	01 00 24.0	
	13nm,0.5s							
DJR	**Jarkent**	**5.04**	**19**	Pg		**Pb**	**00 59 27.3**	**+0.7**
	0.5nm,0.1s							
DJR				Lg		Lg	01 00 37.8	
	8.1nm,0.7s							
KAPS	**Kapalarasan**	**5.86**	**13**	Pg		**Pb**	**00 59 43.1**	**+2.6**
	0.8nm,0.7s							
KAPS				Lg		Lg	01 01 04.1	
	2.1nm,0.6s							
KK31	**Karatay Array**	**6.31**	**306**	⇓Pg		**Pb**	**00 59 49.7**	**+1.5**
	0.5nm,0.5s							
KK31				⇑Lg		Lg	01 01 23.4	
	1.1nm,0.5s,baz=116,slow=24,SNR=4.8							

TIF ***24*** *01:00:50.0, 41.°41N×43.°43.86E, h10km,±1km*
NORS ***24*** *01:00:50.3±0.0, 41.°45N×43.°77E, h6km, MPVA3.4*
ISK ***24*** *01:00:50.7, 41.°43N×43.°87E, h1km, ML2.6/6*
DDA ***24*** *01:00:50.4, 41.°42N×43.°85E, h6km,±2km, ML2.2*

ISC 24 01:00:50.9±1.0, 41.°38N±0.°02×43.°89E±0.°02, h9km±8km, n47, σ1s25/83, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BGD	**Bogdanovka**	**0.25**	**243**	P		**Pg**	**Pb**	**01 00 55.7**	**-0.3**
BGD				S		**Sg**	**Sb**	**01 00 59.1**	**-0.2**
AKH	**Akhalkalaki**	**0.30**	**276**	P		**Pg**	**Pb**	**01 00 56.4**	**-0.5**
AKH				S		**Sg**	**Sb**	**01 01 00.4**	**-0.5**
KZRT	**Kazreti**	**0.38**	**89**	P		**Pg**	**Pb**	**01 00 58.7**	**+0.1**
KZRT				S		**Sg**	**Sb**	**01 01 04.4**	**+0.8**
KZRT	**Kazreti**	**0.38**	**89**	*i* P		**Pg**	**Pb**	**01 00 58.6**	**+0.1**
KZRT				*i* S		**Sg**	**Sb**	**01 01 03.8**	**+0.3**
EAK	**Akyaka**	**0.72**	**197**	*i* P		**Pg**	**Pb**	**01 01 04.3**	**-0.5**
EAK				IAML				01 01 18.0	
	comp=N,143nm,0.6s								
EAK				IAML				01 01 20.0	
	comp=E,119nm,0.4s								
TBLG	**Delisi**	**0.73**	**61**	P		**Pb**	**Pb**	**01 01 04.9**	**-1.0**
TBLG				S		**Sb**	**Sb**	**01 01 15.5**	**-0.5**
TBLG	**Delisi**	**0.73**	**61**	*i* P		**Pb**	**Pb**	**01 01 05.0**	**-0.8**
TBLG				*i* S		**Sb**	**Sb**	**01 01 15.5**	**-0.5**
TBLG				IAML				01 01 16.0	
	comp=E,127nm,0.5s								
TBLG				IAML				01 01 16.0	
	comp=N,225nm,0.4s								
TBLG	**Delisi**	**0.73**	**61**	PG		**Pb**	**Pb**	**01 01 05.1**	**-0.8**
TBLG				SG		**Sb**	**Sb**	**01 01 15.4**	**-0.5**
BTNK	**Botanikuri**	**0.75**	**66**	P		**Pb**	**Pb**	**01 01 05.3**	**-0.9**
BTNK	**Botanikuri**	**0.75**	**66**	*i* P		**Pg**	**Pb**	**01 01 05.1**	**-0.3**
BTNK				*i* S		**Sb**	**Sb**	**01 01 15.5**	**-1.1**
BTNK				IAML				01 01 17.0	
	comp=E,72nm,0.1s								
BTNK				IAML				01 01 20.0	
	comp=N,173nm,0.1s								
EPOS	**Posof**	**0.88**	**279**	*i* P		**Pb**	**Pb**	**01 01 07.2**	**-1.3**
EPOS				IAML				01 01 26.0	
	comp=N,40nm,0.3s								
DIGO	**Kars**	**1.04**	**202**	*i* P		**Pg**	**Pb**	**01 01 10.1**	**-0.8**
DIGO				IAML				01 01 31.0	
	comp=N,39nm,0.3s								
DIGO				IAML				01 01 33.0	
	comp=E,62nm,0.5s								
DGRG	**David-gareji**	**1.12**	**86**	P		**Pg**	**Pb**	**01 01 12.3**	**-0.1**
DGRG				S		**Sg**	**Sb**	**01 01 29.2**	**+0.7**
DGRG	**David-gareji**	**1.12**	**86**	*i* P		**Pg**	**Pb**	**01 01 12.3**	**-0.1**
DGRG				*i* S		**Sg**	**Sb**	**01 01 27.6**	**-0.9**
DGRG				IAML				01 01 30.0	
	comp=E,47nm,0.4s								
DGRG				IAML				01 01 30.0	
	comp=N,51nm,0.3s								
GUDG	**Gudauri**	**1.17**	**22**	P		**Pg**	**Pb**	**01 01 11.8**	**-1.6**
GUDG				S		**Sg**	**Sb**	**01 01 28.2**	**-1.9**
ONI	**Oni**	**1.25**	**345**	P		**Pg**	**Pb**	**01 01 13.9**	**-1.1**
ONI				S		**Sg**	**Sb**	**01 01 30.9**	**-1.0**
ONI	**Oni**	**1.25**	**345**	PN		**Pg**	**Pb**	**01 01 13.9**	**-1.1**
ONI				SN		**Sg**	**Sb**	**01 01 30.9**	**-1.0**
ZEI	**Tsey**	**1.41**	**0**	*i* Pg		**Pg**	**Pb**	**01 01 17.4**	**-0.6**
ZEI				*e*Sg		**Sg**	**Sb**	**01 01 37.0**	**+0.7**
TASB	**TASBURUN-IGDIR**	**1.42**	**169**	PN		**Pb**	**Pb**	**01 01 17.5**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.42**	**236**	PN		**Pb**	**Pb**	**01 01 17.2**	**-0.6**
LACR	**Lac**	**1.48**	**12**	*i* Pg		**Pg**	**Pb**	**01 01 17.8**	**-1.5**
LACR				*e*Sg		**Sg**	**Sb**	**01 01 37.7**	**-0.8**
IGDI	**IGDIR**	**1.52**	**174**	*i* P		**Pn**	**Pb**	**01 01 17.6**	**-0.8**
IGDI				*i* S		**Sn**	**Sb**	**01 01 38.8**	**+0.6**
IGDI				IAML				01 01 39.0	
	comp=E,47nm,0.3s								
IGDI				IAML				01 01 40.0	
	comp=N,36nm,0.3s								
DAGI	**Agillar**	**1.52**	**259**	*i* P		**Pb**	**Pb**	**01 01 18.5**	**-0.9**
DAGI				*i* S		**Sg**	**Sb**	**01 01 38.8**	**-0.9**
DAGI				IAML				01 01 43.0	
	comp=E,36nm,0.5s								
DAGI				IAML				01 01 44.0	
	comp=N,30nm,0.7s								
DIGR	**Digorskoe uzhe**	**1.54**	**352**	*e*Pg		**Pg**	**Pb**	**01 01 19.8**	**-0.6**
DIGR				*e*Sg		**Sg**	**Sb**	**01 01 40.5**	**+0.1**
DDFL	**Dedoflistskaro**	**1.68**	**87**	P		**Pg**	**Pb**	**01 01 23.4**	**+0.2**
DDFL				S		**Sg**	**Sb**	**01 01 46.3**	**+1.4**
DDFL	**Dedoflistskaro**	**1.68**	**87**	*i* P		**Pg**	**Pb**	**01 01 22.8**	**-0.4**
DDFL				*i* S		**Sg**	**Sb**	**01 01 45.9**	**+1.0**
DDEM	**Demirkent**	**1.69**	**254**	*i* P		**Pb**	**Pb**	**01 01 21.2**	**-1.0**
DDEM				*i* S		**Sb**	**Sb**	**01 01 43.0**	**-0.7**
DDEM				IAML				01 01 45.0	
	comp=N,136nm,0.3s								
DBAD	**Bademkaya**	**1.69**	**258**	*i* P		**Pb**	**Pb**	**01 01 21.1**	**-1.2**
DBAD				*i* S		**Sb**	**Sb**	**01 01 43.0**	**-0.8**
DBAD				IAML				01 01 44.0	
	comp=E,47nm,0.2s								
DBAD				IAML				01 01 45.0	
	comp=N,43nm,0.2s								
KORR	**Kora**	**1.71**	**4**	*e*Pg		**Pg**	**Pb**	**01 01 23.8**	**0.0**
KORR				*e*Sg		**Sg**	**Sb**	**01 01 48.0**	**+2.0**
VLKR	**Vladikavkaz**	**1.77**	**19**	*e*Pg		**Pg**	**Pb**	**01 01 25.5**	**+0.7**
VLKR				*e*Pg		**Pg**	**Pb**	**01 01 25.5**	**+0.7**
VLKR				*e*Sg		**Sg**	**Sb**	**01 01 51.5**	**+3.7**
VLKR				*e*Sg		**Sg**	**Sb**	**01 01 51.5**	**+3.7**
LGD	**Lagodekhi**	**1.82**	**75**	P		**Pb**	**Pb**	**01 01 24.0**	**-0.5**
LGD				S		**Sg**	**Sb**	**01 01 49.6**	**0.0**
ARNR	**Ardon**	**1.82**	**9**	*e*Pg		**Pg**	**Pb**	**01 01 25.9**	**-0.1**
ARNR				*e*Sg		**Sg**	**Sb**	**01 01 52.2**	**+2.6**
KMGR	**Komgaron**	**1.83**	**23**	*e*Pg		**Pg**	**Pb**	**01 01 25.6**	**-0.4**
KMGR				*e*Sg		**Sg**	**Sb**	**01 01 50.9**	**+1.1**
EATA	**Eleskirt**	**1.85**	**216**	*i* P		**Pb**	**Pb**	**01 01 24.6**	**-0.6**
EATA				IAML				01 01 50.0	
	comp=N,8.6nm,0.6s								
EATA				IAML				01 01 55.0	
	comp=E,11nm,1.0s								
AGRB	**Hanur-Agry**	**1.93**	**201**	PN		**Pb**	**Pb**	**01 01 25.2**	**-1.2**
STDR	**Stavd-Durt**	**1.99**	**4**	*e*Pg		**Pg**	**Pb**	**01 01 29.2**	**0.0**
STDR				*e*Sg		**Sg**	**Sb**	**01 01 58.1**	**+3.1**
HOMI	**Horasan**	**2.01**	**229**	*i* P		**Pb**	**Pb**	**01 01 26.9**	**-0.9**
BTKR	**Batakoyurt**	**2.05**	**13**	*e*Pg		**Pg**	**Pb**	**01 01 29.7**	**-0.5**
BTKR				*e*Sg		**Sg**	**Sb**	**01 01 59.5**	**+2.6**
KOPR	**Koprukoy-ERZUR**	**2.08**	**229**	PN		**Pn**	**Pb**	**01 01 26.9**	**+0.7**
TUTA	**Tutak**	**2.14**	**203**	*i* P		**Pn**	**Pb**	**01 01 28.4**	**+1.3**
BTLR	**Botlikh**	**2.16**	**53**	*e*Pg		**Pb**	**Pb**	**01 01 30.1**	**-0.2**
BTLR				*e*Sg		**Sg**	**Sb**	**01 01 59.1**	**-1.3**
CLDR	**Caldiran**	**2.23**	**179**	PN		**Pn**	**Pb**	**01 01 29.5**	**+1.1**
KRIK	**Erzurum-spir**	**2.48**	**246**	*i* P		**Pg**	**Pb**	**01 01 38.7**	**+0.4**
GNBR	**Gunib**	**2.51**	**65**	*e*Pn		**Pb**	**Pb**	**01 01 36.1**	**-0.1**
GNBR				*e*Sn		**Sg**	**Sb**	**01 02 10.3**	**-1.2**
AKT	**Akhty**	**2.89**	**87**	*e*Pn		**Pb**	**Pb**	**01 01 40.1**	**-2.7**
AKT				*e*Sn		**Sb**	**Sb**	**01 02 19.0**	**+0.8**
BAYB	**BAYBURT**	**2.97**	**249**	*i* P		**Pb**	**Pb**	**01 01 45.3**	**+1.1**
BAYB				*i* S		**Sb**	**Sb**	**01 02 22.2**	**+1.4**
BAYB				IAML				01 02 32.0	
	comp=N,4.3nm,0.6s								
BAYB				IAML				01 02 33.0	
	comp=E,4.5nm,0.5s								
KELT	**Kelkit**	**3.73**	**252**	*i* P		**Pb**	**Pb**	**01 01 56.9**	**-0.2**
KELT				*i* S		**Sb**	**Sb**	**01 02 45.6**	**+3.1**
KELT				IAML				01 02 50.0	
	comp=N,4.2nm,0.2s								
KELT				IAML				01 02 51.0	
	comp=E,4.0nm,0.5s								

ISCJB ***24*** *01:07:41.3±1.3, 0.°17S±0.°09×132.°30E±0.°09, h10km, mb3.6/2, Error ellipse: s-maj=13.8km s-min=12.6km az=38.2*
IDC ***24*** *01:07:41.0±1.8, 0.°22S×132.°42E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/45, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=28.7km s-min=19.3km az=155.0*
DJA ***24*** *01:07:43.3±1.6, 0.°S±9.°×13.°2E±.°, h22km±19km, M3.6/5, MLv3.6/5*

ISC 24 01:07:42.8±1.5, 0.°2S±0.°1×132.°29E±0.°09, h10km, n7, σ0s75/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.23**	**237**	Pg		**Pn**	**Pn**	**01 08 05.3**	**-0.7**
	14nm,0.3s,baz=55,slow=19,SNR=34								
SIJI				Lg		Lg	Lg	01 08 23.6	
	43nm,0.3s,baz=147,slow=21,SNR=18								
SWI	**Sorong**	**1.23**	**237**	P		**Pn**	**Pn**	**01 08 05.7**	**-0.3**
RKPI	**Ransiki, Papua**	**2.30**	**125**	P		**Pn**	**Pn**	**01 08 20.2**	**-0.5**
FAKI	**Fak Fak**	**2.71**	**181**	P		**Pn**	**Pn**	**01 08 27.0**	**+0.6**
FAKI				S		**Sn**	**Sn**	**01 08 59.5**	**+0.2**
WRA	**Warramunga Arr**	**19.73**	**174**	P		**P**	**P**	**01 12 11.8**	**-1.0**
	0.2nm,0.3s,baz=357,slow=11,SNR=6.9								
ASAR	**Alice Springs**	**23.39**	**176**	P		**P**	**P**	**01 12 51.8**	**-0.1**
	3.0nm,0.8s,baz=359,slow=10,SNR=23								
MKAR	**Makanchi Array**	**63.95**	**324**	P		**P**	**P**	**01 18 17.0**	**+0.7**
	0.2nm,0.5s,baz=127,slow=7.3,SNR=2.9								

NNC 24 01:21:10.0±10.0, 37.°79N×71.°59E, h0km, mb3.5, mpv3.1, 5C-1D, Error ellipse: s-maj=80.8km s-min=61.9km az=173.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.33**	**24**	⇑Pn		Pn	Pn	**01 22 32.6**	**+1.6**
	1.3nm,0.6s								
AAK				⇑Sn		Sn	Sn	01 23 34.9	+1.7
	2.3nm,0.8s								
KK31	**Karatay Array**	**5.38**	**352**	⇓Pn		Pn	Pn	**01 22 32.1**	**+0.6**
	1.6nm,0.5s,baz=180,slow=14,SNR=7.6								
KK31				⇑Sn		Sn	Sn	01 23 36.2	+2.1
	1.0nm,0.3s,baz=176,slow=22,SNR=5.2								
TKM2	**Tokmak 2**	**5.97**	**30**	⇑Pn		Pn	Pn	**01 22 38.6**	**-1.3**
	1.5nm,0.9s								
TKM2				⇑Sn		Sn	Sn	01 23 47.0	-2.0
	0.7nm,0.5s								

IDC 24 01:43:10.4±2.8, 7.°21S×129.°52E, h116km±41km, mb2.9/1, mb1 3.4/5, mb1mx3.2/31, mbtmp3.7/5, Error ellipse: s-maj=71.1km s-min=16.8km az=94.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.54**	**16**	P		Pn	Pn	01 44 46.1	+1.9
	0.4nm,0.3s,baz=90,slow=20,SNR=2.7								
SIJI				S		Sn	Sn	01 45 56.6	-0.8
	1.7nm,0.3s,baz=246,slow=19,SNR=5.5								
FITZ	**Fitzroy Crossi**	**11.46**	**199**	P		Pn	Pn	01 45 50.3	-0.2
	0.6nm,0.3s,baz=25,slow=14,SNR=8.9								
FITZ				S		Sn	Sn	01 47 48.4	-8.3
	2.0nm,0.3s,baz=121,slow=22,SNR=9.5								
WRA	**Warramunga Arr**	**13.49**	**160**	P		Pn	Pn	01 46 15.6	-1.6
	0.5nm,0.3s,baz=335,slow=13,SNR=14								
WRA				S		Sn	Sn	01 48 39.1	-6.8
	1.2nm,0.3s,baz=322,slow=25,SNR=12								
ASAR	**Alice Springs**	**16.89**	**166**	P		P	P	01 47 00.8	+0.8
	0.4nm,0.3s,baz=339,slow=9.9,SNR=17								
ASAR				S		Sn	Sn	01 50 01.8	-6.2
	0.2nm,0.3s,baz=342,slow=30,SNR=4.3								
MKAR	**Makanchi Array**	**68.14**	**327**	P		P	P	01 53 58.0	0.0
	0.1nm,0.3s,baz=118,slow=6.4,SNR=3.3								

KRNET ***24*** *02:06:37.4±0.1, 41.°50N×74.°45E, h16km, mb3.5*
SOME ***24*** *02:06:38.1, 41.°55N×74.°38E, h10km*
NNC ***24*** *02:06:39.1±0.6, 41.°59N×74.°47E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=4.1km s-min=3.0km az=8.0*

ISC 24 02:06:37.9±1.2, 41.°55N±0.°03×74.°47E±0.°02, h2km±10km, n86, σ1s44/129, 36C-20D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.33**	**341**	⇓*i* P		**Pg**	**Pb**	**02 06 44.6**	**+0.3**
	baz=46								
ARLS				⇓*i* S		**Sg**	**Sb**	**02 06 49.6**	**+0.9**
	baz=46								
UCH	**Uchtor**	**0.68**	**3**	⇑*i* P		**Pg**	**Pb**	**02 06 51.5**	**+0.6**
	baz=4.0								
UCH				⇑*i* S		**Sb**	**Sb**	**02 07 01.7**	**-1.2**
	baz=4.0								
UCH	**Ucht

	120nm,0.2s								
MRKS	**Merke**	**1.51**	**323**		P		**Pn**	**02 07 05.7**	**-0.4**
	30nm,0.2s								
MRKS					S		**Sb**	**02 07 26.0**	**-0.4**
	120nm,0.2s								
TKM2	**Tokmak 2**	**1.61**	**31**	⇓	*i*P		**Pb**	**02 07 07.9**	**-0.5**
TKM2	baz=31								
				⇓	*i*S		**Sg**	**02 07 30.0**	**+0.4**
	baz=31								
TKM2	**Tokmak 2**	**1.61**	**31**		P		**Pb**	**02 07 08.0**	**-0.5**
	SNR=35								
TKM2	**Tokmak 2**	**1.61**	**31**	⇑	P		**Pn**	**02 07 07.8**	**+0.2**
TKM2				⇑	S		**Sg**	**02 07 29.4**	**-0.1**
	26nm,0.3s								
USP	**Ospenovka**	**1.72**	**1**	⇓	*i*P		**Pb**	**02 07 09.7**	**-0.5**
USP	baz=1.0								
				⇓	*i*S		**Sg**	**02 07 33.4**	**+0.3**
	baz=1.0								
USP	**Ospenovka**	**1.72**	**1**		P		**Pb**	**02 07 10.1**	**-0.1**
	SNR=382								
KST	**Kastek**	**1.86**	**36**	*e*	P		**Pb**	**02 07 12.5**	**-0.2**
	24nm,0.3s								
KST				*e*	S		**Sg**	**02 07 37.6**	**-0.1**
	108nm,0.3s								
KST	**Kastek**	**1.86**	**36**		Pg		**Pb**	**02 07 12.5**	**-0.2**
	24nm,0.3s								
KST					Lg		Lg	02 07 38.8	
	108nm,0.3s								
ARK	**Arkit**	**1.89**	**278**	⇑	*i*P		**Pn**	**02 07 11.8**	**+0.5**
	baz=79								
ARK				⇑	*i*S		**Sb**	**02 07 36.8**	**-0.6**
	baz=79								
SGDS	**Sogindy**	**1.91**	**4**		Pg		**Pb**	**02 07 13.5**	**+0.1**
	60nm,0.2s								
SGDS					Lg		Lg	02 07 39.5	
	97nm,0.4s								
DGS	**Degeres**	**1.95**	**29**	*e*	P		**Pb**	**02 07 14.2**	**0.0**
	22nm,0.2s								
DGS				*e*	S		**Sg**	**02 07 40.5**	**-0.1**
	119nm,0.6s								
DGS	**Degeres**	**1.95**	**29**		Pg		**Pb**	**02 07 14.2**	**0.0**
	22nm,0.2s								
DGS					Lg		Lg	02 07 41.1	
	119nm,0.6s								
KDJ	**Kajisay**	**2.11**	**73**	⇑	*i*P		**Pn**	**02 07 15.5**	**+1.1**
	baz=72								
KDJ				⇑	*i*S		**Sb**	**02 07 43.1**	**-0.6**
	baz=72								
MTBS	**Maitube**	**2.15**	**42**	*e*	P		**Pb**	**02 07 18.4**	**+0.8**
	37nm,0.3s								
MTBS				*e*	S		**Sg**	**02 07 47.1**	**+0.2**
	107nm,0.3s								
MTBS	**Maitube**	**2.15**	**42**		Pg		**Pb**	**02 07 17.7**	**+0.1**
	37nm,0.3s								
MTBS					Lg		Lg	02 07 47.1	
	107nm,0.3s								
IZV	**Izvestkoviy**	**2.18**	**46**	*e*	P		**Pb**	**02 07 17.0**	**-1.1**
	20nm,0.3s								
IZV				*e*	S		**Sb**	**02 07 45.2**	**-0.4**
	93nm,0.4s								
IZV	**Izvestkoviy**	**2.18**	**46**		Pg		**Pb**	**02 07 16.9**	**-1.3**
	32nm,0.4s								
IZV					Lg		Lg	02 07 45.9	
	93nm,0.4s								
TNSS	**Tian-Shan**	**2.37**	**50**	*e*	P		**Pb**	**02 07 21.8**	**+0.3**
	58nm,0.3s								
TNSS				*e*	S		**Sg**	**02 07 53.3**	**-0.7**
	80nm,0.3s								
TNSS	**Tian-Shan**	**2.37**	**50**		Pg		**Pb**	**02 07 21.8**	**+0.3**
	58nm,0.3s								
TNSS					Lg		Lg	02 07 54.2	
	80nm,0.3s								
AAA	**Alma-Ata**	**2.46**	**47**	*e*	P		**Pb**	**02 07 22.9**	**+0.1**
	94nm,0.3s								
AAA				*e*	S		**Sg**	**02 07 55.3**	**-1.6**
	141nm,0.4s								
AAA	**Alma-Ata**	**2.46**	**47**		Pg		**Pb**	**02 07 23.0**	**+0.1**
	94nm,0.3s								
AAA					Lg		Lg	02 07 55.9	
	141nm,0.4s								
KNDC	**Almaty**	**2.49**	**47**	⇑	Pn		**Pb**	**02 07 24.2**	**+0.8**
KNDC				⇑	Lg		Lg	02 07 58.5	
MDOK	**Medeo**	**2.50**	**49**	*e*	P		**Pb**	**02 07 23.3**	**-0.3**
	26nm,0.5s								
MDOK				*e*	S		**Sb**	**02 07 55.9**	**+0.9**
	100nm,0.6s								
MDOK	**Medeo**	**2.50**	**49**	⇑	Pn		**Pb**	**02 07 23.4**	**-0.3**
	29nm,0.7s								
MDOK				⇓	Lg		Lg	02 07 58.0	
	100nm,0.6s								
MDOK	**Medeo**	**2.50**	**49**		Pg		**Pb**	**02 07 23.3**	**-0.3**
	28nm,0.5s								
MDOK					Lg		Lg	02 07 56.6	
	100nm,0.6s								
KOTS	**Kotyrbulak**	**2.58**	**48**	*e*	P		**Pb**	**02 07 25.4**	**+0.3**
	87nm,0.3s								
KOTS				*e*	S		**Sg**	**02 07 59.4**	**-1.5**
	319nm,0.5s								
KOTS	**Kotyrbulak**	**2.58**	**48**		Pg		**Pb**	**02 07 25.4**	**+0.3**
	87nm,0.3s								
KOTS					Lg		Lg	02 07 59.5	
	319nm,0.5s								
ANVS	**Anan'yevo**	**2.68**	**62**	⇓	*i*P		**Pn**	**02 07 23.0**	**+0.8**
	baz=61								
ANVS				⇓	*i*S		**Sn**	**02 07 56.7**	**+1.3**
	baz=61								
KTBS	**Karatobe**	**2.71**	**36**	*e*	P		**Pb**	**02 07 27.8**	**+0.7**
	9.7nm,0.2s								
KTBS				*e*	S		**Sg**	**02 08 03.5**	**-1.4**
	218nm,0.3s								
KTBS	**Karatobe**	**2.71**	**36**		Pg		**Pb**	**02 07 27.8**	**+0.7**
	19nm,0.4s								
KTBS					Lg		Lg	02 08 04.3	
	218nm,0.3s								
KUU	**Kurty**	**2.72**	**30**	*e*	P		**Pb**	**02 07 28.0**	**+0.7**
	20nm,0.5s								
KUU				*e*	S		**Sg**	**02 08 03.9**	**-1.4**
	108nm,0.5s								
KUU	**Kurty**	**2.72**	**30**		Pg		**Pb**	**02 07 27.6**	**+0.3**
	20nm,0.5s								
KUU					Lg		Lg	02 08 03.9	
	108nm,0.5s								
CHKK	**Chushkaly**	**2.96**	**38**	*e*	P		**Pb**	**02 07 32.2**	**+0.8**
	13nm,0.4s								
CHKK				*e*	S		**Sg**	**02 08 11.0**	**-2.0**
	88nm,0.3s								
CHKK	**Chushkaly**	**2.96**	**38**		Pg		**Pb**	**02 07 32.2**	**+0.8**
	13nm,0.4s								
CHKK					Lg		Lg	02 08 11.7	
	88nm,0.3s								
BTK	**Batken**	**3.14**	**243**	⇑	*i*P		**Pn**	**02 07 28.7**	**+0.2**
	baz=44								
BTK				⇑	*i*S		**Sn**	**02 08 05.9**	**-0.8**
	baz=44								
SATY	**Saty**	**3.29**	**61**	*e*	P		**Pb**	**02 07 37.8**	**+0.8**
	18nm,0.3s								
SATY				*e*	S		**Sg**	**02 08 20.8**	**-2.7**
	55nm,0.6s								
SATY	**Saty**	**3.29**	**61**		Pg		**Pb**	**02 07 37.5**	**+0.4**
	18nm,0.3s								
SATY					Lg		Lg	02 08 20.8	
	55nm,0.6s								
KK31	**Karatay Array**	**3.32**	**299**	⇓	Pn		**Pn**	**02 07 33.5**	**+2.6**
	0.4nm,0.2s,baz=122,slow=12,SNR=249								
KK31				⇑	Pg		**Pb**	**02 07 37.9**	**+0.4**
	7.5nm,0.4s,baz=127,slow=17,SNR=9.3								
KK31					Lg		Lg	02 08 22.2	
	14nm,0.5s,baz=120,slow=28,SNR=10								
KURS	**Kuram**	**3.35**	**53**	*e*	P		**Pb**	**02 07 39.2**	**+1.0**
	8.9nm,0.5s								
KURS				*e*	S		**Sg**	**02 08 23.3**	**-2.3**
	41nm,0.6s								
KURS	**Kuram**	**3.35**	**53**		Pg		**Pb**	**02 07 39.2**	**+1.0**
	8.9nm,0.5s								
KURS					Lg		Lg	02 08 23.3	
	41nm,0.6s								
ZHN	**Zhinishke**	**3.36**	**60**	*e*	P		**Pb**	**02 07 38.9**	**+0.7**
	8.0nm,0.2s								
ZHN				*e*	S		**Sg**	**02 08 22.8**	**-2.9**
	16nm,0.3s								
ZHN	**Zhinishke**	**3.36**	**60**		Pg		**Pb**	**02 07 38.9**	**+0.7**
	8.0nm,0.2s								
ZHN					Lg		Lg	02 08 22.8	
	16nm,0.3s								
IUG	**Iuzhnay**	**3.37**	**282**	*e*	P		**Pb**	**02 07 39.1**	**+0.7**
	5.4nm,0.4s								
IUG				*e*	S		**Sb**	**02 08 22.7**	**+2.9**
	77nm,0.3s								
IUG	**Iuzhnay**	**3.37**	**282**		Pg		**Pb**	**02 07 40.3**	**+1.9**
	3.6nm,0.4s								
IUG					Lg		Lg	02 08 25.2	
	77nm,0.3s								
BTLS	**Baital**	**3.51**	**355**	*e*	P		**Pb**	**02 07 42.3**	**+1.6**
	1.8nm,0.2s								
BTLS				*e*	S		**Sg**	**02 08 28.3**	**-2.2**
	24nm,0.6s								
BTLS	**Baital**	**3.51**	**355**		Pg		**Pb**	**02 07 42.3**	**+1.6**
	1.8nm,0.2s								
BTLS					Lg		Lg	02 08 27.9	
	24nm,0.6s								
ARXS	**Arharly**	**3.63**	**42**	*e*	P		**Pb**	**02 07 43.5**	**+0.7**
	9.8nm,0.4s								
ARXS				*e*	S		**Sb**	**02 08 30.4**	**+3.0**
	69nm,0.5s								
ARXS	**Arharly**	**3.63**	**42**		Pg		**Pb**	**02 07 43.5**	**+0.7**
	9.8nm,0.4s								
ARXS					Lg		Lg	02 08 31.6	
	69nm,0.5s								
KPKS	**Kokpek**	**3.66**	**57**	*e*	P		**Pb**	**02 07 44.6**	**+1.3**
	12nm,0.4s								
KPKS				*e*	S		**Sg**	**02 08 32.3**	**-3.2**
	78nm,0.4s								
UZB	**Uzynbulak**	**3.74**	**63**	*e*	P		**Pb**	**02 07 46.0**	**+1.4**
	15nm,0.3s								
UZB				*e*	S		**Sg**	**02 08 34.9**	**-3.0**
	31nm,0.4s								
UZB	**Uzynbulak**	**3.74**	**63**		Pg		**Pb**	**02 07 46.0**	**+1.4**
	15nm,0.3s								
UZB					Lg		Lg	02 08 34.9	
	31nm,0.4s								
SHLS	**Shalkode**	**4.04**	**65**	*e*	P		**Pg**	**02 07 57.1**	**+1.9**
	16nm,0.2s								
SHLS				*e*	S		**Sg**	**02 08 54.0**	**+6.4**
	42nm,0.4s								
SHLS	**Shalkode**	**4.04**	**65**		Pg		**Pg**	**02 07 57.1**	**+1.9**
	16nm,0.2s								
SHLS					Lg		Lg	02 08 54.0	
	42nm,0.4s								
PDGK	**Podgornoye**	**4.12**	**63**		Pg		**Pb**	**02 07 53.3**	**+2.0**
	4.1nm,0.5s								
PDGK					Lg		Lg	02 08 47.6	
	11nm,0.5s								
PDGK	**Podgornoye**	**4.12**	**63**	⇓	Pg		**Pg**	**02 07 54.8**	**-2.1**
	7.5nm,0.6s								
PDGK				⇑	Lg		Lg	02 08 47.6	
	30nm,0.9s								
TDK	**Taldyqorghan**	**4.49**	**38**	*e*	P		**Pg**	**02 08 01.1**	**-2.9**
	20nm,0.2s								
TDK				*e*	S		**Sg**	**02 09 00.4**	**-1.8**
	53nm,0.5s								
TDK	**Taldyqorghan**	**4.49**	**38**		Pg		**Pg**	**02 08 01.1**	**-2.9**
	20nm,0.2s								
TDK					Lg		Lg	02 09 01.6	
	53nm,0.5s								
DJR	**Jarkent**	**4.80**	**53**		Pg		**Pb**	**02 08 05.3**	**+2.6**
	2.6nm,0.2s								
DJR					Lg		Lg	02 09 08.6	
	27nm,0.9s								
KAPS	**Kapalarasan**	**5.16**	**42**		Pg		**Pb**	**02 08 11.9**	**+3.1**
	2.7nm,0.5s								
KAPS					Lg		Lg	02 09 19.9	
	16nm,0.6s								
MAKZ	**Makanchi**	**7.53**	**43**	⇓	Pn		**Pn**	**02 08 33.2**	**+4.5**
	3.0nm,1.4s								
MAKZ				⇑	Lg		Lg	02 10 41.4	
	5.7nm,1.1s								
MK31	**Makanchi Array**	**7.69**	**44**	⇓	Pn		**Pn**	**02 08 32.3**	**+1.5**
	0.6nm,0.5s,baz=223,slow=14,SNR=6.1								
MK31				⇑	Lg		Lg	02 10 38.9	
	1.1nm,0.5s,baz=228,slow=27,SNR=4.5								
KURBB	**Kurchatov Arra**	**9.50**	**16**	⇑	Lg		Lg	02 11 38.9	
	9.8nm,0.7s								
KURK	**Kurchatov**	**9.61**	**16**	⇑	Lg		Lg	02 11 40.0	
	8.4nm,0.9s								

*ISCJB **24** 02:14:02.4±1.3, 14.6°N±0.1×94.35°W±0.07, h10km, mb3.2/2, MS3.0/2, Error ellipse: s-maj=16.6km s-min=8.6km az=20.5*
*IDC **24** 02:14:05.2±2.1, 14.76°N×94.09°W, h0km, mb3.3/2, mb1 3.8/6, mb1mx3.5/40, mbtmp3.5/6, ML3.5/4, MS2.9/4, Ms1 2.9/4, ms1mx2.6/21, Error ellipse: s-maj=38.5km s-min=25.8km az=21.0*
*MEX **24** 02:14:08.2±0.3, 14.54°N×94.54°W, h10km, MD3.8*
ISC 24 02:14:05.4±1.3, 14.72°N±0.10×94.30°W±0.06, h10km, n13, σ2s 17/16, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**2.04**	**301**	*e*P	**Pn**	**02 14 38.0**	**-1.8**
HUIG				*e*S	**Sn**	**02 15 01.2**	**-4.1**
CMIG	**Matias Romero**	**2.43**	**347**	Pn	**Pn**	**02 14 46.6**	**+1.4**
	8.1nm,0.3s,baz=162,slow=11,SNR=68						
CMIG				Sn	**Sb**	**02 15 17.7**	**-1.5**
	18nm,0.3s,baz=257,slow=22,SNR=15						
CMIG				LR	LR	02 15 23.1	
	comp=Z,48nm,18.7s,baz=204,slow=32						
CMIG	**Matias Romero**	**2.43**	**347**	*e*P	**Pn**	**02 14 46.5**	**+1.4**
CMIG				*e*S	**Sb**	**02 15 17.4**	**-1.8**
VHO	**Vista Hermosa**	**3.31**	**315**	*e*P	**Pn**	**02 14 57.5**	**-0.1**
VHO				*i* S	**Sn**	**02 15 35.4**	**-1.7**
APG	**El Apazote**	**3.72**	**85**	Pn	**Pn**	**02 15 01.5**	**-1.6**
	2.1nm,0.3s,baz=295,slow=11,SNR=14						
PNIG	**Pinotepa**	**4.05**	**295**	*e*P	**Pn**	**02 15 06.4**	**-1.1**
PNIG				*e*S	Sn	02 15 48.8	-6.2
TEIG	**Tepich**	**7.94**	**45**	Pn	**Pn**	**02 16 00.8**	**-0.1**
	2.4nm,0.3s,baz=330,slow=0.1,SNR=16						
TEIG				Sn	**Sn**	**02 17 27.6**	**-3.3**
	0.5nm,0.3s,baz=319,slow=18,SNR=3.0						
TEIG				LR	LR	02 19 51.2	
	comp=Z,100nm,19.1s,baz=229,slow=45						
TXAR	**Lajitas Array**	**16.93**	**331**	Pn	**P**	**02 18 07.0**	**+2.4**
	0.0nm,0.3s,baz=157,slow=13,SNR=6.2						
TKL	**Tuckaleechee C**	**22.89**	**22**	LR	LR	02 30 01.9	
	comp=Z,64nm,18.9s,baz=34,slow=42						
SJG	**San Juan**	**27.20**	**79**	LR	LR	02 29 24.4	
	comp=Z,35nm,21.1s,baz=230,slow=34						
NVAR	**Mina Array Bea**	**31.74**	**323**	P	**P**	**02 20 32.4**	**+2.5**
	0.3nm,0.7s,baz=134,slow=9.0,SNR=3.4						
YKA	**Yellowknife Ar**	**49.84**	**348**	P	**P**	**02 22 58.8**	**+0.4**
	0.1nm,0.5s,baz=155,slow=7.3,SNR=5.5						
MKAR	**Makanchi Array**	**118.70**	**3**	PKP	**PKiKP**	**02 32 55.3**	**+1.2**
	0.3nm,0.7s,baz=338,slow=3.1,SNR=4.0						

*NSSP **24** 02:17:41.6, 38.93°N×43.57°E, h5km, Ms4.0*
*ISK **24** 02:17:42.4, 38.87°N×43.55°E, h5km, ML4.1/16*
*DDA **24** 02:17:43.2, 38.88°N×43.51°E, h0km±1km, MW4.1*
*MOS **24** 02:17:43.9±3.0, 38.79°N×43.60°E, h10km, mb4.2/11, Error ellipse: s-maj=7.7km s-min=5.0km az=73.6*
*ISCJB **24** 02:17:44.0±0.4, 38.89°N±0.02×43.55°E±0.02, h2km±3km, mb3.9/19, MS3.3/4, Error ellipse: s-maj=3.0km s-min=2.1km az=151.2*
*AZER **24** 02:17:44.9±0.3, 39.00°N×43.46E, h7km, ml4.0/32, Error ellipse: s-maj=3.2km s-min=2.7km az=3.0*
*NEIC **24** 02:17:44.0±2.8, 38.84°N±0.03×43.66E±0.06, h18km±6km*
*IDC **24** 02:17:44.0±0.9, 38.94°N×43.50E, h0km, mb3.7/11, mb1 3.6/18, mb1mx3.5/47, mbtmp3.6/18, ML3.0/6, MS3.3/7, Ms1 3.3/7, ms1mx3.0/52, Error ellipse: s-maj=18.4km s-min=8.8km az=149.0*
ISC 24 02:17:44.3±0.9, 38.88N±0.02×43.54E±0.01, h9km±6km, n223, σ1s84/268, mb3.9/19, MS3.2/4, 13C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.11**	**13**	*i* PA	**Pg**	**02 17 46.5**	**-0.7**
VMUR				IAML		02 17 49.0	
	comp=N,83μm,0.5s						
VMUR				IAML		02 17 52.0	
	comp=E,112μm,0.4s						
VANB	**Van**	**0.31**	**202**	PG	**Pb**	**02 17 51.4**	**-0.7**
VANB	**Van**	**0.31**	**202**	Pg	**Pb**	**02 17 51.4**	**-0.7**
VANB				Sg	**Sb**	**02 17 58.8**	**+1.5**
TVAN	**Van**	**0.37**	**196**	*i* PA	**Pg**	**02 17 51.3**	**-0.4**
TVAN				*i* S	**Sb**	**02 17 58.6**	**-0.5**
TVAN				IAML		02 18 03.0	
	comp=E,14μm,0.9s						
TVAN				IAML		02 18 05.0	
	comp=N,15μm,0.7s						
CLDR	**Calderian**	**0.40**	**48**	*i* PA	**Pg**	**02 17 51.5**	**-0.7**
CLDR				*i* S	**Sg**	**02 17 56.9**	**-0.5**
CLDR				IAML		02 17 59.0	
	comp=E,10μm,0.8s						
CLDR				IAML		02 18 04.0	
	comp=N,7μm,0.5s						
CLDR	**Calderian**	**0.40**	**48**	PG	**Pg**	**02 17 51.5**	**-0.7**
CLDR				SG	**Sb**	**02 17 58.2**	**-1.7**
CLDR	**Calderian**	**0.40**	**48**	Pg	**Pg**	**02 17 51.5**	**-0.7**
CLDR				Sg	**Sb**	**02 17 58.4**	**-1.5**
ADCV	**BITLIS_Adilcev**	**0.64**	**264**	*i* PA	**Pg**	**02 17 56.3**	**-0.5**
ADCV				*i* S	**Sb**	**02 18 05.9**	**-1.0**
ADCV				IAML		02 18 07.0	
	comp=N,13μm,0.5s						
ADCV				IAML		02 18 09.0	
	comp=E,5μm,0.3s						
DYDN	**Diyadin**	**0.67**	**10**	*i* PA	**Pg**	**02 17 56.4**	**-1.0**
DYDN				*i* S	**Sg**	**02 18 05.1**	**-1.2**
DYDN				IAML		02 18 16.0	
	comp=E,4μm,0.5s						
DYDN				IAML		02 18 20.0	
	comp=N,4μm,0.7s						
GEVA	**Gevas**	**0.68**	**214**	*i* PA	**Pg**	**02 17 56.1**	**-1.4**
GEVA				IAML		02 18 17.0	
	comp=N,3μm,0.7s						
GEVA				IAML		02 18 18.0	
	comp=E,2μm,0.6s						
AKDM	**Akdamar-Van**	**0.70**	**219**	PG	**Pg**	**02 17 56.8**	**-1.2**
AKDM				SG	**Sb**	**02 18 07.6**	**-1.1**
AKDM	**Akdamar-Van**	**0.70**	**219**	Pg	**Pg**	**02 17 56.7**	**-1.3**
TUTA	**Tutak**	**0.77**	**313**	*i* PA	**Pg**	**02 17 57.9**	**-1.3**
TUTA				IAML		02 18 19.0	
	comp=N,5μm,0.5s						
AGRB	**Hanur-Agry**	**0.81**	**329**	PG	**Pg**	**02 17 59.0**	**-1.0**
AGRB				SG	**Sb**	**02 18 11.9**	**0.0**
AGRB	**Hanur-Agry**	**0.81**	**329**	Pg	**Pg**	**02 17 59.0**	**-1.0**
BASK	**Baskale_VAN**	**0.90**	**156**	*i* P	**Pg**	**02 18 00.9**	**-0.8**
BASK				*i* S	**Sn**	**02 18 16.2**	**-0.5**
IGDI	**IGDIR**	**1.07**	**23**	*i* PA	**Pg**	**02 18 04.0**	**-1.0**
IGDI				*i* S	**Sn**	**02 18 20.0**	**-0.6**
IGDI				IAML		02 18 24.0	
	comp=N,1μm,0.5s						
IGDI				IAML		02 18 26.0	
	comp=E,2μm,0.9s						
BLIS	**Bitlis-Merkez**	**1.21**	**248**	*i* PA	**Pg**	**02 18 05.5**	**-2.1**
BLIS				*i* S	**Sb**	**02 18 22.1**	**-1.1**
BLIS				IAML		02 18 24.0	
	comp=N,3μm,0.6s						
BLIS				IAML		02 18 34.0	
	comp=E,2μm,0.7s						
EKAR	**Karacoban**	**1.21**	**289**	*i* P	**Pg**	**02 18 07.7**	**+0.1**
EKAR				IAML		02 18 22.0	
	comp=Z,1μm,0.5s						
GURO	**Guroymak-BITLI**	**1.22**	**255**	PN	**Pn**	**02 18 05.8**	**-1.9**
GURO	**Guroymak-BITLI**	**1.22**	**255**	Pn	**Pn**	**02 18 05.9**	**-1.8**
TASB	**TASBURUN-IGDIR**	**1.23**	**26**	PN	**Pn**	**02 18 06.9**	**-0.8**
TASB	**TASBURUN-IGDIR**	**1.23**	**26**	Pn	**Pn**	**02 18 06.9**	**-0.8**
VNNZ	**Vanand**	**1.24**	**10**	*i* P	**Pb**	**02 18 07.7**	**-0.3**
VNNZ				S	**Sn**	**02 18 26.9**	**+2.1**
EATA	**Eleskirt**	**1.27**	**321**	*i* PA	**Pg**	**02 18 07.1**	**-1.7**
EATA				IAML		02 18 31.0	
	comp=E,1μm,0.7s						
EATA				IAML		02 18 36.0	
	comp=N,1μm,0.5s						
HYR	**Heyderabad**	**1.32**	**50**	P	**Pn**	**02 18 08.3**	**-0.7**
	SNR=555						
HYR				S	**Sg**	**02 18 28.7**	**+1.9**
METS	**Metsamor**	**1.33**	**18**	*i* P	**Pg**	**02 18 10.5**	**+0.5**
METS				S	**Sg**	**02 18 30.6**	**+3.3**
NRKZ	**NAREK**	**1.42**	**37**	*i* P	**Pb**	**02 18 10.2**	**-0.7**
NRKZ				S	**Sg**	**02 18 31.0**	**+1.1**
YOVA	**Hakkari_Yksek**	**1.42**	**155**	*i* P	**Pb**	**02 18 10.2**	**-0.9**
YOVA				*i* S	**Sg**	**02 18 31.5**	**+1.4**
YOVA				IAML		02 18 34.0	
	comp=N,1μm,1.1s						
YOVA				IAML		02 18 34.0	
	comp=E,578nm,1.5s						
ARUZ	**Aruch**	**1.46**	**17**	*i* P	**Pg**	**02 18 12.7**	**+0.3**
ARUZ				S	**Sg**	**02 18 34.3**	**+2.9**
DIGO	**Kars**	**1.54**	**355**	*i* PA	**Pn**	**02 18 13.1**	**+0.9**
DIGO				IAML		02 18 39.0	
	comp=N,906nm,0.6s						
DIGO				IAML		02 18 52.0	
	comp=E,1μm,0.6s						
SRTM	**Siirt_Merkez**	**1.55**	**236**	*i* PA	**Pn**	**02 18 12.7**	**+0.5**
SRTM				*i* S	**Sg**	**02 18 33.2**	**-1.0**
NAX	**Nakhchivan**	**1.55**	**79**	P	**Pg**	**02 18 13.1**	**-1.0**
NAX	**Nakhchivan**	**1.55**	**79**	P	**Pg**	**02 18 13.1**	**-1.0**
	SNR=825						
NAX				S	**Sg**	**02 18 35.2**	**+1.0**
GNI	**Garni**	**1.57**	**36**	*c* *i* P	**Pb**	**02 18 13.0**	**-0.7**
GNI	**Garni**	**1.57**	**36**	⇑ *i* P	**Pb**	**02 18 13.1**	**-0.7**
GNI				⇑ *i* S	**Sg**	**02 18 34.8**	**-0.1**
GNI	**Garni**	**1.57**	**36**	Pg	**Pb**	**02 18 13.4**	**-0.2**
	comp=E,169nm,0.3s,baz=294,slow=4.1,SNR=462						
GNI				Lg	Lg	02 18 34.4	
	comp=E,122nm,0.3s,baz=43,slow=16,SNR=7.7						
GNI	**Garni**	**1.57**	**36**	PN	**Pb**	**02 18 13.2**	**-0.5**
GNI	**Garni**	**1.57**	**36**		Pn	**02 18 10.2**	**-2.4**
GNI				Sn	**Sn**	**02 18 32.1**	**-1.0**
MUSM	**Mu-Merkez**	**1.59**	**265**	*i* PA	**Pn**	**02 18 12.3**	**-0.5**
MUSM				IAML		02 18 40.0	
	comp=N,316nm,0.7s						
MUSM				IAML		02 18 46.0	
	comp=E,318nm,0.7s						
SIRT	**Sirnak**	**1.63**	**213**	PN	**Pn**	**02 18 13.1**	**-0.2**
SIRT	**Sirnak**	**1.63**	**213**	Pn	**Pb**	**02 18 14.2**	**-0.4**
SIRN	**Sirnak**	**1.64**	**213**	*i* PA	**Pn**	**02 18 14.3**	**+0.8**
SIRN				IAML		02 18 49.0	
	comp=N,1μm,0.8s						
SIRN				IAML		02 18 53.0	
	comp=E,1μm,0.8s						
VRTB	**Varto-Mus**	**1.65**	**280**	*i* P	**Pn**	**02 18 13.3**	**-0.3**
VRTB				*i* S	**Sg**	**02 18 38.5**	**+1.2**
VRTB	**Varto-Mus**	**1.65**	**280**	PN	**Pn**	**02 18 13.6**	**0.0**
VRTB	**Varto-Mus**	**1.65**	**280**	Pn	**Pb**	**02 18 14.0**	**-0.9**

DDEM IAML 02 19 18.0
comp=N,276nm,0.6s
KRIK Erzurum-spir 2.49 307 *i* P **Pb 02 18 29.9 +0.6**
HANI Diyarbakir_Han 2.50 260 *i* P **Pb 02 18 27.4 -2.1**
GDB GÉDABAY 2.51 42 P **Pn 02 18 25.7 +0.2**
SNR=110
GDB S **Sn 02 18 57.6 +1.4**
DAGI Agillar 2.52 331 *i* PA **Pb 02 18 30.3 +0.4**
DAGI IAML 02 19 19.0
comp=N,111nm,1.1s
AKH Akhalkalaki 2.53 359 P **Pg 02 18 31.4 -1.4**
AKH Akhalkalaki 2.53 359 P **Pn 02 18 24.3 -1.4**
AKH Akhalkalaki 2.53 359 **Pn 02 18 24.2 -1.4**
DBAD Bademkaya 2.56 327 *i* PA **Pb 02 18 31.5 +0.9**
DBAD IAML 02 19 16.0
comp=E,120nm,0.7s
DBAD IAML 02 19 24.0
comp=N,119nm,0.7s
KZRT Kazreti 2.59 14 P **Pb 02 18 31.3 +0.4**
KZRT Kazreti 2.59 14 *i* P **Pb 02 18 31.2 +0.2**
QZX Qazax, Azerbai 2.59 32 P **Pn 02 18 26.4 -0.1**
SNR=52
QZX S **Sn 02 18 58.2 +0.2**
KOPT Kop Dagi 2.61 297 *i* PA **Pb 02 18 32.2 +0.6**
KOPT IAML 02 19 25.0
comp=E,157nm,0.9s
KOPT IAML 02 19 34.0
comp=N,222nm,1.0s
EPOS Posof 2.69 347 *i* PA **Pg 02 18 34.8 -1.1**
EPOS IAML 02 19 34.0
comp=N,118nm,1.3s
EPOS IAML 02 19 39.0
comp=E,58nm,1.1s
GANJ Ganja 2.78 50 P **Pn 02 18 29.7 +0.7**
GANJ Ganja 2.78 50 P **Pn 02 18 29.8 +0.7**
SNR=104
GANJ S **Sn 02 19 04.0 +1.4**
DIYA Diyarbakir 2.85 251 *i* P **Pn 02 18 31.5 +1.4**
BAYB BAYBURT 2.88 300 *i* PA **Pb 02 18 37.2 +1.1**
BAYB IAML 02 19 27.0
comp=E,99nm,0.8s
BAYB IAML 02 19 33.0
comp=N,105nm,1.3s
DGRG David-gareji 2.93 28 P **Pg 02 18 38.4 -2.0**
DGRG David-gareji 2.93 28 *i* P **Pb 02 18 33.8 -2.9**
BTNK Botanikuri 2.96 19 P **Pb 02 18 38.5 +1.2**
BTNK Botanikuri 2.96 19 *i* P **Pn 02 18 32.4 +0.8**
TBLG Delisi 2.99 17 P **Pb 02 18 39.2 +1.4**
TBLG Delisi 2.99 17 *i* P **Pb 02 18 37.0 -0.7**
TBLG Delisi 2.99 17 P **Pn 02 18 30.7 -1.3**
TBLG 02 19 06.1
TBLG Delisi 2.99 17 PN **Pn 02 18 33.1 +1.1**
TBLG Delisi 2.99 17 **Pn 02 18 30.7 -1.3**
TBLG Sn **Sn 02 19 06.1 -1.8**
QRD Qoradiz 3.00 78 P **Pn 02 18 33.7 +1.7**
SNR=30
QRD S **Sb 02 19 10.8 -3.7**
AGDM Agdam 3.02 65 P **Pn 02 18 33.5 +1.2**
SNR=26
AGDM S **Sn 02 19 10.7 +2.0**
BATM Batumi 3.06 333 P **Pb 02 18 39.9 +0.9**
EUZM Uzumlu 3.09 287 *i* PA **Pb 02 18 39.4 -0.2**
TNCL Tunceli-Merkez 3.12 276 *i* P **Pb 02 18 40.0 -0.1**
BRDA Brd 3.13 63 P **Pn 02 18 35.2 +1.4**
SNR=10
BLQ Beylaqan 3.23 74 P **Pn 02 18 36.7 +1.5**
SNR=18
BLQ S **Sn 02 19 16.5 +2.7**
DDFL Dedoflistskaro 3.24 37 P **Pg 02 18 45.6 -0.7**
DDFL Dedoflistskaro 3.24 37 *i* P **Pb 02 18 42.9 +0.9**
MNGR Mingechevir, A 3.32 54 P **Pn 02 18 37.3 +0.9**
MNGR Mingechevir, A 3.32 54 P **Pn 02 18 37.3 +0.9**
SNR=12
MNGR S **Sn 02 19 17.4 +1.4**
ZRD Zardab 3.49 65 P **Pn 02 18 39.9 +1.1**
SNR=14
ZRD S **Sn 02 19 22.6 +2.4**
KELT Kelkit 3.55 292 *i* P **Pb 02 18 47.4 0.0**
KELT IAML 02 20 02.0
comp=N,51nm,1.5s
MACK Trabzon 3.56 307 *i* P **Pb 02 18 46.6 -0.8**
ELZG Elazig 3.58 265 *i* P **Pn 02 18 41.5 +1.3**
LGD Lagodekhi 3.60 34 P **Pg 02 18 50.6 -2.7**
ZKTA Zakatala 3.63 40 P **Pn 02 18 41.0 +0.3**
SNR=14
ZKTA S **Sn 02 19 24.6 +1.0**
SEKA Sheki 3.65 49 P **Pn 02 18 42.2 +1.2**
SEKA Sheki 3.65 49 P **Pn 02 18 42.3 +1.2**
SNR=16
SEKA S **Sn 02 19 26.8 +2.6**
YRD Yardimli 3.67 88 P **Pn 02 18 42.8 +1.4**
SNR=21
YRD S **Sn 02 19 27.7 +2.9**
ONI Oni 3.71 359 P **Pg 02 18 52.7 -2.7**
REFA Refahiye_ERZN 3.75 279 *i* P **Pb 02 18 53.1 +2.3**
LRK Lerik 3.76 92 P **Pn 02 18 44.3 +1.6**
SNR=12
LRK S **Sn 02 19 30.4 +3.2**
GLBA Clilabad 3.80 83 P **Pn 02 18 44.4 +1.5**
SNR=12
GLBA S **Sn 02 19 30.7 +3.0**
KDMR Kurdemir 3.88 66 P **Pn 02 18 45.1 +1.0**
SNR=4.3
KDMR S **Sn 02 19 31.9 +2.0**
QBL Gabala 3.90 57 P **Pn 02 18 45.1 +0.7**
SNR=27
QBL S **Sn 02 19 31.8 +1.5**
SAAT Saatly 3.91 74 P **Pn 02 18 45.3 +0.8**
SNR=4.3
SAAT S **Sn 02 19 32.6 +2.1**
ZEI Tsey 3.91 4 *e*P **Pb 02 18 50.8 -2.8**
ZEI pmax pmax
comp=Z,39nm,0.8s
KEMA Kemaliye 3.95 277 *i* P **Pn 02 18 48.5 +3.4**
SANL SANLIÜRFA_Merk 3.98 246 *i* P **Pn 02 18 46.1 +0.6**
IML Ismayilli 4.05 60 P **Pn 02 18 47.1 +0.6**
SNR=7.2
IML S **Sn 02 19 35.6 +1.4**
LKRN Lenkeran, Azer 4.10 91 P **Pn 02 18 48.8 +1.7**
LKRN Lenkeran, Azer 4.10 91 P **Pn 02 18 48.9 +1.7**
SNR=11
LKRN S **Sn 02 19 38.5 +3.4**
ASTR Astara 4.12 93 P **Pn 02 18 49.1 +1.6**
SNR=6.7
ASTR S **Sn 02 19 39.4 +3.7**
AKT Akhty 4.13 50 *e*P **Pn 02 18 50.7 +3.0**
AKT *e*S **Sn 02 19 40.1 +4.0**
AKT pmax pmax
comp=Z,53nm,0.7s
AKT smax smax
comp=N,35nm,0.6s
AKT smax smax
comp=E,44nm,0.7s
AKT smax smax
comp=E,48nm,0.8s
AKT MLR MLR
comp=Z,83nm,2.0s
XNQ Khinaliq 4.21 56 P **Pn 02 18 49.3 +0.4**
SNR=8.6
XNQ S **Sn 02 19 39.6 +1.4**
PQL Pirkuli 4.33 62 P **Pn 02 18 51.2 +0.7**
SNR=2.9
PQL S **Sn 02 19 43.1 +1.9**
SUSE Susehri 4.33 290 *i* P **Pb 02 19 01.8 +1.0**
HEKM Malatya_Hekimh 4.35 272 *i* P **Pb 02 19 02.4 +1.3**
ATAB Bozova 4.37 253 *i* P **Pg 02 19 07.9 0.0**
ALIB Äli-Bayra 4.37 74 S **Sn 02 19 44.5 +2.6**
AKCD Akcadag 4.44 264 *i* P **Pb 02 19 03.0 +0.5**
QSAR Qusar 4.47 52 P **Pn 02 18 52.8 +0.5**
SNR=8.7
QSAR S **Sn 02 19 46.2 +1.7**
GBS Qobustan 4.48 67 P **Pn 02 18 53.4 +0.9**
SNR=3.0
GBS S **Sn 02 19 47.0 +2.3**
QUBA Quba, Azerbaij 4.53 55 P **Pn 02 18 53.6 +0.5**
SNR=5.2
QUBA S **Sn 02 19 47.1 +1.2**
ATGJ Altiaghaj 4.60 63 P **Pn 02 18 54.9 +0.7**
SNR=3.6
ATGJ S **Sn 02 19 49.5 +1.8**
GROC Groznyy 4.64 21 P **Pn 02 18 56.2 +1.6**
GROC *e* 02 19 49.3
GROC pmax pmax
comp=Z,5.0nm,0.7s
GROC smax smax
comp=E,23nm,0.7s
GROC smax smax
comp=N,11nm,0.6s
GROC smax smax
comp=E,66nm,1.3s
SIZA Siyzn 4.67 60 P **Pn 02 18 55.7 +0.7**
SIZA S **Sn 02 19 51.3 +2.0**
CUKAN kangal_SIVAS 4.74 277 *i* P **Pb 02 19 10.3 +2.5**
ORDU Ordu-Boztepe 4.85 298 *i* P **Pb 02 19 11.5 +2.0**
KBZ Khabaz 4.87 355 P **Pn 02 19 00.0 +2.3**
KBZ Khabaz 4.87 355 Pn **Pn 02 18 60.0 +2.3**
comp=E,0.0nm,0.3s,baz=180,slow=10,SNR=2.0
CUGUR Gurin_SVAS 4.90 270 *i* P **Pg 02 19 21.5 +3.3**
GZT Gaziantep 4.95 254 *i* P **Pb 02 19 13.9 +2.6**
ELBS KAHRAMANMARAS 5.05 266 *i* P **Pg 02 19 22.0 +0.9**
KIV Kislovodsk 5.11 353 *e*P Pn 02 19 05.8 +4.7
KIV pmax pmax
comp=Z,15nm,1.1s
GAZ Gaziantep 5.28 253 Pn **Pn 02 19 01.7 -1.8**
CUALT Altinyayla-SIV 5.29 276 *i* P **Pb 02 19 20.8 +3.7**
HCB Kahramanmara 5.45 256 *i* P **Pg 02 19 24.4 -4.3**
SOC Sochi 5.51 330 *e*P Pn 02 19 10.9 +4.4
SOC *e* 02 20 16.8
SOC pmax pmax
comp=Z,19nm,0.9s
SOC MLR MLR
comp=Z,231nm,7.0s
ERBA Erbaa 5.53 291 *i* P **Pb 02 19 22.8 +1.8**
KAMA Osmaniye 5.68 255 *i* P **Pb 02 19 24.9 +1.2**
CUSAR Sarkisla-SIVAS 5.70 278 *i* P **Pb 02 19 27.3 +3.3**
ANDN Andirin 5.81 259 *i* P **Pg 02 19 31.7 -3.9**
HAVZ Havza 6.39 293 *i* P **Pb 02 19 39.4 +3.6**
YAHY KAYSERI_Yahyal 6.46 266 *i* P **Pg 02 19 47.2 -0.9**
AKO Adana 6.53 260 *i* P **Pg 02 19 48.0 -1.4**
SIRC Yozgat 6.54 277 *i* P **Pb 02 19 42.4 +4.0**
BR131 Keskin Array S 7.72 279⇓ *e*P Pn 02 19 44.0 +6.9
BRTR Keskin Array B 7.72 279 *i* P Pn 02 19 43.7 +6.6
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 7.72 279 Pn **Pn 02 19 40.1 +3.1**
comp=Z,0.1nm,0.3s,baz=103,slow=13,SNR=7.3
ASF Jabal al Asfar 8.61 221 Pn **Pn 02 19 50.1 +1.0**
comp=Z,0.2nm,0.3s,baz=351,slow=16,SNR=6.3
ASF Lg Lg 02 22 21.0
comp=Z,0.2nm,0.3s,baz=151,slow=19,SNR=3.5
MMAI Mount Meron Ar 8.81 231 Pn **Pn 02 19 53.6 +1.6**
comp=Z,0.4nm,0.3s,baz=57,slow=16,SNR=3.4
GEYT Alibeck 11.48 90 Pn **Pn 02 20 29.6 +1.2**
comp=Z,0.1nm,0.3s,baz=294,slow=16,SNR=2.3
EIL Elat 11.61 220 LR LR 02 25 32.8
comp=Z,159nm,18.5s,baz=109,slow=40
MLR Muntele Rosu 14.61 303⇑ P **P 02 21 17.6 -0.1**
DOPR Dopca 15.14 304⇓ P **P 02 21 26.6 +3.1**
VOIR 15.18 302 P **P 02 21 26.5 +2.5**
VOIR 15.18 302⇑ P **P 02 21 27.2 +3.2**
IDI Anoyia 15.31 262 LR LR 02 27 19.3
comp=Z,88nm,20.8s,baz=72,slow=38
RAYN Ar Rayn 15.40 173 P **Pn 02 21 18.1 -3.8**
RAYN pmax pmax
comp=Z,9.0nm,1.1s
RAYN Ar Rayn 15.40 173 **Pn 02 21 18.1 -3.8**
RAYN IAmb IAmb 02 21 24.7
comp=Z,9.3nm,1.1s
AKTO Aktyubinsk 15.44 37 Pn **Pn 02 21 21.3 -1.0**
comp=Z,0.1nm,0.3s,baz=226,slow=13,SNR=5.7
AKTO LR LR 02 28 31.4
comp=Z,87nm,21.9s,baz=229,slow=42
AKASG Malin Array Be 15.55 324 Pn **Pn 02 21 23.7 +0.1**
comp=Z,0.1nm,0.3s,baz=134,slow=12,SNR=6.0
ABKAR Akbulak array 15.67 43 Pn **Pn 02 21 22.8 -2.4**
BURAR Bucovina Array 15.92 309⇑ P **P 02 21 34.4 +2.1**
BUR08 Bucovina Ar. S 15.94 309 **Pn 02 21 27.8 -1.1**
OBN Obninsk 16.91 346⇑ *e*P **P 02 21 42.6 -0.3**
OBN pmax pmax
comp=Z,13nm,1.0s
OBN MLR MLR
comp=Z,78nm,9.0s
UZH Uzhgorod 18.13 309 *e*P **Pn 02 21 53.5 -2.7**
ARU Arti 20.18 25 *c* iP Pn 02 22 21.2 +0.3
ARU 02 22 35.8
ARU S Sn 02 26 08.1 +0.2
ARU pmax pmax
comp=Z,18nm,1.6s
ARU Arti 20.18 25 P **P 02 22 18.7 -0.3**
comp=Z,1.0nm,0.3s,baz=203,slow=7.0,SNR=10
ARU LR LR 02 31 53.0
comp=Z,89nm,20.8s,baz=290,slow=42
WSAR Wadi Sarin 20.21 136 LR LR 02 32 09.1
comp=Z,62nm,22.0s,baz=344,slow=43
SUW Suwalki 20.52 324 P **P 02 22 20.9 -1.8**
SUW pmax pmax
comp=Z,38nm,1.1s
SUW Suwalki 20.52 324 P **P 02 22 20.9 -1.8**
KK31 Karatay Array 20.75 70 P **P 02 22 23.6 -1.7**
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KK31 Karatay Array 20.75 70 P **P 02 22 23.6 -1.7**
KK31 IAmb IAmb 02 22 35.9
comp=Z,6.3nm,0.9s
KKAR Karatay Array 20.75 70 P **P 02 22 23.1 -2.2**
KKAR pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 20.75 70 P **P 02 22 23.1 -2.2**
KKAR IAmb IAmb 02 22 35.9
comp=Z,6.3nm,0.9s
GAR Garm 20.81 81 P **P 02 22 24.1 -2.0**
GAR IAmb IAmb 02 22 34.6
comp=Z,19nm,1.2s
BTK Batken 21.07 78 P **P 02 22 26.4 -2.4**
BTK pmax pmax
comp=Z,10.0nm,1.1s
BTK Batken 21.07 78 P **P 02 22 26.4 -2.4**
BTK IAmb IAmb 02 22 36.5
comp=Z,10nm,1.1s
SVE Sverdlovsk 21.20 27 *e*P **P 02 22 34.2 +4.2**
PRGR Permogore 22.82 3 *e*P **P 02 22 44.3 -2.9**
PRGR pmax pmax
comp=Z,12nm,1.4s
BRVK Borovoye 23.20 44⇓ *e*P **P 02 22 56.3 +5.0**
BRVK pmax pmax
comp=Z,4.0nm,1.1s
BVAR Borovoye Array 23.24 44 P **P 02 22 52.6 +0.9**
comp=Z,0.2nm,0.6s,baz=227,slow=7.7,SNR=2.1
GERES GERESS Array B 23.57 305 P **P 02 22 55.8 +0.6**
comp=Z,0.2nm,0.5s,baz=115,slow=8.7,SNR=2.8
AAK Ala-Archa 23.68 71⇓ *e*P **P 02 23 00.1 +3.8**
AAK pmax pmax
comp=Z,4.0nm,1.4s
AAK Ala-Archa 23.68 71 LR LR 02 32 47.6
comp=Z,96nm,19.6s,baz=311,slow=38
TEOL Teolo 24.40 296 P **P 02 23 01.1 -1.8**
FINES FINESS Array B 25.04 340 P **P 02 23 08.3 -0.1**
comp=Z,2.5nm,1.0s,baz=147,slow=11,SNR=3.4
KSH Kashi 25.07 78 P **P 02 23 10.5 +1.3**
KSH PP **PnPn 02 23 45.0 +2.5**
KSH PcP PcP 02 26 50.8 +7.2
KSH S **S 02 27 26.9 -6.8**
KSH sS pS 02 27 33.4 -4.0
KSH pmax pmax
comp=Z,730nm,7.7s
KSH LR LR
comp=N,880nm,6.1s
KSH LR LR
comp=E,1μm,6.7s
KSH LR LR
comp=Z,480nm,6.0s
DAVOX Davos/Dischmat 25.76 299 P **P 02 23 15.6 +0.1**
comp=Z,0.9nm,0.7s,baz=113,slow=12,SNR=2.5
KURBB Kurchatov Arra 27.23 53 P **P 02 23 29.9 +1.5**
comp=Z,2.2nm,0.8s,baz=264,slow=9.0,SNR=17
KURK Kurchatov 27.30 53⇓ *e*P **P 02 23 33.8 +4.7**
KURK pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 27.30 53 P **P 02 23 26.6 -2.4**
KURK IAmb IAmb 02 23 34.6
comp=Z,4.0nm,1.0s
MKAR Makanchi Array 29.26 62 *ce*P **P 02 23 50.7 +4.1**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 29.26 62 P **P 02 23 48.1 +1.6**
comp=Z,1.5nm,0.7s,baz=280,slow=7.3,SNR=8.5
ZALV Zalesovo Beam 31.68 48 P **P 02 24 08.0 +0.1**
comp=Z,0.5nm,0.5s,baz=261,slow=8.3,SNR=2.7
TORD Torodi Ar. Bea 44.95 247 P **P 02 26 00.0 +0.2**
comp=Z,2.3nm,1.1s,baz=52,slow=9.6,SNR=5.3
ULN Ulaanbaatar 45.85 57 *ce*P P 02 26 12.3 +5.5
ULN pmax pmax
comp=Z,10.0nm,2.5s
XAN Xi'an 51.81 74 P P 02 26 57.4 +4.8
XAN pmax pmax
comp=Z,4.0nm,0.9s
XAN pmax pmax
comp=Z,97nm,6.0s
TIXI Tiksi 52.19 24 P **P 02 26 56.8 +2.0**
TIXI pmax pmax
comp=Z,8.0nm,0.6s
YAK Yakutsk 54.83 35⇓ *e*P P 02 27 20.1 +5.8
YAK pmax pmax
comp=Z,10.0nm,0.5s
KSRS Korea Array 63.94 62 P **P 02 28 19.4 +1.7**
comp=Z,1.4nm,0.7s,baz=282,slow=6.1,SNR=4.1
MJAR Matsushiro Arr 71.37 58 LR LR 03 02 30.2
comp=Z,42nm,18.4s,baz=45,slow=38
YKA Yellowknife Ar 77.45 350 *i* P P 02 29 44.1 +4.6
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 77.45 350 P **P 02 29 38.6 -1.0**
comp=Z,0.3nm,0.9s,baz=14,slow=6.0,SNR=4.0

ISCJB ***24*** *02:40:51.8±0.2,36.12N±0.02,27.01E±0.02,h121km±2km, mb3.7/12, Error ellipse: s-maj=2.9km s-min=2.1km az=7.2*
IDC ***24*** *02:40:52.8±1.2,36.20N±26.95E,h115km±15km, mb3.5/12, mb1 3.6/20,mb1mx3.4/45,mbtmp3.9/20, Error ellipse: s-maj=19.4km s-min=12.2km az=178.0*
ATH ***24*** *02:40:52.9,36.17N±26.95E,h115km±2km, ML3.3/22, Error ellipse: s-maj=3.1km s-min=1.2km az=127.0*
ISK ***24*** *02:40:53.9,36.22N±27.01E,h93km±2km, ML3.6/13*
THE ***24*** *02:40:55.5,36.19N±26.92E,h116km±2km, ML3.5/17, Error ellipse: s-maj=2.4km s-min=0.7km az=92.0*
GII ***24*** *02:40:58.0±0.6,35.78N±27.37E,h100km, MD3.6/8*
DDA ***24*** *02:40:58.1,36.34N±27.42E, h92km±2km, MW3.8*
HLW ***24*** *02:40:59.2,35.61N±27.13E,h30km±30km, Md4.5, Ml4.3*

ISC 24 02:40:52.1±0.6, 36°09N±0.03 × 27°02E±0.03, h121km±5km, n208, σ1§83/269, mb3.7/12, 3C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	**0.53**	**9**	P	**Pn**	**02 41 10.2**	**-0.2**
NISR				S	**Sn**	**02 41 21.6**	**-2.5**
	1μm,0.5s						
NISR	**Nisiros**	**0.53**	**9**	P	**Pn**	**02 41 10.2**	**-0.2**
NISR				AML	AML	02 41 23.2	
	comp=N,2911μm,0.7s						
NISR				S	**Sn**	**02 41 23.4**	**-0.7**
NISR				AML	AML	02 41 32.8	
	comp=E,3044μm,0.4s						
KARP	**Karpathos**	**0.55**	**168**	P	**Pn**	**02 41 11.7**	**+1.1**
KARP				S	**Sn**	**02 41 25.1**	**+0.6**
	comp=E,10μm,0.3s						
KARP	**Karpathos**	**0.55**	**168**	P	**Pn**	**02 41 11.7**	**+1.1**
KARP				S	**Sn**	**02 41 25.2**	**+0.6**
KARP				AML	AML	02 41 27.6	
	comp=N,23330μm,0.2s						
KARP				AML	AML	02 41 27.6	
	comp=E,17104μm,0.4s						
KOSK	**Kos Island**	**0.66**	**357**	P	**Pn**	**02 41 11.4**	**+0.1**
KOSK				S	**Sn**	**02 41 24.1**	**-1.7**
	comp=E,2μm,0.6s						
DAT	**Datca**	**0.78**	**35**	*i* PA	**Pn**	**02 41 13.0**	**+0.6**
DAT				*i* S	**Sn**	**02 41 26.0**	**-1.7**
DAT				IAML		02 41 29.0	
	comp=N,323nm,0.4s						
DAT				IAML		02 41 29.0	
	comp=E,387nm,0.5s						
ARG	**Arkhangelos**	**0.90**	**82**	P	**Pn**	**02 41 14.9**	**+1.6**
ARG				S	**Sn**	**02 41 29.9**	**+0.6**
	comp=E,6μm,0.2s						
ARG	**Arkhangelos**	**0.90**	**82**	P	**Pn**	**02 41 15.0**	**+1.7**
ARG				AML	AML	02 41 30.6	
	comp=E,12910μm,0.3s						
ARG				AML	AML	02 41 31.3	
	comp=N,9451μm,0.2s						
BODT	**Bodrum**	**1.00**	**13**	P	**Pn**	**02 41 14.5**	**+0.2**
BODT				S	**Sn**	**02 41 29.7**	**-1.3**
BDRM	**Kayabasi**	**1.03**	**19**	*i* PA	**Pn**	**02 41 15.0**	**+0.5**
BDRM				*i* S	**Sn**	**02 41 29.6**	**-2.0**
STIA	**Sitia Lasithi**	**1.17**	**221**	P	**Pn**	**02 41 17.6**	**+1.7**
STIA				S	**Sn**	**02 41 34.5**	**+0.6**
AMGA	**Amorgos Island**	**1.17**	**310**	P	**Pn**	**02 41 15.9**	**-0.1**
AMGA				S	**Sn**	**02 41 31.7**	**-2.4**
	comp=N,998nm,0.5s						
AMGA	**Amorgos Island**	**1.17**	**310**	P	**Pn**	**02 41 16.0**	**-0.1**
AMGA				AML	AML	02 41 32.9	
	comp=E,1622μm,0.5s						
AMGA				AML	AML	02 41 33.0	
	comp=N,2339μm,0.5s						
ZKR	**Zakros**	**1.17**	**214**	P	**Pn**	**02 41 18.1**	**+2.1**
ZKR				S	**Sn**	**02 41 35.9**	**+1.8**
	comp=N,2μm,0.4s						
ZKR	**Zakros**	**1.17**	**214**	P	**Pn**	**02 41 18.0**	**+2.0**
ZKR				S	**Sn**	**02 41 35.4**	**+1.3**
ZKR				AML	AML	02 41 36.7	
	comp=E,5505μm,0.3s						
ZKR				AML	AML	02 41 39.4	
	comp=N,2067μm,0.5s						
ZKR	**Zakros**	**1.17**	**214**	PN	**Pn**	**02 41 18.1**	**+2.1**
ZKR				SN	**Sn**	**02 41 35.5**	**+1.4**
SANT	**Santorini**	**1.29**	**283**	P	**Pn**	**02 41 17.7**	**+0.4**
SANT	**Santorini**	**1.29**	**283**	P	**Pn**	**02 41 17.7**	**+0.4**
SANT				AML	AML	02 41 35.4	
	comp=E,1583μm,0.6s						
SANT				AML	AML	02 41 35.8	
	comp=N,573μm,0.6s						
SANT	**Santorini**	**1.29**	**283**	PN	**Pn**	**02 41 17.7**	**+0.4**
SANT				SN	**Sn**	**02 41 34.9**	**-1.6**
DIDI	**Didim-Aydin**	**1.30**	**8**	PN	**Pn**	**02 41 17.4**	**+0.1**
SAP2K	**Karterados**	**1.31**	**285**	P	**Pn**	**02 41 18.0**	**+0.5**
SFIR	**Foira Santorin**	**1.33**	**285**	P	**Pn**	**02 41 18.2**	**+0.5**
THT2	**Imerovigli**	**1.34**	**285**	P	**Pn**	**02 41 18.4**	**+0.6**
THT2	**Imerovigli**	**1.34**	**285**	PN	**Pn**	**02 41 18.4**	**+0.6**
THT2				SN	**Sn**	**02 41 36.0**	**-1.3**
THR6	**Thira Island,**	**1.34**	**282**	P	**Pn**	**02 41 18.3**	**+0.5**
SAP1	**Santorini-Akro**	**1.34**	**282**	P	**Pn**	**02 41 18.3**	**+0.5**
THR3	**Thira Island,**	**1.35**	**284**	P	**Pn**	**02 41 18.3**	**+0.4**
THR5	**Thira Island,**	**1.39**	**284**	P	**Pn**	**02 41 18.9**	**+0.5**
NPS	**Neapolis**	**1.41**	**235**	P	**Pn**	**02 41 19.7**	**+1.1**
NPS				S	**Sn**	**02 41 38.1**	**-0.7**
	comp=N,1μm,0.3s						
NPS	**Neapolis**	**1.41**	**235**	P	**Pn**	**02 41 19.7**	**+1.1**
NPS				AML	AML	02 41 40.4	
	comp=E,2512μm,0.3s						
NPS				AML	AML	02 41 40.5	
	comp=N,2256μm,0.4s						
YER	**Yerkesik**	**1.46**	**44**	P	**Pn**	**02 41 20.3**	**+1.1**
TURN	**Turunc**	**1.50**	**58**	*i* PA	**Pn**	**02 41 17.2**	**-2.3**
TURN				*i* S	Sn	02 41 29.2	-11
TURN				IAML		02 41 35.0	
	comp=N,1μm,0.3s						
TURN				IAML		02 41 35.0	
	comp=E,867nm,0.2s						
FRMA	**Ierapetra Chan**	**1.50**	**225**	P	**Pn**	**02 41 21.1**	**+1.5**
FRMA				S	**Sn**	**02 41 41.1**	**+0.6**
	comp=E,410nm,0.4s						
IOSP	**Ios island**	**1.53**	**295**	P	**Pn**	**02 41 20.2**	**+0.2**
IOSP				S	**Sn**	**02 41 39.0**	**-2.2**
	comp=E,2μm,0.6s						
IOSP	**Ios island**	**1.53**	**295**	P	**Pn**	**02 41 20.2**	**+0.2**
APE	**Apeiranthos**	**1.55**	**310**	P	**Pn**	**02 41 20.3**	**+0.1**
APE				S	**Sn**	**02 41 39.4**	**-2.2**
	comp=E,502nm,0.6s						
APE	**Apeiranthos**	**1.55**	**310**	P	**Pn**	**02 41 20.4**	**+0.1**
APE				AML	AML	02 41 41.0	
	comp=E,1013μm,0.8s						
APE				AML	AML	02 41 41.3	
	comp=N,1018μm,0.5s						
APE	**Apeiranthos**	**1.55**	**310**	PN	**Pn**	**02 41 20.3**	**+0.1**
APE				SN	**Sn**	**02 41 39.5**	**-2.2**
LAST	**Lasithi**	**1.56**	**234**	P	**Pn**	**02 41 21.6**	**+1.2**
LAST				S	**Sn**	**02 41 41.5**	**-0.4**
	comp=N,528nm,0.4s						
LAST	**Lasithi**	**1.56**	**234**	P	**Pn**	**02 41 21.6**	**+1.2**
LAST				AML	AML	02 41 42.4	
	comp=E,786μm,0.3s						
LAST				AML	AML	02 41 42.6	
	comp=N,1287μm,0.3s						
GCAM	**G?zelcaml?**	**1.62**	**6**	*i* PA	**Pn**	**02 41 21.4**	**+0.5**

GCAM	G?zelcaml?	1.62	6		PN	Pn	02 41 21.0	0.0	
SMG	Samos	1.62	355		P	Pn	02 41 21.2	+0.1	
SMG	Samos	1.62	355		P	Pn	02 41 21.1	+0.1	
SMG	comp=N,470µm,0.6s				AML	AML	02 41 42.3		
SMG	comp=E,920µm,0.8s				AML	AML	02 41 42.6		
AYDN	Tasoluk	1.71	23	*i*	PA	Pn	02 41 23.1	+0.9	
AYDN				*i*	S	Sn	02 41 42.7	-2.5	
AYDN	comp=E,221nm,0.5s				IAML		02 41 44.0		
AYDN	comp=N,191nm,0.6s				IAML		02 41 45.0		
HRKL	Herakleio	1.74	244		P	Pn	02 41 23.7	+1.2	
HRKL	comp=N,840nm,0.4s				S	Sn	02 41 45.5	-0.1	
FETY	Fethiye	1.75	71		P	Pn	02 41 23.8	+1.2	
FETY	Fethiye	1.75	71	*i*	PA	Pn	02 41 24.0	+1.3	
FETY				*i*	S	Sn	02 41 42.2	-3.7	
FETY	comp=N,140nm,0.4s				IAML		02 41 46.0		
FETY	comp=E,157nm,0.4s				IAML		02 41 47.0		
FETY	Fethiye	1.75	71		PN	Pn	02 41 23.5	+0.9	
FETY					SN	Sn	02 41 45.5	-0.4	
IDI	Anoyia	1.91	246		P	Pn	02 41 25.3	+0.7	
IDI	comp=E,6.3nm,0.3s,baz=68,slow=8.4,SNR=155				S	Sn	02 41 48.1	-1.3	
IDI	comp=E,72nm,0.3s,baz=320,slow=18,SNR=31				AML	AML	02 41 51.5		
IDI	Anoyia	1.91	246		P	Pn	02 41 25.3	+0.7	
IDI	comp=N,717µm,0.3s				AML	AML	02 41 55.0		
DGB	comp=E,669µm,0.3s zmir	1.96	357	*i*	PA	Pn	02 41 25.3	+0.1	
AYDB	Zeytinkoy-Aydi	1.98	20		PN	Pn	02 41 25.6	+0.1	
TAVA	DENIZLI_Tavas	2.05	47	*i*	P	Pn	02 41 27.1	+0.7	
TAVA				*i*	S	Sn	02 41 48.1	-4.4	
TAVA	comp=N,101nm,0.6s				IAML		02 41 55.0		
KSL	Kastellorizon	2.08	88		P	Pn	02 41 28.6	+2.0	
KSL	Kastellorizon	2.08	88		P	Pn	02 41 28.6	+2.0	
KSL	comp=E,1541µm,0.3s				AML	AML	02 41 54.2		
KSL	comp=N,968µm,0.4s				AML	AML	02 41 56.6		
TNSA	Tinos	2.08	315		P	Pn	02 41 27.3	+0.7	
SIVA	Sivas	2.10	240		P	Pn	02 41 29.0	+2.2	
SIVA	comp=N,787µm,0.5s				AML	AML	02 42 01.8		
SIVA	comp=E,1238µm,0.5s				AML	AML	02 42 04.2		
AKAS	Kas	2.10	85	*i*	PA	Pn	02 41 28.8	+1.8	
AKAS				*i*	S	Sn	02 41 52.7	-0.9	
AKAS	comp=N,415nm,0.3s				IAML		02 41 58.0		
AKAS	comp=E,318nm,0.3s				IAML		02 41 58.0		
AKAS	Kas	2.10	85		PN	Pn	02 41 28.8	+1.8	
MHLA	Plaka, Milos I	2.20	288		P	Pn	02 41 28.6	+0.6	
MHLO	Agia Marina, M	2.20	287		P	Pn	02 41 28.6	+0.6	
MHLO	comp=N,1107µm,0.6s				AML	AML	02 42 04.9		
MHLO	comp=E,1269µm,0.4s				AML	AML	02 42 05.3		
GLHS	Glhisar (BURDU	2.26	61		PN	Pn	02 41 30.2	+1.2	
BLCB	Balcova	2.29	0		PN	Pn	02 41 29.5	+0.2	
URLA	Izmir	2.29	352	*i*	PA	Pn	02 41 29.5	+0.1	
URLA	Izmir	2.29	352		PN	Pn	02 41 29.2	-0.1	
SERI	Serifos	2.30	298		P	Pn	02 41 29.9	+0.4	
SERI	comp=E,165nm,0.6s				S	Sn	02 41 55.7	-2.4	
SERI	Serifos	2.30	298		P	Pn	02 41 29.8	+0.4	
SERI	comp=E,227µm,0.5s				AML	AML	02 41 56.5		
SERI	comp=N,445µm,0.8s				AML	AML	02 41 56.6		
DEMR	Demre-Antalya	2.34	86		PN	Pn	02 41 31.6	+1.7	
GOLH	Golhisar	2.34	60	*i*	PA	Pn	02 41 31.8	+1.7	
VAM	Vamos	2.39	254		P	Pn	02 41 31.0	+0.4	
VAM	comp=N,1086µm,0.4s				AML	AML	02 42 02.3		
VAM	comp=E,865µm,0.4s				AML	AML	02 42 06.8		
CHOS	Chios island	2.42	342		P	Pn	02 41 30.9	-0.1	
CHOS	Chios island	2.42	342		P	Pn	02 41 31.1	+0.1	
CHOS	comp=E,156µm,0.9s				AML	AML	02 42 00.1		
CHOS	comp=N,142µm,0.9s				AML	AML	02 42 00.7		
ELL	Elmali	2.42	73		PN	Pn	02 41 32.9	+1.8	
CHAN	Chania	2.49	258		P	Pn	02 41 32.8	+1.0	
IMMV	Iera Moni Meta	2.55	257		P	Pn	02 41 33.2	+0.6	
IMMV	comp=N,590nm,0.4s				S	Sn	02 42 01.8	-1.9	
IMMV	Iera Moni Meta	2.55	257		P	Pn	02 41 33.0	+0.4	
IMMV	comp=N,1184µm,0.5s				AML	AML	02 42 07.5		
IMMV	comp=E,1177µm,0.3s				AML	AML	02 42 09.4		
AKUM	Antalya-Kumluc	2.70	84	*i*	P	Pn	02 41 36.6	+2.1	
AKUM				*i*	S	Sn	02 42 07.0	-0.1	
AKUM	comp=N,186nm,0.4s				IAML		02 42 11.0		
AKUM	comp=E,98nm,0.3s				IAML		02 42 21.0		
KORT	Korkueli	2.83	70	*i*	PA	Pn	02 41 38.1	+1.7	
KORT				*i*	S	Sn	02 42 11.2	+0.7	
KORT	Korkueli	2.83	70		PN	Pn	02 41 38.2	+1.8	
KARY	Karystos	2.83	314		P	Pn	02 41 37.2	+0.9	
KARY	comp=E,140µm,0.7s				AML	AML	02 42 09.2		
KARY	comp=N,116µm,1.0s				AML	AML	02 42 10.2		
AKHS	Akhisar	2.85	13	*i*	P	Pn	02 41 36.7	+0.1	
ZEDA	zmir-Bergama	2.87	1	*i*	P	Pn	02 41 36.9	+0.2	
KEMT	Kemer-ANTALYA	2.90	79		PN	Pn	02 41 39.3	+2.2	
BRDR	BURDUR-Merkez	2.92	56	*i*	PA	Pn	02 41 40.5	+3.0	
KHAL	Karahalli	3.01	40	*i*	PA	Pn	02 41 38.3	-0.4	
KHAL				*i*	S	Sn	02 42 12.5	-2.1	
ANKY	Antikythira Is	3.02	267		P	Pn	02 41 39.6	+0.8	
ANKY	comp=N,375nm,0.5s				S	Sn	02 42 13.3	-1.4	
BASM	Basmaki-Afyon	3.04	52		PN	Pn	02 41 39.9	+0.9	
USAK	Uak-Merkez	3.07	31	*i*	P	Pn	02 41 40.3	+0.9	
VLY	Voula,Athens	3.13	305		P	Pn	02 41 40.6	+0.5	
VLY	comp=N,128µm,0.7s				AML	AML	02 42 17.9		
VLY	comp=E,330µm,0.6s				AML	AML	02 42 18.4		
PTL	Penteli	3.19	309		P	Pn	02 41 42.1	+1.1	
PTL	comp=N,89µm,0.7s				AML	AML	02 42 32.5		
PTL	comp=E,122µm,0.8s				AML	AML	02 42 33.9		
KTHA	Kythira Island	3.21	274		P	Pn	02 41 42.1	+0.9	
KTHA	comp=E,318nm,0.3s				S	Sn	02 42 16.8	-2.2	
PRK	Paraskevi	3.21	350		P	Pn	02 41 42.1	+0.9	
AYVA	Ayvalik	3.22	355	*i*	P	Pn	02 41 41.7	+0.3	
DEMI	Demirci	3.24	24	*i*	P	Pn	02 41 42.2	+0.5	
SIGR	SIGRI	3.25	344		P	Pn	02 41 41.8	+0.1	
SIGR	SIGRI	3.25	344		P	Pn	02 41 42.0	+0.3	
SIGR	comp=E,137µm,0.9s				AML	AML	02 42 19.3		
SIGR	comp=N,119µm,0.8s				AML	AML	02 42 20.8		
KTHR	Kythira	3.25	274		P	Pn	02 41 42.4	+0.6	
KTHR	comp=N,275nm,0.4s				S	Sn	02 42 18.1	-2.0	
KZIL	AFYON_Kizioren	3.30	48	*i*	P	Pn	02 41 44.0	+1.4	
STEP	BALIKESIR_Sava	3.33	9	*i*	P	Pn	02 41 42.5	-0.3	
EREA	Eretria	3.39	314		P	Pn	02 41 44.5	+1.0	
BAGO	Egridir - ISPA	3.56	57	*i*	P	Pn	02 41 47.3	+1.4	
GDZ	Gediz	3.58	32	*i*	P	Pn	02 41 46.9	+0.7	
BAYC	CANAKKALE_Bayr	3.67	354	*i*	P	Pn	02 41 47.2	0.0	
BALY	Balya	3.68	7	*i*	P	Pn	02 41 47.9	+0.5	
DURS	Dursunbey	3.69	18	*i*	P	Pn	02 41 47.8	+0.2	
LTK	Loutraki	3.77	302		P	Pn	02 41 49.7	+1.1	
KEPZ	Antalya-Kepez	3.78	76	*i*	P	Pn	02 41 51.1	+2.3	
KEPZ				*i*	S	Sn	02 42 30.8	-1.9	
DYR	Agios Nikonas	3.84	281		P	Pn	02 41 51.0	+1.5	
PROD	Prodromos	3.94	305		P	Pn	02 41 52.2	+1.4	
VLX	Vlachokerasia	3.94	290		P	Pn	02 41 51.3	+0.4	
DOGA	KONYA_Doganhis	4.23	60	*i*	P	Pn	02 41 56.7	+1.9	
DOGA				*i*	S	Sn	02 42 33.2	-10	
GAZI	Gazipasa	4.29	87	*i*	P	Pn	02 41 56.0	+0.5	
GAZI				*i*	S	Sn	02 42 39.0	-5.7	
PYL	PYLOS	4.33	282		P	Pn	02 41 56.0	0.0	
AXAR	Agios Charalam	4.38	309		P	Pn	02 41 57.6	+0.8	
KALE	Kalithea	4.52	302		P	Pn	02 41 59.9	+1.2	
SERG	Sergoula	4.59	302		P	Pn	02 42 00.8	+1.3	
DRO	Drossia	4.64	295		P	Pn	02 42 01.3	+1.0	
EFP	Efpalio	4.70	301		P	Pn	02 42 02.4	+1.4	
MATC	Matruh baz=178	4.73	178		P	Pn	02 42 02.6	+1.1	
MATC	baz=178				AMP		02 42 00.0		
MATC	baz=178				S	Sn	02 42 47.3	-8.2	
AGG	Agios Georgios	4.74	310		P	Pn	02 42 02.4	+0.8	
SLUM	Salum baz=202	4.83	199		P	Pn	02 42 04.2	+1.5	
SLUM	baz=202				AMP		02 42 00.0		
SLUM	baz=202				S	Sn	02 42 50.9	-6.8	
PVO	Paravola	5.05	302		P	Pn	02 42 07.7	+2.0	
CSS	Mathiatis	5.27	100		Pn	Pn	02 42 09.3	+0.6	
HBRG	Burj al `Arab baz=154	5.98	156		P	Pn	02 42 19.7	+1.3	
BRTR	Keskin Array B comp=N,0.1nm,0.3s,baz=222,slow=14,SNR=6.9	6.37	53		P	Pn	02 42 25.1	+1.5	
BRTR	comp=N,0.3nm,0.3s,baz=219,slow=24,SNR=8.6				S	Sn	02 43 34.3	-0.8	
SWA2	baz=194	6.95	191		P	Pn	02 42 32.2	+0.7	
SWA2	baz=194				AMP		02 43 00.0		
SWA2	baz=194				S	Sn	02 43 41.8	-7.3	
HNAT	Natroun baz=152	7.11	154		P	Pn	02 42 34.4	+0.7	
HNAT	baz=152				AMP		02 43 00.0		
HNTI	Hanita	7.36	112		Pn	Pn	02 42 37.5	+0.5	
HNTI					Sn	Sn	02 43 55.4	-3.6	
OFRI	`Ofer	7.44	115		Pn	Pn	02 42 39.2	+1.2	
MMA0B	Mount Meron ar	7.56	111		Pn	Pn	02 42 40.9	+1.1	
MMAI	Mount Meron Ar comp=N,2.1nm,0.3s,baz=308,slow=12,SNR=14	7.56	111		P	Pn	02 42 40.0	+0.2	
MMAI	comp=N,19nm,0.3s,baz=307,slow=24,SNR=19				S	Sn	02 44 02.2	-1.7	
SLTI	Sal'it	7.67	118		Pn	Pn	02 42 42.1	+0.9	
SLTI					Sn	Sn	02 44 03.8	-2.8	
GEM	Giv'at Ha'Em	7.68	109		Pn	Pn	02 42 41.9	+0.7	
GEM					Sn	Sn	02 44 03.8	-2.9	
KSDI	Kefar Szold	7.68	110		Pn	Pn	02 42 41.6	+0.3	
KSDI					Sn	Sn	02 44 04.2	-2.5	
NATI	Neve Ativ	7.71	109		Pn	Pn	02 42 42.5	+0.8	
NATI					Sn	Sn	02 44 04.9	-2.6	
MMLI	Mount Malkishu	7.85	115		Pn	Pn	02 42 44.4	+0.8	
MMLI					Sn	Sn	02 44 08.0	-2.9	
MMLI	Mount Malkishu comp=N,0.1nmcomp=N,21nm,0.5s	7.85	115		P	Sn	02 44 08.1	-2.8	
SHMJ	Saham comp=N,0.6nmcomp=N,115nm,0.5s	7.96	112		P	Sn	02 44 12.4	-1.2	
AMAZ	Amatzia	7.99	122		Pn	Pn	02 42 45.6	+0.1	
AMAZ	Amatzia comp=N,0.7nmcomp=N,109nm,0.5s	7.99	122		P	Sn	02 44 11.7	-2.5	
HMDT	Nahal Hemdat	8.02	116		Pn	Pn	02 42 46.6	+0.8	
HMDT					Sn	Sn	02 44 12.2	-2.7	
KZIT	Kziot	8.04	128		Pn	Pn	02 42 46.7	+0.5	
KZIT					Sn	Sn	02 44 10.9	-4.5	
KZIT	Kziot comp=N,0.6nmcomp=N,193nm,0.8s	8.04	128		P	Sn	02 44 11.4	-4.0	
YTIR	Yattir	8.23	123		Pn	Pn	02 42 49.2	+0.5	
YTIR					Sn	Sn	02 44 17.7	-2.4	
MZDA	Masada	8.43	122		Pn	Pn	02 42 51.9	+0.6	
MZDA					Sn	Sn	02 44 21.7	-3.0	
WALJ	Wala	8.59	119		P	Sn	02 44 29.2	+0.4	
DRME	Dracevica, Mon	8.61	317	*e*	Pn	Pn	02 42 53.2	-0.5	
PDG	Podgorica	8.73	319	*e*	Pn	Pn	02 42 54.9	-0.5	
CGL1	Ceglie Messapi	8.77	304	*i*	Pn	Pn	02 42 54.2	-1.7	
CGL1					Sn	Sn	02 44 22.9	-10	
KRMI	Paran Flat	8.79	130		Pn	Pn	02 42 53.9	-2.4	
KRMI					Sn	Sn	02 44 29.4	-4.2	
PRNI	Paran	8.80	128		Pn	Pn	02 42 56.4	0.0	
PRNI					Sn	Sn	02 44 29.7	-4.2	
MASS	Massafra	8.98	303	*e*	Pn	Pn	02 42 56.8	-2.0	
MASS					Sn	Sn	02 44 27.6	-11	
HRFI	Mount Harif	9.04	130		Pn	Pn	02 43 00.6	+1.0	
HRFI					Sn	Sn	02 44 35.2	-4.4	
ASF	Jabal al Asfar comp=N,0.4nm,0.3s,baz=270,slow=8.1,SNR=5.0	9.07	113		P	Pn	02 43 01.6	+1.5	
ASF	comp=N,0.4nm,0.3s,baz=264,slow=19,SNR=4.2				S	Sn	02 44 41.0	+0.5	
MBRI	Mt Berech	9.13	131		Pn	Pn	02 43 01.7	+0.8	
MBRI					Sn	Sn	02 44 38.3	-3.7	
HCY	Herceg Novi	9.16	316	*e*	Pn	Pn	02 42 59.5	-1.7	
EIL	Elat	9.24	132		Pn	Pn	02 43 03.0	+0.6	
EIL					Sn	Sn	02 44 39.8	-4.8	
EIL	Elat comp=N,0.7nm,0.3s,baz=318,slow=1.5,SNR=10	9.24	132		P	Pn	02 43 03.2	+0.8	
EIL	comp=N,7.1nm,0.3s,baz=195,slow=6.4,SNR=16				S	Sn	02 44 40.1	-4.5	
BAI	Bari	9.38	305	*i*	Pn	Pn	02 43 02.4	-1.8	
BAI					Sn	Sn	02 44 39.2	-8.6	
SG1	Sgolgore (BA)	9.39	303	*i*	Pn	Pn	02 43 02.2	-2.2	
SG1					Sn	Sn	02 44 36.8	-11	
TREB	Trebinje	9.42	317	*e*	Pn	Pn	02 43 02.9	-1.8	
BRY	Bratogost	9.44	319	*e*	Pn	Pn	02 43 04.4	-0.7	
UPM	Unac-Piva	9.46	321	*e*	Pn	Pn	02 43 06.0	+0.6	
RUDO	Rudo	9.54	324	*e*	Pn	Pn	02 43 06.1	-0.2	
DIVS	Divibare	9.64	328	*e*	Pn	Pn	02 43 10.4	+2.7	
BBLS	Lazići	9.72	325	*e*	Pn	Pn	02 43 09.6	+0.9	
STON	Ston	9.88	316	*e*	Pn	Pn	02 43 08.2	-2.7	
HAPS	Han Pijesak,BI	10.10	325	*e*	Pn	Pn	02 43 13.4	-0.5	
VAE	Valguarnera comp=N,0.6nm,0.3s,baz=132,slow=14,SNR=3.6	10.21	282		P	Pn	02 43 15.6	+0.1	
VAE	comp=N,1.7nm,0.3s,baz=321,slow=8.3,SNR=6.6				S	Sn	02 44 56.2	-12	
MGRS	Mrkonjic Grad	11.25	321	*e*	Pn	Pn	02 43 28.6	-0.7	
BLY	Banja Luka	11.44	322	*e*	Pn	Pn	02 43 31.1	-0.7	
MORH	Mrgy, Hungar	11.92	331	*e*	Pn	Pn	02 43 40.3	+2.3	
AQU	L'Aquila	12.27	305	*e*	Pn	Pn	02 43 35.2	-7.6	
CRES	Cresnjev	13.06	322	*e*	Pn	Pn	02 43 51.8	-1.2	
KOLS	Kolonicke sedl	13.30	346	*e*	P	P	02 44 03.6	+2.3	
CEY	Cerknica	13.53	319	*e*	Pn	Pn	02 43 57.9	-1.2	
LJU	Ljubljana	13.68	320	*e*	Pn	Pn	02 44 01.4	+0.4	
VYHS	Vyhne	13.79	337	*e*	P	P	02 44 07.2	+0.5	
OBKA	Obir comp=N,1.3nm,0.5s	13.99	322	*e*	Pn	Pn	02 44 05.2	+0.2	
KEST	Kesra comp=N,0.0nm,0.3s,baz=16,slow=18,SNR=2.4	14.33	274		P	Pn	02 44 10.7	+1.2	
AKASG	Malin Array Be comp=N,1.8nm,0.3s,baz=195,slow=11,SNR=11	14.69	6		P	Pn	02 44 14.3	+0.4	
ABTA	Abfaltersbach comp=N,1.4nm,0.5s	15.20	319	*i*	Pn	Pn	02 44 20.1	-0.2	
WTTA	Wattenberg comp=N,1.4nm,0.4s	15.99	319	*e*	Pn	P	02 44 31.9	+0.5	
GERES	GERESS Array B comp=N,0.1nm,0.3s,baz=134,slow=11,SNR=17	16.06	327		P	P	02 44 31.6	-0.4	
WATA	Walderalm comp=N,2.3nm,0.6s	16.07	319	*i*	Pn	P	02 44 32.9	+0.7	
SQTA	Sankt Quirin comp=N,2.1nm,0.5s	16.19	318	*e*	Pn	P	02 44 34.3	+0.7	
DPC	Dobruska-Polom	16.22	335	*e*	P	P	02 44 34.1	+0.3	
MOTA	Moosalm comp=N,3.2nm,0.7s	16.33	318	*e*	Pn	P	02 44 35.1	+0.1	
KHC	Kasperske Hory	16.33	327	*e*	P	P	02 44 34.9	-0.1	
FETA	Feichten comp=N,7.4nm,0.8s,SNR=20	16.34	317	*e*	Pn	P	02 44 36.3	+1.2	
GOPC	GO Pecny, Ondr	16.43	331	*e*	P	P	02 44 37.3	+1.3	
PRU	Pruhonice	16.59	331	*e*	P	P	02 44 38.5	+0.8	
RETA	Reutte comp=N,1.0nm,0.4s	16.60	318	*i*	Pn	P	02 44 38.2	+0.3	
DAVOX	Davos/Dischmat comp=N,0.2nm,0.3s,baz=150,slow=16,SNR=4.8	16.68	315		P	P	02 44 39.2	+0.3	
DAVA	Damuels comp=N,3.2nm,0.5s	16.96	317	*e*	Pn	Pn	02 44 42.9	+0.8	
ESDC	Sonseca Array comp=N,0.8nm,0.5s,baz=80,slow=9.5,SNR=10	24.65	288		P	P	02 46 01.7	+0.2	
FINES	FINESS Array B comp=N,9.2nm,1.2s,baz=187,slow=14,SNR=4.1	25.38	359		P	P	02 46 07.1	-0.7	
HFS	Hagfors comp=N,4.6nm,1.0s,baz=141,slow=9.6,SNR=5.7	25.55	344		P	P	02 46 08.9	-0.5	
TORD	Torodi Ar. Bea	32.25	231		P	P	02 47 11.8	+2.6	
ARCES	comp=N,0.2nm,0.3s,baz=31,slow=7.6,SNR=3.9 ARCESS Array B comp=N,5.1nm,1.0s,baz=171,slow=7.3,SNR=6.6	33.51	359		P	P	02 47 19.6	0.0	
MKAR	Makanchi Array comp=N,0.4nm,0.4s,baz=265,slow=8.7,SNR=9.4	42.00	58		P	P	02 48 33.5	+2.2	
ZALV	Zalesovo Beam comp=N,0.7nm,0.3s,baz=286,slow=7.0,SNR=4.3	43.27	47		P	P	02 48 42.5	+1.2	
SONM	Songino Array comp=N,0.2nm,0.3s,baz=276,slow=8.5,SNR=2.8	57.72	52		P	P	02 50 32.1	+1.9	
SCHQ	Schefferville comp=N,3.6nm,0.5s,baz=65,slow=5.0,SNR=7.6	63.46	320		P	P	02 51 08.8	-0.1	
YKA	Yellowknife Ar comp=N,0.1nm,0.3s,baz=22,slow=5.2,SNR=3.1	77.02	343		P	P	02 52 33.4	+2.1	
ILAR	Eielson Array comp=N,0.2nm,0.7s,baz=350,slow=3.8,SNR=3.9	79.36	357		P	P	02 52 43.3	-0.9	
ULM	Lac du Bonnet comp=N,0.9nm,0.4s,baz=56,slow=8.7,SNR=4.9	80.37	327		P	P	02 52 49.5	-0.3	

IDC 24 03:02:52.0±8.4, 18°.03S×176°.71W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/40, mbtmp3.7/3, Error ellipse: s-maj=370.3km s-min=39.3km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr 0.2nm,0.3s,baz=95,slow=7.1,SNR=5.8	46.20	259	P	P	03 11 18.7	-0.5
ASAR	Alice Springs 1.9nm,0.4s,baz=89,slow=8.3,SNR=45	46.32	254	P	P	03 11 20.1	+0.1
ILAR	Eielson Array 0.2nm,0.8s,baz=227,slow=5.0,SNR=4.2	85.65	12	P	P	03 15 32.1	0.0

IDC 24 03:12:11.3±5.7, 7°.63S×123°.78E, h598km±28km, mb2.8/1, mb1 3.0/5, mb1mx2.7/42, mbtmp3.9/5, Error ellipse: s-maj=127.9km s-min=86.4km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	Baumata 12nm,0.3s,baz=90,slow=2.7,SNR=7.3	2.57	183	P	P	03 13 27.6	-0.4
BATI				S	S	03 14 31.0	+0.5
FITZ	4.5nm,0.3s,baz=23,slow=10,SNR=7.8 Fitzroy Crossi 0.8nm,0.3s,baz=4.1,slow=7.4,SNR=46	10.57	170	P	P	03 14 36.2	+0.6
WRA	Warramunga Arr 0.6nm,0.3s,baz=319,slow=10,SNR=20	15.96	141	P	P	03 15 27.9	-0.5
WRA	0.1nm,0.3s,baz=318,slow=18,SNR=4.6			S	S	03 18 08.5	-0.6
ASAR	Alice Springs 0.4nm,0.3s,baz=322,slow=8.2,SNR=19	18.68	150	P	P	03 15 53.3	+0.1
STKA	Stephens Creek 0.8nm,0.5s,baz=321,slow=9.1,SNR=5.9	29.29	148	P	P	03 17 26.9	0.0

*DDA **24** 03:32:45.9, 34°.80N×26°.13E, h7km±3km, MW4.3*
*IDC **24** 03:32:47.6±0.5, 34°.98N×26°.28E, h0km, mb4.3/25, mb1 4.3/37, mb1mx4.2/62, mbtmp4.3/37, ML3.8/10, MS3.5/13, Ms1 3.6/13, ms1mx3.3/39, Error ellipse: s-maj=12.7km s-min=7.6km az=1.0*
*NIC **24** 03:32:49.4±0.0, 34°.84N×26°.16E, h15km±2km, MI5.0/4*
*ISCJB **24** 03:32:49.6±0.3, 34°.84N±0°.01×26°.30E±0°.01, h25km±2km, mb4.3/43, MS3.7/9, Error ellipse: s-maj=2.5km s-min=1.6km az=28.1*
*BJI **24** 03:32:49.0±0.0, 34°.80N×26°.30E, h15km, mb4.6/14, mB4.9/2, Ms4.4/1, Ms7 4.3/2*
*MOS **24** 03:32:49.5±1.2, 34°.87N×26°.23E, h24km, mb4.6/23, Error ellipse: s-maj=5.2km s-min=2.9km az=93.9*
*ISK **24** 03:32:50.3, 34°.84N×26°.15E, h77km, ML4.4/19*
*MED_RC **24** 03:32:50.0±0.3, 34°.85N×26°.27E, h35km, MW4.6/17, Moment Tensor Solution.Mantle waves: s17,c28; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.84±.09; $M_{\theta\theta}$0.05±.05; $M_{\phi\phi}$0.79±.05; $M_{r\theta}$0.15±.04; $M_{\theta\phi}$0.26±.03; $M_{r\phi}$-0.36±.03; Best double couple: $M_0$0.94000×10^{16} NP1:ϕ_s3.00000°, δ57.00000°, λ-108.00000°. NP2:ϕ_s213.00000°, δ37.00000°, λ-65.00000°. Principal axes: T 0.9200, Plg10.0000°, Azm105.0000°; N 0.0400, Plg15.0000°, Azm12.0000°; P -0.9600, Plg72.0000°, Azm228.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*THE **24** 03:32:51.9, 34°.94N×26°.19E, h9km, ML4.4/17 Error ellipse: s-maj=1.1km s-min=0.6km az=338.0*
*ATH **24** 03:32:51.7, 35°.06N×26°.23E, h27km, ML4.2/41, Error ellipse: s-maj=1.4km s-min=0.5km az=170.0*
*NEIC **24** 03:32:52.0±1.8, 34°.94N±0°.07×26°.22E±0°.07, h33km±4km*
*HLW **24** 03:32:53.2, 34°.85N×26°.45E, h19km±8km, Md4.1, Ml4.6*
*GII **24** 03:32:54.1±0.0, 34°.68N×26°.53E, h20km, mb4.4/5, MD4.2/5*

ISC 24 03:32:50.6±0.6, 34°.84N±0°.03×26°.25E±0°.02, h21km±2km, n532, σ1°.60/621, mb4.4/44, MS3.7/9, 36C-15D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	Zakros 279µm,0.5s	0.28	355	P	Pb	03 32 56.1	-0.9
ZKR				S	Sb	03 32 59.6	-1.8
ZKR	Zakros	0.28	355	P	Pb	03 32 56.0	-0.9
ZKR				S	Sb	03 32 59.7	-1.7
ZKR				AML	AML	03 33 00.5	
ZKR				AML	AML	03 33 00.8	
ZKR	Zakros	0.28	355	P	Pb	03 32 56.0	-0.9
ZKR				S	Sb	03 32 59.5	-2.0
ZKR				AML	AML	03 32 59.9	
ZKR	880nm,0.5s			AML	AML	03 32 59.9	
STIA	880nm,0.5s Sitia Lasithi	0.39	340	P	Pb	03 32 57.6	-1.0
STIA				S	Sb	03 33 02.1	-1.9
FRMA	Ierapetra Chan 51µm,0.4s	0.46	293	P	Pb	03 32 58.2	-1.7
FRMA				S	Sb	03 33 03.4	-2.8
NPS	Neapolis 65µm,0.6s	0.67	309

SIVA	**Sivas**	**1.20**	**279**		P		**Pb**	**03 33 12.7**	**+0.3**
SIVA					S		**Sn**	**03 33 29.2**	**+1.6**
SIVA					AML		AML	03 33 40.2	
	comp=N,47122µm,0.6s								
SIVA					AML		AML	03 33 42.6	
	comp=E,79459µm,0.7s								
IDI	**Anoyia**	**1.20**	**292**		Pg		**Pn**	**03 33 12.0**	**-0.2**
	comp=E,273nm,0.3s,baz=147,slow=10,SNR=1169								
IDI					Lg			03 33 28.1	
	comp=E,953nm,0.3s,baz=356,slow=15,SNR=17								
IDI					LR		LR	03 33 57.3	
	comp=E,3µm,19.4s,baz=35,slow=59								
IDI	**Anoyia**	**1.20**	**292**		P		**Pb**	**03 33 13.2**	**+0.6**
IDI					S		**Sn**	**03 33 28.7**	**+0.8**
IDI					AML		AML	03 33 43.3	
	comp=N,28535µm,0.7s								
IDI					AML		AML	03 33 43.8	
	comp=E,20003µm,0.6s								
IDI	**Anoyia**	**1.20**	**292**		PN		**Pn**	**03 33 11.7**	**-0.5**
TMBK	**Timbaki Herakl**	**1.24**	**281**		P		**Pb**	**03 33 13.0**	**-0.2**
TMBK					S		**Sb**	**03 33 29.6**	**+0.8**
	comp=E,11µm,0.8s								
SANT	**Santorini**	**1.66**	**337**		P		**Pn**	**03 33 18.0**	**-0.5**
SANT					S		**Sn**	**03 33 37.7**	**-1.5**
	comp=E,9µm,0.4s								
SANT	**Santorini**	**1.66**	**337**		P		**Pn**	**03 33 18.0**	**-0.5**
SANT					S		**Sn**	**03 33 38.0**	**-1.2**
SANT					AML		AML	03 33 41.8	
	comp=N,9813µm,0.5s								
SANT					AML		AML	03 33 43.5	
	comp=E,26599µm,0.3s								
SANT	**Santorini**	**1.66**	**337**		P		**Pn**	**03 33 18.2**	**-0.3**
SANT	**Santorini**	**1.66**	**337**	⇑	S		**Sb**	**03 33 40.3**	**-0.6**
SANT					AML		AML	03 33 41.8	
SANT	**Santorini**	**1.66**	**337**		PN		**Pn**	**03 33 18.5**	**0.0**
SANT	**Santorini**	**1.66**	**337**				**Pn**	**03 33 17.9**	**-0.5**
SAP1	**Santorini-Akro**	**1.67**	**336**		P		**Pn**	**03 33 18.1**	**-0.5**
SAP1					S		**Sn**	**03 33 39.9**	**+0.6**
	comp=E,32µm,1.0s								
SAP2K	**Karterados**	**1.70**	**338**		P		**Pn**	**03 33 18.8**	**-0.2**
SAP2K					S		**Sn**	**03 33 39.4**	**-0.7**
	comp=E,42µm,0.6s								
SFIR	**Foira Santorin**	**1.72**	**337**		P		**Pn**	**03 33 18.9**	**-0.3**
SFIR					S		**Sn**	**03 33 41.0**	**+0.5**
	comp=E,28µm,0.5s								
THT2	**Imerovigli**	**1.73**	**337**		P		**Pn**	**03 33 19.3**	**-0.1**
THT2					S		**Sn**	**03 33 40.8**	**-0.1**
	comp=E,13µm,0.6s								
THT2	**Imerovigli**	**1.73**	**337**		PN		**Pn**	**03 33 19.3**	**-0.1**
VAM	**Vamos**	**1.77**	**289**		P		**Pb**	**03 33 21.4**	**-0.9**
VAM	**Vamos**	**1.77**	**289**		P		**Pb**	**03 33 21.4**	**-0.9**
VAM					S		**Sb**	**03 33 43.7**	**-0.4**
VAM	**Vamos**	**1.77**	**289**		P		**Pb**	**03 33 22.3**	**-0.1**
VAM					S		**Sb**	**03 33 43.8**	**-0.4**
VAM					AML		AML	03 33 53.4	
	comp=N,22356µm,0.5s								
VAM					AML		AML	03 33 54.1	
	comp=E,19105µm,0.6s								
GVD	**Gavdhos**	**1.78**	**271**		P		**Pb**	**03 33 23.1**	**+0.7**
GVD					AML		AML	03 34 12.0	
	comp=E,13879µm,1.3s								
GVD					AML		AML	03 34 13.2	
	comp=N,11680µm,0.9s								
NISR	**Nisiros**	**1.91**	**22**		P		**Pn**	**03 33 21.9**	**+0.1**
NISR					S		**Sn**	**03 33 45.1**	**-0.1**
	comp=N,12µm,0.8s								
NISR	**Nisiros**	**1.91**	**22**		P		**Pn**	**03 33 21.9**	**+0.1**
IMMV	**Iera Moni Meta**	**1.96**	**289**		P		**Pb**	**03 33 24.9**	**-0.6**
IMMV					AML		AML	03 33 56.4	
	comp=E,17287µm,0.7s								
IMMV					AML		AML	03 34 08.0	
	comp=N,20433µm,0.7s								
KOSK	**Kos Island**	**2.00**	**17**		PN		**Pn**	**03 33 23.7**	**+0.6**
AMGA	**Amorgos Island**	**2.01**	**352**		P		**Pn**	**03 33 22.7**	**-0.6**
AMGA					S		**Sn**	**03 33 48.0**	**+0.2**
	comp=N,6µm,0.6s								
AMGA	**Amorgos Island**	**2.01**	**352**		P		**Pn**	**03 33 22.6**	**-0.6**
AMGA					AML		AML	03 33 57.1	
	comp=N,12416µm,0.5s								
AMGA					AML		AML	03 33 58.9	
	comp=E,11973µm,0.5s								
IOSP	**Ios island**	**2.04**	**338**		P		**Pn**	**03 33 23.1**	**-0.5**
IOSP					S		**Sn**	**03 33 47.1**	**-1.3**
	comp=E,7µm,0.6s								
IOSP	**Ios island**	**2.04**	**338**		P		**Pn**	**03 33 23.1**	**-0.5**
IOSP					AML		AML	03 33 50.7	
	comp=E,15951µm,0.5s								
IOSP					AML		AML	03 33 52.2	
	comp=N,13396µm,0.7s								
ARG	**Arkhangelos**	**2.06**	**48**		P		**Pb**	**03 33 26.1**	**-1.1**
ARG	**Arkhangelos**	**2.06**	**48**		P		**Pb**	**03 33 26.0**	**-1.1**
ARG	**Arkhangelos**	**2.06**	**48**		P		**Pn**	**03 33 25.1**	**+1.2**
ARG					S		**Sn**	**03 33 48.7**	**-0.3**
ARG					AML		AML	03 34 02.2	
	comp=E,9915µm,0.5s								
ARG					AML		AML	03 34 03.9	
	comp=N,10186µm,0.7s								
ARG	**Arkhangelos**	**2.06**	**48**		PN		**Pb**	**03 33 25.7**	**-1.5**
ARG	**Arkhangelos**	**2.06**	**48**		P		**Pb**	**03 33 25.9**	**-1.3**
ARG					S		**Sb**	**03 33 51.2**	**-1.1**
DAT	**Datca**	**2.17**	**29**	*i*	PA		**Pn**	**03 33 26.1**	**+0.4**
DAT					IAML			03 33 31.0	
	comp=Z,210nm,0.5s								
DAT				*i*	S		**Sb**	**03 33 57.0**	**+1.2**
DAT					IAML			03 34 08.0	
	comp=N,448nm,0.6s								
DAT					IAML			03 34 08.0	
	comp=E,291nm,0.7s								
DAT	**Datca**	**2.17**	**29**		PN		**Pn**	**03 33 26.0**	**+0.4**
APE	**Apeiranthos**	**2.30**	**346**		P		**Pn**	**03 33 26.6**	**-0.7**
APE					S		**Sn**	**03 33 54.7**	**-0.3**
	comp=E,2µm,0.5s								
APE	**Apeiranthos**	**2.30**	**346**	*ce*	P		**Pn**	**03 33 26.6**	**-0.7**
APE	**Apeiranthos**	**2.30**	**346**		P		**Pn**	**03 33 26.7**	**-0.6**
APE					S		**Sn**	**03 33 53.0**	**-2.0**
APE					AML		AML	03 33 56.8	
	comp=N,4097µm,0.6s								
APE					AML		AML	03 34 06.6	
	comp=E,5002µm,0.4s								
APE	**Apeiranthos**	**2.30**	**346**	⇑	P		**Pn**	**03 33 26.9**	**-0.5**
APE				⇑	S		**Sn**	**03 33 56.2**	**+1.1**
APE					AML		AML	03 34 06.8	
APE	**Apeiranthos**	**2.30**	**346**		PN		**Pn**	**03 33 27.1**	**-0.2**
APE	**Apeiranthos**	**2.30**	**346**		P		**Pn**	**03 33 27.0**	**-0.2**
APE					S		**Sn**	**03 33 55.1**	**+0.1**
BODT	**Bodrum**	**2.38**	**21**		P		**Pn**	**03 33 28.5**	**+0.1**
BODT	**Bodrum**	**2.38**	**21**		PN		**Pn**	**03 33 28.9**	**+0.5**
MHLO	**Agia Marina, M**	**2.38**	**321**		P		**Pn**	**03 33 29.0**	**+0.7**
MHLO					AML		AML	03 34 15.3	
	comp=E,24153µm,1.1s								
MHLO					AML		AML	03 34 20.9	
	comp=N,23694µm,0.6s								
MHLA	**Plaka, Milos I**	**2.41**	**323**		P		**Pn**	**03 33 29.2**	**+0.4**
MHLA					AML		AML	03 34 12.9	
	comp=E,11476µm,1.4s								
MHLA					AML		AML	03 34 25.6	
	comp=N,16025µm,1.3s								
MRSB	**Marmaris-Mugla**	**2.45**	**40**		PN		**Pn**	**03 33 30.5**	**+1.1**
ANKY	**Antikythira Is**	**2.62**	**294**		P		**Pn**	**03 33 33.4**	**+1.8**
ANKY	**Antikythira Is**	**2.62**	**294**		P		**Pn**	**03 33 33.6**	**+1.9**
ANKY					AML		AML	03 34 20.0	
	comp=E,5500µm,0.7s								
ANKY					AML		AML	03 34 20.7	
	comp=N,4686µm,0.8s								
SERI	**Serifos**	**2.72**	**329**		P		**Pn**	**03 33 33.0**	**-0.1**
SERI					AML		AML	03 34 23.2	
	comp=N,2294µm,0.8s								
SERI					AML		AML	03 34 24.1	
	comp=E,1552µm,0.6s								
TURN	**Turunc**	**2.79**	**43**	*i*	PA		**Pn**	**03 33 31.4**	**-2.5**
TURN				*i*	S		**Sn**	**03 34 04.9**	**-2.1**
TURN					IAML			03 34 06.0	
	comp=N,826nm,0.5s								
TURN					IAML			03 34 08.0	
	comp=E,570nm,0.5s								
TURN	**Turunc**	**2.79**	**43**		PN		**Pn**	**03 33 31.5**	**-2.5**
YER	**Yerkesik**	**2.82**	**35**		P		**Pn**	**03 33 35.9**	**+1.4**
YER	**Yerkesik**	**2.82**	**35**		P		**Pn**	**03 33 36.2**	**+1.7**
YER	**Yerkesik**	**2.82**	**35**		PN		**Pn**	**03 33 35.8**	**+1.3**
SMG	**Samos**	**2.90**	**9**		P		**Pn**	**03 33 35.7**	**+0.1**
SMG					S		**Sn**	**03 34 09.6**	**-0.2**
SMG	**Samos**	**2.90**	**9**		P		**Pn**	**03 33 34.9**	**-0.6**
FETY	**Fethiye**	**2.92**	**51**		P		**Pn**	**03 33 36.8**	**+1.0**
FETY	**Fethiye**	**2.92**	**51**	*i*	PA		**Pn**	**03 33 37.0**	**+1.2**
FETY				*i*	S		**Sb**	**03 34 17.7**	**+0.5**
FETY					IAML			03 34 34.0	
	comp=E,361nm,0.7s								
FETY					IAML			03 34 35.0	
	comp=N,405nm,0.6s								
FETY	**Fethiye**	**2.92**	**51**		PN		**Pn**	**03 33 36.8**	**+1.0**
KTHA	**Kythira Island**	**2.96**	**299**		P		**Pn**	**03 33 37.6**	**+1.3**
KTHA	**Kythira Island**	**2.96**	**299**		P		**Pn**	**03 33 37.5**	**+1.2**
KTHA					AML		AML	03 34 33.0	
	comp=N,3440µm,1.0s								
KTHA					AML		AML	03 34 34.9	
	comp=E,5015µm,0.8s								
GCAM	**G?zelcaml?**	**2.96**	**15**	*i*	P		**Pn**	**03 33 37.1**	**+0.8**
GCAM					IAML			03 34 32.0	
	comp=N,387nm,0.6s								
GCAM					IAML			03 34 32.0	
	comp=E,405nm,1.1s								
GCAM	**G?zelcaml?**	**2.96**	**15**		PN		**Pn**	**03 33 37.9**	**+1.5**
KTHR	**Kythira**	**3.00**	**299**		P		**Pn**	**03 33 38.2**	**+1.3**
KSL	**Kastellorizon**	**3.02**	**63**		P		**Pn**	**03 33 38.4**	**+1.2**
KSL	**Kastellorizon**	**3.02**	**63**		P		**Pn**	**03 33 38.6**	**+1.5**
AKAS	**Kas**	**3.07**	**62**	*i*	P		**Pn**	**03 33 39.3**	**+1.4**
AKAS					S		**Sn**	**03 34 16.2**	**+2.1**
AKAS					IAML			03 34 18.0	
	comp=N,380nm,0.8s								
AKAS					IAML			03 34 26.0	
	comp=E,272nm,0.6s								
AKAS	**Kas**	**3.07**	**62**		PN		**Pn**	**03 33 39.5**	**+1.5**
AYDN	**Tasoluk**	**3.11**	**25**	*i*	PA		**Pn**	**03 33 40.2**	**+1.7**
AYDN				*i*	S		**Sb**	**03 34 19.5**	**-3.2**
AYDN					IAML			03 34 40.0	
	comp=N,356nm,0.7s								
AYDN					IAML			03 34 50.0	
	comp=E,279nm,0.8s								
DGB	**zmir**	**3.25**	**9**	*i*	PA		**Pn**	**03 33 41.0**	**+0.7**
DGB				*i*	S		**Sn**	**03 34 17.4**	**-0.8**
DGB					IAML			03 34 43.0	
	comp=E,246nm,0.8s								
DGB					IAML			03 34 46.0	
	comp=N,197nm,0.7s								
AYDB	**Zeytinkoy-Aydi**	**3.37**	**23**		PN		**Pn**	**03 33 43.4**	**+1.3**
TAVA	**DENIZLI_Tavas**	**3.39**	**39**	*i*	P		**Pn**	**03 33 43.6**	**+1.2**
TAVA				*i*	S		**Sb**	**03 34 28.0**	**-2.9**
TAVA					IAML			03 34 38.0	
	comp=N,328nm,0.8s								
TAVA					IAML			03 34 45.0	
	comp=E,352nm,0.8s								
SLUM	**Salum**	**3.45**	**195**		P		**Pn**	**03 33 46.4**	**+3.3**
	baz=198								
GLHS	**Glhisar (BURDU**	**3.51**	**48**		PN		**Pn**	**03 33 45.5**	**+1.6**
KARY	**Karystos**	**3.51**	**336**		P		**Pn**	**03 33 43.8**	**0.0**
URLA	**Izmir**	**3.53**	**4**	*i*	PA		**Pn**	**03 33 43.2**	**-0.9**
URLA				*i*	S		**Sn**	**03 34 25.7**	**+0.5**
URLA					IAML			03 34 48.0	
	comp=E,241nm,0.9s								
URLA					IAML			03 34 58.0	
	comp=N,203nm,0.8s								
URLA	**Izmir**	**3.53**	**4**		PN		**Pn**	**03 33 44.1**	**0.0**
ELL	**Elmali**	**3.53**	**56**		P		**Pn**	**03 33 46.4**	**+2.1**
ELL	**Elmali**	**3.53**	**56**		PN		**Pn**	**03 33 46.5**	**+2.1**
ELL	**Elmali**	**3.53**	**56**		P		**Pn**	**03 33 46.4**	**+2.1**
ELL	**Elmali**	**3.53**	**56**				**Pn**	**03 33 46.4**	**+2.1**
CHOS	**Chios island**	**3.54**	**358**		P		**Pn**	**03 33 44.2**	**-0.2**
CHOS	**Chios island**	**3.54**	**358**		P		**Pn**	**03 33 43.9**	**-0.6**
CHOS					AML		AML	03 34 29.6	
	comp=N,1107µm,0.6s								
CHOS					AML		AML	03 34 31.9	
	comp=E,1430µm,0.5s								
CHOS	**Chios island**	**3.54**	**358**		PN		**Pn**	**03 33 44.6**	**+0.2**
KRND	**KRANIDI**	**3.57**	**316**		P		**Pn**	**03 33 46.3**	**+1.6**
KRND					S		**Sn**	**03 34 24.7**	**-1.5**
	comp=E,1µm,1.0s								
KRND	**KRANIDI**	**3.57**	**316**		P		**Pn**	**03 33 45.9**	**+1.2**
KRND					AML		AML	03 34 36.7	
	comp=N,2311µm,0.6s								
KRND					AML		AML	03 34 40.1	
	comp=E,2582µm,0.8s								
MATC	**Matruh**	**3.58**	**166**		P		**Pn**	**03 33 47.2**	**+2.4**
	baz=169								
GOLH	**Golhisar**	**3.60**	**47**	*i*	PA		**Pn**	**03 33 47.2**	**+2.0**
GOLH				*i*	S		**Sb**	**03 34 35.5**	**-1.2**
GOLH					IAML			03 34 46.0	
	comp=N,658nm,0.7s								
BLCB	**Balcova**	**3.60**	**10**		PN		**Pn**	**03 33 45.8**	**+0.7**
DID	**Didima**	**3.61**	**318**		P		**Pn**	**03 33 46.2**	**+0.9**
DID	**Didima**	**3.61**	**318**		P		**Pn**	**03 33 45.9**	**+0.6**
DID					AML		AML	03 34 41.9	
	comp=N,1771µm,0.6s								
DID					AML		AML	03 34 45.2	
	comp=E,1819µm,0.6s								
AKUM	**Antalya-Kumluc**	**3.65**	**65**	*i*	PA		**Pn**	**03 33 47.0**	**+1.2**
AKUM					IAML			03 34 39.0	
	comp=E,169nm,0.5s								
AKUM					IAML			03 34 43.0	
	comp=N,170nm,0.6s								
DENT	**Denizli**	**3.68**	**37**		PN		**Pn**	**03 33 48.1**	**+1.9**
ATHU	**Athens Univers**	**3.70**	**328**		P		**Pn**	**03 33 47.3**	**+0.8**
ATHU					AML		AML	03 34 50.2	
	comp=N,464µm,0.8s								
ATHU					AML		AML	03 34 51.4	
	comp=E,456µm,1.0s								
DYR	**Agios Nikonas**	**3.72**	**302**		P		**Pn**	**03 33 48.9**	**+2.1**
DYR					AML		AML	03 34 48.8	
	comp=N,701µm,1.0s								
DYR					AML		AML	03 34 54.6	
	comp=E,549µm,1.0s								
PTL	**Penteli**	**3.74**	**330**		P		**Pn**	**03 33 47.8**	**+0.8**
PTL					AML		AML	03 34 50.7	
	comp=E,1556µm,1.1s								
PTL					AML		AML	03 34 56.6	
	comp=N,962µm,0.8s								
KRBN	**Karaburun**	**3.76**	**4**		PN		**Pn**	**03 33 47.6**	**+0.3**
KORT	**Korkueli**	**3.97**	**56**	*i*	PA		**Pn**	**03 33 52.4**	**+2.1**
KORT				*i*	S		**Sn**	**03 34 38.7**	**+2.5**
KORT					IAML			03 34 58.0	
	comp=E,348nm,0.6s								
KORT					IAML			03 35 16.0	
	comp=N,306nm,1.0s								
KORT	**Korkueli**	**3.97**	**56**		PN		**Pn**	**03 33 52.5**	**+2.2**
VLX	**Vlachokerasia**	**4.03**	**310**		P		**Pn**	**03 33 51.9**	**+0.9**
VLX					AML		AML	03 34 45.3	
	comp=E,2520µm,0.8s								
VLX					AML		AML	03 34 52.8	
	comp=N,2426µm,0.6s								
EREA	**Eretria**	**4.03**	**333**		P		**Pn**	**03 33 52.2**	**+1.1**
EREA	**Eretria**	**4.03**	**333**		P		**Pn**	**03 33 51.2**	**+0.1**
MANT	**Manisa**	**4.09**	**26**	*i*	P		**Pn**	**03 33 53.3**	**+1.2**
MANT	**Manisa**	**4.09**	**26**				**Pn**	**03 33 52.0**	**-0.1**
LOUT	**Loutraki**	**4.11**	**321**		P		**Pn**	**03 33 53.4**	**+1.3**
LOUT	**Loutraki**	**4.11**	**321**		P		**Pn**	**03 33 53.2**	**+1.2**
LOUT					AML		AML	03 34 58.3	
	comp=E,217µm,0.6s								
LOUT					AML		AML	03 34 59.8	
	comp=N,216µm,0.6s								
LTK	**Loutraki**	**4.13**	**321**		P		**Pn**	**03 33 53.8**	**+1.3**
LTK	**Loutraki**	**4.13**	**321**		P		**Pn**	**03 33 53.7**	**+1.3**
LTK					AML		AML	03 34 53.5	
	comp=E,1466µm,0.7s								
LTK					AML		AML	03 34 55.9	
	comp=N,1354µm,1.5s								
VIL2	**Platees**	**4.13**	**325**		P		**Pn**	**03 33 53.3**	**+0.8**
VIL2					AML		AML	03 34 53.7	
	comp=N,1031µm,0.9s								
VIL2					AML		AML	03 35 07.3	
	comp=E,1588µm,1.1s								
ZEDA	**zmir-Bergama**	**4.17**	**9**	*i*	P		**Pn**	**03 33 53.1**	**+0.1**
ZEDA				*i*	S		**Sn**	**03 34 40.0**	**-1.1**
ZEDA					IAML			03 34 43.0	
	comp=N,112nm,0.5s								
ZEDA					IAML			03 35 08.0	
	comp=E,78nm,0.7s								
BRDR	**BURDUR-Merkez**	**4.20**	**46**	*i*	P		**Pn**	**03 33 54.5**	**+1.0**
BRDR				*i*	S		**Sn**	**03 34 45.7**	**+3.8**
BRDR					IAML			03 35 12.0	
	comp=N,129nm,0.9s								
BRDR					IAML			03 35 16.0	
	comp=E,170nm,0.9s								
ITM	**Ithomi**	**4.21**	**305**		P		**Pn**	**03 33 55.0**	**+1.5**
ITM	**Ithomi**	**4.21**	**305**		P		**Pn**	**03 33 54.7**	**+1.1**
ITM	**Ithomi**	**4.21**	**305**				**Pn**	**03 33 54.7**	**+1.1**
AKHS	**Akhisar**	**4.22**	**17**	*i*	P		**Pn**	**03 33 54.8**	**+1.1**
DKL	**Dikili**	**4.26**	**7**		PN		**Pn**	**03 33 54.3**	**+0.2**
THAL	**Thalero**	**4.31**	**319**		P		**Pn**	**03 33 56.3**	**+1.5**
THAL					AML		AML	03 35 04.8	
	comp=N,3054µm,0.7s								
THAL					AML		AML	03 35 07.7	
	comp=E,4040µm,0.8s								
BASM	**Basmaki-Afyon**	**4.34**	**44**		PN		**Pn**	**03 33 55.9**	**+0.5**
PROD	**Prodromos**	**4.35**	**323**		P		**Pn**	**03 33 56.4**	**+1.0**
PROD					AML		AML	03 35 00.0	
	comp=E,846µm,0.7s								
PROD					AML		AML	03 35 01.9	
	comp=N,824µm,0.8s								
SIGR	**SIGRI**	**4.38**	**356**		P		**Pn**	**03 33 55.3**	**-0.5**
SIGR					AML		AML	03 34 48.0	
	comp=N,442µm,0.6s								
SIGR					AML		AML	03 35 10.6	
	comp=E,450µm,0.7s								
KHAL	**Karahalli**	**4.38**	**36**	*i*	P		**Pn**	**03 33 56.8**	**+0.7**
KHAL					IAML			03 34 53.0	
	comp=N,58nm,0.5s								
KHAL					IAML			03 34 53.0	
	comp=E,71nm,0.5s								
PRK	**Paraskevi**	**4.40**	**0**		P		**Pn**	**03 33 56.4**	**+0.3**
PRK					AML		AML	03 35 28.5	
	comp=E,1099µm,0.8s								
PRK					AML		AML	03 35 30.3	
	comp=N,611µm,0.8s								
MRKA	**Markates**	**4.41**	**332**		P		**Pn**	**03 33 56.8**	**+0.5**
USAK	**Uak-Merkez**	**4.46**	**29**	*i*	PA		**Pn**	**03 33 58.3**	**+1.3**
AMT	**Artemida-Makis**	**4.55**	**308**		P		**Pn**	**03 33 59.8**	**+1.6**
KLV	**Kalavryta, Ach**	**4.60**	**315**		P		**Pn**	**03 33 59.5**	**+0.6**
KLV					AML		AML	03 35 02.2	
	comp=N,1099µm,1.4s								
KLV					AML		AML	03 35 15.0	
	comp=E,810µm,1.0s								
DEMI	**Demirci**	**4.64**	**24**	*i*	P		**Pn**	**03 34 00.6**	**+1.1**
DEMI				*i*	S		**Sn**	**03 34 51.9**	**-0.8**
STEP	**BALIKESIR_Sava**	**4.68**	**14**	*i*	P		**Pn**	**03 34 01.1**	**+1.2**
AOS	**Alonnisos**	**4.72**	**337**		P		**Pn**	**03 34 01.1**	**+0.6**
DRO	**Drossia**	**4.80**	**312**		P		**Pn**	**03 34 03.1**	**+1.4**
DRO	**Drossia**	**4.80**	**312**		P		**Pn**	**03 34 02.9**	**+1.2**
DRO					AML		AML	03 35 14.9	
	comp=N,1366µm,0.6s								
DRO					AML		AML	03 35 17.2	
	comp=E,1717µm,0.6s								
KEPZ	**Antalya-Kepez**	**4.81**	**63**	*i*	PA		**Pn**	**03 34 03.4**	**+1.6**
KEPZ				*i*	S		**Sn**	**03 34 55.5**	**-1.4**
KEPZ					IAML			03 35 07.0	
	comp=E,111nm,0.7s								
KEPZ					IAML			03 35 18.0	
	comp=N,90nm,0.8s								
BAGO	**Egridir - ISPA**	**4.83**	**48**	*i*	P		**Pn**	**03 34 03.5**	**+1.4**
BAGO				*i*	S		**Sn**	**03 34 59.7**	**+2.4**
BAGO					IAML			03 35 35.0	
	comp=N,33nm,2.0s								
BAGO					IAML			03 35 53.0	
	comp=E,39nm,2.0s								
KALE	**Kalithea**	**4.85**	**318**		P		**Pn**	**03 34 03.2**	**+0.9**
KALE	**Kalithea**	**4.85**	**318**		P		**Pn**	**03 34 03.2**	**+0.9**
KALE					AML		AML	03 35 22.0	
	comp=N,734µm,1.1s								
KALE					AML		AML	03 35 27.3	
	comp=E,725µm,1.2s								
SKIA	**Skiathos**	**4.86**	**334**		P		**Pn**	**03 34 03.6**	**+1.2**
SKIA					AML		AML	03 35 37.5	
	comp=N,431µm,1.5s								
SKIA					AML		AML	03 35 43.2	
	comp=E,527µm,1.1s								
AXAR	**Agios Charalam**	**4.86**	**325**		P		**Pn**	**03 34 03.6**	**+1.1**
AXAR					AML		AML	03 35 23.6	
	comp=E,2464µm,1.2s								
AXAR					AML		AML	03 35 25.8	
	comp=N,2217µm,1.6s								
TRIZ	**Trizonia**	**4.87**	**318**		P		**Pn**	**03 34 03.4**	**+0.9**
BAYC	**CANAKKALE_Bayr**	**4.90**	**3**	*i*	P		**Pn**	**03 34 02.5**	**-0.5**
SERG	**Sergoula**	**4.91**	**318**		P		**Pn**	**03 34 03.7**	**+0.5**
SERG					AML		AML	03 35 19.1	
	comp=E,506µm,0.7s								
SERG					AML		AML	03 35 20.5	
	comp=N,732µm,0.6s								
GDZ	**Gediz**	**4.97**	**30**	*i*	P		**Pn**	**03 34 04.9**	**+0.8**
EZN	**Ezine**	**4.98**	**1**		P		**Pn**	**03 34 04.0**	**0.0**
EZN	**Ezine**	**4.98**	**1**		P		**Pn**	**03 34 05.4**	**+1.4**
EZN	**Ezine**	**4.98**	**1**	⇑	P		**Pn**	**03 34 05.4**	**+1.4**
EZN					AML		AML	03 35 53.2	
BOZC	**Bozcaada**	**5.00**	**358**	*i*	P		**Pn**	**03 34 03.9**	**-0.4**
EFP	**Efpalio**	**5.00**	**317**		P		**Pn**	**03 34 05.4**	**+1.0**
EFP					AML		AML	03 35 34.0	
	comp=N,803µm,0.9s								
EFP					AML		AML	03 35 34.5	
	comp=E,800µm,1.2s								
AKMS	**Akamas**	**5.00**	**86**		P		**Pn**	**03 34 04.8**	**+0.3**
AKMS					AML		AML	03 35 07.7	
	comp=E,3.2nm,0.5s								
AKMS					AML		AML	03 35 10.1	
	comp=E,2.6nm,0.7s								
BALY	**Balya**	**5.01**	**12**	*i*	P		**Pn**	**03 34 05.7**	**+1.1**
RLS	**Riolos of Patr**	**5.02**	**311**		P		**Pn**	**03 34 05.

ALN Alexandroupoli 6.05 359 P Pn 03 34 18.2 -0.6
ALN Alexandroupoli 6.05 359 Pn 03 34 18.2 -0.6
MVOU Mavrovouni 6.07 86 P Pn 03 34 20.3 +1.3
GULN MERSIN_Gulnar 6.10 75 *i* P Pn 03 34 20.1 +0.6
GULN *i* S Sn 03 35 26.2 -2.4
GULN IAML 03 35 31.0
comp=E,92nm,0.6s
GULN IAML 03 35 40.0
comp=N,64nm,0.6s
THE Thessaloniki 6.34 337 P Pn 03 34 24.9 +2.1
THE pmax pmax
comp=Z,45nm,0.9s
HNAT Natroun 6.37 143 P Pn 03 34 25.1 +1.8
baz=144
HNAT AMP 03 35 00.0
baz=144
SOH Sokhos 6.40 340 P Pn 03 34 25.6 +2.0
SOH pmax pmax
comp=Z,24nm,1.1s
EREN Erenkoy 6.52 82 *i* P Pn 03 34 27.2 +1.9
EREN *i* S Sn 03 35 36.0 -3.0
EREN IAML 03 35 53.0
comp=E,158nm,0.6s
EREN IAML 03 36 06.0
comp=N,136nm,0.9s
KIZK Mersin 6.63 73 *i* P Pn 03 34 27.9 +1.1
KIZK *i* S Sn 03 35 38.2 -3.5
IGT Igoumenitsa 6.65 317 P Pn 03 34 29.0 +2.0
IGT pmax pmax
comp=Z,31nm,0.9s
KOT Kottamia 6.80 135 P Pn 03 34 31.0 +1.8
baz=135
KOT AMP 03 35 00.0
baz=135
GRG Griva 6.82 335 P Pn 03 34 31.3 +1.9
GRG pmax pmax
comp=Z,56nm,1.2s
KNT Kendrikon 6.84 338 P Pn 03 34 32.1 +2.4
KNT pmax pmax
comp=Z,58nm,0.9s
KERG Konya-Eregli 6.87 66 *i* P Pn 03 34 31.2 +1.0
KERG *i* S Sn 03 35 41.2 -6.7
HHAG Hagoal 6.94 133 P Pn 03 34 32.8 +1.7
baz=134
RZN Rozhen 6.94 350 P Pn 03 34 33.4 +2.2
MMB Musomiste 7.03 344 P Pn 03 34 33.6 +1.4
FNA Florina 7.08 328 P Pn 03 34 32.9 0.0
FNA Florina 7.08 328 Pn 03 34 32.9 0.0
BR231 Keskin MP Arra 7.21 44 Pn 03 34 35.7 +1.0
ANTO Ankara 7.24 44 P Pn 03 34 34.7 -0.4
ANTO Ankara 7.24 44 ⇑P Pn 03 34 36.2 +1.1
ANTO Ankara 7.24 44 Pn 03 34 34.7 -0.4
PLD Plovdiv 7.36 351 P Pn 03 34 38.6 +1.9
PLD pmax pmax
comp=Z,3.0nm,1.2s
KKB Krupnik 7.44 341 P Pn 03 34 42.0 +4.1
OFRI Ofer 7.61 104 Pn Pn 03 34 41.4 +1.2
BR131 Keskin Array S 7.65 48*c* *i* P Pn 03 34 41.2 +0.4
BR131 Keskin Array S 7.65 48 Pn 03 34 41.1 +0.2
BRTR Keskin Array B 7.65 48 *i* P Pn 03 34 41.2 +0.4
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 7.65 48 Pn Pn 03 34 41.3 +0.4
comp=Z,0.4nm,0.3s,baz=236,slow=15,SNR=21
BRTR Sn Sn 03 36 06.7 -0.2
comp=Z,0.1nm,0.3s,baz=246,slow=20,SNR=2.2
BRTR LR LR 03 38 41.2
comp=Z,212nm,19.1s,baz=208,slow=47
ZAF Zafarana 7.70 134 P Pn 03 34 43.1 +1.7
baz=135
SLTI Sal'it 7.78 107 Pn Pn 03 34 43.2 +0.6
DQRL Deir Qamar 7.80 96 *e*P Pn 03 34 39.8 -3.1
MMA0B Mount Meron ar 7.82 101 Pn Pn 03 34 44.0 +0.8
MMAI Mount Meron Ar 7.82 101 Pn Pn 03 34 43.0 -0.3
comp=Z,17nm,0.3s,baz=275,slow=11,SNR=49
MMAI Sn Sn 03 36 11.5 +0.3
comp=Z,7.4nm,0.3s,baz=312,slow=24,SNR=6.5
MMAI LR LR 03 39 30.9
comp=Z,267nm,20.7s,baz=320,slow=52
ZNM Zenema 7.83 132 P Pn 03 34 45.0 +1.8
baz=133
HFRF Wahat Farafira 7.87 166 P Pn 03 34 46.4 +2.7
baz=167
HFRF AMP 03 36 00.0
baz=167
KZIT Kziot 7.89 118 Pn Pn 03 34 44.4 +0.2
KZIT Sn Sn 03 36 10.4 -2.5
KZIT Kziot 7.89 118 P Pn 03 34 43.2 -0.9
comp=Z,202nm,0.9s,comp=Z,1.4nm
QRWL Qaraoun 7.92 97 *e*P Pn 03 34 43.7 -0.9
AMAZ Amatzia 7.98 112 Pn Pn 03 34 45.4 +0.1
AMAZ Sn Sn 03 36 12.3 -2.6
AMAZ Amatzia 7.98 112 P Pn 03 34 45.7 +0.4
comp=Z,112nm,0.9s,comp=Z,1.1nm
AMAZ Amatzia 7.98 112 P Sn 03 36 13.0 -1.9
GEM Giv'at Ha'Em 7.98 99 Pn Pn 03 34 45.3 0.0
KSDI Kefar Szold 7.98 99 Pn Pn 03 34 45.5 +0.2
KSDI Kefar Szold 7.98 99 P Pn 03 34 46.2 +0.9
comp=Z,157nm,0.7s,comp=Z,0.5nm
MMLI Mount Malkishu 8.02 105 Pn Pn 03 34 46.3 +0.5
MMLI Sn Sn 03 36 13.7 -2.2
MMLI Mount Malkishu 8.02 105 P Sn 03 36 14.1 -1.8
HWQ Hawqa 8.02 91 *e*P Pn 03 34 46.0 0.0
NATI Neve Ativ 8.03 99 Pn Pn 03 34 45.8 -0.2
RCY Rachaya 8.06 97 *e*P Pn 03 34 45.9 -0.6
ELND Elena 8.08 358 ⇑P Pn 03 34 48.1 +1.4
SCTE Santa Cesarea 8.10 312 Pn 03 34 44.8 -2.1
VTS Vitosha 8.12 344 P Pn 03 34 50.2 +2.9
VTS Vitosha 8.12 344 P Pn 03 34 47.8 +0.5
VTS Vitosha 8.12 344 ⇓P Pn 03 34 48.3 +1.0
VTS Vitosha 8.12 344 Pn 03 34 47.8 +0.5
HMDT Nahal Hemdat 8.16 106 Pn Pn 03 34 48.8 +1.0
HMDT Sn Sn 03 36 18.1 -1.3
TAMRE El Minia 8.18 149 P Pn 03 34 50.1 +2.1
baz=150
SHMJ Saham 8.20 102 P Pn 03 34 48.7 +0.4
comp=Z,166nm,0.6s,comp=Z,0.8nm
SHMJ Saham 8.20 102 P Sn 03 36 21.7 +1.4
YTIR Yattir 8.21 113 Pn Pn 03 34 48.6 +0.1
YTIR Sn Sn 03 36 18.5 -2.1
DSI Dead Sea 8.32 111 Pn Pn 03 34 50.4 +0.5
DSI Sn Sn 03 36 20.9 -2.3
MZDA Masada 8.42 112 Pn Pn 03 34 51.6 +0.3
MZDA Sn Sn 03 36 23.4 -2.2
ILGA Ilgaz 8.56 41 Pn 03 34 53.4 -0.1
KRMI Paran Flat 8.57 121 Pn Pn 03 34 53.4 0.0
KRMI Sn Sn 03 36 25.7 -3.7
PRNI Paran 8.63 119 Pn Pn 03 34 54.7 +0.4
PRNI Sn Sn 03 36 28.3 -2.8
WALJ Wala 8.65 110 P Pn 03 34 55.6 +1.1
comp=Z,158nm,0.7s,comp=Z,0.8nm
WALJ Wala 8.65 110 P Sn 03 36 32.0 +0.5
RAZG Razgrad 8.72 1 ⇑P Pn 03 34 56.5 +1.1
MPEP Malo Peshtene 8.73 348 P Pn 03 34 59.7 +4.2
TIP Timpagrande 8.74 302 ⇓P Pn 03 34 54.7 -1.0
TIP Timpagrande 8.74 302 Pn 03 34 54.7 -1.0
HRFI Mount Harif 8.84 120 Pn Pn 03 34 57.6 +0.5
HRFI Sn Sn 03 36 33.4 -2.6
HRFI Mount Harif 8.84 120 P Pn 03 34 56.2 -0.9
comp=Z,85nm,0.8s,comp=Z,0.5nm
HRFI Mount Harif 8.84 120 P Sn 03 36 35.2 -0.8
MBRI Mt Berech 8.89 122 Pn Pn 03 34 59.0 +1.1
MBRI Sn Sn 03 36 34.1 -3.3
EIL Elat 8.99 123 Pn Pn 03 34 59.2 0.0
EIL Sn Sn 03 36 37.1 -2.7
EIL Elat 8.99 123 Pn Pn 03 34 59.5 +0.3
comp=Z,4.2nm,0.3s,baz=294,slow=1.4,SNR=40
EIL Sn Sn 03 36 36.5 -3.3
comp=Z,15nm,0.3s,baz=68,slow=6.2,SNR=7.6
EIL LR LR 03 39 41.5
comp=Z,84nm,20.1s,baz=294,slow=46
EIL Elat 8.99 123 P Pn 03 35 01.0 +1.8
comp=Z,48nm,0.7s
EIL Elat 8.99 123 P Sn 03 36 39.3 -0.5
AQBJ Aqaba 9.02 122 P Pn 03 35 00.5 +0.9
comp=Z,147nm,0.7s
AQBJ Aqaba 9.02 122 P Sn 03 36 39.2 -1.4
CGL1 Ceglie Messapi 9.05 312 ⇑ *i* Pn Pn 03 34 47.4 -13
HSNJ Maan 9.18 117 P Pn 03 35 03.6 +1.7
comp=Z,88nm,0.9s
HSNJ Maan 9.18 117 P Sn 03 36 39.5 -5.2
GAZ Gaziantep 9.18 72 Pn 03 35 02.4 +0.6
DRME Dracevica, Mon 9.19 325 *e*Pn Pn 03 34 59.0 -2.8

MASS Massafra 9.24 311 *e*Pn Pn 03 35 00.1 -2.5
ASF Jabal al Asfar 9.28 104 Pn Pn 03 35 03.3 +0.1
comp=Z,1.4nm,0.3s,baz=251,slow=5.0,SNR=16
ASF Sn Sn 03 36 47.5 +0.5
comp=Z,1.1nm,0.3s,baz=24,slow=20,SNR=4.7
ASF Jabal al Asfar 9.28 104 P Pn 03 35 04.1 +0.9
ICOR Ion Corvin 9.34 7 ⇑P Pn 03 35 06.0 +2.1
PDG Podgorica 9.35 326 *e*Pn Pn 03 35 00.9 -3.1
PDG Podgorica 9.35 326 ⇑P Pn 03 35 01.2 -2.7
PDG ⇑S Sn 03 36 45.0 -3.4
PDG Podgorica 9.35 326 Pn 03 35 01.3 -2.7
BZK Bozkurt 9.36 38 ⇑P Pn 03 35 05.4 +1.3
HDHB Dhahab 9.37 128 P Pn 03 35 06.3 +1.9
baz=129
MATE Matera 9.52 310 ⇑P Pn 03 35 04.0 -2.5
MATE ⇓S Sn 03 36 42.6 -10
SG1 Sgolgore (BA) 9.65 311 ⇑ *i* Pn Pn 03 35 05.5 -2.7
SG1 Sn Sn 03 36 49.1 -6.8
BAI Bari 9.69 313 *e*Pn Pn 03 35 06.2 -2.4
BAI Sn Sn 03 36 53.0 -3.7
TIRR Tirgusor 9.75 9 P Pn 03 35 09.5 0.0
TIRR Tirgusor 9.75 9 ⇑P Pn 03 35 11.1 +1.6
TIRR Tirgusor 9.75 9 Pn 03 35 09.5 0.0
HHRG Al Ghardaqah 9.85 138 P Pn 03 35 15.4 +4.4
baz=139
HARR Harsova 9.92 7 P Pn 03 35 13.4 +1.5
HARR Harsova 9.92 7 ⇑P Pn 03 35 13.4 +1.5
VAE Valguarnera 9.93 289 Pn Pn 03 35 13.1 +1.0
comp=Z,3.5nm,0.3s,baz=154,slow=8.4,SNR=9.4
VAE Sn Sn 03 37 01.7 -1.1
comp=Z,3.2nm,0.3s,baz=221,slow=20,SNR=3.6
TREB Trebinje 9.99 324 *e*Pn Pn 03 35 11.3 -1.5
AKRG Al Kharijah 10.00 157 P Pn 03 35 16.0 +2.9
baz=158
ACER Acerenza 10.08 309 Pn 03 35 11.8 -2.4
UPM Unac-Piva 10.12 328 *e*Pn Pn 03 35 13.6 -1.1
ISR Istrita 10.27 1 P Pn 03 35 20.1 +3.4
ISR pmax pmax
comp=Z,32nm,2.6s
STON Ston 10.42 323 *e*Pn Pn 03 35 05.5 -13
CFR Carcaliu 10.43 7 P Pn 03 35 20.3 +1.5
CFR pmax pmax
comp=Z,10.0nm,0.8s
DIVS Divibare 10.43 334 *e*Pn Pn 03 35 18.8 -0.1
BBLS Lazići 10.45 332 *e*Pn Pn 03 35 20.3 +1.1
MDVR Moldovita 10.52 342 ⇓P Pn 03 35 25.7 +5.5
VOIR 10.63 355 P Pn 03 35 22.2 +0.6
VOIR pmax pmax
comp=Z,11nm,0.9s
VOIR 10.63 355 ⇑P Pn 03 35 22.9 +1.3
MLR Muntele Rosu 10.64 359 P Pn 03 35 21.3 -0.6
MLR Muntele Rosu 10.64 359 Pn Pn 03 35 21.1 -0.7
comp=Z,0.0nm,0.3s,baz=256,slow=12,SNR=3.9
MLR LR LR 03 40 18.7
comp=Z,160nm,19.9s,baz=137,slow=43
MLR Muntele Rosu 10.64 359 ⇑P Pn 03 35 22.3 +0.5
MLR Muntele Rosu 10.64 359 Pn 03 35 21.3 -0.6
BISRR Bisoca 10.70 2 ⇓P Pn 03 35 24.4 +1.8
SGRT San Giovanni R 10.76 313 Pn 03 35 20.5 -2.9
HAPS Han Pijesak,BI 10.82 331 *e*Pn Pn 03 35 18.9 -5.3
GZR Gura Zlata 10.87 347 P Pn 03 35 27.0 +2.1
GZR Gura Zlata 10.87 347 ⇓P Pn 03 35 25.7 +0.7
CLTB Caltabellotta 10.88 288 Pn 03 35 25.2 +0.1
PLOR Plostina 11.01 1 P Pn 03 35 27.3 +0.6
PLOR Plostina 11.01 1 ⇑P Pn 03 35 27.3 +0.6
VRI Vrincioaia 11.02 2 P Pn 03 35 29.0 +2.0
VRI pmax pmax
comp=Z,19nm,1.5s
VRI Vrincioaia 11.02 2 ⇑P Pn 03 35 28.9 +1.9
PAOL Paolisi 11.10 307 Pn 03 35 27.4 -0.7
DOPR Dopca 11.14 357 ⇓P Pn 03 35 29.2 +0.7
SEVA Sevastopol 11.24 28 ⇑P Pn 03 35 33.1 +3.2
OZUR 11.25 358 ⇓P Pn 03 35 31.9 +1.8
DEV Deva 11.32 348 ⇓P Pn 03 35 30.3 -0.7
BZS Buzias 11.33 343 P Pn 03 35 32.3 +1.2
BZS pmax pmax
comp=Z,9.0nm,2.6s
BZS Buzias 11.33 343 ⇓P Pn 03 35 31.8 +0.6
TESR Tescani 11.66 1 ⇓P Pn 03 35 36.6 +0.8
MGRS Mrkonjic Grad 11.88 326 *e*Pn Pn 03 35 38.7 -0.1
INTR Introdacqua 12.03 310 Pn 03 35 40.8 -0.1
BIZ Bicaz 12.09 360 ⇓P Pn 03 35 43.5 +2.0
BLY Banja Luka 12.10 328 *e*Pn Pn 03 35 39.1 -2.5
MILM Milestii Mici 12.22 8 ⇑P Pn 03 35 43.5 +0.2
DRGR 12.24 348 ⇑P Pn 03 35 39.8 -3.8
AQU L'Aquila 12.53 311 P Pn 03 35 49.4 +1.7
AQU pmax pmax
comp=Z,20nm,1.0s
MORH Mrgy, Hungar 12.74 335 *e*Pn Pn 03 35 51.5 +1.1
MORH Mrgy, Hungar 12.74 335 *e*Pn Pn 03 35 54.1 +3.7
MORH Sn Sn 03 38 16.0 +4.4
BURAR Bucovina Array 12.79 357 P Pn 03 35 53.1 +2.0
BURAR Bucovina Array 12.79 357 ⇑P Pn 03 35 53.1 +2.0
BUR08 Bucovina Ar. S 12.82 357 Pn 03 35 51.1 -0.5
NRCA Norcia 12.97 312 Pn 03 35 53.1 -0.6
TRPA Tarpa 13.57 349 ⇑P Pn 03 36 01.3 -0.3
SOC Sochi 13.60 46 *e*P Pn 03 36 01.9 -0.2
SOC *e* 03 38 34.7
SOC pmax pmax
comp=Z,15nm,1.0s
SOC MLR MLR
comp=Z,137nm,8.0s
CRES Cresnjev 13.70 326 *e*Pn Pn 03 36 01.0 -2.6
RIY Rijeka 13.80 323 *e*Pn Pn 03 36 01.8 -3.0
KEST Kesra 13.84 279 Pn Pn 03 36 06.5 +1.0
comp=Z,0.1nm,0.3s,baz=188,slow=16,SNR=2.7
KEST Sn Sn 03 38 34.1 -4.5
comp=Z,0.1nm,0.3s,baz=52,slow=19,SNR=4.1
UZH Uzhgorod 14.09 349 *e*P Pn 03 36 07.1 -1.7
CEY Cerknica 14.12 324 *e*Pn Pn 03 36 07.8 -1.5
KOLS Kolonicke sedl 14.39 349 *e*P P 03 36 19.0 -0.7
KOLS Kolonicke sedl 14.39 349 *e*PN P 03 36 19.0 -0.7
OBKA Obir 14.63 326 *e*Pn Pn 03 36 18.6 +2.2
comp=Z,1.1nm,0.4s
VYHS Vyhne 14.71 340 *e*P P 03 36 23.5 +0.1
VYHS Vyhne 14.71 340 *e*PN P 03 36 23.5 +0.1
SOP Sopron 14.74 333 P P 03 36 22.4 -1.2
SOP pmax pmax
comp=Z,18nm,1.4s
ARSA Arzberg 14.79 330 *e*Pn Pn 03 36 19.7 +1.3
comp=Z,1.5nm,0.5s
AKH Akhalkalaki 15.06 59 P Pn 03 36 22.1 -0.2
AKH Akhalkalaki 15.06 59 ⇑P P 03 36 25.0 -2.5
AKH Akhalkalaki 15.06 59 Pn 03 36 22.1 -0.2
CONA Conrad Observa 15.21 332 *e*Pn Pn 03 36 25.9 +1.9
comp=Z,0.6nm,0.4s
TEOL Teolo 15.30 318 IAmb IAmb 03 36 44.2
comp=Z,13nm,0.6s
GNI Garni 15.60 65 ⇑ *e*P P 03 36 32.1 -1.3
GNI pmax pmax
comp=Z,61nm,1.7s
GNI Garni 15.60 65 Pn P 03 36 31.8 -1.6
comp=Z,0.7nm,0.3s,baz=280,slow=0.8,SNR=6.4
GNI Garni 15.60 65 Pn 03 36 27.4 -1.9
GNI IAmb IAmb 03 36 32.9
comp=Z,13nm,0.8s
KIV Kislovodsk 15.61 49 *e*P P 03 36 32.8 -0.6
KIV pmax pmax
comp=Z,43nm,1.0s
KIV MLR MLR
comp=Z,115nm,12.0s
KIV Kislovodsk 15.61 49 P Pn 03 36 26.4 -2.9
KIV IAmb IAmb 03 36 42.1
comp=Z,14nm,1.0s
KBA Koelnbreinsper 15.61 325 P P 03 36 33.0 -0.5
KBA pmax pmax
comp=Z,13nm,0.9s
KBZ Khabaz 15.63 50 Pn P 03 36 32.0 -1.5
comp=Z,0.2nm,0.3s,baz=238,slow=10.0,SNR=16
ABTA Abfaltersbach 15.77 323 *e*Pn Pn 03 36 32.6 +1.2
comp=Z,3.6nm,0.7s
ZEI Tsey 15.87 55 *e*P Pn 03 36 34.3 +1.5
ZEI pmax pmax
comp=Z,9.0nm,0.6s
NAX Nakhchivan 15.97 69 P P 03 36 36.3 -1.1
KRUC Moravsky 15.97 336 P Pn 03 36 35.0 +1.2
KRUC pmax pmax
comp=Z,15nm,1.2s
KRUC Moravsky 15.97 336 *e*PN Pn 03 36 33.5 -0.3
KIEV Kiev 15.99 7 P Pn 03 36 35.0 +0.9
AKASG Malin Array Be 16.00 7 Pn Pn 03 36 31.6 -2.7
comp=Z,0.6nm,0.3s,baz=195,slow=11,SNR=3.1
AKBB Malin Array Si 16.00 7 P Pn 03 36 32.8 -1.4
AKBB pmax pmax
comp=Z,8.0nm,0.6s
AKBB Malin Array Si 16.00 7 P Pn 03 36 32.8 -1.4
TBLG Delisi 16.05 59 P Pn 03 36 32.9 -2.1
TBLG pmax pmax
comp=Z,13nm,1.1s
TBLG Delisi 16.05 59 P Pn 03 36 32.9 -2.1
VRAC Vranov 16.12 337 Pn Pn 03 36 36.1 +0.4
comp=Z,0.4nm,0.3s,baz=144,slow=12,SNR=5.4
VRAC Vranov 16.12 337 ⇑P Pn 03 36 36.9 +1.1
VRAC Vranov 16.12 337 *e*PN Pn 03 36 36.3 +0.6
TREC Trest 16.48 334 *e*P Pn 03 36 41.6 +1.2
TREC Trest 16.48 334 *e*P Pn 03 36 41.6 +1.2
WTTA Wattenberg 16.56 323 *e*Pn P 03 36 43.5 -0.6
comp=Z,1.9nm,0.4s
WATA Walderalm 16.64 323 *e*Pn P 03 36 44.2 -0.7
comp=Z,2.6nm,0.4s
SQTA Sankt Quirin 16.75 322 *e*Pn Pn 03 36 43.6 -0.3
comp=Z,2.5nm,0.5s
GEC2 GERESS Array S 16.80 330 Pn 03 36 41.8 -2.7
GERES GERESS Array B 16.80 330 Pn Pn 03 36 45.1 +0.7
comp=Z,0.3nm,0.3s,baz=141,slow=11,SNR=14
GERES LR LR 03 44 48.9
comp=Z,200nm,18.6s,baz=146,slow=43
FUORN Ofenpass-Fuorn 16.85 319 P Pn 03 36 42.4 -3.0
FETA Feichten 16.86 321 Pn P 03 36 46.8 -0.5
comp=Z,5.5nm,0.7s
MOTA Moosalm 16.89 322 *e*Pn Pn 03 36 46.4 +0.7
comp=Z,1.4nm,0.3s
GANJ Ganja 16.89 64 P P 03 36 46.7 -0.9
KHC Kasperske Hory 17.07 331 ⇑ *e*P Pn 03 36 48.1 +0.2
KHC pmax pmax
comp=Z,139nm,4.0s
KHC Kasperske Hory 17.07 331 *e*P Pn 03 36 48.2 +0.3
KHC *ex* x 03 37 21.5
DPC Dobruska-Polom 17.11 338 *e*P Pn 03 36 47.9 -0.5
DPC Dobruska-Polom 17.11 338 *e*P Pn 03 36 47.9 -0.5
DPC *ex* x 03 36 53.9
RETA Reutte 17.15 322 *e*Pn P 03 36 49.9 -0.6
comp=Z,3.3nm,0.6s
DAVOX Davos/Dischmat 17.16 319 P P 03 36 51.5 +0.8
comp=Z,0.8nm,0.3s,baz=179,slow=9.3,SNR=7.7
GOPC GO Pecny, Ondr 17.25 334 *e*P Pn 03 36 49.6 -0.5
GOPC GO Pecny, Ondr 17.25 334 *e*P Pn 03 36 49.6 -0.5
GROC Groznyy 17.31 55 *e*P P 03 36 51.6 -0.5
GROC pmax pmax
comp=Z,9.0nm,0.6s
UPC Upice 17.35 338 *e*P Pn 03 36 50.2 -1.1
UPC Upice 17.35 338 *e*P Pn 03 36 50.2 -1.1
WET Wettzell 17.37 329 P P 03 36 53.1 +0.3
WET pmax pmax
comp=Z,10.0nm,1.1s
PRU Pruhonice 17.40 334 *e*P Pn 03 36 50.8 -1.1
PRU Pruhonice 17.40 334 *e*P Pn 03 36 50.8 -1.1
DAVA Damuels 17.48 320 *e*Pn P 03 36 53.8 -0.3
comp=Z,3.0nm,0.4s
SEKA Sheki 17.67 63 P P 03 36 56.6 +0.4
BNI Bardonecchia 18.10 310 P P 03 37 02.4 +1.4
BRG Berggiesshubel 18.35 335 *e*P Pn 03 37 05.7 +2.1
comp=Z,10nm,1.4s
SENIN Lac Senin/Sane 18.38 314 P P 03 37 00.6 -3.6
SENIN IAmb IAmb 03 37 16.0
comp=Z,14nm,0.8s
NKC Novy Kostel 18.39 331 *e*P P 03 37 03.4 -0.7
NKC Novy Kostel 18.39 331 *e*P P 03 37 03.4 -0.7
SLE Schleitheim 18.51 320 P P 03 37 03.9 -1.5
SLE pmax pmax
comp=Z,17nm,1.8s
VSR Storozhevoye 18.85 26 *e*P Pn 03 37 13.2 +3.6
VSR pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 19.04 334 *e*P Pn 03 37 14.0 +2.0
CLL Collm 19.04 334 *e*pP Pn 03 37 14.0 +2.0
CLL *e*PP sP 03 37 22.0 +2.3
MOX Moxa 19.05 330 P Pn 03 37 11.7 -0.4
MOX pmax pmax
comp=Z,8.0nm,1.8s
SUW Suwalki 19.29 355 P P 03 37 13.2 -0.6
SUW pmax pmax
comp=Z,58nm,1.1s
ECH Echery 19.50 319 P P 03 37 15.8 -0.4
VRH Novokhopyorsk 19.82 30 *e*P P 03 37 18.6 -1.0
VRH pmax pmax
comp=Z,20nm,1.3s
LPSR Galich'ya Gora 19.93 23 *e*P Pn 03 37 24.7 +2.2
LPSR pmax pmax
comp=Z,10.0nm,1.1s
LOR Lormes 20.87 313 P P 03 37 29.6 -1.6
OBN Obninsk 21.50 16 ⇑ *e*P P 03 37 37.2 -0.6
OBN *e* 03 37 58.0
OBN *e*S S 03 41 36.3 +1.2
OBN pmax pmax
comp=Z,7.0nm,0.4s
OBN MLR MLR
comp=Z,201nm,18.0s
MEM Membach 21.56 323 P P 03 37 39.1 +0.6
MEM pmax pmax
comp=Z,34nm,1.4s
TAM Tamanrasset 21.72 242 P P 03 37 38.5 -2.1
TAM pmax pmax
comp=Z,12nm,0.9s
TAM Tamanrasset 21.72 242 P P 03 37 38.5 -2.1
TAM IAmb IAmb 03 37 47.9
comp=Z,12nm,0.9s
ESDC Sonseca Array 24.46 290 P P 03 38 07.9 -0.2
comp=Z,2.4nm,0.5s,baz=83,slow=10,SNR=27
GUD Guadarrama 24.66 293 P P 03 38 10.0 +0.1
PAB San Pablo 24.76 290 P P 03 38 12.0 +1.2
PAB pmax pmax
comp=Z,27nm,4.0s
MDT Midelt 25.66 274 P P 03 38 19.6 +0.5
comp=Z,5.2nm,0.8s,baz=273,slow=9.7,SNR=15
GEYT Alibeck 25.77 74 P P 03 38 19.5 -0.4
comp=Z,17nm,0.5s,baz=308,slow=7.2,SNR=29
GYA0B ALIBECK ARRAY 25.77 74 P P 03 38 18.6 -1.4
HFS Hagfors 26.60 346 P P 03 38 24.8 -2.3
comp=Z,1.6nm,0.5s,baz=132,slow=11,SNR=8.4
FINES FINESS Array B 26.62 360 P P 03 38 25.1 -2.2
comp=Z,1.9nm,0.4s,baz=166,slow=10,SNR=16
FINES PcP PcP 03 41 50.4 -0.5
comp=Z,2.1nm,0.8s,baz=144,slow=3.0,SNR=4.3
NORES NORESS Array B 27.60 344 P P 03 38 37.7 +1.6
AKTO Aktyubinsk 27.82 46 *i* P P 03 38 37.3 -0.9
AKTO pmax pmax
comp=Z,5.0nm,0.6s
AKTO Aktyubinsk 27.82 46 P P 03 38 37.8 -0.4
comp=Z,7.5nm,0.6s,baz=251,slow=5.2,SNR=14
NOA NORSAR Array B 27.94 344 P P 03 38 36.7 -2.5
comp=Z,0.8nm,0.8s,baz=142,slow=7.3,SNR=2.9
AB31 Akbulak array 28.60 49 *e*P P 03 38 44.8 -0.3
AB31 pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 28.60 49 P P 03 38 43.3 -1.8
EKA Eskdalemuir Ar 28.82 324 P P 03 38 45.1 -1.9
comp=Z,1.5nm,0.5s,baz=125,slow=11,SNR=5.6
TOA0 Torodi Ar. Sit 30.98 232 P P 03 39 06.3 -0.2
TORD Torodi Ar. Bea 30.98 232 P P 03 39 07.7 +1.2
comp=Z,7.8nm,0.6s,baz=32,slow=8.8,SNR=155
TORD PcP PcP 03 42 02.6 +0.1
comp=Z,0.4nm,0.8s,baz=89,slow=2.8,SNR=3.4
ARCES ARCESS Array B 34.75 360 P P 03 39 36.1 -2.9
comp=Z,2.0nm,0.4s,baz=183,slow=8.3,SNR=22
ARCES PcP PcP 03 42 11.3 -0.8
comp=Z,3.8nm,0.9s,baz=190,slow=2.7,SNR=4.0
KK31 Karatay Array 35.05 63 *e*P P 03 39 42.4 +0.5
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KK31 Karatay Array 35.05 63 P P 03 39 38.0 -3.9
KK31 IAmb IAmb 03 39 43.6
comp=Z,5.6nm,0.9s
KKAR Karatay Array 35.05 63 P P 03 39 38.8 -3.1
KKAR pmax pmax
comp=Z,6.0nm,1.0s
KKAR Karatay Array 35.05 63 P P 03 39 38.8 -3.1
KKAR IAmb IAmb 03 39 43.6
comp=Z,5.6nm,0.9s
GAR Garm 35.22 70 P P 03 39 42.9 -0.6
BRVK Borovoye 35.87 46 ⇓ *e*P P 03 39 48.5 -0.3
BRVK pmax pmax
comp=Z,7.0nm,1.1s
BRVK Borovoye 35.87 46 P P 03 39 48.7 -0.1
BRVK IAmb IAmb 03 39 50.1
comp=Z,7.1nm,1.1s
BVAR Borovoye Array 35.92 46 P P 03 39 49.2 0.0
comp=Z,1.9nm,0.6s,baz=249,slow=6.3,SNR=9.3

ARSB	**Arslanbob**	**36.99**	**66**	P		**P**	**03 39 58.0**	**-0.7**
AAK	**Ala-Archa**	**38.00**	**63**	⇓*e*P		**P**	**03 40 08.3**	**+1.1**
AAK				pmax	pmax			
	comp=Z,4.0nm,0.7s							
AAK	**Ala-Archa**	**38.00**	**63**	P		**P**	**03 40 07.9**	**+0.7**
	comp=Z,3.6nm,0.6s,baz=247,slow=2.3,SNR=8.3							
AAK				LR	LR		03 57 01.4	
	comp=Z,79nm,20.0s,baz=286,slow=38							
AAK	**Ala-Archa**	**38.00**	**63**	P		**P**	**03 40 06.7**	**-0.5**
AAK				IAmb	IAmb		03 40 24.1	
	comp=Z,5.3nm,0.8s							
KSH	**Kashi**	**39.49**	**68**	P		**P**	**03 40 20.5**	**+0.8**
KSH				S		**S**	**03 46 20.3**	**-0.6**
KSH				SS		**SS**	**03 49 05.4**	**-10**
DBIC	**Dimbokro**	**40.08**	**233**	P		**P**	**03 40 25.4**	**+0.8**
	comp=Z,3.9nm,0.4s,baz=24,slow=8.9,SNR=18							
DBIC				LR	LR		04 01 00.7	
	comp=Z,111nm,18.9s,baz=22,slow=42							
DBIC	**Dimbokro**	**40.08**	**233**	P		**P**	**03 40 25.4**	**+0.8**
DBIC				IAmb	IAmb		03 40 26.2	
	comp=Z,9.3nm,1.0s							
TIC	**Toumodi**	**40.20**	**233**	*e*P		**P**	**03 40 26.3**	**+0.6**
TIC	**Toumodi**	**40.20**	**233**	P		**P**	**03 40 26.3**	**+0.6**
TIC	**Toumodi**	**40.20**	**233**	P		**P**	**03 40 26.3**	**+0.6**
KIC	**Kosan Boka**	**40.23**	**232**	*e*P		**P**	**03 40 26.7**	**+0.8**
	comp=Z,18nm,0.7s							
KIC	**Kosan Boka**	**40.23**	**232**	P		**P**	**03 40 26.7**	**+0.8**
LIC	**Lamto**	**40.52**	**233**	*e*P		**P**	**03 40 28.9**	**+0.6**
	comp=Z,28nm,0.9s							
LIC	**Lamto**	**40.52**	**233**	P		**P**	**03 40 28.9**	**+0.6**
KURBB	**Kurchatov Arra**	**40.63**	**51**	P		**P**	**03 40 29.2**	**+0.4**
	comp=Z,9.2nm,0.5s,baz=275,slow=8.7,SNR=78							
KURBB				PcP		**PcP**	**03 42 31.4**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=259,slow=4.3,SNR=3.0							
KURK	**Kurchatov**	**40.69**	**51**	*c*P		**P**	**03 40 29.4**	**+0.1**
KURK				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KURK	**Kurchatov**	**40.69**	**51**	P		**P**	**03 40 28.6**	**-0.8**
KURK						**PcP**	**03 42 30.2**	**-0.5**
PDGK	**Podgornoye**	**41.58**	**62**	*i* P		**P**	**03 40 37.1**	**+0.2**
PDGK				pmax	pmax			
	comp=Z,3.0nm,0.5s							
MAKZ	**Makanchi**	**42.99**	**56**	*i* P		**P**	**03 40 48.3**	**0.0**
MAKZ				pmax	pmax			
	comp=Z,5.0nm,0.7s							
MAKZ	**Makanchi**	**42.99**	**56**	P		**P**	**03 40 47.1**	**-1.2**
MAKZ				IAmb	IAmb		03 40 49.3	
	comp=Z,4.8nm,0.7s							
MK31	**Makanchi Array**	**43.21**	**56**	*e*P		**P**	**03 40 50.3**	**+0.3**
MK31				pmax	pmax			
	comp=Z,10.0nm,0.7s							
MK31	**Makanchi Array**	**43.21**	**56**	P		**P**	**03 40 49.3**	**-0.7**
MK31				IAmb	IAmb		03 40 51.4	
	comp=Z,7.1nm,0.7s							
MKAR	**Makanchi Array**	**43.21**	**56**	P		**P**	**03 40 50.6**	**+0.6**
	comp=Z,9.2nm,0.6s,baz=273,slow=8.6,SNR=75							
MKAR				PcP		**PcP**	**03 42 39.4**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=270,slow=5.1,SNR=1.8							
MKAR				LR	LR		04 01 18.2	
	comp=Z,72nm,19.1s,baz=348,slow=40							
ZALV	**Zalesovo Beam**	**44.58**	**46**	P		**P**	**03 41 00.4**	**-0.5**
	comp=Z,4.8nm,0.4s,baz=267,slow=8.7,SNR=24							
KBS	**Kingsbay**	**44.60**	**356**	P		**P**	**03 41 01.1**	**+0.4**
DANN	**Dangsing**	**44.85**	**81**	*e*P		**P**	**03 41 36.2**	**+1.2**
	comp=Z,34nm,0.6s							
KOLN	**Koldanda**	**48.94**	**82**	*e*P		**P**	**03 41 36.5**	**+0.8**
	comp=Z,8.5nm,0.6s							
PKIN	**Phulchoki**	**50.48**	**81**	*e*P		**P**	**03 41 47.7**	**+0.2**
PKI	**Pulchoki**	**50.49**	**81**	*e*P		**P**	**03 41 48.2**	**+0.6**
GUN	**Gumba**	**50.74**	**80**	*e*P		**P**	**03 41 49.9**	**+0.4**
	comp=Z,13nm,0.6s							
JIRN	**Jiri**	**51.09**	**81**	*e*P		**P**	**03 41 52.0**	**-0.2**
	comp=Z,27nm,0.6s							
RAMN	**Ramite**	**51.72**	**81**	*e*P		**P**	**03 41 56.5**	**-0.2**
	comp=Z,12nm,0.6s							
ODAN	**Odare**	**52.39**	**81**	*e*P		**P**	**03 42 01.8**	**0.0**
TAPN	**Taplejung**	**52.45**	**80**	*e*P		**P**	**03 42 02.4**	**+0.1**
PALK	**Pallekele**	**56.91**	**106**	LR	LR		04 09 14.8	
	comp=Z,36nm,19.7s,baz=293,slow=38							
GTA	**Gaotai**	**57.33**	**62**	*e*P		**P**	**03 42 37.8**	**+0.6**
GTA				pP	pP		03 42 41.3	-2.2
GTA				pmax	pmax			
	comp=Z,4.0nm,1.0s							
SONM	**Songino Array**	**59.00**	**51**	P		**P**	**03 42 49.4**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=290,slow=7.9,SNR=12							
SONM				LR	LR		04 10 59.3	
	comp=Z,105nm,19.8s,baz=280,slow=39							
ULN	**Ulaanbaatar**	**59.41**	**51**	⇓*e*P		**P**	**03 42 52.3**	**+0.7**
ULN				pmax	pmax			
	comp=Z,7.0nm,1.7s							
TIXI	**Tiksi**	**61.15**	**21**	⇑*e*P		**P**	**03 43 04.2**	**+1.3**
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.8s							
FRB	**Frobisher Bay**	**61.40**	**330**	P		**P**	**03 43 03.5**	**-1.2**
FRB				pmax	pmax			
	comp=Z,11nm,1.0s							
BOSA	**Boshof**	**63.12**	**181**	P		**P**	**03 43 18.2**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=12,slow=7.4,SNR=5.6							
BOSA	**Boshof**	**63.12**	**181**	P		**P**	**03 43 17.8**	**+1.1**
BOSA				IAmb	IAmb		03 43 29.9	
	comp=Z,3.9nm,1.1s							
SCHQ	**Schefferville**	**64.01**	**320**	P		**P**	**03 43 21.5**	**-0.8**
	comp=Z,4.0nm,0.5s,baz=70,slow=4.9,SNR=13							
SCHQ	**Schefferville**	**64.01**	**320**	P		**P**	**03 43 21.3**	**-1.0**
RES	**Resolute Bay**	**64.20**	**345**	P		**P**	**03 43 24.9**	**+1.7**
CMAR	**Chiang Mai Arr**	**65.72**	**84**	*i* P		**P**	**03 43 35.9**	**+1.9**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**65.72**	**84**	P		**P**	**03 43 33.9**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=301,slow=8.4,SNR=6.3							
CMAR				LR	LR		04 15 55.6	
	comp=Z,44nm,18.6s,baz=354,slow=39							
WHN	**Wuhan**	**71.88**	**65**	P		**P**	**03 44 13.4**	**+1.2**
INK	**Inuvik**	**76.06**	**352**	P		**P**	**03 44 37.6**	**+1.7**
USRK	**Ussuriysk Ar.**	**76.43**	**45**	P		**P**	**03 44 38.3**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=298,slow=4.2,SNR=3.5							
KSRS	**Korea Array**	**77.77**	**53**	P		**P**	**03 44 45.9**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=303,slow=4.7,SNR=3.0							
KSRS				LR	LR		04 21 54.7	
	comp=Z,45nm,19.7s,baz=320,slow=38							
YKA	**Yellowknife Ar**	**78.03**	**343**	P		**P**	**03 44 46.0**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=30,slow=5.1,SNR=12							
FFC	**Flin Flon**	**80.33**	**332**	P		**P**	**03 44 59.3**	**-0.6**
FFC				pmax	pmax			
	comp=Z,5.0nm,1.3s							
ILAR	**Eielson Array**	**80.57**	**357**	P		**P**	**03 45 00.4**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=345,slow=3.8,SNR=12							
WRH	**Wood River Hil**	**80.92**	**358**	P		**P**	**03 45 01.7**	**-1.1**
WRH				IAmb	IAmb		03 45 14.5	
	comp=Z,4.8nm,0.8s							
ULM	**Lac du Bonnet**	**81.07**	**327**	P		**P**	**03 45 03.0**	**-1.0**
ULM	**Lac du Bonnet**	**81.07**	**327**	P		**P**	**03 45 03.0**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=239,slow=3.1,SNR=3.2							
WVT	**Waverly**	**86.44**	**312**	P		**P**	**03 45 32.1**	**+0.4**
WVT				pmax	pmax			
	comp=Z,6.0nm,2.1s							
NEW	**Newport**	**91.03**	**337**	P		**P**	**03 45 53.9**	**+0.6**
CPUP	**Villa Florida**	**99.69**	**245**	LR	LR		04 31 52.5	
	comp=Z,29nm,20.2s,baz=36,slow=36							
ASAR	**Alice Springs**	**117.11**	**101**	PKP		**PKPdf**	**03 51 33.7**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=289,slow=1.5,SNR=3.1							

*NIED **24** 03:53:00,45.˝30N×147.˝40E,h8km,Mw3.8 Best double couple: M0≈6.30000×10^14 NP1:φs=228.00000°,δ27.00000°, λ124.00000°. NP2:φs=10.00000°,δ68.00000°,λ74.00000°.*
*MOS **24** 03:53:08.1±1.4,45.˝28N×147.˝15E,h27km,mb4.4/6,Error ellipse: s-maj=13.0km s-min=7.3km az=68.0*
*ISCJB **24** 03:53:08.5±0.8,45.˝25N±0.˝04×147.˝13E±0.˝05,h27km±7km, mb4.0/13,Error ellipse: s-maj=7.6km s-min=4.6km az=42.6*
*SKHL **24** 03:53:09.3±0.4,45.˝23N×147.˝28E,h31km±8km,mb4.5/6*
*NEIC **24** 03:53:14.5±1.0,45.˝33N±0.˝07×146.˝7E±0.˝1,h68km±4km, mb4.0/2*
*IDC **24** 03:53:14.9±2.9,45.˝29N×146.˝70E,h73km±27km,mb3.5/11, mb1 3.8/13,mb1mx3.5/59,mbtmp3.8/13,MS2.8/2, Ms1 2.8/2,ms1mx2.5/42,Error ellipse: s-maj=26.9km s-min=14.6km az=127.0*

ISC 24 03:53:09.8±1.1,45˚20N±0.˝04×147˚18E±0.˝04,h25km±8km, n48,σ1§52/64,mb4.0/14,5C-6D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.48**	**86**	*d* iPN	**Pb**	**03 53 19.4**	**-0.3**
KUR				*i* S	**Sb**	**03 53 26.2**	**-0.2**
KUR				pmax	pmax		
	comp=Z,1μm,0.5s						
KUR				pmax	pmax		
	comp=E,317nm,0.4s						
KUR				pmax	pmax		
	comp=N,313nm,0.3s						
KUR				smax	smax		
	comp=N,4μm,0.3s						
KUR				smax	smax		
	comp=E,2μm,0.4s						
KUR	**Kuril'sk**	**0.48**	**86**	*i* P	**Pb**	**03 53 19.0**	**-0.7**
KUR				AMB	AMB	03 53 20.0	
	comp=E,630nm,0.5s						
KUR				*i* S	**Sb**	**03 53 26.0**	**-0.4**
KUR				A	A	03 53 28.0	
	comp=E,6μm,0.5s						
KUR				A	A	03 53 28.0	
	comp=E,7μm,0.5s						
SHO	**Shikotan**	**1.36**	**191**	*d* iPN	**Pn**	**03 53 31.9**	**-1.2**
SHO				*i* S	**Sn**	**03 53 49.2**	**-1.1**
SHO				pmax	pmax		
	comp=Z,300nm,0.5s						
SHO				pmax	pmax		
	comp=E,36nm,0.2s						
SHO				pmax	pmax		
	comp=N,189nm,0.4s						
SHO				smax	smax		
	comp=N,2μm,0.6s						
SHO				smax	smax		
	comp=E,798nm,0.5s						
SHO	**Shikotan**	**1.36**	**191**	*i* P	**Pn**	**03 53 31.0**	**-2.1**
SHO				AMB	AMB	03 53 33.0	
	comp=E,300nm,0.5s						
SHO				*i* S	**Sn**	**03 53 47.6**	**-2.7**
SHO				A	A	03 53 50.0	
	comp=E,2μm,0.5s						
SHO				A	A	03 53 50.0	
	comp=E,814nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.50**	**219**	*e*PN	**Pn**	**03 53 34.8**	**-0.4**
YUK				S	**Sb**	**03 53 56.9**	**+1.3**
YUK				pmax	pmax		
	comp=E,70nm,0.3s						
YUK				pmax	pmax		
	comp=Z,189nm,0.3s						
YUK				pmax	pmax		
	comp=N,29nm,0.2s						
YUK				smax	smax		
	comp=E,302nm,0.2s						
YUK				smax	smax		
	comp=N,561nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.50**	**219**	*e*P	**Pn**	**03 53 34.7**	**-0.4**
YUK				AMB	AMB	03 53 36.0	
	comp=N,189nm,0.5s						
YUK				*e*S	**Sn**	**03 53 54.0**	**+0.1**
YUK				A	A	03 54 06.7	
	comp=N,2μm,0.6s						
YUK				A	A	03 54 06.7	
	comp=N,2μm,0.6s						
GRPR	**Tuman**	**1.58**	**220**	⇓*i* PN	**Pn**	**03 53 36.5**	**+0.4**
GRPR				*e*S	**Sb**	**03 53 58.5**	**+0.8**
GRPR				pmax	pmax		
	comp=N,157nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,366nm,0.3s						
GRPR				pmax	pmax		
	comp=E,143nm,0.2s						
GRPR				smax	smax		
	comp=N,661nm,0.4s						
GRPR				smax	smax		
	comp=E,409nm,0.4s						
GRPR	**Tuman**	**1.58**	**220**	*i* P	**Pn**	**03 53 35.8**	**-0.3**
GRPR				AMB	AMB	03 53 42.0	
	comp=E,183nm,0.4s						
GRPR				*e*S	**Sn**	**03 53 55.5**	**-0.2**
GRPR				A	A	03 54 03.0	
	comp=E,661nm,0.4s						
GRPR				A	A	03 54 03.0	
	comp=E,409nm,0.4s						
GLVR	**Golovnino**	**1.89**	**220**	*e*PN	**Pn**	**03 53 40.8**	**+0.4**
GLVR				*e*S	**Sb**	**03 54 05.6**	**-1.1**
GLVR				pmax	pmax		
	comp=Z,170nm,0.4s						
GLVR				smax	smax		
	comp=N,295nm,0.3s						
GLVR				smax	smax		
	comp=E,512nm,0.5s						
GLVR	**Golovnino**	**1.89**	**220**	*e*P	**Pn**	**03 53 40.4**	**0.0**
GLVR				AMB	AMB	03 53 41.0	
	comp=E,170nm,0.4s						
GLVR				*e*S	**Sn**	**03 54 02.5**	**-0.9**
GLVR				A	A	03 54 12.0	
	comp=E,295nm,0.4s						
GLVR				A	A	03 54 12.0	
	comp=E,512nm,0.4s						
NMR	**Nemuro--Hokkai**	**2.11**	**210**	*e*PN	**Pn**	**03 53 42.4**	**-1.1**
NMR				*e*S	**Sn**	**03 54 09.3**	**+0.4**
NMR	**Nemuro--Hokkai**	**2.11**	**210**	*e*P	**Pn**	**03 53 42.0**	**-1.5**
JKA	**Kamikawa-asahi**	**3.45**	**253**	*e*P	**Pn**	**03 54 02.2**	**+0.3**
JKA	**Kamikawa-asahi**	**3.45**	**253**		**Pn**	**03 54 02.1**	**+0.3**
JKA					**Sn**	**03 54 38.9**	**-3.0**
ASAJ	**Asahikawa**	**3.45**	**253**	P	**Pn**	**03 54 02.1**	**+0.3**
	comp=E,2.9nm,0.3s,baz=176,slow=5.5,SNR=7.4						
ASAJ				S	**Sn**	**03 54 38.9**	**-3.1**
	comp=E,5.2nm,0.3s,baz=299,slow=15,SNR=5.8						
ASAJ				LR	LR	03 55 13.9	
	comp=E,104nm,19.3s,baz=144,slow=38						
YSS	**Yuzh-Sakhalins**	**3.54**	**301**	*i* PN	**Pn**	**03 54 03.7**	**+0.5**
YSS				pmax	pmax		
	comp=Z,60nm,0.5s						
YSS	**Yuzh-Sakhalins**	**3.54**	**301**	*i* P	**Pn**	**03 54 03.0**	**-0.2**
YSS				AMB	AMB	03 54 04.0	
	comp=Z,60nm,0.5s						
YSS				*e*S	**Sn**	**03 54 42.0**	**-2.3**
YSS				A	A	03 54 42.5	
	comp=Z,160nm,1.0s						
YSS				A	A	03 54 42.5	
	comp=Z,190nm,1.0s						
YSS	**Yuzh-Sakhalins**	**3.54**	**301**		**Pn**	**03 54 01.9**	**-1.2**
YSS					**Sn**	**03 54 39.5**	**-4.8**
ERM	**Erimo**	**4.33**	**224**	⇓*e*PN	**Pn**	**03 54 17.1**	**+3.2**
ERM	**Erimo**	**4.33**	**224**	Pn	**Pn**	**03 54 14.7**	**+0.8**
PET	**Petropavlovsk**	**10.84**	**40**	⇑*e*PN	**Pn**	**03 55 43.8**	**+0.5**
PET	**Petropavlovsk**	**10.84**	**40**	*e*P	**Pn**	**03 55 43.7**	**+0.5**
MJAR	**Matsushiro Arr**	**10.99**	**221**	LR	LR	04 00 02.1	
	comp=Z,78nm,20.9s,baz=175,slow=38						
KLR	**Kul'dur**	**11.24**	**296**	⇑*e*PN	**Pn**	**03 55 49.9**	**+1.2**
KLR				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KLR	**Kul'dur**	**11.24**	**296**	P	**Pn**	**03 55 49.9**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=102,slow=14,SNR=2.8						
MA2	**Magadan**	**14.56**	**7**	⇑*e*P	**Pn**	**03 56 33.7**	**-0.3**
MA2				pmax	pmax		
	comp=Z,17nm,1.6s						
MA2	**Magadan**	**14.56**	**7**	*e*P	**Pn**	**03 56 33.7**	**-0.3**
HIA	**Hailar**	**19.02**	**292**	⇓*e*P	**P**	**03 57 30.0**	**+0.3**
HIA				pmax	pmax		
	comp=Z,43nm,1.2s						
YAK	**Yakutsk**	**19.68**	**335**	⇓*e*P	**Pn**	**03 57 40.7**	**+2.5**
WHN	**Wuhan**	**29.53**	**252**	P	P	03 59 25.8	+14
KTH	**Kantishna Hill**	**38.60**	**39**	P	**P**	**04 00 31.1**	**+0.6**
KTH				IAmb	IAmb	04 00 36.6	
	comp=Z,7.0nm,1.2s						
COLA	**College**	**39.89**	**37**	⇑*e*P	**P**	**04 00 41.6**	**+0.5**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ILAR	**Eielson Array**	**40.31**	**37**	P	**P**	**04 00 45.3**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=283,slow=10,SNR=12						
INK	**Inuvik**	**45.14**	**31**	P	**P**	**04 01 23.7**	**0.0**
	comp=Z,0.9nm,0.5s,baz=311,slow=5.2,SNR=7.6						
INK	**Inuvik**	**45.14**	**31**	P	**P**	**04 01 23.9**	**+0.2**
INK				IAmb	IAmb	04 01 29.2	
	comp=Z,0.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**47.97**	**252**	P	**P**	**04 01 43.7**	**-2.8**
	comp=Z,0.8nm,0.3s,baz=47,slow=6.6,SNR=2.9						
KSH	**Kashi**	**51.36**	**290**	P	**P**	**04 02 14.5**	**+2.2**
KSH				PP	**PP**	**04 04 12.5**	**+3.3**
KSH				S	**S**	**04 09 31.3**	**+1.1**
KSH				ScS	**ScS**	**04 11 59.3**	**-1.8**
KSH				pmax	pmax		
	comp=Z,300nm,7.3s						
KSH				LR	LR		
	comp=N,410nm,8.1s						
KSH				LR	LR		
	comp=E,980nm,6.9s						
KSH				LR	LR		
	comp=Z,840nm,5.8s						
YKA	**Yellowknife Ar**	**54.58**	**34**	P	**P**	**04 02 36.0**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=302,slow=7.1,SNR=11						
FINES	**FINESS Array B**	**63.59**	**333**	P	**P**	**04 03 35.5**	**-2.4**
	comp=Z,5.0nm,1.0s,baz=50,slow=6.2,SNR=7.6						
WRA	**Warramunga Arr**	**65.88**	**193**	P	**P**	**04 03 52.6**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=10.0,slow=6.6,SNR=8.9						
NVAR	**Mina Array Bea**	**66.79**	**58**	P	**P**	**04 04 00.8**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=292,slow=5.4,SNR=4.8						
NOA	**NORSAR Array B**	**68.26**	**339**	P	**P**	**04 04 06.6**	**-1.4**
	comp=Z,1.3nm,1.0s,baz=26,slow=4.9,SNR=3.2						
KIV	**Kislovodsk**	**68.81**	**311**	*e*P	**P**	**04 04 10.7**	**-1.2**
KIV				pmax	pmax		
	comp=Z,13nm,1.1s						
KIV	**Kislovodsk**	**68.81**	**311**	*e*P	**P**	**04 04 10.7**	**-1.2**
PDAR	**Pinedale Array**	**68.96**	**50**	P	**P**	**04 04 13.5**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=58,slow=1.4,SNR=6.2						
ASAR	**Alice Springs**	**69.60**	**193**	P	**P**	**04 04 16.9**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=12,slow=6.1,SNR=4.1						
TXAR	**Lajitas Array**	**81.82**	**56**	*e*P	**P**	**04 05 28.4**	**+1.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**81.82**	**56**	P	**P**	**04 05 27.7**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=293,slow=3.7,SNR=9.3						

*MOS **24** 03:57:14.7±0.9,36.˝45N×70.˝28E,h218km,mb4.2/12,Error ellipse: s-maj=9.0km s-min=5.1km az=78.1*
*ISCJB **24** 03:57:14.5±0.2,36.˝47N±0.˝02×70.˝26E±0.˝03,h204km, mb3.8/25,Error ellipse: s-maj=3.8km s-min=2.8km az=152.3*
*NEIC **24** 03:57:15.5±1.2,36.˝51N±0.˝06×70.˝20E±0.˝10,h218km±6km, mb4.2/15*
*IDC **24** 03:57:16.5±0.8,36.˝36N×70.˝29E,h223km±7km,mb3.5/21, mb1 3.7/27,mb1mx3.5/56,mbtmp4.2/27,Error ellipse: s-maj=11.4km s-min=9.7km az=12.0*
*BJI **24** 03:57:18.2±0.0,36.˝80N×70.˝51E,h192km,mb4.3/7, mB4.6/2*
*NNC **24** 03:57:20.2±2.5,36.˝93N×70.˝15E,h213km±25km,mb3.6, mpv4.6,Error ellipse: s-maj=25.0km s-min=12.9km az=164.0*

ISC 24 03:57:14.7±0.4,36˚49N±0.˝04×70˚32E±0.˝04,h204km,n143, σ1§67/165,mb4.0/27,7C-11D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.21**	**208**	PN	**Pn**	**03 57 58.0**	**+2.1**
KBL				S	**S**	**03 58 28.9**	**+1.5**
KBL	**Kabul**	**2.21**	**208**		**Pn**	**03 57 58.0**	**+2.1**
KBL					**S**	**03 58 28.9**	**+1.5**
CHGR	**Chuyangaron**	**2.35**	**337**		**Pn**	**03 57 59.2**	**+1.9**
CHGR					**S**	**03 58 30.2**	**+0.2**
GAR	**Garm**	**2.50**	**0**		**Pn**	**03 58 00.9**	**+1.9**
GAR					**S**	**03 58 33.5**	**+0.3**
CEP	**Cherat**	**2.96**	**153**	⇓P	**Pn**	**03 58 07.1**	**+2.8**
CEP				S	**S**	**03 58 45.0**	**+2.5**
BTK	**Batken**	**3.58**	**6**	PN	**Pn**	**03 58 13.0**	**+1.4**
BTK	**Batken**	**3.58**	**6**		**Pn**	**03 58 13.0**	**+1.4**
CHCP	**Chirah Chowk**	**3.72**	**139**	P	**Pn**	**03 58 16.2**	**+2.9**
NIL	**Nilore**	**3.72**	**139**	PN	**Pn**	**03 58 15.3**	**+2.0**
NIL	**Nilore**	**3.72**	**139**		**Pn**	**03 58 15.3**	**+2.0**
THW	**Thamme Wali**	**3.87**	**162**	P	**Pn**	**03 58 17.3**	**+2.2**
SARP	**Sargodha**	**4.96**	**156**	P	**Pn**	**03 58 30.0**	**+1.3**
ARSB	**Arslanbob**	**5.25**	**22**		**Pn**	**03 58 33.6**	**+1.1**
KSH	**Kashi**	**5.39**	**54**		**Pn**	**03 58 31.8**	**-2.5**
KSH					**S**	**03 59 27.9**	**-8.9**
KSH				smax	smax		
	comp=N,1μm,0.6s						
KSH				smax	smax		
	comp=E,1μm,0.6s						
AML	**Almayashu**	**6.21**	**24**	P	**Pn**	**03 58 46.5**	**+1.5**
	SNR=191						
DHRM	**DHARAMSHALA**	**6.51**	**129**	*e*P	**Pn**	**03 58 50.2**	**+1.4**
DHRM				*e*S	**S**	**04 00 02.6**	**-0.6**
DHRM				IAML		04 00 04.0	
	comp=E,527nm,0.7s						
DHRM				IAML		04 00 04.1	
	comp=N,408nm,0.3s						
UCH	**Uchtor**	**6.59**	**28**	P	**Pn**	**03 58 51.6**	**+1.6**
	SNR=56						
KK31	**Karatay Array**	**6.61**	**1**	PN	**Pn**	**03 58 50.8**	**+1.0**
KK31				pmax	pmax		
	comp=Z,19nm,0.5s						
KK31	**Karatay Array**	**6.61**	**1**		**Pn**	**03 58 50.6**	**+0.9**
KK31	**Karatay Array**	**6.61**	**1**	⇑P	**Pn**	**03 58 50.9**	**+1.0**
	comp=Z,19nm,0.5s,baz=181,slow=12,SNR=198						
KK31				⇑S	**S**	**03 59 59.3**	**-5.8**
	comp=Z,36nm,0.5s,baz=186,slow=24,SNR=4.2						
KKAR	**Karatay Array**	**6.61**	**1**	PN	**Pn**	**03 58 50.7**	**+0.9**
KKAR	**Karatay Array**	**6.61**	**1**		**Pn**	**03 58 50.6**	**+0.9**
EKS2	**Erkin-Say**	**6.72**	**22**	P	**Pn**	**03 58 53.1**	**+1.8**
	SNR=103						
KZA	**Kyzart**	**6.76**	**33**	P	**Pn**	**03 58 53.7**	**+1.4**
	SNR=72						
HRA	**Herat**	**6.92**	**255**	Pn	**Pn**	**03 58 54.2**	**+0.1**
AAK	**Ala-Archa**	**6.94**	**26**	P	**Pn**	**03 58 56.0**	**+1.8**
	comp=Z,18nm,0.3s,baz=149,slow=4.3,SNR=152						
AAK				S	**S**	**04 00 13.2**	**+0.1**
	comp=Z,16nm,0.3s,baz=290,slow=23,SNR=26						
AAK	**Ala-Archa**	**6.94**	**26**	P	**Pn**	**03 58 56.0**	**+1.8**
	SNR=52						
AAK	**Ala-Archa**	**6.94**	**26**		**Pn**	**03 58 55.5**	**+1.3**
AAK					**S**	**04 00 14.5**	**+1.4**
AAK	**Ala-Archa**	**6.94**	**26**	⇑P	**Pn**	**03 58 55.7**	**+1.5**
	comp=Z,30nm,0.5s						
AAK				⇑S	**S**	**04 00 13.9**	**+0.8**

	comp=N,23nm,0.5s								
GEYT	**Alibeck**	**9.84**	**282**	P		**Pn**	**03 59 31.4**	**-0.4**
	comp=N,0.7nm,0.3s,baz=108,slow=8.6,SNR=4.3								
GYA0B	**ALIBECK ARRAY**	**9.84**	**282**	⇓P		**P**	**03 59 37.2**	**-2.5**
GYA0B				S		**S**	**04 01 20.9**	**-1.1**
MAKZ	**Makanchi**	**13.48**	**37**	P		**Pn**	**04 00 18.2**	**+0.2**
MAKZ	**Makanchi**	**13.48**	**37**	Pn		**Pn**	**04 00 18.2**	**+0.2**
MAKZ	**Makanchi**	**13.48**	**37**	P		**Pn**	**04 00 18.8**	**+0.8**
	comp=N,19nm,0.5s								
MK31	**Makanchi Array**	**13.63**	**37**	*i* P		**Pn**	**04 00 20.6**	**+0.9**
MK31				pmax	pmax				
	comp=Z,7.0nm,0.6s								
MK31	**Makanchi Array**	**13.63**	**37**			**Pn**	**04 00 20.2**	**+0.4**
MK31	**Makanchi Array**	**13.63**	**37**	⇓P		**Pn**	**04 00 20.4**	**+0.6**
	comp=Z,7.0nm,0.6s,baz=214,slow=11,SNR=106								
MKAR	**Makanchi Array**	**13.63**	**37**	P		**Pn**	**04 00 20.8**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=219,slow=17,SNR=51								
DANN	**Dangsing**	**13.95**	**122**	*e*P		**Pn**	**04 00 24.2**	**0.0**
	comp=Z,34nm,0.6s								
KOLN	**Koldanda**	**14.21**	**124**	*e*P		**Pn**	**04 00 27.8**	**+0.5**
	comp=Z,16nm,0.4s								
GKN	**Gorkha**	**14.77**	**121**	*e*P		**P**	**04 00 34.7**	**-0.3**
	comp=Z,24nm,0.2s								
AB31	**Akbulak array**	**14.83**	**333**	*e*P		**Pn**	**04 00 34.4**	**-0.1**
AB31				pmax	pmax				
	comp=Z,3.0nm,0.4s								
AB31	**Akbulak array**	**14.83**	**333**	P		**Pn**	**04 00 34.3**	**-0.2**
	comp=Z,3.2nm,0.3s,baz=155,slow=12,SNR=257								
AB31				S		**S**	**04 03 17.2**	**-1.7**
	comp=Z,2.2nm,0.5s,baz=156,slow=22,SNR=4.9								
ABKAR	**Akbulak array**	**14.83**	**333**	P		**Pn**	**04 00 34.6**	**+0.1**
ABKAR				S		**S**	**04 03 16.9**	**-2.0**
KURBB	**Kurchatov Arra**	**15.31**	**20**	P		**P**	**04 00 40.8**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=209,slow=10,SNR=29								
KURBB	**Kurchatov Arra**	**15.31**	**20**	⇓P		**Pn**	**04 00 40.3**	**0.0**
	comp=Z,18nm,0.8s								
DMN	**Daman**	**15.34**	**121**	*e*P		**P**	**04 00 42.2**	**+0.8**
	comp=Z,16nm,0.4s								
KKN	**Kakani**	**15.35**	**120**	*e*P		**P**	**04 00 42.1**	**+0.7**
	comp=Z,48nm,0.5s								
KURK	**Kurchatov**	**15.42**	**20**	*de*P		**Pn**	**04 00 41.6**	**-0.1**
KURK				pmax	pmax				
	comp=Z,11nm,0.7s								
KURK	**Kurchatov**	**15.42**	**20**	P		**Pn**	**04 00 41.6**	**-0.1**
KURK				IAmb	IAmb		04 00 45.4		
	comp=Z,11nm,0.8s								
KURK	**Kurchatov**	**15.42**	**20**	P		**Pn**	**04 00 41.3**	**-0.4**
	comp=Z,12nm,0.9s								
PKIN	**Phulchoki**	**15.56**	**121**	*e*P		**Pn**	**04 00 45.2**	**+1.4**
	comp=Z,18nm,0.4s								
PKI	**Pulchoki**	**15.57**	**121**	*e*P		**Pn**	**04 00 44.6**	**+0.5**
	comp=Z,3.2nm,0.5s								
GUN	**Gumba**	**15.69**	**119**	*e*P		**Pn**	**04 00 47.4**	**+1.9**
	comp=Z,20nm,0.4s								
JIRN	**Jiri**	**16.06**	**119**	*e*P		**Pn**	**04 00 52.2**	**+2.2**
	comp=Z,49nm,0.4s								
AKTO	**Aktyubinsk**	**16.52**	**331**	*i* P		**Pn**	**04 00 55.2**	**+0.4**
AKTO				pmax	pmax				
	comp=Z,14nm,0.6s								
AKTO	**Aktyubinsk**	**16.52**	**331**	P		**Pn**	**04 00 55.8**	**+1.0**
	comp=Z,2.8nm,0.3s,baz=141,slow=10,SNR=43								
AKTO				S		**S**	**04 03 55.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=155,slow=18,SNR=3.8								
AKTO	**Aktyubinsk**	**16.52**	**331**	⇓P		**Pn**	**04 00 55.3**	**+0.4**
	comp=Z,14nm,0.6s								
AKTO				⇓S		**S**	**04 03 54.7**	**-1.4**
	comp=Z,7.4nm,0.9s								
BVAR	**Borovoye Array**	**16.53**	**0**	P		**Pn**	**04 00 55.8**	**+0.8**
	comp=Z,5.2nm,0.3s,baz=154,slow=10.0,SNR=45								
BRVK	**Borovoye**	**16.57**	**360**	*e*P		**Pn**	**04 00 56.2**	**+0.8**
BRVK				pmax	pmax				
	comp=Z,34nm,1.2s								
BRVK	**Borovoye**	**16.57**	**360**	P		**P**	**04 00 54.4**	**+0.1**
BRVK	**Borovoye**	**16.57**	**360**	⇓P		**Pn**	**04 00 56.2**	**+0.8**
	comp=Z,10nm,0.5s								
RAMN	**Ramite**	**16.79**	**120**	*e*P		**Pn**	**04 00 59.4**	**+0.9**
	comp=Z,26nm,0.5s								
TAPN	**Taplejung**	**17.33**	**117**	*e*P		**Pn**	**04 01 06.9**	**+1.9**
	comp=Z,14nm,0.4s								
ODAN	**Odare**	**17.40**	**119**	*e*P		**Pn**	**04 01 06.5**	**+0.8**
	comp=Z,19nm,0.6s								
SEKA	**Sheki**	**18.59**	**292**	P		**Pn**	**04 01 18.9**	**-0.6**
ZAA0	**Zalesovo Array**	**20.16**	**25**	P		**P**	**04 01 33.5**	**+0.3**
	comp=Z,1.4nm,0.6s								
ZALV	**Zalesovo Beam**	**20.16**	**25**	P		**P**	**04 01 34.5**	**+1.3**
	comp=Z,11nm,0.4s,baz=219,slow=10,SNR=65								
ZALV				S		**S**	**04 05 08.1**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=228,slow=19,SNR=3.5								
GNI	**Garni**	**20.37**	**288**	*d* iP		Pn	04 01 39.8	-1.2
GNI				pmax	pmax				
	comp=Z,38nm,0.8s								
GNI	**Garni**	**20.37**	**288**	P		**P**	**04 01 37.6**	**+1.8**
	comp=Z,9.7nm,0.7s,baz=345,slow=10,SNR=7.8								
GNI	**Garni**	**20.37**	**288**	P		**P**	**04 01 35.3**	**-0.6**
AKH	**Akhalkalaki**	**21.39**	**291**	P		**P**	**04 01 45.2**	**-1.4**
AKH				pmax	pmax				
	comp=Z,5.0nm,0.7s								
AKH	**Akhalkalaki**	**21.39**	**291**	P		**P**	**04 01 45.2**	**-1.4**
AKH				IAmb	IAmb		04 01 51.5		
	comp=Z,5.1nm,0.7s								
SHL	**Shillong**	**21.40**	**115**	P		**P**	**04 01 46.2**	**-0.7**
SHL				pmax	pmax				
	comp=Z,9.0nm,0.9s								
SHL	**Shillong**	**21.40**	**115**	P		**P**	**04 01 46.2**	**-0.7**
SHL				IAmb	IAmb		04 01 50.2		
	comp=Z,8.9nm,0.9s								
ARU	**Arti**	**21.47**	**342**	*c* iP		**P**	**04 01 49.0**	**+2.0**
ARU							04 02 30.5		
ARU				S		**S**	**04 05 33.9**	**+2.5**
ARU				pmax	pmax				
	comp=Z,15nm,1.1s								
ARU	**Arti**	**21.47**	**342**	P		**P**	**04 01 48.5**	**+1.5**
	comp=Z,1.8nm,0.3s,baz=152,slow=7.6,SNR=8.2								
ARU	**Arti**	**21.47**	**342**	P		**P**	**04 01 44.8**	**-2.1**
ARU				IAmb	IAmb		04 01 50.5		
	comp=Z,6.3nm,0.7s								
KBZ	**Khabaz**	**22.12**	**298**	P		**P**	**04 01 53.9**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=134,slow=9.5,SNR=4.7								
KIV	**Kislovodsk**	**22.30**	**298**	*e*P		**P**	**04 01 55.8**	**+0.4**
KIV				pmax	pmax				
	comp=Z,13nm,0.9s								
RAYN	**Ar Rayn**	**24.99**	**246**	P		**P**	**04 02 18.4**	**-1.5**
RAYN				pmax	pmax				
	comp=Z,13nm,1.1s								
RAYN	**Ar Rayn**	**24.99**	**246**	P		**P**	**04 02 18.4**	**-1.5**
TLY	**Talaya**	**28.05**	**47**	⇓*e*P		**P**	**04 02 47.5**	**+0.6**
TLY				pmax	pmax				
	comp=Z,7.0nm,0.9s								
ILGA	**Ilgaz**	**28.76**	**290**	P		**P**	**04 02 51.5**	**-2.0**
ILGA				IAmb	IAmb		04 02 54.0		
	comp=Z,3.6nm,1.0s								
SONM	**Songino Array**	**28.79**	**55**	P		**P**	**04 02 56.2**	**+2.5**
	comp=Z,8.8nm,0.7s,baz=277,slow=9.2,SNR=4.8								
BR131	**Keskin Array S**	**28.91**	**288**	P		**P**	**04 02 53.4**	**-1.4**
BR131				pmax	pmax				
	comp=Z,1.0nm,0.8s								
BR131	**Keskin Array S**	**28.91**	**288**	P		**P**	**04 02 53.4**	**-1.4**
BRTR	**Keskin Array B**	**28.91**	**288**	P		**P**	**04 02 56.5**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=99,slow=9.3,SNR=9.4								
CMAR	**Chiang Mai Arr**	**30.94**	**118**	P		**P**	**04 03 13.3**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=308,slow=7.9,SNR=5.3								
AKASG	**Malin Array Be**	**32.52**	**309**	P		**P**	**04 03 26.4**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=78,slow=8.6,SNR=3.9								
NRIK	**Noril'sk**	**34.24**	**11**	*e*P		**P**	**04 03 41.5**	**+0.8**
NRIK				pmax	pmax				
	comp=Z,4.0nm,0.5s								
NRIK	**Noril'sk**	**34.24**	**11**	P		**P**	**04 03 40.3**	**-0.4**
	comp=Z,3.7nm,0.5s,baz=203,slow=2.6,SNR=4.9								
MLR	**Muntele Rosu**	**34.30**	**299**	P		**P**	**04 03 40.7**	**-1.1**
MLR				pmax	pmax				
	comp=Z,4.0nm,1.1s								
MLR	**Muntele Rosu**	**34.30**	**299**	P		**P**	**04 03 40.7**	**-1.1**
MLR				IAmb	IAmb		04 03 47.3		
	comp=Z,4.4nm,1.1s								
WHN	**Wuhan**	**36.94**	**86**	P		P	04 04 13.0	+8.8
FINES	**FINESS Array B**	**37.19**	**326**	P		**P**	**04 04 07.1**	**+1.3**
	comp=Z,3.4nm,0.8s,baz=143,slow=9.2,SNR=5.4								
ARCES	**ARCESS Array B**	**40.94**	**338**	*e*P		**P**	**04 04 38.7**	**+1.8**
ARCES				pmax	pmax				
	comp=Z,3.0nm,0.7s								
ARCES	**ARCESS Array B**	**40.94**	**338**	P		**P**	**04 04 38.4**	**+1.5**
	comp=Z,2.7nm,0.7s,baz=101,slow=7.6,SNR=14								
NB2	**NORSAR Subarra**	**44.06**	**323**	P		**P**	**04 05 03.0**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=98,slow=7.9								
NOA	**NORSAR Array B**	**44.06**	**323**	P		**P**	**04 05 02.8**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=102,slow=7.3,SNR=4.7								
ESDC	**Sonseca Array**	**56.97**	**298**	P		**P**	**04 06 38.8**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=56,slow=7.9,SNR=3.2								
LSZ	**Lusaka**	**65.05**	**226**	P		**P**	**04 07 32.7**	**-0.8**
LSZ				pmax	pmax				
	comp=Z,2.0nm,0.7s								
LSZ	**Lusaka**	**65.05**	**226**	P		**P**	**04 07 32.7**	**-0.8**
LSZ				IAmb	IAmb		04 07 34.5		
	comp=Z,2.3nm,0.7s								
TOA0	**Torodi Ar. Sit**	**65.17**	**268**	P		**P**	**04 07 32.3**	**-2.0**
TORD	**Torodi Ar. Bea**	**65.17**	**268**	P		**P**	**04 07 33.1**	**-1.2**
	comp=Z,1.1nm,0.4s,baz=47,slow=6.1,SNR=34								
INK	**Inuvik**	**74.00**	**9**	P		**P**	**04 08 28.7**	**+1.3**
	comp=Z,2.2nm,0.6s,baz=356,slow=7.0,SNR=19								
INK	**Inuvik**	**74.00**	**9**	P		**P**	**04 08 27.6**	**+0.3**
INK				IAmb	IAmb		04 08 29.3		
	comp=Z,4.4nm,1.1s								
DBIC	**Dimbokro**	**74.15**	**267**	P		**P**	**04 08 27.8**	**-1.3**
DBIC				pmax	pmax				
	comp=Z,2.0nm,0.9s								
DBIC	**Dimbokro**	**74.15**	**267**	P		**P**	**04 08 28.4**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=57,slow=2.6,SNR=3.3								
DBIC	**Dimbokro**	**74.15**	**267**	P		**P**	**04 08 27.8**	**-1.3**
ILAR	**Eielson Array**	**74.94**	**16**	P		**P**	**04 08 33.4**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=288,slow=5.0,SNR=10.0								
BOSA	**Boshof**	**77.39**	**220**	P		**P**	**04 08 45.1**	**-2.1**
BOSA				pmax	pmax				
	comp=Z,5.0nm,1.0s								
BOSA	**Boshof**	**77.39**	**220**	P		**P**	**04 08 44.9**	**-2.3**
	comp=Z,1.4nm,0.5s,baz=350,slow=5.9,SNR=3.3								
BOSA	**Boshof**	**77.39**	**220**	P		**P**	**04 08 45.1**	**-2.1**
BOSA				IAmb	IAmb		04 08 48.3		
	comp=Z,4.6nm,1.0s								
YKA	**Yellowknife Ar**	**81.28**	**2**	P		**P**	**04 09 08.5**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=348,slow=5.2,SNR=34								
YKA				pP		**pP**	**04 10 01.4**	**+3.8**
	comp=Z,2.2nm,0.6s,baz=351,slow=5.4,SNR=20								
WRA	**Warramunga Arr**	**82.45**	**121**	*e*P		**P**	**04 09 11.7**	**-2.8**
WRA				pmax	pmax				
	comp=Z,1.0nm,0.5s								
WRA	**Warramunga Arr**	**82.45**	**121**	P		**P**	**04 09 13.1**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=325,slow=5.0,SNR=12								
WRA				pP		**pP**	**04 10 08.4**	**+3.0**
	comp=Z,0.8nm,0.8s,baz=322,slow=4.3,SNR=3.3								
ASAR	**Alice Springs**	**84.70**	**124**	P		**P**	**04 09 24.9**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=310,slow=4.8,SNR=16								
ASAR				pP		**pP**	**04 10 20.1**	**+3.1**
	comp=Z,0.6nm,0.8s,baz=309,slow=5.4,SNR=2.9								
QSPA	**South Pole Qui**	**126.29**	**180**	PKP		**PKPdf**	**04 15 51.3**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=244,slow=2.9,SNR=3.8								
QSPA	**South Pole Qui**	**126.29**	**180**			**PKPdf**	**04 15 51.1**	**-0.9**

IDC ***24*** *03:57:12.0±4.0, 17.°70S×168.°24E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/34, mbtmp3.8/4, ML4.1/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/29, Error ellipse: s-maj=87.8km s-min=41.4km az=104.0*

ISCJB ***24*** *03:57:16.2±1.3, 18.°24S±0.°10×168.°6E±0.°2, h69km, mb3.6/3, Error ellipse: s-maj=24.1km s-min=13.3km az=9.4*

NEIC ***24*** *03:57:23.5±1.2, 18.°50S±0.°08×168.°6E±0.°2, h116km±9km, mb4.1/4*

ISC 24 03:57:18.1±1.6, 18.°2S±0.°1×168.°6E±0.°2, h69km, n10, σ1s63/11, mb4.2/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.36**	**207**	Pn		**Pn**	**Pn**	**03 58 24.1**	**+2.2**
	9.2nm,0.3s,baz=117,slow=19,SNR=322								
DZM				Sn		**Sn**	**Sn**	**03 59 11.6**	**+0.1**
	23nm,0.3s,baz=308,slow=24,SNR=14								
DZM	**Mont Dzumac**	**4.36**	**207**			**Pn**	**Pn**	**03 58 24.3**	**+2.3**
DZM						**Sn**	**Sn**	**03 59 09.9**	**-1.7**
URZ	**Urewera**	**21.34**	**161**	P		**P**	**P**	**04 01 58.4**	**-1.1**
JAY	**Jayapura**	**31.46**	**296**	LR		LR	LR	04 13 02.2	
	comp=Z,15nm,20.4s,baz=24,slow=31								
WRA	**Warramunga Arr**	**32.39**	**261**	P		**P**	**P**	**04 03 41.9**	**+0.4**
	0.2nm,0.5s,baz=86,slow=7.9,SNR=3.8								
BBOO	**Buckleboo**	**32.62**	**237**	P		**P**	**P**	**04 03 41.8**	**-1.6**
BBOO				IAmb	IAmb		IAmb	04 03 53.8	
	comp=Z,4.4nm,1.1s								
AS31	**Alice Springs**	**32.80**	**254**	P		**P**	**P**	**04 03 43.3**	**-1.8**
AS31				IAmb	IAmb		IAmb	04 03 45.6	
	comp=Z,1.4nm,0.3s								
ASAR	**Alice Springs**	**32.80**	**254**	P		**P**	**P**	**04 03 45.2**	**+0.1**
	comp=Z,1.5nm,0.4s,baz=83,slow=8.6,SNR=22								
FITZ	**Fitzroy Crossi**	**40.75**	**263**	P		**P**	**P**	**04 04 53.3**	**+0.7**
SONM	**Songino Array**	**86.02**	**323**	P		**P**	**P**	**04 09 51.7**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=130,slow=5.2,SNR=3.5								

IDC ***24*** *04:19:51.4±2.3, 36.°61N×24.°70E, h0km, mb3.2/2, mb1 3.0/3, mb1mx2.9/32, mbtmp3.0/3, ML2.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/21, Error ellipse: s-maj=249.8km s-min=24.9km az=145.0*

THE ***24*** *04:19:55.3, 34.°92N×26.°22E, h0km±1km, ML2.9/4, Error ellipse: s-maj=2.7km s-min=1.0km az=166.0*

ISCJB ***24*** *04:19:56.4±0.8, 34.°99N±0.°05×26.°21E±0.°03, h16km±4km, mb3.1/2, MS3.0/1, Error ellipse: s-maj=9.3km s-min=4.2km az=167.3*

ISK ***24*** *04:19:57.4, 35.°21N×26.°23E, h2km, ML3.1/8*

ATH ***24*** *04:19:57.1, 35.°15N×26.°15E, h20km, ML2.8/12, Error ellipse: s-maj=2.2km s-min=0.9km az=169.0*

ISC 24 04:19:55.6±1.1, 34.°95N±0.°05×26.°22E±0.°03, h17km±5km, n54, σ0s99/67, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.16**	**360**	P		**Pg**	**Pg**	**04 20 00.3**	**+0.3**
ZKR				S		**Sg**	**Sg**	**04 20 03.6**	**+0.6**
	10μm,0.4s								
ZKR	**Zakros**	**0.16**	**360**	P		**Pg**	**Pg**	**04 20 00.3**	**+0.3**
ZKR				S		**Sg**	**Sg**	**04 20 03.7**	**+0.8**
ZKR	**Zakros**	**0.16**	**360**	PG		**Pg**	**Pg**	**04 19 59.9**	**-0.1**
STIA	**Sitia Lasithi**	**0.27**	**337**	P		**Pb**	**Pb**	**04 20 01.8**	**-0.2**
STIA				S		**Sb**	**Sb**	**04 20 06.1**	**-0.2**
FRMA	**Ierapetra Chan**	**0.40**	**279**	P		**Pg**	**Pg**	**04 20 02.4**	**-1.5**
FRMA				S		**Sg**	**Sg**	**04 20 07.3**	**-2.2**
	1μm,0.3s								
NPS	**Neapolis**	**0.58**	**302**	P		**Pb**	**Pb**	**04 20 07.0**	**-0.4**
NPS	**Neapolis**	**0.58**	**302**	P		**Pb**	**Pb**	**04 20 07.0**	**-0.4**
NPS				S		**Sb**	**Sb**	**04 20 12.9**	**-2.5**
NPS				AML	AML			04 20 23.5	
	comp=E,3605μm,0.3s								
NPS				AML	AML			04 20 23.6	
	comp=N,2870μm,0.4s								
LAST	**Lasithi**	**0.64**	**289**	P		**Pb**	**Pb**	**04 20 07.8**	**-0.5**
LAST				S		**Sn**	**Sn**	**04 20 19.4**	**-0.4**
	comp=N,740nm,0.5s								
LAST	**Lasithi**	**0.64**	**289**	P		**Pb**	**Pb**	**04 20 07.9**	**-0.5**
LAST				AML	AML			04 20 25.6	
	comp=E,1477μm,0.6s								
LAST				AML	AML			04 20 27.8	
	comp=N,1604μm,0.5s								
KARP	**Karpathos**	**0.97**	**52**	P		**Pb**	**Pb**	**04 20 13.9**	**-0.1**
KARP				S		**Sn**	**Sn**	**04 20 29.8**	**+1.9**
	comp=N,2μm,0.6s								
KARP	**Karpathos**	**0.97**	**52**	P		**Pb**	**Pb**	**04 20 14.0**	**0.0**
KARP				S		**Sn**	**Sn**	**04 20 28.0**	**0.0**
KARP				AML	AML			04 20 31.1	
	comp=E,3367μm,0.6s								
KARP				AML	AML			04 20 35.3	
	comp=N,3360μm,0.7s								
KARP	**Karpathos**	**0.97**	**52**	PG		**Pb**	**Pb**	**04 20 14.1**	**0.0**
KARP				SG		**Sg**	**Sg**	**04 20 26.9**	**-0.5**
HRKL	**Herakleio**	**0.98**	**292**	P		**Pn**	**Pn**	**04 20 15.3**	**+0.7**
HRKL	**Herakleio**	**0.98**	**292**	PG		**Pg**	**Pg**	**04 20 15.8**	**+1.1**
IDI	**Anoyia**	**1.14**	**288**	P		**Pn**	**Pn**	**04 20 16.7**	**-0.1**
IDI				AML	AML			04 20 42.1	
	comp=E,658μm,0.5s								
IDI				AML	AML			04 20 52.0	
	comp=N,865μm,0.6s								
SIVA	**Sivas**	**1.16**	**274**	P		**Pn**	**Pn**	**04 20 17.3**	**+0.3**
SIVA				AML	AML			04 20 50.3	
	comp=N,1259μm,0.6s								
SIVA				AML	AML			04 20 52.5	
	comp=E,2101μm,0.6s								
SANT	**Santorini**	**1.54**	**337**	P		**Pn**	**Pn**	**04 20 22.2**	**-0.2**
SANT				S		**Sn**	**Sn**	**04 20 42.1**	**+0.1**
SANT				AML	AML			04 20 51.0	
	comp=N,214μm,0.5s								
SANT				AML	AML			04 20 51.0	
	comp=E,647μm,0.3s								
SANT	**Santorini**	**1.54**	**337**	PN		**Pb**	**Pb**	**04 20 23.9**	**+0.1**
THR6	**Thira Island,**	**1.55**	**335**	P		**Pb**	**Pb**	**04 20 23.6**	**-0.3**
THR8	**Santorini-Mono**	**1.57**	**338**	P		**Pn**	**Pn**	**04 20 23.0**	**+0.4**
THR3	**Thira Island,**	**1.60**	**336**	P		**Pn**	**Pn**	**04 20 22.9**	**-0.2**
THT2	**Imerovigli**	**1.62**	**337**	PN		**Pb**	**Pb**	**04 20 24.9**	**-0.1**
THR5	**Thira Island,**	**1.62**	**334**	P		**Pn**	**Pn**	**04 20 23.1**	**-0.4**
VAM	**Vamos**	**1.71**	**286**	P		**Pb**	**Pb**	**04 20 27.1**	**+0.5**
VAM				S		**Sb**	**Sb**	**04 20 48.7**	**+0.8**
VAM				AML	AML			04 20 56.3	
	comp=N,699μm,0.7s								
VAM				AML	AML			04 21 01.6	
	comp=E,609μm,0.5s								
GVDS	**Gavdos**	**1.75**	**267**	PN		**Pg**	**Pg**	**04 20 31.2**	**+1.9**
GVD	**Gavdhos**	**1.75**	**267**	P		**Pg**	**Pg**	**04 20 29.4**	**0.0**
GVD	**Gavdhos**	**1.75**	**267**	PN		**Pg**	**Pg**	**04 20 30.6**	**+1.2**
NISR	**Nisiros**	**1.81**	**24**	P		**Pb**	**Pb**	**04 20 28.3**	**-0.1**
AMGA	**Amorgos Island**	**1.90**	**352**	P		**Pn**	**Pn**	**04 20 27.3**	**+0.1**
AMGA	**Amorgos Island**	**1.90**	**352**	P		**Pn**	**Pn**	**04 20 26.9**	**-0.2**
AMGA				AML	AML			04 21 02.9	
	comp=E,353μm,0.4s								
AMGA				AML	AML			04 21 10.9	
	comp=N,384μm,0.5s								
IMMV	**Iera Moni Meta**	**1.90**	**286**	P		**Pb**	**Pb**	**04 20 30.1**	**+0.3**
IMMV				S		**Sb**	**Sb**	**04 20 53.9**	**+0.6**
IMMV				AML	AML			04 21 13.9	
	comp=N,424μm,1.4s								
IMMV				AML	AML			04 21 27.5	
	comp=E,513μm,0.8s								
IMMV	**Iera Moni Meta**	**1.90**	**286**	PN		**Pb**	**Pb**	**04 20 31.7**	**+1.9**
IOSP	**Ios island**	**1.92**	**337**	P		**Pn**	**Pn**	**04 20 27.7**	**+0.1**
IOSP	**Ios island**	**1.92**	**337**	P		**Pn**	**Pn**	**04 20 27.6**	**+0.1**
IOSP				AML	AML			04 20 58.1	
	comp=E,512μm,0.7s								
IOSP				AML	AML			04 21 01.1	
	comp=N,493μm,0.7s								
ARG	**Arkhangelos**	**2.00**	**50**	P		**Pb**	**Pb**	**04 20 30.5**	**-1.0**
ARG				S		**Sb**	**Sb**	**04 20 55.9**	**-0.3**
ARG				AML	AML			04 21 06.7	
	comp=N,359μm,0.5s								
ARG				AML	AML			04 21 10.8	
	comp=E,402μm,0.4s								
ARG	**Arkhangelos**	**2.00**	**50**	PN		**Pb**	**Pb**	**04 20 30.8**	**-0.8**
DAT	**Datca**	**2.09**	**32**	PN		**Pn**	**Pn**	**04 20 31.4**	**+1.5**
APE	**Apeiranthos**	**2.19**	**345**	P		**Pn**	**Pn**	**04 20 31.4**	**+0.2**
APE	**Apeiranthos**	**2.19**	**345**	P		**Pn**	**Pn**	**04 20 31.2**	**0.0**
APE				S		**Sn**	**Sn**	**04 20 57.7**	**-0.1**
APE				AML	AML			04 21 04.6	
	comp=E,123μm,0.4s								
APE				AML	AML			04 21 14.1	
	comp=N,116μm,0.6s								
APE	**Apeiranthos**	**2.19**	**345**	PN		**Pn**	**Pn**	**04 20 31.9**	**+0.7**
MHLO	**Agia Marina, M**	**2.28**	**320**	P		**Pn**	**Pn**	**04 20 33.7**	**+1.3**
BODT	**Bodrum**	**2.29**	**22**	PN		**Pn**	**Pn**	**04 20 34.0**	**+1.5**
MHLA	**Plaka, Milos I**	**2.31**	**321**	P		**Pn**	**Pn**	**04 20 34.9**	**+2.0**
ANKY	**Antikythira Is**	**2.55**	**292**	P		**Pn**	**Pn**	**04 20 37.7**	**+1.5**
SERI	**Serifos**	**2.61**	**328**	P		**Pn**	**Pn**	**04 20 38.1**	**+1.0**
TURN	**Turunc**	**2.73**	**45**	PN		**Pn**	**Pn**	**04 20 36.4**	**-2.1**
YER	**Yerkesik**	**2.75**	**37**	PN		**Pn**	**Pn**	**04 20 40.6**	**+1.7**
FETY	**Fethiye**	**2.87**	**53**	P		**Pn**	**Pn**	**04 20 41.0**	**+0.4**
CHOS	**Chios island**	**3.43**	**358**	P		**Pn**	**Pn**	**04 20 48.7**	**+0.4**
DID	**Didima**

STR ***24*** *05:27:00.2±0.8, 44°N±4°×±°, h0km, MLv1.0/6*
LDG ***24*** *05:27:00.8±0.1, 44°.21N×7°.18E, h10km, Md1.3/3, Ml1.1/7, Error ellipse: s-maj=3.6km s-min=2.1km az=56.0*
GEN 24 05:27:00.3, 44°.28N×7°.35E, h14km±1km, Ml0.5, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STV	**Sant Anna di V**	**0.04**	**211**	P	Pg	05 27 03.0	+0.1
STV				S	Sg	05 27 04.6	-0.1
ENR	**Entracque**	**0.07**	**137**	P	Pg	05 27 03.2	0.0
ENR				S	Sg	05 27 04.9	-0.2
ISO	**Isola**	**0.24**	**247**	Pg	Pg	05 27 05.8	+0.3
ISO				Sg	Sg	05 27 09.1	+0.2
PZZ	**Stroppo**	**0.28**	**324**	P	Pg	05 27 06.0	-0.3
PZZ				S	Sg	05 27 10.3	-0.1
TURF	**col de Turini**	**0.30**	**175**	Pg	Pg	05 27 06.9	+0.2
TURF				Sg	Sg	05 27 11.3	+0.3
SAOF	**Saorge**	**0.33**	**153**	Pg	Pg	05 27 07.1	+0.2
SAOF				Sg	Sg	05 27 11.4	-0.1
GBOS	**Grotte di Boss**	**0.35**	**96**	P	Pg	05 27 07.4	-0.1
GBOS				S	Sg	05 27 12.1	-0.2
SBF	**Sospel**	**0.42**	**172**	*e*Pg	Pg	05 27 08.2	-0.4
SBF				*e*Sg	Sg	05 27 13.7	-0.6
	5.1nm,0.2s						
SURF	**Saint Ours**	**0.44**	**298**	Pg	Pg	05 27 08.9	-0.2
SURF				Sg	Sg	05 27 15.2	+0.2
ESCA	**l'Escarene**	**0.45**	**178**	Pg	Pg	05 27 09.5	+0.3
ESCA				Sg	Sg	05 27 15.7	+0.6
CALF	**Calern**	**0.61**	**211**	Pg	Pb	05 27 12.5	-0.3
MBDF	**Montbardon**	**0.61**	**317**	*e*Pg	Pg	05 27 11.9	-0.4
MBDF				*e*Sg	Sg	05 27 19.6	-0.8
	0.9nm,0.3s						
FRF	**La Foret Royal**	**0.88**	**216**	*e*Pg	Pg	05 27 14.8	-2.5
FRF				*e*Sg	Sg	05 27 24.8	-4.0
	2.9nm,0.3s						
LMR	**La Mourre**	**1.12**	**213**	*e*P	Pb	05 27 21.3	-0.2
LMR				*e*Sg	Sb	05 27 32.2	-3.8
	0.4nm,0.1s						
ORIF	**Oris-en-Rattie**	**1.23**	**302**	*e*Pg	Pn	05 27 22.7	-0.5
ORIF				*e*Sg	Sb	05 27 38.3	-0.9
	1.4nm,0.4s						
LPG	**La Plagne**	**1.29**	**341**	*e*Pn	Pg	05 27 25.1	-0.1
LPG				*e*Sn	Sb	05 27 41.0	-0.1
	0.2nm,0.2s						
LPL	**La Plagne**	**1.31**	**341**	*e*Pn	Pb	05 27 25.2	+0.3
LPL				*e*Sn	Sb	05 27 41.6	-0.1
	0.1nm,0.2s						
SMRF	**Simiane la Rot**	**1.31**	**257**	*e*Pg	Pn	05 27 22.2	-2.1
SMRF				*e*Sg	Sb	05 27 38.2	-3.3
	0.2nm,0.2s						
VIVF	**Saint-Julien-l**	**2.00**	**288**	*e*P	Pn	05 27 34.4	+0.7

STR ***24*** *05:27:20.8±0.7, 44°N±3°×±°, h0km, MLv1.3/6*
LDG ***24*** *05:27:22.2±0.1, 44°.23N×7°.17E, h10km, Md1.9/3, Ml1.5/9, Error ellipse: s-maj=1.7km s-min=1.0km az=65.0*
GEN 24 05:27:20.9, 44°.28N×7°.36E, h13km±1km, Ml0.7, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STV	**Sant Anna di V**	**0.04**	**212**	P	Pg	05 27 23.6	+0.1
STV				S	Sg	05 27 25.2	-0.1
ENR	**Entracque**	**0.07**	**139**	P	Pg	05 27 23.7	0.0
ENR				S	Sg	05 27 25.5	-0.2
ISO	**Isola**	**0.24**	**246**	Pg	Pg	05 27 26.4	+0.3
ISO				Sg	Sg	05 27 29.7	+0.1
PZZ	**Stroppo**	**0.28**	**323**	P	Pg	05 27 26.6	-0.3
PZZ				S	Sg	05 27 31.0	0.0
TURF	**col de Turini**	**0.31**	**175**	Pg	Pg	05 27 27.4	+0.1
TURF				Sg	Sg	05 27 31.8	+0.2
SAOF	**Saorge**	**0.33**	**154**	Pg	Pg	05 27 27.8	+0.2
SAOF				Sg	Sg	05 27 32.1	0.0
GBOS	**Grotte di Boss**	**0.35**	**96**	P	Pg	05 27 28.1	+0.1
GBOS				S	Sg	05 27 32.5	-0.3
SBF	**Sospel**	**0.42**	**172**	*e*Pg	Pg	05 27 29.5	+0.2
SBF				*e*Sg	Sg	05 27 35.3	+0.3
	11nm,0.2s						
SURF	**Saint Ours**	**0.44**	**297**	Pg	Pg	05 27 29.6	-0.1
SURF				Sg	Sg	05 27 35.5	-0.2
ESCA	**l'Escarene**	**0.45**	**178**	Pg	Pg	05 27 30.0	+0.2
ESCA				Sg	Sg	05 27 36.3	+0.5
MON	**Monaco**	**0.55**	**175**	Pg	Pg	05 27 31.7	0.0
MON				Sg	Sb	05 27 40.0	-0.2
MBDF	**Montbardon**	**0.61**	**317**	*e*Pg	Pg	05 27 32.5	-0.4
MBDF				*e*Sg	Sg	05 27 40.4	-0.7
	3.3nm,0.3s						
FRF	**La Foret Royal**	**0.88**	**216**	*e*Pg	Pg	05 27 36.7	-1.3
FRF	**La Foret Royal**	**0.88**	**216**	*e*Pn	Pg	05 27 37.5	-0.5
FRF				*e*Sg	Sg	05 27 46.3	-3.2
FRF				*e*Sn	Sb	05 27 48.8	-0.9
	4.6nm,0.2s						
LMR	**La Mourre**	**1.13**	**213**	*e*Pg	Pb	05 27 41.3	-0.9
LMR				*e*Sg	Sb	05 27 54.4	-2.4
	4.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.23**	**302**	*e*Pg	Pn	05 27 43.8	-0.1
ORIF				*e*Sg	Sb	05 27 58.6	-1.3
	0.4nm,0.3s						
LPG	**La Plagne**	**1.29**	**341**	*e*Pn	Pg	05 27 45.9	+0.1
LPG				*e*Sg	Sg	05 28 03.9	+1.3
	0.7nm,0.3s						
LPL	**La Plagne**	**1.31**	**340**	*e*Pn	Pn	05 27 45.3	+0.2
LPL				*e*Sg	Sg	05 28 04.7	+1.4
	0.6nm,0.3s						
SMRF	**Simiane la Rot**	**1.32**	**257**	*e*Pg	Pn	05 27 44.5	-0.5
SMRF				*e*Sg	Sb	05 27 59.7	-2.6
	2.0nm,0.3s						
VIVF	**Saint-Julien-l**	**2.00**	**288**	*e*P	Pn	05 27 55.4	+1.0
VIVF				*e*Sn	Sn	05 28 15.6	-3.7
	1.3nm,0.3s						
VIVF	**Saint-Julien-l**	**2.00**	**288**	*e*Sn	Pn	05 27 55.4	+1.0
	0.3nm,0.3s						
PGF	**Pioggiola**	**2.10**	**145**	*e*P	Pb	05 27 58.5	-0.5
PGF				*e*Sn	Sn	05 28 21.7	-0.3
	0.2nm,0.2s						

ATH ***24*** *05:38:44.2, 37°.99N×20°.17E, h10km±2km, ML2.5/17, Error ellipse: s-maj=3.1km s-min=1.0km az=69.0*
THE ***24*** *05:38:44.5, 37°.98N×20°.16E, h0km±1km, ML2.5/9, Error ellipse: s-maj=2.2km s-min=0.8km az=237.0*
ISC 24 05:38:43.7±1.6, 37°.98N±0°.04×20°.11E±0°.05, h10km±9km, n43, σ0°.79/68, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.43**	**63**	P	**Pg**	**05 38 52.0**	**-0.1**
VLS				S	**Sg**	**05 38 57.4**	**-0.4**
	2µm,0.2s						
VLS	**Valsamata**	**0.43**	**63**	P	**Pg**	**05 38 52.0**	**-0.1**
VLS				S	**Sg**	**05 38 57.4**	**-0.4**
VLS				AML	AML	05 38 57.8	
	comp=N,5052µm,0.2s						
VLS				AML	AML	05 38 58.0	
	comp=E,3594µm,0.2s						
VLMS	**Volimes, Zakyn**	**0.45**	**103**	P	**Pg**	**05 38 52.6**	**+0.1**
VLMS				S	**Sg**	**05 38 58.5**	**-0.1**
KFL	**Anninata**	**0.55**	**76**	P	**Pg**	**05 38 54.2**	**-0.2**
KFL				S	**Sg**	**05 39 01.6**	**-0.2**
	comp=E,2µm,0.4s						
KFL	**Anninata**	**0.55**	**76**	P	**Pg**	**05 38 54.3**	**-0.2**
KFL				S	**Sg**	**05 39 01.1**	**-0.7**
KFL				AML	AML	05 39 02.0	
	comp=E,3678µm,0.3s						
KFL				AML	AML	05 39 08.2	
	comp=N,2328µm,0.4s						
FSK	**Fiskardo**	**0.60**	**37**	P	**Pg**	**05 38 55.3**	**0.0**
FSK				S	**Sg**	**05 39 03.5**	**+0.4**
	comp=N,658nm,0.2s						
FSK	**Fiskardo**	**0.60**	**37**	P	**Pg**	**05 38 55.3**	**0.0**
FSK				S	**Sg**	**05 39 03.2**	**+0.1**
EVGI	**Lefkada island**	**0.77**	**34**	P	**Pg**	**05 38 58.3**	**-0.3**
EVGI				S	**Sb**	**05 39 09.9**	**+0.1**
	comp=N,175nm,0.2s						
EVGI	**Lefkada island**	**0.77**	**34**	P	**Pg**	**05 38 58.4**	**-0.2**
EVGI				S	**Sg**	**05 39 08.3**	**-0.4**
MGNA	**Meganis**	**0.86**	**38**	P	**Pg**	**05 39 00.1**	**-0.2**
MGNA				S	**Sg**	**05 39 11.5**	**0.0**
LKD2	**Lefkada island**	**0.92**	**28**	P	**Pg**	**05 39 01.0**	**-0.3**
LKD2	**Lefkada island**	**0.92**	**28**	P	**Pg**	**05 39 01.1**	**-0.2**
LKD2				S	**Sg**	**05 39 13.2**	**-0.1**
LKD2				AML	AML	05 39 23.8	
	comp=N,607µm,0.6s						
LKD2				AML	AML	05 39 24.0	
	comp=E,580µm,0.5s						
TSLK	**Tsoukalades, L**	**0.95**	**27**	P	**Pg**	**05 39 01.9**	**0.0**
TSLK				S	**Sb**	**05 39 16.4**	**+1.6**
	comp=E,518nm,0.4s						
TSLK	**Tsoukalades, L**	**0.95**	**27**	P	**Pg**	**05 39 01.7**	**-0.2**
TSLK				S	**Sg**	**05 39 14.8**	**+0.6**
TSLK				AML	AML	05 39 22.7	
	comp=N,1326µm,0.5s						
TSLK				AML	AML	05 39 24.9	
	comp=E,749µm,0.4s						
PDO	**Prodromos**	**1.05**	**54**	P	**Pg**	**05 39 03.5**	**-0.4**
RLS	**Riolos of Patr**	**1.08**	**86**	P	**Pg**	**05 39 03.6**	**-0.8**
RLS				S	**Sn**	**05 39 19.6**	**-0.3**
	comp=E,108nm,0.5s						
RLS	**Riolos of Patr**	**1.08**	**86**	P	**Pg**	**05 39 03.7**	**-0.7**
RLS				S	**Sg**	**05 39 17.4**	**-1.0**
RLS				AML	AML	05 39 26.6	
	comp=E,218µm,0.6s						
RLS				AML	AML	05 39 30.2	
	comp=N,221µm,0.3s						
DRO	**Drossia**	**1.27**	**91**	P	**Pg**	**05 39 07.1**	**-0.9**
DRO				AML	AML	05 39 35.2	
	comp=E,709µm,0.4s						
DRO				AML	AML	05 39 40.0	
	comp=N,461µm,0.4s						
PVO	**Paravola**	**1.28**	**60**	P	**Pg**	**05 39 07.7**	**-0.7**
PVO				S	**Sb**	**05 39 24.6**	**+0.1**
PVO				AML	AML	05 39 31.4	
	comp=N,604µm,0.5s						
PVO				AML	AML	05 39 31.4	
	comp=E,418µm,0.4s						
AMT	**Artemida-Makis**	**1.35**	**109**	P	**Pg**	**05 39 09.5**	**-0.1**
AMT				S	**Sn**	**05 39 28.2**	**+1.6**
	comp=E,338nm,0.6s						
AMT	**Artemida-Makis**	**1.35**	**109**	P	**Pn**	**05 39 08.8**	**+0.2**
AMT				S	**Sn**	**05 39 26.9**	**+0.3**
AMT				AML	AML	05 39 35.4	
	comp=E,615µm,0.5s						
AMT				AML	AML	05 39 36.3	
	comp=N,535µm,0.5s						
EFP	**Efpalio**	**1.49**	**72**	P	**Pn**	**05 39 10.7**	**+0.2**
EFP				S	**Sg**	**05 39 32.5**	**+1.0**
	comp=N,110nm,0.6s						
EFP	**Efpalio**	**1.49**	**72**	P	**Pn**	**05 39 10.9**	**+0.4**
EFP				AML	AML	05 39 43.1	
	comp=E,222µm,0.5s						
EFP				AML	AML	05 39 44.2	
	comp=N,184µm,0.7s						
IGT	**Igoumenitsa**	**1.56**	**6**	P	**Pn**	**05 39 13.0**	**+1.5**
IGT				S	**Sg**	**05 39 34.0**	**+0.2**
	comp=N,58nm,0.5s						
IGT	**Igoumenitsa**	**1.56**	**6**	AML	AML	05 39 47.8	
	comp=E,133µm,0.5s						
IGT				AML	AML	05 39 48.4	
	comp=N,94µm,0.6s						
SERG	**Sergoula**	**1.60**	**74**	P	**Pn**	**05 39 12.4**	**+0.4**
SERG	**Sergoula**	**1.60**	**74**	P	**Pn**	**05 39 12.5**	**+0.5**
SERG				AML	AML	05 39 44.0	
	comp=E,155µm,0.5s						
SERG				AML	AML	05 39 46.7	
	comp=N,227µm,0.4s						
TRIZ	**Trizonia**	**1.60**	**76**	P	**Pn**	**05 39 12.8**	**+0.8**
TRIZ	**Trizonia**	**1.60**	**76**	P	**Pn**	**05 39 12.8**	**+0.8**
TRIZ				S	**Sg**	**05 39 34.7**	**-0.3**
KLV	**Kalavryta, Ach**	**1.62**	**87**	P	**Pn**	**05 39 12.8**	**+0.5**
KLV	**Kalavryta, Ach**	**1.62**	**87**	P	**Pn**	**05 39 13.0**	**+0.7**
KLV				S	**Sg**	**05 39 35.2**	**-0.5**
KLV				AML	AML	05 39 47.2	
	comp=E,92µm,0.9s						
KLV				AML	AML	05 39 48.3	
	comp=N,102µm,0.6s						
EVR	**Evrytania**	**1.63**	**55**	P	**Pn**	**05 39 13.3**	**+0.8**
EVR				AML	AML	05 39 46.3	
	comp=N,108µm,0.6s						
EVR				AML	AML	05 39 46.5	
	comp=E,82µm,0.9s						
ITM	**Ithomi**	**1.65**	**118**	P	**Pb**	**05 39 14.4**	**+0.1**
ITM				S	**Sg**	**05 39 36.4**	**-0.5**
ITM				AML	AML	05 39 42.8	
	comp=E,220µm,0.6s						
ITM				AML	AML	05 39 46.9	
	comp=N,203µm,0.6s						
KALE	**Kalithea**	**1.65**	**75**	P	**Pn**	**05 39 13.7**	**+0.8**
KALE	**Kalithea**	**1.65**	**75**	P	**Pb**	**05 39 14.1**	**-0.2**
KALE				AML	AML	05 39 47.4	
	comp=E,103µm,0.5s						
KALE				AML	AML	05 39 47.5	
	comp=N,125µm,0.7s						
PYL	**PYLOS**	**1.69**	**129**	P	**Pb**	**05 39 15.3**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.89**	**56**	P	**Pb**	**05 39 18.3**	**-0.1**
MAKR				AML	AML	05 39 54.6	
	comp=E,190µm,0.7s						
MAKR				AML	AML	05 39 57.5	
	comp=N,127µm,0.9s						
VLX	**Vlachokerasia**	**1.90**	**108**	P	**Pb**	**05 39 18.1**	**-0.5**
VLX				AML	AML	05 39 51.3	
	comp=E,176µm,0.6s						
VLX				AML	AML	05 39 51.8	
	comp=N,263µm,0.6s						
AGG	**Agios Georgios**	**2.03**	**59**	P	**Pb**	**05 39 20.6**	**-0.1**
STON	**Ston**	**5.22**	**340**	*e*Pn	**Pn**	**05 40 02.7**	**+1.0**
STON				Sn	**Sn**	**05 40 59.6**	**-2.3**
MAKA	**Makarska**	**5.80**	**337**	*e*Pn	**Pn**	**05 40 11.1**	**+1.4**
MAKA				Sn	**Sn**	**05 41 14.5**	**-1.7**
RICI	**Ricice**	**5.95**	**339**	ePn		05 40 11.7	
RICI				Sn	**Sn**	**05 41 17.6**	**-2.5**
KIJV	**Kijevo**	**6.64**	**336**	*i* Pn	**Pn**	**05 40 22.4**	**+1.2**
KIJV				Sn	**Sn**	**05 41 35.5**	**-1.5**

NIED ***24*** *06:07:00, 45°.70N×150°.90E, h32km, Mw4.0 Best double couple: M0 1.17000×10^15 NP1:ϕs127.00000°, δ50.00000°, λ-31.00000°. NP2:ϕs237.00000°, δ67.00000°, λ-136.00000°.*
ISCJB ***24*** *06:07:46.0±0.6, 45°.16N±0°.09×151°.17E±0°.07, h35km, mb3.7/10, MS3.6/3, Error ellipse: s-maj=14.2km s-min=4.9km az=154.6*
SKHL ***24*** *06:07:45.8±0.8, 44°.99N×151°.41E, h45km±4km, mb4.5/4*
MOS ***24*** *06:07:47.7±1.0, 44°.85N×151°.32E, h39km, mb4.2/1, Error ellipse: s-maj=19.7km s-min=11.5km az=147.6*
JMA ***24*** *06:07:48.0±0.6, 45°.68N×150°.85E, h30km, M4.4*
NEIC ***24*** *06:07:50.9±1.7, 45°.4N±0°.1×151°.05E±0°.08, h58km±8km, mb4.0/1*
IDC ***24*** *06:07:51.6±4.8, 45°.38N×151°.01E, h65km±43km, mb3.5/10, mb1 3.7/11, mb1mx3.4/44, mbtmp3.8/11, ML3.5/1, MS3.3/8, Ms1 3.3/8, ms1mx3.0/46, Error ellipse: s-maj=27.8km s-min=19.8km az=93.0*
ISC 24 06:07:47.4±0.8, 45°.01N±0°.10×151°.24E±0°.08, h35km, n59, σ1°.86/61, mb3.8/11, MS3.8/3, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.40**	**277**	*e*PN	**Pn**	**06 08 24.5**	**+0.4**
KUR				*e*S	**Sn**	**06 08 52.0**	**-0.2**
KUR				pmax	pmax		
	comp=E,78nm,0.1s						
KUR				pmax	pmax		
	comp=Z,143nm,0.1s						
KUR				pmax	pmax		
	comp=N,45nm,0.2s						
KUR				smax	smax		
	comp=N,347nm,0.3s						
KUR				smax	smax		
	comp=E,128nm,0.2s						
KUR	**Kuril'sk**	**2.40**	**277**	*i* P	**Pn**	**06 08 24.0**	**-0.1**
KUR				AMB	AMB	06 08 25.0	
	comp=E,138nm,0.5s						
KUR				*i* S	**Sn**	**06 08 52.0**	**-0.2**
KUR				A	A	06 08 57.0	
	comp=E,340nm,0.4s						
KUR				A	A	06 08 57.0	
	comp=E,128nm,0.4s						
SHO	**Shikotan**	**3.36**	**252**	*e*PN	**Pn**	**06 08 37.3**	**0.0**
SHO				*e*S	**Sn**	**06 09 16.3**	**+0.4**
SHO				pmax	pmax		
	comp=Z,55nm,0.4s						
SHO				pmax	pmax		
	comp=N,30nm,0.3s						
SHO				pmax	pmax		
	comp=E,33nm,0.3s						
SHO				smax	smax		
	comp=E,50nm,0.4s						
SHO				smax	smax		
	comp=N,132nm,0.3s						
SHO	**Shikotan**	**3.36**	**252**	*e*P	**Pn**	**06 08 37.0**	**-0.3**
SHO				AMB	AMB	06 08 41.0	
	comp=N,55nm,0.4s						
SHO				*e*S	**Sn**	**06 09 16.0**	**+0.1**
SHO				A	A	06 09 22.0	
	comp=N,132nm,0.4s						
SHO				A	A	06 09 22.0	
	comp=N,150nm,0.4s						
GRPR	**Tuman**	**4.04**	**257**	*e*PN	**Pn**	**06 08 47.3**	**+0.6**
GRPR				S	**Sn**	**06 09 33.4**	**+0.7**
GRPR				pmax	pmax		
	comp=Z,102nm,0.3s						
GRPR				smax	smax		
	comp=N,172nm,0.2s						
GRPR				smax	smax		
	comp=E,177nm,0.4s						
GRPR	**Tuman**	**4.04**	**257**	*e*P	**Pn**	**06 08 47.0**	**+0.3**
GRPR				AMB	AMB	06 08 50.0	
	comp=E,25nm,0.4s						
GRPR				*e*S	**Sn**	**06 09 33.0**	**+0.3**
GRPR				A	A	06 09 39.0	
	comp=E,172nm,0.4s						
GRPR				A	A	06 09 39.0	
	comp=E,177nm,0.4s						
NEM2	**Nemuro 2**	**4.28**	**249**	P	**Pn**	**06 08 50.9**	**+0.9**
NEM2				*e*S	**Sn**	**06 09 37.8**	**-0.8**
NMR	**Nemuro--Hokkai**	**4.29**	**249**	*i* PN	**Pn**	**06 08 50.7**	**+0.6**
NMR				*e*S	**Sn**	**06 09 38.7**	**-0.1**
NMR	**Nemuro--Hokkai**	**4.29**	**249**	*i* P	**Pn**	**06 08 50.0**	**-0.1**
NMR				*e*S	**Sn**	**06 09 38.0**	**-0.8**
GLVR	**Golovnino**	**4.29**	**255**	PN	**Pn**	**06 08 51.4**	**+1.3**
GLVR				S	**Sn**	**06 09 40.6**	**+1.7**
GLVR				pmax	pmax		
	comp=Z,117nm,0.4s						
GLVR				smax	smax		
	comp=E,157nm,0.3s						
GLVR				smax	smax		
	comp=N,102nm,0.2s						
GLVR	**Golovnino**	**4.29**	**255**	*e*P	**Pn**	**06 08 51.0**	**+0.9**
GLVR				AMB	AMB	06 08 53.0	
	comp=N,30nm,0.4s						
GLVR				*e*S	**Sn**	**06 09 40.0**	**+1.1**
GLVR				A	A	06 09 44.0	
	comp=N,102nm,0.5s						
GLVR				A	A	06 09 44.0	
	comp=N,157nm,0.5s						
JRA	**Rausu**	**4.51**	**258**	P	**Pn**	**06 08 55.0**	**+1.9**
JNK	**Nakash**	**4.89**	**255**	P	**Pn**	**06 08 59.8**	**+1.4**
JAK	**Akkeshi**	**5.13**	**249**	P	**Pn**	**06 09 01.9**	**+0.3**
JAK				*e*S	**Sn**	**06 09 57.3**	**-2.3**
JTKR	**Abashiri--Toko**	**5.35**	**261**	P	**Pn**	**06 09 06.7**	**+2.1**
JAR	**Ashorobuto**	**5.64**	**255**	P	**Pn**	**06 09 10.5**	**+1.8**
JAR				*e*S	**Sn**	**06 10 12.9**	**+0.7**
JMP	**Maruseppu**	**5.72**	**263**	P	**Pn**	**06 09 11.9**	**+2.1**
JCH	**Churui**	**6.18**	**250**	P	**Pn**	**06 09 17.4**	**+1.3**
JCH				*e*S	**Sn**	**06 10 23.3**	**-2.2**
JKK2	**Kamakawa 2**	**6.18**	**262**	P	**Pn**	**06 09 18.5**	**+2.4**
JKA	**Kamikawa-asahi**	**6.24**	**265**	*e*P	**Pn**	**06 09 19.6**	**+2.7**
JKA	**Kamikawa-asahi**	**6.24**	**265**			**06 09 19.6**	**+2.7**
ASAJ	**Asahikawa**	**6.24**	**265**	P	**Pn**	**06 09 19.6**	**+2.7**
	comp=N,1.2nm,0.3s,baz=69,slow=8.6,SNR=3.2						
ASAJ				LR	LR	06 11 22.5	
	comp=N,133nm,19.9s,baz=90,slow=34						
ERM	**Erimo**	**6.59**	**246**	PN	**Pn**	**06 09 25.0**	**+3.3**
ERM	**Erimo**	**6.59**	**246**		**Pn**	**06 09 25.1**	**+3.3**
JNBK	**Urakawa-nobuka**	**6.73**	**249**	P	**Pn**	**06 09 23.9**	**+0.2**
JBT2	**Biratori 2**	**6.79**	**254**	P	**Pn**	**06 09 25.3**	**+0.9**
JNB	**Noboribetsu**	**7.81**	**255**	P	**Pn**	**06 09 40.1**	**+1.7**
JNB				*e*S	**Sn**	**06 11 04.3**	**-1.3**
JKB	**Kayabe**	**8.05**	**251**	P	**Pn**	**06 09 42.0**	**+0.2**
JANG	**Nango**	**8.53**	**240**	P	**Pn**	**06 09 48.5**	**+0.2**
JANG				*e*S	**Sn**	**06 11 16.4**	**-6.8**
USRK	**Ussuriysk Ar.**	**13.74**	**273**	LR	LR	06 16 41.9	
	comp=N,147nm,18.1s,baz=12,slow=39						
KLR	**Kul'dur**	**13.92**	**295**	LR	LR	06 16 13.9	
	comp=N,48nm,20.0s,baz=130,slow=40						
MA2	**Magadan**	**14.59**	**359**	LR	LR	06 17 17.7	
	comp=N,48nm,20.0s,baz=130,slow=40						
KSRS	**Korsa Array**	**19.05**	**255**	LR	LR	06 19 30.5	
	comp=N,54nm,18.2s,baz=36,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.36**	**148**	T	T	06 45 21.8	
	baz=337,slow=74						
H11N1	**WAKE ISLAND Hy**	**28.38**	**148**	T	T	06 45 10.9	
	baz=337,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.38**	**148**	T	T	06 45 24.1	
	baz=337						
H11S1	**WAKE ISLAND Hy**	**29.41**	**149**	T	T	06 46 00.1	
	baz=337,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**29.41**	**149**	T	T	06 45 46.4	
	baz=337,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**29.42**	**149**	T	T	06 45 54.6	
	baz=337,slow=76,SNR=24						
MKAR	**Makanchi Array**	**46.59**	**298**	P	**P**	**06 16 10.7**	**-1.0**
	comp=N,0.8nm,0.7s,baz=64,slow=7.8,SNR=5.7						
YKA	**Yellowknife Ar**	**53.10**	**35**	P	**P**	**06 17 00.4**	**-0.5**
	comp=N,0.1nm,0.4s,baz=296,slow=7.2,SNR=2.9						
AAK	**Ala-Archa**	**53.44**	**297**	LR	LR	06 39 35.5	
	comp=N,31nm,19.3s,baz=350,slow=36						
ARU	**Arti**	**55.41**	**318**	LR	LR	06 41 00.6	
	comp=N,65nm,18.2s,baz=48,slow=36						
ABKAR	**Akbulak array**	**58.53**	**310**	P	**P**	**06 17 38.8**	**-1.2**
ABKAR				IAmb	IAmb	06 17 54.2	
	comp=Z,1.7nm,1.2s						
AKTO	**Aktyubinsk**	**58.91**	**312**	LR	LR	06 47 03.0	
	comp=Z,84nm,22.0s,baz=7.2,slow=40						
ARCES	**ARCESS Array B**	**59.06**	**341**	P	**P**	**06 17 41.3**	**-2.1**
	comp=Z,6.5nm,1.0s,baz=39,slow=7.4,SNR=2.7						
GCMT	**Greycliff**	**64.84**	**50**	P	**P**	**06 18 22.2**	**-0.5**
FINES	**FINESS Array B**	**65.05**	**334**	P	**P**	**06 18 21.5**	**-2.1**
	comp=Z,2.0nm,0.8s,baz=34,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**66.45**	**197**	P	**P**	**06 18 35.4**	**+2.3**
	comp=Z,0.7nm,0.8s,baz=14,slow=6.8,SNR=3.3						
NOA	**NORSAR Array B**	**69.44**	**340**	P	**P**	**06 18 49.6**	**-1.9**
	comp=Z,1.4nm,0.9s,baz=26,slow=6.6,SNR=2.5						
ASAR	**Alice Springs**	**70.15**	**197**	P	**P**	**06 18 59.5**	**+3.3**
	comp=Z,0.4nm,0.8s,baz=18,slow=6.3,SNR=4.6						
KBZ	**Khabaz**	**71.11**	**313**	P	**P**	**06 19 02.0**	**+0.1**
KBZ	**Khabaz**	**71.11**	**313**	P	**P**	**06 19 02.0**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=67,slow=7.7,SNR=8.5

AYDB	Zeytinkoy-Aydi	1.00	71	PG		Pb	06 17 10.8	-0.3
AMGA	Amorgos Island	1.01	219	P		Pb	06 17 11.1	-0.1
AMGA				S		Sn	06 17 26.8	+0.6
APE	Apeiranthos	1.08	240	P		Pb	06 17 12.2	-0.2
APE				S		Sb	06 17 27.5	+1.0

*ISCJB **24** 06:24:31.3±0.7, 46°.3S×0°.2×96°.2E±0°.3, h10km, mb4.1/4, MS3.6/6, Error ellipse: s-maj=36.9km s-min=14.0km az=35.6*

*IDC **24** 06:24:31.9±1.0, 46°.41S×96°.27E, h0km, mb4.1/4, mb1 4.4/4, mb1mx3.8/42, mbtmp4.1/4, MS3.6/6, Ms1 3.5/6, ms1mx3.3/23, Error ellipse: s-maj=43.6km s-min=26.1km az=125.0*

*NEIC **24** 06:24:33.5±0.8, 46°.4S±0°.2×96°.3E±0°.2, h10km±1km, mb4.5/4*

ISC 24 06:24:33.3±0.9, 46°.4S±0°.2×96°.3E±0°.3, h10km, n26, σ0s55/17, mb4.5/5, MS3.6/6, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**17.67**	**56**	T		T	06 46 45.7	
	baz=224,slow=74,SNR=14							
H01W3	**Cape Leeuwin H**	**17.68**	**56**	T		T	06 46 46.7	
	baz=224,slow=74,SNR=13							
H01W1	**Cape Leeuwin H**	**17.69**	**56**	T		T	06 46 47.8	
	baz=224,slow=74,SNR=12							
MAW	**Mawson**	**27.42**	**207**	LR		LR	06 38 11.0	
	comp=Z,110nm,21.7s,baz=58,slow=30							
STKA	**Stephens Creek**	**37.47**	**84**	LR		LR	06 43 44.4	
	comp=Z,78nm,21.8s,baz=203,slow=31							
ASAR	**Alice Springs**	**37.71**	**66**	P		**P**	**06 31 49.7**	**+0.6**
	1.2nm,0.7s,baz=217,slow=8.5,SNR=7.4							
ASAR				PcP		**PcP**	**06 34 06.4**	**+0.2**
	0.5nm,0.9s,baz=224,slow=3.9,SNR=4.1							
VNDA	**Vanda**	**39.98**	**162**	LR		LR	06 45 38.7	
	comp=Z,43nm,20.5s,baz=322,slow=32							
WRA	**Warramunga Arr**	**40.72**	**63**	P		**P**	**06 32 14.3**	**+0.1**
	2.5nm,0.8s,baz=221,slow=8.5,SNR=13							
WRA				LR		LR	06 47 01.2	
	comp=Z,126nm,20.2s,baz=185,slow=33							
WRAB	**Tennant Creek**	**40.74**	**63**	P		**P**	**06 32 13.9**	**-0.5**
WRAB				IAmb		IAmb	06 32 21.9	
	comp=Z,8.7nm,0.9s							
H08S2	**Diego Garcia H**	**43.66**	**325**	T		T	07 19 09.7	
	baz=156							
H08S1	**Diego Garcia H**	**43.66**	**325**	T		T	07 19 07.4	
	baz=156							
H08S3	**Diego Garcia H**	**43.67**	**325**	T		T	07 19 14.3	
	baz=156							
SNAA	**Sanae**	**49.51**	**204**	P		**P**	**06 33 23.8**	**+0.2**
SNAA	**Sanae**	**49.51**	**204**	P		**P**	**06 33 22.8**	**-0.7**
	comp=Z,3.6nm,0.9s,baz=113,slow=6.4,SNR=6.8							
SNAA	**Sanae**	**49.51**	**204**	P		**P**	**06 33 23.7**	**+0.2**
SNAA				IAmb		IAmb	06 33 37.5	
	comp=Z,8.3nm,1.3s							
VNA2	**Neumayer--Watz**	**51.16**	**204**	P		**P**	**06 33 35.8**	**-0.1**
	baz=96,slow=5.3							
VNA3	**Neumayer Olymp**	**51.63**	**203**	P		**P**	**06 33 39.8**	**+0.3**
DZM	**Mont Dzumac**	**60.81**	**92**	LR		LR	06 54 34.3	
	comp=Z,54nm,21.4s,baz=222,slow=30							
CMAR	**Chiang Mai Arr**	**64.54**	**3**	P		**P**	**06 35 11.0**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=195,slow=6.5,SNR=7.2							
NACB	**Ninganchiao**	**73.84**	**24**	P		**P**	**06 36 06.5**	**-1.4**
YHNB	**Yeheng**	**74.25**	**24**	P		**P**	**06 36 10.6**	**+0.2**
PLCA	**Paso Flores**	**92.51**	**190**	LR		LR	07 20 34.9	
	comp=Z,36nm,18.2s,baz=188,slow=36							
INK	**Inuvik**	**146.68**	**31**	PKPbc		**PKPbc**	**06 44 13.3**	**-0.6**
	comp=Z,2.4nm,1.1s,baz=302,slow=2.3,SNR=4.8							
NVAR	**Mina Array Bea**	**153.41**	**95**	PKPbc		**PKiKP**	**06 44 32.1**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=206,slow=3.9,SNR=4.6							
NVAR				PKPab		**PKPab**	**06 44 43.9**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=210,slow=5.2,SNR=6.8							
YKA	**Yellowknife Ar**	**156.16**	**36**	PKP		**PKPdf**	**06 44 26.9**	**+0.2**
	comp=Z,0.2nm,0.9s,baz=272,slow=1.1,SNR=3.9							
TXAR	**Lajitas Array**	**156.93**	**130**	PKPab		**PKPab**	**06 44 58.8**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=198,slow=5.7,SNR=3.8							

*JMA **24** 06:27:11.7±0.3, 32°.80N×138°.40E, h331km, M3.3*

*ISCJB **24** 06:27:13.6±0.8, 32°.84N±0°.08×138°.4E±0°.1, h300km, mb2.9/5, Error ellipse: s-maj=13.8km s-min=8.7km az=37.5*

*IDC **24** 06:27:14.0±3.3, 32°.89N×137°.85E, h305km±80km, mb2.8/5, mb1 2.9/6, mb1mx2.7/75, mbtmp3.5/6, Error ellipse: s-maj=175.7km s-min=17.1km az=63.0*

ISC 24 06:27:13.5±1.0, 32°.97N±0°.10×138°.27E±0°.08, h300km, n20, σ2s59/27, mb3.1/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIE	**Ise**	**1.92**	**318**	P		**Pn**	**06 28 02.6**	**+3.0**
JOD2	**Odawara 2**	**2.38**	**16**	P		**Pn**	**06 28 07.3**	**+3.8**
JOD2				*e*S		**S**	**06 28 49.6**	**+6.3**
JNY	**Yasuok**	**2.40**	**352**	P		**Pn**	**06 28 06.9**	**+3.2**
JWY	**Kouya**	**2.55**	**300**	P		**Pn**	**06 28 07.5**	**+2.4**
BSO3	**Boso 3**	**2.61**	**45**	P		**Pn**	**06 28 07.1**	**+1.9**
BSO3				S		**S**	**06 28 48.7**	**+2.3**
BSO1	**Boso 1**	**2.81**	**53**	P		**Pn**	**06 28 08.6**	**+1.8**
BSO1				S		**S**	**06 28 52.7**	**+3.3**
JHU	**Hanno**	**2.99**	**16**	P		**Pn**	**06 28 11.1**	**+2.0**
JHU				*e*S		**S**	**06 28 55.6**	**+2.1**
JRY	**Ryogami san**	**3.08**	**10**	P		**Pn**	**06 28 12.8**	**+2.8**
JWT	**Wachi**	**3.31**	**315**	P		**Pn**	**06 28 14.7**	**+2.4**
MJAR	**Matsushiro Ar**	**3.56**	**359**	P		**Pn**	**06 28 16.4**	**+1.5**
	0.3nm,0.3s,baz=182,slow=12,SNR=14							
MAT	**Matsushiro**	**3.56**	**359**	P		**Pn**	**06 28 16.8**	**+1.8**
JAG	**Ashikaga**	**3.58**	**16**	P		**Pn**	**06 28 16.2**	**+1.1**
JAG				*e*S		**S**	**06 29 04.6**	**+0.2**
JYT	**Yasato**	**3.61**	**26**	S		**S**	**06 29 03.6**	**-1.4**
JHO	**Hitachi**	**4.09**	**27**	P		**Pn**	**06 28 21.2**	**+0.5**
JHO				S		**S**	**06 29 12.9**	**-1.6**
JFK	**Kawauchi**	**4.88**	**25**	P		**Pn**	**06 28 30.9**	**+1.3**
JFK				S		**S**	**06 29 27.8**	**-2.8**
SONM	**Songino Array**	**28.21**	**311**	P		**P**	**06 32 38.4**	**-0.8**
	0.4nm,0.6s,baz=111,slow=7.6,SNR=3.6							
MKAR	**Makanchi Array**	**44.21**	**305**	P		**P**	**06 34 51.3**	**-2.2**
	0.2nm,0.4s,baz=92,slow=9.0,SNR=4.3							
KURBB	**Kurchatov Arra**	**46.57**	**311**	P		**P**	**06 35 09.1**	**-2.6**
	0.6nm,0.6s,baz=91,slow=8.4,SNR=6.3							
WRA	**Warramunga Arr**	**52.75**	**185**	P		**P**	**06 35 56.9**	**-1.4**
	0.3nm,0.3s,baz=0.9,slow=7.5,SNR=6.6							
ASAR	**Alice Springs**	**56.48**	**185**	P		**P**	**06 36 24.5**	**-0.4**
	0.2nm,0.5s,baz=352,slow=5.6,SNR=6.6							

*ISCJB **24** 07:27:23.1±0.3, 10°.28S±0°.04×161°.39E±0°.05, h61km, mb4.5/24, Error ellipse: s-maj=8.1km s-min=5.5km az=33.6*

*NEIC **24** 07:27:25.9±1.4, 10°.34S±0°.08×161°.51E±0°.08, h74km±6km, mb4.7/50*

*IDC **24** 07:27:25.2±0.8, 10°.31S×161°.60E, h69km±5km, mb4.2/18, mb1 4.3/19, mb1mx4.1/38, mbtmp4.5/19, MS3.3/11, Ms1 3.3/11, ms1mx3.1/34, Error ellipse: s-maj=14.0km s-min=8.5km az=19.0*

*BJI **24** 07:27:27.2±0.0, 10°.12S×161°.31E, h81km, mb4.7/24, mB5.0/13, Ms4.9/4, Ms7 4.8/2*

ISC 24 07:27:24.7±0.4, 10°.31S±0°.05×161°.53E±0°.06, h61km, n95, σ1s49/92, mb4.7/48, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**1.78**	**299**	P		**Pn**	**07 27 55.3**	**+2.1**
	211nm,0.3s,baz=194,slow=12,SNR=24							
HNR				LR		LR	07 28 14.1	
	comp=Z,78nm,20.5s,baz=99,slow=26							
HNR				S		**Sn**	**07 28 17.8**	**+2.9**
	1µm,0.3s,baz=193,slow=23,SNR=21							
HNR	**Honiara**	**1.78**	**299**	*i* P		**Pn**	**07 27 55.0**	**+1.7**
HNR	**Honiara**	**1.78**	**299**			**Pn**	**07 27 55.0**	**+1.7**
HNR						Sn	**07 28 17.1**	**+2.1**
KRVT	**Keravat (AS076**	**11.15**	**302**	LR		LR	07 34 30.0	
	comp=Z,140nm,19.8s,baz=126,slow=38							
DZM	**Mont Dzumac**	**12.61**	**159**	P		**Pn**	**07 30 24.6**	**+3.2**
	3.0nm,0.3s,baz=46,slow=8.7,SNR=62							
DZM				S		**Sn**	**07 32 37.3**	**-3.0**
	0.9nm,0.3s,baz=348,slow=16,SNR=5.2							
DZM				LR		LR	07 33 35.9	
	comp=Z,45nm,19.8s,baz=20,slow=30							
DZM	**Mont Dzumac**	**12.61**	**159**			**Pn**	**07 30 24.0**	**+2.6**
DZM						**Sn**	**07 32 38.6**	**-1.7**
PMG	**Port Moresby**	**14.19**	**272**	LR		LR	07 35 53.2	
	comp=Z,78nm,19.9s,baz=106,slow=36							
TARA	**Tarawa**	**16.21**	**45**	P		**P**	**07 31 10.8**	**-0.1**
PATS	**Pohnpei**	**17.33**	**349**	P		**P**	**07 31 24.1**	**+0.9**
FUNA	**Funafuti**	**17.52**	**86**	P		**P**	**07 31 26.4**	**+1.1**
FUNA				IAmb		IAmb	07 31 34.3	
	comp=Z,45nm,0.9s							
CTA	**Charters Tower**	**17.64**	**235**	P		**P**	**07 31 29.1**	**+2.4**
	comp=Z,1.0nm,0.3s,baz=67,slow=12,SNR=20							
EIDS	**Eidsvold**	**17.96**	**212**	P		**Pn**	**07 31 30.9**	**+0.7**
COEN	**Coen**	**18.30**	**257**	P		**Pn**	**07 31 34.4**	**-0.1**
KWAJ	**Kwajalein Atol**	**19.93**	**18**	P		**Pn**	**07 31 53.4**	**-0.4**
ARMA	**Armidale**	**22.03**	**203**	P		**P**	**07 32 14.7**	**+0.3**
AFI	**Afiamalu**	**26.34**	**100**	LR		LR	07 42 00.1	
	comp=Z,54nm,19.6s,baz=296,slow=33							
CAN	**Canberra**	**27.39**	**203**	P		**P**	**07 33 04.4**	**-0.1**
WR0	**Warramunga Arr**	**27.72**	**247**	P		**P**	**07 33 06.9**	**-0.7**
WRAB	**Tennant Creek**	**27.89**	**247**	P		**P**	**07 33 08.2**	**-0.9**
WRA	**Warramunga Arr**	**27.90**	**247**	P		**P**	**07 33 08.5**	**-0.7**
	comp=Z,7.4nm,0.6s,baz=75,slow=8.9,SNR=78							
WRA				LR		LR	07 43 34.5	
	comp=Z,67nm,19.2s,baz=55,slow=35							
STKA	**Stephens Creek**	**28.30**	**218**	P		**P**	**07 33 13.5**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=54,slow=15,SNR=5.3							
STKA				LR		LR	07 43 28.9	
	comp=Z,123nm,20.1s,baz=25,slow=34							
STKA	**Stephens Creek**	**28.30**	**218**	P		**P**	**07 33 12.9**	**+0.3**
AS31	**Alice Springs**	**29.49**	**240**	P		**P**	**07 33 22.6**	**-0.8**
ASAR	**Alice Springs**	**29.49**	**240**	P		**P**	**07 33 22.1**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=64,slow=10,SNR=28							
ASAR				ScP		**ScP**	**07 40 03.8**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=70,slow=3.0,SNR=4.1							
ASAR				LR		LR	07 44 27.5	
	comp=Z,88nm,20.4s,baz=72,slow=35							
MTN	**Manton Dam**	**29.87**	**262**	P		**P**	**07 33 25.7**	**-1.0**
MTN				IAmb		IAmb	07 33 27.7	
	comp=Z,21nm,1.1s							
TOO	**Toolangi**	**30.75**	**205**	P		**P**	**07 33 34.5**	**+0.2**
KNRA	**Kununurra**	**32.34**	**257**	P		**P**	**07 33 48.3**	**-0.2**
BBOO	**Buckleboo**	**32.43**	**222**	P		**P**	**07 33 48.8**	**-0.3**
BBOO				IAmb		IAmb	07 33 50.5	
	comp=Z,6.5nm,0.7s							
TUWZ	**Tuamarina**	**32.87**	**163**	P		**P**	**07 33 52.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**35.59**	**253**	P		**P**	**07 34 16.0**	**-0.6**
FITZ				IAmb		IAmb	07 34 16.6	
	comp=Z,8.9nm,0.5s							
LUWI	**Luwuk**	**39.60**	**281**	P		**P**	**07 34 49.9**	**-0.7**
PSA00	**Pilbara Seismi**	**41.49**	**249**	P		**P**	**07 35 05.7**	**-0.5**
PSA00				IAmb		IAmb	07 35 20.1	
	comp=Z,11nm,1.0s							
MORW	**Morawa**	**46.38**	**240**	P		**P**	**07 35 44.0**	**-1.2**
MORW				IAmb		IAmb	07 35 55.0	
	comp=Z,13nm,1.1s							
NWAO	**Narrogin (SRO)**	**46.48**	**234**	P		**P**	**07 35 45.6**	**-0.4**
NWAO				IAmb		IAmb	07 35 46.7	
	comp=Z,6.4nm,0.8s							
KKM	**Kota Kinabalu**	**47.96**	**288**	P		**P**	**07 35 56.7**	**-1.2**
KKM				IAmb		IAmb	07 36 00.5	
	comp=Z,15nm,1.1s							
UGM	**Wanagama**	**50.38**	**268**	P		**P**	**07 36 14.7**	**-1.6**
MJAR	**Matsushiro Arr**	**51.51**	**336**	P		**P**	**07 36 23.1**	**-1.2**
	comp=Z,1.6nm,0.5s,baz=160,slow=8.4,SNR=4.7							
JNU	**Nakatsue**	**52.14**	**327**	LR		LR	07 59 30.8	
	comp=Z,46nm,18.0s,baz=159,slow=37							
JKA	**Kamikawa-asahi**	**56.83**	**344**	P		**P**	**07 37 03.3**	**+0.5**
ASAJ	**Asahikawa**	**56.83**	**344**	P		**P**	**07 37 03.3**	**+0.4**
	comp=Z,8.3nm,0.6s,baz=102,slow=19,SNR=3.8							
KSRS	**Korea Array**	**57.00**	**328**	P		**P**	**07 37 04.0**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=146,slow=8.0,SNR=8.7							
KSRS				LR		LR	07 58 24.8	
	comp=Z,26nm,21.0s,baz=96,slow=33							
NJ2	**Nanjing**	**58.63**	**318**	*e*P		**P**	**07 37 16.3**	**+0.5**
NJ2				pmax		pmax		
	comp=Z,14nm,0.6s							
USA0B	**Ussuriysk Arra**	**60.51**	**336**	P		**P**	**07 37 27.6**	**-0.9**
USRK	**Ussuriysk Ar.**	**60.51**	**336**	P		**P**	**07 37 28.9**	**+0.4**
	comp=Z,11nm,0.9s,baz=126,slow=6.4,SNR=13							
WHN	**Wuhan**	**60.84**	**314**	P		P	07 37 37.3	+6.3
PETK	**Petropavlovsk-**	**63.25**	**357**	LR		LR	08 03 35.0	
	comp=Z,29nm,19.7s,baz=63,slow=34							
GSI	**Gunungsitoli**	**64.66**	**276**	P		**P**	**07 37 55.9**	**-0.8**
KLR	**Kul'dur**	**64.81**	**339**	P		**P**	**07 37 56.7**	**-0.3**
	comp=Z,4.7nm,0.9s,baz=161,slow=3.8,SNR=9.7							
VNDA	**Vanda**	**67.19**	**180**	P		**P**	**07 38 12.3**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=25,slow=4.7,SNR=4.4							
VNDA	**Vanda**	**67.19**	**180**	P		**P**	**07 38 11.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**68.03**	**295**	P		**P**	**07 38 18.7**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=119,slow=5.2,SNR=4.4							
HHC	**Hu-ho-hao-te**	**68.63**	**321**	P		**P**	**07 38 18.8**	**-2.9**
HHC				S		**S**	**07 47 13.6**	**-6.4**
HHC				pmax		pmax		
	comp=Z,9.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,43nm,5.4s							
HHC				LR		LR		
	comp=Z,180nm,18.7s							
HHC				LR		LR		
	comp=Z,110nm,23.0s							
CD2	**Chengdu**	**68.89**	**309**	P		**P**	**07 38 22.8**	**-0.6**
CD2				pmax		pmax		
	comp=Z,30nm,0.5s							
HIA	**Hailar**	**69.74**	**332**	P		**P**	**07 38 28.1**	**-0.2**
HIA				IAmb		IAmb	07 38 28.8	
	comp=Z,12nm,1.0s							
LZH	**Lanzhou**	**71.22**	**314**	*e*P		**P**	**07 38 40.6**	**+2.8**
LZH				pP		sP	07 39 01.3	+0.7
LZH				sP		PcP	07 39 08.8	+11
LZH				pmax		pmax		
	comp=Z,18nm,1.1s							
LZH				pmax		pmax		
	comp=Z,96nm,4.9s							
LZH				LR		LR		
	comp=Z,140nm,17.2s							
LZH				LR		LR		
	comp=Z,140nm,17.0s							
LZH				LR		LR		
	comp=Z,180nm,19.6s							
SEY	**Seymchan**	**73.36**	**356**	P		**P**	**07 38 48.5**	**-1.2**
	comp=Z,2.6nm,0.8s,baz=169,slow=5.2,SNR=3.5							
GTA	**Gaotai**	**75.59**	**315**	P		**P**	**07 39 03.4**	**+0.1**
GTA				pP		sP	07 39 26.8	+0.5
GTA				sP		pP	07 39 35.3	+16
GTA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
SONM	**Songino Array**	**75.66**	**325**	P		**P**	**07 39 03.2**	**-0.3**
	comp=Z,6.2nm,0.7s,baz=138,slow=5.3,SNR=35							
SONM				pP		**pP**	**07 39 21.6**	**+1.5**
	comp=Z,1.2nm,0.5s,baz=141,slow=5.0,SNR=2.8							
YAK	**Yakutsk**	**76.27**	**345**	P		**P**	**07 39 06.3**	**-0.2**
	comp=Z,8.3nm,0.4s,baz=53,slow=2.3,SNR=4.2							
YAK	**Yakutsk**	**76.27**	**345**	P		**P**	**07 39 06.1**	**-0.4**
KDAK	**Kodiak Island**	**77.48**	**23**	P		**P**	**07 39 13.6**	**+0.2**
KDAK				IAmb		IAmb	07 39 15.3	
	comp=Z,20nm,1.1s							
BILL	**Bilibino**	**78.22**	**2**	P		**P**	**07 39 17.4**	**+0.1**
BILL				IAmb		IAmb	07 39 18.9	
	comp=Z,10nm,1.1s							
QSPA	**South Pole Qui**	**79.69**	**180**	LR		LR	08 11 52.4	
	comp=Z,31nm,18.5s,baz=334,slow=34							
QSPA	**South Pole Qui**	**79.69**	**180**	P		**P**	**07 39 25.4**	**-0.3**
TTA	**Tatalina**	**79.98**	**18**	P		**P**	**07 39 27.5**	**+0.4**
TTA				IAmb		IAmb	07 39 28.8	
	comp=Z,7.3nm,0.9s							
PMR	**Palmer**	**81.35**	**22**	P		**P**	**07 39 34.8**	**+0.5**
PMR				IAmb		IAmb	07 39 35.9	
	comp=Z,6.5nm,0.9s							
KTH	**Kantishna Hill**	**82.04**	**19**	IAmb		IAmb	07 39 38.9	
	comp=Z,9.8nm,0.8s							
MCK	**McKinley**	**82.82**	**20**	P		**P**	**07 39 42.0**	**-0.2**
MLY	**Manley**	**83.11**	**18**	IAmb		IAmb	07 39 45.1	
	comp=Z,8.2nm,0.9s							
WRH	**Wood River Hil**	**83.59**	**20**	P		**P**	**07 39 45.6**	**-0.4**
WRH				IAmb		IAmb	07 39 46.5	
	comp=Z,7.4nm,1.0s							
CCB	**Clear Creek Bu**	**83.80**	**20**	IAmb		IAmb	07 39 47.4	
	comp=Z,5.7nm,0.9s							
COLA	**College**	**83.93**	**19**	P		**P**	**07 39 47.4**	**-0.3**
HDA	**Harding Lake**	**83.93**	**20**	P		**P**	**07 39 47.7**	**0.0**
HDA				IAmb		IAmb	07 39 48.6	
	comp=Z,11nm,0.9s							
IL31		**84.18**	**20**	P		**P**	**07 39 48.9**	**-0.1**
ILAR	**Eielson Array**	**84.18**	**20**	P		**P**	**07 39 48.5**	**-0.6**
	comp=Z,3.2nm,0.9s,baz=259,slow=4.2,SNR=24							
ILAR				pP		**pP**	**07 40 06.8**	**+0.8**
	comp=Z,1.6nm,0.6s,baz=250,slow=5.0,SNR=5.0							
RIDG	**Independent Ri**	**84.24**	**21**	IAmb		IAmb	07 39 51.3	
	comp=Z,11nm,1.0s							
DOT	**Dot Lake**	**84.47**	**21**	IAmb		IAmb	07 39 51.9	
	comp=Z,8.4nm,0.8s							
SCRK	**Sand Creek**	**84.69**	**21**	IAmb		IAmb	07 39 53.3	
	comp=Z,6.0nm,0.8s							
WMQ	**Urumqi**	**85.66**	**316**	*e*P		**P**	**07 39 57.1**	**+0.1**
WMQ				sP		sP	07 40 28.8	+7.9
WMQ				pmax		pmax		
	comp=Z,6.0nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,7.0nm,3.6s							
WMQ				LR		LR		
	comp=Z,350nm,7.7s							
WMQ				LR		LR		
	comp=Z,350nm,6.9s							
EGAK	**Eagle**	**86.16**	**21**	P		**P**	**07 39 59.5**	**+0.6**
EGAK				IAmb		IAmb	07 40 00.9	
	comp=Z,9.3nm,0.9s							
YBH	**Yreka Blue Hor**	**86.38**	**47**	P		**P**	**07 40 00.0**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=252,slow=9.8,SNR=4.8							
YBH	**Yreka Blue Hor**	**86.38**	**47**	IAmb		IAmb	07 40 12.8	
	comp=Z,6.3nm,0.8s							
DAWY	**Dawson**	**86.41**	**22**	IAmb		IAmb	07 40 03.1	
	comp=Z,11nm,1.1s							
NVAR	**Mina Array Bea**	**88.75**	**51**	P		**P**	**07 40 13.3**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=232,slow=7.2,SNR=12							
NVAR				pP		**pP**	**07 40 31.4**	**+2.2**
	comp=Z,0.9nm,0.8s,baz=226,slow=7.4,SNR=3.4							
NV11	**Mina Array Sit**	**88.86**	**51**	P		**P**	**07 40 12.5**	**-0.2**
MKAR	**Makanchi Array**	**90.17**	**318**	P		**P**	**07 40 16.8**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=88,slow=6.2,SNR=8.4							
SHPR	**Sheep Range**	**90.75**	**53**	P		**P**	**07 40 21.5**	**0.0**
SHPR				IAmb		IAmb	07 40 24.0	
	comp=Z,3.9nm,1.0s							
R11A	**Troy Canyon, C**	**90.81**	**51**	P		**P**	**07 40 20.9**	**-0.9**
R11A				IAmb		IAmb	07 40 24.5	
	comp=Z,2.7nm,1.1s							
SYO	**Syowa Base**	**91.24**	**198**	*e*P		**P**	**07 40 23.0**	**0.0**
KSH	**Kashi**	**93.08**	**309**	P		**P**	**07 40 35.3**	**+3.1**
KSH				pP		sP	07 40 56.9	+0.7
KSH				SKS		**SKSac**	**07 51 01.4**	**0.0**
KSH				S		**S**	**07 51 34.0**	**-0.2**
YKA	**Yellowknife Ar**	**96.24**	**28**	P		**P**	**07 40 45.2**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=260,slow=4.7,SNR=29							
YKA				pP		**pP**	**07 41 04.1**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=260,slow=4.6,SNR=5.1							
ARCES	**ARCESS Array B**	**114.55**	**344**	PKP		**PKiKP**	**07 45 56.1**	**-1.4**
	comp=Z,3.9nm,1.1s,baz=72,slow=2.9,SNR=4.0							
VYHS	**Vyhne**	**130.80**	**328**	*e*PDIFF		**Pdif**	**07 43 25.9**	**+5.7**
VYHS	**Vyhne**	**130.80**	**328**	*e*PKP		**PKiKP**	**07 46 30.5**	**+0.4**
GERES	**GERESS Array B**	**133.13**	**331**	PKP		**PKPdf**	**07 46 33.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=62,slow=2.3,SNR=3.0							

*SJA **24** 07:35:52.3±0.8, 20°.00S×68°.21W, h211km±11km, ML3.4, MW3.6*

*ISCJB **24** 07:35:53.7±0.3, 20°.05S±0°.02×68°.21W±0°.06, h183km±4km, mb3.6/3, Error ellipse: s-maj=8.8km s-min=3.8km az=177.5*

*NEIC **24** 07:35:54.0±1.8, 20°.06S±0°.05×68°.12W±0°.09, h165km±8km, mb4.2/10*

*IDC **24** 07:35:54.5±1.4, 20°.07S×67°.97W, h160km±15km, mb3.5/3, mb1 3.6/9, mb1mx3.4/41, mbtmp4.0/9, Error ellipse: s-maj=20.3km s-min=18.8km az=79.0*

*GUC **24** 07:35:54.6±0.7, 20°.06S×68°.35W, h175km±4km, ML3.7*

ISC 24 07:35:53.7±0.7, 20°.03S±0°.04×68°.06W±0°.06, h166km±8km, n69, σ1s66/92, mb4.1/6, 3C-13D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB08	**IPOC Station P**	**1.03**	**264**	⇓*i* P		**Pn**	**07 36 21.6**	**+0.9**
PB08				*i* S		**Sn**	**07 36 41.8**	**+0.3**
PB08				IAML			07 36 44.1	
	comp=N,773nm,0.5s							
GO01	**Chusmiza**	**1.13**	**288**	⇓*i* P		**Pn**	**07 36 22.0**	**+0.4**
GO01				*i* S		**Sn**	**07 36 43.7**	**+0.7**
GO01				IAML			07 36 47.6	
	comp=E,2µm,0.1s							
GO01	**Chusmiza**	**1.13**	**288**	Pn		**Pn**	**07 36 22.0**	**+0.4**
GO01				Sn		**Sn**	**07 36 43.0**	**0.0**
PB11	**IPOC Station P**	**1.53

SIV				S		Sn	07 39 05.7	-5.4
	baz=319,slow=20,SNR=4.9							
GO03	**Copiap**	**7.79**	**194**			**Pn**	07 37 42.8	-1.6
GO03				Sn		Sn	07 39 09.1	-2.4
GO03	**Copiap**	**7.79**	**194**	*i* P		Pn	07 37 42.7	-1.6
CYA	**Choya**	**8.62**	**167**	*i* P		**Pn**	07 37 57.3	**+2.0**
CYA				IAML			07 39 36.2	
	comp=Z,2.2nm,0.8s							
AROD	**Rodeo**	**10.17**	**187**	*i* P		**Pn**	07 38 16.1	0.0
GO04	**Tololo Observa**	**10.40**	**193**			**Pn**	07 38 16.0	-2.9
GO04	**Tololo Observa**	**10.40**	**193**	*i* P		**Pn**	07 38 16.0	-2.9
ACCO	**Cerro Coronel**	**10.55**	**185**	*i* P		**Pn**	07 38 20.0	-1.0
AMOG	**MOGNA**	**10.87**	**182**	*i* P		**Pn**	07 38 22.7	-2.2
RTLL	**Cerro Villicun**	**11.26**	**182**	*i* P		**Pn**	07 38 27.6	-2.4
CFA	**Coronel Fontan**	**11.53**	**181**	P		**Pn**	07 38 31.9	-1.6
	comp=Z,0.6nm,0.3s,baz=18,slow=14,SNR=9.8							
CFA				S		**Sn**	07 40 34.4	-6.8
	comp=Z,0.3nm,0.3s,baz=139,slow=20,SNR=5.0							
CFA	**Coronel Fontan**	**11.53**	**181**	*i* P		**Pn**	07 38 29.4	-4.1
NNA	**Nana**	**11.63**	**312**	Pn		**Pn**	07 38 34.0	-0.9
TCA	**Tanti**	**11.68**	**165**	*i* P		**Pn**	07 38 33.7	-1.9
CPUP	**Villa Florida**	**11.69**	**124**	P		**Pn**	07 38 35.9	**+0.4**
	comp=Z,0.2nm,0.3s,baz=296,slow=11,SNR=4.2							
CPUP	**Villa Florida**	**11.69**	**124**	Pn		**Pn**	07 38 35.4	-0.1
RTCV	**Cerro Valdivia**	**11.79**	**182**	*i* P		**Pn**	07 38 36.4	-0.5
SAML	**Samuel**	**11.98**	**24**	Pn		**Pn**	07 38 38.8	-0.6
ASAL	**Salagasta**	**12.53**	**183**	*i* P		**Pn**	07 38 48.7	**+2.3**
ROC1	**El Roble**	**13.16**	**191**			**Pn**	07 38 54.5	-0.2
GO05	**Huala**	**15.31**	**192**			**Pn**	07 39 21.3	**+0.1**
TRQA	**Tornquist**	**18.72**	**165**	P		**P**	07 39 59.5	-0.2
BDFB	**Brasilia**	**19.57**	**80**	P		**P**	07 40 10.9	**+1.7**
	comp=Z,0.4nm,0.3s,baz=247,slow=12,SNR=4.5							
BDFB	**Brasilia**	**19.57**	**80**	P		**P**	07 40 09.9	**+0.7**
BDFB				IAmb		IAmb	07 40 11.3	
	comp=Z,3.9nm,0.7s							
GO06	**Curarrehue**	**19.71**	**188**	P		**P**	07 40 11.3	**+0.9**
GO06				IAmb		IAmb	07 40 17.4	
	comp=Z,6.4nm,1.0s							
SDV	**Santo Domingo**	**28.85**	**355**	P		**P**	07 41 37.2	**+0.2**
SDV				IAmb		IAmb	07 41 46.0	
	comp=Z,2.1nm,0.8s							
GRGR	**Grenville**	**32.58**	**12**	P		**P**	07 42 10.1	**+0.5**
MLPR	**Magueyes Islan**	**37.78**	**2**	P		**P**	07 42 54.5	**+0.5**
OBIP	**Obispado Ponce**	**37.86**	**2**	P		**P**	07 42 55.1	**+0.5**
OBIP				IAmb		IAmb	07 42 58.0	
	comp=Z,14nm,0.9s							
HUMP	**Col San Antoni**	**38.00**	**3**	P		**P**	07 42 56.0	**+0.2**
TXAR	**Lajitas Array**	**59.90**	**324**	P		**P**	07 45 43.9	**+1.5**
	comp=Z,0.4nm,0.8s,baz=139,slow=7.0,SNR=3.6							
TOA0	**Torodi Ar. Sit**	**76.11**	**70**	P		**P**	07 47 24.4	**+0.7**
TOA0				IAmb		IAmb	07 47 25.3	
	comp=Z,5.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**76.11**	**70**	P		**P**	07 47 24.7	**+0.9**
	comp=Z,3.4nm,0.3s,baz=252,slow=5.4,SNR=46							
YKA	**Yellowknife Ar**	**90.08**	**340**	P		**P**	07 48 36.6	**+2.3**
	comp=Z,0.2nm,0.6s,baz=133,slow=4.5,SNR=11							

IDC 24 08:02:00.4±4.0, **46°27S×96°17E, h0**km, **mb3.9**/3, **mb1 4.1**/3, **mb1mx3.7**/35, **mbtmp3.9**/3, **Error ellipse: s-maj=191.7km s-min=28.0km az=135.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.71**	**56**	T	T	08 24 13.4	
	baz=224,slow=75,SNR=26						
H01W3	**Cape Leeuwin H**	**17.73**	**56**	T	T	08 24 14.7	
	baz=224,slow=75,SNR=24						
H01W1	**Cape Leeuwin H**	**17.73**	**56**	T	T	08 24 14.7	
	baz=224,slow=75,SNR=22						
ASAR	**Alice Springs**	**37.77**	**66**	P	P	08 09 17.9	-0.4
	1.5nm,1.1s,baz=217,slow=7.6,SNR=8.3						
WRA	**Warramunga Arr**	**40.78**	**63**	P	P	08 09 43.1	-0.2
	1.4nm,0.9s,baz=224,slow=8.5,SNR=8.1						
SNAA	**Sanae**	**49.53**	**204**	P	P	08 10 52.0	-0.4
	2.4nm,1.0s,baz=122,slow=6.8,SNR=5.4						
NVAR	**Mina Array Bea**	**153.51**	**95**	PKPbc	PKPbc	08 22 00.7	0.0
	0.2nm,0.5s,baz=225,slow=5.0,SNR=4.7						
NVAR				PKPab	PKPab	08 22 13.3	+0.2
	0.2nm,0.4s,baz=218,slow=4.2,SNR=3.4						
TXAR	**Lajitas Array**	**157.05**	**131**	PKPab	PKPab	08 22 27.8	-0.4
	0.5nm,0.9s,baz=192,slow=4.9,SNR=4.6						

IDC 24 08:25:15.8±2.0, **5°79S×148°66E, h0**km, **mb3.8**/3, **mb1 4.1**/5, **mb1mx3.6**/41, **mbtmp3.9**/5, **ML4.1**/1, **Error ellipse: s-maj=86.0km s-min=27.7km az=123.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.89**	**202**	Pn	Pn	08 26 17.3	+0.3
	5.8nm,0.3s,baz=13,slow=11,SNR=10						
PMG				Sn	Sn	08 26 59.5	-3.9
	21nm,0.3s,baz=130,slow=22,SNR=12						
WRA	**Warramunga Arr**	**19.80**	**223**	P	P	08 29 48.0	0.0
	0.5nm,0.3s,baz=47,slow=28						
ASAR	**Alice Springs**	**22.76**	**217**	P	P	08 30 19.1	-0.9
	0.9nm,0.6s,baz=45,slow=10,SNR=28						
FITZ	**Fitzroy Crossi**	**25.59**	**239**	P	P	08 30 47.7	+0.8
	4.2nm,0.9s,baz=50,slow=12,SNR=6.3						
ILAR	**Eielson Array**	**84.64**	**23**	P	P	08 37 51.0	-0.1
	0.8nm,1.1s,baz=246,slow=4.5,SNR=3.9						

*SJA **24** 09:37:43.4±0.7, 23°48S×66°64W, h230km±17km, ML3.2, MW3.4*
*ISCJB **24** 09:37:44.7±0.6, 23°40S±0.06×66°78W±0°06, h223km±7km, mb3.3/2, Error ellipse: s-maj=9.7km s-min=8.2km az=140.8*
*GUC **24** 09:37:45.8±0.6, 23°45S×67°13W, h238km±8km, ML3.7*
*IDC **24** 09:37:45.3±1.7, 23°32S×66°63W, h208km±19km, mb3.1/2, mb1 3.2/6, mb1mx3.1/24, mbtmp3.6/6, Error ellipse: s-maj=30.2km s-min=22.7km az=152.0*
ISC 24 09:37:44.4±1.0, **23°42S**±0.06×**66°68W**±0°07, **h216**km±9km, **n29**,σ1°**28**/44, **9C-8D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.19**	**80**	⇓*i*P	**Pn**	**09 38 18.6**	**+1.0**
YJA	**Yavi**	**1.64**	**41**	⇓*i*P	**Pn**	**09 38 22.5**	**+1.2**
LVC	**Limon Verde**	**2.20**	**291**	*e*P	**Pn**	**09 38 27.6**	**+1.0**
LVC				*e*S	**S**	**09 38 59.5**	**+0.4**
LVC	**Limon Verde**	**2.20**	**291**	P	**Pn**	**09 38 27.7**	**+1.2**
	26nm,0.3s,baz=101,slow=6.0,SNR=197						
LVC				S	**S**	**09 38 59.5**	**+0.4**
	5.4nm,0.3s,baz=338,slow=22,SNR=7.6						
LVC	**Limon Verde**	**2.20**	**291**	*i* P	**Pn**	**09 38 27.8**	**+1.2**
LVC				IAML		09 39 04.8	
	comp=Z,12nm,0.9s						
PB15	**IPOC Station P**	**2.57**	**274**	⇑*i*P	**Pn**	**09 38 31.2**	**+0.9**
PB15				*i* S	**S**	**09 39 06.3**	**+0.4**
PB15	**IPOC Station P**	**2.57**	**274**	⇓*i*P	**Pn**	**09 38 31.7**	**+1.4**
PB06	**IPOC Station P**	**2.75**	**284**	⇑*i*P	**Pn**	**09 38 33.2**	**+0.9**
PB06				*i* S	**S**	**09 39 08.6**	**-0.8**
PB06				IAML		09 39 12.2	
	comp=N,99nm,0.2s						
PB06	**IPOC Station P**	**2.75**	**284**	*i* P	**Pn**	**09 38 33.3**	**+1.0**
PB06				IAML		09 39 14.1	
	comp=Z,44nm,0.1s						
PB09	**IPOC Station P**	**2.86**	**304**	⇑*i*P	**Pn**	**09 38 34.8**	**+1.3**
PB09				*i* S	**S**	**09 39 12.0**	**+0.4**
PB09				IAML		09 39 14.6	
	comp=E,60nm,0.7s						
PB09	**IPOC Station P**	**2.86**	**304**	*i* P	**Pn**	**09 38 34.9**	**+1.4**
PB09				*e*S	**S**	**09 39 12.2**	**+0.5**
PB09				IAML		09 39 20.9	
	comp=Z,47nm,0.3s						
PB03	**IPOC Station P**	**3.15**	**295**	⇑*i*P	**Pn**	**09 38 37.3**	**+0.6**
PB03				*i* S	**S**	**09 39 15.7**	**-1.7**
PB03				IAML		09 39 16.5	
	comp=N,175nm,0.4s						
PB03	**IPOC Station P**	**3.15**	**295**	⇓*i*P	**Pn**	**09 38 37.5**	**+0.8**
PB03				⇓*e*S	**S**	**09 39 15.8**	**-1.7**
GO02	**Mina Guanaco**	**3.17**	**236**	⇑*i*P	**Pn**	**09 38 37.8**	**+0.7**
GO02				*i* S	**S**	**09 39 18.2**	**0.0**
PB05	**IPOC Station P**	**3.29**	**279**	⇑*i*P	**Pn**	**09 38 38.6**	**+0.3**
PB05				*i* S	**S**	**09 39 18.8**	**-1.6**
PB05				IAML		09 39 22.4	
	comp=N,39nm,0.3s						
PB05	**IPOC Station P**	**3.29**	**279**	*i* P	**Pn**	**09 38 39.0**	**+0.6**
PB05				IAML		09 39 24.1	
	comp=Z,24nm,0.3s						
PB04	**IPOC Station P**	**3.37**	**288**	⇑*i*P	**Pn**	**09 38 40.0**	**+0.5**
PB04				*i* S	**S**	**09 39 21.0**	**-1.2**
PB04	**IPOC Station P**	**3.37**	**288**	⇓*i*P	**Pn**	**09 38 40.2**	**+0.7**
PB07	**IPOC Station P**	**3.41**	**299**	⇑*i*P	**Pn**	**09 38 40.3**	**+0.5**
PB07				*i* S	**S**	**09 39 20.8**	**-2.2**
PB07	**IPOC Station P**	**3.41**	**299**	⇓*e*S	**S**	**09 39 20.9**	**-2.1**
PB07				IAML		09 39 22.2	
	comp=Z,110nm,0.6s						
PB10	**IPOC Station P**	**3.56**	**268**	⇑*i*P	**Pn**	**09 38 42.0**	**+0.5**
PB10				*i* S	**S**	**09 39 23.4**	**-2.5**
PB10	**IPOC Station P**	**3.56**	**268**	⇓*i*P	**Pn**	**09 38 41.9**	**+0.5**
PB10				IAML		09 39 27.7	
	comp=Z,23nm,0.4s						
PB14	**IPOC Station P**	**3.61**	**250**	*e*P	**Pn**	**09 38 42.5**	**+0.2**
PB14				*i* S	**S**	**09 39 25.8**	**-1.7**
PB14	**IPOC Station P**	**3.61**	**250**	*i* P	**Pn**	**09 38 42.5**	**+0.2**
PB14				IAML		09 39 29.4	
	comp=Z,48nm,0.4s						
LPAZ	**La Paz**	**7.22**	**349**	P	**Pn**	**09 39 29.6**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=181,slow=16,SNR=9.5						
LPAZ				S	**S**	**09 40 49.4**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=52,slow=19,SNR=3.3						
SIV	**San Ignacio**	**9.08**	**37**	P	**Pn**	**09 39 50.7**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=237,slow=14,SNR=5.1						
BDFB	**Brasilia**	**19.21**	**70**	P	**Pn**	**09 41 53.0**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=251,slow=8.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**76.09**	**69**	P	**P**	**09 49 10.0**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=261,slow=5.7,SNR=7.0						
YKA	**Yellowknife Ar**	**93.68**	**340**	P	**P**	**09 50 37.1**	**+1.2**
	comp=Z,0.1nm,0.5s,baz=132,slow=4.6,SNR=3.9						

*ISCJB **24** 09:49:01.3±0.3, 18°64N±0°04×145°6E±0°1, h200km, mb3.6/14, Error ellipse: s-maj=15.6km s-min=5.0km az=0.8*
*NEIC **24** 09:49:01.6±1.7, 18°67N±0°09×145°48E±0°09, h183km±8km, mb4.1/17*
*IDC **24** 09:49:02.2±2.0, 18°71N×145°50E, h186km±19km, mb3.4/13, mb1 3.6/15, mb1mx3.5/55, mbtmp3.9/15, MS3.8/1, Ms1 3.8/1, ms1mx2.8/35, Error ellipse: s-maj=22.1km s-min=11.1km az=93.0*
ISC 24 09:49:02.9±0.5, **18°63N**±0°06×**145°5E**±0°2, **h200**km, **n37**, σ1°**33**/40, **mb3.9**/22, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**1.93**	**173**		**Pn**	**09 49 38.2**	**-2.6**
SARN				Sn	**Sn**	**09 50 06.9**	**-3.5**
ANA2	**Anatahan**	**2.28**	**176**	Pn	**Pn**	**09 49 42.6**	**-1.9**
ANA2				Sn	**Sn**	**09 50 15.4**	**-1.5**
GUMO	**Guam**	**5.05**	**187**	P	**Pn**	**09 50 19.0**	**+1.0**
	35nm,0.3s,baz=128,slow=6.1,SNR=11						
GUMO				S	**Sn**	**09 51 17.1**	**-0.2**
	25nm,0.3s,baz=24,slow=20,SNR=2.9						
GUMO	**Guam**	**5.05**	**187**	Pn	**Pn**	**09 50 17.1**	**-1.0**
GUMO				Sn	**Sn**	**09 51 16.7**	**-0.6**
MJAR	**Matsushiro Arr**	**18.97**	**342**	P	**Pn**	**09 53 09.1**	**-3.2**
	0.1nm,0.3s,baz=153,slow=9.0,SNR=6.6						
MAJO	**Matsushiro**	**18.98**	**342**	P	**P**	**09 53 08.4**	**-0.8**
MJB9	**Matsu-Tunnel**	**18.98**	**342**	P	**P**	**09 53 08.6**	**-0.7**
JNU	**Nakatsue**	**19.51**	**321**	LR	LR	09 58 29.9	
	comp=Z,297nm,21.4s,baz=290,slow=29						
KSRS	**Korea Array**	**24.28**	**324**	P	**P**	**09 54 02.0**	**+0.2**
	1.0nm,0.5s,baz=143,slow=8.7,SNR=4.7						
KNRA	**Kununurra**	**37.88**	**207**	P	**P**	**09 56 00.1**	**-0.7**
WRA	**Warramunga Arr**	**39.87**	**197**	P	**P**	**09 56 18.6**	**+1.2**
	4.9nm,0.9s,baz=13,slow=8.5,SNR=29						
FITZ	**Fitzroy Crossi**	**41.40**	**209**	P	**P**	**09 56 31.1**	**+1.2**
	2.0nm,0.6s,baz=22,slow=11,SNR=4.1						
FITZ	**Fitzroy Crossi**	**41.40**	**209**	P	**P**	**09 56 31.4**	**+1.6**
SONM	**Songino Array**	**43.10**	**322**	P	**P**	**09 56 42.5**	**-0.9**
	0.6nm,0.6s,baz=128,slow=7.0,SNR=3.4						
AS31	**Alice Springs**	**43.54**	**196**	P	**P**	**09 56 46.6**	**-0.5**
ASAR	**Alice Springs**	**43.54**	**196**	P	**P**	**09 56 48.0**	**+0.9**
	1.1nm,0.7s,baz=13,slow=7.7,SNR=11						
DZM	**Mont Dzumac**	**45.33**	**152**	P	**P**	**09 57 02.1**	**+0.8**
DZM				IAmb	IAmb	09 57 10.7	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**50.36**	**184**	P	**P**	**09 57 40.2**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=11,slow=7.8,SNR=4.2						
STKA	**Stephens Creek**	**50.36**	**184**	P	**P**	**09 57 39.4**	**-0.3**
BBOO	**Buckleboo**	**51.95**	**190**	P	**P**	**09 57 52.6**	**+1.2**
BBOO				IAmb	IAmb	09 57 58.0	
	comp=Z,5.7nm,1.1s						
ANM	**Nome**	**56.32**	**23**	P	**P**	**09 58 24.4**	**+1.7**
ANM				IAmb	IAmb	09 58 41.1	
	comp=Z,2.3nm,1.0s						
MKAR	**Makanchi Array**	**58.39**	**314**	P	**P**	**09 58 38.1**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=93,slow=8.0,SNR=7.5						
RC01	**Rabbit Creek A**	**61.69**	**30**	P	**P**	**09 58 59.4**	**-0.2**
BPAW	**Bear Paw Mtn.**	**61.89**	**26**	P	**P**	**09 58 59.2**	**-1.6**
BPAW				IAmb	IAmb	09 59 06.3	
	comp=Z,8.0nm,1.4s						
MLY	**Manley**	**62.25**	**25**	P	**P**	**09 59 04.0**	**+0.7**
MLY				IAmb	IAmb	09 59 14.9	
	comp=Z,3.6nm,1.3s						
ILAR	**Eielson Array**	**63.78**	**26**	P	**P**	**09 59 12.6**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=255,slow=5.1,SNR=9.2						
SCRK	**Sand Creek**	**64.87**	**27**	P	**P**	**09 59 20.6**	**+0.1**
SCRK				IAmb	IAmb	09 59 21.7	
	comp=Z,4.6nm,1.3s						
EGAK	**Eagle**	**66.20**	**27**	P	**P**	**09 59 30.0**	**+1.2**
EGAK				IAmb	IAmb	09 59 41.1	
	comp=Z,6.5nm,1.5s						
DAWY	**Dawson**	**66.89**	**28**	P	**P**	**09 59 32.3**	**-1.0**
DAWY				IAmb	IAmb	09 59 37.6	
	comp=Z,4.3nm,1.3s						
INK	**Inuvik**	**69.50**	**23**	P	**P**	**09 59 49.7**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=265,slow=4.4,SNR=7.1						
INK	**Inuvik**	**69.50**	**23**	P	**P**	**09 59 49.6**	**+0.2**
INK				IAmb	IAmb	09 59 50.1	
	comp=Z,2.4nm,1.0s						
ABKAR	**Akbulak array**	**73.28**	**317**	P	**P**	**10 00 12.3**	**-0.1**
YKA	**Yellowknife Ar**	**78.12**	**28**	P	**P**	**10 00 40.0**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=288,slow=5.5,SNR=14						
SPITS	**Spitsbergen Ar**	**79.21**	**351**	P	**P**	**10 00 45.9**	**+0.7**
	comp=Z,18nm,1.1s,baz=353,slow=8.7,SNR=2.9						
ARCES	**ARCESS Array B**	**82.51**	**342**	P	**P**	**10 01 03.5**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=57,slow=3.3,SNR=3.3						
NVAR	**Mina Array Bea**	**83.31**	**52**	P	**P**	**10 01 10.0**	**+2.2**
	comp=Z,0.5nm,0.6s,baz=262,slow=5.7,SNR=5.7						
FINES	**FINESS Array B**	**86.88**	**335**	P	**P**	**10 01 23.9**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=82,slow=4.2,SNR=6.4						

*ISCJB **24** 09:57:50.1±0.4, 22°17S±0°04×179°58W±0°08, h600km, mb4.0/16, Error ellipse: s-maj=9.9km s-min=5.1km az=174.6*
*NEIC **24** 09:57:50.2±2.1, 22°1S±0°1×179°5W±0°1, h588km±8km, mb4.7/33*
*IDC **24** 09:57:52.9±3.7, 22°07S×179°67W, h609km±43km, mb3.5/15, mb1 3.7/16, mb1mx3.5/39, mbtmp4.4/16, Error ellipse: s-maj=21.9km s-min=20.8km az=70.0*
ISC 24 09:57:50.6±0.5, **22°27S**±0°06×**179°44W**±0°09, **h600**km, **n107**, σ1°**43**/111, **mb4.5**/31, **8C-9D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.09**	**332**	P	**P**	**09 59 21.9**	**-2.5**
RAO	**Raoul Island**	**7.08**	**169**	P	**P**	**09 59 40.0**	**-1.2**
GLKZ	**Green Lake**	**7.09**	**169**	P	**P**	**09 59 38.0**	**-3.3**
DZM	**Mont Dzumac**	**13.08**	**268**	P	**P**	**10 00 42.2**	**+1.8**
	1.8nm,0.3s,baz=135,slow=19,SNR=19						
DZM	**Mont Dzumac**	**13.08**	**268**	P	**P**	**10 00 41.3**	**+0.9**
OUZ	**Omahuta**	**14.27**	**204**	P	**P**	**10 00 50.1**	**-1.7**
OUZ	**Omahuta**	**14.27**	**204**	P	**P**	**10 00 53.6**	**+1.8**
WCZ	**Waipu Caves**	**14.66**	**200**	P	**P**	**10 00 58.0**	**+2.6**
KUZ	**Kuaotunu**	**15.02**	**195**	P	**P**	**10 00 59.9**	**+1.1**
MXZ	**Matakaoa Point**	**15.36**	**187**	P	**P**	**10 01 02.4**	**+0.5**
ETAZ	**East Tamaki Re**	**15.43**	**197**	P	**P**	**10 01 04.7**	**+2.3**
MKAZ	**Moumakai**	**15.50**	**196**	P	**P**	**10 01 04.9**	**+1.7**
HAZ	**Te Kaha**	**15.62**	**188**	P	**P**	**10 01 04.8**	**+0.6**
HAZ				S	**S**	**10 03 38.4**	**-3.7**
PUZ	**Puketiti**	**15.87**	**187**	P	**P**	**10 01 08.1**	**+1.5**
PUZ				S	**S**	**10 03 46.2**	**-0.2**
TWGZ	**Tauwhareparae**	**16.01**	**187**	P	**P**	**10 01 08.9**	**+1.0**
TOZ	**Tahuroa Road**	**16.01**	**195**	P	**P**	**10 01 10.7**	**+2.8**
URZ	**Urewera**	**16.21**	**190**	P	**P**	**10 01 08.3**	**-1.3**
	2.7nm,0.3s,baz=240,slow=2.5,SNR=18						
URZ				S	**S**	**10 03 45.3**	**-6.5**
	0.7nm,0.3s,baz=337,slow=22,SNR=13						
URZ	**Urewera**	**16.21**	**190**	P	**P**	**10 01 08.7**	**-1.0**
URZ	**Urewera**	**16.21**	**190**	P	**P**	**10 01 08.6**	**-1.1**
URZ				IAmb	IAmb	10 01 15.8	
	comp=Z,21nm,0.8s						
MWZ	**Matawai**	**16.22**	**189**	P	**P**	**10 01 09.3**	**-0.5**
CNGZ	**Carnagh Statio**	**16.29**	**187**	P	**P**	**10 01 11.7**	**+1.4**
MUGZ	**Murupara**	**16.48**	**191**	P	**P**	**10 01 11.8**	**-0.3**
RIGZ	**Rimuhau**	**16.56**	**188**	P	**P**	**10 01 14.4**	**+1.5**
MSWZ	**Moikau Station**	**19.61**	**192**	P	**P**	**10 01 41.9**	**+1.3**
QRZ	**Quartz Range**	**19.71**	**198**	P	**P**	**10 01 43.1**	**+1.7**
THZ	**Tophouse**	**20.47**	**197**	P	**P**	**10 01 48.5**	**+0.1**
KHZ	**Kahutara**	**20.93**	**195**	P	**P**	**10 01 51.5**	**-0.9**
KHZ				IAmb	IAmb	10 01 59.2	
	comp=Z,23nm,1.1s						
LTZ	**Lake Taylor**	**21.59**	**197**	P	**P**	**10 01 57.9**	**-0.5**
LTZ				IAmb	IAmb	10 02 00.4	
	comp=Z,15nm,0.7s						
WKZ	**Wanaka**	**24.42**	**200**	P	**P**	**10 02 23.9**	**+0.4**
TARA	**Tarawa**	**24.64**	**341**	P	**P**	**10 02 25.0**	**-0.7**
MLZ	**Mavora Lakes**	**25.19**	**201**	P	**P**	**10 02 32.6**	**+2.3**
MLZ				IAmb	IAmb	10 02 42.7	
	comp=Z,37nm,1.2s						
WHZ	**Wether Hill Ro**	**25.71**	**201**	P	**P**	**10 02 36.7**	**+1.9**
WHZ				IAmb	IAmb	10 02 37.1	
	comp=Z,18nm,0.7s						
ARMA	**Armidale**	**27.11**	**246**	P	**P**	**10 02 49.2**	**+1.7**
ARMA				IAmb	IAmb	10 02 49.3	
	comp=Z,39nm,1.4s						
EIDS	**Eidsvold**	**27.12**	**258**	P	**P**	**10 02 47.9**	**+0.4**
EIDS				IAmb	IAmb	10 02 48.5	
	comp=Z,14nm,1.1s						
CAN	**Canberra**	**30.42**	**238**	P	**P**	**10 03 17.4**	**+1.5**
CAN				IAmb	IAmb	10 03 18.4	
	comp=Z,13nm,1.0s						
CTA	**Charters Tower**	**32.03**	**267**	P	**P**	**10 03 29.8**	**0.0**
	comp=Z,11nm,0.4s,baz=92,slow=11,SNR=34						
TOO	**Toolangi**	**33.78**	**235**	P	**P**	**10 03 45.6**	**+1.3**
TOO				IAmb	IAmb	10 03 46.0	
	comp=Z,9.5nm,0.8s						
STKA	**Stephens Creek**	**35.83**	**246**	P	**P**	**10 04 02.2**	**+0.9**
	comp=Z,5.9nm,0.5s,baz=92,slow=10,SNR=23						
BBOO	**Buckleboo**	**40.58**	**245**	P	**P**	**10 04 40.1**	**+0.4**
AS31	**Alice Springs**	**42.83**	**259**	P	**P**	**10 04 56.0**	**-1.6**
ASAR	**Alice Springs**	**42.83**	**259**	P	**P**	**10 04 57.5**	**-0.1**
	comp=Z,13nm,0.7s,baz=93,slow=8.4,SNR=21						
WR0	**Warramunga Arr**	**42.87**	**264**	P	**P**	**10 04 57.3**	**-0.5**
WR0				IAmb	IAmb	10 05 06.0	
	comp=Z,10nm,0.7s						
WRAB	**Tennant Creek**	**43.05**	**264**	P	**P**	**10 04 57.9**	**-1.4**
WRAB				IAmb	IAmb	10 04 59.3	
	comp=Z,31nm,1.1s						
WRA	**Warramunga Arr**	**43.06**	**264**	P	**P**	**10 04 58.5**	**-0.8**
	comp=Z,5.4nm,0.3s,baz=94,slow=8.0,SNR=25						
KNRA	**Kununurra**	**49.23**	**268**	P	**P**	**10 05 45.6**	**-0.3**
KNRA				IAmb	IAmb	10 05 54.2	
	comp=Z,26nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.49**	**264**	P	**P**	**10 06 02.6**	**+0.3**
	comp=Z,5.0nm,0.3s,baz=126,slow=6.4,SNR=11						
FITZ	**Fitzroy Crossi**	**51.49**	**264**	P	**P**	**10 06 02.6**	**+0.3**
SIJI	**Sorong**	**52.43**	**287**	P	**P**	**10 06 08.8**	**-0.3**
	comp=Z,58nm,0.8s,baz=80,slow=6.3,SNR=20						
SOEI	**Soe**	**55.24**	**274**	P	**P**	**10 06 30.4**	**+1.4**
PSA00	**Pilbara Seismi**	**55.98**	**258**	P	**P**	**10 06 34.0**	**+0.2**
VNDA	**Vanda**	**56.04**	**185**	P	**P**	**10 06 36.3**	**+3.0**
	comp=Z,1.7nm,0.7s,baz=3.6,slow=8.4,SNR=5.8						
GIRL	**Giralia**	**60.80**	**256**	P	**P**	**10 07 07.4**	**+1.2**
JAGI	**Jajag, Banyuwa**	**65.05**	**271**	P	**P**	**10 07 32.8**	**-0.7**
JAGI				IAmb	IAmb	10 07 33.3	
	comp=Z,31nm,1.0s						
QSPA	**South Pole Qui**	**67.81**	**180**	P	**P**	**10 07 52.0**	**+2.3**
KKM	**Kota Kinabalu**	**68.94**

mb4.9/95,MS4.2/21,Error ellipse: s-maj=4.6km s-min=2.5km az=159.9

DJA ***24*** *09:57:59.6±0.3,4˚N±2˚×12˚7E±˚,h41km±3km,M4.9/65, mB5.4/19,mb5.1/65,MLv4.9/18,Mw(mB)4.8/19,Mwp5.0/4*

NEIC ***24*** *09:57:60.0±1.9,3˚.46N±0.05×126˚.91E±0.04,h48km±5km, mb4.9/95*

MAN ***24*** *09:57:59.1,3˚.41N×126˚.89E,h19km,MS4.7*

MOS ***24*** *09:57:59.4±0.9,3˚.47N×126˚.86E,h57km,mb5.1/46,Error ellipse: s-maj=10.6km s-min=5.4km az=112.0*

KLM ***24*** *09:58:01.0,3˚.42N×127˚.18E,h61km,mb5.0*

GCMT ***24*** *09:58:02.0±0.3,3˚.52N±0.03×127˚.18E±0.03,h21km±1km, MW4.9/61,Moment Tensor Solution. s28,c31; s61,c81; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.25±.22; $M_{\theta\theta}$0.27±.13; $M_{\phi\phi}$-2.52±.15; $M_{r\theta}$0.72±.29; $M_{\theta\phi}$-1.11±.11; $M_{\phi r}$1.06±.24; Best double couple: M_o2.88900×10^{16} NP1:ϕ=188.00000°,δ58.00000°,λ101.00000°. NP2: ϕ=188.00000°,δ33.00000°,λ73.00000°. Principal axes: T 2.5860, Plg74.0000°, Azm327.0000°; N 0.6020, Plg9.0000°, Azm202.0000°; P -3.1920, Plg13.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 09:58:00.5±0.6,3˚39N±0˚03×126˚92E±0˚04,h51km±5km, n336,σ1$55/357,mb4.9/114,MS4.1/21,10C-3D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.64**	**170**	P	**Pn**	**09 58 41.8**	**+1.2**
TNTI				S	**Sn**	**09 59 13.5**	**+2.1**
TNTI	**Ternate**	**2.64**	**170**		**Pn**	**09 58 42.1**	**+1.4**
TNTI				Sn	**Sn**	**09 59 11.8**	**+0.4**
MNI	**Manado**	**2.83**	**227**	P	**Pn**	**09 58 46.3**	**+3.0**
DDMP	**Don Marcelino,**	**2.95**	**336**	P	**Pn**	**09 58 43.2**	**-1.8**
GSPH	**General Santos**	**3.32**	**324**	⇑P	**Pn**	**09 58 49.8**	**-0.3**
MATI	**Mati**	**3.60**	**350**	P	**Pn**	**09 58 54.1**	**+0.3**
MATI				S	Sn	09 59 52.5	+17
DAV	**Davao City (W)**	**3.89**	**340**	Pn	**Pn**	**09 58 55.0**	**-2.9**
	50nm,0.3s,baz=94,slow=13,SNR=2.1						
DAV	**Davao City (W)**	**3.89**	**340**	⇓*e*P	**Pn**	**09 58 59.0**	**+1.1**
DAV	**Davao City (W)**	**3.89**	**340**		**Pn**	**09 58 55.7**	**-2.2**
SKMP	**Bagumbayan, Su**	**3.91**	**323**	P	**Pn**	**09 58 57.1**	**-0.9**
SKMP				S	**Sn**	**09 59 44.5**	**+1.8**
KCP	**Kidapawan**	**4.03**	**333**	⇑P	**Pn**	**09 59 01.2**	**+1.3**
KCP				S	Sn	09 59 14.4	-31
LBMI	**Labuha**	**4.04**	**172**	P	**Pn**	**09 59 01.2**	**+1.3**
LBMI				S	**Sn**	**09 59 47.8**	**+1.8**
KMSI	**Cibinong**	**4.05**	**226**	P	**Pn**	**09 59 03.2**	**+3.2**
CTBH	**Cotabato--PC H**	**4.64**	**325**	P	**Pn**	**09 59 09.4**	**+1.2**
CTBH				S	Sn	09 59 43.0	-18
BUKP	**Musuan**	**4.83**	**338**	P	**Pn**	**09 59 11.4**	**+0.6**
BUKP				S	**Sn**	**10 00 12.6**	**+7.1**
SANI	**Sanana**	**5.48**	**190**	P	**Pn**	**09 59 18.3**	**-1.4**
	105nm,0.7s,2μm0.5nm						
CGP	**Cagayan de Oro**	**5.50**	**336**	⇓P	**Pn**	**09 59 22.2**	**+2.3**
PAGZ	**Pagadian**	**5.66**	**322**	P	**Pn**	**09 59 20.6**	**-1.5**
PAGZ				S	Sn	10 00 06.7	-19
BUTP	**Butuan**	**5.69**	**347**	P	**Pn**	**09 59 24.9**	**+2.9**
BUTP				S	**Sn**	**10 00 30.6**	**+3.9**
MRSI	**Marisa**	**5.75**	**240**	P	**Pn**	**09 59 25.2**	**+1.8**
	312nm,1.0s,3μm1.1nm						
LUWI	**Luwuk**	**6.04**	**223**	P	**Pn**	**09 59 29.1**	**+1.7**
	403nm,1.0s,2.1nm						
LUWI	**Luwuk**	**6.04**	**223**		**Pn**	**09 59 29.6**	**+2.3**
LUWI				Sn	**Sn**	**10 00 34.2**	**-1.1**
SWI	**Sorong**	**6.06**	**134**	P	**Pn**	**09 59 28.8**	**+1.2**
SWI				pmax	pmax		
	comp=Z,198nm,1.2s						
SWI	**Sorong**	**6.06**	**134**	P	**Pn**	**09 59 28.4**	**+0.8**
	comp=Z,200nm,1.1s,comp=Z,3μmcomp=Z,0.7nm						
SWI				S	**Sn**	**10 00 35.5**	**-0.1**
	comp=Z,200nm,1.1s,comp=Z,3μmcomp=Z,0.7nm						
SIJI	**Sorong**	**6.07**	**134**	Pn	**Pn**	**09 59 28.1**	**+0.3**
	comp=Z,17nm,0.3s,baz=327,slow=11,SNR=41						
SIJI				Sn	**Sn**	**10 00 36.3**	**+0.4**
	comp=Z,5.2nm,0.3s,baz=349,slow=23,SNR=9.2						
SIJI				LR	LR	10 02 14.3	
	comp=Z,3μm,20.0s,baz=334,slow=42						
NLAI	**Namlea**	**6.58**	**178**	P	**Pn**	**09 59 35.6**	**+0.8**
	comp=Z,148nm,0.6s,comp=Z,2μmcomp=Z,0.6nm						
APSI	**Ampana**	**6.78**	**231**	P	**Pn**	**09 59 38.9**	**+1.4**
	comp=Z,197nm,0.7s,comp=Z,2μmcomp=Z,1.0nm						
MSAI	**Masohi**	**6.99**	**163**	P	**Pn**	**09 59 41.4**	**+1.1**
	comp=Z,29nm,0.7s,comp=Z,4μmcomp=Z,0.2nm						
MSLP	**Maasin**	**7.01**	**343**	P	**Pn**	**09 59 40.4**	**-0.3**
MSLP				S	**Sn**	**10 01 01.9**	**+2.9**
AAI	**Ambon**	**7.14**	**170**	P	**Pn**	**09 59 43.4**	**+0.9**
	comp=Z,77nm,0.7s,comp=Z,0.3nm						
MPSI	**Mapaga**	**7.64**	**247**	P	**Pn**	**09 59 50.6**	**+1.3**
	comp=Z,36nm,0.8s,comp=Z,1μmcomp=Z,3μmcomp=Z,0.2nm						
FAKI	**Fak Fak**	**8.23**	**140**	P	**Pn**	**09 59 56.6**	**-0.8**
	comp=Z,78nm,1.0s						
FAKI	**Fak Fak**	**8.23**	**140**		**Pn**	**09 59 58.0**	**+0.6**
FAKI				Sn	**Sn**	**10 01 23.4**	**-5.6**
KDI	**Kendari**	**8.46**	**211**	P	**Pn**	**09 59 59.6**	**-1.0**
	comp=Z,90nm,0.8s,comp=Z,1μm						
RKPI	**Ransiki, Papua**	**8.74**	**124**	P	**Pn**	**10 00 03.7**	**-0.7**
	comp=Z,134nm,1.1s,comp=Z,9μm						
TTSI	**Tana Toraja**	**9.55**	**228**	P	**Pn**	**10 00 17.1**	**+1.7**
	comp=Z,69nm,0.9s						
KKM	**Kota Kinabalu**	**10.98**	**284**	Pn	**Pn**	**10 00 34.0**	**-1.2**
KKM				Sn	**Sn**	**10 02 36.1**	**-0.7**
SOEI	**Soe**	**13.32**	**191**	P	**Pn**	**10 01 07.0**	**-0.1**
	comp=Z,67nm,0.9s						
BATI	**Baumata**	**13.89**	**193**	Pn	**Pn**	**10 01 16.7**	**+1.9**
	comp=Z,5.8nm,0.3s,baz=338,slow=0.5,SNR=8.0						
JAY	**Jayapura**	**14.98**	**113**	Pn	**P**	**10 01 33.7**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=295,slow=7.1,SNR=6.9						
JAY				LR	LR	10 06 43.7	
	comp=Z,1μm,20.2s,baz=284,slow=35						
PLAI	**Plampang**	**15.17**	**217**	P	**P**	**10 01 34.1**	**-1.8**
	comp=Z,618nm,0.8s,comp=Z,4μm						
MTN	**Manton Dam**	**16.66**	**166**	P	**Pn**	**10 01 48.8**	**-1.9**
	baz=16,SNR=30						
MTN	**Manton Dam**	**16.66**	**166**		**Pn**	**10 01 48.9**	**-1.8**
MTN				IAmb	IAmb	10 01 54.8	
	comp=Z,56nm,0.7s						
KSM	**Kuching**	**16.70**	**264**	P	**P**	**10 01 55.0**	**+2.2**
KSM	**Kuching**	**16.70**	**264**	Pn	**Pn**	**10 01 50.8**	**-0.4**
KDU	**Kakadu**	**16.90**	**161**	P	**Pn**	**10 01 52.9**	**-0.7**
	baz=17,SNR=25						
JAGI	**Jajag, Banyuwa**	**17.34**	**227**	Pn	**Pn**	**10 01 58.3**	**-0.9**
JAGI				IAmb	IAmb	10 02 05.2	
	comp=Z,46nm,0.6s						
NGJI	**Ngawi**	**18.76**	**235**	P	**Pn**	**10 02 16.3**	**-0.2**
	comp=Z,59nm,1.3s						
PWJI	**Pagerwojo**	**18.86**	**233**	P	**Pn**	**10 02 18.2**	**+0.6**
	comp=Z,37nm,0.9s						
KNRA	**Kununurra**	**19.03**	**175**	P	**P**	**10 02 18.4**	**-0.1**
	baz=19,SNR=20						
KNRA	**Kununurra**	**19.03**	**175**	P	**P**	**10 02 18.6**	**+0.1**
KNRA				IAmb	IAmb	10 02 21.8	
	comp=Z,51nm,0.6s						
PCJI	**Pacitan**	**19.46**	**234**	P	**Pn**	**10 02 25.4**	**+0.6**
	comp=Z,93nm,1.0s						
DLV	**T Lat**	**20.13**	**296**	P	**P**	**10 02 29.6**	**-1.2**
DLV				IAmb	IAmb	10 02 35.9	
	comp=Z,33nm,0.7s						
TWG	**Pinlang**	**20.13**	**344**	P	**P**	**10 02 27.2**	**-3.3**
GUMO	**Guam**	**20.43**	**59**	LR	LR	10 09 22.7	
	comp=Z,492nm,21.0s,baz=254,slow=34						
YULB	**Yu-li**	**20.62**	**345**	P	**P**	**10 02 33.3**	**-2.5**
TPUB	**Ta-pu**	**20.71**	**343**	P	**P**	**10 02 33.9**	**-2.8**
TPUB				IAmb	IAmb	10 02 39.2	
	comp=Z,75nm,0.7s						
SSLB	**Suanglung**	**21.08**	**345**	P	**P**	**10 02 38.4**	**-2.4**
SSLB				IAmb	IAmb	10 02 42.1	
	comp=Z,58nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.39**	**183**	P	**P**	**10 02 43.4**	**-0.6**
	baz=21,SNR=49						
FITZ	**Fitzroy Crossi**	**21.39**	**183**	P	**P**	**10 02 43.5**	**-0.5**
	comp=Z,22nm,0.5s,baz=18,slow=8.4,SNR=37						
FITZ				S	**S**	**10 06 36.3**	**-2.5**
	comp=Z,14nm,1.1s,baz=172,slow=16,SNR=4.3						
LEM	**Lembang**	**21.77**	**242**	LR	LR	10 13 37.2	
	comp=Z,553nm,18.0s,baz=72,slow=44						
YHNB	**Yeheng**	**21.82**	**346**	P	**P**	**10 02 47.4**	**-1.3**
YHNB				IAmb	IAmb	10 02 56.7	
	comp=Z,55nm,0.9s						
CISI	**Cisompet, Garu**	**21.94**	**240**	P	**P**	**10 02 48.8**	**-1.3**
CISI				IAmb	IAmb	10 02 53.9	
	comp=Z,27nm,0.6s						
DBJI	**Dramaga**	**22.42**	**244**	P	**P**	**10 02 56.1**	**+0.8**
QIZ	**Qiongzhong**	**22.81**	**314**	P	**P**	**10 02 59.3**	**0.0**
QIZ				S	**S**	**10 07 07.9**	**+3.0**
MYKOM	**Kota Tinggi**	**23.09**	**267**	P	**P**	**10 03 04.0**	**+1.8**
BLSI	**Bandar Lampung**	**23.33**	**248**	P	**P**	**10 03 05.6**	**+1.1**
	comp=Z,104nm,0.4s						
KLSI		**23.57**	**250**	P	**P**	**10 03 07.8**	**+1.0**
	comp=Z,47nm,0.8s,comp=Z,336nm						
COEN	**Coen**	**23.60**	**137**	P	**P**	**10 03 07.8**	**+0.8**
	baz=23,SNR=5.6						
COEN	**Coen**	**23.60**	**137**	P	**P**	**10 03 06.0**	**-1.1**
PMG	**Port Moresby**	**23.84**	**122**	LR	LR	10 13 47.1	
	comp=Z,730nm,19.9s,baz=296,slow=40						
MDSI	**Maura Dua**	**24.03**	**251**	P	**P**	**10 03 11.4**	**+0.4**
	comp=Z,34nm,1.0s,comp=Z,1μm						
KASI	**Kota Agung**	**24.08**	**249**	P	**P**	**10 03 12.6**	**+1.1**
	comp=Z,56nm,1.1s						
UBPT	**Khong Chiam**	**24.20**	**301**	P	**P**	**10 03 14.0**	**+1.4**
	comp=Z,24nm,1.8s						
WRAB	**Tennant Creek**	**24.30**	**163**	*i* P	**P**	**10 03 12.6**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,122nm,0.9s						
WRAB	**Tennant Creek**	**24.30**	**163**	P	**P**	**10 03 11.6**	**-1.8**
WRA	**Warramunga Arr**	**24.30**	**163**	P	**P**	**10 03 12.7**	**-0.8**
	comp=Z,106nm,0.9s,baz=335,slow=11,SNR=281						
WRA				PcP	**PcP**	**10 06 54.1**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=348,slow=1.7,SNR=2.6						
WRA				S	**S**	**10 07 27.1**	**-2.1**
	comp=Z,3.3nm,0.9s,baz=344,slow=17,SNR=4.3						
WR0	**Warramunga Arr**	**24.38**	**162**	P	**P**	**10 03 14.0**	**-0.2**
JRMM	**Jerantut**	**24.39**	**272**	P	**P**	**10 03 16.0**	**+1.6**
PSAD1	**Pilbara Seismi**	**25.64**	**195**	P	**P**	**10 03 26.8**	**+1.2**
PSAD1				IAmb	IAmb	10 03 27.4	
	comp=Z,50nm,0.7s						
PSAC1	**Pilbara Seismi**	**25.73**	**195**	P	**P**	**10 03 27.3**	**+0.9**
PSAC2	**Pilbara Seismi**	**25.73**	**195**	P	**P**	**10 03 27.9**	**+1.5**
PSAB2	**Pilbara Seismi**	**25.73**	**195**	P	**P**	**10 03 27.4**	**+1.0**
PSAA2	**Pilbara Seismi**	**25.74**	**195**	P	**P**	**10 03 27.9**	**+1.3**
PSA00	**Pilbara Seismi**	**25.75**	**195**	P	**P**	**10 03 27.5**	**+0.9**
PSAA3	**Pilbara Seismi**	**25.76**	**195**	P	**P**	**10 03 26.8**	**+0.2**
PSAB1	**Pilbara Seismi**	**25.76**	**195**	P	**P**	**10 03 27.5**	**+0.9**
PSAA1	**Pilbara Seismi**	**25.76**	**195**	P	**P**	**10 03 27.4**	**+0.7**
PSAD2	**Pilbara Seismi**	**25.77**	**195**	P	**P**	**10 03 27.6**	**+0.8**
PSAD2				IAmb	IAmb	10 03 28.5	
	comp=Z,44nm,0.7s						
PSAB3	**Pilbara Seismi**	**25.77**	**195**	P	**P**	**10 03 28.0**	**+1.3**
PSAC3	**Pilbara Seismi**	**25.80**	**195**	P	**P**	**10 03 27.1**	**0.0**
PSAD3	**Pilbara Seismi**	**25.84**	**195**	P	**P**	**10 03 27.8**	**+0.4**
IPM	**Ipoh**	**25.85**	**273**	P	**P**	**10 03 31.0**	**+3.4**
IPM	**Ipoh**	**25.85**	**273**	P	**P**	**10 03 26.6**	**-1.1**
KRJI	**Kerinci**	**26.02**	**258**	P	**P**	**10 03 29.7**	**+0.5**
BKNI	**Bangkinang**	**26.04**	**264**	P	**P**	**10 03 29.6**	**+0.3**
	comp=Z,82nm,0.7s						
BKNI	**Bangkinang**	**26.04**	**264**	P	**P**	**10 03 29.8**	**+0.5**
BKNI				IAmb	IAmb	10 03 36.9	
	comp=Z,60nm,1.1s						
KRVT	**Keravat (AS076**	**26.23**	**107**	LR	LR	10 12 39.9	
	comp=Z,2μm,18.3s,baz=288,slow=34						
SKNT	**Sakolnakorn**	**26.25**	**303**	P	**P**	**10 03 31.7**	**+0.5**
	comp=Z,53nm,0.9s						
QIS	**Mount Isa**	**26.86**	**153**	P	**P**	**10 03 36.9**	**+0.3**
	baz=27,SNR=29						
MTSU	**Mount Surprise**	**27.41**	**142**	P	**P**	**10 03 42.8**	**+1.1**
	baz=27,SNR=5.8						
NONG	**Nongkai**	**27.48**	**304**	P	**P**	**10 03 44.3**	**+2.1**
	comp=Z,0.4nm,1.3s,comp=Z,106nm						
CHAI	**Chaiyaphum**	**27.50**	**299**	P	**P**	**10 03 44.1**	**+1.7**
	comp=Z,23μm,0.8s						
AS31	**Alice Springs**	**27.74**	**166**	P	**P**	**10 03 44.1**	**-0.4**
ASAR	**Alice Springs**	**27.74**	**166**	P	**P**	**10 03 44.5**	**0.0**
ASAR				PcP	**PcP**	**10 07 01.7**	**+1.3**
	comp=Z,17nm,0.6s,baz=347,slow=6.9,SNR=240						
ASAR				S	**S**	**10 08 23.9**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=342,slow=2.2,SNR=4.6						
PSI	**Prapat**	**27.96**	**270**	P	**P**	**10 03 44.8**	**-1.9**
	comp=Z,3.0nm,0.9s,baz=356,slow=20,SNR=5.2						
PSI				LR	LR	10 16 53.9	
	comp=Z,9.7nm,0.8s,baz=87,slow=6.7,SNR=4.2						
RPSI	**Rantau Prapat**	**27.96**	**269**	P	**P**	**10 03 44.8**	**-1.8**
WRKA	**Warakurna**	**28.29**	**177**	P	**P**	**10 03 49.4**	**0.0**
	comp=Z,236nm,18.1s,baz=70,slow=41						
	baz=28,SNR=34						
PBKT	**Sadao Pong**	**28.66**	**299**	P	**P**	**10 03 53.7**	**+1.0**
	comp=Z,6.2nm,1.3s						
PBKT	**Sadao Pong**	**28.66**	**299**	P	**P**	**10 03 52.3**	**-0.4**
GIRL	**Giralia**	**28.68**	**205**	P	**P**	**10 03 53.2**	**+0.3**
KCSI	**Koane, Aceh**	**29.09**	**271**	P	**P**	**10 03 55.0**	**-1.7**
	comp=Z,18nm,0.7s						
GSI	**Gunungsitoli**	**29.39**	**267**	P	**P**	**10 03 59.2**	**0.0**
GSI				IAmb	IAmb	10 04 00.8	
	comp=Z,13nm,0.6s						
NJ2	**Nanjing**	**29.50**	**346**	*e*P	**P**	**10 04 00.6**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
UTTA	**Uttaradit**	**29.52**	**301**	P	**P**	**10 04 02.0**	**+1.7**
	comp=Z,14μm,0.6s,comp=Z,405μm						
TPTI		**29.68**	**271**	P	**P**	**10 04 01.6**	**-0.3**
	comp=Z,4.7nm,0.7s						
JNU	**Nakatsue**	**29.81**	**7**	P	**P**	**10 04 01.6**	**-1.3**
	comp=Z,11nm,1.0s,baz=207,slow=2.3,SNR=3.3						
JNU	**Nakatsue**	**29.81**	**7**	P	**P**	**10 03 60.0**	**-2.9**
GYA	**Guiyang**	**30.05**	**322**	*e*P	P	10 04 25.3	+20
GYA				pmax	pmax		
	comp=Z,20nm,0.7s						
PHRA	**Phrae**	**30.12**	**302**	P	**P**	**10 04 06.9**	**+1.1**
	comp=Z,3.2nm,1.0s,comp=Z,551nm						
MLSI	**Meulaboh, Aceh**	**30.45**	**273**	P	**P**	**10 04 09.3**	**+0.6**
	comp=Z,21nm,0.7s						
PAYA	**Payao**	**30.82**	**303**	P	**P**	**10 04 13.7**	**+1.8**
	comp=Z,38μm,0.8s						
MEEK	**Meekatharra**	**30.91**	**195**	P	**P**	**10 04 13.1**	**+0.5**
	baz=31,SNR=22						
CMAR	**Chiang Mai Arr**	**31.20**	**301**	P	**P**	**10 04 15.1**	**-0.2**
	comp=Z,4.8nm,0.9s,baz=118,slow=7.3,SNR=22						
CMAR				LR	LR	10 18 08.2	
	comp=Z,196nm,18.5s,baz=128,slow=39						
CMMT	**Chiang Mai**	**31.35**	**301**	P	**P**	**10 04 18.1**	**+1.5**
	comp=Z,3.7nm,0.6s						
CHTO	**Chiang Mai**	**31.36**	**301**	P	**P**	**10 04 15.4**	**-1.2**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CHTO	**Chiang Mai**	**31.36**	**301**	P	**P**	**10 04 15.4**	**-1.2**
ENH	**Enshi**	**31.41**	**330**	P	**P**	**10 04 15.8**	**-1.2**
ENH				IAmb	IAmb	10 04 19.5	
	comp=Z,16nm,0.7s						
MHMT	**Maesarieng**	**31.96**	**300**	P	**P**	**10 04 23.0**	**+1.1**
	comp=Z,34nm,0.8s						
TJN	**Taejon**	**32.83**	**1**	*i* P	**P**	**10 04 28.7**	**-0.6**
TIA	**Tai'an**	**33.89**	**346**	P	**P**	**10 04 37.6**	**-1.0**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KSRS	**Korea Array**	**33.92**	**1**	P	**P**	**10 04 38.6**	**-0.1**
	comp=Z,4.5nm,0.9s,baz=184,slow=9.3,SNR=12						
KSRS				PcP	**PcP**	**10 07 18.4**	**+2.0**
	comp=Z,2.3nm,0.9s,baz=222,slow=1.6,SNR=5.1						
MORW	**Morawa**	**33.92**	**197**	P	**P**	**10 04 37.9**	**-1.0**
MORW				IAmb	IAmb	10 04 40.5	
	comp=Z,23nm,0.9s						
FORT	**Forrest**	**33.99**	**178**	P	**P**	**10 04 39.9**	**+0.4**
	baz=34,SNR=14						
FORT	**Forrest**	**33.99**	**178**	P	**P**	**10 04 39.7**	**+0.2**
QLP	**Quilpie**	**34.18**	**152**	P	**P**	**10 04 41.2**	**+0.1**
	baz=34,SNR=8.6						
MJAR	**Matsushiro Arr**	**34.60**	**16**	P	**P**	**10 04 45.5**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=196,slow=11,SNR=3.8						
MJAR				PcP	**PcP**	**10 07 19.9**	**+1.5**
	comp=Z,2.7nm,0.8s,baz=210,slow=4.2,SNR=5.1						
XAN	**Xi'an**	**34.80**	**333**	P	**P**	**10 04 44.9**	**-1.7**
XAN				pP	pP	10 04 59.8	+0.4
XAN				pmax	pmax		
	comp=Z,12nm,1.1s						
XAN				pmax	pmax		
	comp=Z,210nm,6.2s						
XAN	**Xi'an**	**34.80**	**333**	P	**P**	**10 04 45.2**	**-1.3**
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
XAN	**Xi'an**	**34.80**	**333**	P	**P**	**10 04 45.2**	**-1.3**
XAN				IAmb	IAmb	10 04 49.0	
	comp=Z,11nm,0.7s						
KMBL	**Kambalda**	**34.89**	**188**	P	**P**	**10 04 47.6**	**+0.3**
	baz=35,SNR=62						
CD2	**Chengdu**	**35.03**	**324**	P	**P**	**10 04 47.8**	**-0.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
BLDU	**Ballidu**	**35.19**	**195**	P	**P**	**10 04 50.4**	**+0.6**
	baz=35,SNR=12						
HNR	**Honiara**	**35.29**	**111**	LR	LR	10 18 55.2	
	comp=Z,413nm,20.8s,baz=292,slow=36						
KLBR	**Kellerberrin**	**35.86**	**193**	P	**P**	**10 04 56.4**	**+0.8**
	baz=36,SNR=18						
RMQ	**Roma**	**36.45**	**146**	P	**P**	**10 05 01.1**	**+0.4**
	baz=36,SNR=6.0						
MUN	**Mundaring**	**36.61**	**195**	P	**P**	**10 05 02.7**	**+0.7**
	baz=36,SNR=6.4						
EIDS	**Eidsvold**	**36.97**	**142**	P	**P**	**10 05 05.2**	**0.0**
	baz=37,SNR=19						
EIDS	**Eidsvold**	**36.97**	**142**	P	**P**	**10 05 04.7**	**-0.4**
BBOO	**Buckleboo**	**37.03**	**167**	P	**P**	**10 05 06.0**	**+0.4**
	baz=37,SNR=27						
BBOO	**Buckleboo**	**37.03**	**167**	P	**P**	**10 05 05.4**	**-0.1**
NWAO	**Narrogin (SRO)**	**37.26**	**194**	P	**P**	**10 05 08.6**	**+1.1**
	baz=37,SNR=13						
NWAO	**Narrogin (SRO)**	**37.26**	**194**	P	**P**	**10 05 08.4**	**+0.9**
	comp=Z,30nm,0.9s,baz=19,slow=7.7,SNR=17						
NWAO	**Narrogin (SRO)**	**37.26**	**194**	P	**P**	**10 05 08.4**	**+0.9**
NWAO				IAmb	IAmb	10 05 08.8	
	comp=Z,21nm,0.8s						
NWAO	**Narrogin (SRO)**	**37.26**	**194**	P	**P**	**10 05 08.3**	**+0.8**
NWAO				IAmb	IAmb	10 05 08.9	
	comp=Z,28nm,0.8s						
BJT	**Baijiatuao**	**37.74**	**346**	P	**P**	**10 05 12.0**	**+0.5**
BJT				pmax	pmax		
	comp=Z,46nm,0.9s						
BJT	**Baijiatuao**	**37.74**	**346**	P	**P**	**10 05 12.0**	**+0.5**
STKA	**Stephens Creek**	**37.75**	**159**	P	**P**	**10 05 12.3**	**+0.7**
	comp=Z,116nm,0.8s,baz=337,slow=9.7,SNR=186						
STKA	**Stephens Creek**	**37.75**	**159**	P	**P**	**10 05 11.9**	**+0.3**
STKA				IAmb	IAmb	10 05 13.4	
	comp=Z,29nm,0.8s						
HTT	**Hallett**	**38.34**	**164**	P	**P**	**10 05 17.5**	**+0.8**
	baz=38,SNR=12						
LZH	**Lanzhou**	**38.89**	**330**	⇑P	**P**	**10 05 22.3**	**+0.9**
LZH				pP	sP	10 05 36.4	-3.9
LZH				sP	pP	10 05 40.9	+6.4
LZH				PP	**PnPn**	**10 06 56.6**	**+2.6**
LZH				pmax	pmax		
	comp=Z,22nm,1.1s						
LZH				pmax	pmax		
	comp=Z,120nm,4.3s						
LZH				LR	LR		
	comp=Z,370nm,14.1s						
LZH				LR	LR		
	comp=Z,470nm,17.3s						
LZH				LR	LR		
	comp=Z,590nm,17.9s						
RKGY	**Rocky Gully**	**38.94**	**193**	P	**P**	**10 05 23.7**	**+2.2**
	baz=39,SNR=9.9						
CMSA	**Cobar Meteorol**	**39.06**	**154**	P	**P**	**10 05 23.4**	**+0.7**
	baz=39,SNR=13						
HHC	**Hu-ho-hao-te**	**39.78**	**342**	P	**P**	**10 05 32.8**	**+4.1**
HHC				S	**S**	**10 11 33.3**	**+3.9**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,51nm,6.2s						
HHC				LR	LR		
	comp=Z,250nm,19.6s						
HHC				LR	LR		
	comp=Z,140nm,16.2s						
HHC				LR	LR		
	comp=Z,220nm,14.5s						
SHL	**Shillong**	**40.23**	**307**	P	**P**	**10 05 31.5**	**-1.3**
SHL				pmax	pmax		
	comp=Z,36nm,0.7s						
SHL	**Shillong**	**40.23**	**307**	*e*P	**P**	**10 05 32.0**	**-0.7**
SHL	**Shillong**	**40.23**	**307**	P	**P**	**10 05 31.5**	**-1.3**
CN2	**Changchun**	**40.27**	**358**	*e*P	**P**	**10 05 31.6**	**-0.9**
CN2				*e*pP	pP	10 05 43.8	-1.9
CN2				*e*S	**S**	**10 11 35.3**	**-1.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**40.89**	**6**	P	**P**	**10 05 37.2**	**-0.5**
	comp=Z,5.9nm,0.8s,baz=181,slow=8.1,SNR=8.0						
ARMA	**Armidale**	**41.08**	**147**	P	**P**	**10 05 40.8**	**+1.2**
	baz=41,SNR=36						
ARMA	**Armidale**	**41.08**	**147**	P	**P**	**10 05 40.2**	**+0.6**
MDJ	**Mudanjiang**	**41.13**	**3**	P	**P**	**10 05 39.9**	**+0.3**
MDJ				pP	pP	10 05

SONM	**Songino Array**	**47.68**	**341**	P		**P**		**10 06 32.5**	**+0.4**
	comp=Z,4.8nm,0.7s,baz=156,slow=7.6,SNR=24								
SONM				PcP		**PcP**		**10 08 01.9**	**+1.0**
	comp=Z,3.1nm,0.9s,baz=160,slow=4.0,SNR=3.2								
KOLN	**Koldanda**	**47.87**	**305**	*e*P		**P**		**10 06 33.2**	**-0.8**
	comp=Z,91nm,0.8s								
DANN	**Dangsing**	**47.96**	**306**	*e*P		**P**		**10 06 33.7**	**-1.1**
	comp=Z,91nm,0.7s								
ZEA	**Zeya**	**50.19**	**0**	*e*P		**P**		**10 06 50.9**	**-0.1**
ZEA				pmax		pmax			
	comp=Z,17nm,1.0s								
ZEA				MLR		MLR			
	comp=Z,500nm,15.0s								
MOY	**Mondy**	**52.77**	**340**	*e*P		**P**		**10 07 11.1**	**+0.6**
WMQ	**Urumqi**	**53.11**	**325**	*e*P		**P**		**10 07 12.8**	**-0.3**
WMQ				pP		pP		10 07 25.6	-0.9
WMQ				sP		sP		10 07 30.3	-1.8
WMQ				pmax		pmax			
	comp=Z,12nm,1.3s								
WMQ				pmax		pmax			
	comp=Z,89nm,3.6s								
WMQ				LR		LR			
	comp=Z,440nm,5.7s								
WMQ				LR		LR			
	comp=Z,440nm,6.5s								
WMQ				LR		LR			
	comp=Z,310nm,7.1s								
WMQ	**Urumqi**	**53.11**	**325**	P		**P**		**10 07 12.3**	**-0.8**
WMQ				pmax		pmax			
	comp=Z,17nm,1.1s								
WMQ	**Urumqi**	**53.11**	**325**	P		**P**		**10 07 12.3**	**-0.8**
WMQ				lAmb		lAmb		10 07 15.5	
	comp=Z,17nm,1.1s								
POO	**Poona**	**54.01**	**290**	*e*P		**P**		**10 07 18.0**	**-2.1**
BOD	**Bodaibo**	**55.23**	**352**	*e*P		**P**		**10 07 26.5**	**-1.7**
BOD				pmax		pmax			
	comp=Z,12nm,1.6s								
PETK	**Petropavlovsk-**	**55.68**	**22**	P		**P**		**10 07 32.1**	**+0.6**
	comp=Z,7.6nm,0.6s,baz=187,slow=4.6,SNR=19								
PETK				LR		LR		10 32 09.4	
	comp=Z,85nm,19.4s,baz=242,slow=37								
MK31	**Makanchi Array**	**57.94**	**325**	P		**P**		**10 07 46.2**	**-1.5**
MK31				pmax		pmax			
	comp=Z,6.0nm,1.0s								
MK31	**Makanchi Array**	**57.94**	**325**	P		**P**		**10 07 46.2**	**-1.5**
MKAR	**Makanchi Array**	**57.94**	**325**	P		**P**		**10 07 47.4**	**-0.3**
	comp=Z,3.8nm,0.5s,baz=122,slow=7.7,SNR=30								
MKAR				LR		LR		10 36 09.2	
	comp=Z,171nm,18.2s,baz=91,slow=40								
MAKZ	**Makanchi**	**58.13**	**325**	P		**P**		**10 07 48.3**	**-0.7**
MAKZ				pmax		pmax			
	comp=Z,14nm,1.1s								
MAKZ	**Makanchi**	**58.13**	**325**	P		**P**		**10 07 48.3**	**-0.7**
MAKZ				lAmb		lAmb		10 07 50.4	
	comp=Z,14nm,1.1s								
NIL	**Nilore**	**58.28**	**308**	P		**P**		**10 07 49.0**	**-1.4**
NIL				pmax		pmax			
	comp=Z,15nm,1.0s								
NIL	**Nilore**	**58.28**	**308**	P		**P**		**10 07 49.0**	**-1.4**
NIL				lAmb		lAmb		10 07 52.6	
	comp=Z,15nm,1.0s								
KSH	**Kashi**	**58.41**	**315**	P		**P**		**10 07 54.3**	**+3.0**
KSH				PP		**PP**		**10 10 06.0**	**+4.9**
KSH				S		**S**		**10 15 53.3**	**+2.4**
KSH				ScS		**ScS**		**10 17 36.8**	**-0.3**
KSH				LR		LR			
	comp=Z,470nm,9.5s								
KSH				LR		LR			
	comp=Z,830nm,6.4s								
YAK	**Yakutsk**	**58.54**	**2**	*e*P		**P**		**10 07 52.0**	**+0.4**
YAK				*e**PP		**sP**		**10 08 10.5**	**0.0**
YAK				*e*				10 08 40.2	
YAK				*e*				10 10 04.7	
YAK				*e*S		**S**		**10 15 50.6**	**-0.8**
YAK				*e*				10 17 36.6	
YAK				*e*SS		**SS**		**10 19 46.9**	**+2.2**
YAK				pmax		pmax			
	comp=Z,25nm,0.9s								
YAK				pmax		pmax			
	comp=N,13nm,1.0s								
YAK				pmax		pmax			
	comp=E,2.0nm,0.9s								
YAK				pmax		pmax			
	comp=Z,111nm,2.8s								
YAK				pmax		pmax			
	comp=N,150nm,2.5s								
YAK				pmax		pmax			
	comp=E,37nm,2.4s								
YAK				smax		smax			
	comp=N,219nm,3.6s								
YAK				smax		smax			
	comp=E,184nm,3.7s								
YAK	**Yakutsk**	**58.54**	**2**	P		**P**		**10 07 51.0**	**-0.5**
BOOM	**Boomskoye usch**	**59.71**	**318**	P		**P**		**10 07 57.7**	**-2.6**
BOOM				pmax		pmax			
	comp=Z,12nm,1.1s								
BOOM	**Boomskoye usch**	**59.71**	**318**	P		**P**		**10 07 57.7**	**-2.6**
BOOM				lAmb		lAmb		10 08 06.8	
	comp=Z,12nm,1.1s								
AAK	**Ala-Archa**	**60.73**	**318**	*ce*P		**P**		**10 08 06.1**	**-1.2**
AAK				pmax		pmax			
	comp=Z,2.0nm,1.0s								
ZAA0	**Zalesovo Array**	**60.98**	**333**	P		**P**		**10 08 07.2**	**-1.2**
ZALV	**Zalesovo Beam**	**60.98**	**333**	P		**P**		**10 08 07.4**	**-1.1**
	comp=Z,2.2nm,0.5s,baz=130,slow=6.4,SNR=8.6								
ZALV				LR		LR		10 35 55.4	
	comp=Z,128nm,19.2s,baz=131,slow=38								
TUWZ	**Tuamarina**	**61.77**	**141**	P		**P**		**10 08 14.7**	**+0.6**
KBL	**Kabul**	**61.88**	**308**	P		**P**		**10 08 14.2**	**-1.0**
KBL				pmax		pmax			
	comp=Z,9.0nm,1.0s								
KBL	**Kabul**	**61.88**	**308**	P		**P**		**10 08 14.2**	**-1.0**
KBL				lAmb		lAmb		10 08 23.3	
	comp=Z,8.7nm,1.0s								
KURK	**Kurchatov**	**62.13**	**328**	*ce*P		**P**		**10 08 15.0**	**-1.3**
KURK				pmax		pmax			
	comp=Z,22nm,0.7s								
KURK	**Kurchatov**	**62.13**	**328**	P		**P**		**10 08 15.9**	**-0.4**
BTK	**Batken**	**62.29**	**314**	P		**P**		**10 08 16.0**	**-1.7**
BTK				pmax		pmax			
	comp=Z,4.0nm,0.6s								
BTK	**Batken**	**62.29**	**314**	P		**P**		**10 08 16.0**	**-1.7**
GAR	**Garm**	**62.29**	**313**	P		**P**		**10 08 16.9**	**-0.9**
GAR				lAmb		lAmb		10 08 19.1	
	comp=Z,13nm,0.8s								
SEY	**Seymchan**	**62.32**	**13**	*i* P		**P**		**10 08 17.2**	**-0.2**
CHGR	**Chuyangaron**	**63.03**	**312**	P		**P**		**10 08 21.3**	**-1.4**
CHGR				lAmb		lAmb		10 08 26.4	
	comp=Z,8.6nm,0.7s								
KK31	**Karatay Array**	**63.61**	**317**	P		**P**		**10 08 25.8**	**-0.5**
KK31				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KK31	**Karatay Array**	**63.61**	**317**	P		**P**		**10 08 25.8**	**-0.5**
KK31				lAmb		lAmb		10 08 27.3	
	comp=Z,6.1nm,0.9s								
KKAR	**Karatay Array**	**63.61**	**317**	P		**P**		**10 08 25.8**	**-0.6**
KKAR				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KKAR	**Karatay Array**	**63.61**	**317**	P		**P**		**10 08 25.8**	**-0.6**
KKAR				lAmb		lAmb		10 08 27.3	
	comp=Z,6.1nm,0.9s								
HRA	**Herat**	**67.28**	**306**	P		**P**		**10 08 48.7**	**-1.9**
BRVK	**Borovoye**	**67.78**	**327**	*ce*P		**P**		**10 08 52.8**	**-0.1**
BRVK				pmax		pmax			
	comp=Z,11nm,0.8s								
BRVK	**Borovoye**	**67.78**	**327**	P		**P**		**10 08 52.9**	**-0.1**
BRVK				lAmb		lAmb		10 08 55.5	
	comp=Z,9.7nm,0.7s								
TIXI	**Tiksi**	**68.18**	**1**	*i* P		**P**		**10 08 54.3**	**-0.8**
TIXI				pmax		pmax			
	comp=Z,11nm,1.5s								
TIXI				MLR		MLR			
	comp=Z,98nm,18.0s								
TIXI	**Tiksi**	**68.18**	**1**	P		**P**		**10 08 50.9**	**-4.2**
BILL	**Bilibino**	**69.83**	**15**⇑	*e*P		**P**		**10 09 05.7**	**+0.2**
BILL				*e*				10 09 25.4	
BILL				*e*				10 11 39.4	
BILL				pmax		pmax			
	comp=Z,5.0nm,1.1s								
CASY	**Casey**	**70.50**	**187**	P		**P**		**10 09 11.5**	**+2.0**
CASY				lAmb		lAmb		10 09 12.5	
	comp=Z,25nm,0.8s								
NRIK	**Noril'sk**	**70.80**	**346**	P		**P**		**10 09 12.0**	**+0.6**
NRIK	**Noril'sk**	**70.80**	**346**	P		**P**		**10 09 11.9**	**+0.6**
	comp=Z,17nm,0.7s,baz=130,slow=5.8,SNR=18								

GEYT	**Alibeck**	**71.25**	**309**	P		**P**		**10 09 14.9**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=129,slow=2.1,SNR=4.2								
GEYT				LR		LR		10 44 56.4	
	comp=Z,58nm,18.6s,baz=340,slow=40								
ABKAR	**Akbulak array**	**72.53**	**321**	P		**P**		**10 09 21.8**	**-0.4**
ARU	**Arti**	**75.32**	**328**	*ce*P		**P**		**10 09 37.7**	**-0.6**
ARU				pmax		pmax			
	comp=Z,6.0nm,0.8s								
ARU	**Arti**	**75.32**	**328**	P		**P**		**10 09 37.9**	**-0.4**
ARU				lAmb		lAmb		10 09 46.6	
	comp=Z,6.5nm,0.6s								
RDOG	**Red Dog Mine**	**79.53**	**21**	P		**P**		**10 10 01.8**	**+0.1**
RDOG				lAmb		lAmb		10 10 06.4	
	comp=Z,12nm,1.0s								
RAYN	**Ar Rayn**	**80.79**	**293**	P		**P**		**10 10 08.9**	**-0.5**
RAYN				pmax		pmax			
	comp=Z,8.0nm,1.0s								
RAYN	**Ar Rayn**	**80.79**	**293**	P		**P**		**10 10 08.9**	**-0.5**
ABPO	**Ambohimpanom**	**81.37**	**250**	P		**P**		**10 10 13.8**	**+1.1**
ABPO				pmax		pmax			
	comp=Z,15nm,0.8s								
ABPO	**Ambohimpanom**	**81.37**	**250**	P		**P**		**10 10 13.8**	**+1.1**
ABPO				lAmb		lAmb		10 10 15.2	
	comp=Z,15nm,0.8s								
ZEI	**Tsey**	**82.58**	**313**	*e*P		**P**		**10 10 18.2**	**-0.5**
ZEI				pmax		pmax			
	comp=Z,5.0nm,0.6s								
PRGR	**Permogore**	**82.89**	**332**	*e*P		**P**		**10 10 15.2**	**-4.3**
PRGR				*e**PP		**PcP**		**10 10 28.4**	**+4.2**
PRGR				pmax		pmax			
	comp=Z,19nm,0.8s								
SKT	**Skwentna**	**83.05**	**28**	P		**P**		**10 10 21.2**	**+0.7**
SKT				lAmb		lAmb		10 10 21.3	
	comp=Z,9.6nm,0.9s								
VNDA	**Vanda**	**83.06**	**173**	P		**P**		**10 10 22.1**	**+1.9**
VNDA				pmax		pmax			
	comp=Z,15nm,1.1s								
VNDA	**Vanda**	**83.06**	**173**	P		**P**		**10 10 21.7**	**+1.6**
	comp=Z,8.4nm,0.9s,baz=303,slow=6.3,SNR=13								
VNDA	**Vanda**	**83.06**	**173**	P		**P**		**10 10 22.1**	**+1.9**
VNDA				lAmb		lAmb		10 10 22.3	
	comp=Z,15nm,1.1s								
SUA	**Susitna One**	**83.37**	**29**	P		**P**		**10 10 20.9**	**-1.3**
SUA				lAmb		lAmb		10 10 25.5	
	comp=Z,10nm,1.0s								
MAW	**Mawson**	**83.50**	**200**	P		**P**		**10 10 22.0**	**-0.5**
MAW				pmax		pmax			
	comp=Z,1.0nm,0.9s								
MAW	**Mawson**	**83.50**	**200**	P		**P**		**10 10 21.9**	**-0.5**
KIV	**Kislovodsk**	**83.51**	**314**	*e*P		**P**		**10 10 22.4**	**-0.9**
KIV				pmax		pmax			
	comp=Z,11nm,1.0s								
BPAW	**Bear Paw Mtn.**	**83.51**	**26**	P		**P**		**10 10 23.2**	**+0.4**
MLY	**Manley**	**83.71**	**25**	P		**P**		**10 10 23.8**	**0.0**
MLY				lAmb		lAmb		10 10 26.1	
	comp=Z,8.3nm,1.0s								
RC01	**Rabbit Creek A**	**83.83**	**29**	P		**P**		**10 10 23.8**	**-0.6**
RC01				lAmb		lAmb		10 10 25.2	
	comp=Z,9.8nm,0.9s								
PMR	**Palmer**	**84.16**	**29**	P		**P**		**10 10 26.5**	**+0.5**
PMR				pmax		pmax			
	comp=Z,13nm,1.0s								
PMR	**Palmer**	**84.16**	**29**	P		**P**		**10 10 26.5**	**+0.5**
PMR				lAmb		lAmb		10 10 27.4	
	comp=Z,13nm,1.0s								
VRH	**Novokhopyorsk**	**84.36**	**321**	*e*P		**P**		**10 10 25.5**	**-1.8**
VRH				pmax		pmax			
	comp=Z,10.0nm,1.0s								
NEA	**Nenana**	**84.38**	**26**	P		**P**		**10 10 25.8**	**-1.3**
MCK	**McKinley**	**84.39**	**26**	P		**P**		**10 10 26.6**	**-0.6**
MCK				pmax		pmax			
	comp=Z,15nm,1.1s								
MCK	**McKinley**	**84.39**	**26**	P		**P**		**10 10 26.6**	**-0.6**
MCK				lAmb		lAmb		10 10 28.6	
	comp=Z,15nm,1.1s								
RND	**Reindeer**	**84.40**	**27**	P		**P**		**10 10 27.1**	**-0.3**
RND				pmax		pmax			
	comp=Z,11nm,1.1s								
RND	**Reindeer**	**84.40**	**27**	P		**P**		**10 10 27.1**	**-0.3**
RND				lAmb		lAmb		10 10 30.7	
	comp=Z,11nm,1.1s								
KNK	**Knik Glacier**	**84.47**	**29**	P		**P**		**10 10 27.4**	**-0.3**
TOLK	**Toolik Lake Re**	**84.50**	**21**	P		**P**		**10 10 27.2**	**-0.5**
WRH	**Wood River Hil**	**84.80**	**26**	P		**P**		**10 10 28.8**	**-0.5**
PPT2	**Papeete2**	**84.83**	**108**	*e*LR		LR		10 37 10.4	
	comp=Z,198nm,27.0s								
CCB	**Clear Creek Bu**	**84.93**	**26**	P		**P**		**10 10 28.8**	**-1.1**
SCM	**Sheep Creek Mo**	**85.03**	**28**	P		**P**		**10 10 28.7**	**-1.9**
SCM	**Sheep Creek Mo**	**85.03**	**28**	P		**P**		**10 10 28.7**	**-1.9**
DHY	**Denali Highway**	**85.05**	**27**	P		**P**		**10 10 29.3**	**-1.5**
ILAR	**Eielson Array**	**85.33**	**25**	P		**P**		**10 10 31.7**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=246,slow=6.8,SNR=8.7								
TBI	**Tubuai**	**85.48**	**114**	*e*LR		LR		10 37 31.2	
	comp=Z,244nm,28.8s								
SOC	**Sochi**	**85.65**	**313**	*e*P		**P**		**10 10 34.5**	**+0.5**
SOC				*e*				10 13 52.9	
SOC				*e*PPP		PPP		10 15 45.9	
SOC				*e*S		**S**		**10 20 55.4**	**-7.2**
SOC				*e*SS		**SS**		**10 26 42.8**	**+3.2**
SOC				*e*SSS		SSS		10 30 03.1	
SOC				pmax		pmax			
	comp=Z,11nm,0.4s								
VORD	**Divnogorie**	**85.89**	**321**	*e*P		**P**		**10 10 34.4**	**-0.6**
VORD				pmax		pmax			
	comp=Z,10.0nm,0.5s								
VSR	**Storozhevoye**	**85.97**	**321**	*e*P		**P**		**10 10 34.3**	**-1.1**
VSR				pmax		pmax			
	comp=Z,20nm,1.0s								
LPSR	**Galich'ya Gora**	**86.11**	**322**	*e*P		**P**		**10 10 35.6**	**-0.4**
LPSR				pmax		pmax			
	comp=Z,20nm,0.9s								
TMCR	**Tamitsa**	**86.48**	**334**	*e*P		**P**		**10 10 35.7**	**-1.9**
MOS	**Moscow**	**86.82**	**326**	*e*P		**P**		**10 10 38.5**	**-1.0**
MOS				*e*				10 10 57.5	
MOS				pmax		pmax			
	comp=Z,54nm,1.2s								
ANN	**Anapa**	**87.27**	**315**	*e*P		**P**		**10 10 41.4**	**-0.5**
ANN				pmax		pmax			
	comp=Z,26nm,0.9s								
OBN	**Obninsk**	**87.44**	**325**⇑	*e*P		**P**		**10 10 42.1**	**-0.4**
OBN				*e*				10 14 03.1	
OBN				pmax		pmax			
	comp=Z,15nm,1.0s								
OBN				MLR		MLR			
	comp=Z,101nm,9.0s								
KMBO	**Kilima Mbogo**	**89.73**	**269**	P		**P**		**10 10 56.1**	**+1.6**
	comp=Z,6.1nm,0.8s,baz=48,slow=5.5,SNR=14								
KMBO				LR		LR		10 48 06.6	
	comp=Z,45nm,21.1s,baz=90,slow=34								
KMBO	**Kilima Mbogo**	**89.73**	**269**	P		**P**		**10 10 55.6**	**+1.1**
KMBO				lAmb		lAmb		10 10 57.0	
	comp=Z,8.6nm,0.9s								
BR131	**Keskin Array S**	**90.38**	**310**	P		**P**		**10 10 56.4**	**-0.5**
BR131				pmax		pmax			
	comp=Z,3.0nm,0.9s								
BR131	**Keskin Array S**	**90.38**	**310**	P		**P**		**10 10 56.4**	**-0.5**
BRTR	**Keskin Array B**	**90.38**	**310**	*i* P		**P**		**10 10 59.2**	**+2.3**
BRTR				pmax		pmax			
	comp=Z,3.0nm,0.9s								
BRTR	**Keskin Array B**	**90.38**	**310**	P		**P**		**10 10 56.8**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=116,slow=5.6,SNR=12								
ARCES	**ARCESS Array B**	**90.83**	**340**	P		**P**		**10 10 57.0**	**-1.1**
	comp=Z,5.8nm,0.9s,baz=84,slow=5.0,SNR=5.7								
SYO	**Syowa Base**	**92.17**	**201**⇓	*e*P		**P**		**10 11 04.2**	**-0.1**
SYO	**Syowa Base**	**92.17**	**201**⇑	*e*X		P		10 11 15.6	+11
FINES	**FINESS Array B**	**92.22**	**332**	P		**P**		**10 11 05.2**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=29,slow=3.5,SNR=8.6								
AKASG	**Malin Array Be**	**92.27**	**321**	*i* P		**P**		**10 11 07.5**	**+2.3**
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.5s								
AKASG	**Malin Array Be**	**92.27**	**321**	P		**P**		**10 11 04.4**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=66,slow=4.7,SNR=7.6								
QSPA	**South Pole Qui**	**93.30**	**180**	P		**P**		**10 11 10.1**	**+0.4**
QSPA				lAmb		lAmb		10 11 12.8	
	comp=Z,12nm,1.1s								
BUR08	**Bucovina Ar. S**	**95.38**	**318**	P		**P**		**10 11 18.8**	**-0.9**
BUR08				lAmb		lAmb		10 11 22.2	
	comp=Z,5.0nm,0.9s								
UZH	**Uzhgorod**	**97.08**	**320**	*e*P		Pdif		10 11 30.3	+3.0
UZH				*e*				10 11 42.9	
DAG	**Danmarks Havn**	**97.61**	**352**	P		Pdif		10 11 32.4	+3.3
DAG				pmax		pmax			
	comp=Z,12nm,2.7s								
NOA	**NORSAR Array B**	**99.17**	**334**	LR		LR		11 01 02.9	
	comp=Z,134nm,18.0s,baz=65,slow=38								

YKA	**Yellowknife Ar**	**99.73**	**24**	P		**Pdif**		**10 11 39.1**	**+0.3**
	comp=Z,0.2nm,0.8s,baz=299,slow=4.5,SNR=4.8								
TXAR	**Lajitas Array**	**121.66**	**52**	PKP		**PKiKP**		**10 16 51.0**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=315,slow=0.4,SNR=9.2								
TORD	**Torodi Ar. Bea**	**123.20**	**288**	PKP		**PKiKP**		**10 16 53.3**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=82,slow=1.9,SNR=14								
PLCA	**Paso Flores**	**139.62**	**159**	PKP		**PKiKP**		**10 17 25.2**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=277,slow=5.2,SNR=5.2								
TRQA	**Tornquist**	**144.55**	**168**	PKIKP		PKPbc		10 17 31.0	+0.4
TRQA	**Tornquist**	**144.55**	**168**			PKPbc		10 17 31.0	+0.4
ROC1	**El Roble**	**146.11**	**152**	PKPdf		**PKPdf**		**10 17 33.9**	**-1.2**
ROC1	**El Roble**	**146.11**	**152**	*e*P		**PKPab**		**10 17 37.2**	**+0.6**
PEL	**Peldehue**	**146.13**	**153**	PKP2		**PKiKP**		**10 17 37.9**	**-1.1**
RTCV	**Cerro Valdivia**	**148.16**	**155**	*e*P		**PKiKP**		**10 17 42.6**	**-0.7**
ACAN	**Cantantal**	**148.36**	**157**	*e*P		**PKPbc**		**10 17 42.6**	**+0.6**
GO04	**Tololo Observa**	**148.52**	**150**	PKPdf		**PKPdf**		**10 17 36.2**	**-3.0**
GO04				PKPbc		**PKPbc**		**10 17 40.4**	**-2.4**
GO04				PKPab		**PKiKP**		**10 17 44.8**	**+0.5**
AMOG	**MOGNA**	**148.98**	**154**	*e*P		**PKiKP**		**10 17 45.6**	**+0.6**
ACCO	**Cerro Coronel**	**149.01**	**153**	*e*P		**PKiKP**		**10 17 46.3**	**+0.8**
AROD	**Rodeo**	**149.18**	**152**	*e*P		**PKiKP**		**10 17 46.7**	**+1.0**
ACDV	**Cuesta del Vie**	**149.34**	**152**	*e*P		**PKiKP**		**10 17 46.7**	**+0.8**
TCA	**Tanti**	**150.16**	**160**	*e*P		**PKiKP**		**10 17 48.3**	**+0.9**
CPUP	**Villa Florida**	**156.83**	**170**	PKIKP		**PKPdf**		**10 17 47.5**	**-3.5**
CPUP	**Villa Florida**	**156.83**	**170**	PKPab		**PKPab**		**10 18 22.2**	**+1.6**
	comp=Z,7.1nm,0.9s,baz=190,slow=5.1,SNR=8.2								
CPUP	**Villa Florida**	**156.83**	**170**	PKPdf		**PKPdf**		**10 17 47.5**	**-3.5**
CPUP				PKPab		**PKPab**		**10 18 22.4**	**+1.8**
LPAZ	**La Paz**	**160.43**	**132**	PKP		**PKPdf**		**10 17 58.2**	**+1.8**
	comp=Z,1.5nm,0.9s,baz=315,slow=1.2,SNR=5.6								
LPAZ				PKPab		**PKPab**		**10 18 39.3**	**+1.9**
	comp=Z,2.4nm,0.8s,baz=219,slow=4.4,SNR=5.4								

NEIC ***24*** *10:28:49.6±2.0, 40.52N±0.03×124.84W±0.06, h19km±4km*
IDC ***24*** *10:28:50.2±1.4, 40.59N×124.48W, h0km, mb3.6/5, mb1 4.0/9, mb1mx3.7/47, mbtmp3.7/9, ML3.8/4, MS3.2/4, Ms1 3.2/4, ms1mx3.0/41, Error ellipse: s-maj=18.8km s-min=12.2km az=75.0*
NCEDC ***24*** *10:28:50.0±0.2, 40.52N×124.80W, h10km, ML4.1*
ANF ***24*** *10:28:53.4±0.7, 40.70N×124.33W, h10km, ML3.9/18, Error ellipse: s-maj=9.2km s-min=4.4km az=68.0*
ISC 24 10:28:51.2±1.4, 40.54N±0.03×124.81W±0.06, h24km±9km, n275, σ1s50/312, mb4.0/11, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.36**	**99**		**Pb**	**10 28 59.2**	**+0.1**
KCTM					**Sb**	**10 29 05.9**	**+1.4**
KMPM	**Mount Pierce**	**0.54**	**103**		**Pb**	**10 29 01.4**	**-0.7**
KMPM					**Sb**	**10 29 09.3**	**-0.1**
KSMM	**Slide Mountain**	**0.60**	**126**		**Pb**	**10 29 01.9**	**-1.1**
JCC	**Jacoby Creek,**	**0.66**	**64**	Pg	**Pb**	**10 29 02.8**	**-1.1**
JCC				Sg	**Sb**	**10 29 11.9**	**-0.7**
KCRM	**Chalk Rock**	**0.76**	**98**		**Pb**	**10 29 04.8**	**-1.0**
KRPM	**Rodgers**	**0.86**	**44**		**Pb**	**10 29 06.2**	**-1.3**
KHMM	**Horse Mountain**	**0.89**	**67**		**Pb**	**10 29 06.8**	**-1.2**
KHMM				Sg	**Sb**	**10 29 18.5**	**-0.9**
KMRM	**Mail Ridge**	**0.90**	**110**		**Pb**	**10 29 07.0**	**-1.1**
KMRM				Sg	**Sb**	**10 29 18.9**	**-0.7**
KCSM	**Cold Springs**	**0.99**	**90**		**Pn**	**10 29 08.2**	**-1.5**
KBSM	**Bell Springs**	**1.12**	**123**		**Pn**	**10 29 09.8**	**-1.6**
KPPM	**Pickett Peak**	**1.12**	**99**		**Pn**	**10 29 10.1**	**-1.4**
KRMB	**Red Mountain**	**1.20**	**34**		**Pn**	**10 29 10.9**	**-1.6**
KRMB				Sn	**Sn**	**10 29 25.1**	**-3.1**
KHBM	**Hayfork Bally**	**1.22**	**84**		**Pn**	**10 29 11.2**	**-1.7**
KIPM	**Iron Peak**	**1.25**	**125**		**Pn**	**10 29 11.8**	**-1.5**
KCPM	**Cahto Peak**	**1.27**	**132**		**Pn**	**10 29 11.8**	**-1.7**
KCPM				Sn	**Sn**	**10 29 26.9**	**-2.9**
KOMM	**Orleans Mounta**	**1.27**	**54**		**Pn**	**10 29 11.7**	**-1.8**
KFPM	**Farley Peak**	**1.39**	**130**		**Pn**	**10 29 13.3**	**-1.9**
KBNM	**Bluenose Ridge**	**1.39**	**117**		**Pn**	**10 29 14.2**	**-1.0**
KSXB	**Camp Six Broad**	**1.47**	**28**		**Pn**	**10 29 14.7**	**-1.6**
LBPM	**Beegum Peak**	**1.49**	**98**		**Pn**	**10 29 14.9**	**-1.6**
GTC	**Three Chop Rid**	**1.49**	**139**		**Pn**	**10 29 14.5**	**-2.0**
LGPM	**Granite Peak**	**1.55**	**75**		**Pn**	**10 29 15.9**	**-1.5**
O02D	**Mt. Diablo Mer**	**1.58**	**102**	P	**Pn**	**10 29 16.5**	**

LMEM	**Manzanita Entr**	**2.47**	**89**			**Pn**	10 29 29.2	-0.9
LGMM	**Garner Mountai**	**2.49**	**64**			**Pn**	10 29 30.1	-0.2
HUMO	**Hull Mountain**	**2.49**	**33**			**Pn**	10 29 29.7	-0.6
HUMO					Sn	**Sn**	10 29 58.7	-1.2
NMTM	**Middletown**	**2.51**	**133**			**Pn**	10 29 29.9	-0.6
L04D	**Klamath Falls**	**2.52**	**47**	Pb		**Pn**	10 29 31.1	+0.3
	baz=229							
L04D					Sb	**Sn**	10 30 00.8	-0.1
	baz=229							
L04D	**Klamath Falls**	**2.52**	**47**			**Pn**	10 29 31.3	+0.5
NHSM	**Mount Saint He**	**2.53**	**137**			**Pn**	10 29 30.3	-0.6
LCDM	**Colby Mountain**	**2.54**	**98**			**Pn**	10 29 29.9	-1.2
LRDM	**Redding Peak**	**2.55**	**91**			**Pn**	10 29 30.4	-0.7
MAC	**Mark West Spri**	**2.56**	**140**			**Pn**	10 29 30.4	-0.7
HATC	**Hat Creek Radi**	**2.56**	**83**			**Pn**	10 29 31.0	-0.3
M04C	**Macdoel**	**2.56**	**60**	Pb		**Pn**	10 29 31.0	-0.3
	baz=242							
M04C					Sb	**Sn**	10 30 02.1	+0.3
	baz=242							
M04C	**Macdoel**	**2.56**	**60**			**Pn**	10 29 31.0	-0.3
MGL	**Magalia**	**2.59**	**105**			**Pn**	10 29 30.2	-1.5
LTIM	**Timbered Crate**	**2.60**	**75**			**Pn**	10 29 30.9	-0.9
LMHM	**Little Mount H**	**2.60**	**65**			**Pn**	10 29 31.5	-0.4
NSHM	**Saint Helena R**	**2.64**	**139**			**Pn**	10 29 31.4	-0.8
LBCM	**Butte Creek Ri**	**2.65**	**82**			**Pn**	10 29 31.5	-1.0
SUTB	**Sutter Butte**	**2.67**	**118**			**Pn**	10 29 30.7	-1.9
J01E	**Myrtle Point**	**2.70**	**14**	P		**Pn**	10 29 31.8	-1.3
	baz=194,SNR=5.2							
J01E					S	**Sn**	10 30 02.2	-2.9
	baz=194							
NTYM	**Taylor**	**2.71**	**142**			**Pn**	10 29 32.2	-1.1
ORV	**Oroville**	**2.72**	**110**			**Pn**	10 29 32.1	-1.3
ORV					Sn	**Sn**	10 30 03.0	-2.6
NBPM	**Berryessa Peak**	**2.75**	**132**			**Pn**	10 29 34.1	+0.3
MCCM	**Marconi Confer**	**2.82**	**147**			**Pn**	10 29 33.0	-1.7
MCCM					Sn	**Sn**	10 30 04.6	-3.3
OHCM	**Honcut**	**2.82**	**114**			**Pn**	10 29 32.9	-1.9
NDHM	**Dunnigan Hills**	**2.85**	**127**			**Pn**	10 29 35.0	-0.2
NPRM	**Point Reyes**	**2.89**	**151**			**Pn**	10 29 34.4	-1.4
NOLM	**Olema**	**2.94**	**147**			**Pn**	10 29 34.8	-1.7
K04D	**Chiloquin, OR**	**3.10**	**47**	P		**Pn**	10 29 36.3	-2.4
	baz=228,SNR=26							
FARB	**Farallon Islan**	**3.16**	**153**			**Pn**	10 29 38.5	-0.9
CSPM	**San Pablo Ridg**	**3.22**	**142**			**Pn**	10 29 39.3	-1.0
BKS	**Berkeley--Byer**	**3.32**	**142**			**Pn**	10 29 40.1	-1.6
I03D	**Drain, OR**	**3.34**	**18**	P		**Pn**	10 29 41.0	-0.8
	baz=200							
I03D					S	**Sn**	10 30 18.0	-2.8
	baz=200							
AFDM	**Forest Hills D**	**3.36**	**117**			**Pn**	10 29 41.2	-1.0
AFDM					Sn	**Sn**	10 30 19.2	-2.1
J04D	**Umpqua Nationa**	**3.37**	**36**	P		**Pn**	10 29 43.3	+0.8
	baz=218							
J04D					S	**Sn**	10 30 18.0	-3.8
	baz=218							
BEKR	**Beckworth**	**3.47**	**100**			**Pn**	10 29 43.3	-0.6
BEKR					Sn	**Sn**	10 30 26.0	+1.7
SAC	**San Andreas**	**3.49**	**147**			**Pn**	10 29 42.4	-1.5
CLCB	**Lake Chabot**	**3.52**	**142**			**Pn**	10 29 43.3	-1.0
AASM	**Arroyo Seco**	**3.55**	**125**			**Pn**	10 29 44.0	-0.8
JCHM	**Cahill Ridge**	**3.56**	**147**			**Pn**	10 29 42.9	-2.0
ASMM	**Slate Mountain**	**3.61**	**117**			**Pn**	10 29 45.6	-0.2
LOY	**Loyalton**	**3.61**	**103**			**Pn**	10 29 45.7	-0.1
I02D	**Swisshome**	**3.64**	**11**	P		**Pn**	10 29 45.5	-0.5
	baz=192							
I02D					S	**Sn**	10 30 25.7	-2.4
	baz=192							
IND	**Independence**	**3.64**	**106**			**Pn**	10 29 46.8	+0.6
DONR	**Donner Summit**	**3.65**	**107**			**Pn**	10 29 46.4	0.0
JHPM	**Huddart Park**	**3.65**	**147**			**Pn**	10 29 44.7	-1.5
MOD	**Modoc Plateau**	**3.66**	**67**			**Pn**	10 29 45.6	-0.9
MOD					Sn	**Sn**	10 30 27.5	-1.5
I04A	**Tendick Farm,**	**3.71**	**28**	P		**Pn**	10 29 47.6	+0.6
	baz=209							
I04A					S	**Sn**	10 30 27.3	-2.7
	baz=209							
JRSC	**Jasper Ridge**	**3.71**	**147**			**Pn**	10 29 45.1	-1.9
BABR	**Babbit Peak**	**3.73**	**103**			**Pn**	10 29 47.6	+0.1
JSFB	**Stanford Teles**	**3.74**	**146**			**Pn**	10 29 46.0	-1.4
JFP	**Foothills Park**	**3.77**	**146**			**Pn**	10 29 45.9	-1.9
JJRM	**Joaquin Road**	**3.78**	**147**			**Pn**	10 29 46.3	-1.7
CMJM	**Mission San Jo**	**3.78**	**142**			**Pn**	10 29 46.9	-1.1
VPK	**Verdi Peak**	**3.81**	**105**			**Pn**	10 29 48.8	+0.2
J05D	**Fort Rock, OR**	**3.83**	**43**	P		**Pn**	10 29 49.5	+0.8
	baz=225							
J05D					S	**Sn**	10 30 29.1	-3.9
	baz=225							
PEAR	**Peavine Mounta**	**3.83**	**102**			**Pn**	10 29 48.5	-0.4
TAHR	**Tahoe**	**3.83**	**110**			**Pn**	10 29 49.6	+0.7
JPC	**Peters Creek,**	**3.84**	**147**			**Pn**	10 29 47.1	-1.6
MPK	**Martis Peak**	**3.88**	**107**			**Pn**	10 29 49.7	+0.1
RUBR	**Rubicon Trail**	**3.88**	**111**			**Pn**	10 29 49.5	0.0
RUBR					Sn	**Sn**	10 30 35.1	+0.6
JSGM	**Saratoga Golf**	**3.90**	**146**			**Pn**	10 29 47.8	-1.7
EMB	**Emerald Bay**	**3.95**	**112**			**Pn**	10 29 50.5	+0.1
JBNB	**Ben Lomond Mou**	**3.99**	**148**			**Pn**	10 29 48.7	-2.1
JUMM	**Mount Umunhum**	**4.07**	**145**			**Pn**	10 29 50.3	-1.7
JSTM	**Santa Teresa H**	**4.07**	**144**			**Pn**	10 29 50.0	-2.0
ARN	**Arnold Ranch**	**4.08**	**140**			**Pn**	10 29 51.4	-0.7
JHLM	**Holstrom Ranch**	**4.14**	**145**			**Pn**	10 29 51.8	-1.2
MCUB	**Copperopolis B**	**4.14**	**127**			**Pn**	10 29 52.9	+0.1
GNO	**Genoa**	**4.14**	**111**			**Pn**	10 29 53.7	+0.6
VCNR	**Virginia City**	**4.16**	**106**			**Pn**	10 29 53.5	+0.2
VCNR					Sn	**Sn**	10 30 39.8	-1.4
COR	**Corvallis**	**4.20**	**15**	Pn		**Pn**	10 29 55.4	+1.7
COR					Sn	**Sn**	10 30 42.1	+0.2
PAHR	**Pah Rah Range**	**4.24**	**100**			**Pn**	10 29 53.6	-0.8
CMB	**Columbia Colle**	**4.24**	**125**			**Pn**	10 29 54.9	+0.5
PNTR	**Pine Nut**	**4.26**	**108**			**Pn**	10 29 55.1	+0.3
H04D	**Lebanon**	**4.27**	**20**	P		**Pn**	10 29 56.1	+1.5
	baz=202							
H04D					S	**Sn**	10 30 40.6	-3.1
	baz=202							
BFC	**Buffalo Canyon**	**4.33**	**111**			**Pn**	10 29 56.1	+0.4
PINE	**Pine Mountain**	**4.34**	**40**			**Pn**	10 29 57.1	+1.3
PINE					Sn	**Sn**	10 30 45.0	-0.8
HTUM	**Tustin Road**	**4.46**	**145**			**Pn**	10 29 55.5	-1.7
SFJWR	**San Luis Fatjo**	**4.49**	**140**			**Pn**	10 29 56.9	-0.9
HMOM	**Monterey**	**4.54**	**149**			**Pn**	10 29 56.5	-1.8
YERR	**Yerington**	**4.56**	**108**			**Pn**	10 29 58.8	0.0
I05D	**Terrebonne, OR**	**4.58**	**33**	P		**Pn**	10 29 59.9	+0.8
	baz=215							
SAO	**San Andreas Ge**	**4.59**	**144**			**Pn**	10 29 56.9	-2.3
SAO					Sn	**Sn**	10 30 48.1	-3.7
WAKR	**Walker**	**4.62**	**114**			**Pn**	10 30 00.9	+1.1
MYLM	**Yosemite Lake**	**4.65**	**131**			**Pn**	10 30 00.7	+0.9
BPCNC	**Pine Canyon**	**4.68**	**147**			**Pn**	10 29 58.4	-1.8
G03D	**McMinnville, O**	**4.81**	**13**	P		**Pn**	10 30 03.5	+1.4
	baz=194							
G03D					S	**Sn**	10 30 54.6	-2.3
	baz=194							
HAST	**Hastings Reser**	**4.87**	**147**			**Pn**	10 30 00.7	-2.2
BPIM	**Pinnacles**	**4.95**	**144**			**Pn**	10 30 02.5	-1.5
WVOR	**Wild Horse Val**	**5.01**	**66**			**Pn**	10 30 03.7	-1.3
MHDM	**Hidden Dam**	**5.13**	**130**			**Pn**	10 30 07.8	+1.3
RYN	**Ryan**	**5.22**	**109**			**Pn**	10 30 07.3	-0.5
MDPB	**Devils Postpil**	**5.32**	**121**			**Pn**	10 30 10.2	+0.9
PMPB	**Monarch Peak**	**5.34**	**143**			**Pn**	10 30 08.9	-0.5
PMPB					Sn	**Sn**	10 31 08.4	-1.8
G05D	**Wamic, OR**	**5.36**	**27**	P		**Pn**	10 30 11.3	+1.7
	baz=210							
KVN	**Kaiserville**	**5.38**	**104**			**Pn**	10 30 09.6	-0.4
OMMB	**Old Mammoth Mi**	**5.38**	**121**			**Pn**	10 30 11.2	+1.0
LHV	**Little Huntoon**	**5.39**	**113**			**Pn**	10 30 11.0	+1.0
NVAR	**Mina Array Bea**	**5.45**	**111**	Pn		**Pn**	10 30 11.1	-0.1
	8.9nm,0.3s,baz=293,slow=14,SNR=205							
NVAR					Lg	Lg	10 31 41.1	
	baz=291,slow=31,SNR=1.7							
NV11	**Mina Array Sit**	**5.56**	**110**			**Pn**	10 30 12.5	-0.1
G06A	**Carlson Farm,**	**5.61**	**32**			**Pn**	10 30 13.6	+0.5
F04A	**Amboy**	**5.67**	**17**			**Pn**	10 30 14.5	+0.6
BMN	**Battle Mountai**	**5.79**	**89**			**Pn**	10 30 14.9	-0.8
PAGB	**Antelope Grade**	**5.99**	**142**			**Pn**	10 30 17.3	-1.1
PAGB					Sn	**Sn**	10 31 26.0	-0.3
E03A	**Lebam**	**6.08**	**8**			**Pn**	10 30 21.1	+1.6
E03A					Sn	**Sn**	10 31 27.9	-0.3
LON	**Longmire**	**6.58**	**18**			**Pn**	10 30 27.5	+1.1
LON					Sn	**Sn**	10 31 42.3	+1.6
NLWA	**Neilton Lookou**	**6.89**	**5**	Pn		**Pn**	10 30 28.8	-1.8
NLWA					Sn	**Sn**	10 31 46.1	-2.1
ISA	**Isabella, Lake**	**6.97**	**132**	P		**Pn**	10 30 33.2	+1.4
	baz=316							
ISA	**Isabella, Lake**	**6.97**	**132**			**Pn**	10 30 31.6	-0.2
HAWA	**Hanford**	**7.00**	**31**	Pn		**Pn**	10 30 32.1	0.0
BMO	**Blue Mountains**	**7.01**	**50**			**Pn**	10 30 34.8	+2.4
E07A	**Sunnyside**	**7.01**	**29**	Pn		**Pn**	10 30 33.7	+1.4
D03D	**Eldon**	**7.11**	**9**	P		**Pn**	10 30 34.8	+1.2
	baz=191							
ARVC	**Arvin**	**7.18**	**137**	P		**Pn**	10 30 35.5	+0.8
	baz=320							
ELK	**Elko**	**7.28**	**85**	Pn		**Pn**	10 30 36.4	+0.1
	0.2nm,0.3s,baz=277,slow=12,SNR=5.3							
ELK	**Elko**	**7.28**	**85**			**Pn**	10 30 36.1	-0.2
MPMC	**Manual Prospec**	**7.29**	**126**	P		**Pn**	10 30 37.8	+1.5
	baz=310							
LTY	**Liberty**	**7.35**	**23**	Pn		**Pn**	10 30 38.6	+1.6
R11A	**Troy Canyon, C**	**7.46**	**104**	P		**Pn**	10 30 38.2	-0.5
	baz=290							
R11A	**Troy Canyon, C**	**7.46**	**104**			**Pn**	10 30 38.3	-0.5
LRMC	**Laurel Mtn Rad**	**7.56**	**130**	P		**Pn**	10 30 40.9	+1.0
	baz=314							
TPNV	**Topopah Spring**	**7.59**	**115**	P		**Pn**	10 30 40.9	+0.5
	baz=301							
TPNV	**Topopah Spring**	**7.59**	**115**			**Pn**	10 30 41.3	+0.9
EDW2	**Edwards Air Fo**	**7.81**	**134**	P		**Pn**	10 30 44.6	+1.2
	baz=318							
PLID	**Pearl Lake**	**7.91**	**52**			**Pn**	10 30 45.6	+0.7
PGC	**Sidney**	**8.17**	**6**	Pn		**Pn**	10 30 46.2	-1.9
GSC	**Goldstone, Bar**	**8.20**	**127**			**Pn**	10 30 50.4	+1.6
PASC	**Pasadena Art C**	**8.25**	**138**	Pn		**Pn**	10 30 47.9	-1.5
MWC	**Mount Wilson**	**8.28**	**137**	Pn		**Pn**	10 30 50.0	+0.1
RRX	**Edison Barstow**	**8.38**	**130**	P		**Pn**	10 30 51.7	+0.6
	baz=315							
BFSC	**Mount Baldy Ra**	**8.48**	**136**	P		**Pn**	10 30 53.7	+1.1
	baz=320							
SHPR	**Sheep Range**	**8.56**	**115**			**Pn**	10 30 54.3	+0.5
PSUT	**Pine Spring**	**8.70**	**100**			**Pn**	10 30 56.5	+0.8
B08A	**Colville Reser**	**8.74**	**25**	Pn		**Pn**	10 30 56.6	+0.5
HEC	**Hector,Ludlow**	**8.80**	**128**	P		**Pn**	10 30 58.1	+1.1
	baz=313							
BBRC	**Big Bear Solar**	**8.86**	**132**	P		**Pn**	10 30 58.5	+0.6
	baz=317							
BGU	**Big Grassy Mou**	**8.95**	**84**			**Pn**	10 30 57.4	-1.7
DUG	**Dugway, Tooele**	**9.16**	**88**	P		**Pn**	10 31 02.8	+0.8
	baz=276							
DUG	**Dugway, Tooele**	**9.16**	**88**			**Pn**	10 31 03.8	+1.8
CCUT	**Cedar City**	**9.39**	**105**	Pn		**Pn**	10 31 04.8	-0.3
BELC	**Belle Mtn. Jos**	**9.58**	**130**	P		**Pn**	10 31 08.3	+0.6
	baz=315							
PFO	**Pinyon Flats O**	**9.60**	**133**	P		**Pn**	10 31 08.5	+0.5
	baz=318							
PFO	**Pinyon Flats O**	**9.60**	**133**	Pn		**Pn**	10 31 09.1	+1.1
	1.4nm,0.3s,baz=323,slow=10,SNR=12							
PFO					LR	LR	10 34 51.2	
	comp=Z,87nm,21.4s,baz=290,slow=38							
XPFO	**Pion Flat**	**9.60**	**133**			**Pn**	10 31 07.8	-0.2
TCRU	**Three Creeks R**	**9.74**	**97**	Pn		**Pn**	10 31 11.0	+1.0
NLU	**North Lily Min**	**9.76**	**89**	Pn		**Pn**	10 31 10.8	+0.6
MSU	**Marysvale**	**9.97**	**98**	Pn		**Pn**	10 31 14.7	+1.6
IRM	**Iron Mountain**	**9.98**	**127**	P		**Pn**	10 31 13.8	+0.6
	baz=312							
KNB	**Kanab**	**10.00**	**107**	Pn		**Pn**	10 31 16.2	+2.8
MSO	**Missoula**	**10.07**	**48**	P		**Pn**	10 31 16.8	+2.5
	baz=235							
MSO	**Missoula**	**10.07**	**48**	Pn		**Pn**	10 31 17.9	+3.6
MTPU	**Mount Pierson**	**10.10**	**100**	Pn		**Pn**	10 31 17.6	+2.6
MONP2	**Monument Peak**	**10.17**	**136**	P		**Pn**	10 31 16.9	+1.0
	baz=321							
PKCU	**Pink Cliffs**	**10.21**	**104**	Pn		**Pn**	10 31 17.6	+1.1
LLLB	**Lillooet**	**10.28**	**11**	Pn		**Pn**	10 31 19.0	+1.9
AHID	**Auburn Hatcher**	**10.50**	**73**	Pn		**Pn**	10 31 18.7	-1.6
TMUT	**Trail Mountain**	**10.52**	**92**	Pn		**Pn**	10 31 18.3	-2.4
P17A	**Butcher Ranch,**	**10.85**	**91**	Pn		**Pn**	10 31 25.7	+0.7
PDAR	**Pinedale Array**	**11.63**	**74**	Pn		**Pn**	10 31 37.9	+2.2
	0.0nm,0.3s,baz=260,slow=5.1,SNR=3.7							
PDAR					LR	LR	10 36 47.2	
	comp=Z,158nm,19.9s,baz=264,slow=42							
S22A	**4UR Ranch, Cre**	**14.23**	**95**	Pn		**Pn**	10 32 13.3	+1.9
SDCO	**Great Sand Dun**	**15.24**	**94**	P		**Pn**	10 32 27.0	+2.0
	baz=286							
SDCO	**Great Sand Dun**	**15.24**	**94**	Pn		**Pn**	10 32 27.0	+2.0
SDCO					lAmb	lAmb	10 32 29.1	
	comp=Z,28nm,1.4s							
ANMO	**Albuquerque**	**15.54**	**105**	LR		LR	10 38 52.7	
	comp=Z,152nm,19.2s,baz=300,slow=39							
T25A	**Trinidad**	**16.25**	**95**	P		**Pn**	10 32 39.0	+1.0
	baz=288							
KSCO	**Kaye Shedlock'**	**17.12**	**88**	P		**Pn**	10 32 47.7	-1.2
	baz=282							
CBKS	**Cedar Bluff**	**19.36**	**87**	P		**P**	10 33 13.7	-1.3
	baz=283							
TX32	**Lajitas Array**	**20.57**	**116**	P		Pn	10 33 31.0	+0.4
TXAR	**Lajitas Array**	**20.57**	**116**	P		**P**	10 33 29.5	+1.1
	comp=Z,1.6nm,0.8s,baz=298,slow=8.9,SNR=18							
TXAR					LR	LR	10 41 45.5	
	comp=Z,71nm,20.3s,baz=0.0,slow=38							
FFC	**Flin Flon**	**20.80**	**39**	P		**P**	10 33 31.3	+0.8
WMOK	**Wichita Mounta**	**21.37**	**97**	P		**P**	10 33 36.1	-0.7
	baz=293							
WMOK	**Wichita Mounta**	**21.37**	**97**	P		**P**	10 33 36.2	-0.7
ULM	**Lac du Bonnet**	**22.39**	**55**	P		**P**	10 33 47.1	-0.6
	comp=Z,5.3nm,0.8s,baz=250,slow=8.8,SNR=7.7							
ULM	**Lac du Bonnet**	**22.39**	**55**	P		**P**	10 33 47.1	-0.6
ULM					lAmb	lAmb	10 33 49.7	
	comp=Z,15nm,1.2s							
YKA	**Yellowknife Ar**	**22.83**	**12**	P		**P**	10 33 53.2	+1.1
	comp=Z,0.7nm,0.9s,baz=201,slow=10.0,SNR=9.4							
HHAR	**Hobbs**	**24.49**	**90**	P		**P**	10 34 08.5	0.0
HHAR					lAmb	lAmb	10 34 11.4	
	comp=Z,3.7nm,1.0s							
L40A	**Anamosa**	**25.19**	**75**	P		**P**	10 34 16.3	+1.6
G40A	**Rib Lake**	**25.66**	**68**	P		**P**	10 34 18.8	-0.2
G40A					lAmb	lAmb	10 34 32.3	
	comp=Z,18nm,1.4s							
DOT	**Dot Lake**	**25.78**	**340**	P		**P**	10 34 18.5	-1.4
DOT					lAmb	lAmb	10 34 23.9	
	comp=Z,6.6nm,1.5s							
JFWS	**Jewell Farm**	**25.80**	**73**	P		**P**	10 34 21.4	+1.2
WHAR	**Wooly Hollow**	**26.09**	**91**	P		**P**	10 34 23.1	+0.1
DHY	**Denali Highway**	**26.26**	**337**	P		**P**	10 34 25.4	+1.0
DHY					lAmb	lAmb	10 34 28.5	
	comp=Z,4.1nm,0.9s							
FCC	**Fort Churchill**	**26.62**	**36**	P		**P**	10 34 29.0	+1.5
FCC					lAmb	lAmb	10 34 39.2	
	comp=Z,5.0nm,1.0s							
ILAR	**Eielson Array**	**27.42**	**340**	P		**P**	10 34 37.9	+3.2
	comp=Z,0.9nm,1.0s,baz=155,slow=7.9,SNR=6.2							
INK	**Inuvik**	**28.23**	**353**	P		**P**	10 34 44.0	+2.3
	comp=Z,1.0nm,0.9s,baz=144,slow=8.7,SNR=3.1							
H11N3	**WAKE ISLAND Hy**	**61.13**	**272**	T		T	11 45 36.8	
	baz=53,slow=75,SNR=23							
H11N2	**WAKE ISLAND Hy**	**61.13**	**272**	T		T	11 45 45.0	
	baz=53,slow=75,SNR=23							
H11N1	**WAKE ISLAND Hy**	**61.15**	**272**	T		T	11 45 38.6	
	baz=53,slow=75,SNR=23							
H11S1	**WAKE ISLAND Hy**	**62.00**	**271**	T		T	11 46 48.1	
	baz=54,slow=75,SNR=10.0							
H11S2	**WAKE ISLAND Hy**	**62.01**	**271**	T		T	11 46 43.1	
	baz=54,slow=75,SNR=8.4							
H11S3	**WAKE ISLAND Hy**	**62.02**	**271**	T		T	11 46 40.5	
	baz=54,slow=75,SNR=11							
HHC	**Hu-ho-hao-te**	**84.17**	**321**	P		**P**	10 41 19.8	-0.7
HHC	**Hu-ho-hao-te**	**84.17**	**321**	S		**S**	10 51 42.5	-1.6
HHC					pmax	pmax		
	comp=Z,5.0nm,0.9s							
HHC					pmax	pmax		
	comp=Z,60nm,5.6s							
HHC					LR	LR		
	comp=N,200nm,18.7s							
HHC					LR	LR		
	comp=E,190nm,17.9s							
HHC					LR	LR		
	comp=Z,74nm,17.9s							
WMQ	**Urumqi**	**91.06**	**337**	*e*P		**P**	10 41 56.1	+2.5
LZH	**Lanzhou**	**91.61**	**323**	*e*P		**P**	10 41 55.3	-1.2
LZH				pP		PcP	10 41 59.6	+2.3
LZH				sP		pP	10 42 01.4	-2.0
LZH				PP		PP	10 45 48.3	+14
LZH				pmax		pmax		
	comp=Z,18nm,1.1s							
LZH				pmax		pmax		
	comp=Z,95nm,5.4s							

*IDC **24** 10:36:29.3±2.3, 1°.74N×126°.92E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/44, mbtmp3.6/3, Error ellipse: s-maj=188.0km s-min=26.4km az=66.0*

*ISCJB **24** 10:36:33.8±0.8, 1°.57N±0°.08×126°.44E±0°.05, h47km, mb3.5/3, Error ellipse: s-maj=10.9km s-min=6.8km az=9.0*
*DJA **24** 10:36:33.1±0.5, 1°.1N±11°×12°6E±°, h10km, M3.7/5, MLv3.7/5*
*NEIC **24** 10:36:35.1±0.8, 1°.61N±0°.07×126°.53E±0°.06, h36km±18km, mb4.3/2*

ISC 24 10:36:35.1±1.2, 1°.6N±0°.1×126°.44E±0°.05, h47km, n11, σ1s74/14, mb3.8/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.22**	**131**	P		**Pn**	**10 36 55.9**	**+0.1**
TNTI	**Ternate**	**1.22**	**131**			**Pn**	**10 36 55.1**	**-0.7**
TNTI						**Sn**	**10 37 10.1**	**-1.1**
KMSI	**Cibinong**	**2.65**	**248**	P		**Pn**	**10 37 15.1**	**-0.2**
KMSI				S		**Sn**	**10 37 45.0**	**-1.2**
SANI	**Sanana**	**3.63**	**187**	P		**Pn**	**10 37 27.4**	**-1.4**
LUWI	**Luwuk**	**4.49**	**235**	Pn		**Pn**	**10 37 41.9**	**+1.3**
LUWI					Sn	**Sn**	**10 38 33.9**	**+2.2**
MRSI	**Marisa**	**4.62**	**256**	P		**Pn**	**10 37 38.9**	**-3.6**
WRA	**Warramunga Arr**	**22.75**	**160**	P		**P**	**10 41 32.2**	**-1.2**
	1.7nm,0.5s,baz=340,slow=11,SNR=23							
ASAR	**Alice Springs**	**26.12**	**164**	P		**P**	**10 42 06.3**	**+1.4**
	0.5nm,0.5s,baz=344,slow=11,SNR=16							
MK31	**Makanchi Array**	**59.16**	**326**	P		**P**	**10 46 32.8**	**+1.6**
MK31					lAmb	lAmb	10 47 56.0	
	comp=Z,2.4nm,1.1s							
MKAR	**Makanchi Array**	**59.16**	**326**	P		**P**	**10 46 32.7**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=123,slow=7.1,SNR=4.0							
KURK	**Kurchatov**	**63.40**	**328**	P		**P**	**10 46 59.7**	**0.0**
KURK					lAmb	lAmb	10 48 07.5	
	comp=Z,3.4nm,1.2s							

*ISCJB **24** 10:47:46.7±0.5, 55°.8S±0°.1×168°.9W±0°.2, h10km, mb4.1/5, MS3.3/4, Error ellipse: s-maj=25.3km s-min=8.7km az=35.2*
*IDC **24** 10:47:46.8±0.8, 55°.70S×168°.68W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/31, mbtmp4.1/5, MS3.4/4, Ms1 3.4/4, ms1mx3.1/19, Error ellipse: s-maj=39.9km s-min=24.4km az=31.0*
*NEIC **24** 10:47:48.1±1.2, 55°.7S±0°.2×168°.7W±0°.3, h10km±1km, mb4.5/12*

ISC 24 10:47:48.0±0.7, 55°.7S±0°.2×168°.8W±0°.2, h10km, n29, σ0s64/23, mb4.4/7, MS3.4/4, South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ODZ	**Otahua Downs**	**16.86**	**301**	Pn		**Pn**	**10 51 43.7**	**-0.2**
ODZ					lAmb	lAmb	10 51 48.3	
	comp=Z,51nm,1.2s							
KHZ	**Kahutara**	**17.58**	**312**			**Pn**	**10 51 52.9**	**-0.1**
KHZ					lAmb	lAmb	10 51 59.1	
	comp=Z,66nm,1.4s							
MSWZ	**Moikau Station**	**17.73**	**317**	P		**P**	**10 51 55.4**	**-0.3**
WKZ	**Wanaka**	**17.82**	**298**			**Pn**	**10 51 54.5**	**-1.4**
MLZ	**Mavora Lakes**	**17.89**	**296**	P		**P**	**10 51 57.7**	**+0.2**
MLZ					lAmb	lAmb	10 52 02.5	
	comp=Z,36nm,1.2s							
VNDA

KHGB				IAMB	IAmb	10 54 29.1	
	comp=Z,0.0nm,0.2s						
GENO	**Geno**	**2.00**	**223**	*e*Pn	**Pn**	**10 54 31.1**	**+2.8**
ZHSF	**Zahedan**	**2.78**	**74**	*e*Sg	**Sg**	**10 55 21.2**	**-2.3**
ZHSF				*e*Pn	**Pb**	**10 54 42.4**	**-1.7**
NHDN	**Nehbandan**	**3.23**	**38**	*e*Pn	**Pn**	**10 54 46.4**	**+1.3**
NHDN				IAMB	IAmb	10 55 33.9	
	comp=Z,0.0nm,0.6s						
BSRN	**Basiran**	**3.31**	**21**	*e*Pn	**Pn**	**10 54 49.2**	**+2.9**
BSRN	**Basiran**	**3.31**	**21**	*e*Sg	**Sb**	**10 55 35.6**	**+2.0**
BSRN	**Basiran**	**3.31**	**21**	*e*Pn	**Pn**	**10 54 49.2**	**+2.9**
IKOO	**Kooshah**	**3.71**	**17**	*e*Pn	**Pn**	**10 54 53.6**	**+1.8**
ITEG	**Tejag**	**4.11**	**12**	*e*Pn	**Pn**	**10 54 59.1**	**+1.8**
ITEG				IAMB	IAmb	10 56 08.6	
	comp=Z,797nm,0.4s						
TPRV	**Parvadeh(Tabas**	**4.23**	**348**	*e*Pn	**Pn**	**10 55 01.4**	**+2.5**
IDAH	**Dahanechah**	**4.28**	**25**	*e*Pn	**Pn**	**10 55 02.4**	**+2.8**
YZKH	**Yazd**	**4.41**	**323**	*e*Sg	**Sg**	**10 56 14.2**	**-1.8**
AFRZ	**Afriz**	**4.67**	**14**	*e*Pn	**Pn**	**10 55 07.7**	**+2.7**
TNSJ	**Nastanj**	**5.16**	**350**	*e*Pn	**Pn**	**10 55 14.6**	**+3.0**

ISCJB ***24*** *10:58:55.0±0.8,2.29N±0.07×124.4E±0.1,h10km,mb3.5/4, Error ellipse: s-maj=19.8km s-min=10.4km az=7.8*
IDC ***24*** *10:58:55.3±1.7,2.33N×124.64E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/42,mbtmp3.6/4,Error ellipse: s-maj=196.5km s-min=23.3km az=63.0*
NEIC ***24*** *10:58:56.9±0.9,2.25N±0.10×124.5E±0.2,h10km±2km, mb4.2/4*

ISC 24 10:58:57.0±1.2,2.2N±0.1×124.5E±0.2,h10km,n9, σ0668/10,mb3.9/6,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**3.69**	**208**	Pn	**Pn**	**10 59 54.1**	**0.0**
LUWI				Sn	**Sn**	**11 00 37.5**	**-0.1**
WRA	**Warramunga Arr**	**24.08**	**157**	P	**P**	**11 04 12.7**	**-0.1**
	1.7nm,0.7s,baz=334,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**27.34**	**161**	P	**P**	**11 04 43.6**	**+1.3**
	0.4nm,0.6s,baz=348,slow=7.1,SNR=9.5						
BBOO	**Buckleboo**	**36.54**	**164**	P	**P**	**11 06 02.9**	**-0.1**
BBOO				IAmb	IAmb	11 06 15.8	
	comp=Z,6.6nm,1.2s						
STKA	**Stephens Creek**	**37.62**	**156**	P	**P**	**11 06 11.6**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=323,slow=10,SNR=6.1						
STKA	**Stephens Creek**	**37.62**	**156**	P	**P**	**11 06 11.4**	**-0.7**
MK31	**Makanchi Array**	**57.53**	**327**	P	**P**	**11 08 46.3**	**-0.4**
MK31				IAmb	IAmb	11 08 48.5	
	comp=Z,3.0nm,1.4s						
MKAR	**Makanchi Array**	**57.53**	**327**	P	**P**	**11 08 46.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=133,slow=7.7,SNR=3.9						
KURK	**Kurchatov**	**61.81**	**329**	P	**P**	**11 09 16.7**	**+0.7**

IDC 24 11:05:51.3±3.2,32.89S×179.15W,h0km,mb3.2/2, mb1 3.5/3,mb1mx3.4/34,mbtmp3.3/3,ML3.5/1,Error ellipse: s-maj=73.6km s-min=46.9km az=111.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.16**	**209**	Pn	Pn	11 07 22.9	-0.6
	1.0nm,0.3s,baz=278,slow=4.9,SNR=32						
URZ				Sn	Sn	11 08 25.6	-9.0
	1.8nm,0.3s,baz=107,slow=20,SNR=7.4						
ASAR	**Alice Springs**	**42.07**	**270**	P	P	11 13 44.8	-0.2
	0.2nm,0.6s,baz=109,slow=8.1,SNR=5.0						
WRA	**Warramunga Arr**	**43.28**	**275**	P	P	11 13 54.9	0.0
	0.1nm,0.3s,baz=115,slow=8.0,SNR=3.9						
FINES	**FINESS Array B**	**147.11**	**338**	PKPbc	PKPbc	11 25 34.8	-0.6
	3.4nm,1.1s,baz=27,slow=0.4,SNR=3.4						

ISCJB ***24*** *11:11:30.3±0.8,51.79N±0.03×170.82W±0.02,h32km±5km, mb4.6/106,MS4.0/20,Error ellipse: s-maj=5.8km s-min=2.4km az=171.7*
AEIC ***24*** *11:11:30.3±2.8,51.58N±0.07×170.69W±0.06,h15km±2km, ML4.0,mb4.4/166(NEIC)*
MOS ***24*** *11:11:30.3±0.9,51.84N×170.88W,h32km,mb5.0/58, Error ellipse: s-maj=7.6km s-min=5.0km az=94.1*
IDC ***24*** *11:11:32.0±2.6,51.87N×170.87W,h30km±17km,mb4.3/34, mb1 4.4/36,mb1mx4.3/57,mbtmp4.4/36,ML3.6/2,MS3.9/15, Ms1 3.9/15,ms1mx3.6/67,Error ellipse: s-maj=19.1km s-min=10.1km az=178.0*
NEIC ***24*** *11:11:32.7±1.6,51.8N±0.1×170.81W±0.08,h38km±6km*

ISC 24 11:11:32.7±0.5,51.79N±0.08×170.81W±0.03,h39km±4km, n420,σ187/430,mb4.6/147,MS4.0/20,22C-7D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.69**	**45**		**Pn**	**11 11 58.0**	**-1.6**
NIKH				Sn	**Sn**	**11 12 20.9**	**+1.0**
KOSE	**Korovin Southe**	**2.07**	**287**		**Pn**	**11 12 05.1**	**+0.2**
KOFP	**Korovin Flat P**	**2.08**	**285**		**Pn**	**11 12 04.9**	**-0.2**
OKSP	**Okmok Steeple**	**2.13**	**45**		**Pn**	**11 12 04.5**	**-1.1**
ATKA	**Atka Island**	**2.13**	**282**		**Pn**	**11 12 05.7**	**0.0**
ATKA				Sn	**Sn**	**11 12 32.1**	**+1.3**
KOKL	**Mount Kliuchef**	**2.16**	**286**		**Pn**	**11 12 06.4**	**+0.3**
OKCE	**Okmok Cone E**	**2.30**	**44**		**Pn**	**11 12 09.0**	**+0.9**
OKNC	**Okmok New Cone**	**2.34**	**43**		**Pn**	**11 12 09.5**	**+1.0**
OKFG	**Magazine Ridge**	**2.40**	**46**		**Pn**	**11 12 08.7**	**-0.7**
OKFG					**Sn**	**11 12 39.1**	**+1.6**
MREP	**Makushin Rep't**	**3.19**	**49**		**Pn**	**11 12 19.7**	**-0.6**
MSW	**Makushin Switc**	**3.24**	**47**		**Pn**	**11 12 20.3**	**-0.6**
GSMY	**Great Sitkin M**	**3.26**	**277**		**Pn**	**11 12 20.9**	**-0.3**
GSTR	**Great Sitkin T**	**3.26**	**277**		**Pn**	**11 12 21.5**	**+0.2**
GSTR				Sn	**Sn**	**11 13 00.6**	**+1.8**
GSTD	**Great Sitkin T**	**3.31**	**277**		**Pn**	**11 12 21.0**	**-0.9**
UNV	**Unalaska Valle**	**3.33**	**50**		**Pn**	**11 12 21.3**	**-0.8**
UNV				Sn	**Sn**	**11 13 01.8**	**+1.4**
ADAG	**Mount Adagdak**	**3.59**	**275**		**Pn**	**11 12 25.9**	**+0.2**
ADK	**Adak**	**3.64**	**274**	P	**Pn**	**11 12 25.8**	**-0.6**
ADK						11 13 09.7	
ADK	**Adak**	**3.64**	**274**		**Pn**	**11 12 25.8**	**-0.6**
ADK				Sn	**Sn**	**11 13 09.7**	**+1.6**
AKUT	**Akutan**	**3.85**	**50**		**Pn**	**11 12 29.7**	**+0.5**
AKUT				Sn	**Sn**	**11 13 14.4**	**+1.2**
KIWB	**Kanaga Island**	**3.93**	**273**		**Pn**	**11 12 29.6**	**-0.9**
KIWB				Sn	**Sn**	**11 13 16.3**	**+1.0**
KICM	**Kanaga Island**	**3.96**	**274**		**Pn**	**11 12 31.0**	**+0.3**
KIMD	**Kanaga Island**	**3.99**	**272**		**Pn**	**11 12 31.0**	**-0.1**
TAPA	**Tanaga Point A**	**4.34**	**273**		**Pn**	**11 12 35.7**	**-0.4**
TAFP	**Tanaga Falls P**	**4.45**	**274**		**Pn**	**11 12 37.3**	**-0.2**
SDPT	**Sand Point**	**7.11**	**56**	Pn	**Pn**	**11 13 14.4**	**+0.4**
SDPT				Sn	**Sn**	**11 13 31.9**	**-1.5**
OHAK	**Old Harbor**	**11.53**	**55**	Pn	**Pn**	**11 14 11.3**	**-3.2**
KDAK	**Kodiak Island**	**12.09**	**53**	P	**Pn**	**11 14 21.1**	**-1.1**
KDAK	**Kodiak Island**	**12.09**	**53**	Pn	**Pn**	**11 14 21.1**	**-1.1**
ANM	**Nome**	**13.12**	**10**	P	**Pn**	**11 14 38.1**	**+2.0**
ANM	**Nome**	**13.12**	**10**	Pn	**Pn**	**11 14 38.1**	**+2.0**
TTA	**Tatalina**	**13.68**	**30**	P	**Pn**	**11 14 47.0**	**+3.1**
TTA	**Tatalina**	**13.68**	**30**	Pn	**Pn**	**11 14 47.0**	**+3.1**
BRLK	**Bradley Lake**	**13.72**	**47**	Pn	**Pn**	**11 14 42.2**	**-2.2**
SEW	**Seward**	**14.52**	**47**	Pn	**Pn**	**11 14 56.0**	**+0.8**
SKT	**Skwentna**	**14.60**	**38**	Pn	**Pn**	**11 14 56.8**	**+0.4**
SUA	**Susitna One**	**14.62**	**41**	Pn	**Pn**	**11 14 57.6**	**+0.9**
RC01	**Rabbit Creek A**	**14.85**	**43**	Pn	**Pn**	**11 15 00.2**	**+0.6**
PPLA	**Purkeypile**	**14.92**	**35**	Pn	**Pn**	**11 15 00.3**	**-0.4**
PMR	**Palmer**	**15.35**	**42**	P	**Pn**	**11 15 07.4**	**+1.2**
PMR				pmax	pmax		
	comp=Z,6.0nm,1.2s						
PMR	**Palmer**	**15.35**	**42**	Pn	**Pn**	**11 15 07.4**	**+1.2**
GHO	**Glory Hole Cre**	**15.53**	**41**	Pn	**Pn**	**11 15 07.7**	**-0.9**
KNK	**Knik Glacier**	**15.55**	**43**		**Pn**	**11 15 08.6**	**-0.2**
KTH	**Kantishna Hill**	**15.79**	**34**	Pn	**Pn**	**11 15 12.2**	**+0.4**
SML	**Sawmill**	**15.79**	**42**	P	**Pn**	**11 15 11.2**	**-0.7**
SML				pmax	pmax		
	comp=Z,27nm,1.2s						
SML	**Sawmill**	**15.79**	**42**	Pn	**Pn**	**11 15 11.2**	**-0.7**
GLI	**Glacier Island**	**15.90**	**46**	Pn	**Pn**	**11 15 13.8**	**+0.4**
TRF	**Thorofare Moun**	**15.94**	**35**	Pn	**Pn**	**11 15 14.5**	**+0.5**
HIN	**Hinchinbrook I**	**15.98**	**48**	Pn	**Pn**	**11 15 15.3**	**+0.9**
HIN				IAmb	IAmb	11 15 23.2	
	comp=Z,43nm,1.0s						
BPAW	**Bear Paw Mtn.**	**16.11**	**32**	Pn	**Pn**	**11 15 17.5**	**+1.5**
FID	**Port Fidalgo**	**16.13**	**47**	Pn	**Pn**	**11 15 13.2**	**-3.0**
SCM	**Sheep Creek Mo**	**16.22**	**43**	P	**Pn**	**11 15 15.3**	**-2.1**
SCM				pmax	pmax		
	comp=Z,12nm,0.6s						
SCM	**Sheep Creek Mo**	**16.22**	**43**		**Pn**	**11 15 15.3**	**-2.1**
SCM				IAmb	IAmb	11 15 23.4	
	comp=Z,12nm,0.6s						
RND	**Reindeer**	**16.44**	**36**	P	**Pn**	**11 15 20.4**	**+0.2**
RND				pmax	pmax		
	comp=Z,7.0nm,0.9s						
RND	**Reindeer**	**16.44**	**36**	Pn	**Pn**	**11 15 20.4**	**+0.2**
MLY	**Manley**	**16.82**	**30**	Pn	**P**	**11 15 26.2**	**-0.4**
DHY	**Denali Highway**	**16.82**	**39**	Pn	**Pn**	**11 15 24.9**	**-0.1**
RAGM	**Ragged Mountai**	**16.83**	**49**	Pn	**Pn**	**11 15 22.7**	**-2.4**
RAGM				IAmb	IAmb	11 15 30.6	
	comp=Z,22nm,1.0s						
HMT	**Hamilton**	**17.01**	**49**	Pn	**Pn**	**11 15 25.5**	**-1.8**
HMT				IAmb	IAmb	11 15 34.1	
	comp=Z,32nm,1.0s						
NEA	**Nenana**	**17.06**	**33**	Pn	**Pn**	**11 15 28.0**	**+0.1**
WRH	**Wood River Hil**	**17.34**	**34**	Pn	**Pn**	**11 15 31.1**	**-0.1**
CCB	**Clear Creek Bu**	**17.54**	**34**		**Pn**	**11 15 31.6**	**-2.2**
GLB	**Gilahina Butte**	**17.59**	**46**	Pn	**Pn**	**11 15 32.7**	**-1.9**
COLA	**College**	**17.66**	**33**	*i* P	**Pn**	**11 15 34.4**	**-0.8**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CRQM	**Cirque**	**17.67**	**49**	Pn	**Pn**	**11 15 33.8**	**-1.8**
CRQM				IAmb	IAmb	11 15 35.7	
	comp=Z,11nm,0.7s						
VRDI	**Verde Repeater**	**17.68**	**47**	Pn	**Pn**	**11 15 33.6**	**-2.2**
HDA	**Harding Lake**	**17.70**	**35**	Pn	**Pn**	**11 15 35.1**	**-0.7**
WAX	**Waxell Ridge**	**17.71**	**50**	Pn	**Pn**	**11 15 34.3**	**-1.7**
WAX				IAmb	IAmb	11 15 43.6	
	comp=Z,24nm,0.9s						
TGL	**Tana Glacier**	**17.81**	**49**	Pn	**Pn**	**11 15 35.6**	**-1.7**
MCARA	**McCarthy VSAT**	**17.93**	**47**	Pn	**Pn**	**11 15 38.3**	**-0.3**
MCARA				IAmb	IAmb	11 15 46.2	
	comp=Z,23nm,1.0s						
IL31		**17.93**	**34**	Pn	**Pn**	**11 15 37.1**	**-1.5**
ILAR	**Eielson Array**	**17.93**	**34**	P	**Pn**	**11 15 36.9**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=228,slow=11,SNR=19						
ILAR				ScP	**ScP**	**11 23 45.0**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=241,slow=4.6,SNR=5.4						
MESA	**MESA**	**18.07**	**51**		**Pn**	**11 15 42.4**	**+1.8**
MESA				IAmb	IAmb	11 15 51.4	
	comp=Z,45nm,1.1s						
BALM	**Baldy**	**18.12**	**48**		**Pn**	**11 15 45.3**	**+4.1**
BALM				IAmb	IAmb	11 15 56.4	
	comp=Z,14nm,0.9s						
RIDG	**Independent Ri**	**18.14**	**39**		**Pn**	**11 15 46.5**	**+5.3**
MENT	**Mentasta**	**18.22**	**42**		**Pn**	**11 15 45.4**	**+3.1**
DOT	**Dot Lake**	**18.40**	**40**	P	**P**	**11 15 43.4**	**-0.7**
BARN	**Barnard Glacie**	**18.45**	**48**	P	**P**	**11 15 44.9**	**+0.1**
BARN				IAmb	IAmb	11 15 55.5	
	comp=Z,20nm,0.6s						
COLD	**Coldfoot**	**18.52**	**26**	P	**Pn**	**11 15 46.6**	**+0.9**
CTGM	**Chitina Glacie**	**18.57**	**49**	P	**P**	**11 15 46.4**	**+0.2**
CTGM				IAmb	IAmb	11 15 50.0	
	comp=Z,15nm,0.8s						
SCRK	**Sand Creek**	**18.59**	**39**	P	**P**	**11 15 46.0**	**-0.2**
PET	**Petropavlovsk**	**18.60**	**286**	*i* P	**P**	**11 15 44.7**	**-1.6**
PET				pmax	pmax		
	comp=Z,194nm,2.7s						
PET	**Petropavlovsk**	**18.60**	**286**	P	**P**	**11 15 47.3**	**+1.0**
PET				IAmb	IAmb	11 15 56.9	
	comp=Z,29nm,1.0s						
PRP	**Porcupine Dome**	**18.83**	**33**	P	**P**	**11 15 48.5**	**-0.5**
PCA	**Pinnacle**	**18.87**	**52**	P	**Pn**	**11 15 50.3**	**+0.1**
PCA				IAmb	IAmb	11 15 56.6	
	comp=Z,26nm,0.8s						
PEA0B	**Petropavlovsk-**	**19.16**	**286**	P	**P**	**11 15 52.6**	**+0.2**
PEA0B				pmax	pmax		
	comp=Z,19nm,0.8s						
PEA0B	**Petropavlovsk-**	**19.16**	**286**	P	**P**	**11 15 52.6**	**+0.2**
PEA0B				IAmb	IAmb	11 16 01.1	
	comp=Z,19nm,0.8s						
PETK	**Petropavlovsk-**	**19.16**	**286**	P	**P**	**11 15 52.8**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=95,slow=13,SNR=9.4						
PETK				LR	LR	11 22 31.3	
	comp=Z,282nm,20.9s,baz=70,slow=34						
FYU	**Fort Yukon**	**19.55**	**31**	P	**P**	**11 15 57.0**	**+0.5**
BILL	**Bilibino**	**19.72**	**334**	*e*P	**P**	**11 15 59.5**	**+1.1**
BILL				pmax	pmax		
	comp=Z,26nm,1.4s						
BILL				MLR	MLR		
	comp=Z,462nm,16.0s						
TOLK	**Toolik Lake Re**	**19.73**	**23**	P	**P**	**11 15 59.1**	**+0.6**
TOLK				IAmb	IAmb	11 16 04.5	
	comp=Z,13nm,0.7s						
EGAK	**Eagle**	**20.05**	**38**	P	**P**	**11 16 01.3**	**-0.7**
EGAK				IAmb	IAmb	11 16 10.1	
	comp=Z,9.3nm,0.7s						
HYT	**Haines Junctio**	**20.36**	**51**	P	Pn	11 16 07.6	-0.2
DAWY	**Dawson**	**20.45**	**41**	P	**P**	**11 16 05.7**	**-0.8**
SKAG	**Skagway**	**21.23**	**55**	P	**P**	**11 16 15.2**	**+0.4**
SKAG				IAmb	IAmb	11 16 23.1	
	comp=Z,29nm,0.8s						
EPYK	**Eagle Plains**	**22.40**	**36**	P	**P**	**11 16 25.0**	**-2.4**
EPYK				IAmb	IAmb	11 16 33.2	
	comp=Z,9.6nm,0.7s						
SEY	**Seymchan**	**22.42**	**314**	*i* P	**P**	**11 16 25.7**	**-1.8**
SEY	**Seymchan**	**22.42**	**314**	P	**P**	**11 16 26.8**	**-0.8**
	comp=Z,25nm,0.9s,baz=112,slow=10,SNR=33						
SEY				LR	LR	11 25 20.3	
	comp=Z,504nm,20.2s,baz=133,slow=37						
MA2	**Magadan**	**22.73**	**305**	*ce*P	**P**	**11 16 30.4**	**-0.5**
MA2				pmax	pmax		
	comp=Z,39nm,0.9s						
MA2	**Magadan**	**22.73**	**305**	P	**P**	**11 16 30.7**	**-0.2**
	comp=Z,46nm,0.9s,baz=88,slow=12,SNR=13						
MA2	**Magadan**	**22.73**	**305**	P	**P**	**11 16 31.3**	**+0.4**
DIB	**Dawson Inlet,**	**23.20**	**71**	P	**P**	**11 16 37.3**	**+1.6**
DIB				IAmb	IAmb	11 16 43.2	
	comp=Z,26nm,1.1s						
DLBC	**Dease Lake**	**23.95**	**58**	P	**P**	**11 16 42.8**	**-0.1**
	comp=Z,14nm,1.0s,baz=4.4,slow=1.8,SNR=2.0						
DLBC	**Dease Lake**	**23.95**	**58**	P	**P**	**11 16 42.8**	**-0.1**
INK	**Inuvik**	**24.32**	**33**	P	**P**	**11 16 45.4**	**-0.7**
INK						11 20 25.7	
INK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
INK	**Inuvik**	**24.32**	**33**	P	**P**	**11 16 45.3**	**-0.7**
	comp=Z,8.4nm,0.5s,baz=239,slow=8.2,SNR=84						
INK				PcP	**PcP**	**11 20 25.5**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=268,slow=2.9,SNR=5.0						
INK	**Inuvik**	**24.32**	**33**	P	**P**	**11 16 45.4**	**-0.7**
INK				IAmb	IAmb	11 16 47.4	
	comp=Z,9.9nm,0.6s						
INK					**PcP**	**11 20 25.6**	**+1.1**
YKW3	**Yellowknife Ar**	**31.28**	**48**	P	**P**	**11 17 48.5**	**+0.1**
YKW3				IAmb	IAmb	11 17 54.1	
	comp=Z,4.1nm,0.9s						
YKA	**Yellowknife Ar**	**31.29**	**48**	P	**P**	**11 17 49.0**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=271,slow=8.2,SNR=37						
YKA				PcP	**PcP**	**11 20 42.5**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=281,slow=2.6,SNR=7.3						
YKA				ScP	**ScP**	**11 24 22.4**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=277,slow=3.2,SNR=8.3						
GRNR	**Gornyy**	**32.42**	**289**	*e*P	**P**	**11 17 56.7**	**-1.9**
GRNR				MLR	MLR		
	comp=Z,170nm,16.0s						
B08A	**Colville Reser**	**32.66**	**75**	P	**P**	**11 18 00.2**	**-0.4**
TIXI	**Tiksi**	**32.78**	**329**	*i* P	**P**	**11 17 59.5**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YAK	**Yakutsk**	**32.88**	**312**	*e*P	**P**	**11 18 00.3**	**-2.1**
YAK				pmax	pmax		
	comp=Z,26nm,0.9s						
YBH	**Yreka Blue Hor**	**33.88**	**88**	P	**P**	**11 18 11.1**	**-0.4**
YBH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
YBH	**Yreka Blue Hor**	**33.88**	**88**	P	**P**	**11 18 11.1**	**-0.4**
YBH				IAmb	IAmb	11 18 21.1	
	comp=Z,3.7nm,1.1s						
NEW	**Newport**	**34.02**	**74**	P	**P**	**11 18 13.0**	**+0.4**
NEW				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NEW	**Newport**	**34.02**	**74**	P	**P**	**11 18 13.0**	**+0.4**
NEW				IAmb	IAmb	11 18 19.3	
	comp=Z,5.9nm,1.1s						
KLR	**Kul'dur**	**35.81**	**289**	*i* P	**P**	**11 18 26.4**	**-1.5**
KLR				pmax	pmax		
	comp=Z,17nm,1.3s						
JTMT	**Jette**	**35.95**	**74**	P	**P**	**11 18 31.1**	**+1.8**
JTMT				IAmb	IAmb	11 18 42.1	
	comp=Z,4.7nm,0.8s						
WVOR	**Wild Horse Val**	**36.02**	**84**	P	**P**	**11 18 30.0**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WVOR	**Wild Horse Val**	**36.02**	**84**	P	**P**	**11 18 30.0**	**+0.1**
WVOR				IAmb	IAmb	11 18 39.1	
	comp=Z,4.7nm,0.9s						
PLID	**Pearl Lake**	**36.23**	**78**	P	**P**	**11 18 31.6**	**-0.2**
H11N2	**WAKE ISLAND Hy**	**36.45**	**217**	T	T	11 57 04.8	
	baz=28,slow=76,SNR=9.0						
H11N3	**WAKE ISLAND Hy**	**36.46**	**217**	T	T	11 57 06.3	
	baz=28,slow=76,SNR=9.1						
H11N1	**WAKE ISLAND Hy**	**36.47**	**217**	T	T	11 57 04.8	
	baz=28,slow=76,SNR=7.6						
ZEA	**Zeya**	**36.48**	**298**	*e*P	**P**	**11 18 31.9**	**-1.7**
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,600nm,14.0s						
ZEA				MLR	MLR		
	comp=E,400nm,15.0s						
PAHR	**Pah Rah Range**	**37.12**	**88**	P	**P**	**11 18 39.9**	**+0.5**
PAHR				IAmb	IAmb	11 18 47.8	
	comp=Z,5.4nm,1.0s						
VCNR	**Virginia City**	**37.20**	**89**	P	**P**	**11 18 39.0**	**-1.1**
VCNR				IAmb	IAmb	11 18 49.5	
	comp=Z,5.8nm,1.2s						
RES	**Resolute Bay**	**37.28**	**25**	P	**P**	**11 18 39.6**	**-0.5**
RES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RES	**Resolute Bay**	**37.28**	**25**	LR	LR	11 36 24.7	
	comp=Z,178nm,18.1s,baz=285,slow=40						
RES	**Resolute Bay**	**37.28**	**25**	P	**P**	**11 18 39.6**	**-0.5**
RES				IAmb	IAmb	11 18 49.5	
	comp=Z,3.1nm,0.8s						
PNTR	**Pine Nut**	**37.35**	**89**	P	**P**	**11 18 40.3**	**-1.1**
PNTR				IAmb	IAmb	11 18 50.2	
	comp=Z,6.5nm,1.0s						
YERR	**Yerington**	**37.64**	**89**	P	**P**	**11 18 43.1**	**-0.7**
YERR				IAmb	IAmb	11 18 53.1	
	comp=Z,3.9nm,1.0s						
H11S1	**WAKE ISLAND Hy**	**37.64**	**216**	T	T	11 58 32.6	
	baz=23,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**37.66**	**216**	T	T	11 58 32.6	
	baz=23,slow=76,SNR=8.8						
H11S3	**WAKE ISLAND Hy**	**37.66**	**216**	T	T	11 58 32.4	
	baz=23,slow=76,SNR=8.8						
WAKR	**Walker**	**37.80**	**90**	P	**P**	**11 18 45.5**	**+0.3**
WAKR				IAmb	IAmb	11 18 54.1	
	comp=Z,4.4nm,1.1s						
USRK	**Ussuriysk Ar.**	**38.14**	**282**	P	**P**	**11 18 47.6**	**-0.1**
	comp=Z,5.1nm,0.8s,baz=66,slow=9.1,SNR=8.4						
RYN	**Ryan**	**38.30**	**89**	P	**P**	**11 18 49.0**	**-0.3**
RYN				IAmb	IAmb	11 18 57.8	
	comp=Z,6.3nm,1.0s						
KVN	**Kaiserville**	**38.30**	**88**	P	**P**	**11 18 50.5**	**+1.1**
KVN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KVN	**Kaiserville**	**38.30**	**88**	P	**P**	**11 18 50.5**	**+1.1**
KVN				IAmb	IAmb	11 18 57.9	
	comp=Z,6.8nm,1.2s						
NVAR	**Mina Array Bea**	**38.55**	**89**	P	**P**	**11 18 52.7**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=294,slow=8.8,SNR=10						
NVAR				PcP	**PcP**	**11 21 04.5**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=306,slow=3.2,SNR=3.6						
NVAR				ScP	**ScP**	**11 24 48.9**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=265,slow=4.5,SNR=3.8						
NVAR				LR	LR	11 30 54.0	
	comp=Z,85nm,22.0s,baz=337,slow=30						
MDPB	**Devils Postpil**	**38.56**	**91**	P	**P**	**11 18 53.0**	**+1.3**
MDPB				IAmb	IAmb	11 19 00.5	
	comp=Z,4.4nm,0.9s						
OMMB	**Old Mammoth Mi**	**38.63**	**91**	P	**P**	**11 18 53.8**	**+1.5**
NV11	**Mina Array Sit**	**38.65**	**89**	P	**P**	**11 18 53.3**	**+1.1**
MJAR	**Matsushiro Arr**	**38.78**	**267**	P	**P**	**11 18 53.6**	**+0.3**
	comp=Z,4.1nm,0.9s,baz=59,slow=4.8,SNR=6.4						
MJAR				LR	LR	11 34 37.3	
	comp=Z,112nm,21.0s,baz=55,slow=36						
MAJO	**Matsushiro**	**38.78**	**267**	*i* P	**P**	**11 18 53.0**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,17nm,1.0s						
MAJO	**Matsushiro**	**38.78**	**267**	P	**P**	**11 18 52.9**	**-0.3**
MAJO				IAmb	IAmb	11 18 54.0	
	comp=Z,19nm,1.1s						
MAT	**Matsushiro**	**38.78**	**267**	P	**P**	**11 18 52.6**	**-0.6**
MJB9	**Matsu-Tunnel**	**38.78**	**267**	P	**P**	**11 18 53.0**	**-0.3**
ELK	**Elko**	**39.07**	**84**	P

comp=Z,13nm,1.1s
O20A White River Ci 43.74 80 P P 11 19 35.3 +1.2
O20A lAmb lAmb 11 19 46.1
comp=Z,7.3nm,0.9s
Y12C Blythe 43.90 92 P P 11 19 35.8 +0.6
Y12C lAmb lAmb 11 19 43.1
comp=Z,6.5nm,0.8s
KSRS Korea Array 44.58 276 P P 11 19 40.7 +0.1
comp=Z,6.8nm,0.9s,baz=52,slow=7.9,SNR=16
KSRS LR LR 11 37 48.0
comp=Z,57nm,20.2s,baz=45,slow=35
WUAZ Wupatki 44.69 87 P P 11 19 41.8 +0.1
WUAZ lAmb lAmb 11 19 50.1
comp=Z,9.8nm,0.9s
ULM Lac du Bonnet 45.21 61 P P 11 19 46.3 +0.9
ULM pmax pmax
comp=Z,6.0nm,1.0s
ULM Lac du Bonnet 45.21 61 P P 11 19 45.3 -0.1
comp=Z,1.3nm,0.6s,baz=310,slow=9.0,SNR=4.1
ULM Lac du Bonnet 45.21 61 P P 11 19 46.4 +0.9
ULM lAmb lAmb 11 19 54.8
comp=Z,6.0nm,1.0s
X16A Lo Mia Camp, P 45.37 88 P P 11 19 46.9 -0.3
X16A lAmb lAmb 11 19 55.6
comp=Z,4.9nm,0.9s
TJN Taejon 45.61 275 *ce* **P P 11 19 49.9 +1.1**
S22A 4UR Ranch, Cre 46.08 82 P P 11 19 52.4 -0.4
214A Organ Pipe Nat 46.17 92 P P 11 19 50.9 -2.4
214A lAmb lAmb 11 20 01.8
comp=Z,4.2nm,0.9s
X18A Snowflake 46.22 87 P P 11 19 54.3 +0.5
X18A lAmb lAmb 11 20 02.3
comp=Z,6.0nm,1.1s
NRIK Noril'sk 46.51 331 P P 11 19 54.7 -0.7
comp=Z,1.7nm,0.6s,baz=67,slow=6.8,SNR=2.9
NRIK LR LR 11 41 20.8
comp=Z,195nm,18.6s,baz=52,slow=38
SDCO Great Sand Dun 46.89 81 P P 11 19 58.6 -0.7
TUC Tucson 47.19 90 P P 11 20 01.4 +0.1
TUC pmax pmax
comp=Z,7.0nm,1.0s
TUC Tucson 47.19 90 P P 11 20 01.4 +0.1
TUC lAmb lAmb 11 20 09.4
comp=Z,7.3nm,1.0s
T25A Trinidad 47.95 80 P P 11 20 07.3 -0.1
T25A lAmb lAmb 11 20 16.4
comp=Z,7.5nm,1.1s
ANMO Albuquerque 48.11 84 *ce* **P P 11 20 12.5 +3.9**
ANMO pmax pmax
comp=Z,7.0nm,1.3s
ANMO Albuquerque 48.11 84 P P 11 20 09.2 +0.6
ANMO lAmb lAmb 11 20 19.3
comp=Z,2.9nm,1.1s
LENM Lemitar 48.30 85 P P 11 20 10.7 +0.5
BNM Barren Site 48.53 85 P P 11 20 12.1 +0.2
121A Cookes Peak, D 48.90 88 P P 11 20 15.6 +1.0
121A lAmb lAmb 11 20 22.8
comp=Z,5.2nm,0.9s
FRB Frobisher Bay 49.96 35 P P 11 20 22.6 +0.5
FRB pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 50.46 300 *ce* **P P 11 20 26.2 -0.1**
ULN pmax pmax
comp=Z,13nm,1.0s
ULN Ulaanbaatar 50.46 300 P P 11 20 26.4 +0.1
DAG Danmarks Havn 50.49 8 *eP* **P 11 20 25.2 -0.8**
DAG Danmarks Havn 50.49 8 *i P* **P 11 20 25.2 -0.8**
SONM Songino Array 50.83 300 P P 11 20 29.2 +0.1
comp=Z,5.1nm,0.8s,baz=50,slow=8.1,SNR=27
SONM LR LR 11 43 19.9
comp=Z,264nm,18.7s,baz=59,slow=38
ZAK Zakamensk 50.92 305 *eP* **P 11 20 28.7 -1.0**
ZAK pmax pmax
comp=Z,10.0nm,1.2s
MNTX Cornudas Mount 50.95 87 P P 11 20 30.7 +0.6
MNTX lAmb lAmb 11 20 33.6
comp=Z,2.7nm,0.8s
MSTX Muleshoe 51.03 82 P P 11 20 31.1 +0.3
MSTX lAmb lAmb 11 20 42.0
comp=Z,11nm,1.1s
MOY Mondy 51.29 307 *eP* **P 11 20 32.7 +0.2**
MOY pmax pmax
comp=Z,26nm,1.3s
SUMG Summit 51.59 17 P P 11 20 34.9 +0.1
SUMG pmax pmax
comp=Z,12nm,1.0s
SUMG Summit 51.59 17 *i P* **P 11 20 34.2 -0.6**
SUMG Summit 51.59 17 P P 11 20 34.9 +0.1
HHC Hu-ho-hao-te 52.29 291 P P 11 20 41.3 +1.2
HHC S S 11 28 18.3 +16
HHC pmax pmax
comp=Z,8.0nm,0.9s
HHC pmax pmax
comp=Z,65nm,5.8s
HHC LR LR
comp=N,170nm,16.2s
HHC LR LR
comp=E,140nm,16.2s
HHC LR LR
comp=Z,160nm,15.3s
WMOK Wichita Mounta 52.96 79 P P 11 20 45.0 0.0
WMOK pmax pmax
comp=Z,4.0nm,0.8s
WMOK Wichita Mounta 52.96 79 P P 11 20 45.0 0.0
WMOK lAmb lAmb 11 20 52.9
comp=Z,3.6nm,0.8s
BTO Baotou 53.34 291 *eP* **P 11 20 47.9 +0.1**
TX31 Lajitas Ar. Si 53.66 87 P P 11 20 50.2 -0.1
TX31 lAmb lAmb 11 20 57.5
comp=Z,2.9nm,0.8s
TX32 Lajitas Array 53.66 87 P P 11 20 50.1 -0.2
TX32 lAmb lAmb 11 20 53.7
comp=Z,4.7nm,1.1s
TXAR Lajitas Array 53.66 87 P P 11 20 50.4 +0.1
comp=Z,3.3nm,0.9s,baz=298,slow=5.6,SNR=26
NJ2 Nanjing 53.74 277 *eP* **P 11 20 51.3 +0.6**
NJ2 pmax pmax
comp=Z,12nm,0.5s
GLMI Grayling 54.55 61 P P 11 20 56.8 +0.3
JCT Junction City 55.25 83 P P 11 21 02.5 +0.8
JCT pmax pmax
comp=Z,7.0nm,1.1s
JCT Junction City 55.25 83 P P 11 21 02.5 +0.8
JCT lAmb lAmb 11 21 05.6
comp=Z,6.7nm,1.1s
U40A Yellville 55.45 73 P P 11 21 02.9 -0.2
U40A lAmb lAmb 11 21 04.1
comp=Z,4.5nm,1.1s
SCO Scoresbysund 55.98 12 P P 11 21 06.8 +0.4
SCO pmax pmax
comp=Z,4.0nm,0.9s
SCO Scoresbysund 55.98 12 P P 11 21 06.8 +0.4
SCO lAmb lAmb 11 21 07.5
comp=Z,4.5nm,0.9s
MIAR Mount Ida 56.24 76 P P 11 21 09.8 +1.0
MIAR pmax pmax
comp=Z,7.0nm,1.2s
MIAR Mount Ida 56.24 76 P P 11 21 09.8 +1.0
MIAR lAmb lAmb 11 21 15.5
comp=Z,6.6nm,1.1s
SCHQ Schefferville 56.47 42 P P 11 21 10.1 0.0
comp=Z,12nm,0.8s,baz=326,slow=6.7,SNR=10
SCHQ Schefferville 56.47 42 P P 11 21 10.7 +0.6
ZALV Zalesovo Beam 57.24 317 P P 11 21 15.2 -0.4
comp=Z,1.1nm,0.5s,baz=28,slow=6.5,SNR=5.3
ZALV PcP PcP 11 22 10.2 +0.6
comp=Z,3.3nm,0.8s,baz=35,slow=5.3,SNR=6.5
ZALV LR LR 11 50 25.2
comp=Z,120nm,18.1s,baz=56,slow=41
WHN Wuhan 57.56 279 P P 11 21 17.5 -0.6
ARCES ARCESS Array B 58.40 353 P P 11 21 22.3 -1.2
comp=Z,6.8nm,0.9s,baz=26,slow=8.5,SNR=7.3
ARCES LR LR 11 48 25.4
comp=Z,109nm,18.1s,baz=316,slow=38
XAN Xi'an 58.41 286 P P 11 21 23.6 -0.5
XAN pP pP 11 21 37.0 +2.6
XAN pmax pmax
comp=Z,16nm,0.9s
XAN pmax pmax
comp=Z,160nm,6.2s
XAN Xi'an 58.41 286 P P 11 21 23.6 -0.5
XAN pmax pmax
comp=Z,14nm,0.9s
XAN Xi'an 58.41 286 P P 11 21 23.6 -0.5
WVT Waverly 58.57 70 P P 11 21 24.7 -0.4
WVT pmax pmax
comp=Z,7.0nm,1.2s
WVT Waverly 58.57 70 P P 11 21 24.7 -0.4
WVT lAmb lAmb 11 21 30.0
comp=Z,7.2nm,1.1s
LVZ Lovozero 59.12 349 *ce* **P P 11 21 29.2 +0.7**
LVZ pmax pmax
comp=Z,87nm,2.5s
LVZ Lovozero 59.12 349 P P 11 21 28.5 -0.1
GTA Gaotai 59.94 296 *eP* **P 11 21 34.6 -0.2**
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA pmax pmax
comp=Z,130nm,6.1s
GTA LR LR
comp=N,280nm,17.9s
GTA LR LR
comp=E,300nm,18.2s
GTA LR LR
comp=Z,410nm,18.9s
LZH Lanzhou 59.97 291 ⇑ **P P 11 21 35.6 +0.6**
LZH pP pP 11 21 47.5 +2.1
LZH sP pwP 11 21 51.8 +1.2
LZH PP PP 11 24 00.0 +13
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,58nm,4.9s
LZH LR LR
comp=N,360nm,13.0s
LZH LR LR
comp=E,370nm,13.5s
LZH LR LR
comp=Z,450nm,14.4s
L56A Greenwood 60.16 59 P P 11 21 36.3 +0.2
M56A Emporium 60.28 60 P P 11 21 37.6 +0.7
FPAL Fort Paine 60.97 70 P P 11 21 41.1 -0.6
FPAL lAmb lAmb 11 21 42.4
comp=Z,4.8nm,0.8s
S54A Dingess, Beckl 61.14 65 P P 11 21 44.7 +1.8
S54A lAmb lAmb 11 21 53.6
comp=Z,1.2nm,0.8s
Z50A Ashland 61.70 71 P P 11 21 46.8 +0.2
Z50A lAmb lAmb 11 21 53.3
comp=Z,5.5nm,1.0s
F64A Sherman 62.16 50 P P 11 21 50.2 +0.7
BATG Bathurst New B 62.21 48 P P 11 21 50.2 +0.4
BATG lAmb lAmb 11 22 01.7
comp=Z,3.1nm,0.8s
KURK Kurchatov 62.21 318 *ce* **P P 11 21 50.4 +0.7**
KURK pmax pmax
comp=Z,5.0nm,0.7s
KURK Kurchatov 62.21 318 P P 11 21 50.0 +0.3
TMCR Tamitsa 62.22 346 *eP* **P 11 21 48.7 -0.9**
TMCR pmax pmax
comp=Z,37nm,1.1s
KURBB Kurchatov Arra 62.31 318 P P 11 21 50.2 -0.2
comp=Z,11nm,0.9s,baz=41,slow=7.3,SNR=8.8
KURBB PcP PcP 11 22 30.2 +0.3
comp=Z,1.3nm,0.7s,baz=44,slow=6.6,SNR=3.7
WMQ Urumqi 63.18 307 *eP* **P 11 21 58.3 +1.9**
WMQ pP pP 11 22 09.8 +3.0
WMQ sP pwP 11 22 14.3 +2.2
WMQ pmax pmax
comp=Z,8.0nm,0.9s
WMQ pmax pmax
comp=Z,180nm,4.9s
WMQ LR LR
comp=N,510nm,18.3s
WMQ LR LR
comp=E,690nm,27.1s
WMQ LR LR
comp=Z,130nm,19.1s
PRGR Permogore 63.26 341 *eP* P 11 21 50.4 -6.1
PRGR pmax pmax
comp=Z,15nm,1.5s
MKAR Makanchi Array 63.55 313 P P 11 21 58.5 -0.3
comp=Z,2.5nm,0.6s,baz=46,slow=6.9,SNR=3.1
MKAR LR LR 11 52 08.1
comp=Z,194nm,18.1s,baz=22,slow=38
BVAR Borovoye Array 63.65 324 P P 11 21 59.4 +0.1
comp=Z,10.0nm,0.9s,baz=51,slow=7.8,SNR=7.0
BVAR PcP PcP 11 22 35.8 +0.5
comp=Z,4.6nm,0.6s,baz=35,slow=5.3,SNR=3.9
BRVK Borovoye 63.66 324 *ce* **P P 11 21 59.9 +0.5**
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 63.66 324 P P 11 21 59.5 +0.1
CD2 Chengdu 63.69 287 P P 11 21 58.3 -1.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
SVE Sverdlovsk 63.77 331 *eP* **P 11 22 00.3 +0.2**
ARU Arti 64.72 332 *d iP* **P 11 22 06.1 -0.2**
ARU 11 24 25.7
ARU S S 11 30 43.9 +0.5
ARU SS SS 11 34 49.6 -4.1
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 64.72 332 P P 11 22 06.4 +0.1
comp=Z,1.6nm,0.2s,baz=350,slow=6.2,SNR=7.5
ARU Arti 64.72 332 P P 11 22 06.1 -0.2
FIA1 FINESS Array S 66.31 351 P P 11 22 16.5 +0.1
FINES FINESS Array B 66.31 351 P P 11 22 15.9 -0.5
comp=Z,6.8nm,0.8s,baz=15,slow=10,SNR=13
NB2 NORSAR Subarra 67.51 359 P P 11 22 24.0 -0.1
comp=Z,1.2nm,0.6s,baz=2.0,slow=6.5
NOA NORSAR Array B 67.51 359 P P 11 22 24.1 -0.1
comp=Z,3.1nm,0.8s,baz=1.0,slow=6.4,SNR=6.2
VSU Vasula 69.18 350 *ce* **P P 11 22 34.3 -0.2**
VSU pmax pmax
comp=Z,108nm,1.7s
AKTO Aktyubinsk 70.06 329 P P 11 22 40.2 +0.1
comp=Z,9.2nm,0.7s,baz=56,slow=7.2,SNR=21
AAK Ala-Archa 70.28 315 *i P* **P 11 22 41.8 0.0**
AAK pmax pmax
comp=Z,11nm,0.9s
AAK Ala-Archa 70.28 315 P P 11 22 42.3 +0.6
comp=Z,14nm,0.9s,baz=126,slow=6.6,SNR=5.5
AAK Ala-Archa 70.28 315 P P 11 22 42.6 +0.8
ABKAR Akbulak array 70.45 327 P P 11 22 42.6 +0.1
SLVN Son La 70.66 280 P P 11 22 45.7 +1.4
SLVN lAmb lAmb 11 22 46.6
comp=Z,4.8nm,0.9s
OBN Obninsk 71.06 344 ⇓ *eP* **P 11 22 45.2 -0.9**
OBN pmax pmax
comp=Z,12nm,0.4s
PPT Papeete 71.51 159 LR LR 11 49 09.4
comp=Z,76nm,21.6s,baz=2.0,slow=32
LSA Lhasa 71.89 295 P P 11 22 52.8 +0.7
LSA pmax pmax
comp=Z,17nm,0.7s
LSA Lhasa 71.89 295 P P 11 22 52.9 +0.7
ARSB Arslanbob 72.00 315 P P 11 22 52.8 +0.5
KSH Kashi 72.10 312 P P 11 22 56.4 +3.6
KSH S S 11 32 14.8 +2.9
KSH sS sS 11 32 36.3 +4.9
KSH Kashi 72.10 312 SS SS 11 36 56.0 +7.4
KSH pmax pmax
comp=Z,86nm,1.4s
KSH pmax pmax
comp=Z,220nm,5.0s
KSH LR LR
comp=N,620nm,6.2s
KSH LR LR
comp=E,280nm,5.9s
KSH LR LR
comp=Z,750nm,5.6s
LPSR Galich'ya Gora 73.01 342 *eP* **P 11 22 56.8 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VRH Novokhopyorsk 73.75 339 *eP* **P 11 23 00.7 -1.5**
VRH pmax pmax
comp=Z,10.0nm,0.9s
SUW Suwalki 73.92 351 P P 11 23 03.0 -0.1
SUW pmax pmax
comp=Z,34nm,0.8s
SUW Suwalki 73.92 351 P P 11 23 03.0 -0.1
BTK Batken 73.98 315 P P 11 23 04.5 +0.6
BTK pmax pmax
comp=Z,16nm,1.2s
BTK Batken 73.98 315 P P 11 23 04.5 +0.6
VSR Storozhevoye 74.28 341 *eP* **P 11 23 04.1 -1.2**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORD Divnogorie 74.49 341 *eP* **P 11 23 05.6 -0.9**
VORD pmax pmax
comp=Z,8.0nm,0.6s
SHL Shillong 74.63 292 P P 11 23 07.5 -0.5
SHL pmax pmax
comp=Z,7.0nm,0.6s
SHL Shillong 74.63 292 P P 11 23 07.5 -0.5
GAR Garm 75.08 315 P P 11 23 10.9 +0.6
UTTA Uttaradit 75.43 280 P P 11 23 13.2 +0.8
CHTO Chiang Mai 75.60 282 P P 11 23 13.4 0.0
CHTO pmax pmax
comp=Z,3.0nm,0.7s
CHTO Chiang Mai 75.60 282 P P 11 23 13.4 0.0
CHTO lAmb lAmb 11 23 17.7
comp=Z,2.5nm,0.7s
TAPN Taplejung 75.63 296 *eP* **P 11 23 14.0 +0.1**
comp=Z,44nm,0.7s
CHGR Chuyangaron 75.86 316 P P 11 23 14.8 0.0
CMAR Chiang Mai Arr 75.87 282 *i P* **P 11 23 15.3 +0.3**
CMAR pmax pmax
comp=Z,8.0nm,0.9s
CMAR Chiang Mai Arr 75.87 282 P P 11 23 15.2 +0.3
comp=Z,6.6nm,0.8s,baz=26,slow=6.9,SNR=30
CMAR LR LR 11 59 15.7
comp=Z,61nm,19.8s,baz=8.0,slow=38
PBKT Sadao Pong 76.07 279 P P 11 23 16.1 0.0
PBKT lAmb lAmb 11 23 21.8
comp=Z,3.4nm,0.8s
ODAN Odare 76.19 296 *eP* **P 11 23 17.1 +0.1**
GUN Gumba 76.21 298 *eP* **P 11 23 17.5 +0.3**
JIRN Jiri 76.23 297 *eP* **P 11 23 17.6 +0.2**
comp=Z,88nm,0.8s
AKASG Malin Array Be 76.48 347 *i P* **P 11 23 16.7 -1.2**
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 76.48 347 P P 11 23 17.3 -0.6
comp=Z,5.9nm,0.9s,baz=15,slow=5.8,SNR=10
AKBB Malin Array Si 76.48 347 P P 11 23 17.5 -0.4
AKBB pmax pmax
comp=Z,9.0nm,1.1s
AKBB Malin Array Si 76.48 347 P P 11 23 17.6 -0.4
AKBB lAmb lAmb 11 23 18.2
comp=Z,8.8nm,1.1s
KIEV Kiev 76.49 347 P P 11 23 17.0 -1.0
RAMN Ramite 76.56 296 *eP* **P 11 23 19.1 0.0**
comp=Z,68nm,0.8s
KKN Kakani 76.63 298 *eP* **P 11 23 19.6 +0.1**
PKI Pulchoki 76.73 298 *eP* **P 11 23 20.2 0.0**
PKIN Phulchoki 76.73 298 *eP* **P 11 23 19.9 -0.2**
GKN Gorkha 76.81 298 *eP* **P 11 23 20.3 -0.1**
comp=Z,44nm,0.7s
DMN Daman 76.87 298 *eP* **P 11 23 21.0 +0.2**
comp=Z,21nm,0.8s
DANN Dangsing 77.02 299 *eP* **P 11 23 21.8 +0.1**
comp=Z,81nm,0.8s
KOLN Koldanda 77.56 299 *eP* **P 11 23 24.4 -0.3**
comp=Z,29nm,0.9s
BRG Berggiesshubel 77.63 357 *eP* **P 11 23 25.8 +1.4**
comp=Z,16nm,1.4s
CHVC Chvalec 77.83 356 *eP* **P 11 23 25.7 +0.1**
OSTC Ostas 77.85 355 *eP* **P 11 23 27.8 +2.1**
MEM Membach 77.94 2 P P 11 23 25.4 -0.7
DPC Dobruska-Polom 78.06 355 *eP* **P 11 23 27.1 +0.3**
DPC Dobruska-Polom 78.06 355 *eP* **P 11 23 27.1 +0.3**
NIL Nilore 78.13 310 P P 11 23 28.2 +0.7
NIL pmax pmax
comp=Z,19nm,0.8s
NIL Nilore 78.13 310 P P 11 23 28.2 +0.7
KRLC Kraliky 78.31 355 *eP* **P 11 23 29.0 +0.8**
KRLC Kraliky 78.31 355 *eP* **P 11 23 29.0 +0.8**
PRU Pruhonice 78.50 356 *eP* **P 11 23 29.8 +0.6**
PRU Pruhonice 78.50 356 *eP* **P 11 23 29.8 +0.6**
GOPC GO Pecny, Ondr 78.56 356 *eP* **P 11 23 29.9 +0.3**
GOPC GO Pecny, Ondr 78.56 356 *eP* **P 11 23 29.9 +0.3**
PBCC Pribram 78.82 357 *eP* **P 11 23 31.6 +0.6**
KOLS Kolonicke sedl 79.03 351 *eP* **P 11 23 32.6 +0.4**
KOLS Kolonicke sedl 79.03 351 *eP* **P 11 23 32.6 +0.4**
LANS Liptovska Anna 79.05 353 *eP* **P 11 23 33.9 +1.5**
LANS pmax pmax
comp=Z,7.0nm,1.4s
LANS Liptovska Anna 79.05 353 *eP* **P 11 23 33.9 +1.5**
VRAC Vranov 79.08 355 *i P* **P 11 23 32.8 +0.3**
VRAC Vranov 79.08 355 ⇑ **P P 11 23 32.8 +0.3**
VRAC mb 11 23 48.5
GOF Gofitskoye 79.20 336 ⇑ *eP* **P 11 23 34.0 +0.8**
GOF pmax pmax
comp=Z,18nm,0.4s
KBL Kabul 79.35 313 P P 11 23 33.6 -0.8
KBL pmax pmax
comp=Z,16nm,1.1s
KBL Kabul 79.35 313 P P 11 23 33.6 -0.8
KHC Kasperske Hory 79.39 357 *i P* **P 11 23 34.2 0.0**
KHC pmax pmax
comp=Z,9.0nm,1.0s
KHC Kasperske Hory 79.39 357 *eP* **P 11 23 35.0 +0.8**
KHC *ex* x 11 23 39.0
GERES GERESS Array B 79.67 357 P P 11 23 36.4 +0.6
comp=Z,1.0nm,0.6s,baz=15,slow=5.5,SNR=8.7
VYHS Vyhne 79.75 353 *eP* **P 11 23 36.8 +0.7**
VYHS Vyhne 79.75 353 *eP* **P 11 23 36.8 +0.7**
TRPA Tarpa 79.80 351 ⇑ **P P 11 23 36.3 0.0**
TRPA mb 11 23 37.6
BUR08 Bucovina Ar. S 80.00 349 P P 11 23 37.6 0.0
BUR08 lAmb lAmb 11 23 47.1
comp=Z,3.4nm,0.9s
BURAR Bucovina Array 80.02 349 P P 11 23 38.0 +0.3
BURAR Bucovina Array 80.02 349 ⇓ **P P 11 23 38.0 +0.3**
KIV Kislovodsk 80.33 336 *eP* **P 11 23 39.8 +0.4**
KIV pmax pmax
comp=Z,25nm,1.1s
KBZ Khabaz 80.48 336 P P 11 23 41.0 +0.9
KBZ Khabaz 80.48 336 P P 11 23 41.0 +0.9
comp=Z,4.4nm,0.8s,baz=88,slow=2.2,SNR=14
KBZ LR LR 12 05 37.6
comp=Z,119nm,18.2s,baz=355,slow=40
CONA Conrad Observa 80.50 355 *eP* **P 11 23 40.7 +0.5**
comp=Z,5.0nm,0.9s
BIZ Bicaz 80.58 348 ⇑ **P P 11 23 40.8 +0.1**
ARCR ARCALIA 80.64 350 ⇓ **P P 11 23 42.1 +1.2**
GEYT Alibeck 80.96 323 P P 11 23 43.2 +0.4
comp=Z,3.7nm,0.8s,baz=325,slow=2.3,SNR=5.8
RETA Reutte 81.09 359 *eP* **P 11 23 43.9 +0.4**
comp=Z,11nm,1.5s
ZEI Tsey 81.11 335 *eP* **P 11 23 43.1 -0.6**
ZEI pmax pmax
comp=Z,6.0nm,0.7s
DRGR 81.11 351 P P 11 23 43.2 -0.3
DRGR 81.11 351 ⇑ **P P 11 23 43.2 -0.3**
ARSA Arzberg 81.19 356 *eP* **P 11 23 45.2 +1.4**
comp=Z,2.5nm,0.9s
MOTA Moosalm 81.23 359 *eP* **P 11 23 45.2 +1.0**
comp=Z,7.8nm,1.3s
WATA Walderalm 81.23 358 *eP* **P 11 23 45.1 +0.9**
comp=Z,11nm,1.2s
WTTA Wattenberg 81.30 358 *eP* **P 11 23 44.0 -0.6**
comp=Z,17nm,1.6s
SQTA Sankt Quirin 81.35 359 *i P* **P 11 23 46.1 +1.2**
comp=Z,9.7nm,1.4s
KBA Koelnbreinsper 81.44 357 P P 11 23 48.2 +2.8
KBA pmax pmax
comp=Z,15nm,1.0s
KBA Koelnbreinsper 81.44 357 *eP* **P 11 23 47.0 +1.6**
comp=Z,21nm,1.2s
FETA Feichten 81.56 359 *eP* **P 11 23 47.1 +1.1**
comp=Z,9.0nm,1.1s
DOPR Dopca 81.63 349 ⇓ **P P 11 23 47.5 +1.3**
SEVA Sevastopol 81.75 343 ⇑ **P P 11 23 47.6 +0.8**
SOKA Soboth 81.78 356 *eP* **P 11 23 48.2 +1.1**
comp=Z,11nm,1.3s
TLCR 81.93 346 P P 11 23 47.0 -0.7
TLCR 81.93 346 ⇑ **P P 11 23 47.1 -0.7**
CFR Carcaliu 82.03 347 P P 11 23 48.9 +0.6
CFR Carcaliu 82.03 347 ⇑ **P P 11 23 48.9 +0.6**
VOIR 82.19 349 P P 11 23 49.6 +0.4
VOIR 82.19 349 ⇓ **P P 11 23 49.6 +0.4**
BZS Buzias 82.38 351 P P 11 23 50.1 0.0
BZS Buzias 82.38 351 ⇑ **P P 11 23 50.2 0.0**
GZR Gura Zlata 82.49 350 P P 11 23 50.8 0.0
GZR Gura Zlata 82.49 350 ⇓ **P P 11 23 50.9 0.0**
HARR Harsova 82.54 347 P P 11 23 50.6 -0.3
HARR Harsova 82.54 347 ⇑ **P P 11 23 50.7 -0.3**
HARR mb 11 24 05.1
TIRR Tirgusor 82.70 346 P P 11 23 51.6 -0.1
TIRR Tirgusor 82.70 346 ⇑ **P P 11 23 51.7 -0.1**
TEOL Teolo 83.20 358 P P 11 23 55.9 +1.4

DIKM	**Dikmen**	**84.22**	**341**	⇑P	**P**	**11 24 01.2**	**+1.6**
DIKM				mb		11 24 02.4	
MURB	**Monte Urbino**	**85.28**	**358**	P	**P**	**11 24 07.3**	**+2.2**
WRA	**Warramunga Arr**	**85.95**	**230**	P	**P**	**11 24 07.2**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=36,slow=5.9,SNR=4.1						
BR131	**Keskin Array S**	**86.40**	**341**	P	**P**	**11 24 11.3**	**+0.5**
BR131				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BR131	**Keskin Array S**	**86.40**	**341**	P	**P**	**11 24 11.3**	**+0.5**
BR131				IAmb	IAmb	11 24 13.3	
	comp=Z,2.6nm,0.8s						
BRTR	**Keskin Array B**	**86.40**	**341**	*i* P	**P**	**11 24 12.0**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRTR	**Keskin Array B**	**86.40**	**341**	P	**P**	**11 24 09.8**	**-1.0**
	comp=Z,3.5nm,1.0s,baz=45,slow=2.3,SNR=14						
ALN	**Alexandroupoli**	**86.53**	**347**	P	**P**	**11 24 11.9**	**+0.7**
ALN				pmax	pmax		
	comp=Z,12nm,1.2s						
ALN	**Alexandroupoli**	**86.53**	**347**	P	**P**	**11 24 11.9**	**+0.7**
GRG	**Griva**	**86.92**	**350**	P	**P**	**11 24 15.5**	**+2.3**
FNA	**Florina**	**87.19**	**351**	P	**P**	**11 24 14.7**	**+0.2**
FNA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
FNA	**Florina**	**87.19**	**351**	P	**P**	**11 24 14.7**	**+0.2**
PSI	**Prapat**	**87.98**	**272**	P	**P**	**11 24 18.3**	**-0.4**
PSI				pmax	pmax		
	comp=Z,16nm,0.8s						
PSI	**Prapat**	**87.98**	**272**	LR	LR	12 07 05.3	
	comp=Z,23nm,18.9s,baz=28,slow=38						
RPSI	**Rantau Prapat**	**88.06**	**272**	P	**P**	**11 24 18.4**	**-0.6**
SCTE	**Santa Cesarea**	**88.16**	**353**	P	**P**	**11 24 19.4**	**+0.4**
ESDC	**Sonseca Array**	**88.19**	**10**	P	**P**	**11 24 19.1**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=351,slow=4.5,SNR=6.8						
ASAR	**Alice Springs**	**89.34**	**229**	P	**P**	**11 24 24.3**	**-0.4**
	comp=Z,2.1nm,1.0s,baz=35,slow=4.7,SNR=12						
RAYN	**Ar Rayn**	**98.53**	**327**	P	**P**	**11 25 06.7**	**-0.4**
RAYN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
RAYN	**Ar Rayn**	**98.53**	**327**	P	**P**	**11 25 06.7**	**-0.4**

*NNC **24** 11:17:45.9±1.4,50.98N×73.81E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=20.3km s-min=7.8km az=29.0, Suspected Mining explosion.*

*IDC **24** 11:17:51.4±1.2,51.06N×73.89E,h0km,mb3.3/2, mb1 3.3/6,mb1mx3.1/43,mbtmp3.0/6,ML2.2/4,MS3.3/1, Ms1 3.3/1,ms1mx2.5/32,Error ellipse: s-maj=26.3km s-min=8.5km az=33.0*

ISC 24 11:17:51.5±1.4,51.1N±0.1×74.0E±0.1,h0km,n15, σ1$17/13,9C-4D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.92**	**97**	Pn	**Pn**	**11 18 39.7**	**+0.6**
	0.1nm,0.3s,baz=279,slow=14,SNR=26						
KURBB				Lg	Lg	11 19 25.9	
	0.5nm,0.3s,baz=278,slow=30,SNR=14						
KURBB	**Kurchatov Arra**	**2.92**	**97**	⇓Pg	**Pn**	**11 18 39.3**	**+0.1**
	12nm,0.6s,baz=277,slow=12						
KURBB				⇑Lg	Lg	11 19 25.1	
	108nm,0.7s,baz=281,slow=26						
KURK	**Kurchatov**	**2.96**	**95**	⇑Pg	**Pn**	**11 18 40.5**	**+0.8**
	9.3nm,0.8s						
KURK				⇑Lg	Lg	11 19 25.8	
	61nm,1.0s						
BVAR	**Borovoye Array**	**2.97**	**313**	Pn	**Pn**	**11 18 40.1**	**+0.1**
	1.1nm,0.3s,baz=137,slow=16,SNR=16						
BVAR				Lg	Lg	11 19 22.0	
	3.0nm,0.3s,baz=128,slow=32,SNR=8.0						
BRVK	**Borovoye**	**3.04**	**313**	⇑Pg	**Pn**	**11 18 41.6**	**+0.7**
	7.9nm,1.1s						
BRVK				⇓Lg	Lg	11 19 21.8	
	59nm,0.8s						
MAKZ	**Makanchi**	**6.76**	**126**	⇑Pg	**Pb**	**11 19 50.1**	**+0.1**
	3.9nm,1.3s						
MAKZ				⇑Lg	Lg	11 21 22.3	
	22nm,1.1s						
MK31	**Makanchi Array**	**6.94**	**125**	⇑Pg	**Pb**	**11 19 53.9**	**+1.0**
	0.7nm,0.6s,baz=295,slow=14,SNR=4.5						
MK31				⇑Lg	Lg	11 21 31.5	
	12nm,0.8s,baz=313,slow=23,SNR=8.4						
MKAR	**Makanchi Array**	**6.94**	**125**	Pn	**Pn**	**11 19 32.7**	**-1.7**
	0.0nm,0.3s,baz=309,slow=14,SNR=3.2						
MKAR				Sn	**Sn**	**11 20 54.8**	**+0.9**
	0.1nm,0.3s,baz=312,slow=17,SNR=3.6						
MKAR				Lg	Lg	11 21 31.6	
	0.5nm,0.3s,baz=311,slow=26,SNR=8.2						
ZALV	**Zalesovo Beam**	**7.22**	**62**	Pn	**Pn**	**11 19 40.0**	**+1.7**
	0.2nm,0.3s,baz=249,slow=14,SNR=3.3						
ZALV				Sn	**Sn**	**11 21 01.3**	**+0.4**
	0.2nm,0.3s,baz=250,slow=24,SNR=3.4						
TKM2	**Tokmak 2**	**8.21**	**172**	⇑Lg	Lg	11 22 02.6	
	17nm,0.8s						
AAK	**Ala-Archa**	**8.43**	**177**	⇓Lg	Lg	11 22 12.4	
	20nm,1.1s						
PDGK	**Podgornoye**	**8.59**	**152**	⇓Lg	Lg	11 22 20.7	
	12nm,0.9s						
GNI	**Garni**	**23.03**	**253**	LR	LR	11 33 17.0	
	comp=Z,64nm,18.3s,baz=350,slow=40						
ILAR	**Eielson Array**	**60.25**	**19**	P	**P**	**11 28 00.9**	**-0.1**
	0.2nm,0.8s,baz=324,slow=4.5,SNR=3.3						
YKA	**Yellowknife Ar**	**66.59**	**4**	P	**P**	**11 28 40.9**	**-2.1**
	0.4nm,0.9s,baz=358,slow=7.1,SNR=5.0						

KRSC 24 11:20:44.3±1.1,48.25N×156.73E,h78km±28km,ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.47**	**351**	*e*S	Sn	11 21 54.2	+2.6
PAU	**Pauzhetka**	**3.22**	**1**	*e*S	Sn	11 22 12.3	+2.4
ASAK	**Asacha**	**4.21**	**10**	*e*P	Pn	11 21 48.5	+2.4
MTVR	**Mutnovka**	**4.34**	**12**	*e*P	Pn	11 21 50.3	+2.3
MTVR				*e*S	Sn	11 22 39.3	+2.0
GRL	**Gorelyy**	**4.39**	**11**	*e*P	Pn	11 21 51.4	+2.7
KRMR	**Karymshinskiy**	**4.67**	**10**	*e*P	Pn	11 21 55.2	+2.9
UGLR	**Uglovaya**	**5.14**	**14**	*e*P	Pn	11 22 02.9	+4.1
AVH	**Avacha**	**5.18**	**13**	*e*P	Pn	11 22 02.8	+3.4
KOK	**Koryaka**	**5.19**	**13**	*e*P	Pn	11 22 03.2	+3.7
SDLR	**Sedlovina**	**5.22**	**14**	*e*P	Pn	11 22 02.4	+2.5
KRER	**Koryakskii**	**5.22**	**13**	*e*P	Pn	11 22 03.3	+3.3
GNL	**Ganaly**	**5.51**	**8**	*e*P	Pn	11 22 06.9	+3.1

*ISCJB **24** 11:28:56.6±0.5,52.74N±0.10×35.05W±0.08,h13km, mb4.0/26,MS3.8/19,Error ellipse: s-maj=14.1km s-min=7.2km az=3.9*

*IDC **24** 11:28:56.6±0.7,52.75N×35.00W,h0km,mb3.9/23, mb1 4.1/25,mb1mx4.0/45,mbtmp4.0/25,ML2.7/1,MS3.8/20, Ms1 3.8/20,ms1mx3.5/61,Error ellipse: s-maj=21.3km s-min=12.0km az=7.0*

*NEIC **24** 11:28:57.5±2.1,52.6N±0.1×35.2W±0.2,h10km±1km, mb4.6/9*

ISC 24 11:28:58.7±0.6,52.7N±0.1×35.09W±0.06,h13km,n60, σ1$62/44,mb4.2/30,MS3.8/19,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**13.96**	**25**	LR	LR	11 36 10.1	
	comp=Z,160nm,18.8s,baz=285,slow=31						
SCHQ	**Schefferville**	**18.80**	**289**	P	**P**	**11 33 17.4**	**-0.2**
	0.2nm,0.3s,baz=87,slow=12,SNR=5.4						
SCHQ	**Schefferville**	**18.80**	**289**	P	**P**	**11 33 15.4**	**-2.1**
EKA	**Eskdalemuir Ar**	**18.85**	**69**	P	**P**	**11 33 17.3**	**-0.8**
	baz=286,slow=13,SNR=2.8						
FRB	**Frobisher Bay**	**20.51**	**316**	P	**P**	**11 33 35.1**	**-1.0**
	6.2nm,1.0s,baz=89,slow=9.8,SNR=5.3						
JMIC	**Jan Mayen**	**21.84**	**23**	LR	LR	11 39 36.1	
	comp=Z,129nm,18.4s,baz=246,slow=29						
ESDC	**Sonseca Array**	**24.96**	**109**	P	**P**	**11 34 19.6**	**-2.1**
	1.9nm,0.9s,baz=321,slow=8.6,SNR=4.7						
NOA	**NORSAR Array B**	**26.11**	**53**	LR	LR	11 42 51.6	
	comp=Z,151nm,20.1s,baz=240,slow=32						
HFS	**Hagfors**	**27.40**	**55**	LR	LR	11 43 54.8	
	comp=Z,174nm,18.1s,baz=332,slow=33						
CLL	**Collm**	**29.20**	**73**	*e*P	**P**	**11 34 58.0**	**-1.6**
	comp=Z,10.0nm,1.1s						
CLL				*e*		11 35 05.0	
SADO	**Sadowa**	**29.72**	**272**	LR	LR	11 46 24.7	
	comp=Z,268nm,19.6s,baz=14,slow=35						
GERES	**GERESS Array B**	**30.61**	**77**	P	**P**	**11 35 11.4**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=305,slow=9.4,SNR=5.9						
SPITS	**Spitsbergen Ar**	**31.25**	**18**	P	**P**	**11 35 17.1**	**-0.4**
	comp=Z,13nm,0.9s,baz=240,slow=12,SNR=3.2						
ARCES	**ARCESS Array B**	**31.99**	**35**	P	**P**	**11 35 23.1**	**-1.0**
	comp=Z,5.9nm,1.1s,baz=262,slow=6.3,SNR=2.7						
VRAC	**Vranov**	**32.12**	**75**	LR	LR	11 47 29.8	
	comp=Z,186nm,18.0s,baz=314,slow=35						
RES	**Resolute Bay**	**32.16**	**334**	P	**P**	**11 35 25.6**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=120,slow=9.8,SNR=4.9						
RES				LR	LR	11 46 18.1	
	comp=Z,99nm,20.2s,baz=252,slow=32						
FCC	**Fort Churchill**	**32.78**	**304**	P	**P**	**11 35 30.7**	**-0.3**
FCC				IAmb	IAmb	11 35 45.1	
	comp=Z,10nm,1.4s						
MCWV	**Mont Chateau**	**33.07**	**265**	P	**P**	**11 35 32.8**	**-1.0**
FINES	**FINESS Array B**	**33.16**	**50**	P	**P**	**11 35 33.5**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=289,slow=8.7,SNR=2.9						
FINES				LR	LR	11 47 00.3	
	comp=Z,271nm,19.4s,baz=264,slow=33						
OJC	**Ojcow**	**33.58**	**72**	P	**P**	**11 35 42.9**	**+4.7**
VYHS	**Vyhne**	**33.80**	**75**	*e*P	**P**	**11 35 40.4**	**+0.3**
KEST	**Kesra**	**35.43**	**101**	P	**P**	**11 35 53.7**	**-0.7**
	comp=Z,7.7nm,0.8s,baz=245,slow=8.9,SNR=3.8						
KWP	**Kalwaria Pacla**	**35.53**	**71**		**S**	**11 41 33.6**	**+3.7**
ULM	**Lac du Bonnet**	**36.95**	**291**	P	**P**	**11 36 07.6**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=76,slow=8.3,SNR=2.9						
TKL	**Tuckaleechee C**	**38.03**	**263**	LR	LR	11 50 20.0	
	comp=Z,339nm,19.8s,baz=350,slow=34						
TKL	**Tuckaleechee C**	**38.03**	**263**	P	P	11 36 11.1	-5.4
AKASG	**Malin Array Be**	**38.71**	**66**	P	**P**	**11 36 20.6**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=302,slow=8.6,SNR=4.4						
AKASG				LR	LR	11 51 25.6	
	comp=Z,176nm,18.9s,baz=260,slow=35						
YKA	**Yellowknife Ar**	**41.02**	**316**	P	**P**	**11 36 41.5**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=66,slow=8.2,SNR=3.7						
YKA				PcP	**PcP**	**11 38 39.9**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=62,slow=3.4,SNR=5.0						
SJG	**San Juan**	**42.20**	**227**	LR	LR	11 51 09.1	
	comp=Z,27nm,21.0s,baz=316,slow=32						
KIRV	**Kirov**	**45.03**	**47**	LR	LR	11 54 51.8	
	comp=Z,169nm,19.1s,baz=28,slow=35						
BR131	**Keskin Array S**	**47.51**	**77**	P	**P**	**11 37 33.4**	**0.0**
BR131				IAmb	IAmb	11 37 40.2	
	comp=Z,4.0nm,0.9s						
BRTR	**Keskin Array B**	**47.51**	**77**	P	**P**	**11 37 33.5**	**0.0**
	comp=Z,3.2nm,1.0s,baz=310,slow=5.8,SNR=12						
PDAR	**Pinedale Array**	**48.93**	**290**	P	**P**	**11 37 44.2**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=58,slow=9.1,SNR=4.2						
PDAR				LR	LR	11 55 57.2	
	comp=Z,78nm,19.4s,baz=35,slow=33						
TORD	**Torodi Ar. Bea**	**49.16**	**130**	P	**P**	**11 37 46.2**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=326,slow=9.4,SNR=5.0						
MDP	**Montagnes des**	**49.63**	**203**	LR	LR	11 52 36.8	
	comp=Z,58nm,19.9s,baz=312,slow=29						
KBZ	**Khabaz**	**50.31**	**67**	P	**P**	**11 37 56.0**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=281,slow=24,SNR=2.6						
NRIK	**Noril'sk**	**51.27**	**23**	P	**P**	**11 38 02.6**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=311,slow=7.6,SNR=2.5						
ILAR	**Eielson Array**	**51.65**	**330**	P	**P**	**11 38 05.0**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=57,slow=6.6,SNR=1.2						
TEIG	**Tepich**	**52.05**	**252**	LR	LR	12 00 45.4	
	comp=Z,140nm,18.1s,baz=48,slow=37						
GNI	**Garni**	**53.69**	**69**	LR	LR	12 01 24.2	
	comp=Z,90nm,20.7s,baz=3.5,slow=36						
AKTO	**Aktyubinsk**	**53.90**	**52**	LR	LR	11 59 30.1	
	comp=Z,199nm,20.1s,baz=9.7,slow=34						
TXAR	**Lajitas Array**	**54.49**	**273**	P	**P**	**11 38 26.5**	**+0.5**
	comp=Z,0.2nm,0.8s,baz=70,slow=8.8,SNR=2.7						
TIXI	**Tiksi**	**55.40**	**6**	P	**P**	**11 38 32.4**	**+0.5**
TIXI				IAmb	IAmb	11 38 39.1	
	comp=Z,5.4nm,0.9s						
NVAR	**Mina Array Bea**	**56.78**	**291**	P	**P**	**11 38 42.5**	**0.0**
	comp=Z,0.2nm,0.7s,baz=72,slow=5.8,SNR=2.3						
APG	**El Apazote**	**57.44**	**251**	LR	LR	12 03 17.9	
	comp=Z,65nm,20.2s,baz=68,slow=36						
ROSC	**El Rosal**	**57.59**	**228**	P	**P**	**11 38 50.0**	**+1.4**
	comp=Z,6.6nm,0.4s,baz=24,slow=20,SNR=2.0						
JTS	**Las Juntas de**	**58.22**	**242**	LR	LR	12 01 29.9	
	comp=Z,83nm,19.0s,baz=90,slow=34						
CMIG	**Matias Romero**	**58.37**	**256**	LR	LR	12 04 45.9	
	comp=Z,46nm,18.0s,baz=34,slow=37						
ZALV	**Zalesovo Beam**	**62.55**	**35**	P	**P**	**11 39 21.2**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=330,slow=5.2,SNR=4.1						
GEYT	**Alibeck**	**62.68**	**63**	P	**P**	**11 39 23.0**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=292,slow=7.8,SNR=6.3						
MK31	**Makanchi Array**	**67.38**	**41**	P	**P**	**11 39 53.4**	**+0.1**
MK31				IAmb	IAmb	11 39 59.4	
	comp=Z,4.4nm,1.1s						
MKAR	**Makanchi Array**	**67.38**	**41**	P	**P**	**11 39 53.1**	**-0.2**
	comp=Z,3.0nm,1.0s,baz=320,slow=5.5,SNR=8.5						
KSH	**Kashi**	**70.49**	**50**	P	**P**	**11 40 12.8**	**-0.1**
KSH				sP	PcP	11 40 27.5	-6.7
KSH				S	**S**	**11 49 19.8**	**-5.8**
KSH				sS	sS	11 49 36.4	+5.5
KSH				pmax	pmax		
	comp=Z,200nm,5.1s						
KSH				LR	LR		
	comp=N,820nm,5.7s						
KSH				LR	LR		
	comp=E,1μm,5.9s						
KSH				LR	LR		
	comp=Z,690nm,6.8s						
SONM	**Songino Array**	**74.57**	**26**	P	**P**	**11 40 36.5**	**-0.6**
	comp=Z,3.6nm,1.0s,baz=323,slow=6.3,SNR=14						
ULN	**Ulaanbaatar**	**74.72**	**25**	P	**P**	**11 40 38.5**	**+0.6**
ULN				IAmb	IAmb	11 40 45.5	
	comp=Z,7.2nm,1.0s						
GTA	**Gaotai**	**80.25**	**34**	*e*P	**P**	**11 41 11.8**	**+2.8**
GTA				pP	PcP	11 41 15.4	-0.8
GTA				sP	pwP	11 41 17.9	+1.5
GTA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
LZH	**Lanzhou**	**84.60**	**32**	*e*P	**P**	**11 41 33.6**	**+1.8**
LZH				pP	pwP	11 41 39.3	+0.1
LZH				sP	sP	11 41 43.3	+7.1
LZH				pmax	pmax		
	comp=Z,12nm,1.3s						
WHN	**Wuhan**	**92.89**	**26**	P	P	11 42 27.5	+16
WRA	**Warramunga Arr**	**146.26**	**18**	PKPbc	**PKPdf**	**11 48 37.9**	**+0.2**
	comp=Z,8.8nm,0.8s,baz=340,slow=3.1,SNR=15						
ASAR	**Alice Springs**	**149.79**	**21**	PKPbc	**PKPbc**	**11 48 47.1**	**-1.1**
	comp=Z,2.2nm,1.0s,baz=328,slow=2.3,SNR=13						

*IDC **24** 11:37:05.4±3.4,52.86N×34.56W,h0km,mb3.5/5, mb1 3.6/5,mb1mx3.3/60,mbtmp3.6/5,Error ellipse: s-maj=107.8km s-min=29.8km az=17.0*

ISC 24 11:37:06.9±2.9,52.9N±0.6×34.6W±0.2,h10km,n7,σ1$24/7, mb3.8/4,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRB	**Frobisher Bay**	**20.63**	**315**	P	**P**	**11 41 46.6**	**+0.5**
	1.7nm,0.3s,baz=94,slow=13,SNR=8.8						
YKA	**Yellowknife Ar**	**41.15**	**316**	P	**P**	**11 44 50.6**	**-0.1**
	0.1nm,0.4s,baz=62,slow=9.2,SNR=2.9						
BRTR	**Keskin Array B**	**47.19**	**78**	P	**P**	**11 45 40.5**	**+0.8**
	0.7nm,0.7s,baz=297,slow=6.3,SNR=4.0						
KURBB	**Kurchatov Arra**	**62.54**	**41**	P	**P**	**11 47 29.0**	**-1.4**
	0.4nm,0.3s,baz=318,slow=7.5,SNR=4.2						
SONM	**Songino Array**	**74.34**	**26**	P	**P**	**11 48 45.4**	**+1.0**
	0.9nm,1.0s,baz=347,slow=4.4,SNR=3.7						
WRA	**Warramunga Arr**	**146.06**	**19**	PKPbc	**PKPdf**	**11 56 46.4**	**+0.3**
	0.8nm,0.8s,baz=334,slow=3.2,SNR=5.4						
ASAR	**Alice Springs**	**149.58**	**21**	PKPbc	**PKPbc**	**11 56 55.0**	**-1.4**
	0.8nm,0.9s,baz=343,slow=1.3,SNR=5.5						

*SOME **24** 11:37:13.4,40.80N×69.62E,h20km*
*KRNET **24** 11:37:13.1±0.1,41.06N×69.53E,mb2.7*
*NNC **24** 11:37:19.5±6.0,41.14N×69.64E,h0km,mb3.2,mpv2.9, Error ellipse: s-maj=41.2km s-min=30.1km az=51.0*

ISC 24 11:37:15.4±2.0,41.02N±0.06×69.62E±0.09,h4km±12km, n12,σ1$89/20,10C-3D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**luzhnay**	**1.17**	**15**	*e*P	**Pg**	**11 37 39.7**	**+1.9**
	10.0nm,0.3s						
IUG				*e*S	**Sn**	**11 37 58.5**	**+3.5**
	103nm,0.4s						
IUG	**luzhnay**	**1.17**	**15**	P	**Pg**	**11 37 39.7**	**+1.9**
	10.0nm,0.3s						
IUG				S	**Sb**	**11 37 51.4**	**-2.3**
	32nm,0.9s						
BTK	**Batken**	**1.33**	**136**	⇑*i*P	**Pn**	**11 37 40.0**	**-0.7**
	baz=35						
BTK				⇑*i*S	**Sg**	**11 37 59.4**	**+1.4**
	baz=35						
ARK	**Arkit**	**1.93**	**65**	⇓*i*P	**Pb**	**11 37 49.8**	**-1.3**
	baz=68						
ARK				⇓*i*S	**Sb**	**11 38 17.2**	**+1.6**
	baz=68						
BRLS	**Borolday**	**2.02**	**5**	*e*P	**Pn**	**11 37 48.4**	**-1.7**
	4.7nm,0.3s						
BRLS				*e*S	**Sn**	**11 38 14.2**	**-1.5**
	17nm,0.6s						
KK31	**Karatay Array**	**2.19**	**17**	Pn	**Pb**	**11 37 55.2**	**-0.2**
	1.7nm,0.3s,baz=208,slow=19,SNR=56						
KK31				⇓Sn	**Sg**	**11 38 25.0**	**-0.5**
	7.7nm,0.4s,baz=200,slow=27,SNR=18						
ARSB	**Arslanbob**	**2.56**	**82**	⇑*i*P	**Pn**	**11 37 59.3**	**+1.6**
	baz=83						
ARSB				⇑*i*S	**Sb**	**11 38 32.5**	**-1.3**
	baz=83						
MRKS	**Merke**	**3.20**	**56**	Pg	**Pb**	**11 38 12.8**	**0.0**
	2.6nm,0.4s						
MRKS				Lg	Lg	11 38 48.4	
	3.1nm,0.5s						
AML	**Almayashu**	**3.25**	**69**	⇑*i*P	**Pn**	**11 38 09.3**	**+1.8**
	baz=70						
AML				⇑*i*S	**Sb**	**11 38 53.3**	**-0.7**
	baz=70						
AAK	**Ala-Archa**	**3.99**	**64**	⇑Pg	**Pb**	**11 38 27.3**	**+1.0**
	1.2nm,0.4s						
AAK				⇑Lg	Lg	11 39 24.4	
	1.8nm,0.6s						
SGDS	**Sogindy**	**4.45**	**55**	Pg	**Pg**	**11 38 39.1**	**-1.4**
	1.4nm,0.8s						
SGDS				Lg	Lg	11 39 33.2	
	1.8nm,0.6s						
TKM2	**Tokmak 2**	**4.85**	**65**	⇑Pg	**Pg**	**11 38 45.3**	**-2.9**
	1.3nm,0.7s						
TKM2				⇑Lg	Lg	11 39 54.1	
	1.6nm,0.6s						

IDC 24 11:42:36.6±1.8,5.97S×146.58E,h0km,mb3.3/3, mb1 3.6/5,mb1mx3.4/37,mbtmp3.4/5,ML3.4/1,Error ellipse: s-maj=53.3km s-min=28.2km az=118.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.46**	**171**	Pn	Pn	11 43 33.5	+1.7
	1.5nm,0.3s,baz=339,slow=13,SNR=6.5						
PMG				Sn	Sn	11 44 06.1	-7.5
	6.2nm,0.3s,baz=168,slow=20,SNR=25						
WRA	**Warramunga Arr**	**18.29**	**219**	P	Pn	11 46 51.1	-1.0
	0.1nm,0.3s,baz=46,slow=12,SNR=5.7						
ASAR	**Alice Springs**	**21.41**	**213**	P	P	11 47 25.4	-0.9
	0.4nm,0.5s,baz=52,slow=9.0,SNR=18						
FITZ	**Fitzroy Crossi**	**23.73**	**238**	P	P	11 47 51.0	+0.4
	0.7nm,0.5s,baz=45,slow=14,SNR=3.5						
ILAR	**Eielson Array**	**85.62**	**23**	P	P	11 55 16.9	+0.1
	0.3nm,0.9s,baz=231,slow=5.7,SNR=4.2						

*SOME **24** 11:47:45.6,42.47N×84.52E,h5km*
*NNC **24** 11:47:46.7±1.7,42.37N×84.35E,h0km,mb3.4,mpv3.0, Error ellipse: s-maj=13.1km s-min=6.5km az=133.0*

ISC 24 11:47:43.6±3.5,42.4N±0.1×84.6E±0.1,h10km,n9, σ1$31/15,1C-5D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**3.82**	**283**	*e*P	**Pb**	**11 48 50.7**	**-0.5**
	6.8nm,0.1s						
SHLS				*e*S	**Sb**	**11 49 37.8**	**+0.2**
	41nm,0.3s						
PDGK	**Podgornoye**	**3.83**	**285**	⇑Pg	**Pb**	**11 48 54.1**	**+2.7**
	2.8nm,0.8s						
PDGK				⇓Lg	Lg	11 49 44.9	
	15nm,0.7s						
DJR	**Jarkent**	**3.96**	**300**	*e*P	**Pg**	**11 48 57.8**	**-1.7**
	0.8nm,0.1s						
DJR				*e*S	**Sg**	**11 49 49.6**	**-1.2**
	8.8nm,0.3s						
UZB	**Uzynbulak**	**4.14**	**282**	*e*P	**Pg**	**11 49 02.3**	**-0.6**
	1.6nm,0.2s						
UZB				*e*S	**Sg**	**11 49 57.7**	**+1.2**
	9.2nm,0.4s						
KPKS	**Kokpek**	**4.44**	**285**	*e*P	**Pg**	**11 49 07.7**	**-0.8**
	3.2nm,0.1s						
KPKS				*e*S	**Sg**	**11 50 06.7**	**+0.6**
	25nm,0.3s						
SATY	**Saty**	**4.58**	**280**	*e*P	**Pg**	**11 49 09.7**	**-1.6**
	2.7nm,0.1s						
SATY				*e*S	**Sg**	**11 50 10.0**	**-0.6**
	7.4nm,0.2s						
MK31	**Makanchi Array**	**4.65**	**340**	⇓Pg	**Pg**	**11 49 11.9**	**-0.7**
	1.0nm,0.3s,baz=155,slow=16,SNR=19						
MK31				⇓Lg	Lg	11 50 14.8	
	11nm,0.6s,baz=160,slow=29,SNR=10						
KAPS	**Kapalarasan**	**4.72**	**309**	*e*P	**Pg**	**11 49 13.2**	**-0.8**
	0.7nm,0.1s						
KAPS				*e*S	**Sg**	**11 50 16.0**	**+0.9**
	7.0nm

AKASG LR LR 12 14 47.5
comp=Z,212nm,18.6s,baz=290,slow=36
YKA Yellowknife Ar 41.10 316 P **P** **11 59 42.2 +0.3**
comp=Z,0.7nm,1.0s,baz=65,slow=8.4,SNR=5.6
INK Inuvik 45.35 329 P **P** **12 00 15.3 -0.8**
comp=Z,1.5nm,1.0s,baz=56,slow=7.3,SNR=3.1
BR131 Keskin Array S 47.47 77 P **P** **12 00 33.3 -0.1**
BR131 IAmb IAmb 12 00 36.6
comp=Z,4.8nm,1.3s
BRTR Keskin Array B 47.47 77 P **P** **12 00 33.3 -0.1**
comp=Z,2.0nm,0.9s,baz=316,slow=6.9,SNR=8.9
PDAR Pinedale Array 49.00 290 P **P** **12 00 45.3 +0.1**
comp=Z,0.2nm,0.5s,baz=55,slow=7.9,SNR=2.7
PDAR LR LR 12 20 03.1
comp=Z,105nm,19.8s,baz=40,slow=34
TORD Torodi Ar. Bea 49.09 130 P **P** **12 00 45.7 -0.2**
comp=Z,1.5nm,0.8s,baz=328,slow=8.0,SNR=5.9
KBZ Khabaz 50.29 67 P **P** **12 00 54.1 -0.6**
comp=Z,0.7nm,0.4s,baz=300,slow=7.2,SNR=4.0
ARU Arti 50.32 46 P **P** **12 00 54.4 -0.4**
comp=Z,0.9nm,0.3s,baz=352,slow=4.6,SNR=4.1
NRIK Noril'sk 51.30 23 P **P** **12 01 01.4 -0.6**
comp=Z,0.5nm,0.3s,baz=354,slow=9.2,SNR=2.2
NRIK LR LR 12 21 23.3
comp=Z,61nm,19.1s,baz=1.0,slow=34
ILAR Eielson Array 51.73 330 P **P** **12 01 04.8 -0.5**
comp=Z,0.5nm,0.9s,baz=44,slow=7.9,SNR=2.8
DBIC Dimbokro 52.08 141 LR LR 12 22 14.9
comp=Z,111nm,18.4s,baz=330,slow=35
AKTO Aktyubinsk 53.89 52 P **P** **12 01 21.7 +0.2**
comp=Z,1.4nm,0.7s,baz=321,slow=9.3,SNR=5.1
TXAR Lajitas Array 54.55 273 LR LR 12 23 43.3
comp=Z,82nm,18.3s,baz=0.0,slow=35
NVAR Mina Array Bea 56.85 291 LR LR 12 25 13.4
comp=Z,79nm,18.4s,baz=12,slow=35
ROSC El Rosal 57.59 228 P **P** **12 01 49.4 +0.5**
comp=Z,7.6nm,0.4s,baz=25,slow=8.5,SNR=2.5
ROSC LR LR 12 23 48.8
comp=Z,34nm,21.7s,baz=24,slow=33
ZALV Zalesovo Beam 62.56 35 P **P** **12 02 23.0 +1.0**
comp=Z,0.7nm,0.3s,baz=290,slow=6.0,SNR=5.5
GEYT Alibeck 62.66 63 P **P** **12 02 23.0 0.0**
comp=Z,2.6nm,0.8s,baz=305,slow=10,SNR=4.9
GYA0B ALIBECK ARRAY 62.66 63 P **P** **12 02 22.7 -0.3**
KURK Kurchatov 62.80 41 P **P** **12 02 22.7 -1.0**
KURK IAmb IAmb 12 02 24.6
comp=Z,3.4nm,0.7s
KK31 Karatay Array 65.12 51 P **P** **12 02 40.0 +1.0**
KK31 IAmb IAmb 12 02 41.7
comp=Z,1.3nm,0.9s
KKAR Karatay Array 65.12 51 P **P** **12 02 40.0 +1.0**
KKAR IAmb IAmb 12 02 41.7
comp=Z,1.3nm,0.9s
MKAR Makanchi Array 67.39 41 P **P** **12 02 53.8 +0.2**
comp=Z,1.5nm,0.9s,baz=335,slow=5.4,SNR=6.8
PETK Petropavlovsk- 74.06 352 LR LR 12 35 07.5
comp=Z,61nm,19.8s,baz=61,slow=35
LPAZ La Paz 74.41 213 LR LR 12 32 23.2
comp=Z,58nm,21.4s,baz=6.0,slow=33
SONM Songino Array 74.60 26 P **P** **12 03 38.2 +0.7**
comp=Z,1.2nm,0.8s,baz=323,slow=5.3,SNR=6.4
LSZ Lusaka 86.71 120 LR LR 12 41 07.5
comp=Z,48nm,18.4s,baz=334,slow=34
PLCA Paso Flores 97.99 206 LR LR 12 48 02.3
comp=Z,57nm,18.1s,baz=55,slow=34
WRA Warramunga Arr 146.30 18 PKPbc **PKPbc** **12 11 39.2 0.0**
comp=Z,1.7nm,0.8s,baz=344,slow=3.2,SNR=9.4
ASAR Alice Springs 149.83 21 PKPbc **PKPbc** **12 11 48.4 -0.2**
comp=Z,1.0nm,0.9s,baz=348,slow=2.7,SNR=9.1

*ISCJB **24** 12:06:08.6±0.3, 10°.35N±0°.04×126°.88E±0°.04, h10km, mb4.2/21, MS3.1/7, Error ellipse: s-maj=6.0km s-min=4.8km az=152.1*
*IDC **24** 12:06:08.6±0.5, 10°.32N×126°.75E, h0km, mb4.3/21, mb1 4.4/22, mb1mx4.3/42, mbtmp4.3/22, ML4.2/1, MS3.2/9, Ms1 3.2/9, ms1mx3.0/45, Error ellipse: s-maj=26.4km s-min=10.4km az=78.0*
*DJA **24** 12:06:11.3±2.7, 10°N±5°×12°7E±°, h12km±17km, M5.0/13, mbB5.3/4, mb5.2/13, Mw(mB)4.7/4, Mwp5.2/1*
*NEIC **24** 12:06:12.8±1.1, 10°.34N±0°.08×126°.8E±0°.1, h27km±5km, mb4.7/28*

ISC 24 12:06:10.4±0.4, 10°.29N±0°.05×126°.80E±0°.05, h10km, n72, σ1s16/71, mb4.5/32, MS3.1/7, 4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.39**	**249**	⇓P	**Pg**	**12 06 37.5**	**+0.5**
SCPH				S	**Sg**	**12 06 54.1**	**-0.9**
LLP	**Lapu-Lapu**	**2.79**	**271**	⇓P	**Pn**	**12 06 57.8**	**+2.7**
LLP				S	**Sn**	**12 07 29.8**	**+1.0**
KCP	**Kidapawan**	**3.67**	**208**	⇓P	**Pn**	**12 07 11.8**	**-3.7**
RCP	**Roxas**	**4.17**	**288**	⇓P	**Pn**	**12 07 16.5**	**+2.3**
TNTI	**Ternate**	**9.47**	**177**	P	**Pn**	**12 08 28.2**	**+1.2**
	88nm,0.6s,1μm						
TNTI	**Ternate**	**9.47**	**177**		**Pn**	**12 08 28.2**	**+1.2**
SIJI	**Sorong**	**11.95**	**158**	Pn	**Pn**	**12 09 01.6**	**+0.7**
	1.4nm,0.3s,baz=356,slow=15,SNR=3.9						
SIJI				LR	LR	12 14 02.2	
	comp=Z,76nm,20.1s,baz=28,slow=40						
LUWI	**Luwuk**	**11.95**	**200**	Pn	**Pn**	**12 08 59.7**	**-1.3**
SANI	**Sanana**	**12.29**	**184**	P	**Pn**	**12 09 02.6**	**-3.0**
	34nm,0.7s						
NLAI	**Namlea**	**13.45**	**179**	P	**Pn**	**12 09 19.1**	**-2.3**
FAKI	**Fak Fak**	**14.20**	**157**	Pn	**Pn**	**12 09 33.7**	**+1.9**
SMPI	**Sarmi**	**17.01**	**135**	P	**P**	**12 10 10.7**	**+0.2**
	51nm,1.2s						
KSM	**Kuching**	**18.58**	**243**	P	**Pn**	**12 10 31.2**	**+3.2**
KSM				IAmb	IAmb	12 10 33.4	
	comp=Z,27nm,0.8s						
JAY	**Jayapura**	**18.80**	**132**	LR	LR	12 16 54.3	
	comp=Z,92nm,20.0s,baz=12,slow=34						
SOEI	**Soe**	**20.07**	**187**	P	Pn	12 10 46.8	+0.7
	comp=Z,56nm,0.8s						
SOEI	**Soe**	**20.07**	**187**	P	Pn	12 10 47.0	+0.9
SOEI				IAmb	IAmb	12 11 00.4	
	comp=Z,36nm,0.6s						
BATI	**Baumata**	**20.60**	**189**	P	**P**	**12 10 51.3**	**+1.4**
BATI				LR	LR	12 19 55.6	
	comp=Z,40nm,21.6s,baz=350,slow=40						
BATI	**Baumata**	**20.60**	**189**	P	**P**	**12 10 51.3**	**+1.4**
	comp=Z,109nm,0.7s,comp=Z,92nm						
JCJ	**Chichijima**	**22.14**	**39**	LR	LR	12 18 20.5	
	comp=Z,78nm,19.1s,baz=138,slow=33						
JNU	**Nakatsue**	**23.03**	**9**	P	**P**	**12 11 15.3**	**-0.4**
	comp=Z,24nm,0.9s,baz=182,slow=4.0,SNR=7.7						
JNU				LR	LR	12 18 59.3	
	comp=Z,53nm,20.4s,baz=203,slow=34						
JNU	**Nakatsue**	**23.03**	**9**	P	**P**	**12 11 15.4**	**-0.4**
JNU				IAmb	IAmb	12 11 17.8	
	comp=Z,34nm,1.0s						
MTN	**Manton Dam**	**23.38**	**169**	P	**P**	**12 11 20.6**	**+1.1**
MTN				IAmb	IAmb	12 11 22.6	
	comp=Z,35nm,1.0s						
PBKT	**Sadao Pong**	**25.87**	**287**	P	**P**	**12 11 42.6**	**0.0**
KNRA	**Kununurra**	**25.87**	**176**	P	**P**	**12 11 42.5**	**0.0**
KSRS	**Korea Array**	**27.06**	**2**	P	**P**	**12 11 52.5**	**-0.5**
	comp=Z,5.1nm,0.9s,baz=174,slow=10,SNR=15						
KSRS				LR	LR	12 23 22.0	
	comp=Z,93nm,18.9s,baz=160,slow=38						
MJAR	**Matsushiro Arr**	**28.10**	**20**	LR	LR	12 21 24.4	
	comp=Z,51nm,21.5s,baz=220,slow=33						
CMAR	**Chiang Mai Arr**	**28.15**	**290**	P	**P**	**12 12 01.7**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=92,slow=8.1,SNR=4.1						
PMG	**Port Moresby**	**28.17**	**133**	LR	LR	12 24 53.9	
	comp=Z,32nm,18.1s,baz=9.5,slow=40						
FITZ	**Fitzroy Crossi**	**28.23**	**182**	P	**P**	**12 12 03.0**	**-0.7**
	comp=Z,5.6nm,0.9s,baz=14,slow=8.6,SNR=7.0						
FITZ	**Fitzroy Crossi**	**28.23**	**182**	P	**P**	**12 12 03.7**	**0.0**
WRAB	**Tennant Creek**	**30.94**	**166**	P	**P**	**12 12 26.7**	**-1.0**
WRAB				IAmb	IAmb	12 12 34.1	
	comp=Z,6.7nm,0.5s						
WRA	**Warramunga Arr**	**30.95**	**166**	P	**P**	**12 12 26.4**	**-1.5**
	comp=Z,2.7nm,0.5s,baz=348,slow=9.2,SNR=19						
WRA				PcP	**PcP**	**12 15 24.1**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=325,slow=3.8,SNR=4.2						
WR0	**Warramunga Arr**	**31.01**	**166**	P	**P**	**12 12 29.6**	**+1.2**
PSA00	**Pilbara Seismi**	**32.39**	**192**	P	**P**	**12 12 40.7**	**+0.1**
PSA00				IAmb	IAmb	12 12 41.1	
	comp=Z,7.2nm,0.7s						
USRK	**Ussuriysk Ar.**	**34.08**	**7**	P	**P**	**12 12 54.2**	**-0.8**
	comp=Z,4.5nm,0.9s,baz=190,slow=7.3,SNR=4.9						
USRK				LR	LR	12 26 42.1	
	comp=Z,42nm,20.7s,baz=71,slow=36						
AS31	**Alice Springs**	**34.46**	**168**	P	**P**	**12 12 58.6**	**0.0**
ASAR	**Alice Springs**	**34.46**	**168**	P	**P**	**12 12 58.2**	**-0.4**
	comp=Z,3.1nm,0.5s,baz=353,slow=6.8,SNR=39						
ASAR				PcP	**PcP**	**12 15 34.0**	**0.0**
	comp=Z,1.0nm,0.6s,baz=344,slow=2.8,SNR=6.0						
CTA	**Charters Tower**	**35.75**	**148**	P	**P**	**12 13 09.9**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=358,slow=10,SNR=5.4						
MORW	**Morawa**	**40.48**	**195**	P	**P**	**12 13 49.9**	**+0.3**
MORW				IAmb	IAmb	12 14 08.0	
	comp=Z,35nm,1.4s						
FORT	**Forrest**	**40.85**	**178**	P	**P**	**12 13 53.2**	**+0.7**
SONM	**Songino Array**	**41.18**	**339**	P	**P**	**12 13 55.1**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=160,slow=10,SNR=9.2						
EIDS	**Eidsvold**	**42.62**	**147**	P	**P**	**12 14 07.5**	**+0.4**
BBOO	**Buckleboo**	**43.76**	**169**	P	**P**	**12 14 17.0**	**+0.8**
NWAO	**Narrogin (SRO)**	**43.93**	**192**	P	**P**	**12 14 18.2**	**+0.6**
NWAO	**Narrogin (SRO)**	**43.93**	**192**	P	**P**	**12 14 18.2**	**+0.6**
NWAO				IAmb	IAmb	12 14 24.3	
	comp=Z,30nm,1.4s						
STKA	**Stephens Creek**	**44.26**	**162**	P	**P**	**12 14 20.2**	**0.0**
	comp=Z,3.5nm,0.8s,baz=337,slow=8.0,SNR=9.5						
STKA	**Stephens Creek**	**44.26**	**162**	P	**P**	**12 14 20.2**	**0.0**
PETK	**Petropavlovsk-**	**49.41**	**24**	P	**P**	**12 15 00.4**	**+0.1**
	comp=Z,1.9nm,0.7s,baz=190,slow=5.6,SNR=3.6						
TOO	**Toolangi**	**50.73**	**161**	P	**P**	**12 15 11.3**	**+0.7**
MK31	**Makanchi Array**	**52.33**	**323**	P	**P**	**12 15 23.3**	**+0.8**
MK31				IAmb	IAmb	12 15 24.0	
	comp=Z,5.7nm,0.8s						
MKAR	**Makanchi Array**	**52.33**	**323**	P	**P**	**12 15 22.6**	**+0.2**
	comp=Z,7.0nm,0.8s,baz=118,slow=8.5,SNR=38						
MKAR				PcP	**PcP**	**12 16 33.3**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=142,slow=5.1,SNR=3.8						
MAKZ	**Makanchi**	**52.52**	**322**	P	**P**	**12 15 24.3**	**+0.4**
MAKZ				IAmb	IAmb	12 15 25.4	
	comp=Z,13nm,1.2s						
ZALV	**Zalesovo Beam**	**54.86**	**331**	P	**P**	**12 15 40.3**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=116,slow=6.6,SNR=8.6						
KURK	**Kurchatov**	**56.34**	**325**	P	**P**	**12 15 51.9**	**+0.3**
GAR	**Garm**	**57.68**	**310**	P	**P**	**12 16 02.9**	**+1.5**
GAR				IAmb	IAmb	12 16 05.6	
	comp=Z,9.9nm,1.1s						
KK31	**Karatay Array**	**58.61**	**314**	P	**P**	**12 16 06.5**	**-1.2**
KK31				IAmb	IAmb	12 16 09.4	
	comp=Z,6.0nm,1.4s						
KKAR	**Karatay Array**	**58.61**	**314**	P	**P**	**12 16 06.5**	**-1.2**
KKAR				IAmb	IAmb	12 16 09.4	
	comp=Z,6.0nm,1.4s						
BRVK	**Borovoye**	**62.02**	**325**	P	**P**	**12 16 31.1**	**+0.2**
NRIK	**Noril'sk**	**64.12**	**346**	P	**P**	**12 16 43.9**	**-0.6**
	comp=Z,3.2nm,0.9s,baz=130,slow=5.3,SNR=5.1						
ABKAR	**Akbulak array**	**67.20**	**319**	P	**P**	**12 17 04.7**	**-0.1**
CASY	**Casey**	**77.30**	**187**	P	**P**	**12 18 05.3**	**+0.6**
CASY				IAmb	IAmb	12 18 06.1	
	comp=Z,4.8nm,0.8s						
TOLK	**Toolik Lake Ar**	**78.16**	**22**	P	**P**	**12 18 10.4**	**+0.7**
TOLK				IAmb	IAmb	12 18 26.4	
	comp=Z,5.9nm,1.3s						
ILAR	**Eielson Array**	**79.19**	**26**	P	**P**	**12 18 14.7**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=238,slow=5.2,SNR=4.8						
ARCES	**ARCESS Array B**	**84.35**	**340**	P	**P**	**12 18 41.9**	**-0.6**
	comp=Z,6.5nm,0.9s,baz=72,slow=3.9,SNR=6.8						
BRTR	**Keskin Array B**	**85.92**	**309**	P	**P**	**12 18 50.1**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=109,slow=6.6,SNR=6.5						
FINES	**FINESS Array B**	**86.12**	**332**	P	**P**	**12 18 51.0**	**-0.5**
	comp=Z,9.1nm,1.0s,baz=84,slow=5.7,SNR=10.0						
FINES	**FINESS Array B**	**86.12**	**332**	P	**P**	**12 18 51.0**	**-0.5**
AKASG	**Malin Array Be**	**86.88**	**321**	P	**P**	**12 18 54.7**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=63,slow=4.5,SNR=2.4						
VNDA	**Vanda**	**89.89**	**173**	P	**P**	**12 19 09.4**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=12,slow=6.1,SNR=5.7						
YKA	**Yellowknife Ar**	**93.53**	**24**	P	**P**	**12 19 25.5**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=299,slow=4.9,SNR=7.6						
TORD	**Torodi Ar. Bea**	**120.74**	**292**	PKP	**PKPdf**	**12 25 03.0**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=104,slow=1.7,SNR=3.9						
PLCA	**Paso Flores**	**146.02**	**156**	PKPbc	**PKPdf**	**12 25 51.4**	**+1.2**
	comp=Z,2.8nm,0.7s,baz=271,slow=3.0,SNR=15						

DJA 24 12:07:36.8±3.2, 2°S±4°×11°9E±1°, h21km±36km, M3.1/6, MLv3.1/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tana Toraja**	**1.41**	**156**	P	Pn	12 08 00.3	-0.9
TTSI				S	Sb	12 08 19.7	-0.2
MPSI	**Mapaga**	**2.17**	**17**	P	Pn	12 08 11.1	-0.6
MPSI	**Mapaga**	**2.17**	**17**	P	Pn	12 08 08.9	-2.8
SPSI	**Sidrap Palu**	**2.26**	**167**	P	Pn	12 08 13.1	+0.1
APSI	**Ampana**	**2.54**	**71**	P	Sb	12 08 50.5	-2.0
BNSI	**Bone**	**2.77**	**162**	P	Pn	12 08 19.7	-0.3

TAP 24 12:33:07.1, 24°.43N×121°.74E, h7km, ML1.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.01**	**70**	*i* P	Pg	12 33 08.8	+0.4
	baz=87						
ENA				*i* S	Sg	12 33 09.9	+0.7
	baz=87						
NANB	**Nanao**	**0.01**	**84**	*i* P	Pg	12 33 08.8	+0.4
	baz=82						
NANB				S	Sg	12 33 09.9	+0.6
	baz=82						
ENTT	**Nioudou**	**0.26**	**324**	P	Pb	12 33 13.4	-0.9
	baz=325						
ENTT				*e*S	Sb	12 33 17.8	-1.2
	baz=325						
NDT	**Datong Townshi**	**0.27**	**311**	P	Pb	12 33 13.4	-0.9
	baz=310						
NDT				*e*S	Sb	12 33 18.6	-0.5
	baz=310						
ETLH	**Xiulin Townshi**	**0.32**	**227**	*e*P	Pb	12 33 14.4	-0.8
	baz=226						
ILA	**Ilan**	**0.34**	**2**	*e*S	Sb	12 33 19.9	-1.2
	baz=3.0						
EOS1	**EOS1**	**0.38**	**71**	*e*S	Sb	12 33 21.5	-0.7
	baz=71						
YHNB	**Yeheng**	**0.41**	**307**	*e*P	Pb	12 33 16.5	-0.2
	baz=306						

TAP 24 12:33:11.8, 24°.27N×121°.06E, h8km±1km, ML1.0, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TDCB	**Techi**	**0.10**	**100**	*e*P	Pg	12 33 15.3	+1.0
	baz=100						
TDCB				*e*S	Sg	12 33 17.0	+0.9
	baz=100						
WHP	**Taichung City**	**0.10**	**274**	P	Pg	12 33 15.0	+0.7
	baz=274						
WHP				S	Sg	12 33 16.9	+0.8
	baz=274						
WHF	**Hehuan Shan**	**0.23**	**123**	*e*P	Pg	12 33 18.1	+1.5
	baz=236						
WHF	**Hehuan Shan**	**0.23**	**123**	P	Pg	12 33 18.0	+1.4
	baz=122						
WHF				*e*S	Sg	12 33 21.6	+1.7
	baz=122						
CHGB	**Renai**	**0.23**	**152**	P	Pg	12 33 17.3	+0.7
	baz=152						
CHGB				*e*S	Sg	12 33 21.0	+1.1
	baz=152						
DPDB	**Guoxing**	**0.26**	**207**	*e*P	Pg	12 33 16.7	-0.4
	baz=206						
DPDB				*e*S	Sb	12 33 23.2	-0.3
	baz=206						
NNS	**Nan Shan**	**0.34**	**60**	*e*P	Pg	12 33 19.3	+0.8
	baz=60						
NNSH	**Datong**	**0.34**	**62**	*e*P	Pg	12 33 18.7	+0.2
	baz=62						
LIOB	**Emei**	**0.38**	**355**	*e*P	Pb	12 33 20.6	-0.1
	baz=354						
YHNB	**Yeheng**	**0.49**	**36**	*e*P	Pg	12 33 21.5	+0.1
	baz=36						

*NNC **24** 12:40:19.1±7.5, 37°.25N×73°.65E, h229km±57km, mb4.3, mpv5.2, Error ellipse: s-maj=65.4km s-min=46.1km az=16.0*
*ISCJB **24** 12:40:30.9±0.2, 38°.28N±0°.02×74°.07E±0°.02, h123km±2km, mb4.7/117, Error ellipse: s-maj=3.0km s-min=2.3km az=139.8*

*IDC **24** 12:40:31.7±1.7, 38°.22N×74°.05E, h122km±15km, mb4.2/37, mb1 4.3/42, mb1mx4.2/57, mbtmp4.6/42, MS3.8/13, Ms1 3.8/13, ms1mx3.4/45, Error ellipse: s-maj=10.5km s-min=7.7km az=4.0*
*SOME **24** 12:40:31.6, 39°.08N×73°.38E, h15km*
*MOS **24** 12:40:32.0±1.1, 38°.35N×74°.12E, h133km, mb4.7/33, Error ellipse: s-maj=5.3km s-min=3.7km az=109.4*
*BJI **24** 12:40:33.0±0.0, 38°.39N×74°.08E, h140km, mb4.7/51, mB5.0/36*
*NEIC **24** 12:40:33.7±2.1, 38°.36N±0°.03×73°.94E±0°.07, h136km±4km, mb4.9/114*
*GCMT **24** 12:40:35.7±0.3, 38°.33N±0°.02×73°.83E±0°.03, h129km±3km, MW4.9/106, Moment Tensor Solution. s21,c22; s106,c131; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.17±.10; Mθθ-1.86±.18; Mφφ-0.31±.15; Mrθ-1.54±.09; Mθφ-1.18±.12; Mφr-0.51±.08; Best double couple: M◎2.84400×10^16 NP1:ϕs248.00000°, δ63.00000°, λ97.00000°. NP2:ϕs54.00000°, δ28.00000°, λ78.00000°. Principal axes: T 2.6950, Plg72.0000°, Azm173.0000°; N 0.2980, Plg6.0000°, Azm65.0000°; P -2.9930, Plg17.0000°, Azm333.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 12:40:32.3±0.3, 38°.27N±0°.03×74°.05E±0°.03, h127km±3km, h127km:pP-P, n465, σ2s10/544, mb4.8/162, 28C-23D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.95**	**50**	⇑*i*P	**Pn**	**12 41 01.6**	**-4.0**
KSH				S	**Sn**	**12 41 22.3**	**-8.8**
KSH				smax	smax		
	comp=N,26μm,0.4s						
KSH				smax	smax		
	comp=E,13μm,0.3s						
GAR	**Garm**	**3.01**	**285**		**Pn**	**12 41 18.7**	**-0.3**
GAR				Sn	**Sn**	**12 41 54.4**	**-0.7**
BTK	**Batken**	**3.08**	**306**	PN	**Pn**	**12 41 20.5**	**+0.6**
BTK						12 41 56.7	
BTK	**Batken**	**3.08**	**306**		**Pn**	**12 41 20.6**	**+0.6**
BTK				Sn	**Sn**	**12 41 56.6**	**0.0**
ARSB	**Arslanbob**	**3.16**	**345**		**Pn**	**12 41 20.8**	**-0.2**
ARSB				Sn	**Sn**	**12 41 56.2**	**-2.4**
CHGR	**Chuyangaron**	**3.86**	**277**		**Pn**	**12 41 29.4**	**-0.7**
CHGR				Sn	**Sn**	**12 42 13.3**	**-1.7**
AML	**Almayashu**	**3.87**	**356**	P	**Pn**	**12 41 30.4**	**-0.1**
	SNR=1641						
KZA	**Kyzart**	**3.91**	**13**	P	**Pn**	**12 41 31.1**	**-0.1**
	SNR=712						
UCH	**Uchtor**	**3.97**	**5**	P	**Pn**	**12 41 32.1**	**+0.2**
	SNR=682						
SRNI	**Srinagar**	**4.21**	**171**	*ex*	Sn	12 42 14.0	-9.2
ULHL	**Ulahol**	**4.31**	**22**	P	**Pn**	**12 41 36.4**	**+0.2**
	SNR=19						
AAK	**Ala-Archa**	**4.38**	**4**	*e*PN	**Pn**	**12 41 35.9**	**-1.2**
AAK				pmax	pmax		
	comp=Z,470nm,1.7s						
AAK	**Ala-Archa**	**4.38**	**4**	P	**Pn**	**12 41 37.4**	**+0.4**
	comp=Z,108nm,0.3s,baz=149,slow=7.1,SNR=639						
AAK				S	**Sn**	**12 42 27.8**	**+0.4**
	comp=Z,105nm,0.3s,baz=198,slow=20,SNR=9.5						
AAK	**Ala-Archa**	**4.38**	**4**	P	**Pn**	**12 41 37.5**	**+0.4**
	SNR=272						
AAK	**Ala-Archa**	**4.38**	**4**		**Pn**	**12 41 37.4**	**+0.4**
AAK				Sn	**Sn**	**12 42 23.4**	**-4.1**
AAK	**Ala-Archa**	**4.38**	**4**	⇓P	**Pn**	**12 41 37.4**	**+0.4**
	comp=Z,78nm,0.3s,baz=136,slow=19						
AAK				⇑S	Sn	12 42 45.3	+18
	comp=Z,857nm,0.7s,baz=136,slow=19						
EKS2	**Erkin-Say**	**4.39**	**357**	P	**Pn**	**12 41 37.7**	**+0.4**
	SNR=384						
KBK	**Karagaybulak**	**4.44**	**9**	P	**Pn**	**12 41 38.5**	**+0.6**
	SNR=455						
TARG	**Taragay, Kyrgy**	**4.50**	**39**		**Pn**	**12 41 39.3**	**+0.3**
TARG				Sn	**Sn**	**12 42 29.3**	**-1.4**
MRKS	**Merke**	**4.51**	**352**	*e*P	**Pn**	**12 41 39.3**	**+0.4**
	comp=Z,3μm,0.3s						
MRKS				*e*S	**Sn**	**12 42 27.9**	**-2.7**
	comp=Z,3μm,0.4s						
KDJ	**Kajisay**	**4.54**	**31**	PN	**Pn**	**12 41 39.6**	**+0.3**
KDJ						12 42 34.4	
KDJ	**Kajisay**	**4.54**	**31**		**Pn**	**12 41 39.6**	**+0.3**
KDJ				Sn	**Sn**	**12 42 34.4**	**+3.0**
FRU1	**Bishkek**	**4.56**	**5**	PN	**Pn**	**12 41 40.2**	**+0.8**
FRU1						12 42 29.7	
FRU1	**Bishkek**	**4.56**	**5**		**Pn**	**12 41 40.2**	**+0.8**
FRU1				Sn	**Sn**	**12 42 29.7**	**-1.9**
CHCP	**Chirah Chowk**	**4.64**	**188**	P	**Pn**	**12 41 44.3**	**+3.7**
NIL	**Nilore**	**4.65**	**188**	PN	**Pn**	**12 41 44.3**	**+3.6**
NIL	**Nilore**	**4.65**	**188**		**Pn**	**12 41 44.3**	**+3.6**
NIL				Sn	**Sn**	**12 42 35.3**	**+1.4**
CHMS	**Chumysh**	**4.75**	**6**	P	**Pn**	**12 41 42.3**	**+0.3**
	SNR=112						
CEP	**Cherat**	**4.76**	**202**	P	**Pn**	**12 41 44.9**	**+2.6**
TAS	**Tashkent**	**4.78**	**311**	PN	**Pn**	**12 41 41.5**	**-0.7**
TAS	**Tashkent**	**4.78**	**311**		**Pn**	**12 41 41.5**	**-0.7**
TAS				Sn	**Sn**	**12 42 28.1**	**-8.6**
TKM2	**Tokmak 2**	**4.79**	**14**	PN	**Pn**	**12 41 43.0**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,145nm,0.6s						
TKM2	**Tokmak 2**	**4.79**	**14**	P	**Pn**	**12 41 43.0**	**+0.3**
	SNR=311						
TKM2	**Tokmak 2**	**4.79**	**14**	⇓P	**Pn**	**12 41 43.0**	**+0.3**
	comp=Z,145nm,0.7s,baz=136,slow=19						
TKM2				⇑S	Sn	12 42 56.7	+19
	comp=Z,666nm,1.0s,baz=136,slow=19						
IUG	**Iuzhnay**	**4.95**	**323**	*e*P	**Pn**	**12 41 44.4**	**-0.2**
	comp=Z,318nm,0.3s						
IUG				*e*S	**Sn**	**12 42 36.9**	**-4.1**
	comp=Z,8μm,0.6s						
KST	**Kastek**	**4.99**	**16**	*e*P	Pn	12 41 51.3	+6.1
	comp=Z,78nm,0.4s						
KST				*e*S	**Sn**	**12 42 48.8**	**+6.8**
	comp=Z,536nm,0.4s						
USP	**

SMLA eS Sn 12 43 38.6 -5.6
SMLA IAML 12 43 46.6
comp=N,1µm,0.5s
DDI Dehra Dun 8.59 156 eP Pn **12 42 33.8 +0.1**
DDI ex x 12 43 56.8
DDI IAmb IAmb 12 44 10.4
comp=N,2µm,0.5s
JOSI Joshimath 8.94 148 eP Pn **12 42 37.5 -1.0**
JOSI eP Pn **12 42 37.5 -1.0**
JOSI eS Sn **12 44 09.1 -8.5**
NDI New Delhi 9.92 164 eP Pn **12 42 51.5 0.0**
NDI ex x 12 44 38.0
AYAN Aya Nagar 10.09 164 eP Pn **12 42 53.2 -0.7**
AYAN eS Sn **12 44 37.1 -8.1**
AYAN IAML 12 44 43.3
comp=Z,182nm,0.5s
LGTI Lohaghat 10.19 148 ex Pn **12 42 52.3 -2.9**
LGTI ex Sn **12 44 45.2 -2.4**
HRA Herat 10.28 251 Pn **12 42 56.8 +0.2**
MAKZ Makanchi 10.34 32 P Pn **12 42 55.8 -1.3**
MAKZ Makanchi 10.34 32 Pn **12 42 55.8 -1.3**
MAKZ Makanchi 10.34 32 ⇓P Pn **12 42 55.7 -1.4**
comp=Z,83nm,1.3s,baz=136,slow=19
MK31 Makanchi Array 10.46 33 *i* P Pn **12 42 57.7 -1.0**
MK31 pmax pmax
comp=Z,101nm,1.1s
MK31 Makanchi Array 10.46 33 Pn **12 42 58.0 -0.7**
MK31 Makanchi Array 10.46 33 ⇑P Pn **12 42 57.0 -1.7**
comp=Z,101nm,1.1s,baz=136,slow=19,SNR=166
MKAR Makanchi Array 10.46 33 P Pn **12 42 58.2 -0.5**
comp=Z,1.1nm,0.3s,baz=212,slow=11,SNR=135
MKAR LR LR 12 47 17.2
comp=Z,227nm,18.5s,baz=234,slow=39
JASL Jaisalmer 11.62 194 eP Pn **12 43 13.1 -1.1**
WMQ Urumqi 11.70 57 eP Pn **12 43 15.8 +0.6**
WMQ sP P 12 43 53.8 +31
WMQ pmax pmax
comp=Z,8.0nm,1.1s
WMQ pmax pmax
comp=Z,82nm,3.7s
WMQ LR LR
comp=Z,100nm,3.9s
WMQ LR LR
comp=Z,390nm,4.0s
WMQ LR LR
comp=Z,440nm,4.0s
GEYT Alibeck 12.56 273 P Pn **12 43 23.0 -3.5**
comp=Z,5.2nm,0.3s,baz=98,slow=11,SNR=36
GEYT S Sn 12 45 34.3 -11
comp=Z,11nm,0.3s,baz=132,slow=14,SNR=6.8
GYA0B ALIBECK ARRAY 12.56 273 Pn **12 43 23.3 -3.2**
GYA0B Sn Sn 12 45 34.9 -10
KURBB Kurchatov Arra 12.76 13 P Pn **12 43 25.9 -3.0**
comp=Z,0.6nm,0.3s,baz=202,slow=12,SNR=70
KURBB Kurchatov Arra 12.76 13 ⇑P Pn **12 43 25.6 -3.3**
comp=Z,154nm,1.0s,baz=136,slow=19
DANN Dangsing 12.79 138 eP Pn **12 43 26.8 -3.0**
comp=Z,221nm,0.3s
KURK Kurchatov 12.86 13 *de*P Pn **12 43 27.1 -3.1**
KURK pmax pmax
comp=Z,85nm,1.3s
KURK Kurchatov 12.86 13 Pn **12 43 26.8 -3.4**
KURK Kurchatov 12.86 13 ⇓P Pn **12 43 27.4 -2.9**
comp=Z,157nm,1.0s,baz=136,slow=19
KOLN Koldanda 13.17 140 eP Pn **12 43 32.4 -2.3**
comp=Z,117nm,0.3s
GKN Gorkha 13.54 136 eP Pn **12 43 36.7 -2.6**
comp=Z,191nm,0.3s
KKN Kakani 14.06 135 eP Pn **12 43 43.1 -2.9**
comp=Z,92nm,0.5s
DMN Daman 14.10 136 eP Pn **12 43 44.2 -2.4**
comp=Z,66nm,0.4s
PKIN Phulchoki 14.29 135 eP Pn **12 43 46.2 -2.8**
PKI Pulchoki 14.30 135 eP Pn **12 43 46.4 -2.8**
comp=Z,15nm,0.6s
GUN Gumba 14.30 133 eP Pn **12 43 46.4 -2.9**
comp=Z,92nm,0.4s
JIRN Jiri 14.67 133 eP Pn **12 43 51.8 -2.2**
comp=Z,194nm,0.3s
AB31 Akbulak array 14.95 322 *i* P Pn **12 43 53.7 -3.3**
AB31 pmax pmax
comp=Z,83nm,0.6s
AB31 Akbulak array 14.95 322 ⇑P Pn 12 43 47.6 -9.3
comp=Z,83nm,0.6s,baz=136,slow=19,SNR=1460
AB31 ⇓S Sn **12 46 36.4 -5.9**
comp=Z,65nm,0.6s,baz=136,slow=19,SNR=16
ABKAR Akbulak array 14.95 322 Pn **12 43 54.1 -2.8**
BVAR Borovoye Array 14.97 351 P Pn **12 43 54.9 -2.3**
comp=Z,2.9nm,0.3s,baz=165,slow=12,SNR=94
BVAR S Sn **12 46 39.0 -3.8**
comp=Z,1.8nm,0.3s,baz=162,slow=24,SNR=3.4
BRVK Borovoye 15.02 351 *ce*P Pn **12 43 55.5 -2.2**
BRVK pmax pmax
comp=Z,198nm,2.5s
BRVK Borovoye 15.02 351 Pn **12 43 55.6 -2.2**
BRVK Borovoye 15.02 351 ⇑P Pn **12 43 52.6 -5.2**
comp=Z,295nm,0.9s,baz=136,slow=19
BHPL Bhopal 15.26 168 eP Pn **12 43 59.7 -1.3**
BHPL ex x 12 46 34.9
BHPL IAML 12 46 50.0
comp=E,75nm,0.7s
BHPL IAML 12 46 59.4
comp=N,76nm,0.6s
BHUJ Bhuj 15.43 195 ex Sn **12 46 46.7 -7.5**
BHUJ IAML 12 46 53.0
comp=N,82nm,0.4s
RAMN Ramite 15.45 133 eP Pn **12 44 00.5 -3.1**
comp=N,163nm,0.6s
TAPN Taplejung 15.81 130 eP Pn **12 44 05.7 -2.3**
comp=N,47nm,0.4s
JBP Jabalpur 15.89 160 eP Pn **12 44 07.1 -1.6**
JBP AMB AMB 12 44 34.8
comp=Z,21nm,0.8s
JBP ex x 12 46 49.5
ODAN Odare 15.98 132 eP Pn **12 44 07.6 -2.5**
comp=Z,120nm,0.7s
LSA Lhasa 16.54 116 P P **12 44 18.5 +0.9**
LSA Lhasa 16.54 116 P P **12 44 18.4 +0.9**
LSA pmax pmax
comp=Z,22nm,0.9s
LSA Lhasa 16.54 116 P **12 44 18.4 +0.9**
AKTO Aktyubinsk 16.67 322 P Pn **12 44 17.1 -1.1**
comp=Z,6.2nm,0.3s,baz=128,slow=12,SNR=209
AKTO S Sn **12 47 13.0 -11**
comp=Z,5.2nm,0.3s,baz=144,slow=23,SNR=7.1
AKTO LR LR 12 50 35.2
comp=Z,339nm,18.6s,baz=140,slow=36
AKTO Aktyubinsk 16.67 322 ⇑P Pn 12 44 07.9 -10
comp=Z,296nm,1.1s,baz=136,slow=19
AKTO ⇑S Sn 12 47 11.6 -12
comp=Z,78nm,0.7s,baz=136,slow=19
ZAA0 Zalesovo Array 17.34 22 P P **12 44 24.1 -1.4**
ZAA0 IAmb IAmb 12 44 26.5
comp=Z,71nm,0.9s
ZAA0 Zalesovo Array 17.34 22 ⇑P P **12 44 19.5 -6.0**
comp=Z,16nm,1.1s,baz=136,slow=19
ZALV Zalesovo Beam 17.34 22 P P **12 44 24.7 -0.9**
comp=Z,4.2nm,0.3s,baz=215,slow=10,SNR=183
ZALV LR LR 12 50 55.1
comp=Z,128nm,19.2s,baz=196,slow=36
NGP Nagpur 17.60 164 ex P **12 44 28.9 +0.1**
NGP ex S **12 47 35.0 -10**
BOK Bokaro 17.61 142 eP P **12 44 27.6 -1.3**
BOK IAmb IAmb 12 44 30.6
comp=Z,37nm,0.8s
SHL Shillong 19.69 125 P P **12 44 52.5 +0.8**
SHL pmax pmax
comp=Z,297nm,1.6s
SHL Shillong 19.69 125 eP P **12 44 52.8 +1.0**
SHL ex x 12 44 53.0
SHL IAmb IAmb 12 45 04.5
comp=Z,52nm,0.9s
SHL eS S **12 48 19.0 -8.1**
SHL Shillong 19.69 125 P P **12 44 52.5 +0.8**
WSAR Wadi Sarin 19.96 226 P P **12 44 54.3 -0.1**
comp=Z,5.1nm,0.3s,baz=72,slow=8.1,SNR=28
GTA Gaotai 20.09 79 P Pn 12 44 57.8 -1.1
GTA pP pP 12 45 24.5 +4.4
GTA sP sP 12 45 42.0 +5.4
GTA pmax pmax
comp=Z,28nm,1.1s
UOSS Minazif 20.14 234 P P **12 44 56.3 -0.1**
UOSS IAmb IAmb 12 45 55.1
comp=Z,52nm,1.2s
AKT Akhty 20.43 287 eP P **12 44 59.2 -0.2**

AKT e*PP **pP** **12 45 22.1 -1.8**
AKT e*SP **sP** **12 45 42.0 +1.2**
AKT eS S **12 48 40.5 -0.7**
AKT e*SS **sS** **12 49 23.2 +1.6**
AKT pmax pmax
comp=Z,51nm,0.7s
SVE Sverdlovsk 20.59 339 eP P **12 45 01.0 +0.1**
SVE eS S **12 48 43.9 0.0**
SVE pmax pmax
comp=Z,158nm,1.3s
BWNR Bhubaneshwar 20.60 147 ex P **12 45 00.8 -0.6**
BWNR ex S **12 48 43.9 -0.9**
KAD Karad 20.88 180 ex Pn 12 45 08.1 -0.2
KAD ex S **12 48 54.0 +3.7**
ARU Arti 20.89 335 *d* iP P **12 45 03.9 -0.2**
ARU *PP **pP** **12 45 27.9 -0.4**
ARU 12 45 45.2
ARU S S **12 48 49.9 +0.1**
ARU pmax pmax
comp=Z,187nm,1.2s
ARU Arti 20.89 335 P P **12 45 03.8 -0.4**
comp=Z,28nm,0.7s,baz=145,slow=8.4,SNR=82
ARU Arti 20.89 335 P P **12 45 04.0 -0.1**
KOHI KOHIMA 21.06 121 eP P **12 45 08.4 +1.9**
KOHI IAmb IAmb 12 45 11.9
comp=Z,387nm,1.3s
HYB Hyderabad 21.15 168 *i* P P **12 45 08.0 +0.8**
HYB eS S **12 49 01.0 +5.7**
HYB Hyderabad 21.15 168 ex P **12 45 09.2 +2.0**
HYB IAmb IAmb 12 45 09.7
comp=Z,34nm,0.8s
GROC Groznyy 21.92 292 eP P **12 45 14.7 -0.5**
GROC e*SP **sP** **12 45 57.8 +1.1**
GROC eS S **12 49 09.3 +0.4**
GROC e*SS **sS** **12 49 52.6 +1.4**
GROC pmax pmax
comp=Z,132nm,0.9s
TBLG Delisi 22.67 288 P P **12 45 24.7 +1.9**
TBLG pmax pmax
comp=Z,45nm,0.9s
TBLG Delisi 22.67 288 P P **12 45 24.7 +1.9**
TBLG IAmb IAmb 12 46 12.0
comp=Z,46nm,0.9s
GNI Garni 22.74 284 *de*P P **12 45 24.8 +1.1**
GNI pmax pmax
comp=Z,88nm,1.7s
GNI Garni 22.74 284 P P **12 45 24.1 +0.4**
comp=Z,5.5nm,0.3s,baz=49,slow=1.3,SNR=3.4
GNI Garni 22.74 284 P P **12 45 24.0 +0.3**
MOY Mondy 23.14 46 eP P **12 45 29.8 +2.6**
MOY pmax pmax
comp=Z,41nm,2.2s
ZEI Tsey 23.29 291 eP P **12 45 31.7 +2.9**
ZEI pmax pmax
comp=Z,14nm,0.6s
AKH Akhalkalaki 23.61 287 P P **12 45 33.6 +1.9**
AKH pmax pmax
comp=Z,43nm,1.0s
AKH Akhalkalaki 23.61 287 ⇓P P **12 45 34.7 +2.9**
AKH Akhalkalaki 23.61 287 P P **12 45 33.6 +1.9**
AKH IAmb IAmb 12 46 26.2
comp=Z,43nm,1.0s
LZH Lanzhou 23.80 86 ⇑P P **12 45 35.4 +2.0**
LZH pP pP 12 45 59.4 -0.8
LZH PP **PnPn** **12 46 09.4 -0.3**
LZH sP sP 12 46 21.3 +4.5
LZH SS Sn 12 50 41.3 +27
LZH pmax pmax
comp=Z,36nm,1.4s
LZH pmax pmax
comp=Z,160nm,4.9s
PYA1 Pyatigorsk 23.92 294 *i* P P **12 45 35.8 +1.4**
ZAK Zakamensk 24.00 50 eP P **12 45 36.1 +1.1**
ZAK pmax pmax
comp=Z,11nm,1.2s
GOF Gofitskoye 24.04 296 ⇓eP P **12 45 37.5 +2.2**
GOF pmax pmax
comp=Z,19nm,0.5s
KBZ Khabaz 24.05 293 P P **12 45 35.9 +0.4**
comp=Z,7.5nm,0.9s,baz=134,slow=8.6,SNR=19
NEY Neytrino 24.16 292 *i* P P **12 45 37.7 +1.0**
NEY pmax pmax
comp=Z,3.0nm,0.8s
KVAR Kislovodsk Arr 24.21 294 P P **12 45 37.5 +0.5**
comp=Z,2.3nm,0.5s,baz=127,slow=15,SNR=4.1
KIV Kislovodsk 24.21 294 eP P **12 45 38.7 +1.6**
KIV eS S **12 49 47.4 +1.2**
KIV pmax pmax
comp=Z,54nm,1.0s
KIV Kislovodsk 24.21 294 ⇑P P **12 45 39.0 +2.0**
KIV mb 12 45 54.0
KIV Kislovodsk 24.21 294 P P **12 45 38.9 +1.8**
SHA1 Shidzhatmaz 24.23 293 *i* P P **12 45 38.4 +1.1**
SIMRM Sittwe 24.35 133 P P **12 45 40.9 +2.6**
BATM Batumi 24.95 288 P P **12 45 47.6 +3.9**
BATM Batumi 24.95 288 ⇑P P **12 45 47.6 +3.9**
SONM Songino Array 25.34 57 P P **12 45 48.4 +1.1**
comp=Z,14nm,0.8s,baz=257,slow=10,SNR=82
CD2 Chengdu 25.46 98 P P **12 45 49.8 +1.3**
CD2 pmax pmax
comp=Z,20nm,0.6s
ULN Ulaanbaatar 25.78 58 *ce*P P **12 45 50.4 -0.9**
ULN pmax pmax
comp=Z,38nm,1.7s
ULN Ulaanbaatar 25.78 58 P P **12 45 52.9 +1.6**
ULN IAmb IAmb 12 46 41.2
comp=Z,115nm,1.9s
KIRV Kirov 25.82 330 P P **12 45 51.6 +0.4**
comp=Z,39nm,0.7s,baz=98,slow=3.1,SNR=11
KIRV LR LR 12 56 37.7
comp=Z,288nm,18.2s,baz=43,slow=37
VRH Novokhopyorsk 26.12 310 eP P **12 45 54.1 0.0**
VRH e*PP **pP** **12 46 22.9 +0.3**
VRH eS S **12 50 13.9 -2.1**
VRH pmax pmax
comp=Z,10.0nm,0.6s
VRH smax smax
comp=N,90nm,1.6s
VORD Divnogorie 27.53 309 eP P **12 46 06.8 +0.1**
VORD e*PP **pP** **12 46 37.9 +2.5**
VORD pmax pmax
comp=Z,20nm,1.2s
KMI Kunming 27.58 110 P P **12 46 10.8 +3.1**
KMI pmax pmax
comp=Z,7.0nm,0.5s
VSR Storozhevoye 27.67 309 eP P **12 46 07.7 -0.3**
VSR e*PP **pP** **12 46 38.4 +1.7**
VSR eS S **12 50 37.4 -3.1**
VSR e*SS **sS** **12 51 28.3 -2.2**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR smax smax
comp=N,50nm,1.0s
LPSR Galich'ya Gora 28.18 312 eP P **12 46 12.5 0.0**
LPSR e*PP **pP** **12 46 42.6 +1.5**
LPSR eS S **12 50 46.0 -2.4**
LPSR e*SS **sS** **12 51 39.3 +0.8**
LPSR pmax pmax
comp=Z,20nm,0.8s
LPSR smax smax
comp=N,50nm,1.2s
XAN Xi'an 28.37 88 P P **12 46 15.1 +0.7**
XAN pmax pmax
comp=N,11nm,0.9s
XAN pmax pmax
comp=N,150nm,6.8s
XAN Xi'an 28.37 88 P P **12 46 15.5 +1.1**
XAN pmax pmax
comp=Z,9.0nm,0.8s
XAN Xi'an 28.37 88 P P **12 46 15.6 +1.1**
RAYN Ar Rayn 28.43 247 P P **12 46 15.4 +0.4**
RAYN pmax pmax
comp=Z,13nm,1.1s
RAYN Ar Rayn 28.43 247 P P **12 46 15.4 +0.4**
MHMT Maesarieng 28.89 127 P P **12 46 22.1 +2.9**
comp=Z,20nm,1.4s,comp=Z,1µm
HHC Hu-ho-hao-te 28.90 73 P P **12 46 21.3 +2.2**
HHC S S **12 50 59.4 -0.8**
HHC pmax pmax
comp=Z,10.0nm,1.2s
HHC pmax pmax
comp=Z,55nm,6.0s
HHC LR LR
comp=Z,240nm,19.6s

HHC LR LR
comp=Z,150nm,17.0s
CHTO Chiang Mai 29.07 125 P P **12 46 21.0 +0.3**
CHTO pmax pmax
comp=Z,12nm,1.1s
PRGR Permogore 29.25 332 eP P **12 46 20.5 -1.3**
PRGR e*PP **pP** **12 46 52.6 +2.1**
PRGR pmax pmax
comp=Z,21nm,0.6s
CMAR Chiang Mai Arr 29.33 125 P P **12 46 23.1 0.0**
comp=Z,0.8nm,0.4s,baz=312,slow=8.3,SNR=8.0
CMAR PcP PcP **12 49 25.2 -1.2**
comp=Z,1.7nm,0.5s,baz=337,slow=1.2,SNR=5.5
CMAR ScP ScP **12 52 55.8 -0.5**
comp=Z,0.5nm,0.6s,baz=314,slow=4.9,SNR=4.7
LAMP Lampang 29.73 124 P P **12 46 28.5 +2.0**
comp=Z,22µm,0.7s
MOS Moscow 29.90 318 eP P **12 46 26.7 -1.0**
MOS e*PP **pP** **12 46 58.8 +2.4**
MOS *e* 12 47 32.7
MOS eS S **12 51 17.3 +1.9**
MOS pmax pmax
comp=Z,66nm,1.1s
PHRA Phrae 30.13 123 P P **12 46 32.0 +1.9**
comp=Z,1.5nm,1.1s,comp=Z,927nm
ENH Enshi 30.21 95 P P **12 46 32.5 +1.7**
ENH IAmb IAmb 12 46 33.4
comp=Z,23nm,1.1s
OBN Obninsk 30.27 316 ⇓eP P **12 46 31.2 +0.4**
OBN e*PP **pP** **12 47 02.2 +2.6**
OBN *e* 12 47 33.6
OBN eS S **12 51 18.0 -3.0**
OBN pmax pmax
comp=Z,51nm,1.3s
OBN Obninsk 30.27 316 P P **12 46 31.1 +0.2**
comp=Z,5.9nm,0.4s,baz=148,slow=11,SNR=3.8
OBN LR LR 13 00 30.0
comp=Z,45nm,19.1s,baz=1.5,slow=40
OBN Obninsk 30.27 316 P P **12 46 31.3 +0.4**
SIM Simferopol' 30.36 296 *ce*P P **12 46 33.3 +1.4**
SIM pmax pmax
comp=Z,16nm,0.7s
SLVN Son La 30.74 115 P P **12 46 38.1 +2.7**
ASF Jabal al Asfar 30.81 270 P P **12 46 36.1 0.0**
comp=Z,1.5nm,0.4s,baz=27,slow=6.8,SNR=3.9
BR131 Keskin Array S 31.26 286 P P **12 46 41.3 +1.3**
BR131 pmax pmax
comp=Z,9.0nm,1.1s
BR131 Keskin Array S 31.26 286 P P **12 46 41.3 +1.3**
BRTR Keskin Array B 31.26 286 *i* P P **12 46 42.0 +2.0**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 31.26 286 P P **12 46 40.8 +0.8**
comp=Z,3.5nm,0.9s,baz=99,slow=8.6,SNR=12
UTHA Uthaitani 31.82 128 P P **12 46 46.9 +2.0**
comp=Z,23µm,0.8s,comp=Z,337µm
NRIK Noril'sk 31.98 9 P P **12 46 46.2 +0.5**
comp=Z,7.1nm,1.0s,baz=195,slow=6.0,SNR=7.9
PBKT Sadao Pong 32.02 125 P P **12 46 48.7 +2.0**
comp=Z,8.8nm,1.2s
PBKT Sadao Pong 32.02 125 P P **12 46 48.2 +1.6**
PBKT IAmb IAmb 12 46 49.3
comp=Z,60nm,1.8s
BOD Bodaibo 32.44 40 eP P 12 47 02.5 +13
BOD pmax pmax
comp=Z,12nm,1.7s
CHAI Chaiyaphum 33.17 125 P P **12 46 58.2 +1.5**
comp=Z,35µm,1.2s
TMCR Tamitsa 33.55 332 eP P **12 46 59.9 +0.4**
TMCR pmax pmax
comp=Z,49nm,1.4s
SKNT Sakolnakorn 33.72 121 P P **12 47 03.3 +1.8**
comp=Z,34nm,1.2s
AKASG Malin Array Be 33.80 306 *i* P P **12 47 02.0 +0.2**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 33.80 306 P P **12 47 01.1 -0.7**
comp=Z,0.8nm,0.3s,baz=80,slow=7.6,SNR=13
AKBB Malin Array Si 33.80 306 P P **12 47 01.3 -0.5**
AKBB pmax pmax
comp=Z,28nm,1.0s
AKBB Malin Array Si 33.80 306 P P **12 47 01.3 -0.5**
AKBB IAmb IAmb 12 47 34.7
comp=Z,28nm,1.0s
WHN Wuhan 33.92 91 P P **12 47 04.9 +1.8**
TOPG Topolog 34.43 296 ⇑P P **12 47 08.7 +1.3**
CFR Carcaliu 34.58 296 P P **12 47 09.9 +1.3**
CFR pmax pmax
comp=Z,10.0nm,3.0s
HARR Harsova 34.77 296 P P **12 47 12.4 +2.2**
HARR Harsova 34.77 296 ⇑P P **12 47 12.5 +2.2**
MANT Manisa 35.38 285 P P **12 47 11.9 -4.0**
VRI Vrincioaia 35.50 298 P P **12 47 19.0 +2.4**
VRI pmax pmax
comp=Z,8.0nm,0.9s
VRI Vrincioaia 35.50 298 ⇑P P **12 47 19.4 +2.8**
PLOR Plostina 35.56 298 P P **12 47 19.5 +2.4**
PLOR Plostina 35.56 298 ⇑P P **12 47 19.5 +2.4**
JOF Joensuu 35.61 328 P P **12 47 18.1 +0.9**
JOF pmax pmax
comp=Z,13nm,1.4s
NACGM Naroch 35.71 313 *e* P **12 47 18.0 -0.2**
BIZ Bicaz 35.85 300 ⇓P P **12 47 21.5 +2.0**
MLR Muntele Rosu 36.09 297 P P **12 47 23.3 +1.6**
MLR pmax pmax
comp=Z,63nm,1.3s
MLR Muntele Rosu 36.09 297 ⇓P P **12 47 23.8 +2.1**
MLR Muntele Rosu 36.09 297 P P **12 47 23.3 +1.6**
VSU Vasula 36.37 319 *ce*P P **12 47 24.7 +1.0**
VSU pmax pmax
comp=Z,103nm,1.1s
BURAR Bucovina Array 36.41 301 P P **12 47 25.3 +0.9**
BURAR Bucovina Array 36.41 301 ⇓P P **12 47 25.4 +0.9**
BUR08 Bucovina Ar. S 36.42 301 P P **12 47 26.0 +1.5**
DOPR Dopca 36.43 298 ⇑P P **12 47 26.4 +2.0**
ELND Elena 36.48 293 ⇑P P **12 47 26.8 +1.9**
VOIR 36.72 297 P P **12 47 28.9 +1.9**
VOIR pmax pmax
comp=Z,6.0nm,1.8s
VOIR 36.72 297 ⇑P P **12 47 28.7 +1.7**
LVZ Lovozero 36.77 336 P P **12 47 27.9 +0.8**
LVZ pmax pmax
comp=Z,190nm,1.8s
LVZ Lovozero 36.77 336 P P **12 47 27.9 +0.8**
NJ2 Nanjing 36.87 86 eP P **12 47 30.6 +2.2**
NJ2 pmax pmax
comp=Z,11nm,0.5s
APA Apatity 36.99 335 ⇓*i*P P **12 47 25.2 -3.7**
APA *i* *PP **pP** **12 47 52.1 -6.3**
APA pmax pmax
comp=Z,10.0nm,1.0s
APA MLR MLR
comp=Z,1µm,11.0s
KARP Karpathos 37.28 281 P P **12 47 33.4 +1.6**
FIA1 FINESS Array S 37.43 324 P P **12 47 33.2 +0.6**
FINES FINESS Array B 37.43 324 P P **12 47 32.6 -0.1**
comp=Z,4.8nm,0.4s,baz=114,slow=9.7,SNR=48
FINES LR LR 13 03 20.1
comp=Z,200nm,19.1s,baz=43,slow=36
LOT Lotru 37.61 297 ⇓P P **12 47 35.9 +1.3**
SUW Suwalki 37.71 312 eP pP **12 48 06.1 +1.5**
SUW eP pP 12 48 06.1 +1.5
KWP Kalwaria Pacla 37.97 304 P P **12 47 38.8 +1.3**
KWP pmax pmax
comp=Z,1µm,1.7s
KWP Kalwaria Pacla 37.97 304 eP P **12 47 39.2 +1.8**
KWP eP P **12 47 39.2 +1.8**
KWP epP pP **12 48 11.6 +4.5**
KWP epP pP **12 48 11.6 +4.5**
KWP Kalwaria Pacla 37.97 304 P P **12 47 38.8 +1.3**
TRPA Tarpa 38.18 302 ⇓P P **12 47 41.1 +1.9**
TRPA mb 12 47 43.9
TRPA Tarpa 38.18 302 eP P **12 47 40.1 +0.9**
DRGR 38.19 300 P P **12 47 41.4 +2.0**
DRGR pmax pmax
comp=Z,9.0nm,0.8s
DRGR 38.19 300 ⇓P P **12 47 41.1 +1.8**
KOLS Kolonicke sedl 38.29 303 epP pP 12 48 13.6 +3.8
UZH Uzhgorod 38.30 303 eP P **12 47 41.1 +0.9**
UZH *i* 12 48 11.8
GZR Gura Zlata 38.31 298 ⇓P P **12 47 41.8 +1.4**
CN2 Changchun 38.65 65 eP P **12 47 45.8 +2.6**
LTVH Ltavrtes, Hu 38.67 301 eP P 12 47 59.0 +16
ZEA Zeya 39.08 49 eP P **12 47 48.1 +1.5**

ZEA e 12 48 21.2
ZEA pmax pmax
comp=Z,23nm,1.0s
BZS Buzias 39.09 298 P P 12 47 48.7 +1.9
BZS Buzias 39.09 298 ⇓P P 12 47 48.7 +1.9
IDI Anoyia 39.12 281 P P 12 47 47.0 -0.2
comp=Z,3.6nm,0.4s,baz=49,slow=9.3,SNR=3.7
MDVR Moldovita 39.15 297 ⇑P P 12 47 49.4 +2.0
NIE Niedzica 39.55 304 *e*P P 12 47 52.8 +2.1
NIE *e**PP **pP 12 48 24.9 +4.5**
NIE Niedzica 39.55 304 *e*P P 12 47 52.8 +2.1
NIE *e*P **P 12 47 52.8 +2.1**
NIE *e*pP **pP 12 48 24.9 +4.5**
NIE *e*pP **pP 12 48 24.9 +4.5**
OJC Ojcow 39.82 305 *e*P P 12 47 54.0 +1.2
OJC *e**PP **pP 12 48 26.1 +3.6**
OJC Ojcow 39.82 305 *e*P P 12 47 54.0 +1.2
OJC *e*P **P 12 47 54.0 +1.2**
OJC *e*pP **pP 12 48 26.1 +3.6**
OJC *e*pP **pP 12 48 26.1 +3.6**
OJC Ojcow 39.82 305 P P 12 47 54.0 +1.2
OJC IAmb IAmb 12 48 26.8
comp=Z,36nm,1.1s
PSZ Piszkesteto 39.96 302 *e*P pP 12 48 27.0 +3.1
ARE0 ARCESS Array S 40.48 336 *e*P P 12 47 58.8 +0.9
ARE0 ARCESS Array S 40.48 336 P P 12 47 59.1 +1.1
ARCES ARCESS Array B 40.48 336 P P 12 47 58.7 +0.7
comp=Z,21nm,0.8s,baz=112,slow=9.1,SNR=117
ARCES LR LR 13 05 38.6
comp=Z,239nm,18.6s,baz=146,slow=37
VYHS Vyhne 40.60 303 *e*P P 12 48 01.1 +1.8
VYHS *e* 12 48 33.0
VYHS Vyhne 40.60 303 *e*P P 12 48 01.0 +1.8
VYHS *e*pP **pP 12 48 33.0 +3.9**
ITM Ithomi 40.79 285 P P 12 48 00.0 -0.9
ITM IAmb IAmb 12 48 54.7
comp=Z,62nm,1.5s
KTK1 Kautokeino 41.01 335 *e*P P 12 48 02.8 +0.4
MORH Mrgy, Hungar 41.05 299 *e*P P 12 48 04.0 +1.1
YAK Yakutsk 41.11 36 *i* P P 12 48 03.8 +0.6
YAK pmax pmax
comp=Z,7.0nm,0.9s
MORC Moravsky Berou 41.30 305 P P 12 48 06.6 +1.5
MORC pmax pmax
comp=Z,12nm,1.0s
MORC Moravsky Berou 41.30 305 *e*P pP 12 48 38.7 +3.7
MORC Moravsky Berou 41.30 305 P P 12 48 06.6 +1.5
JAVC Velka Javorina 41.33 304 *e*P pP 12 48 39.9 +4.7
MDJ Mudanjiang 41.43 63 P P 12 48 06.9 +0.8
MDJ pmax pmax
comp=Z,12nm,0.8s
MDJ pmax pmax
comp=Z,230nm,5.3s
MDJ Mudanjiang 41.43 63 P P 12 48 07.7 +1.6
MDJ IAmb IAmb 12 48 08.9
comp=Z,38nm,1.5s
HAMF Hammerfest 41.50 337 *e*P P 12 48 07.1 +0.8
IPM Ipoh 41.65 137 P P 12 48 09.3 +1.1
IPM IAmb IAmb 12 49 00.8
comp=Z,27nm,1.3s
VRAC Vranov 41.97 304 P P 12 48 10.7 +0.2
comp=Z,4.2nm,0.9s,baz=87,slow=10.0,SNR=6.1
VRAC Vranov 41.97 304 *e*P pP 12 48 44.5 +4.1
PSI Prapat 41.99 141 P P 12 48 11.1 0.0
comp=Z,4.6nm,0.7s,baz=339,slow=14,SNR=3.3
DPC Dobruska-Polom 42.02 306 *e*P P 12 48 12.6 +1.7
DPC *e**PP **pP 12 48 44.9 +4.0**
DPC Dobruska-Polom 42.02 306 *e*P P 12 48 12.6 +1.7
DPC *e*pP **pP 12 48 44.9 +4.0**
KSRS Korea Array 42.03 74 P P 12 48 11.2 +0.1
comp=Z,7.3nm,1.1s,baz=284,slow=7.9,SNR=12
RPSI Rantau Prapat 42.09 141 P P 12 48 11.1 -0.6
KRUC Moravsky 42.13 304 *e*P pP 12 48 46.0 +4.3
KLR Kul'dur 42.14 56 *i* P P 12 48 11.6 -0.2
KLR pmax pmax
comp=Z,6.0nm,1.0s
CHVC Chvalec 42.17 306 *e*P P 12 48 13.6 +1.5
CHVC *e*pP **pP 12 48 44.7 +2.6**
UPC Upice 42.20 306 *e*P P 12 48 13.8 +1.5
UPC *e**PP **pP 12 48 46.6 +4.3**
UPC Upice 42.20 306 *e*P P 12 48 13.8 +1.5
UPC *e*pP **pP 12 48 46.6 +4.3**
CONA Conrad Observa 42.65 302 *e*P P 12 48 17.5 +1.5
comp=Z,3.9nm,0.7s
CONA *e*pP **pP 12 48 49.3 +3.2**
comp=Z,4.5nm,0.9s
GSI Gunungsitoli 42.65 144 P P 12 48 18.2 +1.9
comp=Z,22nm,0.9s
GSI Gunungsitoli 42.65 144 P P 12 48 18.3 +1.9
GSI IAmb IAmb 12 48 58.4
comp=Z,22nm,0.9s
TRO Tromso 42.66 335 *e*P P 12 48 15.9 +0.1
ARSA Arzberg 42.99 302 *i* P P 12 48 19.9 +1.1
comp=Z,0.9nm,0.4s
USRK Ussuriysk Ar. 43.20 63 P P 12 48 20.7 +0.3
comp=Z,2.8nm,0.7s,baz=264,slow=8.4,SNR=7.1
PRU Pruhonice 43.21 306 *e*P P 12 48 21.6 +1.2
PRU *e**PP **pP 12 48 53.5 +3.0**
PRU Pruhonice 43.21 306 *e*P P 12 48 21.6 +1.2
PRU *e*pP **pP 12 48 53.5 +3.0**
HFS Hagfors 43.21 321 P P 12 48 20.5 +0.2
comp=Z,14nm,0.6s,baz=98,slow=11,SNR=36
TIXI Tiksi 43.22 22*ce*P P 12 48 20.9 +0.7
TIXI pmax pmax
comp=Z,5.0nm,0.6s
TIXI Tiksi 43.22 22 P P 12 48 20.8 +0.6
comp=Z,6.7nm,0.6s,baz=180,slow=24,SNR=29
TIXI Tiksi 43.22 22 P P 12 48 20.9 +0.6
SOKA Soboth 43.42 301 *e*P P 12 48 23.7 +1.4
comp=Z,2.8nm,0.6s
SOKA *e*pP **pP 12 48 55.5 +3.1**
comp=Z,4.1nm,0.8s
BRG Berggiesshubel 43.47 307 *e*P P 12 48 23.1 +0.6
comp=Z,14nm,1.2s
BRG *e*pP **pP 12 48 55.9 +3.1**
comp=Z,18nm,1.0s
BRG *e*sP **sP 12 49 11.1 +3.3**
comp=Z,9.4nm,1.1s
BRG *e*PP **PP 12 50 07.1 +1.2**
comp=Z,20nm,1.4s
MOR8 Moi Rana 43.50 329 *e*P P 12 48 22.3 -0.3
MOA Molln 43.72 303 *i* P P 12 48 25.7 +1.1
comp=Z,1.0nm,0.4s
MOA *e*pP **pP 12 48 57.5 +2.7**
comp=Z,1.5nm,0.7s
OBKA Obir 43.78 301 *e*P P 12 48 26.8 +1.6
comp=Z,2.0nm,0.6s
OBKA *e*pP **pP 12 48 57.4 +2.0**
comp=Z,4.2nm,0.8s
GEC2 GERESS Array S 43.92 304 P P 12 48 26.7 +0.4
GERES GERESS Array B 43.92 304 P P 12 48 26.4 +0.2
comp=Z,1.1nm,0.8s,baz=55,slow=8.5,SNR=7.6
GERES LR LR 13 09 32.4
comp=Z,120nm,21.2s,baz=280,slow=40
KHC Kasperske Hory 43.95 305 *e*P P 12 48 27.6 +1.1
KHC *e**PP **pP 12 49 00.2 +3.6**
KHC Kasperske Hory 43.95 305 *e*P P 12 48 27.6 +1.1
KHC *e*x x 12 48 43.0
KHC *e*pP **pP 12 49 00.2 +3.6**
KHC Kasperske Hory 43.95 305 P P 12 48 25.5 -1.0
CLL Collm 44.00 308 *e*P P 12 48 28.0 +1.3
CLL *i* *PP **pP 12 49 00.0 +2.9**
CLL Collm 44.00 308 *e*P P 12 48 28.0 +1.3
CLL *e*pP **pP 12 48 58.0 +0.9**
CLL *i* 12 49 00.0
CLL *e*PP **PP 12 50 12.0 +0.5**
CLL *e* 12 50 29.0
SGRT San Giovanni R 44.06 294 P P 12 48 27.9 +0.4
SGRT IAmb IAmb 12 49 03.0
comp=Z,18nm,0.9s
KONS Konsvik 44.08 330 *e*P P 12 48 28.4 +1.3
ACER Acerenza 44.18 292 P P 12 48 29.1 +0.7
ACER IAmb IAmb 12 49 29.3
comp=Z,82nm,2.0s
NC405 NORSAR Array S 44.22 322 P P 12 48 28.6 +0.2
NORES NORESS Array B 44.30 321 P P 12 48 32.2 +3.2
NORES pmax pmax
comp=Z,1.0nm,0.2s
NC303 NORSAR Array S 44.39 322 *e*P P 12 48 30.5 +0.8
NC303 NORSAR Array S 44.39 322 P P 12 48 30.7 +1.0
NB201 NORSAR Array S 44.42 322 P P 12 48 30.2 +0.2
NB2 NORSAR Subarra 44.46 322 P P 12 48 30.4 +0.1
comp=Z,4.1nm,0.8s,baz=91,slow=7.9
NOA NORSAR Array B 44.46 322 P P 12 48 30.1 -0.3
comp=Z,3.9nm,0.7s,baz=92,slow=7.6,SNR=15
NOA LR LR 13 08 11.5
comp=Z,177nm,18.6s,baz=95,slow=37
KBA Koelnbreinsper 44.48 302 *e*P P 12 48 31.6 +0.8
comp=Z,1.1nm,0.4s
TRI Trieste 44.48 300 P P 12 48 30.5 -0.1
TRI pmax pmax
comp=Z,19nm,1.1s
TRI Trieste 44.48 300 P P 12 48 30.5 -0.1
NAO01 NORSAR Array S 44.62 322 P P 12 48 31.6 +0.1
NBO00 NORSAR Array S 44.67 322 P P 12 48 32.3 +0.3
GRNR Gornyy 44.91 53 *e*P P 12 48 34.5 +0.5
GRNR pmax pmax
comp=Z,9.0nm,1.0s
KONO Kongsberg 45.27 320 P P 12 48 37.0 +0.3
KONO Kongsberg 45.27 320 *e*P P 12 48 36.9 +0.3
KONO Kongsberg 45.27 320 P P 12 48 37.0 +0.3
GRF Grafenberg Arr 45.38 306 P P 12 48 36.8 -0.9
NRCA Norcia 45.65 296 P P 12 48 41.4 +1.4
JNU Nakatsue 45.83 78 P P 12 48 43.3 +1.8
JNU IAmb IAmb 12 48 43.7
comp=Z,32nm,1.1s
MURB Monte Urbino 45.94 297 P P 12 48 44.3 +2.0
MURB IAmb IAmb 12 49 19.8
comp=Z,48nm,1.2s
SPA0 Spitsbergen Ar 46.34 346 *e*P P 12 48 46.0 +1.1
SPA0 Spitsbergen Ar 46.34 346 P P 12 48 46.6 +1.7
SPITS Spitsbergen Ar 46.34 346 P P 12 48 45.4 +0.5
comp=Z,23nm,1.1s,baz=99,slow=9.3,SNR=8.4
FUORN Ofenpass-Fuorn 46.64 302 P P 12 48 48.9 +1.0
FUORN IAmb IAmb 12 49 28.5
comp=Z,40nm,1.9s
DAVA Damuels 46.74 303 *e*P P 12 48 49.3 +0.7
comp=Z,3.9nm,0.4s
DAVOX Davos/Dischmat 46.86 302 P P 12 48 49.4 -0.2
comp=Z,4.0nm,0.5s,baz=72,slow=6.4,SNR=7.2
KBS Kingsbay 47.44 347 P P 12 48 54.8 +1.4
KBS pmax pmax
comp=Z,276nm,2.0s
KBS Kingsbay 47.44 347 *e*P P 12 48 54.4 +1.0
KBS Kingsbay 47.44 347 P P 12 48 54.8 +1.4
SENIN Lac Senin/Sane 48.69 302 P P 12 49 01.9 -1.8
BNI Bardonecchia 49.48 301 P P 12 49 07.8 -1.8
BNI pmax pmax
comp=Z,66nm,1.7s
BNI Bardonecchia 49.48 301 P P 12 49 07.8 -1.8
SBUM Sibu 49.88 126 P P 12 49 15.6 +2.8
SBUM IAmb IAmb 12 50 35.0
comp=Z,42nm,1.8s
MJB9 Matsu-Tunnel 50.06 71 P P 12 49 14.5 +0.5
MJB9 IAmb IAmb 12 49 15.1
comp=Z,12nm,0.7s
MAJO Matsushiro 50.06 71 P P 12 49 14.5 +0.5
MAJO pmax pmax
comp=Z,12nm,0.7s
MAJO Matsushiro 50.06 71 P P 12 49 14.5 +0.5
MAJO IAmb IAmb 12 49 15.1
comp=Z,12nm,0.7s
MAT Matsushiro 50.06 71 P P 12 49 14.3 +0.3
MJAR Matsushiro Arr 50.06 71 P P 12 49 14.5 +0.5
comp=Z,8.7nm,0.8s,baz=285,slow=10,SNR=18
KEST Kesra 50.78 288 P P 12 49 19.9 +0.3
comp=Z,2.9nm,0.7s,baz=163,slow=4.8,SNR=5.1
KEST Kesra 50.78 288 P P 12 49 20.4 +0.9
SSB Saint Sauveur 50.85 301 P P 12 49 20.7 +0.9
SSB pmax pmax
comp=Z,66nm,1.8s
SSB Saint Sauveur 50.85 301 P P 12 49 20.7 +0.9
KMBO Kilima Mbogo 51.82 230 LR LR 13 11 43.5
comp=Z,77nm,19.8s,baz=94,slow=36
DAG Danmarks Havn 53.73 343 *i* P pP 12 50 13.9 +2.0
comp=Z,22nm,1.2s
MBAR Mbarara 55.51 236 P P 12 49 54.2 -0.2
MBAR pmax pmax
comp=Z,4.0nm,0.7s
MBAR Mbarara 55.51 236 P P 12 49 53.7 -0.7
comp=Z,2.3nm,0.2s,baz=36,slow=8.5,SNR=6.0
MBAR Mbarara 55.51 236 P P 12 49 54.2 -0.2
BILL Bilibino 55.94 27 P P 12 49 57.0 +0.4
BILL pmax pmax
comp=Z,16nm,1.3s
BILL Bilibino 55.94 27 P P 12 49 57.0 +0.4
BILL IAmb IAmb 12 50 32.7
comp=Z,16nm,1.3s
MPSI Mapaga 56.50 121 P P 12 50 03.1 +1.8
comp=Z,22nm,1.2s
PETK Petropavlovsk- 57.00 46 P P 12 50 03.3 -1.1
comp=Z,3.9nm,1.0s,baz=265,slow=5.0,SNR=4.1
MRSI Marisa 57.80 119 P P 12 50 12.6 +2.2
comp=Z,33nm,1.0s
ESDC Sonseca Array 58.78 298 P P 12 50 16.4 -0.6
comp=Z,0.6nm,0.4s,baz=54,slow=6.4,SNR=6.3
SUMG Summit 60.17 341 *i* P P 12 50 27.8 +1.3
SUMG Summit 60.17 341 *i* P P 12 50 27.8 +1.3
SUMG Summit 60.17 341 P P 12 50 26.5 0.0
SUMG IAmb IAmb 12 51 24.8
comp=Z,15nm,1.1s
ABPO Ambohimpanom 62.30 209 P P 12 50 42.1 +0.9
ABPO pmax pmax
comp=Z,54nm,2.0s
ABPO Ambohimpanom 62.30 209 P P 12 50 42.1 +0.9
TULEG Thule 63.09 351 P P 12 50 46.1 +0.6
TULEG IAmb IAmb 12 51 21.7
comp=Z,24nm,1.4s
ILULI Ilulissat 65.52 341 P P 12 51 02.5 +1.1
ILULI pmax pmax
comp=Z,36nm,1.1s
ILULI Ilulissat 65.52 341 P P 12 51 02.5 +1.1
ANM Nome 67.46 24 P P 12 51 15.7 +1.9
ANM pmax pmax
comp=Z,31nm,1.7s
ANM Nome 67.46 24 P P 12 51 15.7 +1.9
ANM IAmb IAmb 12 51 42.4
comp=Z,31nm,1.7s
TOA0 Torodi Ar. Sit 68.17 270 P P 12 51 18.9 -0.2
TOA0 IAmb IAmb 12 51 19.7
comp=Z,16nm,0.8s
TORD Torodi Ar. Bea 68.17 270 P P 12 51 18.8 -0.2
comp=Z,17nm,0.5s,baz=49,slow=5.7,SNR=174
LSZ Lusaka 68.44 228 P P 12 51 22.0 +1.3
LSZ pmax pmax
comp=Z,5.0nm,0.8s
LSZ Lusaka 68.44 228 P P 12 51 22.0 +1.3
TOLK Toolik Lake Re 68.58 16 P P 12 51 21.6 +0.7
TOLK IAmb IAmb 12 51 57.8
comp=Z,16nm,0.9s
COLD Coldfoot 69.60 17 P P 12 51 27.3 +0.2
FYU Fort Yukon 71.24 16 P P 12 51 38.4 +1.4
FYU IAmb IAmb 12 54 07.3
comp=Z,60nm,1.8s
MLY Manley 71.26 18 P P 12 51 37.8 +0.6
MLY IAmb IAmb 12 52 14.5
comp=Z,28nm,1.6s
GSTR Great Sitkin T 71.33 38 P P 12 51 37.1 -0.7
TTA Tatalina 71.50 22 P P 12 51 39.0 +0.2
TTA pmax pmax
comp=Z,25nm,1.6s
TTA Tatalina 71.50 22 P P 12 51 39.0 +0.2
TTA IAmb IAmb 12 53 35.8
comp=Z,25nm,1.6s
INK Inuvik 71.75 10 P P 12 51 40.8 +0.8
INK pmax pmax
comp=Z,17nm,1.0s
INK Inuvik 71.75 10 P P 12 51 40.8 +0.8
INK IAmb IAmb 12 52 17.2
comp=Z,17nm,1.0s
BPAW Bear Paw Mtn. 71.95 19 P P 12 51 41.8 +0.4
BPAW IAmb IAmb 12 52 47.3
comp=Z,40nm,1.9s
COLA College 72.08 17 P P 12 51 42.4 +0.3
COLA pmax pmax
comp=Z,10.0nm,0.8s
COLA College 72.08 17 P P 12 51 42.4 +0.3
IL31 72.40 17 P P 12 51 43.9 -0.1
ILAR Eielson Array 72.40 17 P P 12 51 43.8 -0.2
comp=Z,3.5nm,0.9s,baz=316,slow=5.0,SNR=29
ILAR LR LR 13 29 31.5
comp=Z,65nm,18.2s,baz=330,slow=41
KTH Kantishna Hill 72.41 19 P P 12 51 44.5 +0.3
KTH IAmb IAmb 12 53 40.6
comp=Z,25nm,1.4s
PPLA Purkeypile 72.61 20 P P 12 51 46.2 +0.8
PPLA IAmb IAmb 12 54 14.0
comp=Z,70nm,2.0s
RND Reindeer 73.06 19 P P 12 51 48.3 +0.2
RND pmax pmax
comp=Z,20nm,1.4s
RND Reindeer 73.06 19 P P 12 51 48.2 +0.2
PSAD1 Pilbara Seismi 73.32 136 P P 12 51 50.8 +0.8
PSAD1 IAmb IAmb 12 51 51.6
comp=Z,27nm,0.8s
PSAC1 Pilbara Seismi 73.37 136 P P 12 51 51.1 +0.8
PSAC1 IAmb IAmb 12 51 51.9
comp=Z,16nm,0.8s
PSAB1 Pilbara Seismi 73.40 136 P P 12 51 51.6 +1.1
PSAB1 IAmb IAmb 12 51 52.1
comp=Z,20nm,0.9s
PSAA2 Pilbara Seismi 73.41 136 P P 12 51 51.9 +1.4
PSAA2 IAmb IAmb 12 51 52.1
comp=Z,26nm,0.9s
PSAB2 Pilbara Seismi 73.42 136 P P 12 51 51.3 +0.7
PSAB2 IAmb IAmb 12 51 52.2
comp=Z,22nm,0.8s
PSAA1 Pilbara Seismi 73.42 136 P P 12 51 51.6 +1.1
PSAA1 IAmb IAmb 12 51 52.2
comp=Z,15nm,0.8s
PSA00 Pilbara Seismi 73.42 136 P P 12 51 51.4 +0.8
PSA00 IAmb IAmb 12 51 52.2
comp=Z,22nm,0.9s
PSAA3 Pilbara Seismi 73.43 136 P P 12 51 51.2 +0.5
PSAA3 IAmb IAmb 12 51 52.2
comp=Z,21nm,0.9s
PSAD3 Pilbara Seismi 73.44 136 P P 12 51 51.9 +1.2
PSAD3 IAmb IAmb 12 51 52.2
comp=Z,17nm,0.9s
PSAB3 Pilbara Seismi 73.44 136 P P 12 51 51.4 +0.7
PSAB3 IAmb IAmb 12 51 52.3
comp=Z,18nm,0.8s
PSAC2 Pilbara Seismi 73.44 136 P P 12 51 51.9 +1.2
PSAC2 IAmb IAmb 12 51 52.3
comp=Z,22nm,0.8s
PSAC3 Pilbara Seismi 73.45 136 P P 12 51 51.9 +1.2
PSAC3 IAmb IAmb 12 51 52.3
comp=Z,17nm,0.8s
PSAD2 Pilbara Seismi 73.52 136 P P 12 51 52.3 +1.2
PSAD2 IAmb IAmb 12 51 52.7
comp=Z,24nm,0.8s
SKT Skwentna 73.53 21 P P 12 51 51.3 +0.5
FITZ Fitzroy Crossi 74.06 129 P P 12 51 55.5 +1.2
FITZ IAmb IAmb 12 51 59.9
comp=Z,42nm,2.0s
SUA Susitna One 74.17 21 P P 12 51 54.8 +0.2
SUA IAmb IAmb 12 54 05.6
comp=Z,55nm,2.0s
KNRA Kununurra 74.19 125 P P 12 51 55.6 +0.5
GHO Glory Hole Cre 74.41 20 P P 12 51 55.8 -0.1
DAWY Dawson 74.62 15 P P 12 51 57.9 +0.8
SCM Sheep Creek Mo 74.77 19 P P 12 51 58.5 +0.5
SCM pmax pmax
comp=Z,87nm,1.8s
SCM Sheep Creek Mo 74.77 19 P P 12 51 58.5 +0.5
MCARA McCarthy VSAT 76.22 17 P P 12 52 06.6 +0.4
MCARA IAmb IAmb 12 54 55.1
comp=Z,43nm,1.6s
VRDI Verde Repeater 76.25 18 P P 12 52 06.4 -0.2
VRDI IAmb IAmb 12 54 37.6
comp=Z,55nm,2.0s
BALM Baldy 76.68 17 P P 12 52 09.2 +0.2
BALM IAmb IAmb 12 53 03.6
comp=Z,36nm,1.6s
CTGM Chitina Glacie 76.98 17 P P 12 52 11.6 +1.0
CTGM IAmb IAmb 12 52 47.9
comp=Z,62nm,1.8s
DBIC Dimbokro 77.20 268 P P 12 52 12.9 +0.5
DBIC pmax pmax
comp=Z,12nm,1.0s
DBIC Dimbokro 77.20 268 P P 12 52 12.4 0.0
comp=Z,11nm,0.9s,baz=28,slow=6.0,SNR=14
DBIC Dimbokro 77.20 268 P P 12 52 12.9 +0.5
KIC Kosan Boka 77.29 268 *e*P P 12 52 13.2 +0.2
comp=Z,30nm,0.8s
KIC Kosan Boka 77.29 268 P P 12 52 13.2 +0.2
TIC Toumodi 77.34 268 *e*P P 12 52 13.4 +0.1
TIC Toumodi 77.34 268 P P 12 52 13.4 +0.1
TIC Toumodi 77.34 268 P P 12 52 13.4 +0.1
LIC Lamto 77.60 268 *e*P P 12 52 14.9 +0.2
comp=Z,45nm,0.8s
LIC Lamto 77.60 268 P P 12 52 14.9 +0.2
LBTB Lobatse 77.63 224 P P 12 52 15.3 +0.7
LBTB pmax pmax
comp=Z,17nm,1.0s
LBTB Lobatse 77.63 224 P P 12 52 15.3 +0.7
LBTB IAmb IAmb 12 52 16.1
comp=Z,17nm,1.0s
HYT Haines Junctio 77.94 15 P P 12 52 17.3 +1.3
YKW3 Yellowknife Ar 79.27 4 P P 12 52 23.9 +0.8
YKA Yellowknife Ar 79.34 4 P P 12 52 23.7 +0.3
comp=Z,3.3nm,0.6s,baz=348,slow=5.4,SNR=92
BOSA Boshof 80.67 222 P P 12 52 31.5 +0.3
BOSA pmax pmax
comp=Z,14nm,0.9s
BOSA Boshof 80.67 222 P P 12 52 30.9 -0.2
comp=Z,12nm,0.9s,baz=18,slow=3.8,SNR=18
BOSA Boshof 80.67 222 P P 12 52 31.5 +0.3
WRA Warramunga Arr 80.92 124 P P 12 52 32.0 -0.5
comp=Z,14nm,1.0s,baz=322,slow=5.1,SNR=58
WRAB Tennant Creek 80.92 124 P P 12 52 30.5 -2.0
WRAB pmax pmax
comp=Z,22nm,0.6s
WRAB Tennant Creek 80.92 124 P P 12 52 30.5 -2.0
WRAB IAmb IAmb 12 53 00.8
comp=Z,22nm,0.6s
FCC Fort Churchill 82.82 354 P P 12 52 41.0 -0.9
FCC pmax pmax
comp=Z,28nm,1.6s
FCC Fort Churchill 82.82 354 P P 12 52 41.0 -0.9
FCC IAmb IAmb 12 53 19.1
comp=Z,28nm,1.6s
KRVT Keravat (AS076 83.25 101 LR LR 13 31 01.2
comp=Z,68nm,19.2s,baz=64,slow=36
AS31 Alice Springs 83.33 127 P P 12 52 45.0 0.0
ASAR Alice Springs 83.33 127 P P 12 52 44.3 -0.7
comp=Z,6.0nm,0.9s,baz=324,slow=5.6,SNR=42
FFC Flin Flon 87.31 358 P P 12 53 04.8 +0.4
FFC pmax pmax
comp=Z,9.0nm,1.1s
FFC Flin Flon 87.31 358 P P 12 53 04.8 +0.4
BBOO Buckleboo 91.23 132 P P 12 53 22.5 -0.5
BBOO IAmb IAmb 12 53 23.6
comp=Z,10nm,0.8s
YNE Yellowstone No 97.02 3 P P 12 53 48.7 -1.1
PDAR Pinedale Array 99.28 3 LR LR 13 44 15.2
comp=Z,50nm,18.0s,baz=44,slow=38
QSPA South Pole Qui 128.06 180 PKiKP 12 59 22.7 -0.1
CPUP Villa Florida 137.65 272 PKP **PKPdf 12 59 41.6 +0.3**
comp=Z,5.4nm,0.9s,baz=40,slow=1.4,SNR=11
LPAZ La Paz 140.27 293 PKP **PKPdf 12 59 46.9 -0.3**
comp=Z,1.6nm,0.8s,baz=87,slow=4.9,SNR=5.2
LVC Limon Verde 144.72 285 PKIKP PKPbc 12 59 54.1 +0.2
LVC Limon Verde 144.72 285 PKPbc 12 59 54.1 +0.2
PB04 IPOC Station P 145.50 287 PKPab 12 59 56.9 +0.5
GO02 Mina Guanaco 146.64 282 PKPdf 12 59 57.6 -0.1
GO03 Copiap 148.36 279 PKPbc 13 00 02.3 -1.6
GO04 Tololo Observa 149.97 275 PKPbc 13 00 08.6 +0.5
PEL Peldehue 151.03 269 PKIKP **PKPbc 13 00 10.5 +0.3**
PEL Peldehue 151.03 269 PKPbc 13 00 10.6 +0.3
ROC1 El Roble 151.23 270 PKPdf **PKPdf 13 00 02.3 -2.6**
ROC1 **PKPbc 13 00 11.1 +0.2**
PLCA Paso Flores 152.69 254 PKPbc **PKiKP 13 00 14.8 +0.9**
comp=Z,8.3nm,0.9s,baz=112,slow=2.0,SNR=22
PLCA Paso Flores 152.69 254 PKiKP 13 00 14.9 +0.9
PLCA PKPab **PKPab 13 00 25.4 +0.3**
GO06 Curarrehue 153.24 256 PKPdf **PKPdf 13 00 08.0 +0.6**
GO06 **PKiKP 13 00 15.9 +0.8**
GO06 PKPab **PKPab 13 00 26.6 -0.9**

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*ISCJB **24** 13:26:19.4±0.4, 13°.97N±0°.05×144°.9E±0°.1, h200km, mb3.5/13, Error ellipse: s-maj=16.1km s-min=7.6km az=2.6*
*NEIC **24** 13:26:19.6±1.5, 14°.01N±0°.04×144°.9E±0°.1, h187km±4km, mb4.7/12*
*IDC **24** 13:26:19.6±0.4, 14°.00N×144°.92E, h185km±3km, mb3.3/13, mb1 3.5/13, mb1mx3.3/38, mbtmp3.8/13, MS3.2/1, Ms1 3.2/1, ms1mx2.6/16, Error ellipse: s-maj=24.5km s-min=13.0km az=90.0*
ISC 24 13:26:20.8±0.5, **14°.00N**±0°.07×**144°.9E**±0°.1, **h200**km, **n28,**

σ1ᵍ61/30, **mb3.6**/19, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.41**	**182**	P	**Pn**	**13 26 46.2**	**-1.4**
	164nm,0.3s,baz=257,slow=1.9,SNR=41						
GUMO				S	**Sn**	**13 27 05.1**	**-3.3**
	309nm,0.3s,baz=174,slow=22,SNR=36						
GUMO	**Guam**	**0.41**	**182**		**Pn**	**13 26 45.9**	**-1.7**
GUMO					**Sn**	**13 27 04.1**	**-4.3**
ANA2	**Anatahan**	**2.46**	**19**	Pn	**Pn**	**13 27 03.2**	**-1.1**
FAKI	**Fak Fak**	**20.96**	**218**	P	**P**	**13 30 48.0**	**-0.6**
WAKE	**Wake Island**	**21.50**	**73**	P	**P**	**13 30 52.2**	**-1.9**
JNU	**Nakatsue**	**22.91**	**329**	P	**P**	**13 31 07.2**	**-0.2**
	10nm,0.8s,baz=80,slow=2.6,SNR=4.3						
JNU	**Nakatsue**	**22.91**	**329**	P	**P**	**13 31 07.3**	**0.0**
MJAR	**Matsushiro Art**	**23.23**	**346**	P	**P**	**13 31 09.8**	**-0.4**
	3.7nm,0.8s,baz=171,slow=9.2,SNR=5.4						
MAJO	**Matsushiro**	**23.23**	**346**	P	**P**	**13 31 09.9**	**-0.3**
MAJO				IAmb	IAmb	13 32 04.4	
	comp=Z,47nm,1.7s						
MJB9	**Matsu-Tunnel**	**23.24**	**346**	P	**P**	**13 31 10.2**	**0.0**
MJB9				IAmb	IAmb	13 31 47.1	
	comp=Z,50nm,1.7s						
PMG	**Port Moresby**	**23.36**	**174**	P	**P**	**13 31 10.2**	**-1.3**
PMG				IAmb	IAmb	13 31 19.7	
	comp=Z,28nm,1.4s						
COEN	**Coen**	**27.83**	**184**	P	**P**	**13 31 52.3**	**+0.6**
WRA	**Warramunga Arr**	**35.29**	**197**	P	**P**	**13 32 57.3**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=12,slow=9.3,SNR=6.5						
ASAR	**Alice Springs**	**38.94**	**196**	P	**P**	**13 33 27.2**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=14,slow=13,SNR=7.2						
ASAR				LR	LR	13 50 23.1	
	comp=Z,35nm,19.8s,baz=170,slow=37						
DZM	**Mont Dzumac**	**41.62**	**149**	P	**P**	**13 33 53.1**	**+3.5**
DZM				IAmb	IAmb	13 35 12.8	
	comp=Z,31nm,1.5s						
STKA	**Stephens Creek**	**45.72**	**184**	P	**P**	**13 34 21.7**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=350,slow=8.6,SNR=7.1						
STKA	**Stephens Creek**	**45.72**	**184**	P	**P**	**13 34 21.6**	**-0.4**
SONM	**Songino Array**	**46.41**	**325**	P	**P**	**13 34 28.9**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=142,slow=5.4,SNR=3.5						
BBOO	**Buckleboo**	**47.30**	**190**	P	**P**	**13 34 34.2**	**-0.1**
BBOO				IAmb	IAmb	13 36 06.5	
	comp=Z,30nm,1.6s						
FORT	**Forrest**	**47.37**	**200**	P	**P**	**13 34 35.4**	**+0.5**
TOO	**Toolangi**	**51.30**	**179**	P	**P**	**13 35 07.0**	**+2.5**
TOO				IAmb	IAmb	13 35 38.7	
	comp=Z,43nm,1.8s						
MKAR	**Makanchi Array**	**61.21**	**316**	P	**P**	**13 36 15.2**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=83,slow=9.5,SNR=6.6						
ZALV	**Zalesovo Beam**	**61.30**	**324**	P	**P**	**13 36 15.5**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=122,slow=6.0,SNR=2.5						
ILAR	**Eielson Array**	**68.19**	**25**	P	**P**	**13 36 58.2**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=252,slow=5.8,SNR=9.4						
YKA	**Yellowknife Ar**	**82.49**	**27**	P	**P**	**13 38 20.9**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=285,slow=5.1,SNR=7.9						
NVAR	**Mina Array Bea**	**86.66**	**51**	P	**P**	**13 38 44.4**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=265,slow=5.9,SNR=7.9						
FINES	**FINESS Array B**	**90.80**	**335**	P	**P**	**13 39 00.3**	**-0.7**
	comp=Z,3.5nm,0.9s,baz=39,slow=0.9,SNR=3.4						
PDAR	**Pinedale Array**	**91.67**	**45**	P	**P**	**13 39 06.5**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=282,slow=4.5,SNR=3.2						

IDC 24 13:52:43.3±2.3, 4.73N×122.66E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/35, mbtmp3.7/3, Error ellipse: s-maj=349.4km s-min=26.6km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.07**	**155**	P	P	13 58 27.8	-0.1
	0.7nm,0.3s,baz=335,slow=9.6,SNR=12						
ASAR	**Alice Springs**	**30.28**	**159**	P	P	13 58 56.5	0.0
	0.3nm,0.3s,baz=335,slow=8.1,SNR=15						
MKAR	**Makanchi Array**	**54.47**	**327**	P	P	14 02 12.6	-0.1
	0.3nm,0.3s,baz=124,slow=8.2,SNR=4.7						

*ISCJB **24** 14:03:19.5±0.7, 8.84N±0.04×82.83W±0.05, h28km±5km, Error ellipse: s-maj=9.9km s-min=5.7km az=147.3*
*UPA **24** 14:03:19.5±0.6, 8.83N×82.83W, h19km±1km, MW4.7*
*UCR **24** 14:03:19.5±1.6, 8.85N×82.86W, h17km±7km*
ISC 24 14:03:17.9±1.1, 8.82N±0.05×82.89W±0.05, h31km±6km, n17, σ1ᵍ19/32, 3C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.20**	**97**	↑*iP*	**Pb**	**14 03 24.6**	**+0.2**
BRU2				*eS*	**Sb**	**14 03 28.6**	**-0.3**
BRU2	**Volcan**	**0.20**	**97**	↑*iP*	**Pb**	**14 03 24.6**	**+0.2**
BRU2				*eS*	**Sb**	**14 03 28.6**	**-0.3**
BCO2	**Palmira**	**0.37**	**105**	↑*iP*	**Pn**	**14 03 27.1**	**-0.2**
BCO2				*eS*	**Sn**	**14 03 32.9**	**-0.7**
BAGA3	**Bagala, Chiriq**	**0.50**	**134**	*eP*	**Pn**	**14 03 29.3**	**+0.4**
DVD	**David**	**0.58**	**131**	↓*iP*	**Pn**	**14 03 30.4**	**+0.4**
DVD				*eS*	**Sn**	**14 03 39.0**	**+0.5**
DVD	**David**	**0.58**	**131**	↓*iP*	**Pn**	**14 03 30.4**	**+0.4**
DVD				*eS*	**Sn**	**14 03 39.0**	**+0.5**
PEDE3	**Pedregal, Chir**	**0.64**	**133**	*eP*	**Pn**	**14 03 31.0**	**+0.3**
CHIR3	**Chiriqui UPA,**	**0.70**	**127**	*eP*	**Pn**	**14 03 31.9**	**+0.2**
CHIR3				*eS*	**Sn**	**14 03 41.0**	**-0.3**
CNI2	**El Empalme, Bo**	**0.73**	**35**	↓*iP*	**Pn**	**14 03 32.1**	**-0.1**
CNI2				*eS*	**Sb**	**14 03 41.5**	**-0.5**
CHGR2	**Aguacate**	**0.75**	**81**	*eP*	**Pn**	**14 03 32.2**	**-0.1**
CHGR2				*eS*	**Sb**	**14 03 42.0**	**-0.5**
HDC	**Heredia**	**1.68**	**314**	*eP*	**Pb**	**14 03 47.8**	**-0.5**
HDC				*eS*	**Sb**	**14 04 09.8**	**+0.6**
HDC	**Heredia**	**1.68**	**314**	*eP*	**Pb**	**14 03 47.8**	**-0.5**
HDC				*eS*	**Sb**	**14 04 09.8**	**+0.6**
GMAL	**Guarumal, Vera**	**1.95**	**122**	*eP*	**Pn**	**14 03 49.8**	**+0.9**
GMAL				*eS*	**Sb**	**14 04 13.8**	**-2.9**
CALO3	**Calobre, Verag**	**2.09**	**104**	*eP*	**Pb**	**14 03 54.3**	**-0.8**
CALO3				*eS*	**Sb**	**14 04 21.6**	**+0.9**
CACAO	**El Cacao, Vera**	**2.49**	**126**	*eP*	**Pb**	**14 03 58.9**	**-3.0**
CACAO				*eS*	**Sb**	**14 04 33.3**	**+1.1**
AZU	**Azuero**	**2.79**	**111**	*eP*	**Pb**	**14 04 09.7**	**+2.7**
AZU				*eS*	**Sn**	**14 04 32.3**	**-0.6**
AZU	**Azuero**	**2.79**	**111**	*eP*	**Pb**	**14 04 09.7**	**+2.7**
AZU				*eS*	**Sn**	**14 04 32.3**	**-0.6**

*ISCJB **24** 14:13:12.8±0.6, 13.70N±0.06×144.9E±0.1, h137km±5km, Error ellipse: s-maj=22.1km s-min=10.3km az=8.9*
*NEIC **24** 14:13:13.9±1.2, 13.70N±0.09×144.9E±0.2, h130km±6km, mb4.8/16*
*IDC **24** 14:13:13.5±0.6, 13.72N×144.98E, h128km±4km, mb3.5/7, mb1 3.7/7, mb1mx3.3/36, mbtmp3.8/7, MS3.3/1, Ms1 3.3/1, ms1mx2.6/28, Error ellipse: s-maj=47.4km s-min=15.4km az=107.0*
ISC 24 14:13:14.4±0.8, 13.66N±0.08×144.8E±0.2, h134km±7km, n26, σ1ᵍ97/25, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.07**	**159**	P	**Pn**	**14 13 32.5**	**0.0**
	612nm,0.3s,baz=198,slow=3.2,SNR=335						
GUMO				S	**Sn**	**14 13 45.5**	**-0.7**
	1μm,0.3s,baz=323,slow=20,SNR=60						
SARN	**Sarigan**	**3.16**	**17**	Pn	**Pn**	**14 14 06.1**	**+2.9**
FAKI	**Fak Fak**	**20.67**	**218**	P	**P**	**14 17 45.5**	**+1.6**
FAKI				IAmb	IAmb	14 18 20.2	
	comp=Z,50nm,1.4s						
JNU	**Nakatsue**	**23.18**	**329**	P	**P**	**14 18 08.5**	**-0.8**
JNU				IAmb	IAmb	14 18 39.5	
	comp=Z,67nm,1.6s						
MTN	**Manton Dam**	**29.63**	**208**	P	**P**	**14 19 07.3**	**0.0**
SOEI	**Soe**	**30.95**	**222**	P	**P**	**14 19 19.1**	**0.0**
SOEI				IAmb	IAmb	14 20 28.4	
	comp=Z,31nm,1.2s						
KNRA	**Kununurra**	**33.20**	**209**	P	**P**	**14 19 38.8**	**+0.2**
YSS	**Yuzh-Sakhalins**	**33.24**	**357**	P	**P**	**14 19 37.7**	**-0.9**
WRAB	**Tennant Creek**	**34.94**	**197**	P	**P**	**14 19 53.4**	**-0.2**
WRA	**Warramunga Arr**	**34.95**	**197**	P	**P**	**14 19 54.0**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=19,slow=9.1,SNR=17						
FITZ	**Fitzroy Crossi**	**36.80**	**211**	P	**P**	**14 20 10.1**	**+0.6**
FITZ				IAmb	IAmb	14 21 11.3	
	comp=Z,38nm,1.9s						
AS31	**Alice Springs**	**38.61**	**196**	P	**P**	**14 20 24.0**	**-0.7**
ASAR	**Alice Springs**	**38.61**	**196**	P	**P**	**14 20 25.0**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=20,slow=13,SNR=26						
EIDS	**Eidsvold**	**39.27**	**171**	P	**P**	**14 20 30.4**	**+0.4**
EIDS				IAmb	IAmb	14 22 00.6	
	comp=Z,38nm,1.9s						
STKA	**Stephens Creek**	**45.38**	**184**	P	**P**	**14 21 19.7**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=3.4,slow=7.8,SNR=4.6						
MA2	**Magadan**	**46.05**	**4**	LR	LR	14 39 30.0	
	comp=Z,37nm,20.0s,baz=74,slow=34						
ULN	**Ulaanbaatar**	**46.31**	**325**	P	**P**	**14 21 26.6**	**-0.2**
BBOO	**Buckleboo**	**46.96**	**190**	P	**P**	**14 21 32.2**	**+0.4**
BBOO				IAmb	IAmb	14 21 52.4	
	comp=Z,29nm,1.6s						
FORT	**Forrest**	**47.04**	**200**	P	**P**	**14 21 33.3**	**+0.8**
FORT				IAmb	IAmb	14 22 49.8	
	comp=Z,24nm,1.1s						
PBA	**Port Blair**	**50.79**	**274**	P	P	14 22 01.0	-0.4
TOO	**Toolangi**	**50.96**	**179**	P	**P**	**14 22 03.0**	**+0.7**
TOO				IAmb	IAmb	14 22 04.7	
	comp=Z,35nm,1.8s						
UNV	**Unalaska Valle**	**55.28**	**33**	P	**P**	**14 22 33.4**	**-0.3**
MKAR	**Makanchi Array**	**61.42**	**316**	P	**P**	**14 23 16.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=93,slow=8.7,SNR=2.7						
ILAR	**Eielson Array**	**68.52**	**25**	P	**P**	**14 24 00.1**	**-1.9**
	comp=Z,1.2nm,0.4s,baz=252,slow=5.7,SNR=36						
YKA	**Yellowknife Ar**	**82.81**	**27**	P	**P**	**14 25 22.8**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=285,slow=5.2,SNR=13						
NVAR	**Mina Array Bea**	**86.90**	**51**	P	**P**	**14 25 44.8**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=268,slow=5.4,SNR=4.5						

*ISCJB **24** 14:24:10.5±0.3, 60.43S±0.04×49.1W±0.1, h10km, mb4.4/16, MS3.7/11, Error ellipse: s-maj=7.9km s-min=6.0km az=176.9*
*IDC **24** 14:24:10.4±0.6, 60.37S×48.99W, h0km, mb4.4/14, mb1 4.4/15, mb1mx4.3/23, mbtmp4.4/15, ML3.9/1, MS3.7/13, Ms1 3.7/13, ms1mx3.5/31, Error ellipse: s-maj=22.3km s-min=14.2km az=72.0*
*NEIC **24** 14:24:13.1±1.8, 60.36S±0.09×48.9W±0.2, h17km±3km, mb4.7/23*
ISC 24 14:24:12.1±0.4, 60.36S±0.07×48.98W±0.07, h10km, n126, σ1ᵍ26/118, mb4.6/23, MS3.7/11, 2D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**8.24**	**231**	Pn	**Pn**	**14 26 10.2**	**-1.2**
	1.5nm,0.3s,baz=81,slow=6.4,SNR=7.3						
PMSA				Sn	**Sn**	**14 27 45.7**	**+1.3**
	0.4nm,0.3s,baz=114,slow=19,SNR=2.4						
PMSA				LR	LR	14 29 25.7	
	comp=Z,312nm,20.5s,baz=308,slow=38						
PMSA	**Palmer Station**	**8.24**	**231**	Pn	**Pn**	**14 26 10.7**	**-0.7**
HOPE	**Hope Point**	**9.09**	**53**		**Pn**	**14 26 21.4**	**-1.7**
USHA	**Ushuaia**	**11.79**	**289**	LR	LR	14 30 33.2	
	comp=Z,504nm,20.4s,baz=124,slow=32						
VNA3	**Neumayer Olymp**	**19.01**	**141**	P	**Pn**	**14 28 35.0**	**+0.7**
VNA2	**Neumayer~Watz**	**19.66**	**140**	P	**P**	**14 28 41.4**	**+0.8**
	baz=286,slow=12						
SNAA	**Sanae**	**21.24**	**141**	P	**P**	**14 28 59.4**	**+1.6**
SNAA	**Sanae**	**21.24**	**141**	P	**P**	**14 28 58.8**	**+1.0**
	12nm,1.0s,baz=289,slow=10,SNR=16						
SNAA	**Sanae**	**21.24**	**141**	P	**P**	**14 28 58.8**	**+1.0**
SNAA				IAmb	IAmb	14 29 03.8	
	comp=Z,35nm,1.4s						
PLCA	**Paso Flores**	**23.75**	**316**	P	**P**	**14 29 24.4**	**0.0**
	comp=Z,5.7nm,1.0s,baz=183,slow=8.8,SNR=10						
PLCA				LR	LR	14 38 04.7	
	comp=Z,154nm,21.6s,baz=189,slow=35						
PLCA	**Paso Flores**	**23.75**	**316**	*eP*	**P**	**14 29 24.5**	**+0.2**
PLCA	**Paso Flores**	**23.75**	**316**	*eP*	**P**	**14 29 24.5**	**+0.2**
PLCA	**Paso Flores**	**23.75**	**316**	P	**P**	**14 29 24.5**	**+0.2**
TRQA	**Tornquist**	**23.79**	**334**	*eP*	**P**	**14 29 26.6**	**+1.9**
TRQA	**Tornquist**	**23.79**	**334**	*eP*	**P**	**14 29 26.6**	**+1.9**
TRQA	**Tornquist**	**23.79**	**334**	P	**P**	**14 29 25.0**	**+0.3**
TRQA				IAmb	IAmb	14 29 35.5	
	comp=Z,45nm,1.6s						
GO06	**Curarrehue**	**25.09**	**316**	P	**P**	**14 29 36.6**	**-0.1**
GO05	**Huala**	**29.39**	**319**	P	**P**	**14 30 15.3**	**+0.1**
GO05				IAmb	IAmb	14 30 23.3	
	comp=Z,39nm,1.4s						
QSPA	**South Pole Qui**	**29.88**	**180**	P	**P**	**14 30 20.7**	**+1.3**
	comp=Z,19nm,0.8s,baz=172,slow=3.6,SNR=103						
QSPA	**South Pole Qui**	**29.88**	**180**	P	**P**	**14 30 20.8**	**+1.3**
QSPA				IAmb	IAmb	14 30 22.0	
	comp=Z,20nm,0.8s						
PEL	**Peldehue**	**30.72**	**323**	P	**P**	**14 30 27.4**	**+0.3**
ITAB	**Concordia**	**33.19**	**355**	*eP*	**P**	**14 30 50.5**	**+1.8**
ITAB	**Concordia**	**33.19**	**355**	*eP*	**P**	**14 30 50.5**	**+1.8**
CPUP	**Villa Florida**	**34.50**	**347**	P	**P**	**14 31 00.6**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=185,slow=12,SNR=2.2						
CPUP				LR	LR	14 43 59.5	
	comp=Z,135nm,21.5s,baz=172,slow=34						
SYO	**Syowa Base**	**35.52**	**142**	‖*eP*	**P**	**14 31 04.2**	**-4.3**
SYO	**Syowa Base**	**35.52**	**142**	‖*epP*	**P**	**14 31 08.2**	**-0.3**
PTGB	**Pitanga**	**35.69**	**355**	*eP*	**P**	**14 31 11.7**	**+1.3**
PTGB	**Pitanga**	**35.69**	**355**	*eP*	**P**	**14 31 11.7**	**+1.3**
SPB	**Sao Paulo**	**36.76**	**2**	*eP*	**P**	**14 31 20.3**	**+0.8**
SPB	**Sao Paulo**	**36.76**	**2**	*eP*	**P**	**14 31 20.3**	**+0.8**
VAO	**Valinhos**	**37.36**	**3**	*eP*	**P**	**14 31 26.2**	**+1.5**
VAO	**Valinhos**	**37.36**	**3**	*eP*	**P**	**14 31 26.2**	**+1.5**
ESAR	**Angra dos Reis**	**37.45**	**7**	*eP*	**P**	**14 31 26.4**	**+1.1**
ESAR	**Angra dos Reis**	**37.45**	**7**	*eP*	**P**	**14 31 26.4**	**+1.1**
TRCB	**Terra Rica**	**37.62**	**354**	*eP*	**P**	**14 31 27.6**	**+0.7**
TRCB	**Terra Rica**	**37.62**	**354**	*eP*	**P**	**14 31 27.6**	**+0.7**
RCLB	**Rio Claro- Sao**	**37.92**	**2**	*eP*	**P**	**14 31 30.9**	**+1.5**
RCLB	**Rio Claro- Sao**	**37.92**	**2**	*eP*	**P**	**14 31 30.9**	**+1.5**
BB19B	**Bebedouro**	**39.26**	**1**	*eP*	**P**	**14 31 41.4**	**+0.8**
BB19B	**Bebedouro**	**39.26**	**1**	*eP*	**P**	**14 31 41.4**	**+0.8**
PB10	**IPOC Station P**	**39.78**	**328**	P	**P**	**14 31 44.1**	**-0.8**
PB10				IAmb	IAmb	14 31 53.5	
	comp=Z,24nm,1.2s						
AQDB	**Aquidauana**	**40.13**	**350**	*eP*	**P**	**14 31 48.0**	**+0.1**
AQDB	**Aquidauana**	**40.13**	**350**	*eP*	**P**	**14 31 48.0**	**+0.1**
LVC	**Limon Verde**	**40.23**	**331**	P	**P**	**14 31 49.8**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=191,slow=10,SNR=2.5						
LVC	**Limon Verde**	**40.23**	**331**	*eP*	**P**	**14 31 49.5**	**+0.4**
LVC	**Limon Verde**	**40.23**	**331**	*eP*	**P**	**14 31 49.5**	**+0.4**
LVC	**Limon Verde**	**40.23**	**331**	P	**P**	**14 31 47.5**	**-1.6**
ITRB	**Iturama**	**40.62**	**358**	*eP*	**P**	**14 31 52.3**	**+0.3**
ITRB	**Iturama**	**40.62**	**358**	*eP*	**P**	**14 31 52.3**	**+0.3**
PB04	**IPOC Station P**	**40.80**	**329**	P	**P**	**14 31 53.5**	**-0.1**
PB04				IAmb	IAmb	14 31 55.4	
	comp=Z,25nm,1.2s						
VNDA	**Vanda**	**41.05**	**190**	LR	LR	14 49 52.6	
	comp=Z,41nm,18.5s,baz=158,slow=38						
C2SB	**Chapadao do Su**	**41.63**	**354**	*eP*	**P**	**14 32 01.8**	**+1.6**
C2SB	**Chapadao do Su**	**41.63**	**354**	*eP*	**P**	**14 32 01.8**	**+1.6**
PMNB	**Patos De Minas**	**41.81**	**4**	*eP*	**P**	**14 32 03.2**	**+1.4**
PMNB	**Patos De Minas**	**41.81**	**4**	*eP*	**P**	**14 32 03.2**	**+1.4**
BSFB	**Barra de Sao F**	**41.89**	**12**	*eP*	**P**	**14 32 03.7**	**+1.4**
BSFB	**Barra de Sao F**	**41.89**	**12**	*eP*	**P**	**14 32 03.7**	**+1.4**
SJMB	**Sao Joao De Ma**	**41.98**	**11**	*eP*	**P**	**14 32 04.0**	**+0.9**
SJMB	**Sao Joao De Ma**	**41.98**	**11**	*eP*	**P**	**14 32 04.0**	**+0.9**
IPMB	**Ipameri, GO**	**42.33**	**1**	*eP*	**P**	**14 32 07.3**	**+1.3**
IPMB	**Ipameri, GO**	**42.33**	**1**	*eP*	**P**	**14 32 07.3**	**+1.3**
PP1B	**Ponte de Pedra**	**42.91**	**352**	*eP*	**P**	**14 32 11.8**	**+1.1**
PP1B	**Ponte de Pedra**	**42.91**	**352**	*eP*	**P**	**14 32 11.8**	**+1.1**
MAW	**Mawson**	**43.06**	**149**	P	**P**	**14 32 12.5**	**+1.1**
	comp=Z,4.4nm,1.0s,baz=240,slow=7.2,SNR=4.0						
MAW				LR	LR	14 48 52.3	
	comp=Z,333nm,21.5s,baz=239,slow=34						
MAW	**Mawson**	**43.06**	**149**	P	**P**	**14 32 12.7**	**+1.3**
GO01	**Chusmiza**	**43.12**	**332**	P	**P**	**14 32 13.6**	**+0.6**
GO01				IAmb	IAmb	14 32 22.2	
	comp=Z,11nm,1.0s						
PB11	**IPOC Station P**	**43.14**	**331**	P	**P**	**14 32 12.6**	**-0.2**
PB11				IAmb	IAmb	14 32 14.8	
	comp=Z,11nm,0.9s						
MNMC	**Minye Minye**	**43.73**	**331**	P	**P**	**14 32 18.2**	**+0.5**
ARAG	**Araguaiana, MT**	**44.63**	**356**	*eP*	**P**	**14 32 25.9**	**+1.3**
ARAG	**Araguaiana, MT**	**44.63**	**356**	*eP*	**P**	**14 32 25.9**	**+1.3**
BDFB	**Brasilia**	**44.66**	**1**	P	**P**	**14 32 24.9**	**+0.1**
	comp=Z,6.3nm,1.0s,baz=151,slow=7.1,SNR=5.0						
BDFB				LR	LR	14 47 58.2	
	comp=Z,71nm,21.6s,baz=143,slow=32						
BDFB	**Brasilia**	**44.66**	**1**	P	**P**	**14 32 25.0**	**+0.1**
BDFB				IAmb	IAmb	14 32 33.4	
	comp=Z,9.8nm,1.1s						
SALV	**Santo Antonio**	**44.66**	**351**	*eP*	**P**	**14 32 25.5**	**+0.7**
SALV	**Santo Antonio**	**44.66**	**351**	*eP*	**P**	**14 32 25.5**	**+0.7**
SIV	**San Ignacio**	**45.17**	**343**	P	**P**	**14 32 28.9**	**0.0**
	comp=Z,6.0nm,0.9s,baz=174,slow=7.8,SNR=29						
LPAZ	**La Paz**	**46.15**	**334**	P	**P**	**14 32 37.3**	**0.0**
	comp=Z,3.0nm,0.7s,baz=176,slow=8.0,SNR=11						
LPAZ				LR	LR	14 52 47.7	
	comp=Z,70nm,21.9s,baz=171,slow=37						
LPAZ	**La Paz**	**46.15**	**334**	*eP*	**P**	**14 32 37.3**	**0.0**
LPAZ	**La Paz**	**46.15**	**334**	*eP*	**P**	**14 32 37.3**	**0.0**
LPAZ	**La Paz**	**46.15**	**334**	P	**P**	**14 32 37.0**	**-0.2**
LPAZ				IAmb	IAmb	14 32 47.3	
	comp=Z,4.2nm,0.8s						
CLDB	**Colider**	**49.65**	**351**	*eP*	**P**	**14 33 02.8**	**-0.9**
CLDB	**Colider**	**49.65**	**351**	*eP*	**P**	**14 33 02.8**	**-0.9**
SAML	**Samuel**	**52.40**	**342**	*eP*	**P**	**14 33 25.1**	**+0.7**
SAML	**Samuel**	**52.40**	**342**	*eP*	**P**	**14 33 25.1**	**+0.7**
SAML	**Samuel**	**52.40**	**342**	P	**P**	**14 33 24.3**	**0.0**
SAML				IAmb	IAmb	14 33 32.5	
	comp=Z,8.2nm,0.9s						
BOSA	**Boshof**	**57.85**	**92**	P	**P**	**14 34 03.0**	**-0.8**
	comp=Z,3.4nm,0.9s,baz=219,slow=8.9,SNR=5.4						
BOSA	**Boshof**	**57.85**	**92**	P	**P**	**14 34 02.7**	**-1.1**
H10N3	**ASCENSION HYDR**	**58.43**	**41**	T	T	15 37 47.0	
	baz=199,slow=75,SNR=30						
H10N1	**ASCENSION HYDR**	**58.43**	**41**	T	T	15 37 46.3	
	baz=199,slow=75,SNR=16						
H10N2	**ASCENSION HYDR**	**58.45**	**41**	T	T	15 37 49.3	
	baz=199,slow=75,SNR=30						
OTAV	**Otavalo**	**64.58**	**327**	*eP*	**P**	**14 34 49.8**	**-0.1**
OTAV	**Otavalo**	**64.58**	**327**	*eP*	**P**	**14 34 49.8**	**-0.1**
MDP	**Montagnes des**	**65.32**	**356**	LR	LR	15 02 13.4	
	comp=Z,51nm,19.7s,baz=155,slow=35						
ROSC	**El Rosal**	**67.98**	**333**	LR	LR	15 05 47.6	
	comp=Z,52nm,20.5s,baz=141,slow=37						
LSZ	**Lusaka**	**70.50**	**87**	P	**P**	**14 35 26.3**	**-0.7**
LSZ				IAmb	IAmb	14 35 27.8	
	comp=Z,6.5nm,1.1s						
LIC	**Lamto**	**74.79**	**46**	*eP*	**P**	**14 35 52.6**	**+0.4**
	comp=Z,66nm,1.0s						
LIC	**Lamto**	**74.79**	**46**	P	**P**	**14 35 52.6**	**+0.4**
KIC	**Kosan Boka**	**75.02**	**46**	*eP*	**P**	**14 35 53.5**	**-0.1**
	comp=Z,17nm,0.6s						
KIC	**Kosan Boka**	**75.02**	**46**	P	**P**	**14 35 53.5**	**-0.1**
TIC	**Toumodi**	**75.19**	**46**	*eP*	**P**	**14 35 54.5**	**0.0**
TIC	**Toumodi**	**75.19**	**46**	P	**P**	**14 35 54.5**	**0.0**
DBIC	**Dimbokro**	**75.27**	**46**	P	**P**	**14 35 55.1**	**+0.1**
	comp=Z,11nm,1.1s,baz=184,slow=5.7,SNR=8.8						
DBIC	**Dimbokro**	**75.27**	**46**	P	**P**	**14 35 54.5**	**-0.4**
DBIC				IAmb	IAmb	14 35 56.1	
	comp=Z,12nm,0.9s						
TOA0	**Torodi Ar. Sit**	**83.64**	**49**	P	**P**	**14 36 40.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**83.64**	**49**	P	**P**	**14 36 40.8**	**+0.3**
	comp=Z,7.0nm,0.9s,baz=213,slow=5.1,SNR=26						
STKA	**Stephens Creek**	**87.69**	**189**	LR	LR	15 13 20.5	
	comp=Z,36nm,21.2s,baz=208,slow=34						
ASAR	**Alice Springs**	**96.25**	**183**	P	**P**	**14 37 38.6**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=175,slow=4.4,SNR=4.8						
ASAR				LR	LR	15 19 26.9	
	comp=Z,33nm,22.0s,baz=145,slow=34						
BG3	**Lake Jocassee**	**99.02**	**332**	P	**Pdif**	**14 37 52.7**	**+0.3**
TXAR	**Lajitas Array**	**99.91**	**314**	LR	LR	15 20 00.1	
	comp=Z,34nm,18.5s,baz=0.0,slow=34						
WRA	**Warramunga Arr**	**99.94**	**183**	P	**Pdif**	**14 37 55.1**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=176,slow=3.5,SNR=3.0						
MNTX	**Cornudas

INCN Inchon 14.57 315 P **P** **14 29 22.4 +2.3**
INCN Inchon 14.57 315 P **P** **14 29 22.4 +2.3**
ASAJ Asahikawa 16.43 8 P **P** **14 29 39.4 0.0**
comp=Z,0.2nm,0.3s,baz=180,slow=18,SNR=2.4
JKA Kamikawa-asahi 16.43 8 P **P** **14 29 39.4 0.0**
NACB Ninganchiao 16.62 261 P **P** **14 29 39.3 -2.3**
YHNB Yeheng 16.68 263 P **P** **14 29 39.6 -2.6**
YULB Yu-li 17.11 259 P **P** **14 29 45.1 -1.4**
SSLB Suanglung 17.29 261 P **P** **14 29 47.1 -1.1**
USA0B Ussuriysk Arra 17.46 341 P **P** **14 29 49.1 -0.3**
USA0B pmax pmax
comp=Z,30nm,0.8s
USA0B Ussuriysk Arra 17.46 341 P **P** **14 29 49.1 -0.3**
USRK Ussuriysk Ar. 17.46 341 P **P** **14 29 49.5 +0.1**
baz=167,slow=9.9,SNR=47
TWG Pinlang 17.50 258 P **P** **14 29 49.5 -0.6**
TPUB Ta-pu 17.73 260 P **P** **14 29 51.2 -0.9**
CN2 Changchun 19.61 328 *e*P **P** **14 30 09.8 +0.7**
CN2 *es*P sP 14 32 19.5 -0.3
CN2 *e*S **S** **14 33 18.9 -1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
KLR Kul'dur 22.22 346 *i* P **P** **14 30 31.9 -0.7**
KLR pmax pmax
comp=Z,4.0nm,0.9s
KLR Kul'dur 22.22 346 P **P** **14 30 33.0 +0.4**
comp=Z,2.0nm,0.3s,baz=165,slow=12,SNR=13
KLR ScP **ScP** **14 36 58.7 +0.1**
comp=Z,2.6nm,0.8s,baz=164,slow=1.5,SNR=6.3
WHN Wuhan 22.23 283 P **P** **14 30 33.0 0.0**
WHN pmax pmax
comp=Z,46nm,0.6s
ENH Enshi 26.43 283 P **P** **14 31 09.0 -1.4**
HHC Hu-ho-hao-te 26.44 307 P P 14 30 56.9 -14
HHC pmax pmax
comp=Z,4.0nm,0.9s
HHC pmax pmax
comp=Z,120nm,5.5s
XAN Xi'an 27.00 291 P **P** **14 31 14.8 -0.6**
XAN pmax pmax
comp=Z,110nm,5.7s
XAN Xi'an 27.00 291 P **P** **14 31 14.3 -1.0**
XAN pmax pmax
comp=Z,10.0nm,0.6s
XAN Xi'an 27.00 291 P **P** **14 31 14.3 -1.0**
XAN IAmb IAmb 14 31 15.4
comp=Z,10nm,0.6s
ZEA Zeya 27.45 344 *e*P **P** **14 31 19.1 +0.2**
ZEA pmax pmax
comp=N,20nm,0.6s
ZEA pmax pmax
comp=E,19nm,0.5s
ZEA pmax pmax
comp=Z,24nm,0.5s
PEA0B Petropavlovsk- 28.59 23 P **P** **14 31 31.3 +2.4**
PEA0B pmax pmax
comp=Z,112nm,1.6s
PEA0B Petropavlovsk- 28.59 23 P **P** **14 31 31.3 +2.4**
PETK Petropavlovsk- 28.59 23 *e*P **P** **14 31 31.6 +2.7**
PETK pmax pmax
comp=Z,1.0nm,0.6s
PETK Petropavlovsk- 28.59 23 P **P** **14 31 30.9 +2.0**
comp=Z,1.2nm,0.6s,baz=209,slow=6.5,SNR=13
LZH Lanzhou 31.33 294 ⇑P **P** **14 31 52.3 -0.8**
LZH pP pP 14 33 19.6 +1.4
LZH PP **pwP** **14 33 26.9 +2.6**
LZH pmax pmax
comp=Z,23nm,1.5s
LZH pmax pmax
comp=Z,110nm,5.0s
CD2 Chengdu 31.33 284 *e*P **P** **14 31 51.6 -1.5**
ULN Ulaanbaatar 32.24 317⇑*e*P **P** **14 32 00.6 -0.1**
ULN pmax pmax
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 32.24 317 P **P** **14 32 00.2 -0.5**
ULN IAmb IAmb 14 32 01.5
comp=Z,7.2nm,0.8s
SONM Songino Array 32.63 317 P **P** **14 32 03.6 -0.4**
comp=Z,2.7nm,0.5s,baz=125,slow=8.0,SNR=16
SONM ScP **ScP** **14 37 30.4 -0.4**
comp=Z,1.4nm,0.7s,baz=151,slow=2.9,SNR=7.2
SLVN Son La 33.05 267 P **P** **14 32 07.2 -0.6**
SLVN IAmb IAmb 14 32 09.3
comp=Z,9.4nm,1.1s
YAK Yakutsk 34.84 352 *i* P **P** **14 32 21.6 -0.6**
YAK pmax pmax
comp=Z,4.0nm,0.5s
GTA Gaotai 34.86 300 P **P** **14 32 22.5 -0.4**
GTA sP sP 14 34 53.8 +6.3
GTA pmax pmax
comp=Z,14nm,1.0s
NONG Nongkai 34.87 262 P **P** **14 32 23.8 +0.7**
comp=Z,0.5nm,0.8s
CHAI Chaiyaphum 36.76 259 P **P** **14 32 39.0 +0.2**
comp=Z,44µm,0.8s,comp=Z,540µm
UTTA Uttaradit 37.26 263 P **P** **14 32 43.1 +0.2**
comp=Z,20µm,0.8s
PHRA Phrae 37.26 264 P **P** **14 32 43.3 +0.3**
comp=Z,1.5nm,0.9s
PBKT Sadao Pong 37.36 261 P **P** **14 32 44.2 +0.4**
comp=Z,8.5nm,0.8s,comp=Z,615nm
PBKT Sadao Pong 37.36 261 P **P** **14 32 43.9 +0.1**
PBKT IAmb IAmb 14 32 44.5
comp=Z,8.0nm,0.6s
PMG Port Moresby 37.72 168 P **P** **14 32 47.2 +0.5**
PMG pmax pmax
comp=Z,17nm,1.1s
PMG Port Moresby 37.72 168 P **P** **14 32 47.2 +0.5**
PMG IAmb IAmb 14 33 27.3
comp=Z,17nm,1.1s
CMMT Chiang Mai 38.28 265 P **P** **14 32 51.1 -0.2**
comp=Z,5.4nm,1.0s
CHTO Chiang Mai 38.28 265 P **P** **14 32 50.7 -0.6**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
CHTO Chiang Mai 38.28 265 P **P** **14 32 50.7 -0.6**
CHTO IAmb IAmb 14 32 51.8
comp=Z,6.2nm,0.8s
CMAR Chiang Mai Arr 38.41 265 *e*P **P** **14 32 52.2 -0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 38.41 265 P **P** **14 32 52.0 -0.3**
comp=Z,1.8nm,0.6s,baz=56,slow=8.0,SNR=13
UTHA Uthaitani 39.12 260 P **P** **14 32 58.8 +0.7**
comp=Z,17µm,0.6s,comp=Z,315µm
MHMT Maesarieng 39.41 265 P **P** **14 33 01.2 +0.8**
comp=Z,25nm,0.7s
SOEI Soe 40.21 204 P **P** **14 33 06.1 -0.9**
ADK Adak 40.42 41 P **P** **14 33 08.5 +0.5**
ADK pmax pmax
comp=Z,105nm,1.3s
ADK Adak 40.42 41 P **P** **14 33 08.4 +0.5**
MTN Manton Dam 41.26 193 P **P** **14 33 14.8 -0.4**
COEN Coen 41.67 175 P **P** **14 33 19.1 +0.6**
COEN IAmb IAmb 14 34 44.0
comp=Z,20nm,1.5s
LSA Lhasa 42.30 285 P **P** **14 33 24.5 +0.6**
LSA pmax pmax
comp=Z,5.0nm,0.8s
LSA Lhasa 42.30 285 P **P** **14 33 24.5 +0.6**
SHL Shillong 42.51 278 P **P** **14 33 24.5 -0.8**
SHL pmax pmax
comp=Z,12nm,0.9s
SHL Shillong 42.51 278 P **P** **14 33 24.5 -0.8**
SHL IAmb IAmb 14 33 25.6
comp=Z,12nm,0.9s
KULM Kulim 43.27 246 P **P** **14 33 31.1 -0.1**
KULM IAmb IAmb 14 33 46.4
comp=Z,27nm,1.3s
BILL Bilibino 43.28 14⇓*e*P **P** **14 33 30.3 -0.1**
BILL *e**PP **PcP** **14 35 08.5 +0.4**
BILL *e* 14 35 26.8
BILL pmax pmax
comp=Z,7.0nm,0.9s
BILL Bilibino 43.28 14 P **P** **14 33 31.2 +0.8**
BILL IAmb IAmb 14 33 32.1
comp=Z,7.0nm,0.9s
TIXI Tiksi 44.27 355 *i* P **P** **14 33 37.0 -1.1**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
TIXI Tiksi 44.27 355 P **P** **14 33 37.8 -0.3**
TIXI IAmb IAmb 14 35 01.2
comp=Z,16nm,2.0s
WMQ Urumqi 44.31 305 *e*P **P** **14 33 38.6 -0.3**
WMQ pmax pmax
comp=Z,18nm,0.9s
WMQ Urumqi 44.31 305 P **P** **14 33 38.9 0.0**
WMQ pmax pmax
comp=Z,12nm,0.6s
WMQ Urumqi 44.31 305 P **P** **14 33 38.9 0.0**
WMQ IAmb IAmb 14 33 40.1
comp=Z,12nm,0.6s
KNRA Kununurra 44.51 195 P **P** **14 33 40.5 -0.1**
TAPN Taplejung 45.73 282 *e*P **P** **14 33 50.6 +0.2**
comp=Z,16nm,0.3s
ODAN Odare 46.12 282 *e*P **P** **14 33 53.5 +0.2**
comp=Z,24nm,0.3s
RAMN Ramite 46.79 282 *e*P **P** **14 33 58.4 0.0**
comp=Z,37nm,0.5s
UNV Unalaska Valle 46.88 41 P **P** **14 33 58.4 +0.1**
JIRN Jiri 46.98 283 *e*P **P** **14 34 00.5 +0.6**
comp=Z,101nm,0.5s
GUN Gumba 47.19 283 *e*P **P** **14 34 02.0 +0.5**
comp=Z,52nm,0.3s
AKUT Akutan 47.36 41 P **P** **14 34 02.6 +0.7**
ZAA0 Zalesovo Array 47.45 319 P **P** **14 34 01.5 -1.2**
ZAA0 IAmb IAmb 14 34 02.6
comp=Z,8.8nm,0.9s
ZALV Zalesovo Beam 47.45 319 *e*P **P** **14 34 01.9 -0.7**
ZALV pmax pmax
comp=Z,5.0nm,0.4s
ZALV Zalesovo Beam 47.45 319 P **P** **14 34 02.0 -0.6**
comp=Z,4.8nm,0.4s,baz=102,slow=7.0,SNR=25
ZALV ScP **ScP** **14 38 27.2 -1.3**
comp=Z,2.2nm,0.6s,baz=123,slow=4.7,SNR=10
FITZ Fitzroy Crossi 47.62 198 P **P** **14 34 04.6 +0.3**
FITZ IAmb IAmb 14 35 39.6
comp=Z,31nm,1.7s
PKI Pulchoki 47.67 283 *e*P **P** **14 34 04.8 -0.3**
comp=Z,1.5nm,0.3s
PKIN Phulchoki 47.68 283 *e*P **P** **14 34 04.7 -0.4**
comp=Z,15nm,0.4s
KKN Kakani 47.73 283 *e*P **P** **14 34 05.5 +0.1**
comp=Z,22nm,0.4s
WRAB Tennant Creek 47.75 187 P **P** **14 34 05.0 -0.3**
WRAB pmax pmax
comp=Z,9.0nm,0.5s
WRAB Tennant Creek 47.75 187 P **P** **14 34 05.0 -0.3**
WRAB IAmb IAmb 14 34 06.4
comp=Z,9.1nm,0.5s
WR0 Warramunga Arr 47.76 186 P **P** **14 34 04.6 -0.8**
WR0 IAmb IAmb 14 34 06.0
comp=Z,9.7nm,0.9s
WRA Warramunga Arr 47.76 187 *e*P **P** **14 34 05.1 -0.3**
WRA pmax pmax
comp=Z,7.0nm,0.3s
WRA Warramunga Arr 47.76 187 P **P** **14 34 05.2 -0.1**
comp=Z,6.1nm,0.3s,baz=1.2,slow=7.7,SNR=168
WRA PcP **PcP** **14 35 25.4 +0.8**
comp=Z,0.4nm,0.3s,baz=357,slow=3.4,SNR=6.5
WRA ScP **ScP** **14 38 30.3 0.0**
comp=Z,1.6nm,0.8s,baz=0.7,slow=4.7,SNR=5.1
WRA S **S** **14 40 20.6 -3.6**
comp=Z,0.5nm,0.8s,baz=0.2,slow=13,SNR=4.6
DMN Daman 47.92 283 *e*P **P** **14 34 07.0 +0.1**
comp=Z,28nm,0.4s
CTA Charters Tower 48.06 172 P **P** **14 34 08.3 +0.7**
CTA pmax pmax
comp=Z,13nm,1.3s
CTAO Charters Tower 48.06 172 P **P** **14 34 08.4 +0.8**
CTAO pmax pmax
comp=Z,13nm,1.3s
GSI Gunungsitoli 48.09 244 P **P** **14 34 07.7 -0.3**
GSI IAmb IAmb 14 34 09.1
comp=Z,22nm,1.2s
GKN Gorkha 48.23 284 *e*P **P** **14 34 09.1 0.0**
comp=Z,16nm,0.2s
MK31 Makanchi Array 48.26 309⇑*e*P **P** **14 34 08.5 -0.4**
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MK31 Makanchi Array 48.26 309 P **P** **14 34 08.5 -0.4**
MKAR Makanchi Array 48.26 309 P **P** **14 34 08.5 -0.4**
comp=Z,4.4nm,0.3s,baz=88,slow=10,SNR=70
MKAR ScP **ScP** **14 38 31.2 -1.1**
comp=Z,1.1nm,0.5s,baz=81,slow=5.3,SNR=11
MAKZ Makanchi 48.48 309 P **P** **14 34 10.2 -0.3**
MAKZ pmax pmax
comp=Z,18nm,1.3s
MAKZ Makanchi 48.48 309 P **P** **14 34 10.2 -0.3**
MAKZ IAmb IAmb 14 34 11.2
comp=Z,18nm,1.3s
DANN Dangsing 48.91 285 *e*P **P** **14 34 14.7 +0.4**
KOLN Koldanda 49.18 284 *e*P **P** **14 34 16.3 +0.1**
comp=Z,13nm,0.3s
PDGK Podgornoye 50.27 305 P **P** **14 34 23.2 -0.7**
PDGK pmax pmax
comp=Z,11nm,0.6s
ANM Nome 50.34 27 P **P** **14 34 25.5 +1.6**
ANM pmax pmax
comp=Z,5.0nm,0.7s
ANM Nome 50.34 27 P **P** **14 34 25.4 +1.6**
KURK Kurchatov 50.86 314*ce*P **P** **14 34 27.4 -0.5**
KURK pmax pmax
comp=Z,14nm,0.6s
KURK Kurchatov 50.86 314 P **P** **14 34 27.2 -0.7**
KURK IAmb IAmb 14 34 28.2
comp=Z,18nm,0.7s
PRZ Przheval'sk 51.12 304 P **P** **14 34 29.6 -0.6**
PRZ pmax pmax
comp=Z,28nm,0.7s
PRZ Przheval'sk 51.12 304 P **P** **14 34 29.6 -0.6**
NRIK Noril'sk 51.15 339 P **P** **14 34 29.4 -0.3**
comp=Z,5.4nm,0.4s,baz=102,slow=9.4,SNR=14
NRIK ScP **ScP** **14 38 43.5 -0.7**
comp=Z,1.0nm,0.3s,baz=165,slow=2.1,SNR=3.6
AS31 Alice Springs 51.49 187 P **P** **14 34 32.6 -0.2**
ASAR Alice Springs 51.49 187 P **P** **14 34 32.7 -0.1**
comp=Z,2.6nm,0.5s,baz=4.7,slow=5.6,SNR=92
ASAR PcP **PcP** **14 35 39.1 +0.7**
comp=Z,1.2nm,0.8s,baz=0.9,slow=4.3,SNR=6.5
ASAR ScP **ScP** **14 38 46.0 -0.2**
comp=Z,0.4nm,0.6s,baz=359,slow=4.8,SNR=5.0
ASAR S **S** **14 41 12.8 -2.2**
comp=Z,0.2nm,0.6s,baz=4.0,slow=10,SNR=5.1
KDJ Kajisay 52.05 303 P **P** **14 34 37.0 +0.1**
KDJ pmax pmax
comp=Z,5.0nm,0.6s
KDJ Kajisay 52.05 303 P **P** **14 34 37.0 +0.1**
ULHL Ulahol 52.73 303 P **P** **14 34 42.3 +0.4**
SNR=7.4
KSH Kashi 53.26 300 P **P** **14 34 48.8 +3.2**
KSH PcP **PcP** **14 35 47.6 +2.3**
KSH S **S** **14 41 41.4 +2.9**
KSH sS sS 14 44 37.3 +3.6
KSH pmax pmax
comp=Z,39nm,0.6s
KSH pmax pmax
comp=Z,700nm,9.0s
CHIR Chirikof Islan 53.38 39 P **P** **14 34 46.5 +0.6**
KZA Kyzart 53.48 303 P **P** **14 34 48.6 +1.2**
SNR=5.3
KBK Karagaybulak 53.64 304 P **P** **14 34 48.7 +0.4**
SNR=12
FRU1 Bishkek 53.86 304 P **P** **14 34 49.9 +0.2**
FRU1 pmax pmax
comp=Z,14nm,0.9s
FRU1 Bishkek 53.86 304 P **P** **14 34 49.9 +0.2**
FRU1 IAmb IAmb 14 34 50.8
comp=Z,14nm,0.9s
TTA Tatalina 53.97 31 P **P** **14 34 51.1 +1.0**
TTA pmax pmax
comp=Z,24nm,1.7s
TTA Tatalina 53.97 31 P **P** **14 34 51.1 +1.0**
TTA IAmb IAmb 14 34 54.9
comp=Z,24nm,1.7s
AAK Ala-Archa 53.98 304*ce*P **P** **14 34 50.6 -0.1**
AAK pmax pmax
comp=Z,5.0nm,0.4s
AAK Ala-Archa 53.98 304 P **P** **14 34 50.9 +0.2**
SNR=7.2
AAK Ala-Archa 53.98 304 P **P** **14 34 50.5 -0.1**
AAK IAmb IAmb 14 34 51.1
comp=Z,6.6nm,0.5s
UCH Uchtor 54.01 304 P **P** **14 34 52.2 +1.0**
SNR=18
EIDS Eidsvold 54.02 167 P **P** **14 34 51.8 +0.9**
AML Almayashu 54.63 304 P **P** **14 34 56.4 +0.9**
SNR=15
OHAK Old Harbor 54.74 38 P **P** **14 34 55.8 +0.3**
KDAK Kodiak Island 55.15 37 P **P** **14 34 58.7 +0.3**
KDAK pmax pmax
comp=Z,51nm,1.4s
KDAK Kodiak Island 55.15 37 P **P** **14 34 58.7 +0.3**
KDAK IAmb IAmb 14 36 36.3
comp=Z,51nm,1.4s
RSO Redoubt South 55.22 34 P **P** **14 34 59.9 +0.8**
ARSB Arslanbob 55.26 303 P **P** **14 34 59.8 +0.1**
ARSB IAmb IAmb 14 35 00.9
comp=Z,9.7nm,0.5s
SKT Skwentna 55.92 32 P **P** **14 35 04.1 +0.3**
SKT IAmb IAmb 14 36 07.3
comp=Z,51nm,1.9s
DZM Mont Dzumac 55.96 150 P **P** **14 35 05.0 +0.4**
DZM IAmb IAmb 14 36 14.7
comp=Z,40nm,1.6s
BRVK Borovoye 56.03 317*ce*P **P** **14 35 04.5 -0.1**
BRVK pmax pmax
comp=Z,15nm,0.7s
BRVK Borovoye 56.03 317 P **P** **14 35 04.3 -0.4**
BRVK IAmb IAmb 14 35 05.3
comp=Z,16nm,0.8s
BRLK Bradley Lake 56.11 35 P **P** **14 35 04.8 -0.3**
BRLK IAmb IAmb 14 36 35.6
comp=Z,65nm,1.8s
SUA Susitna One 56.26 33 P **P** **14 35 06.6 +0.4**
SUA IAmb IAmb 14 35 37.1
comp=Z,56nm,1.9s
KTH Kantishna Hill 56.33 30 P **P** **14 35 08.6 +1.9**
KTH IAmb IAmb 14 36 56.6
comp=Z,58nm,2.0s
BPAW Bear Paw Mtn. 56.35 30 P **P** **14 35 07.7 +1.0**
NIL Nilore 56.49 294 P **P** **14 35 08.1 -0.1**
NIL pmax pmax
comp=Z,14nm,0.6s
NIL Nilore 56.49 294 P **P** **14 35 08.1 -0.1**
NIL IAmb IAmb 14 35 10.1
comp=Z,14nm,0.6s
MLY Manley 56.55 28 P **P** **14 35 09.0 +1.0**
TRF Thorofare Moun 56.60 30 P **P** **14 35 09.7 +1.1**
TRF IAmb IAmb 14 36 43.0
comp=Z,62nm,2.0s
RC01 Rabbit Creek A 56.73 33 P **P** **14 35 09.7 +0.4**
RC01 IAmb IAmb 14 36 42.6
comp=Z,75nm,2.0s
KK31 Karatay Array 56.82 305 *e*P **P** **14 35 10.2 -0.1**
KK31 pmax pmax
comp=Z,4.0nm,0.4s
KK31 Karatay Array 56.82 305 P **P** **14 35 10.0 -0.2**
KK31 IAmb IAmb 14 35 11.0
comp=Z,15nm,0.8s
KKAR Karatay Array 56.82 305 P **P** **14 35 10.1 -0.2**
KKAR pmax pmax
comp=Z,15nm,0.8s
KKAR Karatay Array 56.82 305 P **P** **14 35 10.1 -0.2**
KKAR IAmb IAmb 14 35 11.1
comp=Z,15nm,0.8s
SEW Seward 56.84 34 P **P** **14 35 10.1 +0.1**
BWN Browne 57.02 30 P **P** **14 35 11.9 +0.7**
PMR Palmer 57.04 33 P **P** **14 35 10.5 -0.9**
PMR pmax pmax
comp=Z,27nm,1.7s
PMR Palmer 57.04 33 P **P** **14 35 10.5 -0.9**
PMR IAmb IAmb 14 36 58.5
comp=Z,27nm,1.7s
GHO Glory Hole Cre 57.15 32 P **P** **14 35 12.6 +0.3**
GHO IAmb IAmb 14 36 18.1
comp=Z,33nm,1.7s
NEA Nenana 57.22 29 P **P** **14 35 13.7 +1.1**
MCK McKinley 57.23 30 P **P** **14 35 13.3 +0.6**
MCK pmax pmax
comp=Z,12nm,0.8s
MCK McKinley 57.23 30 P **P** **14 35 13.3 +0.6**
MCK IAmb IAmb 14 35 14.1
comp=Z,12nm,0.8s
RND Reindeer 57.25 30 P **P** **14 35 13.0 +0.1**
RND pmax pmax
comp=Z,8.0nm,0.6s
RND Reindeer 57.25 30 P **P** **14 35 13.0 +0.1**
RND IAmb IAmb 14 35 13.8
comp=Z,7.7nm,0.6s
KNK Knik Glacier 57.36 33 P **P** **14 35 13.9 +0.2**
KNK IAmb IAmb 14 35 14.5
comp=Z,8.9nm,0.6s
TOLK Toolik Lake Re 57.40 24 P **P** **14 35 14.9 +1.0**
SML Sawmill 57.43 32 P **P** **14 35 14.9 +0.7**
SML pmax pmax
comp=Z,37nm,1.5s
SML Sawmill 57.43 32 P **P** **14 35 14.9 +0.7**
SML IAmb IAmb 14 37 00.5
comp=Z,37nm,1.5s
MDM Murphy Dome 57.60 29 P **P** **14 35 15.8 +0.5**
MDM IAmb IAmb 14 35 17.0
comp=Z,8.4nm,0.5s
WRH Wood River Hil 57.64 29 P **P** **14 35 15.6 +0.1**
WRH IAmb IAmb 14 35 27.6
comp=Z,31nm,1.9s
GAR Garm 57.67 300 P **P** **14 35 15.9 -0.4**
GAR IAmb IAmb 14 35 16.6
comp=Z,19nm,0.6s
COLA College 57.76 29 P **P** **14 35 17.4 +1.1**
COLA pmax pmax
comp=Z,8.0nm,0.4s
COLA College 57.76 29 P **P** **14 35 17.4 +1.1**
COLA IAmb IAmb 14 35 18.4
comp=Z,8.1nm,0.3s
CCB Clear Creek Bu 57.77 29 P **P** **14 35 16.2 -0.2**
DHY Denali Highway 57.90 31 P **P** **14 35 18.1 +0.6**
SCM Sheep Creek Mo 57.91 32 P **P** **14 35 18.2 +0.8**
SCM pmax pmax
comp=Z,22nm,1.1s
SCM Sheep Creek Mo 57.91 32 P **P** **14 35 18.2 +0.8**
SCM IAmb IAmb 14 35 21.7
comp=Z,22nm,1.1s
GLI Glacier Island 58.02 34 P **P** **14 35 18.5 +0.4**
HDA Harding Lake 58.13 29 P **P** **14 35 18.5 -0.3**
IL31 58.17 29 P **P** **14 35 18.6 -0.4**
ILAR Eielson Array 58.17 29 *e*P **P** **14 35 18.6 -0.5**
ILAR pmax pmax
comp=Z,2.0nm,0.3s
ILAR Eielson Array 58.17 29 P **P** **14 35 18.8 -0.3**
comp=Z,1.7nm,0.5s,baz=249,slow=5.6,SNR=51
HIN Hinchinbrook I 58.32 34 P **P** **14 35 20.9 +0.7**
FID Port Fidalgo 58.32 34 P **P** **14 35 20.2 0.0**
CHGR Chuyangaron 58.63 300 P **P** **14 35 22.6 -0.2**
EYAK Cordova Ski Ar 58.68 34 P **P** **14 35 23.2 +0.6**
PRP Porcupine Dome 58.76 28 P **P** **14 35 24.1 +0.8**
PRP IAmb IAmb 14 35 31.4
comp=Z,20nm,1.8s
KKH Kailua Kona 58.90 83 P **P** **14 35 23.8 -0.9**
KKH Kailua Kona 58.90 83 P **P** **14 35 23.8 -0.9**
ARMA Armidale 59.04 168 P **P** **14 35 25.7 +0.2**
RIDG Independent Ri 59.05 30 P **P** **14 35 25.4 +0.3**
RIDG IAmb IAmb 14 36 56.5
comp=Z,48nm,1.9s
RAGM Ragged Mountai 59.22 34 P **P** **14 35 27.4 +1.1**
FORT Forrest 59.31 192 P **P** **14 35 27.1 -0.1**
FORT IAmb IAmb 14 36 39.7
comp=Z,28nm,1.2s
DOT Dot Lake 59.40 30 P **P** **14 35 27.5 +0.1**
DOT IAmb IAmb 14 35 28.5
comp=Z,9.5nm,0.8s
STKA Stephens Creek 59.40 178 P **P** **14 35 27.9 +0.1**
comp=Z,3.1nm,0.7s,baz=344,slow=8.3,SNR=14
STKA Stephens Creek 59.40 178 P **P** **14 35 27.8 +0.1**
SCRK Sand Creek 59.42 30 P **P** **14 35 27.9 +0.2**
SCRK IAmb IAmb 14 35 28.8
comp=Z,10nm,0.6s
MENT Mentasta 59.57 31 P **P** **14 35 29.6 +0.9**
MENT IAmb IAmb 14 35 30.5
comp=Z,6.6nm,0.6s
GLB Gilahina Butte 59.59 33 P **P** **14 35 29.6 +0.8**
GLB IAmb IAmb 14 37 24.6
comp=Z,38nm,1.8s
KBL Kabul 59.67 296 P **P** **14 35 29.4 -0.6**
KBL pmax pmax
comp=Z,8.0nm,1.0s
KBL Kabul 59.67 296 P **P** **14 35 29.4 -0.6**
EGAK Eagle 60.62 29 P **P** **14 35 35.5 +0.1**
EGAK IAmb IAmb 14 35 37.9
comp=Z,30nm,1.9s
ARU Arti 62.46 322*c i*P **P** **14 35 47.1 -0.5**
ARU *PP **pP** **14 37 27.9 -1.1**
ARU S **S** **14 43 35.2 +0.3**
ARU SS **SS** **14 47 51.7 +1.7**
ARU pmax pmax

comp=Z,8.0nm,0.5s
ARU Arti 62.46 322 P **P** **14 35 46.8 -0.8**
AB31 Akbulak array 62.96 314 *i* P **P** **14 35 50.2 -0.8**
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR Akbulak array 62.96 314 P **P** **14 35 50.5 -0.6**
ABKAR IAmb IAmb 14 35 51.2
comp=Z,8.5nm,0.7s
INK Inuvik 63.31 25 P **P** **14 35 53.0 +0.1**
INK pmax pmax
comp=Z,17nm,1.8s
INK Inuvik 63.31 25 P **P** **14 35 53.0 +0.1**
comp=Z,1.3nm,0.3s,baz=292,slow=5.0,SNR=18
INK Inuvik 63.31 25 IAmb IAmb 14 36 51.9
comp=Z,18nm,1.8s
AKTO Aktyubinsk 63.93 315 P **P** **14 35 56.2 -1.0**
AKTO pmax pmax
comp=Z,5.0nm,0.7s
GEYT Allbeck 67.20 302 P **P** **14 36 18.3 +0.3**
comp=Z,1.2nm,0.5s,baz=44,slow=7.0,SNR=4.1
RES Resolute Bay 71.88 13 P **P** **14 36 45.9 +0.6**
ARCES ARCESS Array B 72.10 340 *e*P **P** **14 36 45.4 -1.3**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 72.10 340 P **P** **14 36 46.8 +0.1**
comp=Z,2.0nm,0.5s,baz=66,slow=6.3,SNR=16
YKA Yellowknife Ar 72.57 28 P **P** **14 36 49.6 +0.1**
comp=Z,2.8nm,0.5s,baz=296,slow=5.8,SNR=62
SGF Sodankyl 72.89 338 P **P** **14 36 51.3 0.0**
OBN Obninsk 74.63 325‖ *e*P **P** **14 37 01.1 -0.3**
OBN *e* 14 37 11.3
OBN *e**PP **pP** **14 38 48.1 +0.4**
OBN *e* 14 39 52.3
OBN *e*S **S** **14 46 03.9 +8.2**
OBN pmax pmax
comp=Z,3.0nm,0.9s
VSR Storozhevoye 74.94 320 *i* P **P** **14 37 02.9 -0.3**
VSR pmax pmax
comp=Z,87nm,4.0s
SUF Sumiainen 75.56 334 P **P** **14 37 05.7 -0.7**
KBZ Khabaz 75.85 312 *e*P **P** **14 37 09.9 +1.5**
KBZ pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 75.85 312 P **P** **14 37 08.5 +0.1**
comp=Z,2.8nm,0.8s,baz=120,slow=3.3,SNR=9.7
KIV Kislovodsk 75.89 312 *e*P **P** **14 37 08.1 -0.7**
KIV pmax pmax
comp=Z,9.0nm,1.0s
LTY Liberty 76.21 44 P **P** **14 37 11.1 +0.6**
LTY IAmb IAmb 14 38 58.8
comp=Z,23nm,1.7s
FINES FINESS Array B 76.28 333 P **P** **14 37 10.0 -0.5**
comp=Z,4.9nm,0.3s,baz=66,slow=4.8,SNR=82
B08A Colville Reser 76.53 42 P **P** **14 37 12.9 +0.7**
VSU Vasula 77.65 330 *i* P **P** **14 37 17.3 -0.7**
VSU pmax pmax
comp=Z,50nm,1.0s
NEW Newport 77.89 42 P **P** **14 37 20.6 +1.0**
NEW pmax pmax
comp=Z,7.0nm,1.8s
BMO Blue Mountains 79.40 45 P **P** **14 37 28.6 +0.8**
BMO pmax pmax
comp=Z,3.0nm,0.7s
BMO Blue Mountains 79.40 45 P **P** **14 37 28.6 +0.8**
BEKR Beckworth 79.75 50 P **P** **14 37 30.6 +0.7**
BEKR IAmb IAmb 14 37 31.5
comp=Z,7.4nm,0.7s
PAHR Pah Rah Range 80.49 50 P **P** **14 37 34.5 +0.8**
PNTR Pine Nut 80.63 51 P **P** **14 37 35.6 +1.0**
AKASG Malin Array Be 80.68 323 P **P** **14 37 33.4 -0.9**
comp=Z,0.6nm,0.4s,baz=52,slow=5.4,SNR=3.0
WAKR Walker 81.02 51 P **P** **14 37 37.2 +0.6**
MFID Camas Ranch 81.03 46 P **P** **14 37 37.1 +0.7**
RYN Ryan 81.59 51 P **P** **14 37 40.3 +0.9**
KVN Kaiserville 81.67 50 P **P** **14 37 40.8 +0.9**
KVN pmax pmax
comp=Z,3.0nm,0.6s
KVN Kaiserville 81.67 50 P **P** **14 37 40.8 +0.9**
NVAR Mina Array Bea 81.83 51 P **P** **14 37 41.9 +1.1**
comp=Z,2.4nm,0.7s,baz=293,slow=5.8,SNR=24
NB2 NORSAR Subarra 82.08 337 P **P** **14 37 39.9 -1.4**
comp=Z,1.2nm,0.6s,baz=46,slow=5.1
NOA NORSAR Array B 82.08 337 *e*P **P** **14 37 40.8 -0.5**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 82.08 337 P **P** **14 37 40.4 -0.9**
comp=Z,0.9nm,0.6s,baz=40,slow=4.8,SNR=3.6
FFC Flin Flon 82.30 31 P **P** **14 37 42.8 +0.3**
FFC pmax pmax
comp=Z,5.0nm,2.5s
ELK Elko 82.75 48 P **P** **14 37 46.5 +1.1**
ELK pmax pmax
comp=Z,5.0nm,1.1s
ELK Elko 82.75 48 P **P** **14 37 46.5 +1.1**
RAYN Ar Rayn 82.78 293 P **P** **14 37 45.5 -0.1**
RAYN pmax pmax
comp=Z,10.0nm,0.9s
RAYN Ar Rayn 82.78 293 P **P** **14 37 45.5 -0.1**
RAYN IAmb IAmb 14 37 46.6
comp=Z,10nm,0.9s
YHB Horse Butte 83.19 43 P **P** **14 37 47.8 +0.3**
GCMT Greycliff 83.53 41 P **P** **14 37 47.8 -1.3**
R11A Troy Canyon, C 83.73 50 P **P** **14 37 50.9 +0.7**
H17A Grant Village 83.76 43 P **P** **14 37 53.1 +2.8**
BRTR Keskin Array B 83.84 312 *e*P **P** **14 37 49.9 -0.8**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 83.84 312 P **P** **14 37 50.2 -0.5**
comp=Z,0.5nm,0.5s,baz=114,slow=3.3,SNR=4.7
TPNV Topopah Spring 83.98 51 P **P** **14 37 52.4 +0.9**
TPNV pmax pmax
comp=Z,5.0nm,0.9s
TPNV Topopah Spring 83.98 51 P **P** **14 37 52.4 +0.9**
GSC Goldstone, Bar 84.42 53 P **P** **14 37 54.6 +1.0**
GSC pmax pmax
comp=Z,4.0nm,0.9s
GSC Goldstone, Bar 84.42 53 P **P** **14 37 54.6 +1.0**
DUG Dugway, Tooele 84.61 47 P **P** **14 37 55.8 +1.2**
DUG pmax pmax
comp=Z,5.0nm,1.0s
PDAR Pinedale Array 85.27 44 P **P** **14 37 58.4 +0.6**
comp=Z,0.7nm,0.7s,baz=245,slow=2.9,SNR=7.2
PFO Pinyon Flats O 85.52 54 P **P** **14 37 59.9 +0.9**
PFO pmax pmax
comp=Z,7.0nm,1.4s
VYHS Vyhne 87.42 325 *e*P P 14 38 13.8 +6.2
VYHS Vyhne 87.42 325 *e*P P 14 38 13.8 +6.2
ULM Lac du Bonnet 88.05 32 *e*P **P** **14 38 11.2 +0.7**
ULM pmax pmax
comp=Z,1.0nm,0.5s
ULM Lac du Bonnet 88.05 32 P **P** **14 38 10.6 +0.1**
comp=Z,1.2nm,0.5s,baz=334,slow=7.9,SNR=3.6
ANMO Albuquerque 91.73 49 *e*P **P** **14 38 29.1 +1.0**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 91.73 49 P **P** **14 38 28.7 +0.6**
ANMO IAmb IAmb 14 38 30.8
comp=Z,2.8nm,0.9s
DBIC Dimbokro 131.50 310 SKPbc **SKPbc** **14 47 07.1 -0.8**
comp=Z,2.3nm,0.5s,baz=13,slow=3.9,SNR=5.9
MNMC Minye Minye 151.88 78 **PKiKP** **14 45 13.8 +0.8**
LPAZ La Paz 151.89 72 PKPbc **PKiKP** **14 45 13.8 +0.2**
comp=Z,2.6nm,0.5s,baz=320,slow=3.8,SNR=14
LPAZ La Paz 151.89 72 **PKiKP** **14 45 14.1 +0.6**
PB11 IPOC Station P 152.08 80 **PKiKP** **14 45 13.8 +0.5**
PLCA Paso Flores 152.08 125 PKPbc **PKiKP** **14 45 12.5 0.0**
comp=Z,3.1nm,0.5s,baz=261,slow=2.5,SNR=28
GO01 Chusmiza 152.44 79 **PKiKP** **14 45 15.0 +0.6**

ISCJB ***24*** *14:29:01.5±0.4, 27.51N±0.04×140.45E±0.05, h150km, mb3.7/9, Error ellipse: s-maj=7.0km s-min=4.8km az=147.6*
NEIC ***24*** *14:29:03.4±1.7, 27.59N±0.09×140.55E±0.06, h160km±8km, mb4.6/11*
IDC ***24*** *14:29:03.6±1.4, 27.61N×140.61E, h156km±12km, mb3.6/9, mb1 3.7/12, mb1mx3.3/44, mbtmp4.0/12, Error ellipse: s-maj=24.2km s-min=16.4km az=79.0*
JMA ***24*** *14:29:04.3, 27.71N×141.43E, h199km, M4.0*
ISC 24 14:29:02.5±0.6, 27.58N±0.06×140.47E±0.07, h150km, n35, σ1§65/41, mb4.0/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.60**	**107**	P	**Pn**	**14 29 33.5**	**+0.3**
CBIJ				*e*S	**Sn**	**14 29 55.9**	**-0.7**
JCJ	**Chichijima**	**1.60**	**107**	P	**Pn**	**14 29 34.2**	**+1.1**
	48nm,0.3s,baz=294,slow=20,SNR=7.8						
JCJ				S	**Sn**	**14 29 56.4**	**-0.2**
	443nm,0.3s,baz=292,slow=23,SNR=20						
JHH2	**Haha-jima-NKT2**	**1.79**	**121**	P	**Pn**	**14 29 36.0**	**+0.8**
JHH2				*e*S	**Sn**	**14 30 00.4**	**+0.1**
BSO1	**Boso 1**	**7.07**	**3**	P	**Pn**	**14 30 44.1**	**+1.2**
BSO1				*e*S	**Sn**	**14 32 00.3**	**-1.5**
BSO3	**Boso 3**	**7.20**	**0**	P	**Pn**	**14 30 45.9**	**+1.0**
BSO3				*e*S	**Sn**	**14 32 02.7**	**-2.7**
JOD2	**Odawara 2**	**7.75**	**352**	P	**Pn**	**14 30 55.2**	**+2.6**
JOD2				*e*S	**Sn**	**14 32 21.8**	**+2.7**
JHU	**Hanno**	**8.31**	**353**	P	**Pn**	**14 31 01.7**	**+1.7**
JRY	**Ryogami san**	**8.52**	**351**	P	**Pn**	**14 31 04.6**	**+1.8**
JHO	**Hitachi**	**9.01**	**1**	P	**Pn**	**14 31 09.1**	**-0.2**
MJAR	**Matsushiro Arr**	**9.14**	**348**	P	**Pn**	**14 31 12.2**	**+1.1**
	0.2nm,0.3s,baz=131,slow=9.1,SNR=4.5						
MAJO	**Matsushiro**	**9.14**	**348**	Pn	**Pn**	**14 31 11.9**	**+0.8**
MAT	**Matsushiro**	**9.14**	**348**	P	**Pn**	**14 31 15.8**	**+4.7**
MAT				*e*S	**Sn**	**14 32 55.8**	**+3.3**
MJB9	**Matsu-Tunnel**	**9.15**	**348**	Pn	**Pn**	**14 31 12.1**	**+1.0**
KSRS	**Korea Array**	**14.44**	**316**	P	**P**	**14 32 22.7**	**+0.3**
	0.1nm,0.3s,baz=124,slow=12,SNR=5.0						
TATO	**Taipei**	**17.22**	**266**		**P**	**14 32 54.8**	**+1.5**
YHNB	**Yeheng**	**17.39**	**265**	Pn	**P**	**14 32 57.4**	**+2.2**
USRK	**Ussuriysk Ar.**	**17.93**	**340**	P	**P**	**14 33 01.9**	**+1.0**
	baz=155,slow=11,SNR=4.1						
SSLB	**Suanglung**	**17.99**	**262**	P	**P**	**14 33 02.2**	**+0.5**
SSLB				IAmb	IAmb	14 33 43.0	
	comp=Z,156nm,2.0s						
PETK	**Petropavlovsk-**	**28.53**	**22**	P	**P**	**14 34 43.0**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=146,slow=12,SNR=7.3						
PET	**Petropavlovsk**	**28.79**	**23**	P	**P**	**14 34 44.6**	**-1.4**
QIZ	**Qiongzhong**	**29.32**	**260**	P	**P**	**14 34 49.3**	**-1.9**
SEY	**Seymchan**	**36.21**	**9**	P	**P**	**14 35 51.7**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=184,slow=6.4,SNR=5.3						
SBUM	**Sibu**	**36.79**	**232**	P	**P**	**14 35 56.5**	**+0.5**
SBUM				IAmb	IAmb	14 36 34.6	
	comp=Z,36nm,1.9s						
KNRA	**Kununurra**	**44.47**	**196**	P	**P**	**14 36 57.9**	**-1.0**
TIXI	**Tiksi**	**44.59**	**355**	P	**P**	**14 36 57.0**	**-2.2**
WRAB	**Tennant Creek**	**47.60**	**188**	P	**P**	**14 37 24.1**	**+0.7**
WRAB				IAmb	IAmb	14 38 37.9	
	comp=Z,22nm,1.6s						
WRA	**Warramunga Arr**	**47.61**	**188**	P	**P**	**14 37 24.4**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=6.9,slow=8.2,SNR=9.6						
ARSB	**Arslanbob**	**56.02**	**303**	P	**P**	**14 38 23.1**	**-2.7**
ARSB				IAmb	IAmb	14 38 26.2	
	comp=Z,4.8nm,0.8s						
ILAR	**Eielson Array**	**58.03**	**29**	P	**P**	**14 38 38.4**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=262,slow=6.1,SNR=3.6						
INK	**Inuvik**	**63.23**	**25**	P	**P**	**14 39 14.7**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=294,slow=7.1,SNR=4.5						
INK	**Inuvik**	**63.23**	**25**	IAmb	IAmb	14 39 49.5	
	comp=Z,15nm,1.9s						
YKA	**Yellowknife Ar**	**72.44**	**28**	P	**P**	**14 40 12.2**	**0.0**
	comp=Z,0.6nm,0.5s,baz=297,slow=6.3,SNR=11						
ARCES	**ARCESS Array B**	**72.58**	**340**	P	**P**	**14 40 13.2**	**+0.3**
	comp=Z,5.0nm,1.0s,baz=43,slow=7.3,SNR=3.6						
FINES	**FINESS Array B**	**76.84**	**333**	P	**P**	**14 40 37.0**	**-0.5**
	comp=Z,6.9nm,1.1s,baz=76,slow=5.3,SNR=9.3						
NVAR	**Mina Array Bea**	**81.42**	**51**	P	**P**	**14 41 03.7**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=303,slow=5.9,SNR=3.8						

ROM 24 14:29:30.7±0.1, 43.391N±0.004×12.527E±0.007, h8km, ML1.5/3, Error ellipse: s-maj=0.5km s-min=0.3km az=69.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.04**	**126**	P	Pg	14 29 32.6	+0.1
ATFO				S	Sg	14 29 33.6	-0.2
ATVO	**AVT- Monte Val**	**0.09**	**264**	P	Pg	14 29 33.3	+0.3
ATVO				S	Sg	14 29 34.9	+0.3
ATVO				AML	AML		
	comp=E,178μm,0.4s						
ATVO				AML	AML		
	comp=N,156μm,0.5s						
ATVO				AML	AML		
	comp=E,542μm,0.4s						
ATVO				AML	AML		
	comp=N,416μm,0.4s						
ATPI	**Pietralunga -**	**0.11**	**303**	P	Pg	14 29 33.8	+0.5
ATPI				S	Sg	14 29 36.0	+0.8
ATPI				AML	AML		
	comp=N,238μm,0.3s						
ATPI				AML	AML		
	comp=E,320μm,0.5s						
MURB	**Monte Urbino**	**0.13**	**181**	P	Pg	14 29 34.1	+0.5
MURB				S	Sg	14 29 36.5	+0.9
MURB				AML	AML		
	comp=E,178μm,0.3s						
MURB				AML	AML		
	comp=N,210μm,0.3s						
MURB				AML	AML		
	comp=E,3390μm,0.2s						
MURB				AML	AML		
	comp=N,3705μm,0.2s						
MURB				AML	AML		
	comp=N,3230μm,0.2s						
MURB				AML	AML		
	comp=E,4280μm,0.2s						
PIEI	**Pieia**	**0.14**	**2**	P	Pg	14 29 34.6	+0.7
PIEI				AML	AML		
	comp=E,106μm,0.3s						
PIEI				AML	AML		
	comp=N,67μm,0.4s						
PIEI				AML	AML		
	comp=E,1380μm,0.3s						
PIEI				AML	AML		
	comp=N,1000μm,0.2s						
FRON	**Frontone**	**0.19**	**49**	P	Pg	14 29 35.4	+0.7
FRON				AML	AML		
	comp=E,2780μm,0.1s						
FRON				AML	AML		
	comp=N,2220μm,0.1s						
ATCC	**AVT- Casa Cast**	**0.22**	**158**	P	Pg	14 29 36.0	+0.8
ATCC				S	Sg	14 29 40.2	+2.0
ATCC				AML	AML		
	comp=E,89μm,0.3s						
ATCC				AML	AML		
	comp=N,96μm,0.1s						
ATCC				AML	AML		
	comp=E,1155μm,0.2s						
ATCC				AML	AML		
	comp=N,1885μm,0.2s						
NARO	**Abbazia di Nar**	**0.22**	**10**	P	Pg	14 29 35.9	+0.7
NARO				S	Sg	14 29 39.7	+1.4
NARO				AML	AML		
	comp=E,431μm,0.1s						
NARO				AML	AML		
	comp=N,241μm,0.6s						
ASSB	**Assisi San Ben**	**0.36**	**164**	P	Pg	14 29 38.5	+0.6
ASSB				S	Sb	14 29 43.9	-1.3
ASSB				AML	AML		
	comp=E,483μm,0.2s						
ASSB				AML	AML		
	comp=N,540μm,0.3s						

ROM 24 14:30:26.2±0.0, 43.366N±0.002×12.763E±0.004, h13km, ML2.3/24, Error ellipse: s-maj=0.2km s-min=0.1km az=282.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FOSV	**Fossato di Vic**	**0.07**	**181**	P	Pg	14 30 29.1	+0.2
FOSV				S	Sg	14 30 31.1	+0.4
FOSV				AML	AML		
	comp=E,2940μm,0.3s						
FOSV				AML	AML		
	comp=N,2740μm,0.1s						
FOSV				AML	AML		
	comp=N,2745μm,0.1s						
FOSV				AML	AML		
	comp=E,2935μm,0.3s						
SSFR	**Montelago di S**	**0.07**	**11**	P	Pg	14 30 29.2	+0.2
SSFR				S	Sg	14 30 31.4	+0.5
SSFR				AML	AML		
	comp=E,5405μm,0.1s						
SSFR				AML	AML		
	comp=N,9405μm,0.1s						
SSFR				AML	AML		
	comp=E,5005μm,1.2s						
SSFR				AML	AML		
	comp=E,5400μm,0.1s						
SSFR				AML	AML		
	comp=N,9410μm,0.1s						
SSFR				AML	AML		
	comp=N,5495μm,0.3s						
ATFO	**Monte Foce - G**	**0.14**	**270**	P	Pg	14 30 30.1	+0.3
ATFO				S	Sg	14 30 32.9	+0.6
ATFO				AML	AML		
	comp=E,8745μm,0.2s						
ATFO				AML	AML		
	comp=N,8155μm,0.4s						
ATFO				AML	AML		
	comp=N,8160μm,0.4s						
FRON	**Frontone**	**0.15**	**350**	P	Pg	14 30 30.2	+0.2
FRON				S	Sg	14 30 33.2	+0.6
FRON				AML	AML		
	comp=E,2780μm,0.1s						
FRON				AML	AML		
	comp=N,2220μm,0.1s						
SNTG	**Esanatoglia**	**0.17**	**130**	P	Pg	14 30 30.4	+0.2
SNTG				S	Sg	14 30 33.7	+0.7
SNTG				AML	AML		
	comp=E,769μm,0.6s						
SNTG				AML	AML		
	comp=N,888μm,1.4s						
SNTG				AML	AML		
	comp=N,888μm,1.4s						
ARVD	**Arcevia**	**0.19**	**44**	P	Pg	14 30 30.9	+0.5
ARVD				S	Sb	14 30 34.2	-0.8
ARVD				AML	AML		
	comp=N,1515μm,0.5s						
ARVD				AML	AML		
	comp=E,2195μm,0.1s						
ATCC	**AVT- Casa Cast**	**0.20**	**207**	P	Pg	14 30 31.0	+0.4
ATCC				S	Sb	14 30 34.8	-0.6
ATCC				AML	AML		
	comp=E,1155μm,0.2s						
ATCC				AML	AML		
	comp=N,1890μm,0.2s						
ATCC				AML	AML		
	comp=N,1885μm,0.2s						
ATCC				AML	AML		
	comp=E,1160μm,0.2s						
MURB	**Monte Urbino**	**0.20**	**240**	P	Pg	14 30 31.1	+0.4
MURB				S	Sb	14 30 34.8	-0.7
MURB				AML	AML		
	comp=N,3710μm,0.2s						
MURB				AML	AML		
	comp=E,3390μm,0.2s						
MURB				AML	AML		
	comp=N,3230μm,0.2s						
MURB				AML	AML		
	comp=N,3705μm,0.2s						
MURB				AML	AML		
	comp=E,4280μm,0.2s						
MURB				AML	AML		
	comp=E,3385μm,0.2s						
EL6	**Elcito**	**0.25**	**98**	P	Pg	14 30 31.9	+0.4
ATVO	**AVT- Monte Val**	**0.26**	**274**	P	Pg	14 30 31.9	+0.2
ATVO				S	Sg	14 30 36.1	+0.8
ATVO				AML	AML		
	comp=N,2025μm,0.5s						
ATVO				AML	AML		
	comp=E,2255μm,0.3s						
MPAG	**Monte Paganucc**	**0.26**	**359**	P	Pg	14 30 32.0	+0.3
MPAG				S	Sb	14 30 36.6	-0.7
CRM1	**Catelraimondo**	**0.27**	**126**	AML	AML		
	comp=N,1535μm,1.2s						
CRM1				AML	AML		
	comp=E,1865μm,1.0s						
ATPI	**Pietralunga -**	**0.28**	**288**	P	Pg	14 30 32.2	+0.3
ATPI				S	Sb	14 30 37.0	-0.6
ATPI				AML	AML		
	comp=E,974μm,0.3s						
ATPI				AML	AML		
	comp=N,1340μm,0.1s						
ATPI				AML	AML		
	comp=E,974μm,0.3s						
ATPI				AML	AML		
	comp=N,1338μm,0.1s						
ATPI				AML	AML		
	comp=N,1342μm,0.1s						
ATPI				AML	AML		
	comp=E,976μm,0.3s						
NARO	**Abbazia di Nar**	**0.28**	**332**	P	Pg	14 30 32.1	+0.1
NARO				S	Sb	14 30 36.8	-0.9
NARO				AML	AML		
	comp=E,432μm,0.1s						
NARO				AML	AML		
	comp=N,241μm,0.6s						
NARO				AML	AML		
	comp=E,431μm,0.1s						
CING	**Cingoli**	**0.32**	**88**	P	Pg	14 30 33.0	+0.4
CING				S	Sb	14 30 38.1	-0.6
CING				AML	AML		
	comp=E,157μm,0.8s						
CING				AML	AML		
	comp=N,137μm,0.3s						
COR1	**Corinaldo**	**0.32**	**33**	AML	AML		
	comp=E,4750μm,1.6s						
COR1				AML	AML		
	comp=N,10750μm,0.8s						
FSSB	**Fossombrone**	**0.33**	**2**	P	Pg	14 30 33.1	+0.3
FSSB				AML	AML		
	comp=N,710μm,0.2s						
FSSB				AML	AML		
	comp=E,834μm,0.3s						
FSSB				AML	AML		
	comp=N,710μm,0.2s						
ASSB	**Assisi San Ben**	**0.33**	**193**	P	Pg	14 30 32.9	0.0
ASSB				S	Sb	14 30 38.5	-0.7
ASSB				AML	AML		
	comp=N,540μm,0.3s						
ASSB				AML	AML		
	comp=N,540μm,0.3s						
ASSB				AML	AML		
	comp=E,484μm,0.2s						
ATTE	**AVT- Monte Tez**	**0.34**	**241**	P	Pg	14 30 33.5	+0.3
ATTE				AML	AML		
	comp=N,214μm,1.0s						
ATTE				AML	AML		
	comp=E,210μm,0.2s						
ATTE				AML	AML		
	comp=N,214μm,1.0s						
ATMI	**Monte Miggiano**	**0.36**	**265**	S	Sb	14 30 41.0	+0.9
CESI	**CESI - Serrava**	**0.38**	**164**	P	Pg	14 30 33.7	0.0
CESI				S	Sb	14 30 39.9	-0.6
CESI				AML	AML		
	comp=E,34μm,1.6s						
CESI				AML	AML		
	comp=N,81μm,0.7s						
CESI				AML	AML		
	comp=N,81μm,0.7s						
CESI				AML	AML		
	comp=E,34μm,1.6s						
FDMO	**Fiordimonte**	**0.41**	**144**	P	Pg	14 30 34.3	0.0
FDMO				S	Sb	14 30 40.9	-0.5
FDMO				AML	AML		
	comp=E,340μm,0.2s						
FDMO				AML	AML		
	comp=N,370μm,0.2s						
FDMO				AML	AML		
	comp=E,341μm,0.2s						
FDMO				AML	AML		
	comp=N,370μm,0.2s						
CSP1	**Cessapalombo**	**0.42**	**130**	P	Pg	14 30 34.8	+0.2
PARC	**Parchiule**	**0.47**	**307**	P	Pg	14 30 35.7	+0.1
PARC				S	Sb	14 30 43.5	+0.2
PARC				AML	AML		
	comp=E,125μm,0.9s						
PARC				AML	AML		
	comp=E,125μm,0.9s						
PARC				AML	AML		
	comp=N,176μm,0.3s						
PESA	**Pesaro**	**0.58**	**6**	P	Pb	14 30 37.9	-0.3
MOMA	**Monte Martano**	**0.58**	**194**	P	Pg	14 30 37.2	-0.3
MOMA				AML	AML		
	comp=E,83μm,0.8s						
MOMA				AML	AML		
	comp=N,64μm,1.3s						
MOMA				AML	AML		
	comp=N,79μm,0.3s						
MOMA				AML	AML		
	comp=E,93μm,1.6s						

CAFI	**Castiglion Fio**	**0.58**	**267**	P	Pg	14 30 37.8 +0.3
CAFI				AML	AML	
	comp=E,83μm,0.1s					
CAFI				AML	AML	
	comp=E,83μm,0.1s					
CAFI				AML	AML	
	comp=N,80μm,0.4s					
CAFI				AML	AML	
	comp=N,80μm,0.4s					
NRCA	**Norcia**	**0.59**	**154**	P	Pg	14 30 37.5 -0.2
NRCA				S	Sb	14 30 46.8 +0.1
NRCA				AML	AML	
	comp=N,294μm,0.1s					
NRCA				AML	AML	
	comp=E,210μm,0.2s					
LNSS	**Leonessa**	**0.79**	**165**	P	Pg	14 30 41.0 -0.5
LNSS				AML	AML	
	comp=N,106μm,0.6s					
LNSS				AML	AML	
	comp=E,92μm,1.1s					
LNSS				AML	AML	
	comp=N,106μm,0.6s					
SMA1	**SAN MARTINO**	**0.85**	**150**	P	Pg	14 30 42.2 -0.3
SMA1				AML	AML	
	comp=E,64μm,1.1s					
SMA1				AML	AML	
	comp=N,72μm,1.4s					

ROM 24 14:30:43.7±0.1, 43°39.0N±0.003×12°52.1E±0.004, h8km, ML1.7/5, Error ellipse: s-maj=0.3km s-min=0.0km az=73.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.04**	**122**	P	Pg	14 30 45.4	0.0
ATFO				S	Sg	14 30 46.5	-0.1
ATVO	**AVT- Monte Val**	**0.08**	**265**	P	Pg	14 30 46.2	+0.3
ATVO				S	Sg	14 30 47.8	+0.4
ATVO				AML	AML		
	comp=N,2025μm,0.5s						
ATVO				AML	AML		
	comp=E,2255μm,0.3s						
ATPI	**Pietralunga -**	**0.11**	**305**	P	Pg	14 30 46.7	+0.5
ATPI				S	Sg	14 30 48.8	+0.9
ATPI				AML	AML		
	comp=E,975μm,0.3s						
ATPI				AML	AML		
	comp=N,1340μm,0.1s						
ATPI				AML	AML		
	comp=E,974μm,0.3s						
ATPI				AML	AML		
	comp=N,1338μm,0.1s						
ATPI				AML	AML		
	comp=N,1342μm,0.1s						
ATPI				AML	AML		
	comp=E,976μm,0.3s						
MURB	**Monte Urbino**	**0.13**	**179**	P	Pg	14 30 47.0	+0.5
MURB				S	Sg	14 30 49.3	+0.9
PIEI	**Pieia**	**0.15**	**4**	P	Pg	14 30 47.6	+0.7
ATMI	**Monte Miggiano**	**0.19**	**253**	P	Pg	14 30 48.0	+0.4
ATMI				AML	AML		
	comp=N,340μm,1.2s						
ATMI				AML	AML		
	comp=E,360μm,0.3s						
FRON	**Frontone**	**0.20**	**49**	P	Pg	14 30 48.2	+0.5
FRON				S	Sg	14 30 52.1	+1.6
SSFR	**Montelago di S**	**0.20**	**76**	P	Pg	14 30 48.2	+0.5
FOSV	**Fossato di Vic**	**0.20**	**118**	P	Pg	14 30 48.3	+0.5
CDCA	**Citt' di Caste**	**0.22**	**288**	P	Pg	14 30 48.9	+0.8
ATCC	**AVT- Casa Cast**	**0.22**	**157**	P	Pg	14 30 48.9	+0.7
ATCC				S	Sg	14 30 53.1	+1.9
NARO	**Abbazia di Nar**	**0.23**	**11**	P	Pg	14 30 48.9	+0.6
NARO				S	Sg	14 30 52.6	+1.3
ATTE	**AVT- Monte Tez**	**0.23**	**213**	P	Pg	14 30 48.8	+0.5
ATTE				AML	AML		
	comp=E,210μm,0.2s						
ATTE				AML	AML		
	comp=N,214μm,1.0s						
ATTE				AML	AML		
	comp=N,214μm,1.0s						
CAFI	**Castiglion Fio**	**0.41**	**262**	P	Pg	14 30 52.3	+0.7
CAFI				AML	AML		
	comp=N,80μm,0.4s						
CAFI				AML	AML		
	comp=N,80μm,0.4s						
CAFI				AML	AML		
	comp=E,83μm,0.1s						
EL6	**Elcito**	**0.43**	**98**	S	Sb	14 30 60.0	-0.2

ROM 24 14:36:31.7±0.1, 43°40.1N±0.003×12°49.1E±0.005, h6km, Md1.3, Error ellipse: s-maj=0.4km s-min=0.1km az=47.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATVO	**AVT- Monte Val**	**0.06**	**253**	P	Pg	14 36 33.5	+0.1
ATVO				S	Sg	14 36 34.9	+0.2
ATVO				AML	AML		
	comp=E,103μm,0.4s						
ATVO				AML	AML		
	comp=N,90μm,0.8s						
ATVO				AML	AML		
	comp=E,103μm,0.4s						
ATVO				AML	AML		
	comp=N,90μm,0.8s						
ATVO				END			
ATFO	**Monte Foce - G**	**0.07**	**120**	P	Pg	14 36 33.6	+0.1
ATFO				S	Sg	14 36 35.1	+0.3
ATFO				AML	AML		
	comp=E,143μm,0.2s						
ATFO				AML	AML		
	comp=N,122μm,0.5s						
ATFO				END			
ATPI	**Pietralunga -**	**0.08**	**308**	P	Pg	14 36 33.9	+0.2
ATPI				S	Sg	14 36 35.6	+0.5
ATPI				END			
PIEI	**Pieia**	**0.14**	**13**	P	Pg	14 36 35.2	+0.6
PIEI				S	Sg	14 36 37.9	+1.3
MURB	**Monte Urbino**	**0.14**	**170**	P	Pg	14 36 35.0	+0.5
MURB				S	Sg	14 36 37.7	+1.1
MURB				AML	AML		
	comp=N,84μm,1.4s						
MURB				AML	AML		
	comp=E,86μm,0.9s						
MURB				AML	AML		
	comp=N,84μm,1.4s						
SSFR	**Montelago di S**	**0.21**	**80**	P	Pg	14 36 36.4	+0.4
SSFR				S	Sg	14 36 40.1	+1.2
NARO	**Abbazia di Nar**	**0.22**	**17**	S	Sg	14 36 37.0	-2.0
ATCC	**AVT- Casa Cast**	**0.24**	**153**	P	Pg	14 36 37.1	+0.7
ATCC				S	Sg	14 36 41.6	+1.9
PARC	**Parchiule**	**0.31**	**324**	P	Pg	14 36 38.5	+0.7
PARC				S	Sb	14 36 44.0	-0.9
ARVD	**Arcevia**	**0.34**	**73**	P	Pg	14 36 31.6	-6.8
COR1	**Corinaldo**	**0.44**	**58**	P	Pg	14 36 34.7	-5.5
CSNT	**Castellina Chi**	**0.88**	**275**	S	Sg	14 36 60.0	+0.1

IDC 24 14:44:10.3±1.0, 22°59.9N×144°54.6E, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.5/44, mbtmp3.5/6, ML3.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/26, Error ellipse: s-maj=41.1km s-min=22.9km az=96.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.97**	**335**	Pn	Pn	14 45 26.3	+0.1
	3.8nm,0.3s,baz=252,slow=20,SNR=2.6						
JCJ				Sn	Sn	14 46 19.5	-4.9
	9.9nm,0.3s,baz=255,slow=20,SNR=4.7						
KSRS	**Korea Array**	**20.60**	**320**	LR	LR	14 56 40.6	
	comp=Z,28nm,19.6s,baz=220,slow=36						
WRA	**Warramunga Arr**	**43.43**	**194**	P	P	14 52 14.6	-0.5
	0.2nm,0.3s,baz=17,slow=9.4,SNR=6.7						
ASAR	**Alice Springs**	**47.13**	**193**	P	P	14 52 44.7	+0.2
	0.2nm,0.7s,baz=12,slow=6.4,SNR=5.0						
MKAR	**Makanchi Array**	**55.02**	**312**	P	P	14 53 43.8	+0.1
	0.4nm,0.6s,baz=81,slow=7.5,SNR=4.5						
YKA	**Yellowknife Ar**	**75.08**	**28**	P	P	14 55 53.1	-0.7
	0.1nm,0.4s,baz=282,slow=6.1,SNR=2.8						
NVAR	**Mina Array Bea**	**81.61**	**52**	P	P	14 56 31.6	+0.9
	0.6nm,0.6s,baz=281,slow=5.9,SNR=5.3						

IDC 24 14:47:27.7±2.6, 60°.81S×49°.51W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/29, mbtmp3.9/3, Error ellipse: s-maj=105.5km s-min=42.7km az=47.0
ISCJB 24 14:47:30.4±0.8, 60°.3S±0°.1×48°.6W±0°.3, h10km, mb3.9/3, Error ellipse: s-maj=18.9km s-min=17.0km az=137.6
NEIC 24 14:47:32.4±1.6, 60°.3S±0°.1×48°.8W±0°.2, h15km±5km, mb4.7/6

ISC 24 14:47:32.1±0.9, 60°.3S±0°.1×48°.8W±0°.1, h10km, n15, σ1§07/12, mb4.3/7, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.98**	**53**	Pn	**Pn**	**14 49 41.1**	**-0.6**
GO05	**Huala**	**29.39**	**319**	P	**P**	**14 53 34.6**	**-0.7**
GO05				IAmb	IAmb	14 54 27.9	
	comp=Z,23nm,1.2s						
QSPA	**South Pole Qui**	**29.95**	**180**	P	**P**	**14 53 40.4**	**+0.2**
QSPA				IAmb	IAmb	14 54 05.5	
	comp=Z,8.6nm,1.6s						
MNMC	**Minye Minye**	**43.72**	**331**	P	**P**	**14 55 37.9**	**+0.3**
MNMC				IAmb	IAmb	14 55 39.0	
	comp=Z,4.4nm,0.6s						
SIV	**San Ignacio**	**45.12**	**343**	P	**P**	**14 55 48.3**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=168,slow=10,SNR=6.1						
LPAZ	**La Paz**	**46.12**	**334**	P	**P**	**14 55 57.1**	**0.0**
	comp=Z,0.9nm,0.7s,baz=175,slow=5.2,SNR=4.1						
LPAZ	**La Paz**	**46.12**	**334**	P	**P**	**14 55 57.2**	**+0.1**
RCBR	**Riachuelo**	**55.21**	**16**	P	**P**	**14 57 06.9**	**+1.8**
BOSA	**Boshof**	**57.77**	**92**	P	**P**	**14 57 22.4**	**-0.9**
BOSA				IAmb	IAmb	14 58 55.5	
	comp=Z,30nm,1.6s						
H10N3	**ASCENSION HYDR**	**58.32**	**41**	T	T	16 01 17.1	
	baz=199						
H10N1	**ASCENSION HYDR**	**58.32**	**41**	T	T	16 01 17.0	
	baz=199						
H10N2	**ASCENSION HYDR**	**58.34**	**41**	T	T	16 01 14.5	
	baz=199						
TORD	**Torodi Ar. Bea**	**83.53**	**49**	P	**P**	**15 00 00.4**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=203,slow=6.5,SNR=6.2						
ILAR	**Eielson Array**	**144.43**	**313**	PKP	**PKPab**	**15 07 03.4**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=103,slow=0.9,SNR=5.5						
MKAR	**Makanchi Array**	**148.76**	**93**	PKPbc	**PKPdf**	**15 07 16.1**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=224,slow=2.3,SNR=3.9						

JMA 24 15:01:04.7±0.3, 24°.89N×122°.91E, h35km±5km, M1.7
TAP 24 15:01:05.5, 24°.56N×122°.83E, h1km, ML2.6, D
ISCJB 24 15:01:06.8±0.7, 24°.7N±0°.1×122°.95E±0°.04, h46km±11km, Error ellipse: s-maj=18.3km s-min=6.0km az=3.4

ISC 24 15:01:06.2±1.5, 24°.76N±0°.08×122°.95E±0°.04, h30km±11km, n24, σ1§03/33, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.30**	**170**	P	**Pb**	**15 01 14.2**	**+0.6**
YOJ				*e*S	**Sn**	**15 01 21.0**	**+1.0**
JYNG	**Yonagunijimaku**	**0.31**	**181**	P	**Pb**	**15 01 14.0**	**+0.3**
JYNG				*e*S	**Sn**	**15 01 21.1**	**+1.0**
EOS1	**EOS1**	**0.78**	**255**	P	**Pb**	**15 01 19.6**	**-1.5**
	baz=268						
EOS1				S	**Sb**	**15 01 30.2**	**-1.2**
	baz=268						
IRIF	**Iriomote-Funau**	**0.83**	**121**	P	**Pb**	**15 01 21.7**	**-0.3**
TWC	**Suao**	**1.01**	**262**	*e*P	**Pn**	**15 01 23.6**	**-0.8**
	baz=272						
TIPB	**Shuangxi**	**1.04**	**282**	*e*P	**Pb**	**15 01 26.2**	**+0.5**
	baz=294						
JKRS	**Kuro-shima**	**1.09**	**118**	P	**Pn**	**15 01 25.0**	**-0.5**
NANB	**Nanao**	**1.14**	**253**	*e*P	**Pn**	**15 01 26.1**	**-0.1**
	baz=262						
NANB				*e*S	**Sn**	**15 01 39.0**	**-1.8**
	baz=262						
ENA	**Nanau**	**1.15**	**254**	P	**Pn**	**15 01 26.0**	**-0.2**
	baz=262						
ENA				*e*S	**Sn**	**15 01 38.4**	**-2.6**
	baz=262						
JIJ	**Ishigaki jima**	**1.15**	**110**	P	**Pn**	**15 01 25.9**	**-0.4**
TWE	**Neicheng**	**1.17**	**268**	*e*P	**Pn**	**15 01 27.0**	**+0.5**
	baz=278						
TWE				*e*S	**Sn**	**15 01 42.5**	**+1.1**
	baz=278						
SLBB	**Yuanshan**	**1.20**	**270**	*e*P	**Pn**	**15 01 27.9**	**+0.9**
	baz=279						
ENTT	**Nioudou**	**1.27**	**265**	*e*P	**Pn**	**15 01 28.7**	**+0.8**
	baz=273						
NWLT	**Wulai**	**1.32**	**271**	*e*P	**Pb**	**15 01 30.1**	**-0.2**
	baz=280						
NDT	**Datong Townshi**	**1.32**	**263**	*e*P	**Pn**	**15 01 29.3**	**+0.7**
	baz=271						
NACB	**Ninganchiao**	**1.37**	**245**	P	**Pn**	**15 01 29.6**	**+0.3**
	baz=250						
NACB				S	**Sn**	**15 01 46.8**	**+0.5**
	baz=250						
YHNB	**Yeheng**	**1.44**	**267**	*e*P	**Pn**	**15 01 31.6**	**+1.4**
	baz=274						
ETLH	**Xiulin Townshi**	**1.45**	**248**	*e*P	**Pn**	**15 01 30.9**	**+0.5**
	baz=253						
NSK	**Sanguang**	**1.45**	**267**	*e*P	**Pn**	**15 01 32.0**	**+1.5**
	baz=274						
NNSH	**Datong**	**1.47**	**257**	P	**Pn**	**15 01 31.6**	**+0.9**
	baz=264						
NNSH				S	**Sn**	**15 01 50.6**	**+1.6**
	baz=264						
WHF	**Hehuan Shan**	**1.65**	**249**	*e*P	**Pn**	**15 01 33.6**	**+0.1**
	baz=253						
CHGB	**Renai**	**1.76**	**247**	*e*P	**Pn**	**15 01 35.3**	**+0.4**
	baz=251						
CHGB				*e*S	**Sn**	**15 01 57.3**	**+0.8**
	baz=251						
HGSD	**Ruisui**	**1.88**	**228**	*e*P	**Pn**	**15 01 36.5**	**+0.2**
	baz=230						
VWDT	**VWDT**	**1.93**	**239**	*e*P	**Pn**	**15 01 37.4**	**+0.4**
	baz=242						

ISCJB 24 15:05:27.8±0.6, 12°.35N±0°.05×89°.53W±0°.05, h47km, mb3.9/7, Error ellipse: s-maj=7.6km s-min=6.7km az=9.6
SNET 24 15:05:28.0±1.6, 12°.39N×89°.60W, h35km±999km, ML3.4
NEIC 24 15:05:33.1±1.8, 12°.68N±0°.03×89°.17W±0°.08, h63km±8km, mb4.5/40
IDC 24 15:05:33.9±2.5, 12°.94N×88°.96W, h59km±18km, mb3.6/7, mb1 3.9/10, mb1mx3.6/38, mbtmp3.9/10, Error ellipse: s-maj=43.3km s-min=16.4km az=44.0

ISC 24 15:05:28.9±0.7, 12°.37N±0°.08×89°.44W±0°.07, h47km, n71, σ1§67/76, mb4.5/26, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**1.32**	**9**	*e*P	**Pn**	**15 05 51.8**	**+0.8**
SNET	**Serv Nac Est T**	**1.32**	**9**		**Pn**	**15 05 51.4**	**+0.3**
UEES	**Universidad Ev**	**1.35**	**8**	*e*P	**Pn**	**15 05 52.0**	**+0.6**
COEG	**Centro de Oper**	**1.35**	**23**	*e*P	**Pn**	**15 05 50.8**	**-0.7**
COEG				IAML		15 06 07.7	
	comp=Z,698nm,0.6s						
COEG				*e*S	**Sn**	**15 06 09.7**	**+1.3**
LFU	**La Fuente**	**1.40**	**13**	*e*P	**Pn**	**15 05 51.7**	**-0.5**
TECA	**Tecapa**	**1.44**	**39**	*e*P	**Pn**	**15 05 52.8**	**+0.1**
SBLS	**San Blas**	**1.47**	**353**	*i*P	**Pn**	**15 05 52.1**	**-1.1**
VICT	**Victoria**	**1.76**	**26**	*e*P	**Pn**	**15 05 57.3**	**+0.3**
VICT				*e*S	**Sn**	**15 06 20.5**	**+2.1**
LCND	**La Caada**	**1.77**	**58**	*e*P	**Pn**	**15 05 57.6**	**+0.5**
CNCH	**Conchagua**	**1.80**	**60**	*e*P	**Pn**	**15 05 59.4**	**+1.8**
FAGO	**Alcalda de S**	**1.84**	**44**	*e*P	**Pn**	**15 05 59.1**	**+1.0**
MTO3	**Montecristo**	**2.02**	**2**	*e*P	**Pn**	**15 06 00.4**	**-0.2**
TGUH	**Tegucigalpa,Un**	**2.69**	**51**		**Pn**	**15 06 08.3**	**-1.5**
APG	**El Apazote**	**2.80**	**339**	P	**Pn**	**15 06 12.8**	**+1.4**
	comp=Z,7.8nm,0.3s,baz=196,slow=14,SNR=33						
APG				S	**Sn**	**15 06 42.9**	**-1.2**
	comp=Z,10nm,0.3s,baz=232,slow=19,SNR=8.0						
JTS	**Las Juntas de**	**4.86**	**115**	P	**Pn**	**15 06 42.7**	**+3.1**
	comp=Z,1.4nm,0.3s,baz=14,slow=7.8,SNR=4.4						
JTS	**Las Juntas de**	**4.86**	**115**		**Pn**	**15 06 42.2**	**+2.7**
CMIG	**Matias Romero**	**7.05**	**312**	P	**Pn**	**15 07 14.2**	**+4.5**
	comp=Z,0.6nm,0.3s,baz=95,slow=11,SNR=9.8						
TEIG	**Tepich**	**7.89**	**8**	P	**Pn**	**15 07 24.0**	**+2.9**
	comp=Z,1.4nm,0.3s,baz=139,slow=6.8,SNR=7.7						
FSCY	**Frank Sound, G**	**10.52**	**48**	Pn	**Pn**	**15 07 56.1**	**-1.0**
435B	**Jarrell**	**19.81**	**339**	P	**P**	**15 09 56.3**	**+0.7**
435B				IAmb	IAmb	15 09 57.3	
	comp=Z,19nm,0.7s						
JCT	**Junction City**	**20.42**	**334**	P	**P**	**15 10 02.3**	**+0.1**
WHTX	**Lake Whitney,**	**20.87**	**341**	P	**P**	**15 10 07.0**	**-0.1**
WHTX				IAmb	IAmb	15 10 08.2	
	comp=Z,33nm,0.7s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**21.45**	**324**	P	**P**	**15 10 15.8**	**+2.4**
	comp=Z,5.1nm,0.7s,baz=147,slow=11,SNR=70						
TX31	**Lajitas Ar. Si**	**21.45**	**324**	P	**P**	**15 10 15.1**	**+1.7**
TX32	**Lajitas Array**	**21.45**	**324**	P	**P**	**15 10 15.2**	**+1.8**
WLAR	**White Oak Lake**	**21.48**	**352**	P	**P**	**15 10 15.3**	**+1.7**
WLAR				IAmb	IAmb	15 10 25.5	
	comp=Z,27nm,0.7s						
Y49A	**Blount Mountai**	**21.57**	**7**	P	**P**	**15 10 15.3**	**+0.8**
GOGA	**Godfrey**	**21.64**	**14**	P	**P**	**15 10 16.6**	**+1.3**
GOGA				IAmb	IAmb	15 10 19.5	
	comp=Z,62nm,1.9s						
MIAR	**Mount Ida**	**22.39**	**351**	P	**P**	**15 10 24.1**	**+0.7**
MIAR				IAmb	IAmb	15 10 33.4	
	comp=Z,12nm,0.9s						
UALR	**University of**	**22.46**	**354**	P	**P**	**15 10 24.6**	**+0.5**
UALR				IAmb	IAmb	15 10 36.0	
	comp=Z,18nm,0.9s						
X37A	**Clayton**	**22.77**	**347**	P	**P**	**15 10 28.6**	**+1.3**
X37A				IAmb	IAmb	15 10 39.1	
	comp=Z,36nm,1.6s						
W41B	**Gary Mavity, V**	**22.84**	**354**	P	**P**	**15 10 28.0**	**-0.1**
W41B				IAmb	IAmb	15 10 33.6	
	comp=Z,29nm,1.4s						
WHAR	**Wooly Hollow**	**22.96**	**354**	P	**P**	**15 10 30.7**	**+1.3**
WHAR				IAmb	IAmb	15 10 39.0	
	comp=Z,22nm,1.3s						
W39A	**Magazine**	**23.06**	**351**	P	**P**	**15 10 32.4**	**+2.0**
X34A	**Smith Ranch, M**	**23.41**	**342**	P	**P**	**15 10 34.1**	**+0.4**
LCAR	**Lake Charles**	**23.64**	**357**	P	**P**	**15 10 36.5**	**+0.5**
LCAR				IAmb	IAmb	15 10 40.4	
	comp=Z,31nm,1.7s						
W35A	**Tecumseh**	**23.66**	**345**	P	**P**	**15 10 34.9**	**-1.2**
TKL	**Tuckaleechee C**	**23.74**	**12**	P	**P**	**15 10 35.5**	**-1.4**
	comp=Z,4.5nm,0.9s,baz=198,slow=13,SNR=2.9						
CLTN	**Cedars of Leba**	**23.78**	**6**	P	**P**	**15 10 37.8**	**+0.6**
CLTN				IAmb	IAmb	15 10 42.1	
	comp=Z,29nm,1.9s						
WMOK	**Wichita Mounta**	**23.83**	**341**	P	**P**	**15 10 36.5**	**-1.3**
FNO	**Franklin**	**23.90**	**344**	P	**P**	**15 10 39.1**	**+0.8**
U40A	**Yellville**	**24.08**	**353**	P	**P**	**15 10 40.5**	**+0.5**
MNTX	**Cornudas Mount**	**24.20**	**325**	P	**P**	**15 10 41.8**	**+0.6**
PBMO	**Poplar Bluff**	**24.32**	**358**	P	**P**	**15 10 42.6**	**+0.4**
PBMO				IAmb	IAmb	15 10 53.4	
	comp=Z,19nm,0.9s						
T47A	**Sharon Grove**	**24.60**	**4**	P	**P**	**15 10 45.0**	**+0.3**
T47A				IAmb	IAmb	15 10 55.1	
	comp=Z,29nm,1.3s						
T49A	**Edmonton**	**24.88**	**7**	P	**P**	**15 10 47.2**	**-0.1**
T49A				IAmb	IAmb	15 10 51.7	
	comp=Z,32nm,1.7s						
S44A	**Carbondale**	**25.22**	**0**	P	**P**	**15 10 50.9**	**+0.6**
S44A				IAmb	IAmb	15 11 00.6	
	comp=Z,17nm,0.8s						
SIUC	**Southern Illin**	**25.24**	**0**	P	**P**	**15 10 51.0**	**+0.5**
SIUC				IAmb	IAmb	15 10 53.4	
	comp=Z,12nm,0.8s						
CCM	**Cathedral Cave**	**25.63**	**357**	P	**P**	**15 10 53.9**	**-0.2**
CCM				IAmb	IAmb	15 11 06.2	
	comp=Z,25nm,1.4s						
WCI	**Wyandotte Cave**	**25.90**	**6**	P	**P**	**15 10 56.3**	**-0.2**
ACSO	**Alum Creek Sta**	**28.33**	**10**	P	**P**	**15 11 17.6**	**-0.6**
SMCO	**Snowmass**	**30.90**	**333**		**PcP**	**15 14 36.8**	**-0.6**
I42A	**Draeger Farm,**	**31.41**	**1**	P	**P**	**15 11 45.3**	**-0.2**
XPFO	**Pion Flat**	**32.47**	**315**	P	**P**	**15 11 55.0**	**-0.1**
XPFO				IAmb	IAmb	15 11 55.5	
	comp=Z,14nm,1.6s						
PFO	**Pinyon Flats O**	**32.47**	**315**	P	**P**	**15 11 55.1**	**0.0**
PFO				IAmb	IAmb	15 11 55.5	
	comp=Z,12nm,1.6s						
SPMN	**Marine on St.**	**32.87**	**356**	P	**P**	**15 11 57.3**	**-0.9**
SPMN				IAmb	IAmb	15 12 05.8	
	comp=Z,14nm,1.1s						
RWWY	**Rawlins**	**33.08**	**335**	P	**P**	**15 11 58.4**	**-2.1**
SAML	**Samuel**	**33.60**	**128**	P	**P**	**15 12 07.1**	**+2.0**
PD31	**Pinedale Array**	**34.95**	**334**	P	**P**	**15 12 17.4**	**+0.7**
AGMN	**Agassiz Nation**	**36.21**	**353**	P	**P**	**15 12 26.4**	**-0.8**
AGMN				IAmb	IAmb	15 12 36.8	
	comp=Z,8.1nm,0.8s						
NVAR	**Mina Array Bea**	**36.50**	**320**	P	**P**	**15 12 33.2**	**+3.1**
	comp=Z,1.3nm,0.8s,baz=133,slow=8.2,SNR=14						
NVAR				PcP	**PcP**	**15 14 56.0**	**+2.9**
	comp=Z,0.3nm,0.7s,baz=135,slow=3.2,SNR=3.6						
ULM	**Lac du Bonnet**	**38.14**	**353**	P	**P**	**15 12 42.4**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=147,slow=8.8,SNR=4.1						
YKA	**Yellowknife Ar**	**53.19**	**346**	P	**P**	**15 14 42.1**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=143,slow=7.6,SNR=25						
ILAR	**Eielson Array**	**65.31**	**337**	P	**P**	**15 16 07.1**	**+1.3**
	comp=Z,0.7nm,0.9s,baz=165,slow=4.3,SNR=5.8						
TORD	**Torodi Ar. Bea**	**88.32**	**77**	P	**P**	**15 18 17.0**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=283,slow=7.1,SNR=2.9						
KSH	**Kashi**	**126.62**	**14**	PKP	**PKPdf**	**15 24 24.8**	**-2.9**
KSH				sPKP		15 25 02.5	
KSH				PKS	**PKSdf**	**15 28 00.3**	**-4.1**
KSH				SKS	**SKSac**	**15 31 25.1**	**-4.8**
KSH				SKKS	SKKSac	15 33 05.8	-13
KSH	**Kashi**	**126.62**	**14**	SS	SS	15 43 16.6	-7.6
KSH				LR	LR		
	comp=N,550nm,6.9s						
KSH				LR	LR		
	comp=E,910nm,6.0s						
KSH				LR	LR		
	comp=Z,560nm,6.3s						
LZH	**Lanzhou**	**130.20**	**346**	*e*PKP	**PKPdf**	**15 24 30.4**	**-4.2**
LZH				pPKP	sPKPdf	15 24 57.9	+4.8
LZH				sPKP		15 25 07.4	
CD2	**Chengdu**	**135.14**	**344**	PKP	**PKPdf**	**15 24 43.3**	**-0.6**
ASAR	**Alice Springs**	**137.44**	**248**	PKP	**PKiKP**	**15 24 52.1**	**+1.9**
	comp=Z,0.6nm,1.0s,baz=90,slow=1.3,SNR=4.3						
CMAR	**Chiang Mai Arr**	**148.27**	**345**	PKPbc	**PKiKP**	**15 25 12.8**	**+0.2**
	comp=Z,1.9nm,1.0s,baz=335,slow=3.1,SNR=8.8						

ISCJB 24 15:06:16.6±0.4, 18°.91N±0°.05×145°.1E±0°.1, h600km, mb3.5/12, Error ellipse: s-maj=13.6km s-min=6.6km az=3.5
IDC 24 15:06:18.9±1.0, 18°.99N×145°.13E, h612km±13km, mb2.9/12, mb1 3.2/16, mb1mx3.0/38, mbtmp4.0/16, Error ellipse: s-maj=18.2km s-min=8.8km az=86.0
NEIC 24 15:06:19.2±2.1, 18°.92N±0°.09×145°.0E±0°.1, h618km±9km, mb4.4/18

ISC 24 15:06:18.1±0.6, 18°.95N±0°.06×145°.1E±0°.1, h600km, n36, σ1§26/40, mb3.8/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.33**	**182**	P	**P**	**15 07 55.0**	**+1.3**
	6.2nm,0.3s,baz=163,slow=19,SNR=2.5						
GUMO				S	**S**	**15 09 14.3**	**+2.6**
	7.5nm,0.3s,baz=307,slow=19,SNR=2.4						
GUMO	**Guam**	**5.33**

FITZ				IAmb	IAmb	15 13 32.5	
	comp=Z,25nm,1.6s						
CMAR	**Chiang Mai Arr**	**43.58**	**277**	P	**P**	**15 13 31.5**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=69,slow=6.7,SNR=18						
AS31	**Alice Springs**	**43.73**	**195**	P	**P**	**15 13 32.3**	**+0.4**
ASAR	**Alice Springs**	**43.73**	**195**	P	**P**	**15 13 32.4**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=12,slow=6.9,SNR=27						
ASAR				PcP	**PcP**	**15 15 05.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=20,slow=2.8,SNR=7.5						
PSA00	**Pilbara Seismi**	**47.23**	**213**	P	**P**	**15 13 57.9**	**-0.5**
PSA00				IAmb	IAmb	15 15 44.1	
	comp=Z,30nm,1.6s						
MNAI	**Manna**	**47.48**	**245**	P	**P**	**15 13 59.0**	**-1.5**
GSI	**Gunungsitoli**	**49.70**	**255**	P	**P**	**15 14 14.8**	**-2.1**
GSI				IAmb	IAmb	15 15 46.4	
	comp=Z,28nm,1.6s						
STKA	**Stephens Creek**	**50.64**	**184**	P	**P**	**15 14 23.9**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=0.2,slow=8.1,SNR=4.4						
BILL	**Bilibino**	**50.88**	**10**	P	**P**	**15 14 24.9**	**+0.3**
BILL				IAmb	IAmb	15 14 24.9	
	comp=Z,7.2nm,1.2s						
MK31	**Makanchi Array**	**57.85**	**314**	P	**P**	**15 15 13.8**	**+0.1**
MKAR	**Makanchi Array**	**57.85**	**314**	P	**P**	**15 15 13.7**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=90,slow=8.5,SNR=9.1						
MAKZ	**Makanchi**	**58.07**	**314**	P	**P**	**15 15 14.9**	**-0.2**
TTA	**Tatalina**	**59.31**	**27**	P	**P**	**15 15 23.5**	**+0.2**
TTA				IAmb	IAmb	15 17 18.0	
	comp=Z,42nm,1.9s						
KDAK	**Kodiak Island**	**59.49**	**33**	P	**P**	**15 15 24.5**	**+0.2**
ILAR	**Eielson Array**	**63.69**	**26**	P	**P**	**15 15 50.5**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=245,slow=6.2,SNR=13						
YKA	**Yellowknife Ar**	**78.06**	**28**	P	**P**	**15 17 15.2**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=287,slow=4.9,SNR=2.8						
NVAR	**Mina Array Bea**	**83.47**	**52**	P	**P**	**15 17 43.7**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=282,slow=6.3,SNR=4.9						
KBZ	**Khabaz**	**85.54**	**315**	P	**P**	**15 17 53.5**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=318,slow=4.7,SNR=4.5						
FINES	**FINESS Array B**	**86.41**	**335**	P	**P**	**15 17 55.7**	**-2.0**
	comp=Z,5.3nm,1.0s,baz=46,slow=6.0,SNR=4.7						
PLCA	**Paso Flores**	**142.61**	**133**	PKP	**PKPdf**	**15 24 42.2**	**-1.9**
	comp=Z,1.5nm,0.8s,baz=117,slow=2.3,SNR=2.9						
PLCA	**Paso Flores**	**142.61**	**133**		**PKPdf**	**15 24 42.0**	**-2.2**

*IDC **24** 15:17:45.7±0.6,60.37S×49.04W,h0km,mb4.4/16, mb1 4.5/17,mb1mx4.4/25,mbtmp4.4/17,ML3.4/1,MS3.8/17, Ms1 3.8/17,ms1mx3.8/21,Error ellipse: s-maj=22.4km s-min=13.2km az=63.0*

*ISCJB **24** 15:17:46.0±0.4,60.37S±0.05×49.0W±0.1,h10km, mb4.5/18,MS3.9/16,Error ellipse: s-maj=11.2km s-min=6.3km az=151.1*

*NEIC **24** 15:17:48.0±2.0,60.39S±0.08×48.9W±0.1,h15km±3km, mb4.8/23*

*BJI **24** 15:17:49.5±0.0,60.30S×48.90W,h20km,Ms7 5.3/1*

ISC 24 15:17:47.6±0.4,60.35S±0.07×49.09W±0.09,h10km,n137, σ1§14/129,mb4.7/25,MS3.8/16,1D,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**8.20**	**231**	Pn	**Pn**	**15 19 45.8**	**-0.6**
	0.5nm,0.3s,baz=62,slow=11,SNR=5.2						
PMSA				LR	LR	15 22 47.8	
	comp=Z,443nm,18.8s,baz=327,slow=37						
HOPE	**Hope Point**	**9.13**	**54**		**Pn**	**15 19 57.2**	**-2.0**
USHA	**Ushuaia**	**11.73**	**290**	LR	LR	15 24 08.8	
	comp=Z,765nm,20.4s,baz=96,slow=33						
VNA3	**Neumayer Olymp**	**19.05**	**141**	P	**Pn**	**15 22 11.7**	**+1.4**
VNA2	**Neumayer--Watz**	**19.70**	**140**	P	**P**	**15 22 17.8**	**+1.1**
	baz=286,slow=13						
SNAA	**Sanae**	**21.28**	**141**	P	**P**	**15 22 35.3**	**+1.5**
SNAA	**Sanae**	**21.28**	**141**	P	**P**	**15 22 34.5**	**+0.7**
	26nm,1.2s,baz=288,slow=9.7,SNR=24						
SNAA				LR	LR	15 29 20.4	
	comp=Z,334nm,19.7s,baz=322,slow=33						
SNAA	**Sanae**	**21.28**	**141**	P	**P**	**15 22 34.2**	**+0.5**
SNAA				IAmb	IAmb	15 22 39.2	
	comp=Z,34nm,1.2s						
PLCA	**Paso Flores**	**23.71**	**316**	P	**P**	**15 22 59.5**	**0.0**
	comp=Z,5.3nm,0.9s,baz=180,slow=9.4,SNR=9.8						
PLCA				LR	LR	15 31 40.8	
	comp=Z,225nm,21.7s,baz=186,slow=35						
PLCA	**Paso Flores**	**23.71**	**316**	*eP*	**P**	**15 22 59.9**	**+0.4**
PLCA	**Paso Flores**	**23.71**	**316**	*eP*	**P**	**15 22 59.9**	**+0.4**
PLCA	**Paso Flores**	**23.71**	**316**	P	**P**	**15 22 59.2**	**-0.3**
TRQA	**Tornquist**	**23.76**	**334**	*eP*	**P**	**15 23 01.4**	**+1.4**
TRQA	**Tornquist**	**23.76**	**334**	*eP*	**P**	**15 23 01.4**	**+1.4**
TRQA	**Tornquist**	**23.76**	**334**	P	**P**	**15 23 01.1**	**+1.1**
TRQA				IAmb	IAmb	15 23 08.7	
	comp=Z,30nm,1.1s						
GO06	**Curarrehue**	**25.05**	**316**	P	**P**	**15 23 12.7**	**+0.8**
QSPA	**South Pole Qui**	**29.88**	**180**	P	**P**	**15 23 56.1**	**+1.1**
	comp=Z,25nm,0.8s,baz=174,slow=3.7,SNR=98						
QSPA				LR	LR	15 38 08.9	
	comp=Z,152nm,18.2s,baz=156,slow=41						
QSPA	**South Pole Qui**	**29.88**	**180**	P	**P**	**15 23 56.2**	**+1.1**
PEL	**Peldehue**	**30.68**	**323**	P	**P**	**15 24 03.0**	**+0.7**
PEL				IAmb	IAmb	15 24 10.0	
	comp=Z,18nm,1.0s						
CFA	**Coronel Fontan**	**31.43**	**328**	P	**P**	**15 24 08.8**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=169,slow=8.7,SNR=7.7						
ITAB	**Concordia**	**33.17**	**355**	*eP*	**P**	**15 24 25.2**	**+1.1**
ITAB	**Concordia**	**33.17**	**355**	*eP*	**P**	**15 24 25.2**	**+1.1**
GO04	**Tololo Observa**	**33.50**	**325**	P	**P**	**15 24 27.3**	**+0.1**
GO04				IAmb	IAmb	15 24 34.8	
	comp=Z,19nm,1.2s						
CPUP	**Villa Florida**	**34.48**	**347**	P	**P**	**15 24 36.3**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=168,slow=12,SNR=2.3						
CPUP				LR	LR	15 37 34.7	
	comp=Z,211nm,21.4s,baz=173,slow=34						
CPUP	**Villa Florida**	**34.48**	**347**	*eP*	**P**	**15 24 36.6**	**+1.2**
CPUP	**Villa Florida**	**34.48**	**347**	*eP*	**P**	**15 24 36.6**	**+1.2**
SYO	**Syowa Base**	**35.56**	**142**	*||eP*	**P**	**15 24 43.8**	**-0.6**
PTGB	**Pitanga**	**35.68**	**355**	*eP*	**P**	**15 24 46.3**	**+0.4**
PTGB	**Pitanga**	**35.68**	**355**	*eP*	**P**	**15 24 46.3**	**+0.4**
GO03	**Copiap**	**35.77**	**327**	P	**P**	**15 24 46.3**	**-0.4**
GO03				IAmb	IAmb	15 24 55.6	
	comp=Z,12nm,0.8s						
SPB	**Sao Paulo**	**36.75**	**3**	*eP*	**P**	**15 24 56.0**	**+1.0**
SPB	**Sao Paulo**	**36.75**	**3**	*eP*	**P**	**15 24 56.0**	**+1.0**
VAO	**Valinhos**	**37.35**	**3**	*eP*	**P**	**15 25 01.3**	**+1.1**
VAO	**Valinhos**	**37.35**	**3**	*eP*	**P**	**15 25 01.3**	**+1.1**
TRCB	**Terra Rica**	**37.61**	**355**	*eP*	**P**	**15 25 02.8**	**+0.5**
TRCB	**Terra Rica**	**37.61**	**355**	*eP*	**P**	**15 25 02.8**	**+0.5**
GO02	**Mina Guanaco**	**37.92**	**329**	P	**P**	**15 25 05.0**	**-0.2**
PCMB	**Pacaembu**	**38.74**	**357**	*eP*	**P**	**15 25 12.2**	**+0.3**
PCMB	**Pacaembu**	**38.74**	**357**	*eP*	**P**	**15 25 12.2**	**+0.3**
BB19B	**Bebedouro**	**39.25**	**1**	*eP*	**P**	**15 25 16.5**	**+0.4**
BB19B	**Bebedouro**	**39.25**	**1**	*eP*	**P**	**15 25 16.5**	**+0.4**
AQDB	**Aquidauana**	**40.11**	**350**	*eP*	**P**	**15 25 23.6**	**+0.3**
AQDB	**Aquidauana**	**40.11**	**350**	*eP*	**P**	**15 25 23.6**	**+0.3**
LVC	**Limon Verde**	**40.19**	**331**	P	**P**	**15 25 24.0**	**-0.4**
	comp=Z,6.5nm,0.9s,baz=178,slow=7.7,SNR=6.1						
LVC	**Limon Verde**	**40.19**	**331**	*eP*	**P**	**15 25 25.6**	**+1.3**
LVC	**Limon Verde**	**40.19**	**331**	*eP*	**P**	**15 25 25.6**	**+1.3**
LVC	**Limon Verde**	**40.19**	**331**	P	**P**	**15 25 24.3**	**-0.1**
ITRB	**Iturama**	**40.62**	**358**	*eP*	**P**	**15 25 27.9**	**+0.5**
ITRB	**Iturama**	**40.62**	**358**	*eP*	**P**	**15 25 27.9**	**+0.5**
PB04	**IPOC Station P**	**40.76**	**329**	P	**P**	**15 25 28.7**	**-0.2**
VNDA	**Vanda**	**41.05**	**190**	LR	LR	15 43 57.6	
	comp=Z,71nm,18.8s,baz=155,slow=38						
PMNB	**Patos De Minas**	**41.81**	**4**	*eP*	**P**	**15 25 38.2**	**+0.8**
PMNB	**Patos De Minas**	**41.81**	**4**	*eP*	**P**	**15 25 38.2**	**+0.8**
SJMB	**Sao Joao De Ma**	**41.99**	**11**	*eP*	**P**	**15 25 38.6**	**-0.1**
SJMB	**Sao Joao De Ma**	**41.99**	**11**	*eP*	**P**	**15 25 38.6**	**-0.1**
IPMB	**Ipameri, GO**	**42.32**	**1**	*eP*	**P**	**15 25 42.2**	**+0.7**
IPMB	**Ipameri, GO**	**42.32**	**1**	*eP*	**P**	**15 25 42.2**	**+0.7**
PP1B	**Ponte de Pedra**	**42.90**	**352**	*eP*	**P**	**15 25 46.4**	**+0.2**
PP1B	**Ponte de Pedra**	**42.90**	**352**	*eP*	**P**	**15 25 46.4**	**+0.2**
GO01	**Chusmiza**	**43.09**	**332**	P	**P**	**15 25 49.2**	**+1.0**
GO01				IAmb	IAmb	15 25 51.5	
	comp=Z,9.8nm,0.8s						
MAW	**Mawson**	**43.10**	**149**	P	**P**	**15 25 47.9**	**+0.7**
	comp=Z,3.7nm,0.8s,baz=238,slow=12,SNR=6.6						
MAW				LR	LR	15 42 27.4	
	comp=Z,473nm,21.3s,baz=239,slow=34						
PB11	**IPOC Station P**	**43.11**	**331**	P	**P**	**15 25 48.5**	**+0.5**
PB11				IAmb	IAmb	15 26 00.9	
	comp=Z,13nm,0.9s						
MNMC	**Minye Minye**	**43.70**	**331**	P	**P**	**15 25 53.9**	**+1.0**
ARAG	**Araguaiana, MT**	**44.62**	**356**	*eP*	**P**	**15 25 59.3**	**-0.7**
ARAG	**Araguaiana, MT**	**44.62**	**356**	*eP*	**P**	**15 25 59.3**	**-0.7**
SALV	**Santo Antonio**	**44.65**	**351**	*eP*	**P**	**15 26 01.0**	**+0.8**
SALV	**Santo Antonio**	**44.65**	**351**	*eP*	**P**	**15 26 01.0**	**+0.8**
BDFB	**Brasilia**	**44.65**	**1**	P	**P**	**15 26 00.5**	**+0.1**
	comp=Z,5.4nm,0.9s,baz=193,slow=3.9,SNR=5.7						
BDFB				LR	LR	15 42 42.7	
	comp=Z,123nm,21.3s,baz=128,slow=34						
BDFB	**Brasilia**	**44.65**	**1**	P	**P**	**15 26 00.8**	**+0.5**
BDFB				IAmb	IAmb	15 26 09.3	
	comp=Z,9.9nm,1.0s						
SIV	**San Ignacio**	**45.15**	**344**	P	**P**	**15 26 04.3**	**0.0**
	comp=Z,6.1nm,0.8s,baz=170,slow=7.5,SNR=27						
JANB	**Januaria**	**45.36**	**6**	*eP*	**P**	**15 26 06.5**	**+0.6**
JANB	**Januaria**	**45.36**	**6**	*eP*	**P**	**15 26 06.5**	**+0.6**
LPAZ	**La Paz**	**46.12**	**334**	P	**P**	**15 26 12.8**	**+0.2**
	comp=Z,4.1nm,0.8s,baz=165,slow=7.5,SNR=8.6						
LPAZ				LR	LR	15 46 34.8	
	comp=Z,112nm,21.2s,baz=166,slow=38						
LPAZ	**La Paz**	**46.12**	**334**	*eP*	**P**	**15 26 13.3**	**+0.8**
LPAZ	**La Paz**	**46.12**	**334**	*eP*	**P**	**15 26 13.3**	**+0.8**
LPAZ	**La Paz**	**46.12**	**334**	P	**P**	**15 26 13.1**	**+0.5**
CLDB	**Colider**	**49.64**	**351**	*eP*	**P**	**15 26 38.1**	**-1.1**
CLDB	**Colider**	**49.64**	**351**	*eP*	**P**	**15 26 38.1**	**-1.1**
NBPN	**Ponto Novo - B**	**49.85**	**11**	*eP*	**P**	**15 26 40.9**	**+0.1**
NBPN	**Ponto Novo - B**	**49.85**	**11**	*eP*	**P**	**15 26 40.9**	**+0.1**
NBLA	**Lagarto - SE**	**49.98**	**15**	*eP*	**P**	**15 26 41.7**	**-0.1**
NBLA	**Lagarto - SE**	**49.98**	**15**	*eP*	**P**	**15 26 41.7**	**-0.1**
SMTB	**Santa Maria do**	**51.40**	**2**	*eP*	**P**	**15 26 52.9**	**+0.4**
SMTB	**Santa Maria do**	**51.40**	**2**	*eP*	**P**	**15 26 52.9**	**+0.4**
NBTA	**Tacaratu-PE**	**51.79**	**14**	*eP*	**P**	**15 26 55.5**	**+0.1**
NBTA	**Tacaratu-PE**	**51.79**	**14**	*eP*	**P**	**15 26 55.5**	**+0.1**
SAML	**Samuel**	**52.37**	**342**	*eP*	**P**	**15 27 00.3**	**+0.6**
SAML	**Samuel**	**52.37**	**342**	*eP*	**P**	**15 27 00.3**	**+0.6**
SAML	**Samuel**	**52.37**	**342**	P	**P**	**15 26 59.7**	**0.0**
SAML				IAmb	IAmb	15 27 02.4	
	comp=Z,11nm,0.9s						
NBMA	**Muriti-CE**	**53.44**	**13**	*eP*	**P**	**15 27 08.3**	**+0.6**
NBMA	**Muriti-CE**	**53.44**	**13**	*eP*	**P**	**15 27 08.3**	**+0.6**
BOSA	**Boshof**	**57.91**	**92**	P	**P**	**15 27 38.7**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=188,slow=7.1,SNR=4.0						
BOSA				LR	LR	15 47 48.5	
	comp=Z,60nm,20.9s,baz=206,slow=31						
BOSA	**Boshof**	**57.91**	**92**	P	**P**	**15 27 38.4**	**-1.4**
BOSA				IAmb	IAmb	15 28 03.1	
	comp=Z,12nm,1.3s						
H10N3	**ASCENSION HYDR**	**58.46**	**41**	T	T	16 31 24.4	
	baz=199,slow=74,SNR=14						
H10N1	**ASCENSION HYDR**	**58.46**	**41**	T	T	16 31 24.8	
	baz=199						
H10N2	**ASCENSION HYDR**	**58.48**	**41**	T	T	16 31 31.2	
	baz=199,slow=74						
LBTB	**Lobatse**	**61.05**	**90**	P	**P**	**15 28 00.5**	**-1.1**
	comp=Z,7.7nm,0.8s,baz=207,slow=8.4,SNR=8.7						
LBTB	**Lobatse**	**61.05**	**90**	IAmb	IAmb	15 28 00.6	
	comp=Z,6.2nm,0.7s						
ROSC	**El Rosal**	**67.95**	**333**	LR	LR	15 59 22.6	
	comp=Z,92nm,20.9s,baz=182,slow=37						
LSZ	**Lusaka**	**70.56**	**87**	P	**P**	**15 29 02.1**	**-0.8**
LSZ				IAmb	IAmb	15 29 03.2	
	comp=Z,5.9nm,0.9s						
LIC	**Lamto**	**74.83**	**46**	*eP*	**P**	**15 29 27.9**	**-0.1**
	comp=Z,35nm,0.5s						
LIC	**Lamto**	**74.83**	**46**	P	**P**	**15 29 27.9**	**-0.1**
KIC	**Kosan Boka**	**75.06**	**46**	*eP*	**P**	**15 29 29.3**	**0.0**
	comp=Z,44nm,0.9s						
KIC	**Kosan Boka**	**75.06**	**46**	P	**P**	**15 29 29.3**	**0.0**
TIC	**Toumodi**	**75.22**	**46**	*eP*	**P**	**15 29 30.2**	**-0.1**
TIC	**Toumodi**	**75.22**	**46**	P	**P**	**15 29 30.2**	**-0.1**
DBIC	**Dimbokro**	**75.30**	**46**	P	**P**	**15 29 30.8**	**+0.1**
	comp=Z,7.8nm,0.7s,baz=186,slow=7.8,SNR=13						
DBIC				LR	LR	15 56 28.6	
	comp=Z,55nm,18.8s,baz=322,slow=31						
DBIC	**Dimbokro**	**75.30**	**46**	P	**P**	**15 29 30.6**	**-0.1**
DBIC				IAmb	IAmb	15 29 31.7	
	comp=Z,9.7nm,0.8s						
TOA0	**Torodi Ar. Sit**	**83.68**	**49**	P	**P**	**15 30 16.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**83.68**	**49**	P	**P**	**15 30 16.3**	**0.0**
	comp=Z,8.2nm,0.8s,baz=215,slow=5.2,SNR=35						
TORD				LR	LR	16 00 45.4	
	comp=Z,41nm,19.8s,baz=340,slow=31						
STKA	**Stephens Creek**	**87.69**	**189**	LR	LR	16 08 49.6	
	comp=Z,78nm,19.6s,baz=201,slow=35						
ASAR	**Alice Springs**	**96.25**	**183**	P	**P**	**15 31 13.9**	**-2.2**
	comp=Z,0.4nm,0.6s,baz=170,slow=3.9,SNR=8.8						
ASAR				LR	LR	16 18 04.0	
	comp=Z,44nm,18.1s,baz=184,slow=38						
TXAR	**Lajitas Array**	**99.86**	**314**	LR	LR	16 12 02.9	
	comp=Z,26nm,18.7s,baz=0.0,slow=33						
WRA	**Warramunga Arr**	**99.94**	**183**	P	**Pdif**	**15 31 30.2**	**-2.5**
	comp=Z,0.3nm,0.6s,baz=179,slow=3.6,SNR=3.3						
WLF	**Walferdange**	**118.38**	**37**	PKPdf	**PKPdf**	**15 36 34.7**	**+0.7**
WLF				pPKP	**sPKPdf**	**15 36 40.1**	**+2.5**
YKA	**Yellowknife Ar**	**132.28**	**325**	PKP	**PKPdf**	**15 36 58.5**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=150,slow=2.1,SNR=4.9						
CMAR	**Chiang Mai Arr**	**132.33**	**137**	PKP	**PKPdf**	**15 37 00.6**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=218,slow=3.7,SNR=7.2						
KSH	**Kashi**	**140.43**	**96**	PKP	**PKiKP**	**15 37 19.6**	**+0.8**
KSH				PP	**PP**	**15 40 19.8**	**+4.3**
ILAR	**Eielson Array**	**144.37**	**313**	PKP	**PKPab**	**15 37 19.8**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=152,slow=1.6,SNR=14						
NEA	**Neana**	**145.07**	**312**		**PKPbc**	**15 37 21.4**	**-1.6**
KTH	**Kantishna Hill**	**145.23**	**310**		**PKPbc**	**15 37 22.3**	**-1.4**
CD2	**Chengdu**	**145.46**	**136**	PKPbc	**PKPbc**	**15 37 24.8**	**-0.5**
BPAW	**Bear Paw Mtn.**	**145.54**	**311**		**PKPdf**	**15 37 23.1**	**-1.2**
MLY	**Manley**	**145.91**	**312**		**PKPdf**	**15 37 24.6**	**-0.3**
BRVK	**Borovoye**	**147.03**	**75**		**PKPdf**	**15 37 27.5**	**+0.4**
TOLK	**Toolik Lake Re**	**147.19**	**318**		**PKPdf**	**15 37 27.6**	**+0.6**
WHN	**Wuhan**	**148.20**	**152**	PKPbc	PKPdf	15 37 23.3	-6.5
MAKZ	**Makanchi**	**148.75**	**93**		**PKPdf**	**15 37 30.8**	**+0.5**
MK31	**Makanchi Array**	**148.90**	**94**		**PKPdf**	**15 37 32.1**	**+1.6**
MKAR	**Makanchi Array**	**148.90**	**94**	PKPbc	**PKPdf**	**15 37 32.7**	**+2.2**
	comp=Z,3.6nm,0.7s,baz=228,slow=2.3,SNR=28						
WMQ	**Urumqi**	**149.42**	**103**	*e*PKPbc	**PKPdf**	**15 37 33.0**	**+1.5**
KURK	**Kurchatov**	**149.67**	**85**	PKPbc	**PKPdf**	**15 37 34.7**	**+3.2**
XAN	**Xi'an**	**150.03**	**142**	PKPbc	**PKPdf**	**15 37 35.6**	**+2.9**
LZH	**Lanzhou**	**150.16**	**132**	*e*PKPbc	**PKPdf**	**15 37 30.0**	**-3.0**
LZH				pPKP	PKiKP	15 37 40.3	+1.3
LZH				sPKP		15 37 46.0	
LZH				LR	LR		
	comp=Z,410nm,20.1s						
NJ2	**Nanjing**	**150.59**	**159**	*e*PKPbc	**PKPdf**	**15 37 35.3**	**+1.7**
GTA	**Gaotai**	**151.46**	**123**	PKPbc	**PKPbc**	**15 37 39.5**	**-1.5**
HHC	**Hu-ho-hao-te**	**157.10**	**140**	PKP	**PKPdf**	**15 37 38.3**	**-4.4**

KRSC 24 15:24:02.3±1.1,49.06N×155.86E,h26km±16km,ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.63**	**6**	*eP*	Pb	15 24 30.8	-0.8
SKR				*eS*	Sb	15 24 52.0	+0.2
PAU	**Pauzhetka**	**2.48**	**14**	*eP*	Pb	15 24 44.0	-2.2
PAU				*eS*	Sn	15 25 12.9	+2.4
ASAK	**Asacha**	**3.57**	**21**	*eP*	Pn	15 24 59.7	+3.7
MTVR	**Mutnovka**	**3.73**	**22**	*eP*	Pn	15 25 01.9	+3.6
MTVR				*eS*	Sn	15 25 45.3	+3.9
GRL	**Gorelyy**	**3.76**	**21**	*eP*	Pn	15 25 02.4	+3.6
DALK	**Dalny**	**4.37**	**24**	*eP*	Pn	15 25 10.8	+3.8
DALK				*eS*	Sn	15 26 03.0	+6.0
UGLR	**Uglovaya**	**4.55**	**23**	*eP*	Pn	15 25 14.0	+4.5
AVH	**Avacha**	**4.58**	**22**	*eP*	Pn	15 25 14.9	+5.0
KOK	**Koryaka**	**4.58**	**21**	*eP*	Pn	15 25 14.6	+4.7
SMAR	**Somma**	**4.59**	**23**	*eP*	Pn	15 25 15.0	+4.8
SDLR	**Sedlovina**	**4.63**	**23**	*eP*	Pn	15 25 14.3	+3.7
KRX	**Arik**	**4.64**	**21**	*eP*	Pn	15 25 15.4	+4.5
GNL	**Ganaly**	**4.82**	**15**	*eP*	Pn	15 25 17.3	+4.1
KZV	**Kizimen**	**6.64**	**23**	*eP*	Pn	15 25 43.4	+5.1

DJA 24 15:46:41.7±0.3,4°S±4°×13°6E±°,h56km±12km,M4.2/7, mb4.3/6,mB5.3/3,MLv4.2/7,Mw(mB)4.7/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAKI	**Biak**	**3.22**	**6**	P	Pn	15 47 29.0	-0.9
RKPI	**Ransiki, Papua**	**3.31**	**331**	P	Pn	15 47 29.4	-1.7
FAKI	**Fak Fak**	**3.83**	**293**	P	Pn	15 47 38.9	+0.6
FAKI				S	Sn	15 48 22.3	+0.2
SWI	**Sorong**	**5.74**	**308**	P	Pn	15 48 04.7	+0.3
LBMI	**Labuha**	**9.09**	**294**	P	Pn	15 48 49.9	-0.4
	114nm,0.7s,3µm						
PCI	**Palu**	**16.31**	**282**	P	P	15 50 29.8	+0.5

*ISCJB **24** 15:57:29.9±0.6,37.59N±0.10×134.90E±0.08,h400km, mb2.8/3,Error ellipse: s-maj=13.4km s-min=7.9km az=171.3*

*IDC **24** 15:57:30.6±1.1,37.64N×134.87E,h403km±19km,mb2.5/3, mb1 2.8/7,mb1mx2.6/45,mbtmp3.4/7,Error ellipse: s-maj=28.6km s-min=21.6km az=19.0*

*JMA **24** 15:57:32.0±0.2,37.45N×135.08E,h398km,M3.1*

ISC 24 15:57:30.4±1.0,37.6N±0.1×134.98E±0.09,h400km,n17, σ1§22/20,mb2.9/3,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKG	**Kaga**	**1.71**	**140**	P	**Pn**	**15 58 25.2**	**+0.5**
JSZ	**Suzu**	**1.90**	**94**	P	**Pn**	**15 58 27.1**	**+1.4**
JSD	**Sado**	**2.63**	**79**	P	**Pn**	**15 58 32.0**	**+1.4**
JNG	**Nsakai**	**2.77**	**115**	P	**Pn**	**15 58 33.3**	**+1.4**
MAT	**Matsushiro**	**2.79**	**111**	P	**Pn**	**15 58 32.9**	**+1.0**
MAT	**Matsushiro**	**2.79**	**111**	P	**Pn**	**15 58 33.1**	**+1.2**
MJAR	**Matsushiro Arr**	**2.79**	**111**	P	**Pn**	**15 58 33.6**	**+1.7**
	0.4nm,0.3s,baz=288,slow=10.0,SNR=38						
JMM	**Marumori**	**4.61**	**85**	P	**Pn**	**15 58 49.7**	**+1.3**
JMM				S	**S**	**15 59 50.8**	**-1.0**
JFK	**Kawauchi**	**4.69**	**91**	P	**Pn**	**15 58 49.9**	**+0.6**
JFK				S	**S**	**15 59 50.6**	**-2.7**
JMK	**Ichinoseki**	**5.09**	**73**	P	**Pn**	**15 58 54.7**	**+1.5**
JMK				*eS*	**S**	**16 00 00.1**	**-0.5**
KSRS	**Korea Array**	**5.61**	**271**	P	**Pn**	**15 58 58.2**	**-0.5**
	0.4nm,0.3s,baz=92,slow=11,SNR=17						
BSO1	**Boso 1**	**5.67**	**119**	P	**Pn**	**15 58 59.3**	**+0.4**
USRK	**Ussuriysk Ar.**	**6.97**	**342**	P	**Pn**	**15 59 13.5**	**-0.1**
	baz=163,slow=11,SNR=6.0						
ASAJ	**Asahikawa**	**8.69**	**39**	P	**Pn**	**15 59 33.5**	**+0.4**
	1.2nm,0.3s,baz=219,slow=9.5,SNR=19						
CMAR	**Chiang Mai Arr**	**36.79**	**249**	P	**P**	**16 04 01.6**	**-0.6**
	0.3nm,0.6s,baz=49,slow=7.3,SNR=3.5						
WRA	**Warramunga Arr**	**57.24**	**181**	P	**P**	**16 06 37.9**	**+0.1**
	0.4nm,0.8s,baz=355,slow=7.7,SNR=3.9						
ASAR	**Alice Springs**	**60.95**	**161**	P	**P**	**16 07 03.2**	**+0.3**
	0.4nm,1.1s,baz=359,slow=6.0,SNR=4.6						

NNC 24 16:01:28.6±7.5,36.88N×70.40E,h0km,mb3.7,mpv3.5, 3C-4D,Error ellipse: s-maj=59.3km s-min=39.5km az=172.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.22**	**1**	P	Pn	16 03 04.7	+3.1
	0.6nm,0.3s,baz=180,slow=13,SNR=18						
KK31				⇑S	Sn	16 04 17.1	+3.7
	1.7nm,0.3s,baz=189,slow=24,SNR=8.2						
AAK

*SJA **24** 16:19:47.9±0.7,23°.06S×66°.86W,h192km±7km,ML2.5, MW2.3*
*ISCJB **24** 16:19:48.7±1.1,23°.02S±0°.06×66°.91W±0°.04, h186km±12km,Error ellipse: s-maj=9.7km s-min=5.1km az=17.2*
*GUC **24** 16:19:48.9±0.5,22°.94S×67°.36W,h235km±5km,ML3.3*

ISC 24 16:19:47.1±2.4,23°.01S±0°.07×66°.86W±0°.05, h204km±20km,n22,σ1§17/37,10C-2D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HJA	**Humahuaca**	**1.35**	**98**	*i* P	**Pn**	**16 20 21.3**	**+0.9**
HJA				IAML		16 20 21.7	
	comp=Z,55nm,0.4s						
HJA				*e*S	**Sn**	**16 20 45.2**	**-0.9**
YJA	**Yavi**	**1.50**	**56**	*i* P	**Pn**	**16 20 22.5**	**+0.8**
LVC	**Limon Verde**	**1.93**	**282**	*e*P	**Pn**	**16 20 26.9**	**+1.3**
LVC				*e*S	**Sn**	**16 20 56.5**	**+1.0**
LVC	**Limon Verde**	**1.93**	**282**	*i* P	**Pn**	**16 20 26.6**	**+1.0**
LVC				*e*S	**Sn**	**16 20 54.5**	**-1.0**
AZAP	**Zapla**	**2.04**	**127**	⇓*i*P	**Pn**	**16 20 27.0**	**+0.4**
AZAP				IAML		16 20 27.3	
	comp=Z,9.1nm,0.5s						
AZAP				*e*S	**Sn**	**16 20 55.7**	**-1.6**
ASTB	**Santa Barbara**	**2.40**	**113**	*i* P	**Pn**	**16 20 30.9**	**+0.6**
PB15	**IPOC Station P**	**2.41**	**265**	⇑*i*P	**Pn**	**16 20 31.4**	**+1.0**
PB15				*e*S	**Sn**	**16 21 03.8**	**-0.4**
PB15	**IPOC Station P**	**2.41**	**265**	*i* P	**Pn**	**16 20 31.4**	**+1.0**
PB09	**IPOC Station P**	**2.51**	**298**	⇑*i*P	**Pn**	**16 20 33.0**	**+1.4**
PB09				*e*S	**Sn**	**16 21 06.2**	**-0.1**
PB09				IAML		16 21 11.3	
	comp=E,46nm,0.6s						
PB06	**IPOC Station P**	**2.52**	**276**	⇓*i*P	**Pn**	**16 20 32.5**	**+0.9**
PB06				*e*S	**Sn**	**16 21 05.7**	**-0.5**
PB06				IAML		16 21 10.6	
	comp=N,39nm,0.1s						
PB06	**IPOC Station P**	**2.52**	**276**	*i* P	**Pn**	**16 20 32.5**	**+0.9**
PB03	**IPOC Station P**	**2.84**	**289**	⇑*i*P	**Pn**	**16 20 35.8**	**+0.5**
PB03				*i* S	**Sn**	**16 21 11.5**	**-1.4**
PB03				IAML		16 21 12.1	
	comp=E,96nm,0.2s						
PB07	**IPOC Station P**	**3.08**	**294**	⇑*i*P	**Pn**	**16 20 38.6**	**+0.5**
PB07				*e*S	**Sn**	**16 21 15.9**	**-1.9**
PB07				IAML		16 21 17.6	
	comp=E,97nm,0.2s						
PB05	**IPOC Station P**	**3.08**	**272**	⇑*i*P	**Pn**	**16 20 38.6**	**+0.6**
PB05				*e*S	**Sn**	**16 21 16.2**	**-1.6**
PB05				IAML		16 21 23.4	
	comp=E,16nm,0.5s						
PB05	**IPOC Station P**	**3.08**	**272**	*i* P	**Pn**	**16 20 38.6**	**+0.6**
PB04	**IPOC Station P**	**3.11**	**282**	⇑*i*P	**Pn**	**16 20 38.9**	**+0.5**
PB04				*i* S	**Sn**	**16 21 16.8**	**-1.7**
PB04				IAML		16 21 19.9	
	comp=N,63nm,0.3s						
PB04	**IPOC Station P**	**3.11**	**282**	*i* P	**Pn**	**16 20 39.0**	**+0.5**
PB02	**IPOC Station P**	**3.28**	**300**	⇑*i*P	**Pn**	**16 20 40.6**	**+0.2**
PB02				*e*S	**Sn**	**16 21 19.5**	**-2.5**
PB02				IAML		16 21 21.0	
	comp=N,120nm,0.2s						
GO02	**Mina Guanaco**	**3.28**	**229**	⇑*i*P	**Pn**	**16 20 41.9**	**+1.3**
GO02				*i* S	**Sn**	**16 21 23.1**	**+0.6**
PB10	**IPOC Station P**	**3.43**	**261**	⇑*i*P	**Pn**	**16 20 42.7**	**+0.6**
PB10				*e*S	**Sn**	**16 21 22.9**	**-2.2**
PB10				IAML		16 21 27.2	
	comp=E,19nm,0.2s						
PB10	**IPOC Station P**	**3.43**	**261**	*i* P	**Pn**	**16 20 42.8**	**+0.8**
PB08	**IPOC Station P**	**3.57**	**323**	⇑*i*P	**Pn**	**16 20 45.6**	**+1.5**
PB08				*e*S	**Sn**	**16 21 29.0**	**+0.2**

*JMA **24** 16:50:31.9±0.2,24°.32N×121°.85E,h43km±4km,M3.1*
*ISCJB **24** 16:50:32.7±0.2,24°.38N±0°.01×121°.98E±0°.01,h19km±2km, Error ellipse: s-maj=2.4km s-min=1.7km az=37.0*
*TAP **24** 16:50:32.4,24°.39N×121°.91E,h25km,ML3.8,B*

ISC 24 16:50:32.3±0.9,24°.36N±0°.01×121°.94E±0°.02,h18km±4km, n125,σ0§65/206,8C-17D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NANB	**Nanao** baz=283	**0.19**	**291**	*i*P	**Pg**	**16 50 37.6**	**+0.6**
NANB				S	**Sg**	**16 50 41.1**	**+0.9**
ENA	**Nanau** baz=282	**0.19**	**290**	⇑*i*P	**Pb**	**16 50 37.6**	**+0.5**
ENA				S	**Sg**	**16 50 41.3**	**+0.9**
EOS1	**EOS1** baz=46	**0.26**	**42**	⇓P	**Pb**	**16 50 39.2**	**+0.9**
EOS1				S	**Sn**	**16 50 44.7**	**-1.9**
TWC	**Suao** baz=347	**0.26**	**342**	⇓*i*P	**Pb**	**16 50 38.4**	**0.0**
TWC				*i* S	**Sb**	**16 50 42.5**	**-0.1**
NACB	**Ninganchiao** baz=237	**0.37**	**240**	⇓P	**Pb**	**16 50 40.3**	**0.0**
NACB				S	**Sb**	**16 50 46.9**	**+1.2**
TWD	**Chiawan** baz=226	**0.42**	**228**	⇓*i*P	**Pb**	**16 50 41.7**	**+0.5**
TWD				S	**Sn**	**16 50 49.0**	**-1.7**
TWE	**Neicheng** baz=327	**0.44**	**325**	⇓*i*P	**Pb**	**16 50 41.4**	**-0.1**
TWE				S	**Sg**	**16 50 47.2**	**0.0**
ENTT	**Nioudou** baz=309	**0.44**	**309**	⇑*i*P	**Pg**	**16 50 41.4**	**+0.1**
ENTT				S	**Sg**	**16 50 47.6**	**+0.3**
ILA	**Ilan** baz=333	**0.44**	**337**	⇓*i*P	**Pb**	**16 50 41.7**	**+0.1**
ILA				S	**Sg**	**16 50 47.4**	**+0.1**
ETLH	**Xiulin Townshi** baz=248	**0.45**	**250**	⇓P	**Pb**	**16 50 41.7**	**+0.1**
ETLH				S	**Sb**	**16 50 49.3**	**+1.2**
NDT	**Datong Townshi** baz=307	**0.46**	**302**	⇑*i*P	**Pb**	**16 50 41.9**	**0.0**
NDT				S	**Sg**	**16 50 48.1**	**+0.3**
SLBB	**Yuanshan** baz=326	**0.48**	**325**	⇑*i*P	**Pg**	**16 50 41.3**	**-0.7**
SLBB				S	**Sg**	**16 50 48.0**	**-0.5**
EGS	baz=4.0	**0.48**	**359**	⇓P	**Pb**	**16 50 42.3**	**+0.1**
EGS				S	**Sg**	**16 50 48.7**	**+0.1**
HWA	**Hwalien** baz=213	**0.49**	**219**	*e*P	**Pn**	**16 50 43.4**	**-1.0**
NTC	**Toucheng** baz=352	**0.50**	**348**	*e*P	**Pg**	**16 50 42.3**	**-0.1**
NTC				*e*S	**Sg**	**16 50 49.2**	**0.0**
NNSH	**Datong** baz=278	**0.51**	**278**	P	**Pb**	**16 50 42.9**	**0.0**
NNSH				S	**Sb**	**16 50 50.0**	**0.0**
NNS	**Nan Shan** baz=282	**0.52**	**279**	P	**Pb**	**16 50 43.0**	**0.0**
NNS				S	**Sb**	**16 50 50.4**	**+0.1**
ENLB	**Shoufeng** baz=210	**0.55**	**214**	P	**Pb**	**16 50 43.5**	**+0.2**
ENLB				S	**Sn**	**16 50 53.8**	**-0.1**
NWLT	**Wulai** baz=316	**0.57**	**316**	*e*P	**Pg**	**16 50 43.5**	**-0.2**
NWLT				*e*S	**Sg**	**16 50 50.8**	**-0.7**
YHNB	**Yeheng** baz=300	**0.60**	**301**	⇑P	**Pg**	**16 50 44.1**	**-0.1**
YHNB				S	**Sg**	**16 50 51.7**	**-0.5**
NSK	**Sanguang** baz=300	**0.62**	**301**	⇑P	**Pg**	**16 50 44.3**	**-0.3**
NSK				S	**Sg**	**16 50 52.3**	**-0.5**
TIPB	**Shuangxi** baz=358	**0.62**	**350**	⇓*i*P	**Pg**	**16 50 44.4**	**-0.1**
TIPB				*e*S	**Sg**	**16 50 52.2**	**-0.6**
TWB1	**Santiao Chiao** baz=3.0	**0.65**	**4**	⇓*e*P	**Pb**	**16 50 44.9**	**-0.1**
TWB1				*e*S	**Sb**	**16 50 53.3**	**-0.4**
WHF	**Hehuan Shan** baz=254	**0.65**	**251**	⇓*i*P	**Pb**	**16 50 45.5**	**+0.2**
WHF				*e*S	**Sb**	**16 50 54.8**	**+0.5**
TWA	**Mucha** baz=327	**0.70**	**332**	*e*P	**Pg**	**16 50 46.2**	**+0.2**
TWA				*e*S	**Sb**	**16 50 55.3**	**+0.1**
TWT	**Tachien** baz=259	**0.70**	**261**	*e*P	**Pn**	**16 50 47.0**	**-0.6**
TWT				*e*S	**Sn**	**16 50 56.9**	**-1.1**
NHDH	**Xindian Distri** baz=322	**0.71**	**328**	*e*P	**Pb**	**16 50 46.2**	**+0.1**
NHDH				*e*S	**Sg**	**16 50 55.8**	**+0.2**
ESL	**Shilin** baz=231	**0.71**	**221**	*e*P	**Pg**	**16 50 46.3**	**0.0**
ESL				*e*S	**Sn**	**16 50 57.0**	**-1.1**
TDCB	**Techi** baz=259	**0.72**	**262**	*e*P	**Pg**	**16 50 46.8**	**+0.3**
TDCB				*e*S	**Sg**	**16 50 56.4**	**+0.3**
NWF	**Wu-fen Shan** baz=344	**0.72**	**348**	⇓*i*P	**Pb**	**16 50 46.5**	**+0.1**
NWF				S	**Sb**	**16 50 56.1**	**+0.1**
WFSB	**Wu-fen Shan** baz=344	**0.72**	**348**	⇓P	**Pg**	**16 50 46.6**	**+0.1**
WFSB				S	**Sb**	**16 50 56.1**	**+0.2**
TATO	**Taipei** baz=321	**0.74**	**326**	P	**Pb**	**16 50 46.7**	**+0.1**
TATO				S	**Sb**	**16 50 56.0**	**-0.4**
CHGB	**Renai** baz=244	**0.76**	**247**	⇓P	**Pg**	**16 50 47.4**	**+0.2**
CHGB				S	**Sg**	**16 50 58.2**	**+0.8**
TAP1	**Taipei** baz=331	**0.78**	**331**	P	**Pn**	**16 50 48.0**	**-0.4**
TAP1				S	**Sg**	**16 50 58.3**	**+0.6**
TAP	**Taipei** baz=331	**0.78**	**330**	*e*P	**Pg**	**16 50 48.0**	**+0.4**
TAP				*e*S	**Sg**	**16 50 58.5**	**+0.5**
WLTB	**Daxi** baz=308	**0.80**	**308**	*e*P	**Pg**	**16 50 48.2**	**+0.4**
WLTB				*e*S	**Sb**	**16 50 58.1**	**+0.1**
OWD	**Renai** baz=226	**0.81**	**240**	*e*P	**Pg**	**16 50 48.4**	**+0.3**
EGFH	**Guangfu** baz=198	**0.83**	**214**	*e*P	**Pg**	**16 50 48.5**	**-0.1**
YM01	**YM01** baz=338	**0.85**	**337**	P	**Pg**	**16 50 49.1**	**+0.2**
YM01				S	**Sg**	**16 51 00.1**	**-0.1**
YM10	**YM10** baz=337	**0.86**	**337**	*e*P	**Pg**	**16 50 49.0**	**-0.1**
YM10				*e*S	**Sb**	**16 51 00.2**	**+0.2**
YM11	**YM11** baz=339	**0.87**	**338**	*e*P	**Pg**	**16 50 49.2**	**0.0**
YM11				*e*S	**Sb**	**16 50 59.9**	**-0.3**
TWS1	**Kuangyinshan** baz=339	**0.88**	**327**	P	**Pn**	**16 50 49.6**	**-0.1**
TWS1				S	**Sn**	**16 51 01.8**	**-0.2**
YM08	**YM08** baz=341	**0.88**	**339**	*e*P	**Pb**	**16 50 49.3**	**+0.2**
YM08				*e*S	**Sb**	**16 51 00.2**	**-0.4**
LIOB	**Emei** baz=288	**0.89**	**289**	*e*P	**Pn**	**16 50 49.9**	**0.0**
LIOB				*e*S	**Sb**	**16 51 00.7**	**-0.1**
NSTT	**Nanjuang** baz=287	**0.90**	**288**	P	**Pn**	**16 50 49.9**	**-0.1**
NSTT				*e*S	**Sg**	**16 51 01.5**	**-0.1**
ANP	**Anpu** baz=322	**0.91**	**335**	*e*P	**Pb**	**16 50 49.8**	**+0.2**
WHP	**Taichung City** baz=268	**0.91**	**265**	*e*P	**Pn**	**16 50 50.5**	**+0.3**
WHP				*e*S	**Sg**	**16 51 02.3**	**+0.3**
NCU	**National Centr** baz=298	**0.92**	**312**	*e*P	**Pg**	**16 50 50.2**	**+0.1**
NCU				*e*S	**Sn**	**16 51 03.4**	**+0.4**
NCUH	**Zhongli** baz=298	**0.92**	**312**	*e*P	**Pn**	**16 50 50.3**	**0.0**
NCUH				*e*S	**Sn**	**16 51 03.5**	**+0.5**
NTST	**Danshui** baz=332	**0.92**	**331**	*e*P	**Pn**	**16 50 50.4**	**+0.1**
JYNG	**Yonaguni jima**	**0.92**	**84**	P	**Pg**	**16 50 50.2**	**0.0**
JYNG				S	**Sn**	**16 51 02.8**	**-0.3**
VWDT	**VWDT** baz=228	**0.95**	**231**	*e*P	**Pb**	**16 50 50.2**	**0.0**
VWDT				*e*S	**Sn**	**16 51 03.7**	**-0.1**
TWY	**Chenhua** baz=343	**0.96**	**341**	*e*P	**Pg**	**16 50 51.1**	**+0.1**
TWY				*e*S	**Sb**	**16 51 02.9**	**+0.1**
SBCB	**Hsinchu** baz=296	**0.97**	**297**	*e*P	**Pn**	**16 50 50.9**	**-0.1**
SBCB				*e*S	**Sn**	**16 51 05.3**	**+1.0**
DPDB	**Guoxing** baz=249	**0.98**	**251**	⇓P	**Pg**	**16 50 51.2**	**-0.1**
DPDB				*e*S	**Sg**	**16 51 03.9**	**-0.4**
YOJ	**Yonaguni jima**	**0.98**	**84**	P	**Pb**	**16 50 50.8**	**+0.1**
YOJ				*e*S	**Sn**	**16 51 04.5**	**-0.1**
YOJ	**Yonaguni jima** baz=77	**0.98**	**84**	P	**Pn**	**16 50 51.0**	**-0.2**
YOJ				*e*S	**Sn**	**16 51 04.6**	**0.0**
HGSD	**Ruisui** baz=221	**0.98**	**209**	*e*P	**Pg**	**16 50 51.2**	**-0.2**
HSN	**Hsinchu** baz=299	**0.99**	**297**	*e*P	**Pn**	**16 50 51.2**	**0.0**
HSN				*e*S	**Sn**	**16 51 05.0**	**+0.3**
EHY	**Hungye** baz=211	**1.02**	**214**	*e*P	**Pb**	**16 50 50.4**	**-1.0**
NMLH	**Miaoli** baz=277	**1.06**	**280**	*e*P	**Pg**	**16 50 53.3**	**+0.4**
SMLT	**Sun Moon Lake** baz=234	**1.06**	**244**	P	**Pn**	**16 50 52.4**	**0.0**
SMLT				*e*S	**Sg**	**16 51 06.9**	**+0.1**
TWQ1	**Liyutan** baz=268	**1.06**	**270**	⇑P	**Pg**	**16 50 53.3**	**+0.4**
TWQ1				*e*S	**Sg**	**16 51 07.7**	**+0.8**
SSLB	**Suanglung** baz=227	**1.07**	**238**	⇓P	**Pb**	**16 50 52.1**	**-0.1**
SSLB				*e*S	**Sb**	**16 51 05.7**	**-0.2**
NSY	**Sanyi** baz=272	**1.08**	**273**	*e*P	**Pg**	**16 50 53.8**	**+0.6**
NSY				*e*S	**Sg**	**16 51 08.6**	**+1.3**
TYC	**Yuchr** baz=252	**1.09**	**246**	*e*P	**Pn**	**16 50 52.8**	**+0.1**
TYC				*e*S	**Sg**	**16 51 07.5**	**-0.2**
PTSB	**Yuanli** baz=272	**1.13**	**275**	*e*P	**Pg**	**16 50 54.1**	**0.0**
YULB	**Yu-li** baz=209	**1.13**	**212**	*e*P	**Pn**	**16 50 51.6**	**-1.6**
YULB				*e*S	**Sn**	**16 51 08.0**	**-0.3**
TWF1	**Yuli** baz=223	**1.16**	**211**	*e*P	**Pn**	**16 50 52.2**	**-1.5**
TWF1				*e*S	**Sn**	**16 51 09.1**	**0.0**
TCU	**Taichung** baz=258	**1.17**	**260**	*e*P	**Pg**	**16 50 55.1**	**+0.1**
TCU				*e*S	**Sg**	**16 51 12.1**	**+1.8**
WDJ	**Dajia District** baz=268	**1.19**	**270**	*e*P	**Pg**	**16 50 55.1**	**-0.1**
WDJ				*e*S	**Sg**	**16 51 11.8**	**+1.1**
WHYT	**Xinyi Township** baz=226	**1.19**	**237**	*e*P	**Pb**	**16 50 54.6**	**+0.2**
WJS	**Zhushan** baz=242	**1.23**	**244**	*e*P	**Pg**	**16 50 55.7**	**-0.3**
WJS				*e*S	**Sg**	**16 51 14.3**	**+2.1**
WNT	**Mingjian** baz=244	**1.24**	**248**	*e*P	**Pg**	**16 50 56.3**	**0.0**
YUS	**Yu-Shan** baz=224	**1.25**	**226**	*e*P	**Pn**	**16 50 55.3**	**0.0**
YUS				*e*S	**Sb**	**16 51 11.5**	**-0.2**
WCHH	**Zhanghua** baz=255	**1.29**	**258**	*e*P	**Pg**	**16 50 57.1**	**-0.1**
FULB	**Fuli** baz=218	**1.30**	**207**	*e*P	**Pn**	**16 50 55.2**	**-0.3**
ALS	**Alishan** baz=218	**1.34**	**231**	⇓*e*P	**Pb**	**16 50 56.8**	**-0.3**
CHKT	**Chengkung** baz=188	**1.36**	**203**	*e*P	**Pn**	**16 50 56.5**	**+0.2**
WGK	**Gukeng** baz=240	**1.43**	**242**	*e*P	**Pg**	**16 50 59.0**	**-0.8**
WGK				*e*S	**Sg**	**16 51 18.8**	**+0.3**
ELDTW	**Lidau** baz=203	**1.44**	**216**	*e*P	**Pn**	**16 50 56.7**	**-0.9**
WDLH	**Douliu** baz=241	**1.45**	**243**	*e*P	**Pb**	**16 50 58.9**	**+0.2**
WDLH				*e*S	**Sg**	**16 51 19.8**	**+0.8**
RLNB	**Erlin** baz=250	**1.52**	**252**	*e*P	**Pb**	**16 50 59.6**	**-0.3**
RLNB				*e*S	**Sg**	**16 51 20.3**	**-1.0**
CHN2	**Minshiung** baz=224	**1.57**	**239**	*e*P	**Pb**	**16 51 01.4**	**+0.6**
CHN4	**Tsaushan** baz=229	**1.59**	**231**	P	**Pb**	**16 51 01.4**	**+0.2**
CHN4				S	**Sg**	**16 51 23.3**	**-0.4**
WTCT	**Ta-ch'eng** baz=248	**1.59**	**252**	*e*P	**Pb**	**16 51 00.8**	**-0.3**
TPUB	**Ta-pu** baz=227	**1.60**	**229**	*e*P	**Pb**	**16 51 01.1**	**-0.2**
TPUB				*e*S	**Sb**	**16 51 22.0**	**+0.8**
STYT	**Tauyuan** baz=209	**1.61**	**223**	*e*P	**Pn**	**16 51 00.6**	**+0.7**
STYT				*e*S	**Sb**	**16 51 22.4**	**+0.9**
CHY	**Chiayi** baz=224	**1.63**	**239**	*e*P	**Pb**	**16 51 02.6**	**+0.8**
IRIF	**Iriomote-Funau**	**1.63**	**91**	P	**Pn**	**16 51 00.2**	**+0.1**
IRIF				*e*S	**Sn**	**16 51 20.5**	**-0.2**
WTP	**Ta-pu** baz=226	**1.65**	**228**	*e*P	**Pb**	**16 51 02.0**	**-0.1**
WTP				*e*S	**Sg**	**16 51 23.9**	**-1.4**
TWK	**Hsinying** baz=229	**1.72**	**231**	*e*P	**Pb**	**16 51 03.3**	**0.0**
TWK				*e*S	**Sg**	**16 51 26.6**	**-1.2**
TWGBT	**Beinan** baz=195	**1.73**	**207**	*e*P	**Pn**	**16 51 00.5**	**-0.9**
TWG	**Pinlang** baz=195	**1.73**	**208**	*e*P	**Pn**	**16 51 00.6**	**-0.9**
WSF	**Szhu** baz=243	**1.73**	**246**	*e*P	**Pb**	**16 51 02.8**	**-0.7**
WSF				*e*S	**Sb**	**16 51 25.8**	**+1.0**
WLGB	**Puzi** baz=238	**1.74**	**240**	*e*P	**Pb**	**16 51 03.5**	**-0.1**
WLGB				*e*S	**Sg**	**16 51 27.3**	**-1.1**
SNST	**Tainan City** baz=228	**1.74**	**230**	*e*P	**Pb**	**16 51 04.1**	**+0.4**
SNST				*e*S	**Sg**	**16 51 27.3**	**-1.1**
CHN1	**Nanshi** baz=226	**1.74**	**228**	*e*P	**Pb**	**16 51 03.5**	**-0.3**
SGST	**Jiashian** baz=210	**1.78**	**225**	*e*P	**Pn**	**16 51 02.9**	**+0.8**
SGST				*e*S	**Sb**	**16 51 27.1**	**+0.7**
SLGT	**Liugui** baz=220	**1.81**	**221**	*e*P	**Pb**	**16 51 04.6**	**-0.2**
CHN8	**Yiju** baz=235	**1.88**	**238**	*e*P	**Pb**	**16 51 05.3**	**-0.8**
JKRS	**Kuro-shima**	**1.89**	**93**	P	**Pn**	**16 51 04.7**	**+1.0**
JKRS				*e*S	**Sn**	**16 51 27.6**	**+0.5**
ECL	**Taimali** baz=196	**1.98**	**207**	*e*P	**Pn**	**16 51 06.1**	**+1.2**
SSD	**Sandimen** baz=217	**2.01**	**217**	*e*P	**Pb**	**16 51 07.0**	**-1.3**
JIJ	**Ishigaki jima**	**2.01**	**89**	P	**Pn**	**16 51 05.5**	**+0.2**
JIJ				*e*S	**Sn**	**16 51 29.2**	**-0.8**
TWM1	**Shoushan** baz=221	**2.07**	**223**	*e*P	**Pb**	**16 51 09.1**	**-0.2**
MASBT	**Mashibuluo** baz=215	**2.11**	**215**	*e*P	**Pn**	**16 51 07.8**	**+1.1**
JISG	**Ishigakijimahi**	**2.17**	**84**	P	**Pn**	**16 51 07.3**	**-0.2**
JISG				S	**Sn**	**16 51 33.7**	**-0.3**
EAST	**Anshuo** baz=197	**2.21**	**207**	*e*P	**Pn**	**16 51 09.4**	**+1.3**
PTTC	**Pingtan** baz=297	**2.27**	**300**	*e*P	**Pn**	**16 51 07.9**	**-1.0**
WSSB	**Gushan** baz=222	**2.30**	**222**	*e*P	**Pb**	**16 51 11.5**	**-1.8**
SCZT	**Fangliau** baz=200	**2.32**	**212**	*e*P	**Pn**	**16 51 11.4**	**+1.8**
PHUB	**P'eng-hu** baz=245	**2.33**	**249**	*e*P	**Pn**	**16 51 09.5**	**-0.1**
VWUC	**VWUC** baz=282	**2.35**	**286**	*e*P	**Pn**	**16 51 09.1**	**-0.9**
JTJ	**Tarama**	**2.53**	**83**	P	**Pn**	**16 51 13.5**	**+1.0**
JTJ				*e*S	**Sn**	**16 51 43.7**	**+0.8**
MATB	**Ma-tsu** baz=313	**2.54**	**315**	*e*P	**Pn**	**16 51 11.6**	**-1.0**
VCHM	**Qimei** baz=240	**2.57**	**244**	*e*P	**Pn**	**16 51 13.4**	**+0.4**
PTMZ	**Houxiangcun** baz=281	**2.65**	**285**	*e*P	**Pn**	**16 51 14.0**	**-0.2**
LYJJ	**Jianjiangzhen** baz=317	**2.94**	**318**	*e*P	**Pn**	**16 51 17.4**	**-0.7**
XPSS	**Dashiqiu** baz=327	**3.01**	**329**	*e*P	**Pn**	**16 51 17.9**	**-1.1**
MHZQ	**Yeshan** baz=300	**3.15**	**304**	*e*P	**Pn**	**16 51 20.3**	**-0.7**
KNM	**Kinmen** baz=266	**3.20**	**272**	*e*P	**Pn**	**16 51 22.9**	**+1.3**
KNMB	**Chin-men Tao** baz=268	**3.24**	**273**	*e*P	**Pn**	**16 51 21.5**	**-0.7**
AXDP	**Jialang** baz=274	**3.65**	**279**	*e*P	**Pn**	**16 51 27.7**	**-0.2**
ZPLA	**Ao Xicun** baz=258	**3.85**	**264**	*e*P	**Pn**	**16 51 30.9**	**+0.3**

WEL 24 16:56:37.3,40°S±3°×17°4E±°,h108km±7km,M3.1/33, ML3.6/9,MLv3.1/33,Error ellipse: s-maj=0.0km s-min=0.0km az=59.9,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LREZ	**Lake Rotokare**	**0.54**	**14**	P	**Pn**	**16 56 54.6**	**+0.3**
LREZ				S	**Sn**	**16 57 07.7**	**+0.9**
WAZ	**Wanganui**	**0.62**	**68**	P	**Pn**	**16 56 55.5**	**+0.6**
WAZ				S	**Sn**	**16 57 09.1**	**+1.1**
NMEZ	**Namu Road**	**0.64**	**334**	P	**Pn**	**16 56 55.2**	**+0.3**
NMEZ				S	**Sn**	**16 57 08.7**	**+0.5**
PREZ	**Palmer Road**	**0.64**	**355**	P	**Pn**	**16 56 55.2**	**+0.1**
PREZ				S	**Sn**	**16 57 08.8**	**+0.4**
KHEZ	**Kahui Hut**	**0.71**	**346**	P	**Pn**	**16 56 55.8**	**+0.1**
NBEZ	**Newall Road No**	**0.77**	**338**	P	**Pn**	**16 56 56.4**	**+0.3**
NBEZ				S	**Sn**	**16 57 10.9**	**+0.7**
DREZ	**Durham Road**	**0.80**	**358**	P	**Pn**	**16 56 56.5**	**+0.1**
PKE	**Pukeiti**	**0.81**	**346**	P	**Pn**	**16 56 56.6**	**0.0**
DUWZ	**D'Urville Isla**	**0.85**	**196**	P	**Pn**	**16 56 57.7**	**+0.8**

OHWZ	**Ohakea**	**0.85**	**105**	P	Pn	16 56 57.7 +0.8
MHEZ	**Mangahewa**	**0.91**	**4**	P	Pn	16 56 57.8 +0.3
VRZ	**Vera Road**	**0.95**	**25**	P	Pn	16 56 57.7 -0.1
KIW	**Kapiti Island**	**1.01**	**150**	P	Pn	16 56 58.9 +0.4
OGWZ	**Otaki Gorge**	**1.09**	**140**	P	Pn	16 56 59.7 +0.3
PKVZ	**Pokaka**	**1.10**	**51**	P	Pn	16 56 59.7 +0.2
MTVZ	**Mangateitei**	**1.12**	**58**	P	Pn	16 57 00.3 +0.6
TRVZ	**Turoa**	**1.22**	**56**	P	Pn	16 57 01.5 +0.5
TCW	**Tory Channel**	**1.23**	**179**	P	Pn	16 57 01.7 +0.9
MRZ	**Mangatainoka R**	**1.23**	**124**	P	Pn	16 57 00.9 +0.1
POWZ	**Post Office Ro**	**1.24**	**110**	P	Pn	16 57 01.2 +0.2
FWVZ	**Far West T-bar**	**1.25**	**55**	P	Pn	16 57 01.6 +0.2
CAW	**Cannon Point**	**1.29**	**151**	P	Pn	16 57 02.1 +0.6
TWVZ	**Taurewa**	**1.30**	**46**	P	Pn	16 57 01.6 -0.2
MOVZ	**Moawhango**	**1.30**	**64**	P	Pn	16 57 01.9 +0.2
TUVZ	**Tukino**	**1.31**	**57**	P	Pn	16 57 02.8 +0.9
TSZ	**Takapari Road**	**1.32**	**94**	P	Pn	16 57 01.8 -0.2
NGZ	**Ngauruhoe**	**1.33**	**53**	P	Pn	16 57 02.5 +0.3
WTVZ	**West Tongariro**	**1.36**	**51**	P	Pn	16 57 02.8 +0.3
NNZ	**Nelson**	**1.39**	**208**	P	Pn	16 57 03.5 +0.8
PRWZ	**Pori Road**	**1.44**	**114**	P	Pn	16 57 03.4 +0.1
TUWZ	**Tuamarina**	**1.46**	**189**	P	Pn	16 57 04.1 +0.6
BHW	**Baring Head**	**1.50**	**162**	P	Pn	16 57 04.3 +0.3
PNHZ	**Pukenui**	**1.51**	**88**	P	Pn	16 57 04.0 -0.1
MTW	**Mount Morrison**	**1.52**	**141**	P	Pn	16 57 03.9 -0.3
HIZ	**Hauiti**	**1.55**	**18**	P	Pn	16 57 04.1 -0.5
QRZ	**Quartz Range**	**1.55**	**237**	P	Pn	16 57 04.7 +0.1
MSWZ	**Moikau Station**	**1.62**	**152**	P	Pn	16 57 05.9 +0.3
RATZ	**Rangitukua**	**1.63**	**47**	P	Pn	16 57 06.5 +0.9
PAWZ	**Paruwai Farm**	**1.66**	**147**	P	Pn	16 57 06.2 +0.2
KRHZ	**Kereru**	**1.68**	**79**	P	Pn	16 57 06.7 +0.5
TMWZ	**Te Maipa**	**1.69**	**132**	P	Pn	16 57 06.5 +0.2
WATZ	**Wairara**	**1.72**	**43**	P	Pn	16 57 07.3 +0.5
BSWZ	**Blackbirch Sta**	**1.75**	**189**	P	Pn	16 57 08.2 +1.1
PLWZ	**Palliser**	**1.76**	**154**	P	Pn	16 57 07.3 +0.1
ANWZ	**Angora Road**	**1.78**	**106**	P	Pn	16 57 07.5 +0.1
TRWZ	**Traveller**	**1.79**	**142**	P	Pn	16 57 07.6 0.0
HATZ	**Hinemaiaia**	**1.80**	**53**	P	Pn	16 57 07.1 -0.6
TLZ	**Tolley Road**	**1.94**	**32**	P	Pn	16 57 09.4 -0.1
KAHZ	**Kahuranaki**	**2.04**	**85**	P	Pn	16 57 10.7 -0.1
THZ	**Tophouse**	**2.04**	**209**	P	Pn	16 57 11.3 +0.4
TOZ	**Tahuroa Road**	**2.46**	**24**	P	Pn	16 57 15.5 -0.7
KHZ	**Kahutara**	**2.49**	**192**	P	Pn	16 57 16.8 +0.4
DSZ	**Denniston Nort**	**2.55**	**226**	P	Pn	16 57 17.4 0.0
KBAZ	**Karaka Road Bo**	**2.93**	**10**	P	Pn	16 57 22.5 +0.2
AWAZ	**Awhitu Peninsu**	**2.93**	**6**	P	Pn	16 57 22.4 0.0
MKAZ	**Moumakai**	**2.96**	**14**	P	Pn	16 57 22.2 -0.6
MWZ	**Matawai**	**3.04**	**58**	P	Pn	16 57 22.6 -1.3
ETAZ	**East Tamaki Re**	**3.07**	**10**	P	Pn	16 57 24.0 -0.2
GVZ	**Greta Valley S**	**3.12**	**196**	P	Pn	16 57 24.2 -0.5
LTZ	**Lake Taylor**	**3.16**	**207**	P	Pn	16 57 26.6 +1.2
CNGZ	**Carnagh Statio**	**3.43**	**65**	P	Pn	16 57 28.2 -0.7
INZ	**Inchbonnie**	**3.45**	**217**	P	Pn	16 57 29.2 -0.1
OXZ	**Oxford**	**3.72**	**206**	P	Pn	16 57 32.5 -0.4
OKCZ	**Okains Bay**	**3.84**	**193**	P	Pn	16 57 33.0 -1.4
MQZ	**McQueen's Vall**	**3.90**	**197**	P	Pn	16 57 33.0 -2.3
AKCZ	**Akaroa Harbour**	**4.01**	**194**	P	Pn	16 57 35.0 -1.7
RPZ	**Rata Peaks**	**4.42**	**212**	P	Pn	16 57 41.8 -0.5
ODZ	**Otahua Downs**	**5.71**	**207**	P	Pn	16 57 57.8 -1.9
JCZ	**Jackson Bay**	**5.76**	**223**	P	Pn	16 57 58.6 -1.8
CTZ	**Chatham Island**	**7.79**	**122**	P	Pn	16 58 28.1 +0.4

NIED ***24*** *17:12:00,42.50N×139.30E,h8km,Mw4.4 Best double couple: M₀3.97000×10¹⁵ NP1:φ₈188.00000°,δ32.00000°, λ95.00000°. NP2:φ₈1.00000°,δ58.00000°,λ87.00000°.*
BJI ***24*** *17:12:39.3±0.0,42.71N×139.59E,h27km,mb4.4/22, mB4.8/10,Ms4.1/10,Ms7 4.0/10*
IDC ***24*** *17:12:39.5±0.5,42.52N×139.25E,h0km,mb4.3/25, mb1 4.5/29,mb1mx4.4/46,mbtmp4.3/29,ML3.1/5,MS3.3/7, Ms1 3.3/7,ms1mx3.0/53,Error ellipse: s-maj=13.1km s-min=10.3km az=146.0*
ISCJB ***24*** *17:12:40.2±0.7,42.53N±0.03×139.24E±0.02,h13km±4km, mb4.5/64,MS3.8/6,Error ellipse: s-maj=4.7km s-min=3.0km az=169.9*
JMA ***24*** *17:12:41.6±0.1,42.49N×139.28E,h26km±1km,M4.4*
JMA Felt III J1.
MOS ***24*** *17:12:43.6±1.1,42.53N×139.30E,h39km,mb4.8/22,Error ellipse: s-maj=7.4km s-min=5.1km az=101.0*
NEIC ***24*** *17:12:45.0±1.2,42.55N±0.06×139.27E±0.07,h34km±4km, mb4.7/95*
ISC 24 17:12:43.6±0.7,42°45N±0°03×139°36E±0°03,h28km±4km, n267,σ1§35/298,mb4.7/92,MS3.7/6,27C-12D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.38**	**166**	⇓P	**Pb**	**17 12 50.5**	**-1.5**
JOSM				*eS*	**Sb**	**17 12 56.4**	**-1.3**
JHST	**Hiyamasetana**	**0.39**	**94**	⇓P	**Pb**	**17 12 50.8**	**-1.3**
JHST				*eS*	**Sb**	**17 12 56.7**	**-1.2**
JSH	**Shimam**	**0.54**	**69**	⇓P	**Pb**	**17 12 52.8**	**-1.8**
JSH				*eS*	**Sb**	**17 13 00.4**	**-1.7**
JYM2	**Yakumo 2**	**0.82**	**114**	⇓P	**Pn**	**17 12 58.0**	**-1.3**
JYM2				*eS*	**Sn**	**17 13 09.6**	**-1.0**
JOMM	**Oshimamatsumae**	**1.05**	**152**	P	**Pn**	**17 13 00.7**	**-1.7**
JSR	**Shiriuchi**	**1.22**	**139**	P	**Pn**	**17 13 03.5**	**-1.2**
JSK	**Shakotan**	**1.22**	**42**	⇓P	**Pn**	**17 13 02.7**	**-2.1**
JSK				*eS*	**Sn**	**17 13 17.3**	**-3.0**
JNB	**Noboribetsu**	**1.25**	**89**	⇓P	**Pn**	**17 13 03.4**	**-1.7**
JKB	**Kayabe**	**1.37**	**114**	⇓P	**Pn**	**17 13 05.8**	**-1.0**
ERM	**Erimo**	**2.86**	**98**	*ce*PN	**Pn**	**17 13 27.7**	**+0.5**
ERM				pmax	pmax		
	comp=E,101nm,1.0s						
ERM	**Erimo**	**2.86**	**98**		**Pn**	**17 13 27.8**	**+0.5**
ASAJ	**Asahikawa**	**2.89**	**54**	Pn	**Pn**	**17 13 27.9**	**+0.1**
	comp=Z,3.4nm,0.3s,baz=242,slow=12,SNR=32						
ASAJ				Sn	**Sn**	**17 14 03.0**	**+1.3**
	comp=Z,17nm,0.3s,baz=144,slow=15,SNR=6.2						
ASAJ				LR	LR	17 14 08.5	
	comp=Z,182nm,21.4s,baz=209,slow=30						
ASAJ				Lg	Lg	17 14 10.8	
	comp=Z,11nm,0.3s,baz=233,slow=10,SNR=7.4						
JKA	**Kamikawa-asahi**	**2.89**	**54**		**Pn**	**17 13 27.9**	**+0.1**
JKA					**Sn**	**17 14 03.0**	**+1.3**
TEY	**Ternei**	**3.26**	**323**	⇑*e*PN	**Pn**	**17 13 30.5**	**-2.4**
TEY				pmax	pmax		
	comp=E,10.0nm,0.4s						
TEY				pmax	pmax		
	comp=Z,20nm,1.0s						
TEY				MLR	MLR		
	comp=Z,1μm,9.0s						
NMR	**Nemuro--Hokkai**	**4.77**	**77**	*e*PN	**Pn**	**17 13 53.1**	**-0.5**
YSS	**Yuzh-Sakhalins**	**5.11**	**27**	*e*PN	**Pn**	**17 13 56.0**	**-2.2**
YSS				MLR	MLR		
	comp=Z,800nm,13.0s						
YSS				MLR	MLR		
	comp=N,700nm,12.0s						
YSS				MLR	MLR		
	comp=E,800nm,15.0s						
SHO	**Shikotan**	**5.65**	**73**	*e*PN	**Pn**	**17 14 06.8**	**+1.2**
USA0B	**Ussuriysk Arra**	**5.65**	**290**	PN	**Pn**	**17 14 03.7**	**-2.0**
USA0B	**Ussuriysk Arra**	**5.65**	**290**		**Pn**	**17 14 03.7**	**-2.0**
USA0B				Sn	**Sn**	**17 15 06.2**	**-3.4**
USRK	**Ussuriysk Ar.**	**5.65**	**290**	PN	**Pn**	**17 14 04.0**	**-1.7**
USRK	**Ussuriysk Ar.**	**5.65**	**290**	Pn	**Pn**	**17 14 04.0**	**-1.7**
	baz=99,slow=13,SNR=99						
USRK				Sn	**Sn**	**17 15 08.8**	**-0.8**
	baz=103,slow=26,SNR=15						
USRK				LR	LR	17 16 02.0	
	comp=E,318nm,18.6s,baz=141,slow=36						
MJB9	**Matsu-Tunnel**	**5.97**	**189**		**Pn**	**17 14 12.1**	**+2.0**
MAJO	**Matsushiro**	**5.97**	**189**	*i* PN	**Pn**	**17 14 10.6**	**+0.5**
MAJO	**Matsushiro**	**5.97**	**189**		**Pn**	**17 14 11.2**	**+1.1**
MAT	**Matsushiro**	**5.97**	**189**	P	**Pn**	**17 14 12.0**	**+1.9**
MAT				S	**Sn**	**17 15 14.4**	**-3.1**
MJAR	**Matsushiro Arr**	**5.97**	**189**	Pn	**Pn**	**17 14 11.3**	**+1.2**
	comp=E,0.3nm,0.3s,baz=240,slow=9.2,SNR=14						
MJAR				Sn	**Sn**	**17 15 14.8**	**-2.8**
	comp=E,0.3nm,0.3s,baz=37,slow=12,SNR=4.6						
MJAR				LR	LR	17 16 21.4	
	comp=E,224nm,19.0s,baz=0.0,slow=37						
INU	**Inuyama**	**7.32**	**195**		Pn	17 14 34.8	+6.2
MDJ	**Mudanjiang**	**7.42**	**290**	Pn	**Pn**	**17 14 29.3**	**-0.7**
MDJ				Sg	Sb	17 16 34.6	+15
MDJ				LR	LR		
	comp=E,470nm,8.0s						
MDJ				LR	LR		
	comp=E,530nm,9.0s						
MDJ				LR	LR		
	comp=E,790nm,10.8s						
MDJ	**Mudanjiang**	**7.42**	**290**		**Pn**	**17 14 29.2**	**-0.7**
GRNR	**Gornyy**	**8.56**	**347**	*i* PN	**Pn**	**17 14 44.4**	**-1.2**
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GRNR				MLR	MLR		
	comp=Z,440nm,11.0s						
KLR	**Kul'dur**	**8.61**	**325**	*i* PN	**Pn**	**17 14 45.4**	**-0.8**
KLR	**Kul'dur**	**8.61**	**325**	Pn	**Pn**	**17 14 44.9**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=119,slow=23,SNR=7.3						
KLR				Sn	**Sn**	**17 16 17.3**	**-5.0**
	comp=Z,0.2nm,0.3s,baz=270,slow=19,SNR=1.8						
KSRS	**Korea Array**	**10.10**	**244**	Pn	**Pn**	**17 15 08.3**	**+1.7**
	comp=Z,2.2nm,0.3s,baz=55,slow=14,SNR=25						
KSRS				Sn	**Sn**	**17 16 57.9**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=50,slow=25,SNR=5.2						
KSRS				LR	LR	17 18 11.6	
	comp=Z,127nm,20.9s,baz=350,slow=33						
KS19	**Wonju Array Si**	**10.11**	**245**		**Pn**	**17 15 08.7**	**+1.9**
INCN	**Inchon**	**10.95**	**247**	PN	**Pn**	**17 15 21.5**	**+3.1**
INCN	**Inchon**	**10.95**	**247**	Pn	**Pn**	**17 15 21.5**	**+3.1**
SNY	**Shenyang**	**11.73**	**272**	⇓P	**Pn**	**17 15 32.8**	**+3.7**
SNY				S	Sn	17 17 47.8	+8.8
SNY				pmax	pmax		
	comp=Z,18nm,1.9s						
SNY				LR	LR		
	comp=Z,330nm,12.4s						
SNY				LR	LR		
	comp=Z,410nm,10.6s						
SNY				LR	LR		
	comp=Z,370nm,13.3s						
ZEA	**Zeya**	**13.87**	**329**	*e*P	**P**	**17 16 04.5**	**-1.6**
ZEA				pmax	pmax		
	comp=N,36nm,1.2s						
ZEA				pmax	pmax		
	comp=E,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,46nm,1.0s						
ZEA				MLR	MLR		
	comp=Z,600nm,14.0s						
ZEA				MLR	MLR		
	comp=N,400nm,13.0s						
ZEA				MLR	MLR		
	comp=E,400nm,13.0s						
DL2	**Dalian**	**13.91**	**261**	P	**P**	**17 16 09.6**	**+3.0**
DL2				*eS*	**S**	**17 18 52.6**	**-1.0**
DL2				pmax	pmax		
	comp=Z,41nm,0.7s						
DL2				LR	LR		
	comp=N,260nm,14.8s						
DL2				LR	LR		
	comp=E,260nm,13.9s						
DL2				LR	LR		
	comp=Z,270nm,12.1s						
PETK	**Petropavlovsk-**	**16.25**	**43**	Pn	**Pn**	**17 16 30.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=234,slow=5.0,SNR=2.9						
PETK				LR	LR	17 22 09.9	
	comp=Z,146nm,19.1s,baz=240,slow=35						
TIA	**Tai'an**	**18.27**	**257**	P	**Pn**	**17 16 55.8**	**+0.8**
TIA				pmax	pmax		
	comp=Z,10.0nm,1.4s						
YAK	**Yakutsk**	**20.44**	**347**	*e*P	**P**	**17 17 17.4**	**-1.1**
YAK				*e*		17 17 31.8	
YAK				*eS*	**S**	**17 21 04.4**	**-1.3**
YAK				*eSS*	**SnSn**	**17 21 27.4**	**+2.7**
YAK				*eSSS*	SSS	17 21 41.0	
YAK				pmax	pmax		
	comp=Z,12nm,1.1s						
YAK				pmax	pmax		
	comp=N,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
YAK				smax	smax		
	comp=E,191nm,3.0s						
YAK				smax	smax		
	comp=N,197nm,3.0s						
YAK				MLR	MLR		
	comp=Z,181nm,14.0s						
YAK				MLR	MLR		
	comp=N,198nm,14.0s						
YAK	**Yakutsk**	**20.44**	**347**	P	**P**	**17 17 16.9**	**-1.5**
	comp=N,4.5nm,0.6s,baz=265,slow=1.7,SNR=8.6						
YAK	**Yakutsk**	**20.44**	**347**	P	**P**	**17 17 16.4**	**-2.1**
SEY	**Seymchan**	**21.89**	**16**	*i* P	**P**	**17 17 33.8**	**-0.3**
SEY	**Seymchan**	**21.89**	**16**	P	**P**	**17 17 33.6**	**-0.5**
	comp=N,9.6nm,0.8s,baz=212,slow=5.8,SNR=13						
BOD	**Bodaibo**	**22.18**	**323**	*e*P	**P**	**17 17 39.8**	**+2.6**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.6s						
WHN	**Wuhan**	**23.26**	**247**	P	**P**	**17 17 55.3**	**+6.5**
ULN	**Ulaanbaatar**	**23.30**	**295**	*ce*P	**P**	**17 17 49.5**	**+0.2**
ULN				pmax	pmax		
	comp=Z,11nm,2.5s						
ULN	**Ulaanbaatar**	**23.30**	**295**	P	**P**	**17 17 48.3**	**-0.9**
SONM	**Songino Array**	**23.75**	**294**	P	**P**	**17 17 52.2**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=79,slow=7.7,SNR=6.5						
SONM				LR	LR	17 26 43.1	
	comp=Z,106nm,18.8s,baz=48,slow=36						
SSLB	**Suanglung**	**24.07**	**225**	P	**P**	**17 17 57.3**	**+0.6**
XAN	**Xi'an**	**25.23**	**261**	P	**P**	**17 18 07.4**	**+0.3**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.5s						
XAN				pmax	pmax		
	comp=Z,120nm,5.7s						
BILL	**Bilibino**	**29.38**	**20**	⇓*e*P	**P**	**17 18 45.4**	**+1.4**
BILL				*e*		17 19 43.9	
BILL				*eS*	**S**	**17 23 36.8**	**+1.1**
BILL				pmax	pmax		
	comp=Z,24nm,3.9s						
BILL				MLR	MLR		
	comp=Z,164nm,17.0s						
TIXI	**Tiksi**	**29.73**	**353**	*i* P	**P**	**17 18 48.5**	**+1.5**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.0s						
GTA	**Gaotai**	**29.84**	**278**	P	**P**	**17 18 47.4**	**-1.1**
GTA				pP	pP	17 18 55.8	+0.1
GTA				sP	sP	17 18 59.5	+0.7
GTA				PcP	**PcP**	**17 21 52.5**	**+1.3**
GTA				PcS	**PcS**	**17 25 35.8**	**+1.2**
GTA				ScS	ScS	17 29 21.4	-5.1
GTA				pmax	pmax		
	comp=Z,62nm,5.2s						
GTA				LR	LR		
	comp=Z,180nm,16.5s						
GTA				LR	LR		
	comp=Z,190nm,12.7s						
GTA				LR	LR		
	comp=Z,280nm,12.4s						
CD2	**Chengdu**	**30.57**	**260**	P	**P**	**17 18 54.8**	**-0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ZAA0	**Zalesovo Array**	**37.23**	**307**	P	**P**	**17 19 51.8**	**-0.5**
ZAA0					**PcP**	**17 22 11.6**	**0.0**
ZALV	**Zalesovo Beam**	**37.23**	**307**	*i* P	**P**	**17 19 52.5**	**+0.2**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**37.23**	**307**	P	**P**	**17 19 50.4**	**-2.0**
	comp=Z,1.9nm,0.8s,baz=84,slow=7.3,SNR=7.2						
ZALV				PcP	**PcP**	**17 22 12.0**	**+0.4**
	comp=Z,3.2nm,0.6s,baz=102,slow=2.0,SNR=14						
MK31	**Makanchi Array**	**40.08**	**296**	P	**P**	**17 20 14.4**	**-2.1**
MK31				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MK31	**Makanchi Array**	**40.08**	**296**	P	**P**	**17 20 14.4**	**-2.1**
MKAR	**Makanchi Array**	**40.08**	**296**	*ce*P	**P**	**17 20 19.5**	**+3.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**40.08**	**296**	P	**P**	**17 20 13.8**	**-2.7**
	comp=Z,0.6nm,0.6s,baz=92,slow=0.9,SNR=5.2						
MKAR				PcP	**PcP**	**17 22 20.3**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=66,slow=2.9,SNR=5.3						
MAKZ	**Makanchi**	**40.29**	**297**	P	**P**	**17 20 16.5**	**-1.6**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,1.4s						
MAKZ	**Makanchi**	**40.29**	**297**	P	**P**	**17 20 16.5**	**-1.6**
KURK	**Kurchatov**	**41.49**	**303**	*ce*P	**P**	**17 20 29.5**	**+1.6**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
KURK	**Kurchatov**	**41.49**	**303**	P	**P**	**17 20 26.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**41.71**	**248**	*ce*P	**P**	**17 20 32.5**	**+2.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**41.71**	**248**	P	**P**	**17 20 29.1**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=37,slow=6.7,SNR=4.9						
CMAR				PcP	**PcP**	**17 22 27.4**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=56,slow=5.0,SNR=4.8						
FAKI	**Fak Fak**	**45.62**	**190**	P	**P**	**17 21 00.0**	**-1.5**
IL31		**45.87**	**35**	P	**P**	**17 21 01.8**	**-1.1**
ILAR	**Eielson Array**	**45.87**	**35**	P	**P**	**17 21 01.6**	**-1.3**
	comp=Z,1.7nm,0.8s,baz=285,slow=8.2,SNR=18						
BRVK	**Borovoye**	**45.91**	**308**	*ce*P	**P**	**17 21 03.8**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PRP	**Porcupine Dome**	**46.33**	**34**	P	**P**	**17 21 06.7**	**-0.1**
AAK	**Ala-Archa**	**46.70**	**293**	LR	LR	17 43 14.7	
	comp=Z,81nm,19.3s,baz=20,slow=39						
SCRK	**Sand Creek**	**47.24**	**36**	P	**P**	**17 21 13.2**	**-0.8**
ARSB	**Arslanbob**	**48.26**	**292**	P	**P**	**17 21 21.8**	**-0.3**
ARSB				IAmb	IAmb	17 21 32.6	
	comp=Z,6.5nm,1.1s						
EPYK	**Eagle Plains**	**49.68**	**32**	P	**P**	**17 21 33.0**	**+0.4**
SVE	**Sverdlovsk**	**50.11**	**315**	*e*P	**P**	**17 21 36.3**	**+0.5**
SVE				pmax	pmax		
	comp=Z,15nm,0.9s						
INK	**Inuvik**	**50.35**	**29**	P	**P**	**17 21 37.3**	**-0.2**
INK						17 22 54.8	
INK				pmax	pmax		
	comp=Z,11nm,1.1s						
INK	**Inuvik**	**50.35**	**29**	P	**P**	**17 21 37.1**	**-0.4**
	comp=Z,5.6nm,0.8s,baz=285,slow=7.8,SNR=20						
INK	**Inuvik**	**50.35**	**29**	P	**P**	**17 21 37.3**	**-0.2**
INK				IAmb	IAmb	17 21 38.6	
	comp=Z,11nm,1.1s						
INK				PcP	**PcP**	**17 22 54.8**	**-0.9**
HYT	**Haines Junctio**	**50.98**	**39**	P	**P**	**17 21 44.1**	**+1.6**
HYT				PcP	**PcP**	**17 22 58.8**	**+0.3**
ARU	**Arti**	**51.32**	**315**	*c* iP	**P**	**17 21 46.4**	**+1.4**
ARU						17 23 36.0	
ARU				S	**S**	**17 29 07.8**	**+5.7**
ARU				SS	**SS**	**17 32 33.3**	**-4.0**
ARU				pmax	pmax		
	comp=Z,18nm,1.9s						
ARU	**Arti**	**51.32**	**315**	P	**P**	**17 21 45.1**	**+0.1**
ARU				IAmb	IAmb	17 21 55.5	
	comp=Z,9.1nm,1.0s						
CHGR	**Chuyangaron**	**52.07**	**291**	P	**P**	**17 21 49.6**	**-1.4**
CHGR				IAmb	IAmb	17 21 51.8	
	comp=Z,8.1nm,0.6s						
ABKAR	**Akbulak array**	**53.33**	**307**	P	**P**	**17 21 59.5**	**-0.6**
ABKAR				IAmb	IAmb	17 22 09.2	
	comp=Z,8.7nm,0.8s						
PRGR	**Permogore**	**55.40**	**325**	*e*P	**P**	**17 22 10.6**	**-4.2**
PRGR				*e**PP	**pP**	**17 22 23.1**	**+0.7**
PRGR				pmax	pmax		
	comp=Z,23nm,0.9s						
GSI	**Gunungsitoli**	**55.46**	**234**	P	**P**	**17 22 16.2**	**+0.3**
RES	**Resolute Bay**	**57.76**	**15**	P	**P**	**17 22 31.4**	**-0.1**
RES				pmax	pmax		
	comp=Z,7.0nm,1.7s						
RES	**Resolute Bay**	**57.76**	**15**	P	**P**	**17 22 31.2**	**-0.3**
	comp=Z,3.9nm,0.7s,baz=310,slow=7.4,SNR=15						
RES	**Resolute Bay**	**57.76**	**15**	P	**P**	**17 22 31.1**	**-0.3**
RES				IAmb	IAmb	17 22 32.0	
	comp=Z,6.1nm,0.9s						
ARCES	**ARCESS Array B**	**58.38**	**338**	P	**P**	**17 22 35.9**	**0.0**
	comp=Z,3.2nm,0.9s,baz=58,slow=10,SNR=5.9						
YKW3	**Yellowknife Ar**	**59.91**	**31**	P	**P**	**17 22 46.4**	**-0.2**
YKW3				IAmb	IAmb	17 22 47.3	
	comp=Z,4.1nm,0.7s						
GEYT	**Alibeck**	**59.95**	**295**	P	**P**	**17 22 47.1**	**-0.2**
	comp=Z,6.0nm,0.8s,baz=24,slow=4.0,SNR=13						
GYA0B	**ALIBECK ARRAY**	**59.95**	**295**	P	**P**	**17 22 47.2**	**-0.1**
YKA	**Yellowknife Ar**	**59.95**	**31**	*i* P	**P**	**17 22 47.0**	**+0.1**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
YKA	**Yellowknife Ar**	**59.95**	**31**	P	**P**	**17 22 47.0**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=305,slow=6.4,SNR=85						
YKA				PcP	**PcP**	**17 23 33.4**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=307,slow=3.7,SNR=4.3						
DAG	**Danmarks Havn**	**60.24**	**354**	*i* P	**P**	**17 22 48.5**	**-0.1**
DAG	**Danmarks Havn**	**60.24**	**354**	*i* P	**P**	**17 22 48.5**	**-0.1**
WRAB	**Tennant Creek**	**62.24**	**185**	*ce*P	**P**	**17 23 03.5**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**62.25**	**185**	P	**P**	**17 23 02.7**	**-0.2**
	comp=Z,7.7nm,0.8s,baz=0.8,slow=6.7,SNR=46						
VRH	**Novokhopyorsk**	**62.55**	**315**	*e*P	**P**	**17 23 03.2**	**-1.4**
VRH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
OBN	**Obninsk**	**62.85**	**321**	⇑*e*P	**P**	**17 23 03.5**	**-3.0**
OBN				*e*		17 25 24.7	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,211nm,18.0s						
OBN	**Obninsk**	**62.85**	**321**	P	**P**	**17 23 03.5**	**-3.0**
LPSR	**Galich'ya Gora**	**63.18**	**318**	*e*P	**P**	**17 23 07.3**	**-1.5**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
FINES	**FINESS Array B**	**63.30**	**330**	*i* P	**P**	**17 23 09.6**	**+0.2**
FINES				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FINES	**FINESS Array B**	**63.30**	**330**	P	**P**	**17 23 08.9**	**-0.5**
	comp=Z,7.0nm,0.8s,baz=41,slow=6.3,SNR=11						
VSR	**

AKBB						pmax	pmax			
	comp=Z,8.0nm,0.9s									
AKBB	**Malin Array Si**	**69.08**	**320**		P	**P**	**17 23 46.4**	**-0.3**		
AKBB					IAmb	IAmb	17 23 55.8			
	comp=Z,8.0nm,0.9s									
KIEV	**Kiev**	**69.09**	**320**		P	**P**	**17 23 45.0**	**-1.7**		
JTMT	**Jette**	**69.17**	**44**		P	**P**	**17 23 48.5**	**+0.9**		
JTMT					IAmb	IAmb	17 23 49.9			
	comp=Z,9.5nm,0.9s									
BMO	**Blue Mountains**	**69.44**	**48**		P	**P**	**17 23 49.7**	**+0.6**		
BMO					pmax	pmax				
	comp=Z,5.0nm,1.1s									
BMO	**Blue Mountains**	**69.44**	**48**		P	**P**	**17 23 49.7**	**+0.6**		
MSO	**Missoula**	**69.95**	**44**		P	**P**	**17 23 52.3**	**0.0**		
MSO					IAmb	IAmb	17 23 54.2			
	comp=Z,8.2nm,1.2s									
WVOR	**Wild Horse Val**	**70.24**	**50**		P	**P**	**17 23 54.7**	**+0.5**		
WVOR					pmax	pmax				
	comp=Z,6.0nm,1.1s									
WVOR	**Wild Horse Val**	**70.24**	**50**		P	**P**	**17 23 54.7**	**+0.5**		
WVOR					IAmb	IAmb	17 23 56.1			
	comp=Z,6.1nm,1.1s									
ORV	**Oroville**	**70.39**	**54**		P	**P**	**17 23 55.0**	**0.0**		
ORV					pmax	pmax				
	comp=Z,6.0nm,1.2s									
ORV	**Oroville**	**70.39**	**54**		P	**P**	**17 23 55.0**	**0.0**		
ORV					IAmb	IAmb	17 23 56.2			
	comp=Z,6.2nm,1.1s									
BEKR	**Beckworth**	**70.87**	**53**		P	**P**	**17 23 58.6**	**+0.5**		
BEKR					IAmb	IAmb	17 23 59.7			
	comp=Z,5.8nm,0.9s									
AFDM	**Forest Hills D**	**71.09**	**54**		P	**P**	**17 23 59.8**	**+0.5**		
AFDM					IAmb	IAmb	17 24 01.4			
	comp=Z,6.8nm,1.2s									
MFID	**Camas Ranch**	**71.18**	**48**		P	**P**	**17 23 59.7**	**-0.1**		
MFID					IAmb	IAmb	17 24 01.2			
	comp=Z,7.3nm,1.2s									
SORM	**Soroca**	**71.24**	**319**	⇑	P	**P**	**17 23 59.0**	**-0.9**		
SORM	**Soroca**	**71.24**	**319**	⇑	P	**P**	**17 23 59.0**	**-0.9**		
EGMT	**Eagleton**	**71.26**	**41**		P	**P**	**17 24 00.2**	**0.0**		
PAHR	**Pah Rah Range**	**71.55**	**53**		P	**P**	**17 24 02.1**	**-0.1**		
PAHR					IAmb	IAmb	17 24 03.9			
	comp=Z,7.9nm,0.9s									
DLMT	**Dillon**	**71.62**	**45**		P	**P**	**17 24 03.3**	**+0.8**		
DLMT					IAmb	IAmb	17 24 04.3			
	comp=Z,11nm,0.9s									
PNTR	**Pine Nut**	**71.82**	**54**		P	**P**	**17 24 05.3**	**+1.3**		
PNTR					IAmb	IAmb	17 24 06.7			
	comp=Z,15nm,1.4s									
FRB	**Frobisher Bay**	**71.85**	**13**		P	**P**	**17 24 03.4**	**+0.1**		
FRB					pmax	pmax				
	comp=Z,14nm,0.9s									
CMB	**Columbia Colle**	**72.03**	**55**		P	**P**	**17 24 05.5**	**+0.5**		
CMB					pmax	pmax				
	comp=Z,5.0nm,0.8s									
CMB	**Columbia Colle**	**72.03**	**55**		P	**P**	**17 24 05.5**	**+0.5**		
CMB					IAmb	IAmb	17 24 06.7			
	comp=Z,5.3nm,0.8s									
YERR	**Yerington**	**72.10**	**53**		P	**P**	**17 24 06.3**	**+0.7**		
YERR					IAmb	IAmb	17 24 07.5			
	comp=Z,12nm,1.0s									
WAKR	**Walker**	**72.30**	**54**		P	**P**	**17 24 07.7**	**+1.0**		
YHL	**Hebgen Lake**	**72.70**	**45**		P	**P**	**17 24 09.8**	**+0.6**		
KVN	**Kaiserville**	**72.73**	**53**		P	**P**	**17 24 09.6**	**+0.3**		
KVN					pmax	pmax				
	comp=Z,10.0nm,0.8s									
KVN	**Kaiserville**	**72.73**	**53**		P	**P**	**17 24 09.6**	**+0.3**		
RYN	**Ryan**	**72.76**	**53**		P	**P**	**17 24 10.2**	**+0.7**		
YHB	**Horse Butte**	**72.77**	**45**		P	**P**	**17 24 09.6**	**+0.1**		
YHH	**Holmes Hill**	**72.92**	**45**		P	**P**	**17 24 11.1**	**+0.6**		
NVAR	**Mina Array Bea**	**73.02**	**53**		P	**P**	**17 24 12.1**	**+1.0**		
	comp=Z,4.2nm,0.7s,baz=291,slow=5.6,SNR=38									
BUR08	**Bucovina Ar. S**	**73.10**	**320**		P	**P**	**17 24 11.4**	**+0.1**		
BUR08					IAmb	IAmb	17 24 21.2			
	comp=Z,7.5nm,1.1s									
BURAR	**Bucovina Array**	**73.11**	**320**	⇑	P	**P**	**17 24 11.6**	**+0.3**		
BURAR	**Bucovina Array**	**73.11**	**320**	⇑	P	**P**	**17 24 11.6**	**+0.3**		
BIZ	**Bicaz**	**73.17**	**319**	⇑	P	**P**	**17 24 11.8**	**+0.3**		
TESR	**Tescani**	**73.20**	**318**	⇑	P	**P**	**17 24 11.1**	**-0.6**		
YNE	**Yellowstone No**	**73.20**	**44**		P	**P**	**17 24 12.4**	**+0.3**		
ELK	**Elko**	**73.27**	**50**		P	**P**	**17 24 13.3**	**+0.8**		
ELK					pmax	pmax				
	comp=Z,4.0nm,1.1s									
ELK	**Elko**	**73.27**	**50**		P	**P**	**17 24 13.3**	**+0.8**		
H17A	**Grant Village**	**73.33**	**45**		P	**P**	**17 24 15.3**	**+2.4**		
H17A					IAmb	IAmb	17 24 16.4			
	comp=Z,8.1nm,0.9s									
KOLS	**Kolonicke sedl**	**73.54**	**322**	*eP*		**P**	**17 24 14.6**	**+0.9**		
KOLS	**Kolonicke sedl**	**73.54**	**322**	*eP*		**P**	**17 24 14.6**	**+0.9**		
DGMT	**Dagmar**	**73.58**	**38**		P	**P**	**17 24 14.5**	**+0.5**		
FXWY	**Fox Creek**	**73.62**	**45**		P	**P**	**17 24 15.3**	**+0.8**		
OJC	**Ojcow**	**73.69**	**324**		P	**P**	**17 24 14.0**	**-0.5**		
OJC					pmax	pmax				
	comp=Z,19nm,1.1s									
OJC	**Ojcow**	**73.69**	**324**		P	**P**	**17 24 14.0**	**-0.5**		
MOOW	**Moose Ponds**	**73.69**	**45**		P	**P**	**17 24 16.1**	**+1.2**		
MOOW					IAmb	IAmb	17 24 17.9			
	comp=Z,7.1nm,1.1s									
STKA	**Stephens Creek**	**73.99**	**178**		P	**P**	**17 24 17.0**	**+0.7**		
	comp=Z,2.1nm,0.8s,baz=302,slow=6.0,SNR=6.6									
STKA	**Stephens Creek**	**73.99**	**178**		P	**P**	**17 24 16.9**	**+0.6**		
TRPA	**Tarpa**	**74.00**	**322**	⇑	P	**P**	**17 24 16.7**	**+0.3**		
NIE	**Niedzica**	**74.06**	**324**		P	**P**	**17 24 18.0**	**+1.2**		
NIE					pmax	pmax				
	comp=Z,4.0nm,1.2s									
BRTR	**Keskin Array B**	**74.13**	**309**		P	**P**	**17 24 17.5**	**0.0**		
	comp=Z,1.5nm,0.7s,baz=68,slow=4.3,SNR=8.9									
DOPR	**Dopca**	**74.20**	**319**	⇑	P	**P**	**17 24 18.0**	**+0.3**		
R11A	**Troy Canyon, C**	**74.67**	**52**		P	**P**	**17 24 21.4**	**+0.7**		
HWUT	**Hardware Ranch**	**74.72**	**47**		P	**P**	**17 24 21.9**	**+1.0**		
HWUT					IAmb	IAmb	17 24 23.1			
	comp=Z,9.1nm,1.1s									
VOIR		**74.75**	**318**	⇑	P	**P**	**17 24 20.5**	**-0.4**		
VOIR		**74.75**	**318**	⇑	P	**P**	**17 24 20.5**	**-0.4**		
OSTC	**Ostas**	**74.94**	**326**	*eP*		**P**	**17 24 22.0**	**+0.2**		
CHVC	**Chvalec**	**74.98**	**327**	*eP*		**P**	**17 24 22.9**	**+0.8**		
MORC	**Moravsky Berou**	**74.98**	**325**		P	**P**	**17 24 22.5**	**+0.4**		
MORC					pmax	pmax				
	comp=Z,7.0nm,0.9s									
MORC	**Moravsky Berou**	**74.98**	**325**		P	**P**	**17 24 22.5**	**+0.4**		
MORC					IAmb	IAmb	17 24 32.7			
	comp=Z,7.1nm,0.9s									
BW06	**Boulder Array**	**74.99**	**45**		P	**P**	**17 24 22.9**	**+0.4**		
BW06					IAmb	IAmb	17 24 23.9			
	comp=Z,7.7nm,0.9s									
PD31	**Pinedale Array**	**74.99**	**45**		P	**P**	**17 24 22.5**	**-0.1**		
PD31					IAmb	IAmb	17 24 23.9			
	comp=Z,6.7nm,0.8s									
PDAR	**Pinedale Array**	**74.99**	**45**		P	**P**	**17 24 22.9**	**+0.4**		
	comp=Z,5.8nm,0.8s,baz=306,slow=1.7,SNR=46									
DUG	**Dugway, Tooele**	**75.00**	**49**		P	**P**	**17 24 23.4**	**+0.9**		
DUG					pmax	pmax				
	comp=Z,8.0nm,1.1s									
DUG	**Dugway, Tooele**	**75.00**	**49**		P	**P**	**17 24 23.4**	**+0.9**		
DUG					IAmb	IAmb	17 24 24.6			
	comp=Z,7.7nm,1.1s									
DPC	**Dobruska-Polom**	**75.05**	**326**	*eP*		**P**	**17 24 23.3**	**+0.8**		
DPC	**Dobruska-Polom**	**75.05**	**326**	*eP*		**P**	**17 24 23.3**	**+0.8**		
UPC	**Upice**	**75.06**	**326**	*eP*		**P**	**17 24 23.3**	**+0.8**		
UPC				*e*			17 24 31.6			
UPC	**Upice**	**75.06**	**326**	*eP*		**P**	**17 24 23.3**	**+0.8**		
UPC				*ex*			x	17 24 31.6		
TCUT	**Toone Canyon**	**75.15**	**48**		P	**P**	**17 24 24.4**	**+0.9**		
TPNV	**Topopah Spring**	**75.22**	**53**		P	**P**	**17 24 24.6**	**+0.7**		
TPNV					pmax	pmax				
	comp=Z,8.0nm,0.9s									
TPNV	**Topopah Spring**	**75.22**	**53**		P	**P**	**17 24 24.6**	**+0.7**		
TPNV					IAmb	IAmb	17 24 25.8			
	comp=Z,7.9nm,0.9s									
VYHS	**Vyhne**	**75.40**	**324**	*eP*		**P**	**17 24 25.3**	**+0.8**		
VYHS	**Vyhne**	**75.40**	**324**	*eP*		**P**	**17 24 25.3**	**+0.8**		
PSUT	**Pine Spring**	**75.55**	**51**		P	**P**	**17 24 26.6**	**+0.8**		
NLU	**North Lily Min**	**75.58**	**49**		P	**P**	**17 24 26.6**	**+0.6**		
CLL	**Collm**	**75.63**	**329**	*eP*		**P**	**17 24 26.0**	**+0.3**		
CLL	**Collm**	**75.63**	**329**	*eP*		**P**	**17 24 26.0**	**+0.3**		
ULM	**Lac du Bonnet**	**75.84**	**33**		P	**P**	**17 24 26.8**	**-0.1**		
ULM					pmax	pmax				
	comp=Z,6.0nm,1.0s									
ULM	**Lac du Bonnet**	**75.84**	**33**		P	**P**	**17 24 26.6**	**-0.4**		
	comp=Z,4.6nm,0.8s,baz=311,slow=6.9,SNR=8.5									
ULM	**Lac du Bonnet**	**75.84**	**33**		P	**P**	**17 24 26.8**	**-0.1**		
ULM					IAmb	IAmb	17 24 27.6			
	comp=Z,6.0nm,0.9s									
GZR	**Gura Zlata**	**75.89**	**319**	⇑	P	**P**	**17 24 27.6**	**+0.2**		
GZR	**Gura Zlata**	**75.89**	**319**	⇑	P	**P**	**17 24 27.6**	**+0.2**		
GSC	**Goldstone, Bar**	**75.99**	**55**		P	**P**	**17 24 29.0**	**+0.8**		
GSC	**Goldstone, Bar**	**75.99**	**55**		P	**P**	**17 24 29.0**	**+0.8**		
KRUC	**Moravsky**	**76.01**	**325**		P	**P**	**17 24 28.8**	**+0.8**		
PRU	**Pruhonice**	**76.06**	**327**	*eP*		**P**	**17 24 28.8**	**+0.6**		
PRU	**Pruhonice**	**76.06**	**327**	*eP*		**P**	**17 24 28.8**	**+0.6**		
SHPR	**Sheep Range**	**76.16**	**53**		P	**P**	**17 24 30.6**	**+1.3**		
BZS	**Buzias**	**76.27**	**320**	⇑	P	**P**	**17 24 29.7**	**+0.2**		
BZS	**Buzias**	**76.27**	**320**	⇑	P	**P**	**17 24 29.7**	**+0.2**		
MSU	**Marysvale**	**76.52**	**50**		P	**P**	**17 24 32.5**	**+1.2**		
MSU	**Marysvale**	**76.52**	**50**		P	**P**	**17 24 32.5**	**+1.2**		
P17A	**Butcher Ranch,**	**76.66**	**48**		P	**P**	**17 24 33.1**	**+1.1**		
RSSD	**Black Hills**	**76.83**	**41**		P	**P**	**17 24 33.0**	**0.0**		
RSSD					pmax	pmax				
	comp=Z,6.0nm,0.9s									
RSSD	**Black Hills**	**76.83**	**41**		P	**P**	**17 24 33.0**	**0.0**		
RSSD					IAmb	IAmb	17 24 34.2			
	comp=Z,6.1nm,0.8s									
MTPU	**Mount Pierson**	**76.84**	**50**		P	**P**	**17 24 34.9**	**+1.5**		
RWWY	**Rawlins**	**76.99**	**45**		P	**P**	**17 24 34.6**	**+0.6**		
RWWY					IAmb	IAmb	17 24 35.3			
	comp=Z,9.9nm,0.9s									
SRU	**San Rafael Swe**	**77.03**	**49**		P	**P**	**17 24 34.4**	**+0.2**		
SRU					pmax	pmax				
	comp=Z,9.0nm,1.0s									
SRU	**San Rafael Swe**	**77.03**	**49**		P	**P**	**17 24 34.4**	**+0.2**		
KHC	**Kasperske Hory**	**77.12**	**327**	*eP*		**P**	**17 24 34.8**	**+0.5**		
KHC				*e*			17 24 43.9			
KHC	**Kasperske Hory**	**77.12**	**327**	*eP*		**P**	**17 24 34.8**	**+0.5**		
KHC				*e*	PCP	**pP**	**17 24 43.9**	**+1.7**		
RAYN	**Ar Rayn**	**77.22**	**290**		P	**P**	**17 24 34.5**	**-0.8**		
RAYN					pmax	pmax				
	comp=Z,27nm,1.7s									
RAYN	**Ar Rayn**	**77.22**	**290**		P	**P**	**17 24 34.5**	**-0.8**		
GERES	**GERESS Array B**	**77.30**	**327**		P	**P**	**17 24 34.8**	**-0.6**		
	comp=Z,1.3nm,0.8s,baz=60,slow=5.3,SNR=5.9									
VTS	**Vitosha**	**77.69**	**317**		P	**P**	**17 24 37.8**	**0.0**		
VTS					pmax	pmax				
	comp=Z,4.0nm,0.7s									
VTS	**Vitosha**	**77.69**	**317**	⇓	P	**P**	**17 24 38.4**	**+0.6**		
VTS	**Vitosha**	**77.69**	**317**		P	**P**	**17 24 37.8**	**0.0**		
VTS					IAmb	IAmb	17 24 39.4			
	comp=Z,3.9nm,0.7s									
U15A	**North Rim**	**77.90**	**52**		P	**P**	**17 24 39.9**	**+0.7**		
U15A					IAmb	IAmb	17 24 41.5			
	comp=Z,7.8nm,0.9s									
Y12C	**Blythe**	**78.42**	**55**		P	**P**	**17 24 42.1**	**+0.4**		
Y12C					IAmb	IAmb	17 24 43.7			
	comp=Z,5.9nm,0.8s									
WUAZ	**Wupatki**	**79.06**	**52**		P	**P**	**17 24 46.4**	**+0.9**		
PDG	**Podgorica**	**79.79**	**319**	⇑	P	**P**	**17 24 49.2**	**+0.2**		
X16A	**Lo Mia Camp, P**	**79.80**	**52**		P	**P**	**17 24 50.4**	**+0.9**		
S22A	**4UR Ranch, Cre**	**80.03**	**47**		P	**P**	**17 24 51.7**	**+0.8**		
S22A					IAmb	IAmb	17 24 53.1			
	comp=Z,6.7nm,1.1s									
ECSD	**EROS Data Cent**	**80.62**	**38**		P	**P**	**17 24 53.5**	**-0.1**		
ECSD					IAmb	IAmb	17 24 54.3			
	comp=Z,6.6nm,0.8s									
ANMO	**Albuquerque**	**82.28**	**49**	*ceP*		**P**	**17 25 03.3**	**+0.6**		
ANMO					pmax	pmax				
	comp=Z,7.0nm,2.5s									
121A	**Cookes Peak, D**	**83.28**	**52**		P	**P**	**17 25 09.2**	**+1.3**		
121A					IAmb	IAmb	17 25 10.2			
	comp=Z,5.4nm,0.8s									
MNTX	**Cornudas Mount**	**85.27**	**51**		P	**P**	**17 25 18.4**	**+0.5**		
MNTX					IAmb	IAmb	17 25 19.5			
	comp=Z,6.8nm,1.4s									
TX31	**Lajitas Ar. Si**	**88.02**	**51**		P	**P**	**17 25 31.8**	**+0.4**		
TXAR	**Lajitas Array**	**88.02**	**51**		P	**P**	**17 25 32.0**	**+0.5**		
TXAR	**Lajitas Array**	**88.02**	**51**		P	**P**	**17 25 32.0**	**+0.5**		
	comp=Z,0.6nm,0.5s,baz=300,slow=3.4,SNR=10									
U40A	**Yellville**	**88.23**	**40**		P	**P**	**17 25 32.1**	**-0.2**		
SIUC	**Southern Illin**	**88.78**	**36**		P	**P**	**17 25 40.0**	**+0.3**		
SNAA	**Sanae**	**145.38**	**200**		PKIKP	**PKPab**	**17 32 17.8**	**0.0**		
SNAA	**Sanae**	**145.38**	**200**			**PKPab**	**17 32 17.8**	**0.0**		
SIV	**San Ignacio**	**148.34**	**40**		PKPbc	**PKPbc**	**17 32 27.5**	**-0.1**		
	comp=Z,3.9nm,0.8s,baz=344,slow=3.1,SNR=11									
BDFB	**Brasilia**	**152.54**	**16**		PKPbc	**PKiKP**	**17 32 38.0**	**0.0**		
	comp=Z,2.4nm,0.8s,baz=348,slow=4.8,SNR=3.3									
BDFB					PKPab	**PKPab**	**17 32 48.6**	**+0.6**		
	comp=Z,2.2nm,0.6s,baz=13,slow=1.5,SNR=3.8									

*ISCJB **24** 17:24:30.0±0.4,20.˚46S±0.˚03×67.˚36W±0.˚04, h213km±5km, Error ellipse: s-maj=6.3km s-min=4.5km az=145.9*
*IDC **24** 17:24:29.8±0.8,20.˚42S×67.˚18W, h197km±8km, mb3.1/5, mb1 3.3/11, mb1mx3.2/35, mbtmp3.7/11, Error ellipse: s-maj=15.4km s-min=9.3km az=99.0*
*SJA **24** 17:24:30.3±1.2,20.˚47S×67.˚33W, h209km±10km, ML3.5, MW3.6*

ISC 24 17:24:30.5±0.8, 20.˚47S±0.˚04×67.˚34W±0.˚05, h210km±7km, n43, σ1°61/74, 7C-1D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**1.74**	**281**	⇑ *iP*	**Pn**	**17 25 08.1**	**+0.4**
PB08				*i* S	**S**	**17 25 36.6**	**+0.4**
PB08				IAML		17 25 38.4	
	comp=N,270nm,0.3s						
PB08	**IPOC Station P**	**1.74**	**281**	*eP*	**Pn**	**17 25 08.1**	**+0.4**
PB08				*eS*	**S**	**17 25 36.9**	**+0.6**
PB08				IAML		17 25 39.1	
	comp=Z,115nm,0.8s						
GO01	**Chusmiza**	**1.92**	**294**	⇑ *iP*	**Pn**	**17 25 09.6**	**0.0**
PB09	**IPOC Station P**	**2.22**	**233**	*eP*	**Pn**	**17 25 14.8**	**+2.6**
PB09				*eS*	**S**	**17 25 45.4**	**+1.0**
PB09				IAML		17 25 46.1	
	comp=Z,95nm,0.4s						
PB11	**IPOC Station P**	**2.29**	**288**	⇑ *iP*	**Pn**	**17 25 12.6**	**-0.4**
PB11				*i* S	**S**	**17 25 44.6**	**-1.1**
PB11				IAML		17 25 48.7	
	comp=N,451nm,0.4s						
PB11	**IPOC Station P**	**2.29**	**288**	*eP*	**Pn**	**17 25 12.7**	**-0.4**
PB11				*eS*	**S**	**17 25 45.2**	**-0.5**
PB11				IAML		17 25 49.2	
	comp=Z,183nm,0.4s						
YJA	**Yavi**	**2.40**	**135**	*i* P	**Pn**	**17 25 15.1**	**+0.7**
YJA				*eS*	**S**	**17 25 48.0**	**-0.3**
YJA				IAML		17 25 50.5	
	comp=Z,56nm,1.5s						
MNMCX	**Minye Minye**	**2.51**	**302**	*eP*	**Pn**	**17 25 15.5**	**-0.1**
MNMCX				*eS*	**S**	**17 25 50.9**	**+0.7**
MNMCX				IAML		17 25 54.2	
	comp=Z,191nm,0.2s						
PB02	**IPOC Station P**	**2.54**	**250**	⇑ *iP*	**Pn**	**17 25 15.6**	**0.0**
PB02				*eS*	**S**	**17 25 49.4**	**-1.0**
PB02	**IPOC Station P**	**2.54**	**250**	*eP*	**Pn**	**17 25 15.5**	**-0.1**
PB02				*eS*	**S**	**17 25 49.6**	**-0.8**
LVC	**Limon Verde**	**2.58**	**214**	P	**Pn**	**17 25 17.5**	**+1.2**
	comp=Z,2.7nm,0.3s,baz=29,slow=9.7,SNR=11						
LVC				S	**S**	**17 25 52.4**	**+0.6**
	comp=Z,9.5nm,0.3s,baz=217,slow=19,SNR=28						
LVC	**Limon Verde**	**2.58**	**214**	⇓ *iP*	**Pn**	**17 25 17.5**	**+1.2**
LVC				*eS*	**S**	**17 25 52.0**	**+0.2**
PATCX	**Punta Patache**	**2.66**	**262**	*eP*	**Pn**	**17 25 16.6**	**-0.3**
PATCX				*eS*	**S**	**17 25 51.2**	**-1.6**
PATCX				IAML		17 25 52.6	
	comp=Z,325nm,1.0s						
TA01	**Diego Aracena**	**2.67**	**267**	⇑ *iP*	**Pn**	**17 25 16.4**	**-0.5**
TA01				*i* S	**S**	**17 25 50.5**	**-2.3**
PB07	**IPOC Station P**	**2.69**	**242**	*eP*	**Pn**	**17 25 18.1**	**+0.8**
PB07				*i* S	**S**	**17 25 52.5**	**-1.0**
PB07	**IPOC Station P**	**2.69**	**242**	*eP*	**Pn**	**17 25 18.2**	**+0.8**
PB07				*eS*	**S**	**17 25 52.6**	**-1.0**
PB07				IAML		17 25 54.4	
	comp=Z,265nm,0.4s						
PB03	**IPOC Station P**	**2.75**	**235**	*eP*	**Pn**	**17 25 18.9**	**+1.0**
PB03				*i* S	**S**	**17 25 53.9**	**-0.8**
PB03	**IPOC Station P**	**2.75**	**235**	*eP*	**Pn**	**17 25 19.0**	**+1.0**
PB03				*eS*	**S**	**17 25 54.0**	**-0.8**
PB03				IAML		17 25 56.6	
	comp=Z,251nm,0.2s						
PSGC	**Pisagua**	**2.76**	**288**	⇑ *iP*	**Pn**	**17 25 17.3**	**-0.9**
PSGC				*i* S	**S**	**17 25 52.4**	**-2.5**
PSGC				IAML		17 25 53.5	
	comp=N,266nm,0.4s						
PSGCX	**Pisagua**	**2.76**	**288**	*eP*	**Pn**	**17 25 17.3**	**-0.8**
PSGCX				*eS*	**S**	**17 25 52.8**	**-2.1**
PSGCX				IAML		17 25 54.5	
	comp=Z,200nm,0.3s						
PB16	**IPOC Station P**	**2.95**	**316**	⇑ *iP*	**Pn**	**17 25 21.2**	**+0.4**
PB16	**IPOC Station P**	**2.95**	**316**	*eP*	**Pn**	**17 25 21.4**	**+0.6**
PB16				IAML		17 26 05.5	
	comp=Z,36nm,0.4s						
PB06	**IPOC Station P**	**3.05**	**223**	*i* P	**Pn**	**17 25 22.8**	**+1.4**
PB06				*eS*	**S**	**17 26 00.8**	**-0.1**
PB06				IAML		17 26 02.8	
	comp=Z,106nm,0.2s						
PB04	**IPOC Station P**	**3.21**	**234**	*eP*	**Pn**	**17 25 23.9**	**+0.5**
PB04				*i* S	**S**	**17 26 03.3**	**-1.0**
PB04	**IPOC Station P**	**3.21**	**234**	*eP*	**Pn**	**17 25 24.2**	**+0.8**
PB04				*eS*	**S**	**17 26 02.5**	**-1.8**
HJA	**Humahuaca**	**3.26**	**147**	*i* P	**Pn**	**17 25 25.7**	**+1.6**
HJA				IAML		17 26 11.1	
	comp=Z,40nm,0.7s						
PB15	**IPOC Station P**	**3.37**	**216**	*eP*	**Pn**	**17 25 27.1**	**+1.8**
PB15				*eS*	**S**	**17 26 08.5**	**+0.6**
PB05	**IPOC Station P**	**3.57**	**228**	*i* P	**Pn**	**17 25 28.0**	**+0.5**
PB05				*eS*	**S**	**17 26 09.4**	**-2.5**
PB05				IAML		17 26 14.3	
	comp=Z,100nm,0.5s						
LPAZ	**La Paz**	**4.23**	**350**	P	**Pn**	**17 25 36.1**	**-0.1**
	comp=Z,4.2nm,0.3s,baz=151,slow=6.1,SNR=76						
LPAZ				S	**S**	**17 26 25.8**	**-1.6**
	baz=53,slow=20,SNR=4.4						
PB10	**IPOC Station P**	**4.25**	**224**	*i* P	**Pn**	**17 25 36.2**	**+0.4**
PB10				*eS*	**S**	**17 26 21.8**	**-5.1**
PB10				IAML		17 26 25.1	
	comp=Z,43nm,0.5s						
AZAP	**Zapla**	**4.29**	**151**	*i* P	**Pn**	**17 25 36.6**	**+0.1**
AZAP				*eS*	**S**	**17 26 26.4**	**-1.6**
AZAP				IAML		17 26 34.3	
	comp=Z,22nm,0.6s						
ASTB	**Santa Barbara**	**4.37**	**143**	*i* P	**Pn**	**17 25 37.5**	**0.0**
ASTB				*eS*	**S**	**17 26 28.9**	**-1.0**
ASTB				IAML		17 26 42.3	
	comp=Z,11nm,4.2s						
SLA	**San Lorenzo**	**4.55**	**159**	*i* P	**Pn**	**17 25 41.2**	**+1.4**
SLA				IAML		17 26 39.0	
	comp=Z,14nm,0.7s						
PB14	**IPOC Station P**	**5.01**	**214**	*i* P	**Pn**	**17 25 46.4**	**+0.7**
PB14				*eS*	**S**	**17 26 41.5**	**-3.2**
PB14				IAML		17 26 43.9	
	comp=Z,31nm,0.3s						
SIV	**San Ignacio**	**7.43**	**54**	P	**Pn**	**17 26 13.6**	**-2.9**
	comp=Z,3.6nm,0.3s,baz=255,slow=7.9,SNR=113						
SIV				S	**S**	**17 27 29.5**	**-11**
	baz=18,slow=20,SNR=1.4						
CPUP	**Villa Florida**	**10.88**	**124**	P	**Pn**	**17 26 58.0**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=297,slow=11,SNR=3.1						
CFA	**Coronel Fontan**	**11.12**	**184**	P	**Pn**	**17 27 03.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=257,slow=16,SNR=10						
CFA				S	**S**	**17 29 00.2**	**-6.8**
	comp=Z,0.1nm,0.3s,baz=261,slow=19,SNR=3.5						
BDFB	**Brasilia**	**18.98**	**78**	P	**P**	**17 28 35.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=235,slow=12,SNR=2.4						
PLCA	**Paso Flores**	**20.38**	**187**	P	**P**	**17 28 53.0**	**+1.7**
	comp=Z,2.1nm,0.8s,baz=36,slow=14,SNR=3.9						
PLCA				PcP	**PcP**	**17 32 56.8**	**+2.0**
	comp=Z,2.7nm,1.1s,baz=290,slow=6.4,SNR=3.3						
**TXA

0.3nm,0.8s,baz=262,slow=5.4,SNR=3.2
TORD Torodi Ar. Bea 145.42 284 PKPbc PKPbc 17 45 33.5 -0.3
0.9nm,0.8s,baz=88,slow=4.4,SNR=3.8

*IDC **24** 17:34:58.6±0.5, 18°.96N×121°.42E, h0km, mb4.1/23, mb1 4.2/26, mb1mx4.1/52, mbtmp4.1/26, ML3.4/3, MS3.8/23, Ms1 3.8/23, ms1mx3.6/48, Error ellipse: s-maj=18.1km s-min=12.0km az=80.0*
*BJI **24** 17:35:01.6±0.0, 19°.00N×121°.30E, h33km, mb4.4/27, mB4.8/19, ML4.3/4, Ms4.2/15, Ms7 4.0/14*
*NEIC **24** 17:35:02.2±1.9, 19°.09N±0°.04×121°.23E±0°.08, h21km±4km, mb4.7/83*
*ISCJB **24** 17:35:04.5±0.4, 19°.12N±0°.02×121°.26E±0°.03, h54km±4km, mb4.1/29, MS3.7/21, Error ellipse: s-maj=5.4km s-min=3.4km az=0.5*
*MAN **24** 17:35:05.4, 19°.09N×121°.22E, h33km, MS4.5*
ISC 24 17:35:03.8±1.1, 19°.13N±0°.03×121°.24E±0°.04, h32km±8km, n169, σ1°62/167, mb4.5/69, MS3.6/21, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**1.17**	**139**	P	**Pb**	**17 35 25.6**	**+0.1**
SGCP				S	**Sn**	**17 35 40.0**	**+1.3**
APYP	**Conner**	**1.27**	**180**	P	**Pb**	**17 35 25.9**	**-1.2**
APYP				S	**Sb**	**17 35 44.1**	**+1.0**
SIPP	**Brgy, Tapao**	**1.42**	**212**	⇓P	**Pb**	**17 35 29.6**	**0.0**
SIPP				S	**Sb**	**17 35 53.5**	**+6.1**
BBP	**Basco**	**1.47**	**27**	P	**Pb**	**17 35 29.4**	**-1.1**
BBP				S	**Sb**	**17 35 49.9**	**+1.1**
ABRA	**Dolores**	**1.56**	**199**	P	**Pb**	**17 35 29.9**	**-2.2**
ABRA				S	**Sb**	**17 35 51.4**	**-0.1**
CAUP	**Cauayan**	**2.25**	**166**	P	**Pb**	**17 35 42.1**	**-1.6**
SMPP	**San Manuel, Pa**	**3.02**	**190**	P	**Pn**	**17 35 50.0**	**+0.6**
SMPP				S	**Sn**	**17 36 26.1**	**+1.8**
BOLP	**Bolinao**	**3.02**	**205**	P	**Pb**	**17 35 54.9**	**-2.0**
BOLP				S	**Sb**	**17 36 32.7**	**-0.6**
BALP	**Baler**	**3.39**	**175**	P	**Pn**	**17 35 57.3**	**+2.8**
BALP				S	**Sb**	**17 36 41.3**	**-2.6**
TWG	**Pinlang**	**3.67**	**358**		**Pn**	**17 35 58.6**	**+0.3**
TPUB	**Ta-pu**	**4.18**	**352**		**Pn**	**17 36 05.3**	**-0.1**
YUB	**Yu-li**	**4.24**	**1**		**Pn**	**17 36 07.6**	**+1.5**
SSLB	**Suanglung**	**4.64**	**357**		**Pn**	**17 36 12.2**	**+0.6**
TGY	**Tagaytay City**	**5.01**	**183**	Pn	Pn	17 36 20.5	+3.6
	13nm,0.3s,baz=159,slow=5.4,SNR=6.3						
TGY				Sn	**Sb**	**17 37 27.6**	**-3.1**
	baz=325,slow=17,SNR=1.9						
TGY				LR	LR	17 38 43.0	
	comp=Z,780nm,18.5s,baz=323,slow=46						
NACB	**Ninganchiao**	**5.03**	**4**		**Pn**	**17 36 17.9**	**+1.0**
GQP	**Guinayangan**	**5.33**	**167**	⇓P	Pn	17 36 24.2	+3.1
GQP				S	**Sn**	**17 37 24.2**	**+2.9**
YHNB	**Yeheng**	**5.51**	**1**		**Pn**	**17 36 26.3**	**+2.6**
YOJ	**Yonaguni jima**	**5.55**	**17**	Pn	**Pn**	**17 36 25.7**	**+1.6**
TATO	**Taipei**	**5.82**	**2**	Pn	**Pn**	**17 36 28.1**	**+0.3**
KNMB	**Chin-men Tao**	**5.93**	**334**	Pn	**Pn**	**17 36 27.6**	**-1.8**
KNMB					**Sn**	**17 37 30.4**	**-5.8**
QZH	**Quanzhou**	**6.28**	**337**	⇑*i*Pn	**Pn**	**17 36 32.6**	**-1.6**
QZH				smax	smax		
	comp=N,53nm,0.7s						
QZH				smax	smax		
	comp=E,89nm,0.8s						
QZH				LR	LR		
	comp=Z,930nm,19.9s						
HKPS	**Hong Kong Po S**	**7.35**	**296**		**Pn**	**17 36 46.8**	**-2.1**
JOW	**Kunigami**	**10.03**	**39**	Pn	**Pn**	**17 37 25.6**	**-0.1**
	0.3nm,0.3s,baz=227,slow=19,SNR=4.3						
JOW	**Kunigami**	**10.03**	**39**	Pn	**Pn**	**17 37 25.4**	**-0.3**
QIZ	**Qiongzhong**	**10.78**	**271**	Pn	**Pn**	**17 37 33.5**	**-2.5**
DAV	**Davao City (W)**	**12.71**	**160**	LR	LR	17 43 54.1	
	comp=Z,876nm,18.7s,baz=0.0,slow=43						
WHN	**Wuhan**	**12.96**	**333**	P	**P**	**17 38 13.0**	**-2.9**
DLV	**T Lat**	**14.21**	**242**	Pn	**Pn**	**17 38 24.9**	**+1.8**
ENH	**Enshi**	**15.38**	**318**		**Pn**	**17 38 39.9**	**+1.3**
UBPT	**Khong Chiam**	**15.55**	**258**	Pn	**Pn**	**17 38 40.5**	**-0.3**
UBPT				lAmb	lAmb	17 38 51.7	
	comp=Z,56nm,1.5s						
JNU	**Nakatsue**	**16.38**	**30**	Pn	**P**	**17 38 52.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=228,slow=12,SNR=2.9						
JNU	**Nakatsue**	**16.38**	**30**		**P**	**17 38 55.2**	**+1.3**
SLVN	**Son La**	**16.42**	**281**		**Pn**	**17 38 51.5**	**-0.4**
XAN	**Xi'an**	**18.46**	**326**	P	**Pn**	**17 39 18.5**	**+1.3**
XAN				pP	sP	17 39 26.6	-3.0
XAN				pmax	pmax		
	comp=Z,190nm,4.9s						
XAN				LR	LR		
	comp=Z,390nm,16.5s						
XAN				LR	LR		
	comp=Z,300nm,15.4s						
XAN				LR	LR		
	comp=Z,260nm,16.0s						
XAN	**Xi'an**	**18.46**	**326**	P	**Pn**	**17 39 18.4**	**+1.1**
SBUM	**Sibu**	**18.79**	**209**	P	**Pn**	**17 39 21.4**	**+0.2**
KSRS	**Korea Array**	**19.16**	**16**	P	**P**	**17 39 24.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=196,slow=11,SNR=8.9						
KSRS				LR	LR	17 47 51.5	
	comp=Z,223nm,19.3s,baz=198,slow=40						
KS19	**Wonju Array Si**	**19.20**	**16**	P	**P**	**17 39 24.1**	**-0.8**
PBKT	**Sadao Pong**	**19.47**	**266**	P	**Pn**	**17 39 35.6**	**+6.2**
PBKT	**Sadao Pong**	**19.47**	**266**	P	**P**	**17 39 26.2**	**-1.7**
CD2	**Chengdu**	**19.68**	**310**	P	**P**	**17 39 29.4**	**-0.9**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
PHRA	**Phrae**	**19.90**	**272**	P	**Pn**	**17 39 36.3**	**+1.7**
	comp=Z,2.7nm,1.7s						
LUWI	**Luwuk**	**20.11**	**176**	P	Pn	17 39 36.1	-0.8
LUWI				lAmb	lAmb	17 39 59.0	
	comp=Z,31nm,1.0s						
PAYA	**Payao**	**20.18**	**274**	P	Pn	17 39 40.1	+2.2
	comp=Z,17μm,0.8s,comp=Z,270μm						
JCJ	**Chichijima**	**20.81**	**64**	LR	LR	17 46 11.9	
	comp=Z,148nm,21.7s,baz=203,slow=32						
CMMT	**Chiang Mai**	**21.09**	**273**	P	**P**	**17 39 47.0**	**+1.3**
	comp=Z,3.9nm,1.5s						
CHTO	**Chiang Mai**	**21.09**	**273**	P	**P**	**17 39 46.2**	**+0.5**
UTHA	**Uthaitani**	**21.11**	**264**	P	**P**	**17 39 47.5**	**+1.7**
	comp=Z,17μm,0.8s						
CMAR	**Chiang Mai Arr**	**21.12**	**272**	P	**P**	**17 39 47.4**	**+1.3**
	comp=Z,2.6nm,0.9s,baz=76,slow=9.2,SNR=20						
CMAR				PcP	**PcP**	**17 43 52.5**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=72,slow=0.5,SNR=8.1						
CMAR				LR	LR	17 48 43.5	
	comp=Z,222nm,18.0s,baz=69,slow=39						
BJT	**Baijiatuau**	**21.27**	**349**	P	**P**	**17 39 47.1**	**-0.3**
INU	**Inuyama**	**21.34**	**38**	P	**P**	**17 39 50.8**	**+2.5**
SANI	**Sanana**	**21.56**	**167**	P	**P**	**17 39 48.9**	**-1.8**
	comp=Z,7.6nm,0.9s						
MHMT	**Maesarieng**	**22.11**	**271**	P	**P**	**17 40 03.4**	**+6.8**
	comp=Z,13nm,1.1s						
LZH	**Lanzhou**	**22.80**	**321**	*e*P	**P**	**17 40 05.8**	**+1.7**
LZH				pP	pP	17 40 10.9	-1.6
LZH				sP	sP	17 40 14.9	-1.9
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
MJAR	**Matsushiro Arr**	**22.87**	**37**	P	**P**	**17 40 05.1**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=222,slow=8.2,SNR=4.3						
MJAR				LR	LR	17 49 52.8	
	comp=Z,65nm,18.4s,baz=110,slow=39						
GUMO	**Guam**	**23.32**	**100**	LR	LR	17 48 13.7	
	comp=Z,166nm,20.2s,baz=346,slow=34						
KULM	**Kulim**	**24.34**	**238**	P	**P**	**17 40 17.9**	**-1.0**
KULM				lAmb	lAmb	17 40 34.4	
	comp=Z,33nm,1.4s						
FAKI	**Fak Fak**	**24.44**	**153**	P	**P**	**17 40 21.1**	**+1.3**
FAKI				lAmb	lAmb	17 40 24.5	
	comp=Z,49nm,1.5s						
IPM	**Ipoh**	**24.52**	**236**	P	**P**	**17 40 20.5**	**-0.1**
IPM				lAmb	lAmb	17 40 27.4	
	comp=Z,42nm,1.5s						
USRK	**Ussuriysk Ar.**	**26.56**	**17**	P	**P**	**17 40 40.7**	**+1.9**
	comp=Z,2.2nm,0.8s,baz=202,slow=7.2,SNR=3.7						
PSI	**Prapat**	**27.20**	**236**	LR	LR	17 50 47.5	
	comp=Z,107nm,20.1s,baz=60,slow=35						
GTA	**Gaotai**	**27.40**	**322**	*e*P	**P**	**17 40 49.6**	**+3.1**
GTA				pP	sP	17 40 59.8	+0.1
GTA				sP	pP	17 41 04.1	+8.5
GTA				PcP	**PcP**	**17 44 05.0**	**0.0**
GTA				pmax	pmax		
	comp=Z,91nm,4.5s						
GTA				LR	LR		
	comp=Z,140nm,13.4s						
GTA				LR	LR		
	comp=Z,220nm,13.7s						
GTA				LR	LR		
	comp=Z,240nm,13.7s						
SHL	**Shillong**	**27.86**	**289**	P	**P**	**17 40 51.7**	**+0.8**
SHL				lAmb	lAmb	17 41 05.7	
	comp=Z,16nm,1.3s						
JAY	**Jayapura**	**28.79**	**136**	LR	LR	17 52 30.0	
	comp=Z,153nm,18.1s,baz=340,slow=37						
GSI	**Gununguitoli**	**29.18**	**235**	P	**P**	**17 41 01.9**	**-0.6**
BATI	**Baumata**	**29.25**	**175**	LR	LR	17 53 45.5	
	comp=Z,144nm,21.6s,baz=332,slow=39						
ULN	**Ulaanbaatar**	**30.90**	**341**	P	**P**	**17 41 19.4**	**+1.8**
ULN				lAmb	lAmb	17 41 33.0	
	comp=Z,12nm,1.4s						
SONM	**Songino Array**	**31.08**	**340**	P	**P**	**17 41 20.8**	**+1.7**
	comp=Z,0.9nm,0.8s,baz=160,slow=8.1,SNR=9.4						
SONM				LR	LR	17 54 57.8	
	comp=Z,217nm,19.0s,baz=174,slow=38						
KLR	**Kul'dur**	**31.19**	**13**	P	**P**	**17 41 20.6**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=235,slow=6.2,SNR=7.2						
KLR				LR	LR	17 54 45.1	
	comp=Z,229nm,20.6s,baz=195,slow=38						
KNRA	**Kununurra**	**35.38**	**167**	P	**P**	**17 41 55.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**37.25**	**173**	P	**P**	**17 42 10.6**	**-2.1**
	comp=Z,2.3nm,0.7s,baz=1.1,slow=6.0,SNR=6.2						
FITZ	**Fitzroy Crossi**	**37.25**	**173**	P	**P**	**17 42 11.2**	**-1.4**
FITZ				lAmb	lAmb	17 42 12.0	
	comp=Z,19nm,1.6s						
WMQ	**Urumqi**	**37.33**	**319**	P	**P**	**17 42 11.9**	**-1.3**
WMQ				lAmb	lAmb	17 42 31.1	
	comp=Z,11nm,1.3s						
PMG	**Port Moresby**	**38.17**	**136**	LR	LR	17 58 25.9	
	comp=Z,60nm,19.6s,baz=290,slow=37						
KRVT	**Keravat (AS076**	**38.22**	**124**	LR	LR	17 55 01.2	
	comp=Z,220nm,21.9s,baz=318,slow=32						
COEN	**Coen**	**39.34**	**145**	P	**P**	**17 42 29.7**	**-0.7**
PSA00	**Pilbara Seismi**	**40.48**	**182**	P	**P**	**17 42 38.5**	**-1.1**
PSA00				lAmb	lAmb	17 42 58.1	
	comp=Z,10.0nm,1.0s						
WRAB	**Tennant Creek**	**40.90**	**161**	P	**P**	**17 42 41.3**	**-1.9**
WRAB				lAmb	lAmb	17 42 59.0	
	comp=Z,22nm,1.4s						
WRA	**Warramunga Arr**	**40.90**	**161**	P	**P**	**17 42 40.3**	**-2.9**
	comp=Z,1.1nm,0.3s,baz=346,slow=8.8,SNR=28						
WRA				PcP	**PcP**	**17 44 43.0**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=348,slow=3.5,SNR=4.7						
WR0	**Warramunga Arr**	**40.98**	**161**	P	**P**	**17 42 41.5**	**-2.4**
MK31	**Makanchi Array**	**42.11**	**320**	P	**P**	**17 42 52.9**	**0.0**
MKAR	**Makanchi Array**	**42.11**	**320**	P	**P**	**17 42 54.8**	**+1.9**
	comp=Z,1.5nm,0.7s,baz=116,slow=10.0,SNR=11						
MKAR				PcP	**PcP**	**17 44 47.7**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=73,slow=5.0,SNR=3.4						
MKAR				LR	LR	18 01 00.7	
	comp=Z,154nm,21.1s,baz=90,slow=37						
MAKZ	**Makanchi**	**42.30**	**320**	P	**P**	**17 42 55.5**	**+1.0**
MAKZ				PcP	**PcP**	**17 44 46.2**	**-1.5**
H11S3	**WAKE ISLAND Hy**	**42.93**	**83**	T	T	18 28 39.5	
	baz=278,slow=74,SNR=65						
H11S1	**WAKE ISLAND Hy**	**42.94**	**83**	T	T	18 29 02.1	
	baz=278,slow=74,SNR=47						
H11S2	**WAKE ISLAND Hy**	**42.94**	**83**	T	T	18 29 04.4	
	baz=278,slow=74,SNR=39						
H11N1	**WAKE ISLAND Hy**	**42.95**	**81**	T	T	18 29 01.2	
	baz=277,slow=75,SNR=378						
H11N2	**WAKE ISLAND Hy**	**42.96**	**81**	T	T	18 29 01.4	
	baz=277,slow=75,SNR=225						
H11N3	**WAKE ISLAND Hy**	**42.97**	**81**	T	T	18 29 02.5	
	baz=277,slow=75,SNR=211						
PETK	**Petropavlovsk-**	**44.08**	**31**	P	**P**	**17 43 09.1**	**+0.4**
	comp=Z,7.0nm,0.9s,baz=245,slow=6.2,SNR=4.1						
PETK				LR	LR	18 01 22.5	
	comp=Z,80nm,21.0s,baz=243,slow=36						
AS31	**Alice Springs**	**44.30**	**163**	P	**P**	**17 43 09.5**	**-1.3**
ASAR	**Alice Springs**	**44.30**	**163**	P	**P**	**17 43 08.9**	**-1.8**
	comp=Z,1.3nm,0.3s,baz=341,slow=6.9,SNR=105						
ASAR				LR	LR	18 04 27.3	
	comp=Z,52nm,18.8s,baz=6.0,slow=40						
ZALV	**Zalesovo Beam**	**44.56**	**330**	P	**P**	**17 43 13.3**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=110,slow=8.5,SNR=5.9						
ZALV				LR	LR	18 02 55.7	
	comp=Z,165nm,18.9s,baz=108,slow=37						
NIL	**Nilore**	**44.97**	**299**	P	**P**	**17 43 17.2**	**+1.1**
NIL				lAmb	lAmb	17 43 30.6	
	comp=Z,11nm,0.7s						
MA2	**Magadan**	**45.64**	**21**	P	**P**	**17 43 20.0**	**-1.0**
	comp=Z,7.1nm,0.8s,baz=177,slow=15,SNR=2.7						
AAK	**Ala-Archa**	**45.74**	**311**	P	**P**	**17 43 23.0**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=102,slow=19,SNR=2.1						
AAK	**Ala-Archa**	**45.74**	**311**	P	**P**	**17 43 23.4**	**+1.1**
KURK	**Kurchatov**	**46.07**	**323**	P	**P**	**17 43 24.7**	**+0.1**
KURK				lAmb	lAmb	17 43 34.2	
	comp=Z,10nm,1.1s						
KURBB	**Kurchatov Arra**	**46.08**	**323**	P	**P**	**17 43 25.9**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=119,slow=7.8,SNR=17						
ARSB	**Arslanbob**	**46.50**	**309**	P	**P**	**17 43 28.9**	**+0.6**
ARSB				lAmb	lAmb	17 43 54.0	
	comp=Z,13nm,1.4s						
HNR	**Honiara**	**47.55**	**123**	P	**P**	**17 43 36.5**	**-0.1**
GAR	**Garm**	**48.04**	**306**	P	**P**	**17 43 40.2**	**-0.1**
MORW	**Morawa**	**48.18**	**186**	P	**P**	**17 43 40.1**	**-1.1**
MORW				lAmb	lAmb	17 43 41.0	
	comp=Z,14nm,1.0s						
KBL	**Kabul**	**48.53**	**299**	P	**P**	**17 43 44.1**	**-0.1**
KBL				lAmb	lAmb	17 43 59.9	
	comp=Z,6.9nm,0.8s						
KK31	**Karatay Array**	**48.69**	**311**	P	**P**	**17 43 45.4**	**+0.3**
KK31				lAmb	lAmb	17 43 58.3	
	comp=Z,5.8nm,1.1s						
KK31				PcP	**PcP**	**17 45 09.5**	**-0.6**
KKAR	**Karatay Array**	**48.69**	**311**	P	**P**	**17 43 45.6**	**+0.5**
KKAR				lAmb	lAmb	17 43 58.3	
	comp=Z,5.8nm,1.1s						
KKAR				PcP	**PcP**	**17 45 09.6**	**-0.4**
CHGR	**Chuyangaron**	**48.89**	**305**	P	**P**	**17 43 46.6**	**-0.2**
CHGR				lAmb	lAmb	17 44 06.9	
	comp=Z,11nm,0.9s						
FORT	**Forrest**	**50.06**	**172**	P	**P**	**17 43 55.0**	**-0.5**
BRVK	**Borovoye**	**51.74**	**323**	P	**P**	**17 44 09.0**	**+1.0**
NWAO	**Narrogin (SRO)**	**51.91**	**184**	P	**P**	**17 44 09.0**	**-0.4**
NWAO	**Narrogin (SRO)**	**51.91**	**184**	P	**P**	**17 44 08.8**	**-0.6**
NWAO				lAmb	lAmb	17 44 24.1	
	comp=Z,31nm,1.2s						
TIXI	**Tiksi**	**52.71**	**3**	P	**P**	**17 44 14.2**	**-0.7**
EIDS	**Eidsvold**	**52.91**	**146**	P	**P**	**17 44 15.7**	**-1.2**
EIDS				lAmb	lAmb	17 44 36.8	
	comp=Z,8.4nm,1.2s						
BBOO	**Buckleboo**	**53.56**	**164**	P	**P**	**17 44 21.3**	**-0.4**
BBOO				lAmb	lAmb	17 44 22.6	
	comp=Z,13nm,1.1s						
NRIK	**Noril'sk**	**54.28**	**346**	P	**P**	**17 44 27.4**	**+1.0**
	comp=Z,8.6nm,0.6s,baz=132,slow=7.3,SNR=12						
NRIK				LR	LR	18 10 00.2	
	comp=Z,120nm,18.7s,baz=221,slow=39						
STKA	**Stephens Creek**	**54.34**	**159**	P	**P**	**17 44 25.9**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=321,slow=14,SNR=4.2						
STKA				LR	LR	18 11 57.4	
	comp=Z,46nm,18.4s,baz=18,slow=41						
STKA	**Stephens Creek**	**54.34**	**159**	P	**P**	**17 44 25.2**	**-2.1**
BILL	**Bilibino**	**56.41**	**19**	P	**P**	**17 44 42.1**	**+0.2**
BILL				lAmb	lAmb	17 44 43.1	
	comp=Z,14nm,1.3s						
ABKAR	**Akbulak array**	**57.07**	**317**	P	**P**	**17 44 47.5**	**+0.7**
ABKAR				lAmb	lAmb	17 44 56.3	
	comp=Z,5.9nm,0.8s						
GEYT	**Alibeck**	**57.49**	**303**	P	**P**	**17 44 51.8**	**+1.7**
	comp=Z,1.3nm,0.8s,baz=3.3,slow=5.1,SNR=3.1						
ARU	**Arti**	**59.21**	**325**	P	**P**	**17 45 01.3**	**-0.3**
ARU				lAmb	lAmb	17 45 02.4	
	comp=Z,5.2nm,0.7s						
TOO	**Toolangi**	**60.85**	**158**	P	**P**	**17 45 13.7**	**+0.6**
ANM	**Nome**	**65.75**	**27**	P	**P**	**17 45 46.0**	**+0.7**
KBZ	**Khabaz**	**68.72**	**310**	P	**P**	**17 46 07.6**	**+3.2**
	comp=Z,1.0nm,0.9s,baz=29,slow=10,SNR=2.2						
KBZ				LR	LR	18 20 01.8	
	comp=Z,119nm,19.2s,baz=15,slow=39						
KIV	**Kislovodsk**	**68.85**	**311**	P	**P**	**17 46 06.0**	**+0.6**
KIV				lAmb	lAmb	17 46 22.9	
	comp=Z,8.2nm,1.0s						
TTA	**Tatalina**	**69.86**	**29**	P	**P**	**17 46 12.0**	**+0.8**
RAYN	**Ar Rayn**	**69.94**	**289**	P	**P**	**17 46 11.9**	**-0.5**
RAYN				lAmb	lAmb	17 46 28.7	
	comp=Z,5.1nm,1.1s						
PPLA	**Purkeypile**	**71.61**	**29**	P	**P**	**17 46 22.6**	**+0.7**
KDAK	**Kodiak Island**	**72.00**	**34**	P	**P**	**17 46 25.5**	**+1.3**
MLY	**Manley**	**72.01**	**26**	P	**P**	**17 46 25.1**	**+0.9**
MLY				lAmb	lAmb	17 46 33.9	
	comp=Z,4.4nm,0.8s						
TRF	**Thorofare Moun**	**72.40**	**28**	P	**P**	**17 46 26.7**	**0.0**
TRF				lAmb	lAmb	17 46 34.4	
	comp=Z,17nm,1.5s						
BRLK	**Bradley Lake**	**72.61**	**32**	P	**P**	**17 46 27.4**	**-0.5**
MCK	**McKinley**	**72.96**	**28**	P	**P**	**17 46 29.9**	**+0.1**
RND	**Reindeer**	**73.04**	**28**	P	**P**	**17 46 30.1**	**-0.3**
RND				lAmb	lAmb	17 46 38.7	
	comp=Z,11nm,0.9s						
WRH	**Wood River Hil**	**73.21**	**27**	P	**P**	**17 46 32.9**	**+1.6**
WRH				lAmb	lAmb	17 46 40.5	
	comp=Z,5.4nm,0.9s						
CCB	**Clear Creek Bu**	**73.30**	**27**	P	**P**	**17 46 32.3**	**+0.5**
KNK	**Knik Glacier**	**73.54**	**30**	P	**P**	**17 46 33.4**	**+0.1**
AFI	**Afiamalu**	**73.67**	**111**	LR	LR	18 13 33.4	
	comp=Z,61nm,18.4s,baz=268,slow=32						
ILAR	**Eielson Array**	**73.67**	**27**	P	**P**	**17 46 33.5**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=270,slow=4.7,SNR=9.5						
HDA	**Harding Lake**	**73.71**	**27**	P	**P**	**17 46 34.0**	**-0.3**
HDA				lAmb	lAmb	17 47 00.6	
	comp=Z,12nm,1.4s						
DHY	**Denali Highway**	**73.75**	**28**	P	**P**	**17 46 34.7**	**0.0**
DHY				lAmb	lAmb	17 46 45.9	
	comp=Z,5.1nm,1.0s						
SCM	**Sheep Creek Mo**	**74.00**	**30**	P	**P**	**17 46 36.6**	**+0.5**
PRP	**Porcupine Dome**	**74.10**	**26**	P	**P**	**17 46 35.9**	**-0.8**
PRP				lAmb	lAmb	17 46 48.6	
	comp=Z,9.9nm,1.6s						
ARCES	**ARCESS Array B**	**74.23**	**339**	P	**P**	**17 46 37.5**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=76,slow=11,SNR=8.1						
ARE0	**ARCESS Array S**	**74.23**	**339**	P	**P**	**17 46 37.7**	**+0.5**
SPA0	**Spitsbergen Ar**	**74.41**	**348**	P	**P**	**17 46 39.9**	**+1.8**
SCRK	**Sand Creek**	**75.06**	**27**	P	**P**	**17 46 42.2**	**0.0**
SCRK				lAmb	lAmb	17 46 50.9	
	comp=Z,8.9nm,1.3s						
FINES	**FINESS Array B**	**75.83**	**330**	P	**P**	**17 46 47.0**	**+0.5**
	comp=Z,4.8nm,1.0s,baz=103,slow=3.0,SNR=3.6						
VRDI	**Verde Repeater**	**75.94**	**30**	P	**P**	**17 46 47.6**	**+0.2**
VRDI				lAmb	lAmb	17 46 51.8	
	comp=Z,16nm,1.4s						
EGAK	**Eagle**	**76.06**	**26**	P	**P**	**17 46 48.2**	**+0.4**
EGAK				lAmb	lAmb	17 46 49.1	
	comp=Z,10.0nm,1.2s						
TGL	**Tana Glacier**	**76.36**	**30**	P	**P**	**17 46 50.7**	**+1.0**
AKASG	**Malin Array Be**	**76.69**	**319**	P	**P**	**17 46 49.4**	**-2.2**
	comp=Z,1.1nm,0.7s,baz=63,slow=5.8,SNR=5.7						
BARN	**Barnard Glacie**	**76.83**	**30**	P	**P**	**17 46 52.8**	**+0.3**
BARN				lAmb	lAmb	17 47 01.5	
	comp=Z,12nm,1.1s						
DAWY	**Dawson**	**77.00**	**26**	P	**P**	**17 46 54.1**	**+0.9**
DAWY				lAmb	lAmb	17 47 01.9	
	comp=Z,11nm,1.4s						
CTGM	**Chitina Glacie**	**77.01**	**30**	P	**P**	**17 46 54.5**	**+1.1**
CTGM				lAmb	lAmb	17 46 55.6	
	comp=Z,13nm,1.0s						
MLZ	**Mavora Lakes**	**77.03**	**148**	P	**P**	**17 46 53.1**	**-0.4**
EPYK	**Eagle Plains**	**77.37**	**24**	P	**P**	**17 46 55.6**	**+0.4**
EPYK				lAmb	lAmb	17 47 09.1	
	comp=Z,4.9nm,0.8s						
INK	**Inuvik**	**77.87**	**22**	P	**P**	**17 46 57.5**	**-0.3**
INK				lAmb	lAmb	17 46 58.9	
	comp=Z,11nm,1.4s						
STCH	**Steam Cracks**	**78.08**	**74**	P	**P**	**17 46 57.3**	**-2.8**
PLWZ	**Palliser**	**78.38**	**142**	P	**P**	**17 47 00.4**	**-0.8**
WHY	**Whitehorse**	**80.10**	**29**	P	**P**	**17 47 11.4**	**+0.9**
WHY				lAmb	lAmb	17 47 20.3	
	comp=Z,17nm,1.4s						
NOA	**NORSAR Array B**	**82.70**	**333**	LR	LR	18 27 07.8	
	comp=Z,148nm,20.5s,baz=250,slow=38						
VTS	**Vitosha**	**82.96**	**313**	P	**P**	**17 47 25.2**	**-0.8**
VTS				lAmb	lAmb	17 47 35.3	
	comp=Z,4.4nm,0.9s						
VYHS	**Vyhne**	**83.79**	**319**	*e*P	**P**	**17 47 28.6**	**-1.4**
GERES	**GERESS Array B**	**86.77**	**321**	P	**P**	**17 47 46.9**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=94,slow=9.0,SNR=1.8						
YKW3	**Yellowknife Ar**	**87.54**	**23**	P	**P**	**17 47 48.0**	**-0.3**
YKA	**Yellowknife Ar**	**87.58**	**23**	P	**P**	**17 47 48.7**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=311,slow=4.5,SNR=61						
NVAR	**Mina Array Bea**	**100.06**	**43**	P	**Pdif**	**17 48 47.8**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=298,slow=5.7,SNR=3.2

KST					Lg	Lg	17 51 16.4		
	99nm,0.8s								
MTBS	**Maitube**	**2.92**	**354**		Pg	**Pb**	**17 50 36.6**	**+0.5**	
	26nm,0.6s								
MTBS					Lg	Lg	17 51 08.6		
	138nm,0.6s								
MDOK	**Medeo**	**2.94**		**2**	*e*P	**Pb**	**17 50 36.5**	**+0.1**	
	50nm,0.5s								
MDOK					*e*S	**Sg**	**17 51 16.6**	**-0.8**	
	159nm,0.5s								
MDOK	**Medeo**	**2.94**		**2**	⇓Pg	**Pg**	**17 50 39.7**	**+0.3**	
	47nm,0.4s								
MDOK					⇑Lg	Lg	17 51 17.1		
	108nm,0.7s								
MDOK	**Medeo**	**2.94**		**2**	Pg	**Pg**	**17 50 41.8**	**+2.4**	
	50nm,0.5s								
MDOK					Lg	Lg	17 51 17.0		
	159nm,0.5s								
AAA	**Alma-Ata**	**2.98**		**1**	*e*P	**Pb**	**17 50 37.9**	**+0.9**	
	65nm,0.4s								
AAA					*e*S	**Sg**	**17 51 19.2**	**+0.3**	
	183nm,0.7s								
AAA	**Alma-Ata**	**2.98**		**1**	Pg	**Pg**	**17 50 40.2**	**-0.1**	
	65nm,0.4s								
AAA					Lg	Lg	17 51 14.5		
	183nm,0.7s								
KNDC	**Almaty**	**2.99**		**1**	⇑Pg	**Pg**	**17 50 41.0**	**+0.6**	
	130nm,0.7s								
KNDC					⇑Lg	Lg	17 51 19.0		
	242nm,0.6s								
AAK	**Ala-Archa**	**3.00**	**324**		⇑*i*P	**Pb**	**17 50 36.8**	**-0.7**	
	baz=23								
AAK					⇑*i*S	**Sb**	**17 51 12.9**	**-1.8**	
	baz=23								
AAK	**Ala-Archa**	**3.00**	**324**		P	**Pb**	**17 50 38.3**	**+0.8**	
	SNR=47								
AAK	**Ala-Archa**	**3.00**	**324**		⇑Pg	**Pg**	**17 50 41.6**	**+1.0**	
	72nm,0.6s								
AAK					⇑Lg	Lg	17 51 18.8		
	86nm,0.6s								
SATY	**Saty**	**3.05**		**22**	*e*P	**Pb**	**17 50 37.8**	**-0.6**	
	32nm,0.5s								
SATY					*e*S	**Sg**	**17 51 18.9**	**-2.3**	
	225nm,1.0s								
SATY	**Saty**	**3.05**		**22**	Pg	**Pb**	**17 50 38.1**	**-0.3**	
	32nm,0.5s								
SATY					Lg	Lg	17 51 11.2		
	225nm,1.0s								
AML	**Almayashu**	**3.06**	**309**		P	**Pb**	**17 50 38.5**	**-0.2**	
	SNR=55								
FRU1	**Bishkek**	**3.08**	**328**		⇑*i*P	**Pb**	**17 50 37.2**	**-1.6**	
	baz=27								
FRU1					⇑*i*S	**Sb**	**17 51 14.4**	**-2.6**	
	baz=27								
ARSB	**Arslanbob**	**3.15**	**292**		⇑*i*P	**Pb**	**17 50 39.1**	**-1.0**	
	baz=90								
ARSB					⇑*i*S	**Sb**	**17 51 18.0**	**-1.1**	
	baz=90								
CHMS	**Chumysh**	**3.19**	**331**		⇑*i*P	**Pb**	**17 50 39.3**	**-1.4**	
	baz=30								
CHMS					⇑*i*S	**Sb**	**17 51 17.3**	**-2.9**	
	baz=30								
CHMS	**Chumysh**	**3.19**	**331**		P	**Pb**	**17 50 40.1**	**-0.6**	
	SNR=37								
EKS2	**Erkin-Say**	**3.37**	**317**		P	**Pb**	**17 50 43.2**	**-0.5**	
	SNR=24								
KURS	**Kuram**	**3.40**		**16**	*e*P	**Pb**	**17 50 45.1**	**+0.9**	
	17nm,0.5s								
KURS					*e*S	**Sg**	**17 51 31.4**	**-0.9**	
	65nm,0.9s								
KURS	**Kuram**	**3.40**		**16**	Pg	**Pg**	**17 50 50.1**	**+1.8**	
	17nm,0.5s								
KURS					Lg	Lg	17 51 31.3		
	96nm,0.7s								
USP	**Ospenovka**	**3.52**	**330**		P	**Pb**	**17 50 44.2**	**-2.0**	
	SNR=11								
CHKK	**Chushkaly**	**3.63**		**1**	*e*P	**Pb**	**17 50 48.5**	**+0.5**	
	21nm,0.6s								
CHKK					*e*S	**Sg**	**17 51 37.5**	**-2.1**	
	66nm,0.5s								
CHKK	**Chushkaly**	**3.63**		**1**	Pg	**Pg**	**17 50 52.5**	**0.0**	
	21nm,0.6s								
CHKK					Lg	Lg	17 51 35.8		
	48nm,0.7s								
PDGK	**Podgornoye**	**3.67**		**31**	⇓Pg	**Pg**	**17 50 52.8**	**-0.5**	
	20nm,0.5s								
PDGK					⇓Lg	Lg	17 51 39.8		
	61nm,0.7s								
KUU	**Kurty**	**3.69**	**354**		*e*P	**Pb**	**17 50 49.6**	**+0.6**	
	11nm,0.5s								
KUU					*e*S	**Sg**	**17 51 39.3**	**-2.2**	
	132nm,0.7s								
KUU	**Kurty**	**3.69**	**354**		Pg	**Pg**	**17 50 54.6**	**+0.8**	
	11nm,0.5s								
KUU					Lg	Lg	17 51 38.9		
	132nm,0.7s								
MRKS	**Merke**	**3.72**	**314**		Pg	**Pg**	**17 50 55.9**	**+1.5**	
	93nm,0.6s								
MRKS					Lg	Lg	17 51 41.1		
	44nm,0.6s								
DJR	**Jarkent**	**4.64**		**27**	Pg	**Pg**	**17 51 09.3**	**-2.7**	
	3.2nm,0.7s								
DJR					Lg	Lg	17 52 04.4		
	10nm,1.1s								
TDK	**Taldyqorghan**	**4.90**		**13**	Pg	**Pg**	**17 51 17.0**	**-0.1**	
	16nm,0.4s								
TDK					Lg	Lg	17 52 17.3		
	105nm,0.6s								
KAPS	**Kapalarasan**	**5.38**		**19**	Pg	**Pg**	**17 51 24.7**	**-1.3**	
	5.7nm,0.7s								
KAPS					Lg	Lg	17 52 30.8		
	12nm,0.9s								
KK31	**Karatay Array**	**5.56**	**303**		⇑Pg	**Pg**	**17 51 30.0**	**+0.3**	
	10nm,0.7s,baz=122,slow=15,SNR=14								
KK31					⇑Lg	Lg	17 52 39.3		
	7.0nm,0.6s,baz=115,slow=28,SNR=6.0								
MAKZ	**Makanchi**	**7.55**		**28**	⇑Pn	**Pn**	**17 51 37.8**	**+3.4**	
	5.2nm,1.4s								
MAKZ					⇓Lg	Lg	17 53 40.7		
	7.8nm,1.1s								
MK31	**Makanchi Array**	**7.65**		**29**	⇓Pn	**Pn**	**17 51 39.3**	**+3.6**	
	0.6nm,0.5s								
MK31					⇑Lg	Lg	17 53 44.2		
	2.1nm,0.7s,baz=214,slow=27,SNR=4.5								
WMQ	**Urumqi**	**8.82**		**62**	*e*P	**Pn**	**17 51 54.3**	**+2.5**	
KURBB	**Kurchatov Arra**	**10.46**		**6**	⇑Lg	Lg	17 55 13.7		
	23nm,1.4s								
KURK	**Kurchatov**	**10.56**		**6**	⇑Lg	Lg	17 55 13.7		
	20nm,1.3s								
DANN	**Dangsing**	**13.14**	**152**		*e*P	**Pn**	**17 52 50.7**	**-0.5**	
	8.2nm,0.6s								
KOLN	**Koldanda**	**13.61**	**154**		*e*P	**Pn**	**17 52 57.0**	**-0.6**	
	5.9nm,0.4s								
GKN	**Gorkha**	**13.78**	**150**		*e*P	**Pn**	**17 52 59.0**	**-0.8**	
	8.2nm,0.2s								
PKIN	**Phulchoki**	**14.46**	**148**		*e*P	**Pn**	**17 53 08.2**	**-1.0**	
RAMN	**Ramite**	**15.51**	**146**		*e*P	**Pn**	**17 53 20.3**	**-3.0**	
GTA	**Gaotai**	**17.64**		**85**	*e*P	**Pn**	**17 53 50.4**	**+0.1**	
GTA					pP		17 53 55.0		
GTA					sP		17 53 57.4		
GTA					pmax	pmax			
	comp=Z,1.0nm,1.0s								

NNC 24 17:56:33.0±5.2, 37°22N×71°09E, h0km, mb3.8, mpv3.4, 4C, Error ellipse: s-maj=40.5km s-min=38.0km az=154.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.89**	**356**	⇑Pn	Pn	17 58 02.4	+0.8
	1.2nm,0.3s,baz=177,slow=12,SNR=34						
KK31				⇑Sn	Sn	17 59 10.4	+0.6
	1.2nm,0.3s,baz=181,slow=21,SNR=7.9						
AAK	**Ala-Archa**	**6.01**	**25**	Pn	Pn	17 58 03.8	+0.5
	3.1nm,0.9s						
AAK				Sn	Sn	17 59 15.9	+2.9
	1.6nm,0.5s						
TKM2	**Tokmak 2**	**6.66**	**30**	⇑Pn	Pn	17 58 11.1	-1.2
	1.9nm,0.5s						
TKM2				⇑Sn	Sn	17 59 28.6	-0.4
	1.3nm,0.8s						

*ISCJB **24** 17:59:25.6±0.5, 5°47S±0°06×127°59E±0°08, h400km, mb3.0/1, Error ellipse: s-maj=11.7km s-min=6.3km az=27.1*

*DJA **24** 17:59:25.8±0.8, 5°S×6°×12°8E±°, h410km±13km, M3.8/10, mb3.8/7, mB4.5/1, MLv3.8/10, Mw(mB)3.6/1*
*IDC **24** 17:59:25.3±1.1, 5°40S×127°50E, h402km±16km, mb2.7/1, mb1 3.0/6, mb1mx2.7/38, mbtmp3.8/6, Error ellipse: s-maj=23.2km s-min=13.1km az=111.0*
ISC 24 17:59:25.5±0.9, 5°43S±0°08×127°55E±0°10, h400km, n14, σ1§08/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.84**	**20**	P	**Pn**	**18 00 21.3**	**+0.8**
NLAI	**Namlea**	**2.22**	**348**	P	**Pn**	**18 00 24.4**	**+1.5**
BNDI	**Bandanaira**	**2.51**	**69**	P	**Pn**	**18 00 26.1**	**+1.2**
SANI	**Sanana**	**3.70**	**335**	P	**Pn**	**18 00 35.0**	**+0.2**
FAKI	**Fak Fak**	**5.31**	**62**	P	**Pn**	**18 00 50.8**	**+0.1**
SOEI	**Soe**	**5.39**	**217**	P	**Pn**	**18 00 53.1**	**+1.3**
	36nm,1.0s,924nm0.3nm						
SIJI	**Sorong**	**5.85**	**39**	P	**Pn**	**18 00 57.5**	**+0.9**
	4.7nm,0.3s,baz=212,slow=10,SNR=15						
SIJI				S	**S**	**18 02 10.1**	**-0.7**
	1.7nm,0.3s,baz=206,slow=22,SNR=8.9						
SWI	**Sorong**	**5.85**	**39**	P	**Pn**	**18 00 57.0**	**+0.5**
	17nm,0.5s,0.1nm						
BATI	**Baumata**	**6.12**	**219**	P	**Pn**	**18 01 00.7**	**+1.3**
	12nm,0.3s,baz=33,slow=2.9,SNR=27						
BATI				S	**S**	**18 02 14.8**	**-1.1**
	8.5nm,0.3s,baz=111,slow=8.5,SNR=12						
KMPI	**Kaimana, Papua**	**6.38**	**74**	P	**Pn**	**18 01 03.1**	**+0.8**
	196nm,0.9s,0.7nm						
FITZ	**Fitzroy Crossi**	**12.73**	**188**	P	**P**	**18 02 13.9**	**+0.7**
	0.1nm,0.3s,baz=5.8,slow=8.6,SNR=4.8						
WRA	**Warramunga Arr**	**15.87**	**156**	P	**P**	**18 02 47.9**	**+0.4**
	0.4nm,0.3s,baz=329,slow=11,SNR=29						
WRA				S	**S**	**18 05 32.6**	**-2.0**
	0.1nm,0.3s,baz=335,slow=20,SNR=8.6						
ASAR	**Alice Springs**	**19.14**	**162**	P	**P**	**18 03 21.9**	**0.0**
	0.1nm,0.3s,baz=346,slow=11,SNR=23						
MKAR	**Makanchi Array**	**65.59**	**328**	P	**P**	**18 09 27.2**	**-0.8**
	0.2nm,0.5s,baz=113,slow=6.8,SNR=4.7						

*IDC **24** 18:22:27.9±0.7, 46°16S×96°03E, h0km, mb4.3/12, mb1 4.4/12, mb1mx4.1/49, mbtmp4.3/12, MS3.8/11, Ms1 3.8/11, ms1mx3.6/22, Error ellipse: s-maj=26.0km s-min=15.9km az=114.0*
*ISCJB **24** 18:22:29.3±0.3, 46°29S±0°07×96°2E±0°1, h16km, mb4.5/15, MS3.8/11, Error ellipse: s-maj=11.5km s-min=8.8km az=25.6*
*NEIC **24** 18:22:30.1±1.6, 46°3S±0°1×96°2E±0°2, h11km±3km, mb4.9/25*
*BJI **24** 18:22:30.0±0.0, 46°30S×96°10E, h25km, mb4.7/9, mB5.1/6, Ms5.2/2, Ms7 5.0/1*
ISC 24 18:22:30.9±0.4, 46°25S±0°08×96°2E±0°1, h16km, n83, σ0§91/84, mb4.7/25, MS3.8/11, 1C, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.66**	**56**	T	T	18 44 45.1	
	baz=224,slow=74,SNR=21						
H01W3	**Cape Leeuwin H**	**17.67**	**56**	T	T	18 44 48.0	
	baz=224,slow=74,SNR=47						
H01W1	**Cape Leeuwin H**	**17.68**	**56**	T	T	18 44 49.1	
	baz=224,slow=74,SNR=20						
NWAO	**Narrogin (SRO)**	**20.87**	**58**	LR	LR	18 33 22.7	
	comp=Z,381nm,18.8s,baz=262,slow=31						
MAW	**Mawson**	**27.48**	**207**	P	**P**	**18 28 15.2**	**-0.8**
	4.6nm,1.1s,baz=38,slow=12,SNR=4.7						
MAW				LR	LR	18 37 04.6	
	comp=Z,168nm,18.7s,baz=59,slow=32						
MAW	**Mawson**	**27.48**	**207**	P	**P**	**18 28 15.0**	**-1.0**
PSA00	**Pilbara Seismi**	**31.23**	**46**	P	**P**	**18 28 50.3**	**+0.6**
PSA00				IAmb	IAmb	18 29 01.8	
	comp=Z,30nm,1.5s						
SYO	**Syowa Base**	**35.99**	**211**	⇑*e*pP	**P**	**18 29 33.2**	**+2.7**
TAU	**Tasmania Unive**	**36.03**	**104**	P	**P**	**18 29 30.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**37.12**	**51**	P	**P**	**18 29 40.6**	**-0.1**
	comp=Z,4.3nm,1.0s,baz=219,slow=14,SNR=3.2						
FITZ				LR	LR	18 45 11.1	
	comp=Z,86nm,18.4s,baz=226,slow=37						
FITZ	**Fitzroy Crossi**	**37.12**	**51**	P	**P**	**18 29 40.0**	**-0.8**
FITZ				IAmb	IAmb	18 29 59.8	
	comp=Z,26nm,1.5s						
STKA	**Stephens Creek**	**37.51**	**84**	P	**P**	**18 29 44.6**	**+0.6**
	comp=Z,7.0nm,1.2s,baz=221,slow=3.6,SNR=4.9						
STKA				LR	LR	18 42 15.1	
	comp=Z,152nm,18.7s,baz=208,slow=32						
STKA	**Stephens Creek**	**37.51**	**84**	P	**P**	**18 29 44.4**	**+0.4**
ASAR	**Alice Springs**	**37.72**	**66**	P	**P**	**18 29 46.5**	**+0.7**
	comp=Z,7.8nm,1.2s,baz=223,slow=7.5,SNR=15						
ASAR				PcP	**PcP**	**18 32 01.9**	**-0.9**
	comp=Z,1.3nm,1.0s,baz=204,slow=2.8,SNR=4.9						
ASAR				LR	LR	18 42 59.3	
	comp=Z,150nm,20.1s,baz=236,slow=33						
AS31	**Alice Springs**	**37.72**	**66**	P	**P**	**18 29 46.4**	**+0.5**
VNDA	**Vanda**	**40.09**	**162**	P	**P**	**18 30 06.1**	**+1.1**
	comp=Z,5.6nm,1.1s,baz=283,slow=12,SNR=5.1						
VNDA				LR	LR	18 44 55.1	
	comp=Z,74nm,19.1s,baz=308,slow=34						
VNDA	**Vanda**	**40.09**	**162**	P	**P**	**18 30 05.3**	**+0.3**
WRA	**Warramunga Arr**	**40.73**	**63**	P	**P**	**18 30 11.2**	**+0.2**
	comp=Z,6.1nm,1.0s,baz=223,slow=8.9,SNR=19						
WRAB	**Tennant Creek**	**40.74**	**63**	P	**P**	**18 30 11.2**	**+0.2**
WRAB				IAmb	IAmb	18 30 23.5	
	comp=Z,23nm,1.2s						
WR0	**Warramunga Arr**	**40.84**	**63**	P	**P**	**18 30 12.3**	**+0.4**
BATI	**Baumata**	**42.85**	**42**	LR	LR	18 45 48.0	
	comp=Z,201nm,21.2s,baz=200,slow=33						
H08S2	**Diego Garcia H**	**43.54**	**325**	T	T	19 17 08.1	
	baz=155,slow=76						
H08S1	**Diego Garcia H**	**43.55**	**325**	T	T	19 17 14.8	
	baz=155						
H08S3	**Diego Garcia H**	**43.56**	**325**	T	T	19 17 23.7	
	baz=155,slow=76						
QSPA	**South Pole Qui**	**43.90**	**180**	P	**P**	**18 30 36.4**	**0.0**
	comp=Z,5.5nm,1.1s,baz=317,slow=4.9,SNR=7.0						
QSPA	**South Pole Qui**	**43.90**	**180**	P	**P**	**18 30 36.8**	**+0.3**
QSPA				IAmb	IAmb	18 30 37.6	
	comp=Z,21nm,1.4s						
GSI	**Gunungsitoli**	**47.36**	**2**	P	**P**	**18 31 05.2**	**+1.0**
GSI				IAmb	IAmb	18 31 09.1	
	comp=Z,8.8nm,1.1s						
SAUI	**Saumlaki**	**48.55**	**49**	P	**P**	**18 31 13.1**	**-0.4**
SNAA	**Sanae**	**49.58**	**204**	P	**P**	**18 31 20.8**	**+0.1**
SNAA	**Sanae**	**49.58**	**204**	P	**P**	**18 31 21.1**	**+0.3**
	comp=Z,7.6nm,1.0s,baz=111,slow=8.5,SNR=12						
SNAA				LR	LR	18 50 57.4	
	comp=Z,144nm,18.2s,baz=329,slow=34						
SNAA	**Sanae**	**49.58**	**204**	P	**P**	**18 31 20.6**	**-0.2**
SNAA				IAmb	IAmb	18 31 21.9	
	comp=Z,15nm,1.2s						
VNA2	**Neumayer--Watz**	**51.23**	**204**	P	**P**	**18 31 33.0**	**-0.1**
	baz=112,slow=8.1						
VNA3	**Neumayer Olymp**	**51.70**	**203**	P	**P**	**18 31 36.4**	**-0.2**
BOSA	**Boshof**	**57.19**	**261**	LR	LR	18 51 08.4	
	comp=Z,74nm,21.9s,baz=184,slow=30						
PBKT	**Sadao Pong**	**62.66**	**5**	P	**P**	**18 32 56.8**	**+2.2**
PBKT	**Sadao Pong**	**62.66**	**5**	P	**P**	**18 32 55.9**	**+1.3**
PBKT				IAmb	IAmb	18 32 56.9	
	comp=Z,9.1nm,1.0s						
LSZ	**Lusaka**	**63.96**	**275**	P	**P**	**18 33 03.6**	**0.0**
LSZ				IAmb	IAmb	18 33 04.8	
	comp=Z,19nm,1.6s						
MHMT	**Maesarieng**	**64.14**	**2**	P	**P**	**18 33 07.1**	**+2.7**
	comp=Z,13nm,1.1s,comp=Z,691nm						
CM31	**Chiang Mai Arr**	**64.44**	**3**	P	**P**	**18 33 07.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**64.44**	**3**	P	**P**	**18 33 06.1**	**-0.3**
	comp=Z,6.0nm,1.1s,baz=200,slow=6.3,SNR=21						
CMAR				LR	LR	18 59 17.3	
	comp=Z,36nm,18.8s,baz=182,slow=34						
CHTO	**Chiang Mai**	**64.80**	**3**	P	**P**	**18 33 09.6**	**+0.9**
CHTO				IAmb	IAmb	18 33 26.0	
	comp=Z,19nm,1.9s						
PAYA	**Payao**	**65.38**	**4**	P	**P**	**18 33 15.2**	**+2.7**
	comp=Z,13μm,1.2s						
KMI	**Kunming**	**71.28**	**6**	P	**P**	**18 33 50.3**	**+0.7**
LSA	**Lhasa**	**75.73**	**355**	P	**P**	**18 34 15.1**	**-0.9**
LSA				IAmb	IAmb	18 35 21.3	
	comp=Z,18nm,1.9s						
WHN	**Wuhan**	**78.17**	**16**	P	**P**	**18 34 31.1**	**+2.0**
XAN	**Xi'an**	**80.73**	**11**	P	**P**	**18 34 43.5**	**+0.4**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
XAN				pmax	pmax		
	comp=Z,160nm,6.0s						
NIL	**Nilore**	**82.19**	**341**	P	**P**	**18 34 49.8**	**-1.0**
NIL				IAmb	IAmb	18 34 50.9	
	comp=Z,9.3nm,1.1s						
RAYN	**Ar Rayn**	**83.25**	**314**	P	**P**	**18 34 57.5**	**+0.9**
RAYN				IAmb	IAmb	18 34 58.6	
	comp=Z,17nm,1.5s						
KBL	**Kabul**	**84.08**	**338**	P	**P**	**18 35 00.5**	**-0.2**
KBL				IAmb	IAmb	18 35 01.6	
	comp=Z,6.8nm,0.8s						
GTA	**Gaotai**	**85.34**	**3**	*e*P	**P**	**18 35 06.3**	**-0.6**
GTA				pP	pwP	18 35 21.8	+6.4
HRA	**Herat**	**85.92**	**332**	P	**P**	**18 35 09.5**	**-0.5**
CHGR	**Chuyangaron**	**87.94**	**339**	P	**P**	**18 35 19.6**	**0.0**
GAR	**Garm**	**87.99**	**340**	P	**P**	**18 35 19.3**	**-0.6**
GEYT	**Alibeck**	**90.51**	**331**	P	**P**	**18 35 30.7**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=165,slow=2.8,SNR=3.1						
PLCA	**Paso Flores**	**92.60**	**190**	LR	LR	19 15 16.8	
	comp=Z,70nm,22.0s,baz=188,slow=34						
MKAR	**Makanchi Array**	**93.46**	**350**	P	**P**	**18 35 44.2**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=211,slow=8.1,SNR=3.9						
SONM	**Songino Array**	**94.12**	**7**	P	**P**	**18 35 47.6**	**-0.6**
	comp=Z,1.0nm,1.0s,baz=193,slow=4.6,SNR=5.0						
DAWY	**Dawson**	**144.98**	**39**		**PKPdf**	**18 42 06.1**	**-0.1**
EPYK	**Eagle Plains**	**145.84**	**35**		**PKPdf**	**18 42 07.0**	**-0.6**
HYT	**Haines Junctio**	**145.97**	**45**		**PKPab**	**18 42 09.7**	**+0.3**
INK	**Inuvik**	**146.62**	**31**	PKPbc	**PKPdf**	**18 42 08.3**	**-0.4**
	comp=Z,6.2nm,1.1s,baz=282,slow=3.4,SNR=8.2						
INK	**Inuvik**	**146.62**	**31**		**PKPbc**	**18 42 09.8**	**-0.5**
TULEG	**Thule**	**148.99**	**353**		**PKPbc**	**18 42 16.5**	**-0.1**
KHMM	**Horse Mountain**	**150.78**	**86**		**PKPbc**	**18 42 22.1**	**-0.1**
RES	**Resolute Bay**	**151.05**	**6**	PKPbc	**PKPbc**	**18 42 20.9**	**-0.7**
	comp=Z,4.2nm,1.0s,baz=331,slow=2.5,SNR=9.9						
RES	**Resolute Bay**	**151.05**	**6**		**PKPbc**	**18 42 21.0**	**-0.5**
MWC	**Mount Wilson**	**151.42**	**103**	PKPdf	**PKPdf**	**18 42 18.0**	**+0.1**
MWC					**PKiKP**	**18 42 24.5**	**+0.1**
WDC	**Whiskeytown Da**	**151.48**	**87**	PKPdf	**PKPdf**	**18 42 16.3**	**-1.2**
WDC					**PKPbc**	**18 42 23.2**	**-0.4**
AFDM	**Forest Hills D**	**151.86**	**92**	PKPdf	**PKPdf**	**18 42 17.8**	**-0.3**
AFDM					**PKiKP**	**18 42 24.8**	**-0.2**
ISA	**Isabella, Lake**	**151.94**	**100**		**PKPdf**	**18 42 18.9**	**+0.5**
ISA					**PKiKP**	**18 42 25.7**	**+0.4**
HUMO	**Hull Mountain**	**151.97**	**83**		**PKiKP**	**18 42 25.6**	**+0.6**
BEKR	**Beckworth**	**152.69**	**90**		**PKiKP**	**18 42 26.9**	**+0.1**
PNTR	**Pine Nut**	**152.87**	**92**		**PKiKP**	**18 42 28.0**	**+0.7**
YERR	**Yerington**	**153.07**	**93**		**PKiKP**	**18 42 28.2**	**+0.5**
YERR					**PKPab**	**18 42 39.0**	**-0.1**
PAHR	**Pah Rah Range**	**153.30**	**91**	PKPdf	**PKPdf**	**18 42 20.5**	**+0.1**
PAHR					**PKiKP**	**18 42 28.5**	**+0.5**
YKA	**Yellowknife Ar**	**156.11**	**36**	PKP	**PKPdf**	**18 42 21.3**	**-2.0**
	comp=Z,0.1nm,0.8s,baz=295,slow=1.3,SNR=2.8						
YKA				PKPab	**PKPab**	**18 42 49.8**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=295,slow=4.9,SNR=4.2						
TX31	**Lajitas Ar. Si**	**157.03**	**130**	PKPdf	**PKPdf**	**18 42 25.1**	**-0.6**
TX31					**PKPab**	**18 42 55.5**	**-0.5**
TX32	**Lajitas Array**	**157.03**	**130**	PKPdf	**PKPdf**	**18 42 25.0**	**-0.7**
TX32					**PKPab**	**18 42 55.8**	**-0.3**
TXAR	**Lajitas Array**	**157.03**	**130**	PKPab	**PKPab**	**18 42 55.1**	**-0.9**
	comp=Z,1.3nm,1.0s,baz=207,slow=5.3,SNR=7.8						
MTPU	**Mount Pierson**	**157.48**	**101**		**PKPab**	**18 42 58.8**	**+0.6**
MNTX	**Cornudas Mount**	**157.89**	**123**		**PKPdf**	**18 42 26.3**	**-0.3**
MNTX				PKPab	**PKPab**	**18 43 00.4**	**+0.8**
ANMO	**Albuquerque**	**159.48**	**115**		**PKPab**	**18 43 06.4**	**-0.3**
PDAR	**Pinedale Array**	**161.31**	**91**	PKP	**PKPdf**	**18 42 28.2**	**-2.3**
	comp=Z,0.2nm,0.4s,baz=264,slow=3.0,SNR=3.9						

*MOS **24** 18:28:59.7±1.6, 44°32N×149°33E, h46km, mb4.2/1, Error ellipse: s-maj=12.1km s-min=10.6km az=155.5*
*ISCJB **24** 18:29:02.1±1.0, 44°33N±0°06×148°99E±0°09, h63km±9km, mb3.8/7, Error ellipse: s-maj=13.1km s-min=6.8km az=44.0*
*SKHL **24** 18:29:02.3±0.3, 44°34N×149°10E, h70km±9km, mb4.5/5*
*IDC **24** 18:29:04.3±3.3, 44°48N×149°21E, h67km±30km, mb3.4/6, mb1 3.6/8, mb1mx3.1/50, mbtmp3.7/8, ML3.1/2, Error ellipse: s-maj=29.8km s-min=21.0km az=123.0*
ISC 24 18:29:01.3±1.6, 44°23N±0°06×149°16E±0°09, h43km±16km, n54, σ1§99/64, mb3.6/7, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.36**	**318**	*d* iPN	Pn	18 29 22.0	-1.8
KUR				*i* S	**Sn**	**18 29 38.0**	**-2.7**
KUR				pmax	pmax		
	comp=Z,489nm,0.4s						
KUR				pmax	pmax		
	comp=E,174nm,0.2s						
KUR				pmax	pmax		
	comp=N,460nm,0.3s						
KUR				smax	smax		
	comp=N,2μm,0.3s						
KUR				smax	smax		
	comp=E,854nm,0.2s						
KUR	**Kuril'sk**	**1.36**	**318**	*i* P	Pn	18 29 22.0	-1.8
KUR				AMB	AMB	18 29 25.0	
	comp=E,300nm,0.4s						
KUR				*i* S	**Sn**	**18 29 37.0**	**-3.7**
KUR				A	A	18 29 40.0	
	comp=E,2μm,0.4s						
KUR				A	A	18 29 40.0	
	comp=E,1μm,0.4s						
SHO	**Shikotan**	**1.

NMR			*i* S		**Sn**	**18 30 11.7**	**-0.2**
NMR	**Nemuro--Hokkai**	**2.63 252**	*i* P		**Pn**	**18 29 42.0**	**+0.8**
NMR			*i* S		**Sn**	**18 30 11.0**	**-0.9**
GLVR	**Golovnino**	**2.67 261**	*e*PN		**Pn**	**18 29 42.7**	**+0.9**
GLVR			*e*S		**Sn**	**18 30 13.4**	**+0.5**
GLVR	comp=N,825nm,0.2s		smax	smax			
GLVR	comp=E,244nm,0.1s		smax	smax			
GLVR	**Golovnino**	**2.67 261**	*e*P		**Pn**	**18 29 43.0**	**+1.2**
GLVR			*e*S		**Sn**	**18 30 13.2**	**+0.3**
GLVR			A		A	18 30 18.0	
GLVR	comp=E,410nm,0.4s		A		A	18 30 18.0	
GLVR	comp=E,244nm,0.4s		A		A	18 30 18.0	
JRA	**Rausu**	**2.92 266**	P		**Pn**	**18 29 47.0**	**+1.7**
JRA			*e*S		**Sn**	**18 30 21.2**	**+2.1**
JNK	**Nakash**	**3.27 260**	P		**Pn**	**18 29 51.1**	**+1.0**
JNK			*e*S		**Sn**	**18 30 27.7**	**-0.1**
JAK	**Akkeshi**	**3.47 251**	P		**Pn**	**18 29 53.2**	**+0.5**
JAK			*e*S		**Sn**	**18 30 31.7**	**-0.8**
JTKR	**Abashiri--Toko**	**3.79 268**	P		**Pn**	**18 29 58.9**	**+1.7**
JAR	**Ashorobuto**	**4.01 258**	P		**Pn**	**18 30 01.9**	**+1.6**
JAR			*e*S		**Sn**	**18 30 46.8**	**+0.8**
JOB	**Onbets**	**4.09 253**	P		**Pn**	**18 30 02.6**	**+1.3**
JCH	**Churui**	**4.52 251**	P		**Pn**	**18 30 08.6**	**+1.4**
JCH			*e*S		**Sn**	**18 30 58.7**	**+0.2**
JKA	**Kamikawa-asahi**	**4.72 271**	*e*P		Pn	18 30 14.3	+4.4
ASAJ	**Asahikawa**	**4.72 271**	P		Pn	18 30 14.3	+4.3
ASAJ	comp=E,1.0nm,0.3s,baz=62,slow=9.8,SNR=7.3		S		Sn	18 31 18.8	+15
ERM	**Erimo**	**4.92 245**	*i* PN		**Pn**	**18 30 15.2**	**+2.5**
JNBK	**Urakawa-nobuka**	**5.07 250**	P		**Pn**	**18 30 15.5**	**+0.8**
JNBK			*e*S		**Sn**	**18 31 10.4**	**-1.6**
JBT2	**Biratori 2**	**5.15 256**	P		**Pn**	**18 30 17.8**	**+1.9**
YSS	**Yuzh-Sakhalins**	**5.25 303**	*e*PN		**Pn**	**18 30 18.6**	**+1.3**
YSS	**Yuzh-Sakhalins**	**5.25 303**	*e*P		**Pn**	**18 30 17.6**	**+0.3**
JNB	**Noboribetsu**	**6.18 256**	P		**Pn**	**18 30 31.5**	**+1.6**
JNB			*e*S		**Sn**	**18 31 38.9**	**-0.3**
JKB	**Kayabe**	**6.40 251**	P		**Pn**	**18 30 33.8**	**+0.9**
JKB			*e*S		**Sn**	**18 31 41.9**	**-2.7**
JYM2	**Yakumo 2**	**6.76 255**	P		**Pn**	**18 30 39.1**	**+1.1**
JTM	**Tenmabayashi**	**6.90 243**	*e*S		**Sn**	**18 31 52.5**	**-4.5**
TYV	**Tymovskoe**	**7.96 329**	*e*PN		Pn	18 30 59.2	+4.9
TYV			*e*S		**Sn**	**18 32 29.2**	**+6.3**
TYV	comp=Z,8.0nm,0.9s		pmax	pmax			
TYV	comp=E,13nm,1.2s		smax	smax			
TYV	**Tymovskoe**	**7.96 329**	*e*P		**Pn**	**18 30 56.1**	**+1.8**
TYV	comp=E,8.0nm,0.9s		AMB	AMB		18 30 59.4	
TYV			*e*S		**Sn**	**18 32 17.7**	**-5.2**
JRG	**Rokugo**	**7.99 236**	*e*S		**Sn**	**18 32 20.2**	**-3.6**
SKR	**Severo-Kuril's**	**7.99 34**	*i* PN		Pn	18 30 53.2	-1.5
SKR	**Severo-Kuril's**	**7.99 34**	*e*P		**Pn**	**18 30 55.3**	**+0.6**
JIO	**Ouri**	**8.23 228**	*e*S		**Sn**	**18 32 23.7**	**-6.1**
PETK	**Petropavlovsk-**	**10.52 29**	P		Pn	18 31 27.8	-1.5
YAK	comp=E,0.3nm,0.3s,baz=210,slow=14,SNR=9.7 **Yakutsk**	**21.16 334**	*e*P		**P**	**18 33 43.5**	**+1.0**
H11N2	**WAKE ISLAND Hy 28.57 143** baz=334,slow=75,SNR=121		T		T	19 05 49.3	
H11N1	**WAKE ISLAND Hy 28.58 143** baz=334,slow=75,SNR=102		T		T	19 05 51.8	
H11N3	**WAKE ISLAND Hy 28.58 143** baz=334,slow=75,SNR=92		T		T	19 05 53.0	
H11S1	**WAKE ISLAND Hy 29.57 145** baz=334,slow=76,SNR=186		T		T	19 07 06.8	
H11S3	**WAKE ISLAND Hy 29.58 145** baz=334,slow=76,SNR=117		T		T	19 07 04.7	
H11S2	**WAKE ISLAND Hy 29.59 145** baz=334,slow=76,SNR=125		T		T	19 07 08.2	
MKAR	**Makanchi Array**	**45.64 298**	P		**P**	**18 37 17.5**	**+0.1**
DLBC	comp=E,0.3nm,0.7s,baz=77,slow=12,SNR=3.1 **Dease Lake**	**49.34 43**	P		**P**	**18 37 44.9**	**-1.1**
FINES	comp=E,16nm,0.9s,baz=263,slow=2.7,SNR=3.7 **FINESS Array B**	**65.09 334**	P		**P**	**18 39 36.0**	**-1.0**
FINES	**FINESS Array B** comp=E,2.1nm,0.9s,baz=33,slow=10,SNR=3.0	**65.09 334**	P		**P**	**18 39 36.0**	**-1.0**
WRA	**Warramunga Arr**	**65.29 195**	P		**P**	**18 39 39.7**	**+1.0**
ASAR	comp=E,0.6nm,0.7s,baz=15,slow=6.8,SNR=4.6 **Alice Springs**	**69.00 195**	P		**P**	**18 40 04.5**	**+2.3**
AKASG	comp=E,0.3nm,0.4s,baz=39,slow=6.3,SNR=3.2 **Malin Array Be**	**72.04 325**	P		**P**	**18 40 18.8**	**-1.6**
TXAR	**Lajitas Array**	**81.17 58**	P		**P**	**18 41 13.0**	**+0.4**
TXAR	**Lajitas Array** comp=E,0.1nm,0.4s,baz=317,slow=3.7,SNR=2.5	**81.17 58**	P		**P**	**18 41 13.0**	**+0.4**

JMA 24 18:57:55.9, 35°.06N × 135°.82E, h12km, M2.8, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.41**	**303**	P	Pg	18 58 04.1	+0.1
JWT				*e*S	Sg	18 58 09.3	-0.2
JHE	**Heguri**	**0.42**	**195**	P	Pg	18 58 04.3	+0.1
JHE				S	Sg	18 58 09.9	+0.1
TSUJ	**Tsu 2**	**0.60**	**125**	P	Pg	18 58 07.2	-0.5
TSUJ				S	Sg	18 58 15.2	-0.4
JKS	**Kasai**	**0.80**	**265**	P	Pg	18 58 11.2	-0.3
JKS				S	Sg	18 58 21.8	-0.2
JKY	**Yasaka**	**0.81**	**314**	P	Pg	18 58 11.4	-0.3
JWY	**Kouya**	**0.86**	**193**	S	Sg	18 58 23.3	-0.5
JKN2	**Miekihoku**	**0.90**	**155**	P	Pg	18 58 12.3	-1.0
JKN2				S	Sg	18 58 23.9	-1.1
JYTA	**Yamagatataniai**	**0.92**	**54**	P	Pg	18 58 13.1	-0.5
JAJ2	**Tsuna**	**1.00**	**231**	P	Pb	18 58 14.4	-0.8
JAJ2				S	Sg	18 58 27.8	-0.4
MAT	**Matsushiro**	**2.44**	**52**	P	Pn	18 58 36.5	+0.9
MAT				S	Sn	18 59 06.1	+0.7

*ISCJB **24** 19:11:03.3±1.8, 45°.9N±0°.3×151°.3E±0°.3, h35km, mb3.8/3, Error ellipse: s-maj=45.2km s-min=10.7km az=142.3*
*IDC **24** 19:11:04.5±9.8, 46°.51N×150°.78E, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.4/44, mbtmp3.8/5, ML2.9/2, Error ellipse: s-maj=223.4km s-min=34.4km az=142.0*
*NEIC **24** 19:11:05.5±1.2, 46°.0N±0°.2×151°.3E±0°.3, h33km±13km, mb4.4/4*
ISC 24 19:11:05.2±1.9, 45°.9N±0°.3×151°.4E±0°.2, h35km, n17, σ0§63/11, mb4.2/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKA	**Kamikawa-asahi**	**6.46**	**257**		**Pn**	**19 12 38.3**	**+0.6**
ASAJ	**Asahikawa** 0.7nm,0.3s,baz=47,slow=18,SNR=6.0	**6.46**	**257**	Pn	**Pn**	**19 12 38.3**	**+0.6**
ERM	**Erimo**	**7.08**	**240**	Pn	**Pn**	**19 12 45.7**	**-0.4**
PETK	**Petropavlovsk-** 0.1nm,0.3s,baz=198,slow=12,SNR=2.5	**8.31**	**27**	Pn	**Pn**	**19 13 02.7**	**-0.4**
H11N2	**WAKE ISLAND Hy 29.07 149** baz=339			T	T	19 47 34.0	
H11N1	**WAKE ISLAND Hy 29.09 149** baz=339			T	T	19 47 37.2	
H11N3	**WAKE ISLAND Hy 29.09 149** baz=339			T	T	19 47 35.1	
H11S1	**WAKE ISLAND Hy 30.13 150** baz=339			T	T	19 48 55.3	
H11S3	**WAKE ISLAND Hy 30.14 150** baz=339,slow=74			T	T	19 48 56.0	
H11S2	**WAKE ISLAND Hy 30.15 150** baz=339,slow=74			T	T	19 48 59.9	
HYT	**Haines Junctio**	**42.73**	**43**	P	**P**	**19 18 59.7**	**+1.0**
HYT	comp=Z,16nm,1.5s			IAmb	IAmb	19 19 04.0	
MK31	**Makanchi Array**	**46.25**	**297**	P	**P**	**19 19 27.2**	**+0.4**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.5s,baz=73,slow=8.7,SNR=5.4	**46.25**	**297**	P	**P**	**19 19 26.7**	**-0.1**
ABKAR	**Akbulak array**	**58.03**	**309**	P	**P**	**19 20 53.9**	**-0.4**
ABKAR	comp=Z,4.1nm,1.8s			IAmb	IAmb	19 20 58.3	
CHGR	**Chuyangaron**	**58.70**	**295**	P	**P**	**19 20 59.5**	**+0.2**
FINES	**FINESS Array B** comp=Z,6.4nm,1.1s,baz=28,slow=8.6,SNR=7.2	**64.28**	**334**	P	**P**	**19 21 36.2**	**-0.1**
AKASG	**Malin Array Be** comp=Z,0.3nm,0.3s,baz=34,slow=6.2,SNR=2.5	**71.56**	**325**	P	**P**	**19 22 21.5**	**-0.8**

*ISCJB **24** 19:18:57.9±0.7, 38°.71N±0°.03×25°.46E±0°.07, h20km±6km, Error ellipse: s-maj=8.8km s-min=5.7km az=179.6*

*ISK **24** 19:18:57.6, 38°.73N×25°.54E, h20km, ML2.5/19*
*THE **24** 19:18:57.6, 38°.70N×25°.45E, h8km±3km, ML2.3/4, Error ellipse: s-maj=3.7km s-min=1.5km az=103.0*
*ATH **24** 19:18:58.5, 38°.73N×25°.53E, h13km±5km, ML2.9/2, Error ellipse: s-maj=5.5km s-min=1.1km az=216.0*
ISC 24 19:18:58.0±1.3, 38°.73N±0°.03×25°.52E±0°.04, h16km±12km, n33, σ0§41/42, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSRA	**Psara**	**0.19**	**169**	P	**Pb**	**19 19 03.0**	**0.0**
PSRA				S	**Sb**	**19 19 05.8**	**-0.5**
PSRA	comp=N,23875μm,0.1s			AML	AML	19 19 06.2	
PSRA	comp=E,32394μm,0.2s			AML	AML	19 19 06.2	
CHOS	**Chios island**	**0.54**	**129**	P	**Pb**	**19 19 08.9**	**-0.2**
CHOS				S	**Sb**	**19 19 16.3**	**-0.3**
CHOS	comp=E,605nm,0.2s **Chios island**	**0.54**	**129**	P	**Pb**	**19 19 08.8**	**-0.2**
CHOS				S	**Sb**	**19 19 16.4**	**-0.2**
CHOS	comp=E,1378μm,0.2s			AML	AML	19 19 17.5	
CHOS	comp=N,933μm,0.4s			AML	AML	19 19 19.7	
CHOS	**Chios island**	**0.54**	**129**	PG	**Pb**	**19 19 08.8**	**-0.2**
CHOS				SG	**Sb**	**19 19 16.4**	**-0.2**
SIGR	**SIGRI**	**0.55**	**28**	P	**Pb**	**19 19 09.0**	**-0.3**
SIGR	comp=N,230nm,0.4s			S	**Sb**	**19 19 17.0**	**+0.1**
SIGR	**SIGRI**	**0.55**	**28**	P	**Pb**	**19 19 09.0**	**-0.3**
SIGR				S	**Sb**	**19 19 16.7**	**-0.2**
SIGR	**SIGRI**	**0.55**	**28**	PG	**Pb**	**19 19 08.9**	**-0.3**
SIGR				SG	**Sb**	**19 19 16.9**	**+0.1**
PRK	**Paraskevi**	**0.78**	**48**	P	**Pn**	**19 19 14.2**	**-0.1**
PRK	comp=N,412nm,0.4s			S	**Sn**	**19 19 26.4**	**+0.7**
PRK	**Paraskevi**	**0.78**	**48**	P	**Pn**	**19 19 13.7**	**-0.6**
KRBN	**Karaburun**	**0.82**	**99**	PG	**Pb**	**19 19 13.9**	**+0.1**
URLA	**Izmir**	**0.92**	**113**	PG	**Pn**	**19 19 15.9**	**-0.3**
FOCM	**Foa**	**0.95**	**90**	PG	**Pg**	**19 19 15.9**	**-0.4**
DKL	**Dikili**	**1.14**	**72**	PN	**Pb**	**19 19 18.9**	**-0.3**
BOZC	**Bozcaada**	**1.19**	**20**	PN	**Pn**	**19 19 19.0**	**-0.9**
BLCB	**Balcova**	**1.24**	**105**	PN	**Pn**	**19 19 20.6**	**0.0**
EZN	**Ezine**	**1.26**	**29**	P	**Pn**	**19 19 20.4**	**-0.5**
EZN	comp=N,60nm,0.5s			S	**Sg**	**19 19 39.8**	**+1.0**
EZN	**Ezine**	**1.26**	**29**	PN	**Pn**	**19 19 20.4**	**-0.5**
AOS	**Alonnisos**	**1.35**	**290**	P	**Pn**	**19 19 21.6**	**-0.6**
AOS	**Alonnisos**	**1.35**	**290**	P	**Pg**	**19 19 23.7**	**-0.3**
AOS	**Alonnisos**	**1.35**	**290**	PN	**Pn**	**19 19 22.1**	**-0.1**
SMG	**Samos**	**1.45**	**134**	P	**Pg**	**19 19 26.0**	**+0.1**
GADA	**Gvkgeada**	**1.49**	**11**	P	**Pn**	**19 19 23.9**	**-0.2**
GADA	**Gvkgeada**	**1.49**	**11**	PN	**Pn**	**19 19 23.7**	**-0.4**
APE	**Apeiranthos**	**1.66**	**180**	PN	**Pn**	**19 19 26.4**	**0.0**
GCAM	**G?zelcaml?**	**1.69**	**127**	PN	**Pn**	**19 19 27.1**	**+0.3**
SMTH	**Samothraki Isl**	**1.74**	**0**	P	**Pn**	**19 19 27.1**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.82**	**24**	PN	**Pn**	**19 19 28.8**	**+0.2**
LPK	**Lapseki**	**1.90**	**30**	PN	**Pn**	**19 19 29.8**	**+0.1**
OUR	**Ouranopolis**	**2.00**	**324**	PN	**Pn**	**19 19 32.0**	**+1.0**
ERIK	**Erikli-Kesan**	**2.09**	**21**	PN	**Pn**	**19 19 32.2**	**0.0**
KRBG	**Karabiga-Canak**	**2.16**	**39**	PN	**Pn**	**19 19 33.2**	**0.0**
ALN	**Alexandroupoli**	**2.21**	**10**	PN	**Pn**	**19 19 33.8**	**-0.1**
RKY	**Sarkoy-Tekirda**	**2.34**	**33**	PN	**Pn**	**19 19 35.9**	**+0.1**

*IDC **24** 19:25:01.8±3.5, 18°.39S×175°.74W, h184km±59km, mb3.7/7, mb1 3.8/8, mb1mx3.4/34, mbtmp4.2/8, Error ellipse: s-maj=62.5km s-min=28.5km az=102.0*
*ISCJB **24** 19:25:03.1±0.4, 18°.14S±0°.08×175°.34W±0°.05, h250km, Error ellipse: s-maj=11.1km s-min=6.4km az=158.6*
*NEIC **24** 19:25:05.2±2.5, 18°.0S±0°.1×175°.18W±0°.09, h273km±10km, mb4.7/16*
ISC 24 19:25:04.6±0.6, 18°.15S±0°.08×175°.22W±0°.07, h250km, n27, σ1§60/29, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.10**	**101**	Pn	**Pn**	**19 26 23.5**	**+1.9**
NIUE					**S**	**19 27 24.1**	**+1.1**
AFI	**Afiamalu**	**5.36**	**39**	P	**Pn**	**19 26 27.1**	**+2.1**
AFI	2.7nm,0.3s,baz=338,slow=19,SNR=4.1			S	**S**	**19 27 27.5**	**-1.6**
AFI	8.0nm,0.3s,baz=199,slow=18,SNR=8.0 **Afiamalu**	**5.36**	**39**		**Pn**	**19 26 24.3**	**-0.6**
AFI					**S**	**19 27 26.9**	**-2.2**
MSVF	**Nonsavu**	**6.42**	**273**		**Pn**	**19 26 40.7**	**+2.5**
URZ	**Urewera**	**21.12**	**197**	P	**P**	**19 29 28.2**	**-2.1**
URZ	4.3nm,0.5s,baz=74,slow=1.7,SNR=5.7 **Urewera**	**21.12**	**197**	P	**P**	**19 29 27.9**	**-2.4**
URZ	comp=Z,43nm,1.4s			IAmb	IAmb	19 29 35.7	
PPTF	**Pamatai, Papee**	**24.41**	**93**	P	**P**	**19 30 00.8**	**-0.1**
PPTF	comp=Z,54nm,1.2s			IAmb	IAmb	19 30 09.7	
QRZ	**Quartz Range**	**24.93**	**202**	P	**P**	**19 30 06.5**	**+1.3**
THZ	**Tophouse**	**25.63**	**201**	P	**P**	**19 30 10.9**	**-0.5**
THZ	comp=E,61nm,1.5s			IAmb	IAmb	19 30 29.6	
KHZ	**Kahutara**	**26.01**	**199**	P	**P**	**19 30 13.9**	**-0.8**
OXZ	**Oxford**	**27.31**	**201**	P	**P**	**19 30 25.9**	**-0.5**
ARMA	**Armidale**	**32.47**	**242**	P	**P**	**19 31 12.4**	**+0.3**
ARMA	comp=Z,30nm,1.6s			IAmb	IAmb	19 31 35.9	
CTA	**Charters Tower**	**36.40**	**261**	P	**P**	**19 31 44.5**	**-1.2**
STKA	comp=Z,4.3nm,0.9s,baz=96,slow=11,SNR=5.9 **Stephens Creek**	**41.19**	**242**	P	**P**	**19 32 24.1**	**-1.0**
STKA	comp=Z,0.9nm,0.4s,baz=76,slow=11,SNR=6.8 **Stephens Creek**	**41.19**	**242**	P	**P**	**19 32 24.6**	**-0.5**
BBOO	**Buckleboo**	**45.96**	**242**	P	**P**	**19 33 01.7**	**-1.4**
BBOO	comp=Z,26nm,1.6s			IAmb	IAmb	19 33 10.3	
WR0	**Warramunga Arr**	**47.38**	**259**	P	**P**	**19 33 13.2**	**-1.0**
WRAB	**Tennant Creek**	**47.56**	**259**	P	**P**	**19 33 13.7**	**-2.0**
WRA	**Warramunga Arr** comp=Z,0.6nm,0.4s,baz=95,slow=6.3,SNR=5.4	**47.57**	**259**	P	**P**	**19 33 14.7**	**-1.1**
AS31	**Alice Springs**	**47.65**	**254**	P	**P**	**19 33 15.4**	**-0.9**
ASAR	**Alice Springs** comp=Z,8.2nm,0.6s,baz=90,slow=8.6,SNR=169	**47.65**	**254**	P	**P**	**19 33 15.4**	**-0.9**
KNRA	**Kununurra**	**53.48**	**264**	P	**P**	**19 33 59.4**	**-0.5**
KNRA	comp=Z,88nm,1.5s			IAmb	IAmb	19 34 05.0	
FITZ	**Fitzroy Crossi** comp=Z,3.2nm,0.8s,baz=97,slow=6.1,SNR=2.6	**55.98**	**260**	P	**P**	**19 34 17.8**	**+0.1**
SOEI	**Soe**	**59.11**	**269**	P	**P**	**19 34 41.3**	**+1.7**
SOEI	comp=Z,32nm,1.4s			IAmb	IAmb	19 34 56.5	
VNDA	**Vanda**	**60.48**	**186**	P	**P**	**19 34 45.2**	**-2.6**
VNDA	comp=Z,16nm,1.8s			IAmb	IAmb	19 35 03.2	
RAGM	**Ragged Mountai**	**82.07**	**15**	P	P	19 36 51.4	-5.4
CMAR	**Chiang Mai Arr** comp=Z,0.7nm,0.9s,baz=112,slow=3.6,SNR=5.4	**91.83**	**289**	P	**P**	**19 37 47.7**	**+2.8**

*ISCJB **24** 19:53:34.7±0.5, 3°.15N±0°.05×125°.07E±0°.08, h250km, mb3.5/10, Error ellipse: s-maj=11.8km s-min=6.6km az=160.0*
*IDC **24** 19:53:36.2±5.2, 3°.15N×124°.77E, h247km±55km, mb3.2/9, mb1 3.2/9, mb1mx2.9/55, mbtmp3.7/9, Error ellipse: s-maj=38.5km s-min=13.1km az=71.0*
*DJA **24** 19:53:37.3±0.8, 3°.N±4°×12°.5E±°, h230km±9km, M4.0/9, mb4.0/3, mB5.0/1, MLv4.0/9, Mw(mB)4.3/1*
ISC 24 19:53:36.1±0.7, 3°.06N±0°.07×125°.04E±0°.09, h250km, n20, σ2§01/24, mb3.5/10, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**2.68**	**203**	P	**Pn**	**19 54 26.0**	**+0.7**
TNTI	**Ternate**	**3.25**	**134**	P	**Pn**	**19 54 31.4**	**0.0**
TNTI				S	**S**	**19 55 14.1**	**-1.1**
KCP	**Kidapawan**	**3.93**	**1**	⇓P	**Pn**	**19 54 37.6**	**-1.6**
MRSI	**Marisa**	**4.02**	**230**	P	**Pn**	**19 54 41.0**	**+0.8**
LUWI	**Luwuk**	**4.66**	**209**	P	**Pn**	**19 54 46.8**	**-1.0**
SANI	**Sanana** 26nm,0.4s,3μm0.7nm	**5.16**	**169**	P	**Pn**	**19 54 52.2**	**-1.8**
SANI	26nm,0.4s,3μm0.7nm			S	**S**	**19 55 49.5**	**-6.5**
MPSI	**Mapaga** 12nm,0.8s,0.1nm	**5.80**	**242**	P	**Pn**	**19 55 02.4**	**+0.5**
NLAI	**Namlea**	**6.58**	**162**	P	**Pn**	**19 55 11.7**	**0.0**
NLAI				S	**S**	**19 56 26.6**	**-1.6**
BATI	**Baumata** 5.5nm,0.3s,baz=66,slow=3.5,SNR=9.3	**13.25**	**186**	P	**P**	**19 56 39.6**	**+2.9**
FITZ	**Fitzroy Crossi** 1.8nm,0.3s,baz=9.3,slow=12,SNR=13	**21.03**	**178**	P	**P**	**19 58 03.2**	**+2.1**
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=340,slow=9.5,SNR=5.6	**24.61**	**159**	P	**P**	**19 58 35.0**	**+0.9**
ASAR	**Alice Springs** 0.2nm,0.7s,baz=350,slow=8.0,SNR=2.8	**27.93**	**162**	P	**P**	**19 59 05.2**	**+1.5**
ASAR				PcP	**PcP**	**20 02 13.2**	**+0.7**
STKA	0.2nm,0.4s,baz=353,slow=2.7,SNR=4.3 **Stephens Creek**	**38.14**	**157**	P	**P**	**20 00 33.2**	**+1.7**
SONM	0.6nm,0.6s,baz=324,slow=14,SNR=4.1 **Songino Array**	**47.42**	**343**	P	**P**	**20 01 43.7**	**-2.1**
PETK	0.3nm,0.5s,baz=166,slow=7.0,SNR=3.2 **Petropavlovsk-**	**56.70**	**23**	P	**P**	**20 02 54.5**	**+0.8**
MKAR	1.5nm,0.5s,baz=204,slow=5.5,SNR=6.0 **Makanchi Array**	**57.16**	**326**	P	**P**	**20 02 55.9**	**-1.2**
ZALV	0.7nm,0.4s,baz=120,slow=8.1,SNR=33 **Zalesovo Beam**	**60.43**	**334**	P	**P**	**20 03 18.4**	**-0.9**
KURBB	0.5nm,0.5s,baz=138,slow=6.9,SNR=3.2 **Kurchatov Arra**	**61.40**	**328**	P	**P**	**20 03 24.5**	**-1.4**
ARCES	1.2nm,0.5s,baz=127,slow=6.3,SNR=20 **ARCESS Array B**	**90.49**	**340**	P	**P**	**20 06 10.1**	**+0.8**
TORD	5.0nm,1.1s,baz=74,slow=6.7,SNR=4.6 **Torodi Ar. Bea** 0.7nm,1.1s,baz=101,slow=1.5,SNR=4.1	**121.51**	**287**	PKP	**PKPdf**	**20 11 59.9**	**-1.1**

*IDC **24** 20:01:23.7±1.2, 37°.08N×71°.70E, h0km, mb3.6/3, mb1 3.6/9, mb1mx3.3/56, mbtmp3.5/9, ML3.1/6, Error ellipse: s-maj=30.0km s-min=18.7km az=123.0*
*NNC **24** 20:01:26.2±8.2, 36°.98N×70°.87E, h192km±141km, mb2.6, mpv3.6, Error ellipse: s-maj=82.9km s-min=49.7km az=26.0*
ISC 24 20:01:24.6±0.8, 37°.09N×71°.64E±0°.07, h10km, n24, σ3§37/26, mb3.7/3, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=26	**5.28**	**17**	P	**Pn**	**20 02 47.3**	**+3.4**
UCH	**Uchtor** SNR=12	**5.59**	**22**	P	**Pn**	**20 02 51.8**	**+3.6**
KZA	**Kyzart** SNR=8.1	**5.71**	**28**	P	**Pn**	**20 02 53.3**	**+3.5**
EKS2	**Erkin-Say** SNR=6.8	**5.81**	**16**	P	Pn	20 02 55.6	+4.7
AAK	**Ala-Archa** 1.2nm,0.3s,baz=200,slow=6.7,SNR=13	**5.96**	**21**	Pn	**Pn**	**20 02 56.2**	**+3.1**
AAK	0.4nm,0.3s,baz=136,slow=17,SNR=5.9			Sn	**Sn**	**20 04 07.7**	**+6.1**
AAK	**Ala-Archa** 4.6nm,0.8s	**5.96**	**21**	P	**Pn**	**20 02 56.1**	**+3.1**
AAK	8.1nm,0.8s			S	**Sb**	**20 04 11.6**	**-8.6**
KK31	**Karatay Array** 1.6nm,0.5s,baz=206,slow=12,SNR=29	**6.07**	**352**	P	**Pn**	**20 02 56.6**	**+2.1**
KK31	2.5nm,0.6s,baz=205,slow=23			S	**Sn**	**20 04 04.5**	**+0.5**
CHMS	**Chumysh** SNR=6.3	**6.37**	**21**	P	**Pn**	**20 03 02.1**	**+3.6**
TKM2	**Tokmak 2** SNR=11	**6.57**	**26**	P	**Pn**	**20 03 05.1**	**+3.6**
TKM2	**Tokmak 2** 5.0nm,0.6s	**6.57**	**26**	P	**Pn**	**20 03 04.6**	**+3.2**
TKM2	3.0nm,0.7s			⇑S	Sn	20 04 25.1	+8.5
GEYT	**Alibeck** 0.2nm,0.3s,baz=96,slow=13,SNR=4.8	**10.78**	**279**	Pn	**Pn**	**20 03 59.6**	**+0.6**
GEYT	0.8nm,0.3s,baz=98,slow=31,SNR=6.8			Sn	**Sn**	**20 05 56.7**	**-3.0**
MKAR	**Makanchi Array** 0.0nm,0.3s,baz=210,slow=11,SNR=3.6	**12.52**	**36**	Pn	**Pn**	**20 04 25.0**	**+2.3**
DANN	**Dangsing**	**13.40**	**127**	*e*P	**Pn**	**20 04 33.1**	**-2.1**
KOLN	**Koldanda**	**13.71**	**129**	*e*P	**Pn**	**20 04 39.3**	**0.0**
GKN	**Gorkha**	**14.21**	**126**	*e*P	**Pn**	**20 04 43.1**	**-2.9**
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=217,slow=12,SNR=4.1	**14.41**	**18**	Pn	**Pn**	**20 04 46.2**	**-2.3**
DMN	**Daman**	**14.78**	**126**	*e*P	**Pn**	**20 04 51.3**	**-2.6**
AB31	**Akbulak array** 0.5nm,0.6s,baz=136,slow=12,SNR=15	**14.84**	**329**	⇓P	Pn	20 04 45.6	-8.7
AB31	1.1nm,0.6s,baz=155,slow=23,SNR=9.1			⇑S	Sn	20 07 25.4	-13
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=163,slow=10,SNR=3.2	**15.96**	**357**	Pn	**Pn**	**20 05 07.1**	**-2.0**
TAPN	**Taplejung**	**16.69**	**121**	*e*P	**Pn**	**20 05 15.9**	**-2.9**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=224,slow=9.5,SNR=10	**19.17**	**24**	P	**P**	**20 05 47.8**	**-0.3**
TORD	**Torodi Ar. Bea** 0.3nm,0.5s,baz=48,slow=4.9,SNR=3.4	**66.25**	**269**	P	**P**	**20 12 14.3**	**+1.1**
YKA	**Yellowknife Ar** 0.3nm,0.5s,baz=350,slow=5.4,SNR=7.3	**80.64**	**3**	P	**P**	**20 13 37.6**	**+0.5**
WRA	**Warramunga Arr** 0.7nm,1.1s,baz=339,slow=7.8,SNR=3.5	**81.87**	**122**	P	**P**	**20 13 45.2**	**+0.9**

*IDC **24** 20:08:51.6±0.9, 12°.21N×88°.06W, h0km, mb4.1/13, mb1 4.3/16, mb1mx4.0/42, mbtmp4.1/16, ML3.5/3, MS2.9/3, Ms1 2.9/3, ms1mx2.7/37, Error ellipse: s-maj=27.3km s-min=15.7km az=41.0*
*SNET **24** 20:08:53.8±0.9, 11°.94N×88°.39W, h17km±5km, ML3.8*
*ISCJB **24** 20:08:54.7±0.6, 11°.92N±0°.04×88°.28W±0°.04, h46km±3km, mb4.1/13, Error ellipse: s-maj=8.8km s-min=3.7km az=40.8*
*UCR **24** 20:08:56.6±4.0, 12°.05N×88°.15W, h35km±999km, ML3.8, mb4.6(NEIC)*
*NEIC **24** 20:08:57.3±1.8, 12°.04N±0°.07×88°.19W±0°.07, h45km±6km, mb4.6/110*
**ISC 24 20:08:57.4±1.

MTO3	Montecristo	2.63	334	eP		Pn	20 09 36.8	-0.8	
MTO3	Montecristo	2.63	334	eP		Pn	20 09 36.8	-0.8	
ACON	Acoyapa	2.91	91	eP		Pn	20 09 40.6	-0.7	
ACON	Acoyapa	2.91	91			Pn	20 09 40.3	-1.0	
JTS	Las Juntas de	3.58	119	Pn		Pn	20 09 49.8	-0.7	
	comp=Z,8.4nm,0.3s,baz=28,slow=13,SNR=28								
JTS				Sn		Sn	20 10 30.7	-1.0	
	comp=Z,12nm,0.3s,baz=0.0,slow=20,SNR=5.6								
JTS				LR		LR	20 11 18.0		
	comp=Z,151nm,18.8s,baz=85,slow=41								
JTS	Las Juntas de	3.58	119	eP		Pn	20 09 50.8	+0.2	
JTS	Las Juntas de	3.58	119			Pn	20 09 50.8	+0.2	
ARE1	Arenal 1	3.71	115	eP		Pn	20 09 52.4	+0.1	
APG	El Apazote	3.71	323	Pn		Pn	20 09 52.5	0.0	
	comp=Z,2.7nm,0.3s,baz=274,slow=23,SNR=7.0								
APG				Lg		Lg	20 10 51.5		
	comp=Z,3.5nm,0.3s,baz=60,slow=18,SNR=4.7								
APG				LR		LR	20 11 15.1		
	comp=Z,98nm,19.4s,baz=191,slow=40								
ESPN	Las Esperanzas	3.77	87	eP		Pn	20 09 53.0	0.0	
ESPN	Las Esperanzas	3.77	87			Pn	20 09 53.4	+0.4	
HDC	Heredia	4.45	117	Pn		Pn	20 10 03.0	+0.5	
LCR2	La Lucha 2	4.67	119	eP		Pn	20 10 06.4	+0.8	
TEIG	Tepich	8.15	359	Pn		Pn	20 10 52.6	-0.6	
	comp=Z,0.6nm,0.3s,baz=139,slow=15,SNR=2.8								
TEIG				Lg		Lg	20 13 07.2		
	comp=Z,2.3nm,0.3s,baz=319,slow=18,SNR=4.9								
TEIG				LR		LR	20 14 36.1		
	comp=Z,134nm,20.1s,baz=226,slow=43								
TEIG	Tepich	8.15	359	Pn		Pn	20 10 52.7	-0.5	
CMIG	Matias Romero	8.23	308	Pn		Pn	20 10 53.3	-1.0	
	comp=Z,1.2nm,0.3s,baz=170,slow=8.5,SNR=9.2								
BCIP	Isla Barro Col	8.65	108	Pn		Pn	20 11 00.2	+0.1	
GTBY	Guantanamo Bay	14.79	56	P		Pn	20 12 24.7	+1.1	
OTAV	Otavalo	15.17	140	P		P	20 12 38.4	+4.9	
061Z	Ochoppi	15.36	25	P		P	20 12 36.2	+1.2	
060A	Indiantown	16.62	25	Pn		Pn	20 12 47.4	+0.2	
SDV	Santo Domingo	17.51	99	P		Pn	20 12 57.8	-0.6	
	comp=Z,0.3nm,0.3s,baz=281,slow=4.3,SNR=7.2								
SDV	Santo Domingo	17.51	99	P		Pn	20 12 57.9	-0.6	
DR12	Loma Pena Alta	19.29	67	P		Pn	20 13 21.0	+1.0	
833A	Chaparral WMA,	19.32	329	P		P	20 13 19.1	+0.4	
352A	Blakely	19.58	8	P		Pn	20 13 22.7	-0.5	
352A				IAmb		IAmb	20 13 25.0		
	comp=Z,52nm,1.0s								
VBMS	Vicksburg	20.21	354	P		P	20 13 29.3	+0.9	
NATX	Nacogdoches	20.53	344	Pn		P	20 13 33.2	+1.3	
NATX				IAmb		IAmb	20 13 36.4		
	comp=Z,18nm,0.8s								
435B	Jarrell	20.60	336	P		P	20 13 32.1	-0.6	
435B				IAmb		IAmb	20 13 35.7		
	comp=Z,15nm,0.6s								
152A	Waverly Hall	20.78	8	P		Pn	20 13 36.7	-0.7	
152A				IAmb		IAmb	20 13 37.3		
	comp=Z,39nm,1.3s								
LRAL	Lakeview Retre	20.93	3	P		Pn	20 13 38.6	-0.6	
154A	Montrose	21.00	12	P		P	20 13 38.6	+1.7	
Z50A	Ashland	21.22	5	P		P	20 13 40.4	+1.1	
JCT	Junction City	21.30	331	P		P	20 13 39.8	-0.4	
Z41A	Richland Creek	21.55	349	P		P	20 13 41.4	-1.4	
Z41A				IAmb		IAmb	20 13 49.3		
	comp=Z,22nm,0.8s								
GOGA	Godfrey	21.71	11	P		P	20 13 45.6	+1.1	
GOGA				IAmb		IAmb	20 13 47.5		
	comp=Z,25nm,1.1s								
Y49A	Blount Mountai	21.78	4	P		P	20 13 44.9	-0.4	
Y52A	Lilburn	22.05	9	P		P	20 13 49.1	+0.9	
Y52A				IAmb		IAmb	20 13 53.8		
	comp=Z,17nm,1.1s								
PDPR	Patillas Dam,	22.18	72	P		P	20 13 50.7	+1.0	
PDPR				IAmb		IAmb	20 14 03.2		
	comp=Z,26nm,1.3s								
TX31	Lajitas Ar. Si	22.47	322	P		P	20 13 53.0	+0.1	
TX32	Lajitas Array	22.47	322	P		P	20 13 53.7	+0.8	
TXAR	Lajitas Array	22.47	322	P		P	20 13 52.7	-0.2	
	comp=Z,3.7nm,0.8s,baz=140,slow=9.5,SNR=22								
MTP	Monte Pirata	22.63	72	P		P	20 13 56.5	+1.9	
HODGE	Hodges	22.74	13	P		P	20 13 56.0	+0.4	
HODGE				IAmb		IAmb	20 13 57.9		
	comp=Z,17nm,0.8s								
X40A	Basin Creek Fa	22.76	350	P		P	20 13 59.3	+3.6	
MIAR	Mount Ida	22.95	348	P		P	20 13 58.2	+0.5	
MIAR				IAmb		IAmb	20 14 02.4		
	comp=Z,18nm,0.7s								
UALR	University of	22.96	351	P		P	20 13 58.7	+0.9	
UALR				IAmb		IAmb	20 14 01.7		
	comp=Z,16nm,0.8s								
JSC	Jenkinsville	23.02	15	P		P	20 13 58.3	-0.2	
ABTX	Abilene, Hawle	23.05	335	P		P	20 13 57.5	-1.4	
PCRV	Puerto La Cruz	23.15	92	P		P	20 13 59.9	-0.1	
	comp=Z,15nm,0.9s,baz=239,slow=5.5,SNR=6.3								
SWET	Sewanee	23.17	5	P		P	20 13 59.9	-0.1	
PLCV	Puerto La Cruz	23.19	92	P		P	20 13 59.9	-0.6	
W50A	Signal Mountai	23.21	6	P		P	20 14 00.5	+0.1	
W50A				IAmb		IAmb	20 14 25.2		
	comp=Z,33nm,1.4s								
STVI	Saint Thomas	23.24	71	P		P	20 14 02.0	+1.3	
STVI				IAmb		IAmb	20 14 15.7		
	comp=Z,39nm,1.1s								
W41B	Gary Mavity, V	23.34	352	P		P	20 14 02.0	+0.5	
W41B				IAmb		IAmb	20 14 10.8		
	comp=Z,16nm,1.0s								
BG3	Lake Jocassee	23.34	11	P		P	20 14 01.9	+0.3	
BG3				IAmb		IAmb	20 14 15.3		
	comp=Z,33nm,1.7s								
X37A	Clayton	23.40	345	P		P	20 14 01.0	-1.2	
X37A				IAmb		IAmb	20 14 28.2		
	comp=Z,18nm,1.1s								
PAULI	Pauline	23.41	13	P		P	20 14 03.5	+1.3	
PAULI				IAmb		IAmb	20 14 04.2		
	comp=Z,16nm,0.9s								
WHAR	Wooly Hollow	23.46	351	P		P	20 14 02.8	+0.1	
WHAR				IAmb		IAmb	20 14 06.4		
	comp=Z,18nm,0.9s								
CPCT	Cooper Cave	23.55	7	P		P	20 14 03.6	+0.1	
BIRD	Birdtown, Kers	23.57	16	P		P	20 14 04.3	+0.5	
BIRD				IAmb		IAmb	20 14 05.3		
	comp=Z,19nm,0.9s								
W39A	Magazine	23.62	348	P		P	20 14 04.4	+0.2	
W39A				IAmb		IAmb	20 14 09.1		
	comp=Z,12nm,0.7s								
Y60A	Bolivia	23.68	21	P		P	20 14 04.8	+0.1	
KMSC	Kings Mountain	23.82	14	P		P	20 14 06.5	+0.4	
KMSC				IAmb		IAmb	20 14 11.5		
	comp=Z,14nm,1.0s								
TKL	Tuckaleechee C	23.85	9	P		P	20 14 06.6	+0.1	
	comp=Z,33nm,1.1s,baz=180,slow=10,SNR=9.4								
TKL	Tuckaleechee C	23.85	9	P		P	20 14 06.9	+0.5	
TKL				IAmb		IAmb	20 14 10.9		
	comp=Z,34nm,1.1s								
WVT	Waverly	23.99	1	P		P	20 14 07.3	-0.3	
CLTN	Cedars of Leba	24.01	4	P		P	20 14 07.3	-0.5	
V53A	Saluda	24.02	11	P		P	20 14 08.3	+0.3	
V53A				IAmb		IAmb	20 14 10.9		
	comp=Z,18nm,0.9s								
V52A	Sevierville	24.06	9	P		P	20 14 09.6	+1.3	
V52A				IAmb		IAmb	20 14 13.1		
	comp=Z,14nm,1.1s								
LCAR	Lake Charles	24.09	354	P		P	20 14 07.8	-0.7	
X34A	Smith Ranch, M	24.13	340	P		P	20 14 09.1	+0.1	
X34A				IAmb		IAmb	20 14 13.5		
	comp=Z,20nm,0.7s								
WMOK	Wichita Mounta	24.58	339	P		P	20 14 14.0	+0.9	
U40A	Yellville	24.59	351	P		P	20 14 12.9	-0.3	
FNO	Franklin	24.60	342	P		P	20 14 12.9	-0.4	
HHAR	Hobbs	24.70	349	P		P	20 14 14.4	+0.2	
PBMO	Poplar Bluff	24.73	356	P		P	20 14 13.2	-1.2	
PBMO				IAmb		IAmb	20 14 17.6		
	comp=Z,10nm,0.7s								
TZTN	Tazewell	24.75	9	P		P	20 14 12.8	-1.9	
TZTN				IAmb		IAmb	20 14 17.7		
	comp=Z,37nm,1.3s								
T47A	Sharon Grove	24.87	2	P		P	20 14 14.7	-1.0	
T47A				IAmb		IAmb	20 14 18.5		
	comp=Z,12nm,0.7s								
V58A	Windy Hill, Pi	25.03	18	P		P	20 14 18.1	+1.0	
U54A	Nelsons Funny	25.04	12	P		P	20 14 18.4	+1.1	
T49A	Edmonton	25.08	5	P		P	20 14 17.0	-0.5	
MNTX	Cornudas Mount	25.20	324	P		P	20 14 17.2	-1.6	
MGMO	Mountain Grove	25.29	352	P		P	20 14 19.1	-0.4	
MGMO				IAmb		IAmb	20 14 23.7		
	comp=Z,35nm,1.8s								
T52A	Hallie	25.40	10	P		P	20 14 20.7	+0.2	
T52A				IAmb		IAmb	20 14 48.3		
	comp=Z,31nm,1.4s								
S44A	Carbondale	25.57	358	P		P	20 14 21.9	-0.2	
S44A				IAmb		IAmb	20 14 25.0		
	comp=Z,11nm,0.7s								
MSTX	Muleshoe	25.59	331	P		P	20 14 21.6	-0.8	
SIUC	Southern Illin	25.59	358	P		P	20 14 21.9	-0.3	
SIUC				IAmb		IAmb	20 14 24.9		
	comp=Z,10nm,0.7s								
V60A	Jim Taylor Roa	25.60	21	P		P	20 14 22.9	+0.6	
S51A	Beattyville	25.82	8	P		P	20 14 24.4	+0.1	
AMTX	Amarillo	25.86	334	P		P	20 14 22.5	-2.3	
CCM	Cathedral Cave	26.06	354	P		P	20 14 26.7	+0.2	
T57A	Hurt	26.11	16	P		P	20 14 27.5	+0.6	
T57A				IAmb		IAmb	20 14 44.9		
	comp=Z,35nm,1.6s								
WCI	Wyandotte Cave	26.14	3	P		P	20 14 26.7	-0.5	
WCI				IAmb		IAmb	20 14 29.9		
	comp=Z,11nm,0.7s								
S54A	Dingess, Beckl	26.38	12	P		P	20 14 29.3	-0.1	
T59A	Double "B" Far	26.60	19	P		P	20 14 31.1	-0.2	
R55A	Marlinton	27.11	14	P		P	20 14 36.0	0.0	
R55A				IAmb		IAmb	20 14 52.6		
	comp=Z,27nm,1.4s								
Q51A	Peebles	27.22	8	P		P	20 14 37.0	+0.1	
Q51A				IAmb		IAmb	20 14 40.4		
	comp=Z,16nm,0.8s								
P48A	Milroy	27.42	5	P		P	20 14 39.2	+0.5	
P48A				IAmb		IAmb	20 14 40.9		
	comp=Z,40nm,1.6s								
Q54A	Coxs Mills	27.62	12	P		P	20 14 40.5	0.0	
Q54A				IAmb		IAmb	20 14 43.9		
	comp=Z,11nm,0.9s								
BNM	Barren Site	27.72	326	P		P	20 14 40.4	-1.3	
P53A	Whipple	27.99	11	P		P	20 14 42.8	-1.0	
Q56A	Snyder Ridge,	28.05	15	P		P	20 14 46.2	+1.9	
Q56A				IAmb		IAmb	20 15 00.1		
	comp=Z,22nm,1.2s								
Q49A	Covington	28.25	6	P		P	20 14 45.0	-1.0	
SFIN	Lafayette	28.25	2	P		P	20 14 45.6	-0.5	
O52A	Adamsville	28.52	10	P		P	20 14 49.6	+1.1	
N41A	Harden Midland	28.66	356	P		P	20 14 48.5	-1.3	
N41A				IAmb		IAmb	20 15 02.4		
	comp=Z,39nm,1.6s								
P57A	Homestead Farm	28.78	16	P		P	20 14 50.5	-0.4	
O54A	Avella	28.87	12	P		P	20 14 51.3	-0.3	
O54A				IAmb		IAmb	20 15 04.7		
	comp=Z,19nm,1.4s								
N49A	Columbus Grove	28.99	6	P		P	20 14 52.2	-0.5	
N49A				IAmb		IAmb	20 15 20.0		
	comp=Z,28nm,1.5s								
N54A	Moraine State	29.70	13	P		P	20 14 58.5	-0.4	
L40A	Anamosa	30.04	355	P		P	20 15 02.0	+0.1	
L40A				IAmb		IAmb	20 15 17.8		
	comp=Z,23nm,1.3s								
M54A	Oil Creek Stat	30.29	13	P		P	20 15 03.6	-0.6	
N59A	State Game Lan	30.76	19	P		P	20 15 09.2	+0.8	
N59A				IAmb		IAmb	20 15 16.7		
	comp=Z,13nm,1.1s								
L59A	Walton	32.15	18	P		P	20 15 21.9	+1.3	
KSCT	Kent School, K	32.24	21	P		P	20 15 22.5	+1.1	
KSCT				IAmb		IAmb	20 15 25.3		
	comp=Z,16nm,1.2s								
SAML	Samuel	32.41	129	P		P	20 15 24.7	+1.6	
J58A	Remsen	33.14	17	P		P	20 15 29.7	+0.5	
J58A				IAmb		IAmb	20 15 53.4		
	comp=Z,13nm,1.4s								
SPMN	Marine on St.	33.32	354	P		P	20 15 29.7	-1.0	
J59A	Piesco	33.47	18	P		P	20 15 32.8	+0.7	
SADO	Sadowa	33.52	12	P		P	20 15 31.0	-1.5	
	comp=Z,5.7nm,0.6s,baz=238,slow=5.6,SNR=8.5								
SADO	Sadowa	33.52	12	P		P	20 15 31.7	-0.9	
PDAR	Pinedale Array	35.82	333	P		P	20 15 51.8	-0.9	
	comp=Z,0.4nm,0.6s,baz=121,slow=9.9,SNR=3.3								
PDAR				PcP		PcP	20 18 19.9	+0.4	
	comp=Z,0.4nm,0.5s,baz=109,slow=5.0,SNR=4.0								
AGMN	Agassiz Nation	36.72	351	P		P	20 15 59.0	-1.0	
AGMN				IAmb		IAmb	20 16 02.4		
	comp=Z,10nm,0.9s								
REDW	Red Top Meadow	36.88	332	P		P	20 16 01.8	+0.1	
REDW				IAmb		IAmb	20 16 05.6		
	comp=Z,5.6nm,0.6s								
MOOW	Moose Ponds	37.13	333	P		P	20 16 03.6	-0.2	
ELK	Elko	37.21	325	P		P	20 16 05.3	+0.8	
	comp=Z,0.6nm,0.6s,baz=105,slow=9.3,SNR=4.4								
NVAR	Mina Array Bea	37.57	320	P		P	20 16 08.1	+0.4	
	comp=Z,0.3nm,0.7s,baz=140,slow=7.1,SNR=3.5								
NVAR				PcP		PcP	20 18 25.9	+1.0	
	comp=Z,0.6nm,0.6s,baz=129,slow=4.8,SNR=7.1								
YHH	Holmes Hill	37.99	333	P		P	20 16 13.0	+1.8	
YHL	Hebgen Lake	38.19	333	P		P	20 16 13.7	+0.9	
ULM	Lac du Bonnet	38.63	352	P		P	20 16 14.2	-1.9	
	comp=Z,6.7nm,0.6s,baz=165,slow=9.6,SNR=12								
ULM	Lac du Bonnet	38.63	352	P		P	20 16 14.2	-1.9	
ULM				IAmb		IAmb	20 16 17.9		
	comp=Z,8.4nm,0.7s								
MCMT	McKenzie Canyo	38.92	332	P		P	20 16 17.6	-1.3	
SCHQ	Schefferville	45.87	17	P		P	20 17 13.2	-1.8	
	comp=Z,5.4nm,0.6s,baz=222,slow=6.6,SNR=12								
SCHQ	Schefferville	45.87	17	P		P	20 17 13.5	-1.5	
FCC	Fort Churchill	46.85	356	P		P	20 17 21.9	-0.6	
FCC				IAmb		IAmb	20 17 25.1		
	comp=Z,6.3nm,0.9s								
BDFB	Brasilia	48.31	124	P		P	20 17 35.8	+1.1	
	comp=Z,1.9nm,0.7s,baz=315,slow=8.6,SNR=2.3								
BDFB	Brasilia	48.31	124	P		P	20 17 34.2	-0.5	
BDFB				IAmb		IAmb	20 17 49.3		
	comp=Z,6.8nm,1.0s								
CPUP	Villa Florida	48.50	142	P		P	20 17 35.0	-0.8	
FRB	Frobisher Bay	53.46	11	P		P	20 18 10.8	-1.7	
	comp=Z,3.0nm,0.5s,baz=217,slow=8.6,SNR=12								
YKA	Yellowknife Ar	53.83	345	P		P	20 18 14.5	-0.7	
	comp=Z,0.6nm,0.6s,baz=140,slow=7.5,SNR=14								
YKA				PcP		PcP	20 19 21.4	+0.9	
	comp=Z,0.4nm,0.5s,baz=147,slow=4.0,SNR=7.1								
RES	Resolute Bay	62.75	358	P		P	20 19 17.7	+0.4	
RES				IAmb		IAmb	20 19 28.1		
	comp=Z,5.9nm,1.6s								
HMT	Hamilton	63.19	332	P		P	20 19 19.6	-1.0	
IL31		66.12	336	P		P	20 19 39.2	-0.4	
IL31				IAmb		IAmb	20 19 55.1		
	comp=Z,9.9nm,1.6s								
ILAR	Eielson Array	66.12	336	P		P	20 19 39.0	-0.5	
	comp=Z,0.5nm,0.8s,baz=168,slow=4.8,SNR=7.2								
RND	Reindeer	66.39	335	P		P	20 19 41.4	-0.1	
RND				IAmb		IAmb	20 19 57.5		
	comp=Z,8.1nm,1.1s								
ASAR	Alice Springs	138.48	248	PKP		PKPdf	20 28 18.6	-0.1	
	comp=Z,0.5nm,0.6s,baz=106,slow=1.9,SNR=12								
WRA	Warramunga Arr	138.50	254	PKP		PKPdf	20 28 19.2	+0.3	
	comp=Z,0.7nm,0.9s,baz=107,slow=2.2,SNR=4.0								
FITZ	Fitzroy Crossi	146.85	255	PKPbc		PKPbc	20 28 35.2	-0.3	
	comp=Z,5.1nm,0.9s,baz=130,slow=3.2,SNR=13								
FITZ	Fitzroy Crossi	146.85	255			PKPbc	20 28 35.5	+0.1	
CMAR	Chiang Mai Arr	148.91	347	PKPbc		PKiKP	20 28 42.1	-0.2	
	comp=Z,2.3nm,0.7s,baz=348,slow=2.8,SNR=8.9								

ISCJB ***24*** *20:22:53.3±0.5, 42.89°N±0.02°×78.61°E±0.04, h8km±4km, Error ellipse: s-maj=4.8km s-min=3.8km az=28.3*
NNC ***24*** *20:22:53.7±1.1, 42.93°N×78.62E, h0km±6km, mb2.5, mpv2.3, Error ellipse: s-maj=12.1km s-min=3.5km az=176.0*
KRNET ***24*** *20:22:53.2±0.1, 42.91°N×78.62E, h26km, mb2.3*
SOME ***24*** *20:22:53.7, 42.88°N×78.57E, h15km*

ISC 24 20:22:53.5±0.9, 42.90°N±0.03°×78.62E±0.03, h14km±7km, n29, σ0°71/55, 13C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SATY	Saty	0.22	315	eP		Pg		20 22 58.5	0.0
	15nm,0.1s								
SATY				eS		Sg		20 23 01.9	0.0
	72nm,0.1s								
SATY	Saty	0.22	315	P		Pg		20 22 58.5	0.0
	15nm,0.1s								
SATY				S		Sg		20 23 01.9	0.0
	72nm,0.1s								
ZHN	Zhinishke	0.30	333	eP		Pg		20 22 59.9	+0.1
	48nm,0.0s								
ZHN				eS		Sg		20 23 04.0	0.0
	21nm,0.1s								
ZHN	Zhinishke	0.30	333	eP		Pg		20 22 59.9	+0.1
	baz=33								
ZHN				eS		Sg		20 23 04.1	0.0
	baz=33								
UZB	Uzynbulak	0.38	50	eP		Pg		20 23 01.5	+0.2
	2.3nm,0.1s								
UZB				eS		Sg		20 23 06.8	+0.2
	22nm,0.1s								
UZB	Uzynbulak	0.38	50	eP		Pg		20 23 01.5	+0.2
	baz=51								
UZB				eS		Sg		20 23 06.8	+0.2
	baz=51								
PRZ	Przheval'sk	0.45	201	⇑	iP	Pg		20 23 02.7	+0.2
	baz=99								
PRZ				⇑	iS	Sg		20 23 09.5	+0.9
	baz=99								
KURS	Kuram	0.67	331	eP		Pg		20 23 06.7	+0.1
	1.2nm,0.1s								
KURS				eS		Sg		20 23 15.7	+0.2
	3.5nm,0.1s								
KURS	Kuram	0.67	331	eP		Pg		20 23 06.7	+0.1
	baz=31								
KURS				eS		Sg		20 23 15.7	+0.2
	baz=31								
KURS	Kuram	0.67	331	P		Pg		20 23 06.7	+0.1
	5.8nm,1.4s								
KURS				S		Sg		20 23 15.7	+0.2
	7.2nm,0.7s								
ANVS	Anan'yevo	0.71	261	⇑	iP	Pg		20 23 07.1	-0.3
	baz=61								
ANVS				⇑	iS	Sg		20 23 17.2	+0.4
	baz=61								
PDGK	Podgornoye	0.77	56	⇑	P	Pg		20 23 08.1	-0.3
	0.2nm,0.4s								
PDGK				⇑	S	Sg		20 23 18.8	+0.3
	2.1nm,0.5s								
KOTS	Kotyrbulak	1.15	287	eP		Pb		20 23 14.7	-0.7
	2.1nm,0.1s								
KOTS				eS		Sb		20 23 29.4	-0.9
	3.4nm,0.2s								
KOTS	Kotyrbulak	1.15	287	eP		Pb		20 23 14.7	-0.7
	baz=87								
KOTS				eS		Sb		20 23 29.4	-0.9
	baz=87								
MDOK	Medeo	1.18	283	eP		Pn		20 23 15.1	-0.8
	1.0nm,0.3s								
MDOK				eS		Sb		20 23 30.0	-1.0
	2.6nm,0.4s								
MDOK	Medeo	1.18	283	eP		Pn		20 23 15.1	-0.8
	baz=83								
MDOK				eS		Sb		20 23 30.1	-1.0
	baz=83								
MDOK	Medeo	1.18	283	Pg		Pn		20 23 13.9	-2.0
	0.4nm,0.3s								
MDOK				Lg		Lg		20 23 28.1	
KDJ	Kajisay	1.32	234	⇑	iP	Pn		20 23 16.9	-0.8
	baz=34								
KDJ				⇑	iS	Sb		20 23 34.4	-0.6
	baz=34								
TARG	Taragay, Kyrgy	1.32	208	⇓	iP	Pn		20 23 17.0	-1.0
	baz=8.0								
TARG				⇓	iS	Sb		20 23 34.1	-1.2
	baz=8.0								
ARXS	Arharly	1.43	336	eP		Pb		20 23 20.2	+0.2
	1.9nm,0.3s								
ARXS				eS		Sg		20 23 39.0	-0.7
	10nm,0.3s								
ARXS	Arharly	1.43	336	P		Pb		20 23 20.2	+0.2
	1.9nm,0.3s								
ARXS				S		Sg		20 23 39.0	-0.7
	10nm,0.3s								
KTBS	Karatobe	1.63	300	eP		Pb		20 23 23.2	-0.2
	2.3nm,0.1s								
KTBS				eS		Sb		20 23 44.0	+0.2
	5.5nm,0.2s								
KTBS	Karatobe	1.63	300	P		Pb		20 23 23.4	0.0
	2.2nm,0.3s								
KTBS				S		Sb		20 23 44.4	+0.5
	5.5nm,0.2s								
ULHL	Ulahol	1.88	250	⇓	eP	Pn		20 23 26.1	+0.7
	baz=50								
ULHL				⇓	iS	Sb		20 23 50.5	-0.6
	baz=50								
KST	Kastek	1.96	275	Pg		Pb		20 23 30.1	+1.1
	1.3nm,0.4s								
KST				Lg		Lg		20 23 56.0	
	1.1nm,0.6s								
BOOM	Boomskoye usch	2.02	259	⇑	iP	Pn		20 23 27.8	+0.4
	baz=59								
BOOM				⇑	iS	Sn		20 23 53.6	+1.1
	baz=59								
DGS	Degeres	2.11	280	Pg		Pb		20 23 32.0	+0.3
	0.9nm,0.6s								
DGS				Lg		Lg		20 23 59.3	
	1.8nm,0.5s								
TKM2	Tokmak 2	2.22	271	⇑	iP	Pn		20 23 31.2	+1.0
	baz=71								
TKM2				⇑	iS	Sn		20 23 59.0	+1.5
	baz=71								
TKM2	Tokmak 2	2.22	271	⇑	Pn	Pb		20 23 32.6	-1.0
	1.1nm,0.4s								
TKM2				⇓	Sn

CHKT		baz=12			S	Sn	20 29 37.1	-0.8
MASBT	Mashibuluo	baz=264	0.53	270	⇑P	Pn	20 29 29.1	+0.5
MASBT		baz=264			S	Sn	20 29 38.2	-0.2
SSD	Sandimen	baz=281	0.55	284	⇓iP	Pn	20 29 29.4	+0.5
SSD		baz=281			iS	Sn	20 29 38.6	0.0
FULB	Fuli	baz=2.0	0.58	8	⇓iP	Pn	20 29 29.1	-0.1
FULB		baz=2.0			iS	Sn	20 29 39.3	-0.1
ELDTW	Lidau	baz=349	0.59	343	⇓iP	Pn	20 29 29.5	0.0
ELDTW		baz=349			eS	Sn	20 29 39.1	-0.7
SCZT	Fangliau	baz=238	0.59	246	⇑iP	Pn	20 29 29.8	+0.4
SCZT		baz=238			iS	Sn	20 29 39.2	-0.3
SSPT	Xinbi	baz=252	0.60	257	⇑iP	Pn	20 29 30.3	+0.9
SSPT		baz=252			eS	Sn	20 29 40.1	+0.4
SLGT	Liugui	baz=303	0.64	306	⇓iP	Pn	20 29 30.4	+0.6
SLGT		baz=303			iS	Sn	20 29 40.8	+0.4
LAY	Lan-yu	baz=157	0.66	151	P	Pn	20 29 29.4	-0.7
LAY		baz=157			S	Sn	20 29 40.7	0.0
SGLT	Jiouru	baz=276	0.67	279	eP	Pn	20 29 31.3	+1.2
SGLT		baz=276			eS	Sn	20 29 42.5	+1.6
STYT	Tauyuan	baz=321	0.68	323	⇓iP	Pn	20 29 30.9	+0.6
STYT		baz=321			eS	Sn	20 29 41.4	+0.1
TWF1	Yuli	baz=2.0	0.74	6	⇓iP	Pn	20 29 30.1	-0.8
TWF1		baz=2.0			S	Sn	20 29 40.6	-1.7
SGST	Jiashian	baz=307	0.74	309	⇓eP	Pn	20 29 30.6	-0.3
SGST		baz=307			eS	Sn	20 29 42.4	+0.1
HEN	Hengchun	baz=212	0.75	216	⇑iP	Pn	20 29 31.9	+0.9
HEN		baz=212			S	Sn	20 29 43.4	+1.0
TWM1	Shoushan	baz=283	0.75	286	⇓iP	Pn	20 29 32.4	+1.4
TWM1		baz=283			eS	Sn	20 29 44.3	+1.7
TWKBT	Hengchun	baz=208	0.77	209	⇑P	Pn	20 29 31.7	+0.5
TWKBT		baz=208			S	Sn	20 29 43.6	+0.8
TWK1	Hengchun	baz=208	0.77	209	⇑iP	Pn	20 29 31.8	+0.5
TWK1		baz=208			S	Sn	20 29 43.5	+0.7
TSEB	Hengchuen, Pin	baz=199	0.77	202	⇑iP	Pn	20 29 32.0	+0.7
TSEB		baz=199			S	Sn	20 29 44.3	+1.4
YULB	Yu-li	baz=5.0	0.78	6	⇓P	Pn	20 29 30.6	-0.7
YULB		baz=5.0			eS	Sn	20 29 41.1	-2.0
YULB	Yu-li		0.78	6		Pn	20 29 30.5	-0.9
WLCH	Liuqiu	baz=260	0.81	251	⇑eP	Pn	20 29 33.8	+2.1
SNJT	Kaohsiung City	baz=277	0.82	280	⇓eP	Pn	20 29 32.8	+1.0
SNJT		baz=277			eS	Sn	20 29 45.0	+1.1
TWP	Hsiaoliuchiu	baz=249	0.83	251	⇑P	Pn	20 29 33.8	+1.9
TWP		baz=249			eS	Sn	20 29 46.2	+2.2
WTP	Ta-pu	baz=318	0.83	319	⇓iP	Pn	20 29 32.5	+0.5
WTP		baz=318			eS	Sn	20 29 44.8	+0.5
CHN1	Nanshi	baz=310	0.84	312	⇓iP	Pn	20 29 32.6	+0.5
CHN1		baz=310			S	Sn	20 29 44.8	+0.3
TPUB	Ta-pu	baz=320	0.86	322	⇓P	Pn	20 29 32.8	+0.4
TPUB		baz=320			eS	Sn	20 29 44.5	-0.5
TPUB	Ta-pu		0.86	322		Pn	20 29 31.9	-0.5
WSSB	Gushan	baz=269	0.87	272	⇓P	Pn	20 29 33.7	+1.2
SNST	Tainan City	baz=310	0.89	313	⇓P	Pn	20 29 33.1	+0.4
SNST		baz=310			S	Sn	20 29 45.3	-0.1
EHY	Hungye	baz=14	0.89	7	⇓iP	Pn	20 29 32.1	-0.6
EHY		baz=14			S	Sn	20 29 43.7	-1.8
HGSD	Ruisui	baz=20	0.89	13	⇓P	Pn	20 29 32.9	+0.2
HGSD		baz=20			S	Sn	20 29 44.9	-0.6
YUS	Yu-Shan	baz=344	0.90	345	⇓P	Pn	20 29 34.1	+0.8
YUS		baz=344			eS	Sn	20 29 46.6	+0.2
CHN3	Shinhua	baz=298	0.90	301	⇓P	Pn	20 29 34.1	+1.3
CHN3		baz=298			eS	Sn	20 29 47.4	+1.7
CHN4	Tsaushan	baz=320	0.92	322	⇓iP	Pn	20 29 33.5	+0.4
CHN4		baz=320			S	Sn	20 29 46.9	+0.8
TWK	Hsinying	baz=303	0.93	314	⇓iP	Pn	20 29 33.5	+0.3
TWK		baz=303			S	Sn	20 29 47.2	+0.9
ALS	Alishan	baz=327	0.96	337	⇓eP	Pn	20 29 34.5	+0.6
ALS		baz=327			eS	Sn	20 29 49.1	+1.6
TAI1	Yung-k'ang	baz=293	1.00	295	eP	Pn	20 29 34.8	+0.9
TAI1		baz=293			eS	Sn	20 29 48.4	+0.7
TAI	Tainan		1.00	292	P	Pn	20 29 34.6	+0.5
TAI					S	Sn	20 29 47.6	-0.3
EGFH	Guangfu	baz=10.0	1.07	11	eP	Pn	20 29 34.3	-0.6
EGFH		baz=10.0			eS	Sn	20 29 48.6	-0.7
SCLT	Jiali	baz=299	1.09	301	⇓iP	Pn	20 29 35.6	+0.5
SCLT		baz=299			iS	Sn	20 29 50.6	+0.9
CHN5	Tsauling	baz=322	1.09	334	⇓P	Pn	20 29 35.5	+0.2
CHN5		baz=322			eS	Sn	20 29 50.7	+0.7
WHYT	Xinyi Township	baz=331	1.12	343	⇓P	Pn	20 29 36.1	+0.5
WHYT		baz=331			eS	Sn	20 29 51.1	+0.5
CHN2	Minshiung	baz=321	1.13	324	⇓iP	Pn	20 29 36.0	+0.4
CHN2		baz=321			eS	Sn	20 29 51.0	+0.2
VWDT	VWDT	baz=5.0	1.13	357	⇓P	Pn	20 29 36.8	+1.1
VWDT		baz=5.0			S	Sn	20 29 51.4	+0.6
CHY	Chiayi	baz=319	1.13	321	⇓P	Pn	20 29 36.0	+0.3
CHY		baz=319			eS	Sn	20 29 51.4	+0.5
CHN8	Yiju	baz=307	1.17	309	⇓iP	Pn	20 29 36.3	+0.2
CHN8		baz=307			S	Sn	20 29 51.7	+0.1
SSLB	Suanglung	baz=336	1.19	349	⇓P	Pn	20 29 37.0	+0.5
SSLB		baz=336			eS	Sn	20 29 53.2	+1.1
SSLB	Suanglung		1.19	349		Pn	20 29 36.7	+0.2
WLGB	Puzi	baz=314	1.20	316	⇓iP	Pn	20 29 36.8	+0.3
WLGB		baz=314			S	Sn	20 29 52.5	+0.3
ESL	Shilin	baz=16	1.21	10	⇓eP	Pn	20 29 35.9	-0.8
ESL		baz=16			eS	Sn	20 29 50.6	-1.9
WGK	Gukeng	baz=329	1.22	331	⇓iP	Pn	20 29 37.1	+0.3
WGK		baz=329			S	Sn	20 29 53.1	+0.3
WDLH	Douliu	baz=328	1.23	330	⇓P	Pn	20 29 37.3	+0.3
WDLH		baz=328			eS	Sn	20 29 53.5	+0.4
WJS	Zhushan	baz=326	1.28	340	P	Pn	20 29 38.0	+0.5
WJS		baz=326			S	Sn	20 29 54.6	+0.5
SMLT	Sun Moon Lake	baz=337	1.29	347	⇓iP	Pn	20 29 38.4	+0.6
SMLT		baz=337			eS	Sn	20 29 55.8	+1.2
TYC	Yuchr	baz=345	1.32	346	⇓iP	Pn	20 29 38.7	+0.6
TYC		baz=345			S	Sn	20 29 55.6	+0.5
ENLB	Shoufeng	baz=10.0	1.33	16	eP	Pn	20 29 37.3	-1.0
ENLB		baz=10.0			eS	Sn	20 29 55.1	-0.3
OWD	Renai	baz=346	1.33	359	eP	Pn	20 29 39.3	+0.8
OWD		baz=346			eS	Sn	20 29 55.6	0.0
WNT	Mingjian	baz=327	1.34	339	⇓iP	Pn	20 29 39.1	+0.6
WNT		baz=327			S	Sn	20 29 56.2	+0.6
WSF	Szhu	baz=316	1.36	318	⇓iP	Pn	20 29 38.4	-0.2
WSF		baz=316			S	Sn	20 29 56.1	+0.1
HWA	Hwalien	baz=24	1.40	15	P	Pn	20 29 39.7	+0.5
HWA		baz=24			eS	Sn	20 29 57.5	+0.5
DPDB	Guoxing	baz=338	1.43	350	eP	Pn	20 29 40.0	+0.3
DPDB		baz=338			eS	Sn	20 29 58.2	+0.4
CHGB	Renai	baz=348	1.44	359	⇓P	Pn	20 29 40.8	+1.0
CHGB		baz=348			S	Sn	20 29 58.4	+0.3
RLNB	Erlin	baz=326	1.49	329	⇓P	Pn	20 29 40.1	-0.2
RLNB		baz=326			eS	Sn	20 29 59.1	+0.1
WMLT	Mailiao	baz=321	1.49	323	eP	Pn	20 29 40.3	0.0
WMLT		baz=321			eS	Sn	20 29 60.0	+0.9
TWD	Chiawan	baz=14	1.50	14	eP	Pn	20 29 40.6	+0.1
TWD		baz=14			S	Sn	20 29 59.4	+0.1
WTCT	Ta-ch'eng	baz=324	1.50	326	eP	Pn	20 29 39.9	-0.6
WTCT		baz=324			S	Sn	20 29 59.3	-0.1
WHF	Hehuan Shan	baz=1.0	1.52	2	P	Pn	20 29 41.5	+0.3
WHF		baz=1.0			eS	Sn	20 30 00.1	-0.4
WDGT	Dungji	baz=292	1.56	294	⇓iP	Pn	20 29 40.9	-0.4
WDGT		baz=292			eS	Sn	20 29 58.8	-1.9
WCHH	Zhanghua	baz=327	1.57	338	eP	Pn	20 29 41.9	+0.4
WCHH		baz=327			eS	Sn	20 30 01.9	+0.9
NACB	Ninganchiao	baz=12	1.59	13	⇓P	Pn	20 29 40.9	-0.7
NACB		baz=12			eS	Sn	20 29 60.0	-1.5
NACB	Ninganchiao		1.59	13		Pn	20 29 40.9	-0.7
TCU	Taichung	baz=329	1.60	342	eP	Pn	20 29 42.1	+0.3
TCU		baz=329			eS	Sn	20 30 02.5	+0.9
ETLH	Xiulin Townshi	baz=17	1.60	9	eP	Pn	20 29 41.7	-0.2
ETLH		baz=17			eS	Sn	20 30 01.2	-0.7
TWT	Tachien	baz=357	1.63	359	eP	Pn	20 29 43.3	+0.9
TWT		baz=357			eS	Sn	20 30 03.3	+0.6
TDCB	Techi	baz=357	1.63	358	eP	Pn	20 29 43.3	+1.0
TDCB		baz=357			eS	Sn	20 30 03.0	+0.4
WHP	Taichung City	baz=341	1.67	352	⇓eP	Pn	20 29 43.6	+0.7
WHP		baz=341			eS	Sn	20 30 04.6	+1.1
VCHM	Qimei	baz=288	1.74	290	⇓P	Pn	20 29 43.2	-0.4
VCHM		baz=288			eS	Sn	20 30 02.8	-2.3
PHUB	P'eng-hu	baz=306	1.75	301	⇓P	Pn	20 29 43.2	-0.6
PHUB		baz=306			eS	Sn	20 30 02.8	-2.5
TWQ1	Liyutan	baz=334	1.77	347	P	Pn	20 29 44.9	+0.8
TWQ1		baz=334			eS	Sn	20 30 06.0	+0.3
PNG	Penghu	baz=300	1.79	302	⇓iP	Pn	20 29 43.8	-0.5
PNG		baz=300			eS	Sn	20 30 04.2	-2.1
WDJ	Dajia District	baz=329	1.80	343	eP	Pn	20 29 45.3	+0.9
WDJ		baz=329			eS	Sn	20 30 07.2	+0.8
NNSH	Datong	baz=14	1.81	5	eP	Pn	20 29 45.8	+1.0
NNSH		baz=14			eS	Sn	20 30 07.0	+0.1
NNS	Nan Shan	baz=15	1.82	5	⇑P	Pn	20 29 45.8	+0.9
NNS		baz=15			eS	Sn	20 30 08.2	+1.0
NSY	Sanyi	baz=333	1.84	347	P	Pn	20 29 46.1	+1.1
NSY		baz=333			eS	Sn	20 30 07.5	+0.2
ENA	Nanau	baz=9.0	1.87	15	eP	Pn	20 29 45.4	0.0
NANB	Nanao	baz=6.0	1.87	15	eP	Pn	20 29 45.2	-0.2
NANB		baz=6.0			eS	Sn	20 30 07.7	-0.4
PTSB	Yuanli	baz=333	1.88	346	eP	Pn	20 29 46.8	+1.2
NMLH	Miaoli	baz=336	1.95	349	eP	Pn	20 29 47.9	+1.5
NDT	Datong Townshi	baz=14	2.00	8	eP	Pn	20 29 48.2	+1.1
NDT		baz=14			eS	Sn	20 30 12.0	+0.8
NSTT	Nanjuang	baz=355	2.01	355	eP	Pn	20 29 47.8	+0.4
LIOB	Emei	baz=355	2.03	355	eP	Pn	20 29 48.0	+0.5
ENTT	Nioudou	baz=15	2.04	9	⇓eP	Pn	20 29 48.2	+0.5
ENTT		baz=15			eS	Sn	20 30 10.9	-1.4
YHNB	Yeheng	baz=347	2.05	4	⇓P	Pn	20 29 48.9	+1.1
YHNB		baz=347			S	Sn	20 30 12.9	+0.4
YHNB	Yeheng		2.05	4		Pn	20 29 49.2	+1.3
NSK	Sanguang	baz=347	2.05	4	⇓P	Pn	20 29 49.4	+1.4
NSK		baz=347			eS	Sn	20 30 13.1	+0.4
TWC	Suao	baz=8.0	2.07	16	eP	Pn	20 29 48.9	+0.8
TWC		baz=8.0			eS	Sn	20 30 13.9	+1.0
EOS1	EOS1	baz=32	2.10	24	eP	Pn	20 29 50.1	+1.6
EOS1		baz=32			eS	Sn	20 30 14.7	+1.1
TWE	Neicheng	baz=19	2.14	11	eP	Pn	20 29 49.5	+0.5
SLBB	Yuanshan	baz=16	2.16	10	eP	Pn	20 29 49.9	+0.5
SLBB		baz=16			eS	Sn	20 30 15.8	+0.5
NWLT	Wulai	baz=15	2.17	7	eP	Pn	20 29 51.1	+1.6
SBCB	Hsinchu	baz=355	2.17	355	eP	Pn	20 29 50.8	+1.3
HSN	Hsinchu	baz=356	2.19	354	eP	Pn	20 29 52.4	+2.8
ILA	Ilan	baz=14	2.19	13	eP	Pn	20 29 52.3	+2.6
WLTB	Daxi	baz=348	2.23	1	eP	Pn	20 29 53.0	+2.8
NTC	Toucheng	baz=15	2.30	14	eP	Pn	20 29 52.9	+1.7
NCUH	Zhongli	baz=348	2.34	360	eP	Pn	20 29 54.9	+3.1
NCU	National Centr	baz=348	2.34	360	eP	Pn	20 29 54.6	+2.8
NHDH	Xindian Distri	baz=15	2.35	7	eP	Pn	20 29 53.6	+1.7
NHDH		baz=15			eS	Sn	20 30 21.1	+1.3
TATO	Taipei	baz=19	2.36	6	eP	Pn	20 29 53.9	+1.9
TATO	Taipei		2.36	6		Pn	20 29 53.3	+1.3
TWA	Mucha	baz=8.0	2.38	8	eP	Pn	20 29 53.3	+1.1
TWA		baz=8.0			eS	Sn	20 30 22.1	+1.7
TIPB	Shuangxi	baz=13	2.41	13	eP	Pn	20 29 54.3	+1.6
TIPB		baz=13			eS	Sn	20 30 22.7	+1.5
JYNG	Yonagunijimaku		2.42	41	P	Pn	20 29 54.0	+1.1
JYNG					S	Sn	20 30 22.5	+1.0
TAP	Taipei	baz=20	2.43	6	eP	Pn	20 29 54.1	+1.2
YOJ	Yonaguni jima		2.47	42	P	Pn	20 29 54.5	+1.0
YOJ	Yonaguni jima		2.47	42	P	Pn	20 29 54.5	+1.0
YOJ					eS	Sn	20 30 24.0	+1.3
YOJ	Yonaguni jima	baz=49	2.47	42	eP	Pn	20 29 54.2	+0.7
YOJ		baz=49			eS	Sn	20 30 23.2	+0.5
YOJ	Yonaguni jima		2.47	42		Pn	20 29 54.5	+1.0
TWS1	Kuangyinshan	baz=352	2.48	4	eP	Pn	20 29 55.8	+2.2
TWB1	Santiao Chiao	baz=8.0	2.48	17	eP	Pn	20 29 55.4	+1.7
TWB1		baz=8.0			eS	Sn	20 30 25.2	+2.3
NWF	Wu-fen Shan	baz=13	2.50	12	eP	Pn	20 29 55.5	+1.5
WFSB	Wu-fen Shan	baz=13	2.50	12	eP	Pn	20 29 55.8	+1.9
YM01	YM01	baz=9.0	2.54	7	eP	Pn	20 29 56.3	+1.8
YM04	YM04	baz=15	2.54	7	eP	Pn	20 29 55.7	+1.1
YM04		baz=15			eS	Sn	20 30 26.1	+1.7
NTST	Danshui	baz=353	2.54	5	eP	Pn	20 29 57.2	+2.7
YM10	YM10	baz=9.0	2.55	7	eP	Pn	20 29 55.9	+1.3
YM05	YM05	baz=9.0	2.56	7	eP	Pn	20 29 55.6	+0.9
YM11	YM11	baz=9.0	2.56	7	eP	Pn	20 29 56.4	+1.7
ANP	Anpu	baz=19	2.57	6	eP	Pn	20 29 56.2	+1.2
YM08	YM08	baz=9.0	2.58	8	eP	Pn	20 29 55.8	+0.7
TWY	Chenhua	baz=9.0	2.67	8	eP	Pn	20 29 55.9	-0.3
HATJ	Hateruma jima		2.79	59	P	Pn	20 29 58.3	+0.6
HATJ					S	Sn	20 30 30.8	+0.5
VWUC	VWUC	baz=323	2.86	326	⇓eP	Pn	20 29 57.9	-0.9
VWUC		baz=323			eS	Sn	20 30 29.3	-2.7
IRIF	Iriomote-Funau		2.88	53	P	Pn	20 30 00.0	+1.0
IRIF					S	Sn	20 30 33.4	+0.8
JKRS	Kuro-shima		3.04	57	P	Pn	20 30 02.1	+0.9
JKRS					S	Sn	20 30 36.5	+0.1
PTMZ	Houxiangcun	baz=326	3.08	322	⇓eP	Pn	20 30 01.1	-0.6
PTMZ		baz=326			eS	Sn	20 30 34.1	-3.2
KNM	Kinmen	baz=300	3.11	306	⇓eP	Pn	20 30 03.1	+0.9
PTTC	Pingtan	baz=331	3.16	336	eP	Pn	20 30 02.1	-0.6
PTTC		baz=331			eS	Sn	20 30 36.4	-2.9
KNMB	Chin-men Tao	baz=303	3.17	306	⇓eP	Pn	20 30 02.4	-0.6
KNMB		baz=303			eS	Sn	20 30 37.9	-1.8
KNMB	Chin-men Tao		3.17	306		Pn	20 30 02.0	-1.0
JIJ	Ishigaki jima		3.21	57	P	Pn	20 30 03.6	+0.1
JIJ					S	Sn	20 30 39.9	-0.7
QZH	Quanzhou		3.33	315	⇓iP	Pn	20 30 04.3	-0.9
QZH					S	Sn	20 30 40.3	-3.3
QZH		comp=N,500nm,0.3s			smax	smax		
QZH		comp=E,470nm,0.3s			smax	smax		
ZPLA	Ao Xicun	baz=290	3.44	293	⇓eP	Pn	20 30 06.4	-0.2
ZPLA		baz=290			eS	Sn	20 30 44.1	-2.0
JISG	Ishigakijimahi		3.46	55	P	Pn	20 30 06.8	-0.1
JISG					eS	Sn	20 30 46.2	-0.5
MATB	Ma-tsu	baz=329	3.70	342	eP	Pn	20 30 09.2	-1.0
MATB		baz=329			eS	Sn	20 30 49.0	-3.7
AXDP	Jialang	baz=304	3.73	308	⇓eP	Pn	20 30 10.2	-0.5
ZZJH	Jiuhuzhen	baz=297	3.76	300	eP	Pn	20 30 10.7	-0.4
ZZJH		baz=297			eS	Sn	20 30 52.5	-1.7
JTJ	Tarama		3.79	57	P	Pn	20 30 11.4	0.0
JTJ					eS	Sn	20 30 54.9	+0.2
MHZQ	Yeshan	baz=326	4.00	331	eP	Pn	20 30 13.6	-0.7
MHZQ		baz=326			eS	Sn	20 30 56.7	-3.1
LYJJ	Jianjiangzhen	baz=338	4.13	342	eP	Pn	20 30 14.2	-1.8
JIRB	Irabujima		4.25	58	P	Pn	20 30 18.0	+0.3
JIRB					eS	Sn	20 31 05.6	-0.5
JMJ2	Miyako jima3		4.33	60	P	Pn	20 30 19.4	+0.6
JMJ2					S	Sn	20 31 08.2	+0.2
JMJ	Miyako jima 2	baz=61	4.34	59	eP	Pn	20 30 19.6	+0.6
JMJ		baz=61			eS	Sn	20 31 06.7	-1.5
JIKM	Ikemajima		4.36	57	P	Pn	20 30 19.1	-0.1
JIKM					S	Sn	20 31 08.6	-0.1
XPSS	Dashiqiu	baz=346	4.39	348	eP	Pn	20 30 19.1	-0.6

JOGS	**Gusukube**	**4.40**	**60**	P		**Pn**	**20 30 20.8**	**+1.0**
JOGS				S		**Sn**	**20 31 10.6**	**+0.8**
VDOS	**Pratas Island**	**4.58**	**246**⇗	*eP*		**Pn**	**20 30 23.4**	**+1.1**
	baz=244							
VDOS				*eS*		**Sn**	**20 31 11.9**	**-2.3**
	baz=244							
HKPS	**Hong Kong Po S**	**6.54**	**268**	Pn		**Pn**	**20 30 49.9**	**+0.8**
HKPS						**Sn**	**20 31 58.1**	**-4.2**
JOW	**Kunigami**	**7.67**	**55**	*eP*		**Pn**	**20 31 03.7**	**-0.9**
	baz=57							
JOW	**Kunigami**	**7.67**	**55**	P		**Pn**	**20 31 03.6**	**-0.9**
	0.5nm,0.3s,baz=156,slow=13,SNR=10							
JOW				S		**Sn**	**20 32 28.6**	**-1.4**
	0.4nm,0.3s,baz=68,slow=19,SNR=3.5							
TGY	**Tagaytay City**	**8.47**	**182**	LR		LR	20 34 47.3	
	comp=Z,153nm,20.4s,baz=267,slow=39							
WHN	**Wuhan**	**9.99**	**324**	P		**Pn**	**20 31 35.3**	**-0.9**
WHN				S		Sn	20 33 16.8	-10
QIZ	**Qiongzhong**	**11.21**	**254**	Pn		**Pn**	**20 31 51.3**	**-1.6**
ENH	**Enshi**	**12.97**	**308**	Pn		**Pn**	**20 32 18.4**	**+1.6**
JNU	**Nakatsue**	**13.51**	**37**	LR		LR	20 37 18.7	
	comp=Z,72nm,19.0s,baz=234,slow=36							
GYA	**Guiyang**	**13.78**	**289**	P		**Pn**	**20 32 28.8**	**+1.1**
GYA				PP		**PnPn**	**20 32 40.3**	**+4.1**
GYA				S		**Sn**	**20 34 58.9**	**-0.2**
GYA				SS		**S**	**20 35 15.3**	**-2.1**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
GYA				LR	LR			
	comp=N,150nm,8.5s							
GYA				LR	LR			
	comp=E,180nm,9.4s							
GYA				LR	LR			
	comp=Z,160nm,9.2s							
KSRS	**Korea Array**	**15.88**	**20**	*eP*		**P**	**20 32 57.3**	**+0.3**
KSRS	**Korea Array**	**15.88**	**20**	P		**Pn**	**20 32 54.4**	**-0.2**
	0.3nm,0.3s,baz=195,slow=12,SNR=8.8							
KSRS				LR	LR		20 38 59.8	
	comp=Z,20nm,21.9s,baz=185,slow=37							
CD2	**Chengdu**	**17.62**	**302**	P		**Pn**	**20 33 15.1**	**-1.2**
CD2				pmax	pmax			
	comp=Z,20nm,0.5s							
MAJO	**Matsushiro**	**20.23**	**43**	*iP*		**P**	**20 33 45.7**	**+0.9**
MJAR	**Matsushiro Arr**	**20.23**	**43**	P		**P**	**20 33 44.3**	**-0.5**
	3.9nm,0.8s,baz=232,slow=11,SNR=7.4							
MJAR				LR	LR		20 42 03.3	
	comp=Z,47nm,18.6s,baz=45,slow=38							
CMAR	**Chiang Mai Arr**	**21.25**	**263**	P		**P**	**20 34 00.2**	**+4.3**
	0.3nm,0.6s,baz=64,slow=9.2,SNR=4.7							
CMAR				LR	LR		20 42 25.2	
	comp=Z,24nm,19.1s,baz=70,slow=37							
SBUM	**Sibu**	**21.86**	**205**			**P**	**20 34 02.9**	**+0.5**
MPSI	**Mapaga**	**22.18**	**183**	P		**P**	**20 34 05.8**	**-0.1**
	9.6nm,0.9s,840nm							
USA0B	**Ussuriysk Arra**	**23.29**	**20**	P		**P**	**20 34 18.8**	**+1.8**
USA0B				pmax	pmax			
	comp=Z,37nm,1.7s							
USA0B	**Ussuriysk Arra**	**23.29**	**20**	P		**P**	**20 34 18.8**	**+1.8**
USA0B				IAmb	IAmb		20 34 35.0	
	comp=Z,37nm,1.7s							
USRK	**Ussuriysk Ar.**	**23.29**	**20**	P		**P**	**20 34 18.0**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=201,slow=7.7,SNR=2.9							
GTA	**Gaotai**	**24.73**	**318**	*eP*		**P**	**20 34 32.4**	**+2.1**
GTA				pP		pP	20 34 43.8	-3.7
GTA				sP		sP	20 34 49.4	-6.9
SIJI	**Sorong**	**25.32**	**156**	P		**P**	**20 34 34.6**	**-1.1**
	comp=Z,3.2nm,0.4s,baz=333,slow=16,SNR=3.6							
NLAI	**Namlea**	**26.34**	**167**	P		**P**	**20 34 45.0**	**+0.1**
	comp=Z,46nm,0.8s							
FAKI	**Fak Fak**	**27.58**	**156**	P		**P**	**20 34 57.4**	**+1.4**
FAKI				IAmb	IAmb		20 35 13.8	
	comp=Z,76nm,1.3s							
ULN	**Ulaanbaatar**	**27.63**	**339**	*ceP*		**P**	**20 34 57.2**	**+0.8**
ULN				pmax	pmax			
	comp=Z,4.0nm,0.6s							
ULN	**Ulaanbaatar**	**27.63**	**339**	P		**P**	**20 34 56.9**	**+0.6**
ASAJ	**Asahikawa**	**27.76**	**34**	P		**P**	**20 34 57.6**	**+0.2**
	comp=Z,4.5nm,0.6s,baz=241,slow=10,SNR=5.1							
JKA	**Kamikawa-asahi**	**27.76**	**34**	P		**P**	**20 34 57.6**	**+0.2**
SONM	**Songino Array**	**27.82**	**338**	P		**P**	**20 34 58.6**	**+0.5**
	comp=Z,4.1nm,0.7s,baz=152,slow=9.2,SNR=39							
KLR	**Kul'dur**	**27.84**	**15**	*iP*		**P**	**20 34 59.1**	**+1.0**
KLR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
KLR	**Kul'dur**	**27.84**	**15**	P		**P**	**20 34 58.7**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=199,slow=8.5,SNR=5.3							
SOEI	**Soe**	**32.31**	**174**	P		**P**	**20 35 36.8**	**-1.2**
WMQ	**Urumqi**	**34.77**	**316**	*eP*		**P**	**20 36 02.3**	**+3.2**
MTN	**Manton Dam**	**36.56**	**164**	P		**P**	**20 36 12.0**	**-2.5**
KNRA	**Kununurra**	**38.77**	**168**	P		**P**	**20 36 31.0**	**-2.2**
MK31	**Makanchi Array**	**39.48**	**317**	P		**P**	**20 36 40.6**	**+1.6**
MK31				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MK31	**Makanchi Array**	**39.48**	**317**	P		**P**	**20 36 40.6**	**+1.6**
MKAR	**Makanchi Array**	**39.48**	**317**	P		**P**	**20 36 40.4**	**+1.4**
	comp=Z,2.3nm,0.7s,baz=116,slow=9.8,SNR=19							
MAKZ	**Makanchi**	**39.69**	**317**	P		**P**	**20 36 42.4**	**+1.7**
MAKZ				pmax	pmax			
	comp=Z,4.0nm,1.1s							
MAKZ	**Makanchi**	**39.69**	**317**	P		**P**	**20 36 42.4**	**+1.7**
YAK	**Yakutsk**	**39.82**	**6**	*iP*		**P**	**20 36 40.8**	**-0.6**
YAK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ZAA0	**Zalesovo Array**	**41.57**	**328**	P		**P**	**20 36 57.8**	**+1.8**
ZALV	**Zalesovo Beam**	**41.57**	**328**	*eP*		**P**	**20 36 56.9**	**+0.9**
ZALV				pmax	pmax			
	comp=Z,4.0nm,0.6s							
ZALV	**Zalesovo Beam**	**41.57**	**328**	P		**P**	**20 36 56.5**	**+0.4**
	comp=Z,4.0nm,0.6s,baz=114,slow=7.8,SNR=23							
COEN	**Coen**	**42.24**	**147**	P		**P**	**20 37 00.9**	**-1.0**
COEN				IAmb	IAmb		20 37 01.3	
	comp=Z,7.2nm,0.6s							
H11N1	**WAKE ISLAND Hy**	**42.58**	**85**	T		T	21 22 38.6	
	baz=282,slow=75,SNR=48							
H11N2	**WAKE ISLAND Hy**	**42.58**	**85**	T		T	21 22 35.0	
	baz=282,slow=75,SNR=92							
H11N3	**WAKE ISLAND Hy**	**42.59**	**85**	T		T	21 22 39.9	
	baz=282,slow=75,SNR=75							
H11S3	**WAKE ISLAND Hy**	**42.66**	**87**	T		T	21 22 44.9	
	baz=284,slow=75,SNR=95							
H11S1	**WAKE ISLAND Hy**	**42.67**	**87**	T		T	21 22 45.4	
	baz=284,slow=75,SNR=74							
H11S2	**WAKE ISLAND Hy**	**42.68**	**87**	T		T	21 22 35.4	
	baz=284,slow=75,SNR=64							
KURK	**Kurchatov**	**43.31**	**321**	*ceP*		**P**	**20 37 11.9**	**+1.7**
KURK				pmax	pmax			
	comp=Z,6.0nm,2.5s							
KURK	**Kurchatov**	**43.31**	**321**	P		**P**	**20 37 12.2**	**+2.0**
PSA00	**Pilbara Seismi**	**43.94**	**182**	P		**P**	**20 37 13.9**	**-1.6**
PSA00				IAmb	IAmb		20 37 15.4	
	comp=Z,11nm,1.1s							
WRAB	**Tennant Creek**	**44.20**	**162**	*ceP*		**P**	**20 37 16.8**	**-0.8**
WRAB				pmax	pmax			
	comp=Z,25nm,2.5s							
WRA	**Warramunga Ar**	**44.20**	**162**	*iP*		**P**	**20 37 16.2**	**-1.5**
WRA				pmax	pmax			
	comp=Z,3.0nm,0.5s							
WRA	**Warramunga Arr**	**44.20**	**162**	P		**P**	**20 37 15.4**	**-2.3**
	comp=Z,2.8nm,0.5s,baz=341,slow=8.1,SNR=34							
GIRL	**Giralia**	**45.50**	**189**	P		**P**	**20 37 28.4**	**+0.6**
ASAR	**Alice Springs**	**47.63**	**164**	P		**P**	**20 37 43.1**	**-1.6**
	comp=Z,0.9nm,0.4s,baz=348,slow=6.9,SNR=29							
BRVK	**Borovoye**	**48.97**	**322**	P		**P**	**20 37 56.0**	**+1.4**
BRVK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BRVK	**Borovoye**	**48.97**	**322**	P		**P**	**20 37 56.0**	**+1.4**
CTA	**Charters Tower**	**48.99**	**148**	P		**P**	**20 37 54.6**	**-0.5**
CTA				pmax	pmax			
	comp=Z,11nm,2.1s							
CTAO	**Charters Tower**	**48.99**	**148**	P		**P**	**20 37 54.6**	**-0.5**
CTAO				pmax	pmax			
	comp=Z,10.0nm,2.1s							
TIXI	**Tiksi**	**49.25**	**3**	*ceP*		**P**	**20 37 54.0**	**-2.4**
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TIXI	**Tiksi**	**49.25**	**3**	LR		LR	21 01 03.3	
	comp=Z,48nm,19.4s,baz=162,slow=39							
TIXI	**Tiksi**	**49.25**	**3**	P		**P**	**20 37 55.4**	**-1.1**
TIXI				IAmb	IAmb		20 37 56.2	
	comp=Z,3.0nm,0.5s							
HNR	**Honiara**	**49.55**	**126**	LR		LR	20 55 53.4	
	comp=Z,85nm,18.7s,baz=348,slow=32							
NRIK	**Noril'sk**	**50.91**	**345**	*eP*		**P**	**20 38 09.5**	**+0.4**
NRIK				pmax	pmax			
	comp=Z,2.0nm,0.4s							
NRIK	**Noril'sk**	**50.91**	**345**	P		**P**	**20 38 09.0**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=113,slow=8.8,SNR=4.5							
MORW	**Morawa**	**51.63**	**186**	P		**P**	**20 38 14.2**	**-0.6**
BILL	**Bilibino**	**53.15**	**19**⇗	*eP*		**P**	**20 38 23.5**	**-2.2**
BILL				*e*			20 40 23.5	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.4s							
FORT	**Forrest**	**53.50**	**173**	P		**P**	**20 38 28.0**	**-0.6**
ARU	**Arti**	**56.37**	**324**	P		**P**	**20 38 48.9**	**-0.2**
ARU				pmax	pmax			
	comp=Z,10.0nm,1.4s							
ARU	**Arti**	**56.37**	**324**	P		**P**	**20 38 49.1**	**0.0**
	comp=Z,0.5nm,0.3s,baz=101,slow=10,SNR=3.9							
ARU	**Arti**	**56.37**	**324**	P		**P**	**20 38 48.9**	**-0.2**
ARU				IAmb	IAmb		20 39 00.6	
	comp=Z,10nm,1.4s							
BBOO	**Buckleboo**	**56.91**	**165**	P		**P**	**20 38 53.2**	**0.0**
BBOO				IAmb	IAmb		20 38 56.6	
	comp=Z,14nm,1.1s							
STKA	**Stephens Creek**	**57.59**	**159**	*eP*		**P**	**20 38 58.5**	**+0.5**
STKA				pmax	pmax			
	comp=Z,2.0nm,0.5s							
STKA	**Stephens Creek**	**57.59**	**159**	P		**P**	**20 38 56.7**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=342,slow=6.9,SNR=14							
STKA	**Stephens Creek**	**57.59**	**159**	P		**P**	**20 38 57.4**	**-0.6**
CAN	**Canberra**	**63.36**	**155**	P		**P**	**20 39 37.7**	**+0.4**
CAN				pmax	pmax			
	comp=Z,67nm,2.0s							
CAN	**Canberra**	**63.36**	**155**	P		**P**	**20 39 37.7**	**+0.4**
TOO	**Toolangi**	**64.08**	**159**	P		**P**	**20 39 41.8**	**-0.2**
TOO				pmax	pmax			
	comp=Z,41nm,1.8s							
TOO	**Toolangi**	**64.08**	**159**	P		**P**	**20 39 41.8**	**-0.2**
TOO				IAmb	IAmb		20 39 43.3	
	comp=Z,41nm,1.8s							
KBZ	**Khabaz**	**66.48**	**309**	P		**P**	**20 39 58.9**	**+1.4**
	comp=Z,1.6nm,0.9s,baz=125,slow=4.6,SNR=4.4							
KIV	**Kislovodsk**	**66.59**	**310**	*eP*		**P**	**20 39 58.1**	**-0.3**
KIV				pmax	pmax			
	comp=Z,9.0nm,1.0s							
TTA	**Tatalina**	**66.85**	**30**	P		**P**	**20 39 59.8**	**+0.1**
TTA				pmax	pmax			
	comp=Z,20nm,1.9s							
TTA	**Tatalina**	**66.85**	**30**	P		**P**	**20 39 59.8**	**+0.1**
TTA				IAmb	IAmb		20 40 15.8	
	comp=Z,20nm,1.9s							
PPLA	**Purkeypile**	**68.59**	**29**	P		**P**	**20 40 10.6**	**-0.1**
PPLA				IAmb	IAmb		20 40 23.5	
	comp=Z,48nm,1.9s							
OBN	**Obninsk**	**68.74**	**322**⇗	*eP*		**P**	**20 40 11.6**	**+0.1**
OBN				*e*			20 42 41.7	
OBN				*eS*		SKiKP	20 49 35.4	-22
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
MLY	**Manley**	**68.93**	**27**	P		**P**	**20 40 13.0**	**+0.3**
MLY				IAmb	IAmb		20 40 27.7	
	comp=Z,12nm,1.8s							
TRF	**Thorofare Moun**	**69.36**	**29**	P		**P**	**20 40 15.0**	**-0.6**
TRF				IAmb	IAmb		20 40 28.4	
	comp=Z,34nm,2.0s							
ILAR	**Eielson Array**	**70.59**	**27**	*eP*		**P**	**20 40 21.5**	**-1.3**
ILAR	**Eielson Array**	**70.59**	**27**	P		**P**	**20 40 21.0**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=264,slow=4.9,SNR=6.6							
ARCES	**ARCESS Array B**	**70.99**	**338**	P		**P**	**20 40 26.0**	**+0.8**
	comp=Z,4.1nm,1.0s,baz=69,slow=4.9,SNR=3.6							
SCM	**Sheep Creek Mo**	**71.01**	**30**	P		**P**	**20 40 25.2**	**-0.3**
SCM				pmax	pmax			
	comp=Z,30nm,1.5s							
SCM	**Sheep Creek Mo**	**71.01**	**30**	P		**P**	**20 40 25.2**	**-0.3**
SCM				IAmb	IAmb		20 40 48.6	
	comp=Z,30nm,1.5s							
SPITS	**Spitsbergen Ar**	**71.01**	**348**	P		**P**	**20 40 24.8**	**-0.4**
	comp=Z,9.6nm,0.9s,baz=81,slow=9.2,SNR=7.0							
SCRK	**Sand Creek**	**72.00**	**28**	P		**P**	**20 40 30.5**	**-1.0**
SCRK				IAmb	IAmb		20 40 45.7	
	comp=Z,19nm,2.0s							
GLB	**Gilahina Butte**	**72.74**	**30**	P		**P**	**20 40 35.7**	**-0.2**
GLB				IAmb	IAmb		20 40 38.3	
	comp=Z,12nm,1.4s							
FIA1	**FINESS Array S**	**72.80**	**330**	P		**P**	**20 40 36.4**	**+0.3**
FIA1				IAmb	IAmb		20 41 02.9	
	comp=Z,15nm,1.1s							
FINES	**FINESS Array B**	**72.80**	**330**	P		**P**	**20 40 36.0**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=48,slow=5.9,SNR=11							
DAWY	**Dawson**	**73.92**	**27**	P		**P**	**20 40 43.0**	**+0.2**
CTGM	**Chitina Glacie**	**74.02**	**30**	P		**P**	**20 40 43.8**	**+0.2**
CTGM				IAmb	IAmb		20 40 52.8	
	comp=Z,47nm,2.0s							
INK	**Inuvik**	**74.66**	**22**	P		**P**	**20 40 46.1**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=291,slow=5.1,SNR=7.2							
INK	**Inuvik**	**74.66**	**22**	P		**P**	**20 40 46.6**	**-0.3**
INK				IAmb	IAmb		20 40 54.9	
	comp=Z,24nm,1.9s							
CSS	**Mathiatis**	**75.74**	**302**	P		**P**	**20 40 54.8**	**+1.0**
CSS				IAmb	IAmb		20 41 07.3	
	comp=Z,30nm,1.5s							
HFS	**Hagfors**	**78.94**	**331**	P		**P**	**20 41 10.6**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=90,slow=6.5,SNR=4.4							
NC405	**NORSAR Array S**	**79.36**	**332**	P		**P**	**20 41 13.2**	**-0.2**
NC405				IAmb	IAmb		20 41 30.2	
	comp=Z,26nm,1.2s							
NB201	**NORSAR Array S**	**79.58**	**332**	P		**P**	**20 41 14.5**	**-0.1**
NB2	**NORSAR Subarra**	**79.61**	**332**	P		**P**	**20 41 14.3**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=61,slow=5.6							
NOA	**NORSAR Array B**	**79.61**	**332**	P		**P**	**20 41 14.4**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=60,slow=5.4,SNR=3.9							
NOA				LR	LR		21 18 18.5	
	comp=Z,44nm,20.0s,baz=255,slow=37							
NC204	**NORSAR Array S**	**79.69**	**333**	P		**P**	**20 41 14.8**	**-0.5**
RES	**Resolute Bay**	**80.20**	**9**	P		**P**	**20 41 16.5**	**-1.2**
RES				pmax	pmax			
	comp=Z,18nm,1.7s							
RES	**Resolute Bay**	**80.20**	**9**	P		**P**	**20 41 16.5**	**-1.2**
RES				IAmb	IAmb		20 41 18.4	
	comp=Z,18nm,1.7s							
VTS	**Vitosha**	**80.60**	**312**	P		**P**	**20 41 22.4**	**+1.8**
VTS				pmax	pmax			
	comp=Z,4.0nm,2.0s							
GERES	**GERESS Array B**	**84.06**	**321**	P		**P**	**20 41 38.8**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=59,slow=3.8,SNR=2.8							
YKA	**Yellowknife Ar**	**84.40**	**23**	P		**P**	**20 41 38.8**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=311,slow=4.9,SNR=16							
SDV	**Santo Domingo**	**146.61**	**22**			**PKPdf**	**20 48 48.9**	**+0.4**

IDC ***24*** *20:30:29.0±1.4,23°.41N×143°.67E,h0km,mb4.0/9, mb1 3.9/11,mb1mx3.6/61,mbtmp3.9/11,ML3.5/2,Error ellipse: s-maj=48.0km s-min=18.9km az=84.0*
ISCJB ***24*** *20:30:31.9±1.0,23°.48N±0°.08×143°.6E±0°.3,h31km, mb3.9/9,Error ellipse: s-maj=35.8km s-min=10.4km az=169.8*

ISC 24 20:30:34.0±1.2,23°.5N±0°.1×143°.6E±0°.3,h31km,n12, σ1§00/13,mb3.8/9,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.83**	**341**	Pn	**Pn**	**20 31 32.1**	**+1.4**
	4.5nm,0.3s,baz=322,slow=17,SNR=4.3						
JCJ				Sn	**Sn**	**20 32 12.6**	**-2.1**
	17nm,0.3s,baz=112,slow=23,SNR=5.8						
KSRS	**Korea Array**	**19.36**	**320**	P	**Pn**	**20 34 58.1**	**-0.2**
	0.1nm,0.3s,baz=133,slow=11,SNR=3.8						
KLR	**Kul'dur**	**27.35**	**343**	P	**P**	**20 36 17.4**	**+1.3**
	1.9nm,0.8s,baz=133,slow=13,SNR=3.9						
PETK	**Petropavlovsk-**	**31.48**	**16**	P	**P**	**20 36 52.3**	**-0.5**
PETK	**Petropavlovsk-**	**31.48**	**16**	P	**P**	**20 36 52.3**	**-0.5**
	1.6nm,0.7s,baz=208,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**44.08**	**193**	P	**P**	**20 38 39.1**	**-0.3**
	0.7nm,0.6s,baz=13,slow=7.8,SNR=6.6						
ASAR	**Alice Springs**	**47.79**	**192**	P	**P**	**20 39 07.8**	**-0.8**
	0.4nm,0.6s,baz=8.2,slow=8.4,SNR=4.6						
ZALV	**Zalesovo Beam**	**53.06**	**321**	P	**P**	**20 39 47.5**	**-0.6**
	0.4nm,0.4s,baz=99,slow=8.9,SNR=2.3						
MKAR	**Makanchi Array**	**53.78**	**312**	P	**P**	**20 39 53.9**	**+0.3**
	0.5nm,0.6s,baz=82,slow=9.4,SNR=5.1						
KURBB	**Kurchatov Arra**	**56.49**	**316**	P	**P**	**20 40 13.1**	**0.0**
	2.5nm,0.8s,baz=93,slow=7.6,SNR=7.7						
BVAR	**Borovoye Array**	**61.58**	**319**	P	**P**	**20 40 49.0**	**+0.7**
	3.4nm,0.5s,baz=84,slow=6.8,SNR=28						
ARU	**Arti**	**68.06**	**323**	P	**P**	**20 41 30.4**	**0.0**
	0.8nm,0.3s,baz=99,slow=6.7,SNR=4.7						

WEL 24 20:44:06.4±1.4,46°S±6°×16°6E±°,h5km,M3.3/7,ML3.6/9, MLv3.3/7,Error ellipse: s-maj=0.0km s-min=0.0km

az=68.1,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**1.08**	**41**	P	Pg	20 44 25.4	-1.7
DCZ				S	Sg	20 44 40.3	-0.9
WHZ	**Wether Hill Ro**	**1.32**	**73**	P	Pn	20 44 30.8	-0.6
WHZ				S	Sn	20 44 49.8	+0.4
APZ	**The Paps**	**1.39**	**114**	P	Pn	20 44 30.9	-1.5
APZ				S	Sb	20 44 50.0	-0.8
MLZ	**Mavora Lakes**	**1.66**	**57**	P	Pn	20 44 36.3	+0.2
MSZ	**Milford Sound**	**2.04**	**39**	P	Pg	20 44 45.3	-0.2
SYZ	**Scrubby Hill**	**2.09**	**98**	P	Pn	20 44 41.6	-0.3
SYZ				S	Sb	20 45 09.7	-1.3
TUZ	**Tuapeka**	**2.45**	**83**	P	Pn	20 44 46.8	-0.2
EAZ	**Earnscleugh**	**2.46**	**66**	P	Pn	20 44 47.4	+0.3
WKZ	**Wanaka**	**2.49**	**55**	P	Pn	20 44 49.1	+1.5
JCZ	**Jackson Bay**	**2.90**	**41**	P	Pn	20 44 54.6	+1.4
ODZ	**Otahua Downs**	**3.39**	**70**	P	Pn	20 44 58.6	-1.3
LTZ	**Lake Taylor**	**5.61**	**54**	P	Pn	20 45 30.5	0.0

ISCJB ***24*** *20:46:13.1±0.6,25°.54S±0°.05×177°.2W±0°.1,h126km, mb3.9/3,Error ellipse: s-maj=15.0km s-min=7.1km az=12.4*
NEIC ***24*** *20:46:14.5±2.2,25°.6S±0°.1×176°.9W±0°.2,h139km±12km, mb4.9/12*
IDC ***24*** *20:46:17.7±2.7,25°.84S×177°.01W,h159km±82km,mb3.5/3, mb1 3.9/6,mb1mx3.4/44,mbtmp4.4/6,Error ellipse: s-maj=150.7km s-min=23.8km az=118.0*

ISC 24 20:46:13.9±0.7,25°.53S±0°.07×177°.1W±0°.1,h126km,n24, σ1§42/27,mb4.8/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.78**	**191**	P	**Pn**	**20 47 11.8**	**+1.3**
	68nm,0.3s,baz=74,slow=18,SNR=4.4						
RAO				S	**Sn**	**20 47 53.8**	**-0.7**
	196nm,0.3s,baz=60,slow=20,SNR=6.3						
AFI	**Afiamalu**	**12.60**	**24**	P	**P**	**20 49 15.4**	**+0.2**
	3.2nm,0.3s,baz=324,slow=3.6,SNR=4.2						
AFI				S	**Sn**	**20 51 27.7**	**0.0**
	2.1nm,0.3s,baz=233,slow=20,SNR=3.3						
AFI	**Afiamalu**	**12.60**	**24**	P	**P**	**20 49 15.1**	**-0.1**
AFI					**Sn**	**20 51 28.2**	**+0.5**
URZ	**Urewera**	**13.61**	**200**	P	**Pn**	**20 49 21.9**	**+0.3**
	3.2nm,0.3s,baz=283,slow=4.0,SNR=19						
URZ				S	Sn	20 51 31.7	-20
	1.5nm,0.3s,baz=100,slow=24,SNR=9.3						
URZ	**Urewera**	**13.61**	**200**	P	**Pn**	**20 49 22.1**	**+0.5**
HIZ	**Hauiti**	**14.62**	**206**		**P**	**20 49 37.1**	**-0.4**
MSWZ	**Moikau Station**	**17.07**	**200**		**P**	**20 50 00.5**	**-4.1**
SNZO	**South Karori**	**17.15**	**201**	P	**P**	**20 50 02.9**	**-2.4**
SNZO				IAmb	IAmb	20 50 07.2	
	comp=Z,103nm,1.2s						
CTAO	**Charters Tower**	**34.15**	**272**	P	**P**	**20 52 48.0**	**+0.9**
CTAO				IAmb	IAmb	20 52 51.4	
	comp=Z,13nm,0.8s						
STKA	**Stephens Creek**	**36.62**	**250**	P	**P**	**20 53 09.2**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=98,slow=7.1,SNR=8.1						
STKA	**Stephens Creek**	**36.62**	**250**	P	**P**	**20 53 09.4**	**+1.3**
BBOO	**Buckleboo**	**41.28**	**249**	P	**P**	**20 53 45.7**	**-1.2**
ASAR	**Alice Springs**	**44.40**	**262**	P	**P**	**20 54 13.3**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=97,slow=8.0,SNR=18						
WRA	**Warramunga Arr**	**44.95**	**267**	P	**P**	**20 54 16.4**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=104,slow=6.2,SNR=18						
WAKE	**Wake Island**	**47.27**	**339**	P	**P**	**20 54 32.5**	**-2.0**
FORT	**Forrest**	**48.24**	**251**	P	**P**	**20 54 40.3**	**-1.8**
FORT				IAmb	IAmb	20 54 44.1	
	comp=Z,58nm,1.5s						
KNRA	**Kununurra**	**51.33**	**270**	P	**P**	**20 55 07.1**	**+1.5**
FITZ	**Fitzroy Crossi**	**53.34**	**266**	P	**P**	**20 55 21.1**	**+0.5**
FITZ				IAmb	IAmb	20 55 29.2	
	comp=Z,23nm,1.6s						
SOEI	**Soe**	**57.62**	**275**	P	**P**	**20 55 52.2**	**+0.9**
MORW	**Morawa**	**58.81**	**250**	P	**P**	**20 55 58.1**	**-1.2**
MORW				IAmb	IAmb	20 56 17.5	
	comp=Z,15nm,1.2s						
CASY	**Casey**	**59.82**	**206**	P	**P**	**20 56 04.5

comp=N,8055μm,0.7s
FRON AML AML
comp=E,4615μm,0.8s
ATMI Monte Miggiano 0.20 257 P Pg 20 47 37.3 +0.6
ATMI AML AML
comp=E,5760μm,0.5s
ATMI AML AML
comp=N,6350μm,0.4s
ATCC AVT- Casa Cast 0.21 159 P Pg 20 47 37.6 +0.8
ATCC S Sg 20 47 41.6 +1.9
ATCC AML AML
comp=E,10605μm,0.1s
ATCC AML AML
comp=N,13250μm,0.1s
ATCC AML AML
comp=E,10595μm,0.1s
ATCC AML AML
comp=E,10600μm,0.1s
ATCC AML AML
comp=N,13200μm,0.1s
ATTE AVT- Monte Tez 0.23 216 P Pg 20 47 37.6 +0.5
ATTE AML AML
comp=E,2715μm,0.3s
ATTE AML AML
comp=N,3605μm,0.3s
CDCA Citt' di Caste 0.23 290 P Pg 20 47 37.9 +0.6
CDCA S Sg 20 47 41.8 +1.4
CDCA AML AML
comp=E,9420μm,0.5s
CDCA AML AML
comp=N,10495μm,0.5s
CDCA AML AML
comp=E,3360μm,0.7s
CDCA AML AML
comp=E,9410μm,0.5s
CDCA AML AML
comp=N,10500μm,0.5s
CDCA AML AML
comp=E,3350μm,0.7s
CDCA AML AML
comp=E,9425μm,0.5s
CDCA AML AML
comp=N,10465μm,0.5s
CDCA AML AML
comp=N,3250μm,0.9s
CDCA AML AML
comp=E,3375μm,0.7s
NARO Abbazia di Nar 0.23 8 P Pg 20 47 37.9 +0.6
NARO S Sg 20 47 41.8 +1.3
NARO AML AML
comp=E,2455μm,1.1s
NARO AML AML
comp=N,1830μm,1.5s
BADI Badiali 0.25 302 P Pg 20 47 38.3 +0.7
BADI S Sg 20 47 42.7 +1.7
BADI AML AML
comp=E,9235μm,0.2s
BADI AML AML
comp=N,8085μm,0.4s
BADI AML AML
comp=E,9255μm,0.2s
MPAG Monte Paganucc 0.30 33 P Pg 20 47 39.2 +0.7
MPAG S Sb 20 47 44.2 -1.0
MPAG AML AML
comp=E,1495μm,0.4s
MPAG AML AML
comp=N,1504μm,0.9s
MPAG AML AML
comp=E,1480μm,0.4s
MPAG AML AML
comp=N,1542μm,0.2s
MPAG AML AML
comp=N,1546μm,0.2s
ARVD Arcevia 0.32 68 P Pg 20 47 39.5 +0.7
ARVD S Sb 20 47 45.0 -0.8
ARVD AML AML
comp=E,2200μm,0.5s
ARVD AML AML
comp=N,1835μm,1.3s
PE3 Peglio 0.32 355 P Pb 20 47 39.8 -0.7
PE3 S Sb 20 47 45.5 -0.3
PE3 AML AML
comp=E,2235μm,0.5s
PE3 AML AML
comp=N,2860μm,0.4s
SNTG Esanatoglia 0.32 113 P Pg 20 47 39.5 +0.6
SNTG S Sb 20 47 44.9 -0.9
SNTG AML AML
comp=E,498μm,0.2s
SNTG AML AML
comp=N,842μm,0.3s
SNTG AML AML
comp=E,3985μm,0.2s
SNTG AML AML
comp=E,498μm,0.2s
SNTG AML AML
comp=N,6250μm,0.3s
FIU1 Fiuminata 0.35 123 P Pg 20 47 39.8 +0.5
FIU1 S Sb 20 47 45.7 -0.8
FIU1 AML AML
comp=E,3395μm,1.3s
FIU1 AML AML
comp=N,4590μm,1.1s
FIU1 AML AML
comp=E,3400μm,1.3s
FIU1 AML AML
comp=N,4595μm,1.1s
PARC Parchiule 0.35 321 P Pg 20 47 40.1 +0.7
PARC AML AML
comp=N,1098μm,0.4s
PARC AML AML
comp=E,974μm,0.8s
PARC AML AML
comp=N,1098μm,0.4s
SSP9 Sansepolcro 0.35 304 P Pg 20 47 40.2 +0.7
SSP9 AML AML
comp=E,680μm,1.3s
SSP9 AML AML
comp=N,644μm,0.6s
FSSB Fossombrone 0.36 29 P Pg 20 47 40.3 +0.7
FSSB S Sb 20 47 46.3 -0.6
FSSB AML AML
comp=E,2475μm,1.3s
FSSB AML AML
comp=N,4750μm,0.9s
EL6 Elcito 0.41 97 P Pg 20 47 41.2 +0.5
EL6 AML AML
comp=E,3325μm,0.7s
EL6 AML AML
comp=N,3970μm,1.1s
EL6 AML AML
comp=N,3965μm,1.1s
EL6 AML AML
comp=E,3335μm,0.7s
CAFI Castiglion Fio 0.42 263 P Pg 20 47 41.2 +0.5
CAFI AML AML
comp=E,682μm,1.4s
CAFI AML AML
comp=N,752μm,0.3s
COR1 Corinaldo 0.42 53 P Pb 20 47 42.0 -0.2
COR1 AML AML
comp=E,1608μm,0.4s
COR1 AML AML
comp=N,3110μm,0.2s
COR1 AML AML
comp=E,1585μm,0.4s
CESI CESI - Serrava 0.46 144 P Pg 20 47 41.9 +0.4
CESI AML AML
comp=N,534μm,0.2s
CESI AML AML
comp=E,164μm,0.4s
CING Cingoli 0.48 90 P Pg 20 47 42.4 +0.5
CING S Sb 20 47 50.3 -0.1
CING AML AML
comp=N,1480μm,0.3s
CING AML AML
comp=E,828μm,0.3s
CRE Caprese Michel 0.49 300 P Pg 20 47 42.4 +0.4
CRE AML AML
comp=E,711μm,0.4s
CRE AML AML
comp=N,852μm,0.3s
CRE AML AML
comp=E,712μm,0.4s
FDMO Fiordimonte 0.53 130 P Pg 20 47 43.1 +0.3
FDMO S Sb 20 47 51.6 -0.2
FDMO AML AML
comp=E,986μm,0.5s
FDMO AML AML
comp=N,1240μm,0.3s
FDMO AML AML
comp=E,986μm,0.5s
MGAB Montegabbione 0.56 214 P Pg 20 47 43.8 +0.4
MGAB AML AML
comp=E,2375μm,0.4s
MGAB AML AML
comp=E,2380μm,0.4s
MGAB AML AML
comp=N,2225μm,0.7s
MGAB AML AML
comp=E,2310μm,0.4s
MGAB AML AML
comp=N,2310μm,1.6s
CSP1 Cessapalombo 0.57 120 P Pg 20 47 43.8 +0.3
CSP1 AML AML
comp=E,1315μm,0.6s
CSP1 AML AML
comp=N,1600μm,0.7s
MOMA Monte Martano 0.57 178 P Pg 20 47 43.8 +0.1
MOMA AML AML
comp=E,963μm,0.2s
MOMA AML AML
comp=N,1039μm,0.4s
MOMA AML AML
comp=N,1080μm,1.1s
MOMA AML AML
comp=N,1040μm,0.4s
MOMA AML AML
comp=N,1085μm,1.1s
MOMA AML AML
comp=E,964μm,0.2s
MOMA AML AML
comp=N,1070μm,0.2s
PESA Pesaro 0.60 21 P Pb 20 47 45.0 -0.3
PESA AML AML
comp=N,1550μm,1.4s
PESA AML AML
comp=E,1275μm,0.3s
ASQU Asqua 0.69 308 P Pg 20 47 46.2 +0.4
ASQU AML AML
comp=E,298μm,0.4s
ASQU AML AML
comp=N,504μm,0.9s
NRCA Norcia 0.69 142 P Pg 20 47 45.8 0.0
NRCA AML AML
comp=E,841μm,1.0s
NRCA AML AML
comp=N,1020μm,0.2s
SACS San Casciano d 0.70 221 P Pg 20 47 46.2 +0.1
SACS AML AML
comp=E,481μm,0.5s
SACS AML AML
comp=N,730μm,0.6s
SACS AML AML
comp=N,706μm,0.6s
SACS AML AML
comp=E,469μm,0.5s
SFI Santa Sofia 0.73 317 P Pg 20 47 46.9 +0.3
SFI AML AML
comp=E,237μm,0.4s
SFI AML AML
comp=N,161μm,1.0s
CESX Cesi 0.77 178 P Pg 20 47 47.5 +0.1
CESX AML AML
comp=N,584μm,0.4s
CESX AML AML
comp=E,625μm,0.4s
ARRO Arrone 0.82 168 P Pg 20 47 48.4 +0.1
ARRO AML AML
comp=E,386μm,1.3s
ARRO AML AML
comp=N,238μm,0.7s
LNSS Leonessa 0.86 154 P Pg 20 47 48.8 -0.3
LNSS AML AML
comp=E,634μm,1.1s
LNSS AML AML
comp=N,566μm,1.2s
RUFI Rufina 0.88 302 P Pg 20 47 49.4 0.0
RUFI AML AML
comp=E,288μm,0.5s
RUFI AML AML
comp=N,264μm,0.7s
RUFI AML AML
comp=N,259μm,0.8s
RUFI AML AML
comp=E,290μm,0.5s
CSNT Castellina Chi 0.91 276 P Pb 20 47 50.4 -0.2
CSNT AML AML
comp=E,180μm,1.2s
CSNT AML AML
comp=N,176μm,0.4s
LATE Laterza 0.94 215 P Pb 20 47 51.4 +0.4
LATE AML AML
comp=E,670μm,1.2s
LATE AML AML
comp=N,729μm,0.5s
SMA1 SAN MARTINO 0.95 142 P Pb 20 47 51.3 0.0
SMA1 AML AML
comp=E,456μm,0.4s
SMA1 AML AML
comp=N,418μm,0.4s
OFFI Offida 0.95 117 P Pn 20 47 52.3 +0.2
OFFI AML AML
comp=N,1355μm,0.8s
OFFI AML AML
comp=E,1130μm,0.6s
FROS Frosini 1.02 261 P Pb 20 47 52.4 -0.1
FROS AML AML
comp=E,246μm,0.5s
FROS AML AML
comp=N,176μm,0.6s
GUMA Gualdo di Mace 1.07 107 P Pg 20 47 45.9 -7.2
GUMA AML AML
comp=E,2415μm,0.4s
GUMA AML AML
comp=E,2330μm,0.9s
GUMA AML AML
comp=N,1895μm,0.4s
GUMA AML AML
comp=N,1600μm,0.5s
TERO Teramo 1.09 134 P Pg 20 47 52.9 -0.5
TERO AML AML
comp=N,142μm,0.4s
TERO AML AML
comp=E,107μm,0.4s
SEI Scarperia 1.09 309 P Pn 20 47 56.3 +2.2
TOLF Tolfa 1.37 197 P Pn 20 47 58.0 +0.1
BRJN Brijuni 1.76 29 *e*Pn Pb 20 48 04.4 -0.6
BRJN Sn Sg 20 48 29.2 +0.2
NVLJ Novalja 2.06 54 *e*Pn Pn 20 48 08.0 +0.7
NVLJ Sn Sb 20 48 34.9 -0.9
RICI Ricice 3.35 86 ePn 20 48 27.1
RICI Sn Sn 20 49 07.9 +2.8
ABTA Abfaltersbach 3.37 360 *i* Pn Pn 20 48 28.4 +3.0
ABTA comp=E,2.3nm,0.4s *e*Sn Sb 20 49 09.7 -3.9
OBKA Obir 3.44 24 *i* Pn Pn 20 48 28.6 +2.2
OBKA comp=E,1.0nm,0.4s Pg Pg 20 48 38.0 -0.4
OBKA comp=E,3.5nm,0.6s Sg Sg 20 49 27.2 +4.1
FETA Feichten 3.86 341 *e*Pn Pn 20 48 35.9 +3.6
FETA comp=E,1.5nm,0.4s *e*Sn Sn 20 49 21.0 +3.2
FETA comp=E,1.6nm,0.5s
SQTA Sankt Quirin 3.95 347 *e*Pn Pb 20 48 38.0 -4.4
SQTA comp=E,1.2nm,0.2s *e*Sn Sn 20 49 24.5 +4.4
SQTA comp=E,2.3nm,0.3s
MOTA Moosalm 4.09 346 *e*Pn Pb 20 48 41.0 -3.9
MOTA comp=E,2.2nm,0.6s *e*Sn Sn 20 49 28.5 +4.9
MOTA comp=E,3.0nm,0.6s
RETA Reutte 4.29 344 *i* Pn Pn 20 48 43.1 +5.0
RETA comp=E,1.1nm,0.3s *e*Sn Sn 20 49 33.7 +5.3
RETA comp=E,2.1nm,0.5s
MOA Molln 4.63 15 *i* Pn Pn 20 48 44.9 +2.2
MOA comp=E,0.5nm,0.2s *i* Sn Sn 20 49 39.5 +2.9
MOA comp=E,1.3nm,0.3s
KHC Kasperske Hory 5.80 7 *e*PN Pn 20 49 01.0 +2.2
KHC *e*SN Sn 20 50 05.5 +0.1

ISCJB ***24*** *20:52:20.9±0.4, 8°.79S±0°.05×74°.66W±0°.06, h145km, Error ellipse: s-maj=8.8km s-min=6.9km az=174.7*
NEIC ***24*** *20:52:21.1±2.4, 8°.80S±0°.05×74°.61W±0°.09, h127km±8km, mb4.4/8*
IDC ***24*** *20:52:22.4±1.9, 8°.79S×74°.72W, h142km±22km, mb3.5/7, mb1 3.7/12, mb1mx3.5/43, mbtmp4.0/12, Error ellipse: s-maj=22.0km s-min=14.6km az=58.0*
ISC 24 20:52:22.0±0.5, 8°.74S±0°.05×74°.80W±0°.08, h145km, n31, σ1§86/33, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
NNA	**Nana**	**3.80**	**212**	P		**Pn**	**20 53 20.4**	**+0.8**
	23nm,0.3s,baz=360,slow=3.8,SNR=58							
NNA				S		**Sn**	**20 54 04.4**	**0.0**
	185nm,0.3s,baz=168,slow=20,SNR=20							
NNA	**Nana**	**3.80**	**212**			**Pn**	**20 53 20.3**	**+0.7**
NNA						**Sn**	**20 54 03.0**	**-1.4**
ATAH	**Atahualpa**	**3.91**	**294**	P		**Pn**	**20 53 22.5**	**+1.2**
	36nm,0.3s,baz=112,slow=4.4,SNR=202							
ATAH				S		**Sn**	**20 54 01.4**	**-5.9**
	24nm,0.3s,baz=3.4,slow=17,SNR=5.5							
OTAV	**Otavalo**	**9.63**	**338**	Pn		**Pn**	**20 54 39.8**	**+2.0**
LPAZ	**La Paz**	**9.93**	**140**	P		**Pn**	**20 54 41.9**	**+0.1**
	0.3nm,0.3s,baz=319,slow=12,SNR=4.4							
LPAZ	**La Paz**	**9.93**	**140**			**Pn**	**20 54 40.1**	**-1.7**
SAML	**Samuel**	**11.48**	**92**			**Pn**	**20 54 57.2**	**-4.5**
MNMC	**Minye Minye**	**11.49**	**155**	Pn		**Pn**	**20 54 58.4**	**-3.8**
LVC	**Limon Verde**	**14.90**	**158**	P		**P**	**20 55 49.5**	**+1.5**
	0.2nm,0.3s,baz=319,slow=9.3,SNR=3.1							
LVC	**Limon Verde**	**14.90**	**158**	P		**P**	**20 55 48.5**	**+0.5**
SIV	**San Ignacio**	**15.21**	**120**	P		**Pn**	**20 55 48.3**	**-1.1**
	0.8nm,0.3s,baz=304,slow=12,SNR=28							
SDV	**Santo Domingo**	**18.00**	**13**	P		**Pn**	**20 56 23.6**	**+0.2**
	1.1nm,0.3s,baz=183,slow=10,SNR=7.8							
SDV	**Santo Domingo**	**18.00**	**13**			**Pn**	**20 56 23.8**	**+0.4**
SDV					IAmb	IAmb	20 56 47.5	
	comp=Z,7.7nm,1.1s							
CFA	**Coronel Fontan**	**23.55**	**166**	P		**P**	**20 57 20.0**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=0.5,slow=12,SNR=4.6							
CPUP	**Villa Florida**	**24.10**	**139**	P		**P**	**20 57 23.9**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=318,slow=12,SNR=6.7							
CPUP	**Villa Florida**	**24.10**	**139**	P		**P**	**20 57 23.6**	**-0.7**
GRGR	**Grenville**	**24.51**	**32**	P		**P**	**20 57 27.4**	**-0.7**
BDFB	**Brasilia**	**27.04**	**107**	P		**P**	**20 57 52.4**	**+1.3**
	comp=Z,2.9nm,0.6s,baz=288,slow=7.4,SNR=5.0							
BDFB	**Brasília**	**27.04**	**107**	P		**P**	**20 57 51.8**	**+0.7**
BDFB					IAmb	IAmb	20 58 17.9	
	comp=Z,15nm,1.5s							
PDPR	**Patillas Dam,**	**27.96**	**18**	P		**P**	**20 57 59.5**	**+0.4**
PLCA	**Paso Flores**	**32.08**	**174**	P		**P**	**20 58 34.6**	**-0.8**
PLCA					IAmb	IAmb	20 58 35.6	
	comp=Z,9.6nm,1.4s							
060A	**Indiantown**	**35.97**	**352**	P		**P**	**20 59 07.7**	**-1.3**
TXAR	**Lajitas Array**	**46.98**	**325**	P		**P**	**21 00 40.7**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=149,slow=7.4,SNR=3.7							
SDCO	**Great Sand Dun**	**54.43**	**330**	P		**P**	**21 01 37.1**	**+2.4**
SDCO					IAmb	IAmb	21 02 03.2	
	comp=Z,3.2nm,0.8s							
PHWY	**Pilot Hill**	**57.22**	**333**			pP	21 02 26.5	-2.1
DBIC	**Dimbokro**	**71.37**	**80**	P		**P**	**21 03 26.3**	**-0.6**
	comp=Z,2.0nm,0.4s,baz=194,slow=5.7,SNR=5.1							
DBIC	**Dimbokro**	**71.37**	**80**	P		**P**	**21 03 26.3**	**-0.6**
DBIC					IAmb	IAmb	21 03 26.8	
	comp=Z,5.9nm,1.0s							
YKA	**Yellowknife Ar**	**77.36**	**342**	P		**P**	**21 04 01.3**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=140,slow=5.8,SNR=4.6							
TORD	**Torodi Ar. Bea**	**79.00**	**75**	P		**P**	**21 04 09.9**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=268,slow=4.4,SNR=12							
ASAR	**Alice Springs**	**137.29**	**220**	PKP		**PKiKP**	**21 11 31.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=132,slow=1.2,SNR=5.4							
WRA	**Warramunga Arr**	**139.56**	**225**	PKP		**PKPdf**	**21 11 34.7**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=130,slow=2.0,SNR=6.0							

ISCJB ***24*** *20:56:46.7±0.3, 60°.24N±0°.02×141°.68W±0°.02, h13km±1km, mb4.1/27, MS3.3/1, Error ellipse: s-maj=2.6km s-min=1.9km az=13.3*
IDC ***24*** *20:56:46.5±0.6, 60°.27N×141°.75W, h0km, mb4.1/25, mb1 4.2/29, mb1mx4.1/51, mbtmp4.1/29, ML3.9/4, MS2.8/3, Ms1 2.8/3, ms1mx2.6/39, Error ellipse: s-maj=16.6km s-min=9.6km az=33.0*
NEIC ***24*** *20:56:47.0±2.0, 60°.17N±0°.04×141°.73W±0°.08, h8km±1km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.70; $M_{\theta\theta}$-0.74; $M_{\phi\phi}$0.04; $M_{r\theta}$0.87; $M_{r\phi}$-0.03; $M_{\theta\phi}$-0.09; Fault plane solution: $M_0$1.13000×10^{15} NP1:ϕ_s94.24000°, δ70.36000°, λ94.85000°. NP2:ϕ_s260.06000°, δ20.21000°, λ76.67000°. Principal axes: T 1.1123, Plg64.0000°, Azm12.0000°; N 0.0321, Plg5.0000°, Azm273.0000°; P -1.1445, Plg25.0000°, Azm180.0000°;*
AEIC ***24*** *20:56:47.9±1.7, 60°.26N±0°.05×141°.67W±0°.08, h11km±3km, ML3.9, mb4.6/20(NEIC), Mwr4.0(NEIC)*
PGC ***24*** *20:56:48.6±0.1, 60°.24N×141°.68W, h1km, ML4.0/12, Mw4.1, 161km Wnw of Yakutat, Ak Southeastern Alaska*
ISC 24 20:56:47.7±0.7, 60°.24N±0°.02×141°.72W±0°.02, h9km±4km, n218, σ1§05/258, mb4.3/36, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
MESA	**MESA**	**0.13**	**244**	P		**Pg**	**20 56 51.0**	**+0.2**
MESA				S		**Sg**	**20 56 53.9**	**+0.8**
MESA	**MESA**	**0.13**	**244**			**Pg**	**20 56 51.0**	**+0.2**
RKAV	**Rock Avalanche**	**0.20**	**70**	P		**Pg**	**20 56 51.6**	**-0.3**
RKAV				S		**Sg**	**20 56 54.7**	**0.0**
RKAV	**Rock Avalanche**	**0.20**	**70**			**Pg**	**20 56 51.5**	**-0.3**
RKAV						**Sg**	**20 56 54.9**	**+0.2**
CHX	**Chaix Hills**	**0.34**	**120**			**Pg**	**20 56 54.5**	**-0.1**
SAMH	**Samovar Hills**	**0.48**	**102**	P		**Pg**	**20 56 57.0**	**-0.1**
SAMH				S		**Sg**	**20 57 03.2**	**-0.1**
SAMH	**Samovar Hills**	**0.48**	**102**			**Pg**	**20 56 56.9**	**-0.1**
GRNC	**Granite Creek**	**0.50**	**358**	P		**Pg**	**20 56 57.3**	**-0.2**
GRNC				S		**Sg**	**20 57 04.7**	**+0.7**
GRNC	**Granite Creek**	**0.50**	**358**			**Pg**	**20 56 57.3**	**-0.2**
GRNC						**Sg**	**20 57 04.8**	**+0.7**
KULT	**Kultieth River**	**0.50**	**272**			**Pb**	**20 56 58.1**	**-0.7**
WAX	**Waxell Ridge**	**0.60**	**291**			**Pb**	**20 57 00.2**	**-0.3**
PCA	**Pinnacle**	**0.74**	**100**	P		**Pg**	**20 57 01.9**	**-0.2**
PCA				S		**Sg**	**20 57 10.4**	**-1.3**
PCA	**Pinnacle**	**0.74**	**100**			**Pg**	**20 57 01.7**	**-0.3**
CTGM	**Chitina Glacie**	**0.76**	**14**	P		**Pg**	**20 57 01.7**	**-0.6**
CTGM				S		**Sg**	**20 57 12.1**	**-0.1**
CTGM	**Chitina Glacie**	**0.76**	**14**			**Pg**	**20 57 01.7**	**-0.6**
TGL	**Tana Glacier**	**0.76**	**314**			**Pg**	**20 57 02.0**	**-0.4**
KIAG	**Kiagna River**	**0.76**	**336**	P		**Pg**	**20 57 01.9**	**-0.5**
KIAG				S		**Sg**	**20 57 12.5**	**+0.2**
KIAG	**Kiagna River**	**0.76**	**336**			**Pg**	**20 57 01.9**	**-0.5**
KIAG						**Sg**	**20 57 12.6**	**+0.2**
KHIT	**Khitrov Hills**	**0.79**	**286**			**Pb**	**20 57 03.4**	**-0.3**
KHIT						**Sn**	**20 57 15.9**	**-1.2**
BGLC	**Bering Glacier**	**0.79**	**262**			**Pb**	**20 57 03.9**	**+0.3**
GRIN	**Grindle Hills**	**0.80**	**274**			**Pb**	**20 57 03.6**	**-0.2**
BARN	**Barnard Glacie**	**0.83**	**2**			**Pg**	**20 57 03.0**	**-0.7**
BARN						**Sg**	**20 57 14.6**	**+0.1**
BALM	**Baldy**	**0.86**	**339**	P		**Pg**	**20 57 03.5**	**-0.8**
BALM				S		**Sg**	**20 57 15.3**	**-0.2**
BALM	**Baldy**	**0.86**	**339**			**Pg**	**20 57 03.5**	**-0.8**
BALM						**Sg**	**20 57 15.3**	**-0.2**
CRQM	**Cirque**	**0.88**	**307**			**Pg**	**20 57 03.7**	**-1.0**
BERG	**Berg Lake**	**1.00**	**280**			**Pg**	**20 57 06.8**	**-0.1**
BERG						**Sn**	**20 57 22.2**	**0.0**
PTPK	**Patty Peak**	**1.02**	**339**	P		**Pg**	**20 57 06.4**	**-1.1**
PTPK				S		**Sg**	**20 57 19.4**	**-1.3**
PTPK	**Patty Peak**	**1.02**	**339**			**Pg**	**20 57 06.3**	**-1.1**
SUCK	**Suckling Hills**	**1.04**	**262**			**Pn**	**20 57 08.2**	**-0.3**
NICHA	**Nichawak Mount**	**1.12**	**271**			**Pb**	**20 57 09.1**	**-0.2**
NICHA						**Sn**	**20 57 26.3**	**+1.1**
YKU2	**Yakutat**	**1.26**	**124**			**Pn**	**20 57 10.2**	**-1.3**
HMT	**Hamilton**	**1.27**	**276**			**Pn**	**20 57 11.2**	**-0.4**
PNL	**Peninsula**	**1.30**	**115**	P		**Pn**	**20 57 10.0**	**-2.0**
PNL				S		**Sb**	**20 57 27.2**	**-1.8**
PNL	**Peninsula**	**1.30**	**115**			**Pn**	**20 57 10.1**	**-2.0**
VRDI	**Verde Repeater**	**1.31**	**320**			**Pn**	**20 57 10.7**	**-1.7**
MCARA	**McCarthy VSAT**	**1.32**	**331**			**Pn**	**20 57 10.9**	**-1.4**
RAGM	**Ragged Mountai**	**1.48**	**277**			**Pn**	**20 57 14.5**	**-0.1**
GOAT	**Goat Mountain**	**1.54**	**284**			**Pn**	**20 57 15.0**	**-0.3**
GOAT						**Sg**	**20 57 37.4**	**+0.3**
GLB	**Gilahina Butte**	**1.59**	**321**			**Pn**	**20 57 15.1**	**-1.0**

YUK2	**White River**	**1.61**	**15**	Pn	**Pn**	**20 57 17.0**	**+0.5**
YUK2				Sg	**Sb**	**20 57 38.1**	**-0.1**
YUK2	**White River**	**1.61**	**15**		**Pn**	**20 57 16.4**	**0.0**
YUK3	**Moose Creek**	**1.66**	**21**	Pn	**Pn**	**20 57 17.9**	**+0.7**
YUK3				Sg	**Sb**	**20 57 40.1**	**+0.4**
YUK3	**Moose Creek**	**1.66**	**21**		**Pn**	**20 57 17.4**	**+0.2**
YUK3					**Sb**	**20 57 40.5**	**+0.8**
YUK7	**Dusty Glacier**	**1.80**	**79**	Pn	**Pn**	**20 57 19.6**	**+0.6**
YUK7				Sg	**Sb**	**20 57 44.6**	**+1.0**
YUK7	**Dusty Glacier**	**1.80**	**79**		**Pn**	**20 57 19.6**	**+0.6**
YUK6	**Outpost Mounta**	**1.80**	**65**	Pn	**Pn**	**20 57 19.8**	**+0.7**
YUK6				Sg	**Sb**	**20 57 43.9**	**+0.2**
YUK6	**Outpost Mounta**	**1.80**	**65**	Pn	**Pn**	**20 57 19.4**	**+0.3**
YUK4	**Talbot Arm**	**1.87**	**52**	Pn	**Pb**	**20 57 22.6**	**+0.5**
YUK4				Sg	**Sg**	**20 57 48.4**	**+0.5**
YUK4	**Talbot Arm**	**1.87**	**52**		**Pb**	**20 57 22.7**	**+0.5**
YUK1	**Sand Pete Hill**	**2.01**	**16**	Pn	**Pb**	**20 57 23.6**	**-1.0**
YUK1				Sg	**Sb**	**20 57 51.0**	**+1.4**
YUK1	**Sand Pete Hill**	**2.01**	**16**		**Pb**	**20 57 23.5**	**-1.0**
EYAK	**Cordova Ski Ar**	**2.03**	**281**		**Pn**	**20 57 21.8**	**-0.2**
YUK5	**Granite Creek**	**2.10**	**63**	Pn	**Pn**	**20 57 24.3**	**+1.1**
YUK5				Sg	**Sb**	**20 57 52.1**	**-0.1**
YUK5	**Granite Creek**	**2.10**	**63**		**Pn**	**20 57 24.2**	**+1.1**
DHAK	**Deception Hill**	**2.12**	**121**		**Pn**	**20 57 21.5**	**-1.7**
DHAK					**Sb**	**20 57 52.1**	**-0.4**
HYT	**Haines Junctio**	**2.16**	**72**	Pn	**Pn**	**20 57 24.2**	**+0.2**
HYT				Sn	**Sn**	**20 57 52.5**	**+1.5**
HYT	**Haines Junctio**	**2.16**	**72**		**Pn**	**20 57 24.1**	**+0.2**
BVCY	**Beaver Creek**	**2.23**	**10**	Pn	**Pn**	**20 57 26.0**	**+1.2**
BVCY				Sg	**Sb**	**20 57 56.5**	**+0.8**
HIN	**Hinchinbrook I**	**2.39**	**276**		**Pn**	**20 57 26.2**	**-0.8**
FID	**Port Fidalgo**	**2.41**	**284**		**Pn**	**20 57 27.6**	**+0.3**
MID	**Middleton Isla**	**2.47**	**253**		**Pn**	**20 57 27.2**	**-0.8**
JPK	**Jack Peak**	**2.54**	**291**		**Pn**	**20 57 29.0**	**-0.1**
PS11	**TAPS Pump St11**	**2.60**	**317**		**Pn**	**20 57 31.3**	**+1.5**
GLI	**Glacier Island**	**2.73**	**286**		**Pn**	**20 57 31.0**	**-0.7**
PLBC	**Pleasant Camp**	**2.81**	**104**	Pn	**Pn**	**20 57 32.0**	**-0.7**
PLBC				Sn	**Sn**	**20 58 06.5**	**-0.1**
PLBC	**Pleasant Camp**	**2.81**	**104**		**Pn**	**20 57 32.1**	**-0.7**
BC03		**2.84**	**359**		**Pn**	**20 57 34.0**	**+0.8**
MENT	**Mentasta**	**2.88**	**341**		**Pn**	**20 57 34.2**	**+0.5**
SCM	**Sheep Creek Mo**	**3.17**	**303**		**Pn**	**20 57 37.9**	**+0.2**
PAX	**Paxson**	**3.28**	**328**	Pn	**Pn**	**20 57 39.8**	**+0.5**
PAX	**Paxson**	**3.28**	**328**		**Pn**	**20 57 39.8**	**+0.5**
SKAG	**Skagway**	**3.31**	**101**		**Pn**	**20 57 38.9**	**-0.7**
PWL	**Port Wells**	**3.33**	**284**		**Pn**	**20 57 39.6**	**-0.4**
WHY	**Whitehorse**	**3.41**	**80**	Pn	**Pn**	**20 57 41.1**	**0.0**
WHY				Sn	**Sn**	**20 58 22.4**	**+0.7**
WHY	**Whitehorse**	**3.41**	**80**		**Pn**	**20 57 41.1**	**0.0**
KNK	**Knik Glacier**	**3.51**	**293**		**Pn**	**20 57 42.4**	**0.0**
SML	**Sawmill**	**3.59**	**299**		**Pn**	**20 57 43.7**	**+0.2**
DOT	**Dot Lake**	**3.60**	**343**	Pn	**Pn**	**20 57 44.3**	**+0.7**
DOT	**Dot Lake**	**3.60**	**343**		**Pn**	**20 57 43.8**	**+0.1**
WAT6	**Susitna Watana**	**3.73**	**312**		**Pn**	**20 57 45.6**	**0.0**
RIDG	**Independent Ri**	**3.81**	**339**		**Pn**	**20 57 48.9**	**+2.3**
GHO	**Glory Hole Cre**	**3.83**	**297**		**Pn**	**20 57 47.2**	**+0.3**
PMR	**Palmer**	**3.87**	**294**		**Pn**	**20 57 44.8**	**-2.5**
SEW	**Seward**	**3.87**	**271**		**Pn**	**20 57 46.6**	**-0.6**
BESE	**Bessie Mountai**	**3.88**	**112**	Pn	**Pn**	**20 57 46.8**	**-0.7**
BESE	**Bessie Mountai**	**3.88**	**112**		**Pn**	**20 57 46.2**	**-1.3**
SCRK	**Sand Creek**	**3.90**	**345**		**Pn**	**20 57 48.1**	**+0.2**
DHY	**Denali Highway**	**3.92**	**319**		**Pn**	**20 57 48.8**	**+0.6**
DAWY	**Dawson**	**4.00**	**15**	Pn	**Pn**	**20 57 50.3**	**+1.2**
DAWY				Sn	**Sn**	**20 58 35.5**	**-0.5**
DAWY	**Dawson**	**4.00**	**15**		**Pn**	**20 57 50.3**	**+1.2**
RC01	**Rabbit Creek A**	**4.04**	**286**		**Pn**	**20 57 49.8**	**+0.2**
WAT1	**Susitna Watana**	**4.18**	**311**		**Pn**	**20 57 52.0**	**+0.3**
SLKM	**Skilak Lake**	**4.23**	**277**		**Pn**	**20 57 51.3**	**-1.0**
JIS	**Juneau Island**	**4.25**	**114**		**Pn**	**20 57 51.2**	**-1.2**
WAT2	**Susitna Watana**	**4.27**	**313**		**Pn**	**20 57 53.5**	**+0.6**
BRSE	**Bradley Lake S**	**4.56**	**268**		**Pn**	**20 57 56.3**	**-0.5**
EGAK	**Eagle**	**4.57**	**3**		**Pn**	**20 57 58.6**	**+1.7**
SUA	**Susitna One**	**4.59**	**289**		**Pn**	**20 57 57.4**	**+0.2**
BRLK	**Bradley Lake**	**4.63**	**268**		**Pn**	**20 57 57.2**	**-0.6**
RND	**Reindeer**	**4.64**	**316**		**Pn**	**20 57 58.9**	**+0.8**
HDA	**Harding Lake**	**4.85**	**332**	P	**Pn**	**20 58 01.1**	**+0.4**
	baz=147						
HDA				Sb	**Sb**	**20 59 16.1**	**+5.1**
	baz=147						
HDA	**Harding Lake**	**4.85**	**332**		**Pn**	**20 58 00.9**	**+0.2**
MCK	**McKinley**	**4.89**	**319**		**Pn**	**20 58 01.5**	**+0.2**
SKT	**Skwentna**	**5.07**	**294**		**Pn**	**20 58 03.8**	**-0.1**
IL31		**5.14**	**334**		**Pn**	**20 58 04.5**	**-0.2**
ILAR	**Eielson Array**	**5.14**	**334**	Pn	**Pn**	**20 58 04.5**	**-0.3**
	1.8nm,0.3s,baz=154,slow=13,SNR=60						
ILAR				Lg	Lg	20 59 29.0	
	3.1nm,0.3s,baz=170,slow=28,SNR=5.0						
SPCG	**Spurr Capps Gl**	**5.16**	**286**		**Pn**	**20 58 04.7**	**-0.5**
WRH	**Wood River Hil**	**5.18**	**328**		**Pn**	**20 58 05.5**	**+0.2**
TRF	**Thorofare Moun**	**5.18**	**312**		**Pn**	**20 58 06.1**	**+0.6**
SPCP	**Crater Peak Br**	**5.22**	**286**		**Pn**	**20 58 05.3**	**-0.7**
CCB	**Clear Creek Bu**	**5.25**	**330**		**Pn**	**20 58 06.7**	**+0.4**
COLA	**College**	**5.45**	**331**		**Pn**	**20 58 08.9**	**-0.1**
TCOL	**CIGO, UAF Yank**	**5.45**	**331**	P	**Pn**	**20 58 09.1**	**+0.1**
	baz=146						
KTH	**Kantishna Hill**	**5.48**	**311**		**Pn**	**20 58 10.5**	**+1.0**
RSO	**Redoubt South**	**5.49**	**277**		**Pn**	**20 58 08.9**	**-0.8**
SPNN	**North Nagishla**	**5.50**	**287**		**Pn**	**20 58 09.5**	**-0.3**
RED	**Redoubt Volcan**	**5.50**	**277**		**Pn**	**20 58 09.6**	**-0.2**
RDJH	**Redoubt Jeurge**	**5.51**	**279**		**Pn**	**20 58 08.4**	**-1.5**
POKR	**Poker Plat Res**	**5.56**	**334**	P	**Pn**	**20 58 11.0**	**+0.5**
	baz=149						
POKR				S	**Sn**	**20 59 13.8**	**-0.6**
	baz=149						
NCT	**North Crescent**	**5.57**	**278**		**Pn**	**20 58 09.6**	**-1.1**
PRP	**Porcupine Dome**	**5.58**	**343**		**Pn**	**20 58 11.5**	**+0.6**
MDM	**Murphy Dome**	**5.61**	**330**		**Pn**	**20 58 11.8**	**+0.6**
PPLA	**Purkeypile**	**5.67**	**303**		**Pn**	**20 58 12.6**	**+0.4**
BPAW	**Bear Paw Mtn.**	**5.82**	**316**		**Pn**	**20 58 13.3**	**-0.8**
KDAK	**Kodiak Island**	**6.13**	**251**		**Pn**	**20 58 18.1**	**-0.2**
DLBC	**Dease Lake**	**6.25**	**102**	Pn	**Pn**	**20 58 19.1**	**-0.9**
	1.7nm,0.3s,baz=186,slow=4.1,SNR=6.3						
DLBC				Sn	**Sn**	**20 59 39.4**	**+8.0**
	1.7nm,0.3s,baz=18,slow=20,SNR=3.6						
MLY	**Manley**	**6.36**	**323**		**Pn**	**20 58 21.3**	**-0.2**
FYU	**Fort Yukon**	**6.55**	**348**		**Pn**	**20 58 25.0**	**+0.9**
EPYK	**Eagle Plains**	**6.55**	**18**	P	**Pn**	**20 58 24.8**	**+0.6**
	baz=202						
EPYK				S	**Sn**	**20 59 39.6**	**+0.7**
	baz=202						
EPYK	**Eagle Plains**	**6.55**	**18**		**Pn**	**20 58 24.6**	**+0.4**
CRAG	**Craig**	**6.62**	**132**	Pn	**Pn**	**20 58 24.0**	**-1.0**
OHAK	**Old Harbor**	**6.74**	**248**		**Pn**	**20 58 25.2**	**-1.4**
BM03	**Burnt Mountain**	**7.33**	**351**		**Pn**	**20 58 35.9**	**+1.2**
TT01	**Tatalina**	**7.33**	**298**		**Pn**	**20 58 34.2**	**-0.6**
TTA	**Tatalina**	**7.33**	**298**		**Pn**	**20 58 34.2**	**-0.7**
COLD	**Coldfoot**	**7.96**	**335**	Pn	**Pn**	**20 58 44.0**	**+0.7**
COLD	**Coldfoot**	**7.96**	**335**		**Pn**	**20 58 44.5**	**+1.2**
DIB	**Dawson Inlet,**	**8.68**	**140**	Pn	**Pn**	**20 58 53.0**	**-0.3**
INK	**Inuvik**	**8.84**	**20**	Pn	**Pn**	**20 58 56.9**	**+1.4**
	0.7nm,0.3s,baz=206,slow=13,SNR=22						
INK				Sn	**Sn**	**21 00 31.9**	**-3.1**
	0.3nm,0.3s,baz=149,slow=19,SNR=3.3						
INK				Lg	Lg	21 01 17.5	
	0.6nm,0.3s,baz=135,slow=17,SNR=3.6						
INK				LR	LR	21 01 54.2	
	comp=Z,55nm,19.7s,baz=130,slow=35						
INK	**Inuvik**	**8.84**	**20**	Pn	**Pn**	**20 58 55.4**	**0.0**
INK	**Inuvik**	**8.84**	**20**		**Pn**	**20 58 53.4**	**-2.0**
MOBC	**Moresby Island**	**8.89**	**139**	Pn	**Pn**	**20 58 55.3**	**-1.0**
MOBC	**Moresby Island**	**8.89**	**139**	Pn	**Pn**	**20 58 55.6**	**-0.6**
TOLK	**Toolik Lake Re**	**9.09**	**342**	P	**Pn**	**20 59 00.2**	**+1.4**
	baz=154						
TOLK				S	**Sn**	**21 00 43.8**	**+2.7**
	baz=154						
TOLK	**Toolik Lake Re**	**9.09**	**342**		**Pn**	**20 58 58.3**	**-0.5**
NBC2	**NorthernBC 2**	**9.64**	**84**	Sg	Sn	21 01 47.7	+53
ANM	**Nome**	**11.76**	**302**	Pn	**Pn**	**20 59 36.0**	**+0.7**
C36M	**Paulatuk**	**11.78**	**32**	P	**Pn**	**20 59 34.5**	**-1.1**
	baz=228						
C36M				S	**Sn**	**21 01 47.6**	**+0.7**
	baz=228						
RDOG	**Red Dog Mine**	**12.06**	**319**	Pn	**Pn**	**20 59 36.7**	**-2.7**
YKW3	**Yellowknife Ar**	**13.15**	**68**		**Pn**	**20 59 53.2**	**-1.1**
YKA	**Yellowknife Ar**	**13.15**	**68**	Pn	**Pn**	**20 59 53.3**	**-1.0**
	1.0nm,0.3s,baz=270,slow=13,SNR=137						
YKA				LR	LR	21 04 45.3	
	comp=Z,11nm,19.1s,baz=337,slow=36						
UNV	**Unalaska Valle**	**14.87**	**255**	Pn	**Pn**	**21 00 19.1**	**+1.3**
BMO	**Blue Mountains**	**21.20**	**126**	P	**P**	**21 01 34.2**	**+0.8**
RES	**Resolute Bay**	**22.15**	**31**	P	**P**	**21 01 42.9**	**-0.3**
	5.2nm,0.8s,baz=248,slow=12,SNR=16						
RES				LR	LR	21 10 36.9	
	comp=Z,106nm,19.0s,baz=348,slow=38						
RES	**Resolute Bay**	**22.15**	**31**	P	**P**	**21 01 42.6**	**-0.6**
ELK	**Elko**	**25.47**	**128**	P	**P**	**21 02 17.9**	**+1.8**
	1.6nm,0.8s,baz=300,slow=6.9,SNR=7.9						
ELK	**Elko**	**25.47**	**128**	P	**P**	**21 02 16.7**	**+0.6**
PDAR	**Pinedale Array**	**26.18**	**117**	P	**P**	**21 02 23.8**	**+1.3**
	0.5nm,0.6s,baz=328,slow=5.3,SNR=5.2						
NVAR	**Mina Array Bea**	**26.36**	**135**	P	**P**	**21 02 25.7**	**+1.6**
	0.9nm,0.8s,baz=305,slow=8.6,SNR=6.4						
PETK	**Petropavlovsk-**	**32.95**	**285**	P	**P**	**21 03 22.1**	**-0.1**
	3.5nm,0.7s,baz=74,slow=9.5,SNR=4.4						
DAG	**Danmarks Havn**	**38.68**	**18**	*i* P	**P**	**21 04 10.8**	**-0.2**
	5.9nm,0.6s						
TXAR	**Lajitas Array**	**40.05**	**123**	P	**P**	**21 04 24.1**	**+1.0**
	0.3nm,0.8s,baz=328,slow=8.5,SNR=4.3						
TXAR				PcP	**PcP**	**21 06 27.2**	**-0.5**
	0.5nm,0.8s,baz=332,slow=3.1,SNR=3.4						
NRIK	**Noril'sk**	**46.00**	**338**	P	**P**	**21 05 10.8**	**+0.2**
	7.6nm,0.5s,baz=58,slow=6.8,SNR=14						
KLR	**Kul'dur**	**47.61**	**298**	P	**P**	**21 05 22.1**	**-1.3**
	0.9nm,0.5s,baz=348,slow=9.3,SNR=3.8						
ARCES	**ARCESS Array B**	**50.20**	**6**	P	**P**	**21 05 42.1**	**-1.0**
	10nm,1.1s,baz=356,slow=6.3,SNR=5.1						
USRK	**Ussuriysk Ar.**	**51.30**	**293**	P	**P**	**21 05 51.6**	**-0.1**
	1.0nm,0.7s,baz=49,slow=9.7,SNR=2.4						
NC405	**NORSAR Array S**	**57.26**	**15**	P	**P**	**21 06 34.4**	**-0.4**
NB2	**NORSAR Subarra**	**57.26**	**15**	P	**P**	**21 06 34.5**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=344,slow=7.4						
NOA	**NORSAR Array B**	**57.26**	**15**	P	**P**	**21 06 34.4**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=346,slow=7.1,SNR=4.5						
NAO01	**NORSAR Array S**	**57.41**	**16**	P	**P**	**21 06 35.6**	**-0.3**
FINES	**FINESS Array B**	**58.28**	**7**	P	**P**	**21 06 41.1**	**-0.8**
	comp=Z,2.6nm,0.6s,baz=1.2,slow=9.3,SNR=16						
KSRS	**Korea Array**	**58.52**	**291**	P	**P**	**21 06 44.5**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=32,slow=6.4,SNR=4.8						
ULN	**Ulaanbaatar**	**58.73**	**313**	P	**P**	**21 06 44.9**	**-0.7**
ULN				IAmb	IAmb	21 06 51.1	
	comp=Z,3.1nm,0.9s						
SONM	**Songino Array**	**59.00**	**313**	P	**P**	**21 06 48.7**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=33,slow=9.0,SNR=10						
ZAA0	**Zalesovo Array**	**60.26**	**330**	P	**P**	**21 06 55.4**	**-0.3**
ZAA0				IAmb	IAmb	21 06 59.2	
	comp=Z,2.7nm,1.0s						
ZALV	**Zalesovo Beam**	**60.26**	**330**	P	**P**	**21 06 55.1**	**-0.6**
	comp=Z,1.7nm,0.3s,baz=19,slow=6.5,SNR=13						
ARU	**Arti**	**62.58**	**347**	P	**P**	**21 07 11.1**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=0.8,slow=4.4,SNR=13						
ARU	**Arti**	**62.58**	**347**	P	**P**	**21 07 10.8**	**-0.6**
BRVK	**Borovoye**	**64.18**	**339**	P	**P**	**21 07 19.9**	**-2.2**
BRVK				IAmb	IAmb	21 07 22.1	
	comp=Z,1.7nm,0.8s						
MK31	**Makanchi Array**	**67.47**	**329**	P	**P**	**21 07 42.4**	**-1.0**
MKAR	**Makanchi Array**	**67.47**	**329**	P	**P**	**21 07 42.4**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=38,slow=6.6,SNR=22						
MAKZ	**Makanchi**	**67.54**	**329**	P	**P**	**21 07 43.2**	**-0.6**
MAKZ				IAmb	IAmb	21 07 44.1	
	comp=Z,8.9nm,1.6s						
UPC	**Upice**	**68.15**	**15**	*e*P	**P**	**21 07 47.8**	**+0.2**
DPC	**Dobruska-Polom**	**68.35**	**15**	*e*P	**P**	**21 07 49.5**	**+0.6**
DPC				*e*pP	**sP**	**21 07 53.5**	**-0.1**
PRU	**Pruhonice**	**68.46**	**16**	*e*P	**P**	**21 07 49.7**	**+0.2**
AKTO	**Aktyubinsk**	**68.54**	**347**	P	**P**	**21 07 50.4**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=349,slow=8.0,SNR=3.8						
GTA	**Gaotai**	**68.67**	**313**	*e*P	**P**	**21 07 51.8**	**+0.6**
GTA				pP	sP	21 07 59.4	+3.5
GTA				sP	pP	21 08 03.5	+8.9
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KRLC	**Kraliky**	**68.67**	**15**	*e*P	**P**	**21 07 51.5**	**+0.6**
KHC	**Kasperske Hory**	**69.16**	**17**	*e*P	**P**	**21 07 52.4**	**-1.6**
KHC				*ex*	x	21 07 54.6	
KHC	**Kasperske Hory**	**69.16**	**17**	P	**P**	**21 07 52.1**	**-1.9**
AKASG	**Malin Array Be**	**69.18**	**6**	P	**P**	**21 07 52.9**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=356,slow=6.1,SNR=12						
AKBB	**Malin Array Si**	**69.18**	**6**	P	**P**	**21 07 52.0**	**-1.9**
AKBB				IAmb	IAmb	21 08 14.6	
	comp=Z,7.1nm,1.2s						
GEC2	**GERESS Array S**	**69.46**	**17**	P	**P**	**21 07 54.3**	**-1.6**
GEC2				IAmb	IAmb	21 08 01.7	
	comp=Z,11nm,1.6s						
GERES	**GERESS Array B**	**69.46**	**17**	P	**P**	**21 07 55.8**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=2.5,slow=3.1,SNR=4.7						
ABKAR	**Akbulak array**	**69.46**	**345**	P	**P**	**21 07 54.9**	**-0.9**
ABKAR				IAmb	IAmb	21 08 02.1	
	comp=Z,3.0nm,0.8s						
MODS	**Modra-Piesok**	**70.41**	**15**	*e*P	**P**	**21 08 01.8**	**+0.2**
WHN	**Wuhan**	**70.45**	**297**	P	**P**	21 08 13.4	+11
VYHS	**Vyhne**	**70.48**	**14**	*e*P	**P**	**21 08 02.7**	**+0.6**
ESDC	**Sonseca Array**	**74.57**	**33**	P	**P**	**21 08 26.9**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=338,slow=4.4,SNR=6.0						
KBZ	**Khabaz**	**76.33**	**357**	P	**P**	**21 08 37.0**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=344,slow=6.0,SNR=7.6						
GAR	**Garm**	**77.67**	**335**	P	**P**	**21 08 43.9**	**-0.5**
GAR				IAmb	IAmb	21 08 48.8	
	comp=Z,6.6nm,0.7s						
CHGR	**Chuyangaron**	**78.24**	**336**	P	**P**	**21 08 47.2**	**-0.3**
BRTR	**Keskin Array B**	**80.32**	**4**	P	**P**	**21 08 58.5**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=10,slow=3.5,SNR=8.4						
LSA	**Lhasa**	**80.50**	**315**	P	**P**	**21 09 02.2**	**+1.8**
LSA				IAmb	IAmb	21 09 02.9	
	comp=Z,3.7nm,0.7s						
GEYT	**Alibeck**	**80.83**	**344**	P	**P**	**21 09 01.7**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=273,slow=5.8,SNR=4.9						
TAPN	**Taplejung**	**83.84**	**317**	*e*P	**P**	**21 09 18.0**	**+0.3**
	comp=Z,1.1nm,0.5s						
GUN	**Gumba**	**83.93**	**319**	*e*P	**P**	**21 09 18.6**	**+0.3**
	comp=Z,23nm,1.0s						
DANN	**Dangsing**	**84.20**	**321**	*e*P	**P**	**21 09 19.6**	**0.0**
	comp=Z,32nm,0.7s						
KKN	**Kakani**	**84.24**	**319**	*e*P	**P**	**21 09 19.8**	**+0.1**
	comp=Z,8.5nm,0.7s						
GKN	**Gorkha**	**84.25**	**320**	*e*P	**P**	**21 09 19.7**	**0.0**
ODAN	**Odare**	**84.40**	**317**	*e*P	**P**	**21 09 21.1**	**+0.6**
	comp=Z,9.7nm,0.8s						
PKIN	**Phulchoki**	**84.40**	**319**	*e*P	**P**	**21 09 20.4**	**-0.2**
	comp=Z,15nm,1.1s						
PKI	**Pulchoki**	**84.40**	**319**	*e*P	**P**	**21 09 20.5**	**-0.1**
DMN	**Daman**	**84.46**	**319**	*e*P	**P**	**21 09 20.2**	**-0.7**
	comp=Z,11nm,0.7s						
RAMN	**Ramite**	**84.58**	**318**	*e*P	**P**	**21 09 21.4**	**-0.1**
	comp=Z,12nm,0.6s						
KOLN	**Koldanda**	**84.79**	**321**	*e*P	**P**	**21 09 22.3**	**-0.2**
	comp=Z,15nm,0.9s						
CM31	**Chiang Mai Arr**	**87.67**	**304**	P	**P**	**21 09 36.2**	**-0.3**
CM31				IAmb	IAmb	21 09 41.4	
	comp=Z,6.3nm,1.1s						
CMAR	**Chiang Mai Arr**	**87.67**	**304**	P	**P**	**21 09 37.0**	**+0.5**
	comp=Z,2.5nm,1.0s,baz=2.2,slow=5.6,SNR=17						

*ISCJB **24** 21:03:02.8±0.3, 43.80N±0.03×105.22W±0.04, h0km, mb4.0/1, Error ellipse: s-maj=4.8km s-min=4.3km az=0.9*
*NEIC **24** 21:03:04.4±2.1, 43.81N±0.02×105.27W±0.08, h0km±2km, ML3.3/68*
*IDC **24** 21:03:04.6±1.5, 43.91N×105.49W, h0km, mb3.9/1, mb1 3.7/6, mb1mx3.4/44, mbtmp3.5/6, ML3.0/4, Error ellipse: s-maj=43.2km s-min=8.2km az=146.0*

ISC 24 21:03:04.0±0.8, 43.78N±0.05×105.22W±0.05, h0km, n51, σ1°34/54, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.92**	**68**		**Pg**	**21 03 22.4**	**+0.8**
K22A	**Casper**	**1.48**	**221**		**Pn**	**21 03 31.1**	**-0.9**
K22A				IAML		21 03 54.5	
	comp=N,666nm,0.3s						
PHWY	**Pilot Hill**	**2.48**	**184**		**Pn**	**21 03 46.6**	**+0.7**
PHWY				IAML		21 04 24.3	
	comp=N,101nm,0.4s						
RWWY	**Rawlins**	**2.55**	**216**		**Pn**	**21 03 48.6**	**+1.7**
RWWY				IAML		21 04 24.0	
	comp=N,180nm,0.7s						
RWWY				IAML		21 04 26.0	
	comp=N,219nm,0.8s						
N23A	**Red Feather La**	**2.93**	**191**		**Pn**	**21 03 53.5**	**+1.5**
N23A				IAML		21 04 38.1	
	comp=N,115nm,0.6s						
N23A				IAML		21 04 41.6	
	comp=E,80nm,0.6s						
LAO	**LASA Array**	**3.00**	**347**		**Pn**	**21 03 53.3**	**+0.4**
RLMT	**Red Lodge**	**3.20**	**296**		**Pn**	**21 03 56.3**	**+0.6**
BW06	**Boulder Array**	**3.33**	**254**		**Pn**	**21 03 58.4**	**+0.9**
BW06				IAML		21 04 49.6	
	comp=E,53nm,0.3s						
BW06				IAML		21 04 50.7	
	comp=N,48nm,0.5s						
PD31	**Pinedale Array**	**3.33**	**254**		**Pn**	**21 03 58.2**	**+0.7**
PDAR	**Pinedale Array**	**3.33**	**254**	Pn	**Pn**	**21 03 57.9**	**+0.4**
	comp=N,5.8nm,0.3s,baz=76,slow=15,SNR=79						
PDAR				Lg	Lg	21 04 43.9	
	comp=N,6.8nm,0.3s,baz=69,slow=33,SNR=5.8						
YNE	**Yellowstone No**	**3.65**	**291**		**Pn**	**21 04 02.5**	**+0.5**
YMP	**Mirror Lake Pl**	**3.67**	**287**		**Pn**	**21 04 03.5**	**+1.1**
OGNE	**Ogallala**	**3.69**	**139**		**Pn**	**21 04 03.1**	**+0.8**
OGNE				Pg	**Pg**	**21 04 12.9**	**-1.8**
OGNE				IAML		21 05 10.1	
	comp=N,96nm,0.9s						
LKWY	**Lake**	**3.81**	**284**		**Pn**	**21 04 04.5**	**+0.3**
LKWY				IAML		21 04 36.1	
	comp=N,47nm,0.7s						
LKWY				IAML		21 05 40.7	
	comp=N,31nm,1.2s						
H17A	**Grant Village**	**3.91**	**281**		**Pn**	**21 04 04.8**	**-0.7**
H17A				IAML		21 05 08.0	
	comp=N,28nm,0.8s						
FLWY	**Flagg Ranch**	**3.97**	**276**		**Pn**	**21 04 05.5**	**-0.9**
FLWY				IAML		21 05 17.3	
	comp=N,37nm,1.1s						
FLWY				IAML		21 05 19.1	
	comp=N,45nm,1.0s						
ISCO	**Idaho Springs**	**3.98**	**184**		**Pn**	**21 04 05.4**	**-1.2**
SNOW	**Snow King Moun**	**4.03**	**267**		**Pn**	**21 04 07.1**	**-0.1**
SNOW				IAML		21 05 14.5	
	comp=N,47nm,0.9s						
SNOW				IAML		21 05 21.8	
	comp=N,58nm,0.8s						
YNR	**Norris Junctio**	**4.03**	**285**		**Pn**	**21 04 06.4**	**-0.9**
YNR				Sn	**Sn**	**21 04 51.8**	**-3.6**
YPP	**Pitchstone Pla**	**4.06**	**279**		**Pn**	**21 04 06.7**	**-0.9**
REDW	**Red Top Meadow**	**4.11**	**266**		**Pn**	**21 04 06.7**	**-1.7**
REDW				IAML		21 05 30.4	
	comp=N,57nm,0.9s						
REDW				IAML		21 05 34.4	
	comp=N,40nm,0.9s						
FXWY	**Fox Creek**	**4.21**	**270**		**Pn**	**21 04 10.9**	**+1.2**
YMR	**Madison River**	**4.22**	**284**		**Pn**	**21 04 10.3**	**+0.4**
O20A	**White River Ci**	**4.28**	**213**		**Pn**	**21 04 10.0**	**-0.6**
O20A				IAML		21 05 22.6	
	comp=N,49nm,1.0s						
O20A				IAML		21 05 23.1	
	comp=E,46nm,0.9s						
YHB	**Horse Butte**	**4.40**	**285**		**Pn**	**21 04 11.6**	**-0.7**
AHID	**Auburn Hatcher**	**4.41**	**259**		**Pn**	**21 04 13.3

ANTM				S		Sg	21 19 28.9	-0.9	
CUSE	**Cuicocha Este**	**1.10**	**54**	P		Pg	21 19 15.4	-0.8	
CUSE				S		Sg	21 19 29.9	-0.6	
ANTS	**Antisana-Sarah**	**1.12**	**97**	P		Pg	21 19 16.5	-0.1	
CUSW	**Cuicocha Oeste**	**1.13**	**56**	P		Pg	21 19 16.0	-0.7	
CUIC	**Cuicocha-Domo**	**1.13**	**55**	P		Pg	21 19 15.7	-1.0	
CUIC				S		Sg	21 19 30.4	-1.1	
PIS1	**Pisayambo**	**1.14**	**128**	P		Pg	21 19 16.8	-0.1	
PISA	**Pisayambo**	**1.14**	**128**	P		Pg	21 19 16.0	-0.9	
COTA	**Cotacachi**	**1.17**	**54**	P		Pg	21 19 16.7	-0.7	
IMBA	**Imbabura, San**	**1.25**	**60**	P		Pb	21 19 18.6	-0.3	
URCU	**Urcuqui**	**1.29**	**53**	P		Pn	21 19 18.8	-0.7	
CAYA	**Cayambe**	**1.36**	**72**	P		Pn	21 19 20.3	-0.2	
AIB2	**Ibarra (Univer**	**1.37**	**60**	P		Pb	21 19 21.4	+0.2	
BRUN	**Tungurahua Vol**	**1.38**	**141**	P		Pn	21 19 20.1	-0.4	
BULB	**Ulba Tungurahu**	**1.39**	**141**	P		Pn	21 19 20.6	-0.2	
BMAS	**Trigal station**	**1.40**	**145**	P		Pn	21 19 21.1	+0.2	
YAHU	**Yahuarcocha**	**1.41**	**59**	P		Pn	21 19 21.2	+0.1	
BPAT	**Tungurahua Vol**	**1.43**	**143**	P		Pn	21 19 21.4	0.0	
LAV4	**Lava4-Reventad**	**1.68**	**81**	P		Pb	21 19 25.7	-0.4	
REVS	**Reventador Sur**	**1.68**	**82**	P		Pb	21 19 25.9	-0.2	
APUY	**Puyo**	**1.69**	**130**	P		Pb	21 19 27.3	+1.0	
TULM	**Tulcn-Chalpat**	**1.84**	**55**	P		Pn	21 19 28.2	+1.2	
PPLP	**Puerto Lpez**	**1.90**	**231**	P		Pn	21 19 25.3	-2.2	
CASC	**Dorado de Casc**	**2.01**	**76**	P		Pb	21 19 31.0	-0.6	
COHC	**Cochancay**	**2.10**	**179**	P		Pn	21 19 29.2	-1.0	
GCUF	**Volcan Galeras**	**2.49**	**51**	*eP*		Pb	21 19 41.1	+0.9	
GCUF	**Volcan Galeras**	**2.49**	**51**	*eP*		Pb	21 19 41.1	+0.9	
SALI	**Salinas**	**2.50**	**223**	P		Pn	21 19 35.5	-0.1	
MORR	**Playas El Morr**	**2.50**	**205**	P		Pn	21 19 34.6	-1.1	
CRUC	**La Cruz**	**3.01**	**51**	*eP*		Pb	21 19 47.4	-1.5	
CRUC	**La Cruz**	**3.01**	**51**	*eP*		Pb	21 19 47.4	-1.5	
BBAC	**Balboa, Cauca**	**3.12**	**41**	*eP*		Pn	21 19 47.0	+2.6	
BBAC	**Balboa, Cauca**	**3.12**	**41**	*eP*		Pn	21 19 47.0	+2.6	
SOTA	**Rioblanco**	**3.64**	**47**	*eP*		Pn	21 19 55.8	+3.9	
SOTA	**Rioblanco**	**3.64**	**47**	*eP*		Pn	21 19 55.8	+3.9	
POPC	**Popayan, Colom**	**3.88**	**42**	*eP*		Pn	21 19 58.3	+3.4	
POPC	**Popayan, Colom**	**3.88**	**42**	*eP*		Pn	21 19 58.3	+3.4	
PCON	**Cinco Dias**	**3.93**	**47**	*eP*		Pn	21 20 00.4	+4.6	
PCON	**Cinco Dias**	**3.93**	**47**	*eP*		Pn	21 20 00.4	+4.6	
FLOC	**Florencia**	**4.11**	**62**	*eP*		Pg	21 20 10.8	-2.9	
FLOC	**Florencia**	**4.11**	**62**	*eP*		Pg	21 20 10.8	-2.9	
ZUMB	**Zumba**	**4.48**	**178**	P		Pn	21 20 05.0	+1.9	
YOTC	**Yotoco, Valle**	**5.21**	**34**	*eP*		Pn	21 20 12.3	-0.8	
YOTC	**Yotoco, Valle**	**5.21**	**34**	*eP*		Pn	21 20 12.3	-0.8	

*KRNET **24** 21:28:15.5±0.1, 41°.15N×71°.40E, h12km, mb2.6*
*NNC **24** 21:28:17.0±2.5, 40°.98N×71°.55E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=20.4km s-min=7.4km az=9.0*
*SOME **24** 21:28:19.5, 41°.22N×71°.42E, h10km*
ISC 24 21:28:16.0±1.5, **41°.07N**±0°.05×**71°.54E**±0°.03, **h4**km±13km, **n23**, σ1**s57**/40, **19C-7D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.80**	**23**	⇑*i*P		**Pg**	**21 28 30.7**	**-0.6**
ARK	baz=34			⇑*i*S		**Sg**	**21 28 40.9**	**-0.8**
ARSB	**Arslanbob**	**1.12**	**76**	⇓*i*P		**Pb**	**21 28 38.3**	**+0.3**
ARSB	baz=81			⇓*i*S		**Sn**	**21 28 55.4**	**+0.9**
BTK	**Batken**	**1.15**	**209**	⇑*i*P		**Pb**	**21 28 37.9**	**-0.6**
BTK	baz=2.0			⇑*i*S		**Sn**	**21 28 54.6**	**-0.6**
IUG	**Iuzhnay**	**1.56**	**314**	*eP*		**Pg**	**21 28 46.3**	**+0.2**
IUG	5.0nm,0.4s			*eS*		**Sg**	**21 29 07.0**	**+0.6**
IUG	**Iuzhnay**	**1.56**	**314**	P		**Pg**	**21 28 46.3**	**+0.2**
IUG	129nm,0.5s 5.0nm,0.4s			S		**Sg**	**21 29 07.0**	**+0.6**
DZA	**Taraz**	**1.83**	**355**	*eP*		**Pg**	**21 28 51.4**	**+0.3**
DZA	7.9nm,0.3s 158nm,0.4s			*eS*		**Sg**	**21 29 15.9**	**+1.0**
DZA	**Taraz**	**1.83**	**355**	P		**Pg**	**21 28 51.4**	**+0.3**
DZA	7.9nm,0.3s 158nm,0.4s			S		**Sg**	**21 29 15.9**	**+1.0**
AML	**Almayashu**	**1.93**	**56**	⇓*i*P		**Pb**	**21 28 52.6**	**+0.5**
AML	baz=60 baz=60			⇓*i*S		**Sg**	**21 29 19.6**	**+1.4**
MRKS	**Merke**	**2.10**	**36**	*eP*		**Pg**	**21 28 57.2**	**+1.0**
MRKS	12nm,0.2s 35nm,0.4s			*eS*		**Sg**	**21 29 26.2**	**+2.8**
MRKS	**Merke**	**2.10**	**36**	Pg		**Pg**	**21 28 57.2**	**+1.0**
MRKS	12nm,0.7s 35nm,0.4s			Lg		Lg	21 29 26.2	
KK31	**Karatay Array**	**2.18**	**340**	Pn		**Pg**	**21 28 56.3**	**-1.4**
KK31	4.5nm,0.3s,baz=156,slow=12,SNR=72 26nm,0.5s,baz=156,slow=26,SNR=19			⇑Sn		**Sg**	**21 29 26.1**	**+0.2**
ARLS	**Aral**	**2.24**	**68**	⇑*i*P		**Pb**	**21 28 57.1**	**0.0**
ARLS	baz=71			⇑*i*S		**Sb**	**21 29 27.6**	**+2.4**
EKS2	**Erkin-Say**	**2.31**	**46**	⇑*e*P		**Pb**	**21 28 57.0**	**-1.3**
EKS2	baz=49 baz=49			⇑*i*S		**Sb**	**21 29 27.7**	**+0.4**
UCH	**Uchtor**	**2.51**	**61**	⇑*i*P		**Pb**	**21 29 00.7**	**-1.3**
UCH	baz=64 baz=64			⇑*i*S		**Sb**	**21 29 33.9**	**+0.5**
AAK	**Ala-Archa**	**2.71**	**54**	⇑*i*P		**Pb**	**21 29 02.9**	**-2.2**
AAK	baz=56 baz=56			⇑*i*S		**Sb**	**21 29 37.9**	**-0.9**
AAK	**Ala-Archa**	**2.71**	**54**	⇑Pg		**Pb**	**21 29 05.8**	**+0.6**
AAK	2.0nm,0.4s 9.3nm,0.7s			Lg		Lg	21 29 42.6	
KZA	**Kyzart**	**2.96**	**69**	⇑*i*P		**Pb**	**21 29 07.0**	**-2.6**
KZA	baz=71 baz=71			⇑*i*S		**Sb**	**21 29 45.1**	**-1.2**
KBK	**Karagaybulak**	**3.00**	**57**	⇓*i*P		**Pb**	**21 29 07.0**	**-3.1**
KBK	baz=59 baz=59			⇓*i*S		**Sb**	**21 29 45.1**	**-2.1**
USP	**Ospenovka**	**3.11**	**44**	⇑*i*P		**Pn**	**21 29 07.9**	**+2.0**
USP	baz=46 baz=46			⇑*i*S		**Sb**	**21 29 46.5**	**-3.7**
TKM2	**Tokmak 2**	**3.54**	**57**	⇑Pg		**Pg**	**21 29 25.1**	**+1.2**
TKM2	1.0nm,0.5s 3.0nm,0.5s			⇓Lg		Lg	21 30 08.1	
DGS	**Degeres**	**3.82**	**54**	Pg		**Pg**	**21 29 27.4**	**-1.9**
DGS	0.8nm,0.5s 4.3nm,0.6s			Lg		Lg	21 30 17.8	
KST	**Kastek**	**3.84**	**58**	Pg		**Pg**	**21 29 28.5**	**-1.1**
KST	0.8nm,0.4s 4.5nm,0.8s			Lg		Lg	21 30 19.4	
KTBS	**Karatobe**	**4.63**	**54**	Pg		**Pg**	**21 29 42.1**	**-2.7**
KTBS	1.2nm,1.0s 4.1nm,1.0s			Lg		Lg	21 30 42.7	

*ISCJB **24** 21:33:18.9±0.8, 42°.77N±0°.03×42°.11E±0°.05, h1km±6km, Error ellipse: s-maj=5.8km s-min=4.5km az=6.5*
*ISK **24** 21:33:19.6, 42°.74N×42°.17E, h14km, ML2.5/4*
*TIF **24** 21:33:19.2, 42°.75N×42°.12E, h15km±1km*
*NORS **24** 21:33:20.3±0.0, 42°.79N×42°.15E, h8km, MPVA3.4*
ISC 24 21:33:20.0±1.1, **42°.76N**±0°.03×**42°.15E**±0°.04, **h17**km±10km, **n18**, σ0**s61**/32, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NEY	**Neytrino**	**0.65**	**41**	*i* Pg		**Pg**	**21 33 32.4**	**-0.4**
NEY				*e*Sg		**Sg**	**21 33 41.0**	**-0.5**
TKB	**Tkibuli**	**0.75**	**123**	P		**Pb**	**21 33 34.5**	**-0.1**
TKB				S		**Sb**	**21 33 45.2**	**+0.6**
ONI	**Oni**	**0.98**	**100**	P		**Pn**	**21 33 38.9**	**-0.2**
ONI				S		**Sn**	**21 33 52.6**	**+0.1**
ONI	**Oni**	**0.98**	**100**	PG		**Pn**	**21 33 38.7**	**-0.3**
ONI				SG		**Sn**	**21 33 51.9**	**-0.6**
SHA1	**Shidzhatmaz**	**1.05**	**21**	*e*Pg		**Pb**	**21 33 39.8**	**0.0**
SHA1				*e*Sg		**Sn**	**21 33 54.5**	**0.0**
DIGR	**Digorskoe uzhe**	**1.06**	**82**	*e*Pg		**Pb**	**21 33 39.9**	**-0.2**
DIGR				*e*Sg		**Sb**	**21 33 53.3**	**-0.5**
BATM	**Batumi**	**1.20**	**196**	P		**Pb**	**21 33 42.1**	**-0.2**
BATM				S		**Sg**	**21 33 59.1**	**+0.1**
BATM	**Batumi**	**1.20**	**196**	PN		**Pb**	**21 33 42.0**	**-0.3**
BATM				SN		**Sg**	**21 33 59.0**	**+0.1**
KIV	**Kislovodsk**	**1.26**	**18**	PN		**Pg**	**21 33 43.9**	**-0.4**
KIV				SN		**Sg**	**21 34 00.7**	**-0.1**
ZEI	**Tsey**	**1.29**	**88**	*e*Pg		**Pg**	**21 33 46.3**	**+1.3**
ZEI				*e*Sg		**Sg**	**21 34 03.3**	**+1.4**
KBTC	**Kuba-Taba**	**1.40**	**41**	*e*Pg		**Pg**	**21 33 47.5**	**+0.5**
KBTC				*e*Sg		**Sg**	**21 34 06.0**	**+0.7**
LACR	**Lac**	**1.58**	**87**	*e*Pg		**Pg**	**21 33 50.0**	**-0.5**
LACR				*e*Sg		**Sg**	**21 34 11.2**	**0.0**
AKH	**Akhalkalaki**	**1.68**	**143**	P		**Pb**	**21 33 50.7**	**+0.1**
AKH				S		**Sg**	**21 34 13.3**	**-1.0**
AKH	**Akhalkalaki**	**1.68**	**143**	PN		**Pb**	**21 33 49.4**	**-1.2**
CHOM	**Cayeli-Rize**	**1.96**	**212**	PN		**Pn**	**21 33 53.0**	**+0.6**
TBLG	**Delisi**	**2.18**	**117**	P		**Pb**	**21 33 58.3**	**-0.7**
TBLG				S		**Sb**	**21 34 25.9**	**0.0**
TBLG	**Delisi**	**2.18**	**117**	PN		**Pn**	**21 33 56.1**	**+0.6**
SENK	**Senkaya-Erzuru**	**2.20**	**176**	PN		**Pn**	**21 33 56.5**	**+0.5**

*SJA **24** 22:01:01.8±1.2, 32°.14S×70°.92W, h78km±6km, ML3.0, MW3.3*
*GUC **24** 22:01:03.0±0.5, 32°.15S×70°.84W, h57km±6km, ML3.5*
ISC 24 22:01:03.9±1.6, **32°.15S**±0°.03×**70°.88W**±0°.05, **h73**km±17km, **n34**, σ1**s22**/57, **3C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.83**	**188**	⇓*i*P		**Pn**	**22 01 20.1**	**-0.7**
ROCH				*i* S		**Sn**	**22 01 33.6**	**+0.3**
ROC1	**El Roble**	**0.84**	**188**	*e*P		**Pn**	**22 01 20.2**	**-0.7**
ROC1				*e*S		**Sn**	**22 01 33.3**	**-0.1**
ROC1	**El Roble**	**0.84**	**188**	*e*P		**Pn**	**22 01 20.2**	**-0.7**
ROC1				*e*S		**Sn**	**22 01 33.5**	**+0.1**
CO02	**Combarbal**	**0.94**	**354**	⇑*i*P		**Pn**	**22 01 21.6**	**-0.5**
CO02				*i* S		**Sn**	**22 01 35.9**	**+0.4**
CO02	comp=N,4μm,0.2s			IAML			22 01 38.8	
PEL	**Peldehue**	**1.01**	**171**	*e*P		**Pn**	**22 01 21.8**	**-0.9**
PEL				*e*S		**Sn**	**22 01 37.0**	**+0.3**
PEL	comp=E,1μm,0.2s			IAML			22 01 38.8	
PEL	**Peldehue**	**1.01**	**171**	*e*P		**Pn**	**22 01 22.2**	**-0.5**
PEL				*e*S		**Sn**	**22 01 37.7**	**+0.9**
VA01	**Torpederas**	**1.09**	**216**	⇑*i*P		**Pn**	**22 01 23.3**	**-0.3**
VA01				*e*S		**Sn**	**22 01 38.8**	**+0.4**
VA01	comp=E,2μm,0.1s			IAML			22 01 44.1	
FCH	**Farellones**	**1.28**	**157**	⇑*i*P		**Pn**	**22 01 26.5**	**0.0**
FCH				*i* S		**Sn**	**22 01 44.5**	**+1.2**
FCH	comp=E,1μm,0.3s			IAML			22 01 46.5	
CLCH	**Cerro Calan**	**1.28**	**167**	*e*P		**Pn**	**22 01 25.9**	**-0.3**
CLCH				*e*S		**Sn**	**22 01 43.3**	**+0.4**
CLCH	comp=E,2μm,0.8s			IAML			22 01 48.5	
RTLS	**Leoncito**	**1.39**	**76**	*e*P		**Pn**	**22 01 28.1**	**+0.3**
RTLS				*e*S		**Sn**	**22 01 47.0**	**+1.3**
RTLS	comp=Z,64nm,0.2s			IAML			22 01 48.4	
RTLS	**Leoncito**	**1.39**	**76**	*i* P		**Pn**	**22 01 28.0**	**+0.2**
RTLS				*e*S		**Sn**	**22 01 47.1**	**+1.3**
LMEL	**Las Melosas**	**1.79**	**162**	*e*P		**Pn**	**22 01 33.6**	**+0.6**
LMEL				*e*S		**Sn**	**22 01 56.4**	**+1.3**
LMEL	comp=N,1μm,0.1s			IAML			22 01 59.6	
ZON	**Zonda**	**1.96**	**73**	*e*P		**Pn**	**22 01 36.2**	**+1.0**
ZON				*e*S		**Sn**	**22 01 59.9**	**+0.9**
ZON	comp=Z,100nm,0.3s			IAML			22 02 02.4	
ZON	**Zonda**	**1.96**	**73**	*i* P		**Pn**	**22 01 36.2**	**+1.0**
ZON				*e*S		**Sn**	**22 01 59.8**	**+0.8**
ZON	comp=Z,100nm,0.3s			IAML			22 02 02.4	
GO04	**Tololo Observa**	**1.97**	**2**	*e*P		**Pn**	**22 01 34.8**	**-0.6**
GO04	**Tololo Observa**	**1.97**	**2**	*e*P		**Pn**	**22 01 35.0**	**-0.4**
GO04	**Tololo Observa**	**1.97**	**2**	*e*P		**Pn**	**22 01 35.0**	**-0.4**
GO04				*e*S		**Sn**	**22 02 00.0**	**+0.6**
RTCV	**Cerro Valdivia**	**2.01**	**83**	*e*P		**Pn**	**22 01 36.0**	**+0.3**
RTCV				*e*S		**Sn**	**22 02 01.7**	**+1.6**
RTCV	comp=Z,168nm,0.2s			IAML			22 02 02.0	
RTCV	**Cerro Valdivia**	**2.01**	**83**	*i* P		**Pn**	**22 01 36.1**	**+0.3**
RTCV				*e*S		**Sn**	**22 02 01.7**	**+1.6**
RTCV	comp=Z,167nm,0.2s			IAML			22 02 02.0	
RTLL	**Cerro Villicun**	**2.20**	**69**	*e*P		**Pn**	**22 01 38.3**	**-0.1**
RTLL				*e*S		**Sn**	**22 02 05.2**	**+0.4**
RTLL	comp=Z,161nm,0.4s			IAML			22 02 08.1	
RTLL	**Cerro Villicun**	**2.20**	**69**	*i* P		**Pn**	**22 01 38.4**	**-0.1**
RTLL				*e*S		**Sn**	**22 02 04.9**	**+0.1**
RTLL	comp=Z,161nm,0.4s			IAML			22 02 08.1	
CFA	**Coronel Fontan**	**2.31**	**77**	*e*P		**Pn**	**22 01 39.6**	**-0.2**
CFA				*e*S		**Sn**	**22 02 08.3**	**+0.9**
CFA	**Coronel Fontan**	**2.31**	**77**	*i* P		**Pn**	**22 01 39.7**	**-0.2**
CFA				*e*S		**Sn**	**22 02 08.6**	**+1.2**
AMOG	**MOGNA**	**2.37**	**60**	*e*P		**Pn**	**22 01 40.8**	**+0.1**
AMOG				*e*S		**Sn**	**22 02 09.7**	**+1.0**
AMOG	comp=Z,138nm,0.3s			IAML			22 02 16.3	
AMOG	**MOGNA**	**2.37**	**60**	*i* P		**Pn**	**22 01 40.9**	**+0.2**
AMOG				*e*S		**Sn**	**22 02 10.4**	**+1.7**
AMOG	comp=Z,138nm,0.3s			IAML			22 02 16.3	
GO05	**Huala**	**2.99**	**197**	*e*P		**Pn**	**22 01 47.4**	**-1.7**
GO05				*e*S		**Sn**	**22 02 27.8**	**+4.0**
ACAN	**Cantantal**	**3.13**	**93**	*e*P		**Pn**	**22 01 50.2**	**-0.8**
ACAN	comp=Z,34nm,0.2s			IAML			22 02 28.9	
ACAN	**Cantantal**	**3.13**	**93**	*i* P		**Pn**	**22 01 50.4**	**-0.6**
ACAN	comp=Z,32nm,0.3s			IAML			22 02 29.4	
MRA	**San Martin**	**4.38**	**95**	*i* P		**Pn**	**22 02 06.3**	**-1.8**
MRA	comp=Z,11nm,0.5s			IAML			22 02 59.2	
TCA	**Tanti**	**5.41**	**83**	*i* P		**Pn**	**22 02 20.2**	**-2.0**
TCA	comp=Z,21nm,1.2s			IAML			22 03 23.3	
CYA	**Choya**	**5.74**	**51**	*i* P		**Pn**	**22 02 24.4**	**-2.2**
CYA	comp=Z,9.4nm,0.8s			IAML			22 03 32.5	
AHML	**Horco Molle**	**7.20**	**44**	*i* P		**Pn**	**22 02 42.9**	**-3.7**
AHML	comp=Z,4.5nm,1.8s			IAML			22 04 09.3	
PB14	**IPOC Station P**	**7.50**	**3**	*i* P		Pn	22 02 59.8	+8.8
PB14	comp=Z,5.5nm,2.6s			IAML			22 04 48.4	
TRQA	**Tornquist**	**9.38**	**131**	*i* P		**Pn**	**22 03 14.0**	**-2.2**

*ISCJB **24** 22:20:54.8±0.9, 46°.5S±0°.2×96°.9E±0°.3, h10km, mb3.8/5, MS3.7/7, Error ellipse: s-maj=38.4km s-min=15.2km az=41.9*
*IDC **24** 22:20:54.8±1.2, 46°.59S×96°.86E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/40, mbtmp3.9/5, MS3.7/7, Ms1 3.7/7, ms1mx3.4/26, Error ellipse: s-maj=44.6km s-min=27.6km az=133.0*
ISC 24 22:20:56.7±1.1, **46°.5S**±0°.2×**96°.9E**±0°.2, **h10**km, **n20**, σ0**s56**/10, **mb3.8**/5, **MS3.7**/7, **Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.43**	**54**	T		T	22 43 11.4	
H01W3	baz=224,slow=74,SNR=28 **Cape Leeuwin H**	**17.44**	**54**	T		T	22 43 12.4	
H01W1	baz=224,slow=74,SNR=26 **Cape Leeuwin H**	**17.44**	**54**	T		T	22 43 13.2	
NWAO	baz=224,slow=74,SNR=24 **Narrogin (SRO)**	**20.62**	**56**	LR		LR	22 31 39.6	
	comp=Z,301nm,20.0s,baz=267,slow=31							
STKA	**Stephens Creek**	**37.07**	**83**	P		**P**	**22 28 06.7**	**-0.2**
STKA	1.8nm,1.1s,baz=233,slow=10,SNR=1.6 comp=Z,136nm,20.9s,baz=207,slow=31			LR		LR	22 40 18.9	
ASAR	**Alice Springs**	**37.40**	**65**	P		**P**	**22 28 10.5**	**+0.6**
ASAR	1.1nm,0.9s,baz=220,slow=8.4,SNR=2.7 comp=Z,104nm,19.9s,baz=235,slow=33			LR		LR	22 41 37.6	
WRA	**Warramunga Arr**	**40.43**	**62**	P		**P**	**22 28 35.1**	**-0.1**
	0.4nm,0.9s,baz=221,slow=9.4,SNR=3.4							
H08S2	**Diego Garcia H**	**44.05**	**324**	T		T	23 15 32.1	
	baz=156,slow=76,SNR=18							
H08S1	**Diego Garcia H**	**44.05**	**324**	T		T	23 15 36.4	
	baz=156,slow=76,SNR=29							
H08S3	**Diego Garcia H**	**44.07**	**324**	T		T	23 15 35.6	
	baz=156,slow=76,SNR=17							
SNAA	**Sanae**		**49.52**	**204**	P	**P**	**22 29 47.4**	**+0.3**
SNAA	**Sanae**		**49.52**	**204**	P	**P**	**22 29 46.1**	**-0.9**
	2.3nm,0.9s,baz=126,slow=5.1,SNR=6.6							
VNA2	**Neumayer--Watz**	**51.17**	**204**	P		**P**	**22 29 59.6**	**+0.2**
	baz=91,slow=5.3							
VNA3	**Neumayer Olymp**	**51.63**	**203**	P		**P**	**22 30 03.6**	**+0.7**
BOSA	**Boshof**	**57.62**	**261**	LR		LR	22 49 35.1	
	comp=Z,81nm,21.8s,baz=142,slow=30							
CMAR	**Chiang Mai Arr**	**64.70**	**2**	P		**P**	**22 31 34.9**	**+0.1**
	1.2nm,0.4s,baz=195,slow=6.5,SNR=5.1							
CMAR				LR		LR	22 56 05.9	
	comp=Z,29nm,19.7s,baz=188,slow=33							
PLCA	**Paso Flores**		**92.41**	**189**	LR	LR	23 16 47.8	
	comp=Z,39nm,18.1s,baz=168,slow=36							
MMAI	**Mount Meron Ar**	**96.64**	**312**	LR		LR	23 12 28.7	
	comp=Z,30nm,18.2s,baz=320,slow=32							
RES	**Resolute Bay**		**151.28**	**7**	PKPbc	**PKPbc**	**22 40 48.6**	**-0.3**
	1.6nm,1.0s,baz=339,slow=7.0,SNR=3.5							
NVAR	**Mina Array Bea**		**152.97**	**95**	PKPbc	**PKPbc**	**22 40 53.8**	**-0.3**
	0.2nm,0.7s,baz=221,slow=4.8,SNR=2.6							

IDC 24 22:32:05.7±13.0, **13°.81S×165°.92E, h0**km, **mb3.6**/3, **mb1 3.8**/4, **mb1mx3.5**/37, **mbtmp3.7**/4, **ML3.6**/1, **Error ellipse: s-maj=230.6km s-min=38.6km az=57.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.23**	**177**	Pn		Pn	22 34 06.4	-0.1
DZM	0.8nm,0.3s,baz=3.2,slow=15,SNR=12 baz=63,slow=14,SNR=1.5			Sn		Sn	22 35 40.6	+0.3
STKA	**Stephens Creek**	**28.62**	**227**	P		P	22 38 04.8	+0.7
	0.8nm,0.6s,baz=60,slow=11,SNR=7.0							
WRA	**Warramunga Arr**	**30.80**	**254**	P		P	22 38 23.2	-0.2
	0.5nm,0.7s,baz=86,slow=9.3,SNR=4.0							
ASAR	**Alice Springs**	**31.80**	**247**	P		P	22 38 31.8	-0.4
	0.3nm,0.5s,baz=75,slow=9.2,SNR=12							

*NIED **24** 22:41:00, 36°.90N×141°.20E, h50km, Mw4.2 Best double couple: M0 2.59000×10^15 NP1:ϕs185.00000°, δ27.00000°, λ39.00000°. NP2:ϕs59.00000°, δ74.00000°, λ112.00000°.*
*MOS **24** 22:41:54.7±1.2, 36°.81N×141°.37E, h33km, mb4.5/14, Error ellipse: s-maj=8.9km s-min=5.9km az=101.3*
*BJI **24** 22:41:55.6±0.0, 36°.77N×141°.37E, h46km, mb4.6/30, mB5.1/15, Ms4.7/8, Ms7 4.5/8*
*ISCJB **24** 22:41:56.5±0.5, 36°.86N±0°.03×141°.32E±0°.04, h48km±3km, mb4.3/47, MS3.8/9, Error ellipse: s-maj=6.0km s-min=3.7km az=34.2*
*NEIC **24** 22:41:57.6±1.9, 36°.84N±0°.04×141°.36E±0°.04, h48km±5km, mb4.6/47*
*JMA **24** 22:41:58.2±0.1, 36°.87N×141°.18E, h49km±1km, M4.2 Broadband fault plane solution: P waves. NP1: ϕs75.00000°, δ68.00000°, λ117.00000°. NP2: ϕs202.00000°, δ34.00000°, λ42.00000°. Principal axes: T Plg58.0000°, Azm22.0000°; N Plg25.0000°, Azm245.0000°; P Plg19.0000°, Azm146.0000°;*
JMA Felt II J1.
*IDC **24** 22:42:02.1±1.7, 36°.90N×141°.08E, h79km±14km, mb4.0/26, mb1 4.1/32, mb1mx4.0/44, mbtmp4.2/32, MS3.2/9, Ms1 3.3/9, ms1mx3.0/44 Error ellipse: s-maj=14.6km s-min=11.0km az=131.0*
ISC 24 22:41:55.5±0.7, **36°.78N**±0°.04×**141°.44E**±0°.04, **h30**km±4km, **n181**, σ1**s79**/199, **mb4.4**/58, **MS3.7**/9, **9C-10D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.60**	**302**	⇓P		**Pb**	**22 42 07.8**	**+0.1**
ONAJ				S		**Sb**	**22 42 14.5**	**-1.5**
JHO	**Hitachi**	**0.72**	**257**	⇑P		**Pb**	**22 42 09.8**	**+0.3**
JHO				S		**Sb**	**22 42 17.8**	**-1.3**
JFK	**Kawauchi**	**0.74**	**323**	⇓P		**Pn**	**22 42 09.8**	**-0.1**
JFK				eS		**Sb**	**22 42 17.9**	**-1.9**
JFFD	**Fukushimafurud**	**0.77**	**294**	⇓P		**Pn**	**22 42 09.8**	**-0.5**
JFFD				S		**Sb**	**22 42 17.7**	**-2.8**
JYT	**Yasato**	**1.14**	**242**	P		**Pb**	**22 42 16.2**	**-0.4**
JYT				S		**Sn**	**22 42 29.1**	**-0.9**
JFT	**Otama**	**1.15**	**310**	⇓P		**Pn**	**22 42 15.9**	**+0.4**
JFT				S		**Sn**	**22 42 28.6**	**-1.6**
JMM	**Marumori**	**1.20**	**335**	⇓P		**Pn**	**22 42 16.2**	**0.0**
JMM				S		**Sn**	**22 42 29.4**	**-2.1**
JSB	**Shiboa**	**1.23**	**279**	⇓P		**Pn**	**22 42 17.0**	**+0.3**
JSB				S		**Sn**	**22 42 30.7**	**-1.6**
JFY	**Yanaizu**	**1.52**	**295**	P		**Pn**	**22 42 20.6**	**0.0**
JFY				eS		**Sn**	**22 42 37.9**	**-1.5**
JAG	**Ashikaga**	**1.63**	**258**	P		**Pn**	**22 42 22.6**	**+0.4**
JAG				S		**Sn**	**22 42 40.3**	**-1.9**
MJAR	**Matsushiro Arr**	**2.61**	**266**	P		**Pn**	**22 42 36.9**	**+1.3**
MJAR	5.0nm,0.3s,baz=90,slow=13,SNR=15.4 9.8nm,0.3s,baz=97,slow=28,SNR=15			S		**Sn**	**22 43 06.7**	**+0.5**

comp=Z,170nm,5.4s
MDJ Mudanjiang 11.91 315 Pn **Pn** **22 44 40.8 -2.4**
CN2 Changchun 14.06 305 *e*P **Pn** **22 45 14.3 +1.7**
KLR Kul'dur 14.30 333 P **Pn** **22 45 18.0 +2.2**
0.2nm,0.3s,baz=154,slow=18,SNR=2.9
SSE Sheshan 17.72 257 Pn **Pn** **22 45 57.8 -2.2**
SSE IAmb IAmb 22 46 02.4
comp=Z,32nm,0.8s
NJ2 Nanjing 19.21 262 *e*P **P** **22 46 15.8 -1.1**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
PETK Petropavlovsk- 19.90 30 P **Pn** **22 46 27.1 +1.0**
comp=Z,0.2nm,0.3s,baz=205,slow=6.4,SNR=2.4
TPUB Ta-pu 22.41 239 P **P** **22 46 49.7 -1.9**
WHN Wuhan 23.34 262 P **P** **22 47 01.6 +0.4**
HHC Hu-ho-hao-te 23.57 289 P **P** **22 46 58.8 -4.7**
MA2 Magadan 23.60 12*ce*P **P** **22 47 03.9 +0.4**
MA2 pmax pmax
comp=Z,17nm,1.7s
MA2 Magadan 23.60 12 P **P** **22 47 04.5 +1.1**
comp=Z,4.3nm,0.3s,baz=180,slow=10,SNR=3.7
MA2 Magadan 23.60 12 IAmb IAmb 22 47 23.8
comp=Z,48nm,1.5s
YAK Yakutsk 26.32 347 *e*P **P** **22 47 27.6 -0.7**
YAK *e**PP **pP** **22 47 34.7 -2.3**
YAK *e*PPP PPP 22 48 14.9
YAK *e*S **S** **22 51 55.9 -3.1**
YAK *e**SS **sS** **22 52 16.1 +2.7**
YAK *e*SS **SnSn** **22 53 13.8 +14**
YAK *e*SSS SSS 22 53 28.5
YAK pmax pmax
comp=Z,39nm,0.9s
YAK pmax pmax
comp=N,14nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK smax smax
comp=E,350nm,3.7s
YAK smax smax
comp=N,260nm,3.4s
YAK Yakutsk 26.32 347 P **P** **22 47 28.0 -0.2**
comp=N,19nm,0.7s,baz=329,slow=1.1,SNR=9.4
YAK Yakutsk 26.32 347 P **P** **22 47 27.5 -0.7**
SEY Seymchan 27.04 11 *i*P **P** **22 47 36.9 +2.2**
SEY Seymchan 27.04 11 P **P** **22 47 35.9 +1.2**
comp=N,8.6nm,0.9s,baz=191,slow=6.3,SNR=10.0
ENH Enshi 27.33 266 P **P** **22 47 35.7 -2.1**
ENH IAmb IAmb 22 47 37.7
comp=Z,7.2nm,0.7s
ULN Ulaanbaatar 27.51 305*ce*P **P** **22 47 40.0 +0.6**
ULN pmax pmax
comp=Z,4.0nm,0.8s
ULN Ulaanbaatar 27.51 305 P **P** **22 47 38.3 -1.1**
SONM Songino Array 27.94 304 P **P** **22 47 42.2 -1.0**
comp=Z,1.5nm,0.5s,baz=104,slow=8.5,SNR=9.2
SONM PcP **PcP** **22 50 57.1 -0.9**
comp=Z,0.5nm,0.5s,baz=98,slow=1.6,SNR=3.2
H11N2 WAKE ISLAND Hy 28.00 120 T T 23 17 38.1
baz=313,slow=75,SNR=448
H11N1 WAKE ISLAND Hy 28.01 120 T T 23 17 42.9
baz=313,slow=75,SNR=343
H11N3 WAKE ISLAND Hy 28.02 120 T T 23 17 43.6
baz=313,slow=75,SNR=272
WAKE Wake Island 28.14 121 P **P** **22 47 44.9 -0.1**
H11S1 WAKE ISLAND Hy 28.71 123 T T 23 18 44.9
baz=314,slow=76,SNR=350
H11S3 WAKE ISLAND Hy 28.71 123 T T 23 18 43.3
baz=314,slow=76,SNR=281
H11S2 WAKE ISLAND Hy 28.72 123 T T 23 18 44.4
baz=314,slow=76,SNR=134
LZH Lanzhou 30.13 280 *e*P **P** **22 48 03.8 +1.0**
LZH pP sP 22 48 16.4 +1.3
LZH sP pP 22 48 21.6 +10
LZH pmax pmax
comp=Z,13nm,1.2s
LZH pmax pmax
comp=Z,68nm,5.4s
LZH LR LR
comp=Z,260nm,13.0s
LZH LR LR
comp=Z,270nm,13.5s
LZH LR LR
comp=Z,350nm,14.4s
TLY Talaya 30.51 311 LR LR 23 01 09.3
comp=Z,35nm,18.9s,baz=112,slow=38
CD2 Chengdu 31.69 271 P **P** **22 48 15.3 -1.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
GTA Gaotai 32.66 288 *e*P **P** **22 48 24.1 -0.8**
GTA pP pP 22 48 32.4 -1.3
BILL Bilibino 34.27 16*de*P **P** **22 48 40.0 +1.5**
BILL *e* 22 49 59.2
BILL *e*S S 22 54 12.3 +9.1
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,94nm,18.0s
TIXI Tiksi 35.55 353*ce*P **P** **22 48 49.3 -0.1**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 35.55 353 P **P** **22 48 49.0 -0.4**
comp=Z,3.4nm,0.6s,baz=180,slow=24,SNR=8.2
TIXI Tiksi 35.55 353 P **P** **22 48 48.1 -1.3**
TIXI IAmb IAmb 22 48 50.4
comp=Z,14nm,1.5s
MIDW Midway 35.56 92 P **P** **22 48 51.0 +1.0**
WMQ Urumqi 40.97 297 *e*P **P** **22 49 35.9 +0.4**
WMQ pP sP 22 49 48.5 +0.4
WMQ sP pP 22 49 53.3 +8.8
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ pmax pmax
comp=Z,260nm,7.9s
WMQ LR LR
comp=Z,330nm,7.3s
WMQ LR LR
comp=Z,410nm,6.7s
WMQ LR LR
comp=Z,310nm,7.9s
WMQ Urumqi 40.97 297 P **P** **22 49 34.3 -1.2**
WMQ pmax pmax
comp=Z,10.0nm,0.6s
WMQ Urumqi 40.97 297 P **P** **22 49 34.3 -1.2**
WMQ IAmb IAmb 22 49 37.7
comp=Z,9.5nm,0.6s
PBKT Sadao Pong 41.00 252 P **P** **22 49 35.3 -0.6**
CMAR Chiang Mai Arr 41.45 256*ce*P **P** **22 49 41.5 +1.9**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 41.45 256 P **P** **22 49 39.4 -0.3**
comp=Z,1.0nm,0.6s,baz=47,slow=5.2,SNR=7.5
CMAR LR LR 23 08 56.4
comp=Z,21nm,18.8s,baz=220,slow=39
ANM Nome 41.80 31 P **P** **22 49 42.9 +0.9**
ANM pmax pmax
comp=Z,24nm,1.8s
ANM Nome 41.80 31 P **P** **22 49 42.9 +0.9**
ANM IAmb IAmb 22 49 45.4
comp=Z,24nm,1.8s
ZAA0 Zalesovo Array 42.10 313 P **P** **22 49 43.3 -1.2**
ZALV Zalesovo Beam 42.10 313 P **P** **22 49 43.9 -0.7**
comp=Z,3.0nm,0.6s,baz=94,slow=6.6,SNR=21
ZALV PcP **PcP** **22 51 37.5 -1.2**
comp=Z,1.2nm,0.4s,baz=86,slow=3.1,SNR=4.6
LSA Lhasa 42.25 275 P **P** **22 49 45.2 -1.4**
LSA pmax pmax
comp=Z,7.0nm,1.3s
LSA Lhasa 42.25 275 P **P** **22 49 45.2 -1.4**
NRIK Noril'sk 43.51 335 P **P** **22 49 55.0 -0.8**
NRIK Noril'sk 43.51 335 P **P** **22 49 55.0 -0.8**
comp=Z,2.7nm,0.6s,baz=97,slow=8.3,SNR=6.0
MK31 Makanchi Array 44.27 302 P **P** **22 50 01.8 -0.5**
MK31 pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 44.27 302 P **P** **22 50 01.8 -0.5**
MKAR Makanchi Array 44.27 302*ce*P **P** **22 50 01.5 -0.7**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 44.27 302 P **P** **22 50 01.4 -0.8**
comp=Z,1.9nm,0.6s,baz=91,slow=9.5,SNR=22
MKAR PcP **PcP** **22 51 45.8 -0.4**
comp=Z,0.7nm,0.8s,baz=86,slow=4.8,SNR=2.8
MAKZ Makanchi 44.48 302 P **P** **22 50 03.5 -0.4**
MAKZ pmax pmax
comp=Z,2.0nm,0.7s
MAKZ Makanchi 44.48 302 P **P** **22 50 03.5 -0.4**

TAPN Taplejung 45.98 274 *e*P **P** **22 50 15.6 -0.7**
comp=Z,26nm,1.1s
KURK Kurchatov 46.10 308*ce*P **P** **22 50 16.1 -0.6**
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 46.10 308 P **P** **22 50 16.0 -0.7**
KURK IAmb IAmb 22 50 17.6
comp=Z,12nm,1.0s
ODAN Odare 46.45 274 *e*P **P** **22 50 19.5 -0.5**
comp=Z,20nm,0.9s
RAMN Ramite 47.04 274 *e*P **P** **22 50 24.5 -0.1**
comp=Z,34nm,0.8s
GUN Gumba 47.20 276 *e*P **P** **22 50 25.9 -0.1**
comp=Z,7.6nm,0.4s
PKI Pulchoki 47.72 276 *e*P **P** **22 50 29.5 -0.5**
PKIN Phulchoki 47.73 276 *e*P **P** **22 50 29.4 -0.6**
KKN Kakani 47.73 276 *e*P **P** **22 50 29.3 -0.7**
GKN Gorkha 48.15 277 *e*P **P** **22 50 32.9 -0.2**
comp=Z,43nm,1.0s
TARG Taragay, Kyrgy 48.53 296 P **P** **22 50 36.5 +0.3**
TARG IAmb IAmb 22 51 41.2
comp=Z,14nm,1.4s
DANN Dangsing 48.70 278 *e*P **P** **22 50 37.5 0.0**
comp=Z,58nm,0.8s
KOLN Koldanda 49.08 277 *e*P **P** **22 50 40.4 +0.1**
comp=Z,16nm,0.9s
HNR Honiara 49.15 156 P **P** **22 50 39.9 -0.7**
HNR Honiara 49.15 156 P **P** **22 50 39.9 -0.7**
IL31 49.70 32 P **P** **22 50 46.3 +2.1**
IL31 IAmb IAmb 22 50 59.2
comp=Z,24nm,1.9s
ILAR Eielson Array 49.70 32 P **P** **22 50 46.3 +2.0**
comp=Z,2.5nm,0.8s,baz=268,slow=6.2,SNR=22
KSH Kashi 50.53 294 P **P** **22 50 54.6 +3.5**
KSH ScP **ScP** **22 56 03.6 +1.0**
KSH S **S** **22 58 04.9 +1.5**
KSH SS **SS** **23 01 36.9 -0.4**
KSH LR LR
comp=Z,670nm,8.6s
KSH LR LR
comp=Z,370nm,6.6s
KSH LR LR
comp=Z,490nm,10.7s
BRVK Borovoye 50.81 313*ce*P **P** **22 50 52.5 -0.4**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
BRVK Borovoye 50.81 313 P **P** **22 50 52.4 -0.4**
BRVK IAmb IAmb 22 50 54.0
comp=Z,5.2nm,1.1s
ARSB Arslanbob 52.10 297 P **P** **22 51 01.3 -1.6**
ARSB IAmb IAmb 22 51 04.0
comp=Z,4.4nm,0.8s
EPYK Eagle Plains 53.74 30 P **P** **22 51 17.5 +3.1**
EPYK IAmb IAmb 22 51 17.9
comp=Z,7.3nm,0.7s
INK Inuvik 54.60 27 P **P** **22 51 22.7 +2.1**
INK pmax pmax
comp=Z,17nm,1.8s
INK Inuvik 54.60 27 P **P** **22 51 22.5 +1.9**
comp=Z,3.6nm,0.8s,baz=313,slow=7.6,SNR=13
INK Inuvik 54.60 27 P **P** **22 51 22.7 +2.1**
INK IAmb IAmb 22 53 21.4
comp=Z,17nm,1.8s
NIL Nilore 54.71 288 P **P** **22 51 22.4 +0.3**
NIL pmax pmax
comp=Z,9.0nm,0.7s
NIL Nilore 54.71 288 P **P** **22 51 22.4 +0.3**
GAR Garm 54.82 296 P **P** **22 51 21.9 -1.0**
GAR PcP **PcP** **22 52 24.9 -0.1**
SVE Sverdlovsk 55.35 319 *e*P **P** **22 51 25.6 -0.6**
SVE pmax pmax
comp=Z,11nm,1.0s
ARU Arti 56.56 319*di*P **P** **22 51 35.0 +0.1**
ARU 22 53 38.9
ARU S **S** **22 59 25.7 +1.3**
ARU SS **SS** **23 03 10.4 -1.1**
ARU pmax pmax
comp=Z,29nm,2.5s
ARU Arti 56.56 319 P **P** **22 51 33.8 -1.2**
ARU IAmb IAmb 22 51 35.1
comp=Z,7.7nm,0.7s
WRA Warramunga Arr 56.81 188 P **P** **22 51 38.3 +1.3**
comp=Z,1.0nm,0.6s,baz=4.2,slow=7.4,SNR=15
ABKAR Akbulak array 58.12 310 IAmb IAmb 22 51 45.8
comp=Z,2.8nm,0.6s
AKTO Aktyubinsk 58.86 312 LR LR 23 19 04.8
comp=Z,56nm,20.0s,baz=342,slow=38
KIRV Kirov 60.46 323 P **P** **22 52 01.3 -0.7**
comp=Z,8.7nm,0.6s,baz=231,slow=0.6,SNR=6.4
ASAR Alice Springs 60.54 188 P **P** **22 52 04.5 +1.6**
comp=Z,0.7nm,0.7s,baz=7.7,slow=6.2,SNR=8.5
HRA Herat 62.63 294 P **P** **22 52 16.5 -0.9**
HRA IAmb IAmb 22 52 18.3
comp=Z,3.2nm,0.8s
RES Resolute Bay 62.84 14 P **P** **22 52 17.4 -0.4**
RES pmax pmax
comp=Z,6.0nm,1.1s
RES Resolute Bay 62.84 14 P **P** **22 52 17.4 -0.4**
RES IAmb IAmb 22 52 19.5
comp=Z,5.6nm,1.1s
GEYT Alibeck 63.97 299 P **P** **22 52 25.3 -0.7**
comp=Z,2.9nm,0.9s,baz=67,slow=5.0,SNR=5.1
YKA Yellowknife Ar 64.02 30 P **P** **22 52 27.4 +1.6**
comp=Z,0.9nm,0.7s,baz=304,slow=6.7,SNR=18
OBN Obninsk 68.31 323*de*P **P** **22 52 53.6 +0.2**
OBN *e* 22 55 20.6
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,170nm,17.0s
FINES FINESS Array B 69.05 332 P **P** **22 52 56.4 -1.5**
comp=Z,3.5nm,0.8s,baz=25,slow=6.3,SNR=5.9
NEW Newport 70.30 44 LR LR 23 22 12.3
comp=Z,40nm,21.5s,baz=250,slow=34
PINE Pine Mountain 70.49 50 P **P** **22 53 08.0 +0.6**
PINE IAmb IAmb 22 53 11.8
comp=Z,4.0nm,0.7s
KBZ Khabaz 71.08 311 P **P** **22 53 11.0 +0.3**
KBZ Khabaz 71.08 311 P **P** **22 53 10.9 +0.3**
comp=Z,3.1nm,0.8s,baz=32,slow=2.4,SNR=11
KVAR Kislovodsk Arr 71.08 311 P **P** **22 53 10.0 -0.9**
comp=Z,1.4nm,0.5s,baz=6.3,slow=9.2,SNR=4.0
KIV Kislovodsk 71.09 311 *e*P **P** **22 53 11.0 +0.1**
KIV pmax pmax
comp=Z,20nm,1.1s
KIV Kislovodsk 71.09 311 P **P** **22 53 09.6 -1.3**
KIV IAmb IAmb 22 53 12.8
comp=Z,5.3nm,0.9s
BMO Blue Mountains 72.09 47 P **P** **22 53 18.3 +1.4**
BMO pmax pmax
comp=Z,2.0nm,0.8s
BMO Blue Mountains 72.09 47 P **P** **22 53 18.3 +1.4**
NB2 NORSAR Subarra 74.43 337 P **P** **22 53 30.4 0.0**
comp=Z,1.3nm,0.7s,baz=39,slow=6.2
NOA NORSAR Array B 74.43 337 P **P** **22 53 30.0 -0.4**
comp=Z,2.7nm,0.8s,baz=39,slow=5.9,SNR=5.5
NOA LR LR 23 29 30.8
comp=Z,50nm,18.6s,baz=275,slow=38
AKASG Malin Array Be 74.51 322 *i*P **P** **22 53 30.2 -0.7**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 74.51 322 P **P** **22 53 30.3 -0.7**
comp=Z,2.2nm,0.5s,baz=46,slow=6.1,SNR=20
DLMT Dillon 74.51 45 P **P** **22 53 30.7 -0.5**
DLMT IAmb IAmb 22 53 35.6
comp=Z,4.4nm,0.9s
KVN Kaiserville 74.90 52 P **P** **22 53 33.5 -0.2**
KVN pmax pmax
comp=Z,3.0nm,0.8s
KVN Kaiserville 74.90 52 P **P** **22 53 33.5 -0.2**
NVAR Mina Array Bea 75.13 53 P **P** **22 53 37.5 +2.4**
comp=Z,1.9nm,0.7s,baz=291,slow=5.7,SNR=16
YHL Hebgen Lake 75.62 44 P **P** **22 53 37.4 -0.5**
PDAR Pinedale Array 77.83 45 P **P** **22 53 51.9 +1.6**
comp=Z,1.2nm,0.7s,baz=263,slow=2.5,SNR=14
BUR08 Bucovina Ar. S 78.51 322 P **P** **22 53 53.5 -0.3**
BUR08 IAmb IAmb 22 55 46.7
comp=Z,23nm,1.9s
BRTR Keskin Array B 79.03 312 P **P** **22 53 56.4 -0.5**
comp=Z,0.8nm,0.7s,baz=61,slow=4.3,SNR=4.9
SRU San Rafael Swe 79.57 49 P **P** **22 53 59.8 -0.1**
SRU pmax pmax
comp=Z,4.0nm,0.7s
SRU San Rafael Swe 79.57 49 P **P** **22 53 59.8 -0.1**
U15A North Rim 80.15 52 P **P** **22 54 03.6 +0.4**
LANS Liptovska Anna 80.18 326 *e*P **P** **22 54 03.3 +0.5**

LANS Liptovska Anna 80.18 326 *e*P **P** **22 54 03.3 +0.5**
CHVC Chvalec 80.62 328 *e*P P 22 54 19.6 +14
VYHS Vyhne 80.94 325 *e*P **P** **22 54 07.2 +0.3**
VYHS Vyhne 80.94 325 *e*P **P** **22 54 07.2 +0.3**
CLL Collm 81.33 330 *e*P **P** **22 54 09.0 +0.2**
CLL Collm 81.33 330 *e*P **P** **22 54 09.0 +0.2**
PRU Pruhonice 81.71 329 *e*P **P** **22 54 11.3 +0.4**
PRU Pruhonice 81.71 329 *e*P **P** **22 54 11.3 +0.4**
KHC Kasperske Hory 82.77 328 *e*P **P** **22 54 16.8 +0.3**
KHC Kasperske Hory 82.77 328 *e*P **P** **22 54 16.8 +0.3**
GERES GERESS Array B 82.94 328 P **P** **22 54 17.1 -0.4**
comp=Z,0.9nm,0.5s,baz=36,slow=6.1,SNR=9.8
VTS Vitosha 82.99 319 P **P** **22 54 17.4 -0.5**
VTS pmax pmax
comp=Z,2.0nm,0.7s
VTS Vitosha 82.99 319 P **P** **22 54 17.4 -0.5**
T25A Trinidad 84.50 47 P **P** **22 54 25.7 -0.1**
T25A IAmb IAmb 22 54 29.2
comp=Z,4.0nm,0.8s
ANMO Albuquerque 84.74 50*ce*P **P** **22 54 29.0 +1.9**
ANMO pmax pmax
comp=Z,6.0nm,2.5s
TX32 Lajitas Array 90.26 52 P **P** **22 54 54.9 +1.3**
TXAR Lajitas Array 90.26 52 P **P** **22 54 55.2 +1.5**
comp=Z,1.2nm,0.7s,baz=302,slow=3.5,SNR=16
U40A Yellville 91.52 41 P **P** **22 54 58.9 -0.4**
TORD Torodi Ar. Bea 117.52 315 PKP **PKPdf** **23 00 38.4 -0.5**
comp=Z,0.4nm,0.6s,baz=15,slow=2.0,SNR=5.1
DBIC Dimbokro 126.49 317 PKP **PKPdf** **23 00 55.0 -1.1**
comp=Z,1.2nm,0.7s,baz=1.3,slow=5.9,SNR=3.0
LPAZ La Paz 146.81 60 PKP2 **PKPab** **23 01 37.2 +0.1**
LPAZ La Paz 146.81 60 PKPbc **PKPab** **23 01 36.7 -0.4**
comp=Z,3.2nm,0.7s,baz=322,slow=2.5,SNR=14
LPAZ La Paz 146.81 60 **PKPab** **23 01 37.2 +0.1**

IDC ***24*** *23:10:38.4±1.1, 34.°63N×25.°51E, h0km, mb3.8/8, mb1 3.9/16, mb1mx3.6/57, mbtmpg3.7/16, ML3.4/9, MS3.1/1, Ms1 3.1/1, ms1mx2.4/54, Error ellipse: s-maj=20.0km s-min=13.8km az=21.0*
ISCJB ***24*** *23:10:43.5±0.5, 34.°66N±0.°04×25.°56E±0.°03, h59km±4km, mb3.7/8, MS3.0/1, Error ellipse: s-maj=7.4km s-min=3.6km az=172.8*
ISK ***24*** *23:10:43.5, 34.°74N×25.°58E, h32km, ML3.5/21*
THE ***24*** *23:10:43.6, 34.°60N×25.°45E, h0km±1km, ML3.3/9, Error ellipse: s-maj=2.4km s-min=0.8km az=167.0*
ATH ***24*** *23:10:44.6, 34.°70N×25.°41E, h37km±1km, ML3.4/8, Error ellipse: s-maj=2.9km s-min=1.1km az=351.0*
DDA ***24*** *23:10:52.1, 35.°16N×26.°42E, h8km±3km, MW4.1*
ISC 24 23:10:43.7±1.0, 34.64N±0.06×25.55E±0.03, h43km±9km, n103, σ1s79/133, mb3.6/8, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRMA	**Ierapetra Chan**	**0.40**	**22**	P	**Pn**	**23 10 54.9**	**+1.6**
FRMA				S	**Sn**	**23 11 02.3**	**+2.2**
	2μm,0.7s						
LAST	**Lasithi**	**0.52**	**354**	P	**Pn**	**23 10 54.7**	**-0.2**
LAST				S	**Sn**	**23 11 03.0**	**+0.1**
	2μm,0.7s						
LAST	**Lasithi**	**0.52**	**354**	P	**Pn**	**23 10 54.9**	**0.0**
LAST				S	**Sn**	**23 11 02.2**	**-0.6**
LAST				AML	AML	23 11 06.4	
	comp=E,4963μm,0.7s						
LAST				AML	AML	23 11 10.0	
	comp=N,5337μm,0.5s						
NPS	**Neapolis**	**0.62**	**5**	P	**Pn**	**23 10 56.6**	**+0.4**
NPS				S	**Sn**	**23 11 07.7**	**+2.6**
	comp=N,3μm,0.4s						
NPS	**Neapolis**	**0.62**	**5**	P	**Pn**	**23 10 56.7**	**+0.6**
NPS				S	**Sn**	**23 11 06.5**	**+1.4**
NPS				AML	AML	23 11 09.5	
	comp=N,6274μm,0.6s						
NPS				AML	AML	23 11 10.8	
	comp=E,7096μm,0.3s						
SIVA	**Sivas**	**0.71**	**302**	P	**Pn**	**23 10 56.7**	**-0.7**
SIVA				S	**Sn**	**23 11 06.8**	**-0.4**
	comp=E,15μm,0.6s						
SIVA	**Sivas**	**0.71**	**302**	P	**Pn**	**23 10 56.9**	**-0.4**
SIVA				S	**Sn**	**23 11 05.8**	**-1.4**
SIVA				AML	AML	23 11 09.5	
	comp=E,29152μm,0.4s						
SIVA				AML	AML	23 11 11.4	
	comp=N,29723μm,0.8s						
STIA	**Sitia Lasithi**	**0.71**	**38**	P	**Pn**	**23 10 59.5**	**+2.1**
STIA				S	**Sn**	**23 11 11.7**	**+4.5**
ZKR	**Zakros**	**0.72**	**49**	P	**Pn**	**23 10 59.8**	**+2.3**
ZKR				S	**Sn**	**23 11 12.6**	**+5.1**
	comp=N,2μm,0.7s						
ZKR	**Zakros**	**0.72**	**49**	P	**Pn**	**23 10 59.8**	**+2.3**
ZKR				S	**Sn**	**23 11 12.0**	**+4.5**
ZKR				AML	AML	23 11 17.2	
	comp=E,6168μm,0.6s						
ZKR				AML	AML	23 11 20.2	
	comp=N,2173μm,0.9s						
HRKL	**Herakleio**	**0.76**	**331**	P	**Pn**	**23 10 58.5**	**+0.5**
HRKL				S	**Sn**	**23 11 10.9**	**+2.5**
	comp=N,7μm,0.7s						
HRKL	**Herakleio**	**0.76**	**331**	PG	**Pn**	**23 10 58.0**	**0.0**
KSTL	**Kastelli Herak**	**0.77**	**329**	P	**Pn**	**23 10 56.2**	**-1.9**
KSTL				S	**Sn**	**23 11 06.7**	**-1.8**
IACM	**Heraklion**	**0.77**	**329**	P	**Pn**	**23 10 58.9**	**+0.8**
TMBK	**Timbaki Herakl**	**0.77**	**304**	P	**Pn**	**23 10 58.3**	**+0.1**
TMBK				S	**Sn**	**23 11 10.1**	**+1.4**
	comp=N,4μm,0.6s						
IDI	**Anoyia**	**0.84**	**320**	Pn	**Pn**	**23 10 59.3**	**+0.1**
	comp=N,59nm,0.3s,baz=175,slow=9.4,SNR=346						
IDI				LR	LR	23 11 05.0	
	comp=N,32nm,19.6s,baz=149,slow=32						
IDI				Sn	**Sn**	**23 11 11.4**	**+0.9**
	comp=N,230nm,0.3s,baz=80,slow=23,SNR=22						
IDI	**Anoyia**	**0.84**	**320**	P	**Pn**	**23 10 59.4**	**+0.3**
IDI				S	**Sn**	**23 11 10.1**	**-0.4**
IDI				AML	AML	23 11 13.3	
	comp=E,3506μm,0.4s						
IDI				AML	AML	23 11 20.3	
	comp=N,4036μm,0.5s						
IDI	**Anoyia**	**0.84**	**320**	PG	**Pn**	**23 10 59.5**	**+0.3**
IDI				SG	**Sn**	**23 11 09.5**	**-0.9**
GVDS	**Gavdos**	**1.22**	**280**	PN	**Pn**	**23 11 05.1**	**+0.9**
GVD	**Gavdhos**	**1.22**	**280**	P	**Pn**	**23 11 04.4**	**+0.1**
GVD				S	**Sn**	**23 11 23.0**	**+3.4**
	comp=N,3μm,0.5s						
GVD	**Gavdhos**	**1.22**	**280**	P	**Pn**	**23 11 04.9**	**+0.7**
GVD				S	**Sn**	**23 11 18.8**	**-0.8**
GVD				AML	AML	23 11 28.1	
	comp=N,5002μm,0.5s						
GVD				AML	AML	23 11 28.3	
	comp=E,5224μm,0.5s						
GVD	**Gavdhos**	**1.22**	**280**	PN	**Pn**	**23 11 04.7**	**+0.4**
GVD				SN	**Sn**	**23 11 20.8**	**+1.2**
VAM	**Vamos**	**1.34**	**305**	P	**Pn**	**23 11 07.6**	**+1.6**
VAM				S	**Sn**	**23 11 26.1**	**+3.4**
	comp=E,2μm,0.4s						
VAM	**Vamos**	**1.34**	**305**	P	**Pn**	**23 11 07.7**	**+1.7**
VAM				AML	AML	23 11 31.4	
	comp=E,2530μm,0.5s						
VAM				AML	AML	23 11 34.3	
	comp=N,3440μm,0.3s						
CHAN	**Chania**	**1.51**	**306**	P	**Pn**	**23 11 10.7**	**+2.4**
IMMV	**Iera Moni Meta**	**1.52**	**303**	P	**Pn**	**23 11 09.8**	**+1.4**
IMMV	**Iera Moni Meta**	**1.52**	**303**	P	**Pn**	**23 11 10.0**	**+1.5**
IMMV				S	**Sn**	**23 11 27.2**	**+0.2**
IMMV				AML	AML	23 11 41.0	
	comp=N,2242μm,0.8s						
IMMV				AML	AML	23 11 41.3	
	comp=E,2904μm,1.0s						
IMMV	**Iera Moni Meta**	**1.52**	**303**	PN	**Pn**	**23 11 09.0**	**+0.6**
KARP	**Karpathos**	**1.60**	**55**	P	Pn	23 11 14.0	+4.4
KARP	**Karpathos**	**1.60**	**55**	PN	**Pn**	**23 11 09.7**	**+0.2**
THR6	**Thira Island,**	**1.71**	**356**	P	**Pn**	**23 11 13.7**	**+2.6**
SANT	**Santorini**	**1.73**	**358**	P	**Pn**	**23 11 13.5**	**+2.2**
SANT	**Santorini**	**1.73**	**358**	PN	**Pn**	**23 11 10.6**	**-0.7**
THR3	**Thira Island,**	**1.77**	**356**	P	**Pn**	**23 11 12.9**	**+1.1**
THR5	**Thira Island,**	**1.78**	**355**	P	**Pn**	**23 11 13.1**	**+1.2**
THT2	**Imerovigli**	**1.79**	**357**	PN	**Pn**	**23 11 11.7**	**-0.4**
IOSP	**Ios island**	**2.09**	**354**	P	**Pn**	**23 11 17.5**	**+1.3**
AMGA	**Amorgos Island**	**2.20**	**7**	P	**Pn**	**23 11 21.0**	**+3.2**
ANKY	**Antikythira Is**	**2.21**	**304**	P	**Pn**	**23 11 20.3**	**+2.5**
ANKY	**Antikythira Is**	**2.21**	**304**	P	**Pn**	**23 11 20.7**	**+2.8**
MHLA	**Plaka, Milos I**	**2.29**	**337**	P	**Pn**	**23 11 20.2**	**+1.2**
APE	**Apeiranthos**	**2.42**	**360**	P	**Pn**	**23 11 22.0**	**+1.2**

APE	**Apeiranthos**	**2.42**	**360**	PN	**Pn**	**23 11 20.9**	**+0.1**
KTHA	**Kythira Island**	**2.59**	**309**	P	**Pn**	**23 11 24.6**	**+1.5**
KTHA	**Kythira Island**	**2.59**	**309**	PN	**Pn**	**23 11 23.3**	**+0.2**
ARG	**Arkhangelos**	**2.63**	**53**	PN	**Pn**	**23 11 24.1**	**+0.5**
DAT	**Datca**	**2.66**	**38**	*i* P	**Pn**	**23 11 26.1**	**+2.0**
DAT	comp=E,42nm,0.5s			IAML		23 11 31.0	
DAT	comp=N,18nm,0.7s			IAML		23 11 37.0	
DAT				*i* S	**Sn**	**23 11 54.0**	**-1.1**
DAT	**Datca**	**2.66**	**38**	PN	**Pn**	**23 11 24.0**	**-0.1**
SERI	**Serifos**	**2.66**	**341**	P	**Pn**	**23 11 25.2**	**+1.2**
BODT	**Bodrum**	**2.81**	**30**	PN	**Pn**	**23 11 25.9**	**-0.2**
MLSB	**Milas**	**3.21**	**34**	PN	**Pn**	**23 11 31.7**	**+0.1**
YER	**Yerkesik**	**3.33**	**41**	PN	**Pn**	**23 11 33.9**	**+0.6**
TURN	**Turunc**	**3.33**	**47**	*i* P	**Pn**	**23 11 31.9**	**-1.4**
TURN	comp=E,14nm,0.7s			IAML		23 11 46.0	
TURN	comp=N,21nm,0.6s			IAML		23 11 53.0	
TURN				*i* S	**Sn**	**23 12 10.0**	**-1.7**
TURN	**Turunc**	**3.33**	**47**	PN	**Pn**	**23 11 29.1**	**-4.2**
GCAM	**G?zelcaml?**	**3.34**	**24**	*i* P	Pn	23 11 39.8	+6.4
GCAM				*i* S	**Sn**	**23 12 11.7**	**-0.1**
GCAM	**G?zelcaml?**	**3.34**	**24**	PN	**Pn**	**23 11 33.7**	**+0.3**
KRND	**KRANIDI**	**3.36**	**325**	P	**Pn**	**23 11 34.2**	**+0.6**
DID	**Didima**	**3.42**	**327**	P	**Pn**	**23 11 34.9**	**+0.4**
KARY	**Karystos**	**3.50**	**345**	P	**Pn**	**23 11 36.7**	**+1.1**
VLY	**Voula,Athens**	**3.50**	**337**	P	**Pn**	**23 11 36.5**	**+0.9**
AYDN	**Tasoluk**	**3.55**	**31**	*i* P	**Pn**	**23 11 38.8**	**+2.4**
AYDN				*i* S	**Sn**	**23 12 14.6**	**-2.6**
AYDN	comp=N,20nm,2.7s			IAML		23 12 15.0	
AYDN	comp=E,11nm,0.9s			IAML		23 12 16.0	
DGB	**zmir**	**3.57**	**17**	*i* P	**Pn**	**23 11 38.2**	**+1.7**
DGB				*i* S	**Sn**	**23 12 19.6**	**+2.3**
PTL	**Penteli**	**3.66**	**339**	P	**Pn**	**23 11 38.9**	**+1.1**
AKAS	**Kas**	**3.67**	**63**	PN	**Pn**	**23 11 39.1**	**+1.0**
CHOS	**Chios island**	**3.76**	**6**	P	**Pn**	**23 11 41.1**	**+1.8**
CHOS	**Chios island**	**3.76**	**6**	PN	**Pn**	**23 11 39.2**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**3.80**	**29**	PN	**Pn**	**23 11 40.0**	**+0.2**
URLA	**Izmir**	**3.81**	**12**	PN	**Pn**	**23 11 40.4**	**+0.6**
ITM	**Ithomi**	**3.88**	**312**	P	**Pn**	**23 11 41.2**	**+0.4**
ITM	**Ithomi**	**3.88**	**312**	PN	**Pn**	**23 11 41.4**	**+0.6**
TAVA	**DENIZLI_Tavas**	**3.92**	**43**	*i* P	**Pn**	**23 11 44.2**	**+2.8**
TAVA	comp=E,12nm,1.6s			IAML		23 12 07.0	
TAVA	comp=N,9.3nm,1.1s			IAML		23 12 15.0	
TAVA				*i* S	**Sn**	**23 12 21.2**	**-5.0**
BLCB	**Balcova**	**3.92**	**17**	PN	**Pn**	**23 11 41.8**	**+0.4**
VIL2	**Platees**	**4.01**	**333**	P	**Pn**	**23 11 42.8**	**+0.2**
GLHS	**Glhisar (BURDU**	**4.07**	**51**	PN	**Pn**	**23 11 44.2**	**+0.7**
ELL	**Elmali**	**4.12**	**58**	PN	**Pn**	**23 11 44.3**	**+0.1**
GOLH	**Golhisar**	**4.16**	**50**	*i* P	**Pn**	**23 11 47.8**	**+3.0**
GOLH				*i* S	**Sn**	**23 12 32.5**	**+0.4**
GOLH	comp=N,29nm,1.8s			IAML		23 12 35.0	
GOLH	comp=E,384nm,2.4s			IAML		23 12 48.0	
AKUM	**Antalya-Kumluc**	**4.26**	**65**	*i* P	**Pn**	**23 11 46.9**	**+1.0**
AKUM	comp=N,33nm,1.0s			IAML		23 12 07.0	
AKUM				*i* S	**Sn**	**23 12 33.9**	**-0.4**
AKUM	comp=E,19nm,0.7s			IAML		23 12 42.0	
SIGR	**SIGRI**	**4.57**	**3**	PN	**Pn**	**23 11 50.1**	**-0.1**
AOS	**Alonnisos**	**4.71**	**344**	PN	**Pn**	**23 11 53.1**	**+0.9**
BRDR	**BURDUR-Merkez**	**4.75**	**49**	*i* P	**Pn**	**23 11 55.4**	**+2.6**
BRDR				*i* S	**Sn**	**23 12 42.7**	**-4.0**
BRDR	comp=N,6.0nm,0.8s			IAML		23 13 16.0	
BRDR	comp=E,12nm,1.3s			IAML		23 13 17.0	
KHAL	**Karahalli**	**4.89**	**39**	*i* P	**Pn**	**23 11 57.0**	**+2.3**
KHAL				*i* S	Sn	23 12 41.7	-8.5
KHAL	comp=N,2.8nm,0.6s			IAML		23 12 58.0	
KHAL	comp=E,3.8nm,1.6s			IAML		23 13 19.0	
USAK	**Uak-Merkez**	**4.93**	**33**	*i* P	**Pn**	**23 11 57.8**	**+2.5**
USAK				*i* S	Sn	23 12 09.9	-41
USAK	comp=N,22nm,3.1s			IAML		23 12 26.0	
USAK	comp=E,6.5nm,1.0s			IAML		23 12 26.0	
DEMI	**Demirci**	**5.07**	**29**	*i* P	**Pn**	**23 12 00.2**	**+2.9**
DEMI	comp=E,6.3nm,1.8s			IAML		23 13 12.0	
DEMI	comp=N,5.3nm,1.8s			IAML		23 13 22.0	
AGG	**Agios Georgios**	**5.08**	**330**	PN	**Pn**	**23 11 58.3**	**+1.0**
BRTR	**Keskin Array B**	**8.21**	**49**	Pn	**Pn**	**23 12 41.4**	**+1.1**
MMAI	comp=N,0.1nm,0.3s,baz=236,slow=14,SNR=3.3 **Mount Meron Ar**	**8.36**	**98**	Pn	**Pn**	**23 12 43.0**	**+0.7**
MMAI	comp=N,1.1nm,0.3s,baz=289,slow=12,SNR=7.7			Sn	**Sn**	**23 14 12.2**	**-3.2**
SG1	comp=N,0.4nm,0.3s,baz=297,slow=26,SNR=2.9 **Sgolgore (BA)**	**9.36**	**314**	⇑Pn	**Pn**	**23 12 55.4**	**-0.5**
SG1				Sn	Sn	23 14 29.6	-10
EIL	**Elat**	**9.38**	**119**	Pn	**Pn**	**23 12 56.7**	**+0.4**
EIL	comp=N,0.2nm,0.3s,baz=252,slow=3.2,SNR=4.3			Sn	**Sn**	**23 14 36.0**	**-4.5**
VAE	comp=N,0.3nm,0.3s,baz=317,slow=16,SNR=1.7 **Valguarnera**	**9.45**	**291**	Pn	**Pn**	**23 12 56.4**	**-0.9**
ASF	comp=N,0.3nm,0.3s,baz=114,slow=18,SNR=2.9 **Jabal al Asfar**	**9.80**	**101**	Pn	**Pn**	**23 13 00.3**	**-1.8**
VYHS	comp=N,0.1nm,0.3s,baz=290,slow=18,SNR=2.0 **Vyhne**	**14.71**	**342**	*e*PN	**Pn**	**23 14 06.0**	**-2.9**
KVAR	**Kislovodsk Arr**	**16.18**	**50**	Pn	**P**	**23 14 29.9**	**-0.8**
KBZ	baz=258,slow=19,SNR=3.0 **Khabaz**	**16.20**	**51**	Pn	**P**	**23 14 32.1**	**+1.4**
AKASG	comp=N,0.2nm,0.3s,baz=241,slow=8.2,SNR=17 **Malin Array Be**	**16.27**	**8**	Pn	**Pn**	**23 14 27.6**	**-1.4**
GERES	comp=N,1.3nm,0.3s,baz=198,slow=10,SNR=6.8 **GERESS Array B**	**16.69**	**332**	Pn	**Pn**	**23 14 35.0**	**+0.6**
FINES	comp=N,0.2nm,0.3s,baz=145,slow=12,SNR=3.9 **FINESS Array B**	**26.82**	**1**	P	**P**	**23 16 18.4**	**-1.3**
AKTO	comp=N,1.7nm,0.8s,baz=163,slow=11,SNR=8.0 **Aktyubinsk**	**28.37**	**46**	P	**P**	**23 16 34.6**	**+0.9**
TORD	comp=N,0.4nm,0.3s,baz=236,slow=7.3,SNR=2.8 **Torodi Ar. Bea**	**30.41**	**231**	P	**P**	**23 16 52.0**	**0.0**
TORD	comp=N,0.3nm,0.3s,baz=33,slow=9.0,SNR=13			LR	LR	23 31 34.0	
ARCES	comp=N,34nm,21.0s,baz=335,slow=41 **ARCESS Array B**	**34.95**	**360**	P	**P**	**23 17 30.0**	**-1.1**
MKAR	comp=N,4.8nm,1.0s,baz=183,slow=9.9,SNR=3.6 **Makanchi Array**	**43.79**	**56**	P	**P**	**23 18 46.6**	**+1.4**
ZALV	comp=N,0.3nm,0.4s,baz=269,slow=7.7,SNR=11 **Zalesovo Beam**	**45.13**	**46**	P	**P**	**23 18 56.4**	**+0.7**
NRIK	comp=N,1.0nm,0.5s,baz=272,slow=8.2,SNR=6.1 **Noril'sk**	**48.21**	**25**	P	**P**	**23 19 20.5**	**+1.0**
YKA	comp=N,0.9nm,0.5s,baz=270,slow=6.1,SNR=2.3 **Yellowknife Ar**	**78.04**	**342**	P	**P**	**23 22 37.5**	**+0.2**
	comp=N,0.1nm,0.5s,baz=32,slow=5.1,SNR=5.2						

*ISCJB **24** 23:17:34.7±0.9, 15°.9N±0°.1×146°.0E±0°.3, h109km, mb3.4/5, Error ellipse: s-maj=46.0km s-min=10.5km az=21.7*
*IDC **24** 23:17:36.7±3.1, 15°.83N×146°.07E, h112km±29km, mb3.1/5, mb1 3.4/6, mb1mx3.1/48, mbtmp3.5/6, Error ellipse: s-maj=41.3km s-min=21.0km az=100.0*

ISC 24 23:17:36.3±1.1, 15°.8N±0°.2×146°.1E±0°.3, h109km, n12, σ0s84/7, mb3.4/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.49**	**208**	P	**Pn**	**23 18 16.4**	**+0.9**
GUMO	15nm,0.3s,baz=22,slow=19,SNR=8.5			S	**Sn**	**23 18 44.4**	**-1.3**
H11S3	40nm,0.3s,baz=164,slow=23,SNR=7.8 **WAKE ISLAND Hy 19.88**	**79**		T	T	23 42 51.3	
H11S1	baz=266,slow=76,SNR=8.2 **WAKE ISLAND Hy 19.89**	**79**		T	T	23 42 52.5	
H11S2	baz=266,slow=76,SNR=6.1 **WAKE ISLAND Hy 19.90**	**79**		T	T	23 42 52.0	
H11N1	baz=266,slow=76,SNR=9.5 **WAKE ISLAND Hy 20.20**	**76**		T	T	23 43 14.5	
H11N2	baz=263,slow=75,SNR=18 **WAKE ISLAND Hy 20.21**	**76**		T	T	23 43 12.9	
H11N3	baz=263,slow=75,SNR=14 **WAKE ISLAND Hy 20.22**	**76**		T	T	23 43 14.9	
	baz=263,slow=75,SNR=15						

WRA	**Warramunga Arr**	**37.34**	**198**	P	**P**	**23 24 38.7**	**+0.2**
ASAR	0.2nm,0.4s,baz=11,slow=7.8,SNR=2.7 **Alice Springs**	**40.99**	**197**	P	**P**	**23 25 08.8**	**+0.1**
MKAR	0.1nm,0.3s,baz=18,slow=7.2,SNR=7.5 **Makanchi Array**	**60.74**	**315**	P	**P**	**23 27 36.6**	**+0.1**
ILAR	0.3nm,0.4s,baz=93,slow=8.0,SNR=14 **Eielson Array**	**66.08**	**26**	P	**P**	**23 28 10.8**	**-0.6**
YKA	0.9nm,1.0s,baz=243,slow=5.3,SNR=4.5 **Yellowknife Ar**	**80.37**	**28**	P	**P**	**23 29 35.5**	**+0.1**
	0.4nm,0.6s,baz=287,slow=5.2,SNR=8.1						

*IDC **24** 23:23:29.6±1.3, 37°.26N×141°.62E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.4/43, mbtmp3.3/6, ML2.4/1, Error ellipse: s-maj=34.5km s-min=26.7km az=80.0*
*JMA **24** 23:23:31.5±0.1, 37°.36N×141°.57E, h26km±1km, M3.2*

ISC 24 23:23:30.5±1.9, 37°.37N±0°.04×141°.58E±0°.07, h8km±11km, n24, σ1s06/30, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.56**	**270**	P	**Pb**	**23 23 42.6**	**0.0**
JFK				S	**Sg**	**23 23 50.2**	**+1.5**
JMST	**Minamisoumatoc**	**0.65**	**303**	P	**Pb**	**23 23 43.9**	**-0.3**
JMST				S	**Sg**	**23 23 52.4**	**+0.8**
ONAJ	**Iwakimizuishiy**	**0.68**	**247**	P	**Pb**	**23 23 44.6**	**0.0**
ONAJ				S	**Sg**	**23 23 53.6**	**+1.2**
JMM	**Marumori**	**0.80**	**309**	P	**Pb**	**23 23 46.2**	**-0.4**
JMM				S	**Sg**	**23 23 56.4**	**+0.2**
JFFD	**Fukushimafurud**	**0.86**	**251**	P	**Pb**	**23 23 47.2**	**-0.5**
JFFD				*e*S	**Sg**	**23 23 58.3**	**+0.1**
JFT	**Otama**	**1.00**	**279**	P	**Pn**	**23 23 50.1**	**-0.8**
JFT				S	**Sg**	**23 24 03.2**	**+0.5**
JIO	**Ouri**	**1.10**	**351**	P	**Pg**	**23 23 50.9**	**-0.7**
JIO				*e*S	**Sb**	**23 24 04.6**	**-1.7**
JHO	**Hitachi**	**1.11**	**227**	P	**Pb**	**23 23 50.9**	**-1.0**
JHO				*e*S	**Sb**	**23 24 05.1**	**-1.5**
JOU	**Okura**	**1.23**	**324**	P	**Pg**	**23 23 53.8**	**-0.3**
JOU				*e*S	**Sb**	**23 24 10.0**	**-0.1**
JYS	**Shirataka**	**1.47**	**306**	P	**Pg**	**23 23 58.3**	**-0.4**
JYS				*e*S	**Sn**	**23 24 16.5**	**-0.3**
JFY	**Yanaizu**	**1.49**	**272**	P	**Pb**	**23 23 57.7**	**-0.8**
MJAR	**Matsushiro Arr**	**2.82**	**254**	Pn	**Pn**	**23 24 17.3**	**+1.3**
MJAR	0.6nm,0.3s,baz=80,slow=17,SNR=6.9			Sn	**Sb**	**23 24 56.7**	**+0.8**
MAT	0.3nm,0.3s,baz=81,slow=32,SNR=5.2 **Matsushiro**	**2.82**	**254**	P	**Pn**	**23 24 17.2**	**+1.2**
MAT				*e*S	**Sb**	**23 24 53.1**	**-2.9**
H11N2	**WAKE ISLAND Hy 28.21**	**122**		T	T	23 58 53.8	
H11N1	baz=314,slow=75,SNR=114 **WAKE ISLAND Hy 28.22**	**122**		T	T	23 58 53.9	
H11N3	baz=314,slow=75,SNR=96 **WAKE ISLAND Hy 28.23**	**122**		T	T	23 58 55.6	
H11S1	baz=314,slow=75,SNR=98 **WAKE ISLAND Hy 28.93**	**124**		T	T	23 59 46.7	
H11S3	baz=316,slow=76,SNR=88 **WAKE ISLAND Hy 28.93**	**124**		T	T	23 59 46.7	
H11S2	baz=316,slow=76,SNR=79 **WAKE ISLAND Hy 28.95**	**124**		T	T	23 59 47.9	
ZALV	baz=316,slow=76,SNR=69 **Zalevo Beam**	**41.79**	**312**	P	**P**	**23 31 20.9**	**+0.6**
MKAR	0.4nm,0.5s,baz=94,slow=6.4,SNR=3.4 **Makanchi Array**	**44.05**	**302**	P	**P**	**23 31 39.2**	**+0.4**
WRA	0.6nm,0.8s,baz=87,slow=9.5,SNR=5.6 **Warramunga Arr**	**57.41**	**188**	P	**P**	**23 33 19.2**	**-0.5**
ASAR	0.6nm,0.6s,baz=3.9,slow=7.5,SNR=4.8 **Alice Springs**	**61.14**	**188**	P	**P**	**23 33 44.7**	**-0.8**
YKA	0.5nm,0.8s,baz=15,slow=7.7,SNR=4.0 **Yellowknife Ar**	**63.45**	**30**	P	**P**	**23 34 02.1**	**+1.5**
	0.1nm,0.5s,baz=305,slow=6.7,SNR=2.7						

IDC 24 23:48:59.5±3.9, 46°.67S×96°.82E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/26, mbtmp3.9/4, MS3.4/6, Ms1 3.5/6, ms1mx3.2/28, Error ellipse: s-maj=170.9km s-min=27.4km az=137.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.57**	**54**	T	T	00 11 12.2	
H01W3	baz=224,slow=74,SNR=28 **Cape Leeuwin H**	**17.58**	**54**	T	T	00 11 12.6	
H01W1	baz=224,slow=74,SNR=29 **Cape Leeuwin H**	**17.58**	**54**	T	T	00 11 13.7	
NWAO	baz=224,slow=74,SNR=28 **Narrogin (SRO)**	**20.76**	**56**	LR	LR	23 59 41.5	
FITZ	comp=Z,156nm,19.0s,baz=221,slow=31 **Fitzroy Crossi**	**37.08**	**49**	LR	LR	00 09 22.3	
STKA	comp=Z,43nm,19.8s,baz=130,slow=33 **Stephens Creek**	**37.16**	**83**	P	P	23 56 11.9	-0.1
STKA	2.1nm,0.9s,baz=251,slow=6.8,SNR=3.7			LR	LR	00 09 40.3	
ASAR	comp=Z,72nm,19.3s,baz=206,slow=33 **Alice Springs**	**37.52**	**65**	P	P	23 56 15.0	-0.2
ASAR	1.0nm,0.9s,baz=218,slow=8.5,SNR=8.7			LR	LR	00 09 28.5	
VNDA	comp=Z,66nm,20.4s,baz=274,slow=33 **Vanda**	**39.56**	**162**	LR	LR	00 11 31.1	
WRA	comp=Z,67nm,18.2s,baz=317,slow=34 **Warramunga Arr**	**40.56**	**62**	P	P	23 56 40.6	0.0
H08S2	1.5nm,0.9s,baz=222,slow=8.8,SNR=6.3 **Diego Garcia H**	**44.13**	**324**	T	T	00 43 36.3	
H08S1	baz=156,slow=76,SNR=7.7 **Diego Garcia H**	**44.13**	**324**	T	T	00 43 31.0	
H08S3	baz=156,slow=76,SNR=9.5 **Diego Garcia H**	**44.15**	**324**	T	T	00 43 36.8	
SNAA	baz=156,slow=76,SNR=7.7 **Sanae**	**49.36**	**204**	P	P	23 57 50.0	-0.1
CMAR	1.9nm,0.8s,baz=146,slow=10.0,SNR=6.2 **Chiang Mai Arr**	**64.85**	**2**	LR	LR	00 27 25.6	
	comp=Z,14nm,18.1s,baz=105,slow=36						

IDC 25 00:03:26.5±52.0, 17°.46S×179°.77W, h0km, mb4.5/3, mb1 4.7/3, mb1mx3.8/30, mbtmp4.5/3, Error ellipse: s-maj=945.1km s-min=138.8km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.72**	**240**	P	P	00 10 44.9	+0.8
WRA	3.2nm,0.5s,baz=101,slow=10,SNR=30 **Warramunga Arr**	**43.44**	**259**	P	P	00 11 31.1	-0.5
ASAR	1.9nm,0.5s,baz=98,slow=7.3,SNR=30 **Alice Springs**	**43.66**	**254**	P	P	00 11 32.8	-0.6
	8.2nm,0.6s,baz=87,slow=8.9,SNR=170						

*IDC **25** 00:05:05.7±0.5, 10°.26N×126°.73E, h0km, mb4.4/21, mb1 4.5/21, mb1mx4.4/38, mbtmp4.4/21, MS3.5/10, Ms1 3.5/10, ms1mx3.2/39, Error ellipse: s-maj=27.0km s-min=11.7km az=77.0*
*BJI **25** 00:05:06.3±0.0, 9°.96N×126°.73E, h28km, mb4.7/52, mB5.1/37, Ms4.5/14, Ms7 4.3/13*
*NEIC **25** 00:05:08.2±1.1, 10°.20N±0°.08×126°.6E±0°.1, h18km±4km, mb4.8/43*
*MOS **25** 00:05:09.8±0.9, 10°.26N×126°.74E, h42km, mb5.0/37, Error ellipse: s-maj=13.6km s-min=5.9km az=112.2*
*MAN **25** 00:05:10.1, 10°.42N×126°.88E, h70km, MS4.9*
*ISCJB **25** 00:05:10.5±0.8, 10°.39N±0°.03×126°.86E±0°.04, h44km±6km, mb4.7/67, MS3.6/12, Error ellipse: s-maj=7.0km s-min=4.9km az=166.4*
*DJA **25** 00:05:11.7±1.1, 11°.N±8°×12°.7E±°, h41km, 9km, M5.1/16, mB5.6/3, mb4.8/16, MLv5.2/1, Mw(mB)5.1/3*

ISC 25 00:05:11.8±0.4, 10°.40N±0°.04×126°.83E±0°.07, h39km±4km, n167, σ1s63/173, mb4.7/75, MS3.5/12, 9C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.82**	**311**	P	**Pn**	**00 05 41.4**	**+0.8**
BESP				S	**Sn**	**00 05 58.8**	**-3.5**
BUTP	**Butuan**	**1.85**	**220**	P	**Pn**	**00 05 40.8**	**-0.3**
BUTP				S	**Sn**	**00 06 04.9**	**+1.7**
MSLP	**Maasin**	**1.96**	**263**	P	**Pn**	**00 05 42.5**	**+0.1**
MSLP				S	**Sn**	**00 06 07.0**	**+1.2**
OCLP	**Ormoc**	**2.28**	**287**	P	**Pn**	**00 05 47.0**	**+0.1**
LLP	**Lapu-Lapu**	**2.82**	**269**	⇓P	**Pn**	**00 05 53.6**	**-0.7**
LLP				S	**Sn**	**00 06 29.2**	**+2.1**
CGP	**Cagayan de Oro**	**2.86**	**228**	⇓P	Pn	00 06 02.3	+7.5
CGP				S	**Sn**	**00 06 32.0**	**+4.0**
BUKP	**Musuan**	**3.05**	**215**	P	**Pn**	**00 05 59.1**	**+1.6**

DAV	**Davao City (W)**	**3.53**	**201**	LR	LR	00 07 34.2	
DAV	comp=Z,1µm,20.9s,baz=40,slow=44 **Davao City (W)**	**3.53**	**201**	⇓*e*P	**Pn**	**00 06 02.1**	**-2.1**
DAV	**Davao City (W)**	**3.53**	**201**	Pn	Pn	00 05 56.3	-7.8
KCP	**Kidapawan**	**3.78**	**207**	S	**Sn**	**00 06 55.0**	**+4.0**
PVCP	**Virac**	**4.12**	**321**	P	**Pn**	**00 06 12.3**	**+0.1**
PVCP				S	**Sn**	**00 06 59.0**	**-0.1**
RCP	**Roxas**	**4.17**	**286**	⇑P	**Pn**	**00 06 13.3**	**+0.3**
PAGZ	**Pagadian**	**4.24**	**234**	P	**Pn**	**00 06 15.2**	**+1.2**
PAGZ				S	**Sn**	**00 07 02.0**	**-0.3**
TNTI	**Ternate**	**9.58**	**177**	P	**Pn**	**00 07 25.9**	**-1.3**
TNTI	94nm,1.0s **Ternate**	**9.58**	**177**		Pn	00 07 22.8	-4.4
SWI	**Sorong**	**12.02**	**158**	P	**Pn**	**00 07 59.9**	**-0.8**
SWI	comp=Z,20nm,0.9s			pmax	pmax		
SWI	**Sorong**	**12.02**	**158**	P	**Pn**	**00 08 04.0**	**+3.3**
SANI	comp=Z,20nm,0.9s **Sanana**	**12.39**	**184**	P	Pn	00 07 57.7	-8.0
PCI	**Palu**	**13.21**	**212**	P	**Pn**	**00 08 18.2**	**+1.3**
TTSI	comp=Z,4.5nm,0.8s **Tana Toraja**	**15.07**	**208**	P	**Pn**	**00 08 43.1**	**+1.1**
SPSI	comp=Z,48nm,1.2s **Sidrap Palu**	**15.90**	**207**	P	**Pn**	**00 08 54.0**	**+1.1**
SMPI	comp=Z,31nm,1.0s **Sarmi**	**17.07**	**135**	P	**Pn**	**00 09 06.8**	**-0.8**
KBKI	comp=Z,71nm,1.5s,comp=Z,3µm **Kotabaru**	**17.26**	**219**	P	**P**	**00 09 14.8**	**+3.7**
QIZ	comp=Z,13nm,0.8s **Qiongzhong**	**18.52**	**300**	P	**P**	**00 09 20.8**	**-4.2**
QIZ				S	**Sn**	**00 12 47.6**	**-4.1**
SOEI	**Soe**	**20.18**	**187**	P	Pn	00 09 45.4	0.0
SOEI	comp=Z,78nm,1.2s,comp=Z,1µm **Soe**	**20.18**	**187**	P	**P**	**00 09 40.5**	**-2.8**
SOEI				IAmb	IAmb	00 09 55.4	
JCJ	comp=Z,56nm,1.2s **Chichijima**	**22.03**	**39**	LR	LR	00 16 43.5	
JAGI	comp=Z,134nm,21.8s,baz=338,slow=31 **Jajag, Banyuwa**	**22.59**	**214**	P	**P**	**00 10 04.1**	**-5.1**
JAGI				IAmb	IAmb	00 10 14.5	
NJ2	comp=Z,50nm,1.2s **Nanjing**	**22.78**	**342**	*e*P	**P**	**00 10 13.3**	**+2.4**
NJ2				sP	**sP**	**00 10 23.3**	**+0.6**
NJ2				pmax	pmax		
JNU	comp=Z,18nm,0.5s **Nakatsue**	**22.92**	**9**	P	**P**	**00 10 12.9**	**+0.4**
JNU	comp=Z,14nm,0.9s,baz=242,slow=3.2,SNR=4.5			IAmb	IAmb	00 10 25.2	
JNU	**Nakatsue**	**22.92**	**9**	P	**P**	**00 10 12.3**	**-0.2**
JNU	comp=Z,38nm,1.0s			IAmb	IAmb	00 10 25.2	
MTN	**Manton Dam**	**23.48**	**169**	P	**P**	**00 10 15.9**	**-2.3**
MTN	comp=Z,39nm,1.1s			IAmb	IAmb	00 10 19.2	
CHAI	**Chaiyaphum**	**24.79**	**285**	P	**P**	**00 10 31.1**	**+0.8**
ENH	comp=Z,21µm,1.0s **Enshi**	**25.53**	**323**	P	**P**	**00 10 35.9**	**-1.0**
ENH				IAmb	IAmb	00 10 44.7	
LEM	comp=Z,31nm,1.3s **Lembang**	**25.67**	**229**	LR	LR	00 21 41.2	
TJN	comp=Z,99nm,18.1s,baz=306,slow=39 **Taejon**	**25.87**	**1**	*i* P	**P**	**00 10 41.9**	**+2.1**
KLSI		**26.63**	**237**	P	**P**	**00 10 48.7**	**+1.8**
KSRS	comp=Z,9.2nm,1.9s **Korea Array**	**26.96**	**2**	P	**P**	**00 10 49.9**	**+0.3**
KSRS	comp=Z,3.8nm,0.9s,baz=171,slow=9.8,SNR=12			LR	LR	00 20 09.0	
MDSI	comp=Z,91nm,22.0s,baz=166,slow=33 **Maura Dua**	**26.97**	**238**	P	**P**	**00 10 52.0**	**+2.0**
KMI	comp=Z,13nm,1.7s **Kunming**	**27.15**	**306**	P	**P**	**00 10 50.9**	**-0.9**
KMI				pP	pP	00 10 56.4	-3.4
KMI				sP	sP	00 11 02.0	-1.6
KMI	comp=Z,8.0nm,0.6s			pmax	pmax		
KMI	comp=Z,120nm,5.5s			pmax	pmax		
MAJO	**Matsushiro**	**27.99**	**20**	*i* P	**P**	**00 11 00.1**	**+1.1**
MAJO	comp=Z,6.0nm,1.0s			pmax	pmax		
MJAR	**Matsushiro Arr**	**27.99**	**20**	LR	LR	00 20 07.4	
CMAR	comp=Z,109nm,21.3s,baz=205,slow=32 **Chiang Mai Arr**	**28.14**	**290**	*i* P	**P**	**00 10 58.9**	**-1.6**
CMAR	comp=Z,1.0nm,0.4s			pmax	pmax		
CMAR	**Chiang Mai Arr**	**28.14**	**290**	P	**P**	**00 11 00.0**	**-0.5**
FITZ	comp=Z,0.8nm,0.4s,baz=108,slow=7.7,SNR=5.2 **Fitzroy Crossi**	**28.34**	**182**	P	**P**	**00 11 00.2**	**-2.0**
FITZ	comp=Z,4.5nm,1.0s,baz=286,slow=4.6,SNR=4.7			LR	LR	00 22 38.8	
FITZ	comp=Z,31nm,19.6s,baz=54,slow=37 **Fitzroy Crossi**	**28.34**	**182**	P	**P**	**00 10 58.9**	**-3.3**
FITZ				IAmb	IAmb	00 11 06.5	
PDSI	comp=Z,15nm,1.2s **Padang**	**28.54**	**248**	P	**P**	**00 11 05.4**	**+1.3**
XAN	**Xi'an**	**28.69**	**328**	P	**P**	**00 11 05.6**	**+0.4**
XAN				pP	pP	00 11 16.1	+2.5
XAN	comp=Z,14nm,1.1s			pmax	pmax		
XAN	comp=Z,190nm,6.0s			pmax	pmax		
XAN	**Xi'an**	**28.69**	**328**	P	**P**	**00 11 04.8**	**-0.4**
XAN	comp=Z,16nm,1.1s			pmax	pmax		
XAN	**Xi'an**	**28.69**	**328**	P	**P**	**00 11 04.8**	**-0.4**
XAN				IAmb	IAmb	00 11 06.6	
CD2	comp=Z,16nm,1.1s **Chengdu**	**29.59**	**317**	P	**P**	**00 11 11.8**	**-1.5**
CD2				pmax	pmax		
SISI	comp=Z,30nm,0.5s **Saibi**	**29.96**	**249**	P	**P**	**00 11 16.1**	**-0.6**
BJT	comp=Z,24nm,0.9s **Baijiatuau**	**30.98**	**344**	P	**

comp=Z,170nm,5.5s
GTA LR LR
comp=Z,130nm,16.8s
GTA LR LR
comp=Z,120nm,15.1s
GTA LR LR
comp=Z,160nm,17.9s
LSA Lhasa 38.40 305 P **P 00 12 29.7 -0.5**
LSA pmax pmax
comp=Z,12nm,1.5s
LSA Lhasa 38.40 305 P **P 00 12 29.6 -0.5**
YSS Yuzh-Sakhalins 38.86 17 *eP* P 00 12 40.8 +7.6
YSS MLR MLR
comp=Z,200nm,15.0s
KLR Kul'dur 38.93 5 *i* P **P 00 12 32.7 -1.1**
KLR pmax pmax
comp=Z,4.0nm,1.0s
HIA Hailar 39.20 353 *i* P **P 00 12 35.5 -0.5**
HIA pmax pmax
comp=Z,17nm,1.1s
HIA Hailar 39.20 353 P **P 00 12 35.1 -0.9**
GRNR Gornyy 41.02 9 *eP* **P 00 12 51.2 +0.1**
GRNR pmax pmax
comp=Z,10.0nm,1.1s
SONM Songino Array 41.10 339 P **P 00 12 52.4 +0.4**
comp=Z,2.4nm,0.9s,baz=161,slow=9.4,SNR=7.7
TYV Tymovskoe 42.40 15 *eP* **P 00 12 59.3 -3.0**
BBOO Buckleboo 43.86 169 P **P 00 13 12.4 -2.0**
STKA Stephens Creek 44.35 162 P **P 00 13 17.2 -1.1**
STKA pmax pmax
comp=Z,3.0nm,1.3s
STKA Stephens Creek 44.35 162 P **P 00 13 17.2 -1.1**
comp=Z,3.6nm,0.9s,baz=347,slow=4.9,SNR=7.7
STKA Stephens Creek 44.35 162 IAmb IAmb 00 13 18.7
comp=Z,2.5nm,1.2s
WMQ Urumqi 47.46 322 *eP* **P 00 13 44.3 +1.4**
WMQ sP pP 00 13 54.9 +3.5
WMQ pmax pmax
comp=Z,14nm,1.3s
WMQ pmax pmax
comp=Z,200nm,5.7s
WMQ Urumqi 47.46 322 P **P 00 13 42.2 -0.7**
WMQ pmax pmax
comp=Z,18nm,1.1s
WMQ Urumqi 47.46 322 P **P 00 13 42.2 -0.7**
PETK Petropavlovsk- 49.30 24 P **P 00 13 58.5 +1.7**
comp=Z,1.2nm,0.6s,baz=232,slow=3.5,SNR=2.4
PETK LR LR 00 34 32.8
comp=Z,54nm,19.8s,baz=239,slow=36
YAK Yakutsk 51.59 2 *i* P **P 00 14 15.1 +1.2**
YAK pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 52.26 322 P **P 00 14 18.8 -0.4**
MK31 pmax pmax
comp=Z,12nm,0.9s
MK31 Makanchi Array 52.26 322 P **P 00 14 18.8 -0.4**
MK31 IAmb IAmb 00 14 21.5
comp=Z,12nm,0.8s
MKAR Makanchi Array 52.26 322 P **P 00 14 19.7 +0.4**
comp=Z,14nm,0.8s,baz=120,slow=7.4,SNR=80
MKAR PcP **PcP 00 15 31.0 +0.7**
comp=Z,3.6nm,0.8s,baz=111,slow=4.1,SNR=4.6
MKAR LR LR 00 37 47.5
comp=Z,74nm,18.6s,baz=329,slow=38
MA2 Magadan 52.27 15 *i* P **P 00 14 20.6 +1.6**
MAKZ Makanchi 52.46 322 P **P 00 14 20.8 +0.1**
MAKZ pmax pmax
comp=Z,18nm,1.0s
MAKZ Makanchi 52.46 322 P **P 00 14 20.8 +0.1**
KSH Kashi 53.56 312 P **P 00 14 31.1 +2.0**
KSH PcP **PcP 00 15 36.3 +0.8**
KSH ScP **ScP 00 19 30.8 +0.4**
KSH pmax pmax
comp=Z,600nm,6.3s
KSH LR LR
comp=Z,1μm,7.0s
KSH LR LR
comp=Z,460nm,9.3s
NIL Nilore 54.12 304 P **P 00 14 31.9 -1.3**
NIL pmax pmax
comp=Z,10.0nm,0.5s
NIL Nilore 54.12 304 P **P 00 14 31.9 -1.3**
ZAA0 Zalesovo Array 54.78 331 P **P 00 14 37.0 -0.6**
ZALV Zalesovo Beam 54.78 331 P **P 00 14 37.9 +0.4**
comp=Z,1.9nm,0.6s,baz=120,slow=6.1,SNR=12
SEY Seymchan 55.57 14 *i* P **P 00 14 43.6 +0.6**
KURK Kurchatov 56.28 325 *ceP* **P 00 14 48.8 +0.5**
KURK pmax pmax
comp=Z,63nm,1.3s
KURK Kurchatov 56.28 325 P **P 00 14 48.5 +0.2**
KK31 Karatay Array 58.55 314 P **P 00 15 04.4 -0.2**
KK31 pmax pmax
comp=Z,5.0nm,1.0s
KK31 Karatay Array 58.55 314 P **P 00 15 04.4 -0.2**
KKAR Karatay Array 58.55 314 P **P 00 15 03.8 -0.8**
KKAR pmax pmax
comp=Z,5.0nm,1.0s
KKAR Karatay Array 58.55 314 P **P 00 15 03.8 -0.8**
TIXI Tiksi 61.22 1 *i* P **P 00 15 21.7 -0.6**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 61.22 1 P **P 00 15 22.7 +0.3**
TIXI IAmb IAmb 00 15 33.9
comp=Z,7.6nm,0.9s
BRVK Borovoye 61.95 325 *ceP* **P 00 15 28.5 +0.9**
BRVK pmax pmax
comp=Z,41nm,1.7s
BRVK Borovoye 61.95 325 P **P 00 15 27.6 0.0**
BILL Bilibino 63.13 16 *i* P P 00 15 44.2 +9.0
BILL *i* 00 16 12.2
BILL pmax pmax
comp=Z,6.0nm,1.2s
NRIK Noril'sk 64.03 346 P **P 00 15 42.0 +0.9**
comp=Z,2.5nm,0.3s,baz=123,slow=5.9,SNR=8.1
NRIK LR LR 00 47 07.3
comp=Z,47nm,18.2s,baz=189,slow=39
ABKAR Akbulak array 67.14 319 P **P 00 16 00.8 -0.8**
ABKAR IAmb IAmb 00 16 03.1
comp=Z,5.9nm,0.8s
SVE Sverdlovsk 68.40 327 *eP* **P 00 16 10.7 +1.3**
SVE pmax pmax
comp=Z,38nm,1.4s
ARU Arti 69.42 327 *c i* P **P 00 16 15.9 +0.2**
ARU S **S 00 25 23.3 +3.2**
ARU SS **SS 00 29 43.5 -4.1**
ARU pmax pmax
comp=Z,37nm,1.8s
ARU Arti 69.42 327 P **P 00 16 15.3 -0.4**
PRGR Permogore 76.74 331 *eP* **P 00 16 58.3 -0.5**
PRGR *e* 00 17 07.7
PRGR pmax pmax
comp=Z,21nm,1.5s
TBLG Delisi 77.28 311 P **P 00 17 02.1 -0.3**
TBLG pmax pmax
comp=Z,8.0nm,1.0s
TBLG Delisi 77.28 311 P **P 00 17 02.1 -0.3**
TBLG IAmb IAmb 00 17 04.4
comp=Z,8.3nm,1.0s
BPAW Bear Paw Mtn. 77.30 26 P **P 00 17 03.3 +1.2**
GNI Garni 77.35 309 *i* P **P 00 17 02.1 -0.9**
GNI pmax pmax
comp=Z,24nm,1.4s
GNI Garni 77.35 309 P **P 00 17 02.4 -0.6**
GNI IAmb IAmb 00 17 06.6
comp=Z,17nm,1.4s
MLY Manley 77.45 26 P **P 00 17 04.1 +1.2**
MLY IAmb IAmb 00 17 15.6
comp=Z,6.8nm,1.0s
ZEI Tsey 77.85 312 *eP* **P 00 17 05.9 +0.1**
ZEI pmax pmax
comp=Z,10.0nm,0.9s
RAYN Ar Rayn 78.03 292 P **P 00 17 04.9 -2.1**
RAYN pmax pmax
comp=Z,7.0nm,1.3s
RAYN Ar Rayn 78.03 292 P **P 00 17 04.9 -2.1**
RAYN IAmb IAmb 00 17 17.5
comp=Z,7.3nm,1.3s
TOLK Toolik Lake Re 78.05 22 P **P 00 17 07.1 +0.9**
TOLK IAmb IAmb 00 17 19.2
comp=Z,8.2nm,1.1s
MCK McKinley 78.20 27 P **P 00 17 06.7 -0.4**
MCK pmax pmax
comp=Z,22nm,1.1s
MCK McKinley 78.20 27 P **P 00 17 06.7 -0.4**
AKH Akhalkalaki 78.23 310 P **P 00 17 07.9 0.0**
AKH pmax pmax
comp=Z,15nm,1.1s
AKH Akhalkalaki 78.23 310 P **P 00 17 07.9 0.0**
AKH IAmb IAmb 00 17 10.6
comp=Z,15nm,1.1s
KBZ Khabaz 78.53 313 P **P 00 17 09.7 +0.5**
comp=Z,4.3nm,1.0s,baz=154,slow=1.5,SNR=8.8
KIV Kislovodsk 78.67 313 *eP* **P 00 17 09.1 -1.0**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV Kislovodsk 78.67 313 P **P 00 17 09.7 -0.4**
KIV IAmb IAmb 00 17 12.6
comp=Z,7.3nm,0.8s
VRH Novokhopyorsk 78.92 320 *eP* **P 00 17 11.2 0.0**
VRH pmax pmax
comp=Z,20nm,0.8s
ILAR Eielson Array 79.09 26 P **P 00 17 12.5 +0.6**
comp=Z,1.0nm,0.9s,baz=246,slow=6.8,SNR=6.4
VSR Storozhevoye 80.53 320 *eP* **P 00 17 19.6 -0.3**
VSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 80.56 322 *eP* **P 00 17 20.5 +0.4**
LPSR pmax pmax
comp=Z,20nm,1.0s
OBN Obninsk 81.71 325 *ǁeP* **P 00 17 26.8 +0.7**
OBN *e* 00 17 35.4
OBN *e* 00 20 33.4
OBN *eS* **S 00 27 43.8 +7.9**
OBN *eSS* **SS 00 32 51.5 -2.2**
OBN pmax pmax
comp=Z,13nm,1.0s
ARCES ARCESS Array B 84.27 340 P **P 00 17 39.0 -0.1**
comp=Z,6.2nm,0.9s,baz=82,slow=6.4,SNR=15
WHY Whitehorse 85.06 29 P **P 00 17 43.4 0.0**
ILGA Ilgaz 85.59 311 P **P 00 17 46.6 0.0**
BR131 Keskin Array S 85.88 309 IAmb IAmb 00 17 48.6
comp=Z,4.1nm,0.9s
BRTR Keskin Array B 85.88 309 P **P 00 17 47.3 -0.7**
comp=Z,3.9nm,0.8s,baz=101,slow=4.5,SNR=28
FINES FINESS Array B 86.04 332 *ceP* **P 00 17 48.7 +0.6**
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 86.04 332 P **P 00 17 47.9 -0.2**
comp=Z,2.5nm,0.4s,baz=66,slow=4.2,SNR=28
ANTO Ankara 86.49 310 P **P 00 17 50.5 -0.5**
ANTO Ankara 86.49 310 P **P 00 17 50.5 -0.5**
AKASG Malin Array Be 86.81 321 *ceP* **P 00 17 52.5 +0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 86.81 321 P **P 00 17 51.1 -1.1**
comp=Z,4.3nm,0.8s,baz=63,slow=4.8,SNR=20
AKBB Malin Array Si 86.81 321 P **P 00 17 52.0 -0.1**
AKBB pmax pmax
comp=Z,16nm,1.2s
AKBB Malin Array Si 86.81 321 P **P 00 17 52.0 -0.1**
VRI Vrincioaia 89.56 317 P **P 00 18 07.4 +2.0**
VRI pmax pmax
comp=Z,16nm,1.4s
VNDA Vanda 89.98 173 P **P 00 18 06.5 0.0**
comp=Z,2.8nm,1.1s,baz=278,slow=4.3,SNR=4.5
BUR08 Bucovina Ar. S 90.11 319 P **P 00 18 09.0 +0.9**
MLR Muntele Rosu 90.19 316 P **P 00 18 08.2 -0.3**
MLR pmax pmax
comp=Z,9.0nm,1.2s
MLR Muntele Rosu 90.19 316 P **P 00 18 08.2 -0.3**
MLR IAmb IAmb 00 18 10.4
comp=Z,9.2nm,1.2s
RES Resolute Bay 91.28 10 P **P 00 18 14.0 +1.3**
RES pmax pmax
comp=Z,8.0nm,1.1s
RES Resolute Bay 91.28 10 P **P 00 18 14.0 +1.3**
KOLS Kolonicke sedl 91.62 320 *eP* **P 00 18 18.3 +3.4**
KOLS Kolonicke sedl 91.62 320 *eP* **P 00 18 18.3 +3.4**
UZH Uzhgorod 91.70 320 *ǁi* P **P 00 18 16.5 +1.3**
UZH *e* 00 18 33.4
VTS Vitosha 92.85 314 P **P 00 18 21.2 +0.3**
VTS pmax pmax
comp=Z,4.0nm,1.5s
YKA Yellowknife Ar 93.42 24 P **P 00 18 22.9 +0.1**
comp=Z,1.6nm,1.0s,baz=301,slow=4.7,SNR=17
VYHS Vyhne 93.92 321 *eP* **P 00 18 27.2 +1.7**
VYHS Vyhne 93.92 321 *eP* **P 00 18 27.2 +1.7**
TORD Torodi Ar. Bea 120.73 292 PKP **PKPdf 00 23 59.7 -1.0**
comp=Z,1.2nm,0.8s,baz=54,slow=2.4,SNR=7.7
PLCA Paso Flores 146.10 156 PKP2 **PKPbc 00 24 47.5 -0.6**
PLCA Paso Flores 146.10 156 PKPbc **PKPab 00 24 48.5 -0.2**
comp=Z,5.6nm,0.7s,baz=247,slow=4.2,SNR=12
PLCA Paso Flores 146.10 156 **PKPbc 00 24 47.5 -0.6**

MAN 25 00:05:12.2,5.98N×125.51E,h79km,MS4.1,2C,
Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.23**	**59**	P	Pn	00 05 25.4	+1.4
DDMP				S	Sn	00 05 35.1	+2.4
GSPH	**General Santos**	**0.57**	**280**	⇑P	Pn	00 05 27.0	+0.3
GSPH				S	Sn	00 05 37.0	-0.3
SKMP	**Bagumbayan, Su**	**1.10**	**299**	P	Pn	00 05 32.8	+0.3
SKMP				S	Sn	00 05 48.1	+0.6
KCP	**Kidapawan**	**1.10**	**338**	⇑P	Pn	00 05 34.9	+2.3
MATI	**Mati**	**1.21**	**38**	P	Pn	00 05 34.6	+0.8

IDC ***25*** *00:13:45.5±1.9, 16.°03S×173.°45W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/30, mbtmp3.8/6, MS3.0/2, Ms1 3.0/2, ms1mx2.7/26, Error ellipse: s-maj=114.6km s-min=20.8km az=144.0*

ISC 25 00:13:46.8±1.9, 15.°6S±0.°6×173.°5W±0.°5, h10km, n13, σ1§51/11, mb3.7/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.38**	**45**	Pn	**Pn**	**00 14 25.6**	**-0.4**
	8.7nm,0.3s,baz=208,slow=3.9,SNR=12						
AFI				Sn	**Sn**	**00 14 53.2**	**-2.2**
	52nm,0.3s,baz=254,slow=23,SNR=15						
AFI				LR	LR	00 15 15.6	
	comp=Z,92nm,19.9s,baz=273,slow=34						
HNR	**Honiara**	**26.62**	**280**	LR	LR	00 28 20.3	
	comp=Z,120nm,21.0s,baz=84,slow=33						
H11N3	**WAKE ISLAND Hy**	**40.06**	**331**	T	T	01 04 39.8	
	baz=150,slow=76,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**40.06**	**331**	T	T	01 04 40.1	
	baz=150,slow=76,SNR=6.9						
H11N2	**WAKE ISLAND Hy**	**40.08**	**331**	T	T	01 04 41.1	
	baz=150,slow=76,SNR=9.1						
STKA	**Stephens Creek**	**43.84**	**240**	P	**P**	**00 21 52.2**	**-1.2**
	0.7nm,0.4s,baz=61,slow=12,SNR=11						
WRA	**Warramunga Arr**	**49.70**	**257**	P	**P**	**00 22 39.0**	**-0.5**
	0.3nm,0.3s,baz=96,slow=6.5,SNR=6.3						
ASAR	**Alice Springs**	**49.95**	**252**	P	**P**	**00 22 40.5**	**-0.9**
	1.5nm,0.5s,baz=90,slow=7.9,SNR=26						
ASAR				PcP	**PcP**	**00 24 02.0**	**+0.4**
	0.3nm,0.9s,baz=99,slow=4.8,SNR=2.5						
NVAR	**Mina Array Bea**	**74.56**	**42**	P	**P**	**00 25 28.0**	**+1.7**
	0.6nm,0.7s,baz=221,slow=9.5,SNR=5.9						
PDAR	**Pinedale Array**	**82.50**	**42**	P	**P**	**00 26 11.3**	**+1.3**
	0.2nm,0.4s,baz=178,slow=4.5,SNR=4.6						
ILAR	**Eielson Array**	**82.68**	**11**	P	**P**	**00 26 11.9**	**+1.8**
	0.3nm,0.6s,baz=230,slow=6.2,SNR=14						
BRTR	**Keskin Array B**	**146.27**	**321**	PKPbc	**PKiKP**	**00 33 29.9**	**-1.5**
	1.2nm,0.8s,baz=163,slow=4.2,SNR=7.5						
GERES	**GERESS Array B**	**146.35**	**351**	PKPbc	**PKPab**	**00 33 29.7**	**+0.9**
	0.3nm,0.5s,baz=354,slow=1.0,SNR=3.6						

IDC ***25*** *00:26:08.2±0.7, 26.°37N×144.°08E, h0km, mb3.7/13, mb1 3.9/15, mb1mx3.8/34, mbtmp3.6/15, ML3.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/38, Error ellipse: s-maj=20.0km s-min=18.2km az=69.0*
JMA ***25*** *00:26:10.6±0.1, 27.°18N×144.°00E, h0km, M4.7*
ISCJB ***25*** *00:26:11.4±0.6, 26.°39N±0.°09×144.°03E±0.°07, h33km, mb3.6/13, MS3.6/1, Error ellipse: s-maj=14.3km s-min=7.9km az=20.8*

ISC 25 00:26:13.7±0.8, 26.°4N±0.°1×144.°04E±0.°08, h35km, n28, σ1§22/22, mb3.6/13, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**1.68**	**277**	S	**Sn**	**00 27 04.8**	**+3.8**
CBIJ	**Chichi jima**	**1.79**	**292**	P	**Pn**	**00 26 40.7**	**-1.3**
CBIJ				*eS*	**Sn**	**00 27 02.2**	**-1.3**
JCJ	**Chichijima**	**1.79**	**292**	Pn	**Pn**	**00 26 40.6**	**-1.5**
	18nm,0.3s,baz=296,slow=23,SNR=11						
JCJ				Sn	**Sn**	**00 27 02.5**	**-1.0**
	45nm,0.3s,baz=281,slow=22,SNR=9.7						
MJAR	**Matsushiro Arr**	**11.23**	**335**	Pn	**Pn**	**00 28 51.7**	**-0.1**
	0.1nm,0.3s,baz=161,slow=11,SNR=3.9						
JNU	**Nakatsue**	**13.22**	**303**	LR	LR	00 33 30.1	
	comp=Z,40nm,19.4s,baz=14,slow=33						
KSRS	**Korea Array**	**17.52**	**313**	P	**Pn**	**00 30 15.4**	**+0.3**
	baz=117,slow=11,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**22.04**	**103**	T	T	00 53 45.1	
	baz=291,slow=75,SNR=6.1						
H11N1	**WAKE ISLAND Hy**	**22.04**	**103**	T	T	00 53 39.8	
	baz=291,slow=75,SNR=4.0						
H11N3	**WAKE ISLAND Hy**	**22.06**	**103**	T	T	00 53 46.4	
	baz=291,slow=75,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**22.35**	**106**	T	T	00 54 05.7	
	baz=294,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**22.36**	**106**	T	T	00 54 06.2	
	baz=294,slow=75,SNR=6.5						
H11S2	**WAKE ISLAND Hy**	**22.36**	**106**	T	T	00 54 01.5	
	baz=294,slow=75,SNR=6.6						
KLR	**Kul'dur**	**24.68**	**340**	P	**P**	**00 31 31.7**	**+0.6**
	1.2nm,0.8s,baz=102,slow=11,SNR=2.6						
SONM	**Songino Array**	**36.34**	**316**	P	**P**	**00 33 14.5**	**+0.2**
	0.3nm,0.5s,baz=114,slow=6.5,SNR=2.4						
CMAR	**Chiang Mai Arr**	**42.26**	**269**	P	**P**	**00 34 03.7**	**-0.3**
	0.9nm,0.3s,baz=66,slow=8.7,SNR=4.8						
WRA	**Warramunga Arr**	**47.06**	**193**	P	**P**	**00 34 40.5**	**-1.5**
	0.7nm,0.6s,baz=13,slow=8.5,SNR=5.6						
ASAR	**Alice Springs**	**50.77**	**192**	P	**P**	**00 35 10.2**	**-0.3**
	0.2nm,0.6s,baz=7.7,slow=7.6,SNR=3.1						
ZALV	**Zalesovo Beam**	**51.07**	**319**	P	**P**	**00 35 12.7**	**+0.2**
	0.2nm,0.4s,baz=108,slow=12,SNR=2.1						
MKAR	**Makanchi Array**	**52.17**	**310**	P	**P**	**00 35 21.1**	**+0.3**
	0.6nm,0.8s,baz=88,slow=11,SNR=4.5						
ILAR	**Eielson Array**	**57.50**	**28**	P	**P**	**00 35 57.9**	**-1.2**
	0.6nm,0.7s,baz=254,slow=7.5,SNR=6.0						
INK	**Inuvik**	**62.94**	**24**	P	**P**	**00 36 36.4**	**+0.2**
	0.4nm,0.6s,baz=309,slow=5.7,SNR=4.3						
YKA	**Yellowknife Ar**	**71.93**	**29**	P	**P**	**00 37 33.2**	**0.0**
	0.4nm,0.9s,baz=292,slow=6.0,SNR=4.6						
RPZ	**Rata Peaks**	**74.08**	**160**	LR	LR	01 07 20.4	
	comp=Z,32nm,19.4s,baz=254,slow=33						
FINES	**FINESS Array B**	**79.26**	**334**	P	**P**	**00 38 15.6**	**+0.4**
	2.5nm,0.9s,baz=83,slow=6.0,SNR=4.3						
NVAR	**Mina Array Bea**	**79.61**	**52**	P	**P**	**00 38 18.7**	**+0.9**
	0.1nm,0.3s,baz=305,slow=3.2,SNR=3.0						
KBZ	**Khabaz**	**79.67**	**314**	P	**P**	**00 38 18.7**	**+1.0**
	1.4nm,1.0s,baz=255,slow=16,SNR=3.9						
TORD	**Torodi Ar. Bea**	**126.26**	**312**	PKP	**PKPdf**	**00 45 13.1**	**-0.3**
	0.5nm,1.1s,baz=124,slow=2.5,SNR=3.0						
LPAZ	**La Paz**	**148.46**	**78**	PKPbc	**PKPbc**	**00 45 58.2**	**+0.1**
	2.0nm,0.9s,baz=262,slow=5.2,SNR=5.7						

BJI 25 00:36:46.6±0.0, 45.°07N×118.°23E, h7km, ML3.7/8, 1D,
Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNY	**Shenyang**	**5.07**	**128**	ǁPg	Pg	00 38 20.1	-3.5
SNY				Sg	Sg	00 39 23.8	-5.4
SNY				smax	smax		
	comp=N,82nm,0.7s						
SNY				smax	smax		
	comp=E,110nm,0.7s						
CN2	**Changchun**	**5.32**	**101**	*e*Pg	Pb	00 38 23.6	+3.7
CN2				Sg	Sg	00 39 31.3	-6.1
CN2				smax	smax		
	comp=N,70nm,0.8s						
CN2				smax	smax		
	comp=E,90nm,0.8s						
WMQ	**Urumqi**	**21.78**	**278**	*e*P	P	00 41 38.8	-0.1

IDC 25 00:47:09.2±7.2, 7.°83S×156.°99E, h0km, mb3.7/5,
mb1 3.8/5, mb1mx3.6/25, mbtmp3.7/5, Error ellipse:
s-maj=219.0km s-min=30.7km az=113.0,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.03**	**239**	P	P	00 52 35.0	-0.3
	0.4nm,0.6s,baz=65,slow=9.5,SNR=5.3						
ASAR	**Alice Springs**	**27.16**	**232**	P	P	00 52 54.7	+0.1
	0.2nm,0.6s,baz=57,slow=10,SNR=3.5						
H11S3	**WAKE ISLAND Hy**	**27.85**	**20**	T	T	01 21 30.6	
	baz=203,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy**	**27.85**	**20**	T	T	01 21 30.8	
	baz=203,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**27.87**	**20**	T	T	01 21 31.6	
	baz=203,slow=75,SNR=8.6						
SONM	**Songino Array**	**71.10**	**327**	P	P	00 58 29.9	+0.3
	0.7nm,0.6s,baz=126,slow=4.1,SNR=3.4						
MKAR	**Makanchi Array**	**85.33**	**318**	P	P	00 59 48.5	+0.2
	0.9nm,0.7s,baz=103,slow=4.9,SNR=8.6						
ZALV	**Zalesovo Beam**	**85.97**	**326**	P	P	00 59 50.8	-0.5
	0.6nm,0.3s,baz=126,slow=6.5,SNR=3.9						

IDC ***25*** *00:50:30.9±1.8, 18.°23S×176.°68W, h302km±17km, mb4.3/22, mb1 4.4/24, mb1mx4.4/29, mbtmp4.9/24, Error ellipse: s-maj=12.4km s-min=9.8km az=145.0*
NEIC ***25*** *00:50:30.3±1.4, 18.°34S±0.°09×176.°7W±0.°1, h300km±5km, mb4.7/159*
ISCJB ***25*** *00:50:31.6±0.1, 18.°38S±0.°02×176.°72W±0.°03, h323km, mb4.6/56, Error ellipse: s-maj=4.5km s-min=2.9km az=32.0*
BJI ***25*** *00:50:32.0±0.0, 18.°40S×176.°60W, h334km, mb4.8/26, mB5.1/20*
MOS ***25*** *00:50:38.9±1.7, 17.°89S×177.°14W, h366km, mb4.7/27, Error ellipse: s-maj=9.7km s-min=8.6km az=159.4*

ISC 25 00:50:32.2±0.3, 18.°35S±0.°05×176.°59W±0.°05, h323km,
n605, σ1§51/550, mb4.7/113, 66C-19D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.13**	**276**	P	**Pn**	**00 51 55.7**	**+3.4**
MSVF				pmax	pmax		
	comp=Z,383nm,1.0s						
MSVF	**Nonsavu**	**5.13**	**276**		**Pn**	**00 51 55.5**	**+3.2**
MSVF				S	**S**	**00 52 55.7**	**-1.1**
NIUE	**Niue**	**6.36**	**98**		**Pn**	**00 52 06.5**	**+0.1**
NIUE					**S**	**00 53 21.3**	**-1.4**
AFI	**Afiamalu**	**6.39**	**47**	P	**Pn**	**00 52 04.1**	**-2.9**
	comp=Z,32nm,0.3s,baz=25,slow=0.6,SNR=54						
AFI				S	**S**	**00 53 15.4**	**-8.3**
	comp=Z,21nm,0.3s,baz=96,slow=18,SNR=6.1						
AFI	**Afiamalu**	**6.39**	**47**		**Pn**	**00 52 04.2**	**-2.8**
RAO	**Raoul Island**	**10.92**	**186**	P	**Pn**	**00 53 00.1**	**-1.2**
	comp=Z,135nm,0.3s,baz=109,slow=23,SNR=4.4						
RAO				S	**S**	**00 54 59.6**	**-4.2**
	comp=Z,171nm,0.3s,baz=110,slow=22,SNR=7.5						
RAO	**Raoul Island**	**10.92**	**186**	Pn	**Pn**	**00 52 57.3**	**-4.0**
RAO					**S**	**00 55 01.2**	**-2.6**
DZM	**Mont Dzumac**	**16.35**	**254**	P	**P**	**00 54 02.8**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=81,slow=19,SNR=27						
DZM	**Mont Dzumac**	**16.35**	**254**	P	**P**	**00 54 03.3**	**+0.4**
OUZ	**Omahuta**	**18.93**	**205**	P	**P**	**00 54 31.2**	**+0.8**
OUZ	**Omahuta**	**18.93**	**205**		**P**	**00 54 31.2**	**+0.8**
OUZ				IAmb	IAmb	00 54 38.2	
	comp=Z,24nm,0.7s						
WCZ	**Waipu Caves**	**19.27**	**203**	P	**P**	**00 54 36.4**	**+2.4**
KUZ	**Kuaotunu**	**19.54**	**199**	P	**P**	**00 54 39.0**	**+2.1**
MXZ	**Matakaoa Point**	**19.66**	**192**	P	**P**	**00 54 40.1**	**+1.9**
MXZ	**Matakaoa Point**	**19.66**	**192**	P	**P**	**00 54 38.6**	**+0.4**
WIAZ	**Waiheke Island**	**19.77**	**200**	P	**P**	**00 54 41.7**	**+2.4**
MBAZ	**Motutapu North**	**19.82**	**201**	P	**P**	**00 54 42.7**	**+2.8**
WMGZ	**Waiomatatini S**	**19.89**	**192**	P	**P**	**00 54 40.9**	**+0.4**
HAZ	**Te Kaha**	**19.95**	**193**	P	**P**	**00 54 41.4**	**+0.1**
PKGZ	**Pakihiroa**	**20.02**	**192**	P	**P**	**00 54 42.6**	**+0.6**
MKAZ	**Moumakai**	**20.04**	**200**	P	**P**	**00 54 44.2**	**+2.0**
WTAZ	**Waiatarua**	**20.08**	**201**	P	**P**	**00 54 45.2**	**+2.7**
KBAZ	**Karaka Road Bo**	**20.12**	**200**	P	**P**	**00 54 44.2**	**+1.3**
PUZ	**Puketiti**	**20.16**	**192**	P	**P**	**00 54 41.4**	**-1.9**
AWAZ	**Awhitu Peninsu**	**20.18**	**201**	P	**P**	**00 54 44.7**	**+1.2**
RUGZ	**Raukumara Rang**	**20.18**	**193**	P	**P**	**00 54 43.7**	**+0.1**
TGRZ	**Tauranga**	**20.30**	**197**	P	**P**	**00 54 43.6**	**-1.1**
TWGZ	**Tauwhareparae**	**20.32**	**192**	P	**P**	**00 54 46.3**	**+1.4**
OPRZ	**Ohinepanea**	**20.33**	**196**	P	**P**	**00 54 43.2**	**-1.8**
MARZ	**Manawahe**	**20.43**	**195**	P	**P**	**00 54 43.3**	**-2.7**
KMRZ	**Kaimai**	**20.50**	**197**	P	**P**	**00 54 43.6**	**-3.0**
TOZ	**Tahuroa Road**	**20.52**	**198**	P	**P**	**00 54 45.8**	**-0.9**

EDRZ	Edgecumbe	20.53	195	P		P		00 54 43.1	-3.8
MWZ	Matawai	20.57	193	P		P		00 54 47.4	+0.1
CNGZ	Carnagh Statio	20.57	192	P		P		00 54 48.7	+1.5
KARZ	Kaharoa	20.58	196	P		P		00 54 42.6	-4.7
URZ	Urewera	20.59	194	P		P		00 54 44.2	-3.2
TKGZ	Te Karaka	20.60	192	P		P		00 54 47.1	-0.4
OMRZ	Omania	20.62	196	P		P		00 54 42.6	-5.2
RAGZ	Rawiri	20.75	193	P		P		00 54 52.3	+3.4
RRRZ	Republican Roa	20.81	195	P		P		00 54 42.8	-6.7
HSRZ	Hossack Road	20.85	196	P		P		00 54 42.6	-7.3
RIGZ	Rimuhau	20.87	192	P		P		00 54 50.7	+0.6
MUGZ	Murupara	20.88	195	P		P		00 54 43.4	-6.7
HRRZ	Handcock Road	20.92	196	P		P		00 54 51.1	+0.6
RTZ	Ruatahuna	20.96	194	P		P		00 54 45.1	-5.8
PRRZ	Plateau Road	20.99	196	P		P		00 54 51.4	+0.2
SNGZ	Shannon Statio	21.04	193	P		P		00 54 48.5	-3.1
PRGZ	Paritu Road	21.06	192	P		P		00 54 52.4	+0.6
KNZ	Kokohu	21.20	192	P		P		00 54 51.4	-1.6
MTHZ	Maungataniwha	21.22	194	P		P		00 54 45.9	-7.3
RAHZ	Arahi	21.22	194	P		P		00 54 48.0	-5.3
MHGZ	Mahia Peninsul	21.28	192	P		P		00 54 54.1	+0.3
MRHZ	Matea Rd	21.30	195	P		P		00 54 44.9	-9.2
WHHZ	Waihua	21.34	193	P		P		00 54 49.6	-4.8
HIZ	Hauiti	21.43	199	P		P		00 54 49.6	-5.6
ARHZ	Aropaoanui	21.57	194	P		P		00 54 50.1	-6.4
TWVZ	Taurewa	21.78	197	P		P		00 54 48.9	-10
WTVZ	West Tongariro	21.78	197	P		P		00 54 48.7	-10
MCHZ	McNeill Hill	21.81	194	P		P		00 54 51.2	-7.5
KWHZ	Kaweka Forest	21.86	195	P		P		00 54 50.1	-9.1
CKHZ	Cape Kidnapper	21.93	193	P		P		00 54 53.9	-5.8
BHHZ	Black Hill Sta	22.01	195	P		P		00 54 50.4	-10
MOVZ	Moawhango	22.01	196	P		P		00 54 50.1	-10
VRZ	Vera Road	22.02	198	P		P		00 54 53.4	-7.2
KRHZ	Kereru	22.08	195	P		P		00 54 52.0	-9.1
KAHZ	Kahuranaki	22.11	193	P		P		00 54 54.7	-6.7
TARA	Tarawa	22.13	331	P		P		00 55 01.3	-0.5
PXZ	Pawanui	22.34	193	P		P		00 54 56.7	-6.6
PNHZ	Pukenui	22.38	195	P		P		00 54 54.7	-9.2
WPHZ	Waipukurau	22.46	194	P		P		00 54 56.4	-8.1
TSZ	Takapari Road	22.57	195	P		P		00 54 56.3	-9.3
DVHZ	Dannevirke	22.75	194	P		P		00 54 58.7	-8.5
PRWZ	Pori Road	23.04	195	P		P		00 55 02.1	-7.7
BFZ	Birch Farm	23.10	194	P		P		00 55 03.1	-7.2
CPWZ	Castlepoint	23.32	194	P		P		00 55 06.4	-6.0
HOWZ	Holdsworth Sta	23.48	195	P		P		00 55 06.0	-7.8
OGWZ	Otaki Gorge	23.49	196	P		P		00 55 06.0	-7.8
TMWZ	Te Maipa	23.58	194	P		P		00 55 08.1	-6.6
KIW	Kapiti Island	23.60	196	P		P		00 55 07.2	-7.6
MTW	Mount Morrison	23.73	195	P		P		00 55 08.7	-7.3
CAW	Cannon Point	23.79	196	P		P		00 55 09.5	-7.1
TRWZ	Traveller	23.91	194	P		P		00 55 11.7	-5.9
MSWZ	Moikau Station	24.03	195	P		P		00 55 18.3	-0.5
SNZO	South Karori	24.07	196	P		P		00 55 18.7	-0.4
TCW	Tory Channel	24.09	197	P		P		00 55 13.4	-5.9
BHW	Baring Head	24.12	196	P		P		00 55 13.3	-6.3
BHW	Baring Head	24.12	196	P		P		00 55 18.8	-0.7
PLWZ	Palliser	24.17	195	P		P		00 55 14.1	-6.0
PLWZ	Palliser	24.17	195	P		P		00 55 18.2	-1.9
QRZ	Quartz Range	24.28	200	P		P		00 55 20.7	-0.2
QRZ	Quartz Range	24.28	200	P		P		00 55 21.1	+0.1
NNZ	Nelson	24.36	199	P		P		00 55 18.3	-3.4
NNZ	Nelson	24.36	199	P		P		00 55 21.4	-0.4
TUWZ	Tuamarina	24.39	197	P		P		00 55 17.2	-4.8
TUWZ	Tuamarina	24.39	197	P		P		00 55 21.9	0.0
HNR	Honiara	24.41	288	P		P		00 55 22.1	-0.4
	comp=Z,77nm,0.8s,baz=280,slow=4.9,SNR=5.4								
HNR	Honiara	24.41	288	P		P		00 55 20.9	-1.6
BSWZ	Blackbirch Sta	24.68	197	P		P		00 55 24.0	-0.5
THZ	Tophouse	25.00	199	P		P		00 55 26.4	-1.2
DSZ	Denniston Nort	25.34	201	P		P		00 55 31.3	+0.8
KHZ	Kahutara	25.42	197	P		P		00 55 30.0	-1.2
GVZ	Greta Valley S	26.07	198	P		P		00 55 37.0	0.0
LTZ	Lake Taylor	26.13	199	P		P		00 55 35.0	-2.5
INZ	Inchbonnie	26.34	200	P		P		00 55 38.7	-0.7
OXZ	Oxford	26.69	199	P		P		00 55 41.7	-0.8
OKCZ	Okains Bay	26.76	197	P		P		00 55 43.2	+0.1
MQZ	McQueen's Vall	26.86	197	P		P		00 55 43.2	-0.7
MQZ	McQueen's Vall	26.86	197	P		P		00 55 43.6	-0.3
WVZ	Waitaha Valley	26.88	201	P		P		00 55 44.3	+0.1
RPZ	Rata Peaks	27.35	200	P		P		00 55 47.8	-0.6
	comp=Z,11nm,0.5s,baz=50,slow=5.8,SNR=10								
RPZ	Rata Peaks	27.35	200	P		P		00 55 47.8	-0.6
RPZ				IAmb		IAmb		00 55 54.7	
	comp=Z,15nm,0.7s								
EIDS	Eidsvold	30.75	251	P		P		00 56 18.4	-0.1
ARMA	Armidale	31.23	241	P		P		00 56 24.0	+1.2
ARMA				IAmb		IAmb		00 56 25.8	
	comp=Z,20nm,0.8s								
CAN	Canberra	34.83	234	P		P		00 56 54.7	+1.1
CAN				pmax		pmax			
	comp=Z,14nm,0.6s								
CAN	Canberra	34.83	234	P		P		00 56 54.7	+1.1
CAN				IAmb		IAmb		00 56 56.4	
	comp=Z,14nm,0.6s								
CTA	Charters Tower	35.08	261	P		P		00 56 56.1	+0.2
	comp=Z,8.3nm,0.5s,baz=92,slow=10,SNR=37								
PMG	Port Moresby	36.23	279	*ce*P		P		00 57 06.2	+0.5
PMG				pmax		pmax			
	comp=Z,158nm,1.1s								
PMG	Port Moresby	36.23	279	P		P		00 57 05.1	-0.6
	comp=Z,21nm,0.8s,baz=54,slow=3.8,SNR=6.1								
PMG	Port Moresby	36.23	279	P		P		00 57 05.7	0.0
PMG				IAmb		IAmb		00 57 07.0	
	comp=Z,34nm,1.1s								
TOO	Toolangi	38.25	232	P		P		00 57 22.2	0.0
TOO				pmax		pmax			
	comp=Z,26nm,0.8s								
TOO	Toolangi	38.25	232	P		P		00 57 22.2	0.0
TOO				IAmb		IAmb		00 57 25.6	
	comp=Z,26nm,0.8s								
COEN	Coen	38.84	270	P		P		00 57 27.3	0.0
COEN				IAmb		IAmb		00 57 28.2	
	comp=Z,22nm,0.8s								
MANU	Manus Island	38.87	290	P		P		00 57 28.2	+0.6
STKA	Stephens Creek	39.94	242	P		P		00 57 37.5	+1.3
	comp=Z,24nm,1.0s,baz=92,slow=10,SNR=53								
STKA				PcP		PcP		00 59 35.2	+0.6
	comp=Z,4.7nm,0.8s,baz=48,slow=6.5,SNR=4.1								
STKA	Stephens Creek	39.94	242	P		P		00 57 36.8	+0.6
MMPI	Merauke	42.89	277	P		P		00 58 02.0	+1.9
JAY	Jayapura	44.69	286	P		P		00 58 14.8	+0.4
	comp=Z,33nm,0.7s,baz=109,slow=5.6,SNR=9.9								
BBOO	Buckleboo	44.71	242	P		P		00 58 14.8	+0.5
BBOO				IAmb		IAmb		00 58 16.4	
	comp=Z,35nm,1.1s								
GENI	Genyem	45.15	285	P		P		00 58 19.1	+1.1
	comp=Z,198nm,0.7s,comp=Z,9μm								
WRAB	Tennant Creek	46.24	260	*ce*P		P		00 58 25.7	-0.7
WRAB				pmax		pmax			
	comp=Z,21nm,1.6s								
WRA	Warramunga Arr	46.25	260	*e*P		P		00 58 25.6	-0.9
WRA				pmax		pmax			
	comp=Z,5.0nm,0.5s								
WRA	Warramunga Arr	46.25	260	P		P		00 58 25.9	-0.6
	comp=Z,6.2nm,0.6s,baz=95,slow=6.2,SNR=84								
WRA				PcP		PcP		00 59 55.7	-0.5
	comp=Z,3.6nm,0.7s,baz=96,slow=4.0,SNR=7.2								
WRA				S		S		01 04 41.9	-6.5
	comp=Z,3.2nm,0.8s,baz=97,slow=13,SNR=8.1								
AS31	Alice Springs	46.34	255	P		P		00 58 26.9	-0.2
AS31				IAmb		IAmb		00 58 28.0	
	comp=Z,16nm,0.6s								
ASAR	Alice Springs	46.34	255	P		P		00 58 27.0	-0.1
	comp=Z,44nm,0.5s,baz=90,slow=8.4,SNR=1134								
ASAR				PcP		PcP		00 59 56.2	-0.2
	comp=Z,1.8nm,0.9s,baz=97,slow=4.6,SNR=5.7								
ASAR				S		S		01 04 45.8	-3.8
	comp=Z,5.1nm,0.8s,baz=87,slow=16,SNR=31								
SMPI	Sarmi	46.72	285	P		P		00 58 30.0	-0.1
	comp=Z,40nm,0.8s								
SIJI	Sorong	54.02	283	P		P		00 59 24.3	-0.1
	comp=Z,40nm,0.7s,baz=83,slow=5.1,SNR=27								
SWI	Sorong	54.02	283	P		P		00 59 25.1	+0.7
	comp=Z,73nm,0.7s								
SOEI	Soe	57.80	270	P		P		00 59 52.1	+0.9
SOEI	Soe	57.80	270	P		P		00 59 51.8	+0.6
SANI	Sanana	58.52	279	P		P		00 59 55.4	-0.6
	comp=Z,39nm,0.9s								
PSA00	Pilbara Seismi	59.47	255	P		P		01 00 02.3	-0.1
PSA00				IAmb		IAmb		01 00 04.6	
	comp=Z,17nm,0.8s								
VNDA	Vanda	60.16	185	P		P		01 00 08.9	+2.9
	comp=Z,2.5nm,0.7s,baz=3.0,slow=7.1,SNR=9.3								
LUWI	Luwuk	61.88	279	P		P		01 00 17.1	-1.5
MPSI	Mapaga	65.05	279	P		P		01 00 37.7	-1.5
	comp=Z,30nm,0.9s								
JAGI	Jajag, Banyuwa	67.75	268	P		P		01 00 54.1	-2.1
MJA0	Matsu Arr-Jizo	69.28	322	*e*P		P		01 01 04.7	-0.5
MJA0				pmax		pmax			
	comp=Z,15nm,0.7s								
MJAR	Matsushiro Arr	69.30	322	P		P		01 01 04.8	-0.5
	comp=Z,15nm,0.7s,baz=155,slow=6.1,SNR=32								
MAJO	Matsushiro	69.30	322	*i* P		P		01 01 04.8	-0.5
MAJO				pmax		pmax			
	comp=Z,23nm,0.8s								
MAJO	Matsushiro	69.30	322	P		P		01 01 04.7	-0.5
MAJO				IAmb		IAmb		01 01 05.6	
	comp=Z,21nm,0.8s								
MAT	Matsushiro	69.30	322	P		P		01 01 04.5	-0.8
MJB9	Matsu-Tunnel	69.30	322	IAmb		IAmb		01 01 05.6	
	comp=Z,22nm,0.8s								
QSPA	South Pole Qui	71.71	180	P		P		01 01 20.6	+1.2
KSM	Kuching	74.45	277	P		P		01 01 36.1	-0.1
PETK	Petropavlovsk-	74.56	344	P		P		01 01 35.8	-0.1
	comp=Z,23nm,0.9s,baz=136,slow=7.5,SNR=14								
YSS	Yuzh-Sakhalins	74.59	332	*e*P		P		01 01 37.1	+0.9
YSS				pmax		pmax			
	comp=Z,42nm,1.2s								
SAO	San Andreas Ge	75.56	43	P		P		01 01 42.9	+1.0
SAO				pmax		pmax			
	comp=Z,17nm,1.0s								
SAO	San Andreas Ge	75.56	43	P		P		01 01 42.9	+1.0
SAO				IAmb		IAmb		01 01 44.5	
	comp=Z,16nm,1.0s								
CIS	Catalina Islan	75.67	47	P		P		01 01 43.8	+1.1
	baz=236								
KSRS	Korea Array	76.18	318	*e*P		P		01 01 46.4	+1.0
KSRS				pmax		pmax			
	comp=Z,5.0nm,0.7s								
KSRS	Korea Array	76.18	318	P		P		01 01 46.2	+0.8
	comp=Z,5.1nm,0.7s,baz=135,slow=6.6,SNR=22								
ARVC	Arvin	76.34	46	P		P		01 01 47.6	+1.2
	baz=236								
VES	Vestal, Richgr	76.58	45	P		P		01 01 48.8	+1.2
	baz=235								
MURC	Murrieta	76.63	48	P		P		01 01 49.4	+1.3
	baz=237								
BFSC	Mount Baldy Ra	76.66	47	P		P		01 01 49.5	+1.2
	baz=237								
EDW2	Edwards Air Fo	76.78	46	P		P		01 01 50.3	+1.4
	baz=236,SNR=12								
O02D	Mt. Diablo Mer	76.78	39	P		P		01 01 50.7	+1.9
	baz=232,SNR=5.0								
MONP2	Monument Peak	76.80	49	P		P		01 01 50.6	+1.4
	baz=238,SNR=6.7								
ISA	Isabella, Lake	76.89	45	P		P		01 01 50.8	+1.3
	baz=236,SNR=8.4								
ISA	Isabella, Lake	76.89	45	IAmb		IAmb		01 01 52.2	
	comp=Z,12nm,1.1s								
IKP	In-Ko-Pah, Jac	76.89	49	P		P		01 01 51.2	+1.5
	baz=238								
PFO	Pinyon Flats O	77.15	48	P		P		01 01 52.5	+1.4
	baz=238								
WDC	Whiskeytown Da	77.18	39	P		P		01 01 51.8	+0.9
WDC				pmax		pmax			
	comp=Z,11nm,1.3s								
WDC	Whiskeytown Da	77.18	39	P		P		01 01 51.8	+0.9
SWSC	Sam W. Stewart	77.27	49	P		P		01 01 53.1	+1.6
	baz=238								
LRMC	Laurel Mtn Rad	77.32	46	P		P		01 01 53.3	+1.3
	baz=236,SNR=8.2								
N02D	Trinity Center	77.32	39	P		P		01 01 53.7	+1.9
	baz=232								
O03E	Paynes Creek	77.45	40	P		P		01 01 53.6	+1.1
	baz=233								
RRX	Edison Barstow	77.46	47	P		P		01 01 53.9	+1.3
	baz=237								
M02C	Callahan	77.49	38	P		P		01 01 54.4	+1.7
	baz=232								
L02E	Cave Junction	77.53	37	P		P		01 01 54.3	+1.5
	baz=231								
CWC	Cottonwood Cre	77.58	45	P		P		01 01 54.7	+1.2
	baz=236								
MDPB	Devils Postpil	77.60	43	IAmb		IAmb		01 01 56.0	
	comp=Z,12nm,1.0s								
TYV	Tymovskoe	77.65	335	*e*P		P		01 01 52.8	-0.4
TYV				pmax		pmax			
	comp=Z,31nm,1.4s								
BELC	Belle Mtn. Jos	77.69	48	P		P		01 01 55.4	+1.4
	baz=238								
MLAC	Mammoth, Mammo	77.75	43	P		P		01 01 55.8	+1.4
	baz=235								
MPMC	Manual Prospec	77.77	45	P		P		01 01 55.9	+1.4
	baz=236,SNR=13								
KASI	Kota Agung	77.77	268	P		P		01 01 54.6	-0.2
GSC	Goldstone, Bar	77.82	46	P		P		01 01 56.0	+1.3
	baz=237,SNR=7.7								
GSC	Goldstone, Bar	77.82	46	P		P		01 01 55.8	+1.1
GSC				pmax		pmax			
	comp=Z,8.0nm,1.0s								
GSC	Goldstone, Bar	77.82	46	P		P		01 01 55.9	+1.1
TIN	Tinemaha, Big	77.83	44	P		P		01 01 56.1	+1.4
	baz=236								
WAKR	Walker	77.87	42	IAmb		IAmb		01 01 57.7	
	comp=Z,18nm,1.2s								
BC3	Big Chuckawall	77.89	48	P		P		01 01 56.5	+1.4
	baz=238								
HEC	Hector,Ludlow	77.89	47	P		P		01 01 56.3	+1.2
	baz=238,SNR=9.7								
USRK	Ussuriysk Ar.	77.96	325	P		P		01 01 55.4	+0.4
	comp=Z,3.3nm,0.7s,baz=132,slow=5.7,SNR=7.4								
PNTR	Pine Nut	78.10	42	IAmb		IAmb		01 01 58.8	
	comp=Z,18nm,1.0s								
YERR	Yerington	78.27	42	IAmb		IAmb		01 01 59.5	
	comp=Z,13nm,1.0s								
L04D	Klamath Falls	78.32	38	P		P		01 01 58.6	+1.2
	baz=232								
M04C	Macdoel	78.33	39	P		P		01 01 59.0	+1.6
	baz=232								
GMRC	Granite Mounta	78.34	47	P		P		01 01 58.9	+1.3
	baz=236,SNR=5.7								
GRAC	Grapevine Rang	78.37	45	P		P		01 01 59.2	+1.6
	baz=236,SNR=5.1								
IRM	Iron Mountain	78.37	48	P		P		01 01 59.4	+1.7
	baz=238,SNR=7.0								
MDSI	Maura Dua	78.39	269	P		P		01 01 57.8	-0.3
	comp=Z,9.2nm,0.9s								
FURC	Furnace Creek,	78.42	45	P		P		01 01 58.9	+1.2
	baz=237								
TUQ	Turquoise Moun	78.50	47	P		P		01 01 59.3	+0.8
	baz=238								
SHOC	Shoshone, Teco	78.51	46	P		P		01 01 59.6	+1.3
	baz=237								
NVAR	Mina Array Bea	78.55	43	P		P		01 02 00.4	+1.6
	comp=Z,8.7nm,0.8s,baz=225,slow=9.3,SNR=73								
PAHR	Pah Rah Range	78.60	41	P		P		01 01 59.7	+0.8
PAHR				IAmb		IAmb		01 02 01.3	
	comp=Z,15nm,1.2s								
Y12C	Blythe	78.60	49	P		P		01 02 00.6	+1.8
	baz=239,SNR=6.7								
NV11	Mina Array Sit	78.65	43	IAmb		IAmb		01 02 01.6	
	comp=Z,16nm,1.1s								
214A	Organ Pipe Nat	78.94	51	P		P		01 02 02.7	+1.9
	baz=240								
KVN	Kaiserville	79.04	43	IAmb		IAmb		01 02 03.5	
	comp=Z,9.6nm,0.9s								
J04D	Umpqua Nationa	79.07	37	P		P		01 02 02.7	+1.2
	baz=232								
TPNV	Topopah Spring	79.09	45	P		P		01 02 03.1	+1.4
	baz=237,SNR=8.8								
TPNV	Topopah Spring	79.09	45	IAmb		IAmb		01 02 04.1	
	comp=Z,9.4nm,0.9s								
I04A	Tendick Farm,	79.24	37	P		P		01 02 03.2	+1.1
	baz=232								
MOD	Modoc Plateau	79.32	39	IAmb		IAmb		01 02 05.0	
	comp=Z,10.0nm,1.1s								
H04D	Lebanon	79.51	36	P		P		01 02 05.5	+2.0
	baz=231								
MDJ	Mudanjiang	79.54	324	P		P		01 02 04.6	+0.9
NJ2	Nanjing	79.55	309	*e*P		P		01 02 05.0	+1.0
NJ2				pmax		pmax			
	comp=Z,9.0nm,0.5s								
J05D	Fort Rock, OR	79.60	38	P		P		01 02 05.7	+1.5
	baz=233								
H04A	Detroit Lake	79.92	36	IAmb		IAmb		01 02 07.0	
	comp=Z,8.3nm,0.9s								
PINE	Pine Mountain	80.08	37	IAmb		IAmb		01 02 09.5	
	comp=Z,14nm,1.1s								
I05D	Terrebonne, OR	80.18	37	P		P		01 02 08.3	+1.2
	baz=232								
R11A	Troy Canyon, C	80.29	44	P		P		01 02 09.2	+1.2
	baz=237,SNR=6.7								
TUC	Tucson	80.61	52	P		P		01 02 12.1	+2.3
	baz=241								
TUC	Tucson	80.61	52	P		P		01 02 10.2	+0.5
TUC				pmax		pmax			
	comp=Z,9.0nm,1.0s								
TUC	Tucson	80.61	52	P		P		01 02 10.2	+0.5
TUC				IAmb		IAmb		01 02 13.2	
	comp=Z,8.8nm,0.9s								
WVOR	Wild Horse Val	80.63	39	IAmb		IAmb		01 02 12.1	
	comp=Z,16nm,1.1s								
G05D	Wamic, OR	80.75	36	P		P		01 02 11.1	+1.0
	baz=232								
E04D	Cinebar	80.88	34	P		P		01 02 11.2	+0.6
	baz=231								
F05D	White Salmon	81.06	35	P		P		01 02 12.9	+1.2
	baz=232								
X16A	Lo Mia Camp, P	81.15	49	IAmb		IAmb		01 02 16.0	
	comp=Z,11nm,0.9s								
D04E	Lakebay	81.16	34	P		P		01 02 13.4	+1.3
	baz=231								
D03D	Eldon	81.22	33	P		P		01 02 13.9	+1.4
	baz=231								
319A	Douglas	81.30	53	IAmb		IAmb		01 02 17.0	
	comp=Z,16nm,1.0s								
KLR	Kul'dur	81.37	329	*i* P		P		01 02 13.9	+0.7
KLR				pmax		pmax			
	comp=Z,8.0nm,1.1s								
CN2	Changchun	81.43	322	*e*P		P		01 02 13.9	+0.3
CN2				pmax		pmax			
	comp=Z,30nm,0.9s								
KNB	Kanab	81.46	47	P		P		01 02 13.7	-0.5
KNB				pmax		pmax			
	comp=Z,7.0nm,1.1s								
KNB	Kanab	81.46	47	P		P		01 02 13.7	-0.5
U15A	North Rim	81.54	47	IAmb		IAmb		01 02 18.0	
	comp=Z,13nm,1.0s								
D05A	Enumclaw	81.58	34	P		P		01 02 16.0	+1.6
WUAZ	Wupatki	81.73	48	P		P		01 02 17.5	+1.9
	baz=241								
WUAZ	Wupatki	81.73	48	IAmb		IAmb		01 02 19.4	
	comp=Z,15nm,1.2s								
F07A	Phinny Hill Vi	81.92	36	IAmb		IAmb		01 02 18.4	
	comp=Z,11nm,1.1s								
G08A	Pilot Rock	82.11	37	P		P		01 02 18.2	+0.9
G08A				IAmb		IAmb		01 02 19.6	
	comp=Z,18nm,1.1s								
A04D	Lummi Island	82.17	33	P		P		01 02 18.7	+1.4
	baz=231								
SUA	Susitna One	82.18	12	IAmb		IAmb		01 02 18.6	
	comp=Z,19nm,0.9s								
B05A	Bryant	82.20	33	P		P		01 02 18.5	+1.0
	baz=231								
X18A	Snowflake	82.28	50	IAmb		IAmb		01 02 21.7	
	comp=Z,9.5nm,0.9s								
LTY	Liberty	82.33	35	IAmb		IAmb		01 02 35.8	
	comp=Z,12nm,1.4s								
E07A	Sunnyside	82.36	36	IAmb		IAmb		01 02 20.8	
	comp=Z,14nm,1.0s								
HAWA	Hanford	82.44	36	IAmb		IAmb		01 02 21.2	
	comp=Z,16nm,1.1s								
TTA	Tatalina	82.61	9	P		P		01 02 20.0	+0.6
TTA				pmax		pmax			
	comp=Z,15nm,1.0s								
TTA	Tatalina	82.61	9	P		P		01 02 20.1	+0.6
TTA				IAmb		IAmb		01 02 21.1	
	comp=Z,15nm,1.0s								
C06D	Leavenworth	82.62	34	P		P		01 02 20.5	+0.8
	baz=232								
E08A	Dider Farm, El	82.76	36	IAmb		IAmb		01 02 22.7	
	comp=Z,16nm,1.2s								
BMO	Blue Mountains	82.81	38	IAmb		IAmb		01 02 22.9	
	comp=Z,9.4nm,0.9s								
MFID	Camas Ranch	82.89	40	IAmb		IAmb		01 02 23.6	
	comp=Z,11nm,1.0s								
121A	Cookes Peak, D	82.96	53	P		P		01 02 24.7	+2.6
	baz=243								
121A	Cookes Peak, D	82.96	53	IAmb		IAmb		01 02 25.6	
	comp=Z,16nm,0.9s								
DUG	Dugway, Tooele	83.09	44	P		P		01 02 23.5	+1.0
	baz=239								
BGU	Big Grassy Mou	83.32	43	P		P		01 02 23.8	+0.1
B08A	Colville Reser	83.71	34	IAmb		IAmb		01 02 26.8	
	comp=Z,9.7nm,0.9s								
GLB	Gilahina Butte	83.72	15	IAmb		IAmb		01 02 26.1	
	comp=Z,12nm,0.8s								
KTH	Kantishna Hill	84.06	11	IAmb		IAmb		01 02 26.7	
	comp=Z,19nm,1.0s								
TRF	Thorofare Moun	84.08	12	P		P		01 02 26.7	-0.2
MNTX	Cornudas Mount	84.42	54	P		P		01 02 31.1	+1.9

baz=241
PD31 Pinedale Array 86.49 43 P P 01 02 40.2 +0.8
PDAR Pinedale Array 86.49 43 P P 01 02 40.2 +0.8
comp=Z,2.1nm,0.9s,baz=218,slow=3.4,SNR=16
H17A Grant Village 86.64 41 P P 01 02 42.0 +1.9
baz=240
H17A Grant Village 86.64 41 IAmb IAmb 01 02 43.7
comp=Z,12nm,1.4s
PRP Porcupine Dome 86.87 12 IAmb IAmb 01 02 42.0
comp=Z,7.7nm,0.9s
SDCO Great Sand Dun 86.95 49 P P 01 02 42.7 +0.9
baz=244
DAWY Dawson 87.04 15 IAmb IAmb 01 02 42.8
comp=Z,8.7nm,0.9s
BILL Bilibino 87.05 354⇑ *i*P P 01 02 41.4 +0.3
BILL pmax pmax
comp=Z,10.0nm,1.1s
BILL Bilibino 87.05 354 P P 01 02 41.1 0.0
BILL IAmb IAmb 01 02 42.0
comp=Z,22nm,1.5s
WALA Waterton Lakes 87.07 36 IAmb IAmb 01 02 43.3
comp=Z,6.9nm,0.9s
EGAK Eagle 87.20 14 IAmb IAmb 01 02 43.3
comp=Z,7.3nm,0.9s
MSTX Muleshoe 87.37 53 P P 01 02 44.6 +1.0
baz=246
MSTX Muleshoe 87.37 53 IAmb IAmb 01 02 45.8
comp=Z,7.1nm,0.8s
T25A Trinidad 87.47 50 P P 01 02 45.1 +1.0
baz=245
HIA Hailar 87.73 324 P P 01 02 44.8 0.0
HIA pmax pmax
comp=Z,6.0nm,0.8s
HIA Hailar 87.73 324 P P 01 02 44.8 0.0
HIA IAmb IAmb 01 02 45.6
comp=Z,6.4nm,0.8s
RLMT Red Lodge 87.81 41 P P 01 02 47.2 +1.6
baz=241
XAN Xi'an 87.90 307 P P 01 02 46.8 +0.8
XAN pmax pmax
comp=Z,13nm,1.0s
XAN pmax pmax
comp=Z,200nm,6.5s
XAN Xi'an 87.90 307 P P 01 02 46.4 +0.4
XAN pmax pmax
comp=Z,14nm,1.0s
XAN Xi'an 87.90 307 P P 01 02 46.4 +0.4
XAN IAmb IAmb 01 02 47.6
comp=Z,14nm,1.0s
N23A Red Feather La 88.02 46 P P 01 02 47.8 +1.1
baz=244
JCT Junction City 88.31 57 P P 01 02 49.3 +1.2
baz=248
AMTX Amarillo 88.56 53 P P 01 02 50.3 +1.1
baz=246
HHC Hu-ho-hao-te 88.81 314 P P 01 02 51.5 +1.3
HHC pmax pmax
comp=Z,6.0nm,0.8s
HHC pmax pmax
comp=Z,120nm,7.6s
TOLK Toolik Lake Re 88.92 10 P P 01 02 50.3 +0.3
baz=206
SYO Syowa Base 89.11 192⇑ *e*P P 01 02 48.8 -2.1
ABTX Abilene, Hawle 89.25 55 P P 01 02 53.8 +1.5
baz=248
PLCA Paso Flores 89.78 133 P P 01 02 56.7 +1.8
comp=Z,2.6nm,0.8s,baz=209,slow=4.1,SNR=4.6
PLCA Paso Flores 89.78 133 IAmb IAmb 01 02 58.4
comp=Z,5.6nm,1.1s
SNAA Sanae 90.11 178 P P 01 02 56.3 +0.6
VNA3 Neumayer Olymp 90.19 176 P P 01 02 57.3 +1.3
435B Jarrell 90.20 58 P P 01 02 58.6 +1.8
baz=249
435B Jarrell 90.20 58 IAmb IAmb 01 02 59.7
comp=Z,14nm,1.0s
LAO LASA Array 90.42 40 P P 01 02 59.6 +2.1
baz=244
YAK Yakutsk 90.63 338 *i* P P 01 02 58.3 +0.4
YAK pmax pmax
comp=Z,5.0nm,0.8s
VNA2 Neumayer--Watz 90.64 176 P P 01 02 59.9 +1.7
baz=189,slow=3.3
CMAR Chiang Mai Arr 90.66 289 *e*P P 01 03 00.4 +1.2
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 90.66 289 P P 01 03 00.1 +0.9
comp=Z,1.3nm,0.3s,baz=112,slow=2.9,SNR=14
RSSD Black Hills 90.69 43 P P 01 02 59.9 +0.9
baz=245
RSSD Black Hills 90.69 43 P P 01 02 59.7 +0.7
RSSD pmax pmax
comp=Z,12nm,1.0s
RSSD Black Hills 90.69 43 P P 01 02 59.7 +0.7
RSSD IAmb IAmb 01 03 00.7
comp=Z,12nm,1.0s
WMOK Wichita Mounta 90.71 54 P P 01 03 00.6 +1.6
baz=248
WHTX Lake Whitney, 90.74 57 P P 01 03 00.6 +1.3
baz=249
CD2 Chengdu 90.76 302 P P 01 02 58.8 -0.6
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CHTO Chiang Mai 90.77 289 P P 01 03 00.0 +0.3
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 90.77 289 P P 01 02 60.0 +0.3
INK Inuvik 91.86 15 IAmb IAmb 01 03 04.5
comp=Z,16nm,1.1s
DGMT Dagmar 92.43 39 P P 01 03 08.1 +1.4
baz=245
LZH Lanzhou 92.53 307 *e*P P 01 03 09.6 +2.0
LZH pP pwP 01 04 26.0 -0.6
LZH pmax pmax
comp=Z,12nm,1.1s
LZH pmax pmax
comp=Z,91nm,4.9s
NATX Nacogdoches 92.89 58 P P 01 03 10.9 +1.8
baz=250
KSU1 Kansas State U 93.90 50 P P 01 03 15.1 +1.5
baz=250
YKA Yellowknife Ar 94.01 24 P P 01 03 13.7 +0.2
comp=Z,2.9nm,0.7s,baz=243,slow=4.5,SNR=58
YKA PKKPbc PKKPdf 01 20 14.3 -1.6
comp=Z,0.1nm,0.5s,baz=44,slow=1.8,SNR=5.1
ULN Ulaanbaatar 94.61 319 *ce*P P 01 03 16.2 -0.7
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 94.61 319 P P 01 03 17.0 +0.1
ULN IAmb IAmb 01 03 17.7
comp=Z,5.5nm,1.0s
W39A Magazine 94.71 55 P P 01 03 18.2 +0.8
baz=251
SONM Songino Array 95.01 319 *e*P P 01 03 18.7 0.0
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 95.01 319 P P 01 03 19.1 +0.4
comp=Z,1.2nm,0.8s,baz=134,slow=4.9,SNR=5.8
C36M Paulatuk 95.02 16 P P 01 03 19.4 +1.4
baz=229
ECSD EROS Data Cent 95.49 46 P P 01 03 21.6 +0.7
baz=250
U40A Yellville 95.80 54 P P 01 03 23.3 +0.9
baz=252
W41B Gary Mavity, V 95.90 55 P P 01 03 24.2 +1.4
baz=252
TIXI Tiksi 97.02 345 *ce*P P 01 03 26.2 -0.8
TIXI pmax pmax
comp=Z,2.0nm,0.9s
EYMN Ely 100.20 43 P Pdif 01 03 41.5 -0.3
baz=254
ZALV Zalesovo Beam 109.64 322 PKiKP PKiKP 01 08 23.8 -0.7
comp=Z,1.6nm,0.6s,baz=175,slow=2.0,SNR=9.0
MKAR Makanchi Array 110.68 314 PKiKP PKiKP 01 08 26.0 -0.8
comp=Z,1.3nm,0.7s,baz=64,slow=0.9,SNR=14
KURK Kurchatov 113.30 318 *c* *i* PKIKP PKiKP 01 08 31.3 -0.3
KURK pmax pmax
comp=Z,7.0nm,2.5s
KSH Kashi 114.73 306 *e*PKP PKPdf 01 08 32.4 -2.5
BRVK Borovoye 118.33 321 *c* *i* PKIKP PKiKP 01 08 41.7 +0.5
BRVK pmax pmax
comp=Z,3.0nm,1.0s
GAR Garm 119.10 305 PKiKP 01 08 43.5 +0.2
KBL Kabul 120.00 300 PKiKP PKiKP 01 08 45.7 +0.3
KBL Kabul 120.00 300 PKiKP 01 08 45.7 +0.3
SVE Sverdlovsk 122.95 327 *e*PKIKP PKiKP 01 08 50.3 +0.1
SVE pmax pmax
comp=Z,12nm,0.8s

ARU Arti 124.17 327 *i* PKIKP PKPdf 01 08 52.3 0.0
ARU 01 10 41.4
ARU 01 15 31.5
ARU SS SS 01 26 59.1 -7.3
ARU Arti 124.17 327 PKPdf 01 08 52.2 0.0
ABKAR Akbulak array 125.42 318 PKPdf 01 08 55.2 +0.3
ARCES ARCESS Array B 127.04 350 PKP PKPdf 01 08 57.8 +0.4
comp=Z,8.9nm,0.9s,baz=88,slow=1.6,SNR=8.2
PRGR Permogore 127.65 336 *e*PKIKP PKPdf 01 08 57.0 -1.8
PRGR pmax pmax
comp=Z,9.0nm,0.9s
GEYT Alibeck 128.71 304 PKP PKPdf 01 09 02.1 +0.4
comp=Z,3.4nm,0.8s,baz=37,slow=0.7,SNR=9.3
BOSA Boshof 128.76 205 PKP PKiKP 01 09 03.3 +0.4
comp=Z,1.6nm,0.7s,baz=169,slow=5.2,SNR=3.4
FINES FINESS Array B 134.07 345 PKP PKPdf 01 09 10.4 -0.5
comp=Z,4.0nm,0.9s,baz=342,slow=4.2,SNR=5.9
VRH Novokhopyorsk 135.40 326 *e*PKIKP PKPdf 01 09 12.3 -1.4
VRH pmax pmax
comp=Z,8.0nm,0.6s
OBN Obninsk 135.47 333⇑ *e*PKIKP PKPdf 01 09 13.5 -0.2
OBN pmax pmax
comp=Z,6.0nm,1.0s
LPSR Galich'ya Gora 136.01 329 *e*PKIKP PKPdf 01 09 13.5 -1.3
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 136.72 328 *e*PKIKP PKPdf 01 09 15.4 -0.8
VSR pmax pmax
comp=Z,10.0nm,1.6s
VORD Divnogorie 136.80 327 *e*PKIKP PKPdf 01 09 15.8 -0.5
VORD pmax pmax
comp=Z,10.0nm,1.2s
NOA NORSAR Array B 137.00 354 PKIKP PKiKP 01 09 18.0 -0.4
NOA NORSAR Array B 137.00 354 PKP PKiKP 01 09 18.0 -0.4
comp=Z,1.0nm,0.7s,baz=314,slow=2.5,SNR=3.2
KBZ Khabaz 138.32 316 PKP PKiKP 01 09 21.2 -0.3
comp=Z,2.0nm,1.0s,baz=242,slow=1.8,SNR=4.2
KIV Kislovodsk 138.36 317 *e*PKIKP PKPdf 01 09 18.7 -0.9
KIV pmax pmax
comp=Z,15nm,1.0s
AKH Akhalkalaki 138.83 313 PKIKP PKPdf 01 09 20.3 -0.3
AKH Akhalkalaki 138.83 313 ⇑P PKPdf 01 09 20.4 -0.3
KMBO Kilima Mbogo 141.50 243 PKhKP PKPpre 01 09 21.6
comp=Z,0.9nm,0.6s,baz=41,slow=20,SNR=3.0
AKASG Malin Array Be 141.74 333 *c* *i* PKIKP PKiKP 01 09 29.3 +1.0
AKASG Malin Array Be 141.74 333 PKhKP PKPpre 01 09 19.5
comp=Z,2.3nm,0.7s,baz=39,slow=4.1,SNR=12
BEL Belsk 143.88 342 *e*PKIKP PKPdf 01 09 29.0 -0.1
BEL Belsk 143.88 342 *e*PKP PKPdf 01 09 29.0 -0.1
BEL *e*PKP PKPdf 01 09 29.0 -0.1
SORM Soroca 144.02 331 ⇑P PKPab 01 09 27.5 -0.3
HORU Horodok 144.04 334 PKIKP PKPab 01 09 27.9 0.0
LVV L'vov 144.50 337 *e*PKIKP PKPab 01 09 29.5 -0.2
MILM Milestii Mici 144.68 329 ⇑P PKPbc 01 09 29.7 -0.6
GAZ Gaziantep 144.95 309 PKPab 01 09 32.1 +0.2
IAS Iasi 145.07 331 PKIKP PKPdf 01 09 31.2 -0.1
IAS Iasi 145.07 331 ⇑P PKPdf 01 09 31.2 -0.1
MORS Morshin 145.12 336 PKIKP PKPab 01 09 32.2 +0.2
LEOM Leova 145.27 329 ⇑PKIKP PKPab 01 09 33.0 +0.3
LEOM Leova 145.27 329 ⇑P PKPab 01 09 33.0 +0.3
PRAR RASCA 145.55 332 ⇑P PKPbc 01 09 33.3 +0.4
OJC Ojcow 145.60 341 *e*PKIKP PKPbc 01 09 33.1 +0.1
OJC Ojcow 145.60 341 *e*PKP PKPbc 01 09 33.1 +0.1
OJC *e*PKP PKPbc 01 09 33.1 +0.1
BIR Birlad 145.72 330 ⇑PKP2 PKPab 01 09 34.4 0.0
BIR Birlad 145.72 330 ⇑P PKPab 01 09 34.4 0.0
BUR08 Bucovina Ar. S 145.78 333 PKPab 01 09 34.6 -0.1
BURAR Bucovina Array 145.79 333 ⇑PKP2 PKPab 01 09 34.6 -0.2
BURAR Bucovina Array 145.79 333 ⇑P PKPab 01 09 34.6 -0.2
KOLS Kolonicke sedl 145.88 338 *e*PKP2 PKPab 01 09 34.7 -0.3
KOLS Kolonicke sedl 145.88 338 *e*PKP PKPab 01 09 34.7 -0.3
TLCR 145.89 327 ⇑PKIKP PKPbc 01 09 33.9 -0.1
TLCR 145.89 327 ⇑P PKPbc 01 09 33.9 -0.1
BIZ Bicaz 145.92 332 ⇓P PKPbc 01 09 34.0 -0.1
GHRR 145.97 330 ⇑P PKPab 01 09 34.9 -0.5
KSP Ksiaz 145.99 345 *e*PKP2 PKPab 01 09 35.0 -0.3
KSP Ksiaz 145.99 345 *e*PKP PKPab 01 09 35.0 -0.3
KSP *e*PKP PKPab 01 09 35.0 -0.3
TESR Tescani 146.00 331 ⇑P PKPbc 01 09 33.8 -0.5
UZH Uzhgorod 146.13 337⇓ *i*PKP2 PKPbc 01 09 35.0 +0.4
UZH *i* 01 09 36.8
NIE Niedzica 146.14 340 *e*PKP2 PKPab 01 09 35.8 -0.2
NIE Niedzica 146.14 340 *e*PKP PKPab 01 09 35.8 -0.2
NIE *e*PKP PKPab 01 09 35.8 -0.2
CFR Carcaliu 146.24 328 ⇑PKIKP PKPbc 01 09 34.5 -0.5
CFR Carcaliu 146.24 328 ⇑P PKPbc 01 09 34.5 -0.5
CLL Collm 146.24 349 ⇓ *i*PKIKP PKPbc 01 09 34.8 -0.1
CLL pmax pmax
comp=Z,74nm,1.3s
CLL Collm 146.24 349 ⇓ *i*PKPbc PKPbc 01 09 34.8 -0.1
comp=Z,74nm,1.3s
CLL Collm 146.24 349 PKPbc 01 09 35.5 +0.7
OSTC Ostas 146.28 345 *e*PKP PKPbc 01 09 35.5 +0.5
CHVC Chvalec 146.28 345 *e*PKP PKPbc 01 09 35.4 +0.3
PETR Petresti 146.30 329 ⇑P PKPab 01 09 36.8 +0.1
BR131 Keskin Array S 146.31 316 PKIKP PKPdf 01 09 33.2 -0.6
BR131 Keskin Array S 146.31 316 PKPdf 01 09 33.2 -0.6
BR131 PKPbc PKPbc 01 09 35.7 +0.1
BRTR Keskin Array B 146.31 316 *e*PKHKP PKPdf 01 09 32.6 -1.3
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 146.31 316 PKPbc PKPdf 01 09 34.0 +0.2
comp=Z,9.0nm,0.9s,baz=84,slow=1.6,SNR=36
TOPG Topolog 146.32 327 ⇑P PKPab 01 09 36.2 -0.6
ODBI Odobesti 146.35 330 ⇓P PKPab 01 09 36.8 -0.1
UPC Upice 146.37 345 *e*PKIKP PKPbc 01 09 35.7 +0.4
UPC Upice 146.37 345 *e*PKP PKPbc 01 09 35.7 +0.4
OKC Ostrava-Krasne 146.43 343 *e*PKP2 PKPbc 01 09 36.0 +0.6
OKC Ostrava-Krasne 146.43 343 *e*PKP PKPbc 01 09 36.0 +0.6
VRI Vrincioaia 146.44 330 ⇑PKIKP PKPdf 01 09 34.4 +0.7
VRI Vrincioaia 146.44 330 ⇑P PKPdf 01 09 34.4 +0.7
DPC Dobruska-Polom 146.44 345 *e*PKP2 PKPbc 01 09 36.2 +0.7
DPC Dobruska-Polom 146.44 345 *e*PKP PKPbc 01 09 36.2 +0.7
TRPA Tarpa 146.45 337 ⇑P PKPbc 01 09 35.7 +0.2
TRPA Tarpa 146.45 337 *e*PKIKP PKPbc 01 09 35.1 -0.5
BMR Baia Mare 146.45 335 ⇑PKIKP PKPbc 01 09 35.6 0.0
BMR Baia Mare 146.45 335 ⇑P PKPbc 01 09 35.6 0.0
BRG Berggiesshubel 146.48 348 *e*PKP PKPdf 01 09 34.3 +0.7
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 146.48 348 *i* PKP PKPbc 01 09 36.1 +0.6
comp=Z,30nm,1.1s
PLOR Plostina 146.48 330 ⇑PKP2 PKPbc 01 09 36.2 +0.4
PLOR Plostina 146.48 330 ⇑P PKPbc 01 09 36.2 +0.4
ARCR ARCALIA 146.57 334 ⇑P PKPbc 01 09 36.9 +0.9
KRLC Kraliky 146.58 344 *e*PKP2 PKPbc 01 09 36.7 +0.8
KRLC Kraliky 146.58 344 *e*PKP PKPbc 01 09 36.7 +0.8
LANS Liptovska Anna 146.64 341 *e*PKP2 PKPab 01 09 37.7 -0.3
LANS Liptovska Anna 146.64 341 *e*PKP PKPab 01 09 37.7 -0.3
MORC Moravsky Berou 146.65 343 ⇑PKIKP PKPdf 01 09 35.0 +1.0
MORC Moravsky Berou 146.65 343 ⇑P PKPdf 01 09 35.0 +1.0
MORC Moravsky Berou 146.65 343 *e*PKP PKPdf 01 09 34.7 +0.7
MORC *e* 01 09 36.7
PVCC Panska Ves 146.68 347 *e*PKP2 PKPbc 01 09 37.1 +1.0
PVCC Panska Ves 146.68 347 *e*PKP PKPbc 01 09 37.1 +1.0
HARR Harsova 146.68 327 ⇑PKP2 PKPbc 01 09 37.2 +0.9
HARR Harsova 146.68 327 ⇑P PKPbc 01 09 37.2 +0.9
OZUR 146.70 331 ⇑P PKPbc 01 09 37.5 +1.1
ANTO Ankara 146.79 316 PKP2 PKPbc 01 09 37.2 +0.3
ANTO Ankara 146.79 316 PKPbc 01 09 37.2 +0.3
KECS Kecovo 146.89 339 *e*PKP2 PKPbc 01 09 37.5 +0.7
KECS Kecovo 146.89 339 *e*PKP PKPbc 01 09 37.5 +0.7
DOPR Dopca 146.98 331 ⇓P PKPbc 01 09 38.3 +1.1
ISR Istrita 147.07 329 ⇑PKIKP PKPbc 01 09 36.5 -1.0
ISR Istrita 147.07 329 ⇑P PKPbc 01 09 36.5 -1.0
MLR Muntele Rosu 147.08 330 ⇓PKIKP PKPbc 01 09 37.6 0.0
MLR Muntele Rosu 147.08 330 ⇓P PKPbc 01 09 37.6 0.0
MLR Muntele Rosu 147.08 330 PKPbc 01 09 37.9 +0.3
MOX Moxa 147.12 350 PKP2 PKiKP 01 09 38.9 -0.5
MOX pmax pmax
comp=Z,15nm,1.5s
PRA Prague 147.14 347 *e*PKP2 PKPbc 01 09 38.3 +0.9
PRA Prague 147.14 347 *e*PKP PKPbc 01 09 38.3 +0.9
CJR Cluj-Napoca 147.18 334 ⇑PKP2 PKPbc 01 09 37.8 +0.1
CJR Cluj-Napoca 147.18 334 ⇑P PKPbc 01 09 37.8 +0.1
MBAR Mbarara 147.19 238 PKIKP PKPbc 01 09 39.3 +0.4
MBAR Mbarara 147.19 238 PKPbc 01 09 39.3 +0.4
PRU Pruhonice 147.19 347 *e*PKP2 PKPbc 01 09 38.1 +0.6
PRU Pruhonice 147.19 347 *e*PKP PKPbc 01 09 38.1 +0.6
GOPC GO Pecny, Ondr 147.21 346 *e*PKP2 PKPbc 01 09 38.0 +0.4
GOPC GO Pecny, Ondr 147.21 346 *e*PKP PKPbc 01 09 38.0 +0.4
LTVH Ltavrtes, Hu 147.31 336 *e*PKiKP PKPbc 01 09 37.1 -0.8
VRAC Vranov 147.33 344 ⇑PKP2 PKPbc 01 09 38.5 +0.5

VRAC Vranov 147.33 344 ⇑P PKPbc 01 09 38.5 +0.5
VRAC Vranov 147.33 344 *e*PKP PKPdf 01 09 35.6 +0.5
VRAC *e* 01 09 38.5
SECR 147.36 330 ⇑P PKPbc 01 09 38.8 +0.6
NKC Novy Kostel 147.37 349 *e*PKP2 PKPbc 01 09 38.9 +0.8
NKC Novy Kostel 147.37 349 *e*PKP PKPbc 01 09 38.9 +0.8
LEHL Lehliu 147.40 328 ⇑P PKPbc 01 09 38.8 +0.5
VYHS Vyhne 147.42 341 *e*PKP2 PKPbc 01 09 39.1 +0.9
VYHS Vyhne 147.42 341 *e*PKP PKPbc 01 09 39.1 +0.9
JAVC Velka Javorina 147.44 342 *e* PKiKP 01 09 40.1 -0.1
KOLL Kolacno 147.48 341 *e*PKP PKPbc 01 09 39.4 +1.0
DRGR 147.48 335 ⇓PKP2 PKPbc 01 09 39.0 +0.5
DRGR 147.48 335 ⇓P PKPbc 01 09 39.0 +0.5
VOIR 147.54 331 ⇑PKIKP PKPdf 01 09 37.0 +1.4
VOIR 147.54 331 ⇑P PKPdf 01 09 37.0 +1.4
PSZ Piszkesteto 147.58 339 ⇑PKP2 PKPbc 01 09 39.6 +0.9
PSZ Piszkesteto 147.58 339 ⇑P PKPbc 01 09 39.6 +0.9
PSZ Piszkesteto 147.58 339 *e*PKiKP PKPbc 01 09 39.0 +0.3
PSZ Piszkesteto 147.58 339 PKPbc 01 09 39.2 +0.4
PBCC Pribram 147.59 347 *e*PKP PKPbc 01 09 39.3 +0.6
KRUC Moravsky 147.61 344 PKP2 PKPbc 01 09 39.1 +0.4
KRUC Moravsky 147.61 344 *e*PKP PKPdf 01 09 35.9 +0.4
KRUC *e* 01 09 39.1
TREC Trest 147.62 345 *e*PKP2 PKPbc 01 09 39.4 +0.6
TREC Trest 147.62 345 *e*PKP PKPbc 01 09 39.4 +0.6
MEM Membach 147.75 357 PKPdf PKPdf 01 09 34.9 -0.8
MEM PKiKP PKPbc 01 09 39.5 +0.6
MEM x x 01 10 18.1
ARR Arges 147.78 331 ⇑P PKiKP 01 09 40.9 -0.2
BSTI Sart Tilman 147.79 357 PKiKP PKPbc 01 09 40.0 +1.0
BSTI pPKP pPKPdf 01 10 54.9 -0.7
SMOL Smolenice 147.82 342 *e*PKP2 PKiKP 01 09 40.7 -0.2
SMOL Smolenice 147.82 342 *e*PKP PKiKP 01 09 40.7 -0.2
BSZH Besenyszg 147.98 338 *e*PKiKP PKPbc 01 09 39.0 -0.7
MODS Modra-Piesok 147.99 342 *e*PKP2 PKPbc 01 09 40.2 +0.4
MODS Modra-Piesok 147.99 342 *e*PKP PKPbc 01 09 40.2 +0.4
BMRD Maredsous 148.10 358 PKiKP PKiKP 01 09 40.9 -0.5
DEV Deva 148.14 334 ⇑PKIKP PKPbc 01 09 39.0 -1.2
DEV Deva 148.14 334 ⇑P PKPbc 01 09 39.0 -1.2
KHC Kasperske Hory 148.21 347 *e*PKIKP PKPdf 01 09 37.4 +0.8
KHC *e* 01 09 40.8
KHC Kasperske Hory 148.21 347 *e*PKP PKPdf 01 09 37.4 +0.8
KHC *ex* x 01 09 40.8
HUMR Humele 148.26 330 ⇑P PKPdf 01 09 38.3 +1.6
DOU Dourbes 148.31 359 PKPdf PKPdf 01 09 32.7 -4.0
GEC2 GERESS Array S 148.45 347 PKPbc 01 09 41.4 +0.3
GERES GERESS Array B 148.45 347 PKPbc PKPbc 01 09 41.4 +0.3
comp=Z,14nm,0.8s,baz=329,slow=1.6,SNR=12
GZR Gura Zlata 148.58 333 ⇓PKIKP PKPdf 01 09 37.7 +0.4
GZR Gura Zlata 148.58 333 ⇓P PKPdf 01 09 37.7 +0.4
CSKK Cskako 148.60 340 *e*PKiKP PKPdf 01 09 38.0 +0.8
WLF Walferdange 148.68 357 PKP2 PKiKP 01 09 42.3 -0.3
WLF Walferdange 148.68 357 PKiKP PKPbc 01 09 41.4 0.0
WLF pPKPbc pPKPbc 01 11 00.9 +0.4
WLF Walferdange 148.68 357 PKiKP 01 09 42.3 -0.3
SZH Strazhica 148.71 327 *e*P PKPbc 01 09 41.7 0.0
CONA Conrad Observa 148.79 344 *e*PKiKP PKPbc 01 09 42.6 +0.7
comp=Z,47nm,1.5s,SNR=11
VLAD Vladila 148.93 330 ⇑P PKiKP 01 09 43.0 -0.3
ELND Elena 148.98 327 ⇑P PKiKP 01 09 43.2 -0.3
MPLH Magyarpolny 149.00 341 *e*PKiKP PKPbc 01 09 42.0 -0.3
MOA Molln 149.26 346 *e*PKPbc PKPbc 01 09 43.1 +0.1
comp=Z,16nm,1.1s
PLVB Pleven 149.28 329 ⇓P PKiKP 01 09 43.9 -0.2
MORH Mrgy, Hungar 149.48 339 *e*P PKPbc 01 09 43.0 -0.5
MORH Mrgy, Hungar 149.48 339 *e*PKiKP PKPdf 01 09 39.1 +0.5
ARSA Arzberg 149.50 344 *e*PKPbc PKPbc 01 09 43.6 0.0
comp=Z,12nm,1.1s
DIM Dimitrovgrad 149.78 326 *e*P PKPbc 01 09 44.8 +0.5
BFO Black Forest 149.83 353 PKiKP 01 09 45.1 0.0
FRGS Fruska Gora 149.97 336 ⇓ *i*P PKPbc 01 09 44.3 -0.4
KDZ Kurdzhali 150.12 326 *e*P PKPbc 01 09 45.3 +0.1
SOKA Soboth 150.16 344 *e*PKPbc PKPbc 01 09 44.9 -0.3
comp=Z,18nm,0.9s,SNR=5.9
PLD Plovdiv 150.17 327 *e*P PKPbc 01 09 45.0 -0.3
KBA Konbreinsper 150.20 346 *i* PKPbc PKPbc 01 09 44.9 -0.5
comp=Z,14nm,0.7s
MANT Manisa 150.30 318 PKPbc 01 09 46.4 +0.4
RETA Reutte 150.32 350 *i* PKiKP PKPbc 01 09 45.8 +0.2
comp=Z,22nm,1.4s
WATA Walderalm 150.32 349 *e*PKiKP PKPbc 01 09 45.9 +0.2
comp=Z,16nm,0.8s
WTTA Wattenberg 150.38 349 *e*PKiKP PKPbc 01 09 46.3 +0.4
comp=Z,29nm,0.7s,SNR=6.8
MOTA Moosalm 150.40 349 *e*PKiKP PKPbc 01 09 46.1 +0.2
comp=Z,28nm,1.0s,SNR=6.4
OBKA Obir 150.45 344 *e*PKPbc PKPbc 01 09 45.3 -0.6
comp=Z,21nm,1.7s
RZN Rozhen 150.47 326 *e*P PKPbc 01 09 45.9 -0.3
SQTA Sankt Quirin 150.50 349 *e*PKiKP PKPbc 01 09 46.4 +0.3
comp=Z,22nm,0.8s,SNR=5.1
VTS Vitosha 150.53 329 *e*P PKPbc 01 09 46.6 +0.3
VTS Vitosha 150.53 329 PKPbc 01 09 46.7 +0.3
MYKA Terra Mystica 150.56 346 *i* PKPbc PKPbc 01 09 45.7 -0.5
comp=Z,18nm,0.7s
DAVA Damuels 150.65 351 *i* PKiKP PKiKP 01 09 47.0 0.0
comp=Z,33nm,1.1s
ABTA Abfaltersbach 150.70 347 *e*PKPbc PKPbc 01 09 46.2 -0.2
comp=Z,37nm,0.8s,SNR=8.5
FETA Feichten 150.78 350 *e*PKiKP PKPbc 01 09 47.2 +0.4
comp=Z,30nm,0.9s,SNR=5.9
DIVS Divibare 150.79 335 ⇓ *i*P PKPbc 01 09 47.0 +0.2
CRES Cresnjev 150.83 343 *e*P PKPbc 01 09 46.7 0.0
LJU Ljubljana 150.88 344 *i* PKPbc PKPbc 01 09 47.1 +0.2
LJU Ljubljana 150.88 344 ⇓ *i*P PKPbc 01 09 46.8 0.0
KKB Krupnik 151.17 329 *e*P PKPbc 01 09 47.8 +0.2
BOJS Bojanci 151.18 343 *i* PKPbc PKiKP 01 09 48.2 +0.2
CEY Cerknica 151.19 344 *e*P PKPbc 01 09 47.5 -0.1
HAPS Han Pijesak,BI 151.20 336 ⇓ *i*P PKPbc 01 09 47.4 -0.4
BBLS Lazići 151.21 336 ⇓ *i*P PKPbc 01 09 48.0 +0.2
FUORN Ofenpass-Fuorn 151.24 350 PKiKP 01 09 48.6 +0.3
BLY Banja Luka 151.26 339 ⇓ *i*P PKPbc 01 09 47.9 +0.2
BLY Banja Luka 151.26 339 ⇑P PKiKP 01 09 48.5 +0.4
BLY Banja Luka 151.26 339 PKPbc 01 09 48.0 +0.3
RUDO Rudo 151.44 335 ⇑ *i*P PKPbc 01 09 47.9 -0.3
MGRS Mrkonjic Grad 151.59 339 ⇑ *i*P PKPab 01 09 58.8 +0.4
BRY Bratogost 152.37 336 ⇑ *i*P PKPbc 01 09 50.1 -0.4
PDG Podgorica 152.47 334 *e*P PKPbc 01 09 50.5 0.0
PDG Podgorica 152.47 334 PKPbc 01 09 50.4 -0.1
TREB Trebinje 152.60 336 ⇑ *i*P PKPbc 01 09 50.3 -0.5
DRME Dracevica, Mon 152.70 334 *e*P PKPbc 01 09 51.2 +0.2
HCY Herceg Novi 152.77 335 *e*P PKiKP 01 09 56.4 +5.1
LIT Litokhoron 152.78 327 PKiKP PKPbc 01 09 50.9 -0.4
LIT Litokhoron 152.78 327 PKPbc 01 09 50.9 -0.4
FNA Florina 152.83 329 PKiKP PKPdf 01 09 44.0 0.0
FNA 01 09 51.5
FNA 01 10 03.5
FNA Florina 152.83 329 PKPdf 01 09 44.0 0.0
FNA PKPbc PKPbc 01 09 51.5 0.0
FNA PKPab PKPab 01 10 03.5 -0.3
MURB Monte Urbino 153.99 345 PKPdf PKPdf 01 09 45.3 -0.3
MURB PKPab 01 10 09.8 +1.2
ESDC Sonseca Array 157.81 15 PKPab PKPab 01 10 25.5 +0.4
comp=Z,2.2nm,0.9s,baz=267,slow=28,SNR=4.8
DBIC Dimbokro 165.87 144 PKP PKPdf 01 09 58.6 -0.9
comp=Z,2.0nm,0.8s,baz=121,slow=2.6,SNR=3.3
TOA0 Torodi Ar. Sit 174.57 162 PKPdf 01 10 04.0 -0.4
TORD Torodi Ar. Bea 174.57 162 PKP PKPdf 01 10 03.7 -0.6
comp=Z,4.5nm,1.1s,baz=354,slow=0.6,SNR=10
TORD PKPab PKPab 01 11 41.5 +2.0
comp=Z,1.4nm,0.9s,baz=174,slow=4.6,SNR=4.9
TAM Tamanrasset 175.15 336 PKiKP PKPdf 01 10 05.4 +0.9
TAM Tamanrasset 175.15 336 PKPdf 01 10 05.4 +0.9

IDC 25 01:01:19.7±2.0, 17.87S×167.35E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/34, mbtmp3.5/4, ML2.9/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/19, Error ellipse: s-maj=56.2km s-min=34.5km az=128.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	4.27	191	Pn	Pn	01 02 25.9	-0.1
	0.7nm,0.3s,baz=45,slow=20,SNR=2.3						
DZM				Sn	Sn	01 03 11.5	-5.2
	2.1nm,0.3s,baz=106,slow=24,SNR=6.0						
DZM				LR	LR	01 03 46.8	
	comp=Z,100nm,19.1s,baz=268,slow=34						
WRA	Warramunga Arr	31.27	261	P	P	01 07 41.8	+0.2
	0.5nm,1.0s,baz=83,slow=7.1,SNR=5.0						
ASAR	Alice Springs	31.75	254	P	P	01 07 45.6	-0.2
	0.3nm,0.6s,baz=80,slow=8.7,SNR=4.4						

ILAR	**Eielson Array**	**89.47**	**18**	P		P	01 14 18.2	0.0
	0.4nm,0.7s,baz=232,slow=5.0,SNR=5.7							

TRN 25 01:06:41.2, 16.70N×60.90W, h23km, MD3.6, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABD	**La Joyeuse, An**	**0.60**	**248**	*eP*	Pn	01 06 54.7	+0.3
CBE	**Ff, Capester**	**0.92**	**227**	*eP*	Pn	01 07 00.8	+2.0
TDBA	**Terre de Bas,**	**1.10**	**220**	*eP*	Pb	01 07 03.9	+2.3
MLYT	**Lee's Yard**	**1.23**	**271**	*eP*	Pb	01 07 05.5	+1.6
ANWB	**Willy Bob**	**1.28**	**319**	*eP*	Pb	01 07 05.1	+0.5
BBL	**Barber's Block**	**1.29**	**205**	*eP*	Pb	01 07 05.4	+0.6
BBL				*eS*	Sb	01 07 23.5	+2.6
SKI	**Saint Kitts**	**1.87**	**290**	*eP*	Pb	01 07 14.2	-0.5
SKI				*eS*	Sb	01 07 36.9	-0.7
PCM	**Pelee Case Pet**	**1.90**	**189**	*eP*	Pb	01 07 14.3	-0.9
PML	**Morne Lenard**	**1.93**	**188**	*eP*	Pn	01 07 14.1	+1.4
FDF	**Fort de France**	**1.97**	**187**	*eP*	Pn	01 07 14.6	+1.3
LPMF	**Morne Lapointe**	**2.11**	**182**	*eP*	Pn	01 07 16.3	+1.1
ZAM	**Aeronautique**	**2.12**	**183**	*eP*	Pn	01 07 16.7	+1.5
TRMF	**Trois Ilets**	**2.15**	**184**	*eP*	Pn	01 07 17.5	+1.7
MPOM	**Morne Pois Mar**	**2.24**	**179**	*eP*	Pb	01 07 19.1	-1.9

JMA 25 01:13:27.8±0.2, 37.23N×144.23E, h48km, M3.8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.44**	**297**	P	Pn	01 14 06.5	+1.3
JIKH				S	Sn	01 14 35.3	+1.5
JIO	**Ouri**	**2.59**	**299**	P	Pn	01 14 08.4	+1.2
JIO				S	Sn	01 14 39.2	+1.8
JFK	**Kawauchi**	**2.68**	**274**	P	Pn	01 14 09.5	+1.0
JFK				S	Sn	01 14 41.3	+1.6
JKMT	**Kesennumamotoy**	**2.69**	**307**	P	Pn	01 14 09.4	+0.9
JKMT				S	Sn	01 14 40.5	+0.7
JMST	**Minamisoumatoc**	**2.71**	**282**	P	Pn	01 14 10.1	+1.3
JMST				S	Sn	01 14 41.4	+1.2
ONAJ	**Iwakimizuishiy**	**2.74**	**268**	P	Pn	01 14 10.5	+1.1
ONAJ				S	Sn	01 14 42.5	+1.2
JMK	**Ichinoseki**	**2.93**	**307**	P	Pn	01 14 13.7	+1.8
JMK				S	Sn	01 14 47.8	+2.0
JFT	**Otama**	**3.12**	**276**	P	Pn	01 14 16.8	+2.4
JFT				S	Sn	01 14 53.3	+2.9
JOM	**Ohasama**	**3.22**	**315**	P	Pn	01 14 17.2	+1.4
JOM				S	Sn	01 14 54.1	+1.2
JRY	**Ryogami san**	**4.45**	**256**	P	Pn	01 14 33.7	+0.9
JOT	**Ohata**	**4.83**	**330**	P	Pn	01 14 39.4	+1.6
MAT	**Matsushiro**	**4.88**	**264**	P	Pn	01 14 40.6	+2.0
MAT				*eS*	Sn	01 15 37.5	+3.7
JCH	**Churui**	**5.42**	**353**	P	Pn	01 14 44.8	-1.2

*ISCJB **25** 01:51:06.5±0.5, 31.38S±0.06×68.68W±0.09, h111km±4km, mb3.5/2, Error ellipse: s-maj=12.7km s-min=9.0km az=13.9*
*SJA **25** 01:51:06.1±0.8, 31.35S×68.69W, h109km±2km, ML3.6, MW3.2*
*IDC **25** 01:51:07.6±4.3, 31.37S×69.01W, h112km±41km, mb3.4/2, mb1 3.5/4, mb1mx3.3/35, mbtmp3.7/4, Error ellipse: s-maj=52.1km s-min=36.2km az=77.0*

ISC 25 01:51:07.1±0.8, 31.34S±0.07×68.70W±0.07, h107km±6km, n18, σ0 57/24, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.19**	**88**	*i* P	**Pn**	**01 51 22.1**	**-0.1**
RTLL				*eS*	**Sn**	**01 51 33.5**	**0.0**
RTLL				IAML		01 51 33.9	
	comp=Z,3μm,0.3s						
ZON	**Zonda**	**0.21**	**176**	*i* P	**Pn**	**01 51 22.5**	**+0.2**
ZON				IAML		01 51 23.1	
	comp=Z,673nm,0.3s						
ZON				*eS*	**Sn**	**01 51 33.9**	**+0.2**
AMOG	**MOGNA**	**0.43**	**24**	*i* P	**Pn**	**01 51 23.8**	**+0.4**
AMOG				*eS*	**Sn**	**01 51 35.4**	**-0.1**
CFA	**Coronel Fontan**	**0.47**	**124**	*i* P	**Pn**	**01 51 23.4**	**-0.1**
CFA				*eS*	**Sn**	**01 51 36.1**	**+0.3**
RTCV	**Cerro Valdivia**	**0.54**	**166**	*i* P	**Pn**	**01 51 24.1**	**+0.1**
RTCV				*eS*	**Sn**	**01 51 36.8**	**+0.1**
ACAN	**Cantantal**	**1.59**	**126**	*i* P	**Pn**	**01 51 35.2**	**+0.4**
GO04	**Tololo Observa**	**2.15**	**302**	*i* P	**Pn**	**01 51 42.9**	**+0.8**
ROC1	**El Roble**	**2.56**	**230**	*i* P	**Pn**	**01 51 47.5**	**+0.1**
TCA	**Tanti**	**3.51**	**91**	*i* P	**Pn**	**01 52 00.0**	**+0.2**
CYA	**Choya**	**3.83**	**42**	*i* P	**Pn**	**01 52 04.1**	**0.0**
COIS	**El Sosneado**	**3.83**	**191**	||*i* P	**Pn**	**01 52 04.0**	**-0.2**
EDS3	**Malargue**	**4.46**	**187**	*i* P	**Pn**	**01 52 12.8**	**+0.1**
PLCA	**Paso Flores**	**9.49**	**189**	P	**Pn**	**01 53 20.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=17,slow=14,SNR=8.6						
LPAZ	**La Paz**	**14.99**	**2**	P	**P**	**01 54 35.5**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=199,slow=5.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**80.63**	**68**	P	**P**	**02 03 09.3**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=251,slow=5.5,SNR=5.6						
PDAR	**Pinedale Array**	**82.74**	**331**	P	**P**	**02 03 18.3**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=119,slow=7.5,SNR=2.9						
ZALV	**Zalesovo Beam**	**150.47**	**32**	PKPbc	**PKPbc**	**02 10 46.3**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=315,slow=4.1,SNR=5.2						
MKAR	**Makanchi Array**	**152.89**	**47**	PKPbc	**PKPbc**	**02 10 51.9**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=321,slow=2.0,SNR=2.4						
MKAR				PKPab	**PKPab**	**02 11 03.8**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=310,slow=5.1,SNR=3.2						

IDC 25 01:59:03.8±13.0, 17.48N×107.45W, h0km, mb3.1/3, mb1 3.6/4, mb1mx3.4/43, mbtmp3.2/4, ML3.5/1, Error ellipse: s-maj=296.0km s-min=79.9km az=137.0, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**12.30**	**16**	Pn	Pn	02 02 01.0	+0.6
	0.1nm,0.3s,baz=198,slow=16,SNR=15						
PDAR	**Pinedale Array**	**25.27**	**356**	P	P	02 04 32.3	+0.3
	0.4nm,0.7s,baz=159,slow=13,SNR=4.0						
YKA	**Yellowknife Ar**	**45.24**	**355**	P	P	02 07 23.6	+1.0
	0.1nm,0.8s,baz=167,slow=7.6,SNR=3.5						
ILAR	**Eielson Array**	**54.15**	**340**	P	P	02 08 29.4	-1.1
	0.2nm,0.8s,baz=153,slow=8.1,SNR=3.1						

IDC 25 02:03:49.0±1.8, 1.35N×124.16E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/39, mbtmp3.4/4, Error ellipse: s-maj=204.9km s-min=26.3km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.40**	**155**	P	P	02 09 00.4	+0.7
	0.4nm,0.3s,baz=334,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**26.61**	**160**	P	P	02 09 29.4	0.0
	0.3nm,0.9s,baz=335,slow=9.9,SNR=1.7						
STKA	**Stephens Creek**	**36.95**	**155**	P	P	02 10 59.1	-0.9
	1.4nm,0.9s,baz=311,slow=9.3,SNR=4.9						
MKAR	**Makanchi Array**	**58.10**	**327**	P	P	02 13 44.5	+0.2
	0.2nm,0.5s,baz=123,slow=8.8,SNR=3.5						

*OSPL **25** 02:12:06.6±1.5, 18.92N×66.19W, h0km±23km, ML3.5*
*ISCJB **25** 02:12:09.3±1.0, 19.11N±0.04×66.48W±0.03, h30km±11km, Error ellipse: s-maj=7.6km s-min=4.6km az=166.0*
*RSPR **25** 02:12:10.7, 19.15N×66.50W, h36km±5km, MD3.4/14*

ISC 25 02:12:10.4±1.3, 19.06N±0.05×66.47W±0.03, h30km±11km, n74, σ0 73/101, 32C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.58**	**186**	||*eP*	**Pb**	**02 12 22.4**	**+0.2**
EMPR	**Esperanza - Ma**	**0.58**	**186**	*eS*	**Sb**	**02 12 32.0**	**+1.9**
EMPR	**Esperanza - Ma**	**0.58**	**186**		**Pb**	**02 12 22.4**	**+0.2**
EMPR					**Sb**	**02 12 32.0**	**+1.9**
AOPR	**Arecibo Observ**	**0.76**	**201**	||*eP*	**Pb**	**02 12 24.5**	**-0.6**
AOPR	**Arecibo Observ**	**0.76**	**201**	||*eP*	**Pb**	**02 12 24.6**	**-0.5**
AOPR	**Arecibo Observ**	**0.76**	**201**	||*eP*	**Pb**	**02 12 24.5**	**-0.6**
AOPR				*eS*	**Sb**	**02 12 35.5**	**+0.4**
AOPR	**Arecibo Observ**	**0.76**	**201**		**Pb**	**02 12 24.6**	**-0.5**
AOPR					**Sb**	**02 12 35.5**	**+0.4**
GCPR	**Guaynabo City**	**0.83**	**154**		**Pb**	**02 12 25.6**	**-0.6**
UUPR	**Utuado, UPR, P**	**0.83**	**197**		**Pb**	**02 12 25.4**	**-1.0**
UUPR					**Sb**	**02 12 37.3**	**0.0**
AGPR	**Aguadilla, PR**	**0.85**	**226**	||*eP*	**Pb**	**02 12 25.2**	**-1.4**
AGPR	**Aguadilla, PR**	**0.85**	**226**	||*eP*	**Pb**	**02 12 25.2**	**-1.4**
AGPR				*eS*	**Sb**	**02 12 37.3**	**-0.3**
AGPR	**Aguadilla, PR**	**0.85**	**226**	*i* P	**Pb**	**02 12 24.8**	**-1.8**
AGPR				*eS*	**Sb**	**02 12 36.5**	**-1.1**
AGPR				IAML		02 12 43.8	
	comp=Z,757nm,0.3s						
AGPR	**Aguadilla, PR**	**0.85**	**226**		**Pb**	**02 12 25.2**	**-1.4**
CBYP	**Canovanas**	**0.97**	**143**	||*eP*	**Pn**	**02 12 27.7**	**-0.3**
CBYP				*eS*	**Sb**	**02 12 41.5**	**+0.3**
CBYP	**Canovanas**	**0.97**	**143**	||*eP*	**Pn**	**02 12 28.1**	**+0.1**
CBYP	**Canovanas**	**0.97**	**143**	||*eP*	**Pn**	**02 12 27.7**	**-0.3**
CBYP	**Canovanas**	**0.97**	**143**	||*eP*	**Pn**	**02 12 28.1**	**+0.1**
CBYP				*eS*	**Sb**	**02 12 41.4**	**+0.1**
CBYP	**Canovanas**	**0.97**	**143**		**Pn**	**02 12 28.1**	**+0.1**
CBYP					**Sb**	**02 12 41.4**	**+0.1**
CELP	**Cerrillos**	**0.98**	**186**	*i*P	**Pn**	**02 12 27.9**	**-0.2**
CELP	**Cerrillos**	**0.98**	**186**	*i*P	**Pn**	**02 12 27.9**	**-0.2**
CELP	**Cerrillos**	**0.98**	**186**		**Pn**	**02 12 27.9**	**-0.2**
SJG	**San Juan**	**0.99**	**162**		**Pn**	**02 12 27.9**	**-0.2**
OBIP	**Obispado Ponce**	**1.02**	**187**	||*eP*	**Pn**	**02 12 28.7**	**+0.1**
OBIP	**Obispado Ponce**	**1.02**	**187**	||*eP*	**Pn**	**02 12 28.7**	**+0.1**
OBIP				*eS*	**Sb**	**02 12 42.5**	**0.0**
OBIP	**Obispado Ponce**	**1.02**	**187**		**Pn**	**02 12 28.7**	**+0.1**
OBIP					**Sb**	**02 12 42.5**	**0.0**
LSP	**Las Mesas**	**1.05**	**214**	||*eP*	**Pn**	**02 12 28.6**	**-0.5**
LSP	**Las Mesas**	**1.05**	**214**	||*eP*	**Pn**	**02 12 28.6**	**-0.5**
LSP				*eS*	**Sn**	**02 12 42.9**	**0.0**
LSP	**Las Mesas**	**1.05**	**214**		**Pn**	**02 12 28.6**	**-0.5**
LSP					**Sn**	**02 12 42.9**	**0.0**
MPR	**Mayaguez**	**1.05**	**217**		**Pn**	**02 12 27.7**	**-1.4**
HUMP	**Col San Antoni**	**1.08**	**147**	||*eP*	**Pn**	**02 12 29.3**	**-0.2**
HUMP	**Col San Antoni**	**1.08**	**147**	||*eP*	**Pn**	**02 12 29.5**	**0.0**
HUMP				*eS*	**Sn**	**02 12 44.4**	**+1.0**
HUMP	**Col San Antoni**	**1.08**	**147**		**Pn**	**02 12 29.3**	**-0.2**
HUMP				*eS*	**Sn**	**02 12 44.1**	**+0.7**
HUMP	**Col San Antoni**	**1.08**	**147**		**Pn**	**02 12 29.5**	**0.0**
HUMP					**Sn**	**02 12 44.4**	**+1.0**
PDPR	**Patillas Dam,**	**1.12**	**158**	||*eP*	**Pn**	**02 12 30.2**	**+0.2**
PDPR	**Patillas Dam,**	**1.12**	**158**	||*eP*	**Pn**	**02 12 30.3**	**+0.4**
PDPR	**Patillas Dam,**	**1.12**	**158**		**Pn**	**02 12 30.3**	**+0.4**
IGPR	**InterUniversit**	**1.14**	**162**	||*eP*	**Pn**	**02 12 30.5**	**+0.2**
IGPR	**InterUniversit**	**1.14**	**162**	||*eP*	**Pn**	**02 12 30.3**	**+0.1**
IGPR	**InterUniversit**	**1.14**	**162**	*eS*	**Sn**	**02 12 45.1**	**+0.2**
IGPR	**InterUniversit**	**1.14**	**162**		**Pn**	**02 12 30.5**	**+0.2**
GBPR	**Guanica, Bosqu**	**1.15**	**200**	||*eP*	**Pn**	**02 12 30.3**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.15**	**200**	||*eP*	**Pn**	**02 12 30.3**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.15**	**200**		**Pn**	**02 12 30.3**	**-0.1**
ICMP	**Isla Caja de M**	**1.17**	**183**	||*eP*	**Pn**	**02 12 30.9**	**+0.3**
ICMP	**Isla Caja de M**	**1.17**	**183**	*eS*	**Sn**	**02 12 46.2**	**+0.7**
ICMP	**Isla Caja de M**	**1.17**	**183**		**Pn**	**02 12 30.9**	**+0.3**
ICMP					**Sn**	**02 12 46.2**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.21**	**210**	||*eP*	**Pn**	**02 12 30.8**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.21**	**210**	||*eP*	**Pn**	**02 12 30.8**	**-0.5**
CRPR				*eS*	**Sn**	**02 12 46.3**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.21**	**210**		**Pn**	**02 12 30.8**	**-0.5**
CRPR					**Sn**	**02 12 46.3**	**-0.3**
MLPR	**Magueyes Islan**	**1.21**	**207**	||*eP*	**Pn**	**02 12 31.0**	**-0.3**
MLPR	**Magueyes Islan**	**1.21**	**207**	*eS*	**Sn**	**02 12 46.9**	**+0.2**
MLPR	**Magueyes Islan**	**1.21**	**207**		**Pn**	**02 12 31.0**	**-0.3**
MLPR					**Sn**	**02 12 46.9**	**+0.2**
MTP	**Monte Pirata**	**1.29**	**138**		**Pn**	**02 12 32.0**	**-0.3**
CUPR	**Culebra, Puert**	**1.35**	**123**	||*eP*	**Pn**	**02 12 32.8**	**-0.3**
CUPR	**Culebra, Puert**	**1.35**	**123**	*eS*	**Sn**	**02 12 50.0**	**0.0**
CUPR	**Culebra, Puert**	**1.35**	**123**		**Pn**	**02 12 32.8**	**-0.3**
CUPR					**Sn**	**02 12 50.0**	**0.0**
STVI	**Saint Thomas**	**1.60**	**116**	||*eP*	**Pn**	**02 12 36.4**	**-0.2**
STVI				*eS*	**Sn**	**02 12 56.3**	**+0.1**
STVI	**Saint Thomas**	**1.60**	**116**	||*eP*	**Pn**	**02 12 36.4**	**-0.2**
STVI	**Saint Thomas**	**1.60**	**116**	||*eP*	**Pn**	**02 12 36.4**	**-0.2**
STVI				*eS*	**Sn**	**02 12 55.7**	**-0.4**
STVI	**Saint Thomas**	**1.60**	**116**		**Pn**	**02 12 36.4**	**-0.2**
STVI					**Sn**	**02 12 55.7**	**-0.4**
TBVI	**Tortola**	**1.86**	**110**	||*eP*	**Pn**	**02 12 40.3**	**+0.1**
TBVI	**Tortola**	**1.86**	**110**	||*eP*	**Pn**	**02 12 40.3**	**+0.1**
TBVI				*eS*	**Sn**	**02 13 02.5**	**-0.3**
TBVI	**Tortola**	**1.86**	**110**		**Pn**	**02 12 40.3**	**+0.1**
TBVI					**Sn**	**02 13 02.5**	**-0.3**
PCDR	**Punta Cana, DR**	**1.89**	**254**	||*eP*	**Pn**	**02 12 40.9**	**+0.3**
PCDR	**Punta Cana, DR**	**1.89**	**254**	||*eP*	**Pn**	**02 12 40.9**	**+0.3**
PCDR	**Punta Cana, DR**	**1.89**	**254**	*i* P	**Pn**	**02 12 41.2**	**+0.6**
PCDR				*eS*	**Sn**	**02 13 07.7**	**+4.2**
PCDR				IAML		02 13 15.3	
	comp=Z,205nm,0.6s						
PCDR	**Punta Cana, DR**	**1.89**	**254**		**Pn**	**02 12 40.9**	**+0.3**
ABV	**Anegada**	**2.05**	**99**	||*eP*	**Pn**	**02 12 43.2**	**+0.4**
ABV	**Anegada**	**2.05**	**99**	||*eP*	**Pn**	**02 12 43.2**	**+0.4**
ABVI	**Anegada Island**	**2.05**	**99**		**Pn**	**02 12 43.2**	**+0.4**
DR12	**Loma Pena Alta**	**2.77**	**265**		**Pn**	**02 12 52.0**	**-0.7**
SC01	**Santiago de lo**	**4.04**	**276**	*i* P	**Pn**	**02 13 10.9**	**+0.6**
SC01				IAML		02 14 35.4	
	comp=Z,111nm,0.6s						
SDDR	**Presa de Saban**	**4.56**	**270**	*i* P	**Pn**	**02 13 18.5**	**+1.1**
SDDR				IAML		02 14 35.1	
	comp=Z,61nm,0.8s						
SDDR	**Presa de Saban**	**4.56**	**270**		**Pn**	**02 13 16.9**	**-0.6**

BER 25 02:36:16.7±0.3, 66.58N×13.15E, h6km±2km, ML0.5, Confirmed Earthquake, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONS	**Konsvik**	**0.08**	**190**	*eP*	Pg	02 36 18.4	-0.1
KONS				*eS*	Sg	02 36 19.7	0.0
KONS				IAML		02 36 20.0	
	comp=Z,11nm,0.4s						
STOK	**Stokkvaagen**	**0.25**	**192**	*eP*	Pg	02 36 21.4	-0.2
STOK				*eS*	Sg	02 36 24.9	0.0
MOR8	**Moi Rana**	**0.66**	**128**	*eS*	Sg	02 36 38.6	+0.7
MOR8				IAML		02 36 52.8	
	comp=Z,4.9nm,1.0s						

HEL 25 02:37:06.9±0.6, 67.69N×33.46E, h0km, ML1.5, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**1.47**	**274**	PG	Pn	02 37 32.5	-2.1
VRF				MSG		02 37 51.0	
	comp=Z,2.4nm,0.2s						
VRF				SN	Sg	02 37 53.1	-0.9
KU6	**Riekki**	**2.18**	**222**	PB	Pn	02 37 44.3	-0.2
KU6				MSG		02 38 11.7	
	comp=Z,3.2nm,0.2s						
KU6				SG	Sb	02 38 13.7	-1.1
MSF	**Maaselka**	**2.50**	**227**	PB	Pn	02 37 50.2	+1.5
MSF				SG	Sb	02 38 24.1	+0.3
SGF	**Sodankyl**	**2.67**	**268**	PB	Pb	02 37 53.4	-2.1
SGF				SG	Sb	02 38 28.7	-0.1
RNF	**Rovaniemi**	**3.10**	**253**	SN	Sn	02 38 34.4	-0.3
KEV	**Kevo**	**3.14**	**314**	SN	Sn	02 38 34.4	-1.3
KEV				MSG		02 38 39.1	
	comp=Z,0.8nm,0.2s						
ARE0	**ARCESS Array S**	**3.46**	**306**	PG	Pb	02 38 09.1	+0.2
ARE0				SN	Sn	02 38 42.8	-0.7

*ISCJB **25** 02:51:22.8±1.0, 19.13N±0.04×66.49W±0.03, h32km±7km, Error ellipse: s-maj=7.4km s-min=4.6km az=172.7*
*NEIC **25** 02:51:23.3±0.8, 19.09N±0.06×66.49W±0.03, h28km±12km*
*RSPR **25** 02:51:24.7, 19.13N×66.49W, h30km±6km, MD3.3/11*

ISC 25 02:51:23.6±1.6, 19.06N±0.06×66.49W±0.03, h29km±12km, n60, σ0 40/98, 26C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.58**	**184**	||*eP*	**Pn**	**02 51 36.2**	**+0.3**
EMPR	**Esperanza - Ma**	**0.58**	**184**	*eS*	**Sn**	**02 51 44.8**	**+0.3**
EMPR	**Esperanza - Ma**	**0.58**	**184**		**Pn**	**02 51 36.2**	**+0.3**
EMPR					**Sn**	**02 51 44.8**	**+0.3**
AOPR	**Arecibo Observ**	**0.76**	**199**	||*eP*	**Pn**	**02 51 38.1**	**-0.2**
AOPR	**Arecibo Observ**	**0.76**	**199**	*eS*	**Sn**	**02 51 49.0**	**+0.2**
AOPR	**Arecibo Observ**	**0.76**	**199**	||*eP*	**Pn**	**02 51 38.1**	**-0.2**
AOPR				*eS*	**Sb**	**02 51 46.4**	**-1.8**
AOPR	**Arecibo Observ**	**0.76**	**199**		**Pn**	**02 51 38.1**	**-0.2**
AOPR					**Sn**	**02 51 49.0**	**+0.2**
AGPR	**Aguadilla, PR**	**0.83**	**225**	||*eP*	**Pn**	**02 51 39.2**	**-0.2**
AGPR	**Aguadilla, PR**	**0.83**	**225**	||*eP*	**Pn**	**02 51 39.2**	**-0.2**
AGPR				*eS*	**Sb**	**02 51 50.8**	**+0.3**
AGPR				*eS*	**Sb**	**02 51 50.9**	**+0.3**
AGPR	**Aguadilla, PR**	**0.83**	**225**		**Pn**	**02 51 39.2**	**-0.2**
AGPR					**Sb**	**02 51 50.8**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.83**	**195**		**Pb**	**02 51 39.6**	**-0.1**
UUPR					**Sb**	**02 51 50.9**	**+0.3**
GCPR	**Guaynabo City**	**0.84**	**153**		**Pn**	**02 51 39.6**	**+0.1**
GCPR				Sn	**Sb**	**02 51 52.4**	**+1.7**
CELP	**Cerrillos**	**0.99**	**185**	||*iP*	**Pn**	**02 51 41.5**	**0.0**
CELP				*eS*	**Sb**	**02 51 55.2**	**+0.4**
CELP	**Cerrillos**	**0.99**	**185**	||*iP*	**Pn**	**02 51 41.5**	**0.0**
CELP				*eS*	**Sb**	**02 51 55.2**	**+0.4**
CELP	**Cerrillos**	**0.99**	**185**		**Pn**	**02 51 41.5**	**0.0**
CELP					**Sb**	**02 51 55.2**	**+0.4**
CBYP	**Canovanas**	**0.99**	**143**	||*eP*	**Pn**	**02 51 41.7**	**+0.1**
CBYP	**Canovanas**	**0.99**	**143**	||*eP*	**Pn**	**02 51 41.9**	**+0.3**
CBYP				*eS*	**Sb**	**02 51 55.0**	**+0.1**
CBYP	**Canovanas**	**0.99**	**143**	||*eP*	**Pn**	**02 51 41.7**	**+0.1**
CBYP				*eS*	**Sn**	**02 51 54.4**	**-0.3**
CBYP				*eS*	**Sb**	**02 51 55.0**	**+0.1**
CBYP	**Canovanas**	**0.99**	**143**		**Pn**	**02 51 41.9**	**+0.3**
CBYP					**Sn**	**02 51 54.4**	**-0.3**
SJG	**San Juan**	**1.00**	**161**		**Pn**	**02 51 41.9**	**+0.2**
SJG				Sn	**Sb**	**02 51 56.6**	**+1.4**
OBIP	**Obispado Ponce**	**1.02**	**186**	||*eP*	**Pn**	**02 51 42.1**	**+0.2**
OBIP	**Obispado Ponce**	**1.02**	**186**	||*eP*	**Pn**	**02 51 42.1**	**+0.2**
OBIP				*eS*	**Sb**	**02 51 55.8**	**0.0**
OBIP	**Obispado Ponce**	**1.02**	**186**		**Pn**	**02 51 42.1**	**+0.2**
OBIP					**Sb**	**02 51 55.8**	**0.0**
MPR	**Mayaguez**	**1.05**	**216**		**Pn**	**02 51 42.2**	**-0.1**
MPR				Sn	**Sb**	**02 51 56.1**	**-0.4**
LSP	**Las Mesas**	**1.05**	**213**	||*eP*	**Pn**	**02 51 42.4**	**0.0**
LSP	**Las Mesas**	**1.05**	**213**	||*eP*	**Pn**	**02 51 42.4**	**0.0**
LSP				*eS*	**Sb**	**02 51 56.4**	**-0.2**
LSP	**Las Mesas**	**1.05**	**213**		**Pn**	**02 51 42.4**	**0.0**
LSP					**Sb**	**02 51 56.4**	**-0.2**
HUMP	**Col San Antoni**	**1.10**	**146**	||*eP*	**Pn**	**02 51 43.1**	**0.0**
HUMP	**Col San Antoni**	**1.10**	**146**	||*eP*	**Pn**	**02 51 43.1**	**0.0**
HUMP				*eS*	**Sb**	**02 51 57.8**	**-0.2**
HUMP	**Col San Antoni**	**1.10**	**146**	||*eP*	**Pn**	**02 51 43.1**	**0.0**
HUMP				*eS*	**Sn**	**02 51 57.1**	**-0.2**
HUMP	**Col San Antoni**	**1.10**	**146**		**Pn**	**02 51 43.1**	**0.0**
HUMP					**Sb**	**02 51 57.8**	**-0.2**
PDPR	**Patillas Dam,**	**1.13**	**157**		**Pn**	**02 51 43.5**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.14**	**199**	||*eP*	**Pn**	**02 51 43.7**	**0.0**
GBPR	**Guanica, Bosqu**	**1.14**	**199**	||*eP*	**Pn**	**02 51 43.7**	**0.0**
GBPR				*eS*	**Sb**	**02 51 59.3**	**0.0**
GBPR	**Guanica, Bosqu**	**1.14**	**199**		**Pn**	**02 51 43.7**	**0.0**
IGPR	**InterUniversit**	**1.15**	**162**	||*eP*	**Pb**	**02 51 44.4**	**-0.5**
IGPR				*eS*	**Sb**	**02 51 59.2**	**-0.2**
IGPR	**InterUniversit**	**1.15**	**162**	||*eP*	**Pn**	**02 51 43.9**	**+0.1**
IGPR	**InterUniversit**	**1.15**	**162**	*eS*	**Sn**	**02 51 58.5**	**0.0**
IGPR	**InterUniversit**	**1.15**	**162**		**Pb**	**02 51 44.4**	**-0.5**
IGPR					**Sb**	**02 51 59.3**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.20**	**209**	||*eP*	**Pn**	**02 51 44.6**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.20**	**209**	||*eP*	**Pn**	**02 51 44.6**	**+0.1**
CRPR				*eS*	**Pb**	**02 51 46.4**	**+0.6**
CRPR				*eS*	**Sb**	**02 52 00.6**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.20**	**209**		**Pn**	**02 51 44.6**	**+0.1**
CRPR					**Sb**	**02 52 00.6**	**-0.4**
MLPR	**Magueyes Islan**	**1.21**	**206**	||*eP*	**Pn**	**02 51

H11S3	**WAKE ISLAND Hy**	**27.73**	**121**	T	T	03 31 22.5	
	baz=313,slow=75,SNR=25						
H11S2	**WAKE ISLAND Hy**	**27.75**	**121**	T	T	03 31 23.6	
	baz=313,slow=75,SNR=19						
SONM	**Songino Array**	**28.98**	**306**	P	**P**	**03 02 23.1**	**+0.7**
	1.2nm,0.6s,baz=106,slow=8.5,SNR=8.4						
SONM				LR	LR	03 14 45.8	
	comp=Z,78nm,18.6s,baz=7.5,slow=38						
TLY	**Talaya**	**31.64**	**313**	LR	LR	03 15 47.9	
	comp=Z,74nm,19.7s,baz=98,slow=37						
CMAR	**Chiang Mai Arr**	**41.47**	**257**	LR	LR	03 23 34.0	
	comp=Z,37nm,19.2s,baz=65,slow=39						
ZALV	**Zalesovo Beam**	**43.24**	**314**	P	**P**	**03 04 24.7**	**+0.9**
	2.4nm,0.7s,baz=90,slow=7.4,SNR=8.1						
MK31	**Makanchi Array**	**45.26**	**304**	P	**P**	**03 04 39.4**	**-0.7**
MK31				IAmb	IAmb	03 04 49.5	
	comp=Z,2.7nm,0.9s						
MKAR	**Makanchi Array**	**45.26**	**304**	P	**P**	**03 04 41.0**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=85,slow=9.5,SNR=8.2						
KURK	**Kurchatov**	**47.19**	**309**	P	**P**	**03 04 55.4**	**+0.2**
KURBB	**Kurchatov Arra**	**47.26**	**309**	P	**P**	**03 04 56.0**	**+0.3**
	comp=Z,8.3nm,0.6s,baz=85,slow=8.2,SNR=26						
ILAR	**Eielson Array**	**50.64**	**32**	P	**P**	**03 05 23.3**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=250,slow=8.1,SNR=6.2						
BVAR	**Borovoye Array**	**51.90**	**313**	P	**P**	**03 05 31.9**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=111,slow=7.0,SNR=3.7						
KNRA	**Kununurra**	**52.35**	**196**	P	**P**	**03 05 34.1**	**-0.5**
KNRA				IAmb	IAmb	03 05 52.4	
	comp=Z,10.0nm,1.1s						
WRAB	**Tennant Creek**	**55.55**	**189**	P	**P**	**03 05 56.0**	**-2.0**
WRAB				IAmb	IAmb	03 05 59.3	
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**55.56**	**189**	P	**P**	**03 05 58.8**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=1.8,slow=7.5,SNR=13						
KKH	**Kailua Kona**	**56.44**	**89**	P	**P**	**03 06 01.8**	**-2.9**
CHGR	**Chuyangaron**	**56.67**	**297**	P	**P**	**03 06 05.7**	**-0.5**
CHGR				IAmb	IAmb	03 06 22.7	
	comp=Z,6.7nm,0.8s						
ABKAR	**Abkulak array**	**59.23**	**311**	P	**P**	**03 06 22.9**	**-0.9**
AS31	**Alice Springs**	**59.28**	**188**	P	**P**	**03 06 24.1**	**-0.3**
ASAR	**Alice Springs**	**59.28**	**188**	P	**P**	**03 06 25.8**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=7.1,slow=6.2,SNR=10						
AKTO	**Aktyubinsk**	**59.99**	**313**	P	**P**	**03 06 30.5**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=75,slow=15,SNR=3.2						
YKA	**Yellowknife Ar**	**64.99**	**30**	P	**P**	**03 07 03.8**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=298,slow=6.8,SNR=6.4						
FINES	**FINESS Array B**	**70.37**	**333**	P	**P**	**03 07 36.4**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=45,slow=6.5,SNR=3.6						
NVAR	**Mina Array Bea**	**75.65**	**53**	P	**P**	**03 08 10.7**	**+2.6**
	comp=Z,0.2nm,0.6s,baz=304,slow=6.4,SNR=2.8						
NV11	**Mina Array Sit**	**75.74**	**53**	P	**P**	**03 08 09.8**	**+1.2**
AKASG	**Malin Array Be**	**75.76**	**323**	P	**P**	**03 08 07.8**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=47,slow=5.8,SNR=5.9						
NOA	**NORSAR Array B**	**75.77**	**338**	P	**P**	**03 08 09.1**	**+1.0**
	comp=Z,1.6nm,0.9s,baz=59,slow=7.3,SNR=2.8						
NOA				LR	LR	03 47 52.6	
	comp=Z,40nm,18.3s,baz=250,slow=41						
PDAR	**Pinedale Array**	**78.52**	**45**	P	**P**	**03 08 25.9**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=297,slow=4.0,SNR=3.3						
BRTR	**Keskin Array B**	**80.16**	**312**	P	**P**	**03 08 33.3**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=80,slow=1.6,SNR=2.4						
PPT	**Papeete**	**83.62**	**117**	LR	LR	03 46 08.5	
	comp=Z,38nm,18.3s,baz=354,slow=36						
GERES	**GERESS Array B**	**84.23**	**329**	P	**P**	**03 08 54.3**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=329,slow=5.0,SNR=3.6						
CART	**Cartagena**	**99.56**	**331**		**Pdif**	**03 10 04.6**	**-1.3**

*IDC **25** 02:56:43.1±2.9, 30.82N×78.70E, h0km, mb3.7/7, mb1 3.8/10, mb1mx3.5/57, mbtmp3.7/10, ML3.6/3, Error ellipse: s-maj=64.6km s-min=31.0km az=120.0*
*ISCJB **25** 02:56:52.9±0.5, 31.35N±0.06×78.37E±0.06, h60km±10km, mb3.7/7, Error ellipse: s-maj=11.8km s-min=6.1km az=32.5*
*NDI **25** 02:56:54.4±2.0, 31.22N×78.33E, h26km±11km, ML3.8*
*NNC **25** 02:56:58.4±7.9, 32.17N×78.75E, h0km, mb4.1, Error ellipse: s-maj=113.8km s-min=62.8km az=74.0*
ISC 25 02:56:53.4±0.9, 31.38N±0.05×78.40E±0.05, h48km±13km, n24, σ2ᵠ42/33, mb3.5/7, 3C-2D, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLA	**Simla**	**1.08**	**257**	*eP*	**Pn**	**02 57 12.7**	**+0.5**
SMLA				*eS*	**Sn**	**02 57 26.8**	**+0.7**
SMLA				IAML		02 57 28.4	
	comp=N,7μm,0.2s						
SMLA				IAML		02 57 28.7	
	comp=E,6μm,0.3s						
DDI	**Dehra Dun**	**1.09**	**196**	*eP*	**Pn**	**02 57 11.7**	**-0.7**
DDI				*eS*	**Sn**	**02 57 24.6**	**-1.8**
DDI				IAML		02 57 25.5	
	comp=E,14μm,0.3s						
DDI				IAML		02 57 25.6	
	comp=N,15μm,0.4s						
JOSI	**Joshimath**	**1.29**	**129**	*eP*	**Pn**	**02 57 16.5**	**+1.3**
JOSI				*eS*	**Sn**	**02 57 32.0**	**+0.5**
DHRM	**DHARAMSHALA**	**1.99**	**297**	*eP*	**Pn**	**02 57 27.1**	**+2.4**
DHRM				IAML		02 57 28.8	
	comp=N,161nm,0.1s						
DHRM				IAML		02 57 28.9	
	comp=E,245nm,0.3s						
DHRM				*eS*	**Sn**	**02 57 51.4**	**+2.9**
LGTI	**Lohaghat**	**2.50**	**140**	*eP*	**Pn**	**02 57 33.7**	**+2.2**
LGTI				*eS*	**Sn**	**02 57 59.8**	**-1.0**
NDI	**New Delhi**	**2.87**	**201**	*ex*	**Pn**	**02 57 39.5**	**+2.8**
NDI				*ex*	**Sn**	**02 58 15.0**	**+5.0**
AYAN	**Aya Nagar**	**3.09**	**201**	*ex*	**Pn**	**02 57 41.8**	**+2.2**
AYAN				*ex*	**Sn**	**02 58 09.0**	**-6.3**
AYAN				IAML		02 58 10.8	
	comp=Z,101nm,0.3s						
AYAN				IAML		02 58 28.6	
	comp=Z,154nm,0.2s						
KUDL	**Kundal**	**3.62**	**208**	*eP*	Pn	02 57 39.4	-7.6
KUDL				*eS*	Sn	02 58 17.2	-11
KUDL				IAML		02 58 19.4	
	comp=N,921nm,0.2s						
KUDL				IAML		02 58 19.7	
	comp=E,613nm,0.1s						
CHCP	**Chirah Chowk**	**4.90**	**299**	P	**Pn**	**02 58 06.2**	**+1.7**
THW	**Thamme Wali**	**5.82**	**286**	P	**Pn**	**02 58 17.1**	**-0.1**
CEP	**Cherat**	**5.99**	**296**	P	**Pn**	**02 58 19.6**	**0.0**
AAK	**Ala-Archa**	**11.66**	**346**	Pn	**Pn**	**02 59 39.6**	**+2.4**
	comp=E,0.7nm,0.3s,baz=140,slow=8.3,SNR=8.6						
AAK	**Ala-Archa**	**11.66**	**346**	⇓P	**Pn**	**02 59 38.5**	**+1.3**
	comp=E,4.4nm,1.0s						
AAK				⇑S	**Sn**	**03 01 43.2**	**-2.7**
	comp=E,3.2nm,0.7s						
TKM2	**Tokmak 2**	**11.73**	**350**	⇓P	**Pn**	**02 59 37.8**	**-0.5**
	comp=E,4.0nm,1.4s						
TKM2				⇑S	**Sn**	**03 01 42.6**	**-5.2**
	comp=E,4.8nm,1.4s						
KK31	**Karatay Array**	**13.27**	**334**	P	**Pn**	**02 59 57.7**	**-1.4**
	comp=E,1.3nm,0.3s,baz=138,slow=12,SNR=31						
KK31				⇑S	**Sn**	**03 02 22.3**	**-2.8**
	comp=E,5.8nm,0.8s,baz=144,slow=23,SNR=5.9						
MKAR	**Makanchi Array**	**15.69**	**10**	Pn	**Pn**	**03 00 30.6**	**-0.5**
	comp=E,0.2nm,0.3s,baz=188,slow=14,SNR=7.5						
MKAR				Sn	Sn	03 03 12.9	-11
	comp=E,0.1nm,0.3s,baz=195,slow=21,SNR=5.4						
KURBB	**Kurchatov Arra**	**19.23**	**0**	P	**Pn**	**03 01 14.3**	**-0.4**
	comp=E,0.2nm,0.3s,baz=192,slow=9.5,SNR=2.9						
BVAR	**Borovoye Array**	**22.40**	**347**	P	**P**	**03 01 48.5**	**+0.9**
	comp=E,0.6nm,0.3s,baz=154,slow=7.2,SNR=6.4						
ZALV	**Zalesovo Beam**	**23.03**	**10**	P	**P**	**03 01 55.1**	**+1.0**
	comp=E,0.5nm,0.3s,baz=198,slow=12,SNR=2.1						
AKTO	**Aktyubinsk**	**24.35**	**327**	P	**P**	**03 02 08.0**	**+1.4**
	comp=E,1.4nm,0.4s,baz=138,slow=6.6,SNR=6.8						
FINES	**FINESS Array B**	**45.12**	**328**	P	**P**	**03 05 05.6**	**+0.9**
	comp=E,0.8nm,0.5s,baz=101,slow=8.1,SNR=7.5						
ARCES	**ARCESS Array B**	**48.20**	**338**	P	**P**	**03 05 30.2**	**+1.5**
	comp=E,4.7nm,0.9s,baz=98,slow=9.1,SNR=9.6						
TORD	**Torodi Ar. Bea**	**72.02**	**275**	P	**P**	**03 08 11.2**	**-1.4**
	comp=E,0.3nm,0.7s,baz=51,slow=7.6,SNR=3.4						
YKA	**Yellowknife Ar**	**85.87**	**6**	P	**P**	**03 09 26.7**	**-0.9**
	comp=E,0.1nm,0.5s,baz=338,slow=5.4,SNR=4.3						

*ISCJB **25** 02:57:57.3±0.5, 10.88N±0.05×91.83E±0.04, h10km, mb3.9/13, MS3.5/3, Error ellipse: s-maj=7.6km s-min=5.6km az=163.8*
*IDC **25** 02:57:58.1±0.9, 10.88N×91.88E, h0km, mb3.9/13, mb1 4.0/14, mb1mx3.8/51, mbtmp3.9/14, ML4.3/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/49, Error ellipse: s-maj=36.7km s-min=15.7km az=55.0*
*NEIC **25** 02:58:01.9±1.5, 11.10N±0.1×91.88E±0.07, h28km±6km, mb4.3/15*
*NDI **25** 02:58:01.5±1.0, 10.85N×91.92E, h40km±999km, ML4.0, mb4.3(NEIC)*
ISC 25 02:57:59.2±0.7, 10.91N±0.09×91.88E±0.09, h10km, n41, σ0ᵠ96/33, mb4.1/22, MS3.3/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.13**	**49**	*eP*	Pb	02 59 20.6	-0.3
PBA				*eS*	Sb	02 58 35.1	-0.6
PBA	**Port Blair**	**1.13**	**49**	Pn	Pn	02 58 21.4	+0.3
PBA				Sn	Sg	02 58 35.7	0.0
DGPR	**DIGLIPUR**	**2.48**	**24**	*eP*	**Pn**	**02 58 41.6**	**+1.9**
DGPR				IAML		02 58 59.3	
	comp=E,319nm,0.5s						
DGPR				IAML		02 58 59.6	
	comp=N,367nm,0.6s						
DGPR				*eS*	**Sn**	**02 59 09.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**10.15**	**42**	Pn	**Pn**	**03 00 25.9**	**+0.7**
	comp=N,0.7nm,0.3s,baz=233,slow=15,SNR=2.7						
VIS	**Vishakhapatnam**	**10.70**	**310**	*i* P	Pn	03 00 39.2	+6.6
VIS				*i* S	Sn	03 02 21.7	-11
VIS				*ex*	x	03 02 24.9	
	comp=N,247nm,0.6s						
BWNR	**Bhubaneshwar**	**11.01**	**329**	*eP*	**Pn**	**03 00 36.1**	**-0.7**
BWNR				*ex*	x	03 02 04.3	
BWNR				IAML		03 02 31.6	
	comp=N,73nm,0.9s						
BWNR				IAML		03 02 33.0	
	comp=E,27nm,0.4s						
PALK	**Pallekele**	**11.61**	**253**	LR	LR	03 05 03.2	
	comp=E,59nm,18.7s,baz=47,slow=37						
HYB	**Hyderabad**	**14.44**	**298**	*i* P	P	03 01 48.0	+17
HYB				*eS*	**Sn**	**03 04 05.0**	**+0.7**
LSA	**Lhasa**	**18.71**	**358**	P	**P**	**03 02 17.4**	**-1.1**
H08S3	**Diego Garcia H**	**26.68**	**227**	T	T	03 31 38.0	
	baz=46,slow=75						
H08S2	**Diego Garcia H**	**26.68**	**227**	T	T	03 31 37.1	
	baz=46,slow=75						
H08S1	**Diego Garcia H**	**26.69**	**227**	T	T	03 31 39.5	
	baz=46,slow=75						
CHGR	**Chuyangaron**	**34.28**	**328**	P	**P**	**03 04 45.7**	**-0.1**
CHGR				IAmb	IAmb	03 04 47.4	
	comp=Z,8.0nm,0.9s						
BTK	**Batken**	**34.51**	**331**	P	**P**	**03 04 48.6**	**+0.8**
BTK				IAmb	IAmb	03 04 51.5	
	comp=Z,5.4nm,0.7s						
ARSB	**Arslanbob**	**34.55**	**335**	P	**P**	**03 04 48.0**	**-0.3**
MK31	**Makanchi Array**	**36.68**	**349**	P	**P**	**03 05 05.1**	**-1.1**
MK31				IAmb	IAmb	03 05 08.0	
	comp=Z,3.6nm,1.0s						
MKAR	**Makanchi Array**	**36.68**	**349**	P	**P**	**03 05 05.7**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=153,slow=8.2,SNR=5.4						
MKAR				LR	LR	03 24 17.2	
	comp=Z,47nm,18.0s,baz=320,slow=43						
KK31	**Karatay Array**	**37.07**	**334**	P	**P**	**03 05 08.8**	**-0.8**
KK31				IAmb	IAmb	03 05 12.2	
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**37.07**	**334**	P	**P**	**03 05 09.0**	**-0.6**
KKAR				IAmb	IAmb	03 05 12.2	
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**38.78**	**16**	P	**P**	**03 05 25.2**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=194,slow=6.6,SNR=2.6						
GEYT	**Ailbeck**	**40.47**	**317**	P	**P**	**03 05 39.7**	**+1.5**
	comp=Z,2.4nm,0.7s,baz=99,slow=8.9,SNR=4.9						
GYA0B	**ALIBECK ARRAY**	**40.47**	**317**	P	**P**	**03 05 38.6**	**+0.3**
GYA0B				IAmb	IAmb	03 05 41.8	
	comp=Z,6.9nm,1.1s						
KURBB	**Kurchatov Arra**	**41.09**	**347**	P	**P**	**03 05 43.7**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=164,slow=9.2,SNR=5.0						
KURK	**Kurchatov**	**41.16**	**347**	P	**P**	**03 05 43.7**	**0.0**
KURK				IAmb	IAmb	03 05 45.5	
	comp=Z,4.7nm,0.9s						
KSRS	**Korea Array**	**41.77**	**45**	LR	LR	03 25 15.2	
	comp=Z,34nm,18.2s,baz=220,slow=39						
ZALV	**Zalesovo Beam**	**43.30**	**354**	P	**P**	**03 06 01.7**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=164,slow=7.1,SNR=4.2						
FITZ	**Fitzroy Crossi**	**44.07**	**131**	P	**P**	**03 06 07.2**	**-0.6**
BVAR	**Borovoye Array**	**45.42**	**342**	P	**P**	**03 06 18.9**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=120,slow=8.8,SNR=3.8						
ABKAR	**Abkulak array**	**46.51**	**331**	P	**P**	**03 06 24.4**	**-2.4**
ABKAR				IAmb	IAmb	03 06 29.4	
	comp=Z,2.9nm,0.8s						
AKTO	**Aktyubinsk**	**48.23**	**331**	P	**P**	**03 06 41.5**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=108,slow=9.6,SNR=4.6						
WRA	**Warramunga Arr**	**51.84**	**126**	P	**P**	**03 07 08.2**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=305,slow=8.6,SNR=7.2						
AKH	**Akhalkalaki**	**52.08**	**315**	P	**P**	**03 07 09.3**	**-0.5**
AKH				IAmb	IAmb	03 07 13.4	
	comp=Z,3.7nm,0.9s						
ANA2	**Anatahan**	**52.48**	**78**	P	**P**	**03 07 11.2**	**-1.7**
AS31	**Alice Springs**	**53.57**	**130**	P	**P**	**03 07 21.5**	**+0.7**
ASAR	**Alice Springs**	**53.57**	**130**	P	**P**	**03 07 20.6**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=306,slow=7.3,SNR=6.0						
BRTR	**Keskin Array B**	**58.77**	**310**	P	**P**	**03 07 57.6**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=133,slow=7.3,SNR=4.7						
STKA	**Stephens Creek**	**63.81**	**134**	P	**P**	**03 08 32.8**	**+0.9**
	comp=Z,1.4nm,1.0s,baz=310,slow=7.9,SNR=2.2						
FINES	**FINESS Array B**	**69.00**	**332**	P	**P**	**03 09 05.2**	**+0.5**
	comp=Z,5.3nm,1.0s,baz=122,slow=5.8,SNR=3.9						
ILAR	**Eielson Array**	**92.78**	**22**	P	**P**	**03 11 11.1**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=300,slow=4.8,SNR=5.3						
URZ	**Urewera**	**92.97**	**128**	LR	LR	03 54 36.2	
	comp=Z,40nm,18.7s,baz=64,slow=37						
NVAR	**Mina Array Bea**	**123.40**	**28**	PKP	**PKiKP**	**03 16 58.4**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=228,slow=1.1,SNR=4.1						

*ISCJB **25** 03:08:15.8±0.4, 35.69N±0.02×97.37W±0.02, h12km±2km, mb3.1/1, Error ellipse: s-maj=3.2km s-min=2.7km az=171.6*
*NEIC **25** 03:08:16.7±1.4, 35.70N±0.04×97.35W±0.04, h8km±5km*
*IDC **25** 03:08:16.8±1.0, 35.79N×97.40W, h0km, mb3.4/1, mb1 3.6/6, mb1mx3.4/62, mbtmp3.3/6, ML2.8/4, MS3.0/1, Ms1 3.0/1, ms1mx2.3/25, Error ellipse: s-maj=14.1km s-min=10.4km az=129.0*
*ANF **25** 03:08:17.1±0.8, 35.66N×97.37W, h5km, ML4.6/12, Error ellipse: s-maj=11.3km s-min=7.8km az=163.0*
*TUL **25** 03:08:17.1, 35.68N×97.39W, h5km, MB_LG3.7(NEIC)*
ISC 25 03:08:16.7±0.8, 35.68N±0.03×97.35W±0.03, h7km±5km, n96, σ0ᵠ93/94, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.04**	**215**		**Pg**	**03 08 18.3**	**+0.3**
ADOK				Sg	**Sg**	**03 08 18.8**	**-0.3**
OK005	**Luther M Schoo**	**0.13**	**103**	Pg	**Pg**	**03 08 19.5**	**+0.1**
OK001	**Jones High Sch**	**0.13**	**160**	Pg	**Pg**	**03 08 19.3**	**-0.1**
OKCFA	**Oklahoma City**	**0.28**	**198**		**Pg**	**03 08 22.4**	**+0.2**
OKCSW	**OKLAHOMA CITY**	**0.29**	**195**		**Pg**	**03 08 22.5**	**+0.2**
FNO	**Franklin**	**0.43**	**186**	Pg	**Pb**	**03 08 26.4**	**-0.3**
W35A	**Tecumseh**	**0.65**	**144**		**Pg**	**03 08 29.3**	**0.0**
W35A				Sg	**Sb**	**03 08 39.2**	**-0.6**
X34A	**Smith Ranch, M**	**1.15**	**200**		**Pg**	**03 08 38.6**	**-0.2**
X34A				IAmb_Lg		03 08 52.6	
	comp=Z,436nm,1.3s						
X34A				Sg	**Sb**	**03 08 54.7**	**+0.5**
TUL1	**Leonard**	**1.28**	**79**	P	**Pg**	**03 08 41.1**	**-0.2**
	baz=260						
TUL1				S	**Sn**	**03 08 59.3**	**+0.8**
	baz=260						
TUL1	**Leonard**	**1.28**	**79**		**Pg**	**03 08 40.9**	**-0.4**
TUL1				Sn	**Sn**	**03 08 59.0**	**+0.4**
TUL1				IAmb_Lg		03 09 02.1	
	comp=Z,316nm,1.0s						
WMOK	**Wichita Mounta**	**1.51**	**232**	P	**Pn**	**03 08 43.9**	**-0.3**
	baz=51						
WMOK				S	**Sn**	**03 09 03.4**	**-0.7**
	baz=51						
WMOK	**Wichita Mounta**	**1.51**	**232**	Pn	**Pn**	**03 08 43.8**	**-0.5**
WMOK				Sn	**Sn**	**03 09 02.9**	**-1.3**
U32A	**Winter Ranch,**	**1.51**	**298**		**Pn**	**03 08 44.0**	**-0.2**
U32A				Sn	**Sn**	**03 09 03.7**	**-0.6**
HHAR	**Hobbs**	**2.83**	**77**		**Pn**	**03 09 02.2**	**-0.1**
HHAR				Sn	**Sn**	**03 09 35.6**	**-1.1**
W39A	**Magazine**	**2.95**	**98**	P	**Pn**	**03 09 05.4**	**+1.4**
	baz=280						
W39A				S	**Sn**	**03 09 41.5**	**+1.9**
	baz=280						
W39A	**Magazine**	**2.95**	**98**		**Pn**	**03 09 04.4**	**+0.4**
W39A				Sn	**Sn**	**03 09 38.7**	**-1.0**
W39A				IAmb_Lg		03 09 57.1	
	comp=Z,237nm,1.0s						
MIAR	**Mount Ida**	**3.29**	**109**	P	**Pn**	**03 09 11.0**	**+2.3**
	baz=291						
MIAR				S	**Sn**	**03 09 50.0**	**+1.9**
	baz=291						
MIAR	**Mount Ida**	**3.29**	**109**		**Pn**	**03 09 08.4**	**-0.3**
MIAR				Sn	**Sn**	**03 09 49.2**	**+1.0**
MIAR				IAmb_Lg		03 10 09.0	
	comp=Z,184nm,1.0s						
KSU1	**Kansas State U**	**3.46**	**10**	P	**Pn**	**03 09 12.0**	**+0.9**
	baz=190						
KSU1				S	**Sn**	**03 09 54.2**	**+1.8**
	baz=190						
KSU1	**Kansas State U**	**3.46**	**10**	IAmb_Lg		03 10 14.5	
	comp=Z,158nm,0.7s						
ABTX	**Abilene, Hawle**	**3.60**	**213**	P	**Pn**	**03 09 13.2**	**+0.2**
	baz=31						
ABTX				S	**Sn**	**03 09 56.2**	**+0.5**
	baz=31						
ABTX	**Abilene, Hawle**	**3.60**	**213**		**Pn**	**03 09 12.9**	**-0.1**
ABTX				Sn	**Sn**	**03 09 55.2**	**-0.5**
AMTX	**Amarillo**	**3.64**	**259**	P	**Pn**	**03 09 14.2**	**+0.7**
	baz=76						
AMTX				S	**Sn**	**03 09 58.4**	**+1.7**
	baz=76						
AMTX	**Amarillo**	**3.64**	**259**		**Pn**	**03 09 14.5**	**+1.0**
AMTX				Sn	**Sn**	**03 09 55.8**	**-1.0**
AMTX				IAmb_Lg		03 10 14.1	
	comp=Z,111nm,0.9s						
CBKS	**Cedar Bluff**	**3.66**	**329**	P	**Pn**	**03 09 15.0**	**+1.1**
	baz=148						
CBKS				Sb	**Sg**	**03 10 11.2**	**-3.1**
	baz=148						
CBKS	**Cedar Bluff**	**3.66**	**329**		**Pn**	**03 09 14.2**	**+0.4**
CBKS				Sn	**Sn**	**03 09 56.6**	**-0.8**
CBKS				IAmb_Lg		03 10 14.5	
	comp=Z,146nm,0.9s						
WHTX	**Lake Whitney,**	**3.68**	**181**	P	**Pn**	**03 09 14.7**	**+0.5**
	baz=1.1						
WHTX	**Lake Whitney,**	**3.68**	**181**		**Pn**	**03 09 14.5**	**+0.4**
WHTX				Sn	**Sn**	**03 09 55.9**	**-1.9**
U40A	**Yellville**	**3.70**	**78**	P	**Pn**	**03 09 15.1**	**+0.7**
	baz=261						
U40A	**Yellville**	**3.70**	**78**		**Pn**	**03 09 14.8**	**+0.5**
U40A				IAmb_Lg		03 10 16.9	
	comp=Z,272nm,0.7s						
X40A	**Basin Creek Fa**	**3.89**	**107**	P	**Pn**	**03 09 18.4**	**+1.6**
	baz=289						
X40A				S	**Sn**	**03 10 05.0**	**+2.2**
	baz=289						
WLAR	**White Oak Lake**	**4.01**	**119**	IAmb_Lg		03 10 35.0	
	comp=Z,116nm,0.8s						
WHAR	**Wooly Hollow**	**4.14**	**94**	IAmb_Lg		03 10 30.6	
	comp=Z,133nm,0.7s						
UALR	**University of**	**4.19**	**101**	IAmb_Lg		03 10 34.6	
	comp=Z,111nm,0.8s						
W41B	**Gary Mavity, V**	**4.19**	**95**	P	**Pn**	**03 09 22.2**	**+1.1**
	baz=278						
W41B				S	**Sn**	**03 10 12.0**	**+1.7**
	baz=278						
W41B	**Gary Mavity, V**	**4.19**	**95**	IAmb_Lg		03 10 38.4	
	comp=Z,131nm,0.7s						
MGMO	**Mountain Grove**	**4.35**	**69**		**Pn**	**03 09 23.3**	**+0.1**
MGMO				Sn	**Sn**	**03 10 13.8**	**-0.5**
MGMO				IAmb_Lg		03 10 47.8	
	comp=Z,131nm,0.8s						
Z41A	**Richland Creek**	**4.46**	**122**	Pn	**Pn**	**03 09 25.2**	**+0.4**
Z41A				Sn	**Sn**	**03 10 16.5**	**-0.5**
Z41A				IAmb_Lg		03 10 51.0	
	comp=Z,109nm,0.8s						
NATX	**Nacogdoches**	**4.51**	**149**	Pn	**Pn**	**03 09 25.7**	**+0.2**
NATX				Sn	**Sn**	**03 10 18.0**	**-0.1**
MSTX	**Muleshoe**	**4.78**	**251**		**Pn**	**03 09 28.9**	**-0.4**
MSTX				Sn	**Sn**	**03 10 26.6**	**+1.6**
435B	**Jarrell**	**4.89**	**182**		**Pn**	**03 09 30.6**	**-0.1**
435B				Sn	**Sn**	**03 10 27.3**	**-0.4**
435B				IAmb_Lg		03 10 59.7	
	comp=Z,169nm,1.0s						
CCAR	**Cane Creek**	**4.91**	**109**	Pn	**Pn**	**03 09 31.1**	**+0.1**
CCAR				Sn	**Sn**	**03 10 26.4**	**-1.7**
CCAR				IAmb_Lg		03 11 03.9	
	comp=Z,182nm,1.0s						
LCAR	**Lake Charles**	**5.04**	**84**		**Pn**	**03 09 32.8**	**0.0**
LCAR				IAmb_Lg		03 11 02.5	
	comp=Z,104nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.36**	**310**	IAmb_Lg		03 11 20.6	
	comp=Z,128nm,0.8s						
X43A	**Marvell**	**5.42**	**101**	IAmb_Lg		03 11 16.6	
	comp=Z,102nm,0.8s						
CCM	**Cathedral Cave**	**5.43**	**62**	IAmb_Lg		03

	comp=Z,101nm,1.1s								
WCI	**Wyandotte Cave**	**9.20**	**71**	IAmb_Lg			03 13 13.0		
	comp=Z,102nm,1.1s								
BLO	**Bloomington**	**9.29**	**65**	IAmb_Lg			03 13 19.3		
	comp=Z,91nm,0.7s								
SFIN	**Lafayette**	**9.34**	**57**	IAmb_Lg			03 13 17.0		
	comp=Z,90nm,0.8s								
RWWY	**Rawlins**	**9.77**	**311**	IAmb_Lg			03 13 43.6		
	comp=Z,32nm,0.8s								
W50A	**Signal Mountai**	**9.83**	**89**	IAmb_Lg			03 13 35.1		
	comp=Z,39nm,0.9s								
RSSD	**Black Hills**	**9.87**	**331**			**Pn**	**03 10 39.2**	**0.0**	
RSSD				IAmb_Lg			03 13 34.7		
	comp=Z,37nm,1.1s								
K22A	**Casper**	**9.96**	**317**			**Pn**	**03 10 40.6**	**+0.2**	
K22A				IAmb_Lg			03 13 51.0		
	comp=Z,57nm,1.0s								
SPMN	**Marine on St.**	**10.14**	**19**			**Pn**	**03 10 42.3**	**-0.3**	
TKL	**Tuckaleechee C**	**11.04**	**86**	Pn		**Pn**	**03 10 55.3**	**+0.2**	
	comp=Z,0.2nm,0.3s,baz=297,slow=13,SNR=3.7								
TKL				Lg		Lg	03 13 59.5		
	comp=Z,0.8nm,0.3s,baz=160,slow=14,SNR=4.3								
TKL	**Tuckaleechee C**	**11.04**	**86**			**Pn**	**03 10 55.8**	**+0.7**	
PDAR	**Pinedale Array**	**11.81**	**310**	Pn		**Pn**	**03 11 04.9**	**-1.0**	
	comp=Z,0.2nm,0.3s,baz=118,slow=15,SNR=6.2								
PDAR				Lg		Lg	03 14 23.7		
	comp=Z,0.3nm,0.3s,baz=121,slow=33,SNR=3.5								
ULM	**Lac du Bonnet**	**14.60**	**4**	Pn		Pn	03 11 38.3	-5.3	
	comp=Z,0.3nm,0.3s,baz=191,slow=11,SNR=7.0								
ULM				Sn		Sn	03 14 13.0	-13	
	comp=Z,0.2nm,0.3s,baz=121,slow=18,SNR=2.1								
ULM				Lg		Lg	03 15 40.1		
	comp=Z,0.2nm,0.3s,baz=210,slow=20,SNR=2.1								
PFO	**Pinyon Flats O**	**15.87**	**268**	LR		LR	03 18 39.7		
	comp=Z,51nm,19.3s,baz=130,slow=39								
ILAR	**Eielson Array**	**41.32**	**330**	P		**P**	**03 16 03.6**	**+0.9**	
	comp=Z,0.3nm,0.7s,baz=111,slow=7.4,SNR=4.9								

IDC 25 03:20:16.3±2.1, 0.99N×126.04E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/34, mbtmp3.2/3, Error ellipse: s-maj=177.4km s-min=28.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.33**	**159**	P	P	03 25 15.9	+0.1
	0.5nm,0.4s,baz=337,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**25.67**	**163**	P	P	03 25 47.9	-0.1
	0.1nm,0.3s,baz=347,slow=7.6,SNR=6.6						
MKAR	**Makanchi Array**	**59.43**	**327**	P	P	03 30 20.8	0.0
	0.2nm,0.7s,baz=124,slow=8.1,SNR=2.8						

IDC 25 03:41:23.6±14.0, 17.94S×178.32W, h574km±162km, mb3.0/4, mb1 3.2/4, mb1mx2.8/28, mbtmp3.9/4, Error ellipse: s-maj=116.0km s-min=61.6km az=126.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.53**	**261**	P	P	03 47 16.9	0.0
	baz=73,slow=9.0						
STKA	**Stephens Creek**	**38.69**	**241**	P	P	03 47 59.2	0.0
	1.7nm,0.6s,baz=84,slow=9.2,SNR=7.5						
WRA	**Warramunga Arr**	**44.71**	**260**	P	P	03 48 46.1	-0.7
	0.4nm,0.4s,baz=98,slow=6.8,SNR=11						
ASAR	**Alice Springs**	**44.87**	**254**	P	P	03 48 47.9	0.0
	3.9nm,0.5s,baz=88,slow=8.6,SNR=100						
ILAR	**Eielson Array**	**85.89**	**13**	P	P	03 53 02.6	-0.2
	0.1nm,0.4s,baz=217,slow=5.2,SNR=6.8						
GERES	**GERESS Array B**	**147.66**	**345**	PKPbc	PKPbc	04 00 03.8	-0.4
	0.6nm,0.6s,baz=25,slow=3.5,SNR=3.5						

*ISCJB **25** 03:44:33.8±0.7, 49.10S±0.09×121.4E±0.2, h10km, mb4.0/7, MS3.4/7, Error ellipse: s-maj=20.7km s-min=10.7km az=19.9*
*IDC **25** 03:44:34.5±1.0, 49.10S×121.21E, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/23, mbtmp4.1/8, ML2.8/1, MS3.4/8, Ms1 3.4/8, ms1mx3.3/23, Error ellipse: s-maj=48.2km s-min=16.0km az=109.0*
*NEIC **25** 03:44:35.4±1.8, 49.1S±0.1×121.3E±0.2, h10km±1km, mb4.5/8*
ISC 25 03:44:35.4±0.7, 49.06S±0.09×121.3E±0.2, h10km, n26, σ0s63/18, mb4.2/7, MS3.4/7, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.10**	**337**	T	T	04 03 46.6	
	baz=160,slow=74,SNR=228						
H01W2	**Cape Leeuwin H**	**15.10**	**337**	T	T	04 03 46.1	
	baz=160,slow=74,SNR=242						
H01W3	**Cape Leeuwin H**	**15.12**	**337**	T	T	04 03 43.9	
	baz=160,slow=74,SNR=193						
NWAO	**Narrogin (SRO)**	**16.40**	**348**	Pn	**P**	**03 48 28.6**	**+0.2**
	1.8nm,0.3s,baz=167,slow=9.8,SNR=15						
NWAO				LR	LR	03 53 23.8	
	comp=Z,126nm,18.0s,baz=167,slow=32						
NWAO	**Narrogin (SRO)**	**16.40**	**348**		**Pn**	**03 48 25.3**	**-0.3**
NWAO				IAmb	IAmb	03 48 34.9	
	comp=Z,42nm,1.5s						
BBOO	**Buckleboo**	**19.65**	**40**	P	**P**	**03 49 03.5**	**-0.6**
TOO	**Toolangi**	**20.94**	**66**	P	**P**	**03 49 18.2**	**0.0**
TOO				IAmb	IAmb	03 49 23.6	
	comp=Z,59nm,1.6s						
STKA	**Stephens Creek**	**22.98**	**49**	P	**P**	**03 49 41.4**	**+1.3**
	comp=Z,4.9nm,0.8s,baz=207,slow=11,SNR=8.1						
STKA				LR	LR	03 56 57.3	
	comp=Z,148nm,21.1s,baz=203,slow=32						
STKA	**Stephens Creek**	**22.98**	**49**	P	**P**	**03 49 41.0**	**+0.9**
ASAR	**Alice Springs**	**27.23**	**26**	P	**P**	**03 50 20.4**	**+0.9**
	comp=Z,3.0nm,0.9s,baz=195,slow=8.7,SNR=14						
ASAR				LR	LR	04 00 12.4	
	comp=Z,94nm,20.8s,baz=206,slow=34						
WRA	**Warramunga Arr**	**30.89**	**24**	P	**P**	**03 50 52.4**	**+0.4**
	comp=Z,1.9nm,1.1s,baz=196,slow=8.2,SNR=4.6						
WRA				LR	LR	04 02 08.0	
	comp=Z,83nm,21.0s,baz=205,slow=34						
VNDA	**Vanda**	**32.45**	**165**	P	**P**	**03 51 05.9**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=336,slow=9.7,SNR=8.1						
VNDA				LR	LR	04 03 06.8	
	comp=Z,144nm,20.1s,baz=320,slow=34						
VNDA	**Vanda**	**32.45**	**165**	P	**P**	**03 51 05.1**	**-0.1**
VNDA				IAmb	IAmb	03 51 15.6	
	comp=Z,5.2nm,1.0s						
MAW	**Mawson**	**34.13**	**216**	P	**P**	**03 51 19.5**	**-0.4**
	comp=Z,2.7nm,0.9s,baz=87,slow=12,SNR=4.1						
MAW				LR	LR	04 02 38.8	
	comp=Z,43nm,20.6s,baz=60,slow=32						
MAW	**Mawson**	**34.13**	**216**	P	**P**	**03 51 19.6**	**-0.3**
BFZ	**Birch Farm**	**39.09**	**99**	P	**P**	**03 52 01.8**	**-0.7**
QSPA	**South Pole Qui**	**41.06**	**180**	P	**P**	**03 52 19.4**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=302,slow=2.5,SNR=13						
QSPA	**South Pole Qui**	**41.06**	**180**	P	**P**	**03 52 19.0**	**+0.2**
QSPA				IAmb	IAmb	03 52 22.8	
	comp=Z,17nm,1.6s						
SNAA	**Sanae**	**53.28**	**199**	P	**P**	**03 53 53.9**	**+0.1**
	comp=Z,3.1nm,1.0s,baz=146,slow=12,SNR=6.6						
H08S2	**Diego Garcia H**	**58.05**	**299**	T	T	04 57 28.6	
	baz=144,slow=76,SNR=21						
H08S1	**Diego Garcia H**	**58.06**	**298**	T	T	04 57 26.8	
	baz=144,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**58.07**	**299**	T	T	04 57 26.8	
	baz=144,slow=76,SNR=19						
PALK	**Pallekele**	**66.36**	**315**	LR	LR	04 20 23.3	
	comp=Z,32nm,18.6s,baz=137,slow=32						
CMAR	**Chiang Mai Arr**	**70.09**	**337**	LR	LR	04 26 52.0	
	comp=Z,12nm,18.1s,baz=150,slow=36						
PDAR	**Pinedale Array**	**144.64**	**81**	PKP	**PKPdf**	**04 04 11.3**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=140,slow=2.9,SNR=3.9						
YKA	**Yellowknife Ar**	**146.98**	**45**	PKPbc	**PKPab**	**04 04 17.9**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=274,slow=2.1,SNR=14						

*IDC **25** 04:14:09.8±1.3, 17.48N×94.28E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/59, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=39.1km s-min=19.0km az=54.0*
*ISCJB **25** 04:14:13.8±0.9, 17.5N±0.1×94.31E±0.07, h46km, mb3.9/7, Error ellipse: s-maj=17.9km s-min=6.9km az=21.7*
ISC 25 04:14:15.9±1.3, 17.5N±0.2×94.3E±0.1, h46km, n21, σ0s61/19, mb3.7/7, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.50**	**77**	Pn	**Pn**	**04 15 20.6**	**-1.0**
	1.1nm,0.3s,baz=255,slow=15,SNR=11						
CMAR				Sn	**Sn**	**04 16 13.2**	**+0.5**
	1.1nm,0.3s,baz=252,slow=29,SNR=5.1						
ODAN	**Odare**	**11.29**	**327**	*eP*	**Pn**	**04 16 55.0**	**+0.1**
	24nm,0.3s						
RAMN	**Ramite**	**11.79**	**324**	*eP*	**Pn**	**04 17 01.7**	**-0.1**
	8.3nm,0.3s						
JIRN	**Jiri**	**12.57**	**325**	*eP*	**Pn**	**04 17 13.2**	**+0.7**
	14nm,0.2s						
GUN	**Gumba**	**12.94**	**325**	*eP*	**Pn**	**04 17 17.5**	**0.0**
	9.7nm,0.3s						
PKI	**Pulchoki**	**12.95**	**322**	*eP*	**Pn**	**04 17 16.5**	**-1.1**
	2.6nm,0.3s						
PKIN	**Phulchoki**	**12.96**	**322**	*eP*	**Pn**	**04 17 17.3**	**-0.4**
	20nm,0.3s						
DMN	**Daman**	**13.16**	**321**	*eP*	**Pn**	**04 17 19.5**	**-0.9**
	11nm,0.4s						
GKN	**Gorkha**	**13.73**	**321**	*eP*	**Pn**	**04 17 27.6**	**-0.5**
	37nm,0.3s						
KOLN	**Koldanda**	**14.20**	**318**	*eP*	**Pn**	**04 17 34.1**	**-0.5**
	24nm,0.3s						
DANN	**Dangsing**	**14.51**	**320**	*eP*	**Pn**	**04 17 38.3**	**-0.5**
	15nm,0.3s						
MKAR	**Makanchi Array**	**30.84**	**344**	P	**P**	**04 20 28.2**	**+0.6**
	0.6nm,0.5s,baz=164,slow=9.0,SNR=13						
SONM	**Songino Array**	**31.82**	**16**	P	**P**	**04 20 36.4**	**+0.1**
	0.4nm,0.4s,baz=197,slow=7.2,SNR=3.9						
H08S3	**Diego Garcia H**	**33.01**	**223**	T	T	04 54 44.1	
	baz=40,slow=76,SNR=11						
H08S2	**Diego Garcia H**	**33.02**	**223**	T	T	04 54 52.2	
	baz=40,slow=76,SNR=15						
H08S1	**Diego Garcia H**	**33.03**	**223**	T	T	04 54 52.1	
	baz=40,slow=76,SNR=8.4						
KURBB	**Kurchatov Arra**	**35.36**	**343**	P	**P**	**04 21 07.4**	**+0.4**
	0.5nm,0.4s,baz=159,slow=8.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**37.10**	**351**	P	**P**	**04 21 22.4**	**+0.7**
	1.6nm,0.4s,baz=175,slow=9.0,SNR=6.7						
WRA	**Warramunga Arr**	**54.13**	**132**	P	**P**	**04 23 37.0**	**+0.3**
	0.4nm,0.5s,baz=311,slow=7.4,SNR=5.2						
ASAR	**Alice Springs**	**56.30**	**135**	P	**P**	**04 23 52.6**	**+0.3**
	0.2nm,0.6s,baz=318,slow=6.5,SNR=5.2						
ARCES	**ARCESS Array B**	**66.34**	**339**	P	**P**	**04 24 59.3**	**-0.2**
	8.0nm,1.2s,baz=98,slow=5.0,SNR=4.8						

*IDC **25** 04:16:43.1±1.3, 36.84N×144.98E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/45, mbtmp3.4/6, ML2.6/2, Error ellipse: s-maj=33.3km s-min=28.1km az=89.0*
*ISCJB **25** 04:16:47.7±0.8, 37.30N±0.05×144.72E±0.06, h33km, mb3.4/4, Error ellipse: s-maj=7.1km s-min=6.8km az=137.0*
*JMA **25** 04:16:49.2±0.3, 37.23N×144.55E, h35km, M4.2*
ISC 25 04:16:47.9±1.1, 37.22N±0.06×144.81E±0.08, h35km, n33, σ2s05/40, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.87**	**293**	P	**Pn**	**04 17 31.6**	**+0.4**
JIKH				*eS*	**Sn**	**04 18 02.8**	**-1.7**
JIO	**Ouri**	**3.01**	**295**	P	**Pn**	**04 17 33.6**	**+0.5**
JKMT	**Kesennumamotoy**	**3.08**	**302**	P	**Pn**	**04 17 34.5**	**+0.4**
JKMT				*eS*	**Sn**	**04 18 08.1**	**-1.6**
OFUJ	**Ofunato**	**3.10**	**308**	P	**Pn**	**04 17 34.9**	**+0.6**
OFUJ				*eS*	**Sn**	**04 18 09.1**	**-1.1**
JFK	**Kawauchi**	**3.15**	**274**	P	**Pn**	**04 17 35.0**	**0.0**
JFK				*eS*	**Sn**	**04 18 09.1**	**-2.2**
JMST	**Minamisoumatoc**	**3.17**	**280**	P	**Pn**	**04 17 35.3**	**+0.1**
JMK	**Ichinoseki**	**3.32**	**303**	P	**Pn**	**04 17 38.3**	**+0.9**
JMK				*eS*	**Sn**	**04 18 14.4**	**-1.3**
JOU	**Okura**	**3.48**	**291**	P	**Pn**	**04 17 40.8**	**+1.2**
JOU				*eS*	**Sn**	**04 18 19.5**	**-0.1**
JFT	**Otama**	**3.58**	**276**	P	**Pn**	**04 17 42.3**	**+1.3**
JFT				*eS*	**Sn**	**04 18 21.6**	**-0.4**
JYK	**Kaneyama**	**3.91**	**297**	P	**Pn**	**04 17 46.9**	**+1.5**
JRG	**Rokugo**	**3.94**	**305**	P	**Pn**	**04 17 47.6**	**+1.7**
BSO1	**Boso 1**	**4.03**	**232**	P	**Pn**	**04 17 45.6**	**-1.0**
JTM	**Tenmabayashi**	**4.61**	**322**	*eS*	**Sn**	**04 18 45.5**	**-1.8**
JRY	**Ryogami san**	**4.90**	**258**	P	**Pn**	**04 17 58.8**	**-0.4**
JRY				*eS*	**Sn**	**04 18 51.0**	**-3.7**
JOD2	**Odawara 2**	**5.02**	**249**	P	**Pn**	**04 18 00.8**	**0.0**
JOD2				*eS*	**Sn**	**04 18 54.2**	**-3.4**
JOT	**Ohata**	**5.08**	**326**	P	**Pn**	**04 18 03.2**	**+1.6**
JOT				*eS*	**Sn**	**04 18 57.4**	**-1.6**
MJAR	**Matsushiro Arr**	**5.34**	**265**	Pn	**Pn**	**04 18 06.0**	**+0.8**
	0.5nm,0.3s,baz=73,slow=12,SNR=9.8						
MAT	**Matsushiro**	**5.34**	**265**	P	**Pn**	**04 18 06.6**	**+1.5**
MAT				S	**Sn**	**04 19 02.4**	**-3.0**
JKB	**Kayabe**	**5.50**	**329**	*eS*	**Sn**	**04 19 06.3**	**-3.1**
JCH	**Churui**	**5.51**	**349**	P	**Pn**	**04 18 07.8**	**+0.4**
JCH				*eS*	**Sn**	**04 19 06.5**	**-2.9**
NEM2	**Nemuro 2**	**6.18**	**6**	P	**Pn**	**04 18 15.0**	**-1.7**
NEM2				*eS*	**Sn**	**04 19 20.9**	**-5.2**
JTKR	**Abashiri--Toko**	**6.78**	**354**	P	**Pn**	**04 18 24.8**	**-0.1**
USRK	**Ussuriysk Ar.**	**11.97**	**310**	Pn	**Pn**	**04 19 39.9**	**+4.0**
	baz=110,slow=14,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**25.98**	**126**	T	T	04 49 17.4	
	baz=317,slow=75,SNR=104						
H11N1	**WAKE ISLAND Hy**	**25.99**	**126**	T	T	04 49 11.5	
	baz=317,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hy**	**26.00**	**126**	T	T	04 49 11.3	
	baz=317,slow=75,SNR=62						
H11S1	**WAKE ISLAND Hy**	**26.75**	**128**	T	T	04 50 08.1	
	baz=318,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**26.75**	**128**	T	T	04 50 08.2	
	baz=318,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**26.77**	**128**	T	T	04 50 10.7	
	baz=318,slow=76,SNR=29						
MKAR	**Makanchi Array**	**46.32**	**303**	P	**P**	**04 25 12.3**	**+2.1**
	0.3nm,0.7s,baz=89,slow=9.3,SNR=4.1						
ILAR	**Eielson Array**	**47.88**	**32**	P	**P**	**04 25 24.5**	**+2.4**
	0.3nm,0.7s,baz=258,slow=6.5,SNR=5.5						
WRA	**Warramunga Arr**	**57.70**	**192**	P	**P**	**04 26 34.5**	**-0.5**
	0.5nm,1.0s,baz=9.0,slow=7.1,SNR=3.5						
ASAR	**Alice Springs**	**61.42**	**191**	P	**P**	**04 26 57.3**	**-3.4**
	0.3nm,0.8s,baz=9.1,slow=6.6,SNR=2.5						

RSPR 25 05:30:12.1, 19.14N×66.58W, h34km±7km, MD2.6/10, 8C-13D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.81**	**192**	*eP*	Pn	05 30 25.6	-1.5
AOPR	**Arecibo Observ**	**0.81**	**192**	*eP*	Pn	05 30 25.6	-1.5
AOPR				*eS*	Sn	05 30 36.3	-1.6
AGPR	**Aguadilla, PR**	**0.84**	**217**	*eP*	Pn	05 30 25.8	-1.8
AGPR	**Aguadilla, PR**	**0.84**	**217**	*eP*	Pn	05 30 25.8	-1.8
AGPR				*eS*	Sn	05 30 37.3	-1.3
CELP	**Cerrillos**	**1.06**	**180**	*eP*	Pn	05 30 29.3	-1.3
CELP				*eS*	Sn	05 30 42.6	-1.6
CELP	**Cerrillos**	**1.06**	**180**	*eP*	Pn	05 30 29.3	-1.3
CELP				*eS*	Sn	05 30 42.6	-1.6
LSP	**Las Mesas**	**1.07**	**207**	*eP*	Pn	05 30 29.7	-1.1
LSP	**Las Mesas**	**1.07**	**207**	*eP*	Pn	05 30 29.7	-1.1
LSP				*eS*	Sn	05 30 43.0	-1.6
OBIP	**Obispado Ponce**	**1.09**	**182**	*eP*	Pn	05 30 29.8	-1.2
OBIP	**Obispado Ponce**	**1.09**	**182**	*eP*	Pn	05 30 29.8	-1.2
OBIP				*eS*	Sn	05 30 43.5	-1.4
CBYP	**Canovanas**	**1.10**	**142**	*eP*	Pn	05 30 29.8	-1.5
CBYP	**Canovanas**	**1.10**	**142**	*eP*	Pn	05 30 29.8	-1.5
CBYP				*eS*	Sn	05 30 43.8	-1.4
HUMP	**Col San Antoni**	**1.21**	**145**	*eP*	Pn	05 30 31.3	-1.3
HUMP	**Col San Antoni**	**1.21**	**145**	*eP*	Pn	05 30 31.3	-1.3
HUMP				*eS*	Sn	05 30 46.5	-1.3
PDPR	**Patillas Dam,**	**1.23**	**155**	*eP*	Pn	05 30 31.9	-1.1
PDPR	**Patillas Dam,**	**1.23**	**155**	*eS*	Sn	05 30 46.6	-1.8
CRPR	**Cabo Rojo, PR**	**1.23**	**204**	*eP*	Pn	05 30 32.0	-1.0
CRPR	**Cabo Rojo, PR**	**1.23**	**204**	*eP*	Pn	05 30 32.0	-1.0
CRPR				*eS*	Sn	05 30 46.7	-1.8
MLPR	**Magueyes Islan**	**1.24**	**201**	*eP*	Pn	05 30 32.1	-1.1
MLPR	**Magueyes Islan**	**1.24**	**201**	*eS*	Sn	05 30 47.0	-1.7
MTP	**Monte Pirata**	**1.42**	**137**	*eP*	Pn	05 30 33.9	-1.6
MTP	**Monte Pirata**	**1.42**	**137**	*eP*	Pn	05 30 33.9	-1.6
MTP				*eS*	Sn	05 30 51.5	-1.6
CUPR	**Culebra, Puert**	**1.48**	**124**	*eP*	Pn	05 30 35.1	-1.3

*NEIC **25** 05:30:59.4±0.2, 18.1N±0.2×68.05W±0.06, h89km±9km*
*OSPL **25** 05:30:59.5±0.4, 18.88N×68.05W, h103km±9km, MD3.1, ML2.4*

RSPR 25 05:30:59.9, 18.09N×68.05W, h89km, MD3.3/10, 9C-16D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.53**	**323**	*eP*	Pn	05 31 14.2	-0.5
PCDR				*eS*	Sn	05 31 25.5	-0.3
PCDR	**Punta Cana, DR**	**0.53**	**323**	*eP*	Pn	05 31 14.3	-0.5
PCDR	**Punta Cana, DR**	**0.53**	**323**	*eP*	Pn	05 31 14.2	-0.5
PCDR				*eS*	Sn	05 31 25.5	-0.3
PCDR	**Punta Cana, DR**	**0.53**	**323**	*i* P	Pn	05 31 14.5	-0.3
PCDR				*eS*	Sn	05 31 25.9	+0.1
PCDR				IAML		05 31 29.0	
	comp=Z,78nm,0.2s						
PCDR	**Punta Cana, DR**	**0.53**	**323**		Pn	05 31 14.3	-0.5
PCDR					Sn	05 31 25.5	-0.3
MPR	**Mayaguez**	**0.88**	**82**	*i* P	Pn	05 31 20.1	+2.0
CRPR	**Cabo Rojo, PR**	**0.90**	**95**	*eP*	Pn	05 31 17.8	-0.6
CRPR	**Cabo Rojo, PR**	**0.90**	**95**	*eP*	Pn	05 31 17.8	-0.6
CRPR				*eS*	Sn	05 31 31.8	-0.4
CRPR	**Cabo Rojo, PR**	**0.90**	**95**		Pn	05 31 17.8	-0.6
CRPR					Sn	05 31 31.8	-0.4
LSP	**Las Mesas**	**0.92**	**84**	*eP*	Pn	05 31 18.4	-0.3
LSP	**Las Mesas**	**0.92**	**84**	*eP*	Pn	05 31 18.4	-0.3
LSP				*eS*	Sn	05 31 32.5	-0.3
LSP	**Las Mesas**	**0.92**	**84**		Pn	05 31 18.4	-0.3
LSP					Sn	05 31 32.5	-0.3
MLPR	**Magueyes Islan**	**0.96**	**97**	*eP*	Pn	05 31 18.5	-0.6
MLPR	**Magueyes Islan**	**0.96**	**97**	*eS*	Sn	05 31 33.2	-0.4
MLPR	**Magueyes Islan**	**0.96**	**97**		Pn	05 31 18.5	-0.6
MLPR					Sn	05 31 33.2	-0.4
AGPR	**Aguadilla, PR**	**0.97**	**67**	*eP*	Pn	05 31 19.0	-0.2
AGPR	**Aguadilla, PR**	**0.97**	**67**	*eP*	Pn	05 31 19.0	-0.2
AGPR				*eS*	Sn	05 31 33.2	-0.4
AGPR	**Aguadilla, PR**	**0.97**	**67**	*i* P	Pn	05 31 19.1	-0.1
AGPR				*eS*	Sn	05 31 33.3	-0.4
AGPR				IAML		05 31 35.2	
	comp=Z,91nm,0.1s						
AGPR	**Aguadilla, PR**	**0.97**	**67**		Pn	05 31 19.0	-0.2
AGPR					Sn	05 31 33.2	-0.4
AOPR	**Arecibo Observ**	**1.26**	**78**	*eP*	Pn	05 31 22.2	-0.4
AOPR	**Arecibo Observ**	**1.26**	**78**	*eP*	Pn	05 31 22.2	-0.4
AOPR				*eS*	Sn	05 31 39.3	-0.5
AOPR	**Arecibo Observ**	**1.26**	**78**		Pn	05 31 22.2	-0.4
AOPR					Sn	05 31 39.3	-0.5
OBIP	**Obispado Ponce**	**1.38**	**92**	*eP*	Pn	05 31 23.6	-0.4
OBIP	**Obispado Ponce**	**1.38**	**92**	*eP*	Pn	05 31 23.6	-0.4
OBIP				*eS*	Sn	05 31 42.0	-0.2
OBIP	**Obispado Ponce**	**1.38**	**92**		Pn	05 31 23.6	-0.4
OBIP					Sn	05 31 42.0	-0.2
CELP	**Cerrillos**	**1.40**	**90**	*eP*	Pn	05 31 23.0	-0.4
CELP				*eS*	Sn	05 31 42.6	-0.2
CELP	**Cerrillos**	**1.40**	**90**	*eP*	Pn	05 31 23.9	-0.4
CELP				*eS*	Sn	05 31 42.6	-0.2
CELP	**Cerrillos**	**1.40**	**90**		Pn	05 31 23.9	-0.4
CELP					Sn	05 31 42.6	-0.2
DR12	**Loma Pena Alta**	**1.44**	**299**	Pn	Pn	05 31 24.3	-0.6
DR12					Sn	05 31 43.8	-0.1
EMPR	**Esperanza - Ma**	**1.50**	**75**	*eP*	Pn	05 31 24.9	-0.6
EMPR	**Esperanza - Ma**	**1.50**	**75**	*eS*	Sn	05 31 44.9	-0.1
EMPR	**Esperanza - Ma**	**1.50**	**75**		Pn	05 31 24.9	-0.6
EMPR					Sn	05 31 44.9	-0.1
SJG	**San Juan**	**1.81**	**89**	Pn	Pn	05 31 29.2	-0.3
SJG					Sn	05 31 51.7	-0.4
GCPR	**Guaynabo City**	**1.88**	**83**	Pn	Pn	05 31 29.2	-1.3
GCPR					Sn	05 31 51.4	-2.5
PDPR	**Patillas Dam,**	**1.93**	**92**	*eP*	Pn	05 31 30.8	-0.4
PDPR	**Patillas Dam,**	**1.93**	**92**	*eS*	Sn	05 31 54.0	-0.2
PDPR	**Patillas Dam,**	**1.93**	**92**		Pn	05 31 30.8	-0.4
PDPR					Sn	05 31 54.8	-0.2
CBYP	**Canovanas**	**2.09**	**85**	*eP*	Pn	05 31 33.0	-0.4
CBYP	**Canovanas**	**2.09**	**85**	*eP*	Pn	05 31 33.0	-0.4
CBYP				*eS*	Sn	05 31 58.3	-0.7
CBYP	**Canovanas**	**2.09**	**85**		Pn	05 31 33.0	-0.4
CBYP					Sn	05 31 58.3	-0.7
HUMP	**Col San Antoni**	**2.09**	**88**	*eP*	Pn	05 31 32.9	-0.5
HUMP	**Col San Antoni**	**2.09**	**88**	*eP*	Pn	05 31 32.9

	SNR=12							
IMEH	**Mehriz**	**4.49**	**346**	*e*Pn		**Pn**	**05 53 19.5**	**+2.0**
IKAZ	**Kazeroun**	**4.49**	**309**	*e*Pn		**Pn**	**05 53 16.3**	**-1.3**
IKAZ					IAMB	IAmb	05 54 09.2	
	comp=Z,651nm,0.2s							
IBAF	**Bafgh**	**4.56**	**357**	*e*Pn		**Pn**	**05 53 20.5**	**+2.1**
ISAD	**Sadrabad**	**5.24**	**339**	*e*Pn		**Pn**	**05 53 29.9**	**+2.1**
KLNJ	**Kolanjah**	**5.46**	**318**	*e*Pn		**Pn**	**05 53 30.5**	**-0.5**
IRAM	**Ramesheh**	**5.66**	**328**	*e*Pn		**Pn**	**05 53 34.1**	**+0.5**
IZEF	**Zefreh**	**6.61**	**333**	*e*Pn		**Pn**	**05 53 46.1**	**-0.6**
IKLH	**Kolahrood**	**7.29**	**330**	*e*Pn		**Pn**	**05 53 55.5**	**-0.6**

IDC ***25*** *05:55:52.4±6.0,26°.72N×55°.99E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/54, mbtmp4.0/4, Error ellipse: s-maj=121.1km s-min=47.0km az=116.0*

OMAN ***25*** *05:55:54.9±1.2,27°.19N×55°.80E, h8km, Error ellipse: s-maj=26.4km s-min=10.2km az=79.0*

DSN ***25*** *05:55:56.9±0.5,27°.08N×55°.97E, h10km, ML3.6/8, Error ellipse: s-maj=12.3km s-min=2.8km az=69.0*

TEH ***25*** *05:55:59.5,26°.94N×55°.79E, h17km, ML3.4*

ISC 25 05:55:57.8±1.3, 27°.01N±0°.03×55°.90E±0°.05, h14km±10km, n48, σ1°68/54, mb3.9/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.46**	**32**	*e*Pg	**Pn**	**05 56 10.8**	**+0.7**
SHME	**Shamm**	**0.98**	**167**	*e*P	**Pg**	**05 56 16.4**	**-0.3**
	SNR=17						
SHME				S	**Sn**	**05 56 31.8**	**+1.0**
SHME	**Shamm**	**0.98**	**167**	*e*Pn	**Pg**	**05 56 16.6**	**-0.1**
NIAN	**Nian**	**1.00**	**56**	*e*Pg	Pn	05 56 22.1	+4.8
NIAN				IAMB	IAmb	05 56 48.6	
	comp=Z,0.0nm,0.6s						
BANOM	**Banah**	**1.14**	**162**	*e*P	**Pg**	**05 56 19.7**	**0.0**
	SNR=29						
BANOM				S	**Sn**	**05 56 36.2**	**+1.5**
BANOM	**Banah**	**1.14**	**162**	P	**Pg**	**05 56 19.8**	**+0.1**
	SNR=183						
BANOM				S	**Sn**	**05 56 36.6**	**+1.9**
UMQ	**Umm Al-Quwin**	**1.49**	**188**	P	**Pn**	**05 56 25.0**	**+0.9**
UMQ	**Umm Al-Quwin**	**1.49**	**188**	P	**Pn**	**05 56 25.2**	**+1.1**
UMQ				S	**Sb**	**05 56 46.7**	**+2.7**
UMQ	**Umm Al-Quwin**	**1.49**	**188**	*e*Pn	**Pn**	**05 56 25.2**	**+1.1**
MSFE	**Esma-Masafi**	**1.66**	**172**	*e*P	**Pn**	**05 56 27.4**	**+0.9**
	SNR=12						
MSFE	**Esma-Masafi**	**1.66**	**172**	*e*Pn	**Pn**	**05 56 27.4**	**+0.9**
MDH	**Madha**	**1.74**	**168**	*e*P	**Pn**	**05 56 28.2**	**+0.7**
	SNR=25						
MDH	**Madha**	**1.74**	**168**	P	**Pn**	**05 56 28.4**	**+0.9**
	SNR=7.7						
MDH				S	**Sg**	**05 56 54.3**	**+0.5**
MDH	**Madha**	**1.74**	**168**	*e*Pn	**Pn**	**05 56 28.3**	**+0.7**
KHNJ	**Kahnooj**	**1.86**	**59**	*e*Pn	**Pg**	**05 56 34.5**	**+1.1**
NAZ	**Nazwa, Dubai**	**2.02**	**186**	P	**Pn**	**05 56 32.0**	**+0.6**
NAZ	**Nazwa, Dubai**	**2.02**	**186**	P	**Pn**	**05 56 31.3**	**-0.2**
NAZ	**Nazwa, Dubai**	**2.02**	**186**	*e*Pn	**Pn**	**05 56 32.2**	**+0.8**
HATD	**Hatta, Dubai**	**2.18**	**174**	P	**Pn**	**05 56 34.4**	**+0.7**
HATD	**Hatta, Dubai**	**2.18**	**174**	P	**Pn**	**05 56 34.7**	**+1.1**
HATD	**Hatta, Dubai**	**2.18**	**174**	*e*Pn	**Pn**	**05 56 35.4**	**+1.7**
FAQ	**Al Faqa, Dubai**	**2.27**	**187**	P	**Pn**	**05 56 35.8**	**+0.9**
FAQ				S	**Sb**	**05 57 09.3**	**+2.9**
FAQ	**Al Faqa, Dubai**	**2.27**	**187**	*e*Pn	**Pn**	**05 56 36.1**	**+1.3**
ASHO	**Ashiyiah**	**2.32**	**176**	*e*P	**Pn**	**05 56 36.5**	**+1.0**
	SNR=16						
ASHO	**Ashiyiah**	**2.32**	**176**	P	**Pn**	**05 56 36.4**	**+0.9**
	SNR=19						
ASHO				S	**Sg**	**05 57 12.9**	**+0.5**
ASHO	**Ashiyiah**	**2.32**	**176**	*e*Pn	**Pn**	**05 56 36.4**	**+0.9**
ASD	**Al Ashush, Dub**	**2.43**	**192**	P	**Pn**	**05 56 37.9**	**+0.9**
ASUD	**Al Ashush, Dub**	**2.43**	**192**	*e*Pn	**Pn**	**05 56 38.6**	**+1.6**
LMD1	**Lamerd**	**2.46**	**278**	*e*Pn	**Pn**	**05 56 39.9**	**+2.4**
LMD1				IAMB	IAmb	05 58 01.1	
	comp=Z,0.0nm,0.2s						
JHRM	**Jahrom**	**2.54**	**306**	*e*Pn	**Pb**	**05 56 41.1**	**-2.1**
JHRM				IAMB	IAmb	05 57 28.9	
	comp=Z,0.0nm,0.5s						
NGRK	**Negar Kerman**	**2.73**	**15**	*e*Pn	**Pb**	**05 56 45.0**	**-1.5**
NGRK				IAMB	IAmb	05 57 25.4	
	comp=Z,0.0nm,0.2s						
SOHO	**SOHO**	**2.92**	**169**	P	**Pn**	**05 56 45.4**	**+1.7**
CHMN	**Cheshme madani**	**3.19**	**27**	*e*Pn	**Pb**	**05 56 51.9**	**-2.5**
CHMN				IAMB	IAmb	05 56 58.8	
	comp=Z,0.0nm,0.4s						
KHGB	**Koh Gabri**	**3.39**	**8**	*e*Pn	**Pb**	**05 56 54.7**	**-3.1**
KHGB				IAMB	IAmb	05 57 45.9	
	comp=Z,0.0nm,0.6s						
ISRV	**Sarvestan**	**3.41**	**315**	*e*Pn	**Pn**	**05 56 53.2**	**+2.4**
ISRV				IAMB	IAmb	05 57 54.7	
	comp=Z,468nm,0.6s						
ARQ	**Araqi**	**3.70**	**171**	P	**Pn**	**05 56 54.8**	**+0.3**
	SNR=14						
SMDO	**Samad**	**4.39**	**153**	P	**Pn**	**05 57 07.2**	**+3.1**
BSY	**Bisya**	**4.41**	**164**	P	**Pn**	**05 57 05.4**	**+1.2**
WSAR	**Wadi Sarin**	**4.50**	**146**	P	**Pn**	**05 57 07.2**	**+1.7**
IMEH	**Mehriz**	**4.51**	**346**	*e*Pn	**Pn**	**05 57 08.9**	**+3.1**
IKAZ	**Kazeroun**	**4.52**	**309**	IAMB	IAmb	05 57 56.7	
	comp=Z,378nm,0.4s						
IKAZ				*e*Pn	**Pn**	**05 57 08.4**	**+2.3**
IBAF	**Bafgh**	**4.58**	**356**	*e*Pn	**Pn**	**05 57 09.8**	**+3.1**
ISAD	**Sadrabad**	**5.26**	**339**	*e*Pn	**Pn**	**05 57 19.0**	**+2.9**
IRAM	**Ramesheh**	**5.68**	**328**	*e*Pn	**Pn**	**05 57 23.2**	**+1.2**
BRTR	**Keskin Array B**	**22.43**	**310**	P	**P**	**06 00 55.8**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=125,slow=12,SNR=6.0						
FINES	**FINESS Array B**	**39.82**	**338**	P	**P**	**06 03 29.4**	**-0.8**
	comp=Z,3.3nm,0.9s,baz=145,slow=10.0,SNR=8.2						
HFS	**Hagfors**	**43.80**	**331**	P	**P**	**06 04 01.7**	**-1.1**
	comp=Z,7.9nm,1.0s,baz=127,slow=9.3,SNR=7.6						
TORD	**Torodi Ar. Bea**	**52.38**	**266**	P	**P**	**06 05 07.0**	**-2.8**
	comp=Z,0.6nm,0.6s,baz=65,slow=8.0,SNR=6.3						

BJI ***25*** *05:57:19.5±0.0,3°.79N×95°.65E, h6km, mb4.5/5, mB5.0/5, Ms4.3/1*

ISCJB ***25*** *05:57:22.7±0.5,3°.50N±0°.05×95°.25E±0°.04, h35km, mb4.1/13, Error ellipse: s-maj=8.1km s-min=4.2km az=36.7*

IDC ***25*** *05:57:26.8±4.6,3°.67N×95°.45E, h53km±37km, mb3.8/12, mb1 3.9/14, mb1mx3.6/52, mbtmp4.1/14, ML4.0/2, MS3.5/6, Ms1 3.5/6, ms1mx3.2/36, Error ellipse: s-maj=38.7km s-min=15.0km az=56.0*

NEIC ***25*** *05:57:26.2±1.3,3°.63N±0°.08×95°.38E±0°.10, h51km±8km, mb4.0/6*

DJA ***25*** *05:57:26.8±0.8,4°.N±3°×9°.5E±°, h58km±14km, M4.4/10, mb4.7/3, MLv4.2/10*

ISC 25 05:57:24.1±0.6, 3°.52N±0°.05×95°.27E±0°.07, h35km, n51, σ1°07/50, mb4.1/17, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**1.35**	**57**	P	**Pn**	**05 57 46.3**	**-0.2**
MLSI				S	**Sn**	**05 58 04.4**	**+1.2**
SNSI	**Sinabang, Aceh**	**1.53**	**136**	P	**Pn**	**05 57 49.4**	**+0.5**
SNSI				S	**Sn**	**05 58 08.3**	**+0.7**
TPTI		**1.92**	**98**	P	**Pn**	**05 57 54.0**	**-0.4**
TPTI				S	**Sn**	**05 58 17.3**	**0.0**
LHMI	**Lhok Sumawe**	**2.38**	**45**	P	**Pn**	**05 58 02.3**	**+1.7**
LHMI	**Lhok Sumawe**	**2.38**	**45**	Pn	**Pn**	**05 58 01.6**	**+1.0**
KCSI	**Kotacane, Aceh**	**2.50**	**90**	P	**Pn**	**05 58 04.4**	**+2.1**
GSI	**Gunungsitoli**	**3.19**	**134**	P	**Pn**	**05 58 12.6**	**+0.8**
GSI	**Gunungsitoli**	**3.19**	**134**		**Pn**	**05 58 12.9**	**+1.1**
PSI	**Prapat**	**3.72**	**101**	P	**Pn**	**05 58 21.0**	**+1.8**
	5.6nm,0.3s,baz=309,slow=9.1,SNR=21						
PSI				S	**Sn**	**05 59 01.8**	**-0.1**
	4.5nm,0.3s,baz=296,slow=14,SNR=4.0						
PSI				LR	LR	06 00 03.8	
	comp=Z,364nm,20.6s,baz=234,slow=44						
RPSI	**Rantau Prapat**	**3.74**	**103**		**Pn**	**05 58 21.3**	**+1.9**
RPSI	**Rantau Prapat**	**3.74**	**103**		**Pn**	**05 58 21.0**	**+1.7**
RPSI					**Sn**	**05 59 01.8**	**-0.4**
PBSI	**Pulau Batu**	**4.66**	**140**	P	**Pn**	**05 58 33.7**	**+1.7**
PKDT	**Phuket**	**5.30**	**35**	P	Pn	05 58 47.5	+6.6
KULM	**Kulim**	**5.64**	**72**		**Pn**	**05 58 45.8**	**+0.3**
IPM	**Ipoh**	**5.82**	**80**		**Pn**	**05 58 48.8**	**+0.8**
MDSI	**Maura Dua**	**11.94**	**132**	P	**Pn**	**06 00 11.1**	**-0.8**
PALK	**Pallekele**	**14.97**	**285**	LR	LR	06 05 20.7	
	comp=Z,61nm,22.0s,baz=107,slow=31						
UTTA	**Uttaradit**	**15.05**	**20**	P	**P**	**06 00 58.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**15.27**	**13**	P	**Pn**	**06 00 58.6**	**+1.4**
	0.4nm,0.3s,baz=207,slow=12,SNR=28						
CMAR				LR	LR	06 07 02.1	
	comp=Z,75nm,18.8s,baz=190,slow=38						
ODAN	**Odare**	**24.40**	**343**	*e*P	**P**	**06 02 40.8**	**+1.2**
	13nm,0.8s						
RAMN	**Ramite**	**24.73**	**341**	*e*P	**P**	**06 02 44.3**	**+1.7**
	12nm,0.7s						
TAPN	**Taplejung**	**24.77**	**344**	*e*P	**P**	**06 02 44.1**	**+1.0**
	12nm,0.8s						
H08S2	**Diego Garcia H**	**25.29**	**244**	T	T	06 28 48.5	
	baz=64,slow=76,SNR=246						
H08S3	**Diego Garcia H**	**25.29**	**244**	T	T	06 29 02.9	
	baz=64,slow=76,SNR=289						
H08S1	**Diego Garcia H**	**25.31**	**244**	T	T	06 28 45.5	
	baz=64,slow=76,SNR=178						
JIRN	**Jiri**	**25.52**	**341**	*e*P	**P**	**06 02 51.0**	**+1.1**
	27nm,0.7s						
GUN	**Gumba**	**25.85**	**341**	*e*P	**P**	**06 02 53.9**	**+1.0**
	14nm,0.7s						
KOLN	**Koldanda**	**26.56**	**336**	*e*P	**P**	**06 03 00.4**	**+1.2**
	14nm,0.7s						
DANN	**Dangsing**	**27.02**	**337**	*e*P	**P**	**06 03 04.1**	**+0.7**
	12nm,0.7s						
XAN	**Xi'an**	**32.92**	**21**	P	**P**	**06 03 53.0**	**-2.3**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,52nm,6.0s						
SIJI	**Sorong**	**36.24**	**96**	P	**P**	**06 04 23.3**	**-0.9**
	11nm,0.8s,baz=305,slow=12,SNR=4.4						
FAKI	**Fak Fak**	**37.51**	**99**	P	**P**	**06 04 34.5**	**-0.6**
MK31	**Makanchi Array**	**44.55**	**347**	P	**P**	**06 05 32.8**	**+0.2**
MK31				IAmb	IAmb	06 05 33.4	
	comp=Z,1.6nm,0.8s						
MKAR	**Makanchi Array**	**44.55**	**347**	P	**P**	**06 05 32.2**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=162,slow=8.2,SNR=16						
WRA	**Warramunga Arr**	**44.90**	**123**	P	**P**	**06 05 36.0**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=301,slow=9.2,SNR=13						
KSRS	**Kores Array**	**45.11**	**37**	P	**P**	**06 05 36.4**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=216,slow=8.6,SNR=4.8						
KSRS				LR	LR	06 26 30.2	
	comp=Z,41nm,19.0s,baz=242,slow=39						
KKAR	**Karatay Array**	**45.14**	**334**	P	**P**	**06 05 37.9**	**+0.6**
KKAR				IAmb	IAmb	06 05 49.3	
	comp=Z,3.6nm,1.3s						
SONM	**Songino Array**	**45.17**	**11**	P	**P**	**06 05 36.3**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=190,slow=7.6,SNR=7.0						
SONM				PcP	**PcP**	**06 07 18.1**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=191,slow=3.1,SNR=5.7						
ASAR	**Alice Springs**	**46.33**	**128**	P	**P**	**06 05 47.0**	**0.0**
	comp=Z,0.5nm,0.5s,baz=298,slow=7.8,SNR=26						
ASAR				PcP	**PcP**	**06 07 22.7**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=312,slow=3.9,SNR=3.9						
KURK	**Kurchatov**	**49.08**	**346**	P	**P**	**06 06 07.8**	**0.0**
KURK				IAmb	IAmb	06 06 08.5	
	comp=Z,2.1nm,0.8s						
ZALV	**Zalesovo Beam**	**50.99**	**352**	P	**P**	**06 06 22.1**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=178,slow=7.6,SNR=22						
USRK	**Ussuriysk Ar.**	**51.84**	**33**	P	**P**	**06 06 27.0**	**-1.8**
	comp=Z,1.3nm,0.5s,baz=244,slow=7.9,SNR=3.0						
ABKAR	**Akbulak array**	**54.57**	**332**	IAmb	IAmb	06 07 02.2	
	comp=Z,1.7nm,0.9s						
KLR	**Kul'dur**	**55.09**	**28**	P	**P**	**06 06 52.2**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=259,slow=9.9,SNR=6.1						
STKA	**Stephens Creek**	**56.33**	**132**	P	**P**	**06 07 02.4**	**+0.5**
PETK	**Petropavlovsk-**	**70.90**	**34**	LR	LR	06 43 20.5	
	comp=Z,59nm,18.8s,baz=60,slow=39						
FINES	**FINESS Array B**	**77.06**	**333**	P	**P**	**06 09 13.1**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=114,slow=8.5,SNR=4.8						
ARCES	**ARCESS Array B**	**79.71**	**340**	P	**P**	**06 09 28.1**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=330,slow=1.7,SNR=4.9						
GERES	**GERESS Array B**	**81.81**	**319**	P	**P**	**06 09 40.4**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=100,slow=5.1,SNR=3.8						
ESDC	**Sonseca Array**	**94.86**	**310**	LR	LR	06 57 41.8	
	comp=Z,119nm,18.6s,baz=10.0,slow=38						
TXAR	**Lajitas Array**	**142.62**	**28**	PKP	**PKPdf**	**06 16 53.7**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=11,slow=0.9,SNR=3.3						

NCEDC ***25*** *05:59:31.1±1.2,38°.78N±0°.02×122°.71W±0°.03, h3km±7km, ML2.8*

NEIC 25 05:59:31.6±3.6, 38°.77N±0°.02×122°.61W±0°.03, h6km±3km, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBGM	**Boggs Mountain**	**0.07**	**312**		Pg	05 59 32.5	-0.8
GCRM	**Castle Rock Sp**	**0.08**	**275**		Pg	05 59 31.7	-1.8
NHSM	**Mount Saint He**	**0.11**	**181**		Pg	05 59 34.2	+0.3
GAXM	**Alexander Vall**	**0.12**	**244**		Pg	05 59 32.8	-1.4
GSGM	**Seigler Mounta**	**0.13**	**322**		Pg	05 59 33.7	-0.5
NMTM	**Middletown**	**0.14**	**73**		Pg	05 59 35.5	+1.2
GDXM	**Geysers**	**0.15**	**286**		Pg	05 59 32.8	-1.8
MNRC	**McLaughlin Min**	**0.17**	**49**		Pg	05 59 36.4	+1.3
MAC	**Mark West Spri**	**0.23**	**202**		Pg	05 59 36.0	-0.1
GMKM	**Mount Konoctai**	**0.24**	**326**		Pg	05 59 35.8	-0.6
NSHM	**Saint Helena R**	**0.25**	**179**		Pg	05 59 36.6	+0.3
NMCNC	**Mill Creek, So**	**0.29**	**234**		Pg	05 59 36.4	-0.9
GCVM	**Cloverdale**	**0.32**	**271**		Pg	05 59 36.4	-1.3
GSSM	**Skaggs Springs**	**0.32**	**259**		Pg	05 59 36.6	-1.2
NBPM	**Berryessa Peak**	**0.34**	**107**		Pb	05 59 40.4	+0.3
NTYM	**Taylor**	**0.38**	**186**		Pg	05 59 39.1	+0.3
GBMM	**Baldy Mountain**	**0.39**	**14**		Pb	05 59 41.5	+0.6
GHM	**Highland Sprin**	**0.42**	**311**		Pg	05 59 38.6	-1.1
HOPS	**Hopland Field**	**0.43**	**302**		Pg	05 59 38.8	-1.0
CVS	**Carmenet Viney**	**0.44**	**164**		Pg	05 59 40.6	+0.6
CVS					Sb	05 59 47.3	-1.2
GHCM	**House Creek**	**0.49**	**251**		Pg	05 59 39.9	-1.0
GSNM	**Snow Mountain**	**0.49**	**291**		Pg	05 59 39.9	-1.0
FTR	**Fort Ross**	**0.49**	**241**		Pg	05 59 40.2	-0.8
GTSM	**Trough Springs**	**0.55**	**1**		Pg	05 59 42.5	+0.4
NDHM	**Dunnigan Hills**	**0.55**	**90**		Pn	05 59 45.0	-0.9
NGVM		**0.58**	**147**		Pb	05 59 44.2	+0.1
NADM	**Allendale**	**0.59**	**121**		Pn	05 59 45.7	-0.8
GFC	**Funks Creek**	**0.61**	**24**		Pn	05 59 46.1	-0.8
MCCM	**Marconi Confer**	**0.66**	**199**		Pg	05 59 44.3	+0.2
GGUM	**Gualala**	**0.70**	**278**		Pg	05 59 43.8	-1.2
NOLM	**Olema**	**0.74**	**191**		Pg	05 59 45.8	+0.1
NLHM	**Lake Herman**	**0.74**	**150**		Pb	05 59 46.6	-0.2
GHMM	**Hull Mountain**	**0.77**	**341**		Pg	05 59 46.9	+0.6
GHOM	**Hamilton Openi**	**0.78**	**291**		Pg	05 59 45.5	-0.9
SUTB	**Sutter Butte**	**0.79**	**54**		Pg	05 59 46.9	+0.1
CPMM	**Point Molate**	**0.83**	**169**		Pg	05 59 47.7	+0.2
NPRM	**Point Reyes**	**0.83**	**203**		Pg	05 59 47.1	-0.4
CPIM	**Pinole Ridge**	**0.84**	**158**		Pb	05 59 48.3	-0.2
CSPM	**San Pablo Ridg**	**0.84**	**164**		Pb	05 59 48.4	-0.2
HMR	**Hamilton Ranch**	**0.88**	**134**		Pn	05 59 50.0	-0.6
GASB	**Alder Springs**	**0.89**	**355**		Pb	05 59 49.3	-0.3
GNAM	**Navarro Ridge**	**0.90**	**299**		Pg	05 59 48.3	-0.6
KRKM	**Rackout Spring**	**0.91**	**331**		Pg	05 59 49.5	+0.4
BRIB	**Briones**	**0.92**	**157**		Pg	05 59 49.4	+0.1
CVPM	**Vollmer Peak**	**0.93**	**161**		Pg	05 59 49.2	-0.2
VAK	**Adit at Lawren**	**0.93**	**162**		Pb	05 59 50.0	-0.1
BL67	**Building 67, L**	**0.93**	**162**		Pb	05 59 50.5	+0.3
BRK	**Berkeley--Havi**	**0.93**	**163**		Pb	05 59 50.0	-0.2
BKS	**Berkeley--Byer**	**0.94**	**161**		Pg	05 59 49.1	-0.4
GTC	**Three Chop Rid**	**0.97**	**311**		Pg	05 59 49.2	-1.0
CYBM	**Yerba Buena Is**	**0.97**	**168**		Pg	05 59 50.4	+0.2
JPRM	**Presidio of Sa**	**0.98**	**174**		Pg	05 59 50.3	0.0
BDM	**Black Diamond**	**1.00**	**144**		Pb	05 59 51.4	0.0
GVV	**Valley View**	**1.01**	**357**		Pn	05 59 52.3	-0.2
CRPB	**Russellman Par**	**1.02**	**147**		Pg	05 59 51.2	+0.1
CRHM	**Round Hill Res**	**1.03**	**152**		Pg	05 59 51.5	+0.2
OHCM	**Honcut**	**1.05**	**57**		Pg	05 59 50.6	-1.1
KFPM	**Farley Peak**	**1.08**	**324**		Pg	05 59 52.1	-0.1
PAM	**Palermo**	**1.09**	**51**		Pg	05 59 51.3	-1.1
JSBM	**San Bruno Moun**	**1.10**	**171**		Pg	05 59 52.4	-0.2
FARB	**Farallon Islan**	**1.11**	**196**		Pg	05 59 51.5	-1.3
JMGM	**Milagra Ridge**	**1.13**	**174**		Pg	05 59 53.0	-0.3
CMOB	**Morgan Territo**	**1.15**	**146**		Pg	05 59 53.3	-0.2
ORV	**Oroville**	**1.17**	**47**		Pg	05 59 52.9	-1.1
ORV	**Oroville**	**1.17**	**47**	Pg	Pg	05 59 52.5	-1.5
KCPM	**Cahto Peak**	**1.19**	**321**		Pg	05 59 54.3	0.0
SAC	**San Andreas**	**1.19**	**173**		Pg	05 59 53.3	-1.1
JCPM	**Coyote Point**	**1.20**	**169**		Pg	05 59 54.1	-0.4
KBNM	**Bluenose Ridge**	**1.21**	**338**		Pg	05 59 54.7	-0.2
CBSNC	**Byron Hot Spri**	**1.22**	**141**		Pg	05 59 54.1	-0.8
AASM	**Arroyo Seco**	**1.22**	**105**		Pg	05 59 53.7	-1.4
KIPM	**Iron Peak**	**1.24**	**327**		Pg	05 59 55.1	-0.2
JCHM	**Cahill Ridge**	**1.26**	**171**		Pg	05 59 54.1	-1.7
CNIC	**Niles Canyon**	**1.26**	**156**		Pg	05 59 54.3	-1.5
OXMT	**Ox Mountain**	**1.27**	**173**		Pn	05 59 54.0	-1.9
CVLM	**Vallecito**	**1.29**	**152**		Pn	05 59 55.5	-0.6
AFDM	**Forest Hills D**	**1.29**	**81**		Pn	05 59 54.6	-1.6
MGL	**Magalia**	**1.33**	**38**		Pn	05 59 54.9	-1.9
JHPM	**Huddart Park**	**1.34**	**169**		Pn	05 59 55.2	-1.7
CMJM	**Mission San Jo**	**1.37**	**155**		Pn	05 59 56.0	-1.3
KBSM	**Bell Springs**	**1.38**	**327**		Pg	05 59 59.1	+1.1
JRSC	**Jasper Ridge**	**1.39**	**168**		Pn	05 59 55.6	-2.0
O02D	**Mt. Diablo Mer**	**1.42**	**354**		Pg	05 59 59.0	+0.3
JFP	**Foothills Park**	**1.44**	**167**		Pn	05 59 56.4	-1.9
CALM	**Calaveras Res.**	**1.46**	**154**		Pn	05 59 57.5	-1.0
JPC	**Peters Creek,**	**1.53**	**168**		Pn	05 59 58.0	-1.4
MNHB	**New Hogan Dam**	**1.54**	**113**		Pn	05 59 58.7	-0.9
JSGM	**Saratoga Golf**	**1.55**	**163**		Pn	05 59 58.2	-1.5
CMMM	**Mount Mocho**	**1.58**	**146**		Pn	05 59 59.6	-0.6
JPSM		**1.58**	**172**		Pn	05 59 58.9	-1.2
MHC	**Mount Hamilton**	**1.61**	**151**		Pn	06 00 00.1	-0.6
O03E	**Paynes Creek**	**1.65**	**22**		Pn	06 00 00.1	-1.1
ARN	**Arnold Ranch**	**1.65**	**149**		Pn	06 00 00.4	-0.8
JBNB	**Ben Lomond Mou**	**1.68**	**168**		Pn	05 59 59.6	-2.0
JSTM	**Santa Teresa H**	**1.69**	**157**		Pn	06 00 00.1	-1.4
JUMM	**Mount Umunhum**	**1.70**	**160**		Pn	06 00 00.4	-1.5
AMC	**Almaden**	**1.71**	**159**		Pn	06 00 00.3	-1.7
JLAB	**Laurel Hill**	**1.75**	**156**		Pn	06 00 01.1	-1.4
MCUB	**Copperopolis B**	**1.75**	**116**		Pn	06 00 02.0	-0.5
WDC	**Whiskeytown Da**	**1.81**	**2**		Pn	06 00 02.7	-0.7
HSPM	**Sheep**	**1.86**	**152**		Pn	06 00 03.4	-0.7
DONR	**Donner Summit**	**1.88**	**71**		Pn	06 00 04.9	+0.5
CMB	**Columbia Colle**	**1.89**	**112**		Pn	06 00 04.7	+0.2
LRDM	**Redding Peak**	**1.91**	**27**		Pn	06 00 04.2	-0.7
RUBR	**Rubicon Trail**	**1.94**	**81**		Pn	06 00 06.6	-0.8
HPCM	**Pacheco Lake**	**2.00**	**148**		Pn	06 00 05.4	-0.7
SLD	**San Luis Dam**	**2.02**	**147**		Pn	06 00 06.4	+0.3
LOY	**Loyalton**	**2.05**	**63**		Pn	06 00 07.8	+1.1
SFJWR	**San Luis Fatjo**	**2.06**	**146**		Pn	06 00 06.5	-0.3
BEKR	**Beckworth**	**2.06**	**57**		Pn	06 00 08.1	+1.1
BABR	**Babbit Peak**	**2.12**	**66**		Pn	06 00 09.1	+1.3
GNO	**Genoa**	**2.16**	**85**		Pb	06 00 09.8	-1.4
FRP	**Fremont Peak**	**2.20**	**156**		Pn	06 00 06.7	-2.0
SAO	**San Andreas Ge**	**2.20**	**155**		Pn	06 00 07.4	-1.3
MYLM	**Yosemite Lake**	**2.21**	**128**		Pn	06 00 09.0	+0.2
PEAR	**Peavine Mounta**	**2.22**	**67**		Pn	06 00 10.3	+1.0
BVYM	**Vineyard**	**2.23**	**154**		Pn	06 00 07.6	-1.5
BSRM	**Salinas Radio**	**2.27**	**157**		Pn	06 00 07.9	-1.7
LBCM	**Butte Creek Ri**	**2.29**	**25**		Pn	06 00 10.2	+0.2
BCGM	**Cienega Road**	**2.29**	**154**		Pn	06 00 09.8	-0.1
BPCNC	**Pine Canyon**	**2.32**	**160**		Pn	06 00 08.8	-1.6

CD2					Sg	Sg	06 30 00.1	+0.4	
CD2					smax	smax			
	comp=N,4μm,0.7s								
CD2					smax	smax			
	comp=E,9μm,0.6s								
XAN	**Xi'an**	**3.75**	**59**		Pn	**Pn**	06 30 03.6	+0.2	
XAN					Pg	**Pb**	06 30 14.1	+2.2	
XAN					Sn	**Sn**	06 30 50.3	+3.0	
XAN					Sg	**Sb**	06 30 59.8	+2.6	
XAN					smax	smax			
	comp=N,430nm,1.0s								
XAN					smax	smax			
	comp=E,510nm,0.8s								
XAN					LR	LR			
	comp=N,500nm,4.3s								
XAN					LR	LR			
	comp=E,850nm,4.9s								
XAN					LR	LR			
	comp=E,600nm,7.3s								
XAN	**Xi'an**	**3.75**	**59**			**Pn**	06 30 03.9	+0.5	
LZH	**Lanzhou**	**4.03**	**346**	⇑	Pn	**Pn**	06 30 08.6	+1.3	
LZH					Pg	**Pb**	06 30 17.9	+1.2	
LZH					Sg	**Sb**	06 31 07.0	+1.7	
LZH					smax	smax			
	comp=N,340nm,0.9s								
LZH					smax	smax			
	comp=E,720nm,0.9s								
LZH					LR	LR			
	comp=N,1μm,5.2s								
LZH					LR	LR			
	comp=E,940nm,5.2s								
LZH					LR	LR			
	comp=Z,610nm,6.8s								
ENH	**Enshi**	**4.25**	**115**		Pn	**Pn**	06 30 09.7	-0.6	
GYA	**Guiyang**	**5.87**	**166**	*e*	Pn	**Pn**	06 30 32.4	-0.2	
GYA					Pg	**Pb**	06 30 47.4	-0.7	
GYA					Sn	**Sn**	06 31 40.6	+0.8	
GYA					smax	smax			
	comp=N,200nm,0.7s								
GYA					smax	smax			
	comp=E,180nm,0.7s								
GYA					LR	LR			
	comp=N,270nm,5.5s								
GYA					LR	LR			
	comp=E,220nm,6.2s								
GYA					LR	LR			
	comp=Z,340nm,6.4s								
WHN	**Wuhan**	**8.12**	**99**	⇓	P	**Pn**	06 31 01.3	-2.1	
WHN					S	**Sn**	06 32 32.5	-2.5	
WHN					LR	LR			
	comp=N,1μm,3.0s								
WHN					LR	LR			
	comp=E,450nm,4.6s								
WHN					LR	LR			
	comp=Z,1μm,4.6s								
GTA	**Gaotai**	**8.38**	**331**	*e*	P	**Pn**	06 31 06.3	-0.7	
GTA					pP	Pb	06 31 10.6	-20	
GTA					sP	Pg	06 31 13.3	-33	
GTA					smax	smax			
	comp=Z,9.0nm,1.2s								
GTA					smax	smax			
	comp=Z,10.0nm,1.1s								
BTO	**Baotou**	**9.32**	**24**	*e*	Pg	Pn	06 31 35.0	+15	
BTO					Sg	**Sn**	**06 33 02.5**	**-2.1**	
CMAR	**Chiang Mai Arr**	**14.72**	**203**		Pn	**Pn**	**06 32 35.4**	**+1.5**	
	baz=10,slow=10,SNR=2.5								
CMAR					LR	LR	06 38 55.4		
	comp=Z,15nm,20.6s,baz=0.0,slow=40								
SONM	**Songino Array**	**15.68**	**3**		Pn	**Pn**	**06 32 45.7**	**-0.7**	
	baz=181,slow=18,SNR=5.6								
WMQ	**Urumqi**	**17.91**	**315**	*e*	P	**Pn**	**06 33 12.8**	**-1.8**	
KSRS	**Korea Array**	**19.49**	**68**		P	**P**	**06 33 33.0**	**+0.5**	
	comp=Z,0.2nm,0.3s,baz=252,slow=10,SNR=9.8								
MK31	**Makanchi Array**	**22.73**	**317**		P	**P**	**06 34 07.7**	**+0.3**	
MKAR	**Makanchi Array**	**22.73**	**317**		P	**P**	**06 34 07.1**	**-0.3**	
	comp=Z,1.7nm,0.8s,baz=108,slow=12,SNR=12								
BOOM	**Boomskoye usch**	**25.22**	**302**		P	**P**	**06 34 31.0**	**-0.4**	
BOOM					lAmb	lAmb	06 34 40.2		
	comp=Z,9.7nm,1.2s								
ZALV	**Zalesovo Beam**	**26.13**	**332**		P	**P**	**06 34 39.0**	**-0.3**	
	comp=Z,1.3nm,0.5s,baz=129,slow=12,SNR=4.7								
KLR	**Kul'dur**	**26.26**	**42**		P	**P**	**06 34 40.5**	**0.0**	
	comp=Z,1.9nm,0.8s,baz=266,slow=10,SNR=6.1								
KURBB	**Kurchatov Arra**	**26.89**	**321**		P	**P**	**06 34 46.5**	**+0.2**	
	comp=Z,2.2nm,0.9s,baz=129,slow=9.0,SNR=9.4								
ABKAR	**Akbulak array**	**37.58**	**310**		P	**P**	**06 36 20.3**	**+0.5**	
NRIK	**Noril'sk**	**38.51**	**350**		P	**P**	**06 36 27.4**	**0.0**	
	comp=Z,1.2nm,0.4s,baz=143,slow=8.1,SNR=5.6								
KNRA	**Kununurra**	**52.73**	**151**		P	**P**	**06 38 20.4**	**+0.1**	
ARCES	**ARCESS Array B**	**56.62**	**336**		P	**P**	**06 38 47.6**	**-0.3**	
	comp=Z,5.0nm,0.9s,baz=100,slow=8.3,SNR=3.7								
FINES	**FINESS Array B**	**57.13**	**326**		P	**P**	**06 38 50.6**	**-1.1**	
	comp=Z,3.6nm,1.0s,baz=46,slow=5.5,SNR=4.2								
WRA	**Warramunga Arr**	**58.93**	**147**		P	**P**	**06 39 05.0**	**+0.2**	
	comp=Z,2.6nm,0.6s,baz=341,slow=7.5,SNR=27								
WR0	**Warramunga Arr**	**59.04**	**147**		P	**P**	**06 39 05.9**	**+0.4**	
WR0					lAmb	lAmb	06 39 09.7		
	comp=Z,2.8nm,0.7s								
ASAR	**Alice Springs**	**62.00**	**150**		P	**P**	**06 39 25.9**	**+0.1**	
	comp=Z,1.8nm,0.8s,baz=330,slow=6.4,SNR=28								
TTA	**Tatalina**	**65.74**	**30**		P	**P**	**06 39 48.7**	**-1.3**	
TOLK	**Toolik Lake Re**	**65.75**	**23**		P	**P**	**06 39 49.3**	**-0.7**	
MLY	**Manley**	**66.96**	**27**		P	**P**	**06 39 57.6**	**-0.2**	
MLY					lAmb	lAmb	06 39 60.0		
	comp=Z,2.1nm,0.8s								
PPLA	**Purkeypile**	**67.34**	**29**		P	**P**	**06 40 00.2**	**-0.1**	
ILAR	**Eielson Array**	**68.53**	**26**		P	**P**	**06 40 06.0**	**-1.6**	
	comp=Z,0.1nm,0.4s,baz=286,slow=4.8,SNR=5.3								
SUA	**Susitna One**	**68.60**	**30**		P	**P**	**06 40 07.8**	**-0.4**	
SUA					lAmb	lAmb	06 40 14.0		
	comp=Z,11nm,1.2s								
PRP	**Porcupine Dome**	**68.64**	**25**		P	**P**	**06 40 08.2**	**-0.3**	
PRP					lAmb	lAmb	06 40 23.9		
	comp=Z,1.6nm,1.2s								
SCM	**Sheep Creek Mo**	**69.84**	**29**		P	**P**	**06 40 16.4**	**+0.6**	
SCRK	**Sand Creek**	**70.02**	**26**		P	**P**	**06 40 15.8**	**-1.2**	
SCRK					lAmb	lAmb	06 40 20.5		
	comp=Z,8.8nm,1.4s								
GLB	**Gilahina Butte**	**71.47**	**28**		P	**P**	**06 40 25.9**	**+0.1**	
GLB					lAmb	lAmb	06 40 35.6		
	comp=Z,17nm,1.4s								
DAWY	**Dawson**	**71.64**	**25**		P	**P**	**06 40 26.1**	**-0.7**	
DAWY					lAmb	lAmb	06 40 40.7		
	comp=Z,5.2nm,1.4s								
KMBO	**Kilima Mbogo**	**71.93**	**257**		LR	LR	07 11 52.6		
	comp=Z,44nm,19.0s,baz=96,slow=36								
YKA	**Yellowknife Ar**	**80.43**	**17**		P	**P**	**06 41 16.1**	**-0.7**	
	comp=Z,0.8nm,0.5s,baz=328,slow=5.1,SNR=27								
NVAR	**Mina Array Bea**	**98.99**	**33**		LR	LR	07 28 20.6		
	comp=Z,58nm,18.6s,baz=358,slow=36								

*IDC **25** 06:43:57.7±1.4,37.02S×179.34W,h0km,mb4.1/2, mb1 4.3/4,mb1mx3.9/25,mbtmp4.1/4,ML3.6/2,MS3.4/1, Ms1 3.4/1,ms1mx2.6/21,Error ellipse: s-maj=46.8km s-min=28.9km az=156.0*

*WEL **25** 06:44:01.0±0.9,37.5±9.1×17.9W±*, *h33km,M4.3/28, ML4.6/23,MLv4.3/28,Error ellipse: s-maj=0.0km s-min=0.0km az=146.3*

*NEIC **25** 06:44:04.0±2.4,37.5S±0.1×179.3W±0.1, h40km±10km, mb4.1/1,ML4.3(WEL)*

ISC 25 06:44:05.1±3.3,37.50S±0.08×179.3W±0.2,h58km±24km, n84,σ1s80/107,mb4.1/3,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**1.83**	**259**	P	**Pn**	**06 44 32.5**	**-1.8**
WMGZ				S	**Sn**	**06 44 58.0**	**+1.8**
MXZ	**Matakaoa Point**	**1.89**	**267**	P	**Pn**	**06 44 32.1**	**-2.9**
MXZ				S	**Sn**	**06 44 56.6**	**-1.1**
MXZ	**Matakaoa Point**	**1.89**	**267**		**Pn**	**06 44 32.7**	**-2.2**
MXZ					Sn	**Sn**	**06 44 56.0**	**-1.7**
PUZ	**Puketiti**	**2.00**	**253**	P	**Pn**	**06 44 35.1**	**-1.5**
PUZ				S	**Sn**	**06 45 02.2**	**+1.6**
PKGZ	**Pakihiroa**	**2.10**	**259**	P	**Pn**	**06 44 36.0**	**-1.9**
CNGZ	**Carnagh Statio**	**2.19**	**243**	P	**Pn**	**06 44 39.0**	**-0.1**
TWGZ	**Tauwhareparae**	**2.24**	**252**	P	**Pn**	**06 44 38.9**	**-0.9**
HAZ	**Te Kaha**	**2.32**	**263**	P	**Pn**	**06 44 39.3**	**-1.5**
RUGZ	**Raukumara Rang**	**2.43**	**258**	P	**Pn**	**06 44 41.6**	**-0.9**
TKGZ	**Te Karaka**	**2.43**	**246**	P	**Pn**	**06 44 41.3**	**-1.0**
RIGZ	**Rimuhau**	**2.60**	**242**	P	**Pn**	**06 44 44.1**	**-0.6**
PRGZ	**Paritu Road**	**2.62**	**236**	P	**Pn**	**06 44 45.0**	**0.0**
PRGZ				S	**Sn**	**06 45 17.1**	**+1.4**
MWZ	**Matawai**	**2.63**	**251**	P	**Pn**	**06 44 43.9**	**-1.2**
MHGZ	**Mahia Peninsul**	**2.74**	**232**	P	**Pn**	**06 44 45.9**	**-0.6**
RAGZ	**Rawiri**	**2.77**	**248**	P	**Pn**	**06 44 46.6**	**-0.4**
KNZ	**Kokohu**	**2.81**	**236**	P	**Pn**	**06 44 46.8**	**-0.8**
KNZ				S	**Sn**	**06 45 22.6**	**+2.3**
URZ	**Urewera**	**2.93**	**254**	Pn	**Pn**	**06 44 48.2**	**-0.9**
	7.9nm,0.3s,baz=340,slow=0.6,SNR=47						
URZ				Sn	**Sn**	**06 45 24.3**	**+1.3**
	48nm,0.3s,baz=300,slow=22,SNR=46						
URZ	**Urewera**	**2.93**	**254**		**Pn**	**06 44 48.2**	**-0.9**
URZ					**Sn**	**06 45 23.0**	**-0.1**
SNGZ	**Shannon Statio**	**2.93**	**243**	P	**Pn**	**06 44 48.8**	**-0.4**
SNGZ				S	**Sn**	**06 45 25.8**	**+2.6**
WHHZ	**Waihua**	**3.14**	**239**	P	**Pn**	**06 44 51.7**	**-0.3**
RAHZ	**Arahi**	**3.17**	**242**	P	**Pn**	**06 44 52.0**	**-0.5**
RAHZ				S	**Sn**	**06 45 31.3**	**+2.3**
MTHZ	**Maungataniwha**	**3.31**	**245**	P	**Pn**	**06 44 54.0**	**-0.5**
MTHZ				S	**Sn**	**06 45 34.9**	**+2.2**
ARHZ	**Aropaoanui**	**3.39**	**238**	P	**Pn**	**06 44 55.3**	**-0.2**
ARHZ				S	**Sn**	**06 45 38.1**	**+3.7**
CKHZ	**Cape Kidnapper**	**3.55**	**232**	P	**Pn**	**06 44 57.0**	**-0.7**
CKHZ				S	**Sn**	**06 45 41.6**	**+3.2**
MRHZ	**Matea Rd**	**3.62**	**247**	P	**Pn**	**06 44 58.1**	**-0.5**
MCHZ	**McNeill Hill**	**3.68**	**237**	P	**Pn**	**06 44 59.2**	**-0.2**
KAHZ	**Kahuranaki**	**3.76**	**231**	P	**Pn**	**06 44 59.9**	**-0.7**
KWHZ	**Kaweka Forest**	**3.86**	**239**	P	**Pn**	**06 45 01.0**	**-0.9**
PXZ	**Pawanui**	**3.91**	**229**	P	**Pn**	**06 45 01.1**	**-1.5**
KRHZ	**Kereru**	**4.00**	**236**	P	**Pn**	**06 45 03.0**	**-0.9**
KUZ	**Kuaotunu**	**4.04**	**279**	P	**Pn**	**06 44 59.9**	**-4.4**
BHHZ	**Black Hill Sta**	**4.13**	**240**	P	**Pn**	**06 45 04.8**	**-0.9**
PNHZ	**Pukenui**	**4.25**	**234**	P	**Pn**	**06 45 06.3**	**-1.0**
KRVZ	**Karewarewa**	**4.27**	**247**	P	**Pn**	**06 45 08.7**	**+1.0**
MOVZ	**Moawhango**	**4.31**	**242**	P	**Pn**	**06 45 08.0**	**-0.1**
WTVZ	**West Tongariro**	**4.32**	**247**	P	Pn	06 45 12.8	+4.5
TUVZ	**Tukino**	**4.33**	**244**	P	**Pn**	**06 45 09.0**	**+0.5**
NGZ	**Ngauruhoe**	**4.33**	**246**	P	**Pn**	**06 45 10.4**	**+1.9**
TWVZ	**Taurewa**	**4.41**	**248**	P	**Pn**	**06 45 05.0**	**-4.6**
TRVZ	**Turoa**	**4.42**	**244**	P	**Pn**	**06 45 10.6**	**+0.9**
TSZ	**Takapari Road**	**4.49**	**234**	P	**Pn**	**06 45 08.9**	**-1.6**
DVHZ	**Dannevirke**	**4.50**	**230**	P	**Pn**	**06 45 08.9**	**-1.8**
BFZ	**Birch Farm**	**4.69**	**226**	P	**Pn**	**06 45 10.6**	**-2.7**
BFZ	**Birch Farm**	**4.69**	**226**	Pn	**Pn**	**06 45 12.6**	**-0.7**
HIZ	**Hauiti**	**4.71**	**256**	P	**Pn**	**06 45 12.8**	**-0.8**
HIZ	**Hauiti**	**4.71**	**256**	Pn	**Pn**	**06 45 12.8**	**-0.8**
PRWZ	**Pori Road**	**4.77**	**229**	P	**Pn**	**06 45 13.5**	**-0.9**
POWZ	**Post Office Ro**	**4.80**	**231**	P	**Pn**	**06 45 14.1**	**-0.6**
MRZ	**Mangatainoka R**	**5.07**	**230**	P	**Pn**	**06 45 16.5**	**-2.1**
TMWZ	**Te Maipa**	**5.17**	**224**	P	**Pn**	**06 45 17.4**	**-2.6**
HOWZ	**Holdsworth Sta**	**5.25**	**228**	P	**Pn**	**06 45 18.9**	**-2.2**
MSWZ	**Moikau Station**	**5.74**	**225**	Pn	**Pn**	**06 45 24.2**	**-3.5**
MSWZ					**Sn**	**06 46 30.8**	**-1.4**
PLWZ	**Palliser**	**5.84**	**224**	Pn	**Pn**	**06 45 28.8**	**-0.3**
PLWZ					**Sn**	**06 46 33.6**	**-1.1**
BHW	**Baring Head**	**5.95**	**227**	Pn	**Pn**	**06 45 29.7**	**-0.8**
BHW					**Sn**	**06 46 36.8**	**-0.6**
SNZO	**South Karori**	**5.99**	**229**	Pn	**Pn**	**06 45 29.5**	**-1.6**
SNZO					**Sn**	**06 46 38.3**	**+0.1**
OUZ	**Omahuta**	**6.15**	**290**	Pn	**Pn**	**06 45 29.9**	**-3.5**
TUWZ	**Tuamarina**	**6.53**	**231**	Pn	**Pn**	**06 45 37.9**	**-0.5**
TUWZ					**Sn**	**06 46 51.6**	**+0.3**
CMWZ	**Cape Campbell**	**6.55**	**228**	Pn	**Pn**	**06 45 40.8**	**+2.0**
CMWZ					**Sn**	**06 46 54.0**	**+1.9**
BSWZ	**Blackbirch Sta**	**6.73**	**229**	Pn	**Pn**	**06 45 40.6**	**-0.7**
BSWZ					**Sn**	**06 46 56.8**	**+0.3**
NNZ	**Nelson**	**6.77**	**234**	Pn	**Pn**	**06 45 41.2**	**-0.5**
NNZ					**Sn**	**06 46 57.1**	**-0.2**
QRZ	**Quartz Range**	**7.15**	**240**	Pn	**Pn**	**06 45 46.6**	**-0.3**
QRZ					**Sn**	**06 47 04.3**	**-2.4**
THZ	**Tophouse**	**7.36**	**232**	Pn	**Pn**	**06 45 49.7**	**-0.1**
THZ					**Sn**	**06 47 12.4**	**+0.5**
KHZ	**Kahutara**	**7.36**	**226**	Pn	**Pn**	**06 45 48.9**	**-1.0**
KHZ					**Sn**	**06 47 09.7**	**-2.2**
LTZ	**Lake Taylor**	**8.32**	**228**	Pn	**Pn**	**06 46 01.6**	**-1.5**
LTZ					**Sn**	**06 47 32.9**	**-2.7**
MQZ	**McQueen's Vall**	**8.70**	**222**	Pn	**Pn**	**06 46 07.4**	**-0.7**
MQZ					**Sn**	**06 47 40.7**	**-3.9**
OXZ	**Oxford**	**8.79**	**226**	Pn	**Pn**	**06 46 10.2**	**+0.8**
OXZ					**Sn**	**06 47 44.1**	**-2.9**
RPZ	**Rata Peaks**	**9.60**	**227**	Pn	**Pn**	**06 46 21.8**	**+1.4**
	0.6nm,0.3s,baz=70,slow=3.1,SNR=2.5						
RPZ				Sn	**Sn**	**06 48 03.1**	**-3.6**
	2.7nm,0.3s,baz=152,slow=23,SNR=10						
RPZ	**Rata Peaks**	**9.60**	**227**		**Pn**	**06 46 21.3**	**+0.9**
FOZ	**Fox Glacier**	**10.23**	**231**	Pn	**Pn**	**06 46 29.1**	**0.0**
FOZ					**Sn**	**06 48 18.0**	**-4.1**
LBZ	**Lake Benmore**	**10.50**	**226**	Pn	**Pn**	**06 46 31.8**	**-0.9**
LBZ					**Sn**	**06 48 24.0**	**-4.8**
ODZ	**Otahua Downs**	**10.66**	**222**	Pn	**Pn**	**06 46 36.5**	**+1.5**
DZM	**Mont Dzumac**	**19.69**	**317**	LR	LR	06 54 12.9	
	comp=Z,103nm,20.2s,baz=186,slow=32						
AS31	**Alice Springs**	**42.15**	**275**	P	**P**	**06 51 54.1**	**+2.1**
AS31				lAmb	lAmb	06 52 01.9	
	comp=Z,2.2nm,0.6s						
ASAR	**Alice Springs**	**42.15**	**275**	P	**P**	**06 51 51.6**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=119,slow=7.9,SNR=26						
WRA	**Warramunga Arr**	**43.78**	**280**	P	**P**	**06 52 04.2**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=120,slow=7.7,SNR=11						
H10S2	**ASCENSION HYDR**	**131.61**	**160**	T	T	09 31 32.0	
	baz=16,slow=74,SNR=4.9						
H10S3	**ASCENSION HYDR**	**131.61**	**160**	T	T	09 31 31.6	
	baz=204,slow=74,SNR=4.0						
H10N3	**ASCENSION HYDR**	**32.71**	**159**	T	T	09 32 51.6	
	baz=203,slow=75,SNR=5.1						
H10N1	**ASCENSION HYDR**	**32.72**	**159**	T	T	09 32 52.8	
	baz=203,slow=75,SNR=4.9						
H10N2	**ASCENSION HYDR**	**32.73**	**159**	T	T	09 32 50.7	
	baz=203,slow=75,SNR=4.4						
ARCES	**ARCESS Array B**	**145.22**	**345**	PKP	**PKPbc**	**07 03 34.5**	**-0.2**
	comp=Z,5.7nm,0.9s,baz=350,slow=1.1,SNR=5.3						
FINES	**FINESS Array B**	**151.26**	**335**	PKPbc	**PKPbc**	**07 03 51.4**	**+0.4**
	comp=Z,3.4nm,0.9s,baz=20,slow=4.4,SNR=4.9						
BRTR	**Keskin Array B**	**154.23**	**285**	PKPbc	**PKPbc**	**07 03 58.9**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=90,slow=1.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**155.73**	**182**	PKPab	**PKPab**	**07 04 21.9**	**+2.7**
	comp=Z,1.0nm,0.7s,baz=180,slow=3.5,SNR=5.5						

*NIED **25** 07:01:00,34.70N×132.30E,h17km,Mw3.3 Best double couple: M0 9.69000×10^13 NP1:φs234.00000°,δ74.00000°, λ-174.00000°. NP2:φs143.00000°,δ85.00000°, λ-17.00000°.*

JMA 25 07:01:25.8,34.68N×132.30E,h22km,M3.6,4C-5D Broadband fault plane solution: P waves. NP1: φs327.00000°,δ86.00000°,λ29.00000°. **NP2:** φs235.00000°,δ61.00000°,λ175.00000°. **Principal axes:** T Plg23.0000°, Azm195.0000°; N Plg61.0000°, Azm335.0000°; P Plg17.0000°, Azm98.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHT	**Toyohira**	**0.10**	**100**	⇑	P	07 01 30.0	-1.2
JHT					S	07 01 32.8	2.1
JHIK	**Hikimi**	**0.34**	**244**	⇓	P	07 01 33.1	-0.1
JHIK					eS	07 01 38.1	-0.1
JGT2	**ShimaneMisato**	**0.42**	**24**	⇑	P	07 01 34.4	-0.1
JGT2					S	07 01 40.5	+0.1
JHM	**Kurahashi**	**0.57**	**161**	⇑	P	07 01 36.7	-0.5
JHM					S	07 01 44.6	-0.3
JJG	**Jouge**	**0.70**	**93**	⇓	P	07 01 39.0	-0.4
JJG					S	07 01 49.0	+0.3
JHS	**Saijyo**	**0.74**	**64**	⇓	P	07 01 39.7	-0.4
JHS					S	07 01 49.8	0.0
JISK	**Izumosakaura**	**0.93**	**29**	⇑	P	07 01 43.2	-0.1
JISK					S	07 01 56.0	-0.3
JHGM	**Hagimishima**	**0.96**	**276**	⇓	P	07 01 43.3	-0.4
JHGM					S	07 01 56.4	+0.4
JET	**Tanbara**	**1.09**	**145**	⇓	P	07 01 45.3	-0.5
JET					S	07 01 59.4	-0.4
JNA	**Nagahama**	**1.13**	**172**		P	07 01 46.0	-0.3
JNA					S	07 02 00.6	-0.3

*IDC **25** 07:06:60.0±0.6,60.32S×49.04W,h0km,mb4.4/15, mb1 4.5/16,mb1mx4.4/26,mbtmp4.4/16,ML3.9/1,MS3.6/11, Ms1 3.6/11,ms1mx3.5/22 Error ellipse: s-maj=21.8km s-min=14.2km az=63.0*

*ISCJB **25** 07:07:00.1±0.3,60.38S±0.05×49.1W±0.1,h10km, mb4.5/17,MS3.6/9,Error ellipse: s-maj=10.0km s-min=5.5km az=155.5*

*NEIC **25** 07:07:01.7±2.1,60.32S±0.08×49.0W±0.2,h10km±1km, mb4.7/21*

ISC 25 07:07:01.8±0.4,60.29S±0.06×49.05W±0.07,h10km,n144, σ1s20/136,mb4.6/23,MS3.5/9,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**8.26**	**231**	Pn	**Pn**	**07 09 01.2**	**-0.2**
	1.6nm,0.3s,baz=39,slow=8.1,SNR=5.5						
PMSA				LR	LR	07 11 57.9	
	comp=Z,420nm,20.0s,baz=131,slow=36						
PMSA	**Palmer Station**	**8.26**	**231**	Pn	**Pn**	**07 09 00.9**	**-0.5**
HOPE	**Hope Point**	**9.07**	**54**	Pn	**Pn**	**07 09 11.4**	**-1.2**
HOPE				Sn	**Sn**	**07 10 53.0**	**-1.6**
EFI	**East Falkland**	**9.99**	**326**	Pn	**Pn**	**07 09 26.2**	**+1.0**
EFI				Sn	**Sn**	**07 11 12.1**	**-5.2**
USHA	**Ushuaia**	**11.73**	**289**	LR	LR	07 13 22.3	
	comp=Z,491nm,20.1s,baz=150,slow=32						
VNA3	**Neumayer Olymp**	**19.08**	**141**	P	**P**	**07 11 24.4**	**+0.3**
VNA1	**Neumayer--Stat**	**19.40**	**139**	P	**Pn**	**07 11 28.5**	**0.0**
VNA2	**Neumayer--Watz**	**19.73**	**140**	P	**Pn**	**07 11 32.5**	**-0.1**
	baz=290,slow=12						
SNAA	**Sanae**	**21.31**	**141**	P	**P**	**07 11 49.0**	**+0.7**
SNAA	**Sanae**	**21.31**	**141**	P	**P**	**07 11 49.2**	**+0.9**
	15nm,1.0s,baz=271,slow=7.2,SNR=7.5						
SNAA	**Sanae**	**21.31**	**141**	P	**P**	**07 11 48.8**	**+0.5**
PLCA	**Paso Flores**	**23.68**	**316**	P	**P**	**07 12 13.3**	**-0.1**
	6.4nm,0.9s,baz=174,slow=9.1,SNR=9.9						
PLCA				LR	LR	07 21 14.4	
	comp=Z,131nm,19.3s,baz=198,slow=36						
PLCA	**Paso Flores**	**23.68**	**316**	*e*P	**P**	**07 12 13.7**	**+0.3**
PLCA	**Paso Flores**	**23.68**	**316**	*e*P	**P**	**07 12 13.7**	**+0.3**
PLCA	**Paso Flores**	**23.68**	**316**	P	**P**	**07 12 13.6**	**+0.3**
TRQA	**Tornquist**	**23.72**	**334**	*e*P	**P**	**07 12 15.3**	**+1.6**
TRQA	**Tornquist**	**23.72**	**334**	*e*P	**P**	**07 12 15.3**	**+1.6**
TRQA	**Tornquist**	**23.72**	**334**	P	**P**	**07 12 14.0**	**+0.3**
TRQA					lAmb	lAmb	07 12 16.0	
	comp=Z,26nm,1.1s						
PLTB	**Pedras Altas**	**28.69**	**352**	*e*P	**P**	**07 13 00.4**	**+1.7**
PLTB	**Pedras Altas**	**28.69**	**352**	*e*P	**P**	**07 13 00.4**	**+1.7**
QSPA	**South Pole Qui**	**29.95**	**180**	P	**P**	**07 13 10.7**	**+0.9**
	comp=Z,9.0nm,0.7s,baz=174,slow=2.9,SNR=47						
QSPA				LR	LR	07 24 13.4	
	comp=Z,68nm,21.5s,baz=154,slow=34						
QSPA	**South Pole Qui**	**29.95**	**180**	P	**P**	**07 13 10.7**	**+0.9**
QSPA				lAmb	lAmb	07 13 19.9	
	comp=Z,19nm,1.1s						
ROC1	**El Roble**	**30.90**	**322**	P	**P**	**07 13 19.3**	**+0.7**
CFA	**Coronel Fontan**	**31.39**	**327**	P	**P**	**07 13 22.8**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=171,slow=9.6,SNR=7.1						
GO04	**Tololo Observa**	**33.46**	**324**	P	**P**	**07 13 41.3**	**+0.3**
GO04				lAmb	lAmb	07 13 51.8	
	comp=Z,6.9nm,0.8s						
CPUP	**Villa Florida**	**34.42**	**347**	P	**P**	**07 13 50.4**	**+1.3**
	comp=Z,2.5nm,1.0s,baz=170,slow=6.1,SNR=4.8						
CPUP				PcP	**PcP**	**07 16 23.7**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=102,slow=2.6,SNR=3.4						
CPUP				LR	LR	07 26 48.2	
	comp=Z,107nm,21.6s,baz=175,slow=34						
CPUP	**Villa Florida**	**34.42**	**347**	*e*P	**P**	**07 13 50.7**	**+1.6**
CPUP	**Villa Florida**	**34.42**	**347**	*e*P	**P**	**07 13 50.7**	**+1.6**
CPUP	**Villa Florida**	**34.42**	**347**	P	**P**	**07 13 49.9**	**+0.8**
PTGB	**Pitanga**	**35.62**	**355**	*e*P	**P**	**07 14 01.0**	**+1.5**
PTGB	**Pitanga**	**35.62**	**355**	*e*P	**P**	**07 14 01.0**	**+1.5**
SPB	**Sao Paulo**	**36.69**	**2**	*e*P	**P**	**07 14 10.1**	**+1.5**
SPB	**Sao Paulo**	**36.69**	**2**	*e*P	**P**	**07 14 10.1**	**+1.5**
VAO	**Valinhos**	**37.29**	**3**	*e*P	**P**	**07 14 15.1**	**+1.3**
VAO	**Valinhos**	**37.29**	**3**	*e*P	**P**	**07 14 15.1**	**+1.3**
ESAR	**Angra dos Reis**	**37.38**	**7**	*e*P	**P**	**07 14 16.0**	**+1.5**
ESAR	**Angra dos Reis**	**37.38**	**7**	*e*P	**P**	**07 14 16.

BOSA					IAmb	IAmb	07 16 53.3	
	comp=Z,14nm,1.4s							
H10N3	**ASCENSION HYDR**	**58.40**	**41**	T	**T**		08 20 38.0	
	baz=199,slow=75,SNR=46							
H10N1	**ASCENSION HYDR**	**58.40**	**41**	T	**T**		08 20 38.0	
	baz=199,slow=75,SNR=24							
H10N2	**ASCENSION HYDR**	**58.41**	**41**	T	**T**		08 20 39.3	
	baz=199,slow=75,SNR=41							
LBTB	**Lobatse**	**61.03**	**90**	P	**P**		**07 17 14.1**	**-1.4**
LBTB				IAmb	IAmb		07 17 14.8	
	comp=Z,6.5nm,0.7s							
OTAV	**Otavalo**	**64.51**	**327**	*e*P	**P**		**07 17 39.9**	**+0.8**
OTAV	**Otavalo**	**64.51**	**327**	*e*P	**P**		**07 17 39.9**	**+0.8**
OTAV	**Otavalo**	**64.51**	**327**	P	**P**		**07 17 38.7**	**-0.4**
ROSC	**El Rosal**	**67.90**	**333**	LR	LR		07 48 46.3	
	comp=Z,54nm,21.0s,baz=72,slow=37							
LSZ	**Lusaka**	**70.53**	**87**	P	**P**		**07 18 16.6**	**-0.2**
LSZ				IAmb	IAmb		07 18 17.5	
	comp=Z,5.1nm,0.9s							
SDV	**Santo Domingo**	**71.06**	**337**	*e*P	**P**		**07 18 19.9**	**-0.1**
SDV	**Santo Domingo**	**71.06**	**337**	*e*P	**P**		**07 18 19.9**	**-0.1**
LIC	**Lamto**	**74.77**	**46**	*e*P	**P**		**07 18 42.2**	**+0.4**
	comp=Z,68nm,0.7s							
KIC	**Kosan Boka**	**75.00**	**46**	*e*P	**P**		**07 18 43.4**	**+0.3**
	comp=Z,22nm,0.6s							
TIC	**Toumodi**	**75.16**	**46**	*e*P	**P**		**07 18 44.4**	**+0.3**
DBIC	**Dimbokro**	**75.24**	**46**	P	**P**		**07 18 45.0**	**+0.5**
	comp=Z,9.9nm,0.7s,baz=180,slow=7.3,SNR=14							
DBIC	**Dimbokro**	**75.24**	**46**	P	**P**		**07 18 44.5**	**0.0**
TOA0	**Torodi Ar. Sit**	**83.62**	**49**	P	**P**		**07 19 30.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**83.62**	**49**	P	**P**		**07 19 30.5**	**+0.4**
	comp=Z,13nm,1.0s,baz=212,slow=5.6,SNR=39							
STKA	**Stephens Creek**	**87.75**	**189**	LR	LR		07 58 14.9	
	comp=Z,55nm,19.5s,baz=21,slow=35							
ASAR	**Alice Springs**	**96.32**	**183**	P	**P**		**07 20 28.1**	**-2.3**
	comp=Z,0.6nm,0.9s,baz=168,slow=4.4,SNR=7.0							
ASAR				PKKPbc	**PKKPbc**		**07 37 12.9**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=10,slow=2.5,SNR=4.4							
TXAR	**Lajitas Array**	**99.83**	**314**	P	**Pdif**		**07 20 45.1**	**-0.9**
	comp=Z,0.2nm,0.8s,baz=134,slow=7.7,SNR=3.1							
WRA	**Warramunga Arr**	**100.01**	**183**	P	**Pdif**		**07 20 45.0**	**-2.1**
	comp=Z,0.4nm,0.8s,baz=182,slow=4.5,SNR=4.0							
VYHS	**Vyhne**	**121.51**	**46**	*e*PDIFF	**Pdif**		**07 22 26.0**	**+4.2**
VYHS	**Vyhne**	**121.51**	**46**	*e*PKP	PKiKP		07 26 03.1	+8.7
YKA	**Yellowknife Ar**	**132.24**	**325**	PKP	**PKPdf**		**07 26 12.7**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=147,slow=2.1,SNR=10							
ARCES	**ARCESS Array B**	**139.91**	**32**	PKhKP	PKPpre		07 26 18.0	
	comp=Z,9.4nm,1.0s,baz=207,slow=1.4,SNR=8.2							
KSH	**Kashi**	**140.41**	**96**	PKP	**PKiKP**		**07 26 31.8**	**-1.1**
RND	**Reindeer**	**144.34**	**310**		**PKPab**		**07 26 34.2**	**-0.4**
ILAR	**Eielson Array**	**144.35**	**313**	PKP	**PKPab**		**07 26 33.5**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=142,slow=1.5,SNR=22							
WRH	**Wood River Hil**	**144.63**	**312**		**PKPab**		**07 26 34.6**	**-0.9**
CD2	**Chengdu**	**145.49**	**136**	PKPbc	**PKPdf**		**07 26 38.8**	**-0.7**
MLY	**Manley**	**145.89**	**312**		**PKPdf**		**07 26 38.9**	**-0.2**
MAKZ	**Makanchi**	**148.73**	**93**		**PKPdf**		**07 26 45.6**	**+1.3**
MK31	**Makanchi Array**	**148.88**	**93**		**PKPbc**		**07 26 46.9**	**-1.7**
MKAR	**Makanchi Array**	**148.88**	**93**	PKPbc	**PKPdf**		**07 26 46.6**	**+2.1**
	comp=Z,3.3nm,0.7s,baz=240,slow=2.3,SNR=24							
WMQ	**Urumqi**	**149.41**	**103**	*e*P	**PKPdf**		**07 26 46.8**	**+1.2**
WMQ				pmax	pmax			
	comp=Z,220nm,4.9s							
KURK	**Kurchatov**	**149.64**	**85**		**PKPbc**		**07 26 49.1**	**-1.1**
LZH	**Lanzhou**	**150.19**	**132**	*e*PKPbc	**PKPdf**		**07 26 46.3**	**-0.9**
LZH				pPKP	PKPbc		07 26 52.3	0.0
LZH				sPKP			07 26 56.3	
GTA	**Gaotai**	**151.47**	**123**	PKPbc	**PKPbc**		**07 26 54.0**	**-1.2**

ATH ***25*** *07:18:09.8,40.47N×19.83E,h16km±2km,ML2.4/9,Error ellipse: s-maj=2.7km s-min=1.2km az=147.0*
ISCJB ***25*** *07:18:11.0±0.4,40.43N±0.02×19.80E±0.03,h14km±3km, Error ellipse: s-maj=4.7km s-min=3.0km az=151.2*
THE ***25*** *07:18:11.6,40.43N×19.92E,h0km±3km,ML2.3/5,Error ellipse: s-maj=3.7km s-min=0.9km az=317.0*
TIR ***25*** *07:18:11.4,40.42N×19.93E,h9km,Md2.7/7*
ISC 25 07:18:10.9±0.9,40.41N±0.02×19.85E±0.02,h9km±7km, n42,σ0=83/63,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.17**	**133**	P		**Pg**	**07 18 14.2**	**-0.3**
TPE				S		**Sg**	**07 18 17.3**	**+0.3**
	2μm,0.1s							
TPE	**Tepelena**	**0.17**	**133**	*i* PG		**Pg**	**07 18 14.2**	**-0.3**
TPE				*i* SG		**Sg**	**07 18 17.3**	**+0.3**
VLO	**Vlora**	**0.27**	**282**	P		**Pb**	**07 18 18.3**	**+0.3**
VLO				S		**Sb**	**07 18 23.2**	**+0.5**
	3μm,0.2s							
VLO	**Vlora**	**0.27**	**282**	*i* PG		**Pb**	**07 18 18.5**	**+0.6**
VLO				*i* SG		**Sb**	**07 18 23.6**	**+1.0**
SRN	**Sarande**	**0.54**	**167**	P		**Pg**	**07 18 21.2**	**-0.2**
SRN				S		**Sb**	**07 18 30.7**	**+0.2**
	395nm,0.5s							
SRN	**Sarande**	**0.54**	**167**	*i* PG		**Pg**	**07 18 22.2**	**+0.8**
SRN				*i* SG		**Sb**	**07 18 30.6**	**+0.2**
KASA	**Kassiopi**	**0.67**	**174**	P		**Pg**	**07 18 24.3**	**+0.5**
KASA				S		**Sb**	**07 18 34.6**	**+0.6**
KEK	**Kerkira**	**0.70**	**183**	P		**Pg**	**07 18 24.1**	**-0.3**
KEK	**Kerkira**	**0.70**	**183**	P		**Pg**	**07 18 23.9**	**-0.5**
KEK				AML		AML	07 18 42.3	
	comp=N,423μm,0.4s							
KEK				AML		AML	07 18 43.8	
	comp=E,355μm,0.3s							
NEST	**Nestorio**	**0.92**	**89**	P		**Pg**	**07 18 27.9**	**-0.7**
NEST	**Nestorio**	**0.92**	**89**	P		**Pg**	**07 18 27.7**	**-0.9**
TIR	**Tirane**	**0.94**	**1**	*i* PG		**Pn**	**07 18 30.6**	**+0.4**
TIR				*i* SG		**Sn**	**07 18 44.5**	**+0.8**
TIR	**Tirane**	**0.94**	**1**	P		**Pg**	**07 18 27.0**	**-1.9**
TIR				AML		AML	07 18 49.2	
	comp=E,548μm,0.5s							
TIR				AML		AML	07 18 51.1	
	comp=N,358μm,0.4s							
IGT	**Igoumenitsa**	**0.95**	**157**	P		**Pg**	**07 18 29.0**	**-0.2**
IGT				S		**Sn**	**07 18 44.3**	**+0.2**
	comp=N,172nm,0.5s							
IGT	**Igoumenitsa**	**0.95**	**157**	*i* PG		**Pg**	**07 18 29.2**	**-0.1**
IGT				*i* SG		**Sn**	**07 18 44.5**	**+0.4**
IGT	**Igoumenitsa**	**0.95**	**157**	P		**Pg**	**07 18 28.9**	**-0.4**
IGT				AML		AML	07 18 46.7	
	comp=N,284μm,0.7s							
IGT				AML		AML	07 18 49.2	
	comp=E,414μm,0.7s							
PENT	**Pentalofos**	**1.01**	**102**	P		**Pg**	**07 18 29.9**	**-0.4**
JAN	**Janina**	**1.08**	**134**	P		**Pb**	**07 18 30.9**	**-0.8**
JAN				AML		AML	07 18 50.5	
	comp=N,592μm,0.5s							
JAN				AML		AML	07 18 53.0	
	comp=E,478μm,0.3s							
SCTE	**Santa Cesarea**	**1.11**	**253**	P		**Pb**	**07 18 31.4**	**-0.8**
SCTE				AML		AML	07 18 50.1	
	comp=E,360μm,0.5s							
SCTE				AML		AML	07 18 52.2	
	comp=N,159μm,0.4s							
FNA	**Florina**	**1.22**	**72**	P		**Pn**	**07 18 32.9**	**-1.3**
FNA				S		**Sn**	**07 18 51.7**	**+0.8**
	comp=N,250nm,0.3s							
FNA	**Florina**	**1.22**	**72**	*i* PN		**Pn**	**07 18 33.1**	**-1.1**
FNA				*i* SN		**Sn**	**07 18 51.0**	**+0.1**
FNA	**Florina**	**1.22**	**72**	P		**Pn**	**07 18 32.6**	**-1.6**
FNA				S		**Sg**	**07 18 49.9**	**-0.3**
FNA				AML		AML	07 18 55.2	
	comp=E,656μm,0.4s							
FNA				AML		AML	07 18 55.9	
	comp=N,337μm,0.3s							
KPRO	**Kipourio**	**1.25**	**111**	P		**Pn**	**07 18 33.7**	**-0.8**
KPRO				AML		AML	07 18 57.3	
	comp=E,223μm,0.3s							
KPRO				AML		AML	07 19 05.0	
	comp=N,172μm,0.4s							
PHP	**Peshkopia**	**1.35**	**19**	P		**Pn**	**07 18 36.0**	**+0.1**
PHP				S		**Sg**	**07 18 55.7**	**+1.4**
PHP	**Peshkopia**	**1.35**	**19**	*i* PN		**Pg**	**07 18 37.5**	**+0.7**
PHP				*i* SN		**Sg**	**07 18 57.2**	**+2.9**
KZN	**Kozani**	**1.47**	**93**	P		**Pg**	**07 18 38.9**	**-0.3**
KZN				AML		AML	07 19 03.5	
	comp=E,206μm,0.5s							
KZN				AML		AML	07 19 11.0	
	comp=N,126μm,0.6s							
TSLK	**Tsoukalades, L**	**1.70**	**158**	P		**Pn**	**07 18 41.5**	**+0.8**
LKD2	**Lefkada island**	**1.74**	**159**	P		**Pb**	**07 18 42.5**	**-0.4**
LKD2	**Lefkada island**	**1.74**	**159**	P		**Pb**	**07 18 42.6**	**-0.4**
THL	**Klokotos Trika**	**1.87**	**116**	P		**Pb**	**07 18 44.4**	**-0.7**
EVGI	**Lefkada island**	**1.89**	**160**	P		**Pb**	**07 18 44.9**	**-0.7**

BCI	**Bajram Curri**	**1.96**	**5**	*i* PN		**Pb**	**07 18 47.5**	**+0.7**
BCI				*i* SN		**Sg**	**07 19 15.1**	**+1.2**
NOCI	**Noci**	**2.15**	**281**	P		**Pn**	**07 18 46.4**	**-0.5**
NOCI				AML		AML	07 19 27.6	
	comp=N,231μm,0.4s							
NOCI				AML		AML	07 19 31.9	
	comp=E,193μm,0.5s							
BAI	**Bari**	**2.36**	**288**	*e*Pn		**Pn**	**07 18 49.0**	**-0.7**
BAI				Sn		**Sg**	**07 19 26.7**	**0.0**
AGG	**Agios Georgios**	**2.37**	**125**	P		**Pn**	**07 18 50.9**	**+1.0**
AGG	**Agios Georgios**	**2.37**	**125**	P		**Pn**	**07 18 50.7**	**+0.8**
KNT	**Kendrikon**	**2.44**	**71**	P		**Pn**	**07 18 50.8**	**-0.1**
SG1	**Sgolgore (BA)**	**2.45**	**281**	*e*Pn		**Pn**	**07 18 50.7**	**-0.3**
SG1				Sn		**Sg**	**07 19 29.7**	**+0.1**
STON	**Ston**	**2.94**	**327**	*e*Pn		**Pn**	**07 18 56.4**	**-1.3**
STON				Sn		**Sn**	**07 19 31.8**	**-1.2**
RICI	**Ricice**	**3.69**	**328**	iPn			07 19 07.4	
RICI				Sn		**Sn**	**07 19 51.5**	**-0.1**
KIJV	**Kijevo**	**4.41**	**326**	*e*Pn		**Pn**	**07 19 17.0**	**-0.9**
KIJV				Sn		**Sn**	**07 20 08.9**	**-0.5**
MORI	**Morici**	**4.62**	**320**	*e*Pn		**Pn**	**07 19 20.2**	**-0.6**
MORI				Sn		**Sn**	**07 20 13.7**	**-0.9**

IDC ***25*** *07:19:16.4±4.7,21.41S×177.89W,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.7/20,mbtmp3.8/4,Error ellipse: s-maj=197.5km s-min=38.0km az=142.0*
NEIC ***25*** *07:19:45.7±1.4,22.1S±0.1×178.0W±0.2,h272km±9km, mb4.4/11*
ISC 25 07:19:43.7±1.7,22.2S±0.1×177.9W±0.2,h250km,n18, σ1=92/18,mb3.8/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.86**	**319**	Pn		**Pn**	**07 21 11.1**	**+0.9**
QRZ	**Quartz Range**	**20.26**	**201**	P		**P**	**07 23 59.8**	**-0.6**
NNZ	**Nelson**	**20.34**	**199**	P		**P**	**07 24 02.3**	**+1.1**
TUWZ	**Tuamarina**	**20.37**	**198**	P		**P**	**07 24 02.6**	**+1.1**
CMWZ	**Cape Campbell**	**20.59**	**197**	P		**P**	**07 24 04.9**	**+1.0**
THZ	**Tophouse**	**20.98**	**200**	P		**P**	**07 24 09.7**	**+1.7**
THZ				IAmb		IAmb	07 24 13.9	
	comp=Z,58nm,1.4s							
KHZ	**Kahutara**	**21.39**	**198**	P		**P**	**07 24 12.6**	**+0.7**
KHZ				IAmb		IAmb	07 24 30.6	
	comp=Z,58nm,1.4s							
LTZ	**Lake Taylor**	**22.11**	**200**	P		**P**	**07 24 20.2**	**+1.7**
LTZ				IAmb		IAmb	07 24 30.7	
	comp=Z,43nm,1.5s							
ARMA	**Armidale**	**28.46**	**247**	P		**P**	**07 25 15.9**	**0.0**
ARMA				IAmb		IAmb	07 25 17.3	
	comp=Z,5.0nm,0.9s							
EIDS	**Eidsvold**	**28.54**	**257**	P		**P**	**07 25 16.7**	**+0.1**
EIDS				IAmb		IAmb	07 25 35.8	
	comp=Z,2.2nm,1.1s							
TOO	**Toolangi**	**35.01**	**236**	P		**P**	**07 26 12.1**	**-0.6**
TOO				IAmb		IAmb	07 26 21.6	
	comp=Z,5.2nm,1.1s							
STKA	**Stephens Creek**	**37.17**	**246**	P		**P**	**07 26 30.5**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=107,slow=14,SNR=4.0							
STKA	**Stephens Creek**	**37.17**	**246**	P		**P**	**07 26 30.3**	**-0.7**
BBOO	**Buckleboo**	**41.91**	**245**	P		**P**	**07 27 08.4**	**-1.6**
BBOO				IAmb		IAmb	07 27 26.1	
	comp=Z,22nm,1.4s							
AS31	**Alice Springs**	**44.26**	**258**	P		**P**	**07 27 28.4**	**-0.5**
ASAR	**Alice Springs**	**44.26**	**258**	P		**P**	**07 27 29.1**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=97,slow=7.3,SNR=22							
WRA	**Warramunga Arr**	**44.50**	**264**	P		**P**	**07 27 31.5**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=92,slow=8.6,SNR=9.5							
ILAR	**Eielson Array**	**89.94**	**13**	P		**P**	**07 32 13.4**	**-0.6**
	comp=Z,0.8nm,1.0s,baz=201,slow=6.8,SNR=4.1							

NIED ***25*** *07:38:00,23.60N×121.50E,h32km,Mw3.7 Best double couple: M04.30000×10^14 NP1:ϕ=68.00000°,δ51.00000°, λ169.00000°. NP2:ϕ=165.00000°,δ82.00000°,λ40.00000°.*
IDC ***25*** *07:38:52.8±0.8,23.51N×121.59E,h0km,mb3.8/9, mb1 3.8/10,mb1mx3.6/57,mbtmp3.8/10,ML2.7/1,MS2.4/1, Ms1 2.6/1,ms1mx2.3/37,Error ellipse: s-maj=37.1km s-min=16.7km az=64.0*
JMA ***25*** *07:38:54.3±0.1,23.64N×121.53E,h0km,M3.8*
ASIES ***25*** *07:38:55.7,23.70N×121.32E,h25km,MW3.5*
BJI ***25*** *07:38:55.5±0.0,23.78N×121.38E,h8km,mb3.8/3,ML3.9/2*
NEIC ***25*** *07:38:55.3±2.4,23.66N±0.01×121.44E±0.03,h13km±3km, mb3.9/2,ML4.4(TAP)*
TAP ***25*** *07:38:55.7,23.68N×121.42E,h19km,ML4.3,B*
ISCJB ***25*** *07:38:56.0±0.2,23.67N±0.01×121.45E±0.01,h20km±1km, mb3.7/9,MS2.2/1,Error ellipse: s-maj=2.2km s-min=1.5km az=28.3*
ISC 25 07:38:55.8±0.7,23.68N±0.01×121.45E±0.02,h17km±4km, n157,σ0=74/231,mb3.7/10,12C-17D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.02**	**242**	*i*P		**Pg**	**07 38 59.1**	**+0.3**
	baz=142							
EGFH				S		**Sg**	**07 39 00.9**	**+0.2**
	baz=142							
ESL	**Shilin**	**0.14**	**355**	⇓*i*P		**Pb**	**07 38 60.0**	**+0.1**
	baz=10.0							
ESL				*i* S		**Sb**	**07 39 02.5**	**-0.2**
	baz=10.0							
HGSD	**Ruisui**	**0.19**	**186**	⇓P		**Pb**	**07 39 01.2**	**+0.4**
	baz=183							
HGSD				*e*S		**Sb**	**07 39 04.9**	**+0.8**
	baz=183							
EHY	**Hungye**	**0.20**	**214**	⇑*i*P		**Pg**	**07 39 00.5**	**-0.2**
	baz=204							
EHY				S		**Sg**	**07 39 03.6**	**-0.4**
	baz=204							
ENLB	**Shoufeng**	**0.27**	**32**	⇑*i*P		**Pb**	**07 39 01.7**	**-0.4**
	baz=33							
ENLB				*e*S		**Sb**	**07 39 06.3**	**-0.1**
	baz=33							
VWDT	**VWDT**	**0.29**	**285**	⇑P		**Pb**	**07 39 02.0**	**-0.5**
	baz=286							
VWDT				S		**Sg**	**07 39 05.9**	**-0.4**
	baz=286							
YULB	**Yu-li**	**0.32**	**206**	⇓P		**Pg**	**07 39 02.1**	**-0.4**
	baz=196							
YULB				*e*S		**Sg**	**07 39 06.7**	**-0.4**
	baz=196							
YULB	**Yu-li**	**0.32**	**206**	Pg		**Pg**	**07 39 02.3**	**-0.2**
YULB				Sg		**Sg**	**07 39 07.0**	**-0.1**
HWA	**Hwalien**	**0.33**	**26**	*e*P		**Pb**	**07 39 03.8**	**+0.5**
	baz=24							
HWA				*e*S		**Sb**	**07 39 08.8**	**+0.5**
	baz=24							
TWF1	**Yuli**	**0.35**	**203**	⇓P		**Pg**	**07 39 02.8**	**-0.4**
	baz=200							
TWF1				*e*S		**Sg**	**07 39 08.1**	**0.0**
	baz=200							
OWD	**Renai**	**0.37**	**318**	⇓P		**Pg**	**07 39 03.3**	**-0.2**
	baz=321							
OWD				*e*S		**Sg**	**07 39 07.7**	**-1.1**
	baz=321							
TWD	**Chiawan**	**0.42**	**19**	P		**Pb**	**07 39 04.5**	**-0.3**
	baz=17							
TWD				S		**Sb**	**07 39 10.9**	**-0.1**
	baz=17							
CHGB	**Renai**	**0.46**	**327**	⇓P		**Pb**	**07 39 05.1**	**-0.4**
	baz=336							
CHGB				S		**Sg**	**07 39 10.9**	**-0.5**
	baz=336							
SSLB	**Suanglung**	**0.46**	**284**	⇓P		**Pg**	**07 39 04.5**	**-0.7**
	baz=291							
SSLB				*e*S		**Sg**	**07 39 09.8**	**-1.7**
	baz=291							
SSLB	**Suanglung**	**0.46**	**284**			**Pg**	**07 39 04.3**	**-0.8**
SSLB					Sg	**Sg**	**07 39 10.0**	**-1.5**
YUS	**Yu-Shan**	**0.49**	**248**	⇑P		**Pg**	**07 39 05.7**	**-0.1**
	baz=251							
WHF	**Hehuan Shan**	**0.49**	**340**	*e*P		**Pg**	**07 39 05.5**	**-0.4**
	baz=346							
FULB	**Fuli**	**0.50**	**196**	*e*P		**Pg**	**07 39 05.7**	**0.0**
	baz=199							
FULB				*e*S		**Sb**	**07 39 13.9**	**+0.9**
	baz=199							
NACB	**Ninganchiao**	**0.51**	**15**	⇑P		**Pg**	**07 39 05.6**	**-0.4**
	baz=18							
NACB				S		**Sg**	**07 39 12.9**	**-0.1**
	baz=18							
NACB	**Ninganchiao**	**0.51**	**15**			**Pg**	**07 39 05.5**	**-0.6**
NACB					Sg	**Sb**	**07 39 13.4**	**-0.1**

ETLH	**Xiulin Townshi**	**0.53**	**4**	⇑P		**Pg**	**07 39 06.1**	**-0.3**
	baz=6.0							
ETLH				*e*S		**Sb**	**07 39 13.6**	**-0.5**
	baz=6.0							
WHYT	**Xinyi Township**	**0.54**	**272**	*e*P		**Pb**	**07 39 06.5**	**-0.4**
	baz=269							
WHYT				*e*S		**Sg**	**07 39 12.7**	**-1.3**
	baz=269							
CHKT	**Chengkung**	**0.58**	**187**	*e*P		**Pb**	**07 39 07.5**	**0.0**
	baz=171							
TYC	**Yuchr**	**0.58**	**293**	⇓*i*P		**Pg**	**07 39 06.8**	**-0.6**
	baz=300							
TYC				S		**Sg**	**07 39 13.9**	**-1.3**
	baz=300							
DPDB	**Guoxing**	**0.59**	**307**	⇓*i*P		**Pb**	**07 39 07.3**	**-0.4**
	baz=314							
DPDB				S		**Sg**	**07 39 14.3**	**-1.2**
	baz=314							
ALS	**Alishan**	**0.61**	**254**	⇑P		**Pb**	**07 39 07.8**	**-0.4**
	baz=260							
ALS				*e*S		**Sg**	**07 39 15.3**	**-0.9**
	baz=260							
TWT	**Tachien**	**0.62**	**337**	⇓*i*P		**Pb**	**07 39 08.3**	**-0.1**
	baz=344							
ELDTW	**Lidau**	**0.63**	**219**	⇑P		**Pg**	**07 39 07.2**	**-1.0**
	baz=207							
TDCB	**Techi**	**0.63**	**335**	⇓P		**Pb**	**07 39 08.3**	**-0.1**
	baz=331							
TDCB				S		**Sg**	**07 39 15.5**	**-1.2**
	baz=331							
WNT	**Mingjian**	**0.73**	**286**	⇓*i*P		**Pn**	**07 39 10.8**	**-0.5**
	baz=286							
WNT				*i* S		**Sb**	**07 39 20.8**	**+1.1**
	baz=286							
NNSH	**Datong**	**0.75**	**356**	*e*P		**Pg**	**07 39 10.1**	**-0.4**
	baz=1.0							
WHP	**Taichung City**	**0.75**	**323**	⇓P		**Pb**	**07 39 10.2**	**-0.3**
	baz=325							
NNS	**Nan Shan**	**0.76**	**355**	⇑*i*P		**Pg**	**07 39 10.4**	**-0.3**
	baz=7.0							
NNS				*e*S		**Sg**	**07 39 20.4**	**-0.4**
	baz=7.0							
ENA	**Nanau**	**0.79**	**20**	*e*P		**Pg**	**07 39 10.3**	**-1.0**
	baz=22							
ENA				*e*S		**Sg**	**07 39 21.4**	**-0.4**
	baz=22							
NANB	**Nanao**	**0.80**	**20**	*e*P		**Pg**	**07 39 10.2**	**-1.2**
	baz=25							
WGK	**Gukeng**	**0.81**	**271**	*e*P		**Pb**	**07 39 11.8**	**+0.4**
	baz=270							
WGK				S		**Sb**	**07 39 23.1**	**+1.1**
	baz=270							
WDLH	**Douliu**	**0.83**	**271**	⇓*e*P		**Pb**	**07 39 12.2**	**+0.4**
	baz=270							
WDLH				*e*S		**Sb**	**07 39 23.4**	**+0.7**
	baz=270							
TPUB	**Ta-pu**	**0.84**	**244**	⇑P		**Pb**	**07 39 12.1**	**+0.3**
	baz=241							
TPUB				*e*S		**Sg**	**07 39 22.5**	**-0.7**
	baz=241							
TPUB	**Ta-pu**	**0.84**	**244**	Pg		**Pb**	**07 39 12.2**	**+0.3**
TPUB				Sg		**Sg**	**07 39 22.0**	**-1.2**
TCU	**Taichung**	**0.84**	**304**	*e*P		**Pn**	**07 39 12.9**	**0.0**
	baz=305							
CHN4	**Tsaushan**	**0.85**	**248**	⇑P		**Pb**	**07 39 12.5**	**+0.5**
	baz=244							
CHN2	**Minshiung**	**0.90**	**261**	*e*P		**Pb**	**07 39 13.2**	**+0.2**
	baz=260							
CHN2				*e*S		**Sn**	**07 39 26.0**	**-0.3**
	baz=260							
WCHH	**Zhanghua**	**0.91**	**296**	*e*P		**Pn**	**07 39 13.7**	**-0.1**
	baz=297							
WCHH				*e*S		**Sn**	**07 39 25.8**	**-0.6**
	baz=297							
TWQ1	**Liyutan**	**0.91**	**317**	P		**Pn**	**07 39 14.0**	**+0.2**
	baz=326							
TWQ1				*e*S		**Sn**	**07 39 27.1**	**+0.6**
	baz=326							
TWG	**Pinlang**	**0.92**	**202**	*e*P		**Pg**	**07 39 12.6**	**-1.0**
	baz=186							
TWG				*e*S		**Sg**	**07 39 24.7**	**-1.1**
	baz=186							
TWG	**Pinlang**	**0.92**	**202**	Pg		**Pg**	**07 39 12.7**	**-1.0**
TWG				Sg		**Sg**	**07 39 23.4**	**-2.4**
TWGBT	**Beinan**	**0.92**	**202**	*e*P		**Pg**	**07 39 12.4**	**-1.3**
	baz=186							
TWGBT				*e*S		**Sg**	**07 39 24.8**	**-1.0**
	baz=186							
NDT	**Datong Townshi**	**0.92**	**4**	*e*P		**Pg**	**07 39 13.2**	**-0.6**
	baz=5.0							
NDT				*e*S		**Sb**	**07 39 25.6**	**+0.2**
	baz=5.0							
TWH	**Lutao**	**0.96**	**178**	*e*P		**Pb**	**07 39 12.6**	**-1.4**
	baz=175							
ENTT	**Nioudou**	**0.96**	**7**	*e*P		**Pb**	**07 39 13.4**	**-0.7**
	baz=22							
TWK	**Hsinying**	**0.97**	**245**	*e*P		**Pg**	**07 39 14.4**	**-0.2**
	baz=240							
CHN1	**Nanshi**	**0.97**	**240**	*e*P		**Pg**	**07 39 14.4**	**-0.3**
	baz=235							
SNST	**Tainan City**	**0.98**	**243**

WLTB	**Daxi** baz=359	**1.18**	**351**	*eP*	**Pg**	**07 39 18.4**	**-0.3**
WLTB	baz=359			*eS*	**Sg**	**07 39 33.3**	**-0.8**
SBCB	**Hsinchu** baz=340	**1.19**	**339**	*eP*	**Pg**	**07 39 18.7**	**0.0**
SBCB	baz=340			*eS*	**Sb**	**07 39 32.7**	**-0.2**
SSD	**Sandimen** baz=208	**1.19**	**219**	*eP*	**Pn**	**07 39 17.5**	**-0.2**
HSN	**Hsinchu** baz=334	**1.20**	**339**	*eP*	**Pg**	**07 39 19.3**	**+0.3**
NTC	**Toucheng** baz=22	**1.22**	**17**	*eP*	**Pn**	**07 39 17.6**	**-0.5**
NHDH	**Xindian Distri** baz=16	**1.28**	**3**	*eP*	**Pg**	**07 39 19.9**	**-0.6**
TATO	**Taipei** baz=17	**1.29**	**2**	*eP*	**Pn**	**07 39 18.9**	**-0.2**
TATO	baz=17			*eS*	**Sg**	**07 39 37.2**	**-0.4**
TATO	**Taipei**	**1.29**	**2**		**Pn**	**07 39 19.4**	**+0.3**
TATO				Sn	**Sg**	**07 39 37.4**	**-0.2**
SGLT	**Jiouru** baz=207	**1.29**	**223**	*eP*	**Pg**	**07 39 20.5**	**-0.2**
MASBT	**Mashibuluo** baz=209	**1.30**	**215**	*eP*	**Pn**	**07 39 19.1**	**-0.1**
MASBT	baz=209			*eS*	**Sb**	**07 39 36.4**	**+0.3**
TWA	**Mucha** baz=21	**1.30**	**6**	*eP*	**Pb**	**07 39 20.0**	**+0.2**
TWA	baz=21			*eS*	**Sg**	**07 39 37.5**	**-0.5**
NCUH	**Zhongli** baz=356	**1.31**	**350**	*eP*	**Pg**	**07 39 20.8**	**-0.2**
NCU	**National Centr** baz=357	**1.31**	**350**	*eP*	**Pn**	**07 39 19.6**	**+0.3**
TIPB	**Shuangxi** baz=15	**1.33**	**15**	*eP*	**Pn**	**07 39 19.9**	**+0.2**
TIPB	baz=15			*eS*	**Sb**	**07 39 36.6**	**-0.7**
TAP	**Taipei** baz=18	**1.36**	**2**	*eP*	**Pg**	**07 39 21.7**	**-0.2**
TAP	baz=18			*eS*	**Sg**	**07 39 39.6**	**0.0**
SNJT	**Kaohsiung City** baz=220	**1.38**	**228**	*eP*	**Pg**	**07 39 23.2**	**+0.9**
EAST	**Anshuo** baz=187	**1.40**	**203**	*eP*	**Pb**	**07 39 21.3**	**-0.2**
TAW	**Tawu** baz=185	**1.41**	**201**	*eP*	**Pn**	**07 39 20.6**	**-0.1**
TWS1	**Kuangyinshan** baz=20	**1.42**	**359**	*eP*	**Pb**	**07 39 21.6**	**-0.2**
TWS1	baz=20			*eS*	**Sg**	**07 39 42.8**	**+1.2**
NWF	**Wu-fen Shan** baz=29	**1.42**	**12**	*eP*	**Pb**	**07 39 21.7**	**-0.2**
WFSB	**Wu-fen Shan** baz=19	**1.42**	**12**	*eP*	**Pn**	**07 39 21.1**	**+0.3**
SSPT	**Xinbi** baz=201	**1.44**	**214**	*eP*	**Pb**	**07 39 22.6**	**+0.5**
YM01	**YM01** baz=31	**1.47**	**4**	*eP*	**Pn**	**07 39 22.1**	**+0.6**
YM04	**YM04** baz=29	**1.47**	**3**	*eP*	**Pb**	**07 39 22.6**	**-0.1**
YM10	**YM10** baz=30	**1.48**	**4**	*eP*	**Pb**	**07 39 22.5**	**-0.3**
YM05	**YM05** baz=19	**1.48**	**4**	*eP*	**Pn**	**07 39 22.1**	**+0.3**
YM05	baz=19			*eS*	**Sb**	**07 39 42.4**	**+0.9**
YM11	**YM11** baz=5.0	**1.49**	**4**	*eP*	**Pb**	**07 39 23.1**	**+0.1**
YM11	baz=5.0			*eS*	**Sg**	**07 39 43.1**	**-0.7**
WSSB	**Gushan** baz=218	**1.50**	**227**	*eP*	**Pb**	**07 39 23.7**	**+0.5**
ANP	**Anpu** baz=30	**1.50**	**3**	*eP*	**Pb**	**07 39 23.2**	**-0.1**
SCZT	**Fangliau** baz=202	**1.51**	**211**	*eP*	**Pb**	**07 39 23.2**	**-0.1**
SCZT	baz=202			*eS*	**Sb**	**07 39 43.1**	**+1.0**
JYNG	**Yonaguni jima**	**1.57**	**60**	P	**Pn**	**07 39 23.3**	**+0.4**
JYNG				*eS*	**Sn**	**07 39 43.7**	**+0.8**
TWY	**Chenhua** baz=30	**1.60**	**5**	*eP*	**Pb**	**07 39 24.7**	**-0.1**
YOJ	**Yonaguni jima**	**1.63**	**61**	P	**Pn**	**07 39 24.1**	**+0.4**
YOJ				*eS*	**Sn**	**07 39 45.2**	**+0.9**
YOJ	**Yonaguni jima** baz=64	**1.63**	**61**	*eP*	**Pn**	**07 39 24.1**	**+0.4**
YOJ	baz=64			*eS*	**Sn**	**07 39 44.3**	**0.0**
YOJ	**Yonaguni jima**	**1.63**	**61**		**Pn**	**07 39 23.8**	**+0.1**
YOJ				Sn	**Sn**	**07 39 45.4**	**+1.1**
LAY	**Lan-yu** baz=166	**1.63**	**177**	*eP*	**Pn**	**07 39 21.6**	**-2.2**
WLCH	**Liuqiu** baz=227	**1.65**	**217**	*eP*	**Pg**	**07 39 28.0**	**+0.6**
WDGT	**Dungji** baz=254	**1.69**	**256**	*eP*	**Pn**	**07 39 23.9**	**-0.7**
WDGT	baz=254			*eS*	**Sn**	**07 39 45.2**	**-0.6**
PHUB	**P'eng-hu** baz=246	**1.73**	**265**	*eP*	**Pn**	**07 39 25.0**	**0.0**
PHUB	baz=246			*eS*	**Sn**	**07 39 46.7**	**0.0**
PNG	**Penghu** baz=263	**1.74**	**267**	*eP*	**Pn**	**07 39 25.8**	**+0.6**
HEN	**Hengchun** baz=187	**1.79**	**202**	*eP*	**Pb**	**07 39 27.9**	**-0.2**
TWK1	**Hengchun** baz=186	**1.82**	**199**	*eP*	**Pn**	**07 39 27.6**	**+1.2**
TWKBT	**Hengchun** baz=186	**1.82**	**199**	*eP*	**Pn**	**07 39 26.9**	**+0.5**
VCHM	**Qimei** baz=250	**1.91**	**256**	*eP*	**Pn**	**07 39 27.8**	**+0.3**
IRIF	**Iriomote-Funau**	**2.19**	**72**	P	**Pn**	**07 39 31.9**	**+0.5**
IRIF				*eS*	**Sn**	**07 39 58.1**	**0.0**
HATJ	**Hateruma jima**	**2.19**	**80**	P	**Pn**	**07 39 31.6**	**+0.2**
HATJ				*eS*	**Sn**	**07 39 58.4**	**+0.2**
VWUC	**VWUC** baz=306	**2.24**	**306**	*eP*	**Pn**	**07 39 31.4**	**-0.7**
PTTC	**Pingtan** baz=322	**2.37**	**320**	*eP*	**Pn**	**07 39 33.6**	**-0.3**
PTTC	baz=322			*eS*	**Sn**	**07 40 01.3**	**-1.3**
JKRS	**Kuro-shima**	**2.41**	**76**	P	**Pn**	**07 39 35.2**	**+0.8**
JKRS				*eS*	**Sn**	**07 40 04.6**	**+1.0**
PTMZ	**Houxiangcun** baz=304	**2.52**	**303**	*eP*	**Pn**	**07 39 35.8**	**-0.1**
PTMZ	baz=304			*eS*	**Sn**	**07 40 05.4**	**-0.8**
JIJ	**Ishigaki jima**	**2.56**	**74**	P	**Pn**	**07 39 36.5**	**0.0**
JIJ				*eS*	**Sn**	**07 40 06.8**	**-0.5**
JISG	**Ishigakijimahi**	**2.77**	**70**	P	**Pn**	**07 39 39.3**	**-0.1**
JISG				*eS*	**Sn**	**07 40 11.9**	**-0.5**
MATB	**Ma-tsu** baz=332	**2.81**	**331**	*eP*	**Pn**	**07 39 39.8**	**-0.2**
MATB	baz=332			*eS*	**Sn**	**07 40 11.2**	**-2.3**
KNM	**Kinmen** baz=283	**2.85**	**286**	*eP*	**Pn**	**07 39 42.2**	**+1.7**
QZH	**Quanzhou**	**2.89**	**296**	Pn	**Pn**	**07 39 41.3**	**+0.2**
QZH				Sn	**Sn**	**07 40 15.0**	**-0.5**
KNMB	**Chin-men Tao** baz=270	**2.90**	**286**	*eP*	**Pn**	**07 39 41.0**	**-0.2**
KNMB	**Chin-men Tao**	**2.90**	**286**		**Pn**	**07 39 41.2**	**0.0**
LYJJ	**Jianjiangzhen** baz=338	**3.24**	**332**	*eP*	**Pn**	**07 39 45.2**	**-0.7**
MHZQ	**Yeshan** baz=320	**3.26**	**318**	*eP*	**Pn**	**07 39 46.6**	**+0.5**
MHZQ	baz=320			*eS*	**Sn**	**07 40 24.4**	**-0.2**
ZPLA	**Ao Xicun** baz=270	**3.39**	**275**	*eP*	**Pn**	**07 39 47.9**	**0.0**
AXDP	**Jialang** baz=292	**3.40**	**292**	*eP*	**Pn**	**07 39 47.7**	**-0.3**
AXDP	baz=292			*eS*	**Sn**	**07 40 28.1**	**+0.2**
XPSS	**Dashiqiu** baz=343	**3.43**	**341**	*eP*	**Pn**	**07 39 48.3**	**-0.2**
XPSS	baz=343			*eS*	**Sn**	**07 40 27.4**	**-1.3**
ZZJH	**Jiuhuzhen** baz=281	**3.58**	**284**	*eP*	**Pn**	**07 39 50.1**	**-0.3**
JOW	**Kunigami** 0.3nm,0.3s,baz=119,slow=13,SNR=3.9	**6.93**	**62**	Pn	**Pn**	**07 40 34.9**	**-1.8**
KSRS	**Korea Array** 0.1nm,0.3s,baz=201,slow=11,SNR=7.4	**14.81**	**21**	Pn	**P**	**07 42 28.6**	**-1.6**
CMAR	**Chiang Mai Arr** comp=Z,8.4nm,18.4s,baz=115,slow=42	**21.62**	**260**	LR	LR	07 53 54.3	
GTA	**Gaotai**	**24.11**	**316**	*eP*	**P**	**07 44 12.3**	**+1.5**
GTA				pP	sP	07 44 17.5	-1.1
GTA				sP	pP	07 44 21.3	+5.1
SONM	**Songino Array** 1.2nm,0.7s,baz=149,slow=8.5,SNR=7.6	**26.93**	**337**	P	**P**	**07 44 37.7**	**+1.5**
MKAR	**Makanchi Array** 1.3nm,0.8s,baz=112,slow=9.7,SNR=11	**38.87**	**316**	P	**P**	**07 46 21.1**	**+0.8**
ZALV	**Zalesovo Beam** 1.4nm,0.5s,baz=108,slow=7.8,SNR=6.6	**40.80**	**327**	P	**P**	**07 46 37.5**	**+1.5**
H11N1	**WAKE ISLAND Hy** baz=283,slow=74,SNR=26	**42.28**	**86**	T	T	08 31 50.9	
H11N2	**WAKE ISLAND Hy** baz=283,slow=74,SNR=36	**42.28**	**86**	T	T	08 31 51.4	
H11N3	**WAKE ISLAND Hy** baz=283,slow=74,SNR=38	**42.30**	**86**	T	T	08 31 52.1	
H11S3	**WAKE ISLAND Hy** baz=284,slow=74,SNR=86	**42.39**	**88**	T	T	08 31 59.7	
H11S1	**WAKE ISLAND Hy** baz=284,slow=74,SNR=45	**42.40**	**88**	T	T	08 32 02.8	
H11S2	**WAKE ISLAND Hy** baz=284,slow=74,SNR=30	**42.41**	**88**	T	T	08 32 00.7	
KURBB	**Kurchatov Arra** 1.0nm,0.8s,baz=109,slow=7.8,SNR=6.4	**42.65**	**320**	P	**P**	**07 46 52.0**	**+0.8**
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=346,slow=8.7,SNR=3.7	**45.14**	**163**	P	**P**	**07 47 09.2**	**-2.4**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=340,slow=7.0,SNR=4.1	**48.59**	**165**	P	**P**	**07 47 36.5**	**-2.0**
ABKAR	**Akbulak array**	**53.97**	**315**	P	**P**	**07 48 20.6**	**+1.9**
ABKAR	comp=Z,2.8nm,1.4s			IAmb	IAmb	07 48 25.4	
STKA	**Stephens Creek** comp=Z,0.8nm,0.7s,baz=7.6,slow=11,SNR=3.6	**58.51**	**160**	P	**P**	**07 48 49.9**	**-1.3**
STKA	**Stephens Creek** comp=Z,1.2nm,1.5s	**58.51**	**160**	IAmb	IAmb	07 48 57.7	
FINES	**FINESS Array B** comp=Z,4.7nm,1.0s,baz=82,slow=4.0,SNR=7.1	**72.00**	**330**	P	**P**	**07 50 20.1**	**+1.7**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.7s,baz=308,slow=4.9,SNR=4.9	**83.34**	**23**	P	**P**	**07 51 21.8**	**+0.3**

*IDC **25** 07:39:54.3±1.1,6°22'S×149°20'E,h0km,mb3.8/5, mb1 4.0/7,mb1mx3.7/36,mbtmp3.9/7,ML4.0/1,MS3.2/2, Ms1 3.2/2,ms1mx2.7/27, Error ellipse: s-maj=55.9km s-min=19.0km az=119.0*

*ISCJB **25** 07:40:00.2±1.1,6°2'S±0°2'×148°9'E±0°3,h53km,mb3.7/5, MS3.5/1, Error ellipse: s-maj=50.9km s-min=10.8km az=25.5*

ISC 25 07:40:01.5±1.1,6°3'S±0°2'×149°1'E±0°4,h53km,n11, σ1§25/10,mb3.6/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076** comp=Z,202nm,18.2s,baz=181,slow=41	**3.56**	**56**	LR	LR	07 42 13.6	
PMG	**Port Moresby** 16nm,0.3s,baz=38,slow=5.6,SNR=34	**3.61**	**211**	Pn	**Pn**	**07 40 54.5**	**-0.5**
PMG	20nm,0.3s,baz=60,slow=18,SNR=10			Sn	**Sn**	**07 41 36.1**	**-0.4**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=50,slow=10,SNR=16	**19.71**	**225**	P	**P**	**07 44 27.0**	**+0.2**
ASAR	**Alice Springs** 1.2nm,0.7s,baz=54,slow=9.5,SNR=21	**22.60**	**219**	P	**P**	**07 44 57.1**	**-0.8**
FITZ	**Fitzroy Crossi** 3.6nm,0.8s,baz=74,slow=6.1,SNR=3.8	**25.68**	**241**	P	**P**	**07 45 27.3**	**+0.5**
STKA	**Stephens Creek** 1.7nm,1.0s,baz=54,slow=14,SNR=2.0	**26.38**	**194**	P	**P**	**07 45 35.4**	**+2.4**
PETK	**Petropavlovsk-** 0.9nm,0.5s,baz=164,slow=6.7,SNR=5.0	**59.64**	**6**	P	**P**	**07 50 01.2**	**+1.1**
PPT	**Papeete** comp=Z,31nm,19.4s,baz=210,slow=32	**60.84**	**107**	LR	LR	08 12 24.4	
ILAR	**Eielson Array** 0.2nm,0.7s,baz=254,slow=5.3,SNR=3.0	**84.96**	**23**	P	**P**	**07 52 29.4**	**-1.4**
TORD	**Torodi Ar. Bea** 1.2nm,0.7s,baz=73,slow=2.5,SNR=5.0	**147.15**	**284**	PKPbc	**PKPbc**	**07 59 39.8**	**-0.1**
BDFB	**Brasilia** 1.0nm,0.5s,baz=315,slow=4.3,SNR=4.5	**152.41**	**142**	PKPbc	**PKPbc**	**07 59 52.1**	**-0.8**

*IDC **25** 07:50:10.4±4.0,5°71'S×68°38'E,h0km,mb3.5/4,mb1 3.6/4, mb1mx3.3/53,mbtmp3.5/4,MS3.7/1,Ms1 3.6/1, ms1mx2.9/26, Error ellipse: s-maj=131.9km s-min=31.2km az=64.0*

ISC 25 07:50:13.8±2.3,5°6'S±0°3'×68°6'E±0°3,h13km,n15, σ0§44/11,mb3.5/4,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**2.50**	**108**	Pn	**Pn**	**07 50 53.9**	**0.0**
H08N3	baz=275,slow=75,SNR=563			T	T	07 53 57.8	
H08N2	**Diego Garcia H**	**2.50**	**108**	Pn	**Pn**	**07 50 53.9**	**0.0**
H08N2	baz=275,slow=75,SNR=700			T	T	07 53 58.4	
H08N1	**Diego Garcia H**	**2.52**	**108**	Pn	**Pn**	**07 50 54.2**	**0.0**
H08N1	baz=275,slow=75,SNR=491			T	T	07 53 58.9	
H08S1	**Diego Garcia H** baz=162,slow=76,SNR=190	**4.37**	**119**	Pn	**Pn**	**07 51 20.0**	**+0.2**
H08S1	baz=326,SNR=33			T	T	07 56 24.9	
H08S3	**Diego Garcia H** baz=162,slow=76,SNR=266	**4.37**	**118**	Pn	**Pn**	**07 51 19.9**	**+0.2**
H08S3	baz=326,SNR=16			T	T	07 56 25.6	
H08S2	**Diego Garcia H** baz=162,slow=76,SNR=394	**4.38**	**118**	Pn	**Pn**	**07 51 20.2**	**+0.2**
H08S2	baz=326,SNR=15			T	T	07 56 23.7	
BOSA	**Boshof** comp=Z,80nm,18.1s,baz=22,slow=34	**46.98**	**236**	LR	LR	08 16 37.1	
H01W3	**Cape Leeuwin H** baz=293,slow=75,SNR=12	**51.10**	**131**	T	T	08 54 19.2	
H01W2	**Cape Leeuwin H** baz=293,slow=75,SNR=9.6	**51.10**	**131**	T	T	08 54 19.5	
H01W1	**Cape Leeuwin H** baz=293,slow=75,SNR=11	**51.11**	**131**	T	T	08 54 22.8	
MKAR	**Makanchi Array** 0.4nm,0.9s,baz=216,slow=14,SNR=2.6	**53.52**	**12**	P	**P**	**07 59 33.6**	**-0.6**
SONM	**Songino Array** 0.7nm,0.7s,baz=228,slow=4.9,SNR=4.7	**62.69**	**28**	P	**P**	**08 00 39.3**	**+0.8**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=277,slow=6.0,SNR=3.3	**65.18**	**111**	P	**P**	**08 00 55.0**	**-0.4**
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=290,slow=6.9,SNR=3.5	**65.33**	**109**	P	**P**	**08 00 55.9**	**-0.4**
NVAR	**Mina Array Bea** 0.5nm,0.7s,baz=21,slow=2.8,SNR=4.2	**146.68**	**10**	PKPbc	**PKPdf**	**08 09 54.8**	**+0.2**

*ISCJB **25** 07:53:11.3±1.3,34°47'N±0°06'×23°85'E±0°05,h27km±7km, mb3.8/11, Error ellipse: s-maj=10.9km s-min=6.3km az=3.1*

*ATH **25** 07:53:12.8,34°53'N×23°95'E,h22km±2km, ML3.5/6, Error ellipse: s-maj=4.4km s-min=1.7km az=27.0*

*IDC **25** 07:53:13.3±2.5,34°62'N×23°96'E,h30km±16km,mb3.8/11, mb1 3.9/15,mb1mx3.7/47,mbtmp4.0/15,ML3.3/4, Error ellipse: s-maj=24.6km s-min=15.6km az=171.0*

*THE **25** 07:53:15.4,34°63'N×23°99'E,h13km±1km,ML3.7/6, Error ellipse: s-maj=2.8km s-min=1.5km az=35.0*

ISC 25 07:53:11.9±0.8,34°48'N±0°07'×23°94'E±0°04,h22km±4km, n55,σ1§23/68,mb3.9/11,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.38**	**19**	P	**Pb**	**07 53 20.4**	**+0.5**
GVD	38μm,0.5s			S	**Sb**	**07 53 24.5**	**-0.8**
GVD	**Gavdhos**	**0.38**	**19**	P	**Pb**	**07 53 20.4**	**+0.5**
GVD				S	**Sb**	**07 53 24.8**	**-0.5**
GVD	comp=E,72854μm,0.7s			AML	AML	07 53 27.6	
GVD	comp=N,80102μm,0.3s			AML	AML	07 53 27.8	
GVDS	**Gavdos**	**0.38**	**19**	P	**Pb**	**07 53 20.2**	**+0.2**
GVDS	comp=N,17μm,0.2s			S	**Sb**	**07 53 24.8**	**-0.6**
SIVA	**Sivas**	**0.89**	**53**	P	**Pn**	**07 53 30.1**	**+1.0**
SIVA	comp=N,8μm,0.7s			S	**Sn**	**07 53 41.8**	**+0.4**
SIVA	**Sivas**	**0.89**	**53**	P	**Pn**	**07 53 30.1**	**+1.0**
SIVA				S	**Sn**	**07 53 41.0**	**-0.4**
SIVA	comp=N,10842μm,0.6s			AML	AML	07 53 48.6	
SIVA	comp=E,21569μm,0.5s			AML	AML	07 53 50.7	
TMBK	**Timbaki Herakl**	**0.90**	**49**	P	**Pn**	**07 53 29.7**	**+0.5**
VAM	**Vamos**	**0.95**	**13**	P	**Pb**	**07 53 29.5**	**-0.1**
VAM	comp=E,7μm,0.6s			S	**Sb**	**07 53 42.2**	**+0.5**
VAM	**Vamos**	**0.95**	**13**	P	**Pb**	**07 53 29.6**	**-0.1**
VAM				S	**Sn**	**07 53 42.9**	**+0.1**
VAM	comp=E,21480μm,0.7s			AML	AML	07 53 48.5	
VAM	comp=N,6026μm,0.6s			AML	AML	07 53 53.5	
IMMV	**Iera Moni Meta**	**0.97**	**2**	P	**Pb**	**07 53 30.0**	**-0.1**
IMMV	comp=N,13μm,0.6s			S	**Sn**	**07 53 43.5**	**0.0**
IMMV	**Iera Moni Meta**	**0.97**	**2**	P	**Pb**	**07 53 30.1**	**0.0**
IMMV				S	**Sn**	**07 53 43.9**	**+0.5**
PRNS	**Prines Rethymn**	**0.99**	**28**	P	**Pb**	**07 53 29.8**	**-0.6**
PRNS				S	**Sb**	**07 53 41.6**	**-1.5**
CHAN	**Chania**	**1.04**	**5**	P	**Pn**	**07 53 31.0**	**-0.1**
CHAN	comp=N,2μm,0.9s			S	**Sb**	**07 53 44.4**	**+0.1**
IDI	**Anoyia** comp=N,54nm,0.3s,baz=228,slow=16,SNR=84	**1.12**	**44**	Pg	**Pb**	**07 53 32.7**	**0.0**
IDI	comp=N,91nm,0.3s,baz=310,slow=18,SNR=13			Lg	Lg	07 53 51.9	
IDI	**Anoyia**	**1.12**	**44**	P	**Pb**	**07 53 32.8**	**+0.2**
IDI				S	**Sn**	**07 53 48.9**	**+1.8**
IDI	comp=N,2413μm,0.8s			AML	AML	07 53 53.4	
IDI	comp=E,1705μm,0.5s			AML	AML	07 53 55.3	
IACM	**Heraklion**	**1.24**	**48**	P	**Pb**	**07 53 36.1**	**+1.4**
HRKL	**Herakleio**	**1.26**	**49**	P	**Pb**	**07 53 36.8**	**+1.8**
LAST	**Lasithi**	**1.44**	**61**	P	**Pb**	**07 53 38.7**	**+0.7**
LAST	**Lasithi**	**1.44**	**61**	P	**Pb**	**07 53 38.8**	**+0.7**
LAST	comp=E,1011μm,0.7s			AML	AML	07 54 11.8	
LAST	comp=N,1147μm,0.8s			AML	AML	07 54 13.0	
ANKY	**Antikythira Is**	**1.48**	**339**	P	**Pb**	**07 53 40.0**	**+1.3**
ANKY	**Antikythira Is**	**1.48**	**339**	P	**Pb**	**07 53 40.0**	**+1.3**
NPS	**Neapolis**	**1.58**	**60**	P	**Pb**	**07 53 41.1**	**+0.7**
NPS	**Neapolis**	**1.58**	**60**	P	**Pb**	**07 53 41.1**	**+0.7**
NPS	comp=N,1007μm,0.5s			AML	AML	07 54 13.9	
NPS	comp=E,1448μm,0.6s			AML	AML	07 54 15.1	
KTHA	**Kythira Island**	**1.91**	**338**	P	**Pb**	**07 53 46.6**	**+0.5**
KTHR	**Kythira**	**1.93**	**337**	P	**Pb**	**07 53 45.8**	**-0.6**
ZKR	**Zakros**	**1.98**	**71**	P	**Pb**	**07 53 46.2**	**-1.0**
MHLA	**Plaka, Milos I**	**2.29**	**10**	P	**Pn**	**07 53 50.0**	**+1.6**
IOSP	**Ios island**	**2.49**	**26**	P	**Pn**	**07 53 51.8**	**+0.7**
PYL	**PYLOS**	**3.00**	**324**	P	**Pn**	**07 54 00.0**	**+1.9**
DID	**Didima**	**3.07**	**350**	P	**Pn**	**07 54 00.3**	**+1.2**
ITM	**Ithomi**	**3.15**	**329**	P	**Pn**	**07 54 02.5**	**+2.3**
ITM	**Ithomi**	**3.15**	**329**	P	**Pn**	**07 54 02.6**	**+2.3**
VLY	**Voula,Athens**	**3.36**	**358**	P	**Pn**	**07 54 04.0**	**+0.8**
VAE	**Valguarnera** comp=E,0.9nm,0.3s,baz=335,slow=19,SNR=4.6	**8.28**	**294**	Pn	**Pn**	**07 55 13.0**	**+2.3**
VAE	comp=E,1.6nm,0.3s,baz=168,slow=19,SNR=3.1			Sn	**Sn**	**07 56 43.0**	**-0.6**
BRTR	**Keskin Array B** comp=E,0.2nm,0.3s,baz=222,slow=13,SNR=11	**9.35**	**53**	Pn	**Pn**	**07 55 26.4**	**+0.9**
STON	**Ston**	**9.69**	**332**	*e*Pn	**Pn**	**07 55 27.7**	**-2.2**
RICI	**Ricice**	**10.44**	**332**	*e*Pn	**Pn**	**07 55 39.3**	**-0.9**
EIL	**Elat** comp=E,0.3nm,0.3s,baz=304,slow=18,SNR=12	**10.50**	**114**	Pn	**Pn**	**07 55 40.2**	**-0.9**
KIJV	**Kijevo**	**11.15**	**331**	*e*Pn	**Pn**	**07 55 49.0**	**-1.0**
ZIRJ	**Zirje**	**11.19**	**327**	*e*Pn	**Pn**	**07 55 48.9**	**-1.7**
MORI	**Morici**	**11.33**	**328**	*i* Pn	**Pn**	**07 55 50.2**	**-2.2**
GERES	**GERESS Array B** comp=E,0.1nm,0.3s,baz=150,slow=10,SNR=3.9	**16.24**	**335**	Pn	**P**	**07 57 03.8**	**+2.2**
KHC	**Kasperske Hory**	**16.52**	**335**	*e*P	**P**	**07 57 08.5**	**+3.8**
KHC				*ex*	x	07 57 16.5	
AKASG	**Malin Array Be** comp=E,1.2nm,0.3s,baz=204,slow=10,SNR=4.1	**16.66**	**12**	Pn	**Pn**	**07 57 04.5**	**+0.7**
KBZ	**Khabaz** comp=E,0.2nm,0.3s,baz=252,slow=9.8,SNR=8.8	**17.34**	**52**	P	**Pn**	**07 57 12.6**	**+0.1**
ESDC	**Sonseca Array** comp=E,1.2nm,0.7s,baz=93,slow=10,SNR=5.1	**22.81**	**291**	P	**P**	**07 58 12.0**	**-1.3**
HFS	**Hagfors** comp=E,1.9nm,0.6s,baz=155,slow=12,SNR=11	**26.52**	**349**	P	**P**	**07 58 46.9**	**-0.7**
FINES	**FINESS Array B** comp=E,3.7nm,0.9s,baz=171,slow=9.8,SNR=3.6	**27.01**	**2**	P	**P**	**07 58 50.6**	**-1.4**
NOA	**NORSAR Array B** comp=E,0.5nm,0.6s,baz=152,slow=8.7,SNR=3.2	**27.81**	**347**	P	**P**	**07 58 58.5**	**-0.8**
TORD	**Torodi Ar. Bea** comp=E,0.7nm,0.6s,baz=33,slow=8.7,SNR=6.1	**29.29**	**229**	P	**P**	**07 59 14.6**	**+1.8**
AKTO	**Aktyubinsk** comp=E,1.7nm,0.5s,baz=248,slow=7.8,SNR=6.8	**29.44**	**47**	P	**P**	**07 59 13.0**	**-0.9**
MKAR	**Makanchi Array** comp=E,3.0nm,0.5s,baz=268,slow=7.4,SNR=43	**44.98**	**56**	P	**P**	**08 01 25.1**	**-0.4**
ZALV	**Zalesovo Beam** comp=E,0.9nm,0.5s,baz=295,slow=6.3,SNR=8.2	**46.20**	**46**	P	**P**	**08 01 33.9**	**-1.0**
SONM	**Songino Array** comp=E,0.9nm,0.5s,baz=264,slow=9.3,SNR=3.3	**60.69**	**50**	P	**P**	**08 03 21.6**	**0.0**
YKA	**Yellowknife Ar** comp=E,0.1nm,0.3s,baz=32,slow=5.2,SNR=4.1	**77.78**	**342**	P	**P**	**08 05 07.0**	**0.0**
PDAR	**Pinedale Array** comp=E,0.1nm,0.3s,baz=18,slow=3.8,SNR=3.6	**92.14**	**328**	P	**P**	**08 06 18.4**	**-1.6**

*UPP **25** 09:00:04.3±3.0,64°58N×31°11E,h0km,ML1.7,Suspected explosion*

*KOLA **25** 09:00:05.3,64°66N×30°47E,h0km*

*ISCJB **25** 09:00:05.2±0.9,64°79N±0°05×30°7E±0°2,h0km, Error ellipse: s-maj=10.9km s-min=4.9km az=33.6*

*IDC **25** 09:00:06.2±2.9,64°67N×31°42E,h0km,mb1 3.2/3, mb1mx3.0/30,mbtmp3.0/3,ML2.2/3, Error ellipse: s-maj=42.7km s-min=10.4km az=107.0*

*NAO **25** 09:00:07.5±1.8,64°79N×30°45E,ML2.2*

*BER **25** 09:00:09.3±3.4,64°81N×30°41E,h0km,ML2.3, ML2.2(NAO),Suspected explosion*

ISC 25 09:00:07.3±1.3,64°81N±0°04×30°76E±0°07,h0km,n32, σ1§46/42,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**2.95**	**17**	Pn	**Pn**	**09 00 55.2**	**0.0**
APA0	baz=198,slow=22			Sn	**Sn**	**09 01 30.2**	**-1.1**
APA0	**Apatity Array**	**2.95**	**17**	P	**Pn**	**09 00 55.2**	**0.0**
APA0				S	**Sn**	**09 01 32.6**	**+1.4**
APA0	**Apatity Array**	**2.95**	**17**	Pn	**Pn**	**09 00 55.2**	**0.0**
APA0	baz=198,slow=22			Sn	**Sn**	**09 01 30.2**	**-1.1**
APA	**Apatity**	**2.97**	**20**	P	**Pn**	**09 00 55.6**	**+0.1**
APA				S	**Sn**	**09 01 33.1**	**+1.4**
KALU	**Kalix**	**3.28**	**292**	P	**Pn**	**09 01 00.1**	**+0.3**
KALU				S	**Sn**	**09 01 40.8**	**+1.4**
PAJU	**Pajala**	**3.84**	**309**	P	**Pn**	**09 01 07.9**	**+0.4**
SJUU	**Sjulsmark**	**3.92**	**284**	P	**Pn**	**09 01 07.8**	**-0.9**
ERTU	**Ertsjaerv**	**3.95**	**300**	P	**Pn**	**09 01 08.8**	**-0.2**
FIA0	**FINESS Array S** baz=29,slow=14	**3.99**	**214**	Pn	**Pn**	**09 01 08.7**	**-1.0**
FIA0	baz=28,slow=28			Lg	Lg	09 02 08.9	
FIA0	**FINESS

ARA0				Lg	Lg	09 02 44.4
	baz=151,slow=37					
ARA0	**ARCESS Array S**	**5.16**	**339**	Pn	**Pn**	**09 01 24.4 -1.2**
	baz=151,slow=14					
ARA0				Sn	**Sn**	**09 02 22.9 -3.0**
	baz=159,slow=28					
ARA0				Sg	**Sb**	**09 02 44.4 +3.6**
	baz=151,slow=37					
ARCES	**ARCESS Array B**	**5.16**	**339**	Pn	**Pn**	**09 01 24.7 -0.9**
	comp=Z,0.3nm,0.3s,baz=156,slow=14,SNR=19					
ARCES				Sn	**Sn**	**09 02 21.6 -4.2**
	comp=Z,0.3nm,0.3s,baz=153,slow=22,SNR=3.0					
ARCES				Lg	Lg	09 02 43.8
	comp=Z,0.5nm,0.3s,baz=158,slow=22,SNR=7.0					
ARE0	**ARCESS Array S**	**5.16**	**339**	*eP*	**Pn**	**09 01 24.5 -1.1**
KEV	**Kevo**	**5.17**	**345**	*eP*	**Pn**	**09 01 25.7 -0.1**
KIF	**Kilpisjarvi**	**5.75**	**321**	*eP*	**Pn**	**09 01 34.3 +0.7**
TRO	**Tromso**	**6.66**	**322**	*eP*	**Pn**	**09 01 46.5 +0.3**
TRO				IAML		09 03 06.2
	comp=Z,3.1nm,0.8s					
KONS	**Konsvik**	**7.48**	**291**	*eP*	**Pn**	**09 01 57.4 0.0**
LOF	**Lofoten**	**7.64**	**303**	IAML		09 03 18.7
	comp=Z,7.7nm,0.8s					
NB2	**NORSAR Subarra**	**9.66**	**256**	Pn	**Pn**	**09 02 26.1 -1.3**
	baz=68,slow=16					
NB2	**NORSAR Subarra**	**9.66**	**256**	Pn	**Pn**	**09 02 26.1 -1.3**
	baz=68,slow=16					
NOA	**NORSAR Array B**	**9.66**	**256**	Pn	**Pn**	**09 02 26.4 -1.0**
	comp=Z,0.0nm,0.3s,baz=64,slow=12,SNR=2.4					
NRA0	**NORESS Array S**	**9.69**	**254**	Pn	**Pn**	**09 02 26.9 -0.9**
	baz=50,slow=18					
NRA0	**NORESS Array S**	**9.69**	**254**	Pn	**Pn**	**09 02 26.9 -0.9**
	baz=50,slow=18					

*KRNET **25** 09:43:06.7±0.1, 39.05N×72.98E, mb2.6*
*SOME **25** 09:43:10.1, 39.55N×72.43E, h5km*
*NNC **25** 09:43:22.6±6.1, 40.22N×72.75E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=60.8km s-min=31.6km az=162.0*

ISC 25 09:43:11.4±2.6, 39.3N±0.1×72.85E±0.07, h10km, n11, σ2s03/19, 8C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**1.74**	**297**	⇓*iP*	**Pn**	**09 43 40.4**	**-1.4**
	baz=2.0						
BTK				⇓*eS*	**Sn**	**09 44 04.6**	**+0.5**
	baz=2.0						
ARSB	**Arslanbob**	**2.03**	**3**	⇓*iP*	**Pn**	**09 43 44.4**	**-1.4**
	baz=0.0						
ARSB				⇓*eS*	**Sn**	**09 44 12.7**	**+1.5**
	baz=0.0						
ARK	**Arkit**	**2.59**	**345**	⇑*iP*	**Pn**	**09 43 52.5**	**-0.9**
	baz=45						
ARK				⇑*iS*	**Sn**	**09 44 26.2**	**+1.2**
	baz=45						
ARLS	**Aral**	**2.80**	**23**	⇑*iP*	**Pn**	**09 43 55.2**	**-1.2**
	baz=20						
ARLS				⇑*eS*	**Sn**	**09 44 30.2**	**0.0**
	baz=20						
MRKS	**Merke**	**3.46**	**5**	*eP*	**Pb**	**09 44 11.3**	**-1.4**
	6.5nm,0.3s						
MRKS				*eS*	**Sb**	**09 44 55.0**	**+0.2**
	6.0nm,0.5s						
IUG	**Iuzhnay**	**3.56**	**324**	*eP*	**Pn**	**09 44 08.6**	**+1.8**
	0.5nm,0.2s						
IUG				*eS*	**Sn**	**09 44 50.1**	**+1.1**
	11nm,0.4s						
AAK	**Ala-Archa**	**3.56**	**20**	⇑Pn	**Pn**	**09 44 08.6**	**+1.7**
	3.4nm,0.6s						
AAK				⇑Lg	Lg	09 44 51.8	
	6.6nm,0.8s						
TKM2	**Tokmak 2**	**4.17**	**29**	⇓Pg	**Pb**	**09 44 22.8**	**-2.3**
	3.7nm,1.1s						
TKM2				⇑Lg	Lg	09 45 17.0	
	1.4nm,0.5s						
KK31	**Karatay Array**	**4.19**	**336**	⇑Pn	**Pn**	**09 44 15.9**	**+0.6**
	0.4nm,0.3s,baz=142,slow=13,SNR=7.3						
KK31				⇓Lg	Lg	09 45 06.4	
	1.3nm,0.4s,baz=146,slow=27,SNR=5.7						
KST	**Kastek**	**4.42**	**31**	*eP*	**Pb**	**09 44 30.7**	**+1.6**
	1.7nm,0.1s						
KST				*eS*	**Sg**	**09 45 29.0**	**-4.3**
	4.7nm,0.6s						
DGS	**Degeres**	**4.52**	**28**	*eP*	**Pb**	**09 44 31.8**	**+1.0**
	1.8nm,0.6s						
DGS				*eS*	**Sb**	**09 45 29.7**	**+4.4**
	3.7nm,0.4s						

*KRAR **25** 09:53:04.8±0.1, 53.60N×87.67E, M2.5, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

IDC 25 09:53:11.6±3.9, 53.52N×87.73E, h0km, mb1 3.3/2, mb1mx3.0/52, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=40.2km s-min=16.3km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**1.79**	**285**	Pg	Pn	09 53 42.8	-0.9
	6.2nm,0.3s,baz=102,slow=14,SNR=28						
ZALV				Lg	Lg	09 54 08.9	
	6.6nm,0.3s,baz=105,slow=27,SNR=12						
KURBB	**Kurchatov Arra**	**6.37**	**247**	Pn	Pn	09 54 47.4	+0.7
	0.3nm,0.3s,baz=62,slow=14,SNR=3.4						
KURBB				Lg	Lg	09 56 32.9	
	0.1nm,0.3s,baz=64,slow=32,SNR=5.3						
MKAR	**Makanchi Array**	**7.58**	**210**	Pn	Pn	09 55 04.6	+1.3
	0.3nm,0.3s,baz=29,slow=14,SNR=15						
BVAR	**Borovoye Array**	**10.40**	**274**	Pn	Pn	09 55 44.6	+2.7
	0.2nm,0.3s,baz=61,slow=18,SNR=5.6						
I34MN	**SONGINO INFRAS**	**13.14**	**108**	*i*		11 11 00.0	
	baz=302,slow=339,SNR=1.3						

JMA 25 10:01:06.1±0.3, 25.83N×123.46E, h209km, M3.6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.42**	**197**	P	Pn	10 01 41.1	+1.1
YOJ				*eS*	S	10 02 07.0	+0.9
JYNG	**Yonagunijimaku**	**1.45**	**199**	P	Pn	10 01 40.7	+0.5
JYNG				*eS*	S	10 02 06.8	+0.3
JISG	**Ishigakijimahi**	**1.46**	**148**	P	Pn	10 01 40.2	-0.1
JISG				S	S	10 02 06.7	+0.2
IRIF	**Iriomote-Funau**	**1.51**	**171**	P	Pn	10 01 40.5	-0.2
IRIF				S	S	10 02 06.5	-0.9
JIJ	**Ishigaki jima**	**1.59**	**157**	P	Pn	10 01 41.0	-0.4
JIJ				*i* S	S	10 02 07.6	-0.9
JTJ	**Tarama**	**1.63**	**136**	P	Pn	10 01 42.3	+0.5
JTJ				S	S	10 02 10.1	+0.9
JKRS	**Kuro-shima**	**1.66**	**162**	P	Pn	10 01 42.0	-0.1
JKRS				S	S	10 02 09.5	-0.2
HATJ	**Hateruma jima**	**1.79**	**170**	S	S	10 02 11.4	-0.5
JIRB	**Irabujima**	**1.84**	**122**	P	Pn	10 01 44.1	+0.4
JIRB				S	S	10 02 12.7	+0.1
JIKM	**Ikemajima**	**1.85**	**119**	P	Pn	10 01 45.0	+1.2
JIKM				*eS*	S	10 02 14.1	+1.3
JMJ2	**Miyako jima3**	**2.01**	**122**	P	Pn	10 01 46.1	+0.7
JMJ2				S	S	10 02 16.6	+1.1
JOGS	**Gusukube**	**2.06**	**121**	P	Pn	10 01 46.7	+0.8
JOGS				S	S	10 02 17.7	+1.3
JKE	**Kume jima 2**	**3.03**	**80**	P	Pn	10 01 56.5	0.0
JAGN	**Aguni-jima**	**3.48**	**77**	P	Pn	10 02 01.0	-0.8
JAGN				S	S	10 02 44.1	-1.0
JJT3	**Tamagusuku3**	**3.90**	**84**	P	Pn	10 02 07.0	0.0
JJT3				*eS*	S	10 02 54.3	-0.2
JNTH	**Nagotoyohara**	**4.16**	**80**	P	Pn	10 02 09.5	-0.6
JNTH				S	S	10 02 57.2	-2.9
JOW	**Kunigami**	**4.43**	**76**	P	Pn	10 02 12.0	-1.6
JOW				*eS*	S	10 03 02.6	-3.8
JYRO	**Yoronjima**	**4.63**	**74**	P	Pn	10 02 14.0	-2.0
JYRO				S	S	10 03 06.8	-4.0
JOKE	**Okinoerabujima**	**4.82**	**70**	P	Pn	10 02 17.2	-1.3
JOKE				S	S	10 03 10.9	-4.3
JTK	**Tokunoshima**	**5.28**	**67**	*eS*	S	10 03 21.3	-4.4

*ISCJB **25** 10:20:59.0±0.5, 59.59S±0.08×25.3W±0.2, h10km, mb4.0/3, MS3.1/3, Error ellipse: s-maj=14.6km s-min=7.4km az=136.4*
*IDC **25** 10:20:59.6±1.4, 59.38S×25.60W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/16, mbtmp4.1/3, MS3.2/3, Ms1 3.1/3, ms1mx3.0/17, Error ellipse: s-maj=66.5km s-min=33.3km az=177.0*
*NEIC **25** 10:21:01.1±1.5, 59.5S±0.1×25.3W±0.2, h10km±2km, mb4.4/15*

ISC 25 10:21:01.1±0.6, 59.5S±0.1×25.3W±0.1, h10km, n35, σ0s99/33, mb4.4/8, MS3.1/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**8.06**	**306**		**Pn**	**10 22 57.9**	**-0.1**
VNA1	**Neumayer--Stat**	**13.22**	**155**	P	**Pn**	**10 24 07.7**	**-0.8**
VNA3	**Neumayer Olymp**	**13.40**	**158**	P	**Pn**	**10 24 09.8**	**-1.2**
VNA2	**Neumayer--Watz**	**13.62**	**155**	P	**Pn**	**10 24 12.7**	**-1.2**
	baz=315,slow=15						
SNAA	**Sanae**	**15.18**	**153**	P	**Pn**	**10 24 33.9**	**-1.4**
SNAA	**Sanae**	**15.18**	**153**		**Pn**	**10 24 34.2**	**-1.1**
EFI	**East Falkland**	**19.95**	**279**	P	**P**	**10 25 32.2**	**-0.7**
QSPA	**South Pole Qui**	**30.75**	**180**	P	**P**	**10 27 18.8**	**+2.6**
TRQA	**Tornquist**	**31.70**	**296**	P	**P**	**10 27 24.8**	**+0.1**
PLCA	**Paso Flores**	**33.71**	**283**	P	**P**	**10 27 40.3**	**-2.0**
	1.8nm,0.8s,baz=153,slow=7.7,SNR=6.8						
PLCA				LR	LR	10 39 49.1	
	comp=Z,39nm,19.7s,baz=128,slow=34						
PLCA	**Paso Flores**	**33.71**	**283**	P	**P**	**10 27 42.5**	**+0.2**
PLCA				IAmb	IAmb	10 27 42.8	
	comp=Z,6.7nm,1.3s						
MAW	**Mawson**	**36.80**	**140**	LR	LR	10 41 10.7	
	comp=Z,28nm,19.8s,baz=238,slow=33						
PEL	**Peldehue**	**39.78**	**291**	P	**P**	**10 28 35.0**	**+0.9**
ROC1	**El Roble**	**40.08**	**291**	P	**P**	**10 28 37.7**	**+1.0**
GO04	**Tololo Observa**	**42.30**	**293**	P	**P**	**10 28 54.9**	**-0.1**
GO04				IAmb	IAmb	10 28 55.3	
	comp=Z,15nm,1.5s						
VNDA	**Vanda**	**43.17**	**182**	P	**P**	**10 29 02.3**	**+1.1**
VNDA				IAmb	IAmb	10 29 12.8	
	comp=Z,8.8nm,1.4s						
BOSA	**Boshof**	**45.98**	**71**	LR	LR	10 44 52.4	
	comp=Z,37nm,21.9s,baz=28,slow=31						
BOSA	**Boshof**	**45.98**	**71**	P	**P**	**10 29 24.0**	**-0.3**
BOSA				IAmb	IAmb	10 29 35.2	
	comp=Z,9.1nm,1.4s						
PB10	**IPOC Station P**	**47.88**	**298**	P	**P**	**10 29 39.0**	**-0.1**
LBTB	**Lobatse**	**49.17**	**68**	P	**P**	**10 29 49.3**	**+0.2**
MNMC	**Minye Minye**	**51.30**	**302**	P	**P**	**10 30 06.8**	**+1.2**
MNMC				IAmb	IAmb	10 30 23.0	
	comp=Z,8.9nm,1.5s						
LPAZ	**La Paz**	**53.21**	**305**	P	**P**	**10 30 18.7**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=180,slow=5.1,SNR=4.4						
LPAZ	**La Paz**	**53.21**	**305**	P	**P**	**10 30 19.6**	**-0.5**
LPAZ				IAmb	IAmb	10 30 33.7	
	comp=Z,4.1nm,1.4s						
WKZ	**Wanaka**	**75.38**	**190**	P	**P**	**10 32 42.9**	**-1.5**
TOA0	**Tordi Ar. Sit**	**75.61**	**27**	P	**P**	**10 32 46.6**	**+0.7**
TOA0				IAmb	IAmb	10 32 46.9	
	comp=Z,3.1nm,0.8s						
TORD	**Tordi Ar. Bea**	**75.61**	**27**	P	**P**	**10 32 46.0**	**0.0**
	comp=Z,2.8nm,0.7s,baz=201,slow=6.1,SNR=16						
KWP	**Kalwaria Pacla**	**115.55**	**32**		**PKiKP**	**10 39 42.5**	**+0.4**
PDAR	**Pinedale Array**	**122.99**	**299**	PKP	**PKPdf**	**10 39 56.2**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=116,slow=4.2,SNR=2.8						
NVAR	**Mina Array Bea**	**123.61**	**290**	PKP	**PKiKP**	**10 39 58.7**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=132,slow=2.7,SNR=4.4						
YKA	**Yellowknife Ar**	**139.38**	**315**	PKP	**PKPdf**	**10 40 26.7**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=127,slow=2.2,SNR=10						
INK	**Inuvik**	**149.08**	**317**		**PKPbc**	**10 40 47.6**	**-0.1**
SONM	**Songino Array**	**149.77**	**91**	PKPbc	**PKPbc**	**10 40 50.0**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=204,slow=3.2,SNR=5.3						
DOT	**Dot Lake**	**151.56**	**305**		**PKiKP**	**10 40 54.8**	**+0.5**
SCRK	**Sand Creek**	**151.64**	**305**		**PKiKP**	**10 40 55.1**	**+0.6**
ILAR	**Eielson Array**	**153.09**	**306**	PKPbc	**PKPbc**	**10 40 57.1**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=134,slow=2.6,SNR=25						

MIRAS 25 10:31:10.5±0.0, 56.95N×61.50E, h0km, ML2.9/4, 1C, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAUR	**Kamensk Uralsk**	**0.52**	**180**	⇑*iP*	Pg	10 31 18.8	-1.6
	2348µm,0.6s						
KAUR				*eS*	Sg	10 31 26.1	-1.0
ARU	**Arti**	**1.70**	**253**	*eP*	Pn	10 31 41.2	-0.2
	243µm,0.8s						
ARU				*eS*	Sn	10 32 04.2	+0.3
PR7R	**Sarany**	**2.17**	**319**	*eP*	Pn	10 31 47.6	-0.3
	198µm,0.5s						
PR7R				*eS*	Sn	10 32 16.1	+0.6
PR3R	**Kungur**	**2.49**	**283**	*eP*	Pn	10 31 51.3	-0.9
	199µm,0.8s						
PR3R				*eS*	Sn	10 32 23.4	+0.1

IDC 25 10:52:56.1±2.5, 0.38N×127.54E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/23, mbtmp3.1/3, Error ellipse: s-maj=202.8km s-min=30.0km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.27**	**162**	P	P	10 57 43.7	-0.5
	0.2nm,0.4s,baz=342,slow=11,SNR=1.6						
ASAR	**Alice Springs**	**24.69**	**166**	P	P	10 58 19.4	+0.3
	0.3nm,0.4s,baz=340,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**60.75**	**326**	P	P	11 03 09.7	0.0
	0.1nm,0.4s,baz=135,slow=7.3,SNR=2.0						

IDC 25 11:07:16.3±1.9, 6.56N×31.98E, h0km, mb4.0/2, mb1 4.0/3, mb1mx3.5/34, mbtmp4.0/3, ML3.5/1, Error ellipse: s-maj=46.2km s-min=35.1km az=51.0, Sudan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**9.27**	**145**	Pn	Pn	11 09 31.6	0.0
	0.5nm,0.3s,baz=345,slow=20,SNR=6.9						
KMBO				Lg	Lg	11 12 01.5	
	0.3nm,0.3s,baz=336,slow=23,SNR=3.9						
TORD	**Tordi Ar. Bea**	**30.52**	**285**	P	P	11 13 31.7	0.0
	1.8nm,0.4s,baz=100,slow=7.9,SNR=18						
BRTR	**Keskin Array B**	**33.06**	**2**	P	P	11 13 53.8	0.0
	0.4nm,0.4s,baz=181,slow=7.4,SNR=5.1						

*IDC **25** 11:08:43.5±1.8, 23.94S×179.63W, h474km±19km, mb3.7/9, mb1 3.8/11, mb1mx3.5/31, mbtmp4.6/11, Error ellipse: s-maj=20.6km s-min=15.6km az=150.0*
*NEIC **25** 11:08:44.4±1.9, 23.84S±0.10×179.6W±0.1, h486km±7km, mb4.4/30*
*ISCJB **25** 11:08:45.4±0.4, 23.86S±0.05×179.76W±0.08, h500km, mb4.2/14, Error ellipse: s-maj=9.4km s-min=6.8km az=2.8*

ISC 25 11:08:45.8±0.5, 23.86S±0.07×179.59W±0.09, h500km, n59, σ1s79/65, mb4.4/24, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.49**	**340**	P	**P**	**11 10 29.0**	**+1.9**
NIUE	**Niue**	**10.18**	**64**	P	**P**	**11 11 08.0**	**+2.9**
AFI	**Afiamalu**	**12.35**	**38**	P	**P**	**11 11 25.8**	**-2.5**
	1.6nm,0.3s,baz=247,slow=7.7,SNR=4.0						
AFI				S	**S**	**11 13 37.4**	**-4.9**
	3.7nm,0.3s,baz=52,slow=22,SNR=7.8						
AFI	**Afiamalu**	**12.35**	**38**	P	**P**	**11 11 26.8**	**-1.5**
OUZ	**Omahuta**	**12.77**	**206**	P	**P**	**11 11 30.2**	**-2.1**
URZ	**Urewera**	**14.62**	**190**	P	**P**	**11 11 49.3**	**-2.6**
	1.2nm,0.3s,baz=51,slow=5.1,SNR=7.9						
URZ				S	**S**	**11 14 22.8**	**-2.5**
	0.4nm,0.3s,baz=162,slow=20,SNR=2.8						
URZ	**Urewera**	**14.62**	**190**	P	**P**	**11 11 52.9**	**+1.0**
BFZ	**Birch Farm**	**17.13**	**191**	P	**P**	**11 12 16.9**	**-1.0**
MSWZ	**Moikau Station**	**18.03**	**193**	P	**P**	**11 12 24.8**	**-1.5**
SNZO	**South Karori**	**18.04**	**194**	P	**P**	**11 12 25.4**	**-0.9**
BHW	**Baring Head**	**18.10**	**194**	P	**P**	**11 12 26.6**	**-0.2**
QRZ	**Quartz Range**	**18.16**	**199**	P	**P**	**11 12 28.1**	**+0.6**
NNZ	**Nelson**	**18.28**	**197**	P	**P**	**11 12 28.4**	**-0.1**
TUWZ	**Tuamarina**	**18.33**	**196**	P	**P**	**11 12 28.5**	**-0.5**
MQZ	**McQueen's Vall**	**20.80**	**196**	P	**P**	**11 12 51.6**	**+0.2**
RPZ	**Rata Peaks**	**21.24**	**199**	P	**P**	**11 12 53.0**	**-2.5**
	8.8nm,0.6s,baz=350,slow=16,SNR=4.6						
RPZ	**Rata Peaks**	**21.24**	**199**	IAmb	IAmb	11 12 57.3	
	comp=Z,14nm,0.7s						
ARMA	**Armidale**	**26.39**	**249**	P	**P**	**11 13 42.9**	**+1.1**
ARMA				IAmb	IAmb	11 13 43.3	
	comp=Z,11nm,0.7s						
EIDS	**Eidsvold**	**26.68**	**261**	P	**P**	**11 13 44.4**	**+0.1**
EIDS				IAmb	IAmb	11 13 44.9	
	comp=Z,11nm,0.7s						
CAN	**Canberra**	**29.48**	**240**	P	**P**	**11 14 09.1**	**+0.4**
CTAO	**Charters Tower**	**31.85**	**270**	P	**P**	**11 14 29.1**	**-0.1**
TOO	**Toolangi**	**32.78**	**237**	P	**P**	**11 14 37.6**	**+0.6**
TOO				IAmb	IAmb	11 14 37.6	
	comp=Z,8.6nm,0.7s						
TAU	**Tasmania Unive**	**33.23**	**227**	P	**P**	**11 14 41.3**	**+0.7**
PMG	**Port Moresby**	**34.84**	**289**	P	**P**	**11 14 54.5**	**0.0**
STKA	**Stephens Creek**	**35.08**	**248**	P	**P**	**11 14 56.0**	**-0.4**
	comp=Z,3.4nm,0.5s,baz=94,slow=11,SNR=24						
STKA	**Stephens Creek**	**35.08**	**248**	P	**P**	**11 14 56.4**	**-0.1**
COEN	**Coen**	**36.48**	**279**	P	**P**	**11 15 08.7**	**+0.4**
COEN				IAmb	IAmb	11 15 12.2	
	comp=Z,16nm,1.5s						
BBOO	**Buckleboo**	**39.80**	**247**	P	**P**	**11 15 34.2**	**-1.0**
BBOO				IAmb	IAmb	11 15 34.7	
	comp=Z,13nm,1.0s						
AS31	**Alice Springs**	**42.41**	**260**	P	**P**	**11 15 55.6**	**-0.5**
ASAR	**Alice Springs**	**42.41**	**260**	P	**P**	**11 15 55.2**	**-0.9**
	comp=Z,11nm,0.8s,baz=100,slow=6.9,SNR=103						
ASAR				ScP	**ScP**	**11 20 42.3**	**+1.4**
	comp=Z,1.4nm,0.9s,baz=101,slow=4.5,SNR=7.3						
WR0	**Warramunga Arr**	**42.59**	**266**	P	**P**	**11 15 56.6**	**-0.9**
WR0				IAmb	IAmb	11 15 56.9	
	comp=Z,11nm,0.9s						
WRAB	**Tennant Creek**	**42.77**	**266**	P	**P**	**11 15 58.0**	**-1.0**
WRAB				IAmb	IAmb	11 15 58.4	
	comp=Z,13nm,0.8s						
WRA	**Warramunga Arr**	**42.78**	**266**	P	**P**	**11 15 57.7**	**-1.3**
	comp=Z,16nm,0.7s,baz=103,slow=8.2,SNR=87						
WRA				ScP	**ScP**	**11 20 43.5**	**+1.0**
	comp=Z,1.4nm,1.1s,baz=103,slow=3.7,SNR=4.8						
FORT	**Forrest**	**46.67**	**250**	P	**P**	**11 16 27.9**	**-1.0**
MTN	**Manton Dam**	**47.83**	**274**	P	**P**	**11 16 36.4**	**-1.4**
MTN				IAmb	IAmb	11 16 47.2	
	comp=Z,14nm,1.1s						
KNRA	**Kununurra**	**49.06**	**270**	P	**P**	**11 16 46.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**51.20**	**265**	P	**P**	**11 17 02.1**	**-0.6**
	comp=Z,7.0nm,0.6s,baz=108,slow=7.6,SNR=18						
FITZ	**Fitzroy Crossi**	**51.20**	**265**	P	**P**	**11 17 02.4**	**-0.3**
SIJI	**Sorong**	**52.78**	**288**	P	**P**	**11 17 13.4**	**-0.7**
	comp=Z,14nm,0.7s,baz=92,slow=7.0,SNR=8.0						
PSA00	**Pilbara Seismi**	**55.54**	**259**	P	**P**	**11 17 32.4**	**-1.2**
NWAO	**Narrogin (SRO)**	**55.59**	**245**	P	**P**	**11 17 32.7**	**-1.0**
	comp=Z,3.9nm,0.5s,baz=90,slow=8.1						
NWAO	**Narrogin (SRO)**	**55.59**	**245**	P	**P**	**11 17 32.7**	**-1.0**
NWAO				IAmb	IAmb	11 17 46.3	
	comp=Z,35nm,1.4s						
NWAO	**Narrogin (SRO)**	**55.59**	**245**	P	**P**	**11 17 32.9**	**-0.9**
NWAO				IAmb	IAmb	11 17 46.3	
	comp=Z,26nm,1.4s						
MORW	**Morawa**	**57.24**	**250**	P	**P**	**11 17 44.8**	**-0.5**
MORW				IAmb	IAmb	11 17 44.9	
	comp=Z,8.3nm,0.6s						
CASY	**Casey**	**60.31**	**206**	P	**P**	**11 18 05.2**	**0.0**
QSPA	**South Pole Qui**	**66.22**	**180**	P	**P**	**11 18 45.3**	**+1.9**
KSM	**Kuching**	**72.47**	**280**	P	**P**	**11 19 21.9**	**+0.2**
KSM				IAmb	IAmb	11 19 33.0	
	comp=Z,19nm,1.3s						
NJ2	**Nanjing**	**80.92**	**311**	*eP*	**P**	**11 20 08.0**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NVAR	**Mina Array Bea**	**84.47**	**44**	P	**P**	**11 20 26.3**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=254,slow=5.5,SNR=2.7						
CMAR	**Chiang Mai Arr**	**89.86**	**290**	P	**P**	**11 20 52.1**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=108,slow=2.9,SNR=4.0						
TXAR	**Lajitas Array**	**90.09**	**58**	P	**P**	**11 20 53.4**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=220,slow=5.7,SNR=6.1						
HHC	**Hu-ho-hao-te**	**90.66**	**315**	P	**P**	**11 20 54.8**	**+0.1**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,78nm,6.6s						
CD2	**Chengdu**	**91.37**	**303**	P	**P**	**11 20 57.5**	**-0.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
LZH	**Lanzhou**	**93.65**	**308**	*eP*	**P**	**11 21 09.5**	**+0.9**
LZH				pP	pP	11 22 59.5	+0.3
LZH				sP	sP	11 23 57.5	+8.2
LZH				PP	**PP**	**11 25 08.0**	**+5.6**
LZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
LZH				pmax	pmax		
	comp=Z,210nm,5.6s						
KSH	**Kashi**	**115.56**	**304**	PKP	**PKiKP**	**11 26 33.3**	**+2.3**
KSH				PKS	**PKSdf**	**11 30 08.3**	**+0.6**
KSH				SKS	**SKSdf**	**11 32 59.5**	**+4.0**
KSH				LR	LR		
	comp=N,440nm,5.3s						
KSH				LR	LR		
	comp=E,610nm,5.8s						
KSH				LR	LR		
	comp=Z,370nm,6.8s						
AKASG	**Malin Array Be**	**145.14**	**328**	PKPbc	**PKPab**	**11 27 25.7**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=48,slow=4.0,SNR=4.2						
BRTR	**Keskin Array B**	**147.85**	**307**	PKPbc	**PKiKP**	**11 27 34.1**	**-1.9**
	comp=Z,0.7nm,0.8s,baz=64,slow=5.0,SNR=3.3						
VYHS	**Vyhne**	**151.42**	**334**	*e*PKP	**PKPab**	**11 27 47.0**	**-6.2**
TORD	**Tordi Ar. Bea**	**169.27**	**187**	PKPab	**PKPab**	**11 29 11.7**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=178,slow=

GUMO				S		**Sn**	**11 45 28.7**	**-4.3**
	21nm,0.3s,baz=149,slow=23,SNR=13							
WRA	**Warramunga Arr**	**35.09**	**197**	P		**P**	**11 51 21.9**	**+1.5**
	0.4nm,0.8s,baz=10,slow=10,SNR=2.0							
ASAR	**Alice Springs**	**38.74**	**196**	P		**P**	**11 51 53.1**	**+1.9**
	0.4nm,1.0s,baz=16,slow=10,SNR=2.0							
SONM	**Songino Array**	**46.48**	**325**	P		**P**	**11 52 52.7**	**-0.6**
	0.3nm,0.4s,baz=145,slow=5.3,SNR=2.6							
MKAR	**Makanchi Array**	**61.25**	**316**	P		**P**	**11 54 40.5**	**+0.3**
	0.8nm,0.6s,baz=92,slow=9.1,SNR=11							
ILAR	**Eielson Array**	**68.40**	**25**	P		**P**	**11 55 26.2**	**+0.3**
	0.2nm,0.6s,baz=249,slow=6.5,SNR=3.1							
YKA	**Yellowknife Ar**	**82.70**	**27**	P		**P**	**11 56 47.6**	**+0.5**
	0.1nm,0.4s,baz=286,slow=5.9,SNR=2.7							
NVAR	**Mina Array Bea**	**86.86**	**51**	P		**P**	**11 57 10.4**	**+1.7**
	0.2nm,0.4s,baz=264,slow=5.5,SNR=5.2							
ELK	**Elko**	**88.50**	**48**	P		**P**	**11 57 17.6**	**+1.2**
	0.8nm,0.7s,baz=257,slow=5.7,SNR=7.2							

IDC ***25*** *11:50:40.7±0.5,52.6°S×27.87E,h0km,mb4.5/15, mb1 4.6/15,mb1mx4.4/25,mbtmp4.5/15,MS4.1/22, Ms1 4.1/22,ms1mx4.0/34,Error ellipse: s-maj=21.1km s-min=13.6km az=72.0*

ISCJB ***25*** *11:50:41.3±0.3,52.57°S±0.05°×27.9E±0.1°,h10km, mb4.4/14,MS4.2/23,Error ellipse: s-maj=9.6km s-min=7.4km az=13.9*

NEIC ***25*** *11:50:42.7±1.4,52.63°S±0.10°×27.9E±0.2°,h10km±2km, mb4.7/30*

BJI ***25*** *11:50:42.6±0.0,52.52°S×27.60E,h10km,Ms5.4/2, Ms7 5.3/2*

GCMT ***25*** *11:50:45.7±0.2,52.66°S±0.01°×27.98E±0.02,h12km±1km, MW5.0/95,Moment Tensor Solution. s33,c43; s95,c136; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.48±.11; Mθθ2.84±.13; Mθθ-2.36±.12; Mrθ0.66±.30; Mθθ2.48±.10; Mθr-0.72±.30; Best double couple: M◎3.74200×10^16^ NP1:φ292.00000°,δ82.00000°,λ-15.00000°. NP2: φ24.00000°,δ75.00000°,λ-172.00000°. Principal axes: T 3.8620, Plg5.0000°, Azm339.0000°; N -0.2400, Plg73.0000°, Azm84.0000°; P -3.6230, Plg16.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 11:50:43.1±0.4,52.61S±0.07×27.94E±0.08,h10km,n78, σ1s54/69,mb4.7/19,MS4.2/23,South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CRZF	**Crozet Islands**	**16.68**	**78**	P		**Pn**	**11 54 37.0**	**+0.3**
CRZF				IAmb		IAmb	11 54 37.6	
	comp=Z,55nn,0.8s							
SUR	**Sutherland**	**20.87**	**343**	P		**P**	**11 55 25.3**	**0.0**
	comp=Z,25nn,0.8s,baz=160,slow=11,SNR=15							
SUR				LR		LR	12 01 46.0	
	comp=Z,1μm,21.1s,baz=155,slow=32							
SUR	**Sutherland**	**20.87**	**343**	P		**P**	**11 55 24.9**	**-0.4**
SUR				IAmb		IAmb	11 55 28.6	
	comp=Z,63nm,1.1s							
MAW	**Mawson**	**22.54**	**145**	P		**P**	**11 55 42.3**	**-0.5**
	comp=Z,11nm,0.8s,baz=302,slow=11,SNR=22							
MAW				LR		LR	12 02 45.0	
	comp=Z,524nm,21.1s,baz=286,slow=32							
MAW	**Mawson**	**22.54**	**145**	P		**P**	**11 55 42.2**	**-0.5**
SNAA	**Sanae**	**23.42**	**204**	P		**P**	**11 55 52.4**	**+0.4**
SNAA	**Sanae**	**23.42**	**204**	P		**P**	**11 55 52.1**	**0.0**
	comp=Z,16nm,0.7s,baz=69,slow=8.2,SNR=54							
SNAA				LR		LR	12 02 47.7	
	comp=Z,587nm,21.9s,baz=42,slow=31							
SNAA	**Sanae**	**23.42**	**204**	P		**P**	**11 55 52.0**	**-0.1**
SNAA				S		**S**	**12 00 08.5**	**+3.5**
BOSA	**Boshof**	**24.05**	**354**	P		**P**	**11 55 57.5**	**-1.0**
	comp=Z,18nm,0.8s,baz=175,slow=11,SNR=18							
BOSA				LR		LR	12 03 35.2	
	comp=Z,869nm,20.9s,baz=177,slow=32							
BOSA	**Boshof**	**24.05**	**354**	P		**P**	**11 55 58.0**	**-0.5**
VNA2	**Neumayer--Watz**	**24.21**	**208**	P		**P**	**11 55 60.0**	**+0.5**
	baz=48,slow=10							
VNA1	**Neumayer--Stat**	**24.32**	**209**	P		**P**	**11 56 01.4**	**+0.9**
VNA3	**Neumayer Olymp**	**25.02**	**208**	P		**P**	**11 56 07.0**	**+0.2**
LBTB	**Lobatse**	**27.61**	**355**	P		**P**	**11 56 29.4**	**-1.3**
	comp=Z,2.8nm,0.7s,baz=180,slow=8.4,SNR=5.6							
LBTB				LR		LR	12 05 31.5	
	comp=Z,755nm,20.1s,baz=173,slow=32							
LBTB	**Lobatse**	**27.61**	**355**	P		**P**	**11 56 30.5**	**-0.2**
LBTB				IAmb		IAmb	11 56 44.6	
	comp=Z,9.5nm,0.9s							
ABPO	**Ambohimpanom**	**36.75**	**31**	P		**P**	**11 57 53.3**	**+2.5**
ABPO				IAmb		IAmb	11 57 55.6	
	comp=Z,12nm,1.2s							
HOPE	**Hope Point**	**37.22**	**241**	P		**P**	**11 57 53.4**	**-0.9**
LSZ	**Lusaka**	**37.24**	**0**	P		**P**	**11 57 55.3**	**+0.3**
QSPA	**South Pole Qui**	**37.61**	**180**	P		**P**	**11 57 56.6**	**-1.1**
	comp=Z,28nm,0.9s,baz=252,slow=2.0,SNR=138							
QSPA	**South Pole Qui**	**37.61**	**180**	P		**P**	**11 57 56.9**	**-0.9**
RER	**Riviere de l'E**	**38.01**	**45**	P		**P**	**11 58 01.4**	**0.0**
CASY	**Casey**	**40.84**	**142**	P		**P**	**11 58 24.6**	**+0.2**
VNDA	**Vanda**	**47.04**	**168**	P		**P**	**11 59 13.4**	**-0.7**
	comp=Z,6.9nm,0.6s,baz=237,slow=7.4,SNR=39							
VNDA				LR		LR	12 18 08.6	
	comp=Z,423nm,21.2s,baz=208,slow=35							
VNDA	**Vanda**	**47.04**	**168**	P		**P**	**11 59 14.1**	**+0.1**
VNDA				IAmb		IAmb	11 59 25.6	
	comp=Z,7.7nm,0.8s							
SBA	**Scott Base**	**47.37**	**169**	P		**P**	**11 59 17.1**	**+0.5**
MBAR	**Mbarara**	**51.88**	**4**	P		**P**	**11 59 52.1**	**+0.2**
KMBO	**Kilima Mbogo**	**51.89**	**12**	LR		LR	12 19 32.6	
	comp=Z,243nm,20.7s,baz=84,slow=33							
KMBO	**Kilima Mbogo**	**51.89**	**12**	P		**P**	**11 59 51.8**	**-0.2**
GO09	**Cerro Castillo**	**56.75**	**228**	P		**P**	**12 00 25.2**	**-1.6**
DGAR	**Diego Garcia**	**57.80**	**55**	P		**P**	**12 00 34.6**	**0.0**
TRQA	**Tornquist**	**60.84**	**245**	P		**P**	**12 00 55.6**	**+0.1**
PLCA	**Paso Flores**	**63.47**	**237**	P		**P**	**12 01 11.9**	**-1.2**
	comp=Z,8.2nm,1.0s,baz=185,slow=7.9,SNR=6.9							
PLCA				LR		LR	12 25 05.7	
	comp=Z,40nm,20.2s,baz=162,slow=33							
PLCA	**Paso Flores**	**63.47**	**237**	P		**P**	**12 01 12.2**	**-0.9**
PLCA				IAmb		IAmb	12 01 17.9	
	comp=Z,7.9nm,0.9s							
DBIC	**Dimbokro**	**65.31**	**324**	P		**P**	**12 01 23.4**	**-1.8**
	comp=Z,3.7nm,1.1s,baz=221,slow=11,SNR=2.1							
DBIC				LR		LR	12 23 02.6	
	comp=Z,160nm,21.9s,baz=152,slow=30							
DBIC	**Dimbokro**	**65.31**	**324**	P		**P**	**12 01 24.2**	**-1.0**
CPUP	**Villa Florida**	**66.75**	**257**	P		**P**	**12 01 33.0**	**-1.5**
	comp=Z,5.2nm,0.8s,baz=126,slow=5.8,SNR=12							
CPUP				LR		LR	12 24 27.0	
	comp=Z,93nm,21.7s,baz=143,slow=30							
CPUP	**Villa Florida**	**66.75**	**257**	P		**P**	**12 01 33.7**	**-0.8**
CPUP				IAmb		IAmb	12 01 47.4	
	comp=Z,7.7nm,0.9s							
BDFB	**Brasilia**	**69.21**	**271**	P		**P**	**12 01 48.8**	**-1.4**
	comp=Z,3.7nm,0.9s,baz=174,slow=7.6,SNR=4.3							
BDFB				LR		LR	12 25 58.7	
	comp=Z,170nm,20.4s,baz=114,slow=31							
BDFB	**Brasilia**	**69.21**	**271**	IAmb		IAmb	12 01 51.4	
	comp=Z,11nm,1.2s							
TOA0	**Torodi Ar. Sit**	**69.28**	**333**	P		**P**	**12 01 50.3**	**-0.1**
TOA0				IAmb		IAmb	12 02 07.0	
	comp=Z,4.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**69.28**	**333**	P		**P**	**12 01 49.8**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=166,slow=6.4,SNR=14							
TORD				LR		LR	12 26 41.6	
	comp=Z,123nm,21.9s,baz=0.0,slow=31							
PALK	**Pallekele**	**74.55**	**55**	LR		LR	12 26 29.4	
	comp=Z,121nm,22.0s,baz=210,slow=29							
LWLI	**Liwa**	**77.61**	**82**	P		**P**	**12 02 39.9**	**+0.2**
STKA	**Stephens Creek**	**77.98**	**127**	P		**P**	**12 02 41.1**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=239,slow=4.2,SNR=2.1							
STKA	**Stephens Creek**	**77.98**	**127**	P		**P**	**12 02 40.3**	**-1.1**
LEM	**Lembang**	**78.34**	**86**	LR		LR	12 30 01.6	
	comp=Z,94nm,18.3s,baz=222,slow=30							
PB11	**IPOC Station P**	**79.02**	**252**	P		**P**	**12 02 49.5**	**+1.9**
MNMC	**Minye Minye**	**79.48**	**252**	P		**P**	**12 02 53.3**	**+3.1**
MNMC				IAmb		IAmb	12 03 11.3	
	comp=Z,9.2nm,0.9s							
FITZ	**Fitzroy Crossi**	**80.39**	**107**	P		**P**	**12 02 54.6**	**-0.2**
FITZ				IAmb		IAmb	12 03 01.5	
	comp=Z,9.4nm,1.2s							
ASAR	**Alice Springs**	**80.65**	**117**	P		**P**	**12 02 55.4**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=213,slow=4.7,SNR=16							
ASAR				LR		LR	12 31 23.7	
	comp=Z,95nm,19.4s,baz=212,slow=30							
AS31	**Alice Springs**	**80.65**	**117**	P		**P**	**12 02 58.5**	**+2.2**
PSI	**Prapat**	**80.80**	**73**	LR		LR	12 30 27.3	
	comp=Z,99nm,18.6s,baz=196,slow=30							
LPAZ	**La Paz**	**80.85**	**255**	LR		LR	12 33 36.5	
	comp=Z,80nm,20.9s,baz=112,slow=32							
SAML	**Samuel**	**83.64**	**264**	P		**P**	**12 03 12.8**	**+0.9**
SAML				IAmb		IAmb	12 03 23.6	
	comp=Z,4.3nm,0.8s							
WRA	**Warramunga Arr**	**83.88**	**115**	P		**P**	**12 03 12.1**	**-1.1**
	comp=Z,2.3nm,1.0s,baz=210,slow=4.4,SNR=8.2							
BATI	**Baumata**	**85.43**	**101**	LR		LR	12 36 01.3	
	comp=Z,144nm,20.7s,baz=234,slow=32							
KEST	**Kesra**	**89.45**	**345**	LR		LR	12 43 57.7	
	comp=Z,155nm,20.8s,baz=191,slow=36							
CMAR	**Chiang Mai Arr**	**93.50**	**64**	LR		LR	12 41 49.9	
	comp=Z,44nm,18.1s,baz=186,slow=33							
GEYT	**Alibeck**	**93.91**	**23**	LR		LR	12 43 50.0	
	comp=Z,43nm,20.6s,baz=340,slow=34							
ESDC	**Sonseca Array**	**95.99**	**336**	LR		LR	12 49 35.0	
	comp=Z,41nm,18.1s,baz=280,slow=37							
KSH	**Kashi**	**100.77**	**36**	P		**Pdif**	**12 04 32.0**	**+0.5**
KSH				S		**Sdif**	**12 16 04.8**	**-3.9**
KSH				sS		sS	12 16 13.5	+2.5
KSH				LR		LR		
	comp=Z,470nm,6.3s							
KMI	**Kunming**	**100.94**	**63**	P		**Pdif**	**12 04 35.3**	**+2.6**
CD2	**Chengdu**	**106.06**	**60**	Pdif		**Pdif**	**12 04 56.0**	**+0.9**
LZH	**Lanzhou**	**110.15**	**57**	*e*PKP		**PKiKP**	**12 09 10.8**	**-3.9**
LZH				LR		LR		
	comp=Z,400nm,19.0s							
LZH				LR		LR		
	comp=Z,400nm,18.5s							
LZH				LR		LR		
	comp=Z,410nm,20.1s							
NJ2	**Nanjing**	**115.27**	**70**	*e*PKP		**PKiKP**	**12 09 27.0**	**+2.7**
HHC	**Hu-ho-hao-te**	**117.71**	**58**	PKP		**PKiKP**	**12 09 31.8**	**+2.9**
SONM	**Songino Array**	**120.23**	**50**	PKP		**PKPdf**	**12 09 33.3**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=198,slow=2.3,SNR=2.6							
TXAR	**Lajitas Array**	**137.72**	**256**	PKP		**PKPdf**	**12 10 05.5**	**-1.8**
	comp=Z,0.3nm,0.9s,baz=142,slow=4.6,SNR=3.3							
SDCO	**Great Sand Dun**	**144.64**	**264**	PKPdf		**PKPdf**	**12 10 21.3**	**+1.6**
ULM	**Lac du Bonnet**	**145.64**	**289**	PKPbc		**PKPdf**	**12 10 19.0**	**-1.6**
	comp=Z,7.3nm,0.9s,baz=47,slow=5.5,SNR=5.3							
ULM	**Lac du Bonnet**	**145.64**	**289**	PKPdf		**PKPdf**	**12 10 20.6**	**-0.1**
RSSD	**Black Hills**	**147.52**	**274**			**PKiKP**	**12 10 32.5**	**+3.4**
RES	**Resolute Bay**	**148.42**	**335**			**PKPab**	**12 10 33.0**	**+1.5**
CCUT	**Cedar City**	**149.23**	**256**			**PKPab**	**12 10 39.8**	**+3.6**
PDAR	**Pinedale Array**	**150.14**	**268**	PKPbc		**PKPbc**	**12 10 33.1**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=113,slow=2.1,SNR=6.3							
PETK	**Petropavlovsk-**	**150.16**	**69**	PKPbc		**PKPbc**	**12 10 32.0**	**-1.1**
	comp=Z,5.7nm,1.0s,baz=272,slow=3.8,SNR=3.1							
NVAR	**Mina Array Bea**	**152.72**	**252**	PKPbc		**PKPbc**	**12 10 38.3**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=144,slow=3.2,SNR=4.6							
YKA	**Yellowknife Ar**	**157.92**	**311**	PKP		**PKPdf**	**12 10 38.0**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=70,slow=1.7,SNR=2.5							

ISCJB ***25*** *12:33:07.6±0.3,7.70S±0.03×128.85E±0.04,h131km, mb3.7/8,Error ellipse: s-maj=5.2km s-min=4.5km az=5.2*

IDC ***25*** *12:33:08.4±2.2,7.76S×128.96E,h130km±23km,mb3.6/8, mb1 3.8/13,mb1mx3.6/34,mbtmp4.1/13,MS3.0/2, Ms1 3.0/2,ms1mx2.6/33,Error ellipse: s-maj=25.9km s-min=16.8km az=83.0*

NEIC ***25*** *12:33:09.5±2.0,7.66S±0.06×128.84E±0.06,h134km±8km, mb4.0/9*

ISC 25 12:33:08.5±0.5,7.76S±0.05×128.86E±0.05,h131km,n31, σ2s37/39,mb4.0/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**2.43**	**95**	Pn		**Pn**	**12 33 50.2**	**+2.3**
SAUI						**Sn**	**12 34 20.5**	**+2.4**
SOEI	**Soe**	**4.95**	**246**	Pn		**Pn**	**12 34 22.2**	**+1.1**
SOEI						**Sn**	**12 35 19.6**	**+1.9**
MTN	**Manton Dam**	**5.53**	**156**			**Pn**	**12 34 31.2**	**+2.5**
MTN				Sn		**Sn**	**12 35 32.8**	**+1.5**
BATI	**Baumata**	**5.68**	**244**	P		**Pn**	**12 34 32.2**	**+1.4**
	2.1nm,0.3s,baz=53,slow=5.1,SNR=1.6							
BATI				S		**Sn**	**12 35 34.2**	**-0.8**
	10nm,0.3s,baz=115,slow=20,SNR=9.7							
FAKI	**Fak Fak**	**5.87**	**35**			**Pn**	**12 34 32.1**	**-1.3**
FAKI				Sn		**Sn**	**12 35 37.8**	**-1.9**
SIJI	**Sorong**	**7.25**	**19**	P		**Pn**	**12 34 51.8**	**-0.2**
	2.2nm,0.3s,baz=192,slow=22,SNR=6.6							
SIJI				S		**Sn**	**12 36 07.4**	**-5.6**
	2.7nm,0.3s,baz=83,slow=23,SNR=7.7							
KNRA	**Kununurra**	**7.87**	**181**	Pn		**Pn**	**12 35 01.8**	**+1.5**
KNRA						**Sn**	**12 36 28.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**10.74**	**197**	P		**Pn**	**12 35 38.0**	**-0.8**
	0.6nm,0.3s,baz=14,slow=12,SNR=4.8							
FITZ				S		Sn	12 37 29.5	-7.9
	1.2nm,0.3s,baz=78,slow=18,SNR=4.3							
FITZ				LR		LR	12 40 13.8	
	comp=Z,47nm,20.4s,baz=344,slow=40							
FITZ	**Fitzroy Crossi**	**10.74**	**197**			**Sn**	**12 37 32.0**	**-5.5**
WRAB	**Tennant Creek**	**13.22**	**157**			**Pn**	**12 36 12.3**	**+1.0**
WRA	**Warramunga Arr**	**13.23**	**157**	P		**Pn**	**12 36 10.3**	**-1.1**
	1.5nm,0.3s,baz=253,slow=6.0,SNR=33							
WRA				S		Sn	12 38 28.0	-9.4
	1.9nm,0.3s,baz=335,slow=22,SNR=11							
WR0	**Warramunga Arr**	**13.32**	**156**	Pn		**Pn**	**12 36 12.5**	**-0.1**
COEN	**Coen**	**15.35**	**115**	Pn		**P**	**12 36 39.8**	**-0.2**
COEN				IAmb		IAmb	12 36 44.8	
	comp=Z,13nm,1.1s							
AS31	**Alice Springs**	**16.54**	**164**	P		**P**	**12 36 54.5**	**+1.2**
AS31				IAmb		IAmb	12 36 58.8	
	comp=Z,3.1nm,0.7s							
ASAR	**Alice Springs**	**16.54**	**164**	P		**P**	**12 36 54.3**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=332,slow=9.3,SNR=30							
ASAR				S		**Sn**	**12 39 48.2**	**-9.0**
	comp=Z,0.3nm,0.3s,baz=345,slow=28,SNR=3.8							
KKM	**Kota Kinabalu**	**18.63**	**317**			**Pn**	**12 37 18.5**	**+0.4**
SBUM	**Sibu**	**19.45**	**301**	P		**P**	**12 37 26.6**	**+1.4**
SBUM				IAmb		IAmb	12 37 29.1	
	comp=Z,5.1nm,0.9s							
KSM	**Kuching**	**20.65**	**296**	P		**P**	**12 37 38.8**	**+0.7**
STKA	**Stephens Creek**	**26.77**	**155**	P		**P**	**12 38 35.5**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=311,slow=10.0,SNR=2.2							
STKA	**Stephens Creek**	**26.77**	**155**	P		**P**	**12 38 36.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**39.37**	**312**	P		**P**	**12 40 26.1**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=139,slow=6.5,SNR=5.7							
MJAR	**Matsushiro Arr**	**44.93**	**11**	P		**P**	**12 41 08.7**	**-1.7**
	comp=Z,2.0nm,0.8s,baz=186,slow=9.2,SNR=6.4							
MJAR				LR		LR	13 01 01.0	
	comp=Z,25nm,19.2s,baz=30,slow=37							
KSRS	**Korea Array**	**44.98**	**359**	P		**P**	**12 41 10.7**	**0.0**
	comp=Z,0.5nm,0.6s,baz=180,slow=6.7,SNR=3.1							
SONM	**Songino Array**	**58.81**	**342**	P		**P**	**12 42 53.6**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=160,slow=6.1,SNR=3.5							
PETK	**Petropavlovsk-**	**65.39**	**19**	P		**P**	**12 43 37.5**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=179,slow=6.4,SNR=4.7							
MK31	**Makanchi Array**	**68.25**	**328**	P		**P**	**12 43 56.1**	**+0.9**
MK31				IAmb		IAmb	12 43 56.3	
	comp=Z,1.9nm,0.8s							
MKAR	**Makanchi Array**	**68.25**	**328**	P		**P**	**12 43 55.6**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=118,slow=7.9,SNR=41							
ZAA0	**Zalesovo Array**	**71.77**	**334**	P		**P**	**12 44 17.2**	**+0.8**
ZAA0				IAmb		IAmb	12 44 17.3	
	comp=Z,2.5nm,0.7s							
ZALV	**Zalesovo Beam**	**71.77**	**334**	P		**P**	**12 44 16.4**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=131,slow=6.0,SNR=9.9							
QSPA	**South Pole Qui**	**82.22**	**180**	P		**P**	**12 45 18.4**	**+3.4**
ABKAR	**Akbulak array**	**82.40**	**322**	P		**P**	**12 45 16.4**	**+0.4**

ISCJB ***25*** *13:04:40.2±0.5,18.15S±0.03×177.94W±0.02, h562km±6km,mb5.0/158,Error ellipse: s-maj=4.5km s-min=2.8km az=154.9*

IDC ***25*** *13:04:42.5±0.6,18.13S×177.93W,h577km±6km,mb4.5/35, mb1 4.6/37,mb1mx4.5/43,mbtmp5.4/37,Error ellipse: s-maj=9.0km s-min=6.8km az=161.0*

BJI ***25*** *13:04:42.0±0.0,18.20S×177.90W,h585km,mb5.1/49, mB5.2/36*

MOS ***25*** *13:04:42.4±0.9,18.06S×177.95W,h585km,mb4.9/45, Error ellipse: s-maj=7.8km s-min=7.0km az=136.8*

NEIC ***25*** *13:04:42.8±1.4,18.12S±0.08×177.88W±0.03, h584km±4km,mb4.9/273*

GCMT ***25*** *13:04:47.8±0.2,17.87S±0.02×178.08W±0.02, h597km±1km,MW5.6/113,Moment Tensor Solution. s113,c174; Duration: 1s6 Moment tensor: Scale 10^17^ Nm; Mrr-1.02±.05; Mθθ0.68±.09; Mφφ0.34±.09; Mrθ-0.74±.08; Mθφ1.10±.08; Mφr-3.12±.07; Best double couple: M◎3.50800×10^17^ NP1:φ317.00000°,δ81.00000°, λ-107.00000°. NP2:φ260.00000°,δ19.00000°, λ-28.00000°. Principal axes: T 3.4830, Plg34.0000°, Azm121.0000°; N 0.0530, Plg17.0000°, Azm19.0000°; P -3.5330, Plg51.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 25 13:04:42.3±0.3,18.19S±0.05×177.82W±0.04, h583km±3km,h584km:pP-P,n1157,σ1s05/1243,mb5.0/253, 87C-46D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**3.96**	**276**	*e*P		**P**	**13 06 07.1**	**+0.8**
MSVF	**Nonsavu**	**3.96**	**276**	P		**P**	**13 06 07.3**	**+1.0**
AFI	**Afiamalu**	**7.20**	**55**	P		**P**	**13 06 31.3**	**-2.4**
	65nm,0.3s,baz=225,slow=1.7,SNR=119							
AFI				S		**S**	**13 07 58.3**	**-6.5**
	14nm,0.3s,baz=46,slow=23,SNR=2.8							
NIUE	**Niue**	**7.54**	**98**	P		**P**	**13 06 37.1**	**+0.5**
FUNA	**Funafuti**	**10.03**	**343**	P		**P**	**13 06 59.5**	**-1.7**
GLKZ	**Green Lake**	**11.02**	**180**	P		**P**	**13 07 09.0**	**-1.9**
DZM	**Mont Dzumac**	**15.27**	**253**	P		**P**	**13 07 53.8**	**+0.1**
	7.6nm,0.3s,baz=103,slow=12,SNR=57							
DZM	**Mont Dzumac**	**15.27**	**253**	*e*P		**P**	**13 07 50.6**	**-3.1**
	176nm,1.1s							
DZM	**Mont Dzumac**	**15.27**	**253**	P		**P**	**13 07 53.8**	**+0.1**
DZM				IAmb		IAmb	13 08 01.3	
	comp=Z,106nm,1.2s							
KNTN	**Kanton**	**16.45**	**22**	P		**P**	**13 08 03.1**	**-1.6**
RAR	**Rarotonga**	**17.26**	**103**	P		**P**	**13 08 12.6**	**+0.7**
RAR				pmax		pmax		
	comp=Z,322nm,1.3s							
RAR	**Rarotonga**	**17.26**	**103**	P		**P**	**13 08 12.9**	**+0.9**
	comp=Z,1.9nm,0.3s,baz=236,slow=7.0,SNR=13							
RAR	**Rarotonga**	**17.26**	**103**	P		**P**	**13 08 12.6**	**+0.7**
OUZ	**Omahuta**	**18.60**	**203**	P		**P**	**13 08 26.2**	**+2.2**
OUZ	**Omahuta**	**18.60**	**203**	P		**P**	**13 08 25.6**	**+1.6**
OUZ				IAmb		IAmb	13 08 28.4	
	comp=Z,50nm,0.8s							
GRZ	**Great Barrier**	**18.95**	**197**	P		**P**	**13 08 28.6**	**+1.5**
WCZ	**Waipu Caves**	**18.99**	**200**	P		**P**	**13 08 29.5**	**+1.9**
KUZ	**Kuaotunu**	**19.34**	**196**	P		**P**	**13 08 32.5**	**+1.8**
WIAZ	**Waiheke Island**	**19.54**	**197**	P		**P**	**13 08 35.0**	**+2.5**
MBAZ	**Motutapu North**	**19.59**	**198**	P		**P**	**13 08 35.0**	**+2.0**
MXZ	**Matakaoa Point**	**19.60**	**189**	P		**P**	**13 08 33.3**	**+0.3**
MXZ	**Matakaoa Point**	**19.60**	**189**	P		**P**	**13 08 33.1**	**+0.1**
HBAZ	**Herne Bay Bore**	**19.71**	**198**	P		**P**	**13 08 36.4**	**+2.4**
ETAZ	**East Tamaki Re**	**19.75**	**197**	P		**P**	**13 08 36.6**	**+2.2**
MKAZ	**Moumakai**	**19.83**	**197**	P		**P**	**13 08 37.0**	**+1.9**
WMGZ	**Waiomatatini S**	**19.83**	**189**	P		**P**	**13 08 35.4**	**+0.2**
WTAZ	**Waiatarua**	**19.84**	**198**	P		**P**	**13 08 37.4**	**+2.2**
HAZ	**Te Kaha**	**19.87**	**190**	P		**P**	**13 08 35.2**	**-0.3**
KBAZ	**Karaka Road Bo**	**19.89**	**197**	P		**P**	**13 08 37.9**	**+2.2**
AWAZ	**Awhitu Peninsu**	**19.94**	**198**	P		**P**	**13 08 37.9**	**+1.8**
PKGZ	**Pakihiroa**	**19.95**	**190**	P		**P**	**13 08 36.1**	**-0.2**
RUGZ	**Raukumara Rang**	**20.09**	**190**	P		**P**	**13 08 37.2**	**-0.5**
PUZ	**Puketiti**	**20.10**	**189**	P		**P**	**13 08 38.1**	**+0.4**
OPRZ	**Ohinepanea**	**20.19**	**193**	P		**P**	**13 08 39.3**	**+0.9**
TOZ	**Tahuroa Road**	**20.33**	**195**	P		**P**	**13 08 41.4**	**+1.8**
MWZ	**Matawai**	**20.48**	**191**	P		**P**	**13 08 39.4**	**-1.7**
URZ	**Urewera**	**20.48**	**191**	P		**P**	**13 08 38.6**	**-2.4**
	comp=Z,23nm,0.4s,baz=277,slow=3.4,SNR=60							
URZ				S		**S**	**13 11 47.7**	**-6.1**
	comp=Z,9.1nm,0.7s,ba

CTAO pmax pmax
comp=Z,143nm,0.8s
CAN Canberra 33.98 233 P **P** **13 10 39.4 +0.7**
CAN pmax pmax
comp=Z,99nm,0.8s
CAN Canberra 33.98 233 P **P** **13 10 39.4 +0.7**
PMG Port Moresby 35.06 280*d i* P **P** **13 10 48.0 +0.1**
PMG Port Moresby 35.06 280 P **P** **13 10 48.3 +0.4**
comp=Z,342nm,0.8s,baz=75,slow=6.1,SNR=60
PMG Port Moresby 35.06 280 P **P** **13 10 48.3 +0.4**
TOO Toolangi 37.43 231 P **P** **13 11 07.7 +0.6**
TOO pmax pmax
comp=Z,253nm,1.2s
TOO Toolangi 37.43 231 P **P** **13 11 07.7 +0.6**
COEN Coen 37.67 271 P **P** **13 11 09.6 +0.3**
TAOE Nuku Hiva Isla 37.72 81 P **P** **13 11 10.9 +1.1**
MANU Manus Island 37.72 291 P **P** **13 11 09.9 +0.2**
TAU Tasmania Unive 38.41 223 P **P** **13 11 15.3 +0.4**
TAU pmax pmax
comp=Z,39nm,1.0s
TAU Tasmania Unive 38.41 223 P **P** **13 11 15.3 +0.4**
TAU IAmb IAmb 13 11 18.4
comp=Z,39nm,0.9s
STKA Stephens Creek 38.99 242 P **P** **13 11 20.4 +0.6**
STKA pmax pmax
comp=Z,43nm,1.1s
STKA Stephens Creek 38.99 242 P **P** **13 11 20.4 +0.6**
STKA IAmb IAmb 13 11 22.9
comp=Z,43nm,1.1s
WAKE Wake Island 40.24 337 P **P** **13 11 29.9 0.0**
HMH Humu'ula Sheep 43.49 31 P **P** **13 11 55.5 -0.3**
JAY Jayapura 43.52 286 P **P** **13 11 56.0 +0.2**
comp=Z,137nm,0.6s,baz=111,slow=3.2,SNR=37
JAY Jayapura 43.52 286 P **P** **13 11 56.4 +0.6**
comp=Z,157nm,1.0s,comp=Z,1µm
BBOO Buckleboo 43.76 241 P **P** **13 11 57.7 +0.3**
KIP Kipapa 43.89 27⇑*e*P **P** **13 11 59.6 +1.2**
KIP pmax pmax
comp=Z,46nm,1.0s
GENI Genyem 43.98 286 P **P** **13 12 00.4 +1.1**
comp=Z,308nm,0.9s,comp=Z,5µm
WR0 Warramunga Arr 44.94 260 P **P** **13 12 05.0 -1.7**
WR0 IAmb IAmb 13 12 08.8
comp=Z,52nm,0.8s
WRAB Tennant Creek 45.12 260*d i* P **P** **13 12 07.2 -0.9**
WRAB pmax pmax
comp=Z,107nm,0.7s
WRAB Tennant Creek 45.12 260 P **P** **13 12 06.8 -1.3**
WRA Warramunga Arr 45.13 260 P **P** **13 12 07.2 -1.0**
comp=Z,69nm,0.5s,baz=96,slow=7.0,SNR=885
WRA PcP **PcP** **13 13 36.4 +0.4**
comp=Z,13nm,0.7s,baz=94,slow=4.3,SNR=7.0
WRA ScP **ScP** **13 16 34.6 +1.0**
comp=Z,5.2nm,0.9s,baz=89,slow=4.7,SNR=7.5
WRA S **S** **13 18 02.5 -3.6**
comp=Z,5.6nm,0.9s,baz=95,slow=14,SNR=5.8
AS31 Alice Springs 45.25 254 P **P** **13 12 08.8 -0.3**
ASAR Alice Springs 45.25 254 P **P** **13 12 08.8 -0.2**
comp=Z,285nm,0.6s,baz=88,slow=8.7,SNR=2088
ASAR PcP **PcP** **13 13 36.6 +0.2**
comp=Z,17nm,0.5s,baz=101,slow=3.8,SNR=7.1
ASAR ScP **ScP** **13 16 36.1 +2.0**
comp=Z,6.8nm,0.7s,baz=104,slow=4.3,SNR=2.4
ASAR S **S** **13 18 05.9 -1.9**
comp=Z,16nm,0.8s,baz=90,slow=15,SNR=24
ASAR ScS **ScS** **13 20 59.4 -2.6**
comp=Z,0.8nm,1.0s,baz=93,slow=6.5,SNR=3.1
SMPI Sarmi 45.55 286 P **P** **13 12 12.4 +1.0**
comp=Z,160nm,0.9s
BAKI Biak 48.26 285 P **P** **13 12 33.3 +1.6**
comp=Z,244nm,0.9s
GUMO Guam 48.49 308 P **P** **13 12 33.1 -0.2**
GUMO pmax pmax
comp=Z,299nm,1.1s
GUMO Guam 48.49 308 P **P** **13 12 33.1 -0.2**
MTN Manton Dam 49.35 269 P **P** **13 12 38.8 -1.0**
ANA2 Anatahan 49.67 312 P **P** **13 12 41.3 -0.6**
RKPI Ransiki, Papua 49.91 284 P **P** **13 12 45.1 +1.2**
comp=Z,96nm,0.9s,comp=Z,4µm
FORT Forrest 50.39 245 P **P** **13 12 46.5 -0.6**
SAUI Saumlaki 50.44 275 P **P** **13 12 49.6 +1.9**
comp=Z,264nm,1.2s,comp=Z,4µm
SAUI Saumlaki 50.44 275 P **P** **13 12 47.4 -0.3**
KNRA Kununurra 51.02 264 P **P** **13 12 51.4 -0.4**
FAKI Fak Fak 51.18 281 P **P** **13 12 52.6 -0.5**
comp=Z,74nm,1.0s,comp=Z,1µm
FAKI Fak Fak 51.18 281 P **P** **13 12 52.6 -0.5**
FAKI IAmb IAmb 13 12 54.2
comp=Z,113nm,1.3s
BNDI Bandanaira 52.83 278 P **P** **13 13 04.6 -0.3**
comp=Z,226nm,0.6s
SIJI Sorong 52.84 283 P **P** **13 13 05.0 0.0**
comp=Z,288nm,0.7s,baz=100,slow=3.6,SNR=168
SWI Sorong 52.85 283 P **P** **13 13 04.9 -0.2**
comp=Z,540nm,0.9s,comp=Z,5µm
FITZ Fitzroy Crossi 53.53 261 P **P** **13 13 09.7 -0.1**
comp=Z,13nm,0.3s,baz=97,slow=4.7,SNR=44
FITZ Fitzroy Crossi 53.53 261 P **P** **13 13 09.7 -0.1**
FITZ IAmb IAmb 13 13 11.3
comp=Z,78nm,1.3s
MSAI Masohi 54.14 279 P **P** **13 13 14.9 +0.7**
comp=Z,42nm,0.7s,comp=Z,842nmcomp=Z,5µm
AAI Ambon 54.71 279 P **P** **13 13 18.1 -0.1**
comp=Z,258nm,0.7s,comp=Z,3µm
LBMI Labuha 56.42 282 P **P** **13 13 31.2 +1.2**
comp=Z,147nm,0.8s
SOEI Soe 56.63 270 P **P** **13 13 32.7 +1.1**
comp=Z,391nm,0.8s,comp=Z,3µm
SOEI Soe 56.63 270 P **P** **13 13 32.2 +0.6**
TNTI Ternate 57.07 283 P **P** **13 13 35.5 +1.1**
comp=Z,185nm,0.9s,comp=Z,2µm
TNTI Ternate 57.07 283 P **P** **13 13 34.0 -0.4**
BATI Baumata 57.09 269 P **P** **13 13 35.9 +1.3**
comp=Z,118nm,0.8s,baz=163,slow=1.8,SNR=21
BATI Baumata 57.09 269 P **P** **13 13 36.0 +1.4**
comp=Z,74nm,0.7s,comp=Z,1µmcomp=Z,938nm
SANI Sanana 57.34 279 P **P** **13 13 35.5 -0.8**
comp=Z,242nm,0.9s,comp=Z,2µm
PSA00 Pilbara Seismi 58.38 255 P **P** **13 13 42.4 -0.8**
PSA00 IAmb IAmb 13 13 44.8
comp=Z,91nm,0.8s
MMRI Maumere 58.86 271 P **P** **13 13 47.1 +0.6**
comp=Z,242nm,0.7s,comp=Z,2µm
MMRI Maumere 58.86 271 P **P** **13 13 45.5 -1.0**
NWAO Narrogin (SRO) 59.57 242 P **P** **13 13 50.7 -0.3**
NWAO pmax pmax
comp=Z,89nm,1.3s
NWAO Narrogin (SRO) 59.57 242 P **P** **13 13 50.7 -0.3**
comp=Z,34nm,0.7s,baz=101,slow=5.3,SNR=22
NWAO Narrogin (SRO) 59.57 242 P **P** **13 13 50.7 -0.3**
NWAO IAmb IAmb 13 13 53.1
comp=Z,89nm,1.2s
NWAO Narrogin (SRO) 59.57 242 P **P** **13 13 50.8 -0.3**
NWAO IAmb IAmb 13 13 53.1
comp=Z,72nm,1.2s
KDI Kendari 59.88 276 P **P** **13 13 54.2 +0.9**
comp=Z,58nm,1.2s,comp=Z,1µm
KMSI Cibinong 60.14 282 P **P** **13 13 55.3 +0.3**
comp=Z,268nm,0.8s
VNDA Vanda 60.21 185 P **P** **13 13 56.3 +1.9**
VNDA pmax pmax
comp=Z,12nm,1.2s
VNDA Vanda 60.21 185 P **P** **13 13 56.3 +1.9**
comp=Z,6.7nm,1.0s,baz=13,slow=6.9,SNR=9.8
VNDA Vanda 60.21 185 P **P** **13 13 56.3 +1.9**
WSI Waingapu 60.43 269 P **P** **13 13 59.1 +2.2**
comp=Z,359nm,0.5s,comp=Z,9µm
DDMP Don Marcelino, 60.70 288 P **P** **13 13 57.4 -1.3**
LUWI Luwuk 60.70 279 P **P** **13 13 59.9 +1.2**
comp=Z,256nm,1.1s,comp=Z,3µm
LUWI Luwuk 60.70 279 P **P** **13 13 58.1 -0.6**
MORW Morawa 60.88 246 P **P** **13 13 58.8 -0.9**
MORW IAmb IAmb 13 14 00.8
comp=Z,35nm,0.8s
DAV Davao City (W) 61.22 289 P **P** **13 14 01.9 -0.2**
comp=Z,110nm,0.5s,baz=102,slow=5.4,SNR=5.3
DAV Davao City (W) 61.22 289 IAmb IAmb 13 14 04.2
comp=Z,147nm,0.7s
KCP Kidapawan 61.63 289 ⇓P **P** **13 14 04.5 -0.3**
KCP S **P** **13 14 04.5 -0.3**
APSI Ampana 61.80 279 P **P** **13 14 07.0 +1.1**
comp=Z,159nm,1.1s,comp=Z,2µm
SKMP Bagumbayan, Su 61.92 288 P **P** **13 14 06.2 -0.4**
BUTP Butuan 62.00 291 P **P** **13 14 07.5 +0.4**
MRSI Marisa 62.01 281 P **P** **13 14 08.2 +1.0**
comp=Z,91nm,0.8s,comp=Z,894nm
BUKP Musuan 62.03 290 P **P** **13 14 08.2 +0.8**
BNSI Bone 62.12 275 P **P** **13 14 09.5 +1.5**
comp=Z,129nm,1.1s
CTBH Cotabato--PC H 62.48 289 ⇓P **P** **13 14 10.1 -0.2**
SPSI Sidrap Palu 62.58 275 P **P** **13 14 11.4 +0.5**
comp=Z,86nm,0.8s
TTSI Tana Toraja 62.82 276 P **P** **13 14 13.3 +0.8**
comp=Z,28nm,0.8s
PLAI Plampang 63.05 269 P **P** **13 14 14.2 +0.2**
comp=Z,243nm,0.9s,comp=Z,2µm
MSLP Maasin 63.18 292 P **P** **13 14 14.5 -0.2**
BESP Borongan 63.33 294 P **P** **13 14 15.4 -0.3**
GIRL Giralia 63.35 253 P **P** **13 14 15.6 -0.1**
PAGZ Pagadian 63.52 289 P **P** **13 14 17.9 +1.0**
OCLP Ormoc 63.81 293 P **P** **13 14 18.7 0.0**
MPSI Mapaga 63.87 280 P **P** **13 14 19.1 -0.1**
comp=Z,82nm,0.8s,comp=Z,1µm
TWSI Taliwang, Sumb 63.92 269 P **P** **13 14 19.8 +0.3**
comp=Z,273nm,1.0s,comp=Z,2µm
CNP Catarman 64.42 294 P **P** **13 14 22.5 0.0**
PVCP Virac 65.35 295 P **P** **13 14 27.4 -1.0**
IGBI Dempasar 65.55 268 P **P** **13 14 30.6 +0.8**
comp=Z,289nm,0.9s
SRBI Singaraja 65.69 269 P **P** **13 14 31.5 +0.9**
comp=Z,114nm,0.9s,comp=Z,2µm
CASY Casey 66.12 205 P **P** **13 14 32.6 +0.3**
CASY IAmb IAmb 13 14 35.2
comp=Z,34nm,0.9s
SMKI Samarinda 66.13 278 P **P** **13 14 36.0 +2.6**
comp=Z,143nm,0.9s
KBKI Kotabaru 66.20 274 P **P** **13 14 36.3 +2.5**
comp=Z,40nm,1.2s,comp=Z,1µm
JAGI Jajag, Banyuwa 66.59 268 P **P** **13 14 35.1 -1.1**
comp=Z,189nm,0.9s,comp=Z,2µm
JAGI Jajag, Banyuwa 66.59 268 P **P** **13 14 34.6 -1.7**
CUYO Cuyo Island 66.89 291 P **P** **13 14 37.0 -1.0**
BOAC Boac 67.30 294 P **P** **13 14 40.2 -0.2**
GMJI Gumukmas 67.32 268 P **P** **13 14 40.4 -0.3**
comp=Z,89nm,0.6s,comp=Z,1µm
SJMP San Jose 67.49 292 P **P** **13 14 41.0 -0.7**
LQP Lukban 67.85 294 ⇑P **P** **13 14 43.9 -0.2**
INU Inuyama 68.33 321 P **P** **13 14 45.8 -0.5**
TGY Tagaytay City 68.37 294 P **P** **13 14 47.5 +0.4**
comp=Z,137nm,0.4s,baz=272,slow=8.3,SNR=4.3
ENPP El Nido 68.46 290 P **P** **13 14 46.3 -1.2**
MJAR Matsushiro Arr 68.47 323 P **P** **13 14 46.6 -0.6**
comp=Z,17nm,0.6s,baz=149,slow=5.7,SNR=48
MAJO Matsushiro 68.47 323*de*P **P** **13 14 46.5 -0.7**
MAJO pmax pmax
comp=Z,28nm,0.9s
MAJO Matsushiro 68.47 323 P **P** **13 14 46.4 -0.8**
MAJO IAmb IAmb 13 14 47.9
comp=Z,27nm,0.7s
MAT Matsushiro 68.47 323 P **P** **13 14 44.8 -2.4**
MJB9 Matsu-Tunnel 68.47 323 P **P** **13 14 46.6 -0.6**
MJB9 IAmb IAmb 13 14 47.9
comp=Z,28nm,0.7s
SPMM Sapulut 68.63 283 P **P** **13 14 50.0 +1.3**
LUBP Lubang 68.81 293 P **P** **13 14 46.4 -3.2**
LUBP S **P** **13 14 48.3 -1.3**
JOW Kunigami 68.83 309 P **P** **13 14 50.2 +0.7**
comp=Z,2.2nm,0.5s,baz=158,slow=13,SNR=6.7
JOW Kunigami 68.83 309 IAmb IAmb 13 14 52.7
comp=Z,48nm,1.2s
CAUP Cauayan 68.89 297 P **P** **13 14 50.4 +0.4**
PWJI Pagerwojo 68.95 268 P **P** **13 14 50.5 0.0**
comp=Z,131nm,0.9s
SGCP Mt. Cagua 69.31 298 P **P** **13 14 53.8 +1.3**
KKM Kota Kinabalu 69.35 284 P **P** **13 14 52.9 -0.1**
KKM IAmb IAmb 13 14 54.5
comp=Z,53nm,0.8s
NGJI Ngawi 69.46 269 P **P** **13 14 54.3 +0.7**
comp=Z,114nm,0.8s
PCJI Pacitan 69.50 268 P **P** **13 14 54.1 +0.3**
comp=Z,589nm,0.8s,comp=Z,6µm
SMPP San Manuel, Pa 69.50 296 P **P** **13 14 52.1 -1.6**
WOJI Wonogiri, Jawa 69.84 268 P **P** **13 14 56.1 +0.3**
comp=Z,137nm,0.8s,comp=Z,1µm
ERM Erimo 69.91 330⇑*e*P **P** **13 14 56.6 +1.0**
ERM pmax pmax
comp=Z,54nm,1.2s
UGM Wanagama 70.19 268 P **P** **13 14 57.9 -0.2**
comp=Z,255nm,0.7s
UGM Wanagama 70.19 268 P **P** **13 14 57.8 -0.2**
SMRI Semarang 70.52 269 P **P** **13 15 00.5 +0.6**
comp=Z,244nm,0.9s
SMRI Semarang 70.52 269 P **P** **13 15 00.3 +0.4**
JNU Nakatsue 70.73 316 P **P** **13 15 00.1 -0.7**
JNU IAmb IAmb 13 15 01.9
comp=Z,34nm,1.1s
STKI Sintang 71.71 276 P **P** **13 15 07.8 +0.9**
comp=Z,139nm,0.8s
JKA Kamikawa-asahi 71.79 331 P **P** **13 15 07.2 +0.6**
ASAJ Asahikawa 71.79 331 P **P** **13 15 07.2 +0.6**
comp=Z,16nm,0.7s,baz=236,slow=5.1,SNR=14
SBUM Sibu 71.80 279 P **P** **13 15 08.0 +0.6**
SBUM Sibu 71.80 279 P **P** **13 15 07.4 0.0**
SBUM IAmb IAmb 13 15 09.5
comp=Z,18nm,0.8s
QSPA South Pole Qui 71.87 180 P **P** **13 15 08.5 +1.5**
comp=Z,9.5nm,0.6s,baz=346,slow=0.5,SNR=100
QSPA South Pole Qui 71.87 180 P **P** **13 15 08.1 +1.2**
QSPA IAmb IAmb 13 15 10.6
comp=Z,64nm,1.5s
KPJI Karang Pucung 71.87 268 P **P** **13 15 07.5 -0.3**
comp=Z,96nm,1.0s,comp=Z,1µm
CMJI Cimerak 72.20 267 P **P** **13 15 11.0 +1.3**
comp=Z,91nm,1.0s
TWG Pinang 72.29 302 P **P** **13 15 08.5 -1.5**
YULB Yu-li 72.39 303 P **P** **13 15 09.5 -1.1**
YULB IAmb IAmb 13 15 11.6
comp=Z,30nm,0.6s
NACB Ninganchiao 72.54 303 P **P** **13 15 10.6 -0.7**
SSLB Suanglung 72.86 303 P **P** **13 15 11.9 -1.3**
SSLB IAmb IAmb 13 15 14.3
comp=Z,59nm,0.9s
CISI Cisompet, Garu 72.87 268 P **P** **13 15 13.4 -0.2**
comp=Z,122nm,1.0s
TPUB Ta-pu 72.88 302 P **P** **13 15 12.2 -1.2**
YHNB Yeheng 72.96 304 P **P** **13 15 13.6 -0.3**
YHNB IAmb IAmb 13 15 15.3
comp=Z,67nm,0.9s
LEM Lembang 73.27 268 P **P** **13 15 16.4 +0.4**
comp=Z,215nm,0.8s,baz=113,slow=3.2,SNR=28
KSM Kuching 73.27 277 P **P** **13 15 16.1 +0.3**
CNJI Cibinong 73.59 268 P **P** **13 15 16.7 -0.9**
comp=Z,154nm,1.0s,comp=Z,2µm
YSS Yuzh-Sakhalins 73.92 333⇑*i*P **P** **13 15 20.0 +1.3**
YSS *e**PP **pwP** **13 17 22.7 +0.3**
YSS *e**SP **sP** **13 18 03.3 +0.8**
YSS *e* 13 18 23.4
YSS */* S **S** **13 24 07.5 +3.2**
YSS pmax pmax
comp=Z,30nm,1.2s
YSS Yuzh-Sakhalins 73.92 333 P **P** **13 15 18.9 +0.2**
YSS IAmb IAmb 13 15 21.1
comp=Z,65nm,1.3s
PEA0B Petropavlovsk- 74.09 345⇑*e*P **P** **13 15 19.2 -0.4**
PEA0B Petropavlovsk- 74.09 345 P **P** **13 15 19.3 -0.2**
PEA0B IAmb IAmb 13 15 20.5
comp=Z,57nm,1.0s
PETK Petropavlovsk- 74.09 345 P **P** **13 15 19.3 -0.3**
comp=Z,34nm,0.8s,baz=137,slow=8.8,SNR=33
CBJI Citeko 74.11 268 P **P** **13 15 20.6 0.0**
comp=Z,297nm,0.7s
DBJI Dramaga 74.17 268 P **P** **13 15 20.7 -0.2**
comp=Z,224nm,1.0s,comp=Z,5µm
TPI Tanjungpandan 74.44 272 P **P** **13 15 23.1 +0.6**
comp=Z,48nm,0.8s
SBJI Serang 74.88 268 P **P** **13 15 25.1 +0.2**
comp=Z,132nm,1.1s
TJN Taejon 75.00 317⇑*e*P **P** **13 15 26.3 +1.3**
CGJI Cibinong 75.16 268 P **P** **13 15 25.4 -1.0**
comp=Z,240nm,0.8s,comp=Z,4µm
KSRS Korea Array 75.28 318 P **P** **13 15 27.4 +0.8**
comp=Z,7.9nm,0.7s,baz=134,slow=6.1,SNR=34
QZH Quanzhou 75.30 303 ⇓P **P** **13 15 27.3 +0.4**
KS19 Wonju Array Si 75.35 318 P **P** **13 15 27.2 +0.3**
KS19 IAmb IAmb 13 15 28.2
comp=Z,46nm,1.5s
SCZ2 Santa Cruz Isl 75.90 47 P **P** **13 15 31.7 +1.6**
baz=236
BLSI Bandar Lampung 75.95 269 P **P** **13 15 31.3 +0.5**
comp=Z,124nm,0.4s
SBC Santa Barbara 76.09 46 P **P** **13 15 32.2 +1.1**
baz=236
SCI2 San Clemente I 76.11 48 P **P** **13 15 32.2 +0.9**
baz=237
SAO San Andreas Ge 76.24 44 P **P** **13 15 32.9 +1.0**
SAO pmax pmax
comp=Z,32nm,1.0s
SAO San Andreas Ge 76.24 44 P **P** **13 15 32.9 +1.0**
SAO IAmb IAmb 13 15 34.5
comp=Z,32nm,1.0s
PKM Mcpherson Peak 76.27 46 P **P** **13 15 33.9 +1.5**
baz=236,SNR=5.8
PMPB Monarch Peak 76.35 44 P **P** **13 15 33.8 +1.2**
PMPB IAmb IAmb 13 15 35.5
comp=Z,80nm,1.5s
SMMC Simmler 76.38 45 P **P** **13 15 34.5 +1.7**
baz=236
CIS Catalina Islan 76.42 48 P **P** **13 15 34.0 +1.0**
baz=237
PAGB Antelope Grade 76.44 45 P **P** **13 15 34.3 +1.2**
MSHR Mys Shultsa 76.56 324⇑*e*P **P** **13 15 33.1 -0.4**
KASI Kota Agung 76.61 269 P **P** **13 15 33.5 -1.0**
comp=Z,183nm,0.8s,comp=Z,2µm
FMP Fort Macarthur 76.68 48 P **P** **13 15 35.8 +1.5**
baz=237
OSI Osito Audit: C 76.87 47 P **P** **13 15 36.9 +1.5**
baz=237
KMRM Mail Ridge 76.87 40 P **P** **13 15 36.9 +1.5**
KMRM IAmb IAmb 13 15 38.4
comp=Z,83nm,1.0s
DECC Green Verdugo 76.94 47 P **P** **13 15 36.6 +0.8**
baz=237
TYV Tymovskoe 77.02 336*e*P **P** **13 15 35.9 +0.1**
TYV pmax pmax
comp=Z,29nm,0.9s
TYV pmax pmax
comp=Z,300nm,5.3s
ARVC Arvin 77.07 46 P **P** **13 15 37.7 +1.2**
baz=237,SNR=9.8
109C Camp Elliot, M 77.08 49 P **P** **13 15 37.5 +0.9**
baz=238,SNR=5.8
109C Camp Elliot, M 77.08 49 P **P** **13 15 37.3 +0.8**
MWC Mount Wilson 77.12 47 P **P** **13 15 37.6 +0.6**
MWC pmax pmax
comp=Z,25nm,1.0s
MWC Mount Wilson 77.12 47 P **P** **13 15 37.6 +0.6**
MWC IAmb IAmb 13 15 39.2
comp=Z,25nm,0.9s
USA0B Ussuriysk Arra 77.16 325 P **P** **13 15 37.5 +0.8**
USA0B pmax pmax
comp=Z,33nm,1.3s
USA0B Ussuriysk Arra 77.16 325 P **P** **13 15 37.5 +0.8**
USA0B IAmb IAmb 13 15 39.0
comp=Z,33nm,1.2s
USRK Ussuriysk Ar. 77.16 325 P **P** **13 15 37.3 +0.6**
comp=Z,11nm,1.0s,baz=132,slow=3.3,SNR=16
MDSI Maura Dua 77.22 269 P **P** **13 15 36.3 -1.5**
comp=Z,56nm,0.8s,comp=Z,627nm
BAR Barrett 77.28 49 P **P** **13 15 38.1 +0.4**
VES Vestal, Richgr 77.29 45 P **P** **13 15 38.4 +0.8**
baz=238,SNR=14
VOG Valley Oaks Go 77.36 45 P **P** **13 15 38.7 +0.8**
baz=236
MURC Murrieta 77.39 48 P **P** **13 15 39.5 +1.2**
baz=238,SNR=7.6
BFSC Mount Baldy Ra 77.41 47 P **P** **13 15 39.2 +0.7**
baz=238,SNR=6.6
O02D Mt. Diablo Mer 77.41 40 P **P** **13 15 40.0 +1.7**
baz=233
EDW2 Edwards Air Fo 77.52 47 P **P** **13 15 40.3 +1.3**
baz=237,SNR=26
MONP2 Monument Peak 77.57 49 P **P** **13 15 40.9 +1.4**
baz=239,SNR=27
ISA Isabella, Lake 77.61 46 P **P** **13 15 40.9 +1.4**
baz=237,SNR=24
ISA Isabella, Lake 77.61 46 P **P** **13 15 40.4 +0.9**
ISA *PP **pP** **13 17 41.2 +0.5**
ISA pmax pmax
comp=Z,30nm,1.0s
ISA Isabella, Lake 77.61 46 P **P** **13 15 40.4 +0.9**
ISA IAmb IAmb 13 15 42.1
comp=Z,30nm,1.0s
ISA pP **pP** **13 17 41.2 +0.5**
CMB Columbia Colle 77.66 43 P **P** **13 15 40.3 +0.6**
CMB *PP **pP** **13 17 41.4 +0.4**
CMB pmax pmax
comp=Z,20nm,1.0s
CMB Columbia Colle 77.66 43 P **P** **13 15 40.3 +0.6**
CMB pP **pP** **13 17 41.4 +0.4**
IKP In-Ko-Pah, Jac 77.67 49 P **P** **13 15 41.4 +1.5**
baz=239,SNR=16
WDC Whiskeytown Da 77.80 40 P **P** **13 15 41.2 +0.9**
WDC *PP **pP** **13 17 42.5 +0.9**
WDC pmax pmax
comp=Z,34nm,1.4s
WDC Whiskeytown Da 77.80 40 P **P** **13 15 41.2 +0.9**
WDC pP **pP** **13 17 42.5 +0.9**
AFDM Forest Hills D 77.81 42 P **P** **13 15 41.1 +0.7**
AFDM pP **pP** **13 17 42.1 +0.4**
ORV Oroville 77.83 41 P **P** **13 15 41.2 +0.7**
ORV *PP **pP** **13 17 42.3 +0.4**
ORV pmax pmax
comp=Z,17nm,1.0s
ORV Oroville 77.83 41 P **P** **13 15 41.2 +0.7**
ORV pP **pP** **13 17 42.3 +0.4**
PFO Pinyon Flats O 77.92 49 P **P** **13 15 42.6 +1.3**
baz=238,SNR=6.4
PFO Pinyon Flats O 77.92 49 P **P** **13 15 42.1 +0.8**
PFO pmax pmax
comp=Z,18nm,1.2s
PFO Pinyon Flats O 77.92 49 P **P** **13 15 42.1 +0.8**
XPFO Pion Flat 77.92 49 P **P** **13 15 42.1 +0.8**
BBRC Big Bear Solar 77.94 48 P **P** **13 15 42.6 +1.1**
baz=238
N02D Trinity Center 77.94 39 P **P** **13 15 42.8 +1.7**
baz=233
SWSC Sam W. Stewart 78.05 49 P **P** **13 15 43.1 +1.3**
baz=239,SNR=8.6
LRMC Laurel Mtn Rad 78.05 46 P **P** **13 15 43.2 +1.3**
baz=237,SNR=7.9
DSRI Dabo 78.07 273 P **P** **13 15 43.2 +0.8**
comp=Z,248nm,1.2s
O03E Paynes Creek 78.08 40 P **P** **13 15 42.8 +0.9**
baz=234,SNR=7.2
M02C Callahan 78.10 39 P **P** **13 15 43.8 +1.8**
baz=233,SNR=5.3
L02E Cave Junction 78.12 38 P **P** **13 15 43.5 +1.5**
baz=232
RRX Edison Barstow 78.20 47 P **P** **13 15 43.8 +1.2**
baz=238
MDPB Devils Postpil 78.29 44 P **P** **13 15 44.3 +1.0**
MDPB IAmb IAmb 13 15 45.8
comp=Z,28nm,1.0s
MDPB pP **pP** **13 17 45.3 +0.4**
CWC Cottonwood Cre 78.30 45 P **P** **13 15 44.5 +1.3**
baz=237
OMMB Old Mammoth Mi 78.33 44 P **P** **13 15 44.5 +0.9**
OMMB pP **pP** **13 17 45.7 +0.5**
YBH Yreka Blue Hor 78.39 39 P **P** **13 15 44.9 +1.4**
comp=Z,13nm,0.9s,baz=53,slow=2.0,SNR=9.4
YBH Yreka Blue Hor 78.39 39 P **P** **13 15 44.7 +1.2**
K02D Willamette Mer 78.42 38 P **P** **13 15 45.1 +1.5**
baz=232
MNAI Manna 78.42 269 P **P** **13 15 44.4 +0.2**
MLAC Mammoth, Mammo 78.45 44 P **P** **13 15 45.7 +1.5**
baz=236,SNR=8.1
BELC Belle Mtn. Jos 78.45 48 P **P** **13 15 45.5 +1.4**
baz=239
MPMC Manual Prospec 78.50 46 P **P** **13 15 45.7 +1.3**
baz=237,SNR=15
TIN Tinemaha, Big 78.53 45 P **P** **13 15 45.8 +1.3**
baz=237
WAKR Walker 78.54 43 P **P** **13 15 45.6 +1.1**
WAKR IAmb IAmb 13 15 47.3
comp=Z,29nm,1.0s
NJ2 Nanjing 78.55 309*e*P **P** **13 15 45.3 +0.8**
NJ2 S **S** **13 24 57.8 +3.6**
NJ2 ScS **SKKSac** **13 25 07.5 +0.9**
NJ2 pmax pmax
comp=Z,28nm,0.5s
J01E Myrtle Point 78.55 37 P **P** **13 15 45.6 +1.4**
baz=232
TPRI Tanjung Pinang 78.56 275 P **P** **13 15 47.0 +2.0**
GSC Goldstone, Bar 78.56 47 P **P** **13 15 45.6 +1.0**
baz=238,SNR=8.7
GSC Goldstone, Bar 78.56 47 P **P** **13 15 45.3 +0.7**
GSC *PP **pP** **13 17 46.4 +0.1**

GSC pmax pmax
comp=Z,13nm,1.2s
GSC Goldstone, Bar 78.56 47 P P 13 15 45.2 +0.7
GSC pP **pP 13 17 46.4 +0.1**
HEC Hector,Ludlow 78.64 48 P P 13 15 46.1 +1.0
baz=238,SNR=15
BC3 Big Chuckawall 78.66 49 P P 13 15 46.8 +1.6
baz=239
BEKR Beckworth 78.73 41 P P 13 15 46.4 +0.9
BEKR pP **pP 13 17 47.7 +0.4**
MDJ Mudanjiang 78.74 325 P P 13 15 46.3 +1.1
MDJ pmax pmax
comp=Z,46nm,1.1s
MDJ pmax pmax
comp=Z,350nm,6.5s
MDJ Mudanjiang 78.74 325 P P 13 15 45.5 +0.3
MDJ IAmb IAmb 13 15 47.9
comp=Z,53nm,0.8s
PNTR Pine Nut 78.77 42 P P 13 15 47.0 +1.2
PNTR IAmb IAmb 13 15 48.4
comp=Z,50nm,0.9s
PNTR pP **pP 13 17 48.1 +0.6**
HUMO Hull Mountain 78.78 38 P P 13 15 46.7 +1.2
GLA Glamis 78.81 50 P P 13 15 47.8 +1.9
baz=240
VCNR Virginia City 78.85 42 P P 13 15 47.0 +0.8
VCNR pP **pP 13 17 48.6 +0.6**
L04D Klamath Falls 78.93 39 P P 13 15 47.7 +1.3
baz=233,SNR=6.6
YERR Yerington 78.94 43 P P 13 15 47.5 +0.8
YERR IAmb IAmb 13 15 49.0
comp=Z,30nm,0.9s
YERR pP **pP 13 17 49.1 +0.6**
M04C Macdoel 78.94 39 P P 13 15 47.8 +1.3
baz=233,SNR=7.7
KSI Kapahiang 78.98 270 P P 13 15 47.4 +0.1
comp=Z,131nm,0.8s
GRAC Grapevine Rang 79.08 45 P P 13 15 48.8 +1.5
baz=237
GMRC Granite Mounta 79.09 48 P P 13 15 48.8 +1.3
baz=239,SNR=9.5
IRM Iron Mountain 79.14 49 P P 13 15 49.2 +1.6
baz=239,SNR=14
FURC Furnace Creek, 79.14 46 P P 13 15 48.7 +1.2
baz=238,SNR=9.0
I02D Swisshome 79.19 36 P P 13 15 49.1 +1.6
baz=232
RYN Ryan 79.21 43 P P 13 15 48.8 +0.8
RYN pP **pP 13 17 50.4 +0.5**
I03D Drain, OR 79.22 37 P P 13 15 49.1 +1.3
baz=232
NVAR Mina Array Bea 79.24 44 P P 13 15 49.4 +1.1
comp=Z,13nm,0.8s,baz=224,slow=9.2,SNR=117
NVAR pP **pP 13 17 50.2 0.0**
comp=Z,4.7nm,1.2s,baz=226,slow=7.9,SNR=3.7
SHOC Shoshone, Teco 79.25 47 P P 13 15 49.2 +1.1
baz=238
TUQ Turquoise Moun 79.25 47 P P 13 15 49.4 +1.1
baz=239
PAHR Pah Rah Range 79.26 42 P P 13 15 49.2 +0.9
PAHR pP **pP 13 17 50.6 +0.4**
Y12C Blythe 79.38 49 P P 13 15 50.5 +1.6
baz=240,SNR=12
Y12C Blythe 79.38 49 P P 13 15 49.8 +0.9
113A Mohawk Valley, 79.44 50 P P 13 15 50.1 +1.0
MASI Maura Aman, Be 79.47 270 P P 13 15 50.5 +0.7
comp=Z,161nm,1.3s,comp=Z,3µm
MYKOM Kota Tinggi 79.48 275 P P 13 15 51.0 +1.2
MYKOM Kota Tinggi 79.48 275 P P 13 15 49.8 0.0
MYKOM IAmb IAmb 13 15 51.8
comp=Z,52nm,1.1s
K04D Chiloquin, OR 79.50 39 P P 13 15 50.8 +1.4
baz=233
GRNR Gornyy 79.54 332 ⇓*iP* **P 13 15 49.8 +0.5**
GRNR *i* 13 15 50.8
GRNR *eS* **S 13 24 59.3 -4.5**
GRNR pmax pmax
comp=Z,30nm,0.9s
GRNR smax smax
comp=N,2.0nm,1.2s
GRNR MLR MLR
comp=Z,80nm,13.0s
J04D Umpqua Nationa 79.66 38 P P 13 15 51.8 +1.5
baz=233,SNR=14
KVN Kaiserville 79.72 43 P P 13 15 51.4 +0.7
KVN *PP **pP** **13 17 53.2 +0.3**
KVN pmax pmax
comp=Z,19nm,1.0s
KVN Kaiserville 79.72 43 P P 13 15 51.4 +0.7
KVN pP **pP 13 17 53.2 +0.3**
214A Organ Pipe Nat 79.75 52 P P 13 15 52.8 +1.9
baz=241,SNR=9.5
214A Organ Pipe Nat 79.75 52 P P 13 15 52.0 +1.1
214A IAmb IAmb 13 15 54.2
comp=Z,32nm,1.2s
HSIG 79.79 55 P P 13 15 52.1 +1.0
TPNV Topopah Spring 79.81 46 P P 13 15 52.8 +1.6
baz=238,SNR=12
TPNV Topopah Spring 79.81 46 P P 13 15 52.2 +0.9
TPNV pmax pmax
comp=Z,12nm,0.9s
TPNV Topopah Spring 79.81 46 P P 13 15 52.2 +0.9
I04A Tendick Farm, 79.81 37 P P 13 15 51.9 +0.9
baz=233,SNR=8.9
NEE2 Needles Airpor 79.82 48 P P 13 15 52.7 +1.6
baz=240
MOD Modoc Plateau 79.94 40 P P 13 15 52.6 +0.8
MOD pP **pP 13 17 54.4 +0.3**
H04D Lebanon 80.07 37 P P 13 15 53.5 +1.3
baz=232,SNR=6.7
J05D Fort Rock, OR 80.19 38 P P 13 15 54.7 +1.7
baz=234,SNR=36
G03D McMinnville, O 80.20 36 P P 13 15 54.1 +1.2
baz=232,SNR=5.8
SHPR Sheep Range 80.33 47 P P 13 15 55.1 +1.1
SHPR pP **pP 13 17 56.0 -0.4**
W13A Hualapai Mount 80.51 48 P P 13 15 55.9 +0.9
Y14A Wickenburg 80.57 50 P P 13 15 55.3 +0.2
CN2 Changchun 80.58 322 *eP* **P 13 15 54.3 -0.6**
CN2 pmax pmax
comp=Z,20nm,1.1s
KLR Kul'dur 80.64 329 *deP* **P 13 15 55.3 +0.3**
KLR pmax pmax
comp=Z,12nm,1.0s
KLR Kul'dur 80.64 329 P P 13 15 55.8 +0.7
comp=Z,8.7nm,0.9s,baz=88,slow=3.8,SNR=18
PINE Pine Mountain 80.67 38 P P 13 15 56.5 +1.0
PINE IAmb IAmb 13 15 58.4
comp=Z,52nm,1.0s
PINE pP **pP 13 17 58.5 +0.5**
I05D Terrebonne, OR 80.76 37 P P 13 15 57.2 +1.3
baz=233,SNR=12
E03A Lebam 80.87 35 P P 13 15 57.4 +1.2
E03A IAmb IAmb 13 15 58.7
comp=Z,47nm,1.0s
F04D Rainier, OR 80.88 35 P P 13 15 57.7 +1.4
baz=232
SDSI Sungai Dareh 80.92 272 P P 13 15 57.4 +0.1
comp=Z,47nm,0.9s
R11A Troy Canyon, C 81.00 45 P P 13 15 58.5 +1.1
baz=238,SNR=17
R11A Troy Canyon, C 81.00 45 P P 13 15 57.7 +0.3
BMN Battle Mountai 81.04 42 P P 13 15 58.5 +1.0
BMN *PP **pP** **13 18 00.8 +0.7**
BMN Battle Mountai 81.04 42 P P 13 15 58.5 +1.0
BMN pP **pP 13 18 00.8 +0.7**
F04A Amboy 81.11 36 P P 13 15 58.3 +0.7
F04A IAmb IAmb 13 15 59.7
comp=Z,27nm,1.0s
WHN Wuhan 81.22 306 ⇑*P* **P 13 15 59.5 +1.0**
WHN pmax pmax
comp=Z,120nm,1.3s
NLWA Neilton Lookou 81.23 34 P P 13 15 59.3 +1.1
WVOR Wild Horse Val 81.26 40 P P 13 15 59.4 +0.8
WVOR *PP **pP** **13 18 01.5 +0.3**
WVOR pmax pmax
comp=Z,33nm,1.0s
WVOR Wild Horse Val 81.26 40 P P 13 15 59.4 +0.8
WVOR IAmb IAmb 13 16 01.2
comp=Z,33nm,1.0s
WVOR pP **pP 13 18 01.5 +0.3**
G05D Wamic, OR 81.31 37 P P 13 15 59.5 +0.8
baz=233,SNR=6.2
E04D Cinebar 81.41 35 P P 13 16 00.7 +1.7
baz=232,SNR=8.6
TUC Tucson 81.43 52 P P 13 16 01.9 +2.3
baz=242
TUC Tucson 81.43 52 P P 13 16 00.8 +1.2
TUC *PP **pP** **13 18 02.9 +0.5**
TUC pmax pmax
comp=Z,32nm,1.0s
TUC Tucson 81.43 52 P P 13 16 00.8 +1.2
TUC IAmb IAmb 13 16 03.1
comp=Z,32nm,1.0s
TUC pP **pP 13 18 02.9 +0.5**
JRMM Jerantut 81.45 277 P P 13 16 01.0 +1.0
MA2 Magadan 81.61 344 ⇑*eP* **P 13 15 59.0 -0.8**
MA2 pmax pmax
comp=Z,56nm,2.5s
F05D White Salmon 81.62 36 P P 13 16 01.3 +1.1
baz=233,SNR=9.8
BKNI Bangkinang 81.68 273 P P 13 16 01.5 +0.3
comp=Z,96nm,1.2s,comp=Z,2µm
BKNI Bangkinang 81.68 273 P P 13 16 00.9 -0.4
D04E Lakebay 81.69 34 P P 13 16 01.8 +1.4
baz=232
G06A Carlson Farm, 81.70 37 P P 13 16 01.3 +0.7
G06A IAmb IAmb 13 16 02.9
comp=Z,22nm,1.1s
D03D Eldon 81.73 34 P P 13 16 02.1 +1.4
baz=232,SNR=14
PDSI Padang 81.85 272 P P 13 16 01.0 -1.1
LCMT Little Creek M 81.91 47 P P 13 16 03.0 +1.0
LCMT pP **pP 13 18 05.4 +0.3**
X16A Lo Mia Camp, P 81.94 50 P P 13 16 02.6 +0.4
X16A IAmb IAmb 13 16 05.5
comp=Z,28nm,1.1s
X16A pP **pP 13 18 05.5 +0.1**
LON Longmire 81.94 35 P P 13 16 02.2 +0.3
LON pmax pmax
comp=Z,8.0nm,1.0s
LON Longmire 81.94 35 P P 13 16 02.2 +0.3
CCUT Cedar City 82.10 46 P P 13 16 04.6 +1.5
CCUT pP **pP 13 18 06.7 +0.5**
D05A Enumclaw 82.11 35 P P 13 16 03.4 +0.8
D05A IAmb IAmb 13 16 06.2
comp=Z,80nm,1.3s
319A Douglas 82.14 53 P P 13 16 05.2 +1.9
319A IAmb IAmb 13 16 06.9
comp=Z,50nm,0.9s
RC01 Rabbit Creek A 82.16 13 P P 13 16 02.1 -0.4
RC01 IAmb IAmb 13 16 05.0
comp=Z,38nm,1.2s
KNB Kanab 82.21 47 P P 13 16 04.8 +1.2
KNB *PP **pP** **13 18 06.5 -0.3**
KNB pmax pmax
comp=Z,21nm,0.9s
KNB Kanab 82.21 47 P P 13 16 04.8 +1.2
KNB pP **pP 13 18 06.5 -0.3**
PSUT Pine Spring 82.26 45 P P 13 16 04.6 +0.8
PSUT pP **pP 13 18 07.4 +0.4**
SUA Susitna One 82.28 13 P P 13 16 02.6 -0.7
SUA IAmb IAmb 13 16 04.0
comp=Z,26nm,0.8s
U15A North Rim 82.29 48 P P 13 16 05.7 +1.5
U15A IAmb IAmb 13 16 07.2
comp=Z,41nm,0.8s
U15A pP **pP 13 18 07.7 +0.4**
SZCU Shurtz Canyon 82.31 46 P P 13 16 05.2 +1.0
SZCU pP **pP 13 18 08.0 +0.6**
ELK Elko 82.48 43 P P 13 16 05.7 +0.7
ELK *PP **pP** **13 18 08.5 +0.3**
ELK pmax pmax
comp=Z,20nm,1.0s
ELK Elko 82.48 43 P P 13 16 05.7 +0.7
ELK IAmb IAmb 13 16 07.3
comp=Z,20nm,0.9s
ELK pP **pP 13 18 08.4 +0.3**
F07A Phinny Hill Vi 82.48 37 P P 13 16 05.3 +0.8
WUAZ Wupatki 82.50 49 P P 13 16 06.7 +1.6
baz=242,SNR=22
WUAZ Wupatki 82.50 49 P P 13 16 06.2 +1.1
WUAZ IAmb IAmb 13 16 08.1
comp=Z,31nm,1.1s
UBPT Khong Chiam 82.55 289 P P 13 16 06.2 +0.7
TTA Tatalina 82.65 10 P P 13 16 05.1 0.0
TTA pmax pmax
comp=Z,17nm,0.9s
TTA Tatalina 82.65 10 P P 13 16 05.1 0.0
A04D Lummi Island 82.67 33 P P 13 16 06.7 +1.4
baz=232,SNR=15
G08A Pilot Rock 82.69 38 P P 13 16 06.4 +0.6
G08A IAmb IAmb 13 16 08.2
comp=Z,32nm,1.1s
G08A pP **pP 13 18 09.4 +0.4**
B05A Bryant 82.71 34 P P 13 16 06.9 +1.3
baz=232,SNR=14
KNK Knik Glacier 82.73 14 P P 13 16 05.0 -0.4
KNK IAmb IAmb 13 16 05.7
comp=Z,26nm,1.0s
PMR Palmer 82.74 13 P P 13 16 04.9 -0.5
PMR pmax pmax
comp=Z,17nm,1.0s
PMR Palmer 82.74 13 P P 13 16 04.9 -0.5
PKCU Pink Cliffs 82.77 47 P P 13 16 08.5 +1.9
PKCU pP **pP 13 18 11.0 +1.0**
E07A Sunnyside 82.91 36 P P 13 16 07.6 +0.9
E07A IAmb IAmb 13 16 09.1
comp=Z,28nm,1.0s
GHO Glory Hole Cre 82.95 13 P P 13 16 06.2 -0.4
GHO IAmb IAmb 13 16 07.7
comp=Z,44nm,0.7s
HAWA Hanford 83.00 36 P P 13 16 07.6 +0.5
HAWA IAmb IAmb 13 16 09.0
comp=Z,26nm,0.9s
HAWA pP **pP 13 18 11.6 +1.2**
IPM Ipoh 83.01 277 P P 13 16 09.0 +1.1
IPM Ipoh 83.01 277 P P 13 16 07.6 -0.3
SISI Saibi 83.02 271 P P 13 16 08.6 +0.6
comp=Z,28nm,0.7s,comp=Z,488nm
X18A Snowflake 83.08 50 P P 13 16 09.0 +1.0
C06D Leavenworth 83.15 35 P P 13 16 08.5 +0.7
baz=233
MTPU Mount Pierson 83.15 46 P P 13 16 10.2 +1.6
MTPU pP **pP 13 18 12.7 +0.6**
E08A Dider Farm, El 83.32 36 P P 13 16 08.6 -0.1
E08A IAmb IAmb 13 16 10.5
comp=Z,18nm,0.9s
SCM Sheep Creek Mo 83.36 14 P P 13 16 08.3 -0.3
SCM pmax pmax
comp=Z,37nm,0.8s
SCM Sheep Creek Mo 83.36 14 P P 13 16 08.3 -0.3
SCM IAmb IAmb 13 16 09.8
comp=Z,37nm,0.8s
MSU Marysvale 83.39 46 P P 13 16 10.9 +1.4
MSU *PP **pP** **13 18 13.6 +0.4**
MSU Marysvale 83.39 46 P P 13 16 10.9 +1.4
MSU pP **pP 13 18 13.6 +0.4**
BMO Blue Mountains 83.41 39 P P 13 16 09.5 +0.2
BMO *PP **pP** **13 18 13.1 +0.3**
BMO pmax pmax
comp=Z,10.0nm,1.0s
BMO Blue Mountains 83.41 39 P P 13 16 09.5 +0.2
BMO pP **pP 13 18 13.1 +0.3**
CRQM Cirque 83.48 16 P P 13 16 09.4 0.0
CRQM IAmb IAmb 13 16 11.3
comp=Z,55nm,1.0s
W18A Petrified Fore 83.50 50 P P 13 16 11.3 +1.2
baz=243,SNR=5.6
W18A Petrified Fore 83.50 50 P P 13 16 10.4 +0.3
MFID Camas Ranch 83.52 40 P P 13 16 10.9 +0.9
MFID IAmb IAmb 13 16 12.4
comp=Z,23nm,1.1s
MFID pP **pP 13 18 13.9 +0.4**
KULM Kulim 83.62 278 P P 13 16 12.0 +1.0
KULM Kulim 83.62 278 P P 13 16 11.6 +0.7
KULM IAmb IAmb 13 16 13.2
comp=Z,30nm,0.9s
MAW Mawson 83.78 200 P P 13 16 11.5 +0.9
comp=Z,12nm,0.8s,baz=124,slow=7.3,SNR=15
MAW Mawson 83.78 200 P P 13 16 11.4 +0.7
DUG Dugway, Tooele 83.79 44 P P 13 16 12.3 +0.9
baz=240
DUG Dugway, Tooele 83.79 44 P P 13 16 12.3 +0.9
DUG pmax pmax
comp=Z,5.0nm,1.0s
DUG Dugway, Tooele 83.79 44 P P 13 16 12.3 +0.9
121A Cookes Peak, D 83.79 53 P P 13 16 13.7 +2.1
baz=244
121A Cookes Peak, D 83.79 53 P P 13 16 13.3 +1.7
VRDI Verde Repeater 83.80 16 P P 13 16 10.7 -0.2
VRDI IAmb IAmb 13 16 12.2
comp=Z,23nm,0.9s
GLB Gilahina Butte 83.88 16 P P 13 16 10.8 -0.4
GLB IAmb IAmb 13 16 12.4
comp=Z,23nm,0.8s
ZAIG Zacatecas 84.03 64 P P 13 16 14.6 +1.4
ZAIG IAmb IAmb 13 16 16.7
comp=Z,23nm,1.2s
F10A Beach Ranch, E 84.08 38 P P 13 16 12.8 +0.2
F10A IAmb IAmb 13 16 14.5
comp=Z,36nm,1.0s
BARN Barnard Glacie 84.13 17 P P 13 16 12.2 -0.4
BARN IAmb IAmb 13 16 13.8
comp=Z,35nm,0.9s
KTH Kantishna Hill 84.14 12 P P 13 16 11.1 -1.3
KTH IAmb IAmb 13 16 13.3
comp=Z,22nm,0.8s
NLU North Lily Min 84.16 45 P P 13 16 13.4 +0.1
TRF Thorofare Moun 84.17 12 P P 13 16 11.9 -0.8
TRF pP **pP 13 18 15.3 -1.2**
SEY Seymchan 84.18 347 *deP* **P 13 16 12.0 -0.5**
B08A Colville Reser 84.25 35 P P 13 16 12.9 -0.4
B08A IAmb IAmb 13 16 14.8
comp=Z,19nm,0.9s
LLLB Lillooet 84.26 32 P P 13 16 13.4 +0.2
LLLB IAmb IAmb 13 16 15.2
comp=Z,30nm,1.4s
SKLT Songkhla 84.26 279 P P 13 16 17.2 +3.1
Q16A Castle Valley 84.27 46 P P 13 16 14.1 +0.2
PLID Pearl Lake 84.32 39 P P 13 16 14.2 +0.3
BJT Baijiatuau 84.37 315 P P 13 16 13.8 -0.2
BJT pmax pmax
comp=Z,43nm,1.3s
BJT Baijiatuau 84.37 315 P P 13 16 13.8 -0.2
BJT IAmb IAmb 13 16 15.2
comp=Z,43nm,1.3s
RND Reindeer 84.42 13 P P 13 16 13.5 -0.3
RND pmax pmax
comp=Z,57nm,0.9s
RND Reindeer 84.42 13 P P 13 16 13.5 -0.3
RPSI Rantau Prapat 84.43 275 P P 13 16 14.1 -0.9
RPSI Rantau Prapat 84.43 275 P P 13 16 14.9 0.0
DHY Denali Highway 84.44 13 P P 13 16 13.4 -0.7
DHY IAmb IAmb 13 16 14.5
comp=Z,15nm,0.9s
PSI Prapat 84.46 275 P P 13 16 15.0 -0.3
PSI Prapat 84.46 275 P P 13 16 14.9 -0.3
comp=Z,57nm,0.8s,baz=80,slow=2.8,SNR=34
SKNT Sakolnakorn 84.49 290 P P 13 16 16.3 +1.2
C09A Chrisman Ranch 84.51 36 P P 13 16 14.7 +0.2
SPUT South Promonto 84.58 43 P P 13 16 15.9 +0.7
SPUT pP **pP 13 18 19.9 +0.7**
MCK McKinley 84.69 12 P P 13 16 14.5 -0.6
MCK pmax pmax
comp=Z,38nm,1.0s
MCK McKinley 84.69 12 P P 13 16 14.4 -0.6
MCK IAmb IAmb 13 16 16.0
comp=Z,38nm,1.0s
SKAG Skagway 84.77 20 P P 13 16 16.5 +1.0
PAX Paxson 84.78 14 P P 13 16 15.0 -0.6
PAX pmax pmax
comp=Z,13nm,0.9s
PAX Paxson 84.78 14 P P 13 16 15.1 -0.6
SRU San Rafael Swe 84.81 46 P P 13 16 17.2 +0.7
SRU pmax pmax
comp=Z,11nm,0.9s
SRU San Rafael Swe 84.81 46 P P 13 16 17.2 +0.7
P17A Butcher Ranch, 84.83 46 P P 13 16 16.9 +0.4
P17A pP **pP 13 18 21.0 +0.3**
ENH Enshi 84.89 304 P P 13 16 16.8 0.0
JLU Jordanelle 84.90 44 P P 13 16 17.2 +0.3
JLU pP **pP 13 18 21.2 +0.1**
LENM Lemitar 85.11 52 P P 13 16 18.6 +0.5
Y22D IRIS PASSCAL I 85.11 52 P P 13 16 19.4 +1.4
baz=244
HYT Haines Junctio 85.14 19 P P 13 16 17.6 +0.1
TCUT Toone Canyon 85.17 44 P P 13 16 18.9 +0.7
TCUT pP **pP 13 18 22.5 +0.1**
MENT Mentasta 85.17 15 P P 13 16 17.6 +0.2
GSI Gunungsitoli 85.28 273 P P 13 16 20.0 +1.0
comp=Z,159nm,1.0s,comp=Z,2µm
GSI Gunungsitoli 85.28 273 P P 13 16 19.5 +0.4
MNTX Cornudas Mount 85.28 55 P P 13 16 20.4 +1.8
baz=245
MNTX Cornudas Mount 85.28 55 P P 13 16 19.3 +0.6
MNTX IAmb IAmb 13 16 21.7
comp=Z,18nm,1.1s
MNTX pP **pP 13 18 23.2 +0.2**
HWUT Hardware Ranch 85.31 44 P P 13 16 19.0 +0.2
HWUT pP **pP 13 18 23.3 +0.3**
MVCO Mesa Verde 85.34 49 P P 13 16 19.3 +0.2
baz=243
TRTT Trang 85.35 280 P P 13 16 21.2 +1.9
BNM Barren Site 85.37 52 P P 13 16 19.8 +0.5
BNM pP **pP 13 18 23.9 +0.2**
NEW Newport 85.41 36 P P 13 16 19.5 +0.6
baz=236
NEW Newport 85.41 36 P P 13 16 19.1 +0.2
NEW pmax pmax
comp=Z,9.0nm,1.1s
NEW Newport 85.41 36 P P 13 16 19.1 +0.2
LPM Los Pinos Moun 85.43 52 P P 13 16 19.8 +0.3
LPM pP **pP 13 18 24.0 0.0**
MLY Manley 85.51 11 P P 13 16 17.9 -1.1
WRH Wood River Hil 85.52 12 P P 13 16 18.4 -0.6
WRH IAmb IAmb 13 16 20.0
comp=Z,42nm,1.1s
RIDG Independent Ri 85.59 14 P P 13 16 19.2 -0.2
RIDG IAmb IAmb 13 16 20.8
comp=Z,22nm,1.0s
TX31 Lajitas Ar. Si 85.67 57 P P 13 16 22.4 +1.7
TX31 IAmb IAmb 13 16 24.3
comp=Z,41nm,1.0s
TX31 pP **pP 13 18 26.0 +0.9**
TX32 Lajitas Array 85.67 57 P P 13 16 22.6 +1.9
TX32 IAmb IAmb 13 16 24.3
comp=Z,42nm,1.0s
TXAR Lajitas Array 85.67 57 P P 13 16 22.8 +2.0
comp=Z,22nm,0.8s,baz=222,slow=5.9,SNR=248
TXAR pP **pP 13 18 25.7 +0.6**
comp=Z,3.2nm,1.1s,baz=230,slow=5.9,SNR=5.8
DOT Dot Lake 85.70 14 P P 13 16 19.4 -0.5
DOT IAmb IAmb 13 16 21.2
comp=Z,20nm,0.9s
ZEA Zeya 85.70 331 *eP* **P 13 16 20.8 +0.7**
ZEA pmax pmax
comp=N,47nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
HDA Harding Lake 85.71 13 P P 13 16 19.6 -0.3
baz=209,SNR=19
HDA Harding Lake 85.71 13 P P 13 16 19.2 -0.7
HDA IAmb IAmb 13 16 21.1
comp=Z,19nm,0.7s
CCB Clear Creek Bu 85.74 12 P P 13 16 19.1 -0.9
CCB IAmb IAmb 13 16 20.2
comp=Z,23nm,0.9s
ANMO Albuquerque 85.83 51 ⇑*eP* **P 13 16 22.3 +0.8**
ANMO pmax pmax
comp=Z,14nm,1.0s
ANMO Albuquerque 85.83 51 P P 13 16 22.2 +0.7
ANMO IAmb IAmb 13 16 24.4
comp=Z,14nm,1.1s
TIY Taiyuan 85.87 312 *eP* **P 13 16 21.0 -0.4**
TCOL CIGO, UAF Yank 85.92 12 P P 13 16 20.5 -0.4
baz=208,SNR=12
COLA College 85.93 12 *deP* **P 13 16 19.7 -1.2**
COLA *i* *PP **pP** **13 18 23.7 -1.8**
COLA pmax pmax
comp=Z,32nm,1.1s
COLA College 85.93 12 P P 13 16 20.0 -0.9
COLA IAmb IAmb 13 16 21.1
comp=Z,26nm,0.9s
SCRK Sand Creek 85.99 14 P P 13 16 21.5 0.0
SCRK IAmb IAmb 13 16 22.3
comp=Z,14nm,1.1s
IL31 86.04 13 P P 13 16 20.3 -1.1
IL31 IAmb IAmb 13 16 21.7
comp=Z,16nm,1.0s
IL31 pP **pP 13 18 26.6 +0.5**
ILAR Eielson Array 86.04 13 P P 13 16 20.5 -1.0
comp=Z,14nm,0.9s,baz=229,slow=5.3,SNR=66

ILAR pP **pP** **13 18 25.6 -0.5**
comp=Z,1.8nm,1.0s,baz=230,slow=5.3,SNR=3.5
MCMT McKenzie Canyo 86.09 40 P **P** **13 16 22.4 -0.1**
MCMT **pP** **13 18 27.7 +0.7**
SLVN Son La 86.11 294 P **P** **13 16 23.6 +0.7**
SLVN IAmb IAmb 13 16 27.0
comp=Z,20nm,1.1s
AHID Auburn Hatcher 86.17 43 P **P** **13 16 23.3 +0.4**
AHID **pP** **13 18 27.3 0.0**
POKR Poker Plat Res 86.23 12 P **P** **13 16 21.6 -0.8**
baz=209,SNR=8.7
TPTI 86.26 275 P **P** **13 16 23.7 0.0**
comp=Z,26nm,0.9s,comp=Z,228nm
MSO Missoula 86.46 38 P **P** **13 16 24.2 +0.2**
baz=239
MSO Missoula 86.46 38 P **P** **13 16 24.0 -0.1**
DLMT Dillon 86.51 40 P **P** **13 16 25.3 +0.9**
DLMT IAmb IAmb 13 16 26.9
comp=Z,23nm,1.1s
DLMT pP **pP** **13 18 30.4 +1.4**
SURT Suratani 86.55 281 P **P** **13 16 27.7 +2.7**
TPAW Teton Pass 86.62 42 P **P** **13 16 25.8 +0.7**
TPAW IAmb IAmb 13 16 27.7
comp=Z,13nm,1.0s
TPAW **pP** **13 18 30.0 +0.3**
REDW Red Top Meadow 86.62 42 P **P** **13 16 25.3 +0.2**
REDW IAmb IAmb 13 16 27.6
comp=Z,23nm,1.1s
REDW pP **pP** **13 18 31.1 +1.4**
FXWY Fox Creek 86.64 42 P **P** **13 16 25.6 +0.5**
CLNB Carlsbad 86.68 55 P **P** **13 16 25.6 +0.2**
SNOW Snow King Moun 86.73 42 P **P** **13 16 26.3 +0.8**
SNOW IAmb IAmb 13 16 28.2
comp=Z,23nm,1.0s
JTMT Jette 86.74 37 P **P** **13 16 24.8 -0.6**
BILL Bilibino 86.77 354⇓ *i*P **P** **13 16 24.7 -0.1**
BILL *i* 13 19 56.1
BILL pmax pmax
comp=Z,7.0nm,0.8s
BILL Bilibino 86.77 354 P **P** **13 16 24.6 -0.3**
S22A 4UR Ranch, Cre 86.77 49 P **P** **13 16 27.4 +1.5**
baz=244,SNR=12
S22A 4UR Ranch, Cre 86.77 49 P **P** **13 16 26.9 +1.0**
S22A IAmb IAmb 13 16 28.5
comp=Z,15nm,1.1s
O20A White River Ci 86.84 46 P **P** **13 16 27.1 +1.0**
baz=243,SNR=5.6
O20A White River Ci 86.84 46 P **P** **13 16 26.9 +0.8**
MOOW Moose Ponds 86.87 42 pP 13 18 31.4 +0.5
XAN Xi'an 86.87 307 P **P** **13 16 26.5 +0.3**
XAN pmax pmax
comp=Z,67nm,1.1s
XAN pmax pmax
comp=Z,410nm,6.0s
XAN Xi'an 86.87 307 P **P** **13 16 26.6 +0.3**
XAN pmax pmax
comp=Z,72nm,1.0s
XAN Xi'an 86.87 307 P **P** **13 16 26.6 +0.4**
QLMT Earthquake Lak 86.97 41 P **P** **13 16 27.6 +1.0**
PRP Porcupine Dome 86.97 13 P **P** **13 16 25.0 -1.0**
PRP **pP** **13 18 31.3 +0.2**
PBKT Sadao Pong 87.05 288 P **P** **13 16 27.4 +0.1**
FLWY Flagg Ranch 87.06 42 P **P** **13 16 27.5 +0.4**
FLWY IAmb IAmb 13 16 30.0
comp=Z,28nm,1.0s
YHB Horse Butte 87.08 41 P **P** **13 16 28.4 +1.3**
YHB **pP** **13 18 32.9 +0.9**
YPP Pitchstone Pla 87.09 41 P **P** **13 16 28.7 +1.4**
YHL Hebgen Lake 87.13 41 P **P** **13 16 29.1 +1.7**
YHL **pP** **13 18 34.0 +1.7**
BW06 Boulder Array 87.17 43 P **P** **13 16 28.4 +0.7**
baz=242
BW06 Boulder Array 87.17 43 P **P** **13 16 27.9 +0.3**
BW06 IAmb IAmb 13 16 29.5
comp=Z,12nm,0.9s
PD31 Pinedale Array 87.17 43 P **P** **13 16 27.2 -0.4**
PDAR Pinedale Array 87.17 43 P **P** **13 16 28.1 +0.4**
comp=Z,7.2nm,0.8s,baz=216,slow=2.9,SNR=61
PDAR pP **pP** **13 18 33.5 +0.9**
comp=Z,1.9nm,1.1s,baz=188,slow=4.5,SNR=3.8
PDAR PP **PP** **13 20 00.4 -2.4**
comp=Z,0.5nm,0.8s,baz=208,slow=2.9,SNR=3.6
YMR Madison River 87.18 41 P **P** **13 16 28.6 +1.0**
DAWY Dawson 87.20 16 P **P** **13 16 27.2 +0.2**
DAWY IAmb IAmb 13 16 28.3
comp=Z,18nm,1.1s
H17A Grant Village 87.29 41 P **P** **13 16 30.7 +2.5**
baz=241
SMCO Snowmass 87.30 47 P **P** **13 16 28.9 +0.4**
YHH Holmes Hill 87.31 41 P **P** **13 16 29.1 +0.8**
YHH pP **pP** **13 18 33.2 0.0**
MLSI Meulaboh, Aceh 87.31 275 P **P** **13 16 29.0 +0.4**
comp=Z,238nm,1.3s
EGAK Eagle 87.34 15 P **P** **13 16 27.6 0.0**
EGAK IAmb IAmb 13 16 29.1
comp=Z,14nm,0.9s
YNR Norris Junctio 87.38 41 P **P** **13 16 29.2 +0.6**
LKWY Lake 87.48 41 P **P** **13 16 29.8 +0.7**
LKWY pmax pmax
comp=Z,21nm,1.0s
LKWY Lake 87.48 41 P **P** **13 16 29.8 +0.7**
LKWY IAmb IAmb 13 16 32.9
comp=Z,21nm,0.9s
COLD Coldfoot 87.59 10 P **P** **13 16 29.1 +0.4**
WALA Waterton Lakes 87.63 36 P **P** **13 16 29.8 +0.3**
SDCO Great Sand Dun 87.72 49 P **P** **13 16 31.4 +0.9**
baz=245
SDCO Great Sand Dun 87.72 49 P **P** **13 16 30.9 +0.4**
HHC Hu-ho-hao-te 87.87 314 P **P** **13 16 31.5 +0.7**
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,98nm,6.6s
YNE Yellowstone No 87.94 41 P **P** **13 16 32.5 +1.3**
SRDT SRDT 88.00 286 P **P** **13 16 34.4 +2.6**
MSTX Muleshoe 88.21 53 P **P** **13 16 33.6 +1.0**
baz=247
MSTX Muleshoe 88.21 53 P **P** **13 16 33.1 +0.6**
MSTX IAmb IAmb 13 16 34.1
comp=Z,22nm,1.0s
T25A Trinidad 88.26 50 P **P** **13 16 34.0 +1.2**
baz=246
T25A Trinidad 88.26 50 P **P** **13 16 33.8 +0.9**
T25A IAmb IAmb 13 16 36.0
comp=Z,10nm,1.0s
KMI Kunming 88.46 297 P **P** **13 16 35.5 +1.5**
KMI pmax pmax
comp=Z,34nm,1.1s
KMI pmax pmax
comp=Z,250nm,4.0s
RLMT Red Lodge 88.46 41 P **P** **13 16 34.7 +1.2**
baz=242
RLMT Red Lodge 88.46 41 P **P** **13 16 33.8 +0.2**
RLMT IAmb IAmb 13 16 38.2
comp=Z,21nm,0.9s
ISCO Idaho Springs 88.51 47 P **P** **13 16 34.7 +0.6**
baz=245
ISCO Idaho Springs 88.51 47 P **P** **13 16 33.5 -0.6**
ISCO pmax pmax
comp=Z,3.0nm,1.1s
ISCO Idaho Springs 88.51 47 P **P** **13 16 33.5 -0.6**
N23A Red Feather La 88.75 46 P **P** **13 16 35.1 -0.1**
baz=245,SNR=5.9
N23A Red Feather La 88.75 46 P **P** **13 16 35.0 -0.1**
N23A IAmb IAmb 13 16 37.7
comp=Z,14nm,1.1s
833A Chaparral WMA, 88.76 60 P **P** **13 16 36.5 +1.4**
baz=249
833A Chaparral WMA, 88.76 60 P **P** **13 16 35.4 +0.3**
833A IAmb IAmb 13 16 37.9
comp=Z,25nm,1.1s
TOLK Toolik Lake Re 88.97 10 P **P** **13 16 35.4 +0.2**
baz=207
TOLK Toolik Lake Re 88.97 10 P **P** **13 16 35.2 0.0**
TOLK IAmb IAmb 13 16 36.1
comp=Z,7.6nm,0.9s
SYO Syowa Base 89.00 193⇑ *i*P **P** **13 16 34.0 -1.4**
SYO Syowa Base 89.00 193 *i*PcP **PcP** **13 16 36.8 +0.4**
SYO Syowa Base 89.00 193⇓ *e*pP pP 13 18 42.2 +0.8
K22A Casper 89.12 44 P **P** **13 16 37.4 +0.8**
baz=244
K22A Casper 89.12 44 P **P** **13 16 37.1 +0.4**
K22A IAmb IAmb 13 16 38.8
comp=Z,16nm,1.1s
JCT Junction City 89.21 58 P **P** **13 16 38.0 +0.8**
baz=248
JCT Junction City 89.21 58 P **P** **13 16 37.8 +0.6**
JCT pmax pmax
comp=Z,12nm,0.9s
JCT Junction City 89.21 58 P **P** **13 16 37.8 +0.6**
JCT IAmb IAmb 13 16 39.3
comp=Z,12nm,0.8s
PHWY Pilot Hill 89.26 46 P **P** **13 16 37.6 +0.2**
AMTX Amarillo 89.39 53 P **P** **13 16 38.9 +0.9**
baz=247
CM31 Chiang Mai Arr 89.50 290 P **P** **13 16 39.3 +0.6**
CMAR Chiang Mai Arr 89.50 290 P **P** **13 16 40.0 +1.2**
comp=Z,26nm,0.9s,baz=110,slow=2.6,SNR=90
CMAR PP **PP** **13 20 20.6 -0.7**
comp=Z,0.9nm,0.5s,baz=111,slow=5.3,SNR=4.0
EGMT Eagleton 89.52 39 P **P** **13 16 39.2 +0.9**
baz=242
CMMT Chiang Mai 89.62 290 P **P** **13 16 40.1 +0.8**
CHTO Chiang Mai 89.62 290 P **P** **13 16 39.8 +0.5**
CHTO pmax pmax
comp=Z,27nm,0.7s
CHTO Chiang Mai 89.62 290 P **P** **13 16 39.8 +0.5**
CD2 Chengdu 89.69 303 P **P** **13 16 39.5 +0.1**
CD2 pmax pmax
comp=Z,20nm,0.6s
EPYK Eagle Plains 89.72 15 P **P** **13 16 39.1 +0.4**
baz=219,SNR=15
EPYK Eagle Plains 89.72 15 P **P** **13 16 38.5 -0.2**
EPYK IAmb IAmb 13 16 40.1
comp=Z,22nm,0.9s
YAK Yakutsk 90.05 338 *e*P **P** **13 16 37.5 -2.7**
YAK *e*PPP PPP 13 22 32.1
YAK *e*S **SKSac** **13 26 19.4 +4.1**
YAK *e* 13 28 00.9
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,247nm,4.4s
YAK pmax pmax
comp=N,243nm,4.5s
YAK pmax pmax
comp=E,52nm,2.5s
YAK smax smax
comp=E,219nm,4.4s
YAK smax smax
comp=N,260nm,4.5s
ABTX Abilene, Hawle 90.12 56 P **P** **13 16 42.5 +1.2**
baz=248
ABTX Abilene, Hawle 90.12 56 P **P** **13 16 42.0 +0.7**
ABTX pP **pP** **13 18 47.6 +0.4**
KSCO Kaye Shedlock' 90.30 49 P **P** **13 16 43.8 +1.6**
baz=247
SNAA Sanae 90.30 178 P **P** **13 16 41.7 +0.2**
SNAA Sanae 90.30 178⇑ *e*P **P** **13 16 42.0 +0.5**
SNAA Sanae 90.30 178 P **P** **13 16 41.5 0.0**
SNAA IAmb IAmb 13 16 44.7
comp=Z,12nm,1.2s
MHMT Maesarieng 90.32 289 P **P** **13 16 44.7 +2.2**
VNA3 Neumayer Olymp 90.42 176 P **P** **13 16 42.9 +0.9**
PLCA Paso Flores 90.73 133 P **P** **13 16 46.0 +1.9**
comp=Z,7.0nm,1.0s,baz=265,slow=4.7,SNR=15
PLCA Paso Flores 90.73 133 P **P** **13 16 46.1 +1.9**
PLCA IAmb IAmb 13 16 47.4
comp=Z,9.0nm,1.1s
VNA2 Neumayer--Watz 90.87 177 P **P** **13 16 45.2 +1.1**
baz=174,slow=2.5
NVL N'lazarevskaya 91.02 183 *e*P **P** **13 16 42.1 -2.6**
NVL *e*S **S** **13 26 46.6 -6.1**
NVL pmax pmax
comp=Z,13nm,0.9s
LAO LASA Array 91.06 41 P **P** **13 16 47.2 +1.9**
baz=244,SNR=12
LAO LASA Array 91.06 41 P **P** **13 16 46.7 +1.4**
VNA1 Neumayer--Stat 91.09 177 P **P** **13 16 43.6 +1.3**
435B Jarrell 91.10 58 P **P** **13 16 47.1 +1.2**
baz=250
435B Jarrell 91.10 58 P **P** **13 16 45.8 -0.1**
435B IAmb IAmb 13 16 48.3
comp=Z,11nm,0.9s
RSSD Black Hills 91.38 44 P **P** **13 16 47.9 +0.8**
baz=246
RSSD Black Hills 91.38 44 P **P** **13 16 47.0 -0.1**
RSSD pmax pmax
comp=Z,14nm,1.0s
RSSD Black Hills 91.38 44 P **P** **13 16 47.0 -0.1**
RSSD IAmb IAmb 13 16 48.3
comp=Z,14nm,1.0s
OGNE Ogallala 91.48 47 P **P** **13 16 48.3 +0.8**
baz=247
LZH Lanzhou 91.50 307⇓ *i*P **P** **13 16 49.0 +1.2**
LZH pP pP 13 18 53.5 -0.9
LZH sP sP 13 19 58.0 +5.5
LZH pmax pmax
comp=Z,38nm,1.1s
LZH pmax pmax
comp=Z,160nm,4.9s
WMOK Wichita Mounta 91.56 54 P **P** **13 16 48.3 +0.4**
baz=249
WHTX Lake Whitney, 91.63 57 P **P** **13 16 49.1 +0.9**
baz=250
WHTX Lake Whitney, 91.63 57 P **P** **13 16 48.7 +0.5**
WHTX IAmb IAmb 13 16 50.4
comp=Z,9.6nm,0.9s
U32A Winter Ranch, 91.98 52 P **P** **13 16 50.5 +0.7**
INK Inuvik 92.01 15 P **P** **13 16 48.6 -0.5**
INK pmax pmax
comp=Z,15nm,1.0s
INK Inuvik 92.01 15 P **P** **13 16 48.6 -0.5**
comp=Z,21nm,1.1s,baz=211,slow=5.5,SNR=33
INK Inuvik 92.01 15 P **P** **13 16 48.6 -0.5**
INK IAmb IAmb 13 16 49.7
comp=Z,15nm,0.9s
X34A Smith Ranch, M 92.24 54 P **P** **13 16 52.4 +1.3**
X34A IAmb IAmb 13 16 53.6
comp=Z,26nm,1.2s
HKT Hockley 92.24 59⇑ *e*P **P** **13 16 52.3 +1.3**
HKT pmax pmax
comp=Z,14nm,1.5s
CBKS Cedar Bluff 92.31 50 P **P** **13 16 52.3 +1.0**
baz=249
DGMT Dagmar 93.05 40 P **P** **13 16 55.8 +1.4**
baz=246,SNR=8.7
DGMT Dagmar 93.05 40 P **P** **13 16 55.2 +0.8**
ULN Ulaanbaatar 93.73 319⇓ *e*P **P** **13 16 57.3 -0.4**
ULN *i* *PP **pP** **13 19 06.7 +2.1**
ULN pmax pmax
comp=Z,21nm,1.3s
ULN Ulaanbaatar 93.73 319 P **P** **13 16 57.4 -0.4**
ULN IAmb IAmb 13 16 58.8
comp=Z,18nm,1.1s
SONM Songino Array 94.13 319 P **P** **13 16 58.7 -0.8**
comp=Z,1.6nm,0.5s,baz=125,slow=3.8,SNR=16
SONM PP **PP** **13 20 54.4 -2.3**
comp=Z,1.8nm,1.2s,baz=73,slow=5.1,SNR=4.3
TUL1 Leonard 94.25 54 P **P** **13 17 01.1 +0.9**
baz=251
YKA Yellowknife Ar 94.35 25 P **P** **13 16 59.8 -0.1**
comp=Z,4.7nm,0.8s,baz=243,slow=4.4,SNR=60
YKA PKKPbc **PKKPdf** **13 33 54.9 -3.2**
comp=Z,0.3nm,0.5s,baz=40,slow=2.5,SNR=7.1
BGNE Belgrade 94.37 48 P **P** **13 17 01.8 +1.2**
baz=250
YKW3 Yellowknife Ar 94.39 25 P **P** **13 16 59.9 -0.2**
YKW3 IAmb IAmb 13 17 01.2
comp=Z,4.7nm,0.9s
KSU1 Kansas State U 94.70 50 P **P** **13 17 03.6 +1.5**
baz=250
C36M Paulatuk 95.20 17 P **P** **13 17 04.6 +1.0**
baz=230
GTA Gaotai 95.64 310 P **P** **13 17 07.0 +0.4**
GTA SKS **SKSac** **13 26 43.0 -4.1**
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,170nm,5.5s
ECSD EROS Data Cent 96.22 46 P **P** **13 17 09.2 +0.3**
baz=251
ECSD EROS Data Cent 96.22 46 P **P** **13 17 08.5 -0.4**
TIXI Tiksi 96.57 345⇓ *e*P **P** **13 17 08.4 -1.3**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
TIXI Tiksi 96.57 345 P **P** **13 17 08.8 -1.0**
TIXI IAmb IAmb 13 17 09.7
comp=Z,6.7nm,1.1s
LPAZ La Paz 102.78 112 PP **PKiKP** **13 22 04.0 +7.6**
comp=Z,1.0nm,0.7s,baz=274,slow=6.2,SNR=4.0
LPAZ PKKPbc **PKKPbc** **13 33 34.9 -0.4**
comp=Z,0.7nm,0.7s,baz=71,slow=1.2,SNR=4.2
Z57A Bowman 105.56 60 P **PKiKP** **13 22 00.6 +0.3**
baz=258
J49A Marlette 105.60 49 P **PKiKP** **13 22 00.4 +0.4**
baz=260
V55A Taylorsville 105.65 57 P **PKiKP** **13 22 01.4 +1.0**
baz=259
ZALV Zalesovo Beam 108.80 322 PKiKP **PKiKP** **13 22 04.3 -1.4**
comp=Z,2.6nm,0.6s,baz=123,slow=0.6,SNR=13
ZALV PP **PP** **13 22 46.3 +1.6**
comp=Z,1.3nm,0.6s,baz=95,slow=6.3,SNR=4.9
MKAR Makanchi Array 109.73 314 Pdiff **Pdif** **13 18 09.4 +0.5**
comp=Z,0.5nm,0.6s,baz=89,slow=6.0,SNR=3.8
MKAR PKiKP **PKiKP** **13 22 06.6 -1.1**
comp=Z,1.7nm,0.4s,baz=120,slow=1.0,SNR=47
J58A Remsen 111.27 50 P **PKiKP** **13 22 10.7 -0.1**
baz=265
O61A Allentown 111.50 53 P **PKiKP** **13 22 11.9 +0.7**
baz=264
KURK Kurchatov 112.41 318 *i* PKiKP **PKiKP** **13 22 11.8 -0.8**
KURK Kurchatov 112.41 318 **PKiKP** **13 22 11.8 -0.8**
KURBB Kurchatov Arra 112.46 318 PKiKP **PKiKP** **13 22 11.7 -1.0**
comp=Z,4.3nm,0.7s,baz=96,slow=1.8,SNR=38
KSH Kashi 113.69 306 PKP **PKiKP** **13 22 14.0 -1.7**
KSH PP **PP** **13 23 25.0 +5.2**
KSH PKS 13 25 50.0
KSH SKS **SKSdf** **13 28 30.5 -2.7**
KSH AMB AMB
comp=Z,220nm,6.0s
TKM2 Tokmak 2 114.19 309 P PKPdf 13 22 15.9 -0.8
SNR=12
KBK Karagaybulak 114.66 309 P PKPdf 13 22 17.1 -0.4
SNR=7.3
CHMS Chumysh 114.82 310 P PKPdf 13 22 17.0 -0.6
SNR=7.7
UCH Uchtor 114.96 309 P PKPdf 13 22 18.5 0.0
SNR=7.3
AAK Ala-Archa 114.99 309⇑ *i*PKiKP PKPdf 13 22 18.0 -0.1
AAK pmax pmax
comp=Z,7.0nm,1.3s
AAK Ala-Archa 114.99 309 PKPdf 13 22 17.5 -0.6
USP Ospenovka 115.01 310 P **PKPdf** **13 22 17.1 -0.8**
SNR=5.7
AML Almayashu 115.57 309 P **PKPdf** **13 22 19.5 0.0**
SNR=11
BVAR Borovoye Array 117.42 321 PKP **PKPdf** **13 22 21.6 -0.6**
comp=Z,5.3nm,0.5s,baz=114,slow=2.8,SNR=40
BRVK Borovoye 117.47 321⇑ *i*PKiKP **PKPdf** **13 22 21.9 -0.4**
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 117.47 321 **PKPdf** **13 22 21.5 -0.8**
KK31 Karatay Array 117.93 310 PKiKP **PKPdf** **13 22 22.7 -0.8**
KK31 Karatay Array 117.93 310 **PKPdf** **13 22 22.7 -0.8**
KKAR Karatay Array 117.93 310 PKiKP **PKPdf** **13 22 22.8 -0.7**
KKAR Karatay Array 117.93 310 **PKPdf** **13 22 22.8 -0.7**
GAR Garm 118.05 305 **PKPdf** **13 22 23.8 -0.2**
KBL Kabul 118.91 300 PKiKP **PKPdf** **13 22 25.9 -0.1**
KBL Kabul 118.91 300 **PKPdf** **13 22 25.9 -0.1**
CHGR Chuyangaron 118.95 305 **PKPdf** **13 22 25.3 -0.4**
SPITS Spitsbergen Ar 119.58 357 PKP **PKPdf** **13 22 25.6 -0.1**
comp=Z,9.5nm,0.9s,baz=82,slow=6.0,SNR=5.6
BDFB Brasilia 120.21 121 PKKPbc PKKPbc 13 32 38.7 +0.2
comp=Z,2.2nm,0.7s,baz=44,slow=5.4,SNR=5.1
SVE Sverdlovsk 122.18 326 *e*PKiKP **PKPdf** **13 22 30.7 -0.5**
SVE pmax pmax
comp=Z,22nm,0.9s
ARU Arti 123.39 326 *i* PKiKP **PKPdf** **13 22 33.4 -0.2**
ARU 13 24 26.2
ARU 13 28 50.0
ARU SP SP 13 33 25.8 +1.9
ARU SS **SS** **13 40 30.7 +3.9**
ARU Arti 123.39 326 PKP **PKPdf** **13 22 33.4 -0.2**
comp=Z,5.5nm,0.7s,baz=46,slow=1.0,SNR=24
ARU Arti 123.39 326 **PKPdf** **13 22 33.1 -0.4**
ABKAR Akbulak array 124.52 318 **PKPdf** **13 22 35.6 -0.4**
HRA Herat 124.52 300 **PKPdf** **13 22 36.3 -0.5**
AKTO Aktyubinsk 125.44 319 PKP **PKPdf** **13 22 37.2 -0.5**
comp=Z,8.1nm,1.0s,baz=106,slow=3.6,SNR=18
ARCES ARCESS Array B 126.69 350 PKP **PKPdf** **13 22 39.8 +0.3**
comp=Z,20nm,1.0s,baz=336,slow=0.5,SNR=28
PRGR Permogore 127.03 336 *e*PKiKP **PKPdf** **13 22 38.5 -1.9**
PRGR pmax pmax
comp=Z,9.0nm,0.4s
KIRV Kirov 127.04 331 PKP **PKPdf** **13 22 40.7 +0.2**
comp=Z,12nm,0.5s,baz=195,slow=0.8,SNR=6.6
GEYT Alibeck 127.66 304 PKP **PKPdf** **13 22 41.5 -0.9**
comp=Z,9.5nm,0.7s,baz=286,slow=1.1,SNR=21
GEYT PP **PP** **13 24 51.3 -2.1**
comp=Z,18nm,1.5s,baz=78,slow=3.5,SNR=4.7
GYA0B ALIBECK ARRAY 127.66 304 **PKPdf** **13 22 42.2 -0.2**
TMCR Tamitsa 128.06 341 *e*PKiKP **PKPdf** **13 22 41.8 -0.4**
TMCR pmax pmax
comp=Z,35nm,1.3s
BOSA Boshof 128.40 206 PKP **PKPdf** **13 22 44.7 +0.4**
comp=Z,3.9nm,0.7s,baz=100,slow=4.8,SNR=8.5
FINES FINESS Array B 133.61 344 PKhKP PKPpre 13 22 38.3
comp=Z,3.6nm,0.9s,baz=40,slow=4.5,SNR=6.3
FINES PKP **PKPdf** **13 22 52.4 -0.4**
comp=Z,1.6nm,0.4s,baz=64,slow=3.2,SNR=12
FINES SKPbc **SKPbc** **13 25 29.3 +1.7**
comp=Z,8.9nm,0.9s,baz=48,slow=2.8,SNR=6.5
VRH Novokhopyorsk 134.62 326 *e*PKiKP **PKPdf** **13 22 54.8 -0.2**
VRH pmax pmax
comp=Z,10.0nm,0.5s
OBN Obninsk 134.80 333⇑ *i*PKiKP **PKiKP** **13 22 56.2 -0.6**
OBN *i* 13 25 11.3
OBN *e* 13 25 33.7
OBN pmax pmax
comp=Z,13nm,0.4s
AKT Akhty 134.82 311 *e*PKiKP **PKPdf** **13 22 56.0 +0.1**
AKT *e* 13 25 37.2
AKT pmax pmax
comp=Z,16nm,0.8s
LPSR Galich'ya Gora 135.27 329 *e*PKiKP **PKPdf** **13 22 56.9 +0.7**
LPSR pmax pmax
comp=Z,40nm,1.8s
VSR Storozhevoye 135.96 327 *e*PKiKP **PKPdf** **13 22 56.7 -0.8**
VSR pmax pmax
comp=Z,20nm,1.1s
VORD Divnogorie 136.03 327 *e*PKiKP **PKPdf** **13 22 56.9 -0.8**
VORD pmax pmax
comp=Z,10.0nm,1.2s
NB2 NORSAR Subarra 136.72 354 PKP PKPpre 13 22 50.5
comp=Z,1.4nm,0.8s,baz=16,slow=3.2
NOA NORSAR Array B 136.72 354 PKhKP PKPpre 13 22 49.9
comp=Z,2.5nm,1.0s,baz=19,slow=2.8,SNR=6.3
NOA PKP **PKPdf** **13 22 57.9 -0.8**
comp=Z,1.3nm,0.7s,baz=14,slow=3.7,SNR=3.2
ZEI Tsey 137.08 314 *i* PKiKP **PKPdf** **13 22 55.6 -4.6**
ZEI pmax pmax
comp=Z,4.0nm,0.6s
HFS Hagfors 137.29 352 PKhKP PKPpre 13 22 48.6
comp=Z,2.6nm,0.4s,baz=59,slow=3.0,SNR=17
GNI Garni 137.39 310*c* *i*PKiKP **PKPdf** **13 23 01.8 +1.0**
GNI pmax pmax
comp=Z,43nm,1.3s
KBZ Khabaz 137.40 316 PKP **PKPdf** **13 23 00.0 -0.4**
comp=Z,4.1nm,0.8s,baz=132,slow=0.6,SNR=9.2
KBZ SKPbc **SKPbc** **13 25 39.6 -0.1**
comp=Z,1.5nm,0.8s,baz=98,slow=8.5,SNR=4.3
KIV Kislovodsk 137.44 316 *e*PKiKP **PKPdf** **13 23 01.2 +0.5**
KIV pmax pmax
comp=Z,17nm,1.0s
SOC Sochi 139.55 317 *i* PKiKP **PKiKP** **13 23 05.8 -1.1**
SOC *e* 13 26 08.3
SOC *e*SSS SSS 13 49 02.8
SOC pmax pmax
comp=Z,11nm,0.4s
KMBO Kilima Mbogo 140.52 245 PKhKP PKPpre 13 23 02.6
comp=Z,2.3nm,0.6s,baz=88,slow=4.9,SNR=6.9
AKASG Malin Array Be 141.07 333 PKhKP PKPpre 13 23 00.8
comp=Z,2.5nm,0.3s,baz=45,slow=4.4,SNR=16
AKBB Malin Array Si 141.07 333 PKHKP PKPpre 13 23 00.5
AKBB Malin Array Si 141.07 333 PKPpre 13 23 00.6
MAZI Mazidag 141.43 308 P **PKPdf** **13 23 03.7 -4.4**
SIM Simferopol' 142.31 322 *e*PKiKP **PKPdf** **13 23 07.0 -2.3**
SIM pmax pmax
comp=Z,32nm,0.8s
MALT Malatya 142.62 310 P **PKPdf** **13 23 08.3 -1.9**
URFA Urfa 142.65 308 P **PKPdf** **13 23 08.1 -2.1**

EKA	Eskdalemuir Ar	142.70	5	PKhKP	PKPdf	13 23 06.3	-3.3		
	comp=Z,2.4nm,0.5s,baz=337,slow=2.8,SNR=9.8								
SEVA	Sevastopol	142.81	322	⇓P	PKPdf	13 23 08.5	-1.7		
SVSK	Karacayir	142.99	313	P	PKPdf	13 23 09.8	-0.8		
KVT	Kavak	143.11	315	PKIKP	PKPbc	13 23 10.1	+0.9		
KVT	Kavak	143.11	315	P	PKPbc	13 23 10.1	+0.9		
TOKT	Tokat	143.13	314	P	PKPbc	13 23 09.8	+0.5		
DARE	Darende-Malaty	143.21	311	P	PKPbc	13 23 10.2	+0.5		
SORM	Soroca	143.31	330	⇑PKIKP	PKPab	13 23 09.0	-0.2		
SORM	Soroca	143.31	330	⇑P	PKPab	13 23 09.0	-0.2		
BEL	Belsk	143.35	341	ePKIKP	PKPbc	13 23 10.0	+0.5		
BEL	Belsk	143.35	341	ePKP	PKPbc	13 23 10.0	+0.5		
BEL				ePKP	PKPbc	13 23 10.0	+0.5		
DIKM	Dikmen	143.36	317	⇑P	PKPdf	13 23 10.9	-0.3		
DIKM	Dikmen	143.36	317	P	PKPbc	13 23 10.6	+0.7		
IOMK	Kirk Michael	143.62	7	eP	PKPab	13 23 09.4	-0.8		
KIS	Kishinev	143.88	329	⇓/PKP	PKPbc	13 23 11.0	-0.3		
	comp=Z,220nm,1.3s								
KIS	Kishinev	143.88	329	⇓/PKIKP	PKPbc	13 23 11.0	-0.3		
KIS				pmax	pmax				
	comp=Z,216nm,1.3s								
LVV	L'vov	143.89	336	ePKIKP	PKPbc	13 23 10.9	-0.3		
MILM	Milestii Mici	143.94	329	⇑P	PKPbc	13 23 11.5	0.0		
GAZ	Gaziantep	143.94	309	P	PKPdf	13 23 12.8	+0.3		
GAZ	Gaziantep	143.94	309		PKPbc	13 23 11.7	-0.3		
BZK	Bozkurt	144.01	318	⇑P	PKPdf	13 23 12.7	+0.4		
BZK	Bozkurt	144.01	318	P	PKPbc	13 23 12.0	+0.2		
KMRS	Kahramanmaras	144.05	310	P	PKPbc	13 23 12.3	+0.1		
HPK	Haverah Park	144.18	4	eP	PKPbc	13 23 11.8	-0.2		
BNN	Bunyan	144.26	312	P	PKPab	13 23 13.6	+0.2		
YOZ	Yozgat	144.27	314	P	PKPab	13 23 13.5	+0.1		
IAS	Iasi	144.36	330	⇑PKIKP	PKPab	13 23 13.2	-0.1		
IAS	Iasi	144.36	330	⇑P	PKPab	13 23 13.2	-0.1		
WME	Myndd Eilian	144.50	7	eP	PKPdf	13 23 12.4	-0.3		
LEOM	Leova	144.53	328	⇑PKIKP	PKPbc	13 23 13.6	+0.3		
LEOM	Leova	144.53	328	⇑P	PKPbc	13 23 13.6	+0.3		
LEOM	Leova	144.53	328	P	PKPbc	13 23 13.4	+0.1		
KWP	Kalwaria Pacla	144.55	337	PKIKP	PKPdf	13 23 13.1	0.0		
KWP	Kalwaria Pacla	144.55	337		PKPdf	13 23 13.1	0.0		
WLF1	Llynfaes	144.60	7	eP	PKPdf	13 23 12.7	-0.3		
YRC	Rhoscolyn	144.62	7	eP	PKPdf	13 23 13.1	+0.1		
LBWR	Ladybower, Pea	144.73	4	eP	PKPdf	13 23 12.7	-0.5		
YLL	Llanberis	144.77	7	eP	PKPbc	13 23 13.8	0.0		
KOZT	Kozan	144.84	310	P	PKPdf	13 23 13.8	-0.1		
PRAR	RASCA	144.86	331	⇑P	PKPbc	13 23 14.7	+0.4		
CANT	Cankiri	144.95	316	P	PKPab	13 23 15.5	-0.4		
BIR	Birlad	144.98	329	PKIKP	PKPab	13 23 15.4	-0.3		
BIR	Birlad	144.98	329	⇑P	PKPab	13 23 15.5	-0.3		
OJC	Ojcow	145.07	340	PKIKP	PKPdf	13 23 13.4	-0.5		
OJC	Ojcow	145.07	340	ePKP	PKPbc	13 23 15.0	+0.1		
OJC				ePKP	PKPbc	13 23 15.0	+0.1		
OJC	Ojcow	145.07	340		PKPdf	13 23 13.4	-0.5		
CEYT	Ceyhan	145.09	309	P	PKPab	13 23 16.1	-0.3		
BUR08	Bucovina Ar. S	145.11	332	PKPbc	PKPbc	13 23 15.3	+0.1		
TLCR		145.12	326	⇑PKIKP	PKPbc	13 23 15.7	+0.6		
TLCR		145.12	326	⇑P	PKPbc	13 23 15.7	+0.6		
FOEL	Foel Wylfa	145.12	6	eP	PKPbc	13 23 14.8	-0.1		
BURAR	Bucovina Array	145.12	332	PKIKP	PKPab	13 23 16.4	+0.1		
BURAR	Bucovina Array	145.12	332	⇑P	PKPab	13 23 16.5	+0.1		
BIZ	Bicaz	145.23	331	⇓P	PKPab	13 23 16.4	-0.2		
GHRR		145.24	329	⇓P	PKPab	13 23 16.8	+0.1		
YURE	YUREGIR	145.25	309	P	PKPab	13 23 16.9	-0.2		
STHS	Stebnicka Huta	145.26	338	ePKIKP	PKPbc	13 23 15.3	-0.2		
STHS	Stebnicka Huta	145.26	338	ePKP	PKPbc	13 23 15.3	-0.2		
TESR	Tescani	145.28	330	⇓P	PKPbc	13 23 15.9	+0.3		
KOLS	Kolonicke sedl	145.28	337	ePKP2	PKPbc	13 23 16.1	+0.6		
KOLS	Kolonicke sedl	145.28	337	ePKP	PKPbc	13 23 16.1	+0.6		
CMRD	Camardi-Nigde	145.37	311	P	PKPbc	13 23 15.9	-0.4		
BR131	Keskin Array S	145.38	315	PKIKP	PKPdf	13 23 15.2	+0.2		
BR131	Keskin Array S	145.38	315		PKPdf	13 23 15.2	+0.2		
BRTR	Keskin Array B	145.38	315	PKPbc	PKPdf	13 23 15.2	+0.2		
	comp=Z,24nm,0.6s,baz=133,slow=4.2,SNR=83								
BRTR	Keskin Array B	145.38	315	P	PKPbc	13 23 15.7	-0.6		
CWF	Charnwood Fore	145.42	4	eP	PKPdf	13 23 15.1	+0.7		
TUDR		145.43	328	⇑P	PKPab	13 23 17.9	+0.4		
HLM1	Long Mynd	145.51	5	eP	PKPbc	13 23 15.8	-0.3		
WACR	West Acre	145.52	2	eP	PKPbc	13 23 15.8	-0.2		
UZH	Uzhgorod	145.53	336	⇓PKIKP	PKPbc	13 23 16.8	-0.2		
UZH				i		13 23 20.0			
KSP	Ksiaz	145.53	344	ePKP2	PKPbc	13 23 16.5	+0.3		
KSP	Ksiaz	145.53	344	ePKP	PKPbc	13 23 16.5	+0.3		
KSP				ePKP	PKPbc	13 23 16.5	+0.3		
TOPG	Topolog	145.55	326	⇑P	PKPbc	13 23 17.2	+0.8		
PETR	Petresti	145.56	328	⇑P	PKPab	13 23 17.7	-0.2		
NIE	Niedzica	145.59	339	ePKP2	PKPbc	13 23 17.2	+0.8		
NIE	Niedzica	145.59	339	ePKP	PKPbc	13 23 17.2	+0.8		
NIE				ePKP	PKPbc	13 23 17.2	+0.8		
ODBI	Odobesti	145.62	329	⇑P	PKPab	13 23 18.0	-0.2		
YAYX	Yaylak	145.63	314	P	PKPdf	13 23 16.1	+0.7		
TRSU	Trosnyk	145.70	335	PKP2	PKPbc	13 23 17.5	+0.8		
VRI	Vrincioaia	145.71	329	⇑PKP2	PKPbc	13 23 17.4	+0.5		
VRI	Vrincioaia	145.71	329	⇑P	PKPbc	13 23 17.4	+0.5		
PLOR	Plostina	145.76	329	⇑PKP2	PKPbc	13 23 17.6	+0.6		
PLOR	Plostina	145.76	329	⇑P	PKPbc	13 23 17.6	+0.6		
ASF	Jabal al Asfar	145.80	301	PKPbc	PKPbc	13 23 17.4	-0.3		
	comp=Z,30nm,0.8s,baz=92,slow=2.3,SNR=33								
SERE	Sereflikochisa	145.80	314	P	PKPbc	13 23 17.7	+0.2		
BMR	Baia Mare	145.81	334	⇓PKP2	PKPbc	13 23 17.5	+0.4		
BMR	Baia Mare	145.81	334	⇓P	PKPbc	13 23 17.5	+0.4		
TIRR	Tirgusor	145.81	326	PKIKP	PKPbc	13 23 16.5	-0.6		
TIRR	Tirgusor	145.81	326	⇓P	PKPbc	13 23 17.7	+0.6		
TIRR	Tirgusor	145.81	326		PKPbc	13 23 16.5	-0.6		
OSTC	Ostas	145.82	344	ePKP	PKPbc	13 23 16.2	-0.8		
CHVC	Chvalec	145.83	344	ePKP	PKPbc	13 23 16.5	-0.6		
TRPA	Tarpa	145.84	335	⇑P	PKPbc	13 23 17.7	+0.7		
TRPA	Tarpa	145.84	335	ePKiKPd	PKPbc	13 23 17.0	0.0		
CLL	Collm	145.86	348	PKIKP	PKPdf	13 23 15.1	-0.1		
CLL						13 23 17.1			
CLL	Collm	145.86	348	⇓/PKPbc	PKPbc	13 23 17.4	+0.4		
	comp=Z,98nm,0.9s								
CLL	Collm	145.86	348		PKPdf	13 23 15.1	-0.1		
CLL				PKPbc	PKPbc	13 23 17.1	+0.1		
ANTO	Ankara	145.87	316	PKIKP	PKPdf	13 23 15.1	-0.6		
ANTO	Ankara	145.87	316	⇑P	PKPbc	13 23 17.9	+0.3		
ANTO	Ankara	145.87	316	P	PKPbc	13 23 17.3	-0.3		
ANTO	Ankara	145.87	316		PKPdf	13 23 15.1	-0.6		
AFSR	Afar-Bala (An	145.90	315	P	PKPbc	13 23 18.1	+0.4		
BR231	Keskin MP Arra	145.90	316		PKPbc	13 23 17.0	-0.7		
ARCR	ARCALIA	145.91	333	⇑P	PKPab	13 23 18.5	-0.8		
HARR	Harsova	145.91	326	⇑PKP2	PKPbc	13 23 18.2	+0.8		
HARR	Harsova	145.91	326	⇑P	PKPbc	13 23 18.2	+0.8		
UPC	Upice	145.91	344	ePKP2	PKPbc	13 23 17.9	+0.6		
UPC	Upice	145.91	344	ePKP	PKPbc	13 23 17.9	+0.6		
OKC	Ostrava-Krasne	145.92	341	ePKP2	PKPbc	13 23 17.8	+0.5		
OKC	Ostrava-Krasne	145.92	341	ePKP	PKPbc	13 23 17.8	+0.5		
BISRR	Bisoca	145.94	329	⇓P	PKPab	13 23 18.6	-0.8		
KDZE	Karadeniz Ereo	145.97	319	⇓P	PKPbc	13 23 17.6	-0.2		
DPC	Dobruska-Polom	145.98	344	ePKP2	PKPbc	13 23 18.3	+0.8		
DPC	Dobruska-Polom	145.98	344	ePKP	PKPbc	13 23 18.3	+0.8		
MFTR	Murfatlar	145.99	325	⇑P	PKPbc	13 23 18.2	+0.6		
OZUR		146.00	330	⇑P	PKPbc	13 23 18.6	+0.9		
MCH1	Michaelchurch	146.02	6	eP	PKPbc	13 23 17.1	-0.4		
BRG	Berggiesshubel	146.07	347	i PKP	PKPdf	13 23 16.2	+0.6		
	comp=Z,25nm,1.5s								
BRG				i		13 23 18.1			
	comp=Z,50nm,1.0s								
KRLC	Kraliky	146.10	343	ePKP2	PKPbc	13 23 18.4	+0.5		
KRLC	Kraliky	146.10	343	ePKP	PKPbc	13 23 18.4	+0.5		
KULU	Kulu	146.14	314	P	PKPbc	13 23 18.7	+0.3		
MANR	Mangalia	146.14	325	⇑P	PKPbc	13 23 17.2	-0.8		
MORC	Moravsky Berou	146.15	342	PKIKP	PKPdf	13 23 15.8	0.0		
MORC	Moravsky Berou	146.15	342	⇑P	PKPdf	13 23 16.5	+0.7		
MORC	Moravsky Berou	146.15	342	ePKP	PKPbc	13 23 18.3	+0.3		
MORC	Moravsky Berou	146.15	342		PKPdf	13 23 15.8	0.0		
SULT	Sultanhani-AKS	146.18	313	P	PKPbc	13 23 17.7	-0.8		
PVCC	Panska Ves	146.25	346	ePKP2	PKPbc	13 23 19.0	+0.8		
PVCC	Panska Ves	146.25	346	ePKP	PKPbc	13 23 19.0	+0.8		
MBAR	Mbarara	146.27	239	d i PKP2	PKPbc	13 23 19.8	+0.2		
MBAR	Mbarara	146.27	239		PKPbc	13 23 18.7	-0.9		
DOPR	Dopca	146.28	330	⇓P	PKPbc	13 23 19.3	+0.9		
KECS	Kecovo	146.32	338	ePKP2	PKPbc	13 23 19.1	+0.7		
KECS	Kecovo	146.32	338	ePKP	PKPbc	13 23 19.1	+0.7		
YUVA	Yuva-Kibriscik	146.32	317	P	PKPbc	13 23 18.9	0.0		
ISR	Istrita	146.33	328	⇓PKP2	PKPbc	13 23 19.6	+1.0		
ISR	Istrita	146.33	328	⇓P	PKPbc	13 23 19.6	+1.0		
MLR	Muntele Rosu	146.36	329	PKIKP	PKPbc	13 23 18.4	-0.4		
MLR	Muntele Rosu	146.36	329	PKPbc	PKPbc	13 23 18.8	0.0		
	comp=Z,36nm,0.9s,baz=336,slow=7.6,SNR=33								
MLR	Muntele Rosu	146.36	329	⇑P	PKPbc	13 23 19.0	+0.2		
MLR	Muntele Rosu	146.36	329		PKPbc	13 23 18.4	-0.4		
CHBY	Cihanbeyli	146.44	314	P	PKPbc	13 23 18.9	-0.3		
CJR	Cluj-Napoca	146.52	333	⇓PKP2	PKPbc	13 23 19.6	+0.5		
CJR	Cluj-Napoca	146.52	333	⇓P	PKPbc	13 23 19.6	+0.5		
SWN1	Swindon	146.60	5	eP	PKPbc	13 23 18.7	-0.4		
MDB	Medias	146.61	331	⇓PKP2	PKPbc	13 23 20.4	+1.1		
MDB	Medias	146.61	331	⇓P	PKPbc	13 23 20.4	+1.1		
SECR		146.63	329	⇑P	PKPbc	13 23 20.0	+0.6		
LEHL	Lehliu	146.64	327	⇑P	PKPbc	13 23 20.3	+0.9		
RASA	Rasa	146.65	326	⇑P	PKPbc	13 23 20.2	+0.8		
PRA	Prague	146.71	346	ePKP2	PKPbc	13 23 19.9	+0.5		
PRA	Prague	146.71	346	ePKP	PKPbc	13 23 19.9	+0.5		
PRU	Pruhonice	146.76	345	ePKP2	PKPbc	13 23 20.0	+0.4		
PRU	Pruhonice	146.76	345	ePKP	PKPbc	13 23 20.0	+0.4		
MMAI	Mount Meron Ar	146.78	303	PKPbc	PKPbc	13 23 20.4	+0.2		
	comp=Z,64nm,0.6s,baz=72,slow=5.4,SNR=54								
GOPC	GO Pecny, Ondr	146.77	345	ePKP2	PKPbc	13 23 19.4	-0.2		
GOPC	GO Pecny, Ondr	146.77	345	ePKP	PKPbc	13 23 19.4	-0.2		
SULR		146.79	328	⇑P	PKPbc	13 23 20.2	+0.4		
KEBE	Keben-Mersin	146.81	310	P	PKPbc	13 23 20.9	+0.7		
VOIR		146.83	330	⇑PKP2	PKPbc	13 23 20.5	+0.5		
VOIR		146.83	330	⇑P	PKPbc	13 23 20.5	+0.5		
DRGR		146.84	334	⇑PKP2	PKPbc	13 23 20.4	+0.4		
DRGR		146.84	334	⇑P	PKPbc	13 23 20.4	+0.4		
WOL	Wolverton	146.84	4	eP	PKPbc	13 23 19.6	-0.1		
VRAC	Vranov	146.85	343	⇑PKP2	PKiKP	13 23 20.9	-0.9		
VRAC	Vranov	146.85	343	PKPbc	PKPbc	13 23 20.5	+0.7		
	comp=Z,28nm,1.0s,baz=326,slow=0.4,SNR=16								
VRAC	Vranov	146.85	343	⇑P	PKiKP	13 23 20.9	-0.9		
VRAC	Vranov	146.85	343	ePKP	PKiKP	13 23 20.3	+0.4		
VYHS	Vyhne	146.88	340	ePKP2	PKPbc	13 23 20.6	+0.6		
VYHS	Vyhne	146.88	340	ePKP	PKPbc	13 23 20.6	+0.6		
VYHS				e		13 23 23.9			
IKL	Isikli	146.92	309	P	PKPbc	13 23 20.3	-0.1		
AUSIV	SIVRIHISAR	146.92	316	P	PKPbc	13 23 20.3	-0.2		
MMLI	Mount Makhlouf	146.92	302	P	PKPbc	13 23 21.4	+0.8		
SVRH	Sivrihisar-ESK	146.93	316	P	PKPbc	13 23 19.5	-1.0		
JAVC	Velka Javorina	146.93	341	ePKP	PKiKP	13 23 21.7	-0.3		
KOLL	Kolacno	146.95	340	ePKP	PKiKP	13 23 21.1	-0.9		
MTUR	Matau	146.98	330	⇑PKIKP	PKPbc	13 23 19.6	-0.8		
MTUR	Matau	146.98	330	⇑P	PKPbc	13 23 19.6	-0.8		
KIZT	Kizilcal	146.98	315	P	PKPbc	13 23 20.1	-0.6		
LADK	Ladik-KONYA	146.98	313	P	PKPbc	13 23 19.7	-1.0		
NKC	Novy Kostel	146.99	348	ePKP2	PKPbc	13 23 20.8	+0.6		
NKC	Novy Kostel	146.99	348	ePKP	PKPbc	13 23 20.8	+0.6		
PSZ	Piszkesteto	147.01	338	PKIKP	PKPbc	13 23 19.7	-0.7		
PSZ	Piszkesteto	147.01	338	⇑P	PKPbc	13 23 21.0	+0.6		
PSZ	Piszkesteto	147.01	338	ePKiKP	PKPbc	13 23 21.1	+0.6		
PSZ	Piszkesteto	147.01	338		PKPbc	13 23 19.7	-0.7		
TEVE	Tevekalti-Mers	147.01	310	P	PKPbc	13 23 21.6	+0.8		
GULT	Gulveren	147.05	318	P	PKPbc	13 23 20.1	-0.7		
ARR	Arges	147.08	330	⇑P	PKPbc	13 23 20.4	-0.3		
KONT	Konya--Tatoy	147.11	313	P	PKPbc	13 23 20.3	-0.6		
KRUC	Moravsky	147.12	343	ePKP	PKPbc	13 23 20.9	+0.3		
TREC	Trest	147.16	344	ePKP2	PKPbc	13 23 21.1	+0.4		
TREC	Trest	147.16	344	ePKP	PKPbc	13 23 21.1	+0.4		
PBCC	Pribram	147.17	346	ePKP	PKPbc	13 23 21.1	+0.4		
SILT	Sile	147.18	320	P	PKPbc	13 23 20.9	-0.1		
SRCK	Saricakaya, Es	147.19	318	P	PKPbc	13 23 20.8	-0.3		
PRD	Provadia	147.20	325	eP	PKPbc	13 23 21.3	+0.4		
BERE	Bereket-Mersin	147.21	310	P	PKPbc	13 23 21.7	+0.3		
SGRR	Singureni	147.25	328	⇑P	PKPbc	13 23 20.4	-0.6		
CIFT	Ciftceler, Eski	147.28	316	P	PKPbc	13 23 21.4	0.0		
GOLR		147.31	329	P	PKiKP	13 23 22.2	-0.6		
SMOL	Smolenice	147.31	341	ePKP2	PKiKP	13 23 22.6	-0.1		
SMOL	Smolenice	147.31	341	ePKP	PKiKP	13 23 22.6	-0.1		
SMOL				e		13 23 26.8			
BEBN	Eben Emael	147.35	356	PKiKP	PKPbc	13 23 21.9	+0.8		
HRT	Hereke	147.36	320	PKIKP	PKPbc	13 23 21.1	-0.4		
HRT	Hereke	147.36	320	P	PKPbc	13 23 21.2	-0.3		
TEKE	Tekeli-Mersin	147.38	309	P	PKPbc	13 23 21.5	-0.1		
BSZH	Besenyszg	147.39	337	ePKiKP	PKPbc	13 23 20.0	-1.3		
BORA	Eskisehir	147.40	317	P	PKPbc	13 23 21.9	+0.2		
LOT	Lotru	147.42	331	⇑P	PKPbc	13 23 21.4	-0.2		
UCC	Uccle	147.42	357	PKP2	PKPbc	13 23 21.1	-0.1		
UCC	Uccle	147.42	357	PKiKP	PKPbc	13 23 21.5	+0.3		
UCC	Uccle	147.42	357		PKPbc	13 23 21.1	-0.1		
RAZG	Razgrad	147.43	326	⇑P	PKPbc	13 23 22.1	+0.5		
DEV	Deva	147.47	333	⇑PKP2	PKPbc	13 23 21.5	-0.1		
DEV	Deva	147.47	333	⇑P	PKPbc	13 23 21.5	-0.1		
MODS	Modra-Piesok	147.48	341	ePKP2	PKPbc	13 23 21.7	+0.1		
MODS	Modra-Piesok	147.48	341	ePKP	PKPbc	13 23 21.7	+0.1		
MEM	Membach	147.51	355	PKiKP	PKPbc	13 23 21.8	+0.3		
HUMR	Humele	147.53	329	⇑P	PKPbc	13 23 20.1	-1.7		
BSTI	Sart Tilman	147.57	356	PKiKP	PKPbc	13 23 22.3	+0.7		
CAVI	Cavuskoy	147.60	318	P	PKPbc	13 23 21.8	-0.3		
YLV	Yalova	147.69	319	P	PKPbc	13 23 21.5	-0.9		
CSS	Mathiatis	147.69	307	P	PKPbc	13 23 22.4	-0.1		
CSS	Mathiatis	147.69	307		PKPbc	13 23 22.4	-0.1		
COPA	Copaceanca	147.70	328	⇑P	PKPbc	13 23 22.3	+0.1		
SNF	Seneffe	147.71	357	PKiKP	PKPbc	13 23 22.6	+0.6		
GRA1	Grafenberg Arr	147.74	349		PKPbc	13 23 22.5	+0.3		
GRF	Grafenberg Arr	147.74	349	PKP2	PKPbc	13 23 22.5	+0.3		
BHOU	Houvegnez	147.77	355	PKiKP	PKiKP	13 23 23.0	-0.6		
KHC	Kasperske Hory	147.79	346	PKiKP	PKPdf	13 23 18.5	0.0		
KHC	Kasperske Hory	147.79	346	ePKP	PKPdf	13 23 19.1	+0.6		
KHC				ex	x	13 23 22.9			
KHC				ex	x	13 24 14.5			
KHC	Kasperske Hory	147.79	346		PKPdf	13 23 18.5	0.0		
KHC				PKPbc	PKPbc	13 23 22.8	+0.4		
CTKS	Kestanelik-??a	147.82	321	P	PKPbc	13 23 21.6	-1.0		
HRFI	Mount Harif	147.89	298	P	PKPbc	13 23 23.6	+0.4		
BMRD	Maredsous	147.90	357	PKiKP	PKPbc	13 23 23.0	+0.5		
GZR	Gura Zlata	147.91	332	⇑P	PKPbc	13 23 22.2	-0.6		
GAZI	Gazipasa	147.92	310	P	PKPbc	13 23 22.4	-0.7		
SZH	Strazhica	147.94	326	eP	PKPbc	13 23 22.9	0.0		
ZIMR		147.96	327	⇑PKP2	PKiKP	13 23 24.1	-0.1		
ZIMR		147.96	327	⇑P	PKiKP	13 23 24.1	-0.1		
LEF	Lefka	147.96	308	⇑P	PKPbc	13 23 23.2	0.0		
LEF	Lefka	147.96	308	P	PKPbc	13 23 22.8	-0.4		
SLVT	Silivri	148.00	321	P	PKiKP	13 23 24.4	+0.1		
GEC2	GERESS Array S	148.03	346	PKPbc	PKPbc	13 23 23.4	+0.4		
GERES	GERESS Array B	148.03	346	PKPbc	PKPbc	13 23 23.4	+0.4		
	comp=Z,16nm,0.6s,baz=316,slow=3.7,SNR=56								
SHUT	Suhut-Afyon	148.04	315	P	PKPbc	13 23 23.8	+0.4		
EIL	Elat	148.05	297	PKPbc	PKPbc	13 23 23.5	-0.1		
	comp=Z,37nm,0.8s,baz=20,slow=2.3,SNR=24								
EIL	Elat	148.05	297	P	PKPbc	13 23 22.9	-0.7		
CSKK	Cskako	148.05	339	ePKiKP	PKPbc	13 23 22.1	-0.9		
DOU	Dourbes	148.11	357	PKiKP	PKPbc	13 23 23.4	+0.4		
JMB	Yambol	148.13	325	eP	PKPbc	13 23 23.6	+0.2		
KZIT	Kziot	148.20	300	P	PKPbc	13 23 24.2	+0.3		
VLAD	Vladila	148.20	329	⇑P	PKPbc	13 23 23.8	+0.4		
ELND	Elena	148.20	326	⇑P	PKPdf	13 23 20.7	+1.3		
BZS	Buzias	148.23	334	⇑P	PKPdf	13 23 19.5	+0.2		
SRE	Strehaia	148.28	331	⇑PKP2	PKiKP	13 23 24.5	-0.3		
SRE	Strehaia	148.28	331	⇑P	PKiKP	13 23 24.5	-0.3		
CONA	Conrad Observa	148.30	342	i PKiKP	PKPbc	13 23 24.2	+0.5		
	comp=Z,65nm,1.1s,SNR=17								
WLF	Walferdange	148.44	355	PKP2	PKiKP	13 23 24.7	-0.3		
WLF	Walferdange	148.44	355	PKiKP	PKiKP	13 23 24.7	-0.3		
WLF	Walferdange	148.44	355		PKiKP	13 23 24.7	-0.3		
EDRB	Edirne	148.45	324	P	PKPbc	13 23 23.8	-0.4		
MPLH	Magyarpolny	148.46	340	ePKiKP	PKPbc	13 23 24.0	0.0		
PLVB	Pleven	148.53	328	⇓P	PKPbc	13 23 24.8	+0.5		
BANR	Banloc	148.62	334	⇑P	PKiKP	13 23 25.8	+0.3		
PUNG	Punghina	148.69	331	⇑P	PKPbc	13 23 24.8	+0.1		
EDC	Edincik	148.75	320	P	PKPbc	13 23 24.4	-0.5		
MRMT	Marmara Adasi	148.75	321	P	PKPbc	13 23 23.6	-1.4		
MOA	Molln	148.81	344	i PKiKP	PKPbc	13 23 24.9	0.0		
	comp=Z,40nm,1.2s,SNR=7.0								
MDVR	Moldovita	148.86	333	⇑P	PKPbc	13 23 25.6	+0.4		
JSA	Saint Aubin	148.88	6	eP	PKPbc	13 23 24.7	-0.3		
MORH	Mrgy, Hungar	148.91	338	⇓/P	PKPbc	13 23 24.6	-0.5		
MORH	Mrgy, Hungar	148.91	338	ePKiKPd	PKPbc	13 23 24.1	-1.1		
STU	Stuttgart	148.97	351		PKPdf	13 23 20.6	+0.2		
STU				PKPbc	PKPbc	13 23 24.8	-0.4		
UKOP	Uzunkopru-Edir	148.98	323	P	PKPbc	13 23 25.4	-0.1		
DIM	Dimitrovgrad	148.99	325	eP	PKPbc	13 23 25.8	+0.3		
ARSA	Arzberg	149.01	342	i PKiKP	PKPbc	13 23 25.7	+0.3		
	comp=Z,21nm,1.2s,SNR=5.3								
KRBG	Karabiga-Canak	149.06	321	P	PKPbc	13 23 25.2	-0.5		
KDZ	Kurdzhali	149.32	325	eP	PKPbc	13 23 26.4	+0.1		
KDZ	Kurdzhali	149.32	325	P	PKPbc	13 23 25.8	-0.5		
ERIK	Erikli-Kesan	149.35	322	P	PKPbc	13 23 26.2	-0.1		
FRGS	Fruska Gora	149.35	335	⇓/P	PKPbc	13 23 25.8	-0.5		
PGB	Panagyurishte	149.37	327	eP	PKPbc	13 23 26.7	+0.2		
LPK	Lapseki	149.

SOEI	**Soe**	**4.99**	**89**	P		**Pn**	**13 07 20.6**	**+2.8**
JAGI	**Jajag, Banyuwa**	**5.18**	**285**	P		**Pn**	**13 07 22.2**	**+1.9**
	49nm,1.1s,0.3nm							
BNSI	**Bone**	**5.53**	**9**	P		**Pn**	**13 07 27.9**	**+2.9**
	43nm,1.5s,0.2nm							
GMJI	**Gumukmas**	**5.91**	**285**	P		**Pn**	**13 07 32.2**	**+1.9**
SPSI	**Sidrap Palu**	**5.91**	**5**	P		**Pn**	**13 07 28.9**	**-1.4**
	20nm,1.0s,0.2nm							
FITZ	**Fitzroy Crossi**	**10.27**	**143**	Pn		**Pn**	**13 08 31.6**	**+1.4**
	0.4nm,0.3s,baz=337,slow=7.7,SNR=25							
FITZ				Sn		**Sn**	**13 10 18.6**	**-5.3**
	0.5nm,0.3s,baz=183,slow=22,SNR=11							
WRA	**Warramunga Arr**	**17.70**	**126**	P		**Pn**	**13 10 09.2**	**+0.7**
	0.1nm,0.3s,baz=300,slow=13,SNR=4.3							
ASAR	**Alice Springs**	**19.61**	**136**	P		**P**	**13 10 31.9**	**+1.9**
	0.1nm,0.6s,baz=309,slow=10.0,SNR=18							
MKAR	**Makanchi Array**	**65.33**	**333**	P		**P**	**13 16 40.0**	**-2.7**
	0.3nm,0.6s,baz=154,slow=6.5,SNR=4.8							
KURBB	**Kurchatov Arra**	**69.85**	**334**	P		**P**	**13 17 07.9**	**-3.1**
	0.2nm,0.4s,baz=140,slow=5.7,SNR=3.7							

ATH 25 13:22:31.8, 39.41N×26.30E, h22km±3km, ML1.6/1, Error ellipse: s-maj=3.5km s-min=1.3km az=88.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.16**	**188**	P	Pb	13 22 36.9	+0.1
PRK				S	Sb	13 22 40.2	0.0
PRK				AML	AML	13 22 41.2	
	comp=E,414μm,0.2s						
PRK				AML	AML	13 22 41.9	
	comp=N,382μm,0.3s						
SIGR	**SIGRI**	**0.40**	**241**	P	Pb	13 22 40.2	0.0
SIGR				S	Sb	13 22 46.4	+0.6
CHOS	**Chios island**	**1.04**	**191**	P	Pb	13 22 51.5	+0.4
CHOS				S	Sn	13 23 06.2	+1.3
SMTH	**Samothraki Isl**	**1.22**	**331**	P	Pb	13 22 54.9	+0.8

*ISCJB **25** 13:25:45.9±0.3, 22.61N±0.04×94.36E±0.05, h106km, mb4.1/13, Error ellipse: s-maj=7.3km s-min=5.2km az=154.1*
*NDI **25** 13:25:47.8±1.8, 22.60N×94.24E, h66km, ML3.9*
*IDC **25** 13:25:47.6±2.1, 22.56N×94.35E, h108km±21km, mb3.8/13, mb1 3.8/14, mb1mx3.4/64, mbtmp4.1/14, Error ellipse: s-maj=29.1km s-min=11.3km az=46.0*
*NEIC **25** 13:25:48±1.8, 22.61N±0.07×94.36E±0.05, h109km±7km, mb4.3/12*

ISC 25 13:25:47.4±0.6, 22.63N±0.06×94.26E±0.06, h106km, n39, σ1s79/43, mb4.1/17, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRDH	**Bariadhala**	**2.42**	**272**	P	**Pn**	**13 26 27.6**	**+2.0**
	0.8nm,0.3s,baz=78,slow=24,SNR=8.9						
BRDH				S	**Sn**	**13 26 57.8**	**+2.8**
	1.2nm,0.3s,baz=297,slow=24,SNR=30						
SIMRM	**Sittwe**	**2.80**	**208**	Pn	**Pn**	**13 26 31.6**	**+1.0**
KOHI	**KOHIMA**	**3.08**	**357**	*e*P	**Pn**	**13 26 34.6**	**+0.1**
KOHI				*e*S	**Sn**	**13 27 09.5**	**-1.3**
KOHI				IAML		13 27 11.8	
	comp=N,232nm,0.4s						
KOHI				IAML		13 27 16.0	
	comp=E,216nm,0.6s						
SHL	**Shillong**	**3.64**	**324**	*e*P	**Pn**	**13 26 42.8**	**+0.7**
SHL				*e*S	**Sn**	**13 27 21.2**	**-3.1**
SHL				IAML		13 27 22.9	
	comp=E,694nm,0.1s						
SHL				IAML		13 27 23.3	
	comp=N,1μm,0.1s						
SHL	**Shillong**	**3.64**	**324**	Pn	**Pn**	**13 26 42.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**6.04**	**133**	P	**Pn**	**13 27 12.7**	**-1.7**
	comp=N,0.3nm,0.3s,baz=313,slow=14,SNR=8.3						
GTK	**Tadong**	**6.94**	**313**	*e*P	**Pn**	**13 27 24.8**	**-1.8**
GTK				*e*S	**Sn**	**13 28 39.2**	**-4.9**
GTK				IAML		13 28 43.9	
	comp=E,113nm,0.2s						
LSA	**Lhasa**	**7.57**	**339**		**Pn**	**13 27 36.3**	**+0.7**
BWNR	**Bhubaneshwar**	**8.21**	**255**	*e*P	Pn	13 27 51.6	+7.9
BWNR				*e*S	**Sn**	**13 29 08.0**	**-6.9**
BWNR				IAML		13 29 11.6	
	comp=N,106nm,0.4s						
BWNR				IAML		13 29 15.4	
	comp=E,123nm,0.3s						
PBKT	**Sadao Pong**	**8.74**	**132**	Pn	**Pn**	**13 27 51.2**	**+0.3**
SLVN	**Son La**	**9.04**	**96**	Pn	**Pn**	**13 27 55.1**	**-0.1**
PBA	**Port Blair**	**11.01**	**188**	Pn	Pn	13 28 20.5	-1.3
ENH	**Enshi**	**15.61**	**58**	P	**Pn**	**13 29 21.5**	**0.0**
ENH				IAmb	IAmb	13 29 46.6	
	comp=Z,12nm,0.4s						
IPM	**Ipoh**	**19.20**	**159**	P	**P**	**13 30 01.8**	**-1.2**
IPM				IAmb	IAmb	13 30 16.1	
	comp=Z,20nm,1.4s						
PALK	**Pallekele**	**20.09**	**223**	P	**P**	**13 30 12.7**	**-0.1**
GSI	**Gunungsitoli**	**21.44**	**171**	P	**P**	**13 30 25.9**	**-1.3**
GSI				IAmb	IAmb	13 30 49.1	
	comp=Z,12nm,1.1s						
MK31	**Makanchi Array**	**25.98**	**341**	P	**P**	**13 31 11.5**	**+1.3**
MKAR	**Makanchi Array**	**25.98**	**341**	P	**P**	**13 31 11.3**	**+1.2**
	comp=Z,1.6nm,0.6s,baz=143,slow=12,SNR=25						
MKAR				PcP	**PcP**	**13 34 35.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=160,slow=2.4,SNR=5.0						
MAKZ	**Makanchi**	**26.08**	**341**	P	**P**	**13 31 13.0**	**+1.9**
GAR	**Garm**	**26.13**	**314**	P	**P**	**13 31 12.9**	**+1.2**
GAR				IAmb	IAmb	13 31 49.5	
	comp=Z,17nm,1.5s						
KURK	**Kurchatov**	**30.58**	**340**	P	**P**	**13 31 52.2**	**+1.2**
KURK				IAmb	IAmb	13 32 08.1	
	comp=Z,10nm,2.0s						
ZAA0	**Zalesovo Array**	**32.08**	**349**	P	**P**	**13 32 03.7**	**-0.4**
ZALV	**Zalesovo Beam**	**32.08**	**349**	P	**P**	**13 32 05.0**	**+0.9**
	comp=Z,1.7nm,0.3s,baz=170,slow=7.7,SNR=7.0						
BVAR	**Borovoye Array**	**35.39**	**335**	P	**P**	**13 32 33.7**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=140,slow=12,SNR=6.7						
USA0B	**Ussuriysk Arra**	**37.68**	**46**	P	**P**	**13 32 53.5**	**+1.0**
ABKAR	**Akbulak array**	**37.91**	**323**	P	**P**	**13 32 56.2**	**+2.0**
ABKAR				IAmb	IAmb	13 33 08.4	
	comp=Z,11nm,2.0s						
AKTO	**Aktyubinsk**	**39.59**	**324**	P	**P**	**13 33 09.8**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=124,slow=8.2,SNR=4.3						
ARU	**Arti**	**42.70**	**331**	P	**P**	**13 33 34.7**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=112,slow=19,SNR=3.3						
ARU	**Arti**	**42.70**	**331**	P	**P**	**13 33 34.6**	**+0.9**
AKASG	**Malin Array Be**	**57.09**	**317**	P	**P**	**13 35 22.8**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=77,slow=6.4,SNR=10						
WRA	**Warramunga Arr**	**57.63**	**134**	P	**P**	**13 35 25.9**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=321,slow=7.6,SNR=16						
FINES	**FINESS Array B**	**59.97**	**329**	P	**P**	**13 35 42.7**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=83,slow=6.0,SNR=7.5						
ASAR	**Alice Springs**	**60.03**	**138**	P	**P**	**13 35 42.7**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=320,slow=7.0,SNR=26						
ARCES	**ARCESS Array B**	**61.58**	**338**	P	**P**	**13 35 53.8**	**+0.6**
	comp=Z,7.5nm,1.1s,baz=102,slow=8.2,SNR=8.5						
SPITS	**Spitsbergen Ar**	**65.52**	**347**	P	**P**	**13 36 18.8**	**-0.2**
	comp=Z,6.2nm,0.9s,baz=99,slow=7,SNR=6.3						
NOA	**NORSAR Array B**	**67.13**	**328**	P	**P**	**13 36 29.5**	**0.0**
	comp=Z,1.6nm,0.9s,baz=94,slow=5.4,SNR=2.7						
GERES	**GERESS Array B**	**67.21**	**315**	P	**P**	**13 36 31.3**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=74,slow=7.1,SNR=4.6						
TXAR	**Lajitas Array**	**125.53**	**19**	PKP	**PKPdf**	**13 44 36.5**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=336,slow=2.0,SNR=2.6						
ROSC	**El Rosal**	**150.50**	**336**	PKPbc	**PKiKP**	**13 45 29.0**	**+0.2**
	comp=Z,6.5nm,0.5s,baz=152,slow=20,SNR=4.8						

*IDC **25** 13:28:21.9±27.0, 22.13S×173.64W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/27, mbtmp4.0/4, Error ellipse: s-maj=492.5km s-min=147.7km az=76.0*
*ISCJB **25** 13:28:22.4±2.4, 22.3S±0.4×173.3W±0.4, h33km, mb4.0/4, Error ellipse: s-maj=82.3km s-min=14.6km az=136.9*
*NEIC **25** 13:28:23.6±0.9, 22.4S±0.2×173.1W±0.2, h36km±8km, mb4.4/8*

ISC 25 13:28:23.8±3.1, 22.4S±0.5×173.2W±0.5, h35km, n12, σ1s12/12, mb4.3/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EIDS	**Eidsvold**	**32.77**	**258**	P	**P**	**13 34 52.4**	**-1.3**
EIDS				IAmb	IAmb	13 35 15.7	
	comp=Z,18nm,1.6s						
CTA	**Charters Tower**	**37.81**	**266**	P	**P**	**13 35 37.4**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=92,slow=11,SNR=16						
STKA	**Stephens Creek**	**41.11**	**247**	P	**P**	**13 36 04.0**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=106,slow=7.4,SNR=6.5						
STKA	**Stephens Creek**	**41.11**	**247**	P	**P**	**13 36 04.3**	**-0.2**
STKA				IAmb	IAmb	13 36 37.6	
	comp=Z,6.6nm,1.9s						
AIN	**Ainahou**	**44.97**	**24**	P	**P**	**13 36 37.6**	**+1.7**
SDHHI	**Sand Hill**	**45.05**	**24**	P	**P**	**13 36 35.8**	**-0.8**
BBOO	**Buckleboo**	**45.80**	**245**	P	**P**	**13 36 42.4**	**0.0**
AS31	**Alice Springs**	**48.49**	**258**	P	**P**	**13 37 03.6**	**+0.1**
ASAR	**Alice Springs**	**48.49**	**258**	P	**P**	**13 37 03.8**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=89,slow=7.3,SNR=18						
WRA	**Warramunga Arr**	**48.81**	**263**	P	**P**	**13 37 06.3**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=97,slow=8.4,SNR=18						
MIDW	**Midway**	**50.48**	**355**	P	**P**	**13 37 17.2**	**-1.1**
MTN	**Manton Dam**	**53.68**	**270**	P	**P**	**13 37 44.7**	**+2.2**

*ISCJB **25** 13:39:42.3±4.7, 26.9S±0.8×112.8W±0.7, h10km, mb3.7/6, MS3.4/4, Error ellipse: s-maj=148.6km s-min=23.4km az=37.9*
*IDC **25** 13:39:42.8±2.9, 26.87S×112.78W, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.8/24, mbtmp3.6/6, MS3.4/4, Ms1 3.5/4, ms1mx3.3/18, Error ellipse: s-maj=101.3km s-min=29.3km az=35.0*

ISC 25 13:39:43.6±2.7, 27.0S±0.6×112.9W±0.4, h10km, n15, σ0s70/8, mb3.6/6, MS3.5/4, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPT	**Papeete**	**35.12**	**278**	LR	LR	13 55 41.5	
	comp=Z,24nm,21.5s,baz=19,slow=27						
PLCA	**Paso Flores**	**37.37**	**123**	LR	LR	13 58 44.0	
	comp=Z,121nm,18.0s,baz=310,slow=30						
ATAH	**Atahualpa**	**38.21**	**65**	LR	LR	13 58 38.5	
	comp=Z,71nm,20.5s,baz=282,slow=30						
LPAZ	**La Paz**	**42.73**	**85**	P	**P**	**13 47 41.8**	**-0.2**
	0.8nm,0.7s,baz=270,slow=3.0,SNR=2.7						
SIV	**San Ignacio**	**49.13**	**88**	P	**P**	**13 48 31.4**	**-0.6**
	1.2nm,0.8s,baz=245,slow=12,SNR=6.2						
CPUP	**Villa Florida**	**49.30**	**103**	P	**P**	**13 48 33.7**	**+0.7**
	1.4nm,0.9s,baz=299,slow=10,SNR=2.5						
VNDA	**Vanda**	**62.85**	**194**	LR	LR	14 10 38.3	
	comp=Z,40nm,20.6s,baz=346,slow=30						
NVAR	**Mina Array Bea**	**65.26**	**355**	P	**P**	**13 50 26.8**	**+1.1**
	0.4nm,0.7s,baz=167,slow=8.3,SNR=4.9						
PDAR	**Pinedale Array**	**69.46**	**3**	P	**P**	**13 50 52.0**	**-0.3**
	0.4nm,0.9s,baz=165,slow=7.5,SNR=2.6						
YKA	**Yellowknife Ar**	**89.17**	**359**	P	**P**	**13 52 38.5**	**-0.4**
	0.2nm,0.7s,baz=171,slow=5.4,SNR=3.4						
H11S2	**WAKE ISLAND Hy**	**90.07**	**291**	T	T	15 32 25.5	
	baz=118,slow=74						
H11S1	**WAKE ISLAND Hy**	**90.09**	**291**	T	T	15 32 27.8	
	baz=118,slow=74						
H11S3	**WAKE ISLAND Hy**	**90.09**	**291**	T	T	15 32 26.7	
	baz=118						
BRTR	**Keskin Array B**	**149.45**	**57**	PKPbc	**PKiKP**	**13 59 34.6**	**+0.1**
	0.7nm,0.8s,baz=259,slow=1.5,SNR=2.3						
ZALV	**Zalesovo Beam**	**150.05**	**339**	PKPbc	**PKPbc**	**13 59 33.7**	**-0.5**
	0.4nm,0.5s,baz=5.7,slow=1.4,SNR=2.7						

*NNC **25** 13:50:49.9±6.3, 37.81N×71.61E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=49.1km s-min=33.1km az=171.0*

ISC 25 13:50:48.1±3.6, 37.5N±0.2×71.6E±0.1, h35km, n12, σ1s72/16, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.95**	**18**	P	**Pn**	**13 52 01.9**	**+1.7**
	SNR=31						
UCH	**Uchtor**	**5.28**	**24**	P	**Pn**	**13 52 06.1**	**+1.4**
	SNR=28						
KZA	**Kyzart**	**5.41**	**30**	P	**Pn**	**13 52 07.1**	**+0.5**
	SNR=16						
EKS2	**Erkin-Say**	**5.47**	**17**	P	**Pn**	**13 52 09.2**	**+2.0**
	SNR=49						
AAK	**Ala-Archa**	**5.64**	**22**	P	**Pn**	**13 52 11.3**	**+1.7**
	SNR=21						
AAK	**Ala-Archa**	**5.64**	**22**	⇓P	**Pn**	**13 52 11.0**	**+1.5**
	13nm,0.5s						
AAK				⇑S	**Sn**	**13 53 12.1**	**-1.0**
	12nm,0.7s						
KK31	**Karatay Array**	**5.71**	**352**	P	**Pn**	**13 52 13.2**	**+2.8**
	8.0nm,0.3s,baz=176,slow=13,SNR=103						
KK31				⇑S	**Sn**	**13 53 16.0**	**+1.3**
	3.0nm,0.3s,baz=174,slow=26,SNR=15						
KBK	**Karagaybulak**	**5.80**	**25**	P	**Pn**	**13 52 13.6**	**+1.9**
	SNR=12						
CHMS	**Chumysh**	**6.05**	**22**	P	**Pn**	**13 52 16.3**	**+1.3**
	SNR=7.6						
TKM2	**Tokmak 2**	**6.26**	**28**	P	**Pn**	**13 52 18.9**	**+0.8**
	SNR=9.8						
TKM2	**Tokmak 2**	**6.26**	**28**	⇑P	**Pn**	**13 52 18.5**	**+0.3**
	6.9nm,0.8s						
TKM2				⇑S	**Sn**	**13 53 28.3**	**-0.3**
	2.3nm,0.8s						
AB31	**Akbulak array**	**14.51**	**328**	P	**Pn**	**13 54 09.3**	**-1.5**
	0.3nm,0.4s,baz=296,slow=7.8,SNR=22						
AB31				S	**Sn**	**13 56 48.0**	**-2.3**
	1.6nm,0.6s,baz=154,slow=22,SNR=9.3						

IDC 25 14:22:55.5±30.0, 20.28S×174.45W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/28, mbtmp3.8/4, Error ellipse: s-maj=560.9km s-min=158.1km az=77.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.83**	**263**	P	P	14 30 07.0	+1.3
	0.9nm,0.3s,baz=98,slow=10,SNR=1.9						
STKA	**Stephens Creek**	**40.89**	**244**	P	P	14 30 38.7	-0.9
	0.5nm,0.5s,baz=83,slow=9.3,SNR=5.6						
ASAR	**Alice Springs**	**47.81**	**256**	P	P	14 31 35.0	-0.2
	0.4nm,0.3s,baz=86,slow=7.8,SNR=18						
WRA	**Warramunga Arr**	**47.93**	**261**	P	P	14 31 35.9	-0.3
	0.2nm,0.3s,baz=97,slow=7.9,SNR=11						

*IDC **25** 14:37:01.7±1.3, 12.49N×87.05W, h0km, mb3.3/4, mb1 3.7/6, mb1mx3.5/38, mbtmp3.3/6, ML3.1/2, MS3.0/3, Ms1 3.0/3, ms1mx2.6/24, Error ellipse: s-maj=99.2km s-min=14.4km az=48.0*
*ISCJB **25** 14:37:07.5±0.5, 12.19N±0.05×87.27W±0.04, h68km±6km, mb3.2/4, Error ellipse: s-maj=10.3km s-min=3.4km az=31.7*
*UCR **25** 14:37:08.2±1.9, 12.21N×87.27W, h57km±13km, ML3.9*
*SNET **25** 14:37:10.6±1.2, 12.31N×87.42W, h27km±88km, ML3.6*

ISC 25 14:37:08.3±1.0, 12.20N±0.06×87.27W±0.05, h61km±10km, n41, σ1s06/56, mb3.3/4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.54**	**23**	*e*P	**Pn**	**14 37 20.9**	**0.0**
CRIN				*e*S	**Sn**	**14 37 30.9**	**+0.9**
CRIN				IAML		14 37 36.3	
	comp=N,16μm,0.2s						
TELN	**Telica**	**0.59**	**46**	*e*P	**Pn**	**14 37 21.2**	**-0.2**
CNGN	**Cerro Negro**	**0.63**	**61**	*e*P	**Pn**	**14 37 21.6**	**-0.3**
COPN	**Copaltepe**	**0.66**	**91**	*e*P	**Pn**	**14 37 21.6**	**-0.5**
MOMN	**Momotombo**	**0.74**	**73**	*e*P	**Pn**	**14 37 22.5**	**-0.6**
XAVN	**Gruta Xavier**	**0.92**	**93**	*e*P	**Pn**	**14 37 25.1**	**-0.2**
TISN	**Laguna Tiscapa**	**0.97**	**93**	*e*P	**Pn**	**14 37 25.8**	**-0.3**
MGAN	**Managua**	**1.00**	**93**	*e*P	**Pn**	**14 37 26.0**	**-0.4**
MGAN				*e*S	**Sn**	**14 37 39.8**	**+0.1**
BRAN	**Las Pilas**	**1.03**	**60**	*e*P	**Pn**	**14 37 25.0**	**-1.8**
MASN	**Masaya**	**1.11**	**101**	*e*P	**Pn**	**14 37 27.5**	**-0.4**
CNCH	**Conchagua**	**1.21**	**333**	*e*P	**Pn**	**14 37 29.3**	**0.0**
CNCH				*e*S	**Sn**	**14 37 45.2**	**+0.3**
CNCH	**Conchagua**	**1.21**	**333**	*e*P	**Pn**	**14 37 29.3**	**0.0**
CNCH				*e*S	**Sn**	**14 37 45.2**	**+0.3**
ESTN	**Estel**	**1.25**	**44**	*e*P	**Pn**	**14 37 30.1**	**+0.3**
ESTN				*e*S	**Sn**	**14 37 46.5**	**+0.5**
JUCU	**Jucuarįn**	**1.42**	**318**	*e*P	**Pn**	**14 37 32.4**	**+0.3**
JUCU				*e*S	**Sn**	**14 37 48.9**	**-1.1**
MATN	**Matagalpa**	**1.50**	**61**	*e*P	**Pn**	**14 37 33.3**	**+0.2**
MATN				*e*S	**Sn**	**14 37 52.2**	**+0.4**
MATN				IAML		14 37 52.8	
	comp=E,6μm,0.3s						
PACA	**Pacayal**	**1.63**	**321**	*e*P	**Pn**	**14 37 35.4**	**+0.4**
PACA				*e*S	**Sn**	**14 37 55.4**	**+0.4**
PACA	**Pacayal**	**1.63**	**321**	*e*P	**Pn**	**14 37 35.4**	**+0.4**
PACA				*e*S	**Sn**	**14 37 55.4**	**+0.4**
ALJI	**Alcalda de J**	**1.70**	**312**	*e*P	**Pn**	**14 37 35.5**	**-0.3**
ALJI				*e*S	**Sn**	**14 37 55.8**	**-0.6**
ALJI				IAML		14 38 04.3	
	comp=Z,753nm,0.3s						
FAGO	**Alcalda de S**	**1.70**	**331**	*e*P	**Pn**	**14 37 36.3**	**+0.5**
FAGO				*e*S	**Sn**	**14 37 55.4**	**-1.2**
FAGO				IAML		14 37 59.4	
	comp=Z,446nm,0.3s						
CONN	**Concepcion**	**1.72**	**111**	*e*P	**Pn**	**14 37 35.3**	**-0.8**
COEB	**Comit de Eme**	**1.79**	**317**	*e*P	**Pn**	**14 37 38.0**	**+0.9**
COEB				*e*S	**Sn**	**14 37 58.4**	**-0.5**
COEB				IAML		14 38 06.8	
	comp=Z,944nm,0.3s						
TGUH	**Tegucigalpa,Un**	**1.85**	**360**	*i* P	**Pn**	**14 37 39.0**	**+1.1**
TGUH	**Tegucigalpa,Un**	**1.85**	**360**	*i* P	**Pn**	**14 37 39.0**	**+1.1**
ACON	**Acoyapa**	**2.06**	**96**	*e*P	**Pn**	**14 37 39.9**	**-0.7**
ACON				*e*S	**Sn**	**14 38 05.0**	**-0.2**
COEG	**Centro de Oper**	**2.12**	**312**	*e*P	**Pn**	**14 37 41.2**	**-0.2**
COEG				*e*S	**Sn**	**14 38 06.0**	**-0.8**
COEG				IAML		14 38 15.6	
	comp=Z,659nm,0.3s						
LFRS	**El Faro**	**2.25**	**309**	*e*P	**Pn**	**14 37 43.9**	**+0.5**
BOQS	**Boqueron**	**2.49**	**308**	*e*P	**Pn**	**14 37 48.5**	**+1.8**
ESPN	**Las Esperanzas**	**2.90**	**90**	*e*P	**Pn**	**14 37 52.2**	**+0.1**
JTS	**Las Juntas de**	**2.96**	**130**	Pn	**Pn**	**14 37 51.3**	**-1.6**
	comp=Z,4.4nm,0.3s,baz=178,slow=22,SNR=24						
JTS				Sn	**Sn**	**14 38 26.4**	**-0.8**
	comp=Z,18nm,0.3s,baz=14,slow=19,SNR=3.8						
JTS				Lg	Lg	14 38 37.6	
	comp=Z,80nm,0.3s,baz=234,slow=22,SNR=27						
JTS				LR	LR	14 38 59.5	
	comp=Z,56nm,19.1s,baz=66,slow=39						
JTS	**Las Juntas de**	**2.96**	**130**	*e*P	**Pn**	**14 37 54.1**	**+1.3**
ARE1	**Arenal 1**	**3.03**	**124**	*e*P	**Pn**	**14 37 55.4**	**+1.5**
LCR2	**La Lucha 2**	**4.03**	**127**	*e*P	**Pn**	**14 38 10.1**	**+2.3**
APG	**El Apazote**	**4.18**	**312**	Pn	**Pn**	**14 38 05.8**	**-4.0**
	comp=Z,15nm,0.3s,baz=173,slow=17,SNR=3.4						
CMIG	**Matias Romero**	**8.83**	**304**	Pn	**Pn**	**14 39 15.8**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=165,slow=7.6,SNR=4.3						
CMIG				Sn	**Sn**	**14 40 52.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=137,slow=19,SNR=2.1						
SJG	**San Juan**	**21.20**	**71**	LR	LR	14 49 36.7	
	comp=Z,47nm,18.4s,baz=250,slow=36						
TXAR	**Lajitas Array**	**22.89**	**321**	P	**P**	**14 42 06.5**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=137,slow=14,SNR=5.1						
PDAR	**Pinedale Array**	**36.08**	**332**	P	**P**	**14 44 04.3**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=126,slow=9.2,SNR=3.7						
PDAR				LR	LR	15 01 53.5	
	comp=Z,68nm,18.9s,baz=334,slow=42						
NVAR	**Mina Array Bea**	**38.01**	**319**	P	**P**	**14 44 22.7**	**+1.7**
	comp=Z,0.3nm,0.8s,baz=149,slow=5.8,SNR=3.2						
YKA	**Yellowknife Ar**	**53.90**	**345**	P	**P**	**14 46 24.1**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=137,slow=7.1,SNR=4.0						
ASAR	**Alice Springs**	**139.34**	**248**	PKP	**PKPdf**	**14 56 30.2**	**+0.6**
	comp=Z,0.2nm,0.8s,baz=85,slow=2.4,SNR=4.9						
WRA	**Warramunga Arr**	**139.37**	**254**	PKP	**PKPdf**	**14 56 29.8**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=95,slow=2.3,SNR=3.6						

IDC 25 14:45:02.1±1.4, 46.29S×96.23E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/21, mbtmp3.8/4, MS3.2/4, Ms1 3.2/4, ms1mx2.9/30, Error ellipse: s-maj=52.7km s-min=29.1km az=130.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**17.68**	**56**	T	T	15 07 15.7	
	baz=224,slow=74,SNR=35						
H01W3	**Cape Leeuwin H**	**17.70**	**56**	T	T	15 07 29.0	
	baz=224,slow=74,SNR=36						
H01W1	**Cape Leeuwin H**	**17.70**	**56**	T	T	15 07 16.3	
	baz=224,slow=74,SNR=35						
MAW	**Mawson**	**27.44**	**207**	LR	LR	14 59 07.7	
	comp=Z,55nm,20.4s,baz=56,slow=31						
STKA	**Stephens Creek**	**37.52**	**84**	LR	LR	15 06 42.2	
	comp=Z,8.3nm,18.2s,baz=213,slow=35						
ASAR	**Alice Springs**	**37.73**	**66**	P	P	14 52 19.9	+0.3
	1.2nm,1.0s,baz=224,slow=7.0,SNR=5.6						
WRA	**Warramunga Arr**	**40.75**	**63**	P	P	14 52 44.3	-0.5
	2.2nm,1.0s,baz=220,slow=8.4,SNR=10.0						
H08S2	**Diego Garcia H**	**43.58**	**325**	T	T	15 39 18.4	
	baz=156,slow=76,SNR=6.4						
H08S1	**Diego Carcia H**	**43.59**	**325**	T	T	15 39 19.7	
	baz=156,slow=76,SNR=5.1						
H08S3	**Diego Garcia H**	**43.60**	**325**	T	T	15 39 19.8	
	baz=156,slow=76,SNR=12						
SNAA	**Sanae**	**49.54**	**204**	P	P	14 53 53.9	-0.1

GSIG Sn 15 27 48.9 -1.7
ATKA Atka Island 4.46 59 Pn 15 27 24.5 +0.6
KOKL Mount Kliuchef 4.52 58 Pn 15 27 26.8 +2.1
KOFP Korovin Flat P 4.55 59 Pn 15 27 26.9 +1.7
KOSE Korovin Southe 4.61 58 Pn 15 27 27.2 +1.2
NIKH Nikolski High 7.78 64 Pn 15 28 10.5 +1.1
OKCE Okmok Cone E 8.31 61 Pn 15 28 19.7 +2.9
OKTU Okmok Mt. Tuli 8.37 62 Pn 15 28 19.5 +1.9
MREP Makushin Rep't 9.24 61 Pn 15 28 31.1 +1.6
MSW Makushin Switc 9.25 60 Pn 15 28 31.4 +1.8
SPIA Saint Paul Isl 9.33 36 Pn Pn 15 28 27.7 -3.0
UNV Unalaska Valle 9.38 61 Pn Pn 15 28 32.7 +1.3
UNV Unalaska Valle 9.38 61 Sn 15 30 17.6 +0.5
AKUT Akutan 9.89 60 Pn Pn 15 29 39.8 +1.5
PEA0B Petropavlovsk- 13.93 291 P Pn 15 29 35.1 +1.5
PEA0B Petropavlovsk- 13.93 291 Pn Pn 15 29 35.1 +1.5
PETK Petropavlovsk- 13.93 291 Pn Pn 15 29 34.0 +0.5
0.7nm,0.3s,baz=108,slow=18,SNR=11
PETK LR LR 15 35 45.1
comp=Z,19nm,19.4s,baz=61,slow=41
GAMB Gambell 14.52 16 Pn Pn 15 29 38.2 -3.4
SKR Severo-Kuril's 14.97 281⇑ eP Pn 15 29 44.7 -3.1
ANM Nome 16.57 23 P Pn 15 30 08.3 -0.2
ANM pmax pmax
comp=Z,23nm,1.4s
ANM Nome 16.57 23 Pn Pn 15 30 08.3 -0.2
SII Sitkinak Islan 16.90 57 Pn Pn 15 30 12.0 -0.7
OHAK Old Harbor 17.52 55 Pn Pn 15 30 18.4 -2.1
OHAK IAmb IAmb 15 30 25.6
comp=Z,167nm,1.8s
KDAK Kodiak Island 18.02 54 P Pn 15 30 23.7 -2.9
KDAK pmax pmax
comp=Z,231nm,1.8s
KDAK Kodiak Island 18.02 54 Pn Pn 15 30 23.7 -2.9
TTA Tatalina 18.48 37 P P 15 30 30.4 -1.8
TTA pmax pmax
comp=Z,27nm,1.3s
TTA Tatalina 18.48 37 P P 15 30 30.4 -1.8
RSO Redoubt South 18.74 46 P P 15 30 33.5 -1.7
MA2 Magadan 18.99 311⇑ eP P 15 30 39.1 +1.4
MA2 Magadan 18.99 311 P P 15 30 39.5 +1.8
comp=Z,0.5nm,0.3s,baz=92,slow=8.7,SNR=5.7
MA2 Magadan 18.99 311 P P 15 30 37.8 +0.1
MA2 IAmb IAmb 15 30 41.9
comp=Z,77nm,1.6s
BILL Bilibino 19.20 345 i P P 15 30 40.1 +0.1
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL Bilibino 19.20 345 P P 15 30 38.6 -1.3
BRLK Bradley Lake 19.39 49 P P 15 30 41.5 -0.7
SEY Seymchan 19.58 321⇑ eP P 15 30 46.6 +2.4
SEY Seymchan 19.58 321 P P 15 30 44.9 +0.7
comp=Z,0.5nm,0.3s,baz=119,slow=10,SNR=24
SKT Skwentna 19.86 42 P P 15 30 47.7 +0.4
SKT IAmb IAmb 15 30 53.3
comp=Z,20nm,0.9s
PPLA Purkeypile 19.98 39 P P 15 30 49.3 +0.6
PPLA IAmb IAmb 15 31 10.0
comp=Z,104nm,1.9s
SUA Susitna One 20.01 44 P P 15 30 48.3 -0.8
SUA IAmb IAmb 15 31 07.2
comp=Z,68nm,1.9s
RDOG Red Dog Mine 20.02 19 P P 15 30 47.6 -1.3
RDOG IAmb IAmb 15 31 04.9
comp=Z,19nm,0.8s
SEW Seward 20.18 48 P P 15 30 50.8 +0.1
KTH Kantishna Hill 20.79 38 P P 15 30 57.4 -0.1
KTH IAmb IAmb 15 31 02.6
comp=Z,57nm,1.4s
GHO Glory Hole Cre 20.94 44 P P 15 30 58.5 -0.5
GHO IAmb IAmb 15 31 55.8
comp=Z,50nm,1.5s
TRF Thorofare Moun 21.00 39 P P 15 30 59.6 -0.2
TRF IAmb IAmb 15 31 15.1
comp=Z,26nm,1.2s
BPAW Bear Paw Mtn. 21.02 37 P P 15 31 00.2 +0.3
BPAW IAmb IAmb 15 31 04.4
comp=Z,17nm,0.8s
KNK Knik Glacier 21.03 45 P P 15 31 00.1 +0.1
KNK IAmb IAmb 15 31 03.3
comp=Z,36nm,1.4s
MLY Manley 21.56 35 P P 15 31 05.0 -0.8
MLY IAmb IAmb 15 31 25.9
comp=Z,28nm,1.7s
RND Reindeer 21.57 40 P P 15 31 05.0 -0.8
RND pmax pmax
comp=Z,29nm,1.5s
RND Reindeer 21.57 40 P P 15 31 05.0 -0.8
RND IAmb IAmb 15 31 46.7
comp=Z,29nm,1.5s
BWN Browne 21.64 38 P P 15 31 07.3 +0.7
MCK McKinley 21.67 39 P P 15 31 07.2 +0.4
MCK pmax pmax
comp=Z,43nm,1.7s
MCK McKinley 21.67 39 P P 15 31 07.2 +0.4
MCK IAmb IAmb 15 31 55.1
comp=Z,43nm,1.7s
SCM Sheep Creek Mo 21.68 45 P P 15 31 05.4 -1.6
SCM pmax pmax
comp=Z,85nm,1.7s
SCM Sheep Creek Mo 21.68 45 P P 15 31 05.4 -1.6
NEA Nenana 21.98 37 P P 15 31 07.3 -2.8
NEA IAmb IAmb 15 31 15.3
comp=Z,17nm,1.1s
DHY Denali Highway 22.07 41 P P 15 31 10.5 -0.7
DHY IAmb IAmb 15 31 23.5
comp=Z,22nm,0.7s
EYAK Cordova Ski Ar 22.07 48 P P 15 31 12.4 +1.3
WRH Wood River Hil 22.32 38 P P 15 31 13.0 -0.7
MDM Murphy Dome 22.47 36 P P 15 31 14.5 -0.9
CCB Clear Creek Bu 22.50 37 P P 15 31 15.1 -0.6
TCOL CIGO, UAF Yank 22.57 37 P P 15 31 15.8 -0.7
baz=245
COLA College 22.58 37⇑ eP P 15 31 17.4 +0.9
COLA pmax pmax
comp=Z,4.0nm,1.0s
COLA College 22.58 37 P P 15 31 16.2 -0.3
HDA Harding Lake 22.74 38 P P 15 31 17.8 -0.5
baz=247
HDA Harding Lake 22.74 38 P P 15 31 17.4 -0.9
HMT Hamilton 22.75 49 P P 15 31 19.8 +1.4
POKR Poker Plat Res 22.84 36 P P 15 31 18.5 -0.8
baz=245
PAX Paxson 22.85 42 P P 15 31 19.9 +0.4
PAX pmax pmax
comp=Z,9.0nm,1.0s
PAX Paxson 22.85 42 P P 15 31 19.9 +0.4
COLD Coldfoot 22.91 30 P P 15 31 21.2 +1.2
COLD IAmb IAmb 15 31 45.5
comp=Z,14nm,0.5s
IL31 22.91 37 P P 15 31 18.8 -1.2
IL31 IAmb IAmb 15 31 25.9
comp=Z,39nm,2.0s
ILAR Eielson Array 22.91 37 P P 15 31 19.0 -1.1
comp=Z,1.3nm,0.8s,baz=236,slow=9.5,SNR=14
ILAR LR LR 15 41 31.3
comp=Z,106nm,19.9s,baz=255,slow=40
SUCK Suckling Hills 22.95 50 P P 15 31 19.1 -1.3
GLB Gilahina Butte 23.19 47 P P 15 31 22.1 -1.0
GLB IAmb IAmb 15 31 37.7
comp=Z,13nm,0.9s
VRDI Verde Repeater 23.32 47 P P 15 31 25.0 +0.5
RIDG Independent Ri 23.36 41 P P 15 31 23.3 -1.4
RIDG IAmb IAmb 15 31 56.0
comp=Z,49nm,1.9s
CRQM Cirque 23.38 49 P P 15 31 26.4 +1.3
CRQM IAmb IAmb 15 31 39.9
comp=Z,34nm,1.0s
MCARA McCarthy VSAT 23.55 47 P P 15 31 28.5 +1.9
MENT Mentasta 23.61 43 P P 15 31 27.0 -0.2
MENT IAmb IAmb 15 32 19.8
comp=Z,23nm,1.4s
DOT Dot Lake 23.66 41 P P 15 31 27.1 -0.6
DOT IAmb IAmb 15 31 39.0
comp=Z,16nm,1.0s
PRP Porcupine Dome 23.74 36 P P 15 31 27.1 -1.5
SCRK Sand Creek 23.80 40 P P 15 31 27.2 -1.9
BALM Baldy 23.81 48 P P 15 31 26.9 -2.3
BALM IAmb IAmb 15 31 49.5
comp=Z,27nm,1.5s
TOLK Toolik Lake Re 23.91 28 P P 15 31 29.7 -0.3
baz=235
TOLK Toolik Lake Re 23.91 28 P P 15 31 29.4 -0.7
CTGM Chitina Glacie 24.28 48 P P 15 31 32.9 -0.9
CTGM IAmb IAmb 15 32 02.7
comp=Z,20nm,1.1s
FYU Fort Yukon 24.29 34 P P 15 31 32.4 -1.1
FYU IAmb IAmb 15 31 45.5
comp=Z,22nm,1.0s
PCA Pinnacle 24.70 51 P P 15 31 38.1 +0.7
EGAK Eagle 25.21 40 P P 15 31 41.2 -0.7
EGAK IAmb IAmb 15 31 54.0
comp=Z,19nm,0.9s
JKA Kamikawa-asahi 25.68 271 P P 15 31 48.3 +2.0
ASAJ Asahikawa 25.68 271 P P 15 31 48.3 +1.9
comp=Z,7.0nm,0.9s,baz=53,slow=13,SNR=5.4
DAWY Dawson 25.77 42 P P 15 31 46.6 -0.4
HYT Haines Junctio 26.12 49 P P 15 31 50.5 +0.1
HYT IAmb IAmb 15 31 56.1
comp=Z,37nm,1.7s
SKAG Skagway 27.15 52 P P 15 31 59.6 +0.1
SKAG IAmb IAmb 15 32 12.6
comp=Z,9.3nm,0.8s
WHY Whitehorse 27.40 50 P P 15 32 03.9 +2.1
EPYK Eagle Plains 27.43 37 P P 15 32 00.7 -1.3
baz=255
EPYK Eagle Plains 27.43 37 P P 15 32 01.1 -0.8
JIS Juneau Island 27.68 55 P P 15 32 05.6 +1.4
INK Inuvik 29.12 34 LR LR 15 45 30.5
comp=Z,91nm,18.6s,baz=212,slow=40
DIB Dawson Inlet, 29.48 65 P P 15 32 21.9 +1.6
YAK Yakutsk 29.54 313⇑ eP P 15 32 19.2 -1.5
YAK pmax pmax
comp=Z,5.0nm,1.0s
KLR Kul'dur 30.57 287 d iP P 15 32 29.1 -0.8
KLR pmax pmax
comp=Z,9.0nm,1.1s
KLR Kul'dur 30.57 287 P P 15 32 29.6 -0.4
comp=Z,4.5nm,0.6s,baz=80,slow=7.4,SNR=18
USRK Ussuriysk Ar. 32.45 278 P P 15 32 46.5 -0.1
comp=Z,2.2nm,0.8s,baz=52,slow=13,SNR=4.8
MJAR Matsushiro Arr 32.57 261 P P 15 32 47.0 -0.7
MJAR Matsushiro Arr 32.57 261 P P 15 32 47.0 -0.7
comp=Z,1.1nm,0.7s,baz=50,slow=11,SNR=3.6
C36M Paulatuk 32.69 33 P P 15 32 46.9 -1.5
baz=263
YKW3 Yellowknife Ar 36.87 45 P P 15 33 24.5 0.0
YKW3 IAmb IAmb 15 33 36.9
comp=Z,10nm,0.8s
YKA Yellowknife Ar 36.88 45 P P 15 33 25.3 +0.7
comp=Z,6.7nm,0.8s,baz=282,slow=8.0,SNR=73
YKA PcP PcP 15 35 46.2 +0.2
comp=Z,1.5nm,0.8s,baz=288,slow=3.3,SNR=8.5
YKA LR LR 15 50 34.7
comp=Z,18nm,18.1s,baz=274,slow=40
D03D Eldon 37.05 71 P P 15 33 27.0 +0.7
baz=296
B05A Bryant 37.34 70 P P 15 33 29.6 +0.9
baz=296
BOD Bodaibo 37.95 308 eP P 15 33 30.9 -2.8
BOD pmax pmax
comp=Z,9.0nm,1.8s
LON Longmire 38.19 72 P P 15 33 37.4 +1.4
LON pmax pmax
comp=Z,19nm,1.9s
LON Longmire 38.19 72 P P 15 33 37.4 +1.4
LON IAmb IAmb 15 33 43.9
comp=Z,19nm,1.9s
KSRS Korea Array 38.63 271 P P 15 33 40.1 +0.5
comp=Z,2.1nm,0.8s,baz=59,slow=7.2,SNR=8.4
KSRS LR LR 15 49 02.0
comp=Z,9.3nm,18.1s,baz=45,slow=35
H04D Lebanon 38.67 75 P P 15 33 39.9 -0.1
baz=300
B08A Colville Reser 38.96 68 P P 15 33 43.0 +0.5
B08A IAmb IAmb 15 33 58.7
comp=Z,9.6nm,1.3s
I04A Tendick Farm, 39.23 76 P P 15 33 45.2 +0.5
baz=300
JNU Nakatsue 39.40 263 P P 15 33 45.7 -0.5
comp=Z,5.9nm,0.8s,baz=34,slow=18,SNR=4.0
JNU Nakatsue 39.40 263 P P 15 33 46.7 +0.5
JNU IAmb IAmb 15 33 55.4
comp=Z,20nm,1.2s
HUMO Hull Mountain 39.50 78 P P 15 33 45.4 -1.5
HUMO IAmb IAmb 15 35 15.6
comp=Z,25nm,2.0s
J04D Umpqua Nationa 39.70 77 P P 15 33 48.9 0.0
baz=301
HAWA Hanford 39.74 71 P P 15 33 49.9 +1.0
C09A Chrisman Ranch 39.85 68 P P 15 33 49.2 -0.6
E08A Dider Farm, El 39.98 71 P P 15 33 51.3 +0.4
L04D Klamath Falls 40.11 78 P P 15 33 52.9 +0.7
baz=302
YBH Yreka Blue Hor 40.11 79 P P 15 33 52.6 +0.4
YBH pmax pmax
comp=Z,6.0nm,1.1s
YBH Yreka Blue Hor 40.11 79 P P 15 33 52.6 +0.4
comp=Z,2.7nm,0.8s,baz=347,slow=5.0,SNR=4.2
M02C Callahan 40.20 80 P P 15 33 52.6 -0.4
baz=303
K04D Chiloquin, OR 40.24 77 P P 15 33 52.7 -0.6
baz=302
NEW Newport 40.32 67 P P 15 33 52.6 -1.2
baz=297
NEW Newport 40.32 67 P P 15 33 54.3 +0.5
comp=Z,3.1nm,0.8s,baz=310,slow=8.5,SNR=10
NEW Newport 40.32 67 P P 15 33 54.1 +0.3
M04C Macdoel 40.64 79 P P 15 33 55.6 -0.9
baz=303
O02D Mt. Diablo Mer 40.91 81 P P 15 33 58.1 -0.7
baz=304
RES Resolute Bay 41.36 24 P P 15 34 03.0 +1.1
RES 15 36 00.1
RES pmax pmax
comp=Z,6.0nm,1.4s
RES Resolute Bay 41.36 24 P P 15 34 03.0 +1.1
comp=Z,0.5nm,0.3s,baz=310,slow=7.9,SNR=2.8
RES PcP PcP 15 36 00.1 +0.2
comp=Z,1.4nm,1.0s,baz=208,slow=4.3,SNR=5.1
O03E Paynes Creek 41.47 80 P P 15 34 02.8 -0.6
baz=304,SNR=5.8
MOD Modoc Plateau 41.54 77 P P 15 34 04.2 +0.1
BMO Blue Mountains 41.86 72 P P 15 34 06.7 +0.1
BMO pmax pmax
comp=Z,3.0nm,1.0s
BMO Blue Mountains 41.86 72 P P 15 34 06.7 +0.1
JTMT Jette 42.25 67 P P 15 34 09.1 -0.6
WVOR Wild Horse Val 42.30 76 P P 15 34 10.3 +0.1
WVOR pmax pmax
comp=Z,4.0nm,0.9s
WVOR Wild Horse Val 42.30 76 P P 15 34 10.3 +0.1
BEKR Beckworth 42.63 80 P P 15 34 12.7 -0.2
MSO Missoula 42.90 68 P P 15 34 13.8 -1.2
baz=300
MSO Missoula 42.90 68 P P 15 34 15.2 +0.2
MSO IAmb IAmb 15 34 31.7
comp=Z,17nm,1.6s
RUBR Rubicon Trail 43.22 81 P P 15 34 19.0 +1.2
RUBR IAmb IAmb 15 34 21.3
comp=Z,10nm,0.8s
PAHR Pah Rah Range 43.34 80 P P 15 34 19.8 +1.2
VCNR Virginia City 43.40 80 P P 15 34 20.6 +1.3
PNTR Pine Nut 43.55 80 P P 15 34 21.7 +1.2
PNTR IAmb IAmb 15 34 23.1
comp=Z,11nm,0.8s
YERR Yerington 43.84 80 P P 15 34 24.0 +1.2
WAKR Walker 44.00 81 P P 15 34 25.4 +1.3
BMN Battle Mountai 44.29 77 P P 15 34 26.7 +0.3
BMN pmax pmax
comp=Z,4.0nm,0.8s
BMN Battle Mountai 44.29 77 P P 15 34 26.6 +0.3
RYN Ryan 44.51 80 P P 15 34 28.9 +0.8
RYN IAmb IAmb 15 34 30.4
comp=Z,5.9nm,0.9s
KVN Kaiserville 44.53 80 P P 15 34 28.6 +0.3
KVN pmax pmax
comp=Z,4.0nm,0.9s
KVN Kaiserville 44.53 80 P P 15 34 28.6 +0.3
MCMT McKenzie Canyo 44.58 70 P P 15 34 28.8 +0.1
MDPB Devils Postpil 44.74 82 P P 15 34 31.1 +1.0
MDPB IAmb IAmb 15 34 32.7
comp=Z,7.9nm,1.0s
NVAR Mina Array Bea 44.76 80 P P 15 34 31.3 +1.1
comp=Z,3.3nm,0.8s,baz=288,slow=7.7,SNR=30
NVAR PcP PcP 15 36 12.3 0.0
comp=Z,1.1nm,0.7s,baz=283,slow=3.5,SNR=5.9
NV11 Mina Array Sit 44.85 80 P P 15 34 32.0 +1.1
NV11 IAmb IAmb 15 34 33.1
comp=Z,5.8nm,0.9s
NRIK Noril'sk 45.02 330 P P 15 34 32.2 +0.6
comp=Z,3.0nm,0.8s,baz=78,slow=12,SNR=6.3
PAGB Antelope Grade 45.14 85 P P 15 34 31.9 -1.1
PAGB IAmb IAmb 15 34 35.6
comp=Z,12nm,1.1s
ELK Elko 45.36 76 P P 15 34 35.2 +0.3
ELK Elko 45.36 76 P P 15 34 35.2 +0.3
YHL Hebgen Lake 45.57 69 P P 15 34 36.9 +0.2
YHB Horse Butte 45.62 69 P P 15 34 36.9 0.0
FFC Flin Flon 45.75 53 P P 15 34 37.6 0.0
FFC pmax pmax
comp=Z,21nm,1.8s
FFC Flin Flon 45.75 53 P P 15 34 37.6 0.0
FFC IAmb IAmb 15 34 48.2
comp=Z,22nm,1.8s
YMR Madison River 45.80 69 P P 15 34 38.3 -0.1
YHH Holmes Hill 45.81 69 P P 15 34 38.5 0.0
VES Vestal, Richgr 45.82 84 P P 15 34 38.7 +0.3
baz=308
ULN Ulaanbaatar 45.92 297 ce P P 15 34 39.2 0.0
ULN pmax pmax
comp=Z,6.0nm,1.7s
ULN Ulaanbaatar 45.92 297 P P 15 34 38.8 -0.4
PKM Mcpherson Peak 45.94 85 P P 15 34 39.6 0.0
baz=309
GCMT Greycliff 45.98 67 P P 15 34 38.1 -1.5
CWC Cottonwood Cre 46.09 82 P P 15 34 41.0 +0.3
baz=308
H17A Grant Village 46.19 69 P P 15 34 41.1 -0.4
baz=303
YNE Yellowstone No 46.19 68 P P 15 34 41.7 +0.2
SONM Songino Array 46.32 297 P P 15 34 42.4 +0.1
comp=Z,1.6nm,0.7s,baz=59,slow=8.6,SNR=11
SONM PcP PcP 15 36 16.4 -1.0
comp=Z,1.2nm,0.8s,baz=49,slow=3.2,SNR=4.4
ISA Isabella, Lake 46.32 84 P P 15 34 42.4 0.0
baz=308
ISA Isabella, Lake 46.32 84 P P 15 34 42.9 +0.5
ISA pmax pmax
comp=Z,6.0nm,1.1s
ISA Isabella, Lake 46.32 84 P P 15 34 42.9 +0.5
ISA IAmb IAmb 15 34 44.5
comp=Z,6.2nm,1.1s
TPAW Teton Pass 46.46 70 P P 15 34 44.0 +0.4
TPAW IAmb IAmb 15 35 11.8
comp=Z,16nm,2.0s
R11A Troy Canyon, C 46.53 79 P P 15 34 44.4 +0.2
baz=307,SNR=11
R11A Troy Canyon, C 46.53 79 P P 15 34 44.3 +0.2
R11A IAmb IAmb 15 34 45.9
comp=Z,5.7nm,0.9s
RLMT Red Lodge 46.57 67 P P 15 34 44.1 -0.4
baz=303
MPMC Manual Prospec 46.71 82 P P 15 34 45.6 0.0
baz=308,SNR=5.2
OSI Osito Audit: C 46.81 85 P P 15 34 46.5 +0.3
baz=309
FURC Furnace Creek, 46.85 82 P P 15 34 46.5 0.0
baz=308
TPNV Topopah Spring 46.95 81 P P 15 34 48.4 +1.0
baz=308,SNR=12
TPNV Topopah Spring 46.95 81 P P 15 34 48.2 +0.8
TPNV pmax pmax
comp=Z,10.0nm,0.8s
TPNV Topopah Spring 46.95 81 P P 15 34 48.2 +0.8
HHC Hu-ho-hao-te 47.06 286 P P 15 34 50.0 +1.8
HHC pmax pmax
comp=Z,5.0nm,0.8s
HHC pmax pmax
comp=Z,64nm,5.7s
EDW2 Edwards Air Fo 47.11 84 P P 15 34 48.8 +0.2
baz=309
DUG Dugway, Tooele 47.19 75 P P 15 34 50.0 +0.8
baz=306,SNR=9.4
DUG Dugway, Tooele 47.19 75 P P 15 34 49.8 +0.6
DUG pmax pmax
comp=Z,8.0nm,1.1s
DUG Dugway, Tooele 47.19 75 P P 15 34 49.8 +0.6
DUG IAmb IAmb 15 34 51.2
comp=Z,7.8nm,1.1s
LAO LASA Array 47.51 64 P P 15 34 50.5 -1.1
baz=303
PSUT Pine Spring 47.51 77 P P 15 34 52.4 +0.6
GSC Goldstone, Bar 47.61 83 P P 15 34 52.9 +0.4
baz=309,SNR=5.9
GSC Goldstone, Bar 47.61 83 P P 15 34 53.2 +0.7
GSC pmax pmax
comp=Z,7.0nm,1.0s
GSC Goldstone, Bar 47.61 83 P P 15 34 53.2 +0.7
GSC IAmb IAmb 15 34 54.6
comp=Z,7.5nm,1.0s
FCC Fort Churchill 47.62 45 P P 15 34 52.4 +0.4
FCC pmax pmax
comp=Z,5.0nm,0.9s
FCC Fort Churchill 47.62 45 P P 15 34 52.4 +0.4
FCC IAmb IAmb 15 35 04.0
comp=Z,5.2nm,0.8s
BW06 Boulder Array 47.71 70 P P 15 34 52.5 -0.9
baz=305
BW06 Boulder Array 47.71 70 P P 15 34 52.9 -0.5
BW06 IAmb IAmb 15 34 54.6
comp=Z,3.8nm,0.8s
PD31 Pinedale Array 47.71 70 P P 15 34 53.5 +0.1
PD31 IAmb IAmb 15 34 54.6
comp=Z,3.3nm,0.8s
PDAR Pinedale Array 47.71 70 P P 15 34 53.8 +0.5
comp=Z,2.3nm,0.7s,baz=300,slow=3.5,SNR=26
PDAR LR LR 15 55 09.4
comp=Z,58nm,18.6s,baz=327,slow=36
BFSC Mount Baldy Ra 47.73 84 P P 15 34 53.4 0.0
baz=310
HEC Hector,Ludlow 48.21 83 P P 15 34 57.2 +0.1
baz=309
TCRU Three Creeks R 48.35 76 P P 15 34 59.3 +0.9
CCUT Cedar City 48.41 78 P P 15 34 59.5 +0.7
MURC Murrieta 48.43 85 P P 15 34 59.1 +0.3
baz=310
SZCU Shurtz Canyon 48.56 78 P P 15 35 00.6 +0.6
MSU Marysvale 48.58 76 P P 15 34 59.7 -0.4
MSU Marysvale 48.58 76 P P 15 34 59.7 -0.4
GMRC Granite Mounta 48.67 83 P P 15 35 00.6 -0.1
baz=309
LCMT Little Creek M 48.82 79 P P 15 35 03.0 +1.1
LCMT PcP 15 36 27.2 +0.7
MTPU Mount Pierson 48.86 77 P P 15 35 03.0 +0.6
PFO Pinyon Flats O 48.90 84 P P 15 35 02.8 +0.3
baz=310
PFO Pinyon Flats O 48.90 84 P P 15 35 02.7 +0.3
PFO pmax pmax
comp=Z,4.0nm,0.9s
PFO Pinyon Flats O 48.90 84 P P 15 35 02.6 +0.2
PFO IAmb IAmb 15 35 03.9
comp=Z,3.6nm,0.9s
P17A Butcher Ranch, 48.90 74 P P 15 35 02.7 +0.2
XPFO Pion Flat 48.90 84 P P 15 35 02.6 +0.1
XPFO IAmb IAmb 15 35 03.9
comp=Z,3.6nm,0.9s
BELC Belle Mtn. Jos 48.95 84 P P 15 35 03.0 +0.1
baz=310
109C Camp Elliot, M 48.95 85 P P 15 35 03.0 +0.3
baz=311
Q16A Castle Valley 48.96 75 P P 15 35 03.8 +0.7
RDMU Red Mountain 48.97 73 P P 15 35 03.2 +0.1
KNB Kanab 49.08 78 P P 15 35 05.1 +1.2
KNB pmax pmax
comp=Z,7.0nm,0.9s
KNB Kanab 49.08 78 P P 15 35 05.1 +1.2
PKCU Pink Cliffs 49.14 78 P P 15 35 05.1 +0.5
SRU San Rafael Swe 49.25 75 P P 15 35 05.6 +0.4
SRU pmax pmax
comp=Z,4.0nm,0.7s
SRU San Rafael Swe 49.25 75 P P 15 35 05.6 +0.4
MONP2 Monument Peak 49.38 85 P P 15 35 06.2 -0.1
baz=311
IRM Iron Mountain 49.39 83 P P 15 35 06.1 -0.1
baz=310
W13A Hualapai Mount 49.60 81 P P 15 35 08.5 +0.5
W13A IAmb IAmb 15 35 09.6
comp=Z,4.9nm,0.8s
K22A Casper 49.60 69 P P 15 35 07.1 -0.7
baz=306
IKP In-Ko-Pah, Jac 49.74 85 P P 15 35 09.4 +0.5
baz=311
U15A North Rim 49.78 79 P P 15 35 10.3 +0.9
U15A IAmb IAmb 15 35 11.6
comp=Z,9.5nm,0.8s

O20A White River Ci 50.05 72 P P 15 35 11.0 -0.3
baz=307
O20A White River Ci 50.05 72 P P 15 35 10.6 -0.7
Y12C Blythe 50.05 83 P P 15 35 10.9 -0.2
baz=310,SNR=7.0
Y12C Blythe 50.05 83 P P 15 35 10.8 -0.3
Y12C IAmb IAmb 15 35 12.9
comp=Z,10.0nm,0.9s
GLA Glamis 50.30 84 P P 15 35 13.5 +0.5
baz=311
GLA Glamis 50.30 84 P P 15 35 13.6 +0.5
GLA pmax pmax
comp=Z,11nm,1.0s
GLA Glamis 50.30 84 P P 15 35 13.6 +0.5
GLA IAmb IAmb 15 35 15.0
comp=Z,11nm,0.9s
Y14A Wickenburg 50.90 82 P P 15 35 18.1 +0.5
WUAZ Wupatki 50.93 79 P P 15 35 18.6 +0.6
baz=310,SNR=7.9
WUAZ Wupatki 50.93 79 P P 15 35 18.4 +0.4
WUAZ IAmb IAmb 15 35 19.9
comp=Z,7.5nm,0.8s
ULM Lac du Bonnet 51.27 55 P P 15 35 20.5 +0.4
comp=Z,1.1nm,0.5s,baz=288,slow=6.8,SNR=5.1
ULM LR LR 15 58 18.5
comp=Z,47nm,18.3s,baz=293,slow=38
ULM Lac du Bonnet 51.27 55 P P 15 35 20.4 +0.2
MVCO Mesa Verde 51.67 75 P P 15 35 23.5 -0.1
baz=309
MVCO Mesa Verde 51.67 75 P P 15 35 23.7 0.0
MVCO IAmb IAmb 15 37 03.9
comp=Z,26nm,1.9s
W18A Petrified Fore 52.22 78 P P 15 35 28.1 +0.4
baz=310
W18A Petrified Fore 52.22 78 P P 15 35 28.1 +0.4
W18A IAmb IAmb 15 35 29.6
comp=Z,6.1nm,0.8s
214A Organ Pipe Nat 52.31 83 P P 15 35 28.9 +0.7
baz=312
214A Organ Pipe Nat 52.31 83 P P 15 35 28.7 +0.5
214A IAmb IAmb 15 35 30.1
comp=Z,12nm,1.4s
S22A 4UR Ranch, Cre 52.38 74 P P 15 35 28.9 0.0
baz=309
S22A 4UR Ranch, Cre 52.38 74 P P 15 35 29.2 +0.3
X18A Snowflake 52.46 79 P P 15 35 28.7 -0.7
X18A IAmb IAmb 15 35 31.4
comp=Z,4.2nm,0.9s
XAN Xi'an 52.90 281 P P 15 35 31.3 -1.2
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN pmax pmax
comp=Z,93nm,4.1s
XAN Xi'an 52.90 281 P P 15 35 31.4 -1.1
XAN pmax pmax
comp=Z,9.0nm,1.1s
XAN Xi'an 52.90 281 P P 15 35 31.4 -1.1
XAN IAmb IAmb 15 35 32.5
comp=Z,9.4nm,1.1s
SDCO Great Sand Dun 53.20 73 P P 15 35 35.3 +0.3
baz=309
TUC Tucson 53.37 82 P P 15 35 36.8 +0.8
baz=312
TUC Tucson 53.37 82 P P 15 35 36.8 +0.8
TUC pmax pmax
comp=Z,4.0nm,0.9s
TUC Tucson 53.37 82 P P 15 35 36.8 +0.8
TUC IAmb IAmb 15 35 37.9
comp=Z,4.2nm,0.8s
ZAA0 Zalesovo Array 54.19 313 P P 15 35 40.2 -1.4
ZALV Zalesovo Beam 54.19 313 P P 15 35 40.2 -1.4
comp=Z,0.8nm,0.5s,baz=40,slow=4.8,SNR=4.0
T25A Trinidad 54.25 73 P P 15 35 42.8 +0.2
baz=310
ANMO Albuquerque 54.39 76 P P 15 35 43.5 -0.1
baz=311
ANMO Albuquerque 54.39 76⇑ eP P 15 35 44.5 +0.9
ANMO pmax pmax
comp=Z,8.0nm,2.5s
FRB Frobisher Bay 54.68 30 P P 15 35 45.7 +0.7
FRB pmax pmax
comp=Z,12nm,1.0s
ECSD EROS Data Cent 54.75 62 P P 15 35 45.5 -0.4
LZH Lanzhou 54.76 286 eP P 15 35 46.8 +0.5
LZH pP pwP 15 36 00.3 +6.5
LZH PP PP 15 37 52.0 +3.4
LZH pmax pmax
comp=Z,17nm,1.3s
LZH pmax pmax
comp=Z,63nm,5.4s
BNM Barren Site 54.80 77 P P 15 35 46.7 +0.1
SUMG Summit 54.81 13 i P P 15 35 46.6 +0.2
SUMG i 15 35 57.0
SUMG Summit 54.81 13 i P P 15 35 46.6 +0.2
SUMG i 15 35 57.0
ENH Enshi 55.02 277 P P 15 35 46.8 -1.2
GTA Gaotai 55.09 292 eP P 15 35 48.3 -0.3
GTA pP pwP 15 36 01.5 +5.3
GTA sP sP 15 36 06.5 +17
GTA pmax pmax
comp=Z,3.0nm,1.2s
121A Cookes Peak, D 55.13 79 P P 15 35 49.4 +0.4
baz=312
121A Cookes Peak, D 55.13 79 P P 15 35 49.8 +0.8
121A IAmb IAmb 15 36 01.4
comp=Z,4.1nm,0.8s
MNTX Cornudas Mount 57.20 78 P P 15 36 03.9 +0.2
baz=312,SNR=6.3
MNTX Cornudas Mount 57.20 78 P P 15 36 03.5 -0.1
MNTX IAmb IAmb 15 36 05.5
comp=Z,4.3nm,0.9s
E43A Lone Tree Farm 58.32 54 P P 15 36 11.8 +0.5
JFWS Jewell Farm 58.84 59 P P 15 36 14.1 -0.8
JFWS pmax pmax
comp=Z,62nm,1.7s
JFWS Jewell Farm 58.84 59 P P 15 36 14.1 -0.8
I42A Draeger Farm, 58.93 58 P P 15 36 15.3 -0.3
KRVT Keravat (AS076 59.16 212 P P 15 36 14.7 -2.7
comp=Z,19nm,0.6s,baz=65,slow=14,SNR=2.6
KURK Kurchatov 59.18 313⇑ eP P 15 36 17.0 -0.1
KURK pmax pmax
comp=Z,16nm,1.7s
KURK Kurchatov 59.18 313 P P 15 36 16.4 -0.7
WMQ Urumqi 59.19 303 eP P 15 36 20.3 +2.9
ARCES ARCESS Array B 59.20 350 P P 15 36 16.8 -0.3
comp=Z,5.6nm,1.0s,baz=24,slow=7.0,SNR=2.9
TX31 Lajitas Ar. Si 59.89 79 P P 15 36 22.4 -0.1
TX31 IAmb IAmb 15 36 23.5
comp=Z,3.0nm,0.8s
TX32 Lajitas Array 59.89 79 P P 15 36 22.4 -0.1
TX32 IAmb IAmb 15 36 23.5
comp=Z,3.3nm,0.9s
TXAR Lajitas Array 59.89 79 P P 15 36 23.1 +0.5
comp=Z,3.0nm,0.9s,baz=298,slow=4.7,SNR=15
TXAR PcP PcP 15 37 09.7 +0.8
comp=Z,1.6nm,0.7s,baz=270,slow=2.5,SNR=5.5
MK31 Makanchi Array 60.04 308 P P 15 36 22.0 -1.2
MK31 pmax pmax
comp=Z,3.0nm,1.1s
MK31 Makanchi Array 60.04 308 P P 15 36 22.0 -1.2
MKAR Makanchi Array 60.04 308 P P 15 36 21.9 -1.3
comp=Z,1.0nm,0.5s,baz=51,slow=6.6,SNR=11
D48A Paudash Townsh 60.45 51 P P 15 36 25.4 -0.6
baz=313
E48A Lockeyer 60.74 52 P P 15 36 26.9 -1.1
baz=313
BRVK Borovoye 61.24 319 d i P P 15 36 31.0 -0.2
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BRVK Borovoye 61.24 319 P P 15 36 30.8 -0.5
BRVK IAmb IAmb 15 36 31.6
comp=Z,5.5nm,0.7s
SCHQ Schefferville 61.67 37 P P 15 36 33.8 -0.3
comp=Z,3.5nm,0.8s,baz=324,slow=8.7,SNR=3.2
WHTX Lake Whitney, 61.95 73 P P 15 36 35.8 -0.6
baz=314
WHTX Lake Whitney, 61.95 73 P P 15 36 36.5 +0.1
DAV Davao City (W) 62.00 245 LR LR 15 59 08.8
comp=Z,40nm,20.8s,baz=36,slow=32
E51A G1948 Merrick 62.04 50 P P 15 36 35.7 -1.0
baz=314
CHGQ Chibougamau 62.08 45 P P 15 36 35.6 -1.4
baz=316
SVE Sverdlovsk 62.14 327 eP P 15 36 38.4 +1.2
M47A Cromwell 62.43 58 P P 15 36 38.6 -0.8
baz=314
E52A Mattawa 62.62 50 P P 15 36 40.0 -0.7
baz=315
PRGR Permogore 62.73 337 eP P 15 36 37.9 -3.1
PRGR pmax pmax
comp=Z,14nm,0.8s
M48A Edgerton 62.84 57 P P 15 36 41.8 -0.3
baz=314
PBMO Poplar Bluff 62.87 64 P P 15 36 42.0 -0.5
W41B Gary Mavity, V 62.91 67 P P 15 36 42.8 +0.1
baz=314
D54A Lac Fusel, La 62.98 48 P P 15 36 42.2 -0.8
baz=316
E53A Dumoine, Ponti 63.05 49 P P 15 36 42.4 -1.0
baz=315
ARU Arti 63.17 328 d i P P 15 36 44.3 +0.2
ARU S S 15 45 17.5 +2.1
ARU SS SS 15 49 20.8 +0.4
ARU pmax pmax
comp=Z,11nm,0.8s
ARU Arti 63.17 328 P P 15 36 44.5 +0.4
N49A Columbus Grove 63.52 57 P P 15 36 45.7 -0.9
baz=314
D55A Sainte-Anne-du 63.64 48 P P 15 36 46.8 -0.6
baz=316
WCI Wyandotte Cave 64.23 61 P P 15 36 50.9 -0.5
baz=315
G55A Calabogie 64.31 50 P P 15 36 51.2 -0.6
baz=316
O50A Cable 64.37 58 P P 15 36 52.5 +0.2
baz=315
N51A Ashland 64.50 56 P P 15 36 52.7 -0.4
baz=315
I55A Frankford 64.58 51 P P 15 36 53.1 -0.5
baz=316
LATQ La Tuque 64.64 46 P P 15 36 53.4 -0.5
baz=317
T47A Sharon Grove 64.64 62 P P 15 36 53.9 -0.3
D58A Chemin du LacG 64.80 46 P P 15 36 54.3 -0.7
baz=317
WVT Waverly 64.83 63 P P 15 36 55.2 -0.1
baz=315
ERPA Erie 64.90 54 P P 15 36 55.0 -0.8
baz=316
O51A Pataskala 64.92 57 P P 15 36 55.8 0.0
baz=315
H56A Elgin 65.01 50 P P 15 36 55.8 -0.6
baz=317
E58A La Victoria 65.15 47 P P 15 36 56.2 -1.0
baz=317
K54A Basiliko Farm, 65.22 53 P P 15 36 57.1 -0.7
baz=316
SIJI Sorong 65.36 235 P P 15 36 58.2 -0.7
comp=Z,17nm,0.9s,baz=61,slow=8.5,SNR=6.4
H57A Richville 65.54 49 P P 15 36 59.2 -0.6
baz=317
R51A Hillsboro 65.69 59 P P 15 37 00.7 -0.2
baz=316
N54A Moraine State 65.73 55 P P 15 37 00.5 -0.7
baz=316
F59A Saint Guilaume 65.77 47 P P 15 37 00.4 -0.9
baz=318
K56A Middlesex 65.86 52 P P 15 37 01.5 -0.4
baz=317
T50A Nancy 65.90 61 P P 15 37 01.7 -0.6
baz=316
Q52A Bidwell 65.94 58 P P 15 37 01.3 -1.2
baz=316
D61A St Aubert, Com 65.96 44 P P 15 37 01.4 -1.1
baz=319
E60A Ste Agathe de 66.01 46 P P 15 37 01.6 -1.1
baz=318
O54A Avella 66.09 56 P P 15 37 01.1 -2.3
baz=316
L56A Greenwood 66.14 52 P P 15 37 03.1 -0.8
baz=317
L56A Greenwood 66.14 52 P P 15 37 04.2 +0.4
V49A McMinnville 66.19 62 P P 15 37 04.0 -0.2
baz=316
H59A Cadyville 66.23 48 P P 15 37 03.7 -0.6
baz=318
K57A Scipio Center 66.24 51 P P 15 37 04.1 -0.3
baz=317
S52A Salyersville 66.42 59 P P 15 37 05.0 -0.6
baz=316
L57A Andrews Acres 66.60 52 P P 15 37 05.6 -1.2
baz=317
K58A Earlville 66.65 51 P P 15 37 06.3 -0.8
baz=317
J59A Piesco 66.70 50 P P 15 37 06.7 -0.7
baz=318
Q54A Coxs Mills 66.70 57 P P 15 37 05.7 -1.7
baz=316
I59A Olmsteadville 66.77 49 P P 15 37 06.5 -1.2
baz=318
FINES FINES Array B 66.83 347 P P 15 37 07.0 -0.8
comp=Z,3.8nm,0.7s,baz=3.2,slow=10,SNR=8.7
FINES LR LR 16 09 52.4
comp=Z,89nm,19.4s,baz=234,slow=39
BINY Binghamton 66.90 51 P P 15 37 08.1 -0.5
baz=317
AAK Ala-Archa 66.90 309⇓ eP P 15 37 07.8 -1.0
AAK pmax pmax
comp=Z,2.0nm,1.0s
LSA Lhasa 66.90 289 P P 15 37 09.5 +0.1
LSA pmax pmax
comp=Z,8.0nm,1.2s
LSA Lhasa 66.90 289 P P 15 37 09.5 +0.1
LSA IAmb IAmb 15 37 10.4
comp=Z,8.1nm,1.2s
S53A Williamson 66.94 59 P P 15 37 08.1 -0.9
baz=316
K59A Cooperstown 67.04 50 P P 15 37 09.0 -0.5
baz=318
L58A Harry Jones Me 67.08 52 P P 15 37 10.2 +0.4
baz=318
H61A Lyndonville 67.15 47 P P 15 37 09.9 -0.3
baz=319
N57A Milroy 67.15 53 P P 15 37 09.9 -0.4
baz=317
G62A West of Eustis 67.29 46 P P 15 37 09.9 -1.1
baz=319
E63A Oxbow 67.34 44 P P 15 37 09.9 -1.4
baz=320
L59A Walton 67.38 51 P P 15 37 10.6 -1.1
baz=318
P56A Dayton Farm, R 67.39 55 P P 15 37 10.9 -0.9
baz=317
I61A Oroboro, Fairl 67.47 48 P P 15 37 10.8 -1.3
baz=319
H62A Milan 67.49 47 P P 15 37 10.9 -1.4
baz=319
E64A Bridgewater 67.61 44 P P 15 37 12.4 -0.6
baz=320
M59A Waymart 67.66 52 P P 15 37 12.6 -0.8
baz=318
J61A Chester 67.74 49 P P 15 37 13.2 -0.8
baz=319
N59A State Game Lan 67.95 52 P P 15 37 14.6 -0.7
baz=318
X52A Dahlonega 68.17 62 P P 15 37 15.8 -1.0
baz=317
W53A Cullowhee 68.17 61 P P 15 37 15.8 -1.1
baz=317
M60A Port Jervis 68.23 51 P P 15 37 16.3 -0.7
baz=318
N60A Cedar Hill Far 68.33 52 P P 15 37 16.9 -0.7
baz=318
H64A Troy 68.34 46 P P 15 37 18.3 +0.7
baz=320
ABKAR Akbulak array 68.35 322 P P 15 37 17.5 -0.2
ABKAR IAmb IAmb 15 37 30.1
comp=Z,16nm,1.8s
NB2 NORSAR Subarra 68.85 354 P P 15 37 19.9 -0.7
comp=Z,15nm,1.2s,baz=8.1,slow=6.2
NOA NORSAR Array B 68.85 354 P P 15 37 19.9 -0.7
comp=Z,3.6nm,0.8s,baz=8.2,slow=6.3,SNR=12
NOA LR LR 16 08 52.5
comp=Z,38nm,18.8s,baz=275,slow=37
KMSC Kings Mountain 69.22 60 P P 15 37 21.8 -1.5
baz=317
SHL Shillong 69.42 285 P P 15 37 23.3 -1.6
SHL pmax pmax
comp=Z,22nm,0.9s
SHL Shillong 69.42 285 P P 15 37 23.3 -1.6
CMAR Chiang Mai Arr 70.11 275 P P 15 37 28.5 -0.5
comp=Z,1.1nm,0.6s,baz=32,slow=6.6,SNR=8.3
BTK Batken 70.67 310 P P 15 37 32.0 -0.2
BTK pmax pmax
comp=Z,10.0nm,1.2s
BTK Batken 70.67 310 P P 15 37 32.0 -0.2
BTK IAmb IAmb 15 37 33.2
comp=Z,10nm,1.2s
TAPN Taplejung 70.69 290 eP P 15 37 32.5 -0.3
comp=Z,69nm,1.3s
U61A Possum Corner 71.01 56 P P 15 37 34.0 -0.2
baz=319
ODAN Odare 71.24 289 eP P 15 37 35.6 -0.5
comp=Z,9.6nm,0.7s
JIRN Jiri 71.38 291 eP P 15 37 37.4 +0.3
comp=Z,47nm,0.8s
GUN Gumba 71.38 291 eP P 15 37 37.1 0.0
comp=Z,52nm,1.0s
RAMN Ramite 71.65 290 eP P 15 37 38.3 -0.3
comp=Z,63nm,0.8s
GAR Garm 71.72 309 P P 15 37 38.2 -0.5
KKN Kakani 71.83 292 eP P 15 37 39.6 0.0
comp=Z,26nm,0.9s
PKI Pulchoki 71.91 291 eP P 15 37 39.9 -0.4
comp=Z,3.0nm,1.0s
PKIN Phulchoki 71.92 291 eP P 15 37 39.7 -0.5
GKN Gorkha 72.06 292 eP P 15 37 40.7 -0.2
comp=Z,45nm,1.1s
DMN Daman 72.07 292 eP P 15 37 41.0 -0.1
comp=Z,30nm,1.1s
DANN Dangsing 72.33 293 eP P 15 37 42.5 -0.2
comp=Z,34nm,0.9s
CHGR Chuyangaron 72.56 310 P P 15 37 43.3 -0.4
PPT Papeete 72.64 149 LR LR 16 00 35.5
comp=Z,59nm,21.8s,baz=342,slow=28
KOLN Koldanda 72.85 293 eP P 15 37 45.4 -0.3
comp=Z,9.4nm,0.5s
NIL Nilore 74.30 304 P P 15 37 53.7 -0.2
NIL pmax pmax
comp=Z,8.0nm,0.9s
NIL Nilore 74.30 304 P P 15 37 53.7 -0.2
NIL IAmb IAmb 15 37 54.6
comp=Z,7.8nm,0.8s
CTA Charters Tower 75.82 212 P P 15 38 00.9 -1.7
comp=Z,2.6nm,0.8s,baz=356,slow=6.0,SNR=3.7
KBL Kabul 75.82 307 P P 15 38 02.1 -0.8
KBL pmax pmax
comp=Z,8.0nm,1.1s
AKASG Malin Array Be 76.47 341 eP P 15 38 08.6 +2.6
AKASG Malin Array Be 76.47 341 P P 15 38 05.0 -1.0
comp=Z,1.2nm,0.4s,baz=26,slow=6.4,SNR=6.0
GOF Gofitskoye 78.00 330⇑ eP P 15 38 26.7 +12
GEYT Alibeck 78.34 316 P P 15 38 16.8 0.0
comp=Z,1.7nm,0.8s,baz=355,slow=3.1,SNR=4.3
SORM Soroca 79.08 341 ⇑P P 15 38 30.0 +9.4
SORM Soroca 79.08 341 ⇑P P 15 38 29.9 +9.3
KIV Kislovodsk 79.10 330 eP P 15 38 21.8 +0.9
KIV pmax pmax
comp=Z,14nm,1.1s
KBZ Khabaz 79.23 330 P P 15 38 21.9 +0.4
comp=Z,3.3nm,1.0s,baz=348,slow=2.3,SNR=7.2
KBZ LR LR 16 17 05.2
comp=Z,69nm,19.8s,baz=348,slow=38
KOLS Kolonicke sedl 79.47 345 eP P 15 38 23.6 +0.8
KOLS Kolonicke sedl 79.47 345 eP P 15 38 23.6 +0.8
ZEI Tsey 79.74 328 eP P 15 38 23.9 -0.7
ZEI pmax pmax
comp=Z,8.0nm,1.1s
VRAC Vranov 79.93 349 ⇓P P 15 38 26.0 +0.7
VRAC Vranov 79.93 349 ⇓P P 15 38 26.0 +0.7
BUR08 Bucovina Ar. S 80.19 343 P P 15 38 27.1 +0.3
TRPA Tarpa 80.20 345 ⇑P P 15 38 27.7 +1.0
BURAR Bucovina Array 80.21 343 ⇓P P 15 38 27.5 +0.6
BURAR Bucovina Array 80.21 343 ⇓P P 15 38 27.5 +0.6
WRA Warramunga Arr 80.35 223 i P P 15 38 25.8 -2.0
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 80.35 223 P P 15 38 25.9 -1.8
comp=Z,2.2nm,0.9s,baz=33,slow=6.3,SNR=11
VYHS Vyhne 80.43 347 eP P 15 38 28.8 +0.8
VYHS Vyhne 80.43 347 eP P 15 38 28.8 +0.8
GERES GERESS Array B 80.72 351 P P 15 38 30.1 +0.4
comp=Z,0.7nm,0.6s,baz=15,slow=5.1,SNR=3.4
GERES LR LR 16 18 11.8
comp=Z,56nm,18.6s,baz=302,slow=39
ARCR ARCALIA 80.88 343 ⇑P P 15 38 31.9 +1.5
OZUR 81.56 342 ⇓P P 15 38 48.6 +15
MOA Molln 81.64 350 i P P 15 38 31.0 -3.4
comp=Z,8.4nm,1.8s
PSI Prapat 81.86 265 P P 15 38 35.4 -0.8
comp=Z,2.9nm,0.4s,baz=233,slow=7.3
RPSI Rantau Prapat 81.94 265 P P 15 38 35.4 -1.1
MLR Muntele Rosu 82.10 342 ⇑P P 15 38 45.1 +8.0
MLR Muntele Rosu 82.10 342 ⇑P P 15 38 45.1 +8.0
VOIR 82.33 342 ⇑P P 15 38 39.2 +1.0
VOIR 82.33 342 ⇑P P 15 38 39.2 +1.0
WTTA Wattenberg 82.49 352 i P P 15 38 37.6 -1.5
comp=Z,9.1nm,1.2s
KBA Koelnbreinsper 82.50 351 P P 15 38 39.9 +0.7
KBA pmax pmax
comp=Z,9.0nm,1.3s
KBA Koelnbreinsper 82.50 351 i PcP P 15 38 39.7 +0.5
comp=Z,4.6nm,0.7s
SQTA Sankt Quirin 82.57 352 i P P 15 38 37.4 -2.1
comp=Z,6.4nm,0.9s
BZS Buzias 82.79 345 ⇑P P 15 38 40.7 +0.2
BZS Buzias 82.79 345 ⇑P P 15 38 40.7 +0.2
GZR Gura Zlata 82.81 344 ⇑P P 15 38 41.1 +0.5
GZR Gura Zlata 82.81 344 ⇑P P 15 38 41.1 +0.5
FETA Feichten 82.81 352 i P P 15 38 37.4 -3.3
comp=Z,14nm,1.9s
FITZ Fitzroy Crossi 82.84 231 P P 15 38 40.3 -0.6
comp=Z,3.4nm,0.7s,baz=42,slow=4.5,SNR=9.0
FITZ LR LR 16 08 54.2
comp=Z,34nm,22.0s,baz=14,slow=31
OBKA Obir 82.93 350 i PcP P 15 38 41.1 -0.3
comp=Z,8.0nm,1.3s
SRE Strehaia 83.43 343 ⇓P P 15 38 46.2 +2.4
SRE Strehaia 83.43 343 ⇓P P 15 38 46.2 +2.3
ASAR Alice Springs 83.82 221 P P 15 38 45.4 -0.6
comp=Z,2.1nm,0.9s,baz=27,slow=5.5,SNR=18
BR131 Keskin Array S 85.70 334 P P 15 38 55.0 -0.6
BR131 pmax pmax
comp=Z,4.0nm,1.2s
BR131 Keskin Array S 85.70 334 P P 15 38 55.0 -0.6
BR131 IAmb IAmb 15 38 55.9
comp=Z,4.4nm,1.1s
BRTR Keskin Array B 85.70 334 P P 15 38 55.5 -0.1
comp=Z,2.0nm,0.8s,baz=63,slow=2.4,SNR=10
STKA Stephens Creek 88.27 212 P P 15 39 07.2 -0.4
STKA pmax pmax
comp=Z,5.0nm,1.8s
STKA Stephens Creek 88.27 212 P P 15 39 07.2 -0.4
comp=Z,2.0nm,0.9s,baz=343,slow=11,SNR=3.5
STKA LR LR 16 14 24.2
comp=Z,30nm,19.1s,baz=22,slow=33
STKA Stephens Creek 88.27 212 IAmb IAmb 15 40 44.8
comp=Z,4.6nm,1.8s
TORD Torodi Ar. Bea 117.03 358 PKP PKPdf 15 45 01.0 -0.8
comp=Z,0.2nm,0.6s,baz=324,slow=4.1,SNR=2.3
DBIC Dimbokro 123.36 5 PKP PKPdf 15 45 13.3 -0.7
comp=Z,6.6nm,0.4s,baz=270,slow=2.0,SNR=3.4
MAW Mawson 144.82 216 PKP PKPab 15 45 50.8 -0.3
comp=Z,11nm,1.0s,baz=95,slow=3.5,SNR=16
MAW Mawson 144.82 216 PKPab 15 45 50.5 -0.6
LBTB Lobatse 147.88 312 PKPbc PKPdf 15 46 01.8 +3.0
comp=Z,4.1nm,0.7s,baz=83,slow=2.1,SNR=8.8
LBTB Lobatse 147.88 312 PKPdf 15 46 01.6 +2.8
BOSA Boshof 151.04 308 PKPbc PKPdf 15 46 09.1 +5.3
comp=Z,4.2nm,0.8s,baz=22,slow=2.8,SNR=9.8

ROM 25 15:35:49.1±0.2, 38°171N±0'.004×15°.028E±0'.005, h11km±1km, ML1.6/7, Error ellipse: s-maj=0.5km s-min=0.0km az=179.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOV	Novara	0.17	149	P	Pg	15 35 53.4	+0.5
NOV				S	Sg	15 35 56.4	+0.9
NOV				AML	AML		
	comp=E,338μm,0.3s						
NOV				AML	AML		
	comp=N,194μm,0.4s						
MUCR	Ucria	0.18	224	eP	Pg	15 35 53.6	+0.6
MUCR				S	Sg	15 35 56.7	+0.9
MUCR				AML	AML		
	comp=E,117μm,0.4s						
MUCR				AML	AML		
	comp=N,218μm,0.6s						

MUCR AML AML
comp=E,117µm,0.4s
MILZ Milazzo 0.19 58 *eP* Pg 15 35 53.4 +0.2
MILZ S Sg 15 35 56.8 +0.7
MILZ AML AML
comp=E,212µm,0.5s
MILZ AML AML
comp=N,130µm,0.4s
MILZ AML AML
comp=N,129µm,0.4s
MILZ AML AML
comp=E,212µm,0.5s
MCSR Castroreale 0.20 121 *eP* Pg 15 35 53.7 +0.2
MCSR S Sg 15 35 57.6 +1.1
MCSR AML AML
comp=E,300µm,1.0s
MCSR AML AML
comp=N,450µm,0.2s
MCSR AML AML
comp=N,449µm,0.2s
VPL Vulcano Piano 0.21 351 *eP* Pb 15 35 54.5 -0.5
VPL S Sg 15 35 58.0 +1.3
VPL AML AML
comp=E,506µm,0.3s
VPL AML AML
comp=N,722µm,0.5s
MCPD Capo d'Orlando 0.24 258 *eP* Pg 15 35 54.5 +0.4
MCPD S Sg 15 35 58.3 +0.9
MCPD AML AML
comp=E,68µm,0.6s
MCPD AML AML
comp=N,76µm,0.3s
AIO Antillo 0.26 141 P Pg 15 35 54.9 +0.5
AIO S Sb 15 35 59.2 -1.0
AIO AML AML
comp=N,154µm,0.2s
AIO AML AML
comp=E,111µm,0.2s
MPNC Port Mandanici 0.26 96 *eP* Pg 15 35 54.9 +0.4
MPNC S Sb 15 35 59.1 -1.1
MPNC AML AML
comp=E,232µm,0.3s
MPNC AML AML
comp=N,276µm,0.8s

IDC 25 15:38:22.3±2.2, 3°87N×126°57E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/55, mbtmp3.5/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/28, 1D, Error ellipse: s-maj=241.7km s-min=23.5km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.45**	**335**				P	Pb	15 39 26.3	+1.9
KCP						S	Sg	15 40 25.1	+12
JAY	**Jayapura**	**15.49**	**114**	LR		LR	LR	15 47 58.5	
	comp=Z,94nm,18.3s,baz=160,slow=37								
WRA	**Warramunga Arr**	**24.86**	**162**	P		P		15 43 45.2	-1.6
	0.8nm,0.8s,baz=340,slow=10,SNR=1.7								
ASAR	**Alice Springs**	**28.29**	**166**	P		P		15 44 19.1	+1.4
	0.2nm,0.8s,baz=341,slow=7.5,SNR=4.3								
MKAR	**Makanchi Array**	**57.35**	**325**	P		P		15 48 12.7	+0.3
	0.5nm,0.5s,baz=120,slow=7.6,SNR=12								
ZALV	**Zalesovo Beam**	**60.39**	**333**	P		P		15 48 32.8	-0.6
	0.4nm,0.4s,baz=147,slow=7.4,SNR=2.7								

*ISCJB **25** 15:45:57.2±0.6, 21°.57S±0°.08×33°.42E±0°.06, h13km, mb3.7/6, MS3.6/1, Error ellipse: s-maj=12.2km s-min=8.4km az=171.2*
*IDC **25** 15:45:57.3±1.1, 21°.52S×33°.52E, h0km, mb3.7/6, mb1 4.0/10, mb1mx3.7/50, mbtmp3.9/10, ML3.9/3, MS3.2/4, Ms1 3.1/4, ms1mx2.9/40, Error ellipse: s-maj=31.9km s-min=23.9km az=135.0*
*NEIC **25** 15:45:58.1±2.8, 21°.50S±0°.10×33°.37E±0°.07, h10km±1km, mb4.6/3*
*PRE **25** 15:45:58.3±1.5, 22°.38S×33°.83E, h5km, ML3.7*
*EAF **25** 15:46:01.2±1.3, 21°.48S×33°.40E, h5km±22km, MD4.0*
*BUL **25** 15:46:02.7±1.7, 21°.47S×33°.37E, h0km±20km, MD4.4*
ISC 25 15:45:58.3±0.7, 21°.57S±0°.06×33°.37E±0°.06, h13km, n31, σ2s74/45, mb3.8/6, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.20**	**255**	*i* P			**Pb**	**15 46 53.3**	**-1.8**
MSNA				*i* S			**Sn**	**15 47 30.6**	**+4.1**
MSNA	**Messina**	**3.20**	**255**	*e*P			**Pb**	**15 46 53.8**	**-1.3**
MSNA				*e*S			**Sb**	**15 47 36.0**	**+2.0**
MSNA					AML	AML		15 47 47.8	
	comp=Z,482nm,0.4s								
MSNA	**Messina**	**3.20**	**255**	*i* P			**Pb**	**15 46 53.3**	**-1.8**
MSNA				*i* S			**Sn**	**15 47 30.6**	**+4.1**
BLWY	**Bulawayo**	**4.67**	**287**	*i* P			**Pn**	**15 47 11.6**	**+2.8**
BLWY	**Bulawayo**	**4.67**	**287**	*i* P			**Pn**	**15 47 11.6**	**+2.8**
MATP	**Matopo**	**4.69**	**283**	*i* P			**Pn**	**15 47 11.9**	**+2.9**
MATP				*i* S			**Sn**	**15 48 03.4**	**0.0**
MATP	**Matopo**	**4.69**	**283**	*i* P			**Pn**	**15 47 11.9**	**+2.9**
MATP				*i* S			**Sn**	**15 48 03.4**	**0.0**
LBTB	**Lobatse**	**7.92**	**243**	*e*P			**Pn**	**15 47 55.5**	**+2.1**
LBTB				*e*S			**Sn**	**15 49 21.6**	**-1.4**
LBTB					AML	AML		15 50 17.1	
	comp=Z,60nm,0.7s								
LBTB	**Lobatse**	**7.92**	**243**	Pn			**Pn**	**15 47 56.1**	**+2.7**
	comp=Z,1.3nm,0.3s,baz=48,slow=14,SNR=28								
LBTB					Sn		**Sn**	**15 49 21.4**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=342,slow=20,SNR=3.3								
LBTB					Lg	Lg		15 50 04.6	
	comp=Z,2.1nm,0.3s,baz=348,slow=20,SNR=5.4								
LBTB					LR	LR		15 51 19.3	
	comp=Z,122nm,21.7s,baz=46,slow=40								
LBTB	**Lobatse**	**7.92**	**243**				**Pn**	**15 47 55.8**	**+2.4**
LSZ	**Lusaka**	**7.96**	**321**	*i* P			**Pn**	**15 47 56.1**	**+2.1**
LSZ				*i* S			**Sn**	**15 49 19.0**	**-5.0**
LSZ	**Lusaka**	**7.96**	**321**	Pn			**Pn**	**15 47 53.6**	**-0.3**
	comp=Z,5.1nm,0.3s,baz=151,slow=12,SNR=77								
LSZ					Sn		**Sn**	**15 49 18.9**	**-5.0**
	comp=Z,4.4nm,0.3s,baz=234,slow=18,SNR=9.0								
LSZ					Lg	Lg		15 50 03.6	
	comp=Z,19nm,0.3s,baz=56,slow=23,SNR=14								
LSZ	**Lusaka**	**7.96**	**321**	*i* P			**Pn**	**15 47 56.1**	**+2.1**
LSZ				*i* S			**Sn**	**15 49 19.0**	**-5.0**
LSZ	**Lusaka**	**7.96**	**321**				**Pn**	**15 47 53.3**	**-0.7**
BOSA	**Boshof**	**10.16**	**225**	*i* P			**Pn**	**15 48 25.1**	**+1.1**
BOSA				*i* S			**Sn**	**15 50 12.4**	**-5.5**
BOSA	**Boshof**	**10.16**	**225**	*e*P			**Pn**	**15 48 24.0**	**0.0**
BOSA				*e*S			Sn	15 50 08.6	-9.4
BOSA					AML	AML		15 51 45.7	
	comp=Z,21nm,0.8s								
BOSA	**Boshof**	**10.16**	**225**	Pn			**Pn**	**15 48 25.4**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=49,slow=14,SNR=12								
BOSA					Sn		**Sn**	**15 50 15.0**	**-2.9**
	comp=Z,0.7nm,0.3s,baz=330,slow=13,SNR=5.3								
BOSA					Lg	Lg		15 51 14.6	
	comp=Z,0.7nm,0.3s,baz=311,slow=19,SNR=3.2								
BOSA					LR	LR		15 52 30.3	
	comp=Z,80nm,18.9s,baz=31,slow=38								
BOSA	**Boshof**	**10.16**	**225**	*i* P			**Pn**	**15 48 25.1**	**+1.1**
BOSA				*i* S			**Sn**	**15 50 12.4**	**-5.5**
BOSA	**Boshof**	**10.16**	**225**				**Pn**	**15 48 24.7**	**+0.6**
SUR	**Sutherland**	**15.52**	**223**	Pn			**Pn**	**15 49 38.9**	**+1.8**
	comp=Z,0.6nm,0.3s,baz=45,slow=15,SNR=9.4								
SUR					Sn		**Sn**	**15 52 23.9**	**-5.1**
	comp=Z,0.2nm,0.3s,baz=100,slow=20,SNR=3.9								
SUR					Lg	Lg		15 54 05.4	
	comp=Z,0.4nm,0.3s,baz=330,slow=11,SNR=3.2								
SUR					LR	LR		15 55 19.1	
	comp=Z,68nm,18.9s,baz=36,slow=36								
SUR	**Sutherland**	**15.52**	**223**				**Pn**	**15 49 37.9**	**+0.7**
SUR					IAmb	IAmb		15 49 39.3	
	comp=Z,48nm,1.5s								
KMBO	**Kilima Mbogo**	**20.67**	**11**	P		P	**P**	**15 50 35.8**	**-2.5**
KMBO					IAmb	IAmb		15 50 49.2	
	comp=Z,14nm,1.6s								
RER	**Riviere de l'E**	**20.84**	**93**	P		P	**P**	**15 50 38.3**	**-1.8**
RER					IAmb	IAmb		15 50 59.7	
	comp=Z,271nm,1.8s								
TORD	**Torodi Ar. Bea**	**46.45**	**315**	P		P	**P**	**15 54 27.7**	**+2.4**
	comp=Z,0.7nm,0.6s,baz=126,slow=5.7,SNR=7.6								
BRTR	**Keskin Array B**	**60.98**	**0**	P		P	**P**	**15 56 12.6**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=156,slow=9.8,SNR=4.5								
BRTR					LR	LR		16 25 42.4	
	comp=Z,45nm,18.6s,baz=330,slow=39								
BVAR	**Borovoye Array**	**80.93**	**22**	P		P	**P**	**15 58 12.2**	**0.0**
	comp=Z,0.9nm,0.9s,baz=174,slow=2.7,SNR=4.7								

MKAR Makanchi Array 81.10 32 P **P** **15 58 14.3 +1.1**
comp=Z,0.3nm,0.7s,baz=244,slow=4.5,SNR=2.9
KURBB Kurchatov Arra 82.17 27 P **P** **15 58 17.4 -1.3**
comp=Z,0.6nm,0.8s,baz=227,slow=5.9,SNR=3.6
ASAR Alice Springs 90.58 116 P **P** **15 59 02.3 +1.3**
comp=Z,0.3nm,0.7s,baz=248,slow=4.9,SNR=4.2
YKA Yellowknife Ar 133.64 340 PKP **PKiKP** **16 05 17.1 +1.6**
comp=Z,0.3nm,0.8s,baz=32,slow=1.9,SNR=3.0
NVAR Mina Array Bea 150.43 311 PKPbc **PKPbc** **16 05 49.9 -0.3**
comp=Z,0.3nm,0.6s,baz=101,slow=4.9,SNR=3.1

*ISCJB **25** 15:59:35.1±0.8, 12°.97N±0°.08×88°.73W±0°.04, h62km±12km, Error ellipse: s-maj=15.1km s-min=4.8km az=22.3*
*SNET **25** 15:59:35.5±0.9, 13°.02N×88°.74W, h59km±5km, ML3.4*
*UCR **25** 15:59:35.5±1.2, 13°.01N×88°.73W, h60km±7km, ML3.5*
ISC 25 15:59:35.9±1.6, 12°.99N±0°.08×88°.73W±0°.05, h57km±13km, n35, σ0s50/49, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.37**	**25**	*e*P			**Pn**	**15 59 46.2**	**-0.2**
ALJI				*e*S			**Sn**	**15 59 54.6**	**+0.7**
ALJI					IAML			15 59 57.3	
	comp=Z,1µm,0.2s								
JUCU	**Jucuarįn**	**0.54**	**61**	*e*P			**Pn**	**15 59 47.5**	**-0.7**
JUCU				*e*S			**Sn**	**15 59 57.6**	**+0.5**
COEB	**Comit de Eme**	**0.54**	**21**	*e*P			**Pn**	**15 59 47.8**	**-0.5**
COEB				*e*S			**Sn**	**15 59 57.4**	**+0.1**
COEB					IAML			16 00 02.9	
	comp=Z,1µm,0.3s								
TECA	**Tecapa**	**0.55**	**24**	*e*P			**Pn**	**15 59 48.1**	**-0.4**
TECA	**Tecapa**	**0.55**	**24**	*e*P			**Pn**	**15 59 48.1**	**-0.4**
LCY	**Lacayo**	**0.61**	**45**	*e*P			**Pn**	**15 59 48.9**	**-0.2**
LCY	**Lacayo**	**0.61**	**45**	*e*P			**Pn**	**15 59 48.9**	**-0.2**
PACA	**Pacayal**	**0.62**	**40**	*e*S			**Sn**	**16 00 00.1**	**+1.2**
PACA	**Pacayal**	**0.62**	**40**	*e*S			**Sn**	**16 00 00.1**	**+1.2**
SNVI	**San Vicente**	**0.63**	**351**	*e*P			**Pn**	**15 59 48.1**	**-1.2**
COEG	**Centro de Oper**	**0.64**	**347**	*e*P			**Pn**	**15 59 48.9**	**-0.5**
COEG				*e*S			**Sn**	**15 59 59.1**	**-0.1**
COEG					IAML			16 00 03.9	
	comp=Z,3µm,0.3s								
LFRS	**El Faro**	**0.71**	**333**	*e*P			**Pn**	**15 59 49.8**	**-0.5**
LBRS	**Las Brisas**	**0.80**	**338**	*e*P			**Pn**	**15 59 51.4**	**0.0**
LFU	**La Fuente**	**0.84**	**334**	*e*P			**Pn**	**15 59 51.8**	**-0.1**
LFU	**La Fuente**	**0.84**	**334**	*e*P			**Pn**	**15 59 51.8**	**-0.1**
SNET	**Serv Nac Est T**	**0.84**	**325**	*e*S			**Sn**	**16 00 03.8**	**+0.1**
SNET	**Serv Nac Est T**	**0.84**	**325**	*e*S			**Sn**	**16 00 03.8**	**+0.1**
UEES	**Universidad Ev**	**0.87**	**326**	*e*P			**Pn**	**15 59 51.9**	**-0.5**
UEES				*e*S			**Sn**	**16 00 04.0**	**-0.4**
UEES					IAML			16 00 05.4	
	comp=Z,686nm,0.3s								
UEES	**Universidad Ev**	**0.87**	**326**	*e*P			**Pn**	**15 59 51.9**	**-0.5**
UEES				*e*S			**Sn**	**16 00 04.0**	**-0.4**
UEES					IAML			16 00 05.4	
	comp=Z,686nm,0.3s								
LCND	**La Caada**	**0.88**	**69**	*e*P			**Pn**	**15 59 51.9**	**-0.4**
LCND				*e*S			**Sn**	**16 00 04.5**	**+0.1**
LCND					IAML			16 00 06.3	
	comp=Z,2µm,0.3s								
LCND	**La Caada**	**0.88**	**69**	*e*P			**Pn**	**15 59 51.9**	**-0.4**
LCND				*e*S			**Sn**	**16 00 04.5**	**+0.1**
LCND					IAML			16 00 06.3	
	comp=Z,2µm,0.3s								
BOQS	**Boqueron**	**0.91**	**324**	*e*P			**Pn**	**15 59 53.1**	**+0.2**
BOQS				*e*S			**Sn**	**16 00 05.2**	**-0.2**
CNCH	**Conchagua**	**0.92**	**72**	*e*P			**Pn**	**15 59 52.7**	**-0.3**
CNCH	**Conchagua**	**0.92**	**72**	*e*P			**Pn**	**15 59 52.7**	**-0.3**
FAGO	**Alcalda de S**	**0.93**	**41**	*e*P			**Pn**	**15 59 52.4**	**-0.5**
FAGO				*e*S			**Sn**	**16 00 05.6**	**+0.1**
VICT	**Victoria**	**0.97**	**5**	*e*P			**Pn**	**15 59 53.2**	**-0.4**
VICT				*e*S			**Sn**	**16 00 07.2**	**+0.7**
VICT	**Victoria**	**0.97**	**5**	*e*P			**Pn**	**15 59 53.2**	**-0.4**
VICT				*e*S			**Sn**	**16 00 07.2**	**+0.7**
CEVE	**Cerro Verde**	**1.20**	**314**	*e*P			**Pn**	**15 59 57.0**	**+0.2**
CEVE	**Cerro Verde**	**1.20**	**314**	*e*P			**Pn**	**15 59 57.0**	**+0.2**
SBLS	**San Blas**	**1.21**	**314**	*e*P			**Pn**	**15 59 57.3**	**+0.4**
SBLS				*e*S			**Sn**	**16 00 12.9**	**+0.5**
CRIN	**San Cristobal**	**1.67**	**100**	*e*P			**Pn**	**16 00 03.3**	**+0.4**
CRIN				*e*S			**Sn**	**16 00 23.6**	**+0.3**
CRIN					IAML			16 00 31.4	
	comp=N,407nm,0.4s								
TGUH	**Tegucigalpa,Un**	**1.77**	**53**	*e*P			**Pn**	**16 00 04.1**	**-0.3**
TGUH	**Tegucigalpa,Un**	**1.77**	**53**	*e*P			**Pn**	**16 00 04.1**	**-0.3**
MOMN	**Momotombo**	**2.22**	**105**	*e*P			**Pn**	**16 00 09.4**	**-0.9**
COPN	**Copaltepe**	**2.24**	**111**	*e*P			**Pn**	**16 00 10.3**	**-0.3**

*VAO **25** 16:00:45.1±3.2, 23°.77S×69°.90W, h156km±12km, mb4.2*
*ISCJB **25** 16:00:50.9±0.5, 23°.76S±0°.04×68°.75W±0°.07, h108km±8km, mb3.9/5, Error ellipse: s-maj=10.9km s-min=6.6km az=10.0*
*NEIC **25** 16:00:51.1±2.8, 23°.80S±0°.08×68°.7W±0°.1, h102km±5km, mb4.5/2, ML4.0(GUC)*
*IDC **25** 16:00:51.5±1.7, 23°.81S×68°.43W, h86km±13km, mb3.9/5, mb1 3.7/8, mb1mx3.5/29, mbtmp4.0/8, Error ellipse: s-maj=29.8km s-min=18.5km az=64.0*
*GUC **25** 16:00:52.7±0.6, 23°.63S×68°.87W, h110km±4km, ML4.0*
ISC 25 16:00:50.9±0.7, 23°.82S±0°.05×68°.64W±0°.06, h87km±8km, n47, σ1s73/60, mb4.3/5, 9C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.97**	**309**	⇑		*i*P	**Pn**	**16 01 11.6**	**+1.2**
PB15						*i* S	**Sn**	**16 01 26.1**	**+1.3**
LVC	**Limon Verde**	**1.23**	**348**	*e*P			**Pn**	**16 01 15.0**	**+1.4**
LVC						*i* S	**Sn**	**16 01 31.7**	**+1.2**
LVC	**Limon Verde**	**1.23**	**348**	P			**Pn**	**16 01 15.0**	**+1.4**
	138nm,0.3s,baz=158,slow=11,SNR=1726								
LVC						S	**Sn**	**16 01 31.7**	**+1.2**
	696nm,0.3s,baz=354,slow=20,SNR=126								
LVC	**Limon Verde**	**1.23**	**348**	*e*P			**Pn**	**16 01 14.9**	**+1.4**
LVC	**Limon Verde**	**1.23**	**348**	*e*P			**Pn**	**16 01 14.9**	**+1.4**
PB06	**IPOC Station P**	**1.40**	**322**	⇑		*i*P	**Pn**	**16 01 16.3**	**+0.9**
PB06						*i* S	**Sn**	**16 01 34.0**	**+0.1**
PB06					IAML			16 01 34.6	
	comp=E,5µm,0.2s								
PB05	**IPOC Station P**	**1.73**	**304**	⇑		*i*P	**Pn**	**16 01 19.8**	**+0.2**
PB05						*i* S	**Sn**	**16 01 40.6**	**-0.8**
PB05					IAML			16 01 42.8	
	comp=E,2µm,0.5s								
PB10	**IPOC Station P**	**1.78**	**280**	⇑		*i*P	**Pn**	**16 01 20.5**	**+0.4**
PB10						*i* S	**Sn**	**16 01 41.6**	**-0.7**
PB10					IAML			16 01 47.3	
	comp=E,2µm,0.3s								
PB10	**IPOC Station P**	**1.78**	**280**				**Pn**	**16 01 20.4**	**+0.4**
PB14	**IPOC Station P**	**1.80**	**243**	*e*P			**Pn**	**16 01 21.7**	**+1.1**
PB14						*i* S	**Sn**	**16 01 43.0**	**-0.2**
PB04	**IPOC Station P**	**2.03**	**317**	⇑		*i*P	**Pn**	**16 01 23.5**	**-0.1**
PB04						*i* S	**Sn**	**16 01 46.8**	**-1.7**
PB04					IAML			16 01 51.0	
	comp=N,1µm,0.2s								
PB04	**IPOC Station P**	**2.03**	**317**	Pn			**Pn**	**16 01 23.4**	**-0.1**
PB03	**IPOC Station P**	**2.04**	**330**	⇑		*i*P	**Pn**	**16 01 24.2**	**+0.4**
PB03						*i* S	**Sn**	**16 01 47.5**	**-1.2**
PB03					IAML			16 01 50.1	
	comp=E,2µm,0.4s								
PB09	**IPOC Station P**	**2.09**	**345**	⇑		*i*P	**Pn**	**16 01 26.0**	**+1.6**
PB09						*i* S	**Sn**	**16 01 48.3**	**-1.6**
PB09					IAML			16 01 58.3	
	comp=N,1µm,0.4s								
PB07	**IPOC Station P**	**2.38**	**331**	⇑		*i*P	**Pn**	**16 01 28.4**	**+0.1**
PB07						*i* S	**Sn**	**16 01 55.3**	**-1.5**
PB07					IAML			16 01 56.5	
	comp=E,744nm,0.2s								
PB02	**IPOC Station P**	**2.75**	**335**	⇑		*i*P	**Pn**	**16 01 33.0**	**-0.1**
PB02						*i* S	**Sn**	**16 02 03.6**	**-1.9**
PB02					IAML			16 02 14.5	
	comp=E,954nm,0.4s								
PB11	**IPOC Station P**	**4.15**	**347**	Pn			**Pn**	**16 01 50.6**	**-1.5**
MNMC	**Minye Minye**	**4.75**	**349**	Pn			**Pn**	**16 01 58.9**	**-1.6**
GO04	**Tololo Observa**	**6.61**	**196**				**Pn**	**16 02 23.9**	**-1.8**
LPAZ	**La Paz**	**7.51**	**4**	P			**Pn**	**16 02 39.9**	**+1.5**
	comp=E,0.2nm,0.3s,baz=75,slow=3.2,SNR=3.8								
LPAZ	**La Paz**	**7.51**	**4**				**Pn**	**16 02 39.2**	**+0.9**
CFA	**Coronel Fontan**	**7.76**	**177**	P			**Pn**	**16 02 42.0**	**+0.8**
	comp=E,1.8nm,0.3s,baz=360,slow=12,SNR=30								
CFA						S	**Sn**	**16 04 04.0**	**-3.5**
	comp=E,0.9nm,0.3s,baz=235,slow=18,SNR=2.8								
SIV	**San Ignacio**	**10.55**	**44**	P			**Pn**	**16 03 16.8**	**-2.5**
	comp=E,0.8nm,0.3s,baz=238,slow=10,SNR=16								
SIV						S	**Sn**	**16 05 08.1**	**-7.6**
	comp=E,0.1nm,0.3s,baz=307,slow=20,SNR=3.8								
TRCB	**Terra Rica**	**14.75**	**89**	*e*P			**Pn**	**16 04 20.4**	**+1.5**
TRCB	**Terra Rica**	**14.75**	**89**	*e*P			**Pn**	**16 04 20.4**	**+1.5**
ITAB	**Concordia**	**15.29**	**106**	*e*P			**Pn**	**16 04 25.9**	**+1.1**
ITAB	**Concordia**	**15.29**	**106**	*e*P			**Pn**	**16 04 25.9**	**+1.1**
C2SB	**Chapadao do Su**	**15.56**	**74**	*e*P			**Pn**	**16 04 30.4**	**+2.6**
C2SB	**Chapadao do Su**	**15.56**	**74**	*e*P			**Pn**	**16 04 30.4**	**+2.6**
CNLB	**Canela**	**16.82**	**113**	*e*P			**Pn**	**16 04 43.9**	**+2.0**
CNLB	**Canela**	**16.82**	**113**	*e*P			**Pn**	**16 04 43.9**	**+2.0**
FRTB	**Fartura**	**17.50**	**92**	*e*P			**Pn**	**16 04 50.1**	**+0.7**
FRTB	**Fartura**	**17.50**	**92**	*e*P			**Pn**	**16 04 50.1**	**+0.7**
ARAG	**Araguaiana, MT**	**17.77**	**66**	*e*P			**Pn**	**16 04 52.8**	**+0.5**
ARAG	**Araguaiana, MT**	**17.77**	**66**	*e*P			**Pn**	**16 04 52.8**	**+0.5**
RCLB	**Rio Claro- Sao**	**19.47**	**90**	*e*P			**Pn**	**16 05 11.8**	**+0.9**
RCLB	**Rio Claro- Sao**	**19.47**	**90**	*e*P			**Pn**	**16 05 11.8**	**+0.9**
IPMB	**Ipameri, GO**	**19.94**	**77**	*e*P			**Pn**	**16 05 16.7**	**+0.6**
IPMB	**Ipameri, GO**	**19.94**	**77**	*e*P			**Pn**	**16 05 16.7**	**+0.6**
BDFB	**Brasilia**	**21.04**	**71**	P			**P**	**16 05 26.2**	**-1.8**
	comp=E,2.8nm,0.8s,baz=236,slow=11,SNR=4.8								
BDFB	**Brasilia**	**21.04**	**71**		IAmb	IAmb		16 05 28.4	
	comp=Z,42nm,2.0s								
ROSC	**El Rosal**	**29.02**	**348**	P			**P**	**16 06 45.7**	**+2.5**
	comp=Z,3.3nm,0.4s,baz=0.0,slow=20,SNR=3.2								
DBIC	**Dimbokro**	**69.18**	**72**	P			**P**	**16 11 48.2**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=219,slow=6.9,SNR=3.9								
DBIC	**Dimbokro**	**69.18**	**72**		IAmb	IAmb		16 13 38.4	
	comp=Z,16nm,1.6s								
TORD	**Torodi Ar. Bea**	**77.91**	**70**	P			**P**	**16 12 40.1**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=255,slow=5.2,SNR=16								
YKA	**Yellowknife Ar**	**93.45**	**340**	P			**P**	**16 13 55.8**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=135,slow=4.9,SNR=4.6								
YKA						pP	**pP**	**16 14 23.0**	**+2.6**
	comp=Z,0.2nm,0.5s,baz=135,slow=4.1,SNR=3.5								
MKAR	**Makanchi Array**	**147.33**	**38**	PKPbc			**PKPdf**	**16 20 22.7**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=296,slow=4.2,SNR=2.8								

*BJI **25** 16:23:27.0±0.0, 1°.80N×126°.90E, h25km, mb4.4/8, mB4.9/7, Ms4.7/2*
*ISCJB **25** 16:23:31.4±0.3, 1°.81N±0°.03×126°.75E±0°.04, h63km, mb4.1/18, Error ellipse: s-maj=5.4km s-min=4.0km az=166.4*
*NEIC **25** 16:23:31.4±1.6, 1°.84N±0°.06×126°.83E±0°.07, h46km±6km, mb4.6/33*
*DJA **25** 16:23:31.8±0.3, 2°.N±4°×12°.7E±°, h57km±4km, M4.3/13, mB4.7/1, mb4.6/10, MLv4.2/13, Mw(mB)3.9/1*
*IDC **25** 16:23:32.8±2.6, 1°.72N×126°.75E, h59km±24km, mb3.8/18, mb1 4.0/20, mb1mx3.8/36, mbtmp4.1/20, ML3.6/2, MS3.2/4, Ms1 3.3/4, ms1mx2.9/34, Error ellipse: s-maj=26.3km s-min=9.7km az=74.0*
ISC 25 16:23:33.0±0.4, 1°.79N±0°.04×126°.81E±0°.05, h63km, n71, σ1s24/72, mb4.4/29, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.15**	**151**	P			**Pn**	**16 23 50.9**	**-2.3**
TNTI	**Ternate**	**1.15**	**151**				**Pn**	**16 23 50.6**	**-2.6**
LBMI	**Labuha**	**2.50**	**164**	P			**Pn**	**16 24 10.3**	**-1.2**
KMSI	**Cibinong**	**3.07**	**247**	P			**Pn**	**16 24 17.8**	**-1.4**
SANI	**Sanana**	**3.90**	**192**	P			**Pn**	**16 24 28.4**	**-2.1**
LUWI	**Luwuk**	**4.92**	**235**	P			**Pn**	**16 24 44.1**	**-0.3**
LUWI				S			**Sn**	**16 25 38.7**	**-1.3**
LUWI	**Luwuk**	**4.92**	**235**				**Pn**	**16 24 45.0**	**+0.5**
MRSI	**Marisa**	**5.04**	**255**	P			**Pn**	**16 24 46.0**	**-0.1**
	73nm,0.7s,850nm0.3nm								
MRSI				S			**Sn**	**16 25 42.4**	**-0.6**
	73nm,0.7s,850nm0.3nm								
SIJI	**Sorong**	**5.18**	**121**	P			**Pn**	**16 24 48.2**	**+0.2**
	0.5nm,0.3s,baz=162,slow=20,SNR=2.6								
KCP	**Kidapawan**	**5.46**	**342**	⇓	P		**Pn**	**16 24 53.0**	**+1.0**
KCP					S		**Sn**	**16 25 52.1**	**-1.5**
APSI	**Ampana**	**5.81**	**243**	P			**Pn**	**16 24 56.8**	**+0.1**
	53nm,1.0s,0.2nm								
CTBH	**Cotabato--PC H**	**5.97**	**335**	P			**Pn**	**16 24 59.2**	**+0.3**
MPSI	**Mapaga**	**7.06**	**258**	P			**Pn**	**16 25 12.7**	**-1.0**
	18nm,0.7s,0.1nm								
SMKI	**Samarinda**	**9.85**	**257**	P			Pn	16 26 08.8	+17
KKM	**Kota Kinabalu**	**11.38**	**292**	Pn			**Pn**	**16 26 09.9**	**-3.1**
TGY	**Tagaytay City**	**13.54**	**335**	P			**Pn**	**16 26 42.9**	**+0.5**
	40nm,0.3s,baz=111,slow=12,SNR=3.8								
SBUM	**Sibu**	**14.59**	**273**	P			**P**	**16 27 02.

MAKZ Makanchi 59.38 326 P P 16 33 28.6 -0.3
MAKZ IAmb IAmb 16 33 30.7
comp=Z,3.3nm,0.6s

ZALV Zalesovo Beam 62.35 333 P P 16 33 48.6 -0.2
comp=Z,0.7nm,0.4s,baz=124,slow=7.2,SNR=3.9

GAR Garm 63.30 313 P P 16 33 54.7 -0.9
GAR IAmb IAmb 16 33 57.5
comp=Z,7.2nm,0.9s

KURK Kurchatov 63.41 328 P P 16 33 55.8 -0.3
CASY Casey 68.91 187 P P 16 34 32.3 +1.4
CASY IAmb IAmb 16 34 33.2
comp=Z,6.5nm,0.8s

BRVK Borovoye 69.06 327 P P 16 34 32.2 0.0
BRVK IAmb IAmb 16 34 53.9
comp=Z,11nm,1.6s

GEYT Alibeck 72.17 309 P P 16 34 52.6 +1.1
comp=Z,1.4nm,0.6s,baz=174,slow=5.7,SNR=3.1

NRIK Noril'sk 72.32 346 P P 16 34 52.4 +0.8
comp=Z,1.4nm,0.3s,baz=126,slow=6.4,SNR=6.8

ABKAR Akbulak array 73.70 321 P P 16 35 00.3 +0.1
ARU Arti 76.61 328 P P 16 35 16.4 -0.4
VNDA Vanda 81.50 173 P P 16 35 43.9 +0.8
comp=Z,1.5nm,0.6s,baz=311,slow=6.8,SNR=9.0

MAW Mawson 81.97 200 P P 16 35 46.0 +0.3
comp=Z,2.2nm,0.8s,baz=26,slow=6.4,SNR=4.1

KBZ Khabaz 84.36 314 P P 16 35 59.2 +0.7
comp=Z,1.4nm,0.7s,baz=122,slow=9.0,SNR=5.7

ILAR Eielson Array 86.81 25 P P 16 36 11.1 +0.8
comp=Z,0.1nm,0.4s,baz=264,slow=4.2,SNR=3.2

BRTR Keskin Array B 91.31 310 P P 16 36 32.8 +0.5
comp=Z,0.6nm,0.7s,baz=99,slow=7.6,SNR=4.7

TORD Torodi Ar. Bea 123.58 287 PKP PKiKP 16 42 25.5 +0.7
comp=Z,0.7nm,0.7s,baz=79,slow=2.8,SNR=3.2

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*BJI **25** 16:38:56.7±0.0,21˚.62N×144˚.30E,h98km,mb4.6/36, mB5.0/25*
*MOS **25** 16:38:57.0±0.9,21˚.65N×144˚.29E,h99km,mb4.7/20,Error ellipse: s-maj=9.3km s-min=5.8km az=94.4*
*ISCJB **25** 16:38:58.6±0.2,21˚.66N±0˚.03×144˚.30E±0˚.03,h114km, mb4.5/76,Error ellipse: s-maj=4.5km s-min=3.6km az=44.7*
*NEIC **25** 16:39:01.1±1.2,21˚.69N±0˚.07×144˚.31E±0˚.09, h123km±5km,mb4.7/143*
*IDC **25** 16:39:02.0±1.6,21˚.68N×144˚.29E,h133km±13km, mb4.0/29,mb1 4.1/31,mb1mx4.1/43,mbtmp4.4/31,Error ellipse: s-maj=14.5km s-min=9.5km az=95.0*
ISC 25 16:38:60.0±0.3,21˚.64N±0˚.05×144˚.40E±0˚.06,h114km, n258,σ1§10/270,mb4.7/118,6C-2D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.79**	**340**	P			**Pn**	**16 40 23.0**	**-0.5**
	8.8nm,0.3s,baz=254,slow=12,SNR=3.5								
JCJ				S			**Sn**	**16 41 25.1**	**-3.6**
	20nm,0.3s,baz=293,slow=23,SNR=8.3								
MJAR	**Matsushiro Arr**	**15.79**	**341**	P			**Pn**	**16 42 34.7**	**-1.3**
	0.1nm,0.3s,baz=152,slow=9.9,SNR=7.7								
MAJO	**Matsushiro**	**15.80**	**341**	P			**Pn**	**16 42 35.5**	**-0.4**
MAJO				pmax		pmax			
	comp=Z,8.0nm,0.7s								
MAJO	**Matsushiro**	**15.80**	**341**	P			**Pn**	**16 42 35.5**	**-0.4**
MAT	**Matsushiro**	**15.80**	**341**	P			**Pn**	**16 42 35.4**	**-0.6**
MJB9	**Matsu-Tunnel**	**15.80**	**341**	P			**Pn**	**16 42 35.6**	**-0.4**
JNU	**Nakatsue**	**16.56**	**316**	P			**P**	**16 42 47.8**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=92,slow=7.3,SNR=5.3								
YOJ	**Yonaguni jima**	**19.88**	**282**	P			**P**	**16 43 20.4**	**-2.0**
YOJ				pmax		pmax			
	comp=Z,113nm,1.1s								
YOJ	**Yonaguni jima**	**19.88**	**282**	P			**P**	**16 43 20.4**	**-2.0**
KSRS	**Korea Array**	**21.25**	**321**	P			**P**	**16 43 37.9**	**+0.9**
	comp=Z,5.7nm,0.6s,baz=145,slow=8.1,SNR=29								
KS19	**Wonju Array Si**	**21.32**	**321**	P			**P**	**16 43 37.1**	**-0.5**
YHNB	**Yeheng**	**21.38**	**283**	P			**P**	**16 43 37.6**	**-1.0**
YHNB				IAmb		IAmb		16 43 51.3	
	comp=Z,28nm,1.0s								
YULB	**Yu-li**	**21.41**	**279**	P			**P**	**16 43 38.0**	**-0.9**
TWG	**Pinlang**	**21.62**	**278**	P			**P**	**16 43 40.7**	**-0.5**
SSLB	**Suanglung**	**21.73**	**280**	P			**P**	**16 43 42.7**	**+0.4**
SSLB				IAmb		IAmb		16 43 44.1	
	comp=Z,26nm,0.9s								
JKA	**Kamikawa-asahi**	**22.46**	**357**	P			**P**	**16 43 51.1**	**+1.5**
ASAJ	**Asahikawa**	**22.46**	**357**	P			**P**	**16 43 51.1**	**+1.5**
	comp=Z,6.9nm,0.7s,baz=186,slow=8.0,SNR=6.6								
MANU	**Manus Island**	**23.72**	**173**	P			**P**	**16 44 01.8**	**+0.1**
MANU				IAmb		IAmb		16 44 04.2	
	comp=Z,38nm,0.9s								
USRK	**Ussuriysk Ar.**	**24.73**	**338**	P			**P**	**16 44 10.8**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=137,slow=9.1,SNR=4.5								
NJ2	**Nanjing**	**24.98**	**300**	*e*P			**P**	**16 44 13.5**	**+0.4**
NJ2				pmax		pmax			
	comp=Z,9.0nm,0.6s								
YSS	**Yuzh-Sakhalins**	**25.29**	**357**	*e*P			**P**	**16 44 17.6**	**+2.0**
YSS				pmax		pmax			
	comp=Z,20nm,0.9s								
TNTI	**Ternate**	**26.57**	**221**	P			**P**	**16 44 26.1**	**-1.4**
TNTI				IAmb		IAmb		16 44 36.2	
	comp=Z,38nm,1.3s								
FAKI	**Fak Fak**	**27.15**	**207**	P			**P**	**16 44 32.2**	**-0.5**
FAKI				IAmb		IAmb		16 44 39.3	
	comp=Z,12nm,0.8s								
TYV	**Tymovskoe**	**29.20**	**358**	*e*P			P	16 44 41.4	-9.1
TYV				pmax		pmax			
	comp=Z,10.0nm,1.3s								
TYV				pmax		pmax			
	comp=Z,400nm,5.2s								
KLR	**Kul'dur**	**29.31**	**343**	*d i*P			**P**	**16 44 51.5**	**-0.1**
KLR				pmax		pmax			
	comp=Z,5.0nm,0.8s								
KLR	**Kul'dur**	**29.31**	**343**	P			**P**	**16 44 51.6**	**-0.1**
	comp=Z,10nm,0.6s,baz=158,slow=7.9,SNR=40								
LUWI	**Luwuk**	**30.90**	**226**	P			**P**	**16 45 05.2**	**-0.7**
LUWI				IAmb		IAmb		16 45 15.6	
	comp=Z,30nm,1.2s								
PMG	**Port Moresby**	**30.97**	**175**	P			**P**	**16 45 06.5**	**-0.1**
PMG				pmax		pmax			
	comp=Z,17nm,0.7s								
PMG	**Port Moresby**	**30.97**	**175**	P			**P**	**16 45 06.5**	**-0.1**
PMG				IAmb		IAmb		16 45 07.7	
	comp=Z,17nm,0.7s								
PEA0B	**Petropavlovsk-**	**33.03**	**15**	P			**P**	**16 45 23.1**	**-1.1**
PEA0B				pmax		pmax			
	comp=Z,31nm,1.2s								
PEA0B	**Petropavlovsk-**	**33.03**	**15**	P			**P**	**16 45 23.1**	**-1.1**
PETK	**Petropavlovsk-**	**33.03**	**15**	P			**P**	**16 45 25.4**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=134,slow=5.8,SNR=11								
PET	**Petropavlovsk**	**33.19**	**16**	*e*P			**P**	**16 45 26.9**	**+1.4**
PET				pmax		pmax			
	comp=Z,38nm,1.2s								
PET	**Petropavlovsk**	**33.19**	**16**	P			**P**	**16 45 25.0**	**-0.5**
HHC	**Hu-ho-hao-te**	**33.70**	**312**	P			**P**	**16 45 31.0**	**+0.6**
HHC				pmax		pmax			
	comp=Z,2.0nm,0.7s								
HHC				pmax		pmax			
	comp=Z,85nm,5.7s								
TARA	**Tarawa**	**34.33**	**122**	P			**P**	**16 45 35.9**	**0.0**
ZEA	**Zeya**	**34.61**	**342**	*e*P			**P**	**16 45 37.2**	**-0.6**
ZEA				pmax		pmax			
	comp=Z,20nm,0.8s								
COEN	**Coen**	**35.40**	**182**	P			**P**	**16 45 45.9**	**+0.8**
DLV	**T Lat**	**35.63**	**260**	P			**P**	**16 45 47.4**	**+0.1**
SBUM	**Sibu**	**36.65**	**243**	P			**P**	**16 45 56.0**	**+0.2**
MTN	**Manton Dam**	**36.66**	**202**	P			**P**	**16 45 55.9**	**0.0**
CD2	**Chengdu**	**37.42**	**293**	P			**P**	**16 46 00.5**	**-1.8**
CD2				pmax		pmax			
	comp=Z,20nm,0.7s								
SLVN	**Son La**	**37.61**	**277**	P			**P**	**16 46 03.1**	**-0.8**
LZH	**Lanzhou**	**38.04**	**301**	*e*P			**P**	**16 46 08.0**	**+0.5**
LZH				pP		pP		16 46 30.5	-1.9
LZH				sP		sP		16 46 42.5	-2.6
LZH				PP		**PnPn**		**16 47 41.0**	**+1.6**
LZH				pmax		pmax			
	comp=Z,12nm,1.0s								
LZH				pmax		pmax			
	comp=Z,100nm,5.0s								
LZH				LR		LR			
	comp=Z,340nm,14.9s								
LZH				LR		LR			
	comp=Z,340nm,15.0s								
LZH				LR		LR			
	comp=Z,450nm,15.1s								
MA2	**Magadan**	**38.17**	**5**	P			**P**	**16 46 07.8**	**-0.2**
MA2				pmax		pmax			
	comp=Z,23nm,1.3s								
MA2	**Magadan**	**38.17**	**5**	P			**P**	**16 46 07.8**	**-0.2**
	comp=Z,5.2nm,0.6s,baz=190,slow=11,SNR=4.2								
MA2	**Magadan**	**38.17**	**5**	IAmb		IAmb		16 46 14.2	
	comp=Z,23nm,1.3s								
KMI	**Kunming**	**38.29**	**283**	P			**P**	**16 46 10.0**	**+0.2**
KMI				pmax		pmax			
	comp=Z,6.0nm,0.6s								
KMI				pmax		pmax			
	comp=Z,92nm,4.5s								
ULN	**Ulaanbaatar**	**39.73**	**320**	*i e*P			**P**	**16 46 21.7**	**+0.3**
ULN				pmax		pmax			
	comp=Z,10.0nm,3.2s								
ULN	**Ulaanbaatar**	**39.73**	**320**	P			**P**	**16 46 20.6**	**-0.8**
SONM	**Songino Array**	**40.10**	**320**	P			**P**	**16 46 23.7**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=130,slow=7.9,SNR=11								
SONM				ScP			**ScP**	**16 52 01.6**	**-4.0**
	comp=Z,0.4nm,0.7s,baz=131,slow=5.2,SNR=3.6								
KNRA	**Kunumurra**	**40.13**	**204**	P			**P**	**16 46 25.2**	**+0.4**
PBKT	**Sadao Pong**	**41.25**	**271**	P			**P**	**16 46 33.9**	**-0.2**
YAK	**Yakutsk**	**41.62**	**350**	*e*P			**P**	**16 46 34.9**	**-1.6**
YAK				pmax		pmax			
	comp=Z,12nm,0.9s								
YAK				pmax		pmax			
	comp=N,4.0nm,1.1s								
YAK				pmax		pmax			
	comp=E,4.0nm,0.9s								
YAK	**Yakutsk**	**41.62**	**350**	P			**P**	**16 46 36.0**	**-0.5**
	comp=E,4.3nm,0.4s,baz=7.1,slow=1.2,SNR=7.2								
YAK	**Yakutsk**	**41.62**	**350**	P			**P**	**16 46 35.3**	**-1.2**
YAK				IAmb		IAmb		16 46 37.1	
	comp=Z,13nm,0.7s								
SEY	**Seymchan**	**41.62**	**5**	P			**P**	**16 46 36.9**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=189,slow=8.7,SNR=12								
GTA	**Gaotai**	**41.83**	**305**	P			**P**	**16 46 38.5**	**-0.2**
GTA				pP		pP		16 47 02.8	-1.3
GTA				sP		sP		16 47 14.0	-2.7
GTA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
WRAB	**Tennant Creek**	**42.47**	**194**	*ce*P			**P**	**16 46 44.3**	**+0.4**
WRAB				pmax		pmax			
	comp=Z,9.0nm,1.0s								
WRAB	**Tennant Creek**	**42.47**	**194**	P			**P**	**16 46 44.4**	**+0.4**
WRAB				IAmb		IAmb		16 46 45.1	
	comp=Z,14nm,0.5s								
WRA	**Warramunga Arr**	**42.48**	**194**	P			**P**	**16 46 44.7**	**+0.7**
	comp=Z,5.8nm,0.3s,baz=16,slow=9.0,SNR=144								
WRA				ScP			**ScP**	**16 52 13.6**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=9.1,slow=4.5,SNR=6.3								
CHTO	**Chiang Mai**	**42.63**	**275**	P			**P**	**16 46 45.1**	**-0.3**
CHTO				pmax		pmax			
	comp=Z,5.0nm,1.3s								
CHTO	**Chiang Mai**	**42.63**	**275**	P			**P**	**16 46 45.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**42.71**	**274**	P			**P**	**16 46 45.5**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=74,slow=6.6,SNR=12								
CMAR				ScP			**ScP**	**16 52 13.5**	**-2.9**
	comp=Z,1.4nm,1.1s,baz=104,slow=1.9,SNR=6.0								
FITZ	**Fitzroy Crossi**	**43.56**	**206**	P			**P**	**16 46 53.1**	**+0.4**
JOHN	**Johnston Islan**	**43.66**	**88**	P			**P**	**16 46 53.0**	**-0.6**
ATKA	**Atka Island**	**44.07**	**36**	P			**P**	**16 46 56.1**	**-0.4**
UGM	**Wanagama**	**44.36**	**232**	P			**P**	**16 46 59.5**	**+0.3**
KULM	**Kulim**	**45.35**	**255**	P			**P**	**16 47 07.5**	**+0.4**
KULM				IAmb		IAmb		16 47 08.7	
	comp=Z,13nm,0.7s								
IPM	**Ipoh**	**45.36**	**254**	P			**P**	**16 47 07.5**	**+0.3**
IPM				IAmb		IAmb		16 47 08.2	
	comp=Z,9.9nm,0.9s								
AS31	**Alice Springs**	**46.18**	**193**	P			**P**	**16 47 13.6**	**+0.1**
ASAR	**Alice Springs**	**46.18**	**193**	P			**P**	**16 47 13.7**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=14,slow=7.1,SNR=48								
ASAR				ScP			**ScP**	**16 52 28.9**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=12,slow=4.5,SNR=5.8								
EIDS	**Eidsvold**	**47.18**	**172**	P			**P**	**16 47 21.2**	**0.0**
PSI	**Prapat**	**47.98**	**253**	P			**P**	**16 47 27.8**	**0.0**
PSI				pmax		pmax			
	comp=Z,5.0nm,0.9s								
RPSI	**Rantau Prapat**	**48.03**	**253**	P			**P**	**16 47 27.8**	**-0.2**
LSA	**Lhasa**	**48.31**	**291**	P			**P**	**16 47 30.8**	**+0.2**
LSA				pmax		pmax			
	comp=Z,4.0nm,0.7s								
LSA	**Lhasa**	**48.31**	**291**	P			**P**	**16 47 30.9**	**+0.2**
BILL	**Bilibino**	**48.35**	**11**	*i* P			**P**	**16 47 29.1**	**-0.6**
BILL				*i*				16 49 29.1	
BILL				pmax		pmax			
	comp=Z,14nm,1.5s								
BILL	**Bilibino**	**48.35**	**11**	P			**P**	**16 47 30.4**	**+0.7**
BILL				IAmb		IAmb		16 47 32.6	
	comp=Z,14nm,1.3s								
DZM	**Mont Dzumac**	**48.48**	**152**	P			**P**	**16 47 32.0**	**+0.7**
DZM				IAmb		IAmb		16 47 32.6	
	comp=Z,12nm,1.1s								
LHMI	**Lhok Sumawe**	**48.72**	**257**	P			**P**	**16 47 33.1**	**-0.3**
UNV	**Unalaska Valle**	**48.98**	**36**	P			**P**	**16 47 34.5**	**-0.2**
PSA00	**Pilbara Seismi**	**49.19**	**211**	P			**P**	**16 47 36.5**	**-0.2**
PSA00				IAmb		IAmb		16 47 50.3	
	comp=Z,22nm,1.5s								
AKUT	**Akutan**	**49.48**	**36**	P			**P**	**16 47 39.1**	**+0.6**
GSI	**Gunungsitoli**	**49.86**	**253**	P			**P**	**16 47 41.7**	**-0.3**
GSI				IAmb		IAmb		16 47 42.1	
	comp=Z,8.9nm,0.7s								
GSI				PcP			**PcP**	**16 49 01.4**	**+0.4**
TIXI	**Tiksi**	**50.82**	**354**	*i e*P			**P**	**16 47 49.6**	**+1.2**
TIXI				pmax		pmax			
	comp=Z,3.0nm,0.8s								
WMQ	**Urumqi**	**51.49**	**309**	*e*P			**P**	**16 47 54.8**	**+0.9**
WMQ				pmax		pmax			
	comp=Z,8.0nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,190nm,5.1s								
TAPN	**Taplejung**	**51.54**	**288**	*e*P			**P**	**16 47 53.9**	**-0.9**
	comp=Z,43nm,1.4s								
ODAN	**Odare**	**51.88**	**288**	*e*P			**P**	**16 47 56.7**	**-0.6**
	comp=Z,28nm,1.1s								
RAMN	**Ramite**	**52.57**	**288**	*e*P			**P**	**16 48 01.4**	**-1.0**
GUN	**Gumba**	**53.08**	**289**	*e*P			**P**	**16 48 05.6**	**-0.7**
	comp=Z,18nm,1.0s								
STKA	**Stephens Creek**	**53.28**	**183**	P			**P**	**16 48 07.1**	**0.0**
	comp=Z,4.7nm,0.6s,baz=358,slow=8.0,SNR=21								
STKA	**Stephens Creek**	**53.28**	**183**	P			**P**	**16 48 07.0**	**0.0**
PKI	**Pulchoki**	**53.54**	**289**	*e*P			**P**	**16 48 08.6**	**-1.0**
PKIN	**Phulchoki**	**53.55**	**289**	*e*P			**P**	**16 48 08.6**	**-1.0**
	comp=Z,4.2nm,0.5s								
DMN	**Daman**	**53.80**	**289**	*e*P			**P**	**16 48 10.8**	**-0.6**
ANM	**Nome**	**54.00**	**24**	P			**P**	**16 48 12.7**	**+0.8**
ANM				pmax		pmax			
	comp=Z,8.0nm,1.2s								
ANM	**Nome**	**54.00**	**24**	P			**P**	**16 48 12.7**	**+0.8**
ANM				IAmb		IAmb		16 48 14.4	
	comp=Z,7.8nm,1.2s								
GKN	**Gorkha**	**54.16**	**290**	*e*P			**P**	**16 48 13.2**	**-0.7**
	comp=Z,6.7nm,0.3s								
FORT	**Forrest**	**54.43**	**197**	P			**P**	**16 48 15.5**	**0.0**
BBOO	**Buckleboo**	**54.73**	**189**	P			**P**	**16 48 18.1**	**+0.5**
BBOO				IAmb		IAmb		16 48 18.6	
	comp=Z,12nm,0.8s								
DANN	**Dangsing**	**54.88**	**290**	*e*P			**P**	**16 48 18.7**	**-0.6**
	comp=Z,25nm,0.3s								
ZALV	**Zalesovo Beam**	**54.96**	**321**	*i* P			**P**	**16 48 21.2**	**+2.2**
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ZALV	**Zalesovo Beam**	**54.96**	**321**	P			**P**	**16 48 17.8**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=132,slow=10,SNR=4.5								
KOLN	**Koldanda**	**55.10**	**289**	*e*P			**P**	**16 48 19.8**	**-1.0**
MK31	**Makanchi Array**	**55.57**	**313**	P			**P**	**16 48 23.4**	**-0.2**
MK31				pmax		pmax			
	comp=Z,2.0nm,1.0s								
MK31	**Makanchi Array**	**55.57**	**313**	P			**P**	**16 48 23.4**	**-0.2**
MKAR	**Makanchi Array**	**55.57**	**313**	*ce*P			**P**	**16 48 24.7**	**+1.1**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
MKAR	**Makanchi Array**	**55.57**	**313**	P			**P**	**16 48 23.2**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=87,slow=8.4,SNR=12								
MKAR				ScP			**ScP**	**16 53 06.7**	**-3.9**
	comp=Z,1.6nm,1.0s,baz=90,slow=6.4,SNR=5.3								
SII	**Sitkinak Islan**	**56.51**	**36**	P			**P**	**16 48 31.1**	**+1.0**
RDOG	**Red Dog Mine**	**56.51**	**21**	P			**P**	**16 48 30.4**	**+0.4**
RDOG				IAmb		IAmb		16 48 32.0	
	comp=Z,11nm,1.0s								
CAN	**Canberra**	**56.82**	**176**	P			**P**	**16 48 33.7**	**+1.2**
CAN				pmax		pmax			
	comp=Z,16nm,1.1s								
CAN	**Canberra**	**56.82**	**176**	P			**P**	**16 48 33.7**	**+1.2**
CAN				IAmb		IAmb		16 48 42.1	
	comp=Z,16nm,1.1s								
OHAK	**Old Harbor**	**57.12**	**35**	P			**P**	**16 48 34.7**	**+0.3**
OHAK				IAmb		IAmb		16 48 36.2	
	comp=Z,11nm,0.8s								
MORW	**Morawa**	**57.35**	**210**	P			**P**	**16 48 35.8**	**-0.5**
MORW				IAmb		IAmb		16 48 36.6	
	comp=Z,18nm,1.4s								
KDAK	**Kodiak Island**	**57.60**	**34**	P			**P**	**16 48 38.0**	**+0.3**
KDAK				pmax		pmax			
	comp=Z,17nm,1.1s								
KDAK	**Kodiak Island**	**57.60**	**34**	P			**P**	**16 48 38.0**	**+0.3**
RSO	**Redoubt South**	**58.07**	**31**	P			**P**	**16 48 41.0**	**-0.2**
KURK	**Kurchatov**	**58.29**	**317**	*i e*P			**P**	**16 48 43.2**	**+0.5**
KURK				pmax		pmax			
	comp=Z,5.0nm,1.1s								
KURK	**Kurchatov**	**58.29**	**317**	P			**P**	**16 48 41.5**	**-1.2**
NRIK	**Noril'sk**	**58.44**	**340**	P			**P**	**16 48 42.7**	**-0.7**
	comp=Z,1.7nm,0.4s,baz=108,slow=8.6,SNR=3.7								
BRLK	**Bradley Lake**	**58.84**	**32**	P			**P**	**16 48 45.7**	**-0.7**
PPLA	**Purkeypile**	**58.89**	**29**	P			**P**	**16 48 47.3**	**+0.4**
SKT	**Skwentna**	**58.98**	**30**	P			**P**	**16 48 47.1**	**-0.2**
SKT				IAmb		IAmb		16 48 48.1	
	comp=Z,12nm,1.0s								
SUA	**Susitna One**	**59.24**	**30**	P			**P**	**16 48 49.4**	**+0.2**
KTH	**Kantishna Hill**	**59.60**	**28**	P			**P**	**16 48 51.9**	**+0.3**
KTH				IAmb		IAmb		16 48 53.5	
	comp=Z,9.4nm,0.9s								
RC01	**Rabbit Creek A**	**59.65**	**31**	P			**P**	**16 48 51.8**	**-0.1**
BPAW	**Bear Paw Mtn.**	**59.70**	**27**	P			**P**	**16 48 52.4**	**+0.2**
TRF	**Thorofare Moun**	**59.85**	**28**	P			**P**	**16 48 53.2**	**-0.3**
MLY	**Manley**	**60.02**	**26**	P			**P**	**16 48 55.1**	**+0.7**
MLY				IAmb		IAmb		16 48 56.0	
	comp=Z,13nm,1.2s								
MLY				PcP			**PcP**	**16 49 39.8**	**+0.5**
PMR	**Palmer**	**60.02**	**30**	P			**P**	**16 48 54.2**	**-0.2**
PMR				pmax		pmax			
	comp=Z,9.0nm,0.8s								
PMR	**Palmer**	**60.02**	**30**	P			**P**	**16 48 54.2**	**-0.2**
PMR				IAmb		IAmb		16 48 55.0	
	comp=Z,9.3nm,0.8s								
NWAO	**Narrogin (SRO)**	**60.15**	**206**	P			**P**	**16 48 54.4**	**-1.2**
NWAO				pmax		pmax			
	comp=Z,35nm,1.4s								
NWAO	**Narrogin (SRO)**	**60.15**	**206**	P			**P**	**16 48 54.4**	**-1.2**
	comp=Z,6.6nm,0.8s,baz=29,slow=10,SNR=5.0								
KSH	**Kashi**	**60.20**	**304**	P			**P**	**16 48 59.5**	**+3.3**
KSH				PP			**PP**	**16 51 16.0**	**+5.9**
KSH				ScP			**ScP**	**16 53 34.8**	**+3.5**
KSH				S			**S**	**16 57 05.5**	**+4.2**
KSH				sS			sS	16 57 47.8	+0.4
KSH				SS			**SS**	**17 01 05.5**	**+5.4**
KSH				pmax		pmax			
	comp=Z,240nm,6.3s								
KSH				LR		LR			
	comp=Z,410nm,6.4s								
KSH				LR		LR			
	comp=Z,290nm,6.8s								
KSH				LR		LR			
	comp=Z,250nm,11.2s								
MCK	**McKinley**	**60.50**	**28**	P			**P**	**16 48 57.7**	**0.0**
MCK				pmax		pmax			
	comp=Z,11nm,1.0s								
MCK	**McKinley**	**60.50**	**28**	P			**P**	**16 48 57.7**	**0.0**
MCK				IAmb		IAmb		16 48 58.5	
	comp=Z,11nm,1.0s								
NEA	**Nenana**	**60.61**	**27**	P			**P**	**16 48 58.4**	**0.0**
NEA				IAmb		IAmb		16 48 59.9	
	comp=Z,7.7nm,0.8s								
GLI	**Glacier Island**	**60.88**	**31**	P			**P**	**16 49 00.5**	**+0.1**
COLA	**College**	**61.18**	**27**	*i e*P			**P**	**16 49 03.0**	**+0.8**
COLA				*i* *PP			**pP**	**16 49 28.9**	**+0.2**
COLA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
TOLK	**Toolik Lake Re**	**61.34**	**22**	P			**P**	**16 49 04.2**	**+0.9**
HDA	**Harding Lake**	**61.48**	**27**	P			**P**	**16 49 03.6**	**-0.7**
HDA				IAmb		IAmb		16 49 05.2	
	comp=Z,5.0nm,0.7s								
IL31		**61.57**	**27**	P			**P**	**16 49 03.8**	**-1.1**
IL31				IAmb		IAmb		16 49 04.9	
	comp=Z,11nm,0.8s								
ILAR	**Eielson Array**	**61.57**	**27**	P			**P**	**16 49 04.1**	**-0.8**
	comp=Z,6.8nm,0.8s,baz=259,slow=5.2,SNR=78								
PAX	**Paxson**	**61.92**	**29**	P			**P**	**16 49 07.5**	**+0.1**
PAX				pmax		pmax			
	comp=Z,5.0nm,0.7s								
PAX	**Paxson**	**61.92**	**29**	P			**P**	**16 49 07.5**	**+0.1**
PAX				IAmb		IAmb		16 49 08.2	
	comp=Z,4.7nm,0.7s								
HMT	**Hamilton**	**62.21**	**32**	P			**P**	**16 49 09.6**	**+0.3**
PRP	**Porcupine Dome**	**62.26**	**26**	P			**P**	**16 49 08.4**	**-1.3**
RIDG	**Independent Ri**	**62.30**	**28**	P			**P**	**16 49 09.9**	**0.0**
FYU	**Fort Yukon**	**62.54**	**25**	P			**P**	**16 49 12.2**	**+0.9**
FY

BEKR	**Beckworth**	**80.29**	**51**	P	**P**	**16 50 59.1**	**+0.5**
BEKR				IAmb	IAmb	16 51 00.3	
	comp=Z,12nm,0.7s						
WVOR	**Wild Horse Val**	**80.62**	**48**	P	**P**	**16 51 01.3**	**+1.0**
WVOR				pmax	pmax		
	comp=Z,11nm,1.0s						
BMO	**Blue Mountains**	**80.66**	**46**	P	**P**	**16 51 01.0**	**+0.5**
BMO				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BMO	**Blue Mountains**	**80.66**	**46**	P	**P**	**16 51 01.0**	**+0.5**
BMO				IAmb	IAmb	16 51 02.2	
	comp=Z,9.7nm,1.1s						
CMB	**Columbia Colle**	**80.89**	**53**	P	**P**	**16 51 02.4**	**+0.6**
CMB				pmax	pmax		
	comp=Z,11nm,0.9s						
CMB	**Columbia Colle**	**80.89**	**53**	P	**P**	**16 51 02.4**	**+0.6**
CMB				IAmb	IAmb	16 51 03.6	
	comp=Z,11nm,0.9s						
PNTR	**Pine Nut**	**81.11**	**52**	P	**P**	**16 51 03.9**	**+0.8**
PNTR				IAmb	IAmb	16 51 05.2	
	comp=Z,13nm,0.9s						
YERR	**Yerington**	**81.41**	**52**	P	**P**	**16 51 05.5**	**+0.9**
YERR				IAmb	IAmb	16 51 06.1	
	comp=Z,8.3nm,0.6s						
WAKR	**Walker**	**81.43**	**52**	P	**P**	**16 51 05.8**	**+1.0**
WAKR				IAmb	IAmb	16 51 06.9	
	comp=Z,7.0nm,0.8s						
RYN	**Ryan**	**82.06**	**52**	P	**P**	**16 51 09.0**	**+0.9**
KVN	**Kaiserville**	**82.21**	**51**	P	**P**	**16 51 09.6**	**+0.7**
KVN				pmax	pmax		
	comp=Z,21nm,1.4s						
KVN	**Kaiserville**	**82.21**	**51**	P	**P**	**16 51 09.6**	**+0.7**
KVN				IAmb	IAmb	16 51 10.6	
	comp=Z,21nm,1.4s						
NVAR	**Mina Array Bea**	**82.29**	**52**	P	**P**	**16 51 10.4**	**+1.0**
	comp=Z,8.0nm,0.6s,baz=283,slow=5.5,SNR=95						
BMN	**Battle Mountai**	**82.33**	**50**	P	**P**	**16 51 10.3**	**+0.8**
BMN	**Battle Mountai**	**82.33**	**50**	P	**P**	**16 51 10.3**	**+0.8**
KBZ	**Khabaz**	**83.22**	**314**	P	**P**	**16 51 13.6**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=108,slow=4.7,SNR=5.0						
KIV	**Kislovodsk**	**83.27**	**315**	*i* P	**P**	**16 51 14.6**	**+0.5**
KIV				pmax	pmax		
	comp=Z,11nm,0.9s						
ELK	**Elko**	**83.61**	**49**	P	**P**	**16 51 16.7**	**+0.6**
ELK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
ELK	**Elko**	**83.61**	**49**	P	**P**	**16 51 16.7**	**+0.6**
ELK				IAmb	IAmb	16 51 17.9	
	comp=Z,9.4nm,1.1s						
FINES	**FINESS Array B**	**83.72**	**335**	P	**P**	**16 51 14.1**	**-1.8**
	comp=Z,3.3nm,0.4s,baz=69,slow=4.3,SNR=39						
R11A	**Troy Canyon, C**	**84.30**	**51**	P	**P**	**16 51 20.3**	**+0.7**
TPNV	**Topopah Spring**	**84.35**	**53**	P	**P**	**16 51 20.6**	**+0.7**
TPNV				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TPNV	**Topopah Spring**	**84.35**	**53**	P	**P**	**16 51 20.6**	**+0.7**
TPNV				IAmb	IAmb	16 51 21.6	
	comp=Z,6.5nm,0.7s						
GSC	**Goldstone, Bar**	**84.57**	**54**	P	**P**	**16 51 21.5**	**+0.6**
GSC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GSC	**Goldstone, Bar**	**84.57**	**54**	P	**P**	**16 51 21.5**	**+0.6**
GSC				IAmb	IAmb	16 51 22.6	
	comp=Z,6.5nm,0.7s						
YHL	**Hebgen Lake**	**84.67**	**44**	P	**P**	**16 51 22.8**	**+1.3**
BGU	**Big Grassy Mou**	**85.07**	**48**	P	**P**	**16 51 23.9**	**+0.5**
FFC	**Flin Flon**	**85.27**	**32**	P	**P**	**16 51 24.0**	**+0.1**
FFC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
FFC	**Flin Flon**	**85.27**	**32**	P	**P**	**16 51 24.0**	**+0.1**
FFC				IAmb	IAmb	16 51 25.2	
	comp=Z,9.5nm,0.9s						
FXWY	**Fox Creek**	**85.28**	**45**	P	**P**	**16 51 25.4**	**+0.9**
FLWY	**Flagg Ranch**	**85.31**	**44**	P	**P**	**16 51 26.0**	**+1.4**
FLWY				IAmb	IAmb	16 51 27.0	
	comp=Z,10nm,0.8s						
SPUT	**South Promonto**	**85.31**	**47**	P	**P**	**16 51 25.2**	**+0.6**
SHPR	**Sheep Range**	**85.33**	**53**	P	**P**	**16 51 25.9**	**+1.1**
MOOW	**Moose Ponds**	**85.42**	**45**	P	**P**	**16 51 26.2**	**+1.0**
PSUT	**Pine Spring**	**85.47**	**50**	P	**P**	**16 51 26.1**	**+0.6**
PFO	**Pinyon Flats O**	**85.48**	**56**	P	**P**	**16 51 25.6**	**0.0**
PFO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PFO	**Pinyon Flats O**	**85.48**	**56**	P	**P**	**16 51 25.6**	**0.0**
PFO				IAmb	IAmb	16 51 27.0	
	comp=Z,6.5nm,0.9s						
XPFO	**Pion Flat**	**85.49**	**56**	P	**P**	**16 51 25.6**	**0.0**
XPFO				IAmb	IAmb	16 51 27.0	
	comp=Z,6.5nm,0.9s						
DUG	**Dugway, Tooele**	**85.53**	**49**	P	**P**	**16 51 26.0**	**+0.3**
DUG				pmax	pmax		
	comp=Z,10.0nm,0.8s						
DUG	**Dugway, Tooele**	**85.53**	**49**	P	**P**	**16 51 26.0**	**+0.3**
DUG				IAmb	IAmb	16 51 27.4	
	comp=Z,10.0nm,0.8s						
AHID	**Auburn Hatcher**	**85.61**	**46**	P	**P**	**16 51 26.7**	**+0.6**
AHID				IAmb	IAmb	16 51 27.6	
	comp=Z,5.6nm,0.8s						
HWUT	**Hardware Ranch**	**85.79**	**47**	P	**P**	**16 51 27.5**	**+0.5**
HWUT				IAmb	IAmb	16 51 28.7	
	comp=Z,11nm,0.9s						
SUMG	**Summit**	**86.00**	**1**	*i* P	**P**	**16 51 28.3**	**+0.6**
SUMG				pmax	pmax		
	comp=Z,6.0nm,0.4s						
SUMG	**Summit**	**86.00**	**1**	*i* P	**P**	**16 51 28.3**	**+0.6**
	comp=Z,6.2nm,0.4s						
SUMG	**Summit**	**86.00**	**1**	P	**P**	**16 51 28.1**	**+0.4**
SUMG				IAmb	IAmb	16 51 28.9	
	comp=Z,10.0nm,1.0s						
NLU	**North Lily Min**	**86.14**	**49**	P	**P**	**16 51 29.3**	**+0.5**
CCUT	**Cedar City**	**86.23**	**51**	P	**P**	**16 51 30.0**	**+0.7**
SZCU	**Shurtz Canyon**	**86.41**	**51**	P	**P**	**16 51 30.8**	**+0.7**
TCRU	**Three Creeks R**	**86.44**	**50**	P	**P**	**16 51 31.3**	**+0.9**
FCC	**Fort Churchill**	**86.59**	**26**	P	**P**	**16 51 29.8**	**-0.4**
FCC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
FCC	**Fort Churchill**	**86.59**	**26**	P	**P**	**16 51 29.8**	**-0.4**
FCC				IAmb	IAmb	16 51 30.9	
	comp=Z,9.5nm,0.9s						
PDAR	**Pinedale Array**	**86.63**	**45**	P	**P**	**16 51 31.0**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=253,slow=2.4,SNR=14						
MSU	**Marysvale**	**86.68**	**50**	P	**P**	**16 51 32.4**	**+0.9**
MSU	**Marysvale**	**86.68**	**50**	P	**P**	**16 51 32.4**	**+0.9**
KNB	**Kanab**	**86.84**	**51**	P	**P**	**16 51 33.3**	**+1.1**
KNB				pmax	pmax		
	comp=Z,19nm,0.8s						
KNB	**Kanab**	**86.84**	**51**	P	**P**	**16 51 33.3**	**+1.1**
MTPU	**Mount Pierson**	**86.87**	**50**	P	**P**	**16 51 33.4**	**+0.8**
Q16A	**Castle Valley**	**87.22**	**49**	P	**P**	**16 51 34.7**	**+0.7**
U15A	**North Rim**	**87.47**	**52**	P	**P**	**16 51 36.3**	**+0.9**
U15A				IAmb	IAmb	16 51 37.4	
	comp=Z,7.1nm,0.8s						
SRU	**San Rafael Swe**	**87.59**	**49**	P	**P**	**16 51 35.8**	**0.0**
SRU				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SRU	**San Rafael Swe**	**87.59**	**49**	P	**P**	**16 51 35.8**	**0.0**
RDMU	**Red Mountain**	**87.60**	**47**	P	**P**	**16 51 36.4**	**+0.5**
113A	**Mohawk Valley,**	**87.89**	**56**	P	**P**	**16 51 37.7**	**+0.6**
113A				IAmb	IAmb	16 51 38.8	
	comp=Z,5.7nm,1.1s						
Y14A	**Wickenburg**	**87.99**	**54**	P	**P**	**16 51 38.4**	**+0.8**
NOA	**NORSAR Array B**	**89.40**	**339**	P	**P**	**16 51 41.4**	**-2.3**
	comp=Z,1.7nm,0.9s,baz=42,slow=4.8,SNR=3.3						
ISCO	**Idaho Springs**	**90.64**	**46**	P	**P**	**16 51 51.1**	**+0.8**
ISCO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ISCO	**Idaho Springs**	**90.64**	**46**	P	**P**	**16 51 51.1**	**+0.8**
ISCO				IAmb	IAmb	16 51 52.1	
	comp=Z,3.4nm,0.8s						
S22A	**4UR Ranch, Cre**	**90.79**	**49**	P	**P**	**16 51 51.9**	**+0.9**
BRTR	**Keskin Array B**	**91.20**	**314**	P	**P**	**16 51 50.8**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=31,slow=6.7,SNR=3.1						
SDCO	**Great Sand Dun**	**91.71**	**48**	P	**P**	**16 51 55.5**	**+0.3**
ANMO	**Albuquerque**	**92.38**	**51**⇑	*eP*	**P**	**16 51 59.4**	**+1.1**
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.3s						
TXAR	**Lajitas Array**	**97.16**	**55**	P	**P**	**16 52 19.7**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=306,slow=4.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**129.65**	**310**	PKP	**PKPdf**	**16 57 55.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=17,slow=1.5,SNR=5.4						
TORD				SKPbc	SKPab	17 01 03.9	-3.9
	comp=Z,2.0nm,0.9s,baz=36,slow=3.1,SNR=8.3						
PLCA	**Paso Flores**	**144.87**	**131**	PKIKP	**PKPdf**	**16 58 24.0**	**+0.2**
PLCA	**Paso Flores**	**144.87**	**131**	PKP	**PKPdf**	**16 58 24.0**	**+0.2**
	comp=Z,6.2nm,1.0s,baz=206,slow=5.5,SNR=9.1						
LPAZ	**La Paz**	**148.81**	**86**	PKPbc	**PKPbc**	**16 58 35.9**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=354,slow=3.1,SNR=12						
BDFB	**Brasilia**	**166.81**	**65**	PKPab	**PKPab**	**16 59 56.2**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=348,slow=11,SNR=3.6						

IDC 25 16:47:25.9±55.0, 47.56S×95.69E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/24, mbtmp3.8/3, MS3.4/4, Ms1 3.4/4, ms1mx3.1/27, Error ellipse: s-maj=1303.0km s-min=54.2km az=22.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**18.72**	**54**	T	T	17 09 48.2	
	baz=224,slow=74,SNR=52						
H01W3	**Cape Leeuwin H**	**18.73**	**54**	T	T	17 09 49.0	
	baz=224,slow=74,SNR=52						
H01W1	**Cape Leeuwin H**	**18.73**	**54**	T	T	17 09 49.4	
	baz=224,slow=74,SNR=44						
NWAO	**Narrogin (SRO)**	**21.90**	**56**	LR	LR	16 58 36.9	
	comp=Z,88nm,18.9s,baz=54,slow=31						
STKA	**Stephens Creek**	**38.04**	**83**	LR	LR	17 07 37.4	
	comp=Z,37nm,20.8s,baz=28,slow=32						
ASAR	**Alice Springs**	**38.60**	**65**	P	P	16 54 50.5	-0.2
	0.7nm,0.9s,baz=218,slow=7.8,SNR=4.2						
WRA	**Warramunga Arr**	**41.66**	**62**	P	P	16 55 16.1	0.0
	1.7nm,0.8s,baz=220,slow=7.8,SNR=9.3						
H08S2	**Diego Garcia H**	**44.41**	**326**	T	T	17 42 04.2	
	baz=156,slow=76,SNR=4.9						
H08S1	**Diego Carcia H**	**44.42**	**326**	T	T	17 42 00.3	
	baz=156,slow=76,SNR=4.2						
H08S3	**Diego Garcia H**	**44.43**	**326**	T	T	17 41 57.0	
	baz=156,slow=76,SNR=11						
JAY	**Jayapura**	**59.31**	**55**	LR	LR	17 23 00.5	
	comp=Z,54nm,18.4s,baz=299,slow=36						
TGY	**Tagaytay City**	**65.41**	**27**	LR	LR	17 22 35.7	
	comp=Z,38nm,20.1s,baz=20,slow=32						
CMAR	**Chiang Mai Arr**	**65.78**	**3**	P	P	16 58 12.6	0.0
	0.5nm,0.3s,baz=184,slow=5.4,SNR=4.8						

*ISCJB **25** 17:24:49.9±1.2, 44.°94N×0.°08×149.°6E±0.°1, h64km±11km, mb3.6/8, Error ellipse: s-maj=17.7km s-min=8.0km az=136.8*
*JMA **25** 17:24:49.9±0.8, 44.°94N×149.°66E, h30km, M4.0*
*MOS **25** 17:24:50.4±0.8, 45.°00N×149.°52E, h67km, mb4.1/1, Error ellipse: s-maj=20.5km s-min=12.2km az=142.1*
*SKHL **25** 17:24:51.8±0.8, 44.°99N×149.°44E, h76km±1km, mb4.2/3*
*IDC **25** 17:24:53.0±3.1, 44.°98N×149.°48E, h74km±28km, mb3.4/8, mb1 3.6/11, mb1mx3.2/55, mbtmp3.7/11, MS3.3/1, Ms1 3.3/1, ms1mx2.4/33, Error ellipse: s-maj=29.3km s-min=18.3km az=132.0*

ISC 25 17:24:50.7±1.6, 44.90N±0.09×149.6E±0.1, h53km±15km, n38, σ1s56/44, mb3.5/8, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.28**	**286**	*d* iPN	**Pn**	**17 25 10.8**	**-1.5**
KUR				*i* S	**Sn**	**17 25 26.6**	**-1.8**
KUR				pmax	pmax		
	comp=N,153nm,0.4s						
KUR				pmax	pmax		
	comp=Z,323nm,0.4s						
KUR				pmax	pmax		
	comp=E,64nm,0.1s						
KUR				smax	smax		
	comp=N,497nm,0.4s						
KUR				smax	smax		
	comp=E,325nm,0.4s						
KUR	**Kuril'sk**	**1.28**	**286**	*i* P	**Pn**	**17 25 11.0**	**-1.3**
KUR				AMB	AMB	17 25 12.0	
	comp=E,39nm,0.3s						
KUR				*i* S	**Sn**	**17 25 26.0**	**-2.4**
KUR				A	A	17 25 28.0	
	comp=E,312nm,0.3s						
KUR				A	A	17 25 28.0	
	comp=E,299nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.83**	**253**	*e*PN	**Pn**	**17 25 34.6**	**+1.3**
YUK				*e*S	**Sn**	**17 26 05.5**	**-0.6**
YUK				pmax	pmax		
	comp=Z,110nm,0.2s						
YUK				pmax	pmax		
	comp=N,26nm,0.1s						
YUK				pmax	pmax		
	comp=E,38nm,0.3s						
YUK				smax	smax		
	comp=N,104nm,0.3s						
YUK				smax	smax		
	comp=E,258nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.83**	**253**	*e*P	**Pn**	**17 25 34.0**	**+0.7**
YUK				AMB	AMB	17 25 35.0	
	comp=E,55nm,0.4s						
YUK				*e*S	**Sn**	**17 26 05.0**	**-1.1**
YUK				A	A	17 26 11.0	
	comp=E,104nm,0.4s						
YUK				A	A	17 26 11.0	
	comp=E,258nm,0.4s						
GRPR	**Tuman**	**2.90**	**253**	*e*PN	**Pn**	**17 25 35.1**	**+0.7**
GRPR				*e*S	**Sn**	**17 26 10.7**	**+2.7**
GRPR				pmax	pmax		
	comp=Z,92nm,0.2s						
GRPR				pmax	pmax		
	comp=N,73nm,0.1s						
GRPR				pmax	pmax		
	comp=E,56nm,0.1s						
GRPR				smax	smax		
	comp=E,235nm,0.4s						
GRPR				smax	smax		
	comp=N,213nm,0.3s						
GRPR	**Tuman**	**2.90**	**253**	*e*P	**Pn**	**17 25 35.0**	**+0.7**
GRPR				AMB	AMB	17 25 39.0	
	comp=N,46nm,0.4s						
GRPR				*e*S	**Sn**	**17 26 09.0**	**+1.0**
GRPR				A	A	17 26 13.0	
	comp=N,213nm,0.4s						
GRPR				A	A	17 26 13.0	
	comp=N,235nm,0.4s						
GLVR	**Golovnino**	**3.16**	**250**	*e*PN	**Pn**	**17 25 39.0**	**+1.1**
GLVR				*e*S	**Sn**	**17 26 17.1**	**+2.7**
GLVR				smax	smax		
	comp=N,252nm,0.4s						
GLVR				smax	smax		
	comp=E,148nm,0.2s						
GLVR	**Golovnino**	**3.16**	**250**	*e*P	**Pn**	**17 25 39.0**	**+1.1**
GLVR				*e*S	**Sn**	**17 26 15.5**	**+1.1**
GLVR				A	A	17 26 22.0	
	comp=E,252nm,0.4s						
GLVR				A	A	17 26 22.0	
	comp=E,148nm,0.4s						
NEM2	**Nemuro 2**	**3.19**	**243**	P	**Pn**	**17 25 36.7**	**-1.5**
NEM2				*e*S	**Sn**	**17 26 11.9**	**-3.1**
NMR	**Nemuro--Hokkai**	**3.19**	**243**	*e*S	**Sn**	**17 26 14.9**	**-0.2**
JNK	**Nakash**	**3.76**	**251**	P	**Pn**	**17 25 46.4**	**+0.3**
JNK				*e*S	**Sn**	**17 26 28.5**	**-0.6**
JAK	**Akkeshi**	**4.03**	**244**	P	**Pn**	**17 25 48.8**	**-1.0**
JAK				*e*S	**Sn**	**17 26 33.4**	**-2.4**
JAR	**Ashorobuto**	**4.51**	**251**	P	**Pn**	**17 25 57.3**	**+0.9**
JAR				*e*S	**Sn**	**17 26 49.3**	**+1.8**
JMP	**Maruseppu**	**4.57**	**261**	P	**Pn**	**17 25 59.6**	**+2.3**
JKK2	**Kamakawa 2**	**5.03**	**261**	P	**Pn**	**17 26 06.4**	**+2.8**
JCH	**Churui**	**5.08**	**245**	P	**Pn**	**17 26 04.5**	**+0.3**
JCH				*e*S	**Sn**	**17 26 59.5**	**-1.9**
ASAJ	**Asahikawa**	**5.08**	**264**	P	**Pn**	**17 26 05.7**	**+1.4**
	comp=E,1.4nm,0.3s,baz=228,slow=2.6,SNR=15						
ASAJ				S	Sn	17 27 16.0	+14
	comp=E,0.3nm,0.3s,baz=282,slow=20,SNR=1.8						
JNBK	**Urakawa-nobuka**	**5.63**	**245**	P	**Pn**	**17 26 11.7**	**-0.1**
JRBN	**Rebuntou**	**6.07**	**278**	P	**Pn**	**17 26 20.6**	**+2.8**
JNB	**Noboribetsu**	**6.68**	**252**	P	**Pn**	**17 26 27.7**	**+1.6**
JKB	**Kayabe**	**6.94**	**247**	P	**Pn**	**17 26 29.8**	**+0.1**
PETK	**Petropavlovsk-**	**9.77**	**30**	P	**Pn**	**17 27 09.8**	**+1.4**
	comp=E,0.1nm,0.3s,baz=196,slow=15,SNR=2.5						
KSRS	**Korea Array**	**17.92**	**253**	P	**Pn**	**17 28 56.4**	**+0.5**
	comp=E,0.1nm,0.3s,baz=54,slow=13,SNR=3.3						
TIXI	**Tiksi**	**28.62**	**346**	LR	LR	17 43 17.7	
	comp=E,51nm,18.3s,baz=266,slow=39						
H11N2	**WAKE ISLAND Hy**	**28.91**	**145**	T	T	18 01 36.2	
	baz=335,slow=76,SNR=46						
H11N1	**WAKE ISLAND Hy**	**28.93**	**145**	T	T	18 01 39.1	
	baz=335,slow=76,SNR=40						
H11N3	**WAKE ISLAND Hy**	**28.93**	**145**	T	T	18 01 35.5	
	baz=335,slow=76,SNR=41						
H11S1	**WAKE ISLAND Hy**	**29.93**	**146**	T	T	18 02 53.9	
	baz=336,slow=76,SNR=72						
H11S3	**WAKE ISLAND Hy**	**29.94**	**146**	T	T	18 02 56.2	
	baz=336,slow=76,SNR=56						
H11S2	**WAKE ISLAND Hy**	**29.95**	**146**	T	T	18 02 52.4	
	baz=336,slow=76,SNR=59						
ILAR	**Eielson Array**	**39.51**	**37**	P	**P**	**17 32 15.9**	**+0.2**
	comp=E,0.4nm,0.9s,baz=270,slow=6.9,SNR=4.9						
YKA	**Yellowknife Ar**	**53.85**	**35**	P	**P**	**17 34 07.8**	**+0.1**
	comp=E,0.3nm,0.7s,baz=296,slow=6.5,SNR=4.4						
FINES	**FINESS Array B**	**64.64**	**334**	P	**P**	**17 35 20.8**	**-1.5**
	comp=E,4.2nm,1.0s,baz=39,slow=16,SNR=2.8						
WRA	**Warramunga Arr**	**66.02**	**196**	P	**P**	**17 35 30.8**	**-0.9**
	comp=E,0.6nm,0.8s,baz=9.5,slow=6.7,SNR=3.2						
ASAR	**Alice Springs**	**69.73**	**195**	P	**P**	**17 35 56.0**	**+1.1**
	comp=E,0.4nm,1.1s,baz=10,slow=5.7,SNR=4.0						
KBZ	**Khabaz**	**70.34**	**313**	P	**P**	**17 35 58.3**	**-0.3**
	comp=E,1.6nm,0.9s,baz=261,slow=2.8,SNR=4.8						
AKASG	**Malin Array Be**	**71.58**	**325**	P	**P**	**17 36 05.8**	**-0.8**
	comp=E,0.2nm,0.3s,baz=76,slow=9.2,SNR=6.3						
TXAR	**Lajitas Array**	**80.54**	**58**	P	**P**	**17 36 57.6**	**+0.2**
	comp=E,0.4nm,0.6s,baz=308,slow=4.3,SNR=5.2						

*MOS **25** 18:11:31.7±1.7, 36.°70N×31.°32E, h95km, mb4.5/12, Error ellipse: s-maj=5.5km s-min=3.5km az=102.0*
*HLW **25** 18:11:32.3, 36.°96N×31.°08E, h33km±40km, Ml5.0*
*ISCJB **25** 18:11:34.2±0.1, 36.°87N±0.°01×31.°11E±0.°01, h123km±1km, mb4.7/57, Error ellipse: s-maj=2.0km s-min=1.4km az=36.7*
*NEIC **25** 18:11:35.1±2.0, 36.°88N±0.°05×31.°14E±0.°06, h118km±4km*
*ISK **25** 18:11:35.2, 36.°97N×31.°10E, h123km±1km, ML4.4/41*
*IDC **25** 18:11:35.5±1.1, 37.°00N×31.°10E, h123km±9km, mb4.0/27, mb1 4.0/38, mb1mx3.9/51, mbtmp4.3/38, MS3.1/1, Ms1 3.1/1, ms1mx2.5/36, Error ellipse: s-maj=10.2km s-min=8.5km az=162.0*
*MED_RC **25** 18:11:36.0±1.2, 36.°94N×31.°06E, h115km±12km, MW4.3/11, Moment Tensor Solution. Mantle waves: s11, c13; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}3.60±.40; $M_{\theta\theta}$-2.56±.71; $M_{\phi\phi}$-1.04±.63; $M_{r\theta}$0.97±.50; $M_{\theta\phi}$0.83±.65; $M_{\phi r}$-1.13±.26; Best double couple: M_o3.57000×10^{15} NP1:ϕ_s123.00000°, δ57.00000°, λ98.00000°. NP2:ϕ_s288.00000°, δ34.00000°, λ77.00000°. Principal axes: T 3.9500, Plg77.0000°, Azm59.0000°; N -0.7600, Plg7.0000°, Azm298.0000°; P -3.1900, Plg11.0000°, Azm207.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*THE **25** 18:11:36.8, 36.°91N×31.°23E, h102km±7km, ML4.7/5 Error ellipse: s-maj=7.9km s-min=1.3km az=32.0*
*NIC **25** 18:11:36.2±0.0, 36.°91N×31.°27E, h76km±8km, Ml4.7/5*
*GII **25** 18:11:37.9±0.3, 36.°48N×31.°04E, h40km, mb4.4/4, MD4.3/4*
*DDA **25** 18:11:37.0, 36.°99N×31.°04E, h52km±6km, MW4.1*

ISC 25 18:11:35.4±0.5, 36.88N±0.03×31.13E±0.02, h123km±4km, n479, σ1s59/603, mb4.4/65, 34C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEPZ	**Antalya-Kepez**	**0.38**	**86**	*i* P	**Pn**	**18 11 52.1**	**-1.0**
KEPZ				*i* S	**Sn**	**18 12 04.2**	**-2.2**
KEMT	**Kemer-ANTALYA**	**0.54**	**240**	PG	**Pn**	**18 11 53.7**	**-0.2**
KEMT				SG	**Sn**	**18 12 08.2**	**+0.4**
KORT	**Korkueli**	**0.64**	**281**	*i* P	**Pn**	**18 11 54.2**	**-0.6**
KORT				*i* S	**Sn**	**18 12 08.9**	**-0.5**
KORT	**Korkueli**	**0.64**	**281**	PG	**Pn**	**18 11 54.3**	**-0.5**
KORT				SG	**Sn**	**18 12 09.0**	**-0.4**
BCK	**Bucak**	**0.73**	**323**	P	**Pn**	**18 11 54.0**	**-1.4**
BCK				SG	**Sn**	**18 12 08.6**	**-1.9**
BCK	**Bucak**	**0.73**	**323**	PG	**Pn**	**18 11 55.2**	**-0.2**
BCK				SG	**Sn**	**18 12 09.5**	**-1.0**
ALAN	**Alanya-ANTALYA**	**0.79**	**114**	PG	**Pn**	**18 11 55.3**	**-0.5**
AKUM	**Antalya-Kumluc**	**0.84**	**229**	*i* P	**Pn**	**18 11 56.1**	**-0.2**
AKUM				*i* S	**Sn**	**18 12 12.0**	**0.0**
AKUM				IAML		18 12 20.0	
	comp=E,8μm,0.7s						
AKUM				IAML		18 12 21.0	
	comp=N,11μm,0.4s						
ELL	**Elmali**	**0.99**	**263**	P	**Pn**	**18 11 58.7**	**+0.9**
ELL	**Elmali**	**0.99**	**263**	PG	**Pn**	**18 11 58.9**	**+1.1**
ELL	**Elmali**	**0.99**	**263**	P	**Pn**	**18 11 57.2**	**-0.5**
ELL				S	**Sn**	**18 12 12.2**	**-2.5**
ELL	**Elmali**	**0.99**	**263**		**Pn**	**18 11 58.7**	**+0.9**
BAGO	**Egridir - ISPA**	**1.15**	**346**	*i* P	**Pn**	**18 11 58.2**	**-1.0**
BAGO				*i* S	**Sn**	**18 12 14.9**	**-2.5**
BAGO				IAML		18 12 16.0	
	comp=E,3μm,0.5s						
BAGO				IAML		18 12 19.0	
	comp=N,2μm,0.6s						
GAZI	**Gazipasa**	**1.15**	**124**	*i* P	**Pn**	**18 11 59.4**	**+0.2**
GAZI				*i* S	**Sn**	**18 12 16.8**	**-0.4**
GAZI	**Gazipasa**	**1.15**	**124**	PN	**Pn**	**18 11 59.9**	**+0.7**
GAZI				SN	**Sn**	**18 12 17.9**	**+0.7**
DEMR	**Demre-Antalya**	**1.18**	**237**	PN	**Pn**	**18 11 59.8**	**+0.3**
BRDR	**BURDUR-Merkez**	**1.18**	**314**	*i* P	**Pn**	**18 11 58.7**	**-0.9**
BRDR				*i* S	**Sn**	**18 12 15.3**	**-2.8**
BRDR				IAML		18 12 16.0	
	comp=N,2μm,0.6s						
BRDR				IAML		18 12 16.0	
	comp=E,3μm,0.6s						
DOGA	**KONYA_Doganhis**	**1.30**	**19**	*i* PA	**Pn**	**18 12 00.4**	**-0.6**
DOGA				*i* S	**Sn**	**18 12 17.7**	**-2.7**
DOGA				IAML		18 12 19.0

BOLV IAML 18 12 30.0
comp=E,2µm,1.0s
TAVA DENIZLI_Tavas 1.87 289 *i* PA **Pn** **18 12 07.1 -0.4**
TAVA *i* S **Sn** **18 12 28.5 -3.5**
TAVA IAML 18 12 35.0
comp=N,971nm,0.4s
TAVA IAML 18 12 35.0
comp=E,1µm,0.7s
DENT Denizli 1.89 298 PN **Pn** **18 12 07.3 -0.4**
DENT SN **Sn** **18 12 30.9 -1.5**
TEVE Tevekalti-Mers 1.91 103 PN **Pn** **18 12 09.5 +1.5**
KHL Karahalli 1.93 319 PN **Pn** **18 12 08.1 -0.1**
YORU Yoruktepe-Mers 1.97 111 PN **Pn** **18 12 10.1 +1.5**
KHAL Karahalli 1.98 319 *i* P **Pn** **18 12 08.1 -0.8**
KHAL *i* S **Sn** **18 12 31.3 -3.2**
KHAL IAML 18 12 33.0
comp=N,984nm,0.8s
KHAL IAML 18 12 33.0
comp=E,863nm,0.8s
OREN Orenkoy-Mersin 1.99 109 PN **Pn** **18 12 10.4 +1.6**
AFYO Afyonkarahisar 2.02 341 *i* P **Pn** **18 12 08.5 -0.9**
AFYO *i* S **Sn** **18 12 32.1 -3.2**
AFYO IAML 18 12 34.0
comp=E,4µm,0.6s
AFYO IAML 18 12 42.0
comp=N,2µm,0.7s
TURN Turunc 2.03 271 *i* P **Pn** **18 12 12.6 +3.3**
TURN *i* S **Sn** **18 12 39.8 +4.5**
TURN IAML 18 12 41.0
comp=N,2µm,0.3s
TURN IAML 18 12 43.0
comp=E,926nm,0.3s
TURN Turunc 2.03 271 PN **Pn** **18 12 12.8 +3.5**
GULN MERSIN_Gulnar 2.06 109 *i* P **Pn** **18 12 10.6 +0.8**
GULN *i* S **Sn** **18 12 35.8 -0.2**
GULN IAML 18 12 39.0
comp=N,856nm,0.3s
GULN IAML 18 12 45.0
comp=E,611nm,0.5s
TEPE Tepekoy-Mersin 2.06 108 PN **Pn** **18 12 11.6 +1.8**
AKK1 Akkuyu-Mersin 2.07 110 PN **Pn** **18 12 11.5 +1.6**
AKKU Akkuyu-Mersin 2.08 110 PN **Pn** **18 12 11.4 +1.5**
AKK2 Akkuyu-Mersin 2.08 110 PN **Pn** **18 12 11.4 +1.4**
KIZT Kizilcal 2.08 16 PN **Pn** **18 12 09.2 -1.0**
ALFC Alefka 2.09 145 ⇑P **Pn** **18 12 08.7 -1.5**
ALFC S **Sn** **18 12 34.3 -2.5**
ALFC AML AML 18 12 37.5
comp=E,15nm,0.3s
ALFC AML AML 18 12 37.5
comp=E,15nm,0.3s
ALFC AML AML 18 12 38.9
comp=E,14nm,0.3s
ALFC AML AML 18 12 38.9
comp=E,14nm,0.3s
AKMS Akamas 2.10 152 P **Pn** **18 12 09.4 -0.9**
AKMS S **Sn** **18 12 35.5 -1.4**
AKMS AML AML 18 12 42.4
comp=E,14nm,0.5s
AKMS AML AML 18 12 42.4
comp=E,14nm,0.5s
AKMS AML AML 18 12 43.2
comp=E,19nm,0.4s
AKMS AML AML 18 12 43.2
comp=E,19nm,0.4s
KEBE Keben-Mersin 2.12 101 PN **Pn** **18 12 12.5 +1.9**
YESI Yesilovacik-Me 2.13 108 PN **Pn** **18 12 12.3 +1.7**
IKL Isikli 2.15 106 PN **Pn** **18 12 12.3 +1.4**
IKL SN **Sn** **18 12 38.7 +0.7**
TISA Tisan-Mersin 2.17 108 PN **Pn** **18 12 12.7 +1.6**
KARG Kargicak-Mersi 2.18 107 PN **Pn** **18 12 12.7 +1.4**
LEF Lefka 2.26 140 *i* P **Pn** **18 12 10.7 -1.6**
LEF *i* S **Sn** **18 12 36.5 -4.0**
YER Yerkesik 2.30 277 P **Pn** **18 12 12.5 -0.3**
YER S **Sn** **18 12 39.0 -2.4**
YER Yerkesik 2.30 277 P **Pn** **18 12 12.5 -0.3**
YER S **Sn** **18 12 39.0 -2.4**
YER Yerkesik 2.30 277 PN **Pn** **18 12 12.7 -0.1**
SILI Silifke-Mersin 2.30 102 PN **Pn** **18 12 14.8 +2.0**
SULT Sultanhani-AKS 2.31 54 PN **Pn** **18 12 13.5 +0.5**
MRSB Marmaris-Mugla 2.36 267 PN **Pn** **18 12 13.5 -0.1**
NATA Nata 2.40 150 P **Pn** **18 12 13.8 -0.2**
NATA S **Sn** **18 12 43.3 -0.4**
AUKIR Kırka- Seyitga 2.44 349 *i* PA **Pn** **18 12 14.1 -0.6**
AUKIR *i* S **Sn** **18 12 42.4 -2.4**
AUKIR IAML 18 12 44.0
comp=E,947nm,0.4s
AUKIR IAML 18 12 45.0
comp=N,700nm,0.5s
KERG Konya-Eregli 2.45 76 *i* P **Pn** **18 12 14.8 0.0**
KERG *i* S **Sn** **18 12 41.5 -3.6**
KERG IAML 18 12 47.0
comp=E,447nm,0.4s
KERG IAML 18 12 48.0
comp=N,629nm,0.5s
KIZK Mersin 2.45 98 *i* P **Pn** **18 12 16.4 +1.7**
KIZK *i* S **Sn** **18 12 45.6 +0.7**
KIZK IAML 18 12 48.0
comp=E,1µm,0.4s
KIZK IAML 18 12 49.0
comp=N,1µm,1.0s
KIZK Mersin 2.45 98 PN **Pn** **18 12 16.8 +2.1**
CIFT Cifteler, Eski 2.48 359 *i* PA **Pn** **18 12 14.1 -1.0**
CIFT *i* S **Sn** **18 12 42.5 -3.1**
CIFT IAML 18 12 45.0
comp=E,2µm,0.5s
CIFT IAML 18 12 45.0
comp=N,1µm,0.5s
CIFT Cifteler, Eski 2.48 359 PN **Pn** **18 12 14.2 -1.0**
USAK Uak-Merkez 2.48 318 *i* P **Pn** **18 12 14.7 -0.5**
USAK *i* S **Sn** **18 12 43.9 -1.8**
USAK IAML 18 12 44.0
comp=E,555nm,0.8s
USAK IAML 18 12 45.0
comp=N,429nm,0.6s
ARG Arkhangelos 2.51 256 P **Pn** **18 12 15.1 -0.3**
ARG S **Sn** **18 12 44.0 -2.2**
comp=N,5µm,0.6s
ARG Arkhangelos 2.51 256 P **Pn** **18 12 14.9 -0.5**
ARG S **Sn** **18 12 44.0 -2.2**
ARG Arkhangelos 2.51 256 PN **Pn** **18 12 16.5 +1.1**
ATHAL Athalassa 2.52 133 P **Pn** **18 12 14.8 -0.9**
ATHAL S **Sn** **18 12 45.0 -1.4**
ATHAL AML AML 18 12 58.3
comp=N,9.6nm,0.5s
ATHAL AML AML 18 12 58.3
comp=N,9.6nm,0.5s
ATHAL AML AML 18 13 10.0
comp=N,11nm,0.8s
ATHAL AML AML 18 13 10.0
comp=N,11nm,0.8s
SZAC Souni 2.55 146 ⇓P **Pn** **18 12 16.0 0.0**
SZAC S **Sn** **18 12 47.2 0.0**
GEDZ Gediz 2.56 328 PN **Pn** **18 12 15.7 -0.4**
GDZ Gediz 2.56 330 *i* P **Pn** **18 12 15.4 -0.9**
GDZ *i* S **Sn** **18 12 44.4 -3.3**
GDZ IAML 18 12 46.0
comp=N,224nm,0.8s
GDZ IAML 18 12 47.0
comp=E,306nm,1.1s
AUSIV SIVRIHISAR 2.58 7 *i* P **Pn** **18 12 15.2 -1.2**
AUSIV *i* S **Sn** **18 12 43.8 -4.1**
AUSIV IAML 18 12 45.0
comp=N,230nm,0.9s
AUSIV IAML 18 12 47.0
comp=E,181nm,0.5s
AUSIV SIVRIHISAR 2.58 7 PN **Pn** **18 12 15.4 -1.0**
SVRH Sivrihisar-ESK 2.58 7 PN **Pn** **18 12 15.5 -1.0**
MANT Manisa 2.60 309 *i* PA **Pn** **18 12 16.1 -0.8**
MANT *i* S **Sn** **18 12 45.4 -3.3**
MANT IAML 18 12 47.0
comp=N,475nm,0.7s
MANT IAML 18 12 47.0
comp=E,736nm,0.4s
MANT Manisa 2.60 309 **Pn** **18 12 16.0 -0.9**
MANT Sn **Sn** **18 12 44.5 -4.1**
CSS Mathiatis 2.61 136 P **Pn** **18 12 15.4 -1.4**
CSS S **Sn** **18 12 43.7 -4.9**
CSS Mathiatis 2.61 136 Pn **Pn** **18 12 15.2 -1.6**
CSS Mathiatis 2.61 136 PN **Pn** **18 12 18.7 +1.9**
CSS Mathiatis 2.61 136 ⇑P **Pn** **18 12 15.4 -1.4**
CSS Mathiatis 2.61 136 **Pn** **18 12 15.5 -1.3**
KULU Kulu 2.62 34 PN **Pn** **18 12 16.8 -0.1**
ESKT Eskisehir 2.65 355 PN **Pn** **18 12 16.0 -1.3**
AKIN Akıncılar- Kıb 2.65 134 PN **Pn** **18 12 19.4 +2.1**

KKUL Konya-Kulu 2.69 31 *i* P **Pn** **18 12 17.8 0.0**
KKUL *i* S **Sn** **18 12 49.7 -0.8**
KKUL IAML 18 12 54.0
comp=N,363nm,0.5s
KKUL IAML 18 12 54.0
comp=E,303nm,0.5s
ASGA Asgata 2.70 140 P **Pn** **18 12 17.6 -0.4**
ASGA S **Sn** **18 12 49.0 -1.6**
ASGA AML AML 18 12 55.3
comp=E,6.1nm,0.4s
ASGA AML AML 18 12 55.3
comp=E,6.1nm,0.4s
ASGA AML AML 18 13 01.9
comp=E,4.3nm,0.4s
ASGA AML AML 18 13 01.9
comp=E,4.3nm,0.4s
AYDN Tasoluk 2.71 288 *i* PA **Pn** **18 12 17.4 -0.7**
AYDN *i* S **Sn** **18 12 47.1 -3.9**
AYDN IAML 18 12 51.0
comp=E,426nm,0.4s
AYDN IAML 18 12 53.0
comp=N,485nm,0.5s
MERS Mersin 2.72 89 PN **Pn** **18 12 19.2 +1.0**
MLSB Milas 2.72 280 PN **Pn** **18 12 18.2 +0.1**
AKSY AKSARAY - Alti 2.73 49 *i* PA **Pn** **18 12 18.4 0.0**
MVOU Mavrovouni 2.75 132 ⇓P **Pn** **18 12 17.4 -1.1**
MVOU AML AML 18 12 48.1
comp=N,4.6nm,0.3s
MVOU AML AML 18 12 58.5
comp=N,5.0nm,0.6s
AYDB Zeytinkoy-Aydi 2.79 293 PN **Pn** **18 12 18.8 -0.4**
EREN Erenkoy 2.80 118 *i* P **Pn** **18 12 19.8 +0.6**
EREN *i* S **Sn** **18 12 52.1 -0.8**
EREN Erenkoy 2.80 118 PN **Pn** **18 12 21.0 +1.8**
SERE Sereflikochisa 2.82 42 PN **Pn** **18 12 19.2 -0.4**
DAT Datca 2.86 268 *i* P **Pn** **18 12 19.9 -0.2**
DAT *i* S **Sn** **18 12 52.7 -1.7**
DAT Datca 2.86 268 PN **Pn** **18 12 20.1 +0.1**
DEMI Demirci 2.88 319 *i* P **Pn** **18 12 19.7 -0.6**
DEMI *i* S **Sn** **18 12 49.9 -5.1**
DEMI IAML 18 13 00.0
comp=N,246nm,0.9s
DED Mersin 2.94 87 *i* P **Pn** **18 12 22.3 +1.3**
DED *i* S **Sn** **18 12 54.9 -1.3**
DED IAML 18 12 57.0
comp=N,480nm,0.5s
DED IAML 18 12 58.0
comp=E,173nm,0.3s
YAYX Yaylak 2.95 45 PN **Pn** **18 12 21.2 -0.1**
AFSR Afar-Bala (An 2.98 30 PN **Pn** **18 12 21.8 +0.1**
PARAL Paralimni 3.02 128 S **Sn** **18 12 57.1 -0.8**
BORA Eskisehir 3.04 350 *i* P **Pn** **18 12 21.5 -0.9**
BORA Eskisehir 3.04 350 PN **Pn** **18 12 21.6 -0.9**
BODT Bodrum 3.07 275 P **Pn** **18 12 21.9 -0.8**
BODT S **Sn** **18 12 56.5 -2.6**
BODT Bodrum 3.07 275 PN **Pn** **18 12 23.1 +0.4**
BBAL Bala 3.09 30 *i* PA **Pn** **18 12 22.8 -0.3**
BBAL *i* S **Sn** **18 12 59.1 -0.7**
BBAL IAML 18 13 00.0
comp=E,253nm,0.6s
BBAL IAML 18 13 04.0
comp=N,161nm,0.8s
KIRS Kırehir-Merke 3.15 43 *i* P **Pn** **18 12 23.6 -0.2**
SRCK Saricakaya, Es 3.19 353 *i* P **Pn** **18 12 23.7 -0.4**
SRCK Saricakaya, Es 3.19 353 PN **Pn** **18 12 23.8 -0.4**
GCAM G?zelcaml? 3.22 286 *i* P **Pn** **18 12 23.6 -1.0**
GCAM G?zelcaml? 3.22 286 PN **Pn** **18 12 24.6 0.0**
BR231 Keskin MP Arra 3.23 23 **Pn** **18 12 24.3 -0.6**
ANTO Ankara 3.26 23 P **Pn** **18 12 24.6 -0.7**
ANTO Ankara 3.26 23 **Pn** **18 12 24.6 -0.7**
AKHS Akhisar 3.30 308 *i* P **Pn** **18 12 25.0 -0.7**
DURS Dursunbey 3.43 323 *i* P **Pn** **18 12 27.2 -0.3**
DURS *i* S **Sn** **18 13 05.0 -2.9**
DURS IAML 18 13 07.0
comp=E,273nm,0.7s
DURS IAML 18 13 09.0
comp=N,173nm,0.9s
BRTR Keskin Array B 3.46 34 P **Pn** **18 12 27.4 -0.5**
comp=N,43nm,0.3s,baz=215,slow=15,SNR=1235
BRTR S **Sn** **18 13 06.8 -1.8**
comp=N,17nm,0.3s,baz=210,slow=17,SNR=5.1
BR131 Keskin Array S 3.46 34 P **Pn** **18 12 27.4 -0.5**
BR131 Keskin Array S 3.46 34 **Pn** **18 12 27.4 -0.5**
KARP Karpathos 3.48 249 P **Pn** **18 12 28.1 0.0**
KARP S **Sn** **18 13 06.9 -1.9**
comp=N,5µm,0.6s
KARP Karpathos 3.48 249 PN **Pn** **18 12 28.8 +0.7**
KARP Karpathos 3.48 249 **Pn** **18 12 28.1 0.0**
AKO Adana 3.49 79 *i* P **Pn** **18 12 30.2 +1.9**
AKO *i* S **Sn** **18 13 10.0 +0.8**
AKO IAML 18 13 11.0
comp=N,150nm,0.8s
AKO IAML 18 13 11.0
comp=E,155nm,1.0s
AVNS Nevsehir-Avano 3.51 56 *i* P **Pn** **18 12 28.3 -0.4**
AVNS *i* S **Sn** **18 13 08.5 -1.4**
AVNS IAML 18 13 10.0
comp=N,236nm,0.8s
AVNS IAML 18 13 12.0
comp=E,233nm,0.8s
SMG Samos 3.52 285 P **Pn** **18 12 27.7 -1.0**
SMG S **Sn** **18 13 07.1 -2.8**
comp=E,825nm,0.5s
YAHY KAYSERI_Yahyal 3.58 69 *i* PA **Pn** **18 12 30.9 +1.4**
BLCB Balcova 3.58 296 PN **Pn** **18 12 28.8 -0.6**
DGB zmir 3.58 290 *i* P **Pn** **18 12 28.2 -1.2**
KIBS BOLU 3.58 9 *i* P **Pn** **18 12 29.3 -0.2**
YURE YUREGIR 3.61 89 *i* P **Pn** **18 12 29.9 0.0**
YURE *i* S **Sn** **18 13 07.0 -5.0**
ULDT Uludag 3.62 335 *i* P **Pn** **18 12 29.6 -0.5**
GEYV SAKARYA_Geyve 3.66 350 *i* P **Pn** **18 12 30.0 -0.5**
STEP BALIKESIR_Sava 3.67 314 *i* P **Pn** **18 12 30.6 -0.1**
BTAS Taskesti 3.69 358 *i* PA **Pn** **18 12 30.7 -0.2**
IGD Bursa 3.71 336 *i* PA **Pn** **18 12 30.6 -0.5**
CDAG Cicekdag 3.74 42 *i* PA **Pn** **18 12 32.3 +0.6**
CMDR Camlidere-ANKA 3.76 16 *i* PA **Pn** **18 12 31.6 -0.3**
DELI KIRIKKALE 3.81 34 *i* PA **Pn** **18 12 32.2 -0.4**
DELI *i* S **Sn** **18 13 15.4 -1.4**
ZEDA zmir-Bergama 3.83 304 *i* PA **Pn** **18 12 32.4 -0.3**
ZEDA *i* S **Sn** **18 13 13.3 -3.7**
ZEDA IAML 18 13 20.0
comp=Z,106nm,0.5s
ZEDA IAML 18 13 20.0
comp=E,208nm,0.5s
URLA Izmir 3.90 294 *i* P **Pn** **18 12 32.9 -0.8**
URLA *i* S **Sn** **18 13 13.9 -4.8**
URLA IAML 18 13 21.0
comp=E,88nm,0.5s
ZEY zmir 3.92 292 *i* P **Pn** **18 12 32.9 -1.0**
SAHE Sakarya_HENDEK 3.98 357 *i* P **Pn** **18 12 34.6 -0.1**
BALY Balya 3.98 317 *i* P **Pn** **18 12 35.0 +0.3**
BCAM Yenicaga 4.00 10 *i* PA **Pn** **18 12 34.9 -0.2**
SIRC Yozgat 4.01 51 *i* P **Pn** **18 12 36.1 +0.9**
ELDT Eldivan 4.03 26 *i* PA **Pn** **18 12 35.0 -0.5**
YIGI Dzce 4.09 3 *i* PA **Pn** **18 12 36.2 +0.1**
SAIM ADANA 4.09 73 *i* P **Pn** **18 12 39.0 +2.8**
AYVA Ayvalik 4.26 306 *i* P **Pn** **18 12 38.9 +0.4**
KAND Kocaeli-Kandir 4.27 350 *i* PA **Pn** **18 12 38.5 -0.1**
EDC Edincik 4.31 325 P **Pn** **18 12 39.6 +0.5**
ZKR Zakros 4.36 248 P **Pn** **18 12 39.4 -0.4**
ZKR S **Sn** **18 13 28.0 -1.8**
comp=E,2µm,0.7s
KDZE Karadeniz Ereo 4.44 3 ⇑P **Pn** **18 12 40.4 -0.4**
KDZE AML AML 18 12 47.2
ISK Istanbul-Kandi 4.48 340 P **Pn** **18 12 41.1 -0.3**
APE Apeiranthos 4.49 274 P **Pn** **18 12 41.1 -0.5**
APE Apeiranthos 4.49 274 ⇑eP **Pn** **18 12 40.8 -0.8**
PRK Paraskevi 4.51 303 P **Pn** **18 12 43.2 +1.5**
COAL Corum-Alaca 4.53 41 *i* PA **Pn** **18 12 42.7 +0.5**
SANT Santorini 4.59 265 Pn **Pn** **18 12 42.9 -0.1**
SANT **Sn** **18 13 35.5 +0.1**
ILGA Ilgaz 4.63 25 *i* PA **Pn** **18 12 43.1 -0.5**
ILGA Ilgaz 4.63 25 **Pn** **18 12 43.0 -0.7**
HCB Kahramanmara 4.64 83 *i* P **Pn** **18 12 43.5 -0.1**
HWQ Hawqa 4.70 122 *eP* **Pn** **18 12 44.1 -0.4**
CTAK Corum_Osmancik 4.73 36 *i* PA **Pn** **18 12 45.2 +0.3**
BHL Bhannes 4.74 127 *eP* **Pn** **18 12 43.8 -1.2**
NPS Neapolis 4.75 252 P **Pn** **18 12 44.2 -0.9**
NPS S **Sn** **18 13 36.0 -3.3**
comp=E,2µm,0.4s
CUSAR Sarkisla-SIVAS 4.76 56 *i* P **Pn** **18 12 46.9 +1.6**
KUZU Kuzuini 4.77 89 *i* P **Pn** **18 12 45.4 +0.1**

EZN Ezine 4.79 309 ⇓P **Pn** **18 12 48.0 +2.5**
EZN AML AML 18 13 48.7
DQRL Deir Qamar 4.81 130 *eP* **Pn** **18 12 44.8 -1.2**
GAZ Gaziantep 4.87 85 ⇑P **Pn** **18 12 46.7 -0.1**
GAZ Gaziantep 4.87 85 **Pn** **18 12 46.9 +0.2**
LAST Lasithi 4.89 251 P **Pn** **18 12 46.5 -0.5**
HNTI Hanita 5.03 138 Pn **Pn** **18 12 48.2 -0.7**
HNTI Sn **Sn** **18 13 42.8 -3.2**
RCY Rachaya 5.12 130 *eP* **Pn** **18 12 50.1 0.0**
MMA0B Mount Meron ar 5.21 136 Pn **Pn** **18 12 50.6 -0.7**
MMAI Mount Meron Ar 5.21 136 P **Pn** **18 12 50.9 -0.4**
comp=E,52nm,0.3s,baz=303,slow=13,SNR=216
MMAI S **Sn** **18 13 46.2 -4.1**
comp=E,205nm,0.3s,baz=302,slow=23,SNR=22
GEM Giv'at Ha'Em 5.21 133 Pn **Pn** **18 12 50.9 -0.4**
GEM Sn **Sn** **18 13 47.7 -2.7**
NATI Neve Ativ 5.22 132 Pn **Pn** **18 12 51.2 -0.2**
NATI Sn **Sn** **18 13 47.7 -2.8**
KSDI Kefar Szold 5.22 133 Pn **Pn** **18 12 51.2 -0.2**
IDI Anoyia 5.30 254 P **Pn** **18 12 51.2 -1.2**
comp=E,12nm,0.3s,baz=76,slow=14,SNR=42
IDI S **Sn** **18 13 48.1 -4.4**
comp=E,49nm,0.3s,baz=282,slow=21,SNR=13
OFRI `Ofer 5.30 142 Pn **Pn** **18 12 51.3 -1.2**
OFRI Sn **Sn** **18 13 47.9 -4.6**
BLGI Bet Lehem HaGe 5.31 140 Pn **Pn** **18 12 51.6 -1.0**
KSHT Keshet 5.46 134 Pn **Pn** **18 12 54.9 +0.2**
BZK Bozkurt 5.54 23 ⇑P **Pn** **18 12 56.4 +0.9**
SLTI Sal'it 5.64 144 Pn **Pn** **18 12 55.8 -1.2**
ALN Alexandroupoli 5.64 317 *eP* **Pn** **18 12 58.1 +1.1**
ALN Alexandroupoli 5.64 317 **Pn** **18 12 57.6 +0.6**
MMLI Mount Malkishu 5.67 140 Pn **Pn** **18 12 56.9 -0.5**
MMLI Sn **Sn** **18 13 58.4 -2.9**
VAM Vamos 5.80 257 P **Pn** **18 13 00.5 +1.3**
HMDT Nahal Hemdat 5.87 141 Pn **Pn** **18 12 59.8 -0.3**
HMDT Sn **Sn** **18 14 03.9 -2.2**
AMAZ Amatzia 6.18 148 Pn **Pn** **18 13 03.6 -0.8**
AMAZ Sn **Sn** **18 14 10.0 -3.8**
HSUJ Al Zarqa 6.33 137 P **Pn** **18 13 07.1 +0.7**
comp=E,80nm,0.7s,comp=E,2µmcomp=E,0.8nm
HSUJ S **Sn** **18 14 16.4 -1.1**
comp=E,80nm,0.7s,comp=E,2µmcomp=E,0.8nm
HSUJ Al Zarqa 6.33 137 P **Pn** **18 13 07.1 +0.7**
comp=E,80nm,0.7s,comp=E,2µmcomp=E,0.8nm
HSUJ S **Sn** **18 14 16.4 -1.1**
comp=E,80nm,0.7s,comp=E,2µmcomp=E,0.8nm
DSI Dead Sea 6.36 145 Pn **Pn** **18 13 06.1 -0.6**
HBRG Burj al `Arab 6.38 190 AMP 18 14 00.0
baz=190
MATC Matruh 6.40 212 S **Sn** **18 14 13.1 -5.8**
baz=211
YTIR Yattir 6.42 148 Pn **Pn** **18 13 06.8 -0.8**
YTIR Sn **Sn** **18 14 15.8 -3.7**
KZIT Kziot 6.54 155 Pn **Pn** **18 13 08.0 -1.2**
KZIT Sn **Sn** **18 14 18.1 -4.4**
WALJ Wala 6.57 142 P **Pn** **18 13 10.0 +0.5**
WALJ S **Sn** **18 14 23.6 +0.6**
WALJ Wala 6.57 142 P **Pn** **18 13 10.0 +0.5**
WALJ S **Sn** **18 14 23.6 +0.6**
MZDA Masada 6.57 147 Pn **Pn** **18 13 08.6 -0.9**
MZDA Sn **Sn** **18 14 19.7 -3.3**
OUR Ouranopolis 6.58 304 P **Pn** **18 13 11.8 +2.2**
PAIG Paliouri 6.60 300 P **Pn** **18 13 11.5 +1.6**
ASF Jabal al Asfar 6.68 133 P **Pn** **18 13 12.5 +1.3**
comp=E,2.9nm,0.3s,baz=279,slow=3.1,SNR=22
ASF S **Sn** **18 14 24.3 -1.7**
comp=E,2.6nm,0.3s,baz=90,slow=20,SNR=3.5
KALB Balgarevo 6.84 343 ⇑P **Pn** **18 13 13.9 +0.7**
HMYD Mayadein 7.07 182 P **Pn** **18 13 15.8 -0.6**
baz=182
ZFRI Zfri 7.15 151 Pn **Pn** **18 13 17.9 +0.5**
HNAT Natroun 7.24 184 P **Pn** **18 13 17.5 -1.2**
baz=184
PRNI Paran 7.26 153 Pn **Pn** **18 13 17.1 -1.9**
SLUM Salum 7.27 224 P **Pn** **18 13 17.7 -1.3**
baz=224
SLUM S **Sn** **18 14 33.8 -6.4**
baz=224
AGG Agios Georgios 7.28 290 P **Pn** **18 13 20.5 +1.4**
AGG Agios Georgios 7.28 290 **Pn** **18 13 20.5 +1.4**
ITM Ithomi 7.37 275 Pn **Pn** **18 13 21.0 +0.6**
KRMI Paran Flat 7.38 155 Pn **Pn** **18 13 18.9 -1.6**
LIT Litokhoron 7.50 298 P **Pn** **18 13 21.7 -0.4**
LIT Litokhoron 7.50 298 Pn **Pn** **18 13 21.7 -0.4**
HRFI Mount Harif 7.56 153 Pn **Pn** **18 13 21.7 -1.2**
HRFI Sn **Sn** **18 14 42.7 -4.5**
HRFI Mount Harif 7.56 153 P **Pn** **18 13 21.8 -1.2**
comp=E,60nm,0.7s,comp=E,1µmcomp=E,0.7nm
HRFI S **Sn** **18 14 45.4 -1.8**
comp=E,60nm,0.7s,comp=E,1µmcomp=E,0.7nm
HRFI Mount Harif 7.56 153 P **Pn** **18 13 21.8 -1.2**
comp=E,60nm,0.7s,comp=E,1µmcomp=E,0.7nm
HRFI S **Sn** **18 14 45.4 -1.8**
comp=E,60nm,0.7s,comp=E,1µmcomp=E,0.7nm
MFTR Murfatlar 7.58 345 ⇓P **Pn** **18 13 24.0 +1.0**
KNT Kendrikon 7.71 306 P **Pn** **18 13 27.4 +2.6**
MBRI Mt Berech 7.74 155 Pn **Pn** **18 13 24.0 -1.5**
AQBJ Aqaba 7.85 154 P **Pn** **18 13 26.2 -0.6**
comp=E,103nm,0.4s,comp=E,2µmcomp=E,1.3nm
AQBJ S **Sn** **18 14 52.3 -1.7**
comp=E,103nm,0.4s,comp=E,2µmcomp=E,1.3nm
AQBJ Aqaba 7.85 154 P **Pn** **18 13 26.2 -0.6**
comp=E,103nm,0.4s,comp=E,2µmcomp=E,1.3nm
AQBJ S **Sn** **18 14 52.3 -1.7**
comp=E,103nm,0.4s,comp=E,2µmcomp=E,1.3nm
TIRR Tirgusor 7.85 346 *eP* **Pn** **18 13 27.2 +0.5**
TIRR Tirgusor 7.85 346 ⇓P **Pn** **18 13 26.9 +0.2**
TIRR Tirgusor 7.85 346 **Pn** **18 13 26.8 +0.2**
EIL Elat 7.87 155 Pn **Pn** **18 13 25.6 -1.5**
EIL Sn **Sn** **18 14 51.1 -3.4**
EIL Elat 7.87 155 P **Pn** **18 13 25.9 -1.1**
comp=E,7.3nm,0.3s,baz=345,slow=5.8,SNR=42
EIL S **Sn** **18 14 50.1 -4.4**
comp=E,13nm,0.3s,baz=8.9,slow=16,SNR=14
EIL Elat 7.87 155 P **Pn** **18 13 25.8 -1.3**
EIL S **Sn** **18 14 51.7 -2.8**
EIL Elat 7.87 155 P **Pn** **18 13 25.8 -1.3**
EIL S **Sn** **18 14 51.7 -2.8**
SEVA Sevastopol 7.88 13 ⇑P **Pn** **18 13 27.4 +0.2**
SEV Sevastopol' 7.90 13 ⇓*eP* **Pn** **18 13 25.0 -2.4**
SEV *eS* **Sn** **18 14 52.8 -2.2**
SEV pmax pmax
comp=Z,35nm,0.7s
SEV smax smax
comp=N,4.0nm,0.5s
SEV smax smax
comp=E,8.0nm,0.6s
GRG Griva 7.93 304 P **Pn** **18 13 31.6 +3.7**
YAL Yalta 7.94 16 ⇓*iP* **Pn** **18 13 27.8 -0.1**
YAL *eS* **Sn** **18 14 55.5 -0.6**
JURR Jurilovca 8.06 348 ⇑P **Pn** **18 13 27.7 -1.9**
HARR Harsova 8.17 344 P **Pn** **18 13 31.4 +0.3**
HARR Harsova 8.17 344 ⇑P **Pn** **18 13 31.4 +0.3**
ALU Alushta 8.18 17 *eP* **Pn** **18 13 32.0 +0.8**
ALU *eS* **Sn** **18 15 02.8 +0.9**
ALU pmax pmax
comp=Z,94nm,0.6s
ALU smax smax
comp=N,24nm,0.3s
ALU smax smax
comp=E,11nm,0.3s
NBNS Bani Suef 8.23 179 P **Pn** **18 13 30.9 -1.1**
baz=178
TOPG Topolog 8.26 346 ⇑P **Pn** **18 13 33.4 +1.1**
VTS Vitosha 8.36 316 P **Pn** **18 13 34.3 +0.5**
VTS Vitosha 8.36 316 **Pn** **18 13 34.3 +0.5**
SIM Simferopol' 8.37 15 ⇓*iP* **Pn** **18 13 35.0 +1.2**
SIM pmax pmax
comp=Z,147nm,0.7s
TLCR 8.48 349 P **Pn** **18 13 36.0 +0.8**
TLCR 8.48 349 ⇑P **Pn** **18 13 36.1 +0.8**
SUDU Sudak 8.52 19 ⇑*iP* **Pn** **18 13 35.2 -0.6**
SUDU *eS* **Sn** **18 15 09.4 -0.8**
SUDU pmax pmax
comp=Z,28nm,0.6s
SUDU smax smax
comp=N,7.0nm,0.6s
SUDU smax smax
comp=E,21nm,0.7s
FNA Florina 8.55 300 P **Pn** **18 13 37.3 +1.0**
FNA Florina 8.55 300 Pn **Pn** **18 13 37.3 +1.0**
ISR Istrita 8.93 339 P **Pn** **18 13 44.9 +3.5**
ISR pmax pmax

comp=Z,31nm,1.0s
TAMRE **El Minia** 9.17 181 P Pn 18 13 43.4 -1.3
baz=181
TAMRE S Sn 18 15 20.9 -5.2
baz=181
ANN Anapa 9.24 29 *e*P Pn 18 13 45.6 +0.1
ANN pmax pmax
comp=Z,53nm,1.5s
BISRR Bisoca 9.28 340 ⇑P Pn 18 13 47.5 +1.4
PETR Petresti 9.31 343 ⇑P Pn 18 13 47.8 +1.3
MLR Muntele Rosu 9.45 337 P Pn 18 13 48.5 0.0
MLR Muntele Rosu 9.45 337 P Pn 18 13 47.0 -1.4
comp=Z,0.1nm,0.3s,baz=144,slow=19,SNR=2.0
MLR LR LR 18 17 15.0
comp=Z,102nm,18.7s,baz=297,slow=36
MLR Muntele Rosu 9.45 337 ⇑P Pn 18 13 49.1 +0.7
MLR Muntele Rosu 9.45 337 Pn 18 13 48.5 0.0
VRI Vrincioaia 9.57 341 P Pn 18 13 51.4 +1.4
VRI Vrincioaia 9.57 341 ⇓P Pn 18 13 50.8 +0.8
PLOR Plostina 9.58 341 P Pn 18 13 51.1 +1.0
PLOR Plostina 9.58 341 ⇓P Pn 18 13 51.1 +1.0
GHRR 9.59 344 ⇑P Pn 18 13 51.9 +1.7
VOIR 9.70 334 P Pn 18 13 53.3 +1.5
ARR Arges 9.79 332 ⇑P Pn 18 13 55.4 +2.4
OZUR 10.04 338 ⇑P Pn 18 13 58.1 +1.7
GZR Gura Zlata 10.58 326 ⇑P Pn 18 14 05.6 +2.0
BIZ Bicaz 10.73 341 ⇑P Pn 18 14 06.8 +1.3
SHA1 Shidzhatmaz 11.14 49*de*P Pn 18 14 13.5 +2.2
GNI Garni 11.15 69*ce*P Pn 18 14 12.8 +1.4
GNI pmax pmax
comp=Z,37nm,1.7s
GNI Garni 11.15 69 P Pn 18 14 12.2 +0.8
comp=Z,0.2nm,0.3s,baz=262,slow=4.8,SNR=4.2
GNI Garni 11.15 69 Pn 18 14 13.2 +1.8
KBZ Khabaz 11.29 49 P Pn 18 14 13.1 +0.1
comp=Z,0.1nm,0.3s,baz=241,slow=12,SNR=4.8
KIV Kislovodsk 11.29 48 *e*P Pn 18 14 13.4 +0.3
KIV pmax pmax
comp=Z,26nm,1.1s
KIV Kislovodsk 11.29 48 Pn Pn 18 14 13.0 -0.1
KVAR Kislovodsk Arr 11.29 48 P Pn 18 14 13.0 -0.2
baz=90,slow=20,SNR=2.3
ZEI Tsey 11.45 55 *e*P Pn 18 14 19.1 +3.7
ZEI pmax pmax
comp=Z,4.0nm,0.6s
NAX Nakhchivan 11.56 74 P Pn 18 14 20.7 +4.0
BURAR Bucovina Array 11.59 340 P Pn 18 14 19.8 +2.8
BURAR Bucovina Array 11.59 340 ⇓P Pn 18 14 19.8 +2.8
BUR08 Bucovina Ar. S 11.62 340 Pn 18 14 19.8 +2.4
GANJ Ganja 12.44 68 P Pn 18 14 30.2 +2.0
GROC Groznyy 12.88 56 *e*P P 18 14 40.9 +1.0
GROC pmax pmax
comp=Z,29nm,0.9s
MNGR Mingechevir, A 13.03 68 P P 18 14 40.8 -0.7
SEKA Sheki 13.21 66 P P 18 14 44.0 +0.4
KOLS Kolonicke sedl 13.67 335 *e*P P 18 14 51.4 +2.8
AKASG Malin Array Be 13.89 355 P Pn 18 14 44.0 -2.8
comp=Z,0.8nm,0.3s,baz=174,slow=12,SNR=5.6
AKBB Malin Array Si 13.89 355 P P 18 14 50.8 -0.1
AKBB Malin Array Si 13.89 355 P 18 14 50.8 -0.1
LKRN Lenkeran, Azer 14.08 77 P P 18 14 54.5 +1.4
VYHS Vyhne 14.69 326 *e*P P 18 15 01.8 +1.9
VYHS Vyhne 14.69 326 *e*P P 18 15 01.8 +1.9
LANS Liptovska Anna 14.92 329 *e*P P 18 15 05.0 +2.5
LANS Liptovska Anna 14.92 329 *e*P P 18 15 05.0 +2.5
NRCA Norcia 15.05 299 P Pn 18 15 02.0 +0.3
VORD Divnogorie 15.25 20 *e*P P 18 15 06.2 +0.2
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 15.44 19 *e*P P 18 15 08.4 +0.2
VSR pmax pmax
comp=Z,20nm,1.3s
SOKA Soboth 15.47 314 *i*P P 18 15 09.8 +1.2
comp=Z,7.4nm,1.3s
ARSA Arzberg 15.52 317 *i*P P 18 15 10.0 +0.9
comp=Z,4.3nm,0.8s
VRH Novokhopyorsk 16.19 24 *e*P Pn 18 15 14.3 -1.3
VRH pmax pmax
comp=Z,10.0nm,0.6s
LPSR Galich'ya Gora 16.65 17 *e*P P 18 15 22.5 +1.0
LPSR pmax pmax
comp=Z,10.0nm,0.9s
DPC Dobruska-Polom 17.17 326 *e*P Pn 18 15 29.0 +1.3
OSTC Ostas 17.37 327 *e*P Pn 18 15 30.0 0.0
UPC Upice 17.42 326 *e*P Pn 18 15 30.5 -0.2
UPC Upice 17.42 326 *e*P Pn 18 15 30.5 -0.2
GEC2 GERESS Array S 17.45 319 Pn 18 15 31.9 +0.8
GERES GERESS Array B 17.45 319 P P 18 15 30.8 +0.2
comp=Z,0.6nm,0.3s,baz=126,slow=8.5,SNR=10
CHVC Chvalec 17.46 326 *e*P Pn 18 15 31.9 +0.7
KEST Kesra 17.60 273 Pn 18 15 33.4 +0.4
KEST IAmb IAmb 18 16 11.8
comp=Z,39nm,1.6s
KHC Kasperske Hory 17.69 319⇑*e*P P 18 15 33.5 +0.4
KHC Kasperske Hory 17.69 319 *e*P Pn 18 15 33.9 0.0
KHC Kasperske Hory 17.69 319 P P 18 15 33.6 +0.4
PRU Pruhonice 17.75 323 *e*P Pn 18 15 34.2 -0.4
PRU Pruhonice 17.75 323 *e*P Pn 18 15 34.2 -0.4
WTTA Wattenberg 17.76 312 P Pn 18 15 37.6 +2.6
WTTA pmax pmax
comp=Z,23nm,1.8s
WTTA Wattenberg 17.76 312 P Pn 18 15 35.3 +0.3
comp=Z,8.3nm,0.6s,SNR=7.6
PBCC Pribram 17.82 321 *e*P P 18 15 34.8 +0.3
WATA Walderalm 17.83 312 P Pn 18 15 35.9 +0.1
comp=Z,7.0nm,0.5s,SNR=6.9
SQTA Sankt Quirin 18.00 311 P Pn 18 15 38.3 +0.6
comp=Z,12nm,0.7s,SNR=11
WET Wettzell 18.07 318 P Pn 18 15 39.2 +0.8
WET pmax pmax
comp=Z,16nm,1.7s
MOTA Moosalm 18.12 312 P Pn 18 15 38.8 -0.4
comp=Z,5.4nm,0.5s,SNR=8.0
RAYN Ar Rayn 18.18 133 *i*P Pn 18 15 40.9 +1.0
SNR=6.7
RAYN Ar Rayn 18.18 133 *i*P Pn 18 15 40.9 +1.0
SNR=6.7
RAYN Ar Rayn 18.18 133 P Pn 18 15 41.4 +1.5
RAYN pmax pmax
comp=Z,7.0nm,0.9s
RAYN Ar Rayn 18.18 133 P Pn 18 15 41.4 +1.5
FETA Feichten 18.20 310 P Pn 18 15 40.4 +0.2
comp=Z,22nm,1.4s,SNR=7.9
RETA Reutte 18.39 312 *i*P P 18 15 41.4 +0.6
comp=Z,9.0nm,0.5s,SNR=13
OBN Obninsk 18.62 10⇑*e*P Pn 18 15 48.8 +4.0
OBN *e*S Sn 18 19 15.2 +1.8
OBN pmax pmax
comp=Z,10.0nm,0.7s
DAVOX Davos/Dischmat 18.62 309 P P 18 15 43.8 +0.4
comp=Z,0.4nm,0.3s,baz=117,slow=10.0,SNR=13
BRG Berggiesshubel 18.62 324 *e*P P 18 15 43.8 +0.6
comp=Z,11nm,0.8s
BRG Berggiesshubel 18.62 324 P Pn 18 15 44.9 -0.1
BRG pmax pmax
comp=Z,20nm,2.9s
DAVA Damuels 18.84 310 *i*P P 18 15 46.4 +0.6
comp=Z,22nm,1.1s
GRA1 Grafenberg Arr 19.27 318 P P 18 15 50.4 +0.1
GRF Grafenberg Arr 19.27 318 P P 18 15 50.4 +0.1
GRF pmax pmax
comp=Z,26nm,1.5s
CLL Collm 19.36 324 P P 18 15 51.3 +0.1
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 19.36 324 *e*P P 18 15 51.0 -0.2
CLL *es*PP 18 16 30.0
CLL Collm 19.36 324 P P 18 15 51.3 +0.1
MOX Moxa 19.62 321 P Pn 18 15 56.1 -0.5
MOX pmax pmax
comp=Z,22nm,2.6s
BFO Black Forest 20.23 312 P P 18 16 01.3 +0.6
BFO pmax pmax
comp=Z,11nm,0.9s
BFO Black Forest 20.23 312 P P 18 16 01.3 +0.6
GEYT Alibeck 21.44 79 P P 18 16 14.9 +1.1
comp=Z,13nm,0.6s,baz=292,slow=7.8,SNR=22
GYA0B ALIBECK ARRAY 21.44 79 P P 18 16 16.2 +2.4
GYA0B IAmb IAmb 18 16 17.0
comp=Z,17nm,0.6s
SSB Saint Sauveur 21.66 301 P P 18 16 16.3 +0.3
SSB pmax pmax
comp=Z,37nm,1.4s
AKTO Aktyubinsk 23.55 46 P P 18 16 33.4 -1.0
comp=Z,2.8nm,0.4s,baz=248,slow=11,SNR=12
SHME Shamm 23.84 110 P P 18 16 38.2 +0.9
SHME Shamm 23.84 110 P P 18 16 38.2 +0.9
BANOM Banah 24.03 110 P P 18 16 40.0 +1.0
BANOM Banah 24.03 110 P P 18 16 40.0 +1.0
ASUD Al Ashush, Dub 24.04 114 P P 18 16 40.8 +1.8
ASUD Al Ashush, Dub 24.04 114 P P 18 16 40.8 +1.8
NAZ Nazwa, Dubai 24.07 113 *i*P P 18 16 40.8 +1.4
SNR=7.2
NAZ Nazwa, Dubai 24.07 113 *i*P P 18 16 40.8 +1.4
SNR=7.2
MSFE Esma-Masafi 24.23 111 P P 18 16 41.9 +1.0
MSFE Esma-Masafi 24.23 111 P P 18 16 41.9 +1.0
ABKAR Akbulak array 24.25 50 P P 18 16 40.9 +0.1
MDH Madha 24.37 111 P P 18 16 42.7 +0.6
MDH Madha 24.37 111 P P 18 16 42.7 +0.6
UOSS Minazif 24.50 112 P P 18 16 44.0 +0.7
UOSS Minazif 24.50 112 P P 18 16 44.0 +0.7
UOSS Minazif 24.50 112 P P 18 16 43.8 +0.4
UOSS IAmb IAmb 18 17 04.5
comp=Z,48nm,1.7s
HATD Hatta, Dubai 24.52 112 *i*P P 18 16 44.4 +0.9
SNR=8.0
HATD Hatta, Dubai 24.52 112 *i*P P 18 16 44.4 +0.9
SNR=8.0
ASHO Ashiyiah 24.54 113 *i*P P 18 16 44.7 +1.0
SNR=11
ASHO Ashiyiah 24.54 113 *i*P P 18 16 44.7 +1.0
SNR=11
ALNE Al Ain 24.69 114 *i*P P 18 16 46.4 +1.4
SNR=6.1
ALNE Al Ain 24.69 114 *i*P P 18 16 46.4 +1.4
SNR=6.1
FINES FINESS Array B 24.80 354*ce*P P 18 16 51.2 +5.6
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 24.80 354 P P 18 16 44.9 -0.7
comp=Z,4.6nm,0.5s,baz=158,slow=11,SNR=33
FINES PcP PcP 18 20 18.0 -0.5
comp=Z,1.2nm,0.5s,baz=187,slow=3.6,SNR=5.2
KIRV Kirov 24.80 23 P P 18 16 44.8 -0.8
comp=Z,41nm,0.5s,baz=223,slow=3.2,SNR=20
HRA Herat 25.35 86 P P 18 16 51.3 +0.1
HRA IAmb IAmb 18 16 53.1
comp=Z,9.3nm,0.8s
HFS Hagfors 25.82 340 P P 18 16 55.0 +0.1
comp=Z,4.1nm,0.9s,baz=150,slow=9.3,SNR=5.8
PRGR Permogore 26.40 16 *e*P P 18 16 57.9 -2.1
PRGR pmax pmax
comp=Z,11nm,0.9s
ARU Arti 26.85 35*d i*P P 18 17 04.1 0.0
ARU *PP pP 18 17 28.6 -2.3
ARU 18 17 52.5
ARU S S 18 21 35.3 +4.0
ARU SS SnSn 18 23 09.5 +19
ARU pmax pmax
comp=Z,6.0nm,1.0s
ARU Arti 26.85 35 P P 18 17 03.7 -0.4
comp=Z,1.4nm,0.3s,baz=219,slow=11,SNR=8.9
ARU Arti 26.85 35 P P 18 17 03.9 -0.2
ARU IAmb IAmb 18 17 04.6
comp=Z,5.8nm,0.5s
NOA NORSAR Array B 27.27 339 P P 18 17 07.1 -0.8
comp=Z,0.7nm,0.6s,baz=153,slow=11,SNR=3.3
WSAR Wadi Sarin 27.29 112 P P 18 17 08.6 +0.1
comp=Z,10nm,0.9s,baz=298,slow=7.8,SNR=5.1
ESDC Sonseca Array 27.59 287 P P 18 17 11.5 +0.5
comp=Z,1.1nm,0.4s,baz=81,slow=9.5,SNR=10
PAB San Pablo 27.90 286 P P 18 17 13.9 +0.1
PAB pmax pmax
comp=Z,95nm,2.0s
PAB San Pablo 27.90 286 P P 18 17 13.9 +0.1
EKA Eskdalemuir Ar 29.67 319 P P 18 17 27.9 -1.4
comp=Z,3.8nm,1.0s,baz=122,slow=9.3,SNR=4.6
EKA PcP PcP 18 20 30.6 +0.2
comp=Z,1.2nm,0.8s,baz=117,slow=2.1,SNR=4.2
CHGR Chuyangaron 29.97 75 P P 18 17 33.3 +1.0
CHGR IAmb IAmb 18 17 34.4
comp=Z,12nm,0.8s
GAR Garm 30.82 74 P P 18 17 40.5 +0.8
GAR IAmb IAmb 18 17 43.1
comp=Z,8.3nm,0.8s
BRVK Borovoye 31.60 47⇑*e*P P 18 17 46.9 +0.7
SOCY Socotra 32.03 134 P P 18 17 49.9 -0.5
ARE0 ARCESS Array S 32.86 356 P P 18 17 57.2 +0.1
ARE0 IAmb IAmb 18 18 20.8
comp=Z,16nm,1.9s
ARCES ARCESS Array B 32.86 356 P P 18 17 56.4 -0.7
comp=Z,3.4nm,0.7s,baz=171,slow=7.8,SNR=16
ARCES PcP PcP 18 20 38.2 -0.5
comp=Z,2.0nm,0.9s,baz=224,slow=2.8,SNR=6.8
AAK Ala-Archa 33.55 66 P P 18 18 04.4 +0.9
AAK Ala-Archa 33.55 66 P P 18 18 04.4 +0.9
AAK Ala-Archa 33.55 66⇑*e*P P 18 18 03.9 +0.3
AAK *i* *PP pP 18 18 33.2 +2.3
AAK pmax pmax
comp=Z,6.0nm,1.4s
AAK Ala-Archa 33.55 66 P P 18 18 03.6 0.0
AAK IAmb IAmb 18 18 05.2
comp=Z,6.5nm,1.3s
NIL Nilore 34.34 83 P P 18 18 11.3 +0.9
NIL pmax pmax
comp=Z,28nm,1.0s
NIL Nilore 34.34 83 P P 18 18 11.3 +0.9
NRN Naryn 34.79 68 P P 18 18 15.2 +0.7
NRN pmax pmax
comp=Z,10.0nm,1.6s
NRN Naryn 34.79 68 P P 18 18 15.2 +0.7
NRN IAmb IAmb 18 18 46.1
comp=Z,9.7nm,1.6s
KSH Kashi 35.06 72 P P 18 18 15.5 -1.2
KSH sP sP 18 18 58.0 -0.6
KSH PP PnPn 18 19 37.5 -0.6
KSH S S 18 23 36.0 -4.1
KSH pmax pmax
comp=Z,370nm,7.9s
KSH LR LR
comp=N,780nm,6.5s
KSH LR LR
comp=E,400nm,9.7s
KSH LR LR
comp=Z,790nm,5.5s
TOA0 Torodi Ar. Sit 35.38 236 P P 18 18 20.5 +1.1
TOA0 IAmb IAmb 18 18 21.9
comp=Z,3.2nm,0.7s
TORD Torodi Ar. Bea 35.38 236 P P 18 18 21.0 +1.6
comp=Z,2.9nm,0.8s,baz=29,slow=9.0,SNR=20
TORD PcP PcP 18 20 47.3 +0.5
comp=Z,0.5nm,0.5s,baz=23,slow=7.8,SNR=4.1
TORD PcP ScP 18 24 21.8 +0.6
comp=Z,0.5nm,0.7s,baz=22,slow=5.2,SNR=3.6
KURK Kurchatov 36.32 52*c i*P P 18 18 27.4 +0.4
KURK pmax pmax
comp=Z,30nm,0.9s
KURK Kurchatov 36.32 52 P P 18 18 27.0 0.0
MK31 Makanchi Array 38.77 59 P P 18 18 48.0 +0.2
MK31 pmax pmax
comp=Z,8.0nm,1.1s
MK31 Makanchi Array 38.77 59 P P 18 18 48.0 +0.2
MK31 IAmb IAmb 18 18 49.0
comp=Z,8.5nm,1.1s
MKAR Makanchi Array 38.77 59 P P 18 18 48.0 +0.3
comp=Z,3.2nm,0.3s,baz=269,slow=8.2,SNR=100
MKAR PcP PcP 18 20 56.9 +0.2
comp=Z,0.4nm,0.4s,baz=274,slow=3.4,SNR=4.0
ZAA0 Zalesovo Array 40.30 47 P P 18 18 60.0 -0.4
ZAA0 IAmb IAmb 18 19 00.3
comp=Z,6.5nm,0.5s
ZALV Zalesovo Beam 40.30 47 P P 18 19 00.0 -0.3
ZALV Zalesovo Beam 40.30 47 P P 18 18 60.0 -0.3
comp=Z,6.5nm,0.3s,baz=266,slow=9.1,SNR=35
WMQ Urumqi 42.94 62 *e*P P 18 19 23.8 +1.8
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,120nm,4.5s
NRIK Noril'sk 44.27 25 P P 18 19 32.9 +0.6
comp=Z,2.4nm,0.5s,baz=256,slow=8.9,SNR=3.0
DBIC Dimbokro 44.49 236 P P 18 19 35.6 +1.0
DBIC pmax pmax
comp=Z,14nm,1.5s
DBIC Dimbokro 44.49 236 P P 18 19 35.6 +1.0
comp=Z,1.2nm,0.4s,baz=23,slow=10,SNR=5.3
DBIC Dimbokro 44.49 236 IAmb IAmb 18 20 18.1
comp=Z,14nm,1.5s
TIC Toumodi 44.62 237 *e*PKP2 P 18 19 37.2 +1.5
TIC Toumodi 44.62 237 P P 18 19 37.2 +1.5
TIC Toumodi 44.62 237 P P 18 19 37.2 +1.5
KIC Kosan Boka 44.64 236 *e*PKP2 P 18 19 37.0 +1.1
comp=Z,5.7nm,0.6s
KIC Kosan Boka 44.64 236 P P 18 19 37.0 +1.1
DANN Dangsing 44.66 85 *e*P P 18 19 37.6 +1.3
comp=Z,197nm,0.3s
KOLN Koldanda 44.78 86 *e*P P 18 19 38.0 +0.9
comp=Z,44nm,0.5s
LIC Lamto 44.93 236 *e*PKP2 P 18 19 38.2 0.0
comp=Z,5.9nm,0.5s
LIC Lamto 44.93 236 P P 18 19 38.2 0.0
GKN Gorkha 45.51 85 *e*P P 18 19 43.4 +0.6
comp=Z,50nm,0.3s
DMN Daman 46.05 85 *e*P P 18 19 48.1 +0.9
comp=Z,129nm,0.7s
KKN Kakani 46.12 85 *e*P P 18 19 48.1 +0.4
comp=Z,57nm,0.5s
PKIN Phulchoki 46.30 85 *e*P P 18 19 49.6 +0.4
comp=Z,27nm,0.5s
PKI Pulchoki 46.31 85 *e*P P 18 19 49.7 +0.4
GUN Gumba 46.54 85 *e*P P 18 19 51.5 +0.3
comp=Z,35nm,0.4s
JIRN Jiri 46.90 85 *e*P P 18 19 54.5 +0.5
comp=Z,67nm,0.5s
RAMN Ramite 47.54 85 *e*P P 18 19 58.8 0.0
comp=Z,57nm,0.6s
ODAN Odare 48.21 85 *e*P P 18 20 04.0 +0.1
comp=Z,21nm,0.5s
TAPN Taplejung 48.25 84 *e*P P 18 20 04.5 +0.2
comp=Z,27nm,0.6s
LSA Lhasa 49.97 80 P P 18 20 17.6 0.0
LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 49.97 80 P P 18 20 17.6 0.0
GTA Gaotai 52.87 65 *e*P P 18 20 38.5 -0.1
GTA pP pP 18 21 08.5 +0.4
GTA sP sP 18 21 22.0 0.0
GTA PcP PcP 18 21 46.8 +0.6
GTA pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 54.62 53 P P 18 20 51.8 +0.5
comp=Z,1.7nm,0.5s,baz=294,slow=7.9,SNR=15
SONM PcP PcP 18 21 52.6 -0.1
comp=Z,0.9nm,0.8s,baz=308,slow=3.5,SNR=4.6
ULN Ulaanbaatar 55.03 53⇑*e*P P 18 20 54.1 -0.2
ULN pmax pmax
comp=Z,6.0nm,1.2s
LZH Lanzhou 57.08 67 *e*P P 18 21 07.5 -1.5
LZH pP pP 18 21 36.8 -2.1
LZH sP sP 18 21 49.8 -2.9
LZH PP PP 18 23 10.8 -6.1
LZH pmax pmax
comp=Z,17nm,1.0s
LZH pmax pmax
comp=Z,58nm,5.4s
LZH LR LR
comp=N,230nm,14.9s
LZH LR LR
comp=E,240nm,15.0s
LZH LR LR
comp=Z,350nm,18.1s
TIXI Tiksi 57.82 22⇓*e*P P 18 21 13.3 -0.1
TIXI pmax pmax
comp=Z,4.0nm,0.9s
CD2 Chengdu 59.25 73 P P 18 21 22.3 -1.8
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 60.63 59 P P 18 21 33.3 -0.1
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,48nm,6.6s
MHMT Maesarieng 60.95 88 P P 18 21 36.7 +1.0
comp=Z,23nm,0.5s
CMMT Chiang Mai 61.42 87 P P 18 21 38.9 -0.1
comp=Z,3.2nm,1.0s
CMAR Chiang Mai Arr 61.61 88*ce*P P 18 21 40.0 -0.1
CMAR pmax pmax
comp=Z,7.0nm,0.7s
CMAR Chiang Mai Arr 61.61 88 P P 18 21 40.1 -0.1
comp=Z,6.4nm,0.8s,baz=299,slow=8.2,SNR=41
PAYA Payao 61.87 86 P P 18 21 42.3 +0.3
comp=Z,34µm,0.8s
YAK Yakutsk 61.92 32⇑*e*P P 18 21 43.6 +2.1
YAK pmax pmax
comp=Z,3.0nm,0.8s
LAMP Lampang 62.12 87 P P 18 21 44.3 +0.7
comp=Z,35µm,0.7s
PHRA Phrae 62.62 87 P P 18 21 47.4 +0.5
comp=Z,1.7nm,0.8s,comp=Z,1µm
NANT Nan 62.83 86 P P 18 21 47.9 -0.4
comp=Z,106µm,0.8s
UTTA Uttaradit 63.28 87 P P 18 21 51.9 +0.6
comp=Z,16µm,0.7s
SCHQ Schefferville 64.97 321 P P 18 22 00.5 -1.4
comp=Z,7.0nm,0.5s,baz=60,slow=4.5,SNR=26
SCHQ Schefferville 64.97 321 P 18 22 00.5 -1.4
NONG Nongkai 65.18 85 P P 18 22 04.2 +0.5
BOSA Boshof 65.38 186 P P 18 22 06.0 +1.2
BOSA Boshof 65.38 186 P P 18 22 06.0 +1.2
comp=Z,1.3nm,0.7s,baz=328,slow=4.3,SNR=4.4
BILL Bilibino 70.13 16⇑*i*P P 18 22 32.0 -2.0
BILL *i* 18 22 53.7
BILL *i* *PP pP 18 23 04.6 -0.1
BILL *i* 18 25 17.7
BILL pmax pmax
comp=Z,5.0nm,1.1s
MA2 Magadan 71.79 28⇑*e*P P 18 22 48.9 +4.8
MA2 pmax pmax
comp=Z,19nm,1.2s
USA0B Ussuriysk Arra 72.15 48 P P 18 22 45.9 -0.7
USA0B pmax pmax
comp=Z,14nm,1.1s
USA0B Ussuriysk Arra 72.15 48 P P 18 22 45.9 -0.7
USA0B IAmb IAmb 18 22 47.2
comp=Z,14nm,1.1s
USRK Ussuriysk Ar. 72.15 48 P P 18 22 45.8 -0.7
comp=Z,9.1nm,0.7s,baz=297,slow=5.3,SNR=21
KSRS Korea Array 73.36 56 P P 18 22 53.3 -0.5
comp=Z,4.6nm,0.7s,baz=310,slow=4.5,SNR=13
YKA Yellowknife Ar 77.20 344 P P 18 23 14.6 -0.7
comp=Z,1.2nm,0.6s,baz=28,slow=5.5,SNR=20
ILAR Eielson Array 78.67 359 P P 18 23 21.4 -2.0
comp=Z,0.4nm,0.6s,baz=340,slow=4.4,SNR=4.3
HDA Harding Lake 79.04 359 P P 18 23 24.7 -0.7
MJAR Matsushiro Arr 80.53 51 P P 18 23 33.6 -0.5
comp=Z,3.3nm,0.8s,baz=316,slow=5.2,SNR=10.0
ULM Lac du Bonnet 81.47 329 P P 18 23 36.9 -1.9
comp=Z,2.5nm,0.6s,baz=45,slow=4.7,SNR=7.6
TKL Tuckaleechee C 85.89 312 P P 18 24 00.2 -1.3
comp=Z,3.3nm,0.6s,baz=44,slow=6.3,SNR=9.2
PDAR Pinedale Array 93.02 332 P P 18 24 33.7 -1.5
comp=Z,0.3nm,0.6s,baz=46,slow=4.3,SNR=4.0

IDC 25 18:14:48.5$_{\pm}$5.9, 7.97S$_{\times}$159.62E, h71$^{km}_{\pm}$62^{km}, mb3.4/3, mb1 3.5/4, mb1mx3.2/29, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=116.7km s-min=50.5km az=78.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.49**	**168**	P		P	Pn	18 15 13.4	0.0
	28nm,0.3s,baz=200,slow=6.1,SNR=41								
HNR				S		Sn		18 15 32.1	-0.1
	140nm,0.3s,baz=246,slow=20,SNR=20								
HNR	**Honiara**	**1.49**	**168**	*e*P		P	Pn	18 15 13.0	-0.4
HNR				*e*S		Sn		18 15 28.0	-4.2
CTA	**Charters Tower**	**17.68**	**226**	P		P	Pn	18 18 51.2	+1.0
	0.1nm,0.3s,baz=59,slow=19,SNR=3.3								
WRA	**Warramunga Arr**	**27.22**	**241**	P		P		18 20 25.9	-0.1
	0.3nm,0.3s,baz=67,slow=9.3,SNR=6.8								
STKA	**Stephens Creek**	**29.11**	**213**	P		P		18 20 43.0	+0.3
	0.7nm,0.5s,baz=47,slow=15,SNR=4.7								
ASAR	**Alice Springs**	**29.17**	**235**	P		P		18 20 43.0	-0.5
	0.3nm,0.4s,baz=63,slow=10,SNR=23								

*ISCJB **25** 18:21:41.6$_{\pm}$0.5, 6.83N$_{\pm}$0.03$_{\times}$73.13W$_{\pm}$0.03, h152$^{km}_{\pm}$4^{km}, mb3.1/2, Error ellipse: s-maj=5.2km s-min=3.9km az=24.2*
*IDC **25** 18:21:42.9$_{\pm}$1.5, 6.76N$_{\times}$72.97W, h165$^{km}_{\pm}$15^{km}, mb2.8/2, mb1 3.3/4, mb1mx3.0/27, mbtmp3.4/4, Error ellipse: s-maj=42.1km s-min=22.1km az=121.0*

RSNC ***25*** *18:21:43.4±1.2,6˙.81N×73˙.16W,h145km±5km, ML3.3, Mw3.5*

ISC 25 18:21:41.9±0.8,**6˚.83N**±0˙.03×**73˙.12W**±0˙.04,**h153**km±6km,
n36,σ1§11/57,3C-3D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**194**	⇓	*eP*	**Pn**	**18 22 03.0**	**-0.1**
BARC					*eS*	**Sn**	**18 22 17.7**	**-1.4**
BARC					*i*		18 22 18.5	
	comp=Z,2μm,0.3s							
BRRC	**Barranca, Sant**	**0.65**	**296**	⇑	*iP*	**Pn**	**18 22 04.9**	**+0.4**
BRRC					*eS*	**Sn**	**18 22 21.4**	**-0.3**
BRRC					*i*		18 22 24.9	
	comp=Z,321nm,0.3s							
PAMC	**Pamplona, Colo**	**0.66**	**40**	⇑	*iP*	**Pn**	**18 22 05.9**	**+0.7**
PAMC					*eS*	**Sn**	**18 22 22.7**	**-0.2**
PAMC					*i*		18 22 24.7	
	comp=Z,1μm,0.5s							
PTBC	**PUERTO BERRIO,**	**1.35**	**258**		*eP*	**Pn**	**18 22 09.5**	**-0.8**
PTBC					*eS*	**Sn**	**18 22 30.5**	**-1.5**
PTBC					*i*		18 22 33.2	
	comp=Z,372nm,0.4s							
TAMC	**Tame, Arauca**	**1.38**	**106**	⇓	*iP*	**Pn**	**18 22 11.3**	**+0.7**
TAMC					*eS*	**Sn**	**18 22 32.8**	**+0.3**
TAMC					*i*		18 22 37.5	
	comp=Z,122nm,0.5s							
TAMC					*i*		18 22 40.1	
	comp=Z,117nm,0.6s							
OCAC	**Ocana**	**1.42**	**352**	⇑	*eP*	**Pn**	**18 22 11.3**	**+0.2**
OCAC					*eS*	**Sn**	**18 22 33.2**	**-0.3**
OCAC					*i*		18 22 37.9	
	comp=Z,324nm,0.4s							
SPBC	**San Pablo de B**	**1.50**	**219**		*eP*	**Pn**	**18 22 12.1**	**+0.2**
SPBC					*eS*	**Sn**	**18 22 34.0**	**-0.8**
SPBC					*i*		18 22 39.0	
	comp=Z,211nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.84**	**291**		*eP*	**Pn**	**18 22 16.1**	**+0.6**
ZARC					*eS*	**Sn**	**18 22 41.1**	**-0.2**
ZARC					*i*		18 22 49.6	
	comp=Z,320nm,0.3s							
ZARC					*i*		18 22 49.8	
	comp=Z,352nm,0.4s							
NORC	**Norcasia**	**2.14**	**234**		*eP*	**Pn**	**18 22 19.0**	**0.0**
NORC					*eS*	**Sn**	**18 22 46.8**	**-0.7**
NORC					*i*		18 22 49.5	
	comp=Z,129nm,0.2s							
SMLC	**San Martn de**	**2.17**	**334**		*eP*	**Pn**	**18 22 19.3**	**0.0**
SMLC					*eS*	**Sn**	**18 22 48.7**	**+0.5**
SMLC					*i*		18 22 51.4	
	comp=Z,234nm,0.1s							
CHIC	**Chingaza**	**2.27**	**196**		*eP*	**Pn**	**18 22 21.3**	**+0.5**
CHIC					*eS*	**Sn**	**18 22 49.9**	**-0.8**
CHIC					*i*		18 22 56.9	
	comp=Z,82nm,0.4s							
ROSC	**El Rosal**	**2.30**	**211**	P		**Pn**	**18 22 23.1**	**+1.8**
	comp=Z,13nm,0.3s,baz=283,slow=8.2,SNR=19							
ROSC					S	**Sn**	**18 22 50.1**	**-1.5**
	comp=Z,24nm,0.3s,baz=79,slow=16,SNR=14							
HELC	**Santa Helena**	**2.47**	**255**		*eP*	**Pn**	**18 22 23.5**	**+0.3**
HELC					*eS*	**Sn**	**18 22 54.3**	**-0.8**
HELC					*i*		18 22 57.2	
	comp=Z,110nm,0.3s							
UREC	**San Jos de Ur**	**2.56**	**291**		*eP*	**Pn**	**18 22 23.5**	**-0.5**
UREC					*eS*	**Sn**	**18 22 55.1**	**-1.3**
UREC					*i*		18 22 56.9	
	comp=Z,178nm,0.2s							
GUY2C	**Guyana, Caldas**	**2.74**	**235**		*eP*	**Pn**	**18 22 27.8**	**+1.1**
GUY2C					*i*		18 23 08.3	
	comp=Z,97nm,0.3s							
VILC	**Villavicencio,**	**2.76**	**192**		*eP*	**Pn**	**18 22 26.4**	**-0.2**
VILC					*i*		18 23 10.0	
	comp=Z,120nm,0.5s							
PTGC	**Puerto Gaitan,**	**2.79**	**159**		*eP*	**Pn**	**18 22 26.1**	**-0.7**
PTGC					*i*		18 23 01.6	
	comp=Z,168nm,0.3s							
RREF	**El Recreo**	**2.92**	**229**		*eP*	**Pn**	**18 22 27.5**	**-1.6**
RREF					*i*		18 23 17.3	
	comp=Z,86nm,0.3s							
CBOC	**Ciudad Bolivar**	**3.03**	**252**	⇓	*eP*	**Pn**	**18 22 31.2**	**+1.2**
CBOC					*eS*	**Sn**	**18 23 06.7**	**-0.3**
CBOC					*i*		18 23 22.0	
	comp=Z,50nm,0.6s							
DBBC	**Dabeiba**	**3.07**	**274**		*eP*	**Pn**	**18 22 31.3**	**+0.9**
DBBC					*eS*	**Sn**	**18 23 07.0**	**-0.9**
DBBC					*i*		18 23 14.2	
	comp=Z,251nm,0.5s							
CODC	**Agustn Codazz**	**3.10**	**354**		*eP*	**Pn**	**18 22 30.9**	**+0.1**
CODC					*eS*	**Sn**	**18 23 08.1**	**-0.6**
CODC					*i*		18 23 17.7	
	comp=Z,33nm,0.4s							
TOLC	**Tolima**	**3.12**	**225**		*eP*	**Pn**	**18 22 31.6**	**+0.3**
TOLC					*i*		18 23 15.7	
	comp=Z,37nm,0.4s							
SDV	**Santo Domingo**	**3.21**	**50**	P		**Pn**	**18 22 32.9**	**+0.7**
	comp=Z,9.2nm,0.3s,baz=160,slow=22,SNR=20							
SDV					S	**Sn**	**18 23 09.7**	**-1.5**
	comp=Z,23nm,0.3s,baz=244,slow=13,SNR=25							
ARGC	**Ariguani, Magd**	**3.21**	**340**		*eP*	**Pn**	**18 22 33.4**	**+1.3**
ARGC					*i*		18 23 16.9	
	comp=Z,54nm,0.4s							
ORTC	**Ortega, Tolima**	**3.59**	**216**		*eP*	**Pn**	**18 22 38.0**	**+1.0**
ORTC					*eS*	**Sn**	**18 23 20.1**	**+0.3**
ORTC					*i*		18 23 26.0	
	comp=Z,70nm,0.5s							
SJCC	**San Jacinto, C**	**3.67**	**326**		*eP*	**Pn**	**18 22 37.4**	**-0.6**
SJCC					*eS*	**Sn**	**18 23 17.2**	**-4.4**
SJCC					*i*		18 23 22.7	
	comp=Z,164nm,0.5s							
PLMC	**San Jos del P**	**3.68**	**239**		*eP*	**Pn**	**18 22 39.4**	**+1.2**
PLMC					*i*		18 23 27.1	
	comp=Z,46nm,0.2s							
LCBC	**Los crdobas,**	**3.79**	**302**		*eS*	**Sn**	**18 23 25.9**	**+1.4**
SMRC	**Santa Marta, M**	**4.45**	**346**		*eP*	**Pn**	**18 22 48.2**	**0.0**
SMRC					*i*		18 23 40.4	
	comp=Z,36nm,0.9s							
MACC	**Macarena, Meta**	**4.71**	**189**		*eP*	**Pn**	**18 22 50.4**	**-1.3**
MACC					*i*		18 23 48.2	
	comp=Z,29nm,0.5s							
URIC	**Uribia, Colomb**	**4.97**	**13**		*eP*	**Pn**	**18 22 53.8**	**-1.3**
URIC					*i*		18 23 55.9	
	comp=Z,9.8nm,0.5s							
SOTA	**Rioblanco**	**5.81**	**217**		*eP*	**Pn**	**18 23 07.2**	**+0.5**
SOTA					*i*		18 24 26.1	
	comp=Z,11nm,0.7s							
TXAR	**Lajitas Array**	**36.46**	**312**	P		**P**	**18 28 33.8**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=130,slow=8.4,SNR=4.2							
YKA	**Yellowknife Ar**	**63.26**	**340**	P		**P**	**18 31 54.1**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=130,slow=7.2,SNR=4.8							
YKA					pP	**pP**	**18 32 31.3**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=129,slow=6.9,SNR=3.6							
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc		**PKiKP**	**18 41 12.5**	**-1.8**
	comp=Z,0.4nm,0.5s,baz=130,slow=3.2,SNR=4.8							
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc		**PKiKP**	**18 41 15.6**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=108,slow=2.7,SNR=7.3							

NIED ***25*** *18:43:00,41˙.00N×142˙.00E,h47km,Mw4.1 Best double couple: M₀1.62000×10²⁵ NP1:φs164.00000°,δ23.00000°, λ59.00000°. NP2:φs17.00000°,δ71.00000°,λ102.00000°.*

ISCJB ***25*** *18:43:21.4±0.3,41˙.06N±0˙.02×142˙.04E±0˙.04, h66km±2km, mb4.3/58, Error ellipse: s-maj=5.3km s-min=2.9km az=39.3*

MOS ***25*** *18:43:21.4±1.0,41˙.08N×142˙.08E,h69km,mb5.2/7, Error ellipse: s-maj=7.2km s-min=5.4km az=93.5*

BJI ***25*** *18:43:21.6±0.0,40˙.76N×141˙.91E,h79km,mb4.6/25, mB4.9/16,Ms4.4/2, Ms7 4.2/2*

JMA ***25*** *18:43:22.1±0.1,41˙.04N×142˙.04E,h56km±2km,M4.1 Broadband fault plane solution: P waves. NP1: φs28.00000°,δ82.00000°,λ93.00000°. NP2:φs185.00000°, δ9.00000°,λ67.00000°. Principal axes: T Plg53.0000°, Azm302.0000°; N Plg3.0000°, Azm208.0000°; P Plg37.0000°, Azm115.0000°;*

JMA Felt III J1.

IDC ***25*** *18:43:23.9±0.6,41˙.05N×142˙.02E,h76km±4km, mb3.9/22, mb1 4.1/27, mb1mx4.0/45, mbtmp4.2/27, MS3.1/12, Ms1 3.1/12, ms1mx3.0/44 Error ellipse: s-maj=12.4km s-min=9.6km az=110.0*

NEIC ***25*** *18:43:24.2±1.3,41˙.09N±0˙.06×142˙.1E±0˙.1, h78km±6km, mb4.6/33*

ISC 25 18:43:23.2±0.5,**41˚.06N**±0˙.03×**142˚.03E**±0˙.04,**h70**km±4km,
n183,σ1§50/201,mb4.5/69,5C-13D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
JARK	**Aomorirokkasho**	**0.50**	**265**	⇓	P	**Pn**	**18 43 33.9**	**-2.1**
JARK					S	**Sn**	**18 43 42.2**	**-3.2**
JAHD	**Aomorihigashid**	**0.56**	**292**	⇓	P	**Pn**	**18 43 34.7**	**-1.9**
JAHD					S	**Sn**	**18 43 43.8**	**-2.7**
JTM	**Tenmabayashi**	**0.77**	**250**	⇓	P	**Pn**	**18 43 37.2**	**-1.7**
JTM					S	**Sn**	**18 43 48.0**	**-2.6**
JANG	**Nango**	**0.79**	**210**	⇓	P	**Pn**	**18 43 36.9**	**-2.2**
JANG					S	**Sn**	**18 43 47.5**	**-3.3**
JOT	**Ohata**	**0.81**	**294**	⇓	P	**Pn**	**18 43 37.4**	**-1.9**
JOT					*eS*	**Sn**	**18 43 48.6**	**-2.7**
JKB	**Kayabe**	**1.12**	**318**	⇓	P	**Pn**	**18 43 41.6**	**-1.5**
JKB					S	**Sn**	**18 43 56.1**	**-1.9**
ERM	**Erimo**	**1.28**	**41**		P	**Pn**	**18 43 44.4**	**-0.8**
ERM	**Erimo**	**1.28**	**41**			**Pn**	**18 43 44.4**	**-0.8**
JEM	**Erimo**	**1.28**	**41**		P	**Pn**	**18 43 44.6**	**-0.6**
JEM					*eS*	**Sn**	**18 44 02.2**	**+0.4**
JSR	**Shiriuchi**	**1.30**	**292**	⇓	P	**Pn**	**18 43 44.5**	**-1.0**
JNBK	**Urakawa-nobuka**	**1.34**	**24**		P	**Pn**	**18 43 45.7**	**-0.3**
JAH	**Hinai**	**1.37**	**231**	⇓	P	**Pn**	**18 43 45.1**	**-1.3**
JAH					S	**Sn**	**18 44 02.8**	**-1.0**
JIAM	**Iburiatsuma**	**1.57**	**357**		P	**Pn**	**18 43 48.8**	**-0.2**
JOMM	**Oshimamatsumae**	**1.59**	**288**		P	**Pn**	**18 43 47.8**	**-1.5**
JNB	**Noboribetsu**	**1.59**	**333**		P	**Pn**	**18 43 47.6**	**-1.8**
JIW	**Iwasaki**	**1.60**	**254**		P	**Pn**	**18 43 48.3**	**-1.2**
JYM2	**Yakumo 2**	**1.63**	**311**	⇓	P	**Pn**	**18 43 49.0**	**-0.9**
JOM	**Ohasama**	**1.68**	**200**	⇑	P	**Pn**	**18 43 49.2**	**-1.3**
JOM					S	**Sn**	**18 44 09.0**	**-2.2**
JBT2	**Biratori 2**	**1.74**	**8**		P	**Pn**	**18 43 51.2**	**-0.1**
JCH	**Churui**	**1.85**	**32**	⇓	P	**Pn**	**18 43 52.5**	**-0.3**
JCH					*eS*	**Sn**	**18 44 14.6**	**-0.7**
ASAJ	**Asahikawa**	**3.09**	**8**		P	**Pn**	**18 44 09.8**	**+0.2**
	21nm,0.3s,baz=218,slow=9.1,SNR=210							
ASAJ					S	**Sn**	**18 44 45.8**	**+0.5**
	13nm,0.3s,baz=330,slow=16,SNR=3.8							
ASAJ					LR	LR	18 45 40.4	
	comp=Z,192nm,20.7s,baz=202,slow=44							
JKA	**Kamikawa-asahi**	**3.09**	**8**			**Pn**	**18 44 09.8**	**+0.2**
JKA						**Sn**	**18 44 45.8**	**+0.5**
NMR	**Nemuro--Hokkai**	**3.59**	**49**	⇓	*iP*	**Pn**	**18 44 13.8**	**-2.6**
NMR					*i* S	**Sn**	**18 44 52.7**	**-4.9**
GLVR	**Golovnino**	**3.73**	**43**	⇑	*iP*	**Pn**	**18 44 17.1**	**-1.1**
GLVR					*i* S	**Sn**	**18 44 58.6**	**-2.2**
GLVR					pmax	pmax		
	comp=N,28nm,0.1s							
GLVR					pmax	pmax		
	comp=E,40nm,0.1s							
GLVR					pmax	pmax		
	comp=Z,184nm,0.1s							
GLVR					smax	smax		
	comp=N,967nm,0.2s							
GLVR					smax	smax		
	comp=E,657nm,0.2s							
GRPR	**Tuman**	**4.03**	**42**	⇓	*iP*	**Pn**	**18 44 22.2**	**-0.2**
GRPR					*i* S	**Sn**	**18 45 04.7**	**-3.7**
GRPR					pmax	pmax		
	comp=Z,305nm,0.4s							
GRPR					pmax	pmax		
	comp=N,99nm,0.2s							
GRPR					pmax	pmax		
	comp=E,88nm,0.2s							
GRPR					smax	smax		
	comp=E,805nm,0.4s							
GRPR					smax	smax		
	comp=N,407nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**4.11**	**42**	*c*	*iP*	**Pn**	**18 44 21.9**	**-1.5**
YUK					*i* S	**Sn**	**18 45 05.7**	**-4.5**
YUK					pmax	pmax		
	comp=N,57nm,0.2s							
YUK					pmax	pmax		
	comp=E,132nm,0.2s							
YUK					pmax	pmax		
	comp=Z,497nm,0.2s							
YUK					smax	smax		
	comp=N,961nm,0.5s							
YUK					smax	smax		
	comp=E,721nm,0.5s							
SHO	**Shikotan**	**4.53**	**50**	*d*	*iP*	**Pn**	**18 44 26.7**	**-2.5**
SHO					*i* S	**Sn**	**18 45 14.2**	**-6.3**
SHO					pmax	pmax		
	comp=E,35nm,0.2s							
SHO					pmax	pmax		
	comp=Z,135nm,0.2s							
SHO					pmax	pmax		
	comp=N,29nm,0.3s							
SHO					smax	smax		
	comp=N,65nm,0.3s							
SHO					smax	smax		
	comp=E,381nm,0.2s							
MJB9	**Matsu-Tunnel**	**5.40**	**215**			**Pn**	**18 44 42.8**	**+1.6**
MAJO	**Matsushiro**	**5.40**	**215**		P	**Pn**	**18 44 42.6**	**+1.4**
MAJO	**Matsushiro**	**5.40**	**215**			**Pn**	**18 44 42.6**	**+1.4**
MAT	**Matsushiro**	**5.40**	**215**		P	**Pn**	**18 44 42.7**	**+1.5**
MAT					*eS*	**Sn**	**18 45 41.9**	**-0.1**
MJAR	**Matsushiro Arr**	**5.40**	**215**		P	**Pn**	**18 44 42.1**	**+0.9**
	comp=E,0.3nm,0.3s,baz=64,slow=22,SNR=18							
MJAR					LR	LR	18 47 11.2	
	comp=E,59nm,19.9s,baz=80,slow=42							
TEY	**Ternei**	**5.62**	**317**	⇑	*eP*	**Pn**	**18 44 44.5**	**+0.4**
TEY					pmax	pmax		
	comp=N,40nm,0.6s							
TEY					pmax	pmax		
	comp=E,40nm,0.6s							
TEY					pmax	pmax		
	comp=Z,50nm,0.5s							
YSS	**Yuzh-Sakhalins**	**5.92**	**5**		*eP*	**Pn**	**18 44 51.1**	**+2.9**
YSS					*eS*	**Sn**	**18 45 54.8**	**+0.3**
YSS					pmax	pmax		
	comp=Z,10.0nm,0.6s							
YSS					smax	smax		
	comp=N,90nm,0.9s							
KUR	**Kuril'sk**	**5.97**	**44**	⇑	*iP*	**Pn**	**18 44 48.8**	**-0.1**
KUR					*i* S	**Sn**	**18 45 53.9**	**-1.9**
KUR					pmax	pmax		
	comp=Z,190nm,1.0s							
KUR					pmax	pmax		
	comp=N,27nm,0.4s							
KUR					pmax	pmax		
	comp=E,63nm,0.3s							
KUR					smax	smax		
	comp=E,147nm,0.4s							
KUR					smax	smax		
	comp=N,75nm,0.3s							
INU	**Inuyama**	**6.93**	**216**			**Pn**	**18 45 03.9**	**+1.9**
USA0B	**Ussuriysk Arra**	**8.04**	**296**		P	**Pn**	**18 45 18.1**	**+0.9**
USA0B	**Ussuriysk Arra**	**8.04**	**296**			**Pn**	**18 45 18.1**	**+0.9**
USRK	**Ussuriysk Ar.**	**8.04**	**296**		P	**Pn**	**18 45 17.3**	**+0.1**
	baz=104,slow=13,SNR=20							
USRK					LR	LR	18 48 23.7	
	comp=N,181nm,18.8s,baz=85,slow=37							
MDJ	**Mudanjiang**	**9.80**	**295**			**Pn**	**18 45 42.9**	**+1.7**
KLR	**Kul'dur**	**10.92**	**322**		P	**Pn**	**18 45 57.5**	**+1.1**
	comp=N,0.1nm,0.3s,baz=115,slow=15,SNR=4.8							
KLR					LR	LR	18 50 08.9	
	comp=N,134nm,18.7s,baz=157,slow=37							
KSRS	**Korea Array**	**11.51**	**256**		P	**Pn**	**18 46 06.6**	**+2.1**
	comp=N,0.7nm,0.3s,baz=65,slow=13,SNR=12							
KSRS					LR	LR	18 49 55.4	
	comp=N,88nm,21.7s,baz=48,slow=34							
KS19	**Wonju Array Si**	**11.53**	**257**		Pn	**Pn**	**18 46 07.0**	**+2.1**
JNU	**Nakatsue**	**11.91**	**232**		LR	LR	18 50 39.9	
	comp=N,48nm,21.7s,baz=50,slow=37							
PETK	**Petropavlovsk-**	**16.06**	**36**		P	**Pn**	**18 47 02.7**	**-1.7**
	comp=N,0.1nm,0.3s,baz=229,slow=11,SNR=4.1							
PETK					LR	LR	18 52 54.5	
	comp=N,77nm,19.3s,baz=60,slow=36							
ZEA	**Zeya**	**16.11**	**327**		*eP*	**Pn**	**18 47 02.4**	**-2.7**
HIA	**Hailar**	**17.68**	**305**		P	**Pn**	**18 47 23.1**	**-1.5**
HIA					pmax	pmax		
	comp=Z,6.0nm,0.6s							
HIA	**Hailar**	**17.68**	**305**		P	**Pn**	**18 47 23.1**	**-1.5**
MA2	**Magadan**	**19.33**	**14**		LR	LR	18 56 24.9	
	comp=Z,49nm,20.6s,baz=106,slow=40							
YAK	**Yakutsk**	**22.29**	**345**		*eP*	**P**	**18 48 10.5**	**-3.8**
YAK					*e*		18 48 59.4	
YAK					*eS*	**S**	**18 52 08.9**	**-5.8**
YAK					*e**SS	Sn	18 52 32.1	+1.1
YAK					eSS	SnSn	18 53 12.1	+24
YAK					pmax	pmax		
	comp=Z,11nm,0.8s							
YAK					pmax	pmax		
	comp=N,6.0nm,1.2s							
YAK					pmax	pmax		
	comp=E,3.0nm,1.1s							
YAK					smax	smax		
	comp=N,134nm,4.1s							
YAK					smax	smax		
	comp=E,139nm,4.1s							
YAK	**Yakutsk**	**22.29**	**345**		P	**P**	**18 48 12.0**	**-2.3**
	comp=E,8.4nm,0.5s,baz=284,slow=0.6,SNR=16							
YAK	**Yakutsk**	**22.29**	**345**		P	**P**	**18 48 11.7**	**-2.6**
YAK					lAmb	lAmb	18 48 12.7	
	comp=Z,19nm,0.5s							
SEY	**Seymchan**	**22.76**	**12**		P	**P**	**18 48 17.2**	**-2.1**
	comp=Z,2.0nm,0.6s,baz=168,slow=13,SNR=5.4							
ULN	**Ulaanbaatar**	**25.71**	**297**		P	**P**	**18 48 47.3**	**+0.5**
ULN					pmax	pmax		
	comp=Z,6.0nm,1.3s							
ULN	**Ulaanbaatar**	**25.71**	**297**		P	**P**	**18 48 47.3**	**+0.5**
SONM	**Songino Array**	**26.15**	**297**		P	**P**	**18 48 50.4**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=81,slow=8.8,SNR=15							
SONM					LR	LR	19 00 45.9	
	comp=Z,63nm,18.6s,baz=30,slow=40							
TLY	**Talaya**	**28.23**	**305**		LR	LR	19 00 56.4	
	comp=Z,76nm,18.2s,baz=15,slow=37							
ENH	**Enshi**	**28.39**	**258**		P	**P**	**18 49 09.7**	**-1.2**
ENH					lAmb	lAmb	18 50 00.1	
	comp=Z,40nm,1.9s							
KIWB	**Kanaga Island**	**29.75**	**55**		P	**P**	**18 49 22.7**	**0.0**
H11N2	**WAKE ISLAND Hy**	**30.01**	**128**		T	T	19 21 06.2	
	baz=320							
H11N1	**WAKE ISLAND Hy**	**30.02**	**128**		T	T	19 21 06.0	
	baz=320,slow=74							
H11N3	**WAKE ISLAND Hy**	**30.03**	**128**		T	T	19 21 08.4	
	baz=320,slow=74							
H11S1	**WAKE ISLAND Hy**	**30.85**	**129**		T	T	19 22 05.9	
	baz=322,slow=76,SNR=112							
H11S3	**WAKE ISLAND Hy**	**30.85**	**129**		T	T	19 22 05.9	
	baz=322,slow=76,SNR=69							
H11S2	**WAKE ISLAND Hy**	**30.86**	**129**		T	T	19 22 06.5	
	baz=322,slow=76,SNR=69							
GTA	**Gaotai**	**32.04**	**281**		*eP*	**P**	**18 49 42.8**	**-0.4**
SLVN	**Son La**	**37.69**	**250**		P	**P**	**18 50 32.8**	**+0.9**
SLVN					lAmb	lAmb	18 50 34.0	
	comp=Z,4.8nm,0.8s							
ZAA0	**Zalesovo Array**	**39.66**	**309**		P	**P**	**18 50 47.8**	**-0.1**
ZAA0					lAmb	lAmb	18 50 48.8	
	comp=Z,4.7nm,0.7s							
ZALV	**Zalesovo Beam**	**39.66**	**309**		P	**P**	**18 50 48.1**	**+0.2**
	comp=Z,4.9nm,0.6s,baz=94,slow=7.8,SNR=28							
ZALV					pP	**pP**	**18 51 06.9**	**+2.0**
	comp=Z,3.0nm,0.7s,baz=92,slow=8.7,SNR=3.5							
ZALV					PcP	**PcP**	**18 52 53.7**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=108,slow=2.3,SNR=3.9							
NRIK	**Noril'sk**	**39.86**	**333**		P	**P**	**18 50 49.4**	**0.0**
	comp=Z,2.9nm,0.4s,baz=164,slow=6.0,SNR=4.5							
NONG	**Nongkai**	**40.39**	**247**		P	**P**	**18 50 58.0**	**+3.7**
	comp=Z,0.3nm,1.3s,comp=Z,112nm							
PHRA	**Phrae**	**42.15**	**250**		P	**P**	**18 51 09.9**	**+1.1**
	comp=Z,0.9nm,1.0s							
LSA	**Lhasa**	**42.46**	**271**		P	**P**	**18 51 13.0**	**+1.2**
LSA					pmax	pmax		
	comp=Z,5.0nm,0.7s							
LSA	**Lhasa**	**42.46**	**271**		P	**P**	**18 51 13.0**	**+1.2**
MK31	**Makanchi Array**	**42.50**	**299**		P	**P**	**18 51 11.2**	**-0.2**
MK31					pmax	pmax		
	comp=Z,8.0nm,1.2s							
MK31	**Makanchi Array**	**42.50**	**299**		P	**P**	**18 51 11.2**	**-0.2**
MKAR	**Makanchi Array**	**42.50**	**299**		P	**P**	**18 51 11.5**	**+0.1**
	comp=Z,2.9nm,0.5s,baz=86,slow=10,SNR=85							
MAKZ	**Makanchi**	**42.70**	**299**		P	**P**	**18 51 13.1**	**+0.1**
MAKZ					pmax	pmax		
	comp=Z,9.0nm,1.1s							
MAKZ	**Makanchi**	**42.70**	**299**		P	**P**	**18 51 13.1**	**+0.1**
MAKZ					lAmb	lAmb	18 51 19.2	
	comp=Z,8.6nm,1.1s							
CMMT	**Chiang Mai**	**42.87**	**252**		P	**P**	**18 51 15.7**	**+1.1**
	comp=Z,3.1nm,0.7s							
CHTO	**Chiang Mai**	**42.87**	**252**		P	**P**	**18 51 15.5**	**+0.9**
CHTO					pmax	pmax		
	comp=Z,4.0nm,0.7s							
CHTO	**Chiang Mai**	**42.87**	**252**		P	**P**	**18 51 15.5**	**+0.9**
PBKT	**Sadao Pong**	**42.92**	**248**		P	**P**	**18 51 15.2**	**+0.2**
PBKT					lAmb	lAmb	18 51 16.4	
	comp=Z,8.5nm,1.2s							
CMAR	**Chiang Mai Arr**	**43.10**	**252**		P	**P**	**18 51 17.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**43.10**	**252**		P	**P**	**18 51 16.9**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=40,slow=7.4,SNR=18							
CMAR					LR	LR	19 10 40.4	
	comp=Z,18nm,18.2s,baz=20,slow=38							
KURK	**Kurchatov**	**43.92**	**305**		P	**P**	**18 51 23.3**	**+0.6**
KURK							18 53 08.0	
KURK	**Kurchatov**	**43.92**	**305**		P	**P**	**18 51 22.5**	**-0.3**
KURK					lAmb	lAmb	18 51 23.6	
	comp=Z,15nm,1.2s							
KURBB	**Kurchatov Arra**	**44.00**	**305**		P	**P**	**18 51 23.3**	**0.0**
	comp=Z,4.7nm,0.5s,baz=78,slow=9.0,SNR=38							
KURBB					PcP	**PcP**	**18 53 08.0**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=81,slow=3.7,SNR=5.4							
SHL	**Shillong**	**44.06**	**266**		P	**P**	**18 51 24.2**	**-0.2**
SHL					pmax	pmax		
	comp=Z,6.0nm,0.8s							
SHL	**Shillong**	**44.06**	**266**		P	**P**	**18 51 24.2**	**-0.2**
SHL					lAmb	lAmb	18 51 25.2	
	comp=Z,6.0nm,0.8s							
NEA	**Nenana**	**44.95**	**35**		P	**

ARU	**Arti**	**53.71**	**317**	P	**P**	18 52 37.5	**-0.1**
ARU				IAmb	IAmb	18 52 39.4	
	comp=Z,6.3nm,0.8s						
NIL	**Nilore**	**53.90**	**286**	P	**P**	18 52 40.0	**+0.7**
NIL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NIL	**Nilore**	**53.90**	**286**	P	**P**	18 52 40.0	**+0.7**
CHGR	**Chuyangaron**	**54.45**	**293**	P	**P**	18 52 42.7	**-0.6**
DNP	**Denpasar**	**55.30**	**213**	P	**P**	18 52 51.8	**+2.3**
DNP				pmax	pmax		
	comp=Z,345nm,1.7s						
ABKAR	**Akbulak array**	**55.77**	**308**	P	**P**	18 52 52.6	**0.0**
KBL	**Kabul**	**56.50**	**289**	P	**P**	18 52 57.6	**-0.7**
KBL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KBL	**Kabul**	**56.50**	**289**	P	**P**	18 52 57.6	**-0.7**
KBL				IAmb	IAmb	18 52 58.9	
	comp=Z,6.4nm,0.9s						
RES	**Resolute Bay**	**58.59**	**15**	P	**P**	18 53 09.6	**-2.5**
RES				pmax	pmax		
	comp=Z,7.0nm,0.5s						
RES	**Resolute Bay**	**58.59**	**15**	P	**P**	18 53 09.6	**-2.5**
YKA	**Yellowknife Ar**	**60.11**	**31**	P	**P**	18 53 22.1	**-0.6**
	comp=Z,0.3nm,0.5s,baz=298,slow=6.7,SNR=5.5						
ARCES	**ARCESS Array B**	**60.41**	**339**	P	**P**	18 53 24.8	**+0.1**
	comp=Z,3.7nm,0.9s,baz=39,slow=7.8,SNR=4.9						
WRA	**Warramunga Arr**	**61.10**	**188**	P	**P**	18 53 28.6	**-1.3**
	comp=Z,1.6nm,0.5s,baz=5.0,slow=7.2,SNR=22						
GEYT	**Alibeck**	**62.36**	**297**	P	**P**	18 53 38.4	**0.0**
	comp=Z,2.4nm,0.6s,baz=48,slow=2.2,SNR=6.7						
GEYT				pP	**pP**	18 53 58.5	**+2.0**
	comp=Z,0.9nm,0.5s,baz=335,slow=6.6,SNR=1.9						
GEYT				LR	LR	19 23 09.6	
	comp=Z,56nm,19.5s,baz=355,slow=38						
SUF	**Sumiainen**	**64.62**	**333**	P	**P**	18 53 52.9	**+0.1**
ASAR	**Alice Springs**	**64.83**	**188**	P	**P**	18 53 54.5	**-0.1**
	comp=Z,1.5nm,0.7s,baz=6.9,slow=5.1,SNR=28						
ASAR				pP	**pP**	18 54 14.3	**+1.4**
	comp=Z,0.6nm,0.7s,baz=1.8,slow=7.1,SNR=3.2						
VRH	**Novokhopyorsk**	**64.95**	**317**	*e*P	**P**	18 53 54.8	**-0.3**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
FINES	**FINESS Array B**	**65.49**	**332**	P	**P**	18 53 58.5	**+0.1**
	comp=Z,4.7nm,0.4s,baz=38,slow=7.6,SNR=43						
LPSR	**Galich'ya Gora**	**65.55**	**319**	*e*P	**P**	18 53 59.0	**+0.1**
LPSR				pmax	pmax		
	comp=Z,20nm,0.8s						
VSR	**Storozhevoye**	**66.25**	**318**	*e*P	**P**	18 54 03.1	**-0.4**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VORD	**Divnogorie**	**66.33**	**318**	*e*P	**P**	18 54 03.2	**-0.8**
VORD				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KIV	**Kislovodsk**	**68.66**	**310**	*e*P	P	18 54 07.4	-12
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
KIV	**Kislovodsk**	**68.66**	**310**	P	**P**	18 54 19.9	**+0.9**
KIV				IAmb	IAmb	18 54 21.6	
	comp=Z,10nm,0.8s						
KBZ	**Khabaz**	**68.67**	**310**	P	**P**	18 54 19.8	**+0.9**
	comp=Z,3.7nm,0.7s,baz=87,slow=2.5,SNR=14						
FFC	**Flin Flon**	**70.08**	**34**	P	**P**	18 54 28.0	**+0.6**
NB2	**NORSAR Subarra**	**70.67**	**337**	P	**P**	18 54 31.3	**+0.3**
	comp=Z,2.0nm,0.7s,baz=37,slow=6.2						
NOA	**NORSAR Array B**	**70.67**	**337**	P	**P**	18 54 31.1	**+0.1**
	comp=Z,2.0nm,0.7s,baz=38,slow=6.1,SNR=9.9						
AKASG	**Malin Array Be**	**71.42**	**322**	P	**P**	18 54 35.8	**+0.2**
	comp=Z,3.0nm,0.5s,baz=45,slow=6.1,SNR=31						
AKASG				pP	**PcP**	18 54 56.0	**+1.2**
	comp=Z,2.9nm,0.7s,baz=46,slow=5.9,SNR=4.5						
AKBB	**Malin Array Si**	**71.42**	**322**	P	**P**	18 54 35.6	**0.0**
AKBB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AKBB	**Malin Array Si**	**71.42**	**322**	P	**P**	18 54 35.6	**0.0**
AKBB				IAmb	IAmb	18 54 36.6	
	comp=Z,6.9nm,0.8s						
KIEV	**Kiev**	**71.44**	**322**	P	**P**	18 54 35.0	**-0.7**
NVAR	**Mina Array Bea**	**72.23**	**54**	P	**P**	18 54 42.2	**+1.2**
	comp=Z,0.5nm,0.7s,baz=295,slow=5.3,SNR=6.4						
NVAR				pP	**pP**	18 55 01.3	**+2.0**
	comp=Z,0.5nm,0.6s,baz=296,slow=5.8,SNR=4.3						
FRB	**Frobisher Bay**	**72.76**	**14**	P	**P**	18 54 43.1	**-0.2**
FRB				pmax	pmax		
	comp=Z,6.0nm,1.4s						
BEL	**Belsk**	**74.35**	**327**	P	**P**	18 54 53.9	**+1.0**
BEL				pmax	pmax		
	comp=Z,47nm,2.2s						
PDAR	**Pinedale Array**	**74.53**	**46**	P	**P**	18 54 54.9	**+0.4**
	comp=Z,0.7nm,0.7s,baz=264,slow=2.7,SNR=8.4						
PDAR				pP	**pP**	18 55 14.6	**+1.6**
	comp=Z,0.7nm,0.7s,baz=256,slow=2.9,SNR=4.2						
BUR08	**Bucovina Ar. S**	**75.45**	**321**	P	**P**	18 55 00.2	**+0.7**
OJC	**Ojcow**	**75.97**	**326**	P	**P**	18 55 02.9	**+0.6**
OJC				pmax	pmax		
	comp=Z,11nm,0.9s						
OJC	**Ojcow**	**75.97**	**326**	P	**P**	18 55 02.9	**+0.6**
OJC				IAmb	IAmb	18 55 04.3	
	comp=Z,11nm,0.9s						
BRTR	**Keskin Array B**	**76.56**	**311**	P	**P**	18 55 06.5	**+0.6**
	comp=Z,1.0nm,0.7s,baz=102,slow=4.0,SNR=5.7						
LANS	**Liptovska Anna**	**76.92**	**325**	*e*P	**P**	18 55 09.8	**+2.1**
LANS	**Liptovska Anna**	**76.92**	**325**	*e*P	**P**	18 55 09.8	**+2.1**
CHVC	**Chvalec**	**77.23**	**328**	*e*P	**P**	18 55 10.6	**+1.2**
VYHS	**Vyhne**	**77.69**	**325**	*e*P	**P**	18 55 13.1	**+1.1**
VYHS	**Vyhne**	**77.69**	**325**	*e*P	**P**	18 55 13.1	**+1.1**
CLL	**Collm**	**77.85**	**330**	*e*P	**P**	18 55 11.0	**-1.8**
CLL	**Collm**	**77.85**	**330**	*e*P	**P**	18 55 13.0	**+0.2**
GOPC	**GO Pecny, Ondr**	**78.27**	**328**	*e*P	**P**	18 55 16.1	**+0.9**
PBCC	**Pribram**	**78.76**	**329**	*e*P	**P**	18 55 18.8	**+0.9**
KHC	**Kasperske Hory**	**79.37**	**328**	*e*P	**P**	18 55 22.5	**+1.2**
KHC	**Kasperske Hory**	**79.37**	**328**	*e*P	**P**	18 55 22.4	**+1.2**
GERES	**GERESS Array B**	**79.55**	**328**	P	**P**	18 55 22.9	**+0.5**
	comp=Z,0.9nm,0.5s,baz=43,slow=6.0,SNR=8.4						
VTS	**Vitosha**	**80.06**	**319**	P	**P**	18 55 26.0	**+0.7**
VTS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VTS	**Vitosha**	**80.06**	**319**	P	**P**	18 55 26.0	**+0.7**
ARSA	**Arzberg**	**80.07**	**326**	*i* pP	pP	18 55 42.2	-1.6
	comp=Z,12nm,1.8s						
SOKA	**Soboth**	**80.72**	**326**	*i* P	**P**	18 55 29.5	**+0.8**
	comp=Z,3.9nm,0.8s,SNR=4.5						
OBKA	**Obir**	**81.06**	**326**	*i* P	**P**	18 55 28.7	**-1.8**
	comp=Z,20nm,1.9s						
WATA	**Walderalm**	**81.61**	**328**	*i* P	**P**	18 55 34.2	**+0.8**
	comp=Z,7.0nm,1.1s						
WTTA	**Wattenberg**	**81.64**	**328**	*i* P	**P**	18 55 33.2	**-0.5**
	comp=Z,11nm,1.6s						
ABTA	**Abfaltersbach**	**81.71**	**328**	*i* PcP	**P**	18 55 35.8	**+1.9**
	comp=Z,11nm,1.4s						
MOTA	**Moosalm**	**81.79**	**329**	*i* P	**P**	18 55 35.1	**+0.8**
	comp=Z,6.2nm,0.9s,SNR=4.1						
RETA	**Reutte**	**81.81**	**329**	*i* P	**P**	18 55 35.2	**+0.8**
	comp=Z,4.3nm,0.8s						
SQTA	**Sankt Quirin**	**81.85**	**329**	*i* P	**P**	18 55 35.6	**+0.9**
	comp=Z,11nm,1.7s						
TXAR	**Lajitas Array**	**87.30**	**53**	pP	pP	18 56 23.8	+2.4
	comp=Z,0.3nm,0.6s,baz=328,slow=3.2,SNR=3.0						

WEL 25 18:44:41.0,38°S±2°×17°7E±°, h92km±3km, M3.4/81, ML3.5/48, MLv3.4/81, Error ellipse: s-maj=0.0km s-min=0.0km az=140.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDRZ	**Edgecumbe**	**0.08**	**226**	P	Pn	18 44 54.1	+0.1
MARZ	**Manawahe**	**0.13**	**303**	P	Pn	18 44 54.2	+0.2
WHRZ	**Whale Island**	**0.24**	**34**	P	Pn	18 44 54.7	+0.3
MKRZ	**Makatiti**	**0.28**	**252**	P	Pn	18 44 55.6	+0.9
OPRZ	**Ohinepanea**	**0.29**	**316**	P	Pn	18 44 54.5	-0.1
OPRZ				S	Sn	18 45 05.1	+0.4
TARZ	**Mount Tarawera**	**0.30**	**233**	P	Pn	18 44 55.1	+0.3
URZ	**Urewera**	**0.31**	**131**	P	Pn	18 44 54.6	-0.1
URZ				S	Sn	18 45 05.4	+0.4
LIRZ	**Lichensteins R**	**0.34**	**278**	P	Pn	18 44 55.1	+0.2
OMRZ	**Omania**	**0.35**	**261**	P	Pn	18 44 55.2	+0.2
RRRZ	**Republican Roa**	**0.37**	**219**	P	Pn	18 44 55.2	+0.2
HLRZ	**Highlands Stat**	**0.41**	**241**	P	Pn	18 44 55.8	+0.4
MUGZ	**Murupara**	**0.42**	**184**	P	Pn	18 44 55.4	0.0
MUGZ				S	Sn	18 45 07.1	+0.9
KARZ	**Kaharoa**	**0.45**	**274**	P	Pn	18 44 55.6	+0.1
NGRZ	**Ngongotaha**	**0.49**	**264**	P	Pn	18 44 56.4	+0.5
UTU	**Utuhina**	**0.50**	**256**	P	Pn	18 44 56.5	+0.6
HSRZ	**Hossack Road**	**0.51**	**240**	P	Pn	18 44 56.7	+0.6
HRRZ	**Handcock Road**	**0.53**	**231**	P	Pn	18 44 56.5	+0.2
TGRZ	**Tauranga**	**0.54**	**307**	P	Pn	18 44 56.2	0.0
PRRZ	**Plateau Road**	**0.55**	**216**	P	Pn	18 44 56.6	+0.2
PRRZ				S	Sn	18 45 09.1	+1.2
RTZ	**Ruatahuna**	**0.58**	**167**	P	Pn	18 44 56.9	+0.2
RTZ				S	Sn	18 45 09.3	+1.0
GRRZ	**Galatos Road**	**0.62**	**242**	P	Pn	18 44 57.5	+0.4
ALRZ	**Allen Road**	**0.63**	**216**	P	Pn	18 44 57.3	+0.3
MWZ	**Matawai**	**0.63**	**117**	P	Pn	18 44 57.3	+0.2
RAGZ	**Rawiri**	**0.65**	**133**	P	Pn	18 44 57.7	+0.4
WPRZ	**Whakapapatarin**	**0.69**	**227**	P	Pn	18 44 58.0	+0.4
RUGZ	**Raukumara Rang**	**0.69**	**83**	P	Pn	18 44 57.0	-0.7
KMRZ	**Kaimai**	**0.72**	**287**	P	Pn	18 44 58.0	+0.1
MTHZ	**Maungataniwha**	**0.80**	**178**	P	Pn	18 44 59.0	+0.3
HAZ	**Te Kaha**	**0.83**	**69**	P	Pn	18 44 58.4	-0.5
MRHZ	**Matea Rd**	**0.84**	**201**	P	Pn	18 44 59.2	0.0
SNGZ	**Shannon Statio**	**0.84**	**150**	P	Pn	18 44 59.7	+0.6
RAHZ	**Arahi**	**0.89**	**166**	P	Pn	18 45 00.4	+0.8
KUTZ	**Kaahu Road**	**0.89**	**240**	P	Pn	18 45 00.0	+0.4
TKGZ	**Te Karaka**	**0.91**	**116**	P	Pn	18 45 00.2	+0.5
WHTZ	**Whakaora**	**0.91**	**227**	P	Pn	18 45 00.7	+0.8
RIGZ	**Rimuhau**	**0.99**	**131**	P	Pn	18 45 01.2	+0.4
HATZ	**Hinemaiaia**	**1.01**	**214**	P	Pn	18 45 01.3	+0.3
PKGZ	**Pakihiroa**	**1.02**	**81**	P	Pn	18 45 01.1	+0.1
TLZ	**Tolley Road**	**1.04**	**254**	P	Pn	18 45 01.6	+0.3
WATZ	**Wairara**	**1.07**	**232**	P	Pn	18 45 02.0	+0.4
WHHZ	**Waihua**	**1.07**	**162**	P	Pn	18 45 02.1	+0.4
TOZ	**Tahuroa Road**	**1.08**	**287**	P	Pn	18 45 01.9	+0.1
PUZ	**Puketiti**	**1.14**	**91**	P	Pn	18 45 02.7	+0.2
RATZ	**Rangitukua**	**1.15**	**225**	P	Pn	18 45 03.1	+0.5
KNZ	**Kokohu**	**1.18**	**145**	P	Pn	18 45 02.7	-0.2
CNGZ	**Carnagh Statio**	**1.18**	**112**	P	Pn	18 45 03.8	+0.8
RITZ	**Rihia Road**	**1.19**	**219**	P	Pn	18 45 03.7	+0.7
PRGZ	**Parata Road**	**1.21**	**136**	P	Pn	18 45 03.1	-0.2
ARHZ	**Aropaoanui**	**1.22**	**173**	P	Pn	18 45 03.7	+0.3
KATZ	**Kakaramea**	**1.27**	**223**	P	Pn	18 45 04.4	+0.3
MXZ	**Matakaoa Point**	**1.28**	**68**	P	Pn	18 45 05.3	+1.2
WMGZ	**Waiomatatini S**	**1.29**	**80**	P	Pn	18 45 04.5	+0.2
KRVZ	**Karewarewa**	**1.39**	**221**	P	Pn	18 45 06.2	+0.7
MCHZ	**McNeill Hill**	**1.39**	**184**	P	Pn	18 45 05.7	+0.2
MHGZ	**Mahia Peninsul**	**1.39**	**142**	P	Pn	18 45 05.5	-0.1
KWHZ	**Kaweka Forest**	**1.40**	**192**	P	Pn	18 45 05.7	0.0
WTVZ	**West Tongariro**	**1.43**	**222**	P	Pn	18 45 06.7	+0.6
NGZ	**Ngauruhoe**	**1.47**	**220**	P	Pn	18 45 07.3	+0.7
TWVZ	**Taurewa**	**1.48**	**226**	P	Pn	18 45 07.1	+0.5
TUVZ	**Tukino**	**1.51**	**216**	P	Pn	18 45 07.6	+0.5
BHHZ	**Black Hill Sta**	**1.55**	**202**	P	Pn	18 45 07.2	-0.3
FWVZ	**Far West T-bar**	**1.55**	**219**	P	Pn	18 45 08.3	+0.6
WHVZ	**Whangaehu Hut**	**1.56**	**218**	P	Pn	18 45 08.2	+0.4
DRZ	**Dome Shelter**	**1.56**	**216**	P	Pn	18 45 08.5	+0.6
KUZ	**Kuaotunu**	**1.57**	**321**	P	Pn	18 45 07.3	-0.4
MOVZ	**Moawhango**	**1.58**	**211**	P	Pn	18 45 07.8	-0.2
TRVZ	**Turoa**	**1.59**	**218**	P	Pn	18 45 08.5	+0.4
HIZ	**Hauiti**	**1.60**	**253**	P	Pn	18 45 08.7	+0.5
CKHZ	**Cape Kidnapper**	**1.62**	**173**	P	Pn	18 45 07.7	-0.6
MKAZ	**Moumakai**	**1.62**	**305**	P	Pn	18 45 08.3	0.0
KRHZ	**Kereru**	**1.62**	**192**	P	Pn	18 45 07.8	-0.7
PKVZ	**Pokaka**	**1.68**	**222**	P	Pn	18 45 09.6	+0.4
MTVZ	**Mangateitei**	**1.69**	**218**	P	Pn	18 45 09.9	+0.5
KAHZ	**Kahuranaki**	**1.74**	**178**	P	Pn	18 45 09.2	-0.7
KBAZ	**Karaka Road Bo**	**1.80**	**302**	P	Pn	18 45 11.3	+0.6
WIAZ	**Waiheke Island**	**1.83**	**313**	P	Pn	18 45 11.3	+0.2
ETAZ	**East Tamaki Re**	**1.86**	**306**	P	Pn	18 45 11.8	+0.4
PNHZ	**Pukenui**	**1.92**	**194**	P	Pn	18 45 11.0	-1.2
VRZ	**Vera Road**	**1.93**	**236**	P	Pn	18 45 13.1	+0.8
PXZ	**Pawanui**	**1.98**	**179**	P	Pn	18 45 11.4	-1.5
AWAZ	**Awhitu Peninsu**	**1.98**	**299**	P	Pn	18 45 13.3	+0.3
MBAZ	**Motutapu North**	**1.99**	**310**	P	Pn	18 45 13.5	+0.4
WPHZ	**Waipukurau**	**2.03**	**188**	P	Pn	18 45 12.1	-1.5
HBAZ	**Herne Bay Bore**	**2.04**	**305**	P	Pn	18 45 14.1	+0.3
GRZ	**Great Barrier**	**2.10**	**329**	P	Pn	18 45 14.5	-0.1
WTAZ	**Waiatarua**	**2.10**	**302**	P	Pn	18 45 15.0	+0.3
TSZ	**Takapari Road**	**2.11**	**198**	P	Pn	18 45 13.2	-1.6
ABAZ	**Army Bay**	**2.14**	**312**	P	Pn	18 45 15.7	+0.5
MHEZ	**Mangahewa**	**2.20**	**242**	P	Pn	18 45 17.4	+1.6
PRHZ	**Porangahau**	**2.21**	**183**	P	Pn	18 45 14.3	-1.8
WAZ	**Wanganui**	**2.21**	**219**	P	Pn	18 45 16.3	+0.2
DVHZ	**Dannevirke**	**2.30**	**192**	P	Pn	18 45 15.0	-2.2
LREZ	**Lake Rotokare**	**2.35**	**233**	P	Pn	18 45 18.8	+1.0
ANWZ	**Angora Road**	**2.42**	**186**	P	Pn	18 45 17.2	-1.6
PREZ	**Palmer Road**	**2.44**	**237**	P	Pn	18 45 20.7	+1.6
OHWZ	**Ohakea**	**2.44**	**208**	P	Pn	18 45 18.3	-0.8
POWZ	**Post Office Ro**	**2.47**	**199**	P	Pn	18 45 17.7	-1.8
PKE	**Pukeiti**	**2.49**	**242**	P	Pn	18 45 21.0	+1.2
KHEZ	**Kahui Hut**	**2.51**	**240**	P	Pn	18 45 21.4	+1.2
PRWZ	**Puri Road**	**2.58**	**194**	P	Pn	18 45 19.2	-1.7
BFZ	**Birch Farm**	**2.66**	**189**	P	Pn	18 45 19.4	-2.6
MRZ	**Mangatainoka R**	**2.77**	**200**	P	Pn	18 45 20.8	-2.7
TIWZ	**Tintock**	**2.81**	**194**	P	Pn	18 45 21.5	-2.6
WCZ	**Waipu Caves**	**2.89**	**316**	P	Pn	18 45 25.9	+0.8
CPWZ	**Castlepoint**	**2.89**	**189**	P	Pn	18 45 22.8	-2.2
HOWZ	**Holdsworth Sta**	**3.01**	**199**	P	Pn	18 45 23.5	-3.2
OGWZ	**Otaki Gorge**	**3.04**	**204**	P	Pn	18 45 24.2	-2.8
TMWZ	**Te Maipa**	**3.13**	**193**	P	Pn	18 45 25.3	-3.1
KIW	**Kapiti Island**	**3.17**	**207**	P	Pn	18 45 25.9	-2.9
MTW	**Mount Morrison**	**3.26**	**198**	P	Pn	18 45 26.4	-3.7
CAW	**Cannon Point**	**3.33**	**203**	P	Pn	18 45 27.5	-3.5
TRWZ	**Traveller**	**3.45**	**194**	P	Pn	18 45 29.2	-3.4
PAWZ	**Paruwai Farm**	**3.49**	**197**	P	Pn	18 45 29.3	-3.8
DUWZ	**D'Urville Isla**	**3.54**	**218**	P	Pn	18 45 30.9	-3.0
MSWZ	**Moikau Station**	**3.57**	**199**	P	Pn	18 45 30.3	-3.9
BHW	**Baring Head**	**3.67**	**203**	P	Pn	18 45 31.4	-4.1
PLWZ	**Palliser**	**3.71**	**198**	P	Pn	18 45 31.9	-4.3
TCW	**Tory Channel**	**3.71**	**211**	P	Pn	18 45 32.4	-3.7
OUZ	**Omahuta**	**3.83**	**317**	P	Pn	18 45 38.5	+0.7
TUWZ	**Tuamarina**	**4.03**	**212**	P	Pn	18 45 36.6	-3.8
NNZ	**Nelson**	**4.12**	**219**	P	Pn	18 45 37.9	-3.8
BSWZ	**Blackbirch Sta**	**4.30**	**211**	P	Pn	18 45 40.0	-4.0
QRZ	**Quartz Range**	**4.32**	**229**	P	Pn	18 45 41.3	-3.0
THZ	**Tophouse**	**4.77**	**218**	P	Pn	18 45 46.6	-3.9
CTZ	**Chatham Island**	**7.55**	**141**	P	Pn	18 46 27.3	-0.9

IDC 25 18:44:44.9±53.0, 45°93S×96°30E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/33, mbtmp3.8/3, Error ellipse: s-maj=1238.0km s-min=51.8km az=23.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.45**	**57**	T	T	19 06 56.3	
	baz=224,slow=74,SNR=20						
H01W3	**Cape Leeuwin H**	**17.46**	**57**	T	T	19 06 56.7	
	baz=224,slow=74,SNR=16						
H01W1	**Cape Leeuwin H**	**17.46**	**57**	T	T	19 06 57.2	
	baz=224,slow=74,SNR=16						
ASAR	**Alice Springs**	**37.55**	**67**	P	P	18 52 00.8	-0.1
	0.8nm,1.0s,baz=229,slow=8.5,SNR=9.9						
WRA	**Warramunga Arr**	**40.54**	**63**	P	P	18 52 25.8	-0.1
	1.9nm,0.9s,baz=221,slow=8.9,SNR=9.6						
CMAR	**Chiang Mai Arr**	**64.12**	**3**	P	P	18 55 20.9	0.0
	0.4nm,0.4s,baz=206,slow=6.0,SNR=4.4						

*GCG **25** 19:07:44.8±0.6, 13°.40N×91°.72W, h0km±107km, MD3.6*
*SNET **25** 19:07:53.9±1.0, 13°.76N×91°.32W, h17km±9km, ML3.1*
*UCR **25** 19:07:54.0±1.1, 13°.66N×91°.31W, h14km±10km, MD3.2, ML3.0*

ISC 25 19:07:45.7±3.6, 13°.4N±0°.1×91°.7W±0°.2, h10km, n23, σ0§92/23, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.32**	**36**	*e*P	**Pg**	**19 08 10.6**	**-0.5**
FUG	**Fuego 3**	**1.32**	**36**	*e*P	**Pg**	**19 08 10.6**	**-0.5**
STG3	**Santiaguito 3,**	**1.32**	**3**	*e*P	**Pb**	**19 08 09.8**	**-1.0**
IXG	**Ixpaco**	**1.41**	**56**	*e*P	**Pb**	**19 08 12.0**	**-0.3**
IXG	**Ixpaco**	**1.41**	**56**	*e*P	**Pb**	**19 08 12.0**	**-0.3**
NBG	**Las Nubes**	**1.74**	**46**	*e*P	**Pb**	**19 08 17.8**	**-0.2**
NBG				*e*S	**Sn**	**19 08 38.1**	**-0.6**
NBG	**Las Nubes**	**1.74**	**46**	*e*P	**Pb**	**19 08 17.8**	**-0.2**
NBG				*e*S	**Sn**	**19 08 38.1**	**-0.6**
CEVE	**Cerro Verde**	**2.02**	**77**	IAML		19 08 52.2	
	comp=Z,430nm,0.2s						
CEVE	**Cerro Verde**	**2.02**	**77**	IAML		19 08 52.2	
	comp=Z,430nm,0.2s						
SBLS	**San Blas**	**2.02**	**77**	*e*P	**Pb**	**19 08 21.8**	**-0.9**
SBLS	**San Blas**	**2.02**	**77**	*e*P	**Pb**	**19 08 21.8**	**-0.9**
SNJE	**San Jose**	**2.04**	**76**	*e*P	**Pb**	**19 08 22.3**	**-0.7**
SNJE	**San Jose**	**2.04**	**76**	*e*P	**Pb**	**19 08 22.3**	**-0.7**
UNIC	**Universidad Ca**	**2.13**	**74**	*e*P	**Pb**	**19 08 23.6**	**-0.8**
UNIC				*e*P	**Pb**	**19 08 24.3**	**-0.1**
BOQS	**Boqueron**	**2.33**	**81**	*e*P	**Pb**	**19 08 27.7**	**-0.3**
UEES	**Universidad Ev**	**2.37**	**82**	IAML		19 08 57.9	
	comp=Z,205nm,0.2s						
UEES	**Universidad Ev**	**2.37**	**82**	IAML		19 08 57.9	
	comp=Z,205nm,0.2s						
MTO3	**Montecristo**	**2.44**	**65**	*e*P	**Pn**	**19 08 27.6**	**+1.7**
MTO3	**Montecristo**	**2.44**	**65**	*e*P	**Pn**	**19 08 27.6**	**+1.7**
LFU	**La Fuente**	**2.49**	**81**	*e*P	**Pb**	**19 08 29.3**	**-1.4**
LFU	**La Fuente**	**2.49**	**81**	*e*P	**Pb**	**19 08 29.3**	**-1.4**
LFRS	**El Faro**	**2.53**	**84**	*e*P	**Pb**	**19 08 30.0**	**-1.3**
LFRS				*e*S	**Sn**	**19 08 57.8**	**-0.1**

IDC 25 19:48:50.3±53.0, 15°31S×172°47W, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.7/26, mbtmp4.2/3, Error ellipse: s-maj=1023.0km s-min=178.6km az=78.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.86**	**240**	P	P	19 57 06.7	+0.1
	1.6nm,0.7s,baz=88,slow=9.3,SNR=5.9						
WRA	**Warramunga Arr**	**50.73**	**257**	P	P	19 57 52.4	0.0
	0.7nm,0.5s,baz=93,slow=7.0,SNR=15						
ASAR	**Alice Springs**	**50.99**	**252**	P	P	19 57 54.0	-0.4
	6.0nm,0.6s,baz=89,slow=7.9,SNR=153						

*ISCJB **25** 20:26:02.3±0.9, 51°.6N±0°.2×178°.46E±0°.05, h100km, mb3.6/9, Error ellipse: s-maj=29.3km s-min=4.6km az=3.0*
*NEIC **25** 20:26:03.1±1.3, 51°.7N±0°.2×178°.37E±0°.08, h82km±9km*
*AEIC **25** 20:26:04.2±3.1, 52°.3N±0°.1×178°.58E±0°.09, h55km±8km, ML3.7*
*IDC **25** 20:26:07.3±5.2, 51°.72N×178°.29E, h121km±49km, mb3.1/8, mb1 3.3/9, mb1mx3.1/60, mbtmp3.5/9, MS3.0/1, Ms1 3.0/1, ms1mx2.6/28, Error ellipse: s-maj=50.2km s-min=15.9km az=177.0*

ISC 25 20:26:04.4±1.2, 51°.7N±0°.2×178°.43E±0°.05, h100km, n40, σ1§55/41, mb3.6/9, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**1.76**	**85**		**Pn**	**20 26 32.8**	**-1.1**
TANO	**Tanaga North**	**2.16**	**82**		**Pn**	**20 26 37.2**	**-1.7**
TASE	**Tanaga Southea**	**2.21**	**84**		**Pn**	**20 26 38.1**	**-1.6**
TASE					**Sn**	**20 27 04.3**	**-2.3**
TAFP	**Tanaga Falls P**	**2.24**	**83**		**Pn**	**20 26 38.3**	**-1.8**
TAFP					**Sn**	**20 27 05.2**	**-2.2**
TAPA	**Tanaga Point A**	**2.34**	**85**		**Pn**	**20 26 39.9**	**-1.6**
TAPA					**Sn**	**20 27 08.9**	**-0.9**
KIMD	**Kanaga Island**	**2.70**	**86**		**Pn**	**20 26 44.8**	**

PS01	**TAPS Pump Stn**	**1.60**	**271**			**Pn**	**20 45 31.6**	**+0.2**
PS01						**Sn**	**20 45 51.3**	**-0.8**
TOLK	**Toolik Lake Re**	**2.60**	**233**	P		**Pn**	**20 45 45.1**	**-0.2**
	baz=48							
TOLK				S		**Sn**	**20 46 16.8**	**-0.1**
	baz=48							
TOLK	**Toolik Lake Re**	**2.60**	**233**			**Pn**	**20 45 44.9**	**-0.3**
TOLK	**Toolik Lake Re**	**2.60**	**233**			**Sn**	**20 46 16.6**	**-0.3**
BM05	**Burnt Mountain**	**2.89**	**185**			**Sn**	**20 46 25.1**	**+1.2**
BM03	**Burnt Mountain**	**2.90**	**186**			**Pn**	**20 45 49.6**	**+0.4**
FYU	**Fort Yukon**	**3.78**	**188**			**Pn**	**20 46 01.2**	**-0.1**
FYU	**Fort Yukon**	**3.78**	**188**			**Sn**	**20 46 45.0**	**-0.7**
COLD	**Coldfoot**	**3.84**	**220**			**Pn**	**20 46 02.0**	**-0.2**
INK	**Inuvik**	**4.18**	**114**	Pn		**Pn**	**20 46 07.7**	**+0.9**
	12nm,0.3s,baz=304,slow=15,SNR=353							
INK				Sn		**Sn**	**20 46 53.1**	**-2.5**
	13nm,0.3s,baz=55,slow=28,SNR=18							
INK	**Inuvik**	**4.18**	**114**			**Pn**	**20 46 07.3**	**+0.5**
PS05	**TAPS Pump Stn5**	**4.29**	**219**			**Pn**	**20 46 07.8**	**-0.5**
EPYK	**Eagle Plains**	**4.75**	**143**	P		**Pn**	**20 46 15.8**	**+1.1**
	baz=328							
EPYK				S		**Sn**	**20 47 10.3**	**+0.6**
	baz=328							
EPYK	**Eagle Plains**	**4.75**	**143**			**Pn**	**20 46 15.2**	**+0.5**
EPYK	**Eagle Plains**	**4.75**	**143**			**Sn**	**20 47 11.6**	**+1.9**
PRP	**Porcupine Dome**	**4.84**	**188**			**Pn**	**20 46 16.0**	**0.0**
PS06	**TAPS Pump Stn6**	**4.97**	**209**			**Pn**	**20 46 16.9**	**-0.7**
POKR	**Poker Plat Res**	**5.37**	**196**	P		**Pn**	**20 46 23.2**	**0.0**
	baz=12							
POKR				S		**Sn**	**20 47 22.0**	**-3.0**
	baz=12							
POKR	**Poker Plat Res**	**5.37**	**196**			**Pn**	**20 46 22.6**	**-0.6**
POKR						**Sn**	**20 47 23.1**	**-1.9**
MDM	**Murphy Dome**	**5.61**	**199**			**Pn**	**20 46 26.1**	**-0.3**
EGAK	**Eagle**	**5.64**	**168**			**Pn**	**20 46 27.4**	**+0.6**
COLA	**College**	**5.65**	**197**			**Pn**	**20 46 26.9**	**-0.1**
TCOL	**CIGO, UAF Yank**	**5.65**	**197**	P		**Pn**	**20 46 27.4**	**+0.4**
	baz=13							
TCOL				S		**Sn**	**20 47 30.6**	**-1.2**
	baz=13							
IM01	**Indian Mountai**	**5.66**	**225**			**Pn**	**20 46 25.9**	**-1.2**
IL31		**5.67**	**193**			**Pn**	**20 46 26.9**	**-0.3**
ILAR	**Eielson Array**	**5.67**	**193**	Pn		**Pn**	**20 46 26.9**	**-0.4**
	0.9nm,0.3s,baz=1.5,slow=14,SNR=37							
ILAR				Sn		**Sn**	**20 47 29.6**	**-2.6**
	6.6nm,0.3s,baz=6.7,slow=28,SNR=8.5							
ILAR				Lg		Lg	20 47 57.0	
	5.8nm,0.3s,baz=14,slow=31,SNR=5.3							
ILAR				LR		LR	20 49 11.9	
	comp=Z,164nm,18.2s,baz=135,slow=44							
IM03		**5.68**	**225**			**Pn**	**20 46 26.1**	**-1.2**
CCB	**Clear Creek Bu**	**5.87**	**197**			**Pn**	**20 46 29.4**	**-0.5**
PS08	**TAPS Pump Stn8**	**5.89**	**192**			**Pn**	**20 46 30.0**	**-0.2**
MLY	**Manley**	**5.89**	**210**			**Pn**	**20 46 29.5**	**-0.8**
HDA	**Harding Lake**	**6.03**	**193**	P		**Pn**	**20 46 32.5**	**+0.3**
	baz=9.4							
HDA				S		**Sn**	**20 47 40.2**	**-1.0**
	baz=9.4							
HDA	**Harding Lake**	**6.03**	**193**			**Pn**	**20 46 32.1**	**-0.1**
WRH	**Wood River Hil**	**6.07**	**197**			**Pn**	**20 46 32.6**	**-0.1**
NEA	**Nenana**	**6.08**	**202**			**Pn**	**20 46 31.7**	**-1.1**
SCRK	**Sand Creek**	**6.35**	**180**			**Pn**	**20 46 37.4**	**+0.7**
DAWY	**Dawson**	**6.49**	**162**			**Pn**	**20 46 39.3**	**+0.7**
BWN	**Browne**	**6.52**	**202**	Pn		**Pn**	**20 46 38.5**	**-0.3**
RIDG	**Independent Ri**	**6.59**	**184**			**Pn**	**20 46 40.4**	**+0.4**
DOT	**Dot Lake**	**6.67**	**181**			**Pn**	**20 46 41.7**	**+0.6**
BPAW	**Bear Paw Mtn.**	**6.80**	**207**			**Pn**	**20 46 42.2**	**-0.6**
MCK	**McKinley**	**6.88**	**199**			**Pn**	**20 46 43.5**	**-0.3**
C36M	**Paulatuk**	**6.91**	**88**	P		**Pn**	**20 46 44.0**	**-0.2**
	baz=287							
RDOG	**Red Dog Mine**	**7.13**	**261**	Pn		**Pn**	**20 46 45.4**	**-1.9**
RND	**Reindeer**	**7.19**	**198**			**Pn**	**20 46 48.0**	**-0.1**
CHUM	**Lake Minchumin**	**7.22**	**211**			**Pn**	**20 46 48.1**	**-0.4**
KTH	**Kantishna Hill**	**7.31**	**206**			**Pn**	**20 46 49.2**	**-0.6**
BC03		**7.31**	**172**			**Pn**	**20 46 50.4**	**+0.7**
TRF	**Thorofare Moun**	**7.32**	**203**			**Pn**	**20 46 49.4**	**-0.6**
DHY	**Denali Highway**	**7.38**	**192**			**Pn**	**20 46 52.1**	**+1.2**
PAX	**Paxson**	**7.38**	**186**			**Pn**	**20 46 51.5**	**+0.6**
MENT	**Mentasta**	**7.39**	**179**			**Pn**	**20 46 51.5**	**+0.7**
WAT2	**Susitna Watana**	**7.59**	**196**			**Pn**	**20 46 54.5**	**+0.7**
WAT1	**Susitna Watana**	**7.72**	**196**			**Pn**	**20 46 55.4**	**0.0**
BVCY	**Beaver Creek**	**8.01**	**170**			**Pn**	**20 47 00.5**	**+1.1**
PPLA	**Purkeypile**	**8.12**	**208**			**Pn**	**20 47 00.9**	**-0.1**
YUK1	**Sand Pete Hill**	**8.29**	**169**			**Pn**	**20 47 03.5**	**+0.2**
SCM	**Sheep Creek Mo**	**8.61**	**191**	Pn		**Pn**	**20 47 08.7**	**+1.1**
YUK2	**White River**	**8.63**	**170**			**Pn**	**20 47 09.1**	**+1.1**
SML	**Sawmill**	**8.71**	**194**	Pn		**Pn**	**20 47 09.1**	**+0.1**
GHO	**Glory Hole Cre**	**8.80**	**196**	Pn		**Pn**	**20 47 09.5**	**-0.7**
TTA	**Tatalina**	**8.80**	**216**			**Pn**	**20 47 09.4**	**-0.4**
TT01	**Tatalina**	**8.83**	**219**			**Pn**	**20 47 09.7**	**-0.8**
GLB	**Gilahina Butte**	**8.89**	**180**	Pn		**Pn**	**20 47 09.9**	**-1.5**
SKT	**Skwentna**	**8.89**	**204**	Pn		**Pn**	**20 47 11.6**	**+0.1**
MCARA	**McCarthy VSAT**	**8.96**	**177**	Pn		**Pn**	**20 47 14.2**	**+1.9**
PMR	**Palmer**	**8.99**	**196**	Pn		**Pn**	**20 47 13.1**	**+0.3**
KNK	**Knik Glacier**	**9.11**	**194**	Pn		**Pn**	**20 47 14.4**	**0.0**
YUK4	**Talbot Arm**	**9.23**	**164**			**Pn**	**20 47 16.0**	**-0.3**
SUA	**Susitna One**	**9.29**	**201**	Pn		**Pn**	**20 47 17.6**	**+0.6**
BARN	**Barnard Glacie**	**9.32**	**173**	Pn		**Pn**	**20 47 19.8**	**+2.3**
BALM	**Baldy**	**9.32**	**175**	Pn		**Pn**	**20 47 18.8**	**+1.4**
CTGM	**Chitina Glacie**	**9.43**	**172**	Pn		**Pn**	**20 47 21.5**	**+2.6**
RC01	**Rabbit Creek A**	**9.55**	**197**	Pn		**Pn**	**20 47 22.3**	**+1.9**
CRQM	**Cirque**	**9.58**	**178**	Pn		**Pn**	**20 47 23.7**	**+2.7**
TGL	**Tana Glacier**	**9.59**	**177**	Pn		**Pn**	**20 47 23.7**	**+2.7**
FID	**Port Fidalgo**	**9.64**	**188**	Pn		**Pn**	**20 47 23.8**	**+2.0**
WAX	**Waxell Ridge**	**9.89**	**177**	Pn		**Pn**	**20 47 27.1**	**+1.9**
ANM	**Nome**	**10.01**	**246**	Pn		**Pn**	**20 47 24.9**	**-1.8**
WHY	**Whitehorse**	**10.35**	**155**	Pn		**Pn**	**20 47 31.5**	**0.0**
SKAG	**Skagway**	**11.45**	**157**	Pn		**Pn**	**20 47 46.8**	**+0.4**
GAMB	**Gambell**	**12.56**	**252**	Pn		**Pn**	**20 47 59.3**	**-2.2**
DLBC	**Dease Lake**	**13.27**	**147**	Pn		**Pn**	**20 48 09.9**	**-1.4**
YKW3	**Yellowknife Ar**	**13.89**	**109**			**Pn**	**20 48 17.0**	**-2.7**
YKA	**Yellowknife Ar**	**13.94**	**110**	Pn		**Pn**	**20 48 17.6**	**-2.8**
	0.8nm,0.3s,baz=310,slow=13,SNR=28							
YKA				Sn		Sn	20 50 39.9	-15
	1.3nm,0.3s,baz=310,slow=23,SNR=13							
RES	**Resolute Bay**	**14.97**	**51**	Pn		**Pn**	**20 48 30.7**	**-3.6**
	0.7nm,0.3s,baz=257,slow=10,SNR=18							
RES				Sn		Sn	20 51 06.4	-14
	1.1nm,0.3s,baz=7.5,slow=20,SNR=5.4							
RES				LR		LR	20 56 36.8	
	comp=Z,78nm,18.6s,baz=348,slow=46							
RES	**Resolute Bay**	**14.97**	**51**			**Pn**	**20 48 30.4**	**-3.9**
TULEG	**Thule**	**20.77**	**40**	P		P	20 49 36.1	-7.5
TULEG				IAmb		IAmb	20 49 41.4	
	comp=Z,9.7nm,0.9s							
FFC	**Flin Flon**	**24.12**	**109**	P		**P**	**20 50 17.9**	**-0.7**
SEY	**Seymchan**	**25.15**	**285**	P		**P**	**20 50 28.8**	**+1.0**
	comp=Z,1.9nm,0.5s,baz=81,slow=10.0,SNR=5.5							
FRB	**Frobisher Bay**	**28.27**	**65**	LR		LR	21 04 14.5	
	comp=Z,94nm,18.6s,baz=200,slow=41							
PETK	**Petropavlovsk-**	**30.95**	**267**	P		**P**	**20 51 19.6**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=75,slow=11,SNR=6.3							
PETK				LR		LR	21 07 28.3	
	comp=Z,80nm,18.4s,baz=60,slow=44							
PDAR	**Pinedale Array**	**32.57**	**130**	P		**P**	**20 51 35.5**	**+1.2**
	comp=Z,0.8nm,0.9s,baz=28,slow=6.7,SNR=5.3							
ELK	**Elko**	**33.09**	**138**	P		**P**	**20 51 38.6**	**-0.3**
ELK				IAmb		IAmb	20 52 01.4	
	comp=Z,4.7nm,1.4s							
NVAR	**Mina Array Bea**	**34.66**	**143**	P		**P**	**20 51 54.8**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=355,slow=8.2,SNR=5.2							
SCHQ	**Schefferville**	**35.78**	**75**	P		**P**	**20 52 03.1**	**+1.3**
	comp=Z,5.6nm,1.0s,baz=314,slow=11,SNR=3.2							
ARCES	**ARCESS Array B**	**40.24**	**6**	P		**P**	**20 52 39.0**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=8.9,slow=6.4,SNR=4.1							
MCWV	**Mont Chateau**	**44.55**	**98**	P		**P**	**20 53 13.9**	**-0.7**
TXAR	**Lajitas Array**	**46.79**	**129**	P		**P**	**20 53 35.1**	**+2.5**
	comp=Z,0.1nm,0.6s,baz=338,slow=8.7,SNR=2.2							
FINES	**FINESS Array B**	**48.36**	**6**	P		**P**	**20 53 44.6**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=0.0,slow=5.7,SNR=7.7							
ZALV	**Zalesovo Beam**	**51.21**	**325**	P		**P**	**20 54 06.5**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=24,slow=7.2,SNR=6.3							
SONM	**Songino Array**	**51.83**	**306**	P		**P**	**20 54 13.5**	**+2.6**
	comp=Z,0.4nm,0.8s,baz=10,slow=8.8,SNR=3.3							
ARU	**Arti**	**52.55**	**345**	P		**P**	**20 54 17.7**	**+1.7**
	comp=Z,0.9nm,0.5s,baz=350,slow=6.1,SNR=4.9							
ARU	**Arti**	**52.55**	**345**	IAmb		IAmb	20 55 57.6	
	comp=Z,19nm,1.4s							
BVAR	**Borovoye Array**	**54.52**	**335**	P		**P**	**20 54 31.7**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=337,slow=7.1,SNR=3.8							
KURK	**Kurchatov**	**55.45**	**329**	P		**P**	**20 54 38.7**	**+1.5**
KURK	**Kurchatov**	**55.45**	**329**	IAmb		IAmb	20 55 41.8	
	comp=Z,6.8nm,1.5s							
KURBB	**Kurchatov Arra**	**55.55**	**329**	P		**P**	**20 54 38.7**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=14,slow=7.7,SNR=15							
HHC	**Hu-ho-hao-te**	**56.75**	**299**	P		**P**	**20 54 44.5**	**-2.3**
HHC				pmax		pmax		
	comp=Z,4.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,89nm,5.7s							
MKAR	**Makanchi Array**	**58.52**	**324**	P		**P**	**20 54 58.9**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=33,slow=8.4,SNR=7.1							
AKASG	**Malin Array Be**	**59.21**	**5**	P		**P**	**20 55 03.9**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=358,slow=7.0,SNR=6.6							
ABKAR	**Akbulak array**	**59.51**	**342**	P		**P**	**20 55 06.8**	**+1.0**
ABKAR				IAmb		IAmb	20 55 07.4	
	comp=Z,5.5nm,1.4s							
WMQ	**Urumqi**	**60.23**	**319**	*eP*		**P**	**20 55 10.3**	**-0.7**
BRTR	**Keskin Array B**	**70.28**	**2**	P		**P**	**20 56 18.4**	**+2.2**
	comp=Z,0.7nm,0.9s,baz=2.9,slow=8.7,SNR=2.7							
CMAR	**Chiang Mai Arr**	**81.43**	**301**	P		**P**	**20 57 20.7**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=1.0,slow=5.8,SNR=3.8							

IDC ***25*** *21:09:28.8±1.9,43.°12N×82.°56E,h0km,mb3.9/1, mb1 3.3/6,mb1mx3.2/48,mbtmp3.3/6,ML2.8/5,Error ellipse: s-maj=26.0km s-min=15.6km az=119.0*

SOME ***25*** *21:09:32.4,43.°23N×82.°53E,h15km*

NNC ***25*** *21:09:34.5±0.8,43.°33N×82.°40E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=7.3km s-min=2.5km az=136.0*

ISC 25 21:09:32.4±1.8,43°23N±0.06×82°42E±0.06,h6km±10km, n41,σ2s28/60,9C-8D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PDGK	**Podgornoye**	**2.14**	**274**	Pg		**Pb**	**21 10 13.2**	**+1.5**
	21nm,0.2s							
PDGK				Lg		Lg	21 10 43.2	
	185nm,0.3s							
PDGK	**Podgornoye**	**2.14**	**274**	⇑Pn		**Pb**	**21 10 11.7**	**0.0**
	21nm,0.4s							
PDGK				⇑Lg		Lg	21 10 42.9	
	348nm,0.5s							
SHLS	**Shalkode**	**2.17**	**269**	*eP*		**Pn**	**21 10 08.5**	**-0.7**
	139nm,0.3s							
SHLS				*eS*		**Sn**	**21 10 35.2**	**-1.2**
	669nm,0.4s							
DJR	**Jarkent**	**2.20**	**301**	*eP*		**Pb**	**21 10 13.9**	**+1.2**
	5.2nm,0.2s							
DJR				*eS*		**Sg**	**21 10 43.7**	**+0.6**
	187nm,0.4s							
DJR	**Jarkent**	**2.20**	**301**	Pg		**Pb**	**21 10 13.9**	**+1.2**
	5.2nm,0.2s							
DJR				Lg		Lg	21 10 43.4	
	187nm,0.4s							
UZB	**Uzynbulak**	**2.49**	**269**	*eP*		**Pb**	**21 10 18.9**	**+1.3**
	9.3nm,0.2s							
UZB				*eS*		**Sg**	**21 10 52.9**	**+0.5**
	240nm,0.2s							
UZB	**Uzynbulak**	**2.49**	**269**	Pg		**Pb**	**21 10 18.9**	**+1.3**
	9.3nm,0.2s							
UZB				Lg		Lg	21 10 52.9	
	240nm,0.2s							
KPKS	**Kokpek**	**2.74**	**276**	*eP*		**Pb**	**21 10 23.3**	**+1.4**
	29nm,0.1s							
KPKS				*eS*		**Sg**	**21 10 60.0**	**-0.3**
	343nm,0.4s							
SATY	**Saty**	**2.94**	**268**	*eP*		**Pb**	**21 10 27.5**	**+2.1**
	16nm,0.2s							
SATY				*eS*		**Sg**	**21 11 07.4**	**+0.5**
	241nm,0.4s							
SATY	**Saty**	**2.94**	**268**	Pg		**Pb**	**21 10 27.5**	**+2.1**
	13nm,0.1s							
SATY				Lg		Lg	21 11 07.4	
	225nm,0.1s							
KAPS	**Kapalarasan**	**3.01**	**314**	*eP*		**Pb**	**21 10 28.1**	**+1.7**
	11nm,0.2s							
KAPS				*eS*		**Sg**	**21 11 07.8**	**-1.2**
	90nm,0.5s							
KURS	**Kuram**	**3.11**	**276**	*eP*		**Pb**	**21 10 30.0**	**+1.8**
	12nm,0.7s							
KURS				*eS*		**Sg**	**21 11 12.1**	**-0.2**
	75nm,0.7s							
KURS	**Kuram**	**3.11**	**276**	Pg		**Pg**	**21 10 31.6**	**-0.4**
	7.5nm,0.5s							
KURS				Lg		Lg	21 11 13.8	
	24nm,0.4s							
MK31	**Makanchi Array**	**3.56**	**359**	Pn		**Pn**	**21 10 29.3**	**+1.1**
	0.5nm,0.2s,baz=192,slow=12,SNR=331							
MK31				⇓Pg		**Pb**	**21 10 38.4**	**+2.6**
	4.4nm,0.3s,baz=174,slow=16,SNR=53							
MK31				⇑Sn		**Sn**	**21 11 13.0**	**+2.4**
	7.6nm,0.5s,baz=235,slow=20,SNR=4.3							
MK31				⇓Lg		Lg	21 11 25.1	
	17nm,0.5s,baz=177,slow=28,SNR=4.5							
MKAR	**Makanchi Array**	**3.56**	**359**	Pn		**Pn**	**21 10 28.9**	**+0.6**
	1.1nm,0.3s,baz=180,slow=14,SNR=49							
MKAR				Pg		**Pb**	**21 10 37.3**	**+1.5**
	8.5nm,0.3s,baz=178,slow=17,SNR=72							
MKAR				Lg		Lg	21 11 23.2	
	6.7nm,0.3s,baz=175,slow=27,SNR=6.5							
MAKZ	**Makanchi**	**3.59**	**355**	⇓Pn		**Pn**	**21 10 29.9**	**+1.3**
	2.3nm,0.4s							
MAKZ				⇑Pg		**Pg**	**21 10 39.2**	**-1.9**
	2.5nm,0.2s							
MAKZ				⇓Sn		**Sn**	**21 11 12.0**	**+0.7**
	6.8nm,0.4s							
MAKZ				⇑Lg		Lg	21 11 26.0	
	18nm,0.7s							
KOTS	**Kotyrbulak**	**3.88**	**272**	*eP*		**Pb**	**21 10 44.9**	**+3.5**
	69nm,0.3s							
KOTS				*eS*		**Sg**	**21 11 36.8**	**-0.2**
	278nm,0.6s							
KOTS	**Kotyrbulak**	**3.88**	**272**	Pg		**Pb**	**21 10 44.9**	**+3.5**
	17nm,0.3s							
KOTS				Lg		Lg	21 11 36.8	
	278nm,0.6s							
MDOK	**Medeo**	**3.93**	**271**	*eP*		**Pb**	**21 10 46.5**	**+4.3**
	6.6nm,0.2s							
MDOK				*eS*		**Sg**	**21 11 39.5**	**+0.9**
	73nm,0.4s							
MDOK	**Medeo**	**3.93**	**271**	⇓Pg		**Pb**	**21 10 46.2**	**+4.0**
	6.3nm,0.4s							
MDOK				⇑Lg		Lg	21 11 39.4	
	90nm,0.8s							
MDOK	**Medeo**	**3.93**	**271**	Pg		**Pb**	**21 10 46.5**	**+4.3**
	6.6nm,0.2s							
MDOK				Lg		Lg	21 11 39.7	
	73nm,0.4s							
TNSS	**Tian-Shan**	**4.01**	**269**	*eP*		**Pb**	**21 10 47.7**	**+3.9**
	11nm,0.3s							
TNSS				*eS*		**Sg**	**21 11 42.1**	**+0.9**
	42nm,0.5s							
TNSS	**Tian-Shan**	**4.01**	**269**	Pg		**Pb**	**21 10 47.8**	**+4.0**
	7.6nm,0.5s							
TNSS				Lg		Lg	21 11 42.2	
	44nm,0.6s							
KTBS	**Karatobe**	**4.21**	**278**	*eP*		**Pb**	**21 10 50.8**	**+4.0**
	4.0nm,0.3s							
KTBS				*eS*		**Sg**	**21 11 47.1**	**-0.4**
	138nm,0.6s							
KTBS	**Karatobe**	**4.21**	**278**	Pg		**Pb**	**21 10 50.8**	**+4.0**
	6.3nm,0.5s							
KTBS				Lg		Lg	21 11 47.1	
	79nm,0.5s							
KUU	**Kurty**	**4.47**	**281**	*eP*		**Pb**	**21 10 55.2**	**+3.9**
	3.2nm,0.3s							
KUU				*eS*		**Sg**	**21 11 54.7**	**-1.3**
	60nm,0.5s							
KUU	**Kurty**	**4.47**	**281**	Pg		**Pb**	**21 10 55.2**	**+3.9**
	3.2nm,0.5s							
KUU				Lg		Lg	21 11 54.7	
	60nm,0.5s							
ZSN	**Zaisan**	**4.55**	**21**	*eP*		**Pb**	**21 10 52.5**	**-0.2**
	22nm,0.3s							
ZSN				*eS*		**Sb**	**21 11 49.6**	**+1.8**
	32nm,0.4s							
ZSN	**Zaisan**	**4.55**	**21**	Pg		**Pb**	**21 10 55.5**	**+2.8**
	22nm,0.3s							
ZSN				Lg		Lg	21 11 55.1	
	32nm,0.4s							
KST	**Kastek**	**4.73**	**270**	*eP*		**Pg**	**21 11 01.2**	**-1.8**
	7.8nm,0.6s							
KST				*eS*		**Sg**	**21 12 04.9**	**+0.6**
	64nm,0.8s							
KST	**Kastek**	**4.73**	**270**	Pg		**Pg**	**21 11 01.2**	**-1.8**
	7.8nm,0.6s							
KST				Lg		Lg	21 12 04.9	
	64nm,0.8s							
DGS	**Degeres**	**4.86**	**272**	*eP*		Pb	21 11 03.1	+5.1
	4.8nm,0.3s							
DGS				*eS*		**Sg**	**21 12 07.8**	**-0.6**
	70nm,0.6s							
DGS	**Degeres**	**4.86**	**272**	Pg		Pb	21 11 03.1	+5.1
	1.5nm,0.2s							
DGS				Lg		Lg	21 12 08.0	
	70nm,0.6s							
TKM2	**Tokmak 2**	**5.01**	**269**	⇑Pg		**Pb**	**21 11 03.1**	**+2.5**
	6.7nm,0.9s							
TKM2				⇑Lg		Lg	21 12 14.2	
	22nm,0.8s							
AAK	**Ala-Archa**	**5.85**	**267**	Pn		**Pn**	**21 11 02.4**	**+2.5**
	0.2nm,0.3s,baz=85,slow=11,SNR=4.1							
AAK				Lg		Lg	21 12 36.9	
	1.2nm,0.3s,baz=290,slow=21,SNR=3.6							
AAK	**Ala-Archa**	**5.85**	**267**	⇓Pg		Pb	21 11 20.4	+5.4
	5.5nm,0.7s							
AAK				⇓Lg		Lg	21 12 37.6	
	18nm,1.0s							
KURBB	**Kurchatov Arra**	**7.86**	**342**	Pn		**Pn**	**21 11 27.1**	**-0.1**
	0.2nm,0.3s,baz=161,slow=13,SNR=9.0							
KURBB				Sn		**Sn**	**21 12 52.4**	**-4.0**
	0.3nm,0.3s,baz=137,slow=30,SNR=10							
KURBB				Lg		Lg	21 13 43.1	
	0.2nm,0.3s,baz=176,slow=27,SNR=4.3							
KURBB	**Kurchatov Arra**	**7.86**	**342**	⇑Pn		**Pn**	**21 11 27.5**	**+0.3**
	2.7nm,0.5s							
KURBB				⇓Sn		**Sn**	**21 12 57.1**	**+0.7**
	12nm,0.6s							
ZALV	**Zalesovo Beam**	**10.84**	**8**	Pn		**Pn**	**21 12 06.3**	**-1.7**
	0.2nm,0.3s,baz=188,slow=15,SNR=3.5							
SONM	**Songino Array**	**17.39**	**66**	P		**Pn**	**21 13 32.6**	**-3.1**
	0.0nm,0.3s,baz=265,slow=12,SNR=2.6							
TORD	**Torodi Ar. Bea**	**74.40**	**273**	P		**P**	**21 21 09.1**	**-2.4**
	0.5nm,0.5s,baz=32,slow=5.6,SNR=11							

SJA ***25*** *21:10:40.5±0.5,38.°34S×71.°69W,h115km±26km,ML3.0, MW3.2*

ISCJB ***25*** *21:10:41.1±0.5,38.°03S±0.°04×71.°24W±0.°09,h134km±5km, mb4.0/9,Error ellipse: s-maj=11.1km s-min=6.5km az=0.7*

NEIC ***25*** *21:10:41.8±2.4,38.°09S±0.°04×71.°1W±0.°2,h126km±8km*

IDC ***25*** *21:10:42.7±2.1,38.°07S×70.°76W,h122km±18km,mb3.8/7, mb1 3.8/10,mb1mx3.6/28,mbtmp4.2/10,Error ellipse: s-maj=67.4km s-min=13.3km az=95.0*

VAO ***25*** *21:10:43.3±0.9,38.°22S×71.°19W,h150km±12km,mb4.3*

GUC ***25*** *21:10:43.1±0.6,38.°05S×71.°67W,h149km±8km,ML3.9*

ISC 25 21:10:41.2±0.8,38°10S±0.°04×71°27W±0.°07,h123km±8km, n95,σ1s21/102,mb4.1/9,1C-1D,Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CANA	**Caviahue**	**0.27**	**37**	*eP*		**Pn**	**21 10 60.0**	**+1.4**
CCHI	**Chillan**	**1.63**	**336**	*eP*		**Pn**	**21 11 11.7**	**+1.4**
CCHI				*i* S		**Sn**	**21 11 33.7**	**+1.3**
CCHI				IAML			21 11 38.6	
	comp=N,1μm,0.4s							
CCHI	**Chillan**	**1.63**	**336**	*e*P		**Pn**	**21 11 11.9**	**+1.6**
CCHI				*e*S		**Sn**	**21 11 34.6**	**+2.1**
CCSP	**San Pedro de C**	**1.93**	**310**	*eP*		**Pn**	**21 11 13.9**	**+0.1**
CCSP				*i* S		**Sn**	**21 11 37.5**	**-1.4**
CCSP				IAML			21 11 43.8	
	comp=E,2μm,0.4s							
COCH	**Cobquecura**	**2.31**	**328**	⇓*i*P		**Pn**	**21 11 19.6**	**+0.9**
COCH				*i* S		**Sn**	**21 11 46.2**	**-1.2**
COCH				IAML			21 11 55.1	
	comp=E,498nm,0.6s							
COCH	**Cobquecura**	**2.31**	**328**	*eP*		**Pn**	**21 11 19.5**	**+0.8**
PLCA	**Paso Flores**	**2.69**	**168**	P		**Pn**	**21 11 24.4**	**+0

NBPB	**Pedra_Branca-C**	**43.35**	**50**	*eP*		**P**	**21 18 31.5**	**+0.2**
NBPB	**Pedra_Branca-C**	**43.35**	**50**	*eP*		**P**	**21 18 31.5**	**+0.2**
VNA3	**Neumayer Olymp**	**45.34**	**156**	P		**P**	**21 18 47.6**	**+1.0**
VNA2	**Neumayer--Watz**	**46.01**	**156**	P		**P**	**21 18 52.7**	**+1.0**
	baz=282,slow=8.9							
SNAA	**Sanae**	**47.57**	**157**	P		**P**	**21 19 04.9**	**+0.9**
SNAA	**Sanae**	**47.57**	**157**	P		**P**	**21 19 04.8**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=282,slow=6.6,SNR=12							
SNAA	**Sanae**	**47.57**	**157**	P		**P**	**21 19 04.2**	**+0.2**
SNAA				IAmb		IAmb	21 19 05.8	
	comp=Z,3.1nm,0.8s							
QSPA	**South Pole Qui**	**52.14**	**180**	P		**P**	**21 19 38.5**	**-0.2**
SUR	**Sutherland**	**72.34**	**117**	P		**P**	**21 21 55.2**	**+1.2**
LIC	**Lamto**	**75.53**	**70**	*eP*		**P**	**21 22 12.6**	**+0.2**
	comp=Z,5.4nm,0.5s							
TIC	**Toumodi**	**75.81**	**70**	*eP*		**P**	**21 22 14.3**	**+0.2**
KIC	**Kosan Boka**	**75.83**	**70**	*eP*		**P**	**21 22 14.5**	**+0.4**
	comp=Z,7.2nm,0.7s							
KIC	**Kosan Boka**	**75.83**	**70**	P		**P**	**21 22 14.5**	**+0.4**
DBIC	**Dimbokro**	**75.95**	**70**	P		**P**	**21 22 15.3**	**+0.5**
	comp=Z,2.7nm,0.5s,baz=206,slow=5.2,SNR=8.0							
DBIC	**Dimbokro**	**75.95**	**70**	IAmb		IAmb	21 22 15.9	
	comp=Z,2.8nm,0.7s							
BOSA	**Boshof**	**77.64**	**117**	P		**P**	**21 22 23.7**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=236,slow=4.0,SNR=8.7							
BOSA	**Boshof**	**77.64**	**117**	IAmb		IAmb	21 22 28.2	
	comp=Z,5.1nm,1.0s							
TORD	**Torodi Ar. Bea**	**85.05**	**69**	P		**P**	**21 23 03.1**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=226,slow=4.9,SNR=9.8							

*GCMT **25** 21:11:21.0±0.3, 56°.88S±0°.02×141°.83W±0°.03, h24km±2km, MW4.9/69, Moment Tensor Solution. s20,c26; s69,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.07±.19; $M_{\theta\theta}$2.52±.20; $M_{\phi\phi}$-2.45±.17; $M_{r\theta}$-0.55±.22; $M_{\theta\phi}$1.93±.11; $M_{\phi r}$0.34±.19; Best double couple: M_o3.21200×10^{16} NP1:ϕs216.00000°,δ78.00000°,λ-12.00000°. NP2: ϕs206.00000°,δ78.00000°,λ-179.00000°. Principal axes: T 3.2340, Plg7.0000°, Azm162.0000°; N -0.0450, Plg78.0000°, Azm289.0000°; P -3.1910, Plg9.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 25 21:11:17.4±1.6, 57°.06S×142°.63W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/28, mbtmp4.0/3, MS3.9/13, Ms1 3.9/13, ms1mx3.7/24 Error ellipse: s-maj=61.2km s-min=35.5km az=41.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**27.78**	**203**	LR	LR	21 24 59.1	
	comp=Z,187nm,20.1s,baz=78,slow=30						
QSPA	**South Pole Qui**	**33.10**	**180**	LR	LR	21 28 55.3	
	comp=Z,232nm,20.9s,baz=68,slow=32						
TBI	**Tubuai**	**34.04**	**349**	*e*LR	LR	21 26 46.9	
	comp=Z,757nm,27.2s						
TBI	**Tubuai**	**34.04**	**349**	*e*T	T	21 53 07.7	
	34nm,0.9s						
PMSA	**Palmer Station**	**36.57**	**135**	LR	LR	21 29 15.8	
	comp=Z,151nm,18.2s,baz=291,slow=30						
PAE	**Paea**	**39.67**	**350**	*e*T	T	22 00 09.8	
	1.4nm,0.3s						
PPT2	**Papeete2**	**39.74**	**350**	*e*S	S	21 24 42.0	-14
	92nm,26.5s						
PPT2				*e*LR	LR	21 29 17.0	
	comp=Z,610nm,27.8s						
PPT2	**Papeete2**	**39.74**	**350**	*e*T	T	22 00 15.2	
	2.6nm,0.3s						
PPT	**Papeete**	**39.77**	**350**	LR	LR	21 31 23.1	
	comp=Z,133nm,19.1s,baz=190,slow=30						
SNAA	**Sanae**	**48.51**	**164**	P	P	21 20 01.0	-0.3
	2.5nm,0.6s,baz=217,slow=8.8,SNR=15						
DZM	**Mont Dzumac**	**50.77**	**292**	*e*LR	LR	21 34 35.1	
	comp=Z,193nm,24.9s						
MAW	**Mawson**	**54.22**	**192**	LR	LR	21 41 03.3	
	comp=Z,118nm,20.7s,baz=90,slow=33						
STKA	**Stephens Creek**	**56.33**	**262**	LR	LR	21 40 29.7	
	comp=Z,89nm,21.7s,baz=193,slow=31						
ASAR	**Alice Springs**	**66.96**	**262**	P	P	21 22 11.7	0.0
	1.1nm,0.7s,baz=139,slow=6.2,SNR=14						
ASAR				LR	LR	21 47 12.1	
	comp=Z,67nm,20.7s,baz=140,slow=32						
H01W1	**Cape Leeuwin H**	**68.02**	**240**	T	T	22 37 38.3	
	baz=144,slow=76						
H01W2	**Cape Leeuwin H**	**68.03**	**240**	T	T	22 37 46.4	
	baz=144,slow=76						
H01W3	**Cape Leeuwin H**	**68.04**	**240**	T	T	22 37 43.6	
	baz=144,slow=76						
LPAZ	**La Paz**	**68.06**	**86**	LR	LR	21 44 56.7	
	comp=Z,49nm,20.2s,baz=32,slow=30						
WRA	**Warramunga Arr**	**69.74**	**265**	P	P	21 22 28.0	-1.1
	0.7nm,0.9s,baz=143,slow=5.8,SNR=3.2						
FITZ	**Fitzroy Crossi**	**75.94**	**259**	LR	LR	21 52 18.7	
	comp=Z,87nm,21.5s,baz=148,slow=32						
BDFB	**Brasilia**	**79.51**	**102**	LR	LR	21 55 07.7	
	comp=Z,39nm,18.2s,baz=338,slow=33						
ROSC	**El Rosal**	**82.47**	**69**	LR	LR	21 55 16.5	
	comp=Z,74nm,18.2s,baz=237,slow=32						
BOSA	**Boshof**	**94.05**	**169**	LR	LR	22 03 57.3	
	comp=Z,70nm,18.7s,baz=202,slow=34						
NVAR	**Mina Array Bea**	**97.32**	**19**	LR	LR	21 59 55.2	
	comp=Z,70nm,19.5s,baz=303,slow=30						
H10N3	**ASCENSION HYDR**	**102.75**	**127**	T	T	23 20 40.7	
	baz=206,slow=75						
H10N1	**ASCENSION HYDR**	**102.76**	**127**	T	T	23 20 43.1	
	baz=206,slow=75						
H10N2	**ASCENSION HYDR**	**102.77**	**127**	T	T	23 20 40.8	
	baz=206,slow=75						
ILAR	**Eielson Array**	**121.55**	**358**	PKP	PKPdf	21 30 09.8	-1.3
	0.7nm,1.1s,baz=175,slow=2.0,SNR=3.3						
MKAR	**Makanchi Array**	**150.97**	**269**	PKPbc	PKiKP	21 31 13.0	+1.3
	0.8nm,0.7s,baz=128,slow=3.3,SNR=6.2						

*RSPR **25** 21:23:29.7, 19°.15N×68°.13W, h12km±8km, MD3.3/9*
*ISCJB **25** 21:23:30.7±1.0, 18°.95N±0°.06×67°.97W±0°.03, h7km±6km, Error ellipse: s-maj=10.2km s-min=3.7km az=10.1*
*NEIC **25** 21:23:30.4±2.2, 19°.02N±0°.03×68°.06W±0°.04, h18km±7km*
*OSPL **25** 21:23:34.4±5.8, 18°.64N×67°.90W, h15km±41km, MD3.7, ML3.0*

ISC 25 21:23:28.3±1.3, 19°.09N±0°.05×68°.01W±0°.02, h11km±10km, n54, σ0°77/69, 7C-12D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.67**	**212**	‖*eP*	**Pg**	**21 23 41.8**	**+0.4**
PCDR	**Punta Cana, DR**	**0.67**	**212**	‖*eP*	**Pb**	**21 23 42.0**	**0.0**
PCDR	**Punta Cana, DR**	**0.67**	**212**	‖*eP*	**Pg**	**21 23 41.8**	**+0.4**
PCDR				*eS*	**Sb**	21 23 51.3	**0.0**
PCDR	**Punta Cana, DR**	**0.67**	**212**	*i* P	**Pb**	**21 23 42.0**	**0.0**
PCDR				*eS*	**Sg**	**21 23 51.0**	**+0.8**
PCDR				IAML		21 23 54.9	
	comp=Z,703nm,0.4s						
PCDR	**Punta Cana, DR**	**0.67**	**212**		**Pb**	**21 23 42.0**	**0.0**
PCDR	**Punta Cana, DR**	**0.67**	**212**		**Sg**	**21 23 50.2**	**0.0**
AGPR	**Aguadilla, PR**	**1.05**	**126**	‖*eP*	**Pg**	**21 23 48.6**	**0.0**
AGPR	**Aguadilla, PR**	**1.05**	**126**	‖*eP*	**Pg**	**21 23 48.6**	**0.0**
AGPR				*eS*	**Sn**	**21 24 03.6**	**0.0**
AGPR	**Aguadilla, PR**	**1.05**	**126**	*i* P	**Pg**	**21 23 48.5**	**0.0**
AGPR				IAML		21 24 12.7	
	comp=Z,588nm,0.2s						
AGPR	**Aguadilla, PR**	**1.05**	**126**		**Pg**	**21 23 48.6**	**0.0**
AGPR					**Sn**	**21 24 03.6**	**0.0**
AGPR	**Aguadilla, PR**	**1.05**	**126**		**Pn**	**21 23 49.0**	**-0.1**
MPR	**Mayaguez**	**1.20**	**136**	*i* P	**Pn**	**21 23 50.4**	**-0.6**
MPR				*eS*	**Sn**	**21 24 07.8**	**+0.5**
MPR				IAML		21 24 16.0	
	comp=Z,219nm,0.3s						
MPR	**Mayaguez**	**1.20**	**136**		**Pg**	**21 23 51.6**	**+0.2**
LSP	**Las Mesas**	**1.26**	**136**	‖*eP*	**Pn**	**21 23 51.5**	**-0.4**
LSP	**Las Mesas**	**1.26**	**136**	‖*eP*	**Pn**	**21 23 51.5**	**-0.4**
LSP	**Las Mesas**	**1.26**	**136**		**Pn**	**21 23 51.5**	**-0.4**
DR12	**Loma Pena Alta**	**1.33**	**257**		**Pn**	**21 23 53.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.37**	**141**	‖*eP*	**Pn**	**21 23 53.0**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.37**	**141**	‖*eP*	**Pn**	**21 23 53.0**	**-0.4**
CRPR				*eS*	**Sg**	**21 24 12.1**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.37**	**141**		**Pn**	**21 23 53.0**	**-0.4**
CRPR					**Sg**	**21 24 12.1**	**-0.5**
AOPR	**Arecibo Observ**	**1.40**	**122**	‖*eP*	**Pn**	**21 23 53.7**	**-0.1**
AOPR	**Arecibo Observ**	**1.40**	**122**	‖*eP*	**Pn**	**21 23 53.7**	**-0.1**
AOPR				*eS*	**Sb**	**21 24 12.6**	**+0.2**
AOPR				*eS*	**Sg**	**21 24 15.1**	**+1.7**
AOPR	**Arecibo Observ**	**1.40**	**122**		**Pn**	**21 23 53.7**	**-0.1**
AOPR					**Sb**	**21 24 12.6**	**+0.2**
MLPR	**Magueyes Islan**	**1.44**	**140**	‖*eP*	**Pn**	**21 23 54.0**	**-0.4**
MLPR	**Magueyes Islan**	**1.44**	**140**	*eS*	**Sb**	**21 24 13.6**	**+0.1**
MLPR	**Magueyes Islan**	**1.44**	**140**		**Pn**	**21 23 54.0**	**-0.4**
MLPR					**Sb**	**21 24 13.6**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.48**	**124**		**Pg**	**21 23 57.5**	**+0.8**
UUPR					**Sb**	**21 24 15.1**	**+0.5**
EMPR	**Esperanza - Ma**	**1.53**	**113**	‖*eP*	**Pg**	**21 23 57.6**	**-0.1**
EMPR	**Esperanza - Ma**	**1.53**	**113**		**Pg**	**21 23 58.3**	**+0.7**
GBPR	**Guanica, Bosqu**	**1.54**	**136**	‖*eP*	**Pb**	**21 23 56.3**	**-0.6**
GBPR	**Guanica, Bosqu**	**1.54**	**136**	‖*eP*	**Pb**	**21 23 56.3**	**-0.6**
GBPR	**Guanica, Bosqu**	**1.54**	**136**		**Pb**	**21 23 56.3**	**-0.6**
OBIP	**Obispado Ponce**	**1.69**	**128**	‖*eP*	**Pn**	**21 23 57.8**	**+0.1**
OBIP	**Obispado Ponce**	**1.69**	**128**	‖*eP*	**Pn**	**21 23 57.8**	**+0.1**
OBIP	**Obispado Ponce**	**1.69**	**128**		**Pn**	**21 23 58.2**	**+0.4**
CELP	**Cerrillos**	**1.69**	**126**	‖*eP*	**Pb**	**21 23 58.5**	**-0.9**
CELP	**Cerrillos**	**1.69**	**126**	‖*eP*	**Pb**	**21 23 58.5**	**-0.9**
CELP	**Cerrillos**	**1.69**	**126**		**Pb**	**21 23 58.5**	**-0.9**
ICMP	**Isla Caja de M**	**1.85**	**130**		**Pg**	**21 24 03.3**	**-0.5**
SDD	**Santo Domingo**	**1.91**	**251**	*i* P	**Pg**	**21 24 04.3**	**-0.6**
SDD				*eS*	**Sb**	**21 24 26.8**	**-0.3**
SDD	**Santo Domingo**	**1.91**	**251**	Pn	**Pn**	**21 23 59.5**	**-1.3**
GCPR	**Guaynabo City**	**1.98**	**113**		**Pb**	**21 24 04.1**	**-0.3**
SJG	**San Juan**	**2.01**	**119**		**Pb**	**21 24 04.1**	**-0.8**
IGPR	**InterUniversit**	**2.12**	**121**		**Pb**	**21 24 06.5**	**-0.3**
PDPR	**Patillas Dam,**	**2.17**	**119**		**Pb**	**21 24 06.3**	**-1.3**
CBYP	**Canovanas**	**2.20**	**111**		**Pb**	**21 24 07.1**	**-1.0**
HUMP	**Col San Antoni**	**2.25**	**114**		**Pb**	**21 24 07.3**	**-1.7**
BON1	**Bonao**	**2.26**	**267**	*i* P	**Pb**	**21 24 10.1**	**+0.8**
BON1				*eS*	**Sb**	**21 24 38.5**	**+1.2**
BANI	**BANI**	**2.33**	**253**	Pn	**Pn**	**21 24 07.6**	**+0.8**
MTP	**Monte Pirata**	**2.53**	**113**		**Pb**	**21 24 11.9**	**-1.8**
SC01	**Santiago de Io**	**2.59**	**278**	*i* P	**Pg**	**21 24 16.8**	**-1.3**
SC01				*eS*	**Sg**	**21 24 50.7**	**-0.9**
SC01				IAML		21 25 06.0	
	comp=Z,152nm,0.5s						
CUPR	**Culebra, Puert**	**2.70**	**106**	Pn	**Pn**	**21 24 14.0**	**+2.3**
STVI	**Saint Thomas**	**2.99**	**104**	Pn	**Pn**	**21 24 17.5**	**+1.9**
SDDR	**Presa de Saban**	**3.10**	**269**	*i* P	**Pb**	**21 24 23.7**	**+0.1**
SDDR				IAML		21 25 09.3	
	comp=Z,118nm,0.5s						

*ISCJB **25** 21:25:58.0±0.4, 7°.80S±0°.04×127°.73E±0°.04, h150km, mb3.7/7, Error ellipse: s-maj=5.9km s-min=5.1km az=18.8*
*IDC **25** 21:25:58.4±1.9, 7°.80S×127°.71E, h132km±18km, mb3.6/7, mb1 3.6/11, mb1mx3.5/31, mbtmp4.0/11, Error ellipse: s-maj=19.1km s-min=13.5km az=81.0*
*NEIC **25** 21:25:58.9±1.7, 7°.80S±0°.08×127°.73E±0°.07, h140km±9km, mb4.0/7*

ISC 25 21:25:58.9±0.6, 7°.96S±0°.05×127°.87E±0°.05, h150km, n28, σ2s72/36, mb3.8/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.39**	**91**		**Pn**	**21 26 53.3**	**+1.9**
SAUI				Sn	**Sn**	**21 27 29.1**	**-2.8**
SOEI	**Soe**	**3.98**	**243**		**Pn**	**21 26 59.1**	**0.0**
SOEI					**Sn**	**21 27 43.0**	**-2.9**
BATI	**Baumata**	**4.72**	**241**	P	**Pn**	**21 27 08.5**	**-0.2**
	162nm,0.3s,baz=48,slow=3.7,SNR=161						
BATI				S	**Sn**	**21 28 00.9**	**-2.1**
	98nm,0.3s,baz=110,slow=18,SNR=8.8						
MTN	**Manton Dam**	**5.82**	**147**		**Pn**	**21 27 26.8**	**+3.6**
FAKI	**Fak Fak**	**6.64**	**41**	Pn	**Pn**	**21 27 33.4**	**-0.8**
FAKI				Sn	**Sn**	**21 28 45.6**	**-3.2**
KNRA	**Kununurra**	**7.72**	**174**	Pn	**Pn**	**21 27 50.4**	**+1.8**
KNRA					**Sn**	**21 29 13.3**	**-1.5**
SIJI	**Sorong**	**7.81**	**26**	P	**Pn**	**21 27 48.9**	**-1.0**
	2.6nm,0.3s,baz=192,slow=23,SNR=14						
FITZ	**Fitzroy Crossi**	**10.31**	**192**	P	**Pn**	**21 28 22.9**	**-0.1**
	1.0nm,0.3s,baz=3.7,slow=6.8,SNR=20						
FITZ				S	**Sn**	**21 30 12.2**	**-4.9**
	2.6nm,0.3s,baz=119,slow=13,SNR=11						
FITZ	**Fitzroy Crossi**	**10.31**	**192**		**Sn**	**21 30 14.5**	**-2.7**
WRAB	**Tennant Creek**	**13.46**	**153**	Pn	**P**	**21 29 08.2**	**+0.1**
WRA	**Warramunga Arr**	**13.46**	**153**	P	**Pn**	**21 29 05.2**	**+1.1**
	0.5nm,0.3s,baz=324,slow=13,SNR=20						
WRA				S	**Sn**	**21 31 28.1**	**-5.1**
	2.5nm,0.3s,baz=324,slow=25,SNR=15						
WR0	**Warramunga Arr**	**13.56**	**152**	Pn	**P**	**21 29 08.2**	**-1.1**
PSA00	**Pilbara Seismi**	**15.59**	**209**		**P**	**21 29 32.0**	**+0.2**
COEN	**Coen**	**16.16**	**113**		**P**	**21 29 41.8**	**+3.8**
COEN				IAmb	IAmb	21 29 44.8	
	comp=Z,17nm,1.4s						
COEN					**S**	**21 32 31.9**	**-5.6**
AS31	**Alice Springs**	**16.65**	**160**	P	**Pn**	**21 29 49.5**	**+5.8**
AS31				S	**S**	**21 32 45.8**	**-3.1**
ASAR	**Alice Springs**	**16.65**	**160**	P	**Pn**	**21 29 48.0**	**+4.2**
	comp=Z,0.5nm,0.3s,baz=337,slow=11,SNR=46						
ASAR				S	**S**	**21 32 47.6**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=341,slow=24,SNR=6.1						
STKA	**Stephens Creek**	**27.01**	**154**	P	**P**	**21 31 29.1**	**+2.1**
	comp=Z,0.9nm,0.3s,baz=114,slow=22,SNR=4.4						
STKA	**Stephens Creek**	**27.01**	**154**	IAmb	IAmb	21 31 46.0	
	comp=Z,2.0nm,1.5s						
CMAR	**Chiang Mai Arr**	**38.78**	**313**	P	**P**	**21 33 08.1**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=141,slow=6.8,SNR=7.7						
KSRS	**Korea Array**	**45.18**	**0**	P	**P**	**21 34 01.0**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=180,slow=9.6,SNR=4.1						
LSA	**Lhasa**	**51.47**	**318**	P	**P**	**21 34 49.6**	**-0.1**
LSA				IAmb	IAmb	21 35 01.9	
	comp=Z,3.5nm,1.1s						
SONM	**Songino Array**	**58.71**	**343**	P	**P**	**21 35 40.9**	**0.0**
	comp=Z,0.7nm,0.7s,baz=155,slow=6.6,SNR=6.4						
MKAR	**Makanchi Array**	**67.89**	**328**	P	**P**	**21 36 41.0**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=118,slow=8.4,SNR=10						
ZALV	**Zalesovo Beam**	**71.53**	**335**	P	**P**	**21 37 02.7**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=130,slow=5.4,SNR=5.8						
KURK	**Kurchatov**	**72.25**	**330**	P	**P**	**21 37 07.7**	**0.0**
KURK				IAmb	IAmb	21 37 11.9	
	comp=Z,1.6nm,0.9s						
QSPA	**South Pole Qui**	**82.02**	**180**	P	**P**	**21 38 05.1**	**+3.0**
	comp=Z,1.7nm,0.8s,baz=233,slow=0.8,SNR=8.9						
QSPA	**South Pole Qui**	**82.02**	**180**	IAmb	IAmb	21 38 06.1	
	comp=Z,5.1nm,1.4s						
LPAZ	**La Paz**	**151.17**	**147**	PKPbc	**PKiKP**	**21 45 39.3**	**+2.6**
	comp=Z,0.8nm,0.4s,baz=163,slow=5.8,SNR=4.7						

*MAN **25** 21:39:40.2, 6°.44N×126°.62E, h29km, MS3.1*
*ISCJB **25** 21:39:42.4±0.7, 6°.46N±0°.06×126°.37E±0°.06, h68km±8km, mb3.3/4, Error ellipse: s-maj=10.3km s-min=9.2km az=153.3*
*IDC **25** 21:39:44.8±1.2, 6°.31N×125°.97E, h71km±15km, mb3.1/4, mb1 3.4/5, mb1mx3.1/51, mbtmp3.5/5, Error ellipse: s-maj=94.5km s-min=17.3km az=63.0*

ISC 25 21:39:43.1±1.0, 6°.45N±0°.06×126°.40E±0°.07, h56km±11km, n14, σ1s95/23, mb3.3/4, 4C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.51**	**343**	P	**Pn**	**21 39 52.5**	**-2.4**
MATI				S	**Sn**	**21 40 03.1**	**-0.3**
DAV	**Davao City (W)**	**1.02**	**307**	P	**Pn**	**21 40 03.0**	**+1.6**
	141nm,0.3s,baz=197,slow=5.7,SNR=8.4						
DAV				S	**Sn**	**21 40 14.6**	**-0.2**
	71nm,0.3s,baz=178,slow=22,SNR=5.7						
DMPH	**Davao City--Mi**	**1.09**	**305**	⇑P	**Pn**	**21 40 03.0**	**+0.8**
DMPH				S	**Sn**	**21 40 20.8**	**+4.4**
KCP	**Kidapawan**	**1.42**	**293**	⇑P	**Pn**	**21 40 08.4**	**+1.8**
KCP				S	**Sn**	**21 40 24.9**	**+0.5**
GSPH	**General Santos**	**1.49**	**256**	⇑P	**Pn**	**21 40 07.4**	**-0.3**
GSPH				S	**Sn**	**21 40 25.8**	**-0.4**
SKMP	**Bagumbayan, Su**	**1.85**	**272**	P	**Pn**	**21 40 12.6**	**+0.1**
SKMP				S	**Sn**	**21 40 32.2**	**-2.6**
CGP	**Cagayan de Oro**	**2.62**	**320**	⇑P	**Pn**	**21 40 23.7**	**+0.8**
CGP				S	**Sn**	**21 40 49.9**	**-3.6**
PAGZ	**Pagadian**	**3.30**	**295**	P	**Pn**	**21 40 33.2**	**+0.8**
PAGZ				S	**Sn**	**21 41 08.0**	**-2.5**
MSLP	**Maasin**	**3.97**	**337**	P	**Pn**	**21 40 42.0**	**+0.5**
MSLP				S	**Sn**	**21 41 28.5**	**+1.8**
SIJI	**Sorong**	**8.74**	**146**	P	**Pn**	**21 41 48.8**	**+1.8**
	0.9nm,0.3s,baz=344,slow=20,SNR=4.1						
FITZ	**Fitzroy Crossi**	**24.41**	**182**	P	**P**	**21 44 55.1**	**-1.3**
	1.7nm,0.6s,baz=3.0,slow=12,SNR=2.8						
WRA	**Warramunga Arr**	**27.37**	**164**	P	**P**	**21 45 24.7**	**+1.4**
	0.3nm,0.5s,baz=342,slow=10,SNR=4.1						
ASAR	**Alice Springs**	**30.82**	**166**	P	**P**	**21 45 53.2**	**-0.7**
	0.1nm,0.3s,baz=342,slow=7.1,SNR=4.6						
MKAR	**Makanchi Array**	**55.16**	**324**	P	**P**	**21 49 08.8**	**-1.2**
	0.2nm,0.5s,baz=112,slow=6.9,SNR=2.5						

*MOS **25** 21:47:36.5±0.8, 42°.71N×145°.28E, h56km, mb4.3/4, Error ellipse: s-maj=18.9km s-min=9.0km az=77.9*
*JMA **25** 21:47:38.9±0.1, 42°.86N×145°.27E, h56km±1km, MS3.7*
JMA Felt I J1.
*ISCJB **25** 21:47:38.1±0.7, 42°.86N±0°.07×145°.31E±0°.06, h61km±4km, mb4.0/11, Error ellipse: s-maj=12.5km s-min=4.3km az=150.5*
*IDC **25** 21:47:38.7±6.6, 42°.59N×145°.28E, h66km±44km, mb3.6/7, mb1 3.8/8, mb1mx3.4/45, mbtmp3.9/8, ML4.1/1, MS3.1/4, Ms1 3.1/4, ms1mx2.7/49, Error ellipse: s-maj=63.0km s-min=21.5km az=172.0*
*SKHL **25** 21:47:38.9±0.6, 42°.85N×145°.37E, h68km±2km, mb4.5/5*
*NEIC **25** 21:47:41.3±1.1, 42°.89N±0°.09×145°.16E±0°.10, h75km±10km, mb4.2/2*

ISC 25 21:47:38.5±1.0, 42°.82N±0°.06×145°.35E±0°.04, h52km±7km, n54, σ1s26/65, mb3.9/11, 5C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.30**	**332**	P	**Pn**	**21 47 48.4**	**+0.6**
JKHN				*eS*	**Sn**	**21 47 55.1**	**+0.7**
JAK	**Akkeshi**	**0.51**	**290**	P	**Pn**	**21 47 49.9**	**-0.1**
JAK				*eS*	**Sn**	**21 47 58.1**	**-0.2**
NMR	**Nemuro--Hokkai**	**0.61**	**26**	‖*i*PN	**Pn**	**21 47 51.7**	**+0.5**
NMR				*i* S	**Sn**	**21 48 00.7**	**+0.3**
NMR	**Nemuro--Hokkai**	**0.61**	**26**	*i* P	**Pn**	**21 47 51.0**	**-0.2**
NMR				*i* S	**Sn**	**21 48 00.2**	**-0.2**
NEM2	**Nemuro 2**	**0.61**	**27**	P	**Pn**	**21 47 51.7**	**+0.5**
NEM2				*eS*	**Sn**	**21 48 00.8**	**+0.4**
JNK	**Nakash**	**0.89**	**329**	P	**Pn**	**21 47 54.4**	**-0.4**
GLVR	**Golovnino**	**0.93**	**7**	‖*i*PN	**Pn**	**21 47 56.5**	**+0.4**
GLVR				*i* S	**Sn**	**21 48 07.9**	**+0.4**
GLVR				pmax	pmax		
	comp=Z,758nm,0.2s						
GLVR				pmax	pmax		
	comp=N,145nm,0.1s						
GLVR				pmax	pmax		
	comp=E,59nm,0.1s						
GLVR				smax	smax		
	comp=N,4μm,0.2s						
GLVR				smax	smax		
	comp=E,5μm,0.2s						
GLVR	**Golovnino**	**0.93**	**7**	*i* P	**Pn**	**21 47 55.0**	**-0.2**
GLVR				AMB	AMB	21 47 57.0	
	comp=E,758nm,0.3s						
GLVR				*i* S	**Sn**	**21 48 07.5**	**0.0**
GLVR				A	A	21 48 10.0	
	comp=E,428nm,0.3s						
GLVR				A	A	21 48 10.0	
	comp=E,458nm,0.3s						
JOB	**Onbets**	**1.12**	**275**	P	**Pn**	**21 47 57.7**	**-0.1**
JOB				*eS*	**Sn**	**21 48 11.4**	**-0.8**
JRA	**Rausu**	**1.13**	**351**	P	**Pn**	**21 47 58.0**	**0.0**
GRPR	**Tuman**	**1.21**	**14**	⇑*i*PN	**Pn**	**21 47 59.4**	**+0.3**
GRPR				*i* S	**Sn**	**21 48 14.0**	**-0.4**
GRPR				pmax	pmax		
	comp=Z,253nm,0.2s						
GRPR				pmax	pmax		
	comp=N,159nm,0.1s						
GRPR				pmax	pmax		
	comp=E,53nm,0.1s						
GRPR				smax	smax		
	comp=E,1μm,0.4s						
GRPR				smax	smax		
	comp=N,2μm,0.3s						
GRPR	**Tuman**	**1.21**	**14**	*i* P	**Pn**	**21 47 59.0**	**-0.1**
GRPR				AMB	AMB	21 48 01.0	
	comp=N,253nm,0.4s						
GRPR				*i* S	**Sn**	**21 48 13.5**	**-0.9**
GRPR				A	A	21 48 15.0	
	comp=N,157nm,0.4s						
GRPR				A	A	21 48 15.0	
	comp=N,1μm,0.4s						
JAR	**Ashorobuto**	**1.25**	**293**	P	**Pn**	**21 47 59.5**	**-0.2**
JAR				*eS*	**Sn**	**21 48 14.9**	**-0.6**
YUK	**Yuzh-

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SONM	**Songino Array**	**27.64**	**294**	P	**P**	**21 53 20.7**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=82,slow=8.3,SNR=16						
H11N2	**WAKE ISLAND Hy**	**29.31**	**135**	T	T	22 24 38.0	
	baz=327,slow=76,SNR=157						
H11N1	**WAKE ISLAND Hy**	**29.32**	**135**	T	T	22 24 40.5	
	baz=327,slow=76,SNR=99						
H11N3	**WAKE ISLAND Hy**	**29.33**	**135**	T	T	22 24 41.0	
	baz=327,slow=76,SNR=149						
H11S1	**WAKE ISLAND Hy**	**30.23**	**137**	T	T	22 25 46.2	
	baz=328,slow=76,SNR=273						
H11S3	**WAKE ISLAND Hy**	**30.24**	**137**	T	T	22 25 46.5	
	baz=328,slow=76,SNR=157						
H11S2	**WAKE ISLAND Hy**	**30.25**	**137**	T	T	22 25 48.0	
	baz=328,slow=76,SNR=118						
ANM	**Nome**	**35.10**	**35**	P	**P**	**21 54 27.6**	**+1.2**
ANM				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ANM	**Nome**	**35.10**	**35**	P	**P**	**21 54 27.6**	**+1.2**
ANM				IAmb	IAmb	21 54 44.2	
	comp=Z,4.8nm,1.3s						
COLA	**College**	**42.59**	**35**⇑	*e*P	**P**	**21 55 29.5**	**+0.6**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**43.01**	**36**	P	**P**	**21 55 32.7**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=268,slow=5.5,SNR=24						
MK31	**Makanchi Array**	**43.86**	**298**	*e*P	**P**	**21 55 39.0**	**-0.5**
MKAR	**Makanchi Array**	**43.86**	**298**	*e*P	**P**	**21 55 39.2**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**43.86**	**298**	P	**P**	**21 55 38.5**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=80,slow=9.8,SNR=26						
MKAR	**Makanchi Array**	**43.86**	**298**	*e*P	**P**	**21 55 39.2**	**-0.3**
KURK	**Kurchatov**	**44.97**	**304**⇑	*e*P	**P**	**21 55 43.7**	**-4.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**46.00**	**253**	LR	LR	22 14 27.5	
	comp=Z,9.8nm,18.3s,baz=30,slow=35						
INK	**Inuvik**	**47.86**	**30**	P	**P**	**21 56 11.0**	**+0.4**
	comp=Z,1.5nm,0.4s,baz=314,slow=7.3,SNR=14						
YKA	**Yellowknife Ar**	**57.30**	**33**	P	**P**	**21 57 20.3**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=303,slow=7.0,SNR=4.0						
LEM	**Lembang**	**60.14**	**224**	LR	LR	22 26 08.6	
	comp=Z,30nm,18.1s,baz=289,slow=38						
FINES	**FINESS Array B**	**65.10**	**332**	*i* P	**P**	**21 58 11.6**	**-1.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**65.10**	**332**	P	**P**	**21 58 12.4**	**-0.9**
	comp=Z,3.2nm,1.0s,baz=46,slow=8.7,SNR=6.7						
RAR	**Rarotonga**	**81.29**	**129**	LR	LR	22 27 06.9	
	comp=Z,52nm,21.0s,baz=54,slow=29						
TXAR	**Lajitas Array**	**84.26**	**55**	P	**P**	**22 00 05.5**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=300,slow=3.8,SNR=3.1						

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*ISK **25** 21:56:42.1, 42°.79N×42°.16E, h5km, ML2.8/4*
*TIF **25** 21:56:42.4, 42°.71N×42°.12E, h13km±1km*
*MOS **25** 21:56:43.2±0.0, 42°.78N×42°.15E, h5km, MPVA3.6*
*NORS **25** 21:56:44.0±0.0, 42°.80N×42°.16E, h9km, MPVA3.7*
ISC 25 21:56:43.0±1.1**, 42°.75N**±0°.02×**42°.14E**±0°.02**, h6**km±11km**,**
n41, σ0.84/77**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
NEY	**Neytrino**	**0.66**	**41**	*e*Pg	**Pg**	**21 56 55.6**	**-0.1**
NEY				*e*Sg	**Sg**	**21 57 03.9**	**-0.3**
TKB	**Tkibuli**	**0.75**	**122**	P	**Pg**	**21 56 57.7**	**+0.3**
TKB				S	**Sb**	**21 57 08.5**	**-0.6**
ONI	**Oni**	**0.98**	**99**	P	**Pb**	**21 57 02.2**	**-0.4**
ONI				S	**Sb**	**21 57 15.5**	**-0.3**
ONI	**Oni**	**0.98**	**99**	PG	**Pg**	**21 57 01.9**	**0.0**
ONI				SG	**Sb**	**21 57 16.0**	**+0.2**
ONI	**Oni**	**0.98**	**99**	*e*Pg	**Pb**	**21 57 02.2**	**-0.4**
ONI				*e*Sg	**Sb**	**21 57 15.2**	**-0.6**
ARXR	**Arkhyz**	**1.02**	**322**	*e*Pg	**Pg**	**21 57 02.2**	**-0.5**
ARXR				*e*Sg	**Sg**	**21 57 15.7**	**-0.3**
SHA1	**Shidzhatmaz**	**1.05**	**21**	*e*Pg	**Pg**	**21 57 03.2**	**-0.1**
SHA1				*e*Sg	**Sb**	**21 57 17.9**	**-0.2**
DIGR	**Digorskoe uzhe**	**1.07**	**82**	*e*Pg	**Pg**	**21 57 03.3**	**-0.3**
DIGR				*e*Sg	**Sg**	**21 57 16.3**	**-1.2**
BATM	**Batumi**	**1.20**	**196**	PN	**Pn**	**21 57 05.8**	**-0.5**
KIV	**Kislovodsk**	**1.27**	**18**	PN	**Pb**	**21 57 07.0**	**-0.4**
KIV				SN	**Sn**	**21 57 24.4**	**-0.4**
KIV0	**Kislovodsk Arr**	**1.27**	**19**	*e*Pg	**Pn**	**21 57 06.8**	**-0.6**
KIV0				*e*Sg	**Sg**	**21 57 23.6**	**-0.3**
ZEI	**Tsey**	**1.30**	**88**	*e*Pg	**Pb**	**21 57 07.7**	**-0.3**
ZEI				*e*Sg	**Sn**	**21 57 25.9**	**+0.2**
LSNR	**Lesken**	**1.34**	**66**	*i* Pg	**Pg**	**21 57 09.2**	**+0.4**
LSNR				*e*Sg	**Sg**	**21 57 26.4**	**+0.1**
BEYR	**Belyy Ugol+**	**1.35**	**21**	*e*Pg	**Pg**	**21 57 08.7**	**-0.3**
BEYR				*e*Sg	**Sg**	**21 57 26.7**	**+0.2**
KBTC	**Kuba-Taba**	**1.41**	**41**	*i* Pg	**Pg**	**21 57 10.9**	**+0.9**
KBTC				*e*Sg	**Sg**	**21 57 30.6**	**+2.2**
KORR	**Kora**	**1.46**	**76**	*i* Pg	**Pg**	**21 57 11.5**	**+0.5**
KORR				*e*Sg	**Sg**	**21 57 30.7**	**+0.9**
PYA1	**Pyatigorsk**	**1.48**	**28**	*e*Pg	**Pg**	**21 57 11.8**	**+0.3**
PYA1				*e*Sg	**Sg**	**21 57 30.3**	**-0.4**
STDR	**Stavd-Durt**	**1.54**	**66**	*e*Pg	**Pg**	**21 57 12.1**	**-0.5**
STDR				*e*Sg	**Sg**	**21 57 34.8**	**+2.3**
LACR	**Lac**	**1.59**	**87**	*e*Pg	**Pg**	**21 57 13.3**	**-0.3**
LACR				*e*Sg	**Sg**	**21 57 33.7**	**-0.5**
ARNR	**Ardon**	**1.63**	**74**	*e*Pg	**Pb**	**21 57 13.2**	**-0.4**
ARNR				*e*Sg	**Sg**	**21 57 35.7**	**+0.2**
RPOR	**Krasnaya Polya**	**1.66**	**305**	*e*Pg	**Pb**	**21 57 13.7**	**-0.4**
RPOR				*e*Sg	**Sb**	**21 57 35.5**	**+0.2**
AKH	**Akhalkalaki**	**1.68**	**143**	P	**Pb**	**21 57 14.2**	**-0.3**
AKH				S	**Sg**	**21 57 36.6**	**-0.4**
AKH	**Akhalkalaki**	**1.68**	**143**	PN	**Pb**	**21 57 14.3**	**-0.2**
AKH				SN	**Sg**	**21 57 37.8**	**+0.8**
AKH	**Akhalkalaki**	**1.68**	**143**	*e*Pg	**Pb**	**21 57 14.1**	**-0.4**
AKH				*e*Sg	**Sg**	**21 57 36.6**	**-0.4**
GUDG	**Gudauri**	**1.75**	**99**	P	**Pb**	**21 57 15.1**	**-0.6**
GUDG				S	**Sg**	**21 57 38.9**	**-0.4**
GUDG	**Gudauri**	**1.75**	**99**	*e*Pg	**Pb**	**21 57 15.1**	**-0.6**
GUDG				*e*Sg	**Sg**	**21 57 39.5**	**+0.2**
NVNR	**Nevinnomyssk**	**1.86**	**356**	*e*Pg	**Pg**	**21 57 20.9**	**+2.1**
NVNR				*e*Sg	**Sg**	**21 57 43.1**	**+0.2**
BTKR	**Batakoyurt**	**1.87**	**70**	*e*Pg	**Pg**	**21 57 18.7**	**-0.1**
BTKR				*e*Pg	**Sb**	**21 57 41.1**	**-0.1**
CHOM	**Cayeli-Rize**	**1.95**	**212**	PN	**Pn**	**21 57 17.7**	**+1.0**
SOC	**Sochi**	**1.96**	**296**	*e*Pg	**Pb**	**21 57 18.2**	**-0.9**
SOC				*e*Sg	**Sb**	**21 57 44.2**	**+0.6**
KMGR	**Komgaron**	**2.03**	**80**	*e*Pg	**Pg**	**21 57 21.3**	**-0.6**
ALER	**Alexandrovskoy**	**2.09**	**15**	*e*Sg	**Sb**	**21 57 46.7**	**-0.7**
KZRT	**Kazreti**	**2.17**	**128**	P	**Pb**	**21 57 22.0**	**-0.7**
KZRT				S	**Sb**	**21 57 50.2**	**+0.3**
TBLG	**Delisi**	**2.19**	**117**	P	**Pb**	**21 57 23.8**	**+0.8**
TBLG				S	**Sb**	**21 57 48.7**	**-1.6**
SENK	**Senkaya-Erzuru**	**2.20**	**176**	PN	**Pb**	**21 57 22.2**	**-1.1**
SENK				SN	**Sb**	**21 57 50.9**	**+0.1**
BTNK	**Botanikuri**	**2.25**	**118**	P	**Pb**	**21 57 22.3**	**-1.7**
BTNK				S	**Sb**	**21 57 52.2**	**+0.1**
LZRR	**Lazarevskoye**	**2.33**	**301**	*e*Pn	**Pn**	**21 57 22.7**	**+0.8**
LZRR				*e*Sn	**Sb**	**21 57 52.9**	**-1.7**
DGRG	**David-gareji**	**2.74**	**117**	P	**Pb**	**21 57 31.9**	**-0.5**
DGRG				S	**Sb**	**21 58 07.2**	**+1.0**
KOPR	**Koprukoy-ERZUR**	**2.77**	**185**	PN	**Pn**	**21 57 29.9**	**+1.8**
LGD	**Lagodekhi**	**3.18**	**105**	P	**Pb**	**21 57 37.6**	**-2.4**
LGD				S	**Sb**	**21 58 19.8**	**+0.8**
DDFL	**Dedoflistskaro**	**3.24**	**112**	P	**Pb**	**21 57 42.4**	**+1.5**
DDFL				S	**Sg**	**21 58 26.6**	**-0.4**

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*ROM **25** 22:02:11.0±0.2, 44°.350N±0°.009×7°.29E±0°.02, h16km±1km, ML2.5/3, Error ellipse: s-maj=1.2km s-min=1.0km az=50.0*
*ISCJB **25** 22:02:11.5±0.3, 44°.36N±0°.02×7°.34E±0°.03, h16km±3km, Error ellipse: s-maj=3.5km s-min=2.4km az=155.6*
*GEN **25** 22:02:11.5, 44°.35N×7°.29E, h15km±1km, Ml1.9*
*STR **25** 22:02:11.6±0.7, 44°N±2°×°±°, h0km±4km, MLv2.3/7*
*LDG **25** 22:02:11.4±0.1, 44°.36N×7°.28E, h13km, Md2.2/2, Ml2.2/27, Error ellipse: s-maj=1.8km s-min=1.2km az=64.0*
ISC 25 22:02:11.1±0.9**, 44°.37N**±0°.02×**7°.34E**±0°.02**, h18**km±3km**,**
n57, σ1.89/113**, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
STV	**Sant Anna di V**	**0.13**	**183**	P	**Pg**	**22 02 15.0**	**-0.3**
STV				S	**Sg**	**22 02 17.1**	**-0.9**
STV	**Sant Anna di V**	**0.13**	**183**	P	**Pg**	**22 02 15.0**	**-0.3**
STV				S	**Sg**	**22 02 17.1**	**-0.9**
STV				AML	AML		
	comp=N,1200μm,0.2s						
STV				AML	AML		
	comp=E,1595μm,0.1s						
DOI	**San Damiano**	**0.14**	**334**	P	**Pg**	**22 02 15.7**	**+0.2**
DOI				S	**Sg**	**22 02 18.4**	**0.0**
DOI				AML	AML		
	comp=E,4615μm,0.3s						
DOI				AML	AML		
	comp=N,4450μm,0.2s						
PZZ	**Stroppo**	**0.21**	**311**	P	**Pg**	**22 02 16.2**	**-0.1**
PZZ				S	**Sg**	**22 02 19.4**	**-0.5**
PZZ	**Stroppo**	**0.21**	**311**	P	**Pg**	**22 02 16.2**	**-0.1**
PZZ				S	**Sg**	**22 02 19.4**	**-0.5**
PZZ				AML	AML		
	comp=E,1145μm,0.2s						
PZZ				AML	AML		
	comp=N,1695μm,0.4s						
ISO	**Isola**	**0.28**	**227**	Pg	**Pg**	**22 02 16.8**	**-0.6**
ISO				Sg	**Sg**	**22 02 20.3**	**-1.4**
SURF	**Saint Ours**	**0.39**	**286**	Pg	**Pg**	**22 02 18.9**	**-0.4**
SURF				Sg	**Sg**	**22 02 24.3**	**-0.6**
TURF	**col de Turini**	**0.40**	**174**	Pg	**Pg**	**22 02 19.4**	**-0.1**
TURF				Sg	**Sg**	**22 02 24.7**	**-0.5**
SAOF	**Saorge**	**0.42**	**158**	Pg	**Pg**	**22 02 19.7**	**-0.1**
SAOF				Sg	**Sg**	**22 02 25.2**	**-0.3**
SAOF	**Saorge**	**0.42**	**158**	P	**Pg**	**22 02 19.7**	**-0.1**
SAOF				S	**Sg**	**22 02 25.3**	**-0.3**
SBF	**Sospel**	**0.52**	**172**	*e*Pg	**Pg**	**22 02 21.3**	**-0.2**
SBF				*e*Sg	**Sg**	**22 02 28.0**	**-0.5**
	comp=N,148nm,0.3s						
MBDF	**Montbardon**	**0.54**	**311**	*e*Pg	**Pg**	**22 02 21.5**	**-0.5**
MBDF				*e*Sg	**Sg**	**22 02 29.2**	**-0.1**
	comp=N,82nm,0.3s						
ESCA	**l'Escarene**	**0.54**	**177**	Pg	**Pg**	**22 02 21.8**	**-0.2**
ESCA				Sg	**Sg**	**22 02 29.1**	**-0.3**
OGAG	**Argentiere**	**0.57**	**278**	Pg	**Pb**	**22 02 24.8**	**+2.2**
OGAG				Sg	**Sn**	**22 02 34.2**	**+0.7**
IMI	**Imperia**	**0.61**	**139**	P	**Pg**	**22 02 23.1**	**-0.3**
IMI				S	**Sg**	**22 02 31.1**	**-0.4**
IMI	**Imperia**	**0.61**	**139**	P	**Pg**	**22 02 23.2**	**-0.1**
IMI				S	**Sg**	**22 02 31.4**	**-0.1**
RRL	**Rocca Remolon**	**0.67**	**325**	P	**Pg**	**22 02 23.9**	**-0.6**
RRL				S	**Sg**	**22 02 33.5**	**0.0**
RRL	**Rocca Remolon**	**0.67**	**325**	P	**Pg**	**22 02 24.0**	**-0.6**
RRL				S	**Sg**	**22 02 33.6**	**+0.1**
QLNO	**Quiliano**	**0.73**	**94**	P	**Pg**	**22 02 25.8**	**+0.3**
QLNO				S	**Sb**	**22 02 35.8**	**+0.9**
FINB	**Finale Ligure**	**0.74**	**105**	P	**Pg**	**22 02 25.9**	**+0.2**
FINB				S	**Sb**	**22 02 35.9**	**+0.8**
RSP	**Reno Superiore**	**0.78**	**356**	P	**Pg**	**22 02 24.9**	**-1.5**
OGDI	**Digne**	**0.79**	**251**	Pg	**Pg**	**22 02 27.9**	**+1.3**
BNI	**Bardonecchia**	**0.82**	**326**	P	**Pb**	**22 02 26.7**	**-0.3**
FRF	**La Foret Royal**	**0.95**	**212**	*e*Pg	**Pb**	**22 02 28.7**	**-0.4**
FRF				*e*Sg	**Sb**	**22 02 40.5**	**-0.8**
	comp=N,35nm,0.2s						
BLAF	**les Blancs**	**1.02**	**246**	Pg	**Pb**	**22 02 30.7**	**+0.4**
ORIF	**Oris-en-Rattie**	**1.17**	**298**	*e*Pg	**Pn**	**22 02 33.0**	**+0.3**
ORIF				*e*Sg	**Sb**	**22 02 47.7**	**-0.1**
	comp=N,17nm,0.3s						
LMR	**La Mourre**	**1.20**	**210**	*e*Pg	**Pn**	**22 02 33.3**	**+0.3**
LMR				*e*Sg	**Sb**	**22 02 48.2**	**-0.2**
	comp=N,93nm,0.2s						
LPG	**La Plagne**	**1.20**	**340**	*e*Pg	**Pn**	**22 02 33.8**	**+0.5**
LPG				*e*Sn	**Sb**	**22 02 47.4**	**-1.3**
LPG				*e*Sg	**Sn**	**22 02 50.3**	**+1.1**
	comp=N,4.7nm,0.2s						
LPL	**La Plagne**	**1.22**	**340**	*e*Pg	**Pn**	**22 02 34.7**	**+1.2**
LPL				*e*Sn	**Sb**	**22 02 48.6**	**-0.7**
LPL				*e*Sg	**Sn**	**22 02 50.8**	**+1.1**
	comp=N,8.0nm,0.3s						
BSTF	**la Bastide-des**	**1.31**	**249**	Pg	**Pb**	**22 02 36.8**	**+1.6**
BSTF				Pn	**Pg**	**22 02 37.7**	**+1.2**
BSTF				Sg	**Sg**	**22 02 54.7**	**+1.1**
SMRF	**Simiane la Rot**	**1.33**	**253**	*e*Pg	**Pn**	**22 02 36.0**	**+1.2**
SMRF				*e*Sg	**Sn**	**22 02 52.9**	**+0.9**
	comp=N,31nm,0.3s						
ARTF	**Artigues**	**1.36**	**235**	Pg	**Pn**	**22 02 36.2**	**+1.0**
ARTF				Sg	**Sn**	**22 02 53.6**	**+0.9**
RUSF	**Rustrel**	**1.40**	**253**	Pg	**Pn**	**22 02 37.3**	**+1.5**
RUSF				Sn	**Sb**	**22 02 56.5**	**+2.2**
VIVF	**Saint-Julien-l**	**1.96**	**285**	*e*Pn	**Pn**	**22 02 43.4**	**-0.1**
VIVF	**Saint-Julien-l**	**1.96**	**285**	*e*Pg	**Pb**	**22 02 47.1**	**+0.8**
VIVF				*e*Sn	**Sn**	**22 03 07.0**	**-0.6**
	comp=N,4.5nm,0.3s						
OG35	**Corcelles**	**2.08**	**324**	Pn	**Pn**	**22 02 47.7**	**+2.5**
OG35				Sn	**Sn**	**22 03 14.0**	**+3.3**
PGF	**Pioggiola**	**2.19**	**146**	*e*Pn	**Pn**	**22 02 45.7**	**-1.0**
PGF				*e*Sn	**Sn**	**22 03 11.0**	**-2.4**
	comp=N,1.8nm,0.2s						
CABF	**La Chapelle**	**2.40**	**339**	*e*P	**Pn**	**22 02 51.1**	**+1.5**
CABF				*e*Sn	**Sn**	**22 03 16.5**	**-2.1**
	comp=N,0.4nm,0.2s						
LASF	**Ste Croix**	**2.52**	**264**	*e*P	**Pn**	**22 02 51.5**	**+0.4**
LASF	**Ste Croix**	**2.52**	**264**	*e*Pg	**Pb**	**22 02 57.8**	**+2.0**
LASF				*e*Sn	**Sn**	**22 03 16.8**	**-4.6**
	comp=N,1.1nm,0.2s						
SMF	**Signal de Mont**	**3.35**	**314**	*e*P	**Pn**	**22 03 04.6**	**+2.1**
SMF				*e*Sn	**Sn**	**22 03 37.5**	**-4.3**
	comp=N,1.2nm,0.3s						
HINF	**Hinteralfeld**	**3.46**	**355**	*e*P	**Pn**	**22 03 06.6**	**+2.5**
HINF				*e*Sn	**Sn**	**22 03 41.8**	**-2.8**
	comp=N,0.8nm,0.2s						
AVF	**Avril sur Loir**	**3.70**	**312**	*e*P	**Pn**	**22 03 08.7**	**+1.4**
AVF				*e*Sn	**Sn**	**22 03 47.0**	**-3.3**
	comp=N,0.4nm,0.2s						
AVF				*e*Sg	**Sg**	**22 04 07.2**	**-2.6**
	comp=N,0.5nm,0.2s						
HAU	**Haudompre**	**3.70**	**350**	*e*P	**Pn**	**22 03 09.0**	**+1.7**
HAU				*e*Sn	**Sn**	**22 03 47.7**	**-2.7**
	comp=N,2.1nm,0.3s						
HAU				*e*Sg	**Sg**	**22 04 08.5**	**-1.3**
LOR	**Lormes**	**3.78**	**321**	*e*P	**Pn**	**22 03 10.8**	**+2.3**
	baz=142						
LOR	**Lormes**	**3.78**	**321**	*e*Pg	**Pb**	**22 03 21.5**	**+4.2**
	baz=142						
LOR				*e*Sn	**Sn**	**22 03 49.8**	**-2.7**
	comp=N,0.9nm,0.3s,baz=143						
SSF	**Saint Saulge**	**3.80**	**316**	*e*P	**Pn**	**22 03 10.5**	**+1.8**
SSF				*e*Sn	**Sn**	**22 03 48.8**	**-4.1**
	comp=N,0.8nm,0.3s						
SSF				*e*Sg	**Sg**	**22 04 10.4**	**-2.6**
	comp=N,0.4nm,0.3s						
CAF	**Calviac**	**3.80**	**280**	*e*P	**Pn**	**22 03 10.0**	**+1.2**
CAF				*e*Sn	**Sn**	**22 03 50.1**	**-2.9**
	comp=N,0.6nm,0.3s						
BGF	**Bois d'Agland**	**3.84**	**306**	*e*P	**Pn**	**22 03 11.0**	**+1.7**
BGF				*e*Sn	**Sn**	**22 03 50.9**	**-3.0**
BGF				*e*Sg	**Sg**	**22 04 11.7**	**-2.7**
	comp=N,2.4nm,0.3s						
MTLF	**Montolieu**	**3.84**	**256**	*e*P	**Pn**	**22 03 10.5**	**+1.2**
MTLF				*e*Sn	**Sn**	**22 03 49.8**	**-4.2**
	comp=N,0.4nm,0.3s						
CDF	**Champ du Feu**	**4.04**	**359**	*e*P	**Pn**	**22 03 14.7**	**+2.6**
CDF				*e*Sn	**Sn**	**22 03 56.3**	**-2.7**
	comp=N,0.5nm,0.2s						
TCF	**Toulx Ste Croi**	**4.09**	**300**	*e*P	**Pn**	**22 03 14.6**	**+1.9**
TCF				*e*Sn	**Sn**	**22 03 56.2**	**-3.9**
	comp=N,0.3nm,0.2s						
SFTF	**Sexfontaines**	**4.15**	**338**	*e*P	**Pn**	**22 03 15.8**	**+2.3**
	baz=158						
SFTF				*e*Sn	**Sn**	**22 03 58.3**	**-3.3**
	comp=N,0.8nm,0.2s						
RJF	**Les Rejaudoux**	**4.24**	**285**	*e*P	**Pn**	**22 03 16.7**	**+1.9**
RJF				*e*Sn	**Sn**	**22 03 59.5**	**-4.3**
	comp=N,0.5nm,0.2s						
PAGF	**Fort de Pagny**	**4.33**	**346**	*e*P	**Pn**	**22 03 18.6**	**+2.6**
PAGF				*e*Sn	**Sn**	**22 04 02.5**	**-3.5**
	comp=N,0.3nm,0.2s						
MEZF	**Maizieres J'vi**	**4.42**	**340**	*e*P	**Pn**	**22 03 19.6**	**+2.4**
MEZF				*e*Sn	**Sn**	**22 04 04.9**	**-3.3**
BAIF	**Baives**	**6.07**	**341**	*e*P	**Pn**	**22 03 43.1**	**+3.2**

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*ISCJB **25** 22:25:26.1±1.2, 5°.86N±0°.05×77°.64W±0°.06, h29km±7km, mb3.3/5, Error ellipse: s-maj=10.6km s-min=7.3km az=143.4*
*RSNC **25** 22:25:26.5±1.2, 5°.86N×77°.65W, h28km±6km, ML2.9*
*IDC **25** 22:25:33.4±4.2, 5°.83N×77°.43W, h72km±39km, mb3.0/5, mb1 3.3/6, mb1mx3.2/25, mbtmp3.3/6, ML2.2/1, Error ellipse: s-maj=49.7km s-min=28.1km az=44.0*
ISC 25 22:25:26.2±1.9**, 5°.90N**±0°.05×**77°.65W**±0°.06**, h14**km±11km**,**
n18, σ2.00/23**, mb3.4**/5**, 1C, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
SOLC	**Bahia Solano**	**0.41**	**36**	*e*P	**Pg**	**22 25 34.7**	**+0.3**
SOLC				*e*S	**Sb**	**22 25 42.7**	**+1.4**
PTAC	**Punta Ardita,**	**1.25**	**353**	*e*P	**Pn**	**22 25 47.6**	**-1.7**
PTAC				*e*S	**Sb**	**22 26 04.0**	**-1.6**
CBOC	**Ciudad Bolivar**	**1.63**	**91**⇑	*e*P	**Pn**	**22 25 51.7**	**-3.0**
CBOC				*e*S	**Sn**	**22 26 12.6**	**-3.1**
CBOC				*i*		22 26 21.9	
	comp=Z,169nm,0.7s						
DBBC	**Dabeiba**	**1.82**	**52**	*e*P	**Pn**	**22 25 56.3**	**-0.9**
MALC	**Bahia Malaga**	**1.90**	**170**	*e*P	**Pn**	**22 25 56.3**	**-1.9**
HELC	**Santa Helena**	**2.13**	**82**	*e*P	**Pn**	**22 26 00.3**	**-1.5**
HELC				*e*S	**Sn**	**22 26 26.8**	**-1.4**
HELC				*i*		22 26 30.0	
	comp=Z,66nm,0.4s						
YOTC	**Yotoco, Valle**	**2.30**	**145**	*e*P	**Pn**	**22 26 01.0**	**-2.9**
GUY2C	**Guyana, Caldas**	**2.37**	**106**	*e*P	**Pn**	**22 26 03.6**	**-1.5**
GUY2C				*i*		22 26 34.8	
	comp=Z,68nm,0.6s						
NORC	**Norcasia**	**2.79**	**97**	*e*P	**Pn**	**22 26 10.9**	**+0.3**
ORTC	**Ortega, Tolima**	**3.10**	**129**	*e*P	**Pn**	**22 26 14.2**	**-0.6**
ORTC				*e*S	**Sn**	**22 26 54.9**	**+3.1**
ROSC	**El Rosal**	**3.48**	**107**	P	**Pn**	**22 26 22.1**	**+1.8**
	comp=Z,5.9nm,0.3s,baz=245,slow=2.2,SNR=11						
PDAR	**Pinedale Array**	**46.30**	**327**	P	**P**	**22 33 55.4**	**+3.6**
	comp=Z,0.2nm,0.5s,baz=130,slow=12,SNR=2.4						
NVAR	**Mina Array Bea**	**49.01**	**317**	P	**P**	**22 34 14.5**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=125,slow=7.8,SNR=2.8						
YKA	**Yellowknife Ar**	**62.65**	**342**	P	**P**	**22 35 49.8**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=131,slow=7.1,SNR=4.7						
ILAR	**Eielson Array**	**75.92**	**336**	P	**P**	**22 37 13.0**	**+0.8**
	comp=Z,0.3nm,0.9s,baz=101,slow=4.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**78.33**	**78**	P	**P**	**22 37 25.9**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=294,slow=5.4,SNR=4.0						
ASAR	**Alice Springs**	**144.88**	**237**	PKPbc	**PKPab**	**22 45 01.9**	**-1.0**
	comp=Z,1.1nm,1.0s,baz=114,slow=3.8,SNR=7.6						
WRA	**Warramunga Arr**	**145.93**	**243**	PKPbc	**PKPdf**	**22 45 05.5**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=114,slow=3.1,SNR=3.6						

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*ISCJB **25** 23:03:03.6±0.9, 7°.44N±0°.04×78°.37W±0°.03, h19km±8km, Error ellipse: s-maj=8.0km s-min=4.0km az=30.2*
*UPA **25** 23:03:03.1±0.5, 7°.36N×78°.42W, h14km±7km, MW3.9*
*RSNC **25** 23:03:06.5±1.6, 7°.52N×78°.34W, h20km±21km, ML2.9*
ISC 25 23:03:02.9±2.1**, 7°.40N**±0°.05×**78°.41W**±0°.03**, h16**km±16km**,**
n19, σ1.40/34**, 1C, Panama**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
PTAC	**Punta Ardita,**	**0.65**	**113**	*e*P	**Pb**	**23 03 14.6**	**-1.3**
PTAC				*e*S	**Sb**	**23 03 22.8**	**-1.9**
UPD2	**Meteti**	**1.21**	**19**⇑	*i*P	**Pn**	**23 03 25.0**	**-0.2**
UPD2				*e*S	**Sn**	**23 03 41.4**	**+0.3**
SOLC	**Bahia Solano**	**1.53**	**139**	*e*P	**Pn**	**23 03 30.6**	**+1.0**
SOLC				*e*S	**Sg**	**23 03 53.0**	**+0.6**
SOLC				*i*		23 04 01.2	
	comp=Z,222nm,0.5s						
AZU	**Azuero**	**1.89**	**282**	*e*P	**Pn**	**23 03 34.5**	**0.0**
AZU				*e*S	**Sn**	**23 03 57.7**	**-0.3**
UPA	**Univ. de Panam**	**1.92**	**325**	*e*P	**Pn**	**23 03 34.6**	**-0.5**
UPA				*e*S	**Sn**	**23 03 59.3**	**+0.4**
CHOR3	**La Chorrera**	**2.00**	**318**	*e*P	**Pn**	**23 03 36.3**	**+0.2**
CHOR3				*e*S	**Sb**	**23 04 03.1**	**-0.6**
DBBC	**Dabeiba**	**2.22**	**100**	*e*P	**Pn**	**23 03 39.8**	**+0.6**
DBBC				*i*		23 04 15.2	
	comp=Z,224nm,0.6s						
BCIP	**Isla Barro Col**	**2.25**	**321**	*e*P	**Pn**	**23 03 39.4**	**-0.2**
BCIP				*e*S	**Sn**	**23 04 08.3**	**+1.2**
BCIP	**Isla Barro Col**	**2.25**	**321**	*e*P	**Pn**	**23 03 41.0**	**+1.5**
BCIP				*e*S	**Sb**	**23 04 13.0**	**+2.1**
CACAO	**El Cacao, Vera**	**2.43**	**269**	*e*P	**Pb**	**23 03 46.2**	**-0.1**
CACAO				*e*S	**Sn**	**23 04 09.2**	**-2.2**
CBOC	**Ciudad Bolivar**	**2.83**	**123**	*e*Pn	**Pb**	**23 03 51.6**	**-1.7**
UREC	**San Jos de Ur**	**2.88**	**83**	*e*P	**Pn**	**23 03 48.9**	**+0.8**
UREC				*e*S	**Sn**	**23 04 22.6**	**+0.1**
HELC	**Santa Helena**	**3.10**	**113**	*e*P	**Pn**	**23 03 52.2**	**+0.6**
HELC				*e*S	**Sn**	**23 04 28.9**	**+0.3**
HELC				*i*		23 04 38.0	
	comp=Z,14nm,0.6s						
HELC	**Santa Helena**	**3.10**	**113**	*e*P	**Pn**	**23 03 51.4**	**-0.2**
HELC				*e*S	**Sn**	**23 04 28.6**	**0.0**
ZARC	**Zaragoza, Cauc**	**3.52**	**88**	*e*P	**Pn**	**23 03 57.9**	**+0.8**
ZARC				*i*		23 04 47.8	
	comp=Z,28nm,0.4s						
NORC	**Norcasia**	**3.96**	**117**	*e*P	**Pn**	**23 04 06.7**	**+3.5**
PTBC	**PUERTO BERRIO,**	**4.02**	**102**	*e*P	**Pn**	**23 04 05.5**	**+1.6**
PTBC				*e*S	**Sn**	**23 04 53.1**	**+2.4**
SJCC	**San Jacinto, C**	**4.04**	**52**	*e*P	**Pn**	**23 04 06.6**	**+2.3**
SJCC				*e*S	**Sn**	**23 04 49.2**	**-2.2**
SMLC	**San Martn de**	**4.52**	**72**	*e*P	**Pn**	**23 04 11.5**	**+0.8**
SMLC				*e*S	**Sn**	**23 05 01.6**	**-1.3**
SMLC				*i*		23 05 10.6	
	comp=Z,8.3nm,0.6s						

HEL 25 23:09:00.7±0.3**, 67°.18N**×**20°.64E, h0**km**, ML1.4,**
Explosion, Sweden

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
ERTU	**Ertsjaerv**	**0.88**	**135**	PG	Pg	23 09 16.2	-1.3
	baz=312						
HEF	**Hetta**	**1.68**	**42**	PG	Pn	23 09 30.7	-0.7
	baz=226						
HEF				MSG		23 09 51.0	
	comp=Z,1.2nm,0.2s						
HEF				SN	Sg	23 09 54.6	-0.1
KIF	**Kilpisjarvi**	**1.83**	**2**	PG	Pn	23 09 34.2	+0.8
KIF				MSG		23 09 56.4	
	comp=Z,2.9nm,0.2s						
KIF				SG	Sb	23 09 58.7	+0.2
TOF	**Tornio**	**1.84**	**125**	PG	Pn	23 09 33.7	+0.3
TOF				MSG		23 09 55.6	
	comp=Z,2.7nm,0.2s						
TOF				SG	Sn	23 09 57.7	+0.4
RNF	**Rovaniemi**	**2.19**	**103**	SN	Sn	23 10 03.3	-2.9
SGF	**Sodankyl**	**2.30**	**81**	PG	Pb	23 09 41.6	-1.3
SGF				SN	Sn	23 10 05.0	-3.7
ARE0	**ARCESS Array S**	**2.97**	**35**	SG	Sb	23 10 31.8	+0.5

UPP 25 23:09:24.5±0.1**, 67°.18N**×**20°.72E, h0**km**, ML2.7,**
Explosion, Sweden

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
DUNU	**Dundret**	**0.08**	**227**	P	Pg	23 09 26.4	+0.3
DUNU				S	Sg	23 09 27.6	+0.5
RATU	**Laukkuluspa**	**0.78**	**327**	P	Pg	23 09 39.2	-0.3
KUA	**Kurravaara**	**0.80**	**350**	P	Pg	23 09 39.5	-0.2
ERTU	**Ertsjaerv**	**0.85**	**136**	P	Pg	23 09 40.5	-0.3

IDC 25 23:11:36.4±2.8**, 8°.18N**×**125°.70E, h0**km**, mb3.6**/3**,**
mb1 3.9/3**, mb1mx3.4**/31**, mbtmp3.6**/3**, Error ellipse:**
s-maj=234.5km s-min=26.3km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
WRA	**Warramunga Arr**	**29.21**	**163**	P	P	23 17 40.6	+0.6
	0.3nm,0.4s,baz=344,slow=9.3,SNR=5.8						
ASAR	**Alice Springs**	**32.65**	**166**	P	P	23 18 09.9	-0.5
	0.5nm,0.3s,baz=339,slow=7.7,SNR=20						
MKAR	**Makanchi Array**	**53.36**	**324**	P	P	23 20 57.6	-0.1
	0.2nm,0.4s,baz=118,slow=7.5,SNR=6.6						

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*IDC **25** 23:13:30.8±1.2, 6°.57S×155°.12E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.7/23, mbtmp3.6/7, ML3.7/1, Error ellipse: s-maj=29.3km s-min=23.4km az=56.0*
*ISCJB **25** 23:13:37.5±1.1, 6°.6S±0°.1×155°.0E±0°.1, h56km, mb3.5/6, Error ellipse: s-maj=22.6km s-min=13.4km az=139.5*
ISC 25 23:13:39.0±1.2**, 6°.6S**±0°.2×**154°.9E**±0°.2**, h56**km**, n8,**
σ1.00/10**, mb3.4**/6**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
KRVT	**Keravat (AS076**	**3.66**	**308**	Pn	**Pn**	**23 14 31.9**	**-1.3**
	5.2nm,0.3s,baz=85,slow=11,SNR=3.1						
KRVT				Sn	**Sn**	**23 15 16.4**	**+1.2**
	10nm,0.3s,baz=198,slow=20,SNR=3.1						
KRVT				Lg	Lg	23 15 32.0	
	14nm,0.3s,baz=97,slow=31,SNR=5.6						

WRA	**Warramunga Arr**	**24.02**	**234**	P		**P**	**23 18 50.2**	**+1.3**
	1.0nm,0.9s,baz=57,slow=9.8,SNR=7.7							
ASAR	**Alice Springs**	**26.42**	**228**	P		**P**	**23 19 10.1**	**-0.6**
	0.2nm,0.3s,baz=58,slow=9.3,SNR=5.8							
CMAR	**Chiang Mai Arr**	**60.55**	**295**	P		**P**	**23 23 44.4**	**+0.2**
	1.1nm,0.4s,baz=125,slow=5.3,SNR=6.3							
SONM	**Songino Array**	**68.94**	**327**	P		**P**	**23 24 37.7**	**-0.7**
	0.3nm,0.5s,baz=135,slow=5.5,SNR=4.5							
ILAR	**Eielson Array**	**83.00**	**22**	P		**P**	**23 25 58.6**	**+0.7**
	0.2nm,0.6s,baz=240,slow=4.8,SNR=3.2							
MKAR	**Makanchi Array**	**83.04**	**319**	P		**P**	**23 25 59.2**	**+0.6**
	0.5nm,0.8s,baz=108,slow=7.7,SNR=5.3							
TORD	**Torodi Ar. Bea**	**152.85**	**286**	PKPbc		**PKPbc**	**23 33 30.4**	**-0.6**
	0.4nm,0.6s,baz=82,slow=2.1,SNR=5.9							
TORD				PKPab		**PKPab**	**23 33 41.9**	**-0.2**
	0.4nm,0.6s,baz=78,slow=4.1,SNR=3.7							

IDC 25 23:30:01.5±20.0, 12°26S×63°63E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.4/50, mbtmp3.7/4, Error ellipse: s-maj=691.3km s-min=34.0km az=62.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**9.35**	**52**	T	T	23 41 14.1	
	baz=227,slow=76,SNR=33						
H08N2	**Diego Garcia H**	**9.37**	**52**	T	T	23 41 16.0	
	baz=227,slow=76,SNR=29						
H08N1	**Diego Garcia H**	**9.37**	**52**	T	T	23 41 14.0	
	baz=227,slow=76,SNR=77						
H08S1	**Diego Garcia H**	**9.85**	**63**	T	T	23 41 49.6	
	baz=244,slow=75,SNR=17						
H08S2	**Diego Garcia H**	**9.86**	**63**	T	T	23 41 50.8	
	baz=244,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**9.86**	**63**	T	T	23 41 51.2	
	baz=244,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**50.86**	**125**	T	T	00 32 17.0	
	baz=288,slow=75						
H01W2	**Cape Leeuwin H**	**50.86**	**125**	T	T	00 32 17.9	
	baz=288,slow=75						
H01W1	**Cape Leeuwin H**	**50.88**	**125**	T	T	00 32 18.5	
	baz=288,slow=75						
MKAR	**Makanchi Array**	**61.12**	**15**	P		P	23 40 17.9	+0.3
	0.3nm,0.7s,baz=205,slow=7.3,SNR=3.4							
KURBB	**Kurchatov Arra**	**63.96**	**11**	P		P	23 40 36.2	-0.2
	0.6nm,0.2s,baz=188,slow=7.2,SNR=3.0							
ASAR	**Alice Springs**	**67.25**	**111**	P		P	23 40 58.1	-0.3
	0.8nm,1.0s,baz=278,slow=6.5,SNR=4.5							
WRA	**Warramunga Arr**	**67.96**	**107**	P		P	23 41 03.3	+0.3
	1.1nm,1.1s,baz=276,slow=5.1,SNR=4.1							

IDC 25 23:38:32.7±3.2, 17°34S×174°68W, h304km±79km, mb3.6/5, mb1 3.7/6, mb1mx3.2/34, mbtmp4.3/6, Error ellipse: s-maj=78.6km s-min=25.7km az=55.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.41**	**40**	P	Pn	23 39 45.6	+1.8
	5.1nm,0.3s,baz=38,slow=18,SNR=10						
AFI				S	S	23 40 40.3	-0.6
	12nm,0.3s,baz=37,slow=20,SNR=9.2						
URZ	**Urewera**	**22.05**	**197**	P	P	23 43 02.7	-0.1
	5.3nm,0.5s,baz=350,slow=4.5,SNR=11						
URZ				S	S	23 46 44.4	+0.9
	3.2nm,0.8s,baz=342,slow=20,SNR=2.2						
CTA	**Charters Tower**	**37.05**	**259**	P	P	23 45 13.9	-0.8
	1.1nm,0.6s,baz=102,slow=9.3,SNR=2.7						
STKA	**Stephens Creek**	**42.02**	**241**	P	P	23 45 54.9	-0.3
	1.3nm,0.5s,baz=94,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**48.23**	**259**	P	P	23 46 43.7	-0.3
	1.1nm,0.4s,baz=97,slow=6.9,SNR=35						
ASAR	**Alice Springs**	**48.37**	**254**	P	P	23 46 45.3	+0.3
	7.2nm,0.5s,baz=88,slow=8.8,SNR=186						

ISK 25 23:50:19.9, 41°36N×43°90E, h8km, ML2.4/8
TIF 25 23:50:19.6, 41°34N×43°89E, h13km±1km
NORS 25 23:50:21.5±0.0, 41°48N×43°83E, h6km, MPVA3.3
ISC 25 23:50:20.4±1.0, 41°30N±0°02×43°87E±0°02, h9km±11km, n27, σ0°81/47, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.30**	**292**	P	**Pg**	**23 50 26.5**	**0.0**
AKH				S	**Sg**	**23 50 30.9**	**+0.3**
AKH	**Akhalkalaki**	**0.30**	**292**	PG	**Pg**	**23 50 26.5**	**0.0**
KZRT	**Kazreti**	**0.41**	**77**	P	**Pg**	**23 50 28.2**	**-0.2**
KZRT				S	**Sg**	**23 50 33.5**	**-0.4**
TBLG	**Delisi**	**0.78**	**56**	P	**Pg**	**23 50 34.6**	**-0.8**
TBLG				S	**Sg**	**23 50 45.5**	**-0.2**
TBLG	**Delisi**	**0.78**	**56**	PG	**Pg**	**23 50 34.8**	**-0.7**
BTNK	**Botanikuri**	**0.80**	**61**	P	**Pg**	**23 50 34.9**	**-0.9**
BTNK				S	**Sg**	**23 50 45.8**	**-0.4**
DGRG	**David-gareji**	**1.14**	**82**	P	**Pb**	**23 50 41.7**	**-0.6**
DGRG				S	**Sg**	**23 50 57.6**	**+0.4**
TKB	**Tkibuli**	**1.24**	**328**	P	**Pn**	**23 50 43.1**	**-0.8**
TKB				S	**Sb**	**23 50 59.8**	**-0.2**
GNI	**Garni**	**1.33**	**150**	PN	**Pg**	**23 50 45.8**	**0.0**
GNI				SN	**Sg**	**23 51 05.3**	**+2.3**
ONI	**Oni**	**1.33**	**347**	P	**Pn**	**23 50 44.4**	**-0.8**
ONI				S	**Sb**	**23 51 02.6**	**-0.1**
ONI	**Oni**	**1.33**	**347**	PN	**Pn**	**23 50 44.5**	**-0.6**
ONI				SN	**Sb**	**23 51 02.5**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.34**	**168**	PN	**Pb**	**23 50 45.7**	**0.0**
SENK	**Senkaya-Erzuru**	**1.36**	**238**	PN	**Pg**	**23 50 46.6**	**0.0**
ZEI	**Tsey**	**1.49**	**1**	*i* Pg	**Pb**	**23 50 48.0**	**-0.4**
ZEI				*e*Sg	**Sg**	**23 51 08.4**	**+0.1**
LACR	**Lac**	**1.56**	**12**	*e*Pg	**Pn**	**23 50 48.7**	**+0.3**
LACR				*e*Sg	**Sb**	**23 51 09.8**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.61**	**353**	*e*Pg	**Pb**	**23 50 50.6**	**+0.1**
DIGR				*e*Sg	**Sg**	**23 51 12.2**	**-0.1**
KORR	**Kora**	**1.79**	**5**	*e*Pg	**Pb**	**23 50 53.7**	**+0.3**
KORR				*e*Sg	**Sg**	**23 51 18.8**	**+0.8**
AGRB	**Hanur-Agry**	**1.84**	**202**	PN	**Pb**	**23 50 54.7**	**+0.3**
LGD	**Lagodekhi**	**1.86**	**72**	P	**Pn**	**23 50 52.7**	**+0.3**
LGD				S	**Sg**	**23 51 19.6**	**-0.6**
ARNR	**Ardon**	**1.91**	**9**	*e*Pg	**Pb**	**23 50 56.3**	**+1.0**
ARNR				*e*Sg	**Sg**	**23 51 22.9**	**+1.3**
KMGR	**Komgaron**	**1.91**	**23**	*e*Pg	**Pb**	**23 50 55.8**	**+0.5**
KMGR				*e*Sg	**Sg**	**23 51 21.4**	**-0.3**
LSNR	**Lesken**	**1.98**	**359**	*e*Pg	**Pb**	**23 50 57.3**	**+0.7**
LSNR				*e*Sg	**Sg**	**23 51 23.1**	**-0.9**
KOPR	**Koprukoy-ERZUR**	**2.01**	**230**	PN	**Pb**	**23 50 56.6**	**-0.6**
STDR	**Stavd-Durt**	**2.08**	**4**	*e*Pg	**Pg**	**23 51 00.4**	**+0.3**
STDR				*e*Sg	**Sg**	**23 51 29.7**	**+2.7**
NEY	**Neytrino**	**2.13**	**337**	*e*Pg	**Pb**	**23 50 59.1**	**0.0**
NEY				*e*Sg	**Sb**	**23 51 26.3**	**+0.6**
BTKR	**Batakoyurt**	**2.13**	**13**	*e*Pg	**Pb**	**23 51 00.4**	**+1.2**
BTKR				*e*Sg	**Sg**	**23 51 29.3**	**+0.4**
CHOM	**Cayeli-Rize**	**2.35**	**266**	PN	**Pb**	**23 51 01.3**	**-1.6**

IDC 25 23:53:50.7±1.1, 15°77S×175°43W, h317km±11km, mb3.7/14, mb1 3.9/16, mb1mx3.7/38, mbtmp4.4/16, Error ellipse: s-maj=19.1km s-min=9.4km az=140.0
NEIC 25 23:53:52.8±3.0, 15°7S±0°1×175°4W±0°1, h335km±6km, mb4.3/51
ISC 25 23:53:53.3±0.4, 15°66S±0°08×175°33W±0°07, h350km, n109, σ1ş75/108, mb4.2/35, 12C-7D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.85**	**64**	P	**Pn**	**23 54 59.2**	**-1.8**
	40nm,0.3s,baz=166,slow=1.8,SNR=42						
AFI				S	**S**	**23 55 51.3**	**-4.2**
	46nm,0.3s,baz=167,slow=19,SNR=7.8						
AFI	**Afiamalu**	**3.85**	**64**		**Pn**	**23 54 59.6**	**-1.4**
NIUE	**Niue**	**6.18**	**124**		**Pn**	**23 55 25.5**	**-0.7**
NIUE					**S**	**23 56 39.7**	**-1.9**
MSVF	**Nonsavu**	**6.67**	**251**		**Pn**	**23 55 31.9**	**0.0**
DZM	**Mont Dzumac**	**18.38**	**247**	P	**P**	**23 57 43.4**	**-1.1**
	0.3nm,0.3s,baz=67,slow=19,SNR=5.1						
DZM	**Mont Dzumac**	**18.38**	**247**	P	**P**	**23 57 43.9**	**-0.6**
DZM				IAmb	IAmb	23 58 00.2	
	comp=Z,14nm,1.2s						
OUZ	**Omahuta**	**21.86**	**205**	P	**P**	**23 58 17.6**	**-0.6**
OUZ				IAmb	IAmb	23 58 35.5	
	comp=Z,38nm,1.5s						
URZ	**Urewera**	**23.48**	**195**	P	**P**	**23 58 30.6**	**-2.3**
	comp=Z,6.9nm,0.6s,baz=351,slow=22,SNR=7.8						
BFZ	**Birch Farm**	**25.99**	**195**	P	**P**	**23 58 53.8**	**-1.5**

QRZ	**Quartz Range**	**27.20**	**200**	P		**P**	**23 59 05.6**	**-0.6**
NNZ	**Nelson**	**27.28**	**199**	P		**P**	**23 59 05.3**	**-1.4**
THZ	**Tophouse**	**27.93**	**199**	P		**P**	**23 59 11.5**	**-1.1**
KHZ	**Kahutara**	**28.33**	**198**	P		**P**	**23 59 14.4**	**-1.6**
RPZ	**Rata Peaks**	**30.27**	**200**	P		**P**	**23 59 31.0**	**-2.2**
	comp=Z,7.3nm,0.4s,baz=346,slow=17,SNR=5.6							
FOZ	**Fox Glacier**	**30.54**	**202**	P		**P**	**23 59 33.5**	**-1.8**
LBZ	**Lake Benmore**	**31.16**	**200**	P		**P**	**23 59 38.0**	**-2.8**
LBZ				IAmb	IAmb	23 59 55.6		
	comp=Z,31nm,1.3s							
MLZ	**Mavora Lakes**	**32.73**	**202**	P		**P**	**23 59 54.2**	**-0.3**
MLZ				IAmb	IAmb	23 59 54.3		
	comp=Z,10nm,0.7s							
DCZ	**Deep Cove**	**33.17**	**203**	P		**P**	**23 59 57.5**	**-0.6**
CTA	**Charters Tower**	**36.77**	**257**	P		**P**	**00 00 28.4**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=90,slow=11,SNR=6.8							
COEN	**Coen**	**40.11**	**267**	P		**P**	**00 00 57.2**	**+0.6**
TOO	**Toolangi**	**40.87**	**230**	P		**P**	**00 01 02.2**	**-0.3**
STKA	**Stephens Creek**	**42.30**	**240**	P		**P**	**00 01 12.8**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=67,slow=8.3,SNR=3.9							
BBOO	**Buckleboo**	**47.07**	**240**	P		**P**	**00 01 50.3**	**-1.1**
BBOO				IAmb	IAmb	00 02 01.9		
	comp=Z,16nm,1.2s							
BBOO				PcP		**PcP**	**00 03 18.3**	**+1.3**
WRA	**Warramunga Arr**	**47.97**	**257**	P		**P**	**00 01 57.2**	**-1.2**
	comp=Z,1.5nm,0.6s,baz=94,slow=6.4,SNR=20							
WRA				PcP		**PcP**	**00 03 21.2**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=89,slow=3.5,SNR=4.7							
AS31	**Alice Springs**	**48.26**	**252**	P		**P**	**00 02 00.5**	**-0.1**
ASAR	**Alice Springs**	**48.26**	**252**	P		**P**	**00 02 00.2**	**-0.4**
	comp=Z,8.4nm,0.6s,baz=85,slow=8.2,SNR=187							
ASAR				PcP		**PcP**	**00 03 22.0**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=92,slow=5.5,SNR=3.9							
SIJI	**Sorong**	**54.67**	**280**	P		**P**	**00 02 47.2**	**-0.5**
	comp=Z,8.0nm,0.6s,baz=103,slow=9.0,SNR=5.3							
PSA00	**Pilbara Seismi**	**61.34**	**254**	P		**P**	**00 03 36.4**	**+2.9**
SBA	**Scott Base**	**62.85**	**184**	P		**P**	**00 03 45.2**	**+2.7**
VNDA	**Vanda**	**62.94**	**185**	P		**P**	**00 03 44.1**	**+1.1**
	comp=Z,5.5nm,0.9s,baz=21,slow=8.5,SNR=8.1							
VNDA	**Vanda**	**62.94**	**185**	P		**P**	**00 03 44.6**	**+1.6**
KMRM	**Mail Ridge**	**73.42**	**39**	P		**P**	**00 04 51.0**	**+2.9**
KMRM				IAmb	IAmb	00 05 06.7		
	comp=Z,12nm,1.1s							
KRMB	**Red Mountain**	**74.10**	**38**	P		**P**	**00 04 54.8**	**+2.7**
QSPA	**South Pole Qui**	**74.39**	**180**	P		**P**	**00 04 54.9**	**+1.4**
QSPA				IAmb	IAmb	00 04 55.9		
	comp=Z,8.7nm,0.9s							
YBH	**Yreka Blue Hor**	**74.94**	**38**	P		**P**	**00 04 59.1**	**+2.3**
YBH				IAmb	IAmb	00 05 00.5		
	comp=Z,5.9nm,1.1s							
PNTR	**Pine Nut**	**75.30**	**42**	P		**P**	**00 05 01.6**	**+2.4**
PNTR				IAmb	IAmb	00 05 02.5		
	comp=Z,3.9nm,0.7s							
YERR	**Yerington**	**75.47**	**42**	P		**P**	**00 05 02.1**	**+2.0**
NVAR	**Mina Array Bea**	**75.77**	**43**	P		**P**	**00 05 03.8**	**+1.9**
	comp=Z,5.5nm,0.8s,baz=227,slow=9.3,SNR=22							
NV11	**Mina Array Sit**	**75.87**	**43**	P		**P**	**00 05 05.0**	**+2.6**
TPNV	**Topopah Spring**	**76.35**	**45**	P		**P**	**00 05 06.6**	**+1.5**
SHPR	**Sheep Range**	**76.87**	**46**	P		**P**	**00 05 09.7**	**+1.8**
H04A	**Detroit Lake**	**77.04**	**36**	P		**P**	**00 05 10.2**	**+1.7**
H04A				IAmb	IAmb	00 05 20.1		
	comp=Z,5.1nm,1.2s							
Y14A	**Wickenburg**	**77.12**	**49**	P		**P**	**00 05 12.2**	**+2.9**
Y14A				IAmb	IAmb	00 05 12.8		
	comp=Z,5.1nm,0.8s							
PINE	**Pine Mountain**	**77.22**	**37**	P		**P**	**00 05 12.1**	**+2.4**
PINE				IAmb	IAmb	00 05 17.5		
	comp=Z,5.4nm,1.3s							
PSUT	**Pine Spring**	**78.79**	**45**	P		**P**	**00 05 20.7**	**+2.2**
PGC	**Sidney**	**78.84**	**32**	P		**P**	**00 05 20.6**	**+2.4**
ELK	**Elko**	**79.02**	**42**	P		**P**	**00 05 22.0**	**+2.4**
SUA	**Susitna One**	**79.32**	**12**	P		**P**	**00 05 22.4**	**+1.8**
SUA				IAmb	IAmb	00 05 35.7		
	comp=Z,7.1nm,1.4s							
E07A	**Sunnyside**	**79.48**	**35**	P		**P**	**00 05 24.3**	**+2.6**
E07A				IAmb	IAmb	00 05 24.9		
	comp=Z,3.7nm,1.0s							
121A	**Cookes Peak, D**	**80.37**	**52**	IAmb	IAmb	00 05 31.1		
	comp=Z,6.2nm,0.8s							
F10A	**Beach Ranch, E**	**80.63**	**37**	P		**P**	**00 05 29.9**	**+1.9**
F10A				IAmb	IAmb	00 05 30.4		
	comp=Z,4.5nm,0.8s							
TMUT	**Trail Mountain**	**80.96**	**45**	P		**P**	**00 05 33.3**	**+3.2**
MNTX	**Cornudas Mount**	**81.88**	**54**	IAmb	IAmb	00 05 37.9		
	comp=Z,3.7nm,0.8s							
TXAR	**Lajitas Array**	**82.31**	**57**	P		**P**	**00 05 38.6**	**+1.6**
	comp=Z,1.8nm,0.9s,baz=224,slow=5.2,SNR=12							
ANMO	**Albuquerque**	**82.40**	**51**	P		**P**	**00 05 40.0**	**+2.5**
ANMO				IAmb	IAmb	00 05 41.0		
	comp=Z,4.4nm,0.9s							
AHID	**Auburn Hatcher**	**82.71**	**42**	P		**P**	**00 05 39.9**	**+1.0**
AHID				IAmb	IAmb	00 05 43.0		
	comp=Z,5.6nm,1.1s							
ILAR	**Eielson Array**	**83.07**	**12**	P		**P**	**00 05 40.8**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=210,slow=5.7,SNR=19							
REDW	**Red Top Meadow**	**83.16**	**42**	IAmb	IAmb	00 05 45.0		
	comp=Z,4.6nm,1.1s							
S22A	**4UR Ranch, Cre**	**83.32**	**48**	IAmb	IAmb	00 05 45.8		
	comp=Z,3.9nm,0.9s							
O20A	**White River Ci**	**83.38**	**45**	IAmb	IAmb	00 05 45.3		
	comp=Z,3.9nm,0.8s							
PD31	**Pinedale Array**	**83.71**	**43**	IAmb	IAmb	00 05 47.0		
	comp=Z,4.4nm,1.2s							
PDAR	**Pinedale Array**	**83.71**	**43**	P		P	**00 05 45.4**	**+1.4**
	comp=Z,1.9nm,0.6s,baz=217,slow=3.4,SNR=24							
MAW	**Mawson**	**86.95**	**199**	P		**P**	**00 05 59.0**	**-0.2**
	comp=Z,5.4nm,0.8s,baz=107,slow=7.2,SNR=8.5							
YKA	**Yellowknife Ar**	**91.08**	**24**	P		**P**	**00 06 19.3**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=238,slow=5.0,SNR=6.3							
VNA3	**Neumayer Olymp**	**92.76**	**175**	P		**P**	**00 06 26.6**	**+0.4**
VNA2	**Neumayer--Watz**	**93.23**	**176**	P		**P**	**00 06 29.4**	**+1.0**
	baz=198,slow=3.2							
ARCES	**ARCESS Array B**	**124.59**	**351**	PKP	**PKiKP**	**00 12 11.7**	**+0.5**	
	comp=Z,2.1nm,0.5s,baz=330,slow=1.3,SNR=15							
FINES	**FINESS Array B**	**131.77**	**346**	PKP	**PKiKP**	**00 12 26.4**	**+0.6**	
	comp=Z,12nm,1.2s,baz=64,slow=3.2,SNR=7.2							
AKASG	**Malin Array Be**	**139.84**	**336**	PKP	**PKiKP**	**00 12 41.3**	**-1.3**	
	comp=Z,2.0nm,0.3s,baz=61,slow=2.0,SNR=3.8							
KMBO	**Kilima Mbogo**	**143.74**	**246**	PKP	**PKPdf**	**00 12 47.6**	**-0.9**	
	comp=Z,4.5nm,0.9s,baz=65,slow=6.6,SNR=11							
BURAR	**Bucovina Array**	**143.88**	**336**	↑P	**PKPdf**	**00 12 47.9**	**+0.3**	
DPC	**Dobruska-Polom**	**144.13**	**347**	*e*PKP	**PKiKP**	**00 12 49.3**	**-2.2**	
TRPA	**Tarpa**	**144.43**	**339**	↑P	**PKPdf**	**00 12 48.7**	**+0.4**	
ARCR	**ARCALIA**	**144.65**	**337**	↑P	**PKiKP**	**00 12 50.4**	**-2.2**	
VRI	**Vrincioaia**	**144.66**	**333**	↑P	**PKiKP**	**00 12 53.2**	**+0.6**	
PLOR	**Plostina**	**144.71**	**333**	↑P	**PKiKP**	**00 12 49.9**	**-2.9**	
PRU	**Pruhonice**	**144.83**	**349**	*e*PKP	**PKiKP**	**00 12 50.1**	**-2.7**	
OZUR		**144.88**	**334**	↑P	**PKiKP**	**00 12 51.3**	**-1.8**	
HARR	**Harsova**	**145.01**	**331**	↑P	**PKiKP**	**00 12 51.6**	**-1.8**	
DOPR	**Dopca**	**145.15**	**334**	↓P	**PKiKP**	**00 12 52.2**	**-1.4**	
BR131	**Keskin Array S**	**145.16**	**319**		**PKiKP**	**00 12 51.9**	**-2.1**	
BRTR	**Keskin Array B**	**145.16**	**319**	PKPbc	**PKPab**	**00 12 51.0**	**+0.1**	
	comp=Z,2.1nm,0.7s,baz=118,slow=3.0,SNR=14							
MLR	**Muntele Rosu**	**145.29**	**333**	↑P	**PKiKP**	**00 12 53.0**	**-1.2**	
ISR	**Istrita**	**145.32**	**332**	↓P	**PKiKP**	**00 12 52.5**	**-1.6**	
DRGR		**145.51**	**338**	↑P	**PKPbc**	**00 12 49.8**	**-1.4**	
VOIR		**145.72**	**334**	↑P	**PKiKP**	**00 12 53.7**	**-1.2**	
KHC	**Kasperske Hory**	**145.83**	**350**	*e*PKP	**PKiKP**	**00 12 53.2**	**-1.8**	
ARR	**Arges**	**145.95**	**335**	↓P	**PKiKP**	**00 12 55.2**	**-0.2**	
GERES	**GERESS Array B**	**146.08**	**349**	PKPbc	**PKiKP**	**00 12 53.7**	**-1.9**	
	comp=Z,0.8nm,0.5s,baz=29,slow=3.6,SNR=12							
CONA	**Conrad Observa**	**146.52**	**346**	*i* PKiKP	**PKiKP**	**00 12 55.8**	**-0.7**	
	comp=Z,1.6nm,0.6s							
RAZG	**Razgrad**	**146.53**	**331**	↑P	**PKiKP**	**00 12 55.1**	**-1.5**	
GZR	**Gura Zlata**	**146.67**	**337**	↓P	**PKiKP**	**00 12 57.4**	**+0.5**	
BZS	**Bunas**	**146.91**	**338**	↑P	**PKiKP**	**00 12 55.7**	**-1.6**	
MOA	**Molln**	**146.93**	**348**	*i* PKPab	**PKPab**	**00 12 56.6**	**-0.8**	
	comp=Z,1.2nm,0.5s							
VLAD	**Vladila**	**147.15**	**333**	↓P	**PKPab**	**00 12 56.9**	**-1.5**	
PLVB	**Pleven**	**147.54**	**332**	↓P	**PKPab**	**00 12 58.6**	**-1.4**	
RETA	**Reutte**	**147.86**	**352**	*i* PKiKP	**PKiKP**	**00 12 58.9**	**-0.4**	
	comp=Z,0.4nm,0.3s							
WATA	**Walderalm**	**147.90**	**351**	*i* PKiKP	**PKiKP**	**00 12 58.1**	**-1.3**	
	comp=Z,1.0nm,0.4s							
MOTA	**Moosalm**	**147.96**	**352**	*i* PKiKP	**PKPab**	**00 12 59.6**	**-2.1**	
	comp=Z,0.9nm,0.4s							
WTTA	**Wattenberg**	**147.96**	**351**	*i* PKiKP	**PKPab**	**00 12 59.5**	**-2.3**	
	comp=Z,4.0nm,0.4s							
SQTA	**Sankt Quirin**	**148.06**	**352**	*i* PKiKP	**PKPab**	**00 12 59.7**	**-2.4**	
	comp=Z,2.5nm,0.7s							
DAVA	**Damuels**	**148.17**	**353**	*i* PKPbc	**PKPbc**	**00 12 57.2**	**-1.3**	
	comp=Z,0.3nm,0.2s							
MYKA	**Terra Mystica**	**148.22**	**348**	*i* PKPbc	**PKiKP**	**00 12 58.5**	**-1.6**	
	comp=Z,1.3nm,0.4s							
ABTA	**Abfaltersbach**	**148.32**	**350**	*i* PKiKP	**PKiKP**	**00 12 59.5**	**-0.8**	
	comp=Z,3.0nm,0.6s							
FETA	**Feichten**	**148.32**	**352**	*i* PKiKP	**PKPab**	**00 13 00.7**	**-2.5**	
	comp=Z,1.0nm,0.4s							
VTS	**Vitosha**	**148.76**	**333**	↓P	**PKPab**	**00 13 02.0**	**-3.2**	
FUORN	**Ofenpass-Fuorn**	**148.78**	**353**		**PKPab**	**00 13 02.1**	**-3.0**	
FNA	**Florina**	**151.06**	**333**		**PKiKP**	**00 13 06.7**	**+0.6**	
TORD	**Torodi Ar. Bea**	**176.19**	**131**	PKP	**PKPdf**	**00 13 22.9**	**+0.1**	
	comp=Z,1.0nm,0.9s,baz=315,slow=0.6,SNR=4.6							

ANF 26 00:18:18.6±0.4, 32°39N×116°25W, h17km±2km, ML4.0/42, Error ellipse: s-maj=3.3km s-min=2.0km az=6.0
PAS 26 00:18:19.6±3.1, 32°40N±0°03×116°27W±0°01, h15km±2km
NEIC 26 00:18:19.5±3.7, 32°44N±0°03×116°27W±0°02, h20km±3km, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr=0.19; Mθθ=1.94; Mϕϕ2.13; Mrθ=1.10; Mθϕ=0.30; Mϕr0.30; Fault plane solution: M0 2.36000×10^14 NP1: ϕs132.91000°, δ79.50000°, λ-154.27000°. NP2: ϕs37.90000°, δ64.73000°, λ-11.62000°. Principal axes: T 2.2217, Plg10.0000°, Azm263.0000°; N 0.2592, Plg62.0000°, Azm154.0000°; P -2.4809, Plg26.0000°, Azm358.0000°;
ISCJB 26 00:18:19.1±0.2, 32°41N±0°02×116°25W±0°01, h24km±2km, mb5.0/1 Error ellipse: s-maj=2.9km s-min=1.9km az=15.9
SCEDC 26 00:18:19.6, 32°40N×116°27W, h15km, ML4.2, ML4.1, MWR3.7, MWR3.5(NEIC)
MEX 26 00:18:20.3±0.3, 32°60N×116°28W, h24km±19km, MD4.2
ECX 26 00:18:20.1±0.7, 32°44N×116°26W, h18km±2km, MD3.9, ML4.2
ISC 26 00:18:19.5±0.8, 32°43N±0°02×116°25W±0°01, h17km±5km, n205, σ1ş16/257, 17C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERMX	**Rumorosa**	**0.23**	**56**	↑*e*P	**Pb**	**00 18 25.1**	**-0.1**
ERMX				*e*S	**Sb**	**00 18 28.8**	**-0.3**
ERMX				IAML		00 18 29.5	
	comp=N,45μm,0.1s						
ERMX				*e*		00 18 29.5	
RMX	**La Rumorosa**	**0.23**	**39**		**Pb**	**00 18 25.1**	**-0.1**
RMX					**Sg**	**00 18 28.8**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**0.25**	**28**	P	**Pg**	**00 18 25.1**	**-0.2**
	baz=208,SNR=1000						
IKP				S	**Sg**	**00 18 29.4**	**+0.2**
	baz=208						
IKP	**In-Ko-Pah, Jac**	**0.25**	**28**	*e*P	**Pb**	**00 18 25.4**	**-0.2**
IKP				*e*S	**Sg**	**00 18 29.4**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**0.25**	**28**		**Pb**	**00 18 25.4**	**-0.2**
IKP					**Sg**	**00 18 29.4**	**+0.2**
TKX	**Tecate**	**0.33**	**295**	↑*e*P	**Pg**	**00 18 25.6**	**-1.0**
TKX				*e*S	**Sg**	**00 18 30.7**	**-0.8**
TKX	**Tecate**	**0.33**	**295**		**Pg**	**00 18 25.6**	**-1.0**
TKX		

XPFO	Pion Flat	1.19	352			Pn	00 18 40.4 -1.1
PFO	Pinyon Flats O	1.20	352		P	Pn	00 18 40.5 -1.1
	baz=172,SNR=355						
PFO					S	Sn	00 18 57.8 +0.4
	baz=172						
PFO	Pinyon Flats O	1.20	352			Pn	00 18 40.5 -1.1
PFO	Pinyon Flats O	1.20	352			Pn	00 18 40.5 -1.1
CRY	Cary Ranch	1.21	340			Pn	00 18 41.1 -0.5
CTCC	Cactus City	1.25	10			Pn	00 18 40.7 -1.4
GLA	Glamis	1.35	62		P	Pn	00 18 42.1 -1.4
	baz=242,SNR=69						
GLA					S	Sn	00 18 58.6 -2.6
	baz=242						
GLA	Glamis	1.35	62	i	eP	Pn	00 18 42.2 -1.4
GLA	Glamis	1.35	62			Pn	00 18 42.2 -1.4
GLA	Glamis	1.35	62			Pn	00 18 42.2 -1.4
GLA						Sn	00 18 59.2 -1.9
BACC	Bachelor Mtn.	1.36	331			Pn	00 18 43.0 -0.6
HAY	Hayfield	1.36	20			Pn	00 18 42.6 -1.1
DGR	Domenigoni Val	1.38	333			Pn	00 18 43.4 -0.6
POB	Polly Butte	1.38	336			Pn	00 18 43.6 -0.4
BC3	Big Chuckawall	1.40	28		P	Pn	00 18 43.1 -1.2
	baz=209,SNR=66						
BC3	Big Chuckawall	1.40	28			Pn	00 18 43.1 -1.2
MURC	Murrieta	1.42	326		P	Pn	00 18 44.1 -0.3
	baz=147,SNR=341						
MURC					S	Sn	00 19 02.8 +0.1
	baz=147						
MURC	Murrieta	1.42	326			Pn	00 18 44.2 -0.3
HMTC	Hemet	1.43	334			Pn	00 18 44.2 -0.5
EW2	E Wide Canyon	1.52	355			Pn	00 18 45.2 -0.7
SPIG	San Pedro Mart	1.53	154		eP	Pn	00 18 46.2 -0.1
SPIG					i S	Sn	00 19 06.1 +0.2
SPIG	San Pedro Mart	1.53	154		eP	Pn	00 18 46.2 -0.1
SPIG	San Pedro Mart	1.53	154			Pn	00 18 46.2 -0.1
SPIG						Sn	00 19 06.3 +0.4
SPX	San Pedro Mart	1.54	154		eP	Pn	00 18 46.2 -0.2
SPX					eS	Sb	00 19 07.1 +0.1
SPX	San Pedro Mart	1.54	154			Pn	00 18 46.2 -0.2
BELC	Belle Mtn. Jos	1.58	8		P	Pn	00 18 46.0 -0.9
	baz=188,SNR=114						
BELC	Belle Mtn. Jos	1.58	8			Pn	00 18 46.0 -0.9
BLAC	Blackrock camp	1.64	356			Pn	00 18 47.0 -0.6
PEC	Perris	1.65	333			Pn	00 18 47.4 -0.3
SME	Santa Rosa Min	1.67	327			Pn	00 18 47.8 -0.2
TPC	Twentynine Pal	1.68	6			Pn	00 18 47.5 -0.7
CFT	Crafton Hills	1.76	336			Pn	00 18 49.3 +0.1
SVD	Seven Oaks Dam	1.82	337			Pn	00 18 50.2 +0.1
SFX	San Felipe	1.83	139		eP	Pb	00 18 52.5 +0.1
SFX	San Felipe	1.83	139			Pb	00 18 53.5 +1.0
SQX	San Quintin	1.87	170	‖	eP	Pn	00 18 50.7 0.0
BBRC	Big Bear Solar	1.92	343		P	Pn	00 18 51.5 0.0
	baz=163,SNR=94						
BBRC					Sb	Sg	00 19 19.7 -1.5
	baz=163						
BBRC	Big Bear Solar	1.92	343			Pn	00 18 51.7 +0.2
BTL	Butler Peak	1.93	341			Pn	00 18 52.1 +0.3
IRM	Iron Mountain	1.96	28		P	Pn	00 18 51.3 -0.6
	baz=208,SNR=28						
IRM					S	Sn	00 19 17.0 +0.8
	baz=208						
Y12C	Blythe	1.96	47		P	Pn	00 18 51.1 -0.8
	baz=229,SNR=20						
SIL	Silver Peak	1.98	346			Pn	00 18 52.6 +0.3
SCI2	San Clemente I	2.01	287		P	Pn	00 18 51.7 -0.9
	baz=106,SNR=59						
SCI2					S	Sn	00 19 17.3 -0.1
	baz=106						
SCI2	San Clemente I	2.01	287			Pn	00 18 51.7 -0.9
CIAC	Catalina I. Ai	2.06	299			Pn	00 18 52.4 -1.0
CIS	Catalina Islan	2.06	299		P	Pn	00 18 52.4 -1.0
	baz=118,SNR=82						
CIS					S	Sn	00 19 17.7 -1.0
	baz=118						
VTX	Valle De La Tr	2.07	169		eS	Pn	00 18 54.2 +0.8
CSP	Cedar Springs	2.08	334			Pn	00 18 54.1 +0.3
113A	Mohawk Valley,	2.12	80			Pn	00 18 53.5 -0.7
FMP	Fort Macarthur	2.14	307		P	Pn	00 18 53.7 -0.7
	baz=127						
FMP					S	Sn	00 19 21.0 +0.4
	baz=127						
SSK	Sunset Peak	2.15	326			Pn	00 18 54.8 +0.1
BFSC	Mount Baldy Ra	2.16	327		P	Pn	00 18 54.4 -0.4
	baz=147,SNR=87						
PEM	Pine Mountain	2.20	322			Pn	00 18 55.3 +0.1
XTL	Crystal Lake,	2.30	325			Pn	00 18 56.7 -0.1
DANC	Danby, Needles	2.32	18			Pn	00 18 56.9 -0.1
MWC	Mount Wilson	2.35	320			Pn	00 18 57.2 -0.2
PASC	Pasadena Art C	2.38	318			Pn	00 18 58.2 +0.5
HEC	Hector,Ludlow	2.40	358		P	Pn	00 18 57.7 -0.3
	baz=179						
GMRC	Granite Mounta	2.40	12		P	Pn	00 18 57.8 -0.4
	baz=192,SNR=79						
HOLC	Holcomb Ridge	2.43	327			Pn	00 18 59.0 +0.5
RRX	Edison Barstow	2.52	346		P	Pn	00 18 59.5 -0.2
	baz=166,SNR=25						
RRX					Sb	Sg	00 19 37.9 -2.6
	baz=166						
DECC	Green Verdugo	2.52	317		P	Pn	00 18 59.4 -0.3
	baz=136,SNR=15						
DECC					Sb	Sb	00 19 35.8 +0.7
	baz=136						
NEE2	Needles Airpor	2.70	30		P	Pn	00 19 01.7 -0.4
	baz=211,SNR=13						
EDW2	Edwards Air Fo	2.85	330		P	Pn	00 19 04.7 +0.5
	baz=149,SNR=61						
EDW2					Sb	Sb	00 19 46.9 +2.5
	baz=149						
SNCC	San Nicolas Is	2.88	287		P	Pn	00 19 03.9 -0.6
	baz=106						
SNCC	San Nicolas Is	2.88	287			Pn	00 19 03.9 -0.6
BLG	Laguna Peak, P	2.90	306		P	Pn	00 19 04.2 -0.5
	baz=125						
GSC	Goldstone, Bar	2.91	351		P	Pn	00 19 05.0 0.0
	baz=171,SNR=14						
214A	Organ Pipe Nat	2.95	98		P	Pn	00 19 04.4 -1.2
	baz=280						
214A	Organ Pipe Nat	2.95	98	i	P	Pn	00 19 04.4 -1.2
214A				i	S	Sn	00 19 39.6 -1.0
214A	Organ Pipe Nat	2.95	98			Pn	00 19 04.4 -1.2
OSI	Osito Audit: C	3.01	317		P	Pn	00 19 06.5 +0.1
	baz=136						
OSI	Osito Audit: C	3.01	317			Pn	00 19 07.1 +0.8
OSI						Sn	00 19 43.1 +1.1
TUQ	Turquoise Moun	3.02	5		P	Pn	00 19 06.3 -0.3
	baz=185						
SCZ2	Santa Cruz Isl	3.24	300		P	Pn	00 19 09.3 -0.2
	baz=119						
LRMC	Laurel Mtn Rad	3.27	339		P	Pn	00 19 10.3 +0.2
	baz=159,SNR=15						
W13A	Hualapai Mount	3.31	36			Pn	00 19 11.1 +0.4
ARVC	Arvin	3.45	322		P	Pn	00 19 12.9 +0.6
	baz=141,SNR=6.3						
SHOC	Shoshone, Teco	3.46	360		P	Pn	00 19 12.6 0.0
	baz=180						
ISA	Isabella, Lake	3.72	331		P	Pn	00 19 16.6 +0.4
	baz=150,SNR=8.6						
ISA	Isabella, Lake	3.72	331			Sn	00 19 55.0 -4.7
MPMC	Manual Prospec	3.77	345		P	Pn	00 19 17.0 0.0
	baz=164,SNR=6.3						
PKM	Mcpherson Peak	3.86	311		P	Pn	00 19 18.6 +0.5
	baz=129						
DAC	Darwin (Calif)	4.00	344			Pn	00 19 22.9 +2.8
SHPR	Sheep Range	4.17	12			Pn	00 19 23.2 +0.8
SMMC	Simmler	4.24	314		P	Pn	00 19 23.4 +0.1
	baz=132,SNR=12						
CWC	Cottonwood Cre	4.28	340		P	Pn	00 19 24.6 +0.6
	baz=159						
X16A	Lo Mia Camp, P	4.49	62			Pn	00 19 27.5 +0.7
TPNV	Topopah Spring	4.51	0		P	Pn	00 19 27.9 +0.8
	baz=180,SNR=39						
TUC	Tucson	4.63	90		P	Pn	00 19 28.0 -0.7
	baz=273						
TUC	Tucson	4.63	90			Pn	00 19 27.9 -0.7
GRAC	Grapevine Rang	4.65	349		P	Pn	00 19 30.0 +1.1
	baz=168,SNR=21						
PAGB	Antelope Grade	4.68	316			Pn	00 19 30.7 +1.4
TIN	Tinemaha, Big	4.90	341		P	Pn	00 19 34.0 +1.6
	baz=160						
WUAZ	Wupatki	5.09	51		P	Pn	00 19 36.1 +1.0
	baz=234						
WUAZ	Wupatki	5.09	51			Pn	00 19 36.9 +1.8
U15A	North Rim	5.16	38			Pn	00 19 37.8 +1.6
KNB	Kanab	5.38	31			Pn	00 19 40.7 +1.6
CCUT	Cedar City	5.63	24			Pn	00 19 44.3 +1.6
OMMB	Old Mammoth Mi	5.65	337			Pn	00 19 45.6 +2.7
MDPB	Devils Postpil	5.69	337			Pn	00 19 46.4 +2.9
R11A	Troy Canyon, C	5.94	5		P	Pn	00 19 47.7 +0.9
	baz=186						
R11A	Troy Canyon, C	5.94	5			Pn	00 19 48.0 +1.3
PKCU	Pink Cliffs	5.96	32			Pn	00 19 50.0 +2.8
319A	Douglas	6.02	98		Pn	Pn	00 19 47.5 -0.3
W18A	Petrified Fore	6.05	62		P	Pn	00 19 48.5 +0.2
	baz=245,SNR=6.5						
W18A	Petrified Fore	6.05	62			Pn	00 19 49.8 +1.5
SAO	San Andreas Ge	6.09	317		Pn	Pn	00 19 48.9 +0.2
RYN	Ryan	6.46	344			Pn	00 19 55.7 +1.8
MTPU	Mount Pierson	6.51	30			Pn	00 19 57.8 +2.9
CMB	Columbia Colle	6.54	330			Pn	00 19 56.8 +1.9
WAKR	Walker	6.60	338			Pn	00 20 00.5 +4.7
KVN	Kaiserville	6.78	348			Pn	00 20 00.0 +1.7
MSU	Marysvale	6.92	28			Pn	00 20 04.0 +3.7
YERR	Yerington	6.98	340		Pn	Pn	00 20 03.6 +2.5
121A	Cookes Peak, D	7.15	87		P	Pn	00 20 03.9 +0.4
	baz=271,SNR=8.0						
121A	Cookes Peak, D	7.15	87			Pn	00 20 04.2 +0.8
121A					Sn	Sn	00 21 22.5 -1.9
PNTR	Pine Nut	7.18	339			Pn	00 20 06.9 +3.0
AFDM	Forest Hills D	7.56	331		Pn	Pn	00 20 08.0 -0.9
LENM	Lemitar	7.96	75			Pn	00 20 15.8 +1.4
MVCO	Mesa Verde	7.96	51			Pn	00 20 13.5 -1.1
SRU	San Rafael Swe	8.13	33			Pn	00 20 22.7 +5.8
BEKR	Beckworth	8.13	337		Pn	Pn	00 20 17.7 +0.8
DUG	Dugway, Tooele	8.23	19		Pn	Pn	00 20 20.1 +1.8
BNM	Barren Site	8.24	75			Pn	00 20 20.2 +1.8
ELK	Elko	8.34	5		Pn	Pn	00 20 22.0 +2.1
ANMO	Albuquerque	8.54	70		P	Pn	00 20 23.5 +1.0
	baz=255						
ANMO	Albuquerque	8.54	70		Pn	Pn	00 20 24.9 +2.5
MNTX	Cornudas Mount	9.25	92		P	Pn	00 20 33.2 +1.1
	baz=277						
MNTX	Cornudas Mount	9.25	92		Pn	Pn	00 20 33.3 +1.1
S22A	4UR Ranch, Cre	9.37	53			Pn	00 20 37.4 +3.5
SDCO	Great Sand Dun	10.28	56		P	Pn	00 20 47.6 +1.1
	baz=242						
TX31	Lajitas Ar. Si	11.24	103			Pn	00 21 02.2 +2.8
TX32	Lajitas Array	11.24	103			Pn	00 21 02.0 +2.6
H17A	Grant Village	12.75	19		P	Pn	00 21 21.8 +1.7
	baz=202						
H17A	Grant Village	12.75	19		Pn	Pn	00 21 22.4 +2.3
HHC	Hu-ho-hao-te	94.77	326		eP	P	00 31 40.3 0.0
HHC					pmax	pmax	
	comp=Z,6.0nm,0.9s						
HHC					pmax	pmax	
	comp=Z,74nm,7.3s						
WMQ	Urumqi	101.03	343		eP	Pdif	00 32 10.8 +2.5

DJA 26 00:20:34.4±0.4, 3°S±3°×12°9E±°, h10km, M3.1/7, MLv3.1/7, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	Masohi	0.46	149	P	Pg	00 20 43.8	+0.4
MSAI				S	Sb	00 20 51.1	-0.4
AAI	Ambon	0.88	214	P	Pg	00 20 51.5	0.0
AAI				S	Sn	00 21 05.4	-0.4
NLAI	Namlea	1.61	260	P	Pn	00 21 03.4	+0.5
NLAI				S	Sb	00 21 25.2	+0.5
SANI	Sanana	2.84	288	P	Pn	00 21 17.6	-2.3
SWI	Sorong	3.30	51	P	Pn	00 21 26.7	+0.5

DJA 26 00:25:51.8±0.3, 1°N±3°×10°0E±°, h10km, M3.1/5, MLv3.1/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKNI	Bangkinang	1.50	97	P	Pn	00 26 18.2	-0.6
BKNI				S	Sn	00 26 38.3	-0.2
BKNI	Bangkinang	1.50	97	P	Pn	00 26 18.1	-0.7
PDSI	Padang	1.68	147	P	Pn	00 26 21.1	-0.2
PDSI				S	Sb	00 26 43.7	-0.4
PDSI	Padang	1.68	147	P	Pn	00 26 21.0	-0.3
SISI	Saibi	1.88	194	P	Pn	00 26 23.3	-0.7
SISI				S	Sn	00 26 48.4	+0.5
GSI	Gunungsitoli	2.13	292	P	Pn	00 26 28.4	+1.0
GSI				S	Sn	00 26 54.6	+0.7
SDSI	Sungai Dareh	2.36	127	P	Pn	00 26 29.0	-1.7

*IDC **26** 00:44:23.9± 1.0, 30°.05N×57°.57E, h0km, mb3.7/13, mb1 3.9/14, mb1mx3.7/44, mbtmp3.8/14, ML3.9/1, MS3.2/9, Ms1 3.2/9, ms1mx3.0/46, Error ellipse: s-maj=23.3km s-min=19.5km az=148.0*
*TEH **26** 00:44:25.4, 30°.28N×57°.48E, h10km, ML4.3*
*THR **26** 00:44:26.6, 30°.30N×57°.47E, h18km, ML4.3*
*ISCJB **26** 00:44:26.1± 0.2, 30°.32N± 0°.02×57°.52E± 0°.03, h10km, mb3.6/12, MS3.3/3, Error ellipse: s-maj=.4.1km s-min=2.6km az=14.1*
*OMAN **26** 00:44:27.7± 1.0, 30°.46N×57°.91E, h163km±4km, ml4.2/4, Error ellipse: s-maj=37.6km s-min=19.7km az=300.0*
*NEIC **26** 00:44:30.5± 3.4, 30°.32N± 0°.05×57°.39E± 0°.06, h40km± 8km*

ISC 26 00:44:25.5±0.5, 30°.26N± 0°.03×57°.48E± 0°.03, h10km, n139, o253/126, mb3.7/13, MS3.3/3, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMN	Cheshme madani	0.40	172	ePg	Pg	00 44 33.2	-0.2
CHMN				IAML	IAmb	00 44 39.5	
	comp=Z,0.0nm,0.4s						
CHMN	Cheshme madani	0.40	172	Pg	Pg	00 44 33.1	-0.3
TVBK	TV Kerman	0.68	247	ePg	Pg	00 44 38.8	+0.1
KHGB	Koh Gabri	0.88	278	ePg	Pg	00 44 41.5	-0.9
KHGB	Koh Gabri	0.88	278	Pg	Pg	00 44 41.4	-0.9
NGRK	Negar Kerman	0.89	227	ePg	Pg	00 44 42.6	-0.1
NGRK				IAML	IAmb	00 45 05.5	
	comp=Z,0.0nm,0.4s						
IBAF	Bafgh	2.12	309	ePn	Pb	00 45 02.7	-1.3
IBAF				IAMB	IAmb	00 45 33.2	
	comp=Z,21µm,0.6s						
IBAF	Bafgh	2.12	309	Pn	Pb	00 45 02.6	-1.4
BSRN	Basiran	2.21	39	eAML	AML	00 45 35.6	
	comp=E,3µm,0.4s						
BSRN	Basiran	2.21	39	eAML	AML	00 45 36.7	
	comp=N,2µm,0.3s						
KHNJ	Kahnooj	2.31	175	ePn	Pn	00 45 05.5	+1.9
KHNJ	Kahnooj	2.31	175	Pn	Pn	00 45 05.5	+1.9
NHDN	Nehbandan	2.48	62	ePn	Pn	00 45 07.1	+1.0
IKOO	Kooshah	2.53	31	ePn	Pn	00 45 04.4	+0.6
IKOO	Kooshah	2.53	31	Pn	Pn	00 45 07.3	+0.5
IMEH	Mehriz	2.71	295	ePn	Pn	00 45 11.3	+1.9
IMEH				IAMB	IAmb	00 45 51.8	
	comp=Z,9µm,0.5s						
NIAN	Nian	2.74	192	ePn	Pb	00 45 12.7	-2.0
TPRV	Parvadeh(Tabas	2.85	346	ePn	Pn	00 45 12.5	+1.4
ITEG	Tejag	2.85	22	ePn	Pn	00 45 11.7	+0.5
ITEG				IAMB	IAmb	00 46 04.2	
	comp=Z,16µm,0.3s						
ZHSF	Zahedan	2.93	102	ePn	Pn	00 45 14.9	+2.6
ZHSF	Zahedan	2.93	102	ePn	Pn	00 45 14.8	+2.6
SZD1	Zahaedan-tmp	3.04	104	ePn	Pn	00 45 15.1	+1.3
GENO	Geno	3.07	202	ePn	Pn	00 45 17.6	-2.7
GENO	Geno	3.07	202	Pn	Pb	00 45 17.6	-2.7
IDAH	Dahanechah	3.21	39	ePn	Pn	00 45 17.5	+1.3
IDAH				IAMB	IAmb	00 45 28.4	
	comp=Z,9µm,0.4s						
IDAH	Dahanechah	3.21	39	Pn	Pn	00 45 17.5	+1.3
YZKH	Yazd	3.26	311	ePn	Pn	00 45 18.8	+2.0
YZKH	Yazd	3.26	311	ePn	Pn	00 45 18.8	+2.0
YZKH	Yazd	3.26	311	eAML	AML	00 46 13.9	
	comp=N,386nm,0.4s						
ICHK	Chekchek	3.29	308	ePn	Pn	00 45 19.1	+1.7
ICHK				IAMB	IAmb	00 46 21.1	
	comp=Z,8µm,0.7s						
ICHK	Chekchek	3.29	308	Pn	Pn	00 45 19.0	+1.7
TKDS	Koohdasht(Taba	3.36	355	ePn	Pn	00 45 19.1	+0.9
TABS	Tabas	3.40	355	ePn	Pn	00 45 20.2	+1.5
TABS	Tabas	3.40	355	eSg	Sg	00 46 10.9	-3.7
TABS	Tabas	3.40	355	eAML	AML	00 46 22.3	
	comp=E,450nm,0.8s						
TABS	Tabas	3.40	355	ePn	Pn	00 45 20.2	+1.5
TABS	Tabas	3.40	355	eAML	AML	00 46 24.0	
	comp=N,632nm,0.6s						
AFRZ	Afriz	3.42	22	ePn	Pn	00 45 19.6	+0.6
IMON	Monand	3.47	32	ePn	Pn	00 45 21.4	+1.6
IMON				IAMB	IAmb	00 45 42.0	
	comp=Z,6µm,0.3s						
ISAD	Sadrabad	3.65	298	ePn	Pn	00 45 24.9	+2.6
ISAD				IAMB	IAmb	00 46 35.4	
	comp=Z,5µm,0.6s						
TNSJ	Nastanj	3.77	349	ePn	Pn	00 45 25.3	+1.5
JHRM	Jahrom	3.83	244	ePn	Pn	00 45 27.1	+2.6
JHRM	Jahrom	3.83	244	Pn	Pn	00 45 27.1	+2.6
ISRV	Sarvestan	3.89	258	ePn	Pn	00 45 29.3	+3.6
SHRT	Shahrakht	4.14	35	ePn	Pn	00 45 30.6	+1.8
SHRT	Shahrakht	4.14	35	ePn	Pn	00 45 30.6	+1.8
SHRT	Shahrakht	4.14	35	eSg	Sg	00 46 34.0	-4.4
ANAR	Anarak	4.33	313	ePn	Pn	00 45 33.1	+1.6
ANAR	Anarak	4.33	313	Pn	Pn	00 45 33.1	+1.6
SHME	Shamm	4.35	196	ePn	Pn	00 45 35.6	+3.9
BANOM	Banah	4.44	194	P	Pn	00 45 36.4	+3.5
	SNR=6.5						
BANOM				S	Sb	00 46 32.1	-5.1
IRAM	Ramesheh	4.64	291	ePn	Pn	00 45 39.9	+4.0
LMD1	Lamerd	4.77	234	ePn	Pn	00 45 38.6	+1.1
IKAZ	Kazeroun	4.91	266	ePn	Pn	00 45 42.2	+2.5
IKAZ	Kazeroun	4.91	266	Pn	Pn	00 45 42.1	+2.4
MSFE	Esma-Masafi	5.01	194	ePn	Pn	00 45 44.9	+4.1
MDH	Madha	5.05	192	P	Pn	00 45 47.6	+6.3
MDH	Madha	5.05	192	ePn	Pn	00 45 43.5	+2.3
IZEF	Zefreh	5.12	302	ePn	Pn	00 45 46.2	+3.7
KLNJ	Kolanjah	5.13	280	ePn	Pn	00 45 45.7	+3.0
KLNJ	Kolanjah	5.13	280	Pn	Pn	00 45 45.7	+3.0
UOSS	Minazif	5.41	192	P	Pn	00 45 52.9	+6.6
UOSS	Minazif	5.41	192	ePn	Pn	00 45 50.3	+4.1
UOSS	Minazif	5.41	192		Pn	00 45 50.1	+3.9
UOSS				Sn	Sn	00 46 42.1	-6.5
NAZ	Nazwa, Dubai	5.49	198	P	Pn	00 45 51.1	+3.8
	SNR=8.7						
NAZ				S	Sn	00 46 59.4	+8.9
NAZ	Nazwa, Dubai	5.49	198	ePn	Pn	00 45 50.6	+3.3
HATD	Hatta, Dubai	5.54	193	P	Pn	00 45 54.7	+6.6
HATD				S	Sb	00 47 01.1	-7.7
HATD	Hatta, Dubai	5.54	193	ePn	Pn	00 45 51.5	+3.4
HATD	Hatta, Dubai	5.54	193	Pn	Pn	00 45 51.4	+3.4
ASHO	Ashiyiah	5.69	193	P	Pn	00 45 53.8	+3.6
ASHO	Ashiyiah	5.69	193	ePn	Pn	00 45 53.7	+3.6
ASHO	Ashiyiah	5.69	193	Pn	Pn	00 45 53.6	+3.5
FAQ	Al Faqa, Dubai	5.74	197	P	Pn	00 45 55.9	+5.1
FAQ				S	Sn	00 47 02.7	+6.0
HRA	Herat	5.76	43		Pn	00 45 53.1	+1.8
KRSH	Karshahi	5.85	311	ePn	Pn	00 45 54.7	+2.2
IKLH	Kolahrood	5.88	303	ePn	Pn	00 45 56.2	+3.3
IKLH	Kolahrood	5.88	303	Pn	Pn	00 45 56.1	+3.2
ASUD	Al Ashush, Dub	5.92	199	P	Pn	00 45 57.9	+4.6
ASUD	Al Ashush, Dub	5.92	199	ePn	Pn	00 45 58.2	+4.9
ASUD	Al Ashush, Dub	5.92	199	Pn	Pn	00 45 58.2	+4.9
IMOG	Moghan	6.04	14	ePn	Pn	00 45 56.9	+1.7
SBZV	Sabzevar	6.12	1	ePn	Pn	00 45 58.1	+1.9
JRKH	Jarkhoshk	6.13	22	ePn	Pn	00 45 58.0	+1.8
JRKH	Jarkhoshk	6.13	22	Pn	Pn	00 45 58.0	+1.8
SOHO	SOHO	6.16	188	P	Pn	00 45 58.0	+1.5
JHBN	Jahan bin	6.16	290	ePn	Pn	00 45 58.9	+2.1
JHBN	Jahan bin	6.16	290	Pn	Pn	00 45 58.9	+2.1
IPAY	Payeh	6.31	11	ePn	Pn	00 46 00.0	+1.2
ALNE	Al Ain	6.36	194	ePn	Pn	00 46 04.5	+5.1
ALNE	Al Ain	6.36	194	Pn	Pn	00 46 04.4	+5.0
IAKL	Akhelmad	6.42	9	ePn	Pn	00 46 01.4	+1.0
IAKL	Akhelmad	6.42	9	Pn	Pn	00 46 01.3	+0.9
IMYA	Miami	6.46	19	ePn	Pn	00 46 02.3	+1.6
IKRD	Kardeh	6.56	7	ePn	Pn	00 46 05.7	+3.4
HOQ	Hoqain	6.65	181	P	Pn	00 46 08.6	+5.4
ISFR	Sfrayin	6.79	4	ePn	Pn	00 46 07.4	+1.9
IGLO	Ghaloghah	6.94	335	ePn	Pn	00 46 10.2	+2.8
IGLO	Ghaloghah	6.94	335	Pn	Pn	00 46 10.1	+2.7
ARQ	Araqi	6.94	187	P	Pn	00 46 10.7	+3.3
ARQ				S	Sn	00 47 35.8	+9.3
WSAR	Wadi Sarin	7.06	171	P	Pn	00 46 12.1	+3.1
WSAR	Wadi Sarin	7.06	171	Pn	Pn	00 46 10.4	+1.4
	comp=Z,2.2nm,0.3s,baz=2.9,slow=9.8,SNR=20						
WSAR				Sn	Sn	00 47 29.6	+0.2
	baz=198,slow=20,SNR=2.2						
WSAR				LR	LR	00 49 05.8	
	comp=Z,125nm,18.1s,baz=4.5,slow=41						
IQOM	Qom	7.08	312	ePn	Pn	00 46 12.0	+2.5
IMND	Minoodasht	7.19	347	ePn	Pn	00 46 12.6	+1.9
IEMG	Emamgholi	7.21	7	ePn	Pn	00 46 11.8	+0.6
IEMG	Emamgholi	7.21	7	Pn	Pn	00 46 11.7	+0.6
BSY	Bisya	7.48	182	P	Pn	00 46 20.0	+5.2
GEYT	Alibeck	7.67	4	Pn	Pn	00 46 19.9	+2.5
	comp=Z,1.9nm,0.3s,baz=192,slow=18,SNR=18						
GEYT				Lg	Lg	00 48 31.9	
	baz=205,slow=30,SNR=2.4						
GEYT				LR	LR	00 50 08.4	
	comp=Z,74nm,20.9s,baz=190,slow=44						
GYA0B

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.22**	**185**	P	Pg	00 46 00.6	0.0
SMTH				AML	AML	00 46 04.1	
	comp=E,441μm,0.2s						
SMTH				S	Sg	00 46 04.2	+0.2
SMTH				AML	AML	00 46 04.5	
	comp=N,450μm,0.1s						
ALN	**Alexandroupoli**	**0.42**	**61**	P	Pg	00 46 04.2	0.0
ALN				S	Sg	00 46 10.3	+0.3
ALN				AML	AML	00 46 11.2	
	comp=N,94μm,0.4s						
ALN				AML	AML	00 46 12.6	
	comp=E,57μm,0.4s						
RDO	**Rodhopi**	**0.45**	**358**	P	Pg	00 46 04.7	0.0
RDO				S	Sg	00 46 11.1	+0.3
RDO				AML	AML	00 46 11.2	
	comp=E,86μm,0.1s						
RDO				AML	AML	00 46 13.1	
	comp=N,104μm,0.1s						
THAS	**Thassos island**	**0.64**	**263**	P	Pg	00 46 08.1	-0.2
THAS				S	Sb	00 46 17.1	-0.3
THAS				AML	AML	00 46 19.5	
	comp=N,147μm,0.2s						
THAS				AML	AML	00 46 19.6	
	comp=E,149μm,0.2s						
KAVA	**Kavala**	**0.85**	**291**	P	Pb	00 46 12.2	+0.1
KAVA				S	Sg	00 46 23.3	+0.1
KAVA				AML	AML	00 46 26.3	
	comp=N,60μm,0.2s						
KAVA				AML	AML	00 46 26.8	
	comp=E,61μm,0.2s						
OUR	**Ouranopolis**	**1.25**	**254**	P	Pg	00 46 19.7	-0.1
NVR	**Nevrokopi**	**1.44**	**298**	P	Pb	00 46 22.2	0.0
SIGR	**SIGRI**	**1.50**	**171**	P	Pb	00 46 23.3	+0.1

*ISK **26** 00:47:19.2,35°.17N×27°.77E, h7km, ML3.1/14*
*ATH **26** 00:47:19.2,35°.11N×27°.74E, h7km±3km, ML2.4/1, Error ellipse: s-maj=4.7km s-min=2.0km az=332.0*
*ISCJB **26** 00:47:21.9±0.9,35°.24N±0°.07×27°.76E±0°.06, h23km, Error ellipse: s-maj=11.4km s-min=4.8km az=150.4*

ISC 26 00:47:21.4±1.5,**35°.21N**±0°.07×**27.72E**±0°.06,**h23**km,**n28,** σ1§**46**/31,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.57**	**306**	P	**Pb**	**00 47 31.3**	**-1.4**
KARP	**Karpathos**	**0.57**	**306**	P	**Pb**	**00 47 31.3**	**-1.4**
KARP				S	**Sb**	**00 47 40.4**	**0.0**
KARP				AML	AML	00 47 43.7	
	comp=N,779μm,0.2s						
KARP				AML	AML	00 47 47.7	
	comp=E,916μm,0.3s						
KARP	**Karpathos**	**0.57**	**306**	PG	**Pb**	**00 47 31.7**	**-1.0**
KARP				SG	**Sb**	**00 47 40.8**	**+0.4**
ARG	**Arkhangelos**	**1.05**	**18**	P	**Pb**	**00 47 40.8**	**-0.1**
ARG	**Arkhangelos**	**1.05**	**18**	PN	**Pn**	**00 47 40.4**	**-0.3**
ARG				SN	**Sn**	**00 47 55.9**	**+1.2**
ZKR	**Zakros**	**1.24**	**266**	P	**Pn**	**00 47 42.7**	**-0.6**
ZKR	**Zakros**	**1.24**	**266**	P	**Pn**	**00 47 42.6**	**-0.6**
ZKR	**Zakros**	**1.24**	**266**	PN	**Pb**	**00 47 43.9**	**-0.2**
STIA	**Sitia Lasithi**	**1.34**	**270**	P	**Pb**	**00 47 46.5**	**+0.8**
DAT	**Datca**	**1.52**	**356**	PN	**Pb**	**00 47 48.0**	**-0.9**
NPS	**Neapolis**	**1.73**	**272**	P	**Pb**	**00 47 52.2**	**-0.2**
FETY	**Fethiye**	**1.80**	**37**	PN	**Pn**	**00 47 51.5**	**+0.5**
TURN	**Turunc**	**1.80**	**23**	PN	**Pn**	**00 47 49.4**	**-1.6**
LAST	**Lasithi**	**1.84**	**269**	P	**Pb**	**00 47 53.5**	**-0.8**
BODT	**Bodrum**	**1.88**	**350**	PN	**Pb**	**00 47 53.2**	**-1.7**
YER	**Yerkesik**	**1.97**	**13**	PN	**Pn**	**00 47 54.5**	**+1.1**
MLSB	**Milas**	**2.08**	**1**	PN	**Pn**	**00 47 55.9**	**+1.0**
IDI	**Anoyia**	**2.32**	**273**	P	**Pb**	**00 48 00.3**	**-2.2**
ELL	**Elmali**	**2.34**	**49**	PN	**Pn**	**00 47 59.1**	**+0.5**
SIVA	**Sivas**	**2.40**	**266**	P	**Pb**	**00 48 01.3**	**-2.5**
GLHS	**Gihisar (BURDU**	**2.41**	**36**	PN	**Pn**	**00 48 00.4**	**+0.9**
APE	**Apeiranthos**	**2.56**	**317**	PN	**Pn**	**00 48 03.2**	**+1.6**
AYDB	**Zeytinkoy-Aydi**	**2.73**	**3**	PN	**Pn**	**00 48 04.3**	**+0.4**
KORT	**Korkueli**	**2.78**	**49**	PN	**Pn**	**00 48 05.3**	**+0.7**
VAM	**Vamos**	**2.89**	**275**	P	**Pb**	**00 48 08.8**	**-3.4**
GVD	**Gavdhos**	**3.01**	**264**	P	**Pn**	**00 48 09.0**	**+1.4**
IMMV	**Iera Moni Meta**	**3.07**	**276**	P	**Pn**	**00 48 10.8**	**+2.4**
IMMV	**Iera Moni Meta**	**3.07**	**276**	P	**Pn**	**00 48 11.1**	**+2.7**

*UPA **26** 00:55:24.2±0.4,5°.62N×77°.73W, h11km±7km, MW4.1*
*ISCJB **26** 00:55:25.8±0.8,5°.81N±0°.02×77°.70W±0°.02, h18km±7km, mb3.6/8, MS3.6/3, Error ellipse: s-maj=4.5km s-min=3.0km az=143.3*
*RSNC **26** 00:55:27.8±1.4,5°.87N×77°.62W, h31km±7km, ML3.3, Mw4.0*
*NEIC **26** 00:55:29.5±2.5,5°.70N±0°.06×77°.62W±0°.06, h33km±5km, mb4.2/4*
*IDC **26** 00:55:32.1±3.6,5°.66N×77°.49W, h53km±32km, mb3.5/8, mb1 3.7/10, mb1mx3.6/27, mbtmp3.8/10, ML2.8/2, MS3.6/3, Ms1 3.6/3, ms1mx2.8/35, Error ellipse: s-maj=27.1km s-min=19.3km az=65.0*

ISC 26 00:55:26.1±1.7,**5°.81N**±0°.03×**77°.67W**±0°.03,**h9**km±11km, **n61,**σ1§**74**/84,**mb3.8**/9,**MS3.7**/3,**9C, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.49**	**32**	⇑*iP*	**Pg**	**00 55 35.9**	**+0.3**
SOLC				*eS*	**Sb**	**00 55 43.2**	**-1.0**
SOLC				*i*		00 55 48.0	
	comp=Z,6μm,0.6s						
PTAC	**Punta Ardita,**	**1.33**	**354**	*eP*	**Pn**	**00 55 48.5**	**-2.4**
PTAC				*eS*	**Sb**	**00 56 04.7**	**-3.9**
PTAC				*i*		00 56 20.9	
	comp=Z,898nm,0.3s						
PLMC	**San Jos del P**	**1.65**	**123**	⇑*iP*	**Pn**	**00 55 52.8**	**-2.5**
PLMC				*eS*	**Sn**	**00 56 13.4**	**-3.3**
PLMC				*i*		00 56 20.8	
	comp=Z,399nm,0.5s						
PLMC				*i*		00 56 21.7	
	comp=Z,457nm,0.6s						
CBOC	**Ciudad Bolivar**	**1.65**	**88**	⇑*iP*	**Pn**	**00 55 52.8**	**-2.7**
CBOC				*eS*	**Sn**	**00 56 12.4**	**-4.5**
CBOC				*i*		00 56 24.9	
	comp=Z,285nm,0.6s						
MALC	**Bahia Malaga**	**1.82**	**169**	⇑*iP*	**Pn**	**00 55 57.2**	**-0.3**
MALC				*eS*	**Sn**	**00 56 19.0**	**-1.7**
MALC				*i*		00 56 22.7	
	comp=Z,213nm,0.4s						
DBBC	**Dabeiba**	**1.89**	**50**	*eP*	**Pn**	**00 55 57.4**	**-1.2**
DBBC				*i*		00 56 31.7	
	comp=Z,378nm,0.7s						
HELC	**Santa Helena**	**2.17**	**80**	⇑*iP*	**Pn**	**00 56 01.4**	**-1.3**
HELC				*eS*	**Sn**	**00 56 29.6**	**-0.3**
HELC				*i*		00 56 35.8	
	comp=Z,143nm,0.9s						
HELC				*i*		00 56 38.2	
	comp=Z,69nm,0.4s						
HELC	**Santa Helena**	**2.17**	**80**	⇑*iP*	**Pn**	**00 56 01.2**	**-1.4**
HELC				*eS*	**Sn**	**00 56 29.9**	**+0.1**
YOTC	**Yotoco, Valle**	**2.25**	**144**	*eP*	**Pn**	**00 56 01.7**	**-1.9**
YOTC				*eS*	**Sn**	**00 56 26.6**	**-4.9**
YOTC				*i*		00 56 47.3	
	comp=Z,52nm,0.7s						
GUY2C	**Guyana, Caldas**	**2.37**	**104**	⇑*iP*	**Pn**	**00 56 04.2**	**-1.3**
GUY2C				*eS*	**Sn**	**00 56 35.5**	**+0.4**
GUY2C				*i*		00 56 41.9	
	comp=Z,194nm,0.8s						
GUY2C				*i*		00 56 45.5	
	comp=Z,139nm,0.6s						
RREF	**El Recreo**	**2.49**	**111**	⇑*eP*	**Pn**	**00 56 06.9**	**-0.4**
RREF				*eS*	**Sn**	**00 56 35.8**	**-2.3**
RREF				*i*		00 56 46.8	
	comp=Z,99nm,0.5s						
RREF				*i*		00 57 06.0	
	comp=Z,145nm,0.9s						
TOLC	**Tolima**	**2.64**	**117**	*eP*	**Pn**	**00 56 09.3**	**+0.1**
UPD2	**Meteti**	**2.74**	**353**	*eP*	**Pn**	**00 56 10.5**	**+0.2**
UPD2				*eS*	**Sn**	**00 56 44.9**	**+1.4**
NORC	**Norcasia**	**2.80**	**95**	*eP*	**Pn**	**00 56 10.8**	**-0.4**
NORC				*eS*	**Sn**	**00 56 45.0**	**-0.1**
NORC				*i*		00 56 49.3	
	comp=Z,101nm,0.4s						
NORC				*i*		00 56 49.8	
	comp=Z,136nm,0.6s						
UREC	**San Jos de Ur**	**2.87**	**48**	*eP*	**Pn**	**00 56 12.1**	**0.0**
ORTC	**Ortega, Tolima**	**3.07**	**128**	⇑*iP*	**Pn**	**00 56 15.2**	**+0.4**
ORTC				*eS*	**Sn**	**00 56 50.0**	**-1.7**
ORTC				*i*		00 56 55.3	
	comp=Z,76nm,0.8s						
ORTC				*i*		00 56 55.4	
	comp=Z,108nm,0.8s						
AZU	**Azuero**	**3.25**	**307**	*eP*	**Pn**	**00 56 15.6**	**-1.6**
AZU				*eS*	**Sn**	**00 56 54.7**	**-1.4**
ZARC	**Zaragoza, Cauc**	**3.26**	**59**	*eP*	**Pn**	**00 56 17.4**	**0.0**
PTBC	**PUERTO BERRIO,**	**3.28**	**77**	*eP*	**Pn**	**00 56 17.9**	**+0.2**
PTBC				*eS*	**Sn**	**00 56 58.4**	**+1.5**
LCBC	**Los crdobas,**	**3.29**	**23**	*eP*	**Pb**	**00 56 22.8**	**-1.9**
LCBC				*eS*	**Sb**	**00 57 07.2**	**+2.3**
POPC	**Popayan, Colom**	**3.40**	**163**	*eP*	**Pn**	**00 56 19.6**	**+0.1**
ROSC	**El Rosal**	**3.48**	**106**	P	**Pn**	**00 56 22.8**	**+2.1**
	comp=Z,12nm,0.3s,baz=18,slow=3.6,SNR=30						
ROSC	**El Rosal**	**3.48**	**106**		**Pn**	**00 56 23.2**	**+2.5**
ROSC				Sn	Sn	00 56 51.9	-10
CACAO	**El Cacao, Vera**	**3.52**	**296**	*eP*	**Pn**	**00 56 18.9**	**-2.0**
CACAO				*eS*	**Sn**	**00 57 00.2**	**-2.4**
SPBC	**San Pablo de B**	**3.59**	**92**	*eP*	**Pn**	**00 56 22.4**	**+0.4**
UPA	**Univ. de Panam**	**3.65**	**330**	*eP*	**Pn**	**00 56 23.4**	**+0.6**
UPA				*eS*	**Sn**	**00 57 06.0**	**+0.1**
PCON	**Cinco Dias**	**3.69**	**160**	*eP*	**Pn**	**00 56 25.6**	**+1.8**
PCON				*eS*	**Sn**	**00 57 09.2**	**+1.5**
BBAC	**Balboa, Cauca**	**3.79**	**174**	*eP*	**Pn**	**00 56 26.4**	**+1.6**
SOTA	**Rioblanco**	**3.80**	**164**	*eP*	**Pn**	**00 56 26.5**	**+1.2**
SOTA				*eS*	**Sn**	**00 57 08.9**	**-1.6**
SOTA				*i*		00 57 14.2	
	comp=Z,30nm,0.6s						
BCIP	**Isla Barro Col**	**3.96**	**327**	*eP*	**Pn**	**00 56 26.1**	**-1.0**
BCIP				*eS*	**Sn**	**00 57 13.7**	**0.0**
BCIP	**Isla Barro Col**	**3.96**	**327**	Pn	**Pn**	**00 56 25.8**	**-1.3**
BCIP				Sn	**Sn**	**00 57 14.0**	**+0.2**
CHIC	**Chingaza**	**4.10**	**106**	*eP*	**Pn**	**00 56 31.0**	**+1.7**
BRRC	**Barranca, Sant**	**4.14**	**72**	*eP*	**Pn**	**00 56 30.1**	**+0.5**
VILC	**Villavicencio,**	**4.31**	**113**	*eP*	**Pn**	**00 56 35.1**	**+3.2**
VILC				*eS*	**Sn**	**00 57 20.6**	**-1.8**
SMLC	**San Martn de**	**4.65**	**50**	*eP*	**Pn**	**00 56 37.0**	**+0.5**
FLOC	**Florencia**	**4.66**	**154**	*eP*	**Pn**	**00 56 37.9**	**+1.2**
FLOC				*eS*	**Sn**	**00 57 31.3**	**+0.4**
SJCC	**San Jacinto, C**	**4.75**	**31**	*eP*	**Pn**	**00 56 37.3**	**-0.7**
SJCC				*eS*	**Sn**	**00 57 35.1**	**+1.8**
SJCC	**San Jacinto, C**	**4.75**	**31**	*eP*	**Pn**	**00 56 37.3**	**-0.7**
SJCC				*eS*	**Sn**	**00 57 29.0**	**-4.3**
OCAC	**Ocana**	**4.95**	**61**	*eP*	**Pn**	**00 56 43.2**	**+2.4**
PAMC	**Pamplona, Colo**	**5.17**	**73**	*eP*	**Pn**	**00 56 45.0**	**+0.9**
MACC	**Macarena, Meta**	**5.27**	**133**	*eP*	**Pn**	**00 56 45.8**	**+0.6**
OTAV	**Otavalo**	**5.59**	**188**		**Pn**	**00 56 50.4**	**+0.5**
SDV	**Santo Domingo**	**7.62**	**66**	P	**Pn**	**00 57 18.6**	**+1.0**
	comp=Z,3.9nm,0.3s,baz=244,slow=12,SNR=31						
SDV				S	**Sn**	**00 58 43.2**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=17,slow=19,SNR=1.6						
LGNH	**Logne**	**13.56**	**21**	Pn	**Pn**	**00 58 40.0**	**+1.3**
SDDR	**Presa de Saban**	**14.50**	**25**	Pn	**Pn**	**00 58 53.8**	**+2.2**
SAML	**Samuel**	**20.58**	**135**	P	**P**	**01 00 03.5**	**-2.0**
SAML				IAmb	IAmb	01 00 08.4	
	comp=Z,6.4nm,0.6s						
LPAZ	**La Paz**	**23.90**	**157**	P	**P**	**01 00 40.1**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=22,slow=16,SNR=5.3						
MDP	**Montagnes des**	**24.93**	**90**	LR	LR	01 12 31.9	
	comp=Z,58nm,18.6s,baz=74,slow=41						
SIV	**San Ignacio**	**27.19**	**143**	P	**P**	**01 01 08.2**	**-2.2**
	comp=Z,1.3nm,0.6s,baz=318,slow=9.1,SNR=9.9						
BW06	**Boulder Array**	**46.36**	**327**	P	**P**	**01 03 53.1**	**+0.1**
BW06				IAmb	IAmb	01 04 07.5	
	comp=Z,5.2nm,1.5s						
ELK	**Elko**	**48.35**	**322**	LR	LR	01 29 11.5	
	comp=Z,111nm,18.0s,baz=316,slow=42						
NVAR	**Mina Array Bea**	**49.06**	**317**	P	**P**	**01 04 16.1**	**+2.2**
	comp=Z,0.3nm,0.6s,baz=122,slow=5.6,SNR=4.0						
YBH	**Yreka Blue Hor**	**53.63**	**319**	LR	LR	01 31 35.9	
	comp=Z,62nm,19.8s,baz=340,slow=40						
YKA	**Yellowknife Ar**	**62.72**	**342**	P	**P**	**01 05 52.7**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=133,slow=6.8,SNR=9.2						
DBIC	**Dimbokro**	**72.33**	**85**	P	**P**	**01 06 52.5**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=292,slow=8.3,SNR=4.1						
DBIC	**Dimbokro**	**72.33**	**85**	IAmb	IAmb	01 06 59.4	
	comp=Z,5.8nm,1.1s						
ILAR	**Eielson Array**	**75.98**	**336**	P	**P**	**01 07 14.2**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=131,slow=6.7,SNR=4.8						
TORD	**Torodi Ar. Bea**	**78.37**	**78**	P	**P**	**01 07 27.0**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=270,slow=5.9,SNR=8.1						
GERES	**GERESS Array B**	**86.58**	**41**	P	**P**	**01 08 10.5**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=288,slow=4.0,SNR=4.4						
ASAR	**Alice Springs**	**144.82**	**236**	PKP	**PKPab**	**01 15 03.0**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=116,slow=2.2,SNR=8.9						
WRA	**Warramunga Arr**	**145.87**	**243**	PKPbc	**PKPdf**	**01 15 06.6**	**+0.2**
	comp=Z,1.1nm,1.0s,baz=119,slow=3.7,SNR=4.0						

*MAN **26** 01:16:21.4, 5°.25N×126°.57E, h30km, MS4.3*
*ISCJB **26** 01:16:24.4±0.4,5°.54N±0°.03×126°.51E±0°.04, h93km±4km, mb4.2/21, Error ellipse: s-maj=7.9km s-min=3.7km az=154.4*
*NEIC **26** 01:16:26.8±1.5,5°.48N±0°.02×126°.47E±0°.08, h100km±7km, mb4.6/16*
*DJA **26** 01:16:26.1±0.5,6°.N±4°.×12°.7E±°, h89km±4km, M4.8/18, mB5.3/7, mb4.9/18, MLv4.9/13, Mw(mB)4.7/7*
*IDC **26** 01:16:26.2±1.1,5°.58N×126°.61E, h91km±8km, mb4.0/17, mb1 4.2/19, mb1mx3.9/39, mbtmp4.3/19, MS3.0/5, Ms1 3.1/5, ms1mx2.8/44, Error ellipse: s-maj=29.3km s-min=8.0km az=62.0*
*BJI **26** 01:16:27.0±0.0, 5°.41N×126°.09E, h95km, mb4.4/8, mB4.7/4*

ISC 26 01:16:26.3±0.8,**5°.46N**±0°.04×**126°.39E**±0°.06,**h91**km±6km, **n73,**σ1§**72**/90,**mb4.4**/27,**2C-4D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.93**	**313**	P	**Pn**	**01 16 42.6**	**-2.7**
DDMP				S	**Sn**	**01 16 55.6**	**-4.1**
MATI	**Mati**	**1.48**	**355**	P	**Pn**	**01 16 47.8**	**-4.1**
MATI				S	**Sn**	**01 17 15.4**	**+4.2**
GSPH	**General Santos**	**1.56**	**293**	⇓P	**Pn**	**01 16 51.2**	**-2.0**
GSPH				S	**Sn**	**01 17 11.7**	**-1.7**
DAV	**Davao City (W)**	**1.79**	**333**	P	**Pn**	**01 16 55.6**	**-0.3**
	78nm,0.3s,baz=63,slow=2.1,SNR=8.2						
DAV				S	**Sn**	**01 17 19.5**	**+1.1**
	170nm,0.3s,baz=270,slow=19,SNR=4.6						
DAV				LR	LR	01 17 48.2	
	comp=Z,548nm,21.3s,baz=39,slow=46						
DAV	**Davao City (W)**	**1.79**	**333**		**Pn**	**01 16 56.9**	**+1.0**
DAV				Sn	**Sn**	**01 17 19.3**	**+1.0**
DMPH	**Davao City--Mi**	**1.83**	**331**	⇑P	**Pn**	**01 16 55.7**	**-0.8**
DMPH				S	Sn	01 17 06.0	-13
SKMP	**Bagumbayan, Su**	**2.12**	**300**	P	**Pn**	**01 16 59.0**	**-1.1**
SKMP				S	**Sn**	**01 17 26.9**	**+0.9**
BUKP	**Musuan**	**2.74**	**331**	P	**Pn**	**01 17 07.4**	**-1.1**
BUKP				S	**Sn**	**01 17 44.1**	**+3.2**
CTBH	**Cotabato--PC H**	**2.76**	**309**	⇑P	**Pn**	**01 17 08.1**	**-0.6**
CTBH				S	**Sn**	**01 17 41.4**	**+0.2**
CGP	**Cagayan de Oro**	**3.42**	**331**	⇓P	**Pn**	**01 17 19.8**	**+2.2**
CGP				S	**Sn**	**01 18 04.5**	**+7.3**
PAGZ	**Pagadian**	**3.82**	**309**	P	**Pn**	**01 17 19.9**	**-3.0**
PAGZ				S	**Sn**	**01 18 05.5**	**-1.2**
TNTI	**Ternate**	**4.76**	**168**	P	**Pn**	**01 17 36.6**	**+0.8**
TNTI	**Ternate**	**4.76**	**168**		**Pn**	**01 17 36.6**	**+0.8**
TNTI					**Sn**	**01 18 30.7**	**+1.0**
KMSI	**Cibinong**	**5.42**	**206**	P	**Pn**	**01 17 48.0**	**+3.2**
	247nm,0.7s,1.0nm						
LBMI	**Labuha**	**6.16**	**170**	P	**Pn**	**01 17 55.8**	**+0.9**
	176nm,0.6s,4μm1.0nm						
MRSI	**Marisa**	**6.66**	**222**	P	**Pn**	**01 18 04.4**	**+2.8**
	419nm,0.6s,4μm1.5nm						
RCP	**Roxas**	**7.05**	**329**	⇓P	**Pn**	**01 18 08.0**	**+1.0**
LUWI	**Luwuk**	**7.41**	**209**	P	**Pn**	**01 18 12.6**	**+0.8**
	151nm,0.7s,3μm0.7nm						
LUWI	**Luwuk**	**7.41**	**209**		**Pn**	**01 18 12.8**	**+0.9**
LUWI				Sn	**Sn**	**01 19 35.4**	**+1.1**
SANI	**Sanana**	**7.47**	**183**	P	**Pn**	**01 18 10.7**	**-2.0**
	118nm,0.9s,2μm0.5nm						
APSI	**Ampana**	**7.91**	**217**	P	**Pn**	**01 18 21.9**	**+3.2**
	111nm,0.8s,1μm						
SWI	**Sorong**	**7.94**	**142**	P	**Pn**	**01 18 19.7**	**+0.6**
	24nm,0.8s,0.1nm						
SIJI	**Sorong**	**7.95**	**142**	P	**Pn**	**01 18 18.7**	**-0.6**
	2.7nm,0.3s,baz=316,slow=7.8,SNR=10.0						
SIJI				S	**Sn**	**01 19 46.0**	**-1.7**
	1.1nm,0.3s,baz=163,slow=19,SNR=9.2						
MPSI	**Mapaga**	**8.24**	**232**	P	**Pn**	**01 18 26.5**	**+3.2**
	24nm,0.7s,862nm						
NLAI	**Namlea**	**8.67**	**175**	P	**Pn**	**01 18 28.1**	**-1.0**
	124nm,0.8s,2μm						
FAKI	**Fak Fak**	**10.18**	**145**		**Pn**	**01 18 48.7**	**-0.9**
TTSI	**Tana Toraja**	**10.70**	**218**	P	**Pn**	**01 19 00.1**	**+3.3**
	54nm,0.9s						
SBUM	**Sibu**	**14.45**	**259**		**Pn**	**01 19 47.0**	**+0.4**
SOEI	**Soe**	**15.27**	**188**	Pn	**Pn**	**01 19 56.6**	**-0.4**
SOEI				IAmb	IAmb	01 20 12.3	
	comp=Z,41nm,0.7s						
BATI	**Baumata**	**15.80**	**190**	P	**P**	**01 20 06.4**	**+0.7**
	comp=Z,9.3nm,0.3s,baz=246,slow=3.9,SNR=5.1						
KSM	**Kuching**	**16.54**	**257**	P	**P**	**01 20 14.7**	**+0.8**
KSM				IAmb	IAmb	01 20 20.6	
	comp=Z,21nm,0.8s						
KNRA	**Kununurra**	**21.14**	**174**	P	**P**	**01 21 04.7**	**+0.7**
KPJI	**Karang Pucung**	**21.57**	**234**	P	**P**	**01 21 09.4**	**+0.7**
	comp=Z,29nm,0.9s						
MDSI	**Maura Dua**	**24.29**	**246**	P	**P**	**01 21 34.7**	**-0.7**
	comp=Z,8.9nm,1.0s						
PMG	**Port Moresby**	**25.43**	**125**	LR	LR	01 33 01.5	
	comp=Z,51nm,18.3s,baz=216,slow=39						
WRA	**Warramunga Arr**	**26.43**	**163**	P	**P**	**01 21 54.2**	**-0.6**
	comp=Z,6.6nm,0.5s,baz=347,slow=10,SNR=16						
WRA				PcP	**PcP**	**01 25 18.8**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=333,slow=2.5,SNR=4.6						
WRA				ScP	**ScP**	**01 28 51.9**	**+1.9**
	comp=Z,0.8nm,0.8s,baz=335,slow=3.0,SNR=4.6						
WR0	**Warramunga Arr**	**26.50**	**163**	P	**P**	**01 21 55.1**	**-0.3**
WR0				IAmb	IAmb	01 22 02.6	
	comp=Z,11nm,0.8s						
WHN	**Wuhan**	**27.40**	**337**	P	**P**	**01 22 02.0**	**-1.4**
GSI	**Gunungsitoli**	**29.06**	**263**	P	**P**	**01 22 17.7**	**-0.7**
GSI				IAmb	IAmb	01 22 19.0	
	comp=Z,18nm,1.1s						
CMAR	**Chiang Mai Arr**	**29.74**	**298**	P	**P**	**01 22 25.2**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=109,slow=7.1,SNR=6.0						
CMAR				LR	LR	01 33 21.1	
	comp=Z,11nm,21.7s,baz=85,slow=34						
AS31	**Alice Springs**	**29.86**	**166**	P	**P**	**01 22 24.8**	**-0.6**
ASAR	**Alice Springs**	**29.87**	**166**	P	**P**	**01 22 25.8**	**+0.4**
	comp=Z,2.4nm,0.5s,baz=350,slow=7.4,SNR=38						
ASAR				PcP	**PcP**	**01 25 27.1**	**+0.5**
	comp=Z,3.2nm,0.6s,baz=347,slow=2.4,SNR=13						
ASAR				ScP	**ScP**	**01 29 02.2**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=340,slow=3.0,SNR=4.9						
KSRS	**Korea Array**	**31.87**	**2**	LR	LR	01 34 45.4	
	comp=Z,35nm,21.7s,baz=272,slow=35						
CTA	**Charters Tower**	**32.03**	**143**	P	**P**	**01 22 44.9**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=323,slow=13,SNR=3.0						
XAN	**Xi'an**	**32.73**	**333**	P	P	01 22 56.5	+6.0
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SHL	**Shillong**	**38.60**	**305**	P	**P**	**01 23 41.7**	**+0.7**
SHL				IAmb	IAmb	01 23 46.4	
	comp=Z,6.1nm,0.7s						
SHL					**S**	**01 29 30.9**	**0.0**
USRK	**Ussuriysk Ar.**	**38.89**	**6**	P	**P**	**01 23 42.5**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=193,slow=5.9,SNR=3.4						
BBOO	**Buckleboo**	**39.16**	**167**	P	**P**	**01 23 44.7**	**-0.5**
STKA	**Stephens Creek**	**39.86**	**160**	P	**P**	**01 23 51.7**	**+0.5**
	comp=Z,14nm,0.8s,baz=336,slow=11,SNR=27						
STKA	**Stephens Creek**	**39.86**	**160**	P	**P**	**01 23 51.6**	**+0.5**
ASAJ	**Asahikawa**	**41.05**	**18**	LR	LR	01 40 46.1	
	comp=Z,26nm,20.5s,baz=278,slow=36						
GTA	**Gaotai**	**41.45**	**328**	*eP*	**P**	**01 24 04.5**	**+0.2**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**45.56**	**341**	P	**P**	**01 24 37.0**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=155,slow=9.9,SNR=5.2						
SONM				PcP	**PcP**	**01 26 14.8**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=158,slow=2.2,SNR=8.5						
PEA0B	**Petropavlovsk-**	**53.97**	**23**	P	**P**	**01 25 40.1**	**-0.6**
MK31	**Makanchi Array**	**55.95**	**325**	P	**P**	**01 25 54.5**	**-0.6**
MKAR	**Makanchi Array**	**55.95**	**325**	P	**P**	**01 25 54.5**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=118,slow=7.2,SNR=28						
MKAR				PcP	**PcP**	**01 26 52.8**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=121,slow=3.9,SNR=8.1						
MKAR				ScP	**ScP**	**01 30 44.7**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=108,slow=3.5

SATY				Lg	Lg	01 32 19.5		
	16nm,0.3s							
ZHN	**Zhinishke**	**2.91**	**287**	Pg	**Pb**	**01 31 38.0**	**+0.1**	
	7.2nm,0.1s							
ZHN				Lg	Lg	01 32 19.2		
	4.1nm,0.2s							
KAPS	**Kapalarasan**	**3.57**	**325**	*e*P	**Pb**	**01 31 48.0**	**-1.1**	
	0.9nm,0.2s							
KAPS				*e*S	**Sb**	**01 32 36.3**	**+3.6**	
	5.7nm,0.8s							
KAPS	**Kapalarasan**	**3.57**	**325**	Pg	**Pb**	**01 31 48.0**	**-1.1**	
	0.9nm,0.2s							
KAPS				Lg	Lg	01 32 36.3		
	5.7nm,0.8s							
ARXS	**Arharly**	**3.70**	**301**	*e*P	**Pb**	**01 31 52.6**	**+1.3**	
	4.3nm,0.7s							
ARXS				*e*S	**Sg**	**01 32 44.2**	**-0.2**	
	4.9nm,0.2s							
ARXS	**Arharly**	**3.70**	**301**	Pg	**Pb**	**01 31 52.6**	**+1.3**	
	4.3nm,0.7s							
ARXS				Lg	Lg	01 32 44.2		
	4.9nm,0.2s							
MDOK	**Medeo**	**3.90**	**283**	Pg	**Pb**	**01 31 56.4**	**+1.6**	
	1.3nm,0.2s							
MDOK				Lg	Lg	01 32 50.7		
	3.8nm,0.4s							
TNSS	**Tian-Shan**	**3.95**	**281**	*e*P	**Pb**	**01 31 56.9**	**+1.1**	
	1.9nm,0.2s							
TNSS				*e*S	**Sg**	**01 32 51.6**	**-0.9**	
	3.0nm,0.2s							
TNSS	**Tian-Shan**	**3.95**	**281**	Pg	**Pb**	**01 31 56.9**	**+1.1**	
	1.9nm,0.2s							
TNSS				Lg	Lg	01 32 51.6		
	3.0nm,0.2s							
MK31	**Makanchi Array**	**4.41**	**0**	⇑Pn	**Pn**	**01 31 53.3**	**+0.4**	
	1.0nm,0.7s,baz=180,slow=12,SNR=4.4							
MK31				⇑Pg	**Pb**	**01 32 04.3**	**+1.0**	
	0.4nm,0.4s,baz=184,slow=15,SNR=7.5							
MK31				⇑Lg	Lg	01 33 04.0		
	4.3nm,0.8s,baz=184,slow=26,SNR=5.7							
ZSN	**Zaisan**	**5.39**	**19**	Pg	**Pb**	**01 32 19.9**	**-0.3**	
	2.4nm,0.2s							
ZSN				Lg	Lg	01 33 31.3		
	2.8nm,0.4s							

*ISCJB **26** 01:37:32.4±0.3, 49°13N±0'.02×1°.82W±0'.02, h6km±2km,*
Error ellipse: s-maj=3.6km s-min=2.1km az=10.1
*STR **26** 01:37:33.6±0.8, 49°N±4°×±°, h15km±4km, MLv2.8/3*
*BGS **26** 01:37:35.4±0.1, 49°.20N×2°.07W, h7km, ML1.8*
*LDG **26** 01:37:35.6±0.1, 49°.17N×2°.06W, h7km, Md2.7/2, Ml2.7/31,*
Error ellipse: s-maj=1.7km s-min=0.9km az=162.0

ISC 26 01:37:34.1±0.8, **49°.19N**±0'.03×**2°.02W**±0'.02, **h15**km±4km,
n64, σ1°**72**/121, **4C-4D, France**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
JQE	**Queens East**	**0.02**	**294**	⇑*i*P	**Pg**	**01 37 36.9**	**+0.1**	
JQE	**Queens East**	**0.02**	**294**	⇓*i*P	**Pg**	**01 37 36.9**	**+0.1**	
JDG	**Jersey Dam (Ga**	**0.02**	**274**	*e*P	**Pg**	**01 37 36.8**	**+0.1**	
JDG				*e*S	**Sg**	**01 37 37.9**	**-0.6**	
JDG	**Jersey Dam (Ga**	**0.02**	**274**	*e*P	**Pg**	**01 37 36.8**	**+0.1**	
JDG				*e*S	**Sg**	**01 37 37.9**	**-0.6**	
JDC	**Jersey Dam (Cr**	**0.02**	**247**	*e*P	**Pg**	**01 37 36.8**	**+0.1**	
JDC				*e*S	**Sg**	**01 37 38.0**	**-0.5**	
JDC	**Jersey Dam (Cr**	**0.02**	**247**	*e*P	**Pg**	**01 37 36.8**	**+0.1**	
JDC				*e*S	**Sg**	**01 37 38.0**	**-0.5**	
JRS	**Jersey**	**0.05**	**269**	*e*P	**Pg**	**01 37 36.9**	**0.0**	
JRS				*e*S	**Sg**	**01 37 38.0**	**-0.7**	
JRS				IAML		01 37 38.3		
	comp=E,393nm,0.1s							
JRS				IAML		01 37 38.3		
	comp=N,358nm,0.1s							
JRS	**Jersey**	**0.05**	**269**	*e*P	**Pg**	**01 37 36.9**	**0.0**	
JRS				*e*S	**Sg**	**01 37 38.0**	**-0.7**	
JRS				IAML		01 37 38.3		
	comp=E,393nm,0.1s							
JRS				IAML		01 37 38.3		
	comp=N,358nm,0.1s							
JLP	**Les Platons**	**0.08**	**311**	⇓*i*P	**Pg**	**01 37 37.3**	**+0.1**	
JLP				*e*S	**Sg**	**01 37 38.7**	**-0.5**	
JLP	**Les Platons**	**0.08**	**311**	⇓*i*P	**Pg**	**01 37 37.3**	**+0.1**	
JLP				*e*S	**Sg**	**01 37 38.7**	**-0.5**	
JSA	**Saint Aubin**	**0.10**	**267**	⇑*i*P	**Pg**	**01 37 37.4**	**0.0**	
JSA				*e*S	**Sg**	**01 37 38.8**	**-0.7**	
JSA				IAML		01 37 38.9		
	comp=E,2μm,0.1s							
JSA				IAML		01 37 39.1		
	comp=Z,780nm,0.1s							
JSA				IAML		01 37 39.5		
	comp=N,396nm,0.1s							
JSA	**Saint Aubin**	**0.10**	**267**	⇑*i*P	**Pg**	**01 37 37.4**	**0.0**	
JSA				*e*S	**Sg**	**01 37 38.8**	**-0.7**	
JSA				IAML		01 37 38.9		
	comp=E,2μm,0.1s							
JSA				IAML		01 37 39.1		
	comp=Z,780nm,0.1s							
JSA				IAML		01 37 39.5		
	comp=N,396nm,0.1s							
JSA	**Saint Aubin**	**0.10**	**267**	Pg	**Pg**	**01 37 37.4**	**0.0**	
JSA				Sg	**Sg**	**01 37 38.9**	**-0.7**	
JVM	**Valle D.L. Mar**	**0.13**	**281**	⇓*i*P	**Pg**	**01 37 37.8**	**+0.1**	
JVM				*e*S	**Sg**	**01 37 39.5**	**-0.6**	
JVM	**Valle D.L. Mar**	**0.13**	**281**	⇓*i*P	**Pg**	**01 37 37.8**	**+0.1**	
JVM				*e*S	**Sg**	**01 37 39.5**	**-0.6**	
SGMF	**Saint Gilles**	**1.01**	**201**	*e*Pg	**Pb**	**01 37 53.6**	**+0.4**	
	SNR=1.0							
SGMF	**Saint Gilles**	**1.01**	**201**	*e*Pn	**Pg**	**01 37 54.2**	**+0.7**	
SGMF				*e*Sg	**Sb**	**01 38 06.3**	**+0.1**	
	comp=N,33nm,0.3s,SNR=1.0							
SGMF				*e*Sn	**Sg**	**01 38 07.5**	**+0.8**	
	comp=N,28nm,0.2s							
FLN	**La Foliniere**	**1.10**	**113**	*e*Pn	**Pg**	**01 37 56.0**	**+0.7**	
	baz=296							
FLN	**La Foliniere**	**1.10**	**113**	*e*Pg	**Pg**	**01 37 56.5**	**+1.2**	
	baz=289,SNR=1.0							
FLN	**La Foliniere**	**1.10**	**113**	*e*P	**Pg**	**01 37 57.6**	**+2.3**	
	baz=294							
FLN				*e*Sg	**Sn**	**01 38 11.0**	**+1.2**	
	comp=N,75nm,0.4s,baz=290,SNR=1.0							
GRR	**Gorron**	**1.11**	**136**	*e*Pg	**Pg**	**01 37 56.6**	**+1.1**	
	SNR=1.0							
GRR	**Gorron**	**1.11**	**136**	*e*P	**Pg**	**01 37 57.8**	**+2.3**	
GRR				*e*Sn	**Sg**	**01 38 10.9**	**+0.9**	
GRR				*e*Sg	**Sn**	**01 38 11.9**	**+1.8**	
	comp=N,47nm,0.2s,SNR=1.0							
ROSF	**Rostrenen**	**1.20**	**225**	*e*Pn	**Pn**	**01 37 56.6**	**+0.4**	
	SNR=1.0							
ROSF	**Rostrenen**	**1.20**	**225**	*e*Pg	**Pg**	**01 37 57.3**	**+0.2**	
ROSF				*e*Sn	**Sb**	**01 38 11.5**	**-0.1**	
ROSF				*e*Sg	**Sn**	**01 38 12.6**	**+0.4**	
	comp=N,43nm,0.3s,SNR=1.0							
ROSF	**Rostrenen**	**1.20**	**225**	*e*P	**Pn**	**01 37 56.6**	**+0.4**	
ROSF				*e*S	**Sb**	**01 38 12.1**	**+0.5**	
ROSF	**Rostrenen**	**1.20**	**225**	*e*P	**Pn**	**01 37 56.6**	**+0.4**	
ROSF				*e*S	**Sb**	**01 38 12.1**	**+0.5**	
LDF	**La Druitiere**	**1.39**	**115**	*e*Pn	**Pb**	**01 38 00.1**	**+0.4**	
	SNR=1.0							
LDF	**La Druitiere**	**1.39**	**115**	*e*Pg	**Pg**	**01 38 01.6**	**+0.9**	
	SNR=1.0							
LDF				*e*Sn	**Sn**	**01 38 17.5**	**+0.6**	
LDF				*e*Sg	**Sg**	**01 38 20.1**	**+1.3**	
	comp=N,19nm,0.3s,SNR=1.0							
QUIF	**Quistinic**	**1.49**	**211**	*e*Pn	**Pn**	**01 38 00.8**	**+0.6**	
	SNR=1.0							
QUIF	**Quistinic**	**1.49**	**211**	*e*P	**Pb**	**01 38 02.5**	**+1.1**	
QUIF	**Quistinic**	**1.49**	**211**	*e*Pg	**Pg**	**01 38 02.8**	**+0.1**	
QUIF				*e*Sg	**Sb**	**01 38 21.8**	**+1.7**	
	comp=N,18nm,0.3s,SNR=1.0							
CCA1	**Carnmenellis**	**2.31**	**297**	Pg	**Pn**	**01 38 13.1**	**+1.6**	
CCA1				Sn	**Sn**	**01 38 38.3**	**-1.4**	
SWN1	**Swindon**	**2.33**	**3**	Pg	**Pn**	**01 38 13.1**	**+1.3**	
MFF	**Saint Martin d**	**2.88**	**153**	*e*Pn	**Pn**	**01 38 19.6**	**+0.2**	
	SNR=1.0							
MFF	**Saint Martin d**	**2.88**	**153**	*e*Pg	**Pg**	**01 38 28.8**	**-0.5**	
MFF				*e*Sn	**Sn**	**01 38 52.9**	**-0.9**	
MFF				*e*Sg	**Sg**	**01 39 05.9**	**-0.7**	
	comp=N,7.2nm,0.2s,SNR=1.0							
HYF	**Humbligny**	**3.66**	**120**	*e*P	**Pn**	**01 38 34.2**	**+4.1**	
HYF				*e*Sg	**Sg**	**01 39 31.3**	**-0.2**	
TCF	**Toulx Ste Croi**	**4.07**	**134**	*e*Pn	**Pn**	**01 38 36.2**	**+0.4**	
TCF	**Toulx Ste Croi**	**4.07**	**134**	*e*P	**Pn**	**01 38 40.5**	**+4.7**	
TCF				*e*Sn	**Sn**	**01 39 21.7**	**-1.5**	
	SNR=1.0							
TCF				*e*Sg	**Sg**	**01 39 43.8**	**-1.0**	
	comp=N,1.3nm,0.2s,SNR=1.0							
BAIF	**Baives**	**4.14**	**76**	*e*Pn	**Pn**	**01 38 38.4**	**+1.7**	
	SNR=1.0							
BAIF	**Baives**	**4.14**	**76**	*e*Pg	**Pg**	**01 38 52.4**	**-0.9**	
	SNR=1.0							
BAIF				*e*Sn	**Sn**	**01 39 23.3**	**-1.4**	
	SNR=1.0							
BAIF				*e*Sg	**Sg**	**01 39 46.4**	**-0.5**	
	comp=N,2.8nm,0.4s,SNR=1.0							
BGF	**Bois d'Agland**	**4.20**	**127**	*e*Pn	**Pn**	**01 38 37.7**	**+0.1**	
	SNR=1.0							
BGF				*e*Sg	**Sg**	**01 39 47.9**	**-1.0**	
	comp=N,3.4nm,0.2s,SNR=1.0							
SSF	**Saint Saulge**	**4.27**	**118**	*e*Pn	**Pn**	**01 38 39.3**	**+0.8**	
	SNR=1.0							
SSF	**Saint Saulge**	**4.27**	**118**	*e*P	**Pn**	**01 38 43.2**	**+4.7**	
SSF				*e*Sn	**Sn**	**01 39 26.4**	**-1.6**	
SSF				*e*Sg	**Sg**	**01 39 50.1**	**-1.0**	
	comp=N,4.0nm,0.3s,SNR=1.0							
AVF	**Avril sur Loir**	**4.33**	**122**	*e*Pn	**Pn**	**01 38 39.9**	**+0.6**	
	SNR=1.0							
AVF	**Avril sur Loir**	**4.33**	**122**	*e*P	**Pn**	**01 38 43.4**	**+4.1**	
AVF				*e*Sn	**Sn**	**01 39 27.8**	**-1.7**	
AVF				*e*Sg	**Sg**	**01 39 52.0**	**-1.1**	
	comp=N,2.1nm,0.3s,SNR=1.0							
LOR	**Lormes**	**4.37**	**114**	*e*Pn	**Pn**	**01 38 40.8**	**+0.9**	
	baz=292							
LOR	**Lormes**	**4.37**	**114**	*e*P	**Pn**	**01 38 44.3**	**+4.4**	
	baz=295							
LOR				*e*Sn	**Sn**	**01 39 29.1**	**-1.5**	
	SNR=1.0							
LOR				*e*Sg	**Sg**	**01 39 53.5**	**-0.9**	
	comp=N,3.2nm,0.3s,baz=295,SNR=1.0							
GIVF	**Givet**	**4.54**	**76**	*e*P	**Pn**	**01 38 46.2**	**+4.1**	
RJF	**Les Rejaudoux**	**4.57**	**147**	*e*Pn	**Pn**	**01 38 42.8**	**+0.1**	
	SNR=1.0							
RJF	**Les Rejaudoux**	**4.57**	**147**	*e*P	**Pn**	**01 38 46.9**	**+4.2**	
RJF				*e*Sn	**Sn**	**01 39 33.0**	**-2.5**	
	comp=N,1.3nm,0.2s,SNR=1.0							
RJF				*e*Sg	**Sg**	**01 39 59.4**	**-1.5**	
	comp=N,6.2nm,0.3s,SNR=1.0							
LFF	**La Frestale**	**4.65**	**155**	*e*Sn	**Sn**	**01 39 34.9**	**-2.5**	
	SNR=1.0							
LFF				*e*Sg	**Sg**	**01 39 59.8**	**-3.6**	
	comp=N,3.5nm,0.3s							
SMF	**Signal de Mont**	**4.69**	**121**	*e*Pn	**Pn**	**01 38 45.5**	**+1.2**	
SMF	**Signal de Mont**	**4.69**	**121**	*e*Pg	**Pg**	**01 39 02.0**	**-1.9**	
SMF				*e*Sn	**Sn**	**01 39 36.8**	**-1.6**	
SMF				*e*Sg	**Sg**	**01 40 03.3**	**-1.3**	
	comp=N,0.9nm,0.2s							
MEZF	**Maizieres J'vi**	**4.72**	**96**	*e*Pn	**Pn**	**01 38 46.1**	**+1.5**	
	baz=274							
MEZF				*e*Sg	**Sg**	**01 40 04.4**	**-1.1**	
	comp=N,2.3nm,0.3s,baz=275							
SFTF	**Sexfontaines**	**4.78**	**99**	*e*Pn	**Pn**	**01 38 46.4**	**+1.0**	
	baz=280							
SFTF	**Sexfontaines**	**4.78**	**99**	*e*P	**Pn**	**01 38 50.2**	**+4.8**	
	baz=279							
SFTF				*e*Sn	**Sn**	**01 39 39.1**	**-1.4**	
	comp=N,1.3nm,0.2s							
SFTF				*e*Sg	**Sg**	**01 40 06.0**	**-1.3**	
	comp=N,1.4nm,0.2s							
CAF	**Calviac**	**5.10**	**145**	*e*Pn	**Pn**	**01 38 50.1**	**+0.2**	
CAF	**Calviac**	**5.10**	**145**	*e*P	**Pn**	**01 38 54.4**	**+4.5**	
CAF	**Calviac**	**5.10**	**145**	*e*Pg	**Pg**	**01 39 10.2**	**-1.5**	
CAF				*e*Sn	**Sn**	**01 39 45.5**	**-3.0**	
CAF				*e*Sg	**Sg**	**01 40 15.4**	**-2.3**	
	comp=N,2.4nm,0.3s							
PAGF	**Fort de Pagny**	**5.15**	**94**	*e*Pn	**Pn**	**01 38 51.5**	**+0.9**	
	baz=274							
PAGF				*e*Sn	**Sn**	**01 39 47.5**	**-2.2**	
	baz=277							
PAGF				*e*Sg	**Sg**	**01 40 18.0**	**-1.2**	
	comp=N,0.8nm,0.3s,baz=276							
HAU	**Haudompre**	**5.67**	**99**	*e*Pn	**Pn**	**01 38 58.3**	**+0.5**	
HAU				*e*Sn	**Sn**	**01 40 00.5**	**-2.2**	
HAU				*e*Sg	**Sg**	**01 40 34.3**	**-1.8**	
	comp=N,1.2nm,0.2s							
CABF	**La Chapelle**	**6.03**	**112**	*e*Pn	**Pn**	**01 39 02.5**	**-0.2**	
	SNR=1.0							
CABF				*e*Sg	**Sg**	**01 40 43.9**	**-3.6**	
	comp=N,0.3nm,0.2s							
HINF	**Hinteralfeld**	**6.05**	**100**	*e*Pn	**Pn**	**01 39 03.4**	**+0.4**	
HINF				*e*Sg	**Sg**	**01 40 45.0**	**-3.2**	
	comp=N,1.2nm,0.3s							
CDF	**Champ du Feu**	**6.19**	**94**	*e*Pn	**Pn**	**01 39 05.4**	**+0.5**	
CDF				*e*Sn	**Sn**	**01 40 12.6**	**-2.8**	
	comp=N,0.2nm,0.2s							

*SNET **26** 02:09:17.8±3.0, 13°.93N×92°.34W, h0km±999km, ML3.7*
*NEIC **26** 02:09:17.7±1.5, 14°.62N±0°.09×92°.37W±0°.06, h78km±4km*
*MEX **26** 02:09:17.9±1.2, 14°.59N×92°.31W, h82km±15km, MD4.3*
*ISCJB **26** 02:09:18.6±0.5, 14°.78N±0°.06×92°.34W±0°.05, h83km±3km,*
mb3.9/10, Error ellipse: s-maj=11.1km s-min=4.2km
az=35.0
*GCG **26** 02:09:18.3±0.7, 14°.56N×92°.49W, h54km±24km, MD4.4*
*IDC **26** 02:09:21.6±2.0, 14°.86N×92°.27W, h85km±17km, mb3.7/9,*
mb1 4.0/12, mb1mx3.7/40, mbtmp4.0/12, MS2.7/2,
Ms1 2.7/2, ms1mx2.5/28, Error ellipse: s-maj=30.5km
s-min=15.7km az=47.0

ISC 26 02:09:18.5±0.8, **14°.65N**±0'.06×**92°.39W**±0'.05, **h72**km±6km,
n67, σ1°**90**/88, **mb4.1**/17, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
THIG		**0.28**	**26**	*e*P	**Pn**	**02 09 28.9**	**-0.9**	
THIG				*i* S	**Sn**	**02 09 38.9**	**+0.8**	
THIG		**0.28**	**26**		**Pn**	**02 09 28.9**	**-0.9**	
THIG					**Sn**	**02 09 38.9**	**+0.8**	
STG3	**Santiaguito 3,**	**0.80**	**86**	*e*P	**Pn**	**02 09 35.3**	**+0.4**	
ERG	**Entre ros, C**	**0.83**	**105**	*e*P	**Pn**	**02 09 35.2**	**+0.1**	
ERG				*e*S	**Sn**	**02 09 50.5**	**+3.2**	
PCIG		**1.31**	**323**	*e*P	**Pn**	**02 09 40.7**	**-0.5**	
PCIG				*e*S	**Sn**	**02 09 57.6**	**-0.5**	
PCIG		**1.31**	**323**		**Pn**	**02 09 40.7**	**-0.5**	
PCIG					**Sn**	**02 09 57.6**	**-0.5**	
FUG	**Fuego 3**	**1.52**	**98**	*e*P	**Pn**	**02 09 44.7**	**+0.7**	
FUG				*e*S	**Sn**	**02 10 05.7**	**+2.6**	
PCG	**Pacaya**	**1.75**	**98**	*e*P	**Pn**	**02 09 48.4**	**+1.3**	
APG	**El Apazote**	**1.90**	**79**	P	**Pn**	**02 09 50.3**	**+1.2**	
	100nm,0.3s,baz=200,slow=14,SNR=842							
APG				S	**Sn**	**02 10 17.1**	**+4.8**	
	176nm,0.3s,baz=161,slow=20,SNR=17							
APG				LR	LR	02 10 26.4		
	comp=Z,145nm,20.2s,baz=259,slow=37							
IXG	**Ixpaco**	**1.95**	**104**	*e*P	**Pn**	**02 09 50.6**	**+0.8**	
NBG	**Las Nubes**	**1.98**	**92**	*e*P	**Pn**	**02 09 52.5**	**+2.2**	
TGBT	**Tuxtla Gutierr**	**2.21**	**342**	*e*P	**Pn**	**02 09 53.8**	**+0.7**	
TGBT	**Tuxtla Gutierr**	**2.21**	**342**		**Pn**	**02 09 53.8**	**+0.7**	
TGIG		**2.23**	**342**	*e*P	**Pn**	**02 09 53.6**	**+0.2**	
TGIG				*e*S	**Sn**	**02 10 24.8**	**+4.9**	
TGIG		**2.23**	**342**		**Pn**	**02 09 53.6**	**+0.2**	
TGIG					**Sn**	**02 10 24.8**	**+4.9**	
MRL	**Marmol**	**2.65**	**80**	*e*P	**Pn**	**02 10 01.3**	**+2.0**	
SBLS	**San Blas**	**2.81**	**106**	*e*P	**Pn**	**02 10 02.4**	**+1.1**	
SNJE	**San Jose**	**2.81**	**106**	*e*P	**Pn**	**02 10 02.1**	**+0.6**	
MTO3	**Montecristo**	**2.95**	**95**	*e*P	**Pn**	**02 10 03.6**	**+0.3**	
MTO3				*e*S	Sn	02 10 45.8	+8.1	
MTO3				IAML		02 10 47.9		
	comp=Z,84nm,0.5s							
SNET	**Serv Nac Est T**	**3.21**	**107**	*e*P	**Pn**	**02 10 08.4**	**+1.6**	
SNET				*e*S	**Sn**	**02 10 44.2**	**+0.2**	
SNET				IAML		02 10 46.9		
	comp=Z,791nm,0.3s							
SNET	**Serv Nac Est T**	**3.21**	**107**		**Pn**	**02 10 06.2**	**-0.6**	
SNET				Sn	**Sn**	**02 10 42.2**	**-1.9**	
LFU	**La Fuente**	**3.31**	**105**	*e*P	**Pn**	**02 10 08.4**	**+0.4**	
CMIG	**Matias Romero**	**3.41**	**316**	P	**Pn**	**02 10 09.8**	**+0.5**	
	comp=Z,14nm,0.3s,baz=138,slow=12,SNR=12							
CMIG				S	**Sn**	**02 10 48.9**	**+0.2**	
	comp=Z,60nm,0.3s,baz=119,slow=14,SNR=6.7							
CMIG				LR	LR	02 11 39.4		
	comp=Z,118nm,18.4s,baz=134,slow=41							
CMIG	**Matias Romero**	**3.41**	**316**	*e*P	**Pn**	**02 10 09.2**	**-0.1**	
CMIG	**Matias Romero**	**3.41**	**316**		**Pn**	**02 10 09.2**	**-0.1**	
TECA	**Tecapa**	**3.95**	**107**	*e*P	**Pn**	**02 10 18.4**	**+1.5**	
TGUH	**Tegucigalpa,Un**	**5.00**	**96**		**Pn**	**02 10 29.7**	**-1.5**	
TGUH				Sn	**Sn**	**02 11 25.7**	**-2.0**	
ESTN	**Estel**	**6.05**	**104**		**Pn**	**02 10 43.5**	**-2.1**	
TEIG	**Tepich**	**6.79**	**35**	P	**Pn**	**02 10 56.1**	**+0.6**	
	comp=Z,66nm,0.3s,baz=140,slow=0.2,SNR=144							
TEIG				S	**Sn**	**02 12 11.3**	**-0.2**	
	comp=Z,7.7nm,0.3s,baz=320,slow=19,SNR=3.4							
TEIG				LR	LR	02 14 23.4		
	comp=Z,55nm,20.0s,baz=222,slow=46							
TEIG	**Tepich**	**6.79**	**35**		**Pn**	**02 10 55.3**	**-0.3**	
TEIG					**Sn**	**02 12 10.9**	**-0.6**	
ACON	**Acoyapa**	**7.52**	**110**		**Pn**	**02 11 02.1**	**-3.4**	
JTS	**Las Juntas de**	**8.46**	**120**	P	**Pn**	**02 11 21.4**	**+2.9**	
	comp=Z,2.1nm,0.3s,baz=359,slow=13,SNR=9.2							
JTS				S	**Sn**	**02 12 54.7**	**+2.2**	
	comp=Z,0.5nm,0.3s,baz=29,slow=19,SNR=2.1							
JTS	**Las Juntas de**	**8.46**	**120**		**Pn**	**02 11 15.7**	**-2.8**	
JTS					**Sn**	**02 12 47.1**	**-5.3**	
VBMS	**Vicksburg**	**17.57**	**5**	P	**P**	**02 13 16.6**	**-2.1**	
TX31	**Lajitas Ar. Si**	**17.94**	**326**	P	**P**	**02 13 22.8**	**-0.2**	
TXAR	**Lajitas Array**	**17.94**	**326**	P	**Pn**	**02 13 24.9**	**+1.5**	
	comp=Z,0.0nm,0.3s,baz=134,slow=8.9,SNR=5.8							
LRAL	**Lakeview Retre**	**18.95**	**14**	P	**P**	**02 13 32.5**	**-1.4**	
LRAL				IAmb	IAmb	02 13 39.3		
	comp=Z,9.6nm,1.0s							
Z51A	**Franklin**	**19.70**	**18**	P	**P**	**02 13 38.9**	**-3.2**	
Z51A				IAmb	IAmb	02 13 55.3		
	comp=Z,7.4nm,0.5s							
Z51A					**S**	**02 17 17.2**	**-3.3**	
MIAR	**Mount Ida**	**19.83**	**357**	P	**P**	**02 13 38.5**	**-5.1**	
MIAR				IAmb	IAmb	02 13 50.6		
	comp=Z,15nm,1.0s							
MNTX	**Cornudas Mount**	**20.71**	**327**	P	**P**	**02 13 52.4**	**-0.7**	
FPAL	**Fort Paine**	**20.73**	**16**	P	**P**	**02 13 51.5**	**-1.7**	
FPAL				IAmb	IAmb	02 13 54.5		
	comp=Z,4.1nm,0.6s							
SWET	**Sewanee**	**21.28**	**15**	P	**P**	**02 13 57.6**	**-1.6**	
SWET				IAmb	IAmb	02 13 59.8		
	comp=Z,6.3nm,0.6s							
MSTX	**Muleshoe**	**21.40**	**336**	P	**P**	**02 14 00.7**	**+0.2**	
AMTX	**Amarillo**	**21.81**	**339**	P	**P**	**02 14 05.6**	**+0.7**	
AMTX				IAmb	IAmb	02 14 23.6		
	comp=Z,9.5nm,0.9s							
CLTN	**Cedars of Leba**	**22.03**	**13**	P	**P**	**02 14 05.9**	**-1.2**	
CLTN				IAmb	IAmb	02 14 08.1		
	comp=Z,3.8nm,0.7s							
SDV	**Santo Domingo**	**22.05**	**103**	P	**P**	**02 14 06.4**	**-1.3**	
	comp=Z,2.1nm,0.3s,baz=280,slow=3.0,SNR=6.7							
TKL	**Tuckaleechee C**	**22.30**	**19**	P	**P**	**02 14 10.7**	**+0.7**	
	comp=Z,2.0nm,0.5s,baz=194,slow=11,SNR=7.9							
TKL	**Tuckaleechee C**	**22.30**	**19**	P	**P**	**02 14 09.2**	**-0.9**	
TKL				IAmb	IAmb	02 14 09.4		
	comp=Z,9.6nm,1.1s							
121A	**Cookes Peak, D**	**22.66**	**324**	P	**P**	**02 14 14.0**	**-0.1**	
121A				IAmb	IAmb	02 14 32.9		
	comp=Z,8.2nm,1.1s							
T47A	**Sharon Grove**	**22.74**	**11**	P	**P**	**02 14 13.0**	**-1.7**	
T47A				IAmb	IAmb	02 14 15.0		
	comp=Z,17nm,1.1s							
S44A	**Carbondale**	**23.12**	**6**	P	**P**	**02 14 17.5**	**-1.0**	
S44A				IAmb	IAmb	02 14 19.3		
	comp=Z,9.9nm,0.7s							
ANMO	**Albuquerque**	**23.85**	**330**	P	**P**	**02 14 26.7**	**+1.2**	
	comp=Z,1.3nm,0.5s,baz=146,slow=11,SNR=10							
ANMO	**Albuquerque**	**23.85**	**330**	P	**P**	**02 14 23.6**	**-1.8**	
WCI	**Wyandotte Cave**	**24.09**	**12**	P	**P**	**02 14 25.5**	**-1.8**	
T25A	**Trinidad**	**24.82**	**337**	P	**P**	**02 14 33.0**	**-1.2**	
P46A	**Rosedale**	**25.28**	**9**	P	**P**	**02 14 37.0**	**-1.1**	
ATAH	**Atahualpa**	**25.72**	**146**	P	**P**	**02 14 46.5**	**+3.7**	
	comp=Z,6.8nm,0.7s,baz=357,slow=7.7,SNR=4.4							
MVCO	**Mesa Verde**	**26.65**	**330**	P	**P**	**02 14 49.5**	**-1.3**	
MVCO				IAmb	IAmb	02 14 53.8		
	comp=Z,4.4nm,0.8s							
PDAR	**Pinedale Array**	**31.67**	**336**	P	**P**	**02 15 37.5**	**+2.1**	
	comp=Z,0.2nm,0.4s,baz=137,slow=8.1,SNR=3.6							
PDAR				PcP	**PcP**	**02 18 26.4**	**+0.6**	
	comp=Z,0.3nm,0.5s,baz=134,slow=3.9,SNR=3.7							
NVAR	**Mina Array Bea**

az=143.0
*DJA **26** 02:14:24.2±0.5,2°S±3°×10°1E±°, h17^km±5^km, M4.2/9, MLv4.2/9*
*NEIC **26** 02:14:25.2±1.6,2°.31S±0°.08×100°.5E±0°.1, h62^km±5^km, mb4.4/3*

ISC 26 02:14:24.8±0.7,**2°.24S**±0°.05×**100°.59E**±0°.05,**h50**km,**n31,** σ0§**94**/28,**mb4.3**/10,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.78**	**228**	P		**Pn**	**02 14 41.1**	**+1.5**
KRJI	**Kerinci**	**0.89**	**80**	P		**Pn**	**02 14 41.8**	**+0.7**
PDSI	**Padang**	**1.32**	**355**	P		**Pn**	**02 14 47.1**	**+0.1**
PDSI				S		**Sn**	**02 15 03.7**	**+0.2**
SDSI	**Sungai Dareh**	**1.55**	**33**	P		**Pn**	**02 14 51.1**	**+1.2**
SISI	**Saibi**	**1.75**	**301**	P		**Pn**	**02 14 53.5**	**+0.8**
SISI				S		**Sn**	**02 15 14.9**	**+1.0**
BKNI	**Bangkinang**	**2.59**	**10**	P		**Pn**	**02 15 05.3**	**+1.1**
BKNI	**Bangkinang**	**2.59**	**10**	Pn		**Pn**	**02 15 05.7**	**+1.4**
BKNI				Sn		**Sn**	**02 15 35.3**	**+0.8**
MNAI	**Manna**	**3.17**	**132**	P		**Pn**	**02 15 14.3**	**+2.1**
MNAI	**Manna**	**3.17**	**132**	Pn		**Pn**	**02 15 13.0**	**+0.9**
MNAI						**Sn**	**02 15 48.2**	**-0.6**
GSI	**Gunungsitoli**	**4.63**	**319**	P		**Pn**	**02 15 32.6**	**+0.3**
GSI	**Gunungsitoli**	**4.63**	**319**			**Pn**	**02 15 32.1**	**-0.1**
GSI				Sn		Sn	02 16 33.8	+9.0
MYKOM	**Kota Tinggi**	**5.16**	**39**	Pn		**Pn**	**02 15 41.1**	**+1.5**
KULM	**Kulim**	**7.48**	**0**	Pn		**Pn**	**02 16 12.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**20.63**	**356**	LR		LR	02 26 38.1	
	comp=Z,15nm,21.3s,baz=292,slow=36							
H08S2	**Diego Garcia H**	**28.49**	**258**	T		T	02 49 16.6	
	baz=81,slow=75,SNR=30							
H08S3	**Diego Garcia H**	**28.50**	**258**	T		T	02 49 17.5	
	baz=81,slow=75,SNR=58							
H08S1	**Diego Carcia H**	**28.51**	**258**	T		T	02 49 36.3	
	baz=81,slow=75,SNR=22							
H01W3	**Cape Leeuwin H**	**34.84**	**160**	T		T	02 57 49.0	
	baz=337,slow=76,SNR=5.8							
H01W2	**Cape Leeuwin H**	**34.85**	**160**	T		T	02 57 54.1	
	baz=337,slow=76,SNR=5.4							
H01W1	**Cape Leeuwin H**	**34.86**	**160**	T		T	02 57 58.0	
	baz=337,slow=76,SNR=4.6							
WRA	**Warramunga Arr**	**37.37**	**121**	P		**P**	**02 21 31.9**	**-1.1**
	0.8nm,0.3s,baz=296,slow=10,SNR=14							
ASAR	**Alice Springs**	**38.64**	**126**	P		**P**	**02 21 43.6**	**-0.1**
	1.7nm,0.6s,baz=305,slow=7.9,SNR=29							
SONM	**Songino Array**	**50.13**	**5**	P		**P**	**02 23 15.4**	**+0.2**
	0.6nm,0.4s,baz=193,slow=9.9,SNR=5.2							
MK31	**Makanchi Array**	**51.42**	**344**	P		**P**	**02 23 24.9**	**+0.1**
MK31				IAmb		IAmb	02 23 25.2	
	comp=Z,1.5nm,0.6s							
MKAR	**Makanchi Array**	**51.42**	**344**	P		**P**	**02 23 25.1**	**+0.3**
	comp=Z,1.9nm,0.4s,baz=160,slow=8.9,SNR=41							
USRK	**Ussuriysk Ar.**	**54.09**	**28**	P		**P**	**02 23 44.0**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=240,slow=6.4,SNR=4.6							
ZAA0	**Zalesovo Array**	**57.51**	**349**	P		**P**	**02 24 08.2**	**-0.6**
ZAA0				IAmb		IAmb	02 24 09.2	
	comp=Z,4.0nm,0.7s							
ZALV	**Zalesovo Beam**	**57.51**	**349**	P		**P**	**02 24 08.4**	**-0.4**
	comp=Z,2.4nm,0.4s,baz=180,slow=6.3,SNR=13							
ABKAR	**Akbulak array**	**62.13**	**331**	P		**P**	**02 24 40.1**	**-0.6**
ABKAR				IAmb		IAmb	02 24 40.7	
	comp=Z,1.5nm,0.5s							
ARCES	**ARCESS Array B**	**86.90**	**340**	P		**P**	**02 27 03.7**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=107,slow=5.7,SNR=3.7							
TXAR	**Lajitas Array**	**144.53**	**38**	PKP		**PKPab**	**02 33 54.8**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=338,slow=3.0,SNR=6.2							

IDC 26 02:22:53.0±5.0,**6°.12S**×**151°.53E**,**h56**km±36^km^,**mb3.0**/3, **mb1 3.4**/3,**mb1mx3.1**/38,**mbtmp3.3**/3,**Error ellipse: s-maj=124.4km s-min=19.1km az=120.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.87**	**15**	P		Pn	02 23 22.3	-0.4
	18nm,0.3s,baz=157,slow=1.8,SNR=9.7							
KRVT				S		Sn	02 23 45.8	+0.5
	43nm,0.3s,baz=32,slow=12,SNR=3.6							
WRA	**Warramunga Arr**	**21.63**	**229**	P		P	02 27 38.3	-0.4
	0.3nm,0.3s,baz=54,slow=10,SNR=4.1							
ASAR	**Alice Springs**	**24.33**	**222**	P		P	02 28 05.8	+0.2
	0.5nm,0.7s,baz=49,slow=9.9,SNR=5.8							
ILAR	**Eielson Array**	**83.85**	**22**	P		P	02 35 15.8	-0.5
	0.4nm,0.7s,baz=251,slow=5.3,SNR=6.5							
TORD	**Torodi Ar. Bea**	**149.48**	**285**	PKPbc		PKPbc	02 42 37.0	0.0
	0.3nm,0.7s,baz=86,slow=1.9,SNR=2.6							

*ISCJB **26** 03:33:35.3±0.4,46°.44S±0°.08×96°.3E±0°.1,h10^km^, mb4.3/12,MS4.2/15,Error ellipse: s-maj=14.1km s-min=8.5km az=43.1*
*IDC **26** 03:33:35.5±0.5,46°.40S×96°.16E,h0^km^,mb4.4/13, mb1 4.5/13,mb1mx4.3/23,mbtmp4.4/13,MS4.2/12, Ms1 4.2/12,ms1mx4.0/19,Error ellipse: s-maj=21.6km s-min=14.5km az=128.0*
*NEIC **26** 03:33:37.0±1.7,46°.6S±0°.1×96°.3E±0°.2,h10^km±1^km, mb4.8/17*
*GCMT **26** 03:33:40.0±0.2,46°.25S±0°.01×96°.04E±0°.02,h18^km±1^km, MW5.0/98,Moment Tensor Solution. s37,c46; s98,c139; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}=0.99±.16; $M_{\theta\theta}$=1.65±.14; $M_{\phi\phi}$=2.64±.14; $M_{r\theta}$=0.51±.32; $M_{r\phi}$=-3.37±.10; $M_{\theta\phi}$=0.94±.30; Best double couple: M_0=4.17000×10^16^ NP1:ϕ§195.00000°,δ82.00000°,λ-17.00000°. NP2: ϕ§287.00000°,δ73.00000°,λ-171.00000°. Principal axes: T 4.5500, Plg6.0000°, Azm242.0000°; N -0.7570, Plg71.0000°, Azm350.0000°; P -3.7900, Plg18.0000°, Azm150.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 03:33:36.9±0.4,**46°.50S**±0°.09×**96°.3E**±0°.1,**h10**km,**n63,** σ1§**23**/58,**mb4.5**/16,**MS4.3**/15,**1D,Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.78**	**56**	T		T	03 55 50.5	
	baz=224,slow=74,SNR=298							
H01W3	**Cape Leeuwin H**	**17.79**	**56**	T		T	03 55 51.7	
	baz=224,slow=74,SNR=296							
H01W1	**Cape Leeuwin H**	**17.80**	**56**	T		T	03 55 51.9	
	baz=224,slow=74,SNR=238							
NWAO	**Narrogin (SRO)**	**20.98**	**57**	P		**P**	**03 38 20.9**	**+0.6**
	19nm,0.9s,baz=215,slow=4.4,SNR=6.4							
NWAO				LR		LR	03 44 32.1	
	comp=Z,1μm,20.0s,baz=238,slow=31							
NWAO	**Narrogin (SRO)**	**20.98**	**57**	P		**P**	**03 38 20.1**	**-0.2**
NWAO				IAmb		IAmb	03 38 21.8	
	comp=Z,35nm,1.1s							
CASY	**Casey**	**21.23**	**164**	P		**P**	**03 38 19.0**	**-3.6**
MORW	**Morawa**	**23.28**	**49**	P		**P**	**03 38 42.8**	**-1.9**
MORW				IAmb		IAmb	03 38 47.9	
	comp=Z,32nm,1.2s							
MAW	**Mawson**	**27.27**	**207**	P		**P**	**03 39 21.9**	**+0.9**
	comp=Z,6.0nm,1.0s,baz=51,slow=9.5,SNR=6.4							
MAW				LR		LR	03 48 07.5	
	comp=Z,496nm,18.3s,baz=56,slow=32							
MAW	**Mawson**	**27.27**	**207**	P		**P**	**03 39 21.1**	**+0.2**
PSA00	**Pilbara Seismi**	**31.39**	**46**	P		**P**	**03 39 56.8**	**-1.2**
PSA00				IAmb		IAmb	03 39 58.5	
	comp=Z,18nm,1.1s							
SYO	**Syowa Base**	**35.78**	**211**	⇓*eP*		**P**	**03 40 34.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**37.27**	**50**	P		**P**	**03 40 48.5**	**-0.3**
STKA	**Stephens Creek**	**37.51**	**83**	P		**P**	**03 40 51.4**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=264,slow=9.7,SNR=5.1							
STKA				PcP		**PcP**	**03 43 08.8**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=162,slow=2.2,SNR=4.1							
STKA				LR		LR	03 53 12.7	
	comp=Z,573nm,21.8s,baz=220,slow=31							
STKA	**Stephens Creek**	**37.51**	**83**	P		**P**	**03 40 50.9**	**0.0**
ASAR	**Alice Springs**	**37.80**	**66**	P		**P**	**03 40 53.6**	**+0.2**
	comp=Z,4.6nm,0.9s,baz=222,slow=7.2,SNR=23							
ASAR				PcP		**PcP**	**03 43 09.4**	**-0.6**
	comp=Z,2.4nm,0.9s,baz=217,slow=1.7,SNR=8.1							
ASAR				LR		LR	03 54 08.1	
	comp=Z,587nm,21.1s,baz=233,slow=33							
AS31	**Alice Springs**	**37.80**	**66**	P		**P**	**03 40 53.7**	**+0.3**
VNDA	**Vanda**	**39.83**	**162**	P		**P**	**03 41 10.8**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=284,slow=10,SNR=6.6							
VNDA				LR		LR	03 56 10.8	
	comp=Z,428nm,19.6s,baz=283,slow=34							
WRA	**Warramunga Arr**	**40.82**	**63**	P		**P**	**03 41 18.6**	**0.0**
	comp=Z,7.4nm,0.8s,baz=222,slow=8.2,SNR=23							
WRA				PcP		**PcP**	**03 43 18.7**	**-0.8**
	comp=Z,1.0nm,1.1s,baz=226,slow=5.6,SNR=3.6							
WRA				LR		LR	03 56 16.8	
	comp=Z,1μm,20.3s,baz=220,slow=33							
QSPA	**South Pole Qui**	**43.64**	**180**	P		**P**	**03 41 42.2**	**+0.9**
	comp=Z,5.7nm,0.9s,baz=306,slow=2.4,SNR=16							
QSPA				PcP		**PcP**	**03 43 27.9**	**-0.5**
	comp=Z,3.2nm,1.1s,baz=342,slow=2.3,SNR=4.2							
QSPA	**South Pole Qui**	**43.64**	**180**	P		**P**	**03 41 40.5**	**-0.9**
QSPA				IAmb		IAmb	03 41 43.0	
	comp=Z,12nm,1.2s							
H08S2	**Diego Garcia H**	**43.77**	**325**	T		T	04 28 14.7	
	baz=156,slow=76,SNR=32							
H08S1	**Diego Carcia H**	**43.78**	**325**	T		T	04 28 12.6	
	baz=156,slow=76,SNR=28							
H08S3	**Diego Garcia H**	**43.79**	**325**	T		T	04 28 16.2	
	baz=156,slow=76,SNR=46							
SNAA	**Sanae**	**49.36**	**204**	P		**P**	**03 42 27.3**	**+1.3**
SNAA	**Sanae**	**49.36**	**204**	P		**P**	**03 42 27.1**	**+1.1**
	comp=Z,10nm,0.8s,baz=127,slow=9.2,SNR=32							
SNAA	**Sanae**	**49.36**	**204**	P		**P**	**03 42 27.5**	**+1.5**
SNAA				IAmb		IAmb	03 42 28.1	
	comp=Z,12nm,0.8s							
VNA2	**Neumayer--Watz**	**51.01**	**204**	P		**P**	**03 42 39.5**	**+1.2**
	baz=106,slow=7.5							
VNA3	**Neumayer Olymp**	**51.48**	**203**	P		**P**	**03 42 43.2**	**+1.3**
BOSA	**Boshof**	**57.18**	**262**	P		**P**	**03 43 23.9**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=123,slow=6.5,SNR=3.6							
BOSA				LR		LR	04 02 14.7	
	comp=Z,322nm,21.3s,baz=160,slow=30							
BOSA	**Boshof**	**57.18**	**262**	P		**P**	**03 43 22.7**	**-1.5**
BOSA				IAmb		IAmb	03 43 35.7	
	comp=Z,22nm,1.6s							
LBTB	**Lobatse**	**59.24**	**265**	P		**P**	**03 43 37.7**	**-0.9**
	comp=Z,2.6nm,0.9s,baz=131,slow=11,SNR=2.7							
LBTB	**Lobatse**	**59.24**	**265**	P		**P**	**03 43 38.2**	**-0.4**
LBTB				IAmb		IAmb	03 43 40.2	
	comp=Z,14nm,1.4s							
DZM	**Mont Dzumac**	**60.82**	**92**	*e*LR		LR	04 01 58.9	
	comp=Z,394nm,28.1s							
LSZ	**Lusaka**	**64.02**	**275**	P		**P**	**03 44 11.0**	**+0.1**
LSZ				IAmb		IAmb	03 44 18.2	
	comp=Z,20nm,1.7s							
CMAR	**Chiang Mai Arr**	**64.70**	**3**	P		**P**	**03 44 15.2**	**+0.2**
	comp=Z,9.9nm,1.0s,baz=200,slow=6.0,SNR=27							
CMAR				LR		LR	04 07 33.4	
	comp=Z,46nm,21.6s,baz=184,slow=32							
RAYN	**Ar Rayn**	**83.45**	**314**	P		**P**	**03 46 04.8**	**+0.2**
RAYN				IAmb		IAmb	03 46 07.3	
	comp=Z,8.0nm,1.1s							
KBL	**Kabul**	**84.33**	**338**	P		**P**	**03 46 08.4**	**-0.6**
JNU	**Nakatsue**	**85.19**	**29**	LR		LR	04 26 13.6	
	comp=Z,26nm,18.2s,baz=190,slow=37							
CHGR	**Chuyangaron**	**88.19**	**339**	P		**P**	**03 46 27.6**	**-0.1**
GAR	**Garm**	**88.24**	**340**	P		**P**	**03 46 28.4**	**+0.4**
TBI	**Tubuai**	**88.62**	**123**	*e*LR		LR	04 14 37.2	
	comp=Z,141nm,31.2s							
GEYT	**Alibeck**	**90.75**	**331**	LR		LR	04 21 38.4	
	comp=Z,57nm,21.2s,baz=335,slow=32							
PPT2	**Papeete2**	**93.00**	**119**	*e*LR		LR	04 16 36.8	
	comp=Z,138nm,23.5s							
PPT	**Papeete**	**93.02**	**119**	LR		LR	04 20 30.2	
	comp=Z,78nm,19.6s,baz=218,slow=30							
MKAR	**Makanchi Array**	**93.72**	**350**	P		**P**	**03 46 52.2**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=188,slow=3.9,SNR=3.2							
MKAR				LR		LR	04 26 29.0	
	comp=Z,80nm,19.8s,baz=259,slow=34							
SONM	**Songino Array**	**94.37**	**7**	P		**P**	**03 46 57.4**	**+1.1**
	comp=Z,1.5nm,1.0s,baz=185,slow=4.1,SNR=8.7							
KKH	**Kailua Kona**	**116.09**	**88**			**PKPdf**	**03 52 17.8**	**-2.4**
ILAR	**Eielson Array**	**141.90**	**38**	PKhKP		**PKPdf**	**03 53 04.3**	**-3.4**
	comp=Z,0.4nm,0.9s,baz=261,slow=3.0,SNR=4.4							
DOT	**Dot Lake**	**143.10**	**40**			**PKPdf**	**03 53 11.5**	**+1.6**
DAWY	**Dawson**	**145.16**	**39**			**PKPdf**	**03 53 14.5**	**+1.0**
EPYK	**Eagle Plains**	**146.03**	**35**			**PKPab**	**03 53 16.3**	**0.0**
INK	**Inuvik**	**146.83**	**31**	PKPbc		**PKPdf**	**03 53 16.0**	**0.0**
	comp=Z,10nm,1.0s,baz=301,slow=2.9,SNR=13							
TULEG	**Thule**	**149.25**	**353**	PKPdf		**PKPdf**	**03 53 22.0**	**+2.1**
RES	**Resolute Bay**	**151.31**	**6**	PKPbc		**PKPbc**	**03 53 28.3**	**-0.8**
	comp=Z,5.5nm,1.0s,baz=357,slow=4.5,SNR=9.9							
AFDM	**Forest Hills D**	**151.82**	**92**	PKPdf		**PKPdf**	**03 53 26.3**	**+1.2**
AFDM						**PKiKP**	**03 53 31.9**	**+0.1**
PNTR	**Pine Nut**	**152.83**	**93**	PKPdf		**PKPdf**	**03 53 26.1**	**-0.8**
PNTR						**PKPbc**	**03 53 36.9**	**+2.9**
NVAR	**Mina Array Bea**	**153.41**	**95**	PKPbc		**PKiKP**	**03 53 36.1**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=219,slow=4.5,SNR=10							
NVAR				PKPab		**PKPab**	**03 53 49.5**	**+1.9**
	comp=Z,2.0nm,0.9s,baz=231,slow=6.0,SNR=7.2							
HAWA	**Hanford**	**155.46**	**77**	PKPdf		**PKPdf**	**03 53 31.1**	**+1.1**
YKA	**Yellowknife Ar**	**156.30**	**36**	PKP		**PKPdf**	**03 53 29.2**	**-1.3**
	comp=Z,0.1nm,0.6s,baz=291,slow=2.0,SNR=3.8							
U15A	**North Rim**	**156.46**	**105**			**PKPab**	**03 54 00.9**	**+0.2**
TX31	**Lajitas Ar. Si**	**156.84**	**131**			**PKPab**	**03 54 02.3**	**+0.1**
TXAR	**Lajitas Array**	**156.84**	**131**	PKPab		**PKPab**	**03 54 02.8**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=188,slow=8.5,SNR=6.4							
PDAR	**Pinedale Array**	**161.27**	**92**	PKPab		**PKPab**	**03 54 21.2**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=270,slow=3.6,SNR=4.2							

*ISCJB **26** 04:26:03.6±0.5,31°.24N±0°.03×115°.64W±0°.04,h2^km±5^km, Error ellipse: s-maj=5.9km s-min=3.8km az=145.9*
*PAS **26** 04:26:05.1±0.9,31°.22N±0°.01×115°.63W±0°.03,h10^km±1^km*
*ECX **26** 04:26:05.5±0.5,31°.18N×115°.64W,h5^km^,MD2.8,ML3.0*
*MEX **26** 04:26:05.0±9.1,30°.94N×115°.70W,h10^km^,MD3.4*

ISC 26 04:26:03.9±1.0,**31°.18N**±0°.03×**115°.66W**±0°.04,**h11**km±9km, **n29,** σ0§**72**/46,**2C-2D,Baja California**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.22**	**129**	*e*P		**Pb**	**04 26 09.6**	**-0.6**
	baz=300,slow=14							
SPIG				*i* S		**Sg**	**04 26 12.8**	**+0.9**
SPX	**San Pedro Mart**	**0.22**	**131**	⇑*eP*		**Pb**	**04 26 09.6**	**-0.6**
SPX				*e*S		**Sg**	**04 26 12.8**	**+0.6**
SPX				⇑*e*			04 26 13.4	
SPX				IAML			04 26 13.4	
	comp=N,4μm,0.1s							
SPX	**San Pedro Mart**	**0.22**	**131**			**Pb**	**04 26 09.6**	**-0.6**
SPX						**Sg**	**04 26 12.7**	**+0.6**
SQX	**San Quintin**	**0.63**	**197**	*e*P		**Pb**	**04 26 16.6**	**-0.4**
SQX				*e*S		**Sb**	**04 26 25.3**	**-0.6**
SFX	**San Felipe**	**0.71**	**102**	*e*P		**Pg**	**04 26 17.9**	**+0.2**
SFX				*e*S		**Sg**	**04 26 26.6**	**-0.4**
SFX	**San Felipe**	**0.71**	**102**			**Pg**	**04 26 17.9**	**+0.2**
SFX						**Sg**	**04 26 27.1**	**+0.1**
VTX	**Valle De La Tr**	**0.80**	**188**	*e*S		Pg	04 26 13.9	-5.5
ESJX	**Sierra Juarez**	**0.85**	**343**	*e*P		**Pg**	**04 26 20.1**	**-0.4**
ESJX				*e*S		**Sg**	**04 26 31.5**	**-0.2**
ESJX	**Sierra Juarez**	**0.85**	**343**			**Pg**	**04 26 20.1**	**-0.4**
ESJX						**Sg**	**04 26 31.5**	**-0.2**
CCX	**Cicese**	**1.10**	**309**			**Sg**	**04 26 39.7**	**+0.4**
MBIG	**Mexicali**	**1.28**	**18**	*i* P		**Pg**	**04 26 28.7**	**+0.1**
MBIG				*e*S		**Sg**	**04 26 47.4**	**+2.1**
ERMX	**Rumorosa**	**1.40**	**347**	*e*P		**Pb**	**04 26 30.0**	**-0.2**
ERMX				*e*S		**Sg**	**04 26 49.1**	**0.0**
ERMX				*e*			04 26 51.0	
ERMX				IAML			04 26 51.0	
	comp=E,230nm,0.3s							
ERMX				IAML			04 26 51.2	
	comp=N,187nm,0.3s							
ERMX				⇓*e*			04 26 51.2	
CBX	**Cerro Bola**	**1.41**	**323**	*e*P		**Pb**	**04 26 30.2**	**-0.3**
CBX				⇓*e*			04 26 53.8	
CBX				IAML			04 26 53.8	
	comp=E,189nm,0.4s							
CBX	**Cerro Bola**	**1.41**	**323**			**Pb**	**04 26 30.2**	**-0.3**
RMX	**La Rumorosa**	**1.46**	**346**			**Pn**	**04 26 30.0**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**1.51**	**345**	*e*P		**Pb**	**04 26 31.6**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**1.51**	**345**			**Pb**	**04 26 31.7**	**-0.4**
IKP						**Sb**	**04 26 51.4**	**+0.1**
TJIG	**Tijuana**	**1.52**	**326**	*e*P		**Pn**	**04 26 31.2**	**+0.2**
TJIG				*e*S		**Sb**	**04 26 51.8**	**+0.5**
BAR	**Barrett**	**1.72**	**330**	*e*P		**Pb**	**04 26 34.9**	**-0.7**
BAR	**Barrett**	**1.72**	**330**			**Pb**	**04 26 34.9**	**-0.7**
GLA	**Glamis**	**1.99**	**21**	Pn		**Pn**	**04 26 38.1**	**+0.5**
GLA				Sg		**Sg**	**04 27 07.3**	**-0.7**
109C	**Camp Elliot, M**	**2.10**	**325**			**Pn**	**04 26 40.2**	**+1.2**
109C				Sn		**Sn**	**04 27 06.2**	**+1.1**
113A	**Mohawk Valley,**	**2.25**	**45**			**Pn**	**04 26 41.1**	**-0.1**
XPFO	**Pion Flat**	**2.51**	**345**	Pn		**Pn**	**04 26 45.5**	**+0.6**
XPFO						**Pg**	**04 26 51.2**	**-1.0**
PFO	**Pinyon Flats O**	**2.51**	**345**	Pn		**Pn**	**04 26 45.4**	**+0.5**
PFO						**Pg**	**04 26 51.2**	**-0.9**
PFO				Sn		**Sn**	**04 27 16.9**	**+1.3**
214A	**Organ Pipe Nat**	**2.55**	**72**	Pn		**Pn**	**04 26 44.3**	**-1.0**
Y12C	**Blythe**	**2.73**	**20**	Pn		**Pn**	**04 26 47.9**	**+0.1**
Y14A	**Wickenburg**	**3.54**	**39**			**Pn**	**04 26 59.0**	**0.0**
GSC	**Goldstone, Bar**	**4.22**	**347**	Pn		**Pn**	**04 27 08.8**	**+0.6**
GSC						**Pg**	**04 27 23.2**	**-1.6**

*ISCJB **26** 04:37:11.5±0.4,33°.55N±0°.02×35°.56E±0°.04,h6^km±3^km, Error ellipse: s-maj=6.0km s-min=3.1km az=10.8*
*GII **26** 04:37:11.4±0.0,33°.50N×35°.56E,h1^km^,MD2.7/9*
*GRAL **26** 04:37:12.2±0.2,33°.55N×35°.58E,h7^km±3^km,MD3.2*
*JSO **26** 04:37:17.9±2.1,33°.N±10°×3°.6E±1°.9,h5^km±10^km,M2.8/5, Mjma2.9/5,ML1.9/3,MLv3.2/5*

ISC 26 04:37:11.8±0.9,**33°.55N**±0°.03×**35°.58E**±0°.04,**h9**km±8km, **n28,** σ0§**69**/44,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
QRWL	**Qaraoun**	**0.09**	**88**	*e*P		**Pg**	**04 37 14.1**	**-0.1**
DQRL	**Deir Qamar**	**0.16**	**359**	*e*P		**Pg**	**04 37 15.3**	**+0.1**
DQRL				*e*S		**Sg**	**04 37 17.5**	**-0.2**
RCY	**Rachaya**	**0.22**	**102**	*e*P		**Pg**	**04 37 16.4**	**0.0**
RCY				*e*S		**Sg**	**04 37 19.5**	**0.0**
NATI	**Neve Ativ**	**0.31**	**154**	Pg		**Pg**	**04 37 17.8**	**-0.2**
NATI				Sg		**Sg**	**04 37 22.8**	**+0.7**
BEYL	**Beirut**	**0.33**	**348**	*e*P		**Pg**	**04 37 18.4**	**0.0**
GEM	**Giv'at Ha'Em**	**0.34**	**167**	Pg		**Pg**	**04 37 18.5**	**0.0**
GEM				Sg		**Sb**	**04 37 23.9**	**-1.7**
KSDI	**Kefar Szold**	**0.36**	**169**	Pg		**Pg**	**04 37 18.8**	**0.0**
KSDI				Sg		**Sg**	**04 37 24.1**	**+0.5**
KSDI	**Kefar Szold**	**0.36**	**169**	P		**Pg**	**04 37 18.9**	**+0.1**
BHL	**Bhannes**	**0.36**	**10**	*e*P		**Pg**	**04 37 18.7**	**-0.3**
BHL				*e*S		**Sg**	**04 37 23.6**	**-0.2**
MMA0B	**Mount Meron ar**	**0.55**	**195**	Pg		**Pg**	**04 37 21.9**	**-0.5**
MMA0B				Sg		**Sb**	**04 37 31.2**	**-0.4**
HNTI	**Hanita**	**0.57**	**216**	Pg		**Pg**	**04 37 22.3**	**-0.5**
HNTI				Sg		**Sb**	**04 37 31.6**	**-0.5**
KSHT	**Keshet**	**0.60**	**161**	Pg		**Pb**	**04 37 23.9**	**-0.5**
HWQ	**Hawqa**	**0.79**	**23**	*e*P		**Pg**	**04 37 26.5**	**-0.6**
SHMJ	**Saham**	**0.83**	**169**	P		**Pb**	**04 37 28.1**	**-0.3**
BLGI	**Bet Lehem HaGe**	**0.87**	**202**	Pg		**Pg**	**04 37 28.2**	**-0.3**
BLGI				Sg		**Sb**	**04 37 40.6**	**-0.2**
OFRI	**`Ofer**	**1.05**	**208**	Pg		**Pg**	**04 37 31.3**	**-0.6**
OFRI				Sg		**Sb**	**04 37 46.3**	**+0.4**
MMLI	**Mount Malkishu**	**1.11**	**187**	Pg		**Pg**	**04 37 32.5**	**-0.6**
MMLI				Sg		**Sn**	**04 37 48.4**	**-0.6**
MMLI	**Mount Malkishu**	**1.11**	**187**	P		**Pb**	**04 37 33.2**	**0.0**
HMDT	**Nahal Hemdat**	**1.29**	**182**	Pg		**Pg**	**04 37 35.4**	**-1.1**
HMDT				Sg		**Sn**	**04 37 53.7**	**+0.4**
SLTI	**Sal'it**	**1.38**	**199**	Pn		**Pn**	**04 37 36.8**	**-0.4**
SLTI				Sn		**Sn**	**04 37 56.4**	**+0.9**
HSUJ	**Al Zarqa**	**1.53**	**160**	P		**Pn**	**04 37 39.8**	**+0.5**
ASF	**Jabal al Asfar**	**1.77**	**141**	P		**Pb**	**04 37 43.8**	**-0.6**
DSI	**Dead Sea**	**1.98**	**185**	Pn		**Pn**	**04 37 45.3**	**-0.1**
DSI				Sn		**Sb**	**04 38 11.5**	**-1.1**
WALJ	**Wala**	**1.99**	**174**	P		**Pn**	**04 37 46.8**	**+1.3**
AMAZ	**Amatzia**	**2.08**	**

H10N1	**ASCENSION HYDR**	**57.81**	**39**	T	T	05 50 45.9	
	baz=199,slow=75,SNR=8.7						
H10N2	**ASCENSION HYDR**	**57.83**	**39**	T	T	05 50 47.4	
	baz=199,slow=75,SNR=14						
LBTB	**Lobatse**	**60.14**	**89**	P	**P**	**04 47 57.9**	**-1.1**
OTAV	**Otavalo**	**64.99**	**325**	P	**P**	**04 48 31.6**	**-0.2**
OTAV				IAmb	IAmb	04 48 42.2	
	comp=Z,3.8nm,0.8s						
ROSC	**El Rosal**	**68.31**	**331**	LR	LR	05 22 36.7	
	comp=Z,66nm,18.4s,baz=185,slow=39						
DBIC	**Dimbokro**	**74.60**	**44**	P	**P**	**04 49 33.2**	**+2.8**
	comp=Z,3.9nm,1.0s,baz=168,slow=11,SNR=3.6						
DBIC				LR	LR	05 15 58.9	
	comp=Z,126nm,18.2s,baz=322,slow=31						
DBIC	**Dimbokro**	**74.60**	**44**	P	**P**	**04 49 30.4**	**+0.1**
DBIC				IAmb	IAmb	04 49 37.7	
	comp=Z,10.0nm,1.4s						
TOA0	**Torodi Ar. Sit**	**82.94**	**48**	P	**P**	**04 50 16.0**	**-0.1**
TOA0				IAmb	IAmb	04 50 23.7	
	comp=Z,5.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.94**	**48**	P	**P**	**04 50 15.7**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=203,slow=5.4,SNR=4.1						
TORD				LR	LR	05 22 45.5	
	comp=Z,103nm,18.1s,baz=325,slow=32						
ASAR	**Alice Springs**	**96.36**	**181**	P	**P**	**04 51 20.3**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=169,slow=7.7,SNR=4.2						
WRA	**Warramunga Arr**	**100.06**	**182**	P	**Pdif**	**04 51 37.1**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=182,slow=4.0,SNR=3.2						
GERES	**GERESS Array B**	**119.41**	**42**	PKP	**PKiKP**	**04 56 41.4**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=340,slow=43,SNR=3.2						
BRTR	**Keskin Array B**	**119.41**	**61**	PKP	**PKiKP**	**04 56 42.0**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=225,slow=1.8,SNR=3.4						
AKASG	**Malin Array Be**	**126.51**	**50**	PKP	**PKiKP**	**04 56 56.1**	**+2.4**
	comp=Z,0.5nm,0.5s,baz=241,slow=1.4,SNR=5.2						
YKA	**Yellowknife Ar**	**132.75**	**324**	PKP	**PKiKP**	**04 57 05.7**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=146,slow=2.1,SNR=2.9						
FINES	**FINESS Array B**	**133.76**	**40**	PKP	**PKiKP**	**04 57 08.4**	**+0.5**
	comp=Z,4.0nm,0.9s,baz=327,slow=8.5,SNR=2.8						
ARCES	**ARCESS Array B**	**139.43**	**31**	PKhKP	PKPpre	04 57 09.3	
	comp=Z,4.7nm,0.9s,baz=232,slow=4.4,SNR=4.1						
ILAR	**Eielson Array**	**144.99**	**313**	PKP	**PKPab**	**04 57 25.6**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=150,slow=1.6,SNR=25						
MKAR	**Makanchi Array**	**147.99**	**92**	PKPbc	**PKPdf**	**04 57 34.0**	**+1.4**
	comp=Z,2.2nm,0.6s,baz=219,slow=1.3,SNR=7.3						
SONM	**Songino Array**	**160.31**	**117**	PKPab	**PKPab**	**04 58 32.7**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=204,slow=3.2,SNR=4.1						

*IDC **26** 05:00:51.7±0.7, 19°.14S×173°.58W, h0km, mb4.6/23, mb1 4.8/24, mb1mx4.6/41, mbtmp4.6/24, ML4.6/1, MS3.7/20, Ms1 3.8/20, ms1mx3.6/47, Error ellipse: s-maj=25.9km s-min=14.0km az=140.0*

*ISCJB **26** 05:00:54.7±0.3, 19°.03S±0°.04×173°.65W±0°.06, h28km, mb4.6/24, MS3.9/20, Error ellipse: s-maj=9.1km s-min=4.8km az=25.5*

*NEIC **26** 05:00:55.8±2.7, 19°.21S±0°.08×173°.38W±0°.08, h35km±2km, mb4.7/33*

ISC 26 05:00:55.2±0.3, **19°.21S**±0°.05×**173°.36W**±0°.05, **h28**km, **n130**, **σ2s16**/118, **mb4.7**/34, **MS4.0**/20, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.25**	**88**		**Pn**	**05 01 43.3**	**-1.0**
NIUE					**Sn**	**05 02 15.7**	**-6.4**
AFI	**Afiamalu**	**5.48**	**16**	Pn	**Pn**	**05 02 13.5**	**-1.6**
	20nm,0.3s,baz=117,slow=1.7,SNR=27						
AFI				Sn	Sn	05 03 05.9	-11
	54nm,0.3s,baz=68,slow=16,SNR=8.2						
AFI				LR	LR	05 04 27.3	
	comp=Z,267nm,18.5s,baz=136,slow=39						
AFI	**Afiamalu**	**5.48**	**16**	Pn	**Pn**	**05 02 14.1**	**-1.0**
AFI					**Sn**	**05 03 13.4**	**-3.9**
MSVF	**Nonsavu**	**8.28**	**279**		Pn	05 03 00.6	+7.1
RIZ	**Raoul Island**	**10.82**	**202**	P	**Pn**	**05 03 27.0**	**-1.3**
GLKZ	**Green Lake**	**10.84**	**202**	P	**Pn**	**05 03 29.6**	**+1.2**
GLKZ				S	**Sn**	**05 05 24.9**	**-3.9**
RAR	**Rarotonga**	**12.92**	**101**	Pn	**Pn**	**05 03 56.1**	**-0.8**
	12nm,0.3s,baz=268,slow=10,SNR=56						
RAR				Sn	Sn	05 06 08.5	-11
	2.9nm,0.3s,baz=294,slow=23,SNR=5.7						
RAR				LR	LR	05 07 59.7	
	comp=Z,150nm,20.6s,baz=251,slow=33						
RAR	**Rarotonga**	**12.92**	**101**	Pn	**Pn**	**05 03 56.6**	**-0.4**
KNTN	**Kanton**	**16.41**	**6**	Pn	**Pn**	**05 04 42.1**	**-1.5**
KNTN					IAmb	IAmb	05 05 00.5
	comp=Z,41nm,0.8s						
DZM	**Mont Dzumac**	**19.11**	**258**	P	**Pn**	**05 05 16.7**	**-0.3**
	comp=Z,2.4nm,0.3s,baz=76,slow=20,SNR=43						
DZM				LR	LR	05 10 18.7	
	comp=Z,97nm,18.3s,baz=46,slow=30						
DZM	**Mont Dzumac**	**19.11**	**258**	*eP*	**Pn**	**05 05 17.3**	**+0.2**
	comp=Z,154nm,0.9s						
DZM				*e*LR	LR	05 10 06.7	
	comp=Z,1μm,25.1s						
DZM	**Mont Dzumac**	**19.11**	**258**	P	**P**	**05 05 15.0**	**-1.1**
GRZ	**Great Barrier**	**19.62**	**208**	P	**Pn**	**05 05 24.3**	**+1.3**
MXZ	**Matakaoa Point**	**19.68**	**200**	P	**Pn**	**05 05 24.6**	**+1.0**
OUZ	**Omahuta**	**19.69**	**213**	P	**Pn**	**05 05 25.6**	**+1.9**
OUZ	**Omahuta**	**19.69**	**213**	P	**Pn**	**05 05 23.4**	**-0.3**
WCZ	**Waipu Caves**	**19.88**	**211**	P	**Pn**	**05 05 25.3**	**-0.7**
KUZ	**Kuaotunu**	**19.93**	**207**	P	**Pn**	**05 05 27.6**	**+1.0**
HAZ	**Te Kaha**	**20.03**	**201**	P	Pn	05 05 29.3	+1.6
PKGZ	**Pakihiroa**	**20.05**	**200**	P	Pn	05 05 29.4	+1.2
PUZ	**Puketiti**	**20.16**	**199**	P	**P**	**05 05 22.9**	**-4.5**
WIAZ	**Waiheke Island**	**20.22**	**208**	P	Pn	05 05 31.7	+1.7
RUGZ	**Raukumara Rang**	**20.26**	**201**	P	Pn	05 05 32.1	+1.5
ETAZ	**East Tamaki Re**	**20.45**	**208**	P	Pn	05 05 33.2	+0.6
MKAZ	**Moumakai**	**20.47**	**207**	P	Pn	05 05 33.5	+0.6
URZ	**Urewera**	**20.72**	**202**	P	**P**	**05 05 34.3**	**+1.0**
	comp=Z,48nm,0.8s,baz=290,slow=3.2,SNR=23						
URZ				S	**S**	**05 09 20.6**	**-2.7**
	comp=Z,12nm,0.5s,baz=58,slow=21,SNR=9.2						
URZ	**Urewera**	**20.72**	**202**	P	**P**	**05 05 34.0**	**+0.7**
URZ				IAmb	IAmb	05 05 39.6	
	comp=Z,55nm,1.0s						
PAE	**Paea**	**22.61**	**90**	*e*T	T	05 28 35.0	
	comp=Z,7.5nm,0.3s						
PPT2	**Papeete2**	**22.63**	**90**	*e*LR	LR	05 11 08.0	
	comp=Z,1μm,27.5s,baz=263						
PPT2	**Papeete2**	**22.63**	**90**	*e*T	T	05 28 37.6	
	comp=Z,6.5nm,0.3s						
PPT	**Papeete**	**22.63**	**90**	LR	LR	05 12 15.0	
	comp=Z,190nm,20.5s,baz=260,slow=30						
PPTF	**Pamatai, Papee**	**22.64**	**90**	P	**P**	**05 05 54.4**	**+0.1**
TBI	**Tubuai**	**22.64**	**105**	*e*LR	LR	05 11 14.7	
	comp=Z,708nm,29.5s,baz=274						
TBI	**Tubuai**	**22.64**	**105**	*e*T	T	05 28 12.3	
	comp=Z,17nm,0.3s						
TSZ	**Takapari Road**	**22.72**	**202**	P	**P**	**05 05 58.4**	**+3.5**
ANWZ	**Angora Road**	**22.91**	**200**	P	P	05 06 09.3	+12
MRZ	**Mangatainoka R**	**23.39**	**202**	P	**P**	**05 06 04.0**	**+2.4**
HOWZ	**Holdsworth Sta**	**23.62**	**201**	P	**P**	**05 06 07.2**	**+3.2**
OGWZ	**Otaki Gorge**	**23.67**	**202**	P	**P**	**05 06 06.6**	**+2.2**
BHW	**Baring Head**	**24.30**	**202**	P	**P**	**05 06 15.4**	**+5.2**
PLWZ	**Palliser**	**24.31**	**201**	P	**P**	**05 06 14.5**	**+4.1**
TCW	**Tory Channel**	**24.34**	**203**	P	**P**	**05 06 13.4**	**+2.7**
NNZ	**Nelson**	**24.69**	**204**	P	**P**	**05 06 16.6**	**+2.8**
NNZ				S	**S**	**05 10 35.4**	**+1.6**
QRZ	**Quartz Range**	**24.70**	**206**	P	**P**	**05 06 18.6**	**+4.7**
DSZ	**Denniston Nort**	**25.77**	**206**	P	**P**	**05 06 30.0**	**+6.4**
HNR	**Honiara**	**27.59**	**287**	LR	LR	05 16 04.0	
	comp=Z,99nm,21.3s,baz=118,slow=33						
RPZ	**Rata Peaks**	**27.72**	**205**	P	**P**	**05 06 46.6**	**+5.5**
	comp=Z,32nm,0.6s,baz=308,slow=1.6,SNR=23						
EIDS	**Eidsvold**	**33.40**	**253**	P	**P**	**05 07 30.3**	**-1.2**
EIDS					IAmb	IAmb	05 07 31.5
	comp=Z,8.2nm,0.6s						
ARMA	**Armidale**	**33.55**	**244**	P	**P**	**05 07 32.7**	**-0.2**
ARMA					IAmb	IAmb	05 07 33.4
	comp=Z,11nm,0.8s						
TAOE	**Nuku Hiva Isla**	**33.77**	**77**	*e*LR	LR	05 16 14.6	
	comp=Z,408nm,25.1s						
TAOE	**Nuku Hiva Isla**	**33.77**	**77**	*e*T	T	05 42 54.0	
	comp=Z,30nm,0.2s						
CAN	**Canberra**	**36.85**	**236**	P	**P**	**05 08 01.2**	**-0.1**
CAN					IAmb	IAmb	05 08 01.9
	comp=Z,22nm,1.3s						
KRVT	**Keravat (AS076**	**36.87**	**289**	LR	LR	05 21 48.5	
	comp=Z,250nm,20.5s,baz=116,slow=34						
CTA	**Charters Tower**	**37.98**	**262**	P	**P**	**05 08 09.6**	**-1.3**
	comp=Z,28nm,0.5s,baz=95,slow=11,SNR=91						
PMG	**Port Moresby**	**39.39**	**279**	P	**P**	**05 08 21.3**	**-1.4**
	comp=Z,38nm,0.9s,baz=103,slow=4.7,SNR=7.0						
PMG	**Port Moresby**	**39.39**	**279**	P	**P**	**05 08 23.5**	**+0.7**
TOO	**Toolangi**	**40.18**	**234**	P	**P**	**05 08 29.4**	**+0.3**
TAU	**Tasmania Unive**	**40.62**	**226**	P	**P**	**05 08 34.4**	**+1.7**
TAU				IAmb	IAmb	05 08 48.6	
	comp=Z,17nm,1.1s						
COEN	**Coen**	**41.90**	**270**	P	**P**	**05 08 42.4**	**-1.2**
COEN				IAmb	IAmb	05 08 43.7	
	comp=Z,10.0nm,0.8s						
STKA	**Stephens Creek**	**42.27**	**244**	P	**P**	**05 08 45.4**	**-1.0**
	comp=Z,6.2nm,0.8s,baz=95,slow=11,SNR=14						
STKA				LR	LR	05 24 08.1	
	comp=Z,175nm,19.6s,baz=38,slow=33						
STKA	**Stephens Creek**	**42.27**	**244**	P	**P**	**05 08 45.9**	**-0.5**
BBOO	**Buckleboo**	**47.02**	**243**	P	**P**	**05 09 23.4**	**-0.9**
JAY	**Jayapura**	**47.86**	**285**	LR	LR	05 27 49.5	
	comp=Z,89nm,21.6s,baz=176,slow=34						
WR0	**Warramunga Arr**	**48.92**	**260**	P	**P**	**05 09 38.2**	**-0.9**
AS31	**Alice Springs**	**49.06**	**255**	P	**P**	**05 09 39.5**	**-0.8**
ASAR	**Alice Springs**	**49.06**	**255**	P	**P**	**05 09 39.4**	**-0.9**
	comp=Z,28nm,0.5s,baz=93,slow=8.0,SNR=175						
ASAR				PcP	**PcP**	**05 11 04.0**	**+0.1**
	comp=Z,4.9nm,0.8s,baz=96,slow=4.5,SNR=8.0						
ASAR				S	**S**	**05 16 36.9**	**-6.7**
	comp=Z,0.4nm,0.7s,baz=94,slow=15,SNR=4.8						
WRA	**Warramunga Arr**	**49.11**	**260**	P	**P**	**05 09 38.9**	**-1.7**
	comp=Z,14nm,0.6s,baz=94,slow=7.1,SNR=83						
WRA				PcP	**PcP**	**05 11 04.8**	**+0.7**
	comp=Z,3.0nm,0.8s,baz=97,slow=3.6,SNR=3.9						
WRA				LR	LR	05 29 14.5	
	comp=Z,222nm,20.3s,baz=280,slow=35						
MTN	**Manton Dam**	**53.54**	**268**	P	**P**	**05 10 13.3**	**-0.6**
FORT	**Forrest**	**53.80**	**246**	P	**P**	**05 10 15.1**	**-0.6**
KNRA	**Kununurra**	**55.12**	**264**	P	**P**	**05 10 25.2**	**-0.2**
SIJI	**Sorong**	**57.19**	**282**	P	**P**	**05 10 38.9**	**-1.2**
	comp=Z,41nm,0.6s,baz=71,slow=6.3,SNR=18						
FITZ	**Fitzroy Crossi**	**57.53**	**260**	P	**P**	**05 10 41.6**	**-1.0**
	comp=Z,3.9nm,0.4s,baz=103,slow=6.4,SNR=24						
FITZ				LR	LR	05 33 57.9	
	comp=Z,132nm,22.0s,baz=112,slow=35						
FITZ	**Fitzroy Crossi**	**57.53**	**260**	P	**P**	**05 10 42.2**	**-0.4**
BATI	**Baumata**	**61.30**	**269**	LR	LR	05 36 05.3	
	comp=Z,210nm,20.8s,baz=326,slow=35						
PSA00	**Pilbara Seismi**	**62.21**	**255**	P	**P**	**05 11 13.9**	**-0.8**
MORW	**Morawa**	**64.35**	**246**	P	**P**	**05 11 28.8**	**0.0**
DAV	**Davao City (W)**	**65.55**	**287**	LR	LR	05 35 28.4	
	comp=Z,58nm,21.6s,baz=357,slow=32						
QSPA	**South Pole Qui**	**70.86**	**180**	P	**P**	**05 12 11.8**	**+2.5**
QSPA				IAmb	IAmb	05 12 19.5	
	comp=Z,8.6nm,1.1s						
MJAR	**Matsushiro Arr**	**71.87**	**321**	P	**P**	**05 12 15.4**	**-0.3**
	comp=Z,5.9nm,0.9s,baz=149,slow=5.5,SNR=9.3						
MJAR				LR	LR	05 38 43.3	
	comp=Z,37nm,21.2s,baz=65,slow=32						
JNU	**Nakatsue**	**74.43**	**314**	P	**P**	**05 12 31.1**	**+0.1**
	comp=Z,18nm,1.1s,baz=81,slow=7.5,SNR=3.6						
PETK	**Petropavlovsk-**	**76.25**	**343**	P	**P**	**05 12 41.3**	**+0.4**
	comp=Z,6.1nm,0.9s,baz=131,slow=7.9,SNR=6.3						
NVAR	**Mina Array Bea**	**77.14**	**41**	P	**P**	**05 12 47.8**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=228,slow=8.3,SNR=14						
NVAR				LR	LR	05 41 58.5	
	comp=Z,80nm,19.3s,baz=298,slow=32						
KVN	**Kaiserville**	**77.64**	**41**	P	**P**	**05 12 51.1**	**+1.8**
KSRS	**Korea Array**	**78.90**	**316**	P	**P**	**05 12 56.7**	**+0.7**
	comp=Z,7.2nm,1.0s,baz=131,slow=6.1,SNR=14						
KSRS				LR	LR	05 43 50.8	
	comp=Z,39nm,19.0s,baz=116,slow=33						
WVOR	**Wild Horse Val**	**79.39**	**38**	P	**P**	**05 13 00.6**	**+1.8**
PSUT	**Pine Spring**	**80.03**	**43**	P	**P**	**05 13 04.5**	**+2.1**
USRK	**Ussuriysk Ar.**	**80.44**	**323**	P	**P**	**05 13 04.8**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=139,slow=40,SNR=3.9						
USRK				LR	LR	05 42 02.9	
	comp=Z,81nm,20.0s,baz=86,slow=31						
TXAR	**Lajitas Array**	**82.71**	**56**	P	**P**	**05 13 17.9**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=241,slow=9.2,SNR=3.0						
KLR	**Kul'dur**	**83.72**	**327**	P	**P**	**05 13 22.0**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=83,slow=5.1,SNR=5.7						
CN2	**Changchun**	**84.02**	**320**	*e*P	**P**	**05 13 23.8**	**+0.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MCMT	**McKenzie Canyo**	**84.19**	**39**	P	**P**	**05 13 26.1**	**+1.9**
MAW	**Mawson**	**84.22**	**199**	P	**P**	**05 13 24.7**	**+1.0**
	comp=Z,3.5nm,0.9s,baz=4.9,slow=23,SNR=5.0						
S22A	**4UR Ranch, Cre**	**84.32**	**47**	P	**P**	**05 13 27.5**	**+2.4**
S22A				IAmb	IAmb	05 13 39.8	
	comp=Z,6.1nm,1.4s						
PDAR	**Pinedale Array**	**85.07**	**42**	P	**P**	**05 13 29.4**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=206,slow=3.6,SNR=8.7						
PDAR				LR	LR	05 47 05.9	
	comp=Z,69nm,18.5s,baz=300,slow=33						
YHL	**Hebgen Lake**	**85.19**	**39**	P	**P**	**05 13 31.7**	**+2.4**
LKWY	**Lake**	**85.51**	**40**	P	**P**	**05 13 30.1**	**-0.7**
LKWY				IAmb	IAmb	05 13 49.5	
	comp=Z,8.0nm,0.9s						
WRH	**Wood River Hil**	**85.67**	**11**	P	**P**	**05 13 31.4**	**+0.6**
MLY	**Manley**	**85.75**	**9**	P	**P**	**05 13 30.7**	**-0.6**
MLY				IAmb	IAmb	05 13 39.1	
	comp=Z,4.5nm,1.2s						
ILAR	**Eielson Array**	**86.15**	**11**	P	**P**	**05 13 33.4**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=223,slow=5.6,SNR=8.2						
PLCA	**Paso Flores**	**86.94**	**132**	LR	LR	05 46 30.4	
	comp=Z,25nm,18.3s,baz=54,slow=31						
RPSI	**Rantau Prapat**	**88.72**	**273**	P	**P**	**05 13 47.8**	**+1.0**
PSI	**Prapat**	**88.75**	**273**	P	**P**	**05 13 47.8**	**+0.7**
	comp=Z,3.3nm,0.4s,baz=166,slow=8.2,SNR=4.3						
SNAA	**Sanae**	**89.12**	**177**	P	**P**	**05 13 48.8**	**+1.1**
SNAA				IAmb	IAmb	05 14 05.8	
	comp=Z,4.8nm,1.3s						
VNA2	**Neumayer--Watz**	**89.58**	**175**	P	**P**	**05 13 50.4**	**+0.6**
	baz=196,slow=5.0						
INK	**Inuvik**	**91.94**	**14**	P	**P**	**05 14 01.6**	**+1.1**
	comp=Z,1.2nm,1.0s,baz=3.2,slow=5.3,SNR=2.5						
YKA	**Yellowknife Ar**	**93.56**	**23**	P	**P**	**05 14 09.6**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=263,slow=3.7,SNR=2.7						
CMAR	**Chiang Mai Arr**	**93.83**	**288**	P	**P**	**05 14 11.3**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=117,slow=2.7,SNR=10						
CMAR				LR	LR	05 52 24.2	
	comp=Z,16nm,21.2s,baz=220,slow=33						
LPAZ	**La Paz**	**98.47**	**110**	LR	LR	05 49 20.5	
	comp=Z,63nm,21.0s,baz=276,slow=30						
KMBO	**Kilima Mbogo**	**143.78**	**240**	PKhKP	PKPbc	05 20 27.9	+1.3
	comp=Z,1.8nm,0.9s,baz=70,slow=7.2,SNR=4.5						
AKASG	**Malin Array Be**	**143.82**	**336**	PKPdf	PKPbc	05 20 25.6	+0.3
	comp=Z,0.3nm,0.4s,baz=36,slow=4.2,SNR=4.5						
CLL	**Collm**	**147.57**	**353**	*e*PKPdf	**PKPdf**	**05 20 31.0**	**-3.0**
CLL				*e*PKPbc	**PKPbc**	**05 20 34.0**	**-2.7**
CLL				*e*PKiKP	**PKiKP**	**05 20 37.0**	**-1.8**
CLL				*ep*PKPdf	**pPKPdf**	**05 20 42.0**	**+0.2**
CLL				*es*PKiKP	**sPKiKP**	**05 20 51.0**	**+1.9**
CHVC	**Chvalec**	**147.80**	**349**	*e*PKP	**PKPab**	**05 20 41.0**	**+1.2**
CHVC				*ex*	x	05 20 51.8	
OSTC	**Ostas**	**147.80**	**349**	*e*PKP	**PKiKP**	**05 20 39.2**	**-0.1**
BRG	**Berggiesshubel**	**147.88**	**351**	*e*PKP	**PKPab**	**05 20 45.0**	**+5.0**
	comp=Z,3.8nm,1.0s						
UPC	**Upice**	**147.89**	**349**	*e*PKP	**PKiKP**	**05 20 38.8**	**-0.7**
UPC				*ep*PKP	**sPKPab**	**05 20 52.3**	**+1.9**
DPC	**Dobruska-Polom**	**147.98**	**348**	*e*PKP	**PKiKP**	**05 20 39.4**	**-0.3**
PVCC	**Panska Ves**	**148.12**	**350**	*e*PKP	**PKPab**	**05 20 44.7**	**+3.7**
PRU	**Pruhonice**	**148.64**	**350**	*e*PKP	**PKiKP**	**05 20 40.3**	**-0.7**
BRTR	**Keskin Array B**	**149.04**	**317**	PKPbc	**PKiKP**	**05 20 41.9**	**-0.5**
	comp=Z,6.5nm,1.0s,baz=136,slow=3.6,SNR=15						
VYHS	**Vyhne**	**149.16**	**344**	*e*PKP	**PKPdf**	**05 20 38.1**	**+1.4**
VYHS				*e*		05 20 41.9	
KHC	**Kasperske Hory**	**149.63**	**351**	*e*PKP	**PKPbc**	**05 20 42.3**	**+0.2**
KHC				*ep*PKP	**sPKPdf**	**05 20 48.4**	**+0.5**
KHC				*ex*	x	05 20 56.0	
GERES	**GERESS Array B**	**149.89**	**351**	PKPbc	**PKiKP**	**05 20 43.7**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=354,slow=1.3,SNR=5.2						
CONA	**Conrad Observa**	**150.38**	**347**	*i* PKiKP	**PKiKP**	**05 20 45.4**	**+0.6**
	comp=Z,8.7nm,1.5s						
ARSA	**Arzberg**	**151.10**	**347**	*i* PKPab	**PKPab**	**05 20 52.3**	**-1.0**
	comp=Z,4.9nm,1.3s						
MOTA	**Moosalm**	**151.70**	**354**	*i* pPKPdf	pPKPdf	05 20 51.1	+2.5
	comp=Z,3.3nm,0.9s						
WTTA	**Wattenberg**	**151.72**	**353**	*i* PKPbc	**PKPbc**	**05 20 45.7**	**-1.6**
	comp=Z,4.5nm,0.6s						
DAVA	**Damuels**	**151.87**	**355**	*i* PKPdf	**PKPdf**	**05 20 36.5**	**-4.7**
	comp=Z,4.8nm,0.9s						
OBKA	**Obir**	**152.00**	**348**	*i* PKPbc	**PKPbc**	**05 20 45.2**	**-2.7**
	comp=Z,11nm,1.0s						
FETA	**Feichten**	**152.06**	**354**	*i* PKPbc	**PKPdf**	**05 20 43.2**	**+1.8**
	comp=Z,8.0nm,1.0s						
ABTA	**Abfaltersbach**	**152.11**	**351**	*i* PKPbc	**PKPdf**	**05 20 43.8**	**+2.3**
	comp=Z,13nm,1.2s						

*IDC **26** 05:22:11.7±5.1, 6°.92S×147°.22E, h59km±46km, mb3.6/3, mb1 3.7/6, mb1mx3.4/38, mbtmp3.8/6, ML3.6/2, Error ellipse: s-maj=45.8km s-min=33.1km az=120.0*

ISC 26 05:22:08.4±3.0, **6°.7S**±0°.2×**147°.2E**±0°.4, **h35**km, **n7**, **σ0s65**/8, **mb3.7**/3, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.67**	**181**	P	**Pn**	**05 22 49.1**	**+0.1**
	4.9nm,0.3s,baz=14,slow=8.3,SNR=12						
PMG				S	**Sn**	**05 23 19.8**	**-0.5**
	11nm,0.3s,baz=50,slow=19,SNR=8.7						
CTA	**Charters Tower**	**13.33**	**184**	P	**Pn**	**05 25 16.0**	**+0.8**
	0.1nm,0.3s,baz=5.2,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**18.12**	**222**	P	**P**	**05 26 17.6**	**-0.1**
	0.3nm,0.3s,baz=49,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**21.14**	**216**	P	**P**	**05 26 50.3**	**-0.3**
	1.6nm,0.5s,baz=52,slow=9.3,SNR=38						
FITZ	**Fitzroy Crossi**	**23.86**	**240**	P	**P**	**05 27 19.3**	**+0.5**
	2.8nm,0.5s,baz=53,slow=8.0,SNR=12						
STKA	**Stephens Creek**	**25.57**	**191**	P	**P**	**05 27 33.4**	**-0.9**
	0.7nm,0.4s,baz=34,slow=11,SNR=6.0						
TORD	**Torodi Ar. Bea**	**145.44**	**283**	PKPbc	**PKPab**	**05 41 43.9**	**-0.2**
	0.2nm,0.4s,baz=75,slow=4.1,SNR=6.9						

IDC 26 05:26:03.7±23.0, **20°.30S**×**178°.29W**, **h565**km±228km, **mb3.2**/5, **mb1 3.4**/5, **mb1mx2.9**/40, **mbtmp4.2**/5, **Error ellipse: s-maj=160.3km s-min=101.1km az=81.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.24**	**264**	P	P	05 31 55.5	+0.3
	2.5nm,0.5s,baz=92,slow=11,SNR=12						
STKA	**Stephens Creek**	**37.63**	**244**	P	P	05 32 31.2	-0.1
	1.3nm,0.6s,baz=90,slow=10.0,SNR=4.7						
ASAR	**Alice Springs**	**44.30**	**257**	P	P	05 33 23.9	-0.4
	3.0nm,0.5s,baz=96,slow=7.5,SNR=44						
WRA	**Warramunga Arr**	**44.36**	**262**	P	P	05 33 24.3	-0.6
	1.5nm,0.3s,baz=97,slow=7.5,SNR=20						
FITZ	**Fitzroy Crossi**	**52.79**	**262**	P	P	05 34 27.4	+0.2
	2.1nm,0.7s,baz=104,slow=6.1,SNR=5.2						
AKASG	**Malin Array Be**	**142.71**	**331**	PKP	PKPdf	05 44 32.4	-0.6
	0.2nm,0.3s,baz=35,slow=3.7,SNR=7.0						

*ISCJB **26** 05:33:40.4±0.4, 25°.22N±0°.04×141°.51E±0°.08, h100km, mb4.0/20, Error ellipse: s-maj=9.9km s-min=5.3km az=7.4*

*IDC **26** 05:33:44.5±1.2, 25°.32N×141°.46E, h124km±10km, mb3.7/19, mb1 3.9/22, mb1mx3.7/43, mbtmp4.1/22, Error ellipse: s-maj=17.0km s-min=11.9km az=94.0*

*NEIC **26** 05:33:44.7±1.6, 25°.31N±0°.08×141°.5E±0°.1, h126km±6km, mb4.5/18*

*JMA **26** 05:33:46.1±0.1, 25°.50N×141°.

comp=Z,5.3nm,0.3s,baz=68,slow=4.8,SNR=88
NVAR Mina Array Bea 82.25 51 P P 05 45 53.4 +0.4
comp=Z,0.3nm,0.6s,baz=297,slow=5.8,SNR=3.9
AKASG Malin Array Be 83.69 324 P P 05 45 58.4 -1.5
comp=Z,2.9nm,0.5s,baz=52,slow=5.3,SNR=22
AKBB Malin Array Si 83.69 324 P P 05 45 58.6 -1.3
AKBB IAmb IAmb 05 45 59.0
comp=Z,7.5nm,0.7s
NC405 NORSAR Array S 84.85 338 P P 05 46 04.3 -1.3
NB2 NORSAR Subarra 85.08 338 P P 05 46 04.4 -2.4
comp=Z,9.0nm,0.8s,baz=43,slow=5.1
NOA NORSAR Array B 85.08 338 P P 05 46 05.2 -1.6
comp=Z,0.8nm,0.3s,baz=29,slow=5.5,SNR=13
PDAR Pinedale Array 86.06 44 P P 05 46 11.2 -1.0
comp=Z,0.2nm,0.7s,baz=330,slow=3.4,SNR=2.6
BRTR Keskin Array B 86.74 313 P P 05 46 14.2 -1.3
comp=Z,0.9nm,0.6s,baz=92,slow=4.1,SNR=5.2
BUR08 Bucovina Ar. S 87.59 323 P P 05 46 18.9 -0.6
BUR08 IAmb IAmb 05 46 20.9
comp=Z,3.6nm,1.1s
GERES GERESS Array B 92.73 328 P P 05 46 41.6 -1.7
comp=Z,0.6nm,0.9s,baz=320,slow=6.0,SNR=4.2
TORD Torodi Ar. Bea 125.24 309 PKP PKPdf 05 52 30.7 -1.3
comp=Z,0.4nm,0.8s,baz=38,slow=1.9,SNR=3.4
LPAZ La Paz 151.07 78 PKPbc PKPdf 05 53 23.9 +4.6
comp=Z,1.1nm,0.7s,baz=274,slow=7.5,SNR=5.8

*ISCJB **26** 05:53:42.6±0.6, 10.4S±0.1×66.7E±0.1, h14km, mb3.9/10, MS3.8/5, Error ellipse: s-maj=17.0km s-min=13.6km az=26.2*
*NEIC **26** 05:53:43.3±2.2, 10.52S±0.09×66.6E±0.1, h10km±1km, mb4.4/8*
*IDC **26** 05:53:43.4±0.9, 10.33S×66.79E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/50, mbtmp3.9/10, MS3.8/5, Ms1 3.8/5, ms1mx3.2/44, Error ellipse: s-maj=29.2km s-min=21.1km az=17.0*
ISC 26 05:53:44.6±0.7, 10.5S±0.1×66.7E±0.1, h14km, n35, σ1§48/21, mb4.1/12, MS3.8/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**5.93**	**46**	T	T	06 01 30.8	
	baz=226						
H08N1	**Diego Garcia H**	**5.95**	**46**	T	T	06 01 29.8	
	baz=226						
H08N2	**Diego Garcia H**	**5.95**	**46**	T	T	06 01 32.9	
	baz=226						
H08S1	**Diego Garcia H**	**6.38**	**64**	T	T	06 02 04.3	
	baz=241						
H08S2	**Diego Garcia H**	**6.40**	**64**	T	T	06 02 06.1	
	baz=241						
H08S3	**Diego Garcia H**	**6.40**	**64**	T	T	06 02 05.5	
	baz=241						
ATD	**Arta Tunnel**	**32.25**	**312**	LR	LR	06 10 52.9	
	comp=Z,81nm,20.8s,baz=65,slow=32						
PSI	**Prapat**	**34.71**	**69**	LR	LR	06 13 20.4	
	comp=Z,239nm,18.3s,baz=224,slow=34						
LSZ	**Lusaka**	**37.79**	**259**	P	P	**06 01 01.8**	**+0.8**
	2.8nm,0.8s,baz=71,slow=10,SNR=4.3						
BOSA	**Boshof**	**42.73**	**239**	LR	LR	06 19 17.3	
	comp=Z,113nm,18.7s,baz=30,slow=36						
BOSA	**Boshof**	**42.73**	**239**	P	P	**06 01 39.7**	**-2.1**
CMAR	**Chiang Mai Arr**	**42.91**	**48**	P	P	**06 01 42.5**	**-0.7**
	1.2nm,0.4s,baz=238,slow=12,SNR=2.9						
GIRL	**Giralia**	**46.96**	**111**	P	P	**06 02 15.7**	**+0.2**
H01W3	**Cape Leeuwin H**	**49.48**	**127**	T	T	06 55 45.6	
	baz=286						
H01W2	**Cape Leeuwin H**	**49.48**	**127**	T	T	06 55 44.3	
	baz=286						
H01W1	**Cape Leeuwin H**	**49.49**	**127**	T	T	06 55 48.5	
	baz=286						
GNI	**Garni**	**54.34**	**339**	P	P	**06 03 12.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**57.44**	**105**	LR	LR	06 26 04.6	
	comp=Z,55nm,19.1s,baz=286,slow=34						
BRTR	**Keskin Array B**	**58.62**	**330**	P	P	**06 03 40.7**	**-0.8**
	1.1nm,1.6s,baz=212,slow=13,SNR=4.0						
MKAR	**Makanchi Array**	**58.71**	**12**	P	P	**06 03 40.6**	**-1.3**
	0.7nm,0.6s,baz=204,slow=7.7,SNR=5.3						
ABKAR	**Akbulak array**	**59.79**	**355**	P	P	**06 03 49.0**	**-0.2**
ABKAR				IAmb	IAmb	06 03 50.1	
	comp=Z,3.0nm,1.2s						
FORT	**Forrest**	**60.16**	**119**	P	P	**06 03 52.1**	**-0.1**
LIT	**Litokhoron**	**64.86**	**324**	P	P	**06 04 20.8**	**-2.7**
ASAR	**Alice Springs**	**65.08**	**111**	P	P	**06 04 25.9**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=275,slow=6.0,SNR=9.6						
WRA	**Warramunga Arr**	**65.60**	**107**	P	P	**06 04 29.9**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=277,slow=5.5,SNR=6.6						
ZAA0	**Zalesovo Array**	**66.02**	**12**	P	P	**06 04 30.0**	**-0.5**
ZAA0				IAmb	IAmb	06 04 31.3	
	comp=Z,4.4nm,1.2s						
ZALV	**Zalesovo Beam**	**66.02**	**12**	P	P	**06 04 29.3**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=192,slow=2.8,SNR=3.6						
SONM	**Songino Array**	**67.91**	**28**	P	P	**06 04 43.7**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=223,slow=6.9,SNR=5.6						
TORD	**Torodi Ar. Bea**	**68.64**	**289**	P	P	**06 04 50.7**	**+2.6**
	comp=Z,0.7nm,0.9s,baz=103,slow=5.5,SNR=4.7						
AKASG	**Malin Array Be**	**69.10**	**336**	P	P	**06 04 52.5**	**+2.4**
	comp=Z,1.2nm,0.4s,baz=138,slow=5.8,SNR=6.8						
SGRT	**San Giovanni R**	**69.90**	**322**	P	P	**06 04 53.3**	**-2.1**
DBIC	**Dimbokro**	**73.23**	**280**	LR	LR	06 38 28.9	
	comp=Z,83nm,18.1s,baz=340,slow=37						
PDAR	**Pinedale Array**	**147.68**	**355**	PKPbc	**PKPbc**	**06 13 28.8**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=101,slow=3.0,SNR=4.8						
ELK	**Elko**	**149.82**	**3**	PKPbc	**PKiKP**	**06 13 35.0**	**-1.0**
	comp=Z,1.4nm,0.9s,baz=326,slow=1.7,SNR=3.2						
NVAR	**Mina Array Bea**	**151.83**	**8**	PKPbc	**PKiKP**	**06 13 40.3**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=282,slow=1.9,SNR=7.9						

*ISCJB **26** 05:55:22.4±0.5, 10.64S±0.10×66.41E±0.09, h14km, mb4.0/7, Error ellipse: s-maj=14.0km s-min=12.5km az=3.6*
*IDC **26** 05:55:22.1±0.8, 10.71S×66.44E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/49, mbtmp4.0/7, Error ellipse: s-maj=38.8km s-min=22.1km az=2.0*
*NEIC **26** 05:55:23.7±2.1, 10.7S±0.1×66.4E±0.1, h10km±1km, mb4.2/11*
ISC 26 05:55:24.4±0.6, 10.7S±0.1×66.4E±0.1, h14km, n29, σ1§09/23, mb4.1/10, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**6.24**	**47**	T	T	06 03 10.5	
	baz=225,slow=74						
H08N1	**Diego Garcia H**	**6.25**	**47**	T	T	06 03 11.1	
	baz=225,slow=74						
H08N2	**Diego Garcia H**	**6.25**	**47**	T	T	06 03 11.7	
	baz=225						
MSEY	**Mahe Island**	**12.36**	**298**	Pn	**Pn**	**05 58 19.7**	**-0.4**
LSZ	**Lusaka**	**37.50**	**259**	P	P	**06 02 39.0**	**+0.7**
	1.1nm,0.3s,baz=43,slow=4.8,SNR=3.6						
LSZ	**Lusaka**	**37.50**	**259**	P	P	**06 02 39.3**	**+1.1**
LSZ				IAmb	IAmb	06 02 40.4	
	comp=Z,11nm,1.5s						
CRZF	**Crozet Islands**	**37.74**	**196**	P	P	**06 02 41.2**	**+1.5**
BOSA	**Boshof**	**42.42**	**239**	P	P	**06 03 18.0**	**-1.1**
BOSA				IAmb	IAmb	06 03 35.1	
	comp=Z,4.2nm,1.2s						
CMAR	**Chiang Mai Arr**	**43.21**	**48**	P	P	**06 03 26.2**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=224,slow=8.8,SNR=3.4						
H01W3	**Cape Leeuwin H**	**49.59**	**127**	T	T	06 57 26.6	
	baz=290						
H01W2	**Cape Leeuwin H**	**49.59**	**127**	T	T	06 57 24.6	
	baz=290						
H01W1	**Cape Leeuwin H**	**49.60**	**127**	T	T	06 57 27.9	
	baz=290						
BTK	**Batken**	**50.62**	**4**	P	P	**06 04 23.5**	**+0.4**
BTK				IAmb	IAmb	06 04 40.9	
	comp=Z,5.4nm,1.2s						
PSAB1	**Pilbara Seismi**	**52.22**	**109**	P	P	**06 04 34.7**	**-0.7**
KK31	**Karatay Array**	**53.63**	**4**	P	P	**06 04 48.0**	**+2.7**
KKAR	**Karatay Array**	**53.63**	**4**	P	P	**06 04 47.8**	**+2.4**
KKAR				IAmb	IAmb	06 05 05.1	
	comp=Z,1.8nm,1.1s						
ELL	**Elmali**	**58.32**	**326**	P	P	**06 05 18.4**	**-0.8**
MKAR	**Makanchi Array**	**58.93**	**13**	P	P	**06 05 22.5**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=217,slow=8.5,SNR=3.7						
ABKAR	**Akbulak array**	**59.93**	**355**	P	P	**06 05 29.4**	**-0.6**
KURK	**Kurchatov**	**62.04**	**9**	P	P	**06 05 43.9**	**-0.3**
ASAR	**Alice Springs**	**65.27**	**111**	P	P	**06 06 04.8**	**-1.4**
	comp=Z,1.4nm,1.0s,baz=248,slow=4.8,SNR=5.9						
WRA	**Warramunga Arr**	**65.80**	**107**	P	P	**06 06 10.2**	**+0.4**
	comp=Z,1.6nm,1.0s,baz=277,slow=5.5,SNR=4.7						
PDG	**Podgorica**	**68.20**	**324**	P	P	**06 06 24.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**68.45**	**289**	P	P	**06 06 26.3**	**-0.2**
	comp=Z,1.1nm,1.0s,baz=117,slow=1.7,SNR=4.7						
DBIC	**Dimbokro**	**73.00**	**280**	P	P	**06 06 54.1**	**-0.2**
	comp=Z,3.6nm,1.0s,baz=116,slow=7.7,SNR=3.4						
YKA	**Yellowknife Ar**	**128.25**	**1**	PKP	**PKiKP**	**06 14 30.5**	**-0.2**
	comp=Z,0.2nm,0.8s,baz=18,slow=2.2,SNR=3.7						
PDAR	**Pinedale Array**	**147.82**	**354**	PKPbc	**PKPbc**	**06 15 08.7**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=60,slow=3.6,SNR=3.0						
ELK	**Elko**	**150.00**	**3**	PKPbc	**PKiKP**	**06 15 16.0**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=304,slow=3.6,SNR=3.4						
NVAR	**Mina Array Bea**	**152.03**	**8**	PKPbc	**PKiKP**	**06 15 20.4**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=312,slow=2.3,SNR=6.4						

*ISCJB **26** 05:56:52.8±1.0, 5.0S±0.2×149.9E±0.1, h33km, mb3.6/4, MS3.4/1, Error ellipse: s-maj=26.1km s-min=7.1km az=144.3*
*IDC **26** 05:56:55.5±3.1, 5.07S×150.08E, h51km±36km, mb3.6/4, mb1 3.9/6, mb1mx3.6/42, mbtmp3.9/6, ML2.1/1, MS2.6/3, Ms1 2.6/3, ms1mx2.5/29, Error ellipse: s-maj=62.7km s-min=9.9km az=140.0*
ISC 26 05:56:54.3±1.3, 4.9S±0.2×149.9E±0.2, h35km, n7, σ1§07/8, mb3.9/4, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.16**	**75**	P	**Pn**	**05 57 28.3**	**+0.5**
	104nm,0.3s,baz=125,slow=0.6,SNR=32						
KRVT				LR	LR	05 57 53.1	
	comp=Z,35nm,20.0s,baz=266,slow=28						
KRVT				S	**Sn**	**05 57 53.3**	**0.0**
	32nm,0.3s,baz=260,slow=21,SNR=4.0						
PMG	**Port Moresby**	**5.27**	**211**	P	**Pn**	**05 58 11.8**	**+1.1**
	4.9nm,0.3s,baz=24,slow=19,SNR=11						
PMG				S	**Sn**	**05 59 09.2**	**-1.0**
	20nm,0.3s,baz=350,slow=23,SNR=12						
PMG				LR	LR	06 00 09.6	
	comp=Z,46nm,21.5s,baz=54,slow=37						
WRA	**Warramunga Arr**	**21.32**	**224**	P	P	**06 01 38.1**	**-0.3**
	2.0nm,0.4s,baz=51,slow=10,SNR=27						
ASAR	**Alice Springs**	**24.24**	**218**	P	P	**06 02 06.8**	**-1.4**
	1.2nm,0.3s,baz=54,slow=9.2,SNR=39						
FITZ	**Fitzroy Crossi**	**27.14**	**239**	P	P	**06 02 35.5**	**+1.1**
	4.0nm,0.9s,baz=46,slow=6.6,SNR=4.2						
TGY	**Tagaytay City**	**34.41**	**304**	LR	LR	06 18 57.7	
	comp=Z,60nm,19.0s,baz=5.0,slow=38						
ILAR	**Eielson Array**	**83.32**	**23**	P	P	**06 09 16.9**	**-0.5**
	0.1nm,0.5s,baz=249,slow=5.4,SNR=3.4						

IDC 26 06:05:47.4±5.4, 47.72N×108.38E, h0km, Error ellipse: s-maj=36.7km s-min=21.8km az=94.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I34MN	**SONGINO INFRAS**	**1.33**	**274**	*i*		06 13 13.4	
	baz=93,slow=351,SNR=6.0						
SONM	**Songino Array**	**1.34**	**276**	Pg	Pg	06 06 12.9	-0.3
	11nm,0.3s,baz=92,slow=18,SNR=120						
SONM				Lg	Lg	06 06 30.8	
	9.5nm,0.3s,baz=94,slow=27,SNR=21						
I45RU	**USSURIYSK INFR**	**16.76**	**93**	*i*		07 44 30.0	
	baz=286,slow=334,SNR=5.1						

*SJA **26** 06:13:36.5±0.8, 32.49S×69.71W, h119km±7km, ML2.8, MW2.9*
*GUC **26** 06:13:36.9±0.8, 32.44S×69.67W, h106km±17km, ML2.8*
*ISCJB **26** 06:13:37.2±1.1, 32.46S±0.04×69.71W±0.05, h120km±10km, Error ellipse: s-maj=7.8km s-min=4.2km az=44.1*
ISC 26 06:13:38.3±2.3, 32.46S±0.05×69.72W±0.04, h112km±23km, n19, σ0§62/36, 3C-6D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**0.99**	**209**	↓*iP*	**Pn**	**06 13 59.6**	**-0.3**
FCH				*i* S	**Sn**	**06 14 16.7**	**+0.5**
FCH				IAML		06 14 17.4	
	comp=N,306nm,0.2s						
PEL	**Peldehue**	**1.06**	**230**	↓*iP*	**Pn**	**06 13 59.5**	**-0.9**
PEL				*i* S	**Sn**	**06 14 16.6**	**-0.4**
PEL				IAML		06 14 18.8	
	comp=E,220nm,0.2s						
PEL	**Peldehue**	**1.06**	**230**	*eP*	**Pn**	**06 13 59.4**	**-0.9**
PEL				*eS*	**Sn**	**06 14 17.1**	**+0.1**
CLCH	**Cerro Calan**	**1.16**	**216**	↓*iP*	**Pn**	**06 14 01.0**	**-0.4**
CLCH				*i* S	**Sn**	**06 14 19.4**	**+0.5**
CLCH				IAML		06 14 21.7	
	comp=N,248nm,0.6s						
ROCH	**El Roble**	**1.20**	**244**	↓*iP*	**Pn**	**06 14 01.0**	**-1.1**
ROCH				*i* S	**Sn**	**06 14 19.4**	**-0.6**
ROCH				IAML		06 14 20.6	
	comp=E,402nm,0.3s						
ROC1	**El Roble**	**1.21**	**244**	*eP*	**Pn**	**06 14 01.2**	**-0.9**
ROC1				*eS*	**Sn**	**06 14 20.2**	**+0.1**
FSR	**Penalolen**	**1.22**	**213**	↑*iP*	**Pn**	**06 14 02.9**	**+0.9**
FSR				*i* S	**Sn**	**06 14 21.6**	**+1.5**
ZON	**Zonda**	**1.27**	**45**	*eP*	**Pn**	**06 14 02.6**	**+0.1**
ZON				IAML		06 14 03.0	
	comp=Z,41nm,0.1s						
ZON				*eS*	**Sn**	**06 14 21.0**	**0.0**
ANTU	**Antumapu**	**1.35**	**214**	↓*iP*	**Pn**	**06 14 03.8**	**+0.3**
ANTU				*i* S	**Sn**	**06 14 23.4**	**+0.8**
ANTU				IAML		06 14 24.8	
	comp=E,229nm,0.4s						
RCDM	**Rinconada Maip**	**1.38**	**221**	↑*iP*	**Pn**	**06 14 04.0**	**+0.2**
RCDM				*i* S	**Sn**	**06 14 24.0**	**+0.9**
LMEL	**Las Melosas**	**1.45**	**196**	*eP*	**Pn**	**06 14 04.2**	**-0.5**
LMEL				IAML		06 14 30.1	
	comp=N,122nm,0.3s						
CFA	**Coronel Fontan**	**1.52**	**56**	*eP*	**Pn**	**06 14 05.2**	**-0.2**
CFA				*eS*	**Sn**	**06 14 26.4**	**+0.3**
RTLL	**Cerro Villicun**	**1.54**	**44**	*eP*	**Pn**	**06 14 05.8**	**0.0**
RTLL				IAML		06 14 06.4	
	comp=Z,170nm,0.4s						
RTLL				*eS*	**Sn**	**06 14 27.1**	**+0.4**
CO02	**Combarbal**	**1.66**	**319**	↓*iP*	**Pn**	**06 14 07.1**	**-0.2**
CO02				*i* S	**Sn**	**06 14 29.8**	**+0.6**
AMOG	**MOGNA**	**1.84**	**35**	*eP*	**Pn**	**06 14 09.8**	**+0.4**
AMOG				*eS*	**Sn**	**06 14 33.4**	**+0.2**
ACAN	**Cantantal**	**2.15**	**86**	*eP*	**Pn**	**06 14 12.9**	**-0.4**
ACAN				*eS*	**Sn**	**06 14 39.2**	**-0.9**
GO04	**Tololo Observa**	**2.46**	**338**	↑*iP*	**Pn**	**06 14 17.2**	**-0.2**
GO04				*i* S	**Sn**	**06 14 47.7**	**+0.2**
GO04	**Tololo Observa**	**2.46**	**338**		**Pn**	**06 14 17.0**	**-0.4**
GO04	**Tololo Observa**	**2.46**	**338**	*eP*	**Pn**	**06 14 17.2**	**-0.2**
GO04				*eS*	**Sn**	**06 14 48.0**	**+0.5**

*ISCJB **26** 06:15:04.3±1.0, 27.94N±0.04×111.92W±0.03, h4km±9km, mb3.5/4, MS3.9/13, Error ellipse: s-maj=7.3km s-min=4.2km az=26.6*
*NEIC **26** 06:15:06.1±2.1, 27.89N±0.05×111.96W±0.07, h10km±3km, mb4.0/36, Mwr4.5, Md4.3(MEX), Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.58; $M_{\theta\theta}$-6.83; $M_{\phi\phi}$5.25; $M_{r\theta}$-0.55; $M_{\theta\phi}$-0.53; $M_{\phi r}$-0.56; Fault plane solution: M_o6.26000×10^{15} NP1:ϕ_o222.80000°, δ87.03000°, λ8.50000°. NP2:ϕ_s132.36000°, δ81.51000°, λ176.99000°. Principal axes: T 5.3488, Plg8.0000°, Azm88.0000°; N 1.5388, Plg81.0000°, Azm242.0000°; P -6.8876, Plg4.0000°, Azm357.0000°;*
*MEX **26** 06:15:06.2±0.5, 27.93N×112.02W, h10km±6km, MD4.2*
*IDC **26** 06:15:08.7±1.6, 28.11N×111.66W, h0km, mb3.6/5, mb1 3.9/12, mb1mx3.8/49, mbtmp3.7/12, ML3.5/7, MS3.9/19, Ms1 3.9/19, ms1mx3.7/41, Error ellipse: s-maj=23.6km s-min=11.6km az=28.0*
ISC 26 06:15:05.3±1.5, 27.87N±0.06×111.88W±0.04, h3km±12km, n120, σ1§69/116, mb3.9/6, MS3.9/13, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.64**	**210**	*eP*	**Pg**	**06 15 17.3**	**-0.2**
SRIG				*eS*	**Sg**	**06 15 25.6**	**-0.3**
SRIG	**Santa Rosalia**	**0.64**	**210**		**Pg**	**06 15 18.0**	**+0.4**
SRIG					**Sg**	**06 15 26.0**	**+0.2**
SRIG	**Santa Rosalia**	**0.64**	**210**		**Sg**	**06 15 25.6**	**-0.3**
GUYB	**Guaymas**	**0.89**	**88**	*eP*	**Pg**	**06 15 22.6**	**+0.2**
GUYB				*eS*	**Sg**	**06 15 35.8**	**+1.8**
HSIG		**1.41**	**35**	*eP*	**Pn**	**06 15 28.9**	**-3.0**
HSIG				*eS*	**Sn**	**06 15 45.9**	**-5.0**
HSIG		**1.41**	**35**		**Pn**	**06 15 30.0**	**-1.8**
HSIG					**Sn**	**06 15 50.0**	**-0.9**
HSIG		**1.41**	**35**		**Sn**	**06 15 45.0**	**-5.9**
LPIG	**La Paz**	**4.01**	**159**	Pn	**Pb**	**06 16 15.4**	**-1.3**
	2.6nm,0.3s,baz=354,slow=3.2,SNR=3.5						
LPIG					**Sg**	**06 17 11.9**	**-2.4**
	1.5nm,0.3s,baz=214,slow=3.6,SNR=2.4						
LPIG				LR	LR	06 17 36.6	
	comp=Z,778nm,21.3s,baz=290,slow=35						
214A	**Organ Pipe Nat**	**4.15**	**349**		**Pn**	**06 16 08.2**	**-1.4**
319A	**Douglas**	**4.16**	**32**		**Pn**	**06 16 08.6**	**-1.2**
CGIG		**4.22**	**53**	*eP*	**Pn**	**06 16 09.9**	**-0.8**
CGIG				*eS*	**Sn**	**06 17 00.3**	**-0.4**
CGIG		**4.22**	**53**		**Pn**	**06 16 09.9**	**-0.8**
CGIG					**Sn**	**06 17 00.3**	**-0.4**
TUC	**Tucson**	**4.52**	**12**		**Pn**	**06 16 13.8**	**-1.0**
TUC				Sn	**Sn**	**06 17 06.1**	**-1.8**
113A	**Mohawk Valley,**	**5.15**	**342**		**Pn**	**06 16 22.2**	**-1.1**
113A				Sn	**Sn**	**06 17 21.4**	**-1.8**
GLA	**Glamis**	**5.76**	**334**		**Pn**	**06 16 30.8**	**-0.9**
121A	**Cookes Peak, D**	**5.84**	**36**		**Pn**	**06 16 33.7**	**+0.7**
Y14A	**Wickenburg**	**6.12**	**351**		**Pn**	**06 16 36.3**	**-0.5**
Y12C	**Blythe**	**6.29**	**339**		**Pn**	**06 16 37.6**	**-1.3**
BAR	**Barrett**	**6.34**	**320**		**Pn**	**06 16 40.9**	**+1.3**
X16A	**Lo Mia Camp, P**	**6.54**	**3**		**Pn**	**06 16 42.3**	**-0.3**
X16A				Sn	**Sn**	**06 17 56.2**	**-1.6**
MNTX	**Cornudas Mount**	**6.81**	**54**		**Pn**	**06 16 47.6**	**+1.4**
X18A	**Snowflake**	**6.84**	**13**		**Pn**	**06 16 46.7**	**0.0**
XPFO	**Pion Flat**	**6.95**	**327**	Pn	**Pn**	**06 16 47.3**	**-0.8**
PFO	**Pinyon Flats O**	**6.95**	**327**	Pn	**Pn**	**06 16 51.2**	**+3.0**
	0.1nm,0.3s,baz=150,slow=15,SNR=2.9						
PFO				Lg	Lg	06 18 46.7	
	0.2nm,0.3s,baz=234,slow=11,SNR=6.2						
PFO				LR	LR	06 19 43.2	
	comp=Z,1μm,18.9s,baz=138,slow=40						
PFO	**Pinyon Flats O**	**6.95**	**327**		**Pn**	**06 16 47.4**	**-0.7**
TX31	**Lajitas Ar. Si**	**7.36**	**77**		**Pn**	**06 16 55.0**	**+1.1**
TX32	**Lajitas Array**	**7.36**	**77**		**Pn**	**06 16 54.8**	**+0.9**
TXAR	**Lajitas Array**	**7.36**	**77**	Pn	**Pn**	**06 16 54.6**	**+0.8**
	1.8nm,0.3s,baz=249,slow=12,SNR=50						
TXAR				Lg	Lg	06 18 51.1	
	0.9nm,0.3s,baz=250,slow=14,SNR=4.3						
TXAR				LR	LR	06 19 57.3	
	comp=Z,1μm,20.3s,baz=0.0,slow=40						
W13A	**Hualapai Mount**	**7.41**	**347**		**Pn**	**06 16 54.2**	**-0.3**
LENM	**Lemitar**	**7.55**	**33**		**Pn**	**06 16 55.1**	**-1.4**
WUAZ	**Wupatki**	**7.63**	**3**		**Pn**	**06 16 58.0**	**+0.3**
GDL2	**Guadalupe Moun**	**7.81**	**55**	Pn	**Pn**	**06 17 02.0**	**+2.0**
LPM	**Los Pinos Moun**	**7.84**	**34**	Pn	**Pn**	**06 17 00.7**	**+0.3**
MWC	**Mount Wilson**	**8.26**	**322**	Pn	**Pn**	**06 17 04.7**	**-1.5**
ANMO	**Albuquerque**	**8.44**	**32**	Pn	**Pn**	**06 17 09.8**	**+1.2**
	0.2nm,0.3s,baz=211,slow=14,SNR=14						
ANMO				Lg	Lg	06 19 29.7	
	0.7nm,0.3s,baz=326,slow=18,SNR=3.8						
ANMO	**Albuquerque**	**8.44**	**32**		**Pn**	**06 17 09.7**	**+1.1**
GSC	**Goldstone, Bar**	**8.52**	**332**	Pn	**Pn**	**06 17 07.8**	**-1.8**
U15A	**North Rim**	**8.54**	**358**		**Pn**	**06 17 09.8**	**-0.4**
SHPR	**Sheep Range**	**9.05**	**343**	Pn	**Pn**	**06 17 16.7**	**-0.3**
KNB	**Kanab**	**9.15**	**355**		**Pn**	**06 17 19.7**	**+1.2**
LCMT	**Little Creek M**	**9.19**	**353**		**Pn**	**06 17 19.1**	**+0.2**
PKCU	**Pink Cliffs**	**9.55**	**358**		**Pn**	**06 17 23.8**	**-0.3**
CCUT	**Cedar City**	**9.73**	**353**		**Pn**	**06 17 29.0**	**+2.6**
MVCO	**Mesa Verde**	**9.74**	**16**		**Pn**	**06 17 26.9**	**+0.4**
SZCU	**Shurtz Canyon**	**9.75**	**354**		**Pn**	**06 17 28.9**	**+2.2**
TPNV	**Topopah Spring**	**9.77**	**339**		**Pn**	**06 17 29.8**	**+2.9**
MTPU	**Mount Pierson**	**10.15**	**359**	Pn	**Pn**	**06 17 35.4**	**+3.1**
MSU	**Marysvale**	**10.62**	**359**	Pn	Pn	06 17 43.7	±5.2
PSUT	**Pine Spring**	**10.76**	**352**		**Pn**	**06 17 40.7**	**+0.2**
JCT	**Junction City**	**10.87**	**73**		**Pn**	**06 17 44.8**	**+2.9**
R11A	**Troy Canyon, C**	**10.90**	**344**		**Pn**	**06 17 41.7**	**-0.7**
Q16A	**Castle Valley**	**11.03**	**3**		**Pn**	**06 17 48.6**	**+4.4**
SRU	**San Rafael Swe**	**11.27**	**5**	Pn	**Pn**	**06 17 50.7**	**+3.3**
ABTX	**Abilene, Hawle**	**11.59**	**63**	Pn	**Pn**	**06 17 55.1**	**+3.4**
P17A	**Butcher Ranch,**	**11.61**	**4**		**Pn**	**06 17 55.2**	**+3.1**
NVAR	**Mina Array Bea**	**11.82**	**335**	Pn	**Pn**	**06 17 58.3**	**+3.2**
	0.1nm,0.3s,baz=157,slow=14,SNR=8.0						
NVAR				Lg	Lg	06 21 23.3	
	baz=140,slow=28,SNR=2.3						
NVAR				LR	LR	06 22 22.0	
	comp=Z,339nm,21.8s,baz=156,slow=37						
WMOK	**Wichita Mounta**	**13.12**	**55**	Pn	**Pn**	**06 18 15.6**	**+3.0**
ELK	**Elko**	**13.14**	**349**	Pn	**Pn**	**06 18 16.4**	**+3.4**
	0.1nm,0.3s,baz=181,slow=11,SNR=10.0						
ELK				Lg	Lg	06 21 56.4	

	comp=Z,16nm,1.4s					
TEIG	**Tepich**	**22.83 104**	LR	LR	06 31 09.1	
	comp=Z,278nm,20.3s,baz=49,slow=42					
T49A	**Edmonton**	**23.99 61**	P	**P**	**06 20 21.5**	**+0.3**
TKL	**Tuckaleechee C**	**25.07 65**	P	**P**	**06 20 33.0**	**+2.0**
	comp=Z,3.5nm,0.9s,baz=297,slow=2.3,SNR=3.6					
TKL			LR	LR	06 30 54.8	
	comp=Z,385nm,21.2s,baz=260,slow=38					
ULM	**Lac du Bonnet**	**25.46 24**	P	**P**	**06 20 35.8**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=262,slow=7.1,SNR=2.9					
ULM			LR	LR	06 30 58.1	
	comp=Z,531nm,18.4s,baz=212,slow=38					
BBB	**Bella Bella**	**27.16 338**	LR	LR	06 31 53.8	
	comp=Z,266nm,18.1s,baz=184,slow=37					
V58A	**Windy Hill, Pi**	**28.84 66**	P	**P**	**06 21 04.0**	**-0.9**
ALLY	**Alegheny Colle**	**29.29 54**	P	**P**	**06 21 09.0**	**+0.1**
YKA	**Yellowknife Ar**	**34.67 358**	P	**P**	**06 21 58.2**	**+2.3**
	comp=Z,0.1nm,0.4s,baz=166,slow=8.1,SNR=3.8					
SCHQ	**Schefferville**	**42.17 38**	LR	LR	06 40 31.6	
	comp=Z,194nm,21.2s,baz=18,slow=36					
ROSC	**El Rosal**	**42.41 116**	LR	LR	06 43 08.6	
	comp=Z,88nm,18.3s,baz=13,slow=40					
ILAR	**Eielson Array**	**43.04 339**	P	**P**	**06 23 07.3**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=154,slow=6.3,SNR=6.9					
SDV	**Santo Domingo**	**43.19 108**	P	**P**	**06 23 07.7**	**-0.3**
PPT	**Papeete**	**58.08 223**	LR	LR	06 44 56.5	
	comp=Z,72nm,19.2s,baz=360,slow=31					
LVC	**Limon Verde**	**65.11 136**	LR	LR	06 49 28.1	
	comp=Z,25nm,18.2s,baz=342,slow=32					
BDFB	**Brasilia**	**75.46 117**	LR	LR	07 02 57.0	
	comp=Z,34nm,18.6s,baz=162,slow=38					
PLCA	**Paso Flores**	**78.29 149**	LR	LR	06 53 45.7	
	comp=Z,49nm,21.4s,baz=32,slow=30					
NOA	**NORSAR Array B**	**80.16 24**	LR	LR	07 02 32.6	
	comp=Z,112nm,18.1s,baz=295,slow=36					
NRIK	**Noril'sk**	**82.04 353**	LR	LR	07 04 56.9	
	comp=Z,76nm,20.5s,baz=28,slow=36					
FINES	**FINESS Array B**	**84.72 19**	LR	LR	07 07 32.7	
	comp=Z,123nm,18.2s,baz=268,slow=37					
HHC	**Hu-ho-hao-te**	**100.64 328**	*eP*	**Pdif**	**06 28 53.5**	**-1.5**
HHC			pmax	pmax		
	comp=Z,6.0nm,1.0s					
HHC			pmax	pmax		
	comp=Z,98nm,7.8s					
KSH	**Kashi**	**112.56 353**	PKP	**PKiKP**	**06 33 46.0**	**+2.5**
KSH			PP	PP	06 34 37.8	+9.3
KSH			SKKS		06 41 30.8	
KSH	**Kashi**	**112.56 353**	SS	SS	06 50 16.0	+6.7
KSH			AMB	AMB		
	comp=Z,370nm,5.9s					
KSH			LR	LR		
	comp=N,730nm,5.9s					
KSH			LR	LR		
	comp=E,1μm,7.6s					
KSH			LR	LR		
	comp=Z,620nm,8.4s					

OMAN ***26*** *06:29:23.8±0.7, 24°.71N×61°.13E, h36km±226km, ml3.4/12, Error ellipse: s-maj=33.2km s-min=5.9km az=278.0*
DSN ***26*** *06:29:23.0±1.3, 24°.79N×60°.92E, h10km, ML3.8/6, Error ellipse: s-maj=25.4km s-min=10.6km az=11.0*
ISC 26 06:29:21.3±3.9, 24°.81N±0°.09×61°.3E±0°.2, h35km, n19, σ1§11/30, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**2.87**	**238**	P		**Pn**	**Pn**	**06 30 04.2**	**-0.4**
WSAR				S		**Sn**	**Sn**	**06 30 36.8**	**-1.1**
WBK	**Wadi Bani Khal**	**3.04**	**224**	P		**Pn**	**Pn**	**06 30 05.9**	**-1.0**
	SNR=127								
WBK				S		**Sn**	**Sn**	**06 30 41.0**	**-1.1**
SMDO	**Samad**	**3.42**	**240**	P		**Pn**	**Pn**	**06 30 12.5**	**+0.3**
SMDO				S		**Sn**	**Sn**	**06 30 50.6**	**-1.1**
JMDO	**Jabal Madar**	**3.78**	**231**	P		**Pn**	**Pn**	**06 30 17.9**	**+0.8**
	SNR=7.9								
JMDO				S		**Sn**	**Sn**	**06 31 00.4**	**0.0**
HOQ	**Hoqain**	**3.81**	**252**	P		**Pn**	**Pn**	**06 30 18.0**	**+0.5**
HOQ				S		**Sn**	**Sn**	**06 31 01.7**	**+0.5**
BSY	**Bisya**	**4.26**	**242**	P		**Pn**	**Pn**	**06 30 25.1**	**+1.5**
	SNR=7.5								
BSY				S		**Sn**	**Sn**	**06 31 13.0**	**+0.9**
SOHO	**SOHO**	**4.37**	**262**	P		**Pn**	**Pn**	**06 30 26.0**	**+0.9**
SOHO				S		**Sn**	**Sn**	**06 31 14.7**	**0.0**
MDH	**Madha**	**4.53**	**277**	P		**Pn**	**Pn**	**06 30 27.4**	**0.0**
ARQ	**Araqi**	**4.58**	**252**	P		**Pn**	**Pn**	**06 30 31.2**	**+3.2**
	SNR=10								
UOSS	**Minazif**	**4.60**	**273**	*i* P		**Pn**	**Pn**	**06 30 28.5**	**+0.1**
	SNR=8.5								
UOSS	**Minazif**	**4.60**	**273**	P		**Pn**	**Pn**	**06 30 28.9**	**+0.5**
UOSS				S		**Sn**	**Sn**	**06 31 19.2**	**-1.5**
BANOM	**Banah**	**4.63**	**285**	*i* P		**Pn**	**Pn**	**06 30 29.5**	**+0.8**
	SNR=9.3								
BANOM				S		**Sn**	**Sn**	**06 31 20.3**	**-1.0**
BANOM	**Banah**	**4.63**	**285**	P		**Pn**	**Pn**	**06 30 29.6**	**+0.8**
BANOM				S		**Sn**	**Sn**	**06 31 20.6**	**-0.7**
MSFE	**Esma-Masafi**	**4.66**	**278**	P		**Pn**	**Pn**	**06 30 27.7**	**-1.6**
HATD	**Hatta, Dubai**	**4.67**	**271**	P		**Pn**	**Pn**	**06 30 29.2**	**-0.1**
HATD				S		**Sn**	**Sn**	**06 31 20.9**	**-1.3**
HATD	**Hatta, Dubai**	**4.67**	**271**	P		**Pn**	**Pn**	**06 30 30.5**	**+1.3**
ASHO	**Ashiyiah**	**4.74**	**270**	*i* P		**Pn**	**Pn**	**06 30 31.1**	**+0.8**
	SNR=8.9								
ASHO	**Ashiyiah**	**4.74**	**270**	P		**Pn**	**Pn**	**06 30 31.1**	**+0.8**
	SNR=9.9								
SHME	**Shamm**	**4.80**	**286**	*i* P		**Pn**	**Pn**	**06 30 32.1**	**+1.1**
	SNR=15								

IDC ***26*** *06:39:10.7±0.9, 1°.09S×130°.34E, h0km, mb4.1/6, mb1 4.3/8, mb1mx3.9/42, mbtmp4.1/8, ML4.3/2, MS3.3/4, Ms1 3.3/4, ms1mx2.9/37, Error ellipse: s-maj=18.2km s-min=17.1km az=90.0*
ISCJB ***26*** *06:39:11.1±0.4, 1°.06S±0°.05×130°.42E±0°.04, h10km, mb4.1/6, MS3.4/1, Error ellipse: s-maj=6.6km s-min=5.8km az=178.7*
NEIC ***26*** *06:39:13.6±2.0, 1°.08S±0°.08×130°.47E±0°.04, h16km±4km, mb4.5/13*
DJA ***26*** *06:39:16.1±0.5, 1°.5S±7°×13°.1E±°, h28km±11km, M4.7/7, mb4.8/2, MLv4.7/3, MLv4.7/7*
ISC 26 06:39:12.6±0.6, 1°.08S±0°.05×130°.44E±0°.04, h10km, n38, σ1§88/40, mb4.3/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.85**	**75**	P		**Pg**	**Pg**	**06 39 28.3**	**-0.8**
SWI				S		**Sg**	**Sg**	**06 39 39.5**	**-0.7**
SIJI	**Sorong**	**0.86**	**76**	Pg		**Pg**	**Pg**	**06 39 29.6**	**+0.4**
	1μm,0.3s,baz=265,slow=14,SNR=3744								
SIJI				Lg		Lg		06 39 40.0	
	13μm,0.3s,baz=28,slow=15,SNR=144								
FAKI	**Fak Fak**	**2.57**	**135**	P		**Pn**	**Pn**	**06 39 54.9**	**+0.5**
FAKI				S		**Sn**	**Sn**	**06 40 23.5**	**-2.2**
MSAI	**Masohi**	**2.71**	**214**	P		**Pb**	**Pb**	**06 40 01.6**	**+0.4**
LBMI	**Labuha**	**2.97**	**279**	P		**Pn**	**Pn**	**06 39 58.2**	**-1.6**
AAI	**Ambon**	**3.42**	**221**	P		**Pn**	**Pn**	**06 40 10.8**	**+4.7**
BNDI	**Bandanaira**	**3.46**	**189**	P		**Pn**	**Pn**	**06 40 10.7**	**+4.1**
RKPI	**Ransiki, Papua**	**3.77**	**97**	P		**Pb**	**Pb**	**06 40 21.7**	**+2.5**
KMPI	**Kaimana, Papua**	**4.15**	**128**	P		**Pn**	**Pn**	**06 40 16.8**	**+0.7**
SANI	**Sanana**	**4.55**	**258**	P		**Pn**	**Pn**	**06 40 22.5**	**+0.9**
DAV	**Davao City (W)**	**9.44**	**329**	LR		LR		06 45 35.9	
	comp=Z,157nm,18.6s,baz=160,slow=41								
JAY	**Jayapura**	**10.36**	**98**	LR		LR		06 45 42.5	
	comp=Z,180nm,18.3s,slow=38								
MTN	**Manton Dam**	**11.71**	**177**				**Pn**	**06 41 59.4**	**-0.5**
MTN						Sn	**Sn**	**06 44 04.8**	**-5.8**
KNRA	**Kununurra**	**14.60**	**186**	Pn		Pn	**Pn**	**06 42 36.3**	**-3.0**
KNRA							Sn	06 45 11.1	-10
FITZ	**Fitzroy Crossi**	**17.55**	**195**	P		Pn	**Pn**	**06 43 18.0**	**+0.4**
	0.7nm,0.3s,baz=29,slow=12,SNR=9.6								
FITZ				S			Sn	06 46 23.4	-10
	0.4nm,0.3s,baz=274,slow=19,SNR=2.9								
FITZ				LR		LR	LR	06 50 14.6	
	comp=Z,51nm,19.7s,baz=40,slow=38								
FITZ	**Fitzroy Crossi**	**17.55**	**195**	P			**Pn**	**06 43 17.2**	**-0.4**
COEN	**Coen**	**17.96**	**136**	P			**Pn**	**06 43 22.5**	**-0.1**
WRA	**Warramunga Arr**	**19.13**	**169**	P			**P**	**06 43 35.0**	**-1.0**
	1.1nm,0.3s,baz=346,slow=11,SNR=27								
WRA				S			Sn	06 46 56.2	-15
	2.3nm,0.3s,baz=336,slow=24,SNR=10.0								
WR0	**Warramunga Arr**	**19.19**	**168**	P			**Pn**	**06 43 39.3**	**+1.8**
WR0				IAmb		IAmb	IAmb	06 43 58.7	
	comp=Z,25nm,1.5s								
AS31	**Alice Springs**	**22.70**	**172**	P			**P**	**06 44 16.2**	**+1.5**
AS31				IAmb		IAmb		06 44 31.5	
	comp=Z,12nm,0.5s								
AS31							**S**	**06 48 23.0**	**-0.2**
ASAR	**Alice Springs**	**22.70**	**172**	P			**P**	**06 44 14.8**	**+0.1**
	comp=Z,10nm,0.7s,baz=350,slow=10,SNR=86								
ASAR				S			**S**	**06 48 20.5**	**-2.7**
	comp=Z,2.5nm,0.8s,baz=354,slow=25,SNR=8.7								
PSA00	**Pilbara Seismi**	**22.83**	**206**	P			**P**	**06 44 18.6**	**+2.5**
PSA00				IAmb		IAmb		06 44 26.4	
	comp=Z,10nm,1.1s								
CTA	**Charters Tower**	**24.42**	**142**	P			**P**	**06 44 31.4**	**-0.2**
	comp=Z,2.5nm,0.5s,baz=319,slow=11,SNR=7.6								
FORT	**Forrest**	**29.62**	**184**	P			**P**	**06 45 19.4**	**+1.2**
MORW	**Morawa**	**31.03**	**205**	P			**P**	**06 45 32.7**	**+2.0**
MORW				IAmb		IAmb		06 45 40.2	
	comp=Z,19nm,1.5s								
BBOO	**Buckleboo**	**32.00**	**171**	P			**P**	**06 45 39.9**	**+0.7**
BBOO				IAmb		IAmb		06 45 49.8	
	comp=Z,15nm,1.2s								
STKA	**Stephens Creek**	**32.39**	**162**	LR		LR		07 00 12.0	
	comp=Z,77nm,22.0s,baz=22,slow=39								
ARMA	**Armidale**	**35.44**	**147**	P			**P**	**06 46 09.5**	**+0.2**
USRK	**Ussuriysk Ar.**	**45.10**	**2**	P			**P**	**06 47 29.2**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=190,slow=7.3,SNR=3.6								
MK31	**Makanchi Array**	**63.59**	**325**	P			**P**	**06 49 43.9**	**+0.1**
MKAR	**Makanchi Array**	**63.59**	**325**	P			**P**	**06 49 43.6**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=110,slow=8.2,SNR=14								
MAKZ	**Makanchi**	**63.78**	**325**	P			**P**	**06 49 45.2**	**+0.3**
SMY	**Shemya**	**64.85**	**28**	P			**P**	**06 49 52.6**	**+0.8**
SEY	**Seymchan**	**65.95**	**11**	P			**P**	**06 49 58.3**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=243,slow=11,SNR=2.7								
ILAR	**Eielson Array**	**87.84**	**25**	P			**P**	**06 52 00.4**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=248,slow=5.4,SNR=1.8								
QSPA	**South Pole Qui**	**88.85**	**180**	P			**P**	**06 52 07.1**	**+0.1**
QSPA				IAmb		IAmb		06 52 23.8	
	comp=Z,2.0nm,1.0s								
CPUP	**Villa Florida**	**151.73**	**165**	PKPbc			**PKPbc**	**06 59 08.3**	**-0.1**
	comp=Z,2.5nm,1.0s,baz=246,slow=2.5,SNR=5.1								
CPUP	**Villa Florida**	**151.73**	**165**				**PKPbc**	**06 59 08.9**	**+0.5**

ISCJB ***26*** *06:46:46.4±0.4, 20°.70N±0°.05×147°.43E±0°.07, h10km, mb3.9/8, MS3.2/2, Error ellipse: s-maj=9.9km s-min=6.9km az=9.4*
NEIC ***26*** *06:46:48.2±1.6, 20°.71N±0°.08×147°.5E±0°.1, h10km±2km, mb4.4/21*
IDC ***26*** *06:46:50.2±1.9, 20°.84N×146°.76E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/48, mbtmp3.8/7, MS3.3/2, Ms1 3.3/2, ms1mx2.7/39, Error ellipse: s-maj=81.7km s-min=18.3km az=84.0*
ISC 26 06:46:48.3±0.5, 20°.69N±0°.06×147°.48E±0°.09, h10km, n31, σ1§57/34, mb4.3/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**4.28**	**202**	P		Pn	**Pn**	**06 47 52.1**	**-1.5**
SARN				S		Sn	**Sn**	**06 48 44.0**	**+0.2**
DAV	**Davao City (W)**	**25.15**	**241**	LR		LR	LR	07 00 35.6	
	comp=Z,49nm,20.5s,baz=104,slow=34								
PMG	**Port Moresby**	**29.91**	**181**	P		P	**P**	**06 52 56.5**	**0.0**
HNR	**Honiara**	**32.35**	**157**	P		P	**P**	**06 53 16.9**	**-1.2**
HNR				S		S	**S**	**06 58 29.1**	**-3.2**
BJT	**Baijiatuau**	**32.93**	**313**	P		P	**P**	**06 53 22.6**	**-0.4**
ENH	**Enshi**	**35.46**	**293**	P		P	**P**	**06 53 44.1**	**-1.0**
XAN	**Xi'an**	**36.51**	**300**	P		P	**P**	**06 53 52.6**	**-1.5**
XAN				IAmb		IAmb	IAmb	06 54 12.2	
	comp=Z,3.7nm,0.7s								
MTN	**Manton Dam**	**36.99**	**207**	P		P	**P**	**06 53 56.8**	**-1.4**
JOHN	**Johnston Islan**	**40.83**	**88**	P		P	**P**	**06 54 30.1**	**-0.3**
WRA	**Warramunga Arr**	**42.38**	**198**	P		P	**P**	**06 54 45.9**	**+2.8**
	comp=Z,0.6nm,0.6s,baz=18,slow=8.7,SNR=5.1								
WRA				PcP		**PcP**		**06 56 40.3**	**+3.8**
	comp=Z,0.7nm,0.9s,baz=9.7,slow=3.2,SNR=3.9								
SONM	**Songino Array**	**42.69**	**319**	P		P	**P**	**06 54 44.9**	**-0.6**
	comp=Z,0.7nm,1.1s,baz=119,slow=8.9,SNR=2.9								
SONM				LR		LR		07 12 26.6	
	comp=Z,59nm,19.4s,baz=14,slow=36								
FITZ	**Fitzroy Crossi**	**44.09**	**211**	P		P	**P**	**06 54 58.3**	**+1.4**
	comp=Z,2.7nm,0.8s,baz=22,slow=11,SNR=2.5								
FITZ	**Fitzroy Crossi**	**44.09**	**211**	P		P	**P**	**06 54 57.2**	**+0.2**
FITZ				IAmb		IAmb	IAmb	06 55 14.5	
	comp=Z,13nm,1.4s								
EIDS	**Eidsvold**	**45.92**	**175**	P		P	**P**	**06 55 11.5**	**+0.2**
EIDS				IAmb		IAmb	IAmb	06 55 23.9	
	comp=Z,7.6nm,1.3s								
AS31	**Alice Springs**	**46.03**	**197**	P		P	**P**	**06 55 12.8**	**+0.5**
ASAR	**Alice Springs**	**46.03**	**197**	P		P	**P**	**06 55 14.7**	**+2.4**
	comp=Z,0.2nm,0.7s,baz=14,slow=6.7,SNR=4.3								
ASAR				PcP		**PcP**	**PcP**	**06 56 52.9**	**+4.0**
	comp=Z,0.3nm,0.6s,baz=6.7,slow=4.2,SNR=3.9								
KNTN	**Kanton**	**46.29**	**115**	P		P	**P**	**06 55 13.7**	**-0.8**
DZM	**Mont Dzumac**	**46.36**	**155**	P		P	**P**	**06 55 16.3**	**+1.3**
KIP	**Kipapa**	**50.65**	**79**	P		P	**P**	**06 55 49.9**	**+1.8**
POHA	**Pohakuloa**	**53.24**	**80**	P		P	**P**	**06 56 08.7**	**+0.9**
AIN	**Ainahou**	**53.39**	**81**	P		P	**P**	**06 56 09.3**	**+0.6**
ZALV	**Zalesovo Beam**	**57.48**	**321**	P		P	**P**	**06 56 37.1**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=111,slow=6.8,SNR=2.9								
MKAR	**Makanchi Array**	**58.32**	**313**	P		P	**P**	**06 56 43.0**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=98,slow=4.4,SNR=3.4								
KTH	**Kantishna Hill**	**59.11**	**27**	P		P	**P**	**06 56 48.8**	**-0.1**
NRIK	**Noril'sk**	**60.34**	**339**	P		P	**P**	**06 56 57.9**	**+0.8**
	comp=Z,7.7nm,0.3s,baz=120,slow=8.1,SNR=20								
INK	**Inuvik**	**66.89**	**23**	P		P	**P**	**06 57 40.0**	**-0.3**
DIB	**Dawson Inlet,**	**67.80**	**40**	P		P	**P**	**06 57 46.1**	**-0.3**
PPTF	**Pamatai, Papee**	**72.51**	**117**	P		P	**P**	**06 58 15.7**	**-0.2**
ABKAR	**Akbulak array**	**73.04**	**317**	P		P	**P**	**06 58 18.2**	**-0.3**
ABKAR				IAmb		IAmb	IAmb	06 58 36.6	
	comp=Z,1.8nm,0.7s								
PKCU	**Pink Cliffs**	**85.38**	**52**	P		P	**P**	**06 59 25.4**	**-1.3**
FINES	**FINESS Array B**	**85.78**	**336**	P		P	**P**	**06 59 28.3**	**+0.7**
	comp=Z,3.0nm,0.8s,baz=48,slow=2.8,SNR=8.5								

ISCJB ***26*** *06:56:24.2±0.8, 1°.37S±0°.07×120°.10E±0°.08, h10km, mb3.3/3, Error ellipse: s-maj=12.5km s-min=8.0km az=33.2*
IDC ***26*** *06:56:24.5±1.7, 0°.62S×121°.60E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/34, mbtmp3.3/3, Error ellipse: s-maj=255.7km s-min=28.2km az=60.0*
DJA ***26*** *06:56:25.3±0.3, 1°.5S×12°.0E±°, h10km, M3.7/7, MLv3.7/7*
ISC 26 06:56:25.5±1.2, 1°.36S±0°.06×120°.14E±0°.08, h10km, n10, σ1§59/11, mb3.4/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.57**	**74**	P		P	**Pn**	**06 56 53.1**	**-0.4**
APSI				S		S	**Sn**	**06 57 14.7**	**+0.8**
MPSI	**Mapaga**	**1.70**	**352**	P		P	**Pn**	**06 56 53.6**	**-1.6**
TTSI	**Tana Toraja**	**1.71**	**191**	P		P	**Pn**	**06 56 52.9**	**-2.4**
MRSI	**Marisa**	**2.56**	**45**	P		P	**Pn**	**06 57 07.9**	**+0.8**
SPSI	**Sidrap Palu**	**2.62**	**188**	P		P	**Pn**	**06 57 08.4**	**+0.6**
LUWI	**Luwuk**	**2.65**	**83**	P		P	**Pn**	**06 57 06.2**	**-2.1**
BNSI	**Bone**	**3.02**	**181**	P		P	**Pn**	**06 57 14.5**	**+1.1**
WRA	**Warramunga Arr**	**23.11**	**144**	P		P	**P**	**07 01 30.3**	**-1.6**
	0.8nm,0.7s,baz=324,slow=11,SNR=4.9								
ASAR	**Alice Springs**	**25.88**	**150**	P		P	**P**	**07 01 57.6**	**-0.1**
	0.4nm,0.7s,baz=334,slow=10.0,SNR=6.5								
MKAR	**Makanchi Array**	**58.31**	**330**	P		P	**P**	**07 06 22.1**	**+1.4**
	0.3nm,0.6s,baz=133,slow=7.3,SNR=3.0								

ISCJB ***26*** *07:00:00.2±0.5, 1°.33S±0°.07×14°.37W±0°.08, h12km, mb4.1/13, MS3.5/8, Error ellipse: s-maj=13.3km s-min=7.2km az=34.0*
IDC ***26*** *07:00:00.6±0.7, 1°.38S×14°.56W, h0km, mb4.0/13, mb1 4.2/13, mb1mx3.9/34, mbtmp4.1/13, MS3.5/8, Ms1 3.5/8, ms1mx3.3/30, Error ellipse: s-maj=26.5km s-min=16.5km az=132.0*
NEIC ***26*** *07:00:01.9±2.3, 1°.43S±0°.08×14°.4W±0°.1, h10km±1km, mb4.6/4*
ISC 26 07:00:02.3±0.6, 1°.39S±0°.07×14°.3W±0°.1, h12km, n36, σ1§75/30, mb4.2/14, MS3.5/8, 1C, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.40**	**181**	T		T	T	07 08 20.4	
	baz=359,slow=74,SNR=66								
H10N3	**ASCENSION HYDR**	**6.41**	**181**	T		T	T	07 08 18.7	
	baz=359,slow=74,SNR=56								
H10N1	**ASCENSION HYDR**	**6.42**	**181**	T		T	T	07 08 16.7	
	baz=359,slow=74,SNR=51								
ASCN	**Ascension**	**6.50**	**180**				**Pn**	**07 01 38.2**	**+0.3**
ASCN						Sn	**Sn**	**07 02 49.9**	**-2.1**
LIC	**Lamto**	**11.98**	**51**	*eP*			**Pn**	**07 02 51.9**	**-1.2**
	15nm,0.7s								
TIC	**Toumodi**	**12.26**	**49**	*eP*			**Pn**	**07 02 54.5**	**-2.3**
KIC	**Kosan Boka**	**12.29**	**51**	*eP*			**Pn**	**07 02 55.7**	**-1.6**
	15nm,0.7s								
DBIC	**Dimbokro**	**12.40**	**50**	Pn			**Pn**	**07 02 57.3**	**-1.4**
	1.7nm,0.3s,baz=232,slow=13,SNR=32								
DBIC				Sn			Sn	07 05 07.1	-10
	1.7nm,0.3s,baz=172,slow=15,SNR=3.9								
DBIC	**Dimbokro**	**12.40**	**50**				**Pn**	**07 02 57.3**	**-1.4**
DBIC							Sn	07 05 07.5	-9.4
SHEL	**Horse Pasture**	**16.78**	**150**	Pn			**Pn**	**07 03 57.6**	**+0.3**
TOA0	**Torodi Ar. Sit**	**21.48**	**47**	P			**P**	**07 04 51.1**	**0.0**
TORD	**Torodi Ar. Bea**	**21.48**	**47**	P			**P**	**07 04 51.2**	**+0.2**
	8.2nm,0.8s,baz=231,slow=10,SNR=33								
TORD				S			**S**	**07 08 43.5**	**-5.8**
	1.4nm,0.5s,baz=224,slow=22,SNR=5.0								
TORD				LR		LR	LR	07 12 09.2	
	comp=Z,224nm,20.5s,baz=330,slow=34								
BDFB	**Brasilia**	**36.10**	**245**	LR		LR	LR	07 19 03.9	
	comp=Z,44nm,21.9s,baz=92,slow=32								
KEST	**Kesra**	**43.04**	**29**	LR		LR	LR	07 28 04.8	
	comp=Z,150nm,18.1s,baz=248,slow=39								
LSZ	**Lusaka**	**44.17**	**111**	P			**P**	**07 08 13.1**	**+1.6**
	1.7nm,0.6s,baz=283,slow=10,SNR=3.6								
BOSA	**Boshof**	**46.47**	**129**	P			**P**	**07 08 31.2**	**+1.6**
	2.6nm,1.0s,baz=292,slow=5.4,SNR=3.5								
BOSA	**Boshof**	**46.47**	**129**	P			**P**	**07 08 30.0**	**+0.3**
CPUP	**Villa Florida**	**48.17**	**235**	P			**P**	**07 08 41.6**	**-1.2**
	1.8nm,1.0s,baz=2.2,slow=11,SNR=3.8								
CPUP				LR		LR	LR	07 26 03.3	
	comp=Z,31nm,21.4s,baz=62,slow=33								
SIV	**San Ignacio**	**48.27**	**250**	P			**P**	**07 08 42.4**	**-1.3**
	1.8nm,1.0s,baz=86,slow=10,SNR=6.4								
SAML	**Samuel**	**49.17**	**259**	P			**P**	**07 08 50.1**	**-0.6**
SAML				IAmb		IAmb	IAmb	07 08 50.6	
	comp=Z,4.0nm,0.9s								
LPAZ	**La Paz**	**54.98**	**251**	P			**P**	**07 09 32.5**	**-2.1**
	comp=Z,1.0nm,0.8s,baz=111,slow=4.6,SNR=4.6								
LPAZ				LR		LR	LR	07 33 16.4	
	comp=Z,43nm,18.4s,baz=68,slow=36								
GERES	**GERESS Array B**	**55.61**	**22**	P			**P**	**07 09 39.1**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=191,slow=5.4,SNR=5.2								
BRTR	**Keskin Array B**	**59.95**	**41**	P			**P**	**07 10 10.3**	**+1.6**
	comp=Z,2.0nm,0.9s,baz=248,slow=6.5,SNR=7.4								
AKASG	**Malin Array Be**	**63.76**	**29**	P			**P**	**07 10 35.6**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=228,slow=7.8,SNR=4.4								
AKASG				LR		LR	LR	07 38 47.5	
	comp=Z,32nm,21.8s,baz=305,slow=36								
PLCA	**Paso Flores**	**64.02**	**225**	LR		LR	LR	07 34 49.2	
	comp=Z,38nm,20.1s,baz=70,slow=33								
NOA	**NORSAR Array B**	**65.29**	**13**	LR		LR	LR	07 38 47.0	
	comp=Z,33nm,19.3s,baz=210,slow=36								
KBZ	**Khabaz**	**67.94**	**41**	P			**P**	**07 11 02.5**	**+1.4**
	comp=Z,2.0nm,1.0s,baz=198,slow=6.4,SNR=2.9								
VNA2	**Neumayer--Watz**	**69.58**	**178**	P			**P**	**07 11 12.3**	**+1.5**
	baz=342,slow=7.5								
VNA3	**Neumayer Olymp**	**69.81**	**178**	P			**P**	**07 11 13.3**	**+1.0**
FINES	**FINESS Array B**	**69.84**	**19**	P			**P**	**07 11 12.8**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=205,slow=4.5,SNR=9.9								
SNAA	**Sanae**	**70.56**	**176**	P			**P**	**07 11 18.4**	**+1.5**
SNAA

PPLA Sn **Sn** 07 29 18.7 -0.6
ANM Nome 9.93 245 Pn **Pn** 07 28 15.2 +1.2
ANM Sn **Sn** 07 30 07.1 +1.8

NNC ***26*** *07:32:53.0±0.8,50˚.06N×78˚.76E,h11km±12km,mb3.7, mpv3.3,Error ellipse: s-maj=10.0km s-min=7.0km az=56.0, Suspected Mining explosion.*
ASRS ***26*** *07:32:58.3±0.4,50˚N±2˚×7˚9E±˚,h10km,MLh3.5/8, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
ISC 26 07:32:54.7±0.8,**50˚.16N**±0˚.03×**78˚.82E**±0˚.04,**h0km,n32,** σ1§**73**/52,**20C-9D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.46**	**335**	⇑P	**Pb**	**07 33 04.8**	**-0.9**
KUR07				⇑S	**Sb**	**07 33 13.5**	**+0.4**
KUR14	**Kurchatov Arra**	**0.47**	**342**	⇑P	**Pb**	**07 33 05.1**	**-0.8**
KUR14				⇑S	**Sb**	**07 33 13.5**	**+0.1**
KUR06	**Kurchatov Arra**	**0.48**	**337**	⇓P	**Pb**	**07 33 05.0**	**-0.9**
KUR06				⇓S	**Sb**	**07 33 14.1**	**+0.5**
KUR15	**Kurchatov Arra**	**0.48**	**340**	⇓P	**Pb**	**07 33 05.2**	**-0.9**
KUR15				⇓S	**Sb**	**07 33 13.9**	**+0.1**
KURBB	**Kurchatov Arra** 34nm,0.2s	**0.49**	**338**	⇓P	**Pb**	**07 33 05.1**	**-1.1**
KURBB	153nm,0.6s			⇑S	**Sb**	**07 33 14.5**	**+0.5**
KUR16	**Kurchatov Arra**	**0.51**	**336**	⇑P	**Pb**	**07 33 05.6**	**-0.8**
KUR16				⇑S	**Sb**	**07 33 13.6**	**+0.3**
KUR05	**Kurchatov Arra**	**0.51**	**340**	⇑P	**Pb**	**07 33 05.7**	**-0.9**
KUR05				⇓S	**Sb**	**07 33 14.5**	**0.0**
KUR17	**Kurchatov Arra**	**0.52**	**335**	⇑P	**Pb**	**07 33 05.7**	**-1.0**
KUR17				⇑S	**Sb**	**07 33 14.9**	**+0.1**
KUR04	**Kurchatov Arra**	**0.53**	**341**	⇑P	**Pb**	**07 33 06.0**	**-0.8**
KUR04				⇓S	**Sb**	**07 33 15.1**	**+0.1**
KURK	**Kurchatov**	**0.57**	**347**	P	**Pb**	**07 33 06.6**	**-0.9**
KURK				S	**Sb**	**07 33 16.2**	**+0.1**
SEM	**Semipalatinsk** 11nm,0.1s	**0.95**	**75**	P	Pg	07 33 08.0	-4.9
SEM	39nm,0.3s			S	**Sg**	**07 33 26.3**	**+1.1**
UKR	**Ust'-Kan**	**3.88**	**76**	P	**Pn**	**07 33 57.2**	**+1.7**
UKR				S	**Sn**	**07 34 42.5**	**+0.7**
BRZS	**Berezniki** 3.2nm,0.2s	**3.96**	**270**	Pg	**Pn**	**07 33 55.6**	**-1.0**
BRZS	13nm,0.3s			Lg	Lg	07 34 48.0	
MAKZ	**Makanchi**	**3.96**	**147**	P	**Pn**	**07 33 59.7**	**+3.0**
MAKZ				S	**Sb**	**07 34 52.2**	**-1.6**
MAKZ	**Makanchi** 1.2nm,0.6s	**3.96**	**147**	⇑Pn	**Pn**	**07 33 56.1**	**-0.6**
MAKZ	4.3nm,0.7s			⇑Pg	**Pb**	**07 34 04.7**	**-0.6**
MAKZ	13nm,0.6s			⇑Lg	Lg	07 34 56.3	
MK31	**Makanchi Array** 0.2nm,0.1s,baz=322,slow=11,SNR=35	**4.09**	**144**	⇑Pn	**Pn**	**07 33 57.7**	**-0.7**
MK31	3.3nm,0.5s,baz=323,slow=14,SNR=23			⇑Pg	**Pb**	**07 34 05.7**	**-1.7**
MK31	5.9nm,0.4s,baz=326,slow=26,SNR=20			⇑Lg	Lg	07 35 01.7	
MKAR	**Makanchi Array**	**4.09**	**144**	P	**Pn**	**07 34 01.4**	**+3.0**
MKAR				S	**Sb**	**07 34 53.1**	**-4.3**
ELDR	**Elanda**	**4.74**	**74**	P	**Pn**	**07 34 08.3**	**+0.9**
ELDR				S	**Sn**	**07 35 08.5**	**+5.5**
TUNR	**Tungur**	**4.83**	**87**	P	**Pn**	**07 34 08.1**	**-0.6**
TUNR				S	**Sn**	**07 35 08.3**	**+3.1**
ZSN	**Zaisan** 5.2nm,0.3s	**4.83**	**122**	Pg	**Pb**	**07 34 17.5**	**-2.6**
ZSN	10nm,0.5s			Lg	Lg	07 35 25.0	
GALT	**Gorno-Altaysk,**	**4.84**	**65**	S	**Sn**	**07 35 05.1**	**-0.3**
ELT	**Eltsovka**	**5.56**	**53**	P	**Pn**	**07 34 19.3**	**+0.7**
ELT				S	**Sn**	**07 35 23.1**	**0.0**
DGZ	**Jazzator, Alta**	**5.58**	**91**	P	**Pn**	**07 34 21.2**	**+2.2**
DGZ				S	**Sn**	**07 35 26.4**	**+2.5**
AKAR	**Aktash**	**5.65**	**85**	P	**Pn**	**07 34 20.9**	**+0.9**
AKAR				S	**Sn**	**07 35 27.8**	**+2.2**
ULGR	**Ulagan, Altay**	**5.87**	**82**	P	**Pn**	**07 34 19.9**	**-3.0**
ULGR				S	**Sn**	**07 35 31.9**	**+1.1**
DJR	**Jarkent** 1.0nm,0.3s	**5.87**	**173**	Pg	**Pb**	**07 34 39.8**	**+1.9**
DJR	6.8nm,0.5s			Lg	Lg	07 36 03.5	
BRVK	**Borovoye** 0.7nm,0.5s	**6.05**	**302**	⇑Pn	**Pn**	**07 34 24.6**	**-0.7**
BRVK	1.8nm,0.5s			⇑Sn	**Sn**	**07 35 32.6**	**-2.7**
BRVK	2.8nm,0.7s			⇑Lg	Lg	07 36 01.8	
CHKK	**Chushkaly** 1.7nm,0.2s	**6.43**	**192**	Pg	**Pb**	**07 34 47.7**	**+0.2**
CHKK	14nm,0.5s			Lg	Lg	07 36 17.3	
KUU	**Kurty** 1.0nm,0.2s	**6.50**	**196**	Pg	**Pb**	**07 34 48.4**	**-0.1**
KUU	9.2nm,0.4s			Lg	Lg	07 36 18.2	
PDGK	**Podgornoye** 0.6nm,0.6s	**6.85**	**176**	Pg	**Pb**	**07 34 56.1**	**+1.5**
PDGK	2.3nm,0.8s			Lg	Lg	07 36 31.7	
PDGK	**Podgornoye** 6.3nm,0.6s	**6.85**	**176**	⇓Lg	Lg	07 36 25.3	
TKM2	**Tokmak 2** 2.1nm,0.5s	**7.58**	**198**	⇓Lg	Lg	07 36 45.6	

MAN ***26*** *07:39:10.5,15˚.33N×118˚.96E,h21km,MS3.8*
ISCJB ***26*** *07:39:11.8±1.4,15˚.23N±0˚.03×119˚.06E±0˚.03, h33km±10km,mb4.4/54,MS3.3/9,Error ellipse: s-maj=5.5km s-min=4.8km az=138.5*
BJI ***26*** *07:39:13.1±0.0,15˚.63N×119˚.26E,h28km,mb4.2/17, mB4.7/9,Ms4.3/5,Ms7 4.1/5*
MOS ***26*** *07:39:15.0±0.9,15˚.24N×119˚.10E,h62km,mb4.7/29,Error ellipse: s-maj=10.7km s-min=5.8km az=118.9*
IDC ***26*** *07:39:17.0±1.7,15˚.21N×119˚.11E,h65km±17km,mb4.0/28, mb1 4.1/30,mb1mx4.0/64,mbtmp4.2/30,MS3.4/11, Ms1 3.5/11,ms1mx3.2/36,Error ellipse: s-maj=13.7km s-min=10.2km az=55.0*
NEIC ***26*** *07:39:16.4±1.3,15˚.17N±0˚.07×119˚.01E±0˚.07,h61km±1km, mb4.6/37*
ISC 26 07:39:13.0±1.4,**15˚.22N**±0˚.04×**119˚.10E**±0˚.05,**h32**km±10km, **n151,**σ1§**48**/166,**mb4.5**/65,**MS3.5**/9,**21C-8D,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.96**	**55**	P	**Pn**	**07 39 28.1**	**-2.2**
SCZP				S	**Sb**	**07 39 41.4**	**-2.3**
BOLP	**Bolinao**	**1.40**	**34**	P	**Pn**	**07 39 34.1**	**-2.3**
BOLP				S	**Sn**	**07 39 52.6**	**-1.1**
PCPH	**Palayan**	**1.96**	**80**	⇑P	**Pn**	**07 39 43.7**	**-0.3**
PCPH				S	**Sb**	**07 40 10.1**	**-2.0**
TGY	**Tagaytay City** 296nm,0.3s,baz=332,slow=4.7,SNR=13	**2.10**	**122**	P	**Pb**	**07 39 49.9**	**-0.6**
TGY	174nm,0.3s,baz=74,slow=20,SNR=7.4			S	**Sb**	**07 40 15.6**	**-0.7**
TGY	comp=Z,2μm,18.4s,baz=3.5,slow=42			LR	LR	07 40 44.1	
TGY	**Tagaytay City**	**2.10**	**122**	⇓P	**Pn**	**07 39 48.3**	**+2.3**
TGY				S	**Sb**	**07 40 17.9**	**+1.7**
BALP	**Baler**	**2.45**	**77**	P	**Pn**	**07 39 50.5**	**-0.2**
BALP				S	**Sn**	**07 40 14.9**	**-4.6**
LQP	**Lukban**	**2.61**	**115**	⇑P	**Pn**	**07 39 54.7**	**+1.6**
LQP				S	Sn	07 40 07.6	-16
POLP	**Polilio Island**	**2.79**	**100**	P	**Pn**	**07 39 57.1**	**+1.6**
POLP				S	**Sb**	**07 40 33.2**	**-2.8**
CAUP	**Cauayan**	**3.13**	**56**	P	**Pn**	**07 40 01.6**	**+1.4**
CAUP				S	**Sb**	**07 40 43.1**	**-2.8**
BOAC	**Boac**	**3.19**	**123**	P	**Pn**	**07 40 02.7**	**+1.8**
BOAC				S	**Sn**	**07 40 39.2**	**+1.3**
APYP	**Conner**	**3.34**	**38**	P	**Pn**	**07 40 02.9**	**-0.1**
APYP				S	**Sn**	**07 40 40.2**	**-1.5**
ENPP	**El Nido**	**4.00**	**175**	P	**Pn**	**07 40 10.1**	**-2.1**
ENPP				S	**Sn**	**07 40 52.0**	**-6.0**
OTRP	**Odiongan**	**4.02**	**135**	P	**Pn**	**07 40 14.1**	**+1.7**
OTRP				S	**Sn**	**07 40 55.6**	**-2.7**
CUYO	**Cuyo Island**	**4.73**	**156**	P	**Pn**	**07 40 21.1**	**-1.1**
PVCP	**Virac**	**5.16**	**108**	P	**Pn**	**07 40 30.1**	**+2.0**
PVCP				S	Sn	07 41 08.8	-18

YULB	**Yu-li**	**8.39**	**14**	Pn	**Pn**	**07 41 14.7**	**+2.2**
YULB				Sn	**Sn**	**07 42 49.3**	**+3.1**
KKM	**Kota Kinabalu**	**9.54**	**198**	Pn	**Pn**	**07 41 27.9**	**-0.5**
DLV	**T Lat**	**10.81**	**254**	Pn	**Pn**	**07 41 45.2**	**-0.7**
WHN	**Wuhan**	**15.87**	**345**	P	**P**	**07 42 59.5**	**+2.1**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=94,slow=7.6,SNR=4.2	**19.55**	**282**	P	**Pn**	**07 43 39.8**	**0.0**
CMAR	1.1nm,0.3s,baz=247,slow=14,SNR=7.1			S	**S**	**07 47 18.5**	**+0.9**
CMAR	comp=Z,187nm,19.3s,baz=150,slow=36			LR	LR	07 51 00.1	
JNU	**Nakatsue** comp=Z,420nm,21.2s,baz=192,slow=36	**20.78**	**29**	LR	LR	07 51 42.8	
TJN	**Taejon**	**22.33**	**18**	*ceP*	**P**	**07 44 07.1**	**-1.0**
PSI	**Prapat** 2.7nm,0.6s,baz=25,slow=9.0,SNR=4.3	**23.40**	**240**	P	**P**	**07 44 21.1**	**+1.6**
RPSI	**Rantau Prapat**	**23.46**	**240**	P	**P**	**07 44 21.1**	**+1.2**
KSRS	**Korea Array** 5.3nm,0.9s,baz=198,slow=11,SNR=9.4	**23.49**	**18**	P	**P**	**07 44 20.1**	**+0.1**
KSRS	comp=Z,36nm,19.4s,baz=160,slow=38			LR	LR	07 53 57.6	
KS19	**Wonju Array Si**	**23.52**	**18**	P	**P**	**07 44 20.4**	**0.0**
KS19	comp=Z,36nm,1.4s			IAmb	IAmb	07 44 27.7	
BJT	**Baijiatuan**	**24.84**	**355**	P	**P**	**07 44 33.8**	**+1.3**
BJT	comp=Z,11nm,0.8s			pmax	pmax		
BJT	**Baijiatuan**	**24.84**	**355**	P	**P**	**07 44 33.8**	**+1.3**
GUMO	**Guam** comp=Z,119nm,19.4s,baz=97,slow=33	**25.01**	**90**	LR	LR	07 53 13.2	
MJAR	**Matsushiro Arr** comp=Z,43nm,20.6s,baz=330,slow=36	**27.22**	**35**	LR	LR	07 55 51.7	
SHL	**Shillong**	**27.45**	**296**	*eP*	**P**	**07 44 57.0**	**+0.5**
CN2	**Changchun**	**29.00**	**10**	*eP*	**P**	**07 45 10.5**	**+0.7**
GTA	**Gaotai**	**29.44**	**329**	*eP*	**P**	**07 45 14.8**	**+0.8**
GTA				pP	pP	07 45 19.5	-2.4
GTA				sP	sP	07 45 22.8	-2.5
GTA	comp=Z,3.0nm,1.2s			pmax	pmax		
USRK	**Ussuriysk Ar.** comp=Z,2.2nm,0.8s,baz=235,slow=5.1,SNR=3.4	**30.90**	**18**	P	**P**	**07 45 27.2**	**+0.6**
KNRA	**Kununurra**	**32.15**	**162**	P	**P**	**07 45 34.4**	**-3.5**
SONM	**Songino Array** comp=Z,21nm,0.6s,baz=164,slow=9.7,SNR=4.8	**34.18**	**345**	P	**P**	**07 45 55.8**	**+0.3**
KLR	**Kul'dur**	**35.47**	**14**	⇑*eP*	**P**	**07 46 06.1**	**-0.3**
KLR	comp=Z,9.0nm,1.4s			pmax	pmax		
KLR	**Kul'dur** comp=Z,1.5nm,0.6s,baz=220,slow=7.7,SNR=6.2	**35.47**	**14**	P	**P**	**07 46 06.7**	**+0.2**
WRA	**Warramunga Arr**	**38.02**	**156**	*i* P	**P**	**07 46 27.7**	**-0.8**
WRA	comp=Z,3.0nm,0.5s			pmax	pmax		
WRA	**Warramunga Arr** comp=Z,2.1nm,0.5s,baz=337,slow=9.3,SNR=9.1	**38.02**	**156**	P	**P**	**07 46 28.0**	**-0.5**
WRA	comp=Z,0.8nm,0.7s,baz=341,slow=3.2,SNR=4.9			PcP	**PcP**	**07 48 43.9**	**+0.2**
TLY	**Talaya** comp=Z,83nm,19.8s,baz=262,slow=36	**38.42**	**345**	LR	LR	08 02 31.2	
AS31	**Alice Springs**	**41.27**	**159**	P	**P**	**07 46 54.6**	**-0.9**
ASAR	**Alice Springs** comp=Z,1.9nm,0.4s,baz=331,slow=7.5,SNR=23	**41.27**	**159**	P	**P**	**07 46 55.5**	**0.0**
ASAR	comp=Z,1.5nm,0.8s,baz=347,slow=2.9,SNR=6.1			PcP	**PcP**	**07 48 54.1**	**+0.1**
MK31	**Makanchi Array**	**43.90**	**324**	P	**P**	**07 47 17.6**	**+0.9**
MK31	comp=Z,5.0nm,1.0s			pmax	pmax		
MK31	**Makanchi Array**	**43.90**	**324**	P	**P**	**07 47 17.6**	**+0.9**
MKAR	**Makanchi Array** comp=Z,3.2nm,0.8s,baz=130,slow=9.6,SNR=15	**43.90**	**324**	P	**P**	**07 47 17.5**	**+0.8**
MKAR	comp=Z,1.3nm,0.9s,baz=138,slow=2.3,SNR=3.5			PcP	**PcP**	**07 49 02.0**	**-0.4**
MKAR	comp=Z,57nm,18.5s,baz=102,slow=35			LR	LR	08 04 53.2	
MAKZ	**Makanchi**	**44.08**	**323**	P	**P**	**07 47 18.8**	**+0.7**
MAKZ	comp=Z,8.0nm,1.3s			pmax	pmax		
MAKZ	**Makanchi**	**44.08**	**323**	P	**P**	**07 47 18.8**	**+0.7**
CTA	**Charters Tower** comp=Z,4.0nm,0.9s,baz=22,slow=1.4,SNR=3.2	**44.09**	**142**	P	**P**	**07 47 19.1**	**+0.7**
NIL	**Nilore**	**45.18**	**302**	P	**P**	**07 47 27.0**	**-0.1**
NIL	comp=Z,11nm,1.0s			pmax	pmax		
NIL	**Nilore**	**45.18**	**302**	P	**P**	**07 47 27.0**	**-0.1**
NIL	comp=Z,10nm,1.0s			IAmb	IAmb	07 47 27.7	
NRN	**Naryn**	**45.41**	**314**	P	**P**	**07 47 30.0**	**+0.8**
NRN	comp=Z,6.0nm,1.0s			pmax	pmax		
NRN	**Naryn**	**45.41**	**314**	P	**P**	**07 47 30.0**	**+0.8**
NRN	comp=Z,6.2nm,0.9s			IAmb	IAmb	07 47 31.1	
AAK	**Ala-Archa**	**46.90**	**315**	*ceP*	**P**	**07 47 40.5**	**-0.2**
AAK	comp=Z,6.0nm,1.2s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,2.0nm,0.8s,baz=138,slow=3.4,SNR=4.4	**46.90**	**315**	P	**P**	**07 47 41.8**	**+1.1**
AAK	**Ala-Archa**	**46.90**	**315**	P	**P**	**07 47 41.0**	**+0.3**
ZALV	**Zalesovo Beam**	**47.01**	**333**	*i* P	**P**	**07 47 40.7**	**-0.4**
ZALV	comp=Z,4.0nm,0.9s			pmax	pmax		
ZALV	**Zalesovo Beam** comp=Z,4.3nm,0.9s,baz=124,slow=7.4,SNR=8.8	**47.01**	**333**	P	**P**	**07 47 40.8**	**-0.3**
ARSB	**Arslanbob**	**47.50**	**313**	P	**P**	**07 47 46.0**	**+0.6**
ARSB	comp=Z,3.7nm,0.7s			IAmb	IAmb	07 47 46.5	
KURBB	**Kurchatov Arra** comp=Z,5.8nm,1.0s,baz=119,slow=8.6,SNR=23	**48.07**	**326**	P	**P**	**07 47 50.0**	**+0.6**
KURK	**Kurchatov**	**48.07**	**326**	*ceP*	**P**	**07 47 49.5**	**+0.1**
KURK	comp=Z,17nm,1.3s			pmax	pmax		
KURK	**Kurchatov**	**48.07**	**326**	P	**P**	**07 47 49.8**	**+0.4**
PETK	**Petropavlovsk-** comp=Z,12nm,0.8s,baz=204,slow=7.0,SNR=12	**48.48**	**30**	P	**P**	**07 47 53.4**	**+0.8**
GAR	**Garm**	**48.76**	**309**	P	**P**	**07 47 55.9**	**+0.7**
GAR	comp=Z,13nm,1.3s			IAmb	IAmb	07 48 06.4	
KBL	**Kabul**	**48.78**	**303**	P	**P**	**07 47 56.3**	**+0.8**
KBL	comp=Z,3.0nm,0.6s			pmax	pmax		
KBL	**Kabul**	**48.78**	**303**	P	**P**	**07 47 56.3**	**+0.8**
KBL	comp=Z,3.3nm,0.6s			IAmb	IAmb	07 47 59.7	
CHGR	**Chuyangaron**	**49.55**	**308**	P	**P**	**07 48 01.4**	**+0.3**
CHGR	comp=Z,8.2nm,0.8s			IAmb	IAmb	07 48 04.2	
KK31	**Karatay Array**	**49.81**	**314**	P	**P**	**07 48 03.2**	**+0.3**
KK31	comp=Z,3.0nm,0.9s			pmax	pmax		
KK31	**Karatay Array**	**49.81**	**314**	P	**P**	**07 48 03.2**	**+0.3**
KK31	comp=Z,3.4nm,0.8s			IAmb	IAmb	07 48 04.2	
KKAR	**Karatay Array**	**49.81**	**314**	P	**P**	**07 48 02.4**	**-0.5**
KKAR	comp=Z,3.0nm,0.9s			pmax	pmax		
KKAR	**Karatay Array**	**49.81**	**314**	P	**P**	**07 48 02.4**	**-0.5**
MA2	**Magadan** comp=Z,7.0nm,0.6s,baz=172,slow=15,SNR=3.3	**50.01**	**20**	P	**P**	**07 48 05.5**	**+1.3**
MA2	**Magadan**	**50.01**	**20**	P	**P**	**07 48 05.2**	**+1.1**
STKA	**Stephens Creek** comp=Z,1.8nm,0.8s,baz=331,slow=8.2,SNR=4.9	**51.56**	**155**	P	**P**	**07 48 16.6**	**+0.5**
STKA	comp=Z,47nm,18.9s,baz=18,slow=38			LR	LR	08 12 16.8	
STKA	**Stephens Creek**	**51.56**	**155**	P	**P**	**07 48 16.3**	**+0.1**
SEY	**Seymchan**	**53.05**	**18**	P	**P**	**07 48 28.0**	**+1.2**
SEY	**Seymchan** comp=Z,2.2nm,0.7s,baz=59,slow=9.5,SNR=3.5	**53.05**	**18**	P	**P**	**07 48 27.9**	**+1.2**
BVAR	**Borovoye Array** comp=Z,1.9nm,0.6s,baz=100,slow=8.1,SNR=11	**53.65**	**326**	P	**P**	**07 48 31.9**	**+0.5**
BVAR	comp=Z,1.2nm,0.6s,baz=60,slow=5.8,SNR=4.7			PcP	**PcP**	**07 49 37.2**	**-0.3**
BRVK	**Borovoye**	**53.72**	**326**	*ce*P	**P**	**07 48 32.4**	**+0.4**
BRVK	comp=Z,11nm,1.3s			pmax	pmax		
BRVK	**Borovoye**	**53.72**	**326**	P	**P**	**07 48 32.7**	**+0.8**
BRVK	comp=Z,11nm,1.2s			IAmb	IAmb	07 48 33.4	
TIXI	**Tiksi**	**56.72**	**4**	*ce*P	**P**	**07 48 52.5**	**-0.7**
TIXI	comp=Z,4.0nm,1.0s			pmax	pmax		
NRIK	**Noril'sk** comp=Z,6.9nm,0.7s,baz=132,slow=7.0,SNR=16	**57.60**	**347**	P	**P**	**07 48 59.6**	**+0.1**
GEYT	**Alibeck** comp=Z,2.2nm,0.8s,baz=53,slow=7.6,SNR=4.5	**57.99**	**305**	P	**P**	**07 49 04.0**	**+1.2**
GEYT	comp=Z,59nm,18.7s,baz=230,slow=39			LR	LR	08 16 42.6	
ABKAR	**Akbulak array**	**58.58**	**319**	P	**P**	**07 49 07.0**	**+0.3**
DZM	**Mont Dzumac**	**59.38**	**128**	P	**P**	**07 49 13.8**	**+1.1**
DZM	comp=Z,6.6nm,0.9s			IAmb	IAmb	07 49 22.0	
SVE	**Sverdlovsk** comp=Z,18nm,0.9s	**60.30**	**327**	*e*P	**P**	**07 49 18.7**	**+0.3**
SVE				pmax	pmax		
BILL	**Bilibino**	**60.76**	**18**	*de*P	**P**	**07 49 21.7**	**+0.3**
BILL				*e*		07 49 34.1	
BILL				*PP	pwP	07 49 43.0	+7.0
BILL						07 50 08.0	
BILL				*e*		07 58 13.3	
BILL	comp=Z,11nm,1.7s			pmax	pmax		
BILL	**Bilibino**	**60.76**	**18**	P	**P**	**07 49 22.1**	**+0.7**
ARU	**Arti**	**61.27**	**327**	*d i*P	**P**	**07 49 25.0**	**0.0**
ARU						07 51 36.4	
ARU				S	**S**	**07 57 39.7**	**-3.2**
ARU				SS	**SS**	**08 01 36.1**	**-7.2**
ARU	comp=Z,13nm,0.8s			pmax	pmax		
ARU	**Arti**	**61.27**	**327**	P	**P**	**07 49 25.1**	**+0.1**
AKT	**Akhty**	**66.18**	**309**	*e*P	**P**	**07 49 58.6**	**+0.7**
AKT				*e*PP	**PcP**	**07 50 23.1**	**-4.9**
AKT				*e*		07 50 27.5	
AKT	comp=Z,9.0nm,0.8s			pmax	pmax		
BTLR	**Botlikh**	**67.31**	**310**	*i* P	**P**	**07 50 06.0**	**+1.0**
GNI	**Garni**	**68.46**	**307**	*ce*P	**P**	**07 50 13.9**	**+1.5**
GNI	comp=Z,48nm,1.3s			pmax	pmax		
ZEI	**Tsey**	**69.01**	**310**	*e*P	**P**	**07 50 15.7**	**-0.2**
ZEI	comp=Z,8.0nm,0.9s			pmax	pmax		
RAYN	**Ar Rayn**	**69.28**	**290**	P	**P**	**07 50 18.3**	**+0.6**
RAYN	comp=Z,12nm,1.4s			pmax	pmax		
RAYN	**Ar Rayn**	**69.28**	**290**	P	**P**	**07 50 18.3**	**+0.6**
RAYN	comp=Z,12nm,1.4s			IAmb	IAmb	07 50 20.5	
AKH	**Akhalkalaki**	**69.36**	**309**	P	**P**	**07 50 17.1**	**-0.9**
AKH	comp=Z,8.0nm,0.8s			pmax	pmax		
AKH	**Akhalkalaki**	**69.36**	**309**	P	**P**	**07 50 17.1**	**-0.9**
AKH	comp=Z,8.5nm,0.8s			IAmb	IAmb	07 50 20.6	
KBZ	**Khabaz** comp=Z,9.9nm,0.9s,baz=126,slow=3.5,SNR=13	**69.72**	**311**	P	**P**	**07 50 20.6**	**+0.7**
NEY	**Neytrino**	**69.86**	**311**	*i* P	**P**	**07 50 23.1**	**+2.0**
NEY	comp=Z,2.0nm,0.9s			pmax	pmax		
KIV	**Kislovodsk**	**69.86**	**312**	*e*P	**P**	**07 50 21.9**	**+1.0**
KIV	comp=Z,53nm,0.9s			pmax	pmax		
KIV	**Kislovodsk**	**69.86**	**312**	P	**P**	**07 50 21.0**	**+0.1**
VRH	**Novokhopyorsk**	**70.40**	**319**	*e*P	**P**	**07 50 23.3**	**-0.6**
VRH	comp=Z,10.0nm,0.6s			pmax	pmax		
VSR	**Storozhevoye**	**72.00**	**319**	*i* P	**P**	**07 50 33.2**	**-0.4**
VSR	comp=Z,10.0nm,1.0s			pmax	pmax		
LPSR	**Galich'ya Gora**	**72.11**	**321**	*e*P	**P**	**07 50 33.1**	**-1.1**
LPSR	comp=Z,10.0nm,0.8s			pmax	pmax		
OBN	**Obninsk**	**73.40**	**324**	⇓*e*P	**P**	**07 50 42.3**	**+0.4**
OBN						07 50 58.0	
OBN	comp=Z,10.0nm,0.4s			pmax	pmax		
PPLA	**Purkeypile**	**76.01**	**28**	P	**P**	**07 50 57.6**	**+0.5**
OHAK	**Old Harbor**	**76.07**	**34**	P	**P**	**07 50 58.2**	**+0.9**
TRF	**Thorofare Moun**	**76.80**	**27**	P	**P**	**07 51 02.5**	**+0.9**
TRF	comp=Z,13nm,1.4s			IAmb	IAmb	07 51 21.7	
SUA	**Susitna One**	**76.85**	**30**	P	**P**	**07 51 02.1**	**+0.3**
SUA	comp=Z,8.6nm,1.0s			IAmb	IAmb	07 51 11.5	
BRTR	**Keskin Array B**	**77.00**	**308**	*ce*P	**P**	**07 51 02.7**	**-0.4**
BRTR	comp=Z,1.0nm,0.9s			pmax	pmax		
BRTR	**Keskin Array B** comp=Z,1.2nm,0.9s,baz=116,slow=5.6,SNR=6.3	**77.00**	**308**	P	**P**	**07 51 03.1**	**0.0**
ARCES	**ARCESS Array B** comp=Z,2.6nm,0.9s,baz=90,slow=9.0,SNR=3.1	**77.12**	**339**	P	**P**	**07 51 03.2**	**+0.2**
NEA	**Nenana**	**77.17**	**26**	P	**P**	**07 51 03.5**	**+0.1**
NEA	comp=Z,3.6nm,0.6s			IAmb	IAmb	07 51 05.3	
MCK	**McKinley**	**77.36**	**27**	P	**P**	**07 51 04.6**	**+0.1**
MCK	comp=Z,6.0nm,0.9s			pmax	pmax		
MCK	**McKinley**	**77.36**	**27**	P	**P**	**07 51 04.6**	**+0.1**
MCK	comp=Z,5.6nm,0.9s			IAmb	IAmb	07 51 07.7	
PMR	**Palmer** comp=Z,18nm,1.4s	**77.60**	**29**	P	**P**	**07 51 06.2**	**+0.4**
PMR				pmax	pmax		
PMR	**Palmer**	**77.60**	**29**	P	**P**	**07 51 06.2**	**+0.4**
WRH	**Wood River Hil**	**77.61**	**26**	P	**P**	**07 51 05.4**	**-0.4**
WRH	comp=Z,7.1nm,1.4s			IAmb	IAmb	07 51 11.2	
ILAR	**Eielson Array** comp=Z,0.5nm,0.9s,baz=270,slow=6.3,SNR=5.6	**78.07**	**26**	P	**P**	**07 51 07.8**	**-0.7**
FINES	**FINESS Array B**	**78.21**	**331**	P	**P**	**07 51 09.0**	**-0.2**
FINES	**FINESS Array B** comp=Z,4.5nm,1.0s,baz=321,slow=2.4,SNR=5.7	**78.21**	**331**	P	**P**	**07 51 09.0**	**-0.2**
AKASG	**Malin Array Be**	**78.31**	**320**	*i* P	**P**	**07 51 09.5**	**-0.4**
AKASG	comp=Z,2.0nm,0.6s			pmax	pmax		
AKASG	**Malin Array Be** comp=Z,1.1nm,0.6s,baz=69,slow=4.7,SNR=5.2	**78.31**	**320**	P	**P**	**07 51 09.6**	**-0.4**
RIDG	**Independent Ri**	**79.15**	**27**	P	**P**	**07 51 14.4**	**-0.1**
RIDG	comp=Z,12nm,1.2s			IAmb	IAmb	07 51 24.8	
SCRK	**Sand Creek**	**79.47**	**26**	P	**P**	**07 51 14.8**	**-1.5**
TESR	**Tescani**	**80.78**	**316**	⇓P	**P**	**07 51 22.2**	**-1.3**
VRI	**Vrincioaia**	**80.87**	**315**	⇑P	**P**	**07 51 25.4**	**+1.3**
VRI	**Vrincioaia**	**80.87**	**315**	⇑P	**P**	**07 51 25.4**	**+1.3**
PLOR	**Plostina**	**80.92**	**315**	⇑P	**P**	07 51 32.3	+7.9
PLOR	**Plostina**	**80.92**	**315**	⇑P	**P**	07 51 32.3	+7.9
BIZ	**Bicaz**	**81.06**	**316**	⇑P	**P**	**07 51 25.6**	**+0.6**
MLR	**Muntele Rosu**	**81.48**	**315**	⇓P	**P**	**07 51 27.9**	**+0.4**
MLR	**Muntele Rosu**	**81.48**	**315**	⇓P	**P**	**07 51 27.9**	**+0.4**
BURAR	**Bucovina Array**	**81.50**	**317**	⇑P	**P**	**07

KRVT				S		Sn	07 41 01.2	0.0
	268nm,0.3s,baz=1.6,slow=22,SNR=27							
PMG	**Port Moresby**	**8.26 236**		P		**Pn**	**07 42 02.1**	**+4.2**
	2.2nm,0.3s,baz=59,slow=4.8,SNR=6.8							
PMG				S		**Sn**	**07 43 28.5**	**-1.0**
	1.1nm,0.3s,baz=150,slow=20,SNR=2.2							
PMG	**Port Moresby**	**8.26 236**		Pn		Pn	07 42 02.6	+4.7
PMG				Sn		**Sn**	**07 43 32.2**	**+2.7**
COEN	**Coen**	**14.09 229**		Pn		**Pn**	**07 43 15.9**	**-0.1**
CTA	**Charters Tower**	**16.99 206**		P		**Pn**	**07 43 52.8**	**+0.4**
	0.2nm,0.3s,baz=33,slow=15,SNR=3.9							
EIDS	**Eidsvold**	**20.64 188**		P		**P**	**07 44 31.9**	**-0.6**
MTN	**Manton Dam**	**24.04 249**		P		**P**	**07 45 05.7**	**-1.1**
WRA	**Warramunga Arr**	**24.42 230**		P		**P**	**07 45 09.1**	**-1.1**
	7.4nm,0.7s,baz=53,slow=9.8,SNR=52							
ARMA	**Armidale**	**25.57 185**		P		**P**	**07 45 21.9**	**+1.2**
ARMA				IAmb		IAmb	07 45 33.0	
	comp=Z,18nm,1.4s							
AS31	**Alice Springs**	**27.02 224**		P		**P**	**07 45 32.7**	**-1.1**
AS31				IAmb		IAmb	07 45 33.1	
	comp=Z,2.3nm,0.3s							
ASAR	**Alice Springs**	**27.02 224**		P		**P**	**07 45 32.8**	**-1.0**
	comp=Z,2.4nm,0.4s,baz=54,slow=8.7,SNR=99							
KNRA	**Kununurra**	**27.13 245**		P		**P**	**07 45 33.5**	**-1.2**
KNRA				IAmb		IAmb	07 45 42.2	
	comp=Z,57nm,1.4s							
STKA	**Stephens Creek**	**29.36 202**		P		**P**	**07 45 53.1**	**-1.3**
	comp=Z,2.3nm,0.8s,baz=32,slow=14,SNR=5.4							
FITZ	**Fitzroy Crossi**	**30.79 242**		P		**P**	**07 46 05.9**	**-1.3**
FITZ				IAmb		IAmb	07 46 05.9	
	comp=Z,7.2nm,0.8s							
FORT	**Forrest**	**35.60 220**		P		**P**	**07 46 47.3**	**-1.6**
FORT				IAmb		IAmb	07 46 49.6	
	comp=Z,12nm,0.8s							
PSA00	**Pilbara Seismi**	**37.14 240**		P		**P**	**07 47 00.0**	**-2.1**
PSA00				IAmb		IAmb	07 47 00.2	
	comp=Z,8.6nm,1.2s							
SONM	**Songino Array**	**67.03 327**		P		**P**	**07 50 43.6**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=134,slow=6.2,SNR=3.8							
TAPN	**Taplejung**	**71.52 301**	*eP*			**P**	**07 51 11.7**	**0.0**
	comp=Z,10nm,0.4s							
ODAN	**Odare**	**71.67 300**	*eP*			**P**	**07 51 12.6**	**+0.1**
	comp=Z,26nm,0.6s							
RAMN	**Ramite**	**72.37 300**	*eP*			**P**	**07 51 16.7**	**0.0**
JIRN	**Jiri**	**72.91 301**	*eP*			**P**	**07 51 20.0**	**0.0**
	comp=Z,13nm,0.4s							
GUN	**Gumba**	**73.24 301**	*eP*			**P**	**07 51 22.0**	**+0.1**
	comp=Z,12nm,0.5s							
PKI	**Pulchoki**	**73.56 300**	*eP*			**P**	**07 51 23.5**	**-0.3**
PKIN	**Phulchoki**	**73.57 300**	*eP*			**P**	**07 51 23.4**	**-0.4**
DMN	**Daman**	**73.82 300**	*eP*			**P**	**07 51 25.7**	**+0.4**
GKN	**Gorkha**	**74.32 301**	*eP*			**P**	**07 51 27.9**	**-0.2**
DANN	**Dangsing**	**75.16 301**	*eP*			**P**	**07 51 32.2**	**-0.8**
	comp=Z,9.6nm,0.8s							
KOLN	**Koldanda**	**75.16 300**	*eP*			**P**	**07 51 32.5**	**-0.4**
	comp=Z,6.4nm,0.5s							
MKAR	**Makanchi Array**	**81.19 319**		P		**P**	**07 52 05.8**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=92,slow=7.5,SNR=9.0							
IL31		**81.69 22**		P		**P**	**07 52 09.6**	**+1.9**
ILAR	**Eielson Array**	**81.69 22**		P		**P**	**07 52 08.2**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=244,slow=5.4,SNR=9.6							
ZALV	**Zalesovo Beam**	**81.89 326**		P		**P**	**07 52 08.5**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=104,slow=6.1,SNR=3.9							
KURBB	**Kurchatov Arra**	**84.61 322**		P		**P**	**07 52 22.9**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=109,slow=3.8,SNR=6.0							
MAW	**Mawson**	**86.05 203**		P		**P**	**07 52 28.8**	**-1.2**
MAW	**Mawson**	**86.05 203**		P		**P**	**07 52 28.8**	**-1.1**
	comp=Z,2.8nm,0.6s,baz=97,slow=6.0,SNR=9.1							
BVAR	**Borovoye Array**	**90.03 323**		P		**P**	**07 52 48.6**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=59,slow=5.6,SNR=6.4							
TORD	**Torodi Ar. Bea**	**151.54 289**		PKPbc		**PKPdf**	**07 59 42.5**	**+4.4**
	comp=Z,1.3nm,0.6s,baz=84,slow=2.5,SNR=7.6							

*ISCJB **26** 07:43:37.7±0.5,20.78N±0.06×146.6E±0.1,h10km, mb4.1/19,MS3.1/1,Error ellipse: s-maj=15.2km s-min=8.4km az=175.2*
*IDC **26** 07:43:37.9±0.7,20.79N×146.59E,h0km,mb4.2/19, mb1 4.3/20,mb1mx4.0/68,mbtmp4.2/20,ML4.2/1,MS3.2/1, Ms1 3.2/1,ms1mx2.5/37,Error ellipse: s-maj=27.7km s-min=13.6km az=81.0*
*NEIC **26** 07:43:39.6±1.1,20.83N±0.08×146.54E±0.09,h10km±1km, mb4.5/11*

ISC 26 07:43:39.7±0.6,20.86N±0.08×146.5E±0.1,h10km,n45, σ1§10/49,mb4.3/26,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**7.36**	**328**	Pn		**Pn**	**07 45 26.4**	**-0.8**
	3.7nm,0.3s,baz=285,slow=20,SNR=2.3							
JCJ				Sn		**Sn**	**07 46 47.0**	**-3.7**
	16nm,0.3s,baz=133,slow=22,SNR=8.0							
KSRS	**Korea Array**	**23.09**	**320**	P		**P**	**07 48 47.3**	**+1.6**
	1.9nm,0.5s,baz=148,slow=8.6,SNR=9.2							
JKA	**Kamikawa-asahi**	**23.42**	**353**	P		**P**	**07 48 49.8**	**+0.9**
ASAJ	**Asahikawa**	**23.42**	**353**	P		**P**	**07 48 49.8**	**+0.8**
	8.0nm,0.4s,baz=136,slow=18,SNR=9.3							
USRK	**Ussuriysk Ar.**	**26.21**	**336**	P		**P**	**07 49 16.3**	**+1.6**
	3.5nm,0.9s,baz=153,slow=9.7,SNR=4.0							
KLR	**Kul'dur**	**30.66**	**341**	P		**P**	**07 49 54.9**	**+0.5**
	1.5nm,0.7s,baz=159,slow=8.6,SNR=2.4							
PETK	**Petropavlovsk-**	**33.33**	**12**	LR		LR	08 06 54.1	
	comp=Z,34nm,18.1s,baz=76,slow=42							
KNRA	**Kununurra**	**40.27**	**207**	P		**P**	**07 51 17.2**	**+0.2**
KNRA				IAmb		IAmb	07 51 28.7	
	comp=Z,14nm,0.9s							
CTA	**Charters Tower**	**40.69**	**180**	P		**P**	**07 51 19.9**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=5.1,slow=9.7,SNR=4.4							
SONM	**Songino Array**	**41.97**	**320**	P		**P**	**07 51 31.9**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=124,slow=7.5,SNR=4.0							
WRA	**Warramunga Arr**	**42.26**	**197**	P		**P**	**07 51 32.8**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=17,slow=8.6,SNR=18							
WRA				PcP		**PcP**	**07 53 27.2**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=7.7,slow=3.6,SNR=9.3							
FITZ	**Fitzroy Crossi**	**43.78**	**209**	P		**P**	**07 51 44.6**	**-1.2**
FITZ				IAmb		IAmb	07 51 47.2	
	comp=Z,4.2nm,0.8s							
AS31	**Alice Springs**	**45.92**	**196**	P		**P**	**07 52 02.3**	**-0.5**
ASAR	**Alice Springs**	**45.92**	**196**	P		**P**	**07 52 01.9**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=18,slow=6.7,SNR=13							
ASAR				PcP		**PcP**	**07 53 39.9**	**0.0**
	comp=Z,0.8nm,0.7s,baz=23,slow=3.7,SNR=7.8							
STKA	**Stephens Creek**	**52.64**	**185**	P		**P**	**07 52 53.6**	**-0.5**
TAPN	**Taplejung**	**53.64**	**289**	*eP*		**P**	**07 53 03.7**	**+1.6**
	comp=Z,21nm,0.8s							
ODAN	**Odare**	**53.98**	**289**	*eP*		**P**	**07 53 06.0**	**+1.5**
RAMN	**Ramite**	**54.67**	**289**	*eP*		**P**	**07 53 11.0**	**+1.5**
JIRN	**Jiri**	**54.94**	**290**	*eP*		**P**	**07 53 13.4**	**+1.7**
	comp=Z,42nm,0.7s							
GUN	**Gumba**	**55.19**	**290**	*eP*		**P**	**07 53 15.0**	**+1.6**
	comp=Z,32nm,1.0s							
PKI	**Pulchoki**	**55.64**	**290**	*eP*		**P**	**07 53 17.5**	**+0.8**
PKIN	**Phulchoki**	**55.65**	**290**	*eP*		**P**	**07 53 17.7**	**+1.1**
	comp=Z,7.4nm,0.5s							
KKN	**Kakani**	**55.73**	**290**	*eP*		**P**	**07 53 18.9**	**+1.8**
DMN	**Daman**	**55.90**	**290**	*eP*		**P**	**07 53 19.7**	**+1.3**
GKN	**Gorkha**	**56.27**	**290**	*eP*		**P**	**07 53 22.4**	**+1.5**
	comp=Z,70nm,1.0s							
ZAA0	**Zalesovo Array**	**56.79**	**322**	P		**P**	**07 53 23.9**	**0.0**
ZAA0				IAmb		IAmb	07 53 24.7	
	comp=Z,2.4nm,0.8s							
ZALV	**Zalesovo Beam**	**56.79**	**322**	P		**P**	**07 53 24.2**	**+0.3**
	comp=Z,2.2nm,0.5s,baz=91,slow=7.4,SNR=7.5							
ZALV				PcP		**PcP**	**07 54 19.3**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=151,slow=3.3,SNR=2.6							
DANN	**Dangsing**	**56.99**	**291**	*eP*		**P**	**07 53 27.6**	**+1.4**
	comp=Z,91nm,0.8s							
KOLN	**Koldanda**	**57.21**	**290**	*eP*		**P**	**07 53 29.0**	**+1.3**
	comp=Z,28nm,0.8s							
MK31	**Makanchi Array**	**57.53**	**313**	P		**P**	**07 53 29.9**	**+0.4**
MK31				IAmb		IAmb	07 53 40.1	
	comp=Z,2.8nm,1.2s							
MKAR	**Makanchi Array**	**57.53**	**313**	P		**P**	**07 53 30.2**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=99,slow=7.9,SNR=5.6							
MKAR				PcP		**PcP**	**07 54 22.3**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=99,slow=4.5,SNR=3.5							
NRIK	**Noril'sk**	**59.86**	**339**	P		**P**	**07 53 45.2**	**+0.1**
	comp=Z,1.1nm,0.2s,baz=112,slow=9.5,SNR=4.3							
KURK	**Kurchatov**	**60.19**	**317**	P		**P**	**07 53 48.3**	**+0.5**
KURK				IAmb		IAmb	07 53 48.9	
	comp=Z,3.7nm,0.8s							
KURBB	**Kurchatov Arra**	**60.24**	**317**	P		**P**	**07 53 48.5**	**+0.4**
	comp=Z,3.9nm,0.7s,baz=94,slow=7.7,SNR=31							
ILAR	**Eielson Array**	**61.39**	**27**	P		**P**	**07 53 55.5**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=248,slow=4.8,SNR=2.8							

NIL	**Nilore**	**65.16**	**298**	P		**P**	**07 54 21.3**	**0.0**
BVAR	**Borovoye Array**	**65.31**	**320**	P		**P**	**07 54 22.5**	**+0.6**
	comp=Z,3.2nm,0.5s,baz=91,slow=7.6,SNR=20							
BRVK	**Borovoye**	**65.37**	**320**	P		**P**	**07 54 22.4**	**+0.1**
BRVK				IAmb		IAmb	07 54 23.7	
	comp=Z,5.4nm,0.9s							
ARU	**Arti**	**71.76**	**324**	P		**P**	**07 55 02.3**	**+0.2**
	comp=Z,4.4nm,0.2s,baz=357,slow=18,SNR=4.4							
ARU	**Arti**	**71.76**	**324**	P		**P**	**07 55 02.4**	**+0.3**
ABKAR	**Akbulak array**	**72.29**	**317**	P		**P**	**07 55 05.5**	**0.0**
ABKAR				IAmb		IAmb	07 55 06.2	
	comp=Z,3.7nm,0.8s							
YKA	**Yellowknife Ar**	**75.74**	**28**	P		**P**	**07 55 25.3**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=292,slow=5.9,SNR=4.3							
NVAR	**Mina Array Bea**	**81.23**	**52**	P		**P**	**07 55 56.4**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=274,slow=4.8,SNR=5.4							
KBZ	**Khabaz**	**85.16**	**315**	P		**P**	**07 56 16.8**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=145,slow=4.7,SNR=4.6							
FINES	**FINESS Array B**	**85.25**	**335**	P		**P**	**07 56 15.5**	**-0.9**
	comp=Z,5.8nm,0.8s,baz=79,slow=5.4,SNR=12							

WEL 26 07:50:29.0,40°S±6°×17°3E±°,h166km±12km,M3.9/42, MLv3.9/42,Error ellipse: s-maj=0.0km s-min=0.0km az=48.3,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.56**	**128**	P		**Pn**	**07 50 53.3**	**+0.9**
DUWZ				S		Sn	07 51 11.7	+1.3
QRZ	**Quartz Range**	**0.72**	**239**	P		Pn	07 50 53.6	+0.4
QRZ				S		Sn	07 51 12.2	+0.2
NNZ	**Nelson**	**0.76**	**178**	P		Pn	07 50 54.0	+0.5
NNZ				S		Sn	07 51 13.4	+0.9
TCW	**Tory Channel**	**1.03**	**137**	P		Pn	07 50 56.3	+0.9
TCW				S		Sn	07 51 16.3	+0.4
TUWZ	**Tuamarina**	**1.07**	**155**	P		Pn	07 50 56.4	+0.7
NMEZ	**Namu Road**	**1.12**	**22**	P		Pn	07 50 56.5	+0.2
KIW	**Kapiti Island**	**1.26**	**109**	P		Pn	07 50 57.9	+0.5
NBEZ	**Newall Road No**	**1.26**	**19**	P		Pn	07 50 57.6	+0.1
KHEZ	**Kahui Hut**	**1.28**	**24**	P		Pn	07 50 57.8	+0.1
PREZ	**Palmer Road**	**1.28**	**30**	P		Pn	07 50 57.9	+0.1
LREZ	**Lake Rotokare**	**1.29**	**39**	P		Pn	07 50 58.0	+0.3
BSWZ	**Blackbirch Sta**	**1.31**	**162**	P		Pn	07 50 58.4	+0.5
THZ	**Tophouse**	**1.34**	**194**	P		Pn	07 50 58.3	0.0
PKE	**Pukeiti**	**1.36**	**22**	P		Pn	07 50 58.4	-0.1
DREZ	**Durham Road**	**1.43**	**28**	P		Pn	07 50 59.1	0.0
OGWZ	**Otaki Gorge**	**1.43**	**105**	P		Pn	07 50 59.6	+0.5
CMWZ	**Cape Campbell**	**1.44**	**153**	P		Pn	07 50 59.4	+0.2
WAZ	**Wanganui**	**1.44**	**61**	P		Pn	07 50 59.8	+0.6
CAW	**Cannon Point**	**1.46**	**117**	P		Pn	07 50 59.7	+0.4
BHW	**Baring Head**	**1.49**	**130**	P		Pn	07 50 59.8	+0.1
OHWZ	**Ohakea**	**1.53**	**81**	P		Pn	07 51 00.6	+0.6
MHEZ	**Mangahewa**	**1.58**	**29**	P		Pn	07 51 00.7	+0.1
HOWZ	**Holdsworth Sta**	**1.71**	**105**	P		Pn	07 51 02.0	+0.1
MRZ	**Mangatainoka R**	**1.71**	**97**	P		Pn	07 51 02.0	+0.1
VRZ	**Vera Road**	**1.72**	**40**	P		Pn	07 51 01.4	-0.7
MSWZ	**Moikau Station**	**1.73**	**124**	P		Pn	07 51 02.1	0.0
DSZ	**Denniston Nort**	**1.73**	**222**	P		Pn	07 51 01.5	-0.6
MTW	**Mount Morrison**	**1.78**	**114**	P		Pn	07 51 02.7	+0.1
PLWZ	**Palliser**	**1.82**	**128**	P		Pn	07 51 02.9	-0.2
PAWZ	**Paruwai Farm**	**1.83**	**121**	P		Pn	07 51 03.0	-0.1
POWZ	**Post Office Ro**	**1.85**	**89**	P		Pn	07 51 03.3	-0.1
PKVZ	**Pokaka**	**1.94**	**53**	P		Pn	07 51 03.8	-0.6
KHZ	**Kahutara**	**1.96**	**176**	P		Pn	07 51 04.1	-0.5
MTVZ	**Mangateitei**	**1.96**	**57**	P		Pn	07 51 04.1	-0.6
TIWZ	**Tintock**	**1.96**	**100**	P		Pn	07 51 04.7	+0.1
PRWZ	**Pori Road**	**2.00**	**93**	P		Pn	07 51 05.3	+0.2
TRWZ	**Traveller**	**2.01**	**119**	P		Pn	07 51 05.2	0.0
TMWZ	**Te Maipa**	**2.04**	**109**	P		Pn	07 51 05.4	-0.1
TSZ	**Takapari Road**	**2.04**	**79**	P		Pn	07 51 05.2	-0.4
TRVZ	**Turoa**	**2.06**	**56**	P		Pn	07 51 05.0	-0.9
DRZ	**Dome Shelter**	**2.08**	**56**	P		Pn	07 51 05.4	-0.9
FWVZ	**Far West T-bar**	**2.08**	**55**	P		Pn	07 51 05.3	-1.0
WHVZ	**Whangaehu Hut**	**2.09**	**56**	P		Pn	07 51 05.4	-1.0
TWVZ	**Taurewa**	**2.13**	**50**	P		Pn	07 51 05.4	-1.2
MOVZ	**Moawhango**	**2.13**	**61**	P		Pn	07 51 05.4	-1.2
TUVZ	**Tukino**	**2.14**	**57**	P		Pn	07 51 06.0	-0.8
NGZ	**Ngauruhoe**	**2.16**	**54**	P		Pn	07 51 06.0	-1.1
DVHZ	**Dannevirke**	**2.16**	**87**	P		Pn	07 51 06.0	-0.3
WTVZ	**West Tongariro**	**2.19**	**53**	P		Pn	07 51 06.2	-1.2
CPWZ	**Castlepoint**	**2.22**	**103**	P		Pn	07 51 07.9	+0.4
BFZ	**Birch Farm**	**2.22**	**97**	P		Pn	07 51 07.4	-0.2
KRVZ	**Karewarewa**	**2.24**	**53**	P		Pn	07 51 06.7	-1.2
PNHZ	**Pukenui**	**2.26**	**77**	P		Pn	07 51 07.4	-0.7
HIZ	**Hauiti**	**2.27**	**31**	P		Pn	07 51 06.9	-1.3
BHHZ	**Black Hill Sta**	**2.30**	**66**	P		Pn	07 51 07.2	-1.4
KATZ	**Kakaramea**	**2.34**	**51**	P		Pn	07 51 08.1	-1.1
ANWZ	**Angora Road**	**2.39**	**91**	P		Pn	07 51 09.4	-0.1
WPHZ	**Waipukurau**	**2.40**	**81**	P		Pn	07 51 09.4	-0.3
RITZ	**Rihia Road**	**2.44**	**53**	P		Pn	07 51 09.4	-0.9
LTZ	**Lake Taylor**	**2.45**	**199**	P		Pn	07 51 09.2	-1.1
RATZ	**Rangitukua**	**2.46**	**50**	P		Pn	07 51 09.7	-0.8
KRHZ	**Kereru**	**2.46**	**72**	P		Pn	07 51 09.4	-1.0
GVZ	**Greta Valley S**	**2.51**	**185**	P		Pn	07 51 09.8	-1.2
PRHZ	**Porangahau**	**2.52**	**87**	P		Pn	07 51 10.8	-0.3
WATZ	**Wairara**	**2.54**	**47**	P		Pn	07 51 10.4	-1.1
KWHZ	**Kaweka Forest**	**2.58**	**67**	P		Pn	07 51 10.9	-1.1
HATZ	**Hineraiaia**	**2.64**	**54**	P		Pn	07 51 10.9	-1.7
INZ	**Inchbonnie**	**2.67**	**212**	P		Pn	07 51 11.2	-1.7
WHTZ	**Whakaora**	**2.70**	**49**	P		Pn	07 51 12.6	-0.8
TLZ	**Tolley Road**	**2.73**	**39**	P		Pn	07 51 12.1	-1.6
PXZ	**Pawanui**	**2.73**	**82**	P		Pn	07 51 13.0	-0.6
KUTZ	**Kaahu Road**	**2.75**	**45**	P		Pn	07 51 12.8	-1.2
AMCZ	**Amberley**	**2.76**	**191**	P		Pn	07 51 12.6	-1.3
MCHZ	**McNeill Hill**	**2.77**	**70**	P		Pn	07 51 13.4	-0.8
KAHZ	**Kahuranaki**	**2.79**	**77**	P		Pn	07 51 13.6	-0.8
MRHZ	**Matea Rd**	**2.88**	**57**	P		Pn	07 51 13.4	-2.1
WPRZ	**Whakapapatarin**	**2.92**	**49**	P		Pn	07 51 14.2	-1.8
CKHZ	**Cape Kidnapper**	**2.98**	**76**	P		Pn	07 51 15.7	-1.0
ALRZ	**Allen Road**	**3.00**	**52**	P		Pn	07 51 14.8	-2.2
GRRZ	**Galatos Road**	**3.01**	**46**	P		Pn	07 51 15.6	-1.5
OXZ	**Oxford**	**3.02**	**198**	P		Pn	07 51 15.1	-2.1
ARHZ	**Aropaoanui**	**3.06**	**68**	P		Pn	07 51 16.3	-1.4
PRRZ	**Plateau Road**	**3.07**	**51**	P		Pn	07 51 16.0	-1.8
MTHZ	**Maungataniwha**	**3.16**	**69**	P		Pn	07 51 16.7	-2.1
CRLZ	**Canterbury Las**	**3.16**	**190**	P		Pn	07 51 16.3	-2.5
TOZ	**Tahuroa Road**	**3.20**	**32**	P		Pn	07 51 17.4	-2.1
NGRZ	**Ngongotaha**	**3.23**	**44**	P		Pn	07 51 18.5	-1.4
WVZ	**Waitaha Valley**	**3.26**	**216**	P		Pn	07 51 17.9	-2.2
OKCZ	**Okains Bay**	**3.27**	**184**	P		Pn	07 51 17.9	-2.3
RAHZ	**Arahi**	**3.27**	**63**	P		Pn	07 51 18.7	-1.7
MQZ	**McQueen's Vall**	**3.28**	**189**	P		Pn	07 51 17.4	-3.0
WHHZ	**Waihua**	**3.30**	**66**	P		Pn	07 51 19.2	-1.6
TARZ	**Mount Tarawera**	**3.31**	**49**	P		Pn	07 51 19.8	-1.2
MUGZ	**Murupara**	**3.31**	**54**	P		Pn	07 51 18.1	-2.8
RTZ	**Ruatahuna**	**3.36**	**58**	P		Pn	07 51 19.0	-2.6
AKCZ	**Akaroa Harbour**	**3.42**	**185**	P		Pn	07 51 20.0	-2.2
SNGZ	**Shannon Statio**	**3.51**	**63**	P		Pn	07 51 21.5	-2.0
AWAZ	**Awhitu Peninsu**	**3.54**	**17**	P		Pn	07 51 22.8	-1.0
KNZ	**Kokohu**	**3.63**	**68**	P		Pn	07 51 22.7	-2.3
MKAZ	**Moumakai**	**3.64**	**24**	P		Pn	07 51 23.8	-1.3
WTAZ	**Waiatarua**	**3.65**	**16**	P		Pn	07 51 24.5	-0.8
RPZ	**Rata Peaks**	**3.67**	**207**	P		Pn	07 51 22.6	-2.8
RAGZ	**Rawiri**	**3.71**	**59**	P		Pn	07 51 23.7	-2.3
ETAZ	**East Tamaki Re**	**3.72**	**20**	P		Pn	07 51 24.9	-1.1
MHGZ	**Mahia Peninsul**	**3.75**	**71**	P		Pn	07 51 24.7	-1.7
PRGZ	**Paritu Road**	**3.83**	**68**	P		Pn	07 51 25.2	-2.2
RIGZ	**Rimuhau**	**3.84**	**64**	P		Pn	07 51 25.4	-2.2
MWZ	**Matawai**	**3.88**	**58**	P		Pn	07 51 25.3	-2.8
MBAZ	**Motutapu North**	**3.88**	**19**	P		Pn	07 51 27.6	-0.6
WIAZ	**Waiheke Island**	**3.92**	**22**	P		Pn	07 51 27.7	-1.0
TKGZ	**Te Karaka**	**4.03**	**61**	P		Pn	07 51 27.6	-2.5
FOZ	**Fox Glacier**	**4.04**	**219**	P		Pn	07 51 26.9	-3.2
KUZ	**Kuaotunu**	**4.15**	**27**	P		Pn	07 51 29.9	-1.8
RUGZ	**Raukumara Rang**	**4.19**	**55**	P		Pn	07 51 28.3	-3.9
CNGZ	**Carnagh Statio**	**4.25**	**64**	P		Pn	07 51 30.9	-2.0
TWGZ	**Tauwhareparae**	**4.26**	**59**	P		Pn	07 51 30.4	-2.6
HAZ	**Te Kaha**	**4.38**	**53**	P		Pn	07 51 30.9	-3.7
PKGZ	**Pakihiroa**	**4.49**	**57**	P		Pn	07 51 33.0	-3.0
PUZ	**Puketiti**	**4.50**	**60**	P		Pn	07 51 32.6	-3.5
LBZ	**Lake Benmore**	**4.56**	**210**	P		Pn	07 51 33.6	-3.3
WCZ	**Waipu Caves**	**4.58**	**10**	P		Pn	07 51 35.7	-1.5
WMGZ	**Waiomatatini S**	**4.74**	**58**	P		Pn	07 51 35.7	-3.6
MXZ	**Matakaoa Point**	**4.83**	**55**	P		Pn	07 51 37.1	-3.3
JCZ	**Jackson Bay**	**4.95**	**222**	P		Pn	07 51 38.9	-3.0
ODZ	**Otahua Downs**	**4.99**	**203**	P		Pn	07 51 39.5	-2.9
OUZ	**Omahuta**	**5.24**	**2**	P		Pn	07 51 44.9	-0.8
WKZ	**Wanaka**	**5.40**	**215**	P		Pn	07 51 43.8	-4.1
EAZ	**Earnscleugh**	**5.61**	**211**	P		Pn	07 51 46.3	-4.3

HHSZ	**Highcliff Hill**	**5.78**	**199**	P		**Pn**	07 51 50.7	-2.1
TUZ	**Tuapeka**	**6.12**	**205**	P		Pn	07 51 54.0	-3.3
WHZ	**Wether Hill Ro**	**6.71**	**214**	P		Pn	07 52 00.9	-4.2
SYZ	**Scrubby Hill**	**6.80**	**205**	P		Pn	07 52 02.4	-3.8

*ISCJB **26** 07:55:53.7±0.4,24.68N±0.02×122.60E±0.02, h108km±3km,Error ellipse: s-maj=3.3km s-min=2.2km az=168.3*
*JMA **26** 07:55:53.3±0.1,24.63N×122.56E,h113km±2km,M3.0*
*TAP **26** 07:55:53.2,24.72N×122.59E,h117km,ML4.0,C*

ISC 26 07:55:54.0±1.3,24.68N±0.04×122.59E±0.02,h109km±7km, n109,σ0§78/196,4C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.40**	**126**	P		**Pn**	**07 56 09.8**	**-0.4**
JYNG				*eS*		**Sn**	**07 56 22.7**	**+0.5**
YOJ	**Yonaguni jima**	**0.44**	**120**	P		**Pn**	**07 56 10.3**	**-0.1**
YOJ				*eS*		**Sn**	**07 56 23.1**	**+0.4**
YOJ	**Yonaguni jima**	**0.44**	**120**	*eP*		**Pn**	**07 56 10.8**	**+0.4**
	baz=123							
EOS1	**EOS1**	**0.44**	**252**	*i* P		**Pn**	**07 56 10.6**	**+0.2**
	baz=242							
EOS1				S		**Sn**	**07 56 23.7**	**+1.1**
	baz=242							
TWB1	**Santiao Chiao**	**0.64**	**301**	P		**Pn**	**07 56 11.8**	**0.0**
	baz=295							
TWC	**Suao**	**0.68**	**264**	*i* P		**Pn**	**07 56 11.7**	**-0.

	baz=287							
WHF	**Hehuan Shan**	**1.32**	**246**	*i* P	**Pn**	**07 56 19.1**	**-0.1**
	baz=245							
WHF				S	**Sn**	**07 56 37.5**	**-0.7**
	baz=245							
JKRS	**Kuro-shima**	**1.36**	**109**	P	**Pn**	**07 56 19.3**	**+0.1**
JKRS				S	**Sn**	**07 56 38.7**	**+0.4**
ESL	**Shilin**	**1.37**	**231**	P	**Pn**	**07 56 18.8**	**-0.5**
	baz=225							
ESL				S	**Sn**	**07 56 37.1**	**-1.2**
	baz=225							
TDCB	**Techi**	**1.38**	**252**	*i* P	**Pn**	**07 56 20.1**	**+0.6**
	baz=245							
TDCB				S	**Sn**	**07 56 38.6**	**-0.2**
	baz=245							
LIOB	**Emei**	**1.44**	**269**	P	**Pn**	**07 56 20.2**	**+0.2**
	baz=267							
LIOB				S	**Sn**	**07 56 39.7**	**-0.1**
	baz=267							
JIJ	**Ishigaki jima**	**1.45**	**102**	P	**Pn**	**07 56 20.1**	**-0.1**
JIJ				S	**Sn**	**07 56 39.0**	**-1.0**
NSTT	**Nanjuang**	**1.45**	**268**	*e*P	**Pn**	**07 56 20.2**	**0.0**
	baz=267							
NSTT				S	**Sn**	**07 56 40.0**	**-0.1**
	baz=267							
SBCB	**Hsinchu**	**1.47**	**275**	P	**Pn**	**07 56 20.7**	**+0.3**
	baz=273							
SBCB				S	**Sn**	**07 56 40.8**	**+0.4**
	baz=273							
EGFH	**Guangfu**	**1.47**	**227**	P	**Pn**	**07 56 19.9**	**-0.5**
	baz=222							
EGFH				S	**Sn**	**07 56 39.3**	**-1.1**
	baz=222							
HSN	**Hsinchu**	**1.48**	**275**	S	**Sn**	**07 56 40.1**	**-0.5**
	baz=275							
OWD	**Renai**	**1.48**	**241**	*e*S	**Sn**	**07 56 40.1**	**-0.9**
	baz=236							
WHP	**Taichung City**	**1.55**	**255**	*i* P	**Pn**	**07 56 22.4**	**+0.9**
	baz=254							
WHP				S	**Sn**	**07 56 43.0**	**+0.5**
	baz=254							
JISG	**Ishigakijimahi**	**1.57**	**93**	P	**Pn**	**07 56 21.7**	**+0.1**
JISG				S	**Sn**	**07 56 41.9**	**-0.6**
HGSD	**Ruisui**	**1.60**	**222**	P	**Pn**	**07 56 21.7**	**-0.3**
	baz=221							
HGSD				S	**Sn**	**07 56 42.8**	**-0.4**
	baz=221							
VWDT	**VWDT**	**1.62**	**235**	P	**Pn**	**07 56 22.4**	**+0.2**
	baz=231							
VWDT				S	**Sn**	**07 56 43.5**	**-0.2**
	baz=231							
NMLH	**Miaoli**	**1.65**	**265**	P	**Pn**	**07 56 22.8**	**+0.3**
	baz=264							
NMLH				S	**Sn**	**07 56 43.8**	**-0.5**
	baz=264							
EHY	**Hungye**	**1.65**	**225**	P	**Pn**	**07 56 21.9**	**-0.8**
	baz=231							
DPDB	**Guoxing**	**1.65**	**247**	P	**Pn**	**07 56 23.8**	**+1.1**
	baz=246							
DPDB				S	**Sn**	**07 56 45.6**	**+1.1**
	baz=246							
PTSB	**Yuanli**	**1.73**	**263**	S	**Sn**	**07 56 46.8**	**+0.6**
	baz=261							
SSLB	**Suanglung**	**1.74**	**240**	P	**Pn**	**07 56 24.1**	**+0.3**
	baz=236							
SSLB				S	**Sn**	**07 56 46.5**	**0.0**
	baz=236							
YULB	**Yu-li**	**1.75**	**223**	P	**Pn**	**07 56 22.9**	**-1.0**
	baz=228							
YULB				S	**Sn**	**07 56 44.6**	**-1.9**
	baz=228							
TYC	**Yuchr**	**1.76**	**244**	*i* P	**Pn**	**07 56 25.1**	**+1.1**
	baz=246							
TYC				S	**Sn**	**07 56 48.3**	**+1.4**
	baz=246							
TWF1	**Yuli**	**1.78**	**222**	*i* P	**Pn**	**07 56 23.6**	**-0.7**
	baz=228							
TWF1				S	**Sn**	**07 56 45.8**	**-1.4**
	baz=228							
WDJ	**Dajia District**	**1.81**	**260**	S	**Sn**	**07 56 48.1**	**+0.2**
	baz=259							
TCU	**Taichung**	**1.83**	**253**	S	**Sn**	**07 56 48.4**	**+0.1**
	baz=252							
WHYT	**Xinyi Township**	**1.87**	**239**	*i* P	**Pn**	**07 56 26.7**	**+1.3**
	baz=233							
WHYT				S	**Sn**	**07 56 51.0**	**+1.7**
	baz=233							
FULB	**Fuli**	**1.90**	**219**	*i* P	**Pn**	**07 56 25.4**	**-0.3**
	baz=214							
FULB				S	**Sn**	**07 56 49.6**	**-0.3**
	baz=214							
WJS	**Zhushan**	**1.91**	**244**	P	**Pn**	**07 56 26.9**	**+1.1**
	baz=253							
WJS				S	**Sn**	**07 56 51.7**	**+1.6**
	baz=253							
YUS	**Yu-Shan**	**1.91**	**232**	*e*P	**Pn**	**07 56 26.9**	**+0.5**
	baz=226							
YUS				S	**Sn**	**07 56 50.4**	**-0.6**
	baz=226							
WNT	**Mingjian**	**1.92**	**246**	P	**Pn**	**07 56 27.2**	**+1.2**
	baz=245							
WNT				S	**Sn**	**07 56 51.5**	**+1.2**
	baz=245							
JTJ	**Tarama**	**1.92**	**91**	P	**Pn**	**07 56 26.3**	**+0.4**
JTJ				S	**Sn**	**07 56 50.1**	**-0.2**
CHKT	**Chengkung**	**1.94**	**216**	*i* P	**Pn**	**07 56 25.4**	**-0.8**
	baz=210							
CHKT				S	**Sn**	**07 56 49.1**	**-1.6**
	baz=210							
WCHH	**Zhanghua**	**1.95**	**252**	*e*S	**Sn**	**07 56 51.0**	**0.0**
	baz=251							
ALS	**Alishan**	**2.01**	**235**	P	**Pn**	**07 56 28.1**	**+0.7**
	baz=229							
ALS				S	**Sn**	**07 56 54.1**	**+1.2**
	baz=229							
CHN5	**Tsauling**	**2.06**	**239**	*i* P	**Pn**	**07 56 28.4**	**+0.6**
	baz=247							
CHN5				S	**Sn**	**07 56 55.3**	**+1.6**
	baz=247							
ELDTW	**Lidau**	**2.07**	**224**	*e*P	**Pn**	**07 56 28.1**	**0.0**
	baz=224							
ELDTW				S	**Sn**	**07 56 53.5**	**-0.5**
	baz=224							
WGK	**Gukeng**	**2.10**	**242**	S	**Sn**	**07 56 56.8**	**+2.3**
	baz=241							
WDLH	**Douliu**	**2.12**	**243**	*e*P	**Pn**	**07 56 28.9**	**+0.3**
	baz=242							
WDLH				S	**Sn**	**07 56 56.3**	**+1.4**
	baz=242							
RLNB	**Erlin**	**2.19**	**249**	*e*P	**Pn**	**07 56 29.9**	**+0.6**
	baz=256							
RLNB				S	**Sn**	**07 56 56.1**	**-0.3**
	baz=256							
TWH	**Lutao**	**2.21**	**208**	P	**Pn**	**07 56 29.5**	**-0.3**
	baz=211							
TWH				S	**Sn**	**07 56 55.6**	**-1.5**
	baz=211							
CHN4	**Tsaushan**	**2.26**	**234**	*i* P	**Pn**	**07 56 31.1**	**+0.8**
	baz=234							
CHN4				*i* S	**Sn**	**07 56 59.4**	**+1.2**
	baz=234							
STYT	**Tauyuan**	**2.26**	**228**	P	**Pn**	**07 56 31.4**	**+0.9**
	baz=227							
STYT				S	**Sn**	**07 56 59.2**	**+1.0**
	baz=227							
TPUB	**Ta-pu**	**2.26**	**233**	P	**Pn**	**07 56 30.9**	**+0.5**
	baz=232							
TPUB				S	**Sn**	**07 56 59.8**	**+1.6**
	baz=232							
CHY	**Chiayi**	**2.31**	**240**	P	**Pn**	**07 56 31.5**	**+0.5**
	baz=248							
CHY				S	**Sn**	**07 56 59.5**	**+0.3**
	baz=248							
WTP	**Ta-pu**	**2.31**	**232**	P	**Pn**	**07 56 31.5**	**+0.5**
	baz=231							
WTP				*e*S	**Sn**	**07 57 00.2**	**+0.9**
	baz=231							
TWGBT	**Beinan**	**2.32**	**217**	P	**Pn**	**07 56 30.0**	**-1.1**
	baz=222							
TWGBT				S	**Sn**	**07 56 58.4**	**-1.1**
	baz=222							
TWG	**Pinlang**	**2.32**	**217**	P	**Pn**	**07 56 30.4**	**-0.7**
	baz=222							
TWG				S	**Sn**	**07 56 58.8**	**-0.7**
	baz=222							
JIRB	**Irabujima**	**2.35**	**86**	P	**Pn**	**07 56 32.2**	**+0.7**
JIRB				*e*S	**Sn**	**07 56 59.0**	**-1.2**
TWK	**Hsinying**	**2.39**	**234**	P	**Pn**	**07 56 32.8**	**+0.7**
	baz=233							
TWK				*e*S	**Sn**	**07 57 01.7**	**+0.5**
	baz=233							
WSF	**Szhu**	**2.40**	**245**	*e*S	**Sn**	**07 57 01.2**	**-0.2**
	baz=244							
CHN1	**Nanshi**	**2.41**	**232**	*i* P	**Pn**	**07 56 32.8**	**+0.6**
	baz=231							
CHN1				S	**Sn**	**07 57 02.7**	**+1.1**
	baz=231							
SNST	**Tainan City**	**2.41**	**233**	P	**Pn**	**07 56 32.7**	**+0.4**
	baz=232							
SNST				S	**Sn**	**07 57 02.4**	**+0.8**
	baz=232							
SGST	**Jiashian**	**2.44**	**229**	P	**Pn**	**07 56 32.8**	**+0.2**
	baz=229							
SGST				S	**Sn**	**07 57 03.7**	**+1.5**
	baz=229							
SLGT	**Liugui**	**2.45**	**227**	P	**Pn**	**07 56 34.0**	**+1.1**
	baz=226							
SLGT				*e*S	**Sn**	**07 57 04.2**	**+1.6**
	baz=226							
JMJ	**Miyako jima 2**	**2.46**	**86**	*e*P	**Pn**	**07 56 34.0**	**+1.1**
	baz=87							
JMJ				S	**Sn**	**07 57 03.7**	**+1.0**
	baz=87							
JMJ2	**Miyako jima3**	**2.49**	**88**	*e*S	**Sn**	**07 57 03.0**	**-0.4**
ECL	**Taimali**	**2.56**	**216**	*e*S	**Sn**	**07 57 03.5**	**-1.7**
	baz=210							
SSD	**Sandimen**	**2.64**	**223**	*e*S	**Sn**	**07 57 07.5**	**+0.6**
	baz=223							
PTTC	**Pingtan**	**2.69**	**288**	*e*P	**Pn**	**07 56 35.2**	**-0.7**
	baz=287							
PTTC				*e*S	**Sn**	**07 57 06.9**	**-1.1**
	baz=287							
MASBT	**Mashibuluo**	**2.74**	**221**	P	**Pn**	**07 56 37.1**	**+0.5**
	baz=231							
MASBT				S	**Sn**	**07 57 10.9**	**+1.6**
	baz=231							
EAST	**Anshuo**	**2.79**	**215**	P	**Pn**	**07 56 36.6**	**-0.8**
	baz=212							
EAST				*e*S	**Sn**	**07 57 08.8**	**-2.0**
	baz=212							
LAY	**Lan-yu**	**2.80**	**200**	P	**Pn**	**07 56 37.5**	**0.0**
	baz=193							
LAY				*e*S	**Sn**	**07 57 09.7**	**-1.2**
	baz=193							
MATB	**Ma-tsu**	**2.81**	**302**	P	**Pn**	**07 56 36.5**	**-0.9**
	baz=300							
SSPT	**Xinbi**	**2.87**	**221**	*e*P	**Pn**	**07 56 39.6**	**+1.3**
	baz=220							
VWUC	**VWUC**	**2.87**	**277**	P	**Pn**	**07 56 37.5**	**-0.8**
	baz=275							
VWUC				S	**Sn**	**07 57 09.9**	**-2.5**
	baz=275							

*SOME **26** 08:05:14.9, 43.˚43N×83.˚20E, h20km*
*NNC **26** 08:05:18.3±1.2, 43.˚44N×82.˚93E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=10.2km s-min=5.3km az=141.0
ISC 26 08:05:19.6±1.8, 43.˚45N±0.˚09×82.˚79E±0.˚08, h10km, n16, σ2s10/24, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**2.34**	**293**		*e*P		**Pb**	**08 06 02.2**	**+0.3**
	2.4nm,0.3s								
DJR					*e*S		**Sg**	**08 06 36.5**	**+1.8**
	8.9nm,0.4s								
DJR	**Jarkent**	**2.34**	**293**		Pg		**Pb**	**08 06 02.2**	**+0.3**
	2.4nm,0.3s								
DJR					Lg		Lg	08 06 36.5	
	8.9nm,0.4s								
PDGK	**Podgornoye**	**2.41**	**268**		Pg		**Pb**	**08 06 03.2**	**+0.2**
	4.5nm,0.3s								
PDGK					Lg		Lg	08 06 38.1	
	10nm,0.5s								
PDGK	**Podgornoye**	**2.41**	**268**	⇓	Pn		**Pb**	**08 06 01.7**	**-1.3**
PDGK				⇑	Lg		Lg	08 06 38.1	
	16nm,0.6s								
SHLS	**Shalkode**	**2.44**	**264**		*e*P		**Pn**	**08 05 59.2**	**-0.4**
	39nm,0.2s								
SHLS					*e*S		**Sn**	**08 06 31.6**	**+1.9**
	40nm,0.3s								
SHLS	**Shalkode**	**2.44**	**264**		Pg		**Pn**	**08 05 59.2**	**-0.4**
	39nm,0.2s								
SHLS					Lg		Lg	08 06 31.6	
	40nm,0.3s								
KPKS	**Kokpek**	**2.99**	**272**		*e*P		**Pb**	**08 06 14.1**	**+1.2**
	3.2nm,0.2s								
KPKS					*e*S		**Sg**	**08 06 56.9**	**+1.4**
	20nm,0.4s								
KAPS	**Kapalarasan**	**3.07**	**308**		*e*P		**Pb**	**08 06 15.1**	**+0.8**
	1.9nm,0.3s								
KAPS					*e*S		**Sg**	**08 06 58.3**	**+0.1**
	4.1nm,0.6s								
KAPS	**Kapalarasan**	**3.07**	**308**		Pg		**Pb**	**08 06 15.0**	**+0.8**
	1.9nm,0.3s								
KAPS					Lg		Lg	08 06 58.3	
	4.1nm,0.6s								
SATY	**Saty**	**3.23**	**265**		*e*P		**Pb**	**08 06 17.9**	**+0.9**
	4.0nm,0.3s								
SATY					*e*S		**Sg**	**08 07 03.6**	**+0.5**
	6.9nm,0.2s								
SATY	**Saty**	**3.23**	**265**		Pg		**Pb**	**08 06 17.9**	**+0.9**
	4.0nm,0.3s								
SATY					Lg		Lg	08 07 03.6	
	6.9nm,0.2s								
MK31	**Makanchi Array**	**3.36**	**354**		Pn		**Pn**	**08 06 12.9**	**+0.8**
	0.6nm,0.3s,baz=181,slow=15,SNR=35								
MK31				⇑	Pg		**Pb**	**08 06 19.9**	**+0.7**
	1.1nm,0.4s,baz=171,slow=17,SNR=19								
MK31				⇑	Lg		Lg	08 07 05.8	
	1.2nm,0.5s,baz=165,slow=25,SNR=4.0								
ARXS	**Arharly**	**3.67**	**284**		*e*P		**Pg**	**08 06 28.1**	**-1.8**
	3.6nm,0.5s								
ARXS					*e*S		**Sg**	**08 07 20.7**	**+3.3**
	5.1nm,0.4s								
ARXS	**Arharly**	**3.67**	**284**		Pg		**Pg**	**08 06 28.1**	**-1.8**
	3.6nm,0.5s								
ARXS					Lg		Lg	08 07 20.7	
	5.1nm,0.4s								
ZSN	**Zaisan**	**4.26**	**19**		*e*P		**Pn**	**08 06 27.5**	**+3.0**
	5.2nm,0.2s								
ZSN					*e*S		**Sb**	**08 07 19.7**	**-6.3**
	6.8nm,0.9s								
ZSN	**Zaisan**	**4.26**	**19**		Pg		**Pn**	**08 06 27.5**	**+3.0**
	5.2nm,0.2s								
ZSN					Lg		Lg	08 07 19.7	
	6.8nm,0.9s								

*IDC **26** 08:12:30.9±1.8, 30.˚58S×72.˚14W, h0km, mb4.0/2,*
mb1 3.8/8, mb1mx3.7/27, mbtmp3.7/8, ML3.7/6, MS3.1/4,
Ms1 3.1/4, ms1mx2.9/18, Error ellipse: s-maj=41.1km
s-min=24.4km az=105.0
*NEIC **26** 08:12:35.6±2.4, 30.˚56S±0.˚05×71.˚82W±0.˚06, h37km±9km,*
mb4.2/3, ML4.2(GUC)
*GUC **26** 08:12:35.0±0.8, 30.˚68S×71.˚61W, h23km±5km, ML4.2*
ISC 26 08:12:33.5±1.8, 30.˚67S±0.˚03×71.˚79W±0.˚07, h13km±11km, n35, σ1s77/42, mb4.2/4, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.86**	**128**	⇑	*i*P		**Pb**	**08 12 50.2**	**-0.2**
CO02					*i* S		**Sb**	**08 13 01.0**	**-0.8**
CO02					IAML			08 13 01.5	
	comp=N,25μm,0.1s								
LSCH	**La Serena**	**0.89**	**32**	⇓	*i*P		**Pg**	**08 12 51.1**	**+0.4**
LSCH					*i* S		**Sb**	**08 13 03.2**	**+0.5**
GO04	**Tololo Observa**	**0.99**	**60**	⇓	*i*P		**Pb**	**08 12 52.5**	**0.0**
GO04					*i* S		**Sn**	**08 13 05.7**	**-1.5**
GO04	**Tololo Observa**	**0.99**	**60**		Pn		**Sn**	**08 12 52.6**	**0.0**
GO04					Sn		**Sn**	**08 13 06.3**	**-0.9**
ROCH	**El Roble**	**2.39**	**164**		*i* P		**Pn**	**08 13 13.9**	**+1.3**
ROCH					*e*S		**Sb**	**08 13 45.8**	**-0.2**
ROCH					IAML			08 13 52.4	
	comp=N,2μm,0.5s								
ROC1	**El Roble**	**2.39**	**164**				**Pn**	**08 13 14.0**	**+1.4**
ROC1					Sn		**Sn**	**08 13 42.3**	**+0.5**
PEL	**Peldehue**	**2.64**	**159**	⇓	*i*P		**Pn**	**08 13 17.8**	**+1.9**
PEL					*i* S		**Sb**	**08 13 51.0**	**-2.0**
PEL					IAML			08 13 59.0	
	comp=N,1μm,0.5s								
PEL	**Peldehue**	**2.64**	**159**				**Pn**	**08 13 18.0**	**+2.2**
PEL					Sn		**Sn**	**08 13 50.4**	**+2.7**
CLCH	**Cerro Calan**	**2.92**	**159**	⇑	*i*P		**Pn**	**08 13 22.5**	**+2.8**
CLCH					*i* S		**Sb**	**08 13 58.6**	**-2.4**
CLCH					IAML			08 14 10.5	
	comp=E,2μm,0.6s								
FCH	**Farellones**	**2.94**	**155**		IAML			08 14 08.0	
	comp=E,667nm,0.7s								
CFA	**Coronel Fontan**	**3.18**	**108**		Pn		**Pb**	**08 13 26.6**	**-3.3**
	comp=E,18nm,0.3s,baz=287,slow=9.9,SNR=57								
CFA					Sn		**Sb**	**08 14 06.8**	**-1.8**
	comp=E,21nm,0.3s,baz=23,slow=22,SNR=5.2								
LMEL	**Las Melosas**	**3.44**	**157**		*e*P		**Pn**	**08 13 29.7**	**+2.8**
LMEL					*i* S		**Sn**	**08 14 10.7**	**+3.0**
LMEL					IAML			08 14 28.2	
	comp=N,386nm,0.3s								
GO05	**Huala**	**4.33**	**182**				**Pn**	**08 13 38.9**	**-0.1**
GO05					Sn		**Sn**	**08 14 28.3**	**-1.1**
PB10	**IPOC Station P**	**7.21**	**9**		Pn		**Pn**	**08 14 17.0**	**-1.7**
PB10					Sn		**Sn**	**08 15 37.4**	**-3.1**
LVC	**Limon Verde**	**8.43**	**18**		Pn		**Pn**	**08 14 33.8**	**-1.9**
	comp=N,0.3nm,0.3s,baz=215,slow=11,SNR=5.0								
LVC					Sn		**Sn**	**08 16 12.9**	**+1.9**
	comp=N,0.6nm,0.3s,baz=312,slow=14,SNR=2.7								
LVC	**Limon Verde**	**8.43**	**18**				**Pn**	**08 14 35.1**	**-0.7**
PLCA	**Paso Flores**	**10.09**	**175**		Pn		**Pn**	**08 14 59.5**	**+1.4**
	comp=N,0.2nm,0.3s,baz=354,slow=14,SNR=8.9								
TRQA	**Tornquist**	**10.95**	**135**		Pn		**Pn**	**08 15 10.6**	**+0.8**
CPUP	**Villa Florida**	**13.43**	**75**		Pn		**Pn**	**08 15 47.1**	**+3.3**
	comp=N,0.1nm,0.3s,baz=244,slow=18,SNR=2.9								
CPUP					LR		LR	08 21 17.1	
	comp=N,96nm,18.9s,baz=260,slow=38								
CPUP	**Villa Florida**	**13.43**	**75**				**Pn**	**08 15 44.3**	**+0.5**
LPAZ	**La Paz**	**14.70**	**14**		Pn		**Pn**	**08 16 01.9**	**0.0**
	comp=N,0.1nm,0.3s,baz=188,slow=9.0,SNR=6.4								
LPAZ	**La Paz**	**14.70**	**14**				**Pn**	**08 15 59.8**	**-2.1**
SIV	**San Ignacio**	**17.60**	**36**		P		**P**	**08 16 40.4**	**+0.8**
	comp=N,0.1nm,0.3s,baz=226,slow=13,SNR=12								
SIV					LR		LR	08 23 14.5	
	comp=N,52nm,18.1s,baz=103,slow=36								
NNA	**Nana**	**19.18**	**345**		LR		LR	08 22 31.7	
	comp=N,42nm,20.8s,baz=134,slow=32								
BDFB	**Brasilia**	**26.41**	**61**		P		**P**	**08 18 10.9**	**+0.9**
	comp=N,3.5nm,0.6s,baz=239,slow=9.9,SNR=6.6								
BDFB					LR		LR	08 29 33.7	
	comp=N,68nm,19.2s,baz=270,slow=38								
BDFB	**Brasilia**	**26.41**	**61**		P		**P**	**08 18 10.3**	**+0.2**
BDFB					IAmb		IAmb	08 18 18.2	
	comp=Z,4.1nm,0.9s								
OTAV	**Otavalo**	**31.39**	**347**		P		P	08 18 50.4	-4.4
OTAV					IAmb		IAmb	08 18 57.0	
	comp=Z,2.3nm,0.6s								
SNAA	**Sanae**	**54.59**	**159**		P		**P**	**08 21 59.3**	**-2.0**
SNAA					IAmb		IAmb	08 22 08.6	
	comp=Z,4.1nm,1.4s								
QSPA	**South Pole Qui**	**59.55**	**180**		P		**P**	**08 22 36.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**82.88**	**70**		P		**P**	**08 24 58.8**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=232,slow=5.2,SNR=2.4								
GCMT	**Greycliff**	**83.50**	**334**				pP	08 25 09.2	+4.2
WRA	**Warramunga Arr**	**123.75**	**210**		PKP		**PKPdf**	**08 31 30.9**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=167,slow=1.6,SNR=5.1								
H11S2	**WAKE ISLAND Hyl**	**25.97**	**271**		T		T	10 50 14.5	
	baz=115,slow=75,SNR=145								
H11S1	**WAKE ISLAND Hyl**	**25.98**	**271**		T		T	10 50 13.5	
	baz=115,slow=75,SNR=213								
H11S3	**WAKE ISLAND Hyl**	**25.99**	**271**		T		T	10 50 16.0	
	baz=115,slow=75,SNR=161								

*NNC **26** 08:47:32.0±1.1, 41.˚31N×75.˚52E, h0km, mb3.4, mpv3.3,*
Error ellipse: s-maj=7.4km s-min=5.2km az=173.0
*SOME **26** 08:47:31.4, 41.˚32N×75.˚53E, h10km*
ISC 26 08:47:33.4±3.2, 41.˚4N±0.˚1×75.˚56E±0.˚05, h11km±20km, n20, σ0s51/34, 1C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**1.48**	**328**			P	**Pn**	**08 47 59.9**	**-0.3**
	3.0nm,0.3s								
AAK				⇑		S	**Sg**	**08 48 21.3**	**+0.3**
	7.9nm,0.3s								
TKM2	**Tokmak 2**	**1.53**	**1**	⇓		P	**Pn**	**08 48 01.0**	**+0.1**
	1.7nm,0.3s								
TKM2				⇓		S	**Sg**	**08 48 23.1**	**+0.4**
	9.4nm,0.3s								
KST	**Kastek**	**1.68**	**10**		*e*P		**Pb**	**08 48 04.3**	**-0.1**
	4.7nm,0.2s								
KST					*e*S		**Sg**	**08 48 28.4**	**+0.8**
	27nm,0.3s								
KST	**Kastek**	**1.68**	**10**		P		**Pb**	**08 48 04.3**	**-0.1**
	4.7nm,0.2s								
KST					S		**Sg**	**08 48 28.4**	**+0.8**
	27nm,0.3s								
MTBS	**Maitube**	**1.86**	**20**		*e*P		**Pb**	**08 48 07.3**	**-0.1**
	3.2nm,0.2s								
MTBS					*e*S		**Sg**	**08 48 33.4**	**+0.3**
	32nm,0.2s								
MTBS	**Maitube**	**1.86**	**20**		Pg		**Pb**	**08 48 07.3**	**-0.1**
	3.2nm,0.2s								
MTBS					Lg		Lg	08 48 33.4	
	32nm,0.2s								
DGS	**Degeres**	**1.86**	**5**		*e*P		**Pb**	**08 48 07.6**	**+0.1**
	3.0nm,0.2s								
DGS					*e*S		**Sg**	**08 48 34.0**	**+0.7**
	22nm,0.2s								
DGS	**Degeres**	**1.86**	**5**		Pg		**Pb**	**08 48 07.6**	**+0.1**
	3.0nm,0.2s								
DGS					Lg		Lg	08 48 34.0	
	22nm,0.2s								
TNSS	**Tian-Shan**	**1.94**	**32**		*e*P		**Pb**	**08 48 09.1**	**0.0**
	3.6nm,0.2s								
TNSS					*e*S		**Sg**	**08 48 36.4**	**+0.5**
	9.9nm,0.2s								
TNSS	**Tian-Shan**	**1.94**	**32**		Pg		**Pb**	**08 48 09.1**	**0.0**
	3.6nm,0.2s								
TNSS					Lg		Lg	08 48 36.4	
	9.9nm,0.2s								
MDOK	**Medeo**	**2.09**	**31**		*e*P		**Pb**	**08 48 11.5**	**0.0**
	1.4nm,0.3s								
MDOK					*e*S		**Sg**	**08 48 40.4**	**-0.2**
	12nm,0.4s								
MDOK	**Medeo**	**2.09**	**31**		*e*P		**Pg**	**08 48 13.3**	**-0.2**
	2.9nm,0.2s								
MDOK					*e*S		**Sg**	**08 48 40.5**	**-0.1**
	12nm,0.5s								
MDOK	**Medeo**	**2.09**	**31**		Pg		**Pg**	**08 48 13.3**	**-0.2**
	2.9nm,0.2s								
MDOK					Lg		Lg	08 48 40.5	
	12nm,0.5s								
KOTS	**Kotyrbulak**	**2.18**	**31**		*e*P		**Pb**	**08 48 13.1**	**+0.2**
	3.9nm,0.3s								
KOTS					*e*S		**Sg**	**08 48 43.4**	**+0.1**
	81nm,0.4s								
KOTS	**Kotyrbulak**	**2.18**	**31**		Pg		**Pb**	**08

KAPS	**Kapalarasan**	**0.63**	**10**	*e*P		**Pg**	**08 47 45.9**	**0.0**
	7.3nm,0.1s							
KAPS				*e*S		**Sg**	**08 47 54.3**	**+0.1**
	19nm,0.1s							
KAPS	**Kapalarasan**	**0.63**	**10**	P		**Pg**	**08 47 45.9**	**0.0**
	7.3nm,0.1s							
KAPS				S		**Sg**	**08 47 54.3**	**+0.1**
	19nm,0.1s							
ARXS	**Arharly**	**1.08**	**246**	*e*P		**Pb**	**08 47 54.4**	**-0.2**
	5.2nm,0.2s							
ARXS				*e*S		**Sb**	**08 48 08.8**	**0.0**
	4.4nm,0.2s							
ARXS	**Arharly**	**1.08**	**246**	P		**Pb**	**08 47 54.3**	**-0.2**
	5.2nm,0.2s							
ARXS				S		**Sb**	**08 48 08.8**	**0.0**
	4.4nm,0.2s							
KPKS	**Kokpek**	**1.25**	**197**	*e*P		**Pn**	**08 47 57.4**	**0.0**
	2.3nm,0.1s							
KPKS				*e*S		**Sn**	**08 48 14.0**	**-0.5**
	22nm,0.2s							
PDGK	**Podgornoye**	**1.35**	**171**	P		**Pn**	**08 47 58.7**	**0.0**
	2.3nm,0.2s							
PDGK				S		**Sb**	**08 48 16.2**	**-0.3**
	1.8nm,0.3s							
KURS	**Kuram**	**1.39**	**213**	*e*P		**Pb**	**08 47 59.7**	**0.0**
	4.6nm,0.3s							
KURS				*e*S		**Sb**	**08 48 18.1**	**+0.4**
	7.6nm,0.2s							
KURS	**Kuram**	**1.39**	**213**	P		**Pb**	**08 47 59.7**	**0.0**
	4.6nm,0.3s							
KURS				S		**Sb**	**08 48 18.1**	**+0.4**
	7.6nm,0.2s							
UZB	**Uzynbulak**	**1.52**	**185**	*e*P		**Pb**	**08 48 02.0**	**-0.1**
	1.8nm,0.1s							
UZB				*e*S		**Sb**	**08 48 21.8**	**+0.3**
	7.3nm,0.2s							
UZB	**Uzynbulak**	**1.52**	**185**	P		**Pb**	**08 48 02.0**	**-0.1**
	1.8nm,0.1s							
UZB				S		**Sb**	**08 48 21.8**	**+0.3**
	7.3nm,0.2s							
ZHN	**Zhinishke**	**1.59**	**201**	*e*P		**Pb**	**08 48 03.4**	**+0.1**
	4.6nm,0.1s							
ZHN				*e*S		**Sb**	**08 48 24.2**	**+0.6**
	7.7nm,0.2s							
ZHN	**Zhinishke**	**1.59**	**201**	P		**Pb**	**08 48 03.4**	**+0.1**
	4.6nm,0.1s							
ZHN				S		**Sb**	**08 48 24.2**	**+0.7**
	7.7nm,0.2s							
SATY	**Saty**	**1.70**	**200**	*e*P		**Pb**	**08 48 05.8**	**+0.6**
	1.8nm,0.1s							
SATY				*e*S		**Sg**	**08 48 28.2**	**-0.1**
	21nm,0.1s							
SATY	**Saty**	**1.70**	**200**	P		**Pb**	**08 48 05.8**	**+0.6**
	1.8nm,0.1s							
SATY				S		**Sg**	**08 48 28.2**	**-0.1**
	21nm,0.1s							

*IDC **26** 08:48:55.1±0.9,41˚.08N×75˚.55E,h0km,mb3.9/13, mb1 4.0/20,mb1mx3.8/52,mbtmp3.8/20,ML3.0/7,MS3.4/9, Ms1 3.3/9,ms1mx3.0/44,Error ellipse: s-maj=16.0km s-min=13.7km az=173.0*

*BJI **26** 08:48:55.5±0.0,41˚.36N×75˚.48E,h7km,mb4.3/15, mB4.3/4,ML4.3/5,Ms3.9/4,Ms7 3.9/2*

*MOS **26** 08:48:56.4±1.1,41˚.14N×75˚.70E,h13km,mb4.5/17,Error ellipse: s-maj=6.7km s-min=4.9km az=83.4*

MOS Felt (III-IV) at Dostuk, Kulanak; (III) at At-Bashy; (II-III) at Narin.

*SOME **26** 08:48:57.2,41˚.30N×75˚.58E,h10km,MS3.7*

*KRNET **26** 08:48:57.0±0.1,41˚.29N×75˚.61E,h16km,mb4.6*

*NEIC **26** 08:48:58.0±2.0,41˚.27N±0˚.04×75˚.62E±0˚.02,h11km±4km, mb4.5/28,Mwr3.9,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}8.15; $M_{\theta\theta}$-1.96; $M_{\phi\phi}$-6.19; $M_{r\theta}$-2.81; $M_{\theta\phi}$-5.19; $M_{\phi r}$-2.77; Fault plane solution: $M_0$9.84000×10^{14} NP1:ϕ_s219.50000°,δ56.98000°, λ96.65000°. NP2:ϕ_s27.42000°,δ33.61000°,λ79.90000°. Principal axes: T 9.0333, Plg77.0000°, Azm151.0000°; N 1.4526, Plg6.0000°, Azm36.0000°; P -10.4858, Plg12.0000°, Azm305.0000°;*

*NNC **26** 08:48:58.3±0.6,41˚.33N×75˚.58E,h0km,mb5.0,mpv4.7 Error ellipse: s-maj=4.4km s-min=2.7km az=5.0*

ISC 26 08:48:57.1±1.1,**41˚.29N**±0˚.03×**75˚.62E**±0˚.02,**h4**km±7km, **n229,**σ1**$ 53**/296,**mb4.3**/37,**MS3.5**/9,**31C-30D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h	m	s	Res ISC
				Op			Time			
NRN	**Naryn**	**0.32**	**64**	PG		**Pg**	**08**	**49**	**03.0**	**-0.5**
NRN							08	49	07.9	
NRN	**Naryn**	**0.32**	**64**	⇓*i*P		**Pg**	**08**	**49**	**02.9**	**-0.5**
	baz=63									
NRN				⇓*i*S		**Sg**	**08**	**49**	**07.5**	**-0.3**
	baz=63									
NRN	**Naryn**	**0.32**	**64**	Pg		**Pg**	**08**	**49**	**03.0**	**-0.5**
NRN				Sg		**Sg**	**08**	**49**	**07.9**	**+0.1**
KZA	**Kyzart**	**0.83**	**341**	⇑*i*P		**Pg**	**08**	**49**	**13.1**	**0.0**
	baz=41									
KZA				⇑*i*S		**Sg**	**08**	**49**	**24.8**	**+0.9**
	baz=41									
KZA	**Kyzart**	**0.83**	**341**	P		**Pg**	**08**	**49**	**13.0**	**0.0**
	SNR=468									
ULHL	**Ulahol**	**1.06**	**26**	*i* P		**Pg**	**08**	**49**	**17.1**	**-0.4**
	baz=26									
ULHL				*i* S		**Sb**	**08**	**49**	**31.7**	**-0.8**
	baz=26									
ULHL	**Ulahol**	**1.06**	**26**	P		**Pg**	**08**	**49**	**17.1**	**-0.4**
	SNR=335									
ARLS	**Aral**	**1.12**	**301**	⇓*i*P		**Pg**	**08**	**49**	**17.8**	**-0.9**
	baz=2.0									
ARLS				⇓*i*S		**Sg**	**08**	**49**	**33.8**	**+0.6**
	baz=2.0									
BOOM	**Boomskoye usch**	**1.22**	**11**	PG		**Pg**	**08**	**49**	**20.2**	**-0.4**
BOOM							08	49	37.2	
BOOM	**Boomskoye usch**	**1.22**	**11**	*i* P		**Pg**	**08**	**49**	**20.1**	**-0.4**
	baz=12									
BOOM				*i* S		**Sb**	**08**	**49**	**36.9**	**-0.1**
	baz=12									
BOOM	**Boomskoye usch**	**1.22**	**11**			**Pg**	**08**	**49**	**20.1**	**-0.4**
BOOM				Sn		**Sb**	**08**	**49**	**37.1**	**+0.1**
UCH	**Uchtor**	**1.25**	**319**	*i* P		**Pg**	**08**	**49**	**20.5**	**-0.5**
	baz=19									
UCH				*i* S		**Sg**	**08**	**49**	**37.7**	**+0.5**
	baz=19									
UCH	**Uchtor**	**1.25**	**319**	P		**Pg**	**08**	**49**	**20.6**	**-0.5**
	SNR=194									
KDJ	**Kajisay**	**1.44**	**54**	PG		**Pn**	**08**	**49**	**23.7**	**-0.4**
KDJ							08	49	43.5	
KDJ	**Kajisay**	**1.44**	**54**	⇓*i*P		**Pn**	**08**	**49**	**23.6**	**-0.5**
	baz=54									
KDJ				⇓*i*S		**Sb**	**08**	**49**	**43.0**	**-0.3**
	baz=54									
KDJ	**Kajisay**	**1.44**	**54**			**Pn**	**08**	**49**	**23.7**	**-0.5**
KDJ				Sn		**Sg**	**08**	**49**	**43.5**	**+0.1**
KBK	**Karagaybulak**	**1.45**	**340**	⇓*i*P		**Pn**	**08**	**49**	**24.1**	**-0.2**
	baz=40									
KBK				⇓*i*S		**Sg**	**08**	**49**	**44.2**	**+0.5**
	baz=40									
KBK	**Karagaybulak**	**1.45**	**340**	P		**Pb**	**08**	**49**	**24.6**	**-0.2**
	SNR=243									
AAK	**Ala-Archa**	**1.58**	**328**	*i* PN		**Pb**	**08**	**49**	**26.6**	**-0.4**
AAK				pmax		pmax				
	comp=Z,323nm,0.4s									
AAK	**Ala-Archa**	**1.58**	**328**	Pn		**Pb**	**08**	**49**	**27.0**	**0.0**
	comp=Z,120nm,0.3s,baz=137,slow=12,SNR=169									
AAK				Sn		**Sb**	**08**	**49**	**47.7**	**+0.2**
	comp=Z,110nm,0.3s,baz=157,slow=20,SNR=6.6									
AAK	**Ala-Archa**	**1.58**	**328**	⇑*i*P		**Pb**	**08**	**49**	**26.7**	**-0.3**
	baz=29									
AAK				⇑*i*S		**Sg**	**08**	**49**	**48.0**	**0.0**
	baz=29									
AAK	**Ala-Archa**	**1.58**	**328**	P		**Pb**	**08**	**49**	**26.8**	**-0.3**
	SNR=282									
AAK	**Ala-Archa**	**1.58**	**328**	Pn		**Pb**	**08**	**49**	**26.7**	**-0.3**
AAK						**Sb**	**08**	**49**	**47.4**	**0.0**
AAK	**Ala-Archa**	**1.58**	**328**	P		**Pb**	**08**	**49**	**26.6**	**-0.3**
	comp=Z,323nm,0.5s									
AAK				S		**Sb**	**08**	**49**	**47.4**	**0.0**
	comp=Z,998nm,0.6s									
TKM2	**Tokmak 2**	**1.63**	**360**	*i* PN		**Pb**	**08**	**49**	**27.5**	**-0.3**
TKM2				pmax		pmax				
	comp=Z,319nm,0.5s									
TKM2	**Tokmak 2**	**1.63**	**360**	*i* P		**Pb**	**08**	**49**	**27.5**	**-0.3**
	baz=60									
TKM2				*i* S		**Sg**	**08**	**49**	**49.2**	**-0.2**
	baz=60									
TKM2	**Tokmak 2**	**1.63**	**360**	P		**Pb**	**08**	**49**	**27.6**	**-0.2**
	SNR=203									
TKM2	**Tokmak 2**	**1.63**	**360**	⇓P		**Pb**	**08**	**49**	**27.5**	**-0.3**
	comp=Z,319nm,0.5s									
TKM2				⇓S		**Sg**	**08**	**49**	**49.0**	**-0.4**
	comp=Z,459nm,0.2s									
AML	**Almayashu**	**1.66**	**301**	⇑*e*P		**Pn**	**08**	**49**	**27.8**	**+0.4**
	baz=1.0									
AML				⇑*i*S		**Sb**	**08**	**49**	**50.5**	**+0.5**
	baz=1.0									
AML	**Almayashu**	**1.66**	**301**	P		**Pn**	**08**	**49**	**27.9**	**+0.5**
	SNR=213									
FRU1	**Bishkek**	**1.68**	**334**	PN		**Pg**	**08**	**49**	**29.2**	**-0.2**
FRU1	**Bishkek**	**1.68**	**334**	⇑*i*P		**Pb**	**08**	**49**	**28.3**	**-0.4**
	baz=35									
FRU1				⇑*i*S		**Sg**	**08**	**49**	**51.3**	**+0.1**
	baz=35									
FRU1	**Bishkek**	**1.68**	**334**			**Pg**	**08**	**49**	**29.2**	**-0.2**
TARG	**Taragay, Kyrgy**	**1.70**	**74**	Pn		**Pn**	**08**	**49**	**28.1**	**+0.2**
TARG				Sn		**Sn**	**08**	**49**	**50.0**	**-0.4**
KST	**Kastek**	**1.77**	**8**	*e*P		**Pb**	**08**	**49**	**30.2**	**+0.1**
	comp=Z,438nm,0.3s									
KST				*e*S		**Sg**	**08**	**49**	**54.3**	**+0.4**
	comp=Z,2μm,0.4s									
KST	**Kastek**	**1.77**	**8**	P		**Pb**	**08**	**49**	**30.2**	**+0.1**
	comp=Z,438nm,0.3s									
KST				S		**Sg**	**08**	**49**	**54.3**	**+0.4**
	comp=Z,2μm,0.4s									
CHMS	**Chumysh**	**1.82**	**340**	⇓*i*P		**Pb**	**08**	**49**	**30.9**	**-0.1**
	baz=40									
CHMS				⇓*i*S		**Sg**	**08**	**49**	**55.1**	**-0.5**
	baz=40									
CHMS	**Chumysh**	**1.82**	**340**	P		**Pb**	**08**	**49**	**31.1**	**0.0**
	SNR=200									
MTBS	**Maitube**	**1.93**	**18**	*e*P		**Pg**	**08**	**49**	**33.6**	**-0.6**
	comp=Z,351nm,0.3s									
MTBS				*e*S		**Sg**	**08**	**50**	**00.2**	**+1.0**
	comp=Z,4μm,0.2s									
MTBS	**Maitube**	**1.93**	**18**	Pg		**Pg**	**08**	**49**	**33.6**	**-0.6**
	comp=Z,351nm,0.3s									
MTBS				Lg		Lg	08	50	00.2	
	comp=Z,4μm,0.2s									
EKS2	**Erkin-Say**	**1.94**	**316**	⇑*i*P		**Pb**	**08**	**49**	**32.2**	**-0.8**
	baz=16									
EKS2				⇑*i*S		**Sb**	**08**	**49**	**58.4**	**+0.8**
	baz=16									
EKS2	**Erkin-Say**	**1.94**	**316**	P		**Pb**	**08**	**49**	**33.0**	**-0.1**
	SNR=735									
DGS	**Degeres**	**1.95**	**3**	*e*P		**Pb**	**08**	**49**	**33.5**	**+0.2**
	comp=Z,567nm,0.4s									
DGS				*e*S		**Sg**	**08**	**49**	**59.8**	**-0.1**
	comp=Z,2μm,0.5s									
DGS	**Degeres**	**1.95**	**3**	Pg		**Pb**	**08**	**49**	**33.5**	**+0.2**
	comp=Z,567nm,0.4s									
DGS				Lg		Lg	08	49	59.8	
	comp=Z,2μm,0.5s									
ARSB	**Arslanbob**	**1.98**	**272**	⇑*e*P		**Pn**	**08**	**49**	**32.9**	**+1.3**
	baz=72									
ARSB				⇑*i*S		**Sb**	**08**	**49**	**59.5**	**+0.5**
	baz=72									
ARSB	**Arslanbob**	**1.98**	**272**			**Pb**	**08**	**49**	**33.1**	**-0.7**
TNSS	**Tian-Shan**	**2.00**	**29**	*e*P		**Pb**	**08**	**49**	**34.5**	**+0.1**
	comp=Z,162nm,0.4s									
TNSS				*e*S		**Sg**	**08**	**50**	**01.4**	**-0.1**
	comp=Z,721nm,0.2s									
TNSS	**Tian-Shan**	**2.00**	**29**	Pg		**Pb**	**08**	**49**	**34.5**	**+0.1**
	comp=Z,162nm,0.4s									
TNSS				Lg		Lg	08	50	01.4	
	comp=Z,721nm,0.2s									
ANVS	**Anan'yevo**	**2.13**	**45**	⇓*i*P		**Pn**	**08**	**49**	**34.6**	**+0.9**
	baz=45									
ANVS				⇓*i*S		**Sb**	**08**	**50**	**02.2**	**-1.1**
	baz=45									
USP	**Ospenovka**	**2.14**	**338**	⇓*i*P		**Pb**	**08**	**49**	**35.1**	**-1.3**
	baz=38									
USP				⇓*i*S		**Sb**	**08**	**50**	**03.0**	**-0.3**
	baz=38									
USP	**Ospenovka**	**2.14**	**338**	P		**Pb**	**08**	**49**	**36.2**	**-0.3**
	SNR=513									
AAA	**Alma-Ata**	**2.14**	**26**	*e*P		**Pg**	**08**	**49**	**37.4**	**-0.8**
	comp=Z,355nm,0.2s									
AAA				*e*S		**Sg**	**08**	**50**	**06.7**	**+0.6**
	comp=Z,604nm,0.2s									
AAA	**Alma-Ata**	**2.14**	**26**	*e*PN		**Pg**	**08**	**49**	**37.5**	**-0.8**
AAA				*e*S		**Sg**	**08**	**50**	**06.6**	**+0.6**
AAA				pmax		pmax				
	comp=Z,97nm,0.2s									
AAA				smax		smax				
	comp=E,663nm,0.2s									
AAA	**Alma-Ata**	**2.14**	**26**	Pg		**Pg**	**08**	**49**	**37.4**	**-0.8**
	comp=E,355nm,0.2s									
AAA				Lg		Lg	08	50	06.7	
	comp=E,604nm,0.2s									
MDOK	**Medeo**	**2.15**	**29**	*e*P		**Pb**	**08**	**49**	**37.0**	**+0.3**
	comp=E,334nm,0.4s									
MDOK				*e*S		**Sg**	**08**	**50**	**05.9**	**-0.3**
	comp=E,727nm,0.4s									
MDOK	**Medeo**	**2.15**	**29**	PN		**Pb**	**08**	**49**	**36.9**	**+0.3**
MDOK				pmax		pmax				
	comp=Z,213nm,0.5s									
MDOK	**Medeo**	**2.15**	**29**	⇑Pn		**Pb**	**08**	**49**	**36.9**	**+0.2**
	comp=Z,213nm,0.5s									
MDOK				⇓Lg		Lg	08	50	05.1	
	comp=Z,385nm,0.4s									
MDOK	**Medeo**	**2.15**	**29**	Pg		**Pb**	**08**	**49**	**37.0**	**+0.3**
	comp=Z,334nm,0.4s									
MDOK				Lg		Lg	08	50	05.9	
	comp=Z,727nm,0.4s									
KNDC	**Almaty**	**2.17**	**27**	⇓Pn		**Pn**	**08**	**49**	**35.4**	**+1.3**
	comp=Z,793nm,0.8s									
KNDC				⇑Lg		Lg	08	50	07.0	
	comp=Z,607nm,0.3s									
KOTS	**Kotyrbulak**	**2.23**	**29**	*e*P		**Pb**	**08**	**49**	**38.9**	**+0.8**
	comp=Z,708nm,0.4s									
KOTS				*e*S		**Sg**	**08**	**50**	**09.2**	**+0.3**
	comp=Z,2μm,0.4s									
KOTS	**Kotyrbulak**	**2.23**	**29**	Pg		**Pb**	**08**	**49**	**38.9**	**+0.8**
	comp=Z,708nm,0.4s									
KOTS				Lg		Lg	08	50	09.2	
	comp=Z,2μm,0.4s									
MRKS	**Merke**	**2.30**	**310**	*e*P		**Pb**	**08**	**49**	**39.3**	**+0.1**
	comp=Z,959nm,0.6s									
MRKS				*e*S		**Sg**	**08**	**50**	**09.6**	**-1.3**
	comp=Z,291nm,0.5s									
MRKS	**Merke**	**2.30**	**310**	Pg		**Pb**	**08**	**49**	**39.3**	**+0.1**
	comp=Z,959nm,0.6s									
MRKS				Lg		Lg	08	50	09.6	
	comp=Z,291nm,0.5s									
PRZ	**Przheval'sk**	**2.40**	**59**	PN		**Pb**	**08**	**49**	**39.9**	**-1.0**
PRZ	**Przheval'sk**	**2.40**	**59**	⇓*e*P		**Pn**	**08**	**49**	**38.6**	**+1.3**
	baz=59									
PRZ				⇓*e*S		**Sn**	**08**	**50**	**08.6**	**+1.4**
	baz=59									
PRZ	**Przheval'sk**	**2.40**	**59**			**Pb**	**08**	**49**	**39.9**	**-1.0**
PRZ						LR	08	50	13.9	
KTBS	**Karatobe**	**2.54**	**18**	*e*P		**Pb**	**08**	**49**	**44.2**	**+0.9**
	comp=Z,609nm,0.3s									
KTBS				*e*S		**Sg**	**08**	**50**	**18.1**	**-0.7**
	comp=Z,3μm,0.5s									
KTBS	**Karatobe**	**2.54**	**18**	Pg		**Pb**	**08**	**49**	**44.2**	**+0.9**
	comp=Z,609nm,0.3s									
KTBS				Lg		Lg	08	50	18.1	
	comp=Z,3μm,0.5s									
KUU	**Kurty**	**2.65**	**11**	*e*P		**Pb**	**08**	**49**	**45.8**	**+0.6**
	comp=Z,189nm,0.3s									
KUU				*e*S		**Sg**	**08**	**50**	**20.6**	**-1.7**
	comp=Z,3μm,0.4s									
KUU	**Kurty**	**2.65**	**11**	Pg		**Pb**	**08**	**49**	**45.8**	**+0.6**
	comp=Z,189nm,0.3s									
KUU				Lg		Lg	08	50	20.6	
	comp=Z,3μm,0.4s									
SATY	**Saty**	**2.72**	**49**	*e*P		**Pb**	**08**	**49**	**47.0**	**+0.6**
	comp=Z,288nm,0.6s									
SATY				*e*S		**Sg**	**08**	**50**	**22.9**	**-1.7**
	comp=Z,1μm,0.4s									
SATY	**Saty**	**2.72**	**49**	Pg		**Pb**	**08**	**49**	**47.1**	**+0.6**
	comp=Z,288nm,0.6s									
SATY				Lg		Lg	08	50	22.9	
	comp=Z,1μm,0.4s									
CHKK	**Chushkaly**	**2.75**	**21**	*e*P		**Pb**	**08**	**49**	**47.9**	**+1.0**
	comp=Z,126nm,0.4s									
CHKK				*e*S		**Sg**	**08**	**50**	**24.7**	**-0.8**
	comp=Z,2μm,0.3s									
CHKK	**Chushkaly**	**2.75**	**21**	Pg		**Pb**	**08**	**49**	**47.9**	**+1.0**
	comp=Z,126nm,0.4s									
CHKK				Lg		Lg	08	50	24.7	
	comp=Z,2μm,0.3s									
ARK	**Arkit**	**2.79**	**282**	⇑*e*P		**Pn**	**08**	**49**	**43.9**	**+1.3**
	baz=81									
ARK				⇑*i*S		**Sn**	**08**	**50**	**17.7**	**+1.0**
	baz=81									
ZHN	**Zhinishke**	**2.81**	**47**	*e*P		**Pb**	**08**	**49**	**48.7**	**+0.8**
	comp=Z,312nm,0.7s									
ZHN				*e*S		**Sg**	**08**	**50**	**25.7**	**-1.7**
	comp=Z,466nm,0.2s									
ZHN	**Zhinishke**	**2.81**	**47**	Pg		**Pb**	**08**	**49**	**48.7**	**+0.8**
	comp=Z,312nm,0.7s									
ZHN				Lg		Lg	08	50	25.7	
	comp=Z,466nm,0.2s									
KURS	**Kuram**	**2.90**	**40**	*e*P		**Pb**	**08**	**49**	**50.2**	**+0.9**
	comp=Z,190nm,0.7s									
KURS				*e*S		**Sg**	**08**	**50**	**28.5**	**-1.6**
	comp=Z,316nm,0.5s									
KURS	**Kuram**	**2.90**	**40**	Pg		**Pb**	**08**	**49**	**50.2**	**+0.9**
	comp=Z,190nm,0.7s									
KURS				Lg		Lg	08	50	28.5	
	comp=Z,316nm,0.5s									
UZB	**Uzynbulak**	**3.14**	**53**	*e*P		**Pb**	**08**	**49**	**54.0**	**+0.5**
	comp=Z,106nm,0.5s									
UZB				*e*S		**Sb**	**08**	**50**	**34.6**	**+2.5**
	comp=Z,506nm,0.6s									
UZB	**Uzynbulak**	**3.14**	**53**	Pg		**Pb**	**08**	**49**	**54.0**	**+0.5**
	comp=Z,106nm,0.5s									
UZB				Lg		Lg	08	50	34.6	
	comp=Z,506nm,0.6s									
KPKS	**Kokpek**	**3.14**	**45**	*e*P		**Pb**	**08**	**49**	**54.5**	**+0.9**
	comp=Z,260nm,0.3s									
KPKS				*e*S		**Sg**	**08**	**50**	**35.5**	**-2.6**
	comp=Z,1μm,0.6s									
ARXS	**Arharly**	**3.34**	**28**	*e*P		**Pb**	**08**	**49**	**58.2**	**+1.2**
	comp=Z,84nm,0.4s									
ARXS				*e*S		**Sg**	**08**	**50**	**42.2**	**-2.2**
	comp=Z,891nm,0.3s									
ARXS	**Arharly**	**3.34**	**28**	Pg		**Pb**	**08**	**49**	**58.2**	**+1.2**
	comp=Z,84nm,0.4s									
ARXS				Lg		Lg	08	50	42.2	
	comp=Z,891nm,0.3s									
SHLS	**Shalkode**	**3.41**	**56**	*e*P		**Pg**	**08**	**50**	**04.2**	**+1.7**
	comp=Z,216nm,0.8s									
SHLS				*e*S		**Sg**	**08**	**50**	**52.3**	**+5.6**
	comp=Z,555nm,0.5s									
SHLS	**Shalkode**	**3.41**	**56**	Pg		**Pg**	**08**	**50**	**04.2**	**+1.7**
	comp=Z,216nm,0.8s									
SHLS				Lg		Lg	08	50	52.3	
	comp=Z,555nm,0.5s									
PDGK	**Podgornoye**	**3.52**	**53**	PN		**Pn**	**08**	**49**	**54.5**	**+1.8**
PDGK				pmax		pmax				
	comp=Z,32nm,0.8s									
PDGK	**Podgornoye**	**3.52**	**53**	Pg		**Pb**	**08**	**50**	**01.4**	**+1.4**
	comp=Z,40nm,0.4s									
PDGK				Lg		Lg	08	50	47.8	
	comp=Z,245nm,0.6s									
PDGK	**Podgornoye**	**3.52**	**53**	⇑Pn		**Pn**	**08**	**49**	**54.6**	**+1.8**
	comp=Z,32nm,0.8s									
PDGK				⇑Pg		**Pg**	**08**	**50**	**03.3**	**-1.3**
	comp=Z,76nm,0.7s									
PDGK				⇑Lg		Lg	08	50	50.0	
	comp=Z,449nm,0.6s									
DZA	**Taraz**	**3.57**	**298**	*e*P		**Pb**	**08**	**50**	**03.0**	**+2.2**
	comp=Z,186nm,0.1s									
DZA				*e*S		**Sg**	**08**	**50**	**50.4**	**-1.3**
	comp=Z,331nm,0.4s									
DZA	**Taraz**	**3.57**	**298**	Pg		**Pb**	**08**	**50**	**03.0**	**+2.2**
	comp=Z,186nm,0.1s									
DZA				Lg		Lg	08	50	50.4	
	comp=Z,331nm,0.4s									
BTK	**Batken**	**3.85**	**253**	PN		**Pn**	**08**	**49**	**57.4**	**+0.2**
BTK	**Batken**	**3.85**	**253**	⇑*i*P		**Pn**	**08**	**49**	**58.1**	**+0.9**
	baz=53									
BTK				⇑*i*S		**Sn**	**08**	**50**	**43.6**	**+0.7**
	baz=53									
BTK	**Batken**	**3.85**	**253**			**Pn**	**08**	**49**	**57.4**	**+0.2**
BTK				Sn		**Sn**	**08**	**50**	**38.4**	**-4.5**
KK31	**Karatay Array**	**4.20**	**297**	PN		**Pn**	**08**	**50**	**02.9**	**+1.0**
KK31							08	50	51.7	
KK31	**Karatay Array**	**4.20**	**297**			**Pn**	**08**	**50**	**02.9**	**+1.0**
KK31				Sn		**Sn**	**08**	**50**	**51.7**	**+0.3**
KK31	**Karatay Array**	**4.20**	**297**	⇑Pg		**Pb**	**08**	**50**	**13.1**	**+1.6**
	comp=Z,116nm,0.8s,baz=122,slow=13,SNR=176									
KK31				⇑Lg		Lg	08	51	07.9	
	comp=Z,178nm,0.7s,baz=120,slow=30,SNR=7.0									
KKAR	**Karatay Array**	**4.20**	**297**	PN		**Pn**	**08**	**50**	**02.8**	**+0.9**
KKAR	**Karatay Array**	**4.20**	**297**			**Pn**	**08**	**50**	**02.8**	**+0.9**
TDK	**Taldyqorghan**	**4.23**	**28**	*e*P		**Pb**	**08**	**50**	**14.2**	**+2.1**
	comp=Z,328nm,0.5s									
TDK				*e*S		**Sg**	**08**	**51**	**09.6**	**-3.4**

KBL 08 52 37.0
KBL Kabul 8.51 220 Pn 08 51 01.3 +0.1
KBL **Sn 08 52 37.0 -0.7**
WMQ Urumqi 9.27 70 *e*P **Pn 08 51 13.0 +1.5**
WMQ sP 08 51 18.3
WMQ S **Sn 08 52 58.0 +1.8**
WMQ pmax pmax
comp=Z,8.0nm,1.1s
WMQ smax smax
comp=Z,24nm,1.3s
WMQ smax smax
comp=Z,34nm,1.3s
WMQ Urumqi 9.27 70 P **Pn 08 51 11.3 -0.2**
WMQ 08 52 54.5
WMQ Urumqi 9.27 70 Pn **Pn 08 51 11.3 -0.2**
WMQ Sn **Sn 08 52 54.5 -1.6**
KURBB Kurchatov Arra 9.55 11 Pn **Pn 08 51 16.3 +1.0**
comp=Z,0.1nm,0.3s,baz=201,slow=12,SNR=3.1
KURBB Sn **Sn 08 53 06.5 +3.6**
comp=Z,0.3nm,0.3s,baz=204,slow=15,SNR=5.0
KURBB Lg Lg 08 53 55.2
comp=Z,1.0nm,0.3s,baz=194,slow=29,SNR=11
KURBB Kurchatov Arra 9.55 11 ⇑Pn **Pn 08 51 17.8 +2.6**
comp=Z,2.1nm,0.3s
KURBB ⇑Pg 08 51 52.8
comp=Z,6.2nm,0.6s
KURBB ⇓Lg Lg 08 54 00.2
comp=Z,165nm,0.7s
KURK Kurchatov 9.65 11 *i* P **Pn 08 51 19.1 +2.4**
KURK Kurchatov 9.65 11 Pn **Pn 08 51 16.4 -0.2**
KURK **Sn 08 53 03.0 -2.4**
BVAR Borovoye Array 12.26 345 Pn **Pn 08 51 51.1 -1.2**
comp=Z,0.1nm,0.3s,baz=153,slow=14,SNR=5.1
BVAR Sn **Sn 08 54 10.3 +1.0**
comp=Z,0.4nm,0.3s,baz=164,slow=18,SNR=2.4
BVAR Lg Lg 08 55 25.6
comp=Z,1.5nm,0.3s,baz=158,slow=28,SNR=5.1
BRVK Borovoye 12.31 345 *e*P **Pn 08 51 55.5 +2.5**
BRVK Borovoye 12.31 345 Pn 08 51 50.6 -2.4
BRVK Borovoye 12.31 345 ⇑Pn **Pn 08 51 55.4 +2.3**
comp=Z,4.6nm,0.8s
BRVK ⇓Sn **Sn 08 54 12.1 +1.5**
comp=Z,10nm,0.7s
HRA Herat 12.61 241 Pn 08 51 56.8 -0.7
AB31 Akbulak array 13.59 311 P **Pn 08 52 13.4 +2.9**
AB31 S **Sn 08 54 43.2 +1.3**
AB31 pmax pmax
comp=Z,13nm,0.8s
AB31 smax smax
comp=N,3.0nm,0.6s
AB31 Akbulak array 13.59 311 ⇑Pn **Pn 08 52 13.4 +2.9**
comp=N,13nm,0.8s,baz=118,slow=13,SNR=28
AB31 ⇑Sn **Sn 08 54 43.2 +1.3**
comp=N,2.7nm,0.7s,baz=113,slow=25,SNR=3.2
ABKAR Akbulak array 13.59 311 Pn 08 52 10.4 -0.1
GEYT Alibeck 13.90 262 Pn **Pn 08 52 11.1 -3.8**
comp=N,0.5nm,0.3s,baz=87,slow=7.6,SNR=5.2
GEYT Sn **Sn 08 54 49.5 -0.1**
comp=N,0.6nm,0.3s,baz=77,slow=21,SNR=3.2
ZAA0 Zalesovo Array 14.08 23 Pn 08 52 17.9 +0.7
ZALV Zalesovo Beam 14.08 23 *e*P **Pn 08 52 18.5 +1.3**
ZALV Zalesovo Beam 14.08 23 Pn **Pn 08 52 19.3 +2.1**
comp=N,0.2nm,0.3s,baz=213,slow=11,SNR=3.7
ZALV Sn Sn 08 55 03.7 +10
baz=221,slow=15,SNR=2.1
ZALV Lg Lg 08 56 28.4
comp=N,1.7nm,0.3s,baz=223,slow=29,SNR=6.0
AKTO Aktyubinsk 15.26 313 P **Pn 08 52 33.6 +0.4**
AKTO pmax pmax
comp=Z,38nm,1.0s
AKTO Aktyubinsk 15.26 313 Pn **Pn 08 52 30.5 -2.7**
comp=Z,0.1nm,0.3s,baz=112,slow=9.2,SNR=8.7
AKTO Sn **Sn 08 55 19.6 -3.0**
baz=95,slow=16,SNR=2.6
AKTO LR LR 08 59 18.0
comp=Z,63nm,19.4s,baz=78,slow=40
AKTO Aktyubinsk 15.26 313 ⇓Pn **Pn 08 52 33.6 +0.4**
comp=Z,38nm,0.9s
GTA Gaotai 18.53 88 *e*P **Pn 08 53 15.5 +0.8**
GTA pP sP 08 53 20.0 +2.6
GTA sP pP 08 53 23.0 +6.4
ARU Arti 18.77 330*c* *i*P **Pn 08 53 19.6 +2.3**
ARU S **S 08 56 52.9 +2.1**
ARU pmax pmax
comp=Z,17nm,1.9s
ARU Arti 18.77 330 P **P 08 53 16.6 -0.3**
comp=Z,0.0nm,0.3s,baz=146,slow=7.3,SNR=4.0
ARU Lg Lg 08 58 57.0
comp=Z,0.0nm,0.3s,baz=144,slow=21,SNR=5.6
ARU Arti 18.77 330 P **P 08 53 15.7 -1.3**
TLY Talaya 21.79 52 LR LR 09 03 22.0
comp=Z,57nm,19.0s,baz=321,slow=40
LZH Lanzhou 22.59 94 *e*P **P 08 53 58.5 -0.2**
LZH pP sP 08 54 03.5 +2.0
LZH sP pP 08 54 05.8 +5.2
LZH pmax pmax
comp=Z,14nm,1.2s
LZH LR LR
comp=Z,250nm,11.2s
LZH LR LR
comp=Z,220nm,10.3s
LZH LR LR
comp=Z,320nm,12.1s
SONM Songino Array 22.78 63 P **P 08 54 02.0 +1.4**
comp=Z,0.8nm,0.6s,baz=280,slow=10,SNR=3.6
TBLG Delisi 23.07 281 P **P 08 54 03.8 +0.2**
TBLG pmax pmax
comp=Z,10.0nm,1.1s
TBLG Delisi 23.07 281 P **P 08 54 03.8 +0.2**
TBLG IAmb IAmb 08 54 14.1
comp=Z,9.8nm,1.1s
GNI Garni 23.37 277 *i* P **P 08 54 07.8 +1.0**
GNI pmax pmax
comp=Z,46nm,1.5s
GNI Garni 23.37 277 P **P 08 54 07.7 +1.0**
comp=Z,4.3nm,0.3s,baz=67,slow=13,SNR=2.4
GNI Garni 23.37 277 P **P 08 54 07.2 +0.4**
GNI IAmb IAmb 08 54 15.0
comp=Z,19nm,1.4s
KIRV Kirov 23.91 325 LR LR 09 05 22.8
comp=Z,66nm,21.9s,baz=69,slow=41
AKH Akhalkalaki 24.04 281 P **P 08 54 13.3 -0.1**
AKH pmax pmax
comp=Z,5.0nm,0.9s
AKH Akhalkalaki 24.04 281 P **P 08 54 13.3 -0.1**
KBZ Khabaz 24.16 287 LR LR 09 04 37.2
comp=Z,54nm,18.8s,baz=319,slow=39
KIV Kislovodsk 24.29 287 *e*P **P 08 54 17.0 +1.5**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,136nm,15.0s
KIV Kislovodsk 24.29 287 P **P 08 54 15.4 -0.1**
VORD Divnogorie 26.72 304 *e*P **P 08 54 36.6 -0.7**
VORD pmax pmax
comp=Z,7.0nm,0.8s
VSR Storozhevoye 26.83 304 *i* P **P 08 54 41.5 +3.2**
VSR pmax pmax
comp=Z,6.0nm,0.4s
HHC Hu-ho-hao-te 26.99 79 *e*P **P 08 54 41.8 +1.8**
XAN Xi'an 27.22 95 P **P 08 54 39.8 -2.3**
XAN pmax pmax
comp=Z,12nm,1.5s
XAN Xi'an 27.22 95 P **P 08 54 39.9 -2.3**
XAN IAmb IAmb 08 54 53.2
comp=Z,12nm,1.5s
BR131 Keskin Array S 31.73 281 P **P 08 55 22.6 +0.4**
BR131 pmax pmax
comp=Z,4.0nm,1.2s
BR131 Keskin Array S 31.73 281 P **P 08 55 22.6 +0.4**
BRTR Keskin Array B 31.73 281 P **P 08 55 22.0 -0.2**
comp=Z,1.5nm,0.8s,baz=81,slow=8.6,SNR=7.0
AKASG Malin Array Be 33.08 302 *i* P **P 08 55 37.7 +4.0**
AKASG Malin Array Be 33.08 302 P **P 08 55 33.6 -0.1**
comp=Z,0.3nm,0.3s,baz=75,slow=8.2,SNR=3.6
FINES FINESS Array B 35.76 321 *i* P **P 08 56 01.2 +4.5**
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 35.76 321 P **P 08 55 56.8 +0.1**
comp=Z,1.8nm,0.7s,baz=108,slow=9.2,SNR=3.4
MLR Muntele Rosu 35.87 294 ⇓P **P 08 56 00.3 +2.2**
MLR Muntele Rosu 35.87 294 ⇓P **P 08 56 00.3 +2.2**
TRPA Tarpa 37.69 299 ⇓P **P 08 56 13.8 +0.4**
DAMY Dhamar 37.97 235 P **P 08 56 14.9 -1.5**
ARCES ARCESS Array B 38.24 334 P **P 08 56 18.8 +1.0**
comp=Z,2.1nm,0.8s,baz=18,slow=8.1,SNR=3.8
OJC Ojcow 39.12 303 P **P 08 56 24.4 -1.0**
OJC pmax pmax
comp=Z,3.0nm,0.8s
OJC Ojcow 39.12 303 P **P 08 56 24.4 -1.0**
KLR Kul'dur 39.49 59 *i* P **P 08 56 29.1 +0.6**
KLR pmax pmax
comp=Z,8.0nm,1.5s
KLR Kul'dur 39.49 59 LR LR 09 15 29.3
comp=Z,66nm,18.0s,baz=350,slow=40
TIXI Tiksi 39.97 23 *i* P **P 08 56 32.3 +0.1**
TIXI pmax pmax
comp=Z,7.0nm,0.9s
TIXI Tiksi 39.97 23 P **P 08 56 32.2 +0.1**
TIXI IAmb IAmb 08 56 33.0
comp=Z,6.5nm,0.9s
VYHS Vyhne 40.05 300 *e*P **P 08 56 37.9 +4.7**
VYHS Vyhne 40.05 300 *e*P **P 08 56 37.9 +4.7**
KSRS Korea Array 40.12 78 LR LR 09 16 30.4
comp=Z,38nm,18.5s,baz=300,slow=41
NOA NORSAR Array B 42.88 320 P **P 08 56 55.6 -0.6**
comp=Z,0.9nm,0.7s,baz=107,slow=7.1,SNR=3.3
CLL Collm 43.17 305 *e*P **P 08 57 02.0 +3.3**
CLL Collm 43.17 305 *e*pP **P 08 57 02.0 +3.3**
GEC2 GERESS Array S 43.29 302 P **P 08 56 59.8 0.0**
GEC2 pmax pmax
comp=Z,8.0nm,3.0s
GEC2 GERESS Array S 43.29 302 P **P 08 57 00.2 +0.4**
GERES GERESS Array B 43.29 302 P **P 08 57 00.2 +0.4**
comp=Z,1.6nm,0.7s,baz=64,slow=9.1,SNR=9.3
TUE Stuetta 46.79 300 P **P 08 57 28.2 +0.4**
MJB9 Matsu-Tunnel 48.00 74 P **P 08 57 36.2 -0.9**
MAJO Matsushiro 48.00 74 P **P 08 57 36.1 -1.1**
MAJO pmax pmax
comp=Z,23nm,1.5s
MAJO Matsushiro 48.00 74 P **P 08 57 36.1 -1.1**
ASAJ Asahikawa 48.07 63 LR LR 09 20 59.4
comp=Z,68nm,19.3s,baz=184,slow=40
PET Petropavlovsk 54.61 47 P **P 08 58 26.5 +0.1**
PET pmax pmax
comp=Z,53nm,1.2s
KMBO Kilima Mbogo 54.70 229 P **P 08 58 27.1 -0.7**
KMBO pmax pmax
comp=Z,5.0nm,1.3s
JCJ Chichijima 55.60 82 LR LR 09 24 17.2
comp=Z,181nm,19.0s,baz=124,slow=38
ANM Nome 64.21 25 P **P 08 59 33.6 +1.0**
ANM pmax pmax
comp=Z,7.0nm,1.2s
ANM Nome 64.21 25 P **P 08 59 33.6 +1.0**
ANM IAmb IAmb 08 59 38.3
comp=Z,7.5nm,1.2s
COLD Coldfoot 66.35 18 P **P 08 59 47.0 +0.6**
COLD IAmb IAmb 08 59 49.0
comp=Z,2.6nm,1.0s
INK Inuvik 68.56 11 P **P 09 00 00.5 +0.1**
comp=Z,1.6nm,0.6s,baz=347,slow=7.4,SNR=8.9
INK Inuvik 68.56 11 P **P 09 00 00.4 +0.1**
INK IAmb IAmb 09 00 00.8
comp=Z,2.1nm,0.7s
PRP Porcupine Dome 68.83 17 P **P 09 00 02.9 +0.6**
PRP IAmb IAmb 09 00 05.5
comp=Z,4.5nm,1.4s
ILAR Eielson Array 69.15 18 P **P 09 00 03.3 -0.8**
comp=Z,1.0nm,0.7s,baz=323,slow=4.9,SNR=17
TOA0 Torodi Ar. Sit 69.40 270 P **P 09 00 04.0 -2.4**
TORD Torodi Ar. Bea 69.40 270 P **P 09 00 04.7 -1.7**
comp=Z,1.7nm,0.6s,baz=48,slow=5.4,SNR=9.5
SCRK Sand Creek 70.50 17 P **P 09 00 12.4 -0.1**
SCRK IAmb IAmb 09 00 18.9
comp=Z,3.1nm,1.0s
RIDG Independent Ri 70.50 18 P **P 09 00 12.1 -0.4**
RIDG IAmb IAmb 09 00 18.0
comp=Z,11nm,1.4s
DAWY Dawson 71.39 15 P **P 09 00 17.9 -0.1**
DAWY IAmb IAmb 09 00 31.9
comp=Z,3.9nm,1.4s
KDAK Kodiak Island 73.38 25 P **P 09 00 29.7 -0.1**
KDAK pmax pmax
comp=Z,38nm,1.5s
KDAK Kodiak Island 73.38 25 P **P 09 00 29.7 -0.1**
OHAK Old Harbor 73.61 25 P **P 09 00 31.6 +0.5**
HYT Haines Junctio 74.70 16 P **P 09 00 38.0 +0.4**
HYT IAmb IAmb 09 00 38.6
comp=Z,4.9nm,0.8s
FITZ Fitzroy Crossi 75.08 131 P **P 09 00 39.3 -0.8**
FITZ IAmb IAmb 09 00 55.3
comp=Z,9.1nm,1.3s
YKW3 Yellowknife Ar 76.17 5 P **P 09 00 45.5 -0.3**
YKW3 IAmb IAmb 09 00 46.0
comp=Z,1.8nm,0.7s
YKA Yellowknife Ar 76.23 5 P **P 09 00 45.9 -0.4**
comp=Z,2.0nm,0.7s,baz=348,slow=5.8,SNR=33
WRA Warramunga Arr 81.66 126 P **P 09 01 14.1 -2.5**
comp=Z,0.5nm,0.8s,baz=318,slow=5.5,SNR=3.4
ASAR Alice Springs 84.22 128 P **P 09 01 26.6 -3.2**
comp=Z,0.3nm,0.9s,baz=315,slow=5.7,SNR=3.2
FFC Flin Flon 84.33 359 P **P 09 01 29.7 -0.3**
FFC pmax pmax
comp=Z,3.0nm,0.8s
FFC Flin Flon 84.33 359 P **P 09 01 29.7 -0.3**

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*NIED **26** 09:14:00, 37.°60N×142.°10E, h20km, Mw3.7 Best double couple: Mo4.06000×10^14 NP1:φs120.00000°, δ33.00000°, λ-87.00000°. NP2:φs296.00000°, δ57.00000°, λ-92.00000°.*
*IDC **26** 09:14:32.9±1.0, 37.°51N×142.°14E, h0km, mb3.6/6, mb1 3.7/8, mb1mx3.6/51, mbtmp3.6/8, ML2.9/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/38, Error ellipse: s-maj=25.7km s-min=19.7km az=90.0*
*JMA **26** 09:14:35.3±0.2, 37.°62N×142.°06E, h29km±3km, M3.7*
ISC 26 09:14:33.0±2.0**, 37.°62N**±0.°05×**142.°10E**±0.°07**, h0**km±11km**, n28,** σ**0.°92**/35**, mb3.5**/6**, Off east coast of Honshu**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
JIKH Ishinomakikobu 0.85 324 P **Pb 09 14 50.7 0.0**
JIKH S **Sg 09 15 01.4 +1.0**
JMST Minamisoumatoc 0.97 276 P **Pg 09 14 52.3 +0.7**
JMST S **Sg 09 15 04.5 +0.3**
JFK Kawauchi 1.01 256 P **Pg 09 14 52.9 +0.5**
JFK S **Sg 09 15 05.2 -0.3**
JIO Ouri 1.02 325 P **Pb 09 14 53.4 -0.2**
JIO S **Sg 09 15 06.0 +0.1**
JMM Marumori 1.06 284 P **Pg 09 14 53.9 +0.4**
JMM S **Sg 09 15 07.0 -0.3**
ONAJ Iwakimizuishiy 1.16 244 P **Pg 09 14 55.0 -0.3**
ONAJ S **Sg 09 15 08.8 -1.5**
JKMT Kesennumamotoy 1.28 338 *e*S **Sg 09 15 12.4 -2.0**
JOU Okura 1.36 304 P **Pn 09 14 59.1 -0.2**
JOU S **Sg 09 15 15.8 -0.8**
JFT Otama 1.41 266 P **Pn 09 14 59.7 -0.2**
JFT S **Sg 09 15 17.0 -1.2**
JYS Shirataka 1.72 291 S **Sn 09 15 26.6 -0.3**
JYK Kaneyama 1.89 314 P **Pn 09 15 06.8 +0.3**
JYK *e*S **Sn 09 15 30.5 -0.5**
JFY Yanaizu 1.92 264 P **Pn 09 15 07.4 +0.4**
JFY S **Sn 09 15 30.9 -0.9**
JOM Ohasama 1.95 341 P **Pn 09 15 07.3 -0.2**
MJAR Matsushiro Arr 3.29 252 Pn **Pn 09 15 26.9 +1.0**
0.4nm,0.3s,baz=78,slow=18,SNR=13
MJAR Sn **Sn 09 16 06.1 +0.3**
0.4nm,0.3s,baz=146,slow=12,SNR=4.6
MJAR LR LR 09 16 57.1
comp=Z,146nm,18.9s,baz=95,slow=44
MAT Matsushiro 3.29 252 P **Pn 09 15 27.5 +1.6**
MAT S **Sn 09 16 07.5 +1.7**
ASAJ Asahikawa 6.50 3 Pn **Pn 09 16 11.5 +1.6**
0.4nm,0.3s,baz=191,slow=16,SNR=4.0
ASAJ Sn **Sn 09 17 23.5 -1.2**
0.2nm,0.3s,baz=17,slow=19,SNR=2.3
SONM Songino Array 27.92 303 P **P 09 20 25.2 +0.3**
0.5nm,0.6s,baz=102,slow=12,SNR=3.5
H11N2 WAKE ISLAND Hy 27.99 123 T T 09 49 51.7
baz=315,slow=75,SNR=54
H11N1 WAKE ISLAND Hy 28.00 123 T T 09 49 47.5
baz=315,slow=75,SNR=52
H11N3 WAKE ISLAND Hy 28.01 123 T T 09 49 47.2
baz=315,slow=75,SNR=64
H11S1 WAKE ISLAND Hy 28.73 125 T T 09 50 39.9
baz=317,slow=76,SNR=86
H11S3 WAKE ISLAND Hy 28.73 125 T T 09 50 41.9
baz=317,slow=76,SNR=93
H11S2 WAKE ISLAND Hy 28.75 125 T T 09 50 30.6
baz=317,slow=76,SNR=72
ZALV Zalesovo Beam 41.93 312 P **P 09 22 25.9 +0.7**
0.4nm,0.3s,baz=94,slow=12,SNR=2.5
MKAR Makanchi Array 44.27 302 P **P 09 22 43.9 -0.4**
0.5nm,0.7s,baz=89,slow=8.6,SNR=3.6
ILAR Eielson Array 48.70 33 P **P 09 23 19.4 +0.6**
0.2nm,0.7s,baz=250,slow=7.6,SNR=3.4
WRA Warramunga Arr 57.72 189 P **P 09 24 24.4 -1.2**
1.9nm,0.8s,baz=6.2,slow=7.2,SNR=14
ASAR Alice Springs 61.45 189 P **P 09 24 50.5 -0.9**
0.9nm,0.7s,baz=12,slow=6.0,SNR=12

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*IDC **26** 09:31:39.4±3.9, 38.°02N×74.°20E, h112km±35km, mb3.4/5, mb1 3.4/11, mb1mx3.2/45, mbtmp3.7/11, Error ellipse: s-maj=31.0km s-min=17.5km az=169.0*
*ISCJB **26** 09:31:41.0±0.4, 38.°01N±0.°04×74.°14E±0.°06, h152km, mb3.4/5, Error ellipse: s-maj=7.6km s-min=4.1km az=145.8*
*NNC **26** 09:31:48.6±3.3, 39.°24N×73.°57E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=24.6km s-min=15.2km az=175.0*
ISC 26 09:31:42.4±0.7**, 38.°07N**±0.°09×**74.°10E**±0.°07**, h152**km**, n45,** σ**1.°90**/39**, mb3.4**/5**, 4C-3D, Tajikistan-Xinjiang border region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
AML Almayashu 4.07 356 P **Pn 09 32 43.9 0.0**
SNR=55
KZA Kyzart 4.09 12 P **Pn 09 32 44.0 -0.2**
SNR=11
UCH Uchtor 4.16 4 P **Pn 09 32 45.3 +0.1**
SNR=29
AAK Ala-Archa 4.57 4 P **Pn 09 32 50.7 +0.5**
SNR=5.7
AAK Ala-Archa 4.57 4 ⇓Pg **Pn 09 32 49.8 -0.4**
2.1nm,0.5s
AAK ⇓Lg Lg 09 33 40.4
15nm,0.5s
EKS2 Erkin-Say 4.59 357 P **Pn 09 32 50.9 +0.4**
SNR=7.7
MRKS Merke 4.71 352 Pg **Pn 09 32 52.7 +0.5**
MRKS Lg Lg 09 33 42.8
CHMS Chumysh 4.95 6 P **Pn 09 32 55.6 +0.5**
SNR=8.3
TKM2 Tokmak 2 4.97 13 P **Pn 09 32 55.7 +0.1**
SNR=8.7
TKM2 Tokmak 2 4.97 13 ⇓Pn **Pn 09 32 54.0 -1.7**
2.3nm,0.4s
TKM2 ⇑Lg Lg 09 33 51.4
24nm,0.7s
IUG Iuzhnay 5.13 324 Pg **Pn 09 32 58.9 +1.4**
9.2nm,0.1s
IUG Lg Lg 09 33 53.4
111nm,0.5s
KST Kastek 5.16 15 Pg **Pn 09 33 00.3 +2.2**
3.9nm,0.3s
KST Lg Lg 09 33 55.6
30nm,0.4s
DZA Taraz 5.26 337 Pg **Pn 09 33 01.2 +2.0**
57nm,0.1s
DZA Lg Lg 09 33 57.3
117nm,0.3s
DGS Degeres 5.32 13 Pg Pn 09 33 07.7 +7.6
1.6nm,0.2s
DGS Lg Lg 09 34 08.7
16nm,0.5s
TNSS Tian-Shan 5.41 23 Pg Pn 09 33 11.3 +10
1.1nm,0.1s
TNSS Lg Lg 09 34 14.4
5.4nm,0.3s
KOTS Kotyrbulak 5.64 23 Pg Pn 09 33 16.5 +12
9.5nm,0.3s
KOTS Lg Lg 09 34 23.4
24nm,0.4s
KK31 Karatay Array 5.72 333 ⇑Lg Lg 09 34 08.2
64nm,0.8s,baz=143,slow=20,SNR=15
KTBS Karatobe 5.96 18 Pg Pn 09 33 22.0 +13
1.3nm,0.4s
KTBS Lg Lg 09 34 32.9
19nm,0.7s
KUU Kurty 6.05 16 Pg Pn 09 33 22.3 +12
0.9nm,0.1s
KUU Lg Lg 09 34 33.3
7.7nm,0.0s
CHKK Chushkaly 6.17 20 Pg Pn 09 33 25.6 +14
1.0nm,0.1s
CHKK Lg Lg 09 34 39.0
8.0nm,0.5s
PDGK Podgornoye 6.66 36 ⇑Pg Pn 09 33 38.1 +20
4.8nm,1.3s
PDGK ⇑Lg Lg 09 34 59.2
9.5nm,1.2s
MKAR Makanchi Array 10.60 32 P **Pn 09 34 08.2 -2.1**
0.0nm,0.3s,baz=208,slow=16,SNR=3.2
WMQ Urumqi 11.77 57 *e*P **Pn 09 34 25.5 -0.1**
WMQ smax smax
comp=N,7.0nm,0.9s
WMQ smax smax
comp=E,12nm,0.9s
GEYT Alibeck 12.61 274 P **Pn 09 34 36.8 +0.2**
comp=E,0.4nm,0.3s,baz=90,slow=8.6,SNR=3.2
GEYT S **Sn 09 36 52.3 -3.7**
comp=E,0.5nm,0.3s,baz=211,slow=20,SNR=2.6
DANN Dangsing 12.62 137 *e*P **Pn 09 34 34.8 -2.1**
comp=E,56nm,0.4s
KURBB Kurchatov Arra 12.94 13 P **Pn 09 34 39.5 -1.0**
comp=E,0.0nm,0.3s,baz=202,slow=9.9,SNR=2.9
KOLN Koldanda 13.00 139 *e*P **Pn 09 34 40.9 -0.8**
comp=E,31nm,0.5s
GKN Gorkha 13.37 136 *e*P **Pn 09 34 43.9 -2.5**
comp=E,58nm,0.2s
KKN Kakani 13.89 134 *e*P **Pn 09 34 50.9 -2.2**
DMN Daman 13.93 135 *e*P **Pn 09 34 51.9 -1.8**
PKIN Phulchoki 14.12 135 *e*P **Pn 09 34 53.7 -2.3**
PKI Pulchoki 14.13 135 *e*P **Pn 09 34 54.2 -2.0**
GUN Gumba 14.14 132 *e*P **Pn 09 34 53.9 -2.5**
comp=E,7.6nm,0.3s
JIRN Jiri 14.51 132 *e*P **Pn 09 34 59.0 -2.0**
comp=E,40nm,0.4s
BVAR Borovoye Array 15.17 351 P **Pn 09 35 08.4 -0.2**
comp=E,0.2nm,0.3s,baz=154,slow=10,SNR=4.6
RAMN Ramite 15.29 133 *e*P **Pn 09 35 09.5 -1.0**
comp=E,8.0nm,0.2s
TAPN Taplejung 15.65 129 *e*P **Pn 09 35 13.4 -1.7**
comp=E,9.2nm,0.4s
ODAN Odare 15.82 131 *e*P **Pn 09 35 15.8 -1.3**
comp=E,17nm,0.5s
AKTO Aktyubinsk 16.85 322 P **Pn 09 35 29.9 +0.7**
comp=E,0.5nm,0.3s,baz=118,slow=10,SNR=6.7
AKTO S **S 09 38 29.9 -6.3**
comp=E,0.1nm,0.3s,baz=316,slow=14,SNR=2.4
ZALV Zalesovo Beam 17.50 21 P **P 09 35 35.5 -0.3**
comp=E,0.3nm,0.3s,baz=197,slow=15,SNR=2.9
SONM Songino Array 25.41 57 P **P 09 36 56.7 +0.9**
comp=E,0.3nm,0.4s,baz=265,slow=8.7,SNR=4.0
FINES FINESS Array B 37.61 324 P **P 09 38 43.7 +1.7**
comp=E,2.4nm,0.9s,baz=112,slow=9.1,SNR=4.1
TORD Torodi Ar. Bea 68.21 270 P **P 09 42 29.1 +2.3**
comp=E,0.9nm,0.4s,baz=46,slow=5.9,SNR=13
YKA Yellowknife Ar 79.53 4 P **P 09 43 33.1 +1.3**
comp=E,0.3nm,0.4s,baz=349,slow=5.5,SNR=6.2
WRA Warramunga Arr 80.77 124 P **P 09 43 39.9 +0.8**
comp=E,0.2nm,0.5s,baz=323,slow=5.1,SNR=3.7

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*ISCJB **26** 09:49:43.9±0.8, 5.°71S±0.°09×81.°61W±0.°10, h33km, mb3.8/8, MS3.4/1, Error ellipse: s-maj=17.5km s-min=8.7km az=136.3*
*IDC **26** 09:49:49.8±3.2, 5.°80S×81.°39W, h75km±29km, mb3.5/8, mb1 3.8/12, mb1mx3.6/31, mbtmp3.9/12, MS3.2/5, Ms1 3.2/5, ms1mx3.1/19, Error ellipse: s-maj=27.3km s-min=18.1km az=66.0*
ISC 26 09:49:45.3±0.9**, 5.°8S**±0.°1×**81.°6W**±0.°1**, h35**km**, n16,** σ**1.°48**/16**, mb3.8**/8**, Near coast of northern Peru**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
ATAH Atahualpa 3.46 113 P **Pn 09 50 39.4 +2.2**
5.6nm,0.3s,baz=307,slow=15,SNR=29
ATAH S **Sn 09 51 18.1 +0.9**
7.4nm,0.3s,baz=54,slow=10,SNR=4.4
NNA Nana 7.75 143 P **Pn 09 51 37.4 +1.6**
1.6nm,0.3s,baz=314,slow=13,SNR=4.9
NNA S **Sn 09 53 00.4 -2.1**

	1.3nm,0.3s,baz=202,slow=18,SNR=3.8					
NNA			LR	LR	09 54 18.0	
	comp=Z,83nm,19.9s,baz=324,slow=35					
ROSC	**El Rosal**	**12.82 35**	LR	LR	09 58 11.4	
	comp=Z,149nm,21.1s,baz=162,slow=40					
JTS	**Las Juntas de**	**16.32 348**	LR	LR	09 57 47.3	
	comp=Z,66nm,21.5s,baz=236,slow=29					
LPAZ	**La Paz**	**16.84 129**	P	**P**	**09 53 41.2**	**+0.3**
	0.2nm,0.3s,baz=317,slow=9.9,SNR=12					
SDV	**Santo Domingo**	**18.23 37**	P	**Pn**	**09 53 55.0**	**-0.8**
	0.3nm,0.3s,baz=279,slow=10,SNR=4.8					
SDV			LR	LR	10 01 17.4	
	comp=Z,104nm,19.9s,baz=258,slow=38					
SIV	**San Ignacio**	**22.55 118**	P	**P**	**09 54 42.5**	**-0.2**
	3.7nm,1.0s,baz=289,slow=9.5,SNR=6.7					
PCRV	**Puerto La Cruz**	**23.18 47**	P	**P**	**09 54 48.2**	**-1.0**
	11nm,0.6s,baz=217,slow=6.5,SNR=13					
BDFB	**Brasilia**	**34.38 109**	P	**P**	**09 56 28.6**	**-1.0**
	1.0nm,0.4s,baz=347,slow=0.7,SNR=5.0					
BDFB			LR	LR	10 11 45.2	
	comp=Z,79nm,20.7s,baz=70,slow=38					
PLCA	**Paso Flores**	**36.18 166**	P	**P**	**09 56 45.4**	**+0.7**
	1.6nm,0.9s,baz=0.6,slow=9.5,SNR=3.2					
PDAR	**Pinedale Array**	**54.59 335**	P	**P**	**09 59 11.0**	**+0.5**
	0.2nm,0.4s,baz=143,slow=6.6,SNR=3.5					
NVAR	**Mina Array Bea**	**55.62 325**	P	**P**	**09 59 19.8**	**+1.7**
	0.4nm,0.7s,baz=137,slow=5.8,SNR=4.1					
YKA	**Yellowknife Ar**	**72.62 345**	P	**P**	**10 01 10.0**	**+1.1**
	0.1nm,0.4s,baz=125,slow=8.6,SNR=3.6					
TORD	**Torodi Ar. Bea**	**84.82 76**	P	**P**	**10 02 15.4**	**-1.5**
	0.6nm,0.7s,baz=317,slow=6.1,SNR=3.1					
ASAR	**Alice Springs**	**134.63 228**	PKP	**PKPdf**	**10 08 59.2**	**-1.9**
	0.2nm,0.8s,baz=117,slow=2.0,SNR=5.2					
WRA	**Warramunga Arr**	**136.37 233**	PKP	**PKPdf**	**10 09 02.8**	**-1.5**
	0.4nm,0.8s,baz=114,slow=2.2,SNR=5.0					

*SOME **26** 10:11:38.4, 40°.83N × 79°.90E, h5km*
*NNC **26** 10:11:41.0 ± 0.9, 40°.90N × 79°.86E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=6.5km s-min=5.3km az=137.0*
*KRNET **26** 10:11:42.8 ± 0.1, 40°.33N × 79°.57E, mb2.9*

ISC 26 10:11:39.1 ± 3.0, **40°.8N** ± 0°.1 × **80°.09E** ± 0°.09, **h5**km ± 14km, **n32, s 1 61/48, 11C-5D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.98**	**300**	⇑*i*P	**Pb**	**10 12 15.8**	**0.0**
	baz=17						
TARG				⇑*i*S	**Sb**	**10 12 40.4**	**-0.5**
	baz=17						
PRZ	**Przheval'sk**	**2.14**	**324**	⇑*i*P	**Pg**	**10 12 21.4**	**+1.3**
	baz=38						
PRZ				⇑*i*S	**Sg**	**10 12 49.8**	**+2.0**
	baz=38						
SHLS	**Shalkode**	**2.44**	**349**	*e*P	**Pb**	**10 12 22.1**	**-1.6**
	22nm,0.2s						
SHLS				*e*S	**Sb**	**10 12 53.1**	**-1.0**
	42nm,0.9s						
SHLS	**Shalkode**	**2.44**	**349**	Pg	**Pb**	**10 12 22.1**	**-1.6**
	22nm,0.2s						
SHLS				Lg	Lg	10 12 53.4	
	42nm,0.9s						
UZB	**Uzynbulak**	**2.52**	**342**	*e*P	**Pb**	**10 12 23.2**	**-1.7**
	7.2nm,0.2s						
UZB				*e*S	**Sb**	**10 12 55.3**	**-0.9**
	8.3nm,0.2s						
UZB	**Uzynbulak**	**2.52**	**342**	Pg	**Pb**	**10 12 23.2**	**-1.7**
	7.2nm,0.2s						
UZB				Lg	Lg	10 12 55.3	
	8.3nm,0.2s						
KDJ	**Kajisay**	**2.58**	**303**	⇑*i*P	**Pb**	**10 12 24.8**	**-1.2**
	baz=16						
KDJ				⇑*i*S	**Sb**	**10 12 55.2**	**-2.8**
	baz=16						
PDGK	**Podgornoye**	**2.61**	**350**	Pg	**Pb**	**10 12 25.3**	**-1.2**
	2.5nm,0.4s						
PDGK				Lg	Lg	10 12 59.0	
	9.0nm,0.7s						
PDGK	**Podgornoye**	**2.61**	**350**	⇑Pg	**Pb**	**10 12 25.0**	**-1.4**
	2.6nm,0.4s						
PDGK				⇓Lg	Lg	10 12 58.6	
	17nm,0.7s						
SATY	**Saty**	**2.62**	**332**	*e*P	**Pb**	**10 12 25.2**	**-1.4**
	11nm,0.4s						
SATY				*e*S	**Sb**	**10 12 59.1**	**-0.1**
	24nm,0.3s						
SATY	**Saty**	**2.62**	**332**	Pg	**Pb**	**10 12 25.2**	**-1.4**
	11nm,0.4s						
SATY				Lg	Lg	10 12 59.1	
	24nm,0.3s						
ZHN	**Zhinishke**	**2.71**	**334**	*e*P	**Pb**	**10 12 26.4**	**-1.7**
	5.4nm,0.1s						
ZHN				*e*S	**Sb**	**10 13 00.9**	**-0.7**
	7.3nm,0.3s						
ZHN	**Zhinishke**	**2.71**	**334**	Pg	**Pb**	**10 12 26.4**	**-1.7**
	5.4nm,0.1s						
ZHN				Lg	Lg	10 13 00.9	
	7.3nm,0.3s						
ANVS	**Anan'yevo**	**2.71**	**319**	⇑*e*P	**Pb**	**10 12 27.9**	**-0.4**
	baz=30						
ANVS				⇑*i*S	**Sb**	**10 13 01.3**	**-0.7**
	baz=30						
NRN	**Naryn**	**3.16**	**284**	⇓*e*P	**Pn**	**10 12 30.7**	**+0.9**
	baz=93						
NRN				⇓*i*S	**Sn**	**10 13 05.6**	**-2.5**
	baz=93						
ULHL	**Ulahol**	**3.25**	**299**	⇑*i*P	**Pb**	**10 12 34.0**	**-3.4**
	baz=9.0						
ULHL				⇑*i*S	**Sn**	**10 13 12.1**	**+2.0**
	baz=9.0						
TNSS	**Tian-Shan**	**3.27**	**315**	*e*P	**Pb**	**10 12 36.6**	**-1.2**
	1.3nm,0.0s						
TNSS				*e*S	**Sb**	**10 13 18.4**	**+0.4**
	5.8nm,0.2s						
TNSS	**Tian-Shan**	**3.27**	**315**	Pg	**Pb**	**10 12 36.6**	**-1.2**
	1.3nm,0.0s						
TNSS				Lg	Lg	10 13 18.4	
	5.8nm,0.2s						
KST	**Kastek**	**3.83**	**308**	*e*P	**Pb**	**10 12 46.4**	**-0.9**
	1.3nm,0.2s						
KST				*e*S	**Sb**	**10 13 35.4**	**+1.4**
	12nm,0.6s						
KST	**Kastek**	**3.83**	**308**	Pg	**Pb**	**10 12 46.3**	**-0.9**
	1.3nm,0.2s						
KST				Lg	Lg	10 13 35.4	
	12nm,0.6s						
ARXS	**Arharly**	**3.84**	**335**	*e*P	**Pb**	**10 12 46.7**	**-0.6**
	1.2nm,0.3s						
ARXS				*e*S	**Sb**	**10 13 35.9**	**+1.8**
	3.8nm,0.5s						
ARXS	**Arharly**	**3.84**	**335**	Pg	**Pb**	**10 12 46.7**	**-0.6**
	1.2nm,0.3s						
ARXS				Lg	Lg	10 13 35.9	
	3.8nm,0.5s						
CHKK	**Chushkaly**	**3.85**	**324**	*e*P	**Pb**	**10 12 46.4**	**-1.2**
	1.2nm,0.1s						
CHKK				*e*S	**Sb**	**10 13 35.3**	**+0.8**
	10nm,0.4s						
CHKK	**Chushkaly**	**3.85**	**324**	Pg	**Pb**	**10 12 46.4**	**-1.2**
	1.2nm,0.1s						
CHKK				Lg	Lg	10 13 35.3	
	10nm,0.4s						
KTBS	**Karatobe**	**3.89**	**321**	*e*P	**Pb**	**10 12 47.8**	**-0.4**
	1.4nm,0.3s						
KTBS				*e*S	**Sb**	**10 13 37.8**	**+2.3**
	7.8nm,0.5s						
KTBS	**Karatobe**	**3.89**	**321**	Pg	**Pb**	**10 12 47.8**	**-0.4**
	1.4nm,0.3s						
KTBS				Lg	Lg	10 13 37.8	
	7.8nm,0.5s						
TKM2	**Tokmak 2**	**3.99**	**304**	⇓Pn	**Pn**	**10 12 42.0**	**+0.9**
	0.9nm,0.5s						
TKM2				⇓Lg	Lg	10 13 39.0	
	3.4nm,0.8s						
DGS	**Degeres**	**4.06**	**309**	*e*P	**Pb**	**10 12 50.4**	**-0.8**
	1.6nm,0.3s						
DGS				*e*S	**Sb**	**10 13 42.2**	**+1.6**
	4.0nm,0.7s						
DGS	**Degeres**	**4.06**	**309**	Pg	**Pb**	**10 12 50.4**	**-0.8**
	1.6nm,0.3s						
DGS				Lg	Lg	10 13 42.2	
	4.0nm,0.7s						
KAPS	**Kapalarasan**	**4.56**	**354**	*e*P	**Pb**	**10 13 01.3**	**+1.7**
	1.5nm,0.5s						
KAPS				*e*S	**Sg**	**10 14 00.9**	**-4.6**
	3.4nm,0.5s						
KAPS	**Kapalarasan**	**4.56**	**354**	Pg	**Pb**	**10 13 01.3**	**+1.7**
	1.5nm,0.5s						
KAPS				Lg	Lg	10 14 00.9	
	3.4nm,0.5s						
AAK	**Ala-Archa**	**4.59**	**296**	Lg	Lg	10 13 59.7	
	4.7nm,1.4s						

*ISCJB **26** 10:23:50.4 ± 0.5, 21°.30S ± 0°.03 × 68°.62W ± 0°.06, h127km ± 7km, mb3.7/1, Error ellipse: s-maj=9.9km s-min=4.3km az=177.4*
*SJA **26** 10:23:50.6 ± 0.6, 21°.53S × 68°.53W, h151km ± 6km, ML2.7, MW2.7*
*GUC **26** 10:23:51.2 ± 0.8, 21°.27S × 68°.71W, h119km ± 5km, ML3.6*
*IDC **26** 10:23:52.3 ± 1.2, 21°.39S × 68°.19W, h106km ± 19km, mb3.7/1, mb1 3.5/5, mb1mx3.3/22, mbtmp3.9/5, Error ellipse: s-maj=47.3km s-min=16.1km az=113.0*

ISC 26 10:23:50.8 ± 0.9, **21°.32S** ± 0°.04 × **68°.60W** ± 0°.06, **h126**km ± 9km, **n29, s 1 51/46, 8C-3D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.77**	**232**	⇑*i*P	**Pn**	**10 24 11.9**	**+0.4**
PB09				*i*S	**Sn**	**10 24 26.6**	**-0.5**
PB09				IAML		10 24 27.9	
	comp=N,1μm,0.3s						
PB08	**IPOC Station P**	**1.28**	**336**	⇑*i*P	**Pn**	**10 24 16.9**	**+0.1**
PB08				*i*S	**Sn**	**10 24 35.6**	**-0.7**
PB08				IAML		10 24 39.8	
	comp=E,743nm,0.5s						
PB03	**IPOC Station P**	**1.30**	**236**	*i*P	**Pn**	**10 24 16.8**	**+0.2**
PB03				*i*S	**Sn**	**10 24 35.5**	**-0.6**
PB03				IAML		10 24 37.3	
	comp=E,1μm,0.1s						
LVC	**Limon Verde**	**1.32**	**193**	*e*P	**Pn**	**10 24 18.1**	**+1.0**
LVC				*i*S	**Sn**	**10 24 37.7**	**+0.8**
LVC	**Limon Verde**	**1.32**	**193**	P	**Pn**	**10 24 17.7**	**+0.7**
	comp=E,33nm,0.3s,baz=36,slow=11,SNR=297						
LVC				S	**Sn**	**10 24 37.1**	**+0.2**
	comp=E,51nm,0.3s,baz=114,slow=22,SNR=99						
LVC	**Limon Verde**	**1.32**	**193**	⇓*i*P	**Pn**	**10 24 18.0**	**+1.0**
LVC				*i*Sg	**Sn**	**10 24 37.6**	**+0.8**
PB06	**IPOC Station P**	**1.65**	**213**	⇑*i*P	**Pn**	**10 24 21.3**	**+0.8**
PB06				*i*S	**Sn**	**10 24 43.7**	**+0.4**
PB06				IAML		10 24 45.9	
	comp=N,922nm,0.6s						
PB06	**IPOC Station P**	**1.65**	**213**	*i*P	**Pn**	**10 24 21.4**	**+0.9**
PB06				*i*Sg	**Sn**	**10 24 44.0**	**+0.8**
TA01	**Diego Aracena**	**1.66**	**297**	⇑*i*P	**Pn**	**10 24 20.0**	**-0.5**
TA01				*i*S	**Sn**	**10 24 41.4**	**-1.7**
TA01				IAML		10 24 42.5	
	comp=E,2μm,0.3s						
PB04	**IPOC Station P**	**1.76**	**235**	⇑*i*P	**Pn**	**10 24 22.0**	**+0.2**
PB04				*i*S	**Sn**	**10 24 45.3**	**-0.2**
PB04	**IPOC Station P**	**1.76**	**235**	*i*P	**Pn**	**10 24 23.1**	**+1.3**
PB11	**IPOC Station P**	**1.84**	**327**	⇑*i*P	**Pn**	**10 24 22.2**	**-0.6**
PB11				*i*S	**Sn**	**10 24 46.2**	**-1.1**
PB11				IAML		10 24 47.9	
	comp=E,1μm,0.2s						
PB15	**IPOC Station P**	**2.05**	**203**	⇓*i*P	**Pn**	**10 24 26.5**	**+1.1**
PB15				*i*S	**Sn**	**10 24 52.8**	**+1.0**
PB05	**IPOC Station P**	**2.13**	**224**	⇓*i*P	**Pn**	**10 24 26.6**	**+0.2**
PB05				*e*S	**Sn**	**10 24 52.3**	**-1.3**
PB05				IAML		10 25 02.5	
	comp=N,278nm,0.6s						
PB05	**IPOC Station P**	**2.13**	**224**	*i*P	**Pn**	**10 24 27.1**	**+0.7**
PSGC	**Pisagua**	**2.23**	**320**	⇑*i*P	**Pn**	**10 24 26.4**	**-1.2**
PSGC				*i*S	**Sn**	**10 24 53.3**	**-2.5**
MNMC	**Minye Minye**	**2.37**	**337**	⇑*i*P	**Pn**	**10 24 29.4**	**-0.2**
MNMC				*i*S	**Sn**	**10 24 58.5**	**-0.7**
PB10	**IPOC Station P**	**2.84**	**219**	*i*P	**Pn**	**10 24 35.5**	**+0.3**
YJA	**Yavi**	**2.99**	**107**	*i*P	**Pn**	**10 24 38.5**	**+0.9**
YJA				IAML		10 24 43.9	
	comp=Z,21nm,0.4s						
PB16	**IPOC Station P**	**3.09**	**344**	*i*P	**Pn**	**10 24 40.1**	**+1.0**
PB16				*i*S	**Sn**	**10 25 17.1**	**+0.9**
PB16				IAML		10 25 49.4	
	comp=E,60nm,0.3s						
PB14	**IPOC Station P**	**3.69**	**207**	*i*P	**Pn**	**10 24 46.3**	**-0.3**
AZAP	**Zapla**	**4.36**	**132**	*i*P	**Pn**	**10 24 54.7**	**-0.7**
AZAP				IAML		10 24 58.9	
	comp=Z,8.3nm,0.4s						
ASTB	**Santa Barbara**	**4.63**	**125**	*i*P	**Pn**	**10 24 57.8**	**-1.4**
LPAZ	**La Paz**	**5.03**	**5**	P	**Pn**	**10 25 07.4**	**+2.6**
	comp=Z,1.3nm,0.3s,baz=186,slow=9.4,SNR=24						
SIV	**San Ignacio**	**8.88**	**55**	P	**Pn**	**10 25 53.6**	**-2.7**
	comp=Z,1.1nm,0.3s,baz=246,slow=13,SNR=28						
CFA	**Coronel Fontan**	**10.25**	**178**	P	**Pn**	**10 26 12.6**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=357,slow=12,SNR=11						
CFA				S	**Sn**	**10 28 01.0**	**-6.6**
	comp=Z,0.3nm,0.3s,baz=158,slow=19,SNR=3.6						
PLCA	**Paso Flores**	**19.42**	**184**	P	**Pn**	**10 28 10.9**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=3.8,slow=9.7,SNR=6.5						
BDFB	**Brasilia**	**20.31**	**77**	P	**P**	**10 28 17.7**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=242,slow=13,SNR=3.2						
TORD	**Torodi Ar. Bea**	**77.02**	**70**	P	**P**	**10 35 31.4**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=261,slow=4.5,SNR=4.2						

*NNC **26** 10:40:44.2 ± 3.3, 38°.91N × 73°.16E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=26.6km s-min=19.8km az=171.0*

ISC 26 10:40:41.6 ± 3.4, **38°.5N** ± 0°.2 × **73°.2E** ± 0°.1, **h35**km, **n15, s 1 77/18, 4C-5D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.67**	**6**	P	**Pn**	**10 41 38.0**	**+1.8**
	SNR=171						
UCH	**Uchtor**	**3.88**	**15**	P	**Pn**	**10 41 40.7**	**+1.6**
	SNR=55						
KZA	**Kyzart**	**3.93**	**23**	P	**Pn**	**10 41 40.6**	**+0.9**
	SNR=24						
EKS2	**Erkin-Say**	**4.20**	**6**	P	**Pn**	**10 41 45.4**	**+2.1**
	SNR=43						
AAK	**Ala-Archa**	**4.27**	**13**	P	**Pn**	**10 41 45.9**	**+1.6**
	SNR=20						
AAK	**Ala-Archa**	**4.27**	**13**	⇓Pn	**Pn**	**10 41 46.1**	**+1.8**
	14nm,0.7s						
AAK				⇓Sn	**Sn**	**10 42 32.7**	**-0.2**
KBK	**Karagaybulak**	**4.38**	**17**	P	**Pn**	**10 41 48.2**	**+2.4**
	SNR=7.2						
ULHL	**Ulahol**	**4.43**	**31**	P	**Pn**	**10 41 47.5**	**+1.0**
	SNR=8.5						
TKM2	**Tokmak 2**	**4.80**	**22**	P	**Pn**	**10 41 53.1**	**+1.5**
	SNR=5.2						
TKM2	**Tokmak 2**	**4.80**	**22**	⇓Pn	**Pn**	**10 41 52.0**	**+0.5**
	2.2nm,0.5s						
TKM2				⇓Sn	**Sn**	**10 42 44.3**	**-1.8**
	11nm,0.9s						
USP	**Ospenovka**	**4.88**	**12**	P	**Pn**	**10 41 54.4**	**+1.8**
	SNR=5.6						
KK31	**Karatay Array**	**5.03**	**337**	⇓Pn	**Pn**	**10 41 56.6**	**+2.0**
	7.8nm,0.6s,baz=149,slow=12,SNR=120						
KK31				⇑Sn	**Sn**	**10 42 51.4**	**-0.1**
	10nm,0.6s,baz=153,slow=23,SNR=11						
MDOK	**Medeo**	**5.52**	**31**	⇑Pn	**Pn**	**10 42 03.3**	**+1.8**
	0.9nm,0.1s						
AB31	**Akbulak array**	**14.36**	**323**	⇑P	**Pn**	**10 43 59.8**	**-2.4**
	1.1nm,0.6s,baz=101,slow=2.8,SNR=15						
AKTO	**Aktyubinsk**	**16.08**	**323**	⇑P	**Pn**	**10 44 24.1**	**-0.7**
	3.0nm,0.8s						

*ISCJB **26** 11:29:46.3 ± 0.6, 5°.01S ± 0°.07 × 153°.29E ± 0°.06, h56km, mb4.0/10, MS3.1/2, Error ellipse: s-maj=10.4km s-min=7.6km az=35.0*
*NEIC **26** 11:29:48.1 ± 1.8, 4°.98S ± 0°.07 × 153°.3E ± 0°.1, h61km ± 8km, mb4.5/12*
*IDC **26** 11:29:48.6 ± 2.1, 5°.00S × 153°.23E, h64km ± 17km, mb3.8/10, mb1 3.9/12, mb1mx3.7/33, mbtmp4.1/12, MS3.2/3, Ms1 3.2/3, ms1mx2.7/30, Error ellipse: s-maj=25.6km s-min=12.6km az=63.0*

ISC 26 11:29:47.5 ± 0.8, **4°.95S** ± 0°.08 × **153°.30E** ± 0°.09, **h56**km, **n28, s 0 73/27, mb4.2/15, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.42**	**296**	P	**Pn**	**11 30 10.2**	**-0.9**
	314nm,0.3s,baz=207,slow=0.8,SNR=119						
KRVT				S	**Sn**	**11 30 29.6**	**+0.7**
	474nm,0.3s,baz=18,slow=19,SNR=18						
KRVT				LR	LR	11 30 47.9	
	comp=Z,319nm,18.5s,baz=233,slow=43						
PMG	**Port Moresby**	**7.54**	**234**	P	**Pn**	**11 31 35.5**	**+0.7**
	1.0nm,0.3s,baz=46,slow=7.9,SNR=4.9						
PMG				S	**Sn**	**11 32 58.6**	**-0.4**
	8.3nm,0.3s,baz=58,slow=19,SNR=11						
PMG				LR	LR	11 34 34.2	
	comp=Z,110nm,20.8s,baz=51,slow=38						
PMG	**Port Moresby**	**7.54**	**234**		**Pn**	**11 31 35.1**	**+0.3**
PMG					**Sn**	**11 32 59.4**	**+0.4**
CTA	**Charters Tower**	**16.54**	**204**	P	**P**	**11 33 36.9**	**-0.8**
	0.2nm,0.3s,baz=17,slow=14,SNR=4.0						
DZM	**Mont Dzumac**	**21.25**	**144**	P	**P**	**11 34 29.3**	**0.0**
	5.4nm,0.5s,baz=256,slow=7.6,SNR=12						
DZM	**Mont Dzumac**	**21.25**	**144**	IAmb	IAmb	11 34 29.9	
	comp=Z,6.5nm,0.5s						
WR0	**Warramunga Arr**	**23.59**	**229**	P	**P**	**11 34 53.6**	**+0.2**
WRA	**Warramunga Arr**	**23.73**	**229**	P	**P**	**11 34 54.2**	**-0.6**
	comp=Z,2.5nm,0.4s,baz=54,slow=9.7,SNR=25						
WRA				LR	LR	11 46 03.5	
	comp=Z,54nm,18.0s,baz=15,slow=41						
ARMA	**Armidale**	**25.39**	**183**	P	**P**	**11 35 10.0**	**+0.2**
ARMA				IAmb	IAmb	11 35 12.4	
	comp=Z,7.7nm,0.8s						
KNRA	**Kununurra**	**26.36**	**244**	P	**P**	**11 35 19.6**	**+1.0**
AS31	**Alice Springs**	**26.38**	**223**	P	**P**	**11 35 18.5**	**-0.4**
ASAR	**Alice Springs**	**26.39**	**223**	P	**P**	**11 35 17.9**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=59,slow=8.9,SNR=21						
STKA	**Stephens Creek**	**28.95**	**201**	P	**P**	**11 35 42.1**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=23,slow=15,SNR=3.7						
FITZ	**Fitzroy Crossi**	**30.03**	**242**	P	**P**	**11 35 50.4**	**-1.0**
	comp=Z,2.9nm,0.5s,baz=90,slow=11,SNR=6.5						
FITZ				LR	LR	11 49 28.0	
	comp=Z,60nm,18.9s,baz=35,slow=39						
FITZ	**Fitzroy Crossi**	**30.03**	**242**	IAmb	IAmb	11 36 06.0	
	comp=Z,8.0nm,0.9s						
FORT	**Forrest**	**34.99**	**220**	P	**P**	**11 36 34.2**	**-0.5**
FORT				IAmb	IAmb	11 36 51.5	
	comp=Z,12nm,0.9s						
URZ	**Urewera**	**39.61**	**150**	P	**P**	**11 37 13.8**	**+0.1**
	comp=Z,5.6nm,0.6s,baz=340,slow=13,SNR=3.3						
NNZ	**Nelson**	**40.34**	**156**	P	**P**	**11 37 20.2**	**+0.5**
TUWZ	**Tuamarina**	**40.75**	**156**	P	**P**	**11 37 22.3**	**-0.8**
LTZ	**Lake Taylor**	**41.27**	**159**	P	**P**	**11 37 27.1**	**-0.3**
LTZ				IAmb	IAmb	11 37 44.0	
	comp=Z,18nm,1.2s						
RPZ	**Rata Peaks**	**41.67**	**161**	P	**P**	**11 37 31.1**	**+0.5**
	comp=Z,5.9nm,0.7s,baz=360,slow=7.7,SNR=4.0						
RPZ	**Rata Peaks**	**41.67**	**161**	IAmb	IAmb	11 37 31.5	
	comp=Z,31nm,1.2s						
SONM	**Songino Array**	**66.72**	**328**	P	**P**	**11 40 34.8**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=132,slow=4.3,SNR=3.8						
MKAR	**Makanchi Array**	**80.76**	**319**	P	**P**	**11 41 55.2**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=93,slow=5.5,SNR=6.5						
ZALV	**Zalesovo Beam**	**81.55**	**326**	P	**P**	**11 41 58.2**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=105,slow=4.9,SNR=3.1						
ILAR	**Eielson Array**	**82.11**	**22**	pP	pP	11 42 18.2	+2.1
	comp=Z,0.4nm,0.7s,baz=248,slow=5.5,SNR=3.4						
QSPA	**South Pole Qui**	**85.02**	**180**	P	**P**	**11 42 17.2**	**+0.3**
QSPA				IAmb	IAmb	11 42 18.0	
	comp=Z,4.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.83**	**288**	PKPbc	**PKPbc**	**11 49 34.0**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=94,slow=1.9,SNR=6.3						

*KRNET **26** 11:43:57.8 ± 0.1, 41°.07N × 69°.50E, mb2.7*
*SOME **26** 11:43:58.7, 40°.92N × 69°.83E, h10km*
*NNC **26** 11:44:02.9 ± 1.9, 41°.27N × 68°.89E, h0km, mb3.4, mpv3.2, Error ellipse: s-maj=13.9km s-min=11.1km az=20.0*

ISC 26 11:43:59.4 ± 2.0, **40°.94N** ± 0°.06 × **69°.31E** ± 0°.07, **h19**km ± 5km, **n14, s 1 95/28, 9C-5D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**1.32**	**24**	*e*P	**Pn**	**11 44 24.0**	**+1.1**
	15nm,0.1s						
IUG				*e*S	**Sg**	**11 44 41.7**	**-0.6**
	114nm,0.3s						
BTK	**Batken**	**1.45**	**127**	⇑*i*P	**Pn**	**11 44 24.9**	**+0.2**
	baz=35						
BTK				⇑*i*S	**Sn**	**11 44 44.6**	**+1.4**
	baz=35						
BRLS	**Borolday**	**2.12**	**10**	*e*P	**Pn**	**11 44 33.2**	**-0.7**
	1.3nm,0.2s						
BRLS				*e*S	**Sn**	**11 44 59.0**	**-0.7**
	33nm,0.4s						
ARK	**Arkit**	**2.17**	**66**	⇑*e*P	**Pn**	**11 44 34.6**	**0.0**
	baz=68						
ARK				⇑*i*S	**Sb**	**11 45 02.1**	**-2.6**
	baz=68						
KK31	**Karatay Array**	**2.34**	**22**	P	**Pb**	**11 44 39.7**	**-1.2**
	7.2nm,0.5s,baz=201,slow=15,SNR=45						
KK31				⇓S	**Sb**	**11 45 09.9**	**+0.5**
	13nm,0.4s,baz=215,slow=38,SNR=6.3						
ARSB	**Arslanbob**	**2.80**	**81**	⇑*i*P	**Pn**	**11 44 44.2**	**+0.9**
	baz=83						
ARSB				⇑*i*S	**Sn**	**11 45 18.0**	**+1.4**
	baz=83						
MRKS	**Merke**	**3.44**	**57**	*e*P	**Pb**	**11 44 57.7**	**-2.0**
	6.3nm,0.4s						
MRKS				*e*S	**Sb**	**11 45 39.3**	**-1.7**
	9.7nm,0.5s						
ARLS	**Aral**	**3.88**	**75**	⇓*e*P	**Pn**	**11 44 59.1**	**+1.0**
	baz=76						
ARLS				⇓*i*S	**Sn**	**11 45 44.1**	**+0.9**
	baz=76						
AAK	**Ala-Archa**	**4.23**	**65**	Pn	**Pb**	**11 45 11.4**	**-1.8**
	2.7nm,0.5s						
AAK				⇑Sn	**Sb**	**11

EMIN			S		Sn	11 51 05.9 -2.0
	1.0nm,0.1s,SNR=5.0					
MD31	**MD31**	**2.82 182**	P		Pn	11 50 34.9 -3.9
MD31			S		Sn	**11 51 12.9 +0.7**
MDT	**Midelt**	**2.87 180**	P		Pn	**11 50 36.2 -3.2**
MDT			S		Sn	**11 51 15.5 +2.1**
EGRO	**El Granado**	**2.95 309**	⇑P		Pn	**11 50 41.5 +1.2**
	3.2nm,0.0s,SNR=18					
EGRO			S		Sn	**11 51 13.7 -1.3**
	3.6nm,0.1s,SNR=16					
PVAQ	**Vaqueiros**	**3.02 305**	*e*P		Pn	**11 50 42.5 +1.2**
PVAQ			*e*S		Sn	**11 51 16.0 -0.8**
PVAQ			A		A	11 51 17.1
	5.3nm,0.1s					
PVAQ	**Vaqueiros**	**3.02 305**	P		Pn	**11 50 42.5 +1.2**
PVAQ			S		Sn	**11 51 16.0 -0.8**
	5.3nm,0.1s					
PBDV	**Barranco-do-Ve**	**3.08 301**	*e*P		Pn	**11 50 43.5 +1.3**
PBDV			*e*S		Sn	**11 51 17.6 -0.7**
PBDV			A		A	11 51 18.6
	4.7nm,0.2s					
PBDV	**Barranco-do-Ve**	**3.08 301**	P		Pn	**11 50 43.5 +1.3**
PBDV			S		Sn	**11 51 17.6 -0.7**
	4.7nm,0.2s					
PBAR	**Barrancos**	**3.15 323**	*e*P		Pn	**11 50 44.5 +1.6**
PBAR	**Barrancos**	**3.15 323**	P		Pn	**11 50 44.5 +1.6**
PCVE	**Castro Verde**	**3.36 306**	*e*P		Pn	**11 50 47.0 +1.2**
PCVE			*e*S		Sn	**11 51 23.7 -1.2**
PCVE			A		A	11 51 25.0
	3.3nm,0.3s					
PCVE	**Castro Verde**	**3.36 306**	P		Pn	**11 50 47.0 +1.2**
PCVE			S		Sn	**11 51 23.7 -1.2**
	3.3nm,0.3s					
EBAD	**Badajoz**	**3.60 329**	P		Pn	**11 50 50.7 +1.6**
	2.5nm,0.1s,SNR=16					
EBAD			S		Sn	**11 51 29.0 -1.8**
	1.5nm,0.1s					
MORF	**Marmelete**	**3.62 298**	*e*P		Pn	**11 50 50.6 +1.3**
MORF			*e*S		Sn	**11 51 30.3 -0.9**
MORF			AML		AML	11 51 31.5
	comp=N,6.6nm,0.2s					
MORF	**Marmelete**	**3.62 298**	*e*P		Pn	**11 50 50.7 +1.3**
MORF			*e*S		Sn	**11 51 30.4 -0.9**
MORF			A		A	11 51 33.1
	comp=N,3.3nm,0.2s					
MORF	**Marmelete**	**3.62 298**	P		Pn	**11 50 50.7 +1.3**
MORF			S		Sn	**11 51 30.4 -0.9**
	comp=N,3.3nm,0.2s					
PFVI	**Vila Bisbo**	**3.68 294**	*e*P		Pn	**11 50 51.9 +1.7**
PFVI			*e*S		Sn	**11 51 31.7 -1.0**
PFVI	**Vila Bisbo**	**3.68 294**	S		Sn	**11 51 31.5 -1.2**
	comp=N,4.0nm,0.1s,SNR=4.0					
PTEO	**Sao Teotonio**	**3.78 300**	*e*P		Pn	**11 50 53.3 +1.8**
PTEO			*e*S		Sn	**11 51 35.0 0.0**
PTEO	**Sao Teotonio**	**3.78 300**	P		Pn	**11 50 53.3 +1.8**
PTEO			S		Sn	**11 51 35.0 0.0**
PAB	**San Pablo**	**3.85 3**	S		Sn	**11 51 33.9 -2.9**
	comp=N,1.5nm,0.2s,SNR=7.9					
PNCL	**Nicolau / Gran**	**3.96 309**	*e*P		Pn	**11 50 55.1 +1.3**
PNCL			*e*S		Sn	**11 51 37.1 -2.1**
PNCL			A		A	11 51 39.4
	comp=N,2.0nm,0.3s					
PNCL	**Nicolau / Gran**	**3.96 309**	P		Pn	**11 50 55.1 +1.3**
PNCL			S		Sn	**11 51 37.1 -2.1**
	comp=N,2.0nm,0.3s					
PESTR	**Estremoz**	**3.96 324**	*e*P		Pn	**11 50 55.6 +1.7**
PMRV	**Marv??o**	**4.33 330**	*e*P		Pn	**11 51 00.4 +1.5**
PMRV	**Marv??o**	**4.33 330**	P		Pn	**11 51 00.4 +1.5**
PMTG	**Montargil**	**4.43 321**	*e*P		Pn	**11 51 01.8 +1.6**
PMTG	**Montargil**	**4.43 321**	P		Pn	**11 51 01.8 +1.6**

IDC ***26*** *11:52:09.8±1.1,0˚.38S×124˚.96E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/32, mbtmp3.6/4, Error ellipse: s-maj=143.9km s-min=21.1km az=66.0*
DJA ***26*** *11:52:28.0±0.6, 1˚N±7˚×12˚4E±˚, h29km±8km, M3.3/4, MLv3.3/4*

ISC 26 11:52:11.3±1.1, 0˚.49S±0˚.09×124˚.81E±0˚.09, h10km, n9, σ1°48/9, Southern Moluccan Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.35**	**322**	P	**Pg**	**11 52 39.1**	**+1.9**
LUWI	**Luwuk**	**2.11**	**255**	P	**Sn**	**11 53 11.8**	**-1.2**
LBMI	**Labuha**	**2.69**	**93**	P	Pg	11 53 16.1	+13
MRSI	**Marisa**	**3.03**	**289**	P	**Pb**	**11 53 03.8**	**-1.6**
APSI	**Ampana**	**3.19**	**263**	P	**Pg**	**11 53 14.6**	**+2.1**
WRA	**Warramunga Arr**	**21.46**	**155**	P	**P**	**11 56 59.9**	**-0.3**
	0.4nm,0.4s,baz=333,slow=11,SNR=7.8						
ASAR	**Alice Springs**	**24.67**	**160**	P	**P**	**11 57 33.1**	**+0.5**
	0.4nm,0.6s,baz=342,slow=9.0,SNR=10						
ASAR				PcP	**PcP**	**12 01 10.6**	**+0.5**
	0.2nm,0.6s,baz=346,slow=1.7,SNR=3.6						
SONM	**Songino Array**	**50.74**	**344**	P	**P**	**12 01 10.8**	**-0.8**
	0.5nm,0.5s,baz=166,slow=7.5,SNR=4.2						
MKAR	**Makanchi Array**	**59.99**	**328**	P	**P**	**12 02 18.1**	**-0.1**
	1.0nm,0.4s,baz=125,slow=8.3,SNR=26						

WEL 26 12:12:32.9,43˚S±2˚×17˚1E±˚, h12km±1km, M3.3/18, ML3.4/12, MLv3.3/18, Error ellipse: s-maj=0.0km s-min=0.0km az=4.8, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INZ	**Inchbonnie**	**0.17**	**167**	P	Pb	12 12 37.6	-0.3
INZ				S	Sg	12 12 40.6	+1.2
LTZ	**Lake Taylor**	**0.68**	**109**	P	Pg	12 12 46.3	+0.1
LTZ				S	Sg	12 12 55.1	-0.1
WVZ	**Waitaha Valley**	**0.70**	**223**	P	Pb	12 12 47.7	+0.7
WVZ				S	Sb	12 12 57.9	+1.2
DSZ	**Denniston Nort**	**0.87**	**21**	P	Pg	12 12 48.8	-0.9
OXZ	**Oxford**	**0.90**	**148**	P	Pn	12 12 51.0	-0.3
MHCZ	**Mount Hutt**	**0.98**	**173**	P	Pn	12 12 53.1	+0.7
AMCZ	**Amberley**	**1.11**	**124**	P	Pb	12 12 54.0	+0.1
RPZ	**Rata Peaks**	**1.18**	**192**	P	Pg	12 12 56.0	+0.4
GVZ	**Greta Valley S**	**1.28**	**109**	P	Pn	12 12 56.4	-0.1
CRLZ	**Canterbury Las**	**1.36**	**139**	P	Pn	12 12 57.1	-0.4
THZ	**Tophouse**	**1.38**	**55**	P	Pn	12 12 57.1	-0.8
MQZ	**McQueen's Vall**	**1.47**	**142**	P	Pn	12 12 58.4	-0.7
FOZ	**Fox Glacier**	**1.51**	**229**	P	Pn	12 12 59.3	-0.4
KHZ	**Kahutara**	**1.59**	**86**	P	Pn	12 13 01.2	+0.4
OKCZ	**Okains Bay**	**1.69**	**134**	P	Pn	12 13 01.9	-0.2
AKCZ	**Akaroa Harbour**	**1.72**	**140**	P	Pn	12 13 02.1	-0.4
QRZ	**Quartz Range**	**1.93**	**27**	P	Pn	12 13 04.6	-0.9
NNZ	**Nelson**	**2.00**	**49**	P	Pn	12 13 06.5	+0.1
LBZ	**Lake Benmore**	**2.02**	**205**	P	Pn	12 13 07.4	+0.6
BSWZ	**Blackbirch Sta**	**2.03**	**66**	P	Pn	12 13 07.9	+1.0
TUWZ	**Tuamarina**	**2.21**	**60**	P	Pn	12 13 09.4	+0.1
JCZ	**Jackson Bay**	**2.43**	**231**	P	Pn	12 13 11.9	-0.5
ODZ	**Otahua Downs**	**2.54**	**192**	P	Pn	12 13 13.8	-0.1
TCW	**Tory Channel**	**2.54**	**59**	P	Pn	12 13 14.5	+0.7
DUWZ	**D'Urville Isla**	**2.58**	**48**	P	Pn	12 13 16.4	+1.9
WKZ	**Wanaka**	**2.85**	**216**	P	Pn	12 13 17.9	-0.2
CAW	**Cannon Point**	**3.10**	**63**	P	Pn	12 13 20.6	-1.0
KIW	**Kapiti Island**	**3.13**	**58**	P	Pn	12 13 22.1	+0.1
OGWZ	**Otaki Gorge**	**3.32**	**60**	P	Pn	12 13 24.1	-0.5
MTW	**Mount Morrison**	**3.37**	**67**	P	Pn	12 13 24.1	-1.2
HOWZ	**Holdsworth Sta**	**3.50**	**63**	P	Pb	12 13 31.6	-3.1
TUZ	**Tuapeka**	**3.62**	**200**	P	Pn	12 13 28.8	+0.2
MLZ	**Mavora Lakes**	**3.67**	**219**	P	Pn	12 13 29.3	-0.1
MRZ	**Mangatainoka R**	**3.67**	**60**	P	Pn	12 13 27.8	-1.5
NBEZ	**Newall Road No**	**3.79**	**31**	P	Pn	12 13 31.8	+0.8
KHEZ	**Kahui Hut**	**3.82**	**32**	P	Pn	12 13 32.1	+0.6
PKE	**Pukeiti**	**3.90**	**31**	P	Pn	12 13 33.1	+0.6
WAZ	**Wanganui**	**3.90**	**45**	P	Pn	12 13 35.5	+3.0
WHZ	**Wether Hill Ro**	**4.15**	**215**	P	Pn	12 13 35.0	-1.0
TSZ	**Takapari Road**	**4.25**	**56**	P	Pn	12 13 37.1	-0.4
VRZ	**Vera Road**	**4.28**	**38**	P	Pn	12 13 38.6	+0.9
SYZ	**Scrubby Hill**	**4.29**	**201**	P	Pn	12 13 37.4	-0.5
NGZ	**Ngauruhoe**	**4.65**	**45**	P	Pb	12 13 49.3	-5.0
WTVZ	**West Tongariro**	**4.69**	**44**	P	Pn	12 13 48.2	+4.8
HIZ	**Hauiti**	**4.83**	**34**	P	Pn	12 13 47.0	+1.8
TLZ	**Tolley Road**	**5.28**	**38**	P	Pn	12 13 51.2	-0.3
RUGZ	**Raukumara Rang**	**6.64**	**48**	P	Pn	12 14 14.8	+4.5
WMGZ	**Waiomatatini S**	**7.16**	**51**	P	Pn	12 14 17.2	-0.2

UPA ***26*** *12:20:26.6±2.2, 5˚.63N×77˚.75W, h10km±17km, MW4.4*
ISCJB ***26*** *12:20:28.8±0.7, 5˚.80N±0˚.02×77˚.64W±0˚.02, h20km±5km, mb4.3/24, MS3.4/2, Error ellipse: s-maj=4.0km s-min=3.0km az=145.1*
RSNC ***26*** *12:20:29.9±1.3, 5˚.85N×77˚.63W, h29km±8km, ML3.8, Mw4.4, Fault plane solution: NP1:φ=92.00000°, δ30.00000°, λ=-162.00000°.*
NEIC ***26*** *12:20:33.6±1.9, 5˚.83N±0˚.07×77˚.53W±0˚.07, h42km±5km*
IDC ***26*** *12:20:34.2±2.0, 5˚.81N×77˚.53W, h48km±19km, mb3.9/17, mb1 4.2/22, mb1mx4.1/34, mbtmp4.3/22, ML3.6/5, MS3.6/4, Ms1 3.6/4, ms1mx3.2/39, Error ellipse: s-maj=18.8km s-min=12.7km az=48.0*

ISC 26 12:20:28.7±1.5, 5.79N±0˚.03×77˚.63W±0˚.03, h10km±9km, n143, σ1°65/162, mb4.6/40, 15C-1D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.48**	**27⇑**	*e*P	**Pg**	**12 20 38.0**	**-0.1**
SOLC				*e*S	**Sb**	**12 20 46.2**	**-0.3**
SOLC				*i*		12 20 48.9	
	comp=Z,40µm,0.9s						
PTAC	**Punta Ardita,**	**1.36**	**353⇑**	*e*P	**Pn**	**12 20 51.0**	**-2.7**
PTAC				*i*		12 21 19.3	
	comp=Z,4µm,0.3s						
PLMC	**San Jos del P**	**1.61**	**123⇑**	*e*P	**Pn**	**12 20 54.8**	**-2.5**
PLMC				*i*		12 21 22.1	
	comp=Z,841nm,0.2s						
CBOC	**Ciudad Bolivar**	**1.61**	**87⇑**	*i*P	**Pn**	**12 20 54.8**	**-2.6**
CBOC				*e*S	**Sn**	**12 21 15.5**	**-2.9**
CBOC				*i*		12 21 16.9	
	comp=Z,1µm,1.2s						
MALC	**Bahia Malaga**	**1.79**	**170⇑**	*e*P	**Pn**	**12 20 59.5**	**-0.3**
MALC				*e*S	**Sn**	**12 21 22.7**	**+0.1**
MALC				*i*		12 21 25.6	
	comp=Z,735nm,0.9s						
DBBC	**Dabeiba**	**1.86**	**49⇑**	*e*P	**Pn**	**12 20 59.0**	**-1.8**
DBBC				*i*		12 21 31.9	
	comp=Z,2µm,0.7s						
HELC	**Santa Helena**	**2.13**	**79⇑**	*i*P	**Pn**	**12 21 03.3**	**-1.4**
HELC				*e*S	**Sn**	**12 21 28.7**	**-2.7**
HELC				*i*		12 21 34.8	
	comp=Z,640nm,0.7s						
HELC	**Santa Helena**	**2.13**	**79⇑**	*i*P	**Pn**	**12 21 03.2**	**-1.4**
HELC				*e*S	**Sb**	**12 21 33.5**	**-0.8**
YOTC	**Yotoco, Valle**	**2.21**	**144⇑**	*e*P	**Pn**	**12 21 03.7**	**-1.9**
YOTC				*e*S	**Sn**	**12 21 31.3**	**-1.8**
YOTC				*i*		12 21 50.2	
	comp=Z,270nm,2.0s						
GUY2C	**Guyana, Caldas**	**2.33**	**104⇑**	*e*P	**Pn**	**12 21 06.3**	**-1.3**
GUY2C				*e*S	**Sn**	**12 21 34.3**	**-2.1**
GUY2C				*i*		12 21 42.6	
	comp=Z,400nm,0.8s						
RREF	**El Recreo**	**2.44**	**111⇑**	*e*P	**Pn**	**12 21 08.9**	**-0.4**
RREF				*i*		12 21 54.2	
	comp=Z,537nm,1.0s						
TOLC	**Tolima**	**2.60**	**117**	*e*P	**Pn**	**12 21 11.2**	**+0.1**
TOLC				*i*		12 21 59.6	
	comp=Z,138nm,0.8s						
NORC	**Norcasia**	**2.76**	**95⇑**	*e*P	**Pn**	**12 21 12.7**	**-0.4**
NORC				*i*		12 21 52.0	
	comp=Z,447nm,0.8s						
UPD2	**Meteti**	**2.76**	**352**	*e*P	**Pn**	**12 21 12.7**	**-0.4**
UPD2				*e*S	**Sn**	**12 21 48.0**	**+1.4**
UREC	**San Jos de Ur**	**2.85**	**47⇑**	*e*P	**Pn**	**12 21 14.1**	**-0.3**
UREC				*i*		12 21 58.1	
	comp=Z,455nm,0.6s						
ACHO3	**Achotines, Los**	**2.99**	**303**	*e*P	**Pn**	**12 21 13.8**	**-2.5**
ACHO3				*e*S	**Sn**	**12 21 49.3**	**-2.9**
ORTC	**Ortega, Tolima**	**3.03**	**128⇑**	*e*P	**Pn**	**12 21 17.3**	**+0.5**
ORTC				*i*		12 22 00.2	
	comp=Z,236nm,0.8s						
ZARC	**Zaragoza, Cauc**	**3.23**	**58**	*e*P	**Pn**	**12 21 19.6**	**0.0**
ZARC				*e*S	**Sn**	**12 21 55.5**	**-2.6**
ZARC				*i*		12 22 05.7	
	comp=Z,290nm,0.5s						
PTBC	**PUERTO BERRIO,**	**3.24**	**77⇑**	*e*P	**Pn**	**12 21 19.8**	**+0.1**
PTBC				*e*S	**Sn**	**12 21 56.4**	**-2.1**
PTBC				*i*		12 22 12.2	
	comp=Z,389nm,1.0s						
AZU	**Azuero**	**3.29**	**307⇓**	*e*P	**Pn**	**12 21 18.1**	**-2.2**
AZU				*e*S	**Sn**	**12 21 55.7**	**-3.9**
AZU				*i*		12 22 01.8	
	comp=Z,492nm,0.5s						
AZU	**Azuero**	**3.29**	**307**	*e*P	**Pn**	**12 21 17.8**	**-2.5**
AZU				*e*S	**Sn**	**12 21 55.3**	**-4.2**
LCBC	**Los crdobas,**	**3.29**	**22**	*e*P	**Pn**	**12 21 20.6**	**+0.3**
POPC	**Popayan, Colom**	**3.37**	**164**	*e*P	**Pn**	**12 21 21.4**	**-0.3**
POPC				*e*S	**Sn**	**12 22 00.1**	**-1.8**
POPC				*i*		12 22 30.1	
	comp=Z,60nm,2.1s						
ROSC	**El Rosal**	**3.43**	**106**	*e*P	**Pn**	**12 21 25.6**	**+3.0**
ROSC				*i*		12 22 41.3	
	comp=Z,373nm,1.3s						
ROSC	**El Rosal**	**3.43**	**106**	P	**Pn**	**12 21 25.1**	**+2.4**
	comp=Z,27nm,0.3s,baz=328,slow=12,SNR=15						
SPBC	**San Pablo de B**	**3.55**	**92**	*e*P	**Pn**	**12 21 25.4**	**+1.5**
SPBC				*i*		12 22 28.4	
	comp=Z,209nm,1.4s						
CACAO	**El Cacao, Vera**	**3.56**	**296**	*e*P	**Pn**	**12 21 21.4**	**-2.7**
CACAO				*e*S	**Sn**	**12 22 01.9**	**-4.3**
PCON	**Cinco Dias**	**3.66**	**160**	*e*P	**Pn**	**12 21 26.8**	**+0.9**
PCON				*i*		12 22 46.9	
	comp=Z,122nm,1.2s						
UPA	**Univ. de Panam**	**3.69**	**329**	*e*P	**Pn**	**12 21 24.4**	**-1.3**
				*e*S	**Sn**	**12 22 09.5**	**+0.2**
CHOR3	**La Chorrera**	**3.74**	**326**	*e*P	**Pn**	**12 21 23.6**	**-2.9**
CHOR3				*e*S	**Sn**	**12 22 09.1**	**-1.5**
BBAC	**Balboa, Cauca**	**3.77**	**174**	*e*P	**Pn**	**12 21 28.4**	**+1.3**
SOTA	**Rioblanco**	**3.77**	**164**	*e*P	**Pn**	**12 21 28.5**	**+1.0**
SOTA				*i*		12 22 23.6	
	comp=Z,116nm,0.6s						
BCIP	**Isla Barro Col**	**4.00**	**327**	*e*P	**Pn**	**12 21 28.0**	**-2.1**
BCIP				*e*S	**Sn**	**12 22 12.3**	**-4.8**
BCIP				*i*		12 22 58.5	
	comp=Z,167nm,1.3s						
BCIP	**Isla Barro Col**	**4.00**	**327**	*e*P	**Pn**	**12 21 28.0**	**-2.1**
BCIP	**Isla Barro Col**	**4.00**	**327**		**Pn**	**12 21 29.6**	**-0.5**
CHIC	**Chingaza**	**4.05**	**106**	*e*P	**Pn**	**12 21 33.6**	**+2.4**
CHIC				*i*		12 22 56.0	
	comp=Z,119nm,1.2s						
VILC	**Villavicencio,**	**4.27**	**113**	*e*P	**Pn**	**12 21 37.0**	**+3.1**
VILC				*i*		12 22 46.6	
	comp=Z,161nm,1.6s						
BARC	**Barichara**	**4.50**	**80**	*e*P	**Pn**	**12 21 38.4**	**+1.2**
BARC				*i*		12 23 01.9	
	comp=Z,192nm,0.6s						
RUSC	**La Rusia**	**4.53**	**89**	*e*P	**Pn**	**12 21 39.5**	**+1.7**
RUSC				*i*		12 22 55.0	
	comp=Z,196nm,1.0s						
FLOC	**Florencia**	**4.63**	**155**	*e*P	**Pn**	**12 21 39.3**	**+0.6**
FLOC				*i*		12 23 08.0	
	comp=Z,115nm,2.5s						
SMLC	**San Martn de**	**4.63**	**50**	*e*P	**Pn**	**12 21 38.4**	**-0.4**
SMLC				*i*		12 22 51.6	
	comp=Z,78nm,0.8s						
SJCC	**San Jacinto, C**	**4.75**	**31**	*e*P	**Pn**	**12 21 39.8**	**-0.7**
SJCC				*i*		12 22 51.4	
	comp=Z,86nm,0.9s						
SJCC	**San Jacinto, C**	**4.75**	**31**	*e*P	**Pn**	**12 21 42.9**	**+2.5**
SJCC				*e*S	**Sn**	**12 22 35.1**	**-0.5**
CHGR2	**Aguacate**	**5.46**	**305**	*e*P	**Pn**	**12 21 49.3**	**-0.9**
OTAV	**Otavalo**	**5.58**	**188**		**Pn**	**12 21 53.5**	**+1.3**
CODC	**Agustn Codazz**	**5.84**	**45**	*e*P	**Pn**	**12 21 55.5**	**0.0**
CODC				*i*		12 23 40.9	
	comp=Z,34nm,2.1s						
TAMC	**Tame, Arauca**	**5.84**	**83**	*e*P	**Pn**	**12 21 56.5**	**+1.0**
TAMC				*e*S	**Sn**	**12 23 03.9**	**+1.2**
SDV	**Santo Domingo**	**7.59**	**66**	P	**Pn**	**12 22 20.3**	**+0.6**
	comp=Z,8.4nm,0.3s,baz=241,slow=9.9,SNR=48						
SDV				S	**Sn**	**12 23 46.2**	**+0.2**
	comp=Z,5.6nm,0.3s,baz=266,slow=19,SNR=3.4						
JTS	**Las Juntas de**	**8.51**	**302**	P	**Pn**	**12 22 35.8**	**+3.6**
	comp=Z,0.7nm,0.3s,baz=188,slow=17,SNR=3.6						
JTS				LR	LR	12 25 47.8	
	comp=Z,486nm,18.5s,baz=174,slow=36						
ESPN	**Las Esperanzas**	**9.15**	**314**	Pn	**Pn**	**12 22 43.9**	**+3.0**
ATAH	**Atahualpa**	**12.87**	**183**	LR	LR	12 29 22.1	
	comp=Z,313nm,20.0s,baz=4.1,slow=41						
LGNH	**Logne**	**13.56**	**21**		**Pn**	**12 23 42.6**	**+1.4**
PCRV	**Puerto La Cruz**	**13.59**	**70**	P	**Pn**	**12 23 44.8**	**+3.1**
	comp=Z,0.7nm,0.3s,baz=264,slow=9.2,SNR=2.9						
PLCV	**Puerto La Cruz**	**13.62**	**71**		**Pn**	**12 23 44.8**	**+2.6**
SDDR	**Presa de Saban**	**14.49**	**25**		**Pn**	**12 23 55.2**	**+1.1**
DR12	**Loma Pena Alta**	**15.22**	**31**		**Pn**	**12 24 05.9**	**+2.1**
CRPR	**Cabo Rojo, PR**	**15.90**	**39**	Pn	**Pn**	**12 24 12.3**	**-0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPR	**Mayaguez**	**16.04**	**39**	P	**Pn**	**12 24 15.5**	**+1.0**
MPR				IAmb	IAmb	12 24 23.6	
	comp=Z,40nm,0.9s						
OBIP	**Obispado Ponce**	**16.25**	**41**	P	**P**	**12 24 20.9**	**+0.6**
OBIP				IAmb	IAmb	12 24 26.5	
	comp=Z,30nm,0.8s						
AOPR	**Arecibo Observ**	**16.38**	**39**	P	**P**	**12 24 22.1**	**+0.3**
AOPR				IAmb	IAmb	12 24 26.8	
	comp=Z,72nm,1.4s						
SJG	**San Juan**	**16.60**	**42**	P	**P**	**12 24 24.7**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=217,slow=9.4,SNR=6.7						
SJG	**San Juan**	**16.60**	**42**	P	**P**	**12 24 23.3**	**-0.9**
PDPR	**Patillas Dam,**	**16.62**	**42**	Pn	**Pn**	**12 24 19.2**	**-2.7**
PDPR				IAmb	IAmb	12 24 27.6	
	comp=Z,38nm,1.1s						
EMPR	**Esperanza - Ma**	**16.62**	**40**	P	**P**	**12 24 25.4**	**+1.0**
GCPR	**Guaynabo City**	**16.79**	**41**	P	**P**	**12 24 25.9**	**-0.4**
GCPR				IAmb	IAmb	12 24 31.0	
	comp=Z,41nm,0.8s						
HUMP	**Col San Antoni**	**16.82**	**42**	P	**P**	**12 24 26.3**	**-0.4**
HUMP				IAmb	IAmb	12 24 28.6	
	comp=Z,54nm,1.3s						
CBYP	**Canovanas**	**16.91**	**42**	P	**P**	**12 24 27.8**	**+0.1**
MTP	**Monte Pirata**	**16.99**	**43**	P	**P**	**12 24 28.8**	**+0.3**
MTP				IAmb	IAmb	12 24 31.2	
	comp=Z,82nm,1.5s						
SAML	**Samuel**	**20.54**	**135**	P	**P**	**12 25 05.4**	**-2.2**
LPAZ	**La Paz**	**23.87**	**157**	P	**P**	**12 25 42.4**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=330,slow=12,SNR=10						
LPAZ	**La Paz**	**23.87**	**157**	P	**P**		
MDP	**Montagnes des**	**24.89**	**90**	P	**P**	**12 25 50.3**	**-1.7**
	comp=Z,18nm,1.0s,baz=267,slow=17,SNR=2.7						
MDP				LR	LR	12 36 21.5	
	comp=Z,139nm,19.4s,baz=8.5,slow=38						
MNMC	**Minye Minye**	**26.00**	**162**	P	**P**	**12 26 02.0**	**-0.3**
MNMC				IAmb	IAmb	12 26 17.3	
	comp=Z,13nm,0.9s						
PB11	**IPOC Station P**	**26.58**	**163**	P	**P**	**12 26 06.7**	**-0.7**
PB11				IAmb	IAmb	12 26 19.3	
	comp=Z,14nm,0.9s						
SIV	**San Ignacio**	**27.15**	**143**	P	**P**	**12 26 10.1**	**-2.4**
	comp=Z,5.1nm,0.8s,baz=334,slow=9.7,SNR=22						
V48A	**Smith Brothers**	**30.98**	**345**	P	**P**	**12 26 47.2**	**+0.9**
WVT	**Waverly**	**31.61**	**344**	P	**P**	**12 26 52.8**	**+1.0**
TXAR	**Lajitas Array**	**33.95**	**317**	P	**P**	**12 27 13.9**	**+1.3**
	comp=Z,0.9nm,1.1s,baz=117,slow=8.8,SNR=4.2						
TXAR				PcP	**PcP**	**12 29 52.1**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=155,slow=5.0,SNR=5.4						
CCM	**Cathedral Cave**	**34.42**	**341**	P	**P**	**12 27 16.9**	**+0.5**
CCM				IAmb	IAmb	12 27 17.1	
	comp=Z,7.7nm,0.8s						
K58A	**Earlville**	**36.86**	**2**	P	**P**	**12 27 38.0**	**+0.7**
CPUP	**Villa Florida**	**37.52**	**149**	P	**P**	**12 27 40.3**	**-2.7**
	comp=Z,1.5nm,0.7s,baz=325,slow=11,SNR=4.7						
CPUP				LR	LR	12 43 09.7	
	comp=Z,49nm,19.3s,baz=324,slow=36						
NCB	**Newcomb**	**38.14**	**4**	P	**P**	**12 27 49.6**	**+1.4**
CFA	**Coronel Fontan**	**38.26**	**167**	P	**P**	**12 27 50.6**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=14,slow=7.9,SNR=3.6						
LONY	**Lake Ozonia**	**38.76**	**3**	P	**P**	**12 27 54.3**	**+1.0**
SADO	**Sadowa**	**38.84**	**358**	P	**P**	**12 27 54.4**	**+0.4**
ANMO	**Albuquerque**	**39.35**	**321**	P	**P**	**12 28 00.9**	**+2.2**
E43A	**Lone Tree Farm**	**41.23**	**350**	P	**P**	**12 28 13.6**	**-0.2**
LMN	**Caledonia Moun**	**41.43**	**14**	P	**P**	**12 28 15.3**	**-0.2**
D62A	**Allapoint, All**	**41.79**	**9**	P	**P**	**12 28 19.6**	**+1.2**
D62A				IAmb	IAmb	12 28 35.7	
	comp=Z,23nm,1.4s						
EYMN	**Ely**	**43.64**	**347**	P	**P**	**12 28 33.0**	**-0.5**
PDAR	**Pinedale Array**	**46.39**	**327**	P	**P**	**12 28 56.6**	**+0.9**
	comp=Z,1.2nm,1.0s,baz=121,slow=11,SNR=7.3						
PLCA	**Paso Flores**	**46.75**	**173**	P	**P**	**12 28 59.5**	**+1.2**
	comp=Z,3.6nm,1.0s,baz=3.3,slow=11,SNR=4.0						
PLCA	**Paso Flores**	**46.75**	**173**	IAmb	IAmb	12 29 14.0	
	comp=Z,10nm,1.2s						
ULM	**Lac du Bonnet**	**46.88**	**344**	P	**P**	**12 28 58.3**	**-0.8**
	comp=Z,3.9n

*UPA **26** 12:27:24.4±2.2,5.41N×77.79W,h10km±19km, MW4.4*
*ISCJB **26** 12:27:28.3±0.8,5.82N±0.03×77.65W±0.03,h25km±7km, mb3.8/11, MS2.9/1, Error ellipse: s-maj=5.1km s-min=3.4km az=139.7*
*RSNC **26** 12:27:29.2±1.4,5.84N×77.65W,h26km±7km, ML3.4, Mw4.1*
*IDC **26** 12:27:34.5±3.2,5.76N×77.47W,h57km±30km, mb3.6/11, mb1 3.8/13, mb1mx3.6/35, mbtmp3.9/13, ML2.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/35, Error ellipse: s-maj=29.3km s-min=14.8km az=60.0*

ISC 26 12:27:27.6±1.8,5.81N±0.03×77.64W±0.03,h7km±11km, n53,σ1§72/69,mb3.9/11,5C,Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.47**	**28**	⇑*iP*			**Pg**	**12 27 37.5**	**+0.8**
SOLC				*eS*			**Sb**	**12 27 45.7**	**+0.1**
SOLC				*i*				12 27 47.2	
	comp=Z,9μm,0.3s								
PTAC	**Punta Ardita,**	**1.34**	**353**	*eP*			**Pn**	**12 27 50.5**	**-2.3**
PTAC				*eS*			**Sb**	**12 28 07.9**	**-2.7**
PTAC				*i*				12 28 19.9	
	comp=Z,1μm,0.3s								
CBOC	**Ciudad Bolivar**	**1.61**	**88**	⇑*iP*			**Pn**	**12 27 54.3**	**-2.4**
CBOC				*eS*			**Sn**	**12 28 15.4**	**-2.5**
CBOC				*i*				12 28 20.6	
	comp=Z,340nm,0.5s								
PLMC	**San Jos del P**	**1.62**	**124**	*eP*			**Pn**	**12 27 54.5**	**-2.2**
PLMC				*eS*			**Sn**	**12 28 16.8**	**-1.0**
PLMC				*i*				12 28 19.6	
	comp=Z,479nm,0.9s								
MALC	**Bahia Malaga**	**1.81**	**170**	*eP*			**Pn**	**12 27 58.6**	**-0.6**
MALC				*eS*			**Sn**	**12 28 20.8**	**-1.6**
MALC				*i*				12 28 23.9	
	comp=Z,355nm,1.0s								
DBBC	**Dabeiba**	**1.86**	**50**	*eP*			**Pn**	**12 27 59.0**	**-1.0**
DBBC				*i*				12 28 35.6	
	comp=Z,357nm,0.7s								
HELC	**Santa Helena**	**2.13**	**80**	⇑*iP*			**Pn**	**12 28 02.9**	**-1.1**
HELC				*eS*			**Sn**	**12 28 28.9**	**-2.0**
HELC				*i*				12 28 37.9	
	comp=Z,211nm,1.1s								
HELC	**Santa Helena**	**2.13**	**80**	⇑*iP*			**Pn**	**12 28 02.9**	**-1.1**
HELC				*eS*			**Sn**	**12 28 33.2**	**+2.3**
YOTC	**Yotoco, Valle**	**2.22**	**145**	*eP*			**Pn**	**12 28 03.5**	**-1.5**
YOTC				*i*				12 28 55.9	
	comp=Z,88nm,0.9s								
GUY2C	**Guyana, Caldas**	**2.33**	**104**	*eP*			**Pn**	**12 28 05.7**	**-1.2**
GUY2C				*eS*			**Sn**	**12 28 33.7**	**-2.4**
GUY2C				*i*				12 28 43.5	
	comp=Z,292nm,0.7s								
RREF	**El Recreo**	**2.45**	**111**	*eP*			**Pn**	**12 28 08.4**	**-0.2**
RREF				*i*				12 28 60.0	
	comp=Z,184nm,0.9s								
ANIL	**Santa Ana**	**2.58**	**120**	*eP*			**Pn**	**12 28 10.2**	**+0.1**
ANIL				*i*				12 28 49.4	
	comp=Z,236nm,0.4s								
TOLC	**Tolima**	**2.60**	**118**	*eP*			**Pn**	**12 28 10.6**	**+0.2**
UPD2	**Meteti**	**2.75**	**352**	*eP*			**Pn**	**12 28 14.0**	**+1.8**
UPD2				*eS*			**Sb**	**12 28 51.5**	**+0.3**
NORC	**Norcasia**	**2.76**	**95**	⇑*eP*			**Pn**	**12 28 13.3**	**+0.9**
NORC				*i*				12 28 56.4	
	comp=Z,192nm,0.8s								
GR1C	**Gorgona, Isla**	**2.83**	**191**	*eP*			**Pn**	**12 28 12.3**	**-1.0**
GR1C				*i*				12 29 03.3	
	comp=Z,18nm,1.6s								
UREC	**San Jos de Ur**	**2.85**	**47**	*eP*			**Pn**	**12 28 13.1**	**-0.4**
UREC				*i*				12 29 04.0	
	comp=Z,150nm,0.7s								
ORTC	**Ortega, Tolima**	**3.04**	**128**	*eP*			**Pn**	**12 28 16.6**	**+0.4**
ORTC				*i*				12 29 07.9	
	comp=Z,97nm,0.7s								
ZARC	**Zaragoza, Cauc**	**3.23**	**59**	*eP*			**Pn**	**12 28 18.8**	**0.0**
ZARC				*i*				12 29 09.1	
	comp=Z,72nm,0.6s								
PTBC	**PUERTO BERRIO,**	**3.24**	**77**	*eP*			**Pn**	**12 28 19.2**	**+0.2**
PTBC				*i*				12 29 13.4	
	comp=Z,116nm,1.1s								
AZU	**Azuero**	**3.28**	**307**	*eP*			**Pn**	**12 28 17.8**	**-1.7**
AZU				*eS*			**Sn**	**12 28 56.7**	**-2.2**
POPC	**Popayan, Colom**	**3.38**	**164**	*eP*			**Pn**	**12 28 21.3**	**+0.2**
POPC				*eS*			**Sn**	**12 29 00.4**	**-1.3**
ROSC	**El Rosal**	**3.44**	**106**	*eP*			**Pb**	**12 28 27.2**	**-1.9**
ROSC	**El Rosal**	**3.44**	**106**	P			**Pn**	**12 28 25.1**	**+3.1**
	comp=Z,9.1nm,0.3s,baz=225,slow=20,SNR=10								
SPBC	**San Pablo de B**	**3.55**	**92**	*eP*			**Pn**	**12 28 24.2**	**+0.9**
SPBC				*i*				12 29 28.7	
	comp=Z,64nm,1.1s								
CACAO	**El Cacao, Vera**	**3.55**	**296**	*eP*			**Pn**	**12 28 21.0**	**-2.2**
CACAO				*eS*			**Sn**	**12 29 02.5**	**-3.0**
PCON	**Cinco Dias**	**3.67**	**160**	*eP*			**Pn**	**12 28 28.6**	**+3.3**
PCON				*i*				12 29 49.0	
	comp=Z,69nm,0.9s								
UPA	**Univ. de Panam**	**3.67**	**329**	*eP*			**Pn**	**12 28 25.4**	**+0.4**
UPA				*eS*			**Sn**	**12 29 09.7**	**+1.1**
CHOR3	**La Chorrera**	**3.73**	**326**	*eP*			**Pn**	**12 28 24.9**	**-0.7**
CHOR3				*eS*			**Sn**	**12 29 10.6**	**+0.7**
BBAC	**Balboa, Cauca**	**3.78**	**174**	*eP*			**Pn**	**12 28 27.9**	**+1.3**
SOTA	**Rioblanco**	**3.79**	**164**	*eP*			**Pn**	**12 28 27.9**	**+1.0**
SOTA				*i*				12 29 18.1	
	comp=Z,70nm,0.8s								
BCIP	**Isla Barro Col**	**3.99**	**327**	*eP*			**Pn**	**12 28 27.4**	**-1.8**
BCIP				*i*				12 29 58.1	
	comp=Z,45nm,1.4s								
BCIP	**Isla Barro Col**	**3.99**	**327**	*eP*			**Pn**	**12 28 27.1**	**-2.2**
CHIC	**Chingaza**	**4.06**	**107**	*eP*			**Pn**	**12 28 31.8**	**+1.2**
CHIC				*i*				12 29 48.2	
	comp=Z,46nm,1.3s								
BARC	**Barichara**	**4.50**	**80**	*eP*			**Pn**	**12 28 37.8**	**+1.4**
BARC				*i*				12 30 03.8	
	comp=Z,261nm,1.4s								
RUSC	**La Rusia**	**4.53**	**89**	*eP*			**Pn**	**12 28 37.8**	**+0.7**
RUSC				*i*				12 29 57.0	
	comp=Z,68nm,1.1s								
SMLC	**San Martn de**	**4.62**	**50**	*eP*			**Pn**	**12 28 38.0**	**0.0**
SMLC				*i*				12 29 51.5	
	comp=Z,31nm,1.5s								
SJCC	**San Jacinto, C**	**4.74**	**31**	*eP*			**Pn**	**12 28 38.9**	**-0.7**
SJCC				*eS*			**Sn**	**12 29 30.6**	**-4.3**
SJCC	**San Jacinto, C**	**4.74**	**31**	*eP*			**Pn**	**12 28 38.6**	**-1.0**
SJCC				*eS*			**Sn**	**12 29 40.1**	**+5.2**
PAMC	**Pamplona, Colo**	**5.13**	**72**	*eP*			**Pn**	**12 28 46.8**	**+1.4**
PAMC				*i*				12 30 08.3	
	comp=Z,40nm,1.0s								
SDV	**Santo Domingo**	**7.59**	**66**	P			**Pn**	**12 29 19.7**	**+0.8**
	comp=Z,2.6nm,0.3s,baz=248,slow=11,SNR=22								
SDV				*eS*			**Sn**	**12 30 44.9**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=253,slow=19,SNR=2.1								
CMIG	**Matias Romero**	**20.27**	**305**	LR			LR	12 40 26.1	
	comp=Z,50nm,20.3s,baz=84,slow=38								
LPAZ	**La Paz**	**23.88**	**157**	P			**P**	**12 32 42.4**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=323,slow=11,SNR=4.2								
SIV	**San Ignacio**	**27.16**	**143**	P			**P**	**12 33 10.0**	**-2.0**
	comp=Z,1.9nm,0.7s,baz=349,slow=7.9,SNR=7.9								
CPUP	**Villa Florida**	**37.53**	**149**	P			**P**	**12 34 42.4**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=328,slow=9.2,SNR=2.7								
ANMO	**Albuquerque**	**39.34**	**321**	P			**P**	**12 35 00.1**	**+2.1**
	comp=Z,0.7nm,0.8s,baz=124,slow=12,SNR=3.7								
PLCA	**Paso Flores**	**46.76**	**173**	P			**P**	**12 35 58.6**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=11,slow=10,SNR=3.3								
NVAR	**Mina Array Bea**	**49.09**	**317**	P			**P**	**12 36 18.2**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=121,slow=6.4,SNR=3.8								
YKA	**Yellowknife Ar**	**62.74**	**342**	P			**P**	**12 37 52.9**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=130,slow=7.2,SNR=14								
DBIC	**Dimbokro**	**72.29**	**85**	P			**P**	**12 38 54.2**	**-0.4**
	comp=Z,4.2nm,0.9s,baz=298,slow=5.4,SNR=5.0								
ILAR	**Eielson Array**	**76.00**	**336**	P			**P**	**12 39 15.9**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=106,slow=4.3,SNR=4.1								
TORD	**Torodi Ar. Bea**	**78.34**	**78**	P			**P**	**12 39 28.6**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=283,slow=5.5,SNR=5.7								
GERES	**GERESS Array B**	**86.55**	**41**	P			**P**	**12 40 12.6**	**+0.7**
	comp=Z,1.2nm,1.0s,baz=343,slow=3.1,SNR=4.4								

*ISCJB **26** 12:38:31.6±1.7,6.11S±0.03×151.86E±0.03,h19km±12km, mb5.0/88, MS4.0/28, Error ellipse: s-maj=5.3km s-min=4.6km az=28.1*
*MOS **26** 12:38:32.0±1.0,6.03S×151.91E,h44km,mb5.3/29, Error ellipse: s-maj=9.7km s-min=6.8km az=102.3*
*BJI **26** 12:38:35.9±0.0,5.47S×152.09E,h41km,mb4.9/56, mB5.3/30,Ms4.9/10,Ms7 4.5/13*
*GCMT **26** 12:38:35.2±0.2,6.27S±0.02×152.09E±0.03,h17km, MW5.0/87, Moment Tensor Solution. s47,c57; s87,c129; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.77±.19; Mθθ3.00±.12; Mφφ0.76±.11; Mrθ-0.88±.25; Mrφ1.20±.08; Mθφ0.36±.35; Best double couple: M0 3.76200×10^16 NP1:φs76.00000°,δ51.00000°,λ-78.00000°. NP2: φs238.00000°,δ41.00000°,λ-104.00000°. Principal axes: T 3.5840, Plg5.0000°, Azm158.0000°; N 0.3530, Plg9.0000°, Azm248.0000°; P -3.9400, Plg79.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **26** 12:38:36.2±1.7,6.07S±0.09×151.97E±0.07,h46km±5km, mb5.2/149*
*DJA **26** 12:38:40.5±0.8,6.5S±5×15.2E±°,h78km±6km, M5.2/24, mB5.5/12, mb5.2/24, MLv5.5/2, Mw(mB)4.9/12, Mwp5.1/1*

ISC 26 12:38:36.4±0.5,6.14S±0.04×152.01E±0.05,h48km±4km, h48km:pP-P,n368,σ1§49/338,mb5.2/145,MS3.9/29, 26C-2D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.82**	**1**	P			**Pn**	**12 39 03.1**	**-2.2**
	567nm,0.3s,baz=154,slow=1.6,SNR=779								
KRVT					LR		LR	12 39 20.8	
	comp=Z,1μm,19.1s,baz=123,slow=25								
KRVT					S		**Sn**	**12 39 25.9**	**-1.3**
	2μm,0.3s,baz=88,slow=21,SNR=57								
PMG	**Port Moresby**	**5.80**	**236**	*ceP*			**Pn**	**12 39 59.6**	**-0.3**
PMG					pmax		pmax		
	comp=Z,2μm,0.7s								
PMG	**Port Moresby**	**5.80**	**236**	P			**Pn**	**12 39 59.6**	**-0.3**
	comp=Z,50nm,0.3s,baz=52,slow=6.3,SNR=90								
PMG					S		**Sn**	**12 41 04.0**	**-1.3**
	comp=Z,74nm,0.3s,baz=127,slow=22,SNR=13								
PMG					LR		LR	12 42 31.2	
	comp=Z,928nm,18.9s,baz=58,slow=41								
PMG	**Port Moresby**	**5.80**	**236**				**Pn**	**12 39 59.7**	**-0.3**
PMG					Sn		**Sn**	**12 41 06.0**	**+0.8**
HNR	**Honiara**	**8.52**	**113**	P			**Pn**	**12 40 37.7**	**+0.4**
HNR	**Honiara**	**8.52**	**113**	P			**Pn**	**12 40 37.4**	**+0.2**
	comp=Z,8.9nm,0.3s,baz=230,slow=7.9,SNR=3.5								
HNR					LR		LR	12 43 43.5	
	comp=Z,923nm,18.1s,baz=277,slow=36								
HNR	**Honiara**	**8.52**	**113**	Pn			**Pn**	**12 40 37.7**	**+0.4**
COEN	**Coen**	**11.66**	**228**	P			**Pn**	**12 41 18.8**	**-1.5**
	baz=12,SNR=14								
COEN	**Coen**	**11.66**	**228**				**Pn**	**12 41 18.9**	**-1.4**
MTSU	**Mount Surprise**	**14.09**	**212**	P			**Pn**	**12 41 52.6**	**-0.9**
	baz=14,SNR=15								
CTA	**Charters Tower**	**14.95**	**201**	P			**Pn**	**12 42 03.2**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=38,slow=14,SNR=5.8								
CTA					LR		LR	12 47 01.8	
	comp=Z,901nm,20.9s,baz=21,slow=34								
QIS	**Mount Isa**	**18.72**	**219**	P			**Pn**	**12 42 51.6**	**-0.4**
	baz=19,SNR=12								
EIDS	**Eidsvold**	**19.14**	**183**	P			**P**	**12 42 56.3**	**+0.5**
	baz=19,SNR=29								
EIDS	**Eidsvold**	**19.14**	**183**	P			**P**	**12 42 56.4**	**+0.6**
EIDS					IAmb		IAmb	12 42 57.4	
	comp=Z,250nm,1.6s								
FAKI	**Fak Fak**	**19.95**	**278**	P			**P**	**12 43 04.9**	**+0.1**
KDU	**Kakadu**	**20.33**	**250**	P			**P**	**12 43 08.6**	**-0.3**
	baz=21,SNR=43								
RMQ	**Roma**	**20.47**	**188**	P			**P**	**12 43 11.1**	**+0.8**
	baz=20,SNR=178								
DZM	**Mont Dzumac**	**21.11**	**140**	P			**P**	**12 43 17.0**	**-0.2**
	comp=Z,23nm,1.0s,baz=268,slow=7.1,SNR=9.1								
DZM					LR		LR	12 50 10.0	
	comp=Z,1μm,21.2s,baz=308,slow=33								
DZM	**Mont Dzumac**	**21.11**	**140**	*eP*			**P**	**12 43 17.8**	**+0.5**
	comp=Z,86nm,1.2s								
DZM					*eS*		**S**	**12 47 06.3**	**-3.4**
	comp=Z,118nm,19.6s								
DZM					*e*LQ		LQ	12 47 27.1	
	comp=Z,1μm,29.3s								
DZM					*e*LR		LR	12 48 19.2	
	comp=Z,2μm,23.5s								
DZM	**Mont Dzumac**	**21.11**	**140**	P			**P**	**12 43 17.6**	**+0.3**
SIJI	**Sorong**	**21.35**	**283**	P			**P**	**12 43 20.5**	**+0.7**
	comp=Z,14nm,0.7s,baz=82,slow=10.0,SNR=4.6								
SIJI					LR		LR	12 53 02.5	
	comp=Z,267nm,18.8s,baz=78,slow=41								
SWI	**Sorong**	**21.36**	**283**	P			**P**	**12 43 19.7**	**-0.2**
	comp=Z,40nm,0.7s								
MTN	**Manton Dam**	**21.63**	**251**	P			**P**	**12 43 23.4**	**+0.6**
	baz=22,SNR=25								
MTN	**Manton Dam**	**21.63**	**251**	P			**P**	**12 43 23.1**	**+0.3**
MTN					IAmb		IAmb	12 43 43.7	
	comp=Z,145nm,1.3s								
MTN					S		**S**	**12 47 19.9**	**-0.1**
QLP	**Quilpie**	**21.64**	**199**	P			**P**	**12 43 22.9**	**+0.1**
	baz=22,SNR=57								
WR0	**Warramunga Arr**	**21.84**	**229**	P			**P**	**12 43 25.2**	**+0.2**
WRAB	**Tennant Creek**	**21.97**	**230**	*ceP*			**P**	**12 43 24.6**	**-1.8**
WRAB					pmax		pmax		
	comp=Z,122nm,1.7s								
WRA	**Warramunga Arr**	**21.98**	**230**	P			**P**	**12 43 25.6**	**-1.0**
	comp=Z,24nm,0.7s,baz=56,slow=9.8,SNR=55								
WRA					pP		**pP**	**12 43 37.8**	**+1.7**
	comp=Z,33nm,0.7s,baz=58,slow=10,SNR=13								
WRA					PcP		**PcP**	**12 47 24.7**	**+0.7**
	comp=Z,7.7nm,1.2s,baz=50,slow=2.3,SNR=7.5								
WRA					LR		LR	12 52 16.6	
	comp=Z,285nm,20.1s,baz=50,slow=37								
ARMA	**Armidale**	**24.16**	**181**	P			**P**	**12 43 48.3**	**0.0**
	baz=24,SNR=9.9								
ARMA	**Armidale**	**24.16**	**181**	P			**P**	**12 43 48.5**	**+0.1**
ARMA					IAmb		IAmb	12 43 49.8	
	comp=Z,106nm,1.2s								
AS31	**Alice Springs**	**24.64**	**223**	P			**P**	**12 43 52.6**	**-0.1**
ASAR	**Alice Springs**	**24.64**	**223**	P			**P**	**12 43 52.5**	**-0.2**
	comp=Z,68nm,0.9s,baz=56,slow=8.9,SNR=209								
ASAR					pP		**pP**	**12 44 04.2**	**+0.8**
	comp=Z,42nm,0.8s,baz=60,slow=8.6,SNR=11								
ASAR					PcP		**PcP**	**12 47 30.0**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=57,slow=3.4,SNR=4.8								
ASAR					LR		LR	12 55 08.7	
	comp=Z,263nm,18.3s,baz=60,slow=40								
KNRA	**Kununurra**	**24.69**	**246**	P			**P**	**12 43 53.7**	**+0.5**
	baz=25,SNR=23								
KNRA	**Kununurra**	**24.69**	**246**	P			**P**	**12 43 53.7**	**+0.5**
KNRA					IAmb		IAmb	12 44 12.9	
	comp=Z,76nm,0.8s								
TNTI	**Ternate**	**25.54**	**285**	P			**P**	**12 43 58.1**	**-2.8**
TNTI					IAmb		IAmb	12 44 11.9	
	comp=Z,37nm,0.6s								
CMSA	**Cobar Meteorol**	**25.95**	**192**	P			**P**	**12 44 03.8**	**-0.7**
	baz=26,SNR=22								
MGCD	**Mangrove Creek**	**26.95**	**182**	P			**P**	**12 44 13.8**	**+0.3**
	baz=27,SNR=5.2								
STKA	**Stephens Creek**	**27.40**	**200**	P			**P**	**12 44 16.7**	**-0.9**
STKA					pmax		pmax		
	comp=Z,8.0nm,0.9s								
STKA	**Stephens Creek**	**27.40**	**200**	P			**P**	**12 44 16.5**	**-1.0**
	comp=Z,43nm,1.0s,baz=18,slow=10,SNR=39								
STKA					LR		LR	12 54 34.0	
	comp=Z,457nm,20.6s,baz=18,slow=35								
STKA	**Stephens Creek**	**27.40**	**200**	P			**P**	**12 44 16.6**	**-0.9**
SOEI	**Soe**	**27.70**	**261**	P			**P**	**12 44 24.5**	**+3.9**
SOEI	**Soe**	**27.70**	**261**	P			**P**	**12 44 20.2**	**-0.4**
SOEI					IAmb		IAmb	12 45 02.5	
	comp=Z,59nm,0.8s								
MSVF	**Nonsavu**	**27.92**	**117**	P			**P**	**12 44 23.6**	**+1.2**
MSVF					pmax		pmax		
	comp=Z,28nm,1.2s								
MSVF	**Nonsavu**	**27.92**	**117**	P			**P**	**12 44 23.6**	**+1.2**
BATI	**Baumata**	**28.34**	**260**	LR			LR	12 58 15.8	
	comp=Z,275nm,18.9s,baz=84,slow=42								
FITZ	**Fitzroy Crossi**	**28.34**	**243**	P			**P**	**12 44 25.9**	**-0.1**
	baz=29,SNR=58								
FITZ	**Fitzroy Crossi**	**28.34**	**243**	P			**P**	**12 44 25.8**	**-0.3**
	comp=Z,38nm,0.6s,baz=54,slow=8.2,SNR=64								
FITZ					LR		LR	12 57 04.9	
	comp=Z,196nm,18.5s,baz=70,slow=39								
FITZ	**Fitzroy Crossi**	**28.34**	**243**	P			**P**	**12 44 26.0**	**-0.1**
CNB	**Canberra Magne**	**29.14**	**184**	P			**P**	**12 44 33.4**	**+0.3**
	baz=29,SNR=4.9								
WRKA	**Warakurna**	**29.48**	**228**	P			**P**	**12 44 35.4**	**-0.9**
	baz=30,SNR=24								
HTT	**Hallett**	**29.75**	**202**	P			**P**	**12 44 37.9**	**-0.6**
	baz=30,SNR=4.2								
BBOO	**Buckleboo**	**30.41**	**207**	P			**P**	**12 44 43.6**	**-0.7**
ARPS	**Mount Arapiles**	**31.88**	**196**	P			**P**	**12 44 57.0**	**-0.2**
	baz=32,SNR=10								
TTSI	**Tana Toraja**	**32.23**	**274**	P			**P**	**12 45 03.7**	**+3.2**
FORT	**Forrest**	**33.26**	**220**	P			**P**	**12 45 08.9**	**-0.5**
	baz=34,SNR=16								
FORT	**Forrest**	**33.26**	**220**	P			**P**	**12 45 09.1**	**-0.3**
PLAI	**Plampang**	**34.04**	**263**	P			**P**	**12 45 13.0**	**-3.4**
	comp=Z,126nm,0.8s								
PSA00	**Pilbara Seismi**	**34.68**	**241**	P			**P**	**12 45 21.9**	**0.0**
PSA00					IAmb		IAmb	12 45 24.8	
	comp=Z,50nm,1.1s								
OUZ	**Omahuta**	**35.11**	**148**	P			**P**	**12 45 26.1**	**+0.8**
OUZ					IAmb		IAmb	12 45 37.7	
	comp=Z,61nm,1.2s								
AFI	**Afiamalu**	**36.45**	**105**	P			**P**	**12 45 34.7**	**-2.4**
AFI					pmax		pmax		
	comp=Z,71nm,1.1s								
AFI	**Afiamalu**	**36.45**	**105**	P			**P**	**12 45 34.7**	**-2.4**
TAU	**Tasmania Unive**	**36.86**	**186**	P			**P**	**12 45 41.1**	**+1.0**
TAU					pmax		pmax		
	comp=Z,34nm,1.2s								
TAU	**Tasmania Unive**	**36.86**	**186**	P			**P**	**12 45 41.1**	**+1.0**
TAU					IAmb		IAmb	12 45 43.8	
	comp=Z,34nm,1.2s								
JAGI	**Jajag, Banyuwa**	**37.61**	**264**	P			**P**	**12 45 45.2**	**-1.8**
MEEK	**Meekatharra**	**37.78**	**234**	P			**P**	**12 45 48.0**	**-0.3**
	baz=38,SNR=9.6								
URZ	**Urewera**	**39.26**	**148**	P			**P**	**12 46 00.4**	**0.0**
	comp=Z,6.6nm,0.7s,baz=315,slow=15,SNR=4.1								
URZ	**Urewera**	**39.26**	**148**	IAmb			IAmb	12 46 16.6	
	comp=Z,35nm,1.3s								
PWJI	**Pagerwojo**	**39.93**	**265**	P			**P**	**12 46 04.6**	**-1.8**
	comp=Z,50nm,0.8s								
TUWZ	**Tuamarina**	**40.22**	**154**	P			**P**	**12 46 08.9**	**+0.5**
PCJI	**Pacitan**	**40.55**	**265**	P			**P**	**12 46 10.2**	**-1.4**
	comp=Z,119nm,0.9s								
WOJI	**Wonogiri, Jawa**	**40.80**	**265**	P			**P**	**12 46 11.6**	**-2.0**
	comp=Z,52nm,1.4s								
KLBR	**Kellerberrin**	**40.82**	**227**	P			**P**	**12 46 14.6**	**+1.0**
	baz=41,SNR=4.8								
MORW	**Morawa**	**40.90**	**232**	P			**P**	**12 46 15.6**	**+1.3**
	baz=41,SNR=4.4								
MORW	**Morawa**	**40.90**	**232**	P			**P**	**12 46 14.2**	**0.0**
MORW					IAmb		IAmb	12 46 28.3	
	comp=Z,67nm,1.8s								
UGM	**Wanagama**	**41.20**	**265**	P			**P**	**12 46 16.6**	**-0.4**
MUN	**Mundaring**	**42.16**	**228**	P			**P**	**12 46 26.3**	**+1.8**
	baz=42,SNR=3.1								
KPJI	**Karang Pucung**	**42.79**	**266**	P			**P**	**12 46 27.8**	**-2.1**
	comp=Z,68nm,0.9s,comp=Z,931nm								
CMJI	**Cimerak**	**43.26**	**265**	P			**P**	**12 46 31.8**	**-1.9**
	comp=Z,100nm,0.9s								
CISI	**Cisompet, Garu**	**43.89**	**265**	P			**P**	**12 46 36.5**	**-2.3**
	comp=Z,133nm,1.0s								
CISI	**Cisompet, Garu**	**43.89**	**265**	P			**P**	**12 46 36.5**	**-2.3**
JNU	**Nakatsue**	**43.90**	**334**	P			**P**	**12 46 38.7**	**+0.2**
	comp=Z,3.7nm,0.8s,baz=75,slow=5.7,SNR=4.8								
JNU	**Nakatsue**	**43.90**	**334**	IAmb			IAmb	12 47 08.3	
	comp=Z,38nm,1.2s								
LEM	**Lembang**	**44.10**	**267**	LR			LR	13 08 53.0	
	comp=Z,113nm,18.1s,baz=74,slow=41								
MJAR	**Matsushiro Arr**	**44.38**	**344**	P			**P**	**12 46 38.8**	**-3.6**
	comp=Z,2.4nm,0.8s,baz=150,slow=8.4,SNR=4.6								
MJAR					LR		LR	13 04 59.3	
	comp=Z,92nm,18.5s,baz=200,slow=36								
MAJO	**Matsushiro**	**44.38**	**344**	*i* P			**P**	**12 46 41.6**	**-0.7**
MAJO					pmax		pmax		
	comp=Z,6.0nm,0.9s								
MAT	**Matsushiro**	**44.38**	**344**	P			**P**	**12 46 42.9**	**+0.6**
MAT					S		**S**	**12 53 08.6**	**-5.0**
CNJI	**Cibinong**	**44.57**	**266**	P			**P**	**12 46 41.6**	**-2.6**
	comp=Z,211nm,1.0s,comp=Z,2μm								
DBJI	**Dramaga**	**44.97**	**267**	P			**P**	**12 46 45.7**	**-1.8**
	comp=Z,43nm,0.6s								
KASI	**Kota Agung**	**47.26**	**268**	P			P	12 47 00.4	-5.0
MDSI	**Maura Dua**	**47.64**	**270**	P			**P**

comp=Z,20nm,0.6s
PEA0B Petropavlovsk- 59.22 4 P **P 12 48 32.9 +0.3**
PEA0B pmax pmax
comp=Z,94nm,1.6s
PEA0B Petropavlovsk- 59.22 4 P **P 12 48 32.9 +0.3**
PETK Petropavlovsk- 59.22 4 P **P 12 48 32.5 -0.1**
comp=Z,7.9nm,0.6s,baz=182,slow=4.6,SNR=19
PETK LR LR 13 10 29.6
comp=Z,94nm,19.4s,baz=240,slow=32
HHC Hu-ho-hao-te 59.68 325 *e*P **P 12 48 39.8 +3.6**
HHC pmax pmax
comp=Z,8.0nm,0.8s
HHC pmax pmax
comp=Z,71nm,6.6s
LZH Lanzhou 61.65 317 ⇑P **P 12 48 50.0 +0.2**
LZH pP sP 12 49 03.8 -2.2
LZH sP pwP 12 49 09.5 +0.3
LZH PP **PP 12 51 04.5 -1.5**
LZH pmax pmax
comp=Z,15nm,1.1s
LZH pmax pmax
comp=Z,63nm,5.4s
LZH LR LR
comp=Z,380nm,16.3s
LZH LR LR
comp=Z,420nm,17.4s
HIA Hailar 61.93 337 P **P 12 48 50.9 -0.3**
HIA pmax pmax
comp=Z,117nm,0.7s
HIA Hailar 61.93 337 IAmb IAmb 12 48 51.3
comp=Z,15nm,0.7s
ZEA Zeya 63.19 344 *e*P **P 12 48 58.0 -1.5**
ZEA pmax pmax
comp=Z,12nm,1.0s
KIWB Kanaga Island 63.50 21 P **P 12 49 01.4 -0.2**
ADK Adak 63.69 21 P **P 12 49 03.5 +0.7**
ADK pmax pmax
comp=Z,80nm,0.9s
ADK Adak 63.69 21 P **P 12 49 03.5 +0.7**
MA2 Magadan 65.51 359 *i*P **P 12 49 14.4 -0.2**
MA2 pmax pmax
comp=Z,18nm,1.2s
GTA Gaotai 66.11 318 *e*P **P 12 49 19.0 0.0**
GTA pP pP 12 49 31.3 +1.1
GTA sP pwP 12 49 37.5 -2.5
GTA PcP **PcP 12 49 50.3 +1.2**
GTA pmax pmax
comp=Z,5.0nm,1.0s
CASY Casey 66.51 197 P **P 12 49 21.6 +0.6**
CASY IAmb IAmb 12 49 24.0
comp=Z,17nm,1.1s
ULN Ulaanbaatar 66.72 329*ce*P **P 12 49 23.1 +0.3**
ULN pmax pmax
comp=Z,19nm,1.7s
ULN Ulaanbaatar 66.72 329 P **P 12 49 22.0 -0.7**
SONM Songino Array 67.04 328 P **P 12 49 24.8 0.0**
comp=Z,11nm,1.0s,baz=140,slow=5.6,SNR=32
SONM pP **sP 12 49 38.8 -2.4**
comp=Z,6.2nm,0.9s,baz=132,slow=5.3,SNR=7.4
SONM LR LR 13 16 55.8
comp=Z,105nm,21.5s,baz=126,slow=34
SONM PKP2bc 13 17 55.1
comp=Z,0.4nm,0.5s,baz=270,slow=1.4,SNR=3.7
LSA Lhasa 68.35 305 P **P 12 49 34.0 +0.2**
LSA pmax pmax
comp=Z,96nm,1.0s
SEY Seymchan 68.87 0 *i*P **P 12 49 34.8 -1.0**
SEY Seymchan 68.87 0 P **P 12 49 35.6 -0.2**
comp=Z,4.8nm,0.8s,baz=194,slow=9.8,SNR=12
YAK Yakutsk 70.12 349 *e*P **P 12 49 44.3 +0.8**
YAK *e**PP **pP 12 49 56.1 +1.1**
YAK *e* 12 50 04.9
YAK *e* 12 52 22.4
YAK *e*PPP PPP 12 53 54.9
YAK *e*S **S 12 58 54.0 +3.1**
YAK *e**SS **sS 12 59 14.6 +3.1**
YAK *e* 12 59 42.6
YAK *e*SS **SS 13 03 26.9 +5.3**
YAK pmax pmax
comp=Z,10.0nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,197nm,4.0s
YAK pmax pmax
comp=E,105nm,3.6s
YAK pmax pmax
comp=N,184nm,3.4s
YAK smax smax
comp=E,234nm,4.0s
YAK smax smax
comp=N,76nm,3.8s
ZAK Zakamensk 70.22 329 *e*P **P 12 49 44.1 -0.4**
ZAK pmax pmax
comp=Z,15nm,1.2s
TAPN Taplejung 70.43 302 *e*P **P 12 49 45.9 -0.6**
comp=Z,25nm,1.0s
ODAN Odare 70.55 301 *e*P **P 12 49 46.6 -0.6**
BOD Bodaibo 70.76 340 *e*P **P 12 49 46.5 -1.0**
BOD pmax pmax
comp=Z,9.0nm,1.4s
RAMN Ramite 71.25 301 *e*P **P 12 49 50.3 -1.1**
VNDA Vanda 71.53 178 P **P 12 49 53.1 +1.2**
comp=Z,1.4nm,0.6s,baz=342,slow=5.1,SNR=6.0
VNDA LR LR 13 16 23.7
comp=Z,53nm,21.7s,baz=348,slow=32
JIRN Jiri 71.81 302 *e*P **P 12 49 54.3 -0.7**
comp=Z,26nm,0.8s
GUN Gumba 72.14 302 *e*P **P 12 49 56.3 -0.6**
comp=Z,31nm,0.7s
MOY Mondy 72.15 329 *e*P **P 12 49 56.1 -0.1**
MOY pmax pmax
comp=Z,17nm,1.6s
PKI Pulchoki 72.44 301 *e*P **P 12 49 57.4 -1.3**
comp=Z,5.5nm,1.0s
PKIN Phulchoki 72.45 301 *e*P **P 12 49 57.7 -1.0**
KKN Kakani 72.62 301 *e*P **P 12 49 58.9 -0.7**
DMN Daman 72.71 301 *e*P **P 12 49 59.5 -0.7**
comp=Z,32nm,0.8s
SDPT Sand Point 72.76 26 P **P 12 49 58.6 -0.9**
GKN Gorkha 73.22 302 *e*P **P 12 50 02.2 -0.9**
comp=Z,56nm,1.1s
KOLN Koldanda 74.04 301 *e*P **P 12 50 07.1 -0.9**
comp=Z,36nm,0.9s
DANN Dangsing 74.06 302 *e*P **P 12 50 07.1 -1.1**
comp=Z,45nm,1.0s
BILL Bilibino 74.69 6⇑*e*P **P 12 50 08.8 -1.8**
BILL *i* 12 50 17.8
BILL *e* 12 50 23.8
BILL SS SS 13 04 28.0 -3.2
BILL pmax pmax
comp=Z,74nm,1.0s
BILL Bilibino 74.69 6 P **P 12 50 09.9 -0.7**
GAMB Gambell 74.87 16 P **P 12 50 11.9 +0.2**
HYB Hyderabad 76.19 290 *i*P **P 12 50 20.0 -0.3**
WMQ Urumqi 76.19 318 *e*P **P 12 50 21.3 +1.4**
WMQ sP pwP 12 50 39.8 -1.1
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ pmax pmax
comp=Z,180nm,4.9s
WMQ LR LR
comp=Z,470nm,19.9s
WMQ LR LR
comp=Z,170nm,27.9s
WMQ Urumqi 76.19 318 P **P 12 50 21.1 +1.2**
WMQ pmax pmax
comp=Z,53nm,1.8s
WMQ Urumqi 76.19 318 P **P 12 50 21.1 +1.2**
WMQ IAmb IAmb 12 50 21.8
comp=Z,53nm,1.8s
SII Sitkinak Islan 76.31 27 P **P 12 50 20.9 +0.7**
ANM Nome 77.28 17 P **P 12 50 26.3 +0.8**
ANM pmax pmax
comp=Z,82nm,1.2s
ANM Nome 77.28 17 P **P 12 50 26.2 +0.8**
KDAK Kodiak Island 77.72 27 P **P 12 50 29.2 +1.2**
KDAK pmax pmax
comp=Z,59nm,1.2s
KDAK Kodiak Island 77.72 27 P **P 12 50 29.2 +1.2**
TIXI Tiksi 79.11 353*ce*P **P 12 50 34.4 -1.0**
TIXI pmax pmax
comp=Z,16nm,1.3s
TIXI Tiksi 79.11 353 P **P 12 50 34.8 -0.7**
TIXI IAmb IAmb 12 50 38.0
comp=Z,36nm,1.7s
BRLK Bradley Lake 79.53 26 IAmb IAmb 12 50 39.5
comp=Z,37nm,0.8s
RDOG Red Dog Mine 80.47 16 P **P 12 50 43.8 +0.8**
SUA Susitna One 80.49 24 IAmb IAmb 12 50 44.9
comp=Z,32nm,0.8s
PPLA Purkeypile 80.70 23 IAmb IAmb 12 50 48.6
comp=Z,75nm,1.4s
MK31 Makanchi Array 80.81 319 *i*P **P 12 50 44.8 -0.4**
MK31 pmax pmax
comp=Z,17nm,1.3s
MKAR Makanchi Array 80.81 319 *i*P **P 12 50 45.5 +0.3**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 80.81 319 P **P 12 50 44.9 -0.4**
comp=Z,3.4nm,0.6s,baz=106,slow=5.8,SNR=22
MKAR LR LR 13 24 46.4
comp=Z,44nm,21.4s,baz=71,slow=34
MAKZ Makanchi 81.02 319 P **P 12 50 46.2 -0.1**
MAKZ pmax pmax
comp=Z,15nm,1.1s
MAKZ Makanchi 81.02 319 P **P 12 50 46.2 -0.1**
PMR Palmer 81.22 24 IAmb IAmb 12 51 02.4
comp=Z,43nm,1.1s
GHO Glory Hole Cre 81.40 24 IAmb IAmb 12 50 49.5
comp=Z,32nm,0.9s
KNK Knik Glacier 81.41 25 IAmb IAmb 12 51 04.1
comp=Z,40nm,1.2s
KTH Kantishna Hill 81.54 22 IAmb IAmb 12 51 03.0
comp=Z,39nm,1.0s
PDGK Podgornoye 81.64 315 *i*P **P 12 50 49.0 -0.8**
PDGK pmax pmax
comp=Z,10.0nm,0.7s
TRF Thorofare Moun 81.73 23 IAmb IAmb 12 50 50.5
comp=Z,18nm,0.9s
ZAA0 Zalesovo Array 81.83 327 IAmb IAmb 12 50 50.8
comp=Z,17nm,0.9s
ZALV Zalesovo Beam 81.83 327 *i*P **P 12 50 48.7 -1.7**
ZALV pmax pmax
comp=Z,3.0nm,1.0s
ZALV Zalesovo Beam 81.83 327 P **P 12 50 49.1 -1.2**
comp=Z,16nm,0.8s,baz=112,slow=5.1,SNR=58
ZALV LR LR 13 25 49.0
comp=Z,64nm,21.9s,baz=120,slow=35
EYAK Cordova Ski Ar 82.15 26 P **P 12 50 50.4 -1.5**
MLY Manley 82.41 21 IAmb IAmb 12 50 54.8
comp=Z,32nm,0.8s
HMT Hamilton 82.72 27 P **P 12 50 55.6 +0.7**
NEA Nenana 82.77 22 IAmb IAmb 12 51 09.9
comp=Z,41nm,1.0s
KDJ Kajisay 82.96 314 P **P 12 50 56.1 -0.7**
KDJ pmax pmax
comp=Z,19nm,0.9s
KDJ Kajisay 82.96 314 P **P 12 50 56.1 -0.7**
KDJ IAmb IAmb 12 50 58.8
comp=Z,19nm,0.9s
WRH Wood River Hil 83.09 22 IAmb IAmb 12 51 11.5
comp=Z,42nm,1.1s
KSH Kashi 83.21 311 P **P 12 51 00.3 +2.2**
KSH PP **PP 12 54 14.0 +3.9**
KSH S **S 13 01 16.3 +1.2**
KSH SS **SS 13 06 45.3 +4.7**
KSH pmax pmax
comp=Z,850nm,6.0s
KSH LR LR
comp=Z,480nm,5.6s
MDM Murphy Dome 83.28 22 P **P 12 50 57.7 0.0**
MDM IAmb IAmb 12 51 12.5
comp=Z,31nm,1.3s
CCB Clear Creek Bu 83.28 22 IAmb IAmb 12 50 58.2
comp=Z,28nm,0.9s
TCOL CIGO, UAF Yank 83.37 22 P **P 12 50 58.5 +0.3**
baz=240
COLA College 83.38 22*d i*P **P 12 50 56.9 -1.3**
COLA pmax pmax
comp=Z,42nm,0.9s
COLA College 83.38 22 P **P 12 50 57.8 -0.4**
PAX Paxson 83.39 24 IAmb IAmb 12 50 59.9
comp=Z,17nm,1.1s
WAX Waxell Ridge 83.40 27 P **P 12 50 58.9 +0.3**
WAX IAmb IAmb 12 51 00.3
comp=Z,24nm,0.7s
VRDI Verde Repeater 83.46 26 IAmb IAmb 12 51 00.8
comp=Z,38nm,1.0s
HDA Harding Lake 83.49 22 P **P 12 50 58.6 -0.2**
baz=241
HDA Harding Lake 83.49 22 IAmb IAmb 12 51 01.7
comp=Z,23nm,1.0s
TGL Tana Glacier 83.53 27 IAmb IAmb 12 51 01.2
comp=Z,31nm,1.0s
POKR Poker Plat Res 83.65 22 P **P 12 50 59.2 -0.4**
baz=241
ULHL Ulahol 83.66 314 P **P 12 51 01.1 +0.6**
SNR=8.3
IL31 83.69 22 IAmb IAmb 12 51 00.1
comp=Z,28nm,0.8s
ILAR Eielson Array 83.69 22 P **P 12 50 59.0 -0.8**
comp=Z,24nm,0.8s,baz=250,slow=5.1,SNR=202
ILAR LR LR 13 27 05.1
comp=Z,84nm,18.3s,baz=231,slow=35
QSPA South Pole Qui 83.83 180 P **P 12 51 00.8 +0.1**
comp=Z,7.2nm,0.9s,baz=283,slow=0.8,SNR=20
QSPA South Pole Qui 83.83 180 P **P 12 51 01.2 +0.4**
QSPA IAmb IAmb 12 51 22.9
comp=Z,23nm,1.3s
BALM Baldy 83.87 26 IAmb IAmb 12 51 02.9
comp=Z,33nm,1.0s
MAW Mawson 84.04 203 P **P 12 51 02.5 +0.8**
baz=84,SNR=10
MAW Mawson 84.04 203 P **P 12 51 02.4 +0.8**
MAW pmax pmax
comp=Z,3.0nm,1.0s
MAW Mawson 84.04 203 P **P 12 51 01.8 +0.2**
comp=Z,12nm,1.0s,baz=80,slow=4.4,SNR=12
MAW LR LR 13 24 47.9
comp=Z,158nm,21.3s,baz=60,slow=33
MAW Mawson 84.04 203 P **P 12 51 02.4 +0.8**
NIL Nilore 84.08 305 P **P 12 51 02.2 -0.4**
NIL pmax pmax
comp=Z,22nm,0.8s
NIL Nilore 84.08 305 P **P 12 51 02.2 -0.4**
NIL IAmb IAmb 12 51 03.2
comp=Z,22nm,0.8s
MENT Mentasta 84.09 24 IAmb IAmb 12 51 09.5
comp=Z,15nm,0.8s
TKM2 Tokmak 2 84.29 314 *i*P **P 12 51 03.5 -0.2**
TKM2 pmax pmax
comp=Z,17nm,1.1s
TKM2 Tokmak 2 84.29 314 P **P 12 51 03.7 0.0**
SNR=21
CTGM Chitina Glacie 84.29 27 P **P 12 51 04.5 +1.3**
KURK Kurchatov 84.33 322 *i*P **P 12 51 02.8 -0.6**
KURK pmax pmax
comp=Z,55nm,1.3s
KURK Kurchatov 84.33 322 P **P 12 51 03.1 -0.3**
KZA Kyzart 84.34 313 P **P 12 51 05.2 +1.0**
SNR=15
SCRK Sand Creek 84.44 23 IAmb IAmb 12 51 05.4
comp=Z,17nm,0.9s
PCA Pinnacle 84.44 28 P **P 12 51 04.8 +0.9**
PCA IAmb IAmb 12 51 07.4
comp=Z,42nm,1.2s
KBK Karagaybulak 84.69 314 P **P 12 51 06.4 +0.7**
SNR=16
TOLK Toolik Lake Re 84.72 18 P **P 12 51 06.0 +0.9**
baz=238
TOLK Toolik Lake Re 84.72 18 IAmb IAmb 12 51 21.1
comp=Z,24nm,0.9s
UCH Uchtor 84.91 313 P **P 12 51 07.7 +0.6**
SNR=28
CHMS Chumysh 84.91 314 P **P 12 51 06.7 +0.2**
SNR=17
AAK Ala-Archa 85.01 314 *i*P **P 12 51 07.4 +0.1**
AAK pmax pmax
comp=Z,19nm,0.8s
AAK Ala-Archa 85.01 314 P **P 12 51 07.7 +0.4**
SNR=25
AAK Ala-Archa 85.01 314 P **P 12 51 07.6 +0.4**
AAK IAmb IAmb 12 51 08.8
comp=Z,19nm,0.8s
USP Ospenovka 85.15 314 P **P 12 51 08.1 +0.3**
SNR=44
AML Almayashu 85.48 313 P **P 12 51 10.6 +0.7**
SNR=67
EKS2 Erkin-Say 85.53 314 P **P 12 51 10.4 +0.6**
SNR=31
NRIK Noril'sk 86.97 341 P **P 12 51 15.3 -0.7**
comp=Z,21nm,0.8s,baz=114,slow=4.6,SNR=18
NRIK LR LR 13 31 56.6
comp=Z,73nm,18.2s,baz=86,slow=37
WHY Whitehorse 87.14 28 IAmb IAmb 12 51 19.6
comp=Z,17nm,0.8s
GAR Garm 87.40 309 IAmb IAmb 12 51 19.6
comp=Z,20nm,1.2s
KK31 Karatay Array 87.97 314 *i*P **P 12 51 21.1 -0.5**
KK31 pmax pmax
comp=Z,18nm,1.1s
KK31 Karatay Array 87.97 314 IAmb IAmb 12 51 22.5
comp=Z,19nm,1.1s
KKAR Karatay Array 87.97 314 IAmb IAmb 12 51 22.5
comp=Z,19nm,1.1s
EPYK Eagle Plains 88.19 22 P **P 12 51 23.2 +1.1**
baz=250
CHGR Chuyangaron 88.23 309 IAmb IAmb 12 51 26.7
comp=Z,21nm,0.9s
J01E Myrtle Point 89.83 47 P **P 12 51 31.3 +1.1**
baz=262
BRVK Borovoye 89.90 323 *i*P **P 12 51 28.7 -1.6**
BRVK pmax pmax
comp=Z,23nm,1.0s
BRVK Borovoye 89.90 323 P **P 12 51 29.1 -1.2**
BRVK IAmb IAmb 12 51 30.2
comp=Z,19nm,0.9s
K02D Willamette Mer 89.96 47 P **P 12 51 32.7 +1.8**
baz=262
O02D Mt. Diablo Mer 90.26 50 P **P 12 51 33.4 +1.0**
baz=262
I03D Drain, OR 90.33 46 P **P 12 51 33.4 +0.8**
baz=262
M02C Callahan 90.37 49 P **P 12 51 35.5 +2.6**
baz=262
HUMO Hull Mountain 90.46 47 IAmb IAmb 12 51 42.8
comp=Z,17nm,1.6s
H04D Lebanon 90.88 45 P **P 12 51 36.1 +1.0**
baz=262
L04D Klamath Falls 90.89 48 P **P 12 51 36.4 +1.0**
baz=263
I04A Tendick Farm, 91.02 46 P **P 12 51 36.8 +0.9**
baz=263
O03E Paynes Creek 91.02 50 P **P 12 51 36.7 +0.7**
baz=263
D03D Eldon 91.04 42 P **P 12 51 36.9 +1.1**
baz=262
J04D Umpqua Nationa 91.16 47 P **P 12 51 37.5 +0.8**
baz=263
M04C Macdoel 91.18 48 P **P 12 51 38.2 +1.5**
baz=263
A04D Lummi Island 91.46 41 P **P 12 51 38.6 +1.0**
baz=262
AFDM Forest Hills D 91.50 51 P **P 12 51 35.7 -2.5**
B05A Bryant 91.80 42 P **P 12 51 40.7 +1.4**
baz=263
J05D Fort Rock, OR 91.80 47 P **P 12 51 40.7 +1.1**
baz=263
I05D Terrebonne, OR 91.85 46 P **P 12 51 40.9 +1.2**
baz=263
PINE Pine Mountain 92.07 46 IAmb IAmb 12 51 43.7
comp=Z,14nm,1.2s
SYO Syowa Base 92.15 199⇑*i*P **P 12 51 41.0 +0.5**
PNTR Pine Nut 92.58 51 IAmb IAmb 12 51 45.8
comp=Z,8.9nm,1.1s
WAKR Walker 92.64 52 IAmb IAmb 12 51 46.1
comp=Z,12nm,1.5s
VES Vestal, Richgr 92.66 54 P **P 12 51 45.3 +1.7**
baz=264
PAHR Pah Rah Range 92.80 51 IAmb IAmb 12 51 47.5
comp=Z,6.9nm,1.0s
YERR Yerington 92.84 51 IAmb IAmb 12 51 46.8
comp=Z,9.2nm,1.4s
ISA Isabella, Lake 93.14 55 P **P 12 51 46.8 +0.9**
baz=265
ISA Isabella, Lake 93.14 55 IAmb IAmb 12 51 48.0
comp=Z,8.9nm,1.4s
HRA Herat 93.23 304 IAmb IAmb 12 51 46.6
comp=Z,13nm,1.1s
MWC Mount Wilson 93.35 56 IAmb IAmb 12 51 50.3
comp=Z,15nm,1.1s
TIN Tinemaha, Big 93.46 53 P **P 12 51 48.7 +1.3**
baz=265
EDW2 Edwards Air Fo 93.46 55 P **P 12 51 48.1 +0.7**
baz=265
NVAR Mina Array Bea 93.52 52 P **P 12 51 49.0 +1.2**
comp=Z,6.7nm,0.9s,baz=256,slow=5.4,SNR=35
NVAR LR LR 13 30 01.2
comp=Z,243nm,18.6s,baz=254,slow=33
CWC Cottonwood Cre 93.53 54 P **P 12 51 48.7 +1.0**
baz=265
C36M Paulatuk 93.55 21 P **P 12 51 46.9 +0.1**
baz=262
WVOR Wild Horse Val 93.62 48 IAmb IAmb 12 51 56.2
comp=Z,21nm,1.9s
G08A Pilot Rock 93.63 45 IAmb IAmb 12 51 53.5
comp=Z,8.1nm,1.2s
NV11 Mina Array Sit 93.64 52 IAmb IAmb 12 51 51.0
comp=Z,8.2nm,1.1s
B08A Colville Reser 93.65 42 IAmb IAmb 12 53 00.3
comp=Z,15nm,1.8s
E08A Dider Farm, El 93.67 44 IAmb IAmb 12 51 50.5
comp=Z,12nm,1.3s
LRMC Laurel Mtn Rad 93.77 55 P **P 12 51 50.2 +1.3**
baz=265
DAC Darwin (Calif) 93.91 54 IAmb IAmb 12 51 55.5
comp=Z,6.8nm,0.8s
MPMC Manual Prospec 93.97 54 P **P 12 51 51.1 +1.2**
baz=265
GSC Goldstone, Bar 94.47 55 P **P 12 51 53.9 +1.9**
baz=266
FURC Furnace Creek, 94.51 54 P **P 12 51 53.5 +1.5**
baz=266
MONP2 Monument Peak 94.61 58 P **P 12 51 55.0 +2.2**
baz=266
PFO Pinyon Flats O 94.63 57 P **P 12 51 54.8 +2.0**
baz=266
PFO Pinyon Flats O 94.63 57 P **P 12 51 55.8 +3.0**
PFO pmax pmax
comp=Z,4.0nm,0.9s
PFO Pinyon Flats O 94.63 57 P **P 12 51 55.8 +3.0**
TPFO Pinon Flats 94.63 57 P **P 12 51 55.2 +2.3**
baz=266
XPFO Pion Flat 94.63 57 P **P 12 51 55.8 +3.0**
SHOC Shoshone, Teco 94.94 55 P **P 12 51 55.8 +1.7**
baz=266
TPNV Topopah Spring 95.03 53 P **P 12 51 55.8 +1.1**
baz=266
BELC Belle Mtn. Jos 95.04 56 P **P 12 51 56.7 +2.0**
baz=266
NEW Newport 95.11 42 P **P 12 51 55.7 +1.1**
baz=267
NEW Newport 95.11 42 IAmb IAmb 12 51 58.2
comp=Z,8.5nm,1.1s
GMRC Granite Mounta 95.37 56 P **P 12 51 57.6 +1.4**
baz=266
R11A Troy Canyon, C 95.65 52 P **P 12 51 58.9 +1.5**
baz=267
SVE Sverdlovsk 95.84 326⇑*e*P **P 12 51 55.8 -1.9**
SVE pmax pmax
comp=Z,11nm,1.0s
SHPR Sheep Range 95.88 54 IAmb IAmb 12 52 01.4
comp=Z,7.6nm,1.3s
AB31 Akbulak array 95.95 319 *i*P **P 12 51 56.2 -2.1**
AB31 pmax pmax
comp=Z,4.0nm,0.9s
Y12C Blythe 96.25 57 P **P 12 52 02.7 +2.7**
baz=267
GEYT Alibeck 96.80 307 P **P 12 52 01.4 -1.2**
comp=Z,1.1nm,0.4s,baz=98,slow=6.0,SNR=4.6
GEYT LR LR 13 38 41.1
comp=Z,36nm,19.3s,baz=45,slow=37
YKA Yellowknife Ar 96.97 28 P **P 12 52 02.9 +0.3**
comp=Z,2.7nm,0.8s,baz=272,slow=4.8,SNR=28
YKA PKKP **PKKPbc 13 08 44.4 -1.7**
comp=Z,0.3nm,0.4s,baz=83,slow=2.9,SNR=7.9
ARU Arti 96.98 326*d i*P **P 12 52 00.1 -2.7**
ARU 12 55 54.0
ARU S **SKSac 13 02 32.1 -3.8**
ARU pmax pmax
comp=Z,15nm,1.1s
ARU Arti 96.98 326 P **P 12 52 00.8 -2.0**
ARU IAmb IAmb 12 52 01.8
comp=Z,11nm,0.9s
MSO Missoula 97.20 44 P Pdif 12 52 07.1 +2.7
baz=269
EGMT Eagleton 100.04 42 P **Pdif 12 52 18.6 +1.7**

baz=272
PDAR **Pinedale Array** 100.33 48 P Pdif 12 52 18.4 -0.1
comp=Z,0.9nm,0.8s,baz=241,slow=1.7,SNR=6.5
PRGR **Permogore** 103.13 332 eP Pdif 12 52 27.3 -2.9
PRGR pmax pmax
comp=Z,5.0nm,0.4s
FINES **FINESS Array B** 111.93 335 Pdiff Pdif 12 53 07.9 -1.4
comp=Z,3.1nm,1.0s,baz=101,slow=1.4,SNR=3.7
BRTR **Keskin Array B** 115.59 311 PKP PKiKP 12 57 13.6 -0.3
comp=Z,0.4nm,0.4s,baz=156,slow=3.1,SNR=3.0
NOA **NORSAR Array B** 117.89 340 PKP PKPdf 12 57 17.3 -0.2
comp=Z,1.0nm,0.8s,baz=41,slow=1.6,SNR=3.2
BIZ **Bicaz** 118.48 321 ⇑P PKiKP 12 57 19.6 +0.5
PLOR **Plostina** 118.56 320 ⇑P PKiKP 12 57 40.2 +21
BISRR **Bisoca** 118.64 319 ⇑P PKiKP 12 57 26.6 +7.1
BURAR **Bucovina Array** 118.76 322 ⇑PKiKP PKiKP 12 57 26.2 +6.5
BURAR **Bucovina Array** 118.76 322 ⇑P PKiKP 12 57 26.2 +6.5
MLR **Muntele Rosu** 119.16 319 ⇑PKiKP PKPdf 12 57 20.4 -0.2
MLR **Muntele Rosu** 119.16 319 ⇑P PKPdf 12 57 20.4 -0.2
VOIR 119.76 320 ⇑PKiKP PKPdf 12 57 21.7 0.0
VOIR 119.76 320 ⇑P PKPdf 12 57 21.7 0.0
KOLS **Kolonicke sedl** 119.93 324 ePKiKP PKiKP 12 57 22.4 +0.5
KOLS **Kolonicke sedl** 119.93 324 ePKP PKiKP 12 57 22.4 +0.5
ARR **Arges** 120.06 320 ⇑P PKiKP 12 57 23.8 +1.5
PLVB **Pleven** 120.86 318 ⇑P PKiKP 12 57 24.2 +0.3
BZS **Buzias** 121.86 321 ⇑PKiKP PKPdf 12 57 25.4 -0.2
BZS **Buzias** 121.86 321 ⇑P PKPdf 12 57 25.4 -0.2
VTS **Vitosha** 122.09 317 ⇑PKiKP PKPdf 12 57 26.4 +0.1
VTS **Vitosha** 122.09 317 ⇑P PKPdf 12 57 26.4 +0.1
MORC **Moravsky Berou** 122.17 327 ⇑PKiKP PKPdf 12 57 26.2 +0.1
MORC **Moravsky Berou** 122.17 327 ⇑P PKPdf 12 57 26.2 +0.1
SCHQ **Schefferville** 122.32 25 PKP PKPdf 12 57 25.6 -0.6
comp=Z,3.0nm,0.8s,baz=225,slow=5.2,SNR=4.0
CHVC **Chvalec** 122.51 328 ePKPDF PKiKP 12 57 27.2 +0.3
BRG **Berggiesshubel** 123.42 330 ePKP PKiKP 12 57 28.9 +0.2
comp=Z,15nm,1.5s
CLL **Collm** 123.63 330 ePKIKP PKPdf 12 57 28.0 -0.8
CLL **Collm** 123.63 330 ePKPdf PKPdf 12 57 28.0 -0.8
PRU **Pruhonice** 123.65 328 ePKIKP PKPdf 12 57 29.0 +0.1
PRU **Pruhonice** 123.65 328 ePKPDF PKPdf 12 57 29.0 +0.1
KHC **Kasperske Hory** 124.66 328 ePKIKP PKiKP 12 57 31.3 +0.1
KHC *e* 12 57 36.3
KHC **Kasperske Hory** 124.66 328 ePKPDF PKiKP 12 57 31.3 +0.1
KHC *ep*PKP PKPdf 12 57 36.3 +5.4
GERES **GERESS Array B** 124.77 328 PKP PKPdf 12 57 31.1 -0.1
comp=Z,2.0nm,0.8s,baz=74,slow=1.9,SNR=12
WTTA **Wattenberg** 126.83 327 *i* PKiKP PKPdf 12 57 35.3 0.0
comp=Z,10nm,1.1s
MOTA **Moosalm** 127.06 327 *i* PKiKP PKPdf 12 57 35.1 -0.6
comp=Z,13nm,1.5s
SQTA **Sankt Quirin** 127.08 327 *i* PKiKP PKPdf 12 57 35.5 -0.3
comp=Z,11nm,1.0s
FETA **Feichten** 127.46 327 *i* PKiKP PKiKP 12 57 36.9 -0.1
comp=Z,11nm,1.2s
MNMC **Minye Minye** 131.94 122 PKiKP 12 57 47.1 +0.1
LPAZ **La Paz** 134.46 120 PKIKP PKiKP 12 57 52.4 -0.1
LPAZ **La Paz** 134.46 120 PKP PKiKP 12 57 52.0 -0.6
comp=Z,4.4nm,0.9s,baz=230,slow=2.6,SNR=11
LPAZ **La Paz** 134.46 120 PKiKP 12 57 52.4 -0.1
CPUP **Villa Florida** 136.97 140 PKP PKPdf 12 57 55.1 +0.3
comp=Z,1.5nm,0.6s,baz=195,slow=2.3,SNR=6.0
SDV **Santo Domingo** 137.65 84 PKPdf 12 57 56.1 -0.5
TOA0 **Torodi Ar. Sit** 149.94 286 PKPbc 12 58 21.8 -0.9
TORD **Torodi Ar. Bea** 149.94 286 PKPbc PKPbc 12 58 22.2 -0.4
comp=Z,15nm,0.8s,baz=61,slow=2.3,SNR=54
BDFB **Brasilia** 150.65 138 PKPbc PKPbc 12 58 24.4 -0.1
comp=Z,11nm,0.9s,baz=187,slow=3.6,SNR=9.5
BDFB **Brasilia** 150.65 138 PKiKP 12 58 24.9 -0.2
KIC **Kosan Boka** 156.89 272 eP PKPab 12 58 57.5 -0.3
comp=Z,17nm,0.9s
DBIC **Dimbokro** 157.00 273 PKPab PKPab 12 58 57.9 -0.4
comp=Z,5.3nm,0.8s,baz=94,slow=4.7,SNR=5.8
TIC **Toumodi** 157.17 273 eP PKPab 12 58 58.7 -0.3
LIC **Lamto** 157.17 271 eP PKPab 12 58 59.4 +0.4
comp=Z,4.5nm,0.3s

IDC ***26*** *12:42:50.8±0.9, 49.69°S×115.21°W, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/25, mbtmp3.9/6, MS3.7/6, Ms1 3.8/6, ms1mx3.5/19, Error ellipse: s-maj=32.5km s-min=27.6km az=146.0*

ISCJB ***26*** *12:42:52.6±0.9, 49.7°S±0.2°×115.0°W±0.3°, h22km, mb3.9/6, MS3.8/10, Error ellipse: s-maj=29.3km s-min=22.3km az=41.6*

ISC 26 12:42:54.0±0.9, 49.7°S±0.2°×115.1°W±0.2, h22km, n26, σ0s66/9, mb4.0/6, MS3.8/10, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USHA	**Ushuaia**	**28.61**	**118**	LR	LR	12 56 25.2	
	comp=Z,189nm,20.1s,baz=254,slow=28						
TBI	**Tubuai**	**37.57**	**302**	*e*LR	LR	13 00 23.1	
	comp=Z,166nm,26.0s						
CFA	**Coronel Fontan**	**39.18**	**80**	P	**P**	**12 50 19.9**	**-0.3**
	2.5nm,0.8s,baz=236,slow=7.7,SNR=4.8						
QSPA	**South Pole Qui**	**40.51**	**180**	P	**P**	**12 50 31.3**	**+0.3**
	2.3nm,1.0s,baz=144,slow=2.1,SNR=5.7						
PPT2	**Papete2**	**42.33**	**307**	*e*LR	LR	13 02 31.4	
	comp=Z,335nm,26.0s						
TAOE	**Nuku Hiva Isla**	**45.74**	**324**	*e*LR	LR	13 04 09.0	
	comp=Z,240nm,26.1s						
CPUP	**Villa Florida**	**49.77**	**84**	P	**P**	**12 51 44.6**	**-0.1**
	1.1nm,0.6s,baz=235,slow=12,SNR=3.4						
CPUP				LR	LR	13 09 14.2	
	comp=Z,102nm,20.5s,baz=232,slow=32						
LPAZ	**La Paz**	**50.42**	**66**	LR	LR	13 07 59.1	
	comp=Z,44nm,18.8s,baz=251,slow=30						
BDFB	**Brasilia**	**62.45**	**83**	LR	LR	13 18 10.4	
	comp=Z,42nm,19.6s,baz=87,slow=33						
ROSC	**El Rosal**	**64.79**	**46**	LR	LR	13 16 50.6	
	comp=Z,38nm,20.4s,baz=144,slow=32						
DZM	**Mont Dzumac**	**66.10**	**264**	*e*LR	LR	13 13 40.5	
	comp=Z,103nm,22.7s						
TXAR	**Lajitas Array**	**79.33**	**10**	P	**P**	**12 54 58.7**	**+1.0**
	0.8nm,0.9s,baz=198,slow=7.6,SNR=4.9						
ASAR	**Alice Springs**	**94.80**	**239**	P	**P**	**12 55 26.4**	**-0.4**
	0.7nm,0.3s,baz=131,slow=4.3,SNR=5.5						
H01W1	**Cape Leeuwin H**	**85.13**	**219**	T	T	14 30 36.0	
	baz=150,slow=76,SNR=6.4						
H01W2	**Cape Leeuwin H**	**85.13**	**219**	T	T	14 30 34.3	
	baz=150,slow=76,SNR=6.1						
H01W3	**Cape Leeuwin H**	**85.14**	**219**	T	T	14 30 36.4	
	baz=150,slow=76,SNR=6.3						
PDAR	**Pinedale Array**	**92.21**	**4**	P	**P**	**12 56 01.1**	**-0.5**
	0.7nm,0.9s,baz=177,slow=4.5,SNR=4.3						
PDAR				LR	LR	13 30 16.1	
	comp=Z,126nm,18.3s,baz=288,slow=31						
H11S2	**WAKE ISLAND Hy**	**96.50**	**291**	T	T	14 44 01.1	
	baz=140,slow=76,SNR=47						
H11S3	**WAKE ISLAND Hy**	**96.51**	**291**	T	T	14 44 03.2	
	baz=140,slow=76,SNR=41						
H11S1	**WAKE ISLAND Hy**	**96.52**	**291**	T	T	14 44 03.0	
	baz=140,slow=76,SNR=31						
H11N3	**WAKE ISLAND Hy**	**97.31**	**292**	T	T	14 45 03.2	
	baz=141,slow=76,SNR=9.8						
H11N1	**WAKE ISLAND Hy**	**97.32**	**292**	T	T	14 45 03.2	
	baz=141,slow=76,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**97.33**	**292**	T	T	14 45 03.2	
	baz=141,slow=76,SNR=8.5						
GERES	**GERESS Array B**	**147.14**	**71**	PKPbc	**PKPab**	**13 02 35.6**	**-0.6**
	1.4nm,0.8s,baz=194,slow=4.8,SNR=4.5						
BRTR	**Keskin Array B**	**155.84**	**102**	PKPab	**PKPab**	**13 03 13.5**	**+0.8**
	0.6nm,0.8s,baz=197,slow=3.0,SNR=2.6						
ZALV	**Zalesovo Beam**	**166.95**	**297**	PKPab	**PKPab**	**13 04 00.5**	**-0.1**
	0.2nm,0.3s,baz=58,slow=3.8,SNR=2.9						

IDC 26 13:06:59.0±2.2, 6.49°S×128.89E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.3/42, mbtmp3.3/3, ML2.9/2, Error ellipse: s-maj=154.1km s-min=31.5km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.38**	**159**	Pn	Pn	13 10 22.7	-1.3
	0.1nm,0.3s,baz=341,slow=12,SNR=3.1						
WRA				Sn	Sn	13 12 47.2	-17
	0.1nm,0.3s,baz=348,slow=23,SNR=4.2						
ASAR	**Alice Springs**	**17.74**	**165**	P	P	13 11 08.4	-0.2
	0.1nm,0.3s,baz=344,slow=11,SNR=7.2						
MKAR	**Makanchi Array**	**67.20**	**327**	P	P	13 17 55.1	0.0
	0.3nm,0.4s,baz=120,slow=6.8,SNR=7.1						

ISCJB ***26*** *13:45:03.4±0.6, 55.83°S±0.08°×168.9°W±0.2, h10km, mb4.0/6, Error ellipse: s-maj=16.5km s-min=8.7km az=142.9*

IDC ***26*** *13:45:04.5±0.9, 55.83°S×168.74°W, h0km, mb4.0/6, mb1 4.2/7, mb1mx4.0/24, mbtmp4.1/7, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/17, Error ellipse: s-maj=38.2km s-min=20.3km az=42.0*

NEIC ***26*** *13:45:06.2±2.6, 55.8°S±0.1°×168.8°W±0.2, h15km±2km, mb4.4/19*

ISC 26 13:45:05.4±0.6, 55.8°S±0.1°×168.9°W±0.1, h10km, n32, σ1s13/28, mb4.3/9, South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ODZ	**Otahua Downs**	**16.86**	**301**	Pn	**Pn**	**13 49 02.3**	**+1.0**
ODZ				IAmb	IAmb	13 49 04.4	
	comp=Z,27nm,1.2s						
RPZ	**Rata Peaks**	**17.66**	**305**	P	**P**	**13 49 13.8**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=142,slow=19,SNR=2.7						
RPZ	**Rata Peaks**	**17.66**	**305**	IAmb	IAmb	13 49 16.0	
	comp=Z,49nm,1.5s						
SNZO	**South Karori**	**18.07**	**317**		**Pn**	**13 49 14.5**	**-1.8**
URZ	**Urewera**	**19.93**	**326**	LR	LR	13 56 03.8	
	comp=Z,51nm,20.3s,baz=24,slow=33						
VNDA	**Vanda**	**24.08**	**195**	P	**P**	**13 50 18.7**	**-1.8**
TAU	**Tasmania Unive**	**30.76**	**276**	P	**P**	**13 51 19.3**	**-1.3**
QSPA	**South Pole Qui**	**34.29**	**180**	P	**P**	**13 51 53.2**	**+1.6**
	comp=Z,2.0nm,0.7s,baz=57,slow=6.0,SNR=22						
QSPA	**South Pole Qui**	**34.29**	**180**	P	**P**	**13 51 52.9**	**+1.3**
QSPA				IAmb	IAmb	13 52 00.9	
	comp=Z,10nm,1.4s						
TOO	**Toolangi**	**35.43**	**282**	P	**P**	**13 52 00.8**	**-0.6**
NIUE	**Niue**	**36.71**	**358**	P	**P**	**13 52 11.0**	**-1.5**
CASY	**Casey**	**37.58**	**221**	P	**P**	**13 52 18.1**	**-1.3**
ARMA	**Armidale**	**37.62**	**296**	P	**P**	**13 52 20.1**	**-0.1**
ARMA				IAmb	IAmb	13 52 21.8	
	comp=Z,20nm,1.4s						
AFI	**Afiamalu**	**41.90**	**356**	P	**P**	**13 52 55.4**	**-0.6**
EIDS	**Eidsvold**	**42.04**	**300**	P	**P**	**13 52 56.3**	**-0.7**
EIDS				IAmb	IAmb	13 53 00.5	
	comp=Z,12nm,1.5s						
VNA3	**Neumayer Olymp**	**52.37**	**172**	P	**P**	**13 54 16.9**	**-0.1**
SNAA	**Sanae**	**52.41**	**174**	P	**P**	**13 54 17.2**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=210,slow=7.8,SNR=6.2						
SNAA	**Sanae**	**52.41**	**174**	IAmb	IAmb	13 54 18.7	
	comp=Z,4.0nm,1.0s						
AS31	**Alice Springs**	**52.43**	**283**	P	**P**	**13 54 18.9**	**+0.8**
ASAR	**Alice Springs**	**52.43**	**283**	P	**P**	**13 54 19.1**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=137,slow=6.3,SNR=33						
ASAR				PcP	**PcP**	**13 55 28.8**	**0.0**
	comp=Z,0.2nm,0.7s,baz=136,slow=3.7,SNR=2.7						
VNA2	**Neumayer--Watz**	**52.85**	**172**	P	**P**	**13 54 20.4**	**-0.1**
	baz=203,slow=8.2						
GO09	**Cerro Castillo**	**52.99**	**129**	P	**P**	**13 54 21.0**	**-0.8**
WR0	**Warramunga Arr**	**55.07**	**287**	P	**P**	**13 54 38.4**	**+1.0**
WR0				IAmb	IAmb	13 54 46.9	
	comp=Z,9.4nm,1.4s						
WRA	**Warramunga Arr**	**55.19**	**287**	P	**P**	**13 54 39.0**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=143,slow=6.4,SNR=7.4						
FITZ	**Fitzroy Crossi**	**14.46**	**280**	P	**P**	**13 55 23.1**	**+1.0**
CPUP	**Villa Florida**	**79.74**	**122**	P	**P**	**13 57 13.1**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=226,slow=3.2,SNR=4.5						
CPUP	**Villa Florida**	**79.74**	**122**	IAmb	IAmb	13 57 13.9	
	comp=Z,1.5nm,0.9s						
LPAZ	**La Paz**	**82.59**	**108**	P	**P**	**13 57 30.4**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=225,slow=2.9,SNR=4.5						
LPAZ	**La Paz**	**82.59**	**108**	IAmb	IAmb	13 57 31.6	
	comp=Z,2.0nm,0.9s						
ILAR	**Eielson Array**	**121.45**	**11**	PKP	**PKPdf**	**14 03 57.9**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=226,slow=1.6,SNR=10						
NRIK	**Noril'sk**	**144.97**	**323**	PKPbc	**PKPab**	**14 04 41.7**	**+1.3**
	comp=Z,1.0nm,0.4s,baz=63,slow=6.8,SNR=3.5						
BVAR	**Borovoye Array**	**146.31**	**291**	PKPbc	**PKPdf**	**14 04 45.5**	**+1.6**
	comp=Z,2.8nm,0.9s,baz=146,slow=2.8,SNR=11						

ISCJB ***26*** *13:52:11.3±0.5, 60.02°S±0.07°×47.2°W±0.1, h10km, mb3.9/6, Error ellipse: s-maj=10.9km s-min=7.7km az=136.0*

IDC ***26*** *13:52:12.3±1.0, 60.17°S×46.97°W, h0km, mb4.0/6, mb1 4.0/6, mb1mx3.8/19, mbtmp4.0/6, MS2.9/1, Ms1 2.9/1, ms1mx2.6/16, Error ellipse: s-maj=34.0km s-min=23.9km az=43.0*

NEIC ***26*** *13:52:13.2±2.4, 60.04°S±0.08°×47.2°W±0.2, h10km±1km, mb4.6/15*

ISC 26 13:52:13.6±0.6, 60.02°S±0.08°×47.28°W±0.09, h10km, n29, σ1s47/24, mb4.4/11, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**8.21**	**50**	P	**Pn**	**13 54 12.4**	**-0.2**
PMSA	**Palmer Station**	**9.11**	**231**	LR	LR	13 57 41.3	
	comp=Z,83nm,20.7s,baz=104,slow=36						
PMSA	**Palmer Station**	**9.11**	**231**	Pn	**Pn**	**13 54 24.8**	**-0.1**
EFI	**East Falkland**	**10.32**	**319**	Sn	**Sn**	**13 56 39.3**	**+2.2**
GO09	**Cerro Castillo**	**16.54**	**291**	Pn	**Pn**	**13 56 05.4**	**0.0**
GO09				IAmb	IAmb	13 56 13.5	
	comp=Z,62nm,1.5s						
SNAA	**Sanae**	**20.97**	**142**	P	**P**	**13 56 58.1**	**+1.6**
	comp=Z,3.6nm,0.9s,baz=283,slow=12,SNR=5.7						
SNAA	**Sanae**	**20.97**	**142**	IAmb	IAmb	13 56 58.9	
	comp=Z,4.8nm,0.9s						
TRQA	**Tornquist**	**23.89**	**330**	P	**P**	**13 57 27.2**	**0.0**
TRQA				IAmb	IAmb	13 58 23.1	
	comp=Z,57nm,1.8s						
PLCA	**Paso Flores**	**24.12**	**313**	P	**P**	**13 57 30.6**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=180,slow=6.1,SNR=3.1						
PLCA	**Paso Flores**	**24.12**	**313**	IAmb	IAmb	13 57 56.7	
	comp=Z,27nm,1.9s						
GO05	**Huala**	**29.71**	**316**	P	**P**	**13 58 18.5**	**-1.1**
QSPA	**South Pole Qui**	**30.22**	**180**	P	**P**	**13 58 23.4**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=188,slow=3.0,SNR=6.0						
QSPA	**South Pole Qui**	**30.22**	**180**	IAmb	IAmb	13 58 58.4	
	comp=Z,14nm,1.6s						
PB10	**IPOC Station P**	**39.96**	**326**	P	**P**	**13 59 45.6**	**-2.4**
PB10				IAmb	IAmb	13 59 47.4	
	comp=Z,11nm,1.0s						
LVC	**Limon Verde**	**40.37**	**328**	P	**P**	**13 59 49.1**	**-2.7**
VNDA	**Vanda**	**41.53**	**189**	P	**P**	**13 59 59.5**	**-0.9**
VNDA				IAmb	IAmb	14 00 10.2	
	comp=Z,22nm,1.9s						
MAW	**Mawson**	**42.91**	**148**	P	**P**	**14 00 13.9**	**+2.2**
SIV	**San Ignacio**	**45.10**	**341**	P	**P**	**14 00 32.2**	**+2.3**
	comp=Z,0.9nm,0.7s,baz=154,slow=8.2,SNR=6.0						
SUR	**Sutherland**	**51.72**	**90**	P	**P**	**14 01 20.5**	**-0.5**
	comp=Z,5.1nm,0.9s,baz=189,slow=7.6,SNR=5.9						
SUR	**Sutherland**	**51.72**	**90**	P	**P**	**14 01 19.3**	**-1.7**
SAML	**Samuel**	**52.35**	**340**	P	**P**	**14 01 25.8**	**+0.2**
SAML				IAmb	IAmb	14 01 38.1	
	comp=Z,7.9nm,1.6s						
RCBR	**Riachuelo**	**54.76**	**14**	P	**P**	**14 01 43.2**	**0.0**
RCBR				IAmb	IAmb	14 02 14.8	
	comp=Z,15nm,0.9s						
BOSA	**Boshof**	**57.01**	**91**	P	**P**	**14 01 57.9**	**-1.5**
	comp=Z,2.1nm,1.0s,baz=198,slow=6.4,SNR=3.2						
BOSA	**Boshof**	**57.01**	**91**	IAmb	IAmb	14 03 34.2	
	comp=Z,33nm,1.8s						
LBTB	**Lobatse**	**60.14**	**89**	P	**P**	**14 02 19.6**	**-1.7**
TORD	**Torodi Ar. Bea**	**82.78**	**48**	P	**P**	**14 04 38.4**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=219,slow=5.2,SNR=3.1						
ILAR	**Eielson Array**	**144.81**	**313**	PKPbc	**PKPdf**	**14 11 48.6**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=144,slow=1.9,SNR=16						
BVAR	**Borovoye Array**	**146.10**	**74**	PKPbc	**PKPdf**	**14 11 51.8**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=229,slow=4.5,SNR=8.4						
MKAR	**Makanchi Array**	**148.01**	**91**	PKPbc	**PKPdf**	**14 11 56.3**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=216,slow=3.0,SNR=7.7						

ISCJB ***26*** *14:13:29.6±0.8, 5.83°N±0.04°×77.66°W±0.06, h17km, mb3.4/2, Error ellipse: s-maj=8.3km s-min=6.3km az=179.6*

RSNC ***26*** *14:13:29.4±1.4, 5.73°N×77.58°W, h0km±17km, ML2.7, Mw3.3*

IDC ***26*** *14:13:38.4±5.4, 6.00°N×77.57°W, h74km±48km, mb3.0/2, mb1 3.3/3, mb1mx3.0/22, mbtmp3.4/3, ML2.3/1, Error ellipse: s-maj=61.8km s-min=43.3km az=50.0*

ISC 26 14:13:30.5±1.0, 5.85N±0.05°×77.64W±0.07, h17km, n24, σ1s53/28, 2C, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOLC	**Bahia Solano**	**0.44**	**311⇑**	*e*P	**Pg**	**14 13 39.2**	**-0.2**
SOLC				*e*S	**Sb**	**14 13 47.3**	**+1.2**
SOLC				*i*		14 13 51.2	
	comp=Z,3μm,0.4s						

PTAC	**Punta Ardita,**	**1.30**	**352**	*e*P	**Pn**	**14 13 53.1**	**-0.8**
PTAC				*i*		14 14 17.5	
	comp=Z,468nm,0.3s						
CBOC	**Ciudad Bolivar**	**1.62**	**89**	*e*P	**Pn**	**14 13 56.2**	**-2.2**
CBOC				*e*S	**Sn**	**14 14 16.6**	**-2.3**
CBOC				*i*		14 14 25.4	
	comp=Z,114nm,0.7s						
PLMC	**San Jos del P**	**1.64**	**125**	*e*P	**Pn**	**14 13 56.2**	**-2.4**
PLMC				*i*		14 14 36.3	
	comp=Z,99nm,1.1s						
DBBC	**Dabeiba**	**1.83**	**51**	*e*P	**Pn**	**14 14 00.8**	**-0.5**
DBBC				*i*		14 14 33.2	
	comp=Z,119nm,0.7s						
HELC	**Santa Helena**	**2.12**	**81⇑**	*e*P	**Pn**	**14 14 04.8**	**-0.7**
HELC				*e*S	**Sn**	**14 14 31.9**	**+0.2**
HELC				*i*		14 14 37.2	
	comp=Z,25nm,0.5s						
HELC				*i*		14 14 40.0	
	comp=Z,58nm,0.9s						
YOTC	**Yotoco, Valle**	**2.26**	**145**	*e*P	**Pn**	**14 14 05.2**	**-1.9**
YOTC				*i*		14 14 49.0	
	comp=Z,16nm,1.1s						
GUY2C	**Guyana, Caldas**	**2.34**	**105**	*e*P	**Pn**	**14 14 08.0**	**-0.6**
GUY2C				*i*		14 14 44.1	
	comp=Z,35nm,0.6s						
RREF	**El Recreo**	**2.47**	**112**	*e*P	**Pn**	**14 14 10.7**	**+0.2**
RREF				*i*		14 14 56.7	
	comp=Z,50nm,1.1s						
TOLC	**Tolima**	**2.63**	**118**	*e*P	**Pn**	**14 14 13.6**	**+1.2**
TOLC				*i*		14 14 56.4	
	comp=Z,12nm,0.7s						
NORC	**Norcasia**	**2.77**	**96**	*e*P	**Pn**	**14 14 15.4**	**+1.2**
NORC				*e*S	**Sn**	**14 14 48.5**	**+1.2**
NORC				*i*		14 14 59.4	
	comp=Z,37nm,1.0s						
UREC	**San Jos de Ur**	**2.82**	**48**	*e*P	**Pn**	**14 14 15.4**	**+0.6**
UREC				*i*		14 15 12.5	
	comp=Z,22nm,0.7s						
ORTC	**Ortega, Tolima**	**3.06**	**129**	*e*P	**Pn**	**14 14 19.0**	**+0.7**
ORTC				*i*		14 15 09.7	
	comp=Z,18nm,0.6s						
PTBC	**PUERTO BERRIO,**	**3.23**	**78**	*e*P	**Pn**	**14 14 21.4**	**+0.9**
PTBC				*i*		14 15 16.6	
	comp=Z,26nm,0.9s						
POPC	**Popayan, Colom**	**3.42**	**164**	*e*P	**Pn**	**14 14 25.6**	**+2.3**
POPC				*i*		14 15 26.2	
	comp=Z,4.1nm,1.6s						
ROSC	**El Rosal**	**3.45**	**107**	*e*S	**Pb**	**14 14 30.4**	**-1.0**
ROSC				*i*		14 14 35.2	
	comp=Z,25nm,0.6s						
ROSC	**El Rosal**	**3.45**	**107**	P	**Pb**	**14 14 29.6**	**-1.8**
	comp=Z,5.6nm,0.3s,baz=248,slow=19,SNR=10						
SOTA	**Rioblanco**	**3.83**	**164**	*e*P	**Pn**	**14 14 29.7**	**+0.6**
SOTA				*i*		14 15 41.1	
	comp=Z,10nm,0.8s						
CHIC	**Chingaza**	**4.07**	**107**	*e*P	**Pn**	**14 14 35.2**	**+2.8**
CHIC				*i*		14 16 09.8	
	comp=Z,13nm,2.6s						
BARC	**Barichara**	**4.49**	**80**	*e*P	**Pn**	**14 14 39.5**	**+1.5**
BARC				*i*		14 15 52.2	
	comp=Z,48nm,1.1s						
RUSC	**La Rusia**	**4.53**	**89**	*e*S	**Pn**	**14 14 41.7**	**+2.9**
RUSC				*i*		14 15 18.1	
	comp=Z,10nm,0.7s						
YKA	**Yellowknife Ar**	**62.70**	**342**	P	**P**	**14 23 54.3**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=125,slow=8.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**78.33**	**78**	P	**P**	**14 25 31.1**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=271,slow=7.0,SNR=2.1						
ASAR	**Alice Springs**	**144.87**	**236**	PKPbc	**PKPab**	**14 33 06.6**	**-0.1**
	comp=Z,0.1nm,0.6s,baz=118,slow=3.9,SNR=6.1						

NEIC ***26*** *14:30:07.0±1.8, 46.3°S±0.1°×96.5°E±0.2, h10km±1km, mb4.4/16*

IDC ***26*** *14:30:08.9±1.0, 46.28°S×96.15E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/33, mbtmp3.9/7, MS4.0/14, Ms1 4.0/14, ms1mx3.7/24, Error ellipse: s-maj=36.0km s-min=19.1km az=116.0*

ISC 26 14:30:11.1±0.8, 46.6°S±0.1°×97.3E±0.2, h10km, n54, σ1s89/35, mb4.3/17, MS3.9/14, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**17.24**	**53**	T	T	14 52 30.6	
	baz=224,slow=74,SNR=44						
H01W3	**Cape Leeuwin H**	**17.25**	**53**	T	T	14 52 25.6	
	baz=224,slow=74,SNR=69						
H01W1	**Cape Leeuwin H**	**17.25**	**53**	T	T	14 52 22.5	
	baz=224,slow=74,SNR=47						
NWAO	**Narrogin (SRO)**	**20.43**	**55**	LR	LR	14 40 53.3	
	comp=Z,619nm,21.5s,baz=237,slow=31						
NWAO	**Narrogin (SRO)**	**20.43**	**55**	P	**P**	**14 34 47.7**	**-0.7**
NWAO				IAmb	IAmb	14 34 50.0	
	comp=Z,19nm,1.4s						
NWAO	**Narrogin (SRO)**	**20.43**	**55**	P	**P**	**14 34 48.5**	**+0.1**
NWAO				IAmb	IAmb	14 34 50.0	
	comp=Z,25nm,1.4s						
CASY	**Casey**	**20.96**	**165**	P	**P**	**14 34 54.5**	**+0.5**
CASY				IAmb	IAmb	14 35 05.5	
	comp=Z,18nm,1.3s						
MORW	**Morawa**	**22.80**	**46**	P	**P**	**14 35 11.2**	**-2.8**
MORW				IAmb	IAmb	14 35 13.4	
	comp=Z,13nm,1.4s						
GIRL	**Giralia**	**27.52**	**36**	P	**P**	**14 35 56.

PSI	**Prapat**	**49.19**	**2**	LR	LR	14 57 18.1	
	comp=Z,93nm,18.4s,baz=192,slow=33						
SNAA	**Sanae**	**49.58 204**		P	**P**	**14 39 00.7**	**-1.2**
SNAA	**Sanae**	**49.58 204**		P	**P**	**14 39 00.6**	**-1.3**
	comp=Z,1.7nm,0.7s,baz=127,slow=10,SNR=12						
SNAA	**Sanae**	**49.58 204**		P	**P**	**14 38 59.3**	**-2.6**
SNAA				IAmb	IAmb	14 39 08.2	
	comp=Z,6.2nm,1.1s						
COEN	**Coen**	**50.21**	**65**	P	**P**	**14 39 06.0**	**-1.3**
COEN				IAmb	IAmb	14 39 16.9	
	comp=Z,11nm,1.4s						
VNA2	**Neumayer--Watz**	**51.23 204**		P	**P**	**14 39 13.0**	**-1.2**
	baz=101,slow=6.3						
VNA3	**Neumayer Olymp**	**51.69 203**		P	**P**	**14 39 16.6**	**-1.2**
BOSA	**Boshof**	**57.88 261**		LR	LR	14 58 58.7	
	comp=Z,180nm,20.9s,baz=200,slow=30						
CMAR	**Chiang Mai Arr**	**64.75**	**2**	P	**P**	**14 40 47.6**	**-2.0**
	comp=Z,0.9nm,0.8s,baz=202,slow=3.9,SNR=6.7						
CMAR				LR	LR	15 04 27.3	
	comp=Z,73nm,21.2s,baz=184,slow=32						
RAMN	**Ramite**	**73.83 350**		*eP*	**P**	**14 41 48.4**	**+2.5**
	comp=Z,14nm,0.9s						
TAPN	**Taplejung**	**74.10 351**		*eP*	**P**	**14 41 49.3**	**+1.7**
	comp=Z,16nm,1.1s						
JIRN	**Jiri**	**74.58 350**		*eP*	**P**	**14 41 53.0**	**+2.5**
PKIN	**Phulchoki**	**74.59 349**		*eP*	**P**	**14 41 52.3**	**+1.8**
DMN	**Daman**	**74.67 349**		*eP*	**P**	**14 41 53.1**	**+2.3**
	comp=Z,12nm,0.9s						
KKN	**Kakani**	**74.82 349**		*eP*	**P**	**14 41 53.5**	**+1.8**
GUN	**Gumba**	**74.86 350**		*eP*	**P**	**14 41 54.3**	**+2.2**
	comp=Z,25nm,0.9s						
KOLN	**Koldanda**	**75.04 347**		*eP*	**P**	**14 41 55.0**	**+2.1**
	comp=Z,20nm,1.0s						
GKN	**Gorkha**	**75.12 348**		*eP*	**P**	**14 41 55.3**	**+2.0**
DANN	**Dangsing**	**75.58 348**		*eP*	**P**	**14 41 57.9**	**+1.7**
	comp=Z,19nm,0.9s						
PPT	**Papeete**	**92.35 119**		LR	LR	15 18 45.9	
	comp=Z,43nm,18.6s,baz=220,slow=31						
PLCA	**Paso Flores**	**92.40 189**		LR	LR	15 25 53.3	
	comp=Z,42nm,18.7s,baz=169,slow=36						
SONM	**Songino Array**	**94.37**	**6**	LR	LR	15 25 57.3	
	comp=Z,37nm,19.3s,baz=314,slow=36						
INK	**Inuvik**	**146.52**	**32**	PKPbc	**PKPdf**	**14 49 49.7**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=227,slow=4.5,SNR=3.4						
NVAR	**Mina Array Bea**	**152.69**	**94**	PKPbc	**PKiKP**	**14 50 10.2**	**+2.1**
	comp=Z,1.7nm,1.0s,baz=224,slow=2.5,SNR=4.1						
TXAR	**Lajitas Array**	**156.24 129**		PKPab	**PKPab**	**14 50 36.5**	**+2.7**
	comp=Z,0.5nm,0.9s,baz=224,slow=3.8,SNR=4.5						

*ISCJB **26** 14:40:25.0±0.9,20.°55N±0.°09×145.°5E±0.°3,h81km, mb3.9/8, Error ellipse: s-maj=43.4km s-min=13.0km az=177.0*
*IDC **26** 14:40:28.3±4.2,20.°52N×145.°51E,h94km±37km,mb3.5/8, mb1 3.7/9,mb1mx3.4/50,mbtmp3.9/9, Error ellipse: s-maj=47.6km s-min=17.0km az=84.0*
ISC 26 14:40:26.8±1.0,20.°68N±0.°08×145.°6E±0.°3,h81km,n9, α2ᵒ15/12,mb3.8/8,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**7.09 186**		P	**Pn**	**14 42 06.9**	**-1.1**
	5.1nm,0.3s,baz=19,slow=18,SNR=2.3						
GUMO				S	**Sn**	**14 43 31.6**	**+4.5**
	4.2nm,0.3s,baz=324,slow=15,SNR=2.0						
WRA	**Warramunga Arr**	**41.85 196**		P	**P**	**14 48 08.4**	**-0.7**
	1.1nm,0.7s,baz=18,slow=8.4,SNR=9.9						
WRA				PcP	**PcP**	**14 50 02.9**	**-0.8**
	0.7nm,0.8s,baz=11,slow=3.2,SNR=4.7						
ASAR	**Alice Springs**	**45.53 195**		P	**P**	**14 48 37.3**	**-1.3**
	0.6nm,0.7s,baz=18,slow=8.7,SNR=11						
ASAR				PcP	**PcP**	**14 50 15.9**	**-0.2**
	0.3nm,0.5s,baz=24,slow=3.2,SNR=5.6						
STKA	**Stephens Creek**	**52.40 188**		P	**P**	**14 49 28.6**	**-2.3**
	3.0nm,1.1s,baz=66,slow=2.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**56.41 322**		P	**P**	**14 50 00.1**	**+0.3**
	2.1nm,0.5s,baz=102,slow=7.7,SNR=10						
MKAR	**Makanchi Array**	**57.05 313**		P	**P**	**14 50 06.8**	**+2.2**
	0.4nm,0.6s,baz=114,slow=5.4,SNR=3.8						
ILAR	**Eielson Array**	**61.91**	**27**	P	**P**	**14 50 40.0**	**+2.3**
	0.5nm,1.0s,baz=255,slow=6.4,SNR=3.4						
ARU	**Arti**	**71.42 324**		P	**P**	**14 51 38.2**	**-0.1**
	0.6nm,0.4s,baz=162,slow=2.9,SNR=4.8						
FINES	**FINESS Array B**	**85.06 335**		P	**P**	**14 52 52.1**	**-1.3**
	1.5nm,0.6s,baz=96,slow=3.8,SNR=6.8						

*IDC **26** 14:51:07.4±2.5,2.°45N×128.°61E,h230km±25km,mb3.5/11, mb1 3.6/11,mb1mx3.4/35,mbtmp4.1/11, Error ellipse: s-maj=26.7km s-min=9.4km az=74.0*
*NEIC **26** 14:51:07.8±1.5,2.°4N±0.°1×128.°4E±0.°1,h236km±8km, mb4.3/15*
*DJA **26** 14:51:08.3±0.6,2.°N±4.°×12.°8E±.°,h221km±6km,M4.1/8, mB4.7/1,mb4.5/1,MLv4.0/8,Mw(mB)3.9/1*
ISC 26 14:51:04.7±0.6,2.°62N±0.°06×128.°61E±0.°08,h200km,n42, α2ᵒ16/45,mb4.1/16,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.22 214**		P	**Pn**	**14 51 48.4**	**+2.9**
TNTI				S	**Sn**	**14 52 21.0**	**+3.6**
TNTI	**Ternate**	**2.22 214**			**Pn**	**14 51 48.8**	**+3.3**
LBMI	**Labuha**	**3.42 199**		P	**Pn**	**14 52 02.7**	**+3.3**
LBMI				S	**Sn**	**14 52 45.9**	**+3.5**
SWI	**Sorong**	**4.36 143**		P	**Pn**	**14 52 15.2**	**+4.2**
SANI	**Sanana**	**5.33 209**		P	**Pn**	**14 52 23.2**	**-0.1**
FAKI	**Fak Fak**	**6.60 146**		Pn	**Pn**	**14 52 42.5**	**+2.7**
MTN	**Manton Dam**	**15.57 171**		P	**Pn**	**14 54 33.3**	**-0.7**
MTN				IAmb	IAmb	14 54 39.9	
	comp=Z,23nm,1.2s						
KNRA	**Kununurra**	**18.18 180**		P	**P**	**14 55 02.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**20.80 188**		P	**P**	**14 55 29.0**	**-1.6**
	comp=Z,1.0nm,0.5s,baz=24,slow=9.9,SNR=5.8						
FITZ	**Fitzroy Crossi**	**20.80 188**		IAmb	IAmb	14 55 40.2	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**23.12 166**		P	**P**	**14 55 51.7**	**-1.6**
	comp=Z,2.8nm,0.4s,baz=345,slow=10.0,SNR=64						
RGRI	**Rengat**	**26.43 264**		P	**P**	**14 56 28.5**	**+5.2**
AS31	**Alice Springs**	**26.64 169**		P	**P**	**14 56 22.7**	**-2.3**
ASAR	**Alice Springs**	**26.64 169**		P	**P**	**14 56 23.6**	**-1.5**
	comp=Z,1.9nm,0.5s,baz=353,slow=7.4,SNR=116						
ASAR				PcP	**PcP**	**14 59 42.8**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=355,slow=2.1,SNR=9.6						
ASAR				ScP	**ScP**	**15 03 00.0**	**-4.9**
	comp=Z,0.6nm,0.8s,baz=338,slow=2.0,SNR=6.2						
KRJI	**Kerinci**	**27.54 260**		P	**P**	**14 56 33.7**	**+0.4**
IPM	**Ipoh**	**27.59 275**		P	**P**	**14 56 30.2**	**-3.5**
IPM				IAmb	IAmb	14 56 48.8	
	comp=Z,15nm,1.2s						
GIRL	**Giralia**	**28.77 208**		P	**P**	**14 56 41.5**	**-2.4**
CM31	**Chiang Mai Arr**	**33.04 301**		P	**P**	**14 57 20.3**	**-1.2**
CM31				IAmb	IAmb	14 57 25.0	
	comp=Z,12nm,1.5s						
CMAR	**Chiang Mai Arr**	**33.04 301**		P	**P**	**14 57 23.6**	**+2.0**
	comp=Z,1.2nm,0.8s,baz=120,slow=7.0,SNR=10.0						
INU	**Inuyama**	**33.40 13**		P	**P**	**14 57 25.3**	**+0.2**
KSRS	**Korea Array**	**34.67 359**		P	**P**	**14 57 36.8**	**+1.6**
	comp=Z,1.5nm,0.5s,baz=176,slow=9.7,SNR=8.2						
BBOO	**Buckleboo**	**35.94 169**		P	**P**	**14 57 45.1**	**-1.1**
STKA	**Stephens Creek**	**36.46 161**		P	**P**	**14 57 49.4**	**-1.2**
	comp=Z,2.5nm,0.3s,baz=346,slow=7.4,SNR=28						
STKA	**Stephens Creek**	**36.46 161**		P	**P**	**14 57 49.4**	**-1.2**
ARMA	**Armidale**	**39.53 148**		P	**P**	**14 58 14.8**	**-1.6**
ARMA				IAmb	IAmb	14 58 23.8	
	comp=Z,28nm,1.5s						
TAPN	**Taplejung**	**46.18 306**		*eP*	**P**	**14 59 11.0**	**+0.9**
	comp=Z,3.4nm,0.5s						
ODAN	**Odare**	**46.23 305**		*eP*	**P**	**14 59 11.4**	**+1.0**
	comp=Z,8.3nm,0.6s						
RAMN	**Ramite**	**46.91 305**		*eP*	**P**	**14 59 16.9**	**+1.2**
	comp=Z,15nm,0.6s						
JIRN	**Jiri**	**47.53 306**		*eP*	**P**	**14 59 21.6**	**+0.9**
GUN	**Gumba**	**47.89 306**		*eP*	**P**	**14 59 24.1**	**+0.8**
	comp=Z,8.2nm,0.5s						
PKI	**Pulchoki**	**48.13 305**		*eP*	**P**	**14 59 25.6**	**+0.4**
	comp=Z,0.3nm,0.4s						
SONM	**Songino Array**	**48.95 340**		P	**P**	**14 59 31.8**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=144,slow=8.2,SNR=4.2						
KOLN	**Koldanda**	**49.69 305**		*eP*	**P**	**14 59 37.8**	**+0.9**
	comp=Z,6.9nm,0.4s						
DANN	**Dangsing**	**49.78 306**		*eP*	**P**	**14 59 38.5**	**+0.8**
	comp=Z,16nm,0.6s						
PETK	**Petropavlovsk-**	**55.77**	**21**	P	**P**	**15 00 22.0**	**+1.4**
	comp=Z,3.5nm,0.9s,baz=212,slow=5.1,SNR=3.1						
MKAR	**Makanchi Array**	**59.53 325**		P	**P**	**15 00 47.6**	**+0.6**
	comp=Z,1.4nm,0.4s,baz=113,slow=8.2,SNR=36						
ZAA0	**Zalesovo Array**	**62.42 333**		P	**P**	**15 01 05.4**	**-0.9**
ZALV	**Zalesovo Beam**	**62.42 333**		P	**P**	**15 01 05.2**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=131,slow=6.3,SNR=2.9						
ARSB	**Arslanbob**	**62.95 316**		P	**P**	**15 01 08.6**	**-1.7**
ARSB				IAmb	IAmb	15 01 10.7	
	comp=Z,2.3nm,0.9s						
KURK	**Kurchatov**	**63.68 327**		P	**P**	**15 01 14.9**	**+0.3**
KURK				IAmb	IAmb	15 01 15.5	
	comp=Z,4.6nm,0.7s						
GAR	**Garm**	**64.05 313**		P	**P**	**15 01 16.1**	**-1.4**
GAR				IAmb	IAmb	15 01 25.8	
	comp=Z,4.6nm,1.5s						
VNDA	**Vanda**	**82.11 173**		P	**P**	**15 03 01.4**	**-1.0**
	comp=Z,2.0nm,0.8s,baz=346,slow=3.0,SNR=4.5						

*NEIC **26** 14:52:48.1±3.2,24.°83N±0.°06×122.°08E±0.°09,h94km±7km, mb4.4/8,ML4.4(TAP)*
*JMA **26** 14:52:51.9±0.2,24.°61N×121.°85E,h78km±3km,M3.4*
*ISCJB **26** 14:52:52.3±0.3,24.°67N±0.°02×121.°86E±0.°02,h78km±2km, Error ellipse: s-maj=2.9km s-min=2.3km az=140.6*
*TAP **26** 14:52:52.7,24.°64N×121.°85E,h72km,ML3.8,B*
ISC 26 14:52:50.0±0.8,24.°68N±0.°03×121.°86E±0.°02,h83km±4km, n132,α2ᵒ31/224,15C-25D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.07 189**		⇑*iP*	**Pn**	**14 53 03.9**	**+2.1**
	baz=162						
TWC				S	**Sn**	**14 53 11.7**	**+1.2**
	baz=162						
ILA	**Ilan**	**0.13 310**		P	**Pn**	**14 53 04.2**	**+2.2**
	baz=337						
ILA				S	**Sn**	**14 53 13.3**	**+2.6**
	baz=337						
NTC	**Toucheng**	**0.18 351**		*eP*	**Pn**	**14 53 04.3**	**+2.3**
	baz=8.0						
NTC				*eS*	**Sn**	**14 53 12.3**	**+1.3**
	baz=8.0						
TWE	**Neicheng**	**0.18 283**		⇑*iP*	**Pn**	**14 53 04.4**	**+2.4**
	baz=289						
TWE				S	**Sn**	**14 53 12.8**	**+1.8**
	baz=289						
SLBB	**Yuanshan**	**0.22 290**		⇑*iP*	**Pn**	**14 53 03.5**	**+1.3**
	baz=290						
SLBB				*eS*	**Sn**	**14 53 11.9**	**+0.5**
	baz=290						
NANB	**Nanao**	**0.27 202**		P	**Pn**	**14 53 04.4**	**+1.9**
	baz=202						
NANB				S	**Sn**	**14 53 13.1**	**+1.3**
	baz=202						
ENTT	**Nioudou**	**0.27 262**		⇓P	**Pn**	**14 53 04.7**	**+2.2**
	baz=269						
ENTT				S	**Sn**	**14 53 13.4**	**+1.6**
	baz=269						
ENA	**Nanau**	**0.27 204**		*eP*	**Pn**	**14 53 04.5**	**+2.0**
	baz=202						
ENA				*eS*	**Sn**	**14 53 13.2**	**+1.5**
	baz=202						
EOS1	**EOS1**	**0.28 118**		*eP*	**Pn**	**14 53 04.7**	**+2.3**
	baz=102						
EOS1				*eS*	**Sn**	**14 53 13.3**	**+1.7**
	baz=102						
TIPB	**Shuangxi**	**0.29 354**		⇑*iP*	**Pn**	**14 53 04.9**	**+2.2**
	baz=357						
TIPB				S	**Sn**	**14 53 13.2**	**+1.1**
	baz=357						
NDT	**Datong Townshi**	**0.33 256**		⇓*iP*	**Pn**	**14 53 05.0**	**+2.2**
	baz=272						
NDT				S	**Sn**	**14 53 13.4**	**+1.1**
	baz=272						
NWLT	**Wulai**	**0.34 287**		*i* P	**Pn**	**14 53 04.9**	**+2.0**
	baz=293						
NWLT				S	**Sn**	**14 53 13.4**	**+0.9**
	baz=293						
TWB1	**Santiao Chiao**	**0.35**	**19**	⇑*iP*	**Pn**	**14 53 05.0**	**+2.1**
	baz=27						
TWB1				S	**Sn**	**14 53 13.3**	**+0.8**
	baz=27						
NWF	**Wu-fen Shan**	**0.40 349**		⇑*iP*	**Pn**	**14 53 05.7**	**+2.3**
	baz=358						
NWF				S	**Sn**	**14 53 14.4**	**+1.2**
	baz=358						
WFSB	**Wu-fen Shan**	**0.40 349**		⇑P	**Pn**	**14 53 05.7**	**+2.4**
	baz=358						
WFSB				S	**Sn**	**14 53 14.6**	**+1.6**
	baz=358						
NHDH	**Xindian Distri**	**0.42 313**		⇑P	**Pn**	**14 53 05.7**	**+2.3**
	baz=309						
NHDH				*eS*	**Sn**	**14 53 14.8**	**+1.6**
	baz=309						
YHNB	**Yeheng**	**0.44 269**		⇓P	**Pn**	**14 53 05.6**	**+1.9**
	baz=273						
YHNB				S	**Sn**	**14 53 14.2**	**+0.4**
	baz=273						
YHNB	**Yeheng**	**0.44 269**			**Pn**	**14 53 05.3**	**+1.6**
YHNB				Sn	**Sn**	**14 53 14.8**	**+1.0**
TATO	**Taipei**	**0.45 311**		⇑P	**Pn**	**14 53 05.8**	**+2.2**
	baz=307						
TATO				S	**Sn**	**14 53 15.0**	**+1.3**
	baz=307						
TATO	**Taipei**	**0.45 311**			**Pn**	**14 53 05.8**	**+2.2**
NSK	**Sanguang**	**0.46 270**		⇓*iP*	**Pn**	**14 53 05.6**	**+1.8**
	baz=274						
NSK				S	**Sn**	**14 53 14.7**	**+0.7**
	baz=274						
NNSH	**Datong**	**0.50 240**		⇓P	**Pn**	**14 53 06.4**	**+2.2**
	baz=238						
NNSH				S	**Sn**	**14 53 15.7**	**+0.9**
	baz=238						
NNS	**Nan Shan**	**0.51 242**		⇓*iP*	**Pn**	**14 53 06.4**	**+2.2**
	baz=250						
NNS				S	**Sn**	**14 53 15.8**	**+1.0**
	baz=250						
YM01	**YM01**	**0.53 330**		⇑*iP*	**Pn**	**14 53 06.8**	**+2.4**
	baz=338						
YM01				S	**Sn**	**14 53 17.1**	**+2.0**
	baz=338						
YM10	**YM10**	**0.55 330**		⇑*iP*	**Pn**	**14 53 06.9**	**+2.4**
	baz=338						
YM10				S	**Sn**	**14 53 17.1**	**+1.8**
	baz=338						
YM11	**YM11**	**0.55 332**		⇑P	**Pn**	**14 53 06.9**	**+2.3**
	baz=339						
YM11				S	**Sn**	**14 53 16.6**	**+1.2**
	baz=339						
NACB	**Ninganchiao**	**0.56 206**		⇓P	**Pn**	**14 53 05.8**	**+1.2**
	baz=206						
NACB				S	**Sn**	**14 53 15.2**	**-0.1**
	baz=206						
NACB	**Ninganchiao**	**0.56 206**			**Pn**	**14 53 05.7**	**+1.2**
NACB				Sn	**Sn**	**14 53 15.7**	**+0.3**
YM08	**YM08**	**0.56 334**		⇑*iP*	**Pn**	**14 53 06.8**	**+2.2**
	baz=341						
YM08				S	**Sn**	**14 53 16.7**	**+1.2**
	baz=341						
WLTB	**Daxi**	**0.58 287**		⇓*iP*	**Pn**	**14 53 07.2**	**+2.5**
	baz=290						
WLTB				*i* S	**Sn**	**14 53 17.9**	**+2.2**
	baz=290						
TWS1	**Kuangyinshan**	**0.58 316**		⇑*iP*	**Pn**	**14 53 07.4**	**+2.6**
	baz=311						
TWS1				*i* S	**Sn**	**14 53 18.4**	**+2.6**
	baz=311						
ETLH	**Xiulin Townshi**	**0.58 216**		⇓*eP*	**Pn**	**14 53 06.5**	**+1.6**
	baz=226						
ETLH				*eS*	**Sn**	**14 53 16.6**	**+0.6**
	baz=226						
ANP	**Anpu**	**0.59 329**		⇑P	**Pn**	**14 53 07.1**	**+2.2**
	baz=331						
ANP				S	**Sn**	**14 53 17.4**	**+1.4**
	baz=331						
NTST	**Danshui**	**0.61 322**		P	**Pn**	**14 53 07.7**	**+2.7**
	baz=331						
NTST				S	**Sn**	**14 53 19.0**	**+2.9**
	baz=331						
TWY	**Chenhua**	**0.64 338**		P	**Pn**	**14 53 08.0**	**+2.7**
	baz=341						
TWY				S	**Sn**	**14 53 19.2**	**+2.6**
	baz=341						
TWD	**Chiawan**	**0.64 202**		⇓*iP*	**Pn**	**14 53 06.7**	**+1.3**
	baz=211						
TWD				S	**Sn**	**14 53 17.1**	**+0.3**
	baz=211						
NCU	**National Centr**	**0.68 295**		⇓P	**Pn**	**14 53 08.1**	**+2.4**
	baz=289						
NCU				S	**Sn**	**14 53 19.6**	**+2.2**
	baz=289						
NCUH	**Zhongli**	**0.68 295**		*eP*	**Pn**	**14 53 08.2**	**+2.5**
	baz=288						
NCUH				*eS*	**Sn**	**14 53 19.2**	**+1.9**
	baz=288						
HWA	**Hwalien**	**0.74 199**		*eP*	**Pn**	**14 53 07.9**	**+1.6**
	baz=209						
TWT	**Tachien**	**0.76 236**		P	**Pn**	**14 53 09.6**	**+2.9**
	baz=232						
TWT				*eS*	**Sn**	**14 53 21.4**	**+2.3**
	baz=232						
WHF	**Hehuan Shan**	**0.76 226**		⇓P	**Pn**	**14 53 09.0**	**+2.0**
	baz=222						
WHF				*eS*	**Sn**	**14 53 20.6**	**+1.0**
	baz=222						
TDCB	**Techi**	**0.77 237**		⇓*iP*	**Pn**	**14 53 09.4**	**+2.6**
	baz=232						
TDCB				S	**Sn**	**14 53 20.9**	**+1.6**
	baz=232						
LIOB	**Emei**	**0.77 268**		⇓P	**Pn**	**14 53 09.0**	**+2.3**
	baz=269						
LIOB				S	**Sn**	**14 53 20.6**	**+1.5**
	baz=269						
NSTT	**Nanjuang**	**0.78 267**		⇓*iP*	**Pn**	**14 53 09.0**	**+2.2**
	baz=268						
NSTT				S	**Sn**	**14 53 20.8**	**+1.5**
	baz=268						
SBCB	**Hsinchu**	**0.80 278**		⇓P	**Pn**	**14 53 09.4**	**+2.5**
	baz=280						
SBCB				S	**Sn**	**14 53 21.5**	**+1.8**
	baz=280						
ENLB	**Shoufeng**	**0.81 197**		*eP*	**Pn**	**14 53 08.7**	**+1.7**
	baz=185						
ENLB				S	**Sn**	**14 53 22.1**	**+2.3**
	baz=185						
HSN	**Hsinchu**	**0.82 279**		P	**Pn**	**14 53 09.1**	**+2.0**
	baz=283						
HSN				S	**Sn**	**14 53 20.9**	**+1.0**
	baz=283						
CHGB	**Renai**	**0.88 226**		⇓P	**Pn**	**14 53 10.7**	**+2.6**
	baz=226						
CHGB				S	**Sn**	**14 53 22.7**	**+1.2**
	baz=226						
WHP	**Taichung City**	**0.93 245**		⇓P	**Pn**	**14 53 11.4**	**+3.0**
	baz=254						
WHP				*eS*	**Sn**	**14 53 24.2**	**+1.9**
	baz=254						
ESL	**Shilin**	**0.95 204**		P	**Pn**	**14 53 09.6**	**+1.0**
	baz=204						
ESL				*eS*	**Sn**	**14 53 22.0**	**-0.5**
	baz=204						
OWD	**Renai**	**0.95 221**		*eP*	**Pn**	**14 53 10.6**	**+1.7**
	baz=221						
OWD				*eS*	**Sn**	**14 53 24.2**	**+1.3**
	baz=221						
NMLH	**Miaoli**	**0.98 262**		⇓*eP*	**Pn**	**14 53 11.6**	**+2.5**
	baz=262						
NMLH				*eS*	**Sn**	**14 53 25.5**	**+2.2**
	baz=262						
NSY	**Sanyi**	**1.04 256**		⇓*eP*	**Pn**	**14 53 12.5**	**+2.8**
	baz=256						
NSY				*eS*	**Sn**	**14 53 26.4**	**+1.9**
	baz=256						
DPDB	**Guoxing**	**1.07 233**		*eP*	**Pn**	**14 53 12.9**	**+2.8**
	baz=242						
DPDB				*eS*	**Sn**	**14 53 27.8**	**+2.6**
	baz=242						
YOJ	**Yonaguni jima**	**1.07 101**		P	**Pn**	**14 53 12.1**	**+2.1**
YOJ				*eS*	**Sn**	**14 53 26.2**	**+1.1**
YOJ	**Yonaguni jima**	**1.07 101**		*eP*	**Pn**	**14 53 11.8**	**+1.8**
	baz=94						
PTSB	**Yuanli**	**1.08 258**		*eP*	**Pn**	**14 53 12.8**	**+2.7**
	baz=259						
EGFH	**Guangfu**	**1.08 202**		*eP*	**Pn**	**14 53 11.5**	**+1.3**
	baz=205						
EGFH				*eS*	**Sn**	**14 53 25.5**	**+0.2**
	baz=205						
VWDT	**VWDT**	**1.13 216**		⇓P	**Pn**	**14 53 13.4**	**+2.6**
	baz=209						
VWDT				*eS*	**Sn**	**14 53 28.5**	**+2.1**
	baz=209						
WDJ	**Dajia District**	**1.16 254**		*eP*	**Pn**	**14 53 13.8**	**+2.7**
	baz=254						
WDJ				*eS*	**Sn**	**14 53 28.8**	**+1.8**
	baz=254						
TCU	**Taichung**	**1.20 244**		*eP*	**Pn**	**14 53 14.0**	**+2.4**
	baz=244						
SSLB	**Suanglung**	**1.22 223**		⇓P	**Pn**	**14 53 14.9**	**+3.0**
	baz=223						
SSLB				*eS*	**Sn**	**14 53 30.6**	**+2.3**
	baz=223						
SSLB	**Suanglung**	**1.22 223**			**Pn**	**14 53 14.6**	**+2.7**
SSLB				Sn	**Sn**	**14 53 31.9**	**+3.6**
HGSD	**Ruisui**	**1.25 199**		*eP*	**Pn**	**14 53 14.1**	**+1.8**
	baz=206						
HGSD				*eS*	**Sn**	**14 53 30.7**	**+1.7**
	baz=206						
EHY	**Hungye**	**1.27 203**		*eP*	**Pn**	**14 53 14.7**	**+2.2**
	baz=202						
EHY				*eS*	**Sn**	**14 53 29.1**	**-0.3**
	baz=202						
WCHH	**Zhanghua**	**1.33 244**		*eP*	**Pn**	**14 53 15.6**	**+2.3**
	baz=252						
WCHH				*eS*	**Sn**	**14 53 33.4**	**+2.6**
	baz=252						
WNT	**Mingjian**	**1.34 234**		P	**Pn**	**14 53 16.1**	**+2.7**
	baz=243						
WNT				*eS*	**Sn**	**14 53 33.6**	**+2.7**
	baz=243						
WJS	**Zhushan**	**1.34 231**		*eP*	**Pn**	**14 53 16.2**	**+2.8**
	baz=241						
WJS				*eS*	**Sn**	**14 53 33.4**	**+2.4**
	baz=241						
WHYT	**Xinyi Township**	**1.34 223**		*eP*	**Pn**	**14 53 16.6**	**+3.1**
	baz=233						
YUS	**Yu-Shan**	**1.45 215**		*eP*	**Pn**	**14 53 18.2**	**+3.0**
	baz=208						
YUS				*eS*	**Sn**	**14 53 36.1**	**+1.9**
	baz=208						
ALS	**Alishan**	**1.51 220**		*eP*	**Pn**	**14 53 19.1**	**+3.2**
	baz=228						
ALS				*eS*	**Sn**	**14 53 38.5**	**+3.1**
	baz=228						
CHN5	**Tsauling**	**1.53 225**		P	**Pn**	**14 53 18.8**	**+2.9**
	baz=234						
CHN5				*eS*	**Sn**	**14 53 38.1**	**+2.7**
	baz=234						
WGK	**Gukeng**	**1.54 230**		P	**Pn**	**14 53 18.9**	**+2.9**
	baz=240

TPUB	**Ta-pu**	**1.78**	**220**			**Pn**	14 53 22.3	+3.3
TPUB				Sn		**Sn**	14 53 45.4	+4.3
STYT	**Tauyuan**	**1.82**	**214**	*eP*		**Pn**	14 53 23.1	+3.4
	baz=224							
STYT				*eS*		**Sn**	14 53 46.0	+3.9
	baz=224							
WSF	**Szhu**	**1.82**	**236**	*eP*		**Pn**	14 53 21.8	+2.2
	baz=234							
WSF				*eS*		**Sn**	14 53 44.5	+2.4
	baz=234							
WTP	**Ta-pu**	**1.83**	**219**	*eP*		**Pn**	14 53 22.8	+3.0
	baz=228							
WTP				*eS*		**Sn**	14 53 44.9	+2.6
	baz=228							
WLGB	**Puzi**	**1.86**	**230**	*eP*		**Pn**	14 53 22.7	+2.6
	baz=238							
WLGB				*eS*		**Sn**	14 53 46.4	+3.3
	baz=238							
HATJ	**Hateruma jima**	**1.88**	**109**	S		**Sn**	14 53 46.2	+2.8
SNST	**Tainan City**	**1.92**	**221**	*eP*		**Pn**	14 53 23.7	+2.8
	baz=219							
CHN1	**Nanshi**	**1.92**	**220**	*eP*		**Pn**	14 53 23.6	+2.6
	baz=230							
CHN1				*eS*		**Sn**	14 53 47.6	+3.0
	baz=230							
SGST	**Jiashian**	**1.98**	**217**	*eP*		**Pn**	14 53 24.7	+3.0
	baz=225							
SGST				*eS*		**Sn**	14 53 48.9	+3.1
	baz=225							
TWG	**Pinlang**	**1.99**	**202**	*eP*		**Pn**	14 53 23.7	+1.8
	baz=191							
TWG				*eS*		**Sn**	14 53 45.4	-0.7
	baz=191							
TWG	**Pinlang**	**1.99**	**202**	Pn		**Pn**	14 53 23.2	+1.3
TWGBT	**Beinan**	**1.99**	**201**	*eP*		**Pn**	14 53 23.8	+1.9
	baz=191							
TWGBT				*eS*		**Sn**	14 53 46.2	+0.1
	baz=191							
JKRS	**Kuro-shima**	**2.01**	**102**	P		**Pn**	14 53 24.8	+2.8
JKRS				*eS*		**Sn**	14 53 48.8	+2.3
SLGT	**Liugui**	**2.01**	**214**	*eP*		**Pn**	14 53 25.6	+3.4
	baz=212							
PTTC	**Pingtan**	**2.06**	**294**⇓	*eP*		**Pn**	14 53 24.8	+2.0
	baz=292							
PTTC				*eS*		**Sn**	14 53 48.5	+0.7
	baz=292							
JIJ	**Ishigaki jima**	**2.10**	**98**	P		**Pn**	14 53 25.7	+2.4
JIJ				S		**Sn**	14 53 50.0	+1.2
SCLT	**Jiali**	**2.14**	**226**	*eP*		**Pn**	14 53 26.9	+3.1
	baz=224							
VWUC	**VWUC**	**2.21**	**279**⇓	*eP*		**Pn**	14 53 26.9	+2.1
	baz=277							
JISG	**Ishigakijimahi**	**2.23**	**92**	P		**Pn**	14 53 27.7	+2.7
SSD	**Sandimen**	**2.23**	**211**	*eP*		**Pn**	14 53 28.9	+3.8
	baz=209							
SSD				*eS*		**Sn**	14 53 55.5	+3.6
	baz=209							
ECL	**Taimali**	**2.23**	**202**	*eP*		**Pn**	14 53 27.2	+2.1
	baz=194							
MATB	**Ma-tsu**	**2.27**	**311**	*eP*		**Pn**	14 53 27.6	+2.1
	baz=309							
MASBT	**Mashibuluo**	**2.35**	**209**	*eP*		**Pn**	14 53 29.9	+3.3
	baz=207							
MASBT				*eS*		**Sn**	14 53 56.9	+2.2
	baz=207							
PNG	**Penghu**	**2.38**	**243**	*eP*		**Pn**	14 53 28.6	+1.6
	baz=241							
PNG				*eS*		**Sn**	14 53 56.6	+1.2
	baz=241							
PHUB	**P'eng-hu**	**2.39**	**241**	*eP*		**Pn**	14 53 28.6	+1.4
	baz=239							
PHUB				*eS*		**Sn**	14 53 55.4	-0.3
	baz=239							
EAST	**Anshuo**	**2.47**	**202**	*eP*		**Pn**	14 53 30.7	+2.4
	baz=193							
SSPT	**Xinbi**	**2.49**	**209**	*eP*		**Pn**	14 53 32.5	+4.0
	baz=206							
PTMZ	**Houxiangcun**	**2.52**	**279**⇓	*eP*		**Pn**	14 53 30.9	+2.1
	baz=277							
SCZT	**Fangliau**	**2.56**	**207**	*eP*		**Pn**	14 53 33.3	+3.7
	baz=205							
SCZT				*eS*		**Sn**	14 54 02.6	+2.8
	baz=205							
JTJ	**Tarama**	**2.58**	**90**	P		**Pn**	14 53 33.3	+3.5
JTJ				*eS*		**Sn**	14 54 04.1	+3.8
VCHM	**Qimei**	**2.66**	**237**	*eP*		**Pn**	14 53 32.2	+1.4
	baz=235							
VCHM				*eS*		**Sn**	14 54 03.1	+0.8
	baz=235							
XPSS	**Dashiqiu**	**2.70**	**326**	*eP*		**Pn**	14 53 33.9	+2.5
	baz=325							
MHZQ	**Yeshan**	**2.92**	**300**	*eP*		**Pn**	14 53 36.5	+2.1
	baz=297							
JMJ	**Miyako jima 2**	**3.12**	**87**	*eP*		**Pn**	14 53 41.3	+4.2
	baz=90							
KNM	**Kinmen**	**3.13**	**266**	*eP*		**Pn**	14 53 40.6	+3.5
	baz=264							
JMJ2	**Miyako jima3**	**3.15**	**88**	P		**Pn**	14 53 41.6	+4.2
KNMB	**Chin-men Tao**	**3.17**	**267**	*eP*		**Pn**	14 53 39.3	+1.6
	baz=265							
KNMB	**Chin-men Tao**	**3.17**	**267**	Pn		**Pn**	14 53 39.5	+1.8
KNMB				Sn		**Sn**	14 54 14.3	-0.2
AXDP	**Jialang**	**3.54**	**274**	*eP*		**Pn**	14 53 45.1	+2.4
	baz=272							
ZPLA	**Ao Xicun**	**3.82**	**260**	*eP*		**Pn**	14 53 48.5	+2.0
	baz=257							
KS19	**Wonju Array Si**	**13.77**	**20**	Pn		Pn	14 55 55.5	-6.1
INU	**Inuyama**	**16.87**	**47**			**Pn**	14 56 37.0	-3.9
INU				IAmb		IAmb	14 56 47.8	
	comp=Z,36nm,1.5s							
JHJ2	**Mitsune**	**17.81**	**58**	P		P	14 56 45.4	-6.6
CHTO	**Chiang Mai**	**22.06**	**259**	P		**P**	14 57 36.3	**-1.8**
SARN	**Sarigan**	**23.72**	**105**	P		P	14 57 47.8	-6.8
MAKZ	**Makanchi**	**38.62**	**315**	P		P	15 00 02.6	-2.5
MAKZ				IAmb		IAmb	15 00 18.3	
	comp=Z,7.8nm,1.4s							
KNRA	**Kununurra**	**40.67**	**170**	P		**P**	15 00 20.4	**-1.9**
FITZ	**Fitzroy Crossi**	**42.68**	**175**	P		**P**	15 00 36.9	**-1.7**
COEN	**Coen**	**43.67**	**149**	P		**P**	15 00 45.1	**-1.7**
COEN				IAmb		IAmb	15 00 58.5	
	comp=Z,8.6nm,1.4s							

VAO ***26*** *15:07:23.5±0.6,21°.18S×69°.60W,h205km±5km,mb3.9*
ISCJB ***26*** *15:07:26.6±0.3,21°.04S±0°.02×68°.65W±0°.05,h140km±4km, mb3.8/3, Error ellipse: s-maj=7.5km s-min=4.0km az=178.7*
SJA ***26*** *15:07:27.2±0.5,21°.11S×68°.50W,h130km±16km,ML2.6, MW3.2*
GUC ***26*** *15:07:27.4±0.8,21°.00S×68°.67W,h123km±5km,ML3.9*
NEIC ***26*** *15:07:27.6±1.3,21°.00S±0°.04×68°.6W±0°.2,h129km±8km*
IDC ***26*** *15:07:28.2±0.8,21°.07S×68°.27W,h125km±11km,mb3.8/3, mb1 3.8/7,mb1mx3.5/32,mbtmp4.2/7, Error ellipse: s-maj=28.5km s-min=10.0km az=101.0*

ISC 26 15:07:27.1±0.6,21°.07S±0°.04×68°.64W±0°.05,h130km±7km, n74,σ1§61/97,mb4.1/4,5C-4D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	**IPOC Station P**	**0.92**	**218**	*i*	P	**Pn**	**15 07 51.1**	**+1.6**
PB09				*e*	S	**Sn**	**15 08 08.4**	**+2.0**
PB09				IAML			15 08 10.3	
	comp=N,2μm,0.7s							
PB08	**IPOC Station P**	**1.04**	**332**	*e*	P	**Pn**	**15 07 51.1**	**+0.2**
PB08				*i*	S	**Sn**	**15 08 08.2**	**-0.7**
PB03	**IPOC Station P**	**1.42**	**227**⇑	*i*	P	**Pn**	**15 07 55.8**	**+1.2**
PB03				*i*	S	**Sn**	**15 08 16.7**	**+1.3**
PB03				IAML			15 08 17.7	
	comp=N,1μm,0.6s							
TA01	**Diego Aracena**	**1.53**	**289**⇑	*i*	P	**Pn**	**15 07 55.7**	**+0.2**
TA01				*e*	S	**Sn**	**15 08 16.7**	**-0.4**
TA01				IAML			15 08 18.5	
	comp=N,2μm,0.2s							
LVC	**Limon Verde**	**1.55**	**189**	*e*	P	**Pn**	**15 07 58.0**	**+1.8**
LVC				*e*	S	**Sn**	**15 08 20.3**	**+1.9**
LVC	**Limon Verde**	**1.55**	**189**	P		**Pn**	**15 07 58.0**	**+1.8**
	comp=N,36nm,0.3s,baz=20,slow=10,SNR=266							
LVC				S		**Sn**	**15 08 20.8**	**+2.4**
	comp=N,97nm,0.3s,baz=114,slow=20,SNR=44							
LVC	**Limon Verde**	**1.55**	**189**	*e*	P	**Pn**	**15 07 58.1**	**+1.9**
LVC	**Limon Verde**	**1.55**	**189**	*e*	P	**Pn**	**15 07 58.1**	**+1.9**
LVC	**Limon Verde**	**1.55**	**189**	*i*	P	**Pn**	**15 07 56.9**	**+0.7**
LVC				IAML			15 08 26.9	
	comp=Z,203nm,0.5s							
PB11	**IPOC Station P**	**1.61**	**324**⇓	*i*	P	**Pn**	**15 07 56.4**	**-0.3**
PB11				*i*	S	**Sn**	**15 08 18.0**	**-1.3**
PB11				IAML			15 08 19.1	
	comp=N,3μm,0.3s							
PB11	**IPOC Station P**	**1.61**	**324**			**Pn**	**15 07 56.6**	**-0.1**
PB11				Sn		**Sn**	**15 08 18.3**	**-0.9**
PB06	**IPOC Station P**	**1.84**	**208**⇑	*i*	P	**Pn**	**15 08 01.0**	**+1.6**
PB06				*i*	S	**Sn**	**15 08 26.0**	**+1.9**
PB06				IAML			15 08 28.0	
	comp=E,2μm,0.3s							
PB06	**IPOC Station P**	**1.84**	**208**	*i*	P	**Pn**	**15 08 01.1**	**+1.6**
PB06				IAML			15 08 33.9	
	comp=Z,667nm,0.5s							
PB04	**IPOC Station P**	**1.89**	**228**⇑	*e*	P	**Pn**	**15 08 01.0**	**+1.2**
PB04				*e*	S	**Sn**	**15 08 26.5**	**+1.6**
PB04				IAML			15 08 32.4	
	comp=N,787nm,0.2s							
PB04	**IPOC Station P**	**1.89**	**228**			**Pn**	**15 08 01.7**	**+1.9**
PB04				Sn		**Sn**	**15 08 26.0**	**+1.1**
PB04	**IPOC Station P**	**1.89**	**228**	*i*	P	**Pn**	**15 08 01.9**	**+2.0**
PSGC	**Pisagua**	**2.02**	**316**⇓	*i*	P	**Pn**	**15 08 00.8**	**-0.7**
PSGC				*i*	S	**Sn**	**15 08 25.5**	**-2.2**
PSGC				IAML			15 08 29.6	
	comp=E,778nm,0.5s							
MNMC	**Minye Minye**	**2.13**	**335**⇓	*i*	P	**Pn**	**15 08 03.1**	**+0.1**
MNMC				*e*	S	**Sn**	**15 08 30.0**	**-0.3**
MNMC	**Minye Minye**	**2.13**	**335**			**Pn**	**15 08 03.5**	**+0.5**
MNMC				Sn		**Sn**	**15 08 30.1**	**-0.3**
PB15	**IPOC Station P**	**2.26**	**200**	*e*	P	**Pn**	**15 08 06.3**	**+1.8**
PB15				*i*	S	**Sn**	**15 08 35.8**	**+2.6**
PB15	**IPOC Station P**	**2.26**	**200**	*i*	P	**Pn**	**15 08 05.6**	**+1.0**
PB15				*i*	Sg	**Sn**	**15 08 34.6**	**+1.3**
PB05	**IPOC Station P**	**2.29**	**219**	*e*	P	**Pn**	**15 08 06.2**	**+1.4**
PB05				*e*	S	**Sn**	**15 08 34.0**	**+0.2**
PB05	**IPOC Station P**	**2.29**	**219**	*i*	P	**Pn**	**15 08 06.8**	**+2.0**
PB05				IAML			15 08 48.7	
	comp=Z,294nm,0.5s							
PB16	**IPOC Station P**	**2.84**	**343**⇓	*i*	P	**Pn**	**15 08 12.6**	**+0.3**
PB16				*i*	S	**Sn**	**15 08 46.2**	**-0.7**
PB10	**IPOC Station P**	**3.01**	**216**			**Pn**	**15 08 15.3**	**+1.4**
PB10	**IPOC Station P**	**3.01**	**216**	*i*	P	**Pn**	**15 08 15.7**	**+1.9**
PB10				IAML			15 09 05.5	
	comp=Z,181nm,0.6s							
YJA	**Yavi**	**3.11**	**111**	*i*	P	**Pn**	**15 08 15.6**	**+0.1**
YJA				*i*	Sg	**Sn**	**15 08 51.6**	**-1.3**
LPAZ	**La Paz**	**4.78**	**6**	P		**Pn**	**15 08 38.4**	**+0.5**
	comp=Z,9.2nm,0.3s,baz=183,slow=5.9,SNR=144							
LPAZ				S		**Sn**	**15 09 34.2**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=103,slow=18,SNR=1.8							
LPAZ	**La Paz**	**4.78**	**6**	*e*	P	**Pn**	**15 08 38.7**	**+0.8**
LPAZ	**La Paz**	**4.78**	**6**	*e*	P	**Pn**	**15 08 38.7**	**+0.8**
LPAZ	**La Paz**	**4.78**	**6**	*i*	P	**Pn**	**15 08 39.5**	**+1.6**
SIV	**San Ignacio**	**8.78**	**56**	P		**Pn**	**15 09 27.5**	**-3.6**
	comp=Z,8.2nm,0.3s,baz=253,slow=13,SNR=104							
GO04	**Tololo Observa**	**9.27**	**192**	Pn		**Pn**	**15 09 35.1**	**-2.7**
GO04						**Sn**	**15 11 17.8**	**-2.8**
CFA	**Coronel Fontan**	**10.50**	**178**	P		**Pn**	**15 09 53.2**	**-0.9**
	comp=Z,1.3nm,0.3s,baz=358,slow=9.4,SNR=6.5							
CFA				S		**Sn**	**15 11 43.0**	**-6.9**
	comp=Z,0.8nm,0.3s,baz=202,slow=17,SNR=3.7							
ROC1	**El Roble**	**12.05**	**190**	Pn		**Pn**	**15 10 14.1**	**-0.7**
ROC1				Sn		**Sn**	**15 12 23.1**	**-4.6**
SAML	**Samuel**	**13.15**	**24**	*eP*		**Pn**	**15 10 29.4**	**+0.4**
SAML	**Samuel**	**13.15**	**24**	*eP*		**Pn**	**15 10 29.4**	**+0.4**
SALV	**Santo Antonio**	**13.31**	**69**	*eP*		**P**	**15 10 35.9**	**-0.1**
SALV	**Santo Antonio**	**13.31**	**69**	*eP*		**P**	**15 10 35.9**	**-0.1**
PP1B	**Ponte de Pedra**	**13.44**	**77**	*eP*		**P**	**15 10 37.9**	**+0.5**
PP1B	**Ponte de Pedra**	**13.44**	**77**	*eP*		**P**	**15 10 37.9**	**+0.5**
ITQB	**Itaqui**	**13.82**	**131**	*eP*		**Pn**	**15 10 39.2**	**+1.7**
ITQB	**Itaqui**	**13.82**	**131**	*eP*		**Pn**	**15 10 39.2**	**+1.7**
TRCB	**Terra Rica**	**14.95**	**100**	*eP*		**P**	**15 10 55.4**	**+1.1**
TRCB	**Terra Rica**	**14.95**	**100**	*eP*		**P**	**15 10 55.4**	**+1.1**
PTGB	**Pitanga**	**15.70**	**106**	*eP*		**P**	**15 11 04.5**	**+1.9**
PTGB	**Pitanga**	**15.70**	**106**	*eP*		**P**	**15 11 04.5**	**+1.9**
CLDB	**Colider**	**15.96**	**53**	*eP*		**P**	**15 11 05.3**	**-0.2**
CLDB	**Colider**	**15.96**	**53**	*eP*		**P**	**15 11 05.3**	**-0.2**
ITAB	**Concordia**	**16.26**	**115**	*eP*		**P**	**15 11 08.8**	**+0.1**
ITAB	**Concordia**	**16.26**	**115**	*eP*		**P**	**15 11 08.8**	**+0.1**
ARAG	**Araguaiana, MT**	**16.83**	**74**	*eP*		**P**	**15 11 16.1**	**+1.0**
ARAG	**Araguaiana, MT**	**16.83**	**74**	*eP*		**P**	**15 11 16.1**	**+1.0**
PLTB	**Pedras Altas**	**17.15**	**131**	*eP*		**P**	**15 11 16.3**	**-2.2**
PLTB	**Pedras Altas**	**17.15**	**131**	*eP*		**P**	**15 11 16.3**	**-2.2**
ITRB	**Iturama**	**17.19**	**89**	*eP*		**Pn**	**15 11 20.8**	**+1.3**
ITRB	**Iturama**	**17.19**	**89**	*eP*		**Pn**	**15 11 20.8**	**+1.3**
FRTB	**Fartura**	**17.81**	**101**	*eP*		**Pn**	**15 11 27.0**	**+0.2**
FRTB	**Fartura**	**17.81**	**101**	*eP*		**Pn**	**15 11 27.0**	**+0.2**
TRQA	**Tornquist**	**17.88**	**163**			**Pn**	**15 11 27.9**	**+0.3**
BB19B	**Bebedouro**	**18.77**	**94**	*eP*		**P**	**15 11 35.7**	**-0.6**
BB19B	**Bebedouro**	**18.77**	**94**	*eP*		**P**	**15 11 35.7**	**-0.6**
IPMB	**Ipameri, GO**	**19.50**	**84**	*eP*		**P**	**15 11 43.4**	**-0.9**
IPMB	**Ipameri, GO**	**19.50**	**84**	*eP*		**P**	**15 11 43.4**	**-0.9**
RCLB	**Rio Claro- Sao**	**19.65**	**98**	*eP*		**P**	**15 11 45.1**	**-0.9**
RCLB	**Rio Claro- Sao**	**19.65**	**98**	*eP*		**P**	**15 11 45.1**	**-0.9**
BDFB	**Brasilia**	**20.30**	**78**	P		**P**	**15 11 51.1**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=333,slow=7.3,SNR=3.8							
BDFB	**Brasilia**	**20.30**	**78**	P		**P**	**15 11 51.2**	**-1.8**
BDFB				IAmb		IAmb	15 11 52.5	
	comp=Z,17nm,1.6s							
SDCO	**Great Sand Dun**	**68.01**	**329**	P		**P**	**15 18 13.3**	**+0.6**
SDCO				IAmb		IAmb	15 18 21.5	
	comp=Z,3.5nm,1.4s							
DBIC	**Dimbokro**	**68.37**	**73**	P		**P**	**15 18 15.1**	**0.0**
	comp=Z,3.0nm,0.7s,baz=163,slow=5.0,SNR=4.6							
TOA0	**Torodi Ar. Sit**	**76.97**	**70**	P		**P**	**15 19 05.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.97**	**70**	P		**P**	**15 19 06.2**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=250,slow=5.8,SNR=22							
YKA	**Yellowknife Ar**	**90.87**	**340**	P		**P**	**15 20 17.3**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=134,slow=3.5,SNR=3.8							
MKAR	**Makanchi Array**	**145.14**	**36**	PKP		**PKPdf**	**15 26 49.7**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=350,slow=2.8,SNR=3.4							

IDC 26 15:17:18.9±49.0,16°.44S×173°.64W,h0km,mb4.0/3, mb1 4.1/3,mb1mx3.6/29,mbtmp4.0/3,Error ellipse: s-maj=941.8km s-min=184.8km az=79.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**43.32**	**241**	P		P	15 25 23.6	+0.8
	1.6nm,0.8s,baz=90,slow=13,SNR=3.0							
WRA	**Warramunga Arr**	**49.39**	**258**	P		P	15 26 10.4	-0.4
	0.6nm,0.5s,baz=96,slow=7.2,SNR=20							
ASAR	**Alice Springs**	**49.57**	**253**	P		P	15 26 11.8	-0.4
	1.2nm,0.4s,baz=90,slow=8.3,SNR=67							

IDC ***26*** *15:29:45.8±0.8,33°.99N×89°.46E,h0km,mb3.9/13, mb1 4.1/17,mb1mx3.9/59,mbtmp3.9/17,ML3.1/4,MS3.3/10, Ms1 3.3/10,ms1mx3.1/42,Error ellipse: s-maj=24.2km s-min=16.6km az=51.0*
ISCJB ***26*** *15:29:46.9±0.2,34°.07N±0°.03×89°.29E±0°.04,h17km, mb3.9/12,MS3.3/7,Error ellipse: s-maj=5.5km s-min=3.7km az=155.6*
NEIC ***26*** *15:29:46.9±2.7,34°.02N±0°.07×89°.3E±0°.1,h9km±4km, mb4.2/37*
BJI ***26*** *15:29:48.6±0.0,33°.99N×89°.40E,h7km,mb4.0/11,ML3.9/3, Ms3.8/5,Ms7 3.8/6*

ISC 26 15:29:48.6±0.4,34°.04N±0°.06×89°.24E±0°.06,h17km,n96, σ1§63/90,mb4.1/22,MS3.4/7,7C-2D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**4.62**	**159**	Pn		**Pn**	**15 31 01.0**	**+2.9**
LSA				LR		LR		
	comp=E,520nm,4.8s							
LSA				LR		LR		
	comp=Z,2μm,4.7s							
LSA	**Lhasa**	**4.62**	**159**			**Pn**	**15 31 00.6**	**+2.5**
GUN	**Gumba**	**6.76**	**206**	*eP*		**Pn**	**15 31 29.6**	**+2.3**
TAPN	**Taplejung**	**6.80**	**192**	*eP*		**Pn**	**15 31 30.0**	**+2.1**
	15nm,0.7s							
JIRN	**Jiri**	**6.88**	**203**	*eP*		**Pn**	**15 31 32.2**	**+3.2**
	46nm,0.7s							
GKN	**Gorkha**	**7.20**	**214**	*eP*		**Pn**	**15 31 33.3**	**+0.1**
	4.2nm,0.3s							
PKIN	**Phulchoki**	**7.24**	**208**	*eP*		**Pn**	**15 31 35.1**	**+1.2**
	15nm,0.7s							
PKI	**Pulchoki**	**7.24**	**208**	*eP*		**Pn**	**15 31 35.6**	**+1.6**
DMN	**Daman**	**7.33**	**210**	*eP*		**Pn**	**15 31 37.2**	**+2.1**
	25nm,0.7s							
ODAN	**Odare**	**7.33**	**193**	*eP*		**Pn**	**15 31 35.7**	**+0.5**
	45nm,0.7s							
DANN	**Dangsing**	**7.36**	**221**	*eP*		**Pn**	**15 31 34.8**	**-0.8**
	11nm,0.7s							
RAMN	**Ramite**	**7.42**	**199**	*eP*		**Pn**	**15 31 38.1**	**+1.7**
	20nm,0.6s							
SHL	**Shillong**	**8.75**	**164**	*eP*		**Pn**	**15 31 56.5**	**+1.9**
SHL	**Shillong**	**8.75**	**164**	Pn		**Pn**	**15 31 53.0**	**-1.6**
KOHI	**KOHIMA**	**9.31**	**152**	*eP*		**Pn**	**15 32 01.4**	**-0.8**
WMQ	**Urumqi**	**9.84**	**353**	*eP*		**Pn**	**15 32 12.3**	**+3.0**
WMQ					smax	smax		
	comp=N,7.0nm,1.1s							
WMQ					smax	smax		
	comp=E,6.0nm,1.1s							
GTA	**Gaotai**	**10.04**	**55**	*eP*		Pn	15 32 00.5	-12
GTA					pP		15 32 04.8	
GTA					sP		15 32 08.3	
GTA					pmax	pmax		
	comp=Z,2.0nm,0.8s							
TARG	**Taragay, Kyrgy**	**11.84**	**314**			**Pn**	**15 32 37.9**	**+0.9**
KDJ	**Kajisay**	**12.46**	**314**			**Pn**	**15 32 46.8**	**+1.5**
NIL	**Nilore**	**13.30**	**273**	Pn		**Pn**	**15 32 53.4**	**-3.3**
BOOM	**Boomskoye usch**	**13.41**	**313**			**Pn**	**15 32 56.4**	**-1.9**
MKAR	**Makanchi Array**	**13.78**	**340**	Pn		**Pn**	**15 33 02.3**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=149,slow=15,SNR=3.2							
MKAR					LR	LR	15 38 49.5	
	comp=Z,87nm,20.2s,baz=169,slow=39							
AAK	**Ala-Archa**	**14.39**	**311**	Pn		**P**	**15 33 16.8**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=329,slow=4.2,SNR=4.4							
FRU1	**Bishkek**	**14.40**	**312**			**P**	**15 33 19.4**	**+0.9**
KMI	**Kunming**	**14.72**	**124**			**P**	**15 33 20.9**	**-1.4**
ARSB	**Arslanbob**	**14.77**	**304**	P		**P**	**15 33 23.0**	**+0.3**
BTK	**Batken**	**15.87**	**298**			**Pn**	**15 33 32.7**	**+1.4**
GAR	**Garm**	**15.99**	**293**			**P**	**15 33 36.0**	**-0.2**
GAR					IAmb	IAmb	15 33 52.7	
	comp=Z,11nm,1.3s							
XAN	**Xi'an**	**16.32**	**84**			**Pn**	**15 33 37.3**	**+0.3**
XAN					IAmb	IAmb	15 33 40.2	
	comp=Z,22nm,1.6s							
KBL	**Kabul**	**16.70**	**277**	P		**Pn**	**15 33 39.7**	**-2.3**
CHGR	**Chuyangaron**	**16.81**	**292**			**Pn**	**15 33 41.5**	**-1.8**
CHGR					IAmb	IAmb	15 33 49.0	
	comp=Z,9.5nm,0.9s							
KK31	**Karatay Array**	**17.18**	**307**			**Pn**	**15 33 45.9**	**-1.9**
KKAR	**Karatay Array**	**17.18**	**307**			**Pn**	**15 33 46.8**	**-1.0**
CHTO	**Chiang Mai**	**17.46**	**148**	P		**Pn**	**15 33 50.0**	**-1.4**
CMMT	**Chiang Mai**	**17.47**	**148**	P		**P**	**15 33 54.1**	**+1.5**
	comp=Z,2.2nm,1.7s							
ENH	**Enshi**	**17.55**	**97**			**Pn**	**15 33 52.0**	**-0.5**
ENH					IAmb	IAmb	15 34 13.5	
	comp=Z,24nm,1.5s							
MHMT	**Maesarieng**	**17.61**	**152**	P		**P**	**15 33 56.1**	**+1.9**
	comp=Z,13nm,0.4s							
CM31	**Chiang Mai Arr**	**17.78**	**148**	P		**Pn**	**15 33 54.2**	**-1.1**
CM31					IAmb	IAmb	15 33 58.4	
	comp=Z,7.7nm,0.9s							
CMAR	**Chiang Mai Arr**	**17.78**	**148**	P		**Pn**	**15 33 54.0**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=333,slow=11,SNR=24							
CMAR					LR	LR	15 41 19.4	
	comp=Z,94nm,21.6s,baz=358,slow=39							
SLVN	**Son La**	**18.11**	**131**	P		**Pn**	**15 33 59.9**	**+0.4**
SLVN					IAmb	IAmb	15 34 04.2	
	comp=Z,15nm,0.9s							
KURBB	**Kurchatov Arra**	**18.33**	**338**	P		**Pn**	**15 34 01.6**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=145,slow=12,SNR=9.2							
KURK	**Kurchatov**	**18.38**	**338**	P		**P**	**15 34 02.2**	**-0.3**
SONM	**Songino Array**	**18.86**	**38**	P		**P**	**15 34 08.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=226,slow=9.1,SNR=14							
SONM					LR	LR	15 41 11.9	
	comp=Z,45nm,18.9s,baz=34,slow=36							
ULN	**Ulaanbaatar**	**19.22**	**39**	P		**P**	**15 34 11.3**	**-0.6**
ZAA0	**Zalesovo Array**	**20.14**	**352**	P		**P**	**15 34 19.7**	**-2.0**
ZAA0					IAmb	IAmb	15 34 23.9	
	comp=Z,8.5nm,0.8s							
ZALV	**Zalesovo Beam**	**20.14**	**352**	P		**P**	**15 34 21.9**	**+0.2**
	comp=

comp=Z,1.3nm,0.9s,baz=299,slow=5.7,SNR=9.7
INK Inuvik 73.11 15 P **P 15 41 16.9 -0.6**
comp=Z,2.1nm,1.1s,baz=352,slow=9.9,SNR=3.2
INK Inuvik 73.11 15 P **P 15 41 17.4 0.0**
INK IAmb IAmb 15 41 18.8
comp=Z,8.7nm,1.6s
TORD Torodi Ar. Bea 80.76 280 P **P 15 42 01.4 -0.1**
comp=Z,1.1nm,1.0s,baz=28,slow=6.5,SNR=3.2

IDC 26 15:33:53.0±2.2, 3°05'N×128°81'E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/41, mbtmp3.4/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/30, Error ellipse: s-maj=101.3km s-min=22.1km az=62.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**23.32**	**245**	LR	LR	15 50 26.8	
	comp=Z,50nm,18.1s,baz=264,slow=43						
WRA	**Warramunga Arr**	**23.49**	**167**	P	P	15 39 05.3	+0.7
	0.4nm,0.4s,baz=343,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**27.02**	**170**	P	P	15 39 36.1	-0.8
	0.3nm,0.5s,baz=349,slow=7.1,SNR=12						
CMAR	**Chiang Mai Arr**	**33.00**	**300**	P	P	15 40 31.6	+1.5
	0.4nm,0.6s,baz=118,slow=7.7,SNR=3.4						
MKAR	**Makanchi Array**	**59.30**	**325**	P	P	15 43 55.7	-1.0
	0.3nm,0.4s,baz=114,slow=8.7,SNR=5.4						

*IDC **26** 15:40:47.4±66.0, 20°.45S×179°.44W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/35, mbtmp3.7/3, Error ellipse: s-maj=1190.0km s-min=173.1km az=82.0*
*ISCJB **26** 15:41:17.7±0.5, 21°.64S±0°.06×178°.04W±0°.08, h400km, mb3.1/3, Error ellipse: s-maj=10.8km s-min=6.9km az=39.1*
*NEIC **26** 15:41:19.0±1.5, 21°.6S±0°.1×177°.9W±0°.2, h410km±18km, mb4.7/16*

ISC 26 15:41:18.3±0.7, 21°.54S±0°.09×177°.92W±0°.09, h400km, n30, σ1§32/32, mb4.5/9, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.37**	**314**	P	**Pn**	**15 42 45.7**	**+1.4**
NIUE	**Niue**	**7.89**	**73**	P	**P**	**15 43 13.5**	**+1.0**
NIUE				S	**S**	**15 44 46.2**	**+1.1**
AFI	**Afiamalu**	**9.58**	**39**	P	**P**	**15 43 31.9**	**+0.5**
AFI				S	**S**	**15 45 15.6**	**-5.3**
FUNA	**Funafuti**	**13.24**	**347**	P	**Pn**	**15 44 15.6**	**+1.7**
OUZ	**Omahuta**	**15.53**	**207**	P	**P**	**15 44 36.3**	**-0.1**
URZ	**Urewera**	**17.20**	**193**	P	**P**	**15 44 53.6**	**-0.6**
URZ				IAmb	IAmb	15 44 54.0	
	comp=Z,50nm,1.7s						
SNZO	**South Karori**	**20.67**	**196**	P	**P**	**15 45 27.4**	**-1.3**
BHW	**Baring Head**	**20.72**	**195**	P	**P**	**15 45 28.7**	**-0.5**
PLWZ	**Palliser**	**20.78**	**195**	P	**P**	**15 45 29.6**	**-0.2**
QRZ	**Quartz Range**	**20.86**	**201**	P	**P**	**15 45 29.6**	**-0.8**
NNZ	**Nelson**	**20.95**	**199**	P	**P**	**15 45 30.9**	**-0.3**
NNZ				IAmb	IAmb	15 45 34.2	
	comp=Z,39nm,1.1s						
TUWZ	**Tuamarina**	**20.99**	**197**	P	**P**	**15 45 31.2**	**-0.3**
BSWZ	**Blackbirch Sta**	**21.27**	**197**	P	**P**	**15 45 34.7**	**+0.5**
THZ	**Tophouse**	**21.59**	**199**	P	**P**	**15 45 37.3**	**+0.1**
KHZ	**Kahutara**	**22.01**	**197**	P	**P**	**15 45 40.8**	**0.0**
KHZ				IAmb	IAmb	15 45 41.6	
	comp=Z,42nm,1.2s						
LTZ	**Lake Taylor**	**22.72**	**199**	P	**P**	**15 45 45.5**	**-1.8**
OXZ	**Oxford**	**23.28**	**199**	P	**P**	**15 45 51.4**	**-1.0**
MQZ	**McQueen's Vall**	**23.45**	**197**	P	**P**	**15 45 54.0**	**+0.2**
RPZ	**Rata Peaks**	**23.94**	**200**	P	**P**	**15 45 58.6**	**+0.3**
RPZ				IAmb	IAmb	15 46 08.8	
	comp=Z,65nm,1.7s						
FOZ	**Fox Glacier**	**24.19**	**202**	P	**P**	**15 45 58.7**	**-1.7**
FOZ				IAmb	IAmb	15 46 11.9	
	comp=Z,30nm,1.4s						
MLZ	**Mavora Lakes**	**26.39**	**203**	P	**P**	**15 46 19.9**	**-0.1**
MLZ				IAmb	IAmb	15 46 30.5	
	comp=Z,41nm,1.8s						
WHZ	**Wether Hill Ro**	**26.90**	**202**	P	**P**	**15 46 24.6**	**0.0**
WHZ				IAmb	IAmb	15 46 39.1	
	comp=Z,83nm,1.9s						
STKA	**Stephens Creek**	**37.42**	**245**	P	**P**	**15 47 54.4**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=94,slow=11,SNR=4.4						
STKA	**Stephens Creek**	**37.42**	**245**	P	**P**	**15 47 54.8**	**-0.4**
ASAR	**Alice Springs**	**44.37**	**258**	P	**P**	**15 48 50.6**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=88,slow=8.3,SNR=13						
WRA	**Warramunga Arr**	**44.54**	**263**	P	**P**	**15 48 51.6**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=94,slow=7.8,SNR=3.7						
NWAO	**Narrogin (SRO)**	**57.98**	**244**	P	**P**	**15 50 29.9**	**-1.1**
MORW	**Morawa**	**59.51**	**248**	P	**P**	**15 50 42.0**	**+0.6**
MORW				IAmb	IAmb	15 50 43.7	
	comp=Z,42nm,1.9s						
SYO	**Syowa Base**	**85.73**	**193**	*e*PcP	**P**	**15 53 13.6**	**+0.6**
CLL	**Collm**	**149.09**	**347**	*e*PKPbc	**PKPbc**	**16 00 20.0**	**+0.2**

*ISCJB **26** 16:01:20.3±0.5, 12°.70N±0°.05×88°.74W±0°.03, h63km±3km, mb3.9/7, Error ellipse: s-maj=8.8km s-min=3.3km az=27.1*
*UCR **26** 16:01:20.6±1.0, 12°.70N×88°.78W, h36km±194km, MD3.8, ML4.3, mb4.3(NEIC)*
*SNET **26** 16:01:21.0±0.8, 12°.73N×88°.79W, h36km±194km, ML4.4*
*NEIC **26** 16:01:22.2±2.5, 12°.80N±0°.08×88°.66W±0°.07, h65km±8km, mb4.3/28, Md4.4(SNET)*
*IDC **26** 16:01:22.6±1.8, 13°.11N×88°.37W, h56km±21km, mb3.6/7, mb1 3.9/11, mb1mx3.6/37, mbtmp3.9/11, ML3.3/4, MS3.0/3, Ms1 3.0/3, ms1mx2.7/32, Error ellipse: s-maj=39.5km s-min=13.0km az=40.0*
*GCG **26** 16:01:22.9±0.3, 12°.75N×89°.23W, h0km±85km, MD4.2*

ISC 26 16:01:21.3±1.1, 12.76N±0°.07×88.73W±0.04, h58km±9km, n106, σ1§01/126, mb4.2/20, 28C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.58**	**15**	↑*iP*	**Pn**	**16 01 33.8**	**-0.3**
ALJI				*e*S	**Sn**	**16 01 43.3**	**0.0**
ALJI				IAML		16 01 44.9	
	comp=Z,10μm,0.2s						
JUCU	**Jucuarįn**	**0.68**	**44**	↑*eP*	**Pn**	**16 01 35.0**	**-0.3**
JUCU				*e*S	**Sn**	**16 01 46.1**	**+0.7**
JUCU				IAML		16 01 47.8	
	comp=Z,24μm,0.2s						
COEB	**Comit de Eme**	**0.76**	**15**	↑*eP*	**Pn**	**16 01 36.1**	**-0.2**
COEB				IAML		16 01 51.9	
	comp=Z,6μm,0.2s						
TECA	**Tecapa**	**0.76**	**17**	↑*iP*	**Pn**	**16 01 36.3**	**-0.1**
TECA	**Tecapa**	**0.76**	**17**	↑*iP*	**Pn**	**16 01 36.3**	**-0.1**
LCY	**Lacayo**	**0.78**	**33**	↑*iP*	**Pn**	**16 01 36.7**	**+0.1**
LCY	**Lacayo**	**0.78**	**33**	↑*iP*	**Pn**	**16 01 36.7**	**+0.1**
VSM	**San Miguel**	**0.80**	**34**	*eP*	**Pn**	**16 01 37.1**	**+0.2**
PACA	**Pacayal**	**0.81**	**29**	↑*iP*	**Pn**	**16 01 37.0**	**+0.1**
PACA				*e*S	**Sn**	**16 01 49.2**	**+0.9**
PACA	**Pacayal**	**0.81**	**29**	↑*iP*	**Pn**	**16 01 37.0**	**+0.1**
PACA				*e*S	**Sn**	**16 01 49.2**	**+0.9**
COEG	**Centro de Oper**	**0.86**	**350**	↑*eP*	**Pn**	**16 01 37.1**	**-0.5**
COEG				IAML		16 01 55.6	
	comp=Z,6μm,0.3s						
LFRS	**El Faro**	**0.91**	**339**	↑*iP*	**Pn**	**16 01 37.5**	**-0.7**
LCND	**La Caada**	**0.98**	**56**	↑*eP*	**Pn**	**16 01 39.0**	**-0.1**
LCND				*e*S	**Sn**	**16 01 53.2**	**+1.1**
LCND				IAML		16 01 55.3	
	comp=Z,21μm,0.3s						
LCND	**La Caada**	**0.98**	**56**	↑*eP*	**Pn**	**16 01 39.0**	**-0.1**
LCND				*e*S	**Sn**	**16 01 53.2**	**+1.1**
LCND				IAML		16 01 55.3	
	comp=Z,21μm,0.3s						
CNCH	**Conchagua**	**1.01**	**60**	*eP*	**Pn**	**16 01 39.7**	**+0.2**
CNCH				*e*S	**Sn**	**16 01 55.4**	**+2.4**
CNCH				IAML		16 01 58.1	
	comp=Z,26μm,0.4s						
CNCH	**Conchagua**	**1.01**	**60**	*eP*	**Pn**	**16 01 39.7**	**+0.2**
CNCH				*e*S	**Sn**	**16 01 55.4**	**+2.4**
CNCH				IAML		16 01 58.1	
	comp=Z,26μm,0.4s						
LBRS	**Las Brisas**	**1.01**	**343**	↑*iP*	**Pn**	**16 01 39.5**	**-0.1**
SNET	**Serv Nac Est T**	**1.04**	**332**	↓*iP*	**Pn**	**16 01 39.4**	**-0.5**
SNET				*e*S	**Sn**	**16 01 53.2**	**-0.4**
SNET				*e*S	**Sn**	**16 01 53.3**	**-0.4**
SNET				IAML		16 01 55.3	
	comp=Z,4μm,0.3s						
SNET	**Serv Nac Est T**	**1.04**	**332**	↓*iP*	**Pn**	**16 01 39.4**	**-0.5**
SNET				*e*S	**Sn**	**16 01 53.3**	**-0.4**
SNET				IAML		16 01 55.3	
	comp=Z,4μm,0.3s						
SNET	**Serv Nac Est T**	**1.04**	**332**	↓*iP*	**Pn**	**16 01 39.3**	**-0.6**
SNET				*e*S	**Sn**	**16 01 53.6**	**0.0**
LFU	**La Fuente**	**1.05**	**339**	*eP*	**Pn**	**16 01 39.7**	**-0.3**
LFU	**La Fuente**	**1.05**	**339**	*eP*	**Pn**	**16 01 39.7**	**-0.3**
CUSC	**Alcaldia de Cu**	**1.05**	**335**	↑*eP*	**Pn**	**16 01 40.1**	**+0.1**
CUSC	**Alcaldia de Cu**	**1.05**	**335**	↑*eP*	**Pn**	**16 01 40.1**	**+0.1**
UEES	**Universidad Ev**	**1.07**	**332**	↑*eP*	**Pn**	**16 01 39.7**	**-0.5**
UEES	**Universidad Ev**	**1.07**	**332**	↑*eP*	**Pn**	**16 01 39.7**	**-0.5**
BOQS	**Boqueron**	**1.10**	**331**	↑*eP*	**Pn**	**16 01 40.6**	**-0.3**
FAGO	**Alcalda de S**	**1.11**	**33**	↑*iP*	**Pn**	**16 01 41.2**	**+0.5**
VICT	**Victoria**	**1.19**	**4**	↑*eP*	**Pn**	**16 01 42.5**	**+0.6**
VICT	**Victoria**	**1.19**	**4**	↑*eP*	**Pn**	**16 01 42.5**	**+0.6**
CEVE	**Cerro Verde**	**1.37**	**321**	*eP*	**Pn**	**16 01 44.3**	**-0.1**
CEVE				*e*S	**Sn**	**16 02 03.0**	**+1.3**
CEVE	**Cerro Verde**	**1.37**	**321**	*eP*	**Pn**	**16 01 44.3**	**-0.1**
CEVE				*e*S	**Sn**	**16 02 03.0**	**+1.3**
SBLS	**San Blas**	**1.38**	**321**	*eP*	**Pn**	**16 01 44.3**	**-0.2**
SBLS	**San Blas**	**1.38**	**321**	*eP*	**Pn**	**16 01 44.3**	**-0.2**
SNJE	**San Jose**	**1.39**	**322**	↑*eP*	**Pn**	**16 01 44.5**	**-0.2**
SNJE	**San Jose**	**1.39**	**322**	↑*eP*	**Pn**	**16 01 44.5**	**-0.2**
CRIN	**San Cristobal**	**1.64**	**92**	*eP*	**Pn**	**16 01 48.2**	**+0.3**
CRIN				*e*S	**Sn**	**16 02 09.0**	**+1.0**
CRIN				IAML		16 02 10.8	
	comp=N,4μm,0.3s						
MTO3	**Montecristo**	**1.74**	**339**	↑*iP*	**Pn**	**16 01 49.8**	**+0.4**
MTO3	**Montecristo**	**1.74**	**339**	↑*iP*	**Pn**	**16 01 49.8**	**+0.4**
TELN	**Telica**	**1.86**	**95**	*eP*	**Pn**	**16 01 50.7**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.91**	**48**	↑*iP*	**Pn**	**16 01 52.6**	**+0.9**
TGUH	**Tegucigalpa,Un**	**1.91**	**48**	↑*iP*	**Pn**	**16 01 52.6**	**+0.9**
TGUH	**Tegucigalpa,Un**	**1.91**	**48**		**Pn**	**16 01 52.6**	**+0.9**
CNGN	**Cerro Negro**	**2.00**	**97**	*eP*	**Pn**	**16 01 52.7**	**-0.1**
CNGN				*e*S	**Sn**	**16 02 16.8**	**0.0**
IXG	**Ixpaco**	**2.17**	**310**	*eP*	**Pn**	**16 01 55.0**	**-0.3**
IXG	**Ixpaco**	**2.17**	**310**	*eP*	**Pn**	**16 01 56.0**	**+0.6**
IXG	**Ixpaco**	**2.17**	**310**	*eP*	**Pn**	**16 01 55.0**	**-0.3**
ESTN	**Estel**	**2.33**	**81**	*eP*	**Pn**	**16 01 57.3**	**+0.1**
ESTN	**Estel**	**2.33**	**81**		**Pn**	**16 01 56.6**	**-0.7**
NBG	**Las Nubes**	**2.40**	**319**	*eP*	**Pn**	**16 02 00.3**	**+1.9**
NBG	**Las Nubes**	**2.40**	**319**	*eP*	**Pn**	**16 02 00.3**	**+1.9**
TISN	**Laguna Tiscapa**	**2.48**	**104**	*eP*	**Pn**	**16 01 59.0**	**-0.3**
MGAN	**Managua**	**2.50**	**104**	*eP*	**Pn**	**16 01 59.5**	**-0.1**
FUG	**Fuego 3**	**2.65**	**309**	*eP*	**Pn**	**16 02 04.1**	**+2.3**
FUG				*e*S	**Sn**	**16 02 33.4**	**+0.5**
FUG	**Fuego 3**	**2.65**	**309**	*eP*	**Pn**	**16 02 04.1**	**+2.3**
FUG				*e*S	**Sn**	**16 02 33.4**	**+0.5**
MATN	**Matagalpa**	**2.74**	**86**	*eP*	**Pn**	**16 02 02.6**	**-0.3**
MATN				*e*S	**Sn**	**16 02 34.2**	**-0.8**
APG	**El Apazote**	**2.79**	**323**	P	**Pn**	**16 02 05.0**	**+1.2**
	comp=N,2.8nm,0.3s,baz=95,slow=22,SNR=7.4						
CONN	**Concepcion**	**3.26**	**111**	*eP*	**Pn**	**16 02 10.7**	**+0.7**
STG3	**Santiaguito 3,**	**3.37**	**305**	*eP*	**Pn**	**16 02 12.2**	**+0.5**
STG3				*e*S	**Sn**	**16 02 50.6**	**0.0**
ACON	**Acoyapa**	**3.56**	**102**		**Pn**	**16 02 13.3**	**-0.8**
ESPN	**Las Esperanzas**	**4.36**	**97**		**Pn**	**16 02 25.5**	**+0.4**
JTS	**Las Juntas de**	**4.44**	**123**	P	**Pn**	**16 02 26.9**	**+0.6**
	comp=N,3.4nm,0.3s,baz=168,slow=21,SNR=20						
JTS				S	**Sn**	**16 03 16.5**	**-0.2**
	comp=N,7.4nm,0.3s,baz=36,slow=19,SNR=3.9						
JTS	**Las Juntas de**	**4.44**	**123**		**Pn**	**16 02 26.8**	**+0.5**
CMIG	**Matias Romero**	**7.34**	**307**	P	**Pn**	**16 03 06.6**	**+0.7**
	comp=N,0.8nm,0.3s,baz=148,slow=9.6,SNR=8.5						
CMIG				S	**Sn**	**16 04 26.3**	**-1.6**
	comp=N,0.3nm,0.3s,baz=270,slow=20,SNR=3.1						
CMIG				LR	LR	16 05 32.2	
	comp=N,28nm,20.0s,baz=160,slow=34						
TEIG	**Tepich**	**7.43**	**3**	LR	LR	16 06 09.2	
	comp=N,60nm,20.8s,baz=48,slow=40						
TEIG	**Tepich**	**7.43**	**3**	Pn	**Pn**	**16 03 09.6**	**+2.4**
SDV	**Santo Domingo**	**18.18**	**100**	P	**P**	**16 05 28.5**	**-1.2**
	comp=N,0.6nm,0.3s,baz=256,slow=7.5,SNR=5.3						
SDV	**Santo Domingo**	**18.18**	**100**	P	**P**	**16 05 28.9**	**-0.9**
833A	**Chaparral WMA,**	**18.40**	**329**		**Pn**	**16 05 33.2**	**+0.8**
833A				IAmb	IAmb	16 05 34.3	
	comp=Z,11nm,0.6s						
JCT	**Junction City**	**20.39**	**332**	P	**P**	**16 05 54.0**	**+0.5**
GOGA	**Godfrey**	**21.11**	**12**	P	**P**	**16 06 02.8**	**+1.6**
GOGA				IAmb	IAmb	16 06 04.7	
	comp=Z,6.3nm,0.8s						
TX32	**Lajitas Array**	**21.55**	**322**	P	**P**	**16 06 07.6**	**+1.5**
TXAR	**Lajitas Array**	**21.55**	**322**	P	**P**	**16 06 07.6**	**+1.5**
	comp=Z,2.0nm,0.8s,baz=140,slow=11,SNR=23						
TX31	**Lajitas Ar. Si**	**21.55**	**322**	P	**P**	**16 06 07.8**	**+1.7**
MIAR	**Mount Ida**	**22.13**	**349**	P	**P**	**16 06 13.1**	**+1.0**
MIAR				IAmb	IAmb	16 06 22.6	
	comp=Z,15nm,1.6s						
HODGE	**Hodges**	**22.17**	**14**	P	**P**	**16 06 14.1**	**+1.6**
HODGE				IAmb	IAmb	16 06 35.4	
	comp=Z,15nm,1.4s						
X37A	**Clayton**	**22.55**	**346**	P	**P**	**16 06 18.7**	**+2.1**
X37A				IAmb	IAmb	16 06 29.3	
	comp=Z,22nm,1.6s						
MTP	**Monte Pirata**	**22.95**	**74**	P	**P**	**16 06 19.6**	**-1.4**
TKL	**Tuckaleechee C**	**23.23**	**10**	P	**P**	**16 06 22.4**	**-1.1**
	comp=Z,5.9nm,0.9s,baz=172,slow=12,SNR=4.3						
TKL	**Tuckaleechee C**	**23.23**	**10**	P	**P**	**16 06 23.4**	**-0.2**
TKL				IAmb	IAmb	16 06 47.4	
	comp=Z,12nm,1.1s						
X34A	**Smith Ranch, M**	**23.26**	**341**	P	**P**	**16 06 24.7**	**+0.9**
LCAR	**Lake Charles**	**23.31**	**355**	P	**P**	**16 06 24.1**	**-0.2**
LCAR				IAmb	IAmb	16 06 49.6	
	comp=Z,14nm,1.7s						
W57A	**Gilead**	**23.65**	**18**	P	**P**	**16 06 27.1**	**-0.3**
WMOK	**Wichita Mounta**	**23.70**	**339**	P	**P**	**16 06 28.1**	**+0.2**
FNO	**Franklin**	**23.73**	**342**	P	**P**	**16 06 28.4**	**+0.2**
U40A	**Yellville**	**23.78**	**352**	P	**P**	**16 06 29.3**	**+0.6**
U40A				IAmb	IAmb	16 06 31.0	
	comp=Z,10nm,0.8s						
TUL1	**Leonard**	**23.91**	**346**	P	**P**	**16 06 30.0**	**+0.2**
TUL1				IAmb	IAmb	16 06 31.6	
	comp=Z,7.7nm,0.9s						
T47A	**Sharon Grove**	**24.17**	**3**	P	**P**	**16 06 29.9**	**-2.3**
MNTX	**Cornudas Mount**	**24.28**	**324**	P	**P**	**16 06 33.0**	**-0.4**
T49A	**Edmonton**	**24.41**	**6**	P	**P**	**16 06 33.2**	**-1.2**
T49A				IAmb	IAmb	16 06 54.8	
	comp=Z,18nm,1.6s						
V58A	**Windy Hill, Pi**	**24.52**	**19**	P	**P**	**16 06 35.8**	**+0.4**
V58A				IAmb	IAmb	16 06 37.1	
	comp=Z,14nm,0.9s						
MSTX	**Muleshoe**	**24.68**	**331**	P	**P**	**16 06 37.2**	**+0.2**
MSTX				IAmb	IAmb	16 06 38.9	
	comp=Z,11nm,0.9s						
AMTX	**Amarillo**	**24.95**	**334**	P	**P**	**16 06 39.7**	**+0.2**
AMTX				IAmb	IAmb	16 06 42.4	
	comp=Z,16nm,1.4s						
CCM	**Cathedral Cave**	**25.29**	**355**	P	**P**	**16 06 41.3**	**-1.0**
CCM				IAmb	IAmb	16 06 43.0	
	comp=Z,5.4nm,0.8s						
O20A	**White River Ci**	**32.23**	**331**	P	**P**	**16 07 46.7**	**+2.3**
O20A				IAmb	IAmb	16 07 48.3	
	comp=Z,5.8nm,0.9s						
NVAR	**Mina Array Bea**	**36.65**	**320**	P	**P**	**16 08 25.4**	**+2.8**
	comp=Z,0.3nm,0.5s,baz=138,slow=7.3,SNR=4.4						
ULM	**Lac du Bonnet**	**37.84**	**353**	P	**P**	**16 08 30.5**	**-1.8**
	comp=Z,2.8nm,0.5s,baz=169,slow=9.8,SNR=9.9						
ULM	**Lac du Bonnet**	**37.84**	**353**	P	**P**	**16 08 30.4**	**-1.8**
SCHQ	**Schefferville**	**45.35**	**18**	P	**P**	**16 09 31.4**	**-2.3**
	comp=Z,3.4nm,0.9s,baz=214,slow=13,SNR=4.7						
SCHQ	**Schefferville**	**45.35**	**18**	P	**P**	**16 09 31.7**	**-2.0**
YKA	**Yellowknife Ar**	**52.99**	**345**	P	**P**	**16 10 31.1**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=147,slow=6.7,SNR=30						
ILAR	**Eielson Array**	**65.23**	**336**	P	**P**	**16 11 57.0**	**+0.5**
	comp=Z,0.6nm,1.0s,baz=91,slow=3.2,SNR=6.9						
USHA	**Ushuaia**	**69.49**	**168**	LR	LR	16 37 42.5	
	comp=Z,57nm,18.1s,baz=132,slow=31						
WRA	**Warramunga Arr**	**138.15**	**254**	PKP	**PKiKP**	**16 20 42.8**	**0.0**
	comp=Z,0.2nm,0.4s,baz=89,slow=2.3,SNR=5.5						
ASAR	**Alice Springs**	**138.22**	**249**	PKP	**PKiKP**	**16 20 44.3**	**+1.4**
	comp=Z,0.2nm,0.8s,baz=88,slow=2.3,SNR=4.4						
CMAR	**Chiang Mai Arr**	**148.07**	**346**	PKPbc	**PKPbc**	**16 21 00.8**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=329,slow=4.6,SNR=4.1						

*ISCJB **26** 16:09:26.4±0.3, 60°.77S±0°.05×42°.4W±0°.1, h10km, mb4.4/10, MS3.9/20, Error ellipse: s-maj=7.9km s-min=6.2km az=44.3*
*IDC **26** 16:09:27.2±0.6, 60°.68S×42°.48W, h0km, mb4.4/10, mb1 4.5/12, mb1mx4.3/23, mbtmp4.4/12, ML3.8/2, MS3.8/18, Ms1 3.8/18, ms1mx3.7/31, Error ellipse: s-maj=21.1km s-min=15.8km az=36.0*
*NEIC **26** 16:09:29.1±2.1, 60°.8S±0°.1×42°.5W±0°.2, h13km±3km, mb4.9/23*
*BJI **26** 16:09:30.0±0.0, 60°.80S×42°.30W, h10km, Ms7 4.6/1*

ISC 26 16:09:28.7±0.4, 60°.70S±0°.07×42°.41W±0°.07, h10km, n141, σ1§09/128, mb4.7/15, MS3.9/20, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**10.71**	**238**	Pn	**Pn**	**16 12 00.9**	**-0.9**
	1.0nm,0.3s,baz=58,slow=13,SNR=5.2						
PMSA				Sn	**Sn**	**16 14 03.5**	**+1.9**
	0.3nm,0.3s,baz=324,slow=19,SNR=2.3						
PMSA				LR	LR	16 16 20.3	
	comp=Z,821nm,18.2s,baz=70,slow=39						
PMSA	**Palmer Station**	**10.71**	**238**		**Pn**	**16 12 00.8**	**-1.0**
USHA	**Ushuaia**	**15.01**	**281**	Pn	**P**	**16 13 06.7**	**+0.7**
	1.0nm,0.3s,baz=116,slow=9.6,SNR=14						
USHA				LR	LR	16 17 41.3	
	comp=Z,990nm,18.5s,baz=112,slow=33						
VNA3	**Neumayer Olymp**	**16.73**	**143**	P	**Pn**	**16 13 19.3**	**-3.4**
VNA1	**Neumayer--Stat**	**16.95**	**140**	P	**Pn**	**16 13 23.7**	**-1.8**
VNA2	**Neumayer--Watz**	**17.31**	**141**	P	**Pn**	**16 13 27.0**	**-3.0**
	baz=292,slow=15						
SNAA	**Sanae**	**18.94**	**142**	P	**Pn**	**16 13 49.6**	**-0.4**
SNAA	**Sanae**	**18.94**	**142**	P	**Pn**	**16 13 49.7**	**-0.4**
	0.2nm,0.3s,baz=270,slow=8.5,SNR=16						
SNAA				S	Sn	16 17 07.4	-14
	0.1nm,0.3s,baz=270,slow=20,SNR=4.6						
SNAA	**Sanae**	**18.94**	**142**	P	**P**	**16 13 48.2**	**-1.2**
SNAA				Sn	Sn	16 17 06.8	-15
GO09	**Cerro Castillo**	**19.05**	**286**	P	**P**	**16 13 50.5**	**-0.2**
GO09				IAmb	IAmb	16 13 51.9	
	comp=Z,123nm,1.1s						
TRQA	**Tornquist**	**25.79**	**323**	*e*P	**P**	**16 14 59.9**	**+0.3**
TRQA	**Tornquist**	**25.79**	**323**	*e*P	**P**	**16 14 59.9**	**+0.3**
TRQA	**Tornquist**	**25.79**	**323**	P	**P**	**16 14 59.1**	**-0.4**
PLCA	**Paso Flores**	**26.42**	**306**	P	**P**	**16 15 03.9**	**-1.4**
	comp=Z,16nm,0.8s,baz=177,slow=7.3,SNR=20						
PLCA				LR	LR	16 24 53.9	
	comp=Z,210nm,19.9s,baz=191,slow=35						
PLCA	**Paso Flores**	**26.42**	**306**	*e*P	**P**	**16 15 04.2**	**-1.1**
PLCA	**Paso Flores**	**26.42**	**306**	*e*P	**P**	**16 15 04.2**	**-1.1**
PLCA	**Paso Flores**	**26.42**	**306**	P	**P**	**16 15 04.1**	**-1.2**
PLCA				IAmb	IAmb	16 15 07.5	
	comp=Z,23nm,1.0s						
QSPA	**South Pole Qui**	**29.54**	**180**	P	**P**	**16 15 33.7**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=152,slow=3.3,SNR=5.4						
QSPA				LR	LR	16 26 13.0	
	comp=Z,88nm,20.5s,baz=153,slow=34						
QSPA	**South Pole Qui**	**29.54**	**180**	P	**P**	**16 15 34.2**	**+1.1**
PLTB	**Pedras Altas**	**29.87**	**341**	*e*P	**P**	**16 15 37.3**	**+1.2**
PLTB	**Pedras Altas**	**29.87**	**341**	*e*P	**P**	**16 15 37.3**	**+1.2**
PEL	**Peldehue**	**33.15**	**313**	P	**P**	**16 16 03.8**	**-1.2**
ROC1	**El Roble**	**33.42**	**313**	P	**P**	**16 16 06.6**	**-1.0**
CFA	**Coronel Fontan**	**33.71**	**318**	LR	LR	16 29 42.5	
	comp=Z,218nm,21.9s,baz=88,slow=36						
CPUP	**Villa Florida**	**35.84**	**337**	P	**P**	**16 16 28.5**	**+0.3**
	comp=Z,8.3nm,0.9s,baz=169,slow=7.6,SNR=18						
CPUP	**Villa Florida**	**35.84**	**337**	P	**P**	**16 16 27.9**	**-0.3**
CPUP				IAmb	IAmb	16 16 29.7	
	comp=Z,15nm,1.1s						
MAW	**Mawson**	**41.02**	**146**	LR	LR	16 32 49.6	
	comp=Z,95nm,19.8s,baz=239,slow=34						
MAW	**Mawson**	**41.02**	**146**	P	**P**	**16 17 12.2**	**+0.9**
LVC	**Limon Verde**	**42.30**	**322**	LR	LR	16 34 50.9	
	comp=Z,112nm,21.0s,baz=194,slow=36						
LVC	**Limon Verde**	**42.30**	**322**	*e*P	**P**	**16 17 23.0**	**+0.3**
LVC	**Limon Verde**	**42.30**	**322**	*e*P	**P**	**16

SJCC	San Jacinto, C	75.00	326	*e*P		P		16 21 10.1	+0.1
TBI	Tubuai	77.85	244	*e*LR		LR		16 45 35.9	
	comp=Z,198nm,23.5s								
ESPN	Las Esperanzas	79.90	318	P		P		16 21 38.6	+1.3
TOA0	Torodi Ar. Sit	81.53	43	P		P		16 21 47.0	+0.9
TOA0				IAmb		IAmb		16 21 49.1	
	comp=Z,12nm,1.5s								
TORD	Torodi Ar. Bea	81.53	43	P		P		16 21 46.9	+0.8
	comp=Z,3.0nm,0.9s,baz=203,slow=5.6,SNR=12								
TORD				LR		LR		16 52 31.9	
	comp=E,114nm,18.6s,baz=325,slow=32								
PPT2	Papeete2	82.94	247	*e*LR		LR		16 47 56.4	
	comp=Z,237nm,24.5s								
PPT	Papeete	82.95	247	LR		LR		16 49 17.4	
	comp=Z,96nm,21.4s,baz=240,slow=29								
TAOE	Nuku Hiva Isla	86.12	259	*e*LR		LR		16 49 26.3	
	comp=Z,246nm,26.9s								
STKA	Stephens Creek	87.70	183	LR		LR		17 00 36.6	
	comp=Z,55nm,18.6s,baz=204,slow=35								
ASAR	Alice Springs	95.89	177	LR		LR		17 05 01.1	
	comp=Z,26nm,18.7s,baz=108,slow=35								
YKA	Yellowknife Ar	134.53	322	PKP		PKPdf		16 28 44.6	-0.8
	comp=Z,0.4nm,0.6s,baz=140,slow=1.8,SNR=5.6								
YKA				PP		PP		16 31 17.6	-1.7
	comp=Z,0.4nm,0.9s,baz=116,slow=7.0,SNR=4.3								
KSH	Kashi	137.11	91	PKP		PKiKP		16 28 53.5	+0.5
KSH				PP		PP		16 31 39.8	+3.8
KSH				SS		SS		16 49 43.0	+1.3
CD2	Chengdu	142.77	128	PKP		PKPdf		16 29 02.0	+0.4
BVAR	Borovoye Array	144.00	71	PKP		PKPdf		16 29 03.2	+0.2
	comp=Z,1.1nm,0.8s,baz=247,slow=3.1,SNR=5.2								
EPYK	Eagle Plains	144.26	317			PKPab		16 29 00.5	-0.6
INK	Inuvik	144.27	320	PKP		PKPab		16 29 00.7	-0.3
	comp=Z,6.4nm,0.7s,baz=108,slow=2.4,SNR=24								
INK	Inuvik	144.27	320			PKPab		16 29 00.4	-0.6
EGAK	Eagle	144.96	312			PKPbc		16 29 02.4	-1.2
MK31	Makanchi Array	145.59	88			PKPdf		16 29 05.6	-0.4
MKAR	Makanchi Array	145.59	88	PKPbc		PKPdf		16 29 05.7	-0.3
	comp=Z,1.5nm,0.6s,baz=228,slow=2.4,SNR=8.7								
PAX	Paxson	145.61	308			PKPdf		16 29 05.6	0.0
SCM	Sheep Creek Mo	145.74	305			PKPab		16 29 06.5	-0.2
WMQ	Urumqi	146.11	97	*e*PKPbc		PKPab		16 29 08.5	-0.2
WMQ				LR		LR			
	comp=Z,130nm,29.2s								
WHN	Wuhan	146.12	142	PKPbc		PKiKP		16 29 16.8	+5.2
KURBB	Kurchatov Arra	146.33	80	PKPbc		PKPbc		16 29 08.2	-0.2
	comp=Z,1.5nm,0.6s,baz=234,slow=3.3,SNR=16								
GHO	Glory Hole Cre	146.35	305			PKPbc		16 29 08.1	-0.1
KURK	Kurchatov	146.44	80			PKPab		16 29 09.0	-0.6
SUA	Susitna One	146.93	303			PKPbc		16 29 09.9	0.0
IL31		147.07	310			PKPbc		16 29 09.1	-0.9
ILAR	Eielson Array	147.07	310	PKPbc		PKPbc		16 29 09.7	-0.4
	comp=Z,6.0nm,0.7s,baz=140,slow=2.0,SNR=65								
RND	Reindeer	147.16	307			PKPbc		16 29 10.2	-0.2
RSO	Redoubt South	147.24	301			PKPbc		16 29 10.0	-0.9
FYU	Fort Yukon	147.31	314			PKPbc		16 29 11.0	+0.4
MCK	McKinley	147.35	308			PKPbc		16 29 10.8	-0.1
CCB	Clear Creek Bu	147.35	310			PKPbc		16 29 10.2	-0.7
WRH	Wood River Hil	147.38	309			PKPbc		16 29 10.3	-0.6
COLA	College	147.48	310			PKPbc		16 29 10.4	-0.8
SKT	Skwentna	147.51	304			PKPbc		16 29 11.0	-0.4
TRF	Thorofare Moun	147.74	307			PKPbc		16 29 11.2	-1.0
NEA	Nenana	147.81	309			PKPbc		16 29 11.3	-0.8
KTH	Kantishna Hill	148.04	307			PKPbc		16 29 12.1	-0.7
PPLA	Purkeypile	148.23	305			PKPbc		16 29 13.6	+0.2
BPAW	Bear Paw Mtn.	148.32	308			PKPdf		16 29 09.6	-0.4
BPAW				PKPbc		PKPbc		16 29 15.3	+1.8
GTA	Gaotai	148.40	115	*e*PKPbc		PKiKP		16 29 16.0	-0.2
GTA				pPKP		pPKPab		16 29 20.0	-0.7
GTA				sPKP				16 29 23.0	
MLY	Manley	148.65	309			PKPbc		16 29 13.2	-1.1
COLD	Coldfoot	149.37	313			PKPbc		16 29 16.3	+0.3
ZALV	Zalesovo Beam	151.42	80	PKPbc		PKiKP		16 29 21.6	-0.1
	comp=Z,0.6nm,0.4s,baz=270,slow=3.7,SNR=3.6								
HHC	Hu-ho-hao-te	154.50	129	*e*PKPbc		PKPdf		16 29 18.5	-1.8
SONM	Songino Array	157.95	112	PKPab		PKPab		16 29 57.9	0.0
	comp=Z,0.6nm,0.9s,baz=304,slow=2.6,SNR=3.4								

*ISCJB **26** 16:16:15.1±0.3, 1.°45N±0.°03×127.°21E±0.°04, h103km, mb4.2/8, Error ellipse: s-maj=6.2km s-min=4.8km az=175.5*
*IDC **26** 16:16:17.8±2.5, 1.°40N×127.°01E, h114km±24km, mb3.7/7, mb1 3.8/9, mb1mx3.4/57, mbtmp4.1/9, Error ellipse: s-maj=31.2km s-min=12.5km az=79.0*
*NEIC **26** 16:16:18.4±1.2, 1.°42N±0.°08×127.°08E±0.°05, h120km±5km, mb4.5/27*
*DJA **26** 16:16:18.3±0.5, 2.°N±3.°×12.°7E±.°, h105km±6km, M4.4/9, mB4.6/1, mb4.6/1, MLv4.2/9, Mw(mB)3.9/1*

ISC 26 16:16:16.8±0.5, 1.°49N±0.°04×127.°05E±0.°06, h103km, n51, σ1°91/58, mb4.4/20, 1C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.78	156	P	Pn	16 16 38.5	+3.2
TNTI				S	Sn	16 16 53.5	+4.4
TNTI	Ternate	0.78	156		Pn	16 16 38.2	+3.0
LBMI	Labuha	2.16	168	P	Pn	16 16 54.5	+2.9
LBMI				S	Sn	16 17 21.8	+3.5
KMSI	Cibinong	3.21	254	P	Pn	16 17 07.3	+1.9
KMSI				S	Sn	16 17 45.2	+2.3
SANI	Sanana	3.68	197	P	Pn	16 17 11.9	+0.2
SANI				S	Sn	16 17 51.5	-2.7
NLAI	Namlea	4.70	179	P	Pn	16 17 27.8	+2.3
NLAI				S	Sn	16 18 17.7	-1.2
SIJI	Sorong	4.82	119	P	Pn	16 17 29.8	+2.6
	3.5nm,0.3s,baz=333,slow=22,SNR=14						
LUWI	Luwuk	4.97	240	Pn	Pn	16 17 31.4	+2.2
LUWI					Sn	16 18 29.0	+3.6
GSPH	General Santos	5.02	335	⇓P	Sn	16 18 23.1	-3.9
MRSI	Marisa	5.21	259	P	Pn	16 17 33.9	+1.5
KCP	Kidapawan	5.82	340	⇑P	Pn	16 17 51.7	+11
KCP				S	Sn	16 18 51.0	+4.8
FAKI	Fak Fak	6.79	130	Pn	Pn	16 17 57.1	+3.1
KKM	Kota Kinabalu	11.72	293	Pn	Pn	16 19 02.9	+2.0
MTN	Manton Dam	14.81	164	Pn	Pn	16 19 39.5	-1.6
KNRA	Kununurra	17.14	174		P	16 20 09.8	-0.3
KNRA				IAmb	IAmb	16 20 11.0	
	comp=Z,25nm,0.6s						
FITZ	Fitzroy Crossi	19.52	184	P	P	16 20 35.3	-0.8
	comp=Z,0.4nm,0.3s,baz=12,slow=8.3,SNR=11						
FITZ	Fitzroy Crossi	19.52	184	P	P	16 20 35.4	-0.8
FITZ				IAmb	IAmb	16 20 52.4	
	comp=Z,32nm,1.7s						
COEN	Coen	22.16	134	P	P	16 21 04.3	-0.2
WRA	Warramunga Arr	22.47	162	P	P	16 21 06.5	-1.2
	comp=Z,4.1nm,0.3s,baz=340,slow=12,SNR=66						
TPUB	Ta-pu	22.56	344	P	P	16 21 08.5	0.0
PSAD1	Pilbara Seismi	23.88	197	P	P	16 21 20.6	-0.3
PSAD1				IAmb	IAmb	16 21 49.0	
	comp=Z,22nm,1.4s						
PSAC1	Pilbara Seismi	23.95	197	P	P	16 21 21.1	-0.6
PSAC2	Pilbara Seismi	23.96	197	P	P	16 21 21.7	0.0
PSAC2				IAmb	IAmb	16 21 49.1	
	comp=Z,27nm,1.6s						
PSAA2	Pilbara Seismi	23.97	197	P	P	16 21 21.8	-0.1
PSAA2				IAmb	IAmb	16 21 29.0	
	comp=Z,19nm,1.4s						
PSA00	Pilbara Seismi	23.98	197	P	P	16 21 21.6	-0.3
PSA00				IAmb	IAmb	16 21 30.7	
	comp=Z,16nm,1.4s						
PSAB1	Pilbara Seismi	23.98	197	P	P	16 21 22.2	+0.2
JOW	Kunigami	25.22	3	P	P	16 21 35.8	+2.7
AS31	Alice Springs	25.88	165	P	P	16 21 37.9	-1.3
ASAR	Alice Springs	25.88	165	P	P	16 21 38.0	-1.1
	comp=Z,0.5nm,0.3s,baz=343,slow=8.5,SNR=34						
ASAR				ScP	ScP	16 28 33.5	-2.8
	comp=Z,0.2nm,0.5s,baz=338,slow=2.7,SNR=6.7						
JCJ	Chichijima	29.31	28	P	P	16 22 09.9	+0.2
	comp=Z,87nm,0.6s,baz=286,slow=18,SNR=3.7						
PATS	Pohnpei	31.61	79	P	P	16 22 27.7	-2.6
FORT	Forrest	32.11	178	P	P	16 22 33.4	-1.0
MORW	Morawa	32.16	198	P	P	16 22 34.4	-0.4
MORW				IAmb	IAmb	16 22 59.2	
	comp=Z,30nm,1.6s						
BBOO	Buckleboo	35.16	167	P	P	16 22 59.8	-1.0
EIDS	Eidsvold	35.41	141	P	P	16 23 02.4	-0.7
EIDS				IAmb	IAmb	16 23 27.7	
	comp=Z,6.2nm,1.2s						
NWAO	Narrogin (SRO)	35.47	194	P	P	16 23 03.1	-0.4
	comp=Z,3.5nm,0.3s,baz=27,slow=8.2,SNR=8.4						
NWAO	Narrogin (SRO)	35.47	194	P	P	16 23 02.7	-0.7
NWAO				IAmb	IAmb	16 23 16.1	
	comp=Z,35nm,1.8s						
NWAO	Narrogin (SRO)	35.47	194	P	P	16 23 03.2	-0.2
NWAO				IAmb	IAmb	16 23 16.1	
	comp=Z,40nm,1.7s						
STKA	Stephens Creek	35.94	159	P	P	16 23 06.8	-0.7
	comp=Z,2.7nm,0.7s,baz=359,slow=6.8,SNR=7.5						
STKA	Stephens Creek	35.94	159	P	P	16 23 06.5	-1.0
ARMA	Armidale	39.44	146	P	P	16 23 37.4	+0.2
ARMA				IAmb	IAmb	16 23 51.2	
	comp=Z,24nm,1.4s						
SONM	Songino Array	49.51	342	P	P	16 24 58.3	+1.2
	comp=Z,0.6nm,0.7s,baz=134,slow=6.2,SNR=3.5						
MK31	Makanchi Array	59.57	326	P	P	16 26 10.1	+0.4
MK31				IAmb	IAmb	16 26 26.2	
	comp=Z,5.3nm,1.4s						
MKAR	Makanchi Array	59.57	326	P	P	16 26 09.9	+0.2
	comp=Z,1.4nm,0.5s,baz=118,slow=7.7,SNR=14						
MAKZ	Makanchi	59.76	326	P	P	16 26 11.2	+0.2
MAKZ				IAmb	IAmb	16 26 31.8	
	comp=Z,9.0nm,1.3s						
BOOM	Boomskoye usch	61.21	319	P	P	16 26 20.0	-1.2
KURBB	Kurchatov Arra	63.79	328	P	P	16 26 37.6	-0.3
	comp=Z,1.8nm,0.9s,baz=127,slow=6.1,SNR=8.8						
KURK	Kurchatov	63.79	328	P	P	16 26 37.8	-0.1
KURK				IAmb	IAmb	16 26 40.8	
	comp=Z,3.5nm,0.9s						
CASY	Casey	68.65	187	P	P	16 27 08.3	-0.3
CASY				IAmb	IAmb	16 27 34.9	
	comp=Z,7.3nm,1.2s						
VNDA	Vanda	81.18	173	P	P	16 28 19.8	-0.8
VNDA				IAmb	IAmb	16 28 33.1	
	comp=Z,8.9nm,1.6s						
RDOG	Red Dog Mine	81.24	21	P	P	16 28 21.8	+0.7

*ISCJB **26** 16:21:59.0±0.3, 37.°00N±0.°03×71.°51E±0.°05, h100km, mb3.8/3, Error ellipse: s-maj=6.0km s-min=3.4km az=149.7*
*IDC **26** 16:22:00.5±4.8, 37.°05N×71.°44E, h75km±31km, mb3.6/3, mb1 3.8/9, mb1mx3.3/60, mbtmp4.0/9, Error ellipse: s-maj=59.5km s-min=23.3km az=173.0*
*NEIC **26** 16:22:02.9±3.0, 37.°21N±0.°06×71.°43E±0.°09, h109km±6km, mb4.6/7*
*NNC **26** 16:22:05.2±1.8, 37.°46N×71.°23E, h135km±39km, mb3.3, mpv3.7, Error ellipse: s-maj=17.2km s-min=10.6km az=163.0*

ISC 26 16:22:00.3±0.6, 37.°11N±0.°05×71.°47E±0.°05, h100km, n69, σ2°40/79, mb4.2/5, 5C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	2.10	335		Pn	16 22 36.4	+2.2
CHGR	Chuyangaron	2.39	311		Pn	16 22 39.9	+1.8
BTK	Batken	2.99	350		Pn	16 22 49.2	+3.3
KBL	Kabul	3.23	218		Pn	16 22 54.4	+5.0
CEP	Cherat	3.30	174	P	Pn	16 22 54.2	+4.0
CEP				S	Sn	16 23 34.0	+5.3
CHCP	Chirah Chowk	3.74	156	P	Pn	16 23 00.5	+4.4
NIL	Nilore	3.75	157		Pn	16 23 00.7	+4.6
THW	Thamme Wali	4.31	177	P	Pn	16 23 07.2	+3.5
ARSB	Arslanbob	4.37	15		Pn	16 23 06.2	+1.6
SARP	Sargodha	5.27	169	P	Pn	16 23 19.1	+2.4
AML	Almayashu	5.30	18	P	Pn	16 23 19.6	+2.1
	SNR=181						
NRN	Naryn	5.57	38		Pn	16 23 22.2	+1.3
UCH	Uchtor	5.63	24	P	Pn	16 23 24.6	+2.7
	SNR=8.0						
KZA	Kyzart	5.76	29	P	Pn	16 23 26.3	+2.7
	SNR=7.2						
EKS2	Erkin-Say	5.82	17	P	Pn	16 23 27.1	+2.8
	SNR=10						
THN	Thein Dam	5.83	142	*e*P	Pn	16 23 27.3	+3.1
THN				*e*S	Sn	16 24 28.3	-1.4
AAK	Ala-Archa	5.99	22	P	Pn	16 23 29.5	+2.9
	3.2nm,0.3s,baz=153,slow=6.6,SNR=37						
AAK				S	Sn	16 24 33.0	-0.8
	1.5nm,0.3s,baz=120,slow=22,SNR=8.4						
AAK	Ala-Archa	5.99	22	P	Pn	16 23 29.6	+2.9
	SNR=10.0						
AAK	Ala-Archa	5.99	22		Pn	16 23 29.3	+2.7
AAK					Sn	16 24 34.2	+0.3
AAK	Ala-Archa	5.99	22	⇓P	Pn	16 23 29.2	+2.7
	2.2nm,0.3s						
AAK				⇓S	Sn	16 24 33.5	-0.3
	19nm,1.1s						
KK31	Karatay Array	6.03	353		Pn	16 23 28.5	+1.5
KK31	Karatay Array	6.03	353	⇑P	Pn	16 23 27.6	+0.7
	5.0nm,0.3s,baz=189,slow=18,SNR=95						
KK31				⇑S	Sn	16 24 32.3	-2.3
	8.8nm,0.6s,baz=171,slow=22,SNR=7.8						
KKAR	Karatay Array	6.03	353		Pn	16 23 28.6	+1.7
DHRM	DHARAMSHALA	6.27	139	*e*P	Pn	16 23 32.0	+1.6
DHRM				*e*S	Sn	16 24 38.4	-2.4
DHRM				IAML		16 24 44.3	
	comp=N,332nm,0.4s						
DHRM				IAML		16 24 45.2	
	comp=E,260nm,0.4s						
BOOM	Boomskoye usch	6.38	31	Pn	Pn	16 23 33.2	+1.3
CHMS	Chumysh	6.40	22	P	Pn	16 23 34.3	+2.3
	SNR=7.1						
TKM2	Tokmak 2	6.61	27	P	Pn	16 23 37.7	+2.6
	SNR=10						
TKM2	Tokmak 2	6.61	27	⇑P	Pn	16 23 37.2	+2.2
	comp=E,4.7nm,0.8s						
TKM2				⇓S	Sn	16 24 48.6	-0.4
	comp=E,8.5nm,1.2s						
KDJ	Kajisay	6.68	40	Pn	Pn	16 23 36.8	+0.9
TARG	Taragay, Kyrgy	6.73	45	Pn	Pn	16 23 37.4	+0.6
SMLA	Simla	7.61	140	*e*P	Pn	16 23 50.1	+1.7
SMLA				*e*S	Sn	16 25 07.8	-5.2
SMLA				IAML		16 25 13.8	
	comp=E,176nm,0.3s						
SMLA				IAML		16 25 13.8	
	comp=N,99nm,0.1s						
JOSI	Joshimath	9.38	132	*e*P	Pn	16 24 13.9	+1.2
JOSI				*e*S	Sn	16 25 52.1	-4.3
JOSI				IAML		16 25 59.6	
	comp=N,371nm,0.7s						
JOSI				IAML		16 26 04.9	
	comp=E,489nm,1.1s						
GEYT	Alibeck	10.64	278	P	Pn	16 24 29.1	-0.6
	comp=E,1.2nm,0.3s,baz=122,slow=11,SNR=18						
GEYT				S	Sn	16 26 22.9	-3.9
	comp=E,3.3nm,0.3s,baz=124,slow=47,SNR=15						
GYA0B	ALIBECK ARRAY	10.64	278	Pn	Pn	16 24 28.8	-0.9
GYA0B	ALIBECK ARRAY	10.64	278	⇑P	Pn	16 24 29.5	-0.2
GYA0B				⇓S	Sn	16 26 25.3	-1.5
MAKZ	Makanchi	12.44	36	Pn	Pn	16 24 51.4	-2.4
MK31	Makanchi Array	12.58	36	Pn	Pn	16 24 53.8	-1.7
MKAR	Makanchi Array	12.58	36	P	Pn	16 24 57.0	+1.4
	comp=E,0.1nm,0.3s,baz=230,slow=15,SNR=8.1						
DANN	Dangsing	13.53	127	*e*P	Pn	16 25 05.9	-2.5
KOLN	Koldanda	13.83	129	*e*P	Pn	16 25 10.0	-2.3
GKN	Gorkha	14.33	126	*e*P	Pn	16 25 16.3	-2.4
	comp=E,15nm,0.2s						
KURBB	Kurchatov Arra	14.43	18	P	P	16 25 24.6	+1.2
	comp=E,0.1nm,0.3s,baz=206,slow=10,SNR=12						
KURK	Kurchatov	14.54	18	P	P	16 25 25.7	+1.0
AB31	Akbulak array	14.74	329	P	Pn	16 25 22.9	-0.7
	comp=E,1.4nm,0.3s,baz=136,slow=13,SNR=135						
AB31				⇑S	Sn	16 27 59.9	-6.1
	comp=E,1.1nm,0.7s,baz=150,slow=23,SNR=3.4						
ABKAR	Akbulak array	14.74	329		Pn	16 25 22.9	-0.7
KKN	Kakani	14.89	125	*e*P	Pn	16 25 23.2	-2.7
	comp=E,7.4nm,0.4s						
DMN	Daman	14.90	126	*e*P	Pn	16 25 24.3	-1.7
	comp=E,8.1nm,0.4s						
PKIN	Phulchoki	15.11	125	*e*P	Pn	16 25 26.0	-2.7
PKI	Pulchoki	15.13	125	*e*P	Pn	16 25 26.4	-2.5
	comp=E,2.0nm,0.6s						
GUN	Gumba	15.21	123	*e*P	Pn	16 25 27.1	-3.0
JIRN	Jiri	15.59	123	*e*P	Pn	16 25 31.8	-3.0
BVAR	Borovoye Array	15.93	358	P	Pn	16 25 38.8	+0.2
	comp=E,0.4nm,0.3s,baz=162,slow=14,SNR=14						
BRVK	Borovoye	15.97	357		Pn	16 25 39.5	+0.5
BRVK				IAmb	IAmb	16 25 44.5	
	comp=Z,9.7nm,1.3s						
RAMN	Ramite	16.33	124	*e*P	Pn	16 25 41.4	-2.5
AKTO	Aktyubinsk	16.45	328	P	P	16 25 46.4	+0.5
	comp=Z,1.0nm,0.3s,baz=134,slow=11,SNR=31						
AKTO	Aktyubinsk	16.45	328	⇓P	Pn	16 25 43.4	-1.5
	comp=Z,10nm,0.7s						
TAPN	Taplejung	16.82	121	*e*P	Pn	16 25 47.7	-2.2
	comp=Z,5.5nm,0.3s						
ODAN	Odare	16.91	123	*e*P	Pn	16 25 49.3	-1.8
	comp=Z,8.7nm,0.6s						
ZALV	Zalesovo Beam	19.21	25	P	P	16 26 17.6	+1.5
	comp=Z,0.3nm,0.3s,baz=221,slow=12,SNR=7.5						
SONM	Songino Array	27.68	56	P	P	16 27 41.9	+2.9
	comp=Z,0.4nm,0.8s,baz=262,slow=10.0,SNR=3.5						
FINES	FINESS Array B	37.19	326	P	P	16 29 04.6	+3.2
	comp=Z,2.4nm,1.0s,baz=122,slow=12,SNR=3.2						
ARCES	ARCESS Array B	40.73	337	P	P	16 29 33.9	+3.1
	comp=Z,4.6nm,1.0s,baz=122,slow=7.3,SNR=8.1						
SGRT	San Giovanni R	42.66	294	P	P	16 29 47.5	+0.6
NC405	NORSAR Array S	43.89	323	P	P	16 29 57.4	+0.8
NC602	NORSAR Array S	43.94	322	P	P	16 29 56.7	-0.2
NB201	NORSAR Array S	44.09	323	P	P	16 30 00.1	+2.0
NC204	NORSAR Array S	44.36	323	P	P	16 30 02.1	+1.8
NC204				IAmb	IAmb	16 30 29.2	
	comp=Z,15nm,1.1s						
SCM	Sheep Creek Mo	76.52	18	P	P	16 33 39.1	0.0
SCM				IAmb	IAmb	16 33 42.7	
	comp=Z,14nm,0.6s						
RC01	Rabbit Creek A	76.54	19		PcP	16 33 52.8	+2.5

*SOME **26** 17:05:58.9, 40.°00N×74.°65E, h15km*
*NNC **26** 17:05:59.4±2.7, 40.°04N×74.°21E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=21.2km s-min=13.0km az=165.0*
*KRNET **26** 17:06:00.5±0.1, 40.°08N×74.°64E, h7km, mb2.9*

ISC 26 17:05:51.3±2.3, 39.°65N±0.°10×74.°70E±0.°03, h5km±16km, n41, σ1°59/64, 27C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	Naryn	2.04	29	⇑*i*P	Pg	17 06 31.9	+1.6
	baz=37						
NRN				⇑*i*S	Sb	17 06 55.2	+0.5
	baz=37						
ARSB	Arslanbob	2.12	322	⇓*e*P	Pg	17 06 33.7	+1.8
	baz=15						
ARSB				⇓*e*S	Sb	17 06 57.9	+0.9
	baz=15						
ARLS	Aral	2.22	353	⇑*i*P	Pb	17 06 34.3	+2.3
	baz=53						
ARLS				⇑*i*S	Sb	17 06 59.0	-0.9
	baz=53						
KZA	Kyzart	2.46	10	⇑*i*P	Pb	17 06 38.9	+2.7
	baz=13						
KZA				⇑*i*S	Sb	17 07 08.1	+1.2
	baz=13						
KZA	Kyzart	2.46	10	P	Pg	17 06 39.9	+1.6
	SNR=29						
UCH	Uchtor	2.58	357	⇑*i*P	Pb	17 06 40.8	+2.6
	baz=57						
UCH				⇑*i*S	Sb	17 07 11.4	+1.1
	baz=57						
UCH	Uchtor	2.58	357	P	Pb	17 06 40.7	+2.5
	SNR=20						
AML	Almayashu	2.59	343	⇑*i*P	Pg	17 06 41.6	+0.7
	baz=41						
AML				⇑*i*S	Sb	17 07 12.6	+1.9
	baz=41						
AML	Almayashu	2.59	343	P	Pg	17 06 42.0	+1.1
	SNR=18						
ULHL	Ulahol	2.84	24	⇑*i*P	Pb	17 06 44.2	+1.6
	baz=29						
ULHL				⇑*i*S	Sb	17 07 16.8	-0.9
	baz=29						
ULHL	Ulahol	2.84	24	P	Pg	17 06 47.1	+1.4
	SNR=18						
BOOM	Boomskoye usch	2.98	18	⇑*i*P	Pb	17 06 45.9	+0.9
	baz=22						
BOOM				⇑*i*S	Sb	17 07 19.3	-2.5
	baz=22						
AAK	Ala-Archa	2.98	357	⇑*i*P	Pb	17 06 46.6	+1.6
	baz=58						
AAK				⇑*i*S	Sb	17 07 20.9	-0.9
	baz=58						
AAK	Ala-Archa	2.98	357	P	Pg	17 06 49.6	+1.2
	SNR=8.0						
AAK	Ala-Archa	2.98	357	⇓Pn	Pb	17 06 44.8	-0.2
	9.4nm,0.7s						
AAK				⇑Lg	Lg	17 07 23.5	
	13nm,0.8s						
ARK	Arkit	2.98	317	⇑*e*P	Pb	17 06 46.3	+1.3
	baz=11						
ARK				⇑*i*S	Sb	17 07 20.1	-1.7
	baz=11						
KBK	Karagaybulak	3.00	4	⇓*i*P	Pb	17 06 46.4	+1.0
	baz=5.0						
KBK				⇓*i*S	Sb	17 07 20.9	-1.5
	baz=5.0						
KBK	Karagaybulak	3.00	4	P	Pb	17 06 48.3	+2.9
	SNR=9.6						
EKS2	Erkin-Say	3.08	347	⇑*i*P	Pb	17 06 48.3	+1.6
	baz=46						
EKS2				⇑*i*S	Sb	17 07 23.7	-1.0
	baz=46						
KDJ	Kajisay	3.11	36	⇑*i*P	Pb	17 06 48.4	+1.3
	baz=42						
KDJ				⇑*i*S	Sb	17 07 24.2	-1

IUG				Lg	Lg	17 07 53.9	
	18nm,0.5s						
CHKK	**Chushkaly**	**4.53**	**21**	*eP*	**Pg**	**17 07 17.4**	**-0.6**
	1.4nm,0.1s						
CHKK				*eS*	**Sg**	**17 08 13.7**	**-3.1**
	7.1nm,0.5s						
CHKK	**Chushkaly**	**4.53**	**21**	Pg	**Pg**	**17 07 17.2**	**-0.9**
	1.8nm,0.2s						
CHKK				Lg	Lg	17 08 13.7	
	7.1nm,0.5s						
KK31	**Karatay Array**	**4.67**	**319**	⇑Pg	**Pb**	**17 07 14.9**	**+1.2**
	0.5nm,0.3s,baz=149,slow=18,SNR=11						
KK31				⇑Lg	Lg	17 08 14.8	
	4.6nm,0.7s,baz=141,slow=28,SNR=6.1						

IDC ***26*** *17:06:11.5±0.8,23.°58N×122.°31E,h0km,mb3.6/10, mb1 3.8/10,mb1mx3.6/41,mbtmp3.6/10,MS3.1/4, Ms1 3.2/4,ms1mx2.8/50,Error ellipse: s-maj=27.8km s-min=18.8km az=65.0*

ISCJB ***26*** *17:06:12.9±0.3,23.°50N±0.°01×122.°42E±0.°01,h17km±2km, mb3.5/10,Error ellipse: s-maj=2.3km s-min=1.7km az=152.1*

JMA ***26*** *17:06:13.5±0.1,23.°51N×122.°36E,h24km,M3.5*

TAP ***26*** *17:06:14.8,23.°53N×122.°38E,h51km,ML4.1,D*

NEIC ***26*** *17:06:16.6±1.6,23.°53N±0.°06×122.°27E±0.°06,h35km±2km, mb4.3/11*

ISC 26 17:06:12.6±1.1,23.°49N±0.°02×122.°38E±0.°02,h10km±7km, n141,σ0689/231,mb3.9/17,2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.82**	**300**	P	**Pg**	**17 06 28.4**	**-0.2**
	baz=304						
ENLB				S	**Sg**	**17 06 39.6**	**+0.3**
	baz=304						
HWA	**Hwalien**	**0.86**	**304**	P	**Pb**	**17 06 30.2**	**+0.5**
	baz=296						
HWA				S	**Sb**	**17 06 41.5**	**+0.3**
	baz=296						
HGSD	**Ruisui**	**0.88**	**270**	*eP*	**Pg**	**17 06 29.9**	**+0.3**
	baz=267						
HGSD				*eS*	**Sg**	**17 06 40.9**	**-0.2**
	baz=267						
EGFH	**Guangfu**	**0.89**	**282**	P	**Pg**	**17 06 30.2**	**+0.4**
	baz=278						
EGFH				*i* S	**Sg**	**17 06 41.8**	**+0.3**
	baz=278						
ESL	**Shilin**	**0.93**	**290**	*eP*	**Pg**	**17 06 29.9**	**-0.6**
	baz=281						
ESL				*eS*	**Sn**	**17 06 43.9**	**-1.1**
	baz=281						
TWD	**Chiawan**	**0.93**	**309**	⇓P	**Pg**	**17 06 30.4**	**-0.1**
	baz=307						
TWD				*eS*	**Sg**	**17 06 41.6**	**-1.0**
	baz=307						
EHY	**Hungye**	**0.97**	**271**	P	**Pb**	**17 06 31.5**	**-0.1**
	baz=268						
EHY				*i* S	**Sg**	**17 06 43.9**	**-0.2**
	baz=268						
NACB	**Ninganchiao**	**0.99**	**313**	*eP*	**Pb**	**17 06 30.8**	**-1.1**
	baz=305						
NACB				*eS*	**Sb**	**17 06 43.3**	**-1.7**
	baz=305						
NACB	**Ninganchiao**	**0.99**	**313**		**Pb**	**17 06 30.8**	**-1.1**
TWF1	**Yuli**	**1.01**	**262**	*eP*	**Pb**	**17 06 32.2**	**0.0**
	baz=255						
TWF1				S	**Sb**	**17 06 45.5**	**0.0**
	baz=255						
CHKT	**Chengkung**	**1.01**	**247**	*eP*	**Pb**	**17 06 32.0**	**-0.2**
	baz=239						
CHKT				S	**Sb**	**17 06 44.5**	**-1.1**
	baz=239						
FULB	**Fuli**	**1.04**	**254**	P	**Pb**	**17 06 32.2**	**-0.5**
	baz=244						
FULB				*eS*	**Sb**	**17 06 45.5**	**-0.9**
	baz=244						
EOS1	**EOS1**	**1.08**	**348**	P	**Pb**	**17 06 33.2**	**-0.1**
	baz=340						
EOS1				*eS*	**Sb**	**17 06 47.2**	**-0.2**
	baz=340						
JYNG	**Yonaguni jima**	**1.08**	**28**	P	**Pb**	**17 06 33.3**	**-0.2**
JYNG				*eS*	**Sb**	**17 06 46.5**	**-1.2**
ETLH	**Xiulin Townshi**	**1.09**	**311**	*eP*	**Pb**	**17 06 32.9**	**-0.7**
	baz=309						
ETLH				S	**Sb**	**17 06 46.6**	**-1.3**
	baz=309						
NANB	**Nanao**	**1.10**	**328**	P	**Pb**	**17 06 33.8**	**+0.1**
	baz=320						
NANB				S	**Sb**	**17 06 47.6**	**-0.4**
	baz=320						
ENA	**Nanau**	**1.10**	**328**	P	**Pb**	**17 06 33.3**	**-0.4**
	baz=320						
ENA				S	**Sb**	**17 06 47.1**	**-1.1**
	baz=320						
YOJ	**Yonaguni jima**	**1.12**	**31**	P	**Pb**	**17 06 33.9**	**-0.2**
YOJ				*eS*	**Sb**	**17 06 48.0**	**-0.8**
YOJ	**Yonaguni jima**	**1.12**	**31**		**Pg**	**17 06 36.0**	**+1.8**
TWH	**Lutao**	**1.14**	**227**	P	**Pb**	**17 06 34.3**	**-0.1**
	baz=224						
TWH				*eS*	**Sb**	**17 06 47.9**	**-1.4**
	baz=224						
VWDT	**VWDT**	**1.17**	**283**	P	**Pb**	**17 06 34.7**	**-0.2**
	baz=280						
VWDT				*eS*	**Sb**	**17 06 49.2**	**-0.9**
	baz=280						
OWD	**Renai**	**1.20**	**293**	P	**Pb**	**17 06 35.1**	**-0.4**
	baz=290						
OWD				S	**Sb**	**17 06 49.6**	**-1.4**
	baz=290						
WHF	**Hehuan Shan**	**1.21**	**303**	P	**Pb**	**17 06 35.2**	**-0.7**
	baz=291						
WHF				*eS*	**Sb**	**17 06 50.5**	**-1.3**
	baz=291						
TWC	**Suao**	**1.21**	**336**	P	**Pn**	**17 06 35.3**	**-0.3**
	baz=343						
TWC				*eS*	**Sb**	**17 06 50.3**	**-1.1**
	baz=343						
CHGB	**Renai**	**1.24**	**297**	P	**Pn**	**17 06 35.8**	**-0.5**
	baz=295						
CHGB				S	**Sb**	**17 06 51.8**	**-0.6**
	baz=295						
ELDTW	**Lidau**	**1.29**	**257**	*eP*	**Pn**	**17 06 36.3**	**-0.5**
	baz=254						
ELDTW				*eS*	**Sb**	**17 06 51.8**	**-1.9**
	baz=254						
NNSH	**Datong**	**1.30**	**316**	P	**Pn**	**17 06 36.8**	**-0.2**
	baz=307						
NNSH				*eS*	**Sb**	**17 06 52.4**	**-1.7**
	baz=307						
YUS	**Yu-Shan**	**1.31**	**270**	P	**Pn**	**17 06 37.2**	**-0.2**
	baz=267						
YUS				S	**Sb**	**17 06 53.4**	**-1.4**
	baz=267						
NNS	**Nan Shan**	**1.32**	**316**	P	**Pn**	**17 06 36.9**	**-0.3**
	baz=314						
NNS				*eS*	**Sb**	**17 06 53.0**	**-1.6**
	baz=314						
TWT	**Tachien**	**1.34**	**305**	*eP*	**Pn**	**17 06 37.2**	**-0.3**
	baz=302						
TWT				*eS*	**Sb**	**17 06 54.1**	**-1.1**
	baz=302						
SSLB	**Suanglung**	**1.34**	**283**	P	**Pn**	**17 06 37.0**	**-0.5**
	baz=288						
SSLB				*eS*	**Sb**	**17 06 54.2**	**-0.9**
	baz=288						
SSLB	**Suanglung**	**1.34**	**283**		**Pn**	**17 06 37.1**	**-0.3**
TDCB	**Techi**	**1.35**	**304**	P	**Pn**	**17 06 37.7**	**0.0**
	baz=302						
TDCB				*eS*	**Sb**	**17 06 53.8**	**-1.7**
	baz=302						
TTN	**Taitung**	**1.35**	**237**	*eS*	**Sn**	**17 06 54.9**	**-0.6**
	baz=231						
NDT	**Datong Townshi**	**1.36**	**324**	*eP*	**Pn**	**17 06 37.7**	**0.0**
	baz=318						
NDT				*eS*	**Sb**	**17 06 54.4**	**-1.3**
	baz=318						
ENTT	**Nioudou**	**1.36**	**327**	P	**Pn**	**17 06 38.0**	**+0.2**
	baz=326						
ENTT				S	**Sb**	**17 06 54.2**	**-1.5**
	baz=326						
TWGBT	**Beinan**	**1.37**	**241**	P	**Pn**	**17 06 37.7**	**-0.1**
	baz=233						
TWGBT				S	**Sn**	**17 06 54.4**	**-1.7**
	baz=233						
TWG	**Pinlang**	**1.38**	**241**	P	**Pn**	**17 06 37.7**	**-0.2**
	baz=233						
TWG				S	**Sn**	**17 06 54.9**	**-1.3**
	baz=233						
TWG	**Pinlang**	**1.38**	**241**		**Pn**	**17 06 37.2**	**-0.7**
TWE	**Neicheng**	**1.39**	**332**	P	**Pn**	**17 06 38.0**	**0.0**
	baz=331						
TWE				*eS*	**Sn**	**17 06 54.9**	**-1.5**
	baz=331						
ILA	**Ilan**	**1.39**	**336**	*eP*	**Pn**	**17 06 38.2**	**+0.2**
	baz=335						
ILA				*eS*	**Sn**	**17 06 55.8**	**-0.7**
	baz=335						
WHYT	**Xinyi Township**	**1.42**	**279**	P	**Pb**	**17 06 39.1**	**-0.1**
	baz=271						
WHYT				*eS*	**Sn**	**17 06 56.7**	**-0.5**
	baz=271						
HATJ	**Hateruma jima**	**1.42**	**66**	P	**Pn**	**17 06 38.4**	**0.0**
HATJ				S	**Sn**	**17 06 55.5**	**-1.7**
SLBB	**Yuanshan**	**1.43**	**332**	P	**Pn**	**17 06 37.7**	**-0.9**
	baz=331						
SLBB				*eS*	**Sn**	**17 06 54.9**	**-2.6**
	baz=331						
DPDB	**Guoxing**	**1.44**	**292**	P	**Pn**	**17 06 39.2**	**+0.5**
	baz=290						
DPDB				*eS*	**Sn**	**17 06 56.8**	**-1.0**
	baz=290						
NTC	**Toucheng**	**1.45**	**340**	*eP*	**Pn**	**17 06 38.9**	**+0.1**
	baz=348						
NTC				*eS*	**Sn**	**17 06 56.4**	**-1.4**
	baz=348						
ALS	**Alishan**	**1.45**	**271**	*eP*	**Pn**	**17 06 39.2**	**+0.1**
	baz=261						
TYC	**Yuchr**	**1.46**	**287**	P	**Pn**	**17 06 39.3**	**+0.4**
	baz=284						
YHNB	**Yeheng**	**1.49**	**322**	P	**Pn**	**17 06 39.7**	**+0.2**
	baz=311						
YHNB				S	**Sn**	**17 06 57.4**	**-1.7**
	baz=311						
YHNB	**Yeheng**	**1.49**	**322**		**Pn**	**17 06 39.4**	**-0.1**
IRIF	**Iriomote-Funau**	**1.49**	**56**	P	**Pn**	**17 06 39.8**	**+0.4**
IRIF				S	**Sn**	**17 06 58.3**	**-0.6**
NSK	**Sanguang**	**1.50**	**322**	*eP*	**Pn**	**17 06 39.4**	**-0.3**
	baz=311						
NSK				*eS*	**Sn**	**17 06 57.0**	**-2.4**
	baz=311						
NWLT	**Wulai**	**1.51**	**328**	*eP*	**Pn**	**17 06 40.2**	**+0.5**
	baz=317						
NWLT				*eS*	**Sn**	**17 06 57.9**	**-1.6**
	baz=317						
STYT	**Tauyuan**	**1.53**	**258**	*eP*	**Pn**	**17 06 40.2**	**+0.2**
	baz=251						
STYT				*eS*	**Sn**	**17 06 59.1**	**-0.8**
	baz=251						
WHP	**Taichung City**	**1.53**	**301**	*eP*	**Pn**	**17 06 40.6**	**+0.5**
	baz=299						
WHP				*eS*	**Sn**	**17 06 58.5**	**-1.5**
	baz=299						
TWB1	**Santiao Chiao**	**1.55**	**347**	*eP*	**Pn**	**17 06 39.8**	**-0.5**
	baz=359						
WJS	**Zhushan**	**1.55**	**283**	P	**Pb**	**17 06 41.4**	**-0.1**
	baz=279						
TIPB	**Shuangxi**	**1.56**	**341**	P	**Pn**	**17 06 40.7**	**+0.3**
	baz=347						
TIPB				S	**Sn**	**17 06 59.4**	**-1.2**
	baz=347						
CHN5	**Tsauling**	**1.57**	**274**	P	**Pn**	**17 06 41.2**	**+0.6**
	baz=268						
CHN5				*eS*	**Sg**	**17 07 02.7**	**-0.4**
	baz=268						
ECL	**Taimali**	**1.59**	**236**	*eP*	**Pn**	**17 06 40.4**	**-0.4**
	baz=243						
ECL				*eS*	**Sn**	**17 06 59.4**	**-1.9**
	baz=243						
WNT	**Mingjian**	**1.60**	**284**	⇓*iP*	**Pb**	**17 06 42.0**	**-0.3**
	baz=291						
WNT				*eS*	**Sb**	**17 07 03.1**	**+0.5**
	baz=291						
TPUB	**Ta-pu**	**1.62**	**264**	P	**Pb**	**17 06 42.5**	**-0.1**
	baz=261						
TPUB				*eS*	**Sn**	**17 07 02.5**	**+0.2**
	baz=261						
TPUB	**Ta-pu**	**1.62**	**264**		**Pn**	**17 06 42.0**	**+0.8**
LAY	**Lan-yu**	**1.64**	**208**	*eP*	**Pn**	**17 06 40.6**	**-0.9**
	baz=207						
LAY				*eS*	**Sn**	**17 06 59.3**	**-3.3**
	baz=207						
WTP	**Ta-pu**	**1.64**	**262**	*eP*	**Pn**	**17 06 42.2**	**+0.6**
	baz=259						
WTP				*eS*	**Sb**	**17 07 04.0**	**+0.2**
	baz=259						
CHN4	**Tsaushan**	**1.65**	**265**	P	**Pn**	**17 06 42.2**	**+0.6**
	baz=260						
CHN4				*eS*	**Sg**	**17 07 05.3**	**-0.4**
	baz=260						
TWA	**Mucha**	**1.65**	**334**	P	**Pn**	**17 06 42.2**	**+0.5**
	baz=334						
TWA				S	**Sn**	**17 07 02.3**	**-0.6**
	baz=334						
NHDH	**Xindian Distri**	**1.66**	**332**	P	**Pn**	**17 06 42.6**	**+0.8**
	baz=331						
NHDH				S	**Sn**	**17 07 02.5**	**-0.6**
	baz=331						
JKRS	**Kuro-shima**	**1.66**	**63**	P	**Pn**	**17 06 42.3**	**+0.5**
JKRS				S	**Sn**	**17 07 02.1**	**-1.1**
NWF	**Wu-fen Shan**	**1.66**	**341**	P	**Pn**	**17 06 42.2**	**+0.3**
	baz=353						
NWF				*eS*	**Sn**	**17 07 03.4**	**0.0**
	baz=353						
WFSB	**Wu-fen Shan**	**1.66**	**341**	*eP*	**Pn**	**17 06 42.1**	**+0.2**
	baz=353						
WFSB				*eS*	**Sn**	**17 07 02.0**	**-1.3**
	baz=353						
SLGT	**Liugui**	**1.67**	**253**	P	**Pn**	**17 06 42.4**	**+0.4**
	baz=249						
SLGT				*eS*	**Sb**	**17 07 04.1**	**-0.5**
	baz=249						
WGK	**Gukeng**	**1.68**	**277**	P	**Pb**	**17 06 43.7**	**+0.1**
	baz=274						
WGK				*eS*	**Sb**	**17 07 04.8**	**0.0**
	baz=274						
TATO	**Taipei**	**1.69**	**331**	*eP*	**Pb**	**17 06 43.4**	**-0.3**
	baz=320						
TATO				S	**Sn**	**17 07 03.1**	**-0.7**
	baz=320						
TATO	**Taipei**	**1.69**	**331**	Pn	**Pn**	**17 06 42.7**	**+0.6**
TCU	**Taichung**	**1.69**	**293**	*eP*	**Pb**	**17 06 44.0**	**+0.2**
	baz=290						
TCU				*eS*	**Sb**	**17 07 05.1**	**-0.1**
	baz=290						
LIOB	**Emei**	**1.70**	**313**	P	**Pn**	**17 06 43.0**	**+0.7**
	baz=311						
LIOB				*eS*	**Sn**	**17 07 03.3**	**-0.8**
	baz=311						
NSTT	**Nanjuang**	**1.70**	**312**	*eP*	**Pn**	**17 06 43.1**	**+0.8**
	baz=311						
NSTT				S	**Sn**	**17 07 04.0**	**-0.1**
	baz=311						
TWQ1	**Liyutan**	**1.70**	**300**	P	**Pb**	**17 06 44.0**	**0.0**
	baz=298						
TWQ1				*eS*	**Sb**	**17 07 04.8**	**-0.6**
	baz=298						
WLTB	**Daxi**	**1.70**	**323**	*eP*	**Pb**	**17 06 43.4**	**-0.6**
	baz=314						
WLTB				S	**Sn**	**17 07 04.0**	**-0.2**
	baz=314						
WDLH	**Douliu**	**1.70**	**277**	P	**Pn**	**17 06 43.2**	**+0.9**
	baz=274						
WDLH				*eS*	**Sb**	**17 07 05.8**	**+0.3**
	baz=274						
SGST	**Jiashian**	**1.70**	**256**	P	**Pn**	**17 06 43.0**	**+0.6**
	baz=254						
SGST				*eS*	**Sb**	**17 07 05.2**	**-0.3**
	baz=254						
TAP1	**Taipei**	**1.73**	**333**	*eP*	**Pb**	**17 06 44.7**	**+0.3**
	baz=332						
TAP1				S	**Sn**	**17 07 03.7**	**-1.0**
	baz=332						
CHN1	**Nanshi**	**1.73**	**260**	*eP*	**Pb**	**17 06 44.7**	**+0.2**
	baz=258						
CHN1				*eS*	**Sb**	**17 07 06.7**	**+0.4**
	baz=258						
TAP	**Taipei**	**1.73**	**333**	*eP*	**Pn**	**17 06 43.4**	**+0.6**
	baz=332						
TAP				*eS*	**Sn**	**17 07 04.4**	**-0.6**
	baz=332						
NSY	**Sanyi**	**1.75**	**302**	*eP*	**Pb**	**17 06 44.2**	**-0.5**
	baz=300						
NSY				*eS*	**Sb**	**17 07 06.2**	**-0.5**
	baz=300						
CHN2	**Minshiung**	**1.75**	**272**	*eP*	**Pb**	**17 06 44.2**	**-0.7**
	baz=269						
CHN2				*eS*	**Sb**	**17 07 07.9**	**+1.1**
	baz=269						
SNST	**Tainan City**	**1.75**	**261**	P	**Pb**	**17 06 44.4**	**-0.5**
	baz=259						
SNST				*eS*	**Sb**	**17 07 07.3**	**+0.4**
	baz=259						
TWK	**Hsinying**	**1.75**	**263**	P	**Pb**	**17 06 44.6**	**-0.4**
	baz=260						
TWK				*eS*	**Sn**	**17 07 06.0**	**+0.4**
	baz=260						
WCHH	**Zhanghua**	**1.77**	**290**	*eP*	**Pb**	**17 06 44.9**	**-0.3**
	baz=287						
WCHH				*eS*	**Sb**	**17 07 07.8**	**+0.4**
	baz=287						
SSD	**Sandimen**	**1.77**	**246**	P	**Pn**	**17 06 44.2**	**+0.8**
	baz=237						
TAW	**Tawu**	**1.78**	**231**	S	**Sn**	**17 07 04.7**	**-1.2**
	baz=235						
EAST	**Anshuo**	**1.79**	**232**	*eP*	**Pn**	**17 06 44.1**	**+0.4**
	baz=236						
EAST				*eS*	**Sn**	**17 07 05.7**	**-0.8**
	baz=236						
PTSB	**Yuanli**	**1.81**	**302**	*eS*	**Sn**	**17 07 07.1**	**+0.4**
	baz=300						
YM01	**YM01**	**1.81**	**336**	P	**Pn**	**17 06 44.9**	**+1.0**
	baz=335						
YM01				S	**Sn**	**17 07 06.0**	**-0.8**
	baz=335						
WDJ	**Dajia District**	**1.81**	**298**	P	**Pb**	**17 06 45.2**	**-0.6**
	baz=296						
WDJ				*eS*	**Sb**	**17 07 07.8**	**-0.7**
	baz=296						
SBCB	**Hsinchu**	**1.82**	**316**	*eP*	**Pb**	**17 06 45.3**	**-0.6**
	baz=314						
SBCB				*eS*	**Sb**	**17 07 08.5**	**-0.3**
	baz=314						
YM10	**YM10**	**1.82**	**336**	P	**Pn**	**17 06 44.5**	**+0.5**
	baz=335						
YM10				S	**Sn**	**17 07 05.9**	**-1.2**
	baz=335						
YM11	**YM11**	**1.82**	**336**	P	**Pn**	**17 06 44.5**	**+0.4**
	baz=336						
YM11				S	**Sn**	**17 07 06.2**	**-1.1**
	baz=336						
YM05	**YM05**	**1.82**	**336**	P	**Pn**	**17 06 44.5**	**+0.4**
	baz=335						
YM05				*eS*	**Sn**	**17 07 06.5**	**-0.7**
	baz=335						
YM04	**YM04**	**1.82**	**335**	P	**Pn**	**17 06 44.7**	**+0.6**
	baz=335						
YM04				S	**Sn**	**17 07 05.8**	**-1.4**
	baz=335						
TWS1	**Kuangyinshan**	**1.83**	**331**	*eP*	**Pn**	**17 06 45.2**	**+1.1**
	baz=341						
TWS1				*eS*	**Sn**	**17 07 06.1**	**-1.2**
	baz=341						
JIJ	**Ishigaki jima**	**1.83**	**61**	P	**Pn**	**17 06 43.9**	**-0.2**
JIJ				S	**Sn**	**17 07 05.2**	**-2.1**
NCU	**National Centr**	**1.83**	**324**	*eS*	**Sn**	**17 07 07.3**	**0.0**
	baz=323						
NCUH	**Zhongli**	**1.83**	**324**	*eS*	**Sn**	**17 07 07.6**	**+0.2**
	baz=322						
HSN	**Hsinchu**	**1.83**	**316**	*eS*	**Sn**	**17 07 08.0**	**+0.6**
	baz=316						
YM08	**YM08**	**1.84**	**337**	P	**Pn**	**17 06 44.0**	**-0.2**
	baz=336						
YM08				*eS*	**Sn**	**17 07 05.8**	**-1.7**
	baz=336						
ANP	**Anpu**	**1.86**	**335**	*eP*	**Pn**	**17 06 44.9**	**+0.3**
	baz=336						
WLGB	**Puzi**	**1.91**	**270**	*eS*	**Sb**	**17 07 11.8**	**+0.4**
	baz=267						
WSF	**Szhu**	**1.99**	**275**	*eS*	**Sb**	**17 07 13.3**	**-0.4**
	baz=272						
JISG	**Ishigakijimahi**	**2.07**	**58**	P	**Pn**	**17 06 47.0**	**-0.4**
JISG				*eS*	**Sn**	**17 07 11.2**	**-2.1**
JTJ	**Tarama**	**2.41**	**61**	P	**Pn**	**17 06 52.4**	**+0.3**
JTJ				S	**Sn**	**17 07 20.3**	**-1.3**
JIRB	**Irabujima**	**2.88**	**62**	P	**Pn**	**17 06 58.9**	**+0.4**
JIRB				S	**Sn**	**17 07 31.4**	**-1.7**
JMJ2	**Miyako jima3**	**2.96**	**65**	P	**Pn**	**17 07 00.0**	**+0.3**
JMJ2				*eS*	**Sn**	**17 07 34.1**	**-1.2**
JIKM	**Ikemajima**	**2.98**	**61**	*eS*	**Sn**	**17 07 33.5**	**-2.2**
JOGS	**Gusukube**	**3.04**	**65**	S	**Sn**	**17 07 36.4**	**-0.7**
KNMB	**Chin-men Tao**	**3.78**	**286**	Pn	**Pn**	**17 07 11.1**	**+0.2**
KSRS	**Korea Array**	**14.71**	**18**	LR	LR	17 15 60.0	
	comp=Z,40nm,18.9s,baz=110,slow=40						
CMAR	**Chiang Mai Arr**	**22.44**	**262**	P	**P**	**17 11 10.1**	**-1.8**
	0.3nm,0.4s,baz=64,slow=8.1,SNR=3.1						
CMAR				LR	LR	17 19 49.0	
	comp=Z,16nm,19.6s,baz=200,slow=36						
ULN	**Ulaanbaatar**	**27.22**	**337**	P	**P**	**17 11 56.1**	**-0.7**
ULN				IAmb	IAmb	17 12 04.9	
	comp=Z,3.8nm,1.2s						
SONM	**Songino Array**	**27.43**	**336**	P	**P**	**17 11 58.5**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=151,slow=9.4,SNR=6.3						
MKAR	**Makanchi Array**	**39.59**	**316**	P	**P**	**17 13 45.0**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=100,slow=9.4,SNR=11						
ZAA0	**Zalesovo Array**	**41.42**	**327**	P	**P**	**17 13 58.3**	**-0.8**
ZALV	**Zalesovo Beam**	**41.42**	**327**	P	**P**	**17 13 58.2**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=119,slow=8.6,SNR=7.7						
KURBB	**Kurchatov Arra**	**43.34**	**320**	P	**P**	**17 14 14.3**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=111,slow=9.0,SNR=3.4						
WRA	**Warramunga Arr**	**44.72**	**164**	P	**P**	**17 14 27.5**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=343,slow=9.2,SNR=4.5						
ASAR	**Alice Springs**	**48.20**	**166**	P	**P**	**17 14 55.1**	**+1.7**
	comp=Z,0.2nm,0.8s,baz=342,slow=7.8,SNR=5.0						
ABKAR	**Akbulak array**	**54.71**	**315**	P	**P**	**17 15 43.2**	**+1.3**
RND	**Reindeer**	**68.72**	**29**	P	**P**	**17 17 16.5**	**+0.1**
RND				IAmb	IAmb	17 17 17.1	
	comp=Z,5.7nm,0.9s						
ILAR	**Eielson Array**	**69.32**	**27**	P	**P**	**17 17 19.0**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=295,slow=7.2,SNR=8.6						
GLB	**Gilahina Butte**	**71.44**	**30**	P	**P**	**17 17 34.0**	**+1.0**
GLB				IAmb	IAmb	17 17 42.8	
	comp=Z,8.2nm,1.4s						
VRDI	**Verde Repeater**	**71.66**	**31**	P	**P**	**17 17 33.8**	**-0.7**
EGAK	**Eagle**	**71.71**	**27**	P	**P**	**17 17 34.9**	**+0.5**
EGAK				IAmb	IAmb	17 17 35.7	
	comp=Z,2.4nm,0.8s						
DAWY	**Dawson**	**72.65**	**27**	P	**P**	**17 17 41.0**	**+0.8**
DAWY				IAmb	IAmb	17 17 41.5	
	comp=Z,2.5nm,0.8s						
CTGM	**Chitina Glacie**	**72.72**	**31**	P	**P**	**17 17 42.0**	**+1.2**
EPYK	**Eagle Plains**	**72.97**	**24**	P	**P**	**17 17 42.1**	**0.0**
EPYK				IAmb	IAmb	17 17 42.9	
	comp=Z,4.2nm,0.9s						
INK	**Inuvik**	**73.45**	**22**	P	**P**	**17 17 45.3**	**+0.5**
INK				IAmb	IAmb	17 17 45.7	
	comp=Z,2.4nm,0.8s						
MMAI	**Mount Meron Ar**	**75.19**	**300**	LR	LR	17 56 17.3	
	comp=Z,13nm,19.6s,baz=205,slow=40						
MLR	**Muntele Rosu**	**77.92**	**314**	LR	LR	17 58 40.9	
	comp=Z,78nm,21.0s,baz=298,slow=40						
YKA	**Yellowknife Ar**	**83.18**	**23**	P	**P**	**17 18 39.1**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=308,slow=4.8,SNR=6.3						
NVAR	**Mina Array Bea**	**96.18**	**44**	P	**P**	**17 19 42.3**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=255,slow=6.2,SNR=3.2						

IDC 26 17:20:16.2±1.7,1.°83N×124.°01E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.3/31,mbtmp3.5/3,Error ellipse: s-maj=198.9km s-min=23.9km az=63.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.89**	**155**	P	P	17 25 31.7	-0.2
	1.0nm,0.6s,baz=333,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**27.11**	**160**	P	P	17 26 01.6	+0.5
	0.2nm,0.7s,baz=338,slow=7.6,SNR=8.3						
MKAR	**Makanchi

s-min=7.5km az=175.0
MOS ***26*** *18:29:11.3±1.1,52.95N×171.92W,h132km,mb4.5/29, Error ellipse: s-maj=10.1km s-min=6.7km az=96.8*
GCMT ***26*** *18:29:13.0±0.4,52.81N±0.03×171.81W±0.05, h138km±5km,MW4.9/98,Moment Tensor Solution. s17,c19; s98,c117; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.39±.15; Mθθ=0.75±.23; Mφφ=-0.35±.20; Mrθ=-2.21±.11; Mrφ=-1.90±.16; Mθφ=-1.00±.08; Best double couple: M=3.10200×10^16 NP1:φs=82.00000°,δ=84.00000°, λ=-131.00000°. NP2:φs=345.00000°,δ=41.0000°, λ=-9.00000°. Principal axes: T 2.7930, Plg27.0000°, Azm203.0000°; N 0.6180, Plg41.0000°, Azm87.0000°; P -3.4110, Plg37.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***26*** *18:30:43.1±2.2,56.5N±0.2×161.2W±0.3,h111km±15km*
ISC 26 18:29:12.3±0.4,52.86N±0.07×171.85W±0.04, h132km±2km,h132km:pP-P,n593,s0s96/645,mb4.5/73, 23C-2D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADK	**Adak**	**3.12**	**254**	P	**Pn**	**18 30 00.6**	**+0.2**
VNWF	**Veniaminof 8**	**7.87**	**60**		**Pn**	**18 31 04.2**	**+0.3**
VNFG	**Fog Glacier, M**	**7.92**	**59**		**Pn**	**18 31 05.1**	**+0.5**
VNNF	**Veniaminof 3**	**8.05**	**60**		**Pn**	**18 31 06.5**	**+0.2**
SII	**Sitkinak Islan**	**10.86**	**63**		**Pn**	**18 31 40.4**	**-3.5**
OHAK	**Old Harbor**	**11.50**	**60**		**Pn**	**18 31 47.8**	**-4.4**
KDAK	**Kodiak Island**	**12.01**	**58**	P	**Pn**	**18 31 56.6**	**-2.4**
KDAK	comp=Z,40nm,1.5s			pmax	pmax		
KDAK	**Kodiak Island**	**12.01**	**58**		**Pn**	**18 31 55.4**	**-3.6**
SVW2	**Sparrevohn**	**12.09**	**41**		**Pn**	**18 32 01.7**	**+1.8**
BRLK	**Bradley Lake**	**13.49**	**51**		**Pn**	**18 32 15.7**	**-2.5**
PMR	**Palmer**	**15.02**	**45**	Pn	**Pn**	**18 32 37.4**	**0.0**
GHO	**Glory Hole Cre**	**15.18**	**45**	Pn	**Pn**	**18 32 39.1**	**-0.4**
GHO	comp=Z,55nm,1.6s			IAmb	IAmb	18 33 16.5	
KNK	**Knik Glacier**	**15.23**	**47**	Pn	**Pn**	**18 32 39.3**	**-0.9**
SML	**Sawmill**	**15.45**	**45**	Pn	**Pn**	**18 32 42.9**	**0.0**
SML	comp=Z,27nm,1.0s			IAmb	IAmb	18 33 24.1	
GLI	**Glacier Island**	**15.65**	**49**	Pn	**Pn**	**18 32 42.8**	**-2.5**
GLI	comp=Z,27nm,0.9s			IAmb	IAmb	18 33 27.4	
HIN	**Hinchinbrook I**	**15.77**	**51**	Pn	**Pn**	**18 32 45.0**	**-1.8**
HIN					**P**	**18 32 46.3**	**-1.7**
FID	**Port Fidalgo**	**15.89**	**50**	Pn	**Pn**	**18 32 45.3**	**-3.0**
FID	comp=Z,42nm,1.2s			IAmb	IAmb	18 32 48.7	
SCM	**Sheep Creek Mo**	**15.90**	**46**	Pn	**Pn**	**18 32 47.8**	**-0.6**
EYAK	**Cordova Ski Ar**	**16.18**	**51**	Pn	**Pn**	**18 32 50.5**	**-1.2**
EYAK	comp=Z,33nm,1.1s			IAmb	IAmb	18 33 38.2	
RAGM	**Ragged Mountai**	**16.64**	**52**	Pn	**Pn**	**18 32 57.1**	**-0.4**
HMT	**Hamilton**	**16.83**	**53**		**P**	**18 32 59.2**	**-0.5**
HMT	comp=Z,38nm,1.0s			IAmb	IAmb	18 33 23.5	
TCOL	**CIGO, UAF Yank** baz=236	**17.14**	**36**	P	**Pn**	**18 33 03.4**	**+0.1**
COLA	**College**	**17.14**	**36**	*i* P	**Pn**	**18 33 03.5**	**+0.1**
HDA	**Harding Lake** baz=239,SNR=24	**17.22**	**38**	P	**Pn**	**18 33 04.8**	**+0.3**
GLB	**Gilahina Butte**	**17.34**	**49**		**P**	**18 33 04.6**	**-0.7**
GLB	comp=Z,37nm,1.3s			IAmb	IAmb	18 33 27.7	
POKR	**Poker Plat Res** baz=236	**17.42**	**36**	P	**Pn**	**18 33 07.0**	**+0.1**
ILAR	**Eielson Array** comp=Z,2.6nm,0.3s,baz=235,slow=10,SNR=147	**17.43**	**37**	P	**P**	**18 33 05.3**	**-0.9**
ILAR	comp=Z,0.7nm,0.3s,baz=234,slow=12,SNR=10			pP	**pwP**	**18 33 34.1**	**+2.8**
ILAR	comp=Z,0.1nm,0.3s,baz=219,slow=14,SNR=3.1			S	**S**	**18 36 15.2**	**-5.5**
ILAR	comp=Z,0.4nm,0.3s,baz=288,slow=3.1,SNR=8.0			PcP	**PcP**	**18 37 39.5**	**-0.3**
ILAR	comp=Z,0.3nm,0.3s,baz=272,slow=3.4,SNR=16			ScP	**ScP**	**18 41 01.7**	**-0.6**
ILAR	comp=Z,0.1nm,0.3s,baz=219,slow=7.0,SNR=6.6			ScS	**ScS**	**18 44 40.0**	**-2.0**
VRDI	**Verde Repeater**	**17.45**	**50**		**P**	**18 33 06.0**	**-0.6**
CRQM	**Cirque**	**17.47**	**52**		**P**	**18 33 06.9**	**0.0**
CRQM	comp=Z,50nm,1.3s			IAmb	IAmb	18 33 35.4	
WAX	**Waxell Ridge**	**17.54**	**53**		**P**	**18 33 07.5**	**+0.1**
WAX	comp=Z,32nm,0.7s			IAmb	IAmb	18 33 58.3	
TGL	**Tana Glacier**	**17.62**	**52**		**P**	**18 33 08.7**	**+0.3**
MCARA	**McCarthy VSAT**	**17.69**	**50**		**P**	**18 33 09.0**	**0.0**
MCARA	comp=Z,36nm,1.1s			IAmb	IAmb	18 33 31.7	
PET	**Petropavlovsk**	**17.73**	**282**	*i* P	**P**	**18 33 08.3**	**-1.2**
BALM	**Baldy**	**17.91**	**51**		**P**	**18 33 11.4**	**-0.3**
PETK	**Petropavlovsk-** comp=Z,1.4nm,0.3s,baz=92,slow=11,SNR=33	**18.27**	**283**	P	**Pn**	**18 33 16.6**	**-0.5**
PETK	comp=Z,0.2nm,0.3s,baz=157,slow=1.6,SNR=4.7			PcP	**PcP**	**18 37 42.1**	**+0.7**
PETK	comp=Z,0.3nm,0.3s,baz=133,slow=0.1,SNR=6.2			ScP	**ScP**	**18 41 04.7**	**+0.4**
BILL	**Bilibino**	**18.48**	**334**	*d i* P	**Pn**	**18 33 20.3**	**+1.0**
BILL	comp=Z,198nm,1.3s			pmax	pmax		
TOLK	**Toolik Lake Re** baz=225,SNR=26	**19.01**	**25**	P	**Pn**	**18 33 25.8**	**+0.2**
SEY	**Seymchan**	**21.22**	**312**	*i* P	**P**	**18 33 48.5**	**+1.3**
SEY	**Seymchan** comp=Z,35nm,0.8s,baz=94,slow=9.4,SNR=94	**21.22**	**312**	P	**P**	**18 33 48.9**	**+1.7**
SEY	comp=Z,24nm,0.8s,baz=199,slow=22,SNR=6.3			pP	**pwP**	**18 34 14.9**	**+0.1**
SEY	comp=Z,8.9nm,0.7s,baz=65,slow=23,SNR=5.1			PcP	**PcP**	**18 37 46.9**	**+0.3**
MA2	**Magadan**	**21.61**	**303**	*ce* P	**P**	**18 33 52.6**	**+1.2**
MA2	comp=Z,95nm,2.5s			pmax	pmax		
MA2	**Magadan** comp=Z,25nm,1.0s,baz=88,slow=9.7,SNR=7.3	**21.61**	**303**	P	**P**	**18 33 52.8**	**+1.4**
EPYK	**Eagle Plains** baz=249,SNR=17	**21.93**	**38**	P	**P**	**18 33 55.6**	**+0.9**
INK	**Inuvik** comp=Z,27nm,0.4s,baz=244,slow=7.1,SNR=163	**23.78**	**35**	P	**P**	**18 34 12.9**	**+0.6**
INK	comp=Z,22nm,0.9s,baz=230,slow=11,SNR=11			pP	**pwP**	**18 34 40.2**	**-0.4**
INK	comp=Z,11nm,0.6s,baz=294,slow=2.5,SNR=13			PcP	**PcP**	**18 37 52.2**	**+0.5**
INK	comp=Z,5.7nm,0.8s,baz=255,slow=21,SNR=8.7			ScP	**ScP**	**18 41 17.1**	**-0.4**
DLBC	**Dease Lake** comp=Z,20nm,0.6s,baz=243,slow=8.4,SNR=15	**23.94**	**60**	P	**P**	**18 34 16.5**	**+2.6**
DLBC	comp=Z,14nm,0.7s,baz=297,slow=11,SNR=2.6			pP	**pP**	**18 34 41.3**	**+1.3**
C36M	**Paulatuk** baz=257,SNR=16	**27.37**	**35**	P	**P**	**18 34 45.1**	**+0.5**
YSS	**Yuzh-Sakhalins**	**29.43**	**277**	*e* P	**P**	**18 35 07.0**	**+4.0**
YKA	**Yellowknife Ar** comp=Z,1.9nm,0.4s,baz=274,slow=8.4,SNR=58	**31.06**	**49**	P	**P**	**18 35 17.3**	**+0.1**
YKA	comp=Z,1.2nm,0.5s,baz=272,slow=8.0,SNR=7.1			pP	**pP**	**18 35 46.4**	**+1.5**
YKA	comp=Z,2.3nm,0.6s,baz=288,slow=3.2,SNR=10			PcP	**PcP**	**18 38 10.1**	**+0.7**
YKA	comp=Z,0.4nm,0.6s,baz=279,slow=2.3,SNR=4.3			pPcP		18 38 43.1	
YKA	comp=Z,3.4nm,0.7s,baz=286,slow=3.5,SNR=32			ScP	**ScP**	**18 41 39.9**	**+0.2**
D03D	**Eldon** baz=298	**31.17**	**80**	P	**P**	**18 35 18.9**	**+0.5**
B05A	**Bryant** baz=297,SNR=6.7	**31.42**	**78**	P	**P**	**18 35 22.5**	**+2.0**
D04E	**Lakebay** baz=299	**31.53**	**80**	P	**P**	**18 35 23.9**	**+2.4**
TIXI	**Tiksi** comp=Z,8.0nm,1.7s	**31.53**	**329**	*ce* P	**P**	**18 35 20.8**	**-0.5**
TIXI				pmax	pmax		
TIXI	**Tiksi** comp=Z,1.3nm,0.5s,baz=0.0,slow=24,SNR=3.6	**31.53**	**329**	P	**P**	**18 35 21.6**	**+0.3**
YAK	**Yakutsk**	**31.70**	**310**	*e* P	**P**	**18 35 21.5**	**-1.4**
YAK	comp=Z,11nm,1.1s			pmax	pmax		
YAK	comp=E,8.0nm,1.5s			pmax	pmax		
E04D	**Cinebar** baz=300,SNR=6.6	**31.95**	**81**	P	**P**	**18 35 27.4**	**+2.1**
G03D	**McMinnville, O** baz=301	**32.22**	**84**	P	**P**	**18 35 29.7**	**+2.1**
I02D	**Swisshome** baz=303	**32.46**	**86**	P	**P**	**18 35 32.0**	**+2.3**
H04D	**Lebanon** baz=302	**32.90**	**85**	P	**P**	**18 35 35.8**	**+2.2**
I03D	**Drain, OR** baz=303	**32.98**	**86**	P	**P**	**18 35 35.4**	**+1.2**
K02D	**Willamette Mer** baz=305	**33.35**	**88**	P	**P**	**18 35 38.6**	**+1.0**
G05D	**Wamic, OR** baz=302	**33.38**	**82**	P	**P**	**18 35 39.3**	**+1.6**
I04A	**Tendick Farm,** baz=303,SNR=6.7	**33.49**	**85**	P	**P**	**18 35 40.6**	**+1.8**
L02E	**Cave Junction** baz=305	**33.70**	**89**	P	**P**	**18 35 42.8**	**+2.2**
I05D	**Terrebonne, OR** baz=303	**33.84**	**84**	P	**P**	**18 35 43.6**	**+1.7**
J04D	**Umpqua Nationa** baz=304	**33.99**	**86**	P	**P**	**18 35 44.9**	**+1.7**
NEW	**Newport** baz=299,SNR=11	**34.35**	**75**	P	**P**	**18 35 47.7**	**+1.5**
NEW	**Newport**	**34.35**	**75**	P	**P**	**18 35 47.6**	**+1.5**
NEW	comp=Z,27nm,0.9s			pmax	pmax		
NEW	**Newport** comp=Z,3.7nm,0.8s,baz=263,slow=6.9,SNR=5.9	**34.35**	**75**	ScP	**ScP**	**18 41 52.4**	**+1.0**
L04D	**Klamath Falls** baz=305	**34.45**	**88**	P	**P**	**18 35 49.0**	**+1.8**
J05D	**Fort Rock, OR** baz=304	**34.49**	**85**	P	**P**	**18 35 49.5**	**+1.9**
M02C	**Callahan** baz=306	**34.60**	**89**	P	**P**	**18 35 49.3**	**+0.9**
KLR	**Kul'dur**	**34.87**	**287**	*i* P	**P**	**18 35 48.8**	**-1.7**
KLR	comp=Z,4.0nm,1.2s			pmax	pmax		
N02D	**Trinity Center** baz=307	**34.94**	**90**	P	**P**	**18 35 53.3**	**+2.0**
M04C	**Macdoel** baz=306,SNR=6.0	**34.98**	**88**	P	**P**	**18 35 53.7**	**+1.9**
O02D	**Mt. Diablo Mer** baz=308	**35.37**	**91**	P	**P**	**18 35 56.9**	**+1.9**
O03E	**Paynes Creek** baz=308,SNR=6.2	**35.90**	**90**	P	**P**	**18 36 00.8**	**+1.3**
WVOR	**Wild Horse Val**	**36.54**	**85**	P	**P**	**18 36 06.8**	**+1.7**
WVOR	comp=Z,16nm,0.8s			pmax	pmax		
RES	**Resolute Bay** comp=Z,2.1nm,0.8s,baz=302,slow=3.9,SNR=4.4	**36.58**	**26**	ScP	**ScP**	**18 41 59.0**	**0.0**
MSO	**Missoula** baz=301	**36.94**	**75**	P	**P**	**18 36 09.6**	**+1.3**
H11N2	**WAKE ISLAND Hy** baz=21,slow=76,SNR=16	**36.95**	**215**	T	T	19 14 41.3	
H11N3	**WAKE ISLAND Hy** baz=21,slow=76,SNR=16	**36.96**	**215**	T	T	19 14 41.8	
H11N1	**WAKE ISLAND Hy** baz=21,slow=76,SNR=15	**36.97**	**215**	T	T	19 14 44.9	
USRK	**Ussuriysk Ar.** comp=Z,6.1nm,0.7s,baz=133,slow=1.2,SNR=12	**37.31**	**280**	PcP	**PcP**	**18 38 28.2**	**+0.5**
H11S1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=6.1	**38.15**	**214**	T	T	19 17 34.6	
H11S2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=8.6	**38.16**	**214**	T	T	19 17 35.8	
H11S3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=5.4	**38.17**	**214**	T	T	19 17 48.5	
MJAR	**Matsushiro Arr** comp=Z,3.7nm,0.6s,baz=44,slow=11,SNR=7.6	**38.22**	**265**	P	**P**	**18 36 19.2**	**+0.1**
MJAR	comp=Z,2.9nm,0.7s,baz=49,slow=17,SNR=4.4			pP	**pP**	**18 36 47.7**	**+0.1**
MJAR	comp=Z,7.5nm,0.8s,baz=87,slow=1.6,SNR=14			PcP	**PcP**	**18 38 31.2**	**+0.5**
MJAR	comp=Z,2.2nm,0.7s,baz=53,slow=9.1,SNR=6.4			ScP	**ScP**	**18 42 05.5**	**-0.4**
MAJO	**Matsushiro**	**38.22**	**265**	*i* P	**P**	**18 36 18.2**	**-0.9**
MAJO	comp=Z,15nm,0.9s			pmax	pmax		
MAT	**Matsushiro**	**38.22**	**265**	P	**P**	**18 36 19.1**	**0.0**
NVAR	**Mina Array Bea** comp=Z,4.7nm,0.7s,baz=303,slow=7.8,SNR=40	**39.18**	**90**	P	**P**	**18 36 28.8**	**+1.5**
NVAR	comp=Z,14nm,0.8s,baz=299,slow=8.3,SNR=29			pP	**pP**	**18 36 55.8**	**-0.6**
NVAR	comp=Z,2.2nm,0.8s,baz=287,slow=2.6,SNR=4.8			PcP	**PcP**	**18 38 35.1**	**+1.2**
NVAR	comp=Z,3.0nm,0.9s,baz=275,slow=3.4,SNR=5.5			pPcP		18 39 07.4	
NVAR	comp=Z,3.1nm,0.8s,baz=310,slow=3.8,SNR=17			ScP	**ScP**	**18 42 10.9**	**+1.1**
FFC	**Flin Flon**	**39.76**	**58**	P	**P**	**18 36 32.8**	**+1.2**
FFC	comp=Z,9.0nm,1.0s			pmax	pmax		
H17A	**Grant Village** baz=304	**40.24**	**77**	P	**P**	**18 36 38.5**	**+2.4**
BOD	**Bodaibo**	**40.50**	**308**	*e*	P	**18 36 37.2**	**-0.5**
BOD				*e*		18 37 04.9	
BOD	comp=Z,9.0nm,1.7s			pmax	pmax		
PKM	**Mcpherson Peak** baz=313	**40.59**	**95**	P	**P**	**18 36 40.4**	**+1.5**
RLMT	**Red Lodge** baz=304,SNR=10	**40.60**	**75**	P	**P**	**18 36 40.2**	**+1.2**
CWC	**Cottonwood Cre** baz=311	**40.60**	**92**	P	**P**	**18 36 40.7**	**+1.7**
ISA	**Isabella, Lake** baz=312	**40.88**	**93**	P	**P**	**18 36 42.0**	**+0.8**
R11A	**Troy Canyon, C** baz=310,SNR=14	**40.88**	**88**	P	**P**	**18 36 42.4**	**+1.2**
MPMC	**Manual Prospec** baz=312,SNR=5.7	**41.21**	**92**	P	**P**	**18 36 45.2**	**+1.2**
TPNV	**Topopah Spring** baz=311,SNR=11	**41.38**	**90**	P	**P**	**18 36 46.6**	**+1.2**
DUG	**Dugway, Tooele** baz=308,SNR=12	**41.40**	**83**	P	**P**	**18 36 46.8**	**+1.4**
DUG	**Dugway, Tooele**	**41.40**	**83**	P	**P**	**18 36 47.0**	**+1.5**
DUG	comp=Z,13nm,1.9s			pmax	pmax		
LRMC	**Laurel Mtn Rad** baz=312	**41.48**	**93**	P	**P**	**18 36 46.9**	**+0.7**
LAO	**LASA Array** baz=304	**41.49**	**71**	P	**P**	**18 36 47.3**	**+1.3**
DGMT	**Dagmar** baz=302	**41.67**	**68**	P	**P**	**18 36 48.4**	**+0.9**
EDW2	**Edwards Air Fo** baz=313	**41.69**	**93**	P	**P**	**18 36 48.7**	**+0.8**
BW06	**Boulder Array** baz=306,SNR=8.9	**41.79**	**78**	P	**P**	**18 36 49.3**	**+0.5**
PDAR	**Pinedale Array** comp=Z,4.0nm,0.4s,baz=300,slow=3.7,SNR=43	**41.79**	**78**	P	**P**	**18 36 49.6**	**+0.9**
PDAR	comp=Z,17nm,0.9s,baz=306,slow=5.3,SNR=23			pP	**pP**	**18 37 17.2**	**-0.6**
PDAR	comp=Z,4.2nm,0.8s,baz=290,slow=4.3,SNR=4.2			sP	**sP**	**18 37 32.5**	**-0.2**
PDAR	comp=Z,1.2nm,0.7s,baz=143,slow=0.7,SNR=6.7			ScP	**ScP**	**18 42 20.6**	**+0.6**
SNCC	**San Nicolas Is** baz=314	**41.89**	**97**	P	**P**	**18 36 50.5**	**+1.2**
GSC	**Goldstone, Bar** baz=312,SNR=12	**42.13**	**92**	P	**P**	**18 36 52.4**	**+1.0**
BFSC	**Mount Baldy Ra** baz=313	**42.33**	**94**	P	**P**	**18 36 53.9**	**+0.8**
SCI2	**San Clemente I** baz=314	**42.66**	**96**	P	**P**	**18 36 57.6**	**+2.0**
HEC	**Hector,Ludlow** baz=313	**42.73**	**92**	P	**P**	**18 36 57.3**	**+1.0**
GMRC	**Granite Mounta** baz=313,SNR=10	**43.17**	**92**	P	**P**	**18 37 00.8**	**+0.9**
PFO	**Pinyon Flats O** baz=314	**43.49**	**94**	P	**P**	**18 37 02.5**	**+0.1**
PFO	**Pinyon Flats O**	**43.49**	**94**	P	**P**	**18 37 03.2**	**+0.8**
PFO	comp=Z,11nm,0.9s			pmax	pmax		
BELC	**Belle Mtn. Jos** baz=313	**43.50**	**93**	P	**P**	**18 37 02.7**	**+0.2**
K22A	**Casper** baz=307	**43.65**	**76**	P	**P**	**18 37 04.0**	**+0.3**
NEE2	**Needles Airpor** baz=313	**43.81**	**91**	P	**P**	**18 37 05.0**	**+0.1**
KSRS	**Korea Array** comp=Z,4.6nm,1.0s,baz=58,slow=7.9,SNR=6.1	**43.85**	**274**	P	**P**	**18 37 05.0**	**-0.1**
KSRS	comp=Z,13nm,18.8s,baz=65,slow=38			LR	LR	18 57 13.0	
IRM	**Iron Mountain** baz=313	**43.91**	**92**	P	**P**	**18 37 05.6**	**0.0**
MONP2	**Monument Peak** baz=314	**44.01**	**94**	P	**P**	**18 37 06.7**	**0.0**
O20A	**White River Ci** baz=309,SNR=15	**44.18**	**80**	P	**P**	**18 37 08.5**	**+0.6**
RSSD	**Black Hills** baz=306	**44.23**	**73**	P	**P**	**18 37 08.5**	**+0.2**
RSSD	**Black Hills**	**44.23**	**73**	P	**P**	**18 37 09.0**	**+0.7**
RSSD	comp=Z,11nm,1.2s			pmax	pmax		
IKP	**In-Ko-Pah, Jac** baz=314	**44.36**	**94**	P	**P**	**18 37 10.1**	**+0.8**
Y12C	**Blythe** baz=313	**44.56**	**92**	P	**P**	**18 37 11.6**	**+0.7**
MDND	**Maddock** baz=305	**44.58**	**66**	P	**P**	**18 37 11.7**	**+0.9**
GLA	**Glamis** baz=314	**44.86**	**93**	P	**P**	**18 37 13.9**	**+0.7**
N23A	**Red Feather La** baz=308	**45.07**	**78**	P	**P**	**18 37 15.8**	**+0.7**
ULM	**Lac du Bonnet** comp=Z,11nm,0.4s,baz=304,slow=8.1,SNR=49	**45.25**	**61**	P	**P**	**18 37 16.1**	**+0.1**
ULM	comp=Z,4.7nm,0.7s,baz=308,slow=10.0,SNR=4.6			pP	**pP**	**18 37 44.6**	**-0.7**
ULM	comp=Z,4.7nm,0.4s,baz=290,slow=4.2,SNR=6.1			PcP	**PcP**	**18 38 53.5**	**-0.1**
ULM	comp=Z,1.7nm,0.6s,baz=310,slow=2.0,SNR=4.6			ScP	**ScP**	**18 42 34.0**	**+0.3**
NRIK	**Noril'sk** comp=Z,4.5nm,0.9s,baz=35,slow=5.3,SNR=3.9	**45.26**	**331**	P	**P**	**18 37 16.4**	**+0.5**
NRIK	comp=Z,4.8nm,0.6s,baz=80,slow=5.5,SNR=7.5			pP	**pP**	**18 37 46.9**	**+2.2**
WUAZ	**Wupatki** baz=312,SNR=13	**45.28**	**88**	P	**P**	**18 37 18.0**	**+1.3**
KULLO	**Kullorsuaq**	**45.68**	**20**	*e* P	**P**	**18 37 20.1**	**+1.0**
KULLO	comp=Z,8.0nm,0.6s			pmax	pmax		
KULLO	**Kullorsuaq** comp=Z,7.8nm,0.6s	**45.68**	**20**	*i* P	**P**	**18 37 20.1**	**+1.0**
ISCO	**Idaho Springs** baz=309	**45.95**	**79**	P	**P**	**18 37 22.4**	**+0.3**
AGMN	**Agassiz Nation** baz=306,SNR=13	**46.37**	**64**	P	**P**	**18 37 24.8**	**0.0**
S22A	**4UR Ranch, Cre** baz=311	**46.55**	**82**	P	**P**	**18 37 28.0**	**+1.2**
214A	**Organ Pipe Nat** baz=315	**46.84**	**92**	P	**P**	**18 37 29.3**	**+0.5**
OGNE	**Ogallala** baz=309	**47.34**	**75**	P	**P**	**18 37 33.1**	**+0.5**
SDCO	**Great Sand Dun** baz=311	**47.34**	**81**	P	**P**	**18 37 33.6**	**+0.7**
TUC	**Tucson** baz=314	**47.82**	**90**	P	**P**	**18 37 37.5**	**+1.0**
TUC	**Tucson** comp=Z,6.0nm,1.1s	**47.82**	**90**	P	**P**	**18 37 37.5**	**+1.0**
TUC				pmax	pmax		
KSCO	**Kaye Shedlock'** baz=310	**48.23**	**78**	P	**P**	**18 37 40.7**	**+1.1**
T25A	**Trinidad** baz=312	**48.40**	**81**	P	**P**	**18 37 42.3**	**+1.4**
KBS	**Kingsbay**	**48.45**	**359**	*e* P	**P**	**18 37 40.8**	**+0.3**
ECSD	**EROS Data Cent** baz=309,SNR=12	**48.71**	**69**	P	**P**	**18 37 42.5**	**-0.6**
TLY	**Talaya**	**48.82**	**305**	*e* P	**P**	**18 37 45.6**	**+1.9**
TLY	comp=Z,23nm,1.1s			pmax	pmax		
EYMN	**Ely** baz=308,SNR=6.2	**48.93**	**62**	P	**P**	**18 37 44.4**	**-0.2**
SPA0	**Spitsbergen Ar**	**49.13**	**358**	*e* P	**P**	**18 37 45.0**	**-0.7**
BGNE	**Belgrade** baz=310	**49.31**	**72**	P	**P**	**18 37 47.5**	**-0.1**
ULN	**Ulaanbaatar**	**49.38**	**299**	*ce* P	**P**	**18 37 48.0**	**-0.2**
ULN	comp=Z,5.0nm,0.8s			pmax	pmax		
FRB	**Frobisher Bay** comp=Z,3.7nm,0.9s,baz=334,slow=5.8,SNR=6.9	**49.44**	**35**	ScP	**ScP**	**18 42 50.5**	**-0.5**
121A	**Cookes Peak, D** baz=314	**49.49**	**88**	P	**P**	**18 37 50.3**	**+1.0**
DAG	**Danmarks Havn**	**49.52**	**8**	*i* P	**P**	**18 37 48.0**	**-0.6**
DAG				*i*		18 38 17.2	
DAG	comp=Z,10.0nm,1.0s			pmax	pmax		
DAG	**Danmarks Havn** comp=Z,9.5nm,1.0s	**49.52**	**8**	*i* P	**P**	**18 37 48.0**	**-0.6**
DAG				*i*		18 38 17.2	
SONM	**Songino Array** comp=Z,2.6nm,0.5s,baz=53,slow=6.6,SNR=37	**49.74**	**299**	P	**P**	**18 37 51.5**	**+0.5**
SONM	comp=Z,1.9nm,0.8s,baz=44,slow=6.6,SNR=5.2			pP	**pP**	**18 38 21.5**	**+1.2**
SONM	comp=Z,4.4nm,0.7s,baz=58,slow=2.8,SNR=12			PcP	**PcP**	**18 39 09.6**	**-0.3**
SONM	comp=Z,1.7nm,0.6s,baz=34,slow=3.7,SNR=11			ScP	**ScP**	**18 42 51.7**	**-1.1**
SONM	comp=Z,50nm,18.4s,baz=198,slow=38			LR	LR	19 00 49.8	
ZAK	**Zakamensk**	**49.79**	**303**	*e* P	**P**	**18 37 51.1**	**-0.1**
ZAK	comp=Z,4.0nm,1.3s			pmax	pmax		
SPMN	**Marine on St.** baz=309,SNR=8.3	**49.91**	**65**	P	**P**	**18 37 52.1**	**0.0**
CBKS	**Cedar Bluff** baz=311	**50.07**	**76**	P	**P**	**18 37 54.0**	**+0.6**
MOY	**Mondy**	**50.14**	**306**	*e* P	**P**	**18 37 55.0**	**+1.1**
HSPB	**Hornsund (broa**	**50.32**	**358**	*e* P	**P**	**18 37 53.7**	**-1.0**
SUMG	**Summit**	**50.74**	**16**	*i* P	**P**	**18 37 58.6**	**+0.2**
SUMG				*i*		18 38 30.3	
SUMG	comp=Z,35nm,1.1s			pmax	pmax		
SUMG	**Summit** comp=Z,35nm,1.1s	**50.74**	**16**	*i* P	**P**	**18 37 58.6**	**+0.2**
SUMG				*i*		18 38 30.3	
HHC	**Hu-ho-hao-te**	**51.33**	**289**	*e* P	**P**	**18 38 05.0**	**+2.1**
HHC	comp=Z,10.0nm,1.0s			pmax	pmax		
HHC	comp=Z,60nm,5.9s			pmax	pmax		
MSTX	**Muleshoe** baz=314	**51.52**	**83**	P	**P**	**18 38 04.7**	**+0.2**
MNTX	**Cornudas Mount** baz=315	**51.52**	**87**	P	**P**	**18 38 05.5**	**+1.2**
AMTX	**Amarillo** baz=313	**51.55**	**81**	P	**P**	**18 38 05.7**	**+1.1**
SCIA	**State Center** baz=311	**51.80**	**69**	P	**P**	**18 38 06.6**	**+0.3**
GUMO	**Guam** comp=Z,71nm,19.6s,baz=32,slow=32	**52.06**	**238**	LR	LR	18 56 41.6	
JFWS	**Jewell Farm** baz=311	**52.80**	**66**	P	**P**	**18 38 12.7**	**-0.9**
WMOK	**Wichita Mounta**	**53.38**	**79**	P	**P**	**18 38 18.7**	**+0.7**
WMOK	comp=Z,24nm,0.9s			pmax	pmax		
E47A	**Iron Bridge** baz=312	**54.20**	**58**	P	**P**	**18 38 23.1**	**-0.6**
TXAR	**Lajitas Array** comp=Z,2.8nm,0.5s,baz=306,slow=5.5,SNR=51	**54.24**	**87**	P	**P**	**18 38 25.0**	**+0.6**
TXAR	comp=Z,8.2nm,0.8s,baz=303,slow=5.9,SNR=18			pP	**pP**	**18 38 55.2**	**+0.1**
TXAR	comp=Z,5.8nm,0.9s,baz=293,slow=5.6,SNR=7.0			sP	**sP**	**18 39 07.1**	**-2.4**
TXAR	comp=Z,2.8nm,0.8s,baz=269,slow=1.6,SNR=4.1			PcP	**PcP**	**18 39 28.0**	**+1.0**
TXAR	comp=Z,0.9nm,0.8s,baz=284,slow=3.5,SNR=5.3			ScP	**ScP**	**18 43 13.4**	**+0.8**
D48A	**Paudash Townsh** baz=312,SNR=5.1	**54.47**	**57**	P	**P**	**18 38 25.6**	**-0.2**
L44A	**Lake County Fo** baz=312	**54.58**	**65**	P	**P**	**18 38 26.3**	**-0.3**
E48A	**Lockeyer** baz=312	**54.75**	**58**	P	**P**	**18 38 27.4**	**-0.3**
MATQ	**Matagami** baz=312	**54.80**	**52**	P	**P**	**18 38 27.3**	**-0.7**
HDIL	**Hopedale** baz=313	**54.91**	**67**	P	**P**	**18 38 28.6**	**-0.3**
F49A	**Sandfield** baz=312	**55.30**	**58**	P	**P**	**18 38 31.5**	**-0.2**
K46A	**Dorr** baz=313	**55.40**	**63**	P	**P**	**18 38 31.5**	**-1.0**
D50A	**G1974 Best Tow** baz=313	**55.47**	**56**	P	**P**	**18 38 32.3**	**-0.6**
I48A	**Sherman Twp** baz=313	**55.50**	**61**	P	**P**	**18 38 32.9**	**-0.2**
CCM	**Cathedral Cave** baz=314	**55.51**	**71**	P	**P**	**18 38 32.6**	**-0.7**
J47A	**Sumner** baz=

ZALV PcP PcP 18 39 33.8 +0.4
comp=Z,2.5nm,0.7s,baz=53,slow=2.5,SNR=7.4
ZALV LR LR 19 04 47.5
comp=Z,29nm,18.1s,baz=348,slow=38
J48A Bridge Port 56.06 62 P P 18 38 37.0 -0.2
baz=313
E51A G1948 Merrick 56.08 56 P P 18 38 36.8 -0.4
baz=313
WHTX Lake Whitney, 56.09 80 P P 18 38 37.9 +0.4
baz=315
SCHQ Schefferville 56.10 42 P P 18 38 37.1 -0.1
comp=Z,3.7nm,0.4s,baz=349,slow=6.5,SNR=17
SCHQ pP pP 18 39 09.3 +1.8
comp=Z,2.1nm,0.8s,baz=336,slow=10,SNR=3.6
L47A Sherwood 56.20 64 P P 18 38 37.5 -0.6
baz=313
K48A Perry 56.22 62 P P 18 38 38.0 -0.3
baz=313
CHGQ Chibougamau 56.24 50 P P 18 38 37.2 -1.2
baz=314
SFIN Lafayette 56.25 66 P P 18 38 38.4 -0.1
baz=313,SNR=11
F51A Arnstein 56.27 57 P P 18 38 38.2 -0.4
baz=313
HAMF Hammerfest 56.29 354 *eP* P 18 38 38.5 +0.1
J49A Marlette 56.36 61 P P 18 38 39.3 +0.1
baz=313
M47A Cromwell 56.39 64 P P 18 38 39.4 -0.2
baz=313
K49A Clarkson 56.59 62 P P 18 38 41.2 +0.3
baz=313
MIAR Mount Ida 56.59 76 P P 18 38 41.4 +0.3
baz=315
MIAR Mount Ida 56.59 76 P P 18 38 41.7 +0.7
MIAR pmax pmax
comp=Z,9.0nm,0.6s
L48A N Adams 56.64 63 P P 18 38 41.0 -0.3
baz=314,SNR=6.6
E52A Mattawa 56.67 56 P P 18 38 40.7 -0.7
baz=314
N47A Urbana 56.68 65 P P 18 38 40.6 -1.0
baz=314,SNR=5.2
M48A Edgerton 56.80 64 P P 18 38 41.8 -0.6
baz=314
L49A Milan 56.88 63 P P 18 38 43.1 +0.1
baz=314,SNR=5.2
W41B Gary Mavity, V 56.93 74 P P 18 38 42.6 -0.8
baz=315
K50A Casco 57.03 61 P P 18 38 44.0 0.0
baz=314
D54A Lac Fusel, La 57.06 54 P P 18 38 43.2 -1.0
baz=314
N48A Decatur 57.06 64 P P 18 38 43.3 -1.0
baz=314,SNR=5.8
E53A Dumoine, Ponti 57.10 55 P P 18 38 44.0 -0.5
baz=314
H52A Wyevale 57.17 58 P P 18 38 44.6 -0.4
baz=314
ALGO Algonquin Park 57.20 56 P P 18 38 44.6 -0.6
baz=314
M49A Liberty Center 57.21 63 P P 18 38 45.0 -0.3
baz=314
ARCES ARCESS Array B 57.26 353 P P 18 38 44.8 -0.5
comp=Z,4.0nm,0.7s,baz=19,slow=7.8,SNR=12
ARCES LR LR 19 04 57.5
comp=Z,53nm,19.2s,baz=292,slow=38
ARE0 ARCESS Array S 57.26 353 *eP* P 18 38 45.4 +0.2
E54A Lac Daplat, Po 57.30 55 P P 18 38 45.4 -0.5
baz=314
O48A Farmland 57.41 65 P P 18 38 45.6 -1.1
baz=314,SNR=26
I52A Shelburne 57.42 59 P P 18 38 46.7 -0.1
baz=314
L50A Kingsville 57.44 62 P P 18 38 46.7 -0.3
baz=314
N49A Columbus Grove 57.48 64 P P 18 38 46.7 -0.5
baz=314,SNR=9.1
G53A Haliburton 57.49 57 P P 18 38 47.4 +0.2
baz=314
TRO Tromso 57.56 356 *eP* P 18 38 46.9 -0.4
G54A Lake Saint Pet 57.57 56 P P 18 38 47.8 0.0
baz=314
K51A Iona Station 57.66 61 P P 18 38 48.5 +0.1
baz=314
D55A Sainte-Anne-du 57.73 54 P P 18 38 48.4 -0.5
baz=314
M50A Fremont 57.76 63 P P 18 38 48.9 -0.3
baz=314
P48A Milroy 57.81 66 P P 18 38 48.7 -0.9
baz=314,SNR=10
J52A Paris 57.84 60 P P 18 38 49.8 +0.1
baz=314
H53A Bobcaygeon 57.89 57 P P 18 38 49.9 -0.2
baz=314
O49A Covington 57.91 65 P P 18 38 49.6 -0.6
baz=314
KTK1 Kautokeino 57.93 354 *eP* P 18 38 49.9 -0.1
Q48A North Vernon 58.02 67 P P 18 38 50.6 -0.4
baz=314
F55A Otter Lake 58.13 55 P P 18 38 51.5 -0.1
baz=315
N50A Nevada 58.15 63 P P 18 38 51.7 -0.2
baz=314,SNR=7.6
X43A Marvell 58.19 74 P P 18 38 51.9 -0.3
baz=315
WCI Wyandotte Cave 58.19 68 P P 18 38 51.7 -0.5
baz=315
M51A Elyria 58.27 62 P P 18 38 52.1 -0.6
baz=314
O50A Cable 58.33 64 P P 18 38 52.9 -0.3
baz=315,SNR=9.9
G55A Calabogie 58.36 56 P P 18 38 52.8 -0.5
baz=315
N51A Ashland 58.46 63 P P 18 38 53.8 -0.3
baz=315,SNR=7.2
M52A Chesterland 58.57 62 P P 18 38 54.5 -0.3
baz=315
I55A Frankford 58.60 57 P P 18 38 54.8 -0.1
baz=315
P50A Jamestown 58.61 65 P P 18 38 54.7 -0.4
baz=315,SNR=14
ACSO Alum Creek Sta 58.62 64 P P 18 38 54.7 -0.4
baz=315,SNR=5.9
H55A Tweed 58.62 57 P P 18 38 55.1 0.0
baz=315
R49A Shelbyville 58.78 67 P P 18 38 56.0 -0.2
baz=315
J54A Appleton 58.78 59 P P 18 38 56.3 +0.1
baz=315
WVT Waverly 58.80 70 P P 18 38 56.5 0.0
baz=315
O51A Pataskala 58.88 64 P P 18 38 56.8 -0.2
baz=315,SNR=5.1
ERPA Erie 58.89 60 P P 18 38 56.4 -0.6
baz=315
GTA Gaotai 58.90 295 *eP* P 18 38 56.5 -0.8
GTA pmax pmax
comp=Z,7.0nm,1.0s
N52A McGinn's Farm, 58.91 62 P P 18 38 56.6 -0.5
baz=315
D58A Chemin du LacG 58.93 52 P P 18 38 56.1 -1.1
baz=316
M53A WI Miller and 59.00 61 P P 18 38 57.7 -0.1
baz=315
Q50A Georgetown 59.05 65 P P 18 38 57.9 -0.2
baz=315,SNR=6.5
H56A Elgin 59.06 56 P P 18 38 57.7 -0.3
baz=315
S49A Springfield 59.07 67 P P 18 38 57.9 -0.4
baz=315,SNR=7.9
P51A Williamsport 59.10 64 P P 18 38 57.9 -0.6
baz=315
L54A Sinclairville 59.16 60 P P 18 38 59.1 +0.2
baz=315
K54A Basiliko Farm, 59.22 59 P P 18 38 58.6 -0.7
baz=315
R50A Paris 59.25 66 P P 18 38 59.5 0.0
baz=315,SNR=7.3
E58A La Victoria 59.26 53 P P 18 38 58.2 -1.2
baz=316
Q51A Peebles 59.27 65 P P 18 38 59.5 -0.1
baz=315,SNR=11
O52A Adamsville 59.32 63 P P 18 38 59.8 -0.2
baz=315,SNR=8.8
G57A Newington 59.33 55 P P 18 38 59.0 -0.9
baz=316
N53A Lisbon 59.37 62 P P 18 38 59.7 -0.6
baz=315
STEI Steigen 59.41 357 *eP* P 18 39 00.1 -0.1
T49A Edmonton 59.41 68 P P 18 39 00.6 -0.1
baz=315,SNR=7.3
K55A Perry 59.46 59 P P 18 39 00.8 -0.2
baz=315
D59A Saint-Raymond 59.49 51 P P 18 39 00.1 -0.9
baz=316
M54A Oil Creek Stat 59.49 61 P P 18 39 01.2 0.0
baz=315,SNR=5.7
P52A Corning 59.50 64 P P 18 39 00.4 -0.8
baz=315
O53A New Philadelph 59.56 63 P P 18 39 01.3 -0.4
baz=315
S50A Richmond 59.64 67 P P 18 39 02.0 -0.2
baz=315
R51A Hillsboro 59.65 66 P P 18 39 02.7 +0.4
baz=315,SNR=35
L55A Hinsdale 59.66 59 P P 18 39 02.2 -0.1
baz=316
U49A Red Boiling Sp 59.70 69 P P 18 39 02.2 -0.4
baz=316
N54A Moraine State 59.71 61 P P 18 39 02.5 -0.1
baz=315,SNR=8.8
G58A Ormstown 59.76 54 P P 18 39 02.2 -0.6
baz=316
I57A Carthage 59.83 56 P P 18 39 03.2 -0.2
baz=316
K56A Middlesex 59.86 58 P P 18 39 03.9 +0.2
baz=316
T50A Nancy 59.86 68 P P 18 39 03.7 -0.1
baz=316,SNR=7.8
LONY Lake Ozonia 59.87 55 P P 18 39 02.9 -0.8
baz=316
Q52A Bidwell 59.90 64 P P 18 39 03.7 -0.3
baz=316
D60A Saint Jean D'O 59.99 51 P P 18 39 03.7 -0.7
baz=316
M55A Ridgway 59.99 60 P P 18 39 04.9 +0.3
baz=316
P53A Whipple 60.01 63 P P 18 39 04.6 -0.1
baz=316,SNR=7.5
O54A Avella 60.06 62 P P 18 39 05.0 -0.1
baz=316,SNR=11
S51A Beattyville 60.12 66 P P 18 39 05.1 -0.4
baz=316,SNR=5.0
D61A St Aubert, Com 60.12 50 P P 18 39 04.6 -0.8
baz=317
E60A Ste Agathe de 60.14 52 P P 18 39 04.5 -1.0
baz=316
R52A Catlettsburg 60.14 65 P P 18 39 05.5 -0.2
baz=316,SNR=5.9
L56A Greenwood 60.15 59 P P 18 39 06.0 +0.4
baz=316,SNR=5.1
V49A McMinnville 60.16 69 P P 18 39 05.5 -0.3
baz=316
F60A Warwick 60.19 52 P P 18 39 05.4 -0.4
baz=316
H58A Gabriels 60.22 55 P P 18 39 05.5 -0.6
baz=316
G59A Clarenceville 60.23 54 P P 18 39 05.5 -0.6
baz=316
K57A Scipio Center 60.26 58 P P 18 39 05.9 -0.5
baz=316
M56A Emporium 60.29 60 P P 18 39 06.5 -0.1
baz=316
U50A Jamestown 60.29 68 P P 18 39 06.5 -0.2
baz=316
H59A Cadyville 60.30 54 P P 18 39 06.1 -0.5
baz=316
I58A Old Forge 60.35 56 P P 18 39 06.8 -0.2
baz=316
N55A Marion Center 60.37 61 P P 18 39 07.0 -0.2
baz=316,SNR=7.0
Q53A Leroy 60.38 64 P P 18 39 07.3 +0.1
baz=316,SNR=8.8
T51A Gray 60.40 67 P P 18 39 07.3 -0.2
baz=316,SNR=11
P54A Burton 60.42 63 P P 18 39 07.4 -0.1
baz=316,SNR=9.3
W49A Belvidere 60.42 70 P P 18 39 07.5 -0.1
baz=316
J58A Remsen 60.43 56 P P 18 39 07.2 -0.4
baz=316
R53A Hurricane 60.53 65 P P 18 39 08.5 +0.2
baz=316,SNR=9.2
E61A Lac Etchemin 60.55 51 P P 18 39 08.3 0.0
baz=317
L57A Andrews Acres 60.61 58 P P 18 39 09.0 +0.2
baz=316,SNR=5.1
O55A Ligonier 60.61 61 P P 18 39 08.6 -0.2
baz=316
N56A West Decatur 60.63 60 P P 18 39 08.7 -0.3
baz=316
F61A St Evariste 60.64 52 P P 18 39 08.2 -0.7
baz=317
Q54A Coxs Mills 60.67 63 P P 18 39 09.0 -0.2
baz=316,SNR=7.9
K58A Earlville 60.68 57 P P 18 39 09.3 +0.1
baz=316
V50A Pikeville 60.68 69 P P 18 39 08.8 -0.5
baz=316,SNR=5.3
MCWV Mont Chateau 60.72 62 P P 18 39 09.4 -0.1
baz=316
D62A Allapoint, All 60.74 50 P P 18 39 09.0 -0.5
baz=317
J59A Piesco 60.75 56 P P 18 39 09.0 -0.7
baz=316
U51A La Follette 60.78 68 P P 18 39 09.9 -0.2
baz=316,SNR=6.0
I59A Olmstedville 60.82 55 P P 18 39 09.4 -0.8
baz=316
P55A Reedsville 60.84 62 P P 18 39 10.6 +0.2
baz=316,SNR=6.0
T52A Hallie 60.84 66 P P 18 39 10.8 +0.4
baz=316,SNR=7.5
H60A Morristown 60.85 54 P P 18 39 10.0 -0.4
baz=317
G61A St-Isidore-de- 60.89 53 P P 18 39 09.8 -0.8
baz=317
S53A Williamson 60.90 65 P P 18 39 11.0 +0.2
baz=316,SNR=5.2
W50A Signal Mountai 60.90 69 P P 18 39 10.8 -0.1
baz=316
BINY Binghamton 60.91 58 P P 18 39 11.0 +0.2
baz=316
TZTN Tazewell 60.93 67 P P 18 39 11.0 0.0
baz=316
M57A Sunshine Farm, 60.94 59 P P 18 39 11.3 +0.2
baz=316
O56A Blue Knob Stat 60.96 61 P P 18 39 11.2 0.0
baz=316
KURK Kurchatov 60.99 317 *ceP* P 18 39 10.4 -0.7
KURK pmax pmax
comp=Z,5.0nm,0.8s
V51A Loudon 61.01 68 P P 18 39 11.3 -0.3
baz=316
SSPA Standing Stone 61.05 60 P P 18 39 11.7 -0.1
baz=316
Q55A Buckhannon 61.07 63 P P 18 39 12.3 +0.4
baz=316,SNR=10
L58A Harry Jones Me 61.09 58 P P 18 39 12.5 +0.5
baz=316,SNR=5.1
U52A Thorn Hill 61.14 67 P P 18 39 12.2 -0.2
baz=316
N57A Milroy 61.14 60 P P 18 39 12.2 -0.2
baz=316
R54A Victor 61.16 64 P P 18 39 12.9 +0.3
baz=316,SNR=12
T53A Wise 61.17 66 P P 18 39 12.8 +0.1
baz=316
F62A Pittston Farm, 61.18 51 P P 18 39 11.9 -0.7
baz=317
MOR8 Moi Rana 61.20 357 *eP* P 18 39 11.3 -1.1
D63A Stockholm 61.21 49 P P 18 39 12.4 -0.3
baz=318
W51A Cleveland 61.24 69 P P 18 39 12.6 -0.5
baz=316
H61A Lyndonville 61.24 53 P P 18 39 12.3 -0.7
baz=317
S54A Dingess, Beckl 61.26 65 P P 18 39 13.6 +0.3
baz=316,SNR=9.0
M58A Price's Panora 61.27 59 P P 18 39 12.5 -0.7
baz=316
P56A Dayton Farm, R 61.37 62 P P 18 39 13.9 0.0
baz=316
L59A Walton 61.40 57 P P 18 39 14.5 +0.4
baz=317,SNR=7.2
V52A Sevierville 61.41 68 P P 18 39 13.9 -0.3
baz=316
G62A West of Eustis 61.41 52 P P 18 39 13.6 -0.6
baz=317
J60A Lant Hill Farm 61.45 55 P P 18 39 14.1 -0.3
baz=317
O57A Amberson 61.49 60 P P 18 39 14.8 0.0
baz=316
LRAL Lakeview Retre 61.50 72 P P 18 39 14.1 -0.8
baz=317
Q56A Snyder Ridge, 61.52 62 P P 18 39 14.6 -0.3
baz=316
N58A Sunbury 61.52 59 P P 18 39 14.8 -0.1
baz=317
E63A Oxbow 61.52 50 P P 18 39 13.9 -0.9
baz=318
R55A Marlinton 61.56 63 P P 18 39 15.5 +0.2
baz=316
H62A Milan 61.59 53 P P 18 39 14.8 -0.6
baz=317
U53A Fall Branch 61.60 67 P P 18 39 15.6 0.0
baz=316
T54A Tazewell 61.65 65 P P 18 39 16.4 +0.4
baz=316,SNR=11
M59A Waymart 61.67 58 P P 18 39 16.0 0.0
baz=317
S55A Lewisburg 61.72 64 P P 18 39 16.8 +0.5
baz=316,SNR=10
W52A Murphy 61.76 68 P P 18 39 16.1 -0.5
baz=317
E64A Bridgewater 61.80 50 P P 18 39 15.6 -1.1
baz=318
J61A Chester 61.81 55 P P 18 39 16.1 -0.6
baz=317
P57A Homestead Farm 61.82 61 P P 18 39 16.9 -0.1
baz=317,SNR=27
R56A Bull Pasture M 61.86 63 P P 18 39 17.4 +0.1
baz=317
U54A Nelsons Funny 61.90 66 P P 18 39 17.6 0.0
baz=317
G63A Kingsbury 61.93 52 P P 18 39 17.1 -0.4
baz=318
O58A Lewisberry 61.93 60 P P 18 39 17.6 -0.1
baz=317,SNR=6.1
Q57A Strasburg 61.94 62 P P 18 39 17.2 -0.5
baz=317
K61A Williamstown 61.95 56 P P 18 39 17.4 -0.3
baz=317
N59A State Game Lan 61.95 59 P P 18 39 17.7 -0.1
baz=317
Z50A Ashland 61.96 71 P P 18 39 17.3 -0.7
baz=317,SNR=5.2
L60A Shokan 61.96 57 P P 18 39 17.7 -0.2
baz=317
F64A Sherman 61.97 50 P P 18 39 17.5 -0.3
baz=318
V53A Saluda 61.97 67 P P 18 39 18.1 0.0
baz=317
PKME Peaks-Kenny Pk 61.97 51 P P 18 39 17.3 -0.5
baz=318
Y51A Rockmart 61.98 70 P P 18 39 17.4 -0.7
baz=317
WMQ Urumqi 62.03 306 *eP* P 18 39 23.0 +4.6
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,85nm,4.9s
T55A Pulaski 62.04 65 P P 18 39 18.8 +0.2
baz=317,SNR=8.0
X52A Dahlonega 62.13 69 P P 18 39 19.0 -0.1
baz=317,SNR=6.5
W53A Cullowhee 62.14 68 P P 18 39 18.7 -0.5
baz=317
L61A Hillsdale 1, H 62.15 56 P P 18 39 19.2 0.0
baz=317
BLA Blacksburg 62.17 64 P P 18 39 19.7 +0.3
baz=317
O59A Robesonia 62.18 59 P P 18 39 19.6 +0.2
baz=317,SNR=5.3
P58A Pank, Wackersv 62.19 61 P P 18 39 19.4 0.0
baz=317
M60A Port Jervis 62.24 58 P P 18 39 20.0 +0.2
baz=317,SNR=6.8
I63A Otisfield 62.25 53 P P 18 39 19.6 -0.2
baz=318
J62A Henniker 62.26 54 P P 18 39 19.6 -0.2
baz=318
S56A Natural Bridge 62.30 64 P P 18 39 20.3 +0.1
baz=317,SNR=16
N60A Cedar Hill Far 62.33 58 P P 18 39 20.7 +0.4
baz=317
U55A TA2, Sparta 62.34 65 P P 18 39 21.0 +0.5
baz=317,SNR=11
MKAR Makanchi Array 62.36 312 P P 18 39 19.9 -0.6
comp=Z,2.0nm,0.7s,baz=49,slow=6.6,SNR=15
V54A Nebo 62.37 67 P P 18 39 21.0 +0.3
baz=317
Q58A Fox Den Farm, 62.39 61 P P 18 39 20.9 +0.1
baz=317,SNR=9.3
L61B Northampton 62.40 56 P P 18 39 20.5 -0.3
baz=318
R57A Stanardsville 62.41 62 P P 18 39 21.3 +0.4
baz=317,SNR=6.5
BRVK Borovoye 62.42 323 *ceP* P 18 39 20.6 -0.1
BRVK pmax pmax
comp=Z,4.0nm,1.0s
K62A Royalston 62.47 55 P P 18 39 20.6 -0.6
baz=318
T56A Rocky Mt 62.52 64 P P 18 39 21.6 -0.1
baz=317
X53A Estanollee 62.54 68 P P 18 39 21.6 -0.3
baz=317
P59A Jarrettsville 62.56 60 P P 18 39 22.0 +0.1
baz=317,SNR=7.3
S57A Dark Hollow, R 62.57 63 P P 18 39 22.4 +0.4
baz=317,SNR=5.4
Y52A Lilburn 62.58 70 P P 18 39 22.1 0.0
baz=317
O60A Telford 62.58 59 P P 18 39 22.1 +0.1
baz=317
R58A Rapidan 62.69 62 P P 18 39 22.8 +0.1
baz=317
M61A Granite Spring 62.69 57 P P 18 39 22.3 -0.4
baz=318
V55A Taylorsville 62.73 66 P P 18 39 23.4 +0.4
baz=317
W54A Cherokee Point 62.74 67 P P 18 39 23.2 +0.1
baz=317
U56A King 62.82 65 P P 18 39 23.9 +0.2
baz=317
N61A South Mountain 62.83 58 P P 18 39 23.8 +0.2
baz=318
PAL Palisades 62.85 57 P P 18 39 23.8 +0.1
baz=318
Y53A Monroe 62.85 69 P P 18 39 23.6 -0.3
baz=317,SNR=7.4
Z52A Williamson 62.87 70 P P 18 39 23.4 -0.6
baz=317
T57A Hurt 62.97 64 P P 18 39 24.7 +0.1
baz=317
R58B Mineral 63.00 62 P P 18 39 25.0 +0.2
baz=317
X54A Belton 63.03 68 P P 18 39 25.3 +0.2
baz=317,SNR=5.8
152A Waverly Hall 63.08 71 P P 18 39 24.5 -0.9
baz=317
V56A Mocksville 63.15 66 P P 18 39 26.1 +0.2
baz=317
S58A Poland Farm, P 63.17 63 P P 18 39 26.3 +0.4
baz=317
KMSC Kings Mountain 63.18 67 P P 18 39 26.1 +0.1
baz=317
O61A Allentown 63.19 58 P P 18 39 26.5 +0.6
baz=318
GOGA Godfrey 63.25 69 P P 18 39 26.4 -0.1
baz=317
Z53A Monticello 63.28 70 P P 18 39 26.2 -0.6
baz=317
U57A Blanch 63.34 64 P P 18 39 26.8 -0.2
baz=317
Y54A Tignall 63.36 69 P P 18 39 27.0 -0.2
baz=317,SNR=7.8
T58A Grand View Acr 63.40 63 P P 18 39 27.5 +0.1
baz=317
S59A Mechanicsville 63.46 62 P P 18 39 28.2 +0.3
baz=318
ARU Arti 63.48 331 *c i*P P 18 39 25.5 -2.1
ARU *PP pP 18 39 58.5 0.0
ARU S S 18 47 46.9 -2.9

ARU				pmax	pmax			
	comp=Z,7.0nm,1.0s							
V57A	**Coltrane Farms**	**63.49**	**65**	P	**P**	**18 39 28.2**	**+0.1**
	baz=317							
X55A	**Gracelyn & Ava**	**63.50**	**67**	P	**P**	**18 39 28.2**	**0.0**
	baz=317,SNR=8.8							
153A	**Fort Valley**	**63.60**	**70**	P	**P**	**18 39 28.4**	**-0.4**
	baz=317							
W56A	**Indian Trail**	**63.60**	**66**	P	**P**	**18 39 28.9**	**+0.1**
	baz=317							
Z54A	**Sparta**	**63.73**	**69**	P	**P**	**18 39 28.9**	**-0.8**
	baz=318,SNR=5.9							
Y55A	**Saluda**	**63.77**	**68**	P	**P**	**18 39 29.9**	**0.0**
	baz=318							
U58A	**Oxford**	**63.79**	**64**	P	**P**	**18 39 29.5**	**-0.6**
	baz=318							
X56A	**White Oak**	**63.82**	**67**	P	**P**	**18 39 30.4**	**+0.1**
	baz=318							
352A	**Blakely**	**63.83**	**72**	P	**P**	**18 39 29.9**	**-0.4**
	baz=318							
T59A	**Double "B" Far**	**63.91**	**63**	P	**P**	**18 39 30.5**	**-0.2**
	baz=318							
W57A	**Gilead**	**63.91**	**66**	P	**P**	**18 39 30.9**	**0.0**
	baz=318							
V58A	**Windy Hill, Pi**	**63.93**	**65**	P	**P**	**18 39 31.1**	**+0.2**
	baz=318							
T60A	**Surry**	**64.22**	**62**	P	**P**	**18 39 32.8**	**0.0**
	baz=318							
U59A	**Littleton**	**64.23**	**63**	P	**P**	**18 39 32.9**	**0.0**
	baz=318							
X57A	**Johnson Farm,**	**64.37**	**66**	P	**P**	**18 39 34.1**	**+0.3**
	baz=318							
S61A	**Accomac**	**64.39**	**61**	P	**P**	**18 39 34.1**	**+0.2**
	baz=318							
254A	**Abbeville**	**64.42**	**70**	P	**P**	**18 39 33.6**	**-0.6**
	baz=318							
V59A	**Middlesex**	**64.43**	**64**	P	**P**	**18 39 34.3**	**+0.1**
	baz=318							
W58A	**Raeford**	**64.43**	**65**	P	**P**	**18 39 34.2**	**0.0**
	baz=318							
U60A	**Pendleton**	**64.49**	**63**	P	**P**	**18 39 35.1**	**+0.6**
	baz=318							
Z56A	**Williston**	**64.50**	**68**	P	**P**	**18 39 35.2**	**+0.5**
	baz=318							
Y57A	**Sumter**	**64.53**	**67**	P	**P**	**18 39 35.4**	**+0.5**
	baz=318							
X58A	**Rowland**	**64.72**	**66**	P	**P**	**18 39 36.6**	**+0.5**
	baz=318							
W59A	**Clinton**	**64.76**	**65**	P	**P**	**18 39 36.6**	**+0.3**
	baz=318							
Z57A	**Bowman**	**64.89**	**68**	P	**P**	**18 39 37.7**	**+0.5**
	baz=318							
156A	**Sylvania**	**64.92**	**69**	P	**P**	**18 39 37.8**	**+0.4**
	baz=318							
V60A	**Jim Taylor Roa**	**64.96**	**63**	P	**P**	**18 39 37.5**	**-0.1**
	baz=318							
U61A	**Possum Corner**	**64.98**	**63**	P	**P**	**18 39 38.2**	**+0.5**
	baz=318							
FINES	**FINESS Array B**	**65.15**	**351**	P	**P**	**18 39 37.8**	**-0.7**
	comp=Z,3.0nm,0.6s,baz=12,slow=8.1,SNR=18							
FINES				pP	**pP**	**18 40 07.8**	**-1.6**
	comp=Z,3.5nm,0.8s,baz=29,slow=6.1,SNR=4.3							
FINES				LR	LR	19 11 04.7		
	comp=Z,76nm,18.1s,baz=343,slow=39							
W60A	**Pink Hill**	**65.24**	**64**	P	**P**	**18 39 40.0**	**+0.5**
	baz=318							
V61A	**Roper**	**65.31**	**63**	P	**P**	**18 39 40.4**	**+0.5**
	baz=318							
NHSC	**New Hope**	**65.33**	**67**	P	**P**	**18 39 40.4**	**+0.4**
	baz=318							
Z58A	**St. Stephen**	**65.36**	**67**	P	**P**	**18 39 40.9**	**+0.6**
	baz=318							
Y59A	**Loris**	**65.39**	**66**	P	**P**	**18 39 40.9**	**+0.4**
	baz=318							
X60A	**Albert Glenn T**	**65.45**	**65**	P	**P**	**18 39 41.1**	**+0.3**
	baz=318							
NB2	**NORSAR Subarra**	**66.42**	**358**	P	**P**	**18 39 46.3**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=2.1,slow=6.5							
NB2	**NORSAR Subarra**	**66.42**	**358**	P	**P**	**18 39 46.3**	**-0.4**
	baz=2.1,slow=6.5							
NOA	**NORSAR Array B**	**66.42**	**358**	P	**P**	**18 39 46.6**	**0.0**
	comp=Z,2.0nm,0.7s,baz=2.2,slow=6.4,SNR=8.1							
NOA				pP	**PcP**	**18 40 16.3**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=1.5,slow=6.4,SNR=4.6							
SKAR	**Skarslia**	**66.81**	**360**	*eP*	**P**	**18 39 49.2**	**0.0**
TKM2	**Tokmak 2**	**68.36**	**313**	P	**P**	**18 40 00.3**	**+0.9**
	SNR=5.3							
USP	**Ospenovka**	**68.57**	**314**	P	**P**	**18 40 00.9**	**+0.4**
	SNR=8.3							
KBK	**Karagaybulak**	**68.86**	**313**	P	**P**	**18 40 02.8**	**+0.3**
	SNR=7.1							
AAK	**Ala-Archa**	**69.07**	**314**	*ce*P	**P**	**18 40 03.1**	**-0.7**
AAK				pmax	pmax			
	comp=Z,7.0nm,0.7s							
AAK	**Ala-Archa**	**69.07**	**314**	P	**P**	**18 40 04.1**	**+0.3**
	SNR=7.2							
KZA	**Kyzart**	**69.19**	**313**	P	**P**	**18 40 05.6**	**+0.8**
	SNR=6.8							
EKS2	**Erkin-Say**	**69.37**	**314**	P	**P**	**18 40 06.0**	**+0.5**
	SNR=8.2							
OBN	**Obninsk**	**69.85**	**343**	⇑*e*P	**P**	**18 40 07.5**	**-0.5**
OBN						18 40 26.0		
OBN						18 42 48.0		
OBN				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KKAR	**Karatay Array**	**70.40**	**316**	P	**P**	**18 40 11.6**	**-0.1**
KKAR				pmax	pmax			
	comp=Z,38nm,0.7s							
KSH	**Kashi**	**70.92**	**311**	P	**P**	**18 40 16.5**	**+1.5**
KSH				S	**S**	**18 49 14.3**	**-5.4**
KSH				pmax	pmax			
	comp=Z,410nm,4.6s							
EKA	**Eskdalemuir Ar**	**71.77**	**7**	P	**P**	**18 40 19.3**	**-0.3**
NONG	**Nongkai**	**72.82**	**277**	P	**P**	**18 40 27.2**	**+0.7**
SKNT	**Sakolnakorn**	**73.16**	**276**	P	**P**	**18 40 28.5**	**0.0**
TAPN	**Taplejung**	**74.59**	**295**	*eP*	**P**	**18 40 36.8**	**-0.3**
	comp=Z,21nm,0.6s							
UTTA	**Uttaradit**	**74.63**	**279**	P	**P**	**18 40 37.0**	**0.0**
CMMT	**Chiang Mai**	**74.76**	**281**	P	**P**	**18 40 37.3**	**-0.5**
CHTO	**Chiang Mai**	**74.76**	**281**	P	**P**	**18 40 38.2**	**+0.4**
CHTO				pmax	pmax			
	comp=Z,11nm,1.1s							
CMAR	**Chiang Mai Arr**	**75.04**	**281**	P	**P**	**18 40 39.5**	**+0.1**
	comp=Z,10nm,0.7s,baz=26,slow=7.0,SNR=73							
GUN	**Gumba**	**75.15**	**297**	*eP*	**P**	**18 40 40.1**	**-0.3**
	comp=Z,54nm,0.4s							
ODAN	**Odare**	**75.15**	**295**	*eP*	**P**	**18 40 39.7**	**-0.5**
	comp=Z,10.0nm,0.5s							
JIRN	**Jiri**	**75.18**	**296**	*eP*	**P**	**18 40 40.5**	**-0.1**
	comp=Z,86nm,0.4s							
CHAI	**Chaiyaphum**	**75.19**	**277**	P	**P**	**18 40 40.8**	**+0.5**
PBKT	**Sadao Pong**	**75.29**	**278**	P	**P**	**18 40 41.0**	**+0.2**
AKASG	**Malin Array Be**	**75.29**	**346**	P	**P**	**18 40 39.1**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=13,slow=5.6,SNR=7.5							
AKASG				pP	**pP**	**18 41 13.3**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=19,slow=5.8,SNR=4.4							
AKASG				LR	LR	19 17 27.6		
	comp=Z,24nm,19.2s,baz=295,slow=38							
RAMN	**Ramite**	**75.52**	**295**	*eP*	**P**	**18 40 41.8**	**-0.5**
	comp=Z,30nm,0.5s							
KKN	**Kakani**	**75.57**	**297**	*eP*	**P**	**18 40 42.2**	**-0.4**
	comp=Z,17nm,0.5s							
PKI	**Pulchoki**	**75.67**	**297**	*eP*	**P**	**18 40 42.7**	**-0.6**
	comp=Z,17nm,0.6s							
PKIN	**Phulchoki**	**75.68**	**297**	*eP*	**P**	**18 40 42.6**	**-0.7**
	comp=Z,12nm,0.5s							
GKN	**Gorkha**	**75.75**	**297**	*eP*	**P**	**18 40 43.0**	**-0.6**
	comp=Z,32nm,0.5s							
DMN	**Daman**	**75.81**	**297**	*eP*	**P**	**18 40 43.7**	**-0.3**
	comp=Z,20nm,0.6s							
MHMT	**Maesarieng**	**75.86**	**281**	P	**P**	**18 40 44.1**	**+0.1**
	comp=Z,36nm,1.1s,comp=Z,0.1nm							
DANN	**Dangsing**	**75.95**	**298**	*eP*	**P**	**18 40 44.5**	**-0.3**
	comp=Z,66nm,0.6s							
CLL	**Collm**	**76.12**	**357**	*eP*	**P**	**18 40 45.0**	**0.0**
CLL				*e**PP	**pP**	**18 41 18.0**	**+0.9**
CLL	**Collm**	**76.12**	**357**	*eP*	**P**	**18 40 45.0**	**0.0**
CLL				*ep*P	**pP**	**18 41 18.0**	**+0.9**
KOLN	**Koldanda**	**76.49**	**298**	*eP*	**P**	**18 40 47.2**	**-0.6**
	comp=Z,14nm,0.7s							
BRG	**Berggiesshubel**	**76.52**	**356**	*eP*	**P**	**18 40 47.0**	**-0.3**
	comp=Z,2.9nm,0.7s							
BRG	**Berggiesshubel**	**76.52**	**356**	P	**P**	**18 40 50.0**	**+2.7**
BRG				pmax	pmax			
	comp=Z,14nm,2.2s							
CHVC	**Chvalec**	**76.71**	**355**	*eP*	**P**	**18 40 48.2**	**-0.2**
OSTC	**Ostas**	**76.73**	**355**	*eP*	**P**	**18 40 49.2**	**+0.7**
UPC	**Upice**	**76.79**	**355**	*eP*	**P**	**18 40 48.9**	**0.0**
UPC	**Upice**	**76.79**	**355**	*eP*	**P**	**18 40 48.9**	**0.0**
UMPA	**Umpang Tak**	**76.83**	**279**	P	**P**	**18 40 51.3**	**+1.7**
	comp=Z,36µm,1.0s,comp=Z,337µmcomp=Z,389nm							
DPC	**Dobruska-Polom**	**76.93**	**355**	*eP*	**P**	**18 40 49.9**	**+0.2**
DPC				*e*		18 41 22.8		
DPC	**Dobruska-Polom**	**76.93**	**355**	*eP*	**P**	**18 40 49.9**	**+0.2**
DPC				*ex*	x	18 41 22.8		
NIL	**Nilore**	**76.96**	**309**	P	**P**	**18 40 51.3**	**+1.2**
NIL				pmax	pmax			
	comp=Z,8.0nm,1.1s							
UTHA	**Uthaitani**	**76.99**	**279**	P	**P**	**18 40 50.9**	**+0.5**
	comp=Z,26µm,1.0s,comp=Z,292µmcomp=Z,82nm							
PRU	**Pruhonice**	**77.38**	**356**	*eP*	**P**	**18 40 52.2**	**+0.1**
PRU				*e*		18 41 24.8		
PRU	**Pruhonice**	**77.38**	**356**	*eP*	**P**	**18 40 52.2**	**+0.1**
PRU				*ex*	x	18 41 24.8		
PBCC	**Pribram**	**77.71**	**356**	*eP*	**P**	**18 40 53.9**	**-0.1**
KOLS	**Kolonicke sedl**	**77.87**	**351**	*eP*	**P**	**18 40 56.0**	**+1.1**
KOLS	**Kolonicke sedl**	**77.87**	**351**	*eP*	**P**	**18 40 56.0**	**+1.1**
SORM	**Soroca**	**77.92**	**346**	⇑P	**P**	**18 40 54.1**	**-1.0**
SORM	**Soroca**	**77.92**	**346**	⇑P	**P**	**18 40 54.1**	**-1.0**
VRAC	**Vranov**	**77.95**	**354**	⇑P	**P**	**18 40 55.9**	**+0.5**
VRAC	**Vranov**	**77.95**	**354**	⇑P	**P**	**18 40 55.9**	**+0.5**
SRDT	**SRDT**	**78.12**	**278**	P	**P**	**18 40 57.4**	**+0.6**
KHC	**Kasperske Hory**	**78.28**	**356**	*eP*	**P**	**18 40 57.7**	**+0.5**
KHC				*e*		18 41 30.3		
KHC	**Kasperske Hory**	**78.28**	**356**	*eP*	**P**	**18 40 57.7**	**+0.5**
KHC				*ex*	x	18 41 30.3		
GERES	**GERESS Array B**	**78.56**	**356**	P	**P**	**18 40 58.7**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=19,slow=5.6,SNR=13							
GERES				pP	**pP**	**18 41 32.7**	**+1.6**
	comp=Z,2.2nm,0.8s,baz=19,slow=4.5,SNR=7.8							
VYHS	**Vyhne**	**78.61**	**353**	*eP*	**P**	**18 40 58.2**	**-0.8**
VYHS	**Vyhne**	**78.61**	**353**	*eP*	**P**	**18 40 58.2**	**-0.8**
TRPA	**Tarpa**	**78.64**	**350**	⇑P	**P**	**18 40 59.3**	**+0.2**
BURAR	**Bucovina Array**	**78.85**	**348**	⇑P	**P**	**18 41 00.2**	**-0.2**
PHET	**Kaeng Krachan**	**78.94**	**277**	P	**P**	**18 41 03.1**	**+1.9**
KIV	**Kislovodsk**	**79.09**	**335**	*eP*	**P**	**18 41 04.6**	**+2.8**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,100nm,18.0s							
KBZ	**Khabaz**	**79.25**	**335**	P	**P**	**18 41 02.7**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=124,slow=1.8,SNR=6.6							
KBZ				LR	LR	19 23 02.9		
	comp=Z,30nm,18.7s,baz=2.5,slow=41							
CONA	**Conrad Observa**	**79.37**	**355**	*i* P	**P**	**18 41 03.0**	**-0.3**
	comp=Z,7.6nm,1.3s							
CONA				*i* pP	**pP**	**18 41 35.4**	**-0.1**
	comp=Z,7.0nm,1.2s							
BIZ	**Bicaz**	**79.40**	**348**	⇑P	**P**	**18 41 03.4**	**+0.1**
ARCR	**ARCALIA**	**79.47**	**349**	⇓P	**P**	**18 41 04.4**	**+0.7**
MOA	**Molln**	**79.53**	**356**	*i* pP	pP	18 41 37.7	+1.4
	comp=Z,9.0nm,1.5s							
GEYT	**Alibeck**	**79.72**	**322**	LR	LR	19 20 20.9		
	comp=Z,24nm,19.1s,baz=10.0,slow=38							
ARSA	**Arzberg**	**80.07**	**355**	*i* P	**P**	**18 41 06.9**	**0.0**
	comp=Z,7.7nm,1.7s							
ARSA				*i* pP	**pP**	**18 41 40.1**	**+0.9**
	comp=Z,5.9nm,1.1s							
WATA	**Walderalm**	**80.14**	**358**	*i* P	**P**	**18 41 07.7**	**+0.3**
	comp=Z,3.7nm,0.6s							
MOTA	**Moosalm**	**80.14**	**358**	*i* P	**P**	**18 41 06.4**	**-1.1**
	comp=Z,7.0nm,1.2s							
MOTA				*i* pP	**pwP**	**18 41 42.2**	**-0.3**
	comp=Z,12nm,1.1s							
WTTA	**Wattenberg**	**80.21**	**358**	*i* P	**P**	**18 41 08.5**	**+0.6**
	comp=Z,16nm,1.7s							
SQTA	**Sank Quirin**	**80.26**	**358**	*i* P	**P**	**18 41 08.1**	**+0.1**
	comp=Z,6.0nm,0.9s							
SQTA				*i* pP	**pP**	**18 41 40.9**	**+0.5**
	comp=Z,8.7nm,1.0s							
KBA	**Koelnbreinsper**	**80.34**	**356**	*i* P	**P**	**18 41 08.9**	**+0.4**
	comp=Z,3.3nm,0.5s							
KBA				*i* pP	**pP**	**18 41 40.9**	**0.0**
	comp=Z,13nm,0.8s							
FETA	**Feichten**	**80.47**	**358**	*i* P	**P**	**18 41 09.7**	**+0.4**
	comp=Z,8.7nm,1.1s							
FETA				*i* pP	**pP**	**18 41 42.9**	**+1.3**
	comp=Z,14nm,1.1s							
SOKA	**Soboth**	**80.66**	**355**	*i* P	**P**	**18 41 07.7**	**-2.4**
	comp=Z,8.6nm,1.3s							
MLR	**Muntele Rosu**	**80.84**	**347**	⇑P	**P**	**18 41 11.8**	**+0.6**
MLR	**Muntele Rosu**	**80.84**	**347**	⇑P	**P**	**18 41 11.8**	**+0.6**
CTA	**Charters Tower**	**81.22**	**219**	P	**P**	**18 41 13.2**	**0.0**
	comp=Z,2.0nm,0.5s,baz=21,slow=6.2,SNR=12							
CTA				pP	**pP**	**18 41 45.3**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=344,slow=5.2,SNR=3.8							
BZS	**Buzias**	**81.22**	**350**	⇑P	**P**	**18 41 11.4**	**-1.7**
BZS	**Buzias**	**81.22**	**350**	⇑P	**P**	**18 41 11.4**	**-1.7**
GZR	**Gura Zlata**	**81.32**	**350**	⇑P	**P**	**18 41 13.3**	**-0.4**
GZR	**Gura Zlata**	**81.32**	**350**	⇑P	**P**	**18 41 13.3**	**-0.4**
PLVB	**Pleven**	**83.08**	**348**	⇑P	**P**	**18 41 22.1**	**-0.7**
PDG	**Podgorica**	**84.60**	**352**	⇑P	P	18 41 20.9	-10
BRTR	**Keskin Array B**	**85.17**	**341**	P	**P**	**18 41 33.8**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=36,slow=3.5,SNR=6.6							
BRTR				pP	**pP**	**18 42 05.3**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=56,slow=2.2,SNR=4.3							
WRA	**Warramunga Arr**	**86.15**	**230**	P	**P**	**18 41 36.7**	**-1.6**
	comp=Z,2.0nm,0.7s,baz=32,slow=5.6,SNR=21							
WRA				pP	**pP**	**18 42 09.3**	**-2.4**
	comp=Z,1.4nm,0.9s,baz=37,slow=5.9,SNR=4.5							
ESDC	**Sonseca Array**	**87.24**	**9**	P	**P**	**18 41 43.0**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=352,slow=5.7,SNR=4.9							
OCAC	**Ocana**	**88.61**	**78**	*eP*	**P**	**18 41 51.9**	**+1.3**
OCAC	**Ocana**	**88.61**	**78**	*eP*	**P**	**18 41 51.9**	**+1.3**
PTBC	**PUERTO BERRIO,**	**89.29**	**80**	*eP*	**P**	**18 41 53.2**	**-0.4**
PTBC	**PUERTO BERRIO,**	**89.29**	**80**	*eP*	**P**	**18 41 53.2**	**-0.4**
ASAR	**Alice Springs**	**89.58**	**228**	P	**P**	**18 41 55.0**	**+0.3**
	comp=Z,5.6nm,0.6s,baz=28,slow=4.6,SNR=99							
ASAR				pP	**pP**	**18 42 26.1**	**-2.1**
	comp=Z,4.2nm,0.6s,baz=30,slow=4.8,SNR=13							
ASAR				LR	LR	19 18 20.6		
	comp=Z,22nm,21.0s,baz=58,slow=33							
PAMC	**Pamplona, Colo**	**89.70**	**78**	*eP*	**P**	**18 41 56.5**	**+0.4**
PAMC	**Pamplona, Colo**	**89.70**	**78**	*eP*	**P**	**18 41 56.5**	**+0.4**
GUY2C	**Guyana, Caldas**	**89.79**	**82**	*eP*	**P**	**18 41 57.1**	**+0.6**
GUY2C	**Guyana, Caldas**	**89.79**	**82**	*eP*	**P**	**18 41 57.1**	**+0.6**
NORC	**Norcasia**	**89.81**	**81**	*eP*	**P**	**18 41 56.6**	**+0.5**
NORC	**Norcasia**	**89.81**	**81**	*eP*	**P**	**18 41 56.6**	**+0.5**
BARC	**Barichara**	**90.00**	**79**	*eP*	**P**	**18 41 57.7**	**+0.5**
BARC	**Barichara**	**90.00**	**79**	*eP*	**P**	**18 41 57.7**	**+0.5**
RUSC	**La Rusia**	**90.62**	**79**	*eP*	**P**	**18 42 00.6**	**+0.2**
RUSC	**La Rusia**	**90.62**	**79**	*eP*	**P**	**18 42 00.6**	**+0.2**
ORTC	**Ortega, Tolima**	**90.90**	**82**	*eP*	**P**	**18 42 01.1**	**-0.1**
ORTC	**Ortega, Tolima**	**90.90**	**82**	*eP*	**P**	**18 42 01.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**114.03**	**7**	PKP	**PKiKP**	**18 47 34.8**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=351,slow=2.4,SNR=15							
TORD				SKP		18 50 57.8		
	comp=Z,0.9nm,0.7s,baz=337,slow=3.1,SNR=5.4							
TORD				PKKPbc	**PKKPab**	**18 58 22.4**	**-4.5**
	comp=Z,0.7nm,0.8s,baz=176,slow=5.1,SNR=6.7							
DBIC	**Dimbokro**	**119.67**	**15**	PKP	**PKPdf**	**18 47 45.8**	**-0.9**
	comp=Z,2.2nm,0.4s,baz=304,slow=2.1,SNR=7.2							
KMBO	**Kilima Mbogo**	**123.04**	**325**	PKP	**PKiKP**	**18 47 54.0**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=260,slow=1.2,SNR=5.0							
CPUP	**Villa Florida**	**125.22**	**88**	PKP	**PKPdf**	**18 47 56.8**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=320,slow=3.0,SNR=8.1							
PLCA	**Paso Flores**	**127.39**	**110**	PKP	**PKPdf**	**18 48 00.2**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=253,slow=8.4,SNR=4.0							
PLCA				pPKP	**pPKPdf**	**18 48 34.8**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=253,slow=6.0,SNR=4.1							
QSPA	**South Pole Qui**	**142.62**	**180**	SKPbc	**SKPbc**	**18 51 52.7**	**-0.8**
	comp=Z,4.0nm,0.8s,baz=331,slow=1.8,SNR=8.3							
PMSA	**Palmer Station**	**142.93**	**137**	SKPbc	**SKPbc**	**18 51 54.5**	**+0.2**
	comp=Z,7.4nm,1.0s,baz=313,slow=14,SNR=12							
MAW	**Mawson**	**150.31**	**219**	PKPbc	**PKPbc**	**18 48 46.4**	**+0.2**
	comp=Z,6.0nm,0.8s,baz=137,slow=1.2,SNR=11							
MAW				pPKPbc	**pPKPbc**	**18 49 19.3**	**-1.8**
	comp=Z,3.6nm,0.6s,baz=93,slow=7.5,SNR=5.4							
BOSA	**Boshof**	**152.67**	**326**	PKP	**PKPdf**	**18 48 46.0**	**+0.1**
	comp=Z,8.8nm,0.6s,baz=182,slow=1.5,SNR=6.7							
BOSA				PKPbc	**PKPbc**	**18 48 53.0**	**-0.1**
	comp=Z,10.0nm,0.5s,baz=23,slow=2.4,SNR=54							

*ISCJB **26** 18:50:14.9±0.5,20.˚78N±0.˚07×146.˚74E±0.˚10,h10km, mb4.0/17,MS3.0/2,Error ellipse: s-maj=13.1km s-min=9.6km az=178.4*
*IDC **26** 18:50:15.4±0.7,20.˚82N×146.˚68E,h0km,mb4.1/17, mb1 4.2/17,mb1mx4.1/49,mbtmp4.1/17,MS3.1/2, Ms1 3.1/2,ms1mx2.6/38,Error ellipse: s-maj=23.6km s-min=15.9km az=84.0*

*NEIC **26** 18:50:16.7±1.4,20.˚79N±0.˚09×146.˚7E±0.˚2,h10km±1km, mb4.8/13*

ISC 26 18:50:16.6±0.6,20.˚77N±0.˚08×146.˚7E±0.˚1,h10km±1km,n47, σ0s74/49,mb4.5/30,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**4.51**	**192**	Pn	**Pn**	**18 51 24.2**	**-0.8**
KSRS	**Korea Array**	**23.29**	**320**	P	**P**	**18 55 25.1**	**+0.5**
	4.7nm,0.9s,baz=147,slow=8.7,SNR=7.6						
DAV	**Davao City (W)**	**24.58**	**239**	LR	LR	19 02 57.2	
	comp=Z,67nm,21.7s,baz=74,slow=31						
USRK	**Ussuriysk Ar.**	**26.38**	**336**	P	**P**	**18 55 54.6**	**+1.6**
	6.4nm,0.9s,baz=149,slow=9.0,SNR=5.3						
KLR	**Kul'dur**	**30.81**	**341**	P	**P**	**18 56 32.2**	**-0.3**
	1.0nm,0.5s,baz=163,slow=13,SNR=4.6						
PETK	**Petropavlovsk-**	**33.37**	**12**	LR	LR	19 16 04.7	
	comp=Z,24nm,18.0s,baz=259,slow=46						
SONM	**Songino Array**	**42.16**	**319**	P	**P**	**18 58 09.1**	**-0.5**
	1.0nm,0.7s,baz=134,slow=8.4,SNR=6.2						
WRA	**Warramunga Arr**	**42.24**	**197**	P	**P**	**18 58 10.7**	**+0.4**
	1.4nm,0.7s,baz=19,slow=8.6,SNR=15						
WRA				PcP	**PcP**	**19 00 03.0**	**-1.3**
	2.4nm,1.0s,baz=22,slow=3.4,SNR=8.4						
WRA	**Warramunga Arr**	**42.24**	**197**	P	**P**	**18 58 10.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**44.93**	**276**	P	**P**	**18 58 32.5**	**+0.4**
	1.0nm,0.9s,baz=53,slow=6.5,SNR=5.5						
ASAR	**Alice Springs**	**45.90**	**196**	P	**P**	**18 58 40.0**	**+0.4**
	0.7nm,0.7s,baz=20,slow=7.9,SNR=12						
ASAR				PcP	**PcP**	**19 00 17.6**	**+0.9**
	0.8nm,0.7s,baz=26,slow=3.8,SNR=6.6						
TIXI	**Tiksi**	**51.93**	**353**	P	**P**	**18 59 24.6**	**-0.6**
TIXI				IAmb	IAmb	18 59 37.4	
	comp=Z,2.6nm,0.8s						
LHI	**Lord Howe Isla**	**53.33**	**167**	P	**P**	**18 59 36.1**	**+0.1**
LHI				IAmb	IAmb	18 59 46.4	
	comp=Z,178nm,1.4s						
TAPN	**Taplejung**	**53.86**	**289**	*eP*	**P**	**18 59 41.4**	**+0.8**
	comp=Z,13nm,0.8s						
ODAN	**Odare**	**54.20**	**289**	*eP*	**P**	**18 59 43.4**	**+0.4**
	comp=Z,17nm,0.9s						
RAMN	**Ramite**	**54.89**	**289**	*eP*	**P**	**18 59 48.2**	**+0.1**
JIRN	**Jiri**	**55.16**	**290**	*eP*	**P**	**18 59 51.2**	**+1.0**
	comp=Z,45nm,0.8s						
GUN	**Gumba**	**55.41**	**290**	*eP*	**P**	**18 59 52.4**	**+0.5**
	comp=Z,33nm,1.1s						
PKI	**Pulchoki**	**55.86**	**290**	*eP*	**P**	**18 59 55.4**	**+0.2**
	comp=Z,1.8nm,0.8s						
PKIN	**Phulchoki**	**55.87**	**290**	*eP*	**P**	**18 59 55.2**	**0.0**
	comp=Z,14nm,1.0s						
KKN	**Kakani**	**55.95**	**290**	*eP*	**P**	**18 59 56.1**	**+0.5**
	comp=Z,18nm,0.8s						
DMN	**Daman**	**56.12**	**290**	*eP*	**P**	**18 59 57.2**	**+0.2**
	comp=Z,20nm,0.9s						
GKN	**Gorkha**	**56.49**	**290**	*eP*	**P**	**18 59 59.9**	**+0.5**
	comp=Z,44nm,0.9s						
ZAA0	**Zalesovo Array**	**56.98**	**322**	P	**P**	**19 00 01.4**	**-0.9**
ZAA0				IAmb	IAmb	19 00 02.6	
	comp=Z,4.3nm,0.9s						
ZALV	**Zalesovo Beam**	**56.98**	**322**	P	**P**	**19 00 01.9**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=92,slow=5.9,SNR=14						
ZALV				PcP	**PcP**	**19 00 57.1**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=117,slow=5.2,SNR=4.6						
DANN	**Dangsing**	**57.21**	**291**	*eP*	**P**	**19 00 05.5**	**+0.8**

ODAN	**Odare**	**54.10**	**289**	*eP*	**P**	**19 38 02.9 +0.9**
PKIN	**Phulchoki**	**55.78**	**290**	*eP*	**P**	**19 38 14.8 +0.7**
	5.5nm,0.8s					
KKN	**Kakani**	**55.85**	**290**	*eP*	**P**	**19 38 15.3 +0.7**
	8.5nm,0.8s					
DMN	**Daman**	**56.03**	**290**	*eP*	**P**	**19 38 16.5 +0.6**
	18nm,1.2s					
GKN	**Gorkha**	**56.39**	**290**	*eP*	**P**	**19 38 19.3 +0.9**
ZALV	**Zalesovo Beam**	**56.90**	**322**	P	**P**	**19 38 21.1 -0.3**
	0.4nm,0.3s,baz=113,slow=9.2,SNR=3.9					
DANN	**Dangsing**	**57.11**	**291**	*eP*	**P**	**19 38 25.0 +1.3**
	27nm,0.7s					
KOLN	**Koldanda**	**57.33**	**290**	*eP*	**P**	**19 38 26.1 +1.0**
	9.6nm,0.9s					
KURBB	**Kurchatov Arra**	**60.36**	**317**	P	**P**	**19 38 45.6 +0.1**
	1.5nm,0.8s,baz=92,slow=7.8,SNR=10					
BVAR	**Borovoye Array**	**65.42**	**320**	P	**P**	**19 39 19.7 +0.5**
	1.0nm,0.4s,baz=87,slow=7.1,SNR=13					
YKA	**Yellowknife Ar**	**75.74**	**28**	P	**P**	**19 40 21.8 -0.1**
	0.1nm,0.4s,baz=290,slow=5.8,SNR=2.5					
NVAR	**Mina Array Bea**	**81.17**	**52**	P	**P**	**19 40 53.6 +0.8**
	0.2nm,0.3s,baz=260,slow=5.4,SNR=2.6					
FINES	**FINESS Array B**	**85.34**	**335**	P	**P**	**19 41 11.6 -1.9**
	2.3nm,0.8s,baz=77,slow=2.8,SNR=5.5					

*ISCJB **26** 19:44:43.7±0.9,2°.4N±0°.2×100°.3E±0°.1,h138km,mb3.5/5, Error ellipse: s-maj=27.9km s-min=12.6km az=24.7*
*IDC **26** 19:44:45.7±2.5,1°.87N×99°.52E,h163km±16km,mb3.3/5, mb1 3.4/5,mb1mx3.0/48,mbtmp3.7/5,MS3.6/1,Ms1 3.6/1, ms1mx2.7/20,Error ellipse: s-maj=213.7km s-min=15.6km az=55.0*

ISC 26 19:44:45.1±1.2,2°.3N±0°.3×100°.2E±0°.2,h138km,n7, σ0§59/7,mb3.7/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.33**	**291**	P	**Pn**	**19 45 12.5**	**+0.5**
	5.4nm,0.3s,baz=344,slow=6.0,SNR=9.4						
PSI				S	**Sn**	**19 45 32.3**	**-0.3**
	3.2nm,0.3s,baz=16,slow=20,SNR=13						
WRA	**Warramunga Arr**	**40.17**	**125**	P	**P**	**19 52 08.7**	**+0.6**
	1.1nm,0.5s,baz=302,slow=9.1,SNR=15						
ASAR	**Alice Springs**	**41.77**	**130**	P	**P**	**19 52 20.5**	**-0.6**
	0.4nm,0.9s,baz=298,slow=7.5,SNR=4.6						
SONM	**Songino Array**	**45.67**	**6**	LR	LR	20 13 10.4	
	comp=Z,71nm,18.6s,baz=166,slow=37						
MKAR	**Makanchi Array**	**46.96**	**343**	P	**P**	**19 53 01.9**	**-0.1**
	0.6nm,0.3s,baz=162,slow=8.3,SNR=15						
KURBB	**Kurchatov Arra**	**51.50**	**343**	P	**P**	**19 53 35.9**	**-0.5**
	0.2nm,0.3s,baz=153,slow=7.3,SNR=3.3						
ZALV	**Zalesovo Beam**	**52.99**	**349**	P	**P**	**19 53 47.6**	**+0.2**
	0.9nm,0.3s,baz=161,slow=6.0,SNR=4.5						

*ISCJB **26** 20:01:45.4±0.4,43°.75N±0°.03×105°.25W±0°.05,h0km, mb3.7/2, Error ellipse: s-maj=5.0km s-min=4.8km az=38.4*
*IDC **26** 20:01:46.5±1.8,43°.78N×105°.53W,h0km,mb3.8/2, mb1 3.6/7,mb1mx3.4/45,mbtmp3.4/7,ML2.7/4, Error ellipse: s-maj=55.9km s-min=8.6km az=149.0*
*NEIC **26** 20:01:47.2±1.1,43°.76N±0°.05×105°.28W±0°.04,h0km±2km, ML3.1/61*

ISC 26 20:01:46.3±0.9,43°.74N±0°.05×105°.32W±0°.05,h0km,n49, σ1§18/49,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.01**	**67**		**Pg**	**20 02 05.6**	**0.0**
RSSD				IAML		20 02 29.1	
	166nm,0.5s						
RSSD				IAML		20 02 29.3	
	137nm,0.4s						
K22A	**Casper**	**1.40**	**219**		**Pg**	**20 02 12.2**	**-0.9**
K22A				IAML		20 02 35.8	
	comp=E,206nm,0.4s						
K22A				IAML		20 02 37.5	
	comp=N,336nm,0.6s						
PHWY	**Pilot Hill**	**2.44**	**182**		**Pn**	**20 02 28.6**	**+0.9**
PHWY				IAML		20 03 07.1	
	comp=N,62nm,0.4s						
RWWY	**Rawlins**	**2.48**	**215**		**Pn**	**20 02 29.4**	**+1.2**
RWWY				IAML		20 03 04.8	
	comp=N,125nm,0.7s						
RWWY				IAML		20 03 09.2	
	comp=N,90nm,0.7s						
N23A	**Red Feather La**	**2.88**	**189**		**Pn**	**20 02 35.1**	**+1.4**
N23A				IAML		20 03 19.3	
	comp=N,79nm,0.7s						
N23A				IAML		20 03 24.7	
	comp=E,59nm,0.6s						
LAO	**LASA Array**	**3.02**	**348**		**Pn**	**20 02 35.5**	**+0.1**
LAO				IAML		20 03 20.5	
	comp=E,194nm,0.4s						
LAO				IAML		20 03 26.5	
	comp=E,127nm,0.7s						
RLMT	**Red Lodge**	**3.15**	**297**		**Pn**	**20 02 37.8**	**+0.5**
RLMT				IAML		20 03 25.8	
	comp=E,54nm,0.4s						
RLMT				IAML		20 03 33.2	
	comp=E,41nm,0.5s						
PD31	**Pinedale Array**	**3.24**	**254**		**Pn**	**20 02 39.5**	**+0.8**
PDAR	**Pinedale Array**	**3.24**	**254**	Pn	**Pn**	**20 02 39.4**	**+0.7**
	comp=E,4.4nm,0.3s,baz=71,slow=16,SNR=43						
PDAR				Lg	Lg	20 03 24.6	
	comp=E,13nm,0.3s,baz=69,slow=36,SNR=13						
BW06	**Boulder Array**	**3.24**	**254**		**Pn**	**20 02 39.3**	**+0.6**
BW06				IAML		20 03 29.5	
	comp=N,43nm,0.4s						
BW06				IAML		20 03 32.6	
	comp=E,31nm,0.7s						
YNE	**Yellowstone No**	**3.59**	**292**		**Pn**	**20 02 43.9**	**+0.4**
YNE				IAML		20 03 45.7	
	comp=N,74nm,0.5s						
YNE				IAML		20 03 54.6	
	comp=E,76nm,0.4s						
YMP	**Mirror Lake Pl**	**3.61**	**288**		**Pn**	**20 02 44.8**	**+0.9**
YMP				IAML		20 03 45.9	
	comp=E,92nm,0.4s						
YMP				IAML		20 03 46.9	
	comp=N,66nm,0.6s						
OGNE	**Ogallala**	**3.71**	**138**		**Pn**	**20 02 45.7**	**+0.7**
OGNE				IAML		20 03 53.8	
	comp=N,95nm,0.5s						
OGNE				IAML		20 03 55.7	
	comp=N,69nm,0.8s						
GCMT	**Greycliff**	**3.71**	**305**		**Pn**	**20 02 46.0**	**+0.9**
LKWY	**Lake**	**3.75**	**284**		**Pn**	**20 02 47.5**	**+1.9**
LKWY				IAML		20 03 17.3	
	comp=N,30nm,0.6s						
LKWY				IAML		20 03 39.4	
	comp=N,15nm,3.3s						
H17A	**Grant Village**	**3.84**	**282**		**Pn**	**20 02 49.1**	**+2.2**
H17A				IAML		20 03 50.6	
	comp=N,23nm,0.6s						
H17A				IAML		20 03 55.2	
	comp=E,16nm,0.4s						
FLWY	**Flagg Ranch**	**3.90**	**277**		**Pn**	**20 02 49.0**	**+1.3**
FLWY				IAML		20 03 58.7	
	comp=E,20nm,2.4s						
FLWY				IAML		20 03 59.4	
	comp=E,18nm,0.8s						
MOOW	**Moose Ponds**	**3.93**	**272**		**Pn**	**20 02 49.8**	**+1.7**
MOOW				IAML		20 04 59.1	
	comp=E,7.1nm,4.8s						
MOOW				IAML		20 05 22.1	
	comp=E,4.4nm,4.5s						
ISCO	**Idaho Springs**	**3.94**	**183**		**Pn**	**20 02 49.9**	**+1.5**
ISCO				IAML		20 03 52.6	
	comp=E,15nm,0.7s						
ISCO				IAML		20 03 57.6	
	comp=E,17nm,0.7s						
YPP	**Pitchstone Pla**	**3.99**	**280**		**Pn**	**20 02 50.8**	**+1.7**
YPP				IAML		20 04 00.0	
	comp=E,11nm,0.7s						
YPP				IAML		20 04 11.8	
	comp=N,13nm,4.4s						
REDW	**Red Top Meadow**	**4.04**	**267**		**Pn**	**20 02 50.8**	**+1.2**
REDW				IAML		20 03 53.2	
	comp=N,24nm,0.7s						
REDW				IAML		20 03 59.9	
	comp=N,42nm,0.7s						
IMW	**Indian Meadow**	**4.07**	**274**		**Pn**	**20 02 50.8**	**+0.7**
IMW				IAML		20 03 59.2	
	comp=N,16nm,0.6s						
IMW				IAML		20 04 04.2	
	comp=N,25nm,0.7s						
TPAW	**Teton Pass**	**4.09**	**268**		**Pn**	**20 02 51.8**	**+1.4**
TPAW				IAML		20 03 54.4	
	comp=N,35nm,0.3s						
TPAW				IAML		20 03 56.2	
	comp=N,28nm,0.7s						
FXWY	**Fox Creek**	**4.14**	**271**	Pn	**Pn**	**20 02 52.2**	**+1.2**
FXWY				IAML		20 03 40.9	
	comp=N,8.0nm,5.0s						
FXWY				IAML		20 03 41.3	
	comp=N,10.0nm,4.8s						
YMR	**Madison River**	**4.16**	**285**		**Pn**	**20 02 53.0**	**+1.6**
YMR				IAML		20 04 18.4	
	comp=E,16nm,0.7s						
YMR				IAML		20 04 21.2	
	comp=N,24nm,4.3s						
O20A	**White River Ci**	**4.21**	**212**		**Pn**	**20 02 53.2**	**+1.3**
O20A				IAML		20 04 10.3	
	comp=E,36nm,0.7s						
O20A				IAML		20 04 15.2	
	comp=N,33nm,1.8s						
YHB	**Horse Butte**	**4.34**	**286**	Pn	**Pn**	**20 02 55.1**	**+1.4**
YHB				IAML		20 04 10.8	
	comp=N,17nm,2.3s						
YHB				IAML		20 04 21.3	
	comp=E,11nm,2.7s						
YHL	**Hebgen Lake**	**4.35**	**287**		**Pn**	**20 02 55.8**	**+1.8**
YHL				IAML		20 04 09.9	
	comp=E,20nm,0.7s						
YHL				IAML		20 04 15.9	
	comp=N,21nm,0.7s						
RDMU	**Red Mountain**	**4.47**	**226**	Pn	**Pn**	**20 02 56.2**	**+0.7**
RDMU				IAML		20 04 10.6	
	comp=E,15nm,0.7s						
RDMU				IAML		20 04 18.0	
	comp=N,18nm,0.8s						
Q24A	**Divide**	**4.77**	**178**	Pn	**Pn**	**20 03 00.8**	**+1.0**
Q24A				IAML		20 04 20.9	
	comp=E,17nm,0.7s						
Q24A				IAML		20 04 29.1	
	comp=N,8.9nm,0.8s						
DGMT	**Dagmar**	**4.80**	**9**		**Pn**	**20 03 01.1**	**+1.3**
DGMT				IAML		20 04 20.1	
	comp=N,62nm,0.9s						
DGMT				IAML		20 04 21.1	
	comp=N,75nm,0.7s						
HWUT	**Hardware Ranch**	**5.07**	**247**		**Pn**	**20 03 05.0**	**+1.2**
HWUT				IAML		20 04 42.4	
	comp=N,17nm,0.8s						
HWUT				IAML		20 04 42.7	
	comp=N,19nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.14**	**156**		**Pn**	**20 03 05.5**	**+0.8**
KSCO				IAML		20 04 40.5	
	comp=N,52nm,0.8s						
KSCO				IAML		20 04 43.3	
	comp=E,57nm,0.6s						
TCUT	**Toone Canyon**	**5.21**	**242**		**Pn**	**20 03 06.9**	**+1.1**
TCUT				IAML		20 04 43.2	
	comp=N,72nm,0.7s						
TCUT				IAML		20 04 44.3	
	comp=E,64nm,0.6s						
SPUT	**South Promonto**	**5.80**	**248**		**Pn**	**20 03 14.8**	**+1.0**
SRU	**San Rafael Swe**	**6.05**	**222**		**Pn**	**20 03 17.3**	**+0.1**
TMUT	**Trail Mountain**	**6.26**	**227**		**Pn**	**20 03 21.5**	**+1.3**
ECSD	**EROS Data Cent**	**6.31**	**87**	Pn	**Pn**	**20 03 20.4**	**-0.2**
Q16A	**Castle Valley**	**6.52**	**224**	Pn	**Pn**	**20 03 25.0**	**+1.3**
DUG	**Dugway, Tooele**	**6.61**	**240**	Pn	**Pn**	**20 03 25.8**	**+0.9**
T25A	**Trinidad**	**6.63**	**174**		**Pn**	**20 03 25.4**	**+0.2**
MVCO	**Mesa Verde**	**6.96**	**201**		**Pn**	**20 03 31.0**	**+1.3**
ELK	**Elko**	**7.94**	**251**	Pn	**Pn**	**20 03 43.9**	**+0.7**
	comp=E,0.1nm,0.3s,baz=65,slow=17,SNR=3.0						
ULM	**Lac du Bonnet**	**9.16**	**41**	Pn	**Pn**	**20 03 59.2**	**-0.5**
	comp=E,0.9nm,0.3s,baz=231,slow=11,SNR=12						
ULM	**Lac du Bonnet**	**9.16**	**41**		**Pn**	**20 03 59.4**	**-0.3**
NVAR	**Mina Array Bea**	**11.14**	**246**	Pn	**Pn**	**20 04 29.3**	**+2.3**
	comp=E,0.1nm,0.3s,baz=50,slow=12,SNR=5.5						
YKA	**Yellowknife Ar**	**19.56**	**347**	P	**P**	**20 06 14.4**	**-0.9**
	comp=E,0.1nm,0.3s,baz=158,slow=13,SNR=5.9						
ZALV	**Zalesovo Beam**	**82.30**	**354**	P	**P**	**20 14 08.4**	**-1.0**
	comp=E,0.5nm,0.7s,baz=350,slow=7.3,SNR=3.0						
MKAR	**Makanchi Array**	**89.60**	**355**	P	**P**	**20 14 45.4**	**-0.3**
	comp=E,0.3nm,0.7s,baz=0.0,slow=4.5,SNR=3.2						

*ISCJB **26** 20:07:05.9±0.6,44°.49N±0°.05×105°.35W±0°.07,h0km, Error ellipse: s-maj=7.7km s-min=6.8km az=138.8*
*IDC **26** 20:07:05.7±1.4,44°.42N×105°.68W,h0km,mb1 3.1/3, mb1mx3.0/44,mbtmp2.8/3,ML2.5/3, Error ellipse: s-maj=44.4km s-min=8.3km az=143.0*
*NEIC **26** 20:07:07.3±0.7,44°.46N±0°.06×105°.36W±0°.08,h0km±2km, ML2.7/43*

ISC 26 20:07:07.0±1.1,44°.46N±0°.06×105°.39W±0°.08,h0km,n29, σ0§78/28,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.03**	**109**		**Pb**	**20 07 28.4**	**+0.5**
K22A	**Casper**	**1.99**	**205**		**Pn**	**20 07 41.9**	**-0.2**
LAO	**LASA Array**	**2.30**	**346**		**Pn**	**20 07 46.7**	**+0.5**
RLMT	**Red Lodge**	**2.83**	**285**		**Pn**	**20 07 54.4**	**+0.6**
RLMT				IAML		20 08 37.3	
	21nm,0.5s						
RLMT				IAML		20 08 37.5	
	27nm,0.4s						
RWWY	**Rawlins**	**3.08**	**206**		**Pn**	**20 07 57.9**	**+0.8**
RWWY				IAML		20 08 45.9	
	24nm,1.3s						
RWWY				IAML		20 08 47.3	
	18nm,0.6s						
PHWY	**Pilot Hill**	**3.16**	**181**	Pn	**Pn**	**20 07 58.3**	**0.0**
GCMT	**Greycliff**	**3.30**	**295**		**Pn**	**20 08 00.8**	**+0.7**
YNE	**Yellowstone No**	**3.33**	**281**		**Pn**	**20 08 00.9**	**+0.3**
YMP	**Mirror Lake Pl**	**3.41**	**276**		**Pn**	**20 08 02.5**	**+0.8**
BW06	**Boulder Array**	**3.47**	**242**		**Pn**	**20 08 03.0**	**+0.6**
BW06				IAML		20 08 59.4	
	comp=N,17nm,0.7s						
BW06				IAML		20 09 02.1	
	comp=E,12nm,1.1s						
PD31	**Pinedale Array**	**3.47**	**242**		**Pn**	**20 08 03.0**	**+0.5**
PDAR	**Pinedale Array**	**3.47**	**242**	Pn	**Pn**	**20 08 00.9**	**-1.5**
	comp=E,0.4nm,0.3s,baz=66,slow=13,SNR=4.3						
PDAR				Pg	Pb	20 08 06.4	-3.0
	comp=E,1.3nm,0.3s,baz=62,slow=18,SNR=20						
PDAR				Lg	Lg	20 08 50.1	
	comp=E,6.2nm,0.3s,baz=63,slow=33,SNR=17						
LKWY	**Lake**	**3.58**	**273**		**Pn**	20 08 01.1	-2.9
LKWY				IAML		20 09 03.5	
	comp=E,15nm,1.3s						
LKWY				IAML		20 09 07.7	
	comp=E,12nm,1.4s						
N23A	**Red Feather La**	**3.59**	**187**		**Pn**	**20 08 05.1**	**+1.0**
N23A				IAML		20 09 24.5	
	comp=E,19nm,0.8s						
N23A				IAML		20 09 25.5	
	comp=N,21nm,2.7s						
H17A	**Grant Village**	**3.71**	**271**		**Pn**	**20 08 06.3**	**+0.4**
H17A				IAML		20 09 06.6	
	comp=E,9.0nm,2.2s						
FLWY	**Flagg Ranch**	**3.83**	**266**		**Pn**	**20 08 07.9**	**+0.5**
FLWY				IAML		20 09 28.7	
	comp=E,14nm,3.7s						
FLWY				IAML		20 09 39.5	
	comp=E,16nm,4.5s						
YPP	**Pitchstone Pla**	**3.88**	**269**		**Pn**	**20 08 09.3**	**+1.0**
MOOW	**Moose Ponds**	**3.92**	**261**		**Pn**	**20 08 09.4**	**+0.8**
YMR	**Madison River**	**3.99**	**275**		**Pn**	**20 08 10.6**	**+1.0**
IMW	**Indian Meadow**	**4.03**	**264**	Pn	**Pn**	**20 08 10.6**	**+0.4**
IMW				IAML		20 09 19.5	
	comp=E,11nm,0.9s						
REDW	**Red Top Meadow**	**4.09**	**256**		**Pn**	**20 08 11.8**	**+0.7**
REDW				IAML		20 09 32.8	
	comp=E,11nm,0.8s						
TPAW	**Teton Pass**	**4.13**	**258**		**Pn**	**20 08 12.2**	**+0.6**
TPAW				IAML		20 09 31.3	
	comp=E,8.3nm,4.3s						
TPAW				IAML		20 09 34.9	
	comp=E,10nm,2.4s						
FXWY	**Fox Creek**	**4.14**	**260**	Pn	**Pn**	**20 08 12.0**	**+0.2**
YHL	**Hebgen Lake**	**4.15**	**277**		**Pn**	**20 08 12.4**	**+0.6**
O20A	**White River Ci**	**4.81**	**207**		**Pn**	**20 08 21.1**	**+0.2**
MSO	**Missoula**	**6.44**	**295**	Pn	**Pn**	**20 08 43.4**	**+0.2**
SRU	**San Rafael Swe**	**6.58**	**217**	Pn	**Pn**	**20 08 45.3**	**+0.2**
ULM	**Lac du Bonnet**	**8.67**	**45**	Pn	**Pn**	**20 09 13.8**	**+0.1**
	comp=E,0.3nm,0.3s,baz=234,slow=12,SNR=3.4						
ULM				Lg	Lg	20 11 37.9	
	comp=E,0.3nm,0.3s,baz=162,slow=20,SNR=3.6						
YKA	**Yellowknife Ar**	**18.84**	**347**	P	**P**	**20 11 26.2**	**-1.9**
	comp=E,0.0nm,0.3s,baz=150,slow=13,SNR=2.4						

IDC 26 20:10:45.4±1.9,6°.51S×155°.53E,h0km,mb3.3/5, mb1 3.6/5,mb1mx3.4/27,mbtmp3.3/5,Error ellipse: s-maj=70.2km s-min=27.9km az=126.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.53**	**235**	P	P	20 16 06.7	-0.2
	0.3nm,0.5s,baz=58,slow=9.5,SNR=4.2						
ASAR	**Alice Springs**	**26.89**	**228**	P	P	20 16 28.1	-0.1
	0.3nm,0.9s,baz=57,slow=9.0,SNR=2.5						
CMAR	**Chiang Mai Arr**	**61.06**	**295**	P	P	20 21 01.9	+0.3
	0.5nm,0.7s,baz=118,slow=5.0,SNR=5.4						
ILAR	**Eielson Array**	**82.73**	**21**	P	P	20 23 10.7	-0.1
	0.2nm,0.8s,baz=240,slow=7.1,SNR=2.7						
MKAR	**Makanchi Array**	**83.39**	**319**	P	P	20 23 14.2	-0.5
	0.3nm,0.9s,baz=114,slow=3.5,SNR=2.3						
TORD	**Torodi Ar. Bea**	**153.41**	**286**	PKPbc	PKiKP	20 30 47.3	+0.3
	0.2nm,0.5s,baz=63,slow=2.1,SNR=3.3						

*IDC **26** 20:24:11.3±1.6,16°.83S×172°.81W,h0km,mb4.0/4, mb1 4.3/4,mb1mx3.7/40,mbtmp4.1/4,ML3.2/1,MS3.2/2, Ms1 3.2/2,ms1mx2.7/35,Error ellipse: s-maj=59.4km s-min=22.8km az=123.0*
*ISCJB **26** 20:24:15.3±1.3,16°.7S±0°.2×172°.9W±0°.3,h41km,mb4.1/4, MS3.0/2,Error ellipse: s-maj=49.4km s-min=9.8km az=28.0*

ISC 26 20:24:16.7±1.5,16°.8S±0°.2×172°.8W±0°.4,h41km,n8, σ1§00/7,mb4.1/4,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.98**	**19**	Pn	**Pn**	**20 25 01.1**	**-0.5**
	3.0nm,0.3s,baz=117,slow=4.5,SNR=5.1						
AFI				Sn	**Sn**	**20 25 35.5**	**-0.6**
	18nm,0.3s,baz=199,slow=23,SNR=9.9						
DZM	**Mont Dzumac**	**20.30**	**252**	LR	LR	20 35 49.1	
	comp=Z,42nm,18.9s,baz=226,slow=34						
URZ	**Urewera**	**23.20**	**201**	P	**P**	**20 29 19.0**	**-1.0**
	3.6nm,0.4s,baz=348,slow=3.8,SNR=6.9						
PMG	**Port Moresby**	**39.65**	**275**	LR	LR	20 45 09.0	
	comp=Z,39nm,18.1s,baz=85,slow=32						
WRA	**Warramunga Arr**	**50.14**	**258**	P	**P**	**20 33 08.0**	**-0.5**
	0.7nm,0.5s,baz=97,slow=6.8,SNR=24						
ASAR	**Alice Springs**	**50.29**	**253**	P	**P**	**20 33 09.8**	**+0.3**
	4.4nm,0.6s,baz=88,slow=8.5,SNR=95						
ILAR	**Eielson Array**	**83.64**	**11**	P	**P**	**20 36 41.5**	**+1.0**
	0.3nm,0.5s,baz=230,slow=5.6,SNR=8.6						
GERES	**GERESS Array B**	**147.55**	**352**	PKPbc	**PKPbc**	**20 43 57.7**	**+1.0**
	0.2nm,0.4s,baz=1.1,slow=4.9,SNR=3.3						

*ISCJB **26** 20:31:04.2±1.2,3°.4N±0°.1×126°.9E±0°.1,h48km,mb3.6/5, MS2.5/1,Error ellipse: s-maj=20.5km s-min=14.6km az=41.6*
*NEIC **26** 20:31:05.8±1.4,3°.5N±0°.1×126°.9E±0°.1,h42km±8km, mb4.5/7*
*IDC **26** 20:31:09.2±5.3,3°.50N×127°.06E,h73km±55km,mb3.4/5, mb1 3.6/6,mb1mx3.3/40,mbtmp3.8/6,ML3.8/1,MS2.6/1, Ms1 2.8/1,ms1mx2.3/25,Error ellipse: s-maj=79.2km s-min=24.5km az=70.0*

ISC 26 20:31:06.7±1.4,3°.4N±0°.1×127°.0E±0°.1,h48km,n17, σ1§62/16,mb4.0/8,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.65**	**171**	Pn	**Pn**	**20 31 46.9**	**+0.1**
SIJI	**Sorong**	**6.05**	**134**	P	**Pn**	**20 32 36.0**	**+2.3**
	2.1nm,0.3s,baz=170,slow=22,SNR=5.2						
LUWI	**Luwuk**	**6.07**	**223**	Pn	**Pn**	**20 32 34.0**	**0.0**
FAKI	**Fak Fak**	**8.22**	**140**	Pn	**Pn**	**20 33 03.1**	**-0.3**
MTN	**Manton Dam**	**16.67**	**166**	P	**Pn**	**20 34 54.9**	**-2.1**
MTN				IAmb	IAmb	20 34 56.1	
	comp=Z,87nm,1.6s						
KNRA	**Kununurra**	**19.04**	**175**	P	**Pn**	**20 35 25.7**	**-0.4**
KNRA				IAmb	IAmb	20 36 04.2	
	comp=Z,120nm,1.8s						
FITZ	**Fitzroy Crossi**	**21.40**	**183**	P	**P**	**20 35 53.0**	**+2.5**
	comp=Z,3.1nm,0.9s,baz=356,slow=10,SNR=3.5						
FITZ	**Fitzroy Crossi**	**21.40**	**183**	P	**P**	**20 35 51.0**	**+0.4**
FITZ				IAmb	IAmb	20 36 24.7	
	comp=Z,64nm,2.0s						
WRAB	**Tennant Creek**	**24.30**	**163**	P	**P**	**20 36 18.7**	**-1.1**
WRAB				IAmb	IAmb	20 36 20.2	
	comp=Z,23nm,1.5s						
WRA	**Warramunga Arr**	**24.31**	**163**	P	**P**	**20 36 19.7**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=341,slow=11,SNR=14						
WR0	**Warramunga Arr**	**24.39**	**162**	P	**P**	**20 36 17.1**	**-3.5**
WR0				IAmb	IAmb	20 37 05.0	
	comp=Z,15nm,1.4s						
AS31	**Alice Springs**	**27.75**	**166**	P	**P**	**20 36 50.1**	**-0.9**
AS31				IAmb	IAmb	20 37 06.0	
	comp=Z,1.8nm,1.3s						
ASAR	**Alice Springs**	**27.75**	**166**	P	**P**	**20 36 51.1**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=343,slow=8.1,SNR=11						
CMAR	**Chiang Mai Arr**	**31.22**	**301**	LR	LR	20 51 28.8	
	comp=Z,9.9nm,18.5s,baz=135,slow=39						
STKA	**Stephens Creek**	**37.75**	**159**	P	**P**	**20 38 19.4**	**+1.3**
	comp=Z,2.1nm,0.6s,baz=331,slow=7.9,SNR=6.0						
STKA	**Stephens Creek**	**37.75**	**159**	P	**P**	**20 38 16.5**	**-1.5**
STKA				IAmb	IAmb	20 38 50.3	
	comp=Z,3.5nm,1.8s						
MKAR	**Makanchi Array**	**57.95**	**325**	P	**P**	**20 40 54.0**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=121,slow=8.0,SNR=5.2						

IDC 26 20:47:56.3±1.5,50°.28N×114°.87W,h0km,mb2.5/1, mb1 3.4/3,mb1mx3.1/42,mbtmp3.0/3,ML3.4/2,Error ellipse: s-maj=54.4km s-min=12.1km az=76.0,Alberta

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDAR	**Pinedale Array**	**8.36**	**152**	Pn	Pn	20 50 00.0	+1.1
	0.1nm,0.3s,baz=346,slow=15,SNR=3.2						
YKA	**Yellowknife Ar**	**12.24**	**1**	Pn	Pn	20 50 47.7	-4.0
	0.4nm,0.3s,baz=179,slow=13,SNR=23						
YKA				Sn	Sn	20 52 60.0	-8.8
	0.1nm,0.3s,baz=180,slow=22,SNR=4.6						
YKA				Lg	Lg	20 54 13.9	
	baz=166,slow=28,SNR=3.0		

TAMC	**Tame, Arauca**	**2.47**	**199**	*eP*	**Pb**	**20**	**50**	**31.8 -0.4**
TAMC				*eS*	**Sg**	**20**	**51**	**05.1 -1.8**
TAMC				*i*		20	51	10.2
	comp=Z,109nm,0.4s							
CODC	**Agustn Codazz**	**2.70**	**295**	*eP*	**Pn**	**20**	**50**	**32.2 +0.8**
CODC				*eS*	**Sn**	**20**	**51**	**04.5 +0.2**
CODC				*i*		20	51	18.3
	comp=Z,8.8nm,0.3s							
CODC	**Agustn Codazz**	**2.70**	**295**	*eP*	**Pn**	**20**	**50**	**32.2 +0.8**
CODC				*eS*	**Sn**	**20**	**51**	**04.5 +0.2**
CODC				*i*		20	51	18.3
	comp=Z,8.8nm,0.3s							
SMLC	**San Martn de**	**3.07**	**271**	*eP*	**Pn**	**20**	**50**	**37.2 +0.8**
SMLC	**San Martn de**	**3.07**	**271**	*eP*	**Pn**	**20**	**50**	**37.2 +0.8**
ARGC	**Ariguani, Magd**	**3.41**	**289**	*eP*	**Pn**	**20**	**50**	**42.5 +1.4**
ARGC	**Ariguani, Magd**	**3.41**	**289**	*eP*	**Pn**	**20**	**50**	**42.5 +1.4**
RUSC	**La Rusia**	**3.55**	**216**	*eP*	**Pn**	**20**	**50**	**46.3 +2.8**
RUSC	**La Rusia**	**3.55**	**216**	*eP*	**Pn**	**20**	**50**	**46.3 +2.8**
PTBC	**PUERTO BERRIO,**	**4.11**	**238**	*eP*	**Pn**	**20**	**50**	**51.8 +1.0**
PTBC	**PUERTO BERRIO,**	**4.11**	**238**	*eP*	**Pn**	**20**	**50**	**51.8 +1.0**
SJCC	**San Jacinto, C**	**4.30**	**285**	*eP*	**Pn**	**20**	**50**	**55.3 +1.8**
SJCC				*i*		20	51	53.9
	comp=Z,7.2nm,0.4s							
SJCC	**San Jacinto, C**	**4.30**	**285**	*eP*	**Pn**	**20**	**50**	**55.3 +1.8**
SJCC				*i*		20	51	53.9
	comp=Z,7.2nm,0.4s							
PDAR	**Pinedale Array**	**47.82**	**322**	P	**P**	**20**	**58**	**26.2 +0.2**
	comp=Z,0.2nm,0.7s,baz=119,slow=7.5,SNR=2.7							
TORD	**Torodi Ar. Bea**	**71.26**	**79**	P	**P**	**21**	**01**	**07.9 -0.2**
	comp=Z,0.4nm,1.0s,baz=294,slow=11,SNR=2.9							
ASAR	**Alice Springs**	**151.98**	**235**	PKPbc	**PKPbc**	**21**	**09**	**43.0 -1.3**
	comp=Z,0.3nm,0.8s,baz=127,slow=3.1,SNR=4.9							
WRA	**Warramunga Arr**	**153.13**	**243**	PKPbc	**PKPbc**	**21**	**09**	**45.9 -1.0**
	comp=Z,0.3nm,0.3s,baz=107,slow=2.8,SNR=6.2							

*ISCJB **26** 21:02:23.8±0.3, 43°.80N±0°.03×105°.21W±0°.03, h0km, mb3.9/2, Error ellipse: s-maj=3.7km s-min=3.4km az=179.5*

*IDC **26** 21:02:24.7±1.4, 43°.75N×105°.35W, h0km, mb3.8/2, mb1 3.8/8, mb1mx3.5/40, mbtmp3.6/8, ML3.5/6, Error ellipse: s-maj=31.6km s-min=8.1km az=148.0*

*NEIC **26** 21:02:25.9±0.9, 43°.82N±0°.05×105°.25W±0°.02, h0km±2km, ML3.5/75*

ISC 26 21:02:24.9±0.7, 43°.89N±0°.05×105°.20W±0°.04, h0km, n85, σ1§11/90, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.87**	**74**		**Pb**	**21 02 43.6**	**+0.6**
RSSD					**Pg**	**21 02 44.0**	**+2.5**
K22A	**Casper**	**1.58**	**218**		**Pn**	**21 02 52.0**	**-2.3**
K22A				IAML		21 03 15.6	
	comp=N,703nm,0.3s						
K22A				IAML		21 03 16.6	
	comp=E,672nm,0.3s						
PHWY	**Pilot Hill**	**2.60**	**184**		**Pn**	**21 03 07.8**	**-0.6**
RWWY	**Rawlins**	**2.66**	**215**		**Pn**	**21 03 09.6**	**+0.4**
RWWY				IAML		21 03 47.0	
	comp=E,282nm,0.8s						
RWWY				IAML		21 03 47.1	
	comp=E,141nm,0.7s						
LAO	**LASA Array**	**2.89**	**346**		**Pn**	**21 03 14.2**	**+2.0**
LAO				IAML		21 04 17.8	
	comp=E,258nm,0.7s						
N23A	**Red Feather La**	**3.05**	**191**		**Pn**	**21 03 14.6**	**0.0**
N23A				IAML		21 03 57.9	
	comp=N,90nm,0.4s						
RLMT	**Red Lodge**	**3.16**	**294**		**Pn**	**21 03 17.1**	**+1.0**
RLMT				IAML		21 04 13.7	
	comp=N,83nm,0.7s						
RLMT				IAML		21 04 15.6	
	comp=N,93nm,0.4s						
BW06	**Boulder Array**	**3.38**	**252**		**Pn**	**21 03 19.5**	**+0.4**
PD31	**Pinedale Array**	**3.38**	**252**		**Pn**	**21 03 19.3**	**+0.3**
PDAR	**Pinedale Array**	**3.38**	**252**	Pn	**Pn**	**21 03 18.9**	**-0.2**
	comp=N,6.0nm,0.3s,baz=68,slow=17,SNR=106						
PDAR				Lg	Lg	21 04 03.5	
	comp=N,16nm,0.3s,baz=61,slow=21,SNR=7.0						
YNE	**Yellowstone No**	**3.62**	**290**		**Pn**	**21 03 23.2**	**+0.7**
YMP	**Mirror Lake Pl**	**3.66**	**285**		**Pn**	**21 03 24.0**	**+0.9**
GCMT	**Greycliff**	**3.70**	**302**	Pn	**Pn**	**21 03 22.7**	**-0.7**
OGNE	**Ogallala**	**3.76**	**140**		**Pn**	**21 03 25.3**	**+1.0**
OGNE				IAML		21 04 31.4	
	comp=N,82nm,0.8s						
OGNE				IAML		21 04 32.7	
	comp=N,114nm,0.6s						
LKWY	**Lake**	**3.80**	**282**		**Pn**	**21 03 26.3**	**+1.4**
LKWY				IAML		21 03 57.1	
	comp=N,62nm,0.6s						
YUF	**Upper Falls**	**3.90**	**284**	Pn	**Pn**	**21 03 27.7**	**+1.4**
YUF					**Pg**	**21 03 41.3**	**+1.6**
H17A	**Grant Village**	**3.90**	**279**		**Pn**	**21 03 27.5**	**+1.2**
FLWY	**Flagg Ranch**	**3.98**	**275**		**Pn**	**21 03 28.0**	**+0.7**
FLWY				IAML		21 04 38.2	
	comp=N,40nm,1.1s						
FLWY				IAML		21 04 39.4	
	comp=N,58nm,1.9s						
MOOW	**Moose Ponds**	**4.02**	**270**	IAML		21 05 53.7	
	comp=N,56nm,0.3s						
MOOW				IAML		21 05 53.8	
	comp=N,57nm,0.1s						
YNR	**Norris Junctio**	**4.02**	**284**	Pn	**Pn**	**21 03 28.7**	**+0.7**
YNR					**Pb**	**21 03 36.3**	**-0.4**
SNOW	**Snow King Moun**	**4.05**	**266**		**Pn**	**21 03 26.7**	**-1.7**
SNOW				IAML		21 04 35.0	
	comp=N,44nm,0.8s						
SNOW				IAML		21 04 47.8	
	comp=N,56nm,0.9s						
YPP	**Pitchstone Pla**	**4.06**	**277**		**Pn**	**21 03 29.0**	**+0.5**
ISCO	**Idaho Springs**	**4.10**	**184**		**Pn**	**21 03 28.8**	**-0.3**
REDW	**Red Top Meadow**	**4.14**	**265**		**Pn**	**21 03 29.9**	**+0.4**
REDW				IAML		21 04 37.0	
	comp=N,45nm,0.7s						
REDW				IAML		21 04 44.1	
	comp=N,59nm,0.9s						
IMW	**Indian Meadow**	**4.15**	**272**	Pn	**Pn**	**21 03 29.9**	**+0.2**
IMW				IAML		21 05 53.0	
	comp=N,111nm,0.3s						
TPAW	**Teton Pass**	**4.19**	**266**		**Pn**	**21 03 30.6**	**+0.2**
TPAW				IAML		21 04 47.6	
	comp=N,47nm,0.8s						
YMR	**Madison River**	**4.21**	**283**		**Pn**	**21 03 31.0**	**+0.4**
FXWY	**Fox Creek**	**4.23**	**269**		**Pn**	**21 03 31.2**	**+0.4**
O20A	**White River Ci**	**4.39**	**212**		**Pn**	**21 03 32.8**	**-0.2**
O20A				IAML		21 04 43.6	
	comp=N,50nm,0.9s						
O20A				IAML		21 04 43.7	
	comp=E,50nm,0.9s						
YHB	**Horse Butte**	**4.39**	**283**		**Pn**	**21 03 33.1**	**+0.2**
YHL	**Hebgen Lake**	**4.40**	**285**		**Pn**	**21 03 33.6**	**+0.4**
AHID	**Auburn Hatcher**	**4.45**	**257**	Pn	**Pn**	**21 03 34.3**	**+0.5**
AHID				IAML		21 04 48.8	
	comp=N,65nm,0.8s						
AHID				IAML		21 05 20.0	
	comp=E,31nm,0.7s						
SUSD	**Miller**	**4.52**	**81**	Pn	**Pn**	**21 03 34.5**	**-0.2**
QLMT	**Earthquake Lak**	**4.57**	**284**	Pn	**Pn**	**21 03 37.2**	**+1.8**
QLMT					**Pb**	**21 03 47.7**	**+1.7**
DGMT	**Dagmar**	**4.63**	**8**		**Pn**	**21 03 38.3**	**+2.2**
RDMU	**Red Mountain**	**4.64**	**226**	Pn	**Pn**	**21 03 36.2**	**-0.2**
SMCO	**Snowmass**	**4.90**	**196**	Pn	**Pn**	**21 03 39.5**	**-0.6**
SMCO				IAML		21 05 07.1	
	comp=E,28nm,0.6s						
Q24A	**Divide**	**4.92**	**180**	Pn	**Pn**	**21 03 40.2**	**-0.3**
EGMT	**Eagleton**	**5.21**	**324**		**Pn**	**21 03 46.4**	**+2.3**
EGMT				IAML		21 05 35.1	
	comp=E,48nm,1.0s						
HWUT	**Hardware Ranch**	**5.22**	**246**	IAML		21 05 12.3	
	comp=E,32nm,0.9s						
HWUT				IAML		21 05 16.2	
	comp=E,24nm,1.1s						
KSCO	**Kaye Shedlock'**	**5.25**	**158**		**Pn**	**21 03 44.0**	**-0.7**
DLMT	**Dillon**	**5.48**	**288**	Pn	**Pn**	**21 03 47.7**	**-0.2**
LRM	**Limekiln Ridge**	**5.50**	**293**	Pn	**Pn**	**21 03 50.2**	**+1.8**
MDND	**Maddock**	**5.56**	**43**	Pn	**Pn**	**21 03 50.9**	**+2.1**
MDND					**Pg**	**21 04 09.2**	**-2.2**
MCMT	**McKenzie Canyo**	**5.56**	**282**		**Pn**	**21 03 49.1**	**-0.1**
JLU	**Jordanelle**	**5.69**	**237**	Pn	**Pn**	**21 03 50.9**	**+0.1**
BGNE	**Belgrade**	**5.76**	**113**	Pn	**Pn**	**21 03 51.5**	**-0.1**
SPUT	**South Promonto**	**5.94**	**247**	Pn	**Pn**	**21 03 54.2**	**0.0**
P17A	**Butcher Ranch,**	**6.06**	**225**	Pn	**Pn**	**21 03 55.0**	**-0.9**
SDCO	**Great Sand Dun**	**6.15**	**182**	Pn	**Pn**	**21 03 56.6**	**-0.6**
SDCO					**Pb**	**21 04 16.9**	**+3.9**
MPU	**Maple Canyon**	**6.17**	**233**	Pn	**Pn**	**21 03 56.8**	**-0.6**
ECSD	**EROS Data Cent**	**6.21**	**89**		**Pn**	**21 03 59.5**	**+1.7**
SRU	**San Rafael Swe**	**6.23**	**222**	Pn	**Pn**	**21 03 58.1**	**-0.1**
S22A	**4UR Ranch, Cre**	**6.26**	**192**	Pn	**Pn**	**21 03 58.6**	**-0.2**
TMUT	**Trail Mountain**	**6.43**	**226**		**Pn**	**21 04 01.1**	**0.0**
NLU	**North Lily Min**	**6.46**	**235**	Pn	**Pn**	**21 04 01.6**	**+0.1**
BGU	**Big Grassy Mou**	**6.51**	**246**		**Pn**	**21 04 02.1**	**0.0**
CBKS	**Cedar Bluff**	**6.53**	**139**	Pn	**Pn**	**21 04 02.9**	**+0.7**
CBKS					**Pg**	**21 04 27.2**	**-2.7**
Q16A	**Castle Valley**	**6.70**	**224**	Pn	**Pn**	**21 04 03.8**	**-0.9**
DUG	**Dugway, Tooele**	**6.77**	**240**		**Pn**	**21 04 05.5**	**-0.1**
T25A	**Trinidad**	**6.77**	**175**		**Pn**	**21 04 05.6**	**-0.2**
MSO	**Missoula**	**6.82**	**299**	Pn	**Pn**	**21 04 07.1**	**+0.8**
MVCO	**Mesa Verde**	**7.13**	**202**	Pn	**Pn**	**21 04 11.2**	**+0.5**
AGMN	**Agassiz Nation**	**7.84**	**53**	Pn	**Pn**	**21 04 21.8**	**+1.7**
MTPU	**Mount Pierson**	**7.88**	**224**	Pn	**Pn**	**21 04 20.4**	**-0.6**
ELK	**Elko**	**8.08**	**251**	Pn	**Pn**	**21 04 25.2**	**+1.5**
	comp=E,0.7nm,0.3s,baz=70,slow=9.3,SNR=16						
ELK	**Elko**	**8.08**	**251**		**Pn**	**21 04 23.8**	**+0.1**
PKCU	**Pink Cliffs**	**8.41**	**222**	Pn	**Pn**	**21 04 27.9**	**-0.4**
PSUT	**Pine Spring**	**8.44**	**234**		**Pn**	**21 04 28.7**	**+0.1**
CCUT	**Cedar City**	**8.86**	**227**	Pn	**Pn**	**21 04 34.3**	**-0.1**
SPMN	**Marine on St.**	**8.95**	**77**	Pn	**Pn**	**21 04 36.2**	**+0.9**
ULM	**Lac du Bonnet**	**8.99**	**42**	Pn	**Pn**	**21 04 35.9**	**+0.1**
	comp=E,1.0nm,0.3s,baz=231,slow=12,SNR=16						
ULM				Lg	Lg	21 07 06.3	
	comp=E,0.5nm,0.3s,baz=300,slow=20,SNR=2.7						
ULM	**Lac du Bonnet**	**8.99**	**42**		**Pn**	**21 04 36.5**	**+0.6**
KNB	**Kanab**	**8.99**	**223**	Pn	**Pn**	**21 04 36.1**	**0.0**
LCMT	**Little Creek M**	**9.21**	**224**	Pn	**Pn**	**21 04 38.7**	**-0.3**
U15A	**North Rim**	**9.22**	**218**	Pn	**Pn**	**21 04 38.7**	**-0.6**
NEW	**Newport**	**9.37**	**302**	Pn	**Pn**	**21 04 40.8**	**-0.4**
	comp=E,1.0nm,0.3s,baz=279,slow=18,SNR=4.8						
NEW	**Newport**	**9.37**	**302**	Pn	**Pn**	**21 04 41.0**	**-0.2**
W18A	**Petrified Fore**	**9.44**	**203**	Pn	**Pn**	**21 04 40.0**	**-2.3**
R11A	**Troy Canyon, C**	**9.59**	**238**	Pn	**Pn**	**21 04 44.3**	**-0.1**
WUAZ	**Wupatki**	**9.62**	**212**	Pn	**Pn**	**21 04 44.4**	**-0.4**
NVAR	**Mina Array Bea**	**11.28**	**246**	Pn	**Pn**	**21 05 08.5**	**+0.9**
	comp=E,0.2nm,0.3s,baz=47,slow=11,SNR=5.2						
YKA	**Yellowknife Ar**	**19.43**	**347**	P	**P**	**21 06 53.0**	**+0.6**
	comp=E,0.1nm,0.3s,baz=158,slow=12,SNR=7.3						
ZALV	**Zalesovo Beam**	**82.16**	**354**	P	**P**	**21 14 46.5**	**-0.7**
	comp=E,0.3nm,0.3s,baz=7.6,slow=4.4,SNR=2.4						
MKAR	**Makanchi Array**	**89.45**	**355**	P	**P**	**21 15 22.9**	**-0.7**
	comp=E,0.5nm,0.7s,baz=16,slow=4.1,SNR=3.7						

*SKHL **26** 21:15:55.9±0.2, 44°.47N×148°.66E, h71km±1km, mb4.4/5*
*JMA **26** 21:15:57.3±0.6, 44°.46N×148°.21E, h116km, M3.6*

ISC 26 21:15:51.2±3.1, 44°.6N±0°.1×148°.6E±0°.2, h127km±17km, n20, σ2§25/32, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.84**	**321**	*i* P	**Pn**	**21 16 13.0**	**+0.6**
KUR				AMB	AMB	21 16 14.0	
	110nm,0.2s						
KUR				*eS*	**Sn**	**21 16 26.0**	**-2.6**
KUR				A	A	21 16 33.0	
	135nm,0.1s						
KUR				A	A	21 16 33.0	
	219nm,0.1s						
SHO	**Shikotan**	**1.47**	**242**	*i* P	**Pn**	**21 16 20.0**	**+1.3**
SHO				AMB	AMB	21 16 24.0	
	72nm,0.2s						
SHO				*i* S	**Sn**	**21 16 38.3**	**-1.3**
SHO				A	A	21 16 41.0	
	138nm,0.2s						
SHO				A	A	21 16 41.0	
	176nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.05**	**256**	*i* P	**Pn**	**21 16 28.0**	**+2.4**
YUK				AMB	AMB	21 16 29.0	
	45nm,0.3s						
YUK				*i* S	**Sn**	**21 16 52.0**	**+0.1**
YUK				A	A	21 16 54.0	
	290nm,0.3s						
YUK				A	A	21 16 54.0	
	320nm,0.3s						
GRPR	**Tuman**	**2.12**	**255**	*eP*	**Pn**	**21 16 28.5**	**+2.0**
GRPR				AMB	AMB	21 16 30.0	
	55nm,0.3s						
GRPR				*eS*	**Sn**	**21 16 53.0**	**-0.6**
GRPR				A	A	21 16 54.0	
	227nm,0.3s						
GRPR				A	A	21 16 54.0	
	178nm,0.3s						
GLVR	**Golovnino**	**2.38**	**250**	*eP*	**Pn**	**21 16 32.0**	**+2.3**
GLVR				AMB	AMB	21 16 32.0	
	110nm,0.3s						
GLVR				*eS*	**Sn**	**21 16 59.0**	**-0.3**
GLVR				A	A	21 17 01.0	
	357nm,0.5s						
GLVR				A	A	21 17 01.0	
	316nm,0.5s						
NEM2	**Nemuro 2**	**2.40**	**241**	P	**Pn**	**21 16 32.0**	**+2.0**
NEM2				*eS*	**Sn**	**21 16 58.9**	**-0.9**
NMR	**Nemuro--Hokkai**	**2.41**	**241**	*i* P	**Pn**	**21 16 32.0**	**+1.9**
NMR				*i* S	**Sn**	**21 16 59.0**	**-0.9**
JRA	**Rausu**	**2.59**	**257**	P	**Pn**	**21 16 34.6**	**+2.2**
JNSB	**Nemuroshibetsu**	**2.72**	**254**	P	**Pn**	**21 16 36.7**	**+2.6**
JKHN	**Kushirohamanak**	**2.91**	**240**	P	**Pn**	**21 16 38.7**	**+2.1**
JNK	**Nakash**	**2.98**	**252**	P	**Pn**	**21 16 39.7**	**+2.3**
JAK	**Akkeshi**	**3.25**	**242**	P	**Pn**	**21 16 42.8**	**+1.9**
JAK				*eS*	**Sn**	**21 17 18.0**	**-1.3**
JTKR	**Abashiri--Toko**	**3.43**	**261**	P	**Pn**	**21 16 45.2**	**+1.8**
JAR	**Ashoroboto**	**3.73**	**252**	P	**Pn**	**21 16 50.1**	**+2.8**
JKK2	**Kamakawa 2**	**4.28**	**263**	P	**Pn**	**21 16 57.1**	**+2.6**
JCH	**Churui**	**4.29**	**245**	P	**Pn**	**21 16 56.5**	**+1.8**
JCH				*eS*	**Sn**	**21 17 41.9**	**-2.1**
JNBK	**Urakawa-nobuka**	**4.85**	**244**	P	**Pn**	**21 17 03.4**	**+1.2**
JKB	**Kayabe**	**6.16**	**247**	P	**Pn**	**21 17 20.8**	**+1.1**
JKB				*eS*	**Sn**	**21 18 24.7**	**-4.1**
JOT	**Ohata**	**6.40**	**243**	P	**Pn**	**21 17 24.3**	**+1.2**
JOT				*eS*	**Sn**	**21 18 30.2**	**-4.6**
JMK	**Ichinoseki**	**7.88**	**227**	P	**Pn**	**21 17 44.7**	**+1.7**
JMK				*eS*	**Sn**	**21 19 07.5**	**-3.1**

*IDC **26** 21:17:56.5±0.7, 10°.31S×120°.00E, h0km, mb4.1/9, mb1 4.2/12, mb1mx4.0/34, mbtmp4.2/12, ML4.3/3, Error ellipse: s-maj=25.9km s-min=14.7km az=58.0*

*ISCJB **26** 21:17:58.1±0.2, 10°.48S±0°.04×120°.11E±0°.04, h30km, mb4.1/9, Error ellipse: s-maj=7.0km s-min=4.1km az=141.5*

*DJA **26** 21:17:59.1±0.6, 11°S±7°×12°0E±°, h10km, M4.3/8, mB4.9/1, mb4.5/4, MLv4.2/8, Mw(mB)4.2/1*

*NEIC **26** 21:18:01.7±3.0, 10°.49S±0°.07×120°.07E±0°.06, h47km±7km, mb4.3/29*

ISC 26 21:17:60.0±0.4, 10°.51S±0°.05×120°.09E±0°.06, h30km, n76, σ1§94/76, mb4.2/20, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.83**	**306**	P	**Pn**	**21 18 46.0**	**+2.8**
BATI	**Baumata**	**3.53**	**85**	Pn	**Pn**	**21 18 55.6**	**+2.9**
	27nm,0.3s,baz=296,slow=3.0,SNR=26						
BATI					Sn	**21 19 37.1**	**+3.6**
	15nm,0.3s,baz=341,slow=19,SNR=3.7						
TWSI	**Taliwang, Sumb**	**3.62**	**299**	P	**Pn**	**21 18 57.3**	**+3.2**
SOEI	**Soe**	**4.18**	**80**	P	**Pn**	**21 19 01.8**	**0.0**
SOEI	**Soe**	**4.18**	**80**		**Pn**	**21 19 05.0**	**+3.1**
BKSI	**Bulukumba**	**5.16**	**0**	P	**Pn**	**21 19 17.3**	**+2.1**
	68nm,0.5s,1μm0.3nm						
BNSI	**Bone**	**6.07**	**0**	P	**Pn**	**21 19 30.9**	**+3.1**
	38nm,1.1s,0.1nm						
JAGI	**Jajag, Banyuwa**	**6.20**	**289**	P	**Pn**	**21 19 31.2**	**+1.6**
	45nm,1.1s,0.3nm						
JAGI	**Jajag, Banyuwa**	**6.20**	**289**	Pn	**Pn**	**21 19 30.4**	**+0.8**
FITZ	**Fitzroy Crossi**	**9.26**	**145**	Pn	**Pn**	**21 20 13.1**	**+1.6**
	2.3nm,0.3s,baz=338,slow=10.0,SNR=42						
FITZ					Sn	**21 21 50.8**	**-3.9**
	5.5nm,0.3s,baz=163,slow=14,SNR=12						
FITZ	**Fitzroy Crossi**	**9.26**	**145**		**Sn**	**21 21 53.6**	**-1.2**
BKB	**Balikpapan**	**9.73**	**341**	Pn	**Pn**	**21 20 18.7**	**+0.7**
LUWI	**Luwuk**	**9.78**	**16**	Pn	**Pn**	**21 20 19.6**	**+1.0**
UGM	**Wanagama**	**9.79**	**284**	Pn	**Pn**	**21 20 18.1**	**-0.8**
KNRA	**Kununurra**	**9.88**	**122**		**Pn**	**21 20 21.8**	**+1.7**
PSA00	**Pilbara Seismi**	**11.00**	**181**	Pn	**Pn**	**21 20 36.7**	**+1.3**
MTN	**Manton Dam**	**11.06**	**103**		**Pn**	**21 20 36.9**	**+0.7**
GIRL	**Giralia**	**13.30**	**204**	Pn	**Pn**	**21 21 07.7**	**+0.8**
FAKI	**Fak Fak**	**14.23**	**59**	Pn	**Pn**	**21 21 18.4**	**-1.2**
WRA	**Warramunga Arr**	**16.63**	**126**	Pn	**Pn**	**21 21 50.0**	**-1.0**
	0.6nm,0.3s,baz=296,slow=13,SNR=21						
WRA				Sn	Sn	21 24 43.6	-11
	0.3nm,0.3s,baz=303,slow=23,SNR=4.7						
WRAB	**Tennant Creek**	**16.63**	**126**	Pn	**Pn**	**21 21 50.8**	**-0.3**
WR0	**Warramunga Arr**	**16.80**	**126**		**Pn**	**21 21 50.2**	**-2.9**
KKM	**Kota Kinabalu**	**16.90**	**347**		**P**	**21 21 55.5**	**-0.8**
KKM				IAmb	IAmb	21 22 14.2	
	comp=Z,20nm,1.1s						
MNAI	**Manna**	**18.05**	**289**		**Pn**	**21 22 08.1**	**-0.7**
MNAI				IAmb	IAmb	21 22 22.8	
	comp=Z,53nm,0.9s						
AS31	**Alice Springs**	**18.56**	**137**	P	**Pn**	**21 22 17.6**	**+2.6**
ASAR	**Alice Springs**	**18.56**	**137**	P	**Pn**	**21 22 17.6**	**+2.6**
	comp=Z,0.9nm,0.3s,baz=312,slow=12,SNR=68						
ASAR				S	**Sn**	**21 25 34.4**	**-7.3**
	comp=Z,0.4nm,0.3s,baz=306,slow=22,SNR=7.2						
MORW	**Morawa**	**18.85**	**191**	P	**Pn**	**21 22 19.8**	**+1.5**
FORT	**Forrest**	**21.48**	**161**	P	**P**	**21 22 47.9**	**+1.7**
FORT				IAmb	IAmb	21 22 50.4	
	comp=Z,21nm,0.8s						
NWAO	**Narrogin (SRO)**	**22.46**	**186**	P	**P**	**21 22 58.1**	**+1.3**
	comp=Z,4.4nm,0.7s,baz=355,slow=12,SNR=4.1						
NWAO				S	**S**	**21 26 58.0**	**-3.6**
	comp=Z,5.2nm,0.9s,baz=308,slow=12,SNR=2.9						
NWAO	**Narrogin (SRO)**	**22.46**	**186**	P	**P**	**21 22 57.4**	**+0.6**
NWAO				IAmb	IAmb	21 23 13.0	
	comp=Z,11nm,1.1s						
NWAO	**Narrogin (SRO)**	**22.46**	**186**	IAmb	IAmb	21 23 08.9	
	comp=Z,7.7nm,1.1s						
COEN	**Coen**	**22.81**	**101**	P	**P**	**21 23 01.6**	**+1.0**
COEN				IAmb	IAmb	21 23 06.3	
	comp=Z,7.5nm,0.9s						
RPSI	**Rantau Prapat**	**24.82**	**301**	P	**P**	**21 23 18.7**	**-1.2**
RPSI	**Rantau Prapat**	**24.82**	**301**	P	**P**	**21 23 19.8**	**-0.1**
RPSI				IAmb	IAmb	21 23 34.1	
	comp=Z,8.7nm,1.1s						
PSI	**Prapat**	**24.88**	**301**	P	**P**	**21 23 18.7**	**-1.8**
	comp=Z,2.6nm,0.4s,baz=74,slow=8.8,SNR=3.4						
GSI	**Gunungsitoli**	**25.29**	**296**	P	**P**	**21 23 24.0**	**-0.1**
GSI				IAmb	IAmb	21 23 26.5	
	comp=Z,7.5nm,0.9s						
STKA	**Stephens Creek**	**29.11**	**140**	P	**P**	**21 24 00.6**	**+2.3**
	comp=Z,1.8nm,0.6s,baz=304,slow=12,SNR=5.0						
STKA	**Stephens Creek**	**29.11**	**140**	P	**P**	**21 23 59.5**	**+1.3**
UBPT	**Khong Chiam**	**29.44**	**330**	P	**P**	**21 23 59.6**	**-1.6**
QIZ	**Qiongzhong**	**31.05**	**341**	P	**P**	**21 24 13.9**	**-1.6**
QIZ				IAmb	IAmb	21 24 14.0	
	comp=Z,22nm,1.0s						
PBKT	**Sadao Pong**	**32.89**	**325**	P	**P**	**21 24 31.9**	**+0.3**
PBKT				IAmb	IAmb	21 24 34.0	
	comp=Z,2.3nm,0.6s						
HKPS	**Hong Kong Po S**	**33.11**	**350**	P	**P**	**21 24 30.0**	**-3.5**
TWG	**Pinlang**	**33.14**	**2**	P	**P**	**21 24 30.1**	**-3.7**
ARMA	**Armidale**	**35.38**	**129**	P	**P**	**21 24 52.0**	**-1.3**
CMAR	**Chiang Mai Arr**	**35.56**	**324**	P	**P**	**21 24 54.8**	**0.0**
	comp=Z,0.7nm,0.7s,baz=150,slow=6.4,SNR=5.8						
CAN	**Canberra**	**36.06**	**138**	P	**P**	**21 24 57.9**	**-1.1**
H08S2	**Diego Garcia H**	**47.06**	**269**	T	T	22 16 51.9	
	baz=96,slow=75,SNR=38						
H08S3	**Diego Garcia H**	**47.07**	**269**	T	T	22 16 52.8	
	baz=96,slow=75,SNR=44						
H08S1	**Diego Garcia H**	**47.08**	**269**	T	T	22 16 53.4	
	baz=96,slow=75,SNR=35						
ODAN	**Odare**	**48.87**	**320**	*eP*	**P**	**21 26 43.9**	**+0.5**
	comp=Z,10nm,0.8s						
TAPN	**Taplejung**	**49.02**	**321**	*eP*	**P**	**21 26 44.8**	**+0.2**
RAMN	**Ramite**	**49.43**	**320**	*eP*	**P**	**21 26 48.4**	**+0.6**
	comp=Z,14nm,0.8s						
GUN	**Gumba**	**50.56**	**320**	*eP*	**P**	**21 26 57.0**	**+0.6**
	comp=Z,15nm,0.7s						
PKI	**Pulchoki**	**50.62**	**319**	*eP*	**P**	**21 26 57.0**	**+0.1**
	comp=Z,1.1nm,0.7s						
PKIN	**Phulchoki**	**50.64**	**319**	*eP*	**P**	**21 26 57.0**	**+0.1**
	comp=Z,5.9nm,0.6s						
DMN	**Daman**	**50.84**	**319**	*eP*	**P

WRA	**Warramunga Arr**	**16.52**	**126**	Pn		**Pn**	**22 22 41.2**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=300,slow=13,SNR=8.4							
WRA				Sn		**Sn**	**22 25 35.7**	**-7.2**
	comp=Z,0.1nm,0.3s,baz=302,slow=24,SNR=3.9							
WR0	**Warramunga Arr**	**16.68**	**126**	Pn		**Pn**	**22 22 40.3**	**-2.1**
KKM	**Kota Kinabalu**	**16.91**	**346**			**P**	**22 22 46.9**	**-0.1**
KKM				IAmb		IAmb	22 23 04.0	
	comp=Z,16nm,1.1s							
MNAI	**Manna**	**18.19**	**288**	P		**Pn**	**22 22 59.8**	**-1.3**
MNAI				IAmb		IAmb	22 23 08.2	
	comp=Z,78nm,1.1s							
DAV	**Davao City (W)**	**18.23**	**17**	P		**Pn**	**22 23 03.6**	**+2.1**
AS31	**Alice Springs**	**18.47**	**137**	P		**Pn**	**22 23 04.8**	**+0.3**
ASAR	**Alice Springs**	**18.47**	**137**	P		**Pn**	**22 23 08.8**	**+4.2**
	comp=Z,0.4nm,0.3s,baz=313,slow=12,SNR=34							
ASAR				S		**Sn**	**22 26 25.0**	**-5.3**
	comp=Z,0.2nm,0.3s,baz=307,slow=22,SNR=7.0							
MORW	**Morawa**	**18.90**	**191**	P		**P**	**22 23 08.8**	**-0.1**
MORW				IAmb		IAmb	22 23 16.4	
	comp=Z,15nm,1.1s							
NWAO	**Narrogin (SRO)**	**22.51**	**187**	P		**P**	**22 23 49.1**	**+1.3**
	comp=Z,6.7nm,1.0s,baz=25,slow=13,SNR=2.3							
NWAO				LR		LR	22 31 20.6	
	comp=Z,76nm,18.5s,baz=294,slow=33							
NWAO	**Narrogin (SRO)**	**22.51**	**187**	P		**P**	**22 23 46.1**	**-1.8**
NWAO				IAmb		IAmb	22 24 00.9	
	comp=Z,9.5nm,1.0s							
NWAO	**Narrogin (SRO)**	**22.51**	**187**	P		**P**	**22 23 48.1**	**+0.3**
NWAO				IAmb		IAmb	22 24 00.9	
	comp=Z,11nm,0.9s							
COEN	**Coen**	**22.66**	**101**	P		**P**	**22 23 53.2**	**+3.4**
COEN				IAmb		IAmb	22 23 56.2	
	comp=Z,6.3nm,0.8s							
COCO	**West Island**	**23.02**	**264**	P		**P**	**22 23 52.0**	**-1.5**
STKA	**Stephens Creek**	**29.03**	**140**	P		**P**	**22 24 51.9**	**+3.7**
	comp=Z,1.8nm,0.7s,baz=309,slow=13,SNR=3.5							
STKA	**Stephens Creek**	**29.03**	**140**	P		**P**	**22 24 47.5**	**-0.6**
EIDS	**Eidsvold**	**32.75**	**121**	P		**P**	**22 25 20.9**	**-0.1**
EIDS				IAmb		IAmb	22 25 24.7	
	comp=Z,6.1nm,1.1s							
PBKT	**Sadao Pong**	**32.96**	**324**	P		**P**	**22 25 23.0**	**+0.1**
PBKT				IAmb		IAmb	22 25 29.7	
	comp=Z,4.2nm,1.1s							
TWG	**Pinlang**	**33.11**	**1**	P		**P**	**22 25 25.2**	**+1.0**
NACB	**Ninganchiao**	**34.47**	**2**	P		**P**	**22 25 35.4**	**-0.6**
H08S2	**Diego Garcia H**	**47.21**	**269**	T		T	23 17 38.8	
	baz=96,slow=75							
H08S3	**Diego Garcia H**	**47.22**	**269**	T		T	23 17 39.6	
	baz=96,slow=75							
H08S1	**Diego Carcia H**	**47.23**	**269**	T		T	23 17 40.3	
	baz=96,slow=75							
ODAN	**Odare**	**48.95**	**320**	*e*P		**P**	**22 27 34.8**	**+0.1**
TAPN	**Taplejung**	**49.09**	**321**	*e*P		**P**	**22 27 36.1**	**+0.2**
RAMN	**Ramite**	**49.51**	**319**	*e*P		**P**	**22 27 39.3**	**+0.3**
	comp=Z,9.6nm,0.7s							
JIRN	**Jiri**	**50.27**	**320**	*e*P		**P**	**22 27 45.3**	**+0.4**
	comp=Z,16nm,0.7s							
GUN	**Gumba**	**50.64**	**320**	*e*P		**P**	**22 27 47.6**	**-0.1**
	comp=Z,12nm,0.6s							
PKI	**Pulchoki**	**50.71**	**319**	*e*P		**P**	**22 27 48.0**	**-0.2**
PKIN	**Phulchoki**	**50.72**	**319**	*e*P		**P**	**22 27 48.0**	**-0.2**
	comp=Z,5.3nm,0.5s							
GKN	**Gorkha**	**51.50**	**319**	*e*P		**P**	**22 27 54.1**	**+0.2**
	comp=Z,6.3nm,0.4s							
KOLN	**Koldanda**	**52.02**	**318**	*e*P		**P**	**22 27 57.9**	**0.0**
	comp=Z,7.2nm,0.7s							
DANN	**Dangsing**	**52.30**	**319**	*e*P		**P**	**22 28 00.0**	**-0.1**
	comp=Z,18nm,0.6s							
FOZ	**Fox Glacier**	**53.98**	**137**	P		**P**	**22 28 09.8**	**-2.1**
ODZ	**Otahua Downs**	**55.11**	**138**	P		**P**	**22 28 19.8**	**-0.3**
LTZ	**Lake Taylor**	**55.39**	**135**	P		**P**	**22 28 22.3**	**0.0**
LTZ				IAmb		IAmb	22 28 31.4	
	comp=Z,6.0nm,1.0s							
SONM	**Songino Array**	**59.35**	**349**	P		**P**	**22 28 50.3**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=167,slow=7.5,SNR=7.9							
KBL	**Kabul**	**66.01**	**315**	P		**P**	**22 29 34.2**	**-0.7**
KBL				IAmb		IAmb	22 29 36.8	
	comp=Z,1.3nm,0.6s							
MKAR	**Makanchi Array**	**66.33**	**333**	P		**P**	**22 29 36.1**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=143,slow=6.8,SNR=7.8							
MAKZ	**Makanchi**	**66.49**	**332**	P		**P**	**22 29 36.8**	**-0.6**
ARSB	**Arslanbob**	**67.44**	**323**	P		**P**	**22 29 43.2**	**-0.5**
ARSB				IAmb		IAmb	22 29 52.8	
	comp=Z,5.2nm,1.1s							
GAR	**Garm**	**67.67**	**320**	P		**P**	**22 29 44.6**	**-0.7**
GAR				IAmb		IAmb	22 29 59.5	
	comp=Z,2.2nm,0.7s							
NIUE	**Niue**	**67.69**	**106**	P		**P**	**22 29 44.7**	**-0.9**
CHGR	**Chuyangaron**	**68.22**	**319**	P		**P**	**22 29 47.3**	**-1.3**
CHGR				IAmb		IAmb	22 30 04.5	
	comp=Z,2.3nm,0.7s							
ZAA0	**Zalesovo Array**	**70.86**	**339**	P		**P**	**22 30 03.6**	**-0.8**
ZALV	**Zalesovo Beam**	**70.86**	**339**	P		**P**	**22 30 03.8**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=144,slow=5.4,SNR=7.8							
BPAW	**Bear Paw Mtn.**	**98.81**	**26**	P		**P**	**22 32 26.7**	**-0.6**

NIED **26** *22:35:00,43˙.50N×146˙.80E,h41km,Mw4.0 Best double couple: M₀9.70000×10¹⁴ NP1:φ₀47.00000°, δ29.00000°, λ109.00000°. NP2:φ₀205.00000°, δ63.00000°, λ80.00000°.*
MOS **26** *22:35:36.8±0.9, 43˙.45N×146˙.82E, h52km, mb4.5/20, Error ellipse: s-maj=8.8km s-min=6.8km az=77.3*
MOS Felt (III) at Malokuril'skoye; (II) at Golovnino, Goryachiy Plyazh, Yuzhno-Kuril'sk.
JMA **26** *22:35:37.9±0.2, 43˙.38N×146˙.74E, h44km±2km, M3.8*
JMA Felt II J1.
ISCJB **26** *22:35:37.5±0.5, 43˙.44N±0˙.04×146˙.75E±0˙.04, h57km±4km, mb4.1/31, Error ellipse: s-maj=6.7km s-min=3.9km az=143.3*
SKHL **26** *22:35:38.0±0.3, 43˙.43N×146˙.81E, h63km±5km, mb5.0/6*
SKHL Felt (III) at Malokuril'skoe; (II) at Yuzhno-kuril'sk, Golovnino, Goryahei Plyazh.
NEIC **26** *22:35:40.3±1.3, 43˙.45N±0˙.07×146˙.76E±0˙.09, h67km±5km, mb4.4/90*
IDC **26** *22:35:40.2±2.4, 43˙.55N×146˙.69E, h63km±21km, mb3.7/16, mb1 3.9/20, mb1mx3.7/38, mbtmp4.0/20, MS2.8/5, Ms1 2.8/5, ms1mx2.6/36, Error ellipse: s-maj=18.7km s-min=14.2km az=137.0*

ISC 26 22:35:38.2±0.9, 43˙.46N±0˙.05×146˙.74E±0˙.04, h49km±8km, n195, σ0=96/201, mb4.3/68, 1C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.73**	**263**	P		P	**Pn**	**22 35 51.9**	**-0.4**
NEM2				eS		S	**Sn**	**22 36 02.3**	**-0.3**
NMR	**Nemuro--Hokkai**	**0.74**	**263**	*i* P		P	**Pn**	**22 35 51.9**	**-0.6**
NMR				*i* S		S	**Sn**	**22 36 03.0**	**+0.2**
NMR	**Nemuro--Hokkai**	**0.74**	**263**	*i* P		P	**Pn**	**22 35 51.0**	**-1.5**
NMR				*i* S		S	**Sn**	**22 36 03.0**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**0.86**	**312**	*d* PN		**Pn**	**Pn**	**22 35 53.9**	**-0.1**
YUK				*i* S		S	**Sn**	**22 36 05.5**	**-0.1**
YUK				pmax	pmax				
	comp=N,2μm,0.2s								
YUK				pmax	pmax				
	comp=Z,6μm,0.2s								
YUK				pmax	pmax				
	comp=E,2μm,0.1s								
YUK				smax	smax				
	comp=N,23μm,0.3s								
YUK				smax	smax				
	comp=E,31μm,0.6s								
YUK	**Yuzh-Kuril'sk**	**0.86**	**312**	*i* P		AMB	AMB	22 35 54.0	-0.1
YUK								22 35 55.0	
	comp=E,6μm,0.3s								
YUK				*i* S		S	**Sn**	**22 36 05.7**	**+0.1**
YUK				A		A	A	22 36 06.0	
	comp=E,23μm,0.4s								
YUK				A		A	A	22 36 06.0	
	comp=E,31μm,0.4s								
GRPR	**Tuman**	**0.88**	**308**	*d* PN		P	**Pn**	**22 35 54.2**	**-0.1**
GRPR				*i* S		S	**Sn**	**22 36 06.0**	**-0.1**
GRPR				pmax	pmax				
	comp=E,660nm,0.3s								
GRPR				pmax	pmax				
	comp=Z,3μm,0.3s								
GRPR				pmax	pmax				
	comp=N,469nm,0.2s								
GRPR				smax	smax				
	comp=E,34μm,0.4s								
GRPR				smax	smax				
	comp=N,20μm,0.2s								
GRPR	**Tuman**	**0.88**	**308**	*i* P		P	**Pn**	**22 35 54.0**	**-0.3**
GRPR						AMB	AMB	22 35 54.0	
	comp=N,3μm,0.3s								
GRPR				*i* S		S	**Sn**	**22 36 06.0**	**-0.1**
GRPR				A		A	A	22 36 06.0	
	comp=N,20μm,0.3s								
GRPR				A		A	A	22 36 06.0	
	comp=N,34μm,0.3s								
GLVR	**Golovnino**	**0.93**	**288**	*d* PN		P	**Pn**	**22 35 55.2**	**+0.3**
GLVR				*i* S		S	**Sn**	**22 36 08.0**	**+0.8**
GLVR				pmax	pmax				
	comp=Z,2μm,0.3s								
GLVR				pmax	pmax				
	comp=E,716nm,0.1s								
GLVR				pmax	pmax				
	comp=N,1μm,0.2s								
GLVR				smax	smax				
	comp=N,14μm,0.3s								
GLVR				smax	smax				
	comp=E,9μm,0.3s								
GLVR	**Golovnino**	**0.93**	**288**	*i* P		P	**Pn**	**22 35 55.0**	**+0.1**
GLVR						AMB	AMB	22 35 58.0	
	comp=E,2μm,0.3s								
GLVR				*i* S		S	**Sn**	**22 36 08.0**	**+0.8**
GLVR				A		A	A	22 36 08.0	
	comp=E,14μm,0.3s								
GLVR				A		A	A	22 36 08.0	
	comp=E,9μm,0.3s								
JRA	**Rausu**	**1.27**	**293**	P		P	**Pn**	**22 36 00.0**	**+0.5**
JRA				eS		S	**Sn**	**22 36 16.4**	**+1.0**
JNSB	**Nemuroshibetsu**	**1.30**	**285**	P		P	**Pn**	**22 36 00.4**	**+0.4**
JNSB				eS		S	**Sn**	**22 36 17.5**	**+1.3**
JNK	**Nakash**	**1.48**	**276**	P		P	**Pn**	**22 36 02.4**	**0.0**
JNK				eS		S	**Sn**	**22 36 20.8**	**+0.3**
JAK	**Akkeshi**	**1.56**	**254**	P		P	**Pn**	**22 36 03.4**	**-0.1**
JAK				eS		S	**Sn**	**22 36 22.1**	**-0.5**
KUR	**Kuril'sk**	**1.95**	**24**	*d* PN		P	**Pn**	**22 36 09.4**	**+0.6**
KUR				*i* S		S	**Sn**	**22 36 32.6**	**+0.5**
KUR				pmax	pmax				
	comp=Z,186nm,0.3s								
KUR				pmax	pmax				
	comp=E,68nm,0.1s								
KUR				pmax	pmax				
	comp=N,52nm,0.2s								
KUR				smax	smax				
	comp=N,1μm,0.2s								
KUR				smax	smax				
	comp=E,806nm,0.4s								
KUR	**Kuril'sk**	**1.95**	**24**	*i* P		P	**Pn**	**22 36 09.0**	**+0.2**
KUR						AMB	AMB	22 36 11.0	
	comp=E,186nm,0.3s								
KUR				*i* S		S	**Sn**	**22 36 32.0**	**-0.1**
KUR				A		A	A	22 36 33.0	
	comp=E,1μm,0.3s								
KUR				A		A	A	22 36 33.0	
	comp=E,2μm,0.3s								
JTKR	**Abashiri--Toko**	**2.12**	**285**	P		P	**Pn**	**22 36 12.5**	**+1.4**
JAR	**Ashorobuto**	**2.17**	**267**	P		P	**Pn**	**22 36 12.6**	**+0.7**
JAR				eS		S	**Sn**	**22 36 38.4**	**+0.8**
JOB	**Onbets**	**2.20**	**256**	P		P	**Pn**	**22 36 13.0**	**+0.8**
JOB				eS		S	**Sn**	**22 36 38.5**	**+0.3**
JMP	**Maruseppu**	**2.51**	**284**	P		P	**Pn**	**22 36 18.3**	**+1.7**
ERM	**Erimo**	**3.01**	**243**	*i* PN		P	**Pn**	**22 36 25.8**	**+2.5**
ERM	**Erimo**	**3.01**	**243**				**Pn**	**22 36 26.2**	**+2.9**
JKA	**Kamikawa-asahi**	**3.07**	**284**	*e*P		P	**Pn**	**22 36 26.2**	**+2.0**
JKA	**Kamikawa-asahi**	**3.07**	**284**				**Pn**	**22 36 26.2**	**+2.0**
ASAJ	**Asahikawa**	**3.07**	**284**	P		P	**Pn**	**22 36 26.2**	**+2.0**
	comp=E,17nm,0.3s,baz=160,slow=7.3,SNR=20								
ASAJ				LR		LR	LR	22 37 49.4	
	comp=E,199nm,21.8s,baz=154,slow=43								
YSS	**Yuzh-Sakhalins**	**4.49**	**323**	*i e*PN		P	**Pn**	**22 36 45.5**	**+1.9**
YSS				pmax	pmax				
	comp=Z,30nm,0.7s								
YSS	**Yuzh-Sakhalins**	**4.49**	**323**	*e*P		P	**Pn**	**22 36 45.3**	**+1.7**
YSS						AMB	AMB	22 36 46.5	
	comp=Z,20nm,0.4s								
YSS	**Yuzh-Sakhalins**	**4.49**	**323**	Pn		P	**Pn**	**22 36 45.6**	**+2.0**
MAJO	**Matsushiro**	**9.51**	**226**	PN		P	**Pn**	**22 37 53.3**	**+0.8**
MAJO	**Matsushiro**	**9.51**	**226**	Pn		P	**Pn**	**22 37 53.3**	**+0.8**
MJAR	**Matsushiro Arr**	**9.51**	**226**	P		P	**Pn**	**22 37 53.7**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=32,slow=16,SNR=3.7								
MJAR						LR	LR	22 41 13.5	
	comp=Z,39nm,19.9s,baz=65,slow=35								
MJB9	**Matsu-Tunnel**	**9.51**	**226**	Pn		P	**Pn**	**22 37 56.8**	**+4.3**
USRK	**Ussuriysk Ar.**	**10.69**	**279**	PN		P	**Pn**	**22 38 11.0**	**+2.5**
USRK	**Ussuriysk Ar.**	**10.69**	**279**	P		P	**Pn**	**22 38 11.0**	**+2.5**
	baz=93,slow=13,SNR=4.0								
USRK						LR	LR	22 42 40.2	
	comp=Z,58nm,18.7s,baz=107,slow=40								
KLR	**Kul'dur**	**11.85**	**304**	*i* PN		P	**Pn**	**22 38 21.3**	**-3.1**
KLR	**Kul'dur**	**11.85**	**304**	LR		LR	LR	22 43 18.3	
	comp=Z,46nm,20.3s,baz=108,slow=39								
PEA0B	**Petropavlovsk-**	**12.09**	**33**	PN		P	**Pn**	**22 38 26.7**	**-0.9**
PEA0B	**Petropavlovsk-**	**12.09**	**33**	Pn		P	**Pn**	**22 38 26.7**	**-0.9**
PETK	**Petropavlovsk-**	**12.09**	**33**	P		P	**Pn**	**22 38 26.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=202,slow=14,SNR=4.6								
PET	**Petropavlovsk**	**12.42**	**35**	PN		P	**Pn**	**22 38 32.3**	**+0.3**
PET	**Petropavlovsk**	**12.42**	**35**	Pn		P	**Pn**	**22 38 32.3**	**+0.3**
EKMR	**Ekimchan**	**13.28**	**321**	*e*P		P	**Pn**	**22 38 45.0**	**+1.2**
KSRS	**Korea Array**	**15.52**	**254**	LR		LR	LR	22 45 03.5	
	comp=Z,26nm,18.7s,baz=90,slow=36								
BMKR	**Bomnak**	**16.20**	**320**	*e*P		P	**Pn**	**22 39 21.0**	**-1.3**
ZEA	**Zeya**	**16.44**	**316**	*e*P		P	P	22 39 41.3	+14
ZEA	**Zeya**	**16.44**	**316**	*e*P		P	**Pn**	**22 39 23.0**	**-2.2**
KROS	**Kirovskiy**	**16.94**	**317**	*e*P		P	**P**	**22 39 32.0**	**-0.9**
KROS						AMB	AMB	22 39 36.2	
	comp=Z,3.0nm,0.5s								
ADK	**Adak**	**25.80**	**58**	P		P	**P**	**22 41 03.8**	**-0.6**
ADK				pmax	pmax				
	comp=Z,37nm,1.1s								
ADK	**Adak**	**25.80**	**58**	P		P	**P**	**22 41 03.8**	**-0.6**
ULN	**Ulaanbaatar**	**27.87**	**293**	P		P	**P**	**22 41 23.3**	**+0.1**
ULN				pmax	pmax				
	comp=Z,4.0nm,1.0s								
ULN	**Ulaanbaatar**	**27.87**	**293**	*e*P		P	**P**	**22 41 23.3**	**+0.1**
ULN	**Ulaanbaatar**	**27.87**	**293**	P		P	**P**	**22 41 23.2**	**+0.1**
YHNB	**Yeheng**	**27.98**	**236**	P		P	**P**	**22 41 23.9**	**-0.5**
NACB	**Ninganchiao**	**28.22**	**235**	P		P	**P**	**22 41 26.8**	**+0.5**
SONM	**Songino Array**	**28.31**	**293**	P		P	**P**	**22 41 27.5**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=86,slow=8.8,SNR=13								
SSLB	**Suanglung**	**28.89**	**236**	P		P	**P**	**22 41 32.3**	**-0.2**
SSLB						IAmb	IAmb	22 41 50.5	
	comp=Z,16nm,1.1s								
H11N2	**WAKE ISLAND Hy**	**29.08**	**138**	T		T		23 12 20.0	
	baz=329,slow=76,SNR=1222								
H11N1	**WAKE ISLAND Hy**	**29.09**	**138**	T		T		23 12 14.4	
	baz=329,slow=76,SNR=844								
H11N3	**WAKE ISLAND Hy**	**29.10**	**138**	T		T		23 12 16.8	
	baz=329,slow=76,SNR=908								
WAKE	**Wake Island**	**29.34**	**139**	P		P		22 41 33.9	-2.4
TWG	**Pinlang**	**29.56**	**234**	P		P	**P**	**22 41 38.0**	**-0.3**
TLY	**Talaya**	**29.84**	**301**	P		P	**P**	**22 41 41.4**	**+0.8**
TLY				pmax	pmax				
	comp=Z,7.0nm,1.0s								
TLY	**Talaya**	**29.84**	**301**	*e*P		P	**P**	**22 41 41.4**	**+0.8**
TLY	**Talaya**	**29.84**	**301**	P		P	**P**	**22 41 41.4**	**+0.8**
TLY						IAmb	IAmb	22 41 56.5	
	comp=Z,7.2nm,1.0s								
H11S1	**WAKE ISLAND Hy**	**30.03**	**140**	T		T		23 13 26.6	
	baz=330,slow=76,SNR=2050								
H11S3	**WAKE ISLAND Hy**	**30.04**	**140**	T		T		23 13 28.0	
	baz=330,slow=76,SNR=1834								
H11S2	**WAKE ISLAND Hy**	**30.05**	**140**	T		T		23 13 28.8	
	baz=330,slow=76,SNR=1460								
SPIA	**Saint Paul Isl**	**30.14**	**48**	P		P	**P**	**22 41 43.1**	**0.0**
NIKH	**Nikolski High**	**30.63**	**56**	P		P	**P**	**22 41 47.0**	**-0.5**
AKUT	**Akutan**	**32.47**	**54**	P		P	**P**	**22 42 04.6**	**+1.1**
ANM	**Nome**	**34.00**	**35**	P		P	**P**	**22 42 16.6**	**-0.2**
ANM				pmax	pmax				
	comp=Z,2.0nm,1.0s								
ANM	**Nome**	**34.00**	**35**	P		P	**P**	**22 42 16.6**	**-0.2**
SDPT	**Sand Point**	**35.50**	**52**	P		P	**P**	**22 42 31.4**	**+1.6**
PATS	**Pohnpei**	**37.87**	**161**	P		P	**P**	**22 42 50.4**	**+0.1**
SVW2	**Sparrevohn**	**37.98**	**42**	P		P	**P**	**22 42 51.7**	**+0.8**
SVW2						IAmb	IAmb	22 42 54.5	
	comp=Z,7.6nm,1.2s								
KWAJ	**Kwajalein Atol**	**39.04**	**146**	P		P	**P**	**22 42 58.7**	**-1.5**
KWAJ	**Kwajalein Atol**	**39.04**	**146**	P		P	**P**	**22 42 58.7**	**-1.5**
OHAK	**Old Harbor**	**39.34**	**48**	P		P	**P**	**22 43 01.6**	**-0.8**
OHAK						IAmb	IAmb	22 43 03.8	
	comp=Z,11nm,1.0s								
PPLA	**Purkeypile**	**39.59**	**39**	P		P	**P**	**22 43 05.3**	**+0.8**
PPLA						IAmb	IAmb	22 43 24.3	
	comp=Z,3.4nm,1.0s								
KDAK	**Kodiak Island**	**39.66**	**47**	P		P	**P**	**22 43 04.7**	**-0.3**
KDAK	**Kodiak Island**	**39.66**	**47**	P		P	**P**	**22 43 04.7**	**-0.3**
KTH	**Kantishna Hill**	**40.16**	**38**	P		P	**P**	**22 43 10.5**	**+1.3**
KTH				IAmb		IAmb	IAmb	22 43 11.3	
	comp=Z,6.2nm,0.8s								
MLY	**Manley**	**40.25**	**36**	P		P	**P**	**22 43 10.5**	**+0.7**
MLY				IAmb		IAmb	IAmb	22 43 11.8	
	comp=Z,2.4nm,0.8s								
SUA	**Susitna One**	**40.31**	**41**	P		P	**P**	**22 43 08.8**	**-1.7**
SUA				IAmb		IAmb	IAmb	22 43 16.7	
	comp=Z,6.0nm,1.1s								
BRLK	**Bradley Lake**	**40.36**	**44**	P		P	**P**	**22 43 11.0**	**+0.3**
TRF	**Thorofare Moun**	**40.45**	**38**	P		P	**P**	**22 43 12.2**	**+0.5**
TRF				IAmb		IAmb	IAmb	22 43 20.7	
	comp=Z,3.2nm,1.0s								
DAV	**Davao City (W)**	**40.73**	**213**	P		P	**P**	**22 43 12.6**	**-1.6**
BWN	**Browne**	**40.80**	**37**	P		P	**P**	**22 43 15.8**	**+1.5**
RC01	**Rabbit Creek A**	**40.82**	**42**	P		P	**P**	**22 43 13.1**	**-1.4**
RC01				IAmb		IAmb	IAmb	22 43 25.1	
	comp=Z,5.9nm,1.0s								
TOLK	**Toolik Lake Re**	**40.89**	**30**	P		P	**P**	**22 43 15.3**	**+0.2**
ZAA0	**Zalesovo Array**	**40.94**	**307**	P		P	**P**	**22 43 16.0**	**+0.4**
NEA	**Nenana**	**40.96**	**36**	P		P	**P**	**22 43 14.9**	**-0.8**
NEA				IAmb		IAmb	IAmb	22 43 23.4	
	comp=Z,8.9nm,0.6s								
SEW	**Seward**	**41.04**	**43**	P		P	**P**	**22 43 16.2**	**-0.1**
SEW				IAmb		IAmb	IAmb	22 43 22.6	
	comp=Z,13nm,1.2s								
MCK	**McKinley**	**41.05**	**38**	P		P	**P**	**22 43 17.5**	**+1.1**
MCK				pmax	pmax				
	comp=Z,6.0nm,1.1s								
MCK	**McKinley**	**41.05**	**38**	P		P	**P**	**22 43 17.5**	**+1.1**
MCK				IAmb		IAmb	IAmb	22 43 17.7	
	comp=Z,6.4nm,1.1s								
RND	**Reindeer**	**41.09**	**38**	P		P	**P**	**22 43 17.2**	**+0.3**
RND				pmax	pmax				
	comp=Z,5.0nm,1.0s								
RND	**Reindeer**	**41.09**	**38**	P		P	**P**	**22 43 17.2**	**+0.3**
RND				IAmb		IAmb	IAmb	22 43 17.3	
	comp=Z,4.8nm,1.0s								
GHO	**Glory Hole Cre**	**41.16**	**41**	P		P	**P**	**22 43 17.7**	**+0.3**
GHO				IAmb		IAmb	IAmb	22 43 22.3	
	comp=Z,7.2nm,1.2s								
MDM	**Murphy Dome**	**41.32**	**36**	P		P	**P**	**22 43 19.3**	**+0.7**
MDM				IAmb		IAmb	IAmb	22 43 20.0	
	comp=Z,4.1nm,0.6s								
WRH	**Wood River Hil**	**41.39**	**36**	P		P	**P**	**22 43 19.5**	**+0.3**
KNK	**Knik Glacier**	**41.41**	**41**	P		P	**P**	**22 43 19.4**	**0.0**
KNK				IAmb		IAmb	IAmb	22 43 24.3	
	comp=Z,9.0nm,1.2s								
SML	**Sawmill**	**41.43**	**41**	P		P	**P**	**22 43 19.7**	**+0.1**
SML				IAmb		IAmb	IAmb	22 43 22.2	
	comp=Z,7.1nm,0.7s								
CCB	**Clear Creek Bu**	**41.51**	**36**	P		P	**P**	**22 43 21.0**	**+0.9**
DHY	**Denali Highway**	**41.78**	**39**	P		P	**P**	**22 43 22.6**	**0.0**
HDA	**Harding Lake**	**41.89**	**37**	P		P	**P**	**22 43 23.3**	**0.0**
HDA				IAmb		IAmb	IAmb	22 43 24.5	
	comp=Z,4.3nm,1.1s								
IL31		**41.90**	**36**	P		P	**P**	**22 43 23.6**	**+0.4**
ILAR	**Eielson Array**	**41.90**	**36**	P		P	**P**	**22 43 23.6**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=263,slow=5.8,SNR=29								
SCM	**Sheep Creek Mo**	**41.91**	**40**	P		P	**P**	**22 43 24.4**	**+0.9**
SCM				pmax	pmax				
	comp=Z,9.0nm,1.2s								
SCM	**Sheep Creek Mo**	**41.91**	**40**	P		P	**P**	**22 43 24.4**	**+0.9**
SCM				IAmb		IAmb	IAmb	22 43 31.9	
	comp=Z,9.3nm,1.2s								
GLI	**Glacier Island**	**42.12**	**42**	P		P	**P**	**22 43 23.8**	**-1.4**
FID	**Port Fidalgo**	**42.44**	**42**	P		P	**P**	**22 43 27.7**	**-0.1**
FID				IAmb		IAmb	IAmb	22 43 34.0	
	comp=Z,14nm,1.2s								
SCRK	**Sand Creek**	**43.22**	**37**	P		P	**P**	**22 43 34.5**	**+0.3**
SCRK				IAmb		IAmb	IAmb	22 43 35.4	
	comp=Z,3.6nm,1.1s								
DOT	**Dot Lake**	**43.22**	**38**	P		P	**P**	**22 43 33.9**	**-0.2**
RAGM	**Ragged Mountai**	**43.37**	**42**	P		P	**P**	**22 43 35.3**	**-0.1**
RAGM

NV11	**Mina Array Sit**	**68.07**	**57**	P		**P**		**22 46 32.3**	**-0.5**
FLWY	**Flagg Ranch**	**68.83**	**49**	P		**P**		**22 46 37.7**	**+0.1**
FXWY	**Fox Creek**	**68.94**	**49**	P		**P**		**22 46 38.7**	**+0.4**
SNOW	**Snow King Moun**	**69.21**	**49**	P		**P**		**22 46 40.0**	**0.0**
SNOW				IAmb		IAmb		22 46 52.1	
	comp=Z,3.4nm,0.9s								
NC303	**NORSAR Array S**	**69.57**	**339**	P		**P**		**22 46 40.9**	**-0.6**
NC405	**NORSAR Array S**	**69.57**	**339**	P		**P**		**22 46 41.6**	**0.0**
NC204	**NORSAR Array S**	**69.69**	**339**	P		**P**		**22 46 41.8**	**-0.6**
KIV	**Kislovodsk**	**69.73**	**312**	*eP*		**P**		**22 46 44.9**	**+1.9**
KIV				pmax		pmax			
	comp=Z,9.0nm,1.0s								
KIV	**Kislovodsk**	**69.73**	**312**	P		**P**		**22 46 43.6**	**+0.6**
KIV				IAmb		IAmb		22 47 03.1	
	comp=Z,2.8nm,0.7s								
NB201	**NORSAR Array S**	**69.74**	**339**	P		**P**		**22 46 42.1**	**-0.5**
NB2	**NORSAR Subarra**	**69.77**	**339**	P		**P**		**22 46 42.8**	**0.0**
	comp=Z,0.6nm,0.6s,baz=38,slow=6.2								
NOA	**NORSAR Array B**	**69.77**	**339**	P		**P**		**22 46 42.8**	**0.0**
	comp=Z,0.7nm,0.4s,baz=32,slow=6.6,SNR=12								
KBZ	**Khabaz**	**69.77**	**311**	P		**P**		**22 46 43.5**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=16,slow=6.0,SNR=4.4								
PDAR	**Pinedale Array**	**70.32**	**49**	P		**P**		**22 46 47.0**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=281,slow=5.4,SNR=3.4								
AKASG	**Malin Array Be**	**71.64**	**324**	P		**P**		**22 46 53.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=40,slow=6.0,SNR=5.6								
RDMU	**Red Mountain**	**71.77**	**51**	P		**P**		**22 46 56.1**	**+0.5**
EYMN	**Ely**	**75.54**	**36**	P		**P**		**22 47 17.3**	**0.0**
EYMN				IAmb		IAmb		22 47 34.3	
	comp=Z,3.1nm,1.1s								
214A	**Organ Pipe Nat**	**75.60**	**60**	P		**P**		**22 47 17.9**	**0.0**
214A				IAmb		IAmb		22 47 31.8	
	comp=Z,4.3nm,1.0s								
BUR08	**Bucovina Ar. S**	**75.68**	**324**	P		**P**		**22 47 18.4**	**+0.2**
BUR08				IAmb		IAmb		22 47 19.2	
	comp=Z,3.4nm,1.1s								
FORT	**Forrest**	**75.84**	**197**	P		**P**		**22 47 19.4**	**+0.5**
MLR	**Muntele Rosu**	**77.00**	**322**	P		**P**		**22 47 26.6**	**+0.8**
MLR	**Muntele Rosu**	**77.00**	**322**	P		**P**		**22 47 26.6**	**+0.8**
CLL	**Collm**	**77.44**	**332**	*i* P		**P**		**22 47 27.5**	**-0.4**
CLL	**Collm**	**77.44**	**332**	*i* P		**P**		**22 47 27.5**	**-0.4**
CLL	**Collm**	**77.44**	**332**	P		**P**		**22 47 28.1**	**+0.2**
CLL				IAmb		IAmb		22 47 29.1	
	comp=Z,3.5nm,0.8s								
SCHQ	**Schefferville**	**77.99**	**19**	P		**P**		**22 47 30.6**	**-0.4**
	comp=Z,3.9nm,1.0s,baz=293,slow=4.8,SNR=6.0								
ESK	**Eskdalemuir**	**78.34**	**343**	P		**P**		**22 47 31.1**	**-1.8**
ESK				pmax		pmax			
	comp=Z,13nm,1.1s								
ESK	**Eskdalemuir**	**78.34**	**343**	P		**P**		**22 47 31.1**	**-1.8**
E43A	**Lone Tree Farm**	**78.68**	**35**	P		**P**		**22 47 35.1**	**+0.2**
KHC	**Kasperske Hory**	**79.07**	**331**	P		**P**		**22 47 37.8**	**+0.7**
KHC	**Kasperske Hory**	**79.07**	**331**	P		**P**		**22 47 37.8**	**+0.7**
GERES	**GERESS Array B**	**79.27**	**331**	P		**P**		**22 47 37.5**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=90,slow=4.9,SNR=3.1								
NWAO	**Narrogin (SRO)**	**80.67**	**205**	P		**P**		**22 47 45.8**	**+0.2**
NWAO				pmax		pmax			
	comp=Z,5.0nm,0.9s								
NWAO	**Narrogin (SRO)**	**80.67**	**205**	P		**P**		**22 47 45.8**	**+0.2**
NWAO				IAmb		IAmb		22 47 47.0	
	comp=Z,4.7nm,0.9s								
VLDQ	**Val d'Or**	**80.86**	**28**	P		**P**		**22 47 46.0**	**-0.7**
VLDQ				IAmb		IAmb		22 48 04.6	
	comp=Z,4.7nm,1.1s								
DSB	**Dublin**	**80.94**	**344**	P		**P**		**22 47 47.0**	**0.0**
TX31	**Lajitas Ar. Si**	**83.06**	**56**	P		**P**		**22 47 59.5**	**+0.8**
TX32	**Lajitas Array**	**83.06**	**56**	P		**P**		**22 47 59.4**	**+0.8**
TXAR	**Lajitas Array**	**83.06**	**56**	P		**P**		**22 47 59.2**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=302,slow=3.3,SNR=14								
BATG	**Bathurst New B**	**85.11**	**22**	P		**P**		**22 48 08.0**	**-0.7**
BATG				IAmb		IAmb		22 48 18.2	
	comp=Z,3.4nm,1.0s								
NNZ	**Nelson**	**87.64**	**160**	P		**P**		**22 48 20.9**	**+0.1**
BFZ	**Birch Farm**	**87.89**	**158**	P		**P**		**22 48 21.9**	**0.0**

*NNC **26** 22:40:42.2±4.2,37.26N×71.75E,h94km±102km,mb3.1, mpv3.6,Error ellipse: s-maj=58.7km s-min=25.2km az=132.0*

ISC 26 22:40:43.0±4.6,**37.3N**±0.3×**71.7E**±0.2,**h109**km,**n9, σ0s55/11,2C-2D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=21	**5.08**	**17**	P		**Pn**	**22 41 57.3**	**+0.1**
UCH	**Uchtor** SNR=7.4	**5.39**	**23**	P		**Pn**	**22 42 01.2**	**-0.2**
EKS2	**Erkin-Say** SNR=5.2	**5.60**	**16**	P		**Pn**	**22 42 04.7**	**+0.6**
AAK	**Ala-Archa** SNR=7.3	**5.76**	**21**	P		**Pn**	**22 42 06.3**	**+0.2**
AAK	**Ala-Archa** 2.8nm,0.3s	**5.76**	**21**	⇓P		**Pn**	**22 42 06.0**	**-0.1**
AAK				⇑S		**Sn**	**22 43 11.1**	**0.0**
	15nm,0.6s							
KK31	**Karatay Array** 1.5nm,0.3s,baz=161,slow=11,SNR=53	**5.89**	**351**	P		**Pn**	**22 42 06.9**	**-0.9**
USP	**Ospenovka** SNR=9.3	**6.35**	**19**	P		**Pn**	**22 42 14.1**	**+0.1**
TKM2	**Tokmak 2** 3.3nm,0.8s	**6.37**	**27**	⇑P		**Pn**	**22 42 13.5**	**-1.0**
TKM2				⇓S		**Sn**	**22 43 25.8**	**-0.1**
	5.1nm,1.1s							
AB31	**Akbulak array** 0.3nm,0.5s,baz=144,slow=12,SNR=12	**14.70**	**328**	P		**Pn**	**22 44 05.7**	**+0.4**

*ISCJB **26** 22:42:35.9±0.5,13.99N±0.07×145.1E±0.1,h200km, mb3.1/4,Error ellipse: s-maj=18.1km s-min=9.6km az=175.0*

*IDC **26** 22:42:37.7±0.9,13.97N×144.95E,h194km±4km,mb3.0/4, mb1 3.2/4,mb1mx2.9/38,mbtmp3.5/4,Error ellipse: s-maj=49.5km s-min=20.8km az=96.0*

*NEIC **26** 22:42:37.8±1.7,13.9N±0.1×145.0E±0.1,h200km±4km, mb4.3/15*

ISC 26 22:42:37.5±0.6,**13.94N**±0.09×**144.9E**±0.1,**h200**km,**n21, σ1s25/23,mb4.2**/12,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 32nm,0.3s,baz=0.0,slow=5.1,SNR=11	**0.35**	**187**	P		**Pn**	**22 43 04.8**	**+0.7**
GUMO				S		**Sn**	**22 43 24.9**	**+0.1**
	100nm,0.3s,baz=350,slow=23,SNR=24							
GUMO	**Guam**	**0.35**	**187**			**Pn**	**22 43 04.7**	**+0.5**
GUMO						**Sn**	**22 43 23.9**	**-1.0**
FAKI	**Fak Fak**	**20.93**	**218**	P		**P**	**22 47 05.8**	**+0.9**
YHNB	**Yeheng**	**24.60**	**299**	P		**P**	**22 47 41.8**	**+2.2**
YHNB				IAmb		IAmb	22 47 50.1	
	comp=Z,7.8nm,0.6s							
COEN	**Coen**	**27.77**	**184**	P		**P**	**22 48 07.4**	**-0.5**
COEN				IAmb		IAmb	22 48 12.2	
	comp=Z,7.1nm,1.1s							
USA0B	**Ussuriysk Arra**	**32.12**	**342**	P		**P**	**22 48 46.0**	**+0.1**
USA0B				IAmb		IAmb	22 48 56.4	
	comp=Z,7.7nm,1.0s							
MDJ	**Mudanjiang**	**33.24**	**340**	P		**P**	**22 48 56.2**	**+0.5**
MDJ				IAmb		IAmb	22 49 14.7	
	comp=Z,4.8nm,1.0s							
WRA	**Warramunga Arr** comp=Z,0.9nm,0.9s,baz=14,slow=9.2,SNR=6.9	**35.24**	**197**	P		**P**	**22 49 14.0**	**+0.9**
ASAR	**Alice Springs** comp=Z,0.3nm,0.7s,baz=20,slow=8.9,SNR=3.2	**38.90**	**196**	P		**P**	**22 49 44.9**	**+1.1**
DZM	**Mont Dzumac**	**41.55**	**149**	P		**P**	**22 50 05.4**	**-0.3**
DZM				IAmb		IAmb	22 50 11.5	
	comp=Z,4.7nm,0.7s							
KULM	**Kulim**	**44.41**	**263**	P		**P**	**22 50 25.9**	**-2.8**
KULM				IAmb		IAmb	22 50 26.8	
	comp=Z,10nm,0.9s							
STKA	**Stephens Creek**	**45.67**	**184**	P		**P**	**22 50 39.4**	**+1.1**
NWAO	**Narrogin (SRO)**	**53.59**	**209**	P		**P**	**22 51 35.8**	**-2.2**
NWAO				IAmb		IAmb	22 51 50.8	
	comp=Z,13nm,1.1s							
AKUT	**Akutan**	**55.53**	**33**	P		**P**	**22 51 49.8**	**-1.9**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.6s,baz=93,slow=8.3,SNR=6.5	**61.27**	**316**	P		**P**	**22 52 32.8**	**+1.1**
LBZ	**Lake Benmore**	**62.44**	**160**	P		**P**	**22 52 39.6**	**+0.3**
WKZ	**Wanaka**	**62.45**	**161**	P		**P**	**22 52 40.7**	**+1.3**
DCZ	**Deep Cove**	**62.46**	**163**	P		**P**	**22 52 39.3**	**-0.1**
DCZ				IAmb		IAmb	22 52 55.6	
	comp=Z,7.4nm,1.0s							
KURK	**Kurchatov**	**64.34**	**320**	P		**P**	**22 52 52.0**	**+0.2**
SEW	**Seward**	**65.93**	**30**	P		**P**	**22 53 02.6**	**+0.8**
ILAR	**Eielson Array** comp=Z,0.2nm,0.7s,baz=256,slow=5.6,SNR=3.9	**68.23**	**25**	P		**P**	**22 53 16.4**	**+0.2**

KRSC 26 22:57:54.6±1.4,**48.58N**×**156.55E,h30**km±22km,**ML4.0, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.12**	**353**	*eP*		Pn	22 58 29.3	+1.3
SKR				*eS*		Sn	22 58 55.4	+2.1
PAU	**Pauzhetka**	**2.90**	**3**	*eP*		Pn	22 58 41.6	+3.0
PAU				*eS*		Sn	22 59 16.3	+4.0
ASAK	**Asacha**	**3.90**	**12**	*eP*		Pn	22 58 57.5	+5.0
MTVR	**Mutnovka**	**4.04**	**14**	*eP*		Pn	22 58 58.8	+4.3
MTVR				*eS*		Sn	22 59 47.0	+6.1
KRMR	**Karymshinskiy**	**4.37**	**13**	*eP*		Pn	22 59 04.1	+5.2
UGLR	**Uglovaya**	**4.85**	**16**	*eP*		Pn	22 59 10.5	+4.9
AVH	**Avacha**	**4.89**	**16**	*eP*		Pn	22 59 12.2	+6.1
SDLR	**Sedlovina**	**4.93**	**17**	*eP*		Pn	22 59 10.9	+4.3
KRX	**Arik**	**4.97**	**15**	*eP*		Pn	22 59 11.7	+4.5
SPN	**Mys Shipunski**	**5.03**	**25**	*eP*		Pn	22 59 12.5	+4.6
SPN				*eS*		Sn	23 00 09.6	+4.7
GNL	**Ganaly**	**5.20**	**9**	*eP*		Pn	22 59 14.6	+4.3

*SOME **26** 22:59:52.9,42.57N×74.95E,h20km*
*NNC **26** 22:59:52.7±0.2,42.65N×74.95E,h0km,mb3.7,mpv3.7, Error ellipse: s-maj=5.3km s-min=0.6km az=165.0*
*KRNET **26** 22:59:52.4±0.1,42.59N×74.95E,h18km,mb3.4*

ISC 26 22:59:52.8±0.8,**42.59N**±0.02×**74.95E**±0.01,**h14**km±5km, **n87,σ1s28**/149,**31C-21D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak** baz=59	**0.07**	**357**	⇓*i*P		**Pg**	**22 59 55.3**	**-0.6**
KBK				⇓*i*S		**Sg**	**22 59 57.7**	**-0.3**
	baz=59							
KBK	**Karagaybulak**	**0.07**	**357**	P		**Pg**	**22 59 55.5**	**-0.4**
FRU1	**Bishkek** baz=13	**0.33**	**313**	⇑*i*P		**Pg**	**22 59 59.2**	**-0.3**
FRU1				⇑*i*S		**Sg**	**23 00 04.1**	**0.0**
	baz=13							
AAK	**Ala-Archa** baz=78	**0.34**	**278**	⇓*i*P		**Pg**	**22 59 59.3**	**-0.5**
AAK				⇓*i*S		**Sg**	**23 00 04.3**	**-0.4**
	baz=78							
AAK	**Ala-Archa** SNR=402	**0.34**	**278**	P		**Pg**	**22 59 59.5**	**-0.4**
AAK	**Ala-Archa** 27nm,0.3s	**0.34**	**278**	⇑P		**Pg**	**22 59 59.4**	**-0.5**
AAK				⇓S		**Sg**	**23 00 04.2**	**-0.4**
	504nm,0.3s							
CHMS	**Chumysh** baz=40	**0.43**	**340**	⇑*i*P		**Pg**	**23 00 00.8**	**-0.7**
CHMS				⇑*i*S		**Sg**	**23 00 07.0**	**-0.4**
	baz=40							
CHMS	**Chumysh** SNR=324	**0.43**	**340**	P		**Pg**	**23 00 01.1**	**-0.4**
UCH	**Uchtor** baz=22	**0.49**	**222**	*i* P		**Pg**	**23 00 01.9**	**-0.6**
UCH				*i* S		**Sg**	**23 00 08.8**	**-0.3**
	baz=22							
UCH	**Uchtor** SNR=786	**0.49**	**222**	P		**Pg**	**23 00 02.1**	**-0.4**
KZA	**Kyzart** baz=56	**0.56**	**157**	⇓*i*P		**Pg**	**23 00 03.3**	**-0.5**
KZA				⇓*i*S		**Sg**	**23 00 11.1**	**-0.2**
	baz=56							
KZA	**Kyzart** SNR=830	**0.56**	**157**	P		**Pg**	**23 00 03.5**	**-0.4**
TKM2	**Tokmak 2** baz=55	**0.58**	**55**	⇓*i*P		**Pg**	**23 00 03.4**	**-0.8**
TKM2				⇓*i*S		**Sg**	**23 00 11.9**	**-0.1**
	baz=55							
TKM2	**Tokmak 2** SNR=608	**0.58**	**55**	P		**Pg**	**23 00 03.6**	**-0.7**
TKM2	**Tokmak 2** 5.5nm,0.2s	**0.58**	**55**	⇑P		**Pg**	**23 00 03.5**	**-0.8**
TKM2				⇑S		**Sg**	**23 00 11.0**	**-0.9**
	286nm,0.4s							
BOOM	**Boomskoye usch** baz=97	**0.74**	**97**	⇑*i*P		**Pb**	**23 00 06.7**	**-0.7**
BOOM				⇑*i*S		**Sb**	**23 00 16.6**	**-0.8**
	baz=97							
USP	**Ospenovka** baz=34	**0.76**	**334**	⇑*i*P		**Pb**	**23 00 06.4**	**-1.3**
USP				⇑*i*S		**Sb**	**23 00 16.7**	**-1.1**
	baz=34							
USP	**Ospenovka** SNR=916	**0.76**	**334**	P		**Pb**	**23 00 06.7**	**-1.0**
ARLS	**Aral** baz=13	**0.86**	**213**	⇑*i*P		**Pb**	**23 00 08.9**	**-0.7**
ARLS				⇑*i*S		**Sb**	**23 00 20.2**	**-0.9**
	baz=13							
EKS2	**Erkin-Say** baz=75	**0.87**	**275**	*i* P		**Pb**	**23 00 09.2**	**-0.5**
EKS2				*i* S		**Sb**	**23 00 20.9**	**-0.3**
	baz=75							
EKS2	**Erkin-Say** SNR=123	**0.87**	**275**	P		**Pb**	**23 00 09.4**	**-0.3**
KST	**Kastek** 61nm,0.1s	**0.87**	**58**	⇓*i*P		**Pb**	**23 00 09.0**	**-0.7**
KST				⇓*i*S		**Sb**	**23 00 20.6**	**-0.6**
	244nm,0.2s							
KST	**Kastek** 61nm,0.1s	**0.87**	**58**	P		**Pb**	**23 00 09.0**	**-0.7**
KST				S		**Sb**	**23 00 20.6**	**-0.6**
	244nm,0.2s							
DGS	**Degeres** 30nm,0.1s	**0.89**	**42**	*eP*		**Pb**	**23 00 09.3**	**-0.7**
DGS				*eS*		**Sb**	**23 00 21.2**	**-0.5**
	296nm,0.2s							
DGS	**Degeres** baz=43	**0.89**	**42**	*eP*		**Pb**	**23 00 09.3**	**-0.7**
DGS				*eS*		**Sb**	**23 00 21.2**	**-0.5**
	baz=43							
DGS	**Degeres** 30nm,0.1s	**0.89**	**42**	P		**Pb**	**23 00 09.3**	**-0.7**
DGS				S		**Sb**	**23 00 21.2**	**-0.5**
	296nm,0.2s							
ULHL	**Ulahol** baz=9.0	**1.01**	**109**	⇓*i*P		**Pb**	**23 00 11.0**	**-1.2**
ULHL				⇓*i*S		**Sb**	**23 00 24.9**	**-0.6**
	baz=9.0							
ULHL	**Ulahol** SNR=126	**1.01**	**109**	P		**Pb**	**23 00 11.2**	**-1.0**
AML	**Almayashu** baz=44	**1.04**	**244**	⇑*i*P		**Pb**	**23 00 11.9**	**-0.8**
AML				⇑*i*S		**Sb**	**23 00 25.9**	**-0.4**
	baz=44							
AML	**Almayashu** SNR=26	**1.04**	**244**	P		**Pb**	**23 00 12.0**	**-0.8**
MTBS	**Maitube** 34nm,0.2s	**1.21**	**63**	*eP*		**Pb**	**23 00 15.1**	**-0.4**
MTBS				⇓*i*S		**Sn**	**23 00 31.1**	**-0.5**
	265nm,0.3s							
MTBS	**Maitube** baz=63	**1.21**	**63**	*eP*		**Pb**	**23 00 15.1**	**-0.4**
MTBS				⇓*i*S		**Sn**	**23 00 31.1**	**-0.5**
	baz=63							
MTBS	**Maitube** 34nm,0.2s	**1.21**	**63**	P		**Pb**	**23 00 15.1**	**-0.4**
MTBS				S		**Sn**	**23 00 31.1**	**-0.5**
	265nm,0.3s							
MRKS	**Merke** 29nm,0.2s	**1.28**	**278**	⇓*i*P		**Pb**	**23 00 16.3**	**-0.4**
MRKS				*eS*		**Sn**	**23 00 33.2**	**-0.1**
	48nm,0.2s							
MRKS	**Merke** 29nm,0.2s	**1.28**	**278**	P		**Pb**	**23 00 16.3**	**-0.4**
MRKS				S		**Sn**	**23 00 33.2**	**-0.1**
	48nm,0.2s							
NRN	**Naryn** baz=47	**1.39**	**146**	⇓*i*P		**Pb**	**23 00 18.2**	**-0.5**
NRN				⇓*i*S		**Sb**	**23 00 36.5**	**0.0**
	baz=47							
TNSS	**Tian-Shan** 32nm,0.1s	**1.53**	**72**	*eP*		**Pb**	**23 00 21.2**	**0.0**
TNSS				*eS*		**Sg**	**23 00 41.4**	**-0.8**
	83nm,0.3s							
TNSS	**Tian-Shan** baz=72	**1.53**	**72**	*eP*		**Pb**	**23 00 21.2**	**0.0**
TNSS				*eS*		**Sg**	**23 00 41.5**	**-0.8**
	baz=72							
TNSS	**Tian-Shan**	**1.53**	**72**	P		**Pb**	**23 00 21.2**	**0.0**
TNSS				S		**Sg**	**23 00 41.4**	**-0.8**
	83nm,0.3s							
AAA	**Alma-Ata** 52nm,0.1s	**1.57**	**66**	*eP*		**Pg**	**23 00 22.1**	**-0.8**
AAA				*eS*		**Sg**	**23 00 42.9**	**-0.4**
	98nm,0.3s							
AAA	**Alma-Ata** baz=66	**1.57**	**66**	*eP*		**Pg**	**23 00 22.2**	**-0.8**
AAA				*eS*		**Sg**	**23 00 43.0**	**-0.4**
	baz=66							
AAA	**Alma-Ata** 52nm,0.1s	**1.57**	**66**	P		**Pg**	**23 00 22.1**	**-0.8**
AAA				S		**Sg**	**23 00 42.9**	**-0.4**
	98nm,0.3s							
KNDC	**Almaty** 13nm,0.2s	**1.61**	**66**	⇑P		**Pb**	**23 00 22.3**	**+0.1**
KNDC				⇑S		**Sg**	**23 00 44.2**	**-0.3**
	172nm,0.5s							
MDOK	**Medeo** 33nm,0.2s	**1.64**	**69**	*eP*		**Pb**	**23 00 23.1**	**+0.3**
MDOK				*eS*		**Sg**	**23 00 44.5**	**-1.2**
	76nm,0.3s							
MDOK	**Medeo** baz=69	**1.64**	**69**	*eP*		**Pb**	**23 00 23.2**	**+0.3**
MDOK				*eS*		**Sg**	**23 00 44.6**	**-1.2**
	baz=69							
MDOK	**Medeo** 8.7nm,0.3s	**1.64**	**69**	⇑P		**Pb**	**23 00 22.5**	**-0.4**
MDOK				⇑S		**Sb**	**23 00 44.1**	**+0.6**
	46nm,0.3s							
MDOK	**Medeo** 33nm,0.2s	**1.64**	**69**	Pg		**Pb**	**23 00 23.2**	**+0.3**
MDOK				Lg		Lg	23 00 44.5	
	76nm,0.3s							
KUU	**Kurty** 42nm,0.2s	**1.65**	**37**	*eP*		**Pb**	**23 00 22.6**	**-0.3**
KUU				*eS*		**Sb**	**23 00 44.1**	**+0.6**
	114nm,0.2s							
KUU	**Kurty** baz=38	**1.65**	**37**	*eP*		**Pb**	**23 00 22.7**	**-0.3**
KUU				*eS*		**Sb**	**23 00 44.2**	**+0.6**
	baz=38							
KTBS	**Karatobe** 50nm,0.1s	**1.69**	**48**	*eP*		**Pb**	**23 00 23.4**	**-0.3**
KTBS				*eS*		**Sb**	**23 00 45.2**	**+0.4**
	419nm,0.3s							
KTBS	**Karatobe** 50nm,0.1s	**1.69**	**48**	P		**Pb**	**23 00 23.4**	**-0.3**
KTBS				S		**Sb**	**23 00 45.2**	**+0.4**
	419nm,0.3s							
KOTS	**Kotyrbulak** 65nm,0.2s	**1.71**	**67**	*eP*		**Pb**	**23 00 24.4**	**+0.4**
KOTS				*eS*		**Sg**	**23 00 46.9**	**-1.1**
	535nm,0.4s							
KOTS	**Kotyrbulak** baz=67	**1.71**	**67**	*eP*		**Pb**	**23 00 24.4**	**+0.4**
KOTS				*eS*		**Sg**	**23 00 46.8**	**-1.1**
	baz=67							
KOTS	**Kotyrbulak** 65nm,0.2s	**1.71**	**67**	P		**Pb**	**23 00 24.4**	**+0.4**
KOTS				S		**Sg**	**23 00 46.9**	**-1.1**
	535nm,0.4s							
KDJ	**Kajisay** baz=5.0	**1.71**	**105**	⇑*e*P		**Pb**	**23 00 23.6**	**-0.5**
KDJ				⇑*i*S		**Sb**	**23 00 45.9**	**+0.3**
	baz=5.0							
ARSB	**Arslanbob** baz=30	**1.94**	**230**	⇑*i*P		**Pb**	**23 00 27.0**	**-0.9**
ARSB				⇑*i*S		**Sb**	**23 00 52.2**	**+0.2**
	baz=30							
ANVS	**Anan'yevo** baz=84	**2.01**	**84**	⇑*i*P		**Pb**	**23 00 27.8**	**-1.4**
ANVS				⇑*i*S		**Sb**	**23 00 53.5**	**-0.6**
	baz=84							
TARG	**Taragay, Kyrgy** baz=11	**2.29**	**111**	⇑*i*P		**Pn**	**23 00 31.5**	**+1.1**
TARG				⇑*i*S		**Sb**	**23 01 00.6**	**-1.7**
	baz=11							
KURS	**Kuram** 4.0nm,0.3s	**2.52**	**68**	*eP*		**Pb**	**23 00 38.7**	**+0.9**
KURS				*eS*		**Sg**	**23 01 11.6**	**-2.2**
	47nm,0.6s							
KURS	**Kuram** 4.0nm,0.3s	**2.52**	**68**	Pg		**Pb**	**23 00 38.7**	**+0.9**
KURS				Lg		Lg	23 01 11.6	
	47nm,0.6s							
BTLS	**Baital** 4.1nm,0.2s	**2.54**	**345**	*eP*		**Pb**	**23 00 39.2**	**+1.1**
BTLS				*eS*		**Sg**	**23 01 12.4**	**-1.9**
	88nm,0.3s							
BTLS	**Baital** 4.1nm,0.2s	**2.54**	**345**	Pg		**Pb**	**23 00 39.2**	**+1.1**
BTLS				Lg		Lg	23 01 12.4	
	88nm,0.3s							
PRZ	**Przheval'sk** baz=91	**2.55**	**91**	⇓*i*P		**Pn**	**23 00 35.6**	**+1.8**
PRZ				⇓*i*S		**Sb**	**23 01 06.8**	**-2.8**
	baz=91							
SATY	**Saty** 24nm,0.2s	**2.58**	**78**	*eP*		**Pb**	**23 00 39.7**	**+0.8**
SATY				*eS*		**Sg**	**23 01 13.4**	**-2.4**
	152nm,0.4s							
SATY	**Saty** 24nm,0.2s	**2.58**	**78**	Pg		**Pb**	**23 00 39.7**	**+0.8**
SATY				Lg		Lg	23 01 13.4	
	152nm,0.4s							
ZHN	**Zhinishke** 7.7nm,0.1s	**2.62**	**76**	*eP*		**Pb**	**23 00 41.2**	**+1.6**
ZHN				*eS*		**Sg**	**23 01 15.6**	**-1.5**
	37nm,0.2s							
ZHN	**Zhinishke** 7.7nm,0.1s	**2.62**	**76**	Pg		**Pb**	**23 00 41.2**	**+1.6**
ZHN				Lg		Lg	23 01 15.6	
	37nm,0.2s							
ARXS	**Arharly** 7.4nm,0.2s	**2.65**	**51**	*eP*		**Pb**	**23 00 40.8**	**+0.8**
ARXS				*eS*		**Sg**	**23 01 15.2**	**-2.7**
	152nm,0.3s							
ARXS	**Arharly** 7.4nm,0.2s	**2.65**	**51**	Pg		**Pb**	**23 00 40.8**	**+0.8**
ARXS				Lg		Lg	23 01 15.2	
	152nm,0.3s							
DZA	**Taraz** 13nm,0.1s	**2.69**	**278**	*eP*		**Pb**	**23 00 41.6**	**+1.0**
DZA				*eS*		**Sg**	**23 01 16.5**	**-2.5**
	48nm,0.2s							
DZA	**Taraz** 13nm,0.1s	**2.69**	**278**	Pg		**Pb**	**23 00 41.6**	**+1.0**
DZA				Lg		Lg	23 01 16.5	
	48nm,0.2s							
KPKS	**Kokpek** 15nm,0.1s	**2.87**	**71**	*eP*		**Pb**	**23 00 44.6**	**+0.8**
KPKS				*eS*		**Sg**	**23 01 21.8**	**-3.2**
	90nm,0.3s							
UZB	**Uzynbulak** 6.1nm,0.3s	**3.04**	**78**	*eP*		**Pb**	**23 00 47.9**	**+1.1**
UZB				*eS*		**Sg**	**23 01 27.3**	**-3.2**
	32nm,0.3s							
UZB	**Uzynbulak** 6.1nm,0.3s	**3.04**	**78**	Pg		**Pb**	**23 00 47.9**

TDK				Lg	Lg	23 01 40.5			
	63nm,0.6s								
IUG	**luzhnay**	**3.67**	**265**	*eP*	**Pb**	**23 00 59.8**	**+2.4**		
	0.4nm,0.2s								
IUG				*eS*	**Sg**	**23 01 47.8**	**-2.9**		
	20nm,0.7s								
IUG	**luzhnay**	**3.67**	**265**	Pg	**Pb**	**23 00 59.8**	**+2.4**		
	0.4nm,0.2s								
IUG				Lg	Lg	23 01 47.8			
	20nm,0.7s								
BRLS	**Borolday**	**3.79**	**278**	*eP*	**Pg**	**23 01 03.3**	**-2.0**		
	0.5nm,0.2s								
BRLS				*eS*	**Sg**	**23 01 53.5**	**-0.9**		
	6.3nm,0.4s								
DJR	**Jarkent**	**3.93**	**62**	*eP*	**Pb**	**23 01 04.3**	**+2.5**		
	3.1nm,0.5s								
DJR				*eS*	**Sg**	**23 01 55.5**	**-3.4**		
	16nm,0.4s								
DJR	**Jarkent**	**3.93**	**62**	Pg	**Pb**	**23 01 04.3**	**+2.5**		
	3.1nm,0.5s								
DJR				Lg	Lg	23 01 55.5			
	16nm,0.4s								
BTK	**Batken**	**4.01**	**232⇑**	*eP*	**Pn**	**23 00 55.8**	**+2.0**		
	baz=32								
BTK				*⇑iS*	**Sn**	**23 01 41.5**	**+0.9**		
	baz=32								

ISCJB ***26*** *23:23:10.6±0.4,4°.79N±0°.04×96°.02E±0°.05,h29km, mb3.6/8,Error ellipse: s-maj=8.0km s-min=4.7km az=142.6*

DJA ***26*** *23:23:12.9±1.0,5°N±4′×9°6E±′,h10km,M4.3/8,mb4.3/1, MLv4.3/8*

NEIC ***26*** *23:23:15.7±2.9,4°.91N±0°.05×96°.21E±0°.06,h57km±7km, mb4.4/17*

IDC ***26*** *23:23:17.2±3.6,4°.78N×96°.10E,h60km±33km,mb3.3/8, mb1 3.6/10,mb1mx3.4/52,mbtmp3.7/10,ML4.2/2,MS3.0/1, Ms1 3.2/1,ms1mx2.8/11,Error ellipse: s-maj=48.7km s-min=16.1km az=53.0*

ISC 26 23:23:12.2±0.5,4°.79N±0°.05×96°.02E±0°.06,h29km,n46, σ1§84/47,mb4.1/15,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**0.65**	**144**	P	**Pb**	**23 23 23.9**	**-1.1**
MLSI				S	**Sb**	**23 23 31.7**	**-2.0**
LHMI	**Lhok Sumawe**	**1.02**	**65**	P	**Pn**	**23 23 30.7**	**+0.2**
LHMI				S	**Sn**	**23 23 44.1**	**+0.3**
LHMI	**Lhok Sumawe**	**1.02**	**65**	Pn	**Pn**	**23 23 31.0**	**+0.5**
SNSI	**Sinabang, Aceh**	**2.39**	**173**	P	**Pb**	**23 23 51.7**	**-2.9**
PSI	**Prapat**	**3.51**	**124**	P	**Pn**	**23 24 08.5**	**+3.6**
	14nm,0.3s,baz=273,slow=15,SNR=34						
PSI				S	**Sn**	**23 24 50.2**	**+4.7**
	7.7nm,0.3s,baz=343,slow=20,SNR=2.9						
RPSI	**Rantau Prapat**	**3.57**	**126**		**Pn**	**23 24 08.0**	**+2.4**
RPSI	**Rantau Prapat**	**3.57**	**126**		**Pn**	**23 24 08.5**	**+2.9**
RPSI					**Sn**	**23 24 50.2**	**+3.4**
GSI	**Gunungsitoli**	**3.80**	**156**	P	**Pn**	**23 24 09.8**	**+1.0**
GSI	**Gunungsitoli**	**3.80**	**156**		**Pn**	**23 24 10.5**	**+1.7**
KULM	**Kulim**	**4.63**	**84**		**Pn**	**23 24 21.1**	**+0.7**
IPM	**Ipoh**	**5.00**	**93**		**Pn**	**23 24 25.9**	**+0.6**
PBSI	**Pulau Batu**	**5.32**	**155**	P	**Pn**	**23 24 27.8**	**-1.9**
MYKOM	**Kota Tinggi**	**8.36**	**111**	Pn	**Pn**	**23 25 11.2**	**-0.4**
MNAI	**Manna**	**11.43**	**143**	Pn	**Pn**	**23 25 52.6**	**-1.1**
MDSI	**Maura Dua**	**12.30**	**138**	P	**Pn**	**23 26 04.9**	**-0.6**
PBKT	**Sadao Pong**	**12.67**	**22**	Pn	**Pn**	**23 26 10.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**13.88**	**12**	P	**P**	**23 26 32.7**	**-2.3**
	0.6nm,0.3s,baz=205,slow=13,SNR=9.4						
CMAR				LR	LR	23 32 59.6	
	comp=Z,60nm,18.2s,baz=190,slow=42						
PALK	**Pallekele**	**15.43**	**280**	Pn	**P**	**23 26 52.3**	**-0.1**
SBUM	**Sibu**	**16.33**	**98**	Pn	**Pn**	**23 26 59.2**	**-0.4**
UGM	**Wanagama**	**19.20**	**131**	P	**Pn**	**23 27 34.8**	**-0.2**
UGM				IAmb	IAmb	23 27 42.4	
	comp=Z,31nm,0.9s						
KKM	**Kota Kinabalu**	**20.14**	**86**	P	**P**	**23 27 41.2**	**-3.1**
KKM				IAmb	IAmb	23 27 47.6	
	comp=Z,18nm,1.1s						
SHL	**Shillong**	**21.03**	**350**	P	**P**	**23 27 54.6**	**+0.6**
SHL				IAmb	IAmb	23 28 02.8	
	comp=Z,11nm,0.6s						
HKPS	**Hong Kong Po S**	**24.69**	**44**	P	**P**	**23 28 28.5**	**-2.5**
LSA	**Lhasa**	**25.20**	**350**	P	**P**	**23 28 34.4**	**-1.6**
H08S2	**Diego Garcia H**	**26.53**	**242**	T	T	23 55 56.3	
	baz=62,slow=75,SNR=75						
H08S3	**Diego Garcia H**	**26.53**	**242**	T	T	23 55 48.9	
	baz=62,slow=75,SNR=80						
H08S1	**Diego Carcia H**	**26.55**	**242**	T	T	23 55 54.7	
	baz=62,slow=75,SNR=63						
NIL	**Nilore**	**35.68**	**326**	P	**P**	**23 30 09.7**	**+1.6**
NIL				IAmb	IAmb	23 30 11.0	
	comp=Z,4.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**37.02**	**129**	P	**P**	**23 30 20.0**	**+0.3**
KNRA	**Kununurra**	**38.26**	**123**	P	**P**	**23 30 29.6**	**-0.6**
KNRA				IAmb	IAmb	23 30 38.6	
	comp=Z,7.2nm,1.1s						
CHGR	**Chuyangaron**	**41.61**	**328**	P	**P**	**23 30 58.0**	**+0.1**
CHGR				IAmb	IAmb	23 31 08.1	
	comp=Z,3.2nm,0.7s						
NWAO	**Narrogin (SRO)**	**42.57**	**153**	P	**P**	**23 31 04.5**	**-1.2**
MKAR	**Makanchi Array**	**43.49**	**346**	P	**P**	**23 31 14.9**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=157,slow=7.8,SNR=3.6						
MAKZ	**Makanchi**	**43.58**	**346**	P	**P**	**23 31 11.7**	**-2.0**
SONM	**Songino Array**	**43.80**	**10**	P	**P**	**23 31 16.8**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=209,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**44.97**	**124**	P	**P**	**23 31 25.6**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=302,slow=9.1,SNR=9.4						
ASAR	**Alice Springs**	**46.52**	**129**	P	**P**	**23 31 38.7**	**+1.3**
	comp=Z,1.4nm,0.6s,baz=298,slow=8.1,SNR=18						
TLY	**Talaya**	**47.16**	**6**	P	**P**	**23 31 40.3**	**-1.7**
GEYT	**Alibeck**	**47.73**	**319**	P	**P**	**23 31 48.7**	**+2.0**
	comp=Z,0.9nm,0.7s,baz=167,slow=6.8,SNR=4.7						
BRVK	**Borovoye**	**52.55**	**341**	P	**P**	**23 32 24.4**	**+1.5**
BRVK				IAmb	IAmb	23 32 40.2	
	comp=Z,1.7nm,0.6s						
BRTR	**Keskin Array B**	**65.85**	**312**	P	**P**	**23 33 55.3**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=126,slow=7.0,SNR=3.5						
LIT	**Litokhoron**	**74.34**	**310**	P	**P**	**23 34 47.8**	**+0.4**
LIT				IAmb	IAmb	23 34 49.3	
	comp=Z,3.7nm,1.0s						
TIP	**Timpagrande**	**78.67**	**309**	P	**P**	**23 35 12.5**	**+0.6**
BLY	**Banja Luka**	**78.72**	**315**	P	**P**	**23 35 11.1**	**-1.0**
BLY				IAmb	IAmb	23 35 15.2	
	comp=Z,5.3nm,1.0s						
GERES	**GERESS Array B**	**81.36**	**319**	P	**P**	**23 35 28.2**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=126,slow=6.2,SNR=2.3						
TORD	**Torodi Ar. Bea**	**93.12**	**283**	P	**P**	**23 36 27.7**	**+3.3**
	comp=Z,0.3nm,0.6s,baz=94,slow=4.6,SNR=4.0						

BJI ***26*** *23:27:18.9±0.0,5°.57S×154°.46E,h36km,mb5.1/54, mB5.2/31,Ms4.9/7,Ms7 4.8/8*

MOS ***26*** *23:27:20.8±1.0,5°.69S×154°.04E,h48km,mb4.9/17,Error ellipse: s-maj=8.5km s-min=6.7km az=90.5*

NEIC ***26*** *23:27:21.1±1.6,5°.71S±0°.07×154°.02E±0°.06,h35km±1km, mb4.9/145*

IDC ***26*** *23:27:22.9±1.6,5°.75S×154°.16E,h53km±14km,mb4.3/23, mb1 4.5/26,mb1mx4.4/34,mbtmp4.6/26,ML3.7/3,MS3.8/17, Ms1 3.8/17,ms1mx3.6/30,Error ellipse: s-maj=14.0km s-min=10.3km az=79.0*

ISCJB ***26*** *23:27:23.7±0.1,5°.81S±0°.02×154°.04E±0°.03,h74km, mb4.8/73,Error ellipse: s-maj=4.2km s-min=3.4km az=165.7*

DJA ***26*** *23:27:24.8±0.8,6°S±5′×15°4E±°,h59km±8km,M4.9/22, mB5.2/7,mb4.8/22,MLv5.2/2,Mw(mB)4.5/7*

ISC 26 23:27:25.2±0.3,5.75S±0°.04×154.01E±0°.05,h74km,n294, σ1§62/294,mb4.8/129,10C-2D,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.44**	**306**	P	**Pn**	**23 28 03.5**	**+0.6**
	17nm,0.3s,baz=144,slow=2.4,SNR=11						
KRVT				S	Sn	23 28 42.0	+10
	601nm,0.3s,baz=114,slow=21,SNR=16						
HNR	**Honiara**	**6.93**	**122**	P	**Pn**	**23 29 04.0**	**-0.1**
HNR						23 30 23.7	
HNR	**Honiara**	**6.93**	**122**	P	**Pn**	**23 29 02.0**	**-2.1**
	39nm,0.3s,baz=257,slow=3.9,SNR=16						
HNR				S	**Sn**	**23 30 25.8**	**+4.2**
	22nm,0.3s,baz=245,slow=21,SNR=5.8						
HNR				LR	LR	23 31 35.6	
	comp=Z,1μm,19.8s,baz=288,slow=37						
HNR	**Honiara**	**6.93**	**122**	*eP*	**Pn**	**23 29 05.0**	**+0.9**
HNR				*eS*	**Sn**	**23 30 27.0**	**+5.5**
HNR	**Honiara**	**6.93**	**122**		**Pn**	**23 29 04.0**	**-0.1**
HNR					**Sn**	**23 30 23.7**	**+2.2**
PMG	**Port Moresby**	**7.71**	**241**	*ceP*	**Pn**	**23 29 13.6**	**-1.2**
PMG				pmax	pmax		
	comp=Z,2μm,1.0s						
PMG	**Port Moresby**	**7.71**	**241**	P	**Pn**	**23 29 14.3**	**-0.4**
	comp=Z,32nm,0.3s,baz=53,slow=5.3,SNR=62						
PMG				S	**Sn**	**23 30 42.8**	**+2.2**
	comp=Z,9.0nm,0.3s,baz=340,slow=22,SNR=12						
PMG				LR	LR	23 32 09.3	
	comp=Z,1μm,21.5s,baz=77,slow=37						
PMG	**Port Moresby**	**7.71**	**241**		**Pn**	**23 29 13.5**	**-1.2**
PATS	**Pohnpei**	**13.22**	**19**	Pn	**Pn**	**23 30 26.6**	**-3.3**
COEN	**Coen**	**13.43**	**232**		**Pn**	**23 30 29.9**	**-2.8**
JAY	**Jayapura**	**13.65**	**283**	LR	LR	23 36 44.0	
	comp=Z,332nm,18.1s,baz=142,slow=41						
CTA	**Charters Tower**	**16.13**	**207**	P	**Pn**	**23 31 05.9**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=33,slow=14,SNR=20						
CTAO	**Charters Tower**	**16.13**	**207**	P	**Pn**	**23 31 07.2**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,24nm,0.9s						
EIDS	**Eidsvold**	**19.71**	**188**	P	**P**	**23 31 48.7**	**-0.1**
DZM	**Mont Dzumac**	**20.20**	**145**	P	**P**	**23 31 53.3**	**-0.9**
	comp=Z,55nm,0.6s,baz=299,slow=6.7,SNR=48						
DZM	**Mont Dzumac**	**20.20**	**145**	*eP*	**P**	**23 31 52.9**	**-1.3**
	comp=Z,130nm,0.8s						
DZM				*e*LR	LR	23 36 30.6	
	comp=Z,2μm,29.3s						
DZM	**Mont Dzumac**	**20.20**	**145**	P	**P**	**23 31 52.8**	**-1.3**
DZM				IAmb	IAmb	23 31 59.3	
	comp=Z,56nm,0.7s						
GUMO	**Guam**	**21.25**	**335**	LR	LR	23 39 12.8	
	comp=Z,118nm,21.1s,baz=116,slow=33						
FAKI	**Fak Fak**	**21.88**	**276**	P	**P**	**23 32 10.9**	**-1.4**
FAKI				IAmb	IAmb	23 32 20.3	
	comp=Z,40nm,1.0s						
SIJI	**Sorong**	**23.21**	**281**	P	**P**	**23 32 26.6**	**+0.4**
	comp=Z,29nm,0.9s,baz=31,slow=8.0,SNR=6.9						
SIJI				LR	LR	23 43 08.7	
	comp=Z,191nm,19.4s,baz=130,slow=40						
SWI	**Sorong**	**23.22**	**281**	P	**P**	**23 32 26.5**	**+0.3**
SWI				pmax	pmax		
	comp=Z,56nm,1.0s						
SWI	**Sorong**	**23.22**	**281**	P	**P**	**23 32 28.5**	**+2.3**
	comp=Z,56nm,1.0s						
WR0	**Warramunga Arr**	**23.62**	**231**	P	**P**	**23 32 30.3**	**+0.5**
MTN	**Manton Dam**	**23.64**	**251**	P	**P**	**23 32 31.1**	**+1.1**
MTN				IAmb	IAmb	23 32 39.3	
	comp=Z,27nm,0.8s						
SARN	**Sarigan**	**23.74**	**340**	P	**P**	**23 32 29.3**	**-1.6**
WRAB	**Tennant Creek**	**23.75**	**232**	*ceP*	**P**	**23 32 30.9**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,20nm,1.7s						
WRAB	**Tennant Creek**	**23.75**	**232**	P	**P**	**23 32 31.0**	**-0.1**
WRA	**Warramunga Arr**	**23.77**	**232**	P	**P**	**23 32 31.3**	**+0.1**
	comp=Z,6.5nm,0.8s,baz=57,slow=9.6,SNR=20						
WRA				PcP	**PcP**	**23 36 14.0**	**+0.8**
	comp=Z,5.7nm,0.5s,baz=59,slow=2.3,SNR=13						
WRA				ScP	**ScP**	**23 39 48.0**	**+2.7**
	comp=Z,0.8nm,0.8s,baz=52,slow=2.0,SNR=3.3						
WRA				LR	LR	23 41 50.3	
	comp=Z,417nm,19.7s,baz=60,slow=36						
ARMA	**Armidale**	**24.64**	**185**	P	**P**	**23 32 39.4**	**+0.4**
ARMA				IAmb	IAmb	23 32 40.6	
	comp=Z,28nm,0.9s						
FUNA	**Funafuti**	**25.14**	**98**	P	**P**	**23 32 43.8**	**+0.2**
FUNA				IAmb	IAmb	23 32 50.2	
	comp=Z,41nm,0.9s						
LHI	**Lord Howe Isla**	**26.07**	**170**	P	**P**	**23 32 50.4**	**-1.5**
AS31	**Alice Springs**	**26.31**	**225**	P	**P**	**23 32 54.4**	**+0.2**
ASAR	**Alice Springs**	**26.31**	**225**	P	**P**	**23 32 54.1**	**-0.1**
	comp=Z,9.3nm,0.8s,baz=59,slow=8.9,SNR=38						
ASAR				PcP	**PcP**	**23 36 19.7**	**+0.8**
	comp=Z,12nm,0.6s,baz=61,slow=2.6,SNR=25						
ASAR				ScP	**ScP**	**23 39 56.3**	**+3.9**
	comp=Z,0.7nm,0.7s,baz=49,slow=3.1,SNR=4.3						
ASAR				LR	LR	23 43 07.4	
	comp=Z,380nm,21.0s,baz=100,slow=36						
KNRA	**Kununurra**	**26.67**	**246**	P	**P**	**23 32 57.9**	**+0.5**
KNRA				IAmb	IAmb	23 33 16.0	
	comp=Z,29nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**27.14**	**27**	T	T	00 01 25.1	
	baz=207,slow=73,SNR=38						
H11S2	**WAKE ISLAND Hy**	**27.14**	**27**	T	T	00 01 13.8	
	baz=207,slow=73,SNR=32						
H11S1	**WAKE ISLAND Hy**	**27.16**	**27**	T	T	00 01 23.1	
	baz=207,slow=73,SNR=36						
STKA	**Stephens Creek**	**28.48**	**203**	P	**P**	**23 33 13.1**	**-0.3**
STKA						23 36 24.0	
STKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
STKA	**Stephens Creek**	**28.48**	**203**	P	**P**	**23 33 12.8**	**-0.6**
	comp=Z,3.2nm,0.7s,baz=37,slow=13,SNR=6.2						
STKA				PcP	**PcP**	**23 36 24.1**	**+0.2**
	comp=Z,4.8nm,0.7s,baz=38,slow=5.6,SNR=5.1						
STKA	**Stephens Creek**	**28.48**	**203**	P	**P**	**23 33 13.1**	**-0.3**
CAN	**Canberra**	**29.79**	**188**	P	**P**	**23 33 24.7**	**-0.4**
CAN				pmax	pmax		
	comp=Z,13nm,1.1s						
CAN	**Canberra**	**29.79**	**188**	P	**P**	**23 33 24.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**30.29**	**244**	P	**P**	**23 33 29.4**	**-0.3**
FITZ				IAmb	IAmb	23 33 47.6	
	comp=Z,16nm,0.9s						
BBOO	**Buckleboo**	**31.70**	**210**	P	**P**	**23 33 41.6**	**-0.3**
BBOO				IAmb	IAmb	23 33 52.9	
	comp=Z,18nm,1.1s						
TOO	**Toolangi**	**32.62**	**193**	P	**P**	**23 33 49.9**	**0.0**
TOO				pmax	pmax		
	comp=Z,9.0nm,1.2s						
TOO	**Toolangi**	**32.62**	**193**	P	**P**	**23 33 49.9**	**0.0**
OUZ	**Omahuta**	**34.44**	**151**	P	**P**	**23 34 06.3**	**+0.5**
OUZ				IAmb	IAmb	23 34 20.4	
	comp=Z,20nm,1.0s						
FORT	**Forrest**	**34.85**	**221**	P	**P**	**23 34 08.7**	**-0.6**
PSA00	**Pilbara Seismi**	**36.61**	**241**	P	**P**	**23 34 24.6**	**0.0**
TAU	**Tasmania Unive**	**37.48**	**188**	P	**P**	**23 34 29.2**	**-2.4**
TAU				pmax	pmax		
	comp=Z,32nm,1.1s						
TAU	**Tasmania Unive**	**37.48**	**188**	P	**P**	**23 34 29.2**	**-2.4**
HIZ	**Hauiti**	**37.70**	**153**	P	**P**	**23 34 33.8**	**+0.2**
URZ	**Urewera**	**38.57**	**150**	P	**P**	**23 34 39.9**	**-0.9**
	comp=Z,24nm,0.8s,baz=345,slow=1.4,SNR=17						
URZ	**Urewera**	**38.57**	**150**	P	**P**	**23 34 40.8**	**-0.1**
MXZ	**Matakaoa Point**	**38.64**	**148**	P	**P**	**23 34 41.7**	**+0.2**
MXZ				IAmb	IAmb	23 34 50.1	
	comp=Z,37nm,1.2s						
QRZ	**Quartz Range**	**38.67**	**157**	P	**P**	**23 34 41.9**	**+0.2**
QRZ				IAmb	IAmb	23 34 42.5	
	comp=Z,26nm,0.9s						
NNZ	**Nelson**	**39.33**	**157**	P	**P**	**23 34 47.3**	**+0.1**
NNZ				IAmb	IAmb	23 34 54.2	
	comp=Z,20nm,0.9s						
THZ	**Tophouse**	**39.62**	**158**	P	**P**	**23 34 49.1**	**-0.5**
JAGI	**Jajag, Banyuwa**	**39.63**	**264**	P	**P**	**23 34 50.2**	**+0.1**
JAGI				IAmb	IAmb	23 35 03.0	
	comp=Z,27nm,1.1s						
TUWZ	**Tuamarina**	**39.74**	**156**	P	**P**	**23 34 50.3**	**-0.2**
SNZO	**South Karori**	**39.95**	**156**	P	**P**	**23 34 51.7**	**-0.6**
BSWZ	**Blackbirch Sta**	**39.95**	**157**	P	**P**	**23 34 51.9**	**-0.5**
BFZ	**Birch Farm**	**40.09**	**153**	P	**P**	**23 34 52.7**	**-0.8**
FOZ	**Fox Glacier**	**40.13**	**162**	P	**P**	**23 34 53.5**	**-0.3**
FOZ				IAmb	IAmb	23 35 01.9	
	comp=Z,19nm,1.0s						
MSWZ	**Moikau Station**	**40.26**	**155**	P	**P**	**23 34 53.3**	**-1.6**
LTZ	**Lake Taylor**	**40.27**	**159**	P	**P**	**23 34 55.0**	**0.0**
PLWZ	**Palliser**	**40.39**	**155**	P	**P**	**23 34 54.5**	**-1.5**
KHZ	**Kahutara**	**40.42**	**158**	P	**P**	**23 34 55.4**	**-0.8**
OXZ	**Oxford**	**40.67**	**160**	P	**P**	**23 34 57.4**	**-0.8**
OXZ				IAmb	IAmb	23 34 58.5	
	comp=Z,20nm,0.8s						
RPZ	**Rata Peaks**	**40.68**	**161**	P	**P**	**23 34 56.9**	**-1.5**
	comp=Z,26nm,0.7s,baz=351,slow=4.4,SNR=16						
RPZ	**Rata Peaks**	**40.68**	**161**	P	**P**	**23 34 58.6**	**+0.2**
LBZ	**Lake Benmore**	**41.02**	**162**	P	**P**	**23 35 00.2**	**-0.9**
LBZ				IAmb	IAmb	23 35 01.3	
	comp=Z,42nm,1.1s						
WKZ	**Wanaka**	**41.08**	**164**	P	**P**	**23 35 00.9**	**-0.7**
WKZ				IAmb	IAmb	23 35 05.8	
	comp=Z,24nm,1.1s						
DCZ	**Deep Cove**	**41.19**	**166**	P	**P**	**23 35 01.9**	**-0.5**
MQZ	**McQueen's Vall**	**41.22**	**159**	P	**P**	**23 35 02.2**	**-0.5**
MQZ				IAmb	IAmb	23 35 19.8	
	comp=Z,32nm,1.1s						
MLZ	**Mavora Lakes**	**41.34**	**165**	P	**P**	**23 35 03.7**	**0.0**
MLZ				IAmb	IAmb	23 35 04.3	
	comp=Z,30nm,1.0s						
PYZ	**Puysegur Point**	**41.74**	**167**	P	**P**	**23 35 05.4**	**-1.5**
PYZ				IAmb	IAmb	23 35 11.8	
	comp=Z,40nm,1.0s						
ODZ	**Otahua Downs**	**41.75**	**162**	P	**P**	**23 35 06.0**	**-1.1**
ODZ				IAmb	IAmb	23 35 24.3	
	comp=Z,24nm,1.2s						
WHZ	**Wether Hill Ro**	**41.78**	**165**	P	**P**	**23 35 06.0**	**-1.4**
WHZ				IAmb	IAmb	23 35 06.5	
	comp=Z,18nm,1.1s						
GIRL	**Giralia**	**41.88**	**242**	P	**P**	**23 35 05.1**	**-3.4**
MORW	**Morawa**	**42.71**	**233**	P	**P**	**23 35 15.0**	**-0.2**
UGM	**Wanagama**	**43.22**	**265**	P	**P**	**23 35 18.5**	**-1.0**
UGM				IAmb	IAmb	23 35 19.2	
	comp=Z,27nm,1.0s						
NACB	**Ninganchiao**	**43.39**	**315**	P	**P**	**23 35 20.5**	**-0.2**
NACB				IAmb	IAmb	23 35 25.9	
	comp=Z,26nm,0.9s						
TPUB	**Ta-pu**	**43.55**	**313**	P	**P**	**23 35 21.6**	**-0.4**
TPUB				IAmb	IAmb	23 35 24.1	
	comp=Z,32nm,1.0s						
NWAO	**Narrogin (SRO)**	**43.61**	**227**	P	**P**	**23 35 22.2**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,19nm,1.2s						
NWAO	**Narrogin (SRO)**	**43.61**	**227**	P	**P**	**23 35 21.6**	**-0.8**
NWAO				IAmb	IAmb	23 35 34.5	
	comp=Z,16nm,1.1s						
NWAO	**Narrogin (SRO)**	**43.61**	**227**	P	**P**	**23 35 22.2**	**-0.1**
NWAO				IAmb	IAmb	23 35 30.2	
	comp=Z,19nm,1.1s						
SSLB	**Suanglung**	**43.61**	**314**	P	**P**	**23 35 22.2**	**-0.3**
SSLB				IAmb	IAmb	23 35 25.8	
	comp=Z,17nm,0.9s						
YHNB	**Yeheng**	**43.86**	**315**	P	**P**	**23 35 23.8**	**-0.7**
YHNB				IAmb	IAmb	23 35 38.0	
	comp=Z,37nm,1.1s						
INU	**Inuyama**	**43.90**	**340**	P	**P**	**23 35 22.8**	**-1.7**
KSM	**Kuching**	**44.23**	**278**	P	**P**	**23 35 27.6**	**0.0**
KSM				IAmb	IAmb	23 35 31.1	
	comp=Z,19nm,0.7s						
JNU	**Nakatsue**	**44.46**	**332**	P	**P**	**23 35 28.9**	**-0.3**
MJAR	**Matsushiro Arr**	**44.59**	**342**	P	**P**	**23 35 29.2**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=164,slow=8.1,SNR=4.3						
MJAR				LR	LR	23 52 14.8	
	comp=Z,45nm,21.3s,baz=185,slow=33						
RAR	**Rarotonga**	**47.30**	**114**	P	**P**	**23 35 51.5**	**-0.2**
RAR				pmax	pmax		
	comp=Z,32nm,1.2s						
RAR	**Rarotonga**	**47.30**	**114**	P	**P**	**23 35 51.5**	**-0.2**
HKPS	**Hong Kong Po S**	**47.94**	**307**	P	**P**	**23 35 55.1**	**-1.6**
MCQ	**Macquarie Isla**	**48.77**	**176**	P	**P**	**23 36 02.9**	**+0.5**
MCQ				pmax	pmax		
	comp=Z,25nm,0.9s						
MCQ	**Macquarie Isla**	**48.77**	**176**	P	**P**	**23 36 02.9**	**+0.5**
KSRS	**Korea Array**	**49.39**	**333**	P	**P**	**23 36 07.5**	**+0.1**
	comp=Z,7.4nm,0.8s,baz=150,slow=7.9,SNR=15						
KSRS				LR	LR	23 54 59.6	
	comp=Z,16nm,21.8s,baz=134,slow=34						
WHN	**Wuhan**	**52.37**	**316**	*⇓*P	**P**	**23 36 32.3**	**+2.3**
WHN				pP	**pP**	**23 36 40.8**	**-7.3**
WHN				pmax	pmax		
	comp=Z,90nm,1.1s						
USA0B	**Ussuriysk Arra**	**53.53**	**340**	P	**P**	**23 36 37.3**	**-1.0**
USA0B				pmax	pmax		
	comp=Z,11nm,1.2s						
USA0B	**Ussuriysk Arra**	**53.53**	**340**	P	**P**	**23 36 37.3**	**-1.0**
USA0B				IAmb	IAmb	23 36 47.0	
	comp=Z,11nm,1.1s						
USRK	**Ussuriysk Ar.**	**53.53**	**340**	P	**P**	**23 36 39.4**	**+1.1**
	comp=Z,3.9nm,0.7s,baz=132,slow=4.2,SNR=7.6						
USRK				LR	LR	23 55 36.3	
	comp=Z,51nm,22.0s,baz=161,slow=32						
IPM	**Ipoh**	**53.88**	**280**	P	**P**	**23 36 41.0**	**-0.4**
IPM				IAmb	IAmb	23 36 43.2	
	comp=Z,16nm,0.9s						
KULM	**Kulim**	**54.40**	**281**	P	**P**	**23 36 45.4**	**+0.2**
MDJ	**Mudanjiang**	**54.73**	**339**	P	**P**	**23 36 48.8**	**+1.8**
MDJ				pmax	pmax		
	comp=Z,15nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,220nm,3.6s						
KHU	**Kahuku**	**55.46**	**62**	P	**P**	**23 36 52.5**	**-0.5**
KHU				pmax	pmax		
	comp=Z,29nm,0.9s						
KHU	**Kahuku**	**55.46**	**62**	P	**P**	**23 36 52.5**	**-0.5**
NONG	**Nongkai**	**55.47**	**296**	P	**P**	**23 36 54.7**	**+1.9**
	comp=Z,1.2nm,0.7s						
RPSI	**Rantau Prapat**	**55.65

ADK	Adak	62.63	20	P		P		23 37 42.2	+0.6
LZH	Lanzhou	62.75	316	⇑P		P		23 37 45.0	+2.0
LZH				pP		pP		23 37 56.3	-5.2
LZH				sP		pwP		23 38 00.0	-4.5
LZH				PP		PP		23 40 05.0	+3.0
LZH				pmax		pmax			
	comp=Z,25nm,1.1s								
LZH				pmax		pmax			
	comp=Z,120nm,5.4s								
LZH				LR		LR			
	comp=Z,250nm,16.3s								
LZH				LR		LR			
	comp=Z,260nm,16.4s								
LZH				LR		LR			
	comp=Z,310nm,17.4s								
ZEA	Zeya	63.40	343	eP		P		23 37 47.2	+0.4
ZEA				pmax		pmax			
	comp=Z,19nm,0.9s								
GTA	Gaotai	67.17	317	P		P		23 38 13.5	+1.9
GTA				pP		pP		23 38 27.5	-2.8
GTA				sP		pwP		23 38 32.3	-1.1
GTA				pmax		pmax			
	comp=Z,23nm,1.2s								
ULN	Ulaanbaatar	67.43	328	ceP		P		23 38 14.8	+1.6
ULN				pmax		pmax			
	comp=Z,8.0nm,0.8s								
ULN	Ulaanbaatar	67.43	328	P		P		23 38 13.8	+0.6
ULN				IAmb		IAmb		23 38 18.2	
	comp=Z,8.0nm,0.8s								
SONM	Songino Array	67.77	327	P		P		23 38 16.3	+1.1
	comp=Z,4.0nm,0.6s,baz=137,slow=5.1,SNR=22								
SHL	Shillong	67.82	300	eP		P		23 38 06.0	-10
UNV	Unalaska Valle	67.98	24	P		P		23 38 17.0	+0.8
UNV				IAmb		IAmb		23 38 21.9	
	comp=Z,8.3nm,0.7s								
AKUT	Akutan	68.49	24	P		P		23 38 20.9	+1.5
SEY	Seymchan	68.50	359	P		P		23 38 18.9	-0.4
	comp=Z,2.0nm,0.2s,baz=175,slow=11,SNR=3.8								
LSA	Lhasa	69.77	304	P		P		23 38 29.3	+0.8
LSA				pmax		pmax			
	comp=Z,19nm,0.8s								
LSA	Lhasa	69.77	304	P		P		23 38 29.3	+0.8
YAK	Yakutsk	70.14	348	iP		P		23 38 29.5	+0.1
YAK				pmax		pmax			
	comp=Z,10.0nm,1.3s								
ZAK	Zakamensk	70.92	328	eP		P		23 38 35.0	+0.4
ZAK				pmax		pmax			
	comp=Z,11nm,0.9s								
BOD	Bodaibo	71.10	339	eP		P		23 38 35.3	-0.1
BOD				pmax		pmax			
	comp=Z,6.0nm,0.9s								
SDPT	Sand Point	71.54	25	P		P		23 38 39.2	+1.2
VNDA	Vanda	71.85	178	P		P		23 38 40.2	+0.5
VNDA				pmax		pmax			
	comp=Z,5.0nm,0.8s								
VNDA	Vanda	71.85	178	P		P		23 38 40.0	+0.4
	comp=Z,4.4nm,0.7s,baz=322,slow=7.0,SNR=24								
VNDA	Vanda	71.85	178	P		P		23 38 40.1	+0.5
TAPN	Taplejung	71.92	301	eP		P		23 38 42.7	+1.3
	comp=Z,31nm,0.8s								
ODAN	Odare	72.06	300	eP		P		23 38 43.5	+1.4
	comp=Z,53nm,0.6s								
SBA	Scott Base	72.38	177	P		P		23 38 43.7	+0.9
SBA				pmax		pmax			
	comp=Z,11nm,1.1s								
SBA	Scott Base	72.38	177	P		P		23 38 43.7	+0.9
SBA				IAmb		IAmb		23 38 54.0	
	comp=Z,11nm,1.1s								
RAMN	Ramite	72.76	300	eP		P		23 38 47.4	+1.1
	comp=Z,12nm,0.6s								
MOY	Mondy	72.84	329	eP		P		23 38 47.2	+1.1
JIRN	Jiri	73.31	301	eP		P		23 38 50.7	+1.0
GUN	Gumba	73.64	301	eP		P		23 38 53.0	+1.4
	comp=Z,53nm,0.9s								
PKI	Pulchoki	73.95	301	eP		P		23 38 54.4	+1.0
PKIN	Phulchoki	73.96	301	eP		P		23 38 54.4	+1.0
CHIR	Chirikof Islan	73.97	27	P		P		23 38 52.0	-0.5
KKN	Kakani	74.12	301	eP		P		23 38 55.4	+1.1
	comp=Z,34nm,0.9s								
BILL	Bilibino	74.12	5⇑	eP		P		23 38 52.6	-0.5
BILL				e*PP		PcP		23 39 03.5	-4.4
BILL				e				23 39 09.7	
BILL				SS		SS		23 53 11.0	+4.2
BILL				pmax		pmax			
	comp=Z,6.0nm,0.7s								
BILL				MLR		MLR			
	comp=Z,47nm,15.0s								
BILL	Bilibino	74.12	5	P		P		23 38 53.5	+0.3
BILL				IAmb		IAmb		23 38 54.2	
	comp=Z,7.7nm,0.8s								
DMN	Daman	74.22	301	eP		P		23 38 56.2	+1.3
	comp=Z,86nm,1.0s								
PALK	Pallekele	74.28	279	P		P		23 38 54.3	-0.9
PALK				pmax		pmax			
	comp=Z,15nm,1.0s								
PALK	Pallekele	74.28	279	P		P		23 38 54.3	-0.9
PALK				IAmb		IAmb		23 39 06.8	
	comp=Z,15nm,1.0s								
GKN	Gorkha	74.72	301	eP		P		23 38 58.7	+1.0
	comp=Z,92nm,1.0s								
SII	Sitkinak Islan	75.06	27	P		P		23 38 59.1	+0.3
KOLN	Koldanda	75.55	300	eP		P		23 39 03.5	+1.0
	comp=Z,103nm,0.8s								
DANN	Dangsing	75.56	301	eP		P		23 39 03.5	+0.8
	comp=Z,77nm,0.8s								
OHAK	Old Harbor	75.85	27	P		P		23 39 03.5	+0.3
KDAK	Kodiak Island	76.48	26	P		P		23 39 07.5	+0.7
KDAK				pmax		pmax			
	comp=Z,6.0nm,0.8s								
KDAK	Kodiak Island	76.48	26	P		P		23 39 07.5	+0.7
SVW2	Sparrevohn	77.22	23	P		P		23 39 12.1	+1.1
SVW2				IAmb		IAmb		23 39 16.2	
	comp=Z,5.5nm,0.7s								
WMQ	Urumqi	77.25	317	eP		P		23 39 13.0	+1.4
WMQ				pmax		pmax			
	comp=Z,13nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,140nm,4.7s								
WMQ				LR		LR			
	comp=Z,280nm,19.1s								
WMQ				LR		LR			
	comp=Z,140nm,18.7s								
TIXI	Tiksi	78.99	352	ceP		P		23 39 19.2	-1.3
TIXI				pmax		pmax			
	comp=Z,2.0nm,1.0s								
SEW	Seward	79.12	25	P		P		23 39 22.5	+1.0
SEW				IAmb		IAmb		23 39 39.8	
	comp=Z,22nm,1.2s								
SKT	Skwentna	79.31	23	P		P		23 39 22.7	+0.2
SUA	Susitna One	79.33	24	IAmb		IAmb		23 39 26.6	
	comp=Z,7.1nm,0.7s								
RC01	Rabbit Creek A	79.53	24	P		P		23 39 25.3	+1.5
RC01				IAmb		IAmb		23 39 28.0	
	comp=Z,6.7nm,0.6s								
RDOG	Red Dog Mine	79.57	15	P		P		23 39 24.4	+0.6
RDOG				IAmb		IAmb		23 39 42.0	
	comp=Z,9.0nm,0.8s								
PPLA	Purkeypile	79.59	22	P		P		23 39 24.9	+0.7
KNK	Knik Glacier	80.23	24	P		P		23 39 29.0	+1.5
GHO	Glory Hole Cre	80.23	24	P		P		23 39 28.5	+0.9
KTH	Kantishna Hill	80.43	22	P		P		23 39 29.3	+0.7
SML	Sawmill	80.49	24	IAmb		IAmb		23 39 47.9	
	comp=Z,11nm,0.8s								
GLI	Glacier Island	80.52	25	P		P		23 39 28.9	-0.1
GLI				IAmb		IAmb		23 39 29.2	
	comp=Z,14nm,0.9s								
TRF	Thorofare Moun	80.61	22	P		P		23 39 30.4	+0.7
FID	Port Fidalgo	80.72	25	P		P		23 39 30.4	+0.2
FID				IAmb		IAmb		23 39 38.1	
	comp=Z,21nm,1.1s								
SCM	Sheep Creek Mo	80.91	24	P		P		23 39 32.7	+1.5
SCM	Sheep Creek Mo	80.91	24	P		P		23 39 32.7	+1.5
MCK	McKinley	81.27	22	P		P		23 39 33.5	+0.5
MCK				pmax		pmax			
	comp=Z,9.0nm,1.0s								
MCK	McKinley	81.27	22	P		P		23 39 33.5	+0.5
MCK				IAmb		IAmb		23 39 52.4	
	comp=Z,8.9nm,1.0s								
BWN	Browne	81.31	22	P		P		23 39 34.5	+1.3
BWN				IAmb		IAmb		23 39 49.5	
	comp=Z,9.5nm,0.9s								
MLY	Manley	81.33	21	IAmb		IAmb		23 39 37.7	
	comp=Z,5.6nm,0.5s								
HMT	Hamilton	81.48	26	P		P		23 39 34.9	+0.7
HMT				IAmb		IAmb		23 39 45.1	
	comp=Z,17nm,1.1s								
DHY	Denali Highway	81.53	23	IAmb		IAmb		23 39 39.5	
	comp=Z,5.5nm,0.6s								
MKAR	Makanchi Array	81.83	319	P		P		23 39 37.1	+0.7
	comp=Z,4.5nm,0.8s,baz=104,slow=6.0,SNR=28								
MAKZ	Makanchi	82.04	319	P		P		23 39 38.2	+0.7
MAKZ				pmax		pmax			
	comp=Z,8.0nm,0.9s								
MAKZ	Makanchi	82.04	319	P		P		23 39 38.2	+0.7
MAKZ				IAmb		IAmb		23 39 48.9	
	comp=Z,8.2nm,0.9s								
WAX	Waxell Ridge	82.16	27	P		P		23 39 37.9	+0.1
WAX				IAmb		IAmb		23 39 44.5	
	comp=Z,16nm,1.1s								
GLB	Gilahina Butte	82.19	25	P		P		23 39 38.1	+0.1
GLB				IAmb		IAmb		23 39 56.0	
	comp=Z,7.5nm,1.0s								
PAX	Paxson	82.23	24	P		P		23 39 38.4	+0.2
PAX				pmax		pmax			
	comp=Z,2.0nm,0.9s								
PAX	Paxson	82.23	24	P		P		23 39 38.4	+0.2
VRDI	Verde Repeater	82.24	26	P		P		23 39 39.6	+1.2
COLA	College	82.28	21	iP		P		23 39 36.5	-1.7
COLA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
TGL	Tana Glacier	82.30	26	P		P		23 39 39.2	+0.6
TGL				IAmb		IAmb		23 39 52.2	
	comp=Z,10.0nm,1.2s								
HDA	Harding Lake	82.37	22	IAmb		IAmb		23 39 42.6	
	comp=Z,4.7nm,0.5s								
MCARA	McCarthy VSAT	82.50	26	P		P		23 39 40.4	+0.9
MCARA				IAmb		IAmb		23 39 52.8	
	comp=Z,9.3nm,0.9s								
ILAR	Eielson Array	82.58	22	P		P		23 39 38.5	-1.4
	comp=Z,2.7nm,0.6s,baz=244,slow=4.8,SNR=22								
ILAR				LR		LR		00 14 41.8	
	comp=Z,135nm,18.2s,baz=235,slow=34								
ZALV	Zalesovo Beam	82.61	326	P		P		23 39 39.9	-0.3
	comp=Z,3.8nm,0.8s,baz=111,slow=5.3,SNR=18								
COLD	Coldfoot	82.75	19	P		P		23 39 40.9	+0.2
RIDG	Independent Ri	82.84	23	P		P		23 39 40.1	-1.2
RIDG				IAmb		IAmb		23 39 44.0	
	comp=Z,8.8nm,1.2s								
DOT	Dot Lake	83.11	23	P		P		23 39 43.3	+0.6
DOT				IAmb		IAmb		23 39 46.9	
	comp=Z,4.8nm,0.6s								
SCRK	Sand Creek	83.29	23	P		P		23 39 43.9	+0.2
TOLK	Toolik Lake Re	83.74	18	P		P		23 39 46.1	+0.3
FYU	Fort Yukon	84.07	21	P		P		23 39 48.9	+1.4
FYU				IAmb		IAmb		23 39 51.9	
	comp=Z,4.8nm,0.6s								
KDJ	Kajisay	84.14	313	P		P		23 39 49.0	+0.4
KDJ				pmax		pmax			
	comp=Z,10.0nm,0.8s								
KDJ	Kajisay	84.14	313	P		P		23 39 49.0	+0.4
KDJ				IAmb		IAmb		23 39 51.5	
	comp=Z,10nm,0.8s								
QSPA	South Pole Qui	84.22	180	P		P		23 39 48.7	+0.3
KSH	Kashi	84.46	311	P		P		23 39 53.5	+3.3
KSH				S		S		23 50 16.8	+5.7
KSH				SS		SS		23 55 52.0	+8.7
KSH				pmax		pmax			
	comp=Z,86nm,1.4s								
KSH				pmax		pmax			
	comp=Z,410nm,8.4s								
KSH				LR		LR			
	comp=Z,310nm,4.9s								
KSH				LR		LR			
	comp=Z,700nm,5.1s								
KSH				LR		LR			
	comp=Z,1μm,6.3s								
HYT	Haines Junctio	84.72	27	IAmb		IAmb		23 39 55.6	
	comp=Z,8.0nm,0.6s								
DAWY	Dawson	85.16	24	P		P		23 39 53.8	+0.7
MAW	Mawson	85.17	203	P		P		23 39 53.4	+0.4
MAW				pmax		pmax			
	comp=Z,2.0nm,0.7s								
MAW	Mawson	85.17	203	P		P		23 39 53.4	+0.4
	comp=Z,7.2nm,0.7s,baz=70,slow=5.3,SNR=12								
MAW				LR		LR		00 14 37.6	
	comp=Z,56nm,19.8s,baz=59,slow=33								
MAW	Mawson	85.17	203	P		P		23 39 53.4	+0.4
BESE	Bessie Mountai	85.19	30	P		P		23 39 51.9	-1.4
KURK	Kurchatov	85.25	322	ceP		P		23 39 53.3	-0.4
KURK				pmax		pmax			
	comp=Z,8.0nm,1.7s								
KURK	Kurchatov	85.25	322	P		P		23 39 53.8	+0.1
TKM2	Tokmak 2	85.45	314	P		P		23 39 56.6	+1.4
	SNR=7.3								
NIL	Nilore	85.50	304	P		P		23 39 56.1	+0.7
NIL				pmax		pmax			
	comp=Z,23nm,0.8s								
NIL	Nilore	85.50	304	P		P		23 39 56.1	+0.7
KZA	Kyzart	85.53	313	P		P		23 39 58.1	+2.3
	SNR=9.6								
CHMS	Chumysh	86.08	314	P		P		23 39 59.9	+1.8
	SNR=5.7								
UCH	Uchtor	86.09	313	P		P		23 40 00.7	+2.0
	SNR=5.3								
AAK	Ala-Archa	86.19	313	ceP		P		23 40 00.2	+1.4
AAK				pmax		pmax			
	comp=Z,3.0nm,0.7s								
AAK	Ala-Archa	86.19	313	P		P		23 39 59.7	+0.9
AAK				IAmb		IAmb		23 40 01.6	
	comp=Z,4.0nm,0.8s								
USP	Ospenovka	86.31	314	P		P		23 40 00.1	+0.9
	SNR=6.1								
AML	Almayashu	86.67	313	P		P		23 40 03.0	+1.5
	SNR=5.4								
ARSB	Arslanbob	87.05	312	P		P		23 40 04.4	+1.3
EPYK	Eagle Plains	87.08	22	IAmb		IAmb		23 40 20.2	
	comp=Z,11nm,1.1s								
BTK	Batken	88.47	310	P		P		23 40 08.9	-0.9
BTK				pmax		pmax			
	comp=Z,6.0nm,0.8s								
BTK	Batken	88.47	310	P		P		23 40 08.9	-0.9
BTK				IAmb		IAmb		23 40 11.5	
	comp=Z,6.2nm,0.8s								
GAR	Garm	88.69	309	P		P		23 40 10.5	-0.4
HUMO	Hull Mountain	88.74	47	P		P		23 40 10.8	-0.1
COR	Corvallis	88.80	45	P		P		23 40 11.0	-0.1
COR				pmax		pmax			
	comp=Z,5.0nm,1.0s								
COR	Corvallis	88.80	45	P		P		23 40 10.9	-0.1
COR				IAmb		IAmb		23 40 20.3	
	comp=Z,5.4nm,0.9s								
INK	Inuvik	88.90	21	P		P		23 40 10.6	-0.4
	comp=Z,1.4nm,0.5s,baz=251,slow=6.0,SNR=6.6								
KBL	Kabul	89.09	305	P		P		23 40 11.9	-1.0
KBL				pmax		pmax			
	comp=Z,4.0nm,1.0s								
KBL	Kabul	89.09	305	P		P		23 40 11.9	-1.0
KBL				IAmb		IAmb		23 40 13.5	
	comp=Z,4.3nm,0.9s								
PNTR	Pine Nut	90.78	51	P		P		23 40 20.8	0.0
PNTR				IAmb		IAmb		23 40 30.0	
	comp=Z,5.8nm,1.2s								
BRVK	Borovoye	90.78	323	ceP		P		23 40 18.5	-1.6
BRVK				pmax		pmax			
	comp=Z,4.0nm,1.0s								
BRVK	Borovoye	90.78	323	P		P		23 40 19.4	-0.7
BRVK				IAmb		IAmb		23 40 21.5	
	comp=Z,4.7nm,1.1s								
NVAR	Mina Array Bea	91.72	52	P		P		23 40 25.0	-0.1
	comp=Z,1.4nm,0.8s,baz=258,slow=6.4,SNR=9.1								
NVAR				LR		LR		00 13 45.9	
	comp=Z,65nm,21.4s,baz=244,slow=30								
PNT	Penticton	91.95	41	P		P		23 40 20.8	-4.9
PNT				pmax		pmax			
	comp=Z,6.0nm,1.2s								
HRA	Herat	94.66	304	IAmb		IAmb		23 40 39.5	
	comp=Z,3.5nm,0.8s								
YKA	Yellowknife Ar	95.70	28	P		P		23 40 41.5	-1.0
	comp=Z,0.5nm,0.6s,baz=269,slow=4.3,SNR=6.0								
GEYT	Alibeck	98.15	307	PP		PP		23 44 53.8	-0.7
	comp=Z,1.3nm,0.8s,baz=76,slow=6.1,SNR=4.0								
PDAR	Pinedale Array	98.59	48	P		P		23 40 56.0	-0.4
	comp=Z,0.1nm,0.4s,baz=338,slow=1.0,SNR=2.5								
PDAR				LR		LR		00 18 33.0	
	comp=Z,124nm,21.9s,baz=281,slow=31								
OBN	Obninsk	110.17	327	⇓iPKIKP		PKiKP		23 45 48.4	0.0
OBN				e				23 46 02.1	
OBN				SS		SS		00 01 51.0	+7.4
OBN				pmax		pmax			
	comp=Z,13nm,0.8s								
NOA	NORSAR Array B	118.20	340	PKP		PKiKP		23 46 04.5	+0.8
	comp=Z,0.4nm,0.7s,baz=357,slow=1.9,SNR=2.5								
BOSA	Boshof	120.02	232	PKP		PKPdf		23 46 08.1	-0.2
	comp=Z,3.9nm,0.9s,baz=105,slow=2.1,SNR=8.7								
KOLS	Kolonicke sedl	120.77	325	ePKIKP		PKiKP		23 46 13.3	+4.3
KOLS	Kolonicke sedl	120.77	325	ePKP		PKiKP		23 46 13.3	+4.3
LSZ	Lusaka	122.41	248	PKIKP		PKiKP		23 46 14.4	+1.1
VYHS	Vyhne	122.94	326	ePKIKP		PKPdf		23 46 12.1	-1.0
VYHS	Vyhne	122.94	326	ePKP		PKPdf		23 46 12.1	-1.0
BRG	Berggiesshubel	124.08	331	ePKP		PKiKP		23 46 19.4	+3.9
	comp=Z,1.7nm,0.7s								
BRG	Berggiesshubel	124.08	331	ePKIKP		PKiKP		23 46 19.4	+3.9
BRG				pmax		pmax			
	comp=Z,2.0nm,0.7s								
CLL	Collm	124.25	331	ePKIKP		PKiKP		23 46 19.0	+3.2
CLL	Collm	124.25	331	ePKPdf		PKiKP		23 46 19.0	+3.2
GERES	GERESS Array B	125.48	329	PKP		PKPdf		23 46 18.1	0.0
	comp=Z,1.0nm,0.6s,baz=110,slow=2.2,SNR=9.0								
WTTA	Wattenberg	127.56	328	iPKiKP		PKiKP		23 46 23.9	+1.2
	comp=Z,11nm,1.2s								
SQTA	Sankt Quirin	127.81	329	iPKiKP		PKPdf		23 46 22.7	0.0
	comp=Z,11nm,1.4s								
TAM	Tamanrasset	145.20	302	PKIKP		PKiKP		23 46 57.4	-1.9
BDFB	Brasilia	149.55	135	PKP2		PKPbc		23 47 07.8	+0.5
BDFB	Brasilia	149.55	135	PKPbc		PKPdf		23 47 03.0	+0.3
	comp=Z,3.0nm,0.8s,baz=129,slow=6.6,SNR=3.5								
BDFB	Brasilia	149.55	135			PKPbc		23 47 07.8	+0.5
TOA0	Torodi Ar. Sit	151.74	287			PKPbc		23 47 12.6	+0.2
TORD	Torodi Ar. Bea	151.74	287	PKPbc		PKPbc		23 47 12.4	0.0
	comp=Z,12nm,0.7s,baz=64,slow=2.5,SNR=60								
TORD				PKPab		PKPab		23 47 21.6	+0.1
	comp=Z,8.3nm,0.8s,baz=73,slow=2.2,SNR=7.5								
KIC	Kosan Boka	158.86	273	eP		PKPab		23 47 51.9	-0.1
	comp=Z,29nm,1.2s								
DBIC	Dimbokro	158.97	274	PKPab		PKPab		23 47 52.0	-0.4
	comp=Z,2.6nm,0.5s,baz=87,slow=6.2,SNR=3.9								
TIC	Toumodi	159.13	274	eP		PKPab		23 47 53.2	0.0
LIC	Lamto	159.15	272	eP		PKPab		23 47 53.9	+0.6

BJI **27** *00:06:59.5±0.0, 77.60N×17.20E, h10km, mb4.5/8, mB4.9/2, Ms4.4/1, Ms7 4.4/1*
MOS **27** *00:07:00.7±1.5, 77.58N×17.29E, h12km, mb4.4/25, Error ellipse: s-maj=29.7km s-min=4.5km az=93.1*
IDC **27** *00:07:00.6±0.4, 77.76N×17.28E, h0km, mb3.9/20, mb1 4.0/24, mb1mx3.9/40, mbtmp4.0/24, ML3.3/4, MS3.4/7, Ms1 3.4/7, ms1mx3.0/44, Error ellipse: s-maj=16.2km s-min=5.7km az=65.0*
NAO **27** *00:07:01.5±0.9, 77.60N×17.32E, h8km±11km, ML4.5*
NEIC **27** *00:07:02.1±1.4, 77.58N±0.04×17.2E±0.2, h7km±3km, mb4.1/60*
BER **27** *00:07:03.9±2.5, 77.65N×17.45E, h15km, ML3.6, MW4.2, ML4.5(NAO), Confirmed Earthquake*
IEPN **27** *00:07:03.0, 77.51N×17.94E, h10km*

ISC 27 00:07:02.7±0.9, 77.61N±0.02×17.30E±0.03, h16km±5km, n216, σ2≥14/254, mb4.1/60, MS3.5/4, 15C-2D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	0.60	342	Pg		Pg	00 07 13.6	-1.0
	baz=138,slow=28							
SPA0				Lg		Lg	00 07 22.2	
	baz=159,slow=28							
SPA0	Spitsbergen Ar	0.60	342	⇑iP		Pg	00 07 13.5	-1.1
SPA0				i S		Sg	00 07 22.3	-0.3
SPA0	Spitsbergen Ar	0.60	342	Pg		Pg	00 07 13.6	-1.0
	baz=138,slow=28							
SPA0				eS		Sg	00 07 22.3	-0.3
SPA0	Spitsbergen Ar	0.60	342			Pg	00 07 13.4	-1.1
SPITS	Spitsbergen Ar	0.60	342	Pn		Pg	00 07 13.8	-0.8
	baz=142,slow=21							
SPITS				Sn		Sg	00 07 22.2	-0.3
	baz=145,slow=31,SNR=10							
SPITS				LR		LR	00 07 33.1	
	comp=Z,3μm,21.2s,baz=15,slow=71							
HSPB	Hornsund (broa	0.73	213	Pg		Pg	00 07 16.4	-0.4
HSPB				Lg		Lg	00 07 25.1	
HSPB	Hornsund (broa	0.73	213	eP		Pg	00 07 16.1	-0.7
HSPB				e			00 07 26.1	
HSPB	Hornsund (broa	0.73	213	⇑iP		Pg	00 07 16.1	-0.7
HSPB				i S		Sg	00 07 25.7	-0.7
HSPB	Hornsund (broa	0.73	213	ePn		Pg	00 07 16.1	-0.7
HSPB				ePn		Pg	00 07 16.1	-0.7
HSPB				ePg		Pb	00 07 16.7	-0.2
HSPB				ePg		Pb	00 07 16.7	-0.2
HSPB				e			00 07 19.0	
HSPB				e			00 07 19.0	
HSPB				eSg		Sg	00 07 26.1	-0.3
HSPB				eSg		Sg	00 07 26.1	-0.3
HSPB				e			00 07 30.4	
HSPB				e			00 07 30.4	
HSPB	Hornsund (broa	0.73	213	eP		Pg	00 07 15.9	-0.9
HSPB				eS		Sg	00 07 26.1	-0.3
HSPB				IAML			00 07 26.9	
	comp=Z,4μm,0.5s							
BRBA	Barentsburg A	0.79	306	Pg		Pg	00 07 17.1	-1.0
BRBA				Lg		Lg	00 07 27.6	
BRBA	Barentsburg A	0.79	306⇑	eP		Pg	00 07 17.2	-0.9
BRBA				eS		Sg	00 07 27.5	-1.1
BRBB	Barentsburg B	0.81	308	Pg		Pg	00 07 17.7	-0.9
BRBB				Lg		Lg	00 07 28.3	
BRBB	Barentsburg B	0.81	308	eP		Pg	00 07 17.6	-1.0
BRBB				eS		Sg	00 07 28.3	-1.0
KBS	Kingsbay	1.72	323	Pn		Pn	00 07 31.8	0.0
KBS				Pg		Pb	00 07 33.5	-0.3
KBS				Lg		Lg	00 07 55.5	
KBS	Kingsbay	1.72	323	ceP		Pn	00 07 31.7	-0.1
KBS				pmax		pmax		
	comp=Z,7μm,0.5s							
KBS	Kingsbay	1.72	323⇑	iP		Pn	00 07 31.7	-0.1
KBS				i S		Sb	00 07 55.4	+0.4
KBS	Kingsbay	1.72	323	eP		Pn

KEV	**Kevo**	**8.34**	**156**	Pn	**Pn**	**00 09 01.6**	**-1.0**
KEV				Sn	**Sn**	**00 10 30.0**	**-6.2**
KEV	**Kevo**	**8.34**	**156**	*e*P	**Pn**	**00 09 01.5**	**-1.0**
KEV				*e*S	**Sn**	**00 10 28.2**	**-8.0**
ARA0	**ARCESS Array S**	**8.43**	**160**	Pn	**Pn**	**00 09 02.4**	**-1.5**
	baz=349,slow=11						
ARA0	**ARCESS Array S**	**8.43**	**160**	Pn	**Pn**	**00 09 02.4**	**-1.5**
	baz=349,slow=11						
ARCES	**ARCESS Array B**	**8.43**	**160**	Pn	**Pn**	**00 09 02.3**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=354,slow=12,SNR=30						
ARCES				Sn	**Sn**	**00 10 31.3**	**-7.3**
	comp=Z,15nm,0.3s,baz=357,slow=20,SNR=7.5						
ARCES				LR	LR	00 12 09.8	
	comp=Z,129nm,20.0s,baz=6.5,slow=36						
ARE0	**ARCESS Array S**	**8.43**	**160**	*e*S	**Sn**	**00 10 31.6**	**-7.0**
ARE0	**ARCESS Array S**	**8.43**	**160**	Pn	**Pn**	**00 09 03.0**	**-0.9**
KIF	**Kilpisjarvi**	**8.71**	**172**	Pn	**Pn**	**00 09 07.2**	**-0.5**
KIF				Sn	**Sn**	**00 10 39.9**	**-5.4**
KIF	**Kilpisjarvi**	**8.71**	**172**	*e*P	**Pn**	**00 09 06.6**	**-1.1**
KIF				*e*S	**Sn**	**00 10 38.9**	**-6.4**
KTK1	**Kautokeino**	**8.80**	**166**	*e*P	**Pn**	**00 09 08.4**	**-0.6**
KTK1				*e*S	**Sn**	**00 10 39.5**	**-8.3**
KTK1				IAML		00 11 07.8	
	comp=Z,26nm,0.3s						
HEF	**Hetta**	**9.43**	**165**	*e*P	**Pn**	**00 09 16.1**	**-1.5**
HEF				*e*S	**Sn**	**00 10 54.8**	**-8.2**
DBG	**Daneborg**	**9.54**	**269**	*i* P	**Pn**	**00 09 20.7**	**+1.6**
LOF	**Lofoten**	**9.59**	**188**	*e*P	**Pn**	**00 09 21.7**	**+1.9**
LOF				*e*S	**Sn**	**00 11 03.7**	**-3.2**
STEI	**Steigen**	**9.75**	**185**	*e*P	**Pn**	**00 09 23.1**	**+1.1**
SGF	**Sodankyl**	**10.57**	**160**	P	**Pn**	**00 09 32.5**	**-0.6**
LVZ	**Lovozero**	**10.95**	**144**	P	**Pn**	**00 09 38.8**	**+0.4**
LVZ	**Lovozero**	**10.95**	**144**	Pn	**Pn**	**00 09 38.8**	**+0.4**
APA	**Apatity**	**11.11**	**146**	⇓*i*P	**Pn**	**00 09 36.8**	**-3.7**
APA				pmax	pmax		
	comp=Z,28nm,0.9s						
APA				MLR	MLR		
	comp=Z,2μm,10.0s						
KONS	**Konsvik**	**11.24**	**189**	*e*P	**Pn**	**00 09 43.6**	**+1.3**
MSF	**Maaselka**	**12.27**	**157**	P	**Pn**	**00 09 54.8**	**-1.6**
SCO	**Scoresbysund**	**12.63**	**257**	P	**Pn**	**00 10 01.9**	**+0.7**
SCO	**Scoresbysund**	**12.63**	**257**	Pn	**Pn**	**00 10 01.9**	**+0.7**
OUL	**Oulu**	**12.86**	**163**	P	**Pn**	**00 10 03.2**	**-1.2**
OUL				pmax	pmax		
	comp=Z,34nm,2.6s						
AMDE	**Amderma**	**14.28**	**99**	*e*P	Pn	00 10 18.0	-5.8
	comp=Z,8.9nm,0.5s						
AMDE				*e*S	Sn	00 12 46.8	-15
SUMG	**Summit**	**14.61**	**279**	*i* P	**Pn**	**00 10 30.0**	**+1.3**
SUMG	**Summit**	**14.61**	**279**	*i* P	**Pn**	**00 10 30.0**	**+1.3**
SUMG	**Summit**	**14.61**	**279**	*i* P	**Pn**	**00 10 30.0**	**+1.3**
SUMG	**Summit**	**14.61**	**279**		**Pn**	**00 10 30.5**	**+1.9**
TMCR	**Tamitsa**	**14.95**	**143**	*e*P	**Pn**	**00 10 30.5**	**-2.3**
TMCR				*e*		00 13 15.6	
TMCR				pmax	pmax		
	comp=Z,15nm,0.6s						
TMCR	**Tamitsa**	**14.95**	**143**	*e*P	**Pn**	**00 10 29.1**	**-3.7**
	comp=Z,18nm,0.8s						
TMCR				*e*S	Sn	00 13 06.3	-11
LSH	**Leshukonskoye**	**15.41**	**130**	*e*P	**Pn**	**00 10 35.5**	**-3.5**
	comp=Z,215nm,3.4s						
LSH				*e*S	Sn	00 13 14.3	-15
FIA1	**FINESS Array S**	**16.49**	**165**	Pn	**Pn**	**00 10 50.2**	**-2.7**
FIA0	**FINESS Array S**	**16.50**	**165**	P	**Pn**	**00 10 50.6**	**-2.3**
	baz=353,slow=12						
FIA0	**FINESS Array S**	**16.50**	**165**	P	**Pn**	**00 10 50.6**	**-2.3**
	baz=353,slow=12						
FINES	**FINESS Array B**	**16.50**	**165**	Pn	**Pn**	**00 10 49.8**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=356,slow=12,SNR=12						
FINES				Sn	**Sn**	**00 13 46.0**	**-9.3**
	comp=Z,0.7nm,0.3s,baz=1.8,slow=17,SNR=4.7						
FINES				LR	LR	00 17 13.4	
	comp=Z,177nm,20.7s,baz=1.0,slow=37						
NC204	**NORSAR Array S**	**16.55**	**191**	Pn	**Pn**	**00 10 53.5**	**-0.3**
NC303	**NORSAR Array S**	**16.58**	**190**	Pn	**Pn**	**00 10 54.2**	**+0.1**
NC405	**NORSAR Array S**	**16.68**	**189**		**Pn**	**00 10 56.5**	**+1.2**
NB201	**NORSAR Array S**	**16.76**	**190**		**Pn**	**00 10 57.4**	**+1.1**
NB201				IAmb	IAmb	00 11 02.3	
	comp=Z,16nm,1.1s						
NOA	**NORSAR Array B**	**16.77**	**190**	Pn	**Pn**	**00 10 57.3**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=4.9,slow=12,SNR=3.0						
NOA				LR	LR	00 17 36.0	
	comp=Z,82nm,18.6s,baz=355,slow=38						
NBO00	**NORSAR Array S**	**16.80**	**191**		**P**	**00 10 59.1**	**+0.2**
NBO00				IAmb	IAmb	00 11 06.9	
	comp=Z,15nm,1.1s						
NAO01	**NORSAR Array S**	**16.98**	**191**	Pn	**Pn**	**00 10 59.2**	**+0.1**
NAO01				IAmb	IAmb	00 11 08.6	
	comp=Z,23nm,1.1s						
NC602	**NORSAR Array S**	**17.06**	**190**	Pn	**Pn**	**00 11 00.4**	**+0.3**
HFS	**Hagfors**	**17.60**	**186**	P	**P**	**00 11 08.6**	**+0.8**
	baz=4.1,slow=9.3						
HFS	**Hagfors**	**17.60**	**186**	P	**P**	**00 11 08.6**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=19,slow=9.4,SNR=15						
HFS				LR	LR	00 19 20.6	
	comp=Z,95nm,18.3s,baz=352,slow=42						
HFS	**Hagfors**	**17.60**	**186**	P	**P**	**00 11 08.6**	**+0.8**
	baz=4.1,slow=9.3						
TULEG	**Thule**	**17.70**	**310**	P	**Pn**	**00 11 07.0**	**-0.9**
TULEG				IAmb	IAmb	00 11 10.3	
	comp=Z,12nm,0.8s						
KONO	**Kongsberg**	**18.23**	**193**	P	**Pn**	**00 11 13.1**	**-1.4**
KONO				pmax	pmax		
	comp=Z,17nm,1.1s						
KONO	**Kongsberg**	**18.23**	**193**	Pn	**Pn**	**00 11 13.1**	**-1.4**
KONO				IAmb	IAmb	00 11 21.3	
	comp=Z,17nm,1.1s						
PRGR	**Permogore**	**18.44**	**134**	*e*P	**P**	**00 11 14.8**	**-2.2**
PRGR				*e*		00 14 30.7	
PRGR				pmax	pmax		
	comp=Z,18nm,0.6s						
PRGR	**Permogore**	**18.44**	**134**	*e*P	**P**	**00 11 14.3**	**-2.7**
	comp=Z,17nm,0.9s						
PRGR				*e*S	Sn	00 14 23.8	-19
VSU	**Vasula**	**19.50**	**165**	*ce*P	**Pn**	**00 11 29.7**	**-0.2**
VSU				pmax	pmax		
	comp=Z,111nm,1.7s						
VSU	**Vasula**	**19.50**	**165**	*e*P	**Pn**	**00 11 29.9**	**0.0**
ILULI	**Ilulissat**	**19.87**	**282**	P	**P**	**00 11 31.7**	**-0.9**
ILULI				pmax	pmax		
	comp=Z,22nm,1.0s						
ILULI	**Ilulissat**	**19.87**	**282**	P	**P**	**00 11 31.7**	**-0.9**
NRIK	**Noril'sk**	**20.16**	**76**	*i* P	**P**	**00 11 35.1**	**-0.6**
NRIK	**Noril'sk**	**20.16**	**76**	P	**P**	**00 11 36.3**	**+0.6**
	comp=Z,14nm,0.8s,baz=338,slow=7.6,SNR=30						
MUD	**Monsted U'grnd**	**21.44**	**192**	P	**P**	**00 11 52.2**	**+2.6**
MUD				pmax	pmax		
	comp=Z,32nm,1.6s						
PBUR	**Paburg**	**21.75**	**173**	*e*P	**P**	**00 11 53.7**	**+0.8**
KIRV	**Kirov**	**21.94**	**132**	P	**P**	**00 11 55.4**	**+0.5**
	comp=Z,10nm,0.6s,baz=186,slow=5.5,SNR=3.6						
IZAR	**Zarasai**	**22.19**	**167**	*e*P	**P**	**00 11 58.6**	**+0.9**
IZAR				IAmb	IAmb	00 12 04.3	
	comp=Z,16nm,1.2s						
PABE	**Paberze**	**22.33**	**170**	*e*P	**P**	**00 12 00.5**	**+1.4**
PABE				IAmb	IAmb	00 12 02.4	
	comp=Z,83nm,1.4s						
ISAL	**Salakas**	**22.36**	**167**	*e*P	**P**	**00 12 00.1**	**+0.7**
IIGN	**Ignalina**	**22.58**	**167**	*e*P	**P**	**00 12 01.9**	**0.0**
IIGN				IAmb	IAmb	00 12 04.7	
	comp=Z,7.0nm,0.7s						
MOS	**Moscow**	**23.11**	**150**	*e*P	**P**	**00 12 06.6**	**-0.7**
OBN	**Obninsk**	**23.61**	**152**	*e*P	**P**	**00 12 14.2**	**+1.9**
OBN				*e*PPP	PPP	00 12 48.2	
OBN				pmax	pmax		
	comp=Z,17nm,1.0s						
OBN	**Obninsk**	**23.61**	**152**	P	**P**	**00 12 12.6**	**+0.3**
	comp=Z,2.1nm,0.4s,baz=338,slow=7.8,SNR=3.7						
OBN	**Obninsk**	**23.61**	**152**	P	**P**	**00 12 12.2**	**-0.1**
ARU	**Arti**	**25.57**	**122**	*c i*P	P	00 12 42.5	+12
ARU						00 13 20.4	
ARU				SS		00 18 20.6	
ARU				pmax	pmax		
	comp=Z,24nm,1.3s						
ARU	**Arti**	**25.57**	**122**	P	**P**	**00 12 32.6**	**+2.2**
	comp=Z,0.7nm,0.4s,baz=319,slow=11,SNR=4.1						
ARU				S	S	00 17 10.4	+13
	comp=Z,0.3nm,0.3s,baz=336,slow=20,SNR=2.3						
ARU	**Arti**	**25.57**	**122**	P	**P**	**00 12 32.0**	**+1.7**
TIXI	**Tiksi**	**25.71**	**43**	*ce*P	**P**	**00 12 31.7**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,15nm,1.7s						
AKASG	**Malin Array Be**	**27.39**	**163**	*ce*P	**P**	**00 12 48.2**	**+1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**27.39**	**163**	P	**P**	**00 12 46.7**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=345,slow=10,SNR=6.1						
OJC	**Ojcow**	**27.52**	**177**	P	**P**	**00 12 48.7**	**+0.7**
OJC				pmax	pmax		
	comp=Z,1.0nm,0.8s						
OJC	**Ojcow**	**27.52**	**177**	P	**P**	**00 12 48.6**	**+0.7**
MORC	**Moravsky Berou**	**27.94**	**180**	P	**P**	**00 12 53.1**	**+1.3**
MORC	**Moravsky Berou**	**27.94**	**180**	P	**P**	**00 12 53.1**	**+1.3**
VRAC	**Vranov**	**28.41**	**181**	LR	LR	00 25 11.3	
	comp=Z,69nm,18.4s,baz=345,slow=38						
KHC	**Kasperske Hory**	**28.62**	**185**	P	**P**	**00 12 59.6**	**+1.7**
KHC	**Kasperske Hory**	**28.62**	**185**	*e*P	**P**	**00 12 58.9**	**+1.0**
KHC	**Kasperske Hory**	**28.62**	**185**	P	**P**	**00 12 59.6**	**+1.7**
GEC2	**GERESS Array S**	**28.91**	**185**	P	**P**	**00 13 02.1**	**+1.6**
GERES	**GERESS Array B**	**28.91**	**185**	P	**P**	**00 13 03.4**	**+2.9**
	comp=Z,0.6nm,0.7s,baz=14,slow=8.2,SNR=5.4						
VYHS	**Vyhne**	**29.23**	**178**	*e*P	**P**	**00 13 05.7**	**+2.5**
VYHS	**Vyhne**	**29.23**	**178**	*e*P	**P**	**00 13 05.7**	**+2.5**
BFO	**Black Forest**	**29.60**	**192**	P	**P**	**00 13 07.2**	**+0.7**
BFO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BFO	**Black Forest**	**29.60**	**192**	P	**P**	**00 13 07.2**	**+0.7**
BFO				IAmb	IAmb	00 13 10.9	
	comp=Z,3.3nm,1.0s						
ECH	**Echery**	**29.77**	**194**	P	**P**	**00 13 08.5**	**+0.5**
ECH	**Echery**	**29.77**	**194**	P	**P**	**00 13 08.5**	**+0.5**
BUR08	**Bucovina Ar. S**	**30.23**	**169**	P	**P**	**00 13 12.9**	**+0.7**
BUR08				IAmb	IAmb	00 13 15.2	
	comp=Z,3.0nm,1.1s						
BRVK	**Borovoye**	**31.02**	**111**	*i* P	**P**	**00 13 19.2**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**31.02**	**111**	P	**P**	**00 13 19.1**	**+0.2**
BRVK				IAmb	IAmb	00 13 25.5	
	comp=Z,3.6nm,0.9s						
ABKAR	**Akbulak array**	**32.68**	**125**	P	**P**	**00 13 34.1**	**+0.6**
BNI	**Bardonecchia**	**32.95**	**194**	P	**P**	**00 13 36.8**	**+0.7**
BNI	**Bardonecchia**	**32.95**	**194**	P	**P**	**00 13 36.8**	**+0.7**
ZALV	**Zalesovo Beam**	**33.24**	**95**	*i* P	**P**	**00 13 41.2**	**+2.8**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**33.24**	**95**	P	**P**	**00 13 39.3**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=340,slow=8.2,SNR=4.9						
INK	**Inuvik**	**33.25**	**341**	P	**P**	**00 13 38.8**	**+0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**33.25**	**341**	P	**P**	**00 13 38.8**	**+0.5**
INK				IAmb	IAmb	00 13 41.0	
	comp=Z,1.4nm,0.8s						
BILL	**Bilibino**	**33.37**	**21**	*e*P	**P**	**00 13 39.1**	**-0.4**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZCCA	**Zocca**	**33.47**	**188**	P	**P**	**00 13 40.3**	**-0.2**
TOLK	**Toolik Lake Re**	**33.75**	**351**	P	**P**	**00 13 43.5**	**+0.7**
TOLK				IAmb	IAmb	00 13 53.0	
	comp=Z,2.7nm,0.9s						
MURB	**Monte Urbino**	**34.51**	**186**	P	**P**	**00 13 51.5**	**+1.8**
NRCA	**Norcia**	**34.93**	**185**	P	**P**	**00 13 55.0**	**+1.7**
KURK	**Kurchatov**	**34.96**	**103**	*ce*P	**P**	**00 13 54.1**	**+0.8**
KURK				pmax	pmax		
	comp=Z,13nm,2.5s						
KURK	**Kurchatov**	**34.96**	**103**	P	**P**	**00 13 54.8**	**+1.5**
KURK				IAmb	IAmb	00 13 54.9	
	comp=Z,2.4nm,0.8s						
COLD	**Coldfoot**	**35.18**	**352**	P	**P**	**00 13 56.2**	**+1.1**
COLD				IAmb	IAmb	00 14 01.2	
	comp=Z,1.8nm,0.7s						
KIV	**Kislovodsk**	**35.29**	**148**	*e*P	**P**	**00 14 00.2**	**+3.8**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,102nm,16.0s						
PDG	**Podgorica**	**35.30**	**177**	P	**P**	**00 13 57.1**	**+0.8**
KBZ	**Khabaz**	**35.54**	**147**	P	**P**	**00 14 00.6**	**+2.2**
	comp=Z,2.4nm,0.9s,baz=328,slow=6.3,SNR=5.2						
NEY	**Neytrino**	**35.99**	**148**	*i* P	**P**	**00 14 05.1**	**+2.6**
NEY				pmax	pmax		
	comp=Z,1.0nm,1.1s						
FNA	**Florina**	**36.98**	**175**	P	**P**	**00 14 12.5**	**+1.7**
FNA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FNA	**Florina**	**36.98**	**175**	P	**P**	**00 14 12.5**	**+1.7**
YKA	**Yellowknife Ar**	**37.08**	**325**	P	**P**	**00 14 11.8**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=3.9,slow=8.4,SNR=4.1						
YKA				PcP	**PcP**	**00 16 32.0**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=9.3,slow=3.0,SNR=7.8						
IL31		**37.52**	**349**	P	**P**	**00 14 17.2**	**+2.2**
ILAR	**Eielson Array**	**37.52**	**349**	P	**P**	**00 14 16.0**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=359,slow=7.2,SNR=17						
FCC	**Fort Churchill**	**37.60**	**307**	P	**P**	**00 14 15.6**	**-0.2**
FCC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FCC	**Fort Churchill**	**37.60**	**307**	P	**P**	**00 14 15.6**	**-0.2**
FCC				IAmb	IAmb	00 14 22.1	
	comp=Z,3.8nm,1.0s						
CCB	**Clear Creek Bu**	**37.68**	**350**	P	**P**	**00 14 18.0**	**+1.6**
LIT	**Litokhoron**	**37.68**	**173**	P	**P**	**00 14 17.9**	**+1.2**
LIT				pmax	pmax		
	comp=Z,18nm,1.2s						
LIT	**Litokhoron**	**37.68**	**173**	P	**P**	**00 14 17.9**	**+1.2**
DAWY	**Dawson**	**37.84**	**344**	P	**P**	**00 14 19.0**	**+1.2**
WRH	**Wood River Hil**	**37.87**	**350**	P	**P**	**00 14 19.4**	**+1.4**
WRH				IAmb	IAmb	00 14 32.9	
	comp=Z,2.9nm,1.0s						
ANM	**Nome**	**38.05**	**2**	P	**P**	**00 14 20.7**	**+1.2**
ANM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ANM	**Nome**	**38.05**	**2**	P	**P**	**00 14 20.7**	**+1.2**
TIP	**Timpagrande**	**38.54**	**181**	P	**P**	**00 14 24.3**	**+0.2**
TIP				IAmb	IAmb	00 14 41.8	
	comp=Z,4.5nm,1.1s						
BRTR	**Keskin Array B**	**38.62**	**160**	*ce*P	**P**	**00 14 27.8**	**+3.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**38.62**	**160**	P	**P**	**00 14 25.5**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=350,slow=6.0,SNR=4.9						
AGG	**Agios Georgios**	**38.76**	**174**	P	**P**	**00 14 26.9**	**+1.1**
AGG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
AGG	**Agios Georgios**	**38.76**	**174**	P	**P**	**00 14 26.9**	**+1.1**
AGG				IAmb	IAmb	00 14 30.8	
	comp=Z,5.9nm,0.8s						
KTH	**Kantishna Hill**	**38.89**	**352**	P	**P**	**00 14 27.3**	**+0.6**
MENT	**Mentasta**	**39.20**	**346**		**S**	**00 20 30.2**	**+1.9**
MAKZ	**Makanchi**	**39.37**	**102**	P	**P**	**00 14 32.1**	**+1.3**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MAKZ	**Makanchi**	**39.37**	**102**	P	**P**	**00 14 32.1**	**+1.3**
MK31	**Makanchi Array**	**39.45**	**102**	P	**P**	**00 14 32.7**	**+1.2**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MK31	**Makanchi Array**	**39.45**	**102**	P	**P**	**00 14 32.7**	**+1.2**
MK31				IAmb	IAmb	00 14 33.4	
	comp=Z,2.2nm,0.7s						
MKAR	**Makanchi Array**	**39.45**	**102**	P	**P**	**00 14 32.7**	**+1.2**
	comp=Z,2.0nm,0.6s,baz=339,slow=5.8,SNR=21						
PPLA	**Purkeypile**	**39.58**	**352**	P	**P**	**00 14 33.7**	**+1.1**
PPLA				IAmb	IAmb	00 14 44.9	
	comp=Z,4.6nm,1.0s						
PESTR	**Estremoz**	**40.26**	**211**	P	**P**	**00 14 38.9**	**+0.6**
PESTR				IAmb	IAmb	00 14 47.1	
	comp=Z,6.7nm,1.1s						
SCM	**Sheep Creek Mo**	**40.48**	**349**	P	**P**	**00 14 41.2**	**+1.3**
SCM				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SCM	**Sheep Creek Mo**	**40.48**	**349**	P	**P**	**00 14 41.2**	**+1.3**
SCM				IAmb	IAmb	00 14 51.5	
	comp=Z,8.2nm,1.2s						
SKT	**Skwentna**	**40.48**	**352**	P	**P**	**00 14 40.5**	**+0.6**
SKT				IAmb	IAmb	00 14 47.1	
	comp=Z,6.4nm,1.2s						
RAFF	**Raffo Rosso**	**40.51**	**184**	P	**P**	**00 14 40.9**	**+0.5**
HYT	**Haines Junctio**	**40.94**	**341**	P	**P**	**00 14 45.9**	**+2.1**
HYT				IAmb	IAmb	00 15 02.3	
	comp=Z,3.6nm,1.1s						
KNK	**Knik Glacier**	**40.94**	**350**	P	**P**	**00 14 45.1**	**+1.4**
BARN	**Barnard Glacie**	**40.97**	**345**	P	**P**	**00 14 45.7**	**+1.6**
BARN				IAmb	IAmb	00 15 01.0	
	comp=Z,4.2nm,0.9s						
SUA	**Susitna One**	**40.97**	**351**	P	**P**	**00 14 45.3**	**+1.2**
SUA				IAmb	IAmb	00 14 56.0	
	comp=Z,2.8nm,0.6s						
RC01	**Rabbit Creek A**	**41.31**	**350**	P	**P**	**00 14 47.5**	**+0.8**
RC01				IAmb	IAmb	00 14 60.0	
	comp=Z,4.1nm,1.0s						
SVW2	**Sparrevohn**	**41.47**	**355**	P	**P**	**00 14 49.1**	**+1.1**
SVW2				IAmb	IAmb	00 15 08.1	
	comp=Z,4.9nm,1.2s						
AAK	**Ala-Archa**	**41.82**	**112**	*e*P	**P**	**00 14 51.7**	**+0.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HIN	**Hinchinbrook I**	**41.88**	**348**	P	**P**	**00 14 51.0**	**-0.3**
PFVI	**Vila Bisbo**	**42.11**	**212**	P	**P**	**00 14 51.9**	**-1.6**
KEST	**Kesra**	**42.12**	**190**	P	**P**	**00 14 56.3**	**+2.6**
	comp=Z,5.0nm,0.6s,baz=53,slow=3.5,SNR=4.2						
BRLK	**Bradley Lake**	**42.68**	**351**	P	**P**	**00 14 59.2**	**+1.3**
NRN	**Naryn**	**43.28**	**110**	P	**P**	**00 15 04.5**	**+1.2**
NRN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NRN	**Naryn**	**43.28**	**110**	P	**P**	**00 15 04.5**	**+1.2**
NRN				IAmb	IAmb	00 15 12.5	
	comp=Z,2.5nm,0.8s						
TARG	**Taragay, Kyrgy**	**43.36**	**108**	P	**P**	**00 15 05.1**	**+1.0**
TARG				IAmb	IAmb	00 15 08.7	
	comp=Z,5.3nm,0.9s						
GEYT	**Alibeck**	**43.37**	**131**	P	**P**	**00 15 04.9**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=302,slow=8.6,SNR=4.3						
SONM	**Songino Array**	**43.63**	**78**	P	**P**	**00 15 06.8**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=337,slow=8.0,SNR=8.3						
ULN	**Ulaanbaatar**	**43.74**	**77**	*ce*P	**P**	**00 15 06.0**	**-0.8**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.7s						
GAR	**Garm**	**44.51**	**117**	P	**P**	**00 15 15.2**	**+2.2**
KSH	**Kashi**	**45.12**	**111**	P	**P**	**00 15 20.3**	**+2.4**
KSH				ScP	**ScP**	**00 20 46.8**	**-2.6**
KSH				S	**S**	**00 22 00.0**	**+3.8**
KSH				ScS	**ScS**	**00 25 10.5**	**-3.2**
ULM	**Lac du Bonnet**	**46.05**	**305**	P	**P**	**00 15 25.2**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=8.1,slow=5.4,SNR=5.1						
ULM	**Lac du Bonnet**	**46.05**	**305**	IAmb	IAmb	00 15 32.3	
	comp=Z,2.8nm,0.9s						
GRNR	**Gornyy**	**46.56**	**50**	⇑*i*P	P	00 15 23.8	-5.2
GRNR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GTA	**Gaotai**	**50.27**	**87**	*e*P	**P**	**00 15 59.5**	**+1.7**
GTA				pP	sP	00 16 03.8	-1.3
GTA				sP	pP	00 16 06.5	+3.5
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GCMT	**Greycliff**	**52.65**	**315**	P	**P**	**00 16 15.1**	**-0.4**
PDAR	**Pinedale Array**	**55.58**	**314**	P	**P**	**00 16 38.3**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=20,slow=8.0,SNR=4.8						
PDAR				LR	LR	00 41 51.9	
	comp=Z,45nm,18.7s,baz=18,slow=38						
KSRS	**Korea Array**	**57.95**	**61**	LR	LR	00 43 30.4	
	comp=Z,30nm,18.5s,baz=195,slow=38						
SDCO	**Great Sand Dun**	**59.84**	**310**	P	**P**	**00 17 08.1**	**+1.0**
SDCO				IAmb	IAmb	00 17 15.4	
	comp=Z,2.3nm,1.1s						
WHN	**Wuhan**	**61.91**	**76**	P	P	00 17 08.0	-13
TORD	**Torodi Ar. Bea**	**64.96**	**197**	P	**P**	**00 17 41.5**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=349,slow=7.8,SNR=12						
TX31	**Lajitas Ar. Si**	**67.73**	**306**	P	**P**	**00 17 59.8**	**+0.8**
TX32	**Lajitas Array**	**67.73**	**306**	P	**P**	**00 17 60.0**	**+1.0**
TXAR	**Lajitas Array**	**67.73**	**306**	P	**P**	**00 18 00.0**	**+1.0**
TXAR	**Lajitas Array**	**67.73**	**306**	P	**P**	**00 17 60.0**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=35,slow=5.1,SNR=12						
SOCY	**Socotra**	**68.03**	**141**	P	**P**	**00 17 58.7**	**-2.2**
CMAR	**Chiang Mai Arr**	**70.30**	**94**	*ce*P	**P**	**00 18 15.6**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**70.30**	**94**	P	**P**	**00 18 15.0**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=338,slow=6.6,SNR=4.5						
WRA	**Warramunga Arr**	**115.05**	**68**	PKP	**PKPdf**	**00 25 41.8**	**-0.4**
	comp=Z,0.9nm,1.2s,baz=331,slow=2.0,SNR=2.4						
ASAR	**Alice Springs**	**118.58**	**69**	PKP	**PKPdf**	**00 25 48.3**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=5.0,slow=1.8,SNR=8.6						
MAW	**Mawson**	**147.56**	**149**	PKPbc	**PKiKP**	**00 26 45.1**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=333,slow=2.7,SNR=7.3						

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*NNC **27** 00:18:11.7±7.8, 50.̊26N×84.̊21E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=65.6km s-min=26.8km az=56.0*
*SOME **27** 00:18:17.9, 50.̊00N×83.̊80E, h0km*
ISC 27 00:18:12.8±3.3**, 50.̊2N**±0.̊2×**84.̊1E**±0.̊2**, h10**km**, n5,** σ1ˢ**58**/7**, 3C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**2.49**	**277**	*e*P	**Pg**	**00 19 02.5**	**+2.0**
	1.4nm,0.1s						
SEM				*e*S	**Sg**	**00 19 33.6**	**+1.0**
	20nm,0.3s						
ZSN	**Zaisan**	**2.75**	**169**	*e*P	**Pg**	**00 19 06.3**	**+0.9**
	6.5nm,0.3s						
ZSN				*e*S	**Sg**	**00 19 40.4**	**-0.5**
	8.5nm,0.5s						
KURK	**Kurchatov**	**3.55**	**281**	⇑Pg	**Pg**	**00 19 18.9**	**-1.9**
	2.6nm,1.1s						
KURK				⇓Lg	Lg	00 20 06.1	
	12nm,0.8s						
MK31	**Makanchi Array**	**3.57**	**200**	⇓Pg	**Pg**	**00 19 20.8**	**-0.3**
	0.6nm,0.5s,baz=23,slow=14,SNR=7.4						
MK31				⇓Lg	Lg	00 20 07.5	
	1.4nm,0.4s,baz=28,slow=30,SNR=4.1						
KURBB	**Kurchatov Arra**	**3.60**	**280**	⇑Pg	**Pb**	**00 19 16.1**	**-0.4**
	1.0nm,0.6s						
KURBB				⇑Lg	Lg	00 20 08.1	
	10nm,0.5s						

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*NEIC **27** 00:43:50.6±2.0, 15.̊4S±0.̊1×178.̊6W±0.̊1, h424km±7km, mb4.2/35*
*ISCJB **27** 00:43:51.8±0.3, 15.̊58S±0.̊06×178.̊61W±0.̊08, h450km, mb3.8/9, Error ellipse: s-maj=11.8km s-min=6.0km az=27.2*
*IDC **27** 00:43:51.2±2.1, 15.̊64S×178.̊50W, h430km±24km, mb3.5/9, mb1 3.8/10, mb1mx3.5/25, mbtmp4.2/10, Error ellipse: s-maj=27.2km s-min=11.5km az=143.0*
ISC 27 00:43:52.5±0.5**, 15.̊5S**±0.̊1×**178.̊50W**±0.̊10**, h450**km**, n61,** σ1ˢ**31**/60**, mb4.2**/24**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.98**	**236**		**P**	**00 45 08.1**	**+0.6**
AFI	**Afiamalu**	**6.70**	**77**	P	**P**	**00 45 31.0**	**-3.1**
	6.8nm,0.3s,baz=103,slow=0.7,SNR=8.3						
AFI	**Afiamalu**	**6.70**	**77**	P	**P**	**00 45 31.0**	**-3.1**
FUNA	**Funafuti**	**7.30**	**342**		P	00 45 33.5	-6.9
OUZ	**Omahuta**	**20.87**	**198**	P	**P**	**00 48 03.5**	**+1.9**
OUZ				IAmb	IAmb	00 48 04.9	
	comp=Z,7.9nm,0.8s						
MXZ	**Matakaoa Point**	**22.15**	**187**	P	**P**	**00 48 12.2**	**-1.0**
URZ	**Urewera**	**22.99**	**189**	P	**P**	**00 48 19.1**	**-1.7**
	comp=Z,3.5nm,0.3s,baz=268,slow=2.3,SNR=14						
URZ	**Urewera**	**22.99**	**189**	IAmb	IAmb	00 48 27.0	
	comp=Z,14nm,1.0s						
BFZ	**Birch Farm**	**25.50**	**189**	P	**P**	**00 48 43.2**	**+0.1**
QRZ	**Quartz Range**	**26.40**	**195**	P	**P**	**00 48 51.7**	**+0.5**
QRZ				IAmb	IAmb	00 49 04.8	
	comp=Z,8.9nm,1.0s						
NNZ	**Nelson**	**26.57**	**194**	P	**P**	**00 48 51.8**	**-0.9**
NNZ				IAmb	IAmb	00 49 04.2	
	comp=Z,28nm,1.1s						
TUWZ	**Tuamarina**	**26.64**	**193**	P	**P**	**00 48 53.0**	**-0.3**
XMAS	**Kiritimati**	**27.16**	**52**	P	**P**	**00 49 00.8**	**+2.5**
THZ	**Tophouse**	**27.20**	**194**	P	**P**	**00 48 57.7**	**-0.5**
THZ				IAmb	IAmb	00 49 11.9	
	comp=Z,13nm,1.0s						
KHZ	**Kahutara**	**27.68**	**193**	P	**P**	**00 49 03.8**	**+1.4**
LTZ	**Lake Taylor**	**28.31**	**194**	P	**P**	**00 49 06.4**	**-1.6**
LTZ				IAmb	IAmb	00 49 06.7	
	comp=Z,9.2nm,1.0s						
FOZ	**Fox Glacier**	**29.66**	**197**	P	**P**	**00 49 19.6**	**-0.1**
FOZ				IAmb	IAmb	00 49 31.6	
	comp=Z,12nm,0.9s						
ODZ	**Otahua Downs**	**30.84**	**195**	P	**P**	**00 49 30.1**	**+0.2**
WKZ	**Wanaka**	**31.07**	**197**	P	**P**	**00 49 30.9**	**-1.1**
MLZ	**Mavora Lakes**	**31.83**	**198**	P	**P**	**00 49 38.0**	**-0.6**
MLZ				IAmb	IAmb	00 49 39.5	
	comp=Z,9.9nm,0.7s						
DCZ	**Deep Cove**	**32.21**	**199**	P	**P**	**00 49 41.3**	**-0.5**
DCZ				IAmb	IAmb	00 49 54.6	
	comp=Z,9.0nm,0.9s						
WHZ	**Wether Hill Ro**	**32.36**	**198**	P	**P**	**00 49 42.8**	**-0.3**
WHZ				IAmb	IAmb	00 49 43.7	
	comp=Z,13nm,0.7s						
COEN	**Coen**	**37.07**	**267**	P	**P**	**00 50 22.7**	**-0.5**

STKA	**Stephens Creek**	**39.75**	**239**	P	**P**	**00 50 45.1**	**+0.2**
HMH	**Humu'ula Sheep**	**41.59**	**34**	P	**P**	**00 51 00.4**	**+0.3**
BBOO	**Buckleboo**	**44.53**	**239**	P	**P**	**00 51 22.3**	**-0.5**
BBOO				IAmb	IAmb	00 51 28.2	
	comp=Z,6.8nm,1.1s						
WRA	**Warramunga Arr**	**45.03**	**257**	P	**P**	**00 51 26.9**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=75,slow=6.1,SNR=45						
AS31	**Alice Springs**	**45.40**	**252**	P	**P**	**00 51 30.6**	**+0.9**
AS31				IAmb	IAmb	00 51 31.1	
	comp=Z,6.5nm,0.4s						
ASAR	**Alice Springs**	**45.40**	**252**	P	**P**	**00 51 30.6**	**+0.9**
	comp=Z,14nm,0.5s,baz=84,slow=8.3,SNR=264						
ASAR				S	**S**	**00 57 37.1**	**0.0**
	comp=Z,1.3nm,0.9s,baz=84,slow=15,SNR=9.9						
FITZ	**Fitzroy Crossi**	**53.37**	**259**	P	**P**	**00 52 28.4**	**-0.5**
PSA00	**Pilbara Seismi**	**58.45**	**254**	P	**P**	**00 53 03.3**	**-1.0**
PSA00				IAmb	IAmb	00 53 06.7	
	comp=Z,4.8nm,0.9s						
INU	**Inuyama**	**65.84**	**321**	P	**P**	**00 53 51.1**	**-1.2**
ADK	**Adak**	**67.13**	**1**	P	**P**	**00 53 59.6**	**-0.3**
CASY	**Casey**	**68.27**	**204**	P	**P**	**00 54 07.3**	**+0.5**
CASY				IAmb	IAmb	00 54 19.4	
	comp=Z,5.4nm,0.8s						
PETK	**Petropavlovsk-**	**71.35**	**345**	P	**P**	**00 54 26.0**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=128,slow=7.8,SNR=5.0						
QSPA	**South Pole Qui**	**74.53**	**180**	P	**P**	**00 54 45.5**	**+1.7**
QSPA				IAmb	IAmb	00 54 46.0	
	comp=Z,4.9nm,0.8s						
NVAR	**Mina Array Bea**	**77.77**	**44**	P	**P**	**00 55 04.0**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=229,slow=8.8,SNR=11						
PINE	**Pine Mountain**	**78.97**	**39**	P	**P**	**00 55 10.8**	**+2.0**
PINE				IAmb	IAmb	00 55 11.3	
	comp=Z,4.2nm,0.8s						
SKT	**Skwentna**	**80.12**	**13**	P	**P**	**00 55 14.2**	**+0.1**
GLI	**Glacier Island**	**80.17**	**15**	P	**P**	**00 55 15.2**	**+0.8**
FID	**Port Fidalgo**	**80.21**	**15**	P	**P**	**00 55 14.6**	**0.0**
TMUT	**Trail Mountain**	**83.04**	**46**	P	**P**	**00 55 32.4**	**+2.3**
IL31		**83.58**	**13**	P	**P**	**00 55 32.1**	**+0.4**
IL31				IAmb	IAmb	00 55 32.9	
	comp=Z,3.0nm,0.8s						
ILAR	**Eielson Array**	**83.58**	**13**	P	**P**	**00 55 32.0**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=229,slow=5.4,SNR=42						
TXAR	**Lajitas Array**	**84.79**	**58**	P	**P**	**00 55 40.9**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=214,slow=8.3,SNR=9.1						
S22A	**4UR Ranch, Cre**	**85.51**	**49**	P	**P**	**00 55 43.0**	**+0.6**
YHL	**Hebgen Lake**	**85.55**	**41**	P	**P**	**00 55 43.3**	**+0.9**
BW06	**Boulder Array**	**85.68**	**44**	P	**P**	**00 55 43.3**	**+0.3**
PD31	**Pinedale Array**	**85.68**	**44**	P	**P**	**00 55 44.0**	**+1.0**
PDAR	**Pinedale Array**	**85.68**	**44**	P	**P**	**00 55 44.0**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=205,slow=3.5,SNR=11						
YKA	**Yellowknife Ar**	**92.20**	**25**	P	**P**	**00 56 13.0**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=240,slow=4.5,SNR=5.2						
BVAR	**Borovoye Array**	**114.93**	**322**	PKP	**PKiKP**	**01 01 41.6**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=158,slow=0.5,SNR=4.2						
ARCES	**ARCESS Array B**	**123.95**	**350**	PKP	**PKiKP**	**01 01 58.9**	**+0.6**
	comp=Z,8.6nm,1.1s,baz=349,slow=2.8,SNR=5.7						
BRTR	**Keskin Array B**	**143.01**	**317**	PKP	**PKPdf**	**01 02 33.5**	**-1.1**
	comp=Z,2.5nm,0.9s,baz=11,slow=1.5,SNR=12						
CLL	**Collm**	**143.11**	**348**	*e*PKPdf	**PKiKP**	**01 02 35.0**	**-2.6**
GERES	**GERESS Array B**	**145.28**	**346**	PKPbc	**PKiKP**	**01 02 39.7**	**-2.5**
	comp=Z,0.8nm,0.5s,baz=17,slow=4.2,SNR=12						
CONA	**Conrad Observa**	**145.56**	**343**	*i* PKPab	**PKiKP**	**01 02 40.9**	**-2.0**
	comp=Z,4.8nm,1.2s						
MOA	**Molln**	**146.07**	**345**	*i* PKiKP	**PKiKP**	**01 02 42.6**	**-1.2**
	comp=Z,6.9nm,1.4s						
WTTA	**Wattenberg**	**147.24**	**347**	*i* PKPab	**PKPab**	**01 02 47.4**	**-0.2**
	comp=Z,12nm,1.6s						
MOTA	**Moosalm**	**147.27**	**348**	*i* PKiKP	**PKPab**	**01 02 45.6**	**-2.2**
	comp=Z,9.8nm,1.7s						
FETA	**Feichten**	**147.66**	**348**	*i* PKPab	**PKPab**	**01 02 48.2**	**-1.2**
	comp=Z,7.9nm,1.3s						

ISCJB ***27*** *00:44:42.5±0.4, 14°.85N±0°.06×145°.1E±0°.1, h35km, mb4.0/8, Error ellipse: s-maj=14.1km s-min=8.5km az=6.1*
NEIC ***27*** *00:44:45.9±2.4, 14°.8N±0°.1×145°.2E±0°.1, h51km±4km, mb4.3/18*
IDC ***27*** *00:45:32.2±13.0, 15°.75N×144°.91E, h448km±155km, mb3.2/8, mb1 3.5/8, mb1mx3.0/41, mbtmp4.0/8, Error ellipse: s-maj=48.4km s-min=26.3km az=45.0*

ISC 27 00:44:43.9±0.7, 14°.87N±0°.08×145°.1E±0°.1, h35km, n29, σ1§45/29, mb4.3/18, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.29**	**191**	Pn	**Pn**	**00 45 07.6**	**+2.2**
GUMO				Sn	**Sn**	**00 45 19.8**	**-1.7**
PATS	**Pohnpei**	**15.21**	**120**	Pn	**Pn**	**00 48 15.3**	**-1.0**
BJT	**Baijiatuan**	**35.60**	**320**	P	**P**	**00 51 36.4**	**-1.8**
WRA	**Warramunga Arr**	**36.18**	**197**	P	P	00 52 02.1	+19
	0.5nm,0.9s,baz=12,slow=9.3,SNR=3.0						
ANM	**Nome**	**59.93**	**22**	P	**P**	**00 54 47.0**	**+0.8**
MKAR	**Makanchi Array**	**60.74**	**316**	P	**P**	**00 54 53.4**	**+1.2**
	0.7nm,0.7s,baz=97,slow=7.9,SNR=8.0						
MAKZ	**Makanchi**	**60.96**	**316**	P	**P**	**00 54 55.5**	**+1.8**
MAKZ				IAmb	IAmb	00 54 56.5	
	comp=Z,2.6nm,1.0s						
SVW2	**Sparrevohn**	**62.44**	**28**	P	**P**	**00 55 03.8**	**+0.5**
SVW2				IAmb	IAmb	00 55 16.5	
	comp=Z,4.5nm,1.2s						
KURK	**Kurchatov**	**63.77**	**319**	P	**P**	**00 55 13.1**	**+0.8**
PPLA	**Purkeypile**	**64.55**	**27**	P	**P**	**00 55 18.3**	**+0.9**
PPLA				IAmb	IAmb	00 55 26.3	
	comp=Z,3.4nm,1.1s						
TRF	**Thorofare Moun**	**65.53**	**26**	P	**P**	**00 55 22.8**	**-1.0**
TRF				IAmb	IAmb	00 55 28.9	
	comp=Z,2.9nm,1.0s						
MLY	**Manley**	**65.81**	**25**	P	**P**	**00 55 27.5**	**+2.1**
MLY				IAmb	IAmb	00 55 30.3	
	comp=Z,2.3nm,1.0s						
KNK	**Knik Glacier**	**65.83**	**29**	P	**P**	**00 55 27.3**	**+1.8**
KNK				IAmb	IAmb	00 55 33.6	
	comp=Z,2.8nm,0.9s						
WRH	**Wood River Hil**	**66.74**	**26**	P	**P**	**00 55 30.0**	**-1.4**
CCB	**Clear Creek Bu**	**66.91**	**26**	P	**P**	**00 55 30.3**	**-2.0**
BVAR	**Borovoye Array**	**69.08**	**321**	P	**P**	**00 55 47.3**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=108,slow=8.1,SNR=5.4						
YKA	**Yellowknife Ar**	**81.62**	**28**	P	**P**	**00 56 58.8**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=286,slow=5.1,SNR=14						
KCPM	**Cahto Peak**	**81.65**	**51**	P	**P**	**00 56 56.9**	**-2.0**
BEKR	**Beckworth**	**84.03**	**50**	P	**P**	**00 57 12.2**	**+0.9**
BEKR				IAmb	IAmb	00 57 12.8	
	comp=Z,2.3nm,0.7s						
KVN	**Kaiserville**	**85.93**	**51**	P	**P**	**00 57 21.8**	**+0.9**
NVAR	**Mina Array Bea**	**85.94**	**51**	P	**P**	**00 57 22.0**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=266,slow=6.2,SNR=9.1						
ARCES	**ARCESS Array B**	**85.95**	**342**	P	**P**	**00 57 20.6**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=78,slow=4.7,SNR=2.5						
MFID	**Camas Ranch**	**86.35**	**46**	P	**P**	**00 57 22.9**	**+0.1**
MFID				IAmb	IAmb	00 57 24.5	
	comp=Z,3.0nm,0.8s						
ELK	**Elko**	**87.56**	**49**	P	**P**	**00 57 29.6**	**+0.7**
ELK				IAmb	IAmb	00 57 30.6	
	comp=Z,2.6nm,0.9s						
LRM	**Limekiln Ridge**	**87.90**	**43**	P	**P**	**00 57 29.1**	**-1.3**
TPNV	**Topopah Spring**	**87.92**	**52**	P	**P**	**00 57 30.7**	**+0.1**
TPNV				IAmb	IAmb	00 57 32.1	
	comp=Z,1.3nm,0.7s						
FINES	**FINESS Array B**	**90.11**	**335**	P	**P**	**00 57 38.9**	**-1.2**
	comp=Z,3.5nm,1.1s,baz=109,slow=4.6,SNR=5.9						
PDAR	**Pinedale Array**	**90.90**	**45**	P	**P**	**00 57 44.5**	**0.0**
	comp=Z,0.3nm,0.7s,baz=289,slow=2.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**134.33**	**306**	PKP	**PKPdf**	**01 03 56.1**	**-3.0**
	comp=Z,0.4nm,0.8s,baz=29,slow=3.3,SNR=2.7						

IDC ***27*** *01:27:39.4±3.1, 35°.32N×21°.76E, h0km, mb4.0/6, mb1 3.9/14, mb1mx3.6/58, mbtmp3.8/14, ML3.5/8, Error ellipse: s-maj=53.3km s-min=18.2km az=33.0*
NEIC ***27*** *01:27:42.1±2.6, 35°.3N±0°.1×21°.7E±0°.2, h23km±13km, mb4.3/1*
ATH ***27*** *01:27:47.6, 36°.03N×22°.53E, h18km±1km, ML3.4/21, Error ellipse: s-maj=2.4km s-min=0.9km az=45.0*
THE ***27*** *01:27:48.6, 36°.03N×22°.52E, h0km±1km, ML3.5/13, Error ellipse: s-maj=1.8km s-min=0.6km az=225.0*

ISC 27 01:27:49.0±1.2, 36°.04N±0°.03×22°.54E±0°.04, h23km±10km, n91, σ1§72/115, mb4.1/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTHR	**Kythira**	**0.44**	**60**	P	**Pb**	**01 27 56.7**	**-1.4**
KTHR				S	**Sb**	**01 28 03.4**	**-0.9**
KTHA	**Kythira Island**	**0.47**	**63**	P	**Pb**	**01 27 57.7**	**-1.0**
KTHA				S	**Sb**	**01 28 04.9**	**-0.5**
	18μm,0.2s						
KTHA	**Kythira Island**	**0.47**	**63**	P	**Pb**	**01 27 57.3**	**-1.4**
KTHA				S	**Sb**	**01 28 04.3**	**-1.1**
KTHA				AML	AML	01 28 05.3	
	comp=N,37404μm,0.3s						
KTHA				AML	AML	01 28 05.4	
	comp=E,33895μm,0.3s						
ANKY	**Antikythira Is**	**0.65**	**106**	P	**Pb**	**01 28 00.5**	**-1.1**
ANKY				S	**Sn**	**01 28 10.8**	**-1.4**
	comp=E,5μm,0.4s						
ANKY	**Antikythira Is**	**0.65**	**106**	P	**Pb**	**01 27 60.0**	**-1.6**
ANKY				S	**Sb**	**01 28 09.7**	**-0.5**
MNVA	**Monemvasia**	**0.76**	**32**	P	**Pb**	**01 28 02.8**	**-0.7**
PYL	**PYLOS**	**1.06**	**323**	P	**Pn**	**01 28 07.9**	**-0.6**
PYL				S	**Sn**	**01 28 24.0**	**+1.4**
PYL	**PYLOS**	**1.06**	**323**	P	**Pn**	**01 28 07.6**	**-0.9**
KLMT	**Kalamata**	**1.09**	**339**	P	**Pb**	**01 28 09.4**	**+0.3**
KLMT				S	**Sn**	**01 28 25.1**	**+2.0**
	comp=E,2μm,0.5s						
ITM	**Ithomi**	**1.24**	**337**	P	**Pb**	**01 28 11.3**	**-0.4**
ITM				S	**Sb**	**01 28 30.4**	**+3.2**
	comp=E,1μm,0.4s						
ITM	**Ithomi**	**1.24**	**337**	P	**Pb**	**01 28 11.1**	**-0.6**
ITM				S	**Sb**	**01 28 27.8**	**+0.6**
ITM				AML	AML	01 28 37.5	
	comp=N,2390μm,0.3s						
ITM				AML	AML	01 28 38.5	
	comp=E,2407μm,0.5s						
ITM	**Ithomi**	**1.24**	**337**		**Pb**	**01 28 11.9**	**+0.2**
IMMV	**Iera Moni Meta**	**1.31**	**116**	P	**Pb**	**01 28 12.8**	**-0.1**
IMMV				S	**Sb**	**01 28 32.6**	**+3.3**
	comp=E,3μm,0.4s						
IMMV	**Iera Moni Meta**	**1.31**	**116**	P	**Pb**	**01 28 12.2**	**-0.8**
IMMV				AML	AML	01 28 35.3	
	comp=E,4367μm,0.4s						
IMMV				AML	AML	01 28 35.5	
	comp=N,5565μm,0.5s						
CHAN	**Chania**	**1.33**	**113**	P	**Pb**	**01 28 12.8**	**-0.5**
CHAN				S	**Sb**	**01 28 32.9**	**+3.0**
	comp=N,835nm,0.6s						
VLX	**Vlachokerasia**	**1.33**	**355**	P	**Pb**	**01 28 13.4**	**+0.1**
VLX				S	**Sb**	**01 28 33.0**	**+3.0**
	comp=N,1μm,0.6s						
VLX	**Vlachokerasia**	**1.33**	**355**	P	**Pn**	**01 28 12.4**	**+0.2**
VLX				S	**Sb**	**01 28 31.1**	**+1.1**
KRND	**KRANIDI**	**1.43**	**20**	P	**Pb**	**01 28 15.5**	**+0.6**
KRND	**KRANIDI**	**1.43**	**20**	P	**Pb**	**01 28 15.1**	**+0.2**
VAM	**Vamos**	**1.49**	**115**	P	**Pb**	**01 28 16.2**	**+0.1**
VAM				S	**Sb**	**01 28 36.9**	**+2.3**
	comp=N,2μm,0.5s						
VAM	**Vamos**	**1.49**	**115**	P	**Pb**	**01 28 15.7**	**-0.4**
YDRA	**Hydra**	**1.50**	**30**	P	**Pb**	**01 28 15.9**	**-0.3**
YDRA				AML	AML	01 28 44.6	
	comp=E,2300μm,0.6s						
YDRA				AML	AML	01 28 45.8	
	comp=N,1696μm,0.5s						
DID	**Didima**	**1.56**	**21**	P	**Pb**	**01 28 17.5**	**+0.2**
DID				S	**Sb**	**01 28 39.6**	**+2.9**
	comp=N,838nm,0.5s						
DID	**Didima**	**1.56**	**21**	P	**Pb**	**01 28 17.2**	**-0.1**
DID				AML	AML	01 28 45.6	
	comp=E,1873μm,0.4s						
DID				AML	AML	01 28 48.3	
	comp=N,1304μm,0.4s						
AMT	**Artemida-Makis**	**1.63**	**336**	P	**Pb**	**01 28 18.0**	**-0.4**
AMT				S	**Sb**	**01 28 41.1**	**+2.6**
	comp=N,2μm,0.4s						
AMT	**Artemida-Makis**	**1.63**	**336**	P	**Pb**	**01 28 18.2**	**-0.2**
AMT				AML	AML	01 28 50.4	
	comp=N,5271μm,0.4s						
AMT				AML	AML	01 28 50.9	
	comp=E,3526μm,0.3s						
MHLO	**Agia Marina, M**	**1.64**	**66**	P	**Pb**	**01 28 17.3**	**-1.2**
MHLO				S	**Sb**	**01 28 41.8**	**+3.1**
	comp=E,4μm,0.6s						
MHLO	**Agia Marina, M**	**1.64**	**66**	P	**Pb**	**01 28 17.2**	**-1.2**
MHLO				AML	AML	01 28 48.3	
	comp=N,7159μm,0.6s						
MHLO				AML	AML	01 28 51.9	
	comp=E,7321μm,0.5s						
MHLA	**Plaka, Milos I**	**1.67**	**65**	P	**Pn**	**01 28 17.6**	**+0.7**
PRNS	**Prines Rethymn**	**1.74**	**112**	P	**Pb**	**01 28 20.8**	**+0.6**
GVDS	**Gavdos**	**1.74**	**133**	P	**Pb**	**01 28 19.4**	**-0.9**
GVDS				S	**Sb**	**01 28 43.1**	**+1.3**
	comp=E,555nm,0.4s						
GVD	**Gavdhos**	**1.75**	**133**	P	**Pb**	**01 28 19.9**	**-0.4**
GVD	**Gavdhos**	**1.75**	**133**	P	**Pb**	**01 28 19.3**	**-1.0**
GVD				AML	AML	01 28 54.6	
	comp=E,2312μm,0.5s						
GVD				AML	AML	01 28 56.5	
	comp=N,2060μm,0.4s						
SERI	**Serifos**	**1.92**	**54**	P	**Pn**	**01 28 21.2**	**+0.8**
SERI				S	**Sb**	**01 28 49.1**	**+2.1**
	comp=N,320nm,0.3s						
SERI	**Serifos**	**1.92**	**54**	P	**Pn**	**01 28 21.1**	**+0.8**
THAL	**Thalero**	**1.99**	**3**	P	**Pb**	**01 28 23.4**	**-1.1**
THAL				AML	AML	01 29 02.4	
	comp=N,2841μm,0.9s						
THAL				AML	AML	01 29 07.6	
	comp=E,2756μm,0.7s						
LTK	**Loutraki**	**2.01**	**10**	P	**Pb**	**01 28 23.7**	**-1.1**
LTK				AML	AML	01 28 58.9	
	comp=E,1042μm,0.8s						
LTK				AML	AML	01 29 04.2	
	comp=N,884μm,0.7s						
DRO	**Drossia**	**2.02**	**341**	P	**Pb**	**01 28 23.8**	**-1.2**
DRO				AML	AML	01 29 10.1	
	comp=N,1440μm,0.5s						
DRO				AML	AML	01 29 10.1	
	comp=E,2161μm,0.6s						
KLV	**Kalavryta, Ach**	**2.02**	**351**	P	**Pb**	**01 28 24.2**	**-0.9**
KLV				AML	AML	01 29 06.3	
	comp=E,665μm,0.6s						
KLV				AML	AML	01 29 10.1	
	comp=N,621μm,0.8s						
IDI	**Anoyia**	**2.06**	**111**	Pn	**Pb**	**01 28 24.1**	**-1.7**
	comp=N,8.9nm,0.3s,baz=319,slow=13,SNR=56			Sn	**Sb**	**01 28 56.2**	**+5.3**
IDI							
	comp=N,61nm,0.3s,baz=49,slow=22,SNR=15						
IDI	**Anoyia**	**2.06**	**111**	P	**Pb**	**01 28 23.7**	**-2.0**
IDI				AML	AML	01 28 57.4	
	comp=E,916μm,0.5s						
IDI				AML	AML	01 28 58.9	
	comp=N,906μm,0.6s						
VLY	**Voula,Athens**	**2.07**	**29**	P	**Pb**	**01 28 23.8**	**-2.0**
VLY	**Voula,Athens**	**2.07**	**29**	P	**Pn**	**01 28 23.4**	**+1.1**
VLY				AML	AML	01 29 01.3	
	comp=E,802μm,0.4s						
VLY				AML	AML	01 29 04.9	
	comp=N,1050μm,1.1s						
ATHU	**Athens Univers**	**2.16**	**27**	P	**Pn**	**01 28 25.0**	**+1.4**
HRKL	**Herakleio**	**2.21**	**109**	P	**Pb**	**01 28 26.9**	**-1.4**
PROD	**Prodromos**	**2.23**	**7**	P	**Pb**	**01 28 27.9**	**-0.7**
PROD	**Prodromos**	**2.23**	**7**	P	**Pb**	**01 28 26.8**	**-1.9**
VIL2	**Platees**	**2.24**	**15**	P	**Pn**	**01 28 26.4**	**+1.7**
VIL2				AML	AML	01 29 07.9	
	comp=N,790μm,0.6s						
VIL2				AML	AML	01 29 21.1	
	comp=E,988μm,0.8s						
PTL	**Penteli**	**2.27**	**28**	P	**Pb**	**01 28 26.9**	**-2.4**
PTL				AML	AML	01 29 03.4	
	comp=E,778μm,0.6s						
PTL				AML	AML	01 29 07.2	
	comp=N,574μm,0.6s						
IOSP	**Ios island**	**2.32**	**72**	P	**Pn**	**01 28 27.1**	**+1.3**
TRIZ	**Trizonia**	**2.35**	**351**	P	**Pb**	**01 28 28.4**	**-2.2**
KALE	**Kalithea**	**2.37**	**352**	P	**Pn**	**01 28 27.6**	**+1.1**
KALE				AML	AML	01 29 16.4	
	comp=N,576μm,0.9s						
KALE				AML	AML	01 29 20.7	
	comp=E,512μm,0.6s						
SANT	**Santorini**	**2.39**	**81**	P	**Pn**	**01 28 27.8**	**+1.1**
SANT	**Santorini**	**2.39**	**81**		**Pb**	**01 28 30.8**	**-0.5**
KARY	**Karystos**	**2.50**	**37**	P	**Pn**	**01 28 29.9**	**+1.6**
KARY				AML	AML	01 29 06.2	
	comp=N,347μm,0.4s						
KARY				AML	AML	01 29 12.2	
	comp=E,340μm,0.7s						
LAST	**Lasithi**	**2.55**	**109**	P	**Pn**	**01 28 30.8**	**+1.8**
APE	**Apeiranthos**	**2.62**	**66**	P	**Pn**	**01 28 30.7**	**+0.8**
NPS	**Neapolis**	**2.62**	**106**	P	**Pn**	**01 28 31.6**	**+1.7**
NPS	**Neapolis**	**2.62**	**106**	P	**Pn**	**01 28 31.1**	**+1.2**
NPS				AML	AML	01 29 14.7	
	comp=N,493μm,0.7s						
NPS				AML	AML	01 29 17.4	
	comp=E,752μm,0.7s						
LKR	**Lokris**	**2.63**	**8**	P	**Pn**	**01 28 31.8**	**+1.8**
LKR				AML	AML	01 29 12.5	
	comp=E,364μm,0.3s						
LKR				AML	AML	01 29 18.5	
	comp=N,428μm,0.8s						
AXAR	**Agios Charalam**	**2.72**	**2**	P	**Pn**	**01 28 33.6**	**+2.4**
AXAR				AML	AML	01 29 18.8	
	comp=E,970μm,0.5s						
AXAR				AML	AML	01 29 19.2	
	comp=N,1558μm,0.8s						
AGG	**Agios Georgios**	**2.98**	**357**		**Pb**	**01 28 40.7**	**-0.7**
LKD2	**Lefkada island**	**3.12**	**332**	P	**Pn**	**01 28 39.2**	**+2.3**
ZKR	**Zakros**	**3.14**	**106**	P	**Pn**	**01 28 38.8**	**+1.8**
THL	**Klokotos Trika**	**3.54**	**353**	P	**Pn**	**01 28 44.9**	**+2.4**
STON	**Ston**	**7.78**	**333**	*e*Pn	**Pn**	**01 29 40.5**	**-0.1**
STON				Sn	**Sn**	**01 31 04.9**	**-3.1**
RICI	**Ricice**	**8.52**	**332**	iPn		01 29 51.0	
RICI				Sn	**Sn**	**01 31 24.1**	**-2.3**
KIJV	**Kijevo**	**9.23**	**331**	*e*Pn	**Pn**	**01 30 01.1**	**+0.4**
KIJV				Sn	**Sn**	**01 31 42.5**	**-1.4**
ZIRJ	**Zirje**	**9.26**	**327**	*e*Pn	**Pn**	**01 30 00.8**	**-0.3**
ZIRJ				Sn	**Sn**	**01 31 39.8**	**-4.7**
MORI	**Morici**	**9.41**	**328**	*e*Pn	**Pn**	**01 30 03.2**	**+0.2**
MORI				Sn	**Sn**	**01 31 46.1**	**-1.9**
BR131	**Keskin Array S**	**9.51**	**64**		Pn	01 30 11.1	+6.4
BRTR	**Keskin Array B**	**9.51**	**64**	Pn	Pn	01 30 10.6	+5.9
	comp=N,0.3nm,0.3s,baz=242,slow=14,SNR=11						
MLR	**Muntele Rosu**	**9.78**	**14**	Pn	Pn	01 30 15.0	+6.7
	comp=N,0.1nm,0.3s,baz=155,slow=14,SNR=2.7						
DUGI	**Dugi Otok**	**9.79**	**326**	*e*Pn	**Pn**	**01 30 10.4**	**+2.1**
DUGI				Sn	**Sn**	**01 31 54.9**	**-2.5**
UDBI	**Udbina**	**9.93**	**331**	*e*Pn	**Pn**	**01 30 11.7**	**+1.5**
MOSL	**Moslavina**	**10.51**	**337**	*i* Pn	**Pn**	**01 30 17.7**	**-0.5**
MMAI	**Mount Meron Ar**	**11.03**	**102**	Pn	**Pn**	**01 30 26.4**	**+0.9**
	comp=N,1.0nm,0.3s,baz=300,slow=12,SNR=11						
MMAI				Sn	**Sn**	**01 32 29.3**	**+1.1**
	comp=N,0.5nm,0.3s,baz=296,slow=23,SNR=4.1						
KALN	**Kalnik**	**11.07**	**337**	*i* Pn	**Pn**	**01 30 24.7**	**-1.1**
EIL	**Elat**	**12.21**	**118**	Pn	**Pn**	**01 30 39.7**	**-1.8**
	comp=N,0.2nm,0.3s,baz=254,slow=7.4,SNR=3.7						
EIL				Sn	**Sn**	**01 32 50.8**	**-6.2**
	comp=N,0.3nm,0.3s,baz=112,slow=19,SNR=3.8						
VYHS	**Vyhne**	**12.74**	**349**	*e*PN	**Pn**	**01 30 50.7**	**+2.1**
GERES	**GERESS Array B**	**14.35**	**336**	Pn	**Pn**	**01 31 10.6**	**0.0**
	comp=N,0.1nm,0.3s,baz=158,slow=11,SNR=4.8						
AKASG	**Malin Array Be**	**15.43**	**16**	Pn	**P**	**01 31 29.0**	**-0.3**
	comp=N,0.7nm,0.3s,baz=210,slow=11,SNR=4.1						
CLL	**Collm**	**16.72**	**339**	*e*pP	**P**	**01 31 43.0**	**-0.7**
KBZ	**Khabaz**	**17.38**	**58**	P	**P**	**01 31 54.2**	**+3.1**
	comp=N,0.1nm,0.3s,baz=255,slow=6.6,SNR=9.7						
HFS	**Hagfors**	**24.77**	**349**	P	**P**	**01 33 08.5**	**-0.2**
	comp=N,0.9nm,0.4s,baz=154,slow=11,SNR=7.6						
FINES	**FINESS Array B**	**25.52**	**4**	P	**P**	**01 33 15.0**	**-0.4**
	comp=N,2.1nm,0.8s,baz=182,slow=9.3,SNR=4.3						
NOA	**NORSAR Array B**	**26.04**	**347**	P	**P**	**01 33 20.0**	**-0.2**
	comp=N,1.4nm,0.9s,baz=161,slow=9.5,SNR=3.4						
ARCES	**ARCESS Array B**	**33.59**	**2**	P	**P**	**01 34 27.0**	**0.0**
	comp=N,1.8nm,0.7s,baz=185,slow=8.5,SNR=6.9						
MK31	**Makanchi Array**	**45.08**	**57**	P	**P**	**01 36 03.4**	**+0.3**
MK31				IAmb	IAmb	01 36 10.2	
	comp=Z,2.6nm,0.7s						
MKAR	**Makanchi Array**	**45.08**	**57**	P	**P**	**01 36 03.3**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=271,slow=7.9,SNR=26						
ZALV	**Zalesovo Beam**	**45.95**	**47**	P	**P**	**01 36 09.8**	**0.0**
	comp=Z,0.8nm,0.3s,baz=297,slow=6.5,SNR=3.7						

NIED ***27*** *01:32:00.36°.10N×140°.10E, h65km, Mw3.9 Best double couple: M0 8.79000×10^14 NP1:φs79.00000°, δ30.00000°, λ-51.00000°. NP2:φs216.00000°, δ67.00000°, λ-110.00000°.*
ISCJB ***27*** *01:32:33.2±0.3, 36°.01N±0°.03×140°.06E±0°.05, h78km±2km, mb3.7/16, Error ellipse: s-maj=6.2km s-min=5.3km az=178.9*
JMA ***27*** *01:32:34.6±0.1, 36°.06N×140°.04E, h64km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs216.00000°, δ71.00000°, λ-104.00000°. NP2: φs74.00000°, δ23.00000°, λ-54.00000°. Principal axes: T Plg25.0000°, Azm317.0000°; N Plg13.0000°, Azm221.0000°; P Plg61.0000°, Azm105.0000°;*
JMA Felt II J1.
NEIC ***27*** *01:32:35.1

ILAR Eielson Array 50.94 32 P P 01 41 28.4 +0.4
comp=Z,1.6nm,0.8s,baz=270,slow=6.2,SNR=19
KK31 Karatay Array 52.69 300 P P 01 41 41.7 +0.4
KK31 IAmb IAmb 01 41 43.4
comp=Z,2.7nm,1.1s
KKAR Karatay Array 52.69 300 P P 01 41 41.3 0.0
KKAR IAmb IAmb 01 41 43.4
comp=Z,2.7nm,1.1s
WRA Warramunga Arr 55.91 186 P P 01 42 04.1 -0.7
comp=Z,1.9nm,0.6s,baz=360,slow=7.2,SNR=25
ABKAR Akbulak array 57.76 310 P P 01 42 17.1 -0.5
ABKAR IAmb IAmb 01 42 19.3
comp=Z,1.7nm,0.5s
ASAR Alice Springs 59.64 187 P P 01 42 31.2 +0.3
comp=Z,0.5nm,0.5s,baz=18,slow=12,SNR=11
ARCES ARCESS Array B 64.56 339 P P 01 43 03.2 -0.1
comp=Z,6.0nm,1.1s,baz=54,slow=7.1,SNR=10
YKA Yellowknife Ar 65.24 30 P P 01 43 07.7 -0.1
comp=Z,0.3nm,0.8s,baz=301,slow=6.6,SNR=5.6
FINES FINESS Array B 69.20 332 P P 01 43 32.8 0.0
comp=Z,2.2nm,0.8s,baz=50,slow=6.6,SNR=8.7
AKASG Malin Array Be 74.43 322 P P 01 44 03.5 -0.8
comp=Z,0.2nm,0.3s,baz=45,slow=6.6,SNR=3.8
HFS Hagfors 74.56 335 P P 01 44 04.5 -0.4
comp=Z,3.9nm,1.0s,baz=38,slow=2.6,SNR=9.0
NB2 NORSAR Subarra 74.70 337 P P 01 44 05.7 -0.1
comp=Z,0.9nm,0.6s,baz=42,slow=5.9
NOA NORSAR Array B 74.70 337 P P 01 44 05.4 -0.4
comp=Z,0.4nm,0.6s,baz=56,slow=7.8,SNR=6.3
RAO Raoul Island 76.02 143 LR LR 02 12 41.0
comp=Z,118nm,19.2s,baz=252,slow=32
NVAR Mina Array Bea 76.48 52 P P 01 44 18.1 +1.4
comp=Z,0.4nm,0.6s,baz=290,slow=6.1,SNR=5.5
PDAR Pinedale Array 79.17 45 P P 01 44 32.0 +0.5
comp=Z,0.3nm,0.6s,baz=21,slow=3.1,SNR=3.0
GERES GERESS Array B 82.99 328 P P 01 44 53.2 +1.7
comp=Z,0.2nm,0.5s,baz=34,slow=7.1,SNR=3.4
TXAR Lajitas Array 91.62 52 P P 01 45 34.6 +1.0
comp=Z,0.2nm,0.5s,baz=296,slow=1.8,SNR=7.8

IDC 27 02:06:18.8±1.3,2.99N×125.73E,h0km,mb3.6/4,
mb1 3.8/4,mb1mx3.5/38,mbtmp3.6/4,1C,Error ellipse:
s-maj=142.3km s-min=21.0km az=69.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**4.04**	**351**	⇑P	Pn	02 07 25.8	+3.7
KCP				S	Sg	02 08 27.4	-1.5
WRA	**Warramunga Arr**	**24.31**	**160**	P	P	02 11 37.8	-0.4
	1.7nm,0.4s,baz=337,slow=11,SNR=28						
ASAR	**Alice Springs**	**27.66**	**164**	P	P	02 12 09.5	+0.9
	0.3nm,0.3s,baz=341,slow=11,SNR=5.8						
SONM	**Songino Array**	**47.69**	**342**	P	P	02 14 56.0	-1.2
	0.3nm,0.7s,baz=150,slow=6.7,SNR=2.1						
MKAR	**Makanchi Array**	**57.60**	**326**	P	P	02 16 11.3	+0.7
	0.2nm,0.3s,baz=110,slow=7.1,SNR=7.1						

IDC 27 02:09:12.3±1.0,28.56S×178.05W,h129km±7km,mb3.7/5,
mb1 3.9/5,mb1mx3.6/23,mbtmp4.1/5,MS2.8/1,Ms1 2.8/1,
ms1mx2.5/32,Error ellipse: s-maj=28.0km s-min=24.6km
az=34.0

ISC 27 02:09:13.5±1.0,28.6S±0.2×178.0W±0.2,h150km,n16,
σ1§64/17,mb3.8/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.62**	**175**	P	**Pn**	**02 09 33.5**	**-2.0**
	824nm,0.3s,baz=77,slow=2.5,SNR=53						
RAO				S	**Sn**	**02 09 48.9**	**-3.4**
	1um,0.3s,baz=90,slow=20,SNR=12						
URZ	**Urewera**	**10.44**	**202**	P	Pn	02 11 30.1	-9.1
	0.9nm,0.3s,baz=249,slow=4.0,SNR=16						
URZ				S	Sn	02 13 22.4	-12
	2.1nm,0.3s,baz=264,slow=22,SNR=9.9						
URZ				LR	LR	02 15 33.2	
	comp=Z,49nm,18.1s,baz=336,slow=36						
STKA	**Stephens Creek**	**34.94**	**254**	P	**P**	**02 15 52.0**	**+0.9**
	1.6nm,0.7s,baz=93,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**43.26**	**265**	P	**P**	**02 17 00.7**	**+0.4**
	1.4nm,0.5s,baz=97,slow=6.9,SNR=26						
ASAR				PcP	**PcP**	**02 18 46.7**	**-0.1**
	0.5nm,0.5s,baz=114,slow=3.3,SNR=4.3						
WRA	**Warramunga Arr**	**44.08**	**270**	P	**P**	**02 17 07.3**	**+0.4**
	3.2nm,0.8s,baz=109,slow=7.9,SNR=16						
WRA				PcP	**PP**	**02 18 49.8**	**-2.8**
	1.5nm,0.9s,baz=118,slow=2.9,SNR=6.8						
VNDA	**Vanda**	**49.85**	**186**	P	**P**	**02 17 53.4**	**+2.6**
	1.4nm,0.7s,baz=7.2,slow=7.6,SNR=4.4						
MAW	**Mawson**	**73.97**	**200**	P	**P**	**02 20 32.8**	**+0.8**
	2.5nm,0.6s,baz=121,slow=7.1,SNR=8.9						
MKAR	**Makanchi Array**	**116.65**	**311**	PKP	**PKiKP**	**02 27 40.0**	**+0.5**
	0.3nm,0.5s,baz=209,slow=2.1,SNR=5.4						
BVAR	**Borovoye Array**	**125.15**	**317**	PKP	**PKiKP**	**02 27 56.6**	**+0.6**
	1.0nm,0.5s,baz=158,slow=2.4,SNR=6.7						
FINES	**FINESS Array B**	**143.49**	**341**	PKhKP	PKPbc	02 28 26.4	-0.9
	3.3nm,0.9s,baz=66,slow=3.5,SNR=5.5						
KBZ	**Khabaz**	**144.12**	**306**	PKP	**PKPdf**	**02 28 30.6**	**-0.6**
	1.9nm,0.8s,baz=114,slow=5.5,SNR=3.7						
NB2	**NORSAR Subarra**	**147.01**	**352**	PKP	**PKiKP**	**02 28 39.3**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=13,slow=2.9						
NOA	**NORSAR Array B**	**147.01**	**352**	PKPbc	**PKiKP**	**02 28 39.1**	**-1.1**
	comp=Z,2.4nm,0.7s,baz=15,slow=4.5,SNR=6.7						
AKASG	**Malin Array Be**	**149.89**	**325**	PKPbc	**PKiKP**	**02 28 46.5**	**+0.1**
	comp=Z,3.1nm,0.5s,baz=44,slow=3.1,SNR=21						
BRTR	**Keskin Array B**	**151.74**	**301**	PKPbc	**PKiKP**	**02 28 51.5**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=96,slow=4.3,SNR=10.0						
TORD	**Torodi Ar. Bea**	**164.59**	**179**	PKPab	**PKPab**	**02 29 57.0**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=175,slow=4.3,SNR=10						

IDC 27 02:28:00.9±1.6,2.79S×135.61E,h0km,mb3.5/3,
mb1 3.8/4,mb1mx3.5/31,mbtmp3.6/4,ML4.0/1,Error
ellipse: s-maj=48.8km s-min=31.6km az=75.0
ISCJB 27 02:28:02.4±0.8,2.92S±0.08×135.58E±0.08,h33km,
mb3.6/2,Error ellipse: s-maj=12.1km s-min=11.0km
az=18.7.
DJA 27 02:28:03.5±0.4,3°S±3°×13°6E±°,h37km,M4.0/6,mb4.2/1,
MLv3.8/6

ISC 27 02:28:03.7±1.1,2.9S±0.1×135.59E±0.06,h35km,n10,
σ1§96/10,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAKI	**Biak**	**1.81**	**16**	P	**Pn**	**02 28 31.4**	**-1.0**
RKPI	**Ransiki, Papua**	**2.00**	**315**	P	**Pn**	**02 28 35.0**	**-0.1**
SMPI	**Sarmi**	**3.25**	**73**	P	**Pn**	**02 28 50.6**	**-1.7**
FAKI	**Fak Fak**	**3.34**	**270**	P	**Pn**	**02 28 53.0**	**-0.5**
SIJI	**Sorong**	**4.79**	**295**	Pn	**Pn**	**02 29 13.2**	**-0.2**
	6.0nm,0.3s,baz=154,slow=22,SNR=24						
SIJI				Sn	**Sn**	**02 30 04.1**	**-3.6**
	6.4nm,0.3s,baz=254,slow=23,SNR=6.5						
SWI	**Sorong**	**4.80**	**295**	P	**Pn**	**02 29 12.5**	**-1.0**
WRA	**Warramunga Arr**	**16.95**	**184**	P	**Pn**	**02 31 57.4**	**-0.9**
	0.1nm,0.3s,baz=5.2,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**20.67**	**184**	P	Pn	02 32 44.2	+0.9
	0.6nm,0.5s,baz=9.2,slow=12,SNR=10						
MKAR	**Makanchi Array**	**68.09**	**324**	P	**P**	**02 39 02.2**	**+2.1**
	0.3nm,0.6s,baz=105,slow=7.5,SNR=3.5						
ILAR	**Eielson Array**	**87.33**	**25**	P	**P**	**02 40 48.6**	**+1.9**
	0.3nm,0.5s,baz=260,slow=4.5,SNR=5.4						

IDC 27 02:30:33.3±3.0,13.89N×92.28W,h0km,mb3.7/2,
mb1 4.0/6,mb1mx3.6/36,mbtmp3.7/6,ML3.5/4,Error
ellipse: s-maj=53.1km s-min=24.0km az=170.0
GCG 27 02:30:36.4±0.9,14.11N×92.10W,h108km±19km,MD4.0

ISC 27 02:30:38.0±1.5,13.8N±0.1×92.30W±0.06,h54km,n12,
σ1§75/18,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERG	**Entre ros, C**	**0.95**	**49**	*eP*	**Pn**	**02 30 54.0**	**-1.1**
ERG				*eS*	**Sn**	**02 31 07.3**	**-0.5**
STG3	**Santiaguito 3,**	**1.14**	**38**	*eP*	**Pn**	**02 30 55.8**	**-2.1**
FUG	**Fuego 3**	**1.55**	**66**	*eP*	**Pn**	**02 31 01.5**	**-2.0**
IXG	**Ixpaco**	**1.84**	**79**	*eP*	**Pn**	**02 31 04.7**	**-2.7**
IXG				*eS*	**Sn**	**02 31 27.7**	**-2.0**
NBG	**Las Nubes**	**2.05**	**68**	*eP*	**Pn**	**02 31 10.9**	**+0.6**
NBG				*eS*	**Sn**	**02 31 36.7**	**+1.8**
APG	**El Apazote**	**2.14**	**56**	Pn	**Pn**	**02 31 10.6**	**-0.9**
	7.5nm,0.3s,baz=216,slow=8.0,SNR=70						
APG				Sn	**Sn**	**02 31 36.5**	**-0.6**
	13nm,0.3s,baz=88,slow=17,SNR=3.9						
CMIG	**Matias Romero**	**4.10**	**323**	Pn	**Pn**	**02 31 36.5**	**-1.7**
	2.1nm,0.3s,baz=142,slow=13,SNR=17						
CMIG				Sn	**Sn**	**02 32 22.5**	**-2.4**
	4.0nm,0.3s,baz=350,slow=18,SNR=4.3						
TEIG	**Tepich**	**7.45**	**31**	Pn	**Pn**	**02 32 23.4**	**-0.8**
	2.9nm,0.3s,baz=142,slow=0.4,SNR=14						
TEIG				Sn	**Sn**	**02 33 47.2**	**-0.1**
	baz=143,slow=20,SNR=2.7						
TXAR	**Lajitas Array**	**18.69**	**328**	P	**Pn**	**02 34 54.3**	**+1.4**
	0.0nm,0.3s,baz=146,slow=12,SNR=5.9						
NVAR	**Mina Array Bea**	**33.63**	**322**	P	**P**	**02 37 16.6**	**+2.8**
	0.4nm,0.6s,baz=131,slow=9.7,SNR=4.4						
YKA	**Yellowknife Ar**	**51.14**	**347**	P	**P**	**02 39 35.2**	**0.0**
	1.1nm,0.7s,baz=150,slow=7.4,SNR=20						
CMAR	**Chiang Mai Arr**	**146.07**	**341**	PKPbc	**PKiKP**	**02 50 15.4**	**-0.8**
	1.4nm,0.3s,baz=0.0,slow=2.7,SNR=5.5						

ISCJB 27 02:56:06.3±0.5,15.19S±0.10×173.75W±0.1,h10km,
mb3.9/9,Error ellipse: s-maj=16.8km s-min=11.2km
az=44.4
IDC 27 02:56:06.6±0.8,15.07S×173.65W,h0km,mb3.9/9,
mb1 4.2/9,mb1mx4.0/28,mbtmp3.9/9,Error ellipse:
s-maj=47.3km s-min=18.0km az=139.0
NEIC 27 02:56:08.5±1.4,15.1S±0.1×173.4W±0.1,h11km±1km,
mb4.3/6

ISC 27 02:56:07.7±0.7,15.1S±0.1×173.3W±0.1,h10km,n26,
σ1§95/20,mb3.9/10,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.91**	**52**	Pn	**Pn**	**02 56 40.8**	**+0.4**
	172nm,0.3s,baz=212,slow=3.0,SNR=116						
AFI				Sn	**Sn**	**02 56 58.9**	**-5.6**
	200nm,0.3s,baz=135,slow=22,SNR=7.8						
NIUE	**Niue**	**5.12**	**141**		**Pn**	**02 57 24.8**	**+0.2**
URZ	**Urewera**	**24.57**	**198**	P	P	**03 01 28.0**	**+0.1**
	3.6nm,0.3s,baz=316,slow=2.4,SNR=8.7						
URZ	**Urewera**	**24.57**	**198**	IAmb	IAmb	03 01 32.7	
	comp=Z,7.9nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**38.74**	**329**	T	T	03 44 11.0	
	baz=146,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**38.75**	**329**	T	T	03 44 12.0	
	baz=146,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**38.76**	**329**	T	T	03 44 20.6	
	baz=146,slow=76,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**39.68**	**330**	T	T	03 45 24.8	
	baz=147,slow=76,SNR=8.3						
H11N1	**WAKE ISLAND Hy**	**39.69**	**330**	T	T	03 45 40.9	
	baz=147,slow=76,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**39.70**	**330**	T	T	03 45 15.7	
	baz=147,slow=76,SNR=10						
STKA	**Stephens Creek**	**44.25**	**240**	P	**P**	**03 04 15.7**	**-1.9**
	comp=Z,1.2nm,0.6s,baz=114,slow=7.8,SNR=3.7						
WRA	**Warramunga Arr**	**49.38**	**257**	P	**P**	**03 05 00.3**	**-2.3**
	comp=Z,0.7nm,0.8s,baz=92,slow=6.9,SNR=7.2						
ASAR	**Alice Springs**	**50.27**	**252**	P	**P**	**03 05 02.5**	**-2.3**
	comp=Z,2.1nm,0.6s,baz=86,slow=8.3,SNR=39						
NVAR	**Mina Array Bea**	**74.05**	**42**	P	**P**	**03 07 45.5**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=229,slow=9.8,SNR=13						
MOD	**Modoc Plateau**	**74.84**	**38**	P	**P**	**03 07 49.3**	**+0.6**
MOD				IAmb	IAmb	03 07 51.0	
	comp=Z,2.9nm,0.9s						
PINE	**Pine Mountain**	**75.61**	**36**	P	**P**	**03 07 54.7**	**+1.5**
MSU	**Marysvale**	**78.16**	**45**	P	**P**	**03 08 08.5**	**+0.8**
TCUT	**Toone Canyon**	**79.98**	**43**	P	**P**	**03 08 19.2**	**+1.6**
TXAR	**Lajitas Array**	**80.38**	**56**	P	**P**	**03 08 21.6**	**+1.7**
	comp=Z,1.0nm,1.0s,baz=210,slow=7.2,SNR=6.0						
BPAW	**Bear Paw Mtn.**	**80.80**	**10**	P	**P**	**03 08 22.1**	**+0.9**
MCMT	**McKenzie Canyo**	**80.97**	**39**	P	**P**	**03 08 24.4**	**+1.5**
PDAR	**Pinedale Array**	**81.99**	**42**	P	**P**	**03 08 29.6**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=205,slow=1.9,SNR=7.1						
ILAR	**Eielson Array**	**82.13**	**11**	P	**P**	**03 08 28.8**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=236,slow=6.7,SNR=4.5						
YKA	**Yellowknife Ar**	**89.79**	**23**	P	**P**	**03 09 07.8**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=242,slow=5.4,SNR=6.4						
BR131	**Keskin Array S**	**145.97**	**321**	PKPdf	**PKPbc**	**03 15 48.9**	**+0.7**
BRTR	**Keskin Array B**	**145.97**	**321**	PKPbc	**PKPdf**	**03 15 48.5**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=122,slow=3.3,SNR=9.0						

NEIC 27 04:18:32.1±2.3,0.03N±0.09×97.5E±0.1,h9km±3km,
mb4.6/21
ISCJB 27 04:18:39.8±0.4,1.14N±0.04×96.93E±0.04,h10km,
mb4.4/26,MS3.9/4,Error ellipse: s-maj=7.3km
s-min=4.1km az=135.5
IDC 27 04:18:39.9±0.8,1.19N×97.01E,h0km,mb4.3/20,
mb1 4.4/22,mb1mx4.1/59,mbtmp4.3/22,ML3.9/2,MS3.6/6,
Ms1 3.6/6,ms1mx3.2/43,Error ellipse: s-maj=25.5km
s-min=14.2km az=48.0
BJI 27 04:18:41.9±0.0,1.30N×97.00E,h10km,mb4.6/31,
mB5.0/25,Ms4.6/6,Ms7 4.4/7
DJA 27 04:18:42.4±0.9,1°N±3°×97°E±°,h20km±6km,M4.5/11,
mb4.7/6,MLv4.3/11

ISC 27 04:18:41.6±0.5,1.22N±0.05×96.94E±0.05,h10km,n95,
σ1§46/91,mb4.5/35,MS3.9/4,Off west coast of northern
Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.64**	**83**	P	**Pb**	**04 18 55.3**	**+0.4**
GSI				S	**Sb**	**04 19 04.5**	**+0.5**
GSI	**Gunungsitoli**	**0.64**	**83**		**Pb**	**04 18 55.3**	**+0.4**
SNSI	**Sinabang, Aceh**	**1.33**	**333**	P	**Pb**	**04 19 06.9**	**+0.3**
SNSI				S	**Sn**	**04 19 24.2**	**+0.3**
PBSI	**Pulau Batu**	**1.85**	**133**	P	**Pn**	**04 19 12.9**	**-0.4**
PBSI				S	**Sn**	**04 19 35.0**	**-1.8**
TPTI		**2.04**	**7**	P	**Pn**	**04 19 14.4**	**-1.6**
RPSI	**Rantau Prapat**	**2.47**	**54**		**Pn**	**04 19 21.6**	**-0.3**
RPSI	**Rantau Prapat**	**2.47**	**54**		**Pn**	**04 19 21.4**	**-0.5**
PSI	**Prapat**	**2.53**	**52**	Pn	**Pn**	**04 19 21.4**	**-1.5**
	5.9nm,0.3s,baz=227,slow=5.3,SNR=49						
PSI				LR	LR	04 20 10.8	
	comp=Z,679nm,20.7s,baz=311,slow=37						
MLSI	**Meulaboh, Aceh**	**3.07**	**350**	P	**Pn**	**04 19 30.8**	**+0.6**
MLSI				S	**Sn**	**04 20 06.9**	**-0.1**
SISI	**Saibi**	**3.32**	**140**	P	**Pn**	**04 19 33.3**	**-0.3**
LHMI	**Lhok Sumawe**	**3.98**	**0**	P	**Pn**	**04 19 43.0**	**+0.3**
LHMI	**Lhok Sumawe**	**3.98**	**0**	Pn	**Pb**	**04 19 50.0**	**-1.8**
BKNI	**Bangkinang**	**4.20**	**102**	P	**Pg**	**04 20 06.5**	**+4.4**
SDSI	**Sungai Dareh**	**4.97**	**115**	P	**Pg**	**04 20 20.1**	**+3.2**
IPM	**Ipoh**	**5.21**	**52**		**Pn**	**04 19 56.8**	**-2.9**
KULM	**Kulim**	**5.48**	**42**		**Pn**	**04 20 02.6**	**-0.8**
MDSI	**Maura Dua**	**9.19**	**128**	P	**Pn**	**04 20 53.3**	**-1.0**
	18nm,1.0s						
UTHA	**Uthaitani**	**14.46**	**10**	P	**P**	**04 22 14.6**	**+1.3**
PBKT	**Sadao Pong**	**15.76**	**14**	P	**P**	**04 22 27.6**	**-0.1**
	6.8nm,1.5s,817nm						
PBKT	**Sadao Pong**	**15.76**	**14**		**P**	**04 22 26.6**	**-1.1**
UTTA	**Uttaradit**	**16.80**	**12**	P	**P**	**04 22 43.4**	**+4.2**
	10μm,0.9s						
CM31	**Chiang Mai Arr**	**17.24**	**6**	P	**P**	**04 22 45.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**17.24**	**6**	P	**Pn**	**04 22 41.7**	**-1.0**
	0.4nm,0.3s,baz=190,slow=13,SNR=16						
CMAR				LR	LR	04 29 51.8	
	comp=Z,134nm,19.1s,baz=196,slow=39						
PALK	**Pallekele**	**17.26**	**291**	LR	LR	04 29 05.8	
	comp=Z,163nm,18.2s,baz=116,slow=36						
CHTO	**Chiang Mai**	**17.59**	**6**	P	**P**	**04 22 48.7**	**+0.7**
CMMT	**Chiang Mai**	**17.59**	**6**	P	**P**	**04 22 49.9**	**+1.8**
	3.6nm,1.0s						
SLVN	**Son La**	**21.11**	**18**	P	**P**	**04 23 26.3**	**-0.4**
SLVN				IAmb	IAmb	04 23 27.7	
	comp=Z,29nm,0.8s						
KMI	**Kunming**	**24.41**	**13**	P	**P**	**04 24 01.3**	**+0.6**
KMI				pmax	pmax		
	comp=Z,28nm,1.1s						
SHL	**Shillong**	**24.69**	**349**	*eP*	**P**	**04 24 04.0**	**+0.9**
SHL	**Shillong**	**24.69**	**349**	P	**P**	**04 24 03.3**	**+0.1**
H08S2	**Diego Garcia H**	**25.92**	**250**	T	T	04 51 10.6	
	baz=71,slow=75,SNR=2529						
H08S3	**Diego Garcia H**	**25.93**	**250**	T	T	04 51 09.6	
	baz=71,slow=75,SNR=1902						
H08S1	**Diego Garcia H**	**25.94**	**250**	T	T	04 51 10.8	
	baz=71,slow=75,SNR=2332						
ODAN	**Odare**	**27.09**	**341**	*eP*	**P**	**04 24 26.5**	**+1.6**
	comp=Z,39nm,0.7s						
RAMN	**Ramite**	**27.44**	**340**	*eP*	**P**	**04 24 30.4**	**+2.3**
	comp=Z,22nm,0.8s						
TAPN	**Taplejung**	**27.45**	**342**	*eP*	**P**	**04 24 30.1**	**+1.9**
	comp=Z,75nm,0.9s						
JIRN	**Jiri**	**28.23**	**340**	*eP*	**P**	**04 24 37.0**	**+1.7**
	comp=Z,66nm,1.0s						
PKI	**Pulchoki**	**28.43**	**338**	*eP*	**P**	**04 24 38.8**	**+1.7**
	comp=Z,1.9nm,0.7s						
PKIN	**Phulchoki**	**28.45**	**338**	*eP*	**P**	**04 24 39.0**	**+1.9**
	comp=Z,3.7nm,0.4s						
GUN	**Gumba**	**28.57**	**339**	*eP*	**P**	**04 24 40.0**	**+1.7**
	comp=Z,36nm,0.8s						
DMN	**Daman**	**28.58**	**338**	*eP*	**P**	**04 24 40.4**	**+2.1**
	comp=Z,18nm,0.7s						
KKN	**Kakani**	**28.68**	**338**	*eP*	**P**	**04 24 41.0**	**+1.9**
GKN	**Gorkha**	**29.12**	**337**	*eP*	**P**	**04 24 45.0**	**+2.1**
	comp=Z,12nm,0.4s						
KOLN	**Koldanda**	**29.33**	**335**	*eP*	**P**	**04 24 46.7**	**+1.8**
	comp=Z,28nm,0.9s						
DANN	**Dangsing**	**29.77**	**336**	*eP*	**P**	**04 24 50.4**	**+1.5**
	comp=Z,15nm,0.6s						
CD2	**Chengdu**	**30.23**	**12**	*eP*	**P**	**04 24 53.0**	**+0.4**
WHN	**Wuhan**	**33.52**	**28**	P	P	04 25 26.3	+4.9
XAN	**Xi'an**	**34.52**	**18**	P	**P**	**04 25 28.8**	**-1.4**
XAN				pP	sP	04 25 36.0	+1.9
XAN				pmax	pmax		
	comp=Z,14nm,1.1s						
XAN	**Xi'an**	**34.52**	**18**	P	**P**	**04 25 29.4**	**-0.8**
XAN				IAmb	IAmb	04 25 30.6	
	comp=Z,11nm,0.8s						
NJ2	**Nanjing**	**36.98**	**32**	*eP*	**P**	**04 25 49.0**	**-2.3**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
GTA	**Gaotai**	**38.10**	**4**	*eP*	**P**	**04 26 01.0**	**+0.2**
GTA				pP	sP	04 26 08.3	+3.5
GTA				sP	pP	04 26 11.8	+8.1
GTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,94nm,6.5s						
GTA				LR	LR		
	comp=Z,230nm,10.3s						
GTA				LR	LR		
	comp=Z,160nm,13.7s						
GTA				LR	LR		
	comp=Z,210nm,13.7s						
H01W3	**Cape Leeuwin H**	**39.37**	**157**	T	T	05 07 47.5	
	baz=333,slow=76,SNR=11						
H01W2	**Cape Leeuwin H**	**39.38**	**157**	T	T	05 07 46.0	
	baz=333,slow=76,SNR=13						
H01W1	**Cape Leeuwin H**	**39.38**	**157**	T	T	05 07 46.8	
	baz=333,slow=76,SNR=16						
HHC	**Hu-ho-hao-te**	**41.61**	**17**	*eP*	**P**	**04 26 30.5**	**+0.5**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,4.9s						
WRA	**Warramunga Arr**	**42.27**	**122**	P	**P**	**04 26 34.1**	**-1.5**
	comp=Z,2.0nm,0.7s,baz=300,slow=9.0,SNR=14						
WRA				LR	LR	04 47 38.4	
	comp=Z,56nm,18.1s,baz=230,slow=41						
BJT	**Baijiatuan**	**42.40**	**22**	P	**P**	**04 26 37.2**	**+0.9**
BJT				IAmb	IAmb	04 26 37.6	
	comp=Z,7.1nm,0.7s						
KSH	**Kashi**	**42.64**	**336**	P	**P**	**04 26 42.0**	**+3.5**
KSH				PcP	**PcP**	**04 28 27.3**	**-3.2**
KSH				PcS	**PcS**	**04 32 19.5**	**-3.2**
KSH				pmax	pmax		
	comp=Z,750nm,5.9s						
KSH				LR	LR		
	comp=Z,610nm,6.2s						
KSH				LR	LR		
	comp=Z,580nm,6.4s						
KSH				LR	LR		
	comp=Z,660nm,5.4s						
WMQ	**Urumqi**	**43.21**	**350**	*eP*	**P**	**04 26 44.5**	**+1.6**
WMQ				pP	sP	04 26 52.5	+5.5
WMQ				sP	pP	04 26 58.8	+13
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,120nm,5.7s						
ASAR	**Alice Springs**	**43.62**	**127**	P	**P**	**04 26 45.8**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=292,slow=7.7,SNR=14						
ASAR				PcP	**PcP**	**04 28 34.2**	**+0.1**
	comp=Z,1.2nm,1.1s,baz=298,slow=2.6,SNR=5.1						
NRN	**Naryn**	**44.27**	**337**	P	**P**	**04 26 53.6**	**+1.8**
NRN				IAmb	IAmb	04 26 56.7	
	comp=Z,7.6nm,0.9s						
GAR	**Garm**	**44.79**	**330**	P	**P**	**04 26 56.8**	**+1.0**
CHGR	**Chuyangaron**	**45.11**	**329**	P	**P**	**04 26 58.4**	**+0.1**
ARSB	**Arslanbob**	**45.41**	**335**	P	**P**	**04 27 01.5**	**+0.8**
KSRS	**Korea Array**	**45.98**	**35**	P	**P**	**04 27 04.5**	**-0.6**
	comp=Z,6.7nm,1.0s,baz=211,slow=8.4,SNR=8.6						
SONM	**Songino Array**	**47.15**	**9**	P	**P**	**04 27 14.5**	**+0.2**
	comp=Z,4.7nm,0.8s,baz=188,slow=8.5,SNR=26						
MK31	**Makanchi Array**	**47.16**	**346**	P	**P**	**04 27 13.9**	**-0.3**
MK31				IAmb	IAmb	04 27 15.5	
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**47.16**	**346**	P	**P**	**04 27 15.0**	**+0.8**
	comp=Z,4

WMQ				smax	smax		
	comp=N,69nm,0.9s						
WMQ				smax	smax		
	comp=E,87nm,0.7s						
SHLS	**Shalkode**	**4.00**	**295**	*eP*	**Pn**	**05 07 19.5**	**+2.2**
	10nm,0.4s						
SHLS				*eS*	**Sb**	**05 08 11.8**	**-3.2**
	201nm,0.5s						
PDGK	**Podgornoye**	**4.05**	**298**	⇓Pg	**Pg**	**05 07 34.6**	**+1.2**
	14nm,0.5s						
PDGK				⇑Lg	Lg	05 08 21.1	
	87nm,0.7s						
UZB	**Uzynbulak**	**4.30**	**294**	*eP*	**Pb**	**05 07 29.6**	**-2.0**
	3.2nm,0.3s						
UZB				*eS*	**Sb**	**05 08 26.4**	**+2.8**
	97nm,0.8s						
MK31	**Makanchi Array**	**5.46**	**345**	Pn	**Pn**	**05 07 37.4**	**+0.1**
	0.4nm,0.3s,baz=160,slow=14,SNR=29						
MK31				Pg	**Pg**	**05 07 57.0**	**-3.4**
	1.1nm,0.3s,baz=163,slow=16,SNR=7.7						
MK31				⇑Lg	Lg	05 09 13.3	
	18nm,0.7s,baz=159,slow=28,SNR=4.5						
MAKZ	**Makanchi**	**5.54**	**342**	⇓Pn	**Pn**	**05 07 38.5**	**0.0**
	0.6nm,0.3s						
MAKZ				⇑Sn	**Sn**	**05 08 46.8**	**+4.6**
	4.7nm,0.7s						
MAKZ				⇑Lg	Lg	05 09 12.7	
	6.8nm,0.7s						
TKM2	**Tokmak 2**	**6.68**	**285**	⇑Pn	**Pn**	**05 07 53.1**	**-1.1**
	4.6nm,0.7s						
TKM2				⇓Lg	Lg	05 09 42.9	
	21nm,0.7s						
KURBB	**Kurchatov Arra**	**9.95**	**338**	⇑Lg	Lg	05 11 38.1	
	10nm,0.8s						
KURK	**Kurchatov**	**10.01**	**338**	⇑Lg	Lg	05 11 37.3	
	9.5nm,0.8s						

IDC 27 05:18:39.9±10.0, **1°99'N**×**127°09'E, h0**km, **mb3.7**/3, **mb1 3.9**/3, **mb1mx3.5**/34, **mbtmp3.8**/3, **Error ellipse: s-maj=169.9km s-min=154.7km az=83.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.93**	**162**	P	P	05 23 46.0	+0.2
	1.5nm,0.4s,baz=342,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.35**	**166**	P	P	05 24 17.6	-0.3
	0.3nm,0.4s,baz=343,slow=7.8,SNR=8.6						
STKA	**Stephens Creek**	**36.39**	**159**	P	P	05 25 46.2	+0.1
	1.4nm,0.6s,baz=334,slow=10,SNR=4.3						

ISCJB ***27*** *05:33:32.7±0.3, 7°29S±0°04×156°71E±0°04, h45km, mb4.7/25, MS3.6/11, Error ellipse: s-maj=6.4km s-min=5.8km az=17.9*

BJI ***27*** *05:33:32.3±0.0, 7°75S×156°47E, h40km, mb4.7/25, mB5.2/12, Ms5.0/4, Ms7 4.7/4*

IDC ***27*** *05:33:35.3±2.2, 7°32S×156°75E, h57km±21km, mb4.1/14, mb1 4.2/18, mb1mx4.0/33, mbtmp4.3/18, ML3.5/2, MS3.6/14, Ms1 3.6/14, ms1mx3.4/35, Error ellipse: s-maj=16.8km s-min=12.0km az=2.0*

NEIC ***27*** *05:33:36.2±1.5, 7°3S±0°1×156°68E±0°09, h63km±6km, mb4.7/37*

DJA ***27*** *05:33:38.6±0.8, 7°S±6"×15°7E±°, h96km±8km, M4.3/16, mB4.5/2, mb4.7/16, MLv4.1/1, Mw(mB)3.7/2*

ISC 27 05:33:34.5±0.4, **7°30S**±0°07×**156°75E**±0°06, **h45**km, **n99,** σ1°**37**/93, **mb4.7**/40, **MS3.6**/11, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.81**	**124**	P	**Pn**	**05 34 29.7**	**-0.9**
	22nm,0.3s,baz=246,slow=17,SNR=5.4						
HNR				S	**Sn**	**05 35 15.6**	**+1.4**
	47nm,0.3s,baz=302,slow=15,SNR=2.5						
HNR	**Honiara**	**3.81**	**124**	*eP*	**Pn**	**05 34 31.0**	**+0.3**
HNR				*eS*	Sn	05 34 47.0	-27
HNR	**Honiara**	**3.81**	**124**		**Pn**	**05 34 31.2**	**+0.5**
HNR				Sn	**Sn**	**05 35 18.8**	**+4.6**
KRVT	**Keravat (AS076**	**5.56**	**302**	LR	LR	05 37 17.5	
	comp=Z,624nm,19.3s,baz=123,slow=40						
PMG	**Port Moresby**	**9.72**	**257**	P	**Pn**	**05 35 53.1**	**+1.2**
	0.4nm,0.3s,baz=126,slow=14,SNR=1.6						
PMG				S	**Sn**	**05 37 42.4**	**+2.7**
	0.9nm,0.3s,baz=8.1,slow=14,SNR=1.7						
PMG				LR	LR	05 39 23.8	
	comp=Z,243nm,19.1s,baz=38,slow=36						
PMG	**Port Moresby**	**9.72**	**257**	Pn	**Pn**	**05 35 54.6**	**+2.7**
COEN	**Coen**	**14.89**	**242**	P	**Pn**	**05 37 04.0**	**+1.7**
CTA	**Charters Tower**	**16.29**	**218**	P	**Pn**	**05 37 21.0**	**+0.7**
	0.1nm,0.3s,baz=52,slow=12,SNR=7.6						
DZM	**Mont Dzumac**	**17.41**	**149**	P	**P**	**05 37 34.7**	**-0.4**
	0.3nm,0.3s,baz=204,slow=20,SNR=3.6						
DZM				LR	LR	05 43 22.1	
	comp=Z,390nm,18.6s,baz=30,slow=34						
DZM	**Mont Dzumac**	**17.41**	**149**	P	**P**	**05 37 35.7**	**+0.5**
EIDS	**Eidsvold**	**18.77**	**196**	P	**Pn**	**05 37 50.4**	**-0.4**
ARMA	**Armidale**	**23.50**	**191**	P	**P**	**05 38 41.2**	**+0.6**
ARMA				IAmb	IAmb	05 38 48.3	
	comp=Z,23nm,1.2s						
FAKI	**Fak Fak**	**24.79**	**279**	P	**P**	**05 38 51.9**	**-0.6**
FAKI				IAmb	IAmb	05 39 04.2	
	comp=Z,43nm,1.3s						
WR0	**Warramunga Arr**	**24.94**	**237**	P	**P**	**05 38 53.1**	**-0.7**
WR0				IAmb	IAmb	05 39 01.8	
	comp=Z,28nm,0.9s						
WRAB	**Tennant Creek**	**25.09**	**238**	P	**P**	**05 38 54.9**	**-0.4**
WRA	**Warramunga Arr**	**25.11**	**238**	P	**P**	**05 38 54.8**	**-0.6**
	comp=Z,16nm,0.7s,baz=65,slow=9.2,SNR=87						
WRA				PcP	**PcP**	**05 42 28.7**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=68,slow=2.6,SNR=8.7						
MTN	**Manton Dam**	**25.81**	**256**	P	**P**	**05 39 03.5**	**+1.7**
MTN				IAmb	IAmb	05 39 18.3	
	comp=Z,50nm,1.4s						
SIJI	**Sorong**	**26.20**	**283**	P	**P**	**05 39 04.6**	**-0.7**
	comp=Z,2nm,0.3s,baz=119,slow=19,SNR=3.8						
AS31	**Alice Springs**	**27.31**	**231**	P	**P**	**05 39 14.8**	**-0.4**
ASAR	**Alice Springs**	**27.31**	**231**	P	**P**	**05 39 13.8**	**-1.5**
	comp=Z,2.7nm,0.7s,baz=60,slow=8.6,SNR=29						
ASAR				PcP	**PcP**	**05 42 33.0**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=64,slow=2.2,SNR=3.8						
ASAR				LR	LR	05 49 24.6	
	comp=Z,67nm,22.0s,baz=58,slow=35						
H11S3	**WAKE ISLAND Hy**	**27.44**	**21**	T	T	06 07 24.6	
	baz=202,slow=76,SNR=474						
H11S2	**WAKE ISLAND Hy**	**27.44**	**21**	T	T	06 07 24.8	
	baz=202,slow=76,SNR=457						
H11S1	**WAKE ISLAND Hy**	**27.46**	**21**	T	T	06 07 25.9	
	baz=202,slow=76,SNR=496						
STKA	**Stephens Creek**	**28.25**	**208**	P	**P**	**05 39 22.6**	**-0.9**
	comp=Z,5.3nm,0.7s,baz=29,slow=14,SNR=13						
STKA				LR	LR	05 50 19.6	
	comp=Z,142nm,20.1s,baz=23,slow=36						
STKA	**Stephens Creek**	**28.25**	**208**	P	**P**	**05 39 23.1**	**-0.4**
KNRA	**Kununurra**	**28.64**	**251**	P	**P**	**05 39 26.6**	**-0.5**
H11N1	**WAKE ISLAND Hy**	**28.64**	**20**	T	T	06 08 55.5	
	baz=202,slow=76,SNR=58						
H11N3	**WAKE ISLAND Hy**	**28.65**	**20**	T	T	06 08 57.1	
	baz=202,slow=76,SNR=76						
H11N2	**WAKE ISLAND Hy**	**28.66**	**20**	T	T	06 08 56.9	
	baz=202,slow=76,SNR=46						
SANI	**Sanana**	**31.09**	**278**	P	**P**	**05 39 48.8**	**-0.1**
	comp=Z,35nm,1.2s						
BBOO	**Buckleboo**	**31.84**	**214**	P	**P**	**05 39 54.1**	**-1.2**
BBOO				IAmb	IAmb	05 40 02.0	
	comp=Z,10nm,1.0s						
FITZ	**Fitzroy Crossi**	**32.14**	**248**	P	**P**	**05 39 57.2**	**-0.8**
RAO	**Raoul Island**	**32.34**	**136**	LR	LR	05 51 25.9	
	comp=Z,101nm,19.0s,baz=320,slow=33						
LUWI	**Luwuk**	**34.44**	**279**	P	**P**	**05 40 18.6**	**+0.4**
	comp=Z,57nm,0.7s						
LUWI	**Luwuk**	**34.44**	**279**	P	**P**	**05 40 17.8**	**-0.4**
FORT	**Forrest**	**35.59**	**225**	P	**P**	**05 40 27.2**	**-0.7**
URZ	**Urewera**	**35.91**	**152**	LR	LR	05 54 02.3	
	comp=Z,121nm,18.0s,baz=330,slow=34						
THZ	**Tophouse**	**37.19**	**160**	P	**P**	**05 40 40.8**	**-0.7**
TUWZ	**Tuamarina**	**37.27**	**158**	P	**P**	**05 40 42.8**	**+0.8**
MPSI	**Mapaga**	**37.53**	**280**	P	**P**	**05 40 42.9**	**-1.8**
	comp=Z,43nm,0.5s						
PSAD2	**Pilbara Seismi**	**38.24**	**244**	P	**P**	**05 40 49.6**	**-0.9**
PSAD2				IAmb	IAmb	05 41 03.9	
	comp=Z,18nm,1.3s						
PSAD1	**Pilbara Seismi**	**38.31**	**245**	P	**P**	**05 40 49.9**	**-1.3**
PSAA2	**Pilbara Seismi**	**38.33**	**244**	P	**P**	**05 40 49.8**	**-1.5**
JAGI	**Jajag, Banyuwa**	**42.20**	**265**	P	**P**	**05 41 21.4**	**-2.0**
KKM	**Kota Kinabalu**	**42.56**	**287**	P	**P**	**05 41 25.9**	**-0.6**
MORW	**Morawa**	**44.01**	**235**	P	**P**	**05 41 38.5**	**+0.6**
MORW				IAmb	IAmb	05 41 39.5	
	comp=Z,19nm,1.5s						
RAR	**Rarotonga**	**44.19**	**113**	LR	LR	05 57 03.7	
	comp=Z,382nm,19.5s,baz=190,slow=32						
UGM	**Wanagama**	**45.81**	**266**	P	**P**	**05 41 51.1**	**-1.4**
MJAR	**Matsushiro Arr**	**46.95**	**339**	LR	LR	05 59 28.5	
	comp=Z,28nm,21.4s,baz=180,slow=33						
KPJI	**Karang Pucung**	**47.41**	**267**	P	**P**	**05 42 03.8**	**-1.2**
	comp=Z,20nm,0.5s						
CISI	**Cisompet, Garu**	**48.51**	**266**	P	**P**	**05 42 11.1**	**-2.5**
	comp=Z,57nm,0.5s						
CISI	**Cisompet, Garu**	**48.51**	**266**	P	**P**	**05 42 11.5**	**-2.0**
CGJI	**Cibinong**	**50.67**	**267**	P	**P**	**05 42 27.3**	**-2.6**
	comp=Z,55nm,0.5s						
KSRS	**Korea Array**	**52.04**	**331**	LR	LR	06 04 37.8	
	comp=Z,41nm,19.1s,baz=122,slow=36						
ASAJ	**Asahikawa**	**52.75**	**347**	LR	LR	06 02 16.6	
	comp=Z,94nm,19.5s,baz=174,slow=33						
NJ2	**Nanjing**	**53.27**	**319**	*eP*	**P**	**05 42 51.3**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
WHN	**Wuhan**	**55.38**	**315**	P	P	05 43 11.8	+7.5
PBKT	**Sadao Pong**	**60.05**	**294**	P	**P**	**05 43 37.6**	**+0.2**
PBKT				IAmb	IAmb	05 43 42.1	
	comp=Z,9.3nm,1.2s						
PETK	**Petropavlovsk-**	**60.18**	**1**	P	**P**	**05 43 38.0**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=181,slow=7.4,SNR=2.9						
PETK				LR	LR	06 04 56.7	
	comp=Z,59nm,21.9s,baz=65,slow=31						
CMAR	**Chiang Mai Arr**	**62.49**	**295**	P	**P**	**05 43 53.8**	**-0.2**
	comp=Z,3.7nm,0.5s,baz=111,slow=4.9,SNR=26						
CMAR				LR	LR	06 10 59.8	
	comp=Z,16nm,18.9s,baz=110,slow=36						
HHC	**Hu-ho-hao-te**	**63.38**	**323**	*eP*	**P**	**05 44 02.5**	**+3.0**
HHC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,4.3s						
LZH	**Lanzhou**	**65.76**	**315**	*eP*	**P**	**05 44 16.3**	**+1.0**
LZH				pP	pP	05 44 26.0	-1.8
LZH				sP	sP	05 44 30.3	-2.5
LZH				pmax	pmax		
	comp=Z,14nm,1.2s						
GTA	**Gaotai**	**70.16**	**316**	*eP*	**P**	**05 44 43.5**	**+0.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ULN	**Ulaanbaatar**	**70.20**	**327**	P	**P**	**05 44 42.9**	**-0.1**
ULN				IAmb	IAmb	05 44 46.0	
	comp=Z,7.7nm,1.1s						
VNDA	**Vanda**	**70.24**	**179**	P	**P**	**05 44 42.5**	**0.0**
	comp=Z,2.9nm,0.9s,baz=334,slow=7.3,SNR=3.6						
VNDA				LR	LR	06 10 55.2	
	comp=Z,46nm,19.0s,baz=350,slow=32						
VNDA	**Vanda**	**70.24**	**179**	P	**P**	**05 44 43.2**	**+0.7**
SONM	**Songino Array**	**70.54**	**327**	P	**P**	**05 44 45.0**	**+0.1**
	comp=Z,5.2nm,0.8s,baz=130,slow=2.8,SNR=16						
SHL	**Shillong**	**70.95**	**300**	P	**P**	**05 44 47.2**	**-0.8**
LSA	**Lhasa**	**72.89**	**304**	P	**P**	**05 44 59.7**	**-0.1**
LSA				IAmb	IAmb	05 45 01.1	
	comp=Z,5.8nm,0.5s						
TAPN	**Taplejung**	**75.05**	**301**	*eP*	**P**	**05 45 11.7**	**-0.7**
	comp=Z,11nm,0.5s						
ODAN	**Odare**	**75.19**	**300**	*eP*	**P**	**05 45 12.6**	**-0.5**
	comp=Z,18nm,0.5s						
RAMN	**Ramite**	**75.89**	**300**	*eP*	**P**	**05 45 16.8**	**-0.4**
	comp=Z,5.2nm,0.5s						
JIRN	**Jiri**	**76.44**	**301**	*eP*	**P**	**05 45 19.5**	**-0.9**
	comp=Z,11nm,0.5s						
GUN	**Gumba**	**76.77**	**301**	*eP*	**P**	**05 45 21.5**	**-0.7**
	comp=Z,19nm,0.7s						
PKI	**Pulchoki**	**77.08**	**300**	*eP*	**P**	**05 45 23.4**	**-0.6**
	comp=Z,0.7nm,0.3s						
PKIN	**Phulchoki**	**77.09**	**300**	*eP*	**P**	**05 45 23.3**	**-0.7**
	comp=Z,4.3nm,0.3s						
DMN	**Daman**	**77.35**	**300**	*eP*	**P**	**05 45 24.8**	**-0.6**
	comp=Z,24nm,0.8s						
KOLN	**Koldanda**	**78.68**	**300**	*eP*	**P**	**05 45 31.7**	**-1.0**
	comp=Z,26nm,0.9s						
DANN	**Dangsing**	**78.69**	**301**	*eP*	**P**	**05 45 31.8**	**-1.1**
	comp=Z,19nm,0.8s						
PPLA	**Purkeypile**	**80.01**	**21**	P	**P**	**05 45 39.1**	**0.0**
PPLA				IAmb	IAmb	05 45 48.4	
	comp=Z,9.4nm,1.5s						
WMQ	**Urumqi**	**80.24**	**317**	*eP*	**P**	**05 45 42.8**	**+2.1**
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,220nm,7.3s						
WMQ	**Urumqi**	**80.24**	**317**	P	**P**	**05 45 40.3**	**-0.4**
WMQ				IAmb	IAmb	05 45 50.4	
	comp=Z,18nm,1.4s						
MCK	**McKinley**	**81.69**	**21**	P	**P**	**05 45 46.8**	**-1.1**
MCK				IAmb	IAmb	05 45 56.0	
	comp=Z,15nm,1.2s						
MLY	**Manley**	**81.84**	**20**	P	**P**	**05 45 49.8**	**+1.1**
QSPA	**South Pole Qui**	**82.68**	**180**	P	**P**	**05 45 52.8**	**-0.4**
QSPA				IAmb	IAmb	05 45 53.5	
	comp=Z,4.9nm,0.7s						
IL31		**83.02**	**21**	P	**P**	**05 45 55.0**	**+0.3**
IL31				IAmb	IAmb	05 46 00.0	
	comp=Z,4.4nm,1.2s						
ILAR	**Eielson Array**	**83.02**	**21**	P	**P**	**05 45 52.9**	**-2.0**
	comp=Z,0.4nm,0.6s,baz=247,slow=5.4,SNR=8.3						
MK31	**Makanchi Array**	**84.79**	**318**	P	**P**	**05 46 03.5**	**-0.8**
MK31				IAmb	IAmb	05 46 12.8	
	comp=Z,5.1nm,1.0s						
MKAR	**Makanchi Array**	**84.79**	**318**	P	**P**	**05 46 03.0**	**-1.3**
	comp=Z,3.0nm,0.6s,baz=93,slow=8.1,SNR=18						
MAW	**Mawson**	**84.79**	**203**	P	**P**	**05 46 03.2**	**-0.6**
	comp=Z,3.3nm,0.9s,baz=86,slow=9.1,SNR=4.4						
MAW	**Mawson**	**84.79**	**203**	P	**P**	**05 46 03.2**	**-0.6**
MAKZ	**Makanchi**	**85.00**	**318**	P	**P**	**05 46 04.5**	**-0.8**
KSH	**Kashi**	**87.54**	**310**	P	**P**	**05 46 20.5**	**+2.4**
KSH				SKS	**SKSac**	**05 56 43.5**	**+0.8**
KSH				S	**S**	**05 56 57.5**	**+1.1**
KSH				SS	**SS**	**06 02 48.0**	**+5.1**
NVAR	**Mina Array Bea**	**90.54**	**51**	P	**P**	**05 46 32.1**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=282,slow=5.4,SNR=3.2						
BVAR	**Borovoye Array**	**93.59**	**323**	P	**P**	**05 46 44.1**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=97,slow=6.1,SNR=3.7						
YKA	**Yellowknife Ar**	**95.79**	**29**	P	**P**	**05 46 55.2**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=262,slow=4.8,SNR=6.2						
SDMD	**Soldier's Deli**	**122.41**	**48**	PKPdf	**PKPdf**	**05 52 25.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**154.79**	**285**	PKPbc	**PKPbc**	**05 53 31.2**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=89,slow=2.0,SNR=5.1						
DBIC	**Dimbokro**	**161.74**	**269**	PKPab	**PKPab**	**05 54 16.2**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=82,slow=7.1,SNR=3.8						

ISCJB ***27*** *05:44:35.6±0.4, 37°30N±0°02×37°15E±0°02, h5km±3km, Error ellipse: s-maj=3.6km s-min=3.0km az=177.3*

ISK ***27*** *05:44:35.4, 37°33N×37°13E, h5km, ML3.3/12*

DDA ***27*** *05:44:35.3, 37°31N×37°13E, h6km±2km, MW3.6*

ISC 27 05:44:35.7±0.9, **37°33N**±0°02×**37°14E**±0°02, **h8**km±6km, **n55,** σ0°**72**/69, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMN	**Narli-Kahraman**	**0.07**	**10**	PG	**Pg**	**05 44 37.5**	**-0.2**
KHMN				SG	**Sg**	**05 44 38.9**	**-0.2**
GAZ	**Gaziantep**	**0.16**	**161**	PG	**Pg**	**05 44 39.3**	**+0.2**
GAZ				SG	**Sg**	**05 44 42.1**	**+0.6**
HCB	**Kahramanmara**	**0.19**	**275**	*i* PA	**Pg**	**05 44 39.5**	**-0.1**
HCB				*i* S	**Sg**	**05 44 42.2**	**0.0**
HCB				IAML		05 44 45.0	
	comp=N,7μm,0.3s						
HCB				IAML		05 44 46.0	
	comp=E,5μm,0.3s						
KMRS	**Kahramanmaras**	**0.26**	**313**	PG	**Pg**	**05 44 41.2**	**+0.2**
KMRS				SG	**Sg**	**05 44 45.0**	**+0.5**
GZT	**Gaziantep**	**0.34**	**85**	*i* PA	**Pg**	**05 44 42.5**	**+0.1**
GZT				*i* S	**Sg**	**05 44 47.1**	**+0.3**
GZT				IAML		05 44 48.0	
	comp=E,4μm,0.5s						
GZT				IAML		05 44 54.0	
	comp=N,4μm,0.6s						
KAMA	**Osmaniye**	**0.41**	**250**	*i* PA	**Pg**	**05 44 43.2**	**-0.4**
KAMA				*i* S	**Sg**	**05 44 49.7**	**+0.7**
KAMA				IAML		05 44 51.0	
	comp=N,1μm,0.3s						
KAMA				IAML		05 44 51.0	
	comp=E,1μm,0.3s						
KUZU	**Kuzuini**	**0.56**	**186**	*i* PA	**Pg**	**05 44 47.0**	**+0.6**
KUZU				*i* S	**Sg**	**05 44 53.6**	**-0.1**
KUZU				IAML		05 45 00.0	
	comp=N,3μm,0.4s						
KUZU				IAML		05 45 00.0	
	comp=E,3μm,0.5s						
ANDN	**Andirin**	**0.68**	**292**	*i* PA	**Pg**	**05 44 48.8**	**-0.1**
ANDN				*i* S	**Sg**	**05 44 57.4**	**-0.5**
ANDN				IAML		05 45 02.0	
	comp=E,770nm,0.4s						
ANDN				IAML		05 45 04.0	
	comp=N,867nm,0.3s						
ATAB	**Bozova**	**0.93**	**81**	*i* PA	**Pg**	**05 44 53.9**	**+0.4**
ATAB				*i* S	**Sg**	**05 45 05.7**	**+0.1**
ATAB				IAML		05 45 09.0	
	comp=N,1.8nm,0.3s						
ATAB				IAML		05 45 09.0	
	comp=E,3μm,0.5s						
ELBS	**KAHRAMANMARAS**	**1.00**	**360**	*i* P	**Pg**	**05 44 55.1**	**+0.2**
ELBS				*i* S	**Sn**	**05 45 10.3**	**-0.2**
ELBS				IAML		05 45 15.0	
	comp=N,584nm,0.4s						
ELBS				IAML		05 45 16.0	
	comp=E,829nm,0.6s						
KOZT	**Kozan**	**1.06**	**279**	PG	**Pg**	**05 44 55.8**	**-0.3**
SAIM	**ADANA**	**1.06**	**308**	*i* P	**Pg**	**05 44 55.7**	**-0.5**
SAIM				*i* S	**Sb**	**05 45 10.5**	**0.0**
SAIM				IAML		05 45 13.0	
	comp=N,1μm,0.2s						
SAIM				IAML		05 45 15.0	
	comp=E,2μm,0.3s						
AKCD	**Akcadag**	**1.15**	**32**	*i* P	**Pg**	**05 44 57.5**	**-0.3**
AKCD				*i* S	**Sb**	**05 45 13.4**	**+0.4**
AKCD				IAML		05 45 15.0	
	comp=N,1μm,0.3s						
AKCD				IAML		05 45 16.0	
	comp=E,2μm,0.6s						
CEYT	**Ceyhan**	**1.16**	**255**	PN	**Pb**	**05 44 57.9**	**-0.1**
DARE	**Darende-Malaty**	**1.27**	**12**	PN	**Pg**	**05 45 00.2**	**+0.1**
YURE	**YUREGIR**	**1.31**	**248**	*i* P	**Pg**	**05 45 00.7**	**-0.1**
YURE	**YUREGIR**	**1.31**	**248**	PN	**Pg**	**05 45 00.7**	**-0.1**
URFA	**Urfa**	**1.34**	**85**	PN	**Pn**	**05 45 00.8**	**0.0**
AKO	**Adana**	**1.36**	**276**	*i* P	**Pn**	**05 45 00.5**	**-0.6**
AKO				IAML		05 45 35.0	
	comp=N,90nm,0.7s						
AKO				IAML		05 45 35.0	
	comp=E,100nm,0.6s						
CUGUR	**Gurin_SVAS**	**1.40**	**4**	*i* P	**Pg**	**05 45 02.6**	**0.0**
CUGUR				*i* S	**Sg**	**05 45 21.8**	**+1.0**
CUGUR				IAML		05 45 30.0	
	comp=N,749nm,0.7s						
CUGUR				IAML		05 45 32.0	
	comp=E,1μm,0.5s						
MALT	**Malatya**	**1.42**	**46**	PN	**Pb**	**05 45 02.5**	**+0.1**
MALT				SN	**Sg**	**05 45 22.1**	**+0.8**
SANL	**SANLIURFA_Merk**	**1.48**	**95**	*i* P	**Pn**	**05 45 02.1**	**-0.6**
SANL				*i* S	**Sn**	**05 45 20.9**	**-1.3**
KRTS	**Karatas**	**1.60**	**243**	PN	**Pb**	**05 45 05.0**	**-0.6**
YAHY	**KAYSERI_Yahyal**	**1.61**	**299**	*i* P	**Pb**	**05 45 05.1**	**-0.6**
KARA	**Karaisali**	**1.67**	**268**	PN	**Pn**	**05 45 05.9**	**+0.7**
CMRD	**Camardi-Nigde**	**1.75**	**282**	PN	**Pn**	**05 45 07.1**	**+0.7**
BNN	**Bunyan**	**1.83**	**326**	PN	**Pb**	**05 45 08.7**	**-0.9**
ELZG	**Elazig**	**1.87**	**51**	*i* P	**Pn**	**05 45 08.5**	**+0.4**
DED	**Mersin**	**1.91**	**260**	*i* P	**Pb**	**05 45 10.8**	**+0.1**
CUALT	**Altinyayla-SIV**	**1.97**	**351**	*i* P	**Pb**	**05 45 11.2**	**-0.6**
CUALT				IAML		05 45 45.0	
	comp=E,82nm,0.4s						
CUALT				IAML		05 45 54.0	
	comp=N,85nm,0.5s						
CUKAN	**kangal_SIVAS**	**2.00**	**7**	*i* P	**Pb**	**05 45 12.0**	**-0.5**
MERS	**Mersin**	**2.15**	**258**	PN	**Pn**	**05 45 12.9**	**+1.0**
CUSAR	**Sarkisla-SIVAS**	**2.21**	**342**	*i* P	**Pn**	**05 45 13.9**	**+1.1**
KEMA	**Kemaliye**	**2.21**	**28**	*i* P	**Pn**	**05 45 13.3**	**+0.5**
AVNS	**Nevsehir-Avano**	**2.34**	**310**	*i* P	**Pn**	**05 45 15.5**	**+1.0**
KERG	**Konya-Eregli**	**2.41**	**273**	*i* P	**Pn**	**05 45 16.5**	**+1.0**
REFA	**Refahiye_ERZN**	**2.43**	**31**	*i* P	Pg	05 45 31.1	+8.9
DIYA	**Diyarbakir**	**2.44**	**75**	*i* P	**Pg**	**05 45 21.7**	**-0.8**
DYBB	**Diyarbakir**	**2.46**	**74**	PN	**Pn**	**05 45 17.4**	**+1.2**
SCER	**sogukcermik**	**2.53**	**360**	*i* P	**Pb**	**05 45 20.1**	**-1.4**
SIRC	**Yozgat**	**2.55**	**323**	*i* P	**Pn**	**05 45 18.0**	**+0.5**
KIZK	**Mersin**	**2.55**	**252**	PN	**Pn**	**05 45 18.5**	**+1.2**
TNCL	**Tunceli-Merkez**	**2.60**	**46**	*i* P	**Pb**	**05 45 23.7**	**+1.1**
CUZAR	**Zara_SIVAS**	**2.60**	**11**	*i* P	**Pg**	**05 45 25.9**	**+0.3**
MAZI	**Mazidag**	**2.63**	**86**	PN	**Pn**	**05 45 19.5**	**+0.9**
HANI	**Diyarbakir_Han**	**2.80**	**66**	*i* P	**Pn**	**05 45 20.6**	**-0.2**
MARD	**Mardin**	**2.90**	**89**	*i* P	**Pn**	**05 45 21.4**	**-0.9**
MARD				IAML		05 46 18.0	
	comp=N,611nm,0.5s						
MARD				IAML		05 46 23.0	
	comp=E,317nm,0.4s						
**

RAS, 224p + CD-ROM, 2014)

IDC 27 05:59:44.5±3.6, 53°.84N×90°.81E, h0km, mb1 3.0/3, mb1mx2.9/62, mbtmp3.0/3, ML2.8/2, Error ellipse: s-maj=29.7km s-min=24.0km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.55**	**274**	*i*		06 28 40.0	
	baz=90,slow=328,SNR=4.8						
ZALV	**Zalesovo Beam**	**3.55**	**274**	Pn	Pn	06 00 42.0	+1.1
	0.1nm,0.3s,baz=91,slow=20,SNR=4.8						
ZALV				Pg	Pb	06 00 47.4	-0.7
	0.5nm,0.3s,baz=92,slow=14,SNR=22						
ZALV				Lg	Lg	06 01 37.8	
	0.4nm,0.3s,baz=112,slow=16,SNR=2.3						
KURBB	**Kurchatov Arra**	**8.20**	**252**	Pn	Pn	06 01 44.6	0.0
	0.1nm,0.3s,baz=63,slow=14,SNR=4.3						
KURBB				Sn	Sn	06 03 15.6	-2.4
	0.1nm,0.3s,baz=69,slow=21,SNR=3.8						
KURBB				Lg	Lg	06 04 05.2	
	0.1nm,0.3s,baz=151,slow=26,SNR=4.2						
MKAR	**Makanchi Array**	**8.91**	**221**	Pn	Pn	06 01 55.0	+0.6
	0.1nm,0.3s,baz=39,slow=13,SNR=5.4						
MKAR				Sn	Sn	06 03 35.0	-0.4
	0.1nm,0.3s,baz=39,slow=23,SNR=3.7						
MKAR				Lg	Lg	06 04 19.4	
	0.0nm,0.3s,baz=45,slow=33,SNR=3.6						
SONM	**Songino Array**	**11.53**	**115**	Lg	Lg	06 05 39.7	
	baz=296,slow=31,SNR=9.3						
I34MN	**SONGINO INFRAS**	**11.55**	**115**	*i*		07 04 10.0	
	baz=307,slow=337,SNR=1.3						

IDC 27 06:26:17.8±3.7, 6°.14S×153°.90E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/25, mbtmp3.2/2, MS3.6/1, Ms1 3.6/1, ms1mx2.5/23, Error ellipse: s-maj=182.8km s-min=48.3km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.44**	**232**	P	P	06 31 29.9	+0.9
	0.4nm,0.4s,baz=56,slow=9.4,SNR=5.3						
ASAR	**Alice Springs**	**25.95**	**226**	P	P	06 31 51.0	-1.2
	0.3nm,0.6s,baz=56,slow=9.8,SNR=2.9						
JCJ	**Chichijima**	**34.93**	**342**	LR	LR	06 45 45.7	
	comp=Z,87nm,18.9s,baz=58,slow=33						
TORD	**Torodi Ar. Bea**	**151.74**	**286**	PKPbc	PKiKP	06 46 15.7	-0.2
	1.1nm,0.7s,baz=67,slow=2.5,SNR=6.7						

SOME 27 06:27:49.8, 43°.65N×82°.07E, h0km
NNC 27 06:27:50.7±1.1, 43°.58N×82°.14E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=8.9km s-min=4.3km az=136.0

ISC 27 06:27:48.7±1.8, 43°.56N±0°.07×82°.17E±0°.06, h8km±13km, n35, σ2°21/54, 7C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.88**	**295**	*eP*	**Pb**	**06 28 24.1**	**+0.7**
	11nm,0.3s						
DJR				*eS*	**Sg**	**06 28 49.2**	**0.0**
	139nm,0.2s						
DJR	**Jarkent**	**1.88**	**295**	P	**Pb**	**06 28 24.0**	**+0.7**
	11nm,0.3s						
DJR				S	**Sg**	**06 28 49.8**	**+0.7**
	139nm,0.2s						
PDGK	**Podgornoye**	**1.96**	**264**	Pg	**Pb**	**06 28 25.7**	**+0.9**
	20nm,0.2s						
PDGK				Lg	Lg	06 28 51.7	
	49nm,0.2s						
PDGK	**Podgornoye**	**1.96**	**264**	⇑Pg	**Pb**	**06 28 25.4**	**+0.6**
	12nm,0.3s						
PDGK				⇑Lg	Lg	06 28 53.3	
	46nm,0.4s						
SHLS	**Shalkode**	**2.01**	**259**	*eP*	**Pn**	**06 28 22.0**	**-1.1**
	131nm,0.2s						
SHLS				*eS*	**Sn**	**06 28 45.9**	**-2.6**
	351nm,0.2s						
SHLS	**Shalkode**	**2.01**	**259**	P	**Pn**	**06 28 22.0**	**-1.1**
	131nm,0.2s						
SHLS				S	**Sn**	**06 28 45.9**	**-2.6**
	351nm,0.2s						
UZB	**Uzynbulak**	**2.33**	**261**	*eP*	**Pb**	**06 28 32.2**	**+1.2**
	18nm,0.3s						
UZB				*eS*	**Sg**	**06 29 03.0**	**-0.6**
	65nm,0.2s						
UZB	**Uzynbulak**	**2.33**	**261**	Pg	**Pb**	**06 28 32.3**	**+1.2**
	18nm,0.3s						
UZB				Lg	Lg	06 29 03.0	
	65nm,0.2s						
KPKS	**Kokpek**	**2.54**	**269**	*eP*	**Pb**	**06 28 36.4**	**+1.9**
	18nm,0.1s						
KPKS				*eS*	**Sg**	**06 29 09.9**	**-0.2**
	84nm,0.5s						
KAPS	**Kapalarasan**	**2.65**	**312**	*eP*	**Pb**	**06 28 37.6**	**+1.2**
	9.3nm,0.3s						
KAPS				*eS*	**Sg**	**06 29 12.4**	**-1.3**
	53nm,0.3s						
KAPS	**Kapalarasan**	**2.65**	**312**	Pg	**Pb**	**06 28 37.6**	**+1.2**
	9.3nm,0.3s						
KAPS				Lg	Lg	06 29 12.8	
	53nm,0.3s						
ZHN	**Zhinishke**	**2.75**	**263**	*eP*	**Pb**	**06 28 39.6**	**+1.4**
	6.5nm,0.2s						
ZHN				*eS*	**Sg**	**06 29 15.4**	**-1.5**
	28nm,0.2s						
SATY	**Saty**	**2.79**	**261**	*eP*	**Pb**	**06 28 40.1**	**+1.2**
	17nm,0.2s						
SATY				*eS*	**Sg**	**06 29 17.0**	**-1.3**
	108nm,0.2s						
SATY	**Saty**	**2.79**	**261**	Pg	**Pb**	**06 28 40.1**	**+1.2**
	17nm,0.2s						
SATY				Lg	Lg	06 29 17.2	
	108nm,0.2s						
KURS	**Kuram**	**2.91**	**270**	*eP*	**Pb**	**06 28 42.8**	**+1.9**
	5.0nm,0.7s						
KURS				*eS*	**Sg**	**06 29 21.2**	**-0.9**
	14nm,0.6s						
KURS	**Kuram**	**2.91**	**270**	Pg	**Pb**	**06 28 42.8**	**+1.9**
	5.0nm,0.7s						
KURS				Lg	Lg	06 29 21.2	
	14nm,0.6s						
ARXS	**Arharly**	**3.20**	**283**	*eP*	**Pb**	**06 28 47.1**	**+1.2**
	2.7nm,0.2s						
ARXS				*eS*	**Sb**	**06 29 28.6**	**+3.5**
	21nm,0.4s						
MK31	**Makanchi Array**	**3.23**	**2**	⇑Pg	**Pg**	**06 28 50.6**	**0.0**
	1.3nm,0.3s,baz=182,slow=14,SNR=7.6						
MK31				⇑Lg	Lg	06 29 29.8	
	5.4nm,0.5s,baz=187,slow=29,SNR=12						
MAKZ	**Makanchi**	**3.25**	**358**	⇓Pg	**Pg**	**06 28 50.6**	**-0.3**
	1.3nm,0.3s						
MAKZ				⇑Lg	Lg	06 29 31.3	
	4.0nm,0.5s						
KOTS	**Kotyrbulak**	**3.70**	**267**	*eP*	**Pb**	**06 28 57.5**	**+3.2**
	18nm,0.4s						
KOTS				*eS*	**Sg**	**06 29 46.4**	**-1.0**
	54nm,0.5s						
KOTS	**Kotyrbulak**	**3.70**	**267**	Pg	**Pb**	**06 28 57.5**	**+3.2**
	18nm,0.4s						
KOTS				Lg	Lg	06 29 46.4	
	54nm,0.5s						
MDOK	**Medeo**	**3.75**	**266**	Pg	**Pb**	**06 28 58.9**	**+3.6**
	3.5nm,0.6s						
MDOK				⇑Lg	Lg	06 29 49.6	
	6.9nm,0.5s						
CHKK	**Chushkaly**	**3.77**	**276**	*eP*	**Pg**	**06 29 00.4**	**-0.4**
	5.1nm,0.4s						
CHKK				*eS*	**Sg**	**06 29 51.9**	**+2.3**
	24nm,0.2s						
CHKK	**Chushkaly**	**3.77**	**276**	Pg	**Pg**	**06 29 00.4**	**-0.4**
	5.1nm,0.4s						
CHKK				Lg	Lg	06 29 51.9	
	24nm,0.2s						
TNSS	**Tian-Shan**	**3.84**	**264**	*eP*	**Pg**	**06 29 01.4**	**-1.0**
	5.0nm,0.5s						
TNSS				*eS*	**Sg**	**06 29 52.9**	**+0.6**
	12nm,0.4s						
TNSS	**Tian-Shan**	**3.84**	**264**	Pg	**Pg**	**06 29 01.4**	**-1.0**
	5.0nm,0.5s						
TNSS				Lg	Lg	06 29 52.8	
	12nm,0.4s						
KTBS	**Karatobe**	**3.98**	**274**	*eP*	**Pg**	**06 29 03.6**	**-1.4**
	3.4nm,0.5s						
KTBS				*eS*	**Sg**	**06 29 56.9**	**+0.3**
	15nm,0.3s						
KTBS	**Karatobe**	**3.98**	**274**	Pg	**Pg**	**06 29 03.6**	**-1.4**
	3.4nm,0.5s						
KTBS				Lg	Lg	06 29 56.9	
	15nm,0.3s						
KUU	**Kurty**	**4.24**	**276**	*eP*	**Pb**	**06 29 06.2**	**+2.8**
	1.2nm,0.5s						
KUU				*eS*	**Sg**	**06 30 01.1**	**-3.6**
	15nm,0.3s						
ZSN	**Zaisan**	**4.33**	**25**	*eP*	**Pb**	**06 29 07.7**	**+2.7**
	3.4nm,0.4s						
ZSN				*eS*	**Sg**	**06 30 04.1**	**-3.5**
	13nm,0.4s						
ZSN	**Zaisan**	**4.33**	**25**	Pg	**Pb**	**06 29 07.7**	**+2.7**
	3.4nm,0.4s						
ZSN				Lg	Lg	06 30 04.1	
	13nm,0.4s						
KST	**Kastek**	**4.56**	**266**	*eP*	**Pb**	**06 29 12.9**	**+3.9**
	12nm,1.4s						
KST				*eS*	**Sg**	**06 30 12.6**	**-2.4**
	5.3nm,1.0s						
DGS	**Degeres**	**4.67**	**268**	*eP*	**Pb**	**06 29 15.4**	**+4.5**
	3.1nm,0.5s						
DGS				*eS*	**Sg**	**06 30 17.0**	**-1.6**
	10nm,0.7s						
DGS	**Degeres**	**4.67**	**268**	Pg	**Pb**	**06 29 15.4**	**+4.5**
	3.1nm,0.5s						
DGS				Lg	Lg	06 30 17.0	
	10nm,0.7s						
TKM2	**Tokmak 2**	**4.84**	**265**	⇓Pg	**Pb**	**06 29 18.7**	**+4.8**
	1.9nm,0.6s						
TKM2				⇑Lg	Lg	06 30 22.3	
	4.8nm,0.5s						

IDC 27 06:29:04.0±1.5, 5°.57S×150°.51E, h0km, mb2.8/2, mb1 3.1/2, mb1mx3.1/23, mbtmp2.9/2, Error ellipse: s-maj=83.2km s-min=21.0km az=138.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.96**	**50**	Pn	Pn	06 29 38.9	+0.3
	76nm,0.3s,baz=230,slow=5.1,SNR=15						
KRVT				Sn	Sn	06 30 04.6	+0.7
	38nm,0.3s,baz=228,slow=19,SNR=6.6						
WRA	**Warramunga Arr**	**21.25**	**226**	P	P	06 33 51.8	-0.2
	0.2nm,0.7s,baz=52,slow=11,SNR=1.7						
ASAR	**Alice Springs**	**24.07**	**220**	P	P	06 34 21.7	+0.4
	0.2nm,0.6s,baz=57,slow=10,SNR=1.9						
TORD	**Torodi Ar. Bea**	**148.35**	**286**	PKPbc	PKPbc	06 48 52.4	-1.0
	0.5nm,0.5s,baz=61,slow=2.4,SNR=3.5						

ISCJB 27 06:39:31.8±0.5, 20°.77N±0°.06×146°.91E±0°.09, h10km, mb3.9/12, Error ellipse: s-maj=12.5km s-min=8.2km az=179.3
IDC 27 06:39:31.9±0.7, 20°.74N×146°.90E, h0km, mb3.9/12, mb1 4.2/12, mb1mx3.9/56, mbtmp3.9/12, Error ellipse: s-maj=25.8km s-min=18.3km az=79.0
NEIC 27 06:39:33.3±1.2, 20°.80N±0°.08×146°.9E±0°.1, h10km±3km, mb4.5/20

ISC 27 06:39:33.2±0.6, 20°.73N±0°.07×146°.9E±0°.1, h10km, n43, σ0s81/45, mb4.3/20, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**4.15**	**195**	Pn	**Pn**	**06 40 37.6**	**+0.9**
SARN				Pg	**Pg**	**06 40 51.3**	**-1.5**
INU	**Inuyama**	**16.98**	**331**	Pn	**Pn**	**06 43 28.9**	**-2.0**
INU				IAmb	IAmb	06 43 36.2	
	comp=Z,39nm,1.5s						
JNU	**Nakatsue**	**18.87**	**314**	P	**Pn**	**06 43 55.2**	**+0.9**
JNU				IAmb	IAmb	06 44 14.0	
	comp=Z,51nm,1.3s						
KSRS	**Korea Array**	**23.46**	**319**	P	**P**	**06 44 43.0**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=147,slow=8.7,SNR=3.6						
USRK	**Ussuriysk Ar.**	**26.50**	**335**	P	**P**	**06 45 12.3**	**+1.5**
	comp=Z,2.5nm,0.7s,baz=134,slow=10,SNR=3.6						
PET	**Petropavlovsk**	**33.48**	**13**		**PcP**	**06 48 53.0**	**-0.4**
SBUM	**Sibu**	**38.40**	**246**	P	**P**	**06 46 55.6**	**+0.5**
KMI	**Kunming**	**40.80**	**285**	P	**P**	**06 47 15.0**	**-0.3**
WRAB	**Tennant Creek**	**42.24**	**198**	P	**P**	**06 47 26.8**	**-0.1**
WRA	**Warramunga Arr**	**42.26**	**198**	P	**P**	**06 47 27.3**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=23,slow=8.7,SNR=14						
SONM	**Songino Array**	**42.33**	**319**	P	**P**	**06 47 28.5**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=98,slow=8.9,SNR=1.9						
SONM				PcP	**PcP**	**06 49 21.0**	**0.0**
	comp=Z,0.3nm,0.4s,baz=96,slow=4.3,SNR=3.0						
FITZ	**Fitzroy Crossi**	**43.87**	**210**	P	**P**	**06 47 40.7**	**+0.7**
AS31	**Alice Springs**	**45.91**	**197**	P	**P**	**06 47 57.6**	**+1.3**
ASAR	**Alice Springs**	**45.91**	**197**	P	**P**	**06 47 56.2**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=18,slow=8.6,SNR=15						
KULM	**Kulim**	**47.43**	**258**	P	**P**	**06 48 09.4**	**+1.0**
TAPN	**Taplejung**	**54.06**	**289**	*eP*	**P**	**06 48 59.1**	**+0.4**
	comp=Z,13nm,0.8s						
RAMN	**Ramite**	**55.09**	**289**	*eP*	**P**	**06 49 06.2**	**+0.1**
	comp=Z,13nm,0.9s						
JIRN	**Jiri**	**55.37**	**290**	*eP*	**P**	**06 49 08.8**	**+0.5**
	comp=Z,34nm,0.8s						
GUN	**Gumba**	**55.61**	**290**	*eP*	**P**	**06 49 10.3**	**+0.3**
KKN	**Kakani**	**56.15**	**290**	*eP*	**P**	**06 49 14.4**	**+0.7**
	comp=Z,12nm,0.6s						
GKN	**Gorkha**	**56.69**	**290**	*eP*	**P**	**06 49 17.9**	**+0.4**
ZAA0	**Zalesovo Array**	**57.14**	**322**	P	**P**	**06 49 19.2**	**-0.8**
ZAA0				IAmb	IAmb	06 49 19.9	
	comp=Z,2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**57.14**	**322**	P	**P**	**06 49 19.2**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=100,slow=6.8,SNR=9.1						
DANN	**Dangsing**	**57.41**	**291**	*eP*	**P**	**06 49 23.0**	**+0.3**
	comp=Z,38nm,0.7s						
MK31	**Makanchi Array**	**57.92**	**313**	P	**P**	**06 49 25.1**	**-0.6**
MKAR	**Makanchi Array**	**57.92**	**313**	P	**P**	**06 49 25.2**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=105,slow=7.0,SNR=7.2						
KURK	**Kurchatov**	**60.56**	**317**	P	**P**	**06 49 43.5**	**-0.3**
KURK				IAmb	IAmb	06 49 44.2	
	comp=Z,5.6nm,1.0s						
TOLK	**Toolik Lake Re**	**61.29**	**22**	P	**P**	**06 49 49.7**	**+1.1**
RIDG	**Independent Ri**	**61.99**	**28**	P	**P**	**06 49 54.1**	**+0.7**
BOOM	**Boomskoye usch**	**62.46**	**308**	P	**P**	**06 49 58.3**	**+1.2**
BRVK	**Borovoye**	**65.73**	**320**	P	**P**	**06 50 17.9**	**-0.3**
BRVK				IAmb	IAmb	06 50 19.0	
	comp=Z,4.2nm,0.9s						
KK31	**Karatay Array**	**66.39**	**309**	P	**P**	**06 50 22.5**	**-0.1**
KK31				IAmb	IAmb	06 50 23.8	
	comp=Z,4.4nm,1.1s						
KKAR	**Karatay Array**	**66.39**	**309**	P	**P**	**06 50 22.4**	**-0.2**
KKAR				IAmb	IAmb	06 50 23.8	
	comp=Z,4.4nm,1.1s						
KBL	**Kabul**	**68.85**	**300**	P	**P**	**06 50 38.1**	**-0.5**
KBL				IAmb	IAmb	06 50 39.5	
	comp=Z,4.1nm,0.8s						
ABKAR	**Akbulak array**	**72.66**	**317**	P	**P**	**06 51 00.1**	**-1.1**
ABKAR				IAmb	IAmb	06 51 01.6	
	comp=Z,4.2nm,1.0s						
YKA	**Yellowknife Ar**	**75.66**	**28**	P	**P**	**06 51 18.2**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=291,slow=5.3,SNR=7.8						
NVAR	**Mina Array Bea**	**80.99**	**52**	P	**P**	**06 51 49.5**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=264,slow=5.1,SNR=7.6						
DLMT	**Dillon**	**82.56**	**44**	P	**P**	**06 51 56.3**	**-0.4**
DLMT				IAmb	IAmb	06 52 01.7	
	comp=Z,3.4nm,1.3s						
FINES	**FINESS Array B**	**85.53**	**336**	P	**P**	**06 52 09.6**	**-1.8**
	comp=Z,2.7nm,0.9s,baz=31,slow=4.4,SNR=4.1						
KBZ	**Khabaz**	**85.54**	**315**	P	**P**	**06 52 11.7**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=45,slow=4.2,SNR=4.2						
PDAR	**Pinedale Array**	**85.59**	**46**	P	**P**	**06 52 11.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=302,slow=0.9,SNR=2.8						
LPAZ	**La Paz**	**146.50**	**88**	PKPbc	**PKPab**	**06 59 17.9**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=323,slow=7.7,SNR=6.1						
LPAZ	**La Paz**	**146.50**	**88**		**PKPdf**	**06 59 14.8**	**-0.2**

ISCJB 27 06:42:28.0±0.5, 27°.72N±0°.06×141°.6E±0°.1, h64km, mb4.0/4, Error ellipse: s-maj=15.3km s-min=5.9km az=150.5
NEIC 27 06:42:29.5±1.3, 27°.7N±0°.1×141°.7E±0°.1, h63km±8km, mb4.6/6
IDC 27 06:42:29.5±2.1, 27°.64N×141°.87E, h64km±30km, mb3.8/4, mb1 3.9/4, mb1mx3.3/51, mbtmp4.1/4, Error ellipse: s-maj=114.0km s-min=24.2km az=87.0
JMA 27 06:42:30.9±0.1, 27°.67N×142°.47E, h65km, M4.0

ISC 27 06:42:29.6±0.7, 27°.71N±0°.06×141°.7E±0°.1, h64km, n17, σ0s77/20, mb4.4/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.73**	**146**	P	**Pn**	**06 42 44.6**	**+0.1**
CBIJ				*eS*	**Sn**	**06 42 54.6**	**-0.9**
JCJ	**Chichijima**	**0.73**	**146**	P	**Pn**	**06 42 44.8**	**+0.2**
	168nm,0.3s,baz=326,slow=15,SNR=34						
JCJ				S	**Sn**	**06 42 54.4**	**-1.1**
	876nm,0.3s,baz=300,slow=20,SNR=59						
JHH2	**Haha-jima-NKT2**	**1.14**	**160**	P	**Pn**	**06 42 50.1**	**+0.4**
JHH2				S	**Sn**	**06 43 04.3**	**-0.4**
BSO1	**Boso 1**	**6.95**	**355**	P	**Pn**	**06 44 08.5**	**+0.2**
BSO4	**Boso 4**	**7.36**	**351**	P	**Pn**	**06 44 14.4**	**+0.2**
JNU	**Nakatsue**	**10.81**	**303**	Pn	**Pn**	**06 45 01.6**	**+0.1**
ERM	**Erimo**	**14.32**	**4**	P	**P**	**06 45 53.9**	**-0.4**
SBUM	**Sibu**	**37.77**	**233**	P	**P**	**06 49 38.4**	**-1.3**
SBUM				IAmb	IAmb	06 49 43.4	
	comp=Z,8.8nm,1.5s						
COEN	**Coen**	**41.44**	**178**	P	**P**	**06 50 12.3**	**+2.1**
MTN	**Manton Dam**	**41.60**	**196**	P	**P**	**06 50 11.2**	**-0.2**
MTN				IAmb	IAmb	06 50 20.4	
	comp=Z,16nm,1.4s						
WRAB	**Tennant Creek**	**47.90**	**189**	P	**P**	**06 51 01.3**	**-0.3**
WRAB				IAmb	IAmb	06 51 06.5	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**47.91**	**189**	P	**P**	**06 51 01.3**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=10,slow=8.5,SNR=11						
FITZ	**Fitzroy Crossi**	**48.13**	**201**	P	**P**	**06 51 04.1**	**+0.8**
ASAR	**Alice Springs**	**51.63**	**189**	P	**P**	**06 51 29.2**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=359,slow=5.4,SNR=6.4						
BBOO	**Buckleboo**	**60.43**	**185**	P	**P**	**06 52 32.4**	**-0.1**
BBOO				IAmb	IAmb	06 52 38.5	
	comp=Z,8.6nm,1.1s						
ARCES	**ARCESS Array B**	**72.83**	**341**	P	**P**	**06 53 51.6**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=74,slow=6.7,SNR=3.9						
FINES	**FINESS Array B**	**77.22**	**334**	P	**P**	**06 54 16.4**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=60,slow=5.5,SNR=3.7						

IDC 27 06:48:15.2±26.0, 20°.89S×172°.75W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.8/39, mbtmp4.3/3, Error ellipse: s-maj=485.2km s-min=151.8km az=76.0
ISCJB 27 06:48:35.5±0.8, 22°.2S±0°.1×174°.8W±0°.1, h33km, mb4.3/3, Error ellipse: s-maj=23.8km s-min=12.9km az=149.2
NEIC 27 06:48:38.7±2.1, 22°.2S±0°.2×174°.7W±0°.1, h49km±7km, mb4.4/14

ISC 27 06:48:37.4±0.8, 22°.3S±0°.2×174°.8W±0°.1, h33km, n26, σ1s06/25, mb4.4/10, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.53**	**56**	Pn	**Pn**	**06 49 57.8**	**+0.4**
RAR	**Rarotonga**	**13.96**	**88**	P	**P**	**06 52 00.3**	**-0.4**
SNZO	**South Karori**	**20.95**	**203**	P	**P**	**06 55 02.5**	**+1.1**
SNZO				IAmb	IAmb	06 53 29.4	
	comp=Z,70nm,1.1s						
ARMA	**Armidale**	**31.11**	**248**		**P**	**06 54 54.2**	**+1.2**
EIDS	**Eidsvold**	**31.36**	**258**	P	**P**	**06 54 55.2**	**0.0**
EIDS				IAmb	IAmb	06 55 09.0	
	comp=Z,4.5nm,1.1s						
CAN	**Canberra**	**34.13**	**240**	P	**P**	**06 55 21.8**	**+2.4**
CAN				IAmb	IAmb	06 55 28.7	
	comp=Z,3.9nm,0.9s						
CTA	**Charters Tower**	**36.36**	**266**	P	**P**	**06 55 38.7**	**0.0**
	baz=94,slow=11						
CTA	**Charters Tower**	**36.36**	**266**	P	**P**	**06 55 38.7**	**0.0**
TOO	**Toolangi**	**37.38**	**237**	P	**P**	**06 55 49.5**	**+2.3**
TOO				IAmb	IAmb	06 55 49.6	
	comp=Z,4.1nm,1.1s						
TAU	**Tasmania Unive**	**37.58**	**228**	P	**P**	**06 55 48.2**	**-0.6**
TAU				IAmb	IAmb	06 56 02.6	
	comp=Z,5.1nm,0.8s						
MCQ	**Macquarie Isla**	**37.76**	**205**	P	**P**	**06 55 49.2**	**-0.9**
STKA	**Stephens Creek**	**39.80**	**247**	P	**P**	**06 56 07.7**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=77,slow=10,SNR=8.0						
STKA	**Stephens Creek**	**39.80**	**247**	P	**P**	**06 56 07.9**	**+0.3**
BBOO	**Buckleboo**	**44.51**	**245**	P	**P**	**06 56 45.3**	**-0.7**
BBOO				IAmb	IAmb	06 57 00.7	
	comp=Z,9.8nm,1.1s						
AS31	**Alice Springs**	**47.08**	**258**	P	**P**	**06 57 05.6**	**-0.9**
ASAR	**Alice Springs**	**47.08**	**258**	P	**P**	**06 57 05.5**	**-1.0**
	comp=Z,3.0nm,0.7s,baz=101,slow=6.8,SNR=42						
ASAR	**Alice Springs**	**47.08**	**258**	P	**P**	**06 57 05.5**	**-1.0**
WRAB	**Tennant Creek**	**47.36**	**263**	P	**P**	**06 57 07.2**	**-1.4**
WRAB				IAmb	IAmb	06 57 07.7	
	comp=Z,2.8nm,0.6s						
WRA	**Warramunga Arr**	**47.37**	**263**	P	**P**	**06 57 07.5**	**-1.3**
	comp=Z,1.9nm,0.3s,baz=91,slow=8.4,SNR=23						
WRA	**Warramunga Arr**	**47.37**	**263**	P	**P**	**06 57 07.5**	**-1.3**
FORT	**Forrest**	**51.40**	**248**	P	**P**	**06 57 38.5**	**-0.8**
MTN	**Manton Dam**	**52.21**	**271**	P	**P**	**06 57 45.3**	**-0.2**
MTN				IAmb	IAmb	06 58 01.9	
	comp=Z,5.9nm,0.9s						
KNRA	**Kununurra**	**53.57**	**267**	P	**P**	**06 57 55.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**55.80**	**263**	P	**P**	**06 58 12.2**	**+0.5**
MORW	**Morawa**	**61.96**	**248**	P	**P**	**06 58 54.9**	**+0.5**
KULM	**Kulim**	**87.00**	**277**		pwP	07 01 37.5	+2.9

NNC 27 06:59:50.1±3.4, 54°.03N×86°.53E, h0km, mb3.5, mpv3.2, 6C-2D, Error ellipse: s-maj=34.3km s-min=22.9km az=160.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.87**	**239**	⇑Pn	Pn	07 01 18.1	-0.1
	2.5nm,1.0s						
KURK				⇑Sn	Sn	07 02 28.4	+2.3
	2.0nm,0.8s						
KURK				⇑Lg	Lg	07 02 56.7	
	4.9nm,1.3s						
KURBB	**Kurchatov Arra**	**5.97**	**238**	⇓Pn	Pn	07 01 18.9	-0.8
	2.8nm,0.6s						
KURBB				⇑Sn	Sn	07 02 29.0	+0.3
	3.0nm,0.7s						
KURBB				⇑Lg	Lg	07 02 59.9	
	4.8nm,0.8s						
MK31	**Makanchi Array**	**7.73**	**202**	Pn	Pn	07 01 45.6	+1.8
	0.3nm,0.5s,baz=27,slow

comp=N,324µm,0.3s
FNA AML AML 07 01 01.3
comp=E,327µm,0.6s
NEST Nestorio 1.10 136 P **Pb** **07 00 41.8 -0.2**
NEST S **Sg** **07 00 56.8 +0.3**
comp=E,92nm,0.5s
NEST Nestorio 1.10 136 P **Pb** **07 00 41.7 -0.3**
NEST S **Sn** **07 00 58.2 +1.0**
BCI Bajram Curri 1.15 0 *i* PN **Pb** **07 00 42.0 -0.8**
BCI *i* SN **Sn** **07 00 59.6 +1.0**
DRME Dracevica, Mon 1.17 326 *e*Pn **Pb** **07 00 41.9 -1.3**
SKO Skopje 1.28 53 *e*Pg **Pn** **07 00 44.6 -0.1**
SKO *e*Sg **Sg** **07 01 02.8 +0.4**
SRN Sarande 1.33 182 P **Pb** **07 00 46.4 +0.5**
SRN S **Sg** **07 01 05.7 +1.6**
comp=E,68nm,0.5s
PDG Podgorica 1.35 334 *e*Pg **Pb** **07 00 46.4 +0.1**
PDG *e*Sg **Sg** **07 01 07.9 +3.1**
PDG Podgorica 1.35 334 *e*Pn **Pn** **07 00 45.8 +0.1**
KEK Kerkira 1.51 188 P **Pb** **07 00 49.0 0.0**
KEK S **Sg** **07 01 09.9 +0.1**
comp=E,102nm,0.7s
KEK Kerkira 1.51 188 P **Pb** **07 00 48.7 -0.3**
KEK S **Sg** **07 01 10.8 +1.0**
KZN Kozani 1.58 124 P **Pb** **07 00 50.5 +0.2**
KZN S **Sg** **07 01 11.5 -0.6**
comp=E,65nm,0.6s
KPRO Kipourio 1.60 141 P **Pb** **07 00 50.5 -0.1**
KPRO S **Sg** **07 01 11.9 -0.8**
comp=E,62nm,0.9s
KPRO Kipourio 1.60 141 P **Pb** **07 00 50.0 -0.5**
MEV Metsovon 1.68 148 P **Pb** **07 00 52.0 0.0**
HCY Herceg Novi 1.70 317 *e*Pn **Pn** **07 00 48.4 -2.0**
GRG Griva 1.79 98 P **Pn** **07 00 52.7 +1.0**
GRG S **Sg** **07 01 18.0 -0.6**
comp=E,32nm,0.2s
GRG Griva 1.79 98 P **Pn** **07 00 51.4 -0.3**
VAY Valandovo 1.90 86 *e*Pn **Pn** **07 00 53.3 +0.2**
TREB Trebinje 1.97 320 *e*Pn **Pn** **07 00 55.4 +1.3**
TREB *e*Sn **Sb** **07 01 22.1 +0.9**
TREB Trebinje 1.97 320 *e*Pn **Pn** **07 00 54.3 +0.2**
BRY Bratogost 2.03 327 *e*Pn **Pb** **07 00 57.5 -0.4**
SJES Sjenica 2.05 358 *e*Pn **Pb** **07 00 58.0 -0.2**
SJES *e*Sg **Sg** **07 01 29.5 +2.6**
BARS Barje 2.07 39 *e*Pn **Pb** **07 00 57.4 -1.1**
SELS Selova 2.15 21 *e*Pn **Pb** **07 00 58.6 -1.3**
UPM Unac-Piva 2.16 337 *e*Pn **Pn** **07 00 58.4 +1.4**
BOSS Bosilegrad 2.21 54 *e*Pn **Pn** **07 00 58.9 +1.4**
IVAS Ivanjica 2.36 2 *e*Pn **Pb** **07 01 01.8 -1.7**
STON Ston 2.42 314 *e*Pn **Pn** **07 00 59.5 -0.8**
STON Sn **Sn** **07 01 29.8 +0.2**
STON Ston 2.42 314 *e*Pn **Pb** **07 01 02.7 -1.6**
STON Ston 2.42 314 *e*Pn **Pn** **07 00 59.0 -1.2**
RUDO Rudo 2.46 348 *e*Pn **Pb** **07 01 03.8 -1.3**
BBLS Lazići 2.69 350 *e*Pn **Pb** **07 01 07.0 -2.2**
BBLS *e*Sn **Sb** **07 01 40.4 -1.7**
BBLS Lazići 2.69 350 *e*Pn **Pn** **07 01 06.5 +2.3**
GRUS Gruza 2.72 10 *e*Pn **Pn** **07 01 06.7 +2.3**
ZAPS Zavoj 2.81 42 *e*Pn **Pn** **07 01 07.4 +1.7**
ZAPS *e*Sn **Sb** **07 01 42.5 -2.9**
DIVS Divibare 2.88 359 *e*Pn **Pb** **07 01 09.7 -2.7**
DIVS Divibare 2.88 359 *e*Pn **Pn** **07 01 07.9 +1.1**
HAPS Han Pijesak,BI 2.98 344 *e*Pn **Pn** **07 01 09.4 +1.2**
HAPS Han Pijesak,BI 2.98 344 *e*Pn **Pn** **07 01 07.9 -0.3**
TRUS Trudelj 3.02 5 *e*Pn **Pn** **07 01 10.9 +2.3**
ZAGS Zajecar 3.05 31 *e*Pn **Pn** **07 01 10.3 +1.3**
ZAGS *e*Sn **Sn** **07 01 48.1 +2.7**
MAKA Makarska 3.06 314 *e*Pn **Pn** **07 01 09.3 +0.2**
RICI Ricice 3.15 317 *e*Pn **Pn** **07 01 10.8 +0.5**
HVAR Hvar 3.32 307 *e*Pn **Pn** **07 01 10.2 -0.6**
HVAR Sn **Sn** **07 01 51.8 -0.3**
KIJV Kijevo 3.88 317 *e*Pn **Pn** **07 01 21.0 +0.6**
ZIRJ Zirje 4.08 308 *e*Pn **Pn** **07 01 23.2 +0.1**
ZIRJ Sn **Sn** **07 02 11.1 +0.5**
DUGI Dugi Otok 4.62 309 *e*Pn **Pn** **07 01 30.9 +0.3**
CRES Cresnjev 5.70 326 *e*Pn **Pn** **07 01 45.5 +0.2**
CEY Cerknica 6.10 320 *e*Pn **Pn** **07 01 50.2 -0.7**

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*ISCJB **27** 07:08:27.6±0.1, 47.070N±0.008×9.47E±0.01, h14km±1km, Error ellipse: s-maj=1.4km s-min=1.1km az=7.9*
*PRU **27** 07:08:28.1±0.0, 47.26N×9.33E, h4km*
*VIE **27** 07:08:28.1±0.2, 47.05N×9.48E, h8km±1km, mb3.4/19, ml3.9/19, ms4.0/1, Error ellipse: s-maj=1.4km s-min=1.1km az=79.0 3 km E of Sargans felt 5 ems98 at Seebenstein / Lower Austria*
*ROM **27** 07:08:28.6±0.1, 46.994N±0.009×9.482E±0.008, h4km±1km, ML3.5/35, Error ellipse: s-maj=0.8km s-min=0.6km az=8.0*
*ZUR **27** 07:08:28.4, 47.06N×9.50E, h6km, MLh3.7/70, Error ellipse: s-maj=0.9km s-min=0.3km az=194.0*
*BNS **27** 07:08:29.4±0.3, 47.08N×9.69E, h6km, ML3.1*
*BGR **27** 07:08:30.0±0.4, 47.16N×9.48E, h5km, ML3.7/9, Error ellipse: s-maj=6.7km s-min=4.4km az=22.0*
BGR Felt in Vorarlberg. Felt also in Bregenz, mainly in upper floors.
*LDG **27** 07:08:29.6±0.1, 47.09N×9.51E, h5km, Md3.5/2, Ml3.6/49, Error ellipse: s-maj=1.5km s-min=1.3km az=97.0*
*STR **27** 07:08:29.5±0.5, 47°N±2″×1°0E±°, h18km±3km, MLv3.7/7*

ISC 27 07:08:27.8±0.7, **47.08N**±0.01×**9.47E**±0.01, **h12**km±4km, **n339,σ1§44/504, 31C-71D, Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLONS	**Plons/SG**	**0.07**	**242**	⇑Pg		**Pg**	**07 08 30.7**	**+0.3**
PLONS				Sg		**Sg**	**07 08 32.2**	**-0.1**
PLONS	**Plons/SG**	**0.07**	**242**	P		**Pg**	**07 08 30.7**	**+0.3**
PLONS				S		**Sg**	**07 08 32.2**	**-0.1**
PLONS				AML	AML			
	comp=E,31950µm,0.2s							
PLONS				AML	AML			
	comp=N,55400µm,0.4s							
PLONS				AML	AML			
	comp=E,31950µm,0.3s							
PLONS				AML	AML			
	comp=N,55400µm,0.4s							
PLONS				AML	AML			
	comp=E,31950µm,0.2s							
SBUB	**Buchserberg Ma**	**0.07**	**341**	⇓Pg		**Pg**	**07 08 30.7**	**+0.2**
SBUB				Sg		**Sg**	**07 08 32.3**	**-0.1**
SBUA2	**Buchs, Altendo**	**0.08**	**2**	⇓Pg		**Pg**	**07 08 30.7**	**+0.2**
SBUA2				Sg		**Sg**	**07 08 32.4**	**-0.1**
SBUH	**Buchs, Hochsch**	**0.09**	**3**	⇓Pg		**Pg**	**07 08 31.0**	**+0.4**
SBUH				Sg		**Sg**	**07 08 33.1**	**+0.4**
LIENZ	**Kamor/St.Gall**	**0.21**	**5**	⇑Pg		**Pg**	**07 08 33.0**	**+0.5**
LIENZ				Sg		**Sg**	**07 08 36.8**	**+1.0**
LIENZ	**Kamor/St.Gall**	**0.21**	**5**	Pg		**Pg**	**07 08 33.0**	**+0.5**
LIENZ				Sg		**Sg**	**07 08 36.9**	**+1.1**
SCUG	**Chur Gewerbesc**	**0.23**	**170**	Pg		**Pg**	**07 08 33.1**	**+0.4**
SGT04	**Schlatt-Haslen**	**0.28**	**343**	⇓Pg		**Pb**	**07 08 34.7**	**-0.1**
SGT04				Sg		**Sb**	**07 08 39.6**	**+0.1**
SGT03	**Degersheim**	**0.34**	**328**	⇓Pg		**Pb**	**07 08 36.0**	**+0.2**
STGK	**St. Gallen Klo**	**0.35**	**350**	Pg		**Pb**	**07 08 36.3**	**+0.4**
DAVA	**Damuels**	**0.35**	**54**	⇑Pg		**Pg**	**07 08 35.1**	**+0.2**
DAVA				Sg		**Sb**	**07 08 40.8**	**-0.7**
DAVA	**Damuels**	**0.35**	**54**	*e*Pg		**Pg**	**07 08 35.1**	**+0.2**
DAVA				*e*Sg		**Sb**	**07 08 40.8**	**-0.7**
DAVA	**Damuels**	**0.35**	**54**	*e*Pg		**Pg**	**07 08 35.1**	**+0.2**
	comp=E,653nm,0.2s,SNR=248							
DAVA				*i* Sg		**Sb**	**07 08 40.8**	**-0.7**
	comp=E,2µm,0.2s							
PANIX	**Pigniu (Panix)**	**0.35**	**224**	⇑Pg		**Pg**	**07 08 35.2**	**+0.3**
SLTM2	**Linthal, Matt**	**0.35**	**244**	⇑Pg		**Pg**	**07 08 35.6**	**+0.7**
SLTM2				Sg		**Sg**	**07 08 40.8**	**+1.1**
SGT00	**Sennhlsen**	**0.36**	**343**	⇓Pg		**Pb**	**07 08 36.4**	**+0.3**
SGT00				Sg		**Sb**	**07 08 42.4**	**+0.6**
SGT05	**Eggersriet**	**0.36**	**359**	⇓Pg		**Pb**	**07 08 36.3**	**+0.1**
SGT05				Sg		**Sb**	**07 08 42.3**	**+0.5**
SGT01	**Gaiserwald**	**0.37**	**344**	⇓Pg		**Pb**	**07 08 36.6**	**+0.4**
SGT01				Sg		**Sb**	**07 08 42.6**	**+0.7**
SVAM	**Vaz, Muldain**	**0.39**	**174**	⇓Pg		**Pg**	**07 08 36.1**	**+0.5**
SVAM				Sg		**Sg**	**07 08 41.4**	**+0.6**
LLS	**Linth-Limmern**	**0.39**	**234**	⇑Pg		**Pg**	**07 08 36.0**	**+0.4**
LLS				Sg		**Sg**	**07 08 41.7**	**+0.7**
DAVOX	**Davos/Dischmat**	**0.41**	**137**	⇓Pg		**Pg**	**07 08 36.1**	**+0.1**
DAVOX	**Davos/Dischmat**	**0.41**	**137**	P		**Pg**	**07 08 36.1**	**+0.1**
DAVOX				S		**Sg**	**07 08 41.9**	**+0.4**
DAVOX				AML	AML			
	comp=N,4530µm,0.4s							
DAVOX				AML	AML			
	comp=E,3080µm,0.2s							
DAVOX				AML	AML			
	comp=N,4530µm,0.4s							
DAVOX				AML	AML			
	comp=E,3080µm,0.2s							
SGT02	**Zihlschlacht**	**0.46**	**341**	⇓Pg		**Pb**	**07 08 38.2**	**+0.5**
SGT02				Sg		**Sb**	**07 08 45.4**	**+0.9**
WILA	**Wila**	**0.51**	**312**	⇓Pg		**Pb**	**07 08 39.3**	**+0.6**
WILA				Sg		**Sb**	**07 08 47.0**	**+1.0**
WILA	**Wila**	**0.51**	**312**	⇓Pg		**Pb**	**07 08 39.2**	**+0.6**
WILA				Sg		**Sb**	**07 08 47.2**	**+1.2**
WEIN	**Weingarten**	**0.56**	**324**	⇓Pg		**Pb**	**07 08 40.1**	**+0.7**
MUO	**Muotathal**	**0.58**	**259**	⇑Pg		**Pb**	**07 08 40.0**	**0.0**
VDL	**Val di Lei**	**0.60**	**181**	⇑Pg		**Pg**	**07 08 39.8**	**+0.4**
VDL				Sg		**Sg**	**07 08 47.5**	**+0.1**
SALTS	**Altdorf, Kanto**	**0.60**	**251**	Pg		**Pb**	**07 08 40.2**	**0.0**
TUE	**Stuetta**	**0.61**	**188**	⇑Pg		**Pg**	**07 08 40.1**	**+0.3**
TUE				Sg		**Sg**	**07 08 48.0**	**+0.1**
TUE	**Stuetta**	**0.61**	**188**	P		**Pg**	**07 08 40.1**	**+0.3**
TUE				S		**Sg**	**07 08 47.9**	**+0.1**
TUE				AML	AML			
	comp=E,1470µm,0.5s							
TUE				AML	AML			
	comp=N,830µm,0.5s							
TUE				AML	AML			
	comp=N,1025µm,0.5s							
TUE				AML	AML			
	comp=E,1980µm,0.5s							
SCEL	**Celerina**	**0.63**	**155**	⇓Pg		**Pg**	**07 08 40.3**	**+0.2**
SCUC	**Scuol-Clozza**	**0.64**	**116**	⇓Pg		**Pg**	**07 08 40.2**	**0.0**
SCUC				Sg		**Sb**	**07 08 49.0**	**-0.8**
OBER	**Oberstdorf**	**0.65**	**60**	⇑Pg		**Pg**	**07 08 40.8**	**+0.3**
ZUR	**Degenried**	**0.67**	**296**	⇓Pg		**Pb**	**07 08 42.3**	**+0.9**
ZUR				PmP			07 08 45.2	
ZUR				Sg		**Sb**	**07 08 52.0**	**+1.4**
NALPS	**Val Nalps**	**0.69**	**226**	⇑Pg		**Pb**	**07 08 41.8**	**0.0**
STIEG	**Stiegenhof Hun**	**0.69**	**307**	⇓Pg		**Pb**	**07 08 42.6**	**+0.9**
STIEG				PmP			07 08 45.3	
SISB	**Singen-Schiene**	**0.70**	**331**	⇓Pg		**Pb**	**07 08 42.8**	**+0.9**
SISB				PmP			07 08 45.3	
SISB				SmS			07 08 56.8	
EWZT2	**Wettswil, ZR**	**0.71**	**292**	⇓Pg		**Pb**	**07 08 43.1**	**+1.0**
EWZT2				PmP			07 08 45.7	
WALHA	**Wallhausen, DE**	**0.71**	**341**	⇓Pg		**Pb**	**07 08 43.0**	**+0.9**
WALHA				PmP			07 08 45.4	
WALHA				Sg		**Sb**	**07 08 53.5**	**+1.7**
WALHA				SmS			07 08 56.8	
WALHA	**Wallhausen, DE**	**0.71**	**341**	⇓Pg		**Pb**	**07 08 43.0**	**+0.9**
WALHA				PmP			07 08 45.4	
WALHA				Sg		**Sn**	**07 08 53.6**	**-0.8**
WALHA				SmS			07 08 57.0	
FUORN	**Ofenpass-Fuorn**	**0.71**	**130**	⇓Pg		**Pg**	**07 08 41.6**	**-0.1**
FUORN	**Ofenpass-Fuorn**	**0.71**	**130**	P		**Pg**	**07 08 41.6**	**-0.1**
FUORN				S		**Sb**	**07 08 52.1**	**0.0**
FUORN				AML	AML			
	comp=E,1545µm,0.6s							
FUORN				AML	AML			
	comp=N,1315µm,0.3s							
FUORN				AML	AML			
	comp=E,1545µm,0.6s							
FUORN				AML	AML			
	comp=N,1315µm,0.3s							
STEIN	**Stein am Rhein**	**0.72**	**326**	⇓Pg		**Pb**	**07 08 43.1**	**+1.0**
UBR	**Ueberruh**	**0.74**	**36**	⇑Pg		**Pb**	**07 08 43.2**	**+0.6**
UBR				PmP			07 08 45.9	
UBR	**Ueberruh**	**0.74**	**36**	⇑Pg		**Pb**	**07 08 43.2**	**+0.6**
UBR				PmP			07 08 45.9	
BNALP	**Bannalp**	**0.74**	**254**	⇑Pg		**Pb**	**07 08 42.9**	**+0.2**
BNALP	**Bannalp**	**0.74**	**254**	P		**Pb**	**07 08 42.9**	**+0.2**
BNALP				AML	AML			
	comp=E,3205µm,0.3s							
BNALP				AML	AML			
	comp=N,2590µm,0.4s							
BNALP				AML	AML			
	comp=N,2595µm,0.4s							
BERNI	**Berninapass**	**0.77**	**150**	⇓Pg		**Pg**	**07 08 42.6**	**-0.1**
BERNI	**Berninapass**	**0.77**	**150**	P		**Pg**	**07 08 42.6**	**-0.1**
BERNI				S		**Sg**	**07 08 52.8**	**0.0**
BERNI				AML	AML			
	comp=E,836µm,0.4s							
BERNI				AML	AML			
	comp=N,1026µm,0.3s							
TRULL	**Truellikon**	**0.78**	**317**	⇓Pg		**Pn**	**07 08 44.3**	**-0.3**
TRULL				PmP			07 08 46.4	
FLACH	**Flaach**	**0.79**	**309**	⇓Pg		**Pn**	**07 08 44.3**	**-0.3**
FLACH				PmP			07 08 46.5	
SLUW	**Luzern Werkhof**	**0.79**	**268**	Sg		**Sn**	**07 08 56.3**	**0.0**
SLUB	**Luzern Bramber**	**0.79**	**269**	PmP			07 08 44.5	
SCHS	**Schaffhausen,**	**0.85**	**319**	⇓Pg		**Pn**	**07 08 45.4**	**-0.1**
FETA	**Feichten**	**0.86**	**93**	*e*Pg		**Pg**	**07 08 44.4**	**-0.1**
	comp=N,52nm,0.3s,SNR=25							
FETA				*i* Sg		**Sb**	**07 08 56.1**	**-0.3**
	comp=N,149nm,0.3s							
BRMO	**Bormio**	**0.87**	**134**	⇓Pg		**Pg**	**07 08 43.9**	**-0.6**
BRMO	**Bormio**	**0.87**	**134**	P		**Pg**	**07 08 44.3**	**-0.2**
BRMO				AML	AML			
	comp=N,440µm,0.8s							
BRMO				AML	AML			
	comp=E,430µm,0.7s							
MOSI	**Grossmontoni**	**0.88**	**122**	⇓Pg		**Pg**	**07 08 44.4**	**-0.2**
MOSI	**Grossmontoni**	**0.88**	**122**	P		**Pg**	**07 08 44.5**	**-0.2**
MOSI				S		**Sb**	**07 08 57.3**	**+0.6**
MOSI				AML	AML			
	comp=E,3370µm,0.8s							
MOSI				AML	AML			
	comp=N,4720µm,0.4s							
EMING	**Emmingen-Lipti**	**0.92**	**333**	⇓Pg		**Pn**	**07 08 46.6**	**+0.1**
EMING				PmP			07 08 47.9	
EMING	**Emmingen-Lipti**	**0.92**	**333**	⇓Pg		**Pn**	**07 08 46.6**	**+0.1**
EMING				PmP			07 08 48.0	
GRIMS	**Grimsel Gerste**	**0.94**	**238**	⇑Pg		**Pb**	**07 08 46.3**	**+0.3**
SLE	**Schleitheim**	**0.95**	**316**	⇓Pg		**Pn**	**07 08 47.2**	**+0.2**
SLE				PmP			07 08 48.7	
SLE	**Schleitheim**	**0.95**	**316**	⇓Pg		**Pn**	**07 08 47.2**	**+0.2**
SLE				PmP			07 08 48.8	
SLE				SmS			07 09 02.7	
HASLI	**Hasliberg/Brie**	**0.96**	**251**	⇑Pg		**Pb**	**07 08 46.6**	**+0.3**
RETA	**Reutte**	**0.97**	**65**	⇓Pg		**Pg**	**07 08 46.8**	**+0.3**
RETA				PmP			07 08 49.1	
RETA				SmS			07 09 04.6	
RETA	**Reutte**	**0.97**	**65**	*e*Pg		**Pb**	**07 08 46.5**	**0.0**
	comp=N,50nm,0.2s,SNR=72							
RETA				*i* Sg		**Sn**	**07 09 01.1**	**+0.1**
	comp=N,282nm,0.2s							
DAGMA	**Lutertal, Dagm**	**1.00**	**279**	⇓Pg		**Pn**	**07 08 48.3**	**+0.7**
DAGMA				Sg		**Sn**	**07 09 02.4**	**+0.7**
GUT	**Gutenstein**	**1.02**	**347**	⇓Pg		**Pn**	**07 08 48.3**	**+0.4**
GUT	**Gutenstein**	**1.02**	**347**	⇓Pg		**Pn**	**07 08 48.3**	**+0.4**
GUT				PmP			07 08 49.6	
SULZ	**Cheisacher**	**1.02**	**296**	⇓Pg		**Pn**	**07 08 48.8**	**+0.8**
SULZ				PmP			07 08 49.9	
SULZ	**Cheisacher**	**1.02**	**296**	⇓Pg		**Pn**	**07 08 48.8**	**+0.8**
SULZ				PmP			07 08 49.9	
SULZ				Sg		**Sn**	**07 09 03.1**	**+0.9**
METMA	**Mettma DE**	**1.04**	**308**	⇓Pg		**Pn**	**07 08 48.7**	**+0.6**
METMA	**Mettma DE**	**1.04**	**308**	⇓Pg		**Pn**	**07 08 48.7**	**+0.6**
METMA				PmP			07 08 50.2	
EMMET	**Emmethof**	**1.05**	**290**	⇓Pg		**Pn**	**07 08 49.1**	**+0.8**
CARE	**Lago del Cares**	**1.07**	**127**	*e*Pg		**Pb**	**07 08 48.1**	**-0.2**
CARE				*e*Sg		**Sn**	**07 09 03.3**	**-0.4**
ROTHE	**Rothenfluh**	**1.12**	**291**	⇓Pg		**Pg**	**07 08 50.6**	**+1.2**
FIESA	**Fiescheralp**	**1.13**	**236**	⇑Pg		**Pg**	**07 08 50.0**	**+0.4**
MOTA	**Moosalm**	**1.15**	**76**	*e*Pg		**Pb**	**07 08 49.6**	**0.0**
	comp=N,286nm,0.2s,SNR=103							
MOTA				*i* Sg		**Sn**	**07 09 05.9**	**+0.5**
	comp=N,746nm,0.1s							
BERGE	**Lenzkirch (DE)**	**1.18**	**313**	⇓Pg		**Pg**	**07 08 51.3**	**+0.8**
BERGE	**Lenzkirch (DE)**	**1.18**	**313**	⇓Pg		**Pg**	**07 08 51.3**	**+0.8**
MUGIO	**Muggio**	**1.20**	**194**	Pg		**Pg**	**07 08 50.6**	**-0.1**
MUGIO	**Muggio**	**1.20**	**194**	AML	AML			
	comp=N,1265µm,0.5s							
MUGIO				AML	AML			
	comp=E,1260µm,0.3s							
MUGIO				AML	AML			
	comp=N,1265µm,0.6s							
MUGIO				AML	AML			
	comp=E,1260µm,0.3s							
SQTA	**Sankt Quirin**	**1.20**	**83**	*e*Pg		**Pn**	**07 08 50.1**	**-0.3**
	comp=E,712nm,0.2s,SNR=244							
SQTA				*i* Sg		**Sn**	**07 09 07.9**	**+1.3**
	comp=E,2µm,0.2s							
BALST	**Balsthal**	**1.23**	**283**	⇓Pg		**Pg**	**07 08 52.5**	**+1.0**
BALST				PmP			07 08 53.6	
BALST	**Balsthal**	**1.23**	**283**	⇓Pn		**Pg**	**07 08 52.5**	**+1.0**
BALST				PmP			07 08 53.7	
BALST				SmS			07 09 11.0	
SAUR	**Augst-Roemermu**	**1.27**	**292**	⇓Pg		**Pg**	**07 08 52.7**	**+0.6**
FELD	**Feldberg im Sc**	**1.27**	**309**	⇓Pg		**Pg**	**07 08 52.6**	**+0.4**
FELD				PmP			07 08 53.7	
FELD	**Feldberg im Sc**	**1.27**	**309**	⇓Pn		**Pg**	**07 08 52.6**	**+0.4**
FELD				PmP			07 08 53.8	
FELD				SmS			07 09 11.1	
SKAF	**Kaiseraugst-Fr**	**1.27**	**292**	⇓Pg		**Pg**	**07 08 52.8**	**+0.5**
SKAF				PmP			07 08 53.8	
SIMPL	**Simplonpass**	**1.30**	**230**	⇑Pg		**Pb**	**07 08 52.7**	**+0.4**
VARE	**Varese**	**1.30**	**202**	AML	AML			
	comp=N,1860µm,1.0s							
VARE				AML	AML			
	comp=E,1750µm,1.3s							
VARE				AML	AML			
	comp=N,1855µm,1.0s							
BIBA	**Brigerbad**	**1.31**	**234**	⇑Pg		**Pg**	**07 08 53.1**	**+0.1**
MDI	**Monti di Nese**	**1.31**	**173**	⇓Pg		**Pg**	**07 08 53.3**	**+0.3**
MDI	**Monti di Nese**	**1.31**	**173**	AML	AML			
	comp=N,1350µm,1.5s							
MDI				AML	AML			
	comp=E,2500µm,0.3s							
MDI				AML	AML			
	comp=N,1351µm,1.5s							
MDI				AML	AML			
	comp=E,2605µm,0.3s							
MDI				AML	AML			
	comp=N,1440µm,1.5s							
MDI				AML	AML			
	comp=N,1445µm,1.5s							
MDI				AML	AML			
	comp=E,2610µm,0.3s							
ABSI	**Aberstueckl**	**1.32**	**105**	⇓Pg		**Pb**	**07 08 52.6**	**+0.1**
ABSI	**Aberstueckl**	**1.32**	**105**	P		**Pg**	**07 08 52.8**	**-0.3**
ABSI				S		**Sg**	**07 09 10.8**	**+0.5**
ABSI				AML	AML			
	comp=N,5080µm,0.3s							
ABSI				AML	AML			
	comp=E,4025µm,0.5s							
WIMIS	**Wimmis**	**1.33**	**252**	⇑Pg		**Pg**	**07 08 53.9**	**+0.6**
ENDD	**Endenburg**	**1.33**	**299**	⇓Pn		**Pg**	**07 08 53.5**	**+0.1**
ENDD				PmP			07 08 54.8	
ENDD				Sg		**Sg**	**07 09 12.7**	**+2.0**
ROSI	**Rosskopf**	**1.34**	**96**	⇑Pg		**Pb**	**07 08 53.1**	**+0.3**
ROSI	**Rosskopf**	**1.34**	**96**	P		**Pb**	**07 08 53.2**	**+0.3**
ROSI				AML	AML			
	comp=E,9065µm,0.4s							
ROSI				AML	AML			
	comp=N,5655µm,1.2s							
LAUCH	**Lauchernalp**	**1.34**	**241**	⇑Pg		**Pg**	**07 08 53.8**	**+0.2**
SVIT	**Visp-Terbiners**	**1.35**	**235**	⇑Pg		**Pg**	**07 08 53.7**	**+0.1**
SVIO	**Visp Obere Sta**	**1.35**	**235**	⇑Pg		**Pg**	**07 08 53.8**	**+0.1**
APPI	**Appiano**	**1.35**	**116**	P		**Pg**	**07 08 53.5**	**-0.2**
APPI				AML	AML			
	comp=N,2810µm,0.5s							
APPI				AML	AML			
	comp=N,2815µm,0.5s							
APPI				AML	AML			
	comp=E,3210µm,0.3s							
KIZ	**Kirchzarten**	**1.37**	**310**	Pn		**Pb**	**07 08 54.0**	**+0.8**
KIZ				Pg		**Pg**	**07 08 55.3**	**+1.3**
KIZ	**Kirchzarten**	**1.37**	**310**	⇓Pn		**Pb**	**07 08 53.5**	**+0.2**
KIZ	**Kirchzarten**	**1.37**	**310**	⇓Pn		**Pb**	**07 08 53.8**	**+0.6**
KIZ				PmP			07 08 55.2	
KIZ				Sg		**Sg**	**07 09 13.6**	**+1.8**
BUCH	**Bad Urach**	**1.37**	**357**	Pn		**Pb**	**07 08 53.7**	**+0.3**
BUCH				SmS			07 09 14.4	
MATTE	**Schuetzenmatte**	**1.37**	**291**	Pn		**Pg**	**07 08 54.3**	**+0.1**
BOSI	**Bolzano**	**1.40**	**114**	AML	AML			
	comp=E,3165µm,0.5s							
BOSI				AML	AML			
	comp=N,5440µm,0.7s							
EMBD	**Embd, Matterta**	**1.42**	**233**	⇑Pg		**Pg**	**07 08 54.9**	**-0.1**
GAGG	**Gaggia**	**1.43**	**134**	*e*Pg		**Pb**	**07 08 54.8**	**+0.3**
LKBD	**Leukerbad**	**1.44**	**242**	⇑Pg		**Pg**	**07 08 55.7**	**+0.2**
KOSI	**Kohlern**	**1.45**	**114**	P		**Pg**	**07 08 55.6**	**0.0**
KOSI				AML	AML			
	comp=N,2150µm,1.4s							
KOSI				AML	AML			
	comp=E,1535µm,1.1s							
MMK	**Mattmark**	**1.46**	**226**	⇑Pg		**Pg**	**07 08 55.6**	**-0.2**
MMK	**Mattmark**	**1.46**	**226**	P		**Pg**	**07 08 55.6**	**-0.2**
MMK				AML	AML			
	comp=E,524µm,0.3s							
MMK				AML	AML			
	comp=N,620µm,1.6s							
WATA	**Walderalm**	**1.46**	**79**	*e*Pn		**Pb**	**07 08 55.3**	**+0.4**
	comp=N,4.4nm,0.1s,SNR=35							
WATA				*i* Sg		**Sg**	**07 09 17.2**	**+2.4**
	comp=N,326nm,0.1s							
BFO	**Black Forest**	**1.47**	**329**	⇓Pn		**Pb**	**07 08 55.2**	**+0.2**
BFO	**Black Forest**	**1.47**	**329**	*e*Pn		**Pb**	**07 08 55.1**	**+0.2**
BFO				*e*Pg		**Pg**	**07 08 56.9**	**+0.9**
BFO				*e*Sg		**Sg**	**07 09 16.5**	**+1.5**
WTTA	**Wattenberg**	**1.49**	**82**	⇓Pn		**Pb**	**07 08 55.6**	**+0.2**
WTTA	**Wattenberg**	**1.49**	**82**	*e*Pn	

RISI	**Rein**	**1.79**	**93**	AML	AML			
	comp=E,4565µm,0.4s							
RISI				AML	AML			
	comp=N,12500µm,1.5s							
RISI				AML	AML			
	comp=E,4570µm,0.4s							
LOMF	**Lomont**	**1.82**	**280**	Pn	**Pb**	07 09 00.6	-0.4	
LOMF				Sg	**Sg**	07 09 27.9	+1.6	
LOMF	**Lomont**	**1.82**	**280**	ǁPn	**Pb**	07 09 00.6	-0.4	
LOMF				Pg	**Pg**	07 09 03.5	+0.9	
GRYON	**Gryon**	**1.82**	**244**	Pn	**Pb**	07 09 01.3	+0.3	
HINF	**Hinteralfeld**	**1.92**	**294**	*e*Pn	**Pn**	07 09 01.4	+1.1	
	SNR=1.0							
HINF	**Hinteralfeld**	**1.92**	**294**	*e*Pg	**Pg**	07 09 05.6	+1.0	
HINF				*e*Sn	**Sn**	07 09 24.9	+0.6	
	comp=E,118nm,0.3s,SNR=1.0							
HINF				*e*Sg	**Sg**	07 09 30.1	+0.6	
	comp=E,91nm,0.3s							
CHMF	**Charmoille**	**1.93**	**276**	Pn	**Pb**	07 09 01.9	-0.9	
CHMF				Pg	**Pg**	07 09 05.4	+0.7	
CHMF				Sg	**Sg**	07 09 31.5	+1.8	
CHMF	**Charmoille**	**1.93**	**276**	ǁPn	**Pb**	07 09 01.9	-0.9	
ECH	**Echery**	**1.93**	**307**	Pn	**Pn**	07 09 01.8	+1.3	
ECH				Sg	**Sg**	07 09 29.9	+0.1	
ECH	**Echery**	**1.93**	**307**	ǁPn	**Pn**	07 09 01.6	+1.3	
ECH	**Echery**	**1.93**	**307**	ǁPn	**Pn**	07 09 01.7	+1.3	
ECH				Pg	**Pg**	07 09 05.7	+0.9	
AGOR	**Agordo**	**1.95**	**113**	AML	AML			
	comp=N,918µm,0.4s							
AGOR				AML	AML			
	comp=E,970µm,0.4s							
WLS	**Welschbruch**	**1.95**	**314**	Pn	**Pn**	07 09 02.1	+1.4	
WLS				Pg	**Pg**	07 09 06.0	+0.8	
WLS	**Welschbruch**	**1.95**	**314**	ǁPn	**Pn**	07 09 02.1	+1.4	
WLS				Pg	**Pg**	07 09 06.2	+1.0	
TRAV	**Traversella**	**1.97**	**218**	Pn	**Pn**	07 09 02.2	+1.2	
TRAV	**Traversella**	**1.97**	**218**	AML	AML			
	comp=E,822µm,0.4s							
TRAV				AML	AML			
	comp=N,739µm,0.4s							
CDF	**Champ du Feu**	**1.99**	**313**	*e*Pn	**Pn**	07 09 02.6	+1.3	
	SNR=1.0							
CDF	**Champ du Feu**	**1.99**	**313**	*e*P	**Pg**	07 09 06.7	+0.8	
CDF	**Champ du Feu**	**1.99**	**313**	*e*Pg	**Pg**	07 09 08.8	+2.9	
CDF				*e*Sg	**Sg**	07 09 32.5	+0.8	
	comp=N,354nm,0.6s,SNR=1.0							
BRET	**Bretten**	**2.00**	**345**	ǁPn	**Pn**	07 09 02.4	+1.0	
CGRP	**Cima Grappa**	**2.01**	**126**	AML	AML			
	comp=N,776µm,1.2s							
CGRP				AML	AML			
	comp=E,862µm,0.6s							
BRANT	**Les Verrieres**	**2.05**	**267**	ǁPn	**Pb**	07 09 03.9	-1.0	
SUBF	**Surbourg**	**2.13**	**330**	Pn	**Pn**	07 09 04.8	+1.7	
SUBF				Sn	**Sn**	07 09 29.7	+0.3	
LANF	**Langenberg**	**2.20**	**330**	Pn	**Pn**	07 09 05.7	+1.6	
LANF	**Langenberg**	**2.20**	**330**	Pn	**Pn**	07 09 05.6	+1.5	
LANF				Pg	**Pg**	07 09 11.1	+1.1	
GIMEL	**St. Georges /**	**2.27**	**257**	AML	AML			
	comp=E,417µm,1.2s							
GIMEL				AML	AML			
	comp=N,694µm,0.7s							
SIND	**Sindeldorf**	**2.27**	**2**	Pn	**Pn**	07 09 04.9	-0.1	
LSD	**Lago del Serru**	**2.29**	**226**	AML	AML			
	comp=E,444µm,0.4s							
LSD				AML	AML			
	comp=N,252µm,1.6s							
HAU	**Haudompre**	**2.31**	**295**	*e*Pn	**Pn**	07 09 07.0	+1.5	
	SNR=1.0							
HAU	**Haudompre**	**2.31**	**295**	*e*Pg	**Pg**	07 09 12.1	+0.1	
HAU				*e*Sn	**Sn**	07 09 33.8	0.0	
	SNR=1.0							
HAU				*e*Sg	**Sg**	07 09 42.0	+0.1	
	comp=N,205nm,0.4s,SNR=1.0							
PEB	**Petersbachel**	**2.31**	**330**	Pn	**Pn**	07 09 06.9	+1.4	
POLC	**Polcenigo**	**2.34**	**116**	AML	AML			
	comp=N,1065µm,0.5s							
POLC				AML	AML			
	comp=E,842µm,0.4s							
RJOB	**Jochberg**	**2.35**	**73**	*e*Pn	**Pb**	07 09 08.7	-1.4	
RJOB				*e*Sg	**Sg**	07 09 44.2	+0.8	
GRC1	**Grafenberg Arr**	**2.36**	**35**	ǁPn	**Pn**	07 09 06.2	-0.1	
GRC1				Pg	**Pg**	07 09 12.9	-0.1	
CABF	**La Chapelle**	**2.37**	**260**	*e*Pn	**Pn**	07 09 08.0	+1.6	
	SNR=1.0							
CABF	**La Chapelle**	**2.37**	**260**	*e*Pg	**Pg**	07 09 13.7	+0.6	
CABF				*e*Sg	**Sg**	07 09 44.4	+0.6	
	comp=E,233nm,0.5s,SNR=1.0							
STAL	**STALIGIAL**	**2.38**	**109**	AML	AML			
	comp=N,696µm,0.3s							
STAL				AML	AML			
	comp=E,871µm,0.3s							
STAL				AML	AML			
	comp=E,956µm,0.7s							
STAL				AML	AML			
	comp=N,729µm,1.2s							
RSL	**Roselend**	**2.41**	**236**	Pn	**Pb**	07 09 10.1	-1.0	
RSL				Pg	**Pg**	07 09 13.5	-0.5	
OG02	**Monnetier-Morn**	**2.42**	**249**	Pn	**Pb**	07 09 09.5	-1.7	
OG02				Pg	**Pg**	07 09 14.2	+0.1	
KTD	**Kalmit**	**2.42**	**338**	Pn	**Pn**	07 09 08.5	+1.3	
LPL	**La Plagne**	**2.46**	**231**	*e*Pn	**Pn**	07 09 09.5	+1.7	
	SNR=1.0							
LPL	**La Plagne**	**2.46**	**231**	*e*P	**Pb**	07 09 13.3	+1.4	
LPL	**La Plagne**	**2.46**	**231**	*e*Pg	**Pg**	07 09 15.8	+0.9	
LPL				*e*Sn	**Sn**	07 09 37.7	-0.1	
LPL				*e*Sg	**Sg**	07 09 47.2	+0.5	
	comp=N,61nm,0.4s							
LPG	**La Plagne**	**2.46**	**231**	*e*Pn	**Pb**	07 09 10.2	-1.8	
	SNR=1.0							
LPG	**La Plagne**	**2.46**	**231**	*e*P	**Pb**	07 09 13.3	+1.3	
LPG	**La Plagne**	**2.46**	**231**	*e*Pg	**Pg**	07 09 16.0	+1.1	
LPG				*e*Sn	**Sn**	07 09 38.2	+0.2	
LPG				*e*Sg	**Sg**	07 09 47.9	+1.1	
	comp=N,207nm,0.6s,SNR=1.0							
SWS	**Schriesheim-Wi**	**2.46**	**348**	Pn	**Pn**	07 09 08.4	+0.8	
SWS				Sn	**Sn**	07 09 38.5	+0.9	
SWS				Sg	**Sg**	07 09 47.6	+0.8	
GORR	**Gorreto**	**2.48**	**183**	AML	AML			
	comp=E,435µm,1.1s							
GORR				AML	AML			
	comp=N,452µm,0.5s							
TOD	**Tromm**	**2.57**	**350**	Pn	**Pn**	07 09 09.8	+0.6	
KBA	**Koelnbreinsper**	**2.65**	**89**	*e*Pn	**Pb**	07 09 13.7	-1.5	
KBA	**Koelnbreinsper**	**2.65**	**89**	Pn	**Pb**	07 09 12.9	-2.3	
	comp=N,21nm,0.3s,SNR=60							
KBA				*i* Sn	**Sn**	07 09 43.1	+0.6	
	comp=N,55nm,0.2s							
GEPF	**Gemona**	**2.65**	**106**	AML	AML			
	comp=N,384µm,1.4s							
GEPF				AML	AML			
	comp=E,342µm,0.4s							
IMS	**Imsbach**	**2.72**	**338**	Pn	**Pn**	07 09 12.4	+1.1	
ACOM	**Acomizza, Ital**	**2.83**	**99**	AML	AML			
	comp=N,678µm,0.5s							
ACOM				AML	AML			
	comp=E,536µm,1.1s							
GRF	**Grafenberg Arr**	**2.86**	**23**	*e*Pn	**Pn**	07 09 12.4	-0.8	
GRF				*e*Sg	**Sg**	07 10 00.3	+0.6	
MYKA	**Terra Mystica**	**2.90**	**97**	Pn	**Pn**	07 09 13.9	+0.2	
	comp=E,2.7nm,0.3s,SNR=11							
MYKA				*i* Sn	**Sn**	07 09 50.3	+1.8	
	comp=E,25nm,0.3s							
PAGF	**Fort de Pagny**	**2.92**	**302**	*e*Pn	**Pn**	07 09 16.0	+2.0	
	baz=117							
PAGF	**Fort de Pagny**	**2.92**	**302**	*e*Pg	**Pg**	07 09 23.9	+0.2	
	baz=119							
PAGF				*e*Sn	**Sn**	07 09 48.4	-0.6	
PAGF				*e*Sg	**Sg**	07 10 02.3	+0.7	
	comp=E,183nm,0.7s,baz=125							
DUP	**Duppenweiler**	**2.94**	**323**	Pn	**Pn**	07 09 16.5	+2.3	
MBDF	**Montbardon**	**3.01**	**220**	*e*P	**Pn**	07 09 18.3	+2.9	
	SNR=1.0							
MBDF	**Montbardon**	**3.01**	**220**	*e*Pg	**Pg**	07 09 26.5	+1.0	
MBDF				*e*Sn	**Sn**	07 09 51.5	+0.1	
MBDF				*e*Sg	**Sg**	07 10 04.8	+0.3	
	comp=E,147nm,0.5s							
WET	**Wettzell**	**3.08**	**47**	*e*Pn	**Pn**	07 09 16.7	+0.6	
ABH	**Alteburg**	**3.08**	**336**	Pn	**Pn**	07 09 17.8	+1.6	
ABH				Sn	**Sn**	07 09 51.5	-1.5	
ABH	**Alteburg**	**3.08**	**336**	Pn	**Pn**	07 09 17.8	+1.6	
RIVT	**Riveris**	**3.19**	**327**	Pn	**Pn**	07 09 19.9	+2.3	
SFTF	**Sexfontaines**	**3.20**	**292**	*e*Pn	**Pn**	07 09 19.5	+1.7	
	baz=114							
SFTF	**Sexfontaines**	**3.20**	**292**	*e*Pg	**Pg**	07 09 29.4	+0.4	
	baz=111							
SFTF				*e*Sn	**Sn**	07 09 56.0	+0.2	
SFTF				*e*Sg	**Sg**	07 10 10.5	+0.1	
	comp=E,63nm,0.5s							
TNS	**Taunus Mts**	**3.22**	**348**	*e*Pn	**Pn**	07 09 19.2	+1.1	
ROTZ	**Rotzenmuhle**	**3.25**	**33**	*e*Pn	**Pn**	07 09 17.8	-0.7	
ROTZ				*e*Sg	**Sg**	07 10 10.7	-1.4	
MEZF	**Maizieres J'vi**	**3.30**	**297**	*e*Pn	**Pn**	07 09 21.2	+2.1	
	baz=118,SNR=1.0							
MEZF	**Maizieres J'vi**	**3.30**	**297**	*e*Pg	**Pg**	07 09 31.2	+0.3	
	baz=116							
MEZF				*e*Sn	**Sn**	07 09 57.2	-1.0	
	SNR=1.0							
MEZF				*e*Sg	**Sg**	07 10 13.6	0.0	
	comp=E,71nm,0.4s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**3.31**	**230**	*e*Pn	**Pn**	07 09 22.4	+3.1	
	SNR=1.0							
ORIF	**Oris-en-Rattie**	**3.31**	**230**	*e*Pg	**Pg**	07 09 30.9	-0.2	
ORIF				*e*Sg	**Sg**	07 10 13.8	-0.1	
	comp=E,130nm,0.7s							
OGAG	**Argentiere**	**3.33**	**219**	Pn	**Pn**	07 09 18.3	-1.4	
OGAG				Pg	**Pb**	07 09 26.0	-0.8	
MOA	**Molln**	**3.34**	**75**	*e*Pn	**Pn**	07 09 21.6	+1.8	
MOA				*e*Pg	**Pg**	07 09 30.2	-1.6	
MOA	**Molln**	**3.34**	**75**	Pn	**Pn**	07 09 21.6	+1.8	
	comp=E,4.4nm,0.1s,SNR=23							
MOA				*i* Sn	**Sn**	07 10 01.6	+2.1	
	comp=E,41nm,0.3s							
GEC2	**GERESS Array S**	**3.35**	**57**	*e*Pn	**Pn**	07 09 20.9	+1.0	
MANZ	**Manzenberg**	**3.40**	**30**	*e*Pn	**Pn**	07 09 19.5	-1.0	
WLF	**Walferdange**	**3.40**	**321**	*e*Pn	**Pn**	07 09 23.3	+2.8	
GWBC	**Aumenau**	**3.41**	**347**	Pn	**Pn**	07 09 22.5	+1.8	
FACH	**Fachingen**	**3.42**	**344**	Pn	**Pn**	07 09 22.1	+1.3	
TURF	**col de Turini**	**3.43**	**206**	Pn	**Pn**	07 09 24.3	+3.2	
BGG	**Burgeitz**	**3.43**	**336**	*e*Pn	**Pn**	07 09 22.9	+1.9	
BGG				*e*Sn	**Sn**	07 10 03.7	+2.2	
	comp=E,34nm,0.9s							
KHC	**Kasperske Hory**	**3.44**	**52**	*e*PN	**Pn**	07 09 21.7	+0.6	
KHC				*e*PG	**Pb**	07 09 30.2	+1.7	
KHC				*e*SN	**Sn**	07 10 02.0	+0.3	
KHC				*e*SG	**Sg**	07 10 15.0	-3.0	
	comp=E,94nm,0.4s							
SBF	**Sospel**	**3.52**	**205**	*e*P	**Pn**	07 09 25.9	+3.6	
	SNR=1.0							
SBF				*e*Sn	**Sn**	07 10 02.7	-1.1	
	comp=E,71nm,0.3s							
OBKA	**Obir**	**3.54**	**97**	*e*Pn	**Pn**	07 09 26.2	+3.7	
OBKA	**Obir**	**3.54**	**97**	Pn	**Pn**	07 09 22.4	-0.1	
	comp=E,4.0nm,0.3s,SNR=7.0							
OBKA				*i* Sg	**Sb**	07 10 15.4	+2.2	
	comp=E,17nm,0.4s							
LAGB	**Langenfeld Gru**	**3.64**	**335**	Pn	**Pn**	07 09 25.6	+1.8	
ASQU	**Asqua**	**3.67**	**153**	AML	AML			
	comp=E,114µm,1.5s							
ASQU				AML	AML			
	comp=N,83µm,0.6s							
BRJN	**Brijuni**	**3.69**	**125**	*e*Pn	**Pn**	07 09 28.3	+3.7	
HILG	**Hillesheim**	**3.71**	**331**	*e*Pn	**Pn**	07 09 26.9	+2.1	
NKC	**Novy Kostel**	**3.72**	**31**	*e*Pn	**Pn**	07 09 24.0	-1.0	
NKC				*e*PG	**Pb**	07 09 33.0	-0.4	
NKC				*e*SN	**Sn**	07 10 06.6	-2.1	
NKC				*e*SG	**Sg**	07 10 23.2	-4.0	
	comp=N,91nm,0.4s							
BLI	**Bleialf**	**3.79**	**327**	Pn	**Pn**	07 09 28.1	+2.1	
AHRW	**Bad Neuenahr-A**	**3.81**	**336**	Pn	**Pn**	07 09 27.9	+1.8	
LOR	**Lormes**	**3.83**	**275**	*e*Pn	**Pn**	07 09 28.4	+1.9	
	baz=94,SNR=1.0							
LOR	**Lormes**	**3.83**	**275**	*e*Pg	**Pg**	07 09 40.6	-0.5	
	baz=94,SNR=1.0							
LOR				*e*Sn	**Sn**	07 10 09.8	-1.6	
	comp=N,50nm,0.4s,SNR=1.0							
LOR				*e*Sg	**Sg**	07 10 29.4	-1.3	
	comp=N,42nm,0.3s							
SOKA	**Soboth**	**3.84**	**94**	*i* Pn	**Pn**	07 09 27.5	+0.9	
	comp=N,16nm,0.3s,SNR=33							
SOKA				*i* Sn	**Sn**	07 10 14.3	+2.6	
	comp=N,6.4nm,0.3s							
MOX	**Moxa**	**3.84**	**21**	*e*Pn	**Pn**	07 09 25.2	-1.4	
TANN	**Tannenbergstha**	**3.88**	**30**	*e*Pn	**Pn**	07 09 25.8	-1.5	
SMF	**Signal de Mont**	**3.88**	**266**	*e*Pn	**Pn**	07 09 28.4	+1.2	
	SNR=1.0							
SMF	**Signal de Mont**	**3.88**	**266**	*e*Pg	**Pg**	07 09 41.8	-0.3	
SMF				*e*Sn	**Sn**	07 10 10.4	-2.3	
SMF				*e*Sg	**Sg**	07 10 32.1	-0.3	
	comp=N,75nm,0.5s,SNR=1.0							
RIY	**Rijeka**	**3.90**	**115**	iPn		07 09 31.2		
STB	**Steinbach**	**3.92**	**335**	*e*Pn	**Pn**	07 09 29.6	+1.9	
PBCC	**Pribram**	**3.99**	**48**	*e*PN	**Pn**	07 09 29.0	+0.4	
VIVF	**Saint-Julien-l**	**4.01**	**238**	*e*Pn	**Pn**	07 09 30.6	+1.6	
	SNR=1.0							
VIVF	**Saint-Julien-l**	**4.01**	**238**	*e*Pg	**Pg**	07 09 44.1	-0.5	
	SNR=1.0							
VIVF				*e*Sn	**Sn**	07 10 15.1	-0.9	
	SNR=1.0							
VIVF				*e*Sg	**Sg**	07 10 36.2	-0.4	
	comp=N,30nm,0.4s,SNR=1.0							
FRF	**La Foret Royal**	**4.04**	**210**	*e*P	**Pn**	07 09 33.1	+3.7	
	SNR=1.0							
FRF	**La Foret Royal**	**4.04**	**210**	*e*Pg	**Pg**	07 09 45.9	+0.7	
	SNR=1.0							
FRF				*e*Sn	**Sn**	07 10 15.6	-1.0	
	comp=N,30nm,0.4s,SNR=1.0							
SSF	**Saint Saulge**	**4.07**	**272**	*e*Pn	**Pn**	07 09 31.9	+2.1	
	SNR=1.0							
SSF	**Saint Saulge**	**4.07**	**272**	*e*Pg	**Pg**	07 09 45.4	-0.3	
	SNR=1.0							
SSF				*e*Sg	**Sg**	07 10 38.0	-0.5	
	comp=N,69nm,0.5s,SNR=1.0							
KLL	**Kalltalsperre**	**4.13**	**331**	*e*Pn	**Pn**	07 09 32.8	+2.2	
ARSA	**Arzberg**	**4.13**	**85**	*i* Pn	**Pn**	07 09 31.4	+0.7	
	comp=N,13nm,0.4s,SNR=9.3							
ARSA				*i* Sn	**Sn**	07 10 17.0	-1.9	
	comp=N,13nm,0.5s							
SMRF	**Simiane la Rot**	**4.14**	**223**	*e*Pn	**Pn**	07 09 32.2	+1.5	
	SNR=1.0							
SMRF	**Simiane la Rot**	**4.14**	**223**	*e*Pg	**Pg**	07 09 46.5	-0.5	
SMRF				*e*Sn	**Sn**	07 10 18.3	-0.7	
	comp=N,10nm,0.4s,SNR=1.0							
SMRF				*e*Sg	**Sg**	07 10 39.5	-1.0	
	comp=N,14nm,0.5s							
HOBG	**Hohbusch**	**4.15**	**341**	*e*Pn	**Pn**	07 09 32.8	+2.0	
AVF	**Avril sur Loir**	**4.20**	**268**	*e*Pn	**Pn**	07 09 32.8	+1.3	
	SNR=1.0							
AVF	**Avril sur Loir**	**4.20**	**268**	*e*Pg	**Pg**	07 09 47.5	-0.6	
	SNR=1.0							
AVF				*e*Sn	**Sn**	07 10 19.1	-1.3	
AVF				*e*Sg	**Sg**	07 10 41.8	-0.7	
	comp=N,16nm,0.4s							
LMR	**La Mourre**	**4.29**	**210**	*e*P	**Pn**	07 09 37.3	+4.5	
LMR				*e*Sn	**Sn**	07 10 21.4	-1.3	
	comp=N,17nm,0.5s,SNR=1.0							
GIVF	**Givet**	**4.32**	**316**	*e*Pn	**Pn**	07 09 35.5	+2.4	
	SNR=1.0							
GIVF				*e*Sn	**Sn**	07 10 23.5	+0.2	
	comp=N,22nm,0.3s,SNR=1.0							
GIVF				*e*Sg	**Sg**	07 10 45.3	-1.0	
	comp=N,27nm,0.4s							
HGN	**Heimansgroeve**	**4.36**	**329**	*e*Pn	**Pn**	07 09 36.1	+2.3	
	comp=N,33nm,0.3s							
HGN				*e*Sn	**Sn**	07 10 23.5	-0.9	
OZLJ	**Ozalj**	**4.41**	**107**	*e*Pn	**Pn**	07 09 37.7	+3.4	
OZLJ				Sn	**Sn**	07 10 26.2	+0.7	
CONA	**Conrad Observa**	**4.42**	**77**	*i* Pn	**Pn**	07 09 36.1	+1.5	
	comp=N,8.5nm,0.2s,SNR=32							
CONA				*i* Sn	**Sn**	07 10 25.5	-0.4	
	comp=N,27nm,0.4s							
PRU	**Pruhonice**	**4.45**	**47**	*e*PN	**Pn**	07 09 35.4	+0.4	
PRU				*e*PG	**Pb**	07 09 47.9	+2.1	
PRU				*e*SG	**Sg**	07 10 46.5	-4.2	
	comp=N,53nm,0.6s							
GOPC	**GO Pecny, Ondr**	**4.53**	**49**	*e*PN	**Pn**	07 09 36.3	+0.2	
NVLJ	**Novalja**	**4.54**	**122**	*i* Pn	**Pn**	07 09 39.6	+3.4	
NVLJ				Sn	**Sn**	07 10 30.2	+1.4	
PGF	**Pioggiola**	**4.54**	**184**	*e*Pn	**Pn**	07 09 37.2	+0.8	
	SNR=1.0							
PGF				*e*Sn	**Sn**	07 10 27.8	-1.3	
	comp=N,27nm,0.8s,SNR=1.0							
BGF	**Bois d'Agland**	**4.58**	**266**	*e*Pn	**Pn**	07 09 37.9	+1.2	
	SNR=1.0							
BGF	**Bois d'Agland**	**4.58**	**266**	*e*Pg	**Pg**	07 09 55.2	-0.1	
	SNR=1.0							
BGF				*e*Sn	**Sn**	07 10 27.6	-2.1	
BGF				*e*Sg	**Sg**	07 10 53.0	-1.6	
	comp=N,98nm,0.5s,SNR=1.0							
BAIF	**Baives**	**4.59**	**312**	*e*Pn	**Pn**	07 09 39.4	+2.5	
	SNR=1.0							
BAIF	**Baives**	**4.59**	**312**	*e*Pg	**Pg**	07 09 54.4	-1.2	
BAIF				*e*Sn	**Sn**	07 10 28.9	-1.2	
BAIF				*e*Sg	**Sg**	07 10 53.5	-1.5	
	comp=N,26nm,0.6s							
TREC	**Trest**	**4.60**	**59**	*e*PN	**Pn**	07 09 38.4	+1.4	
TREC				*e*PG	**Pb**	07 09 51.2	+2.9	
TREC				*e*SN	**Sn**	07 10 30.3	0.0	
HYF	**Humbligny**	**4.66**	**275**	*e*Pn	**Pn**	07 09 39.7	+1.8	
HYF	**Humbligny**	**4.66**	**275**	*e*Pg	**Pg**	07 09 55.7	-1.3	
HYF				*e*Sg	**Sg**	07 10 56.2	-1.1	
BRG	**Berggiesshubel**	**4.81**	**36**	PN	**Pn**	07 09 39.3	-0.5	
BRG				SN	**Pg**	07 09 59.2	-0.6	
BRG				SG	**Sg**	07 10 59.5	-2.4	
	comp=N,33nm,0.6s							
CLL	**Collm**	**4.82**	**27**	*i* Pn	**Pn**	07 09 38.2	-1.9	
CLL				*i*		07 09 41.1		
CLL				*e*Pg	**Pg**	07 10 01.0	+0.9	
CLL				*e*		07 10 34.0		
CLL				*e*Sg	**Sg**	07 11 01.0	-1.5	
	comp=Z,43nm,0.5s							
SOP	**Sopron**	**4.86**	**80**	*e*Pn	**Pn**	07 09 40.1	-0.4	
SOP				Sn	**Sn**	07 10 36.1	-0.5	
LASF	**Ste Croix**	**4.95**	**235**	*e*Pn	**Pn**	07 09 43.0	+1.1	
	SNR=1.0							
LASF	**Ste Croix**	**4.95**	**235**	*e*P	Pn	07 09 47.9	+6.0	
LASF	**Ste Croix**	**4.95**	**235**	*e*Pg	**Pg**	07 10 01.4	-1.2	
LASF				*e*Sn	**Sn**	07 10 38.0	-1.1	
	SNR=1.0							
LASF				*e*Sg	**Sg**	07 11 05.3	-1.4	
	comp=Z,37nm,0.5s,SNR=1.0							
DUGI	**Dugi Otok**	**5.00**	**126**	*e*Pn	**Pn**	07 09 45.7	+3.3	
KRUC	**Moravsky**	**5.05**	**64**	*e*PN	**Pn**	07 09 44.1	+0.9	
KRUC				*e*SN	**Sn**	07 10 40.2	-1.2	
KRUC				*e*SG	**Sg**	07 11 06.8	-3.0	
TCF	**Toulx Ste Croi**	**5.06**	**264**	*e*Pn	**Pn**	07 09 44.9	+1.6	
	SNR=1.0							
TCF	**Toulx Ste Croi**	**5.06**	**264**	*e*Pg	**Pg**	07 10 04.5	-0.1	
TCF				*e*Sn	**Sn**	07 10 39.1	-2.5	
TCF				*e*Sg	**Sg**	07 11 08.1	-1.9	
	comp=Z,18nm,0.3s							
UDBI	**Udbina**	**5.09**	**118**	*e*Pn	**Pn**	07 09 47.5	+3.7	
MOSL	**Moslavina**	**5.25**	**104**	*e*Pn	**Pn**	07 09 47.5	+1.4	
VRAC	**Vranov**	**5.26**	**62**	*e*PN	**Pn**	07 09 46.8	+0.7	
VRAC				*e*SN	**Sn**	07 10 44.5	-2.1	
VRAC				*e*SG	**Sg**	07 11 14.8	-1.8	
ZST	**Bratislava**	**5.28**	**75**	*e*PN	**Pn**	07 09 46.5	+0.1	
ZST				*e*SN	**Sn**	07 10 44.7	-2.4	
ZST				*e*SG	**Sg**	07 11 15.2	-2.0	
MODS	**Modra-Piesok**	**5.43**	**73**	*e*PN	**Pn**	07 09 48.6	+0.2	
MODS				*e*PG	**Pg**	07 10 07.5	-4.1	
MODS				*e*SN	**Sn**	07 10 49.3	-1.4	
MODS				*e*SG	**Sg**	07 11 19.0	-2.9	
MORI	**Morici**	**5.44**	**124**	*e*Pn	**Pn**	07 09 52.2	+3.6	
MORI				Sn	**Sn**	07 10 52.7	+1.7	
MPLH	**Magyarpolny**	**5.51**	**86**	*e*Pn	**Pn**	07 09 51.0	+1.5	
MPLH				Sn	**Sn**	07 10 53.0	+0.2	
UPC	**Upice**	**5.52**	**49**	*e*PN	**Pn**	07 09 49.4	-0.3	
UPC				*ex*	x	07 09 57.7		
ZIRJ	**Zirje**	**5.54**	**126**	*e*Pn	**Pn**	07 09 53.4	+3.5	
SMOL	**Smolenice**	**5.55**	**72**	*e*SG	**Sg**	07 11 25.0	-0.9	
CAF	**Calviac**	**5.59**	**250**	*e*Pn	**Pn**	07 09 52.1	+1.5	
	SNR=1.0							
CAF	**Calviac**	**5.59**	**250**	*e*Pg	**Pg**	07 10 13.1	-1.6	
CAF				*e*Sn	**Sn**	07 10 52.4	-2.4	
CAF				*e*Sg	**Sg**	07 11 25.1	-2.0	
	comp=Z,12nm,0.5s,SNR=1.0							
CHVC	**Chvalec**	**5.59**	**49**	*e*PN	**Pn**	07 09 50.8	+0.2	
CHVC				*ex*	x	07 09 58.8		
DPC	**Dobruska-Polom**	**5.59**	**52**	*e*PN	**Pn**	07 09 51.2	+0.5	
OSTC	**

0.9nm,0.7s,baz=92,slow=7.7,SNR=9.4
BVAR Borovoye Array 64.28 320 P P 07 22 17.7 -1.2
0.6nm,0.4s,baz=99,slow=6.1,SNR=5.8
YKA Yellowknife Ar 77.19 28 P P 07 23 38.8 +1.5
0.3nm,0.8s,baz=289,slow=5.9,SNR=2.9
NVAR Mina Array Bea 83.24 52 P P 07 24 09.3 -1.5
0.6nm,0.7s,baz=263,slow=5.4,SNR=5.8

ZUR 27 07:13:24.8, 47°.08N×9°.49E, h6km±1km, MLh0.2/1, 1C-2D, Error ellipse: s-maj=4.0km s-min=1.2km az=141.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLONS	**Plons/SG**	**0.08**	**252**	↑Pg	Pg	07 13 26.8	+0.1
PLONS				Sg	Sg	07 13 28.4	+0.4
SBUB	**Buchserberg Ma**	**0.08**	**331**	↓Pg	Pg	07 13 26.8	+0.1
SBUB				Sg	Sg	07 13 28.4	+0.3
SBUA2	**Buchs, Altendo**	**0.09**	**350**	↓Pg	Pg	07 13 26.8	+0.1
SBUA2				Sg	Sg	07 13 28.4	+0.3
LIENZ	**Kamor/St.Gall**	**0.22**	**0**	Sg	Sg	07 13 33.2	+1.1

*ISCJB **27** 07:32:17.8±0.5, 7°.73S±0°.09×119°.02E±0°.09, h33km, mb3.9/6, Error ellipse: s-maj=16.5km s-min=7.5km az=41.7*
*NEIC **27** 07:32:17.8±2.6, 7°.8S±0°.1×118°.98E±0°.08, h19km±4km, mb4.2/10*
*IDC **27** 07:32:27.9±3.7, 7°.54S×119°.46E, h107km±37km, mb3.6/6, mb1 3.7/8, mb1mx3.4/44, mbtmp3.9/8, Error ellipse: s-maj=117.5km s-min=10.9km az=56.0*
ISC 27 07:32:20.0±0.7, 7°.92S±0°.10×119°.00E±0°.08, h35km, n26, σ1§75/27, mb4.1/12, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**3.29**	**103**	Pn	**Pn**	**07 33 07.8**	**-1.3**
JAGI	**Jajag, Banyuwa**	**4.83**	**263**	Pn	**Pn**	**07 33 28.9**	**-1.4**
FITZ	**Fitzroy Crossi**	**12.01**	**148**	P	**P**	**07 35 18.1**	**-3.2**
	0.1nm,0.3s,baz=351,slow=13,SNR=2.3						
FITZ				S	**Sn**	**07 37 17.9**	**-3.6**
	0.5nm,0.3s,baz=174,slow=17,SNR=5.9						
FITZ	**Fitzroy Crossi**	**12.01**	**148**		**Pn**	**07 35 08.4**	**-0.3**
KNRA	**Kununurra**	**12.28**	**130**	Pn	**Pn**	**07 35 12.9**	**+0.5**
MTN	**Manton Dam**	**12.90**	**113**	Pn	**Pn**	**07 35 21.0**	**0.0**
WRA	**Warramunga Arr**	**19.07**	**130**	P	**P**	**07 36 40.0**	**+0.3**
	0.5nm,0.3s,baz=303,slow=13,SNR=21						
WRA				S	Sn	07 39 59.3	-14
	0.0nm,0.3s,baz=290,slow=21,SNR=3.0						
WRAB	**Tennant Creek**	**19.07**	**130**	P	P	07 36 31.7	-8.0
AS31	**Alice Springs**	**21.20**	**139**	P	**P**	**07 37 05.8**	**+3.0**
AS31				IAmb	IAmb	07 37 08.2	
	comp=Z,3.5nm,0.3s						
ASAR	**Alice Springs**	**21.20**	**139**	P	**P**	**07 37 04.5**	**+1.6**
	comp=Z,6.0nm,0.8s,baz=314,slow=9.2,SNR=61						
ASAR				S	**S**	**07 40 55.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=330,slow=26,SNR=2.6						
COEN	**Coen**	**24.47**	**106**	P	**P**	**07 37 37.1**	**+1.0**
COEN				IAmb	IAmb	07 37 37.8	
	comp=Z,5.9nm,0.9s						
BBOO	**Buckleboo**	**29.39**	**150**	P	**P**	**07 38 21.7**	**+1.6**
STKA	**Stephens Creek**	**31.79**	**142**	P	**P**	**07 38 43.0**	**+1.7**
	comp=Z,1.0nm,0.4s,baz=308,slow=9.7,SNR=8.4						
STKA	**Stephens Creek**	**31.79**	**142**	P	**P**	**07 38 43.7**	**+2.4**
SONM	**Songino Array**	**56.62**	**350**	P	**P**	**07 41 58.7**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=163,slow=7.5,SNR=3.7						
MK31	**Makanchi Array**	**63.50**	**333**	P	**P**	**07 42 46.8**	**0.0**
MK31				IAmb	IAmb	07 42 58.2	
	comp=Z,1.4nm,0.9s						
MKAR	**Makanchi Array**	**63.50**	**333**	P	**P**	**07 42 46.1**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=150,slow=7.1,SNR=13						
MAKZ	**Makanchi**	**63.66**	**333**	P	**P**	**07 42 47.9**	**+0.1**
MAKZ				IAmb	IAmb	07 43 01.6	
	comp=Z,2.8nm,1.2s						
KURBB	**Kurchatov Arra**	**68.01**	**334**	P	**P**	**07 43 14.5**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=144,slow=5.6,SNR=5.4						
KURK	**Kurchatov**	**68.03**	**334**	P	**P**	**07 43 14.4**	**-1.4**
ZALV	**Zalesovo Beam**	**68.04**	**339**	P	**P**	**07 43 13.9**	**-1.9**
	comp=Z,0.6nm,0.4s,baz=151,slow=3.8,SNR=2.9						
VNDA	**Vanda**	**73.05**	**171**	P	**P**	**07 43 48.8**	**+2.7**
VNDA				IAmb	IAmb	07 43 60.0	
	comp=Z,2.2nm,1.1s						
QSPA	**South Pole Qui**	**82.06**	**180**	P	**P**	**07 44 38.7**	**+2.0**
QSPA				IAmb	IAmb	07 44 51.1	
	comp=Z,2.5nm,1.3s						
ALLY	**Alegheny Colle**	**142.37**	**24**		**PKPdf**	**07 51 49.3**	**-0.1**
W50A	**Signal Mountai**	**144.88**	**36**	PKPdf	**PKPdf**	**07 51 53.1**	**-0.9**
CPCT	**Cooper Cave**	**145.15**	**35**		**PKPdf**	**07 51 53.8**	**-0.6**

*ISCJB **27** 07:42:38.4±0.8, 17°.1S±0°.1×173°.2W±0°.1, h10km, mb3.7/4, Error ellipse: s-maj=16.2km s-min=14.0km az=39.2*
*NEIC **27** 07:42:40.4±2.1, 17°.1S±0°.1×173°.3W±0°.1, h9km±5km, mb4.4/5*
*IDC **27** 07:42:43.0±28.0, 18°.59S×173°.34W, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/26, mbtmp3.7/4, Error ellipse: s-maj=523.4km s-min=173.7km az=74.0*
ISC 27 07:42:40.5±0.9, 17°.1S±0°.1×173°.3W±0°.1, h10km, n11, σ1§80/11, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**12.83**	**199**	Pn	**Pn**	**07 45 42.4**	**-0.6**
RAR	**Rarotonga**	**13.39**	**110**	Pn	**Pn**	**07 45 50.6**	**-0.1**
KNTN	**Kanton**	**14.31**	**6**	Pn	**Pn**	**07 46 03.2**	**-0.2**
WKZ	**Wanaka**	**31.40**	**205**	P	**P**	**07 49 03.3**	**+1.7**
CTA	**Charters Tower**	**38.41**	**259**	P	**P**	**07 50 04.0**	**+1.4**
	0.8nm,0.4s,baz=100,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**43.32**	**242**	P	**P**	**07 50 40.5**	**-2.4**
	0.3nm,0.4s,baz=103,slow=10,SNR=3.1						
STKA	**Stephens Creek**	**43.32**	**242**	P	**P**	**07 50 41.2**	**-1.7**
BBOO	**Buckleboo**	**48.09**	**241**	P	**P**	**07 51 20.7**	**+0.1**
BBOO				IAmb	IAmb	07 51 32.4	
	comp=Z,7.5nm,1.2s						
WRA	**Warramunga Arr**	**49.60**	**258**	P	**P**	**07 51 33.5**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=96,slow=7.2,SNR=7.5						
AS31	**Alice Springs**	**49.72**	**253**	P	**P**	**07 51 30.1**	**-3.2**
AS31				IAmb	IAmb	07 51 47.1	
	comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**49.72**	**253**	P	**P**	**07 51 33.8**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=94,slow=8.2,SNR=16						

*BEO **27** 07:58:29.1±4.3, 46°.08N×26°.88E, h84km±1km, ML3.2/6*
*ISCJB **27** 07:58:31.0±0.4, 45°.75N±0°.02×26°.64E±0°.03, h99km±3km, Error ellipse: s-maj=3.2km s-min=2.9km az=150.3*
*BUC **27** 07:58:32.2±0.4, 45°.72N×26°.65E, h91km±3km, ml3.6/36, Error ellipse: s-maj=2.4km s-min=2.1km az=168.0*
*SIGU **27** 07:58:32.7±0.3, 46°.N±2°×2°.7E±°, h91km±2km, mb3.1/3*
*SOF **27** 07:58:33.8, 45°.74N×26°.58E, h56km*
ISC 27 07:58:31.5±1.2, 45°.75N±0°.02×26°.64E±0°.02, h99km±5km, n109, σ1§28/159, 94C-38D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.11**	**5**	↑P	**Pn**	**07 58 45.5**	**0.0**
PLOR				↑S	**Sn**	**07 58 54.3**	**-1.6**
PLOR	**Plostina**	**0.11**	**5**	↑P	**Pn**	**07 58 45.5**	**0.0**
PLOR				↑S	**Sn**	**07 58 54.3**	**-1.6**
PLOR				AML	AML	07 58 59.6	
VRI	**Vrincioaia**	**0.14**	**28**	↑P	**Pn**	**07 58 45.7**	**+0.2**
VRI				↓S	**Sn**	**07 58 54.9**	**-1.0**
VRI	**Vrincioaia**	**0.14**	**28**	↑P	**Pn**	**07 58 45.7**	**+0.2**
VRI				↓S	**Sn**	**07 58 54.9**	**-1.0**
VRI				AML	AML	07 58 56.8	
BISRR	**Bisoca**	**0.20**	**165**	↑P	**Pn**	**07 58 46.3**	**+0.5**
BISRR				↑S	**Sn**	**07 58 56.2**	**-0.2**
BISRR	**Bisoca**	**0.20**	**165**	↑P	**Pn**	**07 58 46.3**	**+0.5**
BISRR				↑S	**Sn**	**07 58 56.2**	**-0.2**
BISRR				AML	AML	07 58 58.2	
ODBI	**Odobesti**	**0.29**	**86**	↓S	**Sn**	**07 58 56.8**	**0.0**
ODBI	**Odobesti**	**0.29**	**86**	↓S	**Sn**	**07 58 56.8**	**0.0**
ODBI				AML	AML	07 58 58.3	
PETR	**Petresti**	**0.42**	**93**	↑P	**Pn**	**07 58 47.4**	**+0.8**
PETR				↑S	**Sn**	**07 58 58.0**	**+0.1**
PETR	**Petresti**	**0.42**	**93**	↑P	**Pn**	**07 58 47.4**	**+0.8**
PETR				↑S	**Sn**	**07 58 58.0**	**+0.1**
PETR				AML	AML	07 58 58.6	
MLR	**Muntele Rosu**	**0.55**	**243**	↑P	**Pn**	**07 58 48.5**	**+0.8**
MLR				↑S	**Sn**	**07 58 59.7**	**-0.2**
MLR	**Muntele Rosu**	**0.55**	**243**	↑P	**Pn**	**07 58 48.5**	**+0.8**
MLR				↑S	**Sn**	**07 58 59.7**	**-0.2**
MLR				AML	AML	07 59 00.5	
OZUR		**0.69**	**301**	↑S	**Sn**	**07 59 00.5**	**-1.2**
OZUR		**0.69**	**301**	↑S	**Sn**	**07 59 00.5**	**-1.2**
OZUR				AML	AML	07 59 01.0	
TUDR		**0.74**	**101**	↓P	**Pn**	**07 58 49.3**	**+0.1**
TUDR				↓S	**Sn**	**07 59 01.7**	**-0.7**
TUDR		**0.74**	**101**	↓P	**Pn**	**07 58 49.3**	**+0.1**
TUDR				↓S	**Sn**	**07 59 01.7**	**-0.7**
TUDR				AML	AML	07 59 02.5	
TESR	**Tescani**	**0.77**	**1**	↓P	**Pn**	**07 58 50.0**	**+0.6**
TESR				↓S	**Sn**	**07 59 02.0**	**-1.0**
TESR	**Tescani**	**0.77**	**1**	↓P	**Pn**	**07 58 50.0**	**+0.6**
TESR				↓S	**Sn**	**07 59 02.0**	**-1.0**
TESR				AML	AML	07 59 02.4	
SECR		**0.81**	**210**	↓S	**Sn**	**07 59 04.9**	**+1.1**
SECR		**0.81**	**210**	↓S	**Sn**	**07 59 04.9**	**+1.1**
IZVR	**Izvoarele**	**0.82**	**104**	↑P	**Pn**	**07 58 49.9**	**-0.1**
IZVR				↑S	**Sn**	**07 59 02.1**	**-1.7**
IZVR	**Izvoarele**	**0.82**	**104**	↑P	**Pn**	**07 58 49.9**	**-0.1**
IZVR				↑S	**Sn**	**07 59 02.1**	**-1.7**
IZVR				AML	AML	07 59 03.3	
BIR	**Birlad**	**0.86**	**53**	↑P	**Pn**	**07 58 51.3**	**+0.9**
BIR				↑S	**Sn**	**07 59 04.7**	**0.0**
BIR	**Birlad**	**0.86**	**53**	↑P	**Pn**	**07 58 51.3**	**+0.9**
BIR				↑S	**Sn**	**07 59 04.7**	**0.0**
BIR				AML	AML	07 59 05.5	
PGOR	**Pogoanele**	**0.87**	**164**	↓S	**Sn**	**07 59 05.0**	**+0.2**
PGOR	**Pogoanele**	**0.87**	**164**	↓S	**Sn**	**07 59 05.0**	**+0.2**
PGOR				AML	AML	07 59 06.7	
BRAG	**Branistea**	**0.89**	**109**	↑P	**Pn**	**07 58 50.6**	**0.0**
BRAG				↑S	**Sn**	**07 58 59.0**	**-1.7**
BRAG	**Branistea**	**0.89**	**109**	↑P	**Pn**	**07 58 50.6**	**0.0**
BRAG				↓S	**Sn**	**07 59 03.5**	**-1.7**
BRAG				AML	AML	07 59 06.0	
DOPR	**Dopca**	**0.90**	**285**	↑P	**Pn**	**07 58 51.6**	**+0.8**
DOPR				↑S	**Sn**	**07 59 05.2**	**-0.1**
DOPR	**Dopca**	**0.90**	**285**	↑P	**Pn**	**07 58 51.6**	**+0.8**
DOPR				↑S	**Sn**	**07 59 05.2**	**-0.1**
DOPR				AML	AML	07 59 05.6	
DOPR				AML	AML	07 59 05.6	
PLAR	**PLOIESTI**	**0.94**	**208**	AML	AML	07 59 09.0	
GISR	**Galati**	**1.04**	**106**	↓S	**Sn**	**07 59 07.3**	**-0.6**
GISR	**Galati**	**1.04**	**106**	↑S	**Sn**	**07 59 07.3**	**-0.6**
GISR				AML	AML	07 59 10.0	
SULR		**1.10**	**194**	↑S	**Sn**	**07 59 10.3**	**+1.2**
SULR		**1.10**	**194**	↑S	**Sn**	**07 59 10.3**	**+1.2**
SULR				AML	AML	07 59 11.5	
GIUM	**Giurgiulesti**	**1.13**	**103**	↑P	**Pn**	**07 58 53.4**	**+0.1**
GIUM				↑S	**Sn**	**07 59 10.2**	**+0.4**
GIUM	**Giurgiulesti**	**1.13**	**103**	↑P	**Pn**	**07 58 53.4**	**+0.1**
GIUM				↑S	**Sn**	**07 59 10.2**	**+0.4**
GIRR	**Girov**	**1.21**	**356**	↑P	**Pn**	**07 58 54.6**	**+0.4**
GIRR	**Girov**	**1.21**	**356**	↑P	**Pn**	**07 58 54.6**	**+0.4**
JOSR	**Joseni**	**1.24**	**321**	↓P	**Pn**	**07 58 55.5**	**+1.0**
JOSR	**Joseni**	**1.24**	**321**	↓P	**Pn**	**07 58 55.5**	**+1.0**
JOSR				AML	AML	07 59 14.5	
BIZ	**Bicaz**	**1.25**	**343**	↑P	**Pn**	**07 58 56.3**	**+1.6**
BIZ				↑S	**Sn**	**07 59 12.2**	**-0.1**
BIZ	**Bicaz**	**1.25**	**343**	↑P	**Pn**	**07 58 56.3**	**+1.6**
BIZ				↑S	**Sn**	**07 59 12.2**	**-0.1**
HARR	**Harsova**	**1.40**	**139**	↓P	**Pn**	**07 58 57.0**	**+0.6**
HARR	**Harsova**	**1.40**	**139**	↓P	**Pn**	**07 58 57.0**	**+0.6**
ARR	**Arges**	**1.46**	**256**	↓P	**Pn**	**07 58 57.9**	**+0.6**
ARR				↑S	**Sn**	**07 59 16.3**	**-0.5**
ARR	**Arges**	**1.46**	**256**	↓P	**Pn**	**07 58 57.9**	**+0.6**
ARR				↑S	**Sn**	**07 59 16.3**	**-0.5**
ARR				AML	AML	07 59 17.0	
BUC1	**Bucharest**	**1.46**	**197**	↓S	**Sn**	**07 59 16.7**	**0.0**
BUC1	**Bucharest**	**1.46**	**197**	↓S	**Sn**	**07 59 16.7**	**0.0**
BUC1				AML	AML	07 59 18.0	
TOPG	**Topolog**	**1.51**	**125**	↓P	**Pn**	**07 58 58.2**	**+0.4**
TOPG				↑S	**Sn**	**07 59 16.9**	**-0.7**
TOPG	**Topolog**	**1.51**	**125**	↓P	**Pn**	**07 58 58.2**	**+0.4**
TOPG				↑S	**Sn**	**07 59 16.9**	**-0.7**
TOPG				AML	AML	07 59 18.5	
IAS	**Iasi**	**1.58**	**24**	↑S	**Sn**	**07 59 19.0**	**-0.3**
IAS	**Iasi**	**1.58**	**24**	↑S	**Sn**	**07 59 19.0**	**-0.3**
IAS				AML	AML	07 59 20.0	
SGRR	**Singureni**	**1.59**	**197**	↑S	**Sn**	**07 59 19.2**	**-0.4**
SGRR	**Singureni**	**1.59**	**197**	↑S	**Sn**	**07 59 19.2**	**-0.4**
SGRR				AML	AML	07 59 23.6	
TLCR		**1.63**	**109**	↑P	**Pn**	**07 59 00.2**	**+0.9**
TLCR				↑S	**Sn**	**07 59 20.7**	**+0.2**
TLCR		**1.63**	**109**	↑P	**Pn**	**07 59 00.2**	**+0.9**
TLCR				↑S	**Sn**	**07 59 20.7**	**+0.2**
TLCR				AML	AML	07 59 23.4	
HUMR	**Humele**	**1.69**	**224**	↑P	**Pn**	**07 59 00.8**	**+0.7**
HUMR				↓S	**Sn**	**07 59 21.4**	**-0.4**
HUMR	**Humele**	**1.69**	**224**	↑P	**Pn**	**07 59 00.8**	**+0.7**
HUMR				↓S	**Sn**	**07 59 21.4**	**-0.4**
HUMR				AML	AML	07 59 23.2	
CVDA	**Cernavoda**	**1.73**	**144**	↓P	**Pn**	**07 59 01.4**	**+0.9**
CVDA	**Cernavoda**	**1.73**	**144**	↓P	**Pn**	**07 59 01.4**	**+0.9**
TIRR	**Tirgusor**	**1.80**	**135**	↑S	**Sn**	**07 59 22.2**	**-2.1**
TIRR	**Tirgusor**	**1.80**	**135**	↑S	**Sn**	**07 59 22.2**	**-2.1**
ICOR	**Ion Corvin**	**1.83**	**153**	↑P	**Pn**	**07 59 02.5**	**+0.7**
ICOR				↓S	**Sn**	**07 59 23.9**	**-1.0**
ICOR	**Ion Corvin**	**1.83**	**153**	↑P	**Pn**	**07 59 02.5**	**+0.7**
ICOR				↓S	**Sn**	**07 59 23.9**	**-1.0**
ICOR				AML	AML	07 59 27.3	
JURR	**Jurilovca**	**1.86**	**121**	↑P	**Pn**	**07 59 03.3**	**+1.1**
JURR	**Jurilovca**	**1.86**	**121**	↑P	**Pn**	**07 59 03.3**	**+1.1**
COPA	**Copaceanca**	**1.90**	**213**	↑S	**Sn**	**07 59 26.2**	**-0.3**
COPA	**Copaceanca**	**1.90**	**213**	↑S	**Sn**	**07 59 26.2**	**-0.3**
COPA				AML	AML	07 59 28.0	
MILM	**Milestii Mici**	**1.91**	**51**	↓S	**Sn**	**07 59 26.3**	**-0.5**
MILM	**Milestii Mici**	**1.91**	**51**	↓S	**Sn**	**07 59 26.3**	**-0.5**
MILM				AML	AML	07 59 35.6	
LOT	**Lotru**	**2.03**	**263**	↑P	**Pn**	**07 59 05.6**	**+1.0**
LOT				↑S	**Sn**	**07 59 30.4**	**+0.6**
LOT	**Lotru**	**2.03**	**263**	↑P	**Pn**	**07 59 05.6**	**+1.0**
LOT				↑S	**Sn**	**07 59 30.4**	**+0.6**
LOT				AML	AML	07 59 36.3	
BURAR	**Bucovina Array**	**2.11**	**333**	↑P	**Pn**	**07 59 07.1**	**+1.6**
BURAR	**Bucovina Array**	**2.11**	**333**	↑P	**Pn**	**07 59 07.1**	**+1.6**
RAZG	**Razgrad**	**2.18**	**182**	↑S	**Sn**	**07 59 31.8**	**-1.3**
RAZG	**Razgrad**	**2.18**	**182**	↑S	**Sn**	**07 59 31.8**	**-1.3**
RAZG				AML	AML	07 59 33.4	
ZIMR		**2.28**	**204**	↑S	**Sn**	**07 59 34.0**	**-1.2**
ZIMR		**2.28**	**204**	↑S	**Sn**	**07 59 34.0**	**-1.2**
ZIMR				AML	AML	07 59 35.8	
PSN	**Preselentsi**	**2.34**	**151**	P	**Pn**	**07 59 09.9**	**+1.5**
VLAD	**Vladila**	**2.36**	**223**	↑S	**Sn**	**07 59 35.8**	**-1.4**
VLAD	**Vladila**	**2.36**	**223**	↑S	**Sn**	**07 59 35.8**	**-1.4**
VLAD				AML	AML	07 59 35.8	
MANR	**Mangalia**	**2.38**	**144**	↑P	**Pn**	**07 59 09.5**	**+0.6**
MANR	**Mangalia**	**2.38**	**144**	↑P	**Pn**	**07 59 09.5**	**+0.6**
MANR				AML	AML	07 59 38.5	
PRD	**Provadia**	**2.60**	**168**	P	**Pn**	**07 59 13.7**	**+1.8**
SRE	**Strehaia**	**2.66**	**247**	↑S	**Sn**	**07 59 43.8**	**-0.5**
SRE	**Strehaia**	**2.66**	**247**	↑S	**Sn**	**07 59 43.8**	**-0.5**
SRE				AML	AML	07 59 47.9	
ROIA	**ROIAK**	**2.71**	**168**	P	**Pn**	**07 59 14.8**	**+1.5**
GZR	**Gura Zlata**	**2.73**	**264**	↑P	**Pn**	**07 59 14.7**	**+1.0**
GZR				↓S	**Sn**	**07 59 48.2**	**+2.1**
GZR	**Gura Zlata**	**2.73**	**264**	↑P	**Pn**	**07 59 14.7**	**+1.0**
GZR				↓S	**Sn**	**07 59 48.2**	**+2.1**
GZR				AML	AML	07 59 53.5	
PLVB	**Pleven**	**2.76**	**212**	↑P	**Pn**	**07 59 14.4**	**+0.4**
PLVB				↑S	**Sn**	**07 59 45.7**	**-1.0**
PLVB	**Pleven**	**2.76**	**212**	↑P	**Pn**	**07 59 14.4**	**+0.4**
PLVB				↑S	**Sn**	**07 59 45.7**	**-1.0**
PLVB				AML	AML	07 59 46.7	
KMPD	**K-Podol'skiy**	**2.82**	**358**	*e*S	**Sn**	**07 59 46.3**	**-1.8**
ELND	**Elena**	**2.87**	**191**	↓P	**Pn**	**07 59 16.3**	**+0.9**
ELND	**Elena**	**2.87**	**191**	↓P	**Pn**	**07 59 16.3**	**+0.9**
ELND				AML	AML	07 59 50.8	
NDNU	**Novodnistrovsk**	**2.89**	**10**	*i* P	**Pn**	**07 59 16.6**	**+0.9**
NDNU				Pm		07 59 16.9	
NDNU				*i* S	**Sn**	**07 59 48.1**	**-1.7**
NDNU				Sm		07 59 49.0	
MPEP	**Malo Peshtene**	**3.16**	**222**	P	**Pn**	**07 59 20.0**	**+0.6**
HORU	**Horodok**	**3.47**	**358**	*e*P	Pn	07 59 30.2	+6.7
HORU				*i* S	**Sn**	**08 00 03.0**	**-0.7**
BZS	**Buzias**	**3.52**	**270**	*e*Pn	**Pn**	**07 59 22.4**	**-1.7**
ZAGS	**Zajecar**	**3.68**	**240**	*e*Pn	**Pn**	**07 59 25.8**	**-0.5**
ZAGS				*e*Sn	**Sn**	**08 00 05.0**	**-3.8**
ZAPS	**Zavoj**	**3.78**	**231**	*e*Pn	**Pn**	**07 59 28.4**	**+0.7**
ZAPS				*e*Sn	**Sn**	**08 00 07.7**	**-3.6**
BOVS	**Boyan**	**4.10**	**241**	*e*Pn	**Pn**	**07 59 32.6**	**+0.6**
BOVS				*e*Sn	**Sn**	**08 00 15.7**	**-3.2**
BOSS	**Bosilegrad**	**4.42**	**224**	*e*Pn	**Pn**	**07 59 37.6**	**+1.3**
GRUS	**Gruza**	**4.60**	**248**	*e*Pn	**Pn**	**07 59 38.4**	**-0.4**
GRUS				*e*Sn	**Sn**	**08 00 25.9**	**-5.2**
DIVS	**Divibare**	**5.00**	**253**	*e*Pn	**Pn**	**07 59 44.5**	**+0.3**
DIVS				*e*Sn	**Sn**	**08 00 35.1**	**-5.7**
IVAS	**Ivanjica**	**5.11**	**247**	*e*Pn	**Pn**	**07 59 45.0**	**-0.7**
IVAS				*e*Sn	**Sn**	**08 00 38.8**	**-4.6**
SEV	**Sevastopol'**	**5.12**	**101**	P	**Pn**	**07 59 46.1**	**+0.4**
SEV				Pm		07 59 46.5	
SEV				S	**Sn**	**08 00 40.7**	**-2.8**
SEV				Sm		08 00 44.2	
YAL	**Yalta**	**5.47**	**101**	P	**Pn**	**07 59 50.3**	**-0.1**
SUDU	**Sudak**	**5.96**	**95**	P	**Pn**	**07 59 59.2**	**+2.1**
SUDU				Pm		08 00 01.2	
SUDU				S	**Sn**	**08 01 03.0**	**-1.0**
SUDU				Sm		08 01 03.8	

*ISCJB **27** 07:58:53.6±0.4, 65°.24N±0°.02×134°.14W±0°.07, h10km, mb4.1/1, MS3.7/2, Error ellipse: s-maj=4.7km s-min=3.1km az=31.2*
*IDC **27** 07:58:55.3±0.9, 65°.29N×134°.44W, h0km, mb4.0/1, mb1 3.7/5, mb1mx3.3/89, mbtmp3.4/5, ML3.2/4, MS3.7/2, Ms1 3.7/2, ms1mx2.7/53, Error ellipse: s-maj=12.8km s-min=9.3km az=13.0*
*PGC **27** 07:58:56.5±1.9, 65°.20N×134°.12W, h0km, ML3.2, ML3.6/12, 250km south of Fort McPherson, Nt Northern Yukon Territory, Canada*
ISC 27 07:58:55.0±0.6, 65°.32N±0°.03×133°.91W±0°.04, h10km, n42, σ2§54/81, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPYK	**Eagle Plains**	**1.56**	**314**	P	**Pb**	**07 59 24.1**	**0.0**
	baz=137						
EPYK				S	**Sg**	**07 59 45.6**	**+0.4**
	baz=137						
DAWY	**Dawson**	**2.67**	**244**	Pn	**Pn**	**07 59 36.9**	**-1.2**
DAWY				Sn	**Sn**	**08 00 07.8**	**-2.7**
INK	**Inuvik**	**3.00**	**3**	Pn	**Pb**	**07 59 46.9**	**-1.6**
	0.8nm,0.3s,baz=182,slow=6.5,SNR=18						
INK				Lg	Lg	08 00 30.9	
	8.5nm,0.3s,baz=195,slow=12,SNR=5.5						
INK	**Inuvik**	**3.00**	**3**	Pn	**Pn**	**07 59 46.2**	**+3.6**
INK				Pg	**Pg**	**07 59 53.0**	**+0.6**
INK				Sn	**Sb**	**08 00 23.7**	**-1.4**
INK				Sg	**Sg**	**08 00 33.8**	**+2.6**
BVCY	**Beaver Creek**	**4.24**	**230**	Pn	**Pn**	**07 59 58.9**	**-0.7**
BVCY				Sn	**Sn**	**08 00 45.9**	**-3.2**
YUK1	**Sand Pete Hill**	**4.33**	**226**	Pn	**Pn**	**07 59 60.0**	**-1.0**
YUK1				Sn	**Sn**	**08 00 47.4**	**-4.2**
YUK4	**Talbot Arm**	**4.53**	**210**	Pn	**Pn**	**08 00 01.5**	**-2.2**
YUK4				Pg	**Pb**	**08 00 14.2**	**-0.4**
YUK4				Sn	**Sn**	**08 00 52.4**	**-4.1**
YUK4				Sg	**Sb**	**08 01 07.6**	**-1.6**
YUK5	**Granite Creek**	**4.57**	**205**	Pn	**Pn**	**08 00 03.0**	**-1.3**
YUK5				Pg	**Pb**	**08 00 16.3**	**+1.0**
YUK5				Sg	**Sb**	**08 01 10.4**	**0.0**
YUK3	**Moose Creek**	**4.61**	**222**	Pn	**Pn**	**08 00 04.0**	**-0.9**
YUK3				Sn	**Sn**	**08 00 53.1**	**-5.5**
DOT	**Dot Lake**	**4.70**	**254**	Pn	**Pn**	**08 00 04.7**	**-1.3**
DOT				Sg	**Sb**	**08 01 15.7**	**+1.6**
WHY	**Whitehorse**	**4.70**	**186**	Pn	**Pn**	**08 00 05.0**	**-1.1**
WHY				Sn	**Sn**	**08 01 00.3**	**-0.3**
WHY				Sg	**Sb**	**08 01 15.5**	**+1.3**
YUK2	**White River**	**4.71**	**224**	Pn	**Pn**	**08 00 05.2**	**-1.0**
YUK2				Sn	**Sn**	**08 00 56.6**	**-4.2**
HYT	**Haines Junctio**	**4.80**	**202**	Pn	**Pn**	**08 00 06.0**	**-1.4**
HYT				Sn	**Sn**	**08 00 59.3**	**-3.8**
HYT				Sg	**Sb**	**08 01 18.0**	**+0.9**
YUK6	**Outpost Mounta**	**4.84**	**207**	Pn	**Pn**	**08 00 07.1**	**-1.0**
YUK6				Pg	**Pb**	**08 00 22.0**	**+2.1**
YUK7	**Dusty Glacier**	**5.18**	**204**	Pn	**Pn**	**08 00 12.4**	**-0.3**
YUK7				Sg	**Sb**	**08 01 31.4**	**+3.3**
CTGM	**Chitina Glacie**	**5.52**	**221**	Pn	**Pn**	**08 00 17.5**	**+0.2**
CTG

n359,σ1$66/379,mb4.6/66,7C-6D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**1.97**	**151**	P	**Pn**	**08 00 19.0**	**+1.3**
RIZ				S	**S**	**08 01 02.2**	**-0.6**
RAO	**Raoul Island**	**1.98**	**151**	P	**Pn**	**08 00 17.9**	**+0.1**
RAO				S	**S**	**08 00 58.0**	**-4.9**
RAO	**Raoul Island**	**1.98**	**151**	P	**Pn**	**08 00 18.3**	**+0.5**
	2μm,0.3s,baz=98,slow=7.4,SNR=111						
RAO				S	**S**	**08 01 01.1**	**-1.8**
	311nm,0.3s,baz=68,slow=19,SNR=1.5						
RAO	**Raoul Island**	**1.98**	**151**	Pn	**Pn**	**08 00 17.9**	**+0.1**
RAO				S	**S**	**08 00 58.0**	**-4.9**
GLKZ	**Green Lake**	**1.99**	**151**	P	**Pn**	**08 00 18.7**	**+0.9**
GRZ	**Great Barrier**	**9.89**	**207**	P	**Pn**	**08 01 40.1**	**+1.5**
OUZ	**Omahuta**	**9.94**	**218**	P	**Pn**	**08 01 41.1**	**+1.9**
OUZ	**Omahuta**	**9.94**	**218**	P	**Pn**	**08 01 41.0**	**+1.8**
MSVF	**Nonsavu**	**10.11**	**344**	*d* *i*P	**P**	**08 01 39.3**	**-1.7**
MSVF	**Nonsavu**	**10.11**	**344**	P	**P**	**08 01 39.6**	**-1.4**
MSVF				S	**S**	**08 03 35.4**	**0.0**
WCZ	**Waipu Caves**	**10.12**	**212**	P	**Pn**	**08 01 43.7**	**+2.5**
KUZ	**Kuaotunu**	**10.22**	**205**	P	**Pn**	**08 01 43.9**	**+1.4**
MXZ	**Matakaoa Point**	**10.27**	**192**	P	**P**	**08 01 40.6**	**-1.8**
MXZ	**Matakaoa Point**	**10.27**	**192**	P	**Pn**	**08 01 42.5**	**-0.5**
MXZ				S	**S**	**08 03 32.7**	**-5.4**
WIAZ	**Waiheke Island**	**10.49**	**207**	P	**Pn**	**08 01 47.1**	**+1.5**
WMGZ	**Waiomatatini S**	**10.50**	**191**	P	**P**	**08 01 42.6**	**-2.3**
HAZ	**Te Kaha**	**10.56**	**194**	P	**P**	**08 01 43.7**	**-1.9**
MBAZ	**Motutapu North**	**10.57**	**208**	P	**Pn**	**08 01 48.4**	**+1.9**
PKGZ	**Pakihiroa**	**10.63**	**193**	P	**P**	**08 01 45.0**	**-1.4**
HBAZ	**Herne Bay Bore**	**10.71**	**208**	P	**Pn**	**08 01 50.1**	**+2.1**
ETAZ	**East Tamaki Re**	**10.71**	**207**	P	**Pn**	**08 01 50.2**	**+2.1**
EPAZ	**Eden Park BICE**	**10.72**	**208**	P	**Pn**	**08 01 50.0**	**+1.8**
MKAZ	**Moumakai**	**10.75**	**206**	P	**Pn**	**08 01 50.4**	**+1.9**
PUZ	**Puketiti**	**10.77**	**192**	P	**P**	**08 01 45.4**	**-2.6**
WTAZ	**Waiatarua**	**10.84**	**208**	P	**Pn**	**08 01 51.9**	**+2.2**
WHRZ	**Whale Island**	**10.85**	**197**	P	**Pn**	**08 01 52.4**	**+2.6**
WHRZ				S	**S**	**08 03 51.0**	**+1.0**
KBAZ	**Karaka Road Bo**	**10.85**	**207**	P	**Pn**	**08 01 51.9**	**+2.2**
AWAZ	**Awhitu Peninsu**	**10.92**	**208**	P	**Pn**	**08 01 52.1**	**+1.5**
TGRZ	**Tauranga**	**10.93**	**200**	P	**Pn**	**08 01 52.7**	**+2.0**
OPRZ	**Ohinepanea**	**10.95**	**199**	P	**Pn**	**08 01 51.6**	**+0.7**
OPRZ				S	**S**	**08 03 53.4**	**+1.3**
MARZ	**Manawahe**	**11.05**	**198**	P	**Pn**	**08 01 53.7**	**+1.6**
MARZ				S	**S**	**08 03 50.1**	**-4.0**
KMRZ	**Kaimai**	**11.14**	**201**	P	**Pn**	**08 01 55.0**	**+1.9**
EDRZ	**Edgecumbe**	**11.15**	**198**	P	**Pn**	**08 01 54.7**	**+1.5**
MWZ	**Matawai**	**11.17**	**194**	P	**Pn**	**08 01 51.4**	**-2.1**
MWZ				S	**S**	**08 03 52.2**	**-4.4**
URZ	**Urewera**	**11.20**	**196**	P	**Pn**	**08 01 53.2**	**-0.5**
	62nm,0.3s,baz=6.9,slow=5.2,SNR=113						
URZ				S	**S**	**08 03 52.6**	**-4.4**
	30nm,0.3s,baz=302,slow=21,SNR=21						
URZ	**Urewera**	**11.20**	**196**	P	**P**	**08 01 51.5**	**-1.2**
URZ				S	**S**	**08 03 53.8**	**-3.2**
URZ	**Urewera**	**11.20**	**196**	P	**Pn**	**08 01 53.0**	**-0.7**
URZ				S	**S**	**08 03 51.8**	**-5.2**
KARZ	**Kaharoa**	**11.21**	**200**	P	**Pn**	**08 01 55.9**	**+2.1**
OMRZ	**Omania**	**11.25**	**199**	P	**Pn**	**08 01 56.2**	**+1.9**
MKRZ	**Makatiti**	**11.25**	**199**	P	**Pn**	**08 01 57.2**	**+2.7**
TARZ	**Mount Tarawera**	**11.33**	**198**	P	**Pn**	**08 01 56.9**	**+1.5**
RAGZ	**Rawiri**	**11.35**	**194**	P	**Pn**	**08 01 55.5**	**-0.1**
HLRZ	**Highlands Stat**	**11.39**	**199**	P	**Pn**	**08 01 57.1**	**+1.1**
HSRZ	**Hossack Road**	**11.47**	**199**	P	**Pn**	**08 01 57.5**	**+0.5**
HRRZ	**Handcock Road**	**11.54**	**199**	P	**Pn**	**08 01 58.4**	**+0.7**
RTZ	**Ruatahuna**	**11.56**	**196**	P	**Pn**	**08 01 56.0**	**-2.1**
PRRZ	**Plateau Road**	**11.61**	**198**	P	**Pn**	**08 01 58.4**	**-0.1**
ALRZ	**Allen Road**	**11.68**	**198**	P	**Pn**	**08 01 59.4**	**+0.1**
WPRZ	**Whakapapatarin**	**11.69**	**199**	P	**Pn**	**08 02 00.0**	**+0.5**
TLZ	**Tolley Road**	**11.71**	**202**	P	**Pn**	**08 02 02.0**	**+2.2**
KUTZ	**Kaahu Road**	**11.77**	**200**	P	**Pn**	**08 02 02.0**	**+1.6**
KNZ	**Kokohu**	**11.80**	**193**	P	**Pn**	**08 01 59.6**	**-1.1**
MTHZ	**Maungataniwha**	**11.82**	**196**	P	**Pn**	**08 01 59.2**	**-1.9**
RAHZ	**Arahi**	**11.83**	**195**	P	**Pn**	**08 01 59.6**	**-1.4**
NIUE	**Niue**	**11.84**	**47**	P	**P**	**08 01 59.5**	**-0.5**
MHGZ	**Mahia Peninsul**	**11.89**	**192**	P	**Pn**	**08 02 00.9**	**-0.8**
WHHZ	**Waihua**	**11.95**	**194**	P	**Pn**	**08 02 00.7**	**-1.7**
WATZ	**Wairara**	**11.99**	**200**	P	**Pn**	**08 02 03.3**	**+0.3**
HIZ	**Hauiti**	**12.11**	**204**	P	**Pn**	**08 02 05.5**	**+1.3**
RATZ	**Rangitukua**	**12.13**	**200**	P	**Pn**	**08 02 03.4**	**-1.2**
ARHZ	**Aropaoanui**	**12.18**	**195**	P	**Pn**	**08 02 03.4**	**-1.7**
RITZ	**Rihia Road**	**12.21**	**199**	P	**Pn**	**08 02 04.8**	**-0.6**
KATZ	**Kakaramea**	**12.25**	**200**	P	**Pn**	**08 02 05.2**	**-0.9**
KRVZ	**Karewarewa**	**12.38**	**200**	P	**Pn**	**08 02 07.6**	**0.0**
WTVZ	**West Tongariro**	**12.41**	**200**	P	**Pn**	**08 02 06.1**	**-1.8**
TWVZ	**Taurewa**	**12.42**	**200**	P	**Pn**	**08 02 06.8**	**-1.2**
NGZ	**Ngauruhoe**	**12.46**	**200**	P	**Pn**	**08 02 06.9**	**-1.6**
KWHZ	**Kaweka Forest**	**12.47**	**197**	P	**P**	**08 02 04.5**	**-2.2**
TUVZ	**Tukino**	**12.53**	**199**	P	**Pn**	**08 02 07.8**	**-1.6**
CKHZ	**Cape Kidnapper**	**12.54**	**194**	P	**Pn**	**08 02 08.5**	**-0.7**
FWVZ	**Far West T-bar**	**12.55**	**200**	P	**Pn**	**08 02 07.8**	**-1.8**
TRVZ	**Turoa**	**12.59**	**200**	P	**Pn**	**08 02 07.8**	**-2.4**
BHHZ	**Black Hill Sta**	**12.62**	**198**	P	**P**	**08 02 05.8**	**-2.7**
MOVZ	**Moawhango**	**12.63**	**199**	P	**P**	**08 02 07.4**	**-1.2**
PKVZ	**Pokaka**	**12.65**	**200**	P	**Pn**	**08 02 08.1**	**-2.5**
KRHZ	**Kereru**	**12.69**	**196**	P	**P**	**08 02 06.5**	**-2.6**
KAHZ	**Kahuranaki**	**12.71**	**195**	P	**P**	**08 02 08.0**	**-1.4**
PXZ	**Pawanui**	**12.94**	**201**	P	**P**	**08 02 08.7**	**-1.8**
PNHZ	**Pukenui**	**12.99**	**197**	P	**P**	**08 02 09.4**	**-3.0**
WPHZ	**Waipukurau**	**13.07**	**196**	P	**Pn**	**08 02 13.2**	**-2.2**
NBEZ	**Newall Road No**	**13.13**	**205**	P	**Pn**	**08 02 17.1**	**+1.0**
WAZ	**Wanganui**	**13.18**	**201**	P	**Pn**	**08 02 15.9**	**-0.8**
TSZ	**Takapari Road**	**13.19**	**197**	P	**P**	**08 02 13.0**	**-1.6**
PRHZ	**Porangahau**	**13.22**	**195**	P	**P**	**08 02 14.0**	**-0.9**
DVHZ	**Dannevirke**	**13.36**	**196**	P	**P**	**08 02 15.8**	**-0.7**
POWZ	**Post Office Ro**	**13.55**	**197**	P	**P**	**08 02 17.2**	**-1.3**
PRWZ	**Pori Road**	**13.65**	**196**	P	**Pn**	**08 02 20.0**	**-2.1**
BFZ	**Birch Farm**	**13.70**	**195**	P	**P**	**08 02 18.5**	**-1.7**
BFZ	**Birch Farm**	**13.70**	**195**	P	**P**	**08 02 18.0**	**-2.2**
MRZ	**Mangatainoka R**	**13.85**	**197**	P	**P**	**08 02 19.4**	**-2.4**
HOWZ	**Holdsworth Sta**	**14.09**	**197**	P	**P**	**08 02 21.9**	**-2.5**
OGWZ	**Otaki Gorge**	**14.11**	**198**	P	**P**	**08 02 22.0**	**-2.6**
TMWZ	**Te Maipa**	**14.19**	**196**	P	**P**	**08 02 26.0**	**+0.4**
KIW	**Kapiti Island**	**14.22**	**199**	P	**P**	**08 02 23.5**	**-2.4**
DZM	**Mont Dzumac**	**14.27**	**289**	P	**P**	**08 02 27.4**	**+0.6**
	2.0nm,0.3s,baz=116,slow=16,SNR=24						
DZM	**Mont Dzumac**	**14.27**	**289**	*e*P	**P**	**08 02 28.3**	**+1.6**
	52nm,0.8s						
DZM	**Mont Dzumac**	**14.27**	**289**	P	**P**	**08 02 28.9**	**+2.1**
MTW	**Mount Morrison**	**14.34**	**197**	P	**P**	**08 02 26.9**	**-0.2**
CAW	**Cannon Point**	**14.41**	**198**	P	**P**	**08 02 26.3**	**-1.5**
DUWZ	**D'Urville Isla**	**14.48**	**202**	P	**P**	**08 02 26.7**	**-2.0**
TRWZ	**Traveller**	**14.52**	**196**	P	**P**	**08 02 28.3**	**-0.8**
PAWZ	**Paruwai Farm**	**14.57**	**197**	P	**P**	**08 02 28.3**	**-1.3**
MSWZ	**Moikau Station**	**14.64**	**197**	P	**P**	**08 02 27.8**	**-2.6**
MSWZ	**Moikau Station**	**14.64**	**197**	P	**P**	**08 02 27.9**	**-2.6**
SNZO	**South Karori**	**14.70**	**199**	P	**P**	**08 02 28.5**	**-2.5**
TCW	**Tory Channel**	**14.73**	**200**	P	**P**	**08 02 29.1**	**-2.3**
BHW	**Baring Head**	**14.74**	**198**	P	**P**	**08 02 29.4**	**-1.7**
BHW	**Baring Head**	**14.74**	**198**	P	**P**	**08 02 29.5**	**-2.0**
PLWZ	**Palliser**	**14.79**	**197**	P	**P**	**08 02 30.9**	**-1.1**
QRZ	**Quartz Range**	**14.99**	**206**	P	**P**	**08 02 34.0**	**-0.3**
QRZ	**Quartz Range**	**14.99**	**206**	P	**P**	**08 02 34.0**	**-0.3**
NNZ	**Nelson**	**15.03**	**203**	P	**P**	**08 02 32.8**	**-1.8**
NNZ	**Nelson**	**15.03**	**203**	P	**P**	**08 02 32.2**	**-2.4**
TUWZ	**Tuamarina**	**15.04**	**201**	P	**P**	**08 02 31.7**	**-2.9**
TUWZ	**Tuamarina**	**15.04**	**201**	P	**P**	**08 02 31.5**	**-3.1**
AFI	**Afiamalu**	**15.13**	**28**	P	**P**	**08 02 34.0**	**-2.1**
AFI				pmax	pmax		
	comp=Z,108nm,1.2s						
AFI	**Afiamalu**	**15.13**	**28**	P	**P**	**08 02 33.8**	**-2.2**
	comp=Z,8.9nm,0.3s,baz=15,slow=4.2,SNR=12						
AFI				S	**S**	**08 05 09.0**	**-7.8**
	comp=Z,12nm,0.3s,baz=171,slow=18,SNR=7.3						
AFI	**Afiamalu**	**15.13**	**28**	P	**P**	**08 02 34.0**	**-2.1**
BSWZ	**Blackbirch Sta**	**15.32**	**201**	P	**P**	**08 02 36.2**	**-1.6**
BSWZ	**Blackbirch Sta**	**15.32**	**201**	P	**P**	**08 02 36.3**	**-1.4**
THZ	**Tophouse**	**15.68**	**203**	P	**P**	**08 02 39.7**	**-2.0**
THZ	**Tophouse**	**15.68**	**203**	P	**P**	**08 02 40.4**	**-1.3**
THZ				IAmb	IAmb	08 02 56.5	
	comp=Z,38nm,1.1s						
KHZ	**Kahutara**	**16.06**	**200**	P	**P**	**08 02 44.2**	**-1.5**
KHZ	**Kahutara**	**16.06**	**200**	P	**P**	**08 02 43.9**	**-1.7**
DSZ	**Denniston Nort**	**16.06**	**206**	P	**P**	**08 02 44.2**	**-1.6**
GVZ	**Greta Valley S**	**16.71**	**201**	P	**P**	**08 02 50.1**	**-2.6**
LTZ	**Lake Taylor**	**16.80**	**203**	P	**P**	**08 02 51.6**	**-2.1**
LTZ	**Lake Taylor**	**16.80**	**203**	P	**P**	**08 02 49.7**	**-4.0**
LTZ				IAmb	IAmb	08 03 04.2	
	comp=Z,19nm,0.9s						
INZ	**Inchbonnie**	**17.04**	**205**	P	**P**	**08 02 54.0**	**-2.2**
MQZ	**McQueen's Vall**	**17.50**	**200**	P	**P**	**08 02 59.0**	**-2.0**
MQZ	**McQueen's Vall**	**17.50**	**200**	P	**P**	**08 02 58.6**	**-2.4**
MQZ				IAmb	IAmb	08 03 07.2	
	comp=Z,83nm,1.3s						
WVZ	**Waitaha Valley**	**17.61**	**206**	P	**P**	**08 03 01.2**	**-1.0**
RPZ	**Rata Peaks**	**18.04**	**204**	P	**P**	**08 03 03.5**	**-3.4**
	comp=Z,3.1nm,0.3s,baz=321,slow=2.6,SNR=11						
RPZ				S	**S**	**08 06 11.6**	**-1.1**
	comp=Z,2.7nm,0.3s,baz=349,slow=15,SNR=5.5						
RPZ	**Rata Peaks**	**18.04**	**204**	P	**P**	**08 03 06.4**	**-0.4**
RPZ	**Rata Peaks**	**18.04**	**204**	P	**P**	**08 03 03.7**	**-3.1**
RPZ				IAmb	IAmb	08 03 07.4	
	comp=Z,25nm,0.8s						
FOZ	**Fox Glacier**	**18.36**	**207**	P	**P**	**08 03 08.6**	**-1.5**
FOZ	**Fox Glacier**	**18.36**	**207**	P	**P**	**08 03 08.8**	**-1.3**
FOZ				IAmb	IAmb	08 03 14.5	
	comp=Z,28nm,0.6s						
LBZ	**Lake Benmore**	**18.94**	**204**	P	**P**	**08 03 14.9**	**-1.3**
LBZ	**Lake Benmore**	**18.94**	**204**	P	**P**	**08 03 14.9**	**-1.3**
LBZ				IAmb	IAmb	08 03 29.4	
	comp=Z,22nm,1.1s						
FUNA	**Funafuti**	**18.96**	**355**	P	**P**	**08 03 15.8**	**-1.0**
ODZ	**Otahua Downs**	**19.35**	**203**	P	**P**	**08 03 18.9**	**-1.3**
ODZ				IAmb	IAmb	08 03 21.1	
	comp=Z,16nm,1.0s						
WKZ	**Wanaka**	**19.75**	**206**	P	**P**	**08 03 23.0**	**-1.1**
WKZ				IAmb	IAmb	08 03 28.0	
	comp=Z,54nm,1.2s						
MLZ	**Mavora Lakes**	**20.56**	**207**	P	**P**	**08 03 31.7**	**+0.4**
MLZ				IAmb	IAmb	08 03 46.2	
	comp=Z,15nm,1.0s						
DCZ	**Deep Cove**	**21.03**	**208**	P	**P**	**08 03 36.7**	**+1.1**
DCZ				IAmb	IAmb	08 03 38.8	
	comp=Z,38nm,1.1s						
WHZ	**Wether Hill Ro**	**21.06**	**206**	P	**P**	**08 03 35.8**	**-0.1**
WHZ				IAmb	IAmb	08 03 40.3	
	comp=Z,23nm,0.7s						
HNR	**Honiara**	**26.78**	**308**	P	**P**	**08 04 26.3**	**-1.4**
HNR				pmax	pmax		
	comp=Z,230nm,0.9s						
HNR	**Honiara**	**26.78**	**308**	P	**P**	**08 04 25.6**	**-2.0**
	comp=Z,208nm,0.8s,baz=201,slow=0.5,SNR=6.9						
HNR	**Honiara**	**26.78**	**308**	P	**P**	**08 04 26.2**	**-1.4**
EIDS	**Eidsvold**	**26.83**	**268**	P	**P**	**08 04 27.7**	**-0.3**
EIDS				IAmb	IAmb	08 04 29.7	
	comp=Z,15nm,0.6s						
TBI	**Tubuai**	**26.98**	**88**	*e*T	T	08 31 28.4	
	comp=Z,7.4nm,0.4s						
CAN	**Canberra**	**28.29**	**246**	P	**P**	**08 04 42.7**	**+1.9**
CAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CAN	**Canberra**	**28.29**	**246**	P	**P**	**08 04 42.7**	**+1.9**
PAE	**Paea**	**28.83**	**76**	*e*T	T	08 32 08.0	
	comp=Z,2.8nm,0.3s						
PPT2	**Papeete2**	**28.86**	**76**	*e*T	T	08 32 15.3	
	comp=Z,3.4nm,0.3s						
PPT	**Papeete**	**28.87**	**76**	P	**P**	**08 04 48.3**	**+2.2**
	comp=Z,30nm,0.9s,baz=270,slow=20,SNR=3.0						
TAU	**Tasmania Unive**	**31.26**	**232**	P	**P**	**08 05 08.4**	**+1.9**
TAU				pmax	pmax		
	comp=Z,11nm,0.6s						
TAU	**Tasmania Unive**	**31.26**	**232**	P	**P**	**08 05 08.4**	**+1.9**
TAU				IAmb	IAmb	08 05 08.7	
	comp=Z,11nm,0.6s						
TOO	**Toolangi**	**31.39**	**242**	P	**P**	**08 05 09.1**	**+1.2**
TOO				pmax	pmax		
	comp=Z,45nm,1.4s						
TOO	**Toolangi**	**31.39**	**242**	P	**P**	**08 05 09.1**	**+1.2**
TOO				IAmb	IAmb	08 05 10.6	
	comp=Z,45nm,1.4s						
CTA	**Charters Tower**	**32.55**	**276**	P	**P**	**08 05 17.8**	**-0.2**
	comp=Z,38nm,0.6s,baz=103,slow=10,SNR=95						
CTA				S	**S**	**08 10 01.9**	**-1.7**
	comp=Z,7.2nm,1.0s,baz=230,slow=20,SNR=12						
CTAO	**Charters Tower**	**32.55**	**276**	P	**P**	**08 05 18.3**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,54nm,0.6s						
STKA	**Stephens Creek**	**34.36**	**253**	P	**P**	**08 05 33.3**	**+0.1**
	comp=Z,3.6nm,0.6s,baz=90,slow=12,SNR=19						
STKA				S	**S**	**08 10 30.1**	**-1.0**
	comp=Z,3.6nm,1.0s,baz=232,slow=15,SNR=2.9						
STKA				ScP	**ScP**	**08 11 08.0**	**+3.0**
	comp=Z,5.3nm,0.9s,baz=86,slow=9.9,SNR=5.5						
STKA	**Stephens Creek**	**34.36**	**253**	P	**P**	**08 05 33.4**	**+0.1**
KRVT	**Kenevat (AS076**	**35.98**	**305**	P	**P**	**08 05 47.1**	**0.0**
	comp=Z,166nm,0.5s,baz=186,slow=5.2,SNR=4.8						
PMG	**Port Moresby**	**36.62**	**293**	*c* *i*P	**P**	**08 05 53.3**	**+0.9**
PMG				pmax	pmax		
	comp=Z,291nm,0.8s						
PMG	**Port Moresby**	**36.62**	**293**	P	**P**	**08 05 52.5**	**+0.1**
	comp=Z,68nm,0.8s,baz=120,slow=5.3,SNR=22						
PMG	**Port Moresby**	**36.62**	**293**	P	**P**	**08 05 53.0**	**+0.6**
COEN	**Coen**	**37.69**	**283**	P	**P**	**08 06 01.6**	**+0.3**
BBOO	**Buckleboo**	**38.98**	**251**	P	**P**	**08 06 10.9**	**-0.9**
BBOO				IAmb	IAmb	08 06 12.1	
	comp=Z,10nm,0.6s						
AS31	**Alice Springs**	**42.44**	**264**	P	**P**	**08 06 38.9**	**-0.9**
ASAR	**Alice Springs**	**42.44**	**264**	P	**P**	**08 06 38.8**	**-1.1**
	comp=Z,7.9nm,0.8s,baz=89,slow=6.6,SNR=142						
ASAR				ScP	**ScP**	**08 11 38.1**	**+1.9**
	comp=Z,4.0nm,0.7s,baz=113,slow=4.3,SNR=8.3						
ASAR				S	**S**	**08 12 28.2**	**-3.1**
	comp=Z,2.5nm,0.8s,baz=100,slow=14,SNR=5.1						
WR0	**Warramunga Arr**	**42.98**	**270**	P	**P**	**08 06 42.9**	**-1.1**
WR0				IAmb	IAmb	08 06 44.5	
	comp=Z,26nm,1.1s						
WRAB	**Tennant Creek**	**43.15**	**270**	*d* *i*P	**P**	**08 06 44.5**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,18nm,0.7s						
WRAB	**Tennant Creek**	**43.15**	**270**	P	**P**	**08 06 44.2**	**-1.3**
WRAB				IAmb	IAmb	08 06 46.3	
	comp=Z,20nm,0.7s						
WRA	**Warramunga Arr**	**43.16**	**270**	P	**P**	**08 06 44.2**	**-1.3**
	comp=Z,19nm,0.5s,baz=108,slow=7.3,SNR=151						
WRA				PcP	**PcP**	**08 08 27.5**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=122,slow=2.3,SNR=5.2						
WRA				ScP	**ScP**	**08 11 40.9**	**+1.7**
	comp=Z,1.0nm,0.6s,baz=116,slow=2.9,SNR=3.4						
WRA				S	**S**	**08 12 39.0**	**-2.8**
	comp=Z,8.3nm,0.7s,baz=105,slow=14,SNR=15						
JAY	**Jayapura**	**45.82**	**296**	P	**P**	**08 07 06.5**	**+0.2**
FORT	**Forrest**	**45.99**	**253**	P	**P**	**08 07 06.5**	**-0.8**
GENI	**Genyem**	**46.20**	**295**	P	**P**	**08 07 08.7**	**-0.5**
MTN	**Manton Dam**	**48.70**	**277**	P	**P**	**08 07 25.7**	**-2.4**
KNRA	**Kununurra**	**49.65**	**272**	P	**P**	**08 07 34.2**	**-1.0**
KNRA				IAmb	IAmb	08 07 37.0	
	comp=Z,50nm,1.2s						
VNDA	**Vanda**	**50.87**	**185**	P	**P**	**08 07 45.0**	**+1.7**
	comp=Z,1.4nm,0.7s,baz=30,slow=6.1,SNR=6.9						
VNDA	**Vanda**	**50.87**	**185**	P	**P**	**08 07 45.9**	**+2.5**
FITZ	**Fitzroy Crossi**	**51.52**	**268**	P	**P**	**08 07 48.6**	**-0.4**
FITZ				IAmb	IAmb	08 07 56.0	
	comp=Z,25nm,1.4s						
FAKI	**Fak Fak**	**52.53**	**289**	P	**P**	**08 07 56.8**	**+0.3**
FAKI				IAmb	IAmb	08 07 58.2	
	comp=Z,18nm,0.8s						
SWI	**Sorong**	**54.48**	**290**	P	**P**	**08 08 10.8**	**+0.4**
	comp=Z,124nm,0.7s,comp=Z,1μm						
PSA00	**Pilbara Seismi**	**55.46**	**262**	P	**P**	**08 08 15.3**	**-2.0**
MORW	**Morawa**	**56.54**	**252**	P	**P**	**08 08 24.1**	**-0.6**
CASY	**Casey**	**57.28**	**207**	P	**P**	**08 08 29.4**	**+0.2**
CASY				IAmb	IAmb	08 08 33.8	
	comp=Z,22nm,1.4s						
SANI	**Sanana**	**58.30**	**286**	P	**P**	**08 08 36.1**	**-0.9**
	comp=Z,40nm,0.7s						
QSPA	**South Pole Qui**	**62.58**	**180**	P	**P**	**08 09 07.3**	**+2.3**
	comp=Z,3.2nm,0.6s,baz=332,slow=0.7,SNR=32						
QSPA	**South Pole Qui**	**62.58**	**180**	P	**P**	**08 09 07.2**	**+2.2**
QSPA				IAmb	IAmb	08 09 16.0	
	comp=Z,9.4nm,1.3s						
KCP	**Kidapawan**	**63.98**	**294**	⇑P	**P**	**08 09 14.2**	**-0.6**
UGM	**Wanagama**	**69.08**	**272**	P	**P**	**08 09 46.9**	**+0.2**
KKM	**Kota Kinabalu**	**70.83**	**288**	P	**P**	**08 09 57.3**	**+0.1**
KKM				IAmb	IAmb	08 10 00.1	
	comp=Z,21nm,1.0s						
KSM	**Kuching**	**73.62**	**280**	P	**P**	**08 10 13.0**	**-0.4**
CGJI	**Cibinong**	**73.94**	**271**	P	**P**	**08 10 14.4**	**-0.9**
	comp=Z,43nm,0.6s,comp=Z,1μm						
MAW	**Mawson**	**74.69**	**201**	P	**P**	**08 10 20.1**	**+1.5**
	comp=Z,2.6nm,0.6s,baz=136,slow=8.6,SNR=9.7						
INU	**Inuyama**	**75.06**	**324**	P	**P**	**08 10 21.6**	**+0.6**
MJAR	**Matsushiro Arr**	**75.37**	**326**	P	**P**	**08 10 22.1**	**-0.7**
	comp=Z,18nm,0.8s,baz=145,slow=5.4,SNR=28						
MAJO	**Matsushiro**	**75.37**	**326**	*d* *i*P	**P**	**08 10 22.9**	**0.0**
MAJO				pmax	pmax		
	comp=Z,25nm,0.8s						
MAJO	**Matsushiro**	**75.37**	**326**	P	**P**	**08 10 23.2**	**+0.3**
MAT	**Matsushiro**	**75.37**	**326**	P	**P**	**08 10 22.5**	**-0.4**
MJB9	**Matsu-Tunnel**	**75.38**	**326**	P	**P**	**08 10 23.2**	**+0.3**
KASI	**Kota Agung**	**75.49**	**271**	P	**P**	**08 10 24.4**	**+0.3**
	comp=Z,41nm,1.0s						
JNU	**Nakatsue**	**76.81**	**319**	P	**P**	**08 10 30.6**	**-0.4**
	comp=Z,12nm,0.6s,baz=338,slow=1.6,SNR=11						
JNU	**Nakatsue**	**76.81**	**319**	P	**P**	**08 10 31.0**	**0.0**
SSLB	**Suanglung**	**77.17**	**306**	P	**P**	**08 10 32.2**	**-0.9**
ASAJ	**Asahikawa**	**79.48**	**333**	P	**P**	**08 10 46.1**	**+0.9**
	comp=Z,20nm,0.8s,baz=177,slow=4.2,SNR=5.8						
SYO	**Syowa Base**	**79.71**	**193**	‖*e*P	**P**	**08 10 45.3**	**-0.8**
SNAA	**Sanae**	**81.05**	**179**	P	**P**	**08 10 54.6**	**+1.4**
SNAA	**Sanae**	**81.05**	**179**	P	**P**	**08 10 54.8**	**+1.6**
SNAA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SNAA	**Sanae**	**81.05**	**179**	P	**P**	**08 10 54.8**	**+1.6**
VNA3	**Neumayer Olymp**	**81.23**	**177**	P	**P**	**08 10 55.8**	**+1.7**
KSRS	**Korea Array**	**81.58**	**320**	P	**P**	**08 10 56.9**	**+0.6**
	comp=Z,8.3nm,0.7s,baz=136,slow=6.1,SNR=19						
JRMM	**Jerantut**	**81.63**	**279**	P	**P**	**08 10 57.0**	**-0.2**
VNA2	**Neumayer--Watz**	**81.66**	**177**	P	**P**	**08 10 58.4**	**+2.1**
	baz=182,slow=3.2						
YSS	**Yuzh-Sakhalins**	**81.77**	**335**	*e*P	**P**	**08 10 57.9**	**+0.8**
YSS				pmax	pmax		
	comp=Z,50nm,1.1s						
PEA0B	**Petropavlovsk-**	**82.81**	**346**	P	**P**	**08 11 03.0**	**+0.7**
PEA0B				pmax	pmax		
	comp=Z,44nm,1.4s						
PEA0B	**Petropavlovsk-**	**82.81**	**346**	P	**P**	**08 11 03.0**	**+0.7**
PETK	**Petropavlovsk-**	**82.81**	**346**	P	**P**	**08 11 02.3**	**+0.1**
	comp=Z,9.3nm,0.7s,baz=127,slow=7.7,SNR=12						
IPM	**Ipoh**	**83.18**	**279**	P	**P**	**08 11 06.0**	**+0.9**
NJ2	**Nanjing**	**83.69**	**311**	*e*P	**P**	**08 11 08.3**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
PSI	**Prapat**	**84.25**	**276**	P	**P**	**08 11 09.0**	**-1.6**
	comp=Z,15nm,0.9s,baz

BOSA	**Boshof**	**119.53**	**205**	PKP	**PKiKP**	**08**	**17**	**25.7**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=217,slow=2.1,SNR=8.8								
GAR	**Garm**	**122.16**	**301**		**PKiKP**	**08**	**17**	**30.4**	**0.0**
KBL	**Kabul**	**122.23**	**295**	PKIKP	**PKiKP**	**08**	**17**	**30.9**	**+0.2**
KBL	**Kabul**	**122.23**	**295**		**PKiKP**	**08**	**17**	**30.9**	**+0.2**
KK31	**Karatay Array**	**122.71**	**305**	PKIKP	**PKiKP**	**08**	**17**	**30.5**	**-0.7**
KK31	**Karatay Array**	**122.71**	**305**		**PKiKP**	**08**	**17**	**30.5**	**-0.7**
KKAR	**Karatay Array**	**122.71**	**305**	PKIKP	**PKiKP**	**08**	**17**	**30.8**	**-0.4**
KKAR	**Karatay Array**	**122.71**	**305**		**PKiKP**	**08**	**17**	**30.8**	**-0.4**
FRB	**Frobisher Bay**	**123.35**	**30**	PKIKP	**PKiKP**	**08**	**17**	**31.0**	**-0.7**
FRB	**Frobisher Bay**	**123.35**	**30**	PKP	**PKiKP**	**08**	**17**	**31.0**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=21,slow=4.5,SNR=4.9								
BVAR	**Borovoye Array**	**123.71**	**317**	PKP	**PKiKP**	**08**	**17**	**32.1**	**-0.7**
	comp=Z,2.9nm,0.6s,baz=106,slow=1.3,SNR=18								
BRVK	**Borovoye**	**123.77**	**317**	⇑*i* PKIKP	**PKiKP**	**08**	**17**	**32.4**	**-0.5**
BRVK	**Borovoye**	**123.77**	**317**		**PKiKP**	**08**	**17**	**31.9**	**-1.0**
ARU	**Arti**	**130.29**	**322**	*i* PKIKP	**PKiKP**	**08**	**17**	**45.6**	**-0.2**
ARU						08	20	04.9	
ARU				SS	SS	08	36	56.6	-2.1
AKTO	**Aktyubinsk**	**131.48**	**314**	PKP	**PKiKP**	**08**	**17**	**47.5**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=24,slow=2.3,SNR=8.3								
GEYT	**Alibeck**	**131.49**	**298**	PKP	**PKiKP**	**08**	**17**	**47.5**	**-1.4**
	comp=Z,2.8nm,0.7s,baz=132,slow=2.1,SNR=5.2								
ARCES	**ARCESS Array B**	**135.59**	**348**	PKP	**PKiKP**	**08**	**17**	**54.6**	**-1.6**
	comp=Z,3.1nm,0.8s,baz=111,slow=2.0,SNR=5.6								
FINES	**FINESS Array B**	**142.14**	**341**	PKhKP	PKPpre	08	18	01.0	
	comp=Z,4.6nm,0.6s,baz=53,slow=3.2,SNR=11								
OBN	**Obninsk**	**142.29**	**327**	*e*PKHKP	PKPpre	08	18	03.9	
OBN				*e*		08	21	22.4	
OBN				pmax	pmax				
	comp=Z,6.0nm,1.0s								
KBZ	**Khabaz**	**142.72**	**307**	PKhKP	PKPpre	08	18	05.3	
	comp=Z,2.3nm,0.7s,baz=62,slow=5.5,SNR=4.5								
KIV	**Kislovodsk**	**142.82**	**307**	*e*PKiKP	**PKPdf**	**08**	**18**	**08.6**	**0.0**
KIV				pmax	pmax				
	comp=Z,27nm,0.9s								
VSU	**Vasula**	**144.24**	**337**	⇑*e*PKiKP	**PKPdf**	**08**	**18**	**09.6**	**-0.8**
VSU	**Vasula**	**144.24**	**337**	*e*P	**PKPdf**	**08**	**18**	**09.2**	**-1.2**
NC303	**NORSAR Array S**	**145.58**	**351**		**PKPab**	**08**	**18**	**13.5**	**-1.3**
NB2	**NORSAR Subarra**	**145.78**	**351**	PKP	**PKPbc**	**08**	**18**	**13.8**	**-0.6**
	comp=Z,4.3nm,0.7s,baz=15,slow=2.9								
NOA	**NORSAR Array B**	**145.78**	**351**	PKPbc	**PKPbc**	**08**	**18**	**13.4**	**-1.0**
	comp=Z,6.1nm,0.7s,baz=15,slow=4.5,SNR=17								
SLIT	**Slitere, Latvi**	**146.36**	**339**	*e*P	**PKiKP**	**08**	**18**	**17.6**	**-0.9**
SLIT				IAmb	IAmb	08	18	29.2	
	comp=Z,664nm,1.4s								
IZAR	**Zarasai**	**146.43**	**334**	*e*P	**PKPab**	**08**	**18**	**16.5**	**-1.8**
ISAL	**Salakas**	**146.60**	**334**	*e*P	**PKPab**	**08**	**18**	**17.7**	**-1.2**
ISAL				IAmb	IAmb	08	18	19.1	
	comp=Z,11nm,1.0s								
IIGN	**Ignalina**	**146.73**	**334**	*e*P	**PKiKP**	**08**	**18**	**17.7**	**-1.7**
IIGN				IAmb	IAmb	08	18	19.9	
	comp=Z,21nm,1.2s								
NACGM	**Naroch**	**146.82**	**333**	*e*	**PKPbc**	**08**	**18**	**16.0**	**-1.5**
PABE	**Paberze**	**147.47**	**336**	*e*P	**PKiKP**	**08**	**18**	**18.8**	**-2.1**
GAZ	**Gaziantep**	**148.08**	**297**		**PKiKP**	**08**	**18**	**22.4**	**-0.6**
AKASG	**Malin Array Be**	**148.45**	**325**	PKPbc	**PKiKP**	**08**	**18**	**21.3**	**-1.8**
	comp=Z,18nm,0.7s,baz=42,slow=3.4,SNR=54								
AKBB	**Malin Array Si**	**148.45**	**325**	PKP2	**PKiKP**	**08**	**18**	**21.7**	**-1.4**
AKBB	**Malin Array Si**	**148.45**	**325**		**PKiKP**	**08**	**18**	**21.7**	**-1.4**
ASF	**Jabal al Asfar**	**148.60**	**287**	PKPbc	**PKiKP**	**08**	**18**	**24.1**	**-0.1**
	comp=Z,4.7nm,0.7s,baz=56,slow=2.3,SNR=8.5								
MMAI	**Mount Meron Ar**	**149.86**	**289**	PKPbc	**PKiKP**	**08**	**18**	**27.1**	**+0.4**
	comp=Z,16nm,0.6s,baz=65,slow=4.8,SNR=24								
EIL	**Elat**	**150.16**	**282**	PKPbc	**PKiKP**	**08**	**18**	**27.4**	**+0.1**
	comp=Z,12nm,0.7s,baz=315,slow=5.2,SNR=8.5								
BR131	**Keskin Array S**	**150.37**	**303**	PKIKP	**PKiKP**	**08**	**18**	**26.7**	**-1.0**
BR131	**Keskin Array S**	**150.37**	**303**		**PKiKP**	**08**	**18**	**26.7**	**-1.0**
BRTR	**Keskin Array B**	**150.37**	**303**	PKPbc	**PKPbc**	**08**	**18**	**25.4**	**-1.7**
	comp=Z,4.1nm,0.8s,baz=139,slow=4.4,SNR=17								
BRTR				PKPab	PKPab	08	18	35.2	+0.1
	comp=Z,4.1nm,0.7s,baz=89,slow=3.3,SNR=12								
ANTO	**Ankara**	**150.96**	**303**	PKIKP	**PKiKP**	**08**	**18**	**28.7**	**-0.1**
ANTO	**Ankara**	**150.96**	**303**		**PKiKP**	**08**	**18**	**28.7**	**-0.1**
KWP	**Kalwaria Pacla**	**152.33**	**329**	PKP2	**PKPab**	**08**	**18**	**43.3**	**+0.5**
KWP	**Kalwaria Pacla**	**152.33**	**329**		**PKPab**	**08**	**18**	**43.3**	**+0.5**
BUR08	**Bucovina Ar. S**	**152.41**	**323**		**PKPab**	**08**	**18**	**31.8**	**+0.2**
KOLS	**Kolonicke sedl**	**153.02**	**328**	*e*PKP	**PKiKP**	**08**	**18**	**34.4**	**+1.7**
KOLS				*e*		08	18	47.2	
CHVC	**Chvalec**	**154.26**	**338**	*e*PKPAB	**PKPab**	**08**	**18**	**51.4**	**+0.4**
UPC	**Upice**	**154.34**	**338**	*e*PKP2	**PKPab**	**08**	**18**	**52.0**	**+0.7**
UPC	**Upice**	**154.34**	**338**	*e*PKPAB	**PKPab**	**08**	**18**	**52.0**	**+0.7**
DPC	**Dobruska-Polom**	**154.37**	**337**	*e*PKP2	**PKPab**	**08**	**18**	**52.5**	**+1.0**
DPC	**Dobruska-Polom**	**154.37**	**337**	*e*PKPAB	**PKPab**	**08**	**18**	**52.5**	**+1.0**
KRLC	**Kraliky**	**154.43**	**336**	*e*PKP2	**PKPab**	**08**	**18**	**52.5**	**+0.7**
KRLC	**Kraliky**	**154.43**	**336**	*e*PKPAB	**PKPab**	**08**	**18**	**52.5**	**+0.7**
CLL	**Collm**	**154.56**	**342**	*i* PKP2	**PKPab**	**08**	**18**	**52.6**	**+0.4**
CLL				pmax	pmax				
	comp=Z,11nm,0.9s								
CLL	**Collm**	**154.56**	**342**	*i* PKPab	**PKPab**	**08**	**18**	**52.6**	**+0.4**
	comp=Z,11nm,0.9s								
BRG	**Berggiesshubel**	**154.68**	**341**	*e*PKP	**PKPab**	**08**	**18**	**53.0**	**+0.2**
	comp=Z,7.7nm,0.7s								
BRG	**Berggiesshubel**	**154.68**	**341**	*e*PKP2	**PKPab**	**08**	**18**	**53.0**	**+0.2**
BRG				pmax	pmax				
	comp=Z,8.0nm,0.7s								
VYHS	**Vyhne**	**154.89**	**331**	*e*PKP2	**PKPab**	**08**	**18**	**54.1**	**+0.3**
VYHS	**Vyhne**	**154.89**	**331**	*e*PKP	**PKPab**	**08**	**18**	**54.1**	**+0.3**
PRU	**Pruhonice**	**155.27**	**339**	*e*PKP2	**PKPab**	**08**	**18**	**55.9**	**+0.6**
PRU	**Pruhonice**	**155.27**	**339**	*e*PKPAB	**PKPab**	**08**	**18**	**55.9**	**+0.6**
KHC	**Kasperske Hory**	**156.33**	**339**	PKP2	**PKPab**	**08**	**18**	**59.8**	**-0.2**
KHC	**Kasperske Hory**	**156.33**	**339**	*e*PKPAB	**PKPab**	**08**	**19**	**00.6**	**+0.6**
KHC	**Kasperske Hory**	**156.33**	**339**		**PKPab**	**08**	**18**	**59.8**	**-0.2**
GERES	**GERESS Array B**	**156.54**	**339**	PKPab	**PKPab**	**08**	**19**	**00.8**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=35,slow=4.9,SNR=7.6								
CONA	**Conrad Observa**	**156.55**	**334**	*i* PKPab	**PKPab**	**08**	**19**	**02.0**	**+1.0**
	comp=Z,1.3nm,0.5s								
SOKA	**Soboth**	**157.90**	**334**	*i* PKPab	**PKPab**	**08**	**19**	**07.2**	**+0.3**
	comp=Z,9.5nm,1.4s								
KBA	**Koelnbreinsper**	**158.19**	**337**	*i* PKPab	**PKPab**	**08**	**19**	**09.2**	**+0.9**
	comp=Z,3.5nm,0.8s								
WATA	**Walderalm**	**158.54**	**340**	*i* PKPab	**PKPab**	**08**	**19**	**09.5**	**-0.3**
	comp=Z,3.3nm,0.7s								
WTTA	**Wattenberg**	**158.59**	**340**	*i* PKPab	**PKPab**	**08**	**19**	**10.5**	**+0.5**
	comp=Z,6.2nm,0.7s								
RETA	**Reutte**	**158.64**	**342**	*i* PKPab	**PKPab**	**08**	**19**	**10.2**	**+0.1**
	comp=Z,3.7nm,0.7s								
MOTA	**Moosalm**	**158.67**	**341**	*i* PKPab	**PKPab**	**08**	**19**	**10.1**	**-0.2**
	comp=Z,9.1nm,1.1s								
SQTA	**Sankt Quirin**	**158.75**	**340**	*i* PKPab	**PKPab**	**08**	**19**	**11.1**	**+0.5**
	comp=Z,11nm,1.4s								
DAVA	**Damuels**	**159.06**	**343**	*i* PKPab	**PKPab**	**08**	**19**	**12.6**	**+0.5**
	comp=Z,6.9nm,0.9s								
FETA	**Feichten**	**159.07**	**341**	*i* PKPab	**PKPab**	**08**	**19**	**11.0**	**-1.1**
	comp=Z,6.1nm,1.3s								
FUORN	**Ofenpass-Fuorn**	**159.57**	**341**		**PKPab**	**08**	**19**	**14.8**	**+0.4**
TOA0	**Torodi Ar. Sit**	**165.69**	**183**		**PKPdf**	**08**	**18**	**39.6**	**-0.6**
TOA0				PKPab	**PKPab**	**08**	**19**	**41.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**165.69**	**183**	PKP	**PKPdf**	**08**	**18**	**40.0**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=323,slow=1.4,SNR=6.8								
TORD				PKPab	**PKPab**	**08**	**19**	**42.3**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=173,slow=4.1,SNR=8.5								

*UPA **27** 08:03:49.9±2.1,9.31N×83.77W, h9km±21km, MW3.2*
*UCR **27** 08:03:51.4±2.3,9.35N×83.74W, h29km±4km*
ISC 27 08:03:49.5±1.3,9.54N±0.05×83.60W±0.03, h7km±11km, n21,σ1s38/37,2D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EDLM	**Las Mercedes**	**0.26**	**179**	*e*P		**Pb**	**08 03 57.7**	**+1.2**
EDLM				*e*S		**Sb**	**08 04 02.9**	**+1.7**
EDDO	**Dominical**	**0.39**	**223**	*e*P		**Pg**	**08 03 57.7**	**+0.7**
EDDO				*e*S		**Sg**	**08 04 02.9**	**+0.7**
LCR2	**La Lucha 2**	**0.45**	**297**	*e*P		**Pn**	**08 04 01.2**	**-1.4**
LCR2				*e*S		**Sb**	**08 04 09.0**	**+2.1**
EDBA	**Buenos Aires**	**0.49**	**140**	*e*P		**Pb**	**08 04 00.6**	**+0.2**
EDBA				*e*S		**Sb**	**08 04 08.1**	**+0.2**
EDPN	**Palmar Norte**	**0.59**	**167**	*e*P		**Pg**	**08 04 00.9**	**+0.1**
SJS	**Escuela Geolog**	**0.60**	**311**	*e*P		**Pn**	**08 04 04.3**	**-0.4**
SJS				*e*S		**Sn**	**08 04 14.6**	**-0.2**
HDC	**Heredia**	**0.69**	**312**	*e*P		**Pn**	**08 04 05.4**	**-0.4**
HDC				*e*S		**Sn**	**08 04 16.5**	**-0.4**
HDC	**Heredia**	**0.69**	**312**	*e*P		**Pn**	**08 04 05.4**	**-0.4**
HDC				*e*S		**Sn**	**08 04 16.5**	**-0.4**
EDSV	**San Vito**	**0.94**	**139**	*e*P		**Pg**	**08 04 07.8**	**+0.2**
RGM0	**Gandoca**	**0.97**	**87**	*e*S		**Sn**	**08 04 29.2**	**+5.5**
SRA1	**San Ramn**	**1.03**	**302**	*e*P		**Pb**	**08 04 09.3**	**-0.4**
CNI2	**El Empalme, Bo**	**1.11**	**96**	*e*P		**Pn**	**08 04 12.3**	**+0.8**
CNI2				*e*S		**Sn**	**08 04 28.2**	**+1.1**
BRU2	**Volcan**	**1.16**	**130**	⇓*i*P		**Pg**	**08 04 10.9**	**-0.8**
BRU2				*e*S		**Sg**	**08 04 26.2**	**-0.6**
BRU2	**Volcan**	**1.16**	**130**	⇓*i*P		**Pg**	**08 04 10.9**	**-0.8**
BRU2				*e*S		**Sg**	**08 04 26.2**	**-0.6**
BCO2	**Palmira**	**1.33**	**128**	*e*P		**Pn**	**08 04 13.3**	**-1.4**
BCO2				*e*S		**Sb**	**08 04 29.8**	**-2.5**
ARE1	**Arenal 1**	**1.44**	**310**	*e*P		**Pb**	**08 04 16.5**	**-0.1**
JTS	**Las Juntas de**	**1.53**	**299**	*e*P		**Pn**	**08 04 17.2**	**-0.1**
JTS				*e*S		**Sn**	**08 04 36.7**	**-0.9**
JTS	**Las Juntas de**	**1.53**	**299**	*e*P		**Pn**	**08 04 17.2**	**-0.1**
JTS				*e*S		**Sn**	**08 04 36.7**	**-0.9**
CHGR2	**Aguacate**	**1.55**	**113**	*e*P		**Pn**	**08 04 18.0**	**+0.4**
CHGR2				*e*S		**Sn**	**08 04 37.8**	**-0.2**
DVD	**David**	**1.57**	**134**	*e*P		**Pn**	**08 04 16.1**	**-1.8**
DVD				*e*S		**Sn**	**08 04 38.3**	**-0.2**
DVD	**David**	**1.57**	**134**	*e*P		**Pn**	**08 04 16.1**	**-1.8**
DVD				*e*S		**Sn**	**08 04 38.3**	**-0.2**

*ISCJB **27** 08:04:20.0±1.0, 15.0S±0.2×74.4W±0.2, h91km, mb3.2/2, Error ellipse: s-maj=31.6km s-min=7.5km az=139.1*
*IDC **27** 08:04:24.9±2.2, 14.56S×74.18W, h101km±21km, mb3.2/2, mb1 3.3/6, mb1mx3.1/39, mbtmp3.6/6, MS2.9/1, Ms1 2.9/1, ms1mx2.2/15, Error ellipse: s-maj=63.4km s-min=21.3km az=35.0*
ISC 27 08:04:22.7±1.0, 14.9S±0.1×74.4W±0.2, h91km, n7,σ2s30/9, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.75**	**320**	P		**Pn**	**08 05 19.2**	**+0.7**
	6.7nm,0.3s,baz=125,slow=14,SNR=12							
NNA				S		**Sn**	**08 06 00.8**	**-0.9**
	18nm,0.3s,baz=37,slow=10.0,SNR=8.1							
LPAZ	**La Paz**	**6.16**	**104**	P		**Pn**	**08 05 54.7**	**+2.9**
	0.7nm,0.3s,baz=323,slow=7.9,SNR=21							
LVC	**Limon Verde**	**9.26**	**147**	P		**Pn**	**08 06 37.1**	**+3.3**
	0.3nm,0.3s,baz=342,slow=8.4,SNR=3.4							
LVC				S		**Sn**	**08 08 13.5**	**-2.9**
	1.1nm,0.3s,baz=49,slow=22,SNR=11							
SIV	**San Ignacio**	**12.86**	**97**	P		**Pn**	**08 07 21.0**	**-1.2**
	0.1nm,0.3s,baz=305,slow=14,SNR=3.3							
SIV				LR		LR	08 13 17.3	
	comp=Z,52nm,19.5s,baz=302,slow=42							
TORD	**Torodi Ar. Bea**	**80.25**	**74**	P		**P**	**08 16 23.4**	**-0.7**
	0.6nm,0.7s,baz=269,slow=6.2,SNR=2.6							
YKA	**Yellowknife Ar**	**83.30**	**342**	P		**P**	**08 16 38.3**	**-0.6**
	0.1nm,0.5s,baz=140,slow=4.6,SNR=5.4							
SONM	**Songino Array**	**147.13**	**359**	PKPbc		**PKPbc**	**08 23 55.9**	**+0.4**
	0.4nm,0.7s,baz=354,slow=1.4,SNR=2.9							

*IDC **27** 08:06:32.4±2.1,26.65N×61.14E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.4/74, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=57.0km s-min=28.9km az=125.0*
*ISCJB **27** 08:06:32.4±0.7,26.55N±0.05×61.30E±0.07, h10km, mb3.6/5, Error ellipse: s-maj=10.6km s-min=4.8km az=40.7*
*THR **27** 08:06:35.8,26.74N×61.18E, h14km, ML3.9*
*NEIC **27** 08:06:35.1±4.0,26.64N±0.06×61.2E±0.1, h10km±1km*
*TEH **27** 08:06:35.1,26.70N×61.17E, h10km, ML3.8*
*DSN **27** 08:06:43.1±2.7,26.59N×60.54E, h10km, ML4.2/9, Error ellipse: s-maj=53.7km s-min=16.4km az=5.0*
ISC 27 08:06:34.5±0.8,26.61N±0.05×61.12E±0.07, h10km, n74, σ2s01/75, mb3.9/8, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHBR	**Chabahar**	**1.17**	**210**	*e*AML		AML	08 07 16.1	
	comp=N,2μm,0.2s							
CHBR				*e*Pg		**Pg**	**08 06 59.5**	**+2.6**
CHBR	**Chabahar**	**1.17**	**210**	*e*AML		AML	08 07 15.3	
	comp=E,2μm,0.2s							
CHBR	**Chabahar**	**1.17**	**210**			**Pb**	**08 06 59.0**	**+2.2**
SZD1	**Zahaedan-tmp**	**2.87**	**356**	*e*Pn		**Pn**	**08 07 22.2**	**+1.7**
SZD1	**Zahaedan-tmp**	**2.87**	**356**	Pn		**Pn**	**08 07 22.2**	**+1.7**
ZHSF	**Zahedan**	**3.00**	**354**	*e*Pn		**Pn**	**08 07 24.0**	**+1.6**
ZHSF	**Zahedan**	**3.00**	**354**	*e*Sg		**Sb**	**08 08 05.3**	**+0.3**
ZHSF	**Zahedan**	**3.00**	**354**	*e*P		**Pn**	**08 07 23.9**	**+1.6**
ZHSF	**Zahedan**	**3.00**	**354**	Pn		**Pn**	**08 07 23.9**	**+1.6**
ZHSF	**Zahedan**	**3.00**	**354**	Sg		**Sb**	**08 08 05.0**	**0.0**
JSK1	**Jask**	**3.17**	**253**	*e*Pn		**Pn**	**08 07 27.6**	**+3.2**
JSK1	**Jask**	**3.17**	**253**	Pn		**Pn**	**08 07 27.6**	**+3.2**
NIAN	**Nian**	**3.94**	**285**	*e*Pn		**Pn**	**08 07 38.3**	**+3.2**
NIAN	**Nian**	**3.94**	**285**	Pn		**Pn**	**08 07 38.2**	**+3.2**
WSAR	**Wadi Sarin**	**4.05**	**214**	Pn		**Pn**	**08 07 36.3**	**-0.3**
	comp=E,2.7nm,0.3s,baz=68,slow=6.0,SNR=67							
WSAR				Sn		**Sn**	**08 08 19.4**	**-4.7**
	comp=E,38nm,0.3s,baz=31,slow=20,SNR=41							
BANOM	**Banah**	**4.38**	**262**	*i* P		**Pn**	**08 07 42.8**	**+1.6**
	SNR=75							
BANOM				S		**Sn**	**08 08 29.1**	**-3.3**
GENO	**Geno**	**4.48**	**281**	*e*Pn		**Pn**	**08 07 45.5**	**+2.8**
GENO				IAMB		IAmb	08 08 36.9	
	comp=Z,0.0nm,0.2s							
SHME	**Shamm**	**4.50**	**264**	*i* P		**Pn**	**08 07 44.5**	**+1.6**
	SNR=64							
SHME	**Shamm**	**4.50**	**264**	*e*Pn		**Pn**	**08 07 45.3**	**+2.4**
SHME	**Shamm**	**4.50**	**264**	Pn		**Pn**	**08 07 45.2**	**+2.4**
MDH	**Madha**	**4.54**	**254**	*i* P		**Pn**	**08 07 44.0**	**+0.7**
	SNR=98							
MDH	**Madha**	**4.54**	**254**	*e*Pn		**Pn**	**08 07 44.1**	**+0.8**
MSFE	**Esma-Masafi**	**4.64**	**255**	*i* P		**Pn**	**08 07 45.3**	**+0.6**
	SNR=14							
MSFE	**Esma-Masafi**	**4.64**	**255**	*e*Pn		**Pn**	**08 07 45.3**	**+0.6**
MSFE	**Esma-Masafi**	**4.64**	**255**	Pn		**Pn**	**08 07 45.3**	**+0.6**
UOSS	**Minazif**	**4.73**	**251**	*i* P		**Pn**	**08 07 46.3**	**+0.2**
	SNR=83							
UOSS	**Minazif**	**4.73**	**251**	*e*Pn		**Pn**	**08 07 46.2**	**+0.2**
UOSS	**Minazif**	**4.73**	**251**	Pn		**Pn**	**08 07 46.1**	**+0.1**
UOSS						**Sn**	**08 08 36.5**	**-4.5**
HATD	**Hatta, Dubai**	**4.84**	**250**	*i* P		**Pn**	**08 07 47.8**	**+0.3**
	SNR=39							
HATD	**Hatta, Dubai**	**4.84**	**250**	*e*Pn		**Pn**	**08 07 48.0**	**+0.5**
HATD	**Hatta, Dubai**	**4.84**	**250**	Pn		**Pn**	**08 07 48.0**	**+0.5**
NHDN	**Nehbandan**	**4.85**	**349**	*e*Pn		**Pn**	**08 07 48.6**	**+0.8**
NGRK	**Negar Kerman**	**4.91**	**309**	*e*Pn		**Pn**	**08 07 51.7**	**+2.9**
NGRK				IAMB		IAmb	08 08 53.2	
	comp=Z,0.0nm,0.2s							
NGRK	**Negar Kerman**	**4.91**	**309**	Pn		**Pn**	**08 07 51.7**	**+2.9**
ASHO	**Ashiyiah**	**4.96**	**248**	*i* P		**Pn**	**08 07 49.9**	**+0.8**
	SNR=76							
ASHO	**Ashiyiah**	**4.96**	**248**	*e*Pn		**Pn**	**08 07 49.9**	**+0.8**
ASHO	**Ashiyiah**	**4.96**	**248**	Pn		**Pn**	**08 07 49.8**	**+0.7**
UMQ	**Umm Al-Quwin**	**5.03**	**259**	*e*Pn		**Pn**	**08 07 51.7**	**+1.7**
KRBR	**Kerman**	**5.10**	**312**	*e*Pn		**Pn**	**08 07 54.3**	**+2.9**
KRBR	**Kerman**	**5.10**	**312**	*e*Pn		**Pn**	**08 07 54.3**	**+2.9**
KRBR	**Kerman**	**5.10**	**312**	Pn		**Pn**	**08 07 54.0**	**+2.6**
TVBK	**TV Kerman**	**5.11**	**312**	IAMB		IAmb	08 09 03.5	
	comp=Z,0.0nm,0.2s							
NAZ	**Nazwa, Dubai**	**5.18**	**253**	*i* P		**Pn**	**08 07 54.8**	**+2.6**
	SNR=6.8							
NAZ	**Nazwa, Dubai**	**5.18**	**253**	*e*Pn		**Pn**	**08 07 53.3**	**+1.1**
FAQ	**Al Faqa, Dubai**	**5.32**	**251**	*i* P		**Pn**	**08 07 57.5**	**+3.4**
	SNR=13							
FAQ	**Al Faqa, Dubai**	**5.32**	**251**	*e*Pn		**Pn**	**08 07 54.9**	**+0.8**
ALNE	**Al Ain**	**5.49**	**244**	*i* P		**Pn**	**08 07 59.2**	**+2.8**
	SNR=23							
ALNE	**Al Ain**	**5.49**	**244**	*e*Pn		**Pn**	**08 07 56.9**	**+0.5**
ALNE	**Al Ain**	**5.49**	**244**	Pn		**Pn**	**08 07 56.9**	**+0.5**
ASUD	**Al Ashush, Dub**	**5.59**	**251**	*i* P		**Pn**	**08 08 01.4**	**+3.6**
	SNR=79							
AFRZ	**Afriz**	**7.03**	**345**	*e*Pn		**Pn**	**08 08 18.9**	**+1.2**
TPRV	**Parvadeh(Tabas**	**7.46**	**330**	*e*Pn		**Pn**	**08 08 25.8**	**+2.2**
TPRV	**Parvadeh(Tabas**	**7.46**	**330**	Pn		**Pn**	**08 08 25.8**	**+2.2**
TKDS	**Koohdasht(Taba**	**7.79**	**335**	*e*Pn		**Pn**	**08 08 30.5**	**+2.4**
TKDS	**Koohdasht(Taba**	**7.79**	**335**	Pn		**Pn**	**08 08 30.4**	**+2.4**
HRA	**Herat**	**7.81**	**7**	Pn		**Pn**	**08 08 29.9**	**+1.5**
TABS	**Tabas**	**7.82**	**335**	*e*Pn		**Pn**	**08 08 30.5**	**+2.0**
TABS	**Tabas**	**7.82**	**335**	*e*Pn		**Pn**	**08 08 30.5**	**+2.0**
TABS	**Tabas**	**7.82**	**335**	Pn		**Pn**	**08 08 30.4**	**+2.0**
IKAZ	**Kazeroun**	**8.78**	**293**	*e*Pn		**Pn**	**08 08 43.8**	**+1.9**
IKAZ	**Kazeroun**	**8.78**	**293**	Pn		**Pn**	**08 08 43.7**	**+1.9**
NIL	**Nilore**	**12.62**	**53**	Pn		**Pn**	**08 09 35.4**	**+1.3**
RAYN	**Ar Rayn**	**14.48**	**261**			**Pn**	**08 09 58.0**	**-1.8**
ABKAR	**Akbulak array**	**22.62**	**358**	P		**P**	**08 11 33.8**	**-1.7**
ABKAR				IAmb		IAmb	08 11 40.5	
	comp=Z,2.2nm,0.9s							
MK31	**Makanchi Array**	**26.19**	**34**			**P**	**08 12 09.2**	**-0.1**
MKAR	**Makanchi Array**	**26.19**	**34**	P		**P**	**08 12 08.2**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=221,slow=9.9,SNR=4.5							
BVAR	**Borovoye Array**	**27.28**	**12**	P		**P**	**08 12 18.3**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=194,slow=9.6,SNR=9.0							
KURBB	**Kurchatov Arra**	**27.43**	**24**	P		**P**	**08 12 19.2**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=222,slow=9.8,SNR=4.9							
AKBB	**Malin Array Si**	**34.19**	**323**			**P**	**08 13 19.3**	**-0.7**
AKBB				IAmb		IAmb	08 13 37.5	
	comp=Z,2.6nm,0.9s							
BUR08	**Bucovina Ar. S**	**35.06**	**316**	P		**P**	**08 13 27.1**	**-0.6**
FIA1	**FINESS Array S**	**42.02**	**336**	P		**P**	**08 14 25.7**	**-0.1**
FINES	**FINESS Array B**	**42.02**	**336**	P		**P**	**08 14 24.9**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=133,slow=9.7,SNR=9.8							
OSSC	**Osservatorio P**	**43.50**	**306**	P		**P**	**08 14 37.5**	**-0.6**
OSSC				IAmb		IAmb	08 14 50.4	
	comp=Z,15nm,1.4s							
ARCES	**ARCESS Array B**	**47.70**	**344**	P		**P**	**08 15 10.0**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=146,slow=8.2,SNR=10							

*IDC **27** 08:10:41.7±0.6, 11.84N×125.75E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.1/61, mbtmp4.2/18, MS3.4/8, Ms1 3.4/8, ms1mx3.1/44, Error ellipse: s-maj=30.6km s-min=13.3km az=73.0*
*IS

ABKAR	**Abkulak array**	**65.33**	**319**	P		**P**	**08 21 26.1**	**+0.2**
SDPT	**Sand Point**	**70.89**	**35**	P		**P**	**08 22 00.3**	**-0.4**
CHIR	**Chirikof Islan**	**73.67**	**35**	P		**P**	**08 22 18.1**	**+0.8**
RAYN	**Ar Rayn**	**76.59**	**292**	P		**P**	**08 22 33.6**	**-1.3**
RAYN				IAmb		IAmb	08 22 34.4	
	comp=Z,8.1nm,0.9s							
ILAR	**Eielson Array**	**78.03**	**26**	P		**P**	**08 22 42.6**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=232,slow=4.6,SNR=3.6							
ARCES	**ARCESS Array B**	**82.44**	**340**	P		**P**	**08 23 07.2**	**+1.4**
	comp=Z,4.3nm,1.0s,baz=87,slow=5.5,SNR=7.0							
BR131	**Keskin Array S**	**84.15**	**309**	P		**P**	**08 23 14.9**	**-0.6**
BRTR	**Keskin Array B**	**84.15**	**309**	P		**P**	**08 23 14.7**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=105,slow=4.4,SNR=7.5							
FINES	**FINESS Array B**	**84.19**	**332**	P		**P**	**08 23 15.2**	**+0.2**
	comp=Z,5.0nm,0.9s,baz=102,slow=5.8,SNR=7.0							
AKASG	**Malin Array Be**	**84.99**	**321**	P		**P**	**08 23 18.6**	**-0.6**
	comp=Z,3.9nm,0.7s,baz=65,slow=4.8,SNR=8.6							
NOA	**NORSAR Array B**	**91.04**	**334**	LR		LR	09 07 04.5	
	comp=Z,33nm,18.7s,baz=245,slow=37							
PLCA	**Paso Flores**	**147.94**	**156**	PKPab		**PKPbc**	**08 30 29.8**	**+0.2**

IDC 27 08:57:08.8±999.0, 57°.22N×59°.47E, h0km, Error ellipse: s-maj=529.5km s-min=179.4km az=39.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I34MN	**SONGINO INFRAS**	**29.52**	**88**	*i*			11 56 30.0	
	baz=309,slow=334,SNR=0.6							
I18DK	**QAANAAQ INFRAS**	**41.88**	**345**	*i*			13 12 00.0	
	baz=37,slow=345,SNR=1.8							
I45RU	**USSURIYSK INFR**	**45.52**	**74**	*i*			13 36 20.0	
	baz=312,slow=330,SNR=2.1							
I53US	**FAIRBANKS INFR**	**56.46**	**14**	*i*			14 45 40.0	
	baz=346,slow=344,SNR=0.8							

*ISCJB **27** 09:12:24.5±0.8, 30°.96N±0°.05×110°.32E±0°.10, h10km, mb3.5/6, Error ellipse: s-maj=12.2km s-min=6.5km az=13.9*
*IDC **27** 09:12:25.1±1.3, 31°.26N×110°.71E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.5/43, mbtmp3.6/7, ML4.7/1, Error ellipse: s-maj=60.5km s-min=20.6km az=62.0*
*NEIC **27** 09:12:27.2±0.5, 30°.94N±0°.06×110°.27E±0°.08, h15km±4km, mb4.1/2*
ISC 27 09:12:26.8±1.0, 30°.99N±0°.07×110°.3E±0°.1, h10km, n12, σ1§25/14, mb3.6/8, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ENH	**Enshi**	**0.98**	**223**	Pg		**Pg**	**09 12 45.1**	**-0.6**
ENH				Sg		**Sg**	**09 12 57.5**	**-0.9**
XAN	**Xi'an**	**3.25**	**340**			**Pn**	**09 13 18.2**	**+0.3**
XAN				Sn		**Sn**	**09 13 57.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**16.15**	**222**	Pn		**P**	**09 16 20.6**	**+3.3**
	1.0nm,0.3s,baz=27,slow=10,SNR=3.9							
SONM	**Songino Array**	**17.09**	**351**	Pn		**Pn**	**09 16 24.1**	**-1.7**
	baz=172,slow=13,SNR=1.4							
MKAR	**Makanchi Array**	**26.70**	**314**	P		**P**	**09 18 06.5**	**+0.3**
	0.7nm,0.7s,baz=108,slow=9.9,SNR=4.2							
ZALV	**Zalesovo Beam**	**29.35**	**329**	P		**P**	**09 18 29.9**	**+0.2**
	0.9nm,0.3s,baz=148,slow=11,SNR=1.5							
KURK	**Kurchatov**	**30.66**	**319**	P		**P**	**09 18 40.9**	**-0.3**
KURK				IAmb		IAmb	09 18 46.3	
	comp=Z,0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**30.66**	**319**	P		**P**	**09 18 40.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=119,slow=7.3,SNR=2.3							
BVAR	**Borovoye Array**	**36.26**	**319**	P		**P**	**09 19 29.9**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=107,slow=7.6,SNR=1.9							
PSA00	**Pilbara Seismi**	**53.06**	**169**	P		**P**	**09 21 43.4**	**-0.9**
PSA00				IAmb		IAmb	09 21 51.0	
	comp=Z,5.9nm,0.9s							
WRA	**Warramunga Arr**	**55.67**	**152**	P		**P**	**09 22 03.3**	**0.0**
	comp=Z,0.4nm,1.0s,baz=327,slow=9.5,SNR=1.1							
ASAR	**Alice Springs**	**58.88**	**155**	P		**P**	**09 22 26.5**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=337,slow=6.4,SNR=2.4							

*KRNET **27** 09:24:16.9±0.1, 40°.46N×80°.14E, mb3.1*
*SOME **27** 09:24:16.7, 40°.85N×79°.93E, h5km*
*NNC **27** 09:24:18.2±1.5, 40°.87N×79°.89E, h0km, mb3.8, mpv3.3, Error ellipse: s-maj=9.7km s-min=8.1km az=140.0*
ISC 27 09:24:19.4±3.6, 40°.9N±0°.1×79°.88E±0°.09, h18km±6km, n24, σ1§66/39, 9C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.75**	**298**	⇓*i*	P	**Pg**	**09 24 53.3**	**+0.1**
	baz=6.0							
TARG				⇓*i*	S	**Sg**	**09 25 20.2**	**+4.2**
	baz=6.0							
SHLS	**Shalkode**	**2.25**	**352**	*e*	P	**Pb**	**09 25 00.5**	**+1.0**
	23nm,0.2s							
SHLS				*e*	S	**Sg**	**09 25 32.1**	**+0.4**
	14nm,0.3s							
SHLS	**Shalkode**	**2.25**	**352**	Pg		**Pb**	**09 25 00.5**	**+1.0**
	23nm,0.2s							
SHLS				Lg		Lg	09 25 32.1	
	14nm,0.3s							
KDJ	**Kajisay**	**2.35**	**302**	⇑*i*	P	**Pb**	**09 25 02.0**	**+0.6**
	baz=8.0							
KDJ				⇑*e*	S	**Sg**	**09 25 34.4**	**-0.7**
	baz=8.0							
SATY	**Saty**	**2.39**	**333**	*e*	P	**Pb**	**09 25 03.4**	**+1.3**
	6.2nm,0.2s							
SATY				*e*	S	**Sg**	**09 25 37.0**	**+0.6**
	22nm,0.6s							
SATY	**Saty**	**2.39**	**333**	Pg		**Pb**	**09 25 03.4**	**+1.3**
	6.2nm,0.2s							
SATY				Lg		Lg	09 25 37.0	
	22nm,0.6s							
PDGK	**Podgornoye**	**2.42**	**353**	Pg		**Pb**	**09 25 02.9**	**+0.5**
	2.7nm,0.4s							
PDGK				Lg		Lg	09 25 36.3	
	5.3nm,0.7s							
PDGK	**Podgornoye**	**2.42**	**353**	⇓Pg		**Pb**	**09 25 03.9**	**+1.5**
	1.2nm,0.3s							
PDGK				⇑Lg		Lg	09 25 36.5	
	4.1nm,0.4s							
ANVS	**Anan'yevo**	**2.48**	**319**	⇑*i*	P	**Pb**	**09 25 04.6**	**+1.1**
	baz=22							
ANVS				⇑*i*	S	**Sg**	**09 25 39.2**	**0.0**
	baz=22							
ZHN	**Zhinishke**	**2.48**	**335**	*e*	P	**Pb**	**09 25 04.5**	**+1.0**
	11nm,0.3s							
ZHN				*e*	S	**Sg**	**09 25 38.9**	**-0.3**
	7.5nm,0.2s							
ZHN	**Zhinishke**	**2.48**	**335**	Pg		**Pb**	**09 25 04.5**	**+1.0**
	11nm,0.3s							
ZHN				Lg		Lg	09 25 38.9	
	7.5nm,0.2s							
KPKS	**Kokpek**	**2.69**	**341**	*e*	P	**Pb**	**09 25 07.8**	**+0.8**
	16nm,0.2s							
KPKS				*e*	S	**Sg**	**09 25 44.8**	**-1.0**
	22nm,0.5s							
KURS	**Kuram**	**2.85**	**334**	*e*	P	**Pb**	**09 25 10.7**	**+0.9**
	5.2nm,0.8s							
KURS				*e*	S	**Sg**	**09 25 49.4**	**-1.7**
	8.9nm,0.5s							
ULHL	**Ulahol**	**3.03**	**297**	⇑*i*	P	**Pb**	**09 25 11.0**	**-1.9**
	baz=3.0							
ULHL				⇑*i*	S	**Sb**	**09 25 50.2**	**+0.7**
	baz=3.0							
TNSS	**Tian-Shan**	**3.03**	**315**	*e*	P	**Pb**	**09 25 14.8**	**+1.7**
	5.8nm,0.3s							
TNSS				*e*	S	**Sg**	**09 25 56.4**	**-0.5**
	7.6nm,0.5s							
TNSS	**Tian-Shan**	**3.03**	**315**	Pg		**Pb**	**09 25 14.8**	**+1.7**
	5.8nm,0.3s							
TNSS				Lg		Lg	09 25 56.4	
	7.6nm,0.5s							
BOOM	**Boomskoye usch**	**3.33**	**299**	⇑*i*	P	**Pb**	**09 25 15.4**	**-2.7**
	baz=4.0							
BOOM				⇑*i*	S	**Sb**	**09 25 57.5**	**-0.8**
	baz=4.0							
DJR	**Jarkent**	**3.40**	**359**	*e*	P	**Pb**	**09 25 20.0**	**+0.8**
	0.9nm,0.1s							
DJR				*e*	S	**Sg**	**09 26 05.6**	**-3.0**
	3.0nm,0.3s							
DJR	**Jarkent**	**3.40**	**359**	Pg		**Pb**	**09 25 20.0**	**+0.8**
	0.9nm,0.1s							
DJR				Lg		Lg	09 26 05.6	
	3.0nm,0.3s							
KST	**Kastek**	**3.60**	**307**	*e*	P	**Pb**	**09 25 25.0**	**+2.4**
	2.3nm,0.2s							
KST				*e*	S	**Sg**	**09 26 14.6**	**-0.5**
	5.4nm,0.4s							
KST	**Kastek**	**3.60**	**307**	Pg		**Pb**	**09 25 25.0**	**+2.4**
	2.3nm,0.2s							
KST				Lg		Lg	09 26 15.1	
	5.4nm,0.4s							
CHKK	**Chushkaly**	**3.62**	**325**	*e*	P	**Pb**	**09 25 25.3**	**+2.4**
	1.6nm,0.4s							
CHKK				*e*	S	**Sg**	**09 26 14.4**	**-1.3**
	6.4nm,0.5s							
DGS	**Degeres**	**3.83**	**308**	*e*	P	**Pb**	**09 25 27.6**	**+1.2**
	1.0nm,0.4s							
DGS				*e*	S	**Sg**	**09 26 19.1**	**-3.3**
	3.1nm,0.7s							
DGS	**Degeres**	**3.83**	**308**	Pg		**Pb**	**09 25 27.6**	**+1.2**
	1.6nm,0.5s							
DGS				Lg		Lg	09 26 19.1	
	3.3nm,0.4s							

*HEL **27** 09:30:42.5, 67°.57N×20°.83E, h0km, ML1.4, Explosion*
UPP 27 09:30:43.7±0.1, 67°.65N×20°.99E, h0km, ML2.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KUA	**Kurravaara**	**0.39**	**321**	P		Pg	09 30 51.3	+0.1
KUA				S		Sg	09 30 56.8	+0.5
KUA	**Kurravaara**	**0.39**	**321**	*i*	P	Pg	09 30 51.3	+0.1
KUA				*i*	S	Sg	09 30 56.8	+0.5
LANU	**Lannavaara**	**0.55**	**43**	P		Pg	09 30 54.1	-0.1
LANU	**Lannavaara**	**0.55**	**43**	*i*	P	Pg	09 30 54.1	-0.1
DUNU	**Dundret**	**0.56**	**197**	P		Pg	09 30 54.3	0.0
DUNU	**Dundret**	**0.56**	**197**	*i*	P	Pg	09 30 54.3	0.0
RATU	**Laukkuluspa**	**0.56**	**289**	P		Pg	09 30 54.3	-0.1
RATU	**Laukkuluspa**	**0.56**	**289**	*i*	P	Pg	09 30 54.3	-0.1
ERTU	**Ertsjaerv**	**1.20**	**156**	P		Pg	09 31 05.7	-0.9
ERTU	**Ertsjaerv**	**1.20**	**156**	*e*	P	Pg	09 31 05.7	-0.9
	baz=334							
ERTU				*e*	SB	Sg	09 31 21.7	-0.5
HEF	**Hetta**	**1.26**	**52**	*e*	P	Pg	09 31 06.8	-1.0
	baz=229							
HEF				MSG			09 31 23.5	
	comp=Z,1.8nm,0.2s							
HEF				*e*	SB	Sg	09 31 23.6	-0.6
KIF	**Kilpisjarvi**	**1.36**	**357**	*e*	P	Pg	09 31 09.1	-0.7
KIF				MSG			09 31 27.1	
	comp=Z,4.8nm,0.2s							
KIF				*e*	SB	Sb	09 31 27.8	-0.2
HARU	**Harads**	**1.49**	**180**	P		Pn	09 31 11.0	-0.7
HARU	**Harads**	**1.49**	**180**	*e*	P	Pn	09 31 11.0	-0.7
TOF	**Tornio**	**2.06**	**139**	*e*	PG	Pb	09 31 21.1	-0.8
TOF				MSG			09 31 43.1	
	comp=Z,2.5nm,0.2s							
TOF				*e*	SG	Sb	09 31 47.7	-0.2
SGF	**Sodankyl**	**2.14**	**93**	*e*	PB	Pb	09 31 22.0	-1.2
SGF				*e*	SG	Sb	09 31 50.1	-0.1
RNF	**Rovaniemi**	**2.23**	**116**	*e*	PB	Pb	09 31 23.3	-1.4
RNF				*e*	SG	Sb	09 31 52.4	-0.4
ARE0	**ARCESS Array S**	**2.52**	**39**	*e*	P	Pn	09 31 26.5	+0.7
	baz=227							
ARE0				*e*	SB	Sb	09 31 59.8	-1.3
KEV	**Kevo**	**3.05**	**43**	*e*	S	Sn	09 32 10.8	+0.7
KEV				MSG			09 32 15.0	
	comp=Z,0.9nm,0.2s							

*ISCJB **27** 09:30:58.8±0.2, 2°.46S±0°.03×102°.21E±0°.04, h173km, mb4.1/26, Error ellipse: s-maj=6.1km s-min=2.8km az=141.4*
*NEIC **27** 09:30:59.7±1.5, 2°.58S±0°.06×102°.14E±0°.07, h173km±5km, mb4.4/30*
*DJA **27** 09:31:00.9±0.2, 3°S±3°×10°2E±°, h167km±3km, M4.7/21, mB5.3/4, mb4.6/12, MLv4.7/21, Mw(mB)4.7/4*
*IDC **27** 09:31:00.2±1.5, 2°.53S×102°.17E, h173km±12km, mb3.9/24, mb1 4.0/25, mb1mx3.8/53, mbtmp4.4/25, Error ellipse: s-maj=15.4km s-min=8.8km az=52.0*
ISC 27 09:31:00.1±0.4, 2°.49S±0°.04×102°.19E±0°.05, h173km, n114, σ1§32/128, mb4.2/38, 4C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.65**	**176**	P		**Pn**	**09 31 25.5**	**+0.6**
MASI				S		**Sn**	**09 31 44.6**	**+0.6**
KRJI	**Kerinci**	**0.83**	**299**	P		**Pn**	**09 31 27.2**	**+1.2**
KSI	**Kapahiang**	**1.22**	**161**	P		**Pn**	**09 31 29.4**	**+0.4**
KSI				S		**Sn**	**09 31 51.3**	**-0.1**
SDSI	**Sungai Dareh**	**1.73**	**334**	P		**Pn**	**09 31 34.4**	**+0.7**
MNAI	**Manna**	**2.01**	**158**	P		**Pn**	**09 31 36.8**	**0.0**
MNAI	**Manna**	**2.01**	**158**			**Pn**	**09 31 36.6**	**-0.2**
MNAI				Sn		**Sn**	**09 32 03.6**	**-1.7**
PPSI	**Pulau Pagai**	**2.20**	**263**	P		**Pn**	**09 31 39.6**	**+0.7**
PMBI	**Palembang**	**2.61**	**100**	P		**Pn**	**09 31 43.8**	**+0.1**
PMBI	**Palembang**	**2.61**	**100**	Pn		**Pn**	**09 31 44.0**	**+0.2**
PMBI				Sn		**Sn**	**09 32 15.3**	**-2.3**
MDSI	**Maura Dua**	**2.80**	**135**	P		**Pn**	**09 31 46.5**	**+0.5**
BKNI	**Bangkinang**	**3.02**	**338**	P		**Pn**	**09 31 50.0**	**+1.2**
BKNI	**Bangkinang**	**3.02**	**338**	Pn		**Pn**	**09 31 49.3**	**+0.6**
BKNI				Sn		**Sn**	**09 32 27.5**	**+0.8**
LWLI	**Liwa**	**3.13**	**143**	P		**Pn**	**09 31 50.0**	**-0.1**
SISI	**Saibi**	**3.31**	**290**	P		**Pn**	**09 31 52.6**	**+0.4**
KLSI		**3.35**	**131**	P		**Pn**	**09 31 53.4**	**+0.7**
KASI	**Kota Agung**	**3.79**	**143**	P		**Pn**	**09 31 57.4**	**-0.9**
MYKOM	**Kota Tinggi**	**4.56**	**21**			**Pn**	**09 32 10.0**	**+1.7**
MYKOM				Sn		**Sn**	**09 32 58.5**	**-3.2**
PBSI	**Pulau Batu**	**4.60**	**302**	P		**Pn**	**09 32 09.7**	**+1.0**
CGJI	**Cibinong**	**5.38**	**140**	P		**Pn**	**09 32 16.0**	**-2.9**
GSI	**Gunungsitoli**	**5.96**	**309**	P		**Pn**	**09 32 26.5**	**0.0**
	236nm,0.6s,5μm1.8nm							
GSI	**Gunungsitoli**	**5.96**	**309**			**Pn**	**09 32 26.3**	**-0.2**
GSI				Sn		**Sn**	**09 33 31.1**	**-3.4**
DBJI	**Dramaga**	**6.08**	**132**	P		**Pn**	**09 32 27.9**	**-0.2**
	60nm,0.7s							
RPSI	**Rantau Prapat**	**6.10**	**328**			**Pn**	**09 32 28.9**	**+0.5**
RPSI	**Rantau Prapat**	**6.10**	**328**			**Pn**	**09 32 28.6**	**+0.2**
RPSI						**Sn**	**09 33 36.5**	**-1.3**
PSI	**Prapat**	**6.19**	**328**	P		**Pn**	**09 32 28.6**	**-1.1**
	2.9nm,0.3s,baz=145,slow=10,SNR=12							
PSI				S		**Sn**	**09 33 36.5**	**-3.6**
	2.3nm,0.3s,baz=89,slow=13,SNR=1.9							
IPM	**Ipoh**	**7.02**	**350**			**Pn**	**09 32 42.3**	**+1.8**
KCSI	**Kotacane, Aceh**	**7.43**	**323**	P		**Pn**	**09 32 45.3**	**-0.6**
CISI	**Cisompet, Garu**	**7.53**	**132**	P		**Pn**	**09 32 44.6**	**-2.7**
CISI	**Cisompet, Garu**	**7.53**	**132**			**Pn**	**09 32 44.4**	**-2.9**
CISI				Sn		**Sn**	**09 34 06.2**	**-5.7**
TPTI		**7.60**	**319**	P		**Pn**	**09 32 46.3**	**-1.8**
SNSI	**Sinabang, Aceh**	**7.62**	**310**	P		**Pn**	**09 32 48.2**	**-0.2**
	146nm,0.8s,3μm0.9nm							
KULM	**Kulim**	**7.88**	**349**	Pn		**Pn**	**09 32 53.1**	**+1.3**
KPJI	**Karang Pucung**	**8.26**	**126**	P		**Pn**	**09 32 58.3**	**+1.4**
	18nm,0.5s,0.1nm							
MLSI	**Meulaboh, Aceh**	**8.86**	**319**	P		**Pn**	**09 33 03.4**	**-1.4**
LHMI	**Lhok Sumawe**	**9.29**	**326**	Pn		**Pn**	**09 33 08.5**	**-1.9**
UGM	**Wanagama**	**9.89**	**123**	Pn		**Pn**	**09 33 17.7**	**-0.7**
SBUM	**Sibu**	**11.16**	**64**			**Pn**	**09 33 32.7**	**-2.2**
KKM	**Kota Kinabalu**	**16.37**	**59**	Pn		**Pn**	**09 34 42.9**	**+2.5**
KKM				IAmb		IAmb	09 34 44.0	
	comp=Z,40nm,1.4s							
TTSI	**Tana Toraja**	**17.62**	**92**	P		**Pn**	**09 34 58.3**	**+3.1**
MPSI	**Mapaga**	**17.92**	**81**	P		**Pn**	**09 35 02.7**	**+3.9**
UBPT	**Khong Chiam**	**17.95**	**10**	P		**P**	**09 34 57.6**	**+0.3**
BNSI	**Bone**	**17.98**	**97**	P		**Pn**	**09 35 01.0**	**+1.5**
	comp=Z,97nm,0.9s							
BKSI	**Bulukumba**	**18.11**	**99**	P		**Pn**	**09 35 01.9**	**+0.9**
	comp=Z,93nm,0.8s							
CHAI	**Chaiyaphum**	**18.27**	**359**	P		**Pn**	**09 35 05.3**	**+2.4**
	comp=Z,19μm,0.7s							
PBKT	**Sadao Pong**	**18.98**	**356**	P		**P**	**09 35 07.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**21.06**	**351**	P		**P**	**09 35 30.8**	**0.0**
	comp=Z,1.7nm,0.4s,baz=188,slow=9.1,SNR=8.0							
CMAR				ScP		**ScP**	**09 42 51.0**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=191,slow=3.7,SNR=4.7							
CHTO	**Chiang Mai**	**21.41**	**352**	P		**P**	**09 35 35.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**27.74**	**126**	P		**P**	**09 36 32.8**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=321,slow=6.5,SNR=6.5							
FITZ	**Fitzroy Crossi**	**27.74**	**126**	P		**P**	**09 36 34.0**	**+1.3**
FITZ				IAmb		IAmb	09 36 38.5	
	comp=Z,17nm,1.2s							
KNRA	**Kununurra**	**29.27**	**118**	P		**P**	**09 36 46.0**	**-0.2**
ODAN	**Odare**	**32.49**	**335**	*e*	P	**P**	**09 37 15.3**	**+0.6**
	comp=Z,11nm,0.5s							
TAPN	**Taplejung**	**32.79**	**336**	*e*	P	**P**	**09 37 18.2**	**+0.8**
	comp=Z,6.5nm,0.4s							
RAMN	**Ramite**	**32.91**	**334**	*e*	P	**P**	**09 37 19.4**	**+1.0**
	comp=Z,6.9nm,0.5s							
JIRN	**Jiri**	**33.70**	**334**	*e*	P	**P**	**09 37 26.1**	**+0.7**
	comp=Z,13nm,0.3s							
PKI	**Pulchoki**	**33.98**	**333**	*e*	P	**P**	**09 37 28.9**	**+1.2**
	comp=Z,0.5nm,0.3s							
GUN	**Gumba**	**34.06**	**334**	*e*	P	**P**	**09 37 29.0**	**+0.6**
	comp=Z,10nm,0.3s							
GKN	**Gorkha**	**34.70**	**332**	*e*	P	**P**	**09 37 34.3**	**+0.6**
	comp=Z,18nm,0.3s							
KOLN	**Koldanda**	**35.01**	**330**	*e*	P	**P**	**09 37 37.0**	**+0.6**
	comp=Z,5.4nm,0.3s							
DANN	**Dangsing**	**35.41**	**331**	*e*	P	**P**	**09 37 40.4**	**+0.4**
	comp=Z,16nm,0.3s							
WRA	**Warramunga Arr**	**35.86**	**121**	P		**P**	**09 37 42.6**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=233,slow=9.6,SNR=31							
WRA				PcP		**PcP**	**09 40 07.4**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=306,slow=2.2,SNR=4.6							
WRA				ScP		**ScP**	**09 43 36.3**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=304,slow=3.0,SNR=3.8							
WRAB	**Tennant Creek**	**35.87**	**121**	P		**P**	**09 37 43.7**	**0.0**
WRAB				IAmb		IAmb	09 37 44.7	
	comp=Z,15nm,1.3s							
WR0	**Warramunga Arr**	**36.04**	**121**	P		**P**	**09 37 44.3**	**-0.8**
WR0				IAmb		IAmb	09 37 46.3	
	comp=Z,7.8nm,0.7s							
AS31	**Alice Springs**	**37.20**	**127**	P		**P**	**09 37 54.5**	**-0.4**
AS31				IAmb		IAmb	09 37 57.9	
	comp=Z,2.2nm,0.3s							
ASAR	**Alice Springs**	**37.20**	**127**	P		**P**	**09 37 54.4**	**-0.6**
	comp=Z,2.3nm,0.4s,baz=301,slow=7.8,SNR=38							
ASAR				PcP		**PcP**	**09 40 11.3**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=307,slow=2.8,SNR=6.7							
ASAR				ScP		**ScP**	**09 43 41.1**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=299,slow=3.6,SNR=22							
FORT	**Forrest**	**37.28**	**142**	P		**P**	**09 37 54.5**	**-0.9**
BBOO	**Buckleboo**	**43.79**	**137**	P		**P**	**09 38 48.9**	**+0.1**
BBOO				IAmb		IAmb	09 38 53.9	
	comp=Z,13nm,1.1s							
NIL	**Nilore**	**45.13**	**325**	P		**P**	**09 38 59.3**	**-0.1**
STKA	**Stephens Creek**	**47.20**	**133**	P		**P**	**09 39 15.9**	**+0.3**
	comp=Z,4.8nm,0.7s,baz=316,slow=8.2,SNR=16							
STKA	**Stephens Creek**	**47.20**	**133**	P		**P**	**09 39 16.1**	**+0.5**
KDJ	**Kajisay**	**49.86**	**336**	P		**P**	**09 39 35.3**	**-0.7**
SONM	**Songino Array**	**50.25**	**4**	P		**P**	**09 39 40.5**	**+1.8**
	comp=Z,1.6nm,0.4s,baz=184,slow=9.7,SNR=20							
GAR	**Garm**	**50.65**	**328**	P		**P**	**09 39 41.2**	**-0.6**
GAR				IAmb		IAmb	09 39 42.2	
	comp=Z,7.4nm,0.6s							
CHGR	**Chuyangaron**	**51.03**	**327**	P		**P**	**09 39 43.2**	**-1.4**
ARSB	**Arslanbob**	**51.07**	**332**	P		**P**	**09 39 46.0**	**+1.0**
ARSB				IAmb		IAmb	09 39 46.7	
	comp=Z,8.1nm,0.8s							
MK31	**Makanchi Array**	**52.12**	**343**	P		**P**	**09 39 52.6**	**+0.1**
MK31				IAmb		IAmb	09 39 53.6	
	comp=Z,2.9nm,0.6s							
MK31	**Makanchi Array**	**52.12**	**343**	⇓Lg		Lg	09 43 15.5	
	comp=Z,1.0nm,0.7s,baz=316,slow=19,SNR=3.8							
MKAR	**Makanchi Array**	**52.12**	**343**	P		**P**	**09 39 52.9**	**+0.4**
	comp=Z,3.4nm,0.5s,baz=156,slow=8.8,SNR=54							
EIDS	**Eidsvold**	**52.22**	**120**	P		**P**	**09 39 52.3**	**-1.3**
UOSS	**Minazif**	**52.26**	**304**	P		**P**	**09 39 53.2**	**-0.8**
UOSS				IAmb		IAmb	09 39 53.6	
	comp=Z,12nm,1.4s							
USA0B	**Ussuriysk Arra**	**53.59**	**26**	P		**P**	**09 40 04.7**	**+1.5**
USRK	**Ussuriysk Ar.**	**53.59**	**26**	P		**P**	**09 40 04.6**	**+1.3**
	comp=Z,3.7nm,0.5s,baz=213,slow=4.1,SNR=21							
KK31	**Karatay Array**	**53.61**	**331**	P		**P**	**09 40 03.8**	**+0.3**
KKAR	**Karatay Array**	**53.61**	**331**	P		**P**	**09 40 04.0**	**+0.6**
KURBB	**Kurchatov Arra**	**56.66**	**342**	P		**P**	**09 40 24.9**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=189,slow=6.1,SNR=16							
KURBB	**Kurchatov Arra**	**56.66**	**342**	⇑Pg		**P**	**09 40 24.7**	**-0.4**
	comp=Z,3.9nm,1.0s							
KURBB				⇓Lg		Lg	09 40 57.6	
	comp=Z,15nm,0.8s							
KURK	**Kurchatov**	**56.71**	**342**	P		**P**	**09 40 26.1**	**+0.6**
KURK				IAmb		IAmb	09 40 28.7	
	comp=Z,3.4nm,0.9s							
KURK	**Kurchatov**	**56.71**	**342**	⇑Pg		**P**	**09 40 25.4**	**-0.1**

Error ellipse: s-maj=12.3km s-min=6.8km az=165.0, Suspected Mining explosion.

ISC 27 09:37:11.0±1.2, **41°.89N**±0°.04×**78°.33E**±0°.04, **h0**km, **n33**, σ0**s76**/60, **19C-7D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.43**	**248**	⇑*i*	**Pg**	**09 37 18.4**	**-0.8**
	baz=59						
TARG				⇑*i*	**Sg**	**09 37 25.2**	**+0.5**
	baz=59						
PRZ	**Przheval'sk**	**0.59**	**5**	⇑*i*	**Pg**	**09 37 21.1**	**-1.3**
	baz=59						
PRZ				⇑*i*	**Sg**	**09 37 30.7**	**+0.7**
	baz=59						
KDJ	**Kajisay**	**0.89**	**286**	⇓*i*	**Pg**	**09 37 27.6**	**-0.5**
	baz=89						
KDJ				⇓*i*	**Sb**	**09 37 41.2**	**-0.7**
	baz=89						
ANVS	**Anan'yevo**	**1.02**	**331**	⇑*e*	**Pg**	**09 37 30.4**	**-0.1**
	baz=30						
ANVS				⇑*i*	**Sb**	**09 37 46.0**	**+0.4**
	baz=30						
SATY	**Saty**	**1.17**	**3**	*e*P	**Pg**	**09 37 33.0**	**-0.4**
	4.1nm,0.1s						
SATY				*e*S	**Sg**	**09 37 48.7**	**+0.2**
	23nm,0.1s						
SATY	**Saty**	**1.17**	**3**	P	**Pg**	**09 37 33.0**	**-0.4**
	4.1nm,0.1s						
SATY				S	**Sg**	**09 37 48.7**	**+0.2**
	23nm,0.1s						
ZHN	**Zhinishke**	**1.28**	**3**	*e*P	**Pg**	**09 37 35.3**	**-0.2**
	3.2nm,0.1s						
ZHN				*e*S	**Sb**	**09 37 52.4**	**-0.6**
	14nm,0.2s						
SHLS	**Shalkode**	**1.52**	**33**	*e*P	Pb	09 37 44.4	+4.3
	13nm,0.3s						
SHLS				*e*S	Sn	09 38 08.8	+8.7
	41nm,0.5s						
TNSS	**Tian-Shan**	**1.54**	**319**	*e*P	**Pg**	**09 37 40.4**	**0.0**
	5.5nm,0.3s						
TNSS				*e*S	**Sn**	**09 38 01.7**	**+0.8**
	22nm,0.1s						
TNSS	**Tian-Shan**	**1.54**	**319**	P	**Pg**	**09 37 40.4**	**0.0**
	5.5nm,0.3s						
TNSS				S	**Sn**	**09 38 02.1**	**+1.2**
	22nm,0.1s						
MDOK	**Medeo**	**1.58**	**324**	⇑P	**Pn**	**09 37 39.8**	**-0.7**
	1.5nm,0.3s						
MDOK				S	**Sn**	**09 38 00.8**	**-0.9**
	4.3nm,0.3s						
KPKS	**Kokpek**	**1.59**	**9**	*e*P	**Pn**	**09 37 40.3**	**-0.2**
	10nm,0.1s						
KPKS				*e*S	**Sn**	**09 38 01.5**	**-0.4**
	14nm,0.2s						
ULHL	**Ulahol**	**1.59**	**283**	⇑*i*	**Pn**	**09 37 40.8**	**+0.1**
	baz=85						
ULHL				⇑*i*	**Sg**	**09 38 03.1**	**+0.9**
	baz=85						
KURS	**Kuram**	**1.60**	**356**	*e*P	**Pb**	**09 37 41.0**	**-0.4**
	3.3nm,0.3s						
KURS				*e*S	**Sg**	**09 38 02.8**	**+0.4**
	6.1nm,0.6s						
KURS	**Kuram**	**1.60**	**356**	P	**Pb**	**09 37 41.0**	**-0.4**
	3.3nm,0.3s						
KURS				S	**Sg**	**09 38 02.8**	**+0.4**
	6.1nm,0.6s						
KOTS	**Kotyrbulak**	**1.61**	**327**	*e*P	**Pb**	**09 37 41.5**	**-0.2**
	14nm,0.2s						
KOTS				*e*S	**Sg**	**09 38 03.5**	**+0.6**
	33nm,0.3s						
KOTS	**Kotyrbulak**	**1.61**	**327**	P	**Pb**	**09 37 41.5**	**-0.2**
	14nm,0.2s						
KOTS				S	**Sg**	**09 38 03.5**	**+0.6**
	33nm,0.3s						
PDGK	**Podgornoye**	**1.67**	**30**	P	**Pg**	**09 37 42.4**	**-0.6**
	1.0nm,0.2s						
PDGK				S	**Sg**	**09 38 05.2**	**+0.5**
	4.5nm,0.4s						
PDGK	**Podgornoye**	**1.67**	**30**	⇓P	**Pg**	**09 37 42.5**	**-0.6**
	1.6nm,0.3s						
PDGK				⇑S	**Sg**	**09 38 08.0**	**+3.3**
	5.9nm,0.5s						
NRN	**Naryn**	**1.81**	**256**	⇑*i*	**Pn**	**09 37 44.1**	**+0.4**
	baz=59						
NRN				⇑*i*	**Sg**	**09 38 09.3**	**+0.3**
	baz=59						
BOOM	**Boomskoye usch**	**1.87**	**289**	⇑*e*P	**Pb**	**09 37 45.5**	**-0.7**
	baz=91						
BOOM				⇑*e*S	**Sg**	**09 38 11.4**	**+0.2**
	baz=91						
KTBS	**Karatobe**	**2.19**	**327**	*e*P	**Pb**	**09 37 51.7**	**+0.2**
	3.7nm,0.2s						
KTBS				*e*S	**Sg**	**09 38 20.9**	**-0.3**
	47nm,0.2s						
KTBS	**Karatobe**	**2.19**	**327**	Pg	**Pb**	**09 37 51.7**	**+0.2**
	3.7nm,0.2s						
KTBS				Lg	Lg	09 38 21.5	
	47nm,0.2s						
TKM2	**Tokmak 2**	**2.27**	**298**	⇑*i*	**Pb**	**09 37 51.8**	**-1.2**
	baz=98						
TKM2				⇑*i*	**Sb**	**09 38 22.0**	**+0.3**
	baz=98						
TKM2	**Tokmak 2**	**2.27**	**298**	⇑Pn	**Pb**	**09 37 52.2**	**-0.8**
	1.4nm,0.4s						
TKM2				⇓Sn	**Sg**	**09 38 24.5**	**+0.5**
	12nm,0.4s						
KZA	**Kyzart**	**2.31**	**276**	⇑*e*P	**Pn**	**09 37 52.0**	**+1.4**
	baz=77						
KZA				⇑*i*S	**Sb**	**09 38 22.6**	**-0.3**
	baz=77						
DGS	**Degeres**	**2.32**	**306**	*e*P	**Pb**	**09 37 54.3**	**+0.5**
	4.2nm,0.2s						
DGS				*e*S	**Sg**	**09 38 25.9**	**+0.3**
	20nm,0.4s						
DGS	**Degeres**	**2.32**	**306**	Pg	**Pb**	**09 37 54.3**	**+0.5**
	4.2nm,0.2s						
DGS				Lg	Lg	09 38 25.8	
	20nm,0.4s						
ARXS	**Arharly**	**2.35**	**351**	*e*P	**Pb**	**09 37 54.7**	**+0.4**
	3.9nm,0.3s						
ARXS				*e*S	**Sg**	**09 38 26.1**	**-0.3**
	21nm,0.4s						
ARXS	**Arharly**	**2.35**	**351**	Pg	**Pb**	**09 37 54.7**	**+0.4**
	3.9nm,0.3s						
ARXS				Lg	Lg	09 38 26.1	
	21nm,0.4s						
DJR	**Jarkent**	**2.66**	**23**	Pg	**Pb**	**09 37 58.9**	**-0.7**
	1.0nm,0.1s						
DJR				Lg	Lg	09 38 33.4	
	7.0nm,0.4s						
AAK	**Ala-Archa**	**2.94**	**286**	Pn	**Pb**	**09 38 04.5**	**+0.1**
	0.8nm,0.3s						
AAK				⇓Sn	**Sg**	**09 38 44.1**	**-1.4**
	5.4nm,0.6s						
ARLS	**Aral**	**2.99**	**271**	⇓*e*P	**Pn**	**09 37 59.8**	**-0.1**
	baz=72						
ARLS				⇓*i*S	**Sn**	**09 38 37.8**	**+1.3**
	baz=72						

*IDC **27** 09:51:09.0±3.1, 19°.98S×178°.33W, h573km±30km, mb3.4/8, mb1 3.5/9, mb1mx3.2/34, mbtmp4.3/9, Error ellipse: s-maj=45.1km s-min=18.5km az=146.0*

*NEIC **27** 09:51:09.9±1.4, 20°.0S±0°.1×178°.3W±0°.1, h586km±8km, mb4.4/14*

*ISCJB **27** 09:51:10.0±0.5, 20°.0S±0°.1×178°.41W±0°.08, h602km, mb3.9/8, Error ellipse: s-maj=15.2km s-min=8.9km az=160.8*

ISC 27 09:51:10.8±0.5, **19°.9S**×0°.1×**178°.33W**±0°.08, **h602**km, **n32**, σ1**s32**/36, **mb4.3**/16, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.07**	**302**	P	**P**	**09 52 36.1**	**-1.0**
NIUE	**Niue**	**7.97**	**85**	P	**P**	**09 53 07.4**	**-2.6**
NIUE				S	**S**	**09 54 49.3**	**+1.7**
AFI	**Afiamalu**	**8.68**	**47**	P	**P**	**09 53 14.2**	**-2.7**
DZM	**Mont Dzumac**	**14.38**	**259**	P	**P**	**09 54 12.6**	**-0.8**
	0.4nm,0.3s,baz=141,slow=24,SNR=6.3						
DZM	**Mont Dzumac**	**14.38**	**259**	P	**P**	**09 54 13.3**	**0.0**
QRZ	**Quartz Range**	**22.23**	**199**	P	**P**	**09 55 23.0**	**-1.3**
WHZ	**Wether Hill Ro**	**28.25**	**200**	P	**P**	**09 56 17.4**	**+0.3**
EIDS	**Eidsvold**	**28.70**	**253**	P	**P**	**09 56 20.9**	**-0.5**
EIDS				IAmb	IAmb	09 56 28.7	
	comp=Z,9.0nm,1.1s						
ARMA	**Armidale**	**29.04**	**243**	P	**P**	**09 56 24.7**	**+0.4**
ARMA				IAmb	IAmb	09 56 25.0	
	comp=Z,19nm,1.3s						
COEN	**Coen**	**37.24**	**273**	P	**P**	**09 57 33.7**	**+0.4**
COEN				IAmb	IAmb	09 57 34.6	
	comp=Z,9.5nm,1.0s						
STKA	**Stephens Creek**	**37.76**	**243**	P	**P**	**09 57 36.9**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=92,slow=10,SNR=5.4						
STKA	**Stephens Creek**	**37.76**	**243**	P	**P**	**09 57 36.9**	**-0.3**
BBOO	**Buckleboo**	**42.52**	**243**	P	**P**	**09 58 14.8**	**-0.2**
BBOO				IAmb	IAmb	09 58 33.1	
	comp=Z,13nm,1.2s						
JAY	**Jayapura**	**43.57**	**288**	P	**P**	**09 58 24.1**	**+0.6**
	comp=Z,16nm,0.5s,baz=142,slow=3.5,SNR=5.4						
WR0	**Warramunga Arr**	**44.18**	**262**	P	**P**	**09 58 27.8**	**-0.3**
WR0				IAmb	IAmb	09 58 33.6	
	comp=Z,12nm,1.4s						
AS31	**Alice Springs**	**44.34**	**256**	P	**P**	**09 58 29.4**	**+0.1**
ASAR	**Alice Springs**	**44.35**	**256**	P	**P**	**09 58 29.2**	**-0.1**
	comp=Z,7.2nm,0.6s,baz=87,slow=8.1,SNR=130						
ASAR				PcP	**PcP**	**09 59 60.0**	**0.0**
	comp=Z,0.5nm,0.6s,baz=105,slow=4.0,SNR=4.1						
ASAR				ScP	**ScP**	**10 02 59.3**	**+3.9**
	comp=Z,0.4nm,0.7s,baz=104,slow=4.6,SNR=6.4						
WRAB	**Tennant Creek**	**44.36**	**262**	P	**P**	**09 58 28.7**	**-0.8**
WRAB				IAmb	IAmb	09 58 29.6	
	comp=Z,6.5nm,0.4s						
WRA	**Warramunga Arr**	**44.37**	**262**	P	**P**	**09 58 29.2**	**-0.4**
	comp=Z,4.7nm,0.3s,baz=96,slow=7.6,SNR=138						
MTN	**Manton Dam**	**48.85**	**270**	P	**P**	**09 59 03.3**	**+0.1**
MTN				IAmb	IAmb	09 59 05.7	
	comp=Z,25nm,1.4s						
KNRA	**Kununurra**	**50.39**	**266**	P	**P**	**09 59 14.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**52.80**	**262**	P	**P**	**09 59 32.1**	**+0.4**
FITZ				IAmb	IAmb	09 59 43.9	
	comp=Z,7.6nm,1.1s						
QSPA	**South Pole Qui**	**70.13**	**180**	P	**P**	**10 01 24.1**	**+0.4**
PETK	**Petropavlovsk-**	**75.65**	**345**	P	**P**	**10 01 56.0**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=117,slow=5.0,SNR=6.8						
TXAR	**Lajitas Array**	**87.02**	**57**	P	**P**	**10 02 55.5**	**+1.7**
	comp=Z,0.3nm,1.0s,baz=216,slow=5.6,SNR=4.6						
ILAR	**Eielson Array**	**87.84**	**13**	P	**P**	**10 02 56.9**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=214,slow=5.4,SNR=8.9						
PDAR	**Pinedale Array**	**88.77**	**43**	P	**P**	**10 03 03.1**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=224,slow=2.5,SNR=2.8						
BVAR	**Borovoye Array**	**118.45**	**320**	PKP	**PKPdf**	**10 08 50.9**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=50,slow=2.1,SNR=3.0						
AKASG	**Malin Array Be**	**142.38**	**331**	PKhKP	**PKPdf**	**10 09 32.2**	**-3.6**
	comp=Z,0.8nm,0.4s,baz=43,slow=5.3,SNR=6.7						
BRTR	**Keskin Array B**	**146.23**	**313**	PKPbc	**PKPbc**	**10 09 45.8**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=89,slow=1.1,SNR=5.3						
CLL	**Collm**	**147.45**	**347**	*e*PKPbc	**PKiKP**	**10 09 49.0**	**-0.5**
CLL				*e*PKPab	**PKPab**	**10 09 53.0**	**+0.9**
GERES	**GERESS Array B**	**149.58**	**344**	PKPbc	**PKiKP**	**10 09 54.2**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=31,slow=2.6,SNR=4.4						

*NNC **27** 10:01:50.6±0.6, 44°.48N×80°.91E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=5.2km s-min=3.3km az=111.0*

*SOME **27** 10:01:50.5, 44°.42N×81°.03E, h25km*

ISC 27 10:01:49.1±1.6, **44°.45N**±0°.04×**80°.92E**±0°.06, **h2**km±11km, **n38**, σ1**s31**/55, **10C-5D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**0.82**	**262**	*e*P	**Pn**	**10 02 07.1**	**-0.7**
	6.6nm,0.2s						
DJR				*e*S	**Sb**	**10 02 18.5**	**+0.8**
	20nm,0.2s						
DJR	**Jarkent**	**0.82**	**262**	P	**Pn**	**10 02 07.1**	**-0.7**
	6.6nm,0.2s						
DJR				S	**Sb**	**10 02 18.5**	**+0.8**
	20nm,0.2s						
KAPS	**Kapalarasan**	**1.39**	**307**	*e*P	**Pb**	**10 02 16.5**	**+0.5**
	2.2nm,0.2s						
KAPS				*e*S	**Sn**	**10 02 35.4**	**+0.7**
	25nm,0.4s						
KAPS	**Kapalarasan**	**1.39**	**307**	P	**Pb**	**10 02 16.5**	**+0.5**
	2.2nm,0.2s						
KAPS				S	**Sn**	**10 02 35.4**	**+0.7**
	25nm,0.4s						
PDGK	**Podgornoye**	**1.53**	**223**	P	**Pg**	**10 02 19.2**	**+0.8**
	9.7nm,0.2s						
PDGK				S	**Sg**	**10 02 39.6**	**+1.4**
	14nm,0.5s						
PDGK	**Podgornoye**	**1.53**	**223**	⇑Pg	**Pg**	**10 02 19.4**	**+1.0**
	5.0nm,0.3s						
PDGK				⇑Lg	Lg	10 02 39.8	
	14nm,0.5s						
SHLS	**Shalkode**	**1.67**	**220**	*e*P	**Pn**	**10 02 18.6**	**-0.9**
	46nm,0.2s						
SHLS				*e*S	**Sn**	**10 02 38.9**	**-2.7**
	103nm,0.4s						
SHLS	**Shalkode**	**1.67**	**220**	P	**Pn**	**10 02 18.6**	**-0.9**
	46nm,0.2s						
SHLS				S	**Sn**	**10 02 38.9**	**-2.7**
	103nm,0.4s						
UZB	**Uzynbulak**	**1.90**	**227**	*e*P	**Pg**	**10 02 25.2**	**-0.2**
	15nm,0.1s						
UZB				*e*S	**Sg**	**10 02 50.5**	**+0.6**
	22nm,0.4s						
UZB	**Uzynbulak**	**1.90**	**227**	P	**Pg**	**10 02 25.2**	**-0.2**
	15nm,0.1s						
UZB				S	**Sg**	**10 02 50.8**	**+0.8**
	22nm,0.4s						
KURS	**Kuram**	**2.21**	**245**	⇑*i*	**Pg**	**10 02 30.9**	**-0.6**
	10nm,0.3s						
KURS				*e*S	**Sg**	**10 03 00.0**	**0.0**
	22nm,0.5s						
KURS	**Kuram**	**2.21**	**245**	Pg	**Pg**	**10 02 30.9**	**-0.6**
	10nm,0.3s						
KURS				Lg	Lg	10 03 00.8	
	22nm,0.5s						
ZHN	**Zhinishke**	**2.21**	**235**	*e*P	**Pg**	**10 02 31.3**	**-0.2**
	9.8nm,0.2s						
ZHN				*e*S	**Sg**	**10 03 00.5**	**+0.4**
	14nm,0.3s						
SATY	**Saty**	**2.29**	**234**	⇓*i*	**Pb**	**10 02 31.4**	**+0.1**
	30nm,0.2s						
SATY				*e*S	**Sb**	**10 03 00.8**	**+0.7**
	31nm,0.2s						
SATY	**Saty**	**2.29**	**234**	Pg	**Pb**	**10 02 31.4**	**+0.1**
	30nm,0.2s						
SATY				Lg	Lg	10 03 01.8	
	31nm,0.2s						
MAKZ	**Makanchi**	**2.47**	**17**	⇑Pg	**Pb**	**10 02 35.1**	**+0.8**
	1.1nm,0.3s						
MAKZ				⇓Lg	Lg	10 03 07.9	
	0.8nm,0.3s						
MK31	**Makanchi Array**	**2.53**	**22**	⇑Pg	**Pb**	**10 02 35.7**	**+0.3**
	0.5nm,0.2s,baz=198,slow=13,SNR=70						
MK31				⇑Lg	Lg	10 03 10.4	
	3.5nm,0.3s,baz=199,slow=28,SNR=3.9						
CHKK	**Chushkaly**	**2.89**	**259**	⇓*i*	**Pb**	**10 02 42.1**	**+0.6**
	17nm,0.3s						
CHKK				*e*S	**Sb**	**10 03 19.4**	**+2.1**
	32nm,0.5s						
CHKK	**Chushkaly**	**2.89**	**259**	Pg	**Pb**	**10 02 42.1**	**+0.6**
	17nm,0.3s						
CHKK				Lg	Lg	10 03 19.4	
	32nm,0.5s						
KOTS	**Kotyrbulak**	**3.01**	**248**	*e*P	**Pb**	**10 02 45.0**	**+1.4**
	8.1nm,0.2s						
KOTS				*e*S	**Sg**	**10 03 24.1**	**-1.8**
	20nm,0.5s						
KOTS	**Kotyrbulak**	**3.01**	**248**	Pg	**Pb**	**10 02 45.0**	**+1.4**
	8.1nm,0.2s						
KOTS				Lg	Lg	10 03 24.1	
	20nm,0.5s						
MDOK	**Medeo**	**3.08**	**247**	Pg	**Pg**	**10 02 49.2**	**+0.9**
	3.7nm,0.4s						
MDOK				Lg	Lg	10 03 29.4	
	7.1nm,0.6s						
KTBS	**Karatobe**	**3.14**	**258**	*e*P	**Pb**	**10 02 46.3**	**+0.5**
	3.3nm,0.2s						
KTBS				*e*S	**Sb**	**10 03 26.6**	**+2.0**
	63nm,0.6s						
KTBS	**Karatobe**	**3.14**	**258**	Pg	**Pb**	**10 02 46.3**	**+0.5**
	3.3nm,0.2s						
KTBS				Lg	Lg	10 03 27.2	
	63nm,0.6s						
TNSS	**Tian-Shan**	**3.21**	**245**	*e*P	**Pg**	**10 02 49.7**	**-0.9**
	6.2nm,0.3s						
TNSS				*e*S	**Sg**	**10 03 31.7**	**-0.5**
	14nm,0.7s						
TNSS	**Tian-Shan**	**3.21**	**245**	Pg	**Pg**	**10 02 49.7**	**-0.9**
	6.2nm,0.3s						
TNSS				Lg	Lg	10 03 31.7	
	14nm,0.7s						
KUU	**Kurty**	**3.34**	**262**	*e*P	**Pg**	**10 02 51.5**	**-1.7**
	4.8nm,0.2s						
KUU				*e*S	**Sg**	**10 03 35.0**	**-1.6**
	18nm,0.5s						
KUU	**Kurty**	**3.34**	**262**	Pg	**Pg**	**10 02 51.5**	**-1.7**
	4.8nm,0.2s						
KUU				Lg	Lg	10 03 34.7	
	18nm,0.5s						
MTBS	**Maitube**	**3.51**	**249**	*e*P	**Pg**	**10 02 54.5**	**-1.9**
	9.5nm,0.2s						
MTBS				*e*S	**Sg**	**10 03 40.4**	**-1.5**
	12nm,0.4s						
MTBS	**Maitube**	**3.51**	**249**	Pg	**Pg**	**10 02 54.5**	**-1.9**
	9.5nm,0.2s						
MTBS				Lg	Lg	10 03 40.4	
	12nm,0.4s						
KST	**Kastek**	**3.86**	**250**	⇓*i*	**Pg**	**10 03 02.5**	**-0.6**
	6.6nm,0.3s						
KST				*e*S	**Sg**	**10 03 54.4**	**+1.4**
	8.6nm,0.6s						
KST	**Kastek**	**3.86**	**250**	Pg	**Pg**	**10 03 02.5**	**-0.6**
	6.6nm,0.3s						
KST				Lg	Lg	10 03 54.4	
	8.6nm,0.6s						
DGS	**Degeres**	**3.92**	**254**	*e*P	**Pb**	**10 03 00.4**	**+1.4**
	4.7nm,0.4s						
DGS				*e*S	**Sb**	**10 03 50.5**	**+3.6**
	9.8nm,0.5s						
DGS	**Degeres**	**3.92**	**254**	Pg	**Pb**	**10 03 00.4**	**+1.4**
	4.7nm,0.4s						
DGS				Lg	Lg	10 03 50.4	
	9.8nm,0.5s						
TKM2	**Tokmak 2**	**4.15**	**250**	⇑Pg	**Pg**	**10 03 06.8**	**-1.9**
	3.3nm,0.6s						
TKM2				⇑Lg	Lg	10 04 05.5	
	4.3nm,0.6s						
AAK	**Ala-Archa**	**5.01**	**251**	⇑Lg	Lg	10 04 30.6	
	3.5nm,0.8s						
KURBB	**Kurchatov Arra**	**6.38**	**346**	⇓Lg	Lg	10 05 09.0	
	2.2nm,0.6s						
KURK	**Kurchatov**	**6.46**	**347**	⇑Lg	Lg	10 05 12.0	
	2.0nm,0.8s						

*NIED **27** 10:31:00, 40°.20N×142°.40E, h47km, Mw5.0 Best double couple: M0 3.78000×10^16 NP1:φs178.00000°, δ13.00000°, λ56.00000°. NP2:φs33.00000°, δ79.00000°, λ97.00000°.*

*BJI **27** 10:31:16.5±0.0, 40°.25N×142°.65E, h60km, mb5.0/71, mB5.2/49, Ms4.6/54, Ms7 4.4/53*

*ISCJB **27** 10:31:17.9±0.2, 40°.28N±0°.02×142°.25E±0°.02, h50km±2km, mb5.0/169, MS4.4/48, Error ellipse: s-maj=3.0km s-min=2.2km az=137.4*

*MOS **27** 10:31:17.1±1.0, 40°.27N×142°.28E, h44km, mb5.3/122, MS4.0/6, Error ellipse: s-maj=5.4km s-min=3.4km az=98.0*

*JMA **27** 10:31:18.1±0.1, 40°.21N×142°.33E, h38km±1km, M5.0 Broadband fault plane solution: P waves. NP1: φs12.00000°, δ51.00000°, λ99.00000°. NP2:φs178.00000°, δ40.00000°, λ79.00000°. Principal axes: T Plg81.0000°, Azm326.0000°; N Plg7.0000°, Azm187.0000°; P Plg6.0000°, Azm96.0000°;*

JMA Felt III J1.

*IDC **27** 10:31:19.8±1.9, 40°.21N×142°.19E, h60km±17km, mb4.4/38, mb1 4.5/43, mb1mx4.4/55, mbtmp4.7/43, MS4.2/41, Ms1 4.2/41, ms1mx4.2/50 Error ellipse: s-maj=11.7km s-min=9.9km az=110.0*

*GCMT **27** 10:31:20.9±0.2, 40°.32N±0°.01×142°.36E±0°.02, h45km±1km, MW5.1/110, Moment Tensor Solution. s56,c72; s110,c170; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.42±.18; Mθθ0.04±.12; Mφφ-3.46±.12; Mrθ2.30±.10; Mθφ-0.62±.08; Mφr2.80±.12; Best double couple: M0 5.02600×10^16 NP1:φs30.00000°, δ69.00000°, λ105.00000°. NP2:φs173.00000°, δ26.00000°, λ56.00000°. Principal axes: T 5.1900, Plg63.0000°, Azm324.0000°; N -0.3270, Plg14.0000°, Azm204.0000°; P -4.8630, Plg22.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **27** 10:31:20.9±1.9, 40°.30N±0°.06×142°.3E±0°.1, h62km±5km, mb5.0/260*

ISC 27 10:31:17.6±0.3, **40°.27N**±0°.03×**142°.33E**±0°.03, **h38**km±1km, **h39**km:**pP-P, n811**, σ1**s44**/849, **mb5.0**/260, **MS4.6**/48, **32C-41D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKEN	**Kujiedanarisaw**	**0.48**	**263**	⇓P	**Pn**	**10 31 28.1**	**+0.2**
JKEN				S	**Sn**	**10 31 35.0**	**-0.2**
JTH	**Tanohata**	**0.49**	**228**	⇓P	**Pn**	**10 31 28.1**	**0.0**
JTH				S	**Sn**	**10 31 35.0**	**-0.4**
JANG	**Nango**	**0.63**	**280**	⇓P	**Pn**	**10 31 30.6**	**+0.4**
JANG				S	**Sn**	**10 31 39.6**	**+0.5**
MIYJ	**Miyakonagasawa**	**0.79**	**210**	⇓P	**Pn**	**10 31 32.0**	**-0.3**
MIYJ				S	**Sn**	**10 31 42.2**	**-0.8**
JKZ	**Kuzumaki**	**0.82**	**250**	⇓P	**Pn**	**10 31 33.2**	**+0.5**
JKZ				S	**Sn**	**10 31 43.8**	**+0.2**
JARK	**Aomorirokkasho**	**1.04**	**316**	⇓P	**Pn**	**10 31 36.8**	**+1.1**
JARK				*e*S	**Sn**	**10 31 50.4**	**+1.4**
JTM	**Tenmabayashi**	**1.09**	**299**	⇓P	**Pn**	**10 31 37.5**	**+1.1**
JTM				S	**Sn**	**10 31 51.5**	**+1.2**
JOM	**Ohasama**	**1.13**	**226**	⇓P	**Pn**	**10 31 37.3**	**+0.4**
JOM				*e*S	**Sn**	**10 31 51.1**	**0.0**
JSZI	**Iwateshizukuis**	**1.18**	**244**	⇓P	**Pn**	**10 31 38.7**	**+1.1**
JAHD	**Aomorihigashid**	**1.25**	**323**	P	**Pn**	**10 31 39.8**	**+1.2**
OFUJ	**Ofunato**	**1.29**	**204**	⇓P	**Pn**	**10 31 39.3**	**+0.2**
JAH	**Hinai**	**1.30**	**267**	⇓P	**Pn**	**10 31 40.3**	**+1.1**
JAH				*e*S	**Sn**	**10 31 55.9**	**+0.5**
JOT	**Ohata**	**1.48**	**319**	⇓P	**Pn**	**10 31 42.8**	**+1.1**
JHHS	**Hirosakihyakuz**	**1.55**	**285**	⇓P	**Pn**	**10 31 44.6**	**+1.9**
JMK	**Ichinoseki**	**1.57**	**214**	⇓P	**Pn**	**10 31 43.4**	**+0.5**
JKMT	**Kesennumamotoy**	**1.60**	**205**	⇓P	**Pn**	**10 31 43.6**	**+0.3**
JSI2	**Shiura 2**	**1.66**	**299**	⇓P	**Pn**	**10 31 45.7**	**+1.5**
JYW	**Yuwa**	**1.79**	**247**	⇓P	**Pn**	**10 31 47.3**	**+1.4**
JIW	**Iwasaki**	**1.80**	**281**	⇓P	**Pn**	**10 31 47.7**	**+1.5**
ERM	**Erimo**	**1.85**	**19**	*d*iP	**Pn**	**10 31 48.9**	**+2.1**
ERM	**Erimo**	**1.85**	**19**		**Pn**	**10 31 49.5**	**+2.7**
ERM				Sn	**Sn**	**10 32 09.5**	**+0.5**
JYK	**Kaneyama**	**2.03**	**229**	⇓P	**Pn**	**10 31 50.1**	**+0.8**
JAW	**Awa shima**	**3.00**	**234**	P	**Pn**	**10 32 04.2**	**+1.6**
ASAJ	**Asahikawa**	**3.85**	**3**	P	**Pn**	**10 32 16.8**

YUK Yuzh-Kuril'sk 4.59 34 *c iP* **Pn 10 32 25.1 +0.7**
YUK *i S* **Sn 10 33 13.5 -2.9**
YUK pmax pmax
comp=Z,1μm,0.2s
YUK pmax pmax
comp=E,360nm,0.1s
YUK pmax pmax
comp=Z,2μm,1.1s
YUK smax smax
comp=E,3μm,0.4s
YUK smax smax
comp=N,5μm,0.5s
YUK smax smax
comp=E,5μm,1.0s
YUK smax smax
comp=N,8μm,1.6s
YUK MLR MLR
comp=E,1μm,15.0s
YUK MLR MLR
comp=Z,1μm,15.0s
SHO Shikotan 4.92 41 *c iP* **Pn 10 32 28.4 -0.5**
SHO *i S* **Sn 10 33 19.1 -5.4**
SHO pmax pmax
comp=N,87nm,0.2s
SHO pmax pmax
comp=E,103nm,0.2s
SHO pmax pmax
comp=Z,220nm,0.2s
SHO smax smax
comp=N,815nm,0.3s
SHO smax smax
comp=E,3μm,0.3s
SHO MLR MLR
comp=N,1μm,15.0s
SHO MLR MLR
comp=Z,878nm,15.0s
SHO MLR MLR
comp=E,815nm,10.0s
MJB9 Matsu-Tunnel 4.93 222 Pn 10 32 32.4 +3.2
MJB9 Sn **Sn 10 33 28.6 +3.7**
MAJO Matsushiro 4.93 222 *de* **P Pn 10 32 32.1 +2.9**
MAJO pmax pmax
comp=Z,85nm,0.7s
MAJO Matsushiro 4.93 222 Pn 10 32 32.1 +2.9
MAJO Sn **Sn 10 33 28.9 +4.0**
MAT Matsushiro 4.93 222 P **Pn 10 32 32.3 +3.1**
MAT S **Sn 10 33 31.6 +6.6**
MJAR Matsushiro Arr 4.93 222 P **Pn 10 32 31.1 +1.9**
comp=Z,2.4nm,0.3s,baz=34,slow=14,SNR=126
MJAR S **Sn 10 33 29.7 +4.7**
baz=43,slow=15,SNR=2.5
MJAR LR LR 10 34 40.2
comp=Z,2μm,20.2s,baz=25,slow=42
JRY Ryogami san 5.03 214 P **Pn 10 32 31.9 +1.3**
JNG Nsakai 5.09 222 P **Pn 10 32 34.5 +3.1**
JSGW Sagamiharawaka 5.27 209 P **Pn 10 32 34.6 +0.8**
JTT Ttatey 5.36 229 P **Pn 10 32 38.9 +3.8**
JGN Niukaw 5.65 226 P **Pn 10 32 42.1 +3.0**
JIZS Izushimoda 6.18 207 P **Pn 10 32 45.8 -0.5**
TEY Ternei 6.37 320⇑ *eP* Pn 10 32 55.8 +7.0
TEY *eS* **Sn 10 34 05.5 +5.3**
TEY pmax pmax
comp=E,300nm,0.9s
TEY pmax pmax
comp=N,330nm,0.8s
TEY pmax pmax
comp=Z,260nm,0.8s
TEY pmax pmax
comp=Z,260nm,1.3s
TEY smax smax
comp=N,80nm,1.9s
TEY smax smax
comp=E,110nm,2.2s
TEY MLR MLR
comp=E,4μm,20.0s
TEY MLR MLR
comp=N,3μm,26.0s
JYZW Yoshizawa 6.40 216 P **Pn 10 32 50.6 +1.2**
KUR Kuril'sk 6.42 38 *eP* **Pn 10 32 50.7 +1.2**
KUR *eS* **Sn 10 33 59.2 -2.3**
KUR pmax pmax
comp=Z,493nm,0.6s
KUR pmax pmax
comp=N,119nm,0.3s
KUR pmax pmax
comp=E,107nm,0.5s
KUR smax smax
comp=N,1μm,0.4s
KUR smax smax
comp=E,1μm,0.4s
INU Inuyama 6.46 222 Pn 10 32 53.1 +2.9
INU Sn **Sn 10 34 03.5 +0.8**
YSS Yuzh-Sakhalins 6.69 2⇑ *eP* **Pn 10 32 55.6 +2.4**
YSS *eS* **Sn 10 34 07.4 -0.8**
YSS pmax pmax
comp=Z,280nm,1.1s
YSS smax smax
comp=N,130nm,0.8s
YSS smax smax
comp=E,90nm,0.9s
YSS MLR MLR
comp=Z,3μm,13.0s
YSS MLR MLR
comp=N,2μm,11.0s
YSS Yuzh-Sakhalins 6.69 2 Pn 10 32 55.7 +2.4
JHJ2 Mitsune 7.42 197 Pn **Pn 10 33 03.6 +0.2**
VLA Vladivostok 8.32 293 *de* **P Pn 10 33 19.1 +3.5**
VLA pmax pmax
comp=Z,204nm,1.5s
USA0B Ussuriysk Arra 8.62 300 P **Pn 10 33 22.5 +2.8**
USA0B Ussuriysk Arra 8.62 300 Pn 10 33 22.5 +2.8
USRK Ussuriysk Ar. 8.62 300 P **Pn 10 33 22.0 +2.3**
baz=104,slow=16,SNR=78
USRK LR LR 10 36 38.0
comp=Z,3μm,18.5s,baz=98,slow=37
UGL Uglegorsk 8.81 359 *eP* **Pn 10 33 24.8 +2.5**
UGL S **Sn 10 35 01.9 +1.7**
UGL MLR MLR
comp=Z,2μm,13.0s
UGL MLR MLR
comp=N,2μm,14.0s
MDJ Mudanjiang 10.37 299 P **Pn 10 33 47.5 +3.8**
MDJ sP 10 34 03.5
MDJ S **Sn 10 35 35.5 -3.0**
MDJ pmax pmax
comp=N,91nm,1.1s
MDJ pmax pmax
comp=N,770nm,3.6s
MDJ LR LR
comp=N,1μm,13.5s
MDJ LR LR
comp=N,3μm,17.1s
MDJ LR LR
comp=N,4μm,16.4s
MDJ Mudanjiang 10.37 299 Pn 10 33 45.7 +2.0
TYV Tymovskoe 10.60 1 *eP* **Pn 10 33 48.1 +1.3**
TYV *eS* **Sn 10 35 46.2 +2.1**
TYV pmax pmax
comp=Z,17nm,0.9s
TYV pmax pmax
comp=Z,200nm,2.7s
TYV smax smax
comp=E,18nm,1.3s
GRNR Gornyy 11.29 340⇓ *iP* **Pn 10 33 58.4 +2.2**
GRNR *eS* **Sn 10 36 04.8 +3.9**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR smax smax
comp=N,10.0nm,1.0s
KSRS Korea Array 11.58 261 P **Pn 10 34 04.6 +4.4**
comp=N,0.6nm,0.3s,baz=80,slow=13,SNR=7.2
KSRS LR LR 10 38 15.4
comp=N,2μm,18,3s,baz=77,slow=36
KS19 Wonju Array Si 11.61 261 Pn **Pn 10 34 01.5 +0.8**
JNU Nakatsue 11.63 236 P **Pn 10 34 02.0 +1.0**
comp=N,0.7nm,0.3s,baz=57,slow=5.3,SNR=5.0
JNU LR LR 10 38 55.6
comp=N,1μm,18.2s,baz=44,slow=40
JNU Nakatsue 11.63 236 Pn **Pn 10 34 03.2 +2.2**
KLR Kul'dur 11.69 324⇓ *eP* **Pn 10 34 04.4 +2.7**
KLR pmax pmax
comp=Z,28nm,1.1s
KLR Kul'dur 11.69 324 P **Pn 10 34 03.6 +1.9**
comp=Z,0.7nm,0.3s,baz=132,slow=12,SNR=21
KLR LR LR 10 38 39.3
comp=Z,2μm,19.2s,baz=138,slow=38

CN2 Changchun 13.04 291 *eP* Pn 10 34 25.0 +4.8
CN2 pmax pmax
comp=Z,20nm,0.9s
JCJ Chichijima 13.14 181 LR LR 10 40 22.9
comp=Z,298nm,21.2s,baz=316,slow=42
OKH Okha 13.29 2 *de* **P Pn 10 34 21.3 -2.3**
SNY Shenyang 14.24 282⇑ **P P 10 34 44.5 +1.3**
SNY pmax pmax
comp=Z,25nm,0.7s
SNY pmax pmax
comp=Z,440nm,5.4s
SNY LR LR
comp=Z,810nm,18.6s
SNY LR LR
comp=Z,2μm,19.1s
SNY LR LR
comp=Z,2μm,19.0s
DL2 Dalian 16.02 272 P **Pn 10 34 59.3 -0.7**
DL2 *eS* **Sn 10 37 51.5 -4.9**
DL2 pmax pmax
comp=Z,52nm,0.8s
DL2 pmax pmax
comp=Z,370nm,3.6s
DL2 LR LR
comp=Z,470nm,17.7s
DL2 LR LR
comp=Z,730nm,22.2s
DL2 LR LR
comp=Z,1μm,24.6s
PEA0B Petropavlovsk- 16.57 34 P **Pn 10 35 06.2 -0.7**
PEA0B pmax pmax
comp=Z,28nm,1.1s
PEA0B Petropavlovsk- 16.57 34 Pn **Pn 10 35 06.2 -0.7**
PETK Petropavlovsk- 16.57 34 P **Pn 10 35 04.4 -2.5**
comp=Z,0.3nm,0.3s,baz=226,slow=10,SNR=7.1
PETK LR LR 10 41 38.4
comp=Z,348nm,21.9s,baz=223,slow=37
ZEA Zeya 16.90 328 *eP* **Pn 10 35 09.0 -2.0**
ZEA pmax pmax
comp=N,79nm,1.2s
ZEA pmax pmax
comp=E,50nm,1.2s
ZEA pmax pmax
comp=Z,89nm,1.2s
ZEA MLR MLR
comp=Z,2μm,15.0s
ZEA MLR MLR
comp=N,1μm,16.0s
PET Petropavlovsk 16.93 36 *eP* **P 10 35 19.2 +6.2**
PET *eS* **S 10 38 24.9 -2.4**
PET MLR MLR
comp=Z,500nm,16.0s
HIA Hailar 18.33 307 P **P 10 35 27.4 -1.2**
HIA pmax pmax
comp=Z,16nm,0.7s
HIA Hailar 18.33 307 P **P 10 35 27.4 -1.2**
BJI Beijing 19.98 278 P **P 10 35 45.0 -1.6**
BJI S **S 10 39 24.0 -5.1**
BJI pmax pmax
comp=Z,16nm,1.4s
BJI LR LR
comp=Z,430nm,14.8s
BJI LR LR
comp=Z,770nm,17.8s
BJI LR LR
comp=Z,790nm,27.1s
BJT Baijiatuau 19.98 278 P **P 10 35 46.0 -0.7**
BJT pmax pmax
comp=Z,24nm,0.8s
BJT Baijiatuau 19.98 278 P **P 10 35 46.0 -0.7**
MA2 Magadan 20.05 13⇓ *eP* **P 10 35 48.6 +1.4**
MA2 pmax pmax
comp=Z,27nm,0.7s
MA2 Magadan 20.05 13 P **P 10 35 47.9 +0.7**
comp=Z,19nm,0.6s,baz=210,slow=12,SNR=16
MA2 LR LR 10 43 25.8
comp=Z,287nm,21.5s,baz=214,slow=36
MA2 Magadan 20.05 13 P **P 10 35 48.1 +0.9**
MA2 IAmb IAmb 10 36 01.7
comp=Z,135nm,1.4s
TIA Tai'an 20.19 267 P **P 10 35 47.8 -1.1**
TIA pmax pmax
comp=Z,13nm,1.2s
NJ2 Nanjing 20.61 254 *eP* **P 10 35 54.3 +0.8**
NJ2 pP **pP 10 36 04.8 +1.5**
NJ2 S **S 10 39 40.5 -1.3**
NJ2 pmax pmax
comp=Z,47nm,0.7s
NJ2 pmax pmax
comp=Z,200nm,3.8s
NJ2 LR LR
comp=Z,770nm,5.2s
NJ2 LR LR
comp=Z,650nm,4.5s
NJ2 LR LR
comp=Z,380nm,5.4s
CIT Chita 22.98 310 *eP* **P 10 36 19.2 +0.4**
CIT *e* 10 36 28.8
CIT *e* 10 36 48.0
CIT *e* 10 36 57.3
CIT pmax pmax
comp=Z,210nm,1.1s
YAK Yakutsk 23.11 345 *eP* **P 10 36 17.3 -2.5**
YAK *e**PP **pP 10 36 30.5 +0.9**
YAK *e* 10 40 06.8
YAK *eS* **S 10 40 23.5 -4.6**
YAK *e**SS **sS 10 40 44.1 -0.9**
YAK *e* 10 47 22.3
YAK pmax pmax
comp=Z,40nm,0.7s
YAK pmax pmax
comp=N,13nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.8s
YAK smax smax
comp=N,175nm,1.4s
YAK smax smax
comp=E,90nm,1.5s
YAK Yakutsk 23.11 345 P **P 10 36 17.7 -2.1**
comp=E,59nm,0.5s,baz=336,slow=1.3,SNR=40
YAK LR LR 10 45 59.5
comp=E,403nm,18.1s,baz=161,slow=38
YAK Yakutsk 23.11 345 P **P 10 36 18.0 -1.9**
HHC Hu-ho-hao-te 23.33 281 *eP* **P 10 36 20.5 -1.9**
HHC pP pP 10 36 34.5 +2.0
HHC *eS* **S 10 40 23.3 -9.1**
HHC pmax pmax
comp=E,11nm,1.2s
HHC pmax pmax
comp=E,130nm,4.5s
HHC LR LR
comp=E,150nm,12.6s
HHC LR LR
comp=E,610nm,16.3s
HHC LR LR
comp=E,910nm,17.5s
YHNB Yeheng 23.46 235 P **P 10 36 24.5 +0.8**
SEY Seymchan 23.48 12⇓ *iP* **P 10 36 25.5 +2.0**
SEY Seymchan 23.48 12 P **P 10 36 23.4 -0.2**
comp=E,14nm,0.5s,baz=179,slow=8.9,SNR=36
NACB Ninganchiao 23.69 234 P **P 10 36 23.9 -1.9**
SSLB Suanglung 24.36 234 P **P 10 36 32.9 +0.7**
YULB Yu-li 24.45 233 P **P 10 36 33.2 +0.4**
BTO Baotou 24.52 281 *eP* **P 10 36 31.0 -2.6**
BTO S S 10 40 40.3 -11
WHN Wuhan 24.70 256 P **P 10 36 35.5 +0.4**
WHN S **S 10 40 49.3 -5.0**
WHN LR LR
comp=E,2μm,5.3s
WHN LR LR
comp=E,1μm,7.4s
WHN LR LR
comp=E,3μm,17.2s
TPUB Ta-pu 24.92 234 P **P 10 36 37.5 +0.3**
TPUB IAmb IAmb 10 36 42.9
comp=Z,89nm,1.3s
BOD Bodaibo 25.27 323 *eP* **P 10 36 38.9 -1.1**
BOD pmax pmax
comp=Z,73nm,1.4s
ULN Ulaanbaatar 26.28 299⇓ *eP* **P 10 36 49.8 +0.3**
ULN pmax pmax
comp=Z,14nm,1.3s
ULN Ulaanbaatar 26.28 299 P **P 10 36 49.6 +0.1**
GUMO Guam 26.67 174 LR LR 10 45 57.0
comp=Z,401nm,21.8s,baz=16,slow=33
SONM Songino Array 26.73 298 P **P 10 36 52.8 -0.6**
comp=Z,10.0nm,0.5s,baz=92,slow=7.7,SNR=46
SONM LR LR 10 48 03.3
comp=Z,1μm,18.1s,baz=102,slow=38
ENH Enshi 28.47 260 P **P 10 37 08.9 -0.2**
ENH IAmb IAmb 10 37 09.8
comp=Z,17nm,0.5s
IRK Irkutsk 28.58 308 *eP* **P 10 37 09.8 0.0**
IRK pmax pmax
comp=Z,43nm,1.4s
TLY Talaya 28.87 306 *eP* **P 10 37 12.8 +0.3**
TLY *e* 10 38 17.1
TLY pmax pmax
comp=Z,83nm,1.5s
TLY MLR MLR
comp=Z,2μm,16.0s
TLY Talaya 28.87 306 P **P 10 37 11.6 -0.9**
comp=Z,6.0nm,0.7s,baz=125,slow=9.1,SNR=7.2
TLY LR LR 10 49 32.5
comp=Z,902nm,18.1s,baz=104,slow=38
TLY Talaya 28.87 306 P **P 10 37 12.8 +0.3**
ZAK Zakamensk 28.95 304 *eP* **P 10 37 11.9 -1.4**
ZAK pmax pmax
comp=Z,25nm,1.2s
H11N2 WAKE ISLAND Hy 29.35 127 T T 11 08 07.3
baz=319,slow=75,SNR=540
H11N1 WAKE ISLAND Hy 29.36 127 T T 11 08 12.9
baz=319,slow=75,SNR=1605
H11N3 WAKE ISLAND Hy 29.37 127 T T 11 08 08.6
baz=319,slow=75,SNR=781
H11S1 WAKE ISLAND Hy 30.17 129 T T 11 09 15.8
baz=321,slow=76,SNR=274
H11S3 WAKE ISLAND Hy 30.17 129 T T 11 09 17.5
baz=321,slow=76,SNR=236
H11S2 WAKE ISLAND Hy 30.19 129 T T 11 09 23.9
baz=321,slow=76,SNR=342
ADK Adak 30.32 54 P **P 10 37 22.9 -2.3**
ADK pmax pmax
comp=Z,51nm,1.0s
ADK Adak 30.32 54 P **P 10 37 22.9 -2.3**
LZH Lanzhou 30.38 275 *eP* **P 10 37 28.3 +2.2**
LZH pmax pmax
comp=Z,20nm,1.0s
LZH pmax pmax
comp=Z,170nm,4.3s
LZH LR LR
comp=Z,500nm,13.0s
LZH LR LR
comp=Z,410nm,11.4s
LZH LR LR
comp=Z,690nm,13.6s
BILL Bilibino 30.73 17 *eP* **P 10 37 30.4 +1.7**
BILL *e* 10 37 42.4
BILL *e* 10 38 28.5
BILL *e* 10 40 27.6
BILL pmax pmax
comp=Z,8.0nm,0.6s
BILL Bilibino 30.73 17 P **P 10 37 29.7 +1.1**
TIXI Tiksi 32.18 352⇓ *eP* **P 10 37 41.0 -0.3**
TIXI pmax pmax
comp=Z,11nm,1.3s
TIXI Tiksi 32.18 352 P **P 10 37 41.4 +0.1**
comp=Z,2.9nm,0.5s,baz=0.0,slow=24,SNR=5.6
TIXI LR LR 10 52 12.0
comp=Z,367nm,19.6s,baz=172,slow=39
TIXI Tiksi 32.18 352 P **P 10 37 40.7 -0.7**
GTA Gaotai 32.43 283 *eP* **P 10 37 44.3 +0.2**
GTA pP sP 10 37 58.5 -1.0
GTA sP pP 10 38 06.3 +11
GTA PcP **PcP 10 40 31.8 +1.1**
GTA S **S 10 42 58.5 +2.4**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,110nm,8.6s
GTA LR LR
comp=Z,450nm,14.8s
GTA LR LR
comp=Z,1μm,18.6s
GTA LR LR
comp=Z,1μm,18.5s
CD2 Chengdu 32.51 266 P **P 10 37 44.0 -0.8**
CD2 S **S 10 42 55.5 -1.9**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,710nm,16.7s
CD2 LR LR
comp=Z,680nm,24.5s
CD2 LR LR
comp=Z,590nm,21.6s
GYA Guiyang 32.59 256⇑ *iP* **P 10 37 44.5 -1.1**
GYA pP pP 10 37 56.3 0.0
GYA PP **PnPn 10 38 53.3 -0.6**
GYA S **S 10 42 56.3 -2.4**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,390nm,8.7s
GYA LR LR
comp=Z,570nm,13.4s
GYA LR LR
comp=Z,760nm,13.2s
QIZ Qiongzhong 34.99 242 P **P 10 38 07.5 +1.1**
QIZ S **S 10 43 37.5 +1.7**
QIZ LR LR
comp=Z,370nm,15.7s
QIZ LR LR
comp=Z,450nm,15.2s
KMI Kunming 36.26 258 P **P 10 38 17.8 +0.3**
KMI pP sP 10 38 32.8 -0.3
KMI sP pP 10 38 37.8 +10
KMI S **S 10 43 54.5 -1.1**
KMI sS sS 10 44 17.8 +5.8
KMI SS **SnSn 10 46 21.3 -2.8**
KMI pmax pmax
comp=Z,18nm,1.0s
KMI pmax pmax
comp=Z,200nm,4.5s
KMI LR LR
comp=Z,640nm,17.1s
KMI LR LR
comp=Z,550nm,17.5s
KMI LR LR
comp=Z,890nm,18.5s
SLVN Son La 37.65 252 P **P 10 38 29.6 +0.4**
ANM Nome 38.48 33 P **P 10 38 36.8 +1.2**
ANM pmax pmax
comp=Z,34nm,0.8s
ANM Nome 38.48 33 P **P 10 38 36.8 +1.2**
WMQ Urumqi 40.11 294 *eP* **P 10 38 50.5 +1.0**
WMQ pP pP 10 39 03.0 +2.6
WMQ sP sP 10 39 16.3 +11
WMQ pmax pmax
comp=Z,31nm,1.3s
WMQ pmax pmax
comp=Z,250nm,5.7s
WMQ LR LR
comp=Z,380nm,28.1s
WMQ LR LR
comp=Z,420nm,24.7s
WMQ Urumqi 40.11 294 P **P 10 38 50.6 +1.0**
WMQ pmax pmax
comp=Z,49nm,1.0s
WMQ Urumqi 40.11 294 P **P 10 38 50.6 +1.1**
NONG Nongkai 40.30 248 P **P 10 38 53.1 +1.8**
comp=Z,0.6nm,0.9s,comp=Z,204nm
ZAA0 Zalesovo Array 40.34 310 P **P 10 38 50.9 -0.3**
ZAA0 IAmb IAmb 10 38 52.8
comp=Z,19nm,0.8s
ZALV Zalesovo Beam 40.34 310 P **P 10 38 50.7 -0.5**
comp=Z,17nm,0.6s,baz=89,slow=7.6,SNR=36
ZALV PcP **PcP 10 40 53.6 -0.3**
comp=Z,4.5nm,0.6s,baz=84,slow=3.6,SNR=3.3
ZALV LR LR 10 56 25.6
comp=Z,908nm,18.9s,baz=96,slow=37
NRIK Noril'sk 40.66 334⇓ *iP* **P 10 38 54.2 +0.5**
NRIK Noril'sk 40.66 334 P **P 10 38 53.4 -0.3**
comp=Z,4.6nm,0.4s,baz=112,slow=7.8,SNR=9.6
NRIK LR LR 10 56 40.7
comp=Z,1μm,20.1s,baz=106,slow=37
PAYA Payao 41.83 253 P P 10 39 12.9 +9.0
UTTA Uttaradit 42.37 250 P **P 10 39 09.6 +1.4**
comp=Z,17μm,1.1s
SVW2 Sparrevohn 42.54 39 P **P 10 39 11.3 +2.1**

SVW2 IAmb IAmb 10 39 27.4
comp=Z,24nm,1.0s
CHAI Chaiyaphum 42.57 247 P **P** **10 39 10.4 +0.5**
comp=Z,30µm,1.1s
LSA Lhasa 42.72 272 P **P** **10 39 12.3 +0.8**
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA Lhasa 42.72 272 P **P** **10 39 12.3 +0.8**
CMMT Chiang Mai 42.85 253 P **P** **10 39 13.2 +1.0**
comp=Z,5.6nm,1.2s
CHTO Chiang Mai 42.85 253 P **P** **10 39 12.3 +0.1**
CHTO pmax pmax
comp=Z,17nm,1.2s
CHTO Chiang Mai 42.85 253 P **P** **10 39 12.3 +0.1**
CMAR Chiang Mai Arr 43.08 253 *i* P **P** **10 39 14.6 +0.6**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 43.08 253 P **P** **10 39 12.7 -1.3**
comp=Z,1.3nm,0.3s,baz=46,slow=6.3,SNR=10
CMAR LR LR 10 57 27.5
comp=Z,133nm,19.6s,baz=40,slow=36
MK31 Makanchi Array 43.09 299 *eP* **P** **10 39 13.5 -0.3**
MK31 pmax pmax
comp=Z,20nm,0.9s
MK31 Makanchi Array 43.09 299 P **P** **10 39 14.0 +0.2**
MKAR Makanchi Array 43.09 299 *i* P **P** **10 39 13.6 -0.2**
MKAR pmax pmax
comp=Z,6.0nm,0.4s
MKAR Makanchi Array 43.09 299 P **P** **10 39 13.3 -0.5**
comp=Z,6.4nm,0.4s,baz=85,slow=9.7,SNR=36
MKAR LR LR 10 57 51.4
comp=Z,768nm,20.8s,baz=72,slow=37
MAKZ Makanchi 43.29 299 P **P** **10 39 15.2 -0.2**
MAKZ pmax pmax
comp=Z,27nm,1.1s
MAKZ Makanchi 43.29 299 P **P** **10 39 15.2 -0.2**
MAKZ IAmb IAmb 10 39 18.7
comp=Z,27nm,1.1s
OHAK Old Harbor 43.93 45 P **P** **10 39 20.6 +0.2**
OHAK IAmb IAmb 10 39 37.0
comp=Z,46nm,1.2s
RSO Redoubt South 43.95 40 P **P** **10 39 19.3 -1.5**
MHMT Maesarieng 44.00 253 P **P** **10 39 23.0 +1.6**
comp=Z,25nm,0.7s
PPLA Purkeypile 44.13 37 P **P** **10 39 24.7 +2.5**
PPLA IAmb IAmb 10 39 40.4
comp=Z,20nm,1.0s
SHL Shillong 44.24 267 P **P** **10 39 22.1 -1.4**
SHL pmax pmax
comp=Z,17nm,0.6s
SHL Shillong 44.24 267 *eP* **P** **10 39 26.0 +2.5**
SHL Shillong 44.24 267 P **P** **10 39 22.1 -1.4**
SHL IAmb IAmb 10 39 30.2
comp=Z,16nm,0.6s
KDAK Kodiak Island 44.25 44 P **P** **10 39 23.3 +0.4**
KDAK pmax pmax
comp=Z,49nm,1.0s
KDAK Kodiak Island 44.25 44 P **P** **10 39 23.3 +0.4**
KURK Kurchatov 44.57 306 *c i* P **P** **10 39 25.2 -0.4**
KURK pmax pmax
comp=Z,73nm,1.3s
KURK Kurchatov 44.57 306 P **P** **10 39 25.4 -0.2**
UMPA Umpang Tak 44.59 250 P **P** **10 39 29.8 +3.6**
KURBB Kurchatov Arra 44.64 306 P **P** **10 39 25.7 -0.5**
comp=Z,22nm,0.5s,baz=81,slow=9.0,SNR=64
KTH Kantishna Hill 44.69 36 P **P** **10 39 27.7 +1.2**
KTH IAmb IAmb 10 39 44.8
comp=Z,37nm,1.0s
SANI Sanana 44.69 204 P P 10 39 21.9 -5.0
MLY Manley 44.75 34 P **P** **10 39 28.5 +1.6**
SUA Susitna One 44.87 39 P **P** **10 39 30.4 +2.4**
SUA IAmb IAmb 10 39 46.9
comp=Z,28nm,1.0s
BRLK Bradley Lake 44.93 41 P **P** **10 39 29.2 +0.8**
BRLK IAmb IAmb 10 39 46.4
comp=Z,25nm,1.0s
TRF Thorofare Moun 44.98 36 P **P** **10 39 30.5 +1.6**
COLD Coldfoot 44.99 31 P **P** **10 39 28.7 -0.1**
TOLK Toolik Lake Re 45.28 29 P **P** **10 39 31.5 +0.4**
baz=268
TOLK Toolik Lake Re 45.28 29 P **P** **10 39 33.2 +2.1**
TOLK IAmb IAmb 10 39 52.0
comp=Z,38nm,1.2s
BWN Browne 45.31 35 P **P** **10 39 32.9 +1.5**
RC01 Rabbit Creek A 45.38 39 P **P** **10 39 33.4 +1.5**
RC01 IAmb IAmb 10 39 49.2
comp=Z,27nm,1.0s
NEA Nenana 45.47 34 P **P** **10 39 33.5 +1.0**
NEA IAmb IAmb 10 39 43.1
comp=Z,23nm,0.8s
MCK McKinley 45.57 35 P **P** **10 39 34.7 +1.3**
MCK pmax pmax
comp=Z,23nm,1.0s
MCK McKinley 45.57 35 P **P** **10 39 34.7 +1.3**
MCK IAmb IAmb 10 39 50.3
comp=Z,23nm,1.0s
RND Reindeer 45.62 36 P **P** **10 39 34.9 +1.0**
RND pmax pmax
comp=Z,22nm,1.0s
RND Reindeer 45.62 36 P **P** **10 39 34.9 +1.0**
RND IAmb IAmb 10 39 51.8
comp=Z,22nm,1.0s
PMR Palmer 45.63 39 P **P** **10 39 32.9 -0.9**
PMR pmax pmax
comp=Z,26nm,1.3s
PMR Palmer 45.63 39 P **P** **10 39 32.9 -0.9**
PMR IAmb IAmb 10 39 50.3
comp=Z,26nm,1.3s
GHO Glory Hole Cre 45.71 38 P **P** **10 39 33.4 -1.2**
GHO IAmb IAmb 10 39 52.1
comp=Z,28nm,0.9s
MDM Murphy Dome 45.81 34 P **P** **10 39 34.5 -0.9**
MDM IAmb IAmb 10 39 45.8
comp=Z,20nm,1.0s
WRH Wood River Hil 45.90 34 P **P** **10 39 35.8 -0.1**
PDGK Podgornoye 45.97 295 P **P** **10 39 36.8 -0.2**
PDGK pmax pmax
comp=Z,14nm,0.7s
TCOL CIGO, UAF Yank 45.98 34 P **P** **10 39 37.7 +1.2**
baz=273
COLA College 45.98 34 *eP* **P** **10 39 38.2 +1.6**
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 45.98 34 P **P** **10 39 38.5 +1.9**
SML Sawmill 45.99 38 P **P** **10 39 39.0 +2.2**
SML pmax pmax
comp=Z,28nm,1.0s
SML Sawmill 45.99 38 P **P** **10 39 38.8 +2.0**
SML IAmb IAmb 10 39 55.2
comp=Z,28nm,1.0s
CCB Clear Creek Bu 46.01 34 P **P** **10 39 39.9 +3.1**
POKR Poker Plat Res 46.15 34 P **P** **10 39 38.9 +1.0**
baz=273
DHY Denali Highway 46.31 36 P **P** **10 39 40.1 +0.6**
DHY IAmb IAmb 10 39 49.9
comp=Z,25nm,1.2s
HDA Harding Lake 46.40 34 P **P** **10 39 40.2 +0.3**
baz=274
HDA Harding Lake 46.40 34 P **P** **10 39 40.9 +1.0**
HDA IAmb IAmb 10 39 56.9
comp=Z,13nm,0.7s
IL31 46.40 34 P **P** **10 39 40.5 +0.7**
IL31 IAmb IAmb 10 39 50.6
comp=Z,18nm,0.8s
ILAR Eielson Array 46.40 34 P **P** **10 39 40.9 +1.0**
comp=Z,4.8nm,0.6s,baz=262,slow=5.8,SNR=95
ILAR LR LR 11 01 50.0
comp=Z,120nm,18.2s,baz=266,slow=39
TAPN Taplejung 46.51 271 *eP* **P** **10 39 42.2 +0.6**
comp=Z,17nm,0.4s
PRP Porcupine Dome 46.92 33 P **P** **10 39 45.0 +0.9**
FYU Fort Yukon 46.97 31 P **P** **10 39 44.3 0.0**
ODAN Odare 47.00 271 *eP* **P** **10 39 45.4 0.0**
comp=Z,48nm,0.8s
HIN Hinchinbrook I 47.04 40 P **P** **10 39 46.8 +1.8**
PAX Paxson 47.19 36 P **P** **10 39 48.5 +2.3**
PAX pmax pmax
comp=Z,12nm,1.3s
PAX Paxson 47.19 36 P **P** **10 39 48.5 +2.3**
EYAK Cordova Ski Ar 47.38 40 P **P** **10 39 49.1 +1.5**
EYAK IAmb IAmb 10 40 05.7
comp=Z,23nm,1.0s
JIRN Jiri 47.51 273 *eP* **P** **10 39 50.0 +0.5**
comp=Z,39nm,0.5s
RAMN Ramite 47.56 272 *eP* **P** **10 39 49.5 -0.3**
comp=Z,31nm,0.4s
GUN Gumba 47.62 273 *eP* **P** **10 39 50.3 -0.1**
comp=Z,58nm,0.4s
TARG Taragay, Kyrgy 47.68 294 P **P** **10 39 51.5 +0.8**
TARG IAmb IAmb 10 39 55.2
comp=Z,12nm,0.7s
SCRK Sand Creek 47.73 35 P **P** **10 39 51.4 +0.9**
RAGM Ragged Mountai 47.94 40 P **P** **10 39 53.8 +1.8**
RAGM IAmb IAmb 10 40 10.5
comp=Z,17nm,0.7s
KDJ Kajisay 47.97 295 P **P** **10 39 53.0 +0.3**
KDJ pmax pmax
comp=Z,21nm,1.4s
KDJ Kajisay 47.97 295 P **P** **10 39 53.0 +0.3**
KDJ IAmb IAmb 10 39 56.6
comp=Z,22nm,1.4s
MENT Mentasta 47.99 36 P **P** **10 39 54.5 +2.2**
MENT IAmb IAmb 10 40 13.1
comp=Z,17nm,0.8s
KKN Kakani 48.14 273 *eP* **P** **10 39 54.5 +0.3**
comp=Z,49nm,0.6s
HMT Hamilton 48.15 40 P **P** **10 39 54.0 +0.4**
PKI Pulchoki 48.15 273 *eP* **P** **10 39 54.5 0.0**
comp=Z,2.7nm,0.6s
PKIN Phulchoki 48.16 273 *eP* **P** **10 39 54.3 -0.1**
comp=Z,16nm,0.5s
GLB Gilahina Butte 48.18 38 P **P** **10 39 55.2 +1.3**
DMN Daman 48.37 273 *eP* **P** **10 39 56.5 +0.5**
comp=Z,21nm,0.5s
VRDI Verde Repeater 48.38 39 P **P** **10 39 57.0 +1.4**
VRDI IAmb IAmb 10 40 13.2
comp=Z,14nm,0.9s
GKN Gorkha 48.52 274 *eP* **P** **10 39 56.8 -0.3**
comp=Z,43nm,0.4s
MCARA McCarthy VSAT 48.56 38 P **P** **10 39 59.0 +2.3**
CRQM Cirque 48.62 39 P **P** **10 39 58.7 +1.3**
BOOM Boomskoye usch 48.70 296 P **P** **10 39 58.8 +0.4**
BOOM pmax pmax
comp=Z,47nm,1.4s
BOOM Boomskoye usch 48.70 296 P **P** **10 39 58.8 +0.4**
TGL Tana Glacier 48.77 39 P **P** **10 40 00.8 +2.3**
TGL IAmb IAmb 10 40 16.6
comp=Z,18nm,0.8s
TKM2 Tokmak 2 48.79 296 P **P** **10 39 59.5 +0.5**
SNR=25
WAX Waxell Ridge 48.81 39 P **P** **10 40 00.8 +2.0**
EGAK Eagle 48.84 34 P **P** **10 39 59.2 +0.4**
BALM Baldy 48.95 39 P **P** **10 40 00.8 +1.0**
BALM pmax pmax
comp=Z,18nm,1.1s
BALM Baldy 48.95 39 P **P** **10 40 01.2 +1.3**
BALM IAmb IAmb 10 40 17.2
comp=Z,18nm,1.1s
BVAR Borovoye Array 48.98 310 P **P** **10 40 00.0 -0.1**
BVAR Borovoye Array 48.98 310 P **P** **10 39 60.0 -0.1**
comp=Z,15nm,0.4s,baz=77,slow=8.7,SNR=119
DANN Dangsing 49.02 275 *eP* **P** **10 40 01.2 +0.1**
comp=Z,158nm,0.6s
BRVK Borovoye 49.03 310 *c eP* **P** **10 40 00.4 0.0**
BRVK pmax pmax
comp=Z,27nm,1.0s
BRVK Borovoye 49.03 310 P **P** **10 40 00.9 +0.5**
NRN Naryn 49.05 294 P **P** **10 40 02.2 +1.0**
NRN pmax pmax
comp=Z,8.0nm,1.2s
NRN Naryn 49.05 294 P **P** **10 40 02.2 +1.0**
BARN Barnard Glacie 49.27 39 P **P** **10 40 04.2 +1.8**
BARN IAmb IAmb 10 40 20.5
comp=Z,33nm,1.4s
KBK Karagaybulak 49.33 296 P **P** **10 40 03.5 +0.3**
SNR=16
KZA Kyzart 49.33 295 P **P** **10 40 04.1 +0.7**
SNR=9.3
USP Ospenovka 49.41 297 P **P** **10 40 03.6 0.0**
SNR=7.6
KOLN Koldanda 49.43 274 *eP* **P** **10 40 04.1 0.0**
comp=Z,25nm,0.5s
CTGM Chitina Glacie 49.44 39 P **P** **10 40 05.6 +1.9**
CTGM IAmb IAmb 10 40 21.2
comp=Z,27nm,1.2s
AAK Ala-Archa 49.65 296 *i* P **P** **10 40 05.4 -0.1**
SNR=9.6
AAK Ala-Archa 49.65 296 *eP* **P** **10 40 04.8 -0.7**
AAK pmax pmax
comp=Z,21nm,2.0s
AAK Ala-Archa 49.65 296 P **P** **10 40 05.0 -0.5**
comp=Z,3.7nm,0.3s,baz=104,slow=5.6,SNR=14
AAK LR LR 11 02 08.7
comp=Z,567nm,21.9s,baz=62,slow=37
AAK Ala-Archa 49.65 296 P **P** **10 40 05.4 -0.1**
SNR=6.9
AAK Ala-Archa 49.65 296 P **P** **10 40 05.3 -0.1**
AAK IAmb IAmb 10 40 24.1
comp=Z,11nm,0.9s
DAWY Dawson 49.71 34 P **P** **10 40 06.8 +1.2**
KSH Kashi 49.80 292 P **P** **10 40 11.3 +4.6**
KSH sP sP 10 40 34.3 +12
KSH S **S** **10 47 16.5 +2.8**
KSH pmax pmax
comp=Z,350nm,5.7s
KSH LR LR
comp=Z,600nm,5.8s
KSH LR LR
comp=Z,460nm,5.6s
KSH LR LR
comp=Z,830nm,6.4s
EKS2 Erkin-Say 50.13 297 P **P** **10 40 09.4 +0.2**
SNR=8.2
EPYK Eagle Plains 50.38 31 P **P** **10 40 12.1 +1.6**
baz=281
EPYK Eagle Plains 50.38 31 P **P** **10 40 12.7 +2.1**
AML Almayashu 50.38 296 P **P** **10 40 13.1 +1.7**
SNR=10
ARSB Arslanbob 51.19 295 P **P** **10 40 17.7 +0.5**
INK Inuvik 51.19 28 P **P** **10 40 18.1 +1.5**
INK pmax pmax
comp=Z,20nm,0.8s
INK Inuvik 51.19 28 P **P** **10 40 17.6 +1.1**
comp=Z,7.3nm,0.6s,baz=298,slow=6.9,SNR=18
INK Inuvik 51.19 28 P **P** **10 40 18.1 +1.5**
HYT Haines Junctio 51.30 38 P **P** **10 40 20.3 +2.6**
KK31 Karatay Array 52.18 298 *i* P **P** **10 40 23.5 -0.9**
KK31 pmax pmax
comp=Z,11nm,0.9s
KK31 Karatay Array 52.18 298 P **P** **10 40 23.6 -0.8**
KK31 IAmb IAmb 10 40 41.3
comp=Z,20nm,1.1s
KKAR Karatay Array 52.18 298 P **P** **10 40 23.7 -0.7**
KKAR pmax pmax
comp=Z,20nm,1.2s
KKAR Karatay Array 52.18 298 P **P** **10 40 23.7 -0.7**
KKAR IAmb IAmb 10 40 41.3
comp=Z,20nm,1.1s
WHY Whitehorse 52.58 38 P **P** **10 40 28.6 +1.4**
WHY IAmb IAmb 10 40 45.4
comp=Z,11nm,0.8s
BTK Batken 53.21 295 P **P** **10 40 31.6 -0.5**
BTK pmax pmax
comp=Z,15nm,1.2s
BTK Batken 53.21 295 P **P** **10 40 31.6 -0.5**
BTK IAmb IAmb 10 40 51.4
comp=Z,15nm,1.2s
SVE Sverdlovsk 53.23 317 *i eP* **P** **10 40 33.0 +1.1**
SVE pmax pmax
comp=Z,59nm,0.9s
SVE MLR MLR
comp=Z,1µm,17.0s
MTN Manton Dam 53.85 194 P **P** **10 40 35.8 -1.1**
MTN IAmb IAmb 10 40 50.5
comp=Z,17nm,1.1s
COEN Coen 53.95 179 P **P** **10 40 37.7 +0.1**
GAR Garm 54.01 294 P **P** **10 40 38.0 0.0**
C36M Paulatuk 54.20 26 P **P** **10 40 39.8 +1.0**
baz=290
NIL Nilore 54.34 286 P **P** **10 40 41.1 +0.7**
NIL pmax pmax
comp=Z,32nm,0.8s
NIL Nilore 54.34 286 P **P** **10 40 41.1 +0.7**
RGRI Rengat 54.39 232 P P 10 40 48.7 +7.8
ARU Arti 54.45 317 *c i* P **P** **10 40 41.1 +0.3**
ARU *PP **pP** **10 40 52.1 +0.2**
ARU 10 42 42.2
ARU S **S** **10 48 18.7 +2.2**
ARU SS **SS** **10 51 55.2 -3.4**
ARU pmax pmax
comp=Z,58nm,0.8s
ARU MLR MLR
comp=Z,1µm,18.0s
ARU Arti 54.45 317 P **P** **10 40 40.6 -0.2**
comp=Z,13nm,0.6s,baz=63,slow=4.1,SNR=32
ARU LR LR 11 06 27.3
comp=Z,947nm,18.2s,baz=61,slow=39
ARU Arti 54.45 317 P **P** **10 40 41.4 +0.7**
CHGR Chuyangaron 54.97 294 P **P** **10 40 44.6 -0.4**
SDSI Sungai Dareh 55.40 233 P **P** **10 40 48.9 +0.7**
AB31 Akbulak array 56.44 309 *i* P **P** **10 40 54.9 -0.3**
AB31 pmax pmax
comp=Z,37nm,1.1s
ABKAR Akbulak array 56.44 309 P **P** **10 40 55.2 0.0**
KBL Kabul 56.97 289 P **P** **10 40 58.8 -0.7**
KBL pmax pmax
comp=Z,30nm,0.9s
KBL Kabul 56.97 289 P **P** **10 40 58.8 -0.7**
AKTO Aktyubinsk 57.08 311 P **P** **10 40 59.3 -0.5**
comp=Z,21nm,0.8s,baz=66,slow=13,SNR=34
AKTO LR LR 11 06 50.9
comp=Z,462nm,18.7s,baz=64,slow=37
SPA0 Spitsbergen Ar 57.50 349 *eP* **P** **10 41 02.7 +0.4**
SPA0 Spitsbergen Ar 57.50 349 P **P** **10 41 03.0 +0.7**
SPITS Spitsbergen Ar 57.50 349 P **P** **10 41 05.7 +3.4**
SPITS pmax pmax
comp=Z,1.0nm,0.3s
KIRV Kirov 58.12 322 P **P** **10 41 06.5 -0.4**
comp=Z,34nm,0.5s,baz=80,slow=1.9,SNR=12
PRGR Permogore 58.47 326 *eP* **P** **10 41 08.7 -0.6**
PRGR *e* 10 43 16.9
PRGR pmax pmax
comp=Z,45nm,1.0s
RES Resolute Bay 59.30 15 P **P** **10 41 14.9 +0.1**
comp=Z,4.5nm,0.6s,baz=310,slow=8.0,SNR=20
RES Resolute Bay 59.30 15 P **P** **10 41 14.8 -0.1**
RES IAmb IAmb 10 41 30.9
comp=Z,21nm,1.1s
LVZ Lovozero 59.47 335 P **P** **10 41 15.9 -0.3**
LVZ pmax pmax
comp=Z,88nm,1.5s
LVZ Lovozero 59.47 335 P **P** **10 41 15.9 -0.3**
APA Apatity 60.05 335 ⇓ *i* P P 10 41 29.3 +9.2
APA pmax pmax
comp=Z,6.0nm,1.0s
FITZ Fitzroy Crossi 60.11 198 P **P** **10 41 20.0 -1.1**
comp=Z,2.7nm,0.6s,baz=350,slow=6.1,SNR=3.1
CTA Charters Tower 60.15 176 P **P** **10 41 20.4 -0.9**
comp=Z,1.8nm,0.6s,baz=14,slow=4.2,SNR=3.6
TMCR Tamitsa 60.27 331 *eP* **P** **10 41 21.1 -0.6**
TMCR pmax pmax
comp=Z,39nm,0.9s
WRAB Tennant Creek 60.35 189 ⇓ *eP* **P** **10 41 21.3 -1.4**
WRAB pmax pmax
comp=Z,21nm,2.2s
WRAB Tennant Creek 60.35 189 P **P** **10 41 21.7 -1.0**
WRAB IAmb IAmb 10 41 39.6
comp=Z,15nm,1.4s
WR0 Warramunga Arr 60.35 188 P **P** **10 41 21.6 -1.1**
WR0 IAmb IAmb 10 41 26.9
comp=Z,11nm,1.0s
WRA Warramunga Arr 60.36 189 P **P** **10 41 21.4 -1.4**
comp=Z,3.2nm,0.7s,baz=8.6,slow=7.1,SNR=26
WRA LR LR 11 07 14.8
comp=Z,81nm,21.6s,baz=15,slow=36
YKA Yellowknife Ar 60.66 31 P **P** **10 41 24.6 +0.2**
comp=Z,1.7nm,0.6s,baz=299,slow=6.5,SNR=28
HAMF Hammerfest 61.01 340 *eP* **P** **10 41 26.5 -0.1**
ARCES ARCESS Array B 61.23 339 P **P** **10 41 28.5 +0.3**
comp=Z,5.4nm,0.5s,baz=52,slow=8.2,SNR=35
ARCES LR LR 11 10 54.2
comp=Z,263nm,19.8s,baz=25,slow=39
ARE0 ARCESS Array S 61.23 339 *eP* **P** **10 41 28.4 +0.2**
ARE0 ARCESS Array S 61.23 339 P **P** **10 41 28.9 +0.6**
TULEG Thule 61.80 8 P **P** **10 41 32.1 +0.2**
KTK1 Kautokeino 62.19 339 *eP* **P** **10 41 35.4 +0.7**
MSF Maaselka 62.42 335 P **P** **10 41 36.9 +0.6**
DAG Danmarks Havn 62.62 355 *i* P **P** **10 41 37.0 -0.4**
DAG pmax pmax
comp=Z,12nm,0.8s
DAG Danmarks Havn 62.62 355 *i* P **P** **10 41 37.0 -0.4**
comp=Z,12nm,0.8s
TRO Tromso 62.90 341 *eP* **P** **10 41 39.4 +0.1**
GEYT Alibeck 62.93 298 P **P** **10 41 39.6 -0.6**
comp=Z,12nm,0.8s,baz=46,slow=4.3,SNR=18
GEYT LR LR 11 10 44.7
comp=Z,163nm,20.5s,baz=315,slow=38
GYA0B ALIBECK ARRAY 62.93 298 P **P** **10 41 40.1 0.0**
GYA0B IAmb IAmb 10 41 41.6
comp=Z,17nm,0.9s
JOF Joensuu 63.46 331 P **P** **10 41 43.9 +0.7**
JOF pmax pmax
comp=Z,19nm,1.0s
OUL Oulu 63.97 335 P **P** **10 41 44.5 -1.9**
OUL pmax pmax
comp=Z,80nm,2.1s
A04D Lummi Island 63.99 47 P **P** **10 41 48.3 +1.5**
baz=302
AS31 Alice Springs 64.08 189 P **P** **10 41 46.8 -0.9**
ASAR Alice Springs 64.09 189 P **P** **10 41 46.9 -0.8**
comp=Z,2.1nm,0.7s,baz=2.6,slow=5.5,SNR=33
ASAR LR LR 11 09 29.3
comp=Z,134nm,21.6s,baz=17,slow=36
D03D Eldon 64.40 49 P **P** **10 41 50.8 +1.2**
baz=303
B05A Bryant 64.57 47 P **P** **10 41 51.6 +0.9**
baz=303
E03A Lebam 64.66 50 P **P** **10 41 53.3 +2.1**
D04E Lakebay 64.77 49 P **P** **10 41 52.1 +0.1**
baz=303
STEI Steigen 65.06 341 *eP* **P** **10 41 54.0 +0.5**
MOS Moscow 65.09 323 *eP* **P** **10 41 53.1 -0.9**
MOS pmax pmax
comp=Z,44nm,0.8s
D05A Enumclaw 65.22 48 P **P** **10 41 56.1 +1.1**
E04D Cinebar 65.23 49 P **P** **10 41 56.0 +1.0**
baz=303
SUF Sumiainen 65.43 333 P P 10 41 51.3 -4.7
G03D McMinnville, O 65.55 51 P **P** **10 41 58.2 +1.1**
baz=303
LON Longmire 65.56 49 P **P** **10 41 58.0 +0.8**
LON pmax pmax
comp=Z,11nm,1.1s
LON Longmire 65.56 49 P **P** **10 41 58.0 +0.8**
F04A Amboy 65.66 50 P **P** **10 41 59.9 +2.1**
VRH Novokhopyorsk 65.68 317 *eP* **P** **10 41 57.1 -0.7**
VRH pmax pmax
comp=Z,40nm,0.7s
EIDS Eidsvold 65.81 171 P **P** **10 41 59.7 +0.9**
I02D Swisshome 65.81 52 P **P** **10 41 59.9 +1.1**
baz=304
LTY Liberty 65.93 48 P **P** **10 42 00.8 +1.2**
LTY IAmb IAmb 10 42 16.5
comp=Z,17nm,1.1s
OBN Obninsk 65.95 323 *eP* **P** **10 41 58.1 -1.4**
OBN *e* 10 42 16.5
OBN *e* 10 42 29.8
OBN *e* 10 44 23.5
OBN pmax pmax
comp=Z,48nm,0.9s
OBN Obninsk 65.95 323 P **P** **10 41 59.9 +0.5**
DZM Mont Dzumac 65.97 155 *e* LR LR 11 02 02.6
comp=Z,551nm,22.9s
DZM Mont Dzumac 65.97 155 P **P** **10 42 01.0 +1.0**
B08A Colville Reser 66.06 46 P **P** **10 42 01.5 +1.1**
B08A IAmb IAmb 10 42 17.9
comp=Z,25nm,1.3s
H04D Lebanon 66.24 51 P **P** **10 42 03.5 +1.9**
baz=304
FIA1 FINESS Array S 66.30 332 P **P** **10 42 01.7 +0.1**
LPSR Galich'ya Gora 66.30 320 *eP* **P** **10 42 01.6 -0.2**
LPSR pmax pmax
comp=Z,50nm,0.8s
FINES FINESS Array B 66.30 332 P **P** **10 42 01.1 -0.5**
comp=Z,16nm,0.8s,baz=67,slow=6.1,SNR=30
FINES LR LR 11 12 57.9
comp=Z,638nm,21.2s,baz=42,slow=38
I03D Drain, OR 66.33 52 P **P** **10 42 03.5 +1.3**
baz=304,SNR=5.3
VAF Ylistaro 66.39 334 P **P** **10 42 02.9 +0.7**
H04A Detroit Lake 66.48 51 P **P** **10 42 04.6 +1.4**
MOR8 Moi Rana 66.59 340 *eP* **P** **10 42 02.2 -1.2**
G05D Wamic, OR 66.68 50 P **P** **10 42 05.6 +1.2**
baz=304
K02D Willamette Mer 66.70 53 P **P** **10 42 05.8 +1.1**

baz=304
E07A Sunnyside 66.78 48 P **P** **10 42 07.2 +2.2**
E07A IAmb IAmb 10 42 23.0
comp=Z,26nm,1.2s
I04A Tendick Farm, 66.84 52 P **P** **10 42 07.1 +1.6**
baz=304,SNR=5.7
C09A Chrisman Ranch 66.97 46 P **P** **10 42 07.4 +1.2**
VSR Storozhevoye 66.99 318 *de*P **P** **10 42 06.2 0.0**
VSR pmax pmax
comp=Z,79nm,0.9s
L02E Cave Junction 67.03 54 P **P** **10 42 08.0 +1.3**
baz=304
HAWA Hanford 67.06 48 P **P** **10 42 08.2 +1.4**
HAWA IAmb IAmb 10 42 24.6
comp=Z,20nm,1.1s
G06A Carlson Farm, 67.08 50 P **P** **10 42 08.6 +1.5**
G06A IAmb IAmb 10 42 25.0
comp=Z,24nm,1.2s
F07A Phinny Hill Vi 67.12 49 P **P** **10 42 08.9 +1.8**
I05D Terrebonne, OR 67.18 51 P **P** **10 42 09.1 +1.4**
baz=305
HUMO Hull Mountain 67.18 53 P **P** **10 42 10.0 +2.4**
HUMO IAmb IAmb 10 42 26.1
comp=Z,20nm,1.4s
E08A Dider Farm, El 67.27 48 P **P** **10 42 08.8 +0.7**
E08A IAmb IAmb 10 42 25.7
comp=Z,20nm,1.1s
NEW Newport 67.33 45 P **P** **10 42 09.7 +1.2**
baz=306
NEW Newport 67.33 45 P **P** **10 42 09.7 +1.2**
NEW pmax pmax
comp=Z,18nm,1.0s
NEW Newport 67.33 45 P **P** **10 42 09.7 +1.2**
NEW IAmb IAmb 10 42 25.9
comp=Z,18nm,1.0s
J04D Umpqua Nationa 67.34 52 P **P** **10 42 10.7 +1.8**
baz=305
SUMG Summit 67.45 0 *i* P **P** **10 42 10.5 +1.2**
SUMG pmax pmax
comp=Z,49nm,1.0s
SUMG Summit 67.45 0 *i* P **P** **10 42 10.5 +1.2**
comp=Z,49nm,1.0s
SUMG Summit 67.45 0 P **P** **10 42 10.3 +1.0**
SUMG IAmb IAmb 10 42 11.7
comp=Z,20nm,0.9s
KHMM Horse Mountain 67.67 55 P **P** **10 42 13.0 +2.0**
PINE Pine Mountain 67.72 51 P **P** **10 42 13.4 +2.1**
AKT Akhty 67.75 306 *e*P **P** **10 42 11.1 -0.3**
AKT *e* 10 42 38.0
AKT pmax pmax
comp=Z,42nm,1.3s
E09A Wood Farm, Sta 67.78 47 P **P** **10 42 12.7 +1.4**
L04D Klamath Falls 67.80 53 P **P** **10 42 13.5 +1.7**
baz=305,SNR=7.0
YBH Yreka Blue Hor 67.82 54 P **P** **10 42 13.7 +1.9**
YBH pmax pmax
comp=Z,23nm,1.2s
YBH Yreka Blue Hor 67.82 54 P **P** **10 42 13.7 +1.9**
YBH IAmb IAmb 10 42 30.2
comp=Z,23nm,1.2s
J05D Fort Rock, OR 67.84 52 P **P** **10 42 13.2 +1.3**
baz=305,SNR=6.7
K04D Chiloquin, OR 67.90 52 P **P** **10 42 13.9 +1.6**
baz=305
M02C Callahan 67.93 54 P **P** **10 42 13.9 +1.4**
baz=305
G08A Pilot Rock 68.02 49 P **P** **10 42 15.2 +2.1**
N02D Trinity Center 68.26 54 P **P** **10 42 16.4 +1.8**
baz=305
M04C Macdoel 68.33 53 P **P** **10 42 15.9 +0.9**
baz=305,SNR=5.6
KCPM Cahto Peak 68.44 56 P **P** **10 42 17.0 +1.2**
KCPM IAmb IAmb 10 42 32.7
comp=Z,23nm,1.2s
NSS Namsos 68.52 339 *e*P **P** **10 42 16.1 +0.5**
WALA Waterton Lakes 68.58 43 P **P** **10 42 17.8 +1.4**
WDC Whiskeytown Da 68.59 55 P **P** **10 42 18.5 +2.0**
WDC pmax pmax
comp=Z,21nm,1.3s
WDC Whiskeytown Da 68.59 55 P **P** **10 42 18.5 +2.0**
WDC IAmb IAmb 10 42 34.5
comp=Z,21nm,1.2s
O02D Mt. Diablo Mer 68.66 55 P **P** **10 42 18.5 +1.5**
baz=305,SNR=6.0
JTMT Jette 69.17 45 P **P** **10 42 22.2 +2.0**
MOD Modoc Plateau 69.20 52 P **P** **10 42 21.9 +1.5**
MOD IAmb IAmb 10 42 38.2
comp=Z,22nm,1.2s
O03E Paynes Creek 69.21 54 P **P** **10 42 21.4 +0.9**
baz=306,SNR=7.1
BMO Blue Mountains 69.23 48 P **P** **10 42 21.9 +1.3**
BMO pmax pmax
comp=Z,18nm,1.1s
BMO Blue Mountains 69.23 48 P **P** **10 42 21.9 +1.3**
BMO IAmb IAmb 10 42 38.2
comp=Z,18nm,1.1s
ZEI Tsey 69.32 309 *e*P **P** **10 42 19.3 -2.0**
ZEI pmax pmax
comp=Z,12nm,0.6s
KIV Kislovodsk 69.34 310 *i* P **P** **10 42 22.4 +1.2**
SNR=10
KIV Kislovodsk 69.34 310 *e*P **P** **10 42 21.7 +0.4**
KIV pmax pmax
comp=Z,191nm,1.1s
KIV MLR MLR
comp=Z,1μm,17.0s
KIV Kislovodsk 69.34 310 ⇑P **P** **10 42 22.5 +1.2**
KIV mb 10 42 24.0
KIV Kislovodsk 69.34 310 P **P** **10 42 22.5 +1.2**
KBZ Khabaz 69.36 310 P **P** **10 42 21.7 +0.5**
comp=Z,13nm,0.6s,baz=68,slow=4.6,SNR=33
KBZ LR LR 11 15 08.0
comp=Z,243nm,20.9s,baz=44,slow=38
TBLG Delisi 69.44 308 P **P** **10 42 22.5 +0.8**
TBLG pmax pmax
comp=Z,26nm,1.0s
TBLG Delisi 69.44 308 P **P** **10 42 22.6 +0.8**
TBLG IAmb IAmb 10 42 23.6
comp=Z,26nm,1.0s
ORV Oroville 69.83 55 P **P** **10 42 23.4 -0.8**
ORV pmax pmax
comp=Z,29nm,1.5s
ORV Oroville 69.83 55 P **P** **10 42 23.4 -0.8**
ORV IAmb IAmb 10 42 41.5
comp=Z,29nm,1.4s
PLID Pearl Lake 69.83 48 P **P** **10 42 24.4 -0.1**
PLID IAmb IAmb 10 42 41.6
comp=Z,25nm,1.4s
WVOR Wild Horse Val 69.89 51 P **P** **10 42 24.4 -0.3**
WVOR pmax pmax
comp=Z,25nm,1.2s
WVOR Wild Horse Val 69.89 51 P **P** **10 42 24.4 -0.3**
WVOR IAmb IAmb 10 42 42.5
comp=Z,25nm,1.1s
MSO Missoula 69.92 45 P **P** **10 42 25.7 +0.9**
baz=308
MSO Missoula 69.92 45 P **P** **10 42 26.2 +1.5**
MSO IAmb IAmb 10 42 41.9
comp=Z,16nm,1.0s
ISAL Salakas 70.25 327 *e*P **P** **10 42 25.9 -0.6**
ISAL IAmb IAmb 10 42 29.1
comp=Z,26nm,1.1s
IIGN Ignalina 70.36 327 *e*P **P** **10 42 27.6 +0.5**
IIGN IAmb IAmb 10 42 29.2
comp=Z,16nm,0.7s
BEKR Beckworth 70.36 54 P **P** **10 42 28.7 +1.0**
BEKR IAmb IAmb 10 42 45.2
comp=Z,30nm,1.2s
GNI Garni 70.36 306 *de*P **P** **10 42 29.0 +1.3**
GNI pmax pmax
comp=Z,100nm,1.5s
GNI Garni 70.36 306 LR LR 11 16 20.1
comp=Z,312nm,19.6s,baz=71,slow=38
GNI Garni 70.36 306 P **P** **10 42 29.3 +1.6**
AKH Akhalkalaki 70.38 308 P **P** **10 42 28.3 +0.5**
AKH pmax pmax
comp=Z,14nm,0.9s
AKH Akhalkalaki 70.38 308 ⇑P **P** **10 42 28.2 +0.5**
AKH Akhalkalaki 70.38 308 P **P** **10 42 28.3 +0.5**
AKH IAmb IAmb 10 42 30.1
comp=Z,14nm,0.9s
NACGM Naroch 70.43 326 *e* **P** **10 42 27.0 -0.6**
AFDM Forest Hills D 70.52 55 P **P** **10 42 30.1 +1.6**
FFC Flin Flon 70.61 34 P **P** **10 42 29.5 +0.8**
FFC pmax pmax
comp=Z,13nm,0.8s
FFC Flin Flon 70.61 34 P **P** **10 42 29.5 +0.8**
FFC IAmb IAmb 10 42 45.7
comp=Z,13nm,0.8s
FCC Fort Churchill 70.80 27 P **P** **10 42 30.3 +0.6**
FCC pmax pmax
comp=Z,15nm,1.0s
FCC Fort Churchill 70.80 27 P **P** **10 42 30.3 +0.6**
FCC IAmb IAmb 10 42 46.4
comp=Z,15nm,0.9s
BANOM Banah 70.88 288 P **P** **10 42 30.6 -0.3**
SHME Shamm 70.92 288 *i* P **P** **10 42 31.0 -0.2**
SNR=5.8
MFID Camas Ranch 70.94 49 P **P** **10 42 32.6 +1.5**
MFID IAmb IAmb 10 42 48.9
comp=Z,32nm,1.4s
RUBR Rubicon Trail 70.97 55 P **P** **10 42 32.8 +1.3**
RUBR IAmb IAmb 10 42 48.6
comp=Z,22nm,1.3s
PAHR Pah Rah Range 71.06 54 P **P** **10 42 33.7 +1.8**
PAHR IAmb IAmb 10 42 49.6
comp=Z,32nm,1.2s
VCNR Virginia City 71.14 54 P **P** **10 42 34.1 +1.6**
VCNR IAmb IAmb 10 42 49.8
comp=Z,19nm,1.3s
PABE Paberze 71.17 328 *e*P **P** **10 42 33.1 +1.0**
PABE IAmb IAmb 10 42 34.2
comp=Z,48nm,0.8s
NC405 NORSAR Array S 71.28 337 P **P** **10 42 32.6 -0.1**
SOC Sochi 71.28 312 *e*P **P** **10 42 33.0 0.0**
SOC *e* 10 45 08.7
SOC *e*S **S** **10 51 48.0 +0.3**
SOC *e*SSS SSS 10 59 32.7
SOC pmax pmax
comp=Z,30nm,1.0s
PNTR Pine Nut 71.29 54 P **P** **10 42 35.3 +1.9**
PNTR IAmb IAmb 10 42 51.5
comp=Z,32nm,1.4s
DOMB Dombas 71.30 339 *e*P **P** **10 42 33.0 +0.2**
MSFE Esma-Masafi 71.31 288 P **P** **10 42 33.3 -0.2**
EGMT Eagleton 71.39 42 P **P** **10 42 34.3 +0.6**
baz=310
EGMT Eagleton 71.39 42 P **P** **10 42 35.1 +1.5**
EGMT IAmb IAmb 10 42 50.9
comp=Z,21nm,0.9s
NC204 NORSAR Array S 71.43 338 P **P** **10 42 34.2 +0.5**
CMB Columbia Colle 71.43 56 P **P** **10 42 34.5 +0.4**
CMB pmax pmax
comp=Z,26nm,1.3s
CMB Columbia Colle 71.43 56 P **P** **10 42 34.5 +0.4**
CMB IAmb IAmb 10 42 51.8
comp=Z,26nm,1.3s
NB201 NORSAR Array S 71.45 337 *e*P **P** **10 42 33.5 -0.2**
NB201 NORSAR Array S 71.45 337 P **P** **10 42 33.8 0.0**
NB201 IAmb IAmb 10 42 43.7
comp=Z,26nm,1.1s
NB2 NORSAR Subarra 71.49 337 P **P** **10 42 34.0 0.0**
comp=Z,18nm,0.8s,baz=37,slow=6.5
NB2 NORSAR Subarra 71.49 337 P **P** **10 42 34.0 0.0**
baz=37,slow=6.5
NOA NORSAR Array B 71.49 337 P **P** **10 42 33.6 -0.3**
comp=Z,8.2nm,0.7s,baz=38,slow=6.1,SNR=29
NOA LR LR 11 18 57.0
comp=Z,278nm,18.3s,baz=35,slow=40
UOSS Minazif 71.52 287 P **P** **10 42 34.1 -0.6**
UOSS Minazif 71.52 287 P **P** **10 42 34.6 -0.1**
UOSS IAmb IAmb 10 42 35.6
comp=Z,19nm,0.8s
DLMT Dillon 71.56 46 P **P** **10 42 36.6 +1.8**
YERR Yerington 71.58 54 P **P** **10 42 36.6 +1.5**
NORES NORESS Array B 71.63 337 P **P** **10 42 37.0 +2.2**
NORES pmax pmax
comp=Z,1.0nm,0.4s
HATD Hatta, Dubai 71.64 287 *i* P **P** **10 42 35.4 -0.1**
SNR=8.3
WAKR Walker 71.75 55 P **P** **10 42 37.2 +1.1**
WAKR IAmb IAmb 10 42 54.4
comp=Z,26nm,1.4s
ASHO Ashiyiah 71.78 287 P **P** **10 42 35.9 -0.5**
STKA Stephens Creek 71.79 181 P **P** **10 42 36.8 +0.9**
STKA pmax pmax
comp=Z,2.0nm,1.4s
STKA Stephens Creek 71.79 181 P **P** **10 42 36.1 +0.2**
comp=Z,1.2nm,0.7s,baz=336,slow=15,SNR=3.3
STKA LR LR 11 11 28.7
comp=Z,64nm,22.0s,baz=22,slow=34
STKA Stephens Creek 71.79 181 P **P** **10 42 36.9 +0.9**
ANN Anapa 71.82 314 *e*P **P** **10 42 33.7 -2.4**
ANN *e**PP **sP** **10 42 50.7 -1.4**
ANN *e* 10 45 16.2
ANN *e*PPP PPP 10 46 58.1
ANN *e*S **S** **10 51 49.0 -4.7**
ANN pmax pmax
comp=Z,49nm,1.4s
BMN Battle Mountai 71.94 52 P **P** **10 42 36.7 -0.5**
BMN pmax pmax
comp=Z,26nm,1.2s
BMN Battle Mountai 71.94 52 P **P** **10 42 36.7 -0.5**
BMN IAmb IAmb 10 42 55.3
comp=Z,26nm,1.1s
AKASG Malin Array Be 72.19 322 P **P** **10 42 37.8 -0.5**
comp=Z,13nm,0.6s,baz=44,slow=6.1,SNR=60
AKASG LR LR 11 17 27.1
comp=Z,337nm,18.8s,baz=275,slow=38
AKBB Malin Array Si 72.19 322 P **P** **10 42 38.0 -0.2**
AKBB pmax pmax
comp=Z,29nm,0.9s
AKBB Malin Array Si 72.19 322 P **P** **10 42 38.0 -0.2**
KIEV Kiev 72.20 322 P **P** **10 42 38.0 -0.3**
RYN Ryan 72.24 54 P **P** **10 42 40.5 +1.5**
RYN IAmb IAmb 10 42 56.4
comp=Z,21nm,1.2s
KVN Kaiserville 72.25 54 P **P** **10 42 41.0 +1.9**
KVN pmax pmax
comp=Z,38nm,1.2s
KVN Kaiserville 72.25 54 P **P** **10 42 41.0 +1.9**
ASUD Al Ashush, Dub 72.35 287 P **P** **10 42 39.6 -0.1**
ALNE Al Ain 72.38 287 *i* P **P** **10 42 39.7 -0.2**
SNR=9.4
MDPB Devils Postpil 72.50 55 P **P** **10 42 42.6 +1.9**
NVAR Mina Array Bea 72.50 54 P **P** **10 42 42.3 +1.6**
comp=Z,1.6nm,0.7s,baz=290,slow=5.9,SNR=16
NVAR LR LR 11 18 42.3
comp=Z,38nm,18.2s,baz=324,slow=39
OMMB Old Mammoth Mi 72.56 55 P **P** **10 42 42.8 +1.7**
NV11 Mina Array Sit 72.59 54 P **P** **10 42 43.1 +2.0**
NV11 IAmb IAmb 10 42 59.1
comp=Z,26nm,1.3s
MLAC Mammoth, Mammo 72.65 55 P **P** **10 42 42.9 +1.2**
baz=308
YHL Hebgen Lake 72.66 46 P **P** **10 42 43.4 +1.8**
YHB Horse Butte 72.72 46 P **P** **10 42 42.0 +0.1**
PAGB Antelope Grade 72.91 58 P **P** **10 42 43.9 +1.1**
ELK Elko 72.94 51 P **P** **10 42 44.5 +1.3**
ELK pmax pmax
comp=Z,7.0nm,1.0s
ELK Elko 72.94 51 P **P** **10 42 44.5 +1.3**
YNE Yellowstone No 73.20 45 P **P** **10 42 46.5 +1.8**
H17A Grant Village 73.28 46 P **P** **10 42 45.9 +0.6**
baz=310
H17A Grant Village 73.28 46 P **P** **10 42 46.7 +1.5**
YMP Mirror Lake Pl 73.29 45 P **P** **10 42 45.7 +0.3**
SMMC Simmler 73.33 58 P **P** **10 42 47.0 +1.6**
baz=308
IMW Indian Meadow 73.40 46 P **P** **10 42 46.8 +0.7**
FRB Frobisher Bay 73.47 14 P **P** **10 42 45.8 +0.2**
FRB pmax pmax
comp=Z,29nm,0.9s
RLMT Red Lodge 73.52 44 P **P** **10 42 47.5 +0.9**
baz=311
RLMT Red Lodge 73.52 44 P **P** **10 42 47.2 +0.6**
RLMT IAmb IAmb 10 43 03.8
comp=Z,24nm,1.4s
FXWY Fox Creek 73.52 47 P **P** **10 42 48.3 +1.6**
SIM Simferopol' 73.53 315 *e*P **P** **10 42 47.7 +1.3**
VES Vestal, Richgr 73.59 57 P **P** **10 42 47.6 +0.7**
baz=308
MOOW Moose Ponds 73.61 46 P **P** **10 42 48.5 +1.3**
TPAW Teton Pass 73.66 47 P **P** **10 42 47.3 -0.2**
TPAW IAmb IAmb 10 43 05.9
comp=Z,16nm,1.1s
PKM Mcpherson Peak 73.70 58 P **P** **10 42 49.1 +1.3**
baz=308
SNOW Snow King Moun 73.79 47 P **P** **10 42 48.6 +0.3**
REDW Red Top Meadow 73.80 47 P **P** **10 42 49.2 +0.9**
REDW IAmb IAmb 10 43 06.5
comp=Z,21nm,1.2s
CWC Cottonwood Cre 73.86 56 P **P** **10 42 49.8 +1.2**
baz=309
DGMT Dagmar 73.88 39 P **P** **10 42 49.8 +1.4**
GRAC Grapevine Rang 73.97 55 P **P** **10 42 49.5 +0.3**
baz=309
LAO LASA Array 74.07 42 P **P** **10 42 50.2 +0.5**
baz=312
LAO LASA Array 74.07 42 P **P** **10 42 49.5 -0.2**
ISA Isabella, Lake 74.09 57 P **P** **10 42 50.3 +0.4**
baz=309
ISA Isabella, Lake 74.09 57 P **P** **10 42 50.3 +0.4**
ISA pmax pmax
comp=Z,9.0nm,1.2s
ISA Isabella, Lake 74.09 57 P **P** **10 42 50.4 +0.4**
BGU Big Grassy Mou 74.12 50 P **P** **10 42 51.6 +1.5**
ARVC Arvin 74.19 57 P **P** **10 42 51.2 +0.8**
baz=308
R11A Troy Canyon, C 74.22 53 P **P** **10 42 52.3 +1.5**
baz=309
R11A Troy Canyon, C 74.22 53 P **P** **10 42 52.2 +1.5**
R11A IAmb IAmb 10 43 08.7
comp=Z,18nm,1.1s
DAC Darwin (Calif) 74.27 56 P **P** **10 42 51.5 +0.4**
DAC pmax pmax
comp=Z,16nm,1.5s
DAC Darwin (Calif) 74.27 56 P **P** **10 42 51.5 +0.4**
MPMC Manual Prospec 74.47 56 P **P** **10 42 53.7 +1.5**
baz=309
HWUT Hardware Ranch 74.53 48 P **P** **10 42 53.5 +0.9**
HWUT IAmb IAmb 10 43 10.5
comp=Z,24nm,1.2s
FURC Furnace Creek, 74.61 55 P **P** **10 42 54.5 +1.7**
baz=309
TPNV Topopah Spring 74.69 55 P **P** **10 42 55.0 +1.5**
baz=309
TPNV Topopah Spring 74.69 55 P **P** **10 42 54.4 +0.9**
TPNV pmax pmax
comp=Z,28nm,1.3s
TPNV Topopah Spring 74.69 55 P **P** **10 42 54.4 +0.9**
TPNV IAmb IAmb 10 43 10.7
comp=Z,28nm,1.3s
DUG Dugway, Tooele 74.72 50 P **P** **10 42 54.6 +1.0**
baz=310
DUG Dugway, Tooele 74.72 50 P **P** **10 42 53.7 +0.1**
DUG pmax pmax
comp=Z,26nm,1.3s
DUG Dugway, Tooele 74.72 50 P **P** **10 42 53.7 +0.1**
DUG IAmb IAmb 10 43 11.5
comp=Z,26nm,1.2s
EDW2 Edwards Air Fo 74.88 57 P **P** **10 42 56.1 +1.6**
baz=309
SNCC San Nicolas Is 74.90 59 P **P** **10 42 55.7 +1.1**
baz=309
BW06 Boulder Array 74.91 46 P **P** **10 42 55.6 +0.9**
baz=311
BW06 Boulder Array 74.91 46 P **P** **10 42 55.9 +1.2**
PD31 Pinedale Array 74.91 46 P **P** **10 42 55.5 +0.8**
PDAR Pinedale Array 74.91 46 P **P** **10 42 55.8 +1.0**
comp=Z,1.1nm,0.5s,baz=247,slow=1.6,SNR=16
KVT Kavak 74.97 311 P **P** **10 42 56.9 +2.0**
PSUT Pine Spring 75.16 52 P **P** **10 42 56.0 -0.2**
LVV L'vov 75.19 324 P **P** **10 42 57.2 +1.3**
MWC Mount Wilson 75.25 58 P **P** **10 42 57.9 +1.1**
MWC pmax pmax
comp=Z,24nm,1.2s
MWC Mount Wilson 75.25 58 P **P** **10 42 57.9 +1.1**
MWC IAmb IAmb 10 43 14.2
comp=Z,24nm,1.1s
NLU North Lily Min 75.30 50 P **P** **10 42 56.6 -0.5**
SHOC Shoshone, Teco 75.34 55 P **P** **10 42 58.5 +1.4**
baz=310
MALT Malatya 75.35 308 P **P** **10 42 59.2 +2.0**
GSC Goldstone, Bar 75.38 56 P **P** **10 42 58.5 +1.1**
baz=309
GSC Goldstone, Bar 75.38 56 P **P** **10 42 57.7 +0.3**
GSC pmax pmax
comp=Z,13nm,1.2s
GSC Goldstone, Bar 75.38 56 P **P** **10 42 57.7 +0.3**
BFSC Mount Baldy Ra 75.50 57 P **P** **10 42 59.1 +0.9**
baz=309
BZK Bozkurt 75.56 313 ⇓P **P** **10 42 58.9 +0.8**
SHPR Sheep Range 75.65 54 P **P** **10 43 00.2 +1.2**
SHPR IAmb IAmb 10 43 16.5
comp=Z,21nm,1.2s
KWP Kalwaria Pacla 75.92 324 *e*P **P** **10 43 01.4 +1.3**
KWP Kalwaria Pacla 75.92 324 *e*P **P** **10 43 01.4 +1.3**
KWP *e*P **P** **10 43 01.4 +1.3**
TCRU Three Creeks R 75.95 51 P **P** **10 42 59.9 -1.0**
BBRC Big Bear Solar 75.96 57 P **P** **10 43 01.6 +0.6**
baz=310
CCUT Cedar City 76.09 53 P **P** **10 43 01.6 0.0**
MSU Marysvale 76.18 51 P **P** **10 43 00.5 -1.6**
MSU Marysvale 76.18 51 P **P** **10 43 00.5 -1.6**
MURC Murrieta 76.20 58 P **P** **10 43 02.5 +0.4**
baz=310
BUR08 Bucovina Ar. S 76.21 322 P **P** **10 43 02.6 +0.6**
BUR08 IAmb IAmb 10 43 04.1
comp=Z,11nm,0.8s
BURAR Bucovina Array 76.22 322 P **P** **10 43 02.3 +0.3**
BURAR Bucovina Array 76.22 322 ⇑P **P** **10 43 02.3 +0.3**
BURAR mb 10 43 03.9
SZCU Shurtz Canyon 76.22 52 P **P** **10 43 01.0 -1.4**
TMUT Trail Mountain 76.24 50 P **P** **10 43 01.8 -0.8**
BIZ Bicaz 76.28 321 ⇑P **P** **10 43 03.0 +0.8**
TESR Tescani 76.31 320 ⇑P **P** **10 43 02.7 +0.3**
RDMU Red Mountain 76.35 48 P **P** **10 43 04.7 +1.7**
P17A Butcher Ranch, 76.40 50 P **P** **10 43 03.2 0.0**
ULM Lac du Bonnet 76.42 34 P **P** **10 43 03.5 +0.6**
ULM pmax pmax
comp=Z,6.0nm,0.7s
ULM Lac du Bonnet 76.42 34 P **P** **10 43 02.6 -0.3**
comp=Z,2.4nm,0.8s,baz=325,slow=6.6,SNR=7.7
ULM LR LR 11 18 43.4
comp=Z,44nm,19.3s,baz=326,slow=37
ULM Lac du Bonnet 76.42 34 P **P** **10 43 03.5 +0.6**
GMRC Granite Mounta 76.43 56 P **P** **10 43 04.6 +1.2**
baz=310
MTPU Mount Pierson 76.48 51 P **P** **10 43 06.5 +2.5**
LCMT Little Creek M 76.51 53 P **P** **10 43 05.2 +1.3**
Q16A Castle Valley 76.51 50 P **P** **10 43 04.9 +1.0**
TOPG Topolog 76.59 318 ⇑P **P** **10 43 04.4 +0.4**
KOLS Kolonicke sedl 76.63 324 *e*P **P** **10 43 05.5 +1.3**
KOLS Kolonicke sedl 76.63 324 *e*P **P** **10 43 05.5 +1.3**
K22A Casper 76.64 45 P **P** **10 43 04.9 +0.3**
baz=313
K22A Casper 76.64 45 P **P** **10 43 05.0 +0.4**
PFO Pinyon Flats O 76.67 57 P **P** **10 43 05.6 +0.8**
baz=310
PFO Pinyon Flats O 76.67 57 P **P** **10 43 04.7 -0.1**
PFO pmax pmax
comp=Z,16nm,1.2s
PFO Pinyon Flats O 76.67 57 P **P** **10 43 04.7 -0.1**
PFO IAmb IAmb 10 43 22.2
comp=Z,16nm,1.2s
XPFO Pion Flat 76.67 57 P **P** **10 43 04.6 -0.2**
XPFO IAmb IAmb 10 43 22.2
comp=Z,16nm,1.2s
BELC Belle Mtn. Jos 76.72 57 P **P** **10 43 05.6 +0.5**
baz=310
VRI Vrincioaia 76.73 320 P **P** **10 43 06.2 +1.4**
VRI pmax pmax
comp=Z,25nm,1.8s
VRI Vrincioaia 76.73 320 ⇑P **P** **10 43 06.1 +1.4**
OJC Ojcow 76.76 326 *e*P **P** **10 43 06.0 +1.2**
OJC Ojcow 76.76 326 *e*P **P** **10 43 06.0 +1.2**
OJC *e*P **P** **10 43 06.0 +1.2**
OJC Ojcow 76.76 326 P **P** **10 43 04.7 -0.2**
KNB Kanab 76.76 53 P **P** **10 43 05.4 0.0**
KNB pmax pmax
comp=Z,30nm,1.3s
KNB Kanab 76.76 53 P **P** **10 43 05.4 0.0**
SRU San Rafael Swe 76.76 50 P **P** **10 43 06.1 +0.8**
SRU pmax pmax
comp=Z,26nm,1.2s
SRU San Rafael Swe 76.76 50 P **P** **10 43 06.1 +0.8**
PLOR Plostina 76.78 320 P **P** **10 43 06.2 +1.1**
PLOR Plostina 76.78 320 ⇑P **P** **10 43 06.3 +1.1**
GAZ Gaziantep 76.83 308 P **P** **10 43 05.2 -0.3**
UZH Uzhgorod 76.84 324 *e*P **P** **10 43 04.9 -0.4**
UZH *e* 10 43 16.9
UZH *e* 10 43 27.1
HARR Harsova 76.95 318 P **P** **10 43 06.9 +0.9**

HARR	**Harsova**	**76.95**	**318**	⇑P	**P**	**10 43 07.0**	**+0.9**
HARR				mb		10 43 16.4	
RSSD	**Black Hills**	**76.95**	**43**	P	**P**	**10 43 07.3**	**+0.9**
	baz=314						
RSSD	**Black Hills**	**76.95**	**43**	P	**P**	**10 43 06.8**	**+0.4**
RSSD				pmax	pmax		
	comp=Z,8.0nm,1.1s						
RSSD	**Black Hills**	**76.95**	**43**	P	**P**	**10 43 06.8**	**+0.4**
OZUR		**77.03**	**320**	⇑P	**P**	**10 43 07.8**	**+1.2**
TRPA	**Tarpa**	**77.10**	**323**	⇑P	**P**	**10 43 07.7**	**+1.0**
TRPA				mb		10 43 09.1	
TRPA	**Tarpa**	**77.10**	**323**	*e*P	**P**	**10 43 07.0**	**+0.3**
BAR	**Barrett**	**77.12**	**58**	P	**P**	**10 43 07.4**	**+0.2**
NIE	**Niedzica**	**77.14**	**325**	*e*P	**P**	**10 43 07.7**	**+0.6**
NIE	**Niedzica**	**77.14**	**325**	*e*P	**P**	**10 43 07.7**	**+0.6**
NIE				*e*P	**P**	**10 43 07.7**	**+0.6**
MONP2	**Monument Peak**	**77.15**	**58**	P	**P**	**10 43 08.6**	**+0.9**
	baz=310						
IRM	**Iron Mountain**	**77.16**	**56**	P	**P**	**10 43 07.8**	**+0.4**
	baz=310						
BRTR	**Keskin Array B**	**77.25**	**311**	P	**P**	**10 43 07.8**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=106,slow=4.4,SNR=19						
BRTR				LR	LR	11 22 36.2	
	comp=Z,124nm,19.4s,baz=172,slow=40						
BC3	**Big Chuckawall**	**77.28**	**57**	P	**P**	**10 43 09.6**	**+1.3**
	baz=310						
W13A	**Hualapai Mount**	**77.35**	**55**	P	**P**	**10 43 08.7**	**0.0**
ISR	**Istrita**	**77.35**	**319**	P	**P**	**10 43 09.9**	**+1.6**
ISR				pmax	pmax		
	comp=Z,44nm,0.9s						
ISR	**Istrita**	**77.35**	**319**	⇑P	**P**	**10 43 10.0**	**+1.7**
MLR	**Muntele Rosu**	**77.38**	**320**	P	**P**	**10 43 08.6**	**0.0**
MLR				pmax	pmax		
	comp=Z,34nm,1.5s						
MLR	**Muntele Rosu**	**77.38**	**320**	⇑P	**P**	**10 43 08.7**	**0.0**
MLR	**Muntele Rosu**	**77.38**	**320**	P	**P**	**10 43 08.6**	**0.0**
MLR				IAmb	IAmb	10 43 11.1	
	comp=Z,34nm,1.5s						
O20A	**White River Ci**	**77.39**	**48**	P	**P**	**10 43 08.7**	**-0.2**
	baz=313						
U15A	**North Rim**	**77.47**	**53**	P	**P**	**10 43 08.7**	**-0.8**
U15A				IAmb	IAmb	10 43 27.7	
	comp=Z,28nm,1.1s						
IKP	**In-Ko-Pah, Jac**	**77.51**	**58**	P	**P**	**10 43 10.7**	**+1.2**
	baz=310						
SWSC	**Sam W. Stewart**	**77.52**	**57**	P	**P**	**10 43 10.5**	**+1.1**
	baz=310						
ANTO	**Ankara**	**77.64**	**312**	P	**P**	**10 43 11.4**	**+1.3**
ANTO				pmax	pmax		
	comp=Z,24nm,1.1s						
ANTO	**Ankara**	**77.64**	**312**	P	**P**	**10 43 11.4**	**+1.3**
ANTO				IAmb	IAmb	10 43 12.0	
	comp=Z,24nm,1.1s						
CJR	**Cluj-Napoca**	**77.64**	**322**	P	**P**	**10 43 11.1**	**+1.2**
CJR	**Cluj-Napoca**	**77.64**	**322**	⇑P	**P**	**10 43 11.2**	**+1.2**
LANS	**Liptovska Anna**	**77.70**	**326**	*e*P	**P**	**10 43 12.4**	**+2.2**
LANS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LANS	**Liptovska Anna**	**77.70**	**326**	*e*P	**P**	**10 43 12.4**	**+2.2**
KSP	**Ksiaz**	**77.73**	**328**	*e*P	**P**	**10 43 10.9**	**+0.6**
KSP	**Ksiaz**	**77.73**	**328**	*e*P	**P**	**10 43 10.9**	**+0.6**
KSP				*e*P	**P**	**10 43 10.9**	**+0.6**
Y12C	**Blythe**	**77.82**	**56**	P	**P**	**10 43 12.3**	**+1.3**
	baz=311						
Y12C	**Blythe**	**77.82**	**56**	P	**P**	**10 43 11.7**	**+0.6**
Y12C				IAmb	IAmb	10 43 28.8	
	comp=Z,29nm,1.1s						
VOIR		**77.86**	**320**	P	**P**	**10 43 12.5**	**+1.3**
VOIR		**77.86**	**320**	⇑P	**P**	**10 43 12.8**	**+1.5**
AGMN	**Agassiz Nation**	**77.88**	**35**	P	**P**	**10 43 12.0**	**+0.8**
	baz=319						
OSTC	**Ostas**	**77.98**	**328**	*e*P	**P**	**10 43 12.7**	**+1.0**
DRGR		**78.00**	**322**	P	**P**	**10 43 13.0**	**+1.0**
DRGR				pmax	pmax		
	comp=Z,28nm,2.0s						
MORC	**Moravsky Berou**	**78.04**	**327**	P	**P**	**10 43 13.1**	**+1.0**
MORC				pmax	pmax		
	comp=Z,15nm,0.9s						
MORC	**Moravsky Berou**	**78.04**	**327**	⇑P	**P**	**10 43 12.6**	**+0.5**
MORC				mb		10 43 14.2	
MORC	**Moravsky Berou**	**78.04**	**327**	P	**P**	**10 43 13.1**	**+1.0**
MORC	**Moravsky Berou**	**78.04**	**327**	P	**P**	**10 43 13.1**	**+1.0**
MORC				IAmb	IAmb	10 43 14.2	
	comp=Z,15nm,0.9s						
GLA	**Glamis**	**78.07**	**57**	P	**P**	**10 43 14.0**	**+1.4**
	baz=311						
GLA	**Glamis**	**78.07**	**57**	P	**P**	**10 43 11.9**	**-0.7**
GLA				pmax	pmax		
	comp=Z,21nm,1.0s						
GLA	**Glamis**	**78.07**	**57**	P	**P**	**10 43 11.9**	**-0.7**
GLA				IAmb	IAmb	10 43 30.3	
	comp=Z,21nm,0.9s						
DPC	**Dobruska-Polom**	**78.10**	**328**	*e*P	**P**	**10 43 13.1**	**+0.7**
DPC				*e*		10 43 26.9	
DPC	**Dobruska-Polom**	**78.10**	**328**	*e*P	**P**	**10 43 13.1**	**+0.7**
DPC				*ex*	x	10 43 26.9	
UPC	**Upice**	**78.11**	**328**	*e*P	**P**	**10 43 13.5**	**+1.1**
UPC	**Upice**	**78.11**	**328**	*e*P	**P**	**10 43 13.5**	**+1.1**
ARR	**Arges**	**78.12**	**320**	⇓P	**P**	**10 43 14.2**	**+1.6**
KRLC	**Kraliky**	**78.13**	**328**	*e*P	**P**	**10 43 13.2**	**+0.6**
KRLC				*e*		10 43 27.9	
KRLC	**Kraliky**	**78.13**	**328**	*e*P	**P**	**10 43 13.2**	**+0.6**
KRLC				*ep*P	**sP**	**10 43 27.9**	**-0.7**
PHWY	**Pilot Hill**	**78.15**	**45**	P	**P**	**10 43 12.7**	**-0.4**
N23A	**Red Feather La**	**78.16**	**46**	P	**P**	**10 43 14.2**	**+0.9**
	baz=314						
PSZ	**Piszkesteto**	**78.44**	**325**	P	**P**	**10 43 13.8**	**-0.6**
PSZ				pmax	pmax		
	comp=Z,15nm,0.9s						
PSZ	**Piszkesteto**	**78.44**	**325**	⇑P	**P**	**10 43 15.1**	**+0.7**
PSZ				mb		10 43 31.1	
PSZ	**Piszkesteto**	**78.44**	**325**	*e*P	**P**	**10 43 15.1**	**+0.7**
PSZ	**Piszkesteto**	**78.44**	**325**	P	**P**	**10 43 13.8**	**-0.6**
PSZ				IAmb	IAmb	10 43 16.6	
	comp=Z,15nm,0.9s						
VYHS	**Vyhne**	**78.47**	**326**	*e*P	**P**	**10 43 15.9**	**+1.4**
VYHS				pmax	pmax		
	comp=Z,15nm,1.2s						
VYHS	**Vyhne**	**78.47**	**326**	*e*P	**P**	**10 43 15.9**	**+1.4**
WUAZ	**Wupatki**	**78.63**	**53**	P	**P**	**10 43 17.6**	**+1.9**
	baz=312						
WUAZ	**Wupatki**	**78.63**	**53**	P	**P**	**10 43 16.7**	**+1.0**
WUAZ				IAmb	IAmb	10 43 33.9	
	comp=Z,28nm,1.2s						
BRG	**Berggiesshubel**	**78.64**	**330**	*e*P	**P**	**10 43 15.9**	**+0.6**
	comp=Z,19nm,1.4s						
BRG	**Berggiesshubel**	**78.64**	**330**	*e*P	**P**	**10 43 15.9**	**+0.6**
BRG				pmax	pmax		
	comp=Z,19nm,1.4s						
CLL	**Collm**	**78.65**	**330**	P	**P**	**10 43 16.3**	**+1.0**
CLL				pmax	pmax		
	comp=Z,20nm,1.3s						
CLL	**Collm**	**78.65**	**330**	*e*P	**P**	**10 43 16.0**	**+0.6**
	comp=Z,8.0nm,0.8s						
CLL				*ep*P	**sP**	**10 43 31.0**	**-0.4**
CLL				*e*SSS	SSS	11 01 36.0	
CLL				LmV		11 19 00.0	
	comp=Z,300nm,21.3s						
CLL	**Collm**	**78.65**	**330**	P	**P**	**10 43 16.3**	**+1.0**
CLL				IAmb	IAmb	10 43 17.4	
	comp=Z,20nm,1.3s						
Y14A	**Wickenburg**	**78.65**	**55**	P	**P**	**10 43 16.5**	**+0.7**
Y14A				IAmb	IAmb	10 43 33.6	
	comp=Z,21nm,1.1s						
PVCC	**Panska Ves**	**78.66**	**329**	P	**P**	**10 43 16.4**	**+0.9**
PVCC				pmax	pmax		
	comp=Z,8.0nm,1.2s						
VRAC	**Vranov**	**78.80**	**327**	P	**P**	**10 43 17.3**	**+1.0**
VRAC				pmax	pmax		
	comp=Z,15nm,1.2s						
VRAC	**Vranov**	**78.80**	**327**	⇓P	**P**	**10 43 17.3**	**+1.0**
VRAC				mb		10 43 18.6	
VRAC	**Vranov**	**78.80**	**327**	*e*P	**P**	**10 43 17.3**	**+1.0**
GZR	**Gura Zlata**	**78.99**	**321**	⇑P	**P**	**10 43 17.7**	**+0.2**
GOPC	**GO Pecny, Ondr**	**79.06**	**329**	*e*P	**P**	**10 43 18.6**	**+0.9**
GOPC				*e*		10 43 32.8	
GOPC	**GO Pecny, Ondr**	**79.06**	**329**	*e*P	**P**	**10 43 18.6**	**+0.9**
GOPC				*ep*P	**sP**	**10 43 32.8**	**-0.9**
SMOL	**Smolenice**	**79.06**	**326**	*e*P	**P**	**10 43 19.2**	**+1.5**
SMOL				pmax	pmax		
	comp=Z,17nm,1.8s						
SMOL	**Smolenice**	**79.06**	**326**	*e*P	**P**	**10 43 19.2**	**+1.5**
KRUC	**Moravsky**	**79.07**	**327**	P	**P**	**10 43 18.6**	**+0.8**
KRUC				pmax	pmax		
	comp=Z,18nm,1.0s						
KRUC	**Moravsky**	**79.07**	**327**	*e*P	**P**	**10 43 18.5**	**+0.8**
ISCO	**Idaho Springs**	**79.10**	**47**	P	**P**	**10 43 19.9**	**+1.5**
	baz=314						
ISCO	**Idaho Springs**	**79.10**	**47**	P	**P**	**10 43 19.3**	**+0.9**
ISCO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ISCO	**Idaho Springs**	**79.10**	**47**	P	**P**	**10 43 19.3**	**+0.9**
PRU	**Pruhonice**	**79.10**	**329**	*e*P	**P**	**10 43 19.1**	**+1.2**
PRU				*e*		10 43 33.6	
PRU	**Pruhonice**	**79.10**	**329**	*e*P	**P**	**10 43 19.1**	**+1.2**
PRU				*ep*P	**sP**	**10 43 33.6**	**-0.3**
MVCO	**Mesa Verde**	**79.22**	**50**	P	**P**	**10 43 19.8**	**+0.7**
	baz=313						
MVCO	**Mesa Verde**	**79.22**	**50**	P	**P**	**10 43 20.8**	**+1.7**
MVCO				IAmb	IAmb	10 43 36.8	
	comp=Z,19nm,1.2s						
SRO	**Srobarova**	**79.22**	**325**	*e*P	**P**	**10 43 19.9**	**+1.4**
SRO				pmax	pmax		
	comp=Z,37nm,1.2s						
SRO	**Srobarova**	**79.22**	**325**	*e*P	**P**	**10 43 19.9**	**+1.4**
MODS	**Modra-Piesok**	**79.23**	**326**	*e*P	**P**	**10 43 19.6**	**+0.9**
MODS				pmax	pmax		
	comp=Z,43nm,1.8s						
MODS	**Modra-Piesok**	**79.23**	**326**	*e*P	**P**	**10 43 19.6**	**+0.9**
ELND	**Elena**	**79.25**	**318**	⇑P	**P**	**10 43 19.8**	**+1.0**
TREC	**Trest**	**79.26**	**328**	*e*P	**P**	**10 43 20.5**	**+1.7**
TREC	**Trest**	**79.26**	**328**	*e*P	**P**	**10 43 20.5**	**+1.7**
X16A	**Lo Mia Camp, P**	**79.31**	**54**	P	**P**	**10 43 20.6**	**+1.1**
X16A				IAmb	IAmb	10 43 37.8	
	comp=Z,21nm,1.2s						
BZS	**Buzias**	**79.38**	**322**	P	**P**	**10 43 20.2**	**+0.7**
BZS				pmax	pmax		
	comp=Z,13nm,1.3s						
BZS	**Buzias**	**79.38**	**322**	⇑P	**P**	**10 43 18.8**	**-0.7**
PBCC	**Pribram**	**79.56**	**329**	*e*P	**P**	**10 43 21.5**	**+1.1**
S22A	**4UR Ranch, Cre**	**79.82**	**49**	P	**P**	**10 43 23.8**	**+1.4**
	baz=314						
S22A	**4UR Ranch, Cre**	**79.82**	**49**	P	**P**	**10 43 24.5**	**+2.1**
EYMN	**Ely**	**80.04**	**33**	P	**P**	**10 43 23.1**	**+0.1**
	baz=321						
EYMN	**Ely**	**80.04**	**33**	P	**P**	**10 43 22.8**	**-0.2**
MPLH	**Magyarpolny**	**80.05**	**325**	*e*P	**P**	**10 43 24.1**	**+1.0**
214A	**Organ Pipe Nat**	**80.08**	**57**	P	**P**	**10 43 24.2**	**+0.6**
	baz=312						
214A	**Organ Pipe Nat**	**80.08**	**57**	P	**P**	**10 43 23.7**	**+0.1**
214A				IAmb	IAmb	10 43 41.3	
	comp=Z,17nm,1.1s						
RAYN	**Ar Rayn**	**80.09**	**292**	*i* P	**P**	**10 43 23.1**	**-0.7**
	SNR=8.5						
RAYN	**Ar Rayn**	**80.09**	**292**	P	**P**	**10 43 22.7**	**-1.1**
RAYN				pmax	pmax		
	comp=Z,12nm,1.0s						
RAYN	**Ar Rayn**	**80.09**	**292**	P	**P**	**10 43 22.7**	**-1.1**
X18A	**Snowflake**	**80.15**	**53**	P	**P**	**10 43 25.9**	**+1.7**
X18A				IAmb	IAmb	10 43 42.3	
	comp=Z,26nm,1.4s						
KHC	**Kasperske Hory**	**80.16**	**329**	*e*P	**P**	**10 43 24.3**	**+0.6**
KHC				*e*		10 43 38.4	
KHC	**Kasperske Hory**	**80.16**	**329**	*e*P	**P**	**10 43 24.3**	**+0.6**
KHC				*ep*P	**sP**	**10 43 38.4**	**-1.3**
KHC	**Kasperske Hory**	**80.16**	**329**	P	**P**	**10 43 24.4**	**+0.7**
CONA	**Conrad Observa**	**80.18**	**327**	*i* PcP	**P**	**10 43 25.2**	**+1.4**
	comp=Z,14nm,1.0s,SNR=7.8						
OGNE	**Ogallala**	**80.24**	**44**	P	**P**	**10 43 25.2**	**+0.9**
	baz=316						
MORH	**Mrgy, Hungar**	**80.29**	**324**	*e*P	**P**	**10 43 25.0**	**+0.6**
GEC2	**GERESS Array S**	**80.34**	**328**	P	**P**	**10 43 25.7**	**+1.0**
GEC2				pmax	pmax		
	comp=Z,6.0nm,1.6s						
GERES	**GERESS Array B**	**80.34**	**328**	P	**P**	**10 43 24.5**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=31,slow=5.2,SNR=16						
GERES				LR	LR	11 22 10.6	
	comp=Z,429nm,19.1s,baz=27,slow=38						
WET	**Wettzell**	**80.43**	**329**	P	**P**	**10 43 26.5**	**+1.4**
WET				pmax	pmax		
	comp=Z,9.0nm,1.3s						
SDCO	**Great Sand Dun**	**80.58**	**48**	P	**P**	**10 43 27.7**	**+1.2**
	baz=314						
VTS	**Vitosha**	**80.81**	**319**	P	**P**	**10 43 27.6**	**+0.2**
VTS				pmax	pmax		
	comp=Z,17nm,0.8s						
VTS	**Vitosha**	**80.81**	**319**	⇑P	**P**	**10 43 28.5**	**+1.1**
VTS				mb		10 43 29.7	
VTS	**Vitosha**	**80.81**	**319**	P	**P**	**10 43 27.6**	**+0.2**
VTS				IAmb	IAmb	10 43 29.6	
	comp=Z,17nm,0.8s						
ARSA	**Arzberg**	**80.85**	**326**	*i* P	**P**	**10 43 28.2**	**+0.7**
	comp=Z,8.8nm,1.1s						
MOA	**Molln**	**80.90**	**328**	*i* P	**P**	**10 43 28.7**	**+1.0**
	comp=Z,18nm,1.9s						
ECSD	**EROS Data Cent**	**80.94**	**39**	P	**P**	**10 43 28.8**	**+0.8**
	baz=319						
MANT	**Manisa**	**80.97**	**313**	P	**P**	**10 43 28.4**	**0.0**
TUC	**Tucson**	**81.12**	**55**	P	**P**	**10 43 30.5**	**+1.3**
	baz=312						
TUC	**Tucson**	**81.12**	**55**	P	**P**	**10 43 28.3**	**-0.9**
TUC				pmax	pmax		
	comp=Z,13nm,1.2s						
TUC	**Tucson**	**81.12**	**55**	P	**P**	**10 43 28.3**	**-0.9**
KSCO	**Kaye Shedlock'**	**81.30**	**46**	P	**P**	**10 43 31.4**	**+1.3**
	baz=316						
KSCO	**Kaye Shedlock'**	**81.30**	**46**	P	**P**	**10 43 29.8**	**-0.3**
KSCO				IAmb	IAmb	10 43 46.7	
	comp=Z,24nm,1.4s						
ELL	**Elmali**	**81.42**	**311**	P	**P**	**10 43 31.6**	**+0.8**
ELL				pmax	pmax		
	comp=Z,167nm,1.3s						
ELL	**Elmali**	**81.42**	**311**	P	**P**	**10 43 31.6**	**+0.8**
SOKA	**Soboth**	**81.51**	**326**	*i* P	**P**	**10 43 31.2**	**+0.2**
	comp=Z,28nm,1.2s,SNR=6.6						
T25A	**Trinidad**	**81.63**	**48**	P	**P**	**10 43 33.1**	**+1.2**
	baz=315						
T25A	**Trinidad**	**81.63**	**48**	P	**P**	**10 43 33.2**	**+1.2**
T25A				IAmb	IAmb	10 43 49.5	
	comp=Z,16nm,1.0s						
OBKA	**Obir**	**81.85**	**327**	*i* P	**P**	**10 43 33.1**	**+0.4**
	comp=Z,7.1nm,0.7s						
KBA	**Koelnbreinsper**	**81.89**	**328**	P	**P**	**10 43 34.6**	**+1.5**
KBA				pmax	pmax		
	comp=Z,15nm,1.2s						
KBA	**Koelnbreinsper**	**81.89**	**328**	*i* P	**P**	**10 43 32.9**	**-0.2**
	comp=Z,18nm,1.1s,SNR=9.7						
ANMO	**Albuquerque**	**81.97**	**51**	P	**P**	**10 43 35.3**	**+1.5**
	baz=314						
ANMO	**Albuquerque**	**81.97**	**51**	P	**P**	**10 43 35.4**	**+1.6**
ANMO				pmax	pmax		
	comp=Z,22nm,1.3s						
ANMO	**Albuquerque**	**81.97**	**51**	P	**P**	**10 43 35.4**	**+1.6**
ANMO				IAmb	IAmb	10 43 52.0	
	comp=Z,22nm,1.2s						
SCHQ	**Schefferville**	**82.04**	**17**	P	**P**	**10 43 33.4**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=346,slow=6.7,SNR=8.6						
SCHQ				LR	LR	11 21 53.5	
	comp=Z,105nm,21.5s,baz=32,slow=37						
SCHQ	**Schefferville**	**82.04**	**17**	P	**P**	**10 43 34.0**	**+0.5**
SCHQ				IAmb	IAmb	10 43 50.1	
	comp=Z,24nm,1.4s						
MYKA	**Terra Mystica**	**82.13**	**327**	*i* P	**P**	**10 43 33.5**	**-0.8**
LENM	**Lemitar**	**82.20**	**52**	P	**P**	**10 43 35.2**	**+0.2**
WATA	**Walderalm**	**82.40**	**329**	*i* PcP	**P**	**10 43 36.4**	**+0.6**
	comp=Z,10nm,1.2s						
BNM	**Barren Site**	**82.42**	**51**	P	**P**	**10 43 37.8**	**+1.6**
WTTA	**Wattenberg**	**82.44**	**329**	*i* PcP	**P**	**10 43 36.2**	**+0.2**
	comp=Z,9.6nm,0.9s						
MOTA	**Moosalm**	**82.58**	**329**	*i* PcP	**P**	**10 43 38.0**	**+1.2**
	comp=Z,20nm,1.1s,SNR=5.2						
RETA	**Reutte**	**82.60**	**329**	*i* PcP	**P**	**10 43 38.1**	**+1.4**
	comp=Z,19nm,1.0s,SNR=6.7						
SQTA	**Sankt Quirin**	**82.64**	**329**	*i* PcP	**P**	**10 43 37.5**	**+0.5**
	comp=Z,15nm,1.4s						
319A	**Douglas**	**82.70**	**55**	P	**P**	**10 43 39.1**	**+1.6**
STAL	**STALIGIAL**	**82.81**	**327**	P	**P**	**10 43 37.7**	**-0.1**
STAL				IAmb	IAmb	10 43 55.3	
	comp=Z,28nm,1.3s						
BAIF	**Baives**	**82.82**	**334**	*e*P	**P**	**10 43 36.5**	**-1.1**
BAIF				pmax	pmax		
	comp=Z,21nm,1.2s						
BFO	**Black Forest**	**82.83**	**331**	P	**P**	**10 43 36.4**	**-1.4**
BFO				pmax	pmax		
	comp=Z,21nm,2.4s						
121A	**Cookes Peak, D**	**82.83**	**53**	P	**P**	**10 43 39.6**	**+1.2**
	baz=314						
121A	**Cookes Peak, D**	**82.83**	**53**	P	**P**	**10 43 37.5**	**-0.8**
121A				IAmb	IAmb	10 43 55.9	
	comp=Z,15nm,1.1s						
FETA	**Feichten**	**82.99**	**329**	*i* P	**P**	**10 43 38.7**	**-0.2**
	comp=Z,5.2nm,0.9s,SNR=4.1						
CBKS	**Cedar Bluff**	**83.00**	**44**	P	**P**	**10 43 39.1**	**+0.2**
	baz=317						
DAVA	**Damuels**	**83.11**	**330**	*i* PcP	**P**	**10 43 40.3**	**+0.9**
	comp=Z,16nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**83.51**	**329**	P	**P**	**10 43 42.2**	**+0.6**
D46A	**Sault St. Mari**	**83.89**	**30**	P	**P**	**10 43 43.2**	**-0.1**
	baz=326						
LSQQ	**Lebel-sur-Quev**	**84.52**	**25**	P	**P**	**10 43 46.7**	**+0.3**
	baz=331						
JFWS	**Jewell Farm**	**84.54**	**36**	P	**P**	**10 43 47.5**	**+0.9**
	baz=323						
E47A	**Iron Bridge**	**84.54**	**30**	P	**P**	**10 43 45.7**	**-0.9**
	baz=327						
CHGQ	**Chibougamau**	**84.57**	**23**	P	**P**	**10 43 46.0**	**-0.7**
	baz=333						
MSTX	**Muleshoe**	**84.81**	**49**	P	**P**	**10 43 49.1**	**+0.8**
	baz=316						
MSTX	**Muleshoe**	**84.81**	**49**	P	**P**	**10 43 49.4**	**+1.0**
MSTX				IAmb	IAmb	10 44 06.8	
	comp=Z,17nm,1.1s						
MNTX	**Cornudas Mount**	**84.88**	**52**	P	**P**	**10 43 50.0**	**+1.4**
	baz=315						
MNTX	**Cornudas Mount**	**84.88**	**52**	P	**P**	**10 43 48.9**	**+0.3**
MNTX				IAmb	IAmb	10 44 06.3	
	comp=Z,18nm,1.4s						
LOR	**Lormes**	**85.33**	**333**	*e*P	**P**	**10 43 50.7**	**+0.1**
LOR				pmax	pmax		
	comp=Z,31nm,1.2s						
PPT	**Papeete**	**85.46**	**117**	LR	LR	11 13 49.6	
	comp=Z,253nm,22.0s,baz=326,slow=30						
PPT2	**Papeete2**	**85.47**	**117**	*e*LR	LR	11 10 50.7	
	comp=Z,507nm,23.0s						
PPT2	**Papeete2**	**85.47**	**117**	*e*T	T	12 17 51.3	
	comp=Z,8.7nm,0.3s						
PAE	**Paea**	**85.52**	**117**	*e*T	T	12 17 54.0	
	comp=Z,2.0nm,0.3s						
LPL	**La Plagne**	**85.79**	**330**	*e*P	**P**	**10 43 53.4**	**+0.3**
LPL				pmax	pmax		
	comp=Z,11nm,0.8s						
LPG	**La Plagne**	**85.80**	**330**	*e*P	**P**	**10 43 53.6**	**+0.4**
LPG				pmax	pmax		
	comp=Z,12nm,0.8s						
SMF	**Signal de Mont**	**85.88**	**333**	*e*P	**P**	**10 43 53.6**	**+0.3**
SMF				pmax	pmax		
	comp=Z,45nm,1.6s						
AVF	**Avril sur Loir**	**85.92**	**333**	*e*P	**P**	**10 43 53.8**	**+0.3**
AVF				pmax	pmax		
	comp=Z,23nm,0.9s						
TAOE	**Nuku Hiva Isla**	**86.28**	**105**	*e*LR	LR	11 11 09.6	
	comp=Z,346nm,21.4s						
MBDF	**Montbardon**	**86.44**	**330**	*e*P	**P**	**10 43 59.1**	**+2.8**
MBDF				pmax	pmax		
	comp=Z,47nm,2.0s						
WMOK	**Wichita Mounta**	**86.52**	**46**	P	**P**	**10 43 57.2**	**+0.5**
WMOK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WMOK	**Wichita Mounta**	**86.52**	**46**	P	**P**	**10 43 57.1**	**+0.5**
WMOK				IAmb	IAmb	10 44 16.9	
	comp=Z,6.8nm,0.6s						
ORIF	**Oris-en-Rattie**	**86.61**	**331**	*e*P	**P**	**10 44 01.2**	**+4.2**
ORIF				pmax	pmax		
	comp=Z,80nm,2.0s						
TCF	**Toulx Ste Croi**	**86.75**	**334**	*e*P	**P**	**10 44 01.2**	**+3.6**
TCF				pmax	pmax		
	comp=Z,24nm,1.2s						
D57A	**Chemin Vers le**	**87.30**	**24**	P	**P**	**10 44 00.6**	**+0.4**
	baz=333						
TX31	**Lajitas Ar. Si**	**87.59**	**53**	P	**P**	**10 44 01.3**	**-0.8**
TX31				IAmb	IAmb	10 44 19.6	
	comp=Z,15nm,1.3s						
TX32	**Lajitas Array**	**87.59**	**53**	P	**P**	**10 44 01.3**	**-0.8**
TX32				IAmb	IAmb	10 44 19.6	
	comp=Z,15nm,1.3s						
TXAR	**Lajitas Array**	**87.59**	**53**	P	**P**	**10 44 03.0**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=291,slow=3.4,SNR=33						
TXAR				LR	LR	11 17 52.4	
	comp=Z,17nm,21.9s,baz=0.0,slow=32						
CCM	**Cathedral Cave**	**87.91**	**39**	P	**P**	**10 44 04.1**	**+0.8**
	baz=322						
CCM	**Cathedral Cave**	**87.91**	**39**	P	**P**	**10 44 04.0**	**+0.8**
CCM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CCM	**Cathedral Cave**	**87.91**	**39**	P	**P**	**10 44 04.0**	**+0.8**
CCM				IAmb	IAmb	10 44 20.7	
	comp=Z,6.8nm,0.8s						
MGMO	**Mountain Grove**	**88.11**	**41**	P	**P**	**10 44 05.6**	**+1.3**
D61A	**St Aubert, Com**	**88.22**	**22**	P	**P**	**10 44 05.0**	**+0.5**
	baz=336						
U40A	**Yellville**	**88.43**	**42**	P	**P**	**10 44 06.4**	**+0.6**
	baz=321						
U40A	**Yellville**	**88.43**	**42**	P	**P**	**10 44 06.4**	**+0.6**
U40A				IAmb	IAmb	10 44 21.5	
	comp=Z,9.2nm,0.8s						
MIAR	**Mount Ida**	**89.46**	**43**	P	**P**	**10 44 11.5**	**+0.8**
	baz=321						
MIAR	**Mount Ida**	**89.46**	**43**	P	**P**	**10 44 11.0**	**+0.3**
MIAR				pmax	pmax		
	comp=Z,17nm,1.4s						
H58A	**Gabriels**	**89.52**	**25**	P	**P**	**10 44 10.2**	**-0.6**
	baz=333						
TBI	**Tubuai

WMGZ	**Waiomatatini S**	**5.97**	**195**	P		Pn	10 37 12.0	+1.3
KUZ	**Kuaotunu**	**6.03**	**218**	P		Pn	10 37 12.5	+1.1
HAZ	**Te Kaha**	**6.07**	**199**	P		Pn	10 37 10.6	-1.2
HAZ				S		S	10 38 26.1	+0.9
PKGZ	**Pakihiroa**	**6.11**	**197**	P		Pn	10 37 12.7	+0.3
PKGZ				S		S	10 38 26.7	+0.3
PUZ	**Puketiti**	**6.25**	**195**	P		Pn	10 37 13.1	-0.8
PUZ				S		S	10 38 30.3	+1.2
RUGZ	**Raukumara Rang**	**6.29**	**199**	P		Pn	10 37 13.9	-0.7
WCZ	**Waipu Caves**	**6.29**	**230**	P		Pn	10 37 13.9	-0.5
WIAZ	**Waiheke Island**	**6.38**	**221**	P		Pn	10 37 16.1	+0.6
TWGZ	**Tauwhareparae**	**6.41**	**197**	P		Pn	10 37 15.0	-0.9
WHRZ	**Whale Island**	**6.41**	**204**	P		Pn	10 37 17.8	+1.9
OUZ	**Omahuta**	**6.43**	**239**	P		Pn	10 37 14.4	-1.7
MBAZ	**Motutapu North**	**6.50**	**222**	P		Pn	10 37 16.8	0.0
OPRZ	**Ohinepanea**	**6.56**	**207**	P		Pn	10 37 17.4	-0.2
MARZ	**Manawahe**	**6.63**	**206**	P		Pn	10 37 20.4	+1.9
CNGZ	**Carnagh Statio**	**6.65**	**194**	P		Pn	10 37 19.2	+0.5
MWZ	**Matawai**	**6.68**	**199**	P		Pn	10 37 17.4	-1.6
MWZ				S		S	10 38 38.0	-0.5
TKGZ	**Te Karaka**	**6.69**	**197**	P		Pn	10 37 17.6	-1.5
TKGZ				S		S	10 38 38.7	0.0
EDRZ	**Edgecumbe**	**6.72**	**205**	P		Pn	10 37 21.1	+1.5
URZ	**Urewera**	**6.73**	**202**	P		Pn	10 37 18.1	-1.5
KMRZ	**Kaimai**	**6.81**	**211**	P		Pn	10 37 22.4	+1.8
KARZ	**Kaharoa**	**6.83**	**208**	P		Pn	10 37 22.2	+1.4
TOZ	**Tahuroa Road**	**6.91**	**213**	P		Pn	10 37 22.5	+0.7
RIGZ	**Rimuhau**	**6.97**	**197**	P		Pn	10 37 21.7	-0.8
MUGZ	**Murupara**	**7.04**	**203**	P		Pn	10 37 20.6	-2.7
RTZ	**Ruatahuna**	**7.10**	**202**	P		Pn	10 37 21.6	-2.5
WHHZ	**Waihua**	**7.45**	**199**	P		Pn	10 37 28.8	+0.7
MRHZ	**Matea Rd**	**7.48**	**204**	P		Pn	10 37 28.3	-0.3
HIZ	**Hauiti**	**7.84**	**213**	P		Pn	10 37 32.5	-0.4
MCHZ	**McNeill Hill**	**7.95**	**201**	P		Pn	10 37 32.7	-1.4
KRVZ	**Karewarewa**	**8.00**	**207**	P		Pn	10 37 34.3	-0.5
KWHZ	**Kaweka Forest**	**8.01**	**202**	P		Pn	10 37 31.3	-3.7
CKHZ	**Cape Kidnapper**	**8.04**	**198**	P		Pn	10 37 34.9	-0.3
TWVZ	**Taurewa**	**8.06**	**208**	P		Pn	10 37 34.3	-1.2
TUVZ	**Tukino**	**8.14**	**206**	P		Pn	10 37 35.2	-1.4
FWVZ	**Far West T-bar**	**8.17**	**207**	P		Pn	10 37 35.5	-1.5
BHHZ	**Black Hill Sta**	**8.19**	**204**	P		Pn	10 37 33.6	-3.5
TRVZ	**Turoa**	**8.21**	**207**	P		Pn	10 37 35.1	-2.4
KAHZ	**Kahuranaki**	**8.22**	**199**	P		Pn	10 37 35.9	-1.6
MOVZ	**Moawhango**	**8.23**	**205**	P		Pn	10 37 35.3	-2.3
KRHZ	**Kereru**	**8.23**	**202**	P		Pn	10 37 34.7	-2.8
PKVZ	**Pokaka**	**8.28**	**208**	P		Pn	10 37 36.2	-2.0
MTVZ	**Mangateitei**	**8.31**	**207**	P		Pn	10 37 36.6	-2.0
VRZ	**Vera Road**	**8.38**	**211**	P		Pn	10 37 38.1	-1.3
PXZ	**Pawanui**	**8.45**	**198**	P		Pn	10 37 37.2	-2.9
PNHZ	**Pukenui**	**8.53**	**202**	P		Pn	10 37 37.5	-3.7
WPHZ	**Waipukurau**	**8.60**	**200**	P		Pn	10 37 40.1	-1.9
PRHZ	**Porangahau**	**8.73**	**199**	P		Pn	10 37 41.7	-1.8
TSZ	**Takapari Road**	**8.74**	**202**	P		Pn	10 37 38.4	-5.3
PKE	**Pukeiti**	**8.79**	**214**	P		Pn	10 37 44.8	+0.4
WAZ	**Wanganui**	**8.82**	**208**	P		Pn	10 37 42.0	-2.7
DVHZ	**Dannevirke**	**8.89**	**201**	P		Pn	10 37 42.2	-3.3
ANWZ	**Angora Road**	**8.95**	**199**	P		Pn	10 37 44.2	-2.0
POWZ	**Post Office Ro**	**9.10**	**202**	P		Pn	10 37 44.9	-3.1
PRWZ	**Pori Road**	**9.19**	**201**	P		Pn	10 37 46.7	-2.3
BFZ	**Birch Farm**	**9.22**	**200**	P		Pn	10 37 45.5	-4.0
HOWZ	**Holdsworth Sta**	**9.64**	**202**	P		Pn	10 37 50.3	-4.2

*ISCJB **27** 10:35:43.8±1.1,51°.6N±0°.1×81°.7E±0°.2, h0km, Error ellipse: s-maj=20.1km s-min=9.9km az=140.1*
*IDC **27** 10:35:47.5±1.3,51°.33N×81°.88E, h0km, mb1 2.3/3, mb1mx2.2/46, mbtmp2.3/3, ML1.9/3, Error ellipse: s-maj=15.7km s-min=11.8km az=126.0*
*NNC **27** 10:35:48.6±2.0,51°.16N×81°.79E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=15.2km s-min=9.5km az=35.0, Suspected Mining explosion.*

ISC 27 10:35:46.0±1.1,51°.54N±0°.07×81°.86E±0°.07,h0km,n7, σ1§14/7,4C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**2.20**	**249**	⇓Pg	**Pb**	**10 36 25.7**	**-0.9**
	2.0nm,0.4s						
KURK				⇑Lg	Lg	10 36 54.4	
	14nm,0.6s						
KURBB	**Kurchatov Arra**	**2.29**	**248**	Pn	**Pn**	**10 36 25.6**	**+0.6**
	0.2nm,0.3s,baz=73,slow=19,SNR=6.7						
KURBB				Lg	Lg	10 36 57.5	
	0.3nm,0.3s,baz=71,slow=32,SNR=5.8						
KURBB	**Kurchatov Arra**	**2.29**	**248**	⇑Pg	**Pb**	**10 36 27.3**	**-0.9**
	2.4nm,0.3s,baz=76,slow=16						
KURBB				⇑Lg	Lg	10 36 56.8	
	24nm,0.8s						
ZALV	**Zalesovo Beam**	**3.01**	**36**	Pn	**Pb**	**10 36 39.1**	**-1.3**
	0.3nm,0.3s,baz=220,slow=16,SNR=2.3						
ZALV				Pg	**Pg**	**10 36 44.7**	**+1.0**
	0.5nm,0.3s,baz=220,slow=16,SNR=9.3						
ZALV				Lg	Lg	10 37 27.2	
	0.9nm,0.3s,baz=215,slow=22,SNR=10.0						
ZALV				*i*		10 55 59.1	
	1.7nm,0.3s,baz=70,slow=22,SNR=13						
I46RU	**ZALESOVO INFRA**	**3.01**	**36**	*i*		10 55 52.1	
	baz=208,slow=324,SNR=5.5						
MK31	**Makanchi Array**	**4.76**	**176**	⇑Pg	**Pb**	**10 37 09.7**	**-0.6**
	0.7nm,0.6s,baz=355,slow=14,SNR=3.1						
MK31				⇓Lg	Lg	10 38 09.0	
	4.0nm,0.7s,baz=1.8,slow=28,SNR=6.4						
MKAR	**Makanchi Array**	**4.76**	**176**	Pn	**Pn**	**10 36 59.0**	**+0.1**
	0.1nm,0.3s,baz=358,slow=11,SNR=7.6						
MKAR				Lg	Lg	10 38 09.2	
	0.2nm,0.3s,baz=351,slow=26,SNR=3.7						

*IDC **27** 11:25:27.3±0.9,36°.39N×57°.32E, h0km, mb3.6/10, mb1 3.8/16, mb1mx3.7/45, mbtmp3.7/16, ML3.1/6, MS3.4/10, Ms1 3.4/10, ms1mx3.0/50, Error ellipse: s-maj=16.1km s-min=13.0km az=130.0*
*ISCJB **27** 11:25:27.3±0.5,36°.56N±0°.02×57°.44E±0°.02, h11km±4km, mb3.8/12, MS3.4/6, Error ellipse: s-maj=3.5km s-min=2.8km az=170.8*
*TEH **27** 11:25:27.6,36°.47N×57°.43E, h7km, ML4.2*
*MOS **27** 11:25:28.8±1.3,36°.42N×57°.43E, h28km, mb4.2/8, Error ellipse: s-maj=7.3km s-min=6.8km az=50.6*
*THR **27** 11:25:28.7,36°.44N×57°.40E, h14km, ML4.0*
*NEIC **27** 11:25:28.7±1.8,36°.47N±0°.03×57°.48E±0°.04, h10km±1km*

ISC 27 11:25:28.4±1.0,36°.46N±0°.03×57°.43E±0°.03,h8km±7km, n175,σ1§30/172,mb4.0/13,MS3.4/5,4C-2D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBZV	**Sabzevar**	**0.16**	**116**	*e*Pg	**Pg**	**11 25 31.7**	**-0.2**
SBZV				*e*Sg	**Sg**	**11 25 34.7**	**+0.4**
SBZV	**Sabzevar**	**0.16**	**116**	Pg	**Pg**	**11 25 31.7**	**-0.2**
SBZV				Sg	**Sg**	**11 25 34.6**	**+0.3**
ISFR	**Sfrayin**	**0.75**	**38**	*e*Pg	**Pg**	**11 25 42.7**	**-0.2**
ISFR				IAMB	IAmb	11 26 01.8	
	comp=Z,70μm,0.6s						
ISFR	**Sfrayin**	**0.75**	**38**	Pg	**Pg**	**11 25 42.7**	**-0.2**
IKRD	**Kardeh**	**0.93**	**70**	*e*Pn	Pn	11 25 59.5	+11
IKRD				IAMB	IAmb	11 26 29.3	
	comp=Z,20μm,0.4s						
IKRD	**Kardeh**	**0.93**	**70**		**Sb**	**11 25 59.5**	**-0.1**
IAKL	**Akhelmad**	**1.08**	**82**	*e*Pg	**Pg**	**11 25 47.6**	**-1.6**
IAKL				IAMB	IAmb	11 26 04.4	
	comp=Z,49μm,0.2s						
IAKL	**Akhelmad**	**1.08**	**82**	Pg	**Pg**	**11 25 47.6**	**-1.6**
BJRD	**Bojnurd**	**1.24**	**359**	*e*Pg	**Pg**	**11 25 52.2**	**0.0**
BJRD	**Bojnurd**	**1.24**	**359**	*e*Pg	**Pg**	**11 25 52.2**	**0.0**
BJRD	**Bojnurd**	**1.24**	**359**		**Pg**	**11 25 52.1**	**0.0**
SHRO	**Shahrood**	**1.24**	**248**	*e*Pg	**Pg**	**11 25 50.9**	**-1.3**
SHRO	**Shahrood**	**1.24**	**248**	*e*Pg	**Pg**	**11 25 50.9**	**-1.3**
SHRO	**Shahrood**	**1.24**	**248**		**Pg**	**11 25 50.8**	**-1.3**
IPAY	**Payeh**	**1.26**	**90**	*e*Pg	**Pg**	**11 25 51.1**	**-1.6**
IPAY				IAMB	IAmb	11 26 17.6	
	comp=Z,34μm,0.3s						
IPAY	**Payeh**	**1.26**	**90**		**Pg**	**11 25 51.1**	**-1.6**
IEMG	**Emamgholi**	**1.37**	**45**	*e*Pg	**Pg**	**11 25 53.5**	**-1.2**
IEMG				IAMB	IAmb	11 26 18.8	
	comp=Z,27μm,0.4s						
GEYT	**Alibeck**	**1.57**	**20**	Pg	**Pn**	**11 25 57.9**	**+1.2**
	comp=Z,82nm,0.3s,baz=204,slow=14,SNR=156						
GEYT				Lg	Lg	11 26 19.3	
	comp=Z,201nm,0.3s,baz=204,slow=27,SNR=32						
GYA0B	**ALIBECK ARRAY**	**1.57**	**20**		**Pn**	**11 25 57.4**	**+0.8**
GYA0B				Sn	**Sn**	**11 26 17.9**	**+0.8**
IMOG	**Moghan**	**1.58**	**102**	*e*Pn	**Pn**	**11 25 56.0**	**-1.1**
IMOG				IAMB	IAmb	11 26 24.6	
	comp=Z,40μm,0.5s						
IMOG	**Moghan**	**1.58**	**102**	Pn	**Pn**	**11 25 56.0**	**-1.1**
ASHT	**Ashkhabad**	**1.66**	**27**	P	**Pn**	**11 25 58.7**	**+0.8**
ASHT	**Ashkhabad**	**1.66**	**27**		**Pn**	**11 25 58.7**	**+0.8**
IMND	**Minoodasht**	**1.81**	**297**	*e*Pn	**Pn**	**11 26 00.8**	**+0.9**
IMND				IAMB	IAmb	11 26 34.5	
	comp=Z,0.0nm,1.0s						
IMND	**Minoodasht**	**1.81**	**297**	Pn	**Pn**	**11 26 00.8**	**+0.9**
IMYA	**Miami**	**2.16**	**92**	IAMB	IAmb	11 26 44.8	
	comp=Z,19μm,0.6s						
IMYA				*e*Pn	**Pn**	**11 26 06.7**	**+1.8**
JRKH	**Jarkhoshk**	**2.43**	**102**	*e*Pn	**Pn**	**11 26 09.9**	**+1.4**
JRKH	**Jarkhoshk**	**2.43**	**102**	Pn	**Pn**	**11 26 09.8**	**+1.3**
TNSJ	**Nastanj**	**2.58**	**195**	*e*Pn	**Pn**	**11 26 12.0**	**+1.4**
TNSJ				IAMB	IAmb	11 26 52.2	
	comp=Z,0.0nm,0.8s						
TNSJ	**Nastanj**	**2.58**	**195**	Pn	**Pn**	**11 26 12.0**	**+1.4**
TABS	**Tabas**	**2.82**	**185**	*e*Pn	**Pn**	**11 26 15.0**	**+1.1**
TABS	**Tabas**	**2.82**	**185**	*e*AML	AML	11 27 07.8	
	comp=N,454nm,0.7s						
TABS	**Tabas**	**2.82**	**185**	*e*Pn	**Pn**	**11 26 15.0**	**+1.1**
TKDS	**Koohdasht(Taba**	**2.85**	**185**	*e*Pn	**Pn**	**11 26 15.8**	**+1.4**
TKDS				IAMB	IAmb	11 27 10.0	
	comp=Z,0.0nm,1.0s						
IGLO	**Ghaloghah**	**2.90**	**272**	*e*Pn	**Pn**	**11 26 16.5**	**+1.4**
IANJ	**Anjilo**	**3.02**	**252**	*e*Pn	**Pn**	**11 26 18.5**	**+1.7**
IANJ				IAMB	IAmb	11 27 20.8	
	comp=Z,6μm,0.9s						
IANJ	**Anjilo**	**3.02**	**252**	Pn	**Pn**	**11 26 18.5**	**+1.7**
AFRZ	**Afriz**	**3.30**	**156**	*e*Pn	**Pn**	**11 26 21.5**	**+1.0**
AFRZ				IAMB	IAmb	11 27 26.2	
	comp=Z,0.0nm,0.8s						
ISHM	**Shahmirzad**	**3.41**	**260**	*e*Pn	**Pn**	**11 26 24.2**	**+2.0**
ISHM				IAMB	IAmb	11 27 40.4	
	comp=Z,3μm,0.6s						
TPRV	**Parvadeh(Tabas**	**3.48**	**190**	*e*Pn	**Pn**	**11 26 24.4**	**+1.4**
TPRV				IAMB	IAmb	11 27 30.0	
	comp=Z,0.0nm,0.8s						
SHRT	**Shahrakht**	**3.66**	**139**	*e*Pn	**Pn**	**11 26 26.7**	**+1.3**
SHRT	**Shahrakht**	**3.66**	**139**	*e*Pn	**Pn**	**11 26 26.7**	**+1.3**
ITEG	**Tejag**	**3.72**	**163**	*e*Pn	**Pn**	**11 26 28.3**	**+1.9**
ITEG				IAMB	IAmb	11 27 43.4	
	comp=Z,4μm,0.8s						
IMON	**Monand**	**3.74**	**150**	*e*Pn	**Pn**	**11 26 28.8**	**+2.0**
IALA	**Alasht**	**3.75**	**266**	*e*Pn	**Pn**	**11 26 29.2**	**+2.3**
ILAS	**Lasjerd**	**3.78**	**255**	*e*Pn	**Pn**	**11 26 29.7**	**+2.4**
IFIR	**Firoozkooh**	**3.88**	**259**	*e*Pn	**Pn**	**11 26 29.9**	**+1.3**
IFIR				IAMB	IAmb	11 26 54.9	
	comp=Z,0.0nm,0.3s						
IPRN	**Peran**	**4.12**	**268**	*e*Pn	**Pn**	**11 26 33.4**	**+1.6**
IDAH	**Dahanechah**	**4.22**	**151**	*e*Pn	**Pn**	**11 26 34.6**	**+1.2**
IDAH				IAMB	IAmb	11 26 55.3	
	comp=N,2μm,0.7s						
IKOO	**Kooshah**	**4.23**	**162**	*e*Pn	**Pn**	**11 26 35.0**	**+1.5**
HRA	**Herat**	**4.44**	**116**		**Pn**	**11 26 35.4**	**-1.0**
ANAR	**Anarak**	**4.46**	**224**	*e*Pn	**Pn**	**11 26 37.6**	**+1.1**
IDMV	**Damavand**	**4.46**	**260**	*e*Pn	**Pn**	**11 26 38.4**	**+1.7**
IDMV				IAMB	IAmb	11 28 26.9	
	comp=Z,0.0nm,1.2s						
IDMV	**Damavand**	**4.46**	**260**	Pn	**Pn**	**11 26 38.4**	**+1.7**
YZKH	**Yazd**	**4.69**	**211**	*e*Pn	**Pn**	**11 26 41.0**	**+1.4**
YZKH	**Yazd**	**4.69**	**211**	*e*Pn	**Pn**	**11 26 41.0**	**+1.4**
YZKH	**Yazd**	**4.69**	**211**	*e*AML	AML	11 28 18.9	
	comp=N,114nm,0.7s						
YZKH	**Yazd**	**4.69**	**211**	*e*AML	AML	11 28 02.2	
	comp=E,162nm,0.6s						
IVRN	**Varamin**	**4.86**	**254**	*e*Pn	**Pn**	**11 26 43.0**	**+1.0**
KRSH	**Karshahi**	**5.00**	**242**	*e*Pn	**Pn**	**11 26 44.7**	**+0.8**
IBAF	**Bafgh**	**5.10**	**198**	*e*Pn	**Pn**	**11 26 47.2**	**+1.9**
IQOM	**Qom**	**5.42**	**255**	*e*Pn	**Pn**	**11 26 50.8**	**+1.0**
QALM	**Alamut, Qazvin**	**5.47**	**272**	*e*Pn	**Pn**	**11 26 52.0**	**+1.6**
ISAD	**Sadrabad**	**5.49**	**215**	*e*Pn	**Pn**	**11 26 52.4**	**+1.5**
IZEF	**Zefreh**	**5.50**	**231**	*e*Pn	**Pn**	**11 26 52.7**	**+1.7**
NHDN	**Nehbandan**	**5.50**	**156**	*e*Pn	**Pn**	**11 26 52.5**	**+1.6**
IMEH	**Mehriz**	**5.57**	**206**	*e*Pn	**Pn**	**11 26 53.7**	**+1.8**
QAM	**Ghamsar**	**5.60**	**243**	*e*Pn	**Pn**	**11 26 52.9**	**+0.7**
IKLH	**Kolahrood**	**5.74**	**239**	*e*Pn	**Pn**	**11 26 55.2**	**+1.0**
KHGB	**Koh Gabri**	**6.12**	**188**	*e*Pn	**Pn**	**11 27 01.3**	**+1.9**
TVBK	**TV Kerman**	**6.48**	**185**	*e*Pn	**Pn**	**11 27 06.1**	**+1.6**
KRBR	**Kerman**	**6.49**	**185**	*e*AML	AML	11 29 04.4	
	comp=E,37nm,0.7s						
NGRK	**Negar Kerman**	**6.82**	**185**	*e*Pn	**Pn**	**11 27 10.6**	**+1.4**
JHBN	**Jahan bin**	**7.00**	**235**	*e*Pn	**Pn**	**11 27 14.0**	**+2.4**
ASTR	**Astara**	**7.18**	**290**	*e*Pn	**Pn**	**11 27 13.7**	**0.0**
KLNJ	**Kolanjah**	**7.29**	**223**	*e*Pn	**Pn**	**11 27 18.1**	**+2.5**
BDRS	**Dareh Seyedi**	**7.43**	**253**	*e*Pn	**Pn**	**11 27 20.3**	**+2.9**
HSRG	**Sarbaghieh**	**7.53**	**263**	*e*Pn	**Pn**	**11 27 20.2**	**+1.4**
LRK	**Lerik**	**7.54**	**290**	*e*Pn	**Pn**	**11 27 18.4**	**-0.4**
HSAM	**Samen**	**7.55**	**255**	*e*Pn	**Pn**	**11 27 21.5**	**+2.4**
YRD	**Yardimli**	**7.69**	**291**	*e*Pn	**Pn**	**11 27 20.3**	**-0.6**
GBS	**Qobustan**	**7.80**	**304**	*e*Pn	**Pn**	**11 27 20.9**	**-1.4**
ISRB	**Sarab**	**7.92**	**283**	*e*Pn	**Pn**	**11 27 26.1**	**+2.1**
ATGJ	**Altiaghaj**	**7.96**	**306**	*e*Pn	**Pn**	**11 27 23.7**	**-0.9**
SIZA	**Siyzn**	**8.10**	**307**	*e*Pn	**Pn**	**11 27 25.5**	**-0.9**
PQL	**Pirkuli**	**8.15**	**305**	*e*Pn	**Pn**	**11 27 25.6**	**-1.6**
IHRS	**Heris**	**8.47**	**286**	*e*Pn	**Pn**	**11 27 32.4**	**+0.7**
XNQ	**Khinaliq**	**8.64**	**306**	*e*Pn	**Pn**	**11 27 33.3**	**-0.7**
QSAR	**Qusar**	**8.74**	**308**	*e*Pn	**Pn**	**11 27 33.8**	**-1.3**
AKT	**Akhty**	**9.06**	**307**	*e*P	**Pn**	**11 27 40.4**	**+0.8**
AKT				*e*S	**Sn**	**11 29 21.9**	**0.0**
AKT				pmax	pmax		
	comp=Z,9.0nm,1.0s						
AKT				smax	smax		
	comp=N,6.0nm,0.4s						
AKT				smax	smax		
	comp=E,17nm,0.5s						
ORD	**Ordubad**	**9.39**	**289**	*e*Pn	**Pn**	**11 27 43.2**	**-0.9**
CHGR	**Chuyangaron**	**9.57**	**73**		**Pn**	**11 27 45.6**	**-1.0**
GANJ	**Ganja**	**9.65**	**299**	P	**Pn**	**11 27 47.1**	**-0.5**
GANJ	**Ganja**	**9.65**	**299**	*e*Pn	**Pn**	**11 27 47.1**	**-0.5**
KBL	**Kabul**	**9.66**	**98**	P	**Pn**	**11 27 48.4**	**+0.4**
KBL	**Kabul**	**9.66**	**98**	Pn	**Pn**	**11 27 48.4**	**+0.4**
SBZ	**Shahbuz**	**9.83**	**291**	*e*Pn	**Pn**	**11 27 48.4**	**-1.8**
ZKT	**Zaqatala**	**9.84**	**305**	*e*Pn	**Pn**	**11 27 49.6**	**-0.7**
MAK	**Makhachkala**	**10.03**	**313**	*e*P	**Pn**	**11 27 51.0**	**-1.7**
MAK				*e*S	**Sn**	**11 29 41.7**	**-3.6**
MAK				pmax	pmax		
	comp=E,185nm,1.0s						
MAK				MLR	MLR		
	comp=Z,197nm,13.0s						
GAR	**Garm**	**10.52**	**72**		**Pn**	**11 27 58.9**	**-0.7**
GNI	**Garni**	**10.63**	**294**	Pn	**Pn**	**11 28 02.0**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=120,slow=20,SNR=1.6						
GNI				LR	LR	11 33 52.1	
	comp=Z,89nm,18.8s,baz=102,slow=48						
GNI	**Garni**	**10.63**	**294**	Pn	**Pn**	**11 28 01.8**	**+0.6**
BTK	**Batken**	**11.12**	**67**	P	**Pn**	**11 28 07.5**	**-0.4**
BTK	**Batken**	**11.12**	**67**		**Pn**	**11 28 07.5**	**-0.4**
TBLG	**Delisi**	**11.17**	**302**	P	**Pn**	**11 28 08.3**	**-0.2**
TBLG	**Delisi**	**11.17**	**302**	Pn	**Pn**	**11 28 08.3**	**-0.2**
UOSS	**Minazif**	**11.53**	**186**	Pn	**Pn**	**11 28 13.6**	**+0.2**
KK31	**Karatay Array**	**12.05**	**53**	P	**Pn**	**11 28 21.2**	**+0.8**
KK31	**Karatay Array**	**12.05**	**53**		**Pn**	**11 28 21.2**	**+0.8**
KKAR	**Karatay Array**	**12.05**	**53**	P	**Pn**	**11 28 20.5**	**+0.1**
KKAR	**Karatay Array**	**12.05**	**53**		**Pn**	**11 28 20.5**	**+0.1**
ABKAR	**Akbulak array**	**12.92**	**7**		**Pn**	**11 28 32.1**	**-0.1**
ARSB	**Arslanbob**	**13.05**	**63**		**Pn**	**11 28 33.8**	**-0.5**
NIL	**Nilore**	**13.26**	**98**	P	**Pn**	**11 28 37.0**	**-0.1**
NIL	**Nilore**	**13.26**	**98**	Pn	**Pn**	**11 28 37.0**	**-0.1**
KBZ	**Khabaz**	**13.27**	**308**	P	**Pn**	**11 28 38.0**	**+0.9**
KBZ	**Khabaz**	**13.27**	**308**	Pn	**Pn**	**11 28 38.0**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=73,slow=20,SNR=2.6						
KIV	**Kislovodsk**	**13.52**	**308**	*e*P	**Pn**	**11 28 40.4**	**-0.1**
KIV				pmax	pmax		
	comp=Z,27nm,1.0s						
KIV	**Kislovodsk**	**13.52**	**308**	Pn	**Pn**	**11 28 39.9**	**-0.6**
AKTO	**Aktyubinsk**	**13.97**	**2**	Pn	**Pn**	**11 28 47.3**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=208,slow=9.3,SNR=7.0						
AKTO				Sn	Sn	11 31 13.9	-8.1
	comp=Z,0.2nm,0.3s,baz=47,slow=18,SNR=1.9						
AKTO				LR	LR	11 35 14.0	
	comp=Z,282nm,18.5s,baz=172,slow=42						
AAK	**Ala-Archa**	**14.53**	**60**	⇑*e*P	**Pn**	**11 28 55.8**	**+1.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	**Ala-Archa**	**14.53**	**60**	Pn	**Pn**	**11 28 52.4**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=243,slow=9.5,SNR=2.8						
AAK				Sn	**Sn**	**11 31 35.2**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=338,slow=9.3,SNR=1.8						
AAK				LR	LR	11 35 11.4	
	comp=Z,149nm,19.6s,baz=257,slow=40						
AAK	**Ala-Archa**	**14.53**	**60**		**Pn**	**11 28 53.7**	**-0.8**
NRN	**Naryn**	**15.27**	**65**	P	**Pn**	**11 29 02.6**	**-2.0**
NRN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NRN	**Naryn**	**15.27**	**65**		**Pn**	**11 29 02.6**	**-2.0**
NRN				IAmb	IAmb	11 29 14.4	
	comp=Z,3.9nm,0.7s						
BOOM	**Boomskoye usch**	**15.50**	**61**	P	**Pn**	**11 29 06.0**	**-1.5**
BOOM				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOOM	**Boomskoye usch**	**15.50**	**61**	Pn	**Pn**	**11 29 06.0**	**-1.5**
BOOM				IAmb	IAmb	11 29 13.6	
	comp=Z,4.0nm,0.8s						
KDJ	**Kajisay**	**16.29**	**64**	P	**Pn**	**11 29 17.0**	**-0.8**
KDJ				pmax	pmax		
	comp=Z,17nm,1.2s						
KDJ	**Kajisay**	**16.29**	**64**	Pn	**Pn**	**11 29 17.0**	**-0.8**
KDJ				IAmb	IAmb	11 29 32.0	
	comp=Z,17nm,1.1s						
RAYN	**Ar Rayn**	**16.50**	**222**	P	**Pn**	**11 29 19.4**	**-1.0**
RAYN				pmax	pmax		
	comp=Z,4.0nm,1.4s						
RAYN	**Ar Rayn**	**16.50**	**222**	Pn	**Pn**	**11 29 19.4**	**-1.0**
TARG	**Taragay, Kyrgy**	**16.66**	**65**	Pn	**Pn**	**11 29 22.1**	**-0.6**
TARG				IAmb	IAmb	11 29 35.6	
	comp=Z,13nm,1.5s						
MMAI	**Mount Meron Ar**	**18.42**	**266**	LR	LR	11 37 43.1	
	comp=Z,81nm,19.7s,baz=300,slow=40						
BRVK	**Borovoye**	**18.89**	**25**	⇓*e*P	**Pn**	**11 29 51.3**	**+1.6**
BRVK				pmax	pmax		
	comp=Z,11nm,2.5s						
BRVK	**Borovoye**	**18.89**	**25**	P	**P**	**11 29 47.3**	**-1.9**
BVAR	**Borovoye Array**	**18.90**	**25**	P	**Pn**	**11 29 50.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=203,slow=11,SNR=8.1						
BRTR	**Keskin Array B**	**18.99**	**287**	P	**P**	**11 29 50.0**	**-0.6**
BRTR	**Keskin Array B**	**18.99**	**287**	P	**P**	**11 29 50.0**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=114,slow=9.7,SNR=2.6						
VSR	**Storozhevoye**	**19.70**	**324**	⇑*e*P	**Pn**	**11 29 59.8**	**+0.4**
VSR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ARU	**Arti**	**19.99**	**2**	P	**P**	**11 30 02.1**	**+0.9**
ARU						11 30 17.6	
ARU				S	**S**	**11 33 47.1**	**+1.1**
ARU				SS	**SnSn**	**11 34 01.7**	**-0.3**
ARU	**Arti**	**19.99**	**2**	P	**P**	**11 30 01.7**	**+0.5**

H01W1	**Cape Leeuwin H**	**31.57**	**161**	T	T	12	24	33.0	
	baz=338								
WRA	**Warramunga Arr**	**34.52**	**118**	P	**P**	**11**	**51**	**37.2**	**-0.5**
	0.4nm,0.8s,baz=301,slow=10,SNR=3.4								
ASAR	**Alice Springs**	**35.62**	**124**	P	**P**	**11**	**51**	**48.0**	**+0.7**
	0.7nm,0.4s,baz=297,slow=7.6,SNR=28								
STKA	**Stephens Creek**	**45.40**	**131**	P	**P**	**11**	**53**	**07.4**	**-0.6**
	0.7nm,0.5s,baz=312,slow=14,SNR=3.0								
SONM	**Songino Array**	**52.91**	**4**	P	**P**	**11**	**54**	**05.1**	**-0.2**
	2.2nm,0.9s,baz=186,slow=9.1,SNR=12								
MKAR	**Makanchi Array**	**54.67**	**343**	P	**P**	**11**	**54**	**16.8**	**-1.4**
	0.5nm,0.5s,baz=149,slow=9.0,SNR=12								
ZALV	**Zalesovo Beam**	**60.69**	**348**	P	**P**	**11**	**54**	**58.8**	**-1.5**
	0.5nm,0.3s,baz=169,slow=8.4,SNR=3.2								
TXAR	**Lajitas Array**	**145.70**	**43**	PKPbc	**PKPdf**	**12**	**04**	**28.6**	**0.0**
	1.3nm,0.7s,baz=261,slow=0.9,SNR=21								

ISCJB ***27*** *12:04:28.6±0.9, 5.˚4S±0.˚2 × 107.˚6E±0.˚3, h300km, mb3.5/10, Error ellipse: s-maj=41.1km s-min=11.7km az=148.9*
IDC ***27*** *12:04:29.9±1.4, 5.˚64S × 107.˚22E, h310km±18km, mb3.2/10, mb1 3.3/10, mb1mx3.1/56, mbtmp3.9/10, Error ellipse: s-maj=67.4km s-min=11.5km az=54.0*

ISC 27 12:04:29.8±1.2, 5.˚5S±0.˚2 × 107.˚4E±0.˚3, h300km, n11, σ0§71/11, mb3.5/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
LEM	**Lembang**	**1.34**	**172**	P	**Pn**	**12**	**05**	**12.8**	**+0.6**
	7.0nm,0.3s,baz=322,slow=11,SNR=5.9								
FITZ	**Fitzroy Crossi**	**21.76**	**127**	P	**P**	**12**	**08**	**57.8**	**0.0**
	5.3nm,1.1s,baz=328,slow=9.5,SNR=3.8								
CMAR	**Chiang Mai Arr**	**25.23**	**341**	P	**P**	**12**	**09**	**28.5**	**-0.6**
	0.5nm,0.5s,baz=172,slow=8.9,SNR=3.2								
WRA	**Warramunga Arr**	**29.85**	**121**	P	**P**	**12**	**10**	**09.8**	**-0.4**
	0.2nm,0.3s,baz=307,slow=8.4,SNR=8.9								
ASAR	**Alice Springs**	**31.24**	**128**	P	**P**	**12**	**10**	**22.1**	**-0.2**
	0.9nm,0.4s,baz=300,slow=7.8,SNR=73								
STKA	**Stephens Creek**	**41.35**	**134**	P	**P**	**12**	**11**	**47.0**	**-0.2**
	0.7nm,0.3s,baz=333,slow=7.4,SNR=8.1								
SONM	**Songino Array**	**53.11**	**359**	P	**P**	**12**	**13**	**18.3**	**+1.1**
	0.5nm,0.5s,baz=182,slow=9.5,SNR=2.8								
MKAR	**Makanchi Array**	**56.63**	**340**	P	**P**	**12**	**13**	**41.7**	**-0.4**
	1.3nm,0.5s,baz=150,slow=8.1,SNR=19								
KLR	**Kul'dur**	**58.48**	**18**	P	**P**	**12**	**13**	**55.2**	**+0.4**
	1.0nm,0.6s,baz=204,slow=3.3,SNR=5.1								
KURBB	**Kurchatov Arra**	**61.19**	**339**	P	**P**	**12**	**14**	**12.6**	**-0.6**
	0.5nm,0.5s,baz=153,slow=6.0,SNR=4.1								
ZALV	**Zalesovo Beam**	**62.19**	**345**	P	**P**	**12**	**14**	**18.7**	**-1.0**
	1.1nm,0.3s,baz=152,slow=6.3,SNR=5.6								

IDC 27 12:08:04.5±5.4, 39.˚39N × 110.˚48E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/54, mbtmp3.5/5, ML2.6/1, MS3.7/1, Ms1 3.6/1, ms1mx2.6/38, Error ellipse: s-maj=116.0km s-min=23.8km az=85.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SONM	**Songino Array**	**8.94**	**342**	Pn	Pn	12	10	15.0	0.0
	0.1nm,0.3s,baz=155,slow=13,SNR=12								
SONM				Lg	Lg	12	12	45.1	
	0.1nm,0.3s,baz=159,slow=26,SNR=1.9								
MKAR	**Makanchi Array**	**21.79**	**299**	P	P	12	12	57.6	-0.4
	1.1nm,0.9s,baz=97,slow=12,SNR=6.1								
ZALV	**Zalesovo Beam**	**22.68**	**318**	P	P	12	13	07.6	+0.4
	0.4nm,0.3s,baz=133,slow=10.0,SNR=1.5								
CMAR	**Chiang Mai Arr**	**23.13**	**209**	P	P	12	13	11.7	-0.6
	1.9nm,1.1s,baz=11,slow=9.7,SNR=8.5								
KURBB	**Kurchatov Arra**	**25.03**	**307**	P	P	12	13	30.9	+0.9
	1.6nm,1.1s,baz=109,slow=11,SNR=4.8								
KBZ	**Khabaz**	**49.49**	**298**	LR	LR	12	42	28.0	
	comp=Z,82nm,19.2s,baz=7.5,slow=42								

IDC 27 12:16:45.2±3.5, 1.˚96S × 99.˚59E, h0km, mb3.5/5, mb1 3.5/5, mb1mx3.4/47, mbtmp3.5/5, MS3.5/2, Ms1 3.5/2, ms1mx2.7/33, Error ellipse: s-maj=153.9km s-min=22.7km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
DAV	**Davao City (W)**	**27.44**	**71**	LR	LR	12	35	32.7	
	comp=Z,70nm,18.2s,baz=64,slow=41								
H08S2	**Diego Garcia H**	**27.58**	**257**	T	T	12	51	05.2	
	baz=80,slow=75,SNR=178								
H08S3	**Diego Garcia H**	**27.58**	**257**	T	T	12	51	03.1	
	baz=80,slow=75,SNR=137								
H08S1	**Diego Garcia H**	**27.60**	**257**	T	T	12	51	04.0	
	baz=80,slow=75,SNR=89								
H01W3	**Cape Leeuwin H**	**35.45**	**159**	T	T	13	01	00.9	
	baz=335,slow=76,SNR=6.2								
H01W2	**Cape Leeuwin H**	**35.46**	**159**	T	T	13	01	02.4	
	baz=335,slow=76,SNR=6.6								
H01W1	**Cape Leeuwin H**	**35.46**	**159**	T	T	13	00	58.6	
	baz=335,slow=76,SNR=3.9								
WRA	**Warramunga Arr**	**38.36**	**120**	P	P	12	24	08.0	-0.4
	0.2nm,0.5s,baz=308,slow=9.2,SNR=3.2								
ASAR	**Alice Springs**	**39.60**	**126**	P	P	12	24	18.9	+0.1
	0.3nm,0.8s,baz=294,slow=7.4,SNR=4.8								
SONM	**Songino Array**	**49.95**	**6**	P	P	12	25	41.1	+0.1
	0.6nm,0.6s,baz=184,slow=9.0,SNR=5.5								
MKAR	**Makanchi Array**	**50.88**	**345**	P	P	12	25	47.9	-0.2
	0.6nm,0.7s,baz=153,slow=9.1,SNR=4.5								
ZALV	**Zalesovo Beam**	**57.06**	**350**	P	P	12	26	32.7	-0.3
	0.7nm,0.5s,baz=178,slow=5.8,SNR=5.0								
GNI	**Garni**	**65.22**	**316**	LR	LR	12	58	11.9	
	comp=Z,42nm,18.2s,baz=70,slow=38								
TXAR	**Lajitas Array**	**144.92**	**37**	PKP	PKPdf	12	36	24.9	-0.4
	0.4nm,0.7s,baz=192,slow=1.1,SNR=6.5								

IDC 27 12:32:47.8±8.5, 24.˚42N × 142.˚11E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/41, mbtmp3.7/4, Error ellipse: s-maj=347.3km s-min=33.1km az=74.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**44.74**	**190**	P	P	12	41	02.9	-0.1
	0.5nm,0.8s,baz=11,slow=8.5,SNR=2.0								
ZALV	**Zalesovo Beam**	**51.48**	**321**	P	P	12	41	55.0	+0.1
	1.2nm,0.4s,baz=107,slow=7.5,SNR=4.5								
MKAR	**Makanchi Array**	**52.15**	**311**	P	P	12	42	00.7	+0.7
	0.2nm,0.4s,baz=101,slow=7.5,SNR=1.6								
KURBB	**Kurchatov Arra**	**54.88**	**316**	P	P	12	42	19.2	-0.8
	0.8nm,0.6s,baz=90,slow=7.5,SNR=6.3								

KRSC 27 13:14:04.7±2.2, 51.˚00N × 158.˚08E, h50km±28km, ML4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KDTR	**Khodutka, Kamc**	**0.81**	**0**	*eP*	Pn	13	14	20.9	+1.0
KDTR				*eS*	Sn	13	14	31.9	+0.9
PAU	**Pauzhetka**	**0.92**	**301**	*eP*	Pn	13	14	23.2	+1.8
PAU				*eS*	Sn	13	14	35.2	+1.6
SKR	**Severo-Kuril's**	**1.28**	**256**	*eP*	Pn	13	14	27.9	+1.7
SKR				*eS*	Sn	13	14	44.8	+2.6
ASAK	**Asacha**	**1.39**	**356**	*eP*	Pn	13	14	29.4	+1.6
ASAK				*eS*	Sn	13	14	47.0	+1.9
MTVR	**Mutnovka**	**1.49**	**3**	*eP*	Pn	13	14	30.8	+1.6
MTVR				*eS*	Sn	13	14	48.8	+1.2
GRL	**Gorelyy**	**1.56**	**360**	*eP*	Pn	13	14	32.0	+1.9
GRL				*eS*	Sn	13	14	51.5	+2.3
ALID	**Alaid**	**1.60**	**266**	*eP*	Pn	13	14	29.4	-1.3
KRMR	**Karymshinskiy**	**1.83**	**1**	*eP*	Pn	13	14	35.9	+2.1
KRMR				*eS*	Sn	13	14	57.4	+1.6
APC	**Apacha**	**2.01**	**344**	*eP*	Pn	13	14	38.8	+2.6
PET	**Petropavlovsk**	**2.06**	**10**	*eP*	Pn	13	14	38.4	+1.6
UGLR	**Uglovaya**	**2.26**	**11**	*eP*	Pn	13	14	42.0	+2.3
AVH	**Avacha**	**2.31**	**10**	*eP*	Pn	13	14	43.0	+2.7
AVH				*eS*	Sn	13	15	10.5	+3.0
SMAR	**Somma**	**2.31**	**11**	*eP*	Pn	13	14	43.2	+2.7
KOK	**Koryaka**	**2.32**	**8**	*eP*	Pn	13	14	43.6	+3.0
SDLR	**Sedlovina**	**2.34**	**12**	*eP*	Pn	13	14	42.2	+1.4
KRER	**Koryakskii**	**2.35**	**10**	*eP*	Pn	13	14	44.2	+3.2
KRER				*eS*	Sn	13	15	11.5	+2.8
KRX	**Arik**	**2.39**	**8**	*eP*	Pn	13	14	44.8	+3.3
SPN	**Mys Shipunski**	**2.42**	**29**	*eP*	Pn	13	14	44.3	+2.5
SPN				*eS*	Sn	13	15	12.7	+2.5
GNL	**Ganaly**	**2.70**	**358**	*eP*	Pn	13	14	48.6	+2.8
MKZ	**Mys Kozlova**	**4.20**	**30**	*eP*	Pn	13	15	07.4	+1.3
MKZ				*eS*	Sn	13	15	57.5	+3.7
KZV	**Kizimen**	**4.33**	**17**	*eP*	Pn	13	15	12.7	+4.5
TUMR	**Tumrok**	**4.47**	**15**	*eP*	Pn	13	15	13.5	+3.5
KMNR	**Kamenistaya**	**4.94**	**14**	*eP*	Pn	13	15	21.9	+5.5
KBTR	**Krutoberegovo**	**5.93**	**27**	*eP*	Pn	13	15	32.4	+2.5

ISCJB ***27*** *13:33:48.4±0.7, 25.˚59S±0.˚06 × 139.˚82E±0.˚05, h10km, Error ellipse: s-maj=8.7km s-min=6.2km az=16.1*
IDC ***27*** *13:33:48.9±3.3, 25.˚61S × 139.˚89E, h0km, mb1 3.6/3, mb1mx3.4/16, mbtmp3.5/3, ML3.3/3, Error ellipse: s-maj=48.7km s-min=18.1km az=56.0*
AUST ***27*** *13:33:49.9±0.0, 25.˚63S × 139.˚86E, h10km, Error ellipse: s-maj=1.1km s-min=0.6km az=352.0*

ISC 27 13:33:49.3±1.0, 25.˚63S±0.˚06 × 139.˚86E±0.˚06, h10km, n11, σ1§98/17, Queensland

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
INKA	**Innaminka**	**2.25**	**159**	P	**Pb**	**13**	**34**	**29.2**	**-0.8**
	baz=2.3,SNR=19								
QLP	**Quilpie**	**4.05**	**104**	P	**Pn**	**13**	**34**	**53.3**	**+2.1**
	baz=4.0,SNR=9.2								
QLP				S	**Sn**	**13**	**35**	**38.6**	**-0.2**
	baz=4.0								
OOD	**Oodnadatta**	**4.31**	**239**	P	**Pn**	**13**	**34**	**57.6**	**+2.8**
	baz=4.3,SNR=3.3								
OOD				S	**Sn**	**13**	**35**	**46.4**	**+1.2**
	baz=4.3								
LCRK	**Leigh Creek**	**5.01**	**196**	P	**Pn**	**13**	**35**	**06.6**	**+2.0**
	baz=5.0,SNR=32								
QIS	**Mount Isa**	**5.05**	**357**	P	**Pn**	**13**	**35**	**07.6**	**+2.4**
	baz=5.1,SNR=5.1								
ASAR	**Alice Springs**	**5.76**	**289**	Pn	**Pn**	**13**	**35**	**16.6**	**+1.7**
	1.9nm,0.3s,baz=108,slow=14,SNR=163								
ASAR				Sn	**Sn**	**13**	**36**	**19.6**	**-1.5**
	3.8nm,0.3s,baz=110,slow=25,SNR=14								
ASAR				Lg	Lg	13	36	50.7	
	1.8nm,0.3s,baz=117,slow=25,SNR=4.6								
STKA	**Stephens Creek**	**6.41**	**167**	Pn	**Pn**	**13**	**35**	**25.0**	**+1.3**
	0.4nm,0.3s,baz=348,slow=14,SNR=6.9								
STKA				Sn	**Sn**	**13**	**36**	**35.3**	**-1.7**
	0.8nm,0.3s,baz=344,slow=19,SNR=4.9								
STKA				Lg	Lg	13	37	12.7	
	1.0nm,0.3s,baz=297,slow=7.2,SNR=3.8								
MULG	**Mulgathing**	**6.91**	**227**	P	**Pn**	**13**	**35**	**32.9**	**+2.2**
	baz=6.9,SNR=11								
WRA	**Warramunga Arr**	**7.61**	**317**	Pn	**Pn**	**13**	**35**	**40.5**	**+0.2**
	0.3nm,0.3s,baz=141,slow=13,SNR=12								
WRA				Sn	**Sn**	**13**	**37**	**03.7**	**-3.0**
	1.1nm,0.3s,baz=145,slow=23,SNR=6.7								
WRA				Lg	Lg	13	37	52.6	
	2.1nm,0.3s,baz=134,slow=25,SNR=10								
BBOO	**Buckleboo**	**7.88**	**204**	P	**Pn**	**13**	**35**	**44.8**	**+0.8**
	baz=7.9,SNR=9.0								
BBOO				S	**Sn**	**13**	**37**	**10.8**	**-2.6**
	baz=7.9								
WRKA	**Warakurna**	**10.48**	**271**	P	**Pn**	**13**	**36**	**20.2**	**+0.6**
	baz=10,SNR=19								

ISCJB ***27*** *14:05:10.8±0.7, 10.˚45N±0.˚10 × 94.˚1E±0.˚1, h100km, mb3.8/7, Error ellipse: s-maj=23.0km s-min=8.8km az=148.5*
IDC ***27*** *14:05:12.8±3.6, 10.˚41N × 94.˚18E, h99km±34km, mb3.4/6, mb1 3.5/8, mb1mx3.3/36, mbtmp3.6/8, MS3.1/4, Ms1 3.1/4, ms1mx2.8/34, Error ellipse: s-maj=40.0km s-min=15.5km az=60.0*

ISC 27 14:05:12.9±0.9, 10.˚5N±0.˚1 × 94.˚1E±0.˚2, h100km, n22, σ0§79/19, mb3.8/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
PSI	**Prapat**	**8.96**	**148**	P	**Pn**	**14**	**07**	**20.0**	**+0.3**
	0.9nm,0.3s,baz=337,slow=15,SNR=3.5								
CMAR	**Chiang Mai Arr**	**9.22**	**30**	P	**Pn**	**14**	**07**	**23.0**	**+0.1**
	0.1nm,0.3s,baz=225,slow=13,SNR=3.3								
CMAR				LR	LR	14	11	12.0	
	comp=Z,55nm,18.0s,baz=230,slow=39								
PALK	**Pallekele**	**13.65**	**258**	LR	LR	14	12	21.7	
	comp=Z,35nm,20.0s,baz=95,slow=31								
ODAN	**Odare**	**17.52**	**340**	*eP*	**P**	**14**	**09**	**10.0**	**-0.8**
	11nm,0.8s								
TAPN	**Taplejung**	**17.87**	**341**	*eP*	**P**	**14**	**09**	**13.1**	**-1.6**
	13nm,0.7s								
RAMN	**Ramite**	**17.89**	**338**	*eP*	**P**	**14**	**09**	**14.8**	**0.0**
	10nm,0.7s								
JIRN	**Jiri**	**18.68**	**337**	*eP*	**P**	**14**	**09**	**22.9**	**-0.8**
	15nm,0.7s								
PKIN	**Phulchoki**	**18.92**	**335**	*eP*	**P**	**14**	**09**	**25.9**	**-0.3**
	4.5nm,0.5s								
GUN	**Gumba**	**19.03**	**337**	*eP*	**P**	**14**	**09**	**26.6**	**-0.8**
	12nm,0.7s								
DMN	**Daman**	**19.07**	**335**	*eP*	**P**	**14**	**09**	**27.4**	**-0.4**
	11nm,0.8s								
GKN	**Gorkha**	**19.61**	**334**	*eP*	**P**	**14**	**09**	**32.9**	**-0.7**
	18nm,0.4s								
KOLN	**Koldanda**	**19.88**	**332**	*eP*	**P**	**14**	**09**	**35.8**	**-0.7**
	9.9nm,0.7s								
DANN	**Dangsing**	**20.30**	**333**	*eP*	**P**	**14**	**09**	**40.2**	**-0.9**
	29nm,0.6s								
LEM	**Lembang**	**21.79**	**141**	LR	LR	14	18	33.4	
	comp=Z,87nm,18.0s,baz=306,slow=37								
MKAR	**Makanchi Array**	**37.59**	**347**	P	**P**	**14**	**12**	**17.0**	**-0.7**
	0.8nm,0.7s,baz=173,slow=8.9,SNR=8.4								
SONM	**Songino Array**	**38.67**	**13**	P	**P**	**14**	**12**	**27.9**	**+1.1**
	0.9nm,0.9s,baz=194,slow=7.5,SNR=5.0								
GEYT	**Alibeck**	**42.32**	**316**	P	**P**	**14**	**12**	**57.9**	**+0.9**
	14nm,0.6s,baz=134,slow=8.1,SNR=27								
ZALV	**Zalesovo Beam**	**44.02**	**352**	P	**P**	**14**	**13**	**10.4**	**+0.1**
	1.1nm,0.5s,baz=174,slow=8.6,SNR=6.0								
WRA	**Warramunga Arr**	**49.78**	**127**	P	**P**	**14**	**13**	**54.8**	**-0.9**
	0.9nm,0.9s,baz=307,slow=8.4,SNR=5.1								
ASAR	**Alice Springs**	**51.59**	**132**	P	**P**	**14**	**14**	**08.9**	**-0.4**
	0.5nm,0.6s,baz=306,slow=7.3,SNR=12								
STKA	**Stephens Creek**	**61.89**	**135**	LR	LR	14	42	55.9	
	comp=Z,28nm,20.7s,baz=190,slow=37								
GERES	**GERESS Array B**	**75.92**	**318**	P	**P**	**14**	**16**	**48.8**	**0.0**
	0.2nm,0.3s,baz=113,slow=4.8,SNR=3.5								

ISCJB ***27*** *14:29:35.1±0.9, 32.˚35S±0.˚03 × 70.˚58W±0.˚04, h1km±7km, Error ellipse: s-maj=5.1km s-min=4.5km az=8.5*
SJA ***27*** *14:29:35.6±1.3, 32.˚39S × 70.˚53W, h10km±18km, ML2.3, MW2.8*
GUC ***27*** *14:29:35.1±0.5, 32.˚33S × 70.˚59W, h12km±6km, ML2.5*

ISC 27 14:29:34.9±1.4, 32.˚36S±0.˚03 × 70.˚55W±0.˚04, h9km±15km, n19, σ1§06/33, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
ROCH	**El Roble**	**0.72**	**212**	*eP*	**Pb**	**14**	**29**	**49.8**	**0.0**
ROCH				*i* S	**Sb**	**14**	**30**	**00.6**	**+0.6**
ROCH				IAML		14	30	03.4	
	comp=E,191nm,0.6s								
ROC1	**El Roble**	**0.73**	**212**	*i* P	**Pb**	**14**	**29**	**49.8**	**-0.1**
ROC1				*i* Sg	**Sb**	**14**	**30**	**00.2**	**+0.1**
PEL	**Peldehue**	**0.79**	**188**	*eP*	**Pb**	**14**	**29**	**51.0**	**+0.1**
PEL				*eS*	**Sb**	**14**	**30**	**02.1**	**+0.4**
PEL	**Peldehue**	**0.79**	**188**	*i* P	**Pg**	**14**	**29**	**48.8**	**-1.3**
FCH	**Farellones**	**0.99**	**167**	*eP*	**Pg**	**14**	**29**	**53.9**	**-0.1**
FCH				*i* S	**Sb**	**14**	**30**	**07.7**	**0.0**
FCH				IAML		14	30	08.1	
	comp=E,494nm,0.1s								
VA01	**Torpederas**	**1.14**	**234**	*i* S	**Sb**	**14**	**30**	**11.4**	**-0.2**
RTLS	**Leoncito**	**1.20**	**63**	*eP*	**Pb**	**14**	**29**	**57.2**	**-0.7**
RTLS				*eS*	**Sb**	**14**	**30**	**10.0**	**-3.7**
RTLS				IAML		14	30	12.4	
	comp=Z,21nm,0.3s								
CO02	**Combarbal**	**1.21**	**342**	*eP*	**Pn**	**14**	**29**	**56.8**	**-1.3**
CO02				*i* S	**Sb**	**14**	**30**	**12.9**	**-0.9**
ARCO	**CERRO ARCO**	**1.45**	**110**	*i* P	**Pb**	**14**	**30**	**02.5**	**+0.4**
ARCO				*i* Sg	**Sg**	**14**	**30**	**21.8**	**+0.2**
ARCO				IAML		14	30	23.9	
	comp=Z,86nm,1.1s								
ASAL	**Salagasta**	**1.47**	**100**	*i* P	**Pb**	**14**	**30**	**02.5**	**0.0**
ASAL				*eS*	**Sg**	**14**	**30**	**22.5**	**+0.3**
ASAL				IAML		14	30	26.1	
	comp=Z,41nm,0.6s								
LMEL	**Las Melosas**	**1.51**	**169**	*eP*	**Pn**	**14**	**30**	**02.2**	**-0.1**
LMEL				*i* S	**Sg**	**14**	**30**	**23.7**	**+0.1**
LMEL				IAML		14	30	32.5	
	comp=N,141nm,0.1s								
AAGR	**Agrelo**	**1.62**	**117**	*i* P	**Pg**	**14**	**30**	**06.2**	**+0.1**
AAGR				*eS*	**Sg**	**14**	**30**	**28.0**	**+0.9**
AAGR				IAML		14	30	29.0	
	comp=Z,54nm,0.5s								
RTCV	**Cerro Valdivia**	**1.78**	**74**	*i* P	**Pg**	**14**	**30**	**09.2**	**+0.2**
RTCV				IAML		14	30	39.3	
	comp=Z,16nm,0.3s								
RTLL	**Cerro Villicun**	**2.04**	**60**	*i* P	**Pg**	**14**	**30**	**14.3**	**+0.2**
RTLL				*eP*	**Pb**	**14**	**30**	**14.5**	**+2.3**
RTLL				*eS*	**Sb**	**14**	**30**	**38.1**	**+0.3**
RTLL				IAML		14	30	43.6	
	comp=Z,35nm,0.5s								
CFA	**Coronel Fontan**	**2.11**	**70**	*i* P	**Pb**	**14**	**30**	**12.8**	**-0.5**
GO04	**Tololo Observa**	**2.19**	**354**	*eP*	**Pn**	**14**	**30**	**12.9**	**+1.3**
GO04				*i* S	**Sb**	**14**	**30**	**41.6**	**-0.5**
GO04	**Tololo Observa**	**2.19**	**354**	*i* P	**Pn**	**14**	**30**	**13.3**	**+1.7**
GO04				*eS*	**Sb**	**14**	**30**	**41.8**	**-0.3**
AMOG	**MOGNA**	**2.26**	**52**	*i* P	**Pb**	**14**	**30**	**16.3**	**+0.5**
AMOG				IAML		14	30	54.9	
	comp=Z,16nm,0.5s								
ACAN	**Cantantal**	**2.85**	**89**	*i* P	**Pb**	**14**	**30**	**24.9**	**-1.0**
ACAN				IAML		14	31	10.8	
	comp=Z,11nm,1.5s								

ISCJB ***27*** *14:31:20.6±0.3, 31.˚10N±0.˚03 × 110.˚26E±0.˚04, h10km, mb3.9/12, Error ellipse: s-maj=5.1km s-min=4.1km az=24.9*
IDC ***27*** *14:31:21.8±0.8, 31.˚22N × 110.˚35E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.8/45, mbtmp4.0/12, ML4.6/1, Error ellipse: s-maj=26.3km s-min=15.6km az=62.0*
BJI ***27*** *14:31:22.7±0.0, 31.˚05N × 110.˚10E, h5km, mb3.8/2, ML3.8/18, Ms3.7/7, Ms7 3.6/4*
NEIC ***27*** *14:31:24.5±2.2, 31.˚06N±0.˚05 × 110.˚18E±0.˚09, h21km±2km, mb4.2/16*

ISC 27 14:31:22.8±0.5, 31.˚05N±0.˚05 × 110.˚17E±0.˚04, h10km, n46, σ1§48/53, mb4.1/21, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
ENH	**Enshi**	**0.97**	**217**		**Pg**	**14**	**31**	**40.0**	**-1.4**
ENH				Sn	**Sn**	**14**	**31**	**55.8**	**-0.6**
XAN	**Xi'an**	**3.16**	**341**	Pn	**Pn**	**14**	**32**	**13.8**	**+1.1**
XAN				Sn	**Sn**	**14**	**32**	**49.0**	**-1.5**
XAN				Sg	**Sg**	**14**	**33**	**03.0**	**-1.4**
XAN				smax	smax				
	comp=N,400nm,0.9s								
XAN				smax	smax				
	comp=E,400nm,0.9s								
XAN	**Xi'an**	**3.16**	**341**		**Pn**	**14**	**32**	**12.9**	**+0.2**
WHN	**Wuhan**	**3.63**	**97**	Pn	**Pn**	**14**	**32**	**20.5**	**+1.5**
WHN				Pg	**Pg**	**14**	**32**	**31.0**	**-1.4**
WHN				Sn	**Sn**	**14**	**33**	**05.3**	**+3.3**
WHN				Sg	**Sg**	**14**	**33**	**19.0**	**-0.4**
WHN				smax	smax				
	comp=N,270nm,0.8s								
WHN				smax	smax				
	comp=E,310nm,1.1s								
LZH	**Lanzhou**	**7.29**	**315**	*eP*	**Pn**	**14**	**33**	**13.5**	**+4.1**
LZH				pP	Pb	14	33	17.8	-12
LZH				S	**Sn**	**14**	**34**	**33.8**	**+1.5**
LZH				pmax	pmax				
	comp=Z,19nm,0.9s								
LZH				pmax	pmax				
	comp=Z,130nm,4.3s								
LZH				smax	smax				
	comp=N,100nm,0.9s								
LZH				smax	smax				
	comp=E,110nm,1.0s								
LZH				LR	LR				
	comp=N,260nm,6.0s								
LZH				LR	LR				
	comp=E,270nm,8.1s								
LZH				LR	LR				
	comp=Z,270nm,9.8s								
YOJ	**Yonaguni jima**	**13.12**	**117**	Pn	**Pn**	**14**	**34**	**29.9**	**+0.6**
INCN	**Inchon**	**15.04**	**60**	P	**Pn**	**14**	**34**	**58.0**	**+2.6**
INCN				IAmb	I

comp=Z,0.2nm,0.2s,baz=63,slow=7.1,SNR=3.3
BPAW Bear Paw Mtn. 66.23 28 P **P** **14 42 09.7 -0.9**
BPAW IAmb IAmb 14 42 15.7
comp=Z,37nm,1.2s
NOA NORSAR Array B 67.46 329 P **P** **14 42 18.2 -0.3**
comp=Z,1.1nm,0.8s,baz=68,slow=6.3,SNR=2.5
DOT Dot Lake 69.19 27 P **P** **14 42 31.2 +1.9**
DOT IAmb IAmb 14 42 37.0
comp=Z,13nm,0.8s

*ISCJB **27** 14:39:56.6±1.0,31°.70S±0°.04×69°.40W±0°.04,h119km±8km, Error ellipse: s-maj=6.7km s-min=5.8km az=42.1*
*GUC **27** 14:39:56.6±0.5,31°.71S×69°.54W,h146km±11km,ML3.3*
*SJA **27** 14:39:57.2±0.7,31°.70S×69°.35W,h111km±4km,ML2.9, MW2.9*

ISC 27 14:39:56.9±1.8,31°.69S±0°.04×69°.41W±0°.05, h118km±14km,n14,σ0°67/27,3C,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.14**	**138**	*eP*	**Pn**	**14 40 13.6**	**0.0**
RTLS				IAML		14 40 13.6	
	comp=Z,1μm,0.2s						
RTLS				*eS*	**Sn**	**14 40 26.1**	**+0.1**
ZON	**Zonda**	**0.64**	**77**	*eP*	**Pn**	**14 40 15.6**	**-0.1**
ZON				IAML		14 40 16.6	
	comp=Z,83nm,0.1s						
ZON				*eS*	**Sn**	**14 40 29.1**	**-0.6**
RTLL	**Cerro Villicun**	**0.88**	**66**	*eP*	**Pn**	**14 40 17.6**	**0.0**
RTLL				*eS*	**Sn**	**14 40 33.0**	**-0.3**
ASAL	**Salagasta**	**1.02**	**152**	*eP*	**Pn**	**14 40 19.7**	**+0.7**
ASAL				*eS*	**Sn**	**14 40 35.8**	**0.0**
AMOG	**MOGNA**	**1.09**	**46**	*eP*	**Pn**	**14 40 20.3**	**+0.5**
AMOG				*eS*	**Sn**	**14 40 36.2**	**-0.7**
CO02	**Combarbal**	**1.44**	**289**	⇑*iP*	**Pn**	**14 40 23.9**	**+0.2**
CO02				*i* S	**Sn**	**14 40 44.2**	**+0.2**
CO02				IAML		14 40 46.0	
	comp=N,1μm,0.1s						
AAGR	**Agrelo**	**1.47**	**161**	*eP*	**Pn**	**14 40 24.3**	**+0.3**
AAGR				*eS*	**Sn**	**14 40 45.0**	**+0.3**
FCH	**Farellones**	**1.79**	**204**	*eP*	**Pn**	**14 40 28.6**	**+0.6**
FCH				*i* S	**Sn**	**14 40 53.3**	**+1.5**
FCH				IAML		14 40 54.7	
	comp=E,153nm,0.2s						
PEL	**Peldehue**	**1.81**	**216**	*eP*	**Pn**	**14 40 27.9**	**-0.1**
PEL				*i* S	**Sn**	**14 40 51.6**	**0.0**
PEL				IAML		14 40 52.9	
	comp=N,135nm,0.2s						
ROCH	**El Roble**	**1.86**	**226**	⇑*iP*	**Pn**	**14 40 28.6**	**-0.2**
ROCH				*i* S	**Sn**	**14 40 53.1**	**+0.1**
GO04	**Tololo Observa**	**1.93**	**321**	⇑*iP*	**Pn**	**14 40 29.6**	**-0.1**
GO04				*i* S	**Sn**	**14 40 55.0**	**+0.4**
GO04				IAML		14 40 56.1	
	comp=E,352nm,0.3s						
CLCH	**Cerro Calan**	**1.95**	**209**	*eP*	**Pn**	**14 40 28.2**	**-1.4**
CLCH				*i* S	**Sn**	**14 40 53.0**	**-1.7**
CLCH				IAML		14 40 57.6	
	comp=E,267nm,0.4s						
ACAN	**Cantantal**	**1.97**	**108**	*eP*	**Pn**	**14 40 30.2**	**+0.3**
ACAN				*eS*	**Sn**	**14 40 54.7**	**-0.5**
LMEL	**Las Melosas**	**2.25**	**197**	*eP*	**Pn**	**14 40 33.6**	**+0.1**
LMEL				IAML		14 41 11.6	
	comp=E,69nm,0.1s						

TAP 27 14:52:27.3,23°.72N×121°.42E,h26km,ML1.4,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGFH	**Guangfu**	**0.06**	**174**	*i* P	Pb	14 52 32.7	+0.9
	baz=174						
EGFH				S	Sb	14 52 34.9	0.0
	baz=174						
ESL	**Shilin**	**0.09**	**7**	*i* P	Pb	14 52 33.2	+1.2
	baz=11						
ESL				*i* S	Sb	14 52 36.0	+0.8
	baz=11						
EHY	**Hungye**	**0.23**	**203**	P	Pb	14 52 34.3	+0.8
	baz=200						
EHY				S	Sb	14 52 38.1	+0.3
	baz=200						
VWDT	**VWDT**	**0.26**	**277**	P	Pn	14 52 34.9	-0.6
	baz=276						
VWDT				S	Sn	14 52 39.4	-1.2
	baz=276						
HWA	**Hwalien**	**0.30**	**34**	*eP*	Pb	14 52 34.7	+0.3
	baz=35						
YULB	**Yu-li**	**0.35**	**199**	P	Pn	14 52 36.0	-0.7
	baz=199						
YULB				S	Sb	14 52 41.1	+0.6
	baz=199						
TWF1	**Yuli**	**0.39**	**197**	*i* P	Pn	14 52 36.8	-0.5
	baz=196						
TWF1				S	Sn	14 52 42.7	-1.1
	baz=196						
TWD	**Chiawan**	**0.39**	**24**	*i* P	Pb	14 52 36.2	+0.4
	baz=25						
TWD				S	Sn	14 52 43.0	-0.8
	baz=25						
TWD	**Chiawan**	**0.39**	**24**	*i* P	Pb	14 52 36.2	+0.4
	baz=203						
CHGB	**Renai**	**0.40**	**326**	*eP*	Pb	14 52 36.5	+0.3
	baz=325						
CHGB				*eS*	Sb	14 52 43.3	+1.1
	baz=325						
SSLB	**Suanglung**	**0.43**	**278**	*eP*	Pb	14 52 36.9	+0.5
	baz=278						
SSLB				*eS*	Sb	14 52 43.3	+0.6
	baz=278						
WHF	**Hehuan Shan**	**0.44**	**341**	*eP*	Pb	14 52 37.2	+0.3
	baz=341						
WHF				S	Sb	14 52 44.6	+1.2
	baz=341						
NACB	**Ninganchiao**	**0.47**	**20**	*eP*	Pb	14 52 37.7	+0.5
	baz=19						
NACB				*eS*	Sn	14 52 45.3	-0.7
	baz=19						
NACB	**Ninganchiao**	**0.47**	**20**	S	Pb	14 52 37.7	+0.5
	baz=231						
ETLH	**Xiulin Townshi**	**0.48**	**7**	*eP*	Pb	14 52 37.7	+0.4
	baz=6.0						
ETLH				*eS*	Sn	14 52 45.3	-1.0
	baz=6.0						
TWT	**Tachien**	**0.57**	**337**	P	Pb	14 52 39.4	+0.5
	baz=335						
TWT				S	Sn	14 52 48.4	-0.3
	baz=335						
TWT	**Tachien**	**0.57**	**337**	S	Sn	14 52 48.2	-0.5
	baz=271						
TDCB	**Techi**	**0.58**	**336**	*eP*	Pn	14 52 39.6	-0.4
	baz=335						
TDCB				S	Sn	14 52 48.0	-0.8
	baz=335						
TDCB	**Techi**	**0.58**	**336**	S	Sn	14 52 48.4	-0.4
	baz=271						
CHKT	**Chengkung**	**0.62**	**185**	*eP*	Pb	14 52 39.8	+0.1
	baz=184						
ELDTW	**Lidau**	**0.65**	**215**	*eP*	Pb	14 52 40.3	+0.2
	baz=214						
ELDTW				S	Sn	14 52 50.2	-0.3
	baz=214						

TAP 27 14:52:31.3,24°.24N×121°.68E,h15km,ML1.4,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**0.10**	**231**	P	Pb	14 52 35.2	+0.3
	baz=231						
TWD	**Chiawan**	**0.17**	**206**	*i* S	Sb	14 52 39.5	0.0
	baz=203						
ETLH	**Xiulin Townshi**	**0.18**	**261**	P	Pb	14 52 36.6	+0.2
	baz=260						
ETLH				S	Sb	14 52 39.9	0.0
	baz=260						
ENA	**Nanau**	**0.20**	**16**	*eP*	Pb	14 52 36.5	-0.2
	baz=18						
ENA				S	Sb	14 52 40.3	+0.1
	baz=18						
NANB	**Nanao**	**0.20**	**19**	P	Pg	14 52 35.9	0.0
	baz=18						
NANB				*i* S	Sb	14 52 40.2	-0.1
	baz=18						
HWA	**Hwalien**	**0.27**	**195**	*eP*	Pb	14 52 37.6	-0.3
	baz=193						
NNSH	**Datong**	**0.33**	**305**	*eP*	Pb	14 52 39.2	+0.2
	baz=305						
NNSH				*eS*	Sb	14 52 44.2	+0.1
	baz=305						
NNS	**Nan Shan**	**0.34**	**306**	*i* P	Pb	14 52 39.1	-0.1
	baz=306						
NNS				S	Sb	14 52 44.7	+0.1
	baz=306						
WHF	**Hehuan Shan**	**0.39**	**256**	P	Pb	14 52 40.1	0.0
	baz=255						
WHF				S	Sb	14 52 45.9	-0.3
	baz=255						
NDT	**Datong Townshi**	**0.40**	**337**	*eP*	Pb	14 52 40.2	+0.2
	baz=337						
NDT				*eS*	Sb	14 52 46.5	+0.6
	baz=337						
TWC	**Suao**	**0.40**	**23**	*eP*	Pb	14 52 40.2	+0.1
	baz=23						
TWC				*eS*	Sb	14 52 46.7	+0.7
	baz=23						
ENTT	**Nioudou**	**0.41**	**346**	P	Pb	14 52 40.6	+0.2
	baz=346						
ENTT				S	Sb	14 52 46.7	+0.2
	baz=346						
TWT	**Tachien**	**0.46**	**272**	*eP*	Pb	14 52 41.5	+0.3
	baz=271						
TDCB	**Techi**	**0.48**	**272**	P	Pb	14 52 41.5	+0.1
	baz=271						
ESL	**Shilin**	**0.48**	**208**	P	Pb	14 52 41.4	0.0
	baz=207						
ESL				S	Sb	14 52 48.7	+0.4
	baz=207						
CHGB	**Renai**	**0.49**	**249**	*eP*	Pb	14 52 41.9	0.0
	baz=249						
CHGB				*eS*	Sb	14 52 49.0	+0.1
	baz=249						
YHNB	**Yeheng**	**0.51**	**327**	*eP*	Pb	14 52 42.0	0.0
	baz=327						
YHNB				*eS*	Sb	14 52 50.0	+0.6
	baz=327						
SLBB	**Yuanshan**	**0.52**	**356**	*eP*	Pb	14 52 42.1	0.0
	baz=355						
NSK	**Sanguang**	**0.53**	**326**	*eP*	Pb	14 52 42.4	+0.1
	baz=326						
NSK				*eS*	Sb	14 52 50.3	+0.6
	baz=326						
ILA	**Ilan**	**0.53**	**7**	*eP*	Pb	14 52 42.4	0.0
	baz=7.0						
ILA				*eS*	Sb	14 52 50.0	+0.2
	baz=7.0						
NWLT	**Wulai**	**0.56**	**343**	*eS*	Sb	14 52 51.6	+0.9
	baz=343						
EGFH	**Guangfu**	**0.61**	**202**	*eP*	Pb	14 52 44.0	+0.3
	baz=202						
WHP	**Taichung City**	**0.67**	**274**	*eP*	Pb	14 52 45.0	+0.2
	baz=273						
WHP				*eS*	Sb	14 52 55.0	+1.1
	baz=273						
VWDT	**VWDT**	**0.69**	**226**	*eP*	Pb	14 52 45.1	+0.1
	baz=225						
VWDT				*eS*	Sb	14 52 55.2	+0.9
	baz=225						
EHY	**Hungye**	**0.80**	**204**	*eP*	Pg	14 52 46.7	-0.1
	baz=203						
YM01	**YM01**	**0.91**	**354**	*eP*	Pg	14 52 49.2	+0.2
	baz=353						

*ATH **27** 15:54:40.9,40°.97N×19°.66E,h33km±4km,ML2.1/2, Error ellipse: s-maj=4.9km s-min=1.7km az=356.0*
*ISCJB **27** 15:54:41.8±0.6,40°.97N±0°.02×19°.59E±0°.05,h25km±6km, Error ellipse: s-maj=6.1km s-min=3.5km az=154.8*
*THE **27** 15:54:41.8,40°.91N×19°.73E,h0km±4km,ML2.1/2,Error ellipse: s-maj=4.6km s-min=1.1km az=310.0*
*TIR **27** 15:54:42.1,40°.94N×19°.91E,h8km,Md2.6/6*

ISC 27 15:54:41.9±1.2,40°.95N±0°.02×19°.65E±0°.03,h19km±3km, n25,σ0°89/42,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.43**	**22**	P	**Pb**	**15 54 50.8**	**-0.2**
TIR	**Tirane**	**0.43**	**22**	*i* PG	**Pb**	**15 54 50.7**	**-0.3**
TIR				*i* SG	**Sb**	**15 54 56.8**	**-0.4**
TIR	**Tirane**	**0.43**	**22**	P	**Pb**	**15 54 50.6**	**-0.3**
TIR				AML	AML	15 55 07.5	
	comp=N,456μm,0.5s						
TIR				AML	AML	15 55 08.0	
	comp=E,367μm,0.4s						
TPE	**Tepelena**	**0.71**	**157**	*i* PG	**Pb**	**15 54 55.1**	**-0.5**
TPE				*i* SG	**Sb**	**15 55 04.8**	**0.0**
PHP	**Peshkopia**	**0.95**	**39**	*i* PG	**Pb**	**15 54 58.9**	**-0.9**
PHP				*i* SG	**Sg**	**15 55 11.2**	**-1.7**
PUK	**Puka**	**1.11**	**10**	*i* PG	**Pg**	**15 55 03.8**	**+0.3**
PUK				*i* SG	**Sn**	**15 55 19.8**	**+2.5**
NEST	**Nestorio**	**1.19**	**116**	P	**Pn**	**15 55 02.6**	**-1.0**
NEST	**Nestorio**	**1.19**	**116**	P	**Pn**	**15 55 02.8**	**-0.9**
KASA	**Kassiopi**	**1.22**	**169**	P	**Pn**	**15 55 03.7**	**-0.2**
KASA				S	**Sg**	**15 55 21.4**	**-0.1**
KEK	**Kerkira**	**1.24**	**175**	P	**Pn**	**15 55 03.8**	**-0.4**
KEK				S	**Sg**	**15 55 22.1**	**+0.1**
	comp=E,62nm,0.4s						
KEK	**Kerkira**	**1.24**	**175**	P	**Pn**	**15 55 04.1**	**-0.1**
KEK				S	**Sn**	**15 55 20.5**	**+0.1**
SCTE	**Santa Cesarea**	**1.25**	**226**	P	**Pb**	**15 55 04.6**	**-0.3**
FNA	**Florina**	**1.32**	**97**	P	**Pn**	**15 55 04.8**	**-0.6**
FNA				S	**Sg**	**15 55 24.5**	**-0.2**
	comp=E,80nm,0.6s						
FNA	**Florina**	**1.32**	**97**	*i* PG	**Pn**	**15 55 04.5**	**-0.9**
FNA	**Florina**	**1.32**	**97**	P	**Pn**	**15 55 05.1**	**-0.3**
FNA				S	**Sb**	**15 55 22.7**	**0.0**
FNA				AML	AML	15 55 27.6	
	comp=E,150μm,0.6s						
FNA				AML	AML	15 55 28.9	
	comp=N,172μm,0.6s						
BCI	**Bajram Curri**	**1.45**	**12**	*i* PN	**Pg**	**15 55 09.6**	**-0.3**
BCI				*i* SN	**Sg**	**15 55 30.4**	**+1.6**
KPRO	**Kipourio**	**1.64**	**127**	P	**Pn**	**15 55 09.4**	**-0.4**
NOCI	**Noci**	**1.96**	**266**	P	**Pn**	**15 55 13.7**	**-0.5**
STON	**Ston**	**2.41**	**324**	*i* Pn	**Pn**	**15 55 19.8**	**-0.4**
STON				Sn	**Sn**	**15 55 48.9**	**-0.3**
AGG	**Agios Georgios**	**2.82**	**132**	P	**Pn**	**15 55 27.2**	**+1.3**
AGG				S	**Sn**	**15 56 01.7**	**+2.3**
HVAR	**Hvar**	**3.26**	**314**	*i* Pn	**Pn**	**15 55 31.8**	**-0.1**
HVAR				Sn	**Sn**	**15 56 08.9**	**-1.3**
KIJV	**Kijevo**	**3.88**	**323**	*e*Pn	**Pn**	**15 55 41.5**	**+1.0**
KIJV				Sn	**Sn**	**15 56 26.1**	**+0.5**
ZIRJ	**Zirje**	**4.01**	**314**	*i* Pn	**Pn**	**15 55 43.8**	**+1.5**
ZIRJ				Sn	**Sn**	**15 56 27.8**	**-1.0**
MORI	**Morici**	**4.12**	**316**	*e*Pn	**Pn**	**15 55 44.4**	**+0.6**
MORI				Sn	**Sn**	**15 56 31.2**	**-0.2**
DUGI	**Dugi Otok**	**4.56**	**313**	*i* Pn	**Pn**	**15 55 50.1**	**+0.4**
DUGI				Sn	**Sn**	**15 56 41.9**	**-0.3**

*SJA **27** 15:56:29.9±0.7,23°.43S×67°.87W,h217km±27km,ML3.5, MW3.6*
*NEIC **27** 15:56:32.1±2.9,23°.51S±0°.07×67°.86W±0°.08,h138km±6km*
*ISCJB **27** 15:56:32.1±0.2,23°.56S±0°.03×68°.00W±0°.03,h152km±4km, mb3.6/9,Error ellipse: s-maj=5.2km s-min=4.0km az=146.7*
*IDC **27** 15:56:32.5±0.9,23°.54S×67°.75W,h131km±8km,mb3.7/10, mb1 3.8/16,mb1mx3.7/29,mbtmp4.1/16,MS2.7/1, Ms1 2.7/1,ms1mx2.4/18,Error ellipse: s-maj=16.7km s-min=13.1km az=50.0*
*VAO **27** 15:56:33.8±0.4,23°.51S×67°.96W,h151km±6km,mb3.9*
*GUC **27** 15:56:33.8±0.7,23°.54S×68°.19W,h150km±6km,ML4.2*

ISC 27 15:56:32.1±0.6,23°.57S±0°.04×67°.94W±0°.04,h142km±6km, n109,σ1°68/125,mb3.9/9,9C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.31**	**317**	⇓*iP*	**Pn**	**15 57 00.6**	**+1.1**
LVC				*i* S	**Sn**	**15 57 21.0**	**+0.8**
LVC	**Limon Verde**	**1.31**	**317**	P	**Pn**	**15 57 00.6**	**+1.1**
	266nm,0.3s,baz=138,slow=5.1,SNR=3802						
LVC				S	**Sn**	**15 57 20.9**	**+0.7**
	729nm,0.3s,baz=287,slow=21,SNR=118						
LVC				LR	LR	15 57 24.0	
	comp=Z,94nm,19.4s,baz=332,slow=36						
LVC	**Limon Verde**	**1.31**	**317**	*eP*	**Pn**	**15 57 00.5**	**+1.1**
LVC	**Limon Verde**	**1.31**	**317**	*eP*	**Pn**	**15 57 00.5**	**+1.1**
LVC	**Limon Verde**	**1.31**	**317**		**Pn**	**15 57 00.7**	**+1.1**
LVC				Sn	**Sn**	**15 57 21.5**	**+1.3**
PB15	**IPOC Station P**	**1.45**	**284**	⇑*iP*	**Pn**	**15 57 02.0**	**+1.3**
PB15				*i* S	**Sn**	**15 57 22.9**	**+0.3**
PB06	**IPOC Station P**	**1.73**	**299**	⇑*iP*	**Pn**	**15 57 05.0**	**+1.1**
PB06				*i* S	**Sn**	**15 57 28.1**	**+0.1**
PB06				IAML		15 57 31.1	
	comp=N,3μm,0.2s						
PB09	**IPOC Station P**	**2.13**	**325**	⇑*iP*	**Pn**	**15 57 10.0**	**+1.4**
PB09				*i* S	**Sn**	**15 57 37.6**	**+1.1**
PB09				IAML		15 57 39.3	
	comp=N,925nm,0.5s						
PB05	**IPOC Station P**	**2.20**	**288**	⇑*iP*	**Pn**	**15 57 09.8**	**+0.5**
PB05				*i* S	**Sn**	**15 57 37.2**	**-0.6**
PB05				IAML		15 57 42.4	
	comp=E,737nm,0.6s						
PB03	**IPOC Station P**	**2.26**	**312**	⇑*iP*	**Pn**	**15 57 10.8**	**+0.7**
PB03				*i* S	**Sn**	**15 57 39.0**	**-0.1**
PB03				IAML		15 57 40.6	
	comp=N,2μm,0.3s						
HJA	**Humahuaca**	**2.35**	**82**	*eP*	**Pn**	**15 57 14.4**	**+3.0**
PB04	**IPOC Station P**	**2.38**	**301**	⇑*iP*	**Pn**	**15 57 12.2**	**+0.6**
PB04				*i* S	**Sn**	**15 57 41.2**	**-0.6**
PB04				IAML		15 57 44.9	
	comp=N,2μm,0.2s						
PB04	**IPOC Station P**	**2.38**	**301**		**Pn**	**15 57 12.1**	**+0.6**
PB04				Sn	**Sn**	**15 57 41.1**	**-0.6**
PB10	**IPOC Station P**	**2.40**	**271**	⇑*iP*	**Pn**	**15 57 12.5**	**+0.9**
PB10				*i* S	**Sn**	**15 57 41.2**	**-0.8**
PB10	**IPOC Station P**	**2.40**	**271**		**Pn**	**15 57 12.6**	**+0.9**
PB10				Sn	**Sn**	**15 57 41.8**	**-0.2**
PB14	**IPOC Station P**	**2.49**	**244**	⇑*iP*	**Pn**	**15 57 13.8**	**+0.9**
PB14				*i* S	**Sn**	**15 57 44.4**	**0.0**
YJA	**Yavi**	**2.63**	**59**	*eP*	**Pn**	**15 57 16.3**	**+1.4**
AZAP	**Zapla**	**2.71**	**105**	*eP*	**Pn**	**15 57 17.6**	**+1.8**
AZAP				IAML		15 57 21.9	
	comp=Z,67nm,0.6s						
AZAP				*eS*	**Sn**	**15 57 53.6**	**+4.3**
PB08	**IPOC Station P**	**3.59**	**341**	⇑*iP*	**Pn**	**15 57 28.0**	**+0.8**
PB08				*i* S	**Sn**	**15 58 10.8**	**+0.9**
AHML	**Horco Molle**	**3.98**	**144**	*eP*	**Pn**	**15 57 33.7**	**+1.8**
PB11	**IPOC Station P**	**4.11**	**337**		**Pn**	**15 57 32.7**	**-1.1**
MNMC	**Minye Minye**	**4.68**	**340**		**Pn**	**15 57 40.5**	**-0.9**
VCA	**Vinchina**	**5.15**	**183**	*eP*	**Pn**	**15 57 49.2**	**+1.7**
VCA				IAML		15 57 51.6	
	comp=Z,37nm,0.3s						
VCA				*eS*	**Sn**	**15 58 47.8**	**+1.4**
CYA	**Choya**	**5.22**	**159**	*eP*	**Pn**	**15 57 49.4**	**+1.1**
ACLC	**CERRO LA CRUZ**	**5.90**	**172**	*eP*	**Pn**	**15 57 59.0**	**+1.4**
GO04	**Tololo Observa**	**7.06**	**201**		**Pn**	**15 58 10.5**	**-2.6**
LPAZ	**La Paz**	**7.25**	**359**	P	**Pn**	**15 58 17.0**	**+0.9**
	comp=Z,3.7nm,0.3s,baz=153,slow=4.3,SNR=40						
LPAZ				S	**Sn**	**15 59 36.1**	**-1.3**
	baz=169,slow=23,SNR=2.6						
LPAZ	**La Paz**	**7.25**	**359**	*eP*	**Pn**	**15 58 16.2**	**+0.1**
LPAZ	**La Paz**	**7.25**	**359**	*eP*	**Pn**	**15 58 16.2**	**+0.1**
LPAZ	**La Paz**	**7.25**	**359**		**Pn**	**15 58 16.2**	**+0.1**
CFA	**Coronel Fontan**	**8.01**	**182**	P	**Pn**	**15 58 25.0**	**-0.7**
	comp=Z,4.7nm,0.3s,baz=2.3,slow=13,SNR=30						
CFA				S	**Sn**	**15 59 49.6**	**-5.3**
	comp=Z,3.6nm,0.3s,baz=130,slow=20,SNR=9.5						
ROC1	**El Roble**	**9.76**	**195**	Pn	**Pn**	**15 58 47.2**	**-2.1**
SIV	**San Ignacio**	**9.93**	**42**	P	**Pn**	**15 58 48.9**	**-2.6**
	comp=Z,4.4nm,0.3s,baz=244,slow=9.5,SNR=32						
SIV				S	**Sn**	**16 00 33.4**	**-7.9**
	comp=Z,0.4nm,0.3s,baz=271,slow=17,SNR=3.2						
CPUP	**Villa Florida**	**10.01**	**108**	P	**Pn**	**15 58 50.9**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=305,slow=13,SNR=4.7						
CPUP				LR	LR	16 02 47.6	
	comp=Z,47nm,19.8s,baz=358,slow=38						
CPUP	**Villa Florida**	**10.01**	**108**	*eP*	**Pn**	**15 58 55.6**	**+3.2**
CPUP	**Villa Florida**	**10.01**	**108**	*eP*	**Pn**	**15 58 55.6**	**+3.2**
CPUP	**Villa Florida**	**10.01**	**108**		**Pn**	**15 58 50.8**	**-1.6**
AQDB	**Aquidauana**	**11.76**	**77**	*eP*	**Pn**	**15 59 17.4**	**+1.8**
AQDB	**Aquidauana**	**11.76**	**77**	*eP*	**Pn**	**15 59 17.4**	**+1.8**
ITQB	**Itaqui**	**11.80**	**123**	*eP*	**Pn**	**15 59 18.6**	**+2.5**
ITQB	**Itaqui**	**11.80**	**123**	*eP*	**Pn**	**15 59 18.6**	**+2.5**
GO05	**Huala**	**11.92**	**196**	Pn	**Pn**	15 59 11.5	-6.1
PP1B	**Ponte de Pedra**	**13.59**	**67**	*eP*	**Pn**	**15 59 39.0**	**-0.3**
PP1B	**Ponte de Pedra**	**13.59**	**67**	*eP*	**Pn**	**15 59 39.0**	**-0.3**
SALV	**Santo Antonio**	**13.82**	**59**	*eP*	**P**	**15 59 43.3**	**-2.5**
SALV	**Santo Antonio**	**13.82**	**59**	*eP*	**P**	**15 59 43.3**	**-2.5**
NNA	**Nana**	**14.29**	**322**	P	**P**	**15 59 50.3**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=179,slow=9.3,SNR=2.1						
PTGB	**Pitanga**	**14.54**	**98**	*eP*	**P**	**15 59 54.5**	**+0.5**
PTGB	**Pitanga**	**14.54**	**98**	*eP*	**P**	**15 59 54.5**	**+0.5**
ITAB	**Concordia**	**14.74**	**108**	*eP*	**P**	**15 59 56.1**	**0.0**
ITAB	**Concordia**	**14.74**	**108**	*eP*	**P**	**15 59 56.1**	**0.0**
PLTB	**Pedras Altas**	**15.09**	**126**	*eP*	**P**	**15 59 59.2**	**-0.7**
PLTB	**Pedras Altas**	**15.09**	**126**	*eP*	**P**	**15 59 59.2**	**-0.7**
SAML	**Samuel**	**15.23**	**18**	*eP*	**P**	**16 00 01.5**	**-0.1**
SAML	**Samuel**	**15.23**	**18**	*eP*	**P**	**16 00 01.5**	**-0.1**
TRQA	**Tornquist**	**15.32**	**162**	*eP*	**Pn**	**16 00 01.2**	**+0.4**
TRQA	**Tornquist**	**15.32**	**162**	*eP*	**Pn**	**16 00 01.2**	**+0.4**
TRQA	**Tornquist**	**15.32**	**162**		**Pn**	**16 00 00.9**	**+0.1**
TRQA				IAmb	IAmb	16 00 05.0	
	comp=Z,18nm,0.8s						
CNLB	**Canela**	**16.33**	**114**	*eP*	**P**	**16 00 14.7**	**+1.0**
CNLB	**Canela**	**16.33**	**114**	*eP*	**P**	**16 00 14.7**	**+1.0**
ITRB	**Iturama**	**16.79**	**80**	*eP*	**Pn**	**16 00 20.2**	**+1.2**
ITRB	**Iturama**	**16.79**	**80**	*eP*	**Pn**	**16 00 20.2**	**+1.2**
FRTB	**Fartura**	**16.87**	**93**	*eP*	**Pn**	**16 00 20.2**	**+0.3**
FRTB	**Fartura**	**16.87**	**93**	*eP*	**Pn**	**16 00 20.2**	**+0.3**
ARAG	**Araguaiana, MT**	**17.08**	**66**	*eP*	**Pn**	**16 00 22.7**	**+0.2**
ARAG	**Araguaiana, MT**	**17.08**	**66**	*eP*	**Pn**	**16 00 22.7**	**+0.2**
CLDB	**Colider**	**17.13**	**45**	*eP*	**Pn**	**16 00 23.3**	**+0.2**
CLDB	**Colider**	**17.13**	**45**	*eP*	**Pn**	**16 00 23.3**	**+0.2**
PLCA	**Paso Flores**	**17.25**	**187**	P	**Pn**	**16 00 26.5**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=137,slow=5.8,SNR=2.3						
PLCA	**Paso Flores**	**17.25**	**187**	*eP*	**Pn**	**16 00 26.8**	**+2.2**
PLCA	**Paso Flores**	**17.25**	**187**	*eP*	**Pn**	**16 00 26.8**	**+2.2**
PLCA	**Paso Flores**	**17.25**	**187**	P	**P**	**16 00 20.6**	**-3.2**
PLCA				IAmb	IAmb	16 00 33.9	
	comp=Z,8.2nm,1.4s						
BB19B	**Bebedouro**	**18.13**	**86**	*eP*	**Pn**	**16 00 34.4**	**-0.7

comp=Z,0.9nm,0.5s,baz=327,slow=2.8,SNR=5.0
KSH Kashi 145.65 54 PKPbc **PKPdf 16 15 51.0 -3.0**
KSH PP **PP 16 19 16.0 -0.4**
KSH AMB AMB
comp=Z,280nm,4.8s
MKAR Makanchi Array 146.73 38 PKPbc **PKPab 16 15 57.8 -1.0**
comp=Z,2.2nm,0.7s,baz=322,slow=1.2,SNR=14
SONM Songino Array 155.37 9 PKPab **PKPab 16 16 36.0 +1.3**
comp=Z,0.4nm,0.6s,baz=315,slow=2.6,SNR=3.2

*HLW **27** 16:59:47.1,34.95N×26.71E,h10km±31km,Ml3.8*
*ISCJB **27** 16:59:54.8±0.2,34.79N±0.03×27.40E±0.02,h56km±7km, mb3.8/5,MS4.0/1,Error ellipse: s-maj=4.5km s-min=3.0km az=14.4*
*ISK **27** 16:59:54.3,34.85N×27.31E,h88km,ML3.6/18*
*IDC **27** 16:59:58.2±1.6,34.85N×27.34E,h58km±18km,mb3.6/5, mb1 3.5/10,mb1mx3.3/37,mbtmp3.6/10,ML3.2/6,MS3.5/2, Ms1 3.5/2,ms1mx2.5/43,Error ellipse: s-maj=24.4km s-min=11.9km az=8.0*
*ATH **27** 16:59:59.5,35.09N×27.12E,h57km±4km,ML2.5/2,Error ellipse: s-maj=5.8km s-min=2.0km az=333.0*
*THE **27** 16:59:59.1,34.97N×27.25E,h58km±3km,ML2.6/4,Error ellipse: s-maj=3.7km s-min=0.8km az=337.0*
*GII **27** 17:00:03.7±0.0,34.00N×27.89E,h1km,MD3.4/3*
ISC 27 16:59:55.5±1.0,34.79N±0.04×27.40E±0.04,h42km±14km, n99,σ1s71/123,mb4.1/5,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.78**	**346**	P		**Pn**		**17 00 11.3**	**+1.1**
KARP				S		**Sn**		**17 00 20.6**	**-0.1**
	655nm,0.6s								
KARP	**Karpathos**	**0.78**	**346**	P		**Pn**		**17 00 11.5**	**+1.3**
KARP				S		**Sn**		**17 00 19.9**	**-0.8**
KARP				AML		AML		17 00 25.3	
	comp=E,1260μm,0.4s								
KARP				AML		AML		17 00 26.3	
	comp=N,1033μm,0.5s								
KARP	**Karpathos**	**0.78**	**346**	PG		**Pn**		**17 00 11.4**	**+1.3**
ZKR	**Zakros**	**1.02**	**289**	P		**Pn**		**17 00 14.1**	**+0.6**
ZKR				S		**Sn**		**17 00 26.8**	**+0.2**
	comp=N,295nm,0.7s								
ZKR	**Zakros**	**1.02**	**289**	P		**Pn**		**17 00 14.0**	**+0.6**
ZKR				S		**Sn**		**17 00 26.0**	**-0.6**
ZKR				AML		AML		17 00 40.1	
	comp=E,820μm,0.6s								
ZKR				AML		AML		17 00 44.2	
	comp=N,391μm,0.5s								
ZKR	**Zakros**	**1.02**	**289**	PG		**Pn**		**17 00 13.9**	**+0.5**
ZKR				SG		**Sn**		**17 00 27.5**	**+0.9**
STIA	**Sitia Lasithi**	**1.15**	**291**	P		**Pn**		**17 00 16.2**	**+1.1**
STIA				S		**Sn**		**17 00 29.5**	**-0.2**
NPS	**Neapolis**	**1.54**	**288**	P		**Pn**		**17 00 21.8**	**+1.3**
NPS	**Neapolis**	**1.54**	**288**	P		**Pn**		**17 00 22.0**	**+1.5**
NPS				S		**Sn**		**17 00 37.3**	**-2.0**
ARG	**Arkhangelos**	**1.54**	**22**	PN		**Pn**		**17 00 21.2**	**+0.7**
ARG				SN		**Sn**		**17 00 40.9**	**+1.6**
LAST	**Lasithi**	**1.62**	**284**	P		**Pn**		**17 00 22.8**	**+1.1**
LAST				S		**Sn**		**17 00 40.8**	**-0.6**
	comp=N,85nm,0.6s								
LAST	**Lasithi**	**1.62**	**284**	P		**Pn**		**17 00 23.2**	**+1.5**
LAST				S		**Sn**		**17 00 40.6**	**-0.8**
DAT	**Datca**	**1.94**	**4**	PN		**Pn**		**17 00 26.5**	**+0.4**
HRKL	**Herakleio**	**1.95**	**286**	PN		**Pn**		**17 00 25.8**	**-0.4**
IDI	**Anoyia**	**2.12**	**284**	P		**Pn**		**17 00 30.5**	**+1.9**
	comp=N,3.8nm,0.3s,baz=336,slow=11,SNR=34								
IDI				S		**Sn**		**17 00 55.7**	**+2.1**
	comp=N,7.4nm,0.3s,baz=351,slow=9.8,SNR=9.2								
IDI	**Anoyia**	**2.12**	**284**	P		**Pn**		**17 00 30.1**	**+1.6**
IDI				S		**Sn**		**17 00 52.6**	**-1.1**
IDI	**Anoyia**	**2.12**	**284**	PN		**Pn**		**17 00 28.1**	**-0.4**
SIVA	**Sivas**	**2.14**	**277**	P		**Pn**		**17 00 30.7**	**+2.0**
SANT	**Santorini**	**2.23**	**315**	P		**Pn**		**17 00 30.0**	**-0.1**
SANT	**Santorini**	**2.23**	**315**	P		**Pn**		**17 00 30.4**	**+0.3**
SANT	**Santorini**	**2.23**	**315**	PN		**Pn**		**17 00 29.5**	**-0.6**
BODT	**Bodrum**	**2.27**	**358**	PN		**Pn**		**17 00 30.5**	**0.0**
THR3	**Thira Island,**	**2.29**	**315**	P		**Pn**		**17 00 31.1**	**+0.2**
THR3	**Thira Island,**	**2.29**	**315**	P		**Pn**		**17 00 31.0**	**+0.2**
FETY	**Fethiye**	**2.29**	**36**	P		**Pn**		**17 00 32.9**	**+2.0**
FETY	**Fethiye**	**2.29**	**36**	PN		**Pn**		**17 00 31.7**	**+0.8**
TURN	**Turunc**	**2.30**	**25**	PN		**Pn**		**17 00 28.1**	**-2.8**
THT2	**Imerovigli**	**2.30**	**316**	P		**Pn**		**17 00 30.9**	**-0.1**
THT2	**Imerovigli**	**2.30**	**316**	PN		**Pn**		**17 00 30.4**	**-0.6**
AKAS	**Kas**	**2.30**	**51**	PN		**Pn**		**17 00 32.3**	**+1.2**
YER	**Yerkesik**	**2.45**	**17**	P		**Pn**		**17 00 34.3**	**+1.3**
YER	**Yerkesik**	**2.45**	**17**	PN		**Pn**		**17 00 33.3**	**+0.3**
MLSB	**Milas**	**2.52**	**7**	PN		**Pn**		**17 00 34.1**	**+0.1**
VAM	**Vamos**	**2.69**	**284**	P		**Pn**		**17 00 37.4**	**+1.0**
VAM	**Vamos**	**2.69**	**284**	P		**Pn**		**17 00 38.1**	**+1.7**
GVDS	**Gavdos**	**2.72**	**272**	PN		**Pn**		**17 00 36.6**	**-0.2**
GVD	**Gavdhos**	**2.73**	**272**	P		**Pn**		**17 00 38.2**	**+1.4**
GVD	**Gavdhos**	**2.73**	**272**	PN		**Pn**		**17 00 36.5**	**-0.3**
APE	**Apeiranthos**	**2.73**	**327**	P		**Pn**		**17 00 36.8**	**-0.1**
APE				S		**Sn**		**17 01 06.4**	**-2.4**
	comp=N,72nm,0.3s								
APE	**Apeiranthos**	**2.73**	**327**	P		**Pn**		**17 00 36.9**	**-0.1**
APE	**Apeiranthos**	**2.73**	**327**	PN		**Pn**		**17 00 36.4**	**-0.5**
ELL	**Elmali**	**2.83**	**46**	PN		**Pn**		**17 00 39.1**	**+0.8**
IMMV	**Iera Moni Meta**	**2.88**	**284**	P		**Pn**		**17 00 40.7**	**+1.8**
IMMV	**Iera Moni Meta**	**2.88**	**284**	P		**Pn**		**17 00 41.1**	**+2.2**
IMMV	**Iera Moni Meta**	**2.88**	**284**	PN		**Pn**		**17 00 38.5**	**-0.4**
GCAM	**G?zelcaml?**	**2.91**	**357**	PN		**Pn**		**17 00 39.2**	**-0.1**
GLHS	**Glhisar (BURDU**	**2.91**	**35**	PN		**Pn**		**17 00 39.9**	**+0.5**
MHLO	**Agia Marina, M**	**3.09**	**309**	P		**Pn**		**17 00 41.8**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**3.17**	**7**	PN		**Pn**		**17 00 42.9**	**-0.2**
KORT	**Korkueli**	**3.26**	**47**	PN		**Pn**		**17 00 44.7**	**+0.5**
SLUM	**Salum**	**3.77**	**210**	P		**Pn**		**17 00 52.7**	**+1.6**
	baz=201								
SLUM				AMP				17 01 00.0	
	baz=201								
SLUM				S		**Sn**		**17 01 32.1**	**-2.1**
	baz=201								
KTHA	**Kythira Island**	**3.83**	**294**	P		**Pn**		**17 00 51.5**	**-0.5**
KTHA	**Kythira Island**	**3.83**	**294**	PN		**Pn**		**17 00 51.0**	**-1.0**
KTHR	**Kythira**	**3.87**	**294**	P		**Pn**		**17 00 52.7**	**+0.1**
GAZI	**Gazipasa**	**4.26**	**69**	PN		**Pn**		**17 00 58.8**	**+0.9**
DID	**Didima**	**4.32**	**310**	P		**Pn**		**17 00 58.9**	**+0.1**
LEF	**Lefka**	**4.52**	**84**	PN		**Pn**		**17 01 01.9**	**+0.4**
LTK	**Loutraki**	**4.81**	**313**	P		**Pn**		**17 01 06.4**	**+0.9**
TEKE	**Tekeli-Mersin**	**4.86**	**72**	PN		**Pn**		**17 01 06.9**	**+0.8**
CSS	**Mathiatis**	**4.88**	**86**	Pn				17 01 14.5	+8.1
CSS	**Mathiatis**	**4.88**	**86**	PN		**Pn**		**17 01 07.2**	**+0.8**
BERE	**Bereket-Mersin**	**5.00**	**70**	PN		**Pn**		**17 01 08.5**	**+0.4**
AKKU	**Akkuyu-Mersin**	**5.20**	**73**	PN		**Pn**		**17 01 11.4**	**+0.6**
IKL	**Isikli**	**5.33**	**72**	PN		**Pn**		**17 01 13.1**	**+0.6**
KEBE	**Keben-Mersin**	**5.40**	**70**	PN		**Pn**		**17 01 14.0**	**+0.4**
DRO	**Drossia**	**5.57**	**306**	P		**Pn**		**17 01 15.4**	**-0.5**
SWA2		**5.77**	**197**	P		**Pn**		**17 01 20.8**	**+2.1**
	baz=191								
SWA2				AMP				17 02 00.0	
	baz=191								
SWA2				S		Sn		17 02 15.7	-8.0
	baz=191								
HNAT	**Natroun**	**5.82**	**151**	P		**Pn**		**17 01 21.1**	**+1.7**
	baz=147								
AGG	**Agios Georgios**	**5.86**	**318**	P		**Pn**		**17 01 20.8**	**+1.0**
KOT	**Kottamia**	**6.13**	**141**	P		**Pn**		**17 01 24.5**	**+0.9**
	baz=137								
MMAI	**Mount Meron Ar**	**6.89**	**103**	P		**Pn**		**17 01 37.1**	**+3.0**
	comp=N,0.5nm,0.3s,baz=286,slow=11,SNR=3.8								
MMAI				S		**Sn**		**17 02 51.0**	**-0.2**
	comp=N,2.1nm,0.3s,baz=311,slow=14,SNR=6.8								
BRTR	**Keskin Array B**	**7.00**	**43**	P		**Pn**		**17 01 38.3**	**+2.7**
	comp=N,0.1nm,0.3s,baz=200,slow=15,SNR=2.9								
BRTR				S		**Sn**		**17 02 54.2**	**+0.2**
	comp=N,0.1nm,0.3s,baz=210,slow=24,SNR=3.7								
KZIT	**Kziot**	**7.05**	**121**	Sn		**Sn**		**17 02 52.1**	**-2.9**
KZIT	**Kziot**	**7.05**	**121**	PN		**Pn**		**17 01 36.7**	**+0.5**
AMAZ	**Amatzia**	**7.09**	**115**	Pn		**Pn**		**17 01 40.1**	**+3.3**
AMAZ				Sn		**Sn**		**17 02 53.6**	**-2.5**
MMLI	**Mount Malkishu**	**7.09**	**107**	PN		**Pn**		**17 01 36.6**	**-0.2**
HMDT	**Nahal Hemdat**	**7.24**	**108**	Pn		**Pn**		**17 01 42.8**	**+3.9**
HMDT				Sn		**Sn**		**17 02 59.3**	**-0.5**
YTIR	**Yattir**	**7.32**	**116**	Pn		**Pn**		**17 01 43.6**	**+3.6**
YTIR				Sn		**Sn**		**17 02 59.5**	**-2.4**
DSI	**Dead Sea**	**7.42**	**113**	Pn		**Pn**		**17 01 44.6**	**+3.3**
DSI				Sn		**Sn**		**17 03 03.9**	**-0.3**
MZDA	**Masada**	**7.53**	**115**	Pn		**Pn**		**17 01 46.0**	**+3.2**
MZDA				Sn		**Sn**		**17 03 04.4**	**-2.5**
HFRF	**Wahat Farafira**	**7.66**	**174**	P		**Pn**		**17 01 44.9**	**+0.4**
	baz=169								
HFRF				AMP				17 03 00.0	
	baz=169								
HFRF				S		**Sn**		**17 03 06.4**	**-3.7**
	baz=169								
KRMI	**Paran Flat**	**7.75**	**125**	Pn		**Pn**		**17 01 47.8**	**+2.0**
KRMI				Sn		Sn		17 03 07.1	-5.2
PRNI	**Paran**	**7.80**	**122**	Pn		**Pn**		**17 01 48.0**	**+1.5**
PRNI				Sn		**Sn**		**17 03 08.9**	**-4.6**
ZFRI	**Zfri**	**7.80**	**121**	Pn		**Pn**		**17 01 48.4**	**+1.9**
ZFRI				Sn		**Sn**		**17 03 09.6**	**-3.9**
HRFI	**Mount Harif**	**8.01**	**124**	Pn		**Pn**		**17 01 51.3**	**+1.9**
HRFI				Sn		**Sn**		**17 03 15.9**	**-2.8**
HRFI	**Mount Harif**	**8.01**	**124**	PN		**Pn**		**17 01 49.7**	**+0.3**
MBRI	**Mt Berech**	**8.08**	**126**	Pn		**Pn**		**17 01 52.1**	**+1.7**
MBRI				Sn		**Sn**		**17 03 16.3**	**-4.2**
EIL	**Elat**	**8.18**	**127**	Pn		**Pn**		**17 01 52.6**	**+0.8**
EIL				Sn		**Sn**		**17 03 18.9**	**-4.1**
EIL	**Elat**	**8.18**	**127**	P		**Pn**		**17 01 53.9**	**+2.1**
	comp=N,0.2nm,0.3s,baz=227,slow=4.3,SNR=8.3								
EIL				S		**Sn**		**17 03 18.9**	**-4.1**
	comp=N,1.7nm,0.3s,baz=23,slow=2.5,SNR=10								
ASF	**Jabal al Asfar**	**8.35**	**106**	S		**Sn**		**17 03 30.2**	**+3.0**
	comp=N,0.2nm,0.3s,baz=327,slow=18,SNR=2.3								
MLR	**Muntele Rosu**	**10.74**	**355**	LR		LR		17 07 32.2	
	comp=N,110nm,19.3s,baz=312,slow=42								
AKASG	**Malin Array Be**	**15.96**	**4**	P		**P**		**17 03 39.9**	**0.0**
	comp=N,0.7nm,0.3s,baz=194,slow=12,SNR=4.4								
GERES	**GERESS Array B**	**17.32**	**328**	P		**P**		**17 03 53.2**	**-2.0**
	comp=N,0.1nm,0.3s,baz=148,slow=9.7,SNR=4.4								
FINES	**FINESS Array B**	**26.68**	**359**	P		**P**		**17 05 30.8**	**+0.5**
	comp=N,10.0nm,1.1s,baz=172,slow=12,SNR=3.1								
TORD	**Torodi Ar. Bea**	**31.70**	**234**	P		**P**		**17 06 16.9**	**+1.5**
	comp=N,0.3nm,0.4s,baz=41,slow=16,SNR=2.4								
ARCES	**ARCESS Array B**	**34.81**	**359**	P		**P**		**17 06 41.4**	**-0.6**
	comp=N,2.3nm,0.9s,baz=173,slow=8.2,SNR=5.2								
MKAR	**Makanchi Array**	**42.45**	**56**	P		P		17 07 48.9	+2.6
	comp=N,0.4nm,0.6s,baz=280,slow=7.1,SNR=3.7								
SCHQ	**Schefferville**	**64.65**	**320**	P		**P**		**17 10 28.7**	**0.0**
	comp=N,1.6nm,0.8s,baz=60,slow=8.1,SNR=3.3								
PETK	**Petropavlovsk-**	**82.40**	**28**	LR		LR		17 51 38.7	
	comp=N,55nm,18.5s,baz=61,slow=38								

*NCEDC **27** 17:22:24.1±0.6,37.63N±0.02×118.99W±0.03,h8km±3km, Md2.5*
NEIC 27 17:22:23.8±0.9,37.63N±0.02×118.99W±0.03,h10km±2km, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OMMB	**Old Mammoth Mi**	**0.02**	**202**			Pg		17 22 25.6	-0.6
MLIM	**Lincoln Peak**	**0.02**	**288**			Pg		17 22 25.9	-0.3
MMLB	**Mammoth Lakes**	**0.03**	**19**			Pg		17 22 25.9	-0.3
MDYM	**Dry Creek**	**0.03**	**330**			Pg		17 22 26.0	-0.2
MMSM	**Mammoth Summit**	**0.03**	**271**			Pg		17 22 26.0	-0.3
MMPM	**Mammoth Pass**	**0.04**	**235**			Pg		17 22 25.8	-0.4
MEMM	**East Mammoth H**	**0.06**	**49**			Pg		17 22 26.1	-0.2
MINS	**Minaret Summit**	**0.06**	**294**			Pg		17 22 27.4	+1.0
MRDM	**Red Cones**	**0.06**	**239**			Pg		17 22 26.2	-0.2
MLCM	**Laurel Creek C**	**0.06**	**106**			Pg		17 22 26.1	-0.3
MDPB	**Devils Postpil**	**0.07**	**272**			Pg		17 22 26.2	-0.2
MGPM	**Gravel Pit**	**0.07**	**93**			Pg		17 22 26.3	-0.1
MCSM	**Casa Diablo Ho**	**0.07**	**70**			Pg		17 22 26.3	-0.1
MCBM	**Casa Benchmark**	**0.08**	**79**			Pg		17 22 26.4	-0.1
MDCM	**Deadman Creek**	**0.09**	**333**			Pg		17 22 26.5	-0.2
MCMM	**Convict Lake**	**0.10**	**102**			Pg		17 22 26.5	-0.1
LMCR	**Lookout Mounta**	**0.10**	**20**			Pg		17 22 27.1	+0.3
MDRNC	**Doe Ridge**	**0.12**	**86**			Pg		17 22 27.2	+0.2
MLAC	**Mammoth, Mammo**	**0.12**	**90**			Pg		17 22 27.2	+0.1
MCVM	**Convict Lake**	**0.14**	**107**			Pg		17 22 27.1	-0.1
MLHM	**Little Hot Cre**	**0.15**	**71**			Pg		17 22 27.8	+0.4
ORC	**Owens River**	**0.27**	**89**			Pg		17 22 29.7	+0.3
MGNR	**McGee Canyon**	**0.30**	**52**			Pg		17 22 30.5	+0.5
BENR	**Benton**	**0.34**	**75**			Pg		17 22 31.0	+0.2
SCHCA	**Scheelite**	**0.36**	**138**			Pg		17 22 31.1	0.0
MRCM	**Red Rock Canyo**	**0.39**	**83**			Pg		17 22 31.9	+0.4
KCC	**Kaiser Creek**	**0.40**	**220**			Pg		17 22 31.9	+0.1
KCC						Sg		17 22 37.1	+0.1
MTUM	**Tungsten Hills**	**0.44**	**129**			Pg		17 22 32.7	+0.2
MCDM	**Chidago Canyon**	**0.44**	**100**			Pg		17 22 33.1	+0.6
ANTCA	**Antelope Range**	**0.44**	**50**			Pg		17 22 33.1	+0.5
MFBM	**Five Bridges**	**0.49**	**114**			Pb		17 22 34.1	-0.5
MLNR	**Milner Canyon**	**0.52**	**94**			Pg		17 22 34.4	+0.5
BHPR	**Bishop**	**0.52**	**129**			Pg		17 22 34.3	+0.3
HCK	**Huntoon Valley**	**0.55**	**35**			Pb		17 22 35.1	-0.3
POCCA	**Poleta Canyon**	**0.63**	**115**			Pg		17 22 36.2	+0.2
MMIM	**Miami Mountain**	**0.63**	**251**			Pg		17 22 36.3	+0.2
BONR	**Boundary Peak**	**0.64**	**59**			Pg		17 22 36.6	+0.4
LHV	**Little Huntoon**	**0.73**	**32**			Pb		17 22 38.4	-0.2
FRI	**Friant**	**0.86**	**222**			Pg		17 22 40.1	-0.2
MHDM	**Hidden Dam**	**0.88**	**235**			Pg		17 22 40.8	-0.1
WAKR	**Walker**	**0.94**	**338**			Pb		17 22 42.2	-0.1
HELL	**Mitchell Peak,**	**0.95**	**182**			Pg		17 22 41.8	-0.3
NV11	**Mina Array Sit**	**1.04**	**39**			Pg		17 22 43.9	0.0
RYN	**Ryan**	**1.06**	**20**			Pb		17 22 44.5	+0.1
MYLM	**Yosemite Lake**	**1.16**	**258**			Pb		17 22 46.0	0.0
CMB	**Columbia Colle**	**1.18**	**291**			Pb		17 22 45.8	-0.5
MCUB	**Copperopolis B**	**1.33**	**285**			Pn		17 22 48.5	0.0
MRHM	**Rocky Hill**	**1.34**	**183**			Pn		17 22 48.5	-0.1
MRHM						Sb		17 23 05.9	-0.4
YERR	**Yerington**	**1.37**	**352**			Pb		17 22 49.5	-0.1
PNTR	**Pine Nut**	**1.53**	**342**			Pn		17 22 51.8	+0.4
KVN	**Kaiserville**	**1.58**	**26**			Pn		17 22 52.4	+0.4
BRMM	**Rolling Bench**	**1.66**	**242**			Pb		17 22 55.1	+0.6
BMSM	**Mercy Hot Spri**	**1.74**	**237**			Pb		17 22 56.4	+0.6
DAC	**Darwin (Calif)**	**1.75**	**140**	Pn		Pn		17 22 55.0	+0.6
DAC						Sg		17 23 20.1	-0.2
SLD	**San Luis Dam**	**1.86**	**253**			Pb		17 22 57.9	0.0
HPCM	**Pacheco Lake**	**1.91**	**253**			Pb		17 22 58.7	0.0
WASM	**Alta Sierra Ca**	**1.92**	**169**			Pb		17 22 59.3	+0.3
BEMM	**Emmet**	**1.94**	**241**			Pb		17 22 59.3	+0.1
BEHM	**Elkhorn Ranch**	**1.99**	**242**			Pb		17 23 00.3	+0.2
ISA	**Isabella, Lake**	**2.01**	**168**			Pb		17 22 59.8	-0.6
ISA						Sb		17 23 25.7	+0.3
CTM	**Castle Mountai**	**2.01**	**213**			Pb		17 23 00.4	-0.1
PMPB	**Monarch Peak**	**2.02**	**226**			Pn		17 22 58.4	+0.3
BHRM	**Hodges Ranch**	**2.03**	**244**			Pb		17 23 01.1	+0.4
AFDM	**Forest Hills D**	**2.04**	**311**			Pn		17 22 58.4	+0.2
HSPM	**Sheep**	**2.08**	**256**			Pb		17 23 01.8	+0.2
PAHR	**Pah Rah Range**	**2.10**	**352**	Pn		Pn		17 22 59.2	+0.1
WOFM	**Oak Flat**	**2.10**	**174**			Pb		17 23 02.1	0.0
SAO	**San Andreas Ge**	**2.14**	**247**	Pn		Pn		17 22 60.0	+0.4
PAGB	**Antelope Grade**	**2.15**	**208**			Pn		17 22 59.9	+0.2
PBPM	**Bitterwater Pu**	**2.23**	**203**			Pb		17 23 02.9	-1.2
TPNV	**Topopah Spring**	**2.29**	**106**			Pn		17 23 03.3	+1.5
BEKR	**Beckworth**	**2.48**	**335**			Pn		17 23 03.9	-0.5
R11A	**Troy Canyon, C**	**2.79**	**74**	Pn		Pn		17 23 07.1	-1.5

*ISCJB **27** 17:44:45.0±0.6,18.85N±0.06×64.93W±0.02,h74km±6km, Error ellipse: s-maj=9.9km s-min=3.1km az=3.6*
*NEIC **27** 17:44:46.8±0.8,18.8N±0.1×64.96W±0.04,h59km±16km*
*RSPR **27** 17:44:47.8,18.78N×64.96W,h60km±1km,MD3.5/18*
ISC 27 17:44:46.5±1.3,18.82N±0.07×64.95W±0.02,h62km±8km, n83,σ1s32/120,27C-11D,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.47**	**180**	P	*eP*		**Pn**	**17 44 58.3**	**0.0**
STVI	**Saint Thomas**	**0.47**	**180**	P	*eP*		**Pn**	**17 44 58.4**	**0.0**
STVI				S	*eS*		**Sn**	**17 45 07.0**	**+0.1**
STVI	**Saint Thomas**	**0.47**	**180**	P	*eP*		**Pn**	**17 44 58.3**	**0.0**
STVI				S	*eS*		**Sn**	**17 45 06.7**	**-0.1**
STVI	**Saint Thomas**	**0.47**	**180**				**Sn**	**17 45 06.7**	**-0.1**
STVI	**Saint Thomas**	**0.47**	**180**	Pn			**Pn**	**17 44 58.3**	**0.0**
TBVI	**Tortola**	**0.51**	**142**	P	*eP*		**Pn**	**17 44 58.8**	**+0.1**
TBVI	**Tortola**	**0.51**	**142**	P	*eP*		**Pn**	**17 44 58.8**	**+0.1**
TBVI				S	*eS*		**Sn**	**17 45 07.4**	**-0.2**
TBVI	**Tortola**	**0.51**	**142**				**Pn**	**17 44 58.8**	**+0.1**
TBVI							**Sn**	**17 45 07.4**	**-0.2**
ABV	**Anegada**	**0.59**	**99**	P	*eP*		**Pn**	**17 45 00.2**	**+0.6**
ABV	**Anegada**	**0.59**	**99**	P	*eP*		**Pn**	**17 45 00.2**	**+0.6**
ABV				S	*eS*		**Sn**	**17 45 09.7**	**+0.5**
ABVI	**Anegada Island**	**0.59**	**99**				**Pn**	**17 45 00.2**	**+0.6**
ABVI							**Sn**	**17 45 09.7**	**+0.5**
MTP	**Monte Pirata**	**0.92**	**219**	P	*eP*		**Pn**	**17 45 03.7**	**0.0**
MTP	**Monte Pirata**	**0.92**	**219**	P	*eP*		**Pn**	**17 45 03.7**	**0.0**
MTP				S	*eS*		**Sn**	**17 45 16.2**	**0.0**
MTP	**Monte Pirata**	**0.92**	**219**				**Pn**	**17 45 03.7**	**0.0**
MTP							**Sn**	**17 45 16.2**	**0.0**
CBYP	**Canovanas**	**1.02**	**238**	P	*eP*		**Pn**	**17 45 04.7**	**-0.3**
CBYP				S	*eS*		**Sn**	**17 45 18.3**	**-0.3**
CBYP	**Canovanas**	**1.02**	**238**	P	*eP*		**Pn**	**17 45 04.7**	**-0.3**
CBYP	**Canovanas**	**1.02**	**238**	P	*eP*		**Pn**	**17 45 04.7**	**-0.3**
CBYP				S	*eS*		**Sn**	**17 45 18.3**	**-0.3**
CBYP	**Canovanas**	**1.02**	**238**				**Pn**	**17 45 04.7**	**-0.3**
CBYP							**Sn**	**17 45 18.3**	**-0.3**
HUMP	**Col San Antoni**	**1.09**	**232**	P	*eP*		**Pn**	**17 45 05.8**	**-0.1**
HUMP				S	*eS*		**Sn**	**17 45 19.8**	**-0.3**
HUMP	**Col San Antoni**	**1.09**	**232**	P	*eP*		**Pn**	**17 45 05.7**	**-0.1**
HUMP	**Col San Antoni**	**1.09**	**232**	P	*eP*		**Pn**	**17 45 05.7**	**-0.1**
HUMP				S	*eS*		**Sn**	**17 45 19.5**	**-0.6**
HUMP				S	*eS*			17 45 26.1	
HUMP	**Col San Antoni**	**1.09**	**232**				**Pn**	**17 45 05.7**	**-0.1**
HUMP							**Sn**	**17 45 19.5**	**-0.6**
GCPR	**Guaynabo City**	**1.19**	**245**				**Pn**	**17 45 06.8**	**-0.3**
PDPR	**Patillas Dam,**	**1.29**	**232**	P	*eP*		**Pn**	**17 45 08.5**	**0.0**
PDPR	**Patillas Dam,**	**1.29**	**232**	Pn			**Pn**	**17 45 08.4**	**-0.1**
SJG	**San Juan**	**1.34**	**238**				**Pn**	**17 45 08.9**	**-0.3**
IGPR	**InterUniversit**	**1.39**	**232**	P	*eP*		**Pn**	**17 45 09.9**	**+0.1**
IGPR				S	*eS*		**Sn**	**17 45 27.1**	**-0.2**
IGPR	**InterUniversit**	**1.39**	**232**	S	*eS*		**Sn**	**17 45 26.7**	**-0.5**
IGPR	**InterUniversit**	**1.39**	**232**	P	*eP*		**Pn**	**17 45 09.8**	**+0.1**
IGPR	**InterUniversit**	**1.39**	**232**				**Sn**	**17 45 26.7**	**-0.5**
IGPR	**InterUniversit**	**1.39**	**232**	Pn			**Pn**	**17 45 09.7**	**0.0**
EMPR	**Esperanza - Ma**	**1.54**	**257**	P	*eP*		**Pn**	**17 45 12.2**	**+0.5**
EMPR	**Esperanza - Ma**	**1.54**	**257**	S	*eS*		**Sn**	**17 45 31.4**	**+0.7**
EMPR	**Esperanza - Ma**	**1.54**	**257**				**Pn**	**17 45 12.2**	**+0.5**
EMPR							**Sn**	**17 45 31.4**	**+0.7**
CELP	**Cerrillos**	**1.72**	**245**	P	*eP*		**Pn**	**17 45 14.3**	**+0.2**
CELP				S	*eS*		**Sn**	**17 45 34.7**	**-0.4**
CELP	**Cerrillos**	**

PMAR Madeira 4.97 13 P **Pn** 17 47 16.2 -3.0
PMAR S **Sn** 17 48 10.7 -6.4
PMOZ Porto Moniz, M 5.02 10⇑ *eP* **Pn** 17 47 15.5 -4.3
PMOZ *eS* Sn 17 48 10.0 -8.1
PMOZ A A 17 48 20.0
5µm,0.5s
PMOZ Porto Moniz, M 5.02 10 P **Pn** 17 47 15.8 -4.0
PMOZ S Sn 17 48 10.3 -7.8
PMOZ Porto Moniz, M 5.02 10 **Pn** 17 47 15.5 -4.3
PMOZ Sn Sn 17 48 09.8 -8.4
PMPS Porto Santo 5.43 17⇑ *eP* **Pn** 17 47 21.6 -3.7
PMPS *eS* Sn 17 48 17.2 -11
PMPS A A 17 48 33.5
565nm,0.5s
PMPST Porto Santo, M 5.45 17⇑ *eP* **Pn** 17 47 21.8 -3.8
PMPST *eS* Sn 17 48 18.2 -10
PMPST A A 17 48 30.1
1µm,0.3s
TANT Tantan 6.20 83 P **Pn** 17 47 34.4 -1.6
TANT S **Sn** 17 48 45.1 -2.1
EAH EAH 8.41 61 P **Pn** 17 48 04.8 -1.4
EAH S Sn 17 49 33.3 -8.1
TTIG Tnine Tigouga, 8.96 70 P **Pn** 17 48 11.0 -3.0
TTIG S **Sn** 17 49 48.7 -6.5
OUK Oukaimeden 9.62 67 P **Pn** 17 48 20.3 -2.9
OUK S **Sn** 17 50 06.0 -5.7
OUZM OUZ 10.46 70 P **Pn** 17 48 31.1 -3.3
OUZM S Sn 17 50 23.0 -8.9
PSMN Pico do Norte, 10.78 329 *eP* **Pn** 17 48 35.1 -3.6
730nm,1.1s
PSMA Santa Maria 10.80 329 *eP* **Pn** 17 48 35.5 -3.5
707nm,1.0s
TISM Timmit 10.94 67 P **Pn** 17 48 37.5 -3.4
TISM S **Sn** 17 50 38.1 -5.5
ZGR Zagora 11.27 76 P **Pn** 17 48 43.9 -1.6
ZGR S **Sn** 17 50 45.9 -5.9
ZHG ZHG 11.42 58 P **Pn** 17 48 44.9 -2.7
ZHG S Sn 17 50 44.5 -11
TZRR Tazzarine 11.43 72 P **Pn** 17 48 45.2 -2.6
TZRR S **Sn** 17 50 51.7 -4.0
CMLA Cha da Macela 11.61 330 *eP* **Pn** 17 48 47.7 -2.5
2µm,1.0s
CMLA Cha da Macela 11.61 330 P **Pn** 17 48 47.6 -2.5
CMLA Cha da Macela 11.61 330 **Pn** 17 48 47.6 -2.5
CMLA Sn Sn 17 50 50.8 -9.3
GRON Grota Negra 11.62 330 *eP* **Pn** 17 48 46.9 -3.4
595nm,0.6s
PDA Ponta Delgada 11.66 330 *eP* **Pn** 17 48 48.0 -2.8
880nm,0.6s
PDA Ponta Delgada 11.66 330 *eP* **Pn** 17 48 48.0 -2.8
PDA pmax pmax
comp=Z,108nm,1.3s
PSET Sete Cidades 11.75 330 *eP* **Pn** 17 48 49.3 -2.7
comp=Z,1µm,0.6s
PFVI Vila Bisbo 12.17 38 *eP* **Pn** 17 48 57.3 -0.5
PFVI *eS* Sn 17 50 59.9 -14
PFVI Vila Bisbo 12.17 38 Pn **Pn** 17 48 54.1 -3.7
PFVI Sn 17 50 60.0 -14
MORF Marmelete 12.40 38 *eP* **Pn** 17 48 58.5 -2.4
MORF *eS* Sn 17 51 06.0 -13
MORF *eT* T 18 01 01.9
PTEO Sao Teotonio 12.53 37 *eP* **Pn** 17 49 03.3 +0.6
PTEO *eS* Sn 17 51 09.4 -13
IFR Ifrane 12.60 60 *eP* **Pn** 17 49 01.5 -2.4
IFR *eS* Sn 17 51 14.6 -10
MD31 MD31 12.65 64 P **Pn** 17 49 00.7 -3.7
MD31 S **Sn** 17 51 18.1 -7.6
RSA Sarsar 12.70 54 P **Pn** 17 49 02.7 -2.3
RSA S Sn 17 51 15.3 -11
PBDV Barranco-do-Ve 12.75 40 *eP* **Pn** 17 49 02.6 -3.2
PBDV *eS* Sn 17 51 15.3 -13
MDT Midelt 12.76 64 Pn **Pn** 17 49 03.5 -2.4
comp=Z,2.3nm,0.3s,baz=88,slow=4.9,SNR=21
MDT Sn Sn 17 51 16.7 -12
comp=Z,2.5nm,0.3s,baz=226,slow=18,SNR=3.4
MDT LR LR 17 53 42.9
comp=Z,3µm,19.2s,baz=268,slow=36
MDT Midelt 12.76 64 P **Pn** 17 49 05.9 +0.1
MDT S **Sn** 17 51 21.3 -6.9
LCRM LCR 12.88 60 P **Pn** 17 49 06.0 -1.6
LCRM S Sn 17 51 20.1 -11
PCVE Castro Verde 12.97 39 *eP* **Pn** 17 49 05.7 -2.9
PCVE *eS* Sn 17 51 20.4 -13
PVAQ Vaqueiros 12.99 40 *eP* Pn 17 49 04.4 -4.5
PVAQ *eS* Sn 17 51 20.9 -13
PVAQ Vaqueiros 12.99 40 P **Pn** 17 49 05.1 -3.8
PVAQ S Sn 17 51 23.4 -10
PVAQ Vaqueiros 12.99 40 Pn **Pn** 17 49 05.0 -4.0
PVAQ Sn 17 51 20.7 -13
PNCL Nicolau / Gran 13.05 36 *eP* **Pn** 17 49 07.0 -2.8
PNCL *eS* Sn 17 51 20.8 -15
ADH Angra Heroismo 13.12 327 *eP* **Pn** 17 49 08.4 -2.3
comp=Z,505nm,1.1s
CHEFC Chefchaouen 13.15 54 P **Pn** 17 49 08.7 -2.5
CHEFC S Sn 17 51 28.5 -9.3
SFS San Fernando 13.30 47 P **Pn** 17 49 12.2 -1.0
SFS San Fernando 13.30 47 Pn **Pn** 17 49 12.2 -1.0
PMAFR Mafra 13.34 32 *eP* **Pn** 17 49 11.4 -2.3
PMAFR *eS* Sn 17 51 29.4 -13
PBEJ Beja 13.35 38 *eP* **Pn** 17 49 10.4 -3.4
PBEJ *eS* Sn 17 51 28.9 -14
PMAN Manadas 13.53 325 *eP* **Pn** 17 49 14.0 -2.3
comp=Z,776nm,1.1s
CEU Ceuta 13.54 51 *eP* **Pn** 17 49 18.3 +1.9
CEU *eS* Sn 17 51 38.6 -8.4
PICO Pico 13.60 324 *eP* **Pn** 17 49 15.7 -1.6
comp=Z,949nm,0.5s
PCAN Candelaria 13.61 324 *eP* **Pn** 17 49 15.3 -2.1
comp=Z,788nm,0.7s
EVO Evora 13.64 36 *eP* **Pn** 17 49 15.1 -2.7
EVO *eS* Sn 17 51 35.6 -14
EVO Evora 13.64 36 *eP* **Pn** 17 49 13.6 -4.2
EVO *es* Sn 17 51 34.2 -15
ROSA Rosais 13.67 325 *eP* **Pn** 17 49 16.2 -2.0
ROSA Rosais 13.67 325 **Pn** 17 49 16.3 -1.9
HOR Horta 13.73 323 *eP* **Pn** 17 49 17.0 -2.0
comp=Z,722nm,0.7s
SACV Santiago Islan 13.77 202 Pn **Pn** 17 49 16.3 -3.5
PGRA Graciosa 13.78 326 *eP* **Pn** 17 49 17.5 -2.2
comp=Z,392nm,0.5s
CALA Caldeira 13.81 323 *eP* **Pn** 17 49 19.7 -0.5
PVLZ Peæn de 13.93 55 *eP* **Pn** 17 49 22.6 +0.8
PVLZ *eS* Sn 17 51 48.3 -8.4
PMTG Montargil 13.94 34 *eP* **Pn** 17 49 18.8 -3.1
PMTG *eS* Sn 17 51 41.1 -16
PMTG Montargil 13.94 34 *eT* T 18 02 20.3
AKLM AKL 13.96 58 P **Pn** 17 49 19.1 -3.2
AKLM S Sn 17 51 46.0 -12
LIJA Lijar 14.08 47 *eP* **Pn** 17 49 22.0 -2.0
LIJA *eS* Sn 17 51 48.0 -13
PESTR Estremoz 14.11 36 *eP* **Pn** 17 49 22.3 -1.9
PESTR *eS* Sn 17 51 46.7 -14
PESTR Estremoz 14.11 36 P **Pn** 17 49 20.9 -3.3
PESTR S **Sn** 17 51 53.8 -7.3
PESTR Estremoz 14.11 36 Pn 17 49 19.5 -4.8
PALE Palemas 14.21 55 P **Pn** 17 49 25.4 -0.3
PALE S Sn 17 51 55.6 -8.1
PTOM Tomar 14.27 32 *eP* **Pn** 17 49 28.5 +2.0
PTOM *eS* Sn 17 51 51.1 -14
PMRV Marv??o 14.63 35 *eP* **Pn** 17 49 29.2 -2.2
PMRV *eS* Sn 17 51 58.3 -15
EMAL Malaga-Limoner 14.64 49 *eP* **Pn** 17 49 32.8 +1.2
EMAL *eS* Sn 17 52 02.5 -12
COI Coimbra 14.74 31 *eS* Sn 17 52 03.6 -13
COI Coimbra 14.74 31 P **Pn** 17 49 32.7 -0.2
COI Coimbra 14.74 31 **Pn** 17 49 32.7 -0.2
HORN Hornachuelos 14.75 44 P **Pn** 17 49 31.2 -1.8
HORN S Sn 17 52 07.2 -9.5
PCBR Castelo Branco 14.90 34 *eP* **Pn** 17 49 32.5 -2.5
MELI Melilla 14.98 57 *eS* Sn 17 52 11.9 -10
MTE Manteigas 15.30 32 *eP* **Pn** 17 49 39.6 -0.8
MTE *eS* Sn 17 52 14.7 -15
MTE Manteigas 15.30 32 P **Pn** 17 49 39.9 -0.5
PVIS Viseu 15.39 31 *eS* Sn 17 52 17.8 -14
PVRL Vila Real 15.92 30 *eP* **Pn** 17 49 50.5 +2.1
PCAB Cabril 16.14 29 *eP* **Pn** 17 49 51.5 +0.2
MVO Moncorvo 16.14 32 *eP* **Pn** 17 49 49.7 -1.7
MVO *eS* Sn 17 52 36.4 -14
PAB San Pablo 16.38 41 P **Pn** 17 49 52.2 -2.3
PAB pmax pmax
comp=Z,177nm,1.3s
PAB San Pablo 16.38 41 P **Pn** 17 49 52.2 -2.3
ESDC Sonseca Array 16.69 41 Pn **Pn** 17 49 55.8 -2.5
comp=Z,0.9nm,0.3s,baz=236,slow=13,SNR=13
ESDC Sn Sn 17 52 48.1 -16
comp=Z,3.3nm,0.3s,baz=238,slow=24,SNR=12
ESDC LR LR 17 55 07.3
comp=Z,605nm,19.6s,baz=235,slow=32
ESBB Sonseca Array 16.69 41 P **Pn** 17 49 55.8 -2.6
PBRG Braganca 16.78 31 *eP* **Pn** 17 49 53.2 -6.3
PBRG *eS* Sn 17 52 51.2 -15
CART Cartagena 17.42 52 *eP* **P** 17 50 09.7 +1.0
CART Cartagena 17.42 52 P **Pn** 17 50 05.9 -1.5
UCM Universidad Co 17.52 41 *eP* **Pn** 17 50 08.1 -0.7
UCM *eS* Sn 17 53 11.7 -12
ETRT Tiaret 18.23 61 P **P** 17 50 24.0 +6.1
EANR 'Ain N'Sour 18.27 59 P **P** 17 50 20.0 +1.8
ECHA Ech Chlef 18.54 59 P **Pn** 17 50 25.0 +3.8
EBNR Beni Rached 18.71 58 P **Pn** 17 50 26.0 +2.6
SJPF Ste Jean 20.51 38 *eP* Pn 17 50 45.5 +0.7
SJPF *eSn* **S** 17 54 25.2 -7.2
comp=Z,3.5nm,0.4s
SJPF Ste Jean 20.51 38 *eP* Pn 17 50 44.8 0.0
SJPF pmax pmax
comp=Z,170nm,1.0s
ETSF Etsaut 20.73 39 *eP* Pn 17 50 47.7 +0.2
ETSF *eSn* **S** 17 54 34.9 -2.0
comp=Z,7.2nm,0.7s
ETSF Etsaut 20.73 39 *eP* Pn 17 50 47.2 -0.3
ETSF pmax pmax
comp=Z,220nm,1.4s
EPF Esparros 21.33 40 *eP* **P** 17 50 54.0 +2.5
EPF *eSn* **S** 17 54 47.5 -1.1
comp=Z,5.9nm,0.6s
EPF Esparros 21.33 40 *eP* **P** 17 50 53.4 +1.9
EPF pmax pmax
comp=Z,110nm,0.9s
SET Setif 21.65 62 P **P** 17 50 59.0 +3.9
CKHR Kef el Ahmar 21.69 62 P **P** 17 50 59.4 +3.8
TAM Tamanrasset 22.05 98 P **P** 17 50 57.5 -2.0
TAM pmax pmax
comp=Z,49nm,1.0s
TAM Tamanrasset 22.05 98 P **P** 17 50 57.5 -2.0
DFRA Djebel Bou Aff 22.12 61 P **P** 17 51 02.9 +2.8
CTEI Djebel Teioual 22.40 62 P **P** 17 51 06.3 +3.1
MTLF Montolieu 22.60 42 *eP* **P** 17 51 06.0 +0.9
MTLF Montolieu 22.60 42 P **P** 17 51 06.8 +1.7
MTLF pmax pmax
comp=Z,57nm,1.2s
CKFL Kef-Lekhel 22.73 62 P **P** 17 51 09.1 +2.4
LFF La Frestale 22.79 37 *eP* **P** 17 51 08.5 +1.4
LFF La Frestale 22.79 37 *eP* **P** 17 51 08.8 +1.7
LFF pmax pmax
comp=Z,180nm,1.3s
CAEH 'Ain El Ouahch 22.93 61 P **P** 17 51 09.5 +0.8
QUIF Quistinic 23.20 26 *eP* **P** 17 51 12.6 +1.3
ABSA Djebel Ababsia 23.29 62 P **P** 17 51 15.2 +2.7
CMAH Djebel Manchou 23.33 62 P **P** 17 51 14.0 +1.1
RJF Les Rejaudoux 23.44 37 *eP* **P** 17 51 16.0 +2.2
RJF Les Rejaudoux 23.44 37 *eP* **P** 17 51 15.7 +1.9
RJF pmax pmax
comp=Z,89nm,1.0s
CAF Calviac 23.49 38 *eP* **P** 17 51 15.0 +0.7
CAF Calviac 23.49 38 *eP* **P** 17 51 15.4 +1.1
CAF pmax pmax
comp=Z,76nm,1.3s
MFF Saint Martin d 23.50 32 *eP* **P** 17 51 15.0 +0.6
MFF Saint Martin d 23.50 32 *eP* **P** 17 51 14.5 +0.1
MFF pmax pmax
comp=Z,355nm,2.5s
ROSF Rostrenen 23.50 26 *eP* **P** 17 51 13.8 -0.5
TOA0 Torodi Ar. Sit 23.67 124 P **P** 17 51 14.2 -2.1
SNR=21
TOA0 Torodi Ar. Sit 23.67 124 P **P** 17 51 13.1 -3.2
TOA0 IAmb IAmb 17 51 32.7
comp=Z,62nm,0.8s
TORD Torodi Ar. Bea 23.67 124 P **P** 17 51 13.1 -3.2
comp=Z,40nm,0.7s,baz=313,slow=9.6,SNR=71
TORD S **S** 17 55 34.0 +2.5
comp=Z,12nm,0.6s,baz=317,slow=22,SNR=5.2
TORD LR LR 17 59 27.6
comp=Z,1µm,19.8s,baz=325,slow=34
SGMF Saint Gilles 23.72 27 *eP* **P** 17 51 17.0 +0.6
SGMF Saint Gilles 23.72 27 *eP* **P** 17 51 17.8 +1.4
SGMF pmax pmax
comp=Z,38nm,1.0s
LASF Ste Croix 24.00 42 *eP* **P** 17 51 20.6 +1.4
TCF Toulx Ste Croi 24.46 36 *eP* **P** 17 51 24.3 +0.9
TCF Toulx Ste Croi 24.46 36 *eP* **P** 17 51 24.5 +1.1
TCF pmax pmax
comp=Z,110nm,0.9s
GRR Gorron 24.52 29 *eP* **P** 17 51 24.9 +1.0
GRR Gorron 24.52 29 *eP* **P** 17 51 25.1 +1.2
GRR pmax pmax
comp=Z,80nm,0.8s
TIC Toumodi 24.55 147 *eP* **P** 17 51 22.1 -2.4
comp=Z,134nm,0.7s
DBIC Dimbokro 24.60 146 P **P** 17 51 22.8 -2.2
comp=Z,44nm,0.7s,baz=315,slow=10,SNR=75
DBIC LR LR 18 01 11.4
comp=Z,4µm,18.1s,baz=314,slow=37
DBIC Dimbokro 24.60 146 P **P** 17 51 22.1 -2.9
KEST Kesra 24.66 65 P **P** 17 51 26.4 +1.0
comp=Z,128nm,1.0s,baz=207,slow=4.8,SNR=36
KEST LR LR 18 02 06.8
comp=Z,2µm,18.7s,baz=217,slow=39
KEST Kesra 24.66 65 P **P** 17 51 26.9 +1.5
LIC Lamto 24.91 147 *eP* **P** 17 51 24.2 -3.5
comp=Z,112nm,0.9s
VIVF Saint-Julien-l 24.92 41 *eP* **P** 17 51 28.6 +0.9
VIVF Saint-Julien-l 24.92 41 *eP* **P** 17 51 29.8 +2.1
VIVF pmax pmax
comp=Z,39nm,0.9s
KIC Kosan Boka 24.93 147 *eP* **P** 17 51 24.7 -3.2
comp=Z,140nm,1.2s
BGF Bois d'Agland 24.96 36 *eP* **P** 17 51 29.0 +1.0
BGF Bois d'Agland 24.96 36 *eP* **P** 17 51 28.3 +0.3
BGF pmax pmax
comp=Z,61nm,1.0s
FLN La Foliniere 24.97 29 *eP* **P** 17 51 28.4 +0.5
baz=209
FLN La Foliniere 24.97 29 *eP* **P** 17 51 28.5 +0.5
FLN pmax pmax
comp=Z,95nm,1.1s
SMRF Simiane la Rot 24.97 44 *eP* **P** 17 51 30.2 +2.1
LDF La Druitiere 24.99 29 *eP* **P** 17 51 29.3 +1.1
LDF La Druitiere 24.99 29 *eP* **P** 17 51 28.2 0.0
LDF pmax pmax
comp=Z,66nm,1.1s
SSB Saint Sauveur 25.09 40 P **P** 17 51 30.3 +1.1
SSB pmax pmax
comp=Z,141nm,1.8s
SSB Saint Sauveur 25.09 40 P **P** 17 51 30.2 +1.1
SSB IAmb IAmb 17 51 38.5
comp=Z,141nm,1.8s
LMR La Mourre 25.23 46 *eP* **P** 17 51 31.2 +0.8
LMR La Mourre 25.23 46 *eP* **P** 17 51 30.3 -0.1
LMR pmax pmax
comp=Z,39nm,1.2s
HYF Humbligny 25.33 35 *eP* **P** 17 51 33.7 +2.4
AVF Avril sur Loir 25.38 36 *eP* **P** 17 51 33.9 +2.2
AVF Avril sur Loir 25.38 36 *eP* **P** 17 51 34.8 +3.1
AVF pmax pmax
comp=Z,63nm,1.0s
FRF La Foret Royal 25.43 45 *eP* **P** 17 51 32.9 +0.7
FRF La Foret Royal 25.43 45 *eP* **P** 17 51 32.2 0.0
FRF pmax pmax
comp=Z,52nm,0.8s
SMF Signal de Mont 25.54 37 *eP* **P** 17 51 34.4 +1.1
SMF Signal de Mont 25.54 37 *eP* **P** 17 51 34.6 +1.3
SMF pmax pmax
comp=Z,57nm,1.2s
SSF Saint Saulge 25.64 36 *eP* **P** 17 51 36.6 +2.5
comp=Z,140nm,1.1s
SSF Saint Saulge 25.64 36 *eP* **P** 17 51 35.3 +1.2
SSF pmax pmax
comp=Z,70nm,1.1s
CLF Chambon-Foret 25.67 33 P **P** 17 51 34.3 0.0
ORIF Oris-en-Rattie 25.67 42 *eP* **P** 17 51 36.9 +2.4
ORIF Oris-en-Rattie 25.67 42 P **P** 17 51 35.9 +1.4
ORIF pmax pmax
comp=Z,81nm,1.1s
LOR Lormes 25.95 36 *eP* **P** 17 51 37.1 +0.1
comp=Z,117nm,1.1s,baz=221
LOR Lormes 25.95 36 P **P** 17 51 37.5 +0.5
LOR pmax pmax
comp=Z,50nm,1.1s
SBF Sospel 26.07 45 *eP* **P** 17 51 39.5 +1.4
SBF Sospel 26.07 45 *eP* **P** 17 51 41.9 +3.8
SBF pmax pmax
comp=Z,81nm,1.1s
MBDF Montbardon 26.10 43 *eP* **P** 17 51 40.2 +1.7
MBDF Montbardon 26.10 43 *eP* **P** 17 51 39.8 +1.3
MBDF pmax pmax
comp=Z,78nm,1.3s
SAOF Saorge 26.21 45 P **P** 17 51 41.1 +1.8
SAOF pmax pmax
comp=Z,68nm,1.5s
BNI Bardonecchia 26.21 43 P **P** 17 51 41.5 +2.0
BNI pmax pmax
comp=Z,68nm,1.4s
BNI Bardonecchia 26.21 43 P **P** 17 51 41.5 +2.0
PGF Pioggiola 26.49 49 *eP* **P** 17 51 46.0 +4.0
PGF Pioggiola 26.49 49 P **P** 17 51 42.2 +0.2
PGF pmax pmax
comp=Z,57nm,1.1s
LPL La Plagne 26.50 42 *eP* **P** 17 51 44.2 +2.0
LPL La Plagne 26.50 42 *eP* **P** 17 51 43.6 +1.4
LPL pmax pmax
comp=Z,40nm,1.1s
LPG La Plagne 26.50 42 *eP* **P** 17 51 43.6 +1.3
LPG La Plagne 26.50 42 *eP* **P** 17 51 43.8 +1.5
LPG pmax pmax
comp=Z,88nm,1.4s
CABF La Chapelle 26.75 39 *eP* **P** 17 51 47.1 +2.8
CABF La Chapelle 26.75 39 *eP* **P** 17 51 47.9 +3.6
CABF pmax pmax
comp=Z,49nm,1.2s
DSB Dublin 26.83 16 P **P** 17 51 46.6 +1.8
DSB IAmb IAmb 17 51 56.1
comp=Z,142nm,1.2s
SFTF Sexfontaines 27.17 35 *eP* **P** 17 51 50.8 +2.9
comp=Z,69nm,1.0s
SENIN Lac Senin/Sane 27.30 41 P **P** 17 51 50.0 +0.7
MEZF Maizieres J'vi 27.37 35 *eP* **P** 17 51 52.3 +2.6
baz=217
MSSA Maissana 27.61 46 P **P** 17 51 51.6 -0.3
HAU Haudompre 27.73 37 *eP* **P** 17 51 53.4 +0.4
comp=Z,42nm,0.8s
HAU Haudompre 27.73 37 *eP* **P** 17 51 53.2 +0.2
HAU pmax pmax
comp=Z,36nm,1.1s
PAGF Fort de Pagny 27.74 35 *eP* **P** 17 51 57.5 +4.4
CASP Castiglione de 27.85 50 P **P** 17 51 54.5 +0.4
CASP IAmb IAmb 17 52 04.5
comp=Z,65nm,1.2s
HINF Hinteralfeld 27.88 38 *eP* **P** 17 51 57.3 +2.9
comp=Z,44nm,0.8s
HINF Hinteralfeld 27.88 38 *eP* **P** 17 51 57.5 +3.1
HINF pmax pmax
comp=Z,35nm,1.0s
BAIF Baives 28.00 32 *eP* **P** 17 51 57.2 +1.8
comp=Z,157nm,1.2s
BAIF Baives 28.00 32 *eP* **P** 17 51 57.2 +1.8
BAIF pmax pmax
comp=Z,66nm,1.2s
CLTB Caltabellotta 28.06 62 P **P** 17 51 57.3 +1.2
VLC Villacollemand 28.10 47 P **P** 17 51 56.6 +0.3
VLC IAmb IAmb 17 52 44.7
comp=Z,107nm,1.8s
CORL Corleone 28.19 61 P **P** 17 51 56.3 -0.9
ECH Echery 28.29 37 P **P** 17 51 58.3 +0.4
ECH pmax pmax
comp=Z,48nm,1.3s
ECH Echery 28.29 37 P **P** 17 51 58.3 +0.4
PRMA PARMA 28.32 46 P **P** 17 51 57.0 -1.2
GIVF Givet 28.32 32 *eP* **P** 17 52 00.6 +2.4
comp=Z,78nm,0.9s
GIVF Givet 28.32 32 *eP* **P** 17 52 00.9 +2.7
GIVF pmax pmax
comp=Z,73nm,1.2s
OSSC Osservatorio P 28.40 49 P **P** 17 51 59.8 +0.8
LATE Laterza 28.43 51 P **P** 17 51 59.2 -0.1
CDF Champ du Feu 28.47 37 *eP* **P** 17 52 00.7 +1.1
comp=Z,60nm,0.9s
CDF Champ du Feu 28.47 37 *eP* **P** 17 51 59.8 +0.2
CDF pmax pmax
comp=Z,29nm,0.8s
TUE Stuetta 28.55 42 P **P** 17 52 01.3 +0.7
ZCCA Zocca 28.56 47 P **P** 17 52 02.7 +2.2
ZCCA IAmb IAmb 17 52 12.3
comp=Z,63nm,0.9s
UCC Uccle 28.59 31 P **P** 17 52 00.6 0.0
UCC pmax pmax
comp=Z,63nm,1.2s
UCC Uccle 28.59 31 P **P** 17 52 00.6 0.0
UCC IAmb IAmb 17 52 08.2
comp=Z,63nm,1.2s
WLF Walferdange 28.67 34 P **P** 17 52 02.0 +0.7
WLF pmax pmax
comp=Z,47nm,1.2s
WLF Walferdange 28.67 34 P **P** 17 52 02.0 +0.7
SLE Schleitheim 28.75 39 P **P** 17 52 04.3 +2.2
SLE pmax pmax
comp=Z,31nm,1.3s
SALO Salr 28.84 44 P **P** 17 52 02.7 -0.3
SALO IAmb IAmb 17 52 08.6
comp=Z,62nm,0.9s
VAE Valguarnera 28.98 62 P **P** 17 52 04.0 -0.2
comp=Z,4.0nm,0.4s,baz=169,slow=16,SNR=2.5
VAE LR LR 18 05 02.6
comp=Z,2µm,19.0s,baz=326,slow=39
BFO Black Forest 28.99 38 P **P** 17 52 03.1 -1.1
BFO pmax pmax
comp=Z,72nm,2.0s
BFO Black Forest 28.99 38 P **P** 17 52 03.1 -1.1
MURB Monte Urbino 29.16 50 P **P** 17 52 05.3 -0.5
MURB IAmb IAmb 17 52 15.4
comp=Z,105nm,1.5s
FUORN Ofenpass-Fuorn 29.17 42 P **P** 17 52 06.6 +0.5
DAVA Damuels 29.29 41 *i* pP **P** 17 52 08.7 +1.7
comp=Z,56nm,1.0s
NRCA Norcia 29.41 51 P **P** 17 52 10.2 +2.2
NRCA IAmb IAmb 17 52 26.9
comp=Z,67nm,1.4s
AQU L'Aquila 29.44 52 P **P** 17 52 07.7 -0.6
AQU pmax pmax
comp=Z,55nm,1.2s
AQU L'Aquila 29.44 52 P **P** 17 52 07.7 -0.6
AQU IAmb IAmb 17 52 31.5
comp=Z,55nm,1.2s
TEOL Teolo 29.44 46 P **P** 17 52 07.8 -0.4
TEOL IAmb IAmb 17 52 14.4
comp=Z,45nm,0.9s
ESK Eskdalemuir 29.51 18 P **P** 17 52 10.0 +1.3
ESK pmax pmax
comp=Z,226nm,1.6s
ESK Eskdalemuir 29.51 18 P **P** 17 52 10.0 +1.3
EKA Eskdalemuir Ar 29.54 18 P **P** 17 52 09.0 +0.1
EKA Eskdalemuir Ar 29.54 18 P **P** 17 52 08.9 +0.1
comp=Z,3.3nm,0.7s,baz=220,slow=8.3,SNR=4.5
FETA Feichten 29.65 42 *i* pP **P** 17 52 10.7 +0.5
comp=Z,71nm,1.1s
FETA *i* PcP **PcP** 17 55 21.5 +6.9
comp=Z,7.3nm,1.0s
INTR Introdacqua 29.69 53 P **P** 17 52 11.2 +0.7
INTR IAmb IAmb 17 52 18.7
comp=Z,118nm,1.6s
STU Stuttgart 29.71 38 P **P** 17 52 11.5 +0.9
STU pmax pmax
comp=Z,40nm,1.2s
STU Stuttgart 29.71 38 P **P** 17 52 11.5 +0.9
PAOL Paolisi 29.88 55 P **P** 17 52 13.9 +1.6
PAOL IAmb IAmb 17 52 22.3
comp=Z,55nm,1.1s
RETA Reutte 29.90 41 *i* pP **P** 17 52 13.1 +0.8
comp=Z,68nm,1.1s
MOTA Moosalm 30.03 42 *i* P **P** 17 52 13.7 +0.1
MOTA comp=Z,36nm,0.9s
i PcP **PcP** 17 55 22.2 +6.6
comp=Z,3.0nm,0.6s
SQTA Sankt Quirin 30.03 42 *i* P P 17 52 08.3 -5.3
comp=Z,20nm,0.7s
TNS Taunus Mts 30.18 35 P **P** 17 52 14.5 -0.2
TNS pmax pmax
comp=Z,26nm,0.9s
CEL Celeste 30.27 61 P **P** 17 52 17.4 +1.7
CEL IAmb IAmb 17 52 30.8
comp=Z,61nm,1.1s
WATA Walderalm 30.31 42 *i* P **P** 17 52 16.0 0.0

comp=Z,35nm,0.9s
WTTA Wattenberg 30.31 42 P **P 17 52 16.5 +0.4**
WTTA pmax pmax
comp=Z,62nm,0.8s
WTTA Wattenberg 30.31 42 *i* P **P 17 52 13.8 -2.3**
comp=Z,50nm,0.8s,SNR=5.7
WTTA *i* PcP **PcP 17 55 23.4 +7.1**
comp=Z,3.3nm,0.8s
STAL STALIGIAL 30.49 45 P **P 17 52 17.6 +0.1**
STAL IAmb IAmb 17 52 27.2
comp=Z,41nm,0.9s
FUR Furstenfeldbru 30.55 40 P **P 17 52 19.4 +1.4**
FUR pmax pmax
comp=Z,87nm,0.9s
ABTA Abfaltersbach 30.59 44 *i* pP **P 17 52 20.0 +1.5**
comp=Z,102nm,1.8s,SNR=10
ABTA *i* PcP **PcP 17 55 20.3 +3.4**
comp=Z,2.3nm,0.9s
ACER Acerenza 30.83 56 P **P 17 52 20.8 +0.2**
TRI Trieste 30.93 46 P **P 17 52 21.4 +0.1**
TRI pmax pmax
comp=Z,165nm,1.7s
TRI Trieste 30.93 46 P **P 17 52 21.4 +0.1**
SGRT San Giovanni R 30.93 54 P **P 17 52 21.0 -0.5**
TIP Timpagrande 31.10 60 P **P 17 52 23.4 +0.4**
MYKA Terra Mystica 31.23 45 *i* pP **P 17 52 24.8 +0.6**
comp=Z,35nm,1.0s
KBA Koelnbreinsper 31.25 44 P **P 17 52 25.8 +1.4**
KBA pmax pmax
comp=Z,35nm,1.1s
KBA Koelnbreinsper 31.25 44 *i* pP **P 17 52 26.0 +1.6**
comp=Z,29nm,1.0s
GRA1 Grafenberg Arr 31.33 38 P **P 17 52 24.7 -0.2**
GRA1 IAmb IAmb 17 52 37.8
comp=Z,152nm,1.9s
GRF Grafenberg Arr 31.33 38 P **P 17 52 24.7 -0.2**
GRF pmax pmax
comp=Z,152nm,1.9s
GRB1 Grafenberg Arr 31.40 39 P **P 17 52 26.3 +0.8**
GRB1 pmax pmax
comp=Z,42nm,1.2s
LJU Ljubljana 31.55 46 *i* P **P 17 52 27.2 +0.4**
OBKA Obir 31.75 45 *i* pP **P 17 52 30.8 +2.1**
comp=Z,29nm,1.0s
WET Wettzell 31.96 40 P **P 17 52 31.6 +1.2**
WET pmax pmax
comp=Z,54nm,0.9s
MOX Moxa 32.06 37 P **P 17 52 33.1 +1.8**
MOX pmax pmax
comp=Z,35nm,1.0s
SOKA Soboth 32.12 45 *i* pP **P 17 52 33.0 +1.1**
comp=Z,60nm,1.0s,SNR=19
MOA Molln 32.16 43 *i* P **P 17 52 32.4 +0.2**
comp=Z,57nm,0.8s,SNR=18
PERS Pernice 32.16 45 *i* P **P 17 52 33.1 +0.8**
GEC2 GERESS Array S 32.28 41 P **P 17 52 34.4 +1.0**
GEC2 pmax pmax
comp=Z,31nm,1.7s
GEC2 GERESS Array S 32.28 41 P **P 17 52 33.9 +0.5**
GERES GERESS Array B 32.28 41 P **P 17 52 33.8 +0.4**
comp=Z,3.5nm,0.8s,baz=270,slow=5.3,SNR=19
NKC Novy Kostel 32.29 38 *e*P **P 17 52 34.5 +1.2**
NKC Novy Kostel 32.29 38 *e*P **P 17 52 34.5 +1.2**
KHC Kasperske Hory 32.35 40 *e*P **P 17 52 34.2 +0.3**
KHC *e* 17 52 39.0
KHC Kasperske Hory 32.35 40 *e*P **P 17 52 34.2 +0.3**
KHC *e*pP **pwP 17 52 39.0 +0.8**
KHC Kasperske Hory 32.35 40 P **P 17 52 34.4 +0.5**
SCTE Santa Cesarea 32.56 58 P **P 17 52 35.7 0.0**
ARSA Arzberg 32.67 45 *i* pP **P 17 52 37.7 +1.0**
comp=Z,15nm,1.1s
BLY Banja Luka 32.82 50 ⇑P **P 17 52 39.4 +1.4**
BLY mb 17 52 44.4
BLY Banja Luka 32.82 50 P **P 17 52 39.0 +1.0**
BLY IAmb IAmb 17 52 49.0
comp=Z,82nm,1.2s
CONA Conrad Observa 33.16 44 *i* pP **P 17 52 42.6 +1.6**
comp=Z,28nm,0.9s
CLL Collm 33.16 37 *e*P **P 17 52 41.0 +0.1**
CLL *e*S **S 17 58 08.0 +7.4**
CLL pmax pmax
comp=Z,28nm,1.4s
CLL Collm 33.16 37 *e*P **P 17 52 41.0 +0.1**
comp=Z,28nm,1.4s
CLL *e* 17 52 47.0
CLL *e*S **S 17 58 08.0 +7.4**
CLL *e* 18 00 54.0
CLL Collm 33.16 37 P **P 17 52 40.9 0.0**
PRU Pruhonice 33.32 40 *e*P **P 17 52 45.2 +2.9**
PRU *e* 17 52 48.9
PRU Pruhonice 33.32 40 *e*P **P 17 52 45.2 +2.9**
PRU *ex* x 17 52 48.9
GOPC GO Pecny, Ondr 33.42 40 *e*P **P 17 52 46.1 +2.9**
GOPC *e* 17 52 49.5
GOPC GO Pecny, Ondr 33.42 40 *e*P **P 17 52 46.1 +2.9**
GOPC *ex* x 17 52 49.5
BRG Berggiesshubel 33.43 38 *e*P **P 17 52 44.4 +1.1**
comp=Z,19nm,1.2s
BRG S **S 17 58 13.0 +8.2**
BRG Berggiesshubel 33.43 38 *e*P **P 17 52 44.4 +1.1**
BRG S **S 17 58 13.0 +8.2**
BRG pmax pmax
comp=Z,19nm,1.2s
PDG Podgorica 33.63 54 P **P 17 52 45.4 +0.3**
PDG IAmb IAmb 17 52 55.1
comp=Z,62nm,1.1s
TIR Tirane 33.84 57 P **P 17 52 45.8 -1.2**
TIR pmax pmax
comp=Z,57nm,0.9s
TIR Tirane 33.84 57 P **P 17 52 45.8 -1.2**
TIR IAmb IAmb 17 52 56.5
comp=Z,57nm,0.9s
IGT Igoumenitsa 33.89 60 P **P 17 52 48.9 +1.5**
IGT Igoumenitsa 33.89 60 P **P 17 52 51.3 +3.9**
IGT pmax pmax
comp=Z,90nm,1.1s
MPLH Magyarpolny 33.90 46 *e*P **P 17 52 48.1 +0.7**
KRUC Moravsky 33.96 42 P **P 17 52 48.6 +0.7**
KRUC pmax pmax
comp=Z,29nm,1.7s
KRUC Moravsky 33.96 42 *e*P **P 17 52 47.5 -0.4**
EVGI Lefkada island 34.02 62 P **P 17 52 52.0 +3.4**
TIH Tihany 34.02 46 *e*P P 17 53 08.0 +20
ZST Bratislava 34.02 44 *e*P **P 17 52 49.4 +0.9**
ZST Bratislava 34.02 44 *e*P **P 17 52 49.4 +0.9**
LKD2 Lefkada island 34.04 61 P P 17 52 53.9 +5.1
VRAC Vranov 34.19 42 P **P 17 52 50.6 +0.7**
VRAC pmax pmax
comp=Z,60nm,1.5s
VRAC Vranov 34.19 42 ⇑P **P 17 52 50.6 +0.7**
VRAC mb 17 52 58.9
VRAC Vranov 34.19 42 *e*P **P 17 52 50.2 +0.3**
MODS Modra-Piesok 34.20 44 *e*P **P 17 52 50.1 0.0**
MODS pmax pmax
comp=Z,101nm,1.5s
MODS Modra-Piesok 34.20 44 *e*P **P 17 52 50.1 0.0**
MORH Mrgy, Hungar 34.27 48 *e*P **P 17 52 52.0 +1.4**
PHP Peshkopia 34.33 56 P **P 17 52 53.2 +1.9**
SMOL Smolenice 34.35 43 *e*P **P 17 52 53.1 +1.8**
SMOL Smolenice 34.35 43 *e*P **P 17 52 53.1 +1.8**
CSKK Cskako 34.43 46 *e*P **P 17 52 54.0 +2.1**
CHVC Chvalec 34.46 39 *e*P **P 17 52 53.4 +1.2**
CHVC *ex* x 17 52 56.5
DPC Dobruska-Polom 34.50 40 *e*P **P 17 52 53.2 +0.6**
DPC Dobruska-Polom 34.50 40 *e*P **P 17 52 53.2 +0.6**
OSTC Ostas 34.53 40 *e*P **P 17 52 55.7 +2.8**
NEST Nestorio 34.56 58 P **P 17 52 56.4 +3.0**
PENT Pentalofos 34.60 59 P **P 17 52 56.0 +2.3**
RLS Riolos of Patr 34.60 63 P **P 17 52 54.4 +0.9**
SRO Srobarova 34.63 45 *e*P **P 17 52 55.8 +2.1**
SRO pmax pmax
comp=Z,49nm,0.9s
SRO Srobarova 34.63 45 *e*P **P 17 52 55.8 +2.1**
KRLC Kraliky 34.64 41 *e*P **P 17 52 55.3 +1.5**
KRLC Kraliky 34.64 41 *e*P **P 17 52 55.3 +1.5**
KRLC *ex* x 17 53 01.0
PVO Paravola 34.70 62 P **P 17 52 55.9 +1.5**
KSP Ksiaz 34.71 39 P **P 17 52 55.6 +1.2**
KSP pmax pmax
comp=Z,17nm,1.1s
KPRO Kipourio 34.73 59 P **P 17 52 57.1 +2.3**
DRO Drossia 34.78 63 P **P 17 52 58.9 +3.7**
FNA Florina 34.87 58 P **P 17 52 57.7 +1.8**
FNA Florina 34.87 58 P **P 17 52 56.4 +0.4**
FNA pmax pmax
comp=Z,79nm,0.9s
FNA Florina 34.87 58 P **P 17 52 56.4 +0.4**
FNA IAmb IAmb 17 53 04.7
comp=Z,78nm,0.9s
ITM Ithomi 34.90 64 P **P 17 52 57.5 +1.4**
MORC Moravsky Berou 34.95 41 P **P 17 52 56.9 +0.4**
MORC pmax pmax
comp=Z,67nm,1.3s
MORC Moravsky Berou 34.95 41 ⇑P **P 17 52 57.4 +0.9**
MORC mb 17 53 04.2
MORC Moravsky Berou 34.95 41 *e*P **P 17 52 56.9 +0.4**
MORC Moravsky Berou 34.95 41 P **P 17 52 56.9 +0.4**
MORC IAmb IAmb 17 53 05.8
comp=Z,67nm,1.3s
EVR Evrytania 34.95 61 P **P 17 53 00.3 +3.6**
BUD Budapest 34.95 46 P **P 17 52 57.9 +1.4**
BUD pmax pmax
comp=Z,65nm,1.1s
EFP Efpalio 34.98 62 P **P 17 53 00.4 +3.6**
KLV Kalavryta, Ach 35.13 63 P **P 17 53 00.7 +2.4**
KALE Kalithea 35.16 62 P **P 17 53 00.6 +2.1**
THL Klokotos Trika 35.18 60 P **P 17 53 00.4 +1.8**
VYHS Vyhne 35.21 44 *e*P **P 17 52 58.7 0.0**
VYHS pmax pmax
comp=Z,40nm,1.3s
VYHS Vyhne 35.21 44 *e*P **P 17 52 58.7 0.0**
MAKR Makrakomi, Fth 35.21 61 P **P 17 53 03.3 +4.4**
AGG Agios Georgios 35.37 61 P **P 17 53 02.0 +1.8**
AGG Agios Georgios 35.37 61 P **P 17 53 01.5 +1.3**
AGG pmax pmax
comp=Z,92nm,0.8s
AGG Agios Georgios 35.37 61 P **P 17 53 01.5 +1.3**
LIT Litokhoron 35.61 59 P **P 17 53 00.7 -1.6**
LIT pmax pmax
comp=Z,97nm,0.8s
LIT Litokhoron 35.61 59 P **P 17 53 00.7 -1.6**
PSZ Piszkesteto 35.66 45 P **P 17 53 02.5 -0.2**
PSZ pmax pmax
comp=Z,162nm,1.8s
PSZ Piszkesteto 35.66 45 ⇑P **P 17 53 04.3 +1.6**
PSZ Piszkesteto 35.66 45 *e*P **P 17 53 03.0 +0.4**
PSZ Piszkesteto 35.66 45 P **P 17 53 02.5 -0.2**
PSZ IAmb IAmb 17 53 11.0
comp=Z,162nm,1.8s
GRG Griva 35.66 58 P **P 17 53 04.0 +1.2**
GRG Griva 35.66 58 P **P 17 53 04.7 +1.9**
GRG pmax pmax
comp=Z,310nm,1.0s
PROD Prodromos 35.74 62 P **P 17 53 06.0 +2.6**
ASCN Ascension 35.78 173 P **P 17 53 03.6 -0.3**
LANS Liptovska Anna 35.84 43 *e*P **P 17 53 05.7 +1.5**
LANS pmax pmax
comp=Z,20nm,2.1s
LANS Liptovska Anna 35.84 43 *e*P **P 17 53 05.7 +1.5**
VAY Valandovo 35.84 57 P **P 17 53 07.8 +3.6**
VAY pmax pmax
comp=Z,84nm,1.1s
MDVR Moldovita 35.92 51 ⇑P **P 17 53 07.3 +2.4**
THE Thessaloniki 36.04 58 P **P 17 53 07.2 +1.3**
THE Thessaloniki 36.04 58 P **P 17 53 07.8 +1.9**
THE pmax pmax
comp=Z,70nm,0.8s
VILL Villia 36.06 63 P P 17 53 00.2 -6.0
KNT Kendrikon 36.06 58 P **P 17 53 08.2 +2.0**
KNT Kendrikon 36.06 58 P **P 17 53 08.1 +1.9**
KNT pmax pmax
comp=Z,104nm,0.9s
XOR Xorichti 36.07 61 P **P 17 53 07.9 +1.7**
BZS Buzias 36.07 50 P **P 17 53 08.3 +2.1**
BZS pmax pmax
comp=Z,46nm,1.6s
BZS Buzias 36.07 50 ⇑P **P 17 53 07.7 +1.5**
HORT Hortiatis 36.14 59 P **P 17 53 08.5 +1.6**
KECS Kecovo 36.23 45 *e*P **P 17 53 11.3 +3.9**
KECS pmax pmax
comp=Z,11nm,0.9s
KECS Kecovo 36.23 45 *e*P **P 17 53 11.3 +3.9**
SKIA Skiathos 36.26 61 P **P 17 53 09.4 +1.5**
MRKA Markates 36.31 62 P **P 17 53 09.7 +1.4**
SOH Sokhos 36.36 58 P **P 17 53 11.0 +2.3**
SOH pmax pmax
comp=Z,50nm,1.1s
PLG Polygyros 36.37 59 P **P 17 53 10.4 +1.6**
NIE Niedzica 36.45 43 *e*P **P 17 53 11.1 +1.7**
NIE Niedzica 36.45 43 *e*P **P 17 53 11.1 +1.7**
NIE *e*P **P 17 53 11.1 +1.7**
OJC Ojcow 36.46 42 *e*P **P 17 53 11.8 +2.4**
OJC Ojcow 36.46 42 *e*P **P 17 53 11.8 +2.4**
OJC *e*P **P 17 53 11.8 +2.4**
OJC Ojcow 36.46 42 P **P 17 53 09.6 +0.2**
VTS Vitosha 36.55 55 *e*P **P 17 53 13.0 +2.6**
VTS Vitosha 36.55 55 P **P 17 53 11.7 +1.3**
VTS pmax pmax
comp=Z,67nm,1.1s
VTS Vitosha 36.55 55 ⇑P **P 17 53 12.3 +1.9**
VTS mb 17 53 20.3
VTS Vitosha 36.55 55 P **P 17 53 11.7 +1.3**
VTS IAmb IAmb 17 53 19.6
comp=Z,67nm,1.1s
PUNG Punghina 36.66 52 ⇑P **P 17 53 13.6 +2.4**
MMB Musomiste 36.74 57 *e*P **P 17 53 14.0 +2.0**
LTVH Ltavrtes, Hu 36.77 47 *e*P **P 17 53 14.1 +2.1**
GZR Gura Zlata 36.81 51 ⇓P **P 17 53 14.3 +1.8**
NVR Nevrokopi 36.81 57 P **P 17 53 14.6 +2.0**
DRLN Deer Lake 36.84 316 P **P 17 53 11.2 -1.5**
DEV Deva 37.01 50 P **P 17 53 16.3 +2.1**
DEV pmax pmax
comp=Z,45nm,1.7s
DEV Deva 37.01 50 ⇑P **P 17 53 16.6 +2.4**
MPEP Malo Peshtene 37.04 54 *i* P **P 17 53 16.5 +2.0**
KONO Kongsberg 37.05 23 ⇓*e*P **P 17 53 16.7 +2.4**
DRGR 37.12 48 P **P 17 53 17.7 +2.5**
DRGR pmax pmax
comp=Z,108nm,1.3s
DRGR 37.12 48 ⇑P **P 17 53 17.3 +2.1**
PGB Panagyurishte 37.21 55 *e*P **P 17 53 20.0 +4.0**
IDI Anoyia 37.25 68 LR LR 18 10 07.5
comp=Z,1µm,20.5s,baz=300,slow=39
TRPA Tarpa 37.40 46 *e*P **P 17 53 18.0 +0.6**
UZH Uzhgorod 37.41 45 *e*P **P 17 53 16.9 -0.6**
KOLS Kolonicke sedl 37.49 45 *e*P **P 17 53 21.7 +3.5**
KOLS pmax pmax
comp=Z,24nm,1.5s
KOLS Kolonicke sedl 37.49 45 *e*P **P 17 53 21.7 +3.5**
PLD Plovdiv 37.54 56 *e*P **P 17 53 22.0 +3.3**
PLD Plovdiv 37.54 56 P **P 17 53 21.8 +3.1**
PLD pmax pmax
comp=Z,298nm,1.0s
RCBR Riachuelo 37.59 210 P **P 17 53 20.6 +1.2**
RCBR pmax pmax
comp=Z,29nm,1.2s
RCBR Riachuelo 37.59 210 P **P 17 53 20.6 +1.2**
VLAD Vladila 37.64 53 ⇑P **P 17 53 22.6 +3.1**
TRSU Trosnyk 37.66 46 P **P 17 53 20.0 +0.4**
PLVB Pleven 37.68 54 ⇑P **P 17 53 21.7 +1.8**
BEL Belsk 37.68 40 *e*P **P 17 53 21.9 +2.1**
BEL Belsk 37.68 40 *e*P **P 17 53 21.9 +2.1**
BEL *e*P **P 17 53 21.9 +2.1**
CJR Cluj-Napoca 37.69 49 P **P 17 53 22.3 +2.3**
CJR Cluj-Napoca 37.69 49 ⇑P **P 17 53 22.3 +2.3**
SANT Santorini 37.70 66 P **P 17 53 21.3 +1.1**
NRS Narsarsuaq 37.95 339 ⇑*i*P **P 17 53 22.8 +0.9**
NRS pmax pmax
comp=Z,110nm,1.0s
NRS Narsarsuaq 37.95 339 ⇑*i*P **P 17 53 22.8 +0.9**
comp=Z,106nm,1.0s
NRS Narsarsuaq 37.95 339 P **P 17 53 22.1 +0.2**
NRS IAmb IAmb 17 53 23.9
comp=Z,104nm,1.0s
KWP Kalwaria Pacla 37.99 44 P **P 17 53 22.9 +0.4**
KWP pmax pmax
comp=Z,477nm,0.5s
KWP Kalwaria Pacla 37.99 44 P **P 17 53 22.9 +0.4**
KDZ Kurdzhali 38.01 57 *e*P **P 17 53 24.4 +1.7**
RDO Rodhopi 38.04 58 P **P 17 53 24.4 +1.5**
ARR Arges 38.07 51 ⇓P **P 17 53 25.7 +2.5**
DIM Dimitrovgrad 38.14 57 *i* P **P 17 53 28.4 +4.6**
HUMR Humele 38.14 52 ⇓P P 17 53 30.1 +6.3
ARCR ARCALIA 38.29 48 ⇑P **P 17 53 25.4 +0.4**
NAO01 NORSAR Array S 38.36 23 P **P 17 53 24.1 -1.3**
GBN Guysborough 38.37 309 P **P 17 53 26.1 +0.5**
VOIR 38.38 51 P **P 17 53 27.3 +1.5**
VOIR pmax pmax
comp=Z,69nm,1.4s
ALN Alexandroupoli 38.40 58 P **P 17 53 26.5 +0.6**
ALN pmax pmax
comp=Z,25nm,1.1s
ALN Alexandroupoli 38.40 58 P **P 17 53 26.5 +0.6**
NBO00 NORSAR Array S 38.46 22 P **P 17 53 26.7 +0.5**
NC602 NORSAR Array S 38.51 23 P **P 17 53 27.1 +0.5**
NC602 IAmb IAmb 17 53 40.0
comp=Z,70nm,1.0s
ELND Elena 38.52 55 ⇓P **P 17 53 29.0 +2.0**
NB2 NORSAR Subarra 38.61 23 P **P 17 53 28.4 +0.9**
comp=Z,89nm,1.4s,baz=225,slow=7.9
NB2 NORSAR Subarra 38.61 23 P **P 17 53 28.4 +0.9**
baz=225,slow=7.9
NOA NORSAR Array B 38.61 23 P **P 17 53 28.4 +0.9**
comp=Z,14nm,1.0s,baz=226,slow=8.0,SNR=11
NOA LR LR 18 09 07.4
comp=Z,761nm,18.7s,baz=230,slow=36
NC204 NORSAR Array S 38.63 22 P **P 17 53 27.5 -0.2**
NB201 NORSAR Array S 38.65 23 P **P 17 53 26.3 -1.5**
DOPR Dopca 38.72 50 ⇑P **P 17 53 30.1 +1.5**
NC303 NORSAR Array S 38.80 22 P **P 17 53 29.8 +0.7**
NC303 IAmb IAmb 17 53 37.2
comp=Z,136nm,1.1s
NC405 NORSAR Array S 38.83 23 P **P 17 53 29.8 +0.5**
LVV L'vov 38.86 44 *e*P **P 17 53 30.6 +0.8**
LVV *e*S **S 17 59 25.0 -2.9**
LVV pmax pmax
comp=Z,200nm,1.5s
LVV MLR MLR
comp=Z,500nm,15.0s
IVI Ivigtut 38.90 337 P **P 17 53 30.1 +0.2**
IVI IAmb IAmb 17 53 37.2
comp=Z,159nm,1.2s
JMB Yambol 38.97 56 *e*P **P 17 53 32.0 +1.3**
BUR08 Bucovina Ar. S 38.99 48 P **P 17 53 32.1 +1.1**
BURAR Bucovina Array 38.99 48 P **P 17 53 33.3 +2.3**
BURAR Bucovina Array 38.99 48 ⇑P **P 17 53 33.3 +2.3**
BURAR mb 17 53 42.0
MLR Muntele Rosu 39.00 51 P **P 17 53 32.5 +1.3**
MLR pmax pmax
comp=Z,287nm,1.3s
MLR Muntele Rosu 39.00 51 LR LR 18 09 59.1
comp=Z,593nm,19.8s,baz=276,slow=37
MLR Muntele Rosu 39.00 51 ⇓P **P 17 53 33.2 +2.0**
MLR Muntele Rosu 39.00 51 P **P 17 53 32.5 +1.3**
EDRB Edirne 39.02 57 P **P 17 53 32.7 +1.6**
OZUR 39.02 50 ⇑P **P 17 53 32.8 +1.6**
KARP Karpathos 39.09 67 P **P 17 53 32.2 +0.2**
KARP IAmb IAmb 17 54 13.6
comp=Z,129nm,1.1s
ISR Istrita 39.35 52 P **P 17 53 36.0 +2.1**
ISR pmax pmax
comp=Z,82nm,1.0s
ISR Istrita 39.35 52 ⇑P **P 17 53 35.7 +1.8**
BIZ Bicaz 39.42 49 ⇓P **P 17 53 36.0 +1.6**
BISRR Bisoca 39.54 51 ⇑P **P 17 53 37.4 +1.9**
PLOR Plostina 39.56 51 P **P 17 53 36.6 +0.9**
PLOR Plostina 39.56 51 ⇑P **P 17 53 36.6 +0.9**
VRI Vrincioaia 39.61 51 P **P 17 53 36.2 +0.1**
VRI pmax pmax
comp=Z,44nm,1.4s
VRI Vrincioaia 39.61 51 ⇓P **P 17 53 36.6 +0.5**
ANGG Ammassalik, Gr 39.67 348 P **P 17 53 36.5 +0.3**
TESR Tescani 39.69 50 ⇑P **P 17 53 38.4 +1.6**
SUW Suwalki 39.90 37 P **P 17 53 38.1 -0.2**
SUW pmax pmax
comp=Z,50nm,1.1s
SUW Suwalki 39.90 37 P **P 17 53 38.1 -0.2**
HORU Horodok 40.18 46 P **P 17 53 40.2 -0.6**
MANT Manisa 40.19 62 P **P 17 53 41.7 +0.4**
BBSR BB Station 40.20 288 P **P 17 53 42.4 +1.3**
IAS Iasi 40.44 49 P **P 17 53 43.8 +0.9**
IAS pmax pmax
comp=Z,32nm,1.2s
TIRR Tirgusor 40.55 53 P **P 17 53 44.0 +0.1**
TIRR pmax pmax
comp=Z,144nm,1.1s
TIRR Tirgusor 40.55 53 P **P 17 53 44.0 +0.1**
TIRR IAmb IAmb 17 53 52.1
comp=Z,144nm,1.1s
TOPG Topolog 40.59 53 ⇑P **P 17 53 45.5 +1.3**
LMN Caledonia Moun 40.72 309 P **P 17 53 44.1 -1.2**
LMN IAmb IAmb 17 53 51.5
comp=Z,51nm,0.8s
PABE Paberze 40.93 36 *e*P **P 17 53 47.5 +0.7**
PABE IAmb IAmb 17 53 54.7
comp=Z,60nm,1.0s
H05N1 Guadeloupe/Mar 41.12 263 T T 18 37 05.4
SORM Soroca 41.16 48 P **P 17 53 49.2 +0.4**
SORM Soroca 41.16 48 ⇑P **P 17 53 49.3 +0.4**
ANWB Willy Bob 41.24 265 P **P 17 53 48.7 -1.1**
ELL Elmali 41.28 65 P **P 17 53 52.7 +2.6**
ELL pmax pmax
comp=Z,134nm,0.9s
ELL Elmali 41.28 65 P **P 17 53 52.7 +2.6**
BATG Bathurst New B 41.82 311 P **P 17 53 53.0 -1.3**
BATG IAmb IAmb 17 54 01.9
comp=Z,81nm,1.0s
FDF Fort de France 41.86 261 P **P 17 53 54.4 -0.6**
FDF pmax pmax
comp=Z,197nm,0.9s
FDF Fort de France 41.86 261 P **P 17 53 54.4 -0.6**
GGN Saint George 42.03 307 P **P 17 53 56.4 +0.4**
GGN IAmb IAmb 17 54 04.5
comp=Z,74nm,1.4s
IIGN Ignalina 42.05 37 *e*P **P 17 53 57.4 +1.4**
IIGN IAmb IAmb 17 54 04.3
comp=Z,29nm,1.1s
ISAL Salakas 42.08 36 *e*P **P 17 53 57.4 +1.2**
NACGM Naroch 42.18 37 *e* **P 17 53 56.0 -1.1**
SKI Saint Kitts 42.20 265 P **P 17 53 57.7 -0.1**
SKI pmax pmax
comp=Z,80nm,0.8s
SKI Saint Kitts 42.20 265 P **P 17 53 57.7 -0.1**
SKI IAmb IAmb 17 54 21.6
comp=Z,80nm,0.8s
KIEV Kiev 42.30 44 P **P 17 53 58.0 -0.1**
AKASG Malin Array Be 42.31 44 *i* P **P 17 53 57.4 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 42.31 44 P **P 17 53 57.2 -1.0**
comp=Z,2.6nm,0.7s,baz=246,slow=11,SNR=5.7
AKASG PcP **PcP 17 55 52.6 +0.9**
comp=Z,5.2nm,0.9s,baz=263,slow=3.6,SNR=3.5
AKASG LR LR 18 11 03.7
comp=Z,287nm,21.4s,baz=240,slow=35
AKBB Malin Array Si 42.31 44 P **P 17 53 57.5 -0.7**
AKBB pmax pmax
comp=Z,17nm,0.9s
AKBB Malin Array Si 42.31 44 P **P 17 53 57.5 -0.7**
H66A Whiting 42.32 307 P **P 17 53 58.4 0.0**
baz=97
EMMW East Machias 42.41 307 P **P 17 53 59.1 0.0**
EMMW IAmb IAmb 17 55 24.9
comp=Z,92nm,1.4s
SVB Belmont 42.58 259 P P **17 54 00.5 -0.4**
MICGM Minsk 42.64 38 *e* P **17 54 01.0 +0.2**
MNK Minsk 42.64 38 *e*P P **17 54 01.0 +0.2**
SCO Scoresbysund 42.71 358 P P **17 54 02.5 +1.4**
SCO pmax pmax
comp=Z,140nm,1.9s
SCO Scoresbysund 42.71 358 *i* P **P 17 54 03.2 +2.1**
comp=Z,41nm,1.2s
SCO Scoresbysund 42.71 358 P **P 17 54 02.5 +1.4**
SCO IAmb IAmb 17 54 04.7
comp=Z,140nm,1.9s
TOSP Speyside 42.88 256 P **P 17 54 03.4 +0.1**
TOSP IAmb IAmb 17 54 13.8
comp=Z,57nm,0.9s
E64A Bridgewater 42.88 309 P **P 17 54 03.1 +0.1**
baz=98
H65A Eastbrook 42.97 307 P **P 17 54 03.8 +0.1**
baz=96
PQI Presque Isle 43.05 310 P **P 17 54 04.2 0.0**
PQI IAmb IAmb 17 54 04.9
comp=Z,160nm,1.8s
ABVI Anegada Island 43.10 268 P **P 17 54 06.2 +1.2**
D63A Stockholm 43.16 310 P **P 17 54 05.3 +0.1**
baz=98
F64A Sherman 43.17 308 P **P 17 54 05.5 +0.2**

baz=97
F64A Sherman 43.17 308 P P 17 54 05.1 -0.2
F64A IAmb IAmb 17 54 40.5
comp=Z,116nm,1.8s
E63A Oxbow 43.29 309 P P 17 54 06.6 +0.3
baz=98
E63A Oxbow 43.29 309 P P 17 54 06.7 +0.5
E63A IAmb IAmb 17 54 11.0
comp=Z,113nm,1.4s
G64A Maxfield 43.39 307 P P 17 54 07.3 +0.2
baz=96
GRGR Grenville 43.45 258 P P 17 54 06.3 -1.6
BR231 Keskin MP Arra 43.48 60 P P 17 54 07.0 -1.1
ANTO Ankara 43.49 60 P P 17 54 08.6 +0.5
ANTO pmax pmax
comp=Z,32nm,0.9s
ANTO Ankara 43.49 60 P P 17 54 08.6 +0.5
VSU Vasula 43.55 33 *e*P P 17 54 08.9 +0.8
VSU Vasula 43.55 33 *e*P P 17 54 08.8 +0.7
H64A Troy 43.66 307 P P 17 54 09.2 0.0
baz=95
F63A Nahmakanta, Br 43.68 308 P P 17 54 09.6 +0.2
baz=96
F63A Nahmakanta, Br 43.68 308 P P 17 54 09.9 +0.5
F63A IAmb IAmb 17 54 28.0
comp=Z,209nm,2.0s
PKME Peaks-Kenny Pk 43.77 307 P P 17 54 10.2 +0.1
baz=96
PKME Peaks-Kenny Pk 43.77 307 P P 17 54 09.7 -0.4
PKME IAmb IAmb 17 54 18.6
comp=Z,57nm,1.3s
STVI Saint Thomas 43.78 268 P P 17 54 11.0 +0.5
STVI IAmb IAmb 17 54 18.0
comp=Z,42nm,0.9s
D62A Allapoint, All 43.80 310 P P 17 54 10.3 -0.1
baz=98
D62A Allapoint, All 43.80 310 P P 17 54 08.8 -1.6
D62A IAmb IAmb 17 54 18.7
comp=Z,64nm,1.2s
SFJD Kangerlussuaq 43.83 342 *i*P P 17 54 09.8 -0.5
SFJD Kangerlussuaq 43.83 342 *i*P P 17 54 09.8 -0.5
SFJD Kangerlussuaq 43.83 342 P P 17 54 09.3 -0.9
comp=Z,97nm,0.9s,baz=138,slow=7.9,SNR=47
SFJD Kangerlussuaq 43.83 342 P P 17 54 09.4 -0.9
I64A Boothbay 43.90 305 P P 17 54 11.5 +0.3
baz=94
WVL Waterville 43.97 306 P P 17 54 13.6 +1.9
WVL IAmb IAmb 17 54 16.8
comp=Z,69nm,1.3s
G63A Kingsbury 43.98 307 P P 17 54 11.7 -0.2
baz=95
VAF Ylistaro 44.04 25 P P 17 54 13.4 +1.4
VAF pmax pmax
comp=Z,97nm,1.0s
SCHQ Schefferville 44.11 321 P P 17 54 12.6 -0.1
comp=Z,41nm,0.8s,baz=112,slow=8.0,SNR=27
SCHQ LR LR 18 09 02.9
comp=Z,1μm,20.0s,baz=80,slow=31
SCHQ Schefferville 44.11 321 P P 17 54 12.3 -0.5
SCHQ IAmb IAmb 17 54 19.2
comp=Z,66nm,1.0s
BR131 Keskin Array S 44.15 61 P P 17 54 13.8 +0.4
BR131 pmax pmax
comp=Z,27nm,0.9s
BR131 Keskin Array S 44.15 61 P P 17 54 13.8 +0.4
BRTR Keskin Array B 44.15 61 P P 17 54 14.7 +1.2
comp=Z,11nm,0.9s,baz=260,slow=6.9,SNR=27
BRTR LR LR 18 14 26.4
comp=Z,176nm,19.7s,baz=240,slow=38
CSS Mathiatis 44.17 67 P P 17 54 17.9 +4.4
comp=Z,12nm,0.9s
CSS Mathiatis 44.17 67 P P 17 54 14.8 +1.3
CSS IAmb IAmb 17 54 21.3
comp=Z,41nm,0.9s
ILGA Ilgaz 44.20 59 P P 17 54 13.7 -0.3
ILGA IAmb IAmb 17 54 22.3
comp=Z,107nm,1.3s
H63A New Sharon 44.24 307 P P 17 54 13.5 -0.4
baz=94
MTP Monte Pirata 44.41 268 P P 17 54 14.7 -0.8
MTP IAmb IAmb 17 54 22.4
comp=Z,63nm,0.8s
FINES FINESS Array B 44.59 29 P P 17 54 17.2 +0.8
comp=Z,24nm,0.8s,baz=249,slow=5.3,SNR=25
FINES LR LR 18 12 36.9
comp=Z,1μm,19.4s,baz=234,slow=36
D61A St Aubert, Com 44.59 310 P P 17 54 16.8 +0.1
baz=97
FIA1 FINESS Array S 44.59 29 P P 17 54 16.5 0.0
I63A Otisfield 44.59 306 P P 17 54 17.2 +0.5
baz=93
I63A Otisfield 44.59 306 P P 17 54 16.9 +0.1
I63A IAmb IAmb 17 54 20.6
comp=Z,59nm,1.3s
CBYP Canovanas 44.61 268 P P 17 54 16.5 -0.8
G62A West of Eustis 44.63 307 P P 17 54 17.5 +0.4
baz=95
G62A West of Eustis 44.63 307 P P 17 54 16.5 -0.6
G62A IAmb IAmb 17 54 23.4
comp=Z,32nm,0.8s
SIM Simferopol' 44.65 53 *e*P P 17 54 22.6 +5.4
SIM *e*S S 18 01 08.0 +14
HUMP Col San Antoni 44.65 268 P P 17 54 17.4 -0.1
E61A Lac Etchemin 44.71 309 P P 17 54 17.6 -0.1
baz=96
GCPR Guaynabo City 44.80 268 P P 17 54 17.9 -0.8
GCPR IAmb IAmb 17 54 28.3
comp=Z,35nm,1.0s
PDPR Patillas Dam, 44.85 268 P P 17 54 18.6 -0.5
PDPR IAmb IAmb 17 54 22.7
comp=Z,38nm,1.0s
J63A Strafford 44.92 304 P P 17 54 19.5 +0.2
baz=92
SJG San Juan 44.93 268 P P 17 54 19.6 -0.1
SJG pmax pmax
comp=Z,40nm,1.0s
SJG San Juan 44.93 268 P P 17 54 19.6 -0.1
SJG IAmb IAmb 17 54 29.2
comp=Z,40nm,1.0s
BCX Boston College 44.96 303 P P 17 54 19.8 +0.2
BCX IAmb IAmb 17 55 20.5
comp=Z,127nm,1.8s
M64A Tiverton 44.98 302 P P 17 54 20.0 +0.1
baz=90
F61A St Evariste 45.02 308 P P 17 54 20.2 0.0
baz=95
H62A Milan 45.03 306 P P 17 54 20.9 +0.6
baz=94
H62A Milan 45.03 306 P P 17 54 20.7 +0.4
H62A IAmb IAmb 17 54 28.0
comp=Z,37nm,1.0s
D60A Saint Jean D'O 45.06 310 P P 17 54 20.4 0.0
baz=96
I62A Tamworth 45.13 305 P P 17 54 20.7 -0.3
baz=93
EMPR Esperanza - Ma 45.13 269 P P 17 54 19.3 -2.0
K63A Dunstable 45.23 304 P P 17 54 22.2 +0.4
baz=91
SUF Sumiainen 45.23 27 P P 17 54 22.4 +0.8
SUF pmax pmax
comp=Z,71nm,1.0s
HRV Adam Dziewonsk 45.25 303 P P 17 54 22.0 0.0
baz=91
HRV Adam Dziewonsk 45.25 303 P P 17 54 20.8 -1.2
HRV Adam Dziewonsk 45.25 303 P P 17 54 20.8 -1.2
HRV IAmb IAmb 17 55 27.0
comp=Z,44nm,1.2s
G61A St-Isidore-de- 45.34 307 P P 17 54 23.1 +0.4
baz=94
FFD Franklin Falls 45.34 305 P P 17 54 22.7 0.0
FFD IAmb IAmb 17 54 29.6
comp=Z,38nm,0.9s
ICMP Isla Caja de M 45.34 268 P P 17 54 22.2 -0.8
OBIP Obispado Ponce 45.36 268 P P 17 54 21.9 -1.2
E60A Ste Agathe de 45.37 309 P P 17 54 23.2 +0.3
baz=95
AOPR Arecibo Observ 45.38 269 P P 17 54 22.8 -0.6
AOPR IAmb IAmb 17 54 30.1
comp=Z,48nm,1.1s
LBNH Lisbon 45.57 306 P P 17 54 23.8 -0.7
baz=93
LBNH Lisbon 45.57 306 P P 17 54 24.9 +0.4
LBNH pmax pmax
comp=Z,36nm,0.9s
LBNH Lisbon 45.57 306 P P 17 54 24.9 +0.4
LBNH IAmb IAmb 17 54 32.3
comp=Z,36nm,0.9s
H61A Lyndonville 45.58 306 P P 17 54 24.1 -0.6
baz=93,SNR=5.3
ILULI Ilulissat 45.59 344 P P 17 54 24.8 +0.5
ILULI pmax pmax
comp=Z,95nm,1.2s
ILULI Ilulissat 45.59 344 P P 17 54 24.8 +0.5
KZIT Kziot 45.61 73 P P 17 54 27.5 +2.4
comp=Z,312nm,1.0s
F60A Warwick 45.69 308 P P 17 54 25.9 +0.5
baz=94
I61A Oroboro, Fairl 45.76 305 P P 17 54 25.7 -0.3
baz=92
MPR Mayaguez 45.77 269 P P 17 54 25.9 -0.5
MLPR Magueyes Islan 45.77 268 P P 17 54 24.5 -1.9
MLPR IAmb IAmb 17 54 28.6
comp=Z,42nm,1.0s
HNH Hanover 45.81 305 P P 17 54 25.8 -0.6
HNH IAmb IAmb 17 55 15.9
comp=Z,37nm,1.2s
CRPR Cabo Rojo, PR 45.82 268 P P 17 54 26.5 -0.2
CRPR IAmb IAmb 17 54 36.3
comp=Z,72nm,1.1s
G60A Masonville 45.90 307 P P 17 54 26.8 -0.3
baz=93
AMAZ Amatzia 45.94 72 P P 17 54 29.9 +2.2
comp=Z,411nm,1.0s
KVT Kavak 45.96 59 P P 17 54 30.7 +3.0
J61A Chester 45.99 305 P P 17 54 27.6 -0.3
baz=91
L61B Northampton 46.08 303 P P 17 54 28.0 -0.6
baz=90
SUMG Summit 46.08 352⇑ *i*P P 17 54 29.3 +0.7
SUMG pmax pmax
comp=Z,130nm,1.1s
SUMG Summit 46.08 352⇑ *i*P P 17 54 29.3 +0.7
comp=Z,125nm,1.1s
SUMG Summit 46.08 352 P P 17 54 29.2 +0.7
SUMG IAmb IAmb 17 54 30.6
comp=Z,52nm,1.1s
H60A Morristown 46.13 306 P P 17 54 28.5 -0.5
baz=92
MMLI Mount Malkishu 46.22 71 P P 17 54 30.8 +0.9
comp=Z,73nm,1.3s
M62A Hamden 46.24 302 P P 17 54 29.4 -0.4
baz=89
F59A Saint Guilaume 46.26 308 P P 17 54 29.5 -0.4
baz=94
KSDI Kefar Szold 46.30 70 P P 17 54 33.2 +2.7
comp=Z,157nm,1.4s
EIL Elat 46.31 74 P P 17 54 28.4 -2.2
comp=Z,27nm,1.2s
HRFI Mount Harif 46.31 74 P P 17 54 30.8 +0.2
comp=Z,42nm,1.2s
OUL Oulu 46.34 24 P P 17 54 30.3 +0.1
OUL pmax pmax
comp=Z,82nm,1.1s
LATQ La Tuque 46.37 310 P P 17 54 30.3 -0.4
baz=95
LATQ La Tuque 46.37 310 P P 17 54 30.5 -0.3
LATQ IAmb IAmb 17 54 32.5
comp=Z,52nm,1.8s
D58A Chemin du LacG 46.41 310 P P 17 54 30.2 -0.9
baz=95,SNR=12
SHMJ Saham 46.46 70 P P 17 54 35.3 +3.6
comp=Z,107nm,0.9s
G59A Clarenceville 46.50 307 P P 17 54 31.0 -0.7
baz=92
K61A Williamstown 46.51 304 P P 17 54 31.5 -0.5
baz=90
I60A Shoreham 46.54 305 P P 17 54 31.4 -0.8
baz=91
J60A Lant Hill Farm 46.63 304 P P 17 54 32.4 -0.5
baz=90
E58A La Victoria 46.63 309 P P 17 54 32.4 -0.4
baz=94
WALJ Wala 46.69 72 P P 17 54 36.8 +3.3
comp=Z,139nm,0.9s
L61A Hillsdale 1, H 46.73 303 P P 17 54 33.0 -0.7
baz=90
TRY Troy 46.81 304 P P 17 54 34.9 +0.6
TRY IAmb IAmb 17 54 42.0
comp=Z,21nm,0.9s
ACCN Adirondack Com 46.81 305 P P 17 54 34.9 +0.6
ACCN IAmb IAmb 17 54 41.4
comp=Z,30nm,0.9s
H59A Cadyville 46.85 306 P P 17 54 33.9 -0.7
HSUJ Al Zarqa 46.92 71 P P 17 54 38.0 +2.6
comp=Z,396nm,0.9s
I59A Olmsteadville 46.96 305 P P 17 54 34.6 -0.9
baz=91
ANN Anapa 47.00 54 *e*P P 17 54 33.1 -2.6
ANN *e**PP **pP 17 54 35.7 -1.6**
ANN *e*S **S 18 01 24.5 -3.0**
ANN *e*SS SS 18 04 43.1 -11
ANN pmax pmax
comp=Z,32nm,1.5s
ANN MLR MLR
comp=Z,469nm,13.0s
PAL Palisades 47.02 301 P P 17 54 35.5 -0.5
baz=88
PAL Palisades 47.02 301 P P 17 54 35.3 -0.6
PAL pmax pmax
comp=Z,98nm,1.8s
PAL Palisades 47.02 301 P P 17 54 35.3 -0.6
CPNY Central Park 47.07 301 P P 17 54 35.4 -0.9
GAZ Gaziantep 47.09 64 P P 17 54 37.9 +1.2
GAZ IAmb IAmb 17 54 46.0
comp=Z,58nm,1.1s
D57A Chemin Vers le 47.09 310 P P 17 54 36.0 -0.5
baz=94
G58A Ormstown 47.12 307 P P 17 54 35.9 -0.8
baz=92
H58A Gabriels 47.19 306 P P 17 54 36.3 -1.0
baz=91,SNR=5.6
NCB Newcomb 47.22 305 P P 17 54 37.1 -0.4
L60A Shokan 47.23 303 P P 17 54 37.1 -0.5
baz=89
J59A Piesco 47.42 305 P P 17 54 38.1 -1.0
baz=90,SNR=8.9
J59A Piesco 47.42 305 P P 17 54 39.6 +0.6
J59A IAmb IAmb 17 54 46.2
comp=Z,38nm,0.9s
JOF Joensuu 47.44 28 P P 17 54 39.6 +0.7
JOF pmax pmax
comp=Z,63nm,1.1s
LONY Lake Ozonia 47.48 306 P P 17 54 39.2 -0.4
baz=91
LONY Lake Ozonia 47.48 306 P P 17 54 40.6 +1.0
LONY IAmb IAmb 17 54 51.3
comp=Z,38nm,1.4s
TRQ Mont Tremblant 47.51 308 P P 17 54 39.6 -0.1
BRNJ Basking Ridge 47.53 301 P P 17 54 40.0 0.0
BRNJ IAmb IAmb 17 54 53.9
comp=Z,46nm,1.1s
ODNJ Ogdensburg 47.55 301 P P 17 54 39.5 -0.5
ODNJ IAmb IAmb 17 56 16.0
comp=Z,32nm,1.3s
DR12 Loma Pena Alta 47.55 271 P P 17 54 39.4 -1.0
M60A Port Jervis 47.55 302 P P 17 54 39.6 -0.5
baz=88
F57A Harrington 47.59 308 P P 17 54 39.8 -0.6
baz=92
OBN Obninsk 47.64 39 *e*P P 17 54 41.2 +0.6
OBN *e* 17 56 14.1
OBN *e* 17 56 37.8
OBN pmax pmax
comp=Z,66nm,1.7s
OBN MLR MLR
comp=Z,442nm,15.0s
OBN Obninsk 47.64 39 P P 17 54 40.6 +0.1
CHGQ Chibougamau 47.65 313 P P 17 54 40.3 -0.5
baz=96
K59A Cooperstown 47.68 304 P P 17 54 40.4 -0.8
baz=89
D56A ZEC Mazanza, M 47.69 310 P P 17 54 40.5 -0.6
baz=93
I58A Old Forge 47.76 305 P P 17 54 41.4 -0.3
baz=90
G57A Newington 47.78 307 P P 17 54 41.3 -0.4
baz=91
SGF Sodankyl 47.82 22 P P 17 54 43.0 +1.2
SGF pmax pmax
comp=Z,106nm,1.0s
L59A Walton 47.83 303 P P 17 54 42.4 0.0
baz=88
L59A Walton 47.83 303 P P 17 54 41.8 -0.6
L59A IAmb IAmb 17 54 49.1
comp=Z,29nm,0.9s
E56A St. Veronique 47.85 309 P P 17 54 42.3 -0.1
baz=92,SNR=7.6
MSF Maaselka 47.89 24 P P 17 54 43.5 +1.1
MSF pmax pmax
comp=Z,58nm,1.9s
N60A Cedar Hill Far 47.93 301 P P 17 54 42.9 -0.2
baz=87
MALT Malatya 47.95 62 P P 17 54 45.8 +2.4
H57A Richville 48.06 306 P P 17 54 43.9 -0.1
baz=90,SNR=5.1
FRB Frobisher Bay 48.10 333 P P 17 54 43.9 0.0
FRB pmax pmax
comp=Z,78nm,1.0s
SDD Santo Domingo 48.13 270 P P 17 54 44.1 -0.8
LUPA Lehigh Univers 48.15 301 P P 17 54 44.6 -0.1
D55A Sainte-Anne-du 48.17 309 P P 17 54 44.9 0.0
baz=92
I57A Carthage 48.25 305 P P 17 54 45.5 0.0
baz=90
K58A Earlville 48.27 304 P P 17 54 45.0 -0.7
baz=89
R61A Willards 48.29 298 P P 17 54 44.9 -1.0
baz=85
MOS Moscow 48.36 39 *e*P P 17 54 44.9 -1.2
MOS *e* 17 56 11.5
MOS pmax pmax
comp=Z,90nm,1.2s
MOS MLR MLR
comp=Z,700nm,17.0s
P60A Greenville 48.40 300 P P 17 54 45.9 -0.9
baz=86
P60A Greenville 48.40 300 P P 17 54 45.1 -1.6
P60A IAmb IAmb 17 54 57.3
comp=Z,33nm,1.2s
N59A State Game Lan 48.43 301 P P 17 54 47.0 0.0
N59A IAmb IAmb 17 54 54.4
comp=Z,49nm,1.8s
L58A Harry Jones Me 48.44 303 P P 17 54 46.7 -0.3
baz=88
J57A Williamstown 48.51 305 P P 17 54 47.1 -0.4
baz=89
J57A Williamstown 48.51 305 P P 17 54 47.4 -0.1
J57A IAmb IAmb 17 54 57.2
comp=Z,43nm,1.2s
BINY Binghamton 48.53 303 P P 17 54 47.8 0.0
baz=88
BINY Binghamton 48.53 303 P P 17 54 48.2 +0.4
BANI BANI 48.55 271 P P 17 54 48.8 +0.5
E55A Montcerf-Lytto 48.56 309 P P 17 54 48.0 +0.2
baz=92
VSR Storozhevoye 48.59 45 *e*P P 17 54 48.4 +0.5
VSR pmax pmax
comp=Z,100nm,1.1s
LPSR Galich'ya Gora 48.60 43 *e*P P 17 54 48.3 +0.3
LPSR pmax pmax
comp=Z,90nm,1.1s
SOC Sochi 48.64 55 *e*P P 17 54 49.1 +0.6
SOC *e* 17 56 38.9
SOC *e*PPP PPP 17 57 34.0
SOC *e*S **S 18 01 53.3 +2.5**
SOC *e*SSS SSS 18 06 35.9
SOC pmax pmax
comp=Z,45nm,0.8s
SOC MLR MLR
comp=Z,200nm,17.0s
VORR Voronezh 48.66 44 *e*P P 17 54 48.0 -0.5
VORR pmax pmax
comp=Z,300nm,2.0s
H56A Elgin 48.68 306 P P 17 54 49.0 +0.2
baz=90
ARCES ARCESS Array B 48.68 19 P P 17 54 48.7 +0.3
comp=Z,17nm,0.8s,baz=229,slow=7.3,SNR=19
ARCES PcP **PcP 17 56 14.1 +0.5**
comp=Z,6.0nm,0.8s,baz=221,slow=3.5,SNR=2.8
ARCES LR LR 18 14 19.1
comp=Z,916nm,19.0s,baz=255,slow=35
ARE0 ARCESS Array S 48.68 19 P P 17 54 48.6 +0.2
O59A Robesonia 48.79 301 P P 17 54 49.2 -0.5
baz=86
K57A Scipio Center 48.91 304 P P 17 54 49.9 -0.7
baz=88
M58A Price's Panora 48.93 302 P P 17 54 50.1 -0.7
baz=87
DAG Danmarks Havn 48.98 360⇑ *i*P P 17 54 51.6 +1.0
DAG pmax pmax
comp=Z,110nm,1.4s
DAG Danmarks Havn 48.98 360⇑ *i*P P 17 54 51.6 +1.0
comp=Z,105nm,1.4s
D54A Lac Fusel, La 48.99 310 P P 17 54 50.6 -0.5
baz=92,SNR=6.8
J56A Wolcott 49.14 304 P P 17 54 51.2 -1.1
baz=88
N58A Sunbury 49.15 301 P P 17 54 51.6 -0.9
baz=86
SDDR Presa de Saban 49.16 272 P P 17 54 50.5 -2.4
SDDR IAmb IAmb 17 55 01.5
comp=Z,24nm,0.9s
L57A Andrews Acres 49.18 303 P P 17 54 52.2 -0.6
baz=87
LSQQ Lebel-sur-Quev 49.28 312 P P 17 54 52.7 -0.7
baz=93
E54A Lac Daplat, Po 49.34 309 P P 17 54 53.0 -0.8
baz=91,SNR=7.8
H55A Tweed 49.34 306 P P 17 54 53.0 -0.8
baz=89
O58A Lewisberry 49.36 300 P P 17 54 53.6 -0.6
baz=86,SNR=5.8
U61A Possum Corner 49.39 295 P P 17 54 53.6 -0.8
baz=82
M57A Sunshine Farm, 49.43 302 P P 17 54 54.2 -0.4
baz=86
M57A Sunshine Farm, 49.43 302 P P 17 54 53.8 -0.9
M57A IAmb IAmb 17 55 01.8
comp=Z,40nm,1.1s
K56A Middlesex 49.50 304 P P 17 54 54.8 -0.3
baz=87
VLDQ Val d'Or 49.55 311 P P 17 54 56.2 +0.8
VLDQ IAmb IAmb 17 55 02.7
comp=Z,42nm,1.4s
V61A Roper 49.57 295 P P 17 54 55.2 -0.5
baz=82
E53A Dumoine, Ponti 49.67 309 P P 17 54 55.8 -0.5
baz=90,SNR=6.7
R59A King George, V 49.70 298 P P 17 54 56.4 -0.3
baz=84
I55A Frankford 49.70 306 P P 17 54 56.4 -0.3
baz=88
L56A Greenwood 49.70 303 P P 17 54 56.4 -0.4
baz=87
MATQ Matagami 49.75 313 P P 17 54 56.3 -0.5
baz=93,SNR=18
N57A Milroy 49.79 301 P P 17 54 56.8 -0.6
baz=86
J55A Hilton 49.84 304 P P 17 54 57.1 -0.5
baz=88
S59A Mechanicsville 49.89 297 P P 17 54 57.8 -0.3
baz=83
O57A Amberson 49.90 300 P P 17 54 57.9 -0.3
baz=85
ALGO Algonquin Park 49.94 308 P P 17 54 58.1 -0.3
baz=90
G54A Lake Saint Pet 49.97 307 P P 17 54 58.3 -0.4
baz=89
K55A Perry 50.05 304 P P 17 54 58.9 -0.5
baz=87
SSPA Standing Stone 50.06 301 P P 17 54 58.6 -0.8
baz=85
SSPA Standing Stone 50.06 301 P P 17 54 59.4 0.0
Q58A Fox Den Farm, 50.06 299 P P 17 54 58.4 -1.0
baz=84
VRH Novokhopyorsk 50.19 45 *e*P P 17 55 01.1 +0.9
VRH pmax pmax
comp=Z,90nm,1.3s
APA Apatity 50.19 23⇑ *i*P P 17 55 05.9 +5.9
APA pmax pmax
comp=Z,41nm,0.9s
T59A Double "B" Far 50.19 296 P P 17 55 00.0 -0.4
baz=82
T59A Double "B" Far 50.19 296 P P 17 54 59.4 -1.1
P57A Homestead Farm 50.26 300 P P 17 55 00.8 -0.1
baz=84
H53A Bobcaygeon 50.34 306 P P 17 55 01.0 -0.5
baz=88
N56A West Decatur 50.34 301 P P 17 55 01.0 -0.6

baz=85
G53A **Haliburton** 50.35 307 P P 17 55 01.2 -0.4
baz=89,SNR=8.6
L55A **Hinsdale** 50.35 303 P P 17 55 00.7 -0.9
baz=86
E52A **Mattawa** 50.35 308 P P 17 55 00.7 -0.8
baz=90,SNR=7.3
R58A **Rapidan** 50.38 298 P P 17 55 01.2 -0.7
baz=83
J54A **Appleton** 50.44 305 P P 17 55 01.4 -0.9
baz=87
U59A **Littleton** 50.47 296 P P 17 55 01.8 -0.8
baz=82
S58A **Poland Farm, P** 50.50 297 P P 17 55 01.8 -1.0
baz=83
K54A **Basiliko Farm,** 50.51 304 P P 17 55 01.7 -1.1
baz=86
O56A **Blue Knob Stat** 50.60 301 P P 17 55 03.2 -0.4
baz=85
Q57A **Strasburg** 50.61 299 P P 17 55 03.6 0.0
baz=84
M55A **Ridgway** 50.65 302 P P 17 55 03.1 -0.8
baz=86
M55A **Ridgway** 50.65 302 P P 17 55 02.2 -1.7
TMCR **Tamitsa** 50.70 28 eP P 17 55 03.9 +0.1
TMCR pmax pmax
comp=Z,72nm,0.9s
SADO **Sadowa** 50.73 306 P P 17 55 02.3 -2.1
SADO lAmb lAmb 17 55 10.7
comp=Z,44nm,0.8s
LVZ **Lovozero** 50.76 23⇓ eP P 17 55 06.0 +1.7
LVZ pmax pmax
comp=Z,195nm,2.5s
LVZ **Lovozero** 50.76 23 P P 17 55 04.2 -0.2
KIV **Kislovodsk** 50.77 55 i P P 17 55 05.9 +1.0
SNR=5.7
KIV **Kislovodsk** 50.77 55 eP P 17 55 06.1 +1.2
KIV eS S 18 02 23.2 +2.3
KIV eSSS SSS 18 07 28.7
KIV pmax pmax
comp=Z,122nm,1.1s
KIV pmax pmax
comp=Z,279nm,4.3s
KIV **Kislovodsk** 50.77 55 P P 17 55 05.5 +0.6
KIV lAmb lAmb 17 55 14.3
comp=Z,62nm,1.3s
F52A **Sundridge** 50.83 308 P P 17 55 04.4 -0.8
baz=89,SNR=6.0
D51A **Lot 18 Range I** 50.84 309 P P 17 55 04.7 -0.5
baz=90
N55A **Marion Center** 50.88 301 P P 17 55 05.1 -0.5
baz=85
P56A **Dayton Farm, R** 50.89 300 P P 17 55 05.8 +0.1
baz=84,SNR=5.6
V59A **Middlesex** 50.91 295 P P 17 55 05.0 -0.9
baz=81
KBZ **Khabaz** 50.94 55 P P 17 55 07.5 +1.5
comp=Z,72nm,1.0s,baz=288,slow=4.6,SNR=49
KBZ LR LR 18 20 18.9
comp=Z,206nm,18.2s,baz=285,slow=40
T58A **Grand View Acr** 50.97 296 eP P 17 55 06.1 -0.2
baz=82
GOF **Gofitskoye** 50.98 53⇑ eP P 17 55 11.3 +5.0
GOF pmax pmax
comp=Z,65nm,0.8s
L54A **Sinclairville** 51.00 303 P P 17 55 06.5 0.0
baz=86
U58A **Oxford** 51.07 296 P P 17 55 07.1 0.0
baz=82
I53A **Kortright Cn E** 51.10 305 P P 17 55 07.7 +0.5
baz=87
D50A **G1974 Best Tow** 51.16 310 P P 17 55 07.6 -0.1
baz=89
O55A **Ligonier** 51.17 301 P P 17 55 07.5 -0.4
baz=84
S57A **Dark Hollow, R** 51.19 297 P P 17 55 07.5 -0.5
baz=82
Q56A **Snyder Ridge,** 51.21 299 P P 17 55 07.3 -0.8
baz=83
F51A **Arnstein** 51.24 308 P P 17 55 08.1 -0.1
baz=88,SNR=6.4
M54A **Oil Creek Stat** 51.32 302 P P 17 55 08.5 -0.5
baz=85
M54A **Oil Creek Stat** 51.32 302 P P 17 55 08.1 -0.9
M54A lAmb lAmb 17 55 15.9
comp=Z,33nm,0.9s
BSFB **Barra de Sao F** 51.33 208 eP P 17 55 09.8 +0.8
BSFB **Barra de Sao F** 51.33 208 eP P 17 55 09.8 +0.8
SJMB **Sao Joao De Ma** 51.35 208 eP P 17 55 11.7 +2.4
SJMB **Sao Joao De Ma** 51.35 208 eP P 17 55 11.7 +2.4
R56A **Bull Pasture M** 51.46 298 P P 17 55 09.9 -0.2
baz=83
I52A **Shelburne** 51.51 306 P P 17 55 09.7 -0.6
baz=87
T57A **Hurt** 51.54 297 P P 17 55 10.5 -0.1
baz=82
AKH **Akhalkalaki** 51.55 58 P P 17 55 10.4 -0.5
AKH pmax pmax
comp=Z,32nm,1.0s
AKH **Akhalkalaki** 51.55 58 P P 17 55 10.4 -0.5
AKH lAmb lAmb 17 55 18.9
comp=Z,32nm,1.0s
N54A **Moraine State** 51.62 302 P P 17 55 11.6 +0.4
baz=84
MCWV **Mont Chateau** 51.65 300 P P 17 55 11.2 -0.2
baz=83,SNR=5.7
MCWV **Mont Chateau** 51.65 300 P P 17 55 10.4 -1.0
MCWV lAmb lAmb 17 55 19.9
comp=Z,30nm,0.8s
P55A **Reedsville** 51.65 300 P P 17 55 11.2 -0.3
baz=83,SNR=6.1
S56A **Natural Bridge** 51.69 297 P P 17 55 11.7 0.0
baz=82
U57A **Blanch** 51.69 296 P P 17 55 11.4 -0.4
baz=81
L53A **Girard** 51.72 303 P P 17 55 11.6 -0.3
baz=85
ZEI **Tsey** 51.73 56 eP P 17 55 11.8 -0.4
ZEI pmax pmax
comp=Z,86nm,1.1s
J52A **Paris** 51.78 305 P P 17 55 11.4 -0.9
baz=86
W58A **Raeford** 51.84 294 P P 17 55 12.4 -0.5
baz=80
Q55A **Buckhannon** 51.91 299 P P 17 55 13.8 +0.4
baz=83
K52A **Tillsonburg** 51.99 304 P P 17 55 14.1 +0.2
baz=85
O54A **Avella** 51.99 301 P P 17 55 13.8 -0.1
baz=84,SNR=6.7
O54A **Avella** 51.99 301 P P 17 55 14.3 +0.3
O54A lAmb lAmb 17 55 21.0
comp=Z,47nm,0.9s
BDFB **Brasilia** 52.00 217 P P 17 55 13.2 -1.1
comp=Z,13nm,1.0s,baz=41,slow=11,SNR=4.1
BDFB LR LR 18 14 42.5
comp=Z,546nm,18.4s,baz=353,slow=33
BDFB **Brasilia** 52.00 217 P P 17 55 11.3 -3.0
X58A **Rowland** 52.00 294 P P 17 55 13.4 -0.7
baz=80
R55A **Marlinton** 52.03 298 P P 17 55 14.2 -0.1
baz=82
R55A **Marlinton** 52.03 298 P P 17 55 12.6 -1.8
R55A lAmb lAmb 17 55 16.3
comp=Z,98nm,1.8s
M53A **Wt Miller and** 52.08 302 P P 17 55 14.1 -0.5
baz=84,SNR=6.7
V57A **Coltrane Farms** 52.13 295 P P 17 55 14.3 -0.7
baz=80
I51A **Listowel** 52.13 305 P P 17 55 15.2 +0.2
baz=86
P54A **Burton** 52.14 300 P P 17 55 15.5 +0.4
baz=83
T56A **Rocky Mt** 52.15 297 P P 17 55 15.6 +0.4
baz=81
N53A **Lisbon** 52.27 302 P P 17 55 16.1 +0.1
baz=84,SNR=8.8
N53A **Lisbon** 52.27 302 P P 17 55 14.8 -1.2
S55A **Lewisburg** 52.41 298 P P 17 55 16.3 -0.8
baz=82
BLA **Blacksburg** 52.43 297 P P 17 55 16.4 -0.9
baz=81
BLA **Blacksburg** 52.43 297 P P 17 55 16.0 -1.3
BLA pmax pmax
comp=Z,42nm,1.1s
BLA **Blacksburg** 52.43 297 P P 17 55 15.9 -1.3
BLA lAmb lAmb 17 55 19.8
comp=Z,42nm,1.1s
W57A **Gilead** 52.43 294 P P 17 55 17.7 +0.5
baz=80
Q54A **Coxs Mills** 52.49 299 P P 17 55 17.2 -0.5
baz=82
Q54A **Coxs Mills** 52.49 299 P P 17 55 14.9 -2.7
Q54A lAmb lAmb 17 55 19.8
comp=Z,86nm,1.8s
D48A **Paudash Townsh** 52.50 310 P P 17 55 18.1 +0.5
baz=88
U56A **King** 52.53 296 P P 17 55 17.2 -0.8
baz=80
O53A **New Philadelph** 52.62 301 P P 17 55 18.7 +0.1
baz=83,SNR=5.6
GNI **Garni** 52.63 59 i P P 17 55 20.0 +1.1
SNR=18
GNI **Garni** 52.63 59⇑ eP P 17 55 20.8 +1.9
GNI pmax pmax
comp=Z,273nm,1.7s
GNI **Garni** 52.63 59 P P 17 55 20.1 +1.2
comp=Z,37nm,0.9s,baz=337,slow=2.9,SNR=24
GNI **Garni** 52.63 59 P P 17 55 18.2 -0.7
V56A **Mocksville** 52.72 295 P P 17 55 19.4 0.0
baz=80
R54A **Victor** 52.73 298 P P 17 55 19.9 +0.4
baz=82
T55A **Pulaski** 52.73 297 P P 17 55 19.2 -0.4
baz=81
SDV **Santo Domingo** 52.76 260 eP P 17 55 20.7 +0.5
SDV **Santo Domingo** 52.76 260 eP P 17 55 20.7 +0.5
SDV **Santo Domingo** 52.76 260 P P 17 55 19.2 -1.0
SDV lAmb lAmb 17 55 34.2
comp=Z,41nm,0.9s
E48A **Lockeyer** 52.78 309 P P 17 55 18.5 -1.2
baz=87
W56A **Indian Trail** 52.91 294 P P 17 55 19.4 -1.4
baz=80
N52A **McGinn's Farm,** 52.91 302 P P 17 55 20.4 -0.4
baz=83,SNR=6.8
CLDB **Colider** 52.97 229 eP P 17 55 22.2 +0.7
CLDB **Colider** 52.97 229 eP P 17 55 22.2 +0.7
S54A **Dingess, Beckl** 53.04 298 P P 17 55 20.8 -1.0
baz=81
S54A **Dingess, Beckl** 53.04 298 P P 17 55 21.8 0.0
U55A **TA2, Sparta** 53.04 296 P P 17 55 21.0 -0.8
baz=80
Q53A **Leroy** 53.04 299 P P 17 55 21.5 -0.3
baz=82
GROC **Groznyy** 53.08 55 eP P 17 55 22.8 +0.8
GROC e 17 56 31.3
GROC e 17 57 24.6
GROC pmax pmax
comp=Z,78nm,1.5s
O52A **Adamsville** 53.11 301 P P 17 55 22.0 -0.3
baz=83,SNR=7.8
O52A **Adamsville** 53.11 301 P P 17 55 22.0 -0.3
O52A lAmb lAmb 17 55 29.2
comp=Z,54nm,0.8s
F48A **Evansville** 53.13 308 P P 17 55 22.0 -0.2
baz=86
V55A **Taylorsville** 53.28 295 P P 17 55 23.3 -0.3
baz=80
NAX **Nakhchivan** 53.34 60 P P 17 55 24.6 +0.6
T54A **Tazewell** 53.36 297 P P 17 55 23.7 -0.6
baz=80,SNR=9.6
K50A **Casco** 53.39 304 P P 17 55 24.9 +0.6
baz=84
P52A **Corning** 53.40 300 P P 17 55 24.1 -0.3
baz=82
N51A **Ashland** 53.42 302 P P 17 55 23.9 -0.6
baz=83,SNR=7.0
N51A **Ashland** 53.42 302 P P 17 55 24.2 -0.3
R53A **Hurricane** 53.45 299 P P 17 55 24.7 -0.1
baz=81
PRGR **Permogore** 53.50 32 eP P 17 55 23.8 -0.9
PRGR e 17 56 34.8
PRGR pmax pmax
comp=Z,108nm,0.9s
KMSC **Kings Mountain** 53.51 295 P P 17 55 25.6 +0.4
baz=79
KMSC **Kings Mountain** 53.51 295 P P 17 55 24.9 -0.4
E47A **Iron Bridge** 53.55 309 P P 17 55 24.9 -0.5
baz=86
Q52A **Bidwell** 53.60 299 P P 17 55 25.6 -0.3
baz=82
L50A **Kingsville** 53.61 303 P P 17 55 24.9 -0.9
baz=84,SNR=5.7
PMNB **Patos De Minas** 53.61 214 eP P 17 55 26.8 +0.7
PMNB **Patos De Minas** 53.61 214 eP P 17 55 26.8 +0.7
JSC **Jenkinsville** 53.62 294 P P 17 55 25.4 -0.6
JSC pmax pmax
comp=Z,54nm,2.0s
JSC **Jenkinsville** 53.62 294 P P 17 55 25.4 -0.6
U54A **Nelsons Funny** 53.65 296 P P 17 55 26.1 -0.2
baz=80,SNR=5.1
U54A **Nelsons Funny** 53.65 296 P P 17 55 25.4 -1.0
U54A lAmb lAmb 17 55 28.5
comp=Z,43nm,1.2s
O51A **Pataskala** 53.69 301 P P 17 55 26.4 -0.2
baz=82,SNR=7.5
S53A **Williamson** 53.69 298 P P 17 55 26.3 -0.3
baz=81
GANJ **Ganja** 53.76 58 P P 17 55 27.1 0.0
M50A **Fremont** 53.86 303 P P 17 55 27.9 +0.2
baz=83
V54A **Nebo** 53.88 296 P P 17 55 28.6 +0.6
baz=79
ACSO **Alum Creek Sta** 53.97 301 P P 17 55 28.3 -0.3
baz=82,SNR=5.5
ACSO **Alum Creek Sta** 53.97 301 P P 17 55 28.2 -0.3
ACSO lAmb lAmb 17 55 35.1
comp=Z,44nm,0.9s
R52A **Catlettsburg** 53.99 299 P P 17 55 28.4 -0.3
baz=81
K49A **Clarkson** 54.00 304 P P 17 55 28.0 -0.7
baz=84
N50A **Nevada** 54.02 302 P P 17 55 28.5 -0.4
baz=82,SNR=5.5
I48A **Sherman Twp** 54.03 306 P P 17 55 30.0 +1.1
baz=84,SNR=5.1
IPMB **Ipameri, GO** 54.04 216 eP P 17 55 29.4 +0.1
IPMB **Ipameri, GO** 54.04 216 eP P 17 55 29.4 +0.1
T53A **Wise** 54.13 297 P P 17 55 29.9 +0.1
baz=80
P51A **Williamsport** 54.13 300 P P 17 55 29.9 +0.2
baz=82
P51A **Williamsport** 54.13 300 P P 17 55 28.7 -1.1
P51A lAmb lAmb 17 55 36.2
comp=Z,44nm,0.8s
P51A PcP PcP 17 56 35.1 +0.7
156A **Sylvania** 54.15 292 P P 17 55 30.6 +0.6
baz=77
Y55A **Saluda** 54.17 293 P P 17 55 30.5 +0.4
baz=78
ARAG **Araguaiana, MT** 54.17 221 eP P 17 55 32.2 +2.0
ARAG **Araguaiana, MT** 54.17 221 eP P 17 55 32.2 +2.0
J48A **Bridge Port** 54.18 305 P P 17 55 29.3 -0.7
baz=84
W54A **Cherokee Point** 54.20 295 P P 17 55 30.3 -0.1
baz=79
U53A **Fall Branch** 54.27 296 P P 17 55 30.1 -0.8
baz=80,SNR=9.0
TULEG **Thule** 54.29 347 P P 17 55 29.3 -1.0
TULEG lAmb lAmb 17 55 37.2
comp=Z,44nm,0.9s
L49A **Milan** 54.31 303 P P 17 55 30.7 -0.3
baz=83
MNGR **Mingechevir, A** 54.32 58 P P 17 55 33.9 +2.8
SEKA **Sheki** 54.34 58 P P 17 55 32.5 +1.1
H47A **Mio** 54.35 307 P P 17 55 30.7 -0.6
baz=84,SNR=6.1
Q51A **Peebles** 54.42 300 P P 17 55 31.1 -0.8
baz=81
Q51A **Peebles** 54.42 300 P P 17 55 30.6 -1.3
Q51A lAmb lAmb 17 55 38.4
comp=Z,54nm,1.0s
O50A **Cable** 54.46 301 P P 17 55 31.4 -0.7
baz=82,SNR=7.2
T52A **Hallie** 54.46 297 P P 17 55 32.1 -0.1
baz=80
M49A **Liberty Center** 54.54 303 P P 17 55 31.5 -1.2
baz=82,SNR=6.8
V53A **Saluda** 54.59 296 P P 17 55 33.1 -0.2
baz=79
V53A **Saluda** 54.59 296 P P 17 55 32.4 -0.8
V53A lAmb lAmb 17 55 41.2
comp=Z,28nm,0.9s
I47A **Gladwin** 54.62 306 P P 17 55 34.1 +0.8
baz=84
P50A **Jamestown** 54.68 300 P P 17 55 32.8 -1.0
baz=81,SNR=6.5
AKT **Akhty** 54.70 57 eP P 17 55 34.5 +0.5
AKT e 17 56 35.6
AKT pmax pmax
comp=Z,63nm,1.0s
R51A **Hillsboro** 54.73 299 P P 17 55 32.9 -1.2
baz=80
CODC **Agustn Codazz** 54.74 262 eP P 17 55 33.2 -1.2
CODC **Agustn Codazz** 54.74 262 eP P 17 55 33.2 -1.2
N49A **Columbus Grove** 54.77 302 P P 17 55 33.6 -0.7
baz=82,SNR=9.1
N49A **Columbus Grove** 54.77 302 P P 17 55 34.0 -0.4
N49A lAmb lAmb 17 55 41.2
comp=Z,45nm,0.9s
MBAR **Mbarara** 54.81 113 P P 17 55 35.8 +0.6
MBAR pmax pmax
comp=Z,43nm,1.0s
MBAR **Mbarara** 54.81 113 P P 17 55 35.8 +0.6
MBAR lAmb lAmb 17 55 42.8
comp=Z,43nm,1.0s
L48A **N Adams** 54.82 303 P P 17 55 33.7 -1.0
baz=82,SNR=27
BG3 **Lake Jocassee** 54.82 295 P P 17 55 35.4 +0.6
S51A **Beattyville** 54.85 298 P P 17 55 34.7 -0.3
baz=80
S51A **Beattyville** 54.85 298 P P 17 55 33.6 -1.4
S51A lAmb lAmb 17 55 41.9
comp=Z,47nm,1.1s
Y54A **Tignall** 54.86 293 P P 17 55 35.1 -0.1
baz=78
U52A **Thorn Hill** 54.90 297 P P 17 55 35.5 +0.1
baz=79
J47A **Sunmer** 54.94 305 P P 17 55 35.7 +0.2
baz=83
J47A **Sunmer** 54.94 305 P P 17 55 34.1 -1.4
J47A lAmb lAmb 17 55 42.0
comp=Z,60nm,0.9s
J47A PcP PcP 17 56 37.0 -0.4
Q50A **Georgetown** 54.94 300 P P 17 55 34.9 -0.8
baz=80
TAMC **Tame, Arauca** 54.94 258 eP P 17 55 37.0 +0.9
TAMC **Tame, Arauca** 54.94 258 eP P 17 55 37.0 +0.9
155A **Kite** 54.95 292 P P 17 55 36.4 +0.6
baz=77
W53A **Cullowhee** 54.97 295 P P 17 55 35.4 -0.7
baz=78
O49A **Covington** 55.00 301 P P 17 55 35.4 -0.6
baz=81,SNR=20
O49A **Covington** 55.00 301 P P 17 55 34.3 -1.8
O49A PcP PcP 17 56 35.1 -2.6
TZTN **Tazewell** 55.01 297 P P 17 55 35.7 -0.6
baz=79
TZTN **Tazewell** 55.01 297 P P 17 55 35.0 -1.2
TZTN lAmb lAmb 17 55 38.4
comp=Z,51nm,1.4s
H46A **Fife Lake** 55.06 307 P P 17 55 36.2 -0.3
baz=84,SNR=5.3
M48A **Edgerton** 55.09 303 P P 17 55 36.0 -0.7
baz=82,SNR=8.7
M48A **Edgerton** 55.09 303 P P 17 55 35.4 -1.3
Z54A **Sparta** 55.12 293 P P 17 55 36.5 -0.5
baz=77
K47A **Vermontville** 55.14 304 P P 17 55 36.4 -0.6
baz=83,SNR=6.7
V52A **Sevierville** 55.19 296 P P 17 55 37.1 -0.3
baz=79
V52A **Sevierville** 55.19 296 P P 17 55 37.6 +0.2
DWPF **Disney Wildern** 55.21 286 P P 17 55 37.1 -0.7
baz=74
X53A **Estanollee** 55.22 294 P P 17 55 37.0 -0.8
baz=78
T51A **Gray** 55.24 297 P P 17 55 38.9 +1.0
baz=79
R50A **Paris** 55.30 299 P P 17 55 37.3 -1.0
baz=80
R50A **Paris** 55.30 299 P P 17 55 38.1 -0.2
G45A **Suttons Bay** 55.33 307 P P 17 55 38.3 -0.1
baz=84
E44A **Grand Marais A** 55.35 309 P P 17 55 38.2 -0.3
baz=85
TKL **Tuckaleechee C** 55.36 296 P P 17 55 37.4 -1.3
TKL pmax pmax
comp=Z,28nm,1.0s
TKL **Tuckaleechee C** 55.36 296 P P 17 55 37.4 -1.3
TKL lAmb lAmb 17 55 46.2
comp=Z,28nm,0.9s
L47A **Sherwood** 55.38 304 P P 17 55 38.1 -0.7
baz=82,SNR=5.9
OCAC **Ocana** 55.41 260 eP P 17 55 37.8 -1.7
OCAC **Ocana** 55.41 260 eP P 17 55 37.8 -1.7
U51A **La Follette** 55.41 297 P P 17 55 39.0 -0.1
baz=79
N48A **Decatur** 55.42 302 P P 17 55 38.3 -0.7
baz=81,SNR=6.2
S50A **Richmond** 55.47 298 P P 17 55 39.4 -0.1
baz=80
ARGC **Ariguani, Magd** 55.47 263 eP P 17 55 37.3 -2.5
ARGC **Ariguani, Magd** 55.47 263 eP P 17 55 37.3 -2.5
GOGA **Godfrey** 55.59 293 P P 17 55 40.6 +0.2
baz=77
GOGA **Godfrey** 55.59 293 P P 17 55 38.4 -2.0
GOGA **Godfrey** 55.59 293 P P 17 55 38.4 -2.0
W52A **Murphy** 55.60 295 P P 17 55 40.8 +0.3
baz=78
W52A **Murphy** 55.60 295 P P 17 55 40.2 -0.3
O48A **Farmland** 55.61 301 P P 17 55 39.7 -0.7
baz=81,SNR=5.3
Q49A **Aurora** 55.62 300 P P 17 55 39.5 -1.0
baz=80
X52A **Dahlonega** 55.68 294 P P 17 55 41.2 +0.1
baz=78
K46A **Dorr** 55.71 304 P P 17 55 39.9 -1.2
baz=82
M47A **Cromwell** 55.78 303 P P 17 55 41.1 -0.6
baz=81,SNR=7.1
254A **Abbeville** 55.79 291 P P 17 55 41.1 -0.7
baz=76
V51A **Loudon** 55.79 296 P P 17 55 41.7 -0.1
baz=78
V51A **Loudon** 55.79 296 P P 17 55 41.4 -0.5
V51A lAmb lAmb 17 55 49.1
comp=Z,50nm,1.1s
SMLC **San Martn de** 55.80 261 eP P 17 55 40.2 -2.0
SMLC **San Martn de** 55.80 261 eP P 17 55 40.2 -2.0
I45A **Fountain** 55.86 306 P P 17 55 41.4 -0.7
baz=83
N47A **Urbana** 55.91 302 P P 17 55 41.8 -0.8
baz=81,SNR=6.2
N47A **Urbana** 55.91 302 P P 17 55 41.4 -1.2
LKRN **Lenkeran, Azer** 55.94 60 P P 17 55 46.2 +3.4
T50A **Nancy** 55.94 298 P P 17 55 43.4 +0.6
baz=79
P48A **Milroy** 55.94 301 P P 17 55 42.1 -0.8
baz=80
P48A **Milroy** 55.94 301 P P 17 55 41.5 -1.4
P48A lAmb lAmb 17 55 48.8
comp=Z,24nm,0.8s
R49A **Shelbyville** 55.96 299 P P 17 55 42.6 -0.3
baz=80
R49A **Shelbyville** 55.96 299 P P 17 55 42.0 -1.0
Y52A **Lilburn** 55.98 294 P P 17 55 43.1 -0.1
baz=77
CPCT **Cooper Cave** 56.00 296 P P 17 55 43.1 -0.2
CPCT lAmb lAmb 17 55 50.9
comp=Z,25nm,0.9s
U50A **Jamestown** 56.06 297 P P 17 55 44.1 +0.3
baz=78
S49A **Springfield** 56.14 299 P P 17 55 43.5 -0.8
baz=79
TIGA **Tifton** 56.16 291 P P 17 55 44.9 +0.4
baz=76
W51A **Cleveland** 56.26 295 P P 17 55 45.1 -0.1
baz=78
Q48A **North Vernon** 56.27 300 P P 17 55 44.4 -0.8
baz=80
SJCC **San Jacinto, C** 56.28 263 eP P 17 55 45.8 +0.2
SJCC **San Jacinto, C** 56.28 263 eP P 17 55 45.8 +0.2
RUSC **La Rusia** 56.33 258 eP P 17 55 44.9 -1.6
RUSC **La Rusia** 56.33 258 eP P 17 55 44.9 -1.6
V50A **Pikeville** 56.42 296 P P 17 55 46.2 -0.1
baz=78
Z52A **Williamson** 56.42 293 P P 17 55 45.4 -1.0

baz=76
X51A Calhoun 56.46 295 P **P** 17 55 47.0 +0.4
baz=77
X51A Calhoun 56.46 295 P **P** 17 55 47.1 +0.4
X51A IAmb IAmb 17 55 54.2
comp=Z,45nm,0.9s
T49A Edmonton 56.47 298 P **P** 17 55 46.1 -0.5
baz=78,SNR=8.3
T49A Edmonton 56.47 298 P **P** 17 55 45.5 -1.1
T49A IAmb IAmb 17 55 53.4
comp=Z,42nm,1.2s
LODK Lodwar 56.49 106 P **P** 17 55 48.9 +1.8
SNR=17
SALV Santo Antonio 56.66 224 *e*P **P** 17 55 49.2 +1.1
SALV Santo Antonio 56.66 224 *e*P **P** 17 55 49.2 +1.1
W50A Signal Mountai 56.69 295 P **P** 17 55 47.7 -0.6
baz=77
353A Camilla 56.70 291 P **P** 17 55 47.9 -0.5
baz=75
U49A Red Boiling Sp 56.78 297 P **P** 17 55 48.1 -0.8
baz=78
Y51A Rockmart 56.78 294 P **P** 17 55 49.3 +0.3
baz=77
BB19B Bebedouro 56.78 214 *e*P **P** 17 55 50.9 +1.9
BB19B Bebedouro 56.78 214 *e*P **P** 17 55 50.9 +1.9
152A Waverly Hall 56.79 292 P **P** 17 55 48.7 -0.3
baz=76
152A Waverly Hall 56.79 292 P **P** 17 55 48.5 -0.5
SAML Samuel 56.83 237 P **P** 17 55 48.7 -0.7
SAML pmax pmax
comp=Z,42nm,0.9s
SAML Samuel 56.83 237 *e*P **P** 17 55 50.5 +1.1
SAML Samuel 56.83 237 *e*P **P** 17 55 50.5 +1.1
SAML Samuel 56.83 237 P **P** 17 55 48.7 -0.7
SAML IAmb IAmb 17 55 54.7
comp=Z,42nm,0.9s
BLO Bloomington 56.83 300 P **P** 17 55 47.3 -1.9
BLO pmax pmax
comp=Z,65nm,1.2s
BLO Bloomington 56.83 300 P **P** 17 55 47.3 -1.9
BLO IAmb IAmb 17 55 55.9
comp=Z,65nm,1.1s
WCI Wyandotte Cave 56.84 299 P **P** 17 55 48.7 -0.5
baz=79
WCI Wyandotte Cave 56.84 299 P **P** 17 55 50.9 +1.7
WCI AP **pwP** 17 55 55.1 +0.2
252A Lumpkin 56.97 292 P **P** 17 55 49.7 -0.5
baz=76
V49A McMinnville 57.03 296 P **P** 17 55 50.4 -0.3
baz=78,SNR=19
RAYN Ar Rayn 57.04 79 *i* P **P** 17 55 51.7 +0.8
SNR=24
RAYN Ar Rayn 57.04 79 P **P** 17 55 51.5 +0.6
RAYN pmax pmax
comp=Z,41nm,1.1s
RAYN Ar Rayn 57.04 79 P **P** 17 55 51.5 +0.6
RAYN IAmb IAmb 17 55 59.5
comp=Z,41nm,1.1s
SFIN Lafayette 57.05 302 P **P** 17 55 50.4 -0.3
baz=80
SFIN Lafayette 57.05 302 P **P** 17 55 49.4 -1.3
SFIN IAmb IAmb 17 55 57.0
comp=Z,25nm,0.9s
FPAL Fort Paine 57.08 295 P **P** 17 55 50.1 -1.0
D41A Chassel 57.11 310 P **P** 17 55 50.9 -0.1
SWET Sewanee 57.18 296 P **P** 17 55 51.6 -0.1
PTBC PUERTO BERRIO, 57.20 259 *e*P **P** 17 55 48.9 -3.3
PTBC PUERTO BERRIO, 57.20 259 *e*P **P** 17 55 48.9 -3.3
352A Blakely 57.26 291 P **P** 17 55 52.0 -0.3
baz=75
SPBC San Pablo de B 57.30 258 *e*P **P** 17 55 53.1 +0.1
SPBC San Pablo de B 57.30 258 *e*P **P** 17 55 53.1 +0.1
CLTN Cedars of Leba 57.30 297 P **P** 17 55 52.1 -0.5
L44A Lake County Fo 57.34 304 P **P** 17 55 52.7 -0.1
baz=80
L44A Lake County Fo 57.34 304 P **P** 17 55 52.0 -0.7
RCLB Rio Claro- Sao 57.45 212 *e*P **P** 17 55 56.0 +2.4
RCLB Rio Claro- Sao 57.45 212 *e*P **P** 17 55 56.0 +2.4
W49A Belvidere 57.47 296 P **P** 17 55 53.6 -0.1
baz=77
PP1B Ponte de Pedra 57.47 222 *e*P **P** 17 55 55.5 +1.6
PP1B Ponte de Pedra 57.47 222 *e*P **P** 17 55 55.5 +1.6
CHIC Chingaza 57.51 257 *e*P **P** 17 55 54.6 -0.2
CHIC Chingaza 57.51 257 *e*P **P** 17 55 54.6 -0.2
K43A Burlington 57.56 305 P **P** 17 55 52.9 -1.4
UREC San Jos de Ur 57.57 261 *e*P **P** 17 55 54.8 +0.1
UREC San Jos de Ur 57.57 261 *e*P **P** 17 55 54.8 +0.1
Z50A Ashland 57.63 293 P **P** 17 55 54.2 -0.8
baz=76
Z50A Ashland 57.63 293 P **P** 17 55 54.5 -0.4
Z50A IAmb IAmb 17 56 04.3
comp=Z,33nm,1.0s
VAO Valinhos 57.68 212 *e*P **P** 17 55 57.0 +1.7
VAO Valinhos 57.68 212 *e*P **P** 17 55 57.0 +1.7
T47A Sharon Grove 57.72 298 P **P** 17 55 54.4 -1.1
T47A IAmb IAmb 17 56 02.3
comp=Z,28nm,0.8s
VILC Villavicencio, 57.74 256 *e*P **P** 17 55 56.2 +0.2
VILC Villavicencio, 57.74 256 *e*P **P** 17 55 56.2 +0.2
V48A Smith Brothers 57.77 296 P **P** 17 55 55.4 -0.5
V48A IAmb IAmb 17 56 02.7
comp=Z,32nm,1.0s
I42A Draeger Farm, 57.79 306 P **P** 17 55 54.6 -1.3
Y49A Blount Mountai 57.88 294 P **P** 17 55 56.7 0.0
Y49A IAmb IAmb 17 56 04.3
comp=Z,32nm,0.9s
ROSC El Rosal 57.91 257 *e*P **P** 17 55 56.4 -1.2
ROSC El Rosal 57.91 257 *e*P **P** 17 55 56.4 -1.2
ROSC El Rosal 57.91 257 P **P** 17 55 56.4 -1.2
comp=Z,50nm,0.7s,baz=188,slow=16,SNR=14
ROSC LR LR 18 20 06.5
comp=Z,608nm,19.0s,baz=66,slow=35
ROSC El Rosal 57.91 257 P **P** 17 55 56.4 -1.2
ROSC IAmb IAmb 17 56 03.4
comp=Z,38nm,0.8s
NORC Norcasia 58.03 258 *e*P **P** 17 55 55.7 -2.4
NORC Norcasia 58.03 258 *e*P **P** 17 55 55.7 -2.4
OLIL Olney 58.12 300 P **P** 17 55 57.0 -1.3
X48A Hartselle 58.25 295 P **P** 17 55 58.7 -0.5
X48A IAmb IAmb 17 56 06.2
comp=Z,42nm,1.0s
HELC Santa Helena 58.30 260 *e*P **P** 17 56 01.0 +0.7
HELC Santa Helena 58.30 260 *e*P **P** 17 56 01.0 +0.7
WVT Waverly 58.48 297 P **P** 17 56 00.5 -0.3
baz=77
WVT Waverly 58.48 297 P **P** 17 55 59.7 -1.1
WVT pmax pmax
comp=Z,41nm,1.1s
WVT Waverly 58.48 297 P **P** 17 55 59.7 -1.1
WVT IAmb IAmb 17 56 07.3
comp=Z,41nm,1.1s
G40A Rib Lake 58.48 308 P **P** 17 55 59.5 -1.2
G40A IAmb IAmb 17 56 07.0
comp=Z,37nm,1.1s
DBBC Dabeiba 58.51 261 *e*P **P** 17 56 00.9 -0.5
DBBC Dabeiba 58.51 261 *e*P **P** 17 56 00.9 -0.5
LRAL Lakeview Retre 58.56 293 P **P** 17 56 01.3 -0.1
baz=75
LRAL Lakeview Retre 58.56 293 P **P** 17 56 00.5 -0.9
LRAL IAmb IAmb 17 56 08.2
comp=Z,31nm,1.2s
GUY2C Guyana, Caldas 58.63 258 *e*P **P** 17 56 03.2 +0.5
GUY2C Guyana, Caldas 58.63 258 *e*P **P** 17 56 03.2 +0.5
HDIL Hopedale 58.66 302 P **P** 17 56 01.3 -0.8
baz=79
L42A Oliver, Polo 58.66 304 P **P** 17 56 00.6 -1.4
MACC Macarena, Meta 58.87 254 *e*P **P** 17 56 02.7 -1.1
MACC Macarena, Meta 58.87 254 *e*P **P** 17 56 02.7 -1.1
CBOC Ciudad Bolivar 58.88 259 *e*P **P** 17 56 03.2 -0.9
CBOC Ciudad Bolivar 58.88 259 *e*P **P** 17 56 03.2 -0.9
JFWS Jewell Farm 58.92 305 P **P** 17 56 02.8 -1.0
baz=80
JFWS Jewell Farm 58.92 305 P **P** 17 56 02.4 -1.4
JFWS pmax pmax
comp=Z,34nm,1.0s
JFWS Jewell Farm 58.92 305 P **P** 17 56 02.4 -1.4
JFWS IAmb IAmb 17 56 09.6
comp=Z,34nm,0.9s
PLAL Pickwick Lake 58.94 296 P **P** 17 56 03.3 -0.8
EYMN Ely 58.96 311 P **P** 17 56 03.1 -1.0
baz=82,SNR=6.0
EYMN Ely 58.96 311 P **P** 17 56 03.0 -1.0
I40A Norwalk 59.01 307 P **P** 17 56 03.8 -0.6
I40A IAmb IAmb 17 56 10.4
comp=Z,21nm,0.9s
BRAL Brewton 59.09 291 P **P** 17 56 04.2 -1.0
baz=74
SIUC Southern Illin 59.20 299 P **P** 17 56 04.9 -1.0
SIUC IAmb IAmb 17 56 11.9
comp=Z,40nm,1.1s
FRTB Fartura 59.21 214 *e*P **P** 17 56 07.3 +1.3
FRTB Fartura 59.21 214 *e*P **P** 17 56 07.3 +1.3
S44A Carbondale 59.24 299 P **P** 17 56 04.2 -1.9
S44A IAmb IAmb 17 56 13.3
comp=Z,26nm,0.8s
FCC Fort Churchill 59.36 324 P **P** 17 56 06.4 -0.1
FCC pmax pmax
comp=Z,28nm,0.9s
FCC Fort Churchill 59.36 324 P **P** 17 56 06.4 -0.1
FCC IAmb IAmb 17 56 13.6
comp=Z,28nm,0.8s
PLMC San Jos del P 59.58 259 *e*P **P** 17 56 10.2 +1.4
PLMC San Jos del P 59.58 259 *e*P **P** 17 56 10.2 +1.4
RES Resolute Bay 59.83 343 P **P** 17 56 09.2 -0.4
RES pmax pmax
comp=Z,26nm,1.0s
RES Resolute Bay 59.83 343 P **P** 17 56 09.2 -0.4
RES IAmb IAmb 17 56 15.8
comp=Z,26nm,1.0s
PARMO Parma 59.86 298 P **P** 17 56 09.1 -1.2
ARU Arti 60.07 39 *d* P **P** 17 56 12.2 +0.7
ARU S **S** 18 04 29.5 +4.9
ARU SS **SS** 18 08 22.4 +1.6
ARU pmax pmax
comp=Z,39nm,1.2s
ARU Arti 60.07 39 P **P** 17 56 11.8 +0.3
comp=Z,7.8nm,0.8s,baz=264,slow=5.4,SNR=4.3
ARU LR LR 18 21 42.0
comp=Z,513nm,21.2s,baz=240,slow=36
ARU Arti 60.07 39 P **P** 17 56 10.9 -0.5
YOTC Yotoco, Valle 60.09 258 *e*P **P** 17 56 09.6 -2.8
YOTC Yotoco, Valle 60.09 258 *e*P **P** 17 56 09.6 -2.8
OXF Oxford 60.12 296 P **P** 17 56 11.7 -0.5
baz=75
OXF Oxford 60.12 296 P **P** 17 56 10.8 -1.4
OXF pmax pmax
comp=Z,52nm,0.9s
OXF Oxford 60.12 296 P **P** 17 56 10.8 -1.4
AQDB Aquidauana 60.19 221 *e*P **P** 17 56 14.5 +1.8
AQDB Aquidauana 60.19 221 *e*P **P** 17 56 14.5 +1.8
SPMN Marine on St. 60.30 308 P **P** 17 56 12.3 -1.0
baz=79,SNR=6.0
SPMN Marine on St. 60.30 308 P **P** 17 56 12.1 -1.2
TRCB Terra Rica 60.33 217 *e*P **P** 17 56 16.0 +2.3
TRCB Terra Rica 60.33 217 *e*P **P** 17 56 16.0 +2.3
PBMO Poplar Bluff 60.36 298 P **P** 17 56 12.4 -1.4
PBMO IAmb IAmb 17 56 20.1
comp=Z,29nm,1.0s
KMBO Kilima Mbogo 60.50 109 P **P** 17 56 15.4 +0.1
comp=Z,0.6nm,0.3s,baz=308,slow=11,SNR=4.4
KMBO Kilima Mbogo 60.50 109 IAmb IAmb 17 56 22.9
comp=Z,35nm,1.7s
AKTO Aktyubinsk 60.52 46 P **P** 17 56 15.7 +1.0
comp=Z,13nm,1.0s,baz=288,slow=7.4,SNR=18
LPAR Lepanto 60.55 297 P **P** 17 56 14.4 -0.7
FLOC Florencia 60.70 255 *e*P **P** 17 56 16.8 +0.3
FLOC Florencia 60.70 255 *e*P **P** 17 56 16.8 +0.3
PTLC Puerto Leguiza 60.71 253 *e*P **P** 17 56 17.0 +0.4
PTLC Puerto Leguiza 60.71 253 *e*P **P** 17 56 17.0 +0.4
MALC Bahia Malaga 60.93 258 *e*P **P** 17 56 20.6 +2.6
MALC Bahia Malaga 60.93 258 *e*P **P** 17 56 20.6 +2.6
PCON Cinco Dias 60.96 256 *e*P **P** 17 56 19.0 +0.1
PCON Cinco Dias 60.96 256 *e*P **P** 17 56 19.0 +0.1
POPC Popayan, Colom 61.09 257 *e*P **P** 17 56 18.3 -1.1
POPC Popayan, Colom 61.09 257 *e*P **P** 17 56 18.3 -1.1
LCAR Lake Charles 61.10 298 P **P** 17 56 17.1 -1.8
LCAR IAmb IAmb 17 56 24.1
comp=Z,40nm,1.1s
SVE Sverdlovsk 61.16 38 *e*P **P** 17 56 20.2 +1.3
SVE pmax pmax
comp=Z,96nm,1.2s
SOTA Rioblanco 61.24 256 *e*P **P** 17 56 20.3 -0.4
SOTA Rioblanco 61.24 256 *e*P **P** 17 56 20.3 -0.4
SCIA State Center 61.27 305 P **P** 17 56 18.9 -1.0
baz=77
X43A Marvell 61.30 296 P **P** 17 56 19.4 -0.9
baz=74,SNR=6.5
X43A Marvell 61.30 296 P **P** 17 56 19.3 -0.9
ULM Lac du Bonnet 61.44 314 P **P** 17 56 21.2 +0.3
comp=Z,3.6nm,0.8s,baz=77,slow=9.0,SNR=4.8
ULM LR LR 18 21 11.1
comp=Z,581nm,18.1s,baz=78,slow=34
ULM Lac du Bonnet 61.44 314 P **P** 17 56 18.5 -2.4
PTGB Pitanga 61.61 215 *e*P **P** 17 56 23.2 +0.8
PTGB Pitanga 61.61 215 *e*P **P** 17 56 23.2 +0.8
MGMO Mountain Grove 61.70 299 P **P** 17 56 21.0 -2.0
MGMO IAmb IAmb 17 56 29.2
comp=Z,40nm,0.9s
AGMN Agassiz Nation 61.78 312 P **P** 17 56 22.1 -1.2
baz=79,SNR=19
AGMN Agassiz Nation 61.78 312 P **P** 17 56 22.3 -1.0
AGMN IAmb IAmb 17 56 29.5
comp=Z,35nm,0.8s
CRUC La Cruz 61.83 256 *e*P **P** 17 56 27.0 +2.5
CRUC La Cruz 61.83 256 *e*P **P** 17 56 27.0 +2.5
BBAC Balboa, Cauca 61.85 256 *e*P **P** 17 56 22.3 -2.2
BBAC Balboa, Cauca 61.85 256 *e*P **P** 17 56 22.3 -2.2
AB31 Akbulak array 61.96 47 *i* P **P** 17 56 24.6 +0.2
AB31 pmax pmax
comp=Z,8.0nm,0.8s
ABKAR Akbulak array 61.96 47 P **P** 17 56 24.5 +0.1
ABKAR IAmb IAmb 17 56 32.6
comp=Z,18nm,1.0s
LSZ Lusaka 62.14 128 P **P** 17 56 26.2 0.0
LSZ pmax pmax
comp=Z,34nm,0.8s
LSZ Lusaka 62.14 128 P **P** 17 56 26.2 0.0
LSZ IAmb IAmb 17 56 32.1
comp=Z,34nm,0.8s
CCAR Cane Creek 62.17 296 P **P** 17 56 24.4 -1.7
W41B Gary Mavity, V 62.20 297 P **P** 17 56 24.4 -1.9
baz=74,SNR=16
W41B Gary Mavity, V 62.20 297 P **P** 17 56 24.8 -1.5
WHAR Wooly Hollow 62.20 297 P **P** 17 56 24.8 -1.6
WHAR IAmb IAmb 17 56 31.5
comp=Z,38nm,0.9s
U40A Yellville 62.36 299 P **P** 17 56 25.8 -1.6
baz=74,SNR=25
U40A Yellville 62.36 299 P **P** 17 56 25.8 -1.6
X40A Basin Creek Fa 62.85 296 P **P** 17 56 28.9 -1.8
baz=74,SNR=5.6
X40A Basin Creek Fa 62.85 296 P **P** 17 56 29.3 -1.4
X40A IAmb IAmb 17 56 36.0
comp=Z,30nm,1.0s
Z41A Richland Creek 63.18 295 P **P** 17 56 32.1 -0.8
baz=73
Z41A Richland Creek 63.18 295 P **P** 17 56 31.7 -1.2
HHAR Hobbs 63.22 299 P **P** 17 56 31.6 -1.6
GEYT Alibeck 63.27 59 P **P** 17 56 34.9 +1.5
comp=Z,8.4nm,0.9s,baz=266,slow=7.1,SNR=10.0
GEYT LR LR 18 26 08.1
comp=Z,87nm,18.9s,baz=310,slow=38
ECSD EROS Data Cent 63.28 307 P **P** 17 56 31.5 -1.9
baz=76,SNR=5.1
ECSD EROS Data Cent 63.28 307 P **P** 17 56 31.8 -1.7
ECSD IAmb IAmb 17 57 17.3
comp=Z,17nm,0.9s
WLAR White Oak Lake 63.30 296 P **P** 17 56 31.7 -2.0
W39A Magazine 63.40 298 P **P** 17 56 33.3 -1.0
baz=74
W39A Magazine 63.40 298 P **P** 17 56 33.1 -1.3
W39A IAmb IAmb 17 56 39.8
comp=Z,24nm,0.9s
MIAR Mount Ida 63.42 297 P **P** 17 56 33.1 -1.4
baz=73,SNR=22
MIAR Mount Ida 63.42 297 P **P** 17 56 33.1 -1.4
MIAR pmax pmax
comp=Z,39nm,1.0s
MIAR Mount Ida 63.42 297 P **P** 17 56 33.1 -1.4
MIAR IAmb IAmb 17 56 40.8
comp=Z,39nm,1.0s
ITAB Concordia 63.73 214 *e*P **P** 17 56 38.0 +1.6
ITAB Concordia 63.73 214 *e*P **P** 17 56 38.0 +1.6
OTAV Otavalo 63.79 255 P **P** 17 56 36.7 -1.0
OTAV pmax pmax
comp=Z,41nm,1.1s
OTAV Otavalo 63.79 255 *e*P **P** 17 56 38.5 +0.8
OTAV Otavalo 63.79 255 *e*P **P** 17 56 38.5 +0.8
OTAV Otavalo 63.79 255 P **P** 17 56 36.7 -1.0
OTAV IAmb IAmb 17 56 43.6
comp=Z,41nm,1.1s
FFC Flin Flon 64.23 320 P **P** 17 56 39.5 0.0
FFC pmax pmax
comp=Z,38nm,1.1s
FFC Flin Flon 64.23 320 P **P** 17 56 39.5 0.0
FFC IAmb IAmb 17 56 46.3
comp=Z,38nm,1.1s
MDND Maddock 64.33 312 P **P** 17 56 38.4 -1.9
baz=76
MDND Maddock 64.33 312 P **P** 17 56 39.2 -1.0
KSU1 Kansas State U 64.48 302 P **P** 17 56 39.4 -1.9
baz=74
SUSD Miller 64.74 309 P **P** 17 56 41.5 -1.5
baz=75
TUL1 Leonard 64.76 299 P **P** 17 56 40.9 -2.4
baz=73
TUL1 Leonard 64.76 299 P **P** 17 56 41.5 -1.8
X37A Clayton 64.83 297 P **P** 17 56 42.3 -1.4
CNLB Canela 64.86 211 *e*P **P** 17 56 45.2 +1.3
CNLB Canela 64.86 211 *e*P **P** 17 56 45.2 +1.3
BGNE Belgrade 64.98 305 P **P** 17 56 42.9 -1.7
baz=74
BGNE Belgrade 64.98 305 P **P** 17 56 43.6 -1.1
ASUD Al Ashush, Dub 65.12 74 *i* P **P** 17 56 46.6 +0.9
SNR=9.8
ASUD Al Ashush, Dub 65.12 74 P **P** 17 56 47.5 +1.8
SNR=6.7
NATX Nacogdoches 65.13 294 P **P** 17 56 44.3 -1.4
baz=72
NATX Nacogdoches 65.13 294 P **P** 17 56 44.1 -1.6
NAZ Nazwa, Dubai 65.28 74 *i* P **P** 17 56 48.4 +1.6
SNR=11
NAZ Nazwa, Dubai 65.28 74 P **P** 17 56 48.6 +1.9
SNR=8.2
NAZ P **P** 17 56 48.6 +1.9
SNR=8.2
LPAZ La Paz 65.29 234 P **P** 17 56 46.1 -1.4
comp=Z,15nm,0.9s,baz=73,slow=4.0,SNR=19
LPAZ LR LR 18 22 21.7
comp=Z,320nm,21.9s,baz=46,slow=34
LPAZ La Paz 65.29 234 *e*P **P** 17 56 48.9 +1.4
LPAZ La Paz 65.29 234 *e*P **P** 17 56 48.9 +1.4
LPAZ La Paz 65.29 234 P **P** 17 56 45.7 -1.9
LPAZ IAmb IAmb 17 56 52.8
comp=Z,27nm,1.1s
BANOM Banah 65.49 73 *i* P **P** 17 56 49.5 +1.3
SNR=8.2
BANOM Banah 65.49 73 P **P** 17 56 50.0 +1.8
SNR=7.7
ALNE Al Ain 65.68 75 *i* P **P** 17 56 49.6 +0.1
SNR=9.3
CPUP Villa Florida 65.70 218 P **P** 17 56 47.9 -1.4
comp=Z,37nm,0.9s,baz=35,slow=7.7,SNR=19
CPUP LR LR 18 23 16.1
comp=Z,454nm,19.7s,baz=40,slow=34
CPUP Villa Florida 65.70 218 *e*P **P** 17 56 49.1 -0.2
CPUP Villa Florida 65.70 218 *e*P **P** 17 56 49.1 -0.2
CPUP Villa Florida 65.70 218 P **P** 17 56 47.6 -1.6
MDH Madha 65.71 73 *i* P **P** 17 56 50.3 +0.7
SNR=9.4
MDH Madha 65.71 73 P **P** 17 56 51.1 +1.5
SNR=7.1
MDH P **P** 17 56 51.1 +1.5
SNR=7.1
ASHO Ashiyiah 65.72 74 *i* P **P** 17 56 48.8 -1.0
SNR=42
ASHO Ashiyiah 65.72 74 P **P** 17 56 49.1 -0.6
SNR=22
HATD Hatta, Dubai 65.73 74 *i* P **P** 17 56 49.0 -0.7
SNR=22
HATD Hatta, Dubai 65.73 74 P **P** 17 56 49.5 -0.2
SNR=15
UOSS Minazif 65.75 74 *i* P **P** 17 56 48.6 -1.2
SNR=9.5
UOSS Minazif 65.75 74 P **P** 17 56 50.7 +0.8
UOSS P **P** 17 56 50.7 +0.8
UOSS Minazif 65.75 74 P **P** 17 56 48.6 -1.2
W35A Tecumseh 65.83 298 P **P** 17 56 49.0 -1.3
ABTO Aybut 66.06 82 P **P** 17 56 54.1 +2.1
SNR=5.3
ABTO P **P** 17 56 54.1 +2.1
SNR=5.3
FNO Franklin 66.21 299 P **P** 17 56 51.4 -1.3
WHFO Wadi Hawf 66.26 82 P **P** 17 56 55.4 +2.1
SNR=6.5
WHFO P **P** 17 56 55.4 +2.1
SNR=6.5
SOHO SOHO 66.32 74 P **P** 17 56 54.5 +1.0
SNR=34
SOHO P **P** 17 56 54.5 +1.0
SNR=34
ARQ Araqi 66.60 75 P **P** 17 56 57.7 +2.3
SNR=19
ARQ P **P** 17 56 57.7 +2.3
SNR=19
HKT Hockley 66.67 293 P **P** 17 56 54.6 -1.0
HKT pmax pmax
comp=Z,21nm,1.1s
HKT Hockley 66.67 293 P **P** 17 56 54.6 -1.0
HKT IAmb IAmb 17 57 02.0
comp=Z,22nm,1.1s
X34A Smith Ranch, M 66.75 298 P **P** 17 56 55.0 -1.2
RBK Rabkut 66.80 82 P **P** 17 57 00.4 +3.7
RBK P **P** 17 57 00.4 +3.7
CBKS Cedar Bluff 66.89 303 P **P** 17 56 55.9 -1.1
baz=72
CBKS Cedar Bluff 66.89 303 P **P** 17 56 56.0 -1.1
CBKS pmax pmax
comp=Z,67nm,1.1s
CBKS Cedar Bluff 66.89 303 P **P** 17 56 56.0 -1.0
U32A Winter Ranch, 67.09 300 P **P** 17 56 57.0 -1.3
DGMT Dagmar 67.14 314 P **P** 17 56 58.6 +0.2
baz=74,SNR=5.1
DGMT Dagmar 67.14 314 P **P** 17 56 57.9 -0.5
HOQ Hoqain 67.19 75 P **P** 17 57 01.3 +2.2
SNR=14
HOQ P **P** 17 57 01.3 +2.2
SNR=14
WHTX Lake Whitney, 67.31 295 P **P** 17 56 58.7 -1.0
baz=70,SNR=20
WHTX Lake Whitney, 67.31 295 P **P** 17 56 58.6 -1.0
BRVK Borovoye 67.38 41 P **P** 17 57 00.4 +0.6
BRVK pmax pmax
comp=Z,33nm,1.1s
BRVK Borovoye 67.38 41 P **P** 17 57 00.4 +0.6
BRVK IAmb IAmb 17 57 06.9
comp=Z,32nm,1.1s
BSY Bisya 67.40 75 P **P** 17 57 01.7 +1.3
SNR=7.2
BSY P **P** 17 57 01.7 +1.3
SNR=7.2
LBTB Lobatse 67.42 137 P **P** 17 57 00.3 -0.2
LBTB pmax pmax
comp=Z,32nm,0.9s
LBTB Lobatse 67.42 137 P **P** 17 57 00.3 -0.2
LBTB IAmb IAmb 17 57 05.6
comp=Z,32nm,0.8s
WMOK Wichita Mounta 67.45 298 P **P** 17 56 59.6 -1.1
baz=71,SNR=75
WMOK Wichita Mounta 67.45 298 P **P** 17 56 59.0 -1.6
WMOK pmax pmax
comp=Z,72nm,1.0s
WMOK Wichita Mounta 67.45 298 P **P** 17 56 59.0 -1.6
BVAR Borovoye Array 67.45 41 P **P** 17 57 00.8 +0.6
comp=Z,3.3nm,0.7s,baz=289,slow=4.5,SNR=17
435B Jarrell 67.82 294 P **P** 17 57 01.9 -1.1
baz=70,SNR=5.3
435B Jarrell 67.82 294 P **P** 17 57 02.0 -1.0
OGNE Ogallala 67.92 306 P **P** 17 57 02.7 -0.8
baz=72,SNR=18
OGNE Ogallala 67.92 306 P **P** 17 57 02.5 -1.0
SMDO Samad 68.01 75 P **P** 17 57 06.0 +1.6
SNR=11
SMDO P **P** 17 57 06.0 +1.6
SNR=11
PLTB Pedras Altas 68.20 212 *e*P **P** 17 57 07.0 +1.9
PLTB Pedras Altas 68.20 212 *e*P **P** 17 57 07.0 +1.9
MNMC Minye Minye 68.21 233 P **P** 17 57 04.2 -1.5
JMDO Jabal Madar 68.31 75 P **P** 17 57 08.2 +1.9
SNR=13
JMDO P **P** 17 57 08.2 +1.9
SNR=13
RSSD Black Hills 68.33 309 P **P** 17 57 05.6 -0.7
baz=72

WSAR Wadi Sarin 68.44 74 P **P** 17 57 09.2 +2.2
WSAR Wadi Sarin 68.44 74 P **P** 17 57 06.7 -0.3
comp=Z,41nm,0.9s,baz=289,slow=5.7,SNR=15
YKA Yellowknife Ar 68.52 330 P **P** 17 57 06.4 -0.3
comp=Z,7.2nm,0.8s,baz=69,slow=6.9,SNR=44
PB11 IPOC Station P 68.67 232 P **P** 17 57 07.1 -1.4
DQM DQM 68.76 78 P **P** 17 57 10.0 +1.0
ABTX Abilene, Hawle 68.83 297 P **P** 17 57 07.8 -1.5
baz=70,SNR=28
ABTX Abilene, Hawle 68.83 297 P **P** 17 57 07.4 -1.9
WBK Wadi Bani Khal 68.96 75 P **P** 17 57 12.5 +2.2
SNR=11
WBK P **P** 17 57 12.5 +2.2
SNR=11
KSCO Kaye Shedlock' 68.97 304 P **P** 17 57 09.9 -0.3
baz=71
KSCO Kaye Shedlock' 68.97 304 P **P** 17 57 09.0 -1.2
KSCO IAmb IAmb 17 57 16.7
comp=Z,28nm,0.8s
LAO LASA Array 68.98 313 P **P** 17 57 09.4 -0.7
baz=72
LAO LASA Array 68.98 313 P **P** 17 57 09.4 -0.7
NNA Nana 69.19 243|| *e*P **P** 17 57 12.8 +1.1
NNA pmax pmax
comp=Z,35nm,0.8s
NNA Nana 69.19 243 P **P** 17 57 10.3 -1.4
NNA IAmb IAmb 17 57 17.6
comp=Z,35nm,0.8s
NRIK Noril'sk 69.56 21 P **P** 17 57 14.4 +1.3
comp=Z,8.3nm,0.8s,baz=308,slow=3.6,SNR=12
NRIK LR LR 18 29 31.2
comp=Z,744nm,19.4s,baz=300,slow=37
C36M Paulatuk 69.57 339 P **P** 17 57 12.8 -0.3
baz=65
AMTX Amarillo 69.65 299 P **P** 17 57 13.5 -1.0
baz=70
AMTX Amarillo 69.65 299 P **P** 17 57 13.4 -1.0
JCT Junction City 69.71 294 P **P** 17 57 13.1 -1.7
baz=69,SNR=5.9
JCT Junction City 69.71 294 P **P** 17 57 12.9 -2.0
JCT pmax pmax
comp=Z,43nm,1.0s
JCT Junction City 69.71 294 P **P** 17 57 12.9 -2.0
JCT IAmb IAmb 17 57 20.9
comp=Z,43nm,0.9s
BOSA Boshof 69.93 140 P **P** 17 57 15.6 -0.5
comp=Z,41nm,0.8s,baz=314,slow=5.5,SNR=38
BOSA LR LR 18 26 11.8
comp=Z,1μm,20.3s,baz=310,slow=34
BOSA Boshof 69.93 140 P **P** 17 57 15.2 -0.9
LVC Limon Verde 70.08 229 P **P** 17 57 16.6 -0.9
LVC pmax pmax
comp=Z,19nm,1.0s
LVC Limon Verde 70.08 229 *e*P **P** 17 57 18.4 +0.9
LVC Limon Verde 70.08 229 *e*P **P** 17 57 18.4 +0.9
LVC Limon Verde 70.08 229 P **P** 17 57 16.6 -0.9
833A Chaparral WMA, 70.16 292 P **P** 17 57 15.7 -1.9
baz=68
833A Chaparral WMA, 70.16 292 P **P** 17 57 16.3 -1.3
833A IAmb IAmb 17 57 23.4
comp=Z,30nm,0.9s
PHWY Pilot Hill 70.24 307 P **P** 17 57 16.6 -1.7
SUR Sutherland 70.49 146 P **P** 17 57 19.0 -0.5
SUR IAmb IAmb 17 57 25.4
comp=Z,43nm,0.9s
K22A Casper 70.53 309 P **P** 17 57 19.1 -0.7
baz=70,SNR=5.4
KK31 Karatay Array 70.68 51 *i* P **P** 17 57 20.3 -0.2
KK31 pmax pmax
comp=Z,10.0nm,1.1s
KK31 Karatay Array 70.68 51 P **P** 17 57 20.0 -0.5
KK31 IAmb IAmb 17 57 26.6
comp=Z,54nm,1.9s
KKAR Karatay Array 70.68 51 P **P** 17 57 19.9 -0.7
KKAR pmax pmax
comp=Z,54nm,2.0s
KKAR Karatay Array 70.68 51 P **P** 17 57 19.9 -0.7
KKAR IAmb IAmb 17 57 26.5
comp=Z,54nm,1.9s
N23A Red Feather La 70.73 307 P **P** 17 57 21.1 0.0
baz=70,SNR=21
N23A Red Feather La 70.73 307 P **P** 17 57 20.5 -0.7
N23A IAmb IAmb 17 57 28.2
comp=Z,39nm,1.0s
EGMT Eagleton 70.80 315 P **P** 17 57 21.0 -0.3
baz=70,SNR=17
EGMT Eagleton 70.80 315 P **P** 17 57 21.0 -0.3
MSTX Muleshoe 70.81 299 P **P** 17 57 20.7 -0.9
baz=69,SNR=39
MSTX Muleshoe 70.81 299 P **P** 17 57 20.7 -0.9
ISCO Idaho Springs 70.88 305 P **P** 17 57 22.2 0.0
baz=69,SNR=18
ISCO Idaho Springs 70.88 305 P **P** 17 57 21.8 -0.3
ISCO pmax pmax
comp=Z,16nm,0.9s
ISCO Idaho Springs 70.88 305 P **P** 17 57 21.8 -0.3
T25A Trinidad 70.93 302 P **P** 17 57 22.3 0.0
baz=69,SNR=21
T25A Trinidad 70.93 302 P **P** 17 57 22.4 0.0
T25A IAmb IAmb 17 57 29.7
comp=Z,30nm,1.0s
CHGR Chuyangaron 71.29 56 P **P** 17 57 24.7 +0.3
RLMT Red Lodge 71.51 312 P **P** 17 57 25.8 0.0
baz=69
RLMT Red Lodge 71.51 312 P **P** 17 57 25.4 -0.4
SDCO Great Sand Dun 71.53 303 P **P** 17 57 25.8 -0.3
baz=69,SNR=15
SDCO Great Sand Dun 71.53 303 P **P** 17 57 26.0 -0.1
GCMT Greycliff 71.54 312 P **P** 17 57 26.4 +0.6
BTK Batken 71.98 54 P **P** 17 57 28.7 +0.2
BTK pmax pmax
comp=Z,36nm,1.3s
BTK Batken 71.98 54 P **P** 17 57 28.7 +0.2
BTK IAmb IAmb 17 57 37.5
comp=Z,36nm,1.2s
YNE Yellowstone No 72.05 312 P **P** 17 57 28.5 -0.5
SMCO Snowmass 72.08 305 P **P** 17 57 29.1 -0.5
YMP Mirror Lake Pl 72.24 312 P **P** 17 57 30.1 -0.2
LKWY Lake 72.47 311 P **P** 17 57 30.1 -1.5
LKWY Lake 72.47 311 P **P** 17 57 30.1 -1.5
S22A 4UR Ranch, Cre 72.50 304 P **P** 17 57 32.4 +0.4
baz=68,SNR=25
S22A 4UR Ranch, Cre 72.50 304 P **P** 17 57 30.9 -1.0
S22A IAmb IAmb 17 57 39.5
comp=Z,33nm,1.1s
BW06 Boulder Array 72.57 310 P **P** 17 57 31.3 -0.9
baz=68,SNR=31
BW06 Boulder Array 72.57 310 P **P** 17 57 31.1 -1.1
BW06 IAmb IAmb 17 57 38.7
comp=Z,41nm,0.9s
PD31 Pinedale Array 72.57 310 P **P** 17 57 31.1 -1.1
PD31 IAmb IAmb 17 57 38.7
comp=Z,38nm,0.9s
PDAR Pinedale Array 72.57 310 P **P** 17 57 31.4 -0.8
comp=Z,20nm,0.9s,baz=72,slow=6.6,SNR=35
PDAR PP **PP** 18 00 14.0 +0.8
comp=Z,1.2nm,0.9s,baz=69,slow=11,SNR=2.8
PDAR LR LR 18 28 20.5
comp=Z,280nm,18.0s,baz=75,slow=35
YNR Norris Junctio 72.60 312 P **P** 17 57 31.7 -0.7
O20A White River Ci 72.64 307 P **P** 17 57 32.1 -0.5
baz=68
O20A White River Ci 72.64 307 P **P** 17 57 31.6 -1.0
O20A IAmb IAmb 17 57 41.0
comp=Z,26nm,1.1s
H17A Grant Village 72.65 311 P **P** 17 57 29.7 -3.0
baz=68
YMR Madison River 72.80 312 P **P** 17 57 33.2 -0.4
FLWY Flagg Ranch 72.85 311 P **P** 17 57 33.4 -0.4
FLWY IAmb IAmb 17 57 41.6
comp=Z,20nm,0.8s
YHL Hebgen Lake 72.88 312 P **P** 17 57 34.0 -0.1
YHB Horse Butte 72.92 312 P **P** 17 57 34.7 +0.4
WALA Waterton Lakes 72.99 317 P **P** 17 57 34.1 -0.3
MOOW Moose Ponds 73.01 311 P **P** 17 57 34.5 -0.3
KURBB Kurchatov Arra 73.02 41 P **P** 17 57 34.6 +0.2
comp=Z,14nm,0.8s,baz=295,slow=6.5,SNR=39
KURK Kurchatov 73.04 41 *c i*P **P** 17 57 34.6 +0.1
KURK pmax pmax
comp=Z,33nm,1.7s
KURK Kurchatov 73.04 41 P **P** 17 57 34.5 +0.1
KURK IAmb IAmb 17 57 41.2
comp=Z,39nm,0.9s
ARSB Arslanbob 73.04 52 P **P** 17 57 34.5 -0.4
ARSB IAmb IAmb 17 57 54.6
comp=Z,64nm,1.4s
IMW Indian Meadow 73.08 311 P **P** 17 57 34.9 -0.3
IMW IAmb IAmb 17 57 42.6
comp=Z,28nm,0.8s
INK Inuvik 73.08 339 P **P** 17 57 34.0 -0.4
INK pmax pmax
comp=Z,26nm,1.1s
INK Inuvik 73.08 339 P **P** 17 57 34.0 -0.4
INK IAmb IAmb 17 57 41.0
comp=Z,26nm,1.1s
SNOW Snow King Moun 73.12 311 P **P** 17 57 34.9 -0.6
SNOW IAmb IAmb 17 57 43.4
comp=Z,44nm,0.9s
REDW Red Top Meadow 73.22 310 P **P** 17 57 35.1 -1.0
REDW IAmb IAmb 17 57 42.8
comp=Z,46nm,1.1s
FXWY Fox Creek 73.24 311 P **P** 17 57 35.2 -0.9
TPAW Teton Pass 73.24 311 P **P** 17 57 35.7 -0.6
TPAW IAmb IAmb 17 57 43.9
comp=Z,36nm,0.9s
TX31 Lajitas Ar. Si 73.25 295 P **P** 17 57 35.8 -0.5
TX31 IAmb IAmb 17 57 43.0
comp=Z,23nm,0.9s
TX32 Lajitas Array 73.25 295 P **P** 17 57 35.8 -0.5
TX32 IAmb IAmb 17 57 43.0
comp=Z,23nm,0.9s
TXAR Lajitas Array 73.25 295 P **P** 17 57 36.0 -0.3
TXAR Lajitas Array 73.25 295 P **P** 17 57 36.0 -0.3
comp=Z,9.1nm,0.9s,baz=88,slow=7.0,SNR=28
TXAR LR LR 18 27 25.8
comp=Z,66nm,18.4s,baz=0.0,slow=34
ANMO Albuquerque 73.28 301 P **P** 17 57 37.0 +0.5
baz=68
ANMO Albuquerque 73.28 301 *c i*P **P** 17 57 37.5 +1.0
ANMO pmax pmax
comp=Z,30nm,1.4s
ANMO Albuquerque 73.28 301 P **P** 17 57 36.2 -0.3
ANMO IAmb IAmb 17 57 44.3
comp=Z,23nm,1.0s
RDMU Red Mountain 73.41 307 P **P** 17 57 36.2 -1.0
AAK Ala-Archa 73.58 50 P **P** 17 57 39.0 +0.9
AAK Ala-Archa 73.58 50|| *i*P **P** 17 57 38.9 +0.9
AAK pmax pmax
comp=Z,30nm,2.5s
AAK Ala-Archa 73.58 50 P **P** 17 57 39.0 +0.9
comp=Z,3.1nm,0.7s,baz=198,slow=3.6,SNR=8.5
AAK Ala-Archa 73.58 50 P **P** 17 57 38.2 +0.1
DLMT Dillon 73.60 313 P **P** 17 57 37.0 -1.2
DLMT IAmb IAmb 17 57 45.6
comp=Z,35nm,1.1s
AHID Auburn Hatcher 73.62 310 P **P** 17 57 37.1 -1.3
AHID IAmb IAmb 17 57 46.9
comp=Z,58nm,1.1s
LPM Los Pinos Moun 73.66 300 P **P** 17 57 38.6 -0.1
MNTX Cornudas Mount 73.70 298 P **P** 17 57 37.9 -0.9
baz=67,SNR=17
MNTX Cornudas Mount 73.70 298 P **P** 17 57 37.8 -1.1
BNM Barren Site 73.72 300 P **P** 17 57 38.8 -0.3
JTMT Jette 73.73 316 P **P** 17 57 38.2 -0.7
JTMT IAmb IAmb 17 57 45.5
comp=Z,30nm,1.0s
MSO Missoula 73.88 315 P **P** 17 57 39.6 -0.1
baz=66,SNR=18
MSO Missoula 73.88 315 P **P** 17 57 39.5 -0.3
MVCO Mesa Verde 73.94 304 P **P** 17 57 40.4 0.0
baz=67,SNR=9.8
MVCO Mesa Verde 73.94 304 P **P** 17 57 40.4 0.0
LENM Lemitar 73.97 300 P **P** 17 57 39.5 -1.1
MCMT McKenzie Canyo 73.98 312 P **P** 17 57 39.1 -1.4
HWUT Hardware Ranch 74.39 309 P **P** 17 57 41.2 -1.7
TCUT Toone Canyon 74.48 308 P **P** 17 57 42.5 -1.0
SRU San Rafael Swe 74.66 306 P **P** 17 57 43.5 -1.0
SRU pmax pmax
comp=Z,23nm,0.9s
SRU San Rafael Swe 74.66 306 P **P** 17 57 43.5 -1.0
P17A Butcher Ranch, 74.67 307 P **P** 17 57 43.6 -0.9
JLU Jordanelle 74.72 308 P **P** 17 57 43.5 -1.4
TMUT Trail Mountain 75.07 307 P **P** 17 57 46.7 -0.3
NRN Naryn 75.08 51 P **P** 17 57 47.1 0.0
NRN pmax pmax
comp=Z,53nm,1.3s
NRN Naryn 75.08 51 P **P** 17 57 47.1 0.0
NRN IAmb IAmb 17 57 55.1
comp=Z,53nm,1.2s
ZAA0 Zalesovo Array 75.12 37 P **P** 17 57 46.4 -0.2
ZALV Zalesovo Beam 75.12 37 P **P** 17 57 47.0 +0.4
comp=Z,8.4nm,0.8s,baz=289,slow=6.9,SNR=26
ZALV PP **PP** 18 00 34.3 +0.1
comp=Z,1.7nm,0.7s,baz=304,slow=11,SNR=3.8
ZALV LR LR 18 32 03.8
comp=Z,377nm,18.5s,baz=317,slow=37
SPUT South Promonto 75.12 309 P **P** 17 57 46.2 -0.9
Q16A Castle Valley 75.20 306 P **P** 17 57 46.6 -1.0
EPYK Eagle Plains 75.21 339 P **P** 17 57 46.8 -0.2
121A Cookes Peak, D 75.24 299 P **P** 17 57 48.6 +0.7
baz=66,SNR=5.4
121A Cookes Peak, D 75.24 299 P **P** 17 57 47.4 -0.6
121A IAmb IAmb 17 57 56.6
comp=Z,32nm,0.9s
NEW Newport 75.25 317 P **P** 17 57 47.1 -0.5
baz=65,SNR=11
NEW Newport 75.25 317 P **P** 17 57 46.9 -0.7
NEW pmax pmax
comp=Z,19nm,1.0s
NEW Newport 75.25 317 P **P** 17 57 46.9 -0.7
NLU North Lily Min 75.42 308 P **P** 17 57 48.3 -0.6
BGU Big Grassy Mou 75.68 309 P **P** 17 57 48.6 -1.7
W18A Petrified Fore 75.69 302 P **P** 17 57 50.4 -0.1
baz=66,SNR=20
W18A Petrified Fore 75.69 302 P **P** 17 57 50.2 -0.2
W18A IAmb IAmb 17 57 57.8
comp=Z,32nm,1.1s
DUG Dugway, Tooele 75.83 308 P **P** 17 57 50.5 -0.6
baz=66
DUG Dugway, Tooele 75.83 308 P **P** 17 57 49.5 -1.7
DUG pmax pmax
comp=Z,10.0nm,0.9s
DUG Dugway, Tooele 75.83 308 P **P** 17 57 49.5 -1.7
KSH Kashi 75.85 53 P **P** 17 57 51.8 +0.5
KSH S **S** 18 07 29.0 -5.2
KSH SKS **SKSac** 18 07 54.8 -7.7
KSH SS **SS** 18 12 23.0 -2.6
KSH pmax pmax
comp=Z,73nm,1.1s
KSH pmax pmax
comp=Z,810nm,6.2s
KSH LR LR
comp=Z,430nm,6.0s
PLID Pearl Lake 75.91 314 P **P** 17 57 50.1 -1.5
PLID IAmb IAmb 17 57 58.6
comp=Z,25nm,1.0s
MSU Marysvale 76.08 306 P **P** 17 57 51.3 -1.4
MSU Marysvale 76.08 306 P **P** 17 57 51.3 -1.4
X18A Snowflake 76.09 302 P **P** 17 57 51.7 -1.1
C09A Chrisman Ranch 76.15 317 P **P** 17 57 51.5 -1.2
TARG Taragay, Kyrgy 76.19 50 P **P** 17 57 54.2 +0.6
TARG IAmb IAmb 17 58 01.7
comp=Z,35nm,1.2s
NIL Nilore 76.27 59 P **P** 17 57 54.0 +0.4
NIL pmax pmax
comp=Z,78nm,1.1s
NIL Nilore 76.27 59 P **P** 17 57 54.0 +0.4
GO04 Tololo Observa 76.50 225 P **P** 17 57 52.8 -2.2
MFID Camas Ranch 76.52 312 P **P** 17 57 54.4 -0.6
B08A Colville Reser 76.54 318 P **P** 17 57 54.3 -0.6
PDGK Podgornoye 76.64 48 P **P** 17 57 55.7 0.0
PDGK pmax pmax
comp=Z,30nm,1.1s
MAKZ Makanchi 76.69 44 P **P** 17 57 55.3 -0.5
MAKZ pmax pmax
comp=Z,25nm,1.0s
MAKZ Makanchi 76.69 44 P **P** 17 57 55.3 -0.5
MAKZ IAmb IAmb 17 58 02.3
comp=Z,25nm,1.0s
WUAZ Wupatki 76.74 303 P **P** 17 57 57.1 +0.6
baz=65,SNR=33
WUAZ Wupatki 76.74 303 P **P** 17 57 56.9 +0.5
WUAZ IAmb IAmb 17 58 05.0
comp=Z,46nm,0.9s
BMO Blue Mountains 76.85 314 P **P** 17 57 56.1 -0.7
BMO pmax pmax
comp=Z,13nm,1.0s
BMO Blue Mountains 76.85 314 P **P** 17 57 56.1 -0.7
319A Douglas 76.88 299 P **P** 17 57 56.0 -1.2
319A IAmb IAmb 17 58 05.2
comp=Z,47nm,1.0s
MK31 Makanchi Array 76.89 44 *i* P **P** 17 57 56.9 0.0
MK31 pmax pmax
comp=Z,25nm,1.0s
MK31 Makanchi Array 76.89 44 P **P** 17 57 56.9 0.0
MKAR Makanchi Array 76.89 44 P **P** 17 57 57.2 +0.3
comp=Z,20nm,1.0s,baz=297,slow=5.2,SNR=24
MKAR LR LR 18 34 55.9
comp=Z,318nm,18.1s,baz=294,slow=38
LLLB Lillooet 76.98 321 P **P** 17 57 56.8 -0.6
U15A North Rim 77.03 304 P **P** 17 57 57.9 -0.3
SZCU Shurtz Canyon 77.12 306 P **P** 17 57 57.0 -1.6
KNB Kanab 77.17 305 P **P** 17 57 57.2 -1.7
KNB pmax pmax
comp=Z,14nm,1.0s
KNB Kanab 77.17 305 P **P** 17 57 57.2 -1.7
X16A Lo Mia Camp, P 77.25 302 P **P** 17 57 58.6 -0.8
X16A IAmb IAmb 17 58 13.5
comp=Z,21nm,0.8s
ELK Elko 77.28 309 P **P** 17 57 58.9 -0.6
ELK pmax pmax
comp=Z,17nm,1.0s
ELK Elko 77.28 309 P **P** 17 57 58.9 -0.6
TRQA Tornquist 77.32 214 P **P** 17 57 57.8 -1.4
TRQA pmax pmax
comp=Z,34nm,1.2s
TRQA Tornquist 77.32 214 *e*P **P** 17 57 60.0 +0.7
TRQA Tornquist 77.32 214 *e*P **P** 17 57 60.0 +0.7
TRQA Tornquist 77.32 214 P **P** 17 57 57.8 -1.4
TRQA IAmb IAmb 17 58 04.5
comp=Z,34nm,1.2s
CCUT Cedar City 77.33 306 P **P** 17 57 59.3 -0.5
TOLK Toolik Lake Re 77.38 344 P **P** 17 57 59.7 +0.4
baz=43,SNR=8.3
TOLK Toolik Lake Re 77.38 344 P **P** 17 58 00.1 +0.9
TOLK IAmb IAmb 17 58 01.5
comp=Z,36nm,1.4s
DAWY Dawson 77.52 337 P **P** 17 58 00.8 +0.7
DAWY IAmb IAmb 17 58 07.6
comp=Z,36nm,1.1s
HAWA Hanford 77.55 316 P **P** 17 58 00.4 -0.2
HAWA IAmb IAmb 17 58 07.3
comp=Z,26nm,1.1s
TUC Tucson 77.65 300 P **P** 17 58 02.1 +0.6
baz=65
TUC Tucson 77.65 300 P **P** 17 58 01.3 -0.2
TUC pmax pmax
comp=Z,14nm,0.8s
TUC Tucson 77.65 300 P **P** 17 58 01.3 -0.2
EGAK Eagle 77.65 338 P **P** 17 58 00.9 +0.2
C06D Leavenworth 77.67 318 P **P** 17 58 00.5 -0.7
baz=62
E07A Sunnyside 77.67 316 P **P** 17 58 00.6 -0.7
FYU Fort Yukon 77.70 341 P **P** 17 58 00.7 -0.3
FYU IAmb IAmb 17 58 35.4
comp=Z,38nm,1.0s
LTY Liberty 77.85 317 P **P** 17 58 01.6 -0.7
WHY Whitehorse 77.93 333 P **P** 17 58 02.4 -0.1
WHY IAmb IAmb 17 58 09.9
comp=Z,28nm,1.2s
F07A Phinny Hill Vi 78.03 316 P **P** 17 58 02.3 -0.9
TIXI Tiksi 78.14 10 *ce*P **P** 17 58 03.4 +0.1
TIXI pmax pmax
comp=Z,20nm,1.2s
TIXI Tiksi 78.14 10 P **P** 17 58 02.7 -0.6
B05A Bryant 78.22 318 P **P** 17 58 04.7 +0.5
baz=61
PRP Porcupine Dome 78.51 340 P **P** 17 58 05.9 +0.1
PRP IAmb IAmb 17 58 14.1
comp=Z,49nm,0.9s
R11A Troy Canyon, C 78.57 307 P **P** 17 58 06.3 -0.3
baz=64,SNR=8.3
R11A Troy Canyon, C 78.57 307 P **P** 17 58 06.1 -0.5
COLD Coldfoot 78.59 343 P **P** 17 58 06.6 +0.6
Y14A Wickenburg 78.63 302 P **P** 17 58 07.3 +0.5
BMN Battle Mountai 78.77 310 P **P** 17 58 07.1 -0.6
BMN Battle Mountai 78.77 310 P **P** 17 58 07.1 -0.6
LON Longmire 78.77 317 P **P** 17 58 06.7 -0.7
LON pmax pmax
comp=Z,14nm,1.0s
LON Longmire 78.77 317 P **P** 17 58 06.7 -0.7
G06A Carlson Farm, 78.77 315 P **P** 17 58 07.0 -0.5
W13A Hualapai Mount 78.78 304 P **P** 17 58 08.0 +0.1
WVOR Wild Horse Val 78.80 312 P **P** 17 58 07.0 -0.8
WVOR pmax pmax
comp=Z,9.0nm,0.9s
WVOR Wild Horse Val 78.80 312 P **P** 17 58 07.0 -0.8
SKAG Skagway 78.82 332 P **P** 17 58 07.1 -0.2
SKAG IAmb IAmb 17 58 15.1
comp=Z,49nm,1.1s
HYT Haines Junctio 78.86 334 P **P** 17 58 06.9 -0.8
HYT IAmb IAmb 17 58 15.2
comp=Z,32nm,1.1s
SHPR Sheep Range 79.08 305 P **P** 17 58 08.3 -1.1
SCRK Sand Creek 79.10 339 P **P** 17 58 09.2 +0.2
SCRK IAmb IAmb 17 58 16.7
comp=Z,30nm,1.0s
D04E Lakebay 79.14 318 P **P** 17 58 09.1 -0.2
baz=61
D03D Eldon 79.16 318 P **P** 17 58 09.4 0.0
baz=61
HSIG 79.18 297 P **P** 17 58 07.8 -2.2
HSIG IAmb IAmb 17 58 17.4
comp=Z,29nm,0.9s
G05D Wamic, OR 79.19 316 P **P** 17 58 09.4 -0.3
baz=61
E04D Cinebar 79.32 317 P **P** 17 58 10.3 0.0
baz=61
214A Organ Pipe Nat 79.35 300 P **P** 17 58 11.3 +0.4
baz=64
DOT Dot Lake 79.35 338 P **P** 17 58 09.8 -0.4
DOT IAmb IAmb 17 58 18.4
comp=Z,57nm,0.9s
POKR Poker Plat Res 79.36 341 P **P** 17 58 10.6 +0.4
baz=44,SNR=13
IL31 79.45 340 P **P** 17 58 10.7 +0.1
ILAR Eielson Array 79.45 340 P **P** 17 58 11.1 +0.3
comp=Z,6.6nm,0.9s,baz=30,slow=5.2,SNR=53
ILAR PP **PP** 18 01 09.9 -0.4
comp=Z,1.0nm,1.0s,baz=54,slow=8.6,SNR=3.1
ILAR PKKPbc **PKKPbc** 18 17 00.8 +0.2
comp=Z,0.3nm,0.9s,baz=258,slow=4.9,SNR=4.2
ILAR LR LR 18 30 48.0
comp=Z,592nm,18.6s,baz=64,slow=34
I05D Terrebonne, OR 79.64 315 P **P** 17 58 12.1 -0.1
baz=61
PINE Pine Mountain 79.65 314 P **P** 17 58 11.8 -0.7
COLA College 79.66 340 *c i*P **P** 17 58 12.1 +0.3
COLA pmax pmax
comp=Z,22nm,1.4s
COLA College 79.66 340 P **P** 17 58 11.2 -0.6
TPNV Topopah Spring 79.67 306 P **P** 17 58 12.9 +0.2
baz=63
TCOL CIGO, UAF Yank 79.67 340 P **P** 17 58 12.0 +0.1
baz=44
113A Mohawk Valley, 79.72 302 P **P** 17 58 11.9 -0.8
MENT Mentasta 79.72 338 P **P** 17 58 12.3 +0.1
MENT IAmb IAmb 17 58 19.9
comp=Z,31nm,1.0s
HDA Harding Lake 79.73 340 P **P** 17 58 12.0 -0.2
baz=45,SNR=18
HDA Harding Lake 79.73 340 P **P** 17 58 12.2 0.0
HDA IAmb IAmb 17 58 19.5
comp=Z,47nm,1.0s
CCB Clear Creek Bu 79.81 340 P **P** 17 58 12.3 -0.4
CCB IAmb IAmb 17 58 20.2
comp=Z,56nm,1.0s
F04D Rainier, OR 79.82 317 P **P** 17 58 13.5 +0.4
baz=60
Y12C Blythe 79.85 303 P **P** 17 58 14.3 +0.9
baz=63
Y12C Blythe 79.85 303 P **P** 17 58 13.2 -0.3
KVN Kaiserville 80.00 309 P **P** 17 58 13.1 -1.4
KVN pmax pmax
comp=Z,13nm,1.1s
KVN Kaiserville 80.00 309 P **P** 17 58 13.1 -1.4
H04A Detroit Lake 80.00 315 P **P** 17 58 12.5 -1.7
WRH Wood River Hil 80.03 340 P **P** 17 58 14.1 +0.3
WRH IAmb IAmb 17 58 21.6
comp=Z,41nm,1.1s
J05D Fort Rock, OR 80.08 314 P **P** 17 58 15.0 +0.3
baz=61,SNR=17
TUQ Turquoise Moun 80.12 305 P **P** 17 58 15.1 0.0
baz=63

IRM	**Iron Mountain**	**80.12**	**303**	P	**P**	**17 58 15.6**	**+0.6**
	baz=63,SNR=9.3							
GMRC	**Granite Mounta**	**80.22**	**304**	P	**P**	**17 58 16.3**	**+0.7**
	baz=63							
BARN	**Barnard Glacie**	**80.27**	**336**	P	**P**	**17 58 15.9**	**+0.5**
BARN				lAmb	lAmb	17 58 22.9		
	comp=Z,34nm,1.0s							
PAX	**Paxson**	**80.28**	**338**	P	**P**	**17 58 15.2**	**-0.2**
PAX				pmax	pmax			
	comp=Z,20nm,1.0s							
PAX	**Paxson**	**80.28**	**338**	P	**P**	**17 58 15.2**	**-0.2**
FURC	**Furnace Creek,**	**80.32**	**306**	P	**P**	**17 58 16.0**	**0.0**
	baz=63							
NV11	**Mina Array Sit**	**80.33**	**308**	P	**P**	**17 58 15.4**	**-0.8**
MLY	**Manley**	**80.38**	**341**	P	**P**	**17 58 16.1**	**+0.3**
MLY				lAmb	lAmb	17 58 23.1		
	comp=Z,50nm,1.0s							
GLA	**Glamis**	**80.39**	**302**	P	**P**	**17 58 17.1**	**+0.6**
	baz=63							
GLA	**Glamis**	**80.39**	**302**	P	**P**	**17 58 16.7**	**+0.2**
GLA				pmax	pmax			
	comp=Z,27nm,1.0s							
GLA	**Glamis**	**80.39**	**302**	P	**P**	**17 58 16.6**	**+0.2**
H04D	**Lebanon**	**80.43**	**315**	P	**P**	**17 58 16.6**	**+0.2**
	baz=60							
NVAR	**Mina Array Bea**	**80.43**	**308**	P	**P**	**17 58 17.0**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=67,slow=5.0,SNR=3.4							
NVAR				PP	**PP**	**18 01 19.9**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=87,slow=6.8,SNR=2.6							
NVAR				LR	LR	18 33 01.1		
	comp=Z,232nm,19.0s,baz=48,slow=35							
BALM	**Baldy**	**80.53**	**336**	P	**P**	**17 58 16.8**	**+0.1**
BALM				lAmb	lAmb	17 58 24.6		
	comp=Z,40nm,0.8s							
MCARA	**McCarthy VSAT**	**80.54**	**336**	P	**P**	**17 58 17.0**	**+0.3**
MCARA				lAmb	lAmb	17 58 25.3		
	comp=Z,42nm,1.0s							
PAHR	**Pah Rah Range**	**80.57**	**310**	P	**P**	**17 58 17.1**	**-0.3**
BC3	**Big Chuckawall**	**80.58**	**303**	P	**P**	**17 58 17.4**	**-0.2**
	baz=63							
I04A	**Tendick Farm,**	**80.58**	**315**	P	**P**	**17 58 16.8**	**-0.6**
	baz=60							
J04D	**Umpqua Nationa**	**80.66**	**314**	P	**P**	**17 58 17.4**	**-0.5**
	baz=61							
HEC	**Hector,Ludlow**	**80.69**	**304**	P	**P**	**17 58 18.5**	**+0.4**
	baz=63,SNR=11							
K04D	**Chiloquin, OR**	**80.74**	**313**	P	**P**	**17 58 17.8**	**-0.4**
	baz=61							
VRDI	**Verde Repeater**	**80.80**	**336**	P	**P**	**17 58 18.0**	**-0.3**
DHY	**Denali Highway**	**80.82**	**339**	P	**P**	**17 58 18.0**	**-0.3**
DHY				lAmb	lAmb	17 58 26.3		
	comp=Z,31nm,0.9s							
GSC	**Goldstone, Bar**	**80.82**	**305**	P	**P**	**17 58 18.7**	**-0.1**
	baz=62							
GSC	**Goldstone, Bar**	**80.82**	**305**	P	**P**	**17 58 18.0**	**-0.8**
GSC				pmax	pmax			
	comp=Z,17nm,1.0s							
GSC	**Goldstone, Bar**	**80.82**	**305**	P	**P**	**17 58 18.0**	**-0.8**
MCK	**McKinley**	**80.82**	**340**	P	**P**	**17 58 17.7**	**-0.4**
MCK				pmax	pmax			
	comp=Z,31nm,1.0s							
MCK	**McKinley**	**80.82**	**340**	P	**P**	**17 58 17.7**	**-0.4**
MCK				lAmb	lAmb	17 58 25.0		
	comp=Z,31nm,1.0s							
BELC	**Belle Mtn. Jos**	**80.83**	**304**	P	**P**	**17 58 19.3**	**+0.4**
	baz=63,SNR=9.2							
MPMC	**Manual Prospec**	**80.96**	**306**	P	**P**	**17 58 20.0**	**+0.3**
	baz=62,SNR=11							
CRQM	**Cirque**	**81.01**	**336**	P	**P**	**17 58 20.0**	**+0.6**
CRQM				lAmb	lAmb	17 58 26.3		
	comp=Z,42nm,1.2s							
RND	**Reindeer**	**81.04**	**340**	P	**P**	**17 58 18.9**	**-0.5**
RND				pmax	pmax			
	comp=Z,21nm,1.0s							
RND	**Reindeer**	**81.04**	**340**	P	**P**	**17 58 18.9**	**-0.5**
SWSC	**Sam W. Stewart**	**81.16**	**302**	P	**P**	**17 58 21.0**	**+0.5**
	baz=63							
CWC	**Cottonwood Cre**	**81.21**	**306**	P	**P**	**17 58 21.1**	**+0.2**
	baz=62							
M04C	**Macdoel**	**81.21**	**313**	P	**P**	**17 58 20.3**	**-0.5**
	baz=60,SNR=12							
I03D	**Drain, OR**	**81.22**	**315**	P	**P**	**17 58 21.0**	**+0.4**
	baz=60							
L04D	**Klamath Falls**	**81.29**	**313**	P	**P**	**17 58 21.1**	**-0.2**
	baz=60,SNR=12							
I02D	**Swisshome**	**81.33**	**315**	P	**P**	**17 58 21.4**	**+0.2**
	baz=60							
XPFO	**Pion Flat**	**81.34**	**303**	P	**P**	**17 58 19.6**	**-2.1**
PFO	**Pinyon Flats O**	**81.34**	**303**	P	**P**	**17 58 22.4**	**+0.8**
	baz=62,SNR=8.8							
PFO	**Pinyon Flats O**	**81.34**	**303**	P	**P**	**17 58 19.9**	**-1.8**
PFO				pmax	pmax			
	comp=Z,20nm,1.2s							
PFO	**Pinyon Flats O**	**81.34**	**303**	P	**P**	**17 58 19.9**	**-1.8**
LRMC	**Laurel Mtn Rad**	**81.37**	**305**	P	**P**	**17 58 22.2**	**+0.4**
	baz=62,SNR=9.2							
HUMO	**Hull Mountain**	**81.52**	**314**	P	**P**	**17 58 21.3**	**-1.0**
IKP	**In-Ko-Pah, Jac**	**81.53**	**302**	P	**P**	**17 58 23.2**	**+0.5**
	baz=62							
KTH	**Kantishna Hill**	**81.55**	**341**	P	**P**	**17 58 21.5**	**-0.6**
KTH				lAmb	lAmb	17 58 28.6		
	comp=Z,40nm,1.0s							
MONP2	**Monument Peak**	**81.65**	**303**	P	**P**	**17 58 24.5**	**+1.1**
	baz=62,SNR=8.4							
WMQ	**Urumqi**	**81.67**	**45**	*e*P	**P**	**17 58 24.8**	**+1.7**
WMQ				pP	PcP	17 58 30.0	+1.1	
WMQ				pmax	pmax			
	comp=Z,25nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,190nm,6.5s							
WMQ				LR	LR			
	comp=Z,130nm,20.9s							
SCM	**Sheep Creek Mo**	**81.70**	**338**	P	**P**	**17 58 22.9**	**0.0**
SCM				pmax	pmax			
	comp=Z,42nm,1.0s							
SCM	**Sheep Creek Mo**	**81.70**	**338**	P	**P**	**17 58 22.9**	**0.0**
SCM				lAmb	lAmb	17 58 30.9		
	comp=Z,42nm,1.0s							
YBH	**Yreka Blue Hor**	**81.80**	**313**	P	**P**	**17 58 22.5**	**-1.4**
YBH				pmax	pmax			
	comp=Z,14nm,1.0s							
YBH	**Yreka Blue Hor**	**81.80**	**313**	P	**P**	**17 58 22.5**	**-1.4**
ISA	**Isabella, Lake**	**81.85**	**306**	P	**P**	**17 58 25.3**	**+1.0**
	baz=62,SNR=12							
ISA	**Isabella, Lake**	**81.85**	**306**	P	**P**	**17 58 24.6**	**+0.4**
ISA				pmax	pmax			
	comp=Z,34nm,1.3s							
ISA	**Isabella, Lake**	**81.85**	**306**	P	**P**	**17 58 24.6**	**+0.4**
ISA				lAmb	lAmb	17 58 34.3		
	comp=Z,34nm,1.2s							
J01E	**Myrtle Point**	**81.86**	**315**	P	**P**	**17 58 24.4**	**+0.4**
	baz=59,SNR=9.2							
EDW2	**Edwards Air Fo**	**81.88**	**305**	P	**P**	**17 58 25.4**	**+1.1**
	baz=62,SNR=7.9							
O03E	**Paynes Creek**	**81.91**	**311**	P	**P**	**17 58 23.9**	**-0.6**
	baz=60							
K02D	**Willamette Mer**	**81.92**	**314**	P	**P**	**17 58 24.6**	**+0.1**
	baz=60,SNR=16							
BFSC	**Mount Baldy Ra**	**81.94**	**304**	P	**P**	**17 58 24.4**	**-0.4**
	baz=62							
SML	**Sawmill**	**82.05**	**338**	P	**P**	**17 58 25.2**	**+0.4**
SML				lAmb	lAmb	17 58 34.7		
	comp=Z,48nm,1.3s							
M02C	**Callahan**	**82.06**	**313**	P	**P**	**17 58 24.6**	**-0.6**
	baz=60							
L02E	**Cave Junction**	**82.16**	**314**	P	**P**	**17 58 25.6**	**-0.1**
	baz=60							
N02D	**Trinity Center**	**82.17**	**312**	P	**P**	**17 58 25.4**	**-0.4**
	baz=60							
GLI	**Glacier Island**	**82.31**	**337**	P	**P**	**17 58 26.5**	**+0.5**
GLI				lAmb	lAmb	17 58 33.8		
	comp=Z,46nm,1.0s							
KNK	**Knik Glacier**	**82.38**	**338**	P	**P**	**17 58 26.2**	**-0.2**
PPLA	**Purkeypile**	**82.42**	**341**	P	**P**	**17 58 25.8**	**-1.0**
PPLA				lAmb	lAmb	17 58 33.0		
	comp=Z,36nm,1.2s							
PMR	**Palmer**	**82.46**	**339**	P	**P**	**17 58 26.4**	**-0.4**
PMR				pmax	pmax			
	comp=Z,35nm,1.1s							
PMR	**Palmer**	**82.46**	**339**	P	**P**	**17 58 26.4**	**-0.4**
PMR				lAmb	lAmb	17 58 33.8		
	comp=Z,35nm,1.1s							
O02D	**Mt. Diablo Mer**	**82.63**	**312**	P	**P**	**17 58 26.7**	**-1.5**
	baz=60							
KRMB	**Red Mountain**	**82.68**	**313**	P	**P**	**17 58 28.6**	**+0.1**
KRMB				lAmb	lAmb	17 58 36.4		
	comp=Z,43nm,1.1s							
KHMM	**Horse Mountain**	**82.89**	**313**	P	**P**	**17 58 30.2**	**+0.5**
SKT	**Skwentna**	**82.93**	**340**	P	**P**	**17 58 29.1**	**-0.2**
BLG	**Laguna Peak, P**	**83.02**	**305**	P	**P**	**17 58 30.5**	**+0.2**
	baz=61							
RC01	**Rabbit Creek A**	**83.03**	**338**	P	**P**	**17 58 29.6**	**-0.2**
RC01				lAmb	lAmb	17 58 37.0		
	comp=Z,26nm,1.0s							
SUA	**Susitna One**	**83.08**	**339**	P	**P**	**17 58 30.0**	**-0.2**
SUA				lAmb	lAmb	17 58 37.2		
	comp=Z,35nm,1.0s							
PAGB	**Antelope Grade**	**83.09**	**307**	P	**P**	**17 58 31.8**	**+1.1**
PAGB				lAmb	lAmb	17 58 40.1		
	comp=Z,21nm,1.0s							
PKM	**Mcpherson Peak**	**83.19**	**306**	P	**P**	**17 58 31.7**	**+0.3**
	baz=61,SNR=15							
KMRM	**Mail Ridge**	**83.21**	**312**	P	**P**	**17 58 32.5**	**+1.2**
KMRM				lAmb	lAmb	17 58 39.9		
	comp=Z,18nm,0.9s							
POO	**Poona**	**83.32**	**73**	*ex*	**P**	**17 58 31.0**	**-1.1**
KCPM	**Cahto Peak**	**83.40**	**311**	P	**P**	**17 58 33.0**	**+0.7**
KCPM				lAmb	lAmb	17 58 41.6		
	comp=Z,42nm,1.5s							
HOPS	**Hopland Field**	**83.41**	**311**	P	**P**	**17 58 32.5**	**+0.3**
SCZ2	**Santa Cruz Isl**	**83.49**	**305**	P	**P**	**17 58 32.7**	**-0.1**
	baz=61							
PLCA	**Paso Flores**	**83.74**	**217**	P	**P**	**17 58 32.8**	**-0.9**
	comp=Z,31nm,0.8s,baz=65,slow=5.5,SNR=58							
PLCA				LR	LR	18 35 21.5		
	comp=Z,439nm,18.1s,baz=60,slow=35							
PLCA	**Paso Flores**	**83.74**	**217**	*e*P	**P**	**17 58 33.9**	**+0.2**
PLCA	**Paso Flores**	**83.74**	**217**	*e*P	**P**	**17 58 33.9**	**+0.2**
PLCA	**Paso Flores**	**83.74**	**217**	P	**P**	**17 58 32.3**	**-1.4**
BILL	**Bilibino**	**84.33**	**358**	*c i*P	**P**	**17 58 36.4**	**+0.1**
BILL				*e*		17 58 41.8		
BILL				*e*		18 01 51.0		
BILL				*e*PPP	PPP	18 03 43.4		
BILL				pmax	pmax			
	comp=Z,30nm,1.8s							
BILL				MLR	MLR			
	comp=Z,232nm,17.0s							
BILL	**Bilibino**	**84.33**	**358**	P	**P**	**17 58 36.0**	**-0.3**
BILL				lAmb	lAmb	17 58 42.9		
	comp=Z,27nm,1.3s							
RSO	**Redoubt South**	**84.47**	**339**	P	**P**	**17 58 35.5**	**-1.9**
SVW2	**Sparrevohn**	**84.83**	**341**	P	**P**	**17 58 37.4**	**-1.7**
BOD	**Bodaibo**	**85.74**	**23**	*e*P	**P**	**17 58 43.2**	**-0.4**
BOD				pmax	pmax			
	comp=Z,36nm,1.2s							
TLY	**Talaya**	**85.83**	**32**	*e*P	**P**	**17 58 46.2**	**+2.0**
TLY				pmax	pmax			
	comp=Z,73nm,1.5s							
TLY				MLR	MLR			
	comp=Z,690nm,15.0s							
TLY	**Talaya**	**85.83**	**32**	P	**P**	**17 58 44.9**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=256,slow=5.1,SNR=4.5							
TLY	**Talaya**	**85.83**	**32**	lAmb	lAmb	17 58 52.0		
	comp=Z,57nm,1.7s							
GAMB	**Gambell**	**86.29**	**349**	P	**P**	**17 58 45.9**	**-0.3**
ZAK	**Zakamensk**	**86.51**	**33**	*e*P	**P**	**17 58 48.0**	**+0.3**
ZAK				pmax	pmax			
	comp=Z,16nm,1.3s							
DANN	**Dangsing**	**86.70**	**60**	*e*P	**P**	**17 58 49.1**	**-0.2**
	comp=Z,160nm,1.0s							
YAK	**Yakutsk**	**86.77**	**15**	*e*P	**P**	**17 58 48.8**	**+0.3**
YAK				*e*		17 58 51.4		
YAK				*e**PP	**pwP**	**17 58 54.2**	**+1.2**
YAK				*e*S	**SKSac**	**18 09 14.2**	**-1.4**
YAK				*e**SS	**SKKSac**	**18 09 23.4**	**-0.5**
YAK				*e*SSS	SSS	18 18 34.2		
YAK				pmax	pmax			
	comp=Z,20nm,0.8s							
YAK				pmax	pmax			
	comp=N,9.0nm,0.9s							
YAK				pmax	pmax			
	comp=E,8.0nm,1.0s							
YAK				pmax	pmax			
	comp=Z,219nm,4.3s							
YAK				pmax	pmax			
	comp=N,238nm,4.3s							
YAK				pmax	pmax			
	comp=E,146nm,4.6s							
YAK				smax	smax			
	comp=N,164nm,3.0s							
YAK				smax	smax			
	comp=E,90nm,3.5s							
YAK				MLR	MLR			
	comp=Z,342nm,18.0s							
YAK				MLR	MLR			
	comp=N,363nm,18.0s							
YAK				MLR	MLR			
	comp=E,117nm,17.0s							
YAK	**Yakutsk**	**86.77**	**15**	P	**P**	**17 58 48.1**	**-0.4**
KOLN	**Koldanda**	**86.87**	**60**	*e*P	**P**	**17 58 49.3**	**-0.7**
	comp=E,36nm,1.1s							
GKN	**Gorka**	**87.55**	**60**	*e*P	**P**	**17 58 52.6**	**-0.7**
	comp=E,46nm,0.9s							
DMN	**Daman**	**88.10**	**60**	*e*P	**P**	**17 58 55.6**	**-0.4**
	comp=E,47nm,0.8s							
KKN	**Kakani**	**88.14**	**60**	*e*P	**P**	**17 58 55.7**	**-0.5**
	comp=E,32nm,0.9s							
PKIN	**Phulchoki**	**88.34**	**60**	*e*P	**P**	**17 58 56.2**	**-1.0**
	comp=E,22nm,0.9s							
PKI	**Pulchoki**	**88.35**	**60**	*e*P	**P**	**17 58 56.2**	**-1.1**
	comp=E,5.0nm,1.0s							
GUN	**Gumba**	**88.54**	**59**	*e*P	**P**	**17 58 57.9**	**-0.3**
	comp=E,101nm,1.4s							
RAMN	**Ramite**	**89.58**	**60**	*e*P	**P**	**17 59 02.0**	**-1.0**
	comp=E,17nm,1.0s							
SONM	**Songino Array**	**89.73**	**34**	P	**P**	**17 59 04.0**	**+0.8**
SONM	**Songino Array**	**89.73**	**34**	P	**P**	**17 59 04.0**	**+0.8**
	comp=E,4.0nm,0.8s,baz=316,slow=5.8,SNR=19							
SONM				PP	**PP**	**18 02 34.7**	**+0.2**
	comp=E,4.0nm,1.0s,baz=307,slow=5.4,SNR=5.8							
SONM				LR	LR	18 41 41.0		
	comp=E,488nm,18.6s,baz=328,slow=37							
ULN	**Ulaanbaatar**	**90.03**	**33**	*c i*P	**P**	**17 59 05.1**	**+0.5**
ULN				pmax	pmax			
	comp=Z,15nm,1.1s							
ULN	**Ulaanbaatar**	**90.03**	**33**	P	**P**	**17 59 05.0**	**+0.4**
TAPN	**Taplejung**	**90.22**	**59**	*e*P	**P**	**17 59 05.8**	**-0.2**
	comp=E,11nm,1.0s							
ODAN	**Odare**	**90.23**	**59**	*e*P	**P**	**17 59 05.1**	**-0.9**
	comp=Z,17nm,1.1s							
LSA	**Lhasa**	**91.52**	**55**	P	**P**	**17 59 14.7**	**+2.4**
GTA	**Gaotai**	**91.63**	**43**	*e*P	**P**	**17 59 13.0**	**+0.8**
GTA				pP	pwP	17 59 21.3	+4.5	
GTA				sP	sP	17 59 24.5	+10	
GTA				pmax	pmax			
	comp=Z,10.0nm,1.2s							
GTA				pmax	pmax			
	comp=Z,170nm,8.6s							
GTA				LR	LR			
	comp=Z,210nm,10.0s							
GTA				LR	LR			
	comp=Z,230nm,11.0s							
GTA				LR	LR			
	comp=Z,200nm,13.7s							
ZEA	**Zeya**	**93.40**	**20**	*e*P	P	17 59 26.0	+6.2	
LZH	**Lanzhou**	**96.21**	**44**	*e*P	**P**	**17 59 33.8**	**+0.5**
LZH				pP	pwP	17 59 41.5	+3.6	
LZH				sP	sP	17 59 45.0	+9.4	
LZH				pmax	pmax			
	comp=Z,14nm,1.0s							
LZH				pmax	pmax			
	comp=Z,68nm,4.9s							
LZH				LR	LR			
	comp=Z,480nm,14.6s							
LZH				LR	LR			
	comp=Z,400nm,15.2s							
LZH				LR	LR			
	comp=Z,460nm,15.2s							
HHC	**Hu-ho-hao-te**	**97.29**	**36**	*e*P	Pdif	17 59 38.5	+0.4	
HHC				pmax	pmax			
	comp=Z,5.0nm,0.9s							
HHC				pmax	pmax			
	comp=Z,69nm,5.2s							
HHC				LR	LR			
	comp=Z,260nm,16.2s							
HHC				LR	LR			
	comp=Z,230nm,13.6s							
HHC				LR	LR			
	comp=Z,220nm,16.2s							
KLR	**Kul'dur**	**98.71**	**19**	*e*P	Pdif	17 59 45.3	+1.2	
KLR				pmax	pmax			
	comp=Z,10.0nm,1.8s							
PETK	**Petropavlovsk-**	**99.29**	**2**	LR	LR	18 39 02.3		
	comp=Z,170nm,18.6s,baz=60,slow=32							
KMI	**Kunming**	**102.51**	**53**	P	**Pdif**	**18 00 01.3**	**-0.5**
KMI				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KMI				LR	LR			
	comp=Z,230nm,12.3s							
KMI				LR	LR			
	comp=Z,270nm,22.9s							
KMI				LR	LR			
	comp=Z,200nm,17.1s							
WHN	**Wuhan**	**106.36**	**41**	P	**PP**	**18 04 48.3**	**+6.2**
WHN	**Wuhan**	**106.36**	**41**	Pdif	**Pdif**	**18 00 21.8**	**+3.3**
PANO	**Nakornpanom**	**108.83**	**58**	P	**Pdif**	**18 00 40.9**	**+11**
QSPA	**South Pole Qui**	**117.78**	**180**		**PKiKP**	**18 04 51.9**	**+1.6**
TAOE	**Nuku Hiva Isla**	**122.25**	**277**	*e*LR	LR	18 42 39.5		
	comp=Z,339nm,27.4s							
VNDA	**Vanda**	**130.27**	**180**	PKP	**PKiKP**	**18 05 14.5**	**-0.3**
	comp=Z,4.8nm,0.9s,baz=302,slow=3.2,SNR=7.6							
PPT2	**Papeete2**	**134.22**	**272**	*e*LR	LR	18 48 05.0		
	comp=Z,247nm,26.0s							
TBI	**Tubuai**	**136.01**	**264**	*e*LR	LR	18 49 15.5		
	comp=Z,213nm,30.0s							
FITZ	**Fitzroy Crossi**	**145.46**	**81**	PKPbc	**PKPdf**	**18 05 42.2**	**-1.2**
	comp=Z,24nm,0.8s,baz=334,slow=2.8,SNR=7.1							
FITZ	**Fitzroy Crossi**	**145.46**	**81**		**PKPab**	**18 05 44.2**	**+0.6**
AFI	**Afiamalu**	**151.73**	**294**	PKIKP	**PKPdf**	**18 05 53.2**	**-0.6**
AFI						18 06 06.0		
AFI	**Afiamalu**	**151.73**	**294**		**PKPdf**	**18 05 53.2**	**-0.6**
AFI					**PKPab**	**18 06 06.0**	**-2.9**
WRA	**Warramunga Arr**	**153.75**	**79**	PKPbc	**PKPbc**	**18 06 03.5**	**-0.9**
	comp=Z,2.9nm,0.8s,baz=298,slow=1.8,SNR=6.7							
ASAR	**Alice Springs**	**154.59**	**87**	PKP	**PKPdf**	**18 05 57.4**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=320,slow=0.8,SNR=9.4							
ASAR				PKPbc	**PKPbc**	**18 06 07.1**	**+0.9**
	comp=Z,7.0nm,0.9s,baz=299,slow=1.5,SNR=17							
STKA	**Stephens Creek**	**162.06**	**108**	PKP	**PKPdf**	**18 06 06.1**	**-0.3**
	comp=Z,2.0nm,0.9s,baz=315,slow=2.9,SNR=2.5							
STKA				PKPab	**PKPab**	**18 06 52.0**	**-0.9**
	comp=Z,10nm,0.8s,baz=274,slow=5.7,SNR=12							
STKA	**Stephens Creek**	**162.06**	**108**		**PKPab**	**18 06 53.1**	**+0.2**
CTA	**Charters Tower**	**163.86**	**65**	PKP	**PKPdf**	**18 06 09.9**	**+1.4**
	comp=Z,5.2nm,0.9s,baz=233,slow=2.5,SNR=6.8							
CTA				PKPab	**PKPab**	**18 07 01.2**	**+0.2**
	comp=Z,3.7nm,0.9s,baz=294,slow=7.0,SNR=4.7							
DZM	**Mont Dzumac**	**172.84**	**323**	*e*LR	LR	19 06 15.5		
	comp=Z,359nm,25.1s							

IDC 27 17:46:22.8±2.8, 5°37.N×93°22.E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.3/63, mbtmp3.6/4, ML3.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/46, Error ellipse: s-maj=109.8km s-min=30.4km az=63.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.15**	**23**	Pn	Pn	17 49 44.6	-0.2
	0.1nm,0.3s,baz=224,slow=14,SNR=2.7						
H08S3	**Diego Garcia H**	**24.39**	**238**	T	T	18 16 23.3	
	baz=60,slow=75,SNR=76						
H08S2	**Diego Garcia H**	**24.39**	**238**	T	T	18 16 32.7	
	baz=60,slow=75,SNR=59						
H08S1	**Diego Carcia H**	**24.41**	**238**	T	T	18 16 24.9	
	baz=60,slow=75,SNR=25						
WSAR	**Wadi Sarin**	**37.77**	**302**	LR	LR	18 06 51.0	
	comp=Z,62nm,21.1s,baz=26,slow=32						
MKAR	**Makanchi Array**	**42.33**	**349**	P	P	17 54 18.4	-0.1
	0.6nm,0.6s,baz=168,slow=9.3,SNR=6.8						
H01W3	**Cape Leeuwin H**	**44.63**	**155**	T	T	18 40 53.1	
	baz=331,slow=76,SNR=4.5						
H01W2	**Cape Leeuwin H**	**44.64**	**155**	T	T	18 40 53.6	
	baz=331,slow=76,SNR=4.3						
H01W1	**Cape Leeuwin H**	**44.65**	**155**	T	T	18 40 50.9	
	baz=331,slow=76,SNR=4.9						
ZALV	**Zalesovo Beam**	**48.91**	**353**	P	P	17 55 10.3	-0.1
	1.5nm,0.4s,baz=182,slow=6.1,SNR=7.8						
ASAR	**Alice Springs**	**49.07**	**128**	P	P	17 55 12.1	-0.1
	0.3nm,0.8s,baz=301,slow=8.5,SNR=4.1						

IDC 27 17:52:11.0±1.2, 0.°65N×124.°93E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.6/57, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=66.2km s-min=20.0km az=74.0
NEIC 27 17:52:16.5±3.0, 0.°85N±0.°07×125.°43E±0.°06, h38km±8km, mb4.3/6
ISCJB 27 17:52:18.1±0.5, 0.°83N±0.°05×125.°42E±0.°04, h73km, mb3.9/5, Error ellipse: s-maj=7.7km s-min=4.6km az=22.6
DJA 27 17:52:20.3±0.8, 1°N±3°×12°5E±°, h25km±8km, M4.1/19, mb4.3/7, mB4.3/1, MLv4.0/19, Mw(mB)3.4/1
ISC 27 17:52:19.7±0.7, 0.76N±0.°06×125.°39E±0.°04, h73km, n33, σ1°45/38, mb3.9/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.42**	**262**	P	**Pn**	**17 52 43.9**	**+0.2**
KMSI				S	**Sn**	**17 53 02.4**	**+0.7**
TNTI	**Ternate**	**1.98**	**90**	P	**Pn**	**17 52 52.5**	**+1.4**
TNTI				S	**Sn**	**17 53 17.6**	**+2.5**
TNTI	**Ternate**	**1.98**	**90**	Pn	**Pn**	**17 52 48.3**	**-2.8**
LBMI	**Labuha**	**2.53**	**123**	P	**Pn**	**17 52 59.8**	**+1.2**
LBMI				S	**Sn**	**17 53 29.5**	**+1.1**
SANI	**Sanana**	**2.86**	**168**	P	**Pn**	**17 53 01.6**	**-1.4**
SANI				S	**Sn**	**17 53 33.0**	**-3.3**
LUWI	**Luwuk**	**3.17**	**236**	P	**Pn**	**17 53 08.4**	**+1.1**
LUWI	**Luwuk**	**3.17**	**236**		**Pn**	**17 53 07.9**	**+0.6**
MRSI	**Marisa**	**3.46**	**265**	P	**Pn**	**17 53 12.0**	**+0.8**
APSI	**Ampana**	**4.09**	**246**	P	**Pn**	**17 53 21.4**	**+1.6**
NLAI	**Namlea**	**4.33**	**157**	P	**Pn**	**17 53 22.8**	**-0.2**
AAI	**Ambon**	**5.24**	**148**	P	**Pn**	**17 53 36.5**	**+1.0**
	53nm,0.6s,0.3nm						
MSAI	**Masohi**	**5.40**	**139**	P	**Pn**	**17 53 38.9**	**+1.2**
	11nm,0.7s,259nm0.1nm						
MSAI				S	**Sn**	**17 54 40.4**	**+1.8**
	11nm,0.7s,259nm0.1nm						
**MPSI

n95,σ0$60/121, **Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.17**	**98**		**Pg**	**17 55 39.9**	**+0.2**
WCHM	**Chimney Peak**	**0.26**	**182**		**Pg**	**17 55 41.3**	**0.0**
JRC2	**Joshua Ridge**	**0.26**	**128**		**Sg**	**17 55 45.5**	**+0.7**
WCSM	**Coso Springs S**	**0.27**	**116**		**Pg**	**17 55 41.6**	**+0.2**
VPEM	**Volcano Peak E**	**0.28**	**134**		**Pg**	**17 55 42.0**	**+0.3**
CWC	**Cottonwood Cre**	**0.30**	**358**	P	**Pg**	**17 55 41.9**	**-0.1**
	baz=178						
CWC				S	**Sg**	**17 55 45.9**	**-0.1**
	baz=178						
CWC	**Cottonwood Cre**	**0.30**	**358**		**Pg**	**17 55 41.9**	**-0.1**
CWC					**Sg**	**17 55 46.0**	**0.0**
DAC	**Darwin (Calif)**	**0.40**	**70**		**Pb**	**17 55 46.6**	**+0.5**
DAC				Sg	**Sb**	**17 55 52.1**	**-0.6**
WWPM	**Walker Pass**	**0.41**	**183**		**Pg**	**17 55 44.1**	**0.0**
TOW	**Tower One**	**0.41**	**144**		**Pg**	**17 55 44.6**	**+0.4**
CGO	**Cerro Gordo**	**0.46**	**27**		**Pg**	**17 55 45.1**	**0.0**
CGO					**Sg**	**17 55 51.9**	**+0.8**
WORM	**Onyx Ranch**	**0.47**	**198**		**Pg**	**17 55 45.2**	**-0.1**
MPMC	**Manual Prospec**	**0.47**	**100**	P	**Pg**	**17 55 45.3**	**0.0**
	baz=280,SNR=205						
MPMC				S	**Sg**	**17 55 51.8**	**+0.3**
	baz=280						
MPMC	**Manual Prospec**	**0.47**	**100**		**Pg**	**17 55 45.4**	**0.0**
MPMC					**Sg**	**17 55 52.1**	**+0.5**
WHFM	**Hanning Flat**	**0.50**	**207**		**Pg**	**17 55 46.0**	**+0.1**
WASM	**Alta Sierra Ca**	**0.57**	**225**		**Pg**	**17 55 47.3**	**+0.1**
SPG2	**Springville 2**	**0.57**	**276**		**Pg**	**17 55 47.0**	**-0.2**
SPG2					**Sg**	**17 55 54.8**	**+0.1**
ISA	**Isabella, Lake**	**0.58**	**215**	P	**Pg**	**17 55 47.4**	**-0.1**
	baz=34,SNR=32						
ISA				S	**Sg**	**17 55 55.3**	**+0.3**
	baz=34						
ISA	**Isabella, Lake**	**0.58**	**215**		**Pg**	**17 55 47.4**	**-0.1**
LRMC	**Laurel Mtn Rad**	**0.73**	**155**	P	**Pg**	**17 55 50.0**	**-0.3**
	baz=335,SNR=20						
LRMC				S	**Sg**	**17 55 59.9**	**+0.2**
	baz=335						
WOFM	**Oak Flat**	**0.80**	**221**		**Pg**	**17 55 51.5**	**-0.1**
CCCA	**Chr Cany lake**	**0.84**	**137**		**Pg**	**17 55 52.7**	**+0.3**
TMO	**Tin Mountain**	**0.85**	**39**		**Pg**	**17 55 52.2**	**-0.3**
VES	**Vestal, Richgr**	**0.88**	**250**	P	**Pg**	**17 55 53.1**	**0.0**
	baz=70						
VES				S	**Sg**	**17 56 05.3**	**+0.7**
	baz=70						
VES	**Vestal, Richgr**	**0.88**	**250**		**Pg**	**17 55 53.2**	**0.0**
VES					**Sg**	**17 56 04.6**	**+0.1**
TIN	**Tinemaha, Big**	**0.92**	**352**	P	**Pg**	**17 55 53.6**	**-0.3**
	baz=172,SNR=12						
TIN				S	**Sg**	**17 56 06.5**	**+0.6**
	baz=172						
TIN	**Tinemaha, Big**	**0.92**	**352**		**Pg**	**17 55 53.6**	**-0.3**
GRAC	**Grapevine Rang**	**1.02**	**33**	P	**Pg**	**17 55 54.9**	**-0.9**
	baz=214						
GRAC				S	**Sg**	**17 56 09.6**	**+0.5**
	baz=214						
FURC	**Furnace Creek,**	**1.02**	**71**	P	**Pg**	**17 55 55.7**	**-0.1**
	baz=252,SNR=23						
FURC				S	**Sg**	**17 56 09.8**	**+0.6**
	baz=252						
GVN	**Grapevine**	**1.03**	**34**		**Pg**	**17 55 55.9**	**-0.2**
TEJ	**El Tejon**	**1.04**	**209**		**Pg**	**17 55 55.7**	**-0.5**
TEJ					**Sg**	**17 56 09.5**	**-0.3**
VOG	**Valley Oaks Go**	**1.08**	**280**	P	**Pg**	**17 55 56.5**	**-0.4**
	baz=99						
VOG				S	**Sb**	**17 56 11.8**	**-0.2**
	baz=99						
VOG	**Valley Oaks Go**	**1.08**	**280**		**Pg**	**17 55 56.6**	**-0.3**
FMT	**Funeral Mounta**	**1.15**	**64**		**Pg**	**17 55 57.6**	**-0.6**
BAKC	**Calstate**	**1.16**	**227**		**Pg**	**17 55 57.4**	**-1.2**
ARVC	**Arvin**	**1.19**	**212**	S	**Sg**	**17 56 14.6**	**+0.1**
	baz=31						
EDW2	**Edwards Air Fo**	**1.26**	**177**	P	**Pg**	**17 55 59.5**	**-1.0**
	baz=357,SNR=35						
EDW2				S	**Sg**	**17 56 15.8**	**-0.9**
	baz=357						
EDW2	**Edwards Air Fo**	**1.26**	**177**		**Pg**	**17 55 59.4**	**-1.0**
EDW2					**Sg**	**17 56 16.0**	**-0.8**
GSC	**Goldstone, Bar**	**1.32**	**129**	P	**Pg**	**17 56 00.8**	**-0.9**
	baz=310,SNR=34						
GSC				S	**Sg**	**17 56 19.0**	**+0.2**
	baz=310						
GSC	**Goldstone, Bar**	**1.32**	**129**		**Pg**	**17 56 00.7**	**-0.9**
HYS	**Haystack Butte**	**1.34**	**162**		**Pg**	**17 56 01.9**	**0.0**
SHOC	**Shoshone, Teco**	**1.47**	**99**	Pb	**Pn**	**17 56 03.9**	**+0.3**
	baz=280						
SHOC				S	**Sb**	**17 56 23.5**	**+0.2**
	baz=280						
RRX	**Edison Barstow**	**1.54**	**145**	Pb	**Pn**	**17 56 04.8**	**+0.3**
	baz=326						
FRI	**Friant**	**1.57**	**303**		**Pn**	**17 56 04.6**	**-0.3**
MLAC	**Mammoth, Mammo**	**1.61**	**338**	Pb	**Pn**	**17 56 06.3**	**+0.6**
	baz=157,SNR=8.5						
MLAC				S	**Sb**	**17 56 27.8**	**+0.3**
	baz=157						
OSI	**Osito Audit: C**	**1.62**	**200**	S	**Sn**	**17 56 27.3**	**+0.4**
	baz=19						
OSI	**Osito Audit: C**	**1.62**	**200**	Pn	**Pn**	**17 56 05.8**	**+0.2**
OMMB	**Old Mammoth Mi**	**1.65**	**333**		**Pn**	**17 56 06.6**	**+0.3**
MCSM	**Casa Diablo Ho**	**1.65**	**336**		**Pb**	**17 56 07.1**	**-0.3**
TPNV	**Topopah Spring**	**1.67**	**61**	P	**Pn**	**17 56 06.3**	**-0.1**
	baz=242,SNR=41						
TPNV				S	**Sb**	**17 56 29.5**	**+0.4**
	baz=242						
TPNV	**Topopah Spring**	**1.67**	**61**		**Pn**	**17 56 06.3**	**-0.1**
MDPB	**Devils Postpil**	**1.69**	**332**		**Pn**	**17 56 07.5**	**+0.6**
SMMC	**Simmler**	**1.77**	**243**	P	**Pn**	**17 56 08.2**	**+0.4**
	baz=62,SNR=7.8						
SMMC				S	**Sb**	**17 56 32.4**	**+0.4**
	baz=62						
PAGB	**Antelope Grade**	**1.82**	**258**		**Pn**	**17 56 08.9**	**+0.5**
MMIM	**Miami Mountain**	**1.85**	**314**		**Pb**	**17 56 10.2**	**-0.6**
TUQ	**Turquoise Moun**	**1.88**	**111**	P	**Pn**	**17 56 08.5**	**-0.8**
	baz=293						
TUQ				Sb	**Sg**	**17 56 36.9**	**+0.3**
	baz=293						
PKM	**Mcpherson Peak**	**1.90**	**229**	Pb	**Pn**	**17 56 10.5**	**+0.9**
	baz=48						
PKM				S	**Sn**	**17 56 35.0**	**+0.9**
	baz=48						
MWC	**Mount Wilson**	**1.92**	**180**		**Pb**	**17 56 11.3**	**-0.6**
HEC	**Hector,Ludlow**	**1.93**	**132**	P	**Pn**	**17 56 09.1**	**-0.8**
	baz=313						
HEC				Sb	**Sg**	**17 56 38.2**	**+0.1**
	baz=313						
BFSC	**Mount Baldy Ra**	**1.93**	**170**	Sb	**Sg**	**17 56 38.3**	**+0.1**
	baz=350						
PASC	**Pasadena Art C**	**1.97**	**183**		**Pb**	**17 56 12.7**	**0.0**
BBRC	**Big Bear Solar**	**2.10**	**153**	Sb	**Sg**	**17 56 43.4**	**-0.3**
	baz=334						
BLG	**Laguna Peak, P**	**2.19**	**202**	Sb	**Sg**	**17 56 46.3**	**-0.3**
	baz=22						
PMPB	**Monarch Peak**	**2.21**	**273**		**Pn**	**17 56 14.2**	**+0.3**
NV11	**Mina Array Sit**	**2.29**	**358**		**Pn**	**17 56 15.8**	**+0.9**
SHPR	**Sheep Range**	**2.37**	**80**		**Pn**	**17 56 16.6**	**+0.4**
GMRC	**Granite Mounta**	**2.38**	**124**	P	**Pn**	**17 56 14.9**	**-1.4**
	baz=305						
GMRC				Sb	**Sg**	**17 56 51.7**	**-1.2**
	baz=305						
RYN	**Ryan**	**2.51**	**352**		**Pn**	**17 56 17.8**	**-0.2**
WAKR	**Walker**	**2.60**	**336**		**Pn**	**17 56 19.5**	**+0.2**
MURC	**Murrieta**	**2.64**	**164**	Sb	**Sg**	**17 56 60.0**	**-1.0**
	baz=344						
CMB	**Columbia Colle**	**2.65**	**316**		**Pn**	**17 56 20.0**	**+0.2**
CIS	**Catalina Islan**	**2.75**	**186**	Sb	**Sg**	**17 57 02.9**	**-1.6**
	baz=5.8						
SAO	**San Andreas Ge**	**2.80**	**284**		**Pn**	**17 56 21.6**	**-0.2**
PFO	**Pinyon Flats O**	**2.85**	**152**	Sb	**Sb**	**17 57 04.9**	**+1.9**
	baz=333						
PFO	**Pinyon Flats O**	**2.85**	**152**	Pn	**Pn**	**17 56 22.7**	**+0.1**
XPFO	**Pion Flat**	**2.85**	**152**	Pn	**Pn**	**17 56 22.6**	**-0.1**
KVN	**Kaiserville**	**2.90**	**359**	Pn	**Pn**	**17 56 23.3**	**-0.2**
R11A	**Troy Canyon, C**	**2.96**	**41**	Sb	**Sg**	**17 57 09.7**	**-1.7**
	baz=223						
R11A	**Troy Canyon, C**	**2.96**	**41**		**Pn**	**17 56 24.7**	**+0.5**
YERR	**Yerington**	**2.99**	**342**		**Pn**	**17 56 25.1**	**+0.5**
SNCC	**San Nicolas Is**	**3.13**	**203**	Pn	**Pn**	**17 56 27.3**	**+1.0**
PNTR	**Pine Nut**	**3.18**	**338**		**Pn**	**17 56 26.9**	**-0.5**
DPP	**Dos Picos Cty**	**3.27**	**163**		**Pn**	**17 56 29.2**	**+0.8**
RUBR	**Rubicon Trail**	**3.34**	**331**		**Pn**	**17 56 30.1**	**+0.5**
W13A	**Hualapai Mount**	**3.56**	**106**		**Pn**	**17 56 32.7**	**+0.2**
AFDM	**Forest Hills D**	**3.63**	**321**		**Pn**	**17 56 32.6**	**-0.7**
BAR	**Barrett**	**3.64**	**161**	Pn	**Pn**	**17 56 33.9**	**+0.4**
PAHR	**Pah Rah Range**	**3.71**	**344**	Pn	**Pn**	**17 56 33.0**	**-1.5**
Y12C	**Blythe**	**3.76**	**128**	Pn	**Pn**	**17 56 34.1**	**-0.9**
PSUT	**Pine Spring**	**4.12**	**53**		**Pn**	**17 56 39.9**	**-0.3**
BEKR	**Beckworth**	**4.14**	**335**		**Pn**	**17 56 40.6**	**+0.2**
HOPS	**Hopland Field**	**4.89**	**307**	Pn	**Pn**	**17 56 51.0**	**+0.5**
MTPU	**Mount Pierson**	**5.07**	**66**		Pn	17 56 48.4	-5.0
ELK	**Elko**	**5.10**	**25**	Pn	**Pn**	**17 56 54.9**	**+1.2**
MOD	**Modoc Plateau**	**6.01**	**344**		**Sn**	**17 58 15.4**	**0.0**

IDC 27 17:59:31.1±1.8, 10°72.S×119°.63E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.5/41, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=48.7km s-min=23.5km az=40.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.00**	**83**	Pn	Pn	18 00 34.8	+1.0
BATI				Sn	Sn	18 01 21.2	-0.3
FITZ	**Fitzroy Crossi**	**9.36**	**142**	Pn	Pn	18 01 47.5	+0.1
	0.3nm,0.3s,baz=322,slow=11,SNR=23						
FITZ				Sn	Sn	18 03 29.9	-3.5
	1.3nm,0.3s,baz=185,slow=21,SNR=11						
WRA	**Warramunga Arr**	**16.88**	**125**	Pn	Pn	18 03 27.2	-1.7
	0.3nm,0.3s,baz=297,slow=14,SNR=9.9						
WRA				Sn	Sn	18 06 26.1	-11
	0.3nm,0.3s,baz=300,slow=3.0,SNR=6.1						
ASAR	**Alice Springs**	**18.73**	**135**	P	Pn	18 03 52.2	+0.3
	0.3nm,0.3s,baz=320,slow=13,SNR=22						
ASAR				S	Sn	18 07 14.6	-7.5
	0.2nm,0.3s,baz=315,slow=26,SNR=5.0						
MKAR	**Makanchi Array**	**66.26**	**333**	P	P	18 10 21.0	-0.1
	0.3nm,0.7s,baz=144,slow=7.6,SNR=3.3						

*ISCJB **27** 18:12:50.0±0.5, 51°.84N±0°.09×31°.06W±0°.10, h10km, mb3.6/14, MS3.5/3, Error ellipse: s-maj=13.0km s-min=8.5km az=13.2*
*IDC **27** 18:12:50.5±1.1, 51°.85N×31°.02W, h0km, mb3.6/14, mb1 3.8/15, mb1mx3.7/49, mbtmp3.7/15, ML4.5/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/40, Error ellipse: s-maj=33.7km s-min=15.6km az=19.0*
*NEIC **27** 18:12:52.6±1.5, 51°.9N±0°.1×31°.0W±0°.1, h16km±5km, mb4.9/7*

ISC 27 18:12:51.7±0.6, 51°.9N±0°.1×30°.99W±0°.08, h10km, n28, σ0$88/25, mb3.8/15, MS3.5/3, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVI	**Ivigtut**	**13.27**	**321**	Pn	**Pn**	**18 15 58.4**	**-1.5**
DSB	**Dublin**	**15.02**	**75**	Pn	**Pn**	**18 16 22.0**	**-1.7**
DSB				IAmb	IAmb	18 16 22.3	
	comp=Z,234nm,1.7s						
ESK	**Eskdalemuir**	**16.80**	**67**		**P**	**18 16 49.0**	**0.0**
ESK				IAmb	IAmb	18 16 55.7	
	comp=Z,122nm,1.4s						
EKA	**Eskdalemuir Ar**	**16.83**	**67**	Pn	**P**	**18 16 49.5**	**+0.3**
	baz=269,slow=9.9,SNR=11						
DRLN	**Deer Lake**	**17.02**	**272**	P	**P**	**18 16 52.6**	**+1.3**
DRLN				IAmb	IAmb	18 17 07.5	
	comp=Z,75nm,1.8s						
SUMG	**Summit**	**21.04**	**354**	P	**P**	**18 17 35.6**	**-0.1**
SCHQ	**Schefferville**	**21.45**	**292**	P	**P**	**18 17 39.5**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=94,slow=5.6,SNR=5.2						
SCHQ	**Schefferville**	**21.45**	**292**	P	**P**	**18 17 40.1**	**+0.2**
SCHQ				IAmb	IAmb	18 17 51.9	
	comp=Z,39nm,1.8s						
ESDC	**Sonseca Array**	**22.30**	**112**	P	**P**	**18 17 48.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=297,slow=14,SNR=3.1						
FRB	**Frobisher Bay**	**22.88**	**316**	P	**P**	**18 17 55.0**	**0.0**
	comp=Z,1.1nm,0.6s,baz=99,slow=12,SNR=3.6						
NOA	**NORSAR Array B**	**24.64**	**52**	LR	LR	18 25 44.7	
	comp=Z,56nm,19.4s,baz=260,slow=31						
CLL	**Collm**	**27.03**	**74**	*eP*	**P**	**18 18 34.0**	**+0.3**
FINES	**FINESS Array B**	**31.78**	**50**	LR	LR	18 30 31.4	
	comp=Z,105nm,18.3s,baz=224,slow=33						
AKASG	**Malin Array Be**	**36.74**	**67**	P	**P**	**18 19 58.3**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=302,slow=8.7,SNR=3.0						
SACV	**Santiago Islan**	**37.28**	**168**	P	**P**	**18 20 03.3**	**-0.4**
SACV				IAmb	IAmb	18 20 23.8	
	comp=Z,193nm,1.6s						
YKA	**Yellowknife Ar**	**43.37**	**318**	P	**P**	**18 20 54.5**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=60,slow=8.7,SNR=7.7						
KIRV	**Kirov**	**43.74**	**48**	LR	LR	18 37 57.9	
	comp=Z,121nm,18.5s,baz=239,slow=34						
BRTR	**Keskin Array B**	**45.23**	**79**	P	**P**	**18 21 09.4**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=305,slow=5.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**46.71**	**134**	P	**P**	**18 21 21.9**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=336,slow=8.8,SNR=5.3						
GRGR	**Grenville**	**46.73**	**223**	P	**P**	**18 21 19.6**	**-1.3**
INK	**Inuvik**	**47.29**	**330**	P	**P**	**18 21 25.4**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=22,slow=11,SNR=2.7						
PDAR	**Pinedale Array**	**51.59**	**293**	P	**P**	**18 21 58.5**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=60,slow=8.8,SNR=3.8						
AKTO	**Aktubinsk**	**52.41**	**54**	P	**P**	**18 22 04.6**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=293,slow=13,SNR=2.7						
ILAR	**Eielson Array**	**53.64**	**331**	P	**P**	**18 22 13.3**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=30,slow=7.5,SNR=3.4						
BVAR	**Borovoye Array**	**56.54**	**45**	P	**P**	**18 22 34.5**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=304,slow=8.0,SNR=6.0						
ZALV	**Zalesovo Beam**	**61.75**	**37**	P	**P**	**18 23 10.5**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=315,slow=7.3,SNR=3.3						
KURBB	**Kurchatov Arra**	**61.78**	**43**	P	**P**	**18 23 10.6**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=318,slow=7.1,SNR=4.0						
ASAR	**Alice Springs**	**149.54**	**28**	PKPbc	**PKPbc**	**18 32 39.7**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=350,slow=2.1,SNR=3.1						

*IDC **27** 18:52:10.7±0.7, 32°.18S×71°.81W, h0km, mb4.4/10, mb1 4.5/14, mb1mx4.3/31, mbtmp4.3/14, ML4.3/4, MS3.8/5, Ms1 3.8/5, ms1mx3.5/26, Error ellipse: s-maj=21.5km s-min=16.2km az=73.0*
*BJI **27** 18:52:10.0±0.0, 32°.00S×71°.90W, h5km, mB5.3/3*
*SJA **27** 18:52:12.9±1.2, 32°.30S×72°.06W, h23km±9km, ML4.6, MW4.8*
*VAO **27** 18:52:13.7±0.4, 31°.97S×71°.91W, h10km, mb4.4*
*GUC **27** 18:52:13.8±0.5, 32°.12S×71°.93W, h39km±2km, ML4.5*
*NEIC **27** 18:52:13.2±2.1, 32°.09S±0°.04×71°.85W±0°.04, h17km±3km, mb4.8/25, ML4.5(GUC)*
*MOS **27** 18:52:14.8±1.3, 32°.10S×71°.72W, h36km, mb4.9/5, Error ellipse: s-maj=16.0km s-min=8.8km az=103.6*
*ISCJB **27** 18:52:14.6±0.6, 32°.14S±0°.02×72°.04W±0°.05, h41km±5km, mb4.5/16, MS3.8/2, Error ellipse: s-maj=7.1km s-min=3.9km az=179.8*

ISC 27 18:52:11.4±1.4, 32°.10S±0°.03×71°.95W±0°.04, h9km±8km, n194, σ1$64/206, mb4.8/24, 10C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.96**	**165**	*eP*	**Pn**	**18 52 30.7**	**-0.3**
VA01				*i* S	**Sn**	**18 52 43.6**	**-1.2**
ROC1	**El Roble**	**1.18**	**138**		**Pn**	**18 52 34.2**	**-0.2**
ROC1				Sn	**Sn**	**18 52 49.7**	**-1.0**
ROC1	**El Roble**	**1.18**	**138**	*i* P	**Pn**	**18 52 34.7**	**+0.4**
ROC1				⇓*e*S	**Sn**	**18 52 50.0**	**-0.7**
ROCH	**El Roble**	**1.18**	**138**	⇑*e*P	**Pn**	**18 52 34.2**	**-0.2**
ROCH				*i* S	**Sn**	**18 52 50.0**	**-0.6**
ROCH				IAML		18 52 53.0	
	comp=N,20μm,0.4s						
CO02	**Combarbal**	**1.20**	**43**	⇓*i*P	**Pg**	**18 52 35.3**	**+0.9**
CO02				*e*S	**Sn**	**18 52 50.8**	**-0.2**
CO02				IAML		18 52 58.1	
	comp=E,29μm,0.3s						
PEL	**Peldehue**	**1.49**	**135**	P	**Pg**	**18 52 39.2**	**-0.8**
PEL						18 52 58.8	
PEL	**Peldehue**	**1.49**	**135**	⇑*i*P	**Pg**	**18 52 39.2**	**-0.8**
PEL				*i* S	**Sg**	**18 52 58.5**	**-0.9**
PEL				IAML		18 53 02.9	
	comp=N,11μm,0.5s						
PEL	**Peldehue**	**1.49**	**135**		**Pg**	**18 52 39.2**	**-0.8**
PEL				Sn	**Sg**	**18 52 58.8**	**-0.6**
PEL	**Peldehue**	**1.49**	**135**	⇓*i*P	**Pg**	**18 52 39.7**	**-0.4**
PEL				⇓*e*S	**Sg**	**18 52 58.6**	**-0.8**
RCDM	**Rinconada Maip**	**1.69**	**146**	⇓*e*P	**Pg**	**18 52 43.2**	**-0.6**
RCDM				*i* S	**Sb**	**18 53 03.2**	**-0.9**
RCDM				IAML		18 53 06.7	
	comp=N,4μm,0.4s						
CLCH	**Cerro Calan**	**1.76**	**138**	⇑*i*P	**Pb**	**18 52 43.2**	**-0.7**
CLCH				*i* S	**Sb**	**18 53 05.7**	**-0.5**
CLCH				IAML		18 53 13.1	
	comp=E,12μm,0.4s						
FCH	**Farellones**	**1.86**	**132**	⇑*i*P	**Pb**	**18 52 44.7**	**-1.1**
FCH				*i* S	**Sb**	**18 53 08.7**	**-0.6**
FCH				IAML		18 53 12.0	
	comp=E,4μm,0.4s						
GO04	**Tololo Observa**	**2.16**	**28**	⇑*i*P	**Pb**	**18 52 49.3**	**-1.4**
GO04				*i* S	**Sb**	**18 53 16.6**	**-1.1**
GO04	**Tololo Observa**	**2.16**	**28**		**Pn**	**18 52 48.7**	**+1.0**
GO04	**Tololo Observa**	**2.16**	**28**	*eP*	**Pb**	**18 52 49.3**	**-1.4**
LSCH	**La Serena**	**2.26**	**16**	*eP*	**Pb**	**18 52 50.6**	**-1.9**
RTLS	**Leoncito**	**2.27**	**83**	*eP*	**Pg**	**18 52 53.8**	**-1.2**
RTLS				*eS*	**Sg**	**18 53 24.3**	**-0.1**
RTLS				IAML		18 53 28.0	
	comp=Z,2μm,1.1s						
LMEL	**Las Melosas**	**2.28**	**140**	IAML		18 53 29.3	
	comp=N,2μm,0.2s						
ARCO	**CERRO ARCO**	**2.66**	**107**	*i* P	**Pb**	**18 52 59.8**	**+0.5**
ARCO				*eS*	**Sg**	**18 53 34.3**	**-2.4**
ARCO				IAML		18 53 42.4	
	comp=Z,3μm,0.8s						
ASAL	**Salagasta**	**2.68**	**101**	*i* P	**Pb**	**18 53 00.2**	**+0.6**
ASAL				*eS*	**Sg**	**18 53 35.5**	**-2.1**
ASAL				IAML		18 53 45.9	
	comp=Z,2μm,1.9s						
UTNM	**Universidad Te**	**2.73**	**108**	*eP*	**Pg**	**18 53 03.7**	**-0.1**
UTNM				⇓*eS*	**Sg**	**18 53 38.4**	**-0.9**
UTNM				IAML		18 53 42.0	
	comp=Z,930nm,2.1s						
AAGR	**Agrelo**	**2.81**	**111**	*i* P	**Pb**	**18 53 01.5**	**-0.4**
AAGR				*eS*	**Sg**	**18 53 43.0**	**+1.3**
AAGR				IAML		18 53 59.2	
	comp=Z,1μm,2.4s						
ZON	**Zonda**	**2.84**	**80**	*eP*	**Pb**	**18 53 02.2**	**-0.1**
ZON				IAML		18 53 49.9	
	comp=Z,2μm,0.5s						
GO05	**Huala**	**2.91**	**180**		**Pn**	**18 52 57.4**	**-0.5**
GO05	**Huala**	**2.91**	**180**	*eP*	**Pn**	**18 52 57.5**	**-0.3**
RTCV	**Cerro Valdivia**	**2.91**	**86**	*eP*	**Pb**	**18 53 03.0**	**-0.4**
RTCV				IAML		18 53 49.9	
	comp=Z,2μm,3.4s						
RTLL	**Cerro Villicun**	**3.06**	**76**	*eP*	**Pb**	**18 53 05.2**	**-0.8**
RTLL				IAML		18 53 53.5	
	comp=Z,2μm,0.8s						
AMOG	**MOGNA**	**3.17**	**70**	*eP*	**Pb**	**18 53 05.9**	**-2.0**
AMOG				IAML		18 53 58.9	
	comp=Z,2μm,0.7s						
CFA	**Coronel Fontan**	**3.20**	**82**	Pn	**Pb**	**18 53 05.6**	**-2.8**
	comp=Z,67nm,0.3s,baz=247,slow=11,SNR=284						
CFA				Sn	**Sb**	**18 53 43.4**	**-4.1**
	comp=Z,71nm,0.3s,baz=346,slow=22,SNR=4.9						
CFA	**Coronel Fontan**	**3.20**	**82**	*i* P	**Pb**	**18 53 06.1**	**-2.2**
ACAN	**Cantantal**	**4.04**	**94**	*i* P	**Pn**	**18 53 16.6**	**+3.1**
ACAN				IAML		18 54 24.4	
	comp=Z,327nm,0.7s						
VCA	**Vinchina**	**4.66**	**45**	*eP*	Pb	18 53 27.9	-5.4
VCA				IAML		18 54 49.2	
	comp=Z,1μm,1.4s						
CYA	**Choya**	**6.44**	**57**	*eP*	**Pn**	**18 53 48.8**	**+2.2**
CYA				*eS*	**Sn**	**18 55 08.3**	**+8.0**
CYA				IAML		18 55 13.5	
	comp=Z,426nm,1.1s						
PB10	**IPOC Station P**	**8.64**	**9**		**Pn**	**18 54 14.7**	**-2.0**
PLCA	**Paso Flores**	**8.69**	**173**	*eP*	**Pn**	**18 54 18.5**	**+1.1**
PLCA	**Paso Flores**	**8.69**	**173**	Pn	**Pn**	**18 54 17.9**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=360,slow=12,SNR=20						
PLCA				Sn	**Sn**	**18 55 56.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=32,slow=15,SNR=1.7						
PLCA				Lg	Lg	18 56 45.0	
	comp=Z,0.1nm,0.3s,baz=306,slow=17,SNR=2.5						
PLCA				LR	LR	18 58 16.6	
	comp=Z,406nm,18.6s,baz=7.0,slow=43						
PLCA	**Paso Flores**	**8.69**	**173**		**Pn**	**18 54 17.7**	**+0.3**
LVC	**Limon Verde**	**9.83**	**17**	P	**Pn**	**18 54 30.7**	**-2.6**
LVC						18 56 22.9	
LVC	**Limon Verde**	**9.83**	**17**	Pn	**Pn**	**18 54 30.6**	**-2.7**
	comp=Z,1.2nm,0.3s,baz=194,slow=6.4,SNR=8.3						
LVC				Sn	**Sn**	**18 56 28.7**	**+4.7**
	comp=Z,1.5nm,0.3s,baz=211,slow=14,SNR=3.5						
LVC				LR	LR	18 58 35.5	
	comp=Z,642nm,19.4s,baz=215,slow=39						
LVC	**Limon Verde**	**9.83**	**17**	*eP*	**Pn**	**18 54 33.8**	**+0.5**
LVC	**Limon Verde**	**9.83**	**17**	*eP*	**Pn**	**18 54 33.8**	**+0.5**
LVC	**Limon Verde**	**9.83**	**17**		**Pn**	**

BDFB IAmb IAmb 18 57 57.2
comp=Z,16nm,0.9s
BSFB Barra de Sao F 30.91 72 *eP* **P 18 58 30.9 +2.3**
BSFB Barra de Sao F 30.91 72 *eP* **P 18 58 30.9 +2.3**
OTAV Otavalo 32.74 348 *eP* **P 18 58 46.4 +1.2**
OTAV Otavalo 32.74 348 *eP* **P 18 58 46.4 +1.2**
PMSA Palmer Station 33.07 174 *eP* **P 18 58 49.5 +2.5**
PMSA Palmer Station 33.07 174 *eP* **P 18 58 49.5 +2.5**
ROSC El Rosal 36.80 356 LR LR 19 14 53.3
comp=Z,146nm,19.0s,baz=121,slow=37
SMLC San Martn de 40.72 357 *eP* P 19 00 09.5 +17
SJCC San Jacinto, C 41.87 355 *eP* P 19 00 07.4 +5.2
BBL Barber's Block 48.41 14 *eS* **S 19 07 46.3 -8.6**
MLPR Magueyes Islan 50.00 6 P **P 19 01 06.1 0.0**
PDPR Patillas Dam, 50.15 7 P **P 19 01 05.9 -1.4**
PDPR IAmb IAmb 19 01 08.5
comp=Z,16nm,0.9s
SJG San Juan 50.23 7 P **P 19 01 06.7 -1.2**
SJG pmax pmax
comp=Z,19nm,1.0s
SJG San Juan 50.23 7 P **P 19 01 06.7 -1.2**
ABVI Anegada Island 51.06 9 P **P 19 01 13.7 -0.4**
VNA2 Neumayer--Watz 51.74 158 P **P 19 01 19.6 +0.9**
baz=285,slow=8.1
SNAA Sanae 53.32 158 P **P 19 01 31.6 +1.1**
SNAA Sanae 53.32 158 *ce*P **P 19 01 31.2 +0.7**
SNAA Sanae 53.32 158 P **P 19 01 30.4 -0.1**
SNAA IAmb IAmb 19 01 32.5
comp=Z,16nm,1.1s
TEIG Tepich 54.33 341 P **P 19 01 40.1 +1.8**
comp=Z,10.0nm,0.7s,baz=137,slow=3.7,SNR=5.6
TEIG Tepich 54.33 341 **P 19 01 39.3 +1.0**
NVL N'lazarevskaya 58.04 157 *eP* **P 19 02 04.2 -0.1**
NVL pmax pmax
comp=Z,16nm,0.8s
QSPA South Pole Qui 58.13 180 P **P 19 02 06.2 +1.0**
QSPA IAmb IAmb 19 02 07.5
comp=Z,5.6nm,0.8s
HKT Hockley 65.74 337 P **P 19 02 57.5 +1.1**
HKT pmax pmax
comp=Z,6.0nm,2.2s
TX32 Lajitas Array 68.12 330 P **P 19 03 12.9 +1.0**
TX32 IAmb IAmb 19 03 25.4
comp=Z,8.3nm,1.8s
TXAR Lajitas Array 68.12 330 P **P 19 03 13.4 +1.5**
comp=Z,1.0nm,0.7s,baz=152,slow=7.9,SNR=13
TXAR LR LR 19 28 40.7
comp=Z,55nm,18.9s,baz=0.0,slow=32
TX31 Lajitas Ar. Si 68.12 330 P **P 19 03 12.6 +0.8**
W39A Magazine 70.01 341 P **P 19 03 24.6 +1.2**
W39A IAmb IAmb 19 03 26.2
comp=Z,11nm,1.1s
U40A Yellville 70.86 342 P **P 19 03 28.6 +0.1**
MNTX Cornudas Mount 70.90 330 P **P 19 03 28.6 -0.3**
MNTX IAmb IAmb 19 03 30.0
comp=Z,2.5nm,0.8s
MSTX Muleshoe 71.84 333 P **P 19 03 35.5 +0.8**
MSTX IAmb IAmb 19 03 36.4
comp=Z,7.1nm,0.9s
LIC Lamto 74.11 72 *eP* **P 19 03 48.4 0.0**
comp=Z,1.1nm,0.2s
ANMO Albuquerque 74.16 331⇑ *eP* **P 19 03 51.1 +2.6**
ANMO pmax pmax
comp=Z,1.0nm,1.2s
TIC Toumodi 74.36 72 *eP* **P 19 03 50.0 +0.1**
KIC Kosan Boka 74.42 72 *eP* **P 19 03 50.7 +0.4**
comp=Z,18nm,0.7s
DBIC Dimbokro 74.50 72 P **P 19 03 50.7 -0.1**
DBIC pmax pmax
comp=Z,10.0nm,0.8s
DBIC Dimbokro 74.50 72 P **P 19 03 51.2 +0.5**
comp=Z,9.9nm,0.8s,baz=214,slow=6.0,SNR=14
DBIC Dimbokro 74.50 72 P **P 19 03 50.7 -0.1**
DBIC IAmb IAmb 19 03 52.0
comp=Z,9.7nm,0.8s
MAW Mawson 74.98 164 P **P 19 03 53.2 +0.6**
X16A Lo Mia Camp, P 75.88 327 P **P 19 03 59.9 +1.4**
PFO Pinyon Flats O 77.66 323 *eP* **P 19 04 10.7 +2.3**
BOSA Boshof 80.89 118 P **P 19 04 26.5 +0.1**
BOSA pmax pmax
comp=Z,10.0nm,1.1s
BOSA Boshof 80.89 118 P **P 19 04 26.7 +0.2**
comp=Z,6.1nm,1.0s,baz=233,slow=6.2,SNR=6.0
BOSA Boshof 80.89 118 P **P 19 04 26.5 +0.1**
BOSA IAmb IAmb 19 04 27.2
comp=Z,10nm,1.1s
R11A Troy Canyon, C 81.01 327 P **P 19 04 28.3 +1.6**
PDAR Pinedale Array 82.10 333 P **P 19 04 34.0 +1.6**
comp=Z,0.2nm,0.4s,baz=127,slow=6.0,SNR=2.8
PDAR Pinedale Array 82.10 333 P **P 19 04 34.0 +1.6**
NVAR Mina Array 82 82.37 325 P **P 19 04 35.9 +2.0**
comp=Z,0.6nm,0.7s,baz=160,slow=4.7,SNR=6.0
ELK Elko 82.78 328 P **P 19 04 37.1 +1.1**
ELK pmax pmax
comp=Z,6.0nm,1.5s
ELK Elko 82.78 328 P **P 19 04 37.3 +1.2**
comp=Z,1.6nm,0.9s,baz=145,slow=6.1,SNR=5.3
ELK Elko 82.78 328 **P 19 04 37.1 +1.1**
ELK IAmb IAmb 19 04 49.0
comp=Z,5.5nm,1.5s
LBTB Lobatse 83.04 115 P **P 19 04 37.1 -0.7**
LBTB pmax pmax
comp=Z,10.0nm,1.0s
LBTB Lobatse 83.04 115 P **P 19 04 37.1 -0.7**
LBTB IAmb IAmb 19 04 38.7
comp=Z,9.9nm,1.0s
TOA0 Torodi Ar. Sit 83.49 70 P **P 19 04 40.7 +0.7**
TOA0 IAmb IAmb 19 04 41.2
comp=Z,7.9nm,0.8s
TORD Torodi Ar. Bea 83.49 70 P **P 19 04 40.2 +0.2**
comp=Z,5.6nm,0.7s,baz=262,slow=4.6,SNR=33
ASAR Alice Springs 119.29 207 PKP **PKiKP 19 11 01.4 -0.4**
comp=Z,0.5nm,0.8s,baz=144,slow=2.0,SNR=5.0
WRA Warramunga Arr 122.45 210 PKP **PKiKP 19 11 07.5 -0.5**
comp=Z,0.8nm,0.5s,baz=167,slow=1.5,SNR=13
H11S2 WAKE ISLAND Hyl 25.85 270 T T 21 30 20.3
baz=117,slow=75,SNR=26
H11S1 WAKE ISLAND Hyl 25.86 270 T T 21 30 19.7
baz=117,slow=75,SNR=16
H11S3 WAKE ISLAND Hyl 25.87 270 T T 21 30 21.7
baz=117,slow=75,SNR=11
OBN Obninsk 125.99 42⇑ *i*PKiKP **PKPdf 19 11 11.8 -1.5**
OBN pmax pmax
comp=Z,4.0nm,0.9s
H11N3 WAKE ISLAND Hyl 26.22 272 T T 21 30 43.9
baz=117,slow=75,SNR=9.5
H11N1 WAKE ISLAND Hyl 26.23 272 T T 21 30 45.0
baz=117,slow=75,SNR=4.7
H11N2 WAKE ISLAND Hyl 26.23 272 T T 21 30 44.7
baz=117,slow=75,SNR=32
BILL Bilibino 131.15 335⇓ *i*PKiKP **PKiKP 19 11 23.4 -0.4**
BILL pmax pmax
comp=Z,3.0nm,1.1s
TIXI Tiksi 138.84 350⇓ *e*PKiKP **PKPdf 19 11 35.6 -1.5**
BRVK Borovoye 145.75 41 PKP2 **PKPab 19 11 51.0 +0.3**
BRVK Borovoye 145.75 41 **PKPab 19 11 51.0 +0.3**
YAK Yakutsk 146.96 341 *e*PKP2 **PKPab 19 11 53.7 -1.4**
YAK pmax pmax
comp=Z,18nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK Yakutsk 146.96 341 PKPdf **PKPab 19 11 53.5 -1.5**
CHGR Chuyangaron 147.80 67 **PKPbc 19 11 55.4 -1.5**
KK31 Karatay Array 148.53 59 PKP2 **PKPbc 19 11 58.2 -0.4**
KK31 Karatay Array 148.53 59 **PKPbc 19 11 58.2 -0.4**
KKAR Karatay Array 148.53 59 PKP2 **PKiKP 19 11 58.6 -1.5**
KKAR Karatay Array 148.53 59 **PKiKP 19 11 58.6 -1.5**
GAR Garm 148.70 67 **PKPbc 19 11 58.9 -0.4**
BTK Batken 149.05 65 PKP2 **PKiKP 19 12 00.2 -1.2**
BTK Batken 149.05 65 **PKiKP 19 12 00.2 -1.2**
YSS Yuzh-Sakhalins 149.68 309⇓ *e*PKP2 **PKiKP 19 12 02.4 +0.1**
NIL Nilore 150.81 77 PKIKP **PKiKP 19 12 04.0 -1.1**
NIL Nilore 150.81 77 **PKiKP 19 12 04.0 -1.1**
KURK Kurchatov 151.42 41⇑ *i*PKiKP **PKiKP 19 12 05.7 0.0**
KURK Kurchatov 151.42 41 **PKiKP 19 12 05.0 -0.7**
AAK Ala-Archa 151.50 59 PKIKP **PKiKP 19 12 06.7 +0.3**
AAK Ala-Archa 151.50 59 **PKiKP 19 12 06.7 +0.3**
ZAA0 Zalesovo Array 152.56 30 **PKiKP 19 12 07.8 -0.2**
ZALV Zalesovo Beam 152.56 30 PKPbc **PKiKP 19 12 08.4 +0.4**
comp=E,2.7nm,0.4s,baz=300,slow=3.6,SNR=15
ZALV PKPab **PKPab 19 12 18.4 +0.1**
comp=E,3.6nm,0.6s,baz=289,slow=3.5,SNR=9.6
NRN Naryn 152.81 61 PKIKP **PKiKP 19 12 09.2 -0.2**
NRN Naryn 152.81 61 *e*PKPbc **PKPdf 19 12 09.2 -0.2**
KSH Kashi 153.05 65 *e*PKPbc **PKPdf 19 12 02.0 -0.2**
MKAR Makanchi Array 155.42 46 PKP **PKPdf 19 12 04.4 -0.8**
comp=E,0.6nm,0.9s,baz=225,slow=1.8,SNR=3.3
MKAR PKPab **PKPab 19 12 31.7 +1.0**
comp=E,2.6nm,0.8s,baz=297,slow=3.8,SNR=15
WMQ Urumqi 160.19 48 *e*PKP **PKPdf 19 12 10.8 -0.4**
WMQ AMB AMB
comp=E,160nm,4.3s
CMAR Chiang Mai Arr 164.13 147 PKPab **PKPab 19 13 08.6 -0.5**
comp=E,0.8nm,1.0s,baz=212,slow=6.5,SNR=4.7
SONM Songino Array 164.23 4 PKPab **PKPab 19 13 10.4 +1.5**
comp=E,0.7nm,0.9s,baz=259,slow=1.5,SNR=4.6
HHC Hu-ho-hao-te 170.82 343 *e*PKP **PKPdf 19 12 14.3 -5.8**
NJ2 Nanjing 170.83 273 *e*PKP **PKPdf 19 12 20.3 +0.1**

*ISCJB **27** 18:58:49.7±0.6, 14.°42N±0.°07×55.°4E±0.°1, h10km, mb3.6/8, MS3.5/1, Error ellipse: s-maj=15.4km s-min=10.5km az=7.5*
*IDC **27** 18:58:51.1±1.3, 14.°62N×55.°60E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.5/35, mbtmp3.6/8, MS3.3/2, Ms1 3.3/2, ms1mx2.8/39, Error ellipse: s-maj=33.2km s-min=23.0km az=5.0*
*NEIC **27** 18:58:51.5±1.1, 14.°48N±0.°08×55.°6E±0.°1, h9km±5km, mb4.7/3*
ISC 27 18:58:51.6±0.7, 14.°39N±0.°09×55.°5E±0.°1, h10km, n22, σ1°74/14, mb3.8/9, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**2.63**	**214**	Pn	**Pn**	**18 59 32.2**	**-2.1**
WSAR	**Wadi Sarin**	**9.29**	**18**	LR	LR	19 03 56.1	
	comp=Z,154nm,21.9s,baz=212,slow=34						
RAYN	**Ar Rayn**	**13.10**	**315**	Pn	**Pn**	**19 01 56.8**	**-1.1**
MSEY	**Mahe Island**	**18.94**	**180**	P	**P**	**19 03 14.1**	**+1.1**
MSEY				IAmb	IAmb	19 03 21.2	
	comp=Z,62nm,1.1s						
HRA	**Herat**	**20.83**	**16**	P	**P**	**19 03 35.9**	**+2.2**
HRA				IAmb	IAmb	19 03 46.7	
	comp=Z,3.9nm,1.1s						
GEYT	**Alibeck**	**23.56**	**5**	P	**P**	**19 04 01.7**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=170,slow=12,SNR=3.1						
H08N2	**Diego Garcia H**	**25.70**	**142**	T	T	19 30 55.9	
	baz=324,slow=76,SNR=18						
H08N3	**Diego Garcia H**	**25.71**	**142**	T	T	19 30 57.6	
	baz=324,slow=76,SNR=14						
H08N1	**Diego Garcia H**	**25.72**	**142**	T	T	19 31 01.5	
	baz=324,slow=76,SNR=13						
BRTR	**Keskin Array B**	**31.70**	**327**	P	**P**	**19 05 14.1**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=128,slow=9.6,SNR=3.1						
ABKAR	**Akbulak array**	**34.96**	**5**	P	**P**	**19 05 42.7**	**-1.2**
MKAR	**Makanchi Array**	**39.31**	**29**	P	**P**	**19 06 19.6**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=230,slow=11,SNR=3.6						
LSZ	**Lusaka**	**39.97**	**224**	LR	LR	19 22 53.8	
	comp=Z,60nm,19.5s,baz=46,slow=36						
CMAR	**Chiang Mai Arr**	**41.80**	**78**	P	**P**	**19 06 42.6**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=283,slow=8.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**45.69**	**24**	P	**P**	**19 07 11.7**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=217,slow=9.1,SNR=2.8						
LATE	**Laterza**	**46.85**	**316**	P	**P**	**19 07 24.3**	**+2.3**
LATE				IAmb	IAmb	19 07 28.0	
	comp=Z,30nm,0.9s						
TORD	**Torodi Ar. Bea**	**52.16**	**276**	P	**P**	**19 08 05.9**	**+3.0**
	comp=Z,0.9nm,1.0s,baz=89,slow=8.8,SNR=3.8						
ESDC	**Sonseca Array**	**57.51**	**308**	P	**P**	**19 08 41.6**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=79,slow=7.7,SNR=5.2						
H01W3	**Cape Leeuwin H**	**74.10**	**133**	T	T	20 31 31.4	
	baz=295						
H01W2	**Cape Leeuwin H**	**74.11**	**133**	T	T	20 31 04.0	
	baz=295						
H01W1	**Cape Leeuwin H**	**74.12**	**133**	T	T	20 31 24.5	
	baz=295						
ASAR	**Alice Springs**	**85.42**	**116**	P	**P**	**19 11 29.6**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=293,slow=5.6,SNR=4.1						

*IDC **27** 19:10:42.8±0.7, 14.°48N×55.°72E, h0km, mb3.9/13, mb1 4.1/14, mb1mx3.9/41, mbtmp3.9/14, ML2.9/1, MS3.8/30, Ms1 3.8/30, ms1mx3.7/47, Error ellipse: s-maj=21.0km s-min=17.4km az=135.0*
*BJI **27** 19:10:42.2±0.0, 14.°50N×55.°37E, h12km, mb4.7/12, mB5.1/16, Ms5.1/3, Ms7 4.8/3*
*ISCJB **27** 19:10:43.4±0.3, 14.°63N±0.°04×55.°52E±0.°05, h10km, mb4.3/36, MS3.8/29, Error ellipse: s-maj=6.8km s-min=5.2km az=144.0*
*NEIC **27** 19:10:44.8±2.3, 14.°52N±0.°07×55.°59E±0.°09, h12km±4km, mb4.6/32*
*MOS **27** 19:10:46.9±1.4, 14.°58N×55.°58E, h33km, mb4.7/17, Error ellipse: s-maj=12.4km s-min=8.5km az=82.2*
*OMAN **27** 19:10:49.7±2.9, 14.°88N×55.°63E, h82km±147km, ml3.8/7, Error ellipse: s-maj=25.6km s-min=15.1km az=40.0*
ISC 27 19:10:44.8±0.4, 14.°61N±0.°05×55.°55E±0.°06, h10km, n114, σ2°93/99, mb4.4/44, MS3.8/29, 2C-5D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**2.85**	**212**		**Pn**	**19 11 25.8**	**-4.7**
SOCY				Sn	Sn	19 11 54.1	-11
DMTO	**DMTO**	**3.14**	**349**	P	**Pn**	**19 11 34.2**	**-0.2**
DMTO				S	**Sn**	**19 12 07.1**	**-4.9**
RBK	**Rabkut**	**3.15**	**336**	P	**Pn**	**19 11 34.4**	**-0.3**
RBK				S	**Sn**	**19 12 09.1**	**-3.4**
SHAO	**Shalim**	**3.39**	**1**	P	**Pn**	**19 11 37.2**	**-0.7**
ABTO	**Aybut**	**3.48**	**322**	P	**Pn**	**19 11 39.6**	**+0.4**
	SNR=13						
ABTO				S	**Sn**	**19 12 17.9**	**-2.7**
WHFO	**Wadi Hawf**	**3.71**	**333**	P	**Pn**	**19 11 43.2**	**+1.0**
	SNR=9.5						
WHFO				S	**Sn**	**19 12 24.8**	**-1.3**
DQM	**DQM**	**5.62**	**19**	P	**Pn**	**19 12 06.0**	**-2.5**
	SNR=15						
WSAR	**Wadi Sarin**	**9.06**	**18**	Pn	**Pn**	**19 12 57.5**	**+1.7**
	0.1nm,0.3s,baz=223,slow=18,SNR=2.7						
WSAR				LR	LR	19 16 21.1	
	comp=Z,1μm,18.3s,baz=225,slow=37						
UOSS	**Minazif**	**10.30**	**3**	Pn	**Pn**	**19 13 11.3**	**-1.5**
ATD	**Arta Tunnel**	**12.75**	**258**	LR	LR	19 17 35.8	
	comp=Z,628nm,18.9s,baz=71,slow=32						
RAYN	**Ar Rayn**	**12.99**	**315**	P	**Pn**	**19 13 48.1**	**-1.5**
RAYN	**Ar Rayn**	**12.99**	**315**		**Pn**	**19 13 48.1**	**-1.5**
MSEY	**Mahe Island**	**19.16**	**180**	P	**P**	**19 15 06.5**	**-2.2**
HRA	**Herat**	**20.60**	**16**	P	**P**	**19 15 23.7**	**-0.6**
KAAM	**Kaadhehdhoo**	**22.23**	**128**	P	**P**	**19 15 40.7**	**-1.2**
KBL	**Kabul**	**23.28**	**29**	P	**P**	**19 15 53.7**	**+0.7**
KBL				pmax	pmax		
	comp=Z,8.0nm,1.5s						
KBL	**Kabul**	**23.28**	**29**	P	**P**	**19 15 53.0**	**0.0**
GEYT	**Alibeck**	**23.34**	**5**	P	**P**	**19 15 54.2**	**+0.8**
	comp=Z,8.9nm,0.8s,baz=206,slow=6.4,SNR=14						
GEYT				LR	LR	19 25 59.6	
	comp=Z,194nm,22.0s,baz=155,slow=39						
GYA0B	**ALIBECK ARRAY**	**23.34**	**5**	P	**P**	**19 15 51.8**	**-1.5**
GYA0B				IAmb	IAmb	19 15 59.2	
	comp=Z,13nm,0.8s						
KMBO	**Kilima Mbogo**	**23.93**	**231**	P	**P**	**19 16 00.6**	**+1.0**
	comp=Z,1.9nm,0.9s,baz=47,slow=19,SNR=3.8						
KMBO				LR	LR	19 25 16.9	
	comp=Z,446nm,20.4s,baz=82,slow=36						
KMBO	**Kilima Mbogo**	**23.93**	**231**	P	**P**	**19 15 59.4**	**-0.2**
EIL	**Elat**	**24.20**	**312**	LR	LR	19 26 04.9	
	comp=Z,193nm,18.7s,baz=128,slow=38						
NIL	**Nilore**	**24.83**	**37**	P	**P**	**19 16 07.8**	**+0.4**
NIL				pmax	pmax		
	comp=Z,41nm,1.9s						
NIL	**Nilore**	**24.83**	**37**	P	**P**	**19 16 07.8**	**+0.4**
NIL				IAmb	IAmb	19 16 34.6	
	comp=Z,41nm,1.9s						
PALK	**Pallekele**	**25.73**	**104⇓**	*e*P	**P**	**19 16 16.8**	**+1.0**
PALK				pmax	pmax		
	comp=Z,36nm,1.5s						
PALK	**Pallekele**	**25.73**	**104**	LR	LR	19 24 24.1	
	comp=Z,146nm,19.0s,baz=207,slow=32						
PALK	**Pallekele**	**25.73**	**104**	P	**P**	**19 16 15.7**	**-0.1**
PALK				IAmb	IAmb	19 16 17.6	
	comp=Z,38nm,1.5s						
H08N2	**Diego Garcia H**	**25.83**	**143**	T	T	19 42 47.6	
	baz=324,slow=76,SNR=56						
H08N3	**Diego Garcia H**	**25.85**	**143**	T	T	19 42 49.8	
	baz=324,slow=76,SNR=64						
H08N1	**Diego Garcia H**	**25.86**	**143**	T	T	19 42 49.3	
	baz=324,slow=76,SNR=51						
MMAI	**Mount Meron Ar**	**25.90**	**319**	LR	LR	19 28 54.3	
	comp=Z,136nm,18.4s,baz=340,slow=42						
CHGR	**Chuyangaron**	**26.80**	**24**	P	**P**	**19 16 25.8**	**+0.5**
CHGR				IAmb	IAmb	19 16 52.0	
	comp=Z,36nm,1.6s						
GNI	**Garni**	**27.15**	**342**	LR	LR	19 29 11.1	
	comp=Z,385nm,18.3s,baz=152,slow=41						
GNI	**Garni**	**27.15**	**342**	P	**P**	**19 16 31.8**	**+3.3**
TBLG	**Delisi**	**28.60**	**343**	P	**P**	**19 16 39.1**	**-2.2**
TBLG				IAmb	IAmb	19 16 49.4	
	comp=Z,8.2nm,1.2s						
BTK	**Batken**	**28.66**	**25**	P	**P**	**19 16 41.4**	**-0.5**
BTK				pmax	pmax		
	comp=Z,24nm,1.4s						
BTK	**Batken**	**28.66**	**25**	P	**P**	**19 16 41.4**	**-0.5**
BTK				IAmb	IAmb	19 16 52.7	
	comp=Z,24nm,1.4s						
AKH	**Akhalkalaki**	**28.68**	**341**	P	**P**	**19 16 41.2**	**-1.0**
AKH				pmax	pmax		
	comp=Z,16nm,1.8s						
AKH	**Akhalkalaki**	**28.68**	**341**	P	**P**	**19 16 41.2**	**-1.0**
AKH				IAmb	IAmb	19 17 06.1	
	comp=Z,16nm,1.8s						
KSH	**Kashi**	**30.61**	**32**	P	**P**	**19 16 56.8**	**-2.5**
KSH				PcP	**PcP**	**19 19 57.8**	**+0.1**
KSH				S	**S**	**19 21 54.5**	**-7.1**
KSH				SS	**SnSn**	**19 23 32.5**	**-6.1**
KSH				pmax	pmax		
	comp=Z,280nm,8.3s						
KSH				LR	LR		
	comp=Z,580nm,6.7s						
KSH				LR	LR		
	comp=Z,670nm,6.1s						
KSH				LR	LR		
	comp=Z,630nm,6.1s						
KBZ	**Khabaz**	**30.97**	**342**	LR	LR	19 31 32.7	
	comp=Z,210nm,18.4s,baz=152,slow=40						
KIV	**Kislovodsk**	**31.24**	**342**	*e*P	**P**	**19 17 05.5**	**+0.8**
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
KIV				MLR	MLR		
	comp=Z,348nm,15.0s						
BRTR	**Keskin Array B**	**31.55**	**327**	LR	LR	19 31 17.3	
	comp=Z,91nm,19.2s,baz=130,slow=39						
AAK	**Ala-Archa**	**32.34**	**27⇑**	*e*P	**P**	**19 17 17.0**	**+2.5**
AAK				pmax	pmax		
	comp=Z,14nm,2.6s						
AAK	**Ala-Archa**	**32.34**	**27**	P	**P**	**19 17 14.7**	**+0.1**
AAK				IAmb	IAmb	19 17 31.0	
	comp=Z,12nm,1.6s						
ABPO	**Ambohimpanom**	**34.41**	**194**	*e*P	**P**	**19 17 32.8**	**+0.1**
ABPO	**Ambohimpanom**	**34.41**	**194**	P	**P**	**19 17 32.8**	**+0.1**
ABPO				IAmb	IAmb	19 17 46.5	
	comp=Z,20nm,1.4s						
SANT	**Santorini**	**34.51**	**314**	P	**P**	**19 17 33.1**	**-0.3**
ABKAR	**Akbulak array**	**34.74**	**5**	P	**P**	**19 17 35.9**	**+0.8**
ABKAR				IAmb	IAmb	19 17 44.4	
	comp=Z,7.0nm,1.2s						
AGG	**Agios Georgios**	**38.00**	**316**	P	**P**	**19 18 04.2**	**+1.1**
VSR	**Storozhevoye**	**38.83**	**344⇓**	*e*P	**P**	**19 18 11.1**	**+1.2**
VSR				pmax	pmax		
	comp=Z,12nm,1.2s						
MAKZ	**Makanchi**	**38.95**	**29**	P	**P**	**19 18 12.6**	**+1.6**
MAKZ				IAmb	IAmb	19 18 34.6	
	comp=Z,16nm,1.7s						
MK31	**Makanchi Array**	**39.09**	**29⇓**	*e*P	**P**	**19 18 14.0**	**+1.8**
MK31	**Makanchi Array**	**39.09**	**29**	P	**P**	**19 18 12.8**	**+0.6**
MKAR	**Makanchi Array**	**39.09**	**29**	*i*P	**P**	**19 18 13.6**	**+1.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**39.09**	**29**	P	**P**	**19 18 12.7**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=210,slow=10.0,SNR=6.1						
MKAR				LR	LR	19 36 49.8	
	comp=Z,165nm,18.9s,baz=234,slow=40						
VTS	**Vitosha**	**39.38**	**322**	P	**P**	**19 18 13.0**	**-1.8**
VTS				pmax	pmax		
	comp=Z,22nm,1.9s						
VTS	**Vitosha**	**39.38**	**322**	P	**P**	**19 18 14.0**	**-0.8**
VTS				IAmb	IAmb	19 18 34.4	
	comp=Z,22nm,1.9s						
FNA	**Florina**	**39.53**	**318**	P	**P**	**19 18 17.0**	**+1.0**
FNA				pmax	pmax		
	comp=Z,14nm,1.5s						
FNA	**Florina**	**39.53**	**318**	P	**P**	**19 18 17.0**	**+1.0**
FNA				IAmb	IAmb	19 18 28.4	
	comp=Z,14nm,1.5s						
WMQ	**Urumqi**	**39.98**	**37**	*e*P	**P**	**19 18 21.8**	**+2.1**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,190nm,5.1s						
KURK	**Kurchatov**	**40.56**	**23⇑**	*e*P	**P**	**19 18 27.1**	**+2.8**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.7s						
KURK	**Kurchatov**	**40.56**	**23**	P	**P**	**19 18 27.2**	**+2.8**
SCTE	**Santa Cesarea**	**41.12**	**315**	P	**P**	**19 18 28.3**	**-0.8**
BUR08	**Bucovina Ar. S**	**41.45**	**329**	P	**P**	**19 18 33.3**	**+1.4**
CM31	**Chiang Mai Arr**	**41.70**	**79**	P	**P**	**19 18 33.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**41.70**	**79**	P	**P**	**19 18 33.0**	**-1.2**
	comp=Z,1.8nm,1.0s,baz=272,slow=9.2,SNR=6.0						
CMAR				LR	LR	19 34 13.9	
	comp=Z,44nm,21.6s,baz=346,slow=34						
AKASG	**Malin Array Be**	**41.82**	**335**	P	**P**	**19 18 35.9**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=137,slow=8.4,SNR=3.8						
AKASG				LR	LR	19 39 17.7	
	comp=Z,99nm,19.4s,baz=75,slow=41						
OBN	**Obninsk**	**43.02**	**344**	*e*P	**P**	**19 18 45.2**	**+0.8**
OBN				*e*		19 20 23.1	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PSI	**Prapat**	**44.35**	**101**	LR	LR	19 37 04.2	
	comp=Z,84nm,18.6s,baz=308,slow=36						
KMI	**Kunming**	**45.40**	**69**	P	**P**	**19 19 06.0**	**+1.8**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ZAA0	**Zalesovo Array**	**45.46**	**24**	P	**P**	**19 19 03.6**	**-0.4**
ZALV	**Zalesovo Beam**	**45.46**	**24**	*e*P	**P**	**19 19 03.5**	**-0.5**
ZALV	**Zalesovo Beam**	**45.46**	**24**	P	**P**	**19 19 03.0**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=219,slow=7.9,SNR=5.2						
ZALV				LR	LR	19 39 26.2	
	comp=Z,134nm,18.1s,baz=231,slow=38						
TAM	**Tamanrasset**	**47.90**	**288**	P	**P**	**19 19 25.2**	**+1.4**
TAM				pmax	pmax		
	comp=Z,3.0nm,1.5s						
LZH	**Lanzhou**	**48.03**	**54**	*e*P	**P**	**19 19 26.5**	**+1.9**
LZH				pP	pwP	19 19 30.5	0.0
LZH				sP	sP	19 19 32.5	+4.6
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
LBTB	**Lobatse**	**49.04**	**217**	P	**P**	**19 19 34.3**	**+2.0**
LBTB				pmax	pmax		
	comp=Z,14nm,2.6s						
LBTB	**Lobatse**	**49.04**	**217**	P	**P**	**19 19 34.4**	**+2.1**
LBTB				IAmb	IAmb	19 19 41.0	
	comp=Z,12nm,1.0s						
BSD	**Bornholm Skovb**	**51.15**	**331**	P	**P**	**19 19 50.9**	**+3.0**
BSD				pmax	pmax		
	comp=Z,74nm,1.0s						
SENIN	**Lac Senin/Sane**	**51.16**	**318**	P	**P**	**19 19 49.6**	**+1.2**
BFO	**Black Forest**	**51.28**	**321**	*e*P	**P**	**19 19 48.1**	**-1.0**
BFO	**Black Forest**	**51.28**	**321**	P	**P**	**19 19 48.1**	**-1.0**
BFO				IAmb	IAmb

SSB	**Saint Sauveur**	**52.59**	**316**	P		**P**	**19 19 58.7**	**-0.2**
SONM	**Songino Array**	**53.34**	**41**	P		**P**	**19 20 04.7**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=218,slow=6.6,SNR=2.6							
SONM				LR		LR	19 45 16.6	
	comp=Z,92nm,21.1s,baz=274,slow=39							
HFS	**Hagfors**	**54.70**	**336**	LR		LR	19 49 12.2	
	comp=Z,22nm,20.8s,baz=171,slow=42							
HHC	**Hu-ho-hao-te**	**54.98**	**50**	*e*P		**P**	**19 20 17.0**	**+0.4**
HHC				pmax		pmax		
	comp=Z,5.0nm,0.9s							
HHC				pmax		pmax		
	comp=Z,88nm,4.6s							
LEM	**Lembang**	**55.85**	**109**	LR		LR	19 42 03.4	
	comp=Z,67nm,19.1s,baz=248,slow=34							
NOA	**NORSAR Array B**	**56.22**	**336**	LR		LR	19 47 48.4	
	comp=Z,32nm,18.4s,baz=245,slow=40							
ESDC	**Sonseca Array**	**57.42**	**308**	P		**P**	**19 20 34.3**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=82,slow=6.0,SNR=9.4							
ARCES	**ARCESS Array B**	**58.04**	**348**	LR		LR	19 49 08.5	
	comp=Z,127nm,19.2s,baz=184,slow=40							
NRIK	**Noril'sk**	**58.28**	**13**	LR		LR	19 48 13.9	
	comp=Z,97nm,18.9s,baz=222,slow=39							
NJ2	**Nanjing**	**59.89**	**61**	*e*P		**P**	**19 20 52.8**	**+1.6**
NJ2				pmax		pmax		
	comp=Z,12nm,0.5s							
KSRS	**Korea Array**	**67.35**	**55**	LR		LR	19 51 50.4	
	comp=Z,30nm,18.4s,baz=177,slow=37							
YAK	**Yakutsk**	**69.77**	**29**	*e*P		P	19 22 01.7	+6.7
YAK				*e**PP		**PcP**	**19 22 13.3**	**-4.3**
YAK				*e*			19 24 35.8	
YAK				*e*S		**S**	**19 31 09.0**	**+5.0**
YAK				*e**SS		SKiKP	19 31 26.3	-17
YAK				*e*SS		**SS**	**19 35 38.0**	**+6.0**
YAK				pmax		pmax		
	comp=Z,4.0nm,0.6s							
YAK				pmax		pmax		
	comp=N,2.0nm,0.8s							
YAK				pmax		pmax		
	comp=Z,51nm,3.0s							
YAK				pmax		pmax		
	comp=N,72nm,2.8s							
YAK				pmax		pmax		
	comp=E,134nm,3.0s							
YAK				smax		smax		
	comp=N,157nm,3.3s							
YAK				smax		smax		
	comp=E,110nm,3.3s							
TIXI	**Tiksi**	**70.99**	**19**	*e*P		**P**	**19 22 04.2**	**+1.9**
TIXI				pmax		pmax		
	comp=Z,4.0nm,1.1s							
H01W3	**Cape Leeuwin H**	**74.21**	**133**	T		T	20 43 04.4	
	baz=302,slow=75,SNR=13							
H01W2	**Cape Leeuwin H**	**74.22**	**133**	T		T	20 43 07.7	
	baz=302,slow=75,SNR=12							
H01W1	**Cape Leeuwin H**	**74.23**	**133**	T		T	20 43 05.7	
	baz=302,slow=75,SNR=14							
MJAR	**Matsushiro Arr**	**75.63**	**56**	LR		LR	19 56 15.3	
	comp=Z,56nm,19.8s,baz=35,slow=36							
MAW	**Mawson**	**82.16**	**177**	LR		LR	19 55 32.5	
	comp=Z,64nm,18.2s,baz=57,slow=33							
BILL	**Bilibino**	**84.06**	**21**	*e*P		**P**	**19 23 13.6**	**-1.9**
BILL				pmax		pmax		
	comp=Z,1.0nm,1.0s							
WRA	**Warramunga Arr**	**84.72**	**112**	P		**P**	**19 23 17.1**	**-2.6**
	comp=Z,1.8nm,0.9s,baz=296,slow=4.6,SNR=7.2							
ASAR	**Alice Springs**	**85.46**	**116**	P		**P**	**19 23 21.6**	**-1.9**
	comp=Z,1.5nm,0.9s,baz=288,slow=5.3,SNR=9.9							
PETK	**Petropavlovsk-**	**85.57**	**36**	LR		LR	20 05 05.5	
	comp=Z,51nm,19.4s,baz=238,slow=38							
STKA	**Stephens Creek**	**94.30**	**122**	LR		LR	20 00 10.8	
	comp=Z,36nm,19.9s,baz=126,slow=32							
ILAR	**Eielson Array**	**99.03**	**10**	LR		LR	20 15 58.5	
	comp=Z,68nm,18.1s,baz=248,slow=40							
PDAR	**Pinedale Array**	**121.29**	**347**	PKP		**PKPdf**	**19 29 38.2**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=38,slow=3.4,SNR=2.9							
NVAR	**Mina Array Bea**	**126.93**	**354**	PKP		**PKiKP**	**19 29 50.9**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=1.4,slow=0.7,SNR=6.2							

PRU 27 19:18:21.4±0.0, 50.25N×18.98E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.53**	**93**	*e*Pg	Pg	19 18 31.0	-0.5
OJC				*e*Pg	Pg	19 18 31.0	-0.5
OJC				*e*Sg	Sg	19 18 37.7	-0.6
OJC				*e*Sg	Sg	19 18 37.7	-0.6
OKC	**Ostrava-Krasne**	**0.68**	**233**	*e*PG	Pg	19 18 34.9	+0.5
OKC				*e*SG	Sg	19 18 42.6	-0.5
	comp=Z,16nm,0.7s						
MORC	**Moravsky Berou**	**1.04**	**243**	*e*PG	Pg	19 18 41.7	+0.4
MORC				*e*SG	Sg	19 18 55.5	+0.7
LANS	**Liptovska Anna**	**1.15**	**164**	*e*PG	Pg	19 18 43.3	0.0
LANS				*e*SG	Sg	19 18 58.2	+0.1
LANS				*e*LG	Lg	19 19 02.9	
NIE	**Niedzica**	**1.19**	**134**	*e*Pg	Pg	19 18 43.8	-0.4
NIE				*e*Pg	Pg	19 18 43.8	-0.4
NIE				*e*Sg	Sg	19 18 59.8	+0.1
NIE				*e*Sg	Sg	19 18 59.8	+0.1
KRLC	**Kraliky**	**1.43**	**264**	*e*PG	Pn	19 18 48.3	-0.3
KRLC				*e*SG	Sb	19 19 07.6	0.0
	comp=Z,16nm,0.3s						
DPC	**Dobruska-Polom**	**1.71**	**274**	*e*PG	Pn	19 18 52.8	+0.3
DPC				*e*SG	Sg	19 19 17.5	+1.3
	comp=Z,13nm,0.5s						
VYHS	**Vyhne**	**1.76**	**183**	*e*P	Pn	19 18 52.4	-0.7
VYHS	**Vyhne**	**1.76**	**183**	*e*PN	Pn	19 18 52.4	-0.7
VYHS				*e*SN	Sn	19 19 15.7	-0.6
VYHS				*e*		19 45 13.0	
OSTC	**Ostas**	**1.79**	**281**	*e*PG	Pb	19 18 54.8	-0.4
OSTC				*e*SG	Sg	19 19 20.8	+1.8
VRAC	**Vranov**	**1.81**	**240**	*e*PN	Pb	19 18 54.8	-0.6
VRAC				*e*SG	Sb	19 19 18.9	+0.2
KSP	**Ksiaz**	**1.81**	**290**	*e*Pb	Pn	19 18 54.6	+0.7
KSP				*e*Pb	Pn	19 18 54.6	+0.7
KSP				*e*Pg	Pg	19 18 57.0	+0.8
KSP				*e*Pg	Pg	19 18 57.0	+0.8
KSP				*e*Sg	Sg	19 19 21.6	+1.9
KSP				*e*Sg	Sg	19 19 21.6	+1.9
CHVC	**Chvalec**	**1.90**	**281**	*e*PG	Pn	19 18 55.2	+0.1
UPC	**Upice**	**1.92**	**279**	*e*PG	Pn	19 18 55.7	+0.4
SMOL	**Smolenice**	**2.01**	**211**	*e*SN	Sn	19 19 22.2	-0.2
KRUC	**Moravsky**	**2.06**	**236**	*e*PN	Pn	19 18 57.3	+0.1
KRUC				*e*SG	Sb	19 19 25.9	+0.2
MODS	**Modra-Piesok**	**2.18**	**211**	*e*SG	Sb	19 19 30.0	+0.6
KOLS	**Kolonicke sedl**	**2.52**	**120**	*e*PG	Pg	19 19 09.0	-0.6
KOLS				*e*SN	Sn	19 19 32.6	-2.3
BRG	**Berggiesshubel**	**3.27**	**283**	PG	Pb	19 19 22.1	+1.7
BRG				SG	Sg	19 20 07.0	+0.5
	2.4nm,0.5s						
BRG	**Berggiesshubel**	**3.27**	**283**	P	Pb	19 19 22.0	+1.7
KHC	**Kasperske Hory**	**3.68**	**254**	*e*P	Pn	19 19 19.8	+0.2
KHC				*e*		19 19 26.6	
KHC	**Kasperske Hory**	**3.68**	**254**	*e*PN	Pn	19 19 19.8	+0.2
KHC				*e*PG	Pb	19 19 26.6	-0.7
KHC				*e*SG	Sg	19 20 16.4	-3.2

IDC 27 19:27:57.8±2.8, 29.82S×178.42W, h168km±23km, mb3.3/3, mb1 3.5/3, mb1mx3.2/36, mbtmp3.8/3, Error ellipse: s-maj=130.5km s-min=53.1km az=174.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.71**	**38**	P	Pn	19 28 22.8	+0.4
	178nm,0.3s,baz=93,slow=5.3,SNR=14						
RAO				S	Sn	19 28 42.0	+0.8
	96nm,0.3s,baz=104,slow=23,SNR=9.3						
CTA	**Charters Tower**	**33.34**	**279**	P	P	19 34 21.9	+1.8
	1.1nm,0.4s,baz=86,slow=10,SNR=4.1						
ASAR	**Alice Springs**	**42.77**	**267**	P	P	19 35 38.4	-0.6
	0.3nm,0.4s,baz=104,slow=7.2,SNR=4.8						
WRA	**Warramunga Arr**	**43.71**	**272**	P	P	19 35 45.6	-0.9
	0.4nm,0.3s,baz=110,slow=7.5,SNR=18						
FINES	**FINESS Array B**	**144.47**	**340**	PKP	PKPdf	19 47 13.1	-0.2
	3.1nm,1.0s,baz=49,slow=4.2,SNR=2.8						

STR 27 19:43:22.1±1.1, 43°N±6°×1°3E±°, h0km, mb5.6/1, MLv3.4/7
PRU 27 19:43:24.5±0.0, 43.41N×12.41E, h0km
ISCJB 27 19:43:24.8±0.2, 43.39N±0.01×12.50E±0.01, h15km±1km, mb3.5/6, MS3.3/1, Error ellipse: s-maj=2.0km s-min=1.5km az=21.6

IDC 27 19:43:24.9±1.1, 43.47N×12.70E, h0km, mb3.5/6, mb1 3.6/10, mb1mx3.5/45, mbtmp3.5/10, ML3.5/4, MS3.2/3, Ms1 3.2/3, ms1mx2.7/43, Error ellipse: s-maj=28.9km s-min=12.9km az=104.0
ROM 27 19:43:24.5±0.0, 43.389N±0.002×12.522E±0.003, h8km, ML3.6/55, Mw3.5, Error ellipse: s-maj=0.2km s-min=0.2km az=18.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=1.72; $M_{\theta\theta}$=0.83; $M_{\phi\phi}$=0.88; $M_{r\theta}$=0.89; $M_{\theta\phi}$=0.96; $M_{r\phi}$=0.23; Fault plane solution: M_o=1.99151×10^{14} NP1:ϕ_s329.00000°, δ35.00000°, λ-67.00000°. NP2:ϕ_s122.00000°, δ59.00000°, λ-105.00000°.
LDG 27 19:43:28.0±0.1, 43.38N×12.47E, h2km, Ml3.4/28 Error ellipse: s-maj=4.1km s-min=2.3km az=4.0

ISC 27 19:43:24.9±0.7, 43.37N±0.02×12.50E±0.01, h7km±4km, n173, σ1$\hat{=}$90/243, mb3.6/6, 6C-4D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.05**	**95**	P	**Pg**	**19 43 26.3**	**-0.3**
ATFO				S	**Sg**	**19 43 27.3**	**-0.5**
ATFO				AML	AML		
ATFO				AML	AML		
ATVO	**AVT- Monte Val**	**0.07**	**279**	P	**Pg**	**19 43 27.0**	**+0.2**
ATVO				S	**Sg**	**19 43 28.6**	**+0.5**
ATVO				AML	AML		
ATVO				AML	AML		
ATPI	**Pietralunga -**	**0.11**	**318**	P	**Pg**	**19 43 27.4**	**+0.1**
ATPI				S	**Sg**	**19 43 29.4**	**+0.3**
ATPI				AML	AML		
ATPI				AML	AML		
ATPI				AML	AML		
MURB	**Monte Urbino**	**0.11**	**171**	P	**Pg**	**19 43 28.0**	**+0.6**
MURB				S	**Sg**	**19 43 30.5**	**+1.4**
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
MURB				AML	AML		
PIEI	**Pieia**	**0.17**	**9**	P	**Pg**	**19 43 28.2**	**-0.1**
PIEI				S	**Sg**	**19 43 31.2**	**+0.5**
PIEI				AML	AML		
PIEI				AML	AML		
ATTE	**AVT- Monte Tez**	**0.20**	**212**	P	**Pg**	**19 43 29.6**	**+0.6**
ATTE				S	**Sg**	**19 43 33.4**	**+1.6**
ATTE				AML	AML		
	comp=N,17500μm,1.1s						
ATTE				AML	AML		
	comp=E,21300μm,0.8s						
ATTE				AML	AML		
	comp=E,21300μm,0.8s						
FOSV	**Fossato di Vic**	**0.20**	**112**	P	**Pg**	**19 43 29.1**	**+0.1**
FOSV				S	**Sg**	**19 43 32.7**	**+0.9**
FOSV				AML	AML		
	comp=N,12400μm,0.9s						
FOSV				AML	AML		
	comp=N,12350μm,0.9s						
FOSV				AML	AML		
	comp=E,10510μm,1.1s						
ATCC	**AVT- Casa Cast**	**0.21**	**151**	P	**Pg**	**19 43 29.8**	**+0.6**
ATCC				S	**Sg**	**19 43 33.9**	**+1.9**
ATCC				AML	AML		
	comp=E,36500μm,0.9s						
ATCC				AML	AML		
	comp=N,33150μm,0.2s						
ATCC				AML	AML		
	comp=N,33150μm,0.2s						
ATCC				AML	AML		
	comp=E,36500μm,0.9s						
CDCA	**Citt' di Caste**	**0.21**	**294**	P	**Pg**	**19 43 29.8**	**+0.6**
CDCA				S	**Sg**	**19 43 33.9**	**+1.9**
CDCA				AML	AML		
	comp=E,77650μm,0.5s						
CDCA				AML	AML		
	comp=E,36750μm,0.6s						
CDCA				AML	AML		
	comp=E,77600μm,0.5s						
CDCA				AML	AML		
CDCA				AML	AML		
	comp=E,36800μm,0.6s						
CDCA				AML	AML		
	comp=N,30500μm,0.7s						
CDCA				AML	AML		
CDCA				AML	AML		
	comp=E,77600μm,0.5s						
CDCA				AML	AML		
	comp=E,36800μm,0.6s						
SSFR	**Montelago di S**	**0.22**	**72**	P	**Pg**	**19 43 29.1**	**-0.2**
SSFR				S	**Sg**	**19 43 32.5**	**+0.3**
SSFR				AML	AML		
	comp=E,61300μm,1.1s						
SSFR				AML	AML		
	comp=N,47000μm,0.7s						
SSFR				AML	AML		
	comp=N,48050μm,0.6s						
SSFR				AML	AML		
	comp=E,61300μm,1.1s						
SSFR				AML	AML		
	comp=N,47050μm,0.7s						
SSFR				AML	AML		
	comp=E,61400μm,1.1s						
SSFR				AML	AML		
	comp=N,48050μm,0.6s						
SSFR				AML	AML		
	comp=N,47050μm,0.7s						
SSFR				AML	AML		
	comp=E,61400μm,1.1s						
SSFR				AML	AML		
	comp=E,61300μm,1.1s						
FRON	**Frontone**	**0.22**	**48**	P	**Pg**	**19 43 29.1**	**-0.2**
FRON				S	**Sg**	**19 43 32.6**	**+0.3**
FRON				AML	AML		
	comp=E,33600μm,0.7s						
FRON				AML	AML		
	comp=E,33600μm,0.7s						
FRON				AML	AML		
	comp=N,46250μm,0.7s						
BADI	**Badiali**	**0.23**	**307**	P	**Pg**	**19 43 29.9**	**+0.4**
BADI				S	**Sg**	**19 43 34.0**	**+1.3**
BADI				AML	AML		
BADI				AML	AML		
BADI				AML	AML		
NARO	**Abbazia di Nar**	**0.25**	**14**	P	**Pg**	**19 43 29.6**	**-0.3**
NARO				S	**Sg**	**19 43 33.4**	**+0.3**
NARO				AML	AML		
	comp=E,21050μm,1.1s						
NARO				AML	AML		
	comp=E,21050μm,1.1s						
NARO				AML	AML		
	comp=N,20000μm,1.4s						
MPAG	**Monte Paganucc**	**0.32**	**36**	P	**Pg**	**19 43 31.0**	**-0.3**
MPAG				S	**Sg**	**19 43 36.0**	**+0.5**
MPAG				AML	AML		
	comp=N,12650μm,0.6s						
MPAG				AML	AML		
	comp=E,15500μm,0.4s						
MPAG				AML	AML		
	comp=E,15700μm,0.4s						
MPAG				AML	AML		
	comp=E,15500μm,0.4s						
MPAG				AML	AML		
	comp=N,13000μm,0.6s						
PE3	**Peglio**	**0.33**	**360**	P	**Pg**	**19 43 31.5**	**+0.1**
PE3				S	**Sg**	**19 43 36.9**	**+1.3**
PE3				AML	AML		
	comp=E,53850μm,0.4s						
PE3				AML	AML		
	comp=N,68150μm,0.4s						
PE3				AML	AML		
	comp=E,53850μm,0.4s						
PE3				AML	AML		
	comp=N,68150μm,0.4s						
PARC	**Parchiule**	**0.34**	**326**	P	**Pg**	**19 43 31.7**	**+0.2**
PARC				S	**Sg**	**19 43 37.5**	**+1.5**
PARC				AML	AML		
	comp=E,19150μm,1.0s						
PARC				AML	AML		
	comp=N,21350μm,0.5s						
PARC				AML	AML		
	comp=E,19150μm,1.0s						
PARC				AML	AML		
	comp=N,21350μm,0.5s						
SSP9	**Sansepolcro**	**0.34**	**307**	P	**Pg**	**19 43 31.9**	**+0.4**
SSP9				S	**Sg**	**19 43 37.5**	**+1.5**
SSP9				AML	AML		
	comp=E,12750μm,0.6s						
SSP9				AML	AML		
	comp=N,10600μm,1.5s						
SSP9				AML	AML		
	comp=N,10575μm,1.5s						
SSP9				AML	AML		
	comp=E,12800μm,0.6s						
SNTG	**Esanatoglia**	**0.34**	**110**	P	**Pb**	**19 43 31.6**	**-1.8**
SNTG				S	**Sb**	**19 43 37.3**	**-1.7**
SNTG				AML	AML		
	comp=E,6535μm,1.3s						
SNTG				AML	AML		
	comp=N,10700μm,0.8s						
SNTG				AML	AML		
	comp=E,834μm,0.7s						
SNTG				AML	AML		
	comp=N,1190μm,0.8s						
ARVD	**Arcevia**	**0.35**	**68**	P	**Pg**	**19 43 31.5**	**-0.2**
ARVD				S	**Sg**	**19 43 36.9**	**+0.6**
ARVD				AML	AML		
	comp=E,12900μm,1.2s						
ARVD				AML	AML		
	comp=N,13600μm,0.8s						
ARVD				AML	AML		
	comp=N,13600μm,0.8s						
FIU1	**Fiuminata**	**0.36**	**120**	P	**Pb**	**19 43 32.2**	**-1.5**
FIU1				S	**Sb**	**19 43 38.2**	**-1.4**
FIU1				AML	AML		
	comp=E,7700μm,0.2s						
FIU1				AML	AML		
	comp=E,7695μm,0.2s						
FIU1				AML	AML		
	comp=N,7580μm,0.6s						
MMUR	**Monte Murano**	**0.37**	**79**	P	**Pg**	**19 43 31.9**	**-0.2**
MMUR				S	**Sb**	**19 43 37.8**	**-2.1**
FSSB	**Fossombrone**	**0.38**	**32**	P	**Pg**	**19 43 32.1**	**-0.3**
FSSB				S	**Sg**	**19 43 38.0**	**+0.7**
FSSB				AML	AML		
	comp=E,22800μm,0.4s						
FSSB				AML	AML		
	comp=N,28150μm,0.5s						
FSSB				AML	AML		
	comp=N,28150μm,0.5s						
FSSB				AML	AML		
	comp=E,22800μm,0.4s						
MTL1	**Matelica**	**0.39**	**107**	P	**Pb**	**19 43 32.6**	**-1.6**
MTL1				S	**Sb**	**19 43 39.2**	**-1.2**
CAFI	**Castiglion Fio**	**0.39**	**264**	P	**Pg**	**19 43 33.0**	**+0.4**
CAFI				S	**Sg**	**19 43 39.3**	**+1.6**
CAFI				AML	AML		
	comp=N,8920μm,0.6s						
CAFI				AML	AML		
	comp=E,5405μm,1.6s						
CAFI				AML	AML		
	comp=E,5265μm,1.6s						
CAFI				AML	AML		
	comp=N,8935μm,0.6s						
CAFI				AML	AML		
	comp=N,9480μm,0.6s						
SEF1	**Sefro**	**0.40**	**124**	P	**Pb**	**19 43 33.1**	**-1.2**
SEF1				S	**Sb**	**19 43 39.5**	**-1.1**
CRM1	**Catelraimondo**	**0.44**	**111**	P	**Pb**	**19 43 33.5**	**-1.5**
CRM1				S	**Sb**	**19 43 40.5**	**-1.3**
EL6	**Elcito**	**0.44**	**95**	P	**Pg**	**19 43 33.3**	**-0.2**
EL6				S	**Sb**	**19 43 40.4**	**-1.5**
EL6				AML	AML		
	comp=E,7585μm,1.2s						
EL6				AML	AML		
	comp=N,9970μm,0.6s						
EL6				AML	AML		
	comp=E,7605μm,1.2s						
COR1	**Corinaldo**	**0.45**	**54**	P	**Pg**	**19 43 33.9**	**+0.3**
COR1				AML	AML		
	comp=E,17900μm,1.1s						
COR1				AML	AML		
	comp=N,16950μm,0.6s						
COR1				AML	AML		
	comp=E,9540μm,1.1s						
COR1				AML	AML		
	comp=N,16900μm,0.6s						
COR1				AML	AML		
	comp=E,17900μm,1.1s						
COR1				AML	AML		
	comp=N,16950μm,0.6s						
CPGN	**Carpegna, Ital**	**0.45**	**343**	P	**Pg**	**19 43 34.2**	**+0.5**
CPGN				S	**Sg**	**19 43 41.4**	**+1.8**
CPGN				AML	AML		
	comp=E,10020μm,0.4s						
CPGN				AML	AML		
	comp=N,9675μm,1.1s						
CPGN				AML	AML		
	comp=N,9955μm,1.0s						
CPGN				AML	AML		
	comp=E,9995μm,0.4s						
CPGN				AML	AML		
	comp=N,9680μm,1.1s						
CPGN				AML	AML		
	comp=E,10350μm,0.4s						
CESI	**CESI - Serrava**	**0.47**	**141**	P	**Pb**	**19 43 34.0**	**-1.6**
CESI				S	**Sb**	**19 43 42.0**	**-0.7**
CESI				AML	AML		
	comp=E,889μm,0.6s						
CESI				AML	AML		
	comp=N,2370μm,0.7s						
CESI				AML	AML		
	comp=E,888μm,0.6s						
CRE	**Caprese Michel**	**0.47**	**302**	P	**Pg**	**19 43 34.1**	**+0.1**
CRE				S	**Sg**	**19 43 41.7**	**+1.5**
CRE				AML	AML		
	comp=N,12250μm,0.3s						
CRE				AML	AML		
	comp=E,9735μm,1.3s						
MDAR	**Monte D'Aria**	**0.50**	**111**	P	**Pb**	**19 43 35.0**	**-1.1**
MDAR				S	**Sb**	**19 43 42.7**	**-1.0**
CING	**Cingoli**	**0.51**	**89**	P	**Pg**	**19 43 34.4**	**-0.3**
CING				S	**Sb**	**19 43 42.5**	**-1.3**
CING				AML	AML		
	comp=N,4760μm,0.7s						
CING				AML	AML		
	comp=E,3790μm,0.8s						
SSM1	**San Severino M**	**0.51**	**106**	P	**Pb**	**19 43 34.9**	**-1.4**
SSM1				S	**Sb**	**19 43 43.4**	**-0.6**
MGAB	**Montegabbione**	**0.54**	**212**	P	**Pg**	**19 43 35.7**	**+0.4**
MGAB				S	**Sb**	**19 43 44.8**	**+0.1**
MGAB				AML	AML		
	comp=E,9785μm,0.4s						
MGAB				AML	AML		
	comp=N,12700μm,0.7s						
MGAB				AML	AML		
	comp=N,12300μm,0.7s						
MGAB				AML	AML		
	comp=N,12750μm,0.7s						
MGAB				AML	AML		
	comp=E,9805μm,0.4s						
MGAB				AML	AML		
	comp=E,9325μm,0.7s						
FDMO	**Fiordimonte**	**0.54**	**128**	P	**Pb**	**19 43 35.3**	**-1.5**
FDMO				S	**Sb**	**19 43 44.1**	**-0.7**
FDMO				AML	AML		
	comp=E,2205μm,0.7s						
FDMO				AML	AML		
	comp=E,2200μm,0.7s						
FDMO				AML	AML		
	comp=N,2225μm,1.1s						
RSM	**Repubblica di**	**0.56**	**356**	P	**Pg**	**19 43 36.5**	**+0.7**
MOMA	**Monte Martano**	**0.57**	**175**	P	**Pb**	**19 43 36.0**	**-1.3**
MOMA				AML	AML		
	comp=E,4670μm,1.5s						
MOMA				AML	AML		
	comp=N,4055μm,1.6s						
MOMA				AML	AML		
	comp=E,5010μm,1.5s						
MOMA				AML	AML		
	comp=N,4055μm,1.6s						
MOMA				AML	AML		
	comp=E,5005μm,1.5s						
MOMA				AML	AML		
	comp=E,4670μm,1.5s						
MOMA				AML	AML		
	comp=N,3830μm,1.6s						
FEMA	**Monte Fema**	**0.57**	**135**	P	**Pb**	**19 43 36.1**	**-1.2**
FEMA				S	**Sb**	**19 43 45.2**	**-0.5**
CSP1	**Cessapalombo**	**0.59**	**118**	P	**Pb**	**19 43 36.0**	**-1.6**
CSP1				S	**Sb**	**19 43 45.1**	**-1.0**
CSP1				AML	AML		

	comp=E,3865µm,0.7s								
CSP1					AML	AML			
	comp=N,5675µm,0.7s								
CSP1					AML	AML			
	comp=N,5650µm,0.7s								
CSP1					AML	AML			
	comp=E,3870µm,0.7s								
PESA	**Pesaro**	**0.62**	**23**	P	**Pg**		19 43 36.8	-0.1	
PESA				S	**Sg**		19 43 46.0	+1.0	
PESA				AML	AML				
	comp=E,13900µm,0.5s								
PESA				AML	AML				
	comp=N,13000µm,0.6s								
SENI	**Senigallia**	**0.63**	**58**	P	**Pg**		19 43 37.2	+0.2	
SENI				AML	AML				
	comp=N,11900µm,0.3s								
SENI				AML	AML				
	comp=E,5095µm,1.2s								
SENI				AML	AML				
	comp=E,14750µm,0.7s								
SENI				AML	AML				
	comp=N,4470µm,1.1s								
ASQU	**Asqua**	**0.67**	**310**	P	**Pg**		19 43 37.8	-0.1	
ASQU				S	**Sg**		19 43 48.0	+1.4	
ASQU				AML	AML				
	comp=N,7360µm,0.8s								
ASQU				AML	AML				
	comp=E,4990µm,0.5s								
SACS	**San Casciano d**	**0.68**	**220**	P	**Pg**		19 43 38.2	+0.2	
SACS				AML	AML				
	comp=N,7935µm,0.5s								
SACS				AML	AML				
	comp=E,4070µm,0.8s								
SACS				AML	AML				
	comp=E,4150µm,0.8s								
SACS				AML	AML				
	comp=N,8050µm,0.5s								
NRCA	**Norcia**	**0.70**	**140**	P	**Pb**		19 43 38.2	-1.3	
NRCA				AML	AML				
	comp=E,2420µm,0.8s								
NRCA				AML	AML				
	comp=E,2345µm,0.8s								
NRCA				AML	AML				
	comp=N,3120µm,0.7s								
NRCA				AML	AML				
	comp=N,3435µm,0.7s								
SFI	**Santa Sofia**	**0.71**	**319**	P	**Pg**		19 43 38.4	-0.3	
SFI				AML	AML				
	comp=E,3590µm,0.8s								
SFI				AML	AML				
	comp=E,3315µm,0.4s								
SFI				AML	AML				
	comp=N,3270µm,0.7s								
SFI				AML	AML				
	comp=N,2985µm,0.6s								
CESX	**Cesi**	**0.76**	**176**	AML	AML				
	comp=N,3965µm,0.9s								
CESX				AML	AML				
	comp=E,5985µm,0.6s								
MCIV	**Monte Civitell**	**0.84**	**226**	AML	AML				
	comp=N,1210µm,0.9s								
MCIV				AML	AML				
	comp=E,1003µm,0.8s								
MCIV				AML	AML				
	comp=E,1004µm,0.8s								
MCIV				AML	AML				
	comp=N,1210µm,0.9s								
RUFI	**Rufina**	**0.86**	**303**	AML	AML				
	comp=N,3420µm,0.4s								
RUFI				AML	AML				
	comp=E,3670µm,1.6s								
RUFI				AML	AML				
	comp=N,3415µm,0.4s								
RUFI				AML	AML				
	comp=E,3685µm,1.6s								
LNSS	**Leonessa**	**0.86**	**153**	AML	AML				
	comp=E,3005µm,1.6s								
LNSS				AML	AML				
	comp=E,3000µm,1.6s								
LNSS				AML	AML				
	comp=N,4645µm,0.7s								
CSNT	**Castellina Chi**	**0.89**	**277**	AML	AML				
	comp=N,2790µm,0.5s								
CSNT				AML	AML				
	comp=E,2500µm,1.0s								
LATE	**Laterza**	**0.91**	**214**	AML	AML				
	comp=N,5300µm,0.5s								
LATE				AML	AML				
	comp=E,3555µm,1.3s								
OSSC	**Osservatorio P**	**0.93**	**280**	AML	AML				
	comp=N,2475µm,1.3s								
OSSC				AML	AML				
	comp=E,4110µm,0.7s								
OSSC				AML	AML				
	comp=N,2525µm,1.3s								
OSSC				AML	AML				
	comp=E,4025µm,0.7s								
SMA1	**SAN MARTINO**	**0.96**	**140**	AML	AML				
	comp=E,4530µm,0.7s								
SMA1				AML	AML				
	comp=N,3025µm,0.7s								
FROS	**Frosini**	**0.99**	**261**	AML	AML				
	comp=N,2855µm,1.1s								
FROS				AML	AML				
	comp=E,2220µm,0.7s								
BRIS	**BRISIGHELLA**	**1.06**	**318**	AML	AML				
	comp=N,3650µm,0.5s								
BRIS				AML	AML				
	comp=E,1620µm,0.6s								
SEI	**Scarperia**	**1.07**	**310**	AML	AML				
	comp=N,5755µm,0.5s								
SEI				AML	AML				
	comp=E,3980µm,0.5s								
GUMA	**Gualdo di Mace**	**1.09**	**106**	P	Pg		19 43 38.2	-7.7	
GUMA				AML	AML				
	comp=N,5340µm,0.4s								
GUMA				AML	AML				
	comp=E,7725µm,0.5s								
GUMA				AML	AML				
	comp=E,8420µm,1.5s								
GUMA				AML	AML				
	comp=N,6465µm,0.7s								
TERO	**Teramo**	**1.10**	**132**	AML	AML				
	comp=E,1755µm,0.9s								
TERO				AML	AML				
	comp=N,2150µm,0.6s								
TERO				AML	AML				
	comp=E,636µm,0.8s								
TERO				AML	AML				
	comp=N,872µm,0.6s								
T0104	**Madonna delle**	**1.18**	**148**	AML	AML				
	comp=N,2695µm,0.7s								
T0104				AML	AML				
	comp=E,3015µm,0.7s								
T0104				AML	AML				
	comp=E,2885µm,0.7s								
T0104				AML	AML				
	comp=N,2675µm,0.7s								
TRIF	**Trifonti**	**1.20**	**258**	AML	AML				
	comp=N,817µm,0.7s								
TRIF				AML	AML				
	comp=E,925µm,0.7s								
MTCR	**Monte La Croce**	**1.27**	**302**	AML	AML				
	comp=E,1714µm,1.5s								
MTCR				AML	AML				
	comp=N,1692µm,0.6s								
CASP	**Castiglione de**	**1.33**	**245**	AML	AML				
	comp=N,356µm,0.9s								
CASP				AML	AML				
	comp=E,436µm,1.0s								
TOLF	**Tolfa**	**1.36**	**196**	AML	AML				
	comp=E,668µm,0.8s								
TOLF				AML	AML				
	comp=N,463µm,0.9s								
MAON	**Monte Argentar**	**1.38**	**227**	AML	AML				
	comp=N,302µm,0.7s								
MAON				AML	AML				
	comp=E,304µm,0.5s								
BDI	**Bagni Di Lucca**	**1.54**	**297**	AML	AML				
	comp=E,1180µm,1.2s								
BDI				AML	AML				
	comp=E,974µm,0.6s								
BDI				AML	AML				
	comp=N,932µm,1.1s								
BDI				AML	AML				
	comp=N,1068µm,0.8s								
MAIM	**Mastiano**	**1.56**	**291**	AML	AML				
	comp=N,858µm,0.8s								
MAIM				AML	AML				
	comp=E,630µm,1.0s								
CARD	**Cardoso**	**1.60**	**295**	P	**Pn**		19 43 52.7	-0.9	
BRJN	**Brijuni**	**1.78**	**30**	*e*Pn	**Pn**		19 43 55.7	-0.4	
BRJN				Sn	**Sn**		19 44 19.6	+0.7	
DUGI	**Dugi Otok**	**1.96**	**71**	*e*Pn	**Pn**		19 43 58.0	-0.6	
PLMA	**Palmaria, Port**	**2.04**	**290**	AML	AML				
	comp=E,222µm,0.7s								
PLMA				AML	AML				
	comp=N,314µm,0.5s								
GRAM	**Graiana**	**2.08**	**303**	P	**Pn**		19 44 01.0	+0.7	
NVLJ	**Novalja**	**2.09**	**54**	*e*Pn	**Pn**		19 44 00.3	+0.1	
ZIRJ	**Zirje**	**2.31**	**82**	*e*Pn	**Pn**		19 44 03.9	+0.6	
MORI	**Morici**	**2.38**	**77**	*i* Pn	**Pn**		19 44 04.7	+0.4	
TRI	**Trieste**	**2.51**	**21**	AML	AML				
	comp=E,479µm,1.1s								
TRI				AML	AML				
	comp=N,359µm,0.6s								
UDBI	**Udbina**	**2.63**	**63**	*e*Pn	**Pn**		19 44 08.9	+1.1	
SMPL	**Sampolo**	**2.69**	**243**	P	**Pn**		19 44 09.8	+1.2	
SMPL				S	**Sn**		19 44 42.2	+0.8	
PGF	**Pioggiola**	**2.70**	**253**	*e*Pn	**Pn**		19 44 09.2	+0.3	
PGF	**Pioggiola**	**2.70**	**253**	*e*Pg	**Pg**		19 44 17.3	+0.7	
PGF				*e*Sn	**Sn**		19 44 41.9	+0.1	
	comp=N,28nm,0.6s								
PGF				*e*S	**Sb**		19 44 46.9	0.0	
PGF	**Pioggiola**	**2.70**	**253**	P	**Pn**		19 44 09.1	+0.3	
PGF				S	**Sn**		19 44 43.3	+1.5	
HVAR	**Hvar**	**2.89**	**92**	*e*Pn	**Pn**		19 44 11.6	+0.2	
HVAR				Sn	**Sn**		19 44 46.2	-0.2	
KIJV	**Kijevo**	**2.90**	**76**	*i* Pn	**Pn**		19 44 12.5	+1.0	
OZLJ	**Ozalj**	**3.09**	**42**	*e*Pn	**Pn**		19 44 15.8	+1.8	
MAKA	**Makarska**	**3.30**	**90**	*i* Pn	**Pn**		19 44 17.9	+1.0	
ABTA	**Abfaltersbach**	**3.38**	**0**	*i* Pn	**Pn**		19 44 19.2	+1.0	
	comp=N,20nm,0.6s,SNR=12								
ABTA				*e*Sn	**Sn**		19 45 01.8	+3.4	
	comp=N,117nm,0.7s								
RICI	**Ricice**	**3.38**	**86**	*e*Pn			19 44 19.6		
PTJ	**Puntijarka**	**3.54**	**43**	*e*Pn			19 44 22.8		
SAOF	**Saorge**	**3.64**	**281**	P	**Pn**		19 44 22.2	+0.5	
SAOF				S	**Sn**		19 45 05.5	+0.6	
BLY	**Banja Luka**	**3.65**	**66**	⇑P	**Pn**		19 44 25.1	+3.3	
BLY				AML	AML		19 45 37.6		
SBF	**Sospel**	**3.71**	**279**	*e*Pn	**Pn**		19 44 23.7	+1.0	
SBF	**Sospel**	**3.71**	**279**	*e*Pg	**Pg**		19 44 36.3	+0.3	
SBF				*e*Sn	**Sn**		19 45 05.7	-1.0	
	comp=N,64nm,0.5s								
SBF				*e*S	**Sb**		19 45 12.6	-3.4	
SBF				*e*Sg	**Sg**		19 45 24.1	0.0	
TURF	**col de Turini**	**3.75**	**281**	P	**Pn**		19 44 24.1	+0.7	
SOKA	**Soboth**	**3.76**	**28**	*i* Pn	**Pn**		19 44 23.9	+0.4	
	comp=N,1.2nm,0.3s								
SOKA				*e*Pg	**Pg**		19 44 35.5	-1.5	
	comp=N,19nm,0.6s,SNR=9.7								
SOKA				*i* Sg	**Sg**		19 45 26.7	+1.0	
	comp=N,26nm,0.5s								
MOSL	**Moslavina**	**3.78**	**52**	*e*Pn	**Pn**		19 44 23.4	-0.3	
STON	**Ston**	**3.84**	**96**	*e*Pn	**Pn**		19 44 25.2	+0.8	
STON				Sn	**Sn**		19 45 10.4	+0.7	
FETA	**Feichten**	**3.86**	**342**	*i* Pn	**Pn**		19 44 27.1	+2.3	
	comp=N,33nm,0.7s,SNR=11								
WTTA	**Wattenberg**	**3.94**	**351**	*i* Pn	**Pn**		19 44 28.3	+2.3	
	comp=N,5.0nm,0.2s,SNR=6.6								
WTTA				*i* Sn	**Sn**		19 45 15.2	+2.7	
	comp=N,65nm,0.7s								
KALN	**Kalnik**	**3.94**	**44**	*e*Pn	**Pn**		19 44 25.7	-0.1	
SQTA	**Sankt Quirin**	**3.96**	**347**	*e*Pn	**Pn**		19 44 28.9	+2.8	
	comp=N,28nm,0.4s,SNR=12								
SQTA				*i* Sn	**Sn**		19 45 13.4	+0.5	
	comp=N,45nm,0.5s								
WATA	**Walderalm**	**4.02**	**351**	*i* Pn	**Pn**		19 44 29.9	+2.9	
SNR=9.8									
MOTA	**Moosalm**	**4.09**	**347**	*i* Pn	**Pn**		19 44 31.7	+3.7	
	comp=N,32nm,0.6s,SNR=13								
MOTA				*i* Sn	**Sn**		19 45 16.1	-0.1	
	comp=N,14nm,0.5s								
MATE	**Matera**	**4.15**	**130**	⇓P	**Pn**		19 44 30.6	+2.0	
MATE				⇓S	**Sn**		19 45 15.1	-2.3	
DBRK	**Dubrovnik**	**4.20**	**98**	*e*Pn	**Pn**		19 44 30.6	+1.2	
SURF	**Saint Ours**	**4.26**	**287**	P	**Pn**		19 44 30.4	+0.1	
SURF				S	**Sn**		19 45 19.5	-0.8	
FRF	**La Foret Royal**	**4.26**	**275**	*e*Pn	**Pn**		19 44 30.9	+0.6	
FRF	**La Foret Royal**	**4.26**	**275**	*e*Pg	**Pg**		19 44 46.4	-0.2	
FRF				*e*Sn	**Sn**		19 45 19.0	-1.3	
	comp=N,11nm,0.3s								
FRF				*e*S	**Sb**		19 45 25.0	-6.9	
RETA	**Reutte**	**4.29**	**344**	*i* Pn	**Pn**		19 44 33.7	+2.9	
	comp=N,25nm,0.6s,SNR=7.3								
RETA				*i* Sn	**Sn**		19 45 24.9	+3.8	
	comp=N,27nm,0.5s								
DAVA	**Damuels**	**4.33**	**336**	*i* Pn	**Pn**		19 44 34.6	+3.3	
	comp=N,19nm,0.3s,SNR=16								
DAVA				*i* Sn	**Sn**		19 45 26.8	+4.7	
	comp=N,49nm,0.7s								
MBDF	**Montbardon**	**4.35**	**290**	*e*Pn	**Pn**		19 44 31.1	-0.4	
MBDF				*e*Sn	**Sn**		19 45 20.9	-1.6	
	comp=N,22nm,0.5s								
MBDF				*e*S	**Sb**		19 45 28.3	-6.1	
LMR	**La Mourre**	**4.37**	**272**	*e*Pn	**Pn**		19 44 31.6	-0.1	
LMR	**La Mourre**	**4.37**	**272**	*e*Pg	**Pg**		19 44 48.5	-0.1	
LMR				*e*Sn	**Sn**		19 45 21.4	-1.4	
	comp=N,4.9nm,0.4s								
LPG	**La Plagne**	**4.63**	**299**	*e*Pn	**Pn**		19 44 36.5	+0.9	
LPG				*e*Sn	**Sn**		19 45 28.3	-1.5	
	comp=N,19nm,0.7s								
LPG				*e*S	Sb		19 45 35.4	-7.4	
LPL	**La Plagne**	**4.65**	**299**	*e*Pn	**Pn**		19 44 36.6	+0.8	
LPL				*e*Sn	**Sn**		19 45 28.3	-1.9	
	comp=N,20nm,0.6s								
LPL				*e*S	Sb		19 45 35.5	-7.8	
BSTF	**la Bastide-des**	**5.00**	**278**	P	**Pn**		19 44 42.3	+1.9	
ORIF	**Oris-en-Rattie**	**5.01**	**290**	*e*Pn	**Pn**		19 44 41.5	+0.9	
ORIF				*e*Sn	**Sn**		19 45 36.7	-2.0	
	comp=N,13nm,0.5s								
ORIF				*e*S	Sb		19 45 45.5	-7.9	
ORIF	**Oris-en-Rattie**	**5.01**	**290**	P	**Pn**		19 44 42.2	+1.7	
PDG	**Podgorica**	**5.05**	**98**	⇑P	**Pn**		19 44 42.8	+1.8	
PDG				AML	AML		19 45 11.9		
PDG				⇓S	**Sn**		19 45 38.7	-0.9	
SMRF	**Simiane la Rot**	**5.06**	**279**	*e*Pn	**Pn**		19 44 42.1	+0.9	
SMRF	**Simiane la Rot**	**5.06**	**279**	*e*Pg	**Pg**		19 45 00.7	-1.1	
SMRF				*e*Sn	**Sn**		19 45 38.0	-1.9	
	comp=N,6.4nm,0.4s								
RUSF	**Rustrel**	**5.12**	**279**	P	**Pn**		19 44 42.8	+0.7	
TIH	**Tihany**	**5.20**	**45**	*e*Pn	**Pg**		19 45 04.0	-0.4	
TIH				Sn	**Sn**		19 45 43.1	-0.1	
MPLH	**Magyarpolny**	**5.20**	**41**	*e*Pn	**Pn**		19 44 45.1	+1.9	
MPLH				Sn	**Sn**		19 45 41.0	-2.4	
MORH	**Mrgy, Hungar**	**5.21**	**55**	*e*Pn	**Pn**		19 44 41.1	-2.2	
MORH				Sn	**Sn**		19 45 51.0	+7.4	
GERES	**GERESS Array B**	**5.54**	**8**	Pn	**Pn**		19 44 47.4	-0.4	
	comp=N,0.9nm,0.3s,baz=181,slow=12,SNR=36								
GERES				Sn	**Sn**		19 45 49.8	-2.0	
	comp=N,2.6nm,0.3s,baz=173,slow=23,SNR=8.1								
GERES				Lg	Lg		19 46 26.2		
	baz=180,slow=28,SNR=2.1								
CABF	**La Chapelle**	**5.58**	**308**	*e*Pn	**Pn**		19 44 49.2	+0.8	
CABF				*e*Sn	**Sn**		19 45 50.0	-2.9	
	comp=N,31nm,0.8s								
KHC	**Kasperske Hory**	**5.81**	**7**	*e*PN	**Pn**		19 44 51.9	+0.4	
KHC				*e*PG	**Pb**		19 45 09.8	+3.3	
KHC				*e*SN	**Sn**		19 45 57.2	-1.2	
VIVF	**Saint-Julien-l**	**5.83**	**287**	*e*Pn	**Pn**		19 44 52.6	+0.8	
VIVF				*e*Sn	**Sn**		19 45 55.9	-2.9	
	comp=N,6.0nm,0.7s								
HINF	**Hinteralfeld**	**5.95**	**320**	*e*Pn	**Pn**		19 44 54.0	+0.5	
HINF				*e*Sn	**Sn**		19 45 59.5	-2.4	
	comp=N,25nm,0.6s								
MODS	**Modra-Piesok**	**6.01**	**32**	*e*PN	**Pn**		19 44 54.9	+0.6	
MODS				*e*SN	**Sn**		19 46 00.4	-2.9	
SRO	**Srobarova**	**6.03**	**41**	*e*Sn	**Sn**		19 46 03.5	-0.2	
SMOL	**Smolenice**	**6.18**	**32**	*e*PN	**Pn**		19 44 59.3	+2.7	
CDF	**Champ du Feu**	**6.22**	**326**	*e*Pn	**Pn**		19 44 57.7	+0.5	
CDF				*e*Sn	**Sn**		19 46 06.4	-2.2	
	comp=N,37nm,0.6s								
KRUC	**Moravsky**	**6.30**	**24**	*e*PN	**Pn**		19 44 57.7	-0.5	
LASF	**Ste Croix**	**6.30**	**279**	*e*Pn	**Pn**		19 44 59.0	+0.7	
LASF				*e*Sn	**Sn**		19 46 07.7	-2.8	
	comp=N,4.0nm,0.5s								
HAU	**Haudompre**	**6.33**	**319**	*e*Pn	**Pn**		19 44 59.1	+0.5	
HAU				*e*Sn	**Sn**		19 46 08.1	-3.0	
	comp=N,31nm,0.4s								
PBCC	**Pribram**	**6.40**	**9**	*e*PN	**Pn**		19 45 00.7	+1.1	
PBCC				*e*SN	**Sn**		19 46 09.5	-3.4	
VRAC	**Vranov**	**6.58**	**24**	Pn	**Pn**		19 45 02.5	+0.5	
	comp=N,0.2nm,0.3s,baz=207,slow=14,SNR=1.7								
VRAC				Sn	**Sn**		19 46 13.9	-3.3	
	comp=N,0.4nm,0.3s,baz=242,slow=18,SNR=1.7								
VRAC				Lg	Lg		19 46 46.7		
	comp=N,0.3nm,0.3s,baz=121,slow=18,SNR=1.5								
VRAC				LR	LR		19 47 47.1		
	comp=N,145nm,20.7s,baz=158,slow=41								
VRAC	**Vranov**	**6.58**	**24**	*e*PN	**Pn**		19 45 01.7	-0.3	
GOPC	**GO Pecny, Ondr**	**6.73**	**13**	*e*PN	**Pn**		19 45 04.3	+0.2	
VYHS	**Vyhne**	**6.76**	**39**	*e*SN	**Sn**		19 46 18.5	-3.3	
PRU	**Pruhonice**	**6.77**	**11**	*e*PN	**Pn**		19 45 04.3	-0.3	
PRU				*e*SN	**Sn**		19 46 18.2	-3.7	
NKC	**Novy Kostel**	**6.87**	**360**	*e*PN	**Pn**		19 45 07.3	+1.3	
NKC				*e*SN	**Sn**		19 46 22.8	-1.5	
PSZ	**Piszkesteto**	**6.89**	**46**	*e*Pn	**Pn**		19 45 11.0	+4.6	
PSZ				Sn	**Sn**		19 46 21.0	-4.1	
BZS	**Buzias**	**6.89**	**68**	⇑P	**Pn**		19 45 09.1	+2.7	
SMF	**Signal de Mont**	**6.96**	**301**	*e*Pn	**Pn**		19 45 07.7	+0.5	
SMF				*e*Sn	**Sn**		19 46 22.8	-3.7	
	comp=N,23nm,0.9s								
PAGF	**Fort de Pagny**	**7.01**	**320**	*e*Pn	**Pn**		19 45 08.8	+0.9	
PAGF				*e*Sn	**Sn**		19 46 24.2	-3.7	
	comp=N,18nm,0.6s								
SFTF	**Sexfontaines**	**7.11**	**315**	*e*Pn	**Pn**		19 45 10.2	+0.9	
baz=135									
SFTF				*e*Sn	**Sn**		19 46 26.8	-3.5	
	comp=N,14nm,0.5s								
LOR	**Lormes**	**7.23**	**306**	*e*Pn	**Pn**		19 45 11.4	+0.4	
baz=126									
LOR				*e*Sn	**Sn**		19 46 29.6	-3.7	
	comp=N,26nm,0.9s								
MORC	**Moravsky Berou**	**7.29**	**27**	⇑P	Pn		19 45 16.9	+5.1	
MEZF	**Maizieres J'vi**	**7.30**	**317**	*e*Pn	**Pn**		19 45 13.2	+1.3	
baz=136									
MEZF				*e*Sn	**Sn**		19 46 31.0	-3.9	
	comp=N,4.2nm,0.4s								
AVF	**Avril sur Loir**	**7.32**	**301**	*e*Pn	**Pn**		19 45 12.8	+0.6	
AVF				*e*Sn	**Sn**		19 46 31.9	-3.6	
	comp=N,6.5nm,0.7s								
KRLC	**Kraliky**	**7.32**	**22**	*e*PN	**Pn**		19 45 12.0	-0.3	
SSF	**Saint Saulge**	**7.34**	**303**	*e*Pn	**Pn**		19 45 13.0	+0.5	
SSF				*e*Sn	**Sn**		19 46 32.2	-3.9	
	comp=N,5.6nm,0.6s								
MTLF	**Montolieu**	**7.50**	**273**	*e*Pn	**Pn**		19 45 15.2	+0.6	
MTLF				*e*Sn	**Sn**		19 46 36.4	-3.4	
	comp=N,37nm,1.4s								
BGF	**Bois d'Agland**	**7.55**	**298**	*e*Pn	**Pn**		19 45 16.0	+0.6	
BGF				*e*Sn	**Sn**		19 46 37.2	-4.0	
	comp=N,8.9nm,0.6s								
BRG	**Berggiesshubel**	**7.57**	**7**	PN	**Pn**		19 45 20.0	+4.4	
BRG				SN	**Sn**		19 46 39.0	-2.6	
GZR	**Gura Zlata**	**7.63**	**71**	⇑P	**Pn**		19 45 18.1	+1.6	
CAF	**Calviac**	**7.67**	**285**	*e*Pn	**Pn**		19 45 18.2	+1.2	
VTS	**Vitosha**	**7.91**	**92**	⇓P	**Pn**		19 45 20.7	+0.3	
CLL	**Collm**	**7.95**	**2**	*e*Pn	**Pn**		19 45 21.0	+0.2	
CLL				*e*Pg	Pg		19 45 53.0	-4.0	
CLL				*e*Sn	Sn		19 46 40.0	-11	
CLL				*e*			19 46 59.0		
CLL				*e*			19 47 14.0		
CLL				*e*Sg	**Sg**		**19 47 48.0**	**+8.1**	
KEST	**Kesra**	**8.01**	**199**	Pn	Pn		19 45 26.3	+4.5	
	comp=N,0.2nm,0.3s,baz=12,slow=20,SNR=2.0								
KEST				LR	LR		19 48 26.4		
	comp=N,150nm,18.9s,baz=170,slow=37								
RJF	**Les Rejaudoux**	**8.11**	**288**	*e*Pg	**Pn**		19 45 23.6	+0.6	
TRPA	**Tarpa**	**8.48**	**52**	Sn	Sn		19 46 50.1	-14	
VOIR		**9.22**	**73**	⇑P	**Pn**		19 45 40.7	+2.4	
EKA	**Eskdalemuir Ar**	**15.68**	**325**	Pn	**Pn**		19 47 07.5	+1.4	
baz=143,slow=16,SNR=1.6									
AKTO	**Aktyubinsk**	**31.48**	**61**	LR	LR		20 03 45.8		
	comp=N,57nm,18.8s,baz=178,slow=39								
TORD	**Torodi Ar. Bea**	**31.52**	**200**	P	**P**		**19 49 48.2**	**+0.5**	
	comp=N,0.6nm,0.6s,baz=22,slow=8.6,SNR=3.2								
ARU	**Arti**	**31.78**	**49**	P	**P**		**19 49 48.3**	**-1.3**	
	comp=N,0.4nm,0.4s,baz=143,slow=20,SNR=1.7								
KURBB	**Kurchatov Arra**	**44.26**	**57**	P	**P**		**19 51 34.2**	**-0.6**	
	comp=N,0.5nm,0.8s,baz=284,slow=7.6,SNR=4.3								
MKAR	**Makanchi Array**	**47.91**	**60**	P	**P**		**19 52 04.2**	**+0.5**	
	comp=N,0.2nm,0.7s,baz=298,slow=6.4,SNR=2.2								
SONM	**Songino Array**	**61.82**	**50**	P	**P**		**19 53 44.8**	**+0.3**	
	comp=N,0.3nm,0.6s,baz=284,slow=7.3,SNR=2.7								
YKA	**Yellowknife Ar**	**66.31**	**336**	P	**P**		**19 54 14.6**	**+1.1**	
	comp=N,0.9nm,0.8s,baz=43,slow=6.4,SNR=14								

IDC 27 20:00:19.6±9.0, 2°49.5S×137°94E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/29, mbtmp3.4/3, ML3.5/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/12, Error ellipse: s-maj=396.3km s-min=30.9km az=84.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**17.70**	**191**	P	Pn		20 04 27.2	-0.5
	0.2nm,0.3s,baz=12,slow=12,SNR=3.5							
WRA				S	Sn		20 07 29.9	-16
	0.1nm,0.3s,baz=22,slow=23,SNR=3.3							
ASAR	**Alice Springs**	**21.41**	**190**	P	P		20 05 09.5	+0.2
	0.5nm,0.4s,baz=14,slow=10,SNR=18							
ASAR				S	S		20 09 02.5	-5.4
	1.0nm,0.7s,baz=11,slow=23,SNR=4.9							
RPZ	**Rata Peaks**	**50.47**	**149**	LR	LR		20 28 29.7	
	comp=Z,36nm,20.9s,baz=22,slow=34							
MKAR	**Makanchi Array**	**69.15**	**323**	P	P		20 11 27.9	0.0

CLL				*i*				20 03 36.7	
CLL				*e*Sg		**Sg**	**20 04 00.0**	**0.0**
	comp=Z,25nm,0.6s								
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*Pn		**Pn**	**20 03 32.6**	**-0.6**
OKC				*e*Sg		**Sg**	**20 04 03.8**	**-0.9**
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*PG		**Pb**	**20 03 36.3**	**+0.4**
OKC				*e*SG		**Sb**	**20 04 02.7**	**0.0**
VRAC	**Vranov**	**2.25**	**172**	*e*PN		**Pn**	**20 03 34.7**	**-0.3**
VRAC				*e*SG		**Sb**	**20 04 06.8**	**+0.5**
TREC	**Trest**	**2.28**	**191**	*e*PG		**Pg**	**20 03 39.4**	**-0.8**
KRUC	**Moravsky**	**2.48**	**176**	*e*PN		**Pn**	**20 03 38.6**	**+0.4**
KRUC				*e*SG		**Sg**	**20 04 14.3**	**-1.8**
OJC	**Ojcow**	**2.66**	**118**	*e*Pn		**Pn**	**20 03 40.0**	**-0.7**
OJC	**Ojcow**	**2.66**	**118**	*e*Pg		**Pb**	**20 03 46.6**	**+1.5**
OJC				*e*Pg		**Pb**	**20 03 46.6**	**+1.5**
OJC				*e*Sg		**Sg**	**20 04 22.3**	**+0.3**
OJC				*e*Sg		**Sg**	**20 04 22.3**	**+0.3**
NKC	**Novy Kostel**	**2.68**	**242**	*e*PN		**Pn**	**20 03 41.4**	**+0.5**
NKC				*e*PG		**Pg**	**20 03 47.7**	**-0.1**
NKC				*e*SG		**Sg**	**20 04 22.7**	**+0.2**
	comp=Z,63nm,0.3s								
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN		**Pn**	**20 03 43.9**	**-0.2**
KHC				*e*PG		**Pb**	**20 03 50.0**	**+0.7**
KHC				*e*SN		**Sn**	**20 04 18.6**	**-1.2**
KHC				*e*SG		**Sg**	**20 04 28.2**	**-1.8**
	comp=Z,27nm,0.4s								
MOX	**Moxa**	**2.99**	**254**	*e*Pn		**Pn**	**20 03 45.7**	**+0.5**
MOX				*e*Sg		**Sg**	**20 04 33.2**	**+0.7**
MANZ	**Manzenberg**	**2.99**	**240**	*e*Pn		**Pn**	**20 03 45.8**	**+0.6**
ROTZ	**Rotzenmuhle**	**3.06**	**236**	*e*Pn		**Pn**	**20 03 46.5**	**+0.3**
GEC2	**GERESS Array S**	**3.11**	**211**	*e*Pn		**Pn**	**20 03 47.7**	**+0.7**
SMOL	**Smolenice**	**3.13**	**164**	*e*PG		**Pg**	**20 03 57.9**	**+1.3**
SMOL				*e*SG		**Sg**	**20 04 38.4**	**+1.2**
WET	**Wettzell**	**3.18**	**222**	*e*Pn		**Pn**	**20 03 47.6**	**-0.1**
LANS	**Liptovska Anna**	**3.20**	**137**	*e*PN		**Pn**	**20 03 48.3**	**+0.2**
LANS				*e*PG		**Pg**	**20 03 58.2**	**+0.4**
LANS				*e*SG		**Sg**	**20 04 37.3**	**-1.9**
MODS	**Modra-Piesok**	**3.25**	**166**	*e*PG		**Pg**	**20 03 59.2**	**+0.5**
MODS				*e*SG		**Sg**	**20 04 40.0**	**-0.8**
KOLL	**Kolacno**	**3.30**	**153**	*e*SG		**Sg**	**20 04 40.8**	**-1.6**
ZST	**Bratislava**	**3.40**	**169**	*e*SG		**Sg**	**20 04 43.2**	**-2.4**
VYHS	**Vyhne**	**3.50**	**149**	*e*PN		**Pn**	**20 03 51.7**	**-0.5**
VYHS				*e*PG		**Pg**	**20 04 04.3**	**+0.7**
VYHS				*e*SG		**Sb**	**20 04 45.5**	**+3.0**
CONA	**Conrad Observa**	**3.61**	**183**	*i* Pn		**Pn**	**20 03 54.6**	**+0.8**
	comp=Z,0.7nm,0.2s								
CONA				*i* Sg		**Sg**	**20 04 49.3**	**-3.3**
	comp=Z,16nm,0.4s								
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P		**Pn**	**20 03 53.7**	**-0.7**
BSD				*i* S		**Sn**	**20 04 35.9**	**-2.3**
MOA	**Molln**	**3.88**	**199**	*i* Pn		**Pn**	**20 03 58.0**	**+0.5**
	comp=Z,0.5nm,0.1s								
MOA				*i* Sg		**Sg**	**20 04 59.2**	**-2.0**
	comp=Z,14nm,0.4s								
ARSA	**Arzberg**	**4.30**	**186**	*e*Pn		**Pn**	**20 04 05.9**	**+2.6**
	comp=Z,0.7nm,0.2s								
ARSA				*i* Sg		**Sg**	**20 05 10.6**	**-4.1**
	comp=Z,24nm,0.7s								
KBA	**Koelnbreinsper**	**4.82**	**203**	*i* Pn		**Pn**	**20 04 11.1**	**+0.6**
	comp=Z,0.1nm,0.1s								
KBA				*e*Sg		**Sb**	**20 05 23.6**	**+3.1**
	comp=Z,17nm,0.7s								
WATA	**Walderalm**	**5.15**	**217**	*e*Pn		**Pn**	**20 04 15.3**	**+0.3**
	comp=Z,0.6nm,0.2s								
WATA				*i* Sn		**Sn**	**20 05 12.7**	**-2.4**
	comp=Z,1.4nm,0.2s								
WTTA	**Wattenberg**	**5.19**	**216**	*i* Pn		**Pn**	**20 04 16.5**	**+1.0**
	comp=Z,1.1nm,0.3s								
MOTA	**Moosalm**	**5.33**	**220**	*i* Pn		**Pn**	**20 04 19.8**	**+2.4**
	comp=Z,0.3nm,0.2s								
MOTA				*i* Sn		**Sn**	**20 05 15.6**	**-3.9**
RETA	**Reutte**	**5.35**	**223**	*e*Sg		**Sg**	**20 05 48.9**	**+0.5**
	comp=Z,2.9nm,0.4s								
SQTA	**Sankt Quirin**	**5.38**	**219**	*i* Pn		**Pn**	**20 04 19.5**	**+1.3**
SQTA				*i* Sg		**Sg**	**20 05 54.6**	**+5.2**
	comp=Z,4.8nm,0.4s								

IDC 27 20:05:42.6±6.0, 50°03'N×113°60'W, h0km, mb1 3.8/1, mb1mx3.1/44, mbtmp3.4/1, ML3.2/1, Error ellipse: s-maj=98.4km s-min=43.2km az=76.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**2.91**	**234**	*i*		20 20 00.0	
	baz=58,slow=314,SNR=0.5						
I10CA	**LAC DU BONNET**	**11.29**	**82**	*i*		21 15 50.0	
	baz=273,slow=297,SNR=1.8						
YKA	**Yellowknife Ar**	**12.50**	**358**	Pn	Pn	20 08 38.5	-3.1
	0.2nm,0.3s,baz=182,slow=13,SNR=4.3						
YKA				Sn	Sn	20 10 48.7	-13
	0.2nm,0.3s,baz=188,slow=22,SNR=5.5						
YKA				Lg	Lg	20 12 09.7	
	0.0nm,0.3s,baz=182,slow=29,SNR=2.4						

ISCJB 27 20:13:09.3±0.5, 21°.19S±0°.03×68°.60W±0°.09, h145km±7km, Error ellipse: s-maj=14.3km s-min=4.5km az=0.3
NEIC 27 20:13:09.4±2.9, 21°.25S±0°.03×68°.6W±0°.1, h135km±9km
IDC 27 20:13:10.4±0.7, 21°.21S×68°.30W, h126km±8km, mb3.6/3, mb1 3.8/5, mb1mx3.4/26, mbtmp4.2/5, Error ellipse: s-maj=27.7km s-min=10.2km az=105.0
GUC 27 20:13:10.0±0.8, 21°.17S×68°.56W, h131km±6km, ML3.9
ISC 27 20:13:09.7±0.8, 21°.21S×68°.57W±0°.08, h138km±7km, n35, σ1§44/55, 6C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.86**	**227**	*e*P	**Pn**	**20 13 33.2**	**+0.9**
PB09				*e*S	**Sn**	**20 13 49.9**	**+0.4**
PB09				IAML		20 13 51.8	
	comp=N,2μm,0.6s						
PB08	**IPOC Station P**	**1.20**	**333**	⇓*i*P	**Pn**	**20 13 36.2**	**+0.5**
PB08				*i* S	**Sn**	**20 13 55.4**	**0.0**
PB08				IAML		20 13 56.2	
	comp=N,2μm,0.2s						
PB03	**IPOC Station P**	**1.38**	**233**	⇑*i*P	**Pn**	**20 13 38.1**	**+0.8**
PB03				*i* S	**Sn**	**20 13 58.6**	**+0.3**
PB03				IAML		20 13 59.4	
	comp=E,2μm,0.3s						
LVC	**Limon Verde**	**1.43**	**193**	⇓*i*P	**Pn**	**20 13 38.8**	**+0.9**
LVC				*i* S	**Sn**	**20 14 00.2**	**+0.7**
LVC	**Limon Verde**	**1.43**	**193**	P	**Pn**	**20 13 39.0**	**+1.0**
	comp=E,214nm,0.3s,baz=18,slow=8.2,SNR=723						
LVC				S	**Sn**	**20 14 00.1**	**+0.7**
	comp=E,45nm,0.3s,baz=291,slow=23,SNR=17						
LVC	**Limon Verde**	**1.43**	**193**		**Pn**	**20 13 38.9**	**+0.9**
LVC					**Sn**	**20 13 59.2**	**-0.4**
TA01	**Diego Aracena**	**1.64**	**293**	⇓*i*P	**Pn**	**20 13 40.2**	**+0.3**
TA01				*i* S	**Sn**	**20 14 03.0**	**0.0**
TA01				IAML		20 14 04.4	
	comp=E,2μm,0.3s						
PB06	**IPOC Station P**	**1.75**	**212**	⇑*i*P	**Pn**	**20 13 42.3**	**+0.9**
PB06				*i* S	**Sn**	**20 14 06.5**	**+0.8**
PB06				IAML		20 14 07.4	
	comp=E,902nm,0.2s						
PB11	**IPOC Station P**	**1.77**	**325**	⇓*i*P	**Pn**	**20 13 41.5**	**-0.1**
PB11				*i* S	**Sn**	**20 14 05.3**	**-0.6**
PB11	**IPOC Station P**	**1.77**	**325**		**Pn**	**20 13 41.6**	**0.0**
PB11				Sn	**Sn**	**20 14 05.0**	**-0.9**
PB04	**IPOC Station P**	**1.85**	**233**	⇑*i*P	**Pn**	**20 13 43.2**	**+0.8**
PB04				*i* S	**Sn**	**20 14 07.8**	**+0.2**
PB04				IAML		20 14 09.0	
	comp=E,942nm,0.3s						
PB04	**IPOC Station P**	**1.85**	**233**		**Pn**	**20 13 43.1**	**+0.6**
PB04				Sn	**Sn**	**20 14 06.6**	**-1.0**
PB15	**IPOC Station P**	**2.16**	**203**	⇑*i*P	**Pn**	**20 13 47.1**	**+0.9**
PB15				*i* S	**Sn**	**20 14 16.1**	**+1.9**
PSGC	**Pisagua**	**2.17**	**317**	⇓*i*P	**Pn**	**20 13 45.7**	**-0.6**
PSGC				*i* S	**Sn**	**20 14 12.6**	**-1.8**
PSGC				IAML		20 14 16.4	
	comp=N,450nm,0.6s						
PB05	**IPOC Station P**	**2.23**	**223**	⇑*i*P	**Pn**	**20 13 47.9**	**+0.9**
MNMC	**Minye Minye**	**2.29**	**335**	*e*P	**Pn**	**20 13 48.3**	**+0.4**
MNMC				*i* S	**Sn**	**20 14 17.5**	**+0.3**
MNMC	**Minye Minye**	**2.29**	**335**		**Pn**	**20 13 48.3**	**+0.4**
MNMC				Sn	**Sn**	**20 14 16.0**	**-1.1**
PB10	**IPOC Station P**	**2.94**	**218**		**Pn**	**20 13 55.5**	**-0.3**
PB10				Sn	**Sn**	**20 14 25.6**	**-5.8**
PB16	**IPOC Station P**	**3.00**	**343**	⇑*i*P	**Pn**	**20 13 57.8**	**+0.7**
PB16				*e*S	**Sn**	**20 14 34.0**	**+0.3**
LPAZ	**La Paz**	**4.92**	**5**	P	**Pn**	**20 14 23.7**	**+1.3**
	comp=N,7.6nm,0.3s,baz=165,slow=7.4,SNR=128						
LPAZ				S	**Sn**	**20 15 19.4**	**+0.5**
	baz=143,slow=10,SNR=1.5						
LPAZ	**La Paz**	**4.92**	**5**		**Pn**	**20 14 22.2**	**-0.3**
LPAZ					**Sn**	**20 15 17.0**	**-1.9**
SIV	**San Ignacio**	**8.80**	**55**	P	**Pn**	**20 15 10.4**	**-3.6**
	comp=N,7.7nm,0.3s,baz=255,slow=13,SNR=88						
SIV				S	Sn	20 16 36.5	-15
	baz=356,slow=16,SNR=2.3						
GO04	**Toledo Observa**	**9.15**	**192**	Pn	**Pn**	**20 15 15.1**	**-3.6**
CFA	**Coronel Fontan**	**10.36**	**178**	P	**Pn**	**20 15 32.2**	**-2.4**
	comp=N,1.0nm,0.3s,baz=341,slow=14,SNR=6.3						
CFA				S	Sn	20 17 19.1	-10
	comp=N,0.4nm,0.3s,baz=287,slow=14,SNR=2.2						
SAML	**Samuel**	**13.25**	**24**	Pn	**Pn**	**20 16 11.9**	**-0.8**
BDFB	**Brasilia**	**20.26**	**78**	P	**P**	**20 17 34.4**	**-0.3**
	comp=N,3.0nm,0.6s,baz=258,slow=4.7,SNR=3.9						
BDFB	**Brasilia**	**20.26**	**78**	P	**P**	**20 17 33.9**	**-0.8**
BDFB				IAmb	IAmb	20 17 38.3	
	comp=Z,3.2nm,0.7s						
TOA0	**Torodi Ar. Sit**	**76.96**	**70**	P	**P**	**20 24 48.1**	**+0.4**
TOA0				IAmb	IAmb	20 26 40.1	
	comp=Z,11nm,1.7s						
TORD	**Torodi Ar. Bea**	**76.96**	**70**	P	**P**	**20 24 48.0**	**+0.4**
	comp=Z,2.7nm,1.1s,baz=252,slow=5.5,SNR=18						
YKA	**Yellowknife Ar**	**91.02**	**340**	P	**P**	**20 25 58.3**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=139,slow=4.6,SNR=4.1						
ASAR	**Alice Springs**	**130.31**	**207**	PKP	**PKiKP**	**20 32 06.5**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=121,slow=1.7,SNR=7.5						
WRA	**Warramunga Arr**	**133.36**	**210**	PKP	**PKiKP**	**20 32 12.9**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=155,slow=1.6,SNR=6.4						
ZALV	**Zalesovo Beam**	**141.56**	**25**	PKP	**PKiKP**	**20 32 26.1**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=238,slow=2.7,SNR=2.5						
MKAR	**Makanchi Array**	**145.21**	**36**	PKPbc	**PKPab**	**20 32 33.0**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=337,slow=2.8,SNR=12						
SONM	**Songino Array**	**153.13**	**8**	PKPbc	**PKiKP**	**20 32 53.3**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=301,slow=1.8,SNR=2.3						

ISCJB 27 20:14:59.9±0.5, 29°.68S±0°.04×176°.98W±0°.07, h10km, mb4.3/5, MS3.5/1, Error ellipse: s-maj=8.9km s-min=5.6km az=13.8
NEIC 27 20:15:02.1±2.8, 29°.63S±0°.06×176°.98W±0°.07, h10km±1km, mb4.6/23
IDC 27 20:15:02.6±0.8, 29°.55S×177°.16W, h0km, mb4.3/5, mb1 4.5/7, mb1mx4.1/22, mbtmp4.3/7, ML3.9/2, Error ellipse: s-maj=25.3km s-min=17.2km az=12.0
ISC 27 20:15:02.2±0.5, 29°.61S±0°.06×177°.02W±0°.07, h10km, n62, σ1§67/56, mb4.5/10, 2C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.86**	**294**	Pn	**Pn**	**20 15 21.5**	**+1.1**
	2μm,0.3s,baz=131,slow=3.2,SNR=120						
RAO				Sn	**Sg**	**20 15 31.4**	**+1.3**
	3μm,0.3s,baz=90,slow=20,SNR=42						
MXZ	**Matakaoa Point**	**8.84**	**205**	Pn	**Pn**	**20 17 12.7**	**+2.8**
OUZ	**Omahuta**	**9.71**	**232**		**Pn**	20 17 31.8	+10
URZ	**Urewera**	**9.91**	**208**	Pn	**Pn**	**20 17 26.1**	**+1.5**
	0.3nm,0.3s,baz=198,slow=19,SNR=4.0						
URZ				Sn	**Sn**	**20 19 14.7**	**-1.2**
	1.2nm,0.3s,baz=248,slow=12,SNR=5.3						
URZ	**Urewera**	**9.91**	**208**		**Pn**	**20 17 25.5**	**+0.8**
URZ					**Sn**	**20 19 16.0**	**+0.1**
NIUE	**Niue**	**12.31**	**33**	Pn	**Pn**	**20 17 56.2**	**-1.4**
BFZ	**Birch Farm**	**12.34**	**205**	Pn	**Pn**	**20 17 57.8**	**-0.1**
SNZO	**South Karori**	**13.47**	**208**	Pn	**Pn**	**20 18 14.5**	**+1.1**
TUWZ	**Tuamarina**	**13.89**	**209**	Pn	**Pn**	**20 18 18.1**	**-1.0**
NNZ	**Nelson**	**13.97**	**211**	Pn	**Pn**	**20 18 19.0**	**-1.2**
QRZ	**Quartz Range**	**14.07**	**215**	Pn	**Pn**	**20 18 20.6**	**-0.9**
BSWZ	**Blackbirch Sta**	**14.15**	**209**	Pn	**Pn**	**20 18 22.8**	**+0.1**
THZ	**Tophouse**	**14.62**	**211**	Pn	**Pn**	**20 18 29.0**	**-0.1**
KHZ	**Kahutara**	**14.88**	**208**	Pn	**Pn**	**20 18 30.2**	**-2.3**
LTZ	**Lake Taylor**	**15.71**	**210**	Pn	**Pn**	**20 18 40.9**	**-2.8**
LTZ				IAmb	IAmb	20 19 02.6	
	comp=Z,23nm,1.2s						
OXZ	**Oxford**	**16.25**	**210**		**P**	**20 18 52.1**	**-1.5**
OXZ				IAmb	IAmb	20 18 57.3	
	comp=Z,26nm,0.4s						
MQZ	**McQueen's Vall**	**16.31**	**208**	Pn	**Pn**	**20 18 49.5**	**-1.7**
MQZ				IAmb	IAmb	20 19 13.1	
	comp=Z,62nm,1.4s						
DZM	**Mont Dzumac**	**16.66**	**293**	*e*LR	LR	20 22 16.2	
	comp=Z,217nm,25.0s						
DZM	**Mont Dzumac**	**16.66**	**293**	P	**Pn**	**20 18 55.0**	**-1.0**
RPZ	**Rata Peaks**	**17.00**	**211**	Pn	**P**	**20 19 02.9**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=320,slow=1.2,SNR=7.9						
RPZ				Sn	Sn	20 21 53.8	-15
	comp=Z,0.3nm,0.3s,baz=339,slow=16,SNR=2.1						
RPZ	**Rata Peaks**	**17.00**	**211**	P	**Pn**	**20 18 59.5**	**-0.5**
RPZ				IAmb	IAmb	20 19 07.9	
	comp=Z,58nm,1.8s						
FOZ	**Fox Glacier**	**17.43**	**214**	P	**Pn**	**20 19 04.5**	**-0.8**
RAR	**Rarotonga**	**17.66**	**66**	P	**P**	**20 19 10.2**	**+0.9**
ODZ	**Otahua Downs**	**18.23**	**209**	P	**Pn**	**20 19 12.2**	**-3.1**
ODZ				IAmb	IAmb	20 19 31.8	
	comp=Z,62nm,1.6s						
WKZ	**Wanaka**	**18.78**	**212**	P	**P**	**20 19 18.1**	**-3.5**
WKZ				IAmb	IAmb	20 19 18.5	
	comp=Z,30nm,1.3s						
MLZ	**Mavora Lakes**	**19.61**	**213**	P	**P**	**20 19 27.9**	**-2.7**
MLZ				IAmb	IAmb	20 19 33.0	
	comp=Z,29nm,1.6s						
WHZ	**Wether Hill Ro**	**20.08**	**212**	P	**P**	**20 19 33.2**	**-2.6**
WHZ				IAmb	IAmb	20 19 58.2	
	comp=Z,52nm,1.8s						
TBI	**Tubuai**	**25.41**	**82**	*e*T	T	20 47 38.8	
	comp=Z,12nm,0.4s						
ARMA	**Armidale**	**27.12**	**260**	P	**P**	**20 20 43.2**	**-2.4**
ARMA				IAmb	IAmb	20 20 50.2	
	comp=Z,5.7nm,0.8s						
KNTN	**Kanton**	**27.16**	**12**	P	**P**	**20 20 43.2**	**-2.6**
PAE	**Paea**	**27.73**	**71**	*e*T	T	20 50 14.4	
	comp=Z,3.4nm,0.3s						
PPT2	**Papeete2**	**27.77**	**71**	*e*LR	LR	20 27 58.2	
	comp=Z,142nm,25.2s						
TOO	**Toolangi**	**32.06**	**246**	P	**P**	**20 21 29.4**	**+0.1**
TOO				IAmb	IAmb	20 21 57.2	
	comp=Z,8.6nm,1.2s						
STKA	**Stephens Creek**	**35.49**	**256**	P	**P**	**20 22 00.3**	**+1.2**
	comp=Z,5.2nm,0.8s,baz=86,slow=8.9,SNR=13						
STKA	**Stephens Creek**	**35.49**	**256**	P	**P**	**20 22 00.1**	**+0.9**
XMAS	**Kiritimati**	**36.62**	**34**	P	**P**	**20 22 07.9**	**-1.0**
BBOO	**Buckleboo**	**40.01**	**253**	P	**P**	**20 22 38.3**	**+1.0**
BBOO				IAmb	IAmb	20 22 58.4	
	comp=Z,95nm,1.8s						
AS31	**Alice Springs**	**44.01**	**266**	P	**P**	**20 23 11.3**	**+1.1**
ASAR	**Alice Springs**	**44.01**	**266**	P	**P**	**20 23 10.2**	**0.0**
	comp=Z,3.2nm,0.7s,baz=104,slow=7.1,SNR=33						
WRA	**Warramunga Arr**	**44.93**	**271**	P	**P**	**20 23 17.6**	**0.0**
	comp=Z,2.5nm,0.6s,baz=111,slow=7.3,SNR=20						
FORT	**Forrest**	**47.08**	**254**	P	**P**	**20 23 32.3**	**-2.1**
FORT				IAmb	IAmb	20 24 01.6	
	comp=Z,31nm,1.1s						
KNRA	**Kununurra**	**51.51**	**273**	P	**P**	**20 24 08.9**	**+0.6**
AIN	**Ainahou**	**52.95**	**26**	P	**P**	**20 24 19.0**	**-0.1**
CASY	**Casey**	**56.23**	**208**	P	**P**	**20 24 45.0**	**+2.8**
CASY				IAmb	IAmb	20 24 46.4	
	comp=Z,6.2nm,0.8s						
SYO	**Syowa Base**	**78.07**	**193**	*e*pP	pP	20 27 03.0	+0.1
SYO	**Syowa Base**	**78.07**	**193**	*e*PcP	**PcP**	**20 27 07.8**	**-2.6**
PEA0B	**Petropavlovsk-**	**85.27**	**345**	P	**P**	**20 27 37.4**	**-1.3**
PETK	**Petropavlovsk-**	**85.27**	**345**	P	**P**	**20 27 39.9**	**+1.2**
	comp=Z,4.6nm,0.8s,baz=124,slow=8.2,SNR=7.3						
NVAR	**Mina Array Bea**	**87.08**	**42**	P	**P**	**20 27 51.6**	**+3.3**
	comp=Z,0.8nm,0.8s,baz=216,slow=7.5,SNR=5.2						
MKAR	**Makanchi Array**	**117.92**	**310**	PKP	**PKiKP**	**20 33 50.2**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=202,slow=1.1,SNR=7.4						
H10N3	**ASCENSION HYDR**	**139.14**	**153**	T	T	23 11 21.0	
	baz=204,slow=75,SNR=8.4						
H10N1	**ASCENSION HYDR**	**139.14**	**153**	T	T	23 11 14.9	
	baz=204,slow=75,SNR=6.7						
H10N2	**ASCENSION HYDR**	**139.16**	**153**	T	T	23 11 18.2	
	baz=204,slow=75,SNR=11						
FINES	**FINESS Array B**	**144.69**	**341**	PKP	**PKPdf**	**20 34 38.2**	**-0.2**
	comp=Z,3.6nm,0.6s,baz=56,slow=2.6,SNR=18						
KBZ	**Khabaz**	**145.37**	**305**	PKPbc	**PKiKP**	**20 34 42.4**	**-1.8**
	comp=Z,1.2nm,0.7s,baz=153,slow=2.3,SNR=4.2						
NB2	**NORSAR Subarra**	**148.09**	**352**	PKP	**PKiKP**	**20 34 48.6**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=12,slow=3.0						
NOA	**NORSAR Array B**	**148.09**	**352**	PKPbc	**PKPbc**	**20 34 48.0**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=15,slow=4.6,SNR=4.8						
AKASG	**Malin Array Be**	**151.17**	**324**	PKPbc	**PKiKP**	**20 34 56.9**	**+1.0**
	comp=Z,3.0nm,0.5s,baz=47,slow=3.0,SNR=22						
AKBB	**Malin Array Si**	**151.17**	**324**		**PKiKP**	**20 34 56.0**	**+0.1**
BR131	**Keskin Array S**	**152.96**	**300**		**PKiKP**	**20 35 00.5**	**+0.4**
BRTR	**Keskin Array B**	**152.96**	**300**	PKPbc	**PKiKP**	**20 35 01.2**	**+1.1**
	comp=Z,3.0nm,0.9s,baz=136,slow=4.8,SNR=11						
TORD	**Torodi Ar. Bea**	**163.57**	**176**	PKPab	**PKPab**	**20 36 00.3**	**+3.1**
	comp=Z,0.7nm,1.0s,baz=197,slow=4.5,SNR=3.4						

IDC 27 20:56:49.6±47.0, 17°.19S×177°.17W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.8/26, mbtmp4.4/3, Error ellipse: s-maj=876.3km s-min=154.4km az=79.0
ISCJB 27 20:57:33.8±1.2, 17°.5S±0°.2×177°.3W±0°.1, h450km, mb4.0/3, Error ellipse: s-maj=27.3km s-min=14.8km az=12.0
NEIC 27 20:57:35.4±1.5, 17°.3S±0°.3×177°.1W±0°.1, h488km±18km, mb4.6/9
ISC 27 20:57:35.1±1.5, 17°.5S±0°.3×177°.3W±0°.1, h450km, n14, σ1§20/14, mb4.5/6, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.16**	**104**		**P**	**20 59 22.1**	**+0.6**
DZM	**Mont Dzumac**	**15.98**	**251**	P	**P**	**21 00 59.3**	**+2.5**
DZM				IAmb	IAmb	21 01 19.1	
	comp=Z,22nm,1.6s						
OUZ	**Omahuta**	**19.45**	**203**	P	**P**	**21 01 33.2**	**+1.9**
OUZ				IAmb	IAmb	21 01 34.5	
	comp=Z,29nm,1.6s						
MXZ	**Matakaoa Point**	**20.38**	**190**	P	**P**	**21 01 38.6**	**-1.1**
URZ	**Urewera**	**21.27**	**192**	P	**P**	**21 01 47.2**	**-0.7**
URZ				IAmb	IAmb	21 02 09.1	
	comp=Z,20nm,1.2s						
ARMA	**Armidale**	**31.08**	**240**	P	**P**	**21 03 14.9**	**-0.2**
COEN	**Coen**	**38.18**	**270**	P	**P**	**21 04 14.7**	**-0.2**
COEN				IAmb	IAmb	21 04 32.1	
	comp=Z,30nm,1.8s						
STKA	**Stephens Creek**	**39.78**	**241**	P	**P**	**21 04 27.1**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=96,slow=10,SNR=6.4						
STKA	**Stephens Creek**	**39.78**	**241**	P	**P**	**21 04 27.3**	**-0.4**
BBOO	**Buckleboo**	**44.55**	**241**	P	**P**	**21 05 04.5**	**-1.1**
WRA	**Warramunga Arr**	**45.77**	**259**	P	**P**	**21 05 14.0**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=97,slow=7.2,SNR=36						
ASAR	**Alice Springs**	**45.94**	**254**	P	**P**	**21 05 15.8**	**-0.7**
	comp=Z,11nm,0.5s,baz=88,slow=8.7,SNR=319						
KNRA	**Kununurra**	**51.60**	**264**	P	**P**	**21 05 59.1**	**+0.4**
KNRA				IAmb	IAmb	21 06 08.7	
	comp=Z,100nm,1.6s						
SYO	**Syowa Base**	**89.80**	**192**	⇑*e*PcP	**P**	**21 09 43.8**	**-0.3**

IDC 27 21:12:11.3±0.8, 36°.53N×73°.10E, h0km, mb3.8/12, mb1 4.0/17, mb1mx3.8/46, mbtmp3.9/17, ML3.5/5, MS2.9/4, Ms1 2.9/4, ms1mx2.7/51, Error ellipse: s-maj=20.4km s-min=16.9km az=20.0
ISCJB 27 21:12:14.8±0.2, 36°.61N±0°.02×73°.13E±0°.04, h35km, mb3.7/12, MS3.1/2, Error ellipse: s-maj=5.0km s-min=3.2km az=157.3
NNC 27 21:12:17.8±4.7, 36°.92N×72°.89E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=41.2km s-min=28.7km az=141.0
NEIC 27 21:12:18.9±2.5, 36°.71N±0°.04×73°.10E±0°.07, h53km±7km, mb4.3/22
ISC 27 21:12:16.7±0.4, 36°.65N±0°.05×73°.12E±0°.05, h35km, n98, σ2§33/100, mb4.0/22, 2C-4D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**2.99**	**178**	P	Pn	21 13 07.3	+5.7
CEP	**Cherat**	**2.99**	**200**	P	Pn	21 13 07.1	+5.3
CEP				S	Sn	21 13 47.0	+11

comp=N,0.1nm,0.3s,baz=204,slow=11,SNR=5.3
KURK Kurchatov 14.60 14 Pn 21 15 40.5 -0.1
RAMN Ramite 14.98 126 eP Pn 21 15 42.1 -3.9
comp=N,10nm,0.5s
TAPN Taplejung 15.45 123 eP Pn 21 15 49.2 -3.1
comp=N,7.0nm,0.4s
ODAN Odare 15.56 125 eP Pn 21 15 49.9 -3.7
comp=N,10nm,0.5s
AB31 Akbulak array 15.84 327 P Pn 21 15 54.4 -2.4
comp=N,1.1nm,0.5s,baz=137,slow=13,SNR=38
ABKAR Akbulak array 15.84 327 Pn 21 15 54.6 -2.2
BVAR Borovoye Array 16.48 354 Pn Pn 21 16 04.6 -0.5
comp=N,0.4nm,0.3s,baz=156,slow=11,SNR=6.0
AKTO Aktyubinsk 17.55 326 P P 21 16 19.5 +0.3
comp=N,0.5nm,0.3s,baz=129,slow=12,SNR=9.1
AKTO Aktyubinsk 17.55 326 ⇓P Pn 21 16 19.1 +0.7
comp=N,4.0nm,0.8s
UOSS Minazif 18.61 236 P Pn 21 16 32.6 +1.1
ZAA0 Zalesovo Array 19.11 21 P P 21 16 35.2 -1.0
ZAA0 IAmb IAmb 21 16 38.7
comp=Z,8.4nm,0.9s
ZALV Zalesovo Beam 19.11 21 P P 21 16 35.0 -1.3
comp=Z,0.6nm,0.3s,baz=206,slow=12,SNR=23
ARU Arti 22.09 338 P P 21 17 09.5 +1.0
comp=Z,1.2nm,0.9s,baz=111,slow=8.6,SNR=3.8
ARU LR LR 21 25 19.0
comp=Z,77nm,18.1s,baz=150,slow=36
ARU Arti 22.09 338 IAmb IAmb 21 17 24.0
comp=Z,8.5nm,1.0s
TBLG Delisi 22.52 292 P P 21 17 14.2 +0.8
TBLG IAmb IAmb 21 17 18.0
comp=Z,4.8nm,0.5s
KVAR Kislovodsk Arr 24.23 297 P P 21 17 31.5 +1.3
comp=Z,3.7nm,0.9s,baz=67,slow=15,SNR=3.3
TLY Talaya 26.31 46 P P 21 17 48.8 -0.1
TLY IAmb IAmb 21 18 02.6
comp=Z,6.7nm,1.1s
SONM Songino Array 26.85 55 P P 21 17 54.8 +0.8
comp=Z,1.1nm,0.8s,baz=264,slow=9.1,SNR=9.2
RAYN Ar Rayn 27.14 249 P P 21 17 58.1 +1.4
ULN Ulaanbaatar 27.29 55 P P 21 17 57.6 -0.3
KMI Kunming 27.78 106 P P 21 18 02.0 -0.6
MNCI Minicoy 28.24 180 P 21 18 06.7 +0.2
CM31 Chiang Mai Arr 29.05 122 P P 21 18 14.2 +0.5
CM31 IAmb IAmb 21 18 18.6
comp=Z,3.5nm,1.1s
BRTR Keskin Array B 31.02 288 P P 21 18 32.5 +1.4
comp=Z,0.7nm,0.7s,baz=103,slow=8.7,SNR=3.9
ALN Alexandroupoli 36.60 291 P P 21 19 17.8 -1.6
ALN IAmb IAmb 21 19 17.9
comp=Z,5.1nm,1.0s
FIA1 FINESS Array S 38.32 325 P P 21 19 34.1 +0.4
FINES FINESS Array B 38.32 325 P P 21 19 33.8 +0.1
comp=Z,9.1nm,1.2s,baz=195,slow=5.7,SNR=3.4
LIT Litokhoron 39.41 291 P P 21 19 44.3 +1.1
KULM Kulim 40.13 134 P P 21 19 48.6 -0.6
KULM IAmb IAmb 21 20 04.7
comp=Z,8.9nm,1.1s
ITM Ithomi 40.52 287 P P 21 19 51.6 -0.8
ITM IAmb IAmb 21 20 10.8
comp=Z,16nm,1.0s
ARCES ARCESS Array B 41.66 337 P P 21 20 01.5 +0.2
comp=Z,2.7nm,0.9s,baz=99,slow=7.5,SNR=4.9
ARE0 ARCESS Array S 41.66 337 P P 21 20 01.0 -0.4
GSI Gunungsitoli 41.81 142 P P 21 20 03.0 -0.2
GSI IAmb IAmb 21 20 06.1
comp=Z,16nm,1.0s
KSRS Korea Array 43.21 72 LR LR 21 40 23.4
comp=Z,26nm,19.9s,baz=105,slow=39
SGRT San Giovanni R 44.05 295 P P 21 20 21.4 +0.2
SGRT IAmb IAmb 21 20 22.8
comp=Z,6.5nm,1.0s
NC602 NORSAR Array S 45.11 322 P P 21 20 29.6 +0.4
NB201 NORSAR Array S 45.25 323 P P 21 20 30.1 -0.3
NOA NORSAR Array B 45.29 323 P P 21 20 30.7 0.0
comp=Z,1.0nm,0.7s,baz=91,slow=7.8,SNR=2.4
NBO00 NORSAR Array S 45.50 323 P P 21 20 31.9 -0.4
NC204 NORSAR Array S 45.52 323 P P 21 20 32.7 +0.2
RAFF Raffo Rosso 46.30 289 P P 21 20 37.7 -1.2
RAFF IAmb IAmb 21 20 41.4
comp=Z,8.5nm,0.9s
WLF Walferdange 48.99 308 P P 21 21 00.2 +0.6
KSM Kuching 49.03 127 P P 21 21 00.2 -0.1
BNI Bardonecchia 49.68 302 P P 21 21 03.0 -2.1
TOA0 Torodi Ar. Sit 67.43 270 P P 21 23 06.8 -2.3
TOA0 IAmb IAmb 21 23 13.8
comp=Z,1.8nm,0.9s
TORD Torodi Ar. Bea 67.43 270 P P 21 23 07.2 -1.8
comp=Z,0.2nm,0.4s,baz=44,slow=7.1,SNR=6.1
ILAR Eielson Array 74.16 17 P P 21 23 51.4 +2.2
comp=Z,0.5nm,0.9s,baz=318,slow=5.3,SNR=5.1
WRA Warramunga Arr 80.63 123 P P 21 24 26.0 0.0
comp=Z,1.1nm,0.6s,baz=320,slow=5.2,SNR=10
YKA Yellowknife Ar 81.00 4 P P 21 24 27.5 +0.2
comp=Z,0.5nm,0.6s,baz=347,slow=5.4,SNR=13
ASAR Alice Springs 82.95 126 P P 21 24 38.4 +0.2
comp=Z,0.6nm,0.7s,baz=319,slow=5.3,SNR=13

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*IDC **27** 21:14:07.1±4.3, 4.°25S×78.°75W, h0km, mb3.8/1, mb1 4.0/2, mb1mx3.5/21, mbtmp3.8/2, ML4.0/1, Error ellipse: s-maj=124.9km s-min=74.8km az=69.0*
*ISCJB **27** 21:14:21.5±0.8, 4.°19S±0.°09×77.°10W±0.°09, h33km, mb3.7/1, Error ellipse: s-maj=14.6km s-min=11.6km az=38.8*
*NEIC **27** 21:14:25.6±3.0, 4.°2S±0.°1×77.°1W±0.°1, h65km±10km, mb4.5/12*
ISC 27 21:14:22.8±0.8, **4.°2S**±0.°1×**77.°1W**±0.°1, **h35**km, **n23**, σ2ŝ**47**/22, **mb4.4/6, Northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTAV	Otavalo	4.58	343	Pn	Pn	21 15 33.1	+3.0
ROSC	El Rosal	9.39	17	Pn	Pn	21 16 39.3	+3.2
PAYG	Puerto Ayora	13.60	284	Pn	Pn	21 17 35.4	+2.0
SDV	Santo Domingo	14.50	26	Pn	Pn	21 17 45.9	0.0
LPAZ	La Paz	14.93	144	Pn	Pn	21 17 52.6	+0.6
	0.3nm,0.3s,baz=297,slow=9.1,SNR=4.9						
LPAZ	La Paz	14.93	144		Pn	21 17 53.1	+1.2
TGUH	Tegucigalpa,Un	20.73	331	P	P	21 19 01.3	+0.7
TGUH				IAmb	IAmb	21 19 12.5	
	comp=Z,17nm,0.5s						
TOSP	Speyside	22.56	47	P	P	21 19 19.1	-1.1
CRPR	Cabo Rojo, PR	24.16	24	P	P	21 19 38.5	+2.6
CRPR				IAmb	IAmb	21 19 42.2	
	comp=Z,28nm,1.1s						
V52A	Sevierville	40.27	352	P	P	21 21 57.3	+0.8
V52A				IAmb	IAmb	21 22 00.4	
	comp=Z,15nm,1.1s						
WHTX	Lake Whitney,	40.84	333	P	P	21 22 02.4	+1.1
TX31	Lajitas Ar. Si	41.94	324	P	P	21 22 12.3	+1.8
TX32	Lajitas Array	41.94	324	P	P	21 22 12.4	+1.8
Q56A	Snyder Ridge,	43.05	358	P	P	21 22 16.9	-2.4
MSU	Marysvale	53.44	326		S	21 31 06.8	-3.3
NV11	Mina Array Sit	56.90	322	P	P	21 24 00.5	-4.2
NV11				IAmb	IAmb	21 24 01.8	
	comp=Z,2.3nm,0.6s						
OMMB	Old Mammoth Mi	56.92	321	P	P	21 24 01.2	-3.8
MDPB	Devils Postpil	56.99	321	P	P	21 24 01.4	-4.0
MDPB				IAmb	IAmb	21 24 10.5	
	comp=Z,2.4nm,1.2s						
RYN	Ryan	57.25	322	P	P	21 24 07.0	-0.1
RYN				IAmb	IAmb	21 24 08.0	
	comp=Z,2.7nm,0.6s						
G08A	Pilot Rock	61.75	328		PcP	21 25 19.4	+0.4
G06A	Carlson Farm,	62.62	327		S	21 33 07.1	-2.5
TORD	Torodi Ar. Bea	80.09	76	P	P	21 26 28.2	-1.7
	comp=Z,0.3nm,0.3s,baz=270,slow=5.2,SNR=8.7						
WRA	Warramunga Arr	140.88	231	PKP	PKPdf	21 33 37.4	-13
	comp=Z,0.2nm,0.3s,baz=116,slow=2.6,SNR=3.3						

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*ISCJB **27** 21:36:23.5±0.5, 13.°18N±0.°09×44.°90W±0.°06, h10km, mb3.8/13, MS3.6/16, Error ellipse: s-maj=13.4km s-min=8.5km az=168.1*
*IDC **27** 21:36:23.8±0.8, 13.°29N×44.°80W, h0km, mb3.9/13, mb1 4.1/14, mb1mx3.9/44, mbtmp3.9/14, ML4.1/1, MS3.6/17, Ms1 3.6/17, ms1mx3.5/33, Error ellipse: s-maj=24.3km s-min=17.2km az=148.0*
*NEIC **27** 21:36:24.5±2.8, 12.°98N±0.°08×44.°84W±0.°09, h10km±1km, mb4.6/21*
ISC 27 21:36:24.6±0.6, **13.°1N**±0.°1×**44.°81W**±0.°09, **h10**km, **n50**,
σ1ŝ**73**/36, **mb4.1**/18, **MS3.6**/16, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDP	Montagnes des	11.08	225	Pn	Pn	21 39 04.0	+0.7
	1.4nm,0.3s,baz=30,slow=16,SNR=15						
MDP				Sn	Sn	21 40 57.5	-10
	0.3nm,0.3s,baz=30,slow=20,SNR=4.1						
MDP				LR	LR	21 42 42.5	
	comp=Z,310nm,20.1s,baz=71,slow=34						
BBGH	Gun Hill	14.36	272	Pn	Pn	21 39 45.3	-2.9
TOSP	Speyside	15.47	265	Pn	Pn	21 40 02.8	-0.3
TOSP				IAmb	IAmb	21 40 17.3	
	comp=Z,41nm,1.1s						
SVB	Belmont	16.01	272	Pn	Pn	21 40 09.2	-0.9
SVB				IAmb	IAmb	21 40 13.1	
	comp=Z,53nm,0.9s						
ANWB	Willy Bob	16.98	288	Pn	Pn	21 40 19.7	-2.8
RCBR	Riachuelo	20.78	154	P	P	21 41 02.0	-4.1
PDPR	Patillas Dam,	21.00	286	P	P	21 41 08.0	-0.5
PDPR				IAmb	IAmb	21 41 15.4	
	comp=Z,22nm,1.1s						
SJG	San Juan	21.14	286	LR	LR	21 47 59.6	
	comp=Z,150nm,21.8s,baz=103,slow=33						
MLPR	Magueyes Islan	21.95	286		P	21 41 19.2	+0.5
MLPR				IAmb	IAmb	21 41 28.1	
	comp=Z,41nm,1.1s						
CRPR	Cabo Rojo, PR	22.02	286	P	P	21 41 16.9	-2.5
CRPR				IAmb	IAmb	21 41 20.7	
	comp=Z,36nm,1.1s						
SDV	Santo Domingo	25.68	263	P	P	21 41 57.1	+1.8
	comp=Z,1.4nm,0.4s,baz=75,slow=6.3,SNR=3.7						
SDV				LR	LR	21 52 50.3	
	comp=Z,56nm,21.2s,baz=82,slow=38						
BDFB	Brasilia	28.73	186	LR	LR	21 53 21.3	
	comp=Z,88nm,19.5s,baz=282,slow=35						
ROSC	El Rosal	30.25	257	LR	LR	21 55 51.1	
	comp=Z,83nm,18.9s,baz=105,slow=38						
SIV	San Ignacio	33.08	210	P	P	21 43 03.3	+2.5
	comp=Z,0.5nm,0.6s,baz=96,slow=9.7,SNR=4.4						
H10N3	ASCENSION HYDR	36.60	123	T	T	22 22 25.1	
	baz=305,slow=75,SNR=27						
H10N2	ASCENSION HYDR	36.60	123	T	T	22 22 21.9	
	baz=305,slow=75,SNR=32						
H10N1	ASCENSION HYDR	36.62	123	T	T	22 22 27.2	
	baz=305,slow=75,SNR=31						
LPAZ	La Paz	37.20	219	P	P	21 43 39.3	+2.3
	comp=Z,1.8nm,0.8s,baz=20,slow=9.5,SNR=5.5						
LPAZ				LR	LR	21 58 53.0	
	comp=Z,137nm,19.6s,baz=54,slow=36						
LPAZ	La Paz	37.20	219	P	P	21 43 37.9	+0.9
U56A	King	39.40	312		S	21 50 00.2	+3.8
V55A	Taylorsville	39.79	311		S	21 50 01.3	-1.0
DBIC	Dimbokro	39.84	95	LR	LR	21 57 12.7	
	comp=Z,91nm,21.5s,baz=262,slow=31						
S54A	Dingess, Beckl	40.72	314		PcP	21 46 06.6	-0.6
TKL	Tuckaleechee C	41.61	310	LR	LR	21 57 38.6	
	comp=Z,81nm,21.9s,baz=113,slow=31						
Q51A	Peebles	42.70	314		PcP	21 46 13.1	-0.5
SADO	Sadowa	43.02	324	LR	LR	21 58 14.1	
	comp=Z,67nm,20.6s,baz=60,slow=31						
N47A	Urbana	45.14	316	P	P	21 44 39.5	-1.9
TOA0	Torodi Ar. Sit	45.24	84	P	P	21 44 43.3	+0.7
TORD	Torodi Ar. Bea	45.24	84	P	P	21 44 42.8	+0.2
	comp=Z,3.0nm,1.1s,baz=272,slow=7.6,SNR=6.8						
TORD				LR	LR	22 01 40.7	
	comp=Z,150nm,20.2s,baz=305,slow=34						
CMIG	Matias Romero	48.41	281	LR	LR	22 06 03.8	
	comp=Z,38nm,21.3s,baz=97,slow=37						
TXAR	Lajitas Array	56.65	297	P	P	21 46 08.1	-0.4
	comp=Z,0.4nm,0.8s,baz=122,slow=9.6,SNR=4.5						
TXAR				LR	LR	22 08 42.2	
	comp=Z,36nm,21.9s,baz=0.0,slow=34						
PLCA	Paso Flores	58.63	203	LR	LR	22 11 25.4	
	comp=Z,55nm,22.0s,baz=60,slow=36						
ISCO	Idaho Springs	59.35	309	P	P	21 46 30.6	+3.0
ISCO				IAmb	IAmb	21 46 35.8	
	comp=Z,6.3nm,1.1s						
PDAR	Pinedale Array	62.71	311	P	P	21 46 49.5	-0.8
	comp=Z,0.2nm,0.4s,baz=120,slow=5.3,SNR=5.7						
PDAR				LR	LR	22 12 54.4	
	comp=Z,54nm,18.9s,baz=92,slow=35						
YMR	Madison River	63.97	313	P	P	21 47 00.1	+1.5
HWUT	Hardware Ranch	64.06	310	P	P	21 47 01.4	+2.2
YHB	Horse Butte	64.14	313	P	P	21 47 00.6	+0.9
MTPU	Mount Pierson	64.27	306	P	P	21 47 01.9	+1.2
ELK	Elko	66.77	309	P	P	21 47 16.6	-0.2
	comp=Z,1.6nm,0.9s,baz=56,slow=4.6,SNR=7.2						
ELK	Elko	66.77	309	P	P	21 47 17.4	+0.7
ELK				IAmb	IAmb	21 47 19.2	
	comp=Z,2.4nm,1.0s						
MLR	Muntele Rosu	67.30	46	P	P	21 47 21.1	+1.2
MLR				IAmb	IAmb	21 47 28.1	
	comp=Z,5.9nm,1.1s						
NEW	Newport	68.57	317	P	P	21 47 28.3	+0.5
	comp=Z,1.6nm,0.5s,baz=56,slow=7.3,SNR=3.3						
NEW	Newport	68.57	317	IAmb	IAmb	21 47 30.0	
	comp=Z,5.1nm,1.1s						
NVAR	Mina Array Bea	69.09	306	LR	LR	22 15 51.8	
	comp=Z,52nm,19.0s,baz=62,slow=34						
YKA	Yellowknife Ar	69.16	332	P	P	21 47 31.4	+0.3
	comp=Z,0.1nm,0.3s,baz=101,slow=6.4,SNR=3.5						
FINES	FINESS Array B	69.47	29	P	P	21 47 32.6	-0.3
	comp=Z,3.7nm,0.9s,baz=251,slow=12,SNR=2.5						
FINES				LR	LR	22 12 35.9	
	comp=Z,57nm,19.4s,baz=224,slow=31						
AKASG	Malin Array Be	69.87	41	P	P	21 47 35.2	-0.4
	comp=Z,0.6nm,0.6s,baz=265,slow=5.2,SNR=4.8						
BRTR	Keskin Array B	72.92	52	P	P	21 47 54.9	+0.4
	comp=Z,0.5nm,0.7s,baz=274,slow=9.8,SNR=3.4						
BOSA	Boshof	79.35	123	LR	LR	22 15 39.0	
	comp=Z,97nm,19.1s,baz=258,slow=30						
ILAR	Eielson Array	83.33	335	P	P	21 48 51.9	+0.3
	comp=Z,1.0nm,1.1s,baz=75,slow=4.8,SNR=5.2						

IDC 27 21:43:05.7±2.7, **0.°76N**×**126.°89E, h0**km, **mb3.3**/3, **mb1 3.5**/3, **mb1mx3.3**/41, **mbtmp3.3**/3, **Error ellipse: s-maj=282.0km s-min=25.5km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.83	161	P	P	21 47 59.9	+0.1
	0.6nm,0.4s,baz=339,slow=11,SNR=6.0						
ASAR	Alice Springs	25.21	165	P	P	21 48 33.3	-0.1
	0.6nm,0.7s,baz=347,slow=10,SNR=6.5						
MKAR	Makanchi Array	60.09	326	P	P	21 53 14.7	0.0
	0.2nm,0.6s,baz=123,slow=8.2,SNR=3.0						

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*ISCJB **27** 21:44:16.0±0.6, 11.°8N±0.°1×141.°57E±0.°07, h51km, mb4.1/13, MS2.9/2, Error ellipse: s-maj=15.1km s-min=8.9km az=158.2*
*NEIC **27** 21:44:16.2±1.3, 11.°8N±0.°1×141.°6E±0.°1, h35km±2km, mb4.6/10*
*IDC **27** 21:44:20.2±3.2, 11.°83N×141.°69E, h77km±29km, mb3.8/13, mb1 4.0/14, mb1mx3.7/48, mbtmp4.1/14, MS3.1/2, Ms1 3.1/2, ms1mx2.7/33, Error ellipse: s-maj=21.9km s-min=17.3km az=96.0*
ISC 27 21:44:17.7±0.7, **11.°8N**±0.°1×**141.°60E**±0.°10, **h51**km, **n30**,
σ1ŝ**12**/24, **mb4.3**/18, **Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	3.65	61	P	Pn	21 45 13.7	+2.1
	15nm,0.3s,baz=216,slow=12,SNR=6.9						
GUMO				S	Sn	21 45 52.7	-0.8
	8.6nm,0.3s,baz=158,slow=19,SNR=3.0						
PMG	Port Moresby	21.78	165	LR	LR	21 56 22.4	
	comp=Z,75nm,19.1s,baz=333,slow=33						
H11N1	WAKE ISLAND Hy	25.56	69	T	T	22 16 23.5	
	baz=255						
H11N2	WAKE ISLAND Hy	25.57	69	T	T	22 16 23.0	
	baz=255						
H11N3	WAKE ISLAND Hy	25.57	69	T	T	22 16 23.5	
	baz=255						
KSRS	Korea Array	28.34	337	LR	LR	21 59 42.1	
	comp=Z,22nm,21.7s,baz=155,slow=32						
WRA	Warramunga Arr	32.34	193	P	P	21 50 41.8	-0.5
	0.5nm,0.6s,baz=154,slow=9.4,SNR=5.1						
USRK	Ussuriysk Ar.	33.33	347	P	P	21 50 51.0	+0.3
	2.2nm,0.8s,baz=154,slow=6.9,SNR=6.8						
ASAR	Alice Springs	36.04	192	P	P	21 51 14.8	+0.5
	0.3nm,0.5s,baz=19,slow=13,SNR=6.3						

CMAR	Chiang Mai Arr	41.63	284	P	P	21 52 02.2	+1.0
	0.7nm,0.7s,baz=91,slow=6.7,SNR=4.7						
SONM	Songino Array	46.44	328	P	P	21 52 41.3	+1.7
	0.7nm,0.6s,baz=136,slow=6.7,SNR=8.0						
MK31	Makanchi Array	60.59	317	P	P	21 54 23.6	+0.4
MKAR	Makanchi Array	60.59	317	P	P	21 54 23.3	+0.1
	1.7nm,0.7s,baz=93,slow=8.5,SNR=17						
MAKZ	Makanchi	60.81	317	P	P	21 54 25.1	+0.5
MAKZ				IAmb	IAmb	21 54 25.7	
	comp=Z,2.5nm,0.8s						
ZALV	Zalesovo Beam	61.25	326	P	P	21 54 26.8	-0.7
	comp=Z,1.9nm,0.6s,baz=115,slow=8.1,SNR=8.1						
KURK	Kurchatov	63.92	321	P	P	21 54 45.0	-0.3
NIL	Nilore	65.58	302	P	P	21 54 56.8	+0.3
NIL				IAmb	IAmb	21 54 57.3	
	comp=Z,5.6nm,0.7s						
BRVK	Borovoye	69.43	322	P	P	21 55 20.5	+0.1
BRVK				IAmb	IAmb	21 55 21.1	
	comp=Z,5.1nm,0.6s						
ILAR	Eielson Array	71.54	25	P	P	21 55 30.8	-2.3
	comp=Z,1.1nm,0.6s,baz=249,slow=6.0,SNR=20						
ABKAR	Akbulak array	75.72	318	IAmb	IAmb	21 55 57.9	
	comp=Z,2.3nm,0.8s						
YKA	Yellowknife Ar	85.90	27	P	P	21 56 51.3	-0.6
	comp=Z,0.7nm,0.4s,baz=289,slow=4.9,SNR=7.3						
RES	Resolute Bay	87.00	13	P	P	21 56 56.6	-0.5
	comp=Z,1.8nm,0.6s,baz=308,slow=4.3,SNR=7.5						
RES	Resolute Bay	87.00	13	IAmb	IAmb	21 56 57.6	
	comp=Z,1.9nm,0.8s						
PINE	Pine Mountain	87.25	46	P	P	21 56 59.9	+0.7
ARCES	ARCESS Array B	87.78	342	P	P	21 56 59.6	-1.3
	comp=Z,2.3nm,0.9s,baz=64,slow=8.1,SNR=7.8						
PNTR	Pine Nut	89.37	50	P	P	21 57 10.5	+1.1
PNTR				IAmb	IAmb	21 57 12.2	
	comp=Z,3.3nm,0.7s						
NVAR	Mina Array Bea	90.52	51	P	P	21 57 15.2	+0.5
	comp=Z,2.3nm,0.6s,baz=267,slow=5.4,SNR=12						
FINES	FINESS Array B	91.41	334	P	P	21 57 15.6	-2.5
	comp=Z,1.9nm,0.6s,baz=63,slow=6.4,SNR=9.0						
TORD	Torodi Ar. Bea	133.13	301	PKP	PKPdf	22 03 28.7	0.0
	comp=Z,0.3nm,0.9s,baz=40,slow=3.2,SNR=3.2						
LPAZ	La Paz	150.83	102	PKPbc	PKiKP	22 04 07.1	+0.2
	comp=Z,2.2nm,0.7s,baz=250,slow=7.7,SNR=4.7						

IDC 27 21:45:51.6±2.1, **0.°90N**×**127.°21E, h0**km, **mb3.6**/3, **mb1 3.9**/3, **mb1mx3.5**/40, **mbtmp3.7**/3, **Error ellipse: s-maj=177.6km s-min=24.9km az=66.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.86	162	P	P	21 50 46.2	0.0
	1.7nm,0.6s,baz=340,slow=11,SNR=8.9						
ASAR	Alice Springs	25.27	165	P	P	21 51 19.8	0.0
	1.2nm,0.6s,baz=351,slow=10,SNR=11						
MKAR	Makanchi Array	60.14	326	P	P	21 56 01.0	-0.1
	0.5nm,0.8s,baz=125,slow=6.8,SNR=3.1						

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*IDC **27** 21:47:00.4±3.0, 32.°46S×178.°04W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/38, mbtmp3.9/4, ML3.5/1, MS3.7/1, Ms1 3.7/1, ms1mx2.6/33, Error ellipse: s-maj=65.0km s-min=45.7km az=124.0*
*ISCJB **27** 21:47:01.2±0.9, 32.°76S±0.°08×177.°9W±0.°1, h20km, mb3.9/3, MS3.8/1, Error ellipse: s-maj=18.6km s-min=9.6km az=24.9*
*NEIC **27** 21:47:05.2±1.7, 32.°7S±0.°1×177.°9W±0.°1, h36km±3km, mb4.2/5*
ISC 27 21:47:02.6±0.9, **32.°7S**±0.°1×**177.°9W**±0.°1, **h20**km, **n20**,
σ1ŝ**54**/20, **mb4.0/4, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	5.75	212	Pn	Pn	21 48 28.1	+1.4
URZ	Urewera	6.87	215	Pn	Pn	21 48 43.9	+1.9
	0.8nm,0.3s,baz=325,slow=0.9,SNR=6.1						
URZ				Sn	Sn	21 49 59.0	-0.6
	4.6nm,0.3s,baz=101,slow=19,SNR=11						
OUZ	Omahuta	7.50	248	Pn	Pn	21 48 53.2	+2.4
MSWZ	Moikau Station	10.26	210	Pn	Pn	21 49 29.1	+0.5
PLWZ	Palliser	10.38	210	Pn	Pn	21 49 30.4	+0.1
SNZO	South Karori	10.41	213	Pn	Pn	21 49 31.5	+0.8
QRZ	Quartz Range	11.15	221	Pn	Pn	21 49 42.6	+1.8
THZ	Tophouse	11.62	216	Pn	Pn	21 49 48.7	+1.4
FOZ	Fox Glacier	14.48	218	Pn	Pn	21 50 28.7	+2.5
NIUE	Niue	15.35	30		P	21 50 42.9	+0.2
NIUE				IAmb	IAmb	21 50 47.9	
	comp=Z,76nm,1.1s						
MLZ	Mavora Lakes	16.63	217	Pn	Pn	21 50 55.5	+1.1
WHZ	Wether Hill Ro	17.09	216	Pn	Pn	21 51 00.7	+0.6
WHZ				IAmb	IAmb	21 51 12.0	
	comp=Z,4.9nm,0.9s						
PPT	Papeete	29.62	66		P	21 53 07.4	+0.7
CTA	Charters Tower	34.33	282	P	P	21 53 48.8	+0.8
	comp=Z,0.8nm,0.4s,baz=97,slow=8.1,SNR=5.0						
COEN	Coen	40.05	289	P	P	21 54 36.6	0.0
COEN				IAmb	IAmb	21 54 54.5	
	comp=Z,3.5nm,1.1s						
ASAR	Alice Springs	43.13	269	P	P	21 55 01.2	-0.6
	comp=Z,0.9nm,0.7s,baz=104,slow=6.9,SNR=9.8						
WRA	Warramunga Arr	44.33	274	P	P	21 55 10.6	-0.9
	comp=Z,1.3nm,0.4s,baz=114,slow=7.9,SNR=16						
FORT	Forrest	45.59	257	P	P	21 55 17.8	-3.6
BATI	Baumata	58.07	279	LR	LR	22 19 30.1	
	comp=Z,65nm,18.4s,baz=318,slow=34						
FINES	FINESS Array B	147.35	339	PKPbc	PKPbc	22 06 43.8	-0.2
	comp=Z,4.2nm,1.0s,baz=41,slow=3.0,SNR=6.7						

IDC 27 21:48:39.7±4.3, **7.°14S**×**74.°52W, h0**km, **mb3.5**/1, **mb1 3.7**/3, **mb1mx3.5**/36, **mbtmp3.6**/3, **ML3.4**/2, **Error ellipse: s-maj=113.7km s-min=50.9km az=71.0, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	11.03	146	Pn	Pn	21 51 19.0	-0.5
	0.1nm,0.3s,baz=319,slow=9.3,SNR=2.9						
SIV	San Ignacio	15.83	125	Pn	Pn	21 52 25.1	+0.9
	0.1nm,0.3s,baz=308,slow=10,SNR=4.2						
TORD	Torodi Ar. Bea	78.31	75	P	P	22 00 42.5	0.0
	0.2nm,0.6s,baz=260,slow=4.5,SNR=3.0						
WRA	Warramunga Arr	140.88	226	PKP	PKPdf	22 08 12.7	-0.1
	0.5nm,0.6s,baz=131,slow=2.1,SNR=3.9						

IDC 27 21:55:58.1±2.1, **0.°97N**×**127.°16E, h0**km, **mb3.5**/3, **

baz=259
TUL1 Leonard 1.30 77 Pn **Pg 22 20 01.2 -0.3**
WMOK Wichita Mounta 1.46 233 P **Pg 22 20 03.6 -0.9**
baz=51
WMOK S **Sg 22 20 23.2 -0.4**
baz=51
WMOK Wichita Mounta 1.46 233 Pg 22 20 03.5 -1.1
U32A Winter Ranch, 1.54 300 Pg 22 20 04.4 -1.5
U32A Sn **Sg 22 20 24.5 -1.3**
X37A Clayton 1.92 122 Pb 22 20 11.8 +0.7
X37A **Sg 22 20 37.5 -0.8**
HHAR Hobbs 2.85 76 Pb 22 20 26.1 -0.8
W39A Magazine 2.95 97 P **Pn 22 20 25.2 +2.6**
baz=279
W39A S **Sb 22 21 02.3 -2.1**
baz=279
W39A Magazine 2.95 97 Pg 22 20 31.0 -1.9
MIAR Mount Ida 3.28 108 P **Pb 22 20 31.6 -2.7**
baz=290
MIAR S **Sn 22 21 10.6 +4.7**
baz=290
MIAR Mount Ida 3.28 108 Pg 22 20 38.2 -1.0
KSU1 Kansas State U 3.52 9 P **Pn 22 20 32.4 +1.8**
baz=191
KSU1 Sb **Sg 22 21 26.8 -2.8**
baz=191
ABTX Abilene, Hawle 3.54 213 P **Pn 22 20 31.9 +1.0**
baz=31
ABTX S **Sn 22 21 15.4 +2.8**
baz=31
AMTX Amarillo 3.62 260 P **Pn 22 20 33.1 +1.2**
baz=77
AMTX Sb **Sb 22 21 26.2 +2.4**
baz=77
AMTX Amarillo 3.62 260 Pb 22 20 39.7 -0.4
WHTX Lake Whitney, 3.62 181 Pb **Pb 22 20 41.3 +1.2**
baz=0.3
WHTX Sb **Sg 22 21 28.9 -3.8**
baz=0.3
WHTX Lake Whitney, 3.62 181 Pg 22 20 42.8 -3.0
CBKS Cedar Bluff 3.71 330 Pb **Pg 22 20 43.7 -3.8**
baz=149
U40A Yellville 3.72 77 Pb **Pb 22 20 43.6 +1.8**
baz=260
U40A Sb **Sg 22 21 32.8 -3.1**
baz=260
X40A Basin Creek Fa 3.88 106 Pb **Pg 22 20 48.7 -1.9**
baz=288
X40A Sb **Sg 22 21 38.4 -2.5**
baz=288
X40A Basin Creek Fa 3.88 106 Pg 22 20 48.3 -2.3
W41B Gary Mavity, V 4.20 95 Pb **Pb 22 20 51.5 +1.6**
baz=278
W41B Sb **Sg 22 21 48.8 -2.3**
baz=278
W41B Gary Mavity, V 4.20 95 Pn 22 20 41.8 +2.0
MGMO Mountain Grove 4.38 68 Pg 22 20 58.3 -1.9
MSTX Muleshoe 4.75 251 Pb 22 21 01.5 +2.0
LCAR Lake Charles 5.06 83 Pn 22 20 56.8 +5.2
JCT Junction City 5.52 203 Pg 22 21 19.4 -2.8
OGNE Ogallala 6.46 327 Pg 22 21 37.1 -3.0

*ISCJB **27** 22:34:51.8±1.5,31°.67S±0°.03×72°.0W±0°.1,h17km±15km, Error ellipse: s-maj=15.6km s-min=5.2km az=2.1*
*SJA **27** 22:34:51.6±0.7,31°.63S×71°.88W,h25km,ML3.3,MW3.8*
*GUC **27** 22:34:53.4±0.5,31°.65S×71°.56W,h30km±4km,ML3.4*
ISC 27 22:34:50.4±2.5,**31°.65S**±0°.03×**71°.90W**±0°.10,**h2**km±14km, **n36**,σ1§**30**/51,**2C-2D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.88**	**60**	⇑*i*P		**Pg**	**22 35 08.4**	**+1.1**
CO02				*i* S		**Sg**	**22 35 17.4**	**-1.5**
CO02				IAML			22 35 19.4	
	comp=E,6μm,0.4s							
ROCH	**El Roble**	**1.52**	**151**	⇓*i*P		**Pn**	**22 35 19.3**	**+0.5**
ROCH				*i* S		**Sn**	**22 35 38.7**	**-0.5**
ROCH				IAML			22 35 43.9	
	comp=E,791nm,0.4s							
ROC1	**El Roble**	**1.52**	**151**	*e*P		**Pn**	**22 35 19.4**	**+0.6**
ROC1				*e*S		**Sn**	**22 35 38.6**	**-0.7**
ROC1	**El Roble**	**1.52**	**151**	*i* P		**Pn**	**22 35 19.4**	**+0.6**
ROC1				⇓*e*S		**Sn**	**22 35 38.4**	**-0.9**
GO04	**Tololo Observa**	**1.75**	**33**	⇑*i*P		**Pn**	**22 35 22.2**	**+0.3**
GO04				*i* S		**Sn**	**22 35 44.4**	**-0.6**
GO04	**Tololo Observa**	**1.75**	**33**	*e*P		**Pn**	**22 35 22.4**	**+0.4**
GO04				*e*S		**Sb**	**22 35 45.1**	**-0.7**
GO04	**Tololo Observa**	**1.75**	**33**	*e*P		**Pn**	**22 35 22.3**	**+0.3**
GO04				*e*S		**Sb**	**22 35 45.1**	**-0.7**
PEL	**Peldehue**	**1.81**	**146**	*e*P		**Pn**	**22 35 22.8**	**+0.1**
PEL				*i* S		**Sn**	**22 35 45.0**	**-1.1**
PEL				IAML			22 35 49.7	
	comp=E,411nm,0.2s							
PEL	**Peldehue**	**1.81**	**146**	*e*P		**Pn**	**22 35 23.8**	**+1.2**
PEL				*e*S		**Sn**	**22 35 46.8**	**+0.6**
PEL	**Peldehue**	**1.81**	**146**	*i* P		**Pn**	**22 35 23.8**	**+1.2**
PEL				*e*S		**Sn**	**22 35 46.7**	**+0.6**
LSCH	**La Serena**	**1.82**	**18**	*i* S		**Sb**	**22 35 47.4**	**-0.4**
CLCH	**Cerro Calan**	**2.09**	**147**	*e*P		**Pn**	**22 35 27.3**	**+0.8**
CLCH				*i* S		**Sn**	**22 35 52.7**	**-0.4**
CLCH				IAML			22 36 03.3	
	comp=E,780nm,0.7s							
FCH	**Farellones**	**2.15**	**141**	*e*P		**Pn**	**22 35 28.9**	**+1.3**
FCH				*i* S		**Sn**	**22 35 55.2**	**+0.1**
FCH				IAML			22 35 58.5	
	comp=E,324nm,0.3s							
RTLS	**Leoncito**	**2.22**	**95**	*e*P		**Pb**	**22 35 31.3**	**-0.1**
RTLS				IAML			22 37 19.5	
	comp=Z,202nm,0.7s							
RTLS	**Leoncito**	**2.22**	**95**	*i* P		**Pb**	**22 35 31.1**	**-0.3**
RTLS				*e*S		**Sb**	**22 35 58.4**	**-1.1**
RTLS				IAML			22 35 59.2	
	comp=Z,117nm,0.7s							
LMEL	**Las Melosas**	**2.62**	**147**	*e*P		**Pn**	**22 35 34.9**	**+1.0**
LMEL				*i* S		**Sn**	**22 36 06.4**	**+0.2**
LMEL				IAML			22 36 13.9	
	comp=N,296nm,0.1s							
ZON	**Zonda**	**2.75**	**89**	*e*P		**Pb**	**22 35 39.0**	**-1.3**
ZON				IAML			22 36 27.8	
	comp=Z,116nm,0.8s							
ZON	**Zonda**	**2.75**	**89**	*i* P		**Pb**	**22 35 39.2**	**-1.0**
ZON				*e*S		**Sb**	**22 36 14.1**	**-0.4**
ZON				IAML			22 36 27.8	
	comp=Z,116nm,0.8s							
ASAL	**Salagasta**	**2.76**	**111**	*e*P		**Pb**	**22 35 40.8**	**+0.2**
ASAL				IAML			22 36 26.8	
	comp=Z,147nm,1.0s							
ASAL	**Salagasta**	**2.76**	**111**	*i* P		**Pb**	**22 35 39.8**	**-0.7**
ASAL				IAML			22 36 26.8	
	comp=Z,147nm,1.0s							
ARCO	**CERRO ARCO**	**2.78**	**116**	*e*P		**Pb**	**22 35 40.9**	**0.0**
ARCO				IAML			22 36 23.0	
	comp=Z,103nm,0.4s							
ARCO	**CERRO ARCO**	**2.78**	**116**	*i* P		**Pb**	**22 35 40.9**	**0.0**
ARCO				IAML			22 36 23.0	
	comp=Z,103nm,0.4s							
RTCV	**Cerro Valdivia**	**2.87**	**95**	*i* P		**Pb**	**22 35 40.6**	**-1.7**
RTCV				IAML			22 36 29.7	
	comp=Z,57nm,0.8s							
AAGR	**Agrelo**	**2.96**	**120**	*e*P		**Pb**	**22 35 43.1**	**-0.9**
AAGR				IAML			22 36 35.1	
	comp=Z,114nm,0.7s							
AAGR	**Agrelo**	**2.96**	**120**	*i* P		**Pb**	**22 35 42.4**	**-1.7**
AAGR				IAML			22 36 35.1	
	comp=Z,114nm,0.7s							
AMOG	**MOGNA**	**3.00**	**77**	*e*P		**Pb**	**22 35 42.8**	**-1.8**
AMOG				IAML			22 37 06.5	
	comp=Z,126nm,0.4s							
AMOG	**MOGNA**	**3.00**	**77**	*i* P		**Pb**	**22 35 42.3**	**-2.3**
AMOG				IAML			22 37 06.5	
	comp=Z,126nm,0.4s							
ACAN	**Cantantal**	**4.05**	**100**	*e*P		**Pn**	**22 35 55.9**	**+2.5**
ACAN				IAML			22 38 14.3	
	comp=Z,22nm,0.5s							
ACAN	**Cantantal**	**4.05**	**100**	*i* P		**Pn**	**22 35 55.4**	**+1.9**
ACAN				IAML			22 37 03.2	
	comp=Z,20nm,0.5s							
VCA	**Vinchina**	**4.32**	**49**	*i* P		**Pn**	**22 36 01.4**	**+4.2**
VCA				IAML			22 37 08.7	
	comp=Z,87nm,0.4s							
APLL	**PUNTA DE LOS L**	**4.77**	**76**	*e*P		**Pn**	**22 36 05.3**	**+1.9**
APLL	**PUNTA DE LOS L**	**4.77**	**76**	*i* P		**Pn**	**22 36 05.4**	**+1.9**
APLL				IAML			22 37 29.8	
	comp=Z,19nm,0.5s							
ACLC	**CERRO LA CRUZ**	**4.80**	**64**	*e*P		**Pn**	**22 36 05.8**	**+1.8**
ACLC	**CERRO LA CRUZ**	**4.80**	**64**	*i* P		**Pn**	**22 36 05.9**	**+2.0**
ACLC				IAML			22 37 27.9	
	comp=Z,77nm,0.4s							
CYA	**Choya**	**6.17**	**60**	*i* P		**Pn**	**22 36 23.9**	**+1.3**
CYA				IAML			22 38 17.2	
	comp=Z,12nm,0.7s							
TCA	**Tanti**	**6.24**	**89**	*i* P		**Pn**	**22 36 24.2**	**+0.6**
TCA				IAML			22 38 10.1	
	comp=Z,16nm,0.6s							

*SJA **27** 22:38:57.3±1.1,33°.84S×71°.40W,h24km±9km,ML3.6, MW3.9*
*GUC **27** 22:38:57.8±0.8,33°.92S×71°.30W,h59km±9km,ML4.2*
*NEIC **27** 22:38:58.0±1.4,33°.89S±0°.05×71°.26W±0°.09,h53km±6km*
*IDC **27** 22:38:57.9±0.7,33°.99S×71°.37W,h52km±5km,mb3.7/10, mb1 3.9/12,mb1mx3.8/29,mbtmp4.0/12,Error ellipse: s-maj=18.2km s-min=12.0km az=130.0*
*ISCJB **27** 22:38:57.7±0.3,33°.92S±0°.03×71°.32W±0°.04,h66km±2km, mb3.8/9,Error ellipse: s-maj=6.0km s-min=4.1km az=17.3*
*VAO **27** 22:39:00.2±1.3,33°.55S×70°.61W,h10km,mb4.1*
ISC 27 22:38:57.8±0.6,**33°.90S**±0°.03×**71°.32W**±0°.04,**h48**km±5km, **n130**,σ1§**71**/150,**mb4.1**/14,**3C-4D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RCDM	**Rinconada Maip**	**0.60**	**46**	*e*P		**Pn**	**22 39 10.8**	**+0.6**
RCDM				*i* S		**Sn**	**22 39 20.0**	**+0.9**
ANTU	**Antumapu**	**0.66**	**60**	*e*P		**Pn**	**22 39 11.9**	**+0.9**
ANTU				*i* S		**Sn**	**22 39 22.3**	**+1.7**
ANTU				IAML			22 39 23.1	
	comp=E,21μm,0.2s							
FSR	**Penalolen**	**0.79**	**58**	*e*P		**Pn**	**22 39 13.2**	**+0.5**
FSR				*i* S		**Sn**	**22 39 24.8**	**+1.3**
CLCH	**Cerro Calan**	**0.83**	**53**	⇓*i*P		**Pn**	**22 39 14.0**	**+0.8**
CLCH				*i* S		**Sn**	**22 39 25.5**	**+1.0**
CLCH				IAML			22 39 28.8	
	comp=E,15μm,0.3s							
VA01	**Torpederas**	**0.92**	**343**	⇑*e*P		**Pn**	**22 39 15.0**	**+0.6**
VA01				*i* S		**Sn**	**22 39 28.3**	**+1.8**
VA01				IAML			22 39 29.9	
	comp=E,7μm,0.5s							
PEL	**Peldehue**	**0.93**	**35**	*e*P		**Pn**	**22 39 15.1**	**+0.6**
PEL				*i* S		**Sn**	**22 39 28.3**	**+1.5**
PEL				IAML			22 39 33.0	
	comp=N,7μm,0.3s							
PEL	**Peldehue**	**0.93**	**35**	Pn		**Pn**	**22 39 15.5**	**+1.0**
PEL	**Peldehue**	**0.93**	**35**	*e*P		**Pn**	**22 39 15.2**	**+0.7**
PEL	**Peldehue**	**0.93**	**35**	*i* P		**Pn**	**22 39 15.5**	**+1.0**
PEL				*e*S		**Sn**	**22 39 28.6**	**+1.8**
LMEL	**Las Melosas**	**0.93**	**87**	⇓*i*P		**Pn**	**22 39 15.2**	**+0.5**
LMEL				*i* S		**Sn**	**22 39 27.8**	**+0.6**
LMEL				IAML			22 39 30.5	
	comp=N,17μm,0.2s							
ROC1	**El Roble**	**0.96**	**16**	Pn		**Pn**	**22 39 16.3**	**+1.1**
ROC1	**El Roble**	**0.96**	**16**	*e*P		**Pn**	**22 39 16.4**	**+1.2**
ROC1				*e*S		**Sn**	**22 39 30.4**	**+2.5**
ROCH	**El Roble**	**0.96**	**16**	*e*P		**Pn**	**22 39 16.0**	**+0.8**
ROCH				*i* S		**Sn**	**22 39 29.8**	**+1.8**
ROCH				IAML			22 39 32.9	
	comp=N,15μm,0.6s							
FCH	**Farellones**	**1.03**	**57**	⇑*e*P		**Pn**	**22 39 16.6**	**+0.4**
FCH				*i* S		**Sn**	**22 39 30.7**	**+0.9**
FCH				IAML			22 39 31.4	
	comp=N,16μm,0.2s							
GO05	**Huala**	**1.21**	**204**	⇑*e*P		**Pn**	**22 39 18.4**	**+0.1**
GO05				*i* S		**Sn**	**22 39 35.0**	**+1.2**
GO05				IAML			22 39 39.0	
	comp=N,3μm,0.5s							
GO05	**Huala**	**1.21**	**204**	Pn		**Pn**	**22 39 19.1**	**+0.7**
GO05	**Huala**	**1.21**	**204**	*i* P		**Pn**	**22 39 18.5**	**+0.1**
COIS	**El Soneado**	**1.87**	**131**	*i* P		**Pn**	**22 39 29.6**	**+2.3**
AAGR	**Agrelo**	**2.24**	**69**	*i* P		**Pn**	**22 39 35.9**	**+3.4**
AAGR				IAML			22 40 10.2	
	comp=Z,214nm,0.3s							
ARCO	**CERRO ARCO**	**2.26**	**63**	*e*P		**Pn**	**22 39 36.5**	**+3.6**
ARCO				IAML			22 40 09.5	
	comp=Z,587nm,1.2s							
ARCO	**CERRO ARCO**	**2.26**	**63**	*i* P		**Pn**	**22 39 36.7**	**+3.9**
ARCO				IAML			22 40 10.1	
	comp=Z,485nm,0.4s							
EDS3	**Malargue**	**2.44**	**140**	*i* P		**Pn**	**22 39 38.0**	**+2.7**
ASAL	**Salagasta**	**2.46**	**59**	*e*P		**Pn**	**22 39 39.2**	**+3.7**
ASAL				IAML			22 40 19.8	
	comp=Z,361nm,0.5s							
ASAL	**Salagasta**	**2.46**	**59**	*i* P		**Pn**	**22 39 39.2**	**+3.7**
ASAL				IAML			22 40 19.8	
	comp=Z,361nm,0.5s							
COCH	**Cobquecura**	**2.53**	**208**	*e*P		**Pn**	**22 39 35.9**	**-0.5**
COCH				*e*S		**Sn**	**22 40 12.4**	**+6.5**
RTLS	**Leoncito**	**2.70**	**40**	*e*P		**Pn**	**22 39 43.0**	**+3.9**
RTLS				IAML			22 40 24.9	
	comp=Z,205nm,1.0s							
RTLS	**Leoncito**	**2.70**	**40**	*i* P		**Pn**	**22 39 43.1**	**+4.1**
RTLS				IAML			22 40 24.9	
	comp=Z,205nm,1.0s							
CCHI	**Chillan**	**2.76**	**193**	*i* P		**Pn**	**22 39 41.0**	**+1.5**
CCHI				*e*S		Sn	22 40 22.0	+10
RTCV	**Cerro Valdivia**	**3.10**	**50**	*e*P		**Pn**	**22 39 47.5**	**+3.3**
RTCV				IAML			22 40 32.3	
	comp=Z,173nm,0.4s							
RTCV	**Cerro Valdivia**	**3.10**	**50**	⇓*i*P		**Pn**	**22 39 47.6**	**+3.3**
RTCV				IAML			22 40 48.0	
	comp=Z,191nm,0.9s							
ZON	**Zonda**	**3.24**	**44**	*i* P		**Pn**	**22 39 49.4**	**+3.3**
ZON				IAML			22 40 42.7	
	comp=Z,177nm,0.6s							
CFA	**Coronel Fontan**	**3.46**	**49**	P		**Pn**	**22 39 51.4**	**+2.2**
	comp=Z,72nm,0.3s,baz=218,slow=7.4,SNR=33							
CFA				S		**Sn**	**22 40 33.5**	**+4.4**
	comp=Z,32nm,0.3s,baz=323,slow=20,SNR=6.8							
CFA	**Coronel Fontan**	**3.46**	**49**	*e*P		**Pn**	**22 39 51.8**	**+2.5**
GO04	**Tololo Observa**	**3.75**	**7**	Pn		**Pn**	**22 39 54.6**	**+1.2**
GO04	**Tololo Observa**	**3.75**	**7**	*e*P		**Pn**	**22 39 54.1**	**+0.8**
GO04	**Tololo Observa**	**3.75**	**7**	*i* P		**Pn**	**22 39 54.5**	**+1.2**
GO04				*e*S		**Sn**	**22 40 40.3**	**+4.0**
AMOG	**MOGNA**	**3.80**	**40**	*e*P		**Pn**	**22 39 56.5**	**+2.5**
AMOG				IAML			22 40 53.2	
	comp=Z,371nm,0.4s							
AMOG	**MOGNA**	**3.80**	**40**	*i* P		**Pn**	**22 39 56.6**	**+2.6**
AMOG				IAML			22 41 10.2	
	comp=Z,186nm,0.5s							
ACAN	**Cantantal**	**3.83**	**66**	*i* P		**Pn**	**22 39 56.9**	**+2.7**
ACAN				IAML			22 41 11.8	
	comp=Z,61nm,0.4s							
CANA	**Caviahue**	**3.98**	**177**	⇓*i*P		**Pn**	**22 39 59.2**	**+2.7**
MRA	**San Martin**	**4.93**	**74**	*i* P		**Pn**	**22 40 11.1**	**+1.7**
MRA				IAML			22 41 42.9	
	comp=Z,22nm,0.7s							
APLL	**PUNTA DE LOS L**	**5.36**	**51**	*e*P		**Pn**	**22 40 16.0**	**+0.7**
APLL				IAML			22 41 25.7	
	comp=Z,124nm,0.5s							
APLL	**PUNTA DE LOS L**	**5.36**	**51**	*i* P		**Pn**	**22 40 16.1**	**+0.7**
APLL				IAML			22 41 55.3	
	comp=Z,43nm,0.6s							
TCA	**Tanti**	**6.22**	**68**	*i* P		**Pn**	**22 40 27.7**	**+0.5**
PLCA	**Paso Flores**	**6.84**	**175**	P		**Pn**	**22 40 37.5**	**+1.8**
	comp=Z,0.6nm,0.3s,baz=3.4,slow=12,SNR=16							
PLCA	**Paso Flores**	**6.84**	**175**	*i* P		**Pn**	**22 40 37.6**	**+2.0**
CYA	**Choya**	**7.21**	**42**	*e*P		**Pn**	**22 40 38.8**	**-1.9**
CYA				IAML			22 42 34.5	
	comp=Z,24nm,1.2s							
CYA	**Choya**	**7.21**	**42**	*i* P		**Pn**	**22 40 39.2**	**-1.5**
TRQA	**Tornquist**	**8.63**	**121**	*e*P		**Pn**	**22 41 01.0**	**+0.9**
TRQA	**Tornquist**	**8.63**	**121**	*e*P		**Pn**	**22 41 01.0**	**+0.9**
TRQA	**Tornquist**	**8.63**	**121**	Pn		**Pn**	**22 40 59.2**	**-0.8**
TRQA	**Tornquist**	**8.63**	**121**	*i* P		**Pn**	**22 41 01.1**	**+1.1**
PB10	**IPOC Station P**	**10.37**	**4**	Pn		**Pn**	**22 41 22.7**	**-1.2**
LVC	**Limon Verde**	**11.45**	**11**	P		**Pn**	**22 41 37.6**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=201,slow=9.5,SNR=3.5							
PB04	**IPOC Station P**	**11.57**	**5**	Pn		**Pn**	**22 41 40.0**	**-0.6**
PB11	**IPOC Station P**	**14.16**	**6**	Pn		**Pn**	**22 42 15.1**	**-0.7**
CPUP	**Villa Florida**	**14.26**	**62**	P		**Pn**	**22 42 17.7**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=235,slow=16,SNR=3.2							
CPUP	**Villa Florida**	**14.26**	**62**	P		**Pn**	**22 42 15.9**	**-1.0**
PLTB	**Pedras Altas**	**15.05**	**87**	*e*P		**Pn**	**22 42 24.9**	**-2.4**
PLTB	**Pedras Altas**	**15.05**	**87**	*e*P		**Pn**	**22 42 24.9**	**-2.4**
GO09	**Cerro Castillo**	**17.37**	**182**	*i* P		**Pn**	**22 42 55.0**	**-1.6**
LPAZ	**La Paz**	**17.77**	**10**	P		**P**	**22 43 03.2**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=152,slow=7.0,SNR=9.4							
LPAZ	**La Paz**	**17.77**	**10**	*e*P		**P**	**22 43 03.8**	**+1.1**
LPAZ	**La Paz**	**17.77**	**10**	*e*P		**P**	**22 43 03.8**	**+1.1**
LPAZ	**La Paz**	**17.77**	**10**	P		**Pn**	**22 43 00.5**	**-1.8**
ITAB	**Concordia**	**17.80**	**73**	*e*P		**Pn**	**22 42 59.8**	**-2.2**
ITAB	**Concordia**	**17.80**	**73**	*e*P		**Pn**	**22 42 59.8**	**-2.2**
CNLB	**Canela**	**18.02**	**81**	*e*P		**P**	**22 43 03.0**	**-1.8**
CNLB	**Canela**	**18.02**	**81**	*e*P		**P**	**22 43 03.0**	**-1.8**
PTGB	**Pitanga**	**19.10**	**66**	*e*P		**P**	**22 43 16.2**	**-0.5**
PTGB	**Pitanga**	**19.10**	**66**	*e*P		**P**	**22 43 16.2**	**-0.5**
AQDB	**Aquidauana**	**19.25**	**50**	*e*P		**P**	**22 43 17.8**	**-0.4**
AQDB	**Aquidauana**	**19.25**	**50**	*e*P		**P**	**22 43 17.8**	**-0.4**
TRCB	**Terra Rica**	**19.79**	**61**	*e*P		**P**	**22 43 23.7**	**-0.4**
TRCB	**Terra Rica**	**19.79**	**61**	*e*P		**P**	**22 43 23.7**	**-0.4**
SIV	**San Ignacio**	**20.09**	**30**	P		**P**	**22 43 26.4**	**-1.0**
	comp=Z,3.5nm,0.5s,baz=211,slow=8.4,SNR=31							
FRTB	**Fartura**	**21.76**	**67**	*e*P		**P**	**22 43 45.4**	**0.0**
FRTB	**Fartura**	**21.76**	**67**	*e*P		**P**	**22 43 45.4**	**0.0**
PP1B	**Ponte de Pedra**	**21.92**	**46**	*e*P		**P**	**22 43 45.8**	**-1.4**
PP1B	**Ponte de Pedra**	**21.92**	**46**	*e*P		**P**	**22 43 45.8**	**-1.4**
SALV	**Santo Antonio**	**22.80**	**42**	*e*P		**P**	**22 43 55.7**	**-0.8**
SALV	**Santo Antonio**	**22.80**	**42**	*e*P		**P**	**22 43 55.7**	**-0.8**
SPB	**Sao Paulo**	**23.28**	**70**	*e*P		**P**	**22 44 00.6**	**-0.7**
SPB	**Sao Paulo**	**23.28**	**70**	*e*P		**P**	**22 44 00.6**	**-0.7**
ITRB	**Iturama**	**23.39**	**58**	*e*P		**P**	**22 44 01.7**	**-0.7**
ITRB	**Iturama**	**23.39**	**58**	*e*P		**P**	**22 44 01.7**	**-0.7**
RCLB	**Rio Claro- Sao**	**23.83**	**67**	*e*P		**P**	**22 44 07.3**	**+0.8**
RCLB	**Rio Claro- Sao**	**23.83**	**67**	*e*P		**P**	**22 44 07.3**	**+0.8**
BB19B	**Bebedouro**	**23.86**	**63**	*e*P		**P**	**22 44 05.2**	**-1.7**
BB19B	**Bebedouro**	**23.86**	**63**	*e*P		**P**	**22 44 05.2**	**-1.7**
VAO	**Valinhos**	**23.95**	**69**	*e*P		**P**	**22 44 08.9**	**+1.2**
VAO	**Valinhos**	**23.95**	**69**	*e*P		**P**	**22 44 08.9**	**+1.2**
ARAG	**Araguaiana, MT**	**25.25**	**49**	*e*P		**P**	**22 44 19.0**	**-0.5**
ARAG	**Araguaiana, MT**	**25.25**	**49**	*e*P		**P**	**22 44 19.0**	**-0.5**
SAML	**Samuel**	**25.94**	**19**	*e*P		**P**	**22 44 27.7**	**+2.1**
SAML	**Samuel**	**25.94**	**19**	*e*P		**P**	**22 44 27.7**	**+2.1**
SAML	**Samuel**	**25.94**	**19**	P		**P**	**22 44 25.2**	**-0.4**
SAML				IAmb		IAmb	22 44 28.3	
	comp=Z,3.8nm,0.7s							
IPMB	**Ipameri, GO**	**26.05**	**58**	*e*P		**P**	**22 44 27.2**	**+0.4**
IPMB	**Ipameri, GO**	**26.05**	**58**	*e*P		**P**	**22 44 27.2**	**+0.4**
PMNB	**Patos De Minas**	**26.96**	**62**	*e*P		**P**	**22 44 36.9**	**+1.8**
PMNB	**Patos De Minas**	**26.96**	**62**	*e*P		**P**	**22 44 36.9**	**+1.8**
CLDB	**Colider**	**26.97**	**35**	*e*P		**P**	**22 44 35.9**	**+0.8**
CLDB	**Colider**	**26.97**	**35**	*e*P		**P**	**22 44 35.9**	**+0.8**
BDFB	**Brasilia**	**27.79**	**55**	P		**P**	**22 44 41.7**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=229,slow=6.6,SNR=3.4							
BDFB	**Brasilia**	**27.79**	**55**	P		**P**	**22 44 40.5**	**-1.9**
SJMB	**Sao Joao De Ma**	**30.82**	**68**	*e*P		**P**	**22 45 11.4**	**+2.2**
SJMB	**Sao Joao De Ma**	**30.82**	**68**	*e*P		**P**	**22 45 11.4**	**+2.2**
SNAA	**Sanae**	**51.45**	**158**	P		**P**	**22 47 57.7**	**0.0**
	comp=Z,1.8nm,0.8s,baz=252,slow=15,SNR=4.4							
SNAA	**Sanae**	**51.45**	**158**	P		**P**	**22 47 57.4**	**-0.4**
SNAA				IAmb		IAmb	22 48 02.4	
	comp=Z,4.1nm,1.1s							
QSPA	**South Pole Qui**	**56.33**	**180**	P		**P**	**22 48 34.1**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=155,slow=4.1,SNR=4.2							
QSPA				pP		**pP**	**22 48 47.0**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=131,slow=3.7,SNR=3.5							
833A	**Chaparral WMA,**	**67.36**	**333**	P		**P**	**22 49 48.9**	**+1.0**
833A				IAmb		IAmb	22 49 57.0	
	comp=Z,4.2nm,0.7s							
GOGA	**Godfrey**	**67.93**	**349**	P		**P**	**22 49 50.3**	**-0.9**
GOGA				IAmb		IAmb	22 50 03.0	
	comp=Z,4.6nm,1.0s							
TXAR	**Lajitas Array**	**69.94**	**330**	P		**P**	**22 50 04.8**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=152,slow=8.1,SNR=5.8							
TXAR				pP		**pP**	**22 50 18.3**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=156,slow=7.9,SNR=5.0							
V55A	**Taylorsville**	**70.01**	**351**	P		**P**	**22 50 03.5**	**-0.7**
WVT	**Waverly**	**71.36**	**346**	P		**P**	**22 50 12.3**	**0.0**
W41B	**Gary Mavity, V**	**71.46**	**342**	P		**P**	**22 50 11.7**	**-1.3**
W41B				IAmb		IAmb	22 50 20.7	
	comp=Z,2.5nm,0.9s							
LCAR	**Lake Charles**	**72.04**	**343**	P		**P**	**22 50 16.3**	**-0.1**
LCAR				IAmb		IAmb	22 50 16.7	
	comp=Z,2.7nm,0.6s							
DBIC	**Dimbokro**	**74.58**	**71**	P		**P**	**22 50 31.4**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=239,slow=5.9,SNR=3.5							
DBIC	**Dimbokro**	**74.58**	**71**	IAmb		IAmb	22 50 35.4	
	comp=Z,3.6nm,1.1s							
BOSA	**Boshof**	**79.59**	**117**	P		**P**	**22 50 59.6**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=209,slow=4.0,SNR=5.5		

ATVO				AML	AML			
	comp=E,4130µm,0.3s							
ATVO				AML	AML			
	comp=E,4125µm,0.3s							
ATVO				AML	AML			
	comp=N,1965µm,0.4s							
ATPI	**Pietralunga -**	**0.10**	**305**	P	Pg	23 05 29.5	+0.4	
ATPI				S	Sg	23 05 31.5	+0.7	
ATPI				AML	AML			
	comp=N,2025µm,0.4s							
ATPI				AML	AML			
	comp=E,1190µm,0.4s							
MURB	**Monte Urbino**	**0.13**	**179**	P	Pg	23 05 30.0	+0.6	
MURB				S	Sg	23 05 32.2	+0.8	
MURB				AML	AML			
	comp=E,2940µm,0.3s							
MURB				AML	AML			
	comp=N,2450µm,0.2s							
MURB				AML	AML			
	comp=E,3230µm,0.3s							
MURB				AML	AML			
	comp=N,2240µm,1.2s							
PIEI	**Pieia**	**0.14**	**4**	P	Pg	23 05 30.3	+0.6	
PIEI				S	Sg	23 05 33.0	+1.2	
PIEI				AML	AML			
	comp=N,1645µm,0.3s							
PIEI				AML	AML			
	comp=E,2965µm,0.3s							
FRON	**Frontone**	**0.20**	**49**	P	Pg	23 05 31.1	+0.6	
FRON				S	Sg	23 05 34.6	+1.3	
FRON				AML	AML			
	comp=E,636µm,0.5s							
FRON				AML	AML			
	comp=N,912µm,0.1s							
SSFR	**Montelago di S**	**0.20**	**76**	P	Pg	23 05 31.2	+0.6	
SSFR				S	Sg	23 05 34.5	+1.3	
SSFR				AML	AML			
	comp=N,1515µm,0.2s							
SSFR				AML	AML			
	comp=E,2825µm,0.2s							
SSFR				AML	AML			
	comp=E,2655µm,0.2s							
SSFR				AML	AML			
	comp=N,1434µm,0.6s							
FOSV	**Fossato di Vic**	**0.20**	**119**	P	Pg	23 05 31.2	+0.7	
FOSV				S	Sg	23 05 34.8	+1.4	
FOSV				AML	AML			
	comp=N,252µm,0.4s							
FOSV				AML	AML			
	comp=N,252µm,0.4s							
FOSV				AML	AML			
	comp=E,164µm,1.2s							
CDCA	**Citt' di Caste**	**0.22**	**288**	P	Pg	23 05 31.7	+0.8	
CDCA				AML	AML			
	comp=N,1435µm,0.8s							
CDCA				AML	AML			
	comp=E,1255µm,1.6s							
ATCC	**AVT- Casa Cast**	**0.22**	**157**	P	Pg	23 05 31.9	+0.9	
ATCC				S	Sg	23 05 36.4	+2.3	
ATCC				AML	AML			
	comp=E,812µm,0.4s							
ATCC				AML	AML			
	comp=N,986µm,0.9s							
ATCC				AML	AML			
	comp=E,812µm,0.4s							
NARO	**Abbazia di Nar**	**0.22**	**11**	P	Pg	23 05 31.6	+0.5	
NARO				S	Sg	23 05 35.4	+1.3	
NARO				AML	AML			
	comp=N,484µm,0.7s							
NARO				AML	AML			
	comp=E,556µm,1.0s							
ATTE	**AVT- Monte Tez**	**0.23**	**212**	P	Pg	23 05 31.6	+0.5	
ATTE				S	Sg	23 05 35.5	+1.3	
ATTE				AML	AML			
	comp=E,172µm,0.8s							
ATTE				AML	AML			
	comp=N,220µm,0.7s							
BADI	**Badiali**	**0.23**	**301**	P	Pg	23 05 31.9	+0.7	
BADI				S	Sg	23 05 36.1	+1.7	
BADI				AML	AML			
	comp=N,1925µm,0.2s							
BADI				AML	AML			
	comp=E,1820µm,0.2s							
MPAG	**Monte Paganucc**	**0.29**	**36**	P	Pg	23 05 33.0	+0.6	
MPAG				S	Sb	23 05 38.1	-1.1	
MPAG				AML	AML			
	comp=N,246µm,0.2s							
MPAG				AML	AML			
	comp=E,236µm,0.4s							
PE3	**Peglio**	**0.31**	**357**	P	Pb	23 05 33.5	-0.7	
PE3				S	Sb	23 05 39.1	-0.3	
PE3				AML	AML			
	comp=E,478µm,0.5s							
PE3				AML	AML			
	comp=N,592µm,0.3s							
ARVD	**Arcevia**	**0.32**	**71**	P	Pg	23 05 33.6	+0.7	
ARVD				S	Sb	23 05 38.8	-1.1	
ARVD				AML	AML			
	comp=N,214µm,0.6s							
ARVD				AML	AML			
	comp=E,268µm,0.5s							
PARC	**Parchiule**	**0.33**	**322**	P	Pg	23 05 33.8	+0.8	
PARC				S	Sb	23 05 39.5	-0.5	
PARC				AML	AML			
	comp=N,246µm,0.5s							
PARC				AML	AML			
	comp=E,194µm,0.4s							
SNTG	**Esanatoglia**	**0.34**	**114**	P	Pg	23 05 33.7	+0.6	
SNTG				S	Sb	23 05 39.4	-0.8	
SNTG				AML	AML			
	comp=N,326µm,1.0s							
SNTG				AML	AML			
	comp=E,276µm,0.2s							
SSP9	**Sansepolcro**	**0.34**	**303**	P	Pb	23 05 34.4	-0.4	
SSP9				S	Sb	23 05 39.7	-0.6	
FSSB	**Fossombrone**	**0.35**	**32**	P	Pg	23 05 34.1	+0.6	
FSSB				S	Sb	23 05 40.2	-0.6	
FSSB				AML	AML			
	comp=E,404µm,0.3s							
FSSB				AML	AML			
	comp=N,514µm,0.7s							
CAFI	**Castiglion Fio**	**0.41**	**262**	P	Pg	23 05 35.0	+0.5	
CAFI				S	Sb	23 05 41.4	-1.0	
EL6	**Elcito**	**0.43**	**98**	P	Pg	23 05 35.4	+0.5	
EL6				S	Sb	23 05 42.7	-0.2	
CRE	**Caprese Michel**	**0.47**	**299**	P	Pg	23 05 36.1	+0.4	
CRE				AML	AML			
	comp=N,119µm,0.2s							
CRE				AML	AML			
	comp=E,102µm,0.4s							
CESI	**CESI - Serrava**	**0.48**	**144**	P	Pb	23 05 36.5	-0.6	
CESI				AML	AML			
	comp=E,21µm,1.5s							
CESI				AML	AML			
	comp=N,43µm,1.3s							
FDMO	**Fiordimonte**	**0.55**	**130**	P	Pg	23 05 37.4	+0.4	
FDMO				S	Sb	23 05 46.1	-0.1	
FDMO				AML	AML			
	comp=E,62µm,1.6s							
FDMO				AML	AML			
	comp=N,70µm,1.2s							
MGAB	**Montegabbione**	**0.56**	**212**	P	Pg	23 05 37.9	+0.5	
MGAB				AML	AML			
	comp=N,212µm,1.6s							
MGAB				AML	AML			
	comp=E,202µm,0.3s							
CSP1	**Cessapalombo**	**0.58**	**121**	P	Pb	23 05 38.6	-0.4	
CSP1				AML	AML			
	comp=E,124µm,1.6s							
CSP1				AML	AML			
	comp=N,176µm,1.5s							

ROM 27 23:06:25.7±0.1, 43°39.0N±0.003×12°51.7E±0.004, h5km, Md0.7/4, Error ellipse: s-maj=0.3km s-min=0.1km az=249.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.05**	**121**	P	Pg	23 06 27.1	0.0
ATFO				S	Sg	23 06 28.2	+0.2
ATFO				END			
ATVO	**AVT- Monte Val**	**0.08**	**264**	P	Pg	23 06 27.7	+0.2
ATVO				S	Sg	23 06 29.3	+0.5
ATVO				END			
MURB	**Monte Urbino**	**0.13**	**177**	P	Pg	23 06 28.7	+0.3
MURB				S	Sg	23 06 31.2	+1.1
MURB				END			
PIEI	**Pieia**	**0.15**	**5**	P	Pg	23 06 29.1	+0.4
PIEI				S	Sg	23 06 31.8	+1.1
PIEI				END			

IDC 27 23:10:38.9±3.3, 20°86N×146°46E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/41, mbtmp3.7/3, Error ellipse: s-maj=138.1km s-min=33.0km az=83.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.24**	**197**	P	P	23 18 33.9	-0.2
	0.8nm,0.7s,baz=13,slow=8.8,SNR=6.5						
MKAR	**Makanchi Array**	**57.51**	**313**	P	P	23 20 30.9	+0.9
	0.2nm,0.7s,baz=84,slow=7.9,SNR=2.9						
FINES	**FINESS Array B**	**85.23**	**335**	P	P	23 23 16.1	-1.0
	2.7nm,0.8s,baz=57,slow=5.1,SNR=7.1						

*NEIC **27** 23:31:28.4±0.7, 5°.4S±0°.1×147°.4E±0°.3, h184km±19km, mb4.3/5*
*IDC **27** 23:31:31.3±4.8, 5°.57S×147°.38E, h204km±46km, mb3.4/2, mb1 3.5/4, mb1mx3.0/43, mbtmp3.9/4, Error ellipse: s-maj=81.1km s-min=38.9km az=131.0*
ISC 27 23:31:27.5±2.0, 5°.3S±0°.1×147°.4E±0°.3, h170km, n12, σ1s 21/12, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.06**	**183**	P	**Pn**	**23 32 30.7**	**+1.6**
	4.9nm,0.3s,baz=352,slow=7.1,SNR=12						
PMG				S	**Sn**	**23 33 15.5**	**-1.7**
	2.5nm,0.3s,baz=334,slow=5.4,SNR=3.9						
PMG	**Port Moresby**	**4.06**	**183**		**Pn**	**23 32 30.4**	**+1.4**
COEN	**Coen**	**9.53**	**206**	Pn	**Pn**	**23 33 42.8**	**+1.7**
MTN	**Manton Dam**	**17.69**	**244**	P	**P**	**23 35 21.9**	**-0.2**
MTN				IAmb	IAmb	23 35 37.5	
	comp=Z,6.6nm,0.9s						
WRA	**Warramunga Arr**	**19.30**	**220**	P	**P**	**23 35 39.0**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=46,slow=11,SNR=23						
KNRA	**Kununurra**	**20.98**	**239**	P	**P**	**23 35 57.1**	**-0.5**
AS31	**Alice Springs**	**22.39**	**214**	P	**P**	**23 36 11.4**	**-0.6**
ASAR	**Alice Springs**	**22.39**	**214**	P	**P**	**23 36 11.6**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=45,slow=9.0,SNR=12						
FITZ	**Fitzroy Crossi**	**24.75**	**237**	P	**P**	**23 36 33.0**	**-0.4**
	comp=Z,3.5nm,0.5s,baz=47,slow=11,SNR=12						
FITZ	**Fitzroy Crossi**	**24.75**	**237**	IAmb	IAmb	23 36 43.8	
	comp=Z,11nm,1.1s						
YULB	**Yu-li**	**38.26**	**319**	P	**P**	**23 38 31.6**	**+0.2**
YULB				IAmb	IAmb	23 38 41.6	
	comp=Z,14nm,1.0s						
TORD	**Torodi Ar. Bea**	**145.29**	**285**	PKPbc	**PKPdf**	**23 50 45.0**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=86,slow=3.2,SNR=2.6						

IDC 27 23:53:22.4±8.6, 7°.92S×121°.30E, h168km±95km, mb3.3/2, mb1 3.2/5, mb1mx3.0/33, mbtmp3.6/5, Error ellipse: s-maj=187.7km s-min=31.5km az=51.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.96**	**158**	P	Pn	23 55 54.9	+0.2
	0.1nm,0.3s,baz=349,slow=10,SNR=2.3						
FITZ				S	Sn	23 57 42.0	-14
	0.1nm,0.3s,baz=87,slow=17,SNR=3.2						
WRA	**Warramunga Arr**	**17.39**	**135**	P	P	23 57 13.8	0.0
	0.1nm,0.3s,baz=306,slow=13,SNR=5.2						
WRA				S	S	00 00 15.7	-11
	0.1nm,0.3s,baz=308,slow=23,SNR=3.5						
ASAR	**Alice Springs**	**19.78**	**144**	P	P	23 57 39.4	-0.3
	0.3nm,0.3s,baz=326,slow=12,SNR=14						
STKA	**Stephens Creek**	**30.41**	**144**	P	P	23 59 19.2	+0.3
	2.1nm,0.9s,baz=331,slow=13,SNR=2.9						
MKAR	**Makanchi Array**	**64.57**	**331**	P	P	00 03 41.5	0.0
	0.1nm,0.4s,baz=141,slow=8.2,SNR=4.8						

*ISCJB **28** 00:02:39.1±1.1, 5°.05S±0°.09×154°.04E±0°.09, h105km, mb3.5/4, Error ellipse: s-maj=13.8km s-min=11.4km az=148.4*
*IDC **28** 00:02:42.3±6.0, 5°.00S×153°.85E, h113km±39km, mb3.5/4, mb1 3.7/4, mb1mx3.3/28, mbtmp3.8/4, Error ellipse: s-maj=60.1km s-min=26.6km az=98.0*
*NEIC **28** 00:02:50.3±1.6, 5°.26S±0°.06×153°.7E±0°.2, h183km±13km, mb4.1/7*
ISC 28 00:02:39.7±1.3, 4°.9S±0°.1×154°.1E±0°.1, h105km, n17, σ1s 97/18, mb4.0/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.12**	**286**	P	**Pn**	**00 03 14.9**	**+0.9**
	28nm,0.3s,baz=144,slow=0.7,SNR=32						
KRVT				S	**Sn**	**00 03 39.8**	**-0.5**
	33nm,0.3s,baz=120,slow=21,SNR=12						
HNR	**Honiara**	**7.36**	**128**	Pn	Pn	00 04 36.6	+12
PMG	**Port Moresby**	**8.18**	**237**	P	**Pn**	**00 04 39.8**	**+4.2**
	2.2nm,0.3s,baz=38,slow=7.8,SNR=4.5						
PMG				S	**Sn**	**00 06 05.7**	**-0.7**
	1.6nm,0.3s,baz=49,slow=20,SNR=3.5						
PMG	**Port Moresby**	**8.18**	**237**	Pn	**Pn**	**00 04 39.1**	**+3.5**
COEN	**Coen**	**14.00**	**229**	Pn	**Pn**	**00 05 54.7**	**+1.1**
EIDS	**Eidsvold**	**20.54**	**188**	P	**P**	**00 07 09.7**	**-0.2**
EIDS				IAmb	IAmb	00 07 12.2	
	comp=Z,3.3nm,1.1s						
MTN	**Manton Dam**	**23.97**	**249**	P	**P**	**00 07 43.9**	**-0.7**
MTN				IAmb	IAmb	00 07 46.2	
	comp=Z,7.1nm,0.9s						
WR0	**Warramunga Arr**	**24.18**	**230**	P	**P**	**00 07 45.5**	**-1.1**
WR0				IAmb	IAmb	00 08 01.4	
	comp=Z,6.4nm,1.1s						
WRA	**Warramunga Arr**	**24.33**	**230**	P	**P**	**00 07 48.1**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=57,slow=10,SNR=13						
AS31	**Alice Springs**	**26.93**	**224**	P	**P**	**00 08 10.3**	**-1.1**
ASAR	**Alice Springs**	**26.93**	**224**	P	**P**	**00 08 11.3**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=53,slow=8.7,SNR=22						
FITZ	**Fitzroy Crossi**	**30.71**	**242**	P	**P**	**00 08 44.6**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=43,slow=9.2,SNR=6.0						
FITZ	**Fitzroy Crossi**	**30.71**	**242**	P	**P**	**00 08 44.7**	**-0.3**
FITZ				IAmb	IAmb	00 08 53.5	
	comp=Z,3.4nm,0.9s						
YULB	**Yu-li**	**42.59**	**313**	P	**P**	**00 10 26.9**	**+1.2**
MORW	**Morawa**	**43.26**	**232**	P	**P**	**00 10 27.1**	**-3.9**
MORW				IAmb	IAmb	00 10 34.2	
	comp=Z,4.1nm,0.8s						
MKAR	**Makanchi Array**	**81.24**	**319**	P	**P**	**00 14 46.5**	**+2.3**
	comp=Z,0.3nm,0.8s,baz=120,slow=4.7,SNR=2.7						
TORD	**Torodi Ar. Bea**	**151.54**	**289**	PKPbc	**PKPbc**	**00 22 22.2**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=99,slow=2.3,SNR=5.1						

*MOS **28** 00:23:33.4±1.0, 5°.83S×147°.37E, h111km, mb4.9/6, Error ellipse: s-maj=11.1km s-min=8.1km az=96.5*
*ISCJB **28** 00:23:34.1±0.7, 5°.91S±0°.03×147°.41E±0°.03, h119km±6km, mb4.7/41, Error ellipse: s-maj=5.2km s-min=4.9km az=171.3*
*IDC **28** 00:23:35.5±0.5, 5°.94S×147°.40E, h118km±4km, mb4.0/16, mb1 4.3/24, mb1mx4.2/37, mbtmp4.6/24, MS3.4/9, Ms1 3.4/9, ms1mx3.1/34, Error ellipse: s-maj=12.1km s-min=7.4km az=90.0*
*NEIC **28** 00:23:35.9±1.8, 5°.93S±0°.07×147°.38E±0°.04, h123km±5km, mb4.6/82*
*DJA **28** 00:23:35.7±0.4, 6°.3S±3°×14°.7E±°, h116km±4km, M5.2/28, mB5.4/8, mb5.0/28, MLv5.6/4, Mw(mB)4.9/8*
ISC 28 00:23:35.3±0.5, 5°.98S±0°.04×147°.40E±0°.05, h114km±4km, h114km: pP-P, n167, σ1s 47/177, mb4.6/76, 3C-4D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.42**	**184**	P	**Pn**	**00 24 26.5**	**-0.4**
	122nm,0.3s,baz=10,slow=6.1,SNR=171						
PMG				S	**Sn**	**00 25 06.1**	**-0.7**
	250nm,0.3s,baz=212,slow=19,SNR=12						
PMG				LR	LR	00 25 47.8	
	comp=Z,158nm,20.1s,baz=352,slow=38						
PMG	**Port Moresby**	**3.42**	**184**		**Pn**	**00 24 26.5**	**-0.4**
PMG					Sn	**00 25 04.7**	**-2.1**
KRVT	**Keravat (AS076**	**4.89**	**70**	P	**Pn**	**00 24 46.1**	**-0.6**
	32nm,0.3s,baz=139,slow=1.4,SNR=18						

MMPI	**Merauke**	**7.39**	**250**	P		**Pn**	**00 25 20.9**	**+0.3**
	840nm,0.7s,10nm							
JAY	**Jayapura**	**7.51**	**297**	P		**Pn**	**00 25 22.6**	**+0.3**
JAY				pmax	pmax			
	comp=Z,44nm,1.2s							
JAY	**Jayapura**	**7.51**	**297**	P		**Pn**	**00 25 23.2**	**+0.9**
	comp=Z,3.9nm,0.3s,baz=158,slow=7.0,SNR=7.9							
GENI	**Genyem**	**7.96**	**295**	P		**Pn**	**00 25 29.1**	**+0.8**
	comp=Z,196nm,0.8s,comp=Z,1.0nm							
COEN	**Coen**	**8.96**	**207**			**Pn**	**00 25 42.0**	**+0.2**
COEN				Sn		**Sn**	**00 27 18.1**	**-2.9**
SMPI	**Sarmi**	**9.53**	**294**	P		**Pn**	**00 25 50.7**	**+1.1**
	comp=Z,39nm,1.0s							
HNR	**Honiara**	**12.89**	**106**	P		**Pn**	**00 26 34.0**	**-0.4**
	comp=Z,15nm,0.3s,baz=160,slow=3.4,SNR=15							
HNR	**Honiara**	**12.89**	**106**	P		**Pn**	**00 26 35.0**	**+0.5**
HNR	**Honiara**	**12.89**	**106**			**Pn**	**00 26 34.5**	**0.0**
HNR						**S**	**00 29 16.3**	**+2.0**
CTA	**Charters Tower**	**14.07**	**184**	P		**Pn**	**00 26 50.1**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=4.3,slow=14,SNR=35							
FAKI	**Fak Fak**	**15.41**	**281**			**P**	**00 27 09.4**	**+0.6**
FAKI				IAmb	IAmb		00 27 23.1	
	comp=Z,43nm,1.0s							
SAUI	**Saumlaki**	**16.11**	**262**	P		**P**	**00 27 16.8**	**+0.3**
	comp=Z,691nm,0.9s,comp=Z,9µm							
SAUI	**Saumlaki**	**16.11**	**262**	P		**P**	**00 27 16.6**	**+0.1**
PATS	**Pohnpei**	**16.75**	**41**			**Pn**	**00 27 23.1**	**-0.1**
SIJI	**Sorong**	**16.88**	**287**	P		**Pn**	**00 27 23.4**	**-1.5**
	comp=Z,2.7nm,0.3s,baz=126,slow=4.5,SNR=9.9							
SWI	**Sorong**	**16.89**	**287**	P		**Pn**		
SWI				pmax	pmax			
	comp=Z,53nm,0.9s							
SWI	**Sorong**	**16.89**	**287**	P		**Pn**	**00 27 24.2**	**-0.8**
	comp=Z,53nm,1.1s							
MTN	**Manton Dam**	**17.43**	**246**	P		**Pn**	**00 27 31.4**	**-0.1**
MTN				IAmb	IAmb		00 27 38.6	
	comp=Z,37nm,0.7s							
WR0	**Warramunga Arr**	**18.69**	**221**	P		**P**	**00 27 45.5**	**+0.5**
WR0				IAmb	IAmb		00 27 47.4	
	comp=Z,47nm,0.7s							
WR0						**S**	**00 31 11.9**	**-0.1**
WRAB	**Tennant Creek**	**18.80**	**221**	*c i* P		**Pn**	**00 27 47.4**	**-0.5**
WRAB				pmax	pmax			
	comp=Z,75nm,0.9s							
WRAB	**Tennant Creek**	**18.80**	**221**	P		**P**	**00 27 46.6**	**+0.6**
WRA	**Warramunga Arr**	**18.81**	**221**	*i* P		**P**	**00 27 46.7**	**+0.5**
WRA				pmax	pmax			
	comp=Z,29nm,0.4s							
WRA	**Warramunga Arr**	**18.81**	**221**	P		**P**	**00 27 46.8**	**+0.5**
	comp=Z,5.3nm,0.3s,baz=42,slow=11,SNR=178							
WRA				S		**S**	**00 31 09.5**	**-5.0**
	comp=Z,1.1nm,0.3s,baz=42,slow=21,SNR=4.6							
WRA				LR	LR		00 35 44.9	
	comp=Z,182nm,18.4s,baz=40,slow=39							
EIDS	**Eidsvold**	**19.60**	**170**	P		**P**	**00 27 55.9**	**+1.2**
GUMO	**Guam**	**19.60**	**353**	P		**P**	**00 27 53.8**	**-1.1**
	comp=Z,9.6nm,0.3s,baz=203,slow=12,SNR=3.7							
GUMO				LR	LR		00 33 05.9	
	comp=Z,57nm,21.7s,baz=156,slow=29							
GUMO	**Guam**	**19.60**	**353**	P		**P**	**00 27 53.7**	**-1.1**
NLAI	**Namlea**	**20.42**	**277**	P		**P**	**00 28 04.1**	**+0.4**
	comp=Z,42nm,0.7s							
KNRA	**Kununurra**	**20.67**	**241**	P		**P**	**00 28 07.0**	**+0.6**
SANI	**Sanana**	**21.71**	**279**	P		**P**	**00 28 18.2**	**+0.7**
	comp=Z,115nm,0.7s							
AS31	**Alice Springs**	**21.86**	**215**	P		**P**	**00 28 20.4**	**+1.3**
AS31				IAmb	IAmb		00 28 21.6	
	comp=Z,17nm,0.8s							
ASAR	**Alice Springs**	**21.86**	**215**	P		**P**	**00 28 20.4**	**+1.3**
	comp=Z,42nm,0.7s,baz=56,slow=9.0,SNR=397							
ASAR				S		**S**	**00 32 13.2**	**-0.7**
	comp=Z,16nm,0.8s,baz=32,slow=23,SNR=5.8							
ASAR				LR	LR		00 37 54.4	
	comp=Z,163nm,18.9s,baz=60,slow=39							
SOEI	**Soe**	**23.22**	**259**	P		**P**	**00 28 33.3**	**+0.5**
	comp=Z,119nm,0.8s							
SOEI	**Soe**	**23.22**	**259**	P		**P**	**00 28 34.1**	**+1.3**
BATI	**Baumata**	**23.87**	**258**	P		**P**	**00 28 39.9**	**+1.3**
	comp=Z,183nm,0.9s,baz=150,slow=2.2,SNR=7.2							
DZM	**Mont Dzumac**	**24.39**	**133**	P		**P**	**00 28 43.3**	**0.0**
	comp=Z,12nm,0.8s,baz=324,slow=7.1,SNR=11							
DZM				pP		**pP**	**00 29 07.9**	**+1.4**
	comp=Z,26nm,1.1s,baz=9.0,slow=4.7,SNR=4.7							
DZM				LR	LR		00 36 41.2	
	comp=Z,121nm,19.7s,baz=354,slow=32							
DZM	**Mont Dzumac**	**24.39**	**133**	P		**P**	**00 28 43.2**	**0.0**
DZM				IAmb	IAmb		00 28 49.3	
	comp=Z,11nm,0.7s							
FITZ	**Fitzroy Crossi**	**24.42**	**239**	P		**P**	**00 28 44.7**	**+1.2**
	comp=Z,177nm,0.6s,baz=47,slow=7.5,SNR=156							
FITZ				LR	LR		00 39 11.0	
	comp=Z,131nm,19.1s,baz=72,slow=38							
STKA	**Stephens Creek**	**26.33**	**191**	P		**P**	**00 29 01.7**	**+1.0**
	comp=Z,2.7nm,0.8s,baz=341,slow=6.5,SNR=4.1							
STKA				LR	LR		00 40 17.3	
	comp=Z,124nm,18.2s,baz=22,slow=38							
STKA	**Stephens Creek**	**26.33**	**191**	P		**P**	**00 29 00.2**	**-0.5**
TARA	**Tarawa**	**26.50**	**75**	P		**P**	**00 29 02.3**	**-0.1**
BBOO	**Buckleboo**	**28.71**	**200**	P		**P**	**00 29 23.9**	**+2.0**
BBOO				IAmb	IAmb		00 29 29.2	
	comp=Z,12nm,0.9s							
PSA00	**Pilbara Seismi**	**30.84**	**237**	P		**P**	**00 29 41.6**	**+0.8**
JAGI	**Jajag, Banyuwa**	**33.07**	**264**	P		**P**	**00 29 58.4**	**-2.2**
GIRL	**Giralia**	**36.02**	**239**	P		**P**	**00 30 26.6**	**+0.8**
WOJI	**Wonogiri, Jawa**	**36.25**	**265**	P		**P**	**00 30 27.7**	**-0.2**
	comp=Z,80nm,0.9s							
UGM	**Wanagama**	**36.65**	**265**	P		**P**	**00 30 30.8**	**-0.6**
MORW	**Morawa**	**37.48**	**228**	P		**P**	**00 30 37.7**	**-0.5**
MORW				IAmb	IAmb		00 30 48.2	
	comp=Z,13nm,0.9s							
OUZ	**Omahuta**	**37.80**	**144**	P		**P**	**00 30 41.7**	**+1.0**
KPJI	**Karang Pucung**	**38.23**	**266**	P		**P**	**00 30 45.5**	**+0.9**
	comp=Z,42nm,0.7s							
CMJI	**Cimerak**	**38.71**	**265**	P		**P**	**00 30 48.0**	**-0.6**
	comp=Z,138nm,0.9s							
YULB	**Yu-li**	**38.76**	**320**	P		**P**	**00 30 47.6**	**-1.3**
YULB				IAmb	IAmb		00 31 02.7	
	comp=Z,6.8nm,1.0s							
NWAO	**Narrogin (SRO)**	**38.81**	**222**	P		**P**	**00 30 50.5**	**+1.3**
	comp=Z,6.8nm,0.6s,baz=56,slow=7.3,SNR=9.5							
NWAO	**Narrogin (SRO)**	**38.81**	**222**	P		**P**	**00 30 49.6**	**+0.4**
NWAO				IAmb	IAmb		00 30 57.7	
	comp=Z,19nm,1.1s							
NWAO	**Narrogin (SRO)**	**38.81**	**222**	IAmb	IAmb		00 30 57.7	
	comp=Z,14nm,1.0s							
TPUB	**Ta-pu**	**39.13**	**319**	P		**P**	**00 30 49.7**	**-2.2**
TPUB				IAmb	IAmb		00 30 52.9	
	comp=Z,9.1nm,0.8s							
NACB	**Ninganchiao**	**39.13**	**321**	P		**P**	**00 30 50.4**	**-1.6**
NACB				IAmb	IAmb		00 31 08.1	
	comp=Z,18nm,0.9s							
CISI	**Cisompet, Garu**	**39.33**	**265**	P		**P**	**00 30 53.3**	**-0.6**
LEM	**Lembang**	**39.54**	**267**	P		**P**	**00 30 55.6**	**-0.1**
LEM				pmax	pmax			
	comp=Z,32nm,0.9s							
CNJI

BFZ Birch Farm 43.13 148 P P 00 31 24.6 0.0
MSWZ Moikau Station 43.14 149 P P 00 31 24.5 -0.1
MJAR Matsushiro Arr 43.16 349 P P 00 31 23.1 -1.7
comp=Z,2.3nm,0.5s,baz=172,slow=10.0,SNR=4.8
MAJO Matsushiro 43.17 349 P P 00 31 23.6 -1.3
MAJO IAmb IAmb 00 31 30.9
comp=Z,6.6nm,0.8s
MJB9 Matsu-Tunnel 43.17 349 P P 00 31 23.9 -1.0
MJB9 IAmb IAmb 00 31 30.9
comp=Z,6.7nm,0.8s
PLWZ Palliser 43.26 149 P P 00 31 26.0 +0.4
MQZ McQueen's Vall 43.65 153 P P 00 31 29.2 +0.7
NJ2 Nanjing 46.59 326 *eP* **P 00 31 56.0 +4.0**
NJ2 pmax pmax
comp=Z,11nm,0.7s
KSRS Korea Array 46.88 339 P P 00 31 53.0 -1.1
comp=Z,1.5nm,0.8s,baz=149,slow=7.4,SNR=4.4
KSRS LR LR 00 50 32.2
comp=Z,27nm,20.6s,baz=145,slow=34
MCQ Macquarie Isla 49.27 171 P P 00 32 10.6 -1.7
GSI Gunungsitoli 50.27 277 P P 00 32 19.6 -1.1
GSI IAmb IAmb 00 32 35.1
comp=Z,24nm,1.1s
GYA Guiyang 50.97 311 P P 00 32 31.3 +5.5
GYA pmax pmax
comp=Z,10.0nm,0.8s
USRK Ussuriysk Ar. 51.85 346 P P 00 32 31.7 -0.1
comp=Z,2.3nm,0.6s,baz=160,slow=5.6,SNR=7.0
USRK PcP **PcP 00 33 41.9 -1.4**
comp=Z,1.0nm,0.5s,baz=198,slow=3.2,SNR=4.1
KMI Kunming 53.30 307 P P 00 32 48.8 +5.6
KMI pmax pmax
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 53.59 298 P P 00 32 48.1 +3.0
comp=Z,0.8nm,0.6s,baz=130,slow=5.7,SNR=5.2
CD2 Chengdu 55.55 314 *eP* **P 00 33 01.5 +2.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KLR Kul'dur 56.65 348⇑ *iP* **P 00 33 06.6 0.0**
KLR pmax pmax
comp=Z,11nm,1.4s
GRNR Gornyy 57.31 352 *eP* P 00 33 18.6 +7.4
LZH Lanzhou 58.45 319 *eP* P 00 33 25.5 +5.8
LZH pP pP 00 33 47.5 +0.7
LZH sP sP 00 34 00.0 +0.9
LZH pmax pmax
comp=Z,13nm,1.0s
PEA0B Petropavlovsk- 59.51 7 P P 00 33 26.1 -0.3
PEA0B IAmb IAmb 00 33 36.7
comp=Z,15nm,1.1s
PETK Petropavlovsk- 59.51 7 P P 00 33 26.9 +0.5
comp=Z,7.9nm,0.8s,baz=183,slow=8.9,SNR=5.6
HIA Hailar 60.07 339⇓ *eP* **P 00 33 30.5 +0.1**
HIA pmax pmax
comp=Z,33nm,0.7s
ZEA Zeya 61.87 347 *eP* **P 00 33 42.0 -0.4**
ZEA pmax pmax
comp=Z,20nm,1.0s
SONM Songino Array 64.58 331 P P 00 33 59.9 -0.8
comp=Z,0.8nm,0.5s,baz=141,slow=5.2,SNR=8.0
SONM pP **pP 00 34 29.4 +1.2**
comp=Z,1.0nm,0.8s,baz=123,slow=5.5,SNR=3.0
SONM PKPPKP **P'P'df 01 02 52.2 +5.5**
comp=Z,0.8nm,1.0s,baz=52,slow=2.4,SNR=3.2
ZAK Zakamensk 67.81 331 *eP* **P 00 34 19.1 -2.1**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
PALK Pallekele 67.83 280 LR LR 01 07 45.2
comp=Z,23nm,18.1s,baz=79,slow=39
YAK Yakutsk 69.18 351 *eP* **P 00 34 29.0 -0.3**
YAK pmax pmax
comp=Z,13nm,0.6s
VNDA Vanda 71.91 177 P P 00 34 47.1 +1.4
comp=Z,2.7nm,0.9s,baz=333,slow=8.2,SNR=6.7
VNDA pP **pP 00 35 14.9 +0.4**
comp=Z,5.3nm,0.7s,baz=329,slow=6.7,SNR=8.7
VNDA Vanda 71.91 177 P P 00 34 46.8 +1.1
WMQ Urumqi 73.04 319 *eP* **P 00 34 56.5 +3.4**
WMQ pmax pmax
comp=Z,11nm,0.9s
WMQ pmax pmax
comp=Z,130nm,5.1s
BILL Bilibino 75.04 7⇓ *iP* **P 00 35 03.0 -1.1**
BILL pmax pmax
comp=Z,9.0nm,1.3s
MK31 Makanchi Array 77.74 320⇓ *eP* **P 00 35 18.3 -1.6**
MK31 Makanchi Array 77.74 320 P P 00 35 18.2 -1.6
MKAR Makanchi Array 77.74 320 P P 00 35 18.5 -1.3
comp=Z,0.6nm,0.5s,baz=97,slow=8.4,SNR=18
MAKZ Makanchi 77.94 320 P P 00 35 19.2 -1.8
ANM Nome 78.56 19 P P 00 35 23.9 0.0
OHAK Old Harbor 79.09 28 P P 00 35 26.7 -0.2
OHAK IAmb IAmb 00 35 33.3
comp=Z,13nm,1.0s
ZALV Zalesovo Beam 79.21 328 P P 00 35 25.4 -2.3
comp=Z,1.5nm,0.4s,baz=117,slow=5.9,SNR=6.8
KSH Kashi 79.66 312 P P 00 35 35.0 +4.3
KSH sP sP 00 36 11.5 +0.3
KSH S **S 00 45 31.0 +7.0**
KSH pmax pmax
comp=Z,410nm,5.6s
KSH LR LR
comp=Z,600nm,5.6s
SVW2 Sparrevohn 80.06 24 P P 00 35 32.2 0.0
SVW2 IAmb IAmb 00 35 34.3
comp=Z,11nm,1.2s
SUA Susitna One 82.27 25 P P 00 35 42.0 -2.0
PPLA Purkeypile 82.36 24 P P 00 35 43.1 -1.3
MAW Mawson 82.42 203 P P 00 35 45.2 +0.6
RC01 Rabbit Creek A 82.53 26 P P 00 35 44.0 -1.2
RC01 IAmb IAmb 00 35 49.2
comp=Z,11nm,1.1s
KTH Kantishna Hill 83.18 23 P P 00 35 47.2 -1.4
GHO Glory Hole Cre 83.18 25 P P 00 35 47.3 -1.4
GHO IAmb IAmb 00 35 55.9
comp=Z,8.1nm,1.2s
TRF Thorofare Moun 83.38 24 P P 00 35 49.1 -0.7
SML Sawmill 83.45 26 P P 00 35 49.6 -0.4
SML IAmb IAmb 00 35 49.9
comp=Z,6.7nm,0.9s
GLI Glacier Island 83.60 27 P P 00 35 50.4 -0.3
GLI IAmb IAmb 00 36 01.1
comp=Z,15nm,1.0s
KBL Kabul 83.84 306 P P 00 35 51.7 -1.1
SCM Sheep Creek Mo 83.89 26 P P 00 35 51.7 -0.6
SCM IAmb IAmb 00 35 54.7
comp=Z,8.6nm,1.1s
RND Reindeer 83.94 24 IAmb IAmb 00 35 52.4
comp=Z,7.9nm,0.9s
MLY Manley 83.95 22 P P 00 35 51.6 -0.9
MLY IAmb IAmb 00 35 52.8
comp=Z,5.5nm,0.9s
QSPA South Pole Qui 83.99 180 P P 00 35 53.2 +0.4
QSPA IAmb IAmb 00 35 54.0
comp=Z,7.4nm,0.8s
QSPA **pP 00 36 21.8 -0.9**
DHY Denali Highway 84.40 25 P P 00 35 54.0 -0.9
DHY IAmb IAmb 00 35 56.8
comp=Z,7.0nm,1.2s
CCB Clear Creek Bu 84.89 23 P P 00 35 54.9 -2.3
COLA College 84.97 23⇓ *eP* **P 00 35 56.3 -1.2**
COLA pmax pmax
comp=Z,10.0nm,1.3s
HDA Harding Lake 85.13 23 P P 00 35 56.0 -2.3
PAX Paxson 85.15 25 P P 00 35 57.8 -0.8
ILAR Eielson Array 85.30 23 P P 00 35 56.5 -2.7
comp=Z,3.5nm,0.7s,baz=251,slow=4.7,SNR=39
WAX Waxell Ridge 85.36 28 P P 00 35 58.1 -1.7
WAX IAmb IAmb 00 35 59.3
comp=Z,11nm,1.1s
VRDI Verde Repeater 85.37 27 P P 00 35 58.6 -1.3
VRDI IAmb IAmb 00 36 01.0
comp=Z,8.5nm,1.1s
NRIK Noril'sk 85.38 342⇑ *eP* **P 00 35 58.3 -1.2**
NRIK Noril'sk 85.38 342 P P 00 35 59.2 -0.3
comp=Z,4.7nm,0.8s,baz=118,slow=4.0,SNR=12
MCARA McCarthy VSAT 85.62 27 P P 00 36 00.6 -0.3
MCARA IAmb IAmb 00 36 18.8
comp=Z,6.3nm,1.1s
BALM Baldy 85.80 27 P P 00 36 01.1 -0.9
BALM IAmb IAmb 00 36 19.9
comp=Z,7.0nm,1.1s
TOLK Toolik Lake Re 86.04 19 P P 00 36 02.4 -0.5
BARN Barnard Glacie 86.12 27 P P 00 36 03.5 -0.2
BARN IAmb IAmb 00 36 05.0
comp=Z,6.2nm,1.0s
CTGM Chitina Glacie 86.24 28 P P 00 36 03.8 -0.4
CTGM IAmb IAmb 00 36 18.3
comp=Z,10.0nm,1.2s
BVAR Borovoye Array 86.99 324 P P 00 36 05.6 -2.2
comp=Z,0.7nm,0.4s,baz=109,slow=4.9,SNR=4.8
EGAK Eagle 87.58 24 P P 00 36 10.7 +0.3
HYT Haines Junctio 87.98 28 P P 00 36 12.3 -0.2
HYT IAmb IAmb 00 36 13.9
comp=Z,7.2nm,0.9s
DAWY Dawson 88.08 25 P P 00 36 13.9 +1.1
DAWY IAmb IAmb 00 36 14.2
comp=Z,3.2nm,0.8s
WHY Whitehorse 89.19 29 P P 00 36 17.0 -1.2
HRA Herat 89.36 305 P P 00 36 16.6 -3.1
CRZF Crozet Islands 89.53 224 P P 00 36 19.4 -0.6
EPYK Eagle Plains 89.82 23 IAmb IAmb 00 36 21.9
comp=Z,7.1nm,0.8s
YKA Yellowknife Ar 98.97 28 P P 00 37 02.5 -0.2
comp=Z,0.9nm,0.8s,baz=274,slow=4.6,SNR=12
FRB Frobisher Bay 116.79 17 PKP PKPdf 00 42 04.2 -1.8
comp=Z,0.5nm,0.5s,baz=90,slow=4.1,SNR=4.1
VYHS Vyhne 119.32 323 *e*PKIKP **PKiKP 00 42 13.6 +2.1**
VYHS Vyhne 119.32 323 *e*PKP **PKiKP 00 42 13.6 +2.1**
PLCA Paso Flores 121.92 147 PKP **PKiKP 00 42 17.1 +0.1**
comp=Z,3.8nm,0.8s,baz=291,slow=2.6,SNR=11
GERES GERESS Array B 122.11 326 PKP **PKPdf 00 42 15.4 -1.5**
comp=Z,0.6nm,0.6s,baz=125,slow=1.0,SNR=8.4
GERES PKKPbc **PKKPab 00 52 14.0 -0.4**
comp=Z,0.3nm,0.5s,baz=232,slow=3.2,SNR=5.9
LPAZ La Paz 138.46 123 PKhKP PKPpre 00 42 40.4
comp=Z,1.7nm,0.6s,baz=199,slow=0.9,SNR=7.6
LPAZ PKP **PKPdf 00 42 49.5 +0.2**
comp=Z,3.6nm,0.7s,baz=22,slow=3.0,SNR=4.2
LPAZ SKP 00 46 14.7
comp=Z,0.6nm,0.5s,baz=295,slow=6.1,SNR=3.8
CPUP Villa Florida 139.92 144 PKP **PKPdf 00 42 51.3 +0.3**
comp=Z,4.4nm,0.9s,baz=234,slow=0.4,SNR=7.8
TORD Torodi Ar. Bea 145.47 284 PKPbc **PKPdf 00 42 60.0 -1.1**
comp=Z,3.0nm,0.5s,baz=72,slow=3.8,SNR=44
TORD pPKPbc **pPKPdf 00 43 32.8 +0.8**
comp=Z,7.6nm,0.9s,baz=82,slow=4.2,SNR=8.0
TORD SKPbc **SKPbc 00 46 27.5 -3.1**
comp=Z,0.8nm,0.8s,baz=38,slow=2.6,SNR=5.0
SAML Samuel 146.10 116 PKP2 **PKPbc 00 43 02.8 -0.5**
DBIC Dimbokro 152.42 273 PKPbc **PKPbc 00 43 18.6 -0.7**
comp=Z,1.6nm,0.8s,baz=92,slow=2.4,SNR=3.8
DBIC pPKPbc **pPKPbc 00 43 50.3 +0.3**
comp=Z,2.4nm,0.6s,baz=71,slow=3.9,SNR=3.1
DBIC Dimbokro 152.42 273 pPKPbc 00 43 50.8 +0.8
BDFB Brasilia 153.65 145 PKPbc **PKPbc 00 43 21.9 -0.1**
comp=Z,9.9nm,0.7s,baz=2.2,slow=0.3,SNR=12
BDFB PKPab **PKPab 00 43 35.2 +0.4**
comp=Z,4.4nm,0.8s,baz=176,slow=3.7,SNR=3.8
BDFB Brasilia 153.65 145 PKPbc **PKPbc 00 43 21.4 -0.6**

CNRM ***28*** *00:34:28.1,36.57N×7.43W,h30km,ml3.1*
MDD ***28*** *00:34:31.8±0.9,36.59N×7.66W,h31km±20km,mbLg2.1/22, Error ellipse: s-maj=9.9km s-min=4.9km az=22.0,PRXIMO*
SFS ***28*** *00:34:31.0,36.60N×7.67W,h40km,ML2.3,GOLFO DE CADIZ*
INMG ***28*** *00:34:31.5±1.1,36.58N×7.68W,h22km±3km,ML2.1, Error ellipse: s-maj=3.7km s-min=2.2km az=36.0*
IGIL ***28*** *00:34:31.7,36.56N×7.68W,h32km,ML1.8*
ISC 28 00:34:29.3±1.4,36.53N±0.03×7.64W±0.03,h34km±3km, n54,σ1§27/105,3D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.75**	**342**	⇓ *i*	Pg	**Pb**		**00 34 44.4**	**+0.3**
PBDV					Sg	**Sb**		**00 34 53.7**	**-0.4**
PBDV					A	A		00 34 58.7	
	20nm,0.2s								
PBDV	**Barranco-do-Ve**	**0.75**	**342**	P		**Pb**		**00 34 44.4**	**+0.3**
PBDV				S		**Sb**		**00 34 53.7**	**-0.4**
	20nm,0.2s								
PVAQ	**Vaqueiros**	**0.88**	**356**	⇓ *e*	Pg	**Pn**		**00 34 46.1**	**+0.9**
PVAQ				*e*	Sg	**Sb**		**00 34 56.6**	**-1.0**
PVAQ				A		A		00 34 57.5	
	45nm,0.3s								
PVAQ	**Vaqueiros**	**0.88**	**356**	P		**Pn**		**00 34 42.5**	**-2.7**
PVAQ				S		**Sb**		**00 34 56.9**	**-0.7**
PVAQ	**Vaqueiros**	**0.88**	**356**	P		**Pn**		**00 34 46.1**	**+0.9**
PVAQ				S		**Sb**		**00 34 56.6**	**-1.0**
	45nm,0.3s								
EGRO	**El Granado**	**1.01**	**7**	⇓	P	**Pn**		**00 34 48.2**	**+1.1**
	5.7nm,0.1s,SNR=18								
EGRO				S		**Sn**		**00 35 00.5**	**+0.4**
	14nm,0.1s,SNR=22								
MORF	**Marmelete**	**1.12**	**314**	*e*	P	**Pn**		**00 34 49.3**	**+0.6**
MORF				*e*	S	**Sn**		**00 35 02.2**	**-0.6**
MORF				AML		AML		00 35 05.3	
	comp=N,15nm,0.1s								
MORF	**Marmelete**	**1.12**	**314**	*e*	P	**Pn**		**00 34 49.2**	**+0.6**
MORF				*e*	S	**Sn**		**00 35 03.1**	**+0.2**
MORF				A		A		00 35 11.4	
	comp=N,24nm,0.2s								
MORF	**Marmelete**	**1.12**	**314**	P		**Pn**		**00 34 49.2**	**+0.6**
MORF				S		**Sn**		**00 35 03.1**	**+0.2**
	comp=N,24nm,0.2s								
PFVI	**Vila Bisbo**	**1.13**	**303**	*e*	P	**Pn**		**00 34 49.4**	**+0.8**
PFVI				*e*	S	**Sn**		**00 35 02.8**	**-0.1**
PFVI				A		A		00 35 10.2	
	comp=N,21nm,0.6s								
PFVI	**Vila Bisbo**	**1.13**	**303**	P		**Pn**		**00 34 49.4**	**+0.8**
	comp=N,4.1nm,0.1s,SNR=7.9								
PFVI				S		**Sn**		**00 35 02.7**	**-0.2**
	comp=N,11nm,0.1s,SNR=7.9								
PCVE	**Castro Verde**	**1.15**	**344**	*e*	P	**Pn**		**00 34 50.1**	**+1.2**
PCVE				*e*	S	**Sn**		**00 35 03.8**	**+0.3**
PCVE				A		A		00 35 04.3	
	comp=N,21nm,0.3s								
PCVE	**Castro Verde**	**1.15**	**344**	P		**Pn**		**00 34 50.1**	**+1.2**
PCVE				S		**Sn**		**00 35 03.8**	**+0.3**
	comp=N,21nm,0.3s								
PTEO	**Sao Teotonio**	**1.34**	**320**	*e*	P	**Pn**		**00 34 52.5**	**+1.0**
PTEO				*e*	S	**Sn**		**00 35 08.6**	**+0.6**
PTEO				A		A		00 35 22.4	
	comp=N,13nm,0.6s								
PTEO	**Sao Teotonio**	**1.34**	**320**	P		**Pn**		**00 34 52.5**	**+1.0**
PTEO				S		**Sn**		**00 35 08.6**	**+0.6**
	comp=N,6.7nm,0.6s								
EMIN	**Mina Concepcio**	**1.46**	**32**	P		**Pn**		**00 34 54.1**	**+0.9**
	comp=N,0.1nm,0.0s,SNR=9.5								
EMIN				S		**Sn**		**00 35 10.6**	**-0.6**
	comp=N,5.8nm,0.1s,SNR=13								
PBEJ	**Beja**	**1.51**	**353**	*e*	P	**Pn**		**00 34 55.0**	**+1.1**
PBEJ				*e*	S	**Sn**		**00 35 12.0**	**-0.3**
PBEJ				A		A		00 35 12.4	
	comp=N,7.5nm,0.2s								
PBEJ	**Beja**	**1.51**	**353**	P		**Pn**		**00 34 55.0**	**+1.1**
PBEJ				S		**Sn**		**00 35 12.0**	**-0.3**
	comp=N,3.8nm,0.2s								
PBAR	**Barrancos**	**1.72**	**16**	*e*	Pn	**Pn**		**00 34 58.0**	**+1.3**
PBAR				*e*	Sn	**Sn**		**00 35 17.3**	**-0.1**
PBAR				A		A		00 35 26.0	
	comp=N,18nm,0.6s								
PBAR	**Barrancos**	**1.72**	**16**	P		**Pn**		**00 34 58.0**	**+1.3**
PBAR				S		**Sn**		**00 35 17.3**	**-0.1**
	comp=N,18nm,0.6s								
PNCL	**Nicolau / Gran**	**1.73**	**336**	*e*	Pn	**Pn**		**00 34 58.0**	**+1.1**
PNCL				*e*	Sn	**Sn**		**00 35 17.6**	**-0.3**
PNCL				A		A		00 35 27.7	
	comp=N,9.6nm,0.6s								
PNCL	**Nicolau / Gran**	**1.73**	**336**	P		**Pn**		**00 34 58.0**	**+1.1**
PNCL				S		**Sn**		**00 35 17.6**	**-0.3**
	comp=N,9.6nm,0.6s								
EVO	**Evora**	**2.02**	**352**	*e*	Pn	**Pn**		**00 35 02.2**	**+1.2**
EVO				*e*	Sn	**Sn**		**00 35 25.3**	**+0.2**
EVO				A		A		00 35 39.2	
	comp=N,9.2nm,0.5s								
EVO	**Evora**	**2.02**	**352**	*e*	P	**Pn**		**00 35 02.1**	**+1.1**
EVO				*e*	S	**Sn**		**00 35 25.6**	**+0.6**
EVO	**Evora**	**2.02**	**352**	P		**Pn**		**00 35 02.2**	**+1.2**
EVO				S		**Sn**		**00 35 25.3**	**+0.2**
	comp=N,9.2nm,0.5s								
EBAD	**Badajoz**	**2.28**	**12**	P		**Pn**		**00 35 05.3**	**+0.8**
	comp=N,0.7nm,0.1s,SNR=7.9								
EBAD				S		**Sn**		**00 35 30.3**	**-1.1**
	comp=N,1.1nm,0.0s,SNR=7.9								
EMIJ	**Mijas**	**2.31**	**88**	P		**Pn**		**00 35 07.5**	**+2.6**
	comp=N,0.3nm,0.1s,SNR=4.0								
EMIJ				S		**Sn**		**00 35 33.1**	**+0.9**
	comp=N,0.2nm,0.1s,SNR=7.9								
PESTR	**Estremoz**	**2.34**	**1**	*e*	Pn	**Pn**		**00 35 06.2**	**+0.9**
PESTR				*e*	Sn	**Sn**		**00 35 32.4**	**-0.4**
PESTR				A		A		00 35 44.1	
	comp=N,4.1nm,0.5s								
ECAB	**El Cabril**	**2.35**	**48**	P		**Pn**		**00 35 07.2**	**+1.7**
	comp=N,0.1nm,0.0s,SNR=14								
ECAB				S		**Sn**		**00 35 31.5**	**-1.8**
	comp=N,0.4nm,0.0s,SNR=5.6								
PMTG	**Montargil**	**2.58**	**350**	*e*	Pn	**Pn**		**00 35 09.4**	**+0.8**
PMTG				*e*	Sn	**Sn**		**00 35 38.3**	**-0.5**
PMTG				A		A		00 36 06.6	
	comp=N,5.0nm,0.9s								
PMTG	**Montargil**	**2.58**	**350**	P		**Pn**		**00 35 09.4**	**+0.8**
PMTG				S		**Sn**		**00 35 38.3**	**-0.5**
	comp=N,5.0nm,0.9s								
PMAFR	**Mafra**	**2.75**	**332**	*e*	Pn	**Pn**		**00 35 12.4**	**+1.5**
PMAFR				*e*	Sn	**Sn**		**00 35 43.8**	**+0.8**
PMAFR				A		A		00 35 44.9	
	comp=N,22nm,0.9s								
PMAFR	**Mafra**	**2.75**	**332**	P		**Pn**		**00 35 12.5**	**+1.5**
	comp=N,5.5nm,0.1s,SNR=6.6								
PMAFR				S		**Sn**		**00 35 41.6**	**-1.4**
	comp=N,1.7nm,0.1s,SNR=7.9								
PMRV	**Marv??o**	**2.91**	**4**	*e*	Pn	**Pn**		**00 35 14.1**	**+1.0**
PMRV				*e*	Sn	**Sn**		**00 35 46.2**	**-0.6**
PMRV				A		A		00 35 47.9	
	comp=N,3.6nm,0.2s								
PMRV	**Marv??o**	**2.91**	**4**	P		**Pn**		**00 35 14.1**	**+1.0**
PMRV				S		**Sn**		**00 35 46.2**	**-0.6**
	comp=N,3.6nm,0.2s								
EADA	**Adamuz**	**2.94**	**55**	P		**Pn**		**00 35 14.9**	**+1.3**
	comp=N,0.4nm,0.1s,SNR=7.9								
EADA				S		**Sn**		**00 35 48.1**	**+0.4**
	comp=N,2.2nm,0.1s,SNR=7.9								
PTOM	**Tomar**	**3.15**	**349**	*e*	Pn	**Pn**		**00 35 17.8**	**+1.4**
PTOM				*e*	Sn	**Sn**		**00 35 51.3**	**-1.4**
PTOM				A		A		00 35 54.4	
	comp=N,5.7nm,0.6s								
PTOM	**Tomar**	**3.15**	**349**	P		**Pn**		**00 35 17.8**	**+1.4**
PTOM				S		**Sn**		**00 35 51.3**	**-1.4**
	comp=N,2.8nm,0.6s								
ELGU	**Los Guajares,**	**3.25**	**83**	P		**Pn**		**00 35 21.1**	**+3.2**
	comp=N,0.2nm,0.1s,SNR=4.0								
ELGU				S		**Sn**		**00 35 55.6**	**+0.2**
	comp=N,1.6nm,0.2s,SNR=7.9								
PCBR	**Castelo Branco**	**3.31**	**2**	*e*	Pn	**Pn**		**00 35 19.8**	**+1.2**
PCBR				*e*	Sn	**Sn**		**00 35 55.8**	**-1.0**
PCBR				A		A		00 35 57.5	
	comp=N,3.6nm,0.6s								
PCBR	**Castelo Branco**	**3.31**	**2**	P		**Pn**		**00 35 19.8**	**+1.2**
PCBR				S		**Sn**		**00 35 55.8**	**-1.0**
	comp=N,1.8nm,0.6s								
EPLA	**Plasencia**	**3.74**	**19**	P		**Pn**		**00 35 25.9**	**+1.3**
	comp=N,0.3nm,0.0s,SNR=5.9								
EPLA				S		**Sn**		**00 36 05.8**	**-1.7**
	comp=N,2.6nm,0.1s,SNR=6.3								
EQES	**Quesada**	**3.87**	**69**	P		**Pn**		**00 35 29.1**	**+2.6**
	comp=N,0.1nm,0.1s,SNR=4.0								
EQES				S		**Sn**		**00 36 10.4**	**-0.3**
	comp=N,0.6nm,0.1s,SNR=7.9								
PAB	**San Pablo**	**3.98**	**40**	P		**Pn**		**00 35 29.9**	**+1.9**
	comp=N,0.1nm,0.1s,SNR=4.0								
PAB				S		**Sn**		**00 36 10.0**	**-3.4**
	comp=N,0.4nm,0.1s,SNR=7.9								
MD31	**MD31**	**4.36**	**146**	P		**Pn**		**00 35 33.5**	**+0.5**
MD31				S		**Sn**		**00 36 20.0**	**-2.7**
MDT	**Midelt**	**4.47**	**145**	P		**Pn**		**00 35 35.5**	**+0.8**
MDT				S		**Sn**		**00 36 23.3**	**-2.2**
MVO	**Moncorvo**	**4.66**	**6**	*e*	Pn	**Pn**		**00 35 37.9**	**+0.7**
MVO				*e*	Sn	**Sn**		**00 36 27.4**	**-2.7**
MVO				A		A		00 36 29.4	
	comp=N,5.4nm,0.3s								
MVO	**Moncorvo**	**4.66**	**6**	P		**Pn**		**00 35 38.0**	**+0.8**
	comp=N,1.3nm,0.1s,SNR=7.9								
MVO				S		**Sn**		**00 36 27.0**	**-3.1**
	comp=N,1.1nm,0.2s,SNR=7.9								
PVRL	**Vila Real**	**4.74**	**359**	*e*	Pn	**Pn**		**00 35 39.2**	**+0.8**
PVRL				*e*	Sn	**Sn**		**00 36 30.2**	**-2.0**
PVRL	**Vila Real**	**4.74**	**359**	P		**Pn**		**00 35 39.2**	**+0.8**
PVRL				S		**Sn**		**00 36 30.2**	**-2.0**
POLO	**Lamas de Olo**	**4.84**	**359**	*e*	Pn	**Pn**		**00 35 40.6**	**+0.8**
POLO	**Lamas de Olo**	**4.84**	**359**	P		**Pn**		**00 35 40.6**	**+0.8**
TISM	**Timmit**	**4.89**	**168**	P		**Pn**		**00 35 39.4**	**-1.0**
ETOB	**Tobarra**	**5.28**	**65**	P		**Pn**		**00 35 46.4**	**+0.6**
	comp=N,0.1nm,0.1s,SNR=7.9								
ETOB				S		**Sn**		**00 36 43.8**	**-1.8**
	comp=N,0.6nm,0.1s,SNR=7.9								

ISCJB ***28*** *00:50:19.0±0.5,36.96N±0.04×12.27W±0.04,h10km, Error ellipse: s-maj=6.5km s-min=4.0km az=161.1*
IGIL ***28*** *00:50:19.8,36.78N×12.36W,h0km,ML2.3*
NEIC ***28*** *00:50:20.0±2.0,36.80N±0.07×12.25W±0.09,h10km±2km, mb4.2/2*
MDD ***28*** *00:50:20.3±1.8,36.81N×12.30W,h0km,mb3.9/5,Error ellipse: s-maj=15.9km s-min=13.8km az=94.0,PRXIMO*
INMG ***28*** *00:50:21.4±1.1,36.61N×12.69W,h31km,ML2.4, Error ellipse: s-maj=6.8km s-min=4.6km az=96.0*
CNRM ***28*** *00:50:30.8,33.23N×10.38W,h650km,ml2.6*
ISC 28 00:50:19.1±0.8,36.82N±0.05×12.33W±0.06,h10km,n80, σ1§77/120,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.82**	**83**	*e*	P	**Pn**		**00 51 04.4**	**+0.2**
PFVI				*e*	S	**Sn**		**00 51 37.8**	**-0.6**
PFVI	**Vila Bisbo**	**2.82**	**83**	P		**Pn**		**00 51 04.5**	**+0.2**
	5.5nm,0.1s,SNR=7.9								
PFVI				S		**Sn**		**00 51 37.8**	**-0.6**
	5.5nm,0.1s,SNR=7.9								
PFVI	**Vila Bisbo**	**2.82**	**83**			**Pn**		**00 51 04.5**	**+0.2**
PFVI						**Sn**		**00 51 37.8**	**-0.6**
PTEO	**Sao Teotonio**	**2.97**	**75**	*e*	P	**Pn**		**00 51 07.0**	**+0.7**
PTEO				*e*	S	**Sn**		**00 51 42.2**	**+0.3**
PTEO	**Sao Teotonio**	**2.97**	**75**	P		**Pn**		**00 51 07.0**	**+0.7**
PTEO				S		**Sn**		**00 51 42.2**	**+0.3**
MORF	**Marmelete**	**2.98**	**79**	*e*	P	**Pn**		**00 51 06.8**	**+0.3**
MORF				*e*	S	**Sn**		**00 51 41.4**	**-1.0**
MORF				AML		AML		00 51 45.1	
	comp=N,10.0nm,0.3s								
MORF	**Marmelete**	**2.98**	**79**	*e*	P	**Pn**		**00 51 07.3**	**+0.8**
MORF				*e*	S	**Sn**		**00 51 41.5**	**-0.9**
MORF				A		A		00 51 48.5	
	comp=N,5.6nm,0.8s								
MORF	**Marmelete**	**2.98**	**79**	P		**Pn**		**00 51 07.3**	**+0.8**
MORF				S		**Sn**		**00 51 41.5**	**-0.9**
	comp=N,5.6nm,0.8s								
PMAFR	**Mafra**	**3.22**	**48**	*e*	Pn	**Pn**		**00 51 11.1**	**+1.4**
PMAFR				*e*	Sn	**Sn**		**00 51 48.4**	**+0.3**
PMAFR				A		A		00 51 49.2	
	comp=N,63nm,0.2s								
PMAFR	**Mafra**	**3.22**	**48**	P		**Pn**		**00 51 10.8**	**+1.1**
	comp=N,5.3nm,0.2s,SNR=7.9								
PMAFR				S		**Sn**		**00 51 48.5**	**+0.4**
	comp=N,67nm,0.2s,SNR=27								
PMAFR	**Mafra**	**3.22**	**48**			**Pn**		**00 51 10.8**	**+1.1**
PMAFR						**Sn**		**00 51 49.1**	**+0.9**
PNCL	**Nicolau / Gran**	**3.29**	**66**	*e*	P	**Pn**		**00 51 12.0**	**+1.3**
PNCL				*e*	S	**Sn**		**00 51 49.7**	**-0.1**
PNCL				A

PVAQ				S		Sn	00 52 00.1	-0.7
	comp=N,2.0nm,0.1s							
PVAQ	**Vaqueiros**	**3.73**	**80**	Pn		Pn	00 51 17.7	+1.0
PBEJ	**Beja**	**3.75**	**70**	*eP*		Pn	00 51 18.1	+1.1
PBEJ				*eS*		Sn	00 52 01.0	-0.3
PBEJ	**Beja**	**3.75**	**70**	P		Pn	00 51 18.1	+1.1
PBEJ				S		Sn	00 52 01.0	-0.3
EVO	**Evora**	**3.83**	**62**	*eP*		Pn	00 51 20.1	+2.0
EVO				*eS*		Sn	00 52 02.1	-1.0
EVO				A		A	00 52 05.8	
	comp=N,4.2nm,0.1s							
EVO	**Evora**	**3.83**	**62**	P		Pn	00 51 20.1	+2.0
EVO				S		Sn	00 52 02.1	-1.0
	comp=N,4.2nm,0.1s							
EGRO	**El Granado**	**3.94**	**78**	P		Pn	00 51 20.1	+0.6
	comp=N,0.7nm,0.1s,SNR=7.9							
EGRO				S		Sn	00 52 05.8	0.0
	comp=N,1.1nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**3.94**	**78**			Pn	00 51 20.1	+0.6
EGRO						Sn	00 52 05.8	0.0
PMTG	**Montargil**	**3.95**	**54**	*eP*		Pn	00 51 20.9	+1.2
PMTG				*eS*		Sn	00 52 05.0	-1.1
PMTG				A		A	00 52 07.5	
	comp=N,3.0nm,0.2s							
PMTG	**Montargil**	**3.95**	**54**	P		Pn	00 51 20.9	+1.2
PMTG				S		Sn	00 52 05.0	-1.1
	comp=N,3.0nm,0.2s							
PTOM	**Tomar**	**4.16**	**47**	*eP*		Pn	00 51 24.1	+1.4
PTOM				*eS*		Sn	00 52 11.2	-0.2
PTOM				A		A	00 52 18.7	
	comp=N,7.2nm,1.2s							
PTOM	**Tomar**	**4.16**	**47**	P		Pn	00 51 24.1	+1.4
PTOM				S		Sn	00 52 11.2	-0.2
	comp=N,3.6nm,1.2s							
PESTR	**Estremoz**	**4.27**	**60**	*eP*		Pn	00 51 25.3	+1.1
PESTR				*eS*		Sn	00 52 12.8	-1.3
PESTR				A		A	00 52 29.6	
	comp=N,3.2nm,0.8s							
PESTR	**Estremoz**	**4.27**	**60**	Pn		Pn	00 51 25.7	+1.5
EMIN	**Mina Concepcio**	**4.61**	**76**	P		Pn	00 51 28.8	0.0
	comp=N,0.5nm,0.1s,SNR=8.7							
EMIN				S		Sn	00 52 20.1	-2.3
	comp=N,0.2nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.61**	**76**			Pn	00 51 28.8	0.0
EMIN						Sn	00 52 20.1	-2.3
PMRV	**Marv??o**	**4.69**	**55**	*eP*		Pn	00 51 31.3	+1.4
PMRV				*eS*		Sn	00 52 22.2	-2.1
PMRV				A		A	00 52 24.1	
	comp=N,3.0nm,0.3s							
PMRV	**Marv??o**	**4.69**	**55**	P		Pn	00 51 31.3	+1.4
PMRV				S		Sn	00 52 22.2	-2.1
	comp=N,3.0nm,0.3s							
PCBR	**Castelo Branco**	**4.86**	**50**	*eP*		Pn	00 51 33.8	+1.5
PCBR				*eS*		Sn	00 52 27.2	-1.5
PCBR	**Castelo Branco**	**4.86**	**50**	P		Pn	00 51 33.8	+1.5
PCBR				S		Sn	00 52 27.2	-1.5
PVIS	**Viseu**	**5.21**	**40**	*eS*		Sn	00 52 35.1	-2.2
PVIS				A		A	00 52 37.1	
	comp=N,5.1nm,0.4s							
PVIS	**Viseu**	**5.21**	**40**	S		Sn	00 52 35.1	-2.2
	comp=N,2.6nm,0.4s							
ECAB	**El Cabril**	**5.64**	**75**	P		Pn	00 51 43.1	+0.1
	comp=N,0.6nm,0.1s,SNR=17							
ECAB				S		Sn	00 52 46.9	-0.9
	comp=N,0.1nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**5.64**	**75**			Pn	00 51 43.7	+0.6
ECAB						Sn	00 52 46.9	-0.9
PMOZ	**Porto Moniz, M**	**5.65**	**227**	Pn		Pn	00 51 44.9	+1.6
PVRL	**Vila Real**	**5.72**	**37**	*eS*		Sn	00 52 47.6	-2.2
PVRL				A		A	00 52 49.7	
	comp=N,4.3nm,0.2s							
PVRL	**Vila Real**	**5.72**	**37**	S		Sn	00 52 47.6	-2.2
	comp=N,2.2nm,0.2s							
POLO	**Lamas de Olo**	**5.76**	**36**	*eS*		Sn	00 52 48.1	-2.7
POLO				A		A	00 52 50.1	
	comp=N,1.7nm,0.3s							
POLO	**Lamas de Olo**	**5.76**	**36**	S		Sn	00 52 48.1	-2.7
	comp=N,1.7nm,0.3s							
EPLA	**Plasencia**	**5.88**	**55**	P		Pn	00 51 47.3	+1.0
	comp=N,1.0nm,0.2s,SNR=7.9							
EPLA				S		Sn	00 52 52.2	-1.6
	comp=N,0.9nm,0.1s,SNR=6.8							
EPLA	**Plasencia**	**5.88**	**55**			Pn	00 51 47.4	+1.0
EPLA						Sn	00 52 52.2	-1.6
PCAB	**Cabril**	**5.92**	**33**	*eS*		Sn	00 52 52.1	-2.6
PCAB	**Cabril**	**5.92**	**33**	S		Sn	00 52 52.1	-2.6
MVO	**Moncorvo**	**5.99**	**42**	*eS*		Sn	00 52 53.6	-2.9
MVO				A		A	00 52 58.0	
	comp=N,3.7nm,0.6s							
MVO	**Moncorvo**	**5.99**	**42**	S		Sn	00 52 53.7	-2.8
	comp=N,1.5nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.99**	**42**			Sn	00 52 53.7	-2.8
EZAM	**Zamans**	**6.02**	**27**	S		Sn	00 52 53.0	-4.2
	comp=N,0.9nm,0.1s,SNR=7.9							
EZAM	**Zamans**	**6.02**	**27**			Sn	00 52 53.6	-3.5
ELOB	**Lobios**	**6.03**	**32**	S		Sn	00 52 55.2	-2.3
	comp=N,1.1nm,0.1s,SNR=4.0							
ELOB	**Lobios**	**6.03**	**32**			Sn	00 52 55.2	-2.3
EADA	**Adamuz**	**6.31**	**75**	P		Pn	00 51 52.7	+0.5
	comp=N,0.6nm,0.2s,SNR=7.9							
EADA				S		Sn	00 53 01.9	-2.5
	comp=N,0.2nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**6.60**	**39**	*eS*		Sn	00 53 07.7	-3.8
PBRG	**Braganca**	**6.60**	**39**	S		Sn	00 53 07.7	-3.8
EMAZ	**Mazaricos**	**6.64**	**22**	S		Sn	00 53 06.5	-6.0
	comp=N,1.3nm,0.1s,SNR=4.0							
OUK	**Oukaimeden**	**6.71**	**145**	P		Pn	00 51 54.1	-3.9
OUK				S		Sn	00 53 02.9	-12
EAGO	**Agolada(Pontev**	**6.81**	**27**	S		Sn	00 53 11.2	-5.4
	comp=N,1.5nm,0.1s,SNR=7.9							
PAB	**San Pablo**	**6.85**	**64**	P		Pn	00 52 00.5	+0.8
	comp=N,0.3nm,0.2s,SNR=4.0							
PAB				S		Sn	00 53 13.7	-4.0
	comp=N,0.1nm,0.2s,SNR=7.9							
PAB	**San Pablo**	**6.85**	**64**			Pn	00 51 58.6	-1.1
TISM	**Timmit**	**7.04**	**135**	P		Pn	00 51 59.3	-2.9
TISM				S		Sn	00 53 08.1	-14
ESBB	**Sonseca Array**	**7.18**	**64**	Pn		Pn	00 52 02.2	-1.9
MD31	**MD31**	**7.37**	**120**	P		Pn	00 52 04.6	-2.2
MD31				S		Sn	00 53 21.9	-8.6
MDT	**Midelt**	**7.50**	**120**	P		Pn	00 52 04.6	-4.1
MDT				S		Sn	00 53 25.1	-8.7
CART	**Cartagena**	**9.07**	**82**	Pn		Pn	00 52 29.0	-1.0
MACI	**Morro de la Ar**	**9.24**	**204**	Pn		Pn	00 52 33.1	+0.5
MSSA	**Maissana**	**18.18**	**59**			Pn	00 54 31.6	0.0
MSSA					IAmb	IAmb	00 54 34.8	
	comp=Z,12nm,1.1s							
NBO00	**NORSAR Array S**	**28.29**	**24**	P		**P**	00 56 13.5	+1.0
NC602	**NORSAR Array S**	**28.33**	**25**	P		**P**	00 56 09.9	-2.9
BORG	**Borgarnes**	**28.48**	**352**	P		**P**	00 56 15.2	+1.1
BORG					IAmb	IAmb	00 56 24.2	
	comp=Z,6.4nm,0.8s							
NC405	**NORSAR Array S**	**28.66**	**24**	P		**P**	00 56 16.4	+0.6
DRLN	**Deer Lake**	**34.77**	**305**	P		**P**	00 57 11.3	+1.7
SCHQ	**Schefferville**	**40.86**	**314**	P		**P**	00 58 02.6	+1.7
PKME	**Peaks-Kenny Pk**	**42.99**	**300**	P		**P**	00 58 18.9	+0.4

NIED ***28*** *01:10:00,37.20N×142.40E,h8km,Mw3.6 Best double couple: M₀3.29000×10¹⁴ NP1:φs221.00000°,δ52.00000°, λ-49.00000°. NP2:φs346.00000°,δ54.00000°, λ-130.00000°.*

IDC ***28*** *01:10:50.6±1.4,37.28N×142.84E,h0km,mb3.5/4, mb1 3.7/6,mb1mx3.5/37,mbtmp3.6/6,ML2.6/2,Error ellipse: s-maj=30.9km s-min=24.2km az=69.0*

ISCJB ***28*** *01:10:52.9±1.7,37.20N±0.05×142.55E±0.09, h19km±11km,mb3.4/4,Error ellipse: s-maj=12.8km s-min=7.1km az=162.1*

JMA ***28*** *01:10:54.4±0.2,37.19N×142.42E,h24km,M3.6*

ISC 28 01:10:51.3±2.0,37.19N±0.05×142.43E±0.07,h1km±11km, n25,σ1s61/26,mb3.5/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.25**	**278**	P	**Pg**	**01 11 16.5**	**+1.1**
JMST	**Minamisoumatoc**	**1.34**	**294**	P	**Pg**	**01 11 17.8**	**+0.8**
JMST				*eS*	**Sg**	**01 11 35.4**	**+1.1**
JIKH	**Ishinomakikobu**	**1.35**	**326**	P	**Pg**	**01 11 17.9**	**+0.6**
JIKH				*eS*	**Sg**	**01 11 35.3**	**+0.4**
JMM	**Marumori**	**1.47**	**298**	P	**Pb**	**01 11 19.1**	**-0.3**
JMM				*eS*	**Sn**	**01 11 37.1**	**-1.6**
JFFD	**Fukushimafurud**	**1.50**	**267**	P	**Pg**	**01 11 19.9**	**-0.1**
JIO	**Ouri**	**1.52**	**326**	P	**Pg**	**01 11 20.5**	**-0.1**
JIO				*eS*	**Sb**	**01 11 39.6**	**-0.6**
JFT	**Otama**	**1.70**	**282**	P	**Pg**	**01 11 23.8**	**-0.1**
JOU	**Okura**	**1.83**	**310**	P	**Pb**	**01 11 25.6**	**+0.1**
JOU				*eS*	**Sb**	**01 11 48.3**	**-0.6**
JMK	**Ichinoseki**	**2.00**	**332**	*eS*	**Sb**	**01 11 52.7**	**-1.2**
JYK	**Kaneyama**	**2.38**	**317**	*eS*	**Sb**	**01 12 02.6**	**-2.1**
JAG	**Ashikaga**	**2.51**	**253**	P	**Pb**	**01 11 34.9**	**-2.3**
BSO1	**Boso 1**	**2.79**	**205**	P	**Pn**	**01 11 38.3**	**+1.6**
MJAR	**Matsushiro Arr**	**3.45**	**260**	Pn	**Pb**	**01 11 50.6**	**-2.6**
	0.4nm,0.3s,baz=82,slow=17,SNR=9.9						
MJAR				Sn	**Sb**	**01 12 34.0**	**-1.5**
	0.5nm,0.3s,baz=125,slow=24,SNR=3.7						
MAT	**Matsushiro**	**3.45**	**260**	P	**Pb**	**01 11 50.9**	**-2.3**
MAT				S	**Sn**	**01 12 30.1**	**+2.4**
PETK	**Petropavlovsk-**	**19.15**	**29**	P	**P**	**01 15 12.4**	**-3.4**
	0.1nm,0.3s,baz=177,slow=13,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**27.54**	**122**	T	T	01 45 29.3	
	baz=315,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**27.55**	**122**	T	T	01 45 28.0	
	baz=315,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**27.56**	**122**	T	T	01 45 29.4	
	baz=315,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**28.27**	**125**	T	T	01 46 26.1	
	baz=317,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**28.27**	**125**	T	T	01 46 27.0	
	baz=317,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**28.29**	**125**	T	T	01 46 26.0	
	baz=317,slow=76,SNR=13						
SONM	**Songino Array**	**28.37**	**303**	P	**P**	**01 16 48.5**	**+1.4**
	0.6nm,1.0s,baz=134,slow=6.2,SNR=2.6						
MKAR	**Makanchi Array**	**44.72**	**302**	P	**P**	**01 19 07.2**	**+1.2**
	0.2nm,0.6s,baz=91,slow=7.2,SNR=2.7						
WRA	**Warramunga Arr**	**57.34**	**189**	P	**P**	**01 20 41.1**	**0.0**
	0.5nm,0.7s,baz=5.7,slow=7.2,SNR=7.8						
ASAR	**Alice Springs**	**61.06**	**189**	P	**P**	**01 21 07.4**	**+0.5**
	0.3nm,0.7s,baz=18,slow=9.2,SNR=3.8						

IDC ***28*** *01:25:58.6±1.0,85.84N×23.46E,h0km,mb3.7/5, mb1 3.9/7,mb1mx3.5/35,mbtmp3.7/7,ML3.5/2,MS3.4/17, Ms1 3.4/17,ms1mx3.3/39,Error ellipse: s-maj=30.0km s-min=20.1km az=74.0*

IEPN ***28*** *01:26:03.0,85.64N×27.59E,h15km*

ISC 28 01:25:59.7±0.9,85.62N±0.07×23.17E±0.08,h10km,n36, σ1s99/31,mb3.5/5,MS3.4/15,1C,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZFI2	**Zemlya Franca-**	**5.54**	**136**	*iP*	**Pn**	**01 27 23.3**	**+1.2**
ZFI2				*eS*	**Sn**	**01 28 21.8**	**-4.0**
	16nm,0.7s						
KBS	**Kingsbay**	**6.87**	**198**	Pn	**Pn**	**01 27 41.2**	**+0.8**
KBS				Sn	**Sn**	**01 28 55.9**	**-2.5**
KBS	**Kingsbay**	**6.87**	**198**	*eP*	**Pn**	**01 27 41.1**	**+0.8**
KBS				*eS*	**Sn**	**01 28 55.0**	**-3.4**
KBS	**Kingsbay**	**6.87**	**198**	*eP*	**Pn**	**01 27 41.2**	**+0.8**
KBS				*eS*	Sn	01 28 53.7	-4.7
KBS				IAML		01 28 58.0	
	comp=Z,4.7nm,0.8s						
SPA0	**Spitsbergen Ar**	**7.54**	**191**	Pn	**Pn**	**01 27 49.8**	**+0.4**
	baz=20,slow=14						
SPA0				Sn	**Sn**	**01 29 11.9**	**-2.8**
	baz=15,slow=16						
SPA0	**Spitsbergen Ar**	**7.54**	**191**	*eP*	**Pn**	**01 27 50.1**	**+0.7**
SPA0				*eS*	**Sn**	**01 29 11.4**	**-3.4**
SPA0	**Spitsbergen Ar**	**7.54**	**191**	Pn	**Pn**	**01 27 49.8**	**+0.4**
	baz=20,slow=14						
SPA0				Sn	**Sn**	**01 29 11.9**	**-2.8**
	baz=15,slow=16						
BRBB	**Barentsburg B**	**7.66**	**194**	Pn	**Pn**	**01 27 52.6**	**+1.6**
BRBB				Sn	**Sn**	**01 29 15.4**	**-2.3**
BRBB	**Barentsburg B**	**7.66**	**194**	Pn	**Pn**	**01 27 52.6**	**+1.6**
BRBB				Sn	**Sn**	**01 29 15.4**	**-2.3**
BRBA	**Barentsburg A**	**7.69**	**194**	Pn	**Pn**	**01 27 53.0**	**+1.5**
BRBA	**Barentsburg A**	**7.69**	**194**	Pn	**Pn**	**01 27 53.0**	**+1.5**
HSPB	**Hornsund (broa**	**8.73**	**191**	*eP*	**Pn**	**01 28 08.3**	**+2.5**
HSPB				*eS*	**Sn**	**01 29 43.1**	**-0.8**
HOPEN	**Hopen**	**9.17**	**177**	*eP*	Pn	01 28 06.6	-5.2
HOPEN				*eS*	Sn	01 29 43.5	-11
HOPEN				IAML		01 29 46.2	
	comp=Z,11nm,1.3s						
ARA0	**ARCESS Array S**	**16.18**	**177**	Pn	**Pn**	**01 29 47.9**	**+1.1**
	baz=354,slow=11						
ARA0				Sn	Sn	01 32 36.2	-10
	baz=343,slow=22						
ARA0	**ARCESS Array S**	**16.18**	**177**	Pn	**Pn**	**01 29 47.9**	**+1.1**
	baz=354,slow=11						
ARA0				Sn	Sn	01 32 36.2	-10
	baz=343,slow=22						
ARCES	**ARCESS Array B**	**16.18**	**177**	Pn	**Pn**	**01 29 48.1**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=353,slow=9.4,SNR=9.5						
ARCES				Sn	Sn	01 32 38.8	-7.1
	comp=Z,0.2nm,0.3s,baz=6.0,slow=18,SNR=4.0						
ARCES				LR	LR	01 35 09.8	
	comp=Z,101nm,19.5s,baz=314,slow=34						
NRIK	**Noril'sk**	**19.28**	**104**	P	**Pn**	**01 30 24.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=34,slow=11,SNR=3.2						
NRIK				LR	LR	01 38 47.4	
	comp=Z,36nm,19.7s,baz=5.5,slow=40						
LSH	**Leshukonskoye**	**21.26**	**153**	*eP*	**P**	**01 30 46.8**	**+1.3**
	comp=Z,1.54nm,3.6s						
FINES	**FINESS Array B**	**24.31**	**177**	P	**P**	**01 31 19.8**	**+2.9**
	comp=Z,5.4nm,1.1s,baz=336,slow=17,SNR=3.4						
FINES				LR	LR	01 39 37.0	
	comp=Z,70nm,20.1s,baz=38,slow=33						
NOA	**NORSAR Array B**	**24.82**	**194**	LR	LR	01 40 34.7	
	comp=Z,28nm,18.1s,baz=265,slow=35						
ILAR	**Eielson Array**	**29.73**	**351**	P	**P**	**01 32 04.9**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=359,slow=6.9,SNR=6.5						
ILAR				LR	LR	01 44 53.4	
	comp=Z,55nm,18.3s,baz=267,slow=38						
YKA	**Yellowknife Ar**	**31.06**	**323**	P	**P**	**01 32 15.6**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=6.1,slow=8.1,SNR=5.2						
ZALV	**Zalesovo Beam**	**34.33**	**113**	LR	LR	01 48 49.6	
	comp=Z,31nm,20.5s,baz=335,slow=40						
AKASG	**Malin Array Be**	**35.10**	**173**	LR	LR	01 46 54.8	
	comp=Z,62nm,18.2s,baz=25,slow=36						
MKAR	**Makanchi Array**	**41.27**	**117**	LR	LR	01 52 38.5	
	comp=Z,62nm,20.5s,baz=350,slow=39						
SONM	**Songino Array**	**42.02**	**92**	P	**P**	**01 33 50.7**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=339,slow=7.7,SNR=3.6						
KBZ	**Khabaz**	**42.33**	**159**	LR	LR	01 55 14.5	
	comp=Z,41nm,18.2s,baz=22,slow=41						
NEW	**Newport**	**45.39**	**323**	LR	LR	01 53 23.6	
	comp=Z,80nm,18.3s,baz=360,slow=36						
BRTR	**Keskin Array B**	**46.13**	**169**	LR	LR	01 55 39.8	
	comp=Z,22nm,18.5s,baz=317,slow=38						
GEYT	**Ailbeck**	**48.69**	**143**	LR	LR	01 58 30.6	
	comp=Z,38nm,18.4s,baz=220,slow=40						
PDAR	**Pinedale Array**	**50.50**	**315**	LR	LR	01 57 50.3	
	comp=Z,58nm,18.6s,baz=312,slow=38						
YBH	**Yreka Blue Hor**	**52.16**	**328**	LR	LR	01 58 44.9	
	comp=Z,108nm,18.2s,baz=349,slow=38						
ELK	**Elko**	**52.81**	**321**	LR	LR	02 00 33.1	
	comp=Z,77nm,18.0s,baz=1.0,slow=39						
TXAR	**Lajitas Array**	**63.53**	**309**	LR	LR	02 02 49.0	
	comp=Z,34nm,18.2s,baz=0.0,slow=35						
CMAR	**Chiang Mai Arr**	**70.63**	**103**	LR	LR	02 10 32.9	
	comp=Z,22nm,19.0s,baz=30,slow=38						
TORD	**Torodi Ar. Bea**	**72.84**	**202**	P	**P**	**01 37 29.0**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=341,slow=9.3,SNR=4.3						

ISCJB ***28*** *01:40:10.4±0.7,7.54S±0.05×128.81E±0.07,h131km, mb3.1/1,Error ellipse: s-maj=10.6km s-min=6.8km az=15.5*

IDC ***28*** *01:40:12.1±1.6,7.48S×128.72E,h143km±22km,mb3.0/1, mb1 3.5/6,mb1mx3.2/38,mbtmp3.9/6,Error ellipse: s-maj=25.6km s-min=13.7km az=120.0*

ISC 28 01:40:11.2±0.9,7.65S±0.06×128.88E±0.09,h131km,n6, σ2s79/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.74**	**243**	P	**Pn**	**01 41 35.7**	**+1.3**
	16nm,0.3s,baz=101,slow=0.8,SNR=9.9						
BATI				S	**Sn**	**01 42 38.9**	**-0.3**
	21nm,0.3s,baz=132,slow=20,SNR=9.2						
SIJI	**Sorong**	**7.14**	**20**	P	**Pn**	**01 41 53.6**	**+0.4**
	3.4nm,0.3s,baz=238,slow=22,SNR=7.1						
SIJI				S	**Sn**	**01 43 11.3**	**-1.7**
	1.6nm,0.3s,baz=204,slow=19,SNR=3.7						
FITZ	**Fitzroy Crossi**	**10.85**	**197**	P	**Pn**	**01 42 43.9**	**+0.9**
	0.8nm,0.3s,baz=24,slow=9.5,SNR=19						
FITZ				S	**Sn**	**01 44 38.0**	**-4.7**
	0.9nm,0.3s,baz=125,slow=21,SNR=6.2						
WRA	**Warramunga Arr**	**13.32**	**157**	P	**Pn**	**01 43 17.0**	**+1.7**
	0.2nm,0.3s,baz=334,slow=14,SNR=6.6						
WRA				S	**Sn**	**01 45 39.7**	**-2.7**
	0.7nm,0.3s,baz=341,slow=20,SNR=10						
ASAR	**Alice Springs**	**16.64**	**164**	P	**P**	**01 44 01.1**	**+4.1**
	0.4nm,0.3s,baz=341,slow=11,SNR=34						
ASAR				S	**Sn**	**01 47 00.6**	**-1.8**
	0.3nm,0.3s,baz=82,slow=22,SNR=5.3						
MKAR	**Makanchi Array**	**68.16**	**327**	P	**P**	**01 50 55.3**	**-2.0**
	0.2nm,0.5s,baz=119,slow=8.7,SNR=4.6						

IDC 28 01:46:55.5±61.0,18.97S×170.42E,h254km±135km, mb3.5/3,mb1 3.6/4,mb1mx3.1/37,mbtmp4.0/4,MS3.2/1, Ms1 3.2/1,ms1mx2.5/23,Error ellipse: s-maj=816.2km s-min=101.1km az=73.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.84**	**230**	P	Pn	01 48 09.4	-0.1
	1.2nm,0.3s,baz=76,slow=19,SNR=17						
PMG	**Port Moresby**	**24.45**	**290**	LR	LR	01 59 52.1	
	comp=Z,50nm,18.8s,baz=179,slow=32						
STKA	**Stephens Creek**	**28.93**	**238**	P	P	01 52 31.4	-0.1
	1.8nm,0.8s,baz=48,slow=13,SNR=3.4						
WRA	**Warramunga Arr**	**33.99**	**262**	P	P	01 53 15.3	-0.4
	0.4nm,0.3s,baz=96,slow=8.7,SNR=15						
ASAR	**Alice Springs**	**34.27**	**256**	P	P	01 53 18.4	+0.2
	3.6nm,0.5s,baz=82,slow=9.2,SNR=74						

IDC ***28*** *02:03:32.8±3.5,50.23N×176.99W,h0km,mb3.3/6, mb1 3.7/6,mb1mx3.4/41,mbtmp3.3/6,Error ellipse: s-maj=74.0km s-min=35.1km az=38.0*

ISCJB ***28*** *02:03:34.6±1.9,50.46N±0.06×176.97W±0.08, h16km±16km,mb3.3/6,Error ellipse: s-maj=11.3km s-min=7.3km az=31.6*

AEIC ***28*** *02:03:36.8±2.5,50.53N±0.10×176.99W±0.08,h59km±8km, ML3.6*

NEIC ***28*** *02:03:36.7±2.1,50.51N±0.01×177.01W±0.08,h25km±7km*

ISC 28 02:03:38.1±3.5,50.6N±0.1×177.01W±0.06,h27km±21km, n25,σ1s06/32,mb3.3/6,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIMD	**Kanaga Island**	**1.21**	**353**		**Pn**	**02 03 58.5**	**-0.7**
KIMD					**Sb**	**02 04 16.3**	**+0.9**
KIWB	**Kanaga Island**	**1.29**	**356**	Pn	**Pn**	**02 03 59.1**	**-1.3**
KIKV	**Kanaga Island**	**1.32**	**356**		**Pn**	**02 04 00.2**	**-0.6**
ADK	**Adak**	**1.34**	**9**		**Pn**	**02 03 59.9**	**-1.1**
TAPA	**Tanaga Point A**	**1.35**	**338**		**Pn**	**02 04 00.4**	**-0.8**
TAPA					**Sb**	**02 04 19.5**	**-0.2**
KICM	**Kanaga Island**	**1.36**	**355**		**Pn**	**02 04 00.9**	**-0.4**
TASE	**Tanaga Southea**	**1.43**	**333**		**Pn**	**02 04 01.6**	**-0.7**
ADAG	**Mount Adagdak**	**1.44**	**10**		**Pn**	**02 04 02.5**	**+0.1**
TAFP	**Tanaga Falls P**	**1.47**	**336**		**Pn**	**02 04 02.0**	**-0.8**
TAFP					**Sn**	**02 04 21.9**	**+0.7**
GSIG	**Igitkin Island**	**1.58**	**25**		**Pn**	**02 04 02.7**	**-1.6**
GSTD	**Great Sitkin T**	**1.59**	**20**		**Pn**	**02 04 04.0**	**-0.6**
GSTD					**Sn**	**02 04 25.0**	**+0.8**
GSMY	**Great Sitkin M**	**1.60**	**22**		**Pn**	**02 04 04.0**	**-0.6**
GAEA	**Gareloi East**	**1.64**	**319**		**Pn**	**02 04 04.5**	**-0.7**
GAEA					**Sn**	**02 04 25.9**	**+0.5**
GSTR	**Great Sitkin T**	**1.65**	**21**	Pn	**Pn**	**02 04 03.2**	**-2.0**
GSTR					**Sb**	**02 04 27.4**	**-0.6**
ATKA	**Atka Island**	**2.41**	**46**		**Pn**	**02 04 14.4**	**-1.3**
ATKA					**Sn**	**02 04 43.5**	**-0.7**
KOWE	**Korovin West**	**2.50**	**43**		**Pn**	**02 04 17.0**	**+0.1**
MREP	**Makushin Rep't**	**7.10**	**59**		**Pn**	**02 05 21.1**	**+1.0**
UNV	**Unalaska Valle**	**7.24**	**59**		**Pn**	**02 05 23.2**	**+1.2**
ILAR	**Eielson Array**	**21.20**	**36**	P	**P**	**02 08 21.9**	**+0.7**
	0.4nm,0.7s,baz=230,slow=10,SNR=9.4						
YKA	**Yellowknife Ar**	**34.98**	**46**	P	**P**	**02 10 28.1**	**+0.5**
	0.2nm,0.5s,baz=272,slow=8.5,SNR=3.8						
NVAR	**Mina Array Bea**	**42.53**	**83**	P	**P**	**02 11 32.0**	**+0.6**
	0.1nm,0.5s,baz=284,slow=8.3,SNR=2.7						
NVAR	**Mina Array Bea**	**42.53**	**83**	P	**P**	**02 11 32.0**	**+0.6**
PDAR	**Pinedale Array

PB05	**IPOC Station P**	**2.34**	**218**	*eP*	**Pn**	**02 12 20.9**	**+0.1**
PB05				*eS*	**Sn**	**02 12 47.7**	**-2.6**
PB05				IAML		02 12 55.1	
	comp=Z,126nm,0.5s						
YJA	**Yavi**	**3.12**	**112**	*eP*	**Pn**	**02 12 32.8**	**+1.9**
HJA	**Humahuaca**	**3.69**	**127**	*eP*	**Pn**	**02 12 40.6**	**+2.2**
AZAP	**Zapla**	**4.58**	**135**	*eP*	**Pn**	**02 12 50.8**	**+0.7**
LPAZ	**La Paz**	**4.72**	**6**	P	**Pn**	**02 12 55.4**	**+3.0**
	comp=Z,2.3nm,0.3s,baz=204,slow=5.9,SNR=71						
LPAZ				S	**Sn**	**02 13 49.2**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=280,slow=19,SNR=2.3						
SIV	**San Ignacio**	**8.73**	**56**	P	**Pn**	**02 13 43.5**	**-2.1**
	comp=Z,2.0nm,0.3s,baz=254,slow=11,SNR=50						
SIV				S	**Sn**	**02 15 16.3**	**-6.3**
	baz=285,slow=1.6,SNR=4.8						
CFA	**Coronel Fontan**	**10.55**	**178**	P	**Pn**	**02 14 07.0**	**-2.9**
	comp=Z,1.1nm,0.3s,baz=38,slow=19,SNR=8.1						
CFA				S	Sn	02 15 57.3	-9.1
	comp=Z,0.5nm,0.3s,baz=320,slow=16,SNR=3.4						
CPUP	**Villa Florida**	**11.62**	**119**	P	**Pn**	**02 14 22.4**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=303,slow=12,SNR=5.4						
CPUP	**Villa Florida**	**11.62**	**119**	*eP*	**P**	**02 14 31.0**	**-1.0**
CPUP	**Villa Florida**	**11.62**	**119**	*eP*	**P**	**02 14 31.0**	**-1.0**
PTGB	**Pitanga**	**15.70**	**107**	*eP*	**P**	**02 15 20.3**	**+2.8**
PTGB	**Pitanga**	**15.70**	**107**	*eP*	**P**	**02 15 20.3**	**+2.8**
CLDB	**Colider**	**15.92**	**53**	*eP*	**P**	**02 15 19.6**	**-0.2**
CLDB	**Colider**	**15.92**	**53**	*eP*	**P**	**02 15 19.6**	**-0.2**
ITAB	**Concordia**	**16.27**	**116**	*eP*	**P**	**02 15 24.2**	**+0.5**
ITAB	**Concordia**	**16.27**	**116**	*eP*	**P**	**02 15 24.2**	**+0.5**
FRTB	**Fartura**	**17.80**	**101**	*eP*	**Pn**	**02 15 41.6**	**-0.2**
FRTB	**Fartura**	**17.80**	**101**	*eP*	**Pn**	**02 15 41.6**	**-0.2**
BB19B	**Bebedouro**	**18.76**	**94**	*eP*	**P**	**02 15 51.4**	**+0.3**
BB19B	**Bebedouro**	**18.76**	**94**	*eP*	**P**	**02 15 51.4**	**+0.3**
IPMB	**Ipameri, GO**	**19.48**	**85**	*eP*	**P**	**02 15 59.5**	**+0.6**
IPMB	**Ipameri, GO**	**19.48**	**85**	*eP*	**P**	**02 15 59.5**	**+0.6**
RCLB	**Rio Claro- Sao**	**19.65**	**98**	*eP*	**P**	**02 15 59.3**	**-1.4**
RCLB	**Rio Claro- Sao**	**19.65**	**98**	*eP*	**P**	**02 15 59.3**	**-1.4**
PLCA	**Paso Flores**	**19.72**	**184**	P	**Pn**	**02 16 03.9**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=44,slow=12,SNR=3.1						
VAO	**Valinhos**	**20.18**	**100**	*eP*	**P**	**02 16 06.5**	**0.0**
VAO	**Valinhos**	**20.18**	**100**	*eP*	**P**	**02 16 06.5**	**0.0**
BDFB	**Brasilia**	**20.27**	**78**	P	**P**	**02 16 07.9**	**+0.3**
	comp=Z,2.7nm,0.4s,baz=226,slow=3.7,SNR=8.8						
PMNB	**Patos De Minas**	**21.02**	**87**	*eP*	**P**	**02 16 14.4**	**-1.2**
PMNB	**Patos De Minas**	**21.02**	**87**	*eP*	**P**	**02 16 14.4**	**-1.2**
BSFB	**Barra de Sao F**	**26.19**	**90**	*eP*	**P**	**02 16 58.9**	**-5.7**
BSFB	**Barra de Sao F**	**26.19**	**90**	*eP*	**P**	**02 16 58.9**	**-5.7**
TORD	**Torodi Ar. Bea**	**76.94**	**70**	P	**P**	**02 23 21.7**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=250,slow=5.3,SNR=11						
YKA	**Yellowknife Ar**	**90.82**	**340**	P	**P**	**02 24 32.2**	**+2.3**
	comp=Z,0.2nm,0.4s,baz=125,slow=4.4,SNR=4.2						
MKAR	**Makanchi Array**	**145.09**	**36**	PKPbc	**PKPdf**	**02 31 06.0**	**+2.2**
	comp=Z,0.3nm,0.4s,baz=347,slow=2.9,SNR=7.1						

*NEIC **28** 02:39:06.8±2.4, 21°.92S±0°.07×68°.4W±0°.1, h116km±6km*
*SJA **28** 02:39:06.4±0.8, 21°.89S×68°.54W, h131km±5km, MLv3.7, MW3.8*
*ISCJB **28** 02:39:06.4±0.2, 21°.93S±0°.03×68°.53W±0°.04, h135km±4km, Error ellipse: s-maj=6.0km s-min=4.8km az=155.5*
*VAO **28** 02:39:06.6±0.6, 22°.13S×68°.73W, h149km±5km, mb4.2*
*GUC **28** 02:39:07.4±0.7, 21°.88S×68°.65W, h131km±5km, ML4.0*
*IDC **28** 02:39:07.0±0.7, 21°.98S×68°.30W, h114km±8km, mb3.5/7, mb1 3.7/11, mb1mx3.6/28, mbtmp3.9/11, Error ellipse: s-maj=19.7km s-min=16.2km az=177.0*

ISC 28 02:39:07.3±0.6, 21°.94S±0°.04×68°.53W±0°.05, h127km±6km, n94, σ1s18/111, 9C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.67**	**282**	*iP*	**Pn**	**02 39 27.7**	**+0.3**
PB09				*iS*	**Sn**	**02 39 42.5**	**+0.1**
PB09				IAML		02 39 45.2	
	comp=E,3μm,0.5s						
PB09	**IPOC Station P**	**0.67**	**282**	↓*iP*	**Pn**	**02 39 27.3**	**0.0**
PB09				*eS*	**Sn**	**02 39 43.0**	**+0.5**
LVC	**Limon Verde**	**0.76**	**207**	P	**Pn**	**02 39 28.3**	**+0.1**
	baz=15,slow=7.7						
LVC				S	**Sn**	**02 39 43.5**	**-0.6**
	comp=E,265nm,0.3s,baz=233,slow=19,SNR=126						
LVC				LR	LR	02 40 00.5	
	comp=E,112nm,19.1s,baz=350,slow=63						
LVC	**Limon Verde**	**0.76**	**207**	*eP*	**Pn**	**02 39 28.9**	**+0.6**
LVC	**Limon Verde**	**0.76**	**207**	*eP*	**Pn**	**02 39 28.9**	**+0.6**
LVC	**Limon Verde**	**0.76**	**207**	↑*iP*	**Pn**	**02 39 28.4**	**+0.1**
LVC				IAML		02 39 47.7	
	comp=Z,534nm,0.5s						
PB03	**IPOC Station P**	**1.14**	**264**	↑*iP*	**Pn**	**02 39 31.6**	**+0.2**
PB03				*iS*	**Sn**	**02 39 50.2**	**+0.5**
PB03				IAML		02 39 50.8	
	comp=E,2μm,0.2s						
PB03	**IPOC Station P**	**1.14**	**264**	*eP*	**Pn**	**02 39 31.7**	**+0.2**
PB03				*eS*	**Sn**	**02 39 50.1**	**+0.3**
PB03				IAML		02 39 52.0	
	comp=Z,2μm,0.2s						
PB06	**IPOC Station P**	**1.23**	**231**	↑*iP*	**Pn**	**02 39 33.1**	**+0.7**
PB06				*iS*	**Sn**	**02 39 52.2**	**+0.7**
PB06				IAML		02 39 53.3	
	comp=N,4μm,0.5s						
PB06	**IPOC Station P**	**1.23**	**231**	*iP*	**Pn**	**02 39 33.0**	**+0.6**
PB06				*eS*	**Sn**	**02 39 52.6**	**+1.1**
PB15	**IPOC Station P**	**1.54**	**214**	*eP*	**Pn**	**02 39 36.5**	**+0.7**
PB15				*eS*	**Sn**	**02 39 59.2**	**+1.7**
PB15	**IPOC Station P**	**1.54**	**214**	*iP*	**Pn**	**02 39 36.8**	**+1.0**
PB15				*eS*	**Sn**	**02 39 59.5**	**+2.0**
PB04	**IPOC Station P**	**1.55**	**255**	↑*iP*	**Pn**	**02 39 36.2**	**+0.3**
PB04				*iS*	**Sn**	**02 39 57.8**	**+0.1**
PB04				IAML		02 40 01.4	
	comp=N,2μm,0.4s						
PB04	**IPOC Station P**	**1.55**	**255**		**Pn**	**02 39 35.8**	**-0.1**
PB04	**IPOC Station P**	**1.55**	**255**	↑*iP*	**Pn**	**02 39 36.3**	**+0.3**
PB04				*eS*	**Sn**	**02 39 58.7**	**+1.0**
PB05	**IPOC Station P**	**1.79**	**239**	↑*iP*	**Pn**	**02 39 39.0**	**+0.3**
PB05				*eS*	**Sn**	**02 40 02.7**	**0.0**
PB05				IAML		02 40 09.7	
	comp=E,1μm,0.3s						
PB05	**IPOC Station P**	**1.79**	**239**	*iP*	**Pn**	**02 39 39.0**	**+0.3**
PB05				*eS*	**Sn**	**02 40 02.8**	**0.0**
PB08	**IPOC Station P**	**1.88**	**342**	↑*iP*	**Pn**	**02 39 40.7**	**+0.7**
PB08				*iS*	**Sn**	**02 40 04.9**	**0.0**
TA01	**Diego Aracena**	**2.05**	**311**	↑*iP*	**Pn**	**02 39 41.1**	**-0.7**
TA01				*eS*	**Sn**	**02 40 07.1**	**-1.0**
TA01				IAML		02 40 09.3	
	comp=N,2μm,0.3s						
PB11	**IPOC Station P**	**2.40**	**334**	↑*iP*	**Pn**	**02 39 45.7**	**-0.6**
PB11				*eS*	**Sn**	**02 40 15.2**	**-1.1**
PB11	**IPOC Station P**	**2.40**	**334**		**Pn**	**02 39 45.5**	**-0.8**
PB10	**IPOC Station P**	**2.44**	**230**	↑*iP*	**Pn**	**02 39 46.9**	**+0.3**
PB10				*iS*	**Sn**	**02 40 15.1**	**-1.7**
PB10	**IPOC Station P**	**2.44**	**230**		**Pn**	**02 39 46.5**	**-0.1**
PB10	**IPOC Station P**	**2.44**	**230**	*iP*	**Pn**	**02 39 46.9**	**+0.3**
PB10				*eS*	**Sn**	**02 40 13.8**	**-3.1**
PB10				IAML		02 40 27.6	
	comp=Z,203nm,0.4s						
YJA	**Yavi**	**2.81**	**95**	↑*iP*	**Pn**	**02 39 52.9**	**+1.1**
MNMC	**Minye Minye**	**2.96**	**340**		**Pn**	**02 39 53.2**	**-0.4**
MNMCX	**Minye Minye**	**2.96**	**340**	*eP*	**Pn**	**02 39 53.4**	**-0.3**
HJA	**Humahuaca**	**3.15**	**114**	*iP*	**Pn**	**02 39 57.9**	**+1.7**
PB14	**IPOC Station P**	**3.18**	**212**	*iP*	**Pn**	**02 39 57.4**	**+0.9**
PB14				IAML		02 40 38.4	
	comp=Z,158nm,0.6s						
AZAP	**Zapla**	**3.92**	**126**	↑*iP*	**Pn**	**02 40 06.6**	**+0.5**
SLA	**San Lorenzo**	**3.93**	**135**	*iP*	**Pn**	**02 40 08.5**	**+2.3**
LPAZ	**La Paz**	**5.63**	**4**	P	**Pn**	**02 40 31.4**	**+1.9**
	comp=Z,1.2nm,0.3s,baz=183,slow=4.1,SNR=30						
LPAZ	**La Paz**	**5.63**	**4**	*eP*	**Pn**	**02 40 31.1**	**+1.7**
LPAZ	**La Paz**	**5.63**	**4**	*eP*	**Pn**	**02 40 31.1**	**+1.7**
LPAZ	**La Paz**	**5.63**	**4**		**Pn**	**02 40 26.9**	**-2.5**
LPAZ	**La Paz**	**5.63**	**4**	*iP*	**Pn**	**02 40 31.3**	**+1.9**
GO04	**Tololo Observa**	**8.45**	**193**	*eP*	**Pn**	**02 41 05.3**	**-1.8**
GO04	**Tololo Observa**	**8.45**	**193**	*iP*	**Pn**	**02 41 05.2**	**-1.8**
SIV	**San Ignacio**	**9.21**	**51**	P	**Pn**	**02 41 13.1**	**-4.0**
	comp=Z,4.0nm,0.3s,baz=243,slow=11,SNR=108						
SIV				S	Sn	02 42 46.8	-12
	comp=Z,0.2nm,0.3s,baz=307,slow=20,SNR=4.4						
CFA	**Coronel Fontan**	**9.63**	**178**	P	**Pn**	**02 41 20.4**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=346,slow=13,SNR=8.2						
CFA	**Coronel Fontan**	**9.63**	**178**	*iP*	**Pn**	**02 41 21.9**	**-0.9**
ACAN	**Cantantal**	**10.37**	**174**	*iP*	**Pn**	**02 41 33.6**	**+0.9**
ASAL	**Salagasta**	**10.62**	**181**	*iP*	**Pn**	**02 41 36.0**	**0.0**
CPUP	**Villa Florida**	**11.13**	**115**	P	**Pn**	**02 41 41.1**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=305,slow=11,SNR=6.8						
CPUP	**Villa Florida**	**11.13**	**115**	*eP*	**Pn**	**02 41 42.4**	**-0.3**
CPUP	**Villa Florida**	**11.13**	**115**	*eP*	**Pn**	**02 41 42.4**	**-0.3**
CPUP	**Villa Florida**	**11.13**	**115**				
AQDB	**Aquidauana**	**12.06**	**85**	*eP*	**Pn**	**02 41 42.4**	**-0.3**
AQDB	**Aquidauana**	**12.06**	**85**	*eP*	**Pn**	**02 41 56.8**	**+1.7**
TRCB	**Terra Rica**	**14.73**	**96**	*eP*	**Pn**	**02 41 56.8**	**+1.7**
TRCB	**Terra Rica**	**14.73**	**96**	*eP*	**Pn**	**02 42 28.8**	**-0.8**
C2SB	**Chapadao do Su**	**15.05**	**81**	*eP*	**P**	**02 42 28.8**	**-0.8**
C2SB	**Chapadao do Su**	**15.05**	**81**	*eP*	**P**	**02 42 35.1**	**-0.7**
PTGB	**Pitanga**	**15.38**	**104**	*eP*	**P**	**02 42 35.1**	**-0.7**
PTGB	**Pitanga**	**15.38**	**104**	*eP*	**P**	**02 42 39.4**	**-0.1**
ITAB	**Concordia**	**15.82**	**113**	*eP*	**P**	**02 42 39.4**	**-0.1**
ITAB	**Concordia**	**15.82**	**113**	*eP*	**Pn**	**02 42 43.2**	**+0.2**
PLTB	**Pedras Altas**	**16.52**	**129**	*eP*	**Pn**	**02 42 43.2**	**+0.2**
PLTB	**Pedras Altas**	**16.52**	**129**	*eP*	**Pn**	**02 42 49.5**	**-2.0**
ARAG	**Araguaiana, MT**	**16.99**	**71**	*eP*	**Pn**	**02 42 49.5**	**-2.0**
ARAG	**Araguaiana, MT**	**16.99**	**71**	*eP*	**Pn**	**02 42 58.6**	**+1.2**
ITRB	**Iturama**	**17.14**	**86**	*eP*	**P**	**02 42 58.6**	**+1.2**
ITRB	**Iturama**	**17.14**	**86**	*eP*	**P**	**02 42 58.3**	**-0.6**
CNLB	**Canela**	**17.54**	**118**	*eP*	**P**	**02 42 58.3**	**-0.6**
CNLB	**Canela**	**17.54**	**118**	*eP*	**P**	**02 43 01.9**	**-1.4**
FRTB	**Fartura**	**17.57**	**98**	*eP*	**P**	**02 43 01.9**	**-1.4**
FRTB	**Fartura**	**17.57**	**98**	*eP*	**P**	**02 43 03.2**	**-0.4**
BB19B	**Bebedouro**	**18.64**	**91**	*eP*	**P**	**02 43 03.2**	**-0.4**
BB19B	**Bebedouro**	**18.64**	**91**	*eP*	**P**	**02 43 14.9**	**-0.4**
RCLB	**Rio Claro- Sao**	**19.46**	**95**	*eP*	**P**	**02 43 14.9**	**-0.4**
RCLB	**Rio Claro- Sao**	**19.46**	**95**	*eP*	**P**	**02 43 23.1**	**-1.1**
IPMB	**Ipameri, GO**	**19.50**	**82**	*eP*	**P**	**02 43 23.1**	**-1.1**
IPMB	**Ipameri, GO**	**19.50**	**82**	*eP*	**P**	**02 43 23.4**	**-1.3**
SPB	**Sao Paulo**	**19.53**	**99**	*eP*	**P**	**02 43 23.4**	**-1.3**
SPB	**Sao Paulo**	**19.53**	**99**	*eP*	**P**	**02 43 24.2**	**-0.8**
VAO	**Valinhos**	**19.96**	**97**	*eP*	**P**	**02 43 24.2**	**-0.8**
VAO	**Valinhos**	**19.96**	**97**	*eP*	**P**	**02 43 28.5**	**-1.2**
BDFB	**Brasilia**	**20.40**	**76**	P	**P**	**02 43 28.5**	**-1.2**
	comp=Z,2.3nm,0.4s,baz=209,slow=13,SNR=3.6					**02 43 32.8**	**-1.7**
BDFB	**Brasilia**	**20.40**	**76**	IAmb	IAmb	02 44 06.7	
	comp=Z,13nm,1.6s						
SMTB	**Santa Maria do**	**23.97**	**60**	*eP*	**P**	**02 44 09.3**	**-0.9**
SMTB	**Santa Maria do**	**23.97**	**60**	*eP*	**P**	**02 44 09.3**	**-0.9**
TXAR	**Lajitas Array**	**61.18**	**325**	P	**P**	**02 49 10.2**	**+1.4**
	comp=Z,0.1nm,0.6s,baz=150,slow=3.8,SNR=3.1						
DBIC	**Dimbokro**	**68.52**	**73**	P	**P**	**02 49 56.2**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=222,slow=7.0,SNR=8.0						
KNB	**Kanab**	**71.98**	**324**	P	**P**	**02 50 18.1**	**+0.8**
CCUT	**Cedar City**	**72.67**	**324**	P	**P**	**02 50 21.3**	**-0.2**
MSU	**Marysvale**	**72.74**	**325**	P	**P**	**02 50 21.0**	**-0.9**
PDAR	**Pinedale Array**	**74.66**	**330**	P	**P**	**02 50 34.9**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=116,slow=10,SNR=3.5						
NVAR	**Mina Array Bea**	**76.05**	**322**	P	**P**	**02 50 43.4**	**+2.3**
	comp=Z,0.5nm,0.7s,baz=156,slow=7.6,SNR=5.4						
TORD	**Torodi Ar. Bea**	**77.17**	**70**	P	**P**	**02 50 47.7**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=259,slow=5.6,SNR=24						
YKA	**Yellowknife Ar**	**91.71**	**340**	P	**P**	**02 52 01.3**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=132,slow=4.4,SNR=19						
ASAR	**Alice Springs**	**129.69**	**207**	PKP	**PKiKP**	**02 58 03.5**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=107,slow=1.3,SNR=4.7						
WRA	**Warramunga Arr**	**132.76**	**210**	PKP	**PKiKP**	**02 58 10.0**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=186,slow=1.6,SNR=4.5						
ZALV	**Zalesovo Beam**	**142.19**	**26**	PKP	**PKiKP**	**02 58 25.9**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=336,slow=1.8,SNR=3.7						
MKAR	**Makanchi Array**	**145.78**	**37**	PKPbc	**PKPab**	**02 58 32.8**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=352,slow=3.0,SNR=6.5						

*ISCJB **28** 02:46:15.2±0.4, 6°.18S±0°.04×130°.06E±0°.05, h150km, mb3.6/2, Error ellipse: s-maj=6.9km s-min=4.8km az=17.9*
*IDC **28** 02:46:16.1±2.0, 6°.08S×130°.07E, h129km±25km, mb3.4/3, mb1 3.7/6, mb1mx3.4/34, mbtmp4.2/6, Error ellipse: s-maj=27.7km s-min=16.2km az=88.0*
*DJA **28** 02:46:17.5±0.5, 6°S±3°×13°0E±°, h103km±19km, M4.7/11, mb4.6/4, mB5.5/5, MLv4.7/11, Mw(mB)4.9/5*

ISC 28 02:46:16.0±0.8, 6°.15S±0°.05×130°.03E±0°.06, h150km, n16, σ2s16/22, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.21**	**145**	P	**Pn**	**02 46 54.7**	**+1.1**
SAUI				S	**Sn**	**02 47 20.8**	**-1.8**
AAI	**Ambon**	**3.06**	**323**	P	**Pn**	**02 47 03.8**	**-0.3**
FAKI	**Fak Fak**	**3.90**	**35**	P	**Pn**	**02 47 14.9**	**-0.1**
KMPI	**Kaimana, Papua**	**4.42**	**56**	P	**Pn**	**02 47 22.6**	**+0.9**
KMPI				S	**Sn**	**02 48 11.9**	**-1.0**
SIJI	**Sorong**	**5.39**	**13**	P	**Pn**	**02 47 35.4**	**+0.7**
	12nm,0.3s,baz=56,slow=23,SNR=37						
SIJI				S	**Sn**	**02 48 32.5**	**-3.7**
	7.1nm,0.3s,baz=196,slow=14,SNR=4.7						
SWI	**Sorong**	**5.40**	**13**	P	**Pn**	**02 47 35.4**	**+0.7**
	24nm,0.4s,2μm0.6nm						
SWI				S	**Sn**	**02 48 34.5**	**-1.7**
	24nm,0.4s,2μm0.6nm						
SANI	**Sanana**	**5.73**	**315**	P	**Pn**	**02 47 39.5**	**+0.3**
RKPI	**Ransiki, Papua**	**6.19**	**42**	P	**Pn**	**02 47 46.6**	**+1.3**
SOEI	**Soe**	**6.74**	**238**	P	**Pn**	**02 47 54.1**	**+1.4**
	55nm,1.0s,0.4nm						
BATI	**Baumata**	**7.48**	**237**	P	**Pn**	**02 48 03.6**	**+1.0**
	18nm,0.3s,baz=106,slow=4.3,SNR=7.4						
BATI				S	**Sn**	**02 49 25.6**	**-0.6**
	5.5nm,0.3s,baz=310,slow=17,SNR=2.3						
FITZ	**Fitzroy Crossi**	**12.62**	**199**	P	**Pn**	**02 49 07.8**	**-2.7**
	0.6nm,0.3s,baz=20,slow=10,SNR=24						
FITZ				S	Sn	02 51 16.0	-14
	0.6nm,0.3s,baz=160,slow=15,SNR=4.0						
WRA	**Warramunga Arr**	**14.33**	**163**	P	**Pn**	**02 49 30.2**	**-1.9**
	0.7nm,0.3s,baz=345,slow=12,SNR=22						
WRA				S	Sn	02 51 58.4	-13
	2.9nm,0.3s,baz=337,slow=23,SNR=15						
ASAR	**Alice Springs**	**17.81**	**168**	P	**Pn**	**02 50 15.1**	**+0.4**
	0.8nm,0.3s,baz=347,slow=11,SNR=44						
ASAR				S	**S**	**02 53 24.8**	**-5.6**
	0.8nm,0.3s,baz=322,slow=16,SNR=7.2						
CTA	**Charters Tower**	**20.98**	**133**	P	**P**	**02 50 50.7**	**+3.1**
	3.1nm,0.7s,baz=313,slow=11,SNR=12						
STKA	**Stephens Creek**	**27.78**	**159**	P	**P**	**02 51 52.2**	**+1.3**
	3.2nm,1.1s,baz=346,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**67.54**	**327**	P	**P**	**02 56 58.6**	**+2.5**
	0.2nm,0.4s,baz=110,slow=8.9,SNR=4.5						

RSNC 28 03:22:19.4±0.9, 4°.31N×75°.88W, h162km±5km, ML3.2, Mw3.5,3C-9D, Fault plane solution: NP1:ϕs135.00000°, δ20.00000°, λ-122.00000°., Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOTC	**Yotoco, Valle**	**0.56**	**235**	↑*iP*	**Pn**	**03 22 41.4**	**-1.2**
YOTC				*i*		03 23 00.6	
	comp=Z,267nm,0.2s						
TOLC	**Tolima**	**0.62**	**64**	↓*iP*	**Pn**	**03 22 43.2**	**0.0**
TOLC				*i*		03 23 06.4	
	comp=Z,80nm,0.3s						
PLMC	**San Jos del P**	**0.71**	**326**	*eP*	**Pn**	**03 22 43.1**	**-0.3**
PLMC				*i*		03 23 05.1	
	comp=Z,2μm,0.1s						
ORTC	**Ortega, Tolima**	**0.75**	**122**	↓*iP*	**Pn**	**03 22 42.9**	**-0.7**
ORTC				*eS*	**Sn**	**03 23 01.1**	**-1.0**
ORTC				*i*		03 23 04.9	
	comp=Z,162nm,0.6s						
RREF	**El Recreo**	**0.79**	**42**	*eP*	**Pn**	**03 22 44.9**	**+0.3**
RREF				*i*		03 23 07.8	
	comp=Z,139nm,0.3s						
GUY2C	**Guyana, Caldas**	**1.04**	**29**	↓*iP*	**Pn**	**03 22 46.1**	**-0.2**
GUY2C				*eS*	**Sn**	**03 23 06.7**	**-0.2**
GUY2C				*i*		03 23 10.1	
	comp=Z,193nm,0.4s						
MALC	**Bahia Malaga**	**1.48**	**259**	*eP*	**Pn**	**03 22 50.1**	**+0.4**
MALC				*i*		03 23 21.0	
	comp=Z,96nm,0.3s						
MALC				*i*		03 23 26.1	
	comp=Z,92nm,0.3s						
CBOC	**Ciudad Bolivar**	**1.55**	**355**	↓*iP*	**Pn**	**03 22 50.3**	**-0.4**
CBOC				*eS*	**Sn**	**03 23 13.5**	**-1.3**
CBOC				*i*		03 23 17.6	
	comp=Z,144nm,0.2s						
NORC	**Norcasia**	**1.60**	**39**	↓*eP*	**Pn**	**03 22 50.7**	**-0.3**
NORC				*i*		03 23 27.6	
	comp=Z,25nm,0.5s						
ROSC	**El Rosal**	**1.64**	**71**	*eP*	**Pn**	**03 22 52.7**	**+0.9**
ROSC				*eS*	**Sn**	**03 23 17.0**	**+0.3**
ROSC				*i*		03 23 22.0	
	comp=Z,27nm,0.9s						
BETC	**Betania**	**1.68**	**165**	*eP*	**Pn**	**03 22 51.0**	**-0.9**
BETC				*i*		03 23 18.7	
	comp=Z,14nm,1.0s						
CVER	**Cruz Verde, Cu**	**1.81**	**83**	*eP*	**Pn**	**03 22 53.5**	**-0.2**
CVER				*i*		03 23 21.4	
	comp=Z,2μm,0.7s						
HELC	**Santa Helena**	**1.90**	**11**	↓*iP*	**Pn**	**03 22 54.2**	**-0.4**
HELC				*i*		03 23 25.9	
	comp=Z,72nm,1.0s						
PCON	**Cinco Dias**	**2.03**	**195**	*eP*	**Pn**	**03 22 56.5**	**+0.2**
PCON				*eS*	**Sn**	**03 23 24.9**	**+0.2**
PCON				*i*		03 23 30.6	
	comp=Z,128nm,0.5s						
CHIC	**Chingaza**	**2.17**	**81**	*eP*	**Pn**	**03 22 58.0**	**+0.4**
CHIC				*eS*	**Sn**	**03 23 26.7**	**-0.4**
CHIC				*i*		03 23 35.8	
	comp=Z,19nm,0.6s						
VILC	**Villavicencio,**	**2.19**	**95**	*eP*	**Pn**	**03 22 58.1**	**+0.5**
VILC				*eS*	**Sn**	**03 23 28.0**	**+0.9**
VILC				*i*		03 23 30.4	
	comp=Z,96nm,0.4s						
VILC				*i*		03 23 30.8	
	comp=Z,85nm,0.4s						
SPBC	**San Pablo de B**	**2.24**	**53**	*eP*	**Pn**	**03 22 57.9**	**-0.3**
SPBC				*eS*	**Sn**	**03 23 27.2**	**-0.9**
SPBC				*i*		03 23 28.4	
	comp=Z,24nm,0.9s						
SOTA	**Rioblanco**	**2.28**	**199**	*eS*	**Sn**	**03 23 28.8**	**-0.9**
SOLC	**Bahia Solano**	**2.44**	**321**	*eP*	**Pn**	**03 23 00.2**	**-0.2**
SOLC				*i*		03 23 33.2	
	comp=Z,71nm,0.3s						
SOLC				*i*		03 23 34.1	
	comp=Z,88nm,0.6s						
PTBC	**PUERTO BERRIO,**	**2.63**	**33**	*eP*	**Pn**	**03 23 01.7**	**-1.0**
PTBC				*i*		03 23 35.6	
	comp=Z,28nm,0.4s						
BBAC	**Balboa, Cauca**	**2.65**	**211**	*eP*	**Pn**	**03 23 02.1**	**-1.1**
BBAC				*eS*	**Sn**	**03 23 35.9**	**-1.2**
BBAC				*i*		03 23 37.3	
	comp=Z,184nm,0.2s						
DBBC	**Dabeiba**	**2.71**	**353**	*eP*	**Pn**	**03 23 04.0**	**+0.1**
DBBC				*i*		03 23 42.3	
	comp=Z,116nm,0.5s						
FLOC	**Florencia**	**2.72**	**175**	↓*iP*	**Pn**	**03 23 03.0**	**-0.8**
FLOC				*i*		03 23 38.4	
	comp=Z,30nm,1.4s						
CRUC	**La Cruz**	**2.93**	**201**	↑*eP*	**Pn**	**03 23 06.1**	**-0.6**
CRUC				*i*		03 23 48.5	
	comp=Z,137nm,0.5s						
CRUC				*i*		03 23 48.9	
	comp=Z,164nm,0.5s						
RUSC	**La Rusia**	**3.20**	**60**	↓*eP*	**Pn**	**03 23 10.2**	**-0.1**
RUSC				*i*		03 23 55.8	
	comp=Z,29nm,0.7s						
ZARC	**Zaragoza, Cauc**	**3.32**	**18**	↓*eP*	**Pn**	**03 23 10.9**	**-0.5**
ZARC			

BTB	**Buttle Lake**	**2.98**	**89**	Pn	Pn	03 40 24.6	-0.8
MGB	**Mount Grey**	**3.57**	**96**	Pn	Pn	03 40 33.5	-0.1
TXB	**Texada**	**3.68**	**85**	Pn	Pn	03 40 35.2	+0.1
TXB				Sn	Sn	03 41 16.6	-1.9
SHB	**Sechelt**	**4.05**	**86**	Pn	Pn	03 40 39.9	-0.2
BIB	**Bowen Island**	**4.42**	**89**	Pn	Pn	03 40 45.2	+0.1
WPB	**Watts Point**	**4.48**	**85**	Pn	Pn	03 40 46.9	+0.9
VDB	**Vedder Mountai**	**5.25**	**92**	Pn	Pn	03 40 57.3	+0.8
LLLB	**Lillooet**	**5.41**	**75**	Pn	Pn	03 40 59.2	+0.5
MBW	**Mount Baker**	**5.42**	**94**	Pn	Pn	03 40 59.6	+0.5

*IDC **28** 03:51:31.7±0.7, 15°.12S×173°.59W, h0km, mb4.0/10, mb1 4.3/11, mb1mx4.0/46, mbtmp4.1/11, ML4.8/1, MS3.4/7, Ms1 3.5/7, ms1mx3.2/38, Error ellipse: s-maj=34.4km s-min=15.5km az=135.0*

*NEIC **28** 03:51:32.9±1.8, 15°.09S±0°.05×173°.52W±0°.10, h8km±4km, mb4.4/9*

*ISCJB **28** 03:51:34.3±0.4, 15°.17S±0°.08×173°.57W±0°.09, h30km, mb4.0/9, MS3.5/6, Error ellipse: s-maj=14.7km s-min=9.2km az=42.1*

ISC 28 03:51:36.0±0.5, 15°.11S±0°.09×173°.4W±0°.1, h30km, n44, σ1s08/35, mb4.3/13, MS3.4/6, 2C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.00**	**53**	Pn	**Pn**	**03 52 07.7**	**0.0**
	330nm,0.3s,baz=188,slow=2.0,SNR=288						
AFI				Sn	**Sn**	**03 52 28.4**	**-3.4**
	349nm,0.3s,baz=68,slow=18,SNR=4.6						
AFI				LR	LR	03 52 50.3	
	comp=Z,525nm,19.9s,baz=224,slow=37						
NIUE	**Niue**	**5.17**	**140**		**Pn**	**03 52 51.5**	**+0.2**
DZM	**Mont Dzumac**	**20.28**	**247**	P	**P**	**03 56 09.4**	**-0.1**
	2.6nm,0.6s,baz=77,slow=18,SNR=4.0						
DZM				LR	LR	04 02 43.5	
	comp=Z,135nm,20.8s,baz=31,slow=33						
DZM	**Mont Dzumac**	**20.28**	**247**	IAmb	IAmb	03 56 26.1	
	comp=Z,16nm,1.4s						
URZ	**Urewera**	**24.53**	**198**	P	**P**	**03 56 51.5**	**-1.4**
	comp=Z,4.2nm,0.3s,baz=310,slow=2.2,SNR=9.4						
URZ				LR	LR	04 04 08.2	
	comp=Z,52nm,19.4s,baz=32,slow=31						
RPZ	**Rata Peaks**	**31.44**	**202**	LR	LR	04 09 33.4	
	comp=Z,118nm,19.2s,baz=39,slow=34						
WHZ	**Wether Hill Ro**	**34.45**	**203**	P	**P**	**03 58 20.6**	**-0.3**
H11S2	**WAKE ISLAND Hy**	**38.70**	**329**	T	T	04 39 43.2	
	baz=146,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**38.72**	**329**	T	T	04 39 43.5	
	baz=146,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy**	**38.72**	**329**	T	T	04 39 40.9	
	baz=146,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**39.65**	**330**	T	T	04 40 51.2	
	baz=154,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**39.66**	**330**	T	T	04 40 50.0	
	baz=154						
H11N2	**WAKE ISLAND Hy**	**39.67**	**330**	T	T	04 40 56.2	
	baz=154						
STKA	**Stephens Creek**	**44.16**	**240**	P	**P**	**03 59 40.6**	**-1.6**
	comp=Z,2.2nm,0.6s,baz=98,slow=15,SNR=4.1						
WRA	**Warramunga Arr**	**49.88**	**257**	P	**P**	**04 00 25.9**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=97,slow=5.9,SNR=5.9						
GUMO	**Guam**	**50.16**	**303**	LR	LR	04 22 14.3	
	comp=Z,20nm,18.1s,baz=74,slow=37						
ASAR	**Alice Springs**	**50.17**	**252**	P	**P**	**04 00 27.4**	**-1.9**
	comp=Z,5.9nm,0.5s,baz=88,slow=7.9,SNR=46						
VNDA	**Vanda**	**63.66**	**186**	P	**P**	**04 02 05.1**	**+1.2**
	comp=Z,2.4nm,0.8s,baz=19,slow=6.2,SNR=8.8						
ADK	**Adak**	**66.77**	**358**	P	**P**	**04 02 24.6**	**+0.3**
MDPB	**Devils Postpil**	**73.18**	**42**	P	**P**	**04 03 05.5**	**+1.1**
MDPB				IAmb	IAmb	04 03 07.0	
	comp=Z,2.4nm,1.0s						
NVAR	**Mina Array Bea**	**74.13**	**42**	P	**P**	**04 03 11.8**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=227,slow=10.0,SNR=10						
NVAR				LR	LR	04 29 56.3	
	comp=Z,49nm,18.5s,baz=194,slow=31						
NV11	**Mina Array Sit**	**74.23**	**42**	P	**P**	**04 03 11.4**	**+1.0**
NV11				IAmb	IAmb	04 03 17.6	
	comp=Z,11nm,1.9s						
KVN	**Kaiserville**	**74.62**	**42**	P	**P**	**04 03 14.1**	**+1.4**
KVN				IAmb	IAmb	04 04 39.0	
	comp=Z,8.9nm,1.7s						
QSPA	**South Pole Qui**	**74.93**	**180**	P	**P**	**04 03 14.7**	**+0.6**
QSPA				IAmb	IAmb	04 03 15.7	
	comp=Z,7.5nm,0.8s						
MSU	**Marysvale**	**78.24**	**45**	P	**P**	**04 03 33.7**	**+0.4**
ANMO	**Albuquerque**	**80.64**	**50**	LR	LR	04 34 18.7	
	comp=Z,42nm,19.1s,baz=261,slow=32						
PDAR	**Pinedale Array**	**82.07**	**42**	P	**P**	**04 03 54.5**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=255,slow=6.2,SNR=3.2						
ILAR	**Eielson Array**	**82.17**	**11**	P	**P**	**04 03 53.9**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=205,slow=6.3,SNR=7.2						
YKA	**Yellowknife Ar**	**89.84**	**23**	P	**P**	**04 04 31.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=231,slow=3.9,SNR=6.2						
DOPR	**Dopca**	**145.42**	**337**	⇓P	**PKPab**	**04 11 12.4**	**+1.1**
MLR	**Muntele Rosu**	**145.60**	**336**	⇑P	**PKPab**	**04 11 12.9**	**+0.7**
MLR	**Muntele Rosu**	**145.60**	**336**		**PKPab**	**04 11 12.8**	**+0.7**
DRGR		**145.66**	**340**	⇓P	**PKPab**	**04 11 12.6**	**+0.3**
GERES	**GERESS Array B**	**145.85**	**352**	PKPbc	**PKPbc**	**04 11 13.0**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=9.5,slow=4.1,SNR=4.8						
BR131	**Keskin Array S**	**145.92**	**321**		**PKPab**	**04 11 13.8**	**+0.2**
BRTR	**Keskin Array B**	**145.92**	**321**	PKPbc	**PKPbc**	**04 11 13.6**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=90,slow=2.4,SNR=19						
VOIR		**145.99**	**336**	⇓P	**PKPab**	**04 11 14.0**	**+0.5**
ARR	**Arges**	**146.21**	**337**	⇑P	**PKPab**	**04 11 15.0**	**+0.6**
CONA	**Conrad Observa**	**146.39**	**349**	*e*P	**PKPab**	**04 11 15.4**	**+0.4**
	comp=Z,0.6nm,0.4s						
MOA	**Molln**	**146.74**	**351**	*i* P	**PKPbc**	**04 11 15.5**	**+0.4**
	comp=Z,9.2nm,1.5s						
BZS	**Buzias**	**147.06**	**340**	⇓P	**PKPdf**	**04 11 15.3**	**+1.3**
WTTA	**Wattenberg**	**147.67**	**354**	*i* PKPab	**PKPbc**	**04 11 18.4**	**+0.5**
	comp=Z,1.5nm,0.5s						
ABTA	**Abfaltersbach**	**148.07**	**352**	*e*P	**PKPbc**	**04 11 18.6**	**-0.2**
	comp=Z,2.2nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**148.44**	**355**		**PKPbc**	**04 11 20.2**	**+0.2**

*IDC **28** 03:56:24.2±1.5, 8°.16S×130°.75E, h0km, mb4.0/4, mb1 4.1/8, mb1mx3.7/56, mbtmp4.0/8, ML3.8/4, Error ellipse: s-maj=64.6km s-min=23.1km az=85.0*

*ISCJB **28** 03:56:27.1±0.6, 8°.24S±0°.05×130°.63E±0°.08, h33km, mb3.9/4, Error ellipse: s-maj=11.2km s-min=6.9km az=163.5*

*NEIC **28** 03:56:33.0±2.2, 8°.24S±0°.09×130°.6E±0°.1, h68km±13km, mb4.3/3*

ISC 28 03:56:29.2±0.8, 8°.21S±0°.06×130°.53E±0°.09, h35km, n17, σ2s95/20, mb4.0/6, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.79**	**74**	Pn	**Pn**	**03 56 48.3**	**+4.5**
MTN	**Manton Dam**	**4.65**	**173**		**Pn**	**03 57 41.1**	**+4.2**
SOEI	**Soe**	**6.38**	**256**		**Sn**	**03 59 15.5**	**+3.0**
SIJI	**Sorong**	**7.32**	**6**	Pn	**Pn**	**03 58 12.8**	**-0.9**
	2.1nm,0.3s,baz=131,slow=19,SNR=5.0						
SIJI				Sn	**Sn**	**03 59 31.6**	**-4.2**
	1.3nm,0.3s,baz=307,slow=20,SNR=2.3						
KNRA	**Kununurra**	**7.62**	**193**	Pn	**Pn**	**03 58 21.2**	**+3.4**
FITZ	**Fitzroy Crossi**	**10.92**	**205**	Pn	**Pn**	**03 59 03.5**	**+0.4**
	0.3nm,0.3s,baz=24,slow=8.7,SNR=22						
FITZ				Sn	**Sn**	**04 00 59.6**	**-4.6**
	0.6nm,0.3s,baz=207,slow=16,SNR=4.5						
WRA	**Warramunga Arr**	**12.24**	**163**	Pn	**Pn**	**03 59 20.8**	**-0.4**
	0.5nm,0.3s,baz=349,slow=13,SNR=26						
WRA				Sn	**Sn**	**04 01 31.9**	**-4.5**
	1.0nm,0.3s,baz=342,slow=22,SNR=8.4						
WR0	**Warramunga Arr**	**12.31**	**162**		**Sn**	**04 01 38.5**	**+0.3**
AS31	**Alice Springs**	**15.71**	**169**		**Pn**	**04 00 08.1**	**+0.1**
ASAR	**Alice Springs**	**15.71**	**169**	Pn	**Pn**	**04 00 06.9**	**-1.1**
	0.5nm,0.3s,baz=340,slow=8.3,SNR=35						
ASAR				Sn	**Sn**	**04 02 56.1**	**-5.0**
	0.3nm,0.3s,baz=348,slow=25,SNR=9.4						
MK31	**Makanchi Array**	**69.52**	**327**	P	**P**	**04 07 35.4**	**+1.1**
MK31				IAmb	IAmb	04 07 42.5	
	comp=Z,2.4nm,1.1s						
MKAR	**Makanchi Array**	**69.52**	**327**	P	**P**	**04 07 35.3**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=116,slow=8.0,SNR=15						
ZALV	**Zalesovo Beam**	**72.89**	**334**	P	**P**	**04 07 55.4**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=104,slow=4.6,SNR=3.3						
KURBB	**Kurchatov Arra**	**73.81**	**328**	P	**P**	**04 08 00.8**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=126,slow=4.6,SNR=5.5						
KURK	**Kurchatov**	**73.81**	**329**	P	**P**	**04 08 00.8**	**+0.8**
KURK	**Kurchatov**	**73.81**	**329**	IAmb	IAmb	04 08 44.8	
	comp=Z,13nm,1.8s						
BVAR	**Borovoye Array**	**79.36**	**328**	P	**P**	**04 08 32.3**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=148,slow=14,SNR=3.0						

ROM 28 03:59:57.0±0.0, 43°.392N±0°.002×12°.516E±0°.003, h9km, Md1.2/9, Error ellipse: s-maj=0.2km s-min=0.1km az=91.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.05**	**122**	P	Pg	03 59 59.0	+0.1
ATFO				S	Sg	04 00 00.2	-0.1
ATFO				AML	AML		
	comp=E,14650μm,0.6s						
ATFO				AML	AML		
	comp=N,11700μm,0.3s						
ATFO				END			
ATVO	**AVT- Monte Val**	**0.08**	**263**	P	Pg	03 59 59.5	+0.3
ATVO				S	Sg	04 00 01.0	+0.1
ATVO				AML	AML		
	comp=E,2065μm,0.4s						
ATVO				AML	AML		
	comp=N,1730μm,0.5s						
ATVO				AML	AML		
	comp=E,12300μm,0.4s						
ATVO				AML	AML		
	comp=N,7405μm,0.7s						
ATVO				END			
ATPI	**Pietralunga -**	**0.10**	**305**	P	Pg	03 59 60.0	+0.4
ATPI				S	Sg	04 00 02.0	+0.6
ATPI				AML	AML		
	comp=E,552μm,0.3s						
ATPI				AML	AML		
	comp=N,850μm,0.2s						
ATPI				AML	AML		
	comp=E,3285μm,0.7s						
ATPI				AML	AML		
	comp=N,4245μm,0.5s						
ATPI				END			
MURB	**Monte Urbino**	**0.13**	**177**	P	Pg	04 00 00.5	+0.6
MURB				S	Sg	04 00 03.2	+1.2
MURB				AML	AML		
	comp=E,1775μm,0.2s						
MURB				AML	AML		
	comp=N,1445μm,0.3s						
MURB				AML	AML		
	comp=E,14250μm,0.3s						
MURB				AML	AML		
	comp=N,8985μm,0.9s						
MURB				END			
PIEI	**Pieia**	**0.14**	**5**	P	Pg	04 00 00.8	+0.6
PIEI				S	Sg	04 00 03.7	+1.2
PIEI				AML	AML		
	comp=E,1350μm,0.2s						
PIEI				AML	AML		
	comp=N,848μm,0.2s						
PIEI				AML	AML		
	comp=E,11750μm,0.3s						
PIEI				AML	AML		
	comp=N,7625μm,0.3s						
PIEI				END			
FRON	**Frontone**	**0.20**	**50**	P	Pg	04 00 01.7	+0.6
FRON				S	Sg	04 00 05.4	+1.5
FRON				AML	AML		
	comp=E,1595μm,0.4s						
FRON				AML	AML		
	comp=N,2405μm,1.2s						
FRON				END			
SSFR	**Montelago di S**	**0.20**	**77**	P	Pg	04 00 01.7	+0.6
SSFR				S	Sg	04 00 05.4	+1.4
SSFR				AML	AML		
	comp=E,5945μm,0.2s						
SSFR				AML	AML		
	comp=N,3260μm,0.2s						
SSFR				AML	AML		
	comp=E,6430μm,0.3s						
SSFR				AML	AML		
	comp=N,3335μm,0.2s						
SSFR				END			
FOSV	**Fossato di Vic**	**0.20**	**118**	P	Pg	04 00 01.8	+0.6
FOSV				S	Sg	04 00 05.3	+1.3
FOSV				AML	AML		
	comp=E,502μm,0.5s						
FOSV				AML	AML		
	comp=N,724μm,0.6s						
CDCA	**Citt' di Caste**	**0.22**	**288**	P	Pg	04 00 02.1	+0.7
CDCA				AML	AML		
	comp=E,789μm,1.6s						
CDCA				AML	AML		
	comp=N,1034μm,0.6s						
CDCA				AML	AML		
	comp=E,2440μm,0.4s						
CDCA				AML	AML		
	comp=N,5515μm,1.3s						
CDCA				AML	AML		
	comp=E,936μm,0.5s						
CDCA				AML	AML		
	comp=N,1414μm,0.4s						
NARO	**Abbazia di Nar**	**0.22**	**12**	P	Pg	04 00 02.1	+0.6
NARO				S	Sg	04 00 06.0	+1.3
NARO				AML	AML		
	comp=E,1130μm,0.3s						
NARO				AML	AML		
	comp=N,870μm,0.4s						
NARO				END			
ATCC	**AVT- Casa Cast**	**0.23**	**156**	P	Pg	04 00 02.4	+0.8
ATCC				S	Sg	04 00 06.8	+2.1
ATCC				AML	AML		
	comp=E,354μm,1.0s						
ATCC				AML	AML		
	comp=N,382μm,0.5s						
ATCC				AML	AML		
	comp=E,3475μm,1.0s						
ATCC				AML	AML		
	comp=N,3765μm,0.4s						
ATTE	**AVT- Monte Tez**	**0.23**	**212**	P	Pg	04 00 02.0	+0.4
ATTE				S	Sg	04 00 06.2	+1.4
ATTE				AML	AML		
	comp=E,123μm,1.0s						
ATTE				AML	AML		
	comp=N,102μm,0.9s						
ATTE				AML	AML		
	comp=E,900μm,0.7s						
ATTE				AML	AML		
	comp=N,836μm,1.6s						
ATTE				END			
BADI	**Badiali**	**0.23**	**301**	P	Pg	04 00 02.5	+0.8
BADI				S	Sg	04 00 06.5	+1.6
BADI				AML	AML		
	comp=E,6225μm,0.3s						
BADI				AML	AML		
	comp=N,6110μm,0.3s						
MPAG	**Monte Paganucc**	**0.30**	**37**	P	Pg	04 00 03.5	+0.6
MPAG				AML	AML		
	comp=E,670μm,1.3s						
MPAG				AML	AML		
	comp=N,627μm,0.5s						
PE3	**Peglio**	**0.30**	**357**	P	Pb	04 00 03.9	-0.7
PE3				AML	AML		
	comp=E,1805μm,0.4s						
PE3				AML	AML		
	comp=N,2390μm,0.4s						
ARVD	**Arcevia**	**0.33**	**71**	P	Pg	04 00 04.1	+0.7
ARVD				AML	AML		
	comp=E,550μm,0.7s						
ARVD				AML	AML		
	comp=N,453μm,0.9s						
PARC	**Parchiule**	**0.33**	**322**	P	Pb	04 00 04.4	-0.5
PARC				AML	AML		
	comp=E,778μm,1.0s						
PARC				AML	AML		
	comp=N,960μm,0.3s						
SNTG	**Esanatoglia**	**0.34**	**114**	P	Pg	04 00 04.2	+0.6
SNTG				AML	AML		
	comp=E,518μm,0.2s						
SNTG				AML	AML		
	comp=N,612μm,1.0s						
FSSB	**Fossombrone**	**0.35**	**32**	P	Pg	04 00 04.7	+0.7
FSSB				AML	AML		
	comp=E,1205μm,0.3s						
FSSB				AML	AML		
	comp=N,1375μm,0.4s						
CAFI	**Castiglion Fio**	**0.41**	**261**	P	Pb	04 00 05.7	-0.7
CAFI				AML	AML		
	comp=E,464μm,0.2s						
CAFI				AML	AML		
	comp=N,346μm,0.5s						
CRE	**Caprese Michel**	**0.47**	**299**	AML	AML		
	comp=N,578μm,1.4s						
CRE				AML	AML		
	comp=E,488μm,0.2s						
FDMO	**Fiordimonte**	**0.55**	**130**	AML	AML		
	comp=N,174μm,0.3s						
FDMO				AML	AML		
	comp=E,148μm,1.0s						
MGAB	**Montegabbione**	**0.56**	**212**	AML	AML		
	comp=N,860μm,1.6s						
MGAB				AML	AML		
	comp=E,594μm,0.3s						
MGAB				AML	AML		
	comp=N,837μm,1.6s						
MGAB				AML	AML		
	comp=E,589μm,0.3s						

*ROM **28** 04:00:29.1±0.0, 43°.398N±0°.002×12°.513E±0°.003, h8km, ML2.4/30, Error ellipse: s-maj=0.2km s-min=0.2km az=235.0*

ISC 28 04:00:29.0±0.8, 43°.40N±0°.02×12°.51E±0°.02, h10km±5km, n43, σ1s26/79, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.06**	**131**	P	**Pg**	**04 00 31.0**	**-0.2**
ATFO				S	**Sg**	**04 00 32.2**	**-0.6**
ATFO				AML	AML		
	comp=N,11700μm,0.3s						
ATFO				AML	AML		
	comp=E,14650μm,0.6s						
ATVO	**AVT- Monte Val**	**0.08**	**254**	P	**Pg**	**04 00 31.6**	**+0.2**
ATVO				S	**Sg**	**04 00 33.2**	**0.0**
ATVO				AML	AML		
	comp=N,7405μm,0.7s						
ATVO				AML	AML		
	comp=E,12300μm,0.4s						
ATVO				AML	AML		
	comp=N,7400μm,0.7s						
ATPI	**Pietralunga -**	**0.09**	**300**	P	**Pg**	**04 00 32.0**	**+0.4**
ATPI				S	**Sg**	**04 00 34.1**	**+0.6**
ATPI				AML	AML		
	comp=E,3285μm,0.7s						
ATPI				AML	AML		
	comp=N,4245μm,0.5s						
ATPI				AML	AML		
	comp=E,3290μm,0.7s						
PIEI	**Pieia**	**0.13**	**7**	P	**Pg**	**04 00 32.9**	**+0.8**
PIEI				S	**Sg**	**04 00 35.7**	**+1.3**
PIEI				AML	AML		
	comp=E,11750μm,0.3s						
PIEI				AML	AML		
	comp=N,7625μm,0.3s						
MURB	**Monte Urbino**	**0.14**	**176**	P	**Pg**	**04 00 32.7**	**+0.4**
MURB				S	**Sg**	**04 00 35.4**	**+0.8**
MURB				AML	AML		
	comp=N,8660μm,0.2s						
MURB				AML	AML		
	comp=E,12550μm,0.3s						
MURB				AML	AML		
	comp=N,8655μm,0.2s						
MURB				AML	AML		
	comp=N,8985μm,0.9s						
MURB				AML	AML		
	comp=N,8670μm,0.2s						
MURB				AML	AML		
	comp=E,14250μm,0.3s						
MURB				AML	AML		
	comp=E,12500μm,0.3s						
FRON	**Frontone**	**0.19**	**54**	P	**Pg**	**04 00 33.7**	**+0.6**
FRON				S	**Sg**	**04 00 37.2**	**+1.2**
FRON				AML	AML		
	comp=E,1595μm,0.4s						
FRON				AML	AML		
	comp=N,2410μm,1.2s						
FRON				AML	AML		
	comp=N,2405μm,1.2s						
SSFR	**Montelago di S**	**0.20**	**81**	P	**Pg**	**04 00 33.8**	**+0.6**
SSFR				S	**Sg**	**04 00 37.2**	**+1.1**
SSFR				AML	AML		
	comp=N,3260μm,0.2s						
SSFR				AML	AML		
	comp=E,5945μm,0.2s						
SSFR				AML	AML		
	comp=N,3260μm,0.2s						
SSFR				AML	AML		
	comp=E,6430μm,0.3s						
SSFR				AML	AML		
	comp=N,3335μm,0.2s						
CDCA	**Citt' di Caste**	**0.21**	**285**	P	**Pg**	**04 00 34.0**	**+0.7**
CDCA				S	**Sg**	**04 00 38.0**	**+1.6**
CDCA				AML	AML		
	comp=N,5510μm,1.3s						
CDCA				AML	AML		
	comp=E,940μm,0.5s						
CDCA				AML	AML		
	comp=N,1410μm,0.4s						
CDCA				AML	AML		
	comp=E,2440μm,0.4s						
CDCA				AML	AML		
	comp=N,5515μm,1.3s						
CDCA				AML	AML		
	comp=E,2445μm,0.3s						
FOSV	**Fossato di Vic**	**0.21**	**121**	P	**Pg**	**04 00 34.0**	**+0.5**
FOSV				S	**Sg**	**04 00 37.8**	**+1.3**
FOSV				AML	AML		
	comp=N,724μm,0.6s						
FOSV				AML	AML		
	comp=N,724μm,0.6s						
FOSV				AML	AML		
	comp=E,502μm,0.5s						
FOSV				AML	AML		
	comp=N,724μm,0.6s						
NARO	**Abbazia di Nar**	**0.21**	**13**	P	**Pg**	**04 00 34.1**	**+0.7**
NARO				S	**Sg**	**04 00 37.6**	**+1.2**
NARO				AML	AML		
	comp=E,1130μm,0.3s						
NARO				AML	AML		
	comp=N,870μm,0.4s						
BADI	**Badiali**	**0.22**	**299**	P	**Pg**	**04 00 34.4**	**+0.8**
BADI				S	**Sg**	**04 00 38.5**	**+1.8**
BADI				AML	AML		
	comp=N,6110μm,0.3s						
BADI				AML	AML		
	comp=E,6225μm,0.3s						
ATTE	**AVT- Monte Tez**	**0.24**	**209**	P	**Pg**	**04 00 34.3**	**+0.4**
ATTE				S	**Sg**	**04 00 38.0**	**+0.8**
ATCC	**AVT- Casa Cast**	**0.24**	**157**	P	**Pg**	**04 00 34.6**	**+0.7**
ATCC				S	**Sg**	**04 00 39.1**	**+1.9**
ATCC				AML	AML		
	comp=E,3480μm,1.0s						
ATCC				AML	AML		
	comp=N,3760μm,0.4s						
ATCC				AML	AML		
	comp=E,3475μm,1.0s						
ATCC				AML	AML		
	comp=N,3765μm,0.4s						
MPAG	**Monte Paganucc**	**0.29**	**39**	P	**Pg**	**04 00 35.5**	**+0.6**
MPAG				S	**Sb**	**04 00 40.7**	**-0.6**
MPAG				AML	AML		
	comp=E,672μm,1.3s						
MPAG				AML	AML		
	comp=N,626μm,0.5s						
MPAG				AML	AML		
	comp=E,670μm,1.3s						
MPAG				AML	AML		
	comp=N,627μm,0.5s						
MPAG				AML	AML		
	comp=E,668μm,1.3s						
MPAG				AML	AML		
	comp=N,628μm,0.5s						
PE3	**Peglio**	**0.29**	**358**	P	**Pb**	**04 00 36.3**	**-0.1**
PE3				S	**Sb**	**04 00 41.7**	**+0.4**
PE3				AML	AML		
	comp=E,1805μm,0.4s						
PE3				AML	AML		
	comp=N,2390μm,0.4s						
PE3				AML	AML		
	comp=E,1810μm,0.4s						
PARC	**Parchiule**	**0.32**	**321**	P	**Pg**	**04 00 36.3**	**+0.9**
PARC				S	**Sb**	**04 00 41.7**	**-0.3**
PARC				AML	AML		

	comp=E,778µm,1.0s							
PARC					AML	AML		
	comp=N,960µm,0.3s							
PARC					AML	AML		
	comp=E,778µm,1.0s							
SSP9	**Sansepolcro**	**0.33**	**302**	P		**Pb**	**04 00 36.5**	**-0.4**
SSP9				S		**Sb**	**04 00 42.2**	**0.0**
SSP9				AML		AML		
	comp=E,324µm,0.5s							
SSP9				AML		AML		
	comp=N,312µm,1.4s							
ARVD	**Arcevia**	**0.33**	**73**	P		**Pg**	**04 00 36.2**	**+0.6**
ARVD				S		**Sb**	**04 00 41.7**	**-0.5**
ARVD				AML		AML		
	comp=E,549µm,0.7s							
ARVD				AML		AML		
	comp=E,550µm,0.7s							
ARVD				AML		AML		
	comp=N,453µm,0.9s							
SNTG	**Esanatoglia**	**0.35**	**115**	P		**Pg**	**04 00 36.3**	**+0.4**
SNTG				S		**Sb**	**04 00 42.0**	**-0.8**
SNTG				AML		AML		
	comp=N,612µm,1.0s							
SNTG				AML		AML		
	comp=E,518µm,0.2s							
FSSB	**Fossombrone**	**0.35**	**34**	P		**Pg**	**04 00 36.7**	**+0.8**
FSSB				S		**Sb**	**04 00 42.4**	**-0.5**
FSSB				AML		AML		
	comp=E,1205µm,0.3s							
FSSB				AML		AML		
	comp=N,1375µm,0.4s							
CAFI	**Castiglion Fio**	**0.41**	**260**	P		**Pg**	**04 00 37.5**	**+0.5**
CAFI				S		**Sb**	**04 00 43.7**	**-0.8**
CAFI				AML		AML		
	comp=E,464µm,0.2s							
CAFI				AML		AML		
	comp=N,346µm,0.5s							
CAFI				AML		AML		
	comp=E,464µm,0.2s							
CPGN	**Carpegna, Ital**	**0.42**	**341**	P		**Pb**	**04 00 38.7**	**+0.1**
EL6	**Elcito**	**0.44**	**100**	P		**Pg**	**04 00 38.2**	**+0.6**
EL6				S		**Sb**	**04 00 45.3**	**-0.2**
CRE	**Caprese Michel**	**0.46**	**298**	P		**Pg**	**04 00 38.7**	**+0.6**
CRE				S		**Sb**	**04 00 46.1**	**-0.2**
CRE				AML		AML		
	comp=E,488µm,0.2s							
CRE				AML		AML		
	comp=N,578µm,1.4s							
CESI	**CESI - Serrava**	**0.49**	**144**	P		**Pg**	**04 00 39.0**	**+0.4**
CESI				S		**Sb**	**04 00 47.0**	**0.0**
CESI				AML		AML		
	comp=E,64µm,0.3s							
CESI				AML		AML		
	comp=E,64µm,0.3s							
CESI				AML		AML		
	comp=N,144µm,0.7s							
CING	**Cingoli**	**0.50**	**93**	P		**Pg**	**04 00 39.4**	**+0.7**
CING				S		**Sb**	**04 00 47.4**	**+0.2**
CING				AML		AML		
	comp=E,225µm,0.7s							
CING				AML		AML		
	comp=N,242µm,1.3s							
FDMO	**Fiordimonte**	**0.56**	**131**	P		**Pg**	**04 00 40.2**	**+0.4**
FDMO				S		**Sb**	**04 00 49.0**	**0.0**
FDMO				AML		AML		
	comp=E,148µm,1.0s							
FDMO				AML		AML		
	comp=E,148µm,1.0s							
FDMO				AML		AML		
	comp=N,174µm,0.3s							
MGAB	**Montegabbione**	**0.57**	**211**	P		**Pg**	**04 00 40.3**	**+0.2**
MGAB				S		**Sb**	**04 00 49.9**	**+0.6**
MGAB				AML		AML		
	comp=E,594µm,0.3s							
MGAB				AML		AML		
	comp=N,860µm,1.6s							
MGAB				AML		AML		
	comp=E,589µm,0.3s							
MGAB				AML		AML		
	comp=N,837µm,1.6s							
MGAB				AML		AML		
	comp=E,594µm,0.3s							
PESA	**Pesaro**	**0.59**	**24**	P		**Pb**	**04 00 41.9**	**+0.5**
PESA				AML		AML		
	comp=N,800µm,0.3s							
PESA				AML		AML		
	comp=E,666µm,1.3s							
PESA				AML		AML		
	comp=N,800µm,0.3s							
CSP1	**Cessapalombo**	**0.59**	**121**	P		**Pg**	**04 00 41.0**	**+0.5**
CSP1				S		**Sb**	**04 00 50.0**	**-0.1**
MOMA	**Monte Martano**	**0.60**	**176**	P		**Pb**	**04 00 41.3**	**-0.3**
MOMA				S		**Sb**	**04 00 49.7**	**-0.5**
MOMA				AML		AML		
	comp=E,245µm,0.3s							
MOMA				AML		AML		
	comp=N,202µm,1.4s							
MOMA				AML		AML		
	comp=E,244µm,0.3s							
ASQU	**Asqua**	**0.66**	**307**	P		**Pb**	**04 00 42.7**	**+0.1**
ASQU				AML		AML		
	comp=E,159µm,1.2s							
ASQU				AML		AML		
	comp=N,194µm,0.9s							
SFI	**Santa Sofia**	**0.70**	**316**	S		**Sn**	**04 00 55.0**	**-0.8**
SACS	**San Casciano d**	**0.71**	**219**	P		**Pg**	**04 00 43.0**	**+0.3**
SACS				S		**Sb**	**04 00 52.7**	**-0.5**
SACS				AML		AML		
	comp=N,216µm,0.6s							
SACS				AML		AML		
	comp=E,178µm,0.5s							
NRCA	**Norcia**	**0.72**	**142**	P		**Pg**	**04 00 43.2**	**+0.2**
NRCA				S		**Sb**	**04 00 54.1**	**+0.5**
NRCA				AML		AML		
	comp=N,271µm,0.2s							
NRCA				AML		AML		
	comp=E,202µm,1.3s							
RUFI	**Rufina**	**0.85**	**301**	P		**Pb**	**04 00 46.1**	**+0.3**
LNSS	**Leonessa**	**0.89**	**154**	P		**Pg**	**04 00 45.9**	**-0.2**
LNSS				S		**Sg**	**04 00 57.8**	**+0.1**
LNSS				AML		AML		
	comp=N,190µm,0.8s							
LNSS				AML		AML		
	comp=E,163µm,1.0s							
LNSS				AML		AML		
	comp=N,190µm,0.8s							
ABTA	**Abfaltersbach**	**3.34**	**360**	*e*Pn		**Pb**	**04 01 25.6**	**-2.8**
	comp=N,0.8nm,0.3s							
ABTA				*i* Sn		**Sb**	**04 02 06.0**	**-3.2**
	comp=N,1.5nm,0.4s							
FETA	**Feichten**	**3.83**	**341**	*e*Pn		**Pb**	**04 01 34.9**	**-1.8**
	comp=N,0.6nm,0.4s							
FETA				*i* Sn		**Sb**	**04 02 23.6**	**+0.4**
	comp=N,0.9nm,0.6s							
SQTA	**Sankt Quirin**	**3.93**	**347**	*e*Pn		**Pb**	**04 01 34.7**	**-3.7**
	comp=N,0.2nm,0.1s							
SQTA				*i* Sn		**Sb**	**04 02 25.5**	**-0.4**
	comp=N,1.4nm,0.3s							
WATA	**Walderalm**	**3.99**	**351**	*e*Pn		**Pb**	**04 01 36.1**	**-3.3**
	comp=N,0.4nm,0.2s							
MOTA	**Moosalm**	**4.06**	**346**	*e*Pn		**Pb**	**04 01 36.6**	**-4.1**
	comp=N,1.3nm,0.6s							
MOTA				*i* Sn		**Sn**	**04 02 22.6**	**+3.6**
	comp=N,1.5nm,0.6s							
DAVA	**Damuels**	**4.30**	**335**	*e*Pn		**Pb**	**04 01 41.4**	**-3.3**
	comp=N,1.0nm,0.4s							

ROM 28 04:00:55.5±0.1, 43°399N±0".003×12°519E±0".005, h6km±1km, Md1.3/7, Error ellipse: s-maj=0.4km s-min=0.2km az=104.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.05**	**130**	P	Pg	04 00 57.0	0.0
ATFO				S	Sg	04 00 58.2	+0.1
ATFO				END			
ATFO				END			
ATVO	**AVT- Monte Val**	**0.08**	**258**	P	Pg	04 00 57.6	+0.2
ATVO				S	Sg	04 00 59.1	+0.4
ATVO				END			
ATVO				END			
ATPI	**Pietralunga -**	**0.10**	**301**	P	Pg	04 00 58.0	+0.3
ATPI				S	Sg	04 00 59.9	+0.7
ATPI				END			
ATPI				END			

MURB	**Monte Urbino**	**0.14**	**178**	P		Pg	04 00 58.8	+0.5
MURB				S		Sg	04 01 01.4	+1.2
MURB				END				
PIEI	**Pieia**	**0.14**	**5**	P		Pg	04 00 59.0	+0.6
PIEI				S		Sg	04 01 01.5	+1.2
PIEI				END				
PIEI				END				
FRON	**Frontone**	**0.19**	**52**	P		Pg	04 00 59.7	+0.4
FRON				S		Sg	04 01 03.2	+1.3
FRON				END				
FRON				END				
NARO	**Abbazia di Nar**	**0.22**	**12**	P		Pg	04 01 00.2	+0.4
NARO				S		Sg	04 01 03.9	+1.2
NARO				END				
NARO				END				

*ISCJB **28** 04:05:57.2±0.5, 32°.20N±0°.03×115°.19W±0°.03, h22km±4km, Error ellipse: s-maj=4.4km s-min=3.9km az=154.6*
*NEIC **28** 04:05:57.2±2.4, 32°.15N±0°.03×115°.19W±0°.04, h20km±9km*
*ANF **28** 04:05:57.6±0.7, 32°.26N×115°.23W, h21km±5km, ML2.8/12, Error ellipse: s-maj=5.8km s-min=3.0km az=172.0*
*SCEDC **28** 04:05:57.3, 32°.16N×115°.21W, h12km, ML3.1, ML3.0*
*PAS **28** 04:05:57.3±2.4, 32°.16N±0°.03×115°.21W±0°.04, h12km±5km, ML3.1*
*MEX **28** 04:05:58.3±0.4, 32°.32N×115°.09W, h38km±5km, MD3.7*
*ECX **28** 04:05:59.1±0.6, 32°.20N×115°.29W, h6km, MD3.0, ML3.2*

ISC 28 04:05:57.7±1.0, 32°.19N±0°.03×115°.25W±0°.03, h21km±3km, n79, σ0°89/97, 2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.22**	**11**	*i* P	**Pb**	**04 06 03.2**	**-0.4**
MBIG				*i* S	**Sb**	**04 06 07.5**	**-0.3**
MBIG	**Mexicali**	**0.22**	**11**	*e*P	**Pb**	**04 06 03.3**	**-0.4**
CPBX	**Cerro Prieto**	**0.24**	**348**	*e*P	**Pb**	**04 06 03.4**	**-0.4**
CPBX				*e*S	**Sb**	**04 06 06.4**	**-1.5**
CPBX				IAML		04 06 09.2	
	comp=N,15µm,0.5s						
CPBX	**Cerro Prieto**	**0.24**	**348**		**Pb**	**04 06 03.1**	**-0.7**
CPBX					**Sb**	**04 06 06.5**	**-1.5**
UABX	**UABC, Campus M**	**0.47**	**340**		**Pb**	**04 06 06.8**	**-0.5**
UABX					**Sb**	**04 06 14.4**	**+0.6**
ESJX	**Sierra Juarez**	**0.62**	**253**	*i* P	**Pb**	**04 06 09.2**	**-0.9**
ESJX				*e*S	**Sb**	**04 06 17.1**	**-1.4**
ESJX	**Sierra Juarez**	**0.62**	**253**		**Pb**	**04 06 09.2**	**-0.9**
DREC	**Desert Rsrch C**	**0.64**	**345**	*e*P	**Pb**	**04 06 10.3**	**0.0**
DREC	**Desert Rsrch C**	**0.64**	**345**		**Pb**	**04 06 10.2**	**0.0**
SNR	**Schaffner Ranc**	**0.69**	**347**		**Pb**	**04 06 11.2**	**+0.1**
SNR					**Sn**	**04 06 22.2**	**-0.1**
WESC	**Westside Schoo**	**0.70**	**324**	*e*P	**Pb**	**04 06 11.4**	**+0.1**
WESC	**Westside Schoo**	**0.70**	**324**		**Pb**	**04 06 11.4**	**+0.1**
WESC					**Sn**	**04 06 21.7**	**-0.9**
ERMX	**Rumorosa**	**0.76**	**299**	*e*P	**Pb**	**04 06 12.1**	**-0.2**
ERMX				⇓*e*		04 06 23.5	
ERMX				IAML		04 06 23.5	
	comp=E,698nm,0.3s						
COK2	**Cook Ranch 2**	**0.78**	**329**	*e*P	**Pb**	**04 06 12.3**	**-0.2**
COK2	**Cook Ranch 2**	**0.78**	**329**		**Pb**	**04 06 12.3**	**-0.2**
COK2					**Sn**	**04 06 24.4**	**0.0**
RMX	**La Rumorosa**	**0.82**	**301**		**Pb**	**04 06 12.1**	**-1.2**
IKP	**In-Ko-Pah, Jac**	**0.86**	**303**	P	**Pb**	**04 06 13.8**	**-0.2**
	baz=122,SNR=204						
IKP				S	**Sb**	**04 06 25.1**	**-0.2**
	baz=122						
IKP	**In-Ko-Pah, Jac**	**0.86**	**303**	*i* P	**Pb**	**04 06 13.8**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**0.86**	**303**		**Pb**	**04 06 13.8**	**-0.2**
IKP					**Sb**	**04 06 25.3**	**0.0**
SWSC	**Sam W. Stewart**	**0.89**	**328**	P	**Pb**	**04 06 13.2**	**-1.2**
	baz=148,SNR=22						
SWSC				S	**Sb**	**04 06 24.3**	**-1.6**
	baz=148						
SWSC	**Sam W. Stewart**	**0.89**	**328**		**Pb**	**04 06 13.2**	**-1.2**
CRR	**Carrizo Plain**	**0.93**	**319**		**Pb**	**04 06 14.2**	**-0.9**
GLA	**Glamis**	**0.93**	**22**	P	**Pb**	**04 06 14.0**	**-1.2**
	baz=200,SNR=90						
GLA				S	**Sb**	**04 06 25.9**	**-1.2**
	baz=200						
GLA	**Glamis**	**0.93**	**22**		**Pb**	**04 06 14.1**	**-1.2**
GLA	**Glamis**	**0.93**	**22**	Pg	**Pb**	**04 06 13.9**	**-1.3**
CBKC	**Canebrake**	**1.11**	**310**		**Pn**	**04 06 17.8**	**-0.2**
SPIG	**San Pedro Mart**	**1.15**	**189**	*e*P	**Pn**	**04 06 18.8**	**-0.1**
SPIG				*e*S	**Sn**	**04 06 34.6**	**+0.5**
SPX	**San Pedro Mart**	**1.16**	**189**		**Pn**	**04 06 17.8**	**-1.2**
SFX	**San Felipe**	**1.19**	**163**	*e*P	**Pb**	**04 06 20.4**	**+0.8**
CBX	**Cerro Bola**	**1.21**	**276**	*e*P	**Pn**	**04 06 19.3**	**-0.1**
CBX				⇓*e*		04 06 37.1	
CBX				IAML		04 06 37.1	
	comp=N,785nm,0.4s						
MONP2	**Monument Peak**	**1.22**	**306**	P	**Pn**	**04 06 18.8**	**-0.8**
	baz=125,SNR=104						
MONP2				S	**Sn**	**04 06 34.9**	**-0.7**
	baz=125						
MONP2	**Monument Peak**	**1.22**	**306**	*e*P	**Pb**	**04 06 20.0**	**-0.2**
MONP2	**Monument Peak**	**1.22**	**306**		**Pb**	**04 06 20.1**	**0.0**
TJIG	**Tijuana**	**1.23**	**282**	*e*P	**Pn**	**04 06 19.2**	**-0.5**
TJIG				*i* S	**Sn**	**04 06 34.9**	**-0.8**
TJIG	**Tijuana**	**1.23**	**282**	*e*P	**Pn**	**04 06 19.5**	**-0.2**
BAR	**Barrett**	**1.30**	**293**	*e*P	**Pn**	**04 06 20.6**	**-0.1**
BAR	**Barrett**	**1.30**	**293**		**Pn**	**04 06 20.5**	**-0.1**
BAR				Sn	**Sb**	**04 06 38.4**	**+0.6**
113A	**Mohawk Valley,**	**1.38**	**65**		**Pn**	**04 06 21.1**	**-0.6**
BORC	**Borrego Spring**	**1.46**	**318**		**Pb**	**04 06 24.6**	**+0.3**
BC3	**Big Chuckawall**	**1.48**	**353**	P	**Pn**	**04 06 22.0**	**-1.1**
	baz=172,SNR=42						
OLP	**Otay Lakes Par**	**1.48**	**287**		**Pb**	**04 06 24.2**	**-0.4**
EML	**El Monte Cty P**	**1.52**	**298**		**Pb**	**04 06 25.7**	**+0.5**
SDRC	**San Diego Road**	**1.54**	**291**		**Pb**	**04 06 25.6**	**+0.1**
DPP	**Dos Picos Cty**	**1.64**	**300**		**Pb**	**04 06 27.4**	**+0.1**
HWB	**Hans Werner Br**	**1.67**	**301**		**Pb**	**04 06 28.6**	**+0.8**
Y12C	**Blythe**	**1.67**	**21**	P	**Pn**	**04 06 24.9**	**-0.8**
	baz=200						
Y12C	**Blythe**	**1.67**	**21**		**Pn**	**04 06 26.0**	**+0.2**
SQX	**San Quintin**	**1.69**	**199**	*e*S	**Sb**	**04 06 50.6**	**+1.7**
109C	**Camp Elliot, M**	**1.72**	**295**	P	**Pn**	**04 06 26.2**	**-0.2**
	baz=114						
109C	**Camp Elliot, M**	**1.72**	**295**		**Pn**	**04 06 26.1**	**-0.2**
FRD	**Ford Ranch, An**	**1.73**	**319**		**Pb**	**04 06 28.6**	**-0.3**
XPFO	**Pion Flat**	**1.75**	**325**		**Pn**	**04 06 25.9**	**-1.0**
PFO	**Pinyon Flats O**	**1.75**	**325**	P	**Pn**	**04 06 25.8**	**-1.0**
	baz=114,SNR=17						
PFO	**Pinyon Flats O**	**1.75**	**325**		**Pn**	**04 06 25.9**	**-1.0**
PLM	**Palomar**	**1.79**	**311**		**Pb**	**04 06 31.0**	**+1.1**
CRY	**Cary Ranch**	**1.86**	**318**		**Pb**	**04 06 32.4**	**+1.3**
IRM	**Iron Mountain**	**1.97**	**2**	P	**Pn**	**04 06 28.7**	**-1.2**
	baz=182						
POB	**Polly Butte**	**2.06**	**317**		**Pb**	**04 06 35.8**	**+1.4**
214A	**Organ Pipe Nat**	**2.08**	**96**	P	**Pn**	**04 06 30.5**	**-0.9**
	baz=276,SNR=16						
214A	**Organ Pipe Nat**	**2.08**	**96**		**Pn**	**04 06 30.5**	**-0.9**
HMTC	**Hemet**	**2.12**	**316**		**Pb**	**04 06 36.9**	**+1.5**
Y14A	**Wickenburg**	**2.57**	**47**		**Pn**	**04 06 38.4**	**+0.3**
GMRC	**Granite Mounta**	**2.61**	**353**	P	**Pn**	**04 06 38.4**	**-0.5**
	baz=172						
SSK	**Sunset Peak**	**2.88**	**315**		**Pb**	**04 06 49.9**	**+1.5**
CIS	**Catalina Islan**	**2.93**	**295**	P	**Pn**	**04 06 43.1**	**0.0**
	baz=114						
PEM	**Pine Mountain**	**2.96**	**313**		**Pb**	**04 06 51.1**	**+1.4**
MWC	**Mount Wilson**	**3.11**	**312**	Pn	**Pn**	**04 06 47.0**	**+1.3**
MWC					**Pb**	**04 06 53.8**	**+1.4**
W13A	**Hualapai Mount**	**3.12**	**21**	Pn	**Pn**	**04 06 46.2**	**+0.3**
W13A					**Pb**	**04 06 54.7**	**+2.1**
GSC	**Goldstone, Bar**	**3.37**	**338**	Pn	**Pn**	**04 06 50.6**	**+1.5**
SBI	**Santa Barbara**	**3.44**	**293**		**Pb**	**04 06 56.3**	**-1.6**
TUC	**Tucson**	**3.78**	**87**	Pn	**Pn**	**04 06 54.5**	**-0.4**
X16A	**Lo Mia Camp, P**	**3.89**	**54**		**Pn**	**04 06 57.9**	**+1.5**
SHPR	**Sheep Range**	**4.31**	**1**	Pn	**Pn**	**04 07 01.4**	**-0.7**
WUAZ	**Wupatki**	**4.63**	**43**		**Pn**	**04 07 06.4**	**-0.1**
U15A	**North Rim**	**4.89**	**29**		**Pn**	**04 07 11.2**	**+1.0**
X18A	**Snowflake**	**5.01**	**61**		**Pn**	**04 07 10.9**	**-0.9**
LCMT	**Little Creek M**	**5.09**	**18**	Pn	**Pn**	**04 07 13.6**	**+0.8**
KNB	**Kanab**	**5.22**	**22**		**Pn**	**04 07 14.4**	**-0.2**
121A	**Cookes Peak, D**	**6.32**	**85**	Pn	**Pn**	**04 07 28.9**	**-0.9**

*GCG **28** 04:26:36.5±0.5, 13°.25N×91°.13W, h8km±7km, MD4.3*
*ISCJB **28** 04:26:39.8±0.4, 13°.58N±0°.04×91°.14W±0°.03, h29km, mb3.8/10, MS3.7/4, Error ellipse: s-maj=6.3km s-min=2.7km az=28.7*

*SNET **28** 04:26:44.5±1.0, 13°.69N×90°.84W, h21km±6km, ML4.3*
*UCR **28** 04:26:44.5±1.2, 13°.62N×90°.83W, h18km±6km, MD3.9, ML4.1, mb4.4(NEIC)*
*IDC **28** 04:26:45.4±1.7, 13°.71N×90°.89W, h78km±13km, mb3.7/11, mb1 3.8/14, mb1mx3.7/38, mbtmp4.0/14, MS3.6/5, Ms1 3.6/5, ms1mx3.2/23, Error ellipse: s-maj=21.6km s-min=11.0km az=63.0*
*NEIC **28** 04:26:45.5±1.7, 13°.68N±0°.08×90°.91W±0°.07, h72km±6km, mb4.4/66, Md4.3(SNET), Md4.3(MEX)*

ISC 28 04:26:39.9±0.5, 13°.53N±0°.05×91°.03W±0°.04, h29km, n145, σ1°77/149, mb4.4/32, MS3.7/4, 11C-6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.86**	**42**	*e*P	**Pn**	**04 26 58.0**	**+1.7**
IXG	**Ixpaco**	**0.86**	**42**	*e*P	**Pn**	**04 26 58.0**	**+1.7**
IXG	**Ixpaco**	**0.86**	**42**	*i* P	**Pn**	**04 26 57.1**	**+0.8**
FUG	**Fuego 3**	**0.93**	**11**	*e*P	**Pn**	**04 26 59.2**	**+1.9**
FUG	**Fuego 3**	**0.93**	**11**	*e*P	**Pn**	**04 26 59.2**	**+1.9**
PCG	**Pacaya**	**0.95**	**26**	*e*P	**Pn**	**04 26 59.5**	**+1.9**
PCG	**Pacaya**	**0.95**	**26**	*e*P	**Pn**	**04 26 59.5**	**+1.9**
ERG	**Entre ros, C**	**1.05**	**330**	*e*P	**Pb**	**04 27 01.3**	**+1.9**
NBG	**Las Nubes**	**1.24**	**32**	*e*P	**Pb**	**04 27 04.4**	**+1.4**
NBG	**Las Nubes**	**1.24**	**32**	*e*P	**Pb**	**04 27 04.4**	**+1.4**
STG3	**Santiaguito 3,**	**1.29**	**336**	*e*P	**Pb**	**04 27 04.0**	**+0.4**
CEVE	**Cerro Verde**	**1.40**	**78**	*e*P	**Pb**	**04 27 05.9**	**+0.3**
CEVE				*e*S	**Sb**	**04 27 23.0**	**-0.1**
CEVE	**Cerro Verde**	**1.40**	**78**	*e*P	**Pb**	**04 27 05.9**	**+0.3**
CEVE				*e*S	**Sb**	**04 27 23.0**	**-0.1**
SBLS	**San Blas**	**1.40**	**77**	*e*P	**Pb**	**04 27 05.7**	**+0.2**
SBLS				*e*P	**Pb**	**04 27 05.8**	**+0.2**
SBLS	**San Blas**	**1.40**	**77**	*e*P	**Pb**	**04 27 05.8**	**+0.2**
SNJE	**San Jose**	**1.43**	**76⇓**	*e*P	**Pb**	**04 27 06.2**	**+0.2**
SNJE	**San Jose**	**1.43**	**76⇓**	*e*P	**Pb**	**04 27 06.2**	**+0.2**
UNIC	**Universidad Ca**	**1.51**	**72⇑**	*i* P	**Pb**	**04 27 07.3**	**0.0**
UNIC				IAML		04 27 28.2	
	comp=Z,3µm,0.3s						
UNIC	**Universidad Ca**	**1.51**	**72⇑**	*i* P	**Pb**	**04 27 07.3**	**0.0**
UNIC				IAML		04 27 28.2	
	comp=Z,3µm,0.3s						
APG	**El Apazote**	**1.57**	**20**	P	**Pb**	**04 27 07.9**	**-0.5**
	comp=Z,310nm,0.3s,baz=186,slow=6.6,SNR=956						
APG				S	**Sb**	**04 27 26.8**	**-1.2**
	comp=Z,690nm,0.3s,baz=64,slow=23,SNR=32						
APG				LR	LR	04 27 30.6	
	comp=Z,432nm,18.8s,baz=236,slow=34						
BOQS	**Boqueron**	**1.71**	**83**	*e*P	**Pb**	**04 27 10.6**	**-0.3**
UEES	**Universidad Ev**	**1.75**	**84**	*e*P	**Pb**	**04 27 11.0**	**-0.4**
UEES	**Universidad Ev**	**1.75**	**84**	*e*P	**Pb**	**04 27 11.0**	**-0.4**
SNET	**Serv Nac Est T**	**1.76**	**85⇑**	*e*P	**Pb**	**04 27 11.4**	**-0.1**
SNET				*e*S	**Sb**	**04 27 31.9**	**-1.3**
SNET				IAML		04 27 35.6	
	comp=Z,5µm,0.2s						
SNET	**Serv Nac Est T**	**1.76**	**85⇑**	*e*P	**Pb**	**04 27 11.4**	**-0.1**
SNET				*e*S	**Sb**	**04 27 31.9**	**-1.3**
SNET				IAML		04 27 35.6	
	comp=Z,5µm,0.2s						
SNET	**Serv Nac Est T**	**1.76**	**85**		**Pb**	**04 27 11.0**	**-0.6**
THIG		**1.82**	**319**		**Pn**	**04 27 11.1**	**+1.8**
MTO3	**Montecristo**	**1.84**	**62⇑**	*i* P	**Pb**	**04 27 11.6**	**-1.4**
MTO3	**Montecristo**	**1.84**	**62⇑**	*i* P	**Pb**	**04 27 11.6**	**-1.4**
LFU	**La Fuente**	**1.88**	**83⇓**	*e*P	**Pb**	**04 27 13.2**	**-0.4**
LFU	**La Fuente**	**1.88**	**83⇓**	*e*P	**Pb**	**04 27 13.2**	**-0.4**
LFRS	**El Faro**	**1.92**	**87⇑**	*i* P	**Pb**	**04 27 13.8**	**-0.5**
LBRS	**Las Brisas**	**1.94**	**84**	*e*P	**Pb**	**04 27 14.2**	**-0.5**
MRL	**Marmol**	**2.02**	**40⇓**	*e*P	**Pb**	**04 27 15.1**	**-1.1**
MRL				*e*S	**Sb**	**04 27 45.3**	**+4.3**
MRL	**Marmol**	**2.02**	**40⇓**	*e*P	**Pb**	**04 27 15.1**	**-1.1**
MRL				*e*S	**Sb**	**04 27 45.3**	**+4.3**
PAVA	**Las Pavas**	**2.04**	**85⇑**	*e*P	**Pb**	**04 27 15.5**	**-0.9**
PAVA	**Las Pavas**	**2.04**	**85⇑**	*e*P	**Pb**	**04 27 15.5**	**-0.9**
COEG	**Centro de Oper**	**2.09**	**87**	*e*P	**Pb**	**04 27 16.4**	**-0.9**
COEG				IAML		04 27 45.0	
	comp=Z,3µm,0.4s						
LLGN	**La Laguna**	**2.12**	**72**	*e*P	**Pb**	**04 27 15.4**	**-2.4**
LLGN				IAML		04 27 49.7	
	comp=Z,1µm,0.6s						
LLGN	**La Laguna**	**2.12**	**72**	*e*P	**Pb**	**04 27 15.4**	**-2.4**
LLGN				IAML		04 27 49.7	
	comp=Z,1µm,0.6s						
ALJI	**Alcalda de J**	**2.40**	**95**	*e*P	**Pb**	**04 27 20.4**	**-2.1**
ALJI				IAML		04 27 57.5	
	comp=Z,2µm,0.5s						
COEB	**Comit de Eme**	**2.43**	**90**	*e*P	**Pb**	**04 27 20.9**	**-2.1**
COEB				IAML		04 27 57.7	
	comp=Z,1µm,0.4s						
TECA	**Tecapa**	**2.46**	**90**	*e*P	**Pb**	**04 27 21.4**	**-2.2**
TECA	**Tecapa**	**2.46**	**90**	*e*P	**Pb**	**04 27 21.4**	**-2.2**
PCIG		**3.03**	**316**		**Pn**	**04 27 28.0**	**+2.1**
LCND	**La Caada**	**3.06**	**94⇑**	*e*P	**Pn**	**04 27 29.5**	**+3.0**
LCND				IAML		04 28 08.6	
	comp=Z,1µm,0.3s						
LCND	**La Caada**	**3.06**	**94⇑**	*e*P	**Pn**	**04 27 29.5**	**+3.0**
LCND				IAML		04 28 08.6	
	comp=Z,1µm,0.3s						
TGUH	**Tegucigalpa,Un**	**3.69**	**81**	*e*P	**Pn**	**04 27 37.3**	**+2.2**
TGUH	**Tegucigalpa,Un**	**3.69**	**81**		**Pn**	**04 27 37.8**	**+2.6**
TGIG		**3.81**	**328**		**Pn**	**04 27 37.8**	**+1.0**
CRIN	**San Cristobal**	**3.96**	**102**	*e*P	**Pn**	**04 27 40.1**	**+3.2**
CRIN				*e*S	**Sn**	**04 28 28.5**	**+4.0**
CRIN				IAML		04 28 40.5	
	comp=E,890nm,0.5s						
CNGN	**Cerro Negro**	**4.34**	**103**	*e*P	**Pn**	**04 27 48.1**	**+4.0**
CNGN				*e*S	**Sn**	**04 28 36.2**	**+2.4**
ESTN	**Estel**	**4.56**	**95**		**Pn**	**04 27 49.8**	**+2.7**

GOGA					IAmb	IAmb	04 31 36.8	
	comp=Z,24nm,1.1s							
X48A	**Hartselle**	**21.14**	**9**	P	**P**		**04 31 23.1**	**+0.5**
X48A				IAmb	IAmb		04 31 43.1	
	comp=Z,28nm,1.4s							
UALR	**University of**	**21.19**	**357**	P	**P**		**04 31 24.2**	**+1.1**
UALR				IAmb	IAmb		04 31 40.8	
	comp=Z,12nm,0.7s							
Y52A	**Lilburn**	**21.21**	**16**	P	**P**		**04 31 24.3**	**+0.9**
FPAL	**Fort Paine**	**21.49**	**12**	P	**P**		**04 31 26.9**	**+0.6**
FPAL				IAmb	IAmb		04 31 43.1	
	comp=Z,16nm,1.1s							
SWET	**Sewanee**	**22.08**	**11**	P	**P**		**04 31 32.8**	**+0.1**
SWET				IAmb	IAmb		04 31 49.8	
	comp=Z,12nm,0.8s							
GDL2	**Guadalupe Moun**	**22.24**	**329**	P	**P**		**04 31 35.1**	**+0.6**
WMOK	**Wichita Mounta**	**22.25**	**343**	P	**P**		**04 31 36.0**	**+1.4**
MNTX	**Cornudas Mount**	**22.37**	**326**	IAmb	IAmb		04 31 38.7	
	comp=Z,9.1nm,0.7s							
FNO	**Franklin**	**22.39**	**346**	P	**P**		**04 31 37.2**	**+1.2**
V48A	**Smith Brothers**	**22.44**	**9**	P	**P**		**04 31 37.5**	**+0.9**
V48A				IAmb	IAmb		04 31 55.9	
	comp=Z,37nm,1.6s							
LCAR	**Lake Charles**	**22.45**	**360**	P	**P**		**04 31 36.3**	**-0.3**
LCAR				IAmb	IAmb		04 31 55.5	
	comp=Z,11nm,0.7s							
BG3	**Lake Jocassee**	**22.59**	**18**	P	**P**		**04 31 37.4**	**-0.8**
BG3				IAmb	IAmb		04 31 54.6	
	comp=Z,8.0nm,0.7s							
CPCT	**Cooper Cave**	**22.60**	**14**	IAmb	IAmb		04 32 01.6	
	comp=Z,13nm,1.0s							
WVT	**Waverly**	**22.69**	**7**	P	**P**		**04 31 40.9**	**+1.7**
U40A	**Yellville**	**22.79**	**356**	P	**P**		**04 31 39.8**	**-0.5**
HHAR	**Hobbs**	**22.81**	**354**	IAmb	IAmb		04 32 07.2	
	comp=Z,31nm,1.9s							
MSTX	**Muleshoe**	**22.98**	**334**	P	**P**		**04 31 41.9**	**-0.5**
TKL	**Tuckaleechee C**	**22.98**	**15**	P	**P**		**04 31 40.9**	**-1.4**
	comp=Z,3.0nm,0.5s,baz=179,slow=10,SNR=11							
TKL	**Tuckaleechee C**	**22.98**	**15**	P	**P**		**04 31 41.6**	**-0.7**
TKL				IAmb	IAmb		04 31 58.2	
	comp=Z,21nm,1.0s							
V52A	**Sevierville**	**23.20**	**15**	P	**P**		**04 31 42.6**	**-1.9**
V52A				IAmb	IAmb		04 31 59.8	
	comp=Z,16nm,0.9s							
V53A	**Saluda**	**23.26**	**17**	P	**P**		**04 31 44.0**	**-1.1**
MGMO	**Mountain Grove**	**23.55**	**358**	P	**P**		**04 31 48.5**	**+0.6**
MGMO				IAmb	IAmb		04 32 02.7	
	comp=Z,28nm,1.2s							
T47A	**Sharon Grove**	**23.62**	**8**	P	**P**		**04 31 48.5**	**-0.1**
TZTN	**Tazewell**	**23.88**	**15**	P	**P**		**04 31 49.9**	**-1.2**
TZTN				IAmb	IAmb		04 32 07.5	
	comp=Z,22nm,1.0s							
ATAH	**Atahualpa**	**24.06**	**148**	P	**P**		**04 31 55.5**	**+2.1**
	comp=Z,5.7nm,0.7s,baz=32,slow=5.7,SNR=5.0							
U54A	**Nelsons Funny**	**24.34**	**18**	P	**P**		**04 31 55.7**	**+0.3**
121A	**Cookes Peak, D**	**24.34**	**324**	P	**P**		**04 31 57.0**	**+1.4**
CCM	**Cathedral Cave**	**24.43**	**360**	P	**P**		**04 31 56.2**	**+0.1**
CCM				IAmb	IAmb		04 32 10.8	
	comp=Z,17nm,0.8s							
BNM	**Barren Site**	**24.94**	**328**	P	**P**		**04 32 02.0**	**+1.0**
WCI	**Wyandotte Cave**	**24.96**	**9**	P	**P**		**04 32 00.4**	**-0.5**
WCI				IAmb	IAmb		04 32 25.4	
	comp=Z,16nm,0.8s							
LENM	**Lemitar**	**25.13**	**328**	P	**P**		**04 32 03.4**	**+0.7**
ANMO	**Albuquerque**	**25.48**	**329**	P	**P**		**04 32 05.5**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=141,slow=7.4,SNR=5.8							
ANMO	**Albuquerque**	**25.48**	**329**	IAmb	IAmb		04 32 07.0	
	comp=Z,8.6nm,1.9s							
X16A	**Lo Mia Camp, P**	**27.83**	**322**	P	**P**		**04 32 28.1**	**+1.0**
X16A				IAmb	IAmb		04 32 44.5	
	comp=Z,5.0nm,0.8s							
WUAZ	**Wupatki**	**28.55**	**324**	P	**P**		**04 32 35.3**	**+1.8**
W13A	**Hualapai Mount**	**29.78**	**320**	P	**P**		**04 32 43.5**	**-0.9**
KNB	**Kanab**	**30.44**	**324**	P	**P**		**04 32 51.8**	**+1.6**
CCUT	**Cedar City**	**31.12**	**324**	P	**P**		**04 32 57.2**	**+0.9**
TCRU	**Three Creeks R**	**31.37**	**327**	P	**P**		**04 32 59.4**	**+0.9**
PSUT	**Pine Spring**	**32.08**	**325**	P	**P**		**04 33 06.0**	**+1.2**
PDAR	**Pinedale Array**	**33.24**	**335**	LR	LR		04 48 32.9	
	comp=Z,54nm,18.2s,baz=188,slow=40							
ELK	**Elko**	**34.40**	**327**	P	**P**		**04 33 25.8**	**+0.8**
NV11	**Mina Array Sit**	**34.54**	**321**	P	**P**		**04 33 27.4**	**+1.3**
NV11				IAmb	IAmb		04 33 43.8	
	comp=Z,6.3nm,0.8s							
NVAR	**Mina Array Bea**	**34.63**	**321**	P	**P**		**04 33 28.1**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=133,slow=8.8,SNR=16							
NVAR				PcP	**PcP**		**04 36 01.1**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=145,slow=3.7,SNR=4.8							
NVAR				ScP	**ScP**		**04 39 39.1**	**-5.3**
	comp=Z,0.3nm,0.7s,baz=91,slow=4.6,SNR=2.3							
SAML	**Samuel**	**35.54**	**127**	P	**P**		**04 33 34.4**	**-0.4**
SAML				IAmb	IAmb		04 33 51.1	
	comp=Z,8.7nm,1.4s							
BEKR	**Beckworth**	**36.77**	**321**	P	**P**		**04 33 46.7**	**+1.4**
BEKR				IAmb	IAmb		04 34 02.7	
	comp=Z,5.4nm,1.2s							
ULM	**Lac du Bonnet**	**36.83**	**355**	P	**P**		**04 33 42.6**	**-2.8**
	comp=Z,1.9nm,0.8s,baz=193,slow=11,SNR=3.3							
LPAZ	**La Paz**	**37.28**	**142**	P	**P**		**04 33 51.3**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=337,slow=7.7,SNR=3.8							
WVOR	**Wild Horse Val**	**37.41**	**326**	IAmb	IAmb		04 33 52.2	
	comp=Z,5.3nm,1.2s							
MNMC	**Minye Minye**	**38.72**	**146**	P	**P**		**04 34 04.2**	**+2.1**
F10A	**Beach Ranch, E**	**39.18**	**331**	IAmb	IAmb		04 34 21.3	
	comp=Z,5.7nm,0.8s							
H04A	**Detroit Lake**	**40.83**	**326**	P	**P**		**04 34 19.6**	**+0.5**
H04A				IAmb	IAmb		04 34 20.0	
	comp=Z,6.4nm,0.8s							
SIV	**San Ignacio**	**41.68**	**134**	P	**P**		**04 34 26.7**	**+0.3**
	comp=Z,5.3nm,0.8s,baz=318,slow=8.1,SNR=32							
SCHQ	**Scheffervill**	**45.34**	**19**	P	**P**		**04 34 52.9**	**-2.5**
	comp=Z,3.4nm,0.6s,baz=232,slow=7.5,SNR=11							
SCHQ				LR	LR		04 54 34.3	
	comp=Z,119nm,19.3s,baz=188,slow=37							
YKA	**Yellowknife Ar**	**51.70**	**346**	P	**P**		**04 35 43.2**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=148,slow=7.7,SNR=6.3							
YKA				PcP	**PcP**		**04 36 55.8**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=145,slow=4.1,SNR=6.5							
PLCA	**Paso Flores**	**57.23**	**162**	LR	LR		04 56 11.3	
	comp=Z,44nm,18.4s,baz=48,slow=31							
ILAR	**Eielson Array**	**63.64**	**337**	P	**P**		**04 37 05.3**	**-2.8**
	comp=Z,0.1nm,0.5s,baz=131,slow=7.7,SNR=6.4							
ARCES	**ARCESS Array B**	**86.29**	**18**	LR	LR		05 20 46.1	
	comp=Z,58nm,18.3s,baz=308,slow=38							
MKAR	**Makanchi Array**	**119.66**	**5**	PKP	**PKPdf**		**04 45 25.4**	**-2.0**
	comp=Z,0.5nm,0.8s,baz=72,slow=2.7,SNR=2.7							
KSH	**Kashi**	**125.86**	**12**	PKP	**PKiKP**		**04 45 43.8**	**+3.8**
KSH				SKS	**SKSdf**		**04 52 50.3**	**+0.5**
KSH				SKKS	**SKKSac**		**04 54 27.0**	**-1.7**
KSH				LR	LR			
	comp=N,430nm,6.7s							
KSH				LR	LR			
	comp=E,570nm,6.1s							
KSH				LR	LR			
	comp=Z,480nm,6.5s							
WRA	**Warramunga Arr**	**136.19**	**255**	PKP	**PKPdf**		**04 45 59.8**	**+0.3**
	comp=Z,1.0nm,0.9s,baz=89,slow=2.4,SNR=5.9							
ASAR	**Alice Springs**	**136.39**	**250**	PKP	**PKPdf**		**04 46 00.1**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=78,slow=2.2,SNR=3.0							
CMAR	**Chiang Mai Arr**	**146.73**	**343**	PKPbc	**PKPdf**		**04 46 18.7**	**+0.3**
	comp=Z,3.0nm,0.6s,baz=344,slow=3.0,SNR=6.6							

PGC 28 04:37:35.3±2.5, 48°87N×129°43W, h10km, MLSn2.9/28, Mw3.5/28, Mw3.5/28, 249km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	**0.95**	**166**	P	Pg	04 37 52.0	-1.5
KEMF				S	Sg	04 38 03.3	-2.5
BPBC	**Brooks Peninsu**	**1.68**	**39**	Pn	Pn	04 38 02.9	-2.0
EDB	**Eliza Dome**	**1.81**	**56**	Pn	Pn	04 38 04.7	-1.9
HOLB	**Holberg**	**1.96**	**25**	Pn	Pn	04 38 06.5	-2.2
PACB	**Port Alice, BC**	**2.01**	**38**	Pn	Pn	04 38 07.0	-2.3
PACB				Sn	Sn	04 38 29.4	-5.0
MAYB	**Maynard**	**2.12**	**43**	Pn	Pn	04 38 09.1	-1.9
MAYB				Sn	Sn	04 38 33.0	-4.5
PHC	**Port Hardy**	**2.25**	**34**	Pn	Pn	04 38 11.4	-1.2
PHC				Sn	Sn	04 38 36.0	-4.4
WOSB	**Woss**	**2.27**	**54**	Pn	Pn	04 38 11.4	-1.5
TOFB	**Tofino**	**2.34**	**82**	Pn	Pn	04 38 11.6	-2.2
TOFB				Sn	Sn	04 38 39.6	-2.9
TLCB	**Telegraph Cove**	**2.38**	**44**	Pn	Pn	04 38 13.2	-1.1
TLCB				Sn	Sn	04 38 39.4	-4.1
OZB	**Mount Ozzard**	**2.60**	**87**	Pn	Pn	04 38 16.3	-1.2
OZB				Sn	Sn	04 38 45.2	-3.9
BTB	**Buttle Lake**	**2.63**	**75**	Pn	Pn	04 38 17.2	-0.9
SPLB	**Strathcona Par**	**2.67**	**66**	Pn	Pn	04 38 17.6	-0.8
SPLB				Sn	Sn	04 38 48.5	-2.3
NCRB	**Newcastle Ridg**	**2.68**	**54**	Pn	Pn	04 38 17.9	-0.8
BFSB	**Bamfield**	**2.84**	**89**	Sn	Sn	04 38 51.6	-3.2
B928	**Bamfield**	**2.84**	**89**	Pn	Pn	04 38 19.6	-1.0
B928				Sn	Sn	04 38 50.5	-4.3
CBB	**Campbell River**	**2.90**	**65**	Pn	Pn	04 38 20.9	-0.6
CBB				Sn	Sn	04 38 54.6	-1.7
MGB	**Mount Grey**	**3.13**	**86**	Pn	Pn	04 38 23.9	-0.9
MGB				Sn	Sn	04 38 59.1	-3.1
PFB	**Port Renfrew**	**3.32**	**93**	Sn	Sn	04 39 03.8	-3.0
TXB	**Texada**	**3.37**	**74**	Pn	Pn	04 38 28.0	0.0
YOUB	**Youbou, Lake C**	**3.41**	**88**	Pn	Pn	04 38 28.3	-0.3
YOUB				Sn	Sn	04 39 06.0	-3.1
BBB	**Bella Bella**	**3.42**	**14**	Pn	Pn	04 38 27.9	-0.8
BBB				Sn	Sn	04 39 04.6	-4.6
B926	**Mesachie Lake**	**3.50**	**89**	Pn	Pn	04 38 29.2	-0.6
B926				Sn	Sn	04 39 08.6	-2.6
NLLB	**Nanaimo Lost L**	**3.60**	**82**	Pn	Pn	04 38 32.1	+1.0
NLLB				Sn	Sn	04 39 12.3	-1.3
SHB	**Sechelt**	**3.71**	**77**	Pn	Pn	04 38 33.4	+0.6
LZB	**Mount Lazard**	**3.72**	**92**	Pn	Pn	04 38 32.4	-0.5
LZB				Sn	Sn	04 39 14.5	-2.2
B009	**North Saanich**	**3.96**	**91**	Sn	Sn	04 39 20.5	-2.1
B010	**North Saanich**	**3.96**	**91**	Sn	Sn	04 39 20.4	-2.2
PGC	**Sidney**	**3.96**	**91**	Pn	Pn	04 38 36.0	-0.1
PGC				Sn	Sn	04 39 20.5	-2.1
PA12	**PA12 Sannich**	**3.96**	**91**	Sn	Sn	04 39 21.1	-1.5
B011	**North Saanich**	**3.96**	**91**	Pn	Pn	04 38 36.4	+0.2
B011				Sn	Sn	04 39 20.3	-2.3
BIB	**Bowen Island**	**4.06**	**80**	Pn	Pn	04 38 38.0	+0.6
WPB	**Watts Point**	**4.15**	**77**	Pn	Pn	04 38 39.1	+0.4
HNBB	**Haney**	**4.53**	**82**	Pn	Pn	04 38 45.1	+1.2
VDB	**Vedder Mountai**	**4.83**	**85**	Pn	Pn	04 38 48.4	+0.3
MBW	**Mount Baker**	**4.97**	**88**	Pn	Pn	04 38 50.8	+0.6
LLLB	**Lillooet**	**5.20**	**68**	Pn	Pn	04 38 54.1	+1.0
FSB	**Fort Saint Jam**	**6.45**	**28**	Pn	Pn	04 39 11.0	+0.7
NBC5	**NorthernBC 5**	**9.56**	**22**	Pn	Pn	04 39 54.7	+1.7

IDC 28 04:46:06.9±2.9, 4°55S×153°29E, h77km±22km, mb3.3/3, mb1 3.5/3, mb1mx3.2/43, mbtmp3.6/3, MS2.7/1, Ms1 2.7/1, ms1mx2.4/14, Error ellipse: s-maj=46.0km s-min=26.2km az=25.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.28**	**281**	P	Pn	04 46 27.9	-1.4
	115nm,0.3s,baz=140,slow=1.3,SNR=51						
KRVT				S	Sn	04 46 46.2	+0.1
	423nm,0.3s,baz=36,slow=12,SNR=25						
HNR	**Honiara**	**8.20**	**127**	LR	LR	04 51 23.0	
	comp=Z,49nm,19.8s,baz=305,slow=39						
DZM	**Mont Dzumac**	**21.58**	**145**	P	P	04 50 51.4	+0.8
	3.6nm,0.6s,baz=309,slow=14,SNR=6.8						
WRA	**Warramunga Arr**	**23.98**	**229**	P	P	04 51 14.3	-0.2
	1.6nm,0.6s,baz=53,slow=9.9,SNR=24						
ASAR	**Alice Springs**	**26.66**	**223**	P	P	04 51 38.3	-0.5
	0.1nm,0.5s,baz=58,slow=8.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**150.69**	**289**	PKPbc	PKPbc	05 05 51.4	+0.1
	0.3nm,0.5s,baz=71,slow=2.5,SNR=4.5						

*ISCJB **28** 06:05:39.9±0.6, 42°.68N±0°.03×75°.69E±0°.04, h0km, Error ellipse: s-maj=5.6km s-min=3.4km az=143.4*
*NNC **28** 06:05:39.8±0.5, 42°.68N×75°.68E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=2.9km s-min=1.6km az=131.0, Suspected Mining explosion.*
*SOME **28** 06:05:39.8, 42°.68N×75°.65E*

ISC 28 06:05:40.2±1.0, 42°69N±0°.03×75°68E±0°.03, h0km, n14, σ0§50/23, 3C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.23**	**345**	P	**Pg**	**06 05 45.0**	**+0.2**
	SNR=59						
TKM2	**Tokmak 2**	**0.23**	**345**	⇑P	**Pg**	**06 05 44.9**	**+0.2**
	2.9nm,0.6s						
TKM2				⇑S	**Sg**	**06 05 48.5**	**+0.7**
	15nm,0.5s						
KST	**Kastek**	**0.41**	**31**	P	**Pg**	**06 05 48.2**	**+0.1**
	14nm,0.2s						
KST				S	**Sg**	**06 05 54.4**	**+1.1**
	11nm,0.2s						
KBK	**Karagaybulak**	**0.54**	**266**	P	**Pg**	**06 05 50.9**	**+0.3**
	SNR=8.4						
DGS	**Degeres**	**0.55**	**7**	P	**Pg**	**06 05 50.8**	**0.0**
	2.4nm,0.2s						
DGS				S	**Sg**	**06 05 58.9**	**+0.9**
	3.4nm,0.2s						
ULHL	**Ulahol**	**0.61**	**137**	P	**Pg**	**06 05 51.8**	**-0.1**
	SNR=15						
KZA	**Kyzart**	**0.69**	**207**	P	**Pg**	**06 05 53.7**	**+0.2**
	SNR=15						
MTBS	**Maitube**	**0.70**	**51**	P	**Pg**	**06 05 53.5**	**-0.2**
	6.7nm,0.3s						
MTBS				S	**Sg**	**06 06 03.5**	**+0.7**
	8.6nm,0.3s						
AAK	**Ala-Archa**	**0.88**	**267**	⇑P	**Pg**	**06 05 56.8**	**-0.2**
	0.8nm,0.4s						
AAK				⇓S	**Sg**	**06 06 08.7**	**+0.3**
	2.9nm,0.6s						
SGDS	**Sogindy**	**1.08**	**315**	P	**Pg**	**06 06 00.8**	**-0.2**
	2.1nm,0.2s						
SGDS				S	**Sb**	**06 06 15.8**	**-0.7**
	1.6nm,0.3s						
KTBS	**Karatobe**	**1.25**	**35**	P	**Pg**	**06 06 04.0**	**-0.3**
	2.6nm,0.2s						
KTBS				S	**Sb**	**06 06 21.4**	**-0.1**
	3.4nm,0.2s						
KUU	**Kurty**	**1.29**	**22**	P	**Pg**	**06 06 04.1**	**-0.9**
	1.5nm,0.2s						
KUU				S	**Sg**	**06 06 21.6**	**-0.1**
	2.4nm,0.3s						
EKS2	**Erkin-Say**	**1.40**	**269**	P	**Pn**	**06 06 07.3**	**+0.1**
	SNR=21						
MRKS	**Merke**	**1.81**	**272**	P	**Pb**	**06 06 14.0**	**-0.3**
	5.6nm,0.3s						
MRKS				S	**Sg**	**06 06 38.5**	**+0.2**
	5.5nm,0.2s						

*IDC **28** 06:14:36.8±1.3, 0°.83N×122°.49E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/44, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=147.8km s-min=19.3km az=64.0*
*ISCJB **28** 06:14:50.1±0.8, 0°.46N±0°.09×121°.75E±0°.08, h131km±5km, mb3.5/4, Error ellipse: s-maj=16.9km s-min=10.1km az=40.5*
*DJA **28** 06:14:53.2±0.9, 0°N±4°×12°2E±°, h101km±8km, M3.1/6, MLv3.1/6*

ISC 28 06:14:51.1±1.0, 0°45N±0°.09×121°75E±0°.08, h126km±8km, n9, σ1§32/13, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.19**	**83**	P	**Pn**	**06 15 08.9**	**+0.6**
MRSI				S	**Sn**	**06 15 20.2**	**-1.1**
APSI	**Ampana**	**1.36**	**184**	P	**Pn**	**06 15 18.5**	**+1.2**
APSI				S	**Sn**	**06 15 38.0**	**+0.7**
LUWI	**Luwuk**	**1.80**	**145**	P	**Pn**	**06 15 23.4**	**+0.9**
LUWI				S	**Sn**	**06 15 46.8**	**+0.4**
MPSI	**Mapaga**	**1.85**	**266**	P	**Pn**	**06 15 23.7**	**+0.7**
MPSI				S	**Sn**	**06 15 46.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**18.83**	**168**	P	**Pn**	**06 19 01.0**	**-2.2**
	0.2nm,0.3s,baz=350,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**23.73**	**149**	P	**P**	**06 19 50.8**	**-1.2**
	1.0nm,0.5s,baz=327,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.73**	**155**	P	**P**	**06 20 18.3**	**-0.7**
	0.5nm,1.0s,baz=344,slow=12,SNR=4.6						
MKAR	**Makanchi Array**	**57.58**	**329**	P	**P**	**06 24 29.5**	**+1.7**
	0.6nm,0.3s,baz=123,slow=9.0,SNR=8.6						
KURBB	**Kurchatov Arra**	**61.95**	**330**	P	**P**	**06 24 58.1**	**+0.6**
	0.3nm,0.5s,baz=143,slow=7.1,SNR=2.9						

*IDC **28** 06:43:34.1±0.4, 56°.18S×142°.72W, h0km, mb4.7/16, mb1 4.8/16, mb1mx4.7/28, mbtmp4.6/16, MS5.0/29, Ms1 5.0/29, ms1mx4.9/37, Error ellipse: s-maj=20.7km s-min=13.4km az=179.0*

*ISCJB **28** 06:43:35.2±0.2, 56°.47S±0°.05×142°.55W±0°.06, h10km, mb4.9/34, MS5.1/39, Error ellipse: s-maj=6.9km s-min=4.7km az=11.6*
*NEIC **28** 06:43:37.4±3.0, 56°.4S±0°.1×142°.5W±0°.2, h10km±1km, mb5.5/60, Ms_20 5.4/304, Mwb5.6, Mwc5.6(GCMT), Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.23; Mθθ2.29; Mφφ-2.06; Mrθ-0.70; Mθφ1.49; Mφr-0.10; Fault plane solution: M₀2.74000×10¹⁷ NP1: φs207.02000°, δ79.10000°, λ173.18000°. NP2: φs298.31000°, δ83.31000°, λ10.98000°. Principal axes: T 2.9063, Plg12.0000°, Azm163.0000°; N -0.3796, Plg77.0000°, Azm329.0000°; P -2.5267, Plg3.0000°, Azm72.0000°;*
*MOS **28** 06:43:38.1±2.0, 56°.53S×141°.81W, h10km, mb5.3/22 Error ellipse: s-maj=20.9km s-min=12.9km az=85.9*
*NEIC **28** 06:43:39, 56°.58S×142°.69W, h15km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.24; Mθθ2.58; Mφφ-2.33; Mrθ0.35; Mθφ2.01; Mφr0.02; Fault plane solution: M₀3.20000×10¹⁷ NP1:φs25.00000°, δ85.00000°, λ178.00000°. NP2:φs115.00000°, δ88.00000°, λ5.00000°. Principal axes: T 3.3269, Plg5.0000°, Azm340.0000°; N -0.2736, Plg84.0000°, Azm140.0000°; P -3.0534, Plg2.0000°, Azm250.0000°;*
*GCMT **28** 06:43:39.4±0.1, 56°.58S±0°.01×142°.68W±0°.01, h13km, MW5.6/145, Moment Tensor Solution. s131,c215; s145,c262; Duration: 1§5 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.42±.03; Mθθ2.64±.04; Mφφ-2.22±.03; Mrθ0.37±.08; Mθφ1.89±.03; Mφr0.10±.07; Best double couple: M₀3.09800×10¹⁷ NP1:φs116.00000°, δ86.00000°, λ5.00000°. NP2:φs26.00000°, δ85.00000°, λ176.00000°. Principal axes: T 3.3280, Plg6.0000°, Azm341.0000°; N -0.4600, Plg84.0000°, Azm154.0000°; P -2.8690, Plg1.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 06:43:37.4±0.2, 56°38S±0°.06×142°52W±0°.06, h10km, n677, σ1§69/426, mb5.3/51, MS5.4/324, 5C-12D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**27.53**	**201**	P	**P**	**06 49 25.1**	**+1.5**
SBA				pmax	pmax		
	comp=Z,82nm,1.6s						
SBA	**Scott Base**	**27.53**	**201**	P	**P**	**06 49 25.1**	**+1.5**
SBA				IAmb	IAmb	06 49 44.7	
	comp=Z,82nm,1.6s						
SBA				IAMs_20	IAMs_20	06 57 08.9	
	comp=Z,6μm,19.0s						
VNDA	**Vanda**	**28.42**	**202**	P	**P**	**06 49 34.9**	**+3.3**
VNDA				pmax	pmax		
	comp=Z,24nm,1.5s						
VNDA	**Vanda**	**28.42**	**202**	P	**P**	**06 49 33.1**	**+1.5**
	comp=Z,2.1nm,1.0s,baz=66,slow=12,SNR=3.4						
VNDA				LR	LR	06 57 57.9	
	comp=Z,3μm,18.4s,baz=76,slow=30						
VNDA	**Vanda**	**28.42**	**202**	P	**P**	**06 49 34.9**	**+3.3**
PLWZ	**Palliser**	**30.86**	**281**	P	**P**	**06 49 53.3**	**-0.3**
MQZ	**McQueen's Vall**	**30.87**	**275**	P	**P**	**06 49 53.2**	**-0.4**
MQZ				IAmb	IAmb	06 49 55.0	
	comp=Z,188nm,1.9s						
MQZ				IAMs_20	IAMs_20	06 58 46.1	
	comp=Z,5μm,20.0s						
BFZ	**Birch Farm**	**30.93**	**283**	IAMs_20	IAMs_20	06 58 49.8	
	comp=Z,5μm,19.0s						
MSWZ	**Moikau Station**	**30.97**	**281**	P	**P**	**06 49 55.3**	**+0.8**
CRLZ	**Canterbury Las**	**30.98**	**275**	IAMs_20	IAMs_20	06 58 42.8	
	comp=Z,5μm,18.0s						
ODZ	**Otahua Downs**	**31.14**	**271**	IAMs_20	IAMs_20	06 58 57.2	
	comp=Z,8μm,20.0s						
BHW	**Baring Head**	**31.18**	**280**	P	**P**	**06 49 57.5**	**+1.1**
KHZ	**Kahutara**	**31.23**	**278**	IAMs_20	IAMs_20	06 58 20.6	
	comp=Z,5μm,20.0s						
SNZO	**South Karori**	**31.34**	**280**	IAMs_20	IAMs_20	06 59 00.5	
	comp=Z,6μm,21.0s						
OXZ	**Oxford**	**31.46**	**275**	IAMs_20	IAMs_20	06 59 04.6	
	comp=Z,4μm,19.0s						
LTZ	**Lake Taylor**	**31.69**	**276**	IAMs_20	IAMs_20	06 59 23.7	
	comp=Z,4μm,18.0s						
RPZ	**Rata Peaks**	**31.75**	**274**	LR	LR	06 59 27.4	
	comp=Z,6μm,21.5s,baz=126,slow=30						
RPZ	**Rata Peaks**	**31.75**	**274**	IAMs_20	IAMs_20	06 59 15.4	
	comp=Z,6μm,20.0s						
LBZ	**Lake Benmore**	**31.81**	**272**	IAMs_20	IAMs_20	06 59 48.9	
	comp=Z,7μm,19.0s						
THZ	**Tophouse**	**32.02**	**278**	IAMs_20	IAMs_20	07 00 18.4	
	comp=Z,4μm,19.0s						
MXZ	**Matakaoa Point**	**32.10**	**289**	IAMs_20	IAMs_20	06 59 05.6	
	comp=Z,3μm,18.0s						
WHZ	**Wether Hill Ro**	**32.12**	**268**	IAMs_20	IAMs_20	06 59 55.1	
	comp=Z,4μm,20.0s						
NNZ	**Nelson**	**32.13**	**279**	IAMs_20	IAMs_20	06 59 46.4	
	comp

PPT2 Papeete2 39.09 349 *e*P P 06 51 04.5 -0.2
comp=Z,61nm,1.4s
PPT2 *e*S S 06 57 04.8 +0.7
comp=Z,902nm,25.5s
PPT2 *e*LR LR 07 01 39.9
comp=Z,13µm,25.2s,baz=177
PPT2 Papeete2 39.09 349 *e*T T 07 32 04.9
comp=Z,31nm,0.3s
PPT Papeete 39.11 349 LR LR 07 03 49.7
comp=Z,4µm,18.3s,baz=186,slow=31
GO10 Punta Arenas 39.66 117 P P 06 51 09.9 +0.8
USHA Ushuaia 40.00 120 P P 06 51 12.5 +0.7
comp=Z,16nm,0.9s,baz=224,slow=9.8,SNR=5.4
GO09 Cerro Castillo 40.09 113 P P 06 51 13.3 +0.7
GO09 IAmb IAmb 06 51 19.7
comp=Z,442nm,1.9s
GO09 IAMs_20 IAMs_20 07 03 19.3
comp=Z,2µm,18.0s
TAU Tasmania Unive 45.37 256 IAMs_20 IAMs_20 07 05 47.4
comp=Z,5µm,21.0s
CASY Casey 46.02 213 P P 06 52 00.4 0.0
CASY IAmb IAmb 06 52 14.2
comp=Z,39nm,1.2s
CASY Casey 46.02 213 IAMs_20 IAMs_20 07 08 03.2
comp=Z,3µm,21.0s
EFI East Falkland 46.87 122 *i* P P 06 52 07.8 +0.6
EFI East Falkland 46.87 122 P P 06 52 08.6 +1.3
PLCA Paso Flores 47.86 103 *e*P P 06 52 15.3 +0.1
PLCA pmax pmax
comp=Z,16nm,1.0s
PLCA Paso Flores 47.86 103 P P 06 52 14.9 -0.3
comp=Z,16nm,1.0s,baz=247,slow=9.4,SNR=17
PLCA Paso Flores 47.86 103 *e*P P 06 52 13.8 -1.4
PLCA Paso Flores 47.86 103 *e*P P 06 52 13.8 -1.4
PLCA Paso Flores 47.86 103 P P 06 52 15.2 +0.1
PLCA IAmb IAmb 06 52 22.2
comp=Z,111nm,1.4s
AFI Afiamalu 47.95 320 LR LR 07 06 42.9
comp=Z,2µm,21.8s,baz=158,slow=29
AFI Afiamalu 47.95 320 IAMs_20 IAMs_20 07 06 42.6
comp=Z,3µm,18.0s
MSVF Nonsavu 48.62 306 IAMs_20 IAMs_20 07 07 39.6
comp=Z,3µm,22.0s
VNA2 Neumayer--Watz 49.06 162 P P 06 52 22.5 -1.5
baz=210,slow=7.1
SNAA Sanae 49.14 164 P P 06 52 23.5 -1.2
SNAA Sanae 49.14 164 *i* P P 06 52 22.1 -2.6
SNAA Sanae 49.14 164 P P 06 52 23.1 -1.6
SNAA IAmb IAmb 06 52 32.6
comp=Z,84nm,1.3s
SNAA IAMs_20 IAMs_20 07 14 10.2
comp=Z,2µm,18.0s
VNA1 Neumayer--Stat 49.15 162 P P 06 52 22.9 -1.7
CAN Canberra 49.82 265 IAMs_20 IAMs_20 07 08 56.5
comp=Z,3µm,20.0s
TOO Toolangi 50.11 260 P P 06 52 34.2 +1.7
TOO pmax pmax
comp=Z,62nm,1.4s
TOO Toolangi 50.11 260 P P 06 52 34.2 +1.7
TOO IAmb IAmb 06 52 35.2
comp=Z,62nm,1.4s
TOO IAMs_20 IAMs_20 07 08 18.2
comp=Z,3µm,21.0s
DZM Mont Dzumac 50.58 291 LR LR 07 10 45.9
comp=Z,1µm,18.6s,baz=170,slow=32
DZM Mont Dzumac 50.58 291 *e*P P 06 52 35.1 -1.2
comp=Z,72nm,1.7s
DZM *e*S S 06 59 51.0 +0.3
comp=Z,370nm,25.6s
DZM *e*LQ LQ 07 04 56.0
comp=Z,3µm,24.6s
DZM *e*LR LR 07 07 05.0
comp=Z,3µm,24.4s
DZM Mont Dzumac 50.58 291 P P 06 52 35.1 -1.2
DZM IAmb IAmb 06 52 37.5
comp=Z,95nm,1.8s
GO05 Huala 51.22 97 IAMs_20 IAMs_20 07 08 48.1
comp=Z,1µm,18.0s
NVL N'lazarevskaya 51.84 169 *e*P P 06 52 49.0 +4.1
NVL *e* 06 54 50.1
NVL *e*S S 07 00 03.2 -3.5
NVL pmax pmax
comp=Z,21nm,1.2s
NVL MLR MLR
comp=Z,2µm,14.0s
ARMA Armidale 52.03 271 P P 06 52 46.1 -0.9
ARMA IAMs_20 IAMs_20 07 10 28.1
comp=Z,3µm,20.0s
ROC1 El Roble 53.24 96 P P 06 52 55.5 -0.7
PEL Peldehue 53.30 96 P P 06 52 55.3 -1.1
PEL pmax pmax
comp=Z,172nm,1.3s
PEL Peldehue 53.30 96 P P 06 52 55.3 -1.1
PEL IAMs_20 IAMs_20 07 10 17.3
comp=Z,1µm,18.0s
HOPE Hope Point 54.33 136 P P 06 53 03.2 -0.3
HOPE pmax pmax
comp=Z,102nm,1.4s
HOPE Hope Point 54.33 136 P P 06 53 03.2 -0.3
HOPE IAmb IAmb 06 53 09.4
comp=Z,102nm,1.4s
HOPE Hope Point 54.33 136 IAMs_20 IAMs_20 07 13 25.3
comp=Z,3µm,19.0s
AAGR Agrelo 54.37 98 *e*P P 06 53 03.9 -0.4
TRQA Tornquist 54.39 107 P P 06 53 03.7 -0.5
TRQA pmax pmax
comp=Z,69nm,1.2s
TRQA Tornquist 54.39 107 *e*P P 06 53 03.3 -0.9
TRQA Tornquist 54.39 107 *e*P P 06 53 03.3 -0.9
TRQA Tornquist 54.39 107 P P 06 53 03.7 -0.5
TRQA IAmb IAmb 06 53 06.2
comp=Z,69nm,1.1s
TRQA IAMs_20 IAMs_20 07 12 15.3
comp=Z,1µm,19.0s
ARCO CERRO ARCO 54.49 97 *e*P P 06 53 04.6 -0.6
MAW Mawson 54.90 192 P P 06 53 07.3 -0.1
MAW pmax pmax
comp=Z,4.0nm,1.0s
MAW Mawson 54.90 192 P P 06 53 06.4 -1.0
comp=Z,12nm,1.0s,baz=203,slow=6.4,SNR=7.5
MAW LR LR 07 14 45.0
comp=Z,3µm,18.3s,baz=158,slow=34
MAW Mawson 54.90 192 P P 06 53 07.3 -0.1
MAW IAMs_20 IAMs_20 07 13 15.6
comp=Z,716nm,22.0s
SYO Syowa Base 54.91 181 ‖ *i*P P 06 53 04.4 -3.1
SYO Syowa Base 54.91 181 ‖ *i*pP P 06 53 07.0 -0.5
SYO Syowa Base 54.91 181 ‖ *i*sP sP 06 53 09.8 -0.8
RTLS Leoncito 55.08 96 *e*P P 06 53 09.1 -0.6
RTCV Cerro Valdivia 55.45 97 *e*P P 06 53 10.5 -1.6
GO04 Tololo Observa 55.48 94 P P 06 53 11.6 -0.9
ZON Zonda 55.61 96 *e*P P 06 53 12.3 -0.9
ACAN Cantantal 55.88 98 *e*P P 06 53 13.9 -1.2
RTLL Cerro Villicun 55.89 96 *e*P P 06 53 14.9 -0.3
EIDS Eidsvold 56.25 274 P P 06 53 16.5 -1.2
EIDS IAMs_20 IAMs_20 07 13 18.9
comp=Z,3µm,20.0s
FUNA Funafuti 56.34 313 P P 06 53 17.7 -0.7
STKA Stephens Creek 56.48 262 P P 06 53 18.2 -1.2
STKA pmax pmax
comp=Z,14nm,1.9s
STKA Stephens Creek 56.48 262 P P 06 53 18.5 -0.9
comp=Z,5.9nm,0.9s,baz=109,slow=8.5,SNR=5.6
STKA LR LR 07 13 27.8
comp=Z,3µm,19.7s,baz=130,slow=32
STKA Stephens Creek 56.48 262 P P 06 53 18.1 -1.2
STKA IAMs_20 IAMs_20 07 12 55.8
comp=Z,551nm,20.0s
MRA San Martin 56.58 99 *e*P P 06 53 18.8 -1.4
TCA Tanti 58.02 99 *e*P P 06 53 28.6 -1.7
TCA *e*P P 06 53 31.0 +0.6
VCA Vinchina 58.03 95 *e*P P 06 53 29.8 -0.7
BBOO Buckleboo 58.80 257 IAMs_20 IAMs_20 07 15 34.7
comp=Z,3µm,18.0s
CYA Choya 59.59 96 *e*P P 06 53 39.6 -1.6
PB14 IPOC Station P 60.01 90 *e*P P 06 53 44.9 +0.4
PB10 IPOC Station P 60.81 89 P P 06 53 49.3 -0.3
PB10 IAmb IAmb 06 53 54.6
comp=Z,31nm,1.1s
PB10 IPOC Station P 60.81 89 *e*P P 06 53 50.3 +0.7
AHML Horco Molle 61.13 96 *e*P P 06 53 50.5 -1.3
PB05 IPOC Station P 61.53 89 *e*P P 06 53 53.8 -0.8
PB04 IPOC Station P 61.97 89 P P 06 53 56.6 -1.1
PB04 IAMs_20 IAMs_20 07 13 27.1
comp=Z,933nm,19.0s

PB06 IPOC Station P 62.00 89 *e*P P 06 53 58.0 +0.2
PB03 IPOC Station P 62.42 89 *e*P P 06 53 59.6 -1.0
LVC Limon Verde 62.44 90 P P 06 54 00.0 -1.0
LVC pmax pmax
comp=Z,113nm,1.4s
LVC Limon Verde 62.44 90 *e*P P 06 54 00.0 -1.0
LVC Limon Verde 62.44 90 *e*P P 06 54 00.0 -1.0
LVC Limon Verde 62.44 90 P P 06 53 60.0 -1.0
LVC Limon Verde 62.44 90 IAMs_20 IAMs_20 07 13 02.4
comp=Z,575nm,21.0s
LVC Limon Verde 62.44 90 *e*P P 06 54 00.3 -0.7
PB09 IPOC Station P 62.90 89 *e*P P 06 54 05.0 +1.1
CTA Charters Tower 63.13 274 P P 06 54 05.1 -0.1
CTA pmax pmax
comp=Z,16nm,0.9s
CTA Charters Tower 63.13 274 LR LR 07 18 02.6
comp=Z,1µm,19.1s,baz=134,slow=33
CTAO Charters Tower 63.13 274 P P 06 54 05.1 -0.1
CTAO pmax pmax
comp=Z,15nm,1.5s
CTAO Charters Tower 63.13 274 IAMs_20 IAMs_20 07 17 41.1
comp=Z,1µm,20.0s
HJA Humahuaca 63.91 93 *e*P P 06 54 10.4 -0.5
PSGCX Pisagua 64.17 87 *e*P P 06 54 12.4 +0.2
PB08 IPOC Station P 64.28 88 *e*P P 06 54 14.3 +1.0
PB11 IPOC Station P 64.30 87 P P 06 54 11.8 -1.3
PB11 IAMs_20 IAMs_20 07 14 55.9
comp=Z,1µm,22.0s
FORT Forrest 64.66 252 IAMs_20 IAMs_20 07 15 51.7
comp=Z,2µm,22.0s
YJA Yavi 64.67 92 *e*P P 06 54 14.3 -1.6
MNMC Minye Minye 64.84 87 P P 06 54 16.3 -0.5
MNMC IAMs_20 IAMs_20 07 15 13.2
comp=Z,1µm,22.0s
CPUP Villa Florida 65.89 102 P P 06 54 21.6 -1.6
CPUP pmax pmax
comp=Z,114nm,1.6s
CPUP Villa Florida 65.89 102 P P 06 54 22.1 -1.1
comp=Z,20nm,1.1s,baz=234,slow=6.9,SNR=25
CPUP LR LR 07 18 56.6
comp=Z,933nm,18.2s,baz=219,slow=32
CPUP Villa Florida 65.89 102 P P 06 54 21.6 -1.6
NNA Nana 66.70 76 *i* P P 06 54 28.0 -0.5
NNA pmax pmax
comp=Z,166nm,1.3s
NNA Nana 66.70 76 P P 06 54 29.4 +0.9
NNA Nana 66.70 76 IAMs_20 IAMs_20 07 15 59.5
comp=Z,4µm,21.0s
CNLB Canela 67.01 109 *e*P P 06 54 29.9 -0.5
CNLB Canela 67.01 109 *e*P P 06 54 29.9 -0.5
AS31 Alice Springs 67.12 261 P P 06 54 30.0 -1.2
AS31 IAMs_20 IAMs_20 07 19 33.6
comp=Z,36nm,19.0s
ASAR Alice Springs 67.12 261 P P 06 54 28.4 -2.8
comp=Z,7.2nm,0.9s,baz=142,slow=6.3,SNR=41
ASAR LR LR 07 19 30.3
comp=Z,2µm,21.1s,baz=150,slow=32
LPAZ La Paz 67.95 86 *e*P P 06 54 37.1 -0.1
LPAZ pmax pmax
comp=Z,38nm,1.1s
LPAZ La Paz 67.95 86 P P 06 54 35.6 -1.6
comp=Z,38nm,1.1s,baz=210,slow=3.4,SNR=41
LPAZ LR LR 07 17 21.3
comp=Z,1µm,21.6s,baz=204,slow=30
LPAZ La Paz 67.95 86 *e*P P 06 54 36.4 -0.8
LPAZ La Paz 67.95 86 *e*P P 06 54 36.4 -0.8
LPAZ La Paz 67.95 86 P P 06 54 36.9 -0.3
ITAB Concordia 67.98 106 *e*P P 06 54 35.6 -0.9
ITAB Concordia 67.98 106 *e*P P 06 54 35.6 -0.9
H01W1 Cape Leeuwin H 68.41 239 T T 08 09 47.3
baz=143,slow=76,SNR=3086
H01W2 Cape Leeuwin H 68.42 239 T T 08 09 44.2
baz=143,slow=76,SNR=3203
H01W3 Cape Leeuwin H 68.43 239 T T 08 09 48.5
baz=143,slow=76,SNR=2436
WR0 Warramunga Arr 69.74 264 P P 06 54 46.9 -0.6
WR0 IAmb IAmb 06 54 58.7
comp=Z,44nm,1.3s
WR0 IAMs_20 IAMs_20 07 22 51.9
comp=Z,1µm,18.0s
WR9 Warramunga Arr 69.75 264 IAMs_20 IAMs_20 07 23 00.4
comp=Z,1µm,18.0s
WR8 Warramunga Arr 69.76 264 IAMs_20 IAMs_20 07 23 53.6
comp=Z,1µm,18.0s
WR7 Warramunga Arr 69.78 264 IAMs_20 IAMs_20 07 23 12.0
comp=Z,1µm,18.0s
COEN Coen 69.80 275 IAMs_20 IAMs_20 07 23 22.0
comp=Z,2µm,18.0s
WR4 Warramunga Arr 69.82 264 IAMs_20 IAMs_20 07 19 08.0
comp=Z,1µm,21.0s
WC3 Warramunga Arr 69.83 264 IAMs_20 IAMs_20 07 19 56.4
comp=Z,1µm,22.0s
WR3 Warramunga Arr 69.83 264 IAMs_20 IAMs_20 07 19 56.4
comp=Z,1µm,22.0s
WB1 Warramunga Ar. 69.84 264 IAMs_20 IAMs_20 07 21 30.8
comp=Z,1µm,18.0s
WR2 Warramunga Arr 69.84 264 IAMs_20 IAMs_20 07 21 01.8
comp=Z,1µm,20.0s
WRA Warramunga Arr 69.86 264 P P 06 54 45.8 -2.5
comp=Z,5.6nm,0.9s,baz=146,slow=5.7,SNR=19
WRA LR LR 07 21 03.5
comp=Z,910nm,20.6s,baz=135,slow=32
WRAB Tennant Creek 69.86 264 *i* P P 06 54 47.5 -0.8
WRAB pmax pmax
comp=Z,15nm,0.9s
WRAB Tennant Creek 69.86 264 IAMs_20 IAMs_20 07 21 02.1
comp=Z,1µm,20.0s
WB3 Warramunga Arr 69.87 264 IAMs_20 IAMs_20 07 21 02.9
comp=Z,1µm,20.0s
WC1 Warramunga Arr 69.88 264 IAMs_20 IAMs_20 07 26 57.8
comp=Z,2µm,21.0s
WB4 Warramunga Arr 69.88 264 IAMs_20 IAMs_20 07 21 03.1
comp=Z,1µm,20.0s
WB5 Warramunga Arr 69.90 264 IAMs_20 IAMs_20 07 19 59.2
comp=Z,1µm,22.0s
WB7 Warramunga Arr 69.92 264 IAMs_20 IAMs_20 07 23 50.0
comp=Z,1µm,18.0s
WB8 Warramunga Arr 69.94 264 IAMs_20 IAMs_20 07 24 16.4
comp=Z,1µm,18.0s
WB9 Warramunga Arr 69.96 264 IAMs_20 IAMs_20 07 23 59.8
comp=Z,1µm,18.0s
PMG Port Moresby 71.35 281 IAMs_20 IAMs_20 07 20 22.2
comp=Z,1µm,21.0s
AQDB Aqidauana 71.47 99 *e*P P 06 54 56.8 -1.3
AQDB Aquidauana 71.47 99 *e*P P 06 54 56.8 -1.3
MORW Morawa 72.23 244 P P 06 55 01.3 -1.3
MORW IAmb IAmb 06 55 15.8
comp=Z,52nm,1.5s
MORW IAMs_20 IAMs_20 07 19 07.9
comp=Z,1µm,21.0s
FRTB Fartura 72.48 106 *e*P P 06 55 04.0 -0.2
FRTB Fartura 72.48 106 *e*P P 06 55 04.0 -0.2
VAO Valinhos 74.14 108 *e*P P 06 55 13.9 -0.1
VAO Valinhos 74.14 108 *e*P P 06 55 13.9 -0.1
RCLB Rio Claro- Sao 74.32 107 *e*P P 06 55 15.4 +0.4
RCLB Rio Claro- Sao 74.32 107 *e*P P 06 55 15.4 +0.4
C2SB Chapadao do Su 74.42 100 *e*P P 06 55 15.9 +0.4
C2SB Chapadao do Su 74.42 100 *e*P P 06 55 15.9 +0.4
BB19B Bebedouro 74.89 105 *e*P P 06 55 18.6 +0.3
BB19B Bebedouro 74.89 105 *e*P P 06 55 18.6 +0.3
ITRB Iturama 75.00 103 *e*P P 06 55 18.1 -0.8
ITRB Iturama 75.00 103 *e*P P 06 55 18.1 -0.8
SALV Santo Antonio 75.17 96 *e*P P 06 55 19.9 -0.1
SALV Santo Antonio 75.17 96 *e*P P 06 55 19.9 -0.1
OTAV Otavalo 76.13 68 P P 06 55 25.8 -0.2
OTAV pmax pmax
comp=Z,81nm,1.5s
OTAV Otavalo 76.13 68 *e*P P 06 55 26.1 +0.2
OTAV Otavalo 76.13 68 *e*P P 06 55 26.1 +0.2
OTAV Otavalo 76.13 68 P P 06 55 25.8 -0.2
OTAV IAmb IAmb 06 55 39.6
comp=Z,81nm,1.4s
OTAV Otavalo 76.13 68 IAMs_20 IAMs_20 07 20 48.1
comp=Z,540nm,19.0s
FITZ Fitzroy Crossi 76.13 258 P P 06 55 22.4 -3.1
comp=Z,8.2nm,0.9s,baz=129,slow=6.5,SNR=3.3
FITZ LR LR 07 24 48.4
comp=Z,3µm,21.0s,baz=144,slow=32
FITZ Fitzroy Crossi 76.13 258 P P 06 55 25.1 -0.4
PSAC3 Pilbara Seismi 76.38 252 IAMs_20 IAMs_20 07 29 40.0
comp=Z,2µm,19.0s
KNRA Kununurra 76.40 262 IAMs_20 IAMs_20 07 25 16.4
comp=Z,2µm,20.0s
PSA00 Pilbara Seismi 76.41 252 IAMs_20 IAMs_20 07 29 15.8
comp=Z,2µm,18.0s

PSAB2 Pilbara Seismi 76.41 252 IAMs_20 IAMs_20 07 29 59.0
comp=Z,3µm,18.0s
PSAA2 Pilbara Seismi 76.41 252 IAMs_20 IAMs_20 07 27 31.0
comp=Z,3µm,20.0s
PSAC1 Pilbara Seismi 76.46 252 IAMs_20 IAMs_20 07 29 27.2
comp=Z,2µm,19.0s
SAML Samuel 76.70 86 P P 06 55 26.8 -1.9
SAML pmax pmax
comp=Z,82nm,1.5s
SAML Samuel 76.70 86 *e*P P 06 55 27.1 -1.6
SAML Samuel 76.70 86 *e*P P 06 55 27.1 -1.6
SAML Samuel 76.70 86 P P 06 55 26.8 -1.9
SAML IAmb IAmb 06 55 33.5
comp=Z,82nm,1.4s
SAML Samuel 76.70 86 IAMs_20 IAMs_20 07 23 33.4
comp=Z,738nm,18.0s
MBWA Marble Bar 76.81 252 IAMs_20 IAMs_20 07 28 00.4
comp=Z,2µm,18.0s
MTN Manton Dam 77.40 266 IAMs_20 IAMs_20 07 27 06.0
comp=Z,2µm,19.0s
ARAG Araguaiana, MT 77.47 99 *e*P P 06 55 32.3 -0.7
ARAG Araguaiana, MT 77.47 99 *e*P P 06 55 32.3 -0.7
IPMB Ipameri, GO 77.57 104 *e*P P 06 55 32.6 -1.1
IPMB Ipameri, GO 77.57 104 *e*P P 06 55 32.6 -1.1
GIRL Giralia 78.44 247 IAMs_20 IAMs_20 07 23 47.4
comp=Z,2µm,20.0s
BDFB Brasilia 79.60 102 P P 06 55 43.9 -1.0
BDFB pmax pmax
comp=Z,42nm,1.3s
BDFB Brasilia 79.60 102 P P 06 55 43.2 -1.7
comp=Z,11nm,1.1s,baz=189,slow=4.6,SNR=9.6
BDFB LR LR 07 27 46.1
comp=Z,1µm,18.1s,baz=213,slow=33
BDFB Brasilia 79.60 102 P P 06 55 43.9 -1.0
BDFB IAmb IAmb 06 55 49.6
comp=Z,42nm,1.3s
BDFB IAMs_20 IAMs_20 07 28 43.2
comp=Z,1µm,18.0s
BSFB Barra de Sao F 80.79 110 *e*P P 06 55 51.0 -0.2
BSFB Barra de Sao F 80.79 110 *e*P P 06 55 51.0 -0.2
ORTC Ortega, Tolima 80.91 69 *e*P P 06 55 51.5 -0.3
ORTC Ortega, Tolima 80.91 69 *e*P P 06 55 51.5 -0.3
PLMC San Jos del P 81.22 67 *e*P P 06 55 52.8 -0.7
PLMC San Jos del P 81.22 67 *e*P P 06 55 52.8 -0.7
SAUI Saumlaki 81.29 269 IAMs_20 IAMs_20 07 31 09.3
comp=Z,3µm,19.0s
JTS Las Juntas de 81.60 57 *i* P P 06 55 55.6 +0.2
JTS pmax pmax
comp=Z,16nm,1.0s
JTS Las Juntas de 81.60 57 LR LR 07 22 32.7
comp=Z,225nm,19.3s,baz=292,slow=29
JTS Las Juntas de 81.60 57 P P 06 55 55.7 +0.3
JTS Las Juntas de 81.60 57 IAMs_20 IAMs_20 07 23 59.6
comp=Z,2µm,20.0s
RREF El Recreo 81.69 68 *e*P P 06 55 57.5 +0.8
RREF El Recreo 81.69 68 *e*P P 06 55 57.5 +0.8
HDC Heredia 81.74 58 IAMs_20 IAMs_20 07 23 52.4
comp=Z,2µm,22.0s
GUY2C Guyana, Caldas 81.96 68 *e*P P 06 55 58.1 +0.2
GUY2C Guyana, Caldas 81.96 68 *e*P P 06 55 58.1 +0.2
CBOC Ciudad Bolivar 82.17 67 *e*P P 06 55 58.8 +0.2
CBOC Ciudad Bolivar 82.17 67 *e*P P 06 55 58.8 +0.2
ROSC El Rosal 82.17 69 P P 06 55 58.6 -0.3
comp=Z,6.9nm,0.5s,baz=123,slow=5.1,SNR=9.4
ROSC LR LR 07 26 24.1
comp=Z,1µm,18.8s,baz=228,slow=31
ROSC El Rosal 82.17 69 P P 06 55 59.3 +0.4
ROSC IAmb IAmb 06 56 05.5
comp=Z,26nm,1.1s
ROSC IAMs_20 IAMs_20 07 25 12.2
comp=Z,837nm,22.0s
CHIC Chingaza 82.30 70 *e*P P 06 55 59.5 -0.2
CHIC Chingaza 82.30 70 *e*P P 06 55 59.5 -0.2
NORC Norcasia 82.50 68 *e*P P 06 55 54.8 -5.4
NORC Norcasia 82.50 68 *e*P P 06 55 54.8 -5.4
SNET Serv Nac Est T 82.66 52 IAMs_20 IAMs_20 07 23 11.8
comp=Z,420nm,22.0s
PTGC Puerto Gaitan, 82.78 71 *e*P P 06 55 59.5 -2.1
PTGC Puerto Gaitan, 82.78 71 *e*P P 06 55 59.5 -2.1
BCIP Isla Barro Col 83.08 62 IAMs_20 IAMs_20 07 24 00.6
comp=Z,2µm,21.0s
APG El Apazote 83.30 50 LR LR 07 25 57.7
comp=Z,138nm,19.8s,baz=216,slow=31
CMIG Matias Romero 83.36 45 LR LR 07 26 13.9
comp=Z,122nm,19.6s,baz=187,slow=31
PTBC PUERTO BERRIO, 83.55 68 *e*P P 06 56 00.8 -4.8
PTBC PUERTO BERRIO, 83.55 68 *e*P P 06 56 00.8 -4.8
ESPN Las Esperanzas 83.57 57 P P 06 56 06.9 +1.3
ESPN IAMs_20 IAMs_20 07 26 51.8
comp=Z,667nm,19.0s
RUSC La Rusia 83.71 70 *e*P P 06 56 04.8 -2.2
RUSC La Rusia 83.71 70 *e*P P 06 56 04.8 -2.2
SOEI Soe 83.73 262 IAMs_20 IAMs_20 07 31 17.7
comp=Z,3µm,19.0s
TGUH Tegucigalpa,Un 83.85 53 P P 06 56 07.3 +0.1
TGUH IAmb IAmb 06 56 19.7
comp=Z,39nm,1.0s
TGUH IAMs_20 IAMs_20 07 24 26.3
comp=Z,512nm,22.0s
UREC San Jos de Ur 84.03 67 *e*P P 06 56 07.4 -0.6
UREC San Jos de Ur 84.03 67 *e*P P 06 56 07.4 -0.6
ZARC Zaragoza, Cauc 84.15 67 *e*P P 06 56 06.1 -2.5
ZARC Zaragoza, Cauc 84.15 67 *e*P P 06 56 06.1 -2.5
FAKI Fak Fak 84.94 272 IAMs_20 IAMs_20 07 32 04.0
comp=Z,2µm,20.0s
MMRI Maumere 85.77 261 IAMs_20 IAMs_20 07 32 10.7
comp=Z,1µm,20.0s
SRIG Santa Rosalia 87.25 27 IAMs_20 IAMs_20 07 26 08.6
comp=Z,1µm,20.0s
SDV Santo Domingo 87.52 70 LR LR 07 30 27.4
comp=Z,951nm,19.0s,baz=204,slow=32
SDV Santo Domingo 87.52 70 *e*P P 06 56 25.8 +0.2
SDV Santo Domingo 87.52 70 *e*P P 06 56 25.8 +0.2
SDV Santo Domingo 87.52 70 P P 06 56 24.1 -1.5
SDV IAmb IAmb 06 57 10.7
comp=Z,36nm,1.8s
SDV Santo Domingo 87.52 70 IAMs_20 IAMs_20 07 30 25.5
comp=Z,1µm,20.0s
HSIG 89.20 27 P P 06 56 35.4 +2.5
HSIG IAmb IAmb 06 56 39.2
comp=Z,20nm,1.2s
HSIG IAMs_20 IAMs_20 07 27 11.2
comp=Z,1µm,20.0s
JAGI Jajag, Banyuwa 90.30 254 IAMs_20 IAMs_20 07 33 25.1
comp=Z,918nm,20.0s
SNCC San Nicolas Is 91.40 19 IAMs_20 IAMs_20 07 26 44.4
comp=Z,2µm,20.0s
BAR Barrett 91.40 22 P P 06 56 42.9 -0.2
BAR IAmb IAmb 06 56 50.2
comp=Z,29nm,1.6s
BAR IAMs_20 IAMs_20 07 27 46.5
comp=Z,2µm,19.0s
TXAR Lajitas Array 91.54 33 P P 06 56 41.9 -2.0
comp=Z,1.3nm,1.1s,baz=195,slow=6.5,SNR=4.6
TXAR LR LR 07 29 54.7
comp=Z,200nm,20.0s,baz=0.0,slow=30
214A Organ Pipe Nat 91.55 25 P P 06 56 47.5 +3.7
214A IAmb IAmb 06 56 51.4
comp=Z,30nm,1.3s
214A IAMs_20 IAMs_20 07 27 53.5
comp=Z,1µm,21.0s
LUWI Luwuk 91.75 266 IAMs_20 IAMs_20 07 36 28.5
comp=Z,793nm,19.0s
PCRV Puerto La Cruz 91.78 74 LR LR 07 33 02.6
comp=Z,3µm,18.3s,slow=32
113A Mohawk Valley, 92.11 24 P P 06 56 49.5 +3.1
113A IAmb IAmb 06 56 53.6
comp=Z,34nm,1.6s
113A IAMs_20 IAMs_20 07 28 27.3
comp=Z,1µm,20.0s
PFO Pinyon Flats O 92.34 22 *i* P P 06 56 48.5 +0.9
PFO pmax pmax
comp=Z,12nm,1.3s
PFO Pinyon Flats O 92.34 22 P P 06 56 47.6 0.0
PFO Pinyon Flats O 92.34 22 IAMs_20 IAMs_20 07 29 35.5
comp=Z,2µm,19.0s
XPFO Pion Flat 92.34 22 P P 06 56 47.5 -0.1
XPFO Pion Flat 92.34 22 IAMs_20 IAMs_20 07 29 46.5
comp=Z,2µm,20.0s
TUC Tucson 92.38 26 P P 06 56 51.1 +3.4
TUC pmax pmax
comp=Z,18nm,1.3s
TUC Tucson 92.38 26 P P 06 56 51.1 +3.4
TUC IAmb IAmb 06 56 55.0
comp=Z,18nm,1.2s

Y12C	Blythe	92.89	23	P	P	06 56 53.4	+3.5	PLID	Pearl Lake	103.53	19
Y12C	comp=Z,21nm,1.4s			IAmb	IAmb	06 56 57.2			comp=Z,757nm,18.0s		
Y12C	comp=Z,1µm,19.0s			IAMs_20	IAMs_20	07 29 04.9		H17A	Grant Village	103.95	23
MNTX	Cornudas Mount	93.25	31	P	P	06 56 51.8	+0.1		comp=Z,1µm,19.0s		
MNTX	comp=Z,983nm,19.0s			IAMs_20	IAMs_20	07 30 06.0		LKWY	Lake	104.15	23
121A	Cookes Peak, D	93.36	29	IAMs_20	IAMs_20	07 28 40.5			comp=Z,1µm,19.0s		
	comp=Z,1µm,20.0s							F10A	Beach Ranch, E	104.17	18
Y14A	Wickenburg	93.41	24	IAMs_20	IAMs_20	07 29 37.6			comp=Z,1µm,19.0s		
	comp=Z,1µm,20.0s							LON	Longmire	104.22	15
JCT	Junction City	93.82	36	P	P	06 56 57.7	+3.3		comp=Z,1µm,20.0s		
JCT	Junction City	93.82	36	P	P	06 56 57.7	+3.3	ABPO	Ambohimpanom	104.44	190
GSC	Goldstone, Bar	93.91	21	P	P	06 56 53.6	-1.1		comp=Z,3µm,20.0s		
GSC	comp=Z,10.0nm,1.5s			pmax	pmax			BKNI	Bangkinang	104.61	248
GSC	Goldstone, Bar	93.91	21	P	P	06 56 53.6	-1.1		comp=Z,572nm,20.0s		
GSC	comp=Z,2µm,22.0s			IAMs_20	IAMs_20	07 28 27.9		LTY	Liberty	104.88	15
ISA	Isabella, Lake	93.94	19	P	P	06 56 57.9	+3.1		comp=Z,1µm,21.0s		
ISA	comp=Z,6.0nm,1.3s			pmax	pmax			Y59A	Loris	104.91	50
ISA	Isabella, Lake	93.94	19	P	P	06 56 57.9	+3.1		comp=Z,801nm,19.0s		
ISA	comp=Z,2µm,21.0s			IAMs_20	IAMs_20	07 28 49.7		MSO	Missoula	105.59	20
X16A	Lo Mia Camp, P	94.23	25	IAMs_20	IAMs_20	07 29 26.4			comp=Z,2µm,20.0s		
	comp=Z,1µm,21.0s							C09A	Chrisman Ranch	105.78	17
RCBR	Riachuelo	94.27	107	IAMs_20	IAMs_20	07 36 51.3			comp=Z,1µm,22.0s		
	comp=Z,723nm,19.0s							B08A	Colville Reser	106.15	16
W13A	Hualapai Mount	94.32	23	P	P	06 56 59.1	+2.3		comp=Z,2µm,18.0s		
CISI	Cisompet, Garu	94.42	249	IAMs_20	IAMs_20	07 35 30.9		SUSD	Miller	106.93	31
	comp=Z,658nm,20.0s								comp=Z,816nm,21.0s		
GTBY	Guantanamo Bay	94.62	61	IAMs_20	IAMs_20	07 30 01.5		ECSD	EROS Data Cent	106.97	33
	comp=Z,1µm,22.0s								comp=Z,1µm,20.0s		
X18A	Snowflake	94.70	26	IAMs_20	IAMs_20	07 31 04.8		V60A	Jim Taylor Roa	107.11	51
	comp=Z,988nm,18.0s								comp=Z,1µm,19.0s		
BOSA	Boshof	94.70	169	LR	LR	07 38 08.5		RPSI	Rantau Prapat	107.72	247
	comp=Z,2µm,18.4s,baz=188,slow=34								comp=Z,798nm,21.0s		
BKB	Balikpapan	94.81	260	IAMs_20	IAMs_20	07 38 45.7		T59A	Double "B" Far	108.01	50
	comp=Z,1µm,18.0s								comp=Z,827nm,19.0s		
435B	Jarrell	94.84	38	IAMs_20	IAMs_20	07 31 30.7		IPM	Ipoh	108.15	250
	comp=Z,495nm,18.0s								comp=Z,712nm,21.0s		
Y22D	IRIS PASSCAL I	95.05	29	IAMs_20	IAMs_20	07 29 46.2		LSZ	Lusaka	108.19	171
	comp=Z,1µm,20.0s								comp=Z,3µm,19.0s		
WUAZ	Wupatki	95.30	25	IAMs_20	IAMs_20	07 30 18.6		KULM	Kulim	109.03	250
	comp=Z,1µm,21.0s								comp=Z,577nm,20.0s		
SHPR	Sheep Range	95.41	22	IAMs_20	IAMs_20	07 30 02.5		AGMN	Agassiz Nation	111.33	31
	comp=Z,2µm,22.0s								comp=Z,951nm,20.0s		
TPNV	Topopah Spring	95.61	21	IAMs_20	IAMs_20	07 30 33.0		SII	Sitkinak Islan	112.98	353
	comp=Z,2µm,18.0s								comp=Z,4µm,19.0s		
SDDR	Presa de Saban	95.70	64	IAMs_20	IAMs_20	07 34 22.1		OHAK	Old Harbor	113.58	354
	comp=Z,602nm,20.0s								comp=Z,4µm,20.0s		
OMMB	Old Mammoth Mi	95.74	19	IAMs_20	IAMs_20	07 31 47.4		KDAK	Kodiak Island	114.10	354
	comp=Z,2µm,18.0s								comp=Z,4µm,20.0s		
MDPB	Devils Postpil	95.75	19	IAMs_20	IAMs_20	07 32 04.5		BESE	Bessie Mountai	114.78	4
	comp=Z,1µm,18.0s								comp=Z,2µm,21.0s		
ABTX	Abilene, Hawle	95.85	35	IAMs_20	IAMs_20	07 31 34.1		ACCN	Adirondack Com	114.99	49
	comp=Z,689nm,18.0s								comp=Z,790nm,19.0s		
CMB	Columbia Colle	95.92	17	IAMs_20	IAMs_20	07 33 03.0		DHAK	Deception Hill	115.18	2
	comp=Z,1µm,18.0s								comp=Z,2µm,19.0s		
SDD	Santo Domingo	95.95	66	IAMs_20	IAMs_20	07 31 00.2		QIZ	Qiongzhong	115.39	266
	comp=Z,1µm,20.0s							QIZ			
U15A	North Rim	95.95	24	P	P	06 57 05.0	+0.7	QIZ			
U15A	comp=Z,984nm,20.0s			IAMs_20	IAMs_20	07 30 57.1			comp=Z,400nm,23.5s		
ANMO	Albuquerque	96.00	29	*i* P	P	06 57 05.5	+1.1	FFC	Flin Flon	115.58	25
ANMO	Albuquerque	96.00	29	P	P	06 57 04.4	0.0		comp=Z,1µm,20.0s		
ANMO	comp=Z,16nm,1.8s			IAmb	IAmb	06 57 14.8		HOM	Homer	115.92	355
ANMO	Albuquerque	96.00	29	IAMs_20	IAMs_20	07 30 05.3			comp=Z,3µm,19.0s		
	comp=Z,928nm,22.0s							BRLK	Bradley Lake	115.99	355
MSTX	Muleshoe	96.13	32	IAMs_20	IAMs_20	07 31 39.4			comp=Z,2µm,19.0s		
	comp=Z,990nm,20.0s							MESA	MESA	116.22	0
SVB	Belmont	96.17	75	IAMs_20	IAMs_20	07 35 29.6			comp=Z,2µm,19.0s		
	comp=Z,2µm,20.0s							SEW	Seward	116.27	356
WAKR	Walker	96.53	18	IAMs_20	IAMs_20	07 29 51.4			comp=Z,3µm,20.0s		
	comp=Z,2µm,21.0s							HMT	Hamilton	116.38	359
NVAR	Mina Array Bea	96.66	19	P	P	06 57 06.6	-0.8		comp=Z,2µm,18.0s		
	comp=Z,0.1nm,0.4s,baz=183,slow=6.3,SNR=2.0							RAGM	Ragged Mountai	116.44	359
NVAR				PP	PP	07 00 59.9	-2.7		comp=Z,4µm,18.0s		
	comp=Z,0.1nm,0.3s,baz=196,slow=9.2,SNR=2.7							HIN	Hinchinbrook I	116.48	358
NVAR				LR	LR	07 30 48.4			comp=Z,2µm,19.0s		
	comp=Z,1µm,21.3s,baz=186,slow=29							WAX	Waxell Ridge	116.49	360
NV11	Mina Array Sit	96.69	19	IAMs_20	IAMs_20	07 30 24.5			comp=Z,2µm,18.0s		
	comp=Z,2µm,19.0s							EYAK	Cordova Ski Ar	116.62	358
AFDM	Forest Hills D	96.71	17	IAMs_20	IAMs_20	07 30 33.0			comp=Z,2µm,20.0s		
	comp=Z,1µm,18.0s							TGL	Tana Glacier	116.80	360
RYN	Ryan	96.81	19	IAMs_20	IAMs_20	07 32 33.8			comp=Z,2µm,18.0s		
	comp=Z,1µm,18.0s							CRQM	Cirque	116.80	360
DAV	Davao City (W)	96.89	272	LR	LR	07 38 32.3			comp=Z,2µm,18.0s		
	comp=Z,434nm,20.5s,baz=156,slow=34							FID	Port Fidalgo	116.83	358
YERR	Yerington	97.04	18	IAMs_20	IAMs_20	07 30 18.7			comp=Z,2µm,19.0s		
	comp=Z,2µm,20.0s							WHY	Whitehorse	116.86	4
R11A	Troy Canyon, C	97.10	21	IAMs_20	IAMs_20	07 30 20.4			comp=Z,2µm,20.0s		
	comp=Z,1µm,21.0s							GLI	Glacier Island	116.98	357
KVN	Kaiserville	97.30	19	IAMs_20	IAMs_20	07 31 06.6			comp=Z,2µm,21.0s		
	comp=Z,1µm,20.0s							CTGM	Chitina Glacie	117.01	1
AMTX	Amarillo	97.31	33	IAMs_20	IAMs_20	07 34 10.6			comp=Z,2µm,21.0s		
	comp=Z,708nm,20.0s							BALM	Baldy	117.08	0
FDF	Fort de France	97.43	75	IAMs_20	IAMs_20	07 36 55.3			comp=Z,2µm,18.0s		
	comp=Z,2µm,18.0s							RC01	Rabbit Creek A	117.27	356
SJG	San Juan	97.59	69	LR	LR	07 37 45.5			comp=Z,2µm,19.0s		
	comp=Z,366nm,18.2s,baz=230,slow=33							VRDI	Verde Repeater	117.27	359
PSUT	Pine Spring	97.63	22	P	Pdif	06 57 13.3	+1.5		comp=Z,1µm,21.0s		
BEKR	Beckworth	97.71	17	IAMs_20	IAMs_20	07 32 12.4		MCARA	McCarthy VSAT	117.43	360
	comp=Z,1µm,19.0s								comp=Z,1µm,22.0s		
PAHR	Pah Rah Range	97.71	18	IAMs_20	IAMs_20	07 30 59.7		GLB	Gilahina Butte	117.49	359
	comp=Z,1µm,20.0s								comp=Z,2µm,18.0s		
WDC	Whiskeytown Da	98.07	15	IAMs_20	IAMs_20	07 30 52.0		KNK	Knik Glacier	117.55	357
	comp=Z,2µm,22.0s								comp=Z,2µm,21.0s		
WMOK	Wichita Mounta	98.08	35	IAMs_20	IAMs_20	07 33 11.9		SVW2	Sparrevohn	117.59	353
	comp=Z,478nm,19.0s								comp=Z,2µm,20.0s		
X34A	Smith Ranch, M	98.25	36	IAMs_20	IAMs_20	07 33 24.7		SUA	Susitna One	117.69	356
	comp=Z,770nm,18.0s								comp=Z,3µm,21.0s		
S22A	4UR Ranch, Cre	98.54	28	IAMs_20	IAMs_20	07 33 16.5		PMR	Palmer	117.75	356
	comp=Z,1µm,18.0s								comp=Z,2µm,21.0s		
BMN	Battle Mountai	98.80	19	IAMs_20	IAMs_20	07 31 35.4		GHO	Glory Hole Cre	117.92	357
	comp=Z,2µm,21.0s								comp=Z,2µm,21.0s		
KRMB	Red Mountain	98.80	14	IAMs_20	IAMs_20	07 30 43.4		SCM	Sheep Creek Mo	117.94	357
	comp=Z,2µm,21.0s								comp=Z,2µm,21.0s		
SDCO	Great Sand Dun	98.89	29	IAMs_20	IAMs_20	07 32 11.8		SML	Sawmill	117.94	357
	comp=Z,1µm,22.0s								comp=Z,2µm,20.0s		
FNO	Franklin	99.00	36	P	Pdif	06 57 16.3	-1.4	SKT	Skwentna	118.24	355
OKCFA	Oklahoma City	99.12	36	IAMs_20	IAMs_20	07 37 14.1			comp=Z,3µm,18.0s		
	comp=Z,536nm,19.0s							PAX	Paxson	119.04	358
YBH	Yreka Blue Hor	99.17	15	IAMs_20	IAMs_20	07 31 15.2			comp=Z,2µm,20.0s		
	comp=Z,2µm,22.0s							PPLA	Purkeypile	119.18	355
DUG	Dugway, Tooele	99.45	23	IAMs_20	IAMs_20	07 32 40.6			comp=Z,3µm,20.0s		
	comp=Z,1µm,19.0s							DHY	Denali Highway	119.18	357
ELK	Elko	99.48	21	IAMs_20	IAMs_20	07 32 30.4			comp=Z,2µm,19.0s		
	comp=Z,1µm,19.0s							RND	Reindeer	119.56	357
MOD	Modoc Plateau	99.70	17	IAMs_20	IAMs_20	07 33 44.3			comp=Z,2µm,19.0s		
	comp=Z,1µm,20.0s							TRF	Thorofare Moun	119.65	356
SMCO	Snowmass	99.85	27	IAMs_20	IAMs_20	07 36 04.3			comp=Z,2µm,21.0s		
	comp=Z,882nm,22.0s							DOT	Dot Lake	119.71	359
SBUM	Sibu	100.46	259	IAMs_20	IAMs_20	07 38 24.1			comp=Z,2µm,20.0s		
	comp=Z,568nm,22.0s							KTH	Kantishna Hill	119.78	356
WVOR	Wild Horse Val	100.50	18	IAMs_20	IAMs_20	07 32 25.2			comp=Z,2µm,21.0s		
	comp=Z,1µm,21.0s							RIDG	Independent Ri	119.81	359
KSM	Kuching	100.68	256	IAMs_20	IAMs_20	07 41 18.5			comp=Z,2µm,21.0s		
	comp=Z,829nm,19.0s							MCK	McKinley	119.89	357
ISCO	Idaho Springs	100.79	28	IAMs_20	IAMs_20	07 35 51.1			comp=Z,2µm,19.0s		
	comp=Z,1µm,18.0s							SCRK	Sand Creek	120.03	359
HWUT	Hardware Ranch	101.07	23	IAMs_20	IAMs_20	07 33 14.5			comp=Z,1µm,18.0s		
	comp=Z,946nm,21.0s							DAWY	Dawson	120.14	2
OXF	Oxford	101.13	42	IAMs_20	IAMs_20	07 49 31.1			comp=Z,2µm,19.0s		
	comp=Z,13nm,20.0s							DBIC	Dimbokro	120.29	129
HDBT	Hernando Brdge	101.46	42	IAMs_20	IAMs_20	07 52 21.8			comp=Z,4.2nm,1.1s,baz=197,slow=11,SNR=2.7		
	comp=Z,2µm,20.0s							BPAW	Bear Paw Mtn.	120.33	356
CBKS	Cedar Bluff	101.53	33	IAMs_20	IAMs_20	07 36 03.3			comp=Z,2µm,18.0s		
	comp=Z,876nm,20.0s							BWN	Browne	120.34	356
MFID	Camas Ranch	101.95	20	IAMs_20	IAMs_20	07 33 55.6			comp=Z,2µm,18.0s		
	comp=Z,1µm,19.0s							PALK	Pallekele	120.44	232
BW06	Boulder Array	102.63	24	IAMs_20	IAMs_20	07 34 44.6			comp=Z,942nm,21.0s		
	comp=Z,1µm,19.0s							HDA	Harding Lake	120.51	358
REDW	Red Top Meadow	102.90	23	IAMs_20	IAMs_20	07 34 53.0			comp=Z,2µm,20.0s		
	comp=Z,886nm,20.0s							YKA	Yellowknife Ar	120.52	15
G06A	Carlson Farm,	102.91	16	IAMs_20	IAMs_20	07 33 47.0		YKA	comp=Z,2.0nm,1.1s		
	comp=Z,2µm,19.0s							YKA	Yellowknife Ar	120.52	15
H10N3	ASCENSION HYDR	103.11	127	T	T	08 53 36.2			comp=Z,0.1nm,0.4s,baz=218,slow=1.5,SNR=3.0		
	baz=207,slow=75,SNR=51							SLVN	Son La	120.53	263
H10N1	ASCENSION HYDR	103.12	127	T	T	08 53 39.0			comp=Z,454nm,20.0s		
	baz=207,slow=75,SNR=47							WRH	Wood River Hil	120.60	357
H10N2	ASCENSION HYDR	103.13	127	T	T	08 53 36.1			comp=Z,2µm,19.0s		
	baz=207,slow=75,SNR=47							NJ2	Nanjing	120.64	283
K22A	Casper	103.24	26	IAMs_20	IAMs_20	07 35 41.9		NEA	Nenana	120.74	357
	comp=Z,850nm,19.0s								comp=Z,2µm,20.0s		
								CCB	Clear Creek Bu	120.77	357
								CCB			
									comp=Z,2µm,19.0s		
								EGAK	Eagle	120.84	1
									comp=Z,1µm,19.0s		
								IL31		120.87	358
								ILAR	Eielson Array	120.87	358
									comp=Z,4.1nm,1.1s,baz=228,slow=1.8,SNR=22		

IAMs_20	IAMs_20	07 38 43.6		CMAR	Chiang Mai Arr	120.91	256
IAMs_20	IAMs_20	07 35 18.6		CMAR	comp=Z,1.0nm,0.4s		
IAMs_20	IAMs_20	07 36 54.9		CMAR	Chiang Mai Arr	120.91	256
IAMs_20	IAMs_20	07 35 03.6			comp=Z,0.7nm,0.3s,baz=243,slow=1.8,SNR=3.3		
IAMs_20	IAMs_20	07 38 19.7		COLA	College	121.00	357
IAMs_20	IAMs_20	07 40 12.8		COLA	College	121.00	357
IAMs_20	IAMs_20	07 40 49.1		MDM	Murphy Dome	121.09	357
IAMs_20	IAMs_20	07 37 21.1		CHTO	Chiang Mai	121.20	257
IAMs_20	IAMs_20	07 40 07.2		MLY	Manley	121.25	356
IAMs_20	IAMs_20	07 36 34.1		PRP	Porcupine Dome	121.60	359
IAMs_20	IAMs_20	07 36 03.9		ANM	Nome	121.88	349
IAMs_20	IAMs_20	07 37 43.9		GAMB	Gambell	121.92	345
IAMs_20	IAMs_20	07 37 27.3		WHN	Wuhan	121.95	278
IAMs_20	IAMs_20	07 38 23.5		EPYK	Eagle Plains	122.51	3
IAMs_20	IAMs_20	07 40 35.5		FYU	Fort Yukon	122.65	359
IAMs_20	IAMs_20	07 42 51.4		KMBO	Kilima Mbogo	122.67	180
IAMs_20	IAMs_20	07 38 45.7		MBAR	Mbarara	122.93	172
IAMs_20	IAMs_20	07 41 55.3		KMI	Kunming	124.19	264
IAMs_20	IAMs_20	07 45 33.9		INK	Inuvik	124.56	4
IAMs_20	IAMs_20	07 45 06.4		INK	Inuvik	124.56	4
IAMs_20	IAMs_20	07 46 10.3			comp=Z,0.7nm,0.4s,baz=226,slow=0.5,SNR=2.7		
IAMs_20	IAMs_20	07 41 15.6		INK	Inuvik	124.56	4
IAMs_20	IAMs_20	07 43 50.3		TOLK	Toolik Lake Re	124.82	357
IAMs_20	IAMs_20	07 40 31.2		RDOG	Red Dog Mine	125.04	351
IAMs_20	IAMs_20	07 40 17.9		CN2	Changchun	125.98	297
IAMs_20	IAMs_20	07 40 14.8		KLR	Kul'dur	126.90	305
IAMs_20	IAMs_20	07 43 10.1		MA2	Magadan	127.11	324
IAMs_20	IAMs_20	07 43 03.4		CD2	Chengdu	128.10	270
PKP	PKiK	07 02 19.8	+0.7				
PP	PP	07 03 22.0	+1.5				
LR	LR						
IAMs_20	IAMs_20	07 46 19.3		TOC5	Torodi Ar. Sit	128.83	133
IAMs_20	IAMs_20	07 42 16.0		TOC4	Torodi Ar. Sit	128.84	133
IAMs_20	IAMs_20	07 42 15.5		TOB4	Torodi Ar. Sit	128.84	133
IAMs_20	IAMs_20	07 44 44.9		TOA3	Torodi Ar. Sit	128.85	133
IAMs_20	IAMs_20	07 44 53.3		TOB3	Torodi Ar. Sit	128.85	133
IAMs_20	IAMs_20	07 50 26.2		TOB5	Torodi Ar. Sit	128.86	133
IAMs_20	IAMs_20	07 51 19.7		TOA0	Torodi Ar. Sit	128.86	133
IAMs_20	IAMs_20	07 42 27.7		TORD	Torodi Ar. Bea	128.86	133
IAMs_20	IAMs_20	07 49 17.0			comp=Z,1.8nm,0.9s,baz=196,slow=0.6,SNR=3.6		
IAMs_20	IAMs_20	07 40 18.4		TOC3	Torodi Ar. Sit	128.86	133
IAMs_20	IAMs_20	07 49 52.1		TOA2	Torodi Ar. Sit	128.86	133
IAMs_20	IAMs_20	07 49 43.1		TOB2	Torodi Ar. Sit	128.87	133
IAMs_20	IAMs_20	07 42 17.6		TOC2	Torodi Ar. Sit	128.88	133
IAMs_20	IAMs_20	07 41 18.8		TOC1	Torodi Ar. Sit	128.88	133
IAMs_20	IAMs_20	07 40 28.9		BILL	Bilibino	129.71	338
IAMs_20	IAMs_20	07 40 48.9		SHL	Shillong	130.47	255
IAMs_20	IAMs_20	07 42 17.4		HHC	Hu-ho-hao-te	131.08	285
IAMs_20	IAMs_20	07 40 22.6		FURI	Furi	132.62	182
IAMs_20	IAMs_20	07 41 36.4		SOCY	Socotra	134.09	203
IAMs_20	IAMs_20	07 41 31.9		LSA	Lhasa	134.13	258
IAMs_20	IAMs_20	07 41 10.3		RES	Resolute Bay	134.55	16
IAMs_20	IAMs_20	07 45 38.4		RES	Resolute Bay	134.55	16
IAMs_20	IAMs_20	07 48 16.2			comp=Z,1.2nm,0.8s,baz=342,slow=3.2,SNR=2.3		
IAMs_20	IAMs_20	07 44 30.5		RES	Resolute Bay	134.55	16
IAMs_20	IAMs_20	07 44 41.2		ATD	Arta Tunnel	135.06	187
IAMs_20	IAMs_20	07 45 30.3		GTA	Gaotai	136.51	274
IAMs_20	IAMs_20	07 43 55.1		GTA	comp=Z,130nm,15.1s		
IAMs_20	IAMs_20	07 43 32.6		GTA	comp=Z,280nm,14.8s		
IAMs_20	IAMs_20	07 43 35.1		DAMY	Dhamar	137.94	190
IAMs_20	IAMs_20	07 44 07.0		SONM	Songino Array	138.50	288
IAMs_20	IAMs_20	07 42 22.7		TAM	Tamanrasset	139.08	132
IAMs_20	IAMs_20	07 45 42.8		TAM	Tamanrasset	139.08	132
IAMs_20	IAMs_20	07 54 07.8		TIXI	Tiksi	141.63	329
IAMs_20	IAMs_20	07 44 21.7		TIXI	comp=Z,6.0nm,1.0s		
IAMs_20	IAMs_20	07 43 47.4		TIXI	Tiksi	141.63	329
PKP	PKPdf	07 02 25.7	-3.0		comp=Z,0.9nm,0.3s,baz=135,slow=1.5,SNR=2.3		
IAMs_20	IAMs_20	07 49 06.5		TIXI	Tiksi	141.63	329
IAMs_20	IAMs_20	07 46 34.8			comp=Z,708nm,21.0s		
IAMs_20	IAMs_20	07 44 20.4		ZAK	Zakamensk	141.66	290
IAMs_20	IAMs_20	07 43 47.4		ZAK	comp=Z,4.0nm,1.4s		
*e*PKIKP	PKiKP	07 02 32.4	+4.7	TLY	Talaya	142.21	292
pmax	pmax			TLY	comp=Z,7.0nm,1.0s		
PKP	PKPdf	07 02 25.4	-2.2	TLY			
IAMs_20	IAMs_20	07 52 50.7			comp=Z,306nm,20.0s		
IAMs_20	IAMs_20	07 44 39.0		MOY	Mondy	143.58	290
IAMs_20	IAMs_20	07 48 46.0		MOY	comp=Z,77nm,3.4s		
IAMs_20	IAMs_20	07 46 47.7		PTEO	Sao Teotonio	144.12	102
PKPdf	PKPdf	07 02 27.9	-0.1	PBDV	Barranco-do-Ve	144.33	103
IAMs_20	IAMs_20	07 46 31.2		PCVE	Castro Verde	144.56	102
				PVAQ	Vaqueiros	144.57	103
PKiK	PKiK	07 02 28.6	+0.4	PNCL	Nicolau / Gran	144.64	101
PKP	PKPdf	07 02 26.1	-2.1	PBEJ	Beja	144.94	102
				EVO	Evora	145.22	101
				PMTG	Montargil	145.49	100
				ASHO	Ashiyiah	145.56	211
					SNR=6.6		
				HATD	Hatta, Dubai	145.67	211
					SNR=11		
				ASUD	Al Ashush, Dub	145.71	210
				UOSS	Minazif	145.77	211
				UOSS	Minazif	145.77	211
				UOSS	Minazif	145.77	211
					comp=Z,861nm,20.0s		

*e*PKIKP	PKiKP	07 02 31.9	+2.0				
pmax	pmax						
PKP	PKPdf	07 02 26.9	-2.8				
PKIKP	PKiKP	07 02 32.4	+3.9				
IAMs_20	IAMs_20	07 44 51.3					
IAMs_20	IAMs_20	07 48 03.8					
IAMs_20	IAMs_20	07 48 12.3					
IAMs_20	IAMs_20	07 48 54.7					
PKP	PKiKP	07 02 35.5	+4.0				
PKP	PKiKP	07 02 32.6	+1.0				
IAMs_20	IAMs_20	07 49 24.3					
IAMs_20	IAMs_20	07 53 25.9					
PKIKP	PKPdf	07 02 34.7	-0.5				
PKP	PKPdf	07 02 33.1	-2.1				
PKP	PKPdf	07 02 34.7	-0.5				
IAMs_20	IAMs_20	07 47 37.4					
PKiKP	PKiKP	07 02 38.5	+2.4				
IAMs_20	IAMs_20	07 49 48.3					
IAMs_20	IAMs_20	07 46 54.2					
*e*PKP	PKiKP	07 02 41.0	+1.9				
i PKIKP	PKiKP	07 02 43.0	+2.2				
pmax	pmax						
IAMs_20	IAMs_20	07 48 54.1					
PKP	PKPdf	07 02 43.3	0.0				
PP	PP	07 04 46.3	-0.8				
AMB	AMB						
LR	LR						
LR	LR						
LR	LR						
IAMs_20	IAMs_20	07 47 45.2					
IAMs_20	IAMs_20	07 47 46.3					
IAMs_20	IAMs_20	07 47 47.6					
IAMs_20	IAMs_20	07 47 47.8					
IAMs_20	IAMs_20	07 49 06.8					
IAMs_20	IAMs_20	07 49 16.9					
PKPpre	07 02 38.5						
IAMs_20	IAMs_20	07 49 06.9					
PKP	PKPdf	07 02 41.7	-3.4				
IAMs_20	IAMs_20	07 47 46.9					
IAMs_20	IAMs_20	07 47 47.0					
IAMs_20	IAMs_20	07 47 48.2					
IAMs_20	IAMs_20	07 49 17.4					
IAMs_20	IAMs_20	07 47 35.6					
i PKIKP	PKPdf	07 02 43.1	-2.0				
pmax	pmax						
IAMs_20	IAMs_20	08 07 07.2					
*e*PKP	PKPdf	07 02 46.5	-2.2				
IAMs_20	IAMs_20	07 57 51.5					
IAMs_20	IAMs_20	07 55 05.5					
IAMs_20	IAMs_20	08 04 03.3					
PKIKP	PKiKP	07 02 54.9	-0.5				
PKP	PKPdf	07 02 51.9	-2.1				
PKiKP	PKiKP	07 02 54.9	-0.5				
IAMs_20	IAMs_20	07 57 51.0					
*e*PKP	PKiKP	07 03 00.0	-0.7				
LR	LR						
LR	LR						
LR	LR						
IAMs_20	IAMs_20	08 00 16.4					
PKP	PKPdf

PTOM	**Tomar**	**145.78**	**100**	*e*PKP		**PKiKP**	**07 03 22.2**	**+2.7**
NAZ	**Nazwa, Dubai**	**145.96**	**210**	PKPdf		**PKPdf**	**07 03 15.8**	**-0.4**
MDH	**Madha**	**146.07**	**212**	*i* PKPdf		**PKPdf**	**07 03 14.9**	**-1.4**
	SNR=7.6							
MSFE	**Esma-Masafi**	**146.17**	**211**	*i* PKPdf		**PKPdf**	**07 03 15.3**	**-1.3**
	SNR=6.0							
COI	**Coimbra**	**146.19**	**99**	*e*PKP		**PKiKP**	**07 03 23.5**	**+3.2**
WMQ	**Urumqi**	**146.20**	**270**	*e*PKPbc		**PKPdf**	**07 03 16.5**	**+0.4**
WMQ				AMB		AMB		
	comp=Z,160nm,4.3s							
WMQ				LR		LR		
	comp=Z,510nm,25.1s							
WMQ				LR		LR		
	comp=Z,360nm,25.1s							
WMQ	**Urumqi**	**146.20**	**270**			**PKPdf**	**07 03 15.7**	**-0.3**
SUMG	**Summit**	**146.43**	**32**	PKP2		**PKPbc**	**07 03 17.8**	**+0.4**
SUMG	**Summit**	**146.43**	**32**	*i* P		**PKPab**	**07 03 19.0**	**+0.7**
	comp=Z,68nm,1.0s							
SUMG	**Summit**	**146.43**	**32**			**PKPbc**	**07 03 17.8**	**+0.4**
PCBR	**Castelo Branco**	**146.45**	**100**	*e*PKP		**PKPbc**	**07 03 18.1**	**+0.2**
NIL	**Nilore**	**146.59**	**242**	PKiKP		**PKPdf**	**07 03 16.9**	**-0.1**
NIL				MLR		MLR		
	comp=Z,500nm,19.0s							
NIL	**Nilore**	**146.59**	**242**			**PKPdf**	**07 03 16.9**	**-0.1**
NIL	**Nilore**	**146.59**	**242**	IAMs_20		IAMs_20	08 11 31.8	
	comp=Z,510nm,19.0s							
RAYN	**Ar Rayn**	**146.65**	**193**	*i* PKPbc		**PKPdf**	**07 03 17.8**	**+0.3**
	SNR=11							
RAYN	**Ar Rayn**	**146.65**	**193**	PKiKP		**PKPdf**	**07 03 17.6**	**+0.1**
RAYN				MLR		MLR		
	comp=Z,800nm,20.0s							
RAYN	**Ar Rayn**	**146.65**	**193**			**PKPdf**	**07 03 17.6**	**+0.1**
RAYN				IAMs_20		IAMs_20	08 06 15.4	
	comp=Z,845nm,20.0s							
MTE	**Manteigas**	**146.80**	**99**	*e*PKP		**PKiKP**	**07 03 25.4**	**+3.7**
PVIS	**Viseu**	**146.83**	**99**	*e*PKP		**PKiKP**	**07 03 25.6**	**+3.9**
SHME	**Shamm**	**146.83**	**212**	PKPdf		**PKPdf**	**07 03 16.8**	**-0.8**
PCAB	**Cabril**	**147.43**	**97**	*e*PKP		**PKiKP**	**07 03 27.4**	**+4.5**
MVO	**Moncorvo**	**147.61**	**99**	*e*PKP		**PKPab**	**07 03 28.2**	**+4.7**
PAB	**San Pablo**	**147.94**	**104**	PKP2		**PKPbc**	**07 03 21.1**	**-1.1**
PAB	**San Pablo**	**147.94**	**104**			**PKPbc**	**07 03 21.1**	**-1.1**
PBRG	**Braganca**	**148.21**	**98**	*e*PKP		**PKPab**	**07 03 27.8**	**+2.0**
ESDC	**Sonseca Array**	**148.24**	**104**	PKPbc		**PKPbc**	**07 03 21.7**	**-1.2**
	comp=Z,11nm,0.9s,baz=253,slow=1.8,SNR=14							
ESBB	**Sonseca Array**	**148.24**	**104**			**PKiKP**	**07 03 24.5**	**-0.2**
KBL	**Kabul**	**149.34**	**238**			**PKPbc**	**07 03 26.1**	**0.0**
KBL				IAMs_20		IAMs_20	08 16 28.6	
	comp=Z,483nm,20.0s							
KSH	**Kashi**	**149.70**	**253**	PKPbc		**PKPbc**	**07 03 26.8**	**+0.1**
KSH				LR		LR		
	comp=Z,470nm,7.4s							
KSH				LR		LR		
	comp=Z,420nm,5.7s							
KSH				LR		LR		
	comp=Z,320nm,8.2s							
TARG	**Taragay, Kyrgy**	**150.28**	**258**			**PKPdf**	**07 03 25.0**	**+1.7**
PRZ	**Przheval'sk**	**150.47**	**259**	PKiKP		**PKiKP**	**07 03 31.8**	**+2.5**
PRZ	**Przheval'sk**	**150.47**	**259**			**PKiKP**	**07 03 31.8**	**+2.5**
MK31	**Makanchi Array**	**151.04**	**270**	PKiKP		**PKPdf**	**07 03 25.0**	**+1.2**
MK31	**Makanchi Array**	**151.04**	**270**			**PKPdf**	**07 03 25.0**	**+1.2**
MKAR	**Makanchi Array**	**151.04**	**270**	PKPbc		**PKPbc**	**07 03 26.9**	**-2.6**
	comp=Z,8.1nm,0.9s,baz=108,slow=4.0,SNR=37							
NRN	**Naryn**	**151.05**	**255**	PKiKP		**PKPdf**	**07 03 26.8**	**+2.4**
NRN	**Naryn**	**151.05**	**255**			**PKPdf**	**07 03 26.8**	**+2.4**
MAKZ	**Makanchi**	**151.22**	**270**	PKiKP		**PKPdf**	**07 03 26.1**	**+2.1**
MAKZ	**Makanchi**	**151.22**	**270**			**PKPdf**	**07 03 26.1**	**+2.1**
SCO	**Scoresbysund**	**151.38**	**37**	*i* PKiKP		**PKiKP**	**07 03 33.0**	**+3.0**
SCO				pmax		pmax		
	comp=Z,72nm,1.6s							
SCO	**Scoresbysund**	**151.38**	**37**	*i* P		**PKiKP**	**07 03 33.0**	**+3.0**
	comp=Z,72nm,1.6s							
DAG	**Danmarks Havn**	**151.65**	**24**	*i* PKiKP		**PKPbc**	**07 03 29.0**	**-1.1**
DAG				pmax		pmax		
	comp=Z,10.0nm,1.1s							
DAG	**Danmarks Havn**	**151.65**	**24**	*i* P		**PKPbc**	**07 03 29.0**	**-1.1**
	comp=Z,10nm,1.1s							
BOOM	**Boomskoye usch**	**151.81**	**257**	IAMs_20		IAMs_20	08 25 26.2	
	comp=Z,573nm,20.0s							
KEST	**Kesra**	**151.92**	**125**	PKPbc		**PKPbc**	**07 03 31.1**	**-0.9**
	comp=Z,12nm,1.0s,baz=268,slow=5.8,SNR=5.0							
KEST	**Kesra**	**151.92**	**125**			**PKiKP**	**07 03 33.5**	**+1.1**
KEST				IAMs_20		IAMs_20	08 19 30.3	
	comp=Z,1μm,20.0s							
HRA	**Herat**	**152.24**	**228**			**PKPdf**	**07 03 27.8**	**+1.6**
GAR	**Garm**	**152.25**	**245**			**PKiKP**	**07 03 33.0**	**0.0**
CHGR	**Chuyangaron**	**152.57**	**243**	IAMs_20		IAMs_20	08 12 54.3	
	comp=Z,1μm,20.0s							
AAK	**Ala-Archa**	**152.69**	**256**	PKPbc		**PKiKP**	**07 03 33.9**	**0.0**
AAK	**Ala-Archa**	**152.69**	**256**	PKiKP		**PKPbc**	**07 03 33.5**	**-0.1**
AAK	**Ala-Archa**	**152.69**	**256**	PKPbc		**PKPbc**	**07 03 33.3**	**-0.4**
	comp=Z,5.1nm,1.1s,baz=259,slow=3.9,SNR=4.3							
AAK	**Ala-Archa**	**152.69**	**256**			**PKPbc**	**07 03 33.5**	**-0.1**
BTK	**Batken**	**152.79**	**247**	PKiKP		**PKPbc**	**07 03 33.8**	**0.0**
BTK	**Batken**	**152.79**	**247**			**PKPbc**	**07 03 33.8**	**0.0**
EIL	**Elat**	**153.24**	**175**	PKPbc		**PKPbc**	**07 03 31.9**	**-3.1**
	comp=Z,2.0nm,0.7s,baz=135,slow=7.1,SNR=2.1							
ZAA0	**Zalesovo Array**	**153.26**	**285**			**PKPbc**	**07 03 33.2**	**-1.0**
ZAA0				IAMs_20		IAMs_20	08 22 28.7	
	comp=Z,522nm,20.0s							
ZALV	**Zalesovo Beam**	**153.26**	**285**	PKPbc		**PKPbc**	**07 03 31.0**	**-3.2**
	comp=Z,1.9nm,0.6s,baz=105,slow=1.7,SNR=5.9							
KK31	**Karatay Array**	**155.14**	**252**	PKiKP		**PKPdf**	**07 03 29.8**	**-0.1**
KK31							07 03 39.3	
KK31	**Karatay Array**	**155.14**	**252**			**PKPdf**	**07 03 29.8**	**-0.1**
KK31						PKPbc	07 03 39.3	
KKAR	**Karatay Array**	**155.14**	**252**	PKiKP		**PKPdf**	**07 03 29.9**	**0.0**
KKAR							07 03 39.9	
KKAR	**Karatay Array**	**155.14**	**252**			**PKPdf**	**07 03 29.9**	**0.0**
KKAR						PKPbc	07 03 39.9	
CLTB	**Caltabellotta**	**155.17**	**129**	IAMs_20		IAMs_20	08 19 45.1	
	comp=Z,1μm,21.0s							
KURK	**Kurchatov**	**155.20**	**274**	PKiKP		**PKPdf**	**07 03 29.5**	**-0.1**
KURK							07 03 38.6	
KURK	**Kurchatov**	**155.20**	**274**			**PKPdf**	**07 03 29.5**	**-0.1**
KURK						PKPbc	07 03 38.6	
KURBB	**Kurchatov Arra**	**155.20**	**274**	PKPbc		**PKPdf**	**07 03 34.9**	**+5.3**
	comp=Z,2.9nm,0.9s,baz=119,slow=1.6,SNR=6.8							
KURBB				PP		**PP**	**07 07 30.5**	**-1.3**
	comp=Z,4.9nm,1.3s,baz=108,slow=3.0,SNR=2.9							
RAFF	**Raffo Rosso**	**155.36**	**131**	IAMs_20		IAMs_20	08 23 38.9	
	comp=Z,2μm,18.0s							
CEL	**Celeste**	**156.87**	**133**	IAMs_20		IAMs_20	08 16 38.0	
	comp=Z,1μm,21.0s							
GEYT	**Alibeck**	**156.97**	**225**	PKP		**PKPdf**	**07 03 30.1**	**-2.4**
	comp=Z,1.4nm,0.7s,baz=204,slow=6.3,SNR=2.7							
GEYT				PKPab		**PKPab**	**07 04 02.2**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=208,slow=5.5,SNR=7.4							
GYA0B	**ALIBECK ARRAY**	**156.97**	**225**			**PKPdf**	**07 03 33.5**	**+1.1**
GYA0B						**PKPab**	**07 04 02.6**	**0.0**
GYA0B				IAMs_20		IAMs_20	08 24 49.8	
	comp=Z,612nm,19.0s							
TIP	**Timpagrande**	**158.01**	**133**	IAMs_20		IAMs_20	08 17 06.1	
	comp=Z,1μm,20.0s							
CSS	**Mathiatis**	**158.39**	**171**	IAMs_20		IAMs_20	08 09 35.5	
	comp=Z,972nm,22.0s							
AQU	**L'Aquila**	**159.11**	**122**	IAMs_20		IAMs_20	08 20 36.9	
	comp=Z,928nm,19.0s							
DOU	**Dourbes**	**159.48**	**94**	PKPab		**PKPab**	**07 04 13.8**	**+0.6**
ECH	**Echery**	**159.88**	**101**	PKiKP		**PKPdf**	**07 03 37.3**	**+1.7**
ECH							07 04 15.7	
ECH	**Echery**	**159.88**	**101**			**PKPdf**	**07 03 37.3**	**+1.7**
ECH						**PKPab**	**07 04 15.7**	**+0.6**
TEOL	**Teolo**	**160.46**	**113**			**PKPdf**	**07 03 37.8**	**+1.5**
FUORN	**Ofenpass-Fuorn**	**160.57**	**109**			**PKPdf**	**07 03 38.9**	**+2.2**
DAVA	**Damuels**	**160.79**	**107**	*i* pPKPdf		**PKPdf**	**07 03 39.8**	**+3.0**
	comp=Z,29nm,1.4s							
BRVK	**Borovoye**	**160.87**	**274**	PKiKP		**PKPdf**	**07 03 39.9**	**+3.4**
BRVK							07 04 17.3	
BRVK	**Borovoye**	**160.87**	**274**			**PKPdf**	**07 03 39.9**	**+3.4**
BRVK						**PKPab**	**07 04 17.3**	**-1.9**
FETA	**Feichten**	**161.07**	**108**	*i* pPKPdf		**PKPdf**	**07 03 39.3**	**+2.2**
	comp=Z,12nm,1.2s							
RETA	**Reutte**	**161.38**	**107**	*i* pPKPdf		**PKPdf**	**07 03 39.6**	**+2.2**
	comp=Z,15nm,1.4s							
RETA				*i* pPKPab		**pPKPab**	**07 04 23.9**	**+0.1**
	comp=Z,22nm,1.5s							
SQTA	**Sankt Quirin**	**161.45**	**109**	*i* pPKPdf		**PKPdf**	**07 03 39.9**	**+2.5**
	comp=Z,13nm,1.5s							
SQTA				*i* pPKPab		**sPKPab**	**07 04 24.7**	**-0.3**
	comp=Z,18nm,1.6s							
MOTA	**Moosalm**	**161.47**	**108**	*i* pPKPdf		**PKPdf**	**07 03 39.5**	**+2.0**
	comp=Z,13nm,1.6s							
MOTA				*i* P		**sPKPab**	**07 04 26.6**	**+1.5**
	comp=Z,21nm,1.6s							
WTTA	**Wattenberg**	**161.70**	**109**	*i* pPKPdf		**PKPdf**	**07 03 39.7**	**+1.9**
	comp=Z,21nm,1.5s							
WATA	**Walderalm**	**161.72**	**109**	*i* pPKPdf		**PKPdf**	**07 03 40.4**	**+2.6**
	comp=Z,23nm,1.4s							
ABTA	**Abfaltersbach**	**161.83**	**111**	pPKPdf		**PKPdf**	**07 03 41.2**	**+3.4**
	comp=Z,8.6nm,1.3s							
ABTA				*i* pPKPab		**pPKPab**	**07 04 25.5**	**-0.3**
	comp=Z,26nm,1.2s							
MYKA	**Terra Mystica**	**162.33**	**113**	*i* P		**PKPdf**	**07 03 43.1**	**+4.8**
	comp=Z,13nm,1.6s							
MYKA				*i* PKPab		**PKPab**	**07 04 25.8**	**0.0**
	comp=Z,33nm,1.6s							
KBA	**Koelnbreinsper**	**162.47**	**112**	*i* pPKPdf		**PKPdf**	**07 03 42.3**	**+3.7**
	comp=Z,15nm,1.4s							
KBA				*i* P		**sPKPab**	**07 04 30.7**	**+1.2**
	comp=Z,6.5nm,0.9s							
OBKA	**Obir**	**162.71**	**115**	*i* pPKPdf		**PKPdf**	**07 03 42.3**	**+3.6**
	comp=Z,13nm,1.4s							
OBKA				*i* pPKPab		**pPKPab**	**07 04 29.7**	**-0.1**
	comp=Z,12nm,1.4s							
SOKA	**Soboth**	**163.07**	**116**	*i* pPKPdf		**PKPdf**	**07 03 42.5**	**+3.5**
	comp=Z,17nm,1.5s							
SOKA				*i* pPKPab		**sPKPab**	**07 04 32.6**	**+0.5**
	comp=Z,16nm,1.6s							
BR131	**Keskin Array S**	**163.14**	**170**	PKiKP		**PKPdf**	**07 03 39.9**	**+0.5**
BR131							07 04 28.7	
BR131	**Keskin Array S**	**163.14**	**170**			**PKPdf**	**07 03 39.9**	**+0.5**
BR131						**PKPab**	**07 04 28.7**	**-0.8**
BRTR	**Keskin Array B**	**163.14**	**170**	*e*PKiKP		**PKPdf**	**07 03 42.8**	**+3.4**
BRTR				pmax		pmax		
	comp=Z,2.0nm,1.0s							
BRTR	**Keskin Array B**	**163.14**	**170**	PKP		**PKPdf**	**07 03 39.5**	**+0.1**
	comp=Z,2.1nm,1.0s,baz=180,slow=2.9,SNR=8.6							
BRTR				PKPab		**PKPab**	**07 04 28.8**	**-0.8**
	comp=Z,2.9nm,0.7s,baz=190,slow=6.0,SNR=5.1							
MOA	**Molln**	**163.45**	**111**	*i* pPKPdf		**PKPdf**	**07 03 43.1**	**+3.8**
	comp=Z,6.2nm,1.5s							
MOA				*i* pPKPab		**sPKPab**	**07 04 33.2**	**-0.5**
	comp=Z,8.4nm,1.3s							
VTS	**Vitosha**	**163.46**	**140**	PKiKP		**PKPdf**	**07 03 41.1**	**+1.4**
VTS	**Vitosha**	**163.46**	**140**	⇓P		**PKPab**	**07 04 30.9**	**0.0**
VTS	**Vitosha**	**163.46**	**140**			**PKPdf**	**07 03 41.1**	**+1.4**
ARSA	**Arzberg**	**163.70**	**115**	*i* pPKPdf		**PKPdf**	**07 03 42.7**	**+3.2**
	comp=Z,7.6nm,1.3s							
ARSA				*i* PKPab		**pPKPab**	**07 04 33.3**	**-0.6**
	comp=Z,16nm,1.4s							
GEC2	**GERESS Array S**	**163.77**	**108**			**PKPdf**	**07 03 40.6**	**+0.9**
GERES	**GERESS Array B**	**163.77**	**108**	PKP		**PKPdf**	**07 03 39.7**	**0.0**
	comp=Z,1.9nm,1.1s,baz=48,slow=2.0,SNR=9.5							
GERES				PKPab		**PKPab**	**07 04 30.5**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=244,slow=6.5,SNR=2.6							
GERES				PP		**PP**	**07 08 19.1**	**+0.8**
	comp=Z,0.1nm,0.2s,baz=191,slow=4.8,SNR=3.7							
KHC	**Kasperske Hory**	**163.87**	**107**	PKiKP		**PKPdf**	**07 03 40.0**	**+0.3**
KHC							07 04 30.9	
KHC	**Kasperske Hory**	**163.87**	**107**	*e*PKPDF		**PKPdf**	**07 03 40.5**	**+0.8**
KHC				*e*PKPAB		**PKPab**	**07 04 31.2**	**-1.3**
KHC	**Kasperske Hory**	**163.87**	**107**	PKPdf		**PKPdf**	**07 03 40.0**	**+0.3**
KHC						**PKPab**	**07 04 30.9**	**-1.7**
CONA	**Conrad Observa**	**164.32**	**114**	*i* pPKPdf		**PKPdf**	**07 03 43.0**	**+2.8**
	comp=Z,11nm,1.5s							
CONA				*i* PKPab		**pPKPab**	**07 04 36.4**	**-0.4**
	comp=Z,12nm,1.5s							
ABKAR	**Akbulak array**	**164.71**	**252**			**PKPdf**	**07 03 41.9**	**+1.5**
MDVR	**Moldovita**	**164.71**	**133**	⇓P		**PKPab**	**07 04 39.9**	**+3.6**
CLL	**Collm**	**164.73**	**99**	*e*PKiKP		**PKPdf**	**07 03 44.0**	**+3.7**
CLL				*i*			07 04 35.6	
CLL				pmax		pmax		
	comp=Z,174nm,2.8s							
CLL				MLR		MLR		
	comp=Z,600nm,20.6s							
CLL	**Collm**	**164.73**	**99**	*e*(PKPdf)		**PKPdf**	**07 03 44.0**	**+3.7**
CLL				*i* PKPab		**PKPab**	**07 04 35.6**	**-0.6**
	comp=Z,174nm,2.8s							
CLL				*e*PP		**PP**	**07 08 22.0**	**-1.2**
	comp=Z,193nm,2.6s							
CLL				*e*SS		SS	07 28 56.0	-0.3
CLL				*e*SSS		SSS	07 35 20.0	
CLL				*e*SSSS			07 39 42.0	
CLL				LmV			08 23 00.0	
	comp=Z,600nm,20.6s							
CLL				LmH			08 24 00.0	
	comp=N,500nm,18.6s							
CLL				LmH			08 24 00.0	
	comp=E,600nm,18.6s							
CLL	**Collm**	**164.73**	**99**			**PKPab**	**07 04 38.1**	**+1.9**
PRU	**Pruhonice**	**164.88**	**105**	*e*PKP2		**PKPab**	**07 04 37.2**	**+0.3**
PRU	**Pruhonice**	**164.88**	**105**	*e*PKPAB		**PKPab**	**07 04 37.2**	**+0.3**
BRG	**Berggiesshubel**	**165.03**	**102**	*e*PKP		**PKPdf**	**07 03 43.8**	**+3.2**
	comp=E,45nm,2.0s							
BRG	**Berggiesshubel**	**165.03**	**102**	*e*PKiKP		**PKPdf**	**07 03 43.8**	**+3.2**
BRG				*e*			07 04 39.2	
BRG				SS		SS	07 29 01.0	+1.6
BRG				pmax		pmax		
	comp=Z,45nm,2.0s							
BRG				pmax		pmax		
	comp=Z,69nm,2.1s							
MODS	**Modra-Piesok**	**165.33**	**115**	*e*PKiKP		**PKPdf**	**07 03 44.1**	**+3.1**
MODS				*e*			07 08 26.1	
MODS	**Modra-Piesok**	**165.33**	**115**	*e*PKP		**PKPdf**	**07 03 44.1**	**+3.1**
MODS				*e*PP		**PP**	**07 08 26.1**	**-0.2**
GZR	**Gura Zlata**	**165.65**	**134**	⇓PKP2		**PKPab**	**07 04 38.2**	**-2.2**
GZR	**Gura Zlata**	**165.65**	**134**	⇓P		**PKPab**	**07 04 38.2**	**-2.2**
DPC	**Dobruska-Polom**	**166.03**	**107**	*e*PKiKP		**PKPdf**	**07 03 42.0**	**+0.5**
DPC	**Dobruska-Polom**	**166.03**	**107**	*e*PKPDF		**PKPdf**	**07 03 42.0**	**+0.5**
VYHS	**Vyhne**	**166.19**	**117**	*e*PKiKP		**PKPdf**	**07 03 43.0**	**+1.4**
VYHS				*e*			07 04 43.6	
VYHS				*e*			07 08 31.1	
VYHS	**Vyhne**	**166.19**	**117**	*e*PKP		**PKPdf**	**07 03 43.0**	**+1.4**
VYHS				*e*			07 04 43.6	
VYHS				PP		**PP**	**07 08 31.1**	**+0.4**
AKTO	**Aktyubinsk**	**166.41**	**253**	PKP		**PKPdf**	**07 03 40.2**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=124,slow=3.6,SNR=2.0							
AKTO				PKPab		**PKPab**	**07 04 41.7**	**-1.9**
	comp=Z,3.5nm,0.8s,baz=107,slow=5.8,SNR=7.9							
VOIR		**166.55**	**139**	⇑PKP2		**PKPab**	**07 04 44.7**	**+0.3**
VOIR		**166.55**	**139**	⇑P		**PKPab**	**07 04 44.7**	**+0.3**
DRGR		**166.75**	**130**	⇓PKP2		**PKPab**	**07 04 43.7**	**-1.6**
DRGR		**166.75**	**130**	⇓P		**PKPab**	**07 04 43.6**	**-1.6**
MLR	**Muntele Rosu**	**166.92**	**142**	PKiKP		**PKPdf**	**07 03 43.7**	**+1.2**
MLR							07 04 46.0	
MLR	**Muntele Rosu**	**166.92**	**142**	PKP		**PKPdf**	**07 03 41.4**	**-1.1**
	comp=Z,3.7nm,1.1s,baz=297,slow=6.8,SNR=2.8							
MLR				PKPab		**PKPab**	**07 04 45.5**	**-0.6**
	comp=Z,19nm,1.3s,baz=217,slow=3.9,SNR=7.4							
MLR				PP		**PP**	**07 08 36.1**	**+1.9**
	comp=Z,3.5nm,1.0s,baz=254,slow=8.0,SNR=5.1							
MLR	**Muntele Rosu**	**166.92**	**142**	⇓P		**PKPab**	**07 04 45.8**	**-0.3**
MLR	**Muntele Rosu**	**166.92**	**142**			**PKPdf**	**07 03 43.7**	**+1.2**
MLR						**PKPab**	**07 04 46.0**	**0.0**
KIV	**Kislovodsk**	**167.12**	**197**	*e*PKiKP		**PKPdf**	**07 03 42.5**	**-0.1**
KIV				pmax		pmax		
	comp=Z,17nm,1.0s							
VRI	**Vrincioaia**	**167.51**	**143**	⇑PKP2		**PKPab**	**07 04 50.4**	**+1.9**
VRI	**Vrincioaia**	**167.51**	**143**	⇑P		**PKPab**	**07 04 50.4**	**+1.9**
TRPA	**Tarpa**	**167.69**	**126**	⇑P		**PKPab**	**07 04 52.5**	**+3.2**
KOLS	**Kolonicke sedl**	**168.15**	**123**	*e*PKP2		**PKPab**	**07 04 55.6**	**+4.3**
BURAR	**Bucovina Array**	**168.43**	**134**	⇓PKP2		**PKPab**	**07 04 53.5**	**+0.8**
BURAR	**Bucovina Array**	**168.43**	**134**	⇓P		**PKPab**	**07 04 53.5**	**+0.8**
AKASG	**Malin Array Be**	**172.48**	**136**	PKP		**PKPdf**	**07 03 43.6**	**-1.8**
	comp=Z,1.2nm,0.5s,baz=0.0,slow=1.0,SNR=7.7							
AKASG				PKPab		**PKPab**	**07 05 08.9**	**-1.5**
	comp=Z,3.1nm,1.0s,baz=220,slow=3.8,SNR=9.6							
AKASG				PP		**PP**	**07 09 02.9**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=227,slow=6.1,SNR=8.4							
AKBB	**Malin Array Si**	**172.48**	**136**	PKP2		**PKPab**	**07 05 10.4**	**0.0**
AKBB	**Malin Array Si**	**172.48**	**136**			**PKPab**	**07 05 10.4**	**0.0**
OBN	**Obninsk**	**178.63**	**158**	*i* PKiKP		**PKPdf**	**07 03 47.9**	**+1.1**
OBN				pmax		pmax		
	comp=Z,18nm,1.1s							
MOS	**Moscow**	**179.35**	**187**	*e*PKiKP		**PKPdf**	**07 03 45.3**	**-1.5**
MOS				*e*			07 05 40.9	
MOS				*e*			07 09 35.3	

*ATH **28** 07:03:46.6,35°.53N×26°.03E,h31$^{km}_{\pm}$2^{km}, ML3.2/3, Error ellipse: s-maj=3.3km s-min=1.2km az=177.0*
*ISCJB **28** 07:03:47.3±0.8, 35°.55N±0°.02×26°.02E±0°.04, h14$^{km}_{\pm}$7^{km}, Error ellipse: s-maj=5.1km s-min=4.0km az=7.9*
*THE **28** 07:03:47.7, 35°.52N×26°.02E, h13$^{km}_{\pm}$2^{km}, ML3.0/7, Error ellipse: s-maj=2.3km s-min=0.6km az=185.0*
ISC 28 07:03:47.3±1.0, 35°.54N±0°.03×26°.01E±0°.03, h24$^{km}_{\pm}$11^{km}, n34, σ0$^{s}_{\pm}$81/48, 2C, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STIA	**Sitia Lasithi**	**0.34**	**169**	P		**Pb**	**07 03 55.0**	**+0.2**
STIA				S		**Sb**	**07 03 59.8**	**-0.2**
NPS	**Neapolis**	**0.43**	**230**	P		**Pb**	**07 03 56.7**	**+0.5**
NPS				S		**Sb**	**07 04 02.5**	**+0.2**
	9μm,0.3s							
NPS	**Neapolis**	**0.43**	**230**	P		**Pb**	**07 03 56.7**	**+0.5**
NPS				S		**Sb**	**07 04 02.4**	**+0.1**
NPS				AML		AML	07 04 03.2	
	comp=E,20058μm,0.3s							
NPS				AML		AML	07 04 03.4	
	comp=N,15262μm,0.2s							
ZKR	**Zakros**	**0.45**	**158**	P		**Pb**	**07 03 56.8**	**+0.1**
ZKR				S		**Sb**	**07 04 02.6**	**-0.5**
	comp=N,2μm,0.4s							
ZKR	**Zakros**	**0.45**	**158**	P		**Pb**	**07 03 56.7**	**+0.1**
ZKR				S		**Sb**	**07 04 02.8**	**-0.2**
ZKR				AML		AML	07 04 03.1	
	comp=E,6855μm,0.4s							
ZKR				AML		AML	07 04 03.4	
	comp=N,1498μm,0.3s							
FRMA	**Ierapetra Chan**	**0.57**	**204**	P		**Pb**	**07 03 58.3**	**-0.3**
FRMA				S		**Sb**	**07 04 05.2**	**-1.1**
	comp=N,2μm,0.4s							
LAST	**Lasithi**	**0.57**	**230**	P		**Pb**	**07 03 59.0**	**+0.2**
LAST				S		**Sb**	**07 04 06.8**	**+0.2**
	comp=N,2μm,0.3s							
LAST	**Lasithi**	**0.57**	**230**	P		**Pb**	**07 03 59.0**	**+0.2**
LAST				S		**Sb**	**07 04 06.6**	**0.0**
LAST				AML		AML	07 04 07.9	
	comp=E,3202μm,0.3s							
LAST				AML		AML	07 04 08.0	
	comp=N,3931μm,0.3s							
HRKL	**Herakleio**	**0.78**	**253**	P		**Pn**	**07 04 02.8**	**+0.1**
IACM	**Heraklion**	**0.80**	**254**	P		**Pn**	**07 04 03.0**	**-0.1**
IACM	**Heraklion**	**0.80**	**254**	P		**Pn**	**07 04 03.3**	**+0.2**
IACM				S		**Sn**	**07 04 14.8**	**+0.6**
KSTL	**Kastelli Herak**	**0.80**	**253**	P		**Pb**	**07 04 00.6**	**-2.0**
KSTL				S		**Sb**	**07 04 08.8**	**-4.2**
KARP	**Karpathos**	**0.94**	**89**	P		**Pb**	**07 04 04.7**	**-0.2**
KARP				S		**Sn**	**07 04 17.6**	**-0.1**
	comp=N,812nm,0.2s							
KARP	**Karpathos**	**0.94**	**89**	P		**Pb**	**07 04 04.7**	**-0.2**
KARP				S		**Sn**	**07 04 17.6**	**-0.1**
KARP	**Karpathos**	**0.94**	**89**			**Pn**	**07 04 04.9**	**-0.1**
SANT	**Santorini**	**0.95**	**332**	P		**Pb**	**07 04 05.2**	**+0.1**

WHAR	**Wooly Hollow**	**25.06**	**349**	P		**P**	**07 30 27.3**	**-1.2**
WHAR				IAmb		IAmb	07 30 29.4	
	comp=Z,8.9nm,1.0s							
V58A	**Windy Hill, Pi**	**25.88**	**14**	P		**P**	**07 30 35.6**	**-0.3**
V58A				IAmb		IAmb	07 30 36.7	
	comp=Z,9.6nm,0.7s							
U40A	**Yellville**	**26.20**	**348**	P		**P**	**07 30 38.5**	**-0.4**
U40A				IAmb		IAmb	07 30 38.9	
	comp=Z,5.3nm,0.8s							
WMOK	**Wichita Mounta**	**26.45**	**337**	P		**P**	**07 30 42.5**	**+1.4**
WMOK				IAmb		IAmb	07 30 44.8	
	comp=Z,12nm,1.2s							
R58B	**Mineral**	**28.24**	**14**	P		**P**	**07 30 57.4**	**+0.3**
R58B				IAmb		IAmb	07 31 10.8	
	comp=Z,11nm,1.5s							
Q51A	**Peebles**	**28.36**	**5**	P		**P**	**07 30 58.1**	**-0.1**
P53A	**Whipple**	**29.04**	**8**	P		**P**	**07 31 04.0**	**-0.2**
P53A				IAmb		IAmb	07 31 05.1	
	comp=Z,13nm,0.8s							
ACSO	**Alum Creek Sta**	**29.59**	**5**	P		**P**	**07 31 08.5**	**-0.6**
ACSO				IAmb		IAmb	07 31 09.1	
	comp=Z,8.9nm,0.8s							
N59A	**State Game Lan**	**31.56**	**16**	P		**P**	**07 31 26.3**	**-0.2**
N59A				IAmb		IAmb	07 31 27.6	
	comp=Z,6.6nm,0.7s							
M57A	**Sunshine Farm,**	**31.62**	**13**	P		**P**	**07 31 27.4**	**+0.4**
SDCO	**Great Sand Dun**	**31.91**	**331**	P		**P**	**07 31 32.0**	**+2.0**
BINY	**Binghamton**	**32.71**	**14**	P		**P**	**07 31 36.8**	**+0.2**
ECSD	**EROS Data Cent**	**34.08**	**347**	P		**P**	**07 31 46.7**	**-1.8**
ECSD				IAmb		IAmb	07 31 47.3	
	comp=Z,2.8nm,0.8s							
G62A	**West of Eustis**	**37.04**	**19**	P		**P**	**07 32 13.4**	**-0.4**
G62A				IAmb		IAmb	07 32 13.6	
	comp=Z,8.2nm,1.0s							
PDAR	**Pinedale Array**	**37.77**	**332**	P		**P**	**07 32 20.6**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=129,slow=9.1,SNR=6.3							
REDW	**Red Top Meadow**	**38.84**	**331**	P		**P**	**07 32 30.0**	**+0.7**
REDW				IAmb		IAmb	07 32 30.8	
	comp=Z,2.4nm,0.7s							
TPAW	**Teton Pass**	**38.98**	**331**	P		**P**	**07 32 31.8**	**+1.2**
NVAR	**Mina Array Bea**	**39.66**	**320**	P		**P**	**07 32 38.5**	**+2.2**
	comp=Z,1.5nm,0.9s,baz=136,slow=7.3,SNR=11							
NVAR				PcP		**PcP**	**07 34 46.6**	**+3.8**
	comp=Z,0.6nm,0.7s,baz=116,slow=4.2,SNR=5.9							
ULM	**Lac du Bonnet**	**40.21**	**351**	P		**P**	**07 32 38.4**	**-2.0**
	comp=Z,0.7nm,0.4s,baz=160,slow=11,SNR=2.7							
ULM	**Lac du Bonnet**	**40.21**	**351**	P		**P**	**07 32 38.7**	**-1.6**
ULM				IAmb		IAmb	07 32 55.3	
	comp=Z,5.8nm,1.2s							
SCHQ	**Schefferville**	**46.70**	**15**	P		**P**	**07 33 29.8**	**-2.9**
	comp=Z,1.8nm,0.7s,baz=234,slow=8.7,SNR=5.9							
SCHQ	**Schefferville**	**46.70**	**15**	P		**P**	**07 33 30.2**	**-2.5**
YKA	**Yellowknife Ar**	**55.56**	**345**	P		**P**	**07 34 36.7**	**-2.3**
	comp=Z,0.4nm,0.8s,baz=132,slow=8.2,SNR=5.8							
ILAR	**Eielson Array**	**68.01**	**336**	P		**P**	**07 36 02.1**	**-0.8**
	comp=Z,0.6nm,1.1s,baz=133,slow=6.3,SNR=4.4							
RND	**Reindeer**	**68.31**	**335**	P		**P**	**07 36 05.5**	**+0.6**
KSH	**Kashi**	**127.46**	**17**	*e*PKP		**PKiKP**	**07 44 10.8**	**+1.0**
FORT	**Forrest**	**142.25**	**233**	PKPdf		**PKiKP**	**07 44 38.9**	**-0.9**

IDC 28 07:32:13.9±8.9, 18°.40N×146°.28E, h0km, mb4.3/5, mb1 4.3/5, mb1mx3.6/63, mbtmp4.3/5, Error ellipse: s-maj=230.6km s-min=138.6km az=180.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**58.59**	**323**	P	P	07 42 11.3	-1.1
	1.0nm,0.4s,baz=97,slow=9.4,SNR=3.5						
KURBB	**Kurchatov Arra**	**61.91**	**318**	P	P	07 42 35.1	-0.1
	1.3nm,0.7s,baz=94,slow=8.0,SNR=7.1						
NRIK	**Noril'sk**	**62.08**	**340**	P	P	07 42 36.3	+0.3
	1.1nm,0.3s,baz=90,slow=7.1,SNR=3.5						
BVAR	**Borovoye Array**	**67.05**	**320**	P	P	07 43 09.7	+0.8
	2.1nm,0.4s,baz=89,slow=7.1,SNR=9.2						
FINES	**FINESS Array B**	**87.38**	**335**	P	P	07 45 02.4	-0.3
	2.8nm,0.7s,baz=62,slow=4.5,SNR=9.8						

*SOME **28** 07:34:33.7, 43°.38N×74°.85E*
*ISCJB **28** 07:34:34.1±0.4, 43°.39N±0°.03×74°.88E±0°.03, h0km, Error ellipse: s-maj=4.2km s-min=2.7km az=173.8*
*NNC **28** 07:34:34.2±0.3, 43°.38N×74°.88E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=2.3km s-min=1.6km az=163.0, Suspected Mining explosion.*

ISC 28 07:34:34.0±0.8, 43°.41N±0°.03×74°.88E±0°.02, h0km, n29, σ0s.49/41, 5C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGDS	**Sogindy**	**0.19**	**282**	P	**Pg**	**07 34 37.8**	**+0.3**
	145nm,0.1s						
SGDS				S	**Sg**	07 34 40.4	+0.5
	265nm,0.5s						
USP	**Ospenovka**	**0.31**	**242**	P	**Pg**	**07 34 40.3**	**+0.3**
	SNR=369						
CHMS	**Chumysh**	**0.42**	**193**	P	**Pg**	**07 34 42.4**	**+0.3**
	SNR=58						
DGS	**Degeres**	**0.67**	**104**	P	**Pg**	**07 34 47.3**	**+0.4**
	28nm,0.2s						
DGS				S	**Sg**	**07 34 56.7**	**+1.1**
	54nm,0.2s						
TKM2	**Tokmak 2**	**0.72**	**133**	P	**Pg**	**07 34 47.7**	**-0.1**
	SNR=62						
TKM2	**Tokmak 2**	**0.72**	**133**	⇑P	**Pg**	**07 34 47.3**	**-0.5**
	8.4nm,0.3s						
TKM2				⇓S	**Sg**	**07 34 57.4**	**+0.3**
	9.8nm,0.3s						
KBK	**Karagaybulak**	**0.76**	**176**	P	**Pg**	**07 34 48.9**	**+0.4**
	SNR=39						
AAK	**Ala-Archa**	**0.82**	**200**	P	**Pg**	**07 34 50.0**	**+0.3**
	SNR=9.5						
AAK	**Ala-Archa**	**0.82**	**200**	⇑P	**Pg**	**07 34 49.8**	**+0.1**
	5.1nm,0.5s						
AAK				⇑S	**Sg**	**07 35 01.2**	**+0.8**
	4.8nm,0.3s						
EKS2	**Erkin-Say**	**1.10**	**227**	P	**Pg**	**07 34 55.1**	**0.0**
	SNR=44						
KUU	**Kurty**	**1.16**	**65**	P	**Pg**	**07 34 56.1**	**-0.1**
	4.1nm,0.2s						
KUU				S	**Sg**	**07 35 11.6**	**+0.2**
	13nm,0.2s						
MTBS	**Maitube**	**1.17**	**104**	P	**Pg**	**07 34 56.3**	**0.0**
	13nm,0.2s						
MTBS				S	**Sb**	**07 35 12.4**	**-0.4**
	30nm,0.3s						
UCH	**Uchtor**	**1.22**	**193**	P	**Pg**	**07 34 57.2**	**-0.1**
	SNR=8.0						
KTBS	**Karatobe**	**1.34**	**77**	P	**Pg**	**07 34 59.5**	**-0.3**
	8.8nm,0.1s						
KTBS				S	**Sb**	**07 35 17.6**	**-0.2**
	46nm,0.4s						
KZA	**Kyzart**	**1.36**	**168**	P	**Pg**	**07 35 00.0**	**-0.1**
	SNR=35						
MRKS	**Merke**	**1.38**	**242**	P	**Pg**	**07 34 59.9**	**-0.6**
	10nm,0.1s						
MRKS				S	**Sg**	**07 35 18.0**	**-0.4**
	13nm,0.2s						
ULHL	**Ulahol**	**1.54**	**139**	P	**Pn**	**07 35 02.6**	**-0.2**
	SNR=21						
AML	**Almayashu**	**1.55**	**215**	P	**Pn**	**07 35 03.0**	**-0.1**
	SNR=8.6						
TNSS	**Tian-Shan**	**1.56**	**103**	P	**Pn**	**07 35 03.3**	**0.0**
	31nm,0.3s						
TNSS				S	**Sg**	**07 35 23.9**	**-0.1**
	16nm,0.4s						
MDOK	**Medeo**	**1.60**	**98**	P	**Pn**	**07 35 03.9**	**+0.2**
	4.1nm,0.4s						
MDOK				S	**Sg**	**07 35 26.5**	**+1.0**
	11nm,0.5s						
MDOK	**Medeo**	**1.60**	**98**	Pg	**Pb**	**07 35 04.0**	**-0.5**
	12nm,0.3s						
MDOK				Lg	Lg	07 35 25.1	
	15nm,0.5s						
KOTS	**Kotyrbulak**	**1.64**	**96**	P	**Pg**	**07 35 05.2**	**-0.2**
	23nm,0.3s						
KOTS				S	**Sg**	**07 35 27.3**	**+0.7**
	48nm,0.4s						
BTLS	**Baital**	**1.73**	**340**	P	**Pb**	**07 35 06.9**	**+0.2**
	6.3nm,0.2s						
BTLS				S	**Sg**	**07 35 30.0**	**+0.3**
	18nm,0.3s						
ARXS	**Arharly**	**2.28**	**68**	Pg	**Pb**	**07 35 16.0**	**0.0**
	4.8nm,0.4s						
ARXS				Lg	Lg	07 35 45.9	
	14nm,0.4s						
KURS	**Kuram**	**2.40**	**87**	Pg	**Pb**	**07 35 18.3**	**+0.2**
KURS				Lg	Lg	07 35 49.5	
SATY	**Saty**	**2.60**	**97**	Pg	**Pb**	**07 35 21.9**	**+0.3**
	5.8nm,0.2s						
SATY				Lg	Lg	07 35 55.8	
	14nm,0.2s						
KK31	**Karatay Array**	**3.21**	**266**	⇑Pg	**Pb**	**07 35 31.6**	**-0.2**
	2.1nm,0.5s,baz=88,slow=15,SNR=35						
KK31				⇓Lg	Lg	07 36 13.1	
	2.0nm,0.5s,baz=76,slow=29,SNR=7.0						
PDGK	**Podgornoye**	**3.36**	**90**	Pg	**Pb**	**07 35 34.9**	**+0.4**
	1.3nm,0.3s						
PDGK				Lg	Lg	07 36 18.1	
	1.4nm,0.4s						
PDGK	**Podgornoye**	**3.36**	**90**	⇑Pg	**Pb**	**07 35 32.8**	**-1.7**
	3.9nm,0.6s						
PDGK				⇓Lg	Lg	07 36 17.5	
	3.8nm,0.9s						

*ISCJB **28** 07:35:08.9±0.3, 7°.26S±0°.04×156°.92E±0°.04, h35km, mb4.9/50, MS4.7/2, Error ellipse: s-maj=6.3km s-min=6.2km az=23.6*
*MOS **28** 07:35:10.6±1.3, 7°.22S×156°.85E, h46km, mb4.8/24, Error ellipse: s-maj=9.4km s-min=8.4km az=37.3*
*NEIC **28** 07:35:12.1±1.8, 7°.3S±0°.1×156°.82E±0°.08, h45km±6km, mb4.8/38*
*BJI **28** 07:35:12.8±0.0, 7°.50S×156°.63E, h64km, mb4.8/21, mB5.1/18, Ms5.0/4, Ms7 4.7/4*
*IDC **28** 07:35:14.3±2.1, 7°.31S×156°.82E, h61km±19km, mb4.2/17, mb1 4.3/22, mb1mx4.1/48, mbtmp4.5/22, MS3.6/3, Ms1 3.6/3, ms1mx3.3/27, Error ellipse: s-maj=16.0km s-min=12.0km az=25.0*
*DJA **28** 07:35:16.8±0.8, 7°.5S±5°×15°.7E±°, h85km±8km, M4.8/22, mB5.8/7, mb4.9/22, MLv4.3/1, Mw(mB)5.3/7*

ISC 28 07:35:11.0±0.3, 7°.17S±0°.06×156°.94E±0°.05, h35km, n135, σ1s78/136, mb4.8/61, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.73**	**127**	P	**Pn**	**07 36 09.3**	**+3.2**
	70nm,0.3s,baz=272,slow=5.0,SNR=15						
HNR				S	**Sn**	**07 36 52.9**	**+4.0**
	46nm,0.3s,baz=256,slow=6.8,SNR=4.0						
HNR				LR	LR	07 37 32.1	
	comp=Z,726nm,21.6s,baz=260,slow=37						
HNR	**Honiara**	**3.73**	**127**	*e*P	**Pn**	**07 36 05.0**	**-1.1**
HNR				*i* S	Sn	07 37 04.0	+15
HNR	**Honiara**	**3.73**	**127**		**Pn**	**07 36 05.8**	**-0.4**
HNR					**Sn**	**07 36 51.4**	**+2.5**
KRVT	**Keravat (AS076**	**5.65**	**300**	LR	LR	07 38 45.2	
	comp=Z,827nm,20.0s,baz=129,slow=38						
PMG	**Port Moresby**	**9.93**	**256**	*i* P	**Pn**	**07 37 32.3**	**+1.0**
PMG	**Port Moresby**	**9.93**	**256**	P	**Pn**	**07 37 34.0**	**+2.7**
	1.7nm,0.3s,baz=106,slow=7.0,SNR=6.6						
PMG				S	**Sn**	**07 39 24.5**	**+3.0**
	0.7nm,0.3s,baz=68,slow=5.4,SNR=2.0						
PMG				LR	LR	07 40 22.8	
	comp=Z,265nm,18.8s,baz=58,slow=32						
PMG	**Port Moresby**	**9.93**	**256**		**Pn**	**07 37 35.3**	**+4.0**
COEN	**Coen**	**15.12**	**242**	P	**Pn**	**07 38 42.7**	**+0.7**
CTA	**Charters Tower**	**16.50**	**218**	P	**P**	**07 39 01.6**	**-0.7**
	0.3nm,0.3s,baz=56,slow=16,SNR=6.6						
CTAO	**Charters Tower**	**16.50**	**218**	P	**P**	**07 39 03.8**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
JAY	**Jayapura**	**16.82**	**285**	P	**P**	**07 39 06.5**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=98,slow=14,SNR=2.8						
DZM	**Mont Dzumac**	**17.43**	**149**	*e*P	**P**	**07 39 14.2**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=179,slow=12,SNR=8.0						
DZM	**Mont Dzumac**	**17.43**	**149**	P	**P**	**07 39 12.9**	**+0.4**
SMPI	**Sarmi**	**18.88**	**285**	P	**Pn**	**07 39 31.6**	**+2.3**
	comp=Z,78nm,0.8s						
EIDS	**Eidsvold**	**18.95**	**197**	P	**P**	**07 39 28.8**	**-0.4**
ARMA	**Armidale**	**23.66**	**191**	P	**P**	**07 40 17.2**	**-2.3**
FAKI	**Fak Fak**	**24.95**	**278**	P	**P**	**07 40 30.3**	**-1.0**
FAKI				IAmb	IAmb	07 40 31.1	
	comp=Z,44nm,1.2s						
WR0	**Warramunga Arr**	**25.17**	**237**	P	**P**	**07 40 31.5**	**-1.8**
WR0				IAmb	IAmb	07 40 33.4	
	comp=Z,32nm,0.8s						
WRAB	**Tennant Creek**	**25.32**	**238**	*i* P	**P**	**07 40 32.3**	**-2.3**
WRAB				pmax	pmax		
	comp=Z,24nm,0.7s						
WRAB	**Tennant Creek**	**25.32**	**238**	P	**P**	**07 40 33.5**	**-1.2**
WRAB				IAmb	IAmb	07 40 34.7	
	comp=Z,28nm,0.8s						
WRA	**Warramunga Arr**	**25.33**	**238**	*i* P	**P**	**07 40 33.5**	**-1.3**
WRA				pmax	pmax		
	comp=Z,32nm,0.8s						
WRA	**Warramunga Arr**	**25.33**	**238**	P	**P**	**07 40 33.6**	**-1.1**
	comp=Z,32nm,0.8s,baz=63,slow=9.3,SNR=134						
WRA				PcP	**PcP**	**07 44 07.5**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=70,slow=2.6,SNR=9.8						
SIJI	**Sorong**	**26.35**	**283**	P	**P**	**07 40 43.0**	**-1.0**
	comp=Z,21nm,0.6s,baz=124,slow=8.8,SNR=7.4						
SWI	**Sorong**	**26.36**	**283**	P	**P**	**07 40 43.5**	**-0.6**
SWI				pmax	pmax		
	comp=Z,33nm,0.7s						
SWI	**Sorong**	**26.36**	**283**	P	**P**	**07 40 50.0**	**+5.9**
	comp=Z,33nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**27.25**	**21**	T	T	08 09 06.7	
	baz=202,slow=76,SNR=347						
H11S2	**WAKE ISLAND Hy**	**27.25**	**21**	T	T	08 09 04.9	
	baz=202,slow=76,SNR=208						
H11S1	**WAKE ISLAND Hy**	**27.27**	**21**	T	T	08 09 08.0	
	baz=202,slow=76,SNR=163						
AS31	**Alice Springs**	**27.53**	**231**	P	**P**	**07 40 52.7**	**-1.9**
ASAR	**Alice Springs**	**27.53**	**231**	P	**P**	**07 40 52.8**	**-1.9**
	comp=Z,4.1nm,0.8s,baz=61,slow=9.2,SNR=54						
ASAR				PcP	**PcP**	**07 44 12.3**	**0.0**
	comp=Z,0.6nm,0.5s,baz=87,slow=2.1,SNR=4.2						
STKA	**Stephens Creek**	**28.45**	**208**	P	**P**	**07 41 01.9**	**-0.8**
	comp=Z,4.3nm,0.7s,baz=28,slow=13,SNR=7.7						
STKA	**Stephens Creek**	**28.45**	**208**	P	**P**	**07 41 00.3**	**-2.3**
H11N1	**WAKE ISLAND Hy**	**28.45**	**20**	T	T	08 10 44.5	
	baz=202,slow=76,SNR=29						
H11N3	**WAKE ISLAND Hy**	**28.46**	**20**	T	T	08 10 43.4	
	baz=202,slow=76,SNR=56						
H11N2	**WAKE ISLAND Hy**	**28.47**	**20**	T	T	08 10 42.2	
	baz=202,slow=76,SNR=28						
KNRA	**Kununurra**	**28.85**	**250**	P	**P**	**07 41 04.9**	**-1.6**
KNRA				IAmb	IAmb	07 41 08.7	
	comp=Z,32nm,1.1s						
CAN	**Canberra**	**28.96**	**193**	P	**P**	**07 41 05.0**	**-2.2**
CAN				pmax	pmax		
	comp=Z,11nm,1.1s						
CAN	**Canberra**	**28.96**	**193**	P	**P**	**07 41 05.0**	**-2.2**
LBMI	**Labuha**	**30.06**	**281**	P	**P**	**07 41 18.6**	**+1.4**
	comp=Z,52nm,1.0s						
SANI	**Sanana**	**31.25**	**278**	P	**P**	**07 41 27.9**	**+0.2**
	comp=Z,48nm,1.2s						
AFI	**Afiamalu**	**31.45**	**105**	P	**P**	**07 41 29.4**	**-0.1**
	comp=Z,16nm,0.7s,baz=278,slow=15,SNR=3.5						
BBOO	**Buckleboo**	**32.05**	**214**	P	**P**	**07 41 33.4**	**-1.1**
FITZ	**Fitzroy Crossi**	**32.36**	**247**	P	**P**	**07 41 36.1**	**-1.3**
FITZ				IAmb	IAmb	07 41 52.7	
	comp=Z,13nm,1.2s						
LUWI	**Luwuk**	**34.60**	**279**	P	**P**	**07 41 58.1**	**+1.1**
	comp=Z,148nm,0.6s,comp=Z,6μm						
LUWI	**Luwuk**	**34.60**	**279**	P	**P**	**07 41 56.4**	**-0.6**
APSI	**Ampana**	**35.73**	**278**	P	**P**	**07 42 07.0**	**+0.3**
	comp=Z,97nm,0.6s,comp=Z,1μm						
MRSI	**Marisa**	**35.73**	**281**	P	**P**	**07 42 07.9**	**+1.2**
	comp=Z,20nm,0.4s						
FORT	**Forrest**	**35.82**	**225**	P	**P**	**07 42 05.2**	**-2.0**
THZ	**Tophouse**	**37.26**	**160**	P	**P**	**07 42 18.7**	**-0.7**
THZ				IAmb	IAmb	07 42 19.6	
	comp=Z,17nm,0.9s						
MPSI	**Mapaga**	**37.69**	**280**	P	**P**	**07 42 21.6**	**-1.8**
	comp=Z,71nm,0.7s,comp=Z,534nm						
RPZ	**Rata Peaks**	**38.45**	**163**	P	**P**	**07 42 29.3**	**-0.2**
	comp=Z,10nm,0.8s,baz=89,slow=7.6,SNR=4.2						
RPZ	**Rata Peaks**	**38.45**	**163**	P	**P**	**07 42 29.2**	**-0.2**
PSA00	**Pilbara Seismi**	**38.55**	**244**	P	**P**	**07 42 28.9**	**-1.7**
PSA00				IAmb	IAmb	07 42 43.1	
	comp=Z,19nm,1.3s						
KKM	**Kota Kinabalu**	**42.70**	**287**	P	**P**	**07 43 04.6**	**-0.5**
MORW	**Morawa**	**44.23**	**235**	P	**P**	**07 43 15.4**	**-1.8**
MORW				IAmb	IAmb	07 43 22.1	
	comp=Z,26nm,1.4s						
NWAO	**Narrogin (SRO)**	**44.84**	**230**	P	**P**	**07 43 21.5**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,21nm,1.4s						
NWAO	**Narrogin (SRO)**	**44.84**	**230**	P	**P**	**07 43 21.4**	**-0.5**
NWAO				IAmb	IAmb	07 43 39.1	
	comp=Z,26nm,1.4s						
NWAO	**Narrogin (SRO)**	**44.84**	**230**	P	**P**	**07 43 21.5**	**-0.5**
NWAO				IAmb	IAmb	07 43 39.1	
	comp=Z,21nm,1.4s						
UGM	**Wanagama**	**46.00**	**266**	P	**P**	**07 43 30.5**	**-1.0**
MAJO	**Matsushiro**	**46.90**	**339**	*i* P	**P**	**07 43 37.3**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,10.0nm,1.4s						
KPJI	**Karang Pucung**	**47.61**	**267**	P	**P**	**07 43 43.1**	**-0.8**
	comp=Z,35nm,0.6s						
CISI	**Cisompet, Garu**	**48.70**	**266**	P	**P**	**07 43 50.8**	**-1.7**
	comp=Z,83nm,0.5s,comp=Z,2μm						
CISI	**Cisompet, Garu**	**48.70**	**266**	P	**P**	**07 43 50.2**	**-2.2**
ERM	**Erimo**	**50.54**	**347**	*i* P	**P**	**07 44 05.4**	**-0.5**
ERM				pmax	pmax		
	comp=Z,48nm,1.1s						
KSRS	**Korea Array**	**52.01**	**331**	P	**P**	**07 44 18.6**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=147,slow=6.9,SNR=3.7						
NJ2	**Nanjing**	**53.29**	**319**	*e*P	**P**	**07 44 28.5**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,19nm,0.6s						
PUH	**Pauahi**	**53.99**	**60**	P	**P**	**07 44 31.1**	**-1.0**
RGRI	**Rengat**	**54.87**	**275**	P	**P**	**07 44 43.1**	**+4.6**
	comp=Z,414nm,0.4s,comp=Z,77μm						
KULM	**Kulim**	**57.52**	**281**	P	**P**	**07 44 56.2**	**-1.2**
NONG	**Nongkai**	**58.70**	**296**	P	**P**	**07 45 05.9**	**+0.3**
	comp=Z,0.7nm,0.7s,comp=Z,62nm						
CHAI	**Chaiyaphum**	**59.03**	**293**	P	**P**	**07 45 07.8**	**-0.1**
PBKT	**Sadao Pong**	**60.17**	**294**	P	**P**	**07 45 16.1**	**+0.4**
PBKT				IAmb	IAmb	07 45 16.7	
	comp=Z,6.4nm,0.6s						
KLR	**Kul'dur**	**60.33**	**341**	*i* P	**P**	**07 45 17.1**	**+0.9**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KMI	**Kunming**	**61.71**	**303**	P	**P**	**07 45 26.8**	**+0.4**
KMI				pmax	pmax		
	comp=Z,16nm,1.0s						
LAMP	**Lampang**	**62.00**	**295**	P	**P**	**07 45 29.0**	**+0.8**
PAYA	**Payao**	**62.06**	**296**	P	**P**	**07 45 29.0**	**+0.4**
	comp=Z,43μm,0.9s,comp=Z,405μm						
CMAR	**Chiang Mai Arr**	**62.60**	**295**	*i* P	**P**	**07 45 32.7**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**62.60**	**295**	P	**P**	**07 45 32.4**	**+0.2**
	comp=Z,9.3nm,0.8s,baz=117,slow=5.0,SNR=41						
CMMT	**Chiang Mai**	**62.71**	**295**	P	**P**	**07 45 33.0**	**+0.1**
CHTO	**Chiang Mai**	**62.71**	**295**	P	**P**	**07 45 33.0**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,13nm,1.1s						
CHTO	**Chiang Mai**	**62.71**	**295**	P	**P**	**07 45 33.0**	**+0.1**
HHC	**Hu-ho-hao-te**	**63.38**	**323**	*e*P	P	07 45 33.5	-3.6
HHC				S	**S**	**07 54 01.5**	**-6.0**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,39nm,5.8s						
CD2	**Chengdu**	**63.40**	**310**	*e*P	**P**	**07 45 37.0**	**-0.3**
LZH	**Lanzhou**	**65.80**	**315**	*e*P	**P**	**07 45 54.0**	**+1.0**
LZH				pP	sP	07 46 09.0	+1.0
LZH				sP	PcP	07 46 17.3	-6.7
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
ULN	**Ulaanbaatar**	**70.19**	**327**	P	**P**	**07 46 22.2**	**+1.8**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ULN	**Ulaanbaatar**	**70.19**	**327**	P	**P**	**07 46 22.2**	**+1.8**
ULN				IAmb	IAmb	07 46 25.1	
	comp=Z,6.1nm,0.8s						
VNDA	**Vanda**	**70.37**	**179**	P	**P**	**07 46 21.3**	**+0.5**
VNDA	**Vanda**	**70.37**	**179**	P	**P**	**07 46 20.8**	**0.0**
	comp=Z,4.4nm,0.9s,baz=316,slow=6.8,SNR=11						
VNDA	**Vanda**	**70.37**	**179**	P	**P**	**07 46 21.3**	**+0.5**
SONM	**Songino Array**	**70.53**	**327**	P	**P**	**07 46 23.4**	**+0.9**
	comp=Z,7.2nm,0.9s,baz=136,slow=9.9,SNR=18						
SHL	**Shillong**	**71.05**	**300**	P	**P**	**07 46 25.0**	**-1.1**
SHL				pmax	pmax		
	comp=Z,24nm,0.6s						
SHL	**Shillong**	**71.05**	**300**	P	**P**	**07 46 25.0**	**-1.1**
YAK	**Yakutsk**	**72.14**	**347**	*i* P	**P**	**07 46 30.0**	**-1.7**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LSA	**Lhasa**	**72.96**	**304**	P	**P**	**07 46 37.7**	**-0.2**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
LSA	**Lhasa**	**72.96**	**304**	P	**P**	**07 46 37.7**	**-0.2**
LSA				IAmb	IAmb	07 46 40.1	
	comp=Z,5.7nm,0.7s						
ZAK	**Zakamensk**	**73.66**	**327**	*e*P	**P**	**07 46 40.1**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BILL	**Bilibino**	**75.31**	**4**	*e*P	**P**	**07 46 51.2**	**+1.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
WMQ	**Urumqi**	**80.27**	**317**	*e*P	**P**	**07 47 19.0**	**+0.6**
WMQ				pP	sP	07 47 35.5	+2.0
WMQ				pmax	pmax		
	comp=Z,11nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.1s						
WMQ				LR	LR		
	comp=Z,230nm,17.9s						
WMQ				LR	LR		

ISA	**Isabella, Lake**	**89.75**	**54**	P	**P**	**07 48 05.2**	**-1.0**
ISA				pmax	pmax			
	comp=Z,4.0nm,1.3s							
ISA	**Isabella, Lake**	**89.75**	**54**	P	**P**	**07 48 05.2**	**-1.0**
BVAR	**Borovoye Airpo**	**93.59**	**323**	P	**P**	**07 48 22.7**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=104,slow=4.6,SNR=3.8							
BRVK	**Borovoye**	**93.66**	**323**	*i* P	**P**	**07 48 22.1**	**-1.7**
BRVK				pmax	pmax			
	comp=Z,1.0nm,1.1s							
YKA	**Yellowknife Ar**	**95.58**	**28**	P	**P**	**07 48 34.6**	**+2.3**
	comp=Z,0.2nm,0.4s,baz=265,slow=4.3,SNR=9.5							
KIV	**Kislovodsk**	**112.34**	**315**	*e*PKIKP	**PKiKP**	**07 53 41.0**	**-2.6**
KIV				pmax	pmax			
	comp=Z,13nm,1.0s							
OBN	**Obninsk**	**112.93**	**327**	*e*PKIKP	**PKiKP**	**07 53 43.3**	**-0.9**
OBN				pmax	pmax			
	comp=Z,10.0nm,0.4s							
AKASG	**Malin Array Be**	**118.79**	**325**	*i* PKIKP	**PKPdf**	**07 53 55.5**	**-0.1**
VYHS	**Vyhne**	**125.72**	**327**	*e*P	**Pdif**	**07 50 53.0**	**+6.0**
VYHS	**Vyhne**	**125.72**	**327**	*e*PDIFF	**Pdif**	**07 50 53.0**	**+6.0**
FNA	**Florina**	**128.22**	**317**	PKIKP	**PKPdf**	**07 54 12.3**	**-1.8**
BDFB	**Brasilia**	**146.47**	**133**	PKPbc	**PKPdf**	**07 54 49.2**	**+0.9**
	comp=Z,3.2nm,0.6s,baz=193,slow=8.1,SNR=5.5							
BDFB	**Brasilia**	**146.47**	**133**		**PKPdf**	**07 54 48.7**	**+0.4**
TORD	**Torodi Ar. Bea**	**154.93**	**286**	PKPbc	**PKPbc**	**07 55 09.7**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=74,slow=1.1,SNR=4.7							
TORD				PKPab	**PKPab**	**07 55 24.7**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=64,slow=4.4,SNR=5.0							
DBIC	**Dimbokro**	**161.92**	**270**	PKP2	**PKPab**	**07 55 55.0**	**-0.7**
DBIC	**Dimbokro**	**161.92**	**270**	PKPab	**PKPab**	**07 55 54.9**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=56,slow=2.3,SNR=5.0							
DBIC	**Dimbokro**	**161.92**	**270**		**PKPab**	**07 55 55.0**	**-0.7**

*ISCJB **28** 07:50:27.6±0.6,46°.54N±0°.08×152°.83E±0°.09,h35km, mb3.8/11,Error ellipse: s-maj=14.3km s-min=4.5km az=143.4*
*MOS **28** 07:50:29.5±1.2,46°.53N×152°.82E,h64km,mb4.3/8,Error ellipse: s-maj=14.0km s-min=9.0km az=138.7*
*SKHL **28** 07:50:30.4±0.4,46°.46N×152°.91E,h75km±2km,mb4.7/3*
*NEIC **28** 07:50:33.1±2.2,46°.7N±0°.1×152°.7E±0°.2,h70km±6km, mb4.6/6*
*IDC **28** 07:50:34.1±2.8,46°.78N×152°.60E,h78km±26km,mb3.4/10, mb1 3.6/14,mb1mx3.5/39,mbtmp3.8/14,Error ellipse: s-maj=27.1km s-min=17.2km az=144.0*

ISC 28 07:50:29.2±0.8,46°.49N±0°.09×152°.91E±0°.08,h35km,n63, σ1°81/65,mb4.0/14,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.74**	**252**	*e*PN	**Pn**	**07 51 27.4**	**+3.0**
KUR				*e*S	**Sn**	**07 52 09.2**	**+2.1**
KUR				pmax	pmax		
	comp=Z,135nm,0.3s						
KUR				pmax	pmax		
	comp=N,38nm,0.1s						
KUR				pmax	pmax		
	comp=E,57nm,0.1s						
KUR				smax	smax		
	comp=N,216nm,0.2s						
KUR				smax	smax		
	comp=E,90nm,0.2s						
KUR	**Kuril'sk**	**3.74**	**252**	*e*P	**Pn**	**07 51 26.4**	**+2.0**
KUR				AMB	AMB	07 51 29.8	
	comp=E,111nm,0.3s						
KUR				*e*S	**Sn**	**07 52 08.2**	**+1.1**
KUR				A	A	07 52 19.4	
	comp=E,216nm,0.4s						
KUR				A	A	07 52 19.4	
	comp=E,90nm,0.4s						
SHO	**Shikotan**	**5.03**	**241**	*e*PN	**Pn**	**07 51 42.3**	**+0.2**
SHO				*e*S	**Sn**	**07 52 38.4**	**-0.6**
SHO				pmax	pmax		
	comp=Z,24nm,0.4s						
SHO				pmax	pmax		
	comp=N,18nm,0.2s						
SHO				pmax	pmax		
	comp=E,26nm,0.2s						
SHO				smax	smax		
	comp=N,77nm,0.5s						
SHO				smax	smax		
	comp=E,56nm,0.2s						
SHO	**Shikotan**	**5.03**	**241**	*e*P	**Pn**	**07 51 42.3**	**+0.2**
SHO				AMB	AMB	07 51 46.0	
	comp=E,24nm,0.4s						
SHO				*e*S	**Sn**	**07 52 37.4**	**-1.6**
SHO				A	A	07 52 46.0	
	comp=E,77nm,0.4s						
SHO				A	A	07 52 46.0	
	comp=E,86nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.55**	**246**	PN	**Pn**	**07 51 49.9**	**+0.7**
YUK				S	**Sn**	**07 52 50.7**	**-1.0**
YUK				smax	smax		
	comp=E,27nm,0.2s						
YUK				smax	smax		
	comp=N,70nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.55**	**246**	*e*P	**Pn**	**07 51 51.2**	**+2.0**
YUK				*e*S	**Sn**	**07 52 51.7**	**0.0**
YUK				A	A	07 52 52.0	
	comp=N,70nm,0.3s						
YUK				A	A	07 52 52.0	
	comp=N,27nm,0.3s						
GRPR	**Tuman**	**5.62**	**246**	*e*PN	**Pn**	**07 51 52.0**	**+1.7**
GRPR				*e*S	**Sn**	**07 52 53.2**	**-0.4**
GRPR				pmax	pmax		
	comp=E,45nm,0.4s						
GRPR				pmax	pmax		
	comp=Z,64nm,0.4s						
GRPR				pmax	pmax		
	comp=N,23nm,0.1s						
GRPR				smax	smax		
	comp=E,37nm,0.3s						
GRPR				smax	smax		
	comp=E,123nm,0.4s						
GRPR	**Tuman**	**5.62**	**246**	*e*P	**Pn**	**07 51 52.0**	**+1.7**
GRPR				AMB	AMB	07 51 53.1	
	comp=E,44nm,0.4s						
GRPR				*e*S	**Sn**	**07 52 53.2**	**-0.4**
GRPR				A	A	07 53 04.6	
	comp=E,37nm,0.3s						
GRPR				A	A	07 53 04.6	
	comp=E,123nm,0.3s						
GLVR	**Golovnino**	**5.91**	**245**	*e*PN	**Pn**	**07 51 55.9**	**+1.8**
GLVR				*e*S	**Sn**	**07 53 00.4**	**-0.2**
GLVR				smax	smax		
	comp=N,79nm,0.2s						
GLVR				smax	smax		
	comp=E,158nm,0.4s						
GLVR	**Golovnino**	**5.91**	**245**	*e*P	**Pn**	**07 51 55.3**	**+1.2**
GLVR				*e*S	**Sn**	**07 52 59.4**	**-1.2**
GLVR				A	A	07 53 04.3	
	comp=E,79nm,0.5s						
GLVR				A	A	07 53 04.3	
	comp=E,158nm,0.5s						
NMR	**Nemuro--Hokkai**	**5.98**	**241**	*e*PN	**Pn**	**07 51 54.7**	**-0.4**
YSS	**Yuzh-Sakhalins**	**7.00**	**278**	*i* PN	**Pn**	**07 52 11.6**	**+2.5**
YSS				pmax	pmax		
	comp=Z,11nm,0.3s						
YSS	**Yuzh-Sakhalins**	**7.00**	**278**	Pn	**Pn**	**07 52 11.1**	**+2.0**
PETK	**Petropavlovsk-**	**7.32**	**23**	P	**Pn**	**07 52 15.1**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=198,slow=11,SNR=3.8						
JKA	**Kamikawa-asahi**	**7.65**	**256**	*e*P	**Pn**	**07 52 21.0**	**+3.0**
JKA	**Kamikawa-asahi**	**7.65**	**256**		**Pn**	**07 52 21.0**	**+3.0**
ASAJ	**Asahikawa**	**7.65**	**256**	PN	**Pn**	**07 52 21.0**	**+2.9**
ASAJ	**Asahikawa**	**7.65**	**256**	P	**Pn**	**07 52 21.0**	**+2.9**
	comp=Z,1.1nm,0.3s,baz=85,slow=17,SNR=5.0						
ERM	**Erimo**	**8.30**	**241**	PN	**Pn**	**07 52 28.3**	**+1.3**
ERM	**Erimo**	**8.30**	**241**	Pn	**Pn**	**07 52 28.3**	**+1.3**
MA2	**Magadan**	**13.18**	**355**	PN	**Pn**	**07 53 35.4**	**+1.8**
MA2	**Magadan**	**13.18**	**355**	Pn	**Pn**	**07 53 35.4**	**+1.8**
MJAR	**Matsushiro Arr**	**14.81**	**233**	P	**P**	**07 54 00.0**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=43,slow=9.8,SNR=4.9						
MJB9	**Matsu-Tunnel**	**14.81**	**233**	P	**P**	**07 54 03.2**	**+1.7**
MAJO	**Matsushiro**	**14.81**	**233**	P	**P**	**07 54 03.0**	**+1.6**
MAJO	**Matsushiro**	**14.81**	**233**	P	**P**	**07 54 03.0**	**+1.6**
USA0B	**Ussuriysk Arra**	**14.89**	**269**	P	**Pn**	**07 53 58.7**	**+1.8**
USA0B	**Ussuriysk Arra**	**14.89**	**269**	Pn	**Pn**	**07 53 58.7**	**+1.8**
USRK	**Ussuriysk Ar.**	**14.89**	**269**	P	**Pn**	**07 53 57.5**	**+0.6**
	baz=68,slow=11,SNR=7.4						
KROS	**Kirovskiy**	**18.25**	**305**	*e*P	**Pn**	**07 54 37.7**	**-1.7**
KROS				AMB	AMB	07 54 40.4	
	comp=Z,2.0nm,0.4s						
KSRS	**Korea Array**	**20.59**	**253**	*e*P	Pn	07 55 11.3	+3.9
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KSRS	**Korea Array**	**20.59**	**253**	P	**P**	**07 55 06.8**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=50,slow=11,SNR=3.7						
JNU	**Nakatsue**	**21.46**	**239**	P	**P**	**07 55 13.7**	**-0.9**
JNU				IAmb	IAmb	07 55 19.3	
	comp=Z,65nm,1.4s						
H11N2	**WAKE ISLAND Hy**	**29.05**	**152**	T	T	08 27 53.4	
	baz=340,slow=76,SNR=166						
H11N1	**WAKE ISLAND Hy**	**29.06**	**152**	T	T	08 27 54.6	
	baz=340,slow=76,SNR=96						
H11N3	**WAKE ISLAND Hy**	**29.07**	**152**	T	T	08 27 54.7	
	baz=340,slow=76,SNR=136						
H11S1	**WAKE ISLAND Hy**	**30.13**	**153**	T	T	08 29 14.2	
	baz=340,slow=76,SNR=110						
H11S3	**WAKE ISLAND Hy**	**30.14**	**153**	T	T	08 29 14.8	
	baz=340,slow=76,SNR=102						
H11S2	**WAKE ISLAND Hy**	**30.15**	**153**	T	T	08 29 15.6	
	baz=340,slow=76,SNR=85						
PPLA	**Purkeypile**	**34.45**	**41**	P	**P**	**07 57 16.6**	**+3.3**
PPLA				IAmb	IAmb	07 57 32.1	
	comp=Z,18nm,1.4s						
ILAR	**Eielson Array**	**36.84**	**38**	P	**P**	**07 57 34.3**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=260,slow=7.0,SNR=3.9						
SCRK	**Sand Creek**	**38.13**	**40**	P	**P**	**07 57 45.3**	**+0.7**
SCRK				IAmb	IAmb	07 57 48.3	
	comp=Z,5.2nm,1.4s						
MK31	**Makanchi Array**	**46.94**	**297**	P	**P**	**07 58 53.7**	**-2.6**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.3s						
MK31	**Makanchi Array**	**46.94**	**297**	P	**P**	**07 58 53.7**	**-2.6**
MKAR	**Makanchi Array**	**46.94**	**297**	*e*P	**P**	**07 58 54.9**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**46.94**	**297**	P	**P**	**07 58 52.9**	**-3.4**
	comp=Z,0.5nm,0.5s,baz=68,slow=6.7,SNR=7.7						
MKAR	**Makanchi Array**	**46.94**	**297**	*e*P	**P**	**07 58 54.9**	**-1.4**
YKA	**Yellowknife Ar**	**51.22**	**37**	*i* P	P	07 59 22.7	-6.0
YKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NVAR	**Mina Array Bea**	**62.68**	**62**	P	**P**	**08 00 51.3**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=311,slow=7.1,SNR=3.0						
FIA1	**FINESS Array S**	**64.22**	**335**	P	**P**	**08 00 58.5**	**-1.5**
FINES	**FINESS Array B**	**64.22**	**335**	*e*P	**P**	**08 00 56.5**	**-3.5**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**64.22**	**335**	P	**P**	**08 00 58.0**	**-1.9**
	comp=Z,3.5nm,0.9s,baz=352,slow=5.8,SNR=11						
PDAR	**Pinedale Array**	**65.02**	**54**	P	**P**	**08 01 05.0**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=311,slow=3.3,SNR=3.4						
NB2	**NORSAR Subarra**	**68.43**	**341**	P	**P**	**08 01 25.5**	**-1.6**
	comp=Z,1.0nm,0.5s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**68.43**	**341**	*e*P	**P**	**08 01 25.9**	**-1.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**68.43**	**341**	P	**P**	**08 01 25.4**	**-1.6**
	comp=Z,0.8nm,0.6s,baz=29,slow=6.6,SNR=3.8						
AKASG	**Malin Array Be**	**71.69**	**326**	P	**P**	**08 01 45.2**	**-1.9**
	comp=Z,1.2nm,0.3s,baz=36,slow=6.2,SNR=6.6						
AKBB	**Malin Array Si**	**71.69**	**326**	P	**P**	**08 01 45.4**	**-1.7**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKBB	**Malin Array Si**	**71.69**	**326**	P	**P**	**08 01 45.4**	**-1.7**
AKBB				IAmb	IAmb	08 01 45.9	
	comp=Z,3.6nm,0.8s						
ASAR	**Alice Springs**	**71.91**	**198**	*e*P	**P**	**08 01 50.0**	**+1.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**71.91**	**198**	P	**P**	**08 01 50.0**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=16,slow=5.3,SNR=5.1						
GERES	**GERESS Array B**	**78.63**	**334**	*e*P	**P**	**08 02 26.4**	**-0.9**
GERES	**GERESS Array B**	**78.63**	**334**	P	**P**	**08 02 25.7**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=29,slow=6.4,SNR=4.4						

*IDC **28** 07:54:56.5±1.0,56°.46S×27°.61W,h0km,mb4.1/4, mb1 4.2/4,mb1mx3.9/16,mbtmp4.1/4,Error ellipse: s-maj=47.8km s-min=24.8km az=43.0*
*ISCJB **28** 07:55:09.1±0.6,56°.14S±0°.10×27°.8W±0°.2,h100km, mb4.1/4,Error ellipse: s-maj=17.2km s-min=9.3km az=136.5*
*NEIC **28** 07:55:10.1±1.7,56°.1S±0°.1×27°.7W±0°.2,h94km±6km, mb4.3/14*

ISC 28 07:55:10.2±0.6,56°.2S±0°.1×27°.8W±0°.1,h100km,n40, σ1°37/44,mb4.3/11,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.32**	**287**		**Pn**	**07 56 27.2**	**+0.1**
HOPE				Sn	**Sn**	**07 57 23.8**	**-3.2**
VNA2	**Neumayer--Watz**	**17.21**	**157**	P	**P**	**07 59 04.7**	**+0.7**
	baz=310,slow=13						
EFI	**East Falkland**	**18.29**	**271**	P	**Pn**	**07 59 18.2**	**+1.1**
SNAA	**Sanae**	**18.77**	**155**	P	**P**	**07 59 21.5**	**+0.4**
SNAA	**Sanae**	**18.77**	**155**	P	**P**	**07 59 21.1**	**-0.1**
GO09	**Cerro Castillo**	**26.44**	**262**	P	**P**	**08 00 37.2**	**-0.1**
GO09				IAmb	IAmb	08 00 39.0	
	comp=Z,28nm,1.4s						
GO09				PcP	**PcP**	**08 04 01.6**	**+1.9**
TRQA	**Tornquist**	**29.05**	**294**	P	**P**	**08 01 00.9**	**+0.1**
TRQA				IAmb	IAmb	08 01 14.9	
	comp=Z,15nm,1.4s						
QSPA	**South Pole Qui**	**34.08**	**180**	P	**P**	**08 01 46.2**	**+1.4**
QSPA				IAmb	IAmb	08 01 49.1	
	comp=Z,2.4nm,0.7s						
QSPA				PcP	**PcP**	**08 04 20.8**	**+1.1**
GO05	**Huala**	**36.58**	**286**	P	**P**	**08 02 05.6**	**-0.7**
CPUP	**Villa Florida**	**36.63**	**312**	P	**P**	**08 02 05.9**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=139,slow=9.3,SNR=3.4						
CPUP	**Villa Florida**	**36.63**	**312**	P	**P**	**08 02 05.8**	**-1.0**
MAW	**Mawson**	**40.26**	**144**	P	**P**	**08 02 32.1**	**-4.5**
	comp=Z,1.0nm,0.6s,baz=258,slow=7.7,SNR=4.1						
MAW	**Mawson**	**40.26**	**144**	P	**P**	**08 02 32.4**	**-4.2**
LVC	**Limon Verde**	**45.06**	**301**	P	**P**	**08 03 17.6**	**+1.2**
LVC				IAmb	IAmb	08 03 18.0	
	comp=Z,4.9nm,0.7s						
VNDA	**Vanda**	**46.44**	**183**	P	**P**	**08 03 27.4**	**+1.3**
VNDA				IAmb	IAmb	08 03 44.9	
	comp=Z,5.9nm,1.5s						
PB11	**IPOC Station P**	**47.86**	**302**	P	**P**	**08 03 39.4**	**+1.4**
PB11				IAmb	IAmb	08 03 51.2	
	comp=Z,4.5nm,0.8s						
MNMC	**Minye Minye**	**48.37**	**303**	P	**P**	**08 03 43.1**	**+1.0**
LPAZ	**La Paz**	**50.17**	**306**	P	**P**	**08 03 57.2**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=112,slow=5.4,SNR=18						
LPAZ	**La Paz**	**50.17**	**306**	P	**P**	**08 03 57.3**	**+1.1**
LPAZ				IAmb	IAmb	08 03 57.8	
	comp=Z,3.6nm,1.1s						
TOA0	**Torodi Ar. Sit**	**73.33**	**30**	P	**P**	**08 06 31.3**	**+0.5**
TOA0				IAmb	IAmb	08 06 31.9	
	comp=Z,2.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.33**	**30**	P	**P**	**08 06 31.1**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=200,slow=6.7,SNR=15						
YKA	**Yellowknife Ar**	**136.03**	**318**	PKP	**PKPdf**	**08 14 17.6**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=122,slow=2.3,SNR=5.4						
HYT	**Haines Junctio**	**144.59**	**307**	PKPdf	**PKPdf**	**08 14 34.1**	**+0.5**
INK	**Inuvik**	**145.68**	**321**	PKPdf	**PKPbc**	**08 14 35.7**	**+0.1**
EPYK	**Eagle Plains**	**146.27**	**317**	PKPdf	**PKPbc**	**08 14 37.5**	**-0.1**
DAWY	**Dawson**	**146.62**	**312**	PKPdf	**PKPbc**	**08 14 38.3**	**-0.4**
BALM	**Baldy**	**146.84**	**306**	PKPbc	**PKiKP**	**08 14 41.8**	**-0.2**
WAX	**Waxell Ridge**	**146.86**	**305**	PKPbc	**PKPab**	**08 14 41.4**	**+0.3**
MENT	**Mentasta**	**148.10**	**309**	PKPab	**PKPab**	**08 14 47.2**	**+1.2**
SCM	**Sheep Creek Mo**	**149.37**	**306**	PKPdf	**PKPbc**	**08 14 43.7**	**-2.3**
DHY	**Denali Highway**	**149.74**	**308**	PKPbc	**PKiKP**	**08 14 47.7**	**-0.2**
SEW	**Seward**	**149.82**	**302**	PKPbc	**PKiKP**	**08 14 47.5**	**-0.4**
IL31		**149.94**	**312**		**PKiKP**	**08 14 47.7**	**-0.3**
ILAR	**Eielson Array**	**149.94**	**312**	PKPbc	**PKPbc**	**08 14 46.8**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=126,slow=2.1,SNR=20						
RND	**Reindeer**	**150.47**	**309**	PKPbc	**PKiKP**	**08 14 49.5**	**+0.2**
KDAK	**Kodiak Island**	**150.56**	**296**	PKPbc	**PKPbc**	**08 14 49.2**	**+0.3**
MCK	**McKinley**	**150.58**	**309**	PKPbc	**PKiKP**	**08 14 49.5**	**0.0**
SONM	**Songino Array**	**151.08**	**87**	PKPbc	**PKPbc**	**08 14 50.1**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=233,slow=3.3,SNR=6.1						
TRF	**Thorofare Moun**	**151.11**	**308**	PKPbc	**PKPbc**	**08 14 50.3**	**+0.1**
TRF				PKPab	**PKPab**	**08 14 59.4**	**+1.0**
KTH	**Kantishna Hill**	**151.41**	**308**		**PKPbc**	**08 14 50.9**	**+0.1**

*ISCJB **28** 08:03:15.6±0.7,31°.09N±0°.04×115°.31W±0°.03,h8km±7km, Error ellipse: s-maj=7.0km s-min=4.5km az=15.1*
*ANF **28** 08:03:16.5±0.7,31°.23N×115°.32W,ML3.4/20,Error ellipse: s-maj=7.5km s-min=3.1km az=35.0*
*ECX **28** 08:03:17.9±0.5,31°.09N×115°.43W,h5km,MD3.3,ML3.5*
*SCEDC **28** 08:03:17.3±0.2,31°.14N×115°.43W,h6km,M3.6*
*MEX **28** 08:03:18.3±0.5,30°.95N×115°.45W,h9km±2km,MD3.8*

ISC 28 08:03:16.9±0.9,31°.13N±0°.03×115°.40W±0°.03,h10km±7km, n38,σ1°18/56,2C-3D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**0.10**	**215**	*i* P	**Pg**	**08 03 20.3**	**+0.5**
SPIG				*i* S	**Sg**	**08 03 22.2**	**+0.4**
SPIG	**San Pedro Mart**	**0.10**	**215**	*e*P	**Pg**	**08 03 19.9**	**+0.2**
SPX	**San Pedro Mart**	**0.11**	**212**	⇓*i*P	**Pg**	**08 03 19.3**	**-0.6**
SPX				*e*S	**Sg**	**08 03 21.1**	**-0.9**
SPX				IAML		08 03 21.5	
	comp=N,37μm,0.1s						
SPX				*e*		08 03 21.5	
SFX	**San Felipe**	**0.48**	**101**	⇑*i*P	**Pg**	**08 03 27.0**	**+0.8**
SFX				*e*S	**Sg**	**08 03 33.6**	**+1.0**
SQX	**San Quintin**	**0.69**	**217**	⇑*i*P	**Pg**	**08 03 29.0**	**-1.1**
SQX				*e*S	**Sg**	**08 03 37.5**	**-1.6**
VTX	**Valle De La Tr**	**0.81**	**204**	*e*P	Pg	08 03 25.8	-6.7
VTX				*e*S	Sg	08 03 31.5	-11
ESJX	**Sierra Juarez**	**0.99**	**332**	*e*P	**Pg**	**08 03 35.1**	**-0.9**
ESJX				*e*S	**Sg**	**08 03 48.5**	**-0.5**
MBIG	**Mexicali**	**1.29**	**8**	*e*P	**Pn**	**08 03 41.5**	**+0.6**
MBIG				*i* S	**Sb**	**08 03 59.2**	**+1.4**
ERMX	**Rumorosa**	**1.52**	**340**	*e*P	**Pn**	**08 03 44.5**	**+0.2**
ERMX				IAML		08 04 07.5	
	comp=N,392nm,0.3s						
ERMX				⇓*e*		08 04 07.5	
CBX	**Cerro Bola**	**1.60**	**318**	*e*P	**Pn**	**08 03 45.7**	**+0.4**
CBX				*e*S	**Sn**	**08 04 07.2**	**+1.1**
CBX				⇓*e*		08 04 12.1	
CBX				IAML		08 04 12.1	
	comp=N,740nm,0.7s						
IKP	**In-Ko-Pah, Jac**	**1.63**	**338**	P	**Pn**	**08 03 45.4**	**-0.4**
	baz=159,SNR=294						
IKP				S	**Sn**	**08 04 08.4**	**+1.5**
	baz=159						
TJIG	**Tijuana**	**1.69**	**321**	*e*P	**Pn**	**08 03 46.8**	**+0.2**
TJIG				*e*S	**Sn**	**08 04 07.7**	**-0.7**
TKX	**Tecate**	**1.77**	**325**	*e*P	**Pn**	**08 03 48.1**	**+0.5**
SWSC	**Sam W. Stewart**	**1.84**	**349**	P	**Pn**	**08 03 48.0**	**-0.6**
	baz=170						
MONP2	**Monument Peak**	**1.96**	**334**	P	**Pn**	**08 03 50.5**	**+0.1**
	baz=154,SNR=133						
MONP2				Sb	**Sb**	**08 04 17.9**	**+0.4**
	baz=154						
GLA	**Glamis**	**1.98**	**14**	P	**Pn**	**08 03 49.6**	**-0.9**
	baz=195,SNR=8.2						
GLA				S	**Sn**	**08 04 14.7**	**-0.7**
	baz=195						
SDRC	**San Diego Road**	**2.07**	**321**	*e*P	**Pn**	**08 03 53.1**	**+1.3**
EML	**El Monte Cty P**	**2.14**	**325**	*e*P	**Pn**	**08 03 54.1**	**+1.3**
109C	**Camp Elliot, M**	**2.28**	**321**	P	**Pn**	**08 03 55.7**	**+1.2**
	baz=140,SNR=33						
109C				S	**Sb**	**08 04 25.7**	**-0.6**
	baz=140						
214A	**Organ Pipe Nat**	**2.36**	**69**	P	**Pn**	**08 03 55.1**	**-0.6**
	baz=251,SNR=25						
214A				S	**Sn**	**08 04 23.7**	**-1.1**
	baz=251						
BC3	**Big Chuckawall**	**2.52**	**359**	P	**Pn**	**08 03 57.6**	**-0.4**
	baz=180,SNR=6.4						
PFO	**Pinyon Flats O**	**2.63**	**340**	P	**Pn**	**08 03 59.1**	**-0.5**
	baz=160						
PFO				Sb	**Sb**	**08 04 38.0**	**+1.3**
	baz=160						
MURC	**Murrieta**	**2.90**	**329**	Sb	**Sb**	**08 04 44.4**	**+0.2**
	baz=148						
BELC	**Belle Mtn. Jos**	**2.91**	**350**	P	**Pn**	**08 04 03.3**	**-0.1**
	baz=170,SNR=9.8						
SCI2	**San Clemente I**	**3.25**	**305**	S	**Sn**	**08 04 47.5**	**+0.8**
	baz=124						
BBRC	**Big Bear Solar**	**3.38**	**338**	Sb	**Sb**	**08 05 00.8**	**+2.6**
	baz=158						
CIS	**Catalina Islan**	**3.42**	**312**	Sb	**Sb**	**08 05 02.6**	**+3.5**
	baz=131						
BFSC	**Mount Baldy Ra**	**3.64**	**329**	Pb	**Pb**	**08 04 20.2**	**-1.2**
	baz=148						
BFSC				Sb	**Sb**	**08 05 07.2**	**+1.5**
	baz=148						
HEC	**Hector,Ludlow**	**3.77**	**348**	Pg	**Pg**	**08 04 27.9**	**-1.3**
	baz=168						
HEC				Sg	**Sg**	**08 05 18.5**	**+0.4**
	baz=168						
TUC	**Tucson**	**4.11**	**72**	P	**Pn**	**08 04 19.2**	**-0.6**
	baz=255						
TUQ	**Turquoise Moun**	**4.32**	**354**	Pg	**Pg**	**08 04 37.8**	**-1.8**
	baz=174						
TUQ				Sg	**Sg**	**08 05 36.3**	**+0.6**
	baz=174						
GSC	**Goldstone, Bar**	**4.33**	**345**	Pg	**Pg**	**08 04 38.6**	**-1.2**
	baz=164						
GSC				Sg	**Sg**	**08 05 37.0**	**+1.1**
	baz=164						
EDW2	**Edwards Air Fo**	**4.33**	**330**	Pb	**Pb**	**08 04 32.6**	**-0.6**
	baz=149						
EDW2				Sb	**Sb**	**08 05 28.5**	**+3.0**
	baz=149						
MPMC	**Manual Prospec**	**5.22**

	comp=Z,14nm,1.2s						
BFZ	**Birch Farm**	**23.66**	**189**	P	**P**	**09 07 44.9**	**-0.8**
LHI	**Lord Howe Isla**	**24.47**	**231**	P	**P**	**09 07 52.4**	**-0.7**
SNZO	**South Karori**	**24.54**	**192**	P	**P**	**09 07 53.3**	**-0.2**
QRZ	**Quartz Range**	**24.57**	**196**	P	**P**	**09 07 53.8**	**0.0**
QRZ				IAmb	IAmb	09 08 11.8	
	comp=Z,42nm,1.4s						
NNZ	**Nelson**	**24.73**	**194**	P	**P**	**09 07 54.9**	**-0.3**
NNZ				IAmb	IAmb	09 07 56.6	
	comp=Z,23nm,1.3s						
THZ	**Tophouse**	**25.36**	**194**	P	**P**	**09 08 00.8**	**0.0**
THZ				IAmb	IAmb	09 08 18.4	
	comp=Z,22nm,1.3s						
KHZ	**Kahutara**	**25.84**	**193**	P	**P**	**09 08 04.1**	**-0.8**
KHZ				IAmb	IAmb	09 08 15.3	
	comp=Z,49nm,1.4s						
LTZ	**Lake Taylor**	**26.47**	**195**	P	**P**	**09 08 09.0**	**-1.6**
LTZ				IAmb	IAmb	09 08 10.5	
	comp=Z,8.1nm,0.7s						
RPZ	**Rata Peaks**	**27.66**	**196**	P	**P**	**09 08 19.4**	**-1.5**
	comp=Z,5.7nm,0.6s,baz=45,slow=5.7,SNR=4.5						
RPZ	**Rata Peaks**	**27.66**	**196**	P	**P**	**09 08 20.2**	**-0.8**
RPZ				IAmb	IAmb	09 08 29.1	
	comp=Z,26nm,1.4s						
FOZ	**Fox Glacier**	**27.83**	**198**	P	**P**	**09 08 21.9**	**-0.6**
FOZ				IAmb	IAmb	09 08 22.6	
	comp=Z,15nm,0.8s						
LBZ	**Lake Benmore**	**28.51**	**197**	P	**P**	**09 08 26.6**	**-1.8**
LBZ				IAmb	IAmb	09 08 43.4	
	comp=Z,11nm,0.9s						
EIDS	**Eidsvold**	**29.02**	**249**	P	**P**	**09 08 32.9**	**-0.2**
EIDS				IAmb	IAmb	09 08 33.4	
	comp=Z,8.4nm,0.8s						
WKZ	**Wanaka**	**29.24**	**198**	P	**P**	**09 08 33.3**	**-1.5**
WKZ				IAmb	IAmb	09 08 41.4	
	comp=Z,24nm,1.0s						
ARMA	**Armidale**	**29.83**	**239**	P	**P**	**09 08 40.8**	**+0.6**
MLZ	**Mavora Lakes**	**30.00**	**198**	P	**P**	**09 08 41.5**	**+0.2**
MLZ				IAmb	IAmb	09 08 41.8	
	comp=Z,20nm,0.7s						
WHZ	**Wether Hill Ro**	**30.53**	**198**	P	**P**	**09 08 45.5**	**-0.3**
WHZ				IAmb	IAmb	09 08 46.6	
	comp=Z,37nm,1.3s						
CAN	**Canberra**	**33.69**	**232**	P	**P**	**09 09 13.1**	**+0.2**
CAN				IAmb	IAmb	09 09 30.2	
	comp=Z,20nm,1.3s						
PMG	**Port Moresby**	**33.89**	**279**	P	**P**	**09 09 15.6**	**+0.8**
PMG				IAmb	IAmb	09 09 16.8	
	comp=Z,21nm,0.8s						
COEN	**Coen**	**36.62**	**270**	P	**P**	**09 09 38.3**	**+0.7**
COEN				IAmb	IAmb	09 09 38.8	
	comp=Z,14nm,0.8s						
TOO	**Toolangi**	**37.17**	**230**	P	**P**	**09 09 42.2**	**+0.5**
TOO				IAmb	IAmb	09 09 43.2	
	comp=Z,37nm,1.2s						
TAU	**Tasmania Unive**	**38.36**	**221**	P	**P**	**09 09 51.6**	**+0.3**
STKA	**Stephens Creek**	**38.50**	**240**	P	**P**	**09 09 52.6**	**0.0**
	comp=Z,7.4nm,0.5s,baz=87,slow=10.0,SNR=28						
STKA	**Stephens Creek**	**38.50**	**240**	P	**P**	**09 09 53.1**	**+0.5**
BBOO	**Buckleboo**	**43.27**	**240**	P	**P**	**09 10 30.5**	**0.0**
BBOO				IAmb	IAmb	09 10 31.2	
	comp=Z,24nm,0.9s						
WR0	**Warramunga Arr**	**44.08**	**259**	P	**P**	**09 10 35.9**	**-1.1**
WR0				IAmb	IAmb	09 10 37.0	
	comp=Z,20nm,1.4s						
WRAB	**Tennant Creek**	**44.26**	**259**	P	**P**	**09 10 37.3**	**-1.0**
WRA	**Warramunga Arr**	**44.27**	**259**	P	**P**	**09 10 37.2**	**-1.2**
	comp=Z,7.4nm,0.5s,baz=95,slow=7.2,SNR=134						
WRA				PcP	**PcP**	**09 12 10.7**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=86,slow=3.8,SNR=5.4						
WRA				ScP	**ScP**	**09 15 11.3**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=90,slow=4.1,SNR=3.2						
WRA				S	**S**	**09 16 27.8**	**-4.9**
	comp=Z,0.5nm,0.8s,baz=103,slow=14,SNR=4.2						
AS31	**Alice Springs**	**44.49**	**254**	P	**P**	**09 10 39.9**	**-0.2**
ASAR	**Alice Springs**	**44.49**	**254**	P	**P**	**09 10 39.8**	**-0.4**
	comp=Z,76nm,0.5s,baz=88,slow=8.0,SNR=1404						
ASAR				PcP	**PcP**	**09 12 11.4**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=105,slow=4.1,SNR=5.6						
ASAR				ScP	**ScP**	**09 15 12.2**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=99,slow=4.7,SNR=6.0						
ASAR				S	**S**	**09 16 31.7**	**-4.1**
	comp=Z,2.0nm,0.9s,baz=86,slow=16,SNR=11						
MTN	**Manton Dam**	**48.33**	**268**	P	**P**	**09 11 08.9**	**-0.4**
MTN				IAmb	IAmb	09 11 09.3	
	comp=Z,15nm,0.8s						
FORT	**Forrest**	**49.83**	**244**	P	**P**	**09 11 19.3**	**-0.7**
KNRA	**Kununurra**	**50.07**	**264**	P	**P**	**09 11 22.0**	**-0.1**
SWI	**Sorong**	**51.64**	**283**	P	**P**	**09 11 33.7**	**+0.2**
	comp=Z,66nm,0.8s,comp=Z,1μm						
FITZ	**Fitzroy Crossi**	**52.65**	**260**	P	**P**	**09 11 41.0**	**+0.4**
AAI	**Ambon**	**53.55**	**278**	P	**P**	**09 11 47.4**	**+0.2**
	comp=Z,58nm,0.9s						
SOEI	**Soe**	**55.59**	**270**	P	**P**	**09 12 01.6**	**0.0**
	comp=Z,66nm,2.0s						
SOEI	**Soe**	**55.59**	**270**	P	**P**	**09 12 03.1**	**+1.5**
SANI	**Sanana**	**56.17**	**279**	P	**P**	**09 12 05.2**	**-0.2**
	comp=Z,26nm,0.8s						
PSA00	**Pilbara Seismi**	**57.59**	**255**	P	**P**	**09 12 14.8**	**-0.3**
PSA00				IAmb	IAmb	09 12 15.3	
	comp=Z,19nm,0.7s						
NWAO	**Narrogin (SRO)**	**59.06**	**242**	P	**P**	**09 12 24.8**	**-0.1**
MORW	**Morawa**	**60.28**	**246**	P	**P**	**09 12 32.6**	**-0.4**
VNDA	**Vanda**	**60.99**	**185**	P	**P**	**09 12 37.7**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=33,slow=6.3,SNR=3.9						
VNDA	**Vanda**	**60.99**	**185**	P	**P**	**09 12 38.0**	**+1.2**
GIRL	**Giralia**	**62.60**	**253**	P	**P**	**09 12 48.6**	**+0.3**
MPSI	**Mapaga**	**62.70**	**280**	P	**P**	**09 12 49.4**	**+0.4**
	comp=Z,16nm,0.8s						
CASY	**Casey**	**66.47**	**205**	P	**P**	**09 13 11.8**	**-0.1**
MJAR	**Matsushiro Arr**	**67.14**	**324**	P	**P**	**09 13 16.4**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=146,slow=6.7,SNR=3.9						
UGM	**Wanagama**	**69.18**	**268**	P	**P**	**09 13 29.4**	**-0.1**
QSPA	**South Pole Qui**	**72.74**	**180**	P	**P**	**09 13 50.1**	**+0.6**
NJ2	**Nanjing**	**77.19**	**310**	*e*P	**P**	**09 14 16.5**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NVAR	**Mina Array Bea**	**79.33**	**44**	P	**P**	**09 14 26.9**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=229,slow=8.2,SNR=5.9						
MAW	**Mawson**	**84.25**	**200**	P	**P**	**09 14 50.9**	**+0.3**
	comp=Z,4.1nm,0.6s,baz=162,slow=5.9,SNR=9.8						
MAW	**Mawson**	**84.25**	**200**	P	**P**	**09 14 51.1**	**+0.5**
ILAR	**Eielson Array**	**85.42**	**13**	P	**P**	**09 14 56.0**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=216,slow=5.7,SNR=3.3						
TXAR	**Lajitas Array**	**86.09**	**58**	P	**P**	**09 15 01.7**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=232,slow=4.9,SNR=5.1						
HHC	**Hu-ho-hao-te**	**86.51**	**315**	*e*P	**P**	**09 15 02.5**	**+0.4**
HHC				S	**S**	**09 24 52.8**	**-0.1**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PDAR	**Pinedale Array**	**87.26**	**44**	P	**P**	**09 15 06.1**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=215,slow=1.8,SNR=3.4						
CMAR	**Chiang Mai Arr**	**88.23**	**290**	P	**P**	**09 15 11.6**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=114,slow=3.2,SNR=7.3						
LZH	**Lanzhou**	**90.15**	**308**	*e*P	**P**	**09 15 20.8**	**+1.6**
LZH				pP	pP	09 17 20.0	+0.5
LZH				sP	sP	09 18 11.3	-3.2
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
VNA2	**Neumayer--Watz**	**91.79**	**177**	P	**P**	**09 15 25.7**	**-0.3**
	baz=196,slow=3.2						
KSH	**Kashi**	**112.34**	**306**	*e*PKP	**PKiKP**	**09 20 52.3**	**+1.2**
BVAR	**Borovoye Array**	**116.08**	**321**	PKP	**PKPdf**	**09 20 56.2**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=118,slow=3.3,SNR=4.1						
ARCES	**ARCESS Array B**	**125.65**	**350**	PKP	**PKPdf**	**09 21 15.1**	**-0.5**
	comp=Z,3.5nm,0.9s,baz=25,slow=3.2,SNR=5.4						
TLCR		**143.81**	**326**	⇑P	PKPbc	09 21 47.1	-1.9
BURAR	**Bucovina Array**	**143.87**	**332**	⇓P	**PKPdf**	**09 21 50.3**	**+0.3**
BIZ	**Bicaz**	**143.96**	**330**	⇓P	**PKPdf**	**09 21 50.3**	**+0.2**
TESR	**Tescani**	**144.00**	**330**	⇑P	PKPbc	09 21 48.9	-0.7
BRTR	**Keskin Array B**	**144.02**	**315**	PKP	PKPab	09 21 50.2	-0.1
	comp=Z,1.7nm,0.7s,baz=131,slow=5.0,SNR=8.6						
KOLS	**Kolonicke sedl**	**144.07**	**336**	*e*PKP	**PKPdf**	**09 21 50.4**	**+0.1**
TRPA	**Tarpa**	**144.61**	**335**	⇓P	**PKPdf**	**09 21 49.5**	**-1.6**
CLL	**Collm**	**144.78**	**347**	*i* PKPbc	PKPbc	09 21 51.6	-0.2
	comp=Z,16nm,1.2s						
CLL	**Collm**	**144.78**	**347**		**PKPab**	**09 21 52.6**	**0.0**
UPC	**Upice**	**144.79**	**343**	*e*PKP	**PKPab**	**09 21 52.2**	**-0.4**
DPC	**Dobruska-Polom**	**144.84**	**343**	*e*PKP	**PKPab**	**09 21 52.6**	**-0.3**
BRG	**Berggiesshubel**	**144.97**	**346**	*e*PKP	**PKPdf**	**09 21 51.6**	**-0.1**
	comp=Z,4.6nm,0.7s						
VOIR		**145.55**	**330**	⇑P	**PKPbc**	**09 21 53.9**	**-0.5**
DRGR		**145.59**	**333**	⇓P	**PKPbc**	**09 21 54.7**	**+0.2**
PRU	**Pruhonice**	**145.65**	**345**	*e*PKP	**PKPbc**	**09 21 54.7**	**+0.3**
GOPC	**GO Pecny, Ondr**	**145.65**	**344**	*e*PKP	**PKPbc**	**09 21 54.9**	**+0.4**
VYHS	**Vyhne**	**145.69**	**339**	*e*PKP	**PKPbc**	**09 21 55.2**	**+0.6**
ARR	**Arges**	**145.80**	**330**	⇓P	**PKPab**	**09 21 56.2**	**-0.7**
SILT	**Sile**	**145.84**	**320**	⇓P	**PKPab**	**09 21 56.1**	**-1.0**
GZR	**Gura Zlata**	**146.65**	**332**	⇑P	**PKPdf**	**09 21 56.0**	**+1.1**
KHC	**Kasperske Hory**	**146.68**	**345**	*e*PKP	**PKPbc**	**09 21 56.1**	**-1.3**
GERES	**GERESS Array B**	**146.91**	**345**	PKPbc	**PKPbc**	**09 21 57.8**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=16,slow=2.7,SNR=16						
BZS	**Buzias**	**146.99**	**333**	⇑P	**PKPbc**	**09 21 58.2**	**0.0**
ARSA	**Arzberg**	**147.86**	**341**	*i* PKPbc	**PKPbc**	**09 22 00.2**	**-0.3**
	comp=Z,3.2nm,0.9s						
SOKA	**Soboth**	**148.52**	**341**	*i* PKiKP	**PKPbc**	**09 22 02.0**	**-0.3**
	comp=Z,2.6nm,0.9s						
KBA	**Koelnbreinsper**	**148.64**	**344**	*i* PKiKP	**PKPbc**	**09 22 02.5**	**-0.1**
	comp=Z,2.2nm,0.5s						
WATA	**Walderalm**	**148.84**	**346**	*i* PKiKP	**PKPbc**	**09 22 03.0**	**-0.1**
	comp=Z,3.0nm,0.5s						
RETA	**Reutte**	**148.87**	**347**	*i* PKiKP	**PKPbc**	**09 22 02.8**	**-0.3**
	comp=Z,2.2nm,0.5s						
WTTA	**Wattenberg**	**148.89**	**346**	*i* PKiKP	**PKPbc**	**09 22 02.9**	**-0.4**
	comp=Z,7.3nm,0.5s,SNR=6.6						
MOTA	**Moosalm**	**148.93**	**347**	*i* PKiKP	**PKPbc**	**09 22 03.5**	**+0.2**
	comp=Z,2.7nm,0.6s						
MYKA	**Terra Mystica**	**148.97**	**343**	*i* PKPbc	**PKPbc**	**09 22 02.8**	**-0.6**
	comp=Z,3.3nm,0.5s						
SQTA	**Sankt Quirin**	**149.03**	**347**	*i* PKiKP	**PKPbc**	**09 22 03.5**	**-0.1**
	comp=Z,4.7nm,0.5s,SNR=4.4						
ABTA	**Abfaltersbach**	**149.16**	**345**	*i* PKiKP	**PKPbc**	**09 22 03.5**	**-0.3**
	comp=Z,3.9nm,0.5s						
FETA	**Feichten**	**149.32**	**347**	*i* PKiKP	**PKPbc**	**09 22 04.0**	**-0.3**
	comp=Z,2.3nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**149.80**	**347**		**PKiKP**	**09 22 06.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**175.82**	**188**	PKP	**PKPdf**	**09 22 24.1**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=148,slow=3.1,SNR=3.2						

*SOME **28** 09:11:40.7, 39˚.68N×73˚.33E, h0km*
*KRNET **28** 09:11:43.3±0.1, 39˚.44N×73˚.64E, mb3.2*
*ISCJB **28** 09:11:45.4±1.0, 39˚.38N±0˚.06×73˚.68E±0˚.05, h10km, Error ellipse: s-maj=8.9km s-min=5.2km az=170.4*
*NNC **28** 09:11:46.8±3.2, 39˚.62N×73˚.76E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=24.9km s-min=12.8km az=175.0*

ISC 28 09:11:45.5±1.6, 39˚.55N±0˚.08×73˚.78E±0˚.04, h10km, n36, σ2°.32/57, 22C-9b, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.88**	**341**	⇑*i*P		**Pn**	**09 12 18.9**	**+1.1**
ARSB	baz=45			⇑*i*S		**Sg**	**09 12 45.7**	**-0.1**
BTK	**Batken**	**2.33**	**284**	⇑*i*P		**Pn**	**09 12 23.9**	**-0.1**
BTK	baz=87			⇑*i*S		**Sn**	**09 12 53.7**	**+0.9**
ARLS	**Aral**	**2.35**	**10**	⇑*i*P		**Pb**	**09 12 27.0**	**-1.0**
ARLS	baz=12			⇑*i*S		**Sg**	**09 12 58.7**	**-2.3**
NRN	**Naryn**	**2.54**	**41**	⇑*i*P		**Pb**	**09 12 29.8**	**-1.5**
NRN	baz=41			⇑*i*S		**Sb**	**09 13 03.4**	**+0.7**
AML	**Almayashu**	**2.58**	**359**	⇑*i*P		**Pn**	**09 12 29.8**	**+2.1**
AML	baz=1.0			⇑*i*S		**Sb**	**09 13 04.7**	**+0.6**
AML	**Almayashu**	**2.58**	**359**	P		**Pn**	**09 12 30.0**	**+2.3**
	SNR=48							
ARK	**Arkit**	**2.64**	**329**	⇑*i*P		**Pn**	**09 12 29.4**	**+1.2**
ARK	baz=32			⇑*i*S		**Sb**	**09 13 02.6**	**-2.8**
UCH	**Uchtor**	**2.74**	**12**	*i* P		**Pb**	**09 12 32.8**	**-2.0**
UCH	baz=13			*i* S		**Sb**	**09 13 08.6**	**0.0**
UCH	**Uchtor**	**2.74**	**12**	P		**Pb**	**09 12 33.0**	**-1.8**
	SNR=25							
KZA	**Kyzart**	**2.77**	**23**	⇑*e*P		**Pn**	**09 12 33.0**	**+2.7**
KZA	baz=24			⇑*i*S		**Sb**	**09 13 09.2**	**-0.2**
KZA	**Kyzart**	**2.77**	**23**	P		**Pb**	**09 12 34.5**	**-0.8**
	SNR=15							
EKS2	**Erkin-Say**	**3.11**	**0**	P		**Pn**	**09 12 38.1**	**+3.4**
	SNR=14							
AAK	**Ala-Archa**	**3.14**	**10**	P		**Pb**	**09 12 39.7**	**-1.7**
	SNR=8.9							
AAK	**Ala-Archa**	**3.14**	**10**	⇑Pg		**Pb**	**09 12 39.1**	**-2.3**
AAK	12nm,0.7s			⇑Lg		Lg	09 13 25.6	
	52nm,0.8s							
MRKS	**Merke**	**3.22**	**353**	*e*P		**Pn**	**09 12 38.7**	**+2.4**
MRKS	15nm,0.5s			*e*S		**Sb**	**09 13 20.4**	**-1.8**
	21nm,0.5s							
MRKS	**Merke**	**3.22**	**353**	Pg		**Pn**	**09 12 38.7**	**+2.4**
MRKS	15nm,0.5s			Lg		Lg	09 13 21.6	
	21nm,0.5s							
KBK	**Karagaybulak**	**3.23**	**16**	P		**Pb**	**09 12 41.5**	**-1.5**
	SNR=6.8							
ULHL	**Ulahol**	**3.28**	**34**	P		**Pb**	**09 12 41.9**	**-2.0**
	SNR=5.5							
BOOM	**Boomskoye usch**	**3.37**	**28**	⇓*i*P		**Pn**	**09 12 41.3**	**+3.0**
BOOM	baz=29			⇓*i*S		**Sb**	**09 13 23.1**	**-3.3**
	baz=29							
TKM2	**Tokmak 2**	**3.64**	**22**	⇓Pn		**Pn**	**09 12 46.1**	**+4.0**
TKM2	2.7nm,0.8s			⇓Pg		**Pg**	**09 12 55.7**	**+0.5**
	5.0nm,0.6s							
TKM2				⇓Lg		Lg	09 13 41.9	
	20nm,1.0s							
KDJ	**Kajisay**	**3.65**	**44**	⇓*i*P		**Pn**	**09 12 45.5**	**+3.3**
KDJ	baz=44			⇓*i*S		**Sb**	**09 13 30.4**	**-4.2**
	baz=44							
KST	**Kastek**	**3.86**	**25**	*e*P		**Pb**	**09 12 54.0**	**+0.2**
KST	5.1nm,0.5s			*e*S		**Sg**	**09 13 46.6**	**-3.0**
	22nm,0.9s							
KST	**Kastek**	**3.86**	**25**	Pg		**Pb**	**09 12 54.0**	**+0.2**
KST	5.1nm,0.5s			Lg		Lg	09 13 47.6	
	22nm,0.9s							
MTBS	**Maitube**	**4.10**	**28**	*e*P		**Pb**	**09 12 57.9**	**+0.1**
MTBS	4.0nm,0.5s			*e*S		**Sg**	**09 13 53.6**	**-3.5**
	9.5nm,0.7s							
MTBS	**Maitube**	**4.10**	**28**	Pg		**Pb**	**09 12 57.9**	**+0.1**
MTBS	4.0nm,0.5s			Lg		Lg	09 13 53.6	
	9.5nm,0.7s							
TNSS	**Tian-Shan**	**4.23**	**33**	*e*P		**Pb**	**09 13 02.1**	**+1.9**
TNSS	3.0nm,0.7s			*e*S		**Sg**	**09 14 00.4**	**-0.9**
	10.0nm,0.7s							
TNSS	**Tian-Shan**	**4.23**	**33**	Pg		**Pb**	**09 13 02.1**	**+1.9**
	3.0nm,0.7s							
TNSS				Lg		Lg	09 14 01.2	
	10.0nm,0.7s							
KK31	**Karatay Array**	**4.32**	**326**	⇑Pn		**Pn**	**09 12 52.5**	**+1.3**
KK31	1.0nm,0.3s,baz=131,slow=11,SNR=26			⇓Pg		**Pb**	**09 13 04.2**	**+2.7**
	2.8nm,0.5s,baz=151,slow=19,SNR=11							
KK31				⇓Sn		**Sn**	**09 13 45.5**	**+3.8**
	3.7nm,0.5s,baz=151,slow=22,SNR=3.5							
KK31				⇑Lg		Lg	09 13 58.8	
	11nm,0.6s,baz=161,slow=27,SNR=4.7							
ANVS	**Anan'yevo**	**4.37**	**41**	⇑*i*P		**Pn**	**09 12 55.1**	**+3.0**
ANVS	baz=41			⇑*i*S		**Sn**	**09 13 47.3**	**+4.2**
	baz=41							
MDOK	**Medeo**	**4.37**	**33**	*e*P		**Pb**	**09 13 04.2**	**+1.7**
MDOK	2.3nm,0.2s			*e*S		**Sg**	**09 14 04.5**	**-1.4**
	16nm,0.7s							
MDOK	**Medeo**	**4.37**	**33**	Pg		**Pb**	**09 13 04.2**	**+1.7**
MDOK	2.0nm,0.5s			Lg		Lg	09 14 04.5	
	7.9nm,0.7s							
KUU	**Kurty**	**4.75**	**23**	*e*P		**Pb**	**09 13 11.1**	**+2.3**
KUU	2.9nm,1.1s			*e*S		**Sg**	**09 14 16.5**	**-1.4**
	12nm,1.0s							
KUU	**Kurty**	**4.75**	**23**	Pg		**Pb**	**09 13 11.1**	**+2.3**
KUU	2.9nm,1.1s			Lg		Lg	09 14 16.5	
	12nm,1.0s							
SATY	**Saty**	**4.95**	**43**	*e*P		**Pg**	**09 13 16.9**	**-3.3**
	6.2nm,0.2s							
SATY				*e*S		**Sg**	**09 14 26.2**	**+1.9**
	12nm,0.4s							
SATY	**Saty**	**4.95**	**43**	Pg		**Pg**	**09 13 16.9**	**-3.3**
	4.2nm,0.7s							
SATY				Lg		Lg	09 14 26.2	
	8.7nm,0.7s							
PDGK	**Podgornoye**	**5.72**	**47**	⇑Pg		**Pg**	**09 13 31.2**	**-3.9**
	2.4nm,0.6s							
PDGK				⇑Lg		Lg	09 14 47.7	
	7.8nm,1.0s							

*VAO **28** 09:17:09.1±2.7, 10˚.61N×62˚.63W, h10km, mb4.7*
*ISCJB **28** 09:17:15.8±0.2, 10˚.58N±0˚.02×62˚.58W±0˚.02, h90km±2km, mb4.5/55, Error ellipse: s-maj=3.2km s-min=2.7km az=26.8*
*TRN **28** 09:17:16.2, 10˚.60N×62˚.57W, h64km, MD4.4*
TRN Felt in Trinidad, MMI II and III. Grenada II.
*MOS **28** 09:17:16.0±0.9, 10˚.61N×62˚.59W, h95km, mb4.8/27, Error ellipse: s-maj=9.6km s-min=5.9km az=112.8*
*NEIC **28** 09:17:17.2±1.8, 10˚.58N±0˚.05×62˚.55W±0˚.04, h87km±6km, mb4.8/218, Md4.4(TRN)*
*IDC **28** 09:17:18.1±1.4, 10˚.65N×62˚.73W, h100km±12km, mb4.1/22, mb1 4.3/25, mb1mx4.1/35, mbtmp4.4/25, MS3.3/5, Ms1 3.3/5, ms1mx2.9/39, Error ellipse: s-maj=13.2km s-min=9.6km az=82.0*

ISC 28 09:17:16.6±0.7, 10˚.59N±0˚.04×62˚.63W±0˚.03, h87km±6km, n752, σ1°.38/791, mb4.8/140, 4C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ALNG	**Atlantic LNG**	**1.01**	**114**	*e*P		**Pn**	**09 17 35.0**	**-1.2**
ALNG	**Atlantic LNG**	**1.01**	**114**			**Pn**	**09 17 35.0**	**-1.2**
BUAY	**Buenos Aires**	**1.04**	**117**	*e*P		**Pn**	**09 17 37.5**	**+0.9**
BUAY	**Buenos Aires**	**1.04**	**117**			**Pn**	**09 17 37.5**	**+0.9**
TRN	**Trinidad (W)**	**1.21**	**87**	P		**Pn**	**09 17 38.2**	**-0.3**
TRN							09 17 52.4	
TRN	**Trinidad (W)**	**1.21**	**87**	*e*P		**Pn**	**09 17 38.2**	**-0.3**
TRN				*e*S		**Sn**	**09 17 52.4**	**-2.7**
TRN	**Trinidad (W)**	**1.21**	**87**			**Pn**	**09 17 38.2**	**-0.3**
TRN						**Sn**	**09 17 52.4**	**-2.7**
TBH	**Brigand Hill**	**1.54**	**94**	P		**Pn**	**09 17 42.6**	**-0.1**
TBH							09 18 00.2	
TBH	**Brigand Hill**	**1.54**	**94**	*e*P		**Pn**	**09 17 42.6**	**-0.1**
TBH				*e*S		**Sn**	**09 18 00.2**	**-2.3**
TBH	**Brigand Hill**	**1.54**	**94**			**Pn**	**09 17 42.6**	**-0.1**
TBH						**Sn**	**09 18 00.2**	**-2.3**
ORIV	**Oritupano**	**1.70**	**207**	*e*P		**Pn**	**09 17 45.0**	**+0.2**
ORIV				*e*S		**Sn**	**09 18 06.6**	**+0.4**
ORIV	**Oritupano**	**1.70**	**207**			**Pn**	**09 17 45.0**	**+0.2**
ORIV						**Sn**	**09 18 06.6**	**+0.4**
GRGR	**Grenville**	**1.80**	**32**	*e*P		**Pn**	**09 17 46.5**	**+0.3**
GRGR				*e*S		**Sn**	**09 18 07.8**	**-0.8**
GRGR	**Grenville**	**1.80**	**32**			**Pn**	**09 17 46.7**	**+0.5**
GRGR				Sn		**Sn**	**09 18 08.6**	**0.0**
GRHS	**Sauteurs**	**1.89**	**31**	*e*P		**Pn**	**09 17 47.4**	**+0.2**
GRHS				*e*S		**Sn**	**09 18 10.1**	**-0.5**
GRSS	**Sisters**	**1.97**	**30**	*e*P		**Pn**	**09 17 49.1**	**+0.8**
GRSS				*e*S		**Sn**	**09 18 12.5**	**+0.1**
GRSS	**Sisters**	**1.97**	**30**			**Pn**	**09 17 47.4**	**-0.8**
GRSS						**Sn**	**09 18 10.1**	**-2.3**
GRSS	**Sisters**	**1.97**	**30**			**Pn**	**09 17 49.1**	**+0.8**
GRSS						**Sn**	**09 18 12.5**	**+0.1**
PLCV	**Puerto La Cruz**	**1.98**	**258**			**Pn**	**09 17 50.1**	**+1.7**
PLCV						**Sn**	**09 18 13.5**	**+0.8**
PCRV	**Puerto La Cruz**	**2.02**	**258**	P		**Pn**	**09 17 50.1**	**+1.1**
	36nm,0.3s,baz=71,slow=4.1,SNR=532							
PCRV				S		**Sn**	**09 18 13.5**	**-0.3**
	58nm,0.3s,baz=268,slow=16,SNR=7.2							
TOSP	**Speyside**	**2.17**	**71**	⇑*i*P		**Pn**	**09 17 50.0**	**-1.0**
TOSP				*e*S		**Sn**	**09 18 15.2**	**-2.0**
TOSP	**Speyside**	**2.17**	**71**			**Pn**	**09 17 50.0**	**-1.0**
TOSP				Sn		**Sn**	**09 18 14.5**	**-2.7**
SVB	**Belmont**	**2.98**	**27**	*e*P		**Pn**	**09 18 02.1**	**+0.2**
SVB	**Belmont**	**2.98**	**27**			**Pn**	**09 18 02.4**	**+0.5**
SVB				Sn		**Sn**	**09 18 35.2**	**-1.6**
SVCV	**St. Vincent, C**	**3.03**	**28**	*e*P		**Pn**	**09 18 02.4**	**-0.1**
SVCV				*e*S		**Sn**	**09 18 37.5**	**-0.5**
**S

SDV	Santo Domingo	8.07 259	P	Pn	09 19 10.3	-1.0	
	2.8nm,0.3s,baz=76,slow=8.4,SNR=14						
SDV			S	Sn	09 20 37.2	-3.9	
	25nm,0.3s,baz=66,slow=23,SNR=25						
SDV	Santo Domingo	8.07 259		Pn	09 19 10.7	-0.6	
SDV			Sn	Sn	09 20 40.0	-1.1	
PDPR	Patillas Dam,	8.08 336	Pn	Pn	09 19 11.1	-0.2	
PDPR			Sn	Sn	09 20 36.4	-4.6	
HUMP	Col San Antoni	8.13 338	Pn	Pn	09 19 12.3	+0.5	
HUMP				Sn	09 20 37.4	-4.8	
SJG	San Juan	8.22 336	eP	Pn	09 19 08.0	-5.1	
SJG	San Juan	8.22 336	eP	Pn	09 19 08.0	-5.1	
SJG	San Juan	8.22 336	P	Pn	09 19 12.2	-0.8	
	1.9nm,0.3s,baz=321,slow=19,SNR=2.6						
SJG			S	Sn	09 20 37.7	-6.5	
	6.1nm,0.3s,baz=299,slow=19,SNR=9.4						
SJG			LR	LR	09 22 38.5		
	comp=Z,45nm,19.0s,baz=124,slow=39						
CBYP	Canovanas	8.25 338		Pn	09 19 14.9	+1.3	
ABVI	Anegada Island	8.26 349	Pn	Pn	09 19 14.5	+0.9	
OBIP	Obispado Ponce	8.35 333	Pn	Pn	09 19 17.3	+2.4	
GCPR	Guaynabo City	8.37 337	Pn	Pn	09 19 16.3	+1.1	
MLPR	Magueyes Islan	8.49 330	Pn	Pn	09 19 18.7	+1.9	
CRPR	Cabo Rojo, PR	8.55 330	Pn	Pn	09 19 20.4	+2.7	
AOPR	Arecibo Observ	8.68 333		Pn	09 19 21.5	+2.0	
MPR	Mayaguez	8.74 331	Pn	Pn	09 19 20.2	-0.1	
MPR			Sn	Sn	09 20 56.9	-0.3	
AGPR	Aguadilla, PR	8.95 332	Pn	Pn	09 19 24.0	+0.9	
AGPR			Sn	Sn	09 21 03.0	+0.8	
PCDR	Punta Cana, DR	9.64 325	Pn	Pn	09 19 37.8	+5.3	
DR12	Loma Pena Alta	10.44 322		Pn	09 19 46.6	+3.2	
MDP	Montagnes des	11.29 118	P	Pn	09 19 49.8	-5.3	
	7.8nm,0.3s,baz=306,slow=16,SNR=66						
MDP			S	Sn	09 21 45.6	-14	
	28nm,0.3s,baz=33,slow=18,SNR=15						
MDP			LR	LR	09 24 31.3		
	comp=Z,117nm,20.9s,baz=86,slow=38						
RUSC	La Rusia	11.35 247	eP	Pn	09 19 53.6	-2.7	
RUSC	La Rusia	11.35 247	eP	Pn	09 19 53.6	-2.7	
SMLC	San Martn de	11.42 262	eP	Pn	09 19 55.3	-1.5	
SMLC	San Martn de	11.42 262	eP	Pn	09 19 55.3	-1.5	
SC01	Santiago de lo	11.76 319		Sn	09 22 14.9	+4.2	
SDDR	Presa de Saban	11.81 316		Pn	09 20 08.0	+5.9	
SPBC	San Pablo de B	12.35 247	eP	Pn	09 20 08.7	-0.7	
SPBC	San Pablo de B	12.35 247	eP	Pn	09 20 08.7	-0.7	
PTBC	PUERTO BERRIO,	12.37 252	eP	Pn	09 20 07.8	-1.8	
PTBC	PUERTO BERRIO,	12.37 252	eP	Pn	09 20 07.8	-1.8	
LGNH	Logne	12.46 310	Pn	Pn	09 20 12.6	+1.9	
ZARC	Zaragoza, Cauc	12.46 257	eP	Pn	09 20 07.8	-3.0	
ZARC	Zaragoza, Cauc	12.46 257	eP	Pn	09 20 07.8	-3.0	
ROSC	El Rosal	12.92 245	P	Pn	09 20 16.4	-0.9	
	3.4nm,0.3s,baz=61,slow=17,SNR=4.1						
ROSC			LR	LR	09 26 00.3		
	comp=Z,293nm,18.9s,baz=62,slow=41						
ROSC	El Rosal	12.92 245		Pn	09 20 19.0	+1.7	
NORC	Norcasia	13.11 249	eP	Pn	09 20 18.3	-1.2	
NORC	Norcasia	13.11 249	eP	Pn	09 20 18.3	-1.2	
HELC	Santa Helena	13.49 252	eP	P	09 20 30.0	-0.9	
HELC	Santa Helena	13.49 252	eP	P	09 20 30.0	-0.9	
CBOC	Ciudad Bolivar	14.05 252	eP	P	09 20 35.5	-1.6	
CBOC	Ciudad Bolivar	14.05 252	eP	P	09 20 35.5	-1.6	
SAML	Samuel	19.42 182	P	P	09 21 36.4	+0.3	
SAML			pmax	pmax			
	comp=Z,21nm,0.8s						
SAML	Samuel	19.42 182	eP	P	09 21 36.3	+0.3	
SAML	Samuel	19.42 182	eP	P	09 21 36.3	+0.3	
SAML	Samuel	19.42 182	P	P	09 21 36.4	+0.3	
CLDB	Colider	22.38 162	eP	P	09 22 06.7	-1.2	
CLDB	Colider	22.38 162	eP	P	09 22 06.7	-1.2	
061Z	Ochoppi	23.02 314	P	P	09 22 16.0	+1.7	
ATAH	Atahualpa	23.59 222	P	P	09 22 21.0	+0.8	
	comp=Z,9.2nm,0.7s,baz=133,slow=2.4,SNR=6.0						
DWPF	Disney Wildern	24.80 317	P	P	09 22 32.2	+1.7	
	baz=131						
DWPF	Disney Wildern	24.80 317	P	P	09 22 31.4	+0.9	
SIV	San Ignacio	26.46 177	P	P	09 22 46.5	+0.8	
	comp=Z,18nm,0.7s,baz=15,slow=9.4,SNR=74						
TEIG	Tepich	26.48 294	P	P	09 22 47.5	+1.7	
TEIG			IAmb	IAmb	09 23 03.4		
	comp=Z,34nm,1.4s						
NNA	Nana	26.51 213	*i* P	P	09 22 46.5	+0.3	
NNA			pmax	pmax			
	comp=Z,50nm,0.9s						
NNA	Nana	26.51 213	P	P	09 22 47.3	+1.1	
	comp=Z,20nm,0.8s,baz=5.8,slow=8.1,SNR=14						
NNA	Nana	26.51 213	P	P	09 22 47.3	+1.1	
NNA			IAmb	IAmb	09 22 48.1		
	comp=Z,27nm,0.8s						
SALV	Santo Antonio	27.20 165	eP	P	09 22 53.4	+1.1	
SALV	Santo Antonio	27.20 165	eP	P	09 22 53.4	+1.1	
LPAZ	La Paz	27.26 192	P	P	09 22 54.5	+1.1	
	comp=Z,1.3nm,0.5s,baz=20,slow=11,SNR=8.1						
LPAZ	La Paz	27.26 192	eP	P	09 22 54.5	+1.1	
LPAZ	La Paz	27.26 192	eP	P	09 22 54.5	+1.1	
LPAZ	La Paz	27.26 192	P	P	09 22 54.2	+0.7	
Y60A	Bolivia	27.33 331	P	P	09 22 55.2	+1.9	
	baz=145						
Y60A	Bolivia	27.33 331	P	P	09 22 54.9	+1.6	
158A	Hollywood	27.34 326	P	P	09 22 54.4	+1.0	
	baz=140						
Z58A	St. Stephen	27.60 328	P	P	09 22 57.1	+1.4	
	baz=141						
NHSC	New Hope	27.61 327	P	P	09 22 57.3	+1.5	
	baz=140						
NHSC	New Hope	27.61 327	P	P	09 22 57.9	+2.0	
NHSC			IAmb	IAmb	09 22 58.2		
	comp=Z,17nm,0.7s						
Y59A	Loris	27.64 330	P	P	09 22 57.6	+1.6	
	baz=144						
Y59A	Loris	27.64 330	P	P	09 22 57.7	+1.7	
Y59A			IAmb	IAmb	09 22 58.9		
	comp=Z,41nm,0.8s						
V62A	Hyde County Ai	27.65 336	P	P	09 22 57.5	+1.4	
	baz=151						
X60A	Albert Glenn T	27.69 332	P	P	09 22 57.6	+1.2	
	baz=146						
157A	Early Branch	27.74 325	P	P	09 22 58.2	+1.2	
	baz=138						
256A	Glennville	27.75 323	P	P	09 22 58.0	+0.9	
	baz=136						
W61A	Ground Anchor	27.75 334	P	P	09 22 58.2	+1.2	
	baz=148						
W60A	Pink Hill	27.96 333	P	P	09 23 00.5	+1.6	
	baz=147,SNR=11						
Y58A	Scranton	27.97 329	P	P	09 23 00.2	+1.2	
	baz=142						
X59A	McDuffie Farm,	27.98 331	P	P	09 23 00.5	+1.5	
	baz=145						
156A	Sylvania	28.00 324	P	P	09 23 00.8	+1.5	
	baz=137						
Z57A	Bowman	28.04 326	P	P	09 23 00.9	+1.2	
	baz=140						
255A	Hazlehurst	28.06 322	P	P	09 23 01.2	+1.4	
	baz=135						
V61A	Roper	28.10 335	P	P	09 23 01.3	+1.2	
	baz=150						
CNNC	Cliffs of the	28.20 333	P	P	09 23 02.4	+1.4	
	baz=147						
ARAG	Araguaiana, MT	28.24 158	eP	P	09 23 02.7	+1.1	
ARAG	Araguaiana, MT	28.24 158	eP	P	09 23 02.7	+1.1	
X58A	Rowland	28.32 330	P	P	09 23 03.5	+1.4	
	baz=143						
X58A	Rowland	28.32 330	P	P	09 23 03.5	+1.4	
X58A			IAmb	IAmb	09 23 05.0		
	comp=Z,22nm,1.2s						
V60A	Jim Taylor Roa	28.37 334	P	P	09 23 03.9	+1.4	
	baz=148						
V60A	Jim Taylor Roa	28.37 334	P	P	09 23 04.5	+2.0	
V60A			IAmb	IAmb	09 23 04.7		
	comp=Z,23nm,0.6s						
W59A	Clinton	28.39 332	P	P	09 23 04.0	+1.2	
	baz=146						
Y57A	Sumter	28.43 328	P	P	09 23 04.4	+1.3	
	baz=141,SNR=7.8						
Y57A	Sumter	28.43 328	P	P	09 23 05.1	+2.0	
Z56A	Williston	28.43 326	P	P	09 23 04.5	+1.4	
	baz=138,SNR=5.1						
Z56A	Williston	28.43 326	P	P	09 23 04.9	+1.7	
U61A	Possum Corner	28.52 336	P	P	09 23 05.1	+1.2	
	baz=150						
155A	Kite	28.55 323	P	P	09 23 05.7	+1.6	
	baz=136						
254A	Abbeville	28.57 321	P	P	09 23 06.0	+1.6	
	baz=133						
X57A	Johnson Farm,	28.62 329	P	P	09 23 06.1	+1.3	
	baz=142						
W58A	Raeford	28.64 331	P	P	09 23 06.4	+1.4	
	baz=144						
Y56A	Pelion	28.75 326	P	P	09 23 07.3	+1.3	
	baz=139						
V59A	Middlesex	28.79 333	P	P	09 23 07.5	+1.3	
	baz=147						
154A	Montrose	28.92 322	P	P	09 23 09.1	+1.6	
	baz=135						
U60A	Pendleton	28.93 335	P	P	09 23 08.8	+1.4	
	baz=149						
BIRD	Birdtown, Kers	28.95 329	P	P	09 23 09.2	+1.4	
U59A	Littleton	29.09 334	P	P	09 23 10.2	+1.3	
	baz=148						
JSC	Jenkinsville	29.09 327	P	P	09 23 10.6	+1.6	
JSC			pmax	pmax			
	comp=Z,10.0nm,1.3s						
JSC	Jenkinsville	29.09 327	P	P	09 23 10.6	+1.6	
W57A	Gilead	29.12 330	P	P	09 23 10.3	+1.1	
	baz=143						
W57A	Gilead	29.12 330	P	P	09 23 10.8	+1.6	
X56A	White Oak	29.13 328	P	P	09 23 10.1	+0.8	
	baz=140						
Y55A	Saluda	29.16 326	P	P	09 23 10.8	+1.2	
	baz=138,SNR=5.4						
253A	Americus	29.17 320	P	P	09 23 11.6	+1.9	
Z54A	Sparta	29.20 324	P	P	09 23 11.5	+1.5	
	baz=136						
V58A	Windy Hill, Pi	29.22 332	P	P	09 23 11.2	+1.1	
	baz=145						
V58A	Windy Hill, Pi	29.22 332	P	P	09 23 11.5	+1.4	
V58A			IAmb	IAmb	09 23 12.2		
	comp=Z,13nm,0.8s						
451A	Vernon	29.30 316	P	P	09 23 13.3	+2.5	
T60A	Surry	29.34 337	P	P	09 23 12.6	+1.6	
	baz=151						
153A	Fort Valley	29.39 322	P	P	09 23 13.0	+1.4	
	baz=134						
X55A	Gracelyn & Ava	29.44 327	P	P	09 23 13.2	+1.1	
	baz=139						
U58A	Oxford	29.45 333	P	P	09 23 13.4	+1.2	
	baz=147						
252A	Lumpkin	29.51 320	P	P	09 23 14.5	+1.7	
	baz=131						
T59A	Double "B" Far	29.52 335	P	P	09 23 13.9	+1.2	
	baz=149						
T59A	Double "B" Far	29.52 335	P	P	09 23 14.1	+1.4	
Y54A	Tignall	29.57 325	P	P	09 23 14.5	+1.3	
	baz=137						
HODGE	Hodges	29.60 326	P	P	09 23 15.2	+1.7	
V57A	Coltrane Farms	29.60 331	P	P	09 23 14.5	+1.0	
	baz=144						
Z53A	Monticello	29.67 323	P	P	09 23 15.2	+1.1	
	baz=135						
GOGA	Godfrey	29.70 323	P	P	09 23 15.7	+1.4	
	baz=135						
GOGA	Godfrey	29.70 323	P	P	09 23 16.1	+1.8	
GOGA			pmax	pmax			
	comp=Z,11nm,1.0s						
GOGA	Godfrey	29.70 323	P	P	09 23 16.1	+1.8	
KMSC	Kings Mountain	29.79 328	P	P	09 23 16.4	+1.2	
	baz=140						
KMSC	Kings Mountain	29.79 328	P	P	09 23 16.7	+1.5	
S60A	Water View	29.80 337	P	P	09 23 16.8	+1.6	
	baz=151						
PAULI	Pauline	29.80 327	P	P	09 23 16.9	+1.7	
PAULI			IAmb	IAmb	09 23 17.3		
	comp=Z,15nm,0.7s						
BDFB	Brasilia	29.81 151	P	P	09 23 17.4	+1.7	
BDFB			pmax	pmax			
	comp=Z,12nm,1.1s						
BDFB	Brasilia	29.81 151	P	P	09 23 17.0	+1.4	
	comp=Z,4.2nm,0.5s,baz=304,slow=13,SNR=6.6						
BDFB			LR	LR	09 37 38.8		
	comp=Z,92nm,18.7s,baz=98,slow=41						
BDFB	Brasilia	29.81 151	P	P	09 23 17.4	+1.7	
U57A	Blanch	29.84 332	P	P	09 23 16.7	+1.1	
	baz=145						
V56A	Mocksville	29.89 330	P	P	09 23 17.1	+1.1	
	baz=143						
X54A	Belton	29.90 326	P	P	09 23 17.3	+1.2	
	baz=138						
T58A	Grand View Acr	29.91 334	P	P	09 23 17.2	+1.0	
	baz=147,SNR=6.1						
152A	Waverly Hall	29.95 321	P	P	09 23 18.2	+1.6	
	baz=132						
152A	Waverly Hall	29.95 321	P	P	09 23 18.4	+1.8	
152A			IAmb	IAmb	09 23 18.8		
	comp=Z,14nm,0.5s						
Y53A	Monroe	30.08 324	P	P	09 23 19.0	+1.3	
	baz=135						
S59A	Mechanicsville	30.09 336	P	P	09 23 19.2	+1.4	
	baz=150						
W54A	Cherokee Point	30.20 327	P	P	09 23 20.4	+1.6	
	baz=139,SNR=6.2						
U56A	King	30.26 331	P	P	09 23 20.7	+1.4	
	baz=143,SNR=5.4						
U56A	King	30.26 331	P	P	09 23 21.2	+1.8	
U56A			IAmb	IAmb	09 23 22.3		
	comp=Z,15nm,1.0s						
S58A	Poland Farm, P	30.27 335	P	P	09 23 20.5	+1.1	
	baz=149,SNR=6.8						
S58A	Poland Farm, P	30.27 335	P	P	09 23 20.8	+1.4	
S58A			IAmb	IAmb	09 23 21.2		
	comp=Z,16nm,0.7s						
T57A	Hurt	30.27 333	P	P	09 23 20.8	+1.4	
	baz=146,SNR=14						
T57A	Hurt	30.27 333	P	P	09 23 21.0	+1.6	
MNMC	Minye Minye	30.32 193	P	P	09 23 19.6	-0.7	
Y52A	Lilburn	30.37 323	P	P	09 23 21.6	+1.3	
	baz=135						
Y52A	Lilburn	30.37 323	P	P	09 23 22.1	+1.8	
Y52A			IAmb	IAmb	09 23 22.2		
	comp=Z,7.4nm,0.6s						
X53A	Estanollee	30.38 325	P	P	09 23 21.8	+1.4	
	baz=137						
R59A	King George, V	30.41 337	P	P	09 23 22.0	+1.4	
	baz=151						
R58B	Mineral	30.50 336	P	P	09 23 22.8	+1.5	
	baz=149						
R58B	Mineral	30.50 336	P	P	09 23 22.9	+1.5	
R58B			IAmb	IAmb	09 23 23.5		
	comp=Z,13nm,0.8s						
CBN	Corbin Frederi	30.51 337	P	P	09 23 22.9	+1.4	
	baz=150						
BG3	Lake Jocassee	30.53 326	P	P	09 23 24.1	+2.3	
BG3			IAmb	IAmb	09 23 24.5		
	comp=Z,9.5nm,0.8s						
V54A	Nebo	30.60 328	P	P	09 23 23.9	+1.6	
	baz=140						
T56A	Rocky Mt	30.65 332	P	P	09 23 24.3	+1.5	
	baz=145,SNR=7.3						
U55A	TA2, Sparta	30.71 330	P	P	09 23 25.0	+1.6	
	baz=142,SNR=5.1						
S57A	Dark Hollow, R	30.77 334	P	P	09 23 25.1	+1.3	
	baz=147						
S57A	Dark Hollow, R	30.77 334	P	P	09 23 25.3	+1.5	
S57A			IAmb	IAmb	09 23 25.9		
	comp=Z,14nm,0.6s						
W53A	Cullowhee	30.79 326	P	P	09 23 26.0	+1.8	
	baz=138,SNR=5.2						
X52A	Dahlonega	30.79 324	P	P	09 23 25.3	+1.2	
	baz=136						
R58A	Rapidan	30.84 336	P	P	09 23 25.6	+1.2	
	baz=149,SNR=6.9						
PB11	IPOC Station P	30.95 193	P	P	09 23 24.4	-1.2	
S56A	Natural Bridge	30.97 333	P	P	09 23 27.1	+1.5	
	baz=146,SNR=7.2						
V53A	Saluda	30.97 327	P	P	09 23 27.3	+1.6	
	baz=139						
V53A	Saluda	30.97 327	P	P	09 23 27.8	+2.1	
V53A			IAmb	IAmb	09 23 28.3		
	comp=Z,10nm,0.8s						
BLA	Blacksburg	30.98 332	P	P	09 23 27.3	+1.6	
	baz=144						
BLA	Blacksburg	30.98 332	P	P	09 23 28.0	+2.3	
BLA			pmax	pmax			
	comp=Z,15nm,0.9s						
BLA	Blacksburg	30.98 332	P	P	09 23 27.9	+2.3	
BLA			IAmb	IAmb	09 23 28.4		
	comp=Z,15nm,0.9s						
Y51A	Rockmart	30.99 322	P	P	09 23 27.0	+1.2	
	baz=133						
R57A	Stanardsville	31.05 335	P	P	09 23 27.9	+1.6	
	baz=148,SNR=8.3						
T55A	Pulaski	31.07 331	P	P	09 23 28.2	+1.7	
	baz=144,SNR=8.0						
Z50A	Ashland	31.09 320	P	P	09 23 28.4	+1.7	
U54A	Nelsons Funny	31.11 329	P	P	09 23 28.4	+1.5	
	baz=141						
U54A	Nelsons Funny	31.11 329	P	P	09 23 28.6	+1.7	
U54A			IAmb	IAmb	09 23 29.1		
	comp=Z,14nm,0.4s						
W52A	Murphy	31.16 325	P	P	09 23 28.7	+1.4	
	baz=136,SNR=5.5						
W52A	Murphy	31.16 325	P	P	09 23 29.6	+2.3	
W52A			IAmb	IAmb	09 23 29.7		
	comp=Z,14nm,0.6s						
RCBR	Riachuelo	31.21 120	P	P	09 23 29.6	+1.6	
RCBR			pmax	pmax			
	comp=Z,26nm,1.3s						
RCBR	Riachuelo	31.21 120	P	P	09 23 29.6	+1.6	
RCBR			IAmb	IAmb	09 23 37.5		
	comp=Z,26nm,1.2s						
Q58A	Fox Den Farm,	31.27 337	P	P	09 23 29.4	+1.2	
	baz=150						
U53A	Fall Branch	31.38 328	P	P	09 23 30.6	+1.5	
	baz=140						
P59A	Jarrettsville	31.40 339	P	P	09 23 30.6	+1.3	
	baz=153						
T54A	Tazewell	31.41 330	P	P	09 23 31.0	+1.4	
	baz=142						
S55A	Lewisburg	31.47 332	P	P	09 23 31.6	+1.5	
	baz=145						
TKL	Tuckaleechee C	31.49 326	P	P	09 23 31.5	+1.4	
TKL			pmax	pmax			
	comp=Z,10.0nm,1.0s						
TKL	Tuckaleechee C	31.49 326	P	P	09 23 31.5	+1.4	
TKL			IAmb	IAmb	09 23 32.1		
	comp=Z,10nm,0.9s						
R56A	Bull Pasture M	31.51 334	P	P	09 23 32.1	+1.7	
	baz=147						
V52A	Sevierville	31.53 326	P	P	09 23 31.7	+1.2	
	baz=138						
V52A	Sevierville	31.53 326	P	P	09 23 32.0	+1.5	
V52A			IAmb	IAmb	09 23 33.2		
	comp=Z,36nm,1.5s						
P58A	Pank, Wackersv	31.60 338	P	P	09 23 33.0	+1.9	
	baz=152						
AQDB	Aquidauana	31.62 168	eP	P	09 23 32.7	+1.3	
AQDB	Aquidauana	31.62 168	eP	P	09 23 32.7	+1.3	
Q57A	Strasburg	31.64 336	P	P	09 23 33.1	+1.7	
	baz=149						
LRAL	Lakeview Retre	31.64 319	P	P	09 23 32.9	+1.4	
	baz=129,SNR=5.7						
LRAL	Lakeview Retre	31.64 319	P	P	09 23 33.2	+1.7	
LRAL			IAmb	IAmb	09 23 33.8		
	comp=Z,21nm,1.3s						
W51A	Cleveland	31.69 324	P	P	09 23 33.2	+1.3	
	baz=135						
R55A	Marlinton	31.72 333	P	P	09 23 34.1	+1.9	
	baz=146						
R55A	Marlinton	31.72 333	P	P	09 23 34.3	+2.1	
MVL	Millersville	31.72 340	P	P	09 23 33.6	+1.5	
MVL			IAmb	IAmb	09 23 33.9		
	comp=Z,9.0nm,0.8s						
CPCT	Cooper Cave	31.76 325	P	P	09 23 34.5	+1.9	
FPAL	Fort Paine	31.76 322	P	P	09 23 34.8	+2.2	
IPMB	Ipameri, GO	31.76 153	eP	P	09 23 33.6	+0.8	
IPMB	Ipameri, GO	31.76 153	eP	P	09 23 33.6	+0.8	
Y49A	Blount Mountai	31.79 320	P	P	09 23 34.4	+1.5	
Y49A			IAmb	IAmb	09 23 34.6		
	comp=Z,11nm,0.6s						
U52A	Thorn Hill	31.81 327	P	P	09 23 34.5	+1.5	
	baz=139						
T53A	Wise	31.83 329	P	P	09 23 34.8	+1.6	
	baz=140						
P57A	Homestead Farm	31.87 337	P	P	09 23 35.0	+1.6	
	baz=150						
S54A	Dingess, Beckl	31.87 331	P	P	09 23 35.1	+1.6	
	baz=143,SNR=6.9						
S54A	Dingess, Beckl	31.87 331	P	P	09 23 35.3	+1.7	
S54A			IAmb	IAmb	09 23 35.7		
	comp=Z,21nm,0.7s						
V51A	Loudon	31.92 325	P	P	09 23 35.3	+1.4	
	baz=136						
V51A	Loudon	31.92 325	P	P	09 23 36.0	+2.1	
V51A			IAmb	IAmb	09 23 36.2		
	comp=Z,12nm,0.6s						
O59A	Robesonia	31.95 340	P	P	09 23 35.6	+1.6	
	baz=154						
Q56A	Snyder Ridge,	31.95 335	P	P	09 23 36.2	+2.0	
	baz=148,SNR=6.4						
Q56A	Snyder Ridge,	31.95 335	P	P	09 23 36.6	+2.4	
TZTN	Tazewell	32.02 327	P	P	09 23 36.4	+1.6	
	baz=138						
TZTN	Tazewell	32.02 327	P	P	09 23 36.2	+1.4	
TZTN			IAmb	IAmb	09 23 37.6		
	comp=Z,32nm,1.4s						
R54A	Victor	32.03 332	P	P	09 23 36.4	+1.6	
	baz=144						
O58A	Lewisberry	32.03 339	P	P	09 23 36.2	+1.4	
	baz=153						
W50A	Signal Mountai	32.04 323	P	P	09 23 36.7	+1.7	
	baz=134,SNR=6.6						
W50A	Signal Mountai	32.04 323	P	P	09 23 36.9	+1.9	
W50A			IAmb	IAmb	09 23 37.4		
	comp=Z,16nm,0.8s						
N60A	Cedar Hill Far	32.11 342	P	P	09 23 36.8	+1.3	
	baz=156						
M61A	Granite Spring	32.13 344	P	P	09 23 36.9	+1.2	
	baz=159						
U51A	La Follette	32.15 326	P	P	09 23 37.4	+1.4	
	baz=138						
T52A	Hallie	32.15 328	P	P	09 23 37.4	+1.4	
	baz=140						
T52A	Hallie	32.15 328	P	P	09 23 37.6	+1.6	
ODNJ	Ogdensburg	32.16 343	P	P	09 23 37.2	+1.3	
ODNJ			IAmb	IAmb	09 23 37.8		
	comp=Z,16nm,0.9s						
S53A	Williamson	32.17 330	P	P	09 23 37.7	+1.6	
	baz=142						
P56A	Dayton Farm, R	32.21 336	P	P	09 23 38.1	+1.7	
	baz=149						
V50A	Pikevile	32.24 324	P	P	09 23 38.3	+1.5	
	baz=135,SNR=5.2						
Q55A	Buckhannon	32.29 334	P	P	09 23 39.1	+1.9	
	baz=146						
N59A	State Game Lan	32.36 341	P	P	09 23 39.4	+1.7	
	baz=155						
N59A	State Game Lan	32.36 341	P	P	09 23 39.8	+2.1	
O57A	Amberson	32.36 338	P	P	09 23 39.5	+1.8	
	baz=152,SNR=5.2						
M60A	Port Jervis	32.39 343	P	P	09 23 39.2	+1.3	
	baz=157						
SWET	Sewanee	32.41 323	P	P	09 23 40.1	+1.8	
SWET			IAmb	IAmb	09 23 40.6		
	comp=Z,11nm,0.7s						
W49A	Belvidere	32.55 322	P	P	09 23 41.0	+1.6	
	baz=133,SNR=5.2						
T51A	Gray	32.55 327	P	P	09 23 40.8	+1.3	
	baz=138,SNR=6.8						
X48A	Hartselle	32.58 321	P	P	09 23 41.4	+1.7	
X48A			IAmb	IAmb	09 23 41.8		
	comp=Z,9.4nm,0.6s						
N58A	Sunbury	32.60 340	P	P	09 23 41.0	+1.2	
	baz=154						
N58A	Sunbury	32.60 340	P	P	09 23 41.8	+2.0	
R53A	Hurricane	32.60 331	P	P	09 23 41.6	+1.7	
	baz=143						
R53A	Hurricane	32.60 331	P	P	09 23 41.5	+1.7	
R53A			IAmb	IAmb	09 23 42.5		
	comp=Z,24nm,0.9s						
Q54A	Coxs Mills	32.61 333	P	P	09 23 42.1	+2.1	
	baz=145,SNR=10						
Q54A	Coxs Mills	32.61 333	P	P	09 23 42.5	+2.6	
P55A	Reedsville	32.61 335	P	P	09 23 42.1	+2.1	
	baz=147,SNR=5.3						
U50A

baz=156
Q53A Leroy 32.82 332 P **P** 09 23 43.3 +1.6
baz=144,SNR=5.9
SSPA Standing Stone 32.83 338 P **P** 09 23 43.3 +1.5
baz=151
SSPA Standing Stone 32.83 338 P **P** 09 23 43.5 +1.8
SSPA IAmb IAmb 09 23 44.3
comp=Z,14nm,0.9s
S51A Beattyville 32.87 328 P **P** 09 23 43.7 +1.5
baz=140
S51A Beattyville 32.87 328 P **P** 09 23 44.0 +1.8
S51A IAmb IAmb 09 23 44.5
comp=Z,15nm,0.8s
L60A Shokan 32.89 344 P **P** 09 23 43.5 +1.2
baz=158
L61A Hillsdale 1, H 32.90 345 P **P** 09 23 43.4 +1.0
baz=160
R52A Catlettsburg 32.94 330 P **P** 09 23 44.2 +1.4
baz=142
P54A Burton 32.97 334 P **P** 09 23 44.8 +1.8
baz=146,SNR=6.7
M58A Price's Panora 32.99 341 P **P** 09 23 44.9 +1.6
baz=154
O55A Ligonier 32.99 336 P **P** 09 23 45.0 +1.7
baz=149
T50A Nancy 33.07 326 P **P** 09 23 45.5 +1.6
baz=137,SNR=7.4
M57A Sunshine Farm, 33.18 340 P **P** 09 23 46.5 +1.6
baz=153
M57A Sunshine Farm, 33.18 340 P **P** 09 23 46.8 +1.9
M57A IAmb IAmb 09 23 47.0
comp=Z,15nm,0.8s
N56A West Decatur 33.22 338 P **P** 09 23 46.8 +1.5
baz=151
U49A Red Boiling Sp 33.23 325 P **P** 09 23 46.7 +1.4
baz=135,SNR=6.0
Q52A Bidwell 33.25 331 P **P** 09 23 46.8 +1.3
baz=143
CLTN Cedars of Leba 33.25 324 P **P** 09 23 47.5 +2.0
CLTN IAmb IAmb 09 23 48.6
comp=Z,14nm,1.3s
P53A Whipple 33.27 333 P **P** 09 23 47.2 +1.5
baz=145
P53A Whipple 33.27 333 P **P** 09 23 47.9 +2.2
P53A IAmb IAmb 09 23 48.2
comp=Z,8.7nm,0.7s
K61A Williamstown 33.28 346 P **P** 09 23 47.0 +1.3
baz=160
V48A Smith Brothers 33.30 323 P **P** 09 23 48.0 +1.9
V48A IAmb IAmb 09 23 48.4
comp=Z,12nm,0.7s
S50A Richmond 33.32 328 P **P** 09 23 47.7 +1.5
baz=138
N55A Marion Center 33.36 337 P **P** 09 23 48.0 +1.5
baz=150
R51A Hillsboro 33.37 329 P **P** 09 23 48.3 +1.7
baz=140,SNR=6.2
L58A Harry Jones Me 33.41 342 P **P** 09 23 48.2 +1.4
baz=156
O54A Avella 33.41 335 P **P** 09 23 48.7 +1.8
baz=147,SNR=5.4
O54A Avella 33.41 335 P **P** 09 23 49.0 +2.2
J62A Henniker 33.48 348 P **P** 09 23 49.1 +1.7
baz=163
T49A Edmonton 33.51 326 P **P** 09 23 49.7 +1.9
baz=136
T49A Edmonton 33.51 326 P **P** 09 23 49.4 +1.5
T49A IAmb IAmb 09 23 50.6
comp=Z,8.1nm,0.8s
VBMS Vicksburg 33.54 314 P **P** 09 23 49.6 +1.5
baz=124
PLAL Pickwick Lake 33.57 320 P **P** 09 23 50.0 +1.7
BINY Binghamton 33.59 342 P **P** 09 23 49.7 +1.3
baz=156
BINY Binghamton 33.59 342 P **P** 09 23 50.3 +1.9
BINY IAmb IAmb 09 23 50.8
comp=Z,18nm,0.9s
L57A Andrews Acres 33.68 341 P **P** 09 23 50.6 +1.3
baz=154
P52A Corning 33.73 332 P **P** 09 23 51.1 +1.5
baz=144
R50A Paris 33.74 328 P **P** 09 23 51.8 +2.1
baz=139
R50A Paris 33.74 328 P **P** 09 23 52.6 +2.9
R50A IAmb IAmb 09 23 52.8
comp=Z,9.9nm,0.8s
Q51A Peebles 33.82 330 P **P** 09 23 52.1 +1.7
baz=141
Q51A Peebles 33.82 330 P **P** 09 23 52.5 +2.1
Q51A IAmb IAmb 09 23 54.5
comp=Z,25nm,1.4s
O53A New Philadelph 33.82 334 P **P** 09 23 51.9 +1.4
baz=146
S49A Springfield 33.87 327 P **P** 09 23 52.3 +1.3
baz=137
M55A Ridgway 33.88 338 P **P** 09 23 52.5 +1.5
baz=150
M55A Ridgway 33.88 338 P **P** 09 23 52.8 +1.8
M55A IAmb IAmb 09 23 53.3
comp=Z,17nm,0.8s
N54A Moraine State 33.91 336 P **P** 09 23 52.9 +1.7
baz=148
O52A Adamsville 33.98 333 P **P** 09 23 53.3 +1.5
baz=145,SNR=7.9
O52A Adamsville 33.98 333 P **P** 09 23 53.8 +1.9
P51A Williamsport 34.04 331 P **P** 09 23 53.9 +1.6
baz=142
P51A Williamsport 34.04 331 P **P** 09 23 54.4 +2.1
L56A Greenwood 34.04 340 P **P** 09 23 53.5 +1.1
baz=153,SNR=5.2
L56A Greenwood 34.04 340 P **P** 09 23 54.1 +1.7
N53A Lisbon 34.12 335 P **P** 09 23 54.7 +1.6
baz=147,SNR=8.8
N53A Lisbon 34.12 335 P **P** 09 23 55.1 +2.0
OXF Oxford 34.13 318 P **P** 09 23 53.7 +0.5
baz=128,SNR=7.2
OXF Oxford 34.13 318 P **P** 09 23 54.2 +1.0
OXF pmax pmax
comp=Z,31nm,1.2s
OXF Oxford 34.13 318 P **P** 09 23 54.2 +1.0
WVT Waverly 34.17 322 P **P** 09 23 54.5 +1.0
baz=132
WVT Waverly 34.17 322 P **P** 09 23 54.8 +1.3
WVT pmax pmax
comp=Z,16nm,0.9s
WVT Waverly 34.17 322 P **P** 09 23 54.8 +1.3
WVT IAmb IAmb 09 23 55.0
comp=Z,16nm,0.8s
R49A Shelbyville 34.18 328 P **P** 09 23 55.0 +1.4
baz=138
K57A Scipio Center 34.24 342 P **P** 09 23 55.2 +1.2
baz=155
M54A Oil Creek Stat 34.25 337 P **P** 09 23 55.4 +1.3
baz=149
M54A Oil Creek Stat 34.25 337 P **P** 09 23 55.9 +1.7
M54A IAmb IAmb 09 23 56.3
comp=Z,12nm,0.6s
T47A Sharon Grove 34.32 324 P **P** 09 23 56.8 +2.0
O51A Pataskala 34.35 332 P **P** 09 23 56.5 +1.5
baz=143,SNR=10
BB19B Bebedouro 34.38 156 *eP* **P** 09 23 57.0 +1.5
BB19B Bebedouro 34.38 156 *eP* **P** 09 23 57.0 +1.5
L55A Hinsdale 34.38 339 P **P** 09 23 56.5 +1.2
baz=152
I60A Shoreham 34.40 346 P **P** 09 23 56.4 +1.0
baz=161
H64A Troy 34.40 352 P **P** 09 23 56.5 +1.1
baz=168
N52A McGinn's Farm, 34.49 334 P **P** 09 23 57.6 +1.4
baz=145,SNR=8.1
P50A Jamestown 34.49 330 P **P** 09 23 57.9 +1.6
baz=141,SNR=8.0
ALLY Alegheny Colle 34.55 337 P **P** 09 23 58.7 +1.9
Q49A Aurora 34.57 329 P **P** 09 23 58.6 +1.6
baz=139
M53A WI Miller and 34.59 336 P **P** 09 23 58.7 +1.6
baz=148
ACSO Alum Creek Sta 34.59 332 P **P** 09 23 58.8 +1.6
baz=143,SNR=7.8
ACSO Alum Creek Sta 34.59 332 P **P** 09 23 59.1 +1.9
WVNY West Valley, N 34.64 339 P **P** 09 23 59.4 +1.9
WVNY IAmb IAmb 09 24 00.7
comp=Z,13nm,0.8s
J57A Williamstown 34.70 343 P **P** 09 23 59.0 +1.0
baz=156
K55A Perry 34.74 340 P **P** 09 23 59.3 +0.9
baz=152

NCB Newcomb 34.74 345 P **P** 09 23 59.7 +1.3
NCB IAmb IAmb 09 24 00.1
comp=Z,23nm,1.4s
WCI Wyandotte Cave 34.74 326 P **P** 09 23 59.7 +1.3
baz=136
WCI Wyandotte Cave 34.74 326 P **P** 09 24 00.1 +1.7
WCI pmax pmax
comp=Z,15nm,1.0s
WCI Wyandotte Cave 34.74 326 P **P** 09 24 00.1 +1.7
WCI IAmb IAmb 09 24 00.7
comp=Z,15nm,1.0s
L54A Sinclairville 34.74 338 P **P** 09 23 59.6 +1.1
baz=150
O50A Cable 34.83 331 P **P** 09 24 00.9 +1.7
baz=142,SNR=12
N51A Ashland 34.87 333 P **P** 09 24 00.7 +1.1
baz=144,SNR=6.5
N51A Ashland 34.87 333 P **P** 09 24 01.2 +1.6
Q48A North Vernon 34.95 328 P **P** 09 24 01.8 +1.6
baz=138
M52A Chesterland 34.95 335 P **P** 09 24 01.3 +1.1
baz=146
M52A Chesterland 34.95 335 P **P** 09 24 02.3 +2.0
N50A Nevada 35.10 332 P **P** 09 24 02.8 +1.3
baz=143
X43A Marvell 35.10 317 P **P** 09 24 02.7 +1.1
baz=126
M51A Elyria 35.13 334 P **P** 09 24 03.0 +1.3
baz=145
G62A West of Eustis 35.16 350 P **P** 09 24 03.2 +1.2
baz=166
G62A West of Eustis 35.16 350 P **P** 09 24 03.5 +1.5
G62A IAmb IAmb 09 24 04.2
comp=Z,27nm,1.4s
LMN Caledonia Moun 35.19 357 P **P** 09 24 02.8 +0.7
P48A Milroy 35.19 329 P **P** 09 24 03.1 +0.9
baz=139
P48A Milroy 35.19 329 P **P** 09 24 03.4 +1.1
P48A IAmb IAmb 09 24 04.5
comp=Z,8.0nm,0.6s
O49A Covington 35.20 331 P **P** 09 24 03.7 +1.3
baz=141,SNR=5.7
HICK Hickman 35.29 321 P **P** 09 24 04.1 +1.0
G60A Masonville 35.38 348 P **P** 09 24 04.9 +1.0
baz=163
PEBM Pemiscott Bayo 35.41 320 P **P** 09 24 05.4 +1.2
F64A Sherman 35.49 353 P **P** 09 24 05.5 +0.7
F64A IAmb IAmb 09 24 17.7
comp=Z,19nm,1.4s
H57A Richville 35.50 344 P **P** 09 24 06.3 +1.5
baz=158
BLO Bloomington 35.55 327 P **P** 09 24 07.2 +1.8
BLO pmax pmax
comp=Z,33nm,0.6s
BLO Bloomington 35.55 327 P **P** 09 24 07.2 +1.8
M50A Fremont 35.56 333 P **P** 09 24 06.7 +1.3
baz=144,SNR=7.7
M50A Fremont 35.56 333 P **P** 09 24 07.0 +1.6
O48A Farmland 35.65 330 P **P** 09 24 07.4 +1.1
baz=140
N49A Columbus Grove 35.70 332 P **P** 09 24 07.7 +1.1
baz=142
Z41A Richland Creek 35.72 314 P **P** 09 24 08.1 +1.2
baz=122
Z41A Richland Creek 35.72 314 P **P** 09 24 08.5 +1.6
Z41A IAmb IAmb 09 24 08.6
comp=Z,13nm,0.7s
G57A Newington 35.99 345 P **P** 09 24 10.0 +1.0
baz=159
M49A Liberty Center 36.04 332 P **P** 09 24 10.8 +1.3
baz=142
J52A Paris 36.04 338 P **P** 09 24 10.8 +1.3
baz=149
SIUC Southern Illin 36.05 323 P **P** 09 24 11.3 +1.7
N48A Decatur 36.05 331 P **P** 09 24 10.7 +1.1
baz=140,SNR=7.6
S44A Carbondale 36.06 323 P **P** 09 24 11.0 +1.3
FRTB Fartura 36.07 159 *eP* **P** 09 24 11.5 +1.5
FRTB Fartura 36.07 159 *eP* **P** 09 24 11.5 +1.5
H55A Tweed 36.09 342 P **P** 09 24 11.2 +1.3
baz=155
OLIL Olney 36.10 325 P **P** 09 24 11.5 +1.4
WLAR White Oak Lake 36.17 314 P **P** 09 24 12.2 +1.4
PBMO Poplar Bluff 36.18 321 P **P** 09 24 11.6 +0.8
PBMO IAmb IAmb 09 24 11.8
comp=Z,16nm,0.8s
LCAR Lake Charles 36.20 319 P **P** 09 24 12.0 +1.0
UALR University of 36.23 316 P **P** 09 24 12.3 +1.0
UALR IAmb IAmb 09 24 14.0
comp=Z,8.0nm,0.7s
NATX Nacogdoches 36.33 310 P **P** 09 24 13.3 +1.2
baz=118
NATX Nacogdoches 36.33 310 P **P** 09 24 13.8 +1.7
E61A La Etchemin 36.34 351 P **P** 09 24 13.2 +1.2
baz=167
N47A Urbana 36.39 330 P **P** 09 24 13.5 +1.0
baz=140,SNR=5.2
N47A Urbana 36.39 330 P **P** 09 24 14.0 +1.4
W41B Gary Mavity, V 36.40 317 P **P** 09 24 13.4 +0.7
baz=125,SNR=7.3
W41B Gary Mavity, V 36.40 317 P **P** 09 24 13.6 +0.9
W41B IAmb IAmb 09 24 14.0
comp=Z,9.9nm,0.6s
X40A Basin Creek Fa 36.41 316 P **P** 09 24 13.8 +1.1
baz=124
X40A Basin Creek Fa 36.41 316 P **P** 09 24 14.2 +1.4
X40A IAmb IAmb 09 24 15.1
comp=Z,7.6nm,0.7s
HKT Hockley 36.42 307 P **P** 09 24 14.0 +1.2
HKT pmax pmax
comp=Z,7.0nm,1.2s
HKT Hockley 36.42 307 P **P** 09 24 14.0 +1.2
L49A Milan 36.45 333 P **P** 09 24 14.4 +1.4
baz=143,SNR=5.1
WHAR Wooly Hollow 36.49 317 P **P** 09 24 14.5 +1.0
WHAR IAmb IAmb 09 24 14.6
comp=Z,10nm,0.8s
K50A Casco 36.50 335 P **P** 09 24 14.5 +1.1
baz=146
PLVO Plevna 36.50 343 P **P** 09 24 14.7 +1.2
H53A Bobcaygeon 36.55 341 P **P** 09 24 14.8 +1.0
baz=153
D63A Stockholm 36.62 354 P **P** 09 24 15.4 +1.0
baz=171
L48A N Adams 36.62 332 P **P** 09 24 15.4 +1.0
baz=142,SNR=8.0
I52A Shelburne 36.65 339 P **P** 09 24 15.6 +0.9
baz=150
M47A Cromwell 36.72 331 P **P** 09 24 16.5 +1.2
baz=140
SFIN Lafayette 36.73 328 P **P** 09 24 16.7 +1.3
baz=137
SFIN Lafayette 36.73 328 P **P** 09 24 17.1 +1.7
SFIN IAmb IAmb 09 24 19.9
comp=Z,17nm,1.1s
I51A Listowel 36.73 338 P **P** 09 24 16.4 +1.1
baz=149
VAO Valinhos 36.74 155 *eP* **P** 09 24 17.3 +1.5
VAO Valinhos 36.74 155 *eP* **P** 09 24 17.3 +1.5
D62A Allapoint, All 36.77 353 P **P** 09 24 16.4 +0.8
D62A IAmb IAmb 09 24 20.7
comp=Z,18nm,1.4s
K49A Clarkson 36.86 334 P **P** 09 24 18.1 +1.6
baz=144
D60A Saint Jean D'O 36.88 351 P **P** 09 24 17.4 +0.8
baz=166
SADO Sadowa 36.91 340 P **P** 09 24 17.4 +0.6
SADO IAmb IAmb 09 24 23.3
comp=Z,27nm,1.2s
MIAR Mount Ida 36.95 315 P **P** 09 24 18.0 +0.5
baz=123
MIAR Mount Ida 36.95 315 P **P** 09 24 17.7 +0.3
MIAR pmax pmax
comp=Z,6.0nm,1.1s
L47A Sherwood 37.00 332 P **P** 09 24 18.4 +0.7
baz=141,SNR=5.7
CPUP Villa Florida 37.06 172 P **P** 09 24 18.1 -0.2
CPUP pmax pmax
comp=Z,7.0nm,0.8s
CPUP Villa Florida 37.06 172 P **P** 09 24 17.9 -0.4
comp=Z,6.3nm,0.6s,baz=355,slow=8.6,SNR=23
CPUP Villa Florida 37.06 172 P **P** 09 24 18.1 -0.2
CPUP IAmb IAmb 09 24 18.6
comp=Z,7.4nm,0.8s
D59A Saint-Raymond 37.12 350 P **P** 09 24 19.4 +0.8
baz=165

K48A Perry 37.16 333 P **P** 09 24 20.1 +1.0
baz=143,SNR=12
J49A Marlette 37.20 335 P **P** 09 24 20.1 +0.8
baz=145
O44A Mansfield 37.30 327 P **P** 09 24 21.6 +1.4
E56A St. Veronique 37.35 346 P **P** 09 24 21.2 +0.6
baz=160
D58A Chemin du LacG 37.40 348 P **P** 09 24 21.9 +0.8
baz=163
J48A Bridge Port 37.42 334 P **P** 09 24 22.1 +1.0
baz=144
J48A Bridge Port 37.42 334 P **P** 09 24 22.2 +1.0
K47A Vermontville 37.45 333 P **P** 09 24 22.4 +0.9
baz=142,SNR=7.2
W39A Magazine 37.45 316 P **P** 09 24 22.2 +0.6
baz=123,SNR=6.5
W39A Magazine 37.45 316 P **P** 09 24 23.2 +1.6
W39A IAmb IAmb 09 24 23.3
comp=Z,13nm,0.7s
U40A Yellville 37.48 318 P **P** 09 24 22.0 +0.1
baz=126,SNR=5.9
U40A Yellville 37.48 318 P **P** 09 24 22.6 +0.7
U40A IAmb IAmb 09 24 22.8
comp=Z,8.9nm,0.8s
CCM Cathedral Cave 37.49 322 P **P** 09 24 22.1 +0.2
baz=129
CCM Cathedral Cave 37.49 322 P **P** 09 24 22.4 +0.5
CCM pmax pmax
comp=Z,22nm,1.5s
CCM Cathedral Cave 37.49 322 P **P** 09 24 22.4 +0.5
CCM IAmb IAmb 09 24 23.4
comp=Z,22nm,1.5s
L46A Eue Claire 37.55 331 P **P** 09 24 23.9 +1.6
baz=140
MGMO Mountain Grove 37.57 320 P **P** 09 24 23.5 +0.8
MGMO IAmb IAmb 09 24 25.8
comp=Z,11nm,1.1s
LATQ La Tuque 37.66 349 P **P** 09 24 24.1 +0.9
baz=163
LATQ La Tuque 37.66 349 P **P** 09 24 24.4 +1.2
LATQ IAmb IAmb 09 24 26.0
comp=Z,10nm,1.4s
E54A Lac Daplat, Po 37.81 344 P **P** 09 24 25.2 +0.8
baz=156
J47A Sunmer 37.82 333 P **P** 09 24 25.6 +1.0
baz=143,SNR=5.2
J47A Sunmer 37.82 333 P **P** 09 24 26.1 +1.6
K46A Dorr 37.82 332 P **P** 09 24 25.5 +0.9
baz=141
E53A Dumoine, Ponti 37.89 343 P **P** 09 24 26.3 +1.1
baz=155
D55A Sainte-Anne-du 37.90 346 P **P** 09 24 26.3 +1.1
baz=159
M44A Midewin, Midew 37.96 328 P **P** 09 24 26.9 +1.2
HDIL Hopedale 38.03 326 P **P** 09 24 27.3 +0.9
baz=134
HDIL Hopedale 38.03 326 P **P** 09 24 27.7 +1.3
I48A Sherman Twp 38.11 335 P **P** 09 24 28.2 +1.2
baz=145
435B Jarrell 38.14 307 P **P** 09 24 28.0 +0.5
baz=114
HHAR Hobbs 38.16 317 P **P** 09 24 28.3 +0.7
HHAR IAmb IAmb 09 24 28.4
comp=Z,10.0nm,0.6s
F51A Arnstein 38.19 340 P **P** 09 24 28.5 +0.9
baz=152
J46A Howard City 38.28 333 P **P** 09 24 29.2 +0.8
baz=142
I47A Gladwin 38.31 334 P **P** 09 24 30.1 +1.4
baz=144
D54A Lac Fusel, La 38.33 345 P **P** 09 24 28.9 +0.1
baz=157,SNR=5.2
H48A Harrisville 38.38 336 P **P** 09 24 30.2 +0.9
baz=146
L44A Lake County Fo 38.47 329 P **P** 09 24 31.0 +0.9
baz=138
L44A Lake County Fo 38.47 329 P **P** 09 24 31.2 +1.2
WHTX Lake Whitney, 38.55 309 P **P** 09 24 31.6 +0.7
baz=116,SNR=7.6
WHTX Lake Whitney, 38.55 309 P **P** 09 24 31.6 +0.7
H47A Mio 38.65 335 P **P** 09 24 32.6 +1.0
baz=145
833A Chaparral WMA, 38.69 302 P **P** 09 24 32.6 +0.5
baz=110
DRLN Deer Lake 38.78 5 P **P** 09 24 33.0 +0.5
DRLN IAmb IAmb 09 24 33.8
comp=Z,15nm,0.9s
F49A Sandfield 38.78 338 P **P** 09 24 32.7 +0.1
baz=148
N41A Harden Midland 39.00 325 IAmb IAmb 09 24 35.2
comp=Z,16nm,0.7s
N41A P **P** 09 24 35.4 +0.9
GLMI Grayling 39.01 335 P **P** 09 24 35.8 +1.2
baz=144
GLMI Grayling 39.01 335 P **P** 09 24 35.7 +1.2
H46A Fife Lake 39.02 334 P **P** 09 24 35.7 +1.0
baz=143
D51A Lot 18 Range I 39.04 342 P **P** 09 24 35.8 +1.0
baz=153
K43A Burlington 39.06 330 P **P** 09 24 35.8 +0.8
I45A Fountain 39.08 333 P **P** 09 24 36.2 +1.1
baz=141
TUL1 Leonard 39.22 315 P **P** 09 24 36.4 0.0
baz=122,SNR=9.1
TUL1 Leonard 39.22 315 P **P** 09 24 36.8 +0.3
L42A Oliver, Polo 39.24 328 P **P** 09 24 37.6 +1.0
E48A Lockeyer 39.44 339 P **P** 09 24 38.9 +0.8
baz=149
H45A Beulah 39.46 333 P **P** 09 24 39.4 +1.1
baz=142
W35A Tecumseh 39.59 314 P **P** 09 24 39.6 0.0
G45A Suttons Bay 39.62 334 P **P** 09 24 40.7 +1.1
baz=143
JCT Junction City 39.78 305 P **P** 09 24 41.6 +0.4
baz=112,SNR=5.5
JCT Junction City 39.78 305 P **P** 09 24 41.7 +0.4
JCT pmax pmax
comp=Z,7.0nm,0.7s
JCT Junction City 39.78 305 P **P** 09 24 41.6 +0.4
JCT IAmb IAmb 09 24 42.1
comp=Z,6.5nm,0.7s
E47A Iron Bridge 39.82 338 P **P** 09 24 42.2 +0.9
baz=147
X34A Smith Ranch, M 40.01 312 P **P** 09 24 43.8 +0.7
F45A CMU Biological 40.08 335 P **P** 09 24 44.4 +1.1
baz=144,SNR=5.1
L40A Anamosa 40.12 326 P **P** 09 24 44.3 +0.5
LSQQ Lebel-sur-Quev 40.17 345 P **P** 09 24 44.7 +0.6
baz=158
JFWS Jewell Farm 40.19 328 P **P** 09 24 44.7 +0.3
baz=135,SNR=6.8
JFWS Jewell Farm 40.19 328 P **P** 09 24 45.3 +0.9
JFWS pmax pmax
comp=Z,17nm,0.6s
JFWS Jewell Farm 40.19 328 P **P** 09 24 45.3 +0.9
CHGQ Chibougamau 40.39 348 P **P** 09 24 46.3 +0.4
baz=162
D46A Sault St. Mari 40.48 337 P **P** 09 24 47.2 +0.5
baz=146
ABTX Abilene, Hawle 40.49 309 P **P** 09 24 47.2 +0.1
baz=114,SNR=5.4
ABTX Abilene, Hawle 40.49 309 P **P** 09 24 47.6 +0.5
ABTX IAmb IAmb 09 24 48.0
comp=Z,9.7nm,1.0s
WMOK Wichita Mounta 40.77 312 P **P** 09 24 48.6 -0.7
baz=117,SNR=6.9
WMOK Wichita Mounta 40.77 312 P **P** 09 24 48.9 -0.4
WMOK pmax pmax
comp=Z,7.0nm,1.2s
WMOK Wichita Mounta 40.77 312 P **P** 09 24 48.9 -0.4
I40A Norwalk 41.08 329 P **P** 09 24 52.3 +0.6
F42A Maple Grove Fa 41.27 333 P **P** 09 24 54.8 +1.6
KSU1 Kansas State U 41.49 319 P **P** 09 24 54.4 -0.8
baz=124,SNR=6.1
U32A Winter Ranch, 41.70 314 P **P** 09 24 57.0 +0.2
G40A Rib Lake 41.86 331 P **P** 09 24 59.0 +0.9
G40A IAmb IAmb 09 24 59.4
comp=Z,9.1nm,0.5s
TXAR Lajitas Array 42.56 302 P **P** 09 25 05.1 +1.0
comp=Z,0.4nm,0.3s,baz=116,slow=9.6,SNR=23
PcP **PcP** 09 26 54.5 -0.7
TXAR
comp=Z,0.4nm,0.5s,baz=113,slow=5.0,SNR=5.2
ScP **ScP** 09 30 34.8 -3.5
TXAR
comp=Z,0.8nm,1.0s,baz=104,slow=7.0,SNR=3.5
TX31 Lajitas Ar. Si 42.56 302 P **P** 09 25 05.4 +1.2
TX32 Lajitas Array 42.56 302 P **P** 09 25 05.7 +1.5

AMTX	**Amarillo**	**42.97**	**311**	P		**P**	**09 25 07.0**	**-0.4**
	baz=115								
AMTX	**Amarillo**	**42.97**	**311**	P		**P**	**09 25 07.8**	**+0.5**
SPMN	**Marine on St.**	**43.12**	**329**	P		**P**	**09 25 08.3**	**0.0**
	baz=134,SNR=8.1								
SPMN	**Marine on St.**	**43.12**	**329**	P		**P**	**09 25 08.7**	**+0.4**
SPMN				IAmb	IAmb		09 25 09.9		
	comp=Z,11nm,0.5s								
CBKS	**Cedar Bluff**	**43.40**	**317**	P		**P**	**09 25 10.5**	**-0.2**
	baz=120								
CBKS	**Cedar Bluff**	**43.40**	**317**	P		**P**	**09 25 10.7**	**0.0**
CBKS				pmax	pmax				
	comp=Z,13nm,0.8s								
CBKS	**Cedar Bluff**	**43.40**	**317**	P		**P**	**09 25 10.7**	**0.0**
CBKS				IAmb	IAmb		09 25 11.3		
	comp=Z,13nm,0.8s								
MSTX	**Muleshoe**	**43.43**	**309**	P		**P**	**09 25 11.4**	**+0.3**
	baz=113								
E38A	**The Farm, Brul**	**43.48**	**331**	P		**P**	**09 25 11.4**	**+0.2**
E38A				IAmb	IAmb		09 25 12.2		
	comp=Z,10nm,0.8s								
ECSD	**EROS Data Cent**	**44.21**	**324**	P		**P**	**09 25 16.8**	**-0.3**
	baz=128								
ECSD	**EROS Data Cent**	**44.21**	**324**	P		**P**	**09 25 17.6**	**+0.5**
SCHQ	**Schefferville**	**44.25**	**357**	P		**P**	**09 25 17.4**	**+0.2**
	comp=Z,4.1nm,0.3s,baz=178,slow=5.0,SNR=41								
SCHQ	**Schefferville**	**44.25**	**357**	P		**P**	**09 25 17.6**	**+0.4**
SCHQ				IAmb	IAmb		09 25 18.8		
	comp=Z,11nm,1.0s								
EYMN	**Ely**	**44.43**	**332**	P		**P**	**09 25 18.5**	**-0.3**
	baz=137								
EYMN	**Ely**	**44.43**	**332**	P		**P**	**09 25 18.9**	**+0.1**
EYMN				IAmb	IAmb		09 25 20.4		
	comp=Z,9.5nm,0.8s								
MNTX	**Cornudas Mount**	**44.70**	**305**	P		**P**	**09 25 21.5**	**+0.4**
	baz=108								
MNTX	**Cornudas Mount**	**44.70**	**305**	P		**P**	**09 25 22.5**	**+1.3**
KSCO	**Kaye Shedlock'**	**45.47**	**315**	P		**P**	**09 25 27.2**	**-0.1**
	baz=118								
T25A	**Trinidad**	**45.92**	**312**	P		**P**	**09 25 30.8**	**-0.2**
	baz=114								
T25A	**Trinidad**	**45.92**	**312**	P		**P**	**09 25 32.1**	**+1.1**
T25A				IAmb	IAmb		09 25 32.8		
	comp=Z,14nm,1.4s								
OGNE	**Ogallala**	**46.00**	**318**	P		**P**	**09 25 31.2**	**-0.1**
	baz=120								
OGNE	**Ogallala**	**46.00**	**318**	IAmb	IAmb		09 25 31.3		
	comp=Z,10nm,0.7s								
OGNE				P		**P**	**09 25 31.3**	**-0.1**
ANMO	**Albuquerque**	**46.62**	**308**	P		**P**	**09 25 37.2**	**+0.7**
	baz=110								
ANMO	**Albuquerque**	**46.62**	**308**	*i* P		**P**	**09 25 36.8**	**+0.3**
ANMO				pmax	pmax				
	comp=Z,2.0nm,0.7s								
ANMO	**Albuquerque**	**46.62**	**308**	P		**P**	**09 25 38.4**	**+1.9**
AGMN	**Agassiz Nation**	**46.76**	**330**	P		**P**	**09 25 36.5**	**-0.6**
	baz=132,SNR=21								
AGMN	**Agassiz Nation**	**46.76**	**330**	P		**P**	**09 25 36.9**	**-0.2**
SDCO	**Great Sand Dun**	**46.96**	**312**	P		**P**	**09 25 39.4**	**+0.2**
	baz=114,SNR=11								
SDCO	**Great Sand Dun**	**46.96**	**312**	P		**P**	**09 25 39.7**	**+0.5**
ISCO	**Idaho Springs**	**47.89**	**315**	P		**P**	**09 25 46.5**	**+0.1**
	baz=115,SNR=6.6								
ISCO	**Idaho Springs**	**47.89**	**315**	P		**P**	**09 25 47.0**	**+0.6**
ISCO				pmax	pmax				
	comp=Z,3.0nm,0.7s								
ISCO	**Idaho Springs**	**47.89**	**315**	P		**P**	**09 25 47.0**	**+0.6**
S22A	**4UR Ranch, Cre**	**47.93**	**312**	P		**P**	**09 25 46.9**	**+0.2**
	baz=113								
ULM	**Lac du Bonnet**	**48.09**	**332**	*e*P		**P**	**09 25 46.1**	**-1.3**
ULM				pmax	pmax				
	comp=Z,3.0nm,0.2s								
ULM	**Lac du Bonnet**	**48.09**	**332**	P		**P**	**09 25 46.2**	**-1.2**
	comp=Z,17nm,0.5s,baz=133,slow=7.7,SNR=89								
ULM	**Lac du Bonnet**	**48.09**	**332**	P		**P**	**09 25 46.4**	**-1.0**
MDND	**Maddock**	**48.39**	**327**	P		**P**	**09 25 49.8**	**0.0**
	baz=128								
TRQA	**Tornquist**	**48.40**	**179**	P		**P**	**09 25 49.8**	**-0.1**
TRQA				pmax	pmax				
	comp=Z,8.0nm,1.2s								
TRQA	**Tornquist**	**48.40**	**179**	P		**P**	**09 25 49.8**	**-0.1**
SMCO	**Snowmass**	**48.59**	**314**	P		**P**	**09 25 52.6**	**+0.6**
MVCO	**Mesa Verde**	**48.97**	**311**	P		**P**	**09 25 55.4**	**+0.7**
	baz=111								
W18A	**Petrified Fore**	**49.22**	**308**	P		**P**	**09 25 57.4**	**+0.9**
	baz=108								
K22A	**Casper**	**49.76**	**318**	P		**P**	**09 26 00.4**	**-0.1**
	baz=117								
O20A	**White River Ci**	**49.87**	**314**	P		**P**	**09 26 01.6**	**+0.2**
	baz=113								
O20A	**White River Ci**	**49.87**	**314**	P		**P**	**09 26 02.4**	**+1.0**
RDMU	**Red Mountain**	**50.98**	**314**	P		**P**	**09 26 09.5**	**-0.3**
SRU	**San Rafael Swe**	**51.13**	**312**	P		**P**	**09 26 11.9**	**+1.0**
SRU				pmax	pmax				
	comp=Z,4.0nm,0.8s								
SRU	**San Rafael Swe**	**51.13**	**312**	P		**P**	**09 26 11.9**	**+1.0**
DGMT	**Dagmar**	**51.26**	**326**	P		**P**	**09 26 12.4**	**+1.0**
	baz=123,SNR=12								
DGMT	**Dagmar**	**51.26**	**326**	P		**P**	**09 26 12.5**	**+1.0**
P17A	**Butcher Ranch,**	**51.41**	**313**	P		**P**	**09 26 13.7**	**+0.7**
PLCA	**Paso Flores**	**51.59**	**188**	P		**P**	**09 26 14.3**	**+0.3**
	comp=Z,9.4nm,0.6s,baz=27,slow=8.0,SNR=45								
PLCA				LR		LR	09 51 55.5		
	comp=Z,49nm,19.4s,baz=86,slow=40								
PLCA	**Paso Flores**	**51.59**	**188**	*e*P		**P**	**09 26 14.3**	**+0.3**
PLCA	**Paso Flores**	**51.59**	**188**	*e*P		**P**	**09 26 14.3**	**+0.3**
PLCA	**Paso Flores**	**51.59**	**188**	P		**P**	**09 26 14.4**	**+0.4**
PLCA				IAmb	IAmb		09 26 15.1		
	comp=Z,14nm,0.9s								
TMUT	**Trail Mountain**	**51.69**	**312**	P		**P**	**09 26 15.7**	**+0.4**
PD31	**Pinedale Array**	**51.83**	**317**	P		**P**	**09 26 16.1**	**0.0**
PD31				IAmb	IAmb		09 26 16.4		
	comp=Z,5.9nm,0.6s								
PDAR	**Pinedale Array**	**51.83**	**317**	P		**P**	**09 26 15.6**	**-0.5**
	comp=Z,6.4nm,0.5s,baz=114,slow=9.9,SNR=104								
PDAR				ScP		**ScP**	**09 31 13.6**	**-3.6**
	comp=Z,0.3nm,0.6s,baz=122,slow=6.5,SNR=4.6								
BW06	**Boulder Array**	**51.83**	**317**	P		**P**	**09 26 15.7**	**-0.4**
	baz=114,SNR=18								
BW06	**Boulder Array**	**51.83**	**317**	P		**P**	**09 26 16.0**	**-0.1**
BW06				IAmb	IAmb		09 26 16.4		
	comp=Z,7.0nm,0.5s								
NRS	**Narsarsuaq**	**52.04**	**10**	P		**P**	**09 26 17.3**	**+0.3**
TCUT	**Toone Canyon**	**52.47**	**314**	P		**P**	**09 26 21.4**	**+0.4**
RLMT	**Red Lodge**	**52.63**	**320**	P		**P**	**09 26 21.8**	**-0.2**
	baz=116								
RLMT	**Red Lodge**	**52.63**	**320**	P		**P**	**09 26 22.4**	**+0.4**
RLMT				IAmb	IAmb		09 26 24.9		
	comp=Z,10nm,1.2s								
HWUT	**Hardware Ranch**	**52.76**	**315**	P		**P**	**09 26 23.4**	**+0.4**
SNOW	**Snow King Moun**	**52.91**	**317**	P		**P**	**09 26 24.6**	**+0.4**
SNOW				IAmb	IAmb		09 26 25.7		
	comp=Z,5.0nm,0.8s								
REDW	**Red Top Meadow**	**52.94**	**317**	P		**P**	**09 26 24.6**	**+0.3**
REDW				IAmb	IAmb		09 26 25.6		
	comp=Z,4.7nm,0.6s								
MOOW	**Moose Ponds**	**53.02**	**318**	P		**P**	**09 26 25.7**	**+0.8**
TPAW	**Teton Pass**	**53.05**	**317**	P		**P**	**09 26 25.6**	**+0.4**
TPAW				IAmb	IAmb		09 26 26.1		
	comp=Z,4.2nm,0.6s								
FLWY	**Flagg Ranch**	**53.12**	**318**	P		**P**	**09 26 26.3**	**+0.6**
DUG	**Dugway, Tooele**	**53.16**	**313**	P		**P**	**09 26 26.5**	**+0.7**
	baz=109,SNR=9.0								
DUG	**Dugway, Tooele**	**53.16**	**313**	P		**P**	**09 26 27.1**	**+1.2**
DUG				pmax	pmax				
	comp=Z,5.0nm,0.7s								
DUG	**Dugway, Tooele**	**53.16**	**313**	P		**P**	**09 26 27.1**	**+1.2**
DUG				IAmb	IAmb		09 26 27.8		
	comp=Z,5.2nm,0.7s								
FXWY	**Fox Creek**	**53.16**	**317**	P		**P**	**09 26 26.4**	**+0.5**
FRB	**Frobisher Bay**	**53.24**	**357**	P		**P**	**09 26 25.0**	**-0.8**
FRB				pmax	pmax				
	comp=Z,12nm,0.8s								
SPUT	**South Promonto**	**53.27**	**314**	P		**P**	**09 26 27.1**	**+0.4**
BGU	**Big Grassy Mou**	**53.56**	**313**	P		**P**	**09 26 29.6**	**+0.8**
FCC	**Fort Churchill**	**53.63**	**340**	P		**P**	**09 26 27.8**	**-1.0**
FCC				pmax	pmax				
	comp=Z,7.0nm,0.6s								
FCC	**Fort Churchill**	**53.63**	**340**	P		**P**	**09 26 27.8**	**-1.0**
FCC				IAmb	IAmb		09 26 28.9		
	comp=Z,7.1nm,0.6s								
YHB	**Horse Butte**	**53.72**	**318**	P		**P**	**09 26 32.3**	**+2.3**
FFC	**Flin Flon**	**53.86**	**333**	P		**P**	**09 26 29.9**	**-0.6**
FFC				pmax	pmax				
	comp=Z,4.0nm,0.8s								
FFC	**Flin Flon**	**53.86**	**333**	P		**P**	**09 26 29.9**	**-0.6**
R11A	**Troy Canyon, C**	**54.65**	**310**	P		**P**	**09 26 37.9**	**+1.1**
	baz=106								
TPNV	**Topopah Spring**	**54.80**	**308**	P		**P**	**09 26 39.3**	**+1.4**
	baz=104								
DLMT	**Dillon**	**54.88**	**319**	P		**P**	**09 26 39.0**	**+0.7**
NVAR	**Mina Array Bea**	**56.74**	**309**	P		**P**	**09 26 51.0**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=102,slow=7.3,SNR=4.9								
PLID	**Pearl Lake**	**57.01**	**317**	P		**P**	**09 26 53.9**	**+0.2**
NEW	**Newport**	**58.84**	**321**	P		**P**	**09 27 06.0**	**-0.1**
	baz=111								
NEW	**Newport**	**58.84**	**321**	P		**P**	**09 27 06.0**	**-0.1**
NEW				pmax	pmax				
	comp=Z,3.0nm,0.5s								
NEW	**Newport**	**58.84**	**321**	P		**P**	**09 27 06.0**	**-0.1**
NEW				IAmb	IAmb		09 27 06.3		
	comp=Z,3.2nm,0.5s								
HAWA	**Hanford**	**59.77**	**318**	P		**P**	**09 27 13.7**	**+1.2**
M04C	**Macdoel**	**60.16**	**312**	P		**P**	**09 27 16.2**	**+0.7**
	baz=103								
LLLB	**Lillooet**	**62.55**	**322**	P		**P**	**09 27 31.8**	**+0.5**
LLLB				IAmb	IAmb		09 27 32.9		
	comp=Z,6.2nm,0.4s								
TOA0	**Torodi Ar. Sit**	**62.85**	**81**	P		**P**	**09 27 34.7**	**+0.9**
TORD	**Torodi Ar. Bea**	**62.85**	**81**	P		**P**	**09 27 34.0**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=296,slow=7.3,SNR=18								
NLWA	**Neilton Lookou**	**62.91**	**318**	P		**P**	**09 27 34.6**	**+0.9**
PGC	**Sidney**	**62.96**	**319**	P		**P**	**09 27 35.0**	**+1.0**
SUMG	**Summit**	**63.62**	**8**	*i* P		**P**	**09 27 38.0**	**-0.4**
SUMG				pmax	pmax				
	comp=Z,12nm,0.8s								
SUMG	**Summit**	**63.62**	**8**	*i* P		**P**	**09 27 38.0**	**-0.4**
	comp=Z,12nm,0.8s								
SUMG	**Summit**	**63.62**	**8**	P		**P**	**09 27 38.3**	**-0.1**
SUMG				IAmb	IAmb		09 27 39.8		
	comp=Z,11nm,1.3s								
YKA	**Yellowknife Ar**	**63.71**	**336**	*e*P		**P**	**09 27 36.9**	**-1.7**
YKA				pmax	pmax				
	comp=Z,4.0nm,0.5s								
YKA	**Yellowknife Ar**	**63.71**	**336**	P		**P**	**09 27 37.0**	**-1.7**
	comp=Z,2.8nm,0.6s,baz=110,slow=7.3,SNR=53								
C36M	**Paulatuk**	**70.28**	**341**	P		**P**	**09 28 17.4**	**-2.7**
	baz=113								
FETA	**Feichten**	**70.98**	**44**	*i* P		**P**	**09 28 26.0**	**+0.9**
	comp=Z,6.9nm,1.3s								
KBA	**Koelnbreinsper**	**72.77**	**44**	*i* P		**P**	**09 28 39.8**	**+3.9**
	comp=Z,3.5nm,0.5s								
NB2	**NORSAR Subarra**	**72.98**	**29**	P		**P**	**09 28 37.5**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=263,slow=6.5								
NOA	**NORSAR Array B**	**72.98**	**29**	P		**P**	**09 28 37.6**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=263,slow=6.1,SNR=4.9								
KHC	**Kasperske Hory**	**73.04**	**42**	*i* P		**P**	**09 28 35.8**	**-1.4**
KHC				pmax	pmax				
	comp=Z,4.0nm,1.2s								
GERES	**GERESS Array B**	**73.11**	**42**	*e*P		**P**	**09 28 38.9**	**+1.2**
GERES				pmax	pmax				
	comp=Z,2.0nm,0.9s								
GERES	**GERESS Array B**	**73.11**	**42**	P		**P**	**09 28 37.7**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=258,slow=4.0,SNR=9.4								
ARSA	**Arzberg**	**74.26**	**44**	*i* P		**P**	**09 28 48.0**	**+3.6**
	comp=Z,1.9nm,0.5s								
DAWY	**Dawson**	**74.75**	**334**	P		**P**	**09 28 47.6**	**+0.7**
CTGM	**Chitina Glacie**	**75.32**	**330**	P		**P**	**09 28 51.4**	**+1.0**
CTGM				IAmb	IAmb		09 28 52.0		
	comp=Z,13nm,1.0s								
MODS	**Modra-Piesok**	**75.46**	**43**	*e*P		**P**	**09 28 51.5**	**+0.2**
MODS	**Modra-Piesok**	**75.46**	**43**	*e*P		**P**	**09 28 51.5**	**+0.2**
BARN	**Barnard Glacie**	**75.49**	**330**	P		**P**	**09 28 52.3**	**+0.9**
BARN				IAmb	IAmb		09 28 56.9		
	comp=Z,14nm,1.4s								
EGAK	**Eagle**	**75.59**	**334**	P		**P**	**09 28 51.4**	**-0.3**
EGAK				IAmb	IAmb		09 28 53.1		
	comp=Z,6.8nm,0.8s								
VRDI	**Verde Repeater**	**76.37**	**331**	P		**P**	**09 28 56.5**	**+0.1**
VRDI				IAmb	IAmb		09 28 57.3		
	comp=Z,9.0nm,1.0s								
VYHS	**Vyhne**	**76.50**	**43**	*e*P		**P**	**09 28 58.3**	**+1.1**
VYHS	**Vyhne**	**76.50**	**43**	*e*P		**P**	**09 28 58.3**	**+1.1**
SCRK	**Sand Creek**	**76.76**	**333**	P		**P**	**09 28 58.4**	**0.0**
IL31		**78.04**	**334**	P		**P**	**09 29 04.7**	**-0.6**
ILAR	**Eielson Array**	**78.04**	**334**	P		**P**	**09 29 04.3**	**-1.1**
	comp=Z,2.2nm,0.6s,baz=108,slow=4.6,SNR=28								
DHY	**Denali Highway**	**78.25**	**332**	P		**P**	**09 29 07.5**	**+0.7**
POKR	**Poker Flat Res**	**78.28**	**335**	P		**P**	**09 29 06.4**	**-0.4**
	baz=90								
CCB	**Clear Creek Bu**	**78.44**	**334**	P		**P**	**09 29 07.9**	**+0.3**
WRH	**Wood River Hil**	**78.56**	**334**	P		**P**	**09 29 08.2**	**-0.1**
WRH				IAmb	IAmb		09 29 09.3		
	comp=Z,7.3nm,0.8s								
MDM	**Murphy Dome**	**78.62**	**334**	P		**P**	**09 29 08.6**	**-0.1**
MDM				IAmb	IAmb		09 29 09.7		
	comp=Z,9.5nm,0.7s								
RND	**Reindeer**	**78.92**	**333**	P		**P**	**09 29 10.9**	**+0.5**
RND				pmax	pmax				
	comp=Z,7.0nm,1.0s								
RND	**Reindeer**	**78.92**	**333**	P		**P**	**09 29 10.9**	**+0.5**
TOLK	**Toolik Lake Re**	**79.10**	**338**	P		**P**	**09 29 11.0**	**-0.2**
	baz=89								
ARCES	**ARCESS Array B**	**79.50**	**21**	*e*P		**P**	**09 29 12.5**	**-0.8**
ARCES				pmax	pmax				
	comp=Z,3.0nm,1.0s								
ARCES	**ARCESS Array B**	**79.50**	**21**	P		**P**	**09 29 13.4**	**+0.1**
	comp=Z,3.2nm,1.0s,baz=288,slow=3.7,SNR=18								
TRF	**Thorofare Moun**	**79.56**	**333**	P		**P**	**09 29 14.0**	**0.0**
TRF				IAmb	IAmb		09 29 15.1		
	comp=Z,15nm,0.8s								
MLY	**Manley**	**79.68**	**334**	P		**P**	**09 29 14.8**	**+0.3**
KTH	**Kantishna Hill**	**79.84**	**333**	P		**P**	**09 29 15.2**	**-0.1**
SUA	**Susitna One**	**79.88**	**331**	P		**P**	**09 29 16.4**	**+0.7**
BRLK	**Bradley Lake**	**80.06**	**329**	P		**P**	**09 29 17.2**	**+0.6**
BRLK				IAmb	IAmb		09 29 28.1		
	comp=Z,29nm,1.3s								
FINES	**FINESS Array B**	**80.16**	**29**	*e*P		**P**	**09 29 17.1**	**+0.1**
FINES				pmax	pmax				
	comp=Z,2.0nm,0.5s								
FINES	**FINESS Array B**	**80.16**	**29**	P		**P**	**09 29 17.2**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=271,slow=4.5,SNR=12								
VSU	**Vasula**	**80.73**	**32**	*i* P		**P**	**09 29 20.0**	**-0.1**
AKASG	**Malin Array Be**	**83.06**	**40**	P		**P**	**09 29 32.4**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=292,slow=4.4,SNR=4.1								
OBN	**Obninsk**	**86.61**	**35**	*e*P		**P**	**09 29 50.0**	**-0.2**
OBN				pmax	pmax				
	comp=Z,71nm,2.8s								
BRTR	**Keskin Array B**	**88.08**	**50**	*e*P		P	09 30 03.6	+5.7
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
BRTR	**Keskin Array B**	**88.08**	**50**	P		**P**	**09 29 59.6**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=293,slow=2.5,SNR=4.3								
VSR	**Storozhevoye**	**89.11**	**38**	*i* P		**P**	**09 30 01.0**	**-1.2**
VSR				pmax	pmax				
	comp=Z,5.0nm,1.5s								
SNAA	**Sanae**	**90.96**	**164**	*i* P		**P**	**09 30 10.5**	**+0.1**
BOSA	**Boshof**	**93.16**	**118**	P		**P**	**09 30 21.9**	**+0.3**
	comp=Z,3.7nm,1.0s,baz=270,slow=3.0,SNR=4.1								
KIV	**Kislovodsk**	**93.51**	**44**	*e*P		**P**	**09 30 21.4**	**-1.6**
KIV				pmax	pmax				
	comp=Z,13nm,1.0s								
BILL	**Bilibino**	**94.24**	**343**	*e*P		**P**	**09 30 25.0**	**-0.7**
BILL				pmax	pmax				
	comp=Z,1.0nm,0.9s								
TIXI	**Tiksi**	**97.58**	**356**	*e*P		**P**	**09 30 39.1**	**-1.7**
TIXI				pmax	pmax				
	comp=Z,1.0nm,1.3s								
NRIK	**Noril'sk**	**97.58**	**10**	*i* P		Pdif	09 30 43.7	+2.8
SEY	**Seymchan**	**101.89**	**344**	*i* P		**Pdif**	**09 31 00.3**	**+0.2**
TLY	**Talaya**	**116.86**	**10**	*i* PKIKP		**PKPdf**	**09 35 50.7**	**-0.4**
TLY				pmax	pmax				
	comp=Z,5.0nm,1.0s								
KSH	**Kashi**	**117.05**	**35**	PKP		**PKPdf**	**09 35 51.0**	**-1.0**
KSH				sPKP			09 36 28.5		
KSH				PP		**PP**	**09 37 05.3**	**+3.4**
KSH				PKS		**PKSdf**	**09 39 26.0**	**-2.8**
KSH				SS		SS	09 53 00.8	-2.5
KSH				AMB	AMB				
	comp=Z,130nm,4.7s								
KSH				LR	LR				
	comp=Z,900nm,5.8s								
KSH				LR	LR				
	comp=Z,510nm,5.7s								
KSH				LR	LR				
	comp=Z,830nm,6.1s								
KLR	**Kul'dur**	**119.11**	**349**	*i* PKIKP		**PKPdf**	**09 35 54.8**	**-0.7**
KLR				pmax	pmax				
	comp=Z,3.0nm,1.4s								
WMQ	**Urumqi**	**119.49**	**24**	*e*PKP		**PKPdf**	**09 35 55.5**	**-1.0**
WMQ				AMB	AMB				
	comp=Z,230nm,5.3s								
CD2	**Chengdu**	**136.71**	**17**	PKP		**PKPdf**	**09 36 27.5**	**-2.1**
NJ2	**Nanjing**	**137.57**	**358**	*e*PKP		**PKPdf**	**09 36 29.8**	**-1.2**
CMAR	**Chiang Mai Arr**	**145.88**	**32**	*e*PKP2		**PKPab**	**09 36 49.2**	**+1.8**
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**145.88**	**32**	PKPbc		**PKPab**	**09 36 47.8**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=311,slow=4.3,SNR=5.5								
ASAR	**Alice Springs**	**159.57**	**228**	PKP		**PKPdf**	**09 37 05.1**	**-0.9**
	comp=Z,0.2nm,0.8s,baz=90,slow=1.9,SNR=3.6								

*IDC **28** 09:56:18.2±0.6, 20.70N×146.70E, h0km, mb4.1/17, mb1 4.2/18, mb1mx4.1/50, mbtmp4.1/18, ML2.8/1, Error ellipse: s-maj=23.7km s-min=14.6km az=81.0*

*ISCJB **28** 09:56:21.4±0.6, 20.67N±0.09×146.6E±0.2, h34km, mb4.1/17, Error ellipse: s-maj=21.9km s-min=11.8km az=170.0*

ISC 28 09:56:23.2±0.7, 20.7N±0.1×146.7E±0.2, h34km, n21, σ0.976/21, mb4.0/17, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**17.45**	**337**	P	**Pn**	**10 00 22.6**	**-1.3**
	0.0nm,0.3s,baz=153,slow=10,SNR=4.1						
KSRS	**Korea Array**	**23.33**	**320**	P	**P**	**10 01 28.8**	**+0.5**
	1.6nm,0.6s,baz=148,slow=7.5,SNR=9.0						
USRK	**Ussuriysk Ar.**	**26.44**	**336**	P	**P**	**10 01 57.6**	**+0.8**
	4.7nm,0.8s,baz=148,slow=9.4,SNR=6.3						
KLR	**Kul'dur**	**30.88**	**341**	P	**P**	**10 02 36.7**	**+0.4**
	1.8nm,0.5s,baz=161,slow=5.3,SNR=9.1						
CTA	**Charters Tower**	**40.52**	**181**	P	**P**	**10 03 58.5**	**-0.7**
	2.3nm,1.0s,baz=351,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**42.14**	**197**	P	**P**	**10 04 12.9**	**+0.4**
	2.2nm,0.8s,baz=17,slow=8.4,SNR=14						
SONM	**Songino Array**	**42.20**	**320**	P	**P**	**10 04 13.0**	**+0.1**
	1.1nm,0.7s,baz=132,slow=7.5,SNR=5.7						
ASAR	**Alice Springs**	**45.80**	**196**	P	**P**	**10 04 41.9**	**0.0**
	0.9nm,0.7s,baz=16,slow=8.0,SNR=14						
ZALV	**Zalesovo Beam**	**57.02**	**322**	P	**P**	**10 06 05.2**	**-0.3**
	10.0nm,0.5s,baz=110,slow=7.7,SNR=36						
MKAR	**Makanchi Array**	**57.77**	**313**	P	**P**	**10 06 11.3**	**+0.3**
	2.5nm,0.7s,baz=94,slow=8.9,SNR=19						
NRIK	**Noril'sk**	**60.08**	**339**	P	**P**	**10 06 26.9**	**+0.4**
	7.1nm,0.6s,baz=101,slow=8.3,SNR=14						
ILAR	**Eielson Array**	**61.47**	**27**	P	**P**	**10 06 36.7**	**+0.6**
	0.5nm,0.9s,baz=258,slow=4.3,SNR=3.7						
YKA	**Yellowknife Ar**	**75.82**	**28**	P	**P**	**10 08 05.1**	**-0.5**
	0.8nm,0.8s,baz=292,slow=5.6,SNR=7.9						
ARCES	**ARCESS Array B**	**80.89**	**342**	P	**P**	**10 08 34.5**	**+0.9**
	0.9nm,0.4s,baz=54,slow=6.2,SNR=4.2						
NVAR	**Mina Array Bea**	**81.21**	**52**	P	**P**	**10 08 36.4**	**+0.3**
	1.5nm,0.8s,baz=266,slow=6.7,SNR=12						
FINES	**FINESS Array B**	**85.47**	**335**	P	**P**	**10 08 56.1**	**-1.2**
	5.2nm,0.6s,baz=67,slow=4.7,SNR=27						
PDAR	**Pinedale Array**	**85.79**	**46**	P	**P**	**10 08 59.0**	**-0.5**
	0.1nm,0.4s,baz=250,slow=5.4,SNR=3.5						
AKASG	**Malin Array Be**	**90.20**	**326**	P	**P**	**10 09 19.1**	**-1.0**
	0.3nm,0.2s,baz=48,slow=4.1,SNR=4.7						
BOSA	**Boshof**	**126.61**	**249**	PKP	**PKiKP**	**10 15 25.6**	**+1.6**
	5.1nm,1.1s,baz=80,slow=6.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**131.88**	**311**	PKP	**PKPdf**	**10 15 34.2**	**+0.4**
	0.3nm,0.5s,baz=56,slow=1.8,SNR=3.1						
LPAZ	**La Paz**	**146.75**	**88**	PKPbc	**PKPab**	**10 16 04.3**	**-0.1**
	1.8nm,0.6s,baz=287,slow=0.8,SNR=11						

*BJI **28** 09:57:47.2±0.0, 20.72N×146.66E, h7km, mb4.8/44, m

PMG	**Port Moresby**	**29.91**	**179**	*i* P		**P**	**10 03 56.9**	**-0.7**
PMG				pmax		pmax			
	comp=Z,70nm,1.0s								
PMG	**Port Moresby**	**29.91**	**179**	P		**P**	**10 03 57.3**	**-0.3**
	comp=Z,21nm,1.0s,baz=315,slow=8.2,SNR=4.8								
PMG	**Port Moresby**	**29.91**	**179**	P		**P**	**10 03 57.6**	**0.0**
KLR	**Kul'dur**	**30.89**	**341**	*i* P		**P**	**10 04 06.2**	**+0.2**
KLR				pmax		pmax			
	comp=Z,3.0nm,0.9s								
KLR	**Kul'dur**	**30.89**	**341**	P		**P**	**10 04 06.4**	**+0.5**
	comp=Z,3.6nm,0.5s,baz=185,slow=5.8,SNR=12								
KLR				LR		LR	10 16 29.9		
	comp=Z,98nm,21.8s,baz=160,slow=36								
GRNR	**Gornyy**	**31.10**	**347**	*i* P		**P**	**10 04 03.9**	**-3.9**
GRNR				pmax		pmax			
	comp=Z,6.0nm,1.0s								
PETK	**Petropavlovsk-**	**33.45**	**12**	LR		LR	10 20 59.2		
	comp=Z,222nm,18.2s,baz=227,slow=42								
COEN	**Coen**	**34.61**	**186**	P		**P**	**10 04 38.6**	**-0.2**
HIA	**Hailar**	**35.72**	**329**	*i* P		**P**	**10 04 47.9**	**-0.2**
HIA				pmax		pmax			
	comp=Z,40nm,1.0s								
HHC	**Hu-ho-hao-te**	**35.95**	**312**	*e*P		**P**	**10 04 49.8**	**-0.5**
HHC				S		**S**	**10 10 24.8**	**-1.9**
HHC				pmax		pmax			
	comp=Z,7.0nm,0.9s								
HHC				pmax		pmax			
	comp=Z,120nm,5.8s								
HHC				LR		LR			
	comp=Z,190nm,16.2s								
HHC				LR		LR			
	comp=Z,240nm,15.3s								
ZEA	**Zeya**	**36.20**	**340**	*e*P		**P**	**10 04 52.0**	**-0.1**
ZEA				pmax		pmax			
	comp=Z,48nm,1.8s								
MTN	**Manton Dam**	**36.68**	**206**	P		**P**	**10 04 56.4**	**-0.2**
MTN				IAmb		IAmb	10 04 57.6		
	comp=Z,21nm,1.1s								
CD2	**Chengdu**	**39.79**	**294**	*e*P		**P**	**10 05 21.5**	**-1.3**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
KNRA	**Kununurra**	**40.22**	**207**	P		**P**	**10 05 27.5**	**+1.2**
LZH	**Lanzhou**	**40.39**	**302**	*e*P		**P**	**10 05 28.0**	**+0.2**
LZH				pP		pP	10 05 32.3	-4.3
LZH				sP		sP	10 05 35.0	-4.5
LZH				PP		**PP**	**10 07 01.5**	**+0.4**
LZH				pmax		pmax			
	comp=Z,26nm,1.4s								
LZH				pmax		pmax			
	comp=Z,110nm,4.3s								
LZH				LR		LR			
	comp=Z,280nm,12.7s								
LZH				LR		LR			
	comp=Z,450nm,13.6s								
LZH				LR		LR			
	comp=Z,610nm,13.5s								
CTA	**Charters Tower**	**40.53**	**181**	P		**P**	**10 05 28.9**	**+0.1**
	comp=Z,11nm,1.0s,baz=356,slow=10,SNR=13								
CTAO	**Charters Tower**	**40.53**	**181**	P		**P**	**10 05 29.9**	**+1.0**
CTAO				pmax		pmax			
	comp=Z,21nm,1.3s								
ULN	**Ulaanbaatar**	**41.85**	**320**	*ce*P		**P**	**10 05 40.5**	**+0.9**
ULN				pmax		pmax			
	comp=Z,17nm,2.5s								
ULN	**Ulaanbaatar**	**41.85**	**320**	P		**P**	**10 05 39.6**	**0.0**
WR0	**Warramunga Arr**	**42.12**	**197**	P		**P**	**10 05 42.3**	**+0.4**
WR0				IAmb		IAmb	10 05 42.9		
	comp=Z,17nm,1.2s								
WRAB	**Tennant Creek**	**42.15**	**197**	*ce*P		**P**	**10 05 43.3**	**+1.1**
WRAB				pmax		pmax			
	comp=Z,10.0nm,0.8s								
WRAB	**Tennant Creek**	**42.15**	**197**	P		**P**	**10 05 41.7**	**-0.5**
WRAB				IAmb		IAmb	10 05 48.5		
	comp=Z,19nm,1.3s								
WRA	**Warramunga Arr**	**42.17**	**198**	P		**P**	**10 05 42.5**	**+0.2**
	comp=Z,5.2nm,0.7s,baz=9.3,slow=8.5,SNR=16								
WRA				PcP		**PcP**	**10 07 37.4**	**+1.1**
	comp=Z,4.6nm,0.9s,baz=11,slow=3.3,SNR=6.6								
WRA				LR		LR	10 23 26.9		
	comp=Z,226nm,21.1s,baz=355,slow=36								
SONM	**Songino Array**	**42.23**	**320**	P		**P**	**10 05 42.5**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=136,slow=6.8,SNR=6.6								
SONM				PcP		**PcP**	**10 07 37.1**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=126,slow=3.5,SNR=3.1								
SONM				LR		LR	10 24 27.5		
	comp=Z,282nm,18.2s,baz=144,slow=38								
SEY	**Seymchan**	**42.39**	**4**	*i* P		**P**	**10 05 44.3**	**+0.7**
SEY	**Seymchan**	**42.39**	**4**	P		**P**	**10 05 44.4**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=192,slow=8.3,SNR=11								
YAK	**Yakutsk**	**42.96**	**348**	*i* P		**P**	**10 05 47.6**	**-0.7**
YAK				pmax		pmax			
	comp=Z,5.0nm,0.9s								
FITZ	**Fitzroy Crossi**	**43.74**	**210**	P		**P**	**10 05 56.1**	**+1.0**
GTA	**Gaotai**	**44.15**	**306**	*e*P		**P**	**10 05 58.0**	**-0.3**
GTA				pP		pP	10 06 02.5	-4.7
GTA				sP		sP	10 06 05.8	-5.0
GTA				pmax		pmax			
	comp=Z,5.0nm,1.5s								
GTA				pmax		pmax			
	comp=Z,220nm,6.9s								
GTA				LR		LR			
	comp=Z,210nm,15.1s								
GTA				LR		LR			
	comp=Z,220nm,14.1s								
GTA				LR		LR			
	comp=Z,370nm,14.4s								
CHTO	**Chiang Mai**	**44.89**	**276**	P		**P**	**10 06 07.5**	**+3.1**
CHTO				pmax		pmax			
	comp=Z,6.0nm,1.6s								
CMAR	**Chiang Mai Arr**	**44.95**	**276**	P		**P**	**10 06 05.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=67,slow=6.6,SNR=3.6								
ZAK	**Zakamensk**	**45.17**	**322**	*e*P		**P**	**10 06 04.2**	**-2.1**
ZAK				pmax		pmax			
	comp=Z,5.0nm,1.2s								
TLY	**Talaya**	**45.52**	**323**	*e*P		**P**	**10 06 11.1**	**+2.1**
TLY				pmax		pmax			
	comp=Z,47nm,1.6s								
AS31	**Alice Springs**	**45.83**	**196**	P		**P**	**10 06 10.3**	**-1.4**
ASAR	**Alice Springs**	**45.83**	**196**	P		**P**	**10 06 11.7**	**0.0**
	comp=Z,2.5nm,0.8s,baz=16,slow=6.2,SNR=16								
ASAR				PcP		**PcP**	**10 07 50.4**	**+1.6**
	comp=Z,1.3nm,0.5s,baz=20,slow=3.0,SNR=7.1								
ASAR				LR		LR	10 25 42.0		
	comp=Z,221nm,20.7s,baz=28,slow=36								
MYKOM	**Kota Tinggi**	**45.84**	**251**	P		**P**	**10 06 09.2**	**-2.8**
EIDS	**Eidsvold**	**45.98**	**175**	P		**P**	**10 06 12.5**	**-0.3**
EIDS				IAmb		IAmb	10 06 21.5		
	comp=Z,10nm,1.4s								
DZM	**Mont Dzumac**	**46.66**	**155**	P		**P**	**10 06 19.8**	**+1.5**
	comp=Z,19nm,1.1s,baz=38,slow=9.2,SNR=11								
DZM	**Mont Dzumac**	**46.66**	**155**	*e*P		**P**	**10 06 19.3**	**+1.0**
	comp=Z,74nm,1.3s								
DZM	**Mont Dzumac**	**46.66**	**155**	*e*LR		LR	10 19 45.1		
	comp=Z,498nm,23.4s								
DZM	**Mont Dzumac**	**46.66**	**155**	P		**P**	**10 06 19.6**	**+1.3**
KULM	**Kulim**	**47.24**	**258**	P		**P**	**10 06 21.6**	**-1.3**
UNV	**Unalaska Valle**	**48.47**	**35**	P		**P**	**10 06 34.0**	**+2.1**
BILL	**Bilibino**	**48.90**	**10**	*ce*P		**P**	**10 06 35.7**	**+0.7**
BILL				pmax		pmax			
	comp=Z,16nm,2.5s								
BILL	**Bilibino**	**48.90**	**10**	P		**P**	**10 06 35.5**	**+0.4**
BILL				IAmb		IAmb	10 06 36.5		
	comp=Z,11nm,1.2s								
PSI	**Prapat**	**49.82**	**256**	P		**P**	**10 06 42.8**	**-0.2**
RPSI	**Rantau Prapat**	**49.87**	**255**	P		**P**	**10 06 42.8**	**-0.4**
SHL	**Shillong**	**50.38**	**287**	P		**P**	**10 06 46.1**	**-1.1**
SHL				pmax		pmax			
	comp=Z,10.0nm,0.5s								
SHL	**Shillong**	**50.38**	**287**	P		**P**	**10 06 46.1**	**-1.1**
SHL				IAmb		IAmb	10 06 48.1		
	comp=Z,9.5nm,0.5s								
FALS	**False Pass**	**50.53**	**35**	P		**P**	**10 06 47.6**	**0.0**
LSA	**Lhasa**	**50.68**	**292**	P		**P**	**10 06 49.5**	**-0.3**
LSA				pmax		pmax			
	comp=Z,14nm,1.0s								
LSA	**Lhasa**	**50.68**	**292**	P		**P**	**10 06 49.5**	**-0.3**
LSA				IAmb		IAmb	10 07 05.5		
	comp=Z,14nm,1.0s								
TIXI	**Tiksi**	**52.02**	**353**	*i* P		**P**	**10 06 58.5**	**0.0**
TIXI				pmax		pmax			
	comp=Z,1.0nm,1.0s								
SDPT	**Sand Point**	**52.29**	**35**	P		**P**	**10 07 01.9**	**+1.2**
STKA	**Stephens Creek**	**52.50**	**186**	P		**P**	**10 07 04.0**	**+1.5**
	comp=Z,10nm,1.1s,baz=22,slow=8.4,SNR=3.4								
STKA	**Stephens Creek**	**52.50**	**186**	P		**P**	**10 07 00.9**	**-1.6**
WMQ	**Urumqi**	**53.77**	**310**	P		**P**	**10 07 13.0**	**+1.0**
WMQ				pP		pP	10 07 18.0	-3.0
WMQ				pmax		pmax			
	comp=Z,17nm,1.3s								
WMQ				pmax		pmax			
	comp=Z,180nm,3.9s								
WMQ				LR		LR			
	comp=Z,350nm,24.5s								
WMQ				LR		LR			
	comp=Z,210nm,17.5s								
WMQ	**Urumqi**	**53.77**	**310**	P		**P**	**10 07 12.1**	**+0.1**
WMQ				pmax		pmax			
	comp=Z,45nm,1.5s								
WMQ	**Urumqi**	**53.77**	**310**	P		**P**	**10 07 12.1**	**+0.1**
TAPN	**Taplejung**	**53.90**	**289**	*e*P		**P**	**10 07 14.2**	**+0.7**
	comp=Z,18nm,0.5s								
MLH	**Mauna Loa**	**54.12**	**80**	P		**P**	**10 07 14.7**	**-0.4**
HLP	**Hilina Pali**	**54.23**	**81**	P		**P**	**10 07 13.4**	**-2.4**
UWB	**Uwekahuna B**	**54.23**	**81**	P		**P**	**10 07 15.4**	**-0.4**
ODAN	**Odare**	**54.24**	**289**	*e*P		**P**	**10 07 16.4**	**+0.5**
	comp=Z,14nm,0.5s								
RAMN	**Ramite**	**54.93**	**289**	*e*P		**P**	**10 07 21.6**	**+0.7**
	comp=Z,17nm,0.7s								
JIRN	**Jiri**	**55.20**	**290**	*e*P		**P**	**10 07 23.7**	**+0.7**
	comp=Z,119nm,1.0s								
GUN	**Gumba**	**55.45**	**290**	*e*P		**P**	**10 07 25.4**	**+0.6**
CAN	**Canberra**	**55.74**	**178**	P		**P**	**10 07 27.6**	**+1.4**
CAN				pmax		pmax			
	comp=Z,31nm,1.3s								
CAN	**Canberra**	**55.74**	**178**	P		**P**	**10 07 27.6**	**+1.4**
PKIN	**Phulchoki**	**55.91**	**290**	*e*P		**P**	**10 07 28.3**	**+0.3**
	comp=Z,9.5nm,0.4s								
KKN	**Kakani**	**55.99**	**290**	*e*P		**P**	**10 07 28.7**	**+0.2**
DMN	**Daman**	**56.16**	**290**	*e*P		**P**	**10 07 30.3**	**+0.5**
GKN	**Gorkha**	**56.53**	**290**	*e*P		**P**	**10 07 32.8**	**+0.6**
ZAA0	**Zalesovo Array**	**57.05**	**322**	P		**P**	**10 07 33.8**	**-1.5**
ZALV	**Zalesovo Beam**	**57.05**	**322**	P		**P**	**10 07 34.8**	**-0.5**
	comp=Z,13nm,0.5s,baz=107,slow=7.5,SNR=37								
DANN	**Dangsing**	**57.25**	**291**	*e*P		**P**	**10 07 38.4**	**+0.9**
	comp=Z,179nm,0.7s								
KOLN	**Koldanda**	**57.47**	**290**	*e*P		**P**	**10 07 39.3**	**+0.3**
	comp=Z,37nm,0.9s								
MORW	**Morawa**	**57.65**	**212**	P		**P**	**10 07 38.9**	**-0.9**
MK31	**Makanchi Array**	**57.81**	**313**	P		**P**	**10 07 40.6**	**-0.2**
MK31				pmax		pmax			
	comp=Z,6.0nm,0.9s								
MK31	**Makanchi Array**	**57.81**	**313**	P		**P**	**10 07 40.6**	**-0.2**
MKAR	**Makanchi Array**	**57.81**	**313**	P		**P**	**10 07 40.9**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=92,slow=9.0,SNR=17								
MAKZ	**Makanchi**	**58.02**	**313**	P		**P**	**10 07 40.2**	**-2.1**
MAKZ				pmax		pmax			
	comp=Z,10.0nm,0.9s								
MAKZ	**Makanchi**	**58.02**	**313**	P		**P**	**10 07 40.2**	**-2.1**
MAKZ				IAmb		IAmb	10 07 46.9		
	comp=Z,9.6nm,0.9s								
NRIK	**Noril'sk**	**60.09**	**339**	P		**P**	**10 07 56.4**	**+0.2**
	comp=Z,11nm,0.6s,baz=108,slow=7.9,SNR=22								
KURK	**Kurchatov**	**60.46**	**317**	*ce*P		**P**	**10 07 59.3**	**+0.3**
KURK				pmax		pmax			
	comp=Z,30nm,1.3s								
KURK	**Kurchatov**	**60.46**	**317**	P		**P**	**10 07 59.1**	**+0.1**
TARG	**Taragay, Kyrgy**	**60.99**	**307**	P		**P**	**10 08 04.4**	**+1.0**
TARG				IAmb		IAmb	10 08 05.7		
	comp=Z,17nm,1.3s								
IL31		**61.44**	**27**	P		**P**	**10 08 05.3**	**-0.1**
IL31				IAmb		IAmb	10 08 17.9		
	comp=Z,14nm,1.4s								
ILAR	**Eielson Array**	**61.44**	**27**	P		**P**	**10 08 05.0**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=254,slow=6.3,SNR=7.0								
KDJ	**Kajisay**	**61.44**	**307**	P		**P**	**10 08 05.4**	**-0.7**
KDJ				pmax		pmax			
	comp=Z,17nm,1.1s								
KDJ	**Kajisay**	**61.44**	**307**	P		**P**	**10 08 05.4**	**-0.7**
GLB	**Gilahina Butte**	**62.23**	**31**	P		**P**	**10 08 12.3**	**+1.4**
GLB				IAmb		IAmb	10 08 25.8		
	comp=Z,20nm,1.4s								
NRN	**Naryn**	**62.36**	**307**	P		**P**	**10 08 11.4**	**-1.1**
NRN				pmax		pmax			
	comp=Z,12nm,1.4s								
NRN	**Naryn**	**62.36**	**307**	P		**P**	**10 08 11.4**	**-1.1**
NRN				IAmb		IAmb	10 08 17.6		
	comp=Z,12nm,1.4s								
KSH	**Kashi**	**62.53**	**305**	P		**P**	**10 08 16.3**	**+2.9**
KSH				ScP		**ScP**	**10 12 55.8**	**+3.7**
KSH				S		**S**	**10 16 43.8**	**+4.9**
KSH				sS		sS	10 16 51.3	-2.1
KSH				pmax		pmax			
	comp=Z,87nm,1.6s								
KSH				LR		LR			
	comp=Z,420nm,7.6s								
SCRK	**Sand Creek**	**62.53**	**28**	P		**P**	**10 08 13.4**	**+0.4**
AAK	**Ala-Archa**	**63.39**	**308**	*ce*P		**P**	**10 08 20.1**	**+0.9**
AAK				pmax		pmax			
	comp=Z,6.0nm,1.3s								
AAK	**Ala-Archa**	**63.39**	**308**	P		**P**	**10 08 18.6**	**-0.6**
AAK				IAmb		IAmb	10 08 28.3		
	comp=Z,11nm,1.5s								
ARSB	**Arslanbob**	**64.63**	**307**	P		**P**	**10 08 26.1**	**-1.2**
ARSB				IAmb		IAmb	10 08 28.6		
	comp=Z,12nm,1.0s								
NIL	**Nilore**	**65.43**	**298**	P		**P**	**10 08 32.7**	**+0.2**
NIL				pmax		pmax			
	comp=Z,34nm,1.1s								
NIL	**Nilore**	**65.43**	**298**	P		**P**	**10 08 32.7**	**+0.2**
BRVK	**Borovoye**	**65.64**	**320**	*ce*P		**P**	**10 08 33.6**	**+0.1**
BRVK				pmax		pmax			
	comp=Z,21nm,0.9s								
BRVK	**Borovoye**	**65.64**	**320**	P		**P**	**10 08 33.5**	**+0.1**
KK31	**Karatay Array**	**66.26**	**309**	P		**P**	**10 08 38.0**	**+0.3**
KK31				pmax		pmax			
	comp=Z,12nm,0.8s								
KK31	**Karatay Array**	**66.26**	**309**	P		**P**	**10 08 38.0**	**+0.3**
KKAR	**Karatay Array**	**66.26**	**309**	P		**P**	**10 08 38.0**	**+0.3**
KKAR				pmax		pmax			
	comp=Z,12nm,0.8s								
KKAR	**Karatay Array**	**66.26**	**309**	P		**P**	**10 08 38.0**	**+0.3**
BTK	**Batken**	**66.42**	**306**	P		**P**	**10 08 38.1**	**-0.7**
BTK				pmax		pmax			
	comp=Z,9.0nm,1.5s								
BTK	**Batken**	**66.42**	**306**	P		**P**	**10 08 38.1**	**-0.7**
BTK				IAmb		IAmb	10 08 39.4		
	comp=Z,9.1nm,1.5s								
TUWZ	**Tuamarina**	**66.76**	**158**	P		**P**	**10 08 40.3**	**-0.3**
GAR	**Garm**	**66.95**	**305**	P		**P**	**10 08 42.6**	**+0.3**
GAR				IAmb		IAmb	10 08 58.7		
	comp=Z,13nm,1.0s								
INK	**Inuvik**	**67.17**	**23**	P		**P**	**10 08 43.4**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=260,slow=9.0,SNR=3.9								
INK	**Inuvik**	**67.17**	**23**	P		**P**	**10 08 43.0**	**+0.1**
CHGR	**Chuyangaron**	**67.90**	**304**	P		**P**	**10 08 47.3**	**-0.9**
KBL	**Kabul**	**68.71**	**300**	P		**P**	**10 08 53.5**	**0.0**
KBL				pmax		pmax			
	comp=Z,13nm,0.8s								
KBL	**Kabul**	**68.71**	**300**	P		**P**	**10 08 53.5**	**0.0**
SVE	**Sverdlovsk**	**70.82**	**325**	*e*P		**P**	**10 09 06.5**	**+0.7**
SVE				pmax		pmax			
	comp=Z,28nm,1.5s								
ARU	**Arti**	**72.02**	**324**	*d* P		**P**	**10 09 13.1**	**0.0**
ARU							10 11 50.0		
ARU				S		**S**	**10 18 37.6**	**+5.4**
ARU				SS		**SS**	**10 23 16.4**	**+7.4**
ARU				pmax		pmax			
	comp=Z,52nm,1.9s								
ARU	**Arti**	**72.02**	**324**	P		**P**	**10 09 12.8**	**-0.3**
ABKAR	**Akbulak array**	**72.56**	**317**	P		**P**	**10 09 15.9**	**-0.5**
ABKAR				IAmb		IAmb	10 09 20.3		
	comp=Z,6.1nm,0.8s								
PPT2	**Papeete2**	**73.13**	**117**	*e*LR		LR	10 31 28.9		
	comp=Z,304nm,31.2s								
HRA	**Herat**	**74.22**	**301**	P		**P**	**10 09 26.3**	**-0.5**
YKA	**Yellowknife Ar**	**75.78**	**28**	P		**P**	**10 09 34.7**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=287,slow=5.7,SNR=16								
GEYT	**Alibeck**	**76.53**	**306**	P		**P**	**10 09 40.7**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=104,slow=6.3,SNR=5.5								
GYA0B	**ALIBECK ARRAY**	**76.53**	**306**	P		**P**	**10 09 39.3**	**-0.5**
GYA0B				IAmb		IAmb	10 09 41.8		
	comp=Z,9.8nm,1.1s								
PRGR	**Permogore**	**77.14**	**331**	*e*P		**P**	**10 09 40.7**	**-2.0**
PRGR				pmax		pmax			
	comp=Z,34nm,0.8s								
RES	**Resolute Bay**	**77.27**	**14**	P		**P**	**10 09 43.1**	**-0.1**
RES				pmax		pmax			
	comp=Z,4.0nm,1.1s								
RES	**Resolute Bay**	**77.27**	**14**	P		**P**	**10 09 43.1**	**-0.1**
B08A	**Colville Reser**	**77.36**	**43**	P		**P**	**10 09 44.8**	**+0.6**
PINE	**Pine Mountain**	**77.60**	**48**	P		**P**	**10 09 45.0**	**-0.9**
PINE				IAmb		IAmb	10 09 58.8		
	comp=Z,10nm,1.1s								
HAWA	**Hanford**	**77.80**	**45**	P		**P**	**10 09 46.5**	**-0.2**
E08A	**Dider Farm, El**	**78.09**	**45**	P		**P**	**10 09 47.9**	**-0.4**
E08A				IAmb		IAmb	10 09 50.3		
	comp=Z,10nm,1.5s								
C09A	**Chrisman Ranch**	**78.20**	**43**	P		**P**	**10 09 48.8**	**-0.1**
C09A				IAmb		IAmb	10 09 49.9		
	comp=Z,8.7nm,1.2s								
ORV	**Oroville**	**78.44**	**52**	P		**P**	**10 09 51.0**	**+0.6**
ORV				pmax		pmax			
	comp=Z,6.0nm,1.1s								
ORV	**Oroville**	**78.44**	**52**	P		**P**	**10 09 51.0**	**+0.6**
MOD	**Modoc Plateau**	**78.61**	**50**	P		**P**	**10 09 51.6**	**+0.2**
BEKR	**Beckworth**	**79.18**	**51**	P		**P**	**10 09 55.4**	**+0.7**
TMCR	**Tamitsa**	**79.38**	**335**	*e*P		**P**	**10 09 53.0**	**-2.0**
WVOR	**Wild Horse Val**	**79.62**	**49**	P		**P**	**10 09 57.2**	**+0.2**
WVOR				pmax		pmax			
	comp=Z,8.0nm,1.3s								
WVOR	**Wild Horse Val**	**79.62**	**49**	P		**P**	**10 09 57.2**	**+0.2**
CMB	**Columbia Colle**	**79.73**	**53**	P		**P**	**10 09 58.1**	**+0.6**
CMB				pmax		pmax			
	comp=Z,4.0nm,1.0s								
CMB	**Columbia Colle**	**79.73**	**53**	P		**P**	**10 09 58.1**	**+0.6**
BMO	**Blue Mountains**	**79.77**	**46**	P		**P**	**10 09 58.2**	**+0.5**
BMO				pmax		pmax			
	comp=Z,5.0nm,1.0s								
BMO	**Blue Mountains**	**79.77**	**46**	P		**P**	**10 09 58.2**	**+0.5**
VCNR	**Virginia City**	**79.88**	**52**	P		**P**	**10 09 59.0**	**+0.5**
PAHR	**Pah Rah Range**	**79.95**	**51**	P		**P**	**10 09 59.4**	**+0.5**
YERR	**Yerington**	**80.28**	**52**	P		**P**	**10 10 00.5**	**-0.2**
YERR				IAmb		IAmb	10 10 17.0		
	comp=Z,10.0nm,1.2s								
WALA	**Waterton Lakes**	**80.54**	**41**	P		**P**	**10 10 01.4**	**-0.4**
WALA				IAmb		IAmb	10 10 03.4		
	comp=Z,7.5nm,1.1s								
PAGB	**Antelope Grade**	**80.56**	**55**	P		**P**	**10 10 02.8**	**+0.8**
PAGB				IAmb		IAmb	10 10 04.2		
	comp=Z,14nm,1.2s								
PLID	**Pearl Lake**	**80.56**	**45**	P		**P**	**10 10 02.3**	**+0.2**
TULEG	**Thule**	**80.62**	**8**	P		**P**	**10 10 00.8**	**-0.7**
TULEG				IAmb		IAmb	10 10 03.8		
	comp=Z,8.6nm,1.0s								
ARCES	**ARCESS Array B**	**80.90**	**342**	P		**P**	**10 10 02.5**	**-0.6**
	comp=Z,3.5nm,0.7s,baz=50,slow=6.0,SNR=7.0								
RYN	**Ryan**	**80.93**	**52**	P		**P**	**10 10 04.1**	**0.0**
RYN				IAmb		IAmb	10 10 06.1		
	comp=Z,8.8nm,1.2s								
KVN	**Kaiserville**	**81.10**	**52**	P		**P**	**10 10 05.3**	**+0.2**
KVN				pmax		pmax			
	comp=Z,5.0nm,0.9s								
KVN	**Kaiserville**	**81.10**	**52**	P		**P**	**10 10 05.3**	**+0.2**
NVAR	**Mina Array Bea**	**81.16**	**52**	P		**P**	**10 10 06.5**	**+1.1**
	comp=Z,3.3nm,0.7s,baz=270,slow=5.7,SNR=19								
MFID	**Camas Ranch**	**81.25**	**47**	P		**P**	**10 10 06.0**	**+0.3**
NV11	**Mina Array Sit**	**81.27**	**52**	P		**P**	**10 10 06.5**	**+0.6**
NV11				IAmb		IAmb	10 10 18.3		
	comp=Z,8.7nm,1.2s								
ISA	**Isabella, Lake**	**81.94**	**55**	P		**P**	**10 10 08.1**	**-1.3**
ISA				pmax		pmax			
	comp=Z,5.0nm,1.4s								
ISA	**Isabella, Lake**	**81.94**	**55**	P		**P**	**10 10 08.1**	**-1.3**
ELK	**Elko**	**82.59**	**49**	P		**P**	**10 10 11.1**	**-1.8**
ELK				pmax		pmax			
	comp=Z,7.0nm,1.1s								
ELK	**Elko**	**82.59**	**49**	P		**P**	**10 10 11.1**	**-1.8**
ELK				IAmb		IAmb	10 10 24.7		
	comp=Z,6.5nm,1.1s								
MWC	**Mount Wilson**	**82.75**	**56**	P		**P**	**10 10 13.6**	**-0.3**
MWC	**Mount Wilson**	**82.75**	**56**	P		**P**	**10 10 13.6**	**-0.3**
MWC				IAmb		IAmb	10 10 15.2		
	comp=Z,12nm,1.5s								
VRH	**Novokhopyorsk**	**83.08**	**322**	*e*P		**P**	**10 10 15.0**	**+0.1**
VRH				pmax		pmax			
	comp=Z,20nm,0.7s								
R11A	**Troy Canyon, C**	**83.19**	**52**	P		**P**	**10 10 15.3**	**-0.8**
R11A				IAmb		IAmb	10 10 17.9		
	comp=Z,9.3nm,1.4s								
TPNV	**Topopah Spring**	**83.19**	**53**	P		**P**	**10 10 15.9**	**-0.1**
TPNV				pmax		pmax			
	comp=Z,5.0nm,0.9s								
TPNV	**Topopah Spring**	**83.19**	**53**	P		**P**	**10 10 15.9**	**-0.1**
TPNV				IAmb		IAmb	10 10 17.1		
	comp=Z,5.0nm,0.8s								
MOS	**Moscow**	**83.32**	**327**	*e*P		**P**	**10 10 14.8**	**-1.2**
GSC	**Goldstone, Bar**	**83.35**	**55**	P		**P**	**10 10 17.0**	**+0.2**
GSC				pmax		pmax			
	comp=Z,8.0nm,1.4s								
**GS

KBZ	**Khabaz**	**85.43**	**315**	P	**P**	**10 10 27.2**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=115,slow=6.2,SNR=4.3						
KIV	**Kislovodsk**	**85.47**	**315**	*eP*	**P**	**10 10 25.2**	**-2.2**
KIV				pmax	pmax		
	comp=Z,12nm,0.9s						
KIV				MLR	MLR		
	comp=Z,252nm,20.0s						
FINES	**FINESS Array B**	**85.49**	**336**	P	**P**	**10 10 26.2**	**-0.7**
	comp=Z,11nm,0.6s,baz=68,slow=4.9,SNR=28						
Y12C	**Blythe**	**85.66**	**56**	P	**P**	**10 10 27.3**	**-1.1**
Y12C				IAmb	IAmb	10 10 30.1	
	comp=Z,9.7nm,1.5s						
GLA	**Glamis**	**85.69**	**56**	P	**P**	**10 10 28.1**	**-0.5**
GLA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GLA	**Glamis**	**85.69**	**56**	P	**P**	**10 10 28.1**	**-0.5**
GLA				IAmb	IAmb	10 10 42.6	
	comp=Z,4.7nm,0.8s						
KNB	**Kanab**	**85.72**	**52**	P	**P**	**10 10 29.6**	**+0.7**
KNB				pmax	pmax		
	comp=Z,24nm,1.4s						
KNB	**Kanab**	**85.72**	**52**	P	**P**	**10 10 29.6**	**+0.7**
PDAR	**Pinedale Array**	**85.75**	**46**	P	**P**	**10 10 29.1**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=253,slow=1.5,SNR=6.6						
MTPU	**Mount Pierson**	**85.79**	**51**	P	**P**	**10 10 28.7**	**-0.7**
Q16A	**Castle Valley**	**86.18**	**50**	P	**P**	**10 10 31.0**	**-0.1**
LAO	**LASA Array**	**86.23**	**41**	P	**P**	**10 10 31.7**	**+0.7**
LAO				IAmb	IAmb	10 10 32.6	
	comp=Z,8.8nm,0.8s						
P17A	**Butcher Ranch,**	**86.26**	**49**	P	**P**	**10 10 30.2**	**-1.3**
U15A	**North Rim**	**86.34**	**53**	P	**P**	**10 10 31.1**	**-0.9**
U15A				IAmb	IAmb	10 10 44.8	
	comp=Z,7.6nm,1.3s						
FCC	**Fort Churchill**	**86.45**	**27**	P	**P**	**10 10 31.3**	**-0.4**
FCC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FCC	**Fort Churchill**	**86.45**	**27**	P	**P**	**10 10 31.3**	**-0.4**
FCC				IAmb	IAmb	10 10 32.2	
	comp=Z,4.8nm,0.8s						
SRU	**San Rafael Swe**	**86.56**	**49**	P	**P**	**10 10 31.4**	**-1.6**
SRU				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SRU	**San Rafael Swe**	**86.56**	**49**	P	**P**	**10 10 31.4**	**-1.6**
RDMU	**Red Mountain**	**86.64**	**48**	P	**P**	**10 10 33.5**	**+0.1**
Y14A	**Wickenburg**	**86.76**	**55**	P	**P**	**10 10 34.3**	**+0.4**
Y14A				IAmb	IAmb	10 10 35.6	
	comp=Z,6.5nm,1.1s						
WUAZ	**Wupatki**	**87.38**	**53**	P	**P**	**10 10 38.0**	**+1.0**
WUAZ				IAmb	IAmb	10 10 39.1	
	comp=Z,8.6nm,0.9s						
X16A	**Lo Mia Camp, P**	**87.77**	**54**	P	**P**	**10 10 37.8**	**-1.1**
RSSD	**Black Hills**	**88.77**	**43**	P	**P**	**10 10 40.5**	**-3.0**
RSSD				pmax	pmax		
	comp=Z,8.0nm,1.5s						
RSSD	**Black Hills**	**88.77**	**43**	P	**P**	**10 10 40.5**	**-3.0**
RSSD				IAmb	IAmb	10 10 45.5	
	comp=Z,7.6nm,1.4s						
MVCO	**Mesa Verde**	**88.80**	**51**	P	**P**	**10 10 44.0**	**+0.2**
MVCO				IAmb	IAmb	10 10 45.5	
	comp=Z,14nm,1.4s						
N23A	**Red Feather La**	**88.99**	**46**	P	**P**	**10 10 44.6**	**-0.1**
SMCO	**Snowmass**	**89.04**	**48**	P	**P**	**10 10 43.0**	**-2.1**
SMCO				IAmb	IAmb	10 10 49.4	
	comp=Z,8.6nm,1.4s						
TUC	**Tucson**	**89.12**	**56**	P	**P**	**10 10 48.0**	**+2.8**
TUC				pmax	pmax		
	comp=Z,5.0nm,2.1s						
ISCO	**Idaho Springs**	**89.70**	**47**	P	**P**	**10 10 48.0**	**-0.1**
ISCO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ISCO	**Idaho Springs**	**89.70**	**47**	P	**P**	**10 10 48.0**	**-0.1**
S22A	**4UR Ranch, Cre**	**89.77**	**49**	P	**P**	**10 10 48.5**	**0.0**
AKASG	**Malin Array Be**	**90.22**	**326**	*i* P	**P**	**10 10 47.4**	**-2.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**90.22**	**326**	P	**P**	**10 10 48.7**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=43,slow=4.8,SNR=6.5						
SDCO	**Great Sand Dun**	**90.71**	**49**	P	**P**	**10 10 53.7**	**+0.9**
NOA	**NORSAR Array B**	**91.05**	**340**	P	**P**	**10 10 52.1**	**-1.5**
	comp=Z,1.7nm,0.9s,baz=42,slow=4.4,SNR=3.0						
ANMO	**Albuquerque**	**91.27**	**52**	*ce*P	**P**	**10 10 54.2**	**-1.1**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ANMO	**Albuquerque**	**91.27**	**52**	P	**P**	**10 10 55.9**	**+0.5**
ANMO				IAmb	IAmb	10 10 58.2	
	comp=Z,5.1nm,1.4s						
T25A	**Trinidad**	**91.76**	**49**	P	**P**	**10 10 57.6**	**0.0**
T25A				IAmb	IAmb	10 10 59.5	
	comp=Z,8.9nm,1.3s						
KSCO	**Kaye Shedlock'**	**92.12**	**47**	P	**P**	**10 10 58.1**	**-1.0**
BRTR	**Keskin Array B**	**93.42**	**315**	P	**P**	**10 11 04.2**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=64,slow=2.9,SNR=3.9						
MNTX	**Cornudas Mount**	**93.53**	**54**	P	**P**	**10 11 05.3**	**-0.2**
MNTX				IAmb	IAmb	10 11 08.5	
	comp=Z,4.5nm,1.1s						
ECSD	**EROS Data Cent**	**93.58**	**40**	P	**P**	**10 11 05.2**	**-0.4**
ECSD				IAmb	IAmb	10 11 07.8	
	comp=Z,3.0nm,1.1s						
TXAR	**Lajitas Array**	**95.92**	**56**	P	**P**	**10 11 17.2**	**+0.5**
	comp=Z,0.7nm,1.0s,baz=292,slow=3.9,SNR=4.3						
VYHS	**Vyhne**	**96.91**	**328**	*eP*	P	10 11 25.6	+4.9
VYHS	**Vyhne**	**96.91**	**328**	*e*PDIFF	P	10 11 25.6	+4.9
CLL	**Collm**	**97.63**	**333**	*eP*	**P**	**10 11 23.0**	**-0.8**
CLL	**Collm**	**97.63**	**333**	*eP*	**P**	**10 11 23.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**131.91**	**311**	PKP	**PKiKP**	**10 17 04.5**	**0.0**
	comp=Z,0.8nm,0.7s,baz=17,slow=3.0,SNR=3.9						
PLCA	**Paso Flores**	**142.60**	**131**	PKIKP	**PKPdf**	**10 17 22.0**	**-0.6**
PLCA	**Paso Flores**	**142.60**	**131**	PKhKP	PKPpre	10 17 19.9	
	comp=Z,4.3nm,1.1s,baz=282,slow=2.4,SNR=5.0						
PLCA	**Paso Flores**	**142.60**	**131**		**PKPdf**	**10 17 22.0**	**-0.6**
LPAZ	**La Paz**	**146.69**	**88**	PKP2	**PKPbc**	**10 17 33.2**	**+0.5**
LPAZ	**La Paz**	**146.69**	**88**	PKPbc	**PKPab**	**10 17 34.0**	**+0.1**
	comp=Z,6.8nm,0.6s,baz=313,slow=4.2,SNR=13						
LPAZ	**La Paz**	**146.69**	**88**		**PKPbc**	**10 17 33.1**	**+0.5**
SAML	**Samuel**	**148.88**	**72**	PKP2	**PKPbc**	**10 17 38.5**	**+0.6**
SAML	**Samuel**	**148.88**	**72**		**PKPbc**	**10 17 38.5**	**+0.6**

TIR 28 10:00:04.5,42.19N×19.56E,h17km,Md2.0/3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUK	**Puka**	**0.29**	**121**	*i* PG	Pg	10 00 10.4	-0.3
PUK				*i* SG	Sg	10 00 15.4	+0.3
BCI	**Bajram Curri**	**0.42**	**65**	*i* PG	Pg	10 00 12.8	-0.1
BCI				*i* SG	Sb	10 00 19.2	-0.2
PHP	**Peshkopia**	**0.83**	**127**	*i* PG	Pn	10 00 21.4	0.0
PHP				*i* SG	Sn	10 00 32.6	-0.6
DBRK	**Dubrovnik**	**1.15**	**295**	*i* Pg	Pn	10 00 25.8	+0.1
DBRK				Sg	Sg	10 00 44.1	+2.4
STON	**Ston**	**1.53**	**297**	*e*Pn	Pb	10 00 32.3	-0.2
STON				Sn	Sg	10 00 55.4	+1.5

ROM 28 10:01:54.9±0.1,42.847N±0.002×12.956E±0.006, h9km,ML0.9/2,Error ellipse: s-maj=0.5km s-min=0.1km az=264.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.12**	**97**	P	Pg	10 01 59.1	+1.3
NRCA				AML	AML		
	comp=E,262μm,0.4s						
NRCA				AML	AML		
	comp=N,291μm,0.1s						
CESI	**CESI - Serrava**	**0.16**	**346**	P	Pg	10 01 59.1	+0.7
CESI				S	Sg	10 02 01.9	+1.0
CESI				AML	AML		
	comp=E,17μm,0.3s						
CESI				AML	AML		
	comp=N,21μm,0.3s						
FDMO	**Fiordimonte**	**0.21**	**27**	P	Pg	10 02 00.0	+0.7
FDMO				S	Sg	10 02 03.7	+1.4
LNSS	**Leonessa**	**0.25**	**166**	P	Pg	10 02 00.9	+0.8
LNSS				S	Sb	10 02 05.1	-1.1
CSP1	**Cessapalombo**	**0.30**	**37**	P	Pg	10 02 01.7	+0.6
CSP1				S	Sb	10 02 07.0	-0.8
SNTG	**Esanatoglia**	**0.41**	**358**	P	Pg	10 02 03.4	+0.5
SNTG				S	Sb	10 02 10.0	-0.7
ATCC	**AVT- Casa Cast**	**0.41**	**326**	S	Sb	10 02 11.0	+0.2

*IDC **28** 10:07:41.3±0.9,20.7N×146.76E,h0km,mb4.0/13, mb1 4.1/14,mb1mx3.9/45,mbtmp4.0/14,ML2.9/1,MS3.5/1, Ms1 3.5/1,ms1mx2.8/38,Error ellipse: s-maj=31.4km s-min=18.2km az=81.0*

*ISCJB **28** 10:07:46.1±0.8,20.7N±0.1×146.6E±0.2,h44km,mb3.9/13, MS3.5/1,Error ellipse: s-maj=28.3km s-min=14.2km az=170.5*

ISC 28 10:07:47.7±1.0,20.7N±0.1×146.7E±0.2,h44km,n15, σ0.88/14,mb4.0/13,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**17.39**	**337**	P	**Pn**	**10 11 46.1**	**-1.0**
	0.0nm,0.3s,baz=155,slow=11,SNR=3.4						
KSRS	**Korea Array**	**23.28**	**320**	P	**P**	**10 12 52.7**	**+1.2**
	1.7nm,0.8s,baz=145,slow=8.1,SNR=5.0						
USRK	**Ussuriysk Ar.**	**26.38**	**336**	P	**P**	**10 13 21.7**	**+1.9**
	3.6nm,0.9s,baz=148,slow=8.1,SNR=4.3						
KLR	**Kul'dur**	**30.82**	**341**	P	**P**	**10 13 59.5**	**+0.2**
	1.6nm,0.6s,baz=161,slow=9.0,SNR=7.2						
SONM	**Songino Array**	**42.15**	**320**	P	**P**	**10 15 35.8**	**-0.2**
	0.4nm,0.5s,baz=128,slow=7.1,SNR=3.4						
WRA	**Warramunga Arr**	**42.19**	**197**	P	**P**	**10 15 35.9**	**-0.5**
	0.5nm,0.7s,baz=16,slow=8.1,SNR=6.9						
ASAR	**Alice Springs**	**45.85**	**196**	P	**P**	**10 16 06.2**	**+0.4**
	0.2nm,0.5s,baz=16,slow=7.4,SNR=5.3						
PSI	**Prapat**	**49.77**	**256**	LR	LR	10 37 34.6	
	comp=Z,40nm,18.1s,baz=149,slow=36						
ZALV	**Zalesovo Beam**	**56.97**	**322**	P	**P**	**10 17 28.3**	**-0.3**
	5.7nm,0.5s,baz=108,slow=7.8,SNR=20						
MKAR	**Makanchi Array**	**57.72**	**313**	P	**P**	**10 17 34.2**	**+0.1**
	1.5nm,0.8s,baz=91,slow=8.4,SNR=11						
NRIK	**Noril'sk**	**60.02**	**339**	P	**P**	**10 17 49.7**	**+0.1**
	5.0nm,0.7s,baz=112,slow=9.6,SNR=9.9						
YKA	**Yellowknife Ar**	**75.77**	**28**	P	**P**	**10 19 27.9**	**-0.8**
	0.5nm,0.8s,baz=290,slow=5.5,SNR=6.2						
ARCES	**ARCESS Array B**	**80.83**	**342**	P	**P**	**10 19 57.0**	**+0.4**
	3.0nm,0.9s,baz=45,slow=6.5,SNR=3.5						
NVAR	**Mina Array Bea**	**81.18**	**52**	P	**P**	**10 20 00.0**	**+0.7**
	0.9nm,0.9s,baz=270,slow=6.1,SNR=6.9						
FINES	**FINESS Array B**	**85.41**	**335**	P	**P**	**10 20 19.6**	**-0.7**
	3.9nm,0.5s,baz=64,slow=5.1,SNR=18						

*SJA **28** 10:14:57.3±1.1,22.99S×70.20W,h49km±6km,ML3.2, MW3.5*

*GUC **28** 10:14:57.6±0.6,22.97S×70.20W,h50km±3km,ML3.7*

*ISCJB **28** 10:14:58.5±0.7,22.99S±0.04×70.24W±0.06,h48km±8km, Error ellipse: s-maj=9.2km s-min=5.2km az=23.9*

ISC 28 10:14:58.8±1.2,23.00S±0.03×70.23W±0.05,h45km±9km, n20,σ0.91/35,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB05	**IPOC Station P**	**0.15**	**11**	*e*P	**Pn**	**10 15 05.9**	**-0.5**
PB05				*i* S	**Sn**	**10 15 12.1**	**+0.4**
PB05				IAML		10 15 12.6	
	comp=E,12μm,0.2s						
PB05	**IPOC Station P**	**0.15**	**11**	*i* P	**Pn**	**10 15 06.3**	**-0.1**
PB05				*e*S	**Sn**	**10 15 12.2**	**+0.4**
PB05				IAML		10 15 12.3	
	comp=Z,3μm,0.2s						
PB10	**IPOC Station P**	**0.59**	**210**	*e*P	**Pn**	**10 15 10.7**	**-0.2**
PB10				*i* S	**Sn**	**10 15 20.2**	**+0.7**
PB10	**IPOC Station P**	**0.59**	**210**	*i* P	**Pn**	**10 15 10.9**	**0.0**
PB10				*e*S	**Sn**	**10 15 20.5**	**+0.9**
PB10				IAML		10 15 20.7	
	comp=Z,519nm,0.6s						
PB04	**IPOC Station P**	**0.67**	**7**	*e*P	**Pn**	**10 15 11.4**	**-0.7**
PB04				*i* S	**Sn**	**10 15 21.1**	**-0.5**
PB04				IAML		10 15 22.0	
	comp=N,7μm,0.4s						
PB04	**IPOC Station P**	**0.67**	**7**	*i* P	**Pn**	**10 15 11.4**	**-0.7**
PB04				*e*S	**Sn**	**10 15 21.4**	**-0.3**
PB06	**IPOC Station P**	**0.68**	**64**	*e*P	**Pn**	**10 15 11.4**	**-0.8**
PB06				*i* S	**Sn**	**10 15 21.2**	**-0.6**
PB06				IAML		10 15 21.7	
	comp=E,7μm,0.1s						
PB06	**IPOC Station P**	**0.68**	**64**	*i* P	**Pn**	**10 15 11.4**	**-0.8**
PB06				*e*S	**Sn**	**10 15 21.2**	**-0.6**
PB15	**IPOC Station P**	**0.73**	**107**	*e*P	**Pn**	**10 15 12.5**	**-0.4**
PB15				*i* S	**Sn**	**10 15 23.1**	**-0.1**
PB15	**IPOC Station P**	**0.73**	**107**	*i* P	**Pn**	**10 15 12.6**	**-0.4**
PB15				*e*S	**Sn**	**10 15 22.9**	**-0.2**
PB03	**IPOC Station P**	**1.05**	**25**	*e*P	**Pn**	**10 15 16.4**	**-0.8**
PB03				*i* S	**Sn**	**10 15 30.1**	**-0.7**
PB03				IAML		10 15 30.5	
	comp=E,2μm,0.1s						
LVC	**Limon Verde**	**1.28**	**73**	*e*P	**Pn**	**10 15 20.6**	**0.0**
LVC				*i* S	**Sn**	**10 15 36.7**	**0.0**
LVC	**Limon Verde**	**1.28**	**73**	⇑*i* P	**Pn**	**10 15 20.6**	**0.0**
LVC				*e*S	**Sn**	**10 15 36.7**	**0.0**
LVC				IAML		10 15 37.2	
	comp=Z,819nm,0.3s						
PB09	**IPOC Station P**	**1.51**	**38**	*e*P	**Pn**	**10 15 22.6**	**-0.9**
PB09				*i* S	**Sn**	**10 15 41.7**	**-0.4**
PB09	**IPOC Station P**	**1.51**	**38**	*i* P	**Pn**	**10 15 23.7**	**+0.1**
PB09				*e*S	**Sn**	**10 15 42.6**	**+0.5**
PB09				IAML		10 15 44.8	
	comp=Z,476nm,0.2s						
PB14	**IPOC Station P**	**1.62**	**185**	*i* P	**Pn**	**10 15 24.7**	**-0.6**
PB14				*e*S	**Sn**	**10 15 44.6**	**-0.6**
PB14				IAML		10 15 48.4	
	comp=Z,131nm,0.7s						
HJA	**Humahuaca**	**4.45**	**94**	⇑*i* P	Pn	10 16 08.5	+4.5
AZAP	**Zapla**	**4.89**	**105**	*i* P	**Pn**	**10 16 13.2**	**+3.2**
AZAP				IAML		10 17 43.6	
	comp=Z,8.1nm,1.6s						
LPAZ	**La Paz**	**6.97**	**17**	*i* P	**Pn**	**10 16 41.0**	**+2.1**
ACAN	**Cantantal**	**9.62**	**164**	*i* P	**Pn**	**10 17 13.2**	**-1.6**

PRU 28 10:20:48.1±0.0,50.25N×19.26E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.35**	**95**	*e*Pg	Pg	10 20 54.4	-0.3
OJC				*e*Pg	Pg	10 20 54.4	-0.3
OJC				*e*Sg	Sg	10 20 58.6	-0.6
OJC				*e*Sg	Sg	10 20 58.6	-0.6
OKC	**Ostrava-Krasne**	**0.83**	**241**	*e*SG	Sg	10 21 15.7	+1.0
LANS	**Liptovska Anna**	**1.11**	**173**	*e*PG	Pg	10 21 08.7	-0.6
LANS				*e*SG	Sg	10 21 23.2	-0.5
LANS				*e*LG	Lg	10 21 24.6	
VYHS	**Vyhne**	**1.78**	**189**	*e*PN	Pn	10 21 18.5	-1.6
VYHS				*e*SN	Sn	10 21 40.6	-2.8
DPC	**Dobruska-Polom**	**1.89**	**274**	*e*PG	Pb	10 21 23.7	+0.3
DPC				*e*SG	Sg	10 21 48.2	-0.5

NNC 28 10:21:03.0±8.8,36.51N×69.82E,h0km,mb3.9,mpv3.5, 2C-2D,Error ellipse: s-maj=69.9km s-min=61.6km az=161.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.60**	**4**	⇑Pn	Pn	10 22 44.3	+3.0
	1.6nm,0.5s,baz=183,slow=13,SNR=14						
KK31				⇓Sn	Sn	10 23 58.5	+1.2
	2.3nm,0.5s,baz=189,slow=26,SNR=3.9						
AAK	**Ala-Archa**	**7.10**	**29**	Pn	Pn	10 22 47.2	-1.1
	2.0nm,0.5s						
AAK				Sn	Sn	10 24 09.9	+0.2
	5.0nm,0.8s						
TKM2	**Tokmak 2**	**7.79**	**33**	⇑Pn	Pn	10 22 55.9	-1.9
	2.3nm,0.9s						
TKM2				⇓Sn	Sn	10 24 28.9	+2.0
	5.9nm,1.2s						

*ISCJB **28** 10:23:35.5±0.1,20.74N±0.02×146.65E±0.02,h8km, mb5.2/149,MS4.5/53,Error ellipse: s-maj=3.3km s-min=2.9km az=178.2*

*IDC **28** 10:23:35.3±0.5,20.74N×146.76E,h0km,mb4.9/34, mb1 4.9/37,mb1mx4.9/46,mbtmp4.9/37,ML4.4/3,MS4.3/32, Ms1 4.3/32,ms1mx4.2/44,Error ellipse: s-maj=15.7km s-min=10.9km az=89.0*

*BJI **28** 10:23:35.9±0.0,20.79N×146.59E,h10km,mb5.0/64, mB5.3/58,Ms5.0/57,Ms7 4.7/55*

*NEIC **28** 10:23:37.2±1.5,20.79N±0.06×146.62E±0.10,h10km±2km, mb5.1/244*

*MOS **28** 10:23:39.2±0.9,20.70N×146.59E,h36km,mb5.3/85,Error ellipse: s-maj=7.2km s-min=4.3km az=109.2*

*GCMT **28** 10:23:41.2±0.2,20.87N±0.01×146.93E±0.01,h12km, MW5.1/131,Moment Tensor Solution. s53,c66; s131,c197; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=4.83±.08; Mθθ0.47±.08; Mφφ4.37±.08; Mrθ-1.23±.28; Mθφ-1.93±.06; Mφr-0.96±.24; Best double couple: M₀5.24100×10¹⁶ NP1:φs354.00000°,δ50.00000°, λ-68.00000°. NP2:φs142.00000°,δ45.00000°, λ-114.00000°. Principal axes: T 5.1810, Plg3.0000°, Azm68.0000°; N 0.1250, Plg17.0000°, Azm159.0000°; P -5.3010, Plg73.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 10:23:36.7±0.8,20.77N±0.04×146.77E±0.05,h7km±4km, n605,σ1§29/631,mb5.1/223,MS4.4/53,15C-5D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**4.16**	**193**		**Pn**	**10 24 41.0**	**+0.3**
ANA2	**Anatahan**	**4.52**	**193**	Pn	**Pn**	**10 24 45.4**	**-0.3**
GUMO	**Guam**	**7.37**	**195**	P	**Pn**	**10 25 25.7**	**+0.8**
GUMO						10 26 54.0	
GUMO	**Guam**	**7.37**	**195**	Pn	**Pn**	**10 25 27.6**	**+2.8**
	12nm,0.3s,baz=0.0,slow=14,SNR=3.4						
GUMO				Sn	**Sn**	**10 26 48.5**	**-0.3**
	2.6nm,0.3s,baz=198,slow=20,SNR=1.6						
GUMO	**Guam**	**7.37**	**195**		**Pn**	**10 25 25.7**	**+0.8**
GUMO					**Sn**	**10 26 54.0**	**+5.2**
JCJ	**Chichijima**	**7.56**	**327**	Pn	**Pn**	**10 25 27.1**	**-0.4**
	28nm,0.3s,baz=287,slow=19,SNR=4.2						
JCJ				Sn	**Sn**	**10 26 46.7**	**-6.9**
	95nm,0.3s,baz=126,slow=22,SNR=8.2						
INU	**Inuyama**	**16.87**	**331**		**Pn**	**10 27 32.1**	**-1.2**
MJAR	**Matsushiro Arr**	**17.40**	**336**	P	**Pn**	**10 27 39.2**	**-0.9**
	0.2nm,0.3s,baz=151,slow=11,SNR=21						
MJAR				S	Sn	10 30 42.0	-12
	0.1nm,0.3s,baz=8.3,slow=21,SNR=4.4						
MAJO	**Matsushiro**	**17.40**	**336**	*i* P	**P**	**10 27 42.7**	**+1.2**
MAJO				pmax	pmax		
	comp=Z,37nm,1.3s						
MAJO	**Matsushiro**	**17.40**	**336**	P	**Pn**	**10 27 40.0**	**-0.2**
MAT	**Matsushiro**	**17.40**	**336**	P	**Pn**	**10 27 38.9**	**-1.2**
MAT				S	**Sn**	**10 30 53.4**	**-0.7**
MJB9	**Matsu-Tunnel**	**17.41**	**336**	P	**Pn**	**10 27 39.5**	**-0.6**
PATS	**Pohnpei**	**17.80**	**139**	P	**P**	**10 27 47.6**	**+1.7**
JOW	**Kunigami**	**17.96**	**293**	P	**Pn**	**10 27 46.3**	**-0.8**
JNU	**Nakatsue**	**18.73**	**314**	P	**Pn**	**10 27 56.8**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=117,slow=5.6,SNR=9.1						
JNU				LR	LR	10 35 01.3	
	comp=Z,596nm,19.4s,baz=128,slow=37						
JNU	**Nakatsue**	**18.73**	**314**	P	**P**	**10 27 55.1**	**-1.1**
H11S3	**WAKE ISLAND Hy**	**18.89**	**93**	T	T	10 47 28.1	
	baz=280,slow=74,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**18.90**	**93**	T	T	10 47 29.6	
	baz=280,slow=74,SNR=7.5						
H11N1	**WAKE ISLAND Hy**	**18.91**	**90**	T	T	10 47 33.3	
	baz=276,slow=75,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**18.91**	**90**	T	T	10 47 30.2	
	baz=276,slow=75,SNR=3.6						
H11S2	**WAKE ISLAND Hy**	**18.91**	**93**	T	T	10 47 30.8	
	baz=280,slow=74,SNR=4.5						
H11N3	**WAKE ISLAND Hy**	**18.92**	**90**	T	T	10 47 32.8	
	baz=276,slow=75,SNR=7.8						
ERM	**Erimo**	**21.40**	**353**	P	**P**	**10 28 22.8**	**-2.2**
ERM				pmax	pmax		
	comp=Z,56nm,1.0s						
ERM	**Erimo**	**21.40**	**353**	P	**P**	**10 28 22.8**	**-2.2**
ERM				IAmb	IAmb	10 28 37.8	
	comp=Z,56nm,1.0s						
MANU	**Manus Island**	**22.68**	**178**	P	**P**	**10 28 39.0**	**0.0**
MANU				IAmb	IAmb	10 28 41.4	
	comp=Z,64nm,0.8s						
TJN	**Taejon**	**23.00**	**317**	*ce*P	**P**	**10 28 42.9**	**+0.7**
KSRS	**Korea Array**	**23.33**	**320**	P	**P**	**10 28 45.6**	**+0.1**
	comp=Z,18nm,1.0s,baz=144,slow=9.0,SNR=25						
KSRS				LR	LR	10 38 21.2	
	comp=Z,1μm,18.8s,baz=128,slow=38						
KS19	**Wonju Array Si**	**23.39**	**320**	P	**P**	**10 28 45.4**	**-0.8**
JKA	**Kamikawa-asahi**	**23.54**	**352**	P	**P**	**10 28 48.2**	**+0.6**
ASAJ	**Asahikawa**	**23.54**	**352**	P	**P**	**10 28 48.2**	**+0.6**
	comp=Z,50nm,1.0s,baz=229,slow=12,SNR=6.2						
ASAJ				LR	LR	10 36 34.2	
	comp=Z,632nm,20.8s,baz=186,slow=33						
YHNB	**Yeheng**	**23.73**	**284**	P	**P**	**10 28 47.6**	**-2.2**
YHNB				IAmb	IAmb	10 29 04.2	
	comp=Z,43nm,0.9s						
YULB	**Yu-li**	**23.74**	**281**	P	**P**	**10 28 48.8**	**-1.0**
SSLB	**Suanglung**	**24.07**	**282**	P	**P**	**10 28 53.7**	**+0.7**
SSLB				IAmb	IAmb	10 28 56.1	
	comp=Z,94nm,1.2s						
INCN	**Inchon**	**24.14**	**318**	P	**P**	**10 28 52.6**	**-0.9**
INCN				pmax	pmax		
	comp=Z,66nm,1.1s						
INCN	**Inchon**	**24.14**	**318**	P	**P**	**10 28 52.6**	**-0.9**
INCN				IAmb	IAmb	10 28 54.2	
	comp=Z,66nm,1.1s						
DAV	**Davao City (W)**	**24.63**	**239**	LR	LR	10 37 25.0	
	comp=Z,1μm,19.9s,baz=56,slow=34						
SSE	**Sheshan**	**25.15**	**299**	P	**P**	**10 29 01.3**	**-1.3**
TGY	**Tagaytay City**	**25.51**	**259**	LR	LR	10 37 34.3	
	comp=Z,762nm,21.0s,baz=126,slow=33						
TEY	**Ternei**	**25.62**	**343**	⇑*eP*	**P**	**10 29 09.7**	**+3.0**
TEY				pmax

DL2 LR LR
comp=Z,1µm,14.7s
DL2 LR LR
comp=Z,1µm,15.7s
SNY Shenyang 28.70 322 ⇓P **P 10 29 34.0 -0.5**
SNY S **S 10 34 29.0 +5.1**
SNY pmax pmax
comp=Z,22nm,1.1s
SNY pmax pmax
comp=Z,520nm,6.0s
SNY LR LR
comp=Z,540nm,11.9s
SNY LR LR
comp=Z,1µm,6.5s
SNY LR LR
comp=Z,1µm,16.2s
CN2 Changchun 29.03 327 *e*P **P 10 29 38.5 +1.1**
CN2 *e*S **S 10 34 28.5 -0.5**
CN2 pmax pmax
comp=Z,20nm,1.9s
CN2 pmax pmax
comp=Z,400nm,5.0s
CN2 LR LR
comp=Z,900nm,17.0s
CN2 LR LR
comp=Z,1µm,17.0s
CN2 LR LR
comp=Z,1µm,18.0s
PMG Port Moresby 29.99 179 *ce*P **P 10 29 44.8 -1.4**
PMG pmax pmax
comp=Z,90nm,0.8s
PMG Port Moresby 29.99 179 P **P 10 29 45.8 -0.4**
comp=Z,35nm,1.0s,baz=9.9,slow=4.9,SNR=9.7
PMG Port Moresby 29.99 179 P **P 10 29 45.6 -0.5**
PMG IAmb IAmb 10 29 54.8
comp=Z,44nm,0.9s
HKPS Hong Kong Po S 30.36 279 P **P 10 29 47.5 -2.0**
WHN Wuhan 30.71 295 P P 10 29 43.8 -8.7
KLR Kul'dur 30.83 341 *i* P **P 10 29 54.0 +0.7**
KLR pmax pmax
comp=Z,13nm,1.0s
KLR MLR MLR
comp=Z,675nm,16.0s
KLR Kul'dur 30.83 341 P **P 10 29 53.8 +0.5**
comp=Z,11nm,0.6s,baz=159,slow=7.7,SNR=35
KLR LR LR 10 41 30.5
comp=Z,439nm,21.3s,baz=154,slow=35
GRNR Gornyy 31.03 347 ⇓*i* P **P 10 29 56.2 +1.2**
GRNR *e*S **S 10 35 04.8 +4.6**
GRNR pmax pmax
comp=Z,20nm,1.3s
GRNR smax smax
comp=N,4.0nm,0.9s
GRNR MLR MLR
comp=Z,510nm,10.0s
BJT Baijiatuau 32.40 313 P **P 10 30 06.9 -0.3**
BJT pmax pmax
comp=Z,5.0nm,0.6s
BJT Baijiatuau 32.40 313 P **P 10 30 06.9 -0.3**
APSI Ampana 32.69 232 P **P 10 30 09.7 -0.3**
comp=Z,23nm,0.7s
MPSI Mapaga 33.20 236 P **P 10 30 15.3 +0.8**
comp=Z,12nm,0.9s
PETK Petropavlovsk- 33.36 12 P **P 10 30 15.8 +0.3**
comp=Z,6.7nm,0.8s,baz=161,slow=9.2,SNR=3.0
PETK LR LR 10 47 49.5
comp=Z,496nm,18.0s,baz=201,slow=44
COEN Coen 34.69 186 P **P 10 30 27.0 -0.4**
QIZ Qiongzhong 34.72 274 P **P 10 30 24.8 -2.9**
QIZ S **S 10 35 56.0 -2.4**
QIZ pmax pmax
comp=Z,41nm,0.4s
QIZ LR LR
comp=Z,400nm,14.7s
QIZ LR LR
comp=Z,460nm,19.6s
QIZ LR LR
comp=Z,600nm,24.5s
ENH Enshi 34.82 293 P **P 10 30 27.6 -0.9**
ENH IAmb IAmb 10 30 41.7
comp=Z,24nm,1.3s
TTSI Tana Toraja 35.48 231 P P 10 30 45.0 +11
HIA Hailar 35.67 329 *i* P **P 10 30 36.0 +0.5**
HIA pmax pmax
comp=Z,180nm,1.1s
HIA Hailar 35.67 329 P **P 10 30 36.0 +0.5**
HIA IAmb IAmb 10 30 38.6
comp=Z,30nm,1.1s
XAN Xi'an 35.90 300 P **P 10 30 36.8 -1.0**
XAN pP pwP 10 30 46.8 +2.6
XAN S **S 10 36 21.3 +5.0**
XAN pmax pmax
comp=Z,9.0nm,1.3s
XAN pmax pmax
comp=Z,280nm,8.8s
XAN LR LR
comp=Z,770nm,13.0s
XAN LR LR
comp=Z,350nm,10.8s
XAN LR LR
comp=Z,500nm,14.5s
XAN Xi'an 35.90 300 P **P 10 30 36.3 -1.5**
XAN pmax pmax
comp=Z,10.0nm,0.9s
XAN Xi'an 35.90 300 P **P 10 30 36.3 -1.5**
HHC Hu-ho-hao-te 35.93 312 *e*P **P 10 30 38.8 +0.8**
HHC S **S 10 36 15.0 -1.7**
HHC pmax pmax
comp=Z,6.0nm,0.9s
HHC pmax pmax
comp=Z,250nm,5.5s
HHC LR LR
comp=Z,330nm,17.0s
HHC LR LR
comp=Z,340nm,15.3s
HHC LR LR
comp=Z,520nm,14.5s
ZEA Zeya 36.14 340 *e*P **P 10 30 39.9 +0.4**
ZEA pmax pmax
comp=N,30nm,1.0s
ZEA pmax pmax
comp=Z,34nm,1.0s
MTN Manton Dam 36.77 206 P **P 10 30 44.2 -1.0**
MTN IAmb IAmb 10 30 48.2
comp=Z,18nm,0.8s
BTO Baotou 36.92 311 *e*P **P 10 30 46.0 -0.5**
GYA Guiyang 37.08 287 ⇓*i* P P 10 30 53.3 +5.3
GYA PP **PnPn 10 32 19.3 +6.6**
GYA PcP **PcP 10 33 14.8 +6.1**
GYA S **S 10 36 39.5 +4.9**
GYA ScP **ScP 10 37 01.8 +5.5**
GYA pmax pmax
comp=Z,10.0nm,0.9s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=N,240nm,17.6s
GYA LR LR
comp=E,210nm,16.8s
GYA LR LR
comp=Z,230nm,17.0s
SBUM Sibu 38.28 246 P **P 10 30 57.6 -0.5**
MA2 Magadan 38.87 3 *ce*P **P 10 31 03.2 +0.7**
MA2 pmax pmax
comp=Z,144nm,2.5s
MA2 Magadan 38.87 3 P **P 10 31 03.1 +0.6**
MA2 IAmb IAmb 10 31 16.6
comp=Z,33nm,1.0s
CD2 Chengdu 39.80 294 *e*P **P 10 31 09.3 -1.5**
CD2 S **S 10 37 13.0 -2.5**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=Z,1µm,15.2s
CD2 LR LR
comp=Z,1µm,13.2s
CD2 LR LR
comp=Z,1µm,14.7s
KNRA Kununurra 40.31 207 P **P 10 31 14.6 -0.4**
KNRA IAmb IAmb 10 31 15.8
comp=Z,64nm,1.3s
LZH Lanzhou 40.38 302 *e*P **P 10 31 16.0 +0.3**
LZH pP sP 10 31 20.5 +4.1
LZH sP pwP 10 31 24.0 +1.9
LZH pmax pmax
comp=Z,54nm,1.2s
LZH pmax pmax
comp=Z,350nm,4.1s
LZH LR LR
comp=Z,640nm,10.8s
LZH LR LR
comp=Z,760nm,13.6s
LZH LR LR
comp=Z,720nm,15.7s
CTA Charters Tower 40.61 181 P **P 10 31 17.6 +0.2**
CTA pmax pmax
comp=Z,25nm,1.1s
CTAO Charters Tower 40.61 181 P **P 10 31 17.6 +0.2**
CTAO pmax pmax
comp=Z,23nm,1.1s
KMI Kunming 40.65 285 P **P 10 31 17.3 -0.8**
KMI pP sP 10 31 21.0 +2.2
KMI sP pP 10 31 22.3 +3.4
KMI S **S 10 37 28.5 -0.2**
KMI pmax pmax
comp=Z,17nm,1.3s
KMI pmax pmax
comp=Z,140nm,5.8s
KMI LR LR
comp=Z,330nm,18.3s
KMI LR LR
comp=Z,500nm,21.4s
KMI LR LR
comp=Z,550nm,15.7s
ULN Ulaanbaatar 41.81 320 *ce*P **P 10 31 26.4 -0.9**
ULN pmax pmax
comp=Z,15nm,1.0s
ULN Ulaanbaatar 41.81 320 P **P 10 31 25.3 -1.9**
SONM Songino Array 42.20 319 P **P 10 31 30.0 -0.4**
comp=Z,8.0nm,0.9s,baz=132,slow=5.8,SNR=23
SONM PcP **PcP 10 33 24.6 0.0**
comp=Z,3.0nm,0.9s,baz=151,slow=3.3,SNR=3.4
SONM LR LR 10 50 14.3
comp=Z,588nm,18.1s,baz=122,slow=38
WR0 Warramunga Arr 42.22 197 P **P 10 31 30.6 0.0**
WRAB Tennant Creek 42.24 198 *ce*P **P 10 31 30.6 -0.2**
WRAB pmax pmax
comp=Z,13nm,0.8s
WRAB Tennant Creek 42.24 198 P **P 10 31 30.3 -0.6**
WRA Warramunga Arr 42.26 198 *i* P **P 10 31 30.2 -0.8**
WRA pmax pmax
comp=Z,10.0nm,0.7s
WRA Warramunga Arr 42.26 198 P **P 10 31 30.0 -0.9**
comp=Z,9.9nm,0.7s,baz=16,slow=8.4,SNR=39
WRA PcP **PcP 10 33 25.3 +0.3**
comp=Z,15nm,1.1s,baz=7.2,slow=3.4,SNR=8.2
WRA LR LR 10 48 54.0
comp=Z,658nm,21.4s,baz=0.0,slow=36
SEY Seymchan 42.30 4 *i* P **P 10 31 30.7 -0.2**
SEY Seymchan 42.30 4 P **P 10 31 31.5 +0.6**
comp=Z,13nm,0.6s,baz=184,slow=7.4,SNR=34
CHAI Chaiyaphum 42.69 271 P **P 10 31 36.6 +2.0**
comp=Z,27µm,1.1s
YAK Yakutsk 42.89 348 *e*P **P 10 31 35.1 -0.5**
YAK pmax pmax
comp=Z,22nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK Yakutsk 42.89 348 P **P 10 31 35.2 -0.4**
comp=E,4.6nm,0.3s,baz=271,slow=0.5,SNR=8.4
YAK Yakutsk 42.89 348 P **P 10 31 35.4 -0.2**
YAK IAmb IAmb 10 31 40.0
comp=Z,26nm,0.9s
PBKT Sadao Pong 43.49 272 P **P 10 31 45.5 +4.4**
comp=Z,4.7nm,1.3s
PBKT Sadao Pong 43.49 272 P **P 10 31 39.5 -1.5**
UTTA Uttaradit 43.63 274 P **P 10 31 45.0 +2.8**
comp=Z,22µm,1.0s
FITZ Fitzroy Crossi 43.84 210 P **P 10 31 43.0 -0.8**
FITZ IAmb IAmb 10 31 45.2
comp=Z,40nm,1.1s
PAYA Payao 43.96 277 P **P 10 31 48.0 +3.1**
comp=Z,16µm,0.7s,comp=Z,854µm
BOD Bodaibo 44.03 335 *e*P **P 10 31 43.9 -1.0**
BOD pmax pmax
comp=Z,15nm,2.1s
GTA Gaotai 44.13 306 *e*P **P 10 31 45.8 -0.4**
GTA pP sP 10 31 50.0 +3.1
GTA sP pwP 10 31 52.8 +0.2
GTA PcP **PcP 10 33 31.8 +0.5**
GTA pmax pmax
comp=Z,10.0nm,1.1s
GTA pmax pmax
comp=Z,340nm,5.8s
GTA LR LR
comp=Z,640nm,14.4s
GTA LR LR
comp=Z,600nm,16.8s
GTA LR LR
comp=Z,780nm,18.2s
CHTO Chiang Mai 44.92 276 P **P 10 31 54.6 +2.0**
CHTO pmax pmax
comp=Z,7.0nm,1.6s
CMAR Chiang Mai Arr 44.99 276 P **P 10 31 53.4 +0.2**
comp=Z,2.6nm,0.5s,baz=96,slow=5.5,SNR=13
CMAR LR LR 10 48 52.2
comp=Z,226nm,21.2s,baz=83,slow=34
ZAK Zakamensk 45.13 322 *e*P **P 10 31 53.6 -0.4**
ZAK pmax pmax
comp=Z,21nm,1.1s
UTHA Uthaitani 45.15 272 P **P 10 31 55.9 +1.5**
comp=Z,21µm,1.1s
IRK Irkutsk 45.39 324 *e*P **P 10 31 55.8 -0.1**
IRK pmax pmax
comp=Z,57nm,1.4s
TLY Talaya 45.48 323 *e*P **P 10 31 57.6 +1.0**
TLY *e*S **S 10 38 46.2 +7.6**
TLY pmax pmax
comp=Z,72nm,1.3s
TLY MLR MLR
comp=Z,1µm,17.0s
TLY Talaya 45.48 323 P **P 10 31 56.9 +0.3**
comp=Z,26nm,1.1s,baz=134,slow=2.5,SNR=8.1
TLY Talaya 45.48 323 P **P 10 31 56.8 +0.1**
TLY IAmb IAmb 10 31 59.5
comp=Z,24nm,1.1s
UMPA Umpang Tak 45.54 273 P **P 10 32 00.0 +2.4**
comp=Z,37µm,1.1s
PHET Kaeng Krachan 45.66 268 P **P 10 32 00.6 +2.1**
comp=Z,43µm,0.9s
SRDT SRDT 45.75 270 P **P 10 32 01.3 +2.1**
comp=Z,13nm,1.0s
AS31 Alice Springs 45.91 197 P **P 10 31 59.2 -1.1**
ASAR Alice Springs 45.92 197 P **P 10 31 59.1 -1.2**
comp=Z,3.9nm,0.8s,baz=16,slow=8.0,SNR=35
ASAR PcP **PcP 10 33 37.8 +0.4**
comp=Z,3.2nm,0.7s,baz=23,slow=3.5,SNR=6.0
ASAR LR LR 10 51 19.8
comp=Z,728nm,20.3s,baz=24,slow=36
MHMT Maesarieng 45.99 276 P P 10 32 06.8 +5.8
comp=Z,26nm,0.8s
KPJI Karang Pucung 46.50 237 P **P 10 32 05.7 +0.6**
comp=Z,29nm,1.0s
DZM Mont Dzumac 46.71 155 *e*LR LR 10 45 18.3
comp=Z,1µm,23.5s
DZM Mont Dzumac 46.71 155 P **P 10 32 07.3 +0.6**
MOY Mondy 46.98 322 *e*P **P 10 32 08.2 -0.3**
MOY pmax pmax
comp=Z,26nm,1.3s
IPM Ipoh 47.28 256 P **P 10 32 09.5 -1.8**
IPM IAmb IAmb 10 32 13.3
comp=Z,23nm,1.0s
KULM Kulim 47.30 258 P **P 10 32 10.0 -1.4**
KULM IAmb IAmb 10 32 17.6
comp=Z,28nm,1.1s
BILL Bilibino 48.81 10 *ce*P **P 10 32 23.4 +1.1**
BILL pmax pmax
comp=Z,28nm,1.0s
BILL Bilibino 48.81 10 P **P 10 32 22.4 +0.1**
BILL IAmb IAmb 10 32 25.9
comp=Z,22nm,0.9s
MSVF Nonsavu 49.04 139 *i* P **P 10 32 25.6 +0.8**
MSVF pmax pmax
comp=Z,19nm,1.1s
MSVF Nonsavu 49.04 139 P **P 10 32 25.8 +1.0**
MSVF IAmb IAmb 10 32 28.7
comp=Z,26nm,1.1s
PSAA3 Pilbara Seismi 49.63 214 P **P 10 32 28.6 -0.5**
PSI Prapat 49.88 256 P **P 10 32 30.5 -0.9**
comp=Z,14nm,1.0s,baz=34,slow=3.1,SNR=6.6
PSI PcP **PcP 10 33 52.0 0.0**
comp=Z,7.6nm,0.8s,baz=106,slow=3.8,SNR=5.1
RPSI Rantau Prapat 49.93 255 P **P 10 32 31.3 -0.3**
RPSI IAmb IAmb 10 32 32.8
comp=Z,18nm,1.1s
RPSI Rantau Prapat 49.93 255 P **P 10 32 30.5 -1.1**
SHL Shillong 50.40 286 P **P 10 32 32.6 -2.7**
SHL pmax pmax
comp=Z,14nm,0.6s
SHL Shillong 50.40 286 *e*P **P 10 32 34.0 -1.3**
SHL Shillong 50.40 286 P **P 10 32 32.6 -2.7**
SHL IAmb IAmb 10 32 48.4
comp=Z,14nm,0.6s
LSA Lhasa 50.69 292 P **P 10 32 39.4 +1.6**
LSA Lhasa 50.69 292 P **P 10 32 35.8 -2.0**
LSA pmax pmax
comp=Z,82nm,1.5s
LSA Lhasa 50.69 292 P **P 10 32 35.8 -2.0**
ARMA Armidale 51.11 175 P **P 10 32 40.8 +0.4**
ARMA IAmb IAmb 10 32 50.9
comp=Z,22nm,1.2s
SISI Saibi 51.56 251 P **P 10 32 45.4 +1.5**
comp=Z,44nm,1.0s
TIXI Tiksi 51.94 353 *ce*P **P 10 32 43.5 -2.4**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 51.94 353 P **P 10 32 45.1 -0.8**
STKA Stephens Creek 52.59 186 P **P 10 32 50.2 -0.9**
comp=Z,10nm,1.0s,baz=350,slow=8.1,SNR=8.2
STKA Stephens Creek 52.59 186 P **P 10 32 50.3 -0.9**
WMQ Urumqi 53.75 310 P **P 10 33 00.5 +0.6**
WMQ pP sP 10 33 04.3 +3.7
WMQ sP pwP 10 33 10.3 +3.1
WMQ pmax pmax
comp=Z,26nm,1.3s
WMQ pmax pmax
comp=Z,200nm,4.9s
WMQ LR LR
comp=Z,470nm,17.3s
WMQ LR LR
comp=Z,420nm,19.3s
WMQ Urumqi 53.75 310 P **P 10 32 59.8 -0.1**
WMQ pmax pmax
comp=Z,62nm,1.2s
WMQ Urumqi 53.75 310 P **P 10 32 59.8 -0.1**
ANM Nome 53.90 23 P **P 10 33 01.7 +1.2**
ANM pmax pmax
comp=Z,25nm,1.5s
ANM Nome 53.90 23 P **P 10 33 01.7 +1.2**
ANM IAmb IAmb 10 33 04.0
comp=Z,25nm,1.5s
TAPN Taplejung 53.91 289 *e*P **P 10 33 02.1 +0.5**
comp=Z,86nm,0.8s
ODAN Odare 54.25 289 *e*P **P 10 33 04.2 +0.2**
comp=Z,64nm,0.8s
JIRN Jiri 55.22 290 *e*P **P 10 33 11.7 +0.5**
comp=Z,142nm,0.7s
GUN Gumba 55.46 290 *e*P **P 10 33 13.1 +0.2**
comp=Z,117nm,0.9s
PKI Pulchoki 55.91 290 *e*P **P 10 33 15.8 -0.3**
comp=Z,7.6nm,0.8s
PKIN Phulchoki 55.92 290 *e*P **P 10 33 15.9 -0.2**
comp=Z,56nm,0.8s
KKN Kakani 56.00 290 *e*P **P 10 33 16.7 +0.1**
comp=Z,86nm,0.9s
DMN Daman 56.18 290 *e*P **P 10 33 17.9 0.0**
comp=Z,125nm,1.0s
GKN Gorkha 56.54 290 *e*P **P 10 33 20.6 +0.2**
comp=Z,336nm,1.1s
ZAA0 Zalesovo Array 57.01 322 P **P 10 33 22.6 -0.5**
ZALV Zalesovo Beam 57.01 322 P **P 10 33 22.4 -0.7**
comp=Z,30nm,0.6s,baz=106,slow=7.9,SNR=73
ZALV PcP **PcP 10 34 16.5 -1.7**
comp=Z,9.9nm,0.8s,baz=107,slow=4.8,SNR=2.7
ZALV LR LR 10 57 56.5
comp=Z,159nm,19.9s,baz=35,slow=36
DANN Dangsing 57.26 291 *e*P **P 10 33 26.1 +0.4**
comp=Z,316nm,0.8s
KOLN Koldanda 57.48 290 *e*P **P 10 33 27.2 +0.1**
comp=Z,91nm,1.0s
MORW Morawa 57.74 212 P **P 10 33 27.6 -0.9**
MORW IAmb IAmb 10 33 28.9
comp=Z,32nm,1.1s
MK31 Makanchi Array 57.78 313 *i* P **P 10 33 28.4 -0.3**
MK31 pmax pmax
comp=Z,24nm,1.0s
MK31 Makanchi Array 57.78 313 P **P 10 33 28.6 -0.1**
MK31 IAmb IAmb 10 33 30.8
comp=Z,25nm,1.1s
MKAR Makanchi Array 57.78 313 P **P 10 33 28.6 -0.1**
comp=Z,17nm,0.9s,baz=93,slow=8.2,SNR=69
MKAR LR LR 10 59 49.2
comp=Z,280nm,18.1s,baz=86,slow=38
MKAR PKP2bc 11 03 25.5
comp=Z,2.5nm,1.1s,baz=336,slow=3.2,SNR=7.4
MAKZ Makanchi 58.00 313 P **P 10 33 29.9 -0.3**
MAKZ pmax pmax
comp=Z,41nm,1.0s
MAKZ Makanchi 58.00 313 P **P 10 33 29.7 -0.5**
KTH Kantishna Hill 59.34 27 P **P 10 33 40.9 +1.6**
BPAW Bear Paw Mtn. 59.46 27 P **P 10 33 41.6 +1.6**
TRF Thorofare Moun 59.58 28 P **P 10 33 42.5 +1.4**
TRF IAmb IAmb 10 33 43.4
comp=Z,19nm,1.3s
PMR Palmer 59.66 30 P **P 10 33 42.0 +0.6**
PMR pmax pmax
comp=Z,31nm,1.4s
PMR Palmer 59.66 30 P **P 10 33 42.0 +0.6**
PMR IAmb IAmb 10 33 43.6
comp=Z,31nm,1.4s
PDGK Podgornoye 59.68 309 *i* P **P 10 33 41.6 -0.5**
PDGK pmax pmax
comp=Z,48nm,1.0s
MLY Manley 59.82 26 P **P 10 33 43.4 +0.8**
MLY IAmb IAmb 10 33 45.7
comp=Z,20nm,1.2s
NRIK Noril'sk 60.03 339 *i* P **P 10 33 44.0 +0.1**
NRIK Noril'sk 60.03 339 P **P 10 33 44.0 +0.1**
comp=Z,49nm,0.7s,baz=109,slow=8.2,SNR=48
NRIK LR LR 11 00 17.9
comp=Z,338nm,21.5s,baz=113,slow=37
MCK McKinley 60.24 28 P **P 10 33 46.5 +1.0**
MCK pmax pmax
comp=Z,24nm,1.4s
MCK McKinley 60.24 28 P **P 10 33 46.5 +1.0**
MCK IAmb IAmb 10 33 47.5
comp=Z,24nm,1.4s
KURK Kurchatov 60.43 317 *ce*P **P 10 33 46.5 -0.4**
KURK pmax pmax
comp=Z,46nm,1.0s
KURK Kurchatov 60.43 317 P **P 10 33 46.4 -0.6**
PRZ Przheval'sk 60.50 308 P **P 10 33 48.7 +0.8**
PRZ pmax pmax
comp=Z,109nm,1.2s
PRZ Przheval'sk 60.50 308 P **P 10 33 48.7 +0.8**
WRH Wood River Hil 60.77 27 P **P 10 33 49.7 +0.7**
WRH IAmb IAmb 10 33 51.0
comp=Z,23nm,1.4s
DHY Denali Highway 60.78 28 P **P 10 33 50.3 +1.0**
DHY IAmb IAmb 10 33 51.8
comp=Z,14nm,1.2s
CCB Clear Creek Bu 60.93 27 P **P 10 33 50.9 +0.8**
COLA College 60.97 26 P **P 10 33 51.7 +1.4**
COLA pmax pmax
comp=Z,10.0nm,1.3s
COLA College 60.97 26 P **P 10 33 51.7 +1.4**
POKR Poker Plat Res 61.20 26 P **P 10 33 53.1 +1.2**
baz=257
HDA Harding Lake 61.24 27 P **P 10 33 53.2 +0.9**
baz=258
TOLK Toolik Lake Re 61.30 22 P **P 10 33 53.2 +0.5**
baz=253
TOLK Toolik Lake Re 61.30 22 P **P 10 33 53.0 +0.4**
TOLK IAmb IAmb 10 33 56.1
comp=Z,14nm,0.9s
IL31 61.35 27 P **P 10 33 52.6 -0.3**
IL31 IAmb IAmb 10 33 54.4
comp=Z,13nm,1.1s
ILAR Eielson Array 61.35 27 P **P 10 33 52.0 -0.9**
comp=Z,8.8nm,1.1s,baz=255,slow=5.2,SNR=33
ILAR LR LR 10 55 44.7
comp=Z,126nm,21.1s,baz=260,slow=31
ILAR PKP2bc 11 03 11.2
comp=Z,0.4nm,1.0s,baz=141,slow=1.9,SNR=4.1
KDJ Kajisay 61.42 307 P **P 10 33 54.7 +0.6**
KDJ pmax pmax

comp=Z,37nm,1.2s
KDJ Kajisay 61.42 307 P P 10 33 54.7 +0.6
PAX Paxson 61.61 29 P P 10 33 55.2 +0.3
PAX pmax pmax
comp=Z,13nm,1.3s
PAX Paxson 61.61 29 P P 10 33 55.2 +0.3
PAX IAmb IAmb 10 33 57.4
comp=Z,13nm,1.3s
GLB Gilahina Butte 62.14 31 P P 10 33 59.4 +1.0
BOOM Boomskoye usch 62.32 308 P P 10 33 58.7 -1.4
BOOM pmax pmax
comp=Z,49nm,1.3s
BOOM Boomskoye usch 62.32 308 P P 10 33 58.7 -1.4
NRN Naryn 62.34 307 P P 10 34 00.9 +0.4
NRN pmax pmax
comp=Z,28nm,1.2s
NRN Naryn 62.34 307 P P 10 34 00.9 +0.4
DOT Dot Lake 62.35 28 P P 10 34 00.6 +0.8
DOT IAmb IAmb 10 34 11.0
comp=Z,7.2nm,0.8s
FYU Fort Yukon 62.39 25 P P 10 33 58.9 -1.0
SCRK Sand Creek 62.44 28 P P 10 34 00.9 +0.4
SCRK IAmb IAmb 10 34 02.8
comp=Z,22nm,1.2s
KSH Kashi 62.52 305 P P 10 34 04.8 +3.4
KSH sP pwP 10 34 10.3 +1.5
KSH PP **PP 10 36 23.5 +4.7**
KSH ScP **ScP 10 38 42.3 -1.1**
KSH PcS **PcS 10 38 44.8 +0.7**
KSH S **S 10 42 29.3 -0.2**
KSH sS sS 10 42 37.3 +6.9
KSH SS **SS 10 46 35.5 +2.2**
KSH pmax pmax
comp=Z,53nm,1.1s
KSH pmax pmax
comp=Z,340nm,5.0s
KSH LR LR
comp=Z,770nm,6.1s
KSH LR LR
comp=Z,520nm,4.9s
KSH LR LR
comp=Z,360nm,6.1s
TKM2 Tokmak 2 62.55 308 P P 10 34 02.7 +1.0
SNR=23
BALM Baldy 62.79 31 P P 10 34 03.2 +0.3
BALM IAmb IAmb 10 34 07.9
comp=Z,13nm,1.3s
KZA Kyzart 62.86 307 P P 10 34 05.3 +1.3
SNR=10
KBK Karagaybulak 63.04 308 P P 10 34 05.5 +0.5
SNR=14
CHMS Chumysh 63.16 309 P P 10 34 06.2 +0.6
SNR=7.5
FRU1 Bishkek 63.26 308 P P 10 34 06.4 +0.1
FRU1 pmax pmax
comp=Z,65nm,1.4s
FRU1 Bishkek 63.26 308 P P 10 34 06.4 +0.1
USP Ospenovka 63.33 309 P P 10 34 06.8 +0.2
SNR=10
AAK Ala-Archa 63.38 308 *ce*P **P 10 34 07.6 +0.4**
AAK pmax pmax
comp=Z,15nm,1.0s
AAK Ala-Archa 63.38 308 P P 10 34 07.2 +0.1
AAK IAmb IAmb 10 34 09.5
comp=Z,17nm,1.1s
UCH Uchtor 63.39 308 P P 10 34 08.7 +1.0
SNR=22
EGAK Eagle 63.77 27 P P 10 34 09.6 +0.5
EKS2 Erkin-Say 63.90 308 P P 10 34 10.9 +0.3
SNR=12
AML Almayashu 64.01 308 P P 10 34 12.5 +0.8
SNR=21
HYB Hyderabad 64.13 280 *i* P **P 10 34 12.0 -0.3**
DAWY Dawson 64.45 28 P P 10 34 15.6 +1.9
DAWY IAmb IAmb 10 34 16.7
comp=Z,12nm,1.1s
ARSB Arslanbob 64.62 307 P P 10 34 15.9 +0.5
DHAK Deception Hill 64.73 33 P P 10 34 15.7 +0.2
PALK Pallekele 65.11 268 P P 10 34 17.1 -1.7
PALK pmax pmax
comp=Z,23nm,1.3s
PALK Pallekele 65.11 268 P P 10 34 17.1 -1.7
PALK IAmb IAmb 10 34 32.9
comp=Z,23nm,1.2s
HYT Haines Junctio 65.14 32 P P 10 34 20.0 +1.7
URZ Urewera 65.27 154 P P 10 34 18.9 -0.3
URZ IAmb IAmb 10 34 20.9
comp=Z,26nm,1.4s
NIL Nilore 65.43 298 P P 10 34 20.8 +0.2
NIL pmax pmax
comp=Z,102nm,1.1s
NIL Nilore 65.43 298 P P 10 34 20.8 +0.2
BRVK Borovoye 65.60 320 *ce*P **P 10 34 21.5 +0.2**
BRVK pmax pmax
comp=Z,78nm,1.0s
BRVK Borovoye 65.60 320 P P 10 34 21.0 -0.3
EPYK Eagle Plains 65.75 25 P P 10 34 23.1 +1.0
baz=266
EPYK Eagle Plains 65.75 25 P P 10 34 23.4 +1.3
EPYK IAmb IAmb 10 34 24.9
comp=Z,18nm,1.2s
QRZ Quartz Range 65.80 159 P P 10 34 24.0 +1.4
KK31 Karatay Array 66.25 309 *i* P **P 10 34 25.5 -0.2**
KK31 pmax pmax
comp=Z,26nm,0.8s
KK31 Karatay Array 66.25 309 P P 10 34 25.9 +0.2
KKAR Karatay Array 66.25 309 P P 10 34 25.7 0.0
KKAR pmax pmax
comp=Z,37nm,0.9s
KKAR Karatay Array 66.25 309 P P 10 34 25.7 0.0
BTK Batken 66.40 306 P P 10 34 25.8 -1.0
BTK pmax pmax
comp=Z,23nm,1.4s
BTK Batken 66.40 306 P P 10 34 25.9 -1.0
BTK IAmb IAmb 10 34 28.8
comp=Z,23nm,1.4s
WHY Whitehorse 66.42 32 P P 10 34 28.0 +1.4
WHY IAmb IAmb 10 34 30.1
comp=Z,19nm,1.4s
GAR Garm 66.94 305 P P 10 34 30.0 -0.4
INK Inuvik 67.08 23 P P 10 34 30.4 -0.1
comp=Z,14nm,1.1s,baz=252,slow=6.9,SNR=13
INK LR LR 11 02 26.6
comp=Z,134nm,19.6s,baz=277,slow=35
INK Inuvik 67.08 23 P P 10 34 30.4 -0.1
INK IAmb IAmb 10 34 32.6
comp=Z,16nm,1.1s
OXZ Oxford 67.88 160 P P 10 34 34.5 -1.3
CHGR Chuyangaron 67.88 304 P P 10 34 36.0 -0.3
RPZ Rata Peaks 67.93 161 P P 10 34 36.3 +0.1
POO Poona 68.16 282 *ex* P **10 34 36.0 -2.2**
KBL Kabul 68.70 300 P P 10 34 41.1 -0.6
KBL pmax pmax
comp=Z,57nm,1.0s
KBL Kabul 68.70 300 P P 10 34 41.1 -0.6
C36M Paulatuk 70.45 22 P P 10 34 51.5 0.0
baz=277,SNR=14
SVE Sverdlovsk 70.78 324⇑ *e*P **P 10 34 53.9 +0.2**
SVE pmax pmax
comp=Z,48nm,1.1s
ARU Arti 71.98 324 *d i* P **P 10 35 00.5 -0.5**
ARU 10 37 35.6
ARU S **S 10 44 25.6 +3.0**
ARU SS **SS 10 49 00.6 +1.9**
ARU pmax pmax
comp=Z,48nm,0.8s
ARU Arti 71.98 324 P P 10 35 00.5 -0.5
AB31 Akbulak array 72.53 317 *i* P **P 10 35 03.1 -1.3**
AB31 pmax pmax
comp=Z,13nm,0.8s
ABKAR Akbulak array 72.53 317 P P 10 35 03.5 -0.9
PPT Papeete 73.12 117 LR LR 11 02 00.3
comp=Z,225nm,18.3s,baz=234,slow=32
PPT2 Papeete2 73.13 117 *eS* **SKiKP 10 44 42.6 +0.9**
comp=Z,146nm,24.5s
PPT2 Papeete2 73.13 117 *e*LR LR 10 57 14.0
comp=Z,1µm,31.5s
AKTO Aktyubinsk 73.50 318 *i* P **P 10 35 08.9 -1.2**
AKTO pmax pmax
comp=Z,24nm,1.2s
HRA Herat 74.22 301 P P 10 35 15.0 0.0
HRA IAmb IAmb 10 35 17.2
comp=Z,14nm,0.9s
A04D Lummi Island 75.02 43 P P 10 35 20.2 +1.2
baz=284

D03D Eldon 75.06 45 P P 10 35 20.6 +1.3
baz=285
LLLB Lillooet 75.06 41 P P 10 35 19.8 +0.5
B05A Bryant 75.52 44 P P 10 35 22.6 +0.7
baz=285
E04D Cinebar 75.66 45 P P 10 35 24.0 +1.3
baz=285
YKA Yellowknife Ar 75.69 28 P P 10 35 22.3 -0.3
comp=Z,4.9nm,0.8s,baz=290,slow=5.7,SNR=36
D05A Enumclaw 75.87 45 P P 10 35 25.1 +1.1
D05A IAmb IAmb 10 35 43.9
comp=Z,16nm,1.1s
K02D Willamette Mer 75.91 49 P P 10 35 25.5 +1.1
baz=285
F04A Amboy 75.92 46 P P 10 35 25.6 +1.4
F04A IAmb IAmb 10 35 44.7
comp=Z,15nm,1.0s
TBI Tubuai 76.04 122 *e*LR LR 10 58 24.6
comp=Z,248nm,34.5s
H04D Lebanon 76.07 47 P P 10 35 26.7 +1.5
baz=286
L02E Cave Junction 76.09 50 P P 10 35 26.9 +1.6
baz=286
C06D Leavenworth 76.39 44 P P 10 35 28.3 +1.3
baz=286
I04A Tendick Farm, 76.50 48 P P 10 35 28.7 +1.1
baz=286
GEYT Alibeck 76.52 306 P P 10 35 28.1 +0.3
comp=Z,14nm,1.1s,baz=90,slow=3.4,SNR=12
GEYT LR LR 11 14 27.2
comp=Z,123nm,18.1s,baz=50,slow=40
GYA0B ALIBECK ARRAY 76.52 306 P P 10 35 28.5 +0.6
GYA0B IAmb IAmb 10 35 31.0
comp=Z,29nm,1.2s
F05D White Salmon 76.58 46 P P 10 35 29.4 +1.3
baz=286
LTY Liberty 76.72 44 P P 10 35 28.0 -0.9
M02C Callahan 76.84 51 P P 10 35 30.9 +1.2
baz=286
YBH Yreka Blue Hor 76.85 50 P P 10 35 29.7 -0.1
YBH pmax pmax
comp=Z,10.0nm,1.1s
YBH Yreka Blue Hor 76.85 50 P P 10 35 29.7 -0.1
G05D Wamic, OR 76.85 46 P P 10 35 30.5 +0.8
baz=286
J04D Umpqua Nationa 76.86 49 P P 10 35 31.2 +1.3
baz=286
L04D Klamath Falls 77.00 50 P P 10 35 31.8 +1.2
baz=286
N02D Trinity Center 77.06 51 P P 10 35 32.2 +1.2
baz=286
I05D Terrebonne, OR 77.09 47 P P 10 35 32.4 +1.4
baz=286
PRGR Permogore 77.09 331 *e*P **P 10 35 28.5 -2.1**
PRGR pmax pmax
comp=Z,74nm,0.7s
RES Resolute Bay 77.18 14 P P 10 35 31.0 +0.2
RES pmax pmax
comp=Z,11nm,1.1s
RES Resolute Bay 77.18 14 P P 10 35 31.0 +0.2
RES IAmb IAmb 10 35 33.4
comp=Z,11nm,1.1s
O02D Mt. Diablo Mer 77.23 52 P P 10 35 33.0 +1.1
baz=286
B08A Colville Reser 77.27 43 P P 10 35 32.3 +0.3
B08A IAmb IAmb 10 35 34.7
comp=Z,9.7nm,0.9s
WDC Whiskeytown Da 77.29 51 P P 10 35 33.5 +1.3
WDC pmax pmax
comp=Z,8.0nm,1.1s
WDC Whiskeytown Da 77.29 51 P P 10 35 33.5 +1.3
E07A Sunnyside 77.45 45 P P 10 35 33.9 +0.9
E07A IAmb IAmb 10 35 36.1
comp=Z,13nm,1.1s
J05D Fort Rock, OR 77.46 48 P P 10 35 34.5 +1.2
baz=287
M04C Macdoel 77.46 50 P P 10 35 34.3 +1.0
baz=287
PINE Pine Mountain 77.52 48 P P 10 35 34.7 +1.1
PINE IAmb IAmb 10 35 37.0
comp=Z,21nm,0.9s
TAOE Nuku Hiva Isla 77.57 105 *e*LR LR 10 59 29.5
comp=Z,468nm,24.9s
TAOE Nuku Hiva Isla 77.57 105 P P 10 35 34.7 +0.5
F07A Phinny Hill Vi 77.60 46 P P 10 35 34.3 +0.5
GDXM Geysers 77.61 53 P P 10 35 36.3 +2.3
GDXM IAmb IAmb 10 35 38.0
comp=Z,11nm,1.0s
HAWA Hanford 77.72 45 P P 10 35 35.0 +0.6
O03E Paynes Creek 77.92 51 P P 10 35 37.0 +1.2
baz=287
E08A Dider Farm, El 78.00 45 P P 10 35 37.2 +1.2
C09A Chrisman Ranch 78.11 43 P P 10 35 36.3 -0.3
C09A IAmb IAmb 10 35 39.3
comp=Z,14nm,1.2s
ORV Oroville 78.36 52 P P 10 35 38.5 +0.4
ORV pmax pmax
comp=Z,12nm,1.1s
ORV Oroville 78.36 52 P P 10 35 38.5 +0.4
ORV IAmb IAmb 10 35 40.7
comp=Z,12nm,1.1s
G08A Pilot Rock 78.43 46 P P 10 35 39.8 +1.3
MOD Modoc Plateau 78.52 50 P P 10 35 40.0 +0.8
E09A Wood Farm, Sta 78.59 45 P P 10 35 39.9 +0.6
E09A IAmb IAmb 10 35 42.3
comp=Z,13nm,0.9s
NEW Newport 78.71 43 P P 10 35 41.2 +1.2
baz=289
NEW Newport 78.71 43 P P 10 35 40.1 +0.2
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW Newport 78.71 43 P P 10 35 40.1 +0.2
LVZ Lovozero 78.87 339 *ce*P **P 10 35 42.3 +1.9**
LVZ pmax pmax
comp=Z,43nm,1.3s
LVZ Lovozero 78.87 339 P P 10 35 40.4 -0.1
AFDM Forest Hills D 78.93 53 P P 10 35 41.6 +0.3
BEKR Beckworth 79.10 52 P P 10 35 42.6 +0.2
TMCR Tamitsa 79.33 335 *e*P **P 10 35 42.4 -0.5**
TMCR pmax pmax
comp=Z,132nm,1.1s
F10A Beach Ranch, E 79.37 45 P P 10 35 44.3 +0.6
RUBR Rubicon Trail 79.50 52 P P 10 35 45.1 +0.4
CMB Columbia Colle 79.65 53 P P 10 35 45.8 +0.5
CMB pmax pmax
comp=Z,14nm,1.0s
CMB Columbia Colle 79.65 53 P P 10 35 45.8 +0.5
CMB IAmb IAmb 10 35 48.1
comp=Z,14nm,1.0s
BMO Blue Mountains 79.68 46 P P 10 35 45.8 +0.4
BMO pmax pmax
comp=Z,16nm,1.1s
BMO Blue Mountains 79.68 46 P P 10 35 45.9 +0.4
BMO IAmb IAmb 10 35 48.2
comp=Z,16nm,1.1s
PAHR Pah Rah Range 79.86 51 P P 10 35 46.9 +0.3
PNTR Pine Nut 79.90 52 P P 10 35 47.5 +0.7
PNTR IAmb IAmb 10 35 50.0
comp=Z,13nm,0.8s
YERR Yerington 80.20 52 P P 10 35 48.3 -0.1
YERR IAmb IAmb 10 35 51.4
comp=Z,14nm,1.0s
WAKR Walker 80.21 53 P P 10 35 49.3 +0.8
WALA Waterton Lakes 80.45 41 P P 10 35 50.2 +0.7
WALA IAmb IAmb 10 35 52.8
comp=Z,16nm,1.1s
PLID Pearl Lake 80.47 45 P P 10 35 49.9 0.0
PAGB Antelope Grade 80.48 55 P P 10 35 51.1 +1.3
PAGB IAmb IAmb 10 35 53.1
comp=Z,15nm,1.1s
TULEG Thule 80.53 8 P P 10 35 49.2 -0.1
MDPB Devils Postpil 80.75 53 P P 10 35 51.6 +0.1
SMMC Simmler 80.81 56 P P 10 35 52.9 +1.3
baz=289
ARCES ARCESS Array B 80.84 342 P P 10 35 50.0 -1.0
ARCES ARCESS Array B 80.84 342 P P 10 35 50.0 -1.0
comp=Z,7.7nm,0.7s,baz=62,slow=5.9,SNR=18
ARCES LR LR 11 15 19.5
comp=Z,156nm,21.2s,baz=28,slow=38
RYN Ryan 80.84 52 P P 10 35 52.5 +0.6
KVN Kaiserville 81.02 52 P P 10 35 52.7 -0.1
KVN pmax pmax
comp=Z,13nm,0.9s
KVN Kaiserville 81.02 52 P P 10 35 52.7 -0.1
KVN IAmb IAmb 10 35 55.7

comp=Z,13nm,0.9s
NVAR Mina Array Bea 81.07 52 P P 10 35 53.7 +0.6
comp=Z,8.9nm,0.7s,baz=269,slow=5.8,SNR=52
NVAR LR LR 11 06 06.0
comp=Z,242nm,20.5s,baz=306,slow=31
PKM Mcpherson Peak 81.08 56 P P 10 35 53.3 0.0
baz=289,SNR=7.4
MFID Camas Ranch 81.16 47 P P 10 35 54.1 +0.7
NV11 Mina Array Sit 81.18 52 P P 10 35 54.3 +0.6
NV11 IAmb IAmb 10 35 56.6
comp=Z,13nm,0.9s
MSO Missoula 81.22 43 P P 10 35 53.6 -0.1
baz=291
MSO Missoula 81.22 43 P P 10 35 54.2 +0.6
VES Vestal, Richgr 81.34 55 P P 10 35 54.9 +0.6
baz=289,SNR=6.8
TIN Tinemaha, Big 81.58 54 P P 10 35 56.4 +0.6
baz=290
BANOM Banah 81.59 294 P P 10 35 56.2 +0.3
SHME Shamm 81.68 295 P P 10 35 53.2 -3.2
ISA Isabella, Lake 81.86 55 P P 10 35 57.7 +0.5
baz=290
ISA Isabella, Lake 81.86 55 P P 10 35 57.8 +0.5
ISA pmax pmax
comp=Z,7.0nm,1.2s
ISA Isabella, Lake 81.86 55 P P 10 35 57.8 +0.5
MSFE Esma-Masafi 81.89 294 P P 10 35 57.8 +0.3
CWC Cottonwood Cre 81.90 54 P P 10 35 57.9 +0.3
baz=290
BLG Laguna Peak, P 81.92 57 P P 10 35 58.2 +0.6
baz=290
UOSS Minazif 81.98 294 *i* P **P 10 35 58.0 +0.1**
SNR=6.3
UOSS Minazif 81.98 294 P P 10 35 57.0 -1.0
UOSS IAmb IAmb 10 35 59.9
comp=Z,22nm,1.1s
HATD Hatta, Dubai 82.08 293 *i* P **P 10 35 57.1 -1.4**
SNR=5.7
ASHO Ashiyiah 82.19 293 *i* P **P 10 36 00.0 +0.9**
SNR=9.9
GRAC Grapevine Rang 82.25 53 P P 10 35 59.8 +0.6
baz=290
DAG Danmarks Havn 82.27 357 *i* P **P 10 35 57.1 -1.3**
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 82.27 357 *i* P **P 10 35 57.1 -1.3**
comp=Z,5.3nm,0.9s
DAC Darwin (Calif) 82.33 54 P P 10 36 02.1 +2.3
DAC pmax pmax
comp=Z,9.0nm,1.1s
DAC Darwin (Calif) 82.33 54 P P 10 36 02.1 +2.3
MPMC Manual Prospec 82.48 54 P P 10 36 00.9 +0.3
baz=290,SNR=17
EDW2 Edwards Air Fo 82.50 56 P P 10 36 01.5 +0.9
baz=290,SNR=7.9
ELK Elko 82.50 49 P P 10 36 01.2 +0.5
ELK pmax pmax
comp=Z,13nm,1.0s
ELK Elko 82.50 49 P P 10 36 01.2 +0.5
ELK IAmb IAmb 10 36 03.5
comp=Z,13nm,1.0s
LRMC Laurel Mtn Rad 82.53 55 P P 10 36 00.7 -0.1
baz=290
CIS Catalina Islan 82.67 57 P P 10 36 01.7 +0.3
baz=290,SNR=5.0
MWC Mount Wilson 82.67 56 P P 10 36 02.0 +0.4
MWC pmax pmax
comp=Z,20nm,1.5s
MWC Mount Wilson 82.67 56 P P 10 36 02.0 +0.4
MWC IAmb IAmb 10 36 04.0
comp=Z,20nm,1.4s
FURC Furnace Creek, 82.82 54 P P 10 36 02.2 +0.1
baz=291
ASUD Al Ashush, Dub 82.84 294 P P 10 36 01.7 -0.7
BFSC Mount Baldy Ra 82.98 56 P P 10 36 03.4 +0.2
baz=290
AKT Akhty 82.98 312 *e*P **P 10 36 03.4 +0.4**
AKT pmax pmax
comp=Z,37nm,1.0s
VRH Novokhopyorsk 83.04 322 *e*P **P 10 36 01.9 -1.0**
VRH pmax pmax
comp=Z,70nm,1.0s
R11A Troy Canyon, C 83.11 52 P P 10 36 04.3 +0.5
baz=291
R11A Troy Canyon, C 83.11 52 P P 10 36 04.1 +0.2
R11A IAmb IAmb 10 36 06.7
comp=Z,18nm,1.3s
TPNV Topopah Spring 83.11 53 P P 10 36 04.1 +0.3
baz=291
TPNV Topopah Spring 83.11 53 P P 10 36 04.2 +0.3
TPNV pmax pmax
comp=Z,12nm,0.9s
TPNV Topopah Spring 83.11 53 P P 10 36 04.2 +0.4
TPNV IAmb IAmb 10 36 06.5
comp=Z,12nm,0.8s
GSC Goldstone, Bar 83.27 55 P P 10 36 05.0 +0.4
baz=291,SNR=10.0
GSC Goldstone, Bar 83.27 55 P P 10 36 04.8 +0.2
GSC pmax pmax
comp=Z,11nm,1.1s
GSC Goldstone, Bar 83.27 55 P P 10 36 04.8 +0.2
GSC IAmb IAmb 10 36 07.3
comp=Z,11nm,1.1s
MOS Moscow 83.27 327 *e*P **P 10 36 03.0 -1.0**
MOS *e* 10 36 14.4
MOS pmax pmax
comp=Z,108nm,1.3s
MOS MLR MLR
comp=Z,600nm,17.0s
EGMT Eagleton 83.40 41 P P 10 36 04.9 -0.1
baz=294
SHOC Shoshone, Teco 83.46 54 P P 10 36 05.7 +0.2
baz=291,SNR=8.4
BBRC Big Bear Solar 83.54 56 P P 10 36 06.4 +0.2
baz=291
MURC Murrieta 83.56 57 P P 10 36 06.4 +0.3
baz=291
KULLO Kullorsuaq 83.63 6 *i* P **P 10 36 06.8 +1.3**
KULLO pmax pmax
comp=Z,16nm,0.9s
KULLO Kullorsuaq 83.63 6 *i* P **P 10 36 06.8 +1.3**
comp=Z,16nm,0.9s
GROC Groznyy 83.67 314 *e*P **P 10 36 06.1 -0.3**
GROC *e* 10 39 17.2
GROC pmax pmax
comp=Z,69nm,1.3s
YHL Hebgen Lake 83.75 44 P P 10 36 07.7 +0.6
HEC Hector,Ludlow 83.79 55 P P 10 36 07.5 +0.2
baz=291
109C Camp Elliot, M 83.88 57 P P 10 36 07.9 +0.3
baz=291
109C Camp Elliot, M 83.88 57 P P 10 36 07.4 -0.2
109C IAmb IAmb 10 36 10.0
comp=Z,15nm,1.1s
TUQ Turquoise Moun 83.89 55 P P 10 36 07.8 0.0
baz=291,SNR=8.4
YMR Madison River 83.96 45 P P 10 36 09.7 +1.6
BGU Big Grassy Mou 84.00 49 P P 10 36 08.7 +0.4
LPSR Galich'ya Gora 84.00 324 *eP* **P 10 36 07.1 -0.7**
LPSR pmax pmax
comp=Z,90nm,0.9s
SHPR Sheep Range 84.08 53 P P 10 36 09.5 +0.7
SHPR IAmb IAmb 10 36 11.9
comp=Z,7.3nm,0.9s
OBN Obninsk 84.09 327⇑ *eP* **P 10 36 08.1 -0.2**
OBN pmax pmax
comp=Z,103nm,1.0s
OBN MLR MLR
comp=Z,489nm,17.5s
OBN Obninsk 84.09 327 P P 10 36 08.0 -0.2
YNR Norris Junctio 84.13 44 P P 10 36 11.0 +2.0
PFO Pinyon Flats O 84.13 56 P P 10 36 09.2 +0.1
baz=291,SNR=13
PFO Pinyon Flats O 84.13 56 *i* P **P 10 36 09.1 +0.1**
PFO pmax pmax
comp=Z,19nm,1.0s
PFO Pinyon Flats O 84.13 56 P P 10 36 09.4 +0.3
PFO IAmb IAmb 10 36 11.4
comp=Z,11nm,1.0s
XPFO Pion Flat 84.13 56 P P 10 36 09.5 +0.4
XPFO IAmb IAmb 10 36 11.4
comp=Z,9.8nm,0.9s
YUF Upper Falls 84.24 44 P P 10 36 12.0 +2.4
SPUT South Promonto 84.26 48 P P 10 36 10.5 +0.8
IMW Indian Meadow 84.28 45 P P 10 36 10.9 +1.0
IMW IAmb IAmb 10 36 13.2

comp=Z,8.6nm,0.9s
BAR **Barrett** **84.30** **57** P **P** **10 36 09.3 -0.5**
BAR IAmb IAmb 10 36 12.0
comp=Z,9.2nm,1.1s
PSUT **Pine Spring** **84.30** **51** P **P** **10 36 10.4 +0.4**
H17A **Grant Village** **84.32** **45** P **P** **10 36 09.9 -0.1**
baz=294
H17A **Grant Village** **84.32** **45** P **P** **10 36 12.6 +2.6**
H17A IAmb IAmb 10 36 14.9
comp=Z,20nm,1.4s
FXWY **Fox Creek** **84.32** **45** P **P** **10 36 10.7 +0.7**
GMRC **Granite Mounta** **84.33** **55** P **P** **10 36 09.8 -0.3**
baz=291,SNR=7.0
BELC **Belle Mtn. Jos** **84.35** **56** P **P** **10 36 10.2 0.0**
baz=291,SNR=8.2
FLWY **Flagg Ranch** **84.37** **45** P **P** **10 36 11.4 +1.2**
FLWY IAmb IAmb 10 36 13.8
comp=Z,15nm,0.9s
LKWY **Lake** **84.37** **44** P **P** **10 36 12.0 +1.7**
LKWY pmax pmax
comp=Z,13nm,1.1s
LKWY **Lake** **84.37** **44** P **P** **10 36 12.0 +1.7**
LKWY IAmb IAmb 10 36 15.1
comp=Z,12nm,1.1s
MONP2 **Monument Peak** **84.42** **57** P **P** **10 36 10.3 -0.3**
baz=291,SNR=9.7
DUG **Dugway, Tooele** **84.43** **49** P **P** **10 36 10.8 +0.2**
baz=292
DUG **Dugway, Tooele** **84.43** **49** P **P** **10 36 10.7 +0.2**
DUG pmax pmax
comp=Z,15nm,1.2s
DUG **Dugway, Tooele** **84.43** **49** P **P** **10 36 10.7 +0.2**
DUG IAmb IAmb 10 36 13.2
comp=Z,15nm,1.1s
TPAW **Teton Pass** **84.43** **46** P **P** **10 36 11.2 +0.6**
TPAW IAmb IAmb 10 36 13.9
comp=Z,14nm,1.3s
YNE **Yellowstone No** **84.45** **44** P **P** **10 36 11.6 +0.9**
YMP **Mirror Lake Pl** **84.46** **44** P **P** **10 36 10.8 0.0**
MOOW **Moose Ponds** **84.47** **45** P **P** **10 36 10.3 -0.4**
VSR **Storozhevoye** **84.49** **323** *i* P **P** **10 36 09.9 -0.4**
VSR pmax pmax
comp=Z,94nm,1.1s
VORD **Divnogorie** **84.53** **323** *e*P **P** **10 36 09.5 -1.0**
VORD pmax pmax
comp=Z,30nm,1.1s
REDW **Red Top Meadow** **84.55** **46** P **P** **10 36 10.7 -0.4**
SNOW **Snow King Moun** **84.58** **46** P **P** **10 36 09.5 -1.8**
IKP **In-Ko-Pah, Jac** **84.75** **57** P **P** **10 36 12.8 +0.6**
baz=291
HWUT **Hardware Ranch** **84.76** **48** P **P** **10 36 12.5 +0.3**
HWUT IAmb IAmb 10 36 14.9
comp=Z,18nm,1.2s
FFC **Flin Flon** **84.81** **33** P **P** **10 36 12.2 +0.3**
FFC pmax pmax
comp=Z,22nm,1.1s
FFC **Flin Flon** **84.81** **33** P **P** **10 36 12.2 +0.3**
RLMT **Red Lodge** **84.88** **44** P **P** **10 36 13.0 +0.2**
baz=294
RLMT **Red Lodge** **84.88** **44** P **P** **10 36 13.5 +0.7**
SWSC **Sam W. Stewart** **84.89** **57** P **P** **10 36 12.9 +0.2**
baz=292
BC3 **Big Chuckawall** **84.90** **56** P **P** **10 36 12.6 -0.4**
baz=292,SNR=11
IRM **Iron Mountain** **84.95** **56** P **P** **10 36 13.2 +0.1**
baz=292,SNR=6.1
CCUT **Cedar City** **85.03** **52** P **P** **10 36 14.3 +0.6**
NLU **North Lily Min** **85.04** **49** P **P** **10 36 14.1 +0.4**
TCUT **Toone Canyon** **85.06** **48** P **P** **10 36 14.1 +0.3**
ZEI **Tsey** **85.11** **314** *e*P **P** **10 36 12.8 -1.2**
ZEI pmax pmax
comp=Z,7.0nm,0.7s
SZCU **Shurtz Canyon** **85.22** **52** P **P** **10 36 15.2 +0.6**
JLU **Jordanelle** **85.23** **48** P **P** **10 36 14.7 +0.1**
LCMT **Little Creek M** **85.33** **52** P **P** **10 36 15.8 +0.7**
MPU **Maple Canyon** **85.33** **49** P **P** **10 36 14.8 -0.3**
KBZ **Khabaz** **85.40** **315** *i* P **P** **10 36 15.3 +0.2**
KBZ **Khabaz** **85.40** **315** P **P** **10 36 15.1 0.0**
comp=Z,8.9nm,0.9s,baz=79,slow=1.4,SNR=13
KBZ LR LR 11 17 47.1
comp=Z,273nm,19.7s,baz=68,slow=38
FIA1 **FINESS Array S** **85.43** **336** P **P** **10 36 13.0 -1.9**
FINES **FINESS Array B** **85.43** **336** *i* P **P** **10 36 13.5 -1.4**
FINES pmax pmax
comp=Z,23nm,0.6s
FINES **FINESS Array B** **85.43** **336** P **P** **10 36 13.2 -1.7**
comp=Z,23nm,0.6s,baz=67,slow=4.7,SNR=76
FINES LR LR 11 15 31.0
comp=Z,96nm,20.5s,baz=56,slow=36
KIV **Kislovodsk** **85.45** **315** *e*P **P** **10 36 14.0 -1.5**
KIV pmax pmax
comp=Z,21nm,1.1s
MSU **Marysvale** **85.53** **51** P **P** **10 36 16.7 +0.5**
MSU **Marysvale** **85.53** **51** P **P** **10 36 16.6 +0.5**
W13A **Hualapai Mount** **85.57** **54** P **P** **10 36 16.3 -0.1**
Y12C **Blythe** **85.58** **56** P **P** **10 36 16.8 +0.6**
baz=292,SNR=5.3
Y12C **Blythe** **85.58** **56** P **P** **10 36 16.7 +0.5**
Y12C IAmb IAmb 10 36 18.9
comp=Z,9.1nm,1.1s
KNB **Kanab** **85.64** **52** P **P** **10 36 16.6 -0.1**
KNB pmax pmax
comp=Z,27nm,1.2s
KNB **Kanab** **85.64** **52** P **P** **10 36 16.6 -0.1**
BW06 **Boulder Array** **85.66** **46** P **P** **10 36 16.7 0.0**
baz=294
BW06 **Boulder Array** **85.66** **46** P **P** **10 36 16.6 -0.2**
PD31 **Pinedale Array** **85.66** **46** P **P** **10 36 16.0 -0.7**
PDAR **Pinedale Array** **85.66** **46** P **P** **10 36 16.2 -0.6**
comp=Z,1.2nm,0.6s,baz=234,slow=2.0,SNR=10
PDAR LR LR 11 07 31.0
comp=Z,182nm,21.3s,baz=316,slow=31
MTPU **Mount Pierson** **85.71** **51** P **P** **10 36 17.3 0.0**
TMUT **Trail Mountain** **85.92** **50** P **P** **10 36 17.9 -0.3**
Q16A **Castle Valley** **86.09** **50** P **P** **10 36 19.0 +0.1**
LAO **LASA Array** **86.14** **41** P **P** **10 36 19.6 +0.7**
baz=296
LAO **LASA Array** **86.14** **41** P **P** **10 36 19.6 +0.7**
P17A **Butcher Ranch,** **86.18** **49** P **P** **10 36 19.9 +0.5**
U15A **North Rim** **86.26** **53** P **P** **10 36 19.7 -0.2**
U15A IAmb IAmb 10 36 23.0
comp=Z,9.0nm,1.0s
FCC **Fort Churchill** **86.36** **27** P **P** **10 36 18.7 -0.8**
FCC pmax pmax
comp=Z,15nm,1.0s
FCC **Fort Churchill** **86.36** **27** P **P** **10 36 18.7 -0.8**
FCC IAmb IAmb 10 36 21.5
comp=Z,15nm,0.9s
SRU **San Rafael Swe** **86.48** **49** P **P** **10 36 20.6 -0.2**
SRU pmax pmax
comp=Z,15nm,0.7s
SRU **San Rafael Swe** **86.48** **49** P **P** **10 36 20.6 -0.2**
113A **Mohawk Valley,** **86.54** **56** P **P** **10 36 21.0 0.0**
RDMU **Red Mountain** **86.55** **48** P **P** **10 36 21.5 +0.3**
DGMT **Dagmar** **86.55** **39** P **P** **10 36 21.0 +0.2**
baz=298
Y14A **Wickenburg** **86.68** **55** P **P** **10 36 22.1 +0.4**
Y14A IAmb IAmb 10 36 24.5
comp=Z,12nm,1.0s
SUMG **Summit** **86.82** **2** *i* P **P** **10 36 23.0 +0.9**
SUMG pmax pmax
comp=Z,64nm,1.2s
SUMG **Summit** **86.82** **2** *i* P **P** **10 36 23.0 +0.9**
comp=Z,64nm,1.2s
SUMG **Summit** **86.82** **2** P **P** **10 36 21.9 -0.2**
WUAZ **Wupatki** **87.30** **53** P **P** **10 36 24.9 +0.1**
baz=294,SNR=16
WUAZ **Wupatki** **87.30** **53** P **P** **10 36 25.2 +0.4**
214A **Organ Pipe Nat** **87.60** **57** P **P** **10 36 26.2 0.0**
baz=293
214A **Organ Pipe Nat** **87.60** **57** P **P** **10 36 26.3 0.0**
214A IAmb IAmb 10 36 29.1
comp=Z,9.4nm,1.0s
O20A **White River Ci** **87.66** **48** P **P** **10 36 26.7 +0.2**
baz=295
O20A **White River Ci** **87.66** **48** P **P** **10 36 26.2 -0.3**
O20A IAmb IAmb 10 36 28.8
comp=Z,13nm,0.9s
X16A **Lo Mia Camp, P** **87.69** **54** P **P** **10 36 27.8 +1.0**
K22A **Casper** **87.73** **45** P **P** **10 36 27.1 +0.3**
baz=296
K22A **Casper** **87.73** **45** P **P** **10 36 26.7 -0.1**
K22A IAmb IAmb 10 36 36.9
comp=Z,15nm,1.3s
RSSD **Black Hills** **88.68** **43** P **P** **10 36 31.9 +0.6**
baz=298
RSSD **Black Hills** **88.68** **43** P **P** **10 36 32.5 +1.2**
RSSD pmax pmax
comp=Z,18nm,1.5s
RSSD **Black Hills** **88.68** **43** P **P** **10 36 32.5 +1.2**
RSSD IAmb IAmb 10 36 33.6
comp=Z,18nm,1.5s
MVCO **Mesa Verde** **88.72** **51** P **P** **10 36 32.2 +0.5**
baz=295,SNR=11
MVCO **Mesa Verde** **88.72** **51** P **P** **10 36 32.2 +0.5**
MVCO IAmb IAmb 10 36 34.5
comp=Z,16nm,1.1s
X18A **Snowflake** **88.77** **53** P **P** **10 36 31.2 -0.7**
X18A IAmb IAmb 10 36 35.0
comp=Z,7.4nm,1.1s
N23A **Red Feather La** **88.90** **46** P **P** **10 36 33.0 +0.5**
baz=297
N23A **Red Feather La** **88.90** **46** P **P** **10 36 33.0 +0.5**
SMCO **Snowmass** **88.95** **48** P **P** **10 36 33.4 +0.5**
SMCO IAmb IAmb 10 36 35.8
comp=Z,10nm,0.8s
TUC **Tucson** **89.03** **56** P **P** **10 36 33.4 +0.4**
baz=294
TUC **Tucson** **89.03** **56** P **P** **10 36 33.5 +0.4**
TUC pmax pmax
comp=Z,8.0nm,1.2s
TUC **Tucson** **89.03** **56** P **P** **10 36 33.5 +0.4**
TUC IAmb IAmb 10 36 36.3
comp=Z,8.3nm,1.1s
PHWY **Pilot Hill** **89.05** **46** P **P** **10 36 33.7 +0.5**
PHWY IAmb IAmb 10 36 36.6
comp=Z,8.2nm,0.9s
ISCO **Idaho Springs** **89.62** **47** P **P** **10 36 35.8 -0.1**
baz=297,SNR=8.5
ISCO **Idaho Springs** **89.62** **47** P **P** **10 36 36.5 +0.6**
ISCO pmax pmax
comp=Z,7.0nm,1.0s
ISCO **Idaho Springs** **89.62** **47** P **P** **10 36 36.5 +0.6**
S22A **4UR Ranch, Cre** **89.68** **50** P **P** **10 36 36.3 0.0**
baz=296,SNR=15
S22A **4UR Ranch, Cre** **89.68** **50** P **P** **10 36 36.9 +0.6**
S22A IAmb IAmb 10 36 39.4
comp=Z,8.9nm,1.1s
AKASG **Malin Array Be** **90.18** **326** P **P** **10 36 36.4 -1.5**
comp=Z,13nm,1.0s,baz=46,slow=5.8,SNR=23
AKASG LR LR 11 18 48.8
comp=Z,148nm,20.8s,baz=50,slow=37
AKBB **Malin Array Si** **90.18** **326** *i* P **P** **10 36 37.3 -0.6**
AKBB **Malin Array Si** **90.18** **326** P **P** **10 36 36.0 -1.9**
KIEV **Kiev** **90.19** **326** P **P** **10 36 36.0 -1.9**
HSIG **90.23** **59** P **P** **10 36 38.4 -0.2**
HSIG IAmb IAmb 10 36 41.5
comp=Z,10nm,0.9s
Q24A **Divide** **90.32** **48** P **P** **10 36 39.7 +0.4**
baz=297
ULM **Lac du Bonnet** **90.33** **35** *i* P **P** **10 36 39.2 +0.6**
ULM **Lac du Bonnet** **90.33** **35** P **P** **10 36 37.6 -1.0**
comp=Z,9.2nm,1.1s,baz=312,slow=5.1,SNR=7.6
ULM LR LR 11 14 56.4
comp=Z,154nm,20.6s,baz=294,slow=34
ULM **Lac du Bonnet** **90.33** **35** P **P** **10 36 37.8 -0.8**
ULM IAmb IAmb 10 36 40.5
comp=Z,16nm,1.2s
SDCO **Great Sand Dun** **90.62** **49** P **P** **10 36 41.1 +0.5**
baz=297,SNR=6.7
SDCO **Great Sand Dun** **90.62** **49** P **P** **10 36 40.6 -0.1**
NB2 **NORSAR Subarra** **90.98** **340** P **P** **10 36 41.0 -0.5**
comp=Z,4.5nm,1.1s,baz=40,slow=5.3
NOA **NORSAR Array B** **90.98** **340** P **P** **10 36 40.4 -1.1**
comp=Z,2.8nm,0.8s,baz=41,slow=4.8,SNR=4.1
NOA LR LR 11 26 59.0
comp=Z,101nm,18.5s,baz=45,slow=42
ANMO **Albuquerque** **91.19** **52** P **P** **10 36 43.8 +0.6**
baz=296
ANMO **Albuquerque** **91.19** **52** *ce*P **P** **10 36 41.1 -2.1**
ANMO pmax pmax
comp=Z,9.0nm,1.3s
ANMO **Albuquerque** **91.19** **52** P **P** **10 36 43.8 +0.6**
ANMO IAmb IAmb 10 36 46.4
comp=Z,7.2nm,1.1s
SUW **Suwalki** **91.20** **331** P **P** **10 36 41.2 -1.4**
SUW pmax pmax
comp=Z,48nm,1.0s
SUW **Suwalki** **91.20** **331** P **P** **10 36 41.2 -1.4**
121A **Cookes Peak, D** **91.25** **55** P **P** **10 36 43.9 +0.4**
baz=296
121A **Cookes Peak, D** **91.25** **55** P **P** **10 36 44.0 +0.5**
121A IAmb IAmb 10 36 47.2
comp=Z,11nm,0.9s
AGMN **Agassiz Nation** **91.42** **36** P **P** **10 36 43.7 0.0**
baz=304,SNR=6.5
AGMN **Agassiz Nation** **91.42** **36** P **P** **10 36 43.4 -0.3**
AGMN IAmb IAmb 10 36 45.6
comp=Z,8.8nm,0.9s
RAYN **Ar Rayn** **91.60** **296** P **P** **10 36 44.0 -1.1**
RAYN **Ar Rayn** **91.60** **296** P **P** **10 36 44.0 -1.1**
RAYN IAmb IAmb 10 37 03.5
comp=Z,9.4nm,0.9s
T25A **Trinidad** **91.67** **49** P **P** **10 36 45.8 +0.3**
baz=298
T25A **Trinidad** **91.67** **49** P **P** **10 36 46.1 +0.7**
T25A IAmb IAmb 10 36 48.4
comp=Z,10nm,1.1s
KSCO **Kaye Shedlock'** **92.03** **47** P **P** **10 36 46.0 -1.0**
baz=299,SNR=9.0
KSCO **Kaye Shedlock'** **92.03** **47** P **P** **10 36 47.5 +0.5**
BR131 **Keskin Array S** **93.39** **315** P **P** **10 36 51.7 -1.5**
BR131 pmax pmax
comp=Z,3.0nm,1.0s
BR131 **Keskin Array S** **93.39** **315** P **P** **10 36 51.7 -1.5**
BRTR **Keskin Array B** **93.39** **315** P **P** **10 36 51.0 -2.2**
comp=Z,3.5nm,1.0s,baz=98,slow=3.7,SNR=11
BRTR LR LR 11 23 06.3
comp=Z,112nm,18.9s,baz=14,slow=38
MNTX **Cornudas Mount** **93.44** **54** P **P** **10 36 54.3 +0.8**
baz=297
MNTX **Cornudas Mount** **93.44** **54** P **P** **10 36 54.2 +0.8**
MNTX IAmb IAmb 10 36 56.5
comp=Z,8.1nm,0.8s
ECSD **EROS Data Cent** **93.50** **40** P **P** **10 36 53.5 0.0**
baz=303,SNR=7.2
ECSD **EROS Data Cent** **93.50** **40** P **P** **10 36 53.2 -0.3**
ECSD IAmb IAmb 10 36 55.1
comp=Z,10.0nm,1.1s
CBKS **Cedar Bluff** **94.09** **46** P **P** **10 36 56.3 0.0**
baz=301
KWP **Kalwaria Pacla** **94.18** **327** P **P** **10 36 55.5 -1.0**
KWP **Kalwaria Pacla** **94.18** **327** P **P** **10 36 55.5 -1.0**
MSTX **Muleshoe** **94.34** **51** P **P** **10 36 58.2 +0.5**
baz=299
MSTX **Muleshoe** **94.34** **51** P **P** **10 36 57.0 -0.6**
MSTX IAmb IAmb 10 37 00.4
comp=Z,12nm,1.4s
AMTX **Amarillo** **94.69** **50** P **P** **10 36 59.5 +0.3**
baz=299
AMTX **Amarillo** **94.69** **50** P **P** **10 36 59.3 +0.1**
SPMN **Marine on St.** **94.90** **38** P **P** **10 36 59.9 +0.1**
baz=306
SPMN **Marine on St.** **94.90** **38** P **P** **10 36 59.4 -0.5**
SPMN IAmb IAmb 10 37 01.8
comp=Z,8.7nm,0.8s
TX31 **Lajitas Ar. Si** **95.84** **56** P **P** **10 37 03.6 -0.9**
TX31 IAmb IAmb 10 37 08.3
comp=Z,9.1nm,1.4s
TX32 **Lajitas Array** **95.84** **56** P **P** **10 37 03.5 -1.1**
TX32 IAmb IAmb 10 37 08.3
comp=Z,9.2nm,1.4s
TXAR **Lajitas Array** **95.84** **56** P **P** **10 37 05.0 +0.4**
TXAR **Lajitas Array** **95.84** **56** P **P** **10 37 05.0 +0.4**
comp=Z,1.9nm,1.0s,baz=270,slow=2.5,SNR=11
TXAR PKKP **PKKPdf** **10 53 54.2 +0.4**
comp=Z,0.6nm,0.9s,baz=115,slow=4.1,SNR=4.6
TXAR LR LR 11 14 31.0
comp=Z,77nm,20.8s,baz=0.0,slow=32
WMOK **Wichita Mounta** **96.83** **49** P **P** **10 37 09.0 +0.1**
baz=301
WMOK **Wichita Mounta** **96.83** **49** P **P** **10 37 08.2 -0.7**
WMOK pmax pmax
comp=Z,4.0nm,0.9s
WMOK **Wichita Mounta** **96.83** **49** P **P** **10 37 08.2 -0.7**
WMOK IAmb IAmb 10 37 11.1
comp=Z,3.8nm,0.9s
VYHS **Vyhne** **96.86** **328** *e*P **P** **10 37 09.1 +0.4**
VYHS **Vyhne** **96.86** **328** *e*PDIFF **P** **10 37 09.1 +0.4**
ABTX **Abilene, Hawle** **97.28** **51** P **P** **10 37 11.1 +0.1**
CLL **Collm** **97.58** **333** *e*P **P** **10 37 10.0 -1.9**
CLL *e* 10 41 10.0
CLL **Collm** **97.58** **333** *e*P **P** **10 37 10.0 -1.9**
CLL *e*PP **PP** **10 41 10.0 +1.5**
JCT **Junction City** **98.23** **53** P **P** **10 37 15.4 +0.1**
baz=300
JCT **Junction City** **98.23** **53** P **P** **10 37 15.0 -0.3**
JCT pmax pmax
comp=Z,13nm,1.2s
JCT **Junction City** **98.23** **53** P **P** **10 37 15.0 -0.3**
GERES **GERESS Array B** **99.06** **331** P **Pdif** **10 37 17.2 -1.5**
comp=Z,0.8nm,0.8s,baz=66,slow=5.7,SNR=6.7
GERES PP **PP** **10 41 16.5 -3.6**
comp=Z,0.7nm,0.8s,baz=53,slow=6.5,SNR=2.9
GERES LR LR 11 27 11.6
comp=Z,146nm,18.3s,baz=47,slow=38
SCHQ **Schefferville** **99.40** **19** P **Pdif** **10 37 19.7 -0.3**
comp=Z,2.2nm,0.7s,baz=313,slow=6.2,SNR=4.7
SCHQ LR LR 11 22 60.0
comp=Z,104nm,20.9s,baz=315,slow=36
SCHQ **Schefferville** **99.40** **19** P **Pdif** **10 37 20.0 0.0**
ESDC **Sonseca Array** **113.94** **336** PP **PP** **10 43 08.9 -0.5**
comp=Z,1.0nm,0.7s,baz=12,slow=6.3,SNR=5.2
SYO **Syowa Base** **115.37** **202** *i*Pdiff **Pdif** **10 38 30.0 -0.4**
ESTN **Estel** **117.87** **62** **PKPdf** **10 42 24.9 -0.2**
LSZ **Lusaka** **121.63** **264** PKIKP **PKPdf** **10 42 31.8 -0.5**
LSZ **Lusaka** **121.63** **264** **PKPdf** **10 42 31.9 -0.5**
TORD **Torodi Ar. Bea** **131.89** **311** PKP **PKPdf** **10 42 51.4 -0.4**
comp=Z,1.3nm,0.9s,baz=75,slow=2.7,SNR=4.9
TORD PP **PP** **10 45 10.5 -1.2**
comp=Z,2.6nm,1.0s,baz=60,slow=4.5,SNR=5.1
SDV **Santo Domingo** **132.88** **55** **PKPdf** **10 42 52.9 -1.1**
DBIC **Dimbokro** **141.01** **311** PKP **PKPdf** **10 43 07.5 -1.3**
comp=Z,2.9nm,0.7s,baz=28,slow=4.4,SNR=4.7
DBIC **Dimbokro** **141.01** **311** **PKPdf** **10 43 07.0 -1.7**
PLCA **Paso Flores** **142.62** **131** PKIKP **PKPdf** **10 43 10.0 -1.0**
PLCA **Paso Flores** **142.62** **131** PKP **PKPdf** **10 43 08.5 -2.5**
comp=Z,7.3nm,1.1s,baz=270,slow=4.4,SNR=8.8
PLCA **Paso Flores** **142.62** **131** **PKPdf** **10 43 10.0 -1.0**
GO04 **Tololo Observa** **144.94** **113** **PKPdf** **10 43 16.3 +0.7**
MNMC **Minye Minye** **145.82** **94** **PKPab** **10 43 19.4 +1.1**
PB11 **IPOC Station P** **145.85** **95** **PKPab** **10 43 19.0 +0.7**
LVC **Limon Verde** **146.84** **100** PKP2 **PKPab** **10 43 22.3 0.0**
LVC **Limon Verde** **146.84** **100** **PKPab** **10 43 22.3 0.0**
SAML **Samuel** **148.82** **72** PKIKP **PKPdf** **10 43 20.8 -1.4**
SAML 10 43 26.6
SAML **Samuel** **148.82** **72** **PKPdf** **10 43 20.9 -1.4**
SAML PKPbc **PKPbc** **10 43 26.6 +0.5**
CPUP **Villa Florida** **157.24** **109** PKP **PKPdf** **10 43 34.5 +0.5**
comp=Z,3.5nm,1.1s,baz=352,slow=4.5,SNR=4.8
BDFB **Brasilia** **165.06** **72** PKP **PKPdf** **10 43 43.4 +0.6**
comp=Z,5.2nm,0.9s,baz=23,slow=2.6,SNR=4.9
BDFB **Brasilia** **165.06** **72** **PKPab** **10 44 39.8 +0.3**

IDC 28 10:51:08.5±0.8, 20.78N×146.59E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/45, mbtmp3.8/8, Error ellipse: s-maj=33.9km s-min=21.4km az=90.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**42.08**	**320**	P	P	10 59 02.8	+0.6
	0.2nm,0.4s,baz=118,slow=8.3,SNR=2.9						
WRA	**Warramunga Arr**	**42.21**	**197**	P	P	10 59 02.5	-0.9
	0.6nm,0.9s,baz=17,slow=8.4,SNR=5.6						
ASAR	**Alice Springs**	**45.88**	**196**	P	P	10 59 33.1	+0.3
	0.3nm,0.8s,baz=11,slow=6.8,SNR=5.2						
ZALV	**Zalesovo Beam**	**56.90**	**322**	P	P	11 00 55.5	+0.3
	2.0nm,0.6s,baz=87,slow=8.0,SNR=5.3						
NRIK	**Noril'sk**	**59.96**	**339**	P	P	11 01 16.3	+0.1
	1.0nm,0.3s,baz=120,slow=7.2,SNR=3.9						
YKA	**Yellowknife Ar**	**75.77**	**28**	P	P	11 02 54.9	-1.0
	0.6nm,0.8s,baz=290,slow=5.4,SNR=5.8						
NVAR	**Mina Array Bea**	**81.20**	**52**	P	P	11 03 27.1	+0.4
	0.8nm,0.7s,baz=261,slow=6.4,SNR=7.3						
FINES	**FINESS Array B**	**85.35**	**335**	P	P	11 03 46.2	-1.1
	2.0nm,0.5s,baz=49,slow=4.2,SNR=8.9						
LPAZ	**La Paz**	**146.82**	**88**	PKPbc	PKPbc	11 10 54.7	+0.4
	0.6nm,0.4s,baz=288,slow=3.2,SNR=4.1						

*ISCJB **28** 10:52:21.8±0.3, 18.86S±0.06×176.73W±0.05, h250km, mb3.8/9, Error ellipse: s-maj=9.9km s-min=5.7km az=148.7*
*IDC **28** 10:52:22.4±2.3, 19.02S×176.60W, h255km±23km, mb3.7/9, mb1 3.9/11, mb1mx3.6/42, mbtmp4.3/11, Error ellipse: s-maj=26.9km s-min=11.9km az=138.0*
*NEIC **28** 10:52:24.9±1.4, 18.85S±0.1×176.6W±0.1, h264km±7km, mb4.3/54*

ISC 28 10:52:22.5±0.4, 18.91S±0.07×176.63W±0.07, h250km, n106, σ1.977/112, mb4.3/35, 7C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.19**	**282**		Pn	10 53 51.2	+10
NIUE	**Niue**	**6.34**	**93**	Pn	Pn	**10 53 57.0**	**+2.1**
NIUE				S	S	**10 55 10.2**	**+1.3**
AFI	**Afiamalu**	**6.81**	**44**	P	Pn	**10 54 01.1**	**+0.2**
	5.8nm,0.3s,baz=40,slow=2.6,SNR=9.1						
AFI				S	S	**10 55 14.7**	**-5.1**
	5.6nm,0.3s,baz=58,slow=20,SNR=6.5						
AFI	**Afiamalu**	**6.81**	**44**		Pn	**10 54 02.1**	**+1.1**
AFI					S	**10 55 15.5**	**-4.3**
DZM	**Mont Dzumac**	**16.17**	**256**	P	Pn	**10 56 00.4**	**+3.6**
	0.2nm,0.3s,baz=71,slow=15,SNR=6.7						
DZM	**Mont Dzumac**	**16.17**	**256**	P	Pn	**10 56 00.7**	**+3.9**
DZM				IAmb	IAmb	10 56 18.5	
	comp=Z,10nm,1.3s						
MXZ	**Matakaoa Point**	**19.10**	**192**	P	Pn	**10 56 28.0**	**-2.9**
URZ	**Urewera**	**20.04**	**195**	P	P	**10 56 35.1**	**-1.7**
	comp=Z,2.7nm,0.3s,baz=264,slow=3.7,SNR=29						
URZ				S	S	**10 59 58.6**	**-9.2**
	comp=Z,0.3nm,0.3s,baz=90,slow=20,SNR=3.6						
URZ	**Urewera**	**20.04**	**195**	P	P	**10 56 35.4**	**-1.4**
URZ					S	**11 00 11.4**	**+3.5**
TUWZ	**Tuamarina**	**23.85**	**198**	P	P	**10 57 12.4**	**-0.8**
LTZ	**Lake Taylor**	**25.59**	**199**	P	P	**10 57 30.3**	**+1.4**
XMAS	**Kiritimati**	**28.10**	**44**	P	P	**10 57 52.4**	**+0.9**
TOO	**Toolangi**	**37.88**	**233**	P	P	**10 59 17.8**	**+2.0**
COEN	**Coen**	**38.81**	**271**	P	P	**10 59 25.1**	**+1.4**
STKA	**Stephens Creek**	**39.65**	**243**	P	P	**10 59 29.9**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=60,slow=8.1,SNR=3.0						
WR0	**Warramunga Arr**	**45.93**	**260**	P	P	**11 00 21.4**	**+0.4**
WRAB	**Tennant Creek**	**46.11**	**260**	P	P	**11 00 22.3**	**-0.1**
WRA	**Warramunga Arr**	**46.12**	**260**	P	P	**11 00 22.0**	**-0.4**
	comp=Z,0.9nm,0.2s,baz=92,slow=7.9,SNR=24						
AS31	**Alice Springs**	**46.16**	**255**	P	P	**11 00 23.3**	**+0.6**
ASAR	**Alice Springs**	**46.16**	**255**	P	P	**11 00 22.6**	**0.0**
	comp=Z,2.2nm,0.4s,baz=93,slow=8.1,SNR=84						
ASAR				PcP	PcP	**11 01 51.8**	**-2.4**
	comp=Z,0.6nm,0.7s,baz=99,slow=5.7,SNR=3.5						
ASAR				S	S	**11 06 44.5**	**-5.2**
	comp=Z,0.4nm,0.8s,baz=92,slow=16,SNR=4.7						
MTN	**Manton Dam**	**50.47**	**269**	P	P	**11 00 56.5**	**+1.0**
MTN				IAmb	IAmb	11 01 11.1	
	comp=Z,27nm,1.4s						
FITZ	**Fitzroy Crossi**	**54.54**	**261**	P	P	**11 01 27.4**	**+2.1**
QSPA	**South Pole Qui**	**71.15**	**180**	P	P	**11 03 13.7**	**-0.2**
UNV	**Unalaska Valle**	**72.98**	**6**	P	P	**11 03 23.8**	**-0.7**
KMRM	**Mail Ridge**	**76.71**	**39**	P	P	**11 03 47.9**	**+1.6**
MWC	**Mount Wilson**	**76.78**	**47**	P	P	**11 03 47.6**	**+0.7**
MWC				IAmb	IAmb	11 03 47.7	
	comp=Z,4.5nm,0.7s						
ISA	**Isabella, Lake**	**77.30**	**45**	P	P	**11 03 50.2**	**+0.6**
ISA				IAmb	IAmb	11 03 51.4	
	comp=Z,8.5nm,1.2s						
OHAK	**Old Harbor**	**78.32**	**13**	P	P	**11 03 55.0**	**+0.4**
OHAK				IAmb	IAmb	11 04 08.9	
	comp=Z,9.3nm,1.0s						
BEKR	**Beckworth**	**78.53**	**41**	P	P	**11 03 57.2**	**+0.7**
BEKR				IAmb	IAmb	11 03 57.3	
	comp=Z,2.8nm,0.7s						
PNTR	**Pine Nut**	**78.54**	**42**	P	P	**11 03 57.3**	**+0.7**
PNTR				IAmb	IAmb	11 03 58.2	
	comp=Z,9.2nm,0.9s						
YERR	**Yerington**	**78.71**	**42**	P	P	**11 03 58.2**	**+0.7**
YERR				IAmb	IAmb	11 03 58.5	
	comp=Z,4.5nm,0.8s						
KDAK	**Kodiak Island**	**78.98**	**13**	P	P	**11 03 59.3**	**+1.0**
NVAR	**Mina Array Bea**	**78.99**	**43**	P	P	**11 03 59.8**	**+0.7**
	comp=Z,3.4nm,0.7s,baz=224,slow=8.8,SNR=27						
113A	**Mohawk Valley,**	**79.03**	**50**	P	P	**11 04 00.4**	**+1.3**
113A				IAmb	IAmb	11 04 00.8	
	comp=Z,3.4nm,0.9s						

NV11	**Mina Array Sit**	**79.08**	**43**	P	**P**	**11 04 00.4**	**+0.9**
NV11				IAmb	IAmb	11 04 01.0	
	comp=Z,8.9nm,1.2s						
KVN	**Kaiserville**	**79.47**	**42**	P	**P**	**11 04 02.4**	**+0.8**
KVN				IAmb	IAmb	11 04 02.8	
	comp=Z,4.0nm,0.9s						
TPNV	**Topopah Spring**	**79.51**	**45**	P	**P**	**11 04 02.8**	**+1.0**
TPNV				IAmb	IAmb	11 04 02.9	
	comp=Z,3.2nm,0.7s						
MOD	**Modoc Plateau**	**79.78**	**39**	P	**P**	**11 04 04.1**	**+0.9**
MOD				IAmb	IAmb	11 04 04.1	
	comp=Z,4.6nm,0.7s						
SHPR	**Sheep Range**	**80.01**	**46**	P	**P**	**11 04 05.5**	**+1.0**
Y14A	**Wickenburg**	**80.17**	**49**	P	**P**	**11 04 06.4**	**+1.1**
PINE	**Pine Mountain**	**80.54**	**37**	P	**P**	**11 04 08.6**	**+1.3**
PINE				IAmb	IAmb	11 04 09.1	
	comp=Z,7.0nm,0.8s						
WVOR	**Wild Horse Val**	**81.09**	**39**	P	**P**	**11 04 10.8**	**+0.7**
WVOR				IAmb	IAmb	11 04 11.5	
	comp=Z,5.3nm,1.1s						
X16A	**Lo Mia Camp, P**	**81.53**	**49**	P	**P**	**11 04 14.1**	**+1.4**
X16A				IAmb	IAmb	11 04 14.8	
	comp=Z,5.2nm,1.0s						
PSUT	**Pine Spring**	**81.96**	**45**	P	**P**	**11 04 15.6**	**+0.8**
ELK	**Elko**	**82.24**	**42**	P	**P**	**11 04 17.0**	**+0.8**
G08A	**Pilot Rock**	**82.58**	**37**	P	**P**	**11 04 18.5**	**+0.8**
G08A				IAmb	IAmb	11 04 19.1	
	comp=Z,7.8nm,1.2s						
PMR	**Palmer**	**83.19**	**13**	P	**P**	**11 04 20.0**	**-0.2**
BMO	**Blue Mountains**	**83.27**	**38**	P	**P**	**11 04 21.7**	**+0.4**
GHO	**Glory Hole Cre**	**83.39**	**13**	P	**P**	**11 04 21.2**	**-0.2**
GHO				IAmb	IAmb	11 04 28.0	
	comp=Z,6.7nm,1.0s						
WAX	**Waxell Ridge**	**83.67**	**16**	P	**P**	**11 04 23.4**	**+0.5**
SCM	**Sheep Creek Mo**	**83.79**	**14**	P	**P**	**11 04 23.3**	**-0.1**
PLID	**Pearl Lake**	**84.17**	**38**	P	**P**	**11 04 26.2**	**+0.3**
PLID				IAmb	IAmb	11 04 27.9	
	comp=Z,5.2nm,1.4s						
B08A	**Colville Reser**	**84.20**	**34**	P	**P**	**11 04 25.8**	**+0.1**
BALM	**Baldy**	**84.30**	**16**	P	**P**	**11 04 26.3**	**+0.2**
CTGM	**Chitina Glacie**	**84.51**	**16**	P	**P**	**11 04 27.3**	**+0.2**
TRF	**Thorofare Moun**	**84.64**	**12**	P	**P**	**11 04 27.2**	**-0.6**
TRF				IAmb	IAmb	11 04 28.9	
	comp=Z,6.8nm,0.9s						
MNTX	**Cornudas Mount**	**84.78**	**54**	P	**P**	**11 04 29.9**	**+0.9**
MNTX				IAmb	IAmb	11 04 31.0	
	comp=Z,6.1nm,0.9s						
TXAR	**Lajitas Array**	**85.11**	**57**	P	**P**	**11 04 31.8**	**+1.0**
	comp=Z,3.5nm,0.8s,baz=215,slow=7.8,SNR=39						
SEY	**Seymchan**	**85.14**	**346**	P	**P**	**11 04 29.3**	**-0.7**
	comp=Z,3.4nm,0.6s,baz=152,slow=6.4,SNR=5.5						
MCK	**McKinley**	**85.15**	**12**	P	**P**	**11 04 30.1**	**0.0**
MCK				IAmb	IAmb	11 04 30.4	
	comp=Z,6.6nm,0.9s						
WHY	**Whitehorse**	**86.13**	**19**	P	**P**	**11 04 36.0**	**+0.9**
WHY				IAmb	IAmb	11 04 43.5	
	comp=Z,7.7nm,1.4s						
CCB	**Clear Creek Bu**	**86.20**	**12**	P	**P**	**11 04 34.7**	**-0.5**
CCB				IAmb	IAmb	11 04 35.1	
	comp=Z,3.8nm,0.7s						
IL31		**86.49**	**12**	P	**P**	**11 04 36.4**	**-0.1**
IL31				IAmb	IAmb	11 04 47.4	
	comp=Z,4.0nm,1.2s						
ILAR	**Eielson Array**	**86.49**	**12**	P	**P**	**11 04 35.8**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=226,slow=5.5,SNR=16						
O20A	**White River Ci**	**86.53**	**46**	P	**P**	**11 04 38.3**	**+0.7**
O20A				IAmb	IAmb	11 04 38.4	
	comp=Z,2.1nm,0.6s						
PDAR	**Pinedale Array**	**86.92**	**43**	P	**P**	**11 04 38.8**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=209,slow=2.8,SNR=9.2						
SMCO	**Snowmass**	**86.95**	**47**	P	**P**	**11 04 40.3**	**+0.3**
WALA	**Waterton Lakes**	**87.55**	**36**	P	**P**	**11 04 42.3**	**+0.1**
TOLK	**Toolik Lake Re**	**89.48**	**10**	P	**P**	**11 04 51.1**	**+0.4**
TOLK				IAmb	IAmb	11 05 02.5	
	comp=Z,4.8nm,1.3s						
YKA	**Yellowknife Ar**	**94.54**	**24**	P	**P**	**11 05 13.2**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=241,slow=4.5,SNR=10						
ARCES	**ARCESS Array B**	**127.59**	**350**	PKP	**PKPdf**	**11 10 56.0**	**-1.2**
	comp=Z,3.4nm,0.9s,baz=47,slow=1.9,SNR=11						
FINES	**FINESS Array B**	**134.60**	**345**	PKP	**PKPdf**	**11 11 09.5**	**-1.1**
	comp=Z,3.1nm,0.9s,baz=64,slow=3.2,SNR=3.9						
BURAR	**Bucovina Array**	**146.28**	**333**	⇑P	**PKPbc**	**11 11 34.4**	**+0.6**
BIZ	**Bicaz**	**146.40**	**331**	⇑P	**PKPbc**	**11 11 33.7**	**-0.3**
BRTR	**Keskin Array B**	**146.69**	**315**	PKPbc	**PKPdf**	**11 11 34.1**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=79,slow=3.1,SNR=3.6						
TOPG	**Topolog**	**146.78**	**327**	⇓P	**PKPbc**	**11 11 34.6**	**-0.6**
CLL	**Collm**	**146.79**	**349**	*i* PKPbc	**PKPbc**	**11 11 34.2**	**-0.7**
	comp=Z,11nm,0.6s						
OSTC	**Ostas**	**146.81**	**345**	*e*PKP	**PKPbc**	**11 11 35.3**	**+0.2**
UPC	**Upice**	**146.91**	**345**	*e*PKP	**PKPbc**	**11 11 35.1**	**-0.2**
TRPA	**Tarpa**	**146.96**	**336**	⇓P	**PKPbc**	**11 11 35.3**	**-0.2**
DPC	**Dobruska-Polom**	**146.97**	**345**	*e*PKP	**PKPbc**	**11 11 35.4**	**-0.2**
BRG	**Berggiesshubel**	**147.02**	**348**	*i* PKP	**PKPbc**	**11 11 35.0**	**-0.6**
	comp=Z,5.8nm,0.6s						
PVCC	**Panska Ves**	**147.22**	**347**	*e*PKP	**PKPbc**	**11 11 36.1**	**-0.1**
MLR	**Muntele Rosu**	**147.55**	**330**	⇑P	**PKPbc**	**11 11 36.4**	**-1.0**
PRU	**Pruhonice**	**147.73**	**346**	*e*PKP	**PKPbc**	**11 11 37.2**	**-0.4**
GOPC	**GO Pecny, Ondr**	**147.75**	**346**	*e*PKP	**PKPbc**	**11 11 36.9**	**-0.7**
VYHS	**Vyhne**	**147.94**	**340**	*e*PKP	**PKPbc**	**11 11 37.7**	**-0.5**
VYHS				*e*		11 11 41.5	
DRGR		**147.98**	**335**	⇑P	**PKPbc**	**11 11 38.1**	**-0.3**
ARR	**Arges**	**148.26**	**331**	⇑P	**PKPbc**	**11 11 39.0**	**-0.2**
MODS	**Modra-Piesok**	**148.52**	**342**	*e*PKP	**PKPbc**	**11 11 39.1**	**-0.6**
KHC	**Kasperske Hory**	**148.75**	**347**	*e*PKP	**PKPbc**	**11 11 39.8**	**-0.5**
GERES	**GERESS Array B**	**148.99**	**347**	PKPbc	**PKPbc**	**11 11 40.4**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=30,slow=3.2,SNR=17						
CONA	**Conrad Observa**	**149.32**	**343**	*i* PKiKP	**PKPbc**	**11 11 41.5**	**-0.3**
	comp=Z,7.5nm,1.2s,SNR=4.8						
BZS	**Buzias**	**149.38**	**334**	⇑P	**PKPbc**	**11 11 41.0**	**-0.9**
MDVR	**Moldovita**	**150.01**	**333**	⇓P	**PKPab**	**11 11 56.9**	**+6.8**
SOKA	**Soboth**	**150.69**	**343**	*i* PKPbc	**PKPbc**	**11 11 43.8**	**-1.3**
	comp=Z,4.4nm,0.9s,SNR=4.1						
KBA	**Koelnbreinsper**	**150.74**	**346**	*i* PKPbc	**PKPbc**	**11 11 43.8**	**-1.6**
	comp=Z,3.1nm,0.5s						
WATA	**Walderalm**	**150.87**	**349**	*i* PKPbc	**PKPbc**	**11 11 44.3**	**-1.2**
	comp=Z,4.2nm,0.5s,SNR=4.7						
WTTA	**Wattenberg**	**150.92**	**348**	*i* PKPbc	**PKPbc**	**11 11 44.8**	**-1.0**
	comp=Z,9.8nm,0.5s,SNR=6.5						
MOTA	**Moosalm**	**150.94**	**349**	*i* PKPbc	**PKPbc**	**11 11 44.7**	**-1.1**
	comp=Z,5.7nm,1.2s						
VTS	**Vitosha**	**150.99**	**329**	⇓P	**PKPbc**	**11 11 45.6**	**-0.4**
SQTA	**Sankt Quirin**	**151.04**	**349**	*i* PKPbc	**PKPbc**	**11 11 45.1**	**-0.9**
	comp=Z,5.1nm,0.6s						
MYKA	**Terra Mystica**	**151.09**	**345**	*i* PKPbc	**PKPbc**	**11 11 44.4**	**-1.6**
	comp=Z,3.8nm,0.5s,SNR=5.0						
ABTA	**Abfaltersbach**	**151.24**	**347**	*i* PKPbc	**PKPbc**	**11 11 44.9**	**-1.5**
	comp=Z,6.7nm,0.5s,SNR=9.0						
FETA	**Feichten**	**151.32**	**349**	*i* PKiKP	**PKPbc**	**11 11 45.9**	**-0.7**
	comp=Z,4.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**174.05**	**164**	PKP	**PKPdf**	**11 12 00.5**	**-2.4**
	comp=Z,0.6nm,0.9s,baz=147,slow=2.9,SNR=2.9						

*IDC **28** 10:58:50.6±0.7, 20.°70N × 146.°64E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.8/49, mbtmp3.9/10, Error ellipse: s-maj=30.8km s-min=17.9km az=84.0*
*NEIC **28** 10:58:51.5±1.1, 20.°63N±0.°10 × 146.°8E±0.°1, h10km±2km, mb4.5/16*
*ISCJB **28** 10:58:53.0±0.5, 20.°62N±0.°07 × 146.°7E±0.°1, h34km, mb4.0/10, Error ellipse: s-maj=14.7km s-min=9.5km az=4.8*

ISC 28 10:58:54.9±0.6, 20.°61N±0.°09 × 146.°7E±0.°1, h34km, n28, σ1ᵖ90/31, mb4.4/18, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**7.21**	**195**	Pn	**Pn**	**11 00 37.3**	**-0.6**
NACB	**Ninganchiao**	**23.50**	**283**	P	**P**	**11 04 00.9**	**-0.9**
NACB				IAmb	IAmb	11 04 07.1	
	comp=Z,28nm,1.1s						
KLR	**Kul'dur**	**30.96**	**341**	P	**P**	**11 05 09.0**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=139,slow=11,SNR=4.5						
KKM	**Kota Kinabalu**	**32.95**	**248**	P	**P**	**11 05 26.5**	**-0.1**
SBUM	**Sibu**	**38.18**	**246**	P	**P**	**11 06 11.0**	**-0.5**
SBUM				IAmb	IAmb	11 06 21.1	
	comp=Z,14nm,1.4s						
KNRA	**Kununurra**	**40.15**	**207**	P	**P**	**11 06 29.3**	**+1.4**
WRA	**Warramunga Arr**	**42.09**	**198**	P	**P**	**11 06 44.5**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=18,slow=8.5,SNR=7.7						
WRA				PcP	**PcP**	**11 08 40.1**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=25,slow=3.3,SNR=4.1						
SONM	**Songino Array**	**42.29**	**320**	P	**P**	**11 06 45.4**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=134,slow=6.5,SNR=3.3						
SONM				PcP	**PcP**	**11 08 39.6**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=130,slow=2.3,SNR=2.6						
FITZ	**Fitzroy Crossi**	**43.68**	**210**	P	**P**	**11 06 58.5**	**+1.8**
FITZ				IAmb	IAmb	11 06 58.8	
	comp=Z,13nm,1.2s						
CHTO	**Chiang Mai**	**44.90**	**276**	P	**P**	**11 07 07.3**	**+0.7**
CHTO				IAmb	IAmb	11 07 21.6	
	comp=Z,4.5nm,1.5s						
ASAR	**Alice Springs**	**45.75**	**197**	P	**P**	**11 07 13.6**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=13,slow=6.9,SNR=7.3						
ASAR				PcP	**PcP**	**11 08 52.7**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=27,slow=3.5,SNR=4.2						
ZAA0	**Zalesovo Array**	**57.11**	**322**	P	**P**	**11 08 37.8**	**0.0**
ZAA0				IAmb	IAmb	11 08 38.3	
	comp=Z,3.1nm,0.8s						
ZALV	**Zalesovo Beam**	**57.11**	**322**	P	**P**	**11 08 37.8**	**0.0**
	comp=Z,3.9nm,0.5s,baz=101,slow=7.7,SNR=13						
MK31	**Makanchi Array**	**57.86**	**313**	P	**P**	**11 08 43.5**	**+0.2**
MKAR	**Makanchi Array**	**57.86**	**313**	P	**P**	**11 08 43.5**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=82,slow=9.1,SNR=7.3						
MAKZ	**Makanchi**	**58.08**	**313**	P	**P**	**11 08 45.3**	**+0.5**
MAKZ				IAmb	IAmb	11 08 46.1	
	comp=Z,6.6nm,1.1s						
NRIK	**Noril'sk**	**60.16**	**339**	P	**P**	**11 08 59.0**	**+0.2**
	comp=Z,4.1nm,0.6s,baz=116,slow=8.1,SNR=7.6						
RAO	**Raoul Island**	**60.16**	**144**	P	**P**	**11 08 57.5**	**-1.9**
KURK	**Kurchatov**	**60.52**	**317**	P	**P**	**11 09 01.9**	**+0.4**
KURK				IAmb	IAmb	11 09 02.4	
	comp=Z,3.4nm,0.8s						
PALK	**Pallekele**	**65.07**	**269**	P	**P**	**11 09 31.0**	**-1.6**
KKAR	**Karatay Array**	**66.31**	**309**	P	**P**	**11 09 40.4**	**+0.2**
KKAR				IAmb	IAmb	11 09 41.6	
	comp=Z,2.6nm,0.9s						
SKAG	**Skagway**	**66.37**	**33**	P	**P**	**11 09 39.8**	**-0.2**
ABKAR	**Akbulak array**	**72.61**	**317**	P	**P**	**11 10 18.0**	**-0.8**
YKA	**Yellowknife Ar**	**75.85**	**28**	P	**P**	**11 10 37.6**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=289,slow=5.5,SNR=7.3						
KVN	**Kaiserville**	**81.15**	**52**	P	**P**	**11 11 06.3**	**-1.2**
NVAR	**Mina Array Bea**	**81.20**	**52**	P	**P**	**11 11 09.2**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=263,slow=5.4,SNR=7.2						
FINES	**FINESS Array B**	**85.56**	**336**	P	**P**	**11 11 28.8**	**-0.6**
	comp=Z,2.4nm,0.5s,baz=57,slow=5.1,SNR=9.1						
LPAZ	**La Paz**	**146.69**	**88**	PKPbc	**PKPab**	**11 18 36.5**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=2.0,slow=2.5,SNR=5.1						

*ATH **28** 11:27:18.3, 34.°74N × 25.°49E, h27km±5km, ML2.5/1, Error ellipse: s-maj=6.7km s-min=1.7km az=359.0*

THE 28 11:27:19.1, 34.°76N × 25.°51E, h1km±2km, ML2.1/4, Error ellipse: s-maj=3.6km s-min=1.1km az=173.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRMA	**Ierapetra Chan**	**0.31**	**35**	P	Pb	11 27 27.3	-0.2
LAST	**Lasithi**	**0.40**	**356**	P	Pg	11 27 27.1	+0.3
LAST				S	Sb	11 27 34.1	-1.7
	285nm,0.6s						
LAST	**Lasithi**	**0.40**	**356**	P	Pg	11 27 27.1	+0.2
LAST				S	Sb	11 27 34.3	-1.5
NPS	**Neapolis**	**0.51**	**9**	P	Pg	11 27 29.1	+0.2
NPS				S	Sg	11 27 36.7	+1.2
	248nm,0.4s						
NPS	**Neapolis**	**0.51**	**9**	P	Pg	11 27 29.2	+0.3
NPS				S	Sb	11 27 37.2	-1.7
SIVA	**Sivas**	**0.63**	**294**	P	Pg	11 27 31.1	-0.1
SIVA				S	Sb	11 27 41.9	-0.4
	460nm,0.5s						
SIVA	**Sivas**	**0.63**	**294**	P	Pg	11 27 31.1	-0.1
SIVA				S	Sg	11 27 40.4	+1.0
SIVA				AML	AML	11 27 48.7	
	comp=N,922μm,0.6s						
SIVA				AML	AML	11 27 50.5	
	comp=E,937μm,0.5s						
STIA	**Sitia Lasithi**	**0.65**	**47**	P	Pb	11 27 32.6	-0.6
ZKR	**Zakros**	**0.68**	**58**	P	Pg	11 27 31.9	-0.2
ZKR				S	Sb	11 27 43.2	-0.5
	comp=E,172nm,0.5s						
ZKR	**Zakros**	**0.68**	**58**	P	Pg	11 27 32.3	+0.1
ZKR				S	Sb	11 27 43.2	-0.5
IDI	**Anoyia**	**0.73**	**316**	P	Pg	11 27 32.3	-0.9
VAM	**Vamos**	**1.26**	**301**	P	Pg	11 27 42.1	-1.1

*IDC **28** 11:34:51.8±2.9, 36.°83N × 55.°74E, h0km, mb2.9/3, mb1 3.4/6, mb1mx3.2/36, mbtmp3.3/6, ML3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/22, Error ellipse: s-maj=47.1km s-min=17.8km az=15.0*
*ISCJB **28** 11:34:54.4±0.3, 37.°15N±0.°03 × 55.°92E±0.°03, h10km, mb2.9/3, Error ellipse: s-maj=4.6km s-min=3.3km az=179.9*
*TEH **28** 11:34:55.0, 37.°03N × 55.°96E, h12km, ML3.8*
*THR **28** 11:34:57.5, 36.°93N × 56.°05E, h27km, ML3.8*

ISC 28 11:34:54.8±0.7, 37.°07N±0.°04 × 55.°93E±0.°03, h10km, n63, σ2ᵖ95/63, mb2.9/3, 2C-2D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMND	**Minoodasht**	**0.45**	**294**	*e*Sg	**Sb**	**11 35 12.5**	**+0.8**
IMND				*e*Pg	**Pg**	**11 35 04.9**	**+1.3**
SHRO	**Shahrood**	**1.08**	**176**	*e*Pg	**Pg**	**11 35 14.9**	**-0.7**
SHRO	**Shahrood**	**1.08**	**176**	*e*Pg	**Pg**	**11 35 14.9**	**-0.7**
BJRD	**Bojnurd**	**1.34**	**62**	*e*Pg	**Pg**	**11 35 21.5**	**+1.1**
BJRD	**Bojnurd**	**1.34**	**62**	*e*Pg	**Pg**	**11 35 21.5**	**+1.1**
BJRD	**Bojnurd**	**1.34**	**62**	*e*Sg	**Sg**	**11 35 39.6**	**+1.8**
SBZV	**Sabzevar**	**1.52**	**116**	*e*Pg	**Pn**	**11 35 21.7**	**-0.5**
ISFR	**Sfrayin**	**1.66**	**90**	*e*Pg	**Pb**	**11 35 25.4**	**-0.2**
ISFR				IAMB	IAmb	11 35 51.9	
	comp=Z,10μm,0.4s						
IGLO	**Ghaloghah**	**1.78**	**252**	*e*Pn	**Pb**	**11 35 27.2**	**-0.3**
GEYT	**Alibeck**	**1.94**	**63**	Pn	**Pb**	**11 35 30.9**	**+0.6**
	comp=Z,58nm,0.3s,baz=240,slow=18,SNR=398						
GEYT				Lg	Lg	11 35 56.7	
	comp=Z,29nm,0.3s,baz=263,slow=5.7,SNR=19						
IKRD	**Kardeh**	**2.10**	**97**	*e*Pn	Pg	11 35 43.5	+8.6
IEMG	**Emamgholi**	**2.20**	**80**	*e*Pn	**Pn**	**11 35 33.2**	**+1.5**
IEMG				IAMB	IAmb	11 36 10.9	
	comp=Z,3μm,0.3s						
IANJ	**Anjilo**	**2.28**	**226**	*e*Pn	**Pn**	**11 35 34.1**	**+1.4**
IANJ				IAMB	IAmb	11 36 12.5	
	comp=Z,5μm,0.3s						
IAKL	**Akhelmad**	**2.32**	**101**	*e*Pn	**Pn**	**11 35 34.6**	**+1.3**
ISHM	**Shahmirzad**	**2.47**	**240**	*e*Pn	**Pb**	**11 35 38.6**	**-0.8**
ISHM				IAMB	IAmb	11 36 24.3	
	comp=Z,8μm,0.6s						
IPAY	**Payeh**	**2.54**	**103**	*e*Pn	**Pn**	**11 35 37.5**	**+1.2**
IALA	**Alasht**	**2.70**	**249**	*e*Pn	**Pn**	**11 35 40.9**	**+2.4**
IALA				IAMB	IAmb	11 36 30.7	
	comp=Z,3μm,0.6s						
IMOG	**Moghan**	**2.91**	**108**	*e*Pn	**Pn**	**11 35 43.5**	**+2.1**
IMOG				IAMB	IAmb	11 35 58.9	
	comp=Z,1μm,0.3s						
IFIR	**Firoozkooh**	**2.93**	**242**	*e*Pn	**Pn**	**11 35 44.2**	**+2.5**
IFIR				IAMB	IAmb	11 36 36.0	
	comp=Z,0.0nm,0.4s						
IPRN	**Peran**	**3.00**	**255**	*e*Pn	**Pn**	**11 35 45.2**	**+2.7**
IMYA	**Miami**	**3.43**	**101**	*e*Pn	**Pn**	**11 35 50.3**	**+1.8**
IDMV	**Damavand**	**3.48**	**246**	*e*Pn	**Pn**	**11 35 52.7**	**+3.5**
DAMV	**Damavand**	**3.50**	**247**	*e*Pn	**Pn**	**11 35 53.2**	**+3.7**
DAMV	**Damavand**	**3.50**	**247**	*e*Pn	**Pn**	**11 35 53.2**	**+3.7**
TABS	**Tabas**	**3.55**	**164**	*e*Pn	**Pn**	**11 35 51.0**	**+0.9**
TABS	**Tabas**	**3.55**	**164**	*e*Pn	**Pn**	**11 35 51.0**	**+0.9**
TKDS	**Koohdasht(Taba**	**3.59**	**164**	*e*Pn	**Pn**	**11 35 51.6**	**+1.0**
JRKH	**Jarkhoshk**	**3.75**	**107**	*e*Pn	**Pn**	**11 35 54.2**	**+1.4**
IVRN	**Varamin**	**3.98**	**240**	*e*Pn	**Pn**	**11 35 58.7**	**+2.7**
TPRV	**Parvadeh(Tabas**	**4.08**	**171**	*e*Pn	**Pn**	**11 35 58.4**	**+1.1**
ANAR	**Anarak**	**4.27**	**206**	*e*Pn	**Pn**	**11 36 00.9**	**+0.9**
QALM	**Alamut, Qazvin**	**4.29**	**263**	*e*Pn	**Pn**	**11 36 02.1**	**+1.8**
AFRZ	**Afriz**	**4.43**	**144**	*e*Pn	**Pn**	**11 36 03.9**	**+1.7**
ITEG	**Tejag**	**4.77**	**150**	*e*Pn	**Pn**	**11 36 08.4**	**+1.6**
YZKH	**Yazd**	**4.80**	**194**	*e*AML	AML	11 37 06.2	
	comp=N,40nm,0.7s						
SHRT	**Shahrakht**	**4.94**	**133**	*e*Pn	**Pn**	**11 36 09.9**	**+0.8**
SHRT	**Shahrakht**	**4.94**	**133**	*e*Pn	**Pn**	**11 36 09.9**	**+0.8**
IZEF	**Zefreh**	**5.11**	**216**	*e*Pn	**Pn**	**11 36 13.9**	**+2.3**
IRAZ	**Razeghan**	**5.13**	**253**	*e*Pn	**Pn**	**11 36 15.1**	**+3.3**
ISAD	**Sadrabad**	**5.47**	**200**	*e*Pn	**Pn**	**11 36 17.4**	**+0.8**
IBAF	**Bafgh**	**5.48**	**183**	*e*Pn	**Pn**	**11 36 18.1**	**+1.5**
ZNJK	**Zanjan**	**5.82**	**268**	*e*AML	AML	11 37 32.9	
	comp=N,52nm,0.4s						
ASTR	**Astara**	**5.84**	**287**	*e*Pn	**Pn**	**11 36 21.5**	**+0.1**
GOBA	**Gobu**	**5.87**	**306**	*e*Pn	**Pn**	**11 36 20.7**	**-1.1**
LKRN	**Lenkeran, Azer**	**5.88**	**288**	*e*Pn	**Pn**	**11 36 22.2**	**+0.2**
LRK	**Lerik**	**6.20**	**287**	*e*Pn	**Pn**	**11 36 26.5**	**0.0**
YRD	**Yardimli**	**6.34**	**289**	*e*Pn	**Pn**	**11 36 28.6**	**+0.1**
IHSH	**Hashtrud**	**6.98**	**283**	*e*Pn	**Pn**	**11 36 38.9**	**+1.6**
KLNJ	**Kolanjah**	**7.04**	**212**	*e*Pn	**Pn**	**11 36 40.7**	**+2.5**
IHRS	**Heris**	**7.15**	**283**	*e*Pn	**Pn**	**11 36 41.3**	**+1.7**
XNQ	**Khinaliq**	**7.31**	**306**	*e*Pn	**Pn**	**11 36 41.9**	**+0.2**
MNGR	**Mingechevir, A**	**7.82**	**301**	*e*Pn	**Pn**	**11 36 49.4**	**+0.9**
SBZ	**Shahbuz**	**8.49**	**289**	*e*Pn	**Pn**	**11 36 59.4**	**+1.6**
GDB	**GEDABAY**	**8.73**	**298**	*e*Pn	**Pn**	**11 37 01.9**	**+0.7**
KBZ	**Khabaz**	**11.95**	**308**	Pn	**Pn**	**11 37 44.7**	**-0.3**
	comp=N,0.2nm,0.3s,baz=74,slow=7.4,SNR=3.0						
KBZ				Sn	**Sn**	**11 39 55.5**	**-2.7**
	comp=N,0.1nm,0.3s,baz=197,slow=19,SNR=2.3						
AB31	**Akbulak array**	**12.52**	**12**	⇓P	**Pn**	**11 37 53.9**	**+1.0**
	comp=N,0.8nm,0.8s,baz=198,slow=15,SNR=4.5						
AB31				⇓S	**Sn**	**11 40 05.4**	**-7.0**
	comp=N,0.6nm,0.5s,baz=202,slow=20						
AKTO	**Aktyubinsk**	**13.44**	**6**	Pn	**Pn**	**11 38 07.3**	**+1.8**
	comp=N,0.2nm,0.3s,baz=166,slow=15,SNR=3.3						
AKTO	**Aktyubinsk**	**13.44**	**6**	⇑P	**Pn**	**11 38 06.5**	**+1.1**
	comp=N,2.7nm,1.2s						
AKTO				⇑S	**Sn**	**11 40 28.4**	**-6.5**
	comp=N,2.5nm,1.1s						
WSAR	**Wadi Sarin**	**13.98**	**170**	LR	LR	11 44 56.1	
	comp=N,51nm,18.3s,baz=250,slow=44						
BVAR	**Borovoye Array**	**18.88**	**28**	P	**Pn**	**11 39 17.4**	**+1.8**
	comp=N,0.1nm,0.3s,baz=204,slow=9.5,SNR=4.6						
KURBB	**Kurchatov Arra**	**21.09**	**43**	P	**P**	**11 39 39.7**	**+0.6**
	comp=N,0.4nm,0.8s,baz=241,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**21.80**	**55**	P	**P**	**11 39 46.5**	**-0.3**
	comp=N,0.3nm,0.6s,baz=242,slow=9.2,SNR=2.4						
AKASG	**Malin Array Be**	**23.42**	**314**	P	**P**	**11 40 04.2**	**+0.5**
	comp=N,0.4nm,0.5s,baz=104,slow=7.7,SNR=2.9						

*ISCJB **28** 12:05:39.4±1.4, 75.°90N±0.°05 × 8.°3E±0.°4, h10km, Error ellipse: s-maj=13.2km s-min=7.2km az=164.8*
*NAO **28** 12:05:39.2±5.3, 75.°85N × 7.°71E, ML3.0*
*BER **28** 12:05:42.9±3.7, 75.°84N × 8.°10E, h18km±59km, ML2.1, ML3.0(NAO), Confirmed Earthquake*
*IEPN **28** 12:05:43.0, 75.°89N × 8.°51E, h15km*

ISC 28 12:05:38.1±1.6, 75.°85N±0.°06 × 7.°64E±0.°10, h10km, n23, σ2ᵖ49/39, 1C-2D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**2.19**	**54**	Pn	**Pn**	**12 06 15.8**	**+1.4**
HSPB				Sn	**Sn**	**12 06 39.7**	**-1.9**
HSPB	**Hornsund (broa**	**2.19**	**54**	*e*P	**Pn**	**12 06 15.5**	**+1.0**
HSPB				*e*S	**

SBAF	**Basel-Friedhof**	**0.02**	**285**	⇓Pg		Pg		12 25 09.6	-0.3
SBAF				Sg		Sg		12 25 10.6	0.0
SRHE	**Riehen, Erlens**	**0.02**	**73**	Pg		Pg		12 25 09.9	0.0
SBAJ2	**Basel, St Joha**	**0.03**	**243**	⇑Pg		Pg		12 25 09.7	-0.2
SBAJ2				Sg		Sg		12 25 10.7	0.0
SBEG	**Bettingen Gewe**	**0.03**	**104**	⇓Pg		Pg		12 25 09.9	-0.1
SBAP	**Basel-PUK**	**0.04**	**259**	⇑Pg		Pg		12 25 09.7	-0.3
MATTE	**Schuetzenmatte**	**0.04**	**230**	⇑Pg		Pg		12 25 09.7	-0.4
SBIS2	**Binningen**	**0.04**	**211**	⇑Pg		Pg		12 25 10.0	-0.1
SKAF	**Kaiseraugst-Fr**	**0.08**	**120**	⇓Pg		Pg		12 25 10.5	0.0
SKAF				Sg		Sg		12 25 12.0	+0.2
SAUR	**Augst-Roemermu**	**0.08**	**122**	⇓Pg		Pg		12 25 10.6	0.0
ROTHE	**Rothenfluh**	**0.23**	**117**	⇓Pg		Pg		12 25 13.5	+0.2
BALST	**Balsthal**	**0.25**	**168**	⇑Pg		Pg		12 25 13.7	+0.1
BALST				Sg		Sg		12 25 17.4	+0.5
BOURR	**Bourrignon**	**0.32**	**235**	⇑Pg		Pg		12 25 14.9	-0.1
KIZ	**Kirchzarten**	**0.43**	**28**	Pg		Pg		12 25 16.7	-0.3
KIZ	**Kirchzarten**	**0.43**	**28**	⇑Pg		Pg		12 25 16.7	-0.3
BERGE	**Lenzkirch (DE)**	**0.48**	**52**	⇑Pg		Pg		12 25 17.8	-0.2
HINF	**Hinteralfeld**	**0.57**	**295**	*e*Pg		Pg		12 25 18.8	-0.9
HINF				*e*Sg		Sg		12 25 27.0	-0.1
	1.4nm,0.2s								
ECH	**Echery**	**0.71**	**334**	Pg		Pg		12 25 22.5	+0.2
CHMF	**Charmoille**	**0.73**	**244**	Pg		Pg		12 25 23.0	+0.2
CHMF				Sg		Sg		12 25 32.0	-0.4
WLS	**Welschbruch**	**0.85**	**348**	Pg		Pg		12 25 24.9	-0.2
WLS				Sg		Sg		12 25 36.0	-0.2
CDF	**Champ du Feu**	**0.86**	**345**	*e*Pg		Pg		12 25 25.2	-0.1
CDF				*e*Sg		Sg		12 25 36.5	0.0
	3.0nm,0.3s								
HAU	**Haudompre**	**0.96**	**297**	*e*Sg		Sg		12 25 39.1	-0.4
	2.4nm,0.2s								
CABF	**La Chapelle**	**1.43**	**228**	*e*Pg		Pb		12 25 35.6	-0.1
CABF				*e*Sg		Sb		12 25 53.5	-0.7
	0.5nm,0.2s								
SFTF	**Sexfontaines**	**1.84**	**291**	*e*Sg		Sb		12 26 07.0	+0.8
	0.9nm,0.2s								

IDC ***28*** *12:26:59.8±0.7, 37°.18N×141°.82E, h0km, mb3.7/12, mb1 4.0/15, mb1mx3.9/38, mbtmp3.8/15, ML3.4/3, MS3.4/15, Ms1 3.4/15, ms1mx3.2/42, Error ellipse: s-maj=19.1km s-min=16.4km az=136.0*

NIED ***28*** *12:27:00, 37°.30N×141°.70E, h32km, Mw4.2 Best double couple: M○2.03000×10^15 NP1:φ=143.00000°, δ=41.00000°, λ=-29.00000°. NP2:φ=256.00000°, δ=71.00000°, λ=-127.00000°.*

ISCJB ***28*** *12:27:01.8±0.8, 37°.28N±0°.03×141°.83E±0°.04, h23km±5km, mb3.8/13, MS3.6/8, Error ellipse: s-maj=6.3km s-min=3.9km az=33.3*

JMA ***28*** *12:27:04.4±0.1, 37°.29N×141°.69E, h43km±2km, M4.2*

JMA Felt II J1.

NEIC ***28*** *12:27:05.1±1.8, 37°.29N±0°.06×141°.9E±0°.1, h41km±6km, mb4.3/10*

ISC 28 12:27:02.6±1.8, 37°29N±0°04×141°79E±0°05, h17km±10km, n64, σ1°22/71, mb4.1/19, MS3.6/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.73**	**277**	P	**Pg**	**12 27 17.2**	**+0.3**
JFK				*e*S	**Sg**	**12 27 26.1**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.81**	**257**	P	**Pb**	**12 27 18.3**	**0.0**
ONAJ				*i* S	**Sb**	**12 27 28.0**	**-1.0**
JMST	**Minamisoumatoc**	**0.84**	**302**	P	**Pb**	**12 27 18.7**	**0.0**
JMST				S	**Sb**	**12 27 29.0**	**-0.7**
JMM	**Marumori**	**0.98**	**306**	P	**Pb**	**12 27 20.8**	**-0.3**
JMM				S	**Sb**	**12 27 32.8**	**-0.9**
JFFD	**Fukushimafurud**	**1.00**	**259**	P	**Pb**	**12 27 20.9**	**-0.5**
JFFD				S	**Sb**	**12 27 32.8**	**-1.5**
JFT	**Otama**	**1.18**	**282**	P	**Pb**	**12 27 24.4**	**-0.1**
JFT				S	**Sb**	**12 27 38.2**	**-1.3**
JHO	**Hitachi**	**1.19**	**236**	P	**Pn**	**12 27 23.2**	**-1.2**
JHO				S	**Sb**	**12 27 36.7**	**-3.0**
JIO	**Ouri**	**1.22**	**344**	P	**Pn**	**12 27 24.6**	**-0.2**
JIO				S	**Sb**	**12 27 38.7**	**-1.9**
JOU	**Okura**	**1.40**	**321**	P	**Pb**	**12 27 27.8**	**-0.4**
JOU				S	**Sn**	**12 27 45.0**	**-0.4**
JYS	**Shirataka**	**1.65**	**305**	P	**Pn**	**12 27 31.6**	**+0.7**
JYS				*e*S	**Sn**	**12 27 51.7**	**0.0**
JFY	**Yanaizu**	**1.66**	**275**	P	**Pn**	**12 27 31.1**	**+0.1**
JFY				S	**Sn**	**12 27 51.3**	**-0.7**
JMK	**Ichinoseki**	**1.72**	**345**	P	**Pn**	**12 27 32.2**	**+0.4**
JMK				S	**Sn**	**12 27 52.3**	**-1.1**
MJAR	**Matsushiro Arr**	**2.96**	**257**	Pn	**Pn**	**12 27 49.7**	**+0.8**
	0.8nm,0.3s,baz=74,slow=18,SNR=72						
MJAR				Sn	**Sn**	**12 28 25.4**	**+1.3**
	1.7nm,0.3s,baz=274,slow=24,SNR=6.5						
MJAR				LR	LR	12 29 19.3	
	comp=Z,271nm,20.3s,baz=50,slow=48						
MAJO	**Matsushiro**	**2.96**	**257**		**Pn**	**12 27 50.9**	**+2.0**
MAJO				Sn	**Sn**	**12 28 24.0**	**-0.1**
MAT	**Matsushiro**	**2.96**	**257**	P	**Pn**	**12 27 50.3**	**+1.4**
MAT				S	**Sn**	**12 28 25.4**	**+1.3**
MJB9	**Matsu-Tunnel**	**2.97**	**257**		**Pn**	**12 27 50.7**	**+1.8**
MJB9				Sn	**Sn**	**12 28 24.3**	**+0.2**
INU	**Inuyama**	**4.31**	**245**		**Pn**	**12 28 09.7**	**+2.3**
INU				Sn	**Sn**	**12 28 57.8**	**+0.5**
JHJ2	**Mitsune**	**4.47**	**202**	Pn	**Pn**	**12 28 11.0**	**+1.5**
JHJ2				Sn	**Sn**	**12 28 59.5**	**-1.7**
ERM	**Erimo**	**4.84**	**12**	Pn	**Pn**	**12 28 15.3**	**+0.7**
ERM				Sn	**Sn**	**12 29 10.3**	**+0.1**
ASAJ	**Asahikawa**	**6.85**	**5**	Pn	**Pn**	**12 28 42.4**	**+0.1**
	1.6nm,0.3s,baz=203,slow=15,SNR=13						
ASAJ				Sn	**Sn**	**12 29 58.1**	**-1.7**
	0.3nm,0.3s,baz=189,slow=19,SNR=2.2						
ASAJ				LR	LR	12 30 59.6	
	comp=Z,97nm,19.3s,baz=182,slow=34						
JKA	**Kamikawa-asahi**	**6.85**	**5**		**Pn**	**12 28 42.4**	**+0.1**
JKA					**Sn**	**12 29 58.1**	**-1.7**
JNU	**Nakatsue**	**9.85**	**248**	Pn	**Pn**	**12 29 22.0**	**-1.4**
	0.3nm,0.3s,baz=253,slow=11,SNR=2.4						
JNU				LR	LR	12 33 20.7	
	comp=Z,107nm,19.7s,baz=58,slow=39						
USA0B	**Ussuriysk Arra**	**10.14**	**316**	Pn	**Pn**	**12 29 29.8**	**+2.5**
USRK	**Ussuriysk Ar.**	**10.14**	**316**	Pn	**Pn**	**12 29 31.4**	**+4.0**
	baz=128,slow=14,SNR=6.4						
USRK				LR	LR	12 33 10.4	
	comp=Z,231nm,18.2s,baz=155,slow=36						
KSRS	**Korea Array**	**11.04**	**275**	Pn	Pn	12 29 44.8	+5.2
	0.1nm,0.3s,baz=87,slow=14,SNR=6.4						
KSRS				LR	LR	12 33 19.6	
	comp=Z,101nm,21.8s,baz=80,slow=34						
KS19	**Wonju Array Si**	**11.08**	**275**	Pn	**Pn**	**12 29 41.0**	**+0.8**
KLR	**Kul'dur**	**13.98**	**332**	Pn	**P**	**12 30 27.8**	**0.0**
	0.1nm,0.3s,baz=133,slow=12,SNR=5.8						
KLR				LR	LR	12 35 35.7	
	comp=Z,115nm,19.6s,baz=42,slow=37						
JOW	**Kunigami**	**15.47**	**232**	Pn	**Pn**	**12 30 41.3**	**+1.3**
PETK	**Petropavlovsk-**	**19.32**	**30**	LR	LR	12 39 26.5	
	comp=Z,88nm,18.9s,baz=244,slow=38						
YAK	**Yakutsk**	**25.89**	**347**	P	**P**	**12 32 31.3**	**-2.0**
YAK				IAmb	IAmb	12 32 36.2	
	comp=Z,7.4nm,0.8s						
ENH	**Enshi**	**27.65**	**265**	P	**P**	**12 32 47.9**	**-1.6**
SONM	**Songino Array**	**27.89**	**303**	P	**P**	**12 32 52.0**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=92,slow=10,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**28.02**	**122**	T	T	13 02 22.9	
	baz=314,slow=75,SNR=73						
H11N1	**WAKE ISLAND Hy**	**28.03**	**122**	T	T	13 02 30.0	
	baz=314,slow=75,SNR=85						
H11N3	**WAKE ISLAND Hy**	**28.04**	**122**	T	T	13 02 26.5	
	baz=314,slow=75,SNR=92						
H11S1	**WAKE ISLAND Hy**	**28.75**	**124**	T	T	13 03 27.4	
	baz=316,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**28.75**	**124**	T	T	13 03 20.4	
	baz=316,slow=76,SNR=45						
H11S2	**WAKE ISLAND Hy**	**28.76**	**124**	T	T	13 03 21.4	
	baz=316,slow=76,SNR=42						
ZAA0	**Zalesovo Array**	**41.97**	**312**	P	**P**	**12 34 53.5**	**+1.1**
ZALV	**Zalesovo Beam**	**41.97**	**312**	P	**P**	**12 34 53.6**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=72,slow=4.7,SNR=4.4						
ZALV				LR	LR	12 53 28.9	
	comp=Z,38nm,21.3s,baz=34,slow=38						
LSA	**Lhasa**	**42.48**	**275**	P	**P**	**12 34 57.4**	**-0.1**
LSA				IAmb	IAmb	12 34 58.2	
	comp=Z,3.7nm,1.0s						
NRIK	**Noril'sk**	**43.16**	**335**	LR	LR	12 52 28.6	
	comp=Z,69nm,19.7s,baz=356,slow=35						
MK31	**Makanchi Array**	**44.24**	**302**	P	**P**	**12 35 10.2**	**-0.7**
MK31				IAmb	IAmb	12 35 11.8	
	comp=Z,3.0nm,1.1s						
MKAR	**Makanchi Array**	**44.24**	**302**	P	**P**	**12 35 10.3**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=83,slow=9.9,SNR=5.8						
MKAR				LR	LR	12 53 36.9	
	comp=Z,40nm,18.4s,baz=66,slow=36						
KURK	**Kurchatov**	**46.01**	**308**	P	**P**	**12 35 24.4**	**-0.5**
KURK				IAmb	IAmb	12 35 27.0	
	comp=Z,4.9nm,1.2s						
ILAR	**Eielson Array**	**49.12**	**32**	P	**P**	**12 35 49.6**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=260,slow=6.3,SNR=7.8						
NIL	**Nilore**	**54.82**	**288**	P	**P**	**12 36 32.2**	**+0.4**
NIL				IAmb	IAmb	12 36 35.5	
	comp=Z,3.3nm,0.8s						
ARU	**Arti**	**56.37**	**319**	LR	LR	13 01 52.7	
	comp=Z,42nm,18.6s,baz=76,slow=37						
ARU	**Arti**	**56.37**	**319**	P	**P**	**12 36 42.9**	**+0.4**
ARU				IAmb	IAmb	12 36 45.5	
	comp=Z,6.0nm,1.4s						
WRA	**Warramunga Arr**	**57.35**	**188**	P	**P**	**12 36 48.5**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=3.0,slow=7.3,SNR=20						
ABKAR	**Akbulak array**	**58.01**	**310**	P	**P**	**12 36 53.9**	**-0.3**
SPITS	**Spitsbergen Ar**	**60.33**	**349**	LR	LR	13 05 01.4	
	comp=Z,36nm,18.6s,baz=120,slow=38						
ASAR	**Alice Springs**	**61.08**	**188**	P	**P**	**12 37 15.1**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=13,slow=6.3,SNR=12						
YKA	**Yellowknife Ar**	**63.44**	**30**	P	**P**	**12 37 31.2**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=302,slow=6.5,SNR=3.4						
ARCES	**ARCESS Array B**	**63.87**	**339**	LR	LR	13 07 27.9	
	comp=Z,56nm,20.9s,baz=188,slow=38						
GEYT	**Ailbeck**	**63.97**	**299**	P	**P**	**12 37 34.5**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=225,slow=55,SNR=2.7						
NB2	**NORSAR Subarra**	**74.07**	**337**	P	P	12 38 48.9	+12
	comp=Z,1.2nm,0.6s,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**74.07**	**337**	LR	LR	13 14 54.8	
	comp=Z,44nm,19.6s,baz=260,slow=39						
AKASG	**Malin Array Be**	**74.28**	**322**	P	**P**	**12 38 40.2**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=48,slow=6.3,SNR=3.4						
R11A	**Troy Canyon, C**	**76.37**	**52**	P	**P**	**12 38 52.4**	**+1.2**
PDAR	**Pinedale Array**	**77.28**	**46**	P	**P**	**12 38 56.8**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=260,slow=2.6,SNR=4.8						
GERES	**GERESS Array B**	**82.65**	**328**	P	**P**	**12 39 25.2**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=348,slow=8.0,SNR=2.6						
GERES				LR	LR	13 18 05.6	
	comp=Z,33nm,18.2s,baz=334,slow=37						
TXAR	**Lajitas Array**	**89.73**	**53**	P	**P**	**12 40 00.5**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=290,slow=3.7,SNR=6.8						
LPAZ	**La Paz**	**146.31**	**60**	PKPbc	**PKPbc**	**12 46 43.4**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=37,slow=5.1,SNR=3.3						

IDC ***28*** *12:43:02.8±2.0, 36°.69N×140°.80E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/50, mbtmp3.6/4, ML2.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/36, Error ellipse: s-maj=43.2km s-min=26.3km az=46.0*

ISCJB ***28*** *12:43:05.2±1.6, 36°.65N±0°.03×140°.76E±0°.06, h15km±12km, mb3.6/3, MS3.3/1, Error ellipse: s-maj=8.2km s-min=4.1km az=21.1*

JMA ***28*** *12:43:05.9, 36°.68N×140°.66E, h10km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φ=325.00000°, δ62.00000°, λ-81.00000°. NP2: φ=127.00000°, δ30.00000°, λ-106.00000°. Principal axes: T Plg16.0000°, Azm49.0000°; N Plg8.0000°, Azm141.0000°; P Plg72.0000°, Azm256.0000°;*

JMA Felt II J1.

ISC 28 12:43:04.8±1.2, 36°67N±0°03×140°73E±0°06, h11km±7km, n21, σ0°73/26, mb3.7/3, 7C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.14**	**243**	⇑P	**Pg**	**12 43 08.4**	**+0.4**
JHO				S	**Sg**	**12 43 10.2**	**-0.1**
JHYU	**Hitachinakayam**	**0.35**	**198**	⇑P	**Pb**	**12 43 12.6**	**-0.4**
JHYU				S	**Sb**	**12 43 17.8**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.43**	**8**	⇑P	**Pb**	**12 43 14.3**	**-0.2**
ONAJ				S	**Sb**	**12 43 20.6**	**-0.4**
JFFD	**Fukushimafurud**	**0.44**	**343**	⇑P	**Pb**	**12 43 14.0**	**-0.5**
JFFD				S	**Sb**	**12 43 19.8**	**-1.3**
JYT	**Yasato**	**0.62**	**224**	⇑P	**Pg**	**12 43 16.9**	**+0.2**
JYT				S	**Sg**	**12 43 25.3**	**+0.5**
JFK	**Kawauchi**	**0.70**	**10**	⇑P	**Pb**	**12 43 18.9**	**-0.2**
JFK				S	**Sb**	**12 43 28.9**	**+0.1**
JSB	**Shiboa**	**0.71**	**295**	⇓P	**Pb**	**12 43 19.2**	**0.0**
JSB				S	**Sg**	**12 43 28.2**	**+0.4**
JFT	**Otama**	**0.90**	**340**	⇑P	**Pb**	**12 43 22.4**	**0.0**
JFT				S	**Sb**	**12 43 33.9**	**-0.5**
JAG	**Ashikaga**	**1.05**	**257**	P	**Pg**	**12 43 24.0**	**-1.0**
JAG				S	**Sg**	**12 43 37.1**	**-1.6**
JFY	**Yanaizu**	**1.10**	**312**	⇓P	**Pb**	**12 43 25.7**	**-0.1**
MJAR	**Matsushiro Arr**	**2.03**	**267**	Pn	**Pn**	**12 43 39.4**	**+0.4**
	1.3nm,0.3s,baz=82,slow=17,SNR=59						
MJAR				Sn	**Sn**	**12 44 05.3**	**+1.0**
	4.9nm,0.3s,baz=44,slow=37,SNR=20						
MAT	**Matsushiro**	**2.03**	**267**	P	**Pn**	**12 43 40.1**	**+1.2**
MAT				S	**Sn**	**12 44 05.5**	**+1.2**
H11N2	**WAKE ISLAND Hy**	**28.45**	**119**	T	T	13 18 44.9	
	baz=312,slow=75,SNR=72						
H11N1	**WAKE ISLAND Hy**	**28.45**	**119**	T	T	13 18 45.4	
	baz=312,slow=75,SNR=62						
H11N3	**WAKE ISLAND Hy**	**28.46**	**119**	T	T	13 18 46.2	
	baz=312,slow=75,SNR=67						
H11S1	**WAKE ISLAND Hy**	**29.14**	**121**	T	T	13 19 34.2	
	baz=314,slow=76,SNR=155						
H11S3	**WAKE ISLAND Hy**	**29.14**	**121**	T	T	13 19 34.2	
	baz=314,slow=76,SNR=97						
H11S2	**WAKE ISLAND Hy**	**29.15**	**121**	T	T	13 19 35.4	
	baz=314,slow=76,SNR=79						
ZALV	**Zalesovo Beam**	**41.75**	**313**	P	**P**	**12 50 53.7**	**-0.1**
	1.2nm,0.5s,baz=110,slow=7.2,SNR=4.8						
ZALV				LR	LR	13 08 14.4	
	comp=Z,37nm,19.1s,baz=32,slow=36						
WRA	**Warramunga Arr**	**56.63**	**187**	P	**P**	**12 52 47.4**	**-0.6**
	0.4nm,0.5s,baz=1.2,slow=7.4,SNR=8.3						
ASAR	**Alice Springs**	**60.36**	**187**	P	**P**	**12 53 14.0**	**+0.1**
	0.3nm,0.7s,baz=1.4,slow=7.4,SNR=3.1						

ISCJB ***28*** *12:53:21.1±0.5, 51°.39N±0°.02×16°.15E±0°.03, h0km, Error ellipse: s-maj=3.5km s-min=2.5km az=15.8*

IDC ***28*** *12:53:22.5±0.8, 51°.42N×16°.10E, h0km, mb1 3.4/7, mb1mx3.2/42, mbtmp3.3/7, ML2.9/7, Error ellipse: s-maj=14.5km s-min=7.9km az=110.0*

VIE ***28*** *12:53:23.8±0.9, 51°.30N×16°.15E, h0km, mb2.5/5, ml2.7/6, Error ellipse: s-maj=6.4km s-min=5.9km az=115.0 64 km WNW of Wroclaw Suspected Mining induced.*

PRU ***28*** *12:53:23.5±0.0, 51°.40N×16°.10E, h0km*

ISC 28 12:53:21.0±0.8, 51°49N±0°04×16°14E±0°02, h0km, n38, σ1°34/83, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**172**	*i* Pg	**Pg**	**12 53 33.8**	**+0.2**
KSP				*i* Pg	**Pg**	**12 53 33.8**	**+0.2**
KSP				*e*Sg	**Sg**	**12 53 41.2**	**-0.9**
KSP				*e*Sg	**Sg**	**12 53 41.2**	**-0.9**
CHVC	**Chvalec**	**0.91**	**183**	*e*PG	**Pg**	**12 53 38.8**	**+0.4**
CHVC				*e*SG	**Sg**	**12 53 50.2**	**+0.1**
OSTC	**Ostas**	**0.94**	**177**	*e*PG	**Pg**	**12 53 39.3**	**+0.3**
OSTC				*e*SG	**Sg**	**12 53 50.1**	**-1.0**
	comp=Z,40nm,0.2s						
UPC	**Upice**	**0.99**	**185**	*e*PG	**Pg**	**12 53 40.0**	**0.0**
UPC				*e*SG	**Sg**	**12 53 52.6**	**-0.2**
	comp=Z,139nm,0.4s						
DPC	**Dobruska-Polom**	**1.15**	**174**	*e*PG	**Pg**	**12 53 42.7**	**-0.3**
DPC				*e*SG	**Sg**	**12 53 57.0**	**-0.9**
	comp=Z,52nm,0.6s						
PVCC	**Panska Ves**	**1.39**	**226**	*e*PG	**Pb**	**12 53 48.1**	**+0.3**
PVCC				*e*SG	**Sn**	**12 54 06.8**	**+0.2**
	comp=Z,194nm,0.3s						
KRLC	**Kraliky**	**1.48**	**164**	*e*PG	**Pn**	**12 53 48.7**	**-0.2**
KRLC				*e*SG	**Sg**	**12 54 07.2**	**-1.2**
	comp=Z,30nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**247**	PN	**Pn**	**12 53 49.4**	**0.0**
BRG				PG	**Pg**	**12 53 51.1**	**+1.1**
BRG				SG	**Sb**	**12 54 11.1**	**+1.3**
	52nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.80**	**209**	*e*PN	**Pn**	**12 53 53.5**	**+0.2**
GOPC				*e*PG	**Pb**	**12 53 54.9**	**0.0**
GOPC				*e*SG	**Sb**	**12 54 18.1**	**+0.1**
	comp=Z,23nm,0.5s						
PRU	**Pruhonice**	**1.82**	**215**	*e*PN	**Pn**	**12 53 53.9**	**+0.4**
PRU				*e*PG	**Pb**	**12 53 55.3**	**+0.2**
PRU				*e*SG	**Sb**	**12 54 18.6**	**+0.2**
	comp=Z,25nm,0.3s						
MORC	**Moravsky Berou**	**1.94**	**152**	*e*PN	**Pn**	**12 53 54.4**	**-0.8**
MORC				*e*SG	**Sn**	**12 54 20.1**	**-0.2**
CLL	**Collm**	**1.97**	**266**	*e*Pn	**Pn**	**12 53 52.0**	**-3.7**
CLL				*e*Pg	**Pg**	**12 53 59.0**	**+0.2**
CLL				*e*Sg	**Sg**	**12 54 26.0**	**+1.6**
	comp=Z,18nm,0.6s						
OKC	**Ostrava-Krasne**	**2.09**	**142**	*e*PN	**Pn**	**12 53 56.5**	**-0.8**
OKC				*e*PG	**Pb**	**12 53 59.8**	**0.0**
VRAC	**Vranov**	**2.21**	**172**	Pn	**Pn**	**12 53 58.8**	**0.0**
	comp=Z,3.1nm,0.3s,baz=345,slow=17,SNR=26						
VRAC				Lg	Lg	12 54 29.0	
	comp=Z,6.1nm,0.3s,baz=78,slow=19,SNR=9.4						
VRAC	**Vranov**	**2.21**	**172**	*e*PN	**Pn**	**12 53 58.9**	**0.0**
VRAC				*e*SG	**Sb**	**12 54 29.8**	**+0.2**
TREC	**Trest**	**2.24**	**191**	*e*PG	**Pb**	**12 54 02.7**	**+0.3**
TREC				*e*SG	**Sb**	**12 54 31.8**	**+1.2**
	comp=Z,24nm,0.3s						
PBCC	**Pribram**	**2.27**	**218**	*e*PN	**Pn**	**12 53 59.8**	**+0.1**
PBCC				*e*PG	**Pb**	**12 54 03.6**	**+0.8**
PBCC				*e*SG	**Sg**	**12 54 33.3**	**-0.5**
	comp=Z,8.4nm,0.6s						
KRUC	**Moravsky**	**2.44**	**176**	*e*PN	**Pn**	**12 54 02.7**	**+0.6**
KRUC				*e*SG	**Sb**	**12 54 37.2**	**+0.9**
OJC	**Ojcow**	**2.65**	**117**	*e*Pg	**Pg**	**12 54 10.9**	**-0.8**
OJC				*e*Pg	**Pg**	**12 54 10.9**	**-0.8**
OJC				*e*Sg	**Sg**	**12 54 46.0**	**+0.1**
OJC				*e*Sg	**Sg**	**12 54 46.0**	**+0.1**
NKC	**Novy Kostel**	**2.66**	**243**	*e*PN	**Pn**	**12 54 06.2**	**+1.1**
NKC				*e*PG	**Pg**	**12 54 12.2**	**+0.3**
NKC				*e*SG	**Sg**	**12 54 48.1**	**+1.7**
	comp=Z,22nm,0.3s						
KHC	**Kasperske Hory**	**2.88**	**216**	*e*PN	**Pn**	**12 54 08.8**	**+0.6**
KHC				*e*PG	**Pb**	**12 54 14.5**	**+1.2**
KHC				*e*SN	**Sn**	**12 54 43.1**	**-0.4**
KHC				*e*SG	**Sb**	**12 54 51.6**	**+2.6**
	comp=Z,17nm,0.6s						
GERES	**GERESS Array B**	**3.08**	**212**	Pn	**Pn**	**12 54 11.9**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=27,slow=14,SNR=19						
GERES				Pg	**Pb**	**12 54 17.5**	**+0.8**
	comp=Z,6.0nm,0.3s,baz=31,slow=19,SNR=75						
GERES				Lg	Lg	12 54 56.1	
	comp=Z,4.5nm,0.3s,baz=33,slow=26,SNR=6.3						
SMOL	**Smolenice**	**3.10**	**164**	*e*PG	**Pg**	**12 54 20.5**	**+0.2**
SMOL				*e*SG	**Sg**	**12 55 00.9**	**+0.5**
LANS	**Liptovska Anna**	**3.17**	**136**	*e*PN	**Pn**	**12 54 14.1**	**+1.9**
LANS				*e*PG	**Pg**	**12 54 23.1**	**+1.4**
LANS				*e*SG	**Sg**	**12 55 04.1**	**+1.3**
MODS	**Modra-Piesok**	**3.21**	**166**	*e*PG	**Pg**	**12 54 21.3**	**-1.2**
MODS				*e*SG	**Sg**	**12 55 02.7**	**-1.3**
VYHS	**Vyhne**	**3.47**	**149**	*e*PN	**Pn**	**12 54 15.7**	**-0.6**
VYHS				*e*PG	**Pg**	**12 54 25.5**	**-2.0**
VYHS				*e*SG	**Sg**	**12 55 12.0**	**-0.4**
CONA	**Conrad Observa**	**3.57**	**183**	*i* Pn	**Pn**	**12 54 18.6**	**+0.8**
	comp=Z,1.0nm,0.2s						
CONA				*i* Pg	**Pb**	**12 54 27.2**	**+2.1**
	comp=Z,3.4nm,0.3s						
CONA				*i* Sg	**Sg**	**12 55 14.5**	**-1.2**
	comp=Z,12nm,0.4s						
BSD	**Bornholm Skovb**	**3.70**	**349**	*i* P	**Pn**	**12 54 19.5**	**+0.1**
MOA	**Molln**	**3.84**	**199**	*i* Pn	**Pn**	**12 54 22.1**	**+0.6**
	comp=Z,2.0nm,0.2s						
MOA				*e*Sg	**Sg**	**12 55 23.6**	**-0.9**
	comp=Z,15nm,0.5s						
ARSA	**Arzberg**	**4.27**	**186**	*e*Pn	**Pn**	**12 54 29.8**	**+2.6**
	comp=Z,1.0nm,0.3s						
ARSA				Sg	**Sg**	**12 55 36.9**	**-1.1**
	comp=Z,4.0nm,0.4s						
KOLS	**Kolonicke sedl**	**4.70**	**121**	*e*PG	**Pg**	**12 54 55.0**	**+4.0**
KOLS				*e*SG	**Sg**	**12 55 57.0**	**+5.1**
KBA	**Koelnbreinsper**	**4.78**	**204**	*i* Pn	**Pn**	**12 54 35.4**	**+0.9**
	com

GVD	**Gavdhos**	**1.52 296**	P	**Pg**	**12 59 22.2**	**+0.2**
GVD			AML	AML	12 59 48.5	
	comp=E,618μm,0.4s					
GVD			AML	AML	12 59 51.1	
	comp=N,559μm,0.4s					
VAM	**Vamos**	**1.76 314**	P	**Pb**	**12 59 26.1**	**+0.1**
KARP	**Karpathos**	**1.78 40**	P	**Pb**	**12 59 25.5**	**-0.7**
IMMV	**Iera Moni Meta**	**1.93 311**	P	**Pb**	**12 59 27.7**	**-1.1**
IOSP	**Ios island**	**2.56 352**	P	**Pn**	**12 59 36.4**	**+1.1**
MMAI	**Mount Meron Ar**	**6.13 96**	Pn	**Pn**	**13 00 52.3**	**+0.2**
	comp=N,0.5nm,0.3s,baz=282,slow=9.3,SNR=3.3					
EIL	**Elat**	**9.02 117**	Pn	**Pn**	**13 01 04.3**	**+0.2**
	comp=N,0.5nm,0.3s,baz=318,slow=16,SNR=3.6					
GERES	**GERESS Array B**	**17.17 332**	P	**P**	**13 02 55.9**	**+0.3**
	comp=N,0.1nm,0.3s,baz=144,slow=12,SNR=2.9					
ARCES	**ARCESS Array B**	**35.40 360**	P	**P**	**13 05 48.6**	**-1.2**
	comp=N,4.4nm,1.0s,baz=179,slow=12,SNR=3.0					
MKAR	**Makanchi Array**	**43.91 56**	P	**P**	**13 07 01.5**	**+0.6**
	comp=N,0.8nm,0.6s,baz=275,slow=7.3,SNR=7.3					

IDC 28 13:02:41.6±1.0, 20°.79N×146°.77E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/28, mbtmp3.6/7, Error ellipse: s-maj=39.5km s-min=25.0km az=95.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.27 198**		P	P	13 10 36.6	-0.5
	0.6nm,0.9s,baz=16,slow=9.1,SNR=4.0						
ASAR	**Alice Springs**	**45.93 197**		P	P	13 11 06.4	0.0
	0.2nm,0.8s,baz=17,slow=6.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**56.99 322**		P	P	13 12 29.0	0.0
	0.9nm,0.5s,baz=109,slow=7.9,SNR=4.7						
MKAR	**Makanchi Array**	**57.76 313**		P	P	13 12 35.0	+0.4
	0.2nm,0.5s,baz=89,slow=10.0,SNR=3.0						
YKA	**Yellowknife Ar**	**75.68 28**		P	P	13 14 27.2	-1.3
	0.2nm,0.6s,baz=284,slow=4.9,SNR=3.7						
NVAR	**Mina Array Bea**	**81.07 52**		P	P	13 15 00.6	+1.4
	0.6nm,0.7s,baz=282,slow=5.1,SNR=4.6						
FINES	**FINESS Array B**	**85.41 336**		P	P	13 15 20.3	-0.6
	1.8nm,0.8s,baz=72,slow=4.5,SNR=4.3						

SOME 28 13:15:58.1, 41°.97N×80°.63E, h0km, 2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**1.68 315**		*e*P	Pg	13 16 32.4	+2.2
	0.7nm,0.1s						
UZB				*e*S	Sg	13 16 53.5	+1.5
	1.6nm,0.3s						
SATY	**Saty**	**1.98 304**		*e*P	Pg	13 16 35.7	-0.3
	0.7nm,0.1s						
SATY				*e*S	Sg	13 17 02.8	+1.2
	2.5nm,0.1s						
SATY	**Saty**	**1.98 304**		⇓*i*P	Pg	13 16 39.3	+3.4
	1.0nm,0.1s						
SATY				⇓*i*S	Sg	13 17 05.6	+4.1
	2.6nm,0.1s						
KPKS	**Kokpek**	**2.08 317**		*e*P	Pb	13 16 36.7	0.0
	1.8nm,0.3s						
KPKS				*e*S	Sg	13 17 04.6	-0.2
	4.1nm,0.1s						

*ISCJB **28** 13:33:48.8±1.0, 39°.92N±0°.04×142°.3E±0°.1, h45km±7km, mb3.5/3, Error ellipse: s-maj=13.0km s-min=6.8km az=178.1*
*JMA **28** 13:33:48.3±0.1, 39°.94N×142°.31E, h42km±1km, M3.3*
*IDC **28** 13:33:50.9±3.3, 39°.85N×142°.48E, h83km±30km, mb3.1/3, mb1 3.3/6, mb1mx3.1/48, mbtmp3.5/6, Error ellipse: s-maj=48.7km s-min=26.5km az=88.0*
ISC 28 13:33:49.7±1.2, 39°.87N±0°.04×142°.14E±0°.08, h44km±8km, n23, σ2s37/26, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.22 289**		P	**Pn**	**13 33 57.4**	**-0.2**
JTH				S	**Sn**	13 34 03.9	+0.8
MIYJ	**Miyakonagasawa**	**0.38 220**		P	**Pn**	**13 33 59.4**	**+0.3**
MIYJ				S	**Sn**	13 34 07.0	+1.2
JKEN	**Kujiedanarisaw**	**0.47 316**		P	**Pn**	**13 33 59.3**	**-1.0**
JKEN				S	**Sn**	**13 34 07.0**	**-0.7**
JKZ	**Kuzumaki**	**0.63 281**		P	**Pn**	**13 34 03.0**	**+0.6**
JKZ				S	**Sn**	**13 34 13.2**	**+1.7**
JANG	**Nango**	**0.70 317**		P	**Pn**	**13 34 02.1**	**-1.1**
JOM	**Ohasama**	**0.76 239**		P	**Pn**	**13 34 04.9**	**+0.8**
JOM				S	**Sn**	**13 34 16.2**	**+1.8**
OFUJ	**Ofunato**	**0.86 205**		P	**Pn**	**13 34 05.9**	**+0.4**
JMK	**Ichinoseki**	**1.16 218**		P	**Pn**	**13 34 10.3**	**+0.9**
JMK				*e*S	**Sn**	**13 34 26.4**	**+2.4**
JAH	**Hinai**	**1.20 286**		P	**Pn**	**13 34 10.7**	**+0.7**
JAH				*e*S	**Sn**	**13 34 27.3**	**+2.2**
JTM	**Tenmabayashi**	**1.23 319**		P	**Pn**	**13 34 10.2**	**-0.3**
JTM				*e*S	**Sn**	**13 34 25.9**	**0.0**
JRG	**Rokugo**	**1.25 248**		P	**Pn**	**13 34 12.6**	**+1.9**
ASAJ	**Asahikawa**	**4.26 4**		P	**Pn**	**13 34 53.3**	**+1.2**
	0.6nm,0.3s,baz=260,slow=11,SNR=1.3						
ASAJ				S	**Sn**	**13 35 46.9**	**+6.4**
	0.7nm,0.3s,baz=15,slow=19,SNR=2.4						
MJAR	**Matsushiro Arr**	**4.54 224**		P	**Pn**	**13 34 59.4**	**+3.6**
	0.2nm,0.3s,baz=34,slow=15,SNR=6.8						
USRK	**Ussuriysk Ar.**	**8.70 303**		P	**Pn**	**13 35 57.1**	**+4.1**
	baz=102,slow=13,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**29.23 126**		T	T	14 10 27.9	
	baz=319,slow=75,SNR=88						
H11N1	**WAKE ISLAND Hy**	**29.24 126**		T	T	14 10 29.5	
	baz=319,slow=75,SNR=87						
H11N3	**WAKE ISLAND Hy**	**29.25 126**		T	T	14 10 30.1	
	baz=319,slow=75,SNR=66						
H11S1	**WAKE ISLAND Hy**	**30.04 128**		T	T	14 11 29.7	
	baz=321,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**30.04 128**		T	T	14 11 31.0	
	baz=321,slow=76,SNR=8.8						
H11S2	**WAKE ISLAND Hy**	**30.05 128**		T	T	14 11 29.4	
	baz=321,slow=76,SNR=7.7						
MKAR	**Makanchi Array**	**43.15 300**		P	**P**	**13 41 45.3**	**-0.6**
	0.5nm,0.9s,baz=86,slow=9.6,SNR=1.8						
WRA	**Warramunga Arr**	**59.94 188**		P	**P**	**13 43 49.8**	**-1.6**
	0.7nm,0.8s,baz=2.6,slow=7.0,SNR=2.9						
ASAR	**Alice Springs**	**63.67 188**		P	**P**	**13 44 11.9**	**-4.6**
	0.3nm,0.8s,baz=6.3,slow=8.8,SNR=1.6						

*VAO **28** 13:40:43.9±0.3, 0°.40S×60°.20W, h0km, mbR4.0*
*ISCJB **28** 13:40:45.9±0.2, 0°.67S±0°.03×60°.22W±0°.04, h10km, mb4.0/12, MS3.1/2, Error ellipse: s-maj=6.5km s-min=3.4km az=163.7*
*IDC **28** 13:40:48.6±0.6, 0°.64S×60°.29W, h0km, mb4.0/12, mb1 4.2/16, mb1mx4.1/31, mbtmp4.0/16, ML4.2/5, MS3.2/5, Ms1 3.2/5, ms1mx2.9/35, Error ellipse: s-maj=20.4km s-min=14.6km az=83.0*
*NEIC **28** 13:40:48.4±2.8, 0°.63S±0°.07×60°.31W±0°.09, h4km±2km, mb4.7/33*
ISC 28 13:40:47.8±0.4, 0°.66S±0°.04×60°.26W±0°.06, h10km, n111, σ2s13/116, mb4.5/23, Brazil

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAML	**Samuel**	**8.74 199**		*e*P	**Pn**	**13 42 55.0**	**+0.7**
SAML	**Samuel**	**8.74 199**		*e*P	**Pn**	**13 42 55.0**	**+0.7**
SAML	**Samuel**	**8.74 199**			**Pn**	**13 42 55.7**	**+1.3**
SAML					Sn	**13 44 32.5**	**-0.4**
MDP	**Montagnes des**	**9.52 53**		P	**Pn**	**13 43 06.7**	**+1.6**
	11nm,0.3s,baz=224,slow=11,SNR=65						
MDP					**Sn**	**13 44 47.1**	**-5.2**
	12nm,0.3s,baz=148,slow=22,SNR=9.9						
MDP				Lg	Lg	13 45 40.4	
	29nm,0.3s,baz=320,slow=20,SNR=9.2						
MDP				LR	LR	13 46 44.4	
	comp=Z,157nm,19.8s,baz=282,slow=37						
CLDB	**Colider**	**11.07 157**		*e*P	**Pn**	**13 43 27.1**	**+0.6**
CLDB	**Colider**	**11.07 157**		*e*P	**Pn**	**13 43 27.1**	**+0.6**
PLCV	**Puerto La Cruz**	**11.58 338**			**Pn**	**13 43 33.1**	**-0.3**
PCRV	**Puerto La Cruz**	**11.61 338**		Pn	**Pn**	**13 43 33.1**	**-0.7**
	0.9nm,0.3s,baz=25,slow=8.6,SNR=4.3						
PCRV				Lg	Lg	13 46 45.2	
	2.1nm,0.3s,baz=250,slow=20,SNR=5.5						
TOSP	**Speyside**	**11.88 359**		Pn	**Pn**	**13 43 39.5**	**+2.0**
GRGR	**Grenville**	**12.78 354**		Pn	**Pn**	**13 43 49.6**	**-0.2**
BBGH	**Gun Hill**	**13.73 3**		Pn	**Pn**	**13 44 02.5**	**-0.3**
BBGH				Sn	**Sn**	**13 46 31.6**	**-3.8**
SVB	**Belmont**	**13.88 356**		Pn	**Pn**	**13 44 05.5**	**+0.8**
SVB				Sn	**Sn**	**13 46 35.5**	**-3.5**
SDV	**Santo Domingo**	**14.03 313**		Pn	**Pn**	**13 44 05.2**	**-1.8**
	0.7nm,0.3s,baz=336,slow=18,SNR=2.9						
SDV				Lg	Lg	13 48 06.5	
	1.6nm,0.3s,baz=231,slow=22,SNR=5.9						
SDV	**Santo Domingo**	**14.03 313**		*e*P	**Pn**	**13 44 05.2**	**-1.8**
SDV				*e*S	**Sn**	**13 46 36.3**	**-6.7**
SDV	**Santo Domingo**	**14.03 313**		*e*P	**Pn**	**13 44 05.2**	**-1.8**
SDV				*e*S	**Sn**	**13 46 36.3**	**-6.7**
MCLT	**Moule a Chique**	**14.29 357**		Pn	**Pn**	**13 44 10.1**	**-0.4**
ROSC	**El Rosal**	**15.07 291**		Lg	Lg	13 48 43.7	
	3.0nm,0.3s,baz=266,slow=22,SNR=8.2						
ROSC	**El Rosal**	**15.07 291**		Pn	**Pn**	**13 44 21.2**	**-0.2**
SIV	**San Ignacio**	**15.26 183**		Pn	**Pn**	**13 44 22.7**	**-0.8**
	4.4nm,0.3s,baz=29,slow=12,SNR=33						
SIV				Sn	**Sn**	**13 47 05.1**	**-7.7**
	2.3nm,0.3s,baz=304,slow=12,SNR=14						
SIV				Lg	Lg	13 48 49.5	
	2.5nm,0.3s,baz=307,slow=20,SNR=3.2						
FDF	**Fort de France**	**15.32 357**		Pn	**Pn**	**13 44 24.0**	**-0.3**
SALV	**Santo Antonio**	**15.80 164**		*e*P	**Pn**	**13 44 29.6**	**-1.0**
SALV	**Santo Antonio**	**15.80 164**		*e*P	**Pn**	**13 44 29.6**	**-1.0**
PEXB	**Peixe**	**16.43 134**		*e*P	**Pn**	**13 44 38.4**	**-0.3**
PEXB	**Peixe**	**16.43 134**		*e*P	**Pn**	**13 44 38.4**	**-0.3**
ARAG	**Araguaiana, MT**	**17.12 151**		*e*P	**Pn**	**13 44 46.3**	**-1.1**
ARAG	**Araguaiana, MT**	**17.12 151**		*e*P	**Pn**	**13 44 46.3**	**-1.1**
LPAZ	**La Paz**	**17.36 206**		P	**P**	**13 44 51.9**	**-0.5**
	0.3nm,0.3s,baz=39,slow=8.8,SNR=5.0						
LPAZ				S	**Sn**	**13 48 00.1**	**-4.6**
	0.3nm,0.3s,baz=190,slow=5.7,SNR=3.9						
LPAZ				Lg	Lg	13 49 54.2	
	0.1nm,0.3s,baz=183,slow=19,SNR=2.5						
LPAZ	**La Paz**	**17.36 206**		*e*P	**Pn**	**13 44 50.6**	**-0.4**
LPAZ	**La Paz**	**17.36 206**		*e*P	**Pn**	**13 44 50.6**	**-0.4**
LPAZ	**La Paz**	**17.36 206**			**P**	**13 44 51.9**	**-0.5**
NBPS	**Pedro II - PI**	**19.15 101**		*e*P	**P**	**13 45 09.3**	**-2.4**
NBPS	**Pedro II - PI**	**19.15 101**		*e*P	**P**	**13 45 09.3**	**-2.4**
BDFB	**Brasilia**	**19.18 142**		P	**Pn**	**13 45 13.7**	**+0.9**
	0.3nm,0.3s,baz=323,slow=16,SNR=3.1						
BDFB				S	**Sn**	**13 48 41.8**	**-6.1**
	0.3nm,0.3s,baz=180,slow=15,SNR=3.8						
BDFB				Lg	Lg	13 50 54.0	
	0.7nm,0.3s,baz=322,slow=22,SNR=4.9						
ATAH	**Atahualpa**	**19.20 250**		P	**Pn**	**13 45 14.7**	**+1.3**
	0.5nm,0.3s,baz=94,slow=17,SNR=2.3						
ATAH				LR	LR	13 53 23.3	
	comp=Z,115nm,19.1s,baz=73,slow=39						
PDPR	**Patillas Dam,**	**19.41 343**		P	**P**	**13 45 14.0**	**-0.3**
PDPR				IAmb	IAmb	13 45 59.6	
	comp=Z,27nm,1.2s						
C2SB	**Chapadao do Su**	**19.41 158**		*e*P	**P**	**13 45 14.4**	**0.0**
C2SB	**Chapadao do Su**	**19.41 158**		*e*P	**P**	**13 45 14.4**	**0.0**
STVI	**Saint Thomas**	**19.45 346**		P	**P**	**13 45 13.4**	**-1.3**
STVI				IAmb	IAmb	13 45 44.1	
	comp=Z,32nm,1.1s						
NNA	**Nana**	**19.94 235**		LR	LR	13 53 01.4	
	comp=Z,52nm,20.1s,baz=72,slow=37						
EMPR	**Esperanza - Ma**	**19.99 342**		P	**P**	**13 45 16.7**	**-4.0**
AQDB	**Aquidauana**	**20.19 168**		*e*P	**P**	**13 45 22.9**	**0.0**
AQDB	**Aquidauana**	**20.19 168**		*e*P	**P**	**13 45 22.9**	**0.0**
NBMO	**Morrinhos-CE**	**20.37 98**		*e*P	**P**	**13 45 21.2**	**-3.7**
NBMO	**Morrinhos-CE**	**20.37 98**		*e*P	**P**	**13 45 21.2**	**-3.7**
MNMC	**Minye Minye**	**20.52 206**		P	**P**	**13 45 26.6**	**-0.1**
PCDR	**Punta Cana, DR**	**20.66 338**		P	**P**	**13 45 27.7**	**-0.2**
IPMB	**Ipameri, GO**	**20.89 146**		*e*P	**P**	**13 45 30.6**	**0.0**
IPMB	**Ipameri, GO**	**20.89 146**		*e*P	**P**	**13 45 30.6**	**0.0**
PB11	**IPOC Station P**	**21.10 205**		P	**P**	**13 45 35.1**	**+2.3**
BB19B	**Bebedouro**	**23.29 151**		*e*P	**P**	**13 45 55.7**	**-0.4**
BB19B	**Bebedouro**	**23.29 151**		*e*P	**P**	**13 45 55.7**	**-0.4**
LVC	**Limon Verde**	**23.39 200**		P	**P**	**13 46 00.2**	**+2.9**
	comp=Z,1.8nm,0.6s,baz=17,slow=11,SNR=2.5						
LVC				LR	LR	13 55 47.7	
	comp=Z,63nm,18.4s,baz=10,slow=38						
LVC	**Limon Verde**	**23.39 200**		*e*P	**P**	**13 45 57.0**	**-0.3**
LVC	**Limon Verde**	**23.39 200**		*e*P	**P**	**13 45 57.0**	**-0.3**
LVC	**Limon Verde**	**23.39 200**		P	**P**	**13 45 57.5**	**+0.2**
NBCP	**Cabaceiras do**	**24.03 120**		*e*P	**P**	**13 46 00.8**	**-2.4**
NBCP	**Cabaceiras do**	**24.03 120**		*e*P	**P**	**13 46 00.8**	**-2.4**
FRTB	**Fartura**	**24.83 156**		*e*P	**P**	**13 46 09.8**	**-0.7**
FRTB	**Fartura**	**24.83 156**		*e*P	**P**	**13 46 09.8**	**-0.7**
RCBR	**Riachuelo**	**24.84 102**		P	**P**	**13 46 10.5**	**-0.3**
RCBR				IAmb	IAmb	13 46 45.0	
	comp=Z,38nm,1.4s						
GTBY	**Guantanamo Bay**	**25.11 325**		P	**P**	**13 46 10.6**	**-2.4**
CPUP	**Villa Florida**	**25.68 174**		P	**P**	**13 46 19.9**	**+1.8**
	comp=Z,1.0nm,0.6s,baz=12,slow=12,SNR=3.6						
CPUP	**Villa Florida**	**25.68 174**		*e*P	**P**	**13 46 16.8**	**-1.4**
CPUP	**Villa Florida**	**25.68 174**		*e*P	**P**	**13 46 16.8**	**-1.4**
CPUP	**Villa Florida**	**25.68 174**		P	**P**	**13 46 18.1**	**-0.1**
CPUP				IAmb	IAmb	13 47 06.8	
	comp=Z,20nm,2.0s						
SJMB	**Sao Joao De Ma**	**25.92 135**		*e*P	**P**	**13 46 19.6**	**-0.9**
SJMB	**Sao Joao De Ma**	**25.92 135**		*e*P	**P**	**13 46 19.6**	**-0.9**
SPB	**Sao Paulo**	**25.97 152**		*e*P	**P**	**13 46 19.7**	**-1.1**
SPB	**Sao Paulo**	**25.97 152**		*e*P	**P**	**13 46 19.7**	**-1.1**
BSFB	**Barra de Sao F**	**26.25 135**		*e*P	**P**	**13 46 21.6**	**-1.8**
BSFB	**Barra de Sao F**	**26.25 135**		*e*P	**P**	**13 46 21.6**	**-1.8**
JTS	**Las Juntas de**	**26.87 295**		LR	LR	13 59 33.9	
	comp=Z,45nm,18.8s,baz=229,slow=42						
CNLB	**Canela**	**29.88 163**		*e*P	**P**	**13 46 55.4**	**-0.4**
CNLB	**Canela**	**29.88 163**		*e*P	**P**	**13 46 55.4**	**-0.4**
TEIG	**Tepich**	**34.41 309**		P	**P**	**13 47 33.6**	**-2.0**
PLCA	**Paso Flores**	**40.97 192**		P	**P**	**13 48 33.1**	**+2.2**
	comp=Z,2.1nm,0.7s,baz=57,slow=9.4,SNR=6.0						
PLCA	**Paso Flores**	**40.97 192**		*e*P	**P**	**13 48 29.1**	**-1.8**
PLCA	**Paso Flores**	**40.97 192**		*e*P	**P**	**13 48 29.1**	**-1.8**
PLCA	**Paso Flores**	**40.97 192**		IAmb	IAmb	13 49 38.2	
	comp=Z,27nm,1.8s						
T57A	**Hurt**	**41.40 337**		P	**P**	**13 48 33.9**	**-0.6**
T57A				IAmb	IAmb	13 48 38.1	
	comp=Z,15nm,1.1s						
WVT	**Waverly**	**44.69 328**		P	**P**	**13 49 02.2**	**+1.0**
WVT				IAmb	IAmb	13 49 04.4	
	comp=Z,24nm,1.6s						
W39A	**Magazine**	**47.46 322**		P	**P**	**13 49 24.0**	**+1.0**
W39A				IAmb	IAmb	13 49 26.6	
	comp=Z,19nm,1.4s						
U40A	**Yellville**	**47.68 324**		P	**P**	**13 49 25.9**	**+1.2**
U40A				IAmb	IAmb	13 49 27.3	
	comp=Z,6.4nm,1.2s						
HHAR	**Hobbs**	**48.27 323**		P	**P**	**13 49 29.2**	**-0.1**
HHAR				IAmb	IAmb	13 49 31.8	
	comp=Z,4.8nm,0.5s						
TX31	**Lajitas Ar. Si**	**51.04 309**		P	**P**	**13 49 51.9**	**+1.2**
TX32	**Lajitas Array**	**51.04 309**		P	**P**	**13 49 50.1**	**-0.6**
TX32				IAmb	IAmb	13 49 53.7	
	comp=Z,4.7nm,1.1s						
TXAR	**Lajitas Array**	**51.04 309**		P	**P**	**13 49 53.0**	**+2.3**
	comp=Z,1.7nm,0.7s,baz=138,slow=7.9,SNR=21						
JFWS	**Jewell Farm**	**51.06 332**		P	**P**	**13 49 50.7**	**+0.2**
E46A	**Sault Ste Mari**	**51.38 339**		P	**P**	**13 49 54.8**	**+2.0**
SCHQ	**Schefferville**	**55.57 355**		P	**P**	**13 50 25.0**	**+1.6**
	comp=Z,1.1nm,0.5s,baz=219,slow=14,SNR=4.3						
SCHQ	**Schefferville**	**55.57 355**		IAmb	IAmb	13 51 14.8	
	comp=Z,27nm,1.6s						
SDCO	**Great Sand Dun**	**56.55 318**		P	**P**	**13 50 32.7**	**+1.6**
S22A	**4UR Ranch, Cre**	**57.45 317**		P	**P**	**13 50 39.2**	**+1.7**
S22A				IAmb	IAmb	13 50 41.9	
	comp=Z,4.0nm,0.8s						
PHWY	**Pilot Hill**	**58.44 321**		P	**P**	**13 50 46.1**	**+1.7**
PHWY				IAmb	IAmb	13 50 48.1	
	comp=Z,13nm,1.4s						
ULM	**Lac du Bonnet**	**59.13 334**		P	**P**	**13 50 50.1**	**+1.5**
	comp=Z,3.8nm,0.8s,baz=126,slow=6.5,SNR=7.3						
ULM	**Lac du Bonnet**	**59.13 334**		P	**P**	**13 50 49.7**	**+1.1**
BW06	**Boulder Array**	**61.81 321**		P	**P**	**13 51 06.8**	**-0.6**
BW06				IAmb	IAmb	13 51 10.2	
	comp=Z,4.8nm,1.1s						
PD31	**Pinedale Array**	**61.81 321**		P	**P**	**13 51 08.5**	**+1.1**
PD31				IAmb	IAmb	13 51 10.2	
	comp=Z,4.4nm,1.1s						
PDAR	**Pinedale Array**	**61.81 321**		P	**P**	**13 51 09.3**	**+2.0**
	comp=Z,1.9nm,0.8s,baz=119,slow=8.7,SNR=13						
PDAR				PcP	**PcP**	**13 51 50.4**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=128,slow=5.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**62.91 75**		P	**P**	**13 51 17.7**	**+2.7**
	comp=Z,0.4nm,0.4s,baz=270,slow=7.2,SNR=5.4						
NVAR	**Mina Array Bea**	**65.89 313**		P	**P**	**13 51 37.2**	**+2.9**
	comp=Z,0.9nm,0.6s,baz=115,slow=7.0,SNR=7.3						
KVN	**Kaiserville**	**65.97 314**		P	**P**	**13 51 36.6**	**+1.7**
KVN				IAmb	IAmb	13 51 39.2	
	comp=Z,7.0nm,1.2s						
YKA	**Yellowknife Ar**	**74.90 337**		P	**P**	**13 52 30.5**	**+1.8**
	comp=Z,1.7nm,0.9s,baz=117,slow=6.1,SNR=20						
GERES	**GERESS Array B**	**79.98 40**		P	**P**	**13 53 00.8**	**+3.2**
	comp=Z,0.5nm,0.6s,baz=243,slow=5.5,SNR=5.3						
ILAR	**Eielson Array**	**89.15 335**		P	**P**	**13 53 46.0**	**+2.5**
	comp=Z,1.3nm,0.9s,baz=106,slow=3.0,SNR=12						
ZALV	**Zalesovo Beam**	**119.59 23**		PKP	**PKiKP**	**13 59 39.7**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=205,slow=6.6,SNR=3.6						
MKAR	**Makanchi Array**	**123.62 30**		PKP	**PKiKP**	**13 59 47.8**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=26,slow=1.2,SNR=3.4						
SONM	**Songino Array**	**131.60 12**		PKP	**PKiKP**	**14 00 04.2**	**+1.8**
	comp=Z,0.8nm,0.9s,baz=343,slow=4.6,SNR=4.3						
ASAR	**Alice Springs**	**152.18 209**		PKPbc	**PKiKP**	**14 00 47.0**	**+2.0**
	comp=Z,1.0nm,0.5s,baz=142,slow=2.5,SNR=30						
CMAR	**Chiang Mai Arr**	**152.98 48**		PKPbc	**PKiKP**	**14 00 49.5**	**+2.8**
	comp=Z,1.5nm,0.7s,baz=298,slow=3.6,SNR=8.9						
WRA	**Warramunga Arr**	**155.02 214**		PKPbc	PKPbc	14 00 53.0	
	comp=Z,0.4nm,0.6s,baz=144,slow=2.3,SNR=4.9						
WRA				PKPab	**PKPab**	**14 01 08.4**	**+2.1**
	comp=Z,0.6nm,0.5s,baz=139,slow=3.7,SNR=6.7						

*IDC **28** 13:45:15.3±1.8, 1°.15N×95°.38E, h0km, mb3.6/5, mb1 3.6/7, mb1mx3.5/38, mbtmp3.5/7, ML3.3/2, MS2.6/1, Ms1 2.6/1, ms1mx2.4/44, Error ellipse: s-maj=55.3km s-min=22.0km az=59.0*
*ISCJB **28** 13:45:19.2±1.1, 1°.12N±0°.1×95°.55E±0°.09, h33km, mb3.6/5, Error ellipse: s-maj=16.9km s-min=12.9km az=176.6*
ISC 28 13:45:21.2±1.4, 1°.3N±0°.2×95°.6E±0°.1, h35km, n14, σ0s33/9, mb3.6/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.69 66**		Pn	**Pn**	**13 46 16.1**	**+0.1**
	0.9nm,0.3s,baz=101,slow=7.4,SNR=4.1						
PSI				Sn	**Sn**	**13 46 58.4**	**0.0**
	1.9nm,0.3s,baz=288,slow=20,SNR=5.4						
PSI				LR	LR	13 47 19.9	
	comp=Z,72nm,19.2s,baz=9.5,slow=32						
CMAR	**Chiang Mai Arr**	**17.40 11**		P	**P**	**13 49 22.4**	**-0.1**
	0.1nm,0.3s,baz=194,slow=11,SNR=4.2						
H08S2	**Diego Garcia H**	**24.65 249**		T	T	14 17 58.7	
	baz=67,slow=75,SNR=34						
H08S3	**Diego Garcia H**	**24.66 249**		T	T	14 17 57.0	
	baz=67,slow=75,SNR=42						
H08S1	**Diego Carcia H**	**24.67 249**		T	T	14 17 58.2	
	baz=67,slow=75,SNR=22						
H01W3	**Cape Leeuwin H**	**39.95 156**		T	T	14 36 18.2	
	baz=328						
H01W2	**Cape Leeuwin H**	**39.96 156**		T	T	14 36 19.3	
	baz=328						
H01W1	**Cape Leeuwin H**	**39.97 156**		T	T	14 36 17.0	
	baz=328						
WRA	**Warramunga Arr**	**43.47 121**		P	**P**	**13 53 21.1**	**-0.3**
	0.5nm,0.8s,baz=300,slow=9.1,SNR=4.1						
ASAR	**Alice Springs**	**44.75 126**		P	**P**	**13 53 31.9**	**+0.2**
	0.3nm,0.6s,baz=298,slow=7.8,SNR=9.9						
MKAR	**Makanchi Array**	**46.80 348**		P	**P**	**13 53 48.0**	**+0.5**
	0.7nm,0.6s,baz=167,slow=8.5,SNR=8.3						
SONM	**Songino Array**	**47.33 10**		P	**P**	**13 53 51.4**	**-0.3**
	0.5nm,0.8s,baz=189,slow=11,SNR=3.0						
ZALV	**Zalesovo Beam**	**53.25 352**		P	**P**	**13 54 36.0**	**-0.3**
	1.0nm,0.4s,baz=180,slow=5.9,SNR=5.7						
TXAR	**Lajitas Array**	**144.45 30**		PKP	**PKPab**	**14 04 53.1**	**+0.1**
	0.1nm,0.5s,baz=356,slow=3.1,SNR=4.4						

**JMA 28 13:55:54.9±0.5, 24°.80N×123°.37E, h28km, M1.9,

ASAR				S	**S**	**14 27 42.9**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=346,slow=22,SNR=11							
STKA	**Stephens Creek**	**28.61**	**156**	P	**P**	**14 26 05.9**	**+0.3**
NACB	**Ninganchiao**	**30.64**	**348**	P	**P**	**14 26 23.9**	**+0.4**
ARMA	**Armidale**	**32.69**	**141**	P	**P**	**14 26 41.4**	**-0.1**
ARMA				IAmb	IAmb	14 26 49.7		
	comp=Z,13nm,1.3s							
MSVF	**Nonsavu**	**49.78**	**108**	P	**P**	**14 28 58.2**	**-1.3**
MSVF				IAmb	IAmb	14 29 12.8		
	comp=Z,9.2nm,1.2s							
MK31	**Makanchi Array**	**66.49**	**327**	P	**P**	**14 30 55.2**	**+1.4**
MK31				IAmb	IAmb	14 31 07.7		
	comp=Z,4.3nm,1.2s							
MKAR	**Makanchi Array**	**66.49**	**327**	P	**P**	**14 30 55.4**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=117,slow=8.1,SNR=11							
MAKZ	**Makanchi**	**66.67**	**327**	P	**P**	**14 30 55.5**	**+0.5**
MAKZ				IAmb	IAmb	14 31 01.7		
	comp=Z,11nm,1.4s							

*IDC **28** 14:25:21.8±2.1,4.67S×139.90E,h0km,mb3.9/2, mb1 4.0/5,mb1mx3.6/35,mbtmp3.9/5,ML3.6/3,Error ellipse: s-maj=70.9km s-min=21.4km az=110.0*
*ISCJB **28** 14:25:24.3±0.5,4.78S±0.06×139.9E±0.1,h35km,mb3.7/2, Error ellipse: s-maj=19.4km s-min=6.4km az=19.3*
*NEIC **28** 14:25:25.2±1.8,4.76S±0.06×139.94E±0.09,h30km±8km, mb4.1/8*

ISC 28 14:25:25.4±0.8,4.82S±0.08×139.8E±0.2,h35km,n16, σ3§24/20,mb3.9/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.46**	**22**	Pn	**Pn**	**14 26 02.6**	**-0.5**
	5.3nm,0.3s,baz=222,slow=12,SNR=12						
JAY				Sn	**Sn**	**14 26 29.9**	**-2.2**
	14nm,0.3s,baz=218,slow=10,SNR=7.3						
MTN	**Manton Dam**	**11.69**	**226**	Pn	**Pn**	**14 28 12.6**	**+2.8**
KNRA	**Kununurra**	**15.29**	**224**	Pn	**Pn**	**14 28 57.0**	**-1.9**
KNRA				IAmb	IAmb	14 29 05.9	
	comp=Z,36nm,1.3s						
WR0	**Warramunga Arr**	**15.89**	**198**	P	**P**	**14 29 09.2**	**-0.8**
WRAB	**Tennant Creek**	**15.93**	**199**	Pn	**P**	**14 29 08.4**	**-1.9**
WRAB				IAmb	IAmb	14 29 17.1	
	comp=Z,7.4nm,1.0s						
WRA	**Warramunga Arr**	**15.94**	**199**	Pn	**Pn**	**14 29 06.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=22,slow=12,SNR=3.2						
WRA				Sn	**Sn**	**14 31 57.2**	**-5.8**
	comp=Z,0.2nm,0.3s,baz=18,slow=21,SNR=5.0						
FITZ	**Fitzroy Crossi**	**19.12**	**225**	P	**Pn**	**14 29 49.3**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=41,slow=11,SNR=2.9						
FITZ				S	**Sn**	**14 33 10.6**	**-9.4**
	comp=Z,0.6nm,0.3s,baz=188,slow=12,SNR=6.4						
FITZ	**Fitzroy Crossi**	**19.12**	**225**	P	**Pn**	**14 29 48.5**	**+1.9**
AS31	**Alice Springs**	**19.58**	**196**		**Pn**	**14 29 53.3**	**+1.2**
ASAR	**Alice Springs**	**19.58**	**196**	P	**Pn**	**14 29 53.9**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=29,slow=10,SNR=36						
ASAR				S	**Sn**	**14 33 33.7**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=27,slow=23,SNR=4.1						
SARN	**Sarigan**	**22.19**	**15**	P	**P**	**14 30 17.5**	**-1.3**
EIDS	**Eidsvold**	**23.12**	**153**	P	**P**	**14 30 28.8**	**+0.2**
EIDS				IAmb	IAmb	14 30 32.1	
	comp=Z,4.1nm,0.9s						
PSA00	**Pilbara Seismi**	**25.53**	**227**	P	**P**	**14 30 53.8**	**+2.9**
ARMA	**Armidale**	**27.80**	**158**	P	**P**	**14 31 12.0**	**+0.5**
ARMA				IAmb	IAmb	14 31 12.5	
	comp=Z,5.6nm,1.1s						
MKAR	**Makanchi Array**	**72.11**	**322**	P	**P**	**14 36 47.8**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=111,slow=7.9,SNR=12						
ZALV	**Zalesovo Beam**	**74.29**	**330**	P	**P**	**14 36 59.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=108,slow=7.9,SNR=2.7						

*ISCJB **28** 14:26:52.4±0.4,36.12N±0.03×97.33W±0.03,h10km,Error ellipse: s-maj=4.3km s-min=3.7km az=5.2*
*TUL **28** 14:26:52.3,36.14N×97.32W,h5km,ML3.3*
*ANF **28** 14:26:52.5±0.3,36.12N×97.26W,h5km,ML3.9/12,Error ellipse: s-maj=4.9km s-min=2.7km az=164.0*
*NEIC **28** 14:26:52.7±1.1,36.13N±0.01×97.31W±0.05,h5km±2km*

ISC 28 14:26:53.8±0.9,36.12N±0.04×97.30W±0.03,h10km,n38, σ1§12/47,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.47**	**187**		**Pg**	**14 27 01.9**	**-1.2**
OKCFA	**Oklahoma City**	**0.71**	**190**		**Pg**	**14 27 06.3**	**-1.4**
OKCSW	**OKLAHOMA CITY**	**0.72**	**189**		**Pg**	**14 27 06.5**	**-1.3**
FNO	**Franklin**	**0.87**	**185**		**Pg**	**14 27 09.9**	**-0.6**
TUL1	**Leonard**	**1.24**	**99**	P	**Pn**	**14 27 15.1**	**-2.2**
	baz=281						
TUL1				S	**Sb**	**14 27 32.6**	**-0.9**
	baz=281						
TUL1	**Leonard**	**1.24**	**99**		**Pn**	**14 27 15.1**	**-2.2**
U32A	**Winter Ranch,**	**1.40**	**281**		**Pn**	**14 27 17.8**	**-1.7**
X34A	**Smith Ranch, M**	**1.58**	**196**		**Pn**	**14 27 21.7**	**-0.2**
WMOK	**Wichita Mounta**	**1.83**	**222**	P	**Pn**	**14 27 25.1**	**-0.4**
	baz=40						
WMOK				S	**Sb**	**14 27 49.2**	**-1.3**
	baz=40						
WMOK	**Wichita Mounta**	**1.83**	**222**		**Pn**	**14 27 25.4**	**0.0**
X37A	**Clayton**	**2.20**	**134**		**Pn**	**14 27 30.5**	**+0.1**
HHAR	**Hobbs**	**2.73**	**86**		**Pn**	**14 27 37.9**	**+0.3**
W39A	**Magazine**	**3.01**	**107**	P	**Pn**	**14 27 41.3**	**-0.3**
	baz=289						
W39A				S	**Sn**	**14 28 19.0**	**+1.3**
	baz=289						
W39A	**Magazine**	**3.01**	**107**		**Pn**	**14 27 41.4**	**-0.1**
KSU1	**Kansas State U**	**3.02**	**10**	P	**Pn**	**14 27 41.3**	**-0.5**
	baz=191						
KSU1				S	**Sn**	**14 28 18.3**	**+0.2**
	baz=191						
CBKS	**Cedar Bluff**	**3.31**	**325**	P	**Pn**	**14 27 45.2**	**-0.6**
	baz=144						
CBKS				S	**Sn**	**14 28 26.3**	**+1.1**
	baz=144						
CBKS	**Cedar Bluff**	**3.31**	**325**		**Pn**	**14 27 45.4**	**-0.4**
MIAR	**Mount Ida**	**3.43**	**116**	P	**Pn**	**14 27 47.1**	**-0.2**
	baz=299						
MIAR				S	**Sn**	**14 28 29.1**	**+1.0**
	baz=299						
MIAR	**Mount Ida**	**3.43**	**116**		**Pn**	**14 27 47.6**	**+0.3**
U40A	**Yellville**	**3.60**	**85**	P	**Pn**	**14 27 48.9**	**-0.9**
	baz=268						
U40A				Sb	**Sb**	**14 28 43.9**	**+2.5**
	baz=268						
U40A	**Yellville**	**3.60**	**85**		**Pn**	**14 27 48.9**	**-0.9**
AMTX	**Amarillo**	**3.78**	**252**	P	**Pn**	**14 27 52.0**	**-0.2**
	baz=69						
AMTX				Sb	**Sb**	**14 28 49.3**	**+2.7**
	baz=69						
AMTX	**Amarillo**	**3.78**	**252**		**Pn**	**14 27 51.2**	**-1.1**
ABTX	**Abilene, Hawle**	**3.99**	**210**	P	**Pn**	**14 27 54.6**	**-0.4**
	baz=28						
ABTX				Sb	**Sb**	**14 28 55.3**	**+2.7**
	baz=28						
ABTX	**Abilene, Hawle**	**3.99**	**210**		**Pn**	**14 27 53.8**	**-1.3**
X40A	**Basin Creek Fa**	**4.00**	**113**	P	**Pn**	**14 27 55.0**	**-0.2**
	baz=296						
X40A	**Basin Creek Fa**	**4.00**	**113**		**Pn**	**14 27 55.6**	**+0.4**
WHTX	**Lake Whitney,**	**4.12**	**182**	P	**Pn**	**14 27 56.8**	**-0.1**
	baz=1.4						
WHTX	**Lake Whitney,**	**4.12**	**182**		**Pn**	**14 27 56.3**	**-0.6**
WHAR	**Wooly Hollow**	**4.16**	**100**		**Pn**	**14 27 57.1**	**-0.3**
MGMO	**Mountain Grove**	**4.18**	**74**		**Pn**	**14 27 57.3**	**-0.4**
W41B	**Gary Mavity, V**	**4.22**	**101**	P	**Pn**	**14 27 58.1**	**-0.2**
	baz=285						
W41B	**Gary Mavity, V**	**4.22**	**101**		**Pn**	**14 27 58.0**	**-0.2**
UALR	**University of**	**4.27**	**107**	Pn	**Pn**	**14 27 59.3**	**+0.5**
MSTX	**Muleshoe**	**4.97**	**246**		**Pn**	**14 28 07.7**	**-1.0**
KSCO	**Kaye Shedlock'**	**5.12**	**306**		**Pn**	**14 28 11.1**	**+0.4**
JCT	**Junction City**	**6.00**	**201**	Pn	**Pn**	**14 28 21.4**	**-1.4**
OGNE	**Ogallala**	**6.08**	**324**	Pn	**Pn**	**14 28 23.3**	**-0.5**

*IDC **28** 14:37:57.7±2.0,30.42S×177.41W,h0km,mb4.3/4, mb1 4.4/5,mb1mx3.9/37,mbtmp4.2/5,ML3.1/1,MS3.6/2, Ms1 3.6/2,ms1mx2.9/36,Error ellipse: s-maj=44.8km s-min=25.8km az=110.0*
*NEIC **28** 14:38:00.1±2.3,30.44S±0.05×177.4W±0.1,h22km±7km, mb4.5/9*

ISC 28 14:38:01.1±0.9,30.40S±0.07×177.5W±0.1,h33km,n23, σ1§63/23,mb4.5/9,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.22**	**340**	Pn	**Pn**	**14 38 22.4**	**+0.6**
	263nm,0.3s,baz=222,slow=18,SNR=13						
RAO				Sn	**Sn**	**14 38 35.1**	**-2.0**
	2µm,0.3s,baz=53,slow=20,SNR=25						
RAO	**Raoul Island**	**1.22**	**340**		**Sn**	**14 38 34.9**	**-2.3**
URZ	**Urewera**	**9.04**	**208**	Pn	**Pn**	**14 40 09.3**	**+0.1**
	0.2nm,0.3s,baz=60,slow=5.9,SNR=3.4						
URZ				Sn	**Sn**	**14 41 48.1**	**-1.7**
	1.0nm,0.3s,baz=11,slow=23,SNR=9.7						
DZM	**Mont Dzumac**	**16.65**	**296**	LR	LR	14 46 26.1	
	comp=Z,75nm,19.3s,baz=35,slow=30						
KNTN	**Kanton**	**28.01**	**12**	P	**P**	**14 43 50.2**	**+1.1**
EIDS	**Eidsvold**	**28.21**	**272**	P	**P**	**14 43 50.5**	**-0.4**
PPTF	**Pamatai, Papee**	**28.40**	**70**	P	**P**	**14 43 51.3**	**-1.4**
PPT	**Papeete**	**28.40**	**70**	P	**P**	**14 43 51.3**	**-1.4**
TOO	**Toolangi**	**31.40**	**247**	P	**P**	**14 44 16.2**	**-3.0**
CTA	**Charters Tower**	**34.27**	**279**	P	**P**	**14 44 46.9**	**+2.5**
	3.5nm,0.4s,baz=104,slow=11,SNR=8.9						
STKA	**Stephens Creek**	**34.94**	**257**	P	**P**	**14 44 52.4**	**+2.3**
	2.2nm,0.6s,baz=104,slow=10,SNR=8.1						
STKA	**Stephens Creek**	**34.94**	**257**	P	**P**	**14 44 48.7**	**-1.4**
BBOO	**Buckleboo**	**39.43**	**254**	P	**P**	**14 45 29.6**	**+1.4**
BBOO				IAmb	IAmb	14 45 47.6	
	comp=Z,24nm,1.4s						
COEN	**Coen**	**39.73**	**285**	P	**P**	**14 45 31.7**	**+0.9**
COEN				IAmb	IAmb	14 45 38.4	
	comp=Z,12nm,1.4s						
AS31	**Alice Springs**	**43.59**	**267**	P	**P**	**14 46 03.1**	**+0.7**
AS31				IAmb	IAmb	14 46 18.3	
	comp=Z,2.5nm,1.5s						
ASAR	**Alice Springs**	**43.59**	**267**	P	**P**	**14 46 03.1**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=104,slow=7.3,SNR=49						
WR0	**Warramunga Arr**	**44.39**	**272**	P	**P**	**14 46 07.1**	**-1.7**
WR0				IAmb	IAmb	14 46 08.1	
	comp=Z,3.9nm,0.8s						
WRAB	**Tennant Creek**	**44.57**	**272**	P	**P**	**14 46 10.5**	**+0.2**
WRAB				IAmb	IAmb	14 46 12.5	
	comp=Z,5.2nm,0.5s						
WRA	**Warramunga Arr**	**44.58**	**272**	P	**P**	**14 46 11.2**	**+0.9**
	comp=Z,3.3nm,0.5s,baz=111,slow=8.0,SNR=29						
KNRA	**Kununurra**	**51.18**	**274**	P	**P**	**14 47 02.9**	**+1.4**
TEIG	**Tepich**	**99.28**	**72**	LR	LR	15 30 13.6	
	comp=Z,63nm,18.2s,baz=150,slow=32						
FINES	**FINESS Array B**	**145.31**	**340**	PKPbc	**PKPab**	**14 57 36.0**	**+1.2**
	comp=Z,1.7nm,0.4s,baz=46,slow=3.5,SNR=15						
AKASG	**Malin Array Be**	**151.59**	**323**	PKPbc	**PKiKP**	**14 57 53.3**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=46,slow=2.6,SNR=4.0						

*ISCJB **28** 14:42:57.0±0.2,59.42N±0.02×153.58W±0.04, h121km±2km,mb3.9/17,Error ellipse: s-maj=3.5km s-min=2.8km az=41.3*
*NEIC **28** 14:42:57.6±1.9,59.36N±0.04×153.63W±0.10, h118km±4km*
*AEIC **28** 14:42:58.9±2.1,59.36N±0.04×153.51W±0.09, h116km±2km,ML4.2,mb4.3/25(NEIC)*
*IDC **28** 14:42:58.7±0.8,59.53N×153.73W,h113km±6km,mb3.7/16, mb1 3.9/21,mb1mx3.7/49,mbtmp4.1/21,Error ellipse: s-maj=19.4km s-min=9.9km az=18.0*
*PMR **28** 14:42:59±3.0,59.46N±0.04×153.64W±0.09,h96km±4km*

ISC 28 14:42:58.0±0.5,59.38N±0.04×153.55W±0.04, h115km±4km,n187,σ1§33/214,mb4.1/28,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUH	**Augustine H**	**0.05**	**104**		**Pn**	**14 43 14.4**	**+0.6**
AUL	**Augustine Lava**	**0.06**	**85**		**Pn**	**14 43 14.3**	**+0.6**
AUL					**Sn**	**14 43 26.4**	**+0.7**
AUP	**Augustine Pinn**	**0.07**	**103**		**Pn**	**14 43 14.4**	**+0.6**
AU22	**Augustine Moun**	**0.10**	**94**		**Pn**	**14 43 14.2**	**+0.5**
AU22					**Sn**	**14 43 26.3**	**+0.7**
FOSS	**Fourpeaked Sta**	**0.58**	**188**		**Pn**	**14 43 16.3**	**+0.3**
ILS	**Iliamna Low So**	**0.63**	**22**		**Pn**	**14 43 16.5**	**+0.2**
HOM	**Homer**	**1.01**	**73**		**Pn**	**14 43 20.4**	**+0.7**
HOM	**Homer**	**1.01**	**73**		**Sn**	**14 43 37.0**	**+1.0**
RSO	**Redoubt South**	**1.16**	**20**		**Pn**	**14 43 21.7**	**+0.3**
RDWB	**Redoubt West**	**1.17**	**17**		**Pn**	**14 43 21.6**	**+0.2**
RDWB					**Sn**	**14 43 39.1**	**-0.2**
NCT	**North Crescent**	**1.23**	**14**		**Pn**	**14 43 22.3**	**+0.3**
NCT					**Sn**	**14 44 40.3**	**0.0**
RDJH	**Redoubt Jeurge**	**1.27**	**17**		**Pn**	**14 43 22.8**	**+0.2**
RDJH					**Sn**	**14 43 41.6**	**+0.3**
DFR	**Drift River**	**1.29**	**19**		**Pn**	**14 43 23.0**	**+0.2**
DFR					**Sn**	**14 43 42.1**	**+0.5**
BRLK	**Bradley Lake**	**1.41**	**73**		**Pn**	**14 43 24.0**	**0.0**
BRLK	**Bradley Lake**	**1.41**	**73**		**Sn**	**14 43 42.9**	**-0.9**
KABU	**Katmai Buttres**	**1.43**	**220**		**Pn**	**14 43 24.8**	**+0.5**
KABU					**Sn**	**14 43 44.7**	**+0.3**
BRSE	**Bradley Lake S**	**1.47**	**74**		**Pn**	**14 43 24.7**	**0.0**
BRSE					**Sn**	**14 43 44.8**	**-0.3**
KDAK	**Kodiak Island**	**1.68**	**162**		**Pn**	**14 43 26.9**	**-0.3**
KDAK	**Kodiak Island**	**1.68**	**162**		**Sn**	**14 43 48.3**	**-1.0**
CAPN	**Captain Cook N**	**1.84**	**40**		**Pn**	**14 43 30.9**	**+1.8**
SPCR	**Spurr Chakacha**	**1.95**	**19**		**Pn**	**14 43 30.7**	**+0.2**
SPBG	**Spurr Blockage**	**1.98**	**17**		**Pn**	**14 43 31.5**	**+0.6**
SVW2	**Sparrevohn**	**2.00**	**330**		**Pn**	**14 43 31.1**	**-0.1**
SPCP	**Crater Peak Br**	**2.02**	**19**		**Pn**	**14 43 31.9**	**+0.4**
SPCP					**Sn**	**14 43 51.1**	**+0.9**
SLKM	**Skilak Lake**	**2.02**	**54**		**Pn**	**14 43 31.4**	**0.0**
SLKM					**Sn**	**14 43 55.8**	**-1.2**
SPNN	**North Nagishla**	**2.04**	**12**		**Pn**	**14 43 32.2**	**+0.4**
OHAK	**Old Harbor**	**2.17**	**176**		**Pn**	**14 43 32.5**	**-0.7**
OHAK	**Old Harbor**	**2.17**	**176**		**Sn**	**14 43 58.6**	**-1.6**
SEW	**Seward**	**2.20**	**69**		**Pn**	**14 43 33.8**	**+0.2**
SEW	**Seward**	**2.20**	**69**		**Sn**	**14 43 59.0**	**-1.9**
FIS	**Fire Island**	**2.43**	**42**		**Pn**	**14 43 38.0**	**+1.5**
SUA	**Susitna One**	**2.51**	**32**		**Pn**	**14 43 38.1**	**+0.4**
SUA	**Susitna One**	**2.51**	**32**		**Sn**	**14 44 08.1**	**-0.2**
RC01	**Rabbit Creek A**	**2.56**	**46**		**Pn**	**14 43 39.0**	**+0.7**
SKT	**Skwentna**	**2.79**	**20**		**Pn**	**14 43 41.6**	**+0.3**
SII	**Sitkinak Islan**	**2.85**	**187**		**Pn**	**14 43 41.2**	**-0.8**
PWL	**Port Wells**	**3.00**	**58**		**Pn**	**14 43 43.6**	**-0.5**
PMR	**Palmer**	**3.12**	**43**		**Pn**	**14 43 44.9**	**-0.6**
KNK	**Knik Glacier**	**3.25**	**49**		**Pn**	**14 43 46.9**	**-0.4**
GHO	**Glory Hole Cre**	**3.31**	**42**		**Pn**	**14 43 47.5**	**-0.8**
SML	**Sawmill**	**3.54**	**44**		**Pn**	**14 43 50.6**	**-0.7**
GLI	**Glacier Island**	**3.56**	**62**		**Pn**	**14 43 50.5**	**-0.9**
PPLA	**Purkeypile**	**3.59**	**10**		**Pn**	**14 43 52.8**	**+0.9**
MID	**Middleton Isla**	**3.69**	**86**		**Pn**	**14 43 53.0**	**0.0**
HIN	**Hinchinbrook I**	**3.69**	**71**	Pn	**Pn**	**14 43 53.2**	**0.0**
CHIR	**Chirikof Islan**	**3.74**	**198**		**Pn**	**14 43 52.8**	**-1.0**
CHIR					**Sn**	**14 44 34.3**	**-2.7**
TT01	**Tatalina**	**3.74**	**342**		**Pn**	**14 43 53.6**	**-0.1**
FID	**Port Fidalgo**	**3.80**	**66**		**Pn**	**14 43 53.6**	**-1.1**
JPK	**Jack Peak**	**3.85**	**61**		**Pn**	**14 43 54.7**	**-0.7**
SCM	**Sheep Creek Mo**	**3.93**	**49**		**Pn**	**14 43 55.8**	**-0.6**
HUR	**Hurricane**	**4.08**	**26**		**Pn**	**14 43 58.5**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.09**	**70**		**Pn**	**14 43 58.2**	**-0.3**
CAST	**Castle Rocks**	**4.12**	**9**		**Pn**	**14 43 59.6**	**+0.7**
WAT1	**Susitna Watana**	**4.23**	**33**		**Pn**	**14 43 59.5**	**-0.8**
WAT6	**Susitna Watana**	**4.28**	**39**		**Pn**	**14 44 00.3**	**-0.9**
WAT2	**Susitna Watana**	**4.33**	**32**		**Pn**	**14 44 00.9**	**-0.8**
KTH	**Kantishna Hill**	**4.38**	**16**		**Pn**	**14 44 01.9**	**-0.5**
TRF	**Thorofare Moun**	**4.38**	**20**		**Pn**	**14 44 01.9**	**-0.6**
GOAT	**Goat Mountain**	**4.59**	**71**		**Pn**	**14 44 05.0**	**-0.2**
RND	**Reindeer**	**4.63**	**27**		**Pn**	**14 44 05.2**	**-0.6**
DHY	**Denali Highway**	**4.76**	**36**		**Pn**	**14 44 07.1**	**-0.5**
PS11	**TAPS Pump St11**	**4.80**	**52**		**Pn**	**14 44 08.0**	**0.0**
BPAW	**Bear Paw Mtn.**	**4.89**	**13**		**Pn**	**14 44 09.3**	**0.0**
MCK	**McKinley**	**4.89**	**25**		**Pn**	**14 44 09.0**	**-0.3**
GRIN	**Grindle Hills**	**5.24**	**76**		**Pn**	**14 44 14.3**	**+0.4**
GLB	**Gilahina Butte**	**5.25**	**63**		**Pn**	**14 44 13.9**	**-0.2**
KHIT	**Khitrov Hills**	**5.29**	**74**		**Pn**	**14 44 14.6**	**-0.1**
PAX	**Paxson**	**5.31**	**44**		**Pn**	**14 44 14.5**	**-0.5**
VRDI	**Verde Repeater**	**5.35**	**65**		**Pn**	**14 44 15.8**	**+0.2**
CRQM	**Cirque**	**5.39**	**71**		**Pn**	**14 44 16.4**	**+0.2**
WAX	**Waxell Ridge**	**5.49**	**74**	Pn	**Pn**	**14 44 17.4**	**+0.1**
SDPT	**Sand Point**	**5.51**	**226**	Pn	**Pn**	**14 44 17.2**	**-0.4**
PS10	**TAPS Pump St10**	**5.51**	**39**		**Pn**	**14 44 18.5**	**+0.8**
KULT	**Kultieth River**	**5.53**	**76**		**Pn**	**14 44 18.2**	**+0.2**
TGL	**Tana Glacier**	**5.54**	**71**		**Pn**	**14 44 18.4**	**+0.3**
MCARA	**McCarthy VSAT**	**5.59**	**64**		**Pn**	**14 44 19.3**	**+0.6**
WRH	**Wood River Hil**	**5.72**	**24**		**Pn**	**14 44 19.4**	**-1.0**
KIAG	**Kiagna River**	**5.80**	**70**		**Pn**	**14 44 21.8**	**+0.1**
PTPK	**Patty Peak**	**5.80**	**67**		**Pn**	**14 44 22.5**	**+0.8**
MLY	**Manley**	**5.82**	**12**		**Pn**	**14 44 20.8**	**-1.1**
BALM	**Baldy**	**5.83**	**69**		**Pn**	**14 44 22.1**	**+0.2**
HDA	**Harding Lake**	**5.93**	**29**	P	**Pn**	**14 44 22.2**	**-1.0**
	baz=214						
HDA				S	**Sn**	**14 45 27.1**	**-2.7**
	baz=214						
HDA	**Harding Lake**	**5.93**	**29**		**Pn**	**14 44 22.4**	**-0.9**
CCB	**Clear Creek Bu**	**5.94**	**25**		**Pn**	**14 44 22.2**	**-1.1**
MENT	**Mentasta**	**5.95**	**49**		**Pn**	**14 44 23.4**	**-0.1**
RIDG	**Independent Ri**	**6.03**	**40**		**Pn**	**14 44 25.2**	**+0.5**
GRNC	**Granite Creek**	**6.06**	**72**		**Pn**	**14 44 25.7**	**+0.5**
TCOL	**CIGO, UAF Yank**	**6.12**	**23**	P	**Pn**	**14 44 24.7**	**-1.1**
	baz=208						
TCOL				S	**Sn**	**14 45 32.5**	**-1.9**
	baz=208						
TCOL	**CIGO, UAF Yank**	**6.12**	**23**		**Pn**	**14 44 24.9**	**-0.9**
COLA	**College**	**6.13**	**23**		**Pn**	**14 44 24.9**	**-1.0**
MDM	**Murphy Dome**	**6.13**	**22**		**Pn**	**14 44 25.1**	**-0.8**
BARN	**Barnard Glacie**	**6.16**	**69**		**Pn**	**14 44 27.1**	**+0.6**
DOT	**Dot Lake**	**6.24**	**43**		**Pn**	**14 44 26.5**	**-0.9**
IL31		**6.25**	**27**		**Pn**	**14 44 26.4**	**-1.1**
ILAR	**Eielson Array**	**6.25**	**27**	P	**Pn**	**14 44 26.5**	**-1.0**
	12nm,0.3s,baz=215,slow=14,SNR=564						
ILAR				S	**Sn**	**14 45 31.3**	**-6.2**
	9.6nm,0.3s,baz=216,slow=23,SNR=9.0						
CTGM	**Chitina Glacie**	**6.30**	**70**		**Pn**	**14 44 29.0**	**+0.7**
POKR	**Poker Plat Res**	**6.43**	**24**	P	**Pn**	**14 44 28.9**	**-1.1**
	baz=209						
POKR				S	**Sn**	**14 45 39.0**	**-2.8**
	baz=209						
POKR	**Poker Plat Res**	**6.43**	**24**		**Pn**	**14 44 28.8**	**-1.1**
SCRK	**Sand Creek**	**6.48**	**41**		**Pn**	**14 44 30.1**	**-0.6**
IM03		**6.63**	**359**		**Pn**	**14 44 32.8**	**+0.1**
YUK2	**White River**	**6.71**	**63**		**Pn**	**14 44 34.7**	**+0.8**
PCA	**Pinnacle**	**6.76**	**78**	Pn	**Pn**	**14 44 35.5**	**+1.0**
BC03		**6.77**	**52**		**Pn**	**14 44 34.2**	**-0.3**
YUK3	**Moose Creek**	**6.88**	**64**		**Pn**	**14 44 37.0**	**+0.7**
BVCY	**Beaver Creek**	**6.89**	**58**		**Pn**	**14 44 37.6**	**+1.3**
FALS	**False Pass**	**7.03**	**234**	Pn	**Pn**	**14 44 39.0**	**+0.9**
PRP	**Porcupine Dome**	**7.19**	**28**		**Pn**	**14 44 39.7**	**-0.7**
PNL	**Peninsula**	**7.20**	**82**		**Pn**	**14 44 40.5**	**0.0**
YUK6	**Outpost Mounta**	**7.74**	**72**		**Pn**	**14 44 48.4**	**+0.6**
YUK7	**Dusty Glacier**	**7.82**	**75**		**Pn**	**14 44 49.9**	**+0.9**
DHAK	**Deception Hill**	**7.87**	**85**		**Pn**	**14 44 52.3**	**+2.7**
DHAK					**Sn**	**14 46 14.8**	**-2.0**
EGAK	**Eagle**	**7.94**	**42**		**Pn**	**14 44 49.4**	**-1.0**
COLD	**Coldfoot**	**8.02**	**9**		**Pn**	**14 44 50.9**	**-0.5**
FYU	**Fort Yukon**	**8.14**	**24**		**Pn**	**14 44 51.9**	**-1.1**
HYT	**Haines Junctio**	**8.14**	**73**		**Pn**	**14 44 55.6**	**+2.3**
DAWY	**Dawson**	**8.19**	**49**		**Pn**	**14 44 54.6**	**+0.8**
AKUT	**Akutan**	**8.52**	**237**	Pn	**Pn**	**14 44 58.6**	**+0.4**
BM03	**Burnt Mountain**	**9.00**	**23**		**Pn**	**14 45 02.8**	**-2.0**
MTBL	**Makushin Table**	**9.03**	**239**		**Pn**	**14 45 05.3**	**+0.1**
UNV	**Unalaska Valle**	**9.04**	**238**	Pn	**Pn**	**14 45 04.6**	**-0.6**
MSW	**Makushin Switc**	**9.11**	**239**		**Pn**	**14 45 05.9**	**-0.4**
MREP	**Makushin Rep't**	**9.16**	**238**		**Pn**	**14 45 07.0**	**0.0**
SKAG	**Skagway**	**9.29**	**82**		**Pn**	**14 45 09.2**	**+0.6**
WHY	**Whitehorse**	**9.43**	**74**		**Pn**	**14 45 10.9**	**+0.2**
TOLK	**Toolik Lake Re**	**9.46**	**9**	P	**Pn**	**14 45 10.7**	**-0.3**
	baz=192						
TOLK				S	**Sn**	**14 46 54.2**	**-1.1**
	baz=192						
TOLK	**Toolik Lake Re**	**9.46**	**9**		**Pn**	**14 45 10.6**	**-0.3**
RDOG	**Red Dog Mine**	**9.63**	**339**

ULN	**Ulaanbaatar**	**54.63**	**305**	P	**P**	**14 52 13.8**	**-0.6**
SONM	**Songino Array**	**54.93**	**306**	P	**P**	**14 52 16.9**	**+0.4**
	comp=Z,8.1nm,0.7s,baz=41,slow=6.7,SNR=52						
SONM				pP	**pP**	**14 52 43.8**	**-0.2**
	comp=Z,1.6nm,1.0s,baz=33,slow=7.0,SNR=3.1						
ZAA0	**Zalesovo Array**	**57.71**	**323**	P	**P**	**14 52 35.0**	**-0.9**
ZAA0				IAmb	IAmb	14 52 36.3	
	comp=Z,2.7nm,0.6s						
ZALV	**Zalesovo Beam**	**57.71**	**323**	P	**P**	**14 52 36.1**	**+0.1**
	comp=Z,2.2nm,0.4s,baz=26,slow=7.6,SNR=13						
ZALV				pP	**pP**	**14 53 02.8**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=34,slow=7.2,SNR=2.4						
HHC	**Hu-ho-hao-te**	**58.22**	**297**	*e*P	**P**	**14 52 44.0**	**+4.1**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,210nm,6.3s						
MKAR	**Makanchi Array**	**64.75**	**321**	P	**P**	**14 53 22.8**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=32,slow=6.2,SNR=4.3						
WMQ	**Urumqi**	**65.52**	**316**	*e*P	**P**	**14 53 30.8**	**+2.2**
AKASG	**Malin Array Be**	**70.26**	**358**	P	**P**	**14 53 58.1**	**0.0**
	comp=Z,1.1nm,0.6s,baz=7.0,slow=6.5,SNR=7.9						
GERES	**GERESS Array B**	**71.64**	**9**	P	**P**	**14 54 07.6**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=2.9,slow=5.3,SNR=4.3						
CMAR	**Chiang Mai Arr**	**82.87**	**294**	P	**P**	**14 55 08.7**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=3.8,slow=5.4,SNR=3.7						
BOSA	**Boshof**	**149.23**	**2**	PKPbc	**PKPbc**	**15 02 32.2**	**-0.4**
	comp=Z,3.3nm,0.5s,baz=17,slow=3.3,SNR=14						

*ISCJB **28** 14:46:00.8±0.5, 6°.84N±0°.03×73°.11W±0°.03, h155km±4km, Error ellipse: s-maj=6.1km s-min=4.7km az=37.0*
*IDC **28** 14:46:01.8±0.8, 6°.76N×72°.94W, h159km±9km, mb3.1/3, mb1 3.5/5, mb1mx3.1/29, mbtmp3.6/5, Error ellipse: s-maj=27.4km s-min=8.4km az=130.0*
*RSNC **28** 14:46:03.2±1.2, 6°.79N×73°.15W, h144km±5km, ML3.0, Mw3.2*

ISC 28 14:46:01.2±0.8, 6°.83N±0°.04×73°.08W±0°.04, h156km±6km, n27, σ1§39/44, 5C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**204**	⇓*i*	P	**Pn**	**14 46 22.7**	**0.0**
BARC					*e*S	**Sn**	**14 46 37.6**	**-1.4**
BARC					*i*		14 46 38.8	
	comp=Z,441nm,0.2s							
PAMC	**Pamplona, Colo**	**0.63**	**37**	⇑*i*	P	**Pn**	**14 46 25.7**	**+1.1**
PAMC					*e*S	**Sn**	**14 46 42.3**	**-0.1**
PAMC					*i*		14 46 43.5	
	comp=Z,119nm,0.2s							
BRRC	**Barranca, Sant**	**0.69**	**293**	⇑*i*	P	**Pn**	**14 46 24.6**	**+0.3**
BRRC					*e*S	**Sn**	**14 46 41.5**	**-0.4**
BRRC					*i*		14 46 45.6	
	comp=Z,197nm,0.1s							
RUSC	**La Rusia**	**0.94**	**180**	⇑*e*	P	**Pn**	**14 46 26.7**	**0.0**
RUSC					*e*S	**Sn**	**14 46 44.3**	**-1.8**
RUSC					*i*		14 46 46.2	
	comp=Z,60nm,0.4s							
TAMC	**Tame, Arauca**	**1.34**	**107**	*e*P		**Pn**	**14 46 31.0**	**+1.3**
TAMC				*e*S		**Sn**	**14 46 52.4**	**+0.9**
TAMC				*i*			14 47 02.0	
	comp=Z,75nm,1.1s							
PTBC	**PUERTO BERRIO,**	**1.40**	**258**	*e*P		**Pn**	**14 46 29.4**	**-0.9**
PTBC				*e*S		**Sn**	**14 46 50.2**	**-2.3**
PTBC				*i*			14 46 53.6	
	comp=Z,160nm,0.3s							
OCAC	**Ocana**	**1.42**	**350**	*e*S		**Sn**	**14 46 52.9**	**-0.2**
SPBC	**San Pablo de B**	**1.54**	**220**	*e*P		**Pn**	**14 46 31.7**	**-0.1**
SPBC				*e*S		**Sn**	**14 46 53.3**	**-1.9**
SPBC				*i*			14 46 59.6	
	comp=Z,163nm,0.3s							
NORC	**Norcasia**	**2.18**	**235**	*e*P		**Pn**	**14 46 38.7**	**-0.3**
NORC				*e*S		**Sn**	**14 47 06.7**	**-1.3**
NORC				*i*			14 47 11.4	
	comp=Z,99nm,0.2s							
SMLC	**San Martn de**	**2.19**	**333**	*e*P		**Pn**	**14 46 39.3**	**+0.3**
SMLC				*e*S		**Sn**	**14 47 07.8**	**-0.3**
SMLC				*i*			14 47 14.2	
	comp=Z,142nm,0.1s							
CHIC	**Chingaza**	**2.29**	**197**	⇑*e*	P	**Pn**	**14 46 40.9**	**+0.4**
CHIC					*e*S	**Sn**	**14 47 09.2**	**-1.6**
CHIC					*i*		14 47 16.1	
	comp=Z,42nm,0.3s							
ROSC	**El Rosal**	**2.34**	**212**	P		**Pn**	**14 46 42.8**	**+1.7**
	comp=Z,16nm,0.3s,baz=40,slow=23,SNR=22							
ROSC				S		**Sn**	**14 47 13.1**	**+1.3**
	comp=Z,9.9nm,0.3s,baz=122,slow=15,SNR=4.5							
HELC	**Santa Helena**	**2.52**	**255**	*e*P		**Pn**	**14 46 43.0**	**-0.2**
HELC				*e*S		**Sn**	**14 47 14.4**	**-1.3**
HELC				*i*			14 47 20.9	
	comp=Z,85nm,0.4s							
PTGC	**Puerto Gaitan,**	**2.78**	**160**	⇑*e*	P	**Pn**	**14 46 45.8**	**-0.4**
PTGC					*e*S	**Sn**	**14 47 18.3**	**-2.7**
PTGC					*i*		14 47 30.8	
	comp=Z,32nm,0.3s							
GUY2C	**Guyana, Caldas**	**2.78**	**235**	*e*P		**Pn**	**14 46 47.0**	**+0.4**
GUY2C				*i*			14 47 27.9	
	comp=Z,72nm,0.4s							
CBOC	**Ciudad Bolivar**	**3.07**	**252**	*e*P		**Pn**	**14 46 50.6**	**+0.7**
CBOC				*e*S		**Sn**	**14 47 26.0**	**-1.6**
CBOC				*i*			14 47 38.3	
	comp=Z,24nm,0.7s							
DBBC	**Dabeiba**	**3.12**	**274**	*e*P		**Pn**	**14 46 50.7**	**+0.3**
DBBC				*i*			14 47 29.3	
	comp=Z,45nm,0.5s							
SDV	**Santo Domingo**	**3.17**	**50**	P		**Pn**	**14 46 52.4**	**+1.2**
	comp=Z,9.2nm,0.3s,baz=249,slow=12,SNR=32							
SDV				S		**Sn**	**14 47 29.4**	**-0.4**
	comp=Z,4.7nm,0.3s,baz=51,slow=20,SNR=12							
ORTC	**Ortega, Tolima**	**3.62**	**217**	*e*P		**Pn**	**14 46 57.2**	**+0.4**
ORTC				*e*S		**Sn**	**14 47 40.5**	**+0.5**
ORTC				*i*			14 47 46.5	
	comp=Z,36nm,0.5s							
SJCC	**San Jacinto, C**	**3.69**	**326**	*e*P		**Pn**	**14 46 57.4**	**-0.2**
SJCC				*e*S		**Sn**	**14 47 38.3**	**-3.2**
SJCC				*i*			14 47 51.6	
	comp=Z,15nm,1.1s							
BAUV	**El Baul**	**5.41**	**67**	*e*P		**Pn**	**14 47 18.8**	**-1.4**
BAUV	**El Baul**	**5.41**	**67**	*e*S		**Sn**	**14 48 17.6**	**-4.3**
TXAR	**Lajitas Array**	**36.49**	**312**	P		**P**	**14 52 53.2**	**+1.5**
	comp=Z,0.2nm,0.8s,baz=116,slow=8.2,SNR=3.6							
PLCA	**Paso Flores**	**47.39**	**177**	P		**P**	**14 54 19.6**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=292,slow=8.5,SNR=3.2							
YKA	**Yellowknife Ar**	**63.27**	**340**	P		**P**	**14 56 13.8**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=132,slow=6.5,SNR=6.4							
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc		**PKPbc**	**15 05 31.6**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=131,slow=4.3,SNR=4.9							
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc		**PKPbc**	**15 05 35.0**	**-0.2**
	comp=Z,0.5nm,1.0s,baz=113,slow=2.6,SNR=3.3							

*IDC **28** 15:09:46.4±0.5, 33°.94N×89°.34E, h0km, mb4.2/21, mb1 4.3/25, mb1mx4.2/49, mbtmp4.2/25, ML3.5/3, MS3.5/5, Ms1 3.5/5, ms1mx3.3/54, Error ellipse: s-maj=17.3km s-min=12.3km az=39.0*
*ISCJB **28** 15:09:47.8±0.2, 34°.09N±0°.03×89°.31E±0°.04, h10km, mb4.3/31, Error ellipse: s-maj=4.6km s-min=3.5km az=155.1*
*NEIC **28** 15:09:50.0±1.9, 33°.97N±0°.08×89°.22E±0°.09, h22km±5km, mb4.4/17*
*BJI **28** 15:09:51.1±0.0, 33°.81N×89°.43E, h8km, mb4.3/16, mB4.5/2, ML4.3/1, Ms4.3/17, Ms7 4.2/15*
*MOS **28** 15:09:53.9±1.1, 34°.04N×89°.40E, h22km, mb4.6/13, Error ellipse: s-maj=11.3km s-min=6.2km az=113.4*

ISC 28 15:09:49.3±0.3, 34°.07N±0°.05×89°.24E±0°.05, h10km, n145, σ1§87/145, mb4.4/39, 5C-4D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.65**	**159**	Pg		Pn	15 11 04.3	+4.3
LSA				Sg		**Sb**	**15 12 09.0**	**+1.5**
LSA				LR		LR		
	comp=N,2μm,5.3s							
LSA				LR		LR		
	comp=E,1μm,3.9s							
LSA				LR		LR		
	comp=Z,2μm,3.9s							
LSA	**Lhasa**	**4.65**	**159**	P		**Pn**	**15 11 03.6**	**+3.6**
LSA	**Lhasa**	**4.65**	**159**	Pn		**Pn**	**15 11 03.6**	**+3.6**
GUN	**Gumba**	**6.79**	**206**	*e*P		**Pn**	**15 11 30.9**	**+1.6**
	19nm,0.4s							
TAPN	**Taplejung**	**6.83**	**192**	*e*P		**Pn**	**15 11 32.1**	**+2.3**
	53nm,0.7s							
JIRN	**Jiri**	**6.91**	**203**	*e*P		**Pn**	**15 11 34.3**	**+3.3**
	100nm,0.6s							
KKN	**Kakani**	**7.13**	**210**	*e*P		**Pn**	**15 11 34.8**	**+1.0**
	26nm,0.6s							
GKN	**Gorkha**	**7.23**	**214**	*e*P		**Pn**	**15 11 37.0**	**+1.9**
PKIN	**Phulchoki**	**7.27**	**208**	*e*P		**Pn**	**15 11 36.9**	**+1.1**
	33nm,0.7s							
PKI	**Pulchoki**	**7.27**	**208**	*e*P		**Pn**	**15 11 37.0**	**+1.1**
	8.7nm,0.9s							
DMN	**Daman**	**7.36**	**210**	*e*P		**Pn**	**15 11 38.5**	**+1.5**
	29nm,0.6s							
ODAN	**Odare**	**7.37**	**193**	*e*P		**Pn**	**15 11 38.1**	**+1.0**
	50nm,0.5s							
DANN	**Dangsing**	**7.39**	**221**	*e*P		**Pn**	**15 11 39.1**	**+1.6**
	16nm,0.5s							
RAMN	**Ramite**	**7.46**	**198**	*e*P		**Pn**	**15 11 39.0**	**+0.6**
	52nm,0.6s							
WMQ	**Urumqi**	**9.81**	**353**	*e*P		Pn	15 12 19.5	+9.1
WMQ					pmax	pmax		
	comp=Z,14nm,1.3s							
WMQ					LR	LR		
	comp=N,260nm,7.1s							
WMQ					LR	LR		
	comp=E,440nm,8.9s							
GTA	**Gaotai**	**10.01**	**55**	*e*P		**Pn**	**15 12 13.3**	**0.0**
GTA					pP		15 12 17.5	
GTA					sP		15 12 21.0	
GTA					pmax	pmax		
	comp=Z,2.0nm,1.1s							
GTA					pmax	pmax		
	comp=Z,180nm,5.8s							
GTA					LR	LR		
	comp=N,1μm,16.1s							
GTA					LR	LR		
	comp=E,670nm,14.1s							
GTA					LR	LR		
	comp=Z,1μm,11.3s							
TARG	**Taragay, Kyrgy**	**11.82**	**314**			**Pn**	**15 12 38.4**	**+0.1**
KSH	**Kashi**	**11.94**	**301**	P		**Pn**	**15 12 44.3**	**+4.7**
KSH				S		**Sn**	**15 15 00.5**	**+7.5**
KSH				pmax	pmax			
	comp=Z,320nm,4.8s							
KSH				LR	LR			
	comp=N,780nm,5.7s							
KSH				LR	LR			
	comp=E,1μm,7.6s							
KSH				LR	LR			
	comp=Z,2μm,16.6s							
NIL	**Nilore**	**13.30**	**273**	P		**Pn**	**15 12 56.4**	**-1.8**
NIL				pmax	pmax			
	comp=Z,22nm,0.9s							
BOOM	**Boomskoye usch**	**13.40**	**313**	P		**Pn**	**15 12 57.3**	**-2.3**
BOOM	**Boomskoye usch**	**13.40**	**313**	Pn		**Pn**	**15 12 57.3**	**-2.3**
MK31	**Makanchi Array**	**13.76**	**340**	*i* P		**Pn**	**15 13 06.0**	**+1.7**
MK31	**Makanchi Array**	**13.76**	**340**	Pn		**Pn**	**15 13 03.4**	**-0.9**
MKAR	**Makanchi Array**	**13.76**	**340**	*e*P		**Pn**	**15 13 05.5**	**+1.2**
MKAR	**Makanchi Array**	**13.76**	**340**	Pn		**Pn**	**15 13 03.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=152,slow=13,SNR=8.9							
MKAR				LR		LR	15 18 39.1	
	comp=Z,177nm,21.5s,baz=155,slow=38							
MAKZ	**Makanchi**	**13.86**	**339**	P		**Pn**	**15 13 04.8**	**-0.9**
MAKZ	**Makanchi**	**13.86**	**339**	Pn		**Pn**	**15 13 04.8**	**-0.9**
AAK	**Ala-Archa**	**14.37**	**311**	*i* P		**Pn**	**15 13 16.4**	**+3.5**
AAK	**Ala-Archa**	**14.37**	**311**	Pn		**Pn**	**15 13 17.1**	**+4.2**
	comp=Z,0.1nm,0.3s,baz=136,slow=11,SNR=6.9							
AAK				LR		LR	15 20 09.6	
	comp=Z,272nm,19.4s,baz=110,slow=43							
KMI	**Kunming**	**14.73**	**124**	P		**Pn**	**15 13 17.5**	**-0.5**
KMI				pP		P	15 13 21.5	-2.6
KMI				S		**Sn**	**15 16 05.5**	**+4.1**
KMI				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KMI				LR	LR			
	comp=Z,740nm,11.5s							
KMI				LR	LR			
	comp=Z,600nm,10.7s							
KMI				LR	LR			
	comp=Z,590nm,10.2s							
GAR	**Garm**	**15.98**	**293**	P		**P**	**15 13 37.9**	**+0.1**
XAN	**Xi'an**	**16.31**	**85**	P		**Pn**	**15 13 39.5**	**+1.0**
XAN				pmax	pmax			
	comp=Z,9.0nm,1.0s							
XAN				LR	LR			
	comp=Z,620nm,8.1s							
XAN				LR	LR			
	comp=Z,900nm,10.8s							
XAN				LR	LR			
	comp=Z,960nm,10.3s							
KBL	**Kabul**	**16.70**	**277**	P		**Pn**	**15 13 39.4**	**-4.2**
KBL				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KBL	**Kabul**	**16.70**	**277**			**Pn**	**15 13 39.4**	**-4.2**
CHGR	**Chuyangaron**	**16.81**	**292**			**Pn**	**15 13 41.2**	**-3.5**
CHGR				IAmb		IAmb	15 13 52.0	
	comp=Z,15nm,0.9s							
GYA	**Guiyang**	**16.84**	**112**	⇓*i*	P	**Pn**	**15 13 44.8**	**-0.5**
GYA					S	**Sn**	**15 16 51.5**	**-1.1**
GYA					SS	**SnSn**	**15 17 11.5**	**+5.8**
GYA					ScP	**ScP**	**15 22 08.0**	**+0.2**
GYA					pmax	pmax		
	comp=Z,20nm,0.7s							
GYA					pmax	pmax		
	comp=Z,80nm,4.3s							
GYA					LR	LR		
	comp=Z,350nm,7.4s							
GYA					LR	LR		
	comp=Z,310nm,9.8s							
CHTO	**Chiang Mai**	**17.49**	**148**	P		**P**	**15 13 54.3**	**-0.2**
CHTO				pmax	pmax			
	comp=Z,10.0nm,1.4s							
MHMT	**Maesarieng**	**17.64**	**152**	P		**P**	**15 13 56.7**	**+0.6**
	comp=Z,32nm,0.9s							
CM31	**Chiang Mai Arr**	**17.80**	**148**	P		**Pn**	**15 13 56.7**	**-0.5**
CM31				IAmb		IAmb	15 14 00.5	
	comp=Z,18nm,1.1s							
CMAR	**Chiang Mai Arr**	**17.80**	**148**	P		**Pn**	**15 13 55.5**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=332,slow=11,SNR=31							
CMAR				PcP		**PcP**	**15 18 34.1**	**-0.4**
	baz=211,slow=2.3,SNR=4.3							
CMAR				LR		LR	15 20 52.7	
	comp=Z,190nm,20.9s,baz=338,slow=38							
LAMP	**Lampang**	**18.05**	**146**	P		P	15 14 07.9	+7.2
KURBB	**Kurchatov Arra**	**18.30**	**338**	P		**P**	**15 14 02.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=148,slow=12,SNR=12							
PHRA	**Phrae**	**18.35**	**145**	P		**P**	**15 14 05.0**	**+1.0**
	comp=Z,2.2nm,1.1s							
KURK	**Kurchatov**	**18.36**	**338**	*i* P		**P**	**15 14 05.1**	**+1.3**
KURK				pmax	pmax			
	comp=Z,11nm,1.4s							
KURK	**Kurchatov**	**18.36**	**338**	P		**P**	**15 14 04.1**	**+0.2**
SONM	**Songino Array**	**18.83**	**38**	*e*P		**P**	**15 14 10.7**	**+1.5**
SONM	**Songino Array**	**18.83**	**38**	P		**P**	**15 14 10.1**	**+0.9**
	baz=226,slow=12,SNR=20							
SONM				LR		LR	15 21 32.4	
	comp=Z,91nm,20.2s,baz=158,slow=37							
ULN	**Ulaanbaatar**	**19.19**	**39**	*i* P		**P**	**15 14 13.9**	**+0.7**
ULN				pmax	pmax			
	comp=Z,19nm,1.9s							
ZAK	**Zakamensk**	**19.27**	**28**	*e*P		**P**	**15 14 15.2**	**+1.1**
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.1s							
ZAA0	**Zalesovo Array**	**20.11**	**352**	P		**P**	**15 14 22.9**	**-0.1**
ZAA0				IAmb		IAmb	15 14 27.2	
	comp=Z,16nm,0.8s							
ZALV	**Zalesovo Beam**	**20.11**	**352**	*e*P		**P**	**15 14 23.8**	**+0.7**
ZALV				pmax	pmax			
	comp=Z,20nm,0.8s							
ZALV	**Zalesovo Beam**	**20.11**	**352**	P		**P**	**15 14 23.2**	**+0.1**
	comp=Z,20nm,0.8s,baz=170,slow=11,SNR=38							
NONG	**Nongkai**	**20.22**	**139**	P		**P**	**15 14 25.3**	**+0.9**
	comp=Z,0.7nm,1.0s							
PBKT	**Sadao Pong**	**20.37**	**146**	P		**P**	**15 14 26.8**	**+0.7**
	comp=Z,9.0nm,1.0s,comp=Z,751nm							
TLY	**Talaya**	**20.45**	**26**	LR		LR	15 22 55.0	
	comp=Z,92nm,19.6s,baz=218,slow=38							
UTHA	**Uthaitani**	**20.61**	**151**	P		Pn	15 14 31.2	+0.3
	comp=Z,13μm,0.8s							
BVAR	**Borovoye Array**	**23.23**	**330**	P		**P**	**15 14 57.5**	**+1.0**
	comp=Z,7.7nm,0.9s,baz=133,slow=10,SNR=22							
BRVK	**Borovoye**	**23.30**	**330**	*i* P		**P**	**15 14 57.9**	**+0.8**
BRVK				pmax	pmax			
	comp=Z,6.0nm,0.9s							
BRVK	**Borovoye**	**23.30**	**330**	P		**P**	**15 14 57.4**	**+0.4**
BRVK				IAmb		IAmb	15 15 01.6	
	comp=Z,6.7nm,0.8s							
UBPT	**Khong Chiam**	**23.76**	**138**	P		**P**	**15 15 01.1**	**-0.8**
UBPT				IAmb		IAmb	15 15 03.1	
	comp=Z,20nm,0.8s							
HKPS	**Hong Kong Po S**	**24.83**	**112**	P		**P**	**15 15 10.5**	**-1.3**
GEYT	**Alibeck**	**25.41**	**288**	P		**P**	**15 15 17.8**	**+0.8**
	comp=Z,5.5nm,1.0s,baz=119,slow=9.2,SNR=8.7							
GYA0B	**ALIBECK ARRAY**	**25.41**	**288**	P		**P**	**15 15 15.3**	**-1.7**
GYA0B				IAmb		IAmb	15 15 25.0	
	comp=Z,11nm,1.1s							
PALK	**Pallekele**	**27.81**	**198**	P		**P**	**15 15 36.0**	**-2.8**
AKTO	**Aktyubinsk**	**28.04**	**315**	LR		LR	15 27 25.7	
	comp=Z,2μm,21.5s,baz=121,slow=38							
ARU	**Arti**	**30.65**	**326**	*i* P		**P**	**15 16 04.8**	**+1.2**
ARU				pmax	pmax			
	comp=Z,36nm,4.0s							
KSRS	**Korea Array**	**31.42**	**73**	*e*P		**P**	**15 16 09.7**	**-0.9**
KSRS				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KSRS	**Korea Array**	**31.42**	**73**	P		**P**	**15 16 08.3**	**-2.2**
	comp=Z,4.0nm,1.0s,baz=274,slow=8.3,SNR=6.6							
USRK	**Ussuriysk Ar.**	**34.32**	**60**	*e*P		**P**	**15 16 37.9**	**+2.0**
USRK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
USRK	**Ussuriysk Ar.**	**34.32**	**60**	P		**P**	**15 16 32.5**	**-3.3**
	comp=Z,2.9nm,1.0s,baz=308,slow=7.1,SNR=3.1							
KLR	**Kul'dur**	**34.69**	**51**	*i* P		**P**	**15 16 39.4**	**+0.4**
KLR				pmax	pmax			
	comp=Z,6.0nm,1.4s							
NRIK	**Noril'sk**	**35.33**	**359**	*i* P		**P**	**15 16 45.4**	**+1.1**
NRIK	**Noril'sk**	**35.33**	**359**	P		**P**	**15 16 44.7**	**+0.4**
	comp=Z,4.7nm,0.9s,baz=161,slow=6.5,SNR=9.1							
GNI	**Garni**	**35.71**	**293**	*i* P		**P**	**15 16 48.7**	**+0.5**
GNI				pmax	pmax			
	comp=Z,26nm,1.0s							
YAK	**Yakutsk**	**37.85**	**30**	*i* P		**P**	**15 17 06.0**	**+0.2**
YAK				pmax	pmax			
	comp=Z,9.0nm,0.8s							
TIXI	**Tiksi**	**42.99**	**17**	*i* P		**P**	**15 17 48.8**	**+0.6**
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.1s							
TIXI	**Tiksi**	**42.99**	**17**	P		**P**	**15 17 48.6**	**+0.3**
TIXI				IAmb		IAmb	15 19 17.5	
	comp=Z,5.4nm,0.4s							
BRTR	**Keskin Array B**	**44.22**	**294**	*e*P		**P**	**15 17 59.3**	**+0.5**
BRTR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
BRTR	**Keskin Array B**	**44.22**	**294**	P		**P**	**15 17 58.9**	**0.0**
	comp=Z,2.9nm,0.9s,baz=132,slow=5.2,SNR=11							
EIL	**Elat**	**45.87**	**280**	P		**P**	**15 18 10.0**	**-1.9**
	comp=Z,4.9nm,0.9s,baz=22,slow=5.4,SNR=2.4							
AKASG	**Malin Array Be**	**46.04**	**310**	*i* P		**P**	**15 18 15.8**	**+2.9**
AKASG	**Malin Array Be**	**46.04**	**310**	P		**P**	**15 18 11.7**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=81,slow=6.8,SNR=4.9							
SORM	**Soroca**	**46.80**	**307**	P		**P**	**15 18 19.4**	**+0.5**
ATD	**Arta Tunnel**	**47.79**	**253**	LR		LR	15 38 57.7	
	comp=Z,1μm,21.5s,baz=344,slow=37							
FINES	**FINESS Array B**	**48.00**	**325**	P		**P**	**15 18 27.0**	**-1.0**
	comp=Z,3.8nm,0.8s,baz=110,slow=12,SNR=3.7							
GIRR	**Girov**	**48.19**	**305**	P		**P**	**15 18 30.0**	**+0.3**
VRI	**Vrincioaia**	**48.19**	**304**	P		**P**	**15 18 31.5**	**+1.7**
VRI	**Vrincioaia**	**48.19**	**304**	⇑P		**P**	**15 18 31.5**	**+1.7**
PLOR	**Plostina**	**48.25**	**304**	P		**P**	**15 18 31.4**	**+1.1**
PLOR	**Plostina**	**48.25**	**304**	⇓P		**P**	**15 18 31.5**	**+1.1**
BIZ	**Bicaz**	**48.46**	**305**	⇑P		**P**	**15 18 32.2**	**+0.3**
MLR	**Muntele Rosu**	**48.80**	**303**	P		**P**	**15 18 35.2**	**+0.6**
	comp=Z,18nm,0.9s,baz=132,slow=4.3,SNR=13							
MLR	**Muntele Rosu**	**48.80**	**303**	⇓P		**P**	**15 18 36.1**	**+1.5**
OZUR		**48.80**	**304**	P		**P**	**15 18 36.1**	**+1.6**
BURAR	**Bucovina Array**	**48.96**	**306**	P		**P**	**15 18 37.7**	**+1.9**
BURAR	**Bucovina Array**	**48.96**	**306**	⇑P		**P**	**15 18 37.8**	**+1.9**
DOPR	**Dopca**	**49.10**	**304**	P		**P**	**15 18 38.3**	**+1.5**
ARCES	**ARCESS Array B**	**49.37**	**335**	P		**P**	**15 18 39.3**	**+0.8**
	comp=Z,4.2nm,0.9s,baz=96,slow=8.5,SNR=3.4							
VOIR		**49.42**	**303**	P		**P**	**15 18 42.1**	**+2.7**
VOIR				pmax	pmax			
	comp=Z,8.0nm,0.8s							
VOIR		**49.42**	**303**	⇑P		**P**	**15 18 39.6**	**+0.2**
TRPA	**Tarpa**	**50.66**	**307**	P		**P**	**15 18 51.4**	**+2.9**
DRGR		**50.78**	**306**	P		**P**	**15 18 52.1**	**+2.5**
DRGR				pmax	pmax			
	comp=Z,6.0nm,3.3s							
DRGR		**50.78**	**306**	⇓P		**P**	**15 18 49.9**	**+0.3**
DEV	**Deva**	**50.82**	**304**	P		**P**	**15 18 51.5**	**+1.7**
DEV				pmax	pmax			
	comp=Z,13nm,1.4s							
GZR	**Gura Zlata**	**51.01**	**304**	⇑P		**P**	**15 18 53.5**	**+2.2**
BZS	**Buzias**	**51.76**	**304**	P		**P**	**15 18 58.1**	**+1.2**
BZS				pmax	pmax			
	comp=Z,5.0nm,2.7s							
VYHS	**Vyhne**	**53.02**	**308**	*e*P		**P**	**15 19 07.8**	**+1.6**
VYHS	**Vyhne**	**53.02**	**308**	*e*P		**P**	**15 19 07.8**	**+1.6**
BILL	**Bilibino**	**54.07**	**27**	*i* P		**P**	**15 19 14.6**	**+1.0**
BILL				pmax	pmax			
	comp=Z,6.0nm,1.2s							
KRUC	**Moravsky**	**54.

CPUP Villa Florida 150.19 276 PKPbc **PKPdf 15 29 38.8 +3.1**
comp=Z,2.6nm,0.9s,baz=61,slow=2.0,SNR=5.2

*ISCJB **28** 15:10:07.8±0.3,23˚46S±0˚03×66˚89W±0˚03,h228km±3km, Error ellipse: s-maj=5.6km s-min=4.5km az=40.0*
*IDC **28** 15:10:09.1±1.2,23˚44S×66˚76W,h196km± 14km,mb3.5/2, mb1 3.5/7,mb1mx3.3/35,mbtmp3.8/7, Error ellipse: s-maj=24.1km s-min=18.8km az=11.0*
*SJA **28** 15:10:09.2±0.8,23˚51S×66˚84W,h210km±6km,ML3.0, MW2.8*
*NEIC **28** 15:10:09.8±2.7,23˚40S±0˚06×67˚1W±0˚1,h232km±13km*
*GUC **28** 15:10:11.3±0.8,23˚37S×67˚22W,h230km±9km,ML4.5*

ISC 28 15:10:08.5±0.7,23˚48S±0˚04×66˚88W±0˚04,h219km±6km, n57,σ1§45/84,4C-8D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SLA	**San Lorenzo**	**1.76**	**135**	*i* P		**Pn**	**15 10 46.8**	**+0.4**
SLA				*e*S		**S**	**15 11 14.0**	**-1.8**
SLA				IAML			15 11 17.8	
	comp=Z,103nm,0.8s							
YJA	**Yavi**	**1.81**	**44**	*i* P		**Pn**	**15 10 47.5**	**+0.3**
YJA				IAML			15 10 48.5	
	comp=Z,26nm,0.3s							
YJA				*e*S		**S**	**15 11 17.6**	**+0.5**
AZAP	**Zapla**	**1.82**	**114**	*i* P		**Pn**	**15 10 46.9**	**-0.1**
AZAP				IAML			15 10 47.2	
	comp=Z,114nm,0.5s							
AZAP				*e*S		**S**	**15 11 15.7**	**-1.2**
LVC	**Limon Verde**	**2.06**	**295**	⇓*i* P		**Pn**	**15 10 50.6**	**+1.1**
LVC				*i* S		**S**	**15 11 20.7**	**-0.6**
LVC	**Limon Verde**	**2.06**	**295**	*i* P		**Pn**	**15 10 50.5**	**+1.0**
	comp=Z,7.2nm,0.3s,baz=98,slow=7.6,SNR=152							
LVC				S		**S**	**15 11 20.3**	**-0.9**
	comp=Z,41nm,0.3s,baz=251,slow=21,SNR=68							
LVC	**Limon Verde**	**2.06**	**295**			**Pn**	**15 10 50.9**	**+1.4**
LVC						**S**	**15 11 21.4**	**+0.2**
LVC	**Limon Verde**	**2.06**	**295**	*i* P		**Pn**	**15 10 50.6**	**+1.1**
LVC				*e*S		**S**	**15 11 20.5**	**-0.8**
ASTB	**Santa Barbara**	**2.27**	**102**	IAML			15 10 51.4	
ASTB				*i* P		**Pn**	**15 10 51.5**	**+0.1**
ASTB				*e*S		**S**	**15 11 22.7**	**-2.0**
PB15	**IPOC Station P**	**2.40**	**276**	⇑*i* P		**Pn**	**15 10 54.0**	**+1.3**
PB15				*i* S		**S**	**15 11 27.2**	**+0.1**
PB15	**IPOC Station P**	**2.40**	**276**	*i* P		**Pn**	**15 10 54.1**	**+1.3**
PB15				*e*S		**S**	**15 11 26.7**	**-0.3**
PB06	**IPOC Station P**	**2.60**	**287**	⇑*i* P		**Pn**	**15 10 56.1**	**+1.3**
PB06				*i* S		**S**	**15 11 30.1**	**-0.7**
PB06				IAML			15 11 30.6	
	comp=N,1μm,0.2s							
PB06	**IPOC Station P**	**2.60**	**287**	*i* P		**Pn**	**15 10 56.2**	**+1.3**
PB06				*e*S		**S**	**15 11 30.5**	**-0.3**
PB09	**IPOC Station P**	**2.75**	**307**	⇓*i* P		**Pn**	**15 10 58.1**	**+1.5**
PB09				*i* S		**S**	**15 11 33.2**	**-0.8**
PB09	**IPOC Station P**	**2.75**	**307**	*i* P		**Pn**	**15 10 57.8**	**+1.2**
PB09				*e*S		**S**	**15 11 33.5**	**-0.5**
GO02	**Mina Guanaco**	**2.98**	**235**			**Pn**	**15 11 00.5**	**+1.2**
GO02						**S**	**15 11 39.6**	**+0.8**
PB03	**IPOC Station P**	**3.01**	**298**	⇓*i* P		**Pn**	**15 11 00.4**	**+0.9**
PB03				*i* S		**S**	**15 11 37.5**	**-1.7**
PB03				IAML			15 11 38.1	
	comp=N,1μm,0.3s							
PB05	**IPOC Station P**	**3.12**	**281**	⇑*i* P		**Pn**	**15 11 01.5**	**+0.8**
PB05				*i* S		**S**	**15 11 39.7**	**-1.6**
PB05				IAML			15 11 43.2	
	comp=E,367nm,0.2s							
PB04	**IPOC Station P**	**3.22**	**290**	*e*P		**Pn**	**15 11 02.9**	**+0.9**
PB04				*i* S		**S**	**15 11 41.9**	**-1.7**
PB04				IAML			15 11 47.3	
	comp=N,798nm,0.4s							
PB04	**IPOC Station P**	**3.22**	**290**			**Pn**	**15 11 03.2**	**+1.2**
PB04						**S**	**15 11 41.8**	**-1.7**
PB04	**IPOC Station P**	**3.22**	**290**	⇑*i* P		**Pn**	**15 11 03.1**	**+1.2**
PB04				*e*S		**S**	**15 11 43.1**	**-0.5**
PB10	**IPOC Station P**	**3.37**	**269**	⇓*i* P		**Pn**	**15 11 04.7**	**+1.1**
PB10				*i* S		**S**	**15 11 44.6**	**-1.8**
PB10	**IPOC Station P**	**3.37**	**269**			**Pn**	**15 11 04.4**	**+0.9**
PB10						**S**	**15 11 44.9**	**-1.6**
PB10	**IPOC Station P**	**3.37**	**269**	*i* P		**Pn**	**15 11 04.8**	**+1.3**
PB14	**IPOC Station P**	**3.42**	**250**	⇑*i* P		**Pn**	**15 11 05.2**	**+0.9**
PB14				*i* S		**S**	**15 11 46.4**	**-1.5**
PB14	**IPOC Station P**	**3.42**	**250**	*i* P		**Pn**	**15 11 05.3**	**+1.0**
AHML	**Horco Molle**	**3.57**	**157**	*i* P		**Pn**	**15 11 06.6**	**+0.7**
PB08	**IPOC Station P**	**3.94**	**327**	⇓*i* P		**Pn**	**15 11 12.1**	**+1.4**
PB08				*i* S		**S**	**15 11 59.4**	**0.0**
GO01	**Chusmiza**	**4.36**	**330**			**Pn**	**15 11 16.7**	**+0.7**
PB11	**IPOC Station P**	**4.51**	**325**	⇓*i* P		**Pn**	**15 11 17.4**	**-0.2**
PB11				*i* S		**S**	**15 12 09.1**	**-2.7**
PB11	**IPOC Station P**	**4.51**	**325**			**Pn**	**15 11 17.1**	**-0.4**
MNMC	**Minye Minye**	**5.02**	**329**	⇓*i* P		**Pn**	**15 11 24.3**	**+0.3**
MNMC				*i* S		**S**	**15 12 21.1**	**-2.3**
MNMC	**Minye Minye**	**5.02**	**329**		P	**Pn**	**15 11 24.3**	**+0.3**
ACLC	**CERRO LA CRUZ**	**5.92**	**181**	*i* P		**Pn**	**15 11 36.0**	**+0.8**
LPAZ	**La Paz**	**7.25**	**350**	P		**Pn**	**15 11 53.9**	**+1.1**
	comp=N,1.2nm,0.3s,baz=162,slow=10,SNR=24							
LPAZ				S		**S**	**15 13 15.8**	**-0.1**
	baz=219,slow=13,SNR=2.1							
LPAZ	**La Paz**	**7.25**	**350**			**Pn**	**15 11 54.2**	**+1.4**
ACCO	**Cerro Coronel**	**7.34**	**195**	*i* P		**Pn**	**15 11 55.0**	**+1.5**
CPUP	**Villa Florida**	**9.12**	**110**	P		**Pn**	**15 12 16.0**	**-0.2**
	baz=282,slow=9.3,SNR=3.5							
SIV	**San Ignacio**	**9.24**	**37**	P		**Pn**	**15 12 16.7**	**-1.2**
	comp=N,0.8nm,0.3s,baz=240,slow=13,SNR=14							
PEL	**Peldehue**	**10.19**	**198**			**P**	**15 12 35.6**	**-1.2**
SAML	**Samuel**	**14.88**	**14**			**P**	**15 13 29.2**	**+0.3**
TRQA	**Tornquist**	**15.12**	**165**	P		**P**	**15 13 34.2**	**+2.8**
GO06	**Curarrehue**	**16.52**	**193**	P		**P**	**15 13 45.6**	**-1.4**
BDFB	**Brasilia**	**19.40**	**70**	P		**P**	**15 14 19.6**	**+1.2**
	comp=N,0.9nm,0.3s,baz=253,slow=12,SNR=5.9							
BDFB	**Brasilia**	**19.40**	**70**	P		**P**	**15 14 20.1**	**+1.7**
BDFB				IAmb		IAmb	15 14 21.1	
	comp=Z,5.3nm,0.7s							
GO10	**Punta Arenas**	**29.80**	**185**	P		**P**	**15 15 56.0**	**+1.2**
GO10				IAmb		IAmb	15 16 05.5	
	comp=Z,52nm,1.4s							
MCLT	**Moule a Chique**	**37.42**	**10**	P		**P**	**15 17 01.9**	**+1.1**
FDF	**Fort de France**	**38.39**	**9**	P		**P**	**15 17 06.7**	**-2.3**
FDF				IAmb		IAmb	15 17 11.8	
	comp=Z,71nm,1.2s							
PDPR	**Patillas Dam,**	**41.26**	**1**	P		**P**	**15 17 29.9**	**-2.5**
PDPR				IAmb		IAmb	15 17 41.0	
	comp=Z,32nm,1.4s							
CBYP	**Canovanas**	**41.51**	**1**	P		**P**	**15 17 32.5**	**-2.0**
CBYP				IAmb		IAmb	15 17 38.5	
	comp=Z,18nm,1.1s							
STVI	**Saint Thomas**	**41.62**	**3**	P		**P**	**15 17 33.3**	**-2.0**
STVI				IAmb		IAmb	15 17 49.5	
	comp=Z,17nm,0.9s							
BANI	**BANI**	**41.76**	**355**	P		**P**	**15 17 34.7**	**-2.0**
PCDR	**Punta Cana, DR**	**41.77**	**358**	P		**P**	**15 17 33.9**	**-2.6**
DR12	**Loma Pena Alta**	**42.08**	**356**	P		**P**	**15 17 37.4**	**-1.8**
SYO	**Syowa Base**	**73.99**	**159**	⇓*e*P		**P**	**15 21 18.4**	**-1.2**
TORD	**Torodi Ar. Bea**	**76.28**	**69**	P		**P**	**15 21 35.4**	**+1.9**
	comp=Z,0.6nm,0.4s,baz=257,slow=5.6,SNR=11							
YKA	**Yellowknife Ar**	**93.68**	**340**	P		**P**	**15 23 03.1**	**+3.5**
	comp=Z,0.1nm,0.4s,baz=128,slow=4.5,SNR=8.6							
HYB	**Hyderabad**	**147.11**	**94**	*i* PKP		**PKPdf**	**15 29 20.0**	**-3.9**

*BJI **28** 15:20:11.5±0.0,23˚98S×174˚76W,h10km,mb5.4/8, mB5.7/2,Ms5.7/1,Ms7 5.5/2*
*IDC **28** 15:20:13.4±0.4,23˚75S×175˚04W,h0km,mb4.8/25, mb1 4.9/26,mb1mx4.7/51,mbtmp4.8/26,ML5.2/1, Error ellipse: s-maj=15.5km s-min=11.8km az=157.0*
*NEIC **28** 15:20:13.9±2.4,23˚76S±0˚07×174˚78W±0˚09,h10km±1km, mb5.0/24*
*MOS **28** 15:20:13.8±1.1,23˚83S×174˚97W,h10km,mb5.3/13, Error ellipse: s-maj=11.6km s-min=10.6km az=7.8*
*ISCJB **28** 15:20:15.5±0.2,23˚86S±0˚05×174˚97W±0˚05,h24km, mb4.9/37,Error ellipse: s-maj=8.1km s-min=4.7km az=146.0*

ISC 28 15:20:16.9±0.3,23˚89S±0˚06×174˚88W±0˚07,h24km, n197,σ1§19/191,mb5.0/43,14C-5D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
RAO	**Raoul Island**	**6.00**	**206**	P		**Pn**	**15 21 44.3**	**+0.1**
RAO							15 22 54.2	
RAO	**Raoul Island**	**6.00**	**206**	Pn		**Pn**	**15 21 44.1**	**-0.1**
	57nm,0.3s,baz=66,slow=20,SNR=3.6							
RAO				Sn		**Sn**	**15 22 51.0**	**-1.1**
	144nm,0.3s,baz=253,slow=19,SNR=5.4							
RAO	**Raoul Island**	**6.00**	**206**	Pn		**Pn**	**15 21 44.3**	**+0.1**
RAO						**Sn**	**15 22 54.2**	**+2.1**
NIUE	**Niue**	**6.64**	**45**			Pn	15 21 45.8	-7.3
MSVF	**Nonsavu**	**9.01**	**311**	*i* P		**Pn**	**15 22 28.5**	**+2.8**
MSVF	**Nonsavu**	**9.01**	**311**			**Pn**	**15 22 28.6**	**+3.0**
AFI	**Afiamalu**	**10.35**	**17**	P		Pn	15 22 38.7	-5.3
AFI	**Afiamalu**	**10.35**	**17**	Pn		Pn	15 22 37.4	-6.6
	9.2nm,0.3s,baz=71,slow=7.6,SNR=15							
AFI				Sn		Sn	15 24 22.1	-17
	14nm,0.3s,baz=53,slow=20,SNR=3.9							
AFI	**Afiamalu**	**10.35**	**17**			Pn	15 22 38.7	-5.3
RAR	**Rarotonga**	**14.21**	**82**	Pn		Pn	15 23 29.7	-7.1
	26nm,0.3s,baz=261,slow=8.7,SNR=93							
RAR				Sn		Sn	15 25 52.1	-22
	9.0nm,0.3s,baz=248,slow=19,SNR=7.0							
URZ	**Urewera**	**15.88**	**204**	Pn		**Pn**	**15 23 54.6**	**-4.2**
	0.5nm,0.3s,baz=265,slow=5.2,SNR=6.3							
URZ				Sn		Sn	15 26 42.5	-12
	3.0nm,0.3s,baz=33,slow=22,SNR=9.3							
DZM	**Mont Dzumac**	**17.29**	**272**	P		**P**	**15 24 18.8**	**+0.5**
	0.9nm,0.3s,baz=86,slow=17,SNR=36							
DZM	**Mont Dzumac**	**17.29**	**272**	*e*P		**P**	**15 24 18.0**	**-0.3**
	103nm,0.9s							
DZM				*e*LR		LR	15 28 23.5	
	comp=Z,680nm,33.0s							
DZM	**Mont Dzumac**	**17.29**	**272**	P		**P**	**15 24 18.6**	**+0.3**
DZM				IAmb		IAmb	15 24 22.9	
	comp=Z,49nm,0.9s							
RPZ	**Rata Peaks**	**22.91**	**207**	P		**P**	**15 25 20.1**	**+1.1**
	comp=Z,9.6nm,0.8s,baz=30,slow=6.0,SNR=6.1							
TBI	**Tubuai**	**23.29**	**94**	*e*LR		LR	15 30 28.5	
	comp=Z,645nm,32.5s							
PAE	**Paea**	**24.43**	**80**	*e*T		T	15 50 29.5	
	comp=Z,10nm,0.3s							
PPT2	**Papeete2**	**24.46**	**80**	*e*S		S	15 29 40.9	-12
	comp=Z,151nm,24.5s							
PPT2				*e*LR		LR	15 30 59.0	
	comp=Z,860nm,27.8s							
PPT2	**Papeete2**	**24.46**	**80**	*e*T		T	15 50 32.6	
	comp=Z,6.8nm,0.4s							
TVO	**Taravao**	**24.69**	**81**	*e*T		T	15 50 49.7	
	comp=Z,1.2nm,0.3s							
HNR	**Honiara**	**28.00**	**297**	P		**P**	**15 26 04.9**	**-1.3**
	comp=Z,30nm,0.8s,baz=217,slow=2.8,SNR=4.6							
EIDS	**Eidsvold**	**30.93**	**260**	P		**P**	**15 26 31.8**	**-0.4**
CTA	**Charters Tower**	**36.16**	**268**	P		**P**	**15 27 17.5**	**-0.2**
CTA				pmax		pmax		
	comp=Z,27nm,1.0s							
CTAO	**Charters Tower**	**36.16**	**268**	P		**P**	**15 27 18.2**	**+0.5**
CTAO				pmax		pmax		
	comp=Z,24nm,1.0s							
PMG	**Port Moresby**	**38.97**	**285**	*i* P		**P**	**15 27 41.2**	**-0.3**
PMG				pmax		pmax		
	comp=Z,131nm,1.0s							
PMG	**Port Moresby**	**38.97**	**285**	P		**P**	**15 27 40.3**	**-1.3**
	comp=Z,28nm,0.9s,baz=104,slow=6.8,SNR=6.8							
PMG	**Port Moresby**	**38.97**	**285**	P		**P**	**15 27 40.2**	**-1.3**
PMG				IAmb		IAmb	15 27 55.2	
	comp=Z,35nm,0.9s							
STKA	**Stephens Creek**	**39.08**	**248**	*e*P		**P**	**15 27 45.2**	**+2.9**
STKA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
STKA	**Stephens Creek**	**39.08**	**248**	P		**P**	**15 27 42.0**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=101,slow=14,SNR=7.3							
STKA	**Stephens Creek**	**39.08**	**248**	P		**P**	**15 27 42.0**	**-0.3**
COEN	**Coen**	**40.76**	**276**	P		**P**	**15 27 56.4**	**0.0**
BBOO	**Buckleboo**	**43.76**	**247**	P		**P**	**15 28 21.1**	**+0.4**
BBOO				IAmb		IAmb	15 28 28.4	
	comp=Z,20nm,1.1s							
H11S2	**WAKE ISLAND Hy**	**45.79**	**335**	T		T	16 17 42.8	
	baz=155							
H11S3	**WAKE ISLAND Hy**	**45.80**	**335**	T		T	16 17 45.4	
	baz=155							
H11S1	**WAKE ISLAND Hy**	**45.81**	**335**	T		T	16 17 46.9	
	baz=155							
AS31	**Alice Springs**	**46.65**	**259**	P		**P**	**15 28 42.9**	**-1.0**
ASAR	**Alice Springs**	**46.65**	**259**	P		**P**	**15 28 42.9**	**-1.0**
	comp=Z,10nm,0.9s,baz=95,slow=8.2,SNR=37							
ASAR				PcP		**PcP**	**15 30 18.3**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=108,slow=4.3,SNR=3.6							
ASAR				S		**S**	**15 35 30.2**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=102,slow=17,SNR=5.2							
WR0	**Warramunga Arr**	**46.89**	**264**	P		**P**	**15 28 45.5**	**-0.2**
WR0				IAmb		IAmb	15 28 50.8	
	comp=Z,11nm,0.8s							
WRAB	**Tennant Creek**	**47.07**	**264**	*i* P		**P**	**15 28 46.4**	**-0.7**
WRAB				pmax		pmax		
	comp=Z,17nm,0.9s							
WRAB	**Tennant Creek**	**47.07**	**264**	P		**P**	**15 28 46.5**	**-0.6**
WRA	**Warramunga Arr**	**47.08**	**264**	P		**P**	**15 28 45.7**	**-1.5**
	comp=Z,16nm,0.9s,baz=101,slow=8.0,SNR=42							
WRA				PcP		**PcP**	**15 30 19.1**	**+0.1**
	comp=Z,4.4nm,0.9s,baz=101,slow=3.7,SNR=4.1							
FORT	**Forrest**	**50.70**	**249**	P		**P**	**15 29 14.4**	**-0.4**
MTN	**Manton Dam**	**52.13**	**272**	P		**P**	**15 29 24.7**	**-1.1**
MTN				IAmb		IAmb	15 29 26.6	
	comp=Z,13nm,1.0s							
KNRA	**Kununurra**	**53.37**	**268**	P		**P**	**15 29 34.5**	**-0.4**
VNDA	**Vanda**	**54.84**	**186**	P		**P**	**15 29 47.2**	**+2.6**
	comp=Z,3.9nm,0.9s,baz=350,slow=5.2,SNR=5.1							
FITZ	**Fitzroy Crossi**	**55.50**	**264**	P		**P**	**15 29 50.4**	**+0.1**
FITZ				IAmb		IAmb	15 29 54.9	
	comp=Z,18nm,0.9s							
SWI	**Sorong**	**56.92**	**285**	P		**P**	**15 30 00.1**	**-0.4**
SWI				pmax		pmax		
	comp=Z,50nm,0.9s							
SWI	**Sorong**	**56.92**	**285**	P		**P**	**15 29 59.5**	**-1.0**
	comp=Z,50nm,0.9s							
MORW	**Morawa**	**61.27**	**249**	P		**P**	**15 30 30.3**	**-0.2**
CASY	**Casey**	**62.18**	**206**	P		**P**	**15 30 37.4**	**+1.4**
CASY				IAmb		IAmb	15 30 42.2	
	comp=Z,11nm,0.8s							
KCP	**Kidapawan**	**66.10**	**290**	⇑P		**P**	**15 31 05.0**	**+2.4**
QSPA	**South Pole Qui**	**66.20**	**180**	P		**P**	**15 31 04.0**	**+1.4**
	comp=Z,6.7nm,0.8s,baz=42,slow=1.2,SNR=17							
QSPA	**South Pole Qui**	**66.20**	**180**	P		**P**	**15 31 03.8**	**+1.2**
QSPA				IAmb		IAmb	15 31 04.8	
	comp=Z,9.6nm,0.9s							
MJA0	**Matsu Arr-Jizo**	**74.62**	**322**	*e*P		**P**	**15 31 54.1**	**-0.1**
MJA0				pmax		pmax		
	comp=Z,4.0nm,0.8s							
MJAR	**Matsshiro Arr**	**74.64**	**322**	P		**P**	**15 31 54.2**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=136,slow=5.5,SNR=7.5							
LEM	**Lembang**	**75.86**	**269**	P		**P**	**15 32 02.5**	**+0.5**
	comp=Z,22nm,0.7s,baz=30,slow=20,SNR=3.9							
PAGB	**Antelope Grade**	**78.64**	**43**	P		**P**	**15 32 13.8**	**-3.2**
MONP2	**Monument Peak**	**79.32**	**47**	P		**P**	**15 32 21.0**	**0.0**
	baz=232,SNR=6.3							
BFSC	**Mount Baldy Ra**	**79.33**	**45**	P		**P**	**15 32 21.4**	**+0.4**
	baz=231							
MAW	**Mawson**	**79.36**	**199**	P		**P**	**15 32 21.4**	**+1.0**
	comp=Z,7.7nm,0.9s,baz=106,slow=5.3,SNR=9.6							
MAW	**Mawson**	**79.36**	**199**	P		**P**	**15 32 19.8**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**79.39**	**47**	P		**P**	**15 32 21.5**	**+0.3**
	baz=233,SNR=5.4							
VES	**Vestal, Richgr**	**79.43**	**43**	P		**P**	**15 32 21.7**	**+0.4**
	baz=230							
EDW2	**Edwards Air Fo**	**79.52**	**44**	P		**P**	**15 32 22.2**	**+0.3**
	baz=231							
ISA	**Isabella, Lake**	**79.70**	**44**	P		**P**	**15 32 22.7**	**-0.2**
	baz=231							
PFO	**Pinyon Flats O**	**79.73**	**46**	P		**P**	**15 32 22.9**	**-0.3**
	baz=232							
PFO	**Pinyon Flats O**	**79.73**	**46**	P		**P**	**15 32 23.3**	**+0.1**
	comp=Z,3.0nm,0.9s,baz=258,slow=3.3,SNR=5.4							
SWSC	**Sam W. Stewart**	**79.77**	**47**	P		**P**	**15 32 23.5**	**+0.3**
	baz=233							
BBRC	**Big Bear Solar**	**79.83**	**46**	P		**P**	**15 32 23.7**	**0.0**
	baz=232							
O02D	**Mt. Diablo Mer**	**80.09**	**38**	P		**P**	**15 32 25.6**	**+0.8**
	baz=227							
LRMC	**Laurel Mtn Rad**	**80.09**	**44**	P		**P**	**15 32 25.0**	**-0.1**
	baz=231							
YSS	**Yuzh-Sakhalins**	**80.21**	**332**	*e*P		**P**	**15 32 26.0**	**+0.8**
YSS				pmax		pmax		
	comp=Z,47nm,1.0s							
BELC	**Belle Mtn. Jos**	**80.28**	**46**	P		**P**	**15 32 26.5**	**+0.4**
	baz=232,SNR=6.9							
PETK	**Petropavlovsk-**	**80.29**	**344**	P		**P**	**15 32 25.2**	**-0.3**
	comp=Z,7.0nm,0.9s,baz=125,slow=7.2,SNR=2.9							
BC3	**Big Chuckawall**	**80.43**	**47**	P		**P**	**15 32 27.7**	**+0.8**
	baz=233,SNR=5.3							
CWC	**Cottonwood Cre**	**80.44**	**43**	P		**P**	**15 32 27.1**	**+0.2**
	baz=231							
GLA	**Glamis**	**80.49**	**48**	P		**P**	**15 32 27.2**	**+0.1**
	baz=233							
GSC	**Goldstone, Bar**	**80.54**	**45**	P		**P**	**15 32 27.5**	**+0.1**
	baz=232							
HEC	**Hector,Ludlow**	**80.56**	**45**	P		**P**	**15 32 27.6**	**0.0**
	baz=232							
MPMC	**Manual Prospec**	**80.57**	**44**	P		**P**	**15 32 28.1**	**+0.4**
	baz=231							
N02D	**Trinity Center**	**80.67**	**37**	P		**P**	**15 32 28.7**	**+0.7**
	baz=227							
O03E	**Paynes Creek**	**80.72**	**38**	P		**P**	**15 32 28.7**	**+0.4**
	baz=228							
M02C	**Callahan**	**80.88**	**37**	P		**P**	**15 32 29.5**	**+0.5**
	baz=227							
IRM	**Iron Mountain**	**80.94**	**46**	P		**P**	**15 32 30.0**	**+0.5**
	baz=233,SNR=7.1							
GMRC	**Granite Mounta**	**80.97**	**46**	P		**P**	**15 32 29.6**	**-0.1**
	baz=233							
YBH	**Yreka Blue Hor**	**81.19**	**37**	P		**P**	**15 32 31.1**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=215,slow=3.9,SNR=3.7							
TUQ	**Turquoise Moun**	**81.19**	**45**	P		**P**	**15 32 31.2**	**+0.2**
	baz=232							
214A	**Organ Pipe Nat**	**81.23**	**49**	P		**P**	**15 32 31.0**	**-0.1**
	baz=235							
GRAC	**Grapevine Rang**	**81.24**	**43**	P		**P**	**15 32 31.5**	**+0.4**
	baz=231							
NVAR	**Mina Array Bea**	**81.56**	**42**	P		**P**	**15 32 33.2**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=222,slow=9.1,SNR=19							
TPNV	**Topopah Spring**	**81.91**	**44**	P		**P**	**15 32 35.1**	**+0.4**
	baz=232							
TUC	**Tucson**	**82.85**	**50**	P		**P**	**15 32 40.2**	**+0.5**
	baz=236							
TUC	**Tucson**	**82.85**	**50**	P		**P**	**15 32 40.5**	**+0.8**
TUC				pmax		pmax		
	comp=Z,12nm,1.1s							
J05D	**Fort Rock, OR**	**83.04**	**36**	P		**P**	**15 32 41.0**	**+0.5**
	baz=228							
R11A	**Troy Canyon, C**	**83.18**	**43**	P		**P**	**15 32 41.2**	**-0.2**
	baz=232							
I05D	**Terrebonne, OR**	**83.69**	**35**	P		**P**	**15 32 44.2**	**+0.5**
	baz=228							
WVOR	**Wild Horse Val**	**83.92**	**38**	P		**P**	**15 32 45.6**	**+0.6**
WVOR				pmax		pmax		
	comp=Z,14nm,1.1s							
SYO	**Syowa Base**	**84.05**	**192**	⇑*i* P		**P**	**15 32 44.3**	**-0.8**
SYO	**Syowa Base**	**84.05**	**192**	⇓*e*pP		pP	15 32 48.2	-2.1
WUAZ	**Wupatki**	**84.25**	**47**	P		**P**	**15 32 47.2**	**+0.3**
	baz=235,SNR=5.2							
NJ2	**Nanjing**	**84.25**	**309**	*e*P		**P**	**15 32 46.0**	**-0.7**
NJ2				pmax		pmax		
	comp=Z,43nm,1.1s							
SNAA	**Sanae**	**84.54**	**177**	P		**P**	**15 32 48.1**	**+0.4**
	comp=Z,7.4nm,0.9s,baz=201,slow=9.6,SNR=4.4							
SNAA	**Sanae**	**84.54**	**177**	P		**P**	**15 32 46.9**	**-0.8**
SNAA				IAmb		IAmb	15 32 49.5	
	comp=Z,14nm,1.1s							
E04D	**Cinebar**	**84.56**	**33**	P		**P**	**15 32 48.4**	**+0.5**
	baz=226							
G06A	**Carlson Farm,**	**84.66**	**35**	P		**P**	**15 32 45.9**	**-2.7**
F05D	**White Salmon**	**84.67**	**34**	P		**P**	**15 32 48.4**	**-0.2**
	baz=227							
GO06	**Curarrehue**	**84.75**	**131**	P		**P**	**15 32 47.9**	**-1.6**
GO06				IAmb		IAmb	15 32 50.8	
	comp=Z,13nm,1.1s							
PLCA	**Paso Flores**	**84.86**	**132**	*e*P		**P**	**15 32 50.7**	**+0.7**
PLCA				pmax		pmax		
	comp=Z,10.0nm,1.2s							
PLCA	**Paso Flores**	**84.86**	**132**	P		**P**	**15 32 50.8**	**+0.8**
	comp=Z,10nm,1.2s,baz=265,slow=6.3,SNR=7.3							
121A	**Cookes Peak, D**	**85.10**	**51**	P		**P**	**15 32 50.9**	**-0.3**
	baz=238							
GRNR	**Gornyy**	**85.84**	**331**	*e*P		**P**	**15 32 54.5**	**+0.2**
GRNR				*e*S		**S**	**15 43 31.0**	**+5.2**
GRNR				pmax		pmax		
	comp=Z,30nm,1.1s							
GRNR				smax		smax		
	com

GEYT	Alibeck	133.01 300	PKP		PKiKP	15 39 31.3	-0.5
	comp=Z,2.7nm,0.9s,baz=328,slow=5.1,SNR=3.1						
OBN	Obninsk	141.10 331	*e*PKiKP		PKiKP	15 39 47.3	-0.3
OBN			pmax		pmax		
	comp=Z,8.0nm,1.1s						
NACGM	Naroch	145.09 338	*e*		PKPbc	15 39 50.0	-1.4
MBAR	Mbarara	145.20 229	PKPbc		PKPdf	15 39 53.5	-0.1
	comp=Z,16nm,0.7s,baz=49,slow=4.7,SNR=10						
ANN	Anapa	146.46 316	*i* PKP2		PKiKP	15 39 58.5	-0.4
ANN			pmax		pmax		
	comp=Z,79nm,1.4s						
AKASG	Malin Array Be	147.36 331	PKPbc		PKPbc	15 39 57.7	-0.6
	comp=Z,9.5nm,0.7s,baz=41,slow=3.9,SNR=23						
SORM	Soroca	149.59 329	⇓P		PKPbc	15 40 02.9	-1.3
BRTR	Keskin Array B	151.23 310	PKPbc		PKPbc	15 40 08.6	-0.1
	comp=Z,3.3nm,0.8s,baz=144,slow=2.7,SNR=7.1						
BURAR	Bucovina Array	151.41 331	⇑P		PKiKP	15 40 12.9	+3.6
KOLS	Kolonicke sedl	151.58 336	*e*PKiKP		PKiKP	15 40 10.1	+0.7
KOLS	Kolonicke sedl	151.58 336	*e*PKP		PKiKP	15 40 10.1	+0.7
UZH	Uzhgorod	151.82 335	*e*PKiKP		PKPbc	15 40 08.4	-1.1
UZH			*e*			15 40 12.6	
CLL	Collm	151.95 349	*e*PKiKP		PKiKP	15 40 10.0	-0.1
CLL			*i*			15 40 13.9	
CLL			pmax		pmax		
	comp=Z,17nm,0.8s						
CLL			pmax		pmax		
	comp=Z,21nm,0.9s						
CLL	Collm	151.95 349	*e*PKPbc		PKiKP	15 40 10.0	-0.1
	comp=Z,17nm,0.8s						
CLL			*i* pPKPbc		pPKPbc	15 40 13.9	-1.1
	comp=Z,21nm,0.9s						
VRI	Vrincioaia	151.97 327	⇓P		PKPab	15 40 18.1	-1.2
OSTC	Ostas	152.01 345	*e*PKP		PKiKP	15 40 10.8	+0.5
CHVC	Chvalec	152.02 345	⇑*e*PKP		PKiKP	15 40 10.6	+0.3
UPC	Upice	152.11 345	*e*PKiKP		PKPdf	15 40 05.7	+2.2
UPC	Upice	152.11 345	⇑*e*PKP		PKPdf	15 40 05.7	+2.2
DPC	Dobruska-Polom	152.18 345	*e*PKiKP		PKiKP	15 40 10.9	+0.2
DPC	Dobruska-Polom	152.18 345	⇑*e*PKP		PKiKP	15 40 10.9	+0.2
DPC			*ex*		x	15 40 20.6	
BRG	Berggiesshubel	152.20 348	*i* PKP		PKiKP	15 40 10.8	+0.2
	comp=Z,17nm,0.8s						
BRG			*i*			15 40 14.7	
	comp=Z,22nm,1.0s						
BRG			*e*SKKS			15 59 52.6	
	comp=Z,8.1nm,1.1s						
BRG	Berggiesshubel	152.20 348	*i* PKiKP		PKiKP	15 40 10.8	+0.2
BRG			*i*			15 40 14.7	
BRG			pmax		pmax		
	comp=Z,17nm,0.9s						
OZUR		152.27 328	⇓P		PKPbc	15 40 10.0	-0.7
KRLC	Kraliky	152.32 344	*e*PKiKP		PKiKP	15 40 11.4	+0.4
KRLC	Kraliky	152.32 344	⇑*e*PKP		PKiKP	15 40 11.4	+0.4
LANS	Liptovska Anna	152.37 339	*e*PKiKP		PKiKP	15 40 12.0	+0.9
LANS	Liptovska Anna	152.37 339	*e*PKP		PKiKP	15 40 12.0	+0.9
PVCC	Panska Ves	152.41 347	*e*PKiKP		PKiKP	15 40 11.6	+0.5
PVCC	Panska Ves	152.41 347	⇑*e*PKP		PKiKP	15 40 11.6	+0.5
DOPR	Dopca	152.55 328	⇓P		PKPab	15 40 18.5	-3.3
PRU	Pruhonice	152.92 347	*e*PKiKP		PKPbc	15 40 11.8	-0.1
PRU	Pruhonice	152.92 347	⇑*e*PKP		PKPbc	15 40 11.8	-0.1
PRU			*ex*		x	15 40 27.0	
GOPC	GO Pecny, Ondr	152.94 346	*e*PKiKP		PKiKP	15 40 12.2	0.0
GOPC	GO Pecny, Ondr	152.94 346	⇑*e*PKP		PKiKP	15 40 12.2	0.0
VYHS	Vyhne	153.15 340	*e*PKiKP		PKiKP	15 40 13.0	+0.3
VYHS	Vyhne	153.15 340	*e*PKP		PKiKP	15 40 13.0	+0.3
VYHS			*e*			15 40 25.0	
ARR	Arges	153.35 328	⇑P		PKPdf	15 40 06.9	+1.3
KHC	Kasperske Hory	153.94 347	*e*PKiKP		PKiKP	15 40 14.7	+0.4
KHC	Kasperske Hory	153.94 347	⇑*e*PKP		PKiKP	15 40 14.7	+0.4
KHC			*e*PKPAB		PKPab	15 40 28.1	+0.7
GERES	GERESS Array B	154.18 347	PKP		PKPdf	15 40 06.7	0.0
	comp=Z,1.3nm,0.9s,baz=72,slow=3.2,SNR=2.2						
HERR	Herculane	154.75 330	⇑P		PKiKP	15 40 18.9	+2.9
DBIC	Dimbokro	160.38 149	PKPab		PKPab	15 40 56.4	+0.3
	comp=Z,3.6nm,0.8s,baz=176,slow=5.2,SNR=3.6						
TORD	Torodi Ar. Bea	168.84 162	PKP		PKPdf	15 40 22.4	-0.4
	comp=Z,3.1nm,1.0s,baz=346,slow=0.5,SNR=3.6						
TORD			PKPab		PKPab	15 41 33.6	+0.5
	comp=Z,2.8nm,0.8s,baz=190,slow=5.0,SNR=4.5						

BJI ***28*** *15:20:59.8±0.0,35.90N×30.55E,h66km,mb6.2/83, mB6.1/67,Ms5.8/82,Ms7 5.6/74*

HLW ***28*** *15:21:02.2,36.04N×31.13E,h11km±20km,Ml6.2*

DDA ***28*** *15:21:03.0,36.05N×31.33E,h44km±5km,ML6.0*

ISK ***28*** *15:21:03.7,35.97N×31.27E,h71km,ML6.0/58*

ISCJB ***28*** *15:21:04.4±0.1,35.981N±0.009×31.290E±0.009, h60km±1km,mb6.0/224,Error ellipse: s-maj=1.6km s-min=1.0km az=27.1*

MED_RC ***28*** *15:21:05.0±0.2,35.89N×31.04E,h53km±1km,MW5.9/26, Moment Tensor Solution. Body waves: s18,c24;Mantle waves: s26,c48; Duration: 1e9 Moment tensor: Scale 1018Nm; Mrr0.73±.01; Mθθ-0.24±.01; Mφφ-0.50±.01; Mrθ0.39±.02; Mθφ0.57±.01; Mφr-0.39±.01; Best double couple: M0 1.00000×1018 NP1:φs137.00000°,δ62.00000°, λ85.00000°. NP2:φs328.00000°,δ29.00000°,λ100.00000°. Principal axes: T 0.9000, Plg73.0000°, Azm34.0000°; N 0.2100, Plg5.0000°, Azm139.0000°; P -1.1100, Plg17.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*

NIC ***28*** *15:21:05.3±0.0,35.89N×31.18E,h60km±31km,Md6.0/3, Ml6.0/3*

MOS ***28*** *15:21:05.3±0.9,36.16N×31.35E,h64km,mb6.2/72, MS5.1/38,Error ellipse: s-maj=4.0km s-min=2.6km az=103.9*

GCMT ***28*** *15:21:06.0±0.1,35.82N±0.01×30.97E±0.01,h53km, MW5.9/163,Moment Tensor Solution. s159,c337; s163,c459; Duration: 2s2 Moment tensor: Scale 1018 Nm; Mrr0.75±.01; Mθθ-0.29±.01; Mφφ-0.46±.01; Mrθ0.36±.01; Mθφ0.55±.01; Mφr-0.36±.01; Best double couple: M0.98300×1018 NP1:φs137.00000°,δ61.00000°, λ87.00000°. NP2:φs323.00000°,δ29.00000°,λ96.00000°. Principal axes: T 0.8950, Plg74.0000°, Azm38.0000°; N 0.1760, Plg3.0000°, Azm138.0000°; P -1.0700, Plg16.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

IDC ***28*** *15:21:07.2±0.7,36.24N×31.33E,h66km±5km,mb5.5/52, mb1 5.6/61,mb1mx5.5/66,mbtmp5.8/61,MS5.3/34, Ms1 5.3/34,ms1mx5.2/43 Error ellipse: s-maj=6.4km s-min=5.3km az=41.0*

GII ***28*** *15:21:08.1±0.0,35.66N×31.30E,h30km,mb5.6/6, MD5.8/6*

ISC 28 15:21:06.1±0.3,36.05N±0.02×31.32E±0.02,h60km±2km, h59km:pP-P,n1751,σ1968/2210,mb6.0/268,MS5.3/72, 179C-54D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALAN	Alanya-ANTALYA	0.77	49	PG	Pn	15 21 19.9	-1.2
KEMT	Kemer-ANTALYA	0.83	312	PG	Pn	15 21 20.4	-1.4
GAZI	Gazipasa	0.83	77	*i* P	Pn	15 21 19.9	-2.0
GAZI				*i* S	Sn	15 21 31.3	-2.2
GAZI	Gazipasa	0.83	77	PG	Pn	15 21 20.0	-1.9
AKUM	Antalya-Kumluc	0.83	289	*i* PA	Pn	15 21 20.9	-1.1
AKUM				*i* S	Sn	15 21 35.5	+1.9
KEPZ	Antalya-Kepez	0.88	15	*i* P	Pn	15 21 21.5	-1.1
KEPZ				*i* S	Sn	15 21 33.9	-0.8
DEMR	Demre-Antalya	1.16	280	PN	Pn	15 21 25.0	-1.1
KORT	Korkueli	1.23	321	*i* P	Pn	15 21 30.1	+2.9
KORT				*i* S	Sn	15 21 48.0	+5.0
KORT	Korkueli	1.23	321	PN	Pn	15 21 26.3	-0.9
KORT				SN	Sn	15 21 42.8	-0.2
AKMS	Akamas	1.32	141	P	Pn	15 21 26.5	-1.8
AKMS				S	Sn	15 21 44.5	-0.5
AKMS				AML	AML	15 21 47.5	
	773nm,0.9s						
AKMS				AML	AML	15 21 47.5	
	773nm,0.9s						
AKMS				AML	AML	15 21 48.6	
	664nm,0.9s						
AKMS				AML	AML	15 21 48.6	
	664nm,0.9s						
AKMS				AMd		15 32 48.2	
AKMS				AMd		15 32 48.2	
ELL	Elmali	1.33	302	P	Pn	15 21 28.9	+0.3
ELL				S	Sn	15 21 44.5	-1.0
ELL	Elmali	1.33	302	PN	Pn	15 21 27.5	-1.1
ELL	Elmali	1.33	302	P	Pn	15 21 28.9	+0.3
ELL				S	Sn	15 21 44.6	-1.0
ALFC	Alefka	1.37	130	P	Pn	15 21 27.4	-1.7
ALFC				AML	AML	15 21 47.3	
	776nm,0.7s						
ALFC				AML	AML	15 21 49.5	
	998nm,0.8s						
ALFC				AMd		15 32 45.1	
AKAS	Kas	1.40	278	*i* PA	Pn	15 21 29.0	-0.5
AKAS				*i* S	Sn	15 21 53.3	+6.2
AKAS	Kas	1.40	278	PN	Pn	15 21 28.2	-1.3
AKAS				SN	Sn	15 21 45.2	-1.9
KSL	Kastellorizon	1.41	275	P	Pn	15 21 28.4	-1.1
KSL				S	Sn	15 21 44.3	-2.8
ERMK	Ermenek	1.42	65	*i* PA	Pn	15 21 29.6	-0.2
ERMK				*i* S	Sn	15 21 49.3	+1.7
ERMK				IAML		15 21 56.0	
	comp=N,220μm,1.0s						
TEKE	Tekeli-Mersin	1.46	86	PN	Pn	15 21 29.2	-0.9
BCK	Bucak	1.52	338	P	Pn	15 21 30.1	-1.1
BCK	Bucak	1.52	338	PN	Pn	15 21 30.2	-1.0
BERE	Bereket-Mersin	1.57	79	PN	Pn	15 21 31.2	-0.6
LEF	Lefka	1.58	125	*i* PA	Pn	15 21 28.9	-2.9
LEF				*i* S	Sn	15 21 45.9	-5.3
LEF	Lefka	1.58	125	⇓P	Pn	15 21 29.2	-2.6
LEF				⇓S	Sn	15 21 47.2	-4.1
LEF				AML	AML	15 22 01.1	
LEF	Lefka	1.58	125	PN	Pn	15 21 30.2	-1.6
LEF				SN	Sn	15 21 49.7	-1.6
NATA	Nata	1.63	141	P	Pn	15 21 32.6	+0.1
NATA				AMd		15 32 02.6	
YORU	Yoruktepe-Mers	1.69	86	PN	Pn	15 21 33.1	-0.3
OREN	Orenkoy-Mersin	1.74	84	PN	Pn	15 21 33.2	-0.7
TEVE	Tevekalti-Mers	1.76	77	PN	Pn	15 21 34.3	0.0
AKK1	Akkuyu-Mersin	1.80	86	PN	Pn	15 21 34.9	+0.1
GULN	MERSIN_Gulnar	1.81	85	*i* PA	Pn	15 21 34.7	-0.1
GULN				*i* S	Sn	15 21 56.8	+0.1
AKK2	Akkuyu-Mersin	1.81	87	PN	Pn	15 21 34.6	-0.3
AKKU	Akkuyu-Mersin	1.81	86	PN	Pn	15 21 34.7	-0.2
GLHS	Gihisar (BURDU	1.83	308	PN	Pn	15 21 34.5	-0.9
GOLH	Golhisar	1.84	310	*i* PA	Pn	15 21 38.2	+2.7
GOLH				*i* S	Sn	15 22 01.7	+3.9
GOLH				IAML		15 22 21.0	
	comp=N,107μm,1.2s						
YESI	Yesilovacik-Me	1.89	85	PN	Pn	15 21 36.2	+0.3
FETY	Fethiye	1.90	289	*i* PA	Pn	15 21 36.0	-0.1
FETY				*i* S	Sn	15 21 59.5	+0.5
FETY	Fethiye	1.90	289	PN	Pn	15 21 35.4	-0.7
KMER	Konya-Meram	1.91	26	*i* PA	Pn	15 21 37.5	+1.1
KMER				*i* S	Sn	15 22 01.0	+1.5
TISA	Tisan-Mersin	1.92	86	PN	Pn	15 21 35.8	-0.5
ATHAL	Athalassa	1.92	118	P	Pn	15 21 34.3	-2.1
ATHAL				AML	AML	15 21 48.6	
	comp=N,498nm,0.9s						
IKL	Isikli	1.93	84	PN	Pn	15 21 36.7	+0.2
BRDR	BURDUR-Merkez	1.93	329	*i* PA	Pn	15 21 37.5	+0.8
BRDR				*i* S	Sn	15 22 02.4	+2.6
KARG	Kargicak-Mersi	1.94	85	PN	Pn	15 21 36.5	-0.2
CSS	Mathiatis	1.97	123	Pn	Pn	15 21 34.5	-2.6
CSS	Mathiatis	1.97	123	PN	Pn	15 21 35.8	-1.3
CSS	Mathiatis	1.97	123	P	Pn	15 21 35.7	-1.3
KEBE	Keben-Mersin	1.98	78	PN	Pn	15 21 37.1	-0.1
BAGO	Egridir - ISPA	1.98	348	*i* PA	Pn	15 21 37.6	+0.2
BAGO				*i* S	Sn	15 22 03.4	+2.2
AKIN	Akıncılar- Kıb	2.03	120	PN	Pn	15 21 36.6	-1.4
AKIN				SN	Sn	15 22 01.2	-1.0
KONT	Konya--Tatoy	2.07	23	*i* PA	Pn	15 21 39.7	+1.2
KONT				*i* S	Sn	15 22 06.2	+3.0
KONT	Konya--Tatoy	2.07	23	PN	Pn	15 21 39.5	+1.0
DOGA	KONYA_Doganhis	2.07	8	*i* PA	Pn	15 21 39.8	+1.1
DOGA				*i* S	Sn	15 22 03.0	-0.4
BASM	Basmaki-Afyon	2.12	332	PN	Pn	15 21 38.5	-0.8
SILI	Silifke-Mersin	2.13	81	PN	Pn	15 21 39.8	+0.5
LADK	Ladik-KONYA	2.30	21	PN	Pn	15 21 42.3	+0.6
KIZK	Mersin	2.32	79	*i* PA	Pn	15 21 42.9	+1.0
KIZK				*i* S	Sn	15 22 11.6	+2.3
KIZK	Mersin	2.32	79	PN	Pn	15 21 42.3	+0.4
TURN	Turunc	2.34	291	*i* P	Pn	15 21 45.0	+2.9
TURN				*i* S	Sn	15 22 14.3	+4.7
TURN	Turunc	2.34	291	PN	Pn	15 21 45.0	+2.9
EREN	Erenkoy	2.38	102	*i* PA	Pn	15 21 42.3	-0.3
EREN				*i* S	Sn	15 22 11.2	+0.6
EREN				IAML		15 22 16.0	
	comp=N,171μm,0.7s						
EREN	Erenkoy	2.38	102	PN	Pn	15 21 42.3	-0.3
EREN				SN	Sn	15 22 09.7	-0.9
TAVA	DENIZLI_Tavas	2.39	307	*i* P	Pn	15 21 44.7	+1.8
TAVA				*i* S	Sn	15 22 12.3	+1.1
KZIL	AFYON_Kizioren	2.40	337	*i* P	Pn	15 21 44.0	+0.9
KZIL				*i* S	Sn	15 22 13.1	+1.8
DENT	Denizli	2.50	314	PN	Pn	15 21 44.4	0.0
SHUT	Suhut-Afyon	2.57	346	PN	Pn	15 21 45.8	+0.4
ARG	Arkhangelos	2.59	275	P	Pn	15 21 44.7	-0.8
ARG				S	Sn	15 22 13.1	-2.7
ARG	Arkhangelos	2.59	275	PN	Pn	15 21 44.4	-1.1
ARG	Arkhangelos	2.59	275	P	Pn	15 21 44.3	-1.2
ARG				S	Sn	15 22 12.6	-3.2
KERG	Konya-Eregli	2.63	58	*i* PA	Pn	15 21 48.2	+1.9
KERG				*i* S	Sn	15 22 20.1	+3.0
YER	Yerkesik	2.67	295	P	Pn	15 21 46.6	-0.1
YER	Yerkesik	2.67	295	PN	Pn	15 21 46.6	-0.1
BOLV	Bolvadin	2.68	354	*i* P	Pn	15 21 47.9	+1.0
KHL	Karahalli	2.68	328	PN	Pn	15 21 47.2	+0.3
MERS	Mersin	2.71	72	PN	Pn	15 21 47.7	+0.5
KHAL	Karahalli	2.74	328	*i* P	Pn	15 21 49.0	+1.4
KHAL				*i* S	Sn	15 22 19.1	-0.6
SULT	Sultanhani-AKS	2.77	39	PN	Pn	15 21 48.9	+0.8
CHBY	Cihanbeyli	2.82	26	PN	Pn	15 21 49.7	+0.9
AFYO	Afyonkarahisar	2.85	344	*i* P	Pn	15 21 49.9	+0.9
AFYO				*i* S	Sn	15 22 22.8	+0.4
AFYO				IAML		15 22 36.0	
	comp=N,47μm,1.0s						
KIZT	Kizilcal	2.86	9	PN	Pn	15 21 49.7	+0.3
DED	Mersin	2.95	71	*i* PA	Pn	15 21 52.1	+1.7
DED				*i* S	Sn	15 22 29.6	+5.0
DATC	Datca-Mugla	3.03	285	PN	Pn	15 21 51.3	-0.3
GULE	Gulek	3.04	65	*i* P	Pn	15 21 54.8	+3.0
GULE				*i* S	Sn	15 22 30.7	+3.6
DAT	Datca	3.09	284	*i* P	Pn	15 21 52.2	-0.3
DAT				*i* S	Sn	15 22 25.1	-3.2
DAT	Datca	3.09	284	PN	Pn	15 21 52.1	-0.4
MLSB	Milas	3.11	295	PN	Pn	15 21 52.7	+0.1
AYDN	Tasoluk	3.19	301	*i* P	Pn	15 21 54.1	+0.3
USAK	Uak-Merkez	3.23	326	*i* P	Pn	15 21 54.9	+0.6
KARA	Karaisali	3.24	67	PN	Pn	15 21 55.7	+1.3
AKSY	AKSARAY - Alti	3.24	36	*i* P	Pn	15 21 56.0	+1.4
AKSY				*i* S	Sn	15 22 35.5	+3.5
KULU	Kulu	3.27	24	PN	Pn	15 21 55.9	+0.9
BDRM	Kayabasi	3.28	289	*i* P	Pn	15 21 54.5	-0.5
AUKIR	Kırka- Seyitga	3.28	349	*i* P	Pn	15 21 56.0	+0.9
AUKIR				*i* S	Sn	15 22 32.0	-0.9
MANT	Manisa	3.28	319	*i* P	Pn	15 21 55.3	+0.1
CIFT	Cifteler, Eski	3.31	357	*i* P	Pn	15 21 55.7	+0.1
CIFT				*i* S	Sn	15 22 36.5	+2.9
CIFT	Cifteler, Eski	3.31	357	PN	Pn	15 21 55.6	+0.1
KRTS	Karatas	3.32	80	PN	Pn	15 21 56.2	+0.7
KRTS				SN	Sn	15 22 34.1	+0.4
AYDB	Zeytinkoy-Aydi	3.33	306	PN	Pn	15 21 55.9	+0.1
NIG	Nigde	3.34	51	PN	Pn	15 21 56.9	+0.9
GEDZ	Gediz	3.35	334	PN	Pn	15 21 56.8	+0.8
CMRD	Camardi-Nigde	3.36	60	PN	Pn	15 21 56.6	+0.5
KKUL	Konya-Kulu	3.37	22	*i* P	Pn	15 21 57.2	+1.0
BODT	Bodrum	3.38	289	PN	Pn	15 21 55.9	+0.5
AUSIV	SIVRIHISAR	3.39	3	*i* P	Pn	15 21 57.0	+0.5
AUSIV				*i* S	Sn	15 22 34.3	-1.2
SVRH	Sivrihisar-ESK	3.40	3	PN	Pn	15 21 56.9	+0.3
SERE	Sereflikochisa	3.40	31	PN	Pn	15 21 57.8	+1.1
SHAP	Saphane-Kutahy	3.40	331	PN	Pn	15 21 57.5	+0.7
KARP	Karpathos	3.42	263	PN	Pn	15 21 55.5	-1.4
KARP	Karpathos	3.42	263	P	Pn	15 21 55.8	-1.1
YKAV	Yalıkavak-Bodr	3.42	289	PN	Pn	15 21 56.9	0.0
ESKT	Eskisehir	3.48	354	PN	Pn	15 21 58.2	+0.3
YAYX	Yaylak	3.50	34	PN	Pn	15 21 58.4	+0.3
DIDI	Didim-Aydin	3.53	293	PN	Pn	15 21 58.3	-0.1
YURE	YUREGIR	3.56	76	*i* P	Pn	15 21 59.6	+0.8
YURE	YUREGIR	3.56	76	PN	Pn	15 21 59.7	+0.8
KOSK	Kos Island	3.57	283	PN	Pn	15 21 58.0	-0.9
AKO	Adana	3.60	66	*i* P	Pn	15 22 01.7	+2.3
AKO				*i* S	Sn	15 22 44.0	+3.3
AFSR	Afar-Bala (An	3.67	22	PN	Pn	15 22 01.3	+1.0
GCAM	G?zelcaml?	3.67	298	*i* P	Pn	15 21 59.6	-0.6
GCAM	G?zelcaml?	3.67	298	PN	Pn	15 21 59.7	-0.6
CEYT	Ceyhan	3.69	74	PN	Pn	15 22 00.9	+0.3
KIRS	Kırehir-Merke	3.71	33	*i* P	Pn	15 22 02.2	+1.3
BBAL	Bala	3.77	22	*i* P	Pn	15 22 02.7	+0.9
BBAL				*i* S	Sn	15 22 47.1	+2.2
GOMA	Golmarmara-Man	3.79	315	PN	Pn	15 22 02.1	+0.1
YAHY	KAYSERI_Yahyal	3.83	57	*i* P	Pn	15 22 03.8	+1.3
BORA	Eskisehir	3.88	350	*i* P	Pn	15 22 03.5	+0.2
BORA	Eskisehir	3.88	350	PN	Pn	15 22 03.6	+0.2
KOZT	Kozan	3.89	67	PN	Pn	15 22 04.5	+1.1
AVNS	Nevsehir-Avano	3.93	45	*i* P	Pn	15 22 06.1	+2.1
AVNS				*i* S	Sn	15 22 52.2	+3.3
AKHS	Akhisar	3.97	316	*i* P	Pn	15 22 04.2	-0.2
AKHS				*i* S	Sn	15 22 51.2	+1.5
AKS	Akhisar	3.97	316	PN	Pn	15 22 04.5	+0.1
ANTO	Ankara	3.99	17	⇓P	Pn	15 22 05.2	+0.5
ANTO	Ankara	3.99	17	PN	Pn	15 22 05.3	+0.5
SRCK	Saricakaya, Es	4.02	352	*i* P	Pn	15 22 04.9	-0.2
SRCK				IVMs_BB	IVMs_BB	15 24 21.0	
	comp=Z,64μm,5.3s						
SRCK	Saricakaya, Es	4.02	352	PN	Pn	15 22 05.5	+0.4
BEYL	Beirut	4.06	121	*e*P	Pn	15 22 04.7	-0.9
GMLD	Gumuldur	4.06	301	PN	Pn	15 22 05.1	-0.5
DGB	zmir	4.07	301	*i* P	Pn	15 22 04.8	-0.9
BRTR	Keskin Array B	4.10	26	P	Pn	15 22 06.8	+0.4
	comp=Z,240nm,0.3s,baz=316,slow=30,SNR=1638						
BRTR				S	Sn	15 22 54.3	+1.1
	comp=Z,320nm,0.3s,baz=204,slow=16,SNR=5.1						
BRTR				LR	LR	15 24 10.5	
	comp=Z,87μm,19.9s,baz=208,slow=47						
BRTR				ScP	ScP	15 32 55.0	-0.8
	comp=Z,0.3nm,0.3s,baz=155,slow=2.0,SNR=6.8						
BRTR				ScS	ScS	15 36 28.1	-0.4
	comp=Z,0.1nm,0.3s,baz=222,slow=1.9,SNR=8.3						
BRTR	Keskin Array B	4.10	26	PN	Pn	15 22 06.9	+0.6
BR131	Keskin Array S	4.10	26	P	Pn	15 22 06.9	+0.6
	SNR=1626						
BLCB	Balcova	4.13	306	PN	Pn	15 22 06.9	+0.3
BHL	Bhannes	4.15	120	*e*P	Pn	15 22 05.4	-1.7
HWQ	Hawqa	4.18	114	*e*P	Pn	15 22 07.4	-0.1
DURS	Dursunbey	4.20	328	*i* P	Pn	15 22 08.1	+0.4
DURS				IVMs_BB	IVMs_BB	15 23 56.0	
	comp=Z,75μm,4.2s						
DQRL	Deir Qamar	4.21	123	*e*P	Pn	15 22 07.2	-0.5
ZKR	Zakros	4.26	259	PN	Pn	15 22 07.4	-1.0
SAIM	ADANA	4.27	62	*i* P	Pn	15 22 10.1	+1.5
CAVI	Cavuskoy	4.31	345	PN	Pn	15 22 09.9	+0.9
CDAG	Cicekdag	4.31	33	*i* P	Pn	15 22 10.8	+1.6
CDAG				*i* S	Sn	15 22 52.2	-5.9
CDAG				IVMs_BB	IVMs_BB	15 24 06.0	
	comp=Z,99μm,3.9s						
ANDN	Andirin	4.31	68	*i* P	Pn	15 22 09.8	+0.6
ANDN				*i* S	Sn	15 22 55.5	-2.8
YUVA	Yuva-Kibriscik	4.34	4	PN	Pn	15 22 10.6	+1.0
HNTI	Hanita	4.34	132	Pn	Pn	15 22 08.5	-1.1
HNTI				Sn	Sn	15 22 56.4	-2.5
STEP	BALIKESIR_Sava	4.38	320	*i* P	Pn	15 22 10.4	+0.4
KIBS	BOLU	4.38	5	*i* P	Pn	15 22 09.7	-0.5
KIBS				IVMs_BB	IVMs_BB	15 24 01.0	
	comp=Z,78μm,3.5s						
URLA	Izmir	4.42	303	*i* P	Pn	15 22 10.5	-0.1
URLA				IVMs_BB	IVMs_BB	15 24 17.0	
	comp=Z,52μm,5.0s						
URLA	Izmir	4.42	303	PN	Pn	15 22 10.9	+0.3
GULT	Gulveren	4.42	352	PN	Pn	15 22 11.5	+0.8
ZEY	zmir	4.42	301	*i* P	Pn	15 22 09.4	-1.2
ZEY				IVMs_BB	IVMs_BB	15 24 17.0	
	comp=Z,114μm,4.0s						
ULDT	Uludag	4.43	338	*i* P	Pn	15 22 11.2	+0.3
ULDT				IVMs_BB	IVMs_BB	15 24 31.0	
	comp=Z,72nm,4.6s						
DELI	KIRIKKALE	4.45	27	*i* P	Pn	15 22 11.5	+0.5
DELI				IVMs_BB	IVMs_BB	15 24 09.0	
	comp=Z,53μm,6.5s						
KAMA	Osmaniye	4.45	74	*i* P	Pn	15 22 11.1	0.0
KAMA				*i* S	Sn	15 23 02.3	+0.7
KAMA				IVM

CUSAR Sarkisla-SIVAS 5.15 48 *i* P Pn **15 22 22.9 +2.2**
CUSAR IVMs_BB IVMs_BB 15 24 33.0
comp=Z,71µm,3.8s
KNL Balıkesir 5.17 326 *i* P Pn **15 22 20.7 -0.1**
KNL IVMs_BB IVMs_BB 15 24 39.0
comp=Z,81µm,4.4s
ELBS KAHRAMANMARAS 5.17 62 *i* P Pn **15 22 21.6 +0.6**
GZT Gaziantep 5.18 74 *i* P Pn **15 22 21.3 +0.1**
KDZE Karadeniz Ereo 5.26 1 ⇑P Pn **15 22 22.7 +0.7**
BAYC CANAKKALE_Bayr 5.27 316 *i* P Pn **15 22 21.2 -1.1**
BAYC IVMs_BB IVMs_BB 15 24 56.0
comp=Z,47µm,4.6s
IDI Anoyia 5.29 264 P Pn **15 22 21.5 -1.0**
comp=Z,478nm,0.3s,baz=43,slow=1.2,SNR=290
IDI S Sn **15 23 19.9 -2.3**
comp=Z,1µm,0.3s,baz=315,slow=22,SNR=12
ILGA Ilgaz 5.34 20 *i* P Pn **15 22 23.1 -0.2**
ILGA IVMs_BB IVMs_BB 15 25 01.0
comp=Z,70µm,4.3s
CTAK Corum_Osmancik 5.34 30 *i* P Pn **15 22 24.9 +1.5**
CTAK IVMs_BB IVMs_BB 15 24 08.0
comp=Z,130µm,4.2s
CUALT Altinyayla-SIV 5.38 52 *i* P Pn **15 22 25.2 +1.4**
CUALT IVMs_BB IVMs_BB 15 24 39.0
comp=Z,142µm,3.7s
AMAZ Amatzia 5.41 145 Pn Pn **15 22 23.3 -0.9**
AMAZ Sn Sn **15 23 20.6 -4.5**
AMAZ Amatzia 5.41 145 P Pn **15 22 23.7 -0.5**
comp=Z,3µm,0.9s,comp=Z,81nm
CUGUR Gurin_SVAS 5.44 59 *i* P Pn **15 22 26.2 +1.6**
EZN Ezine 5.46 315 ⇓P Pn **15 22 25.9 +1.1**
EZN ⇑S Sn **15 23 29.3 +3.1**
RSH 5.46 158 P Pn **15 22 23.3 -1.5**
baz=156
KLYT Kilyos 5.49 342 ⇑P Pn **15 22 27.2 +2.0**
ELBA Catalca 5.57 337 *i* P Pn **15 22 27.0 +0.7**
HBRG Burj al `Arab 5.60 193 P Pn **15 22 25.4 -1.3**
baz=192
HBRG AMP **15 23 00.0**
baz=192
HBRG S Sn **15 23 24.5 -5.3**
baz=192
DSI Dead Sea 5.60 142 Pn Pn **15 22 25.7 -1.1**
DSI Sn Sn **15 23 26.1 -3.7**
BOZC Bozcaada 5.62 314 *i* P Pn **15 22 27.1 +0.1**
BOZC IVMs_BB IVMs_BB 15 24 34.0
comp=Z,53µm,3.5s
BTIN Bartın 5.63 7 *i* P Pn **15 22 27.8 +0.8**
HSUJ Al Zarqa 5.64 133 P Pn **15 22 28.4 +1.0**
comp=Z,6µm,0.8s,comp=Z,46nmcomp=Z,121nm
YTIR Yattir 5.64 145 Pn Pn **15 22 26.5 -1.0**
YTIR Sn Sn **15 23 26.2 -4.8**
KAGI orum-Kargı 5.65 25 *i* P Pn **15 22 28.4 +1.0**
KAGI IVMs_BB IVMs_BB 15 24 41.0
comp=Z,78µm,3.7s
SART Tekirdag 5.66 326 *i* P Pn **15 22 28.4 +0.9**
AKCD Akcadag 5.73 65 *i* P Pn **15 22 29.8 +1.2**
KZIT Kziot 5.74 153 Pn Pn **15 22 27.0 -1.7**
KZIT Sn Sn **15 23 27.5 -5.7**
KZIT Kziot 5.74 153 P Pn **15 22 27.2 -1.5**
comp=Z,3µm,0.9s,comp=Z,60nm
KZIT Kziot 5.74 153 P Pn **15 22 27.0 -1.7**
ATAB Bozova 5.78 74 *i* P Pn **15 22 30.2 +1.0**
AMSY Amasya-Merkez 5.79 36 *i* P Pn **15 22 33.1 +3.6**
MATC Matruh 5.80 217 P Pn **15 22 26.8 -2.6**
baz=216
MATC AMP **15 23 00.0**
baz=216
MATC S Sn **15 23 28.5 -6.1**
baz=216
MZDA Masada 5.81 143 Pn Pn **15 22 28.4 -1.1**
MZDA Sn Sn **15 23 31.3 -3.4**
WALJ Wala 5.83 139 P Pn **15 22 30.4 +0.5**
comp=Z,6µm,0.7s,comp=Z,44nmcomp=Z,0.0nm
CUKAN kangal_SIVAS 5.87 54 *i* P Pn **15 22 32.7 +2.2**
TOKA Tokat 5.89 42 *i* P Pn **15 22 33.8 +3.1**
TOKA IVMs_BB IVMs_BB 15 25 08.0
comp=Z,61µm,3.8s
LISJ El Lisan 5.92 143 P Pn **15 22 31.5 +0.4**
comp=Z,1µm,0.8s,comp=Z,19nmcomp=Z,31nm
SCER sogukcermik 5.96 49 *i* P Pn **15 22 33.8 +2.0**
SCER IVMs_BB IVMs_BB 15 24 52.0
comp=Z,77µm,4.7s
KESN Edirne-Kesan 6.00 324 *i* P Pn **15 22 33.1 +0.6**
ASF Jabal al Asfar 6.03 128 P Pn **15 22 34.0 +1.2**
comp=Z,47nm,0.3s,baz=238,slow=3.6,SNR=69
ASF S Sn **15 23 45.6 +5.2**
comp=Z,143nm,0.3s,baz=85,slow=16,SNR=6.8
ASF Jabal al Asfar 6.03 128 P Pn **15 22 33.4 +0.7**
comp=Z,2µm,0.7s,comp=Z,23nm
HAVZ Havza 6.09 33 *i* P Pn **15 22 35.6 +2.2**
HAVZ IVMs_BB IVMs_BB 15 25 08.0
comp=Z,86µm,9.9s
RMNI Mount Ramon 6.16 151 Pn Pn **15 22 32.9 -1.5**
SWQJ Swaqa 6.21 139 P Pn **15 22 36.2 +0.9**
comp=Z,4µm,0.9s,comp=Z,36nmcomp=Z,59nm
HMYD Mayadein 6.25 184 P Pn **15 22 34.7 -1.0**
baz=183
BZK Bozkurt 6.26 19 ⇓P Pn **15 22 36.9 +1.1**
SANL SANLIURFA_Merk 6.27 77 *i* P Pn **15 22 36.8 +0.8**
ERBA Erbaa 6.29 41 *i* P Pn **15 22 39.4 +3.1**
ERBA IVMs_BB IVMs_BB 15 25 19.0
comp=Z,32µm,3.9s
PHSR Pinarhisar 6.31 333 ⇓P Pn **15 22 39.6 +3.2**
ZFRI Zfri 6.36 148 Pn Pn **15 22 35.8 -1.4**
ZFRI Sn Sn **15 23 43.4 -5.0**
ALN Alexandroupoli 6.37 321 *eP* Pn **15 22 38.5 +1.3**
CUZAR Zara_SIVAS 6.38 51 *i* P Pn **15 22 39.7 +2.2**
CUZAR IVMs_BB IVMs_BB 15 24 59.0
comp=Z,75µm,4.2s
DIKM Dikmen 6.38 28 ⇓P Pn **15 22 39.5 +2.1**
HNAT Natroun 6.43 185 P Pn **15 22 36.7 -1.4**
baz=185
HNAT AMP **15 24 00.0**
baz=185
PRNI Paran 6.47 150 Pn Pn **15 22 37.2 -1.5**
SAMS Samsun-Alacam 6.53 34 *i* P Pn **15 22 42.3 +2.9**
SAMS IVMs_BB IVMs_BB 15 25 27.0
comp=Z,81µm,4.7s
KEMA Kemaliye 6.54 58 *i* P Pn **15 22 41.2 +1.6**
KEMA IVMs_BB IVMs_BB 15 25 30.0
comp=Z,58µm,3.5s
KRMI Paran Flat 6.57 153 Pn Pn **15 22 39.0 -1.1**
ELZG Elazig 6.58 66 *i* P Pn **15 22 41.9 +1.5**
ELZG IVMs_BB IVMs_BB 15 25 28.0
comp=Z,22µm,3.9s
KIRK Kırklareli 6.60 331 *i* P Pn **15 22 41.2 +0.8**
KIRK IVMs_BB IVMs_BB 15 25 41.0
comp=Z,24µm,4.1s
SINO SINOP_Merkez 6.68 26 *i* P Pn **15 22 43.2 +1.7**
HRFI Mount Harif 6.76 151 Pn Pn **15 22 40.8 -1.9**
HRFI Sn Sn **15 23 52.9 -5.4**
HRFI Mount Harif 6.76 151 P Pn **15 22 41.9 -0.8**
comp=Z,2µm,0.8s,comp=Z,20nm
REFA Refahiye_ERZN 6.78 58 *i* P Pn 15 22 48.8 +5.7
REFA IVMs_BB IVMs_BB 15 25 14.0
comp=Z,66µm,4.4s
SLUM Salum 6.82 230 P Pn **15 22 40.0 -3.5**
baz=229
SLUM AMP **15 24 00.0**
baz=229
SUSE Susehri 6.83 51 *i* P Pn **15 22 46.3 +2.6**
SUSE IVMs_BB IVMs_BB 15 25 32.0
comp=Z,69µm,3.7s
MBRI Mt Berech 6.93 153 Pn Pn **15 22 43.1 -2.0**
AQBJ Aqaba 7.04 152 P Pn **15 22 45.1 -1.4**
comp=Z,5µm,0.7s,comp=Z,30nmcomp=Z,66nm
EIL Elat 7.06 153 Pn Pn **15 22 44.7 -2.0**
EIL Sn Sn **15 24 00.2 -5.3**
EIL Elat 7.06 153 P Pn **15 22 46.6 -0.1**
comp=Z,34nm,0.3s,baz=333,slow=9.1,SNR=331
EIL S Sn **15 24 02.2 -3.3**
comp=Z,252nm,0.3s,baz=10,slow=22,SNR=5.7
EIL Elat 7.06 153 P Pn **15 22 44.9 -1.8**
comp=Z,3µm,0.8s,comp=Z,16nm
ORDU Ordu-Boztepe 7.11 44 *i* P Pn **15 22 49.6 +2.2**
ORDU IVMs_BB IVMs_BB 15 25 48.0
comp=Z,45µm,3.5s
TNCL Tunceli-Merkez 7.21 62 *i* P Pn **15 22 50.2 +1.3**
TNCL IVMs_BB IVMs_BB 15 25 50.0
comp=Z,45µm,4.5s
KDZ Kurdzhali 7.24 322 *eP* Pn **15 22 51.0 +1.8**
DIYA Diyarbakir 7.29 73 *i* P Pn **15 22 51.0 +1.0**
JMB Yambol 7.38 332 *eP* Pn **15 22 53.0 +1.9**
KELT Kelkit 7.48 54 *i* P Pn **15 22 55.1 +2.5**
KELT IVMs_BB IVMs_BB 15 26 02.0
comp=Z,34µm,6.1s
DIM Dimitrovgrad 7.49 325 *eP* Pn **15 22 53.7 +1.1**
HANI Diyarbakir_Han 7.62 69 *i* P Pn **15 22 55.8 +1.4**
HANI IVMs_BB IVMs_BB 15 26 12.0
comp=Z,26µm,4.0s
RZN Rozhen 7.63 320 *eP* Pn **15 22 56.0 +1.3**
MARD Mardin 7.71 78 *i* P Pn **15 22 55.7 0.0**
MARD IVMs_BB IVMs_BB 15 26 35.0
comp=Z,42µm,10.4s
PRD Provadia 7.75 338 *eP* Pn **15 22 56.7 +0.5**
PSN Preselentsi 7.99 343 *eP* Pn **15 22 59.7 +0.2**
ELND Elena 8.05 330 ⇑P Pn **15 23 01.3 +1.0**
MMB Musomiste 8.10 315 *i* P Pn **15 23 02.7 +1.7**
SVAN Silvan-Diyarba 8.17 72 *i* P Pn **15 23 02.8 +0.9**
SVAN IVMs_BB IVMs_BB 15 26 51.0
comp=Z,50µm,4.6s
BAYB BAYBURT 8.20 56 *i* P Pn **15 23 04.7 +2.2**
BAYB IVMs_BB IVMs_BB 15 26 07.0
comp=Z,36µm,5.0s
MACK Trabzon 8.23 51 *i* P Pn **15 23 05.7 +2.9**
MACK IVMs_BB IVMs_BB 15 26 19.0
comp=Z,19µm,3.8s
KOPT Kop Dagi 8.25 59 *i* P Pn **15 23 05.5 +2.2**
EFOR EFORIE 8.28 346 ⇑P Pn **15 23 04.3 +1.0**
SZH Strazhica 8.32 332 *eP* Pn **15 23 05.1 +1.2**
BNGL BINGOL 8.33 67 *i* P Pn **15 23 07.0 +2.7**
RAZG Razgrad 8.37 335 ⇑P Pn **15 23 05.7 +1.1**
ECAT Cat-ERZURUM 8.42 62 *i* P Pn **15 23 07.8 +2.2**
ICOR Ion Corvin 8.49 343 ⇓P Pn **15 23 08.0 +1.7**
PVL Pavlikeni 8.52 329 *eP* Pn **15 23 08.0 +1.4**
PGB Panagyurishte 8.53 322 *eP* Pn **15 23 08.0 +1.1**
MUSM Mu-Merkez 8.54 69 *i* P Pn **15 23 08.7 +1.6**
MUSM IVMs_BB IVMs_BB 15 26 52.0
comp=Z,30µm,13.7s
VRTB Varto-Mus 8.62 66 *i* P Pn **15 23 12.1 +3.8**
KKB Krupnik 8.65 315 *i* P Pn **15 23 10.3 +1.8**
SEVA Sevastopol 8.66 11 ⇓P Pn **15 23 09.9 +1.3**
SEV Sevastopol' 8.67 11 ⇓*eP* Pn **15 23 08.8 +0.1**
SEV *eS* Sn **15 24 42.4 -2.6**
SEV pmax pmax
comp=Z,4µm,1.2s
SEV smax smax
comp=N,71nm,0.4s
SEV smax smax
comp=E,368nm,0.8s
TIRR Tirgusor 8.69 346 ⇓P Pn **15 23 09.9 +0.9**
TIRR Tirgusor 8.69 346 ⇓P Pn **15 23 09.9 +0.9**
KRIK Erzurum-spir 8.69 58 *i* P Pn 15 23 14.1 +4.8
SRTM Siirt_Merkez 8.70 74 *i* P Pn **15 23 10.6 +1.3**
SRTM IVMs_BB IVMs_BB 15 26 22.0
comp=Z,52µm,3.1s
YAL Yalta 8.70 14 ⇓*eP* Pn **15 23 09.2 +0.1**
YAL *eS* Sn **15 24 43.7 -2.0**
RASA Rasa 8.76 340 ⇑P Pn **15 23 11.8 +1.9**
BLIS Bitlis-Merkez 8.93 71 *i* P Pn **15 23 13.8 +1.3**
BLIS IVMs_BB IVMs_BB 15 26 28.0
comp=Z,32µm,4.6s
ALU Alushta 8.94 14 ⇓*eP* Pn **15 23 12.8 +0.5**
ALU *eS* Sn **15 24 50.7 -0.7**
ALU pmax pmax
comp=Z,4µm,1.0s
ALU smax smax
comp=N,460nm,0.7s
ALU smax smax
comp=E,351nm,0.9s
PLVB Pleven 8.96 327 ⇑P Pn **15 23 13.6 +1.0**
HARR Harsova 9.01 344 ⇓P Pn **15 23 13.8 +0.5**
SIRN Sırnak 9.02 78 *i* P Pn **15 23 13.7 0.0**
VTS Vitosha 9.06 319 *i* P Pn **15 23 16.3 +2.0**
VTS Vitosha 9.06 319 ⇑P Pn **15 23 15.6 +1.4**
LEHL Lehliu 9.09 339 ⇑P Pn **15 23 16.3 +1.9**
TOPG Topolog 9.10 347 ⇑P Pn **15 23 15.4 +0.8**
SGRR Singureni 9.13 335 ⇑P Pn **15 23 16.5 +1.5**
SIM Simferopol' 9.14 13 *deP* Pn **15 23 16.5 +1.4**
SIM S Sn **15 25 01.3 +4.8**
SIM pmax pmax
comp=Z,2µm,1.0s
SIM smax smax
comp=E,7µm,6.6s
SIM MLR MLR
comp=Z,20µm,13.0s
HOMI Horasan 9.25 61 *i* P Pn **15 23 19.4 +2.5**
HOMI IVMs_BB IVMs_BB 15 27 12.0
comp=Z,18µm,5.3s
SUDU Sudak 9.26 16 ⇓*eP* Pn **15 23 16.4 -0.4**
SUDU *eS* Sn **15 24 56.1 -3.4**
TLCR 9.32 349 ⇑P Pn **15 23 18.7 +1.1**
COPA Copaceanca 9.33 332 ⇓P Pn **15 23 18.0 +0.3**
MPEP Malo Peshtene 9.34 324 *eP* Pn **15 23 18.0 +0.1**
PGOR Pogoanele 9.44 341 ⇓P Pn **15 23 22.2 +3.0**
SULR 9.44 337 ⇑P Pn **15 23 20.3 +1.1**
FEO Feodosiya 9.48 18 ⇓*eP* Pn **15 23 21.4 +1.7**
FEO *eS* Sn **15 25 03.4 -1.3**
FEO pmax pmax
comp=Z,4µm,1.1s
FEO smax smax
comp=N,371nm,0.6s
FEO smax smax
comp=E,260nm,0.5s
ADCV BITLIS_Adilcev 9.48 70 *eP* Pn **15 23 22.7 +2.7**
ADCV IVMs_BB IVMs_BB 15 27 33.0
comp=Z,43nm,10.2s
DDEM Demirkent 9.50 56 *i* P Pn **15 23 22.9 +2.7**
DDEM IVMs_BB IVMs_BB 15 27 21.0
comp=Z,30µm,6.4s
DBAD Bademkaya 9.52 55 *i* P Pn **15 23 23.0 +2.5**
DBAD IVMs_BB IVMs_BB 15 27 21.0
comp=Z,32µm,9.5s
VLAD Vladila 9.54 328 ⇑P Pn **15 23 21.1 +0.5**
EATA Eleskirt 9.61 63 *i* P Pn **15 23 24.3 +2.4**
EATA IVMs_BB IVMs_BB 15 27 25.0
comp=Z,36µm,5.2s
GEVA Gevas 9.64 73 *i* P Pn **15 23 24.6 +2.4**
GEVA IVMs_BB IVMs_BB 15 27 44.0
comp=Z,35µm,5.8s
DBOC Borcka 9.66 54 *i* P Pn **15 23 24.7 +2.4**
DBOC IVMs_BB IVMs_BB 15 27 24.0
comp=Z,12µm,5.5s
DAGI Agillar 9.70 56 *i* P Pn **15 23 25.3 +2.4**
DAGI IVMs_BB IVMs_BB 15 27 27.0
comp=Z,32µm,6.7s
TUTA Tutak 9.70 66 *i* P Pn **15 23 26.1 +3.0**
TUTA IVMs_BB IVMs_BB 15 26 58.0
comp=Z,18µm,4.2s
BRAG Branistea 9.75 345 ⇑P Pn **15 23 25.1 +1.7**
HUMR Humele 9.75 332 ⇓P Pn **15 23 24.6 +1.1**
ISR Istrita 9.76 340 ⇓P Pn **15 23 26.2 +2.6**
SECR 9.82 338 ⇑P Pn **15 23 26.3 +1.8**
ANN Anapa 9.90 26 *c i*P Pn **15 23 27.1 +1.6**
ANN *eS* Sn **15 25 19.9 +4.8**
ANN pmax pmax
comp=Z,3µm,1.4s
ANN pmax pmax
comp=E,648nm,1.5s
ANN pmax pmax
comp=N,2µm,1.5s
ANN MLR MLR
comp=N,34µm,23.0s
ANN MLR MLR
comp=Z,30µm,23.0s
ANN MLR MLR
comp=E,22µm,23.0s
SOC Sochi 9.91 38 *i* P Pn **15 23 27.7 +2.0**
SOC *e* 15 25 20.3
SOC pmax pmax
comp=Z,2µm,1.4s
SOC MLR MLR
comp=Z,29µm,12.0s
TVAN Van 9.95 72 *i* P Pn **15 23 29.7 +3.3**
TVAN IVMs_BB IVMs_BB 15 27 55.0
comp=Z,26µm,4.5s
CUKT Cukurca 9.95 79 *i* P Pn **15 23 27.0 +0.6**
CUKT IVMs_BB IVMs_BB 15 27 01.0
comp=Z,31µm,4.0s
GOLR 10.02 333 ⇓P Pn **15 23 28.5 +1.3**
BAIL Bailesti 10.03 325 ⇓P Pn **15 23 31.5 +4.2**
KERU Kerch 10.04 21 *eP* Pn 15 23 32.3 +4.9
KERU pmax pmax
comp=Z,298nm,1.0s
BISRR Bisoca 10.11 341 ⇑P Pn **15 23 30.7 +2.2**
PETR Petresti 10.14 344 ⇑P Pn **15 23 29.9 +1.0**
VMUR Van-Muradiye 10.17 70 *i* P Pn **15 23 33.2 +3.8**
VMUR IVMs_BB IVMs_BB 15 28 05.0
comp=Z,26µm,6.7s
ODBI Odobesti 10.22 343 ⇑P Pn **15 23 33.2 +3.2**
MLR Muntele Rosu 10.27 338 P Pn **15 23 32.9 +2.2**
comp=Z,4.0nm,0.3s,baz=131,slow=7.3,SNR=102
MLR S Sn **15 25 22.8 -1.5**
comp=Z,2.2nm,0.3s,baz=348,slow=20,SNR=1.5
MLR Muntele Rosu 10.27 338 ⇑P Pn **15 23 33.5 +2.8**
MLR Muntele Rosu 10.27 338 ⇓P ScS **15 36 35.1 -0.9**
MTUR Matau 10.32 335 ⇑P Pn **15 23 33.1 +1.7**
DYDN Diyadin 10.39 67 *i* P Pn **15 23 35.0 +2.6**
DYDN IVMs_BB IVMs_BB 15 28 06.0
comp=Z,12µm,10.4s
TIR Tirane 10.39 304 ⇑P Pn **15 23 35.0 +2.7**
VRI Vrincioaia 10.40 342 ⇑P Pn **15 23 33.6 +1.2**
VRI Vrincioaia 10.40 342 ⇑P ScS **15 36 33.8 -2.1**
PLOR Plostina 10.41 342 ⇑P Pn **15 23 33.9 +1.5**
PUNG Punghina 10.42 325 ⇑P Pn **15 23 33.6 +0.9**
GHRR 10.43 345 ⇓P Pn **15 23 35.4 +2.7**
DIGO Kars 10.44 62 *i* P Pn **15 23 35.0 +1.9**
DIGO IVMs_BB IVMs_BB 15 27 55.0
comp=Z,12µm,11.8s
EPOS Posof 10.44 55 *i* P Pn **15 23 35.9 +2.8**
EPOS IVMs_BB IVMs_BB 15 27 50.0
comp=Z,14µm,15.4s
CLDR Caldiran 10.46 69 *i* P Pn **15 23 37.3 +3.8**
VOIR 10.51 335 ⇑P Pn **15 23 34.4 +0.5**
VOIR 10.51 335 ⇑P ScS **15 36 35.0 -1.4**
YOVA Hakkari_Yksek 10.51 78 *i* P Pn **15 23 36.7 +2.5**
YOVA IVMs_BB IVMs_BB 15 28 22.0
comp=Z,14µm,9.0s
SRE Strehaia 10.59 327 ⇓P Pn **15 23 35.2 +0.2**
ARR Arges 10.60 333 ⇓P Pn **15 23 36.1 +1.0**
LEOM Leova 10.67 348 ⇑P Pn **15 23 37.7 +1.8**
EAK Akyaka 10.70 61 *i* P Pn **15 23 36.9 +0.2**
EAK IVMs_BB IVMs_BB 15 28 12.0
comp=Z,10µm,4.9s
ARXR Arkhyz 10.71 43 *i* P Pn **15 23 39.0 +2.2**
IGDI IGDIR 10.77 65 *i* P Pn **15 23 39.8 +2.3**
IGDI IVMs_BB IVMs_BB 15 28 09.0
comp=Z,23µm,11.3s
OZUR 10.87 339 ⇓P Pn **15 23 39.9 +1.2**
DOPR Dopca 10.87 338 ⇓P Pn **15 23 40.6 +1.8**
AKH Akhalkalaki 10.91 57 ⇑P Pn **15 23 42.9 +3.4**
PVY Plav 10.96 310 ⇑*i*P Pn **15 23 42.1 +2.0**
LOT Lotru 10.99 331 ⇑P Pn **15 23 41.2 +0.7**
MILM Milestii Mici 11.02 351 ⇓P Pn **15 23 40.4 -0.4**
TESR Tescani 11.02 343 ⇑P Pn **15 23 39.5 -1.4**
ULC Ulcinj 11.09 306 ⇑*i*P Pn **15 23 43.9 +2.1**
KIS Kishinev 11.10 351 ⇑*i*P Pn **15 23 41.0 -0.9**
comp=Z,2µm,2.4s
KIS Kishinev 11.10 351 *i* PP Pn 15 23 50.0 +8.1
KIS *eS* Sn **15 25 46.0 +1.7**
KIS *i* Li 15 26 34.0
KIS *i* LQ LQ 15 26 44.0
KIS LRM MLR 15 30 16.0
comp=Z,12µm,14.0s
KIS Kishinev 11.10 351 ⇑*i*P Pn **15 23 41.0 -0.9**
KIS *i* S Sn **15 25 46.0 +1.7**
KIS pmax pmax
comp=Z,2µm,2.4s
KIS MLR MLR
comp=Z,10µm,16.0s
HERR Herculane 11.12 325 ⇓P Pn **15 23 41.5 -0.7**
IVA Berane 11.15 311 ⇑*i*P Pn **15 23 44.6 +1.9**
DRME Dracevica, Mon 11.24 307 *e*Pn Pn **15 23 45.9 +2.1**
DRME Dracevica, Mon 11.24 307 ⇑*i*P Pn **15 23 45.9 +2.1**
PDG Podgorica 11.31 308 *e*Pn Pn **15 23 46.1 +1.3**
PDG Podgorica 11.31 308 ⇓P Pn **15 23 46.5 +1.8**
TTG Podgorica 11.31 308 ⇑*i*P Pn **15 23 46.6 +1.8**
GNI Garni 11.34 65 *i* P Pn **15 23 48.7 +3.3**
SNR=152
GNI Garni 11.34 65 P Pn **15 23 48.6 +3.2**
GNI Garni 11.34 65 *ce*P Pn **15 23 47.0 +1.6**
GNI pmax pmax
comp=Z,4µm,1.7s
GNI Garni 11.34 65 P Pn **15 23 49.2 +3.8**
comp=Z,3.2nm,0.3s,baz=253,slow=6.7,SNR=181
GNI S Sn **15 25 49.9 -0.6**
comp=Z,0.4nm,0.3s,baz=121,slow=19,SNR=1.5
GNI LR LR 15 28 54.6
comp=Z,35µm,19.2s,baz=257,slow=42
GNI ScP ScP **15 33 02.8 0.0**
comp=Z,0.3nm,0.3s,baz=42,slow=5.2,SNR=5.8
GNI ScS ScS **15 36 38.9 +0.6**
comp=Z,0.3nm,0.3s,baz=142,slow=12,SNR=9.2
NEY Neytrino 11.35 47 *c i*P Pn **15 23 48.2 +2.7**
KOME Kolasin 11.37 310 ⇑*i*P Pn **15 23 47.6 +1.9**
MDVR Moldovita 11.38 323 ⇑P Pn **15 23 50.6 +4.8**
BUM Brajici-Budva 11.48 307 ⇑*i*P Pn **15 23 48.5 +1.3**
KZRT Kazreti 11.52 59 *i* P Pn **15 23 49.7 +1.9**
BIZ Bicaz 11.56 342 ⇓P Pn **15 23 49.2 +1.1**
CEME Cevo 11.59 308 ⇑*i*P Pn **15 23 49.9 +1.3**
SHA1 Shidzhatmaz 11.60 45 *c i*P Pn **15 23 51.8 +2.8**
NKY Niksic 11.67 309 ⇑*i*P Pn **15 23 51.6 +1.7**
NKME Niksic 11.68 309 ⇑*i*P Pn **15 23 51.0 +1.2**
DEV Deva 11.70 330 ⇓P Pn **15 23 53.6 +3.6**
PLE Pljevlja 11.71 312 ⇑*i*P Pn **15 23 52.3 +1.9**
KBZ Khabaz 11.73 46 *c i*P Pn **15 23 53.5 +2.9**
KBZ Khabaz 11.73 46 P Pn **15 23 54.1 +3.5**
comp=Z,3.1nm,0.3s,baz=236,slow=11,SNR=377
KBZ S Sn **15 25 60.0 +0.1**
comp=Z,0.7nm,0.3s,baz=43,slow=19,SNR=1.3
KBZ ScP ScP **15 33 03.3 +0.4**
comp=Z,0.3nm,0.3s,baz=321,slow=22,SNR=4.7
KBZ ScS ScS **15 36 39.1 +0.6**
comp=Z,0.1nm,0.3s,baz=106,slow=22,SNR=12
KIV Kislovodsk 11.75 44 *i* P Pn **15 23 54.2 +3.3**
SNR=351
KIV Kislovodsk 11.75 44 P Pn **15 23 54.0 +3.1**
KIV Kislovodsk 11.75 44 *e*P Pn **15 23 54.2 +3.3**
KIV *e*S Sn **15 26 05.6 +5.1**
KIV pmax pmax
comp=Z,7µm,1.1s
KIV MLR MLR
comp=Z,9µm,11.0s
KIV Kislovodsk 11.75 44 ⇓P Pn **15 23 54.8 +3.8**
HCY Herceg Novi 11.81 307 ⇑*i*P Pn **15 23 53.2 +1.5**
DIVS Divibare 11.82 316 *e*Pn Pn **15 23 52.9 +1.1**
ZEI Tsey 11.82 52 *e*P Pn **15 23 50.2 -1.8**
ZEI pmax pmax
comp=Z,645nm,1.2s
RUDO Rudo 11.89 313 *e*Pn Pn **15 23 54.2 +1.5**
TBLG Delisi 11.89 57 *i* P Pn **15 23 54.7 +1.9**
TBLG IVMs_BB IVMs_BB 15 29 17.0
comp=Z,8µm,6.5s
TAR1 Taranto 11.90 296 ⇓*i*P Pn **15 23 50.2 -2.6**
PRAR RASCA 11.92 343 ⇑P Pn **15 23 54.9 +1.8**
UPM Unac-Piva 11.94 311 ⇑*i*P Pn **15 23 54.5 +1.0**
TIP Timpagrande 11.96 289 ⇓P Pn **15 23 50.0 -3.8**
TIP Timpagrande 11.96 289 ⇑P ScS **15 36 36.6 -2.8**
BRY Bratogost 12.01 309 *e*Pn Pn **15 23 54.1 -0.3**
BRY Bratogost 12.01 309 ⇑*i*P Pn **15 23 55.6 +1.2**
BBLS Lazići 12.01 314 *e*Pn Pn **15 23 55.8 +1.4**
MASS Massafra 12.03 297 ⇓*i*P Pn **15 23 52.2 -2.5**
TREB Trebinje 12.04 308 *e*Pn Pn **15 23 56.2 +1.5**
BZS Buzias 12.04 325 ⇑P Pn **15 23 54.7 -0.1**
BZS Buzias 12.04 325 ⇓P ScS **15 36 38.6 -0.6**
PYA1 Pyatigorsk 12.05 45 *i* P Pn **15 23 58.2 +3.2**
BANR Banloc 12.10 324 ⇓P Pn **15 23 58.8 +3.3**
CJR Cluj-Napoca 12.12 334 ⇑P Pn **15 23 58.2 +2.3**
DBRK Dubrovnik 12.14 307 P Pn **15 23 57.3 +1.2**
ARCR ARCALIA 12.19 337 ⇑P Pn **15 23 55.3 -1.5**
SORM Soroca 12.27 351 ⇓P Pn **15 23 57.6 -0.3**
MATE Matera 12.36 296 ⇓P Pn **15 23 57.4 -1.7**
TEKS Tekeris 12.36 317 *e*Pn Pn **15 24 00.1 +0.9**
BAI Bari 12.37 298 ⇓*i*P Pn **15 23 57.9 -1.4**
HAPS Han Pijesak,BI 12.41 314 *e*Pn Pn **15 24 00.1 +0.2**
BURAR Bucovina Array 12.41 340 ⇑P Pn **15 24 02.1 +2.1**
SG1 Sgolgore (BA) 12.43 297 ⇓*i*P Pn **15 23 58.0 -2.1**
DRGR 12.52 332 ⇑P ScS **15 36 41.0 +0.6**
SIRR Siria 12.53 328 ⇑P Pn **15 24 02.9 +1.5**
STON Ston 12.53 307 P Pn **15 24 01.4 0.0**
STON Ston 12.53 307 *e*Pn Pn **15 24 01.2 -0.2**
FRGS Fruska Gora 12.61 320 *e*Pn Pn **15 24 01.2 -1.3**
GOF Gofitskoye 12.65 41 ⇑*i*P Pn **15 24 05.6 +2.5**
GOF pmax pmax
comp=Z,987nm,1.1s
DDFL Dedoflistskaro 12.74 61 *i* P Pn **15 24 08.3 +3.9**
BMR Baia Mare 12.99 336 ⇑P Pn **15 24 08.5 +0.9**
MAKA Makarska 13.16 308 P Pn **15 24 09.5 -0.5**
RICI Ricice 13.19 309 P Pn **15 24 11.6 +1.1**
GROC Groznyy 13.24 53 *c i*P Pn **15 24 13.4 +2.3**

DOB Doboj 13.28 315 ePn Pn 15 24 14.4 +2.8
BTLR Botlikh 13.28 56c iP Pn 15 24 14.0 +2.2
LTVH Ltavrtes, Hu 13.32 331 ePn Pn 15 24 13.0 +0.9
LTVH Sn S 15 26 51.0 -8.5
HVAR Hvar 13.48 306 P Pn 15 24 16.1 +1.7
VAE Valguarnera 13.63 281 P Pn 15 24 14.3 -2.2
comp=Z,7.6nm,0.3s,baz=86,slow=1.7,SNR=32
VAE S Sn 15 26 33.3 -13
comp=Z,31nm,0.3s,baz=68,slow=5.4,SNR=5.8
GNBR Gunib 13.67 58c iP Pn 15 24 19.7 +2.6
MGRS Mrkonjic Grad 13.70 312 ePn P 15 24 22.0 -2.2
TRPA Tarpa 13.71 334 ⇓P Pn 15 24 18.6 +1.2
TRPA Tarpa 13.71 334 ePnd Pn 15 24 17.0 -0.4
TRPA Sn Sn 15 26 53.0 +5.2
BLY Banja Luka 13.82 313 ePn Pn 15 24 19.5 +0.5
BLY Banja Luka 13.82 313 ⇑P Pn 15 24 19.7 +0.8
AKT Akhty 13.90 62c iP Pn 15 24 21.8 +1.7
KIJV Kijevo 13.90 309 P Pn 15 24 20.8 +0.7
MORH Mrgy, Hungar 13.92 321 ePn Pn 15 24 19.0 -1.3
MORH Sn Sn 15 27 00.0 +6.9
BSZH Besenyszg 13.93 327 ePn Pn 15 24 21.0 +0.7
UZH Uzhgorod 14.22 335 eP Pn 15 24 24.2 0.0
UZH eS Sn 15 27 01.4 +1.1
ZIRJ Zirje 14.22 307 P Pn 15 24 23.3 -1.0
MAK Makhachkala 14.26 56d iP Pn 15 24 27.5 +2.7
MAK pmax pmax
comp=Z,7μm,1.3s
MAK MLR MLR
comp=Z,5μm,15.0s
MORI Morici 14.28 308 P Pn 15 24 24.6 -0.4
KOLS Kolonicke sedl 14.49 336 eP Pn 15 24 27.6 -0.1
KOLS Kolonicke sedl 14.49 336 eP Pn 15 24 27.6 -0.1
KOLS e 15 33 18.4
UDBI Udbina 14.56 310 P Pn 15 24 29.6 +0.8
PSZ Piszkesteto 14.57 328 ⇑P Pn 15 24 30.9 +2.1
PSZ Piszkesteto 14.57 328 ePn Pn 15 24 26.1 -2.8
MOSL Moslavina 14.57 315 P P 15 24 33.9 +0.1
AKASG Malin Array Be 14.72 355 P Pn 15 24 28.5 -2.2
comp=Z,2.2nm,0.3s,baz=176,slow=12,SNR=39
AKASG S Sn 15 27 09.3 -3.2
comp=Z,9.6nm,0.3s,baz=170,slow=23,SNR=4.4
AKASG PcP PcP 15 29 39.2 +0.3
baz=135,slow=0.5,SNR=4.1
AKASG LR LR 15 31 08.8
comp=Z,10μm,20.9s,baz=160,slow=41
AKASG ScP ScP 15 33 06.6 -1.1
comp=Z,0.7nm,0.3s,baz=148,slow=1.5,SNR=7.1
LVV L'vov 14.75 341 eP Pn 15 24 31.8 +0.7
LVV eS Sn 15 27 14.7 +1.5
LVV pmax pmax
comp=Z,2μm,1.5s
LVV MLR MLR
comp=N,8μm,15.0s
LVV MLR MLR
comp=E,4μm,15.0s
LVV MLR MLR
comp=Z,10μm,15.0s
DUGI Dugi Otok 14.75 307 P Pn 15 24 31.9 +0.7
KECS Kecovo 14.77 331 eP Pn 15 24 32.7 +1.3
KECS Kecovo 14.77 331 eP Pn 15 24 32.7 +1.3
KECS e 15 33 08.0
TIH Tihany 14.77 321 ePn P 15 24 34.1 -1.9
TIH Sn Sn 15 27 19.0 +5.4
CSKK Cskako 14.90 323 ePn P 15 24 38.0 +0.5
CSKK Sn Sn 15 27 20.1 +3.1
KWP Kalwaria Pacla 14.96 338 eP P 15 24 40.5 +2.4
KWP Kalwaria Pacla 14.96 338 eP P 15 24 40.5 +2.4
comp=Z,8μm,6.4s
KWP eP P 15 24 40.5 +2.4
comp=Z,8μm,6.4s
KWP eS S 15 27 34.3 +1.3
KWP eS S 15 27 34.3 +1.3
KALN Kalnik 15.04 317 P Pn 15 24 35.0 +0.1
MPLH Magyarpolny 15.13 321 ePn P 15 24 39.0 -1.0
MPLH Sn S 15 27 35.0 -1.5
ZAG Zagreb 15.13 315 ePn P 15 24 40.4 +0.4
NVLJ Novalja 15.14 309 P Pn 15 24 37.0 +0.9
PTJ Puntijarka 15.19 315 P P 15 24 38.9 -1.9
AQU L'Aquila 15.24 300 ePn Pn 15 24 37.9 +0.4
KOGS Kog 15.35 317 eP Pn 15 24 38.1 -0.8
KOGS ePcP PcP 15 29 41.3 +1.4
KOGS eScS ScS 15 36 46.7 -0.3
CRES Cresnjev 15.44 314 ePn Pn 15 24 39.7 -0.3
VYHS Vyhne 15.46 327 eP Pn 15 24 40.7 +0.3
VYHS Vyhne 15.46 327 eP Pn 15 24 40.7 +0.3
VYHS e 15 29 40.9
VYHS e 15 33 09.2
NIE Niedzica 15.60 332 eP P 15 24 46.7 +1.5
NIE Niedzica 15.60 332 ePn Pn 15 24 41.6 -0.5
NIE ePn Pn 15 24 41.6 -0.5
NIE eP P 15 24 46.7 +1.5
comp=Z,1μm,6.1s
NIE eP P 15 24 46.7 +1.5
comp=Z,1μm,6.1s
NIE eS S 15 27 46.0 -0.1
NIE eS S 15 27 46.0 -0.1
LANS Liptovska Anna 15.71 330 eP P 15 24 45.5 -0.9
LANS Liptovska Anna 15.71 330 eP P 15 24 45.5 -0.9
KOLL Kolacno 15.72 327 eP Pn 15 24 44.7 +1.1
RIY Rijeka 15.75 311 ePn Pn 15 24 43.7 -0.3
VORD Divnogorie 15.98 19 eP Pn 15 24 45.9 -0.9
VORD eS Sn 15 27 48.1 +5.2
VORD pmax pmax
comp=Z,660nm,1.1s
VORD smax smax
comp=E,340nm,3.7s
CEY Cerknica 16.00 312 ePn Pn 15 24 47.2 0.0
BRJN Brijuni 16.00 309 P Pn 15 24 47.9 +0.7
ZST Bratislava 16.05 324 eP P 15 24 49.7 -0.5
ZST Bratislava 16.05 324 eP P 15 24 49.7 -0.5
MODS Modra-Piesok 16.09 324 eP Pn 15 24 48.2 -0.1
MODS Modra-Piesok 16.09 324 eP Pn 15 24 48.2 -0.1
MODS e 15 29 41.0
MODS e 15 33 09.8
PERS Pernice 16.09 316 eP Pn 15 24 48.1 -0.3
PERS ePcP PcP 15 29 42.5 +1.4
PERS eScS ScS 15 36 48.4 -0.8
LJU Ljubljana 16.10 313 eP Pn 15 24 48.9 +0.5
LJU eS S 15 27 55.1 -1.3
LJU eScP ScP 15 33 11.0 +0.7
LJU eScS ScS 15 36 48.6 -0.4
LJU Ljubljana 16.10 313 ePn Pn 15 24 48.4 0.0
SMOL Smolenice 16.11 325 eP P 15 24 51.4 +0.5
SMOL Smolenice 16.11 325 eP P 15 24 51.4 +0.5
SOKA Soboth 16.16 316 iPn Pn 15 24 49.0 -0.3
comp=E,255nm,1.0s,SNR=204
SOKA iPcP PcP 15 29 42.7 +1.4
comp=E,51nm,0.8s
SOKA iScP ScP 15 33 11.1 +0.6
comp=E,78nm,0.9s,SNR=12
VSR Storozhevoye 16.17 18 eP Pn 15 24 48.1 -1.2
VSR eS Sn 15 27 46.2 -1.5
VSR pmax pmax
comp=Z,1μm,1.8s
VSR smax smax
comp=E,1μm,6.7s
ARSA Arzberg 16.23 318 iPn Pn 15 24 50.0 -0.1
comp=E,252nm,1.0s,SNR=98
ARSA iPcP PcP 15 29 42.5 +1.2
comp=E,26nm,0.8s,SNR=5.8
ARSA iScP ScP 15 33 10.5 -0.1
comp=E,60nm,1.1s,SNR=9.5
CRNS Crni Vrh 16.27 313 iP Pn 15 24 50.0 -0.7
OBKA Obir 16.34 315 iPn Pn 15 24 51.6 0.0
comp=E,289nm,1.0s,SNR=138
OBKA iPcP PcP 15 29 43.2 +1.7
comp=E,38nm,0.9s,SNR=4.5
OBKA iScP ScP 15 33 11.5 +0.5
comp=E,35nm,0.9s
OJC Ojcow 16.44 333⇑ eP P 15 24 55.6 +1.1
OJC Ojcow 16.44 333 eP P 15 24 55.6 +1.1
comp=E,4μm,4.6s
OJC eP P 15 24 55.6 +1.1
comp=E,4μm,4.6s
OJC eS S 15 28 05.3 +1.9
OJC eS S 15 28 05.3 +1.9
CONA Conrad Observa 16.48 321 iPn Pn 15 24 53.2 -0.2
comp=E,117nm,1.2s,SNR=41
CONA iPcP PcP 15 29 42.5 +0.8
comp=E,13nm,0.8s
CONA iScP ScP 15 33 10.6 -0.6
comp=E,30nm,1.3s
VORR Voronezh 16.60 17⇓ iP Pn 15 24 55.0 +0.3
VORR eS Sn 15 27 57.0 -1.1
VORR pmax pmax
comp=Z,2μm,2.0s
OKC Ostrava-Krasne 16.78 329 eP P 15 24 59.1 +0.8
OKC MLR MLR
comp=Z,10μm,14.9s
OKC Ostrava-Krasne 16.78 329 eP P 15 24 59.1 +0.8
OKC eS S 15 28 11.6 +1.3
OKC ePCP PcP 15 29 42.3 +0.3
OKC AMS AMS 15 32 40.0
comp=Z,10μm,14.9s
OKC eSCP ScP 15 33 11.5 -0.1
OKC eSCS ScS 15 36 51.2 +0.4
VRH Novokhopyorsk 16.89 23 eP Pn 15 24 57.5 -0.7
VRH eS Sn 15 28 01.9 -3.0
VRH pmax pmax
comp=Z,2μm,1.8s
VRH smax smax
comp=E,2μm,5.3s
MYKA Terra Mystica 16.93 314 iP Pn 15 24 59.1 +0.2
comp=E,142nm,1.0s,SNR=58
MYKA iPcP PcP 15 29 44.0 +1.6
comp=E,26nm,0.8s,SNR=5.9
MYKA iScP ScP 15 33 12.5 +0.5
comp=E,72nm,0.9s,SNR=8.6
RAC Raciborz 16.95 330 eP P 15 25 00.2 0.0
RAC MLR MLR
comp=Z,17μm,17.0s
KRUC Moravsky 16.99 325 ePN Pn 15 24 58.7 -0.8
KRUC Moravsky 16.99 325 eP P 15 25 00.9 +0.3
KRUC eSCP ScP 15 33 12.0 0.0
KRUC eSCS ScS 15 36 51.8 +0.3
MORC Moravsky Berou 16.99 328 ePN Pn 15 24 59.4 -0.2
MORC Moravsky Berou 16.99 328 eP P 15 25 01.7 +1.0
MORC eSCP ScP 15 33 13.1 +1.0
MORC eSCS ScS 15 36 52.4 +0.8
VRAC Vranov 17.07 325 P Pn 15 25 00.6 +0.1
comp=Z,1.5nm,0.3s,baz=136,slow=11,SNR=87
VRAC S Sn 15 28 07.5 -1.9
comp=Z,1.1nm,0.3s,baz=90,slow=20,SNR=2.5
VRAC PcP PcP 15 29 42.8 +0.3
baz=87,slow=2.8,SNR=1.2
VRAC Vranov 17.07 325 ePN Pn 15 25 00.0 -0.5
VRAC Vranov 17.07 325 eP P 15 25 02.1 +0.6
VRAC eSCP ScP 15 33 13.0 +0.8
VRAC eSCS ScS 15 36 52.4 +0.7
MOA Molln 17.27 318 iPn P 15 25 03.8 +0.1
comp=Z,120nm,1.0s,SNR=50
MOA iPcP PcP 15 29 43.8 +0.9
comp=Z,9.6nm,0.6s
MOA iScP ScP 15 33 12.3 -0.4
comp=Z,33nm,0.9s
KBA Koelnbreinsper 17.34 315 iPn P 15 25 04.6 -0.1
comp=Z,521nm,1.2s,SNR=83
KBA iPcP PcP 15 29 43.9 +0.7
comp=Z,26nm,0.6s,SNR=5.4
KBA iScP ScP 15 33 12.8 -0.2
comp=Z,50nm,0.8s,SNR=7.1
LPSR Galich'ya Gora 17.40 16 eP Pn 15 25 04.0 -0.6
LPSR eS Sn 15 28 13.8 -3.5
LPSR pmax pmax
comp=Z,2μm,1.2s
LPSR smax smax
comp=E,5μm,7.2s
BEL Belsk 17.48 338 eP Pn 15 25 05.1 -0.4
BEL eS S 15 28 23.0 -1.1
BEL Belsk 17.48 338 eP Pn 15 25 05.1 -0.4
comp=E,7μm,4.6s
BEL eP Pn 15 25 05.1 -0.4
comp=E,7μm,4.6s
BEL eS S 15 28 23.0 -1.1
BEL eS S 15 28 23.0 -1.1
RAYN Ar Rayn 17.51 132 iP P 15 25 07.2 +0.7
SNR=276
KRLC Kraliky 17.54 328 eP P 15 25 07.5 +0.8
KRLC eS Sn 15 28 22.8 +1.9
KRLC MLR MLR
comp=Z,10μm,18.0s
KRLC Kraliky 17.54 328 eP P 15 25 07.5 +0.8
KRLC eS Sn 15 28 22.8 +1.9
KRLC ePCP PcP 15 29 44.2 +0.9
KRLC AMS AMS 15 33 10.0
comp=Z,10μm,18.0s
KRLC eSCP ScP 15 33 14.4 +1.2
TREC Trest 17.58 324 eP P 15 25 07.1 0.0
TREC eS Sn 15 28 20.8 -0.9
TREC MLR MLR
comp=Z,13μm,23.4s
TREC Trest 17.58 324 eP P 15 25 07.1 0.0
TREC eS Sn 15 28 20.8 -0.9
TREC ePCP PcP 15 29 44.2 +0.8
TREC AMS AMS 15 32 40.0
comp=Z,13μm,23.4s
TREC eSCP ScP 15 33 13.7 +0.4
ABTA Abfaltersbach 17.66 313 iP P 15 25 08.6 +0.5
comp=Z,97nm,1.0s,SNR=45
ABTA iPcP PcP 15 29 44.5 +0.9
comp=Z,43nm,0.8s,SNR=5.7
ABTA iScP ScP 15 33 13.6 +0.1
comp=Z,81nm,0.8s,SNR=8.9
KEST Kesra 17.81 275 P Pn 15 25 09.7 -0.1
comp=Z,8.0nm,0.3s,baz=26,slow=4.6,SNR=53
KEST S Sn 15 28 28.8 +1.3
comp=Z,2.2nm,0.3s,baz=52,slow=19,SNR=3.6
KEST ScP ScP 15 33 14.8 +0.7
comp=Z,1.3nm,0.3s,baz=273,slow=1.7,SNR=24
DPC Dobruska-Polom 17.94 327 eP Pn 15 25 11.8 +0.5
DPC eS Sn 15 28 30.8 +0.2
DPC MLR MLR
comp=Z,11μm,20.0s
DPC Dobruska-Polom 17.94 327 eP Pn 15 25 11.8 +0.5
DPC ex x 15 25 25.5
DPC eS Sn 15 28 30.8 +0.2
DPC ePCP PcP 15 29 44.6 +0.6
DPC eSCP ScP 15 33 15.2 +1.2
DPC AMS AMS 15 33 30.0
comp=Z,11μm,20.0s
DPC eSCS ScS 15 36 54.3 -0.1
OSTC Ostas 18.14 328 eP Pn 15 25 13.6 -0.1
OSTC eS Sn 15 28 36.3 +1.0
OSTC ePCP PcP 15 29 45.4 +1.1
OSTC eSCP ScP 15 33 15.7 +1.3
OSTC AMS AMS 15 33 50.0
comp=Z,12μm,21.1s
OSTC eSCS ScS 15 36 54.9 0.0
GEC2 GERESS Array S 18.18 320 P Pn 15 25 14.2 0.0
GEC2 pmax pmax
comp=Z,550nm,1.3s
GERES GERESS Array B 18.18 320 P Pn 15 25 14.3 0.0
comp=Z,4.9nm,0.3s,baz=125,slow=12,SNR=380
GERES S Sn 15 28 34.1 -2.2
baz=145,slow=12,SNR=1.7
GERES PcP PcP 15 29 44.3 -0.2
comp=Z,1.7nm,0.3s,baz=156,slow=2.0,SNR=7.0
GERES ScP ScP 15 33 13.8 -0.8
comp=Z,0.8nm,0.3s,baz=132,slow=2.0,SNR=37
GERES LR LR 15 33 20.6
comp=Z,11μm,20.6s,baz=138,slow=41
UPC Upice 18.19 327 eP P 15 25 14.0 +0.1
UPC eS S 15 28 37.6 -1.0
UPC MLR MLR
comp=Z,10μm,16.6s
UPC Upice 18.19 327 eP P 15 25 14.0 +0.1
UPC eS S 15 28 37.6 -1.0
UPC eSCP ScP 15 33 14.1 -0.4
UPC AMS AMS 15 33 50.0
comp=Z,10μm,16.6s
CHVC Chvalec 18.23 328 eP Pn 15 25 14.8 0.0
CHVC eS S 15 28 40.6 +1.1
CHVC ePCP PcP 15 29 44.4 0.0
CHVC eSCP ScP 15 33 15.2 +0.6
CHVC AMS AMS 15 33 40.0
comp=Z,10μm,19.2s
CHVC eSCS ScS 15 36 53.2 -2.0
KSP Ksiaz 18.32 328 eP P 15 25 15.4 +0.2
KSP eS S 15 28 41.8 +0.6
KSP Ksiaz 18.32 328 eP P 15 25 15.4 +0.2
comp=Z,4μm,5.1s
KSP eP P 15 25 15.4 +0.2
comp=Z,4μm,5.1s
KSP eS S 15 28 41.8 +0.6
KSP eS S 15 28 41.8 +0.6
GOPC GO Pecny, Ondr 18.33 324 eP P 15 25 15.2 -0.2
GOPC eS Sn 15 28 40.5 +0.6
GOPC MLR MLR
comp=Z,11μm,21.5s
GOPC GO Pecny, Ondr 18.33 324 eP P 15 25 15.2 -0.2
GOPC eS Sn 15 28 40.5 +0.6
GOPC AMS AMS 15 32 30.0
comp=Z,11μm,21.5s
GOPC eSCP ScP 15 33 14.9 0.0
KHC Kasperske Hory 18.42 321 eP P 15 25 16.2 -0.2
KHC eS Sn 15 28 38.9 -3.1
KHC MLR MLR
comp=Z,12μm,21.1s
KHC Kasperske Hory 18.42 321 eP P 15 25 16.2 -0.2
KHC eS Sn 15 28 38.9 -3.1
KHC AMS AMS 15 32 40.0
comp=Z,12μm,21.1s
KHC eSCP ScP 15 33 14.6 -0.5
KHC eSCS ScS 15 36 54.7 -1.2
PGF Pioggiola 18.43 297 P P 15 25 16.6 0.0
PGF pmax pmax
comp=Z,261nm,1.6s
WTTA Wattenberg 18.43 313 iPn Pn 15 25 17.9 +0.5
comp=Z,285nm,1.1s,SNR=154
WTTA iPcP PcP 15 29 45.9 +0.8
comp=Z,78nm,0.8s
WTTA iScP ScP 15 33 15.5 +0.2
comp=Z,83nm,0.8s,SNR=8.3
PRU Pruhonice 18.50 324 eP P 15 25 17.5 +0.3
PRU eS Sn 15 28 42.7 -1.2
PRU MLR MLR
comp=Z,12μm,25.2s
PRU Pruhonice 18.50 324 eP P 15 25 17.5 +0.3
PRU eS Sn 15 28 42.7 -1.2
PRU AMS AMS 15 32 30.0
comp=Z,12μm,25.2s
PRU eSCP ScP 15 33 15.6 +0.4
PRU eSCS ScS 15 36 56.4 +0.4
WATA Walderalm 18.50 314 iPn Pn 15 25 18.2 0.0
comp=Z,240nm,0.8s,SNR=144
WATA iPcP PcP 15 29 46.3 +1.2
comp=Z,68nm,1.1s
WATA iScP ScP 15 33 15.6 +0.1
comp=Z,79nm,0.9s,SNR=10
PBCC Pribram 18.56 323 eP P 15 25 18.0 +0.1
PBCC ePCP PcP 15 29 45.8 +0.8
PBCC eSCP ScP 15 33 15.4 0.0
PBCC eSCS ScS 15 36 56.5 +0.2
MICGM Minsk 18.61 354⇑ eP P 15 25 16.0 -2.3
MICGM eP P 15 25 16.0 -2.3
MICGM PM 15 25 19.0
comp=Z,6.0nm,1.0s
MICGM PM 15 25 20.0
MICGM epP sP 15 25 36.0 -2.4
MICGM ePP PnPn 15 25 40.0 +7.4
MICGM eS Sn 15 28 34.0 -12
MICGM esS sS 15 29 04.0 -2.7
MICGM eLQ LQ 15 30 04.0
MICGM eLR LR 15 31 00.0
MICGM LRM MLR 15 33 00.0
comp=Z,20nm,22.0s
MICGM LRM MLR 15 33 00.0
comp=E,12nm,16.0s
MICGM LRM MLR 15 33 04.0
comp=N,10nm,22.0s
MICGM Minsk 18.61 354⇓ eP ScS 15 36 54.0 -2.1
MICGM PM 15 36 55.0
comp=E,3.0nm,1.5s
MICGM PM 15 36 55.0
comp=N,0.7nm,1.0s
MICGM PM 15 36 57.0
comp=Z,0.3nm,1.5s
MNK Minsk 18.61 354 eP P 15 25 16.0 -2.3
MNK eS Sn 15 28 34.0 -12
MNK pmax pmax
comp=Z,6μm,1.0s
PRA Prague 18.61 324 eP Pn 15 25 19.3 0.0
PRA MLR MLR
comp=Z,12μm,24.4s
PRA Prague 18.61 324 eP Pn 15 25 19.3 0.0
PRA AMS AMS 15 32 50.0
comp=Z,12μm,24.4s
SQTA Sankt Quirin 18.66 313 iPn Pn 15 25 20.4 +0.3
comp=Z,173nm,1.2s,SNR=113
SQTA iPcP PcP 15 29 46.8 +1.4
comp=Z,84nm,0.7s,SNR=6.8
SQTA iScP ScP 15 33 16.2 +0.4
comp=Z,136nm,0.8s,SNR=16
MOTA Moosalm 18.79 313 iPn Pn 15 25 21.2 -0.4
comp=Z,284nm,1.0s,SNR=110
MOTA iPcP PcP 15 29 46.8 +1.2
comp=Z,46nm,0.7s
MOTA iScP ScP 15 33 16.3 +0.2
comp=Z,110nm,0.8s,SNR=9.7
WET Wettzell 18.79 320 P P 15 25 20.1 -0.4
WET pmax pmax
comp=Z,465nm,0.9s
SUW Suwalki 18.84 345 eP P 15 25 20.4 -0.5
SUW Suwalki 18.84 345 eP P 15 25 20.4 -0.5
comp=Z,7μm,5.6s
SUW eP P 15 25 20.4 -0.5
comp=Z,7μm,5.6s
SUW eS Sn 15 29 00.6 +8.7
SUW eS Sn 15 29 00.6 +8.7
FETA Feichten 18.86 312 iPn Pn 15 25 22.5 +0.1
comp=Z,341nm,1.2s,SNR=338
FETA iPcP PcP 15 29 47.3 +1.5
comp=Z,81nm,0.8s
FETA iScP ScP 15 33 17.0 +0.7
comp=Z,143nm,0.9s,SNR=14
PVCC Panska Ves 18.86 325 eP Pn 15 25 22.0 -0.3
PVCC eS S 15 28 52.1 -0.1
PVCC MLR MLR
comp=Z,11μm,20.3s
PVCC Panska Ves 18.86 325 eP Pn 15 25 22.0 -0.3
PVCC eS S 15 28 52.1 -0.1
PVCC eSCP ScP 15 33 16.8 +0.8
PVCC AMS AMS 15 33 30.0
comp=Z,11μm,20.3s
RETA Reutte 19.06 313 iPn P 15 25 24.0 +0.6
comp=Z,671nm,1.2s,SNR=111
RETA iPcP PcP 15 29 47.3 +1.3
comp=Z,39nm,0.9s
RETA iScP ScP 15 33 16.8 +0.2
comp=Z,64nm,0.8s,SNR=9.7
FUR Furstenfeldbru 19.11 316 P P 15 25 24.3 +0.4
FUR pmax pmax
comp=Z,712nm,1.1s
NACGM Naroch 19.11 352 eP P 15 25 22.0 -1.9
NACGM PM 15 25 27.0
comp=Z,4.8nm,1.0s
NACGM ePP PnPn 15 25 40.0 +0.4
NACGM ePPP PPP 15 25 52.0
NACGM eS S 15 28 48.0 -9.3
NACGM eSS SnSn 15 29 14.0 +0.5
NACGM ePcP PcP 15 29 44.0 -1.8
NACGM eLQ LQ 15 31 05.0
NACGM eLR LR 15 32 26.0
NACGM LRM MLR 15 33 04.0
comp=Z,18nm,20.0s
NACGM LRM1 15 35 50.0
comp=Z,12nm,14.0s
ABSA Djebel Ababsia 19.25 278 P Pn 15 25 27.2 +0.1
CMAH Djebel Manchou 19.26 279 P Pn 15 25 27.0 -0.2
DAVOX Davos/Dischmat 19.26 310 P Pn 15 25 26.7 -0.6
DAVOX S S 15 29 00.2 -0.7
DAVOX PcP PcP 15 29 47.1 +0.6
BRG Berggiesshubel 19.38 325 iP P 15 25 27.5 +0.6
comp=Z,668nm,1.1s
BRG S S 15 29 01.0 -1.9
BRG iPCP PcP 15 29 47.2 +0.8
comp=Z,39nm,1.0s
BRG iSCP ScP 15 33 17.2 +0.1
comp=Z,73nm,1.1s
comp=N,12μm,16.7s
comp=E,8μm,18.3s
comp=Z,13μm,20.6s
BRG Berggiesshubel 19.38 325 iP P 15 25 27.5 +0.6
BRG S S 15 29 01.0 -1.9
BRG pmax pmax
comp=Z,668nm,1.1s
BRG MLR MLR
comp=N,12μm,16.7s
BRG MLR MLR
comp=E,8μm,18.3s
BRG MLR MLR
comp=Z,13μm,20.6s

OBN	**Obninsk**	**19.41**	**9**	*eP*	**P**	**15 25 26.1**	**-0.9**
OBN				pmax	pmax		
	comp=Z,563nm,0.8s						
OBN				MLR	MLR		
	comp=Z,9μm,21.5s						
OBN	**Obninsk**	**19.41**	**9**	P	**P**	**15 25 26.2**	**-0.8**
	comp=Z,8.9nm,0.3s,baz=198,slow=1.9,SNR=147						
GRC1	**Grafenberg Arr**	**19.43 318**		P	**P**	**15 25 27.5**	**+0.1**
DAVA	**Damuels**	**19.49 312**		*i* Pn	**P**	**15 25 28.4**	**+0.1**
	comp=Z,614nm,1.0s,SNR=134						
DAVA				*i* PcP	**PcP**	**15 29 47.6**	**+0.7**
	comp=Z,79nm,0.8s						
DAVA				*i* ScP	**ScP**	**15 33 17.9**	**+0.3**
	comp=Z,80nm,0.8s,SNR=9.1						
IDID	**Didziasalis**	**19.52 352**		*eP*	**P**	**15 25 27.9**	**-0.4**
IDID				*eS*	**S**	**15 29 04.1**	**-1.4**
IIGN	**Ignalina**	**19.62 351**		*eP*	**P**	**15 25 28.6**	**-0.8**
IIGN				IAmb	IAmb	15 25 33.3	
	comp=Z,416nm,1.1s						
IIGN				*eS*	**S**	**15 29 06.3**	**-1.1**
IIGN				*eS*	**Sn**	**15 29 06.9**	**-3.8**
IIGN				*eScS*	**ScS**	**15 36 58.1**	**-1.3**
NKC	**Novy Kostel**	**19.68 322**		*eP*	**P**	**15 25 30.4**	**+0.2**
NKC				*eS*	**S**	**15 29 05.1**	**-3.8**
NKC				MLR	MLR		
	comp=Z,9μm,19.5s						
NKC	**Novy Kostel**	**19.68 322**		*eP*	**P**	**15 25 30.4**	**+0.2**
NKC				*eS*	**S**	**15 29 05.1**	**-3.8**
NKC				AMS	AMS	15 33 30.0	
	comp=Z,9μm,19.5s						
CAEH	**'Ain El Ouahch**	**19.70 279**		P	**Pn**	**15 25 32.1**	**-0.3**
SAOF	**Saorge**	**19.80 301**		P	**P**	**15 25 32.4**	**+0.8**
SAOF				pmax	pmax		
	comp=Z,265nm,1.2s						
LLS	**Linth-Limmern**	**19.83 310**		P	**Pn**	**15 25 34.2**	**+0.1**
CKFL	**Kef-Lekhel**	**19.84 278**		P	**Pn**	**15 25 34.0**	**-0.2**
ISAL	**Salakas**	**19.85 351**		*eP*	**P**	**15 25 30.8**	**-1.1**
ISAL				IAmb	IAmb	15 25 32.8	
	comp=Z,219nm,0.9s						
GKP	**Gorka Klasztor**	**19.86 335**		*eP*	**P**	**15 25 31.5**	**-0.4**
GKP				*eS*	**S**	**15 29 09.3**	**-2.8**
GKP	**Gorka Klasztor**	**19.86 335**		*eP*	**P**	**15 25 31.5**	**-0.4**
	comp=Z,4μm,7.6s						
GKP				*eP*	**P**	**15 25 31.5**	**-0.4**
	comp=Z,4μm,7.6s						
GKP				*eS*	**S**	**15 29 09.3**	**-2.8**
GKP				*eS*	**S**	**15 29 09.3**	**-2.8**
GRF	**Grafenberg Arr**	**19.99 319**		P	**P**	**15 25 33.5**	**0.0**
GRF				pmax	pmax		
	comp=Z,820nm,1.0s						
IZAR	**Zarasai**	**20.01 352**		*eP*	**P**	**15 25 32.4**	**-1.2**
CASM	**Ain Smara**	**20.04 278**		P	Pn	15 25 35.6	-0.8
PABE	**Paberze**	**20.10 348**		*eP*	**P**	**15 25 33.6**	**-0.9**
PABE				*eS*	**S**	**15 29 15.8**	**-1.1**
PABE				*eScP*	**ScP**	**15 33 17.4**	**-1.2**
CLL	**Collm**	**20.11 325**⇑		*iP*	**P**	**15 25 35.2**	**+0.4**
CLL				*i* *SP	**sP**	**15 25 55.4**	**+0.9**
CLL				*eS*	Sn	15 29 21.0	-1.7
CLL				*i*		15 29 48.8	
CLL				*i*		15 37 00.2	
CLL				pmax	pmax		
	comp=Z,742nm,1.4s						
CLL	**Collm**	**20.11 325**⇑		*iP*	**P**	**15 25 35.2**	**+0.4**
	comp=Z,742nm,1.4s						
CLL				*eP*max		15 25 36.0	
CLL				*eP*lp		15 25 37.0	
	comp=Z,2μm,20.5s						
CLL				*i* sP	**sP**	**15 25 55.4**	**+0.9**
CLL				*eS*	Sn	15 29 21.0	-1.7
	comp=N,10μm,26.1s						
CLL				*eS*	Sn	15 29 21.0	-1.7
	comp=E,9μm,25.5s						
CLL				*i* PcP	**PcP**	**15 29 48.8**	**+1.1**
	comp=Z,90nm,1.0s						
CLL				*i* ScP	**ScP**	**15 33 19.3**	**+0.5**
	comp=Z,65nm,1.0s						
CLL				*e*		15 33 37.0	
CLL				Lm	MLR	15 34 00.0	
	comp=N,8μm,21.9s						
CLL				Lm	MLR	15 34 00.0	
	comp=E,8μm,21.8s						
CLL				Lmax		15 35 00.0	
CLL				*i* ScS	**ScS**	**15 37 00.2**	**-1.0**
CLL				*e*		15 37 18.0	
CTEI	**Djebel Teioual**	**20.13 277**		P	Pn	15 25 37.2	-0.4
MOS	**Moscow**	**20.16 10**		*eP*	**P**	**15 25 29.8**	**-5.4**
MOS				*eS*	**S**	**15 29 13.4**	**-4.7**
MOS				*e*		15 36 58.8	
MOS				pmax	pmax		
	comp=Z,2μm,1.2s						
MOS				MLR	MLR		
	comp=N,9μm,15.0s						
MOS				MLR	MLR		
	comp=Z,10μm,15.0s						
MMK	**Mattmark**	**20.18 307**		P	Pn	15 25 39.9	+1.7
ISO	**Isola**	**20.21 301**		P	Pn	15 25 37.3	-1.1
ISO				pmax	pmax		
	comp=Z,270nm,1.6s						
RSP	**Reno Superiore**	**20.34 304**		P	Pn	15 25 39.4	-0.6
MOX	**Moxa**	**20.36 322**		P	**P**	**15 25 37.7**	**+0.2**
MOX				pmax	pmax		
	comp=Z,1μm,1.0s						
DFRA	**Djebel Bou Aff**	**20.50 279**		P	Pn	15 25 41.4	-0.5
LSD	**Lago del Serru**	**20.53 305**		P	Pn	15 25 41.3	-1.0
SLE	**Schleitheim**	**20.55 312**		P	**P**	**15 25 39.1**	**-0.5**
SLE				pmax	pmax		
	comp=Z,371nm,0.8s						
DIX	**Grande Dixence**	**20.55 307**		P	Pn	15 25 42.7	0.0
RUE	**Ruedersdorf**	**20.59 328**		*eP*	**P**	**15 25 39.1**	**-0.8**
RUE				*eScP*	**ScP**	**15 33 20.4**	**+0.5**
STU	**Stuttgart**	**20.61 315**		P	**P**	**15 25 40.6**	**+0.4**
STU				pmax	pmax		
	comp=Z,1μm,1.0s						
BNI	**Bardonecchia**	**20.71 303**		P	**P**	**15 25 42.8**	**+1.4**
BNI				pmax	pmax		
	comp=Z,400nm,1.2s						
CKHR	**Kef el Ahmar**	**20.86 278**		P	Pn	15 25 45.2	-1.0
BFO	**Black Forest**	**20.90 313**		P	**P**	**15 25 43.8**	**+0.4**
BFO				pmax	pmax		
	comp=Z,1μm,1.1s						
SET	**Setif**	**20.92 278**		P	Pn	15 25 48.0	+1.1
RSL	**Roselend**	**20.94 305**		P	Pn	15 25 46.0	-1.1
PBUR	**Paburg**	**20.98 345**		*eP*	**P**	**15 25 43.4**	**-0.7**
PBUR				IAmb	IAmb	15 25 45.3	
	comp=Z,3μm,0.9s						
PBUR				*e*ScP	**ScP**	**15 33 20.7**	**0.0**
KIZ	**Kirchzarten**	**20.98 312**		P	**P**	**15 25 43.7**	**-0.5**
ORIF	**Oris-en-Rattie**	**21.21 302**		P	**P**	**15 25 46.9**	**+0.1**
ORIF				pmax	pmax		
	comp=Z,229nm,1.0s						
TOD	**Tromm**	**21.25 317**		P	**P**	**15 25 46.1**	**-1.0**
LOMF	**Lomont**	**21.40 309**		P	**P**	**15 25 48.6**	**-0.2**
MOF	**Molkenrain**	**21.41 311**		P	**P**	**15 25 48.4**	**-0.5**
GEYT	**Alibeck**	**21.47 77**		P	**P**	**15 25 50.1**	**+0.5**
	comp=Z,199nm,0.6s,baz=281,slow=8.9,SNR=198						
GEYT				PcP	**PcP**	**15 29 50.9**	**+0.3**
	comp=Z,37nm,0.8s,baz=238,slow=4.7,SNR=3.9						
GEYT				ScP	**ScP**	**15 33 22.1**	**-0.3**
	comp=Z,16nm,0.8s,baz=260,slow=4.4,SNR=5.9						
GEYT				LR	LR	15 36 27.9	
	comp=Z,5μm,18.8s,baz=260,slow=43						
GEYT				PKiKP	**PKiKP**	**15 37 37.1**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=222,slow=1.9,SNR=3.7						
LANF	**Langenberg**	**21.51 314**		P	**P**	**15 25 49.6**	**-0.3**
KTD	**Kalmit**	**21.52 315**		P	**P**	**15 25 49.2**	**-0.8**
ECH	**Echery**	**21.55 312**		P	**P**	**15 25 50.4**	**+0.1**
ECH				pmax	pmax		
	comp=Z,344nm,1.1s						
MAHO	**Mahon**	**21.64 288**		*i* P	**P**	**15 25 52.0**	**+0.7**
MAHO				*i* S	**S**	**15 29 43.2**	**-4.4**
ASHT	**Ashkhabad**	**21.68 77**		P	**P**	**15 25 53.9**	**+2.2**
ASHT				pmax	pmax		
	comp=Z,1μm,1.0s						
TNS	**Taunus Mts**	**21.77 318**		P	**P**	**15 25 52.0**	**-0.7**
TNS				pmax	pmax		
	comp=Z,298nm,0.8s						
BSD	**Bornholm Skovb**	**22.15 335**		P	**P**	**15 25 54.3**	**-2.3**
BSD				pmax	pmax		
	comp=Z,261nm,1.3s						
BSD	**Bornholm Skovb**	**22.15 335**⇑		*iP*	**P**	**15 25 53.2**	**-3.4**
	comp=Z,268nm,1.1s						
SSB	**Saint Sauveur**	**22.22 303**		P	**P**	**15 25 57.6**	**0.0**
SSB				pmax	pmax		
	comp=Z,156nm,0.9s						
RGN	**Rugen**	**22.30 332**		*eP*	**P**	**15 25 55.9**	**-2.3**
SLIT	**Slitere, Latvi**	**22.41 347**		*eP*	**P**	**15 25 56.2**	**-3.2**
SLIT				*e*ScP	**ScP**	**15 33 23.7**	**-0.6**
VSU	**Vasula**	**22.63 354**		*ce*P	**P**	**15 26 01.0**	**-0.7**
VSU				pmax	pmax		
	comp=Z,2μm,1.3s						
VSU	**Vasula**	**22.63 354**		*eP*	**P**	**15 25 59.6**	**-2.1**
VSU				*e*ScP	**ScP**	**15 33 24.4**	**-0.5**
WLF	**Walferdange**	**22.79 314**		P	**P**	**15 26 02.5**	**-1.0**
WLF				pmax	pmax		
	comp=Z,779nm,1.1s						
BUG	**Bochum--Univer**	**23.05 319**		P	**P**	**15 26 05.2**	**-1.0**
BUG				pmax	pmax		
	comp=Z,551nm,1.6s						
BSEG	**Bad Segeberg**	**23.10 327**		P	**P**	**15 26 04.8**	**-1.7**
BSEG				pmax	pmax		
	comp=Z,365nm,1.1s						
LOR	**Lormes**	**23.26 307**		P	**P**	**15 26 07.4**	**-0.8**
LOR				pmax	pmax		
	comp=Z,506nm,1.1s						
MEM	**Membach**	**23.32 317**		P	**P**	**15 26 08.4**	**-0.3**
UMQ	**Umm Al-Quwin**	**23.34 110**		*i* P	**P**	**15 26 10.4**	**+1.3**
	SNR=80						
UMQ	**Umm Al-Quwin**	**23.34 110**		S	**S**	**15 30 18.8**	**+1.4**
SHME	**Shamm**	**23.43 108**		*i* P	**P**	**15 26 09.7**	**-0.3**
	SNR=28						
HGN	**Heimansgroeve**	**23.43 317**		*eP*	**P**	**15 26 08.9**	**-0.9**
	comp=Z,1μm,1.7s						
HGN				*eP*	**PcP**	**15 29 54.7**	**+0.5**
	comp=Z,125nm,1.1s						
HGN				*eS*	**S**	**15 30 19.2**	**+0.7**
HGN				*eL*	L	15 36 25.0	
	comp=Z,10μm,21.4s						
MTLF	**Montolieu**	**23.47 297**		P	**P**	**15 26 11.0**	**+0.8**
MTLF				pmax	pmax		
	comp=Z,375nm,1.5s						
COP	**Copenhagen**	**23.49 333**⇑		*i*P	**P**	**15 26 09.0**	**-1.3**
COP				pmax	pmax		
	comp=Z,260nm,1.0s						
COP	**Copenhagen**	**23.49 333**⇑		*i* P	**P**	**15 26 09.0**	**-1.3**
	comp=Z,258nm,1.0s						
ASUD	**Al Ashush, Dub**	**23.58 112**		*i* P	**P**	**15 26 12.6**	**+1.2**
	SNR=132						
ASUD	**Al Ashush, Dub**	**23.58 112**		P	**P**	**15 26 12.7**	**+1.2**
	SNR=107						
ASUD				S	**S**	**15 30 22.2**	**+0.9**
BEBN	**Eben Emael**	**23.59 317**		P	**P**	**15 26 10.7**	**-0.6**
BANOM	**Banah**	**23.62 108**		*i* P	**P**	**15 26 12.0**	**+0.2**
	SNR=97						
BANOM	**Banah**	**23.62 108**		P	**P**	**15 26 12.4**	**+0.6**
	SNR=110						
BANOM				S	**S**	**15 30 22.4**	**+0.5**
BCLA	**Clavier**	**23.62 316**⇑		P	**P**	**15 26 11.2**	**-0.4**
	comp=Z,476nm,1.5s						
NAZ	**Nazwa, Dubai**	**23.63 111**		*i* P	**P**	**15 26 13.0**	**+1.1**
	SNR=493						
NAZ	**Nazwa, Dubai**	**23.63 111**		P	**P**	**15 26 12.9**	**+1.1**
	SNR=245						
NAZ				P	**P**	**15 26 12.9**	**+1.1**
	SNR=245						
NAZ				S	**S**	**15 30 23.0**	**+0.9**
NAZ				S	**S**	**15 30 23.0**	**+0.9**
FAQ	**Al Faqa, Dubai**	**23.71 112**		*i* P	**P**	**15 26 13.3**	**+0.6**
	SNR=60						
FAQ	**Al Faqa, Dubai**	**23.71 112**		P	**P**	**15 26 13.4**	**+0.7**
	SNR=56						
FAQ				S	**S**	**15 30 28.0**	**+4.5**
PUL	**Pulkovo**	**23.75 359**		*ce*P	**P**	**15 26 12.2**	**-0.4**
PUL				pmax	pmax		
	comp=Z,2μm,0.8s						
MSFE	**Esma-Masafi**	**23.81 110**		*i* P	**P**	**15 26 14.0**	**+0.4**
	SNR=360						
DOU	**Dourbes**	**23.88 314**⇑		P	**P**	**15 26 12.8**	**-1.2**
	comp=Z,321nm,0.9s						
MDH	**Madha**	**23.94 110**		*i* P	**P**	**15 26 14.9**	**+0.2**
	SNR=400						
MDH	**Madha**	**23.94 110**		P	**P**	**15 26 15.0**	**+0.3**
	SNR=154						
MDH				P	**P**	**15 26 15.0**	**+0.3**
	SNR=154						
MDH				S	**S**	**15 30 27.3**	**+0.1**
MDH				S	**S**	**15 30 27.3**	**+0.1**
EBNR	**Beni Rached**	**24.01 279**		P	**P**	**15 26 17.0**	**+1.7**
AKTO	**Aktyubinsk**	**24.02 45**		*i* P	**P**	**15 26 14.4**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,1μm,1.1s						
AKTO	**Aktyubinsk**	**24.02 45**		P	**P**	**15 26 14.5**	**-0.7**
	comp=Z,606nm,0.9s,baz=246,slow=9.7,SNR=772						
AKTO				S	**S**	**15 30 26.7**	**-1.3**
	comp=Z,21nm,0.8s,baz=325,slow=16,SNR=1.4						
UOSS	**Minazif**	**24.06 110**		*i* P	**P**	**15 26 16.0**	**+0.2**
	SNR=60						
UOSS	**Minazif**	**24.06 110**		P	**P**	**15 26 16.0**	**+0.2**
UOSS				P	**P**	**15 26 16.0**	**+0.2**
UOSS				S	**S**	**15 30 29.4**	**+0.3**
UOSS				S	**S**	**15 30 29.4**	**+0.3**
HATD	**Hatta, Dubai**	**24.07 111**		*i* P	**P**	**15 26 16.2**	**+0.2**
	SNR=492						
HATD	**Hatta, Dubai**	**24.07 111**		P	**P**	**15 26 16.5**	**+0.6**
	SNR=166						
HATD				S	**S**	**15 30 29.8**	**+0.4**
ASHO	**Ashiyiah**	**24.10 111**		*i* P	**P**	**15 26 16.2**	**+0.1**
	SNR=79						
ASHO	**Ashiyiah**	**24.10 111**		P	**P**	**15 26 16.6**	**+0.4**
	SNR=190						
ASHO				S	**S**	**15 30 31.2**	**+1.5**
ECHA	**Ech Chlef**	**24.16 279**		P	**P**	**15 26 19.0**	**+2.4**
ALNE	**Al Ain**	**24.22 113**		*i* P	**P**	**15 26 17.9**	**+0.6**
	SNR=196						
ETRT	**Tiaret**	**24.34 277**		P	**P**	**15 26 20.0**	**+1.6**
EANR	**'Ain N'Sour**	**24.41 279**		P	**P**	**15 26 21.8**	**+2.9**
AB31	**Akbulak array**	**24.68 49**		*i* P	**P**	**15 26 20.5**	**-0.7**
AB31				pmax	pmax		
	comp=Z,541nm,0.9s						
OKGL	**Djebel Kef Gue**	**24.76 279**		P	**P**	**15 26 29.0**	**+6.9**
OJGS	**Djebel Guires**	**24.76 278**		P	**P**	**15 26 26.0**	**+3.8**
SOHO	**SOHO**	**24.76 112**		P	**P**	**15 26 22.7**	**+0.5**
	SNR=468						
SOHO				P	**P**	**15 26 22.7**	**+0.5**
	SNR=468						
SOHO				S	**S**	**15 30 46.4**	**+6.1**
SOHO				S	**S**	**15 30 46.4**	**+6.1**
OJBR	**Djebel Berber**	**25.07 278**		P	**P**	**15 26 28.0**	**+3.0**
ARQ	**Araqi**	**25.21 113**		P	**P**	**15 26 27.2**	**+0.8**
	SNR=153						
ARQ				P	**P**	**15 26 27.2**	**+0.8**
	SNR=153						
ARQ				S	**S**	**15 30 48.6**	**+1.0**
ARQ				S	**S**	**15 30 48.6**	**+1.0**
MUD	**Monsted U'grnd**	**25.31 331**		P	**P**	**15 26 27.0**	**+0.2**
MUD				pmax	pmax		
	comp=Z,806nm,1.1s						
MUD	**Monsted U'grnd**	**25.31 331**⇑		*i*P	**P**	**15 26 26.6**	**-0.2**
	comp=Z,988nm,1.1s						
KIRV	**Kirov**	**25.50 22**		P	**P**	**15 26 27.3**	**-1.2**
	comp=Z,884nm,0.7s,baz=220,slow=2.5,SNR=246						
KIRV				S	**S**	**15 30 49.1**	**-2.3**
	comp=Z,68nm,0.8s,baz=59,slow=19,SNR=4.1						
ODJA	**Bouhanifia**	**25.52 278**		P	**P**	**15 26 35.0**	**+6.0**
FINES	**FINESS Array B**	**25.63 354**		*i* P	**P**	**15 26 28.2**	**-1.5**
FINES				pmax	pmax		
	comp=Z,183nm,0.7s						
FINES	**FINESS Array B**	**25.63 354**		P	**P**	**15 26 28.3**	**-1.4**
	comp=Z,183nm,0.7s,baz=155,slow=10,SNR=237						
FINES				PcP	**PcP**	**15 29 59.1**	**+0.2**
	comp=Z,26nm,0.7s,baz=129,slow=2.7,SNR=5.2						
FINES				ScP	**ScP**	**15 33 32.5**	**-0.6**
	comp=Z,33nm,0.9s,baz=147,slow=3.9,SNR=6.3						
FINES				PKiKP	**PKiKP**	**15 37 38.4**	**-0.3**
	comp=Z,5.2nm,0.9s,baz=129,slow=3.8,SNR=3.8						
FINES				LR	LR	15 37 39.1	
	comp=Z,7μm,19.1s,baz=179,slow=39						
HOQ	**Hoqain**	**25.66 112**		P	**P**	**15 26 30.9**	**+0.5**
	SNR=152						
HOQ				S	**S**	**15 30 54.6**	**-0.1**
MFF	**Saint Martin d**	**25.71 304**		P	**P**	**15 26 30.5**	**-0.1**
USTO	**Oran**	**25.76 279**		P	**P**	**15 26 36.0**	**+4.8**
CART	**Cartagena**	**25.85 283**		*eP*	**P**	**15 26 34.1**	**+2.2**
CART				*eS*	**S**	**15 31 01.7**	**+4.3**
TAM	**Tamanrasset**	**25.97 246**		P	**P**	**15 26 35.0**	**+1.6**
TAM				pmax	pmax		
	comp=Z,724nm,1.4s						
OTSS	**Djebel Tessala**	**26.04 278**		P	**P**	**15 26 39.0**	**+5.2**
BSY	**Bisya**	**26.06 113**		P	**P**	**15 26 34.9**	**+0.9**
	SNR=70						
BSY				P	**P**	**15 26 34.9**	**+0.9**
	SNR=70						
BSY				S	**S**	**15 31 01.2**	**+0.1**
BSY				S	**S**	**15 31 01.2**	**+0.1**
BIDO	**Bidbid**	**26.31 111**		P	**P**	**15 26 36.3**	**+0.1**
	SNR=41						
BIDO				S	**S**	**15 31 05.2**	**+0.4**
SMDO	**Samad**	**26.52 112**		P	**P**	**15 26 38.8**	**+0.6**
	SNR=83						
SMDO				P	**P**	**15 26 38.8**	**+0.6**
	SNR=83						
SMDO				S	**S**	15 31 25.5	+17
SMDO				S	**S**	15 31 25.5	+17
ATD	**Arta Tunnel**	**26.55 154**		P	**P**	**15 26 41.7**	**+3.2**
	SNR=5.5						
ATD				S	**S**	**15 31 12.8**	**+4.1**
ATD	**Arta Tunnel**	**26.55 154**		P	**P**	**15 26 41.4**	**+3.0**
	comp=Z,28nm,0.9s,baz=350,slow=4.6,SNR=8.3						
HFS	**Hagfors**	**26.65 340**		P	**P**	**15 26 38.0**	**-0.8**
	comp=Z,288nm,0.9s,baz=142,slow=7.5,SNR=134						
HFS				PcP	**PcP**	**15 30 01.0**	**-0.3**
	comp=Z,42nm,0.9s,baz=149,slow=3.9,SNR=5.6						
HFS				S	**S**	**15 31 06.8**	**-2.7**
	comp=Z,18nm,1.0s,baz=140,slow=21,SNR=1.7						
WHFO	**Wadi Hawf**	**26.84 126**		P	**P**	**15 26 41.3**	**+0.2**
	SNR=10						
WHFO				P	**P**	**15 26 41.3**	**+0.2**
	SNR=10						
WSAR	**Wadi Sarin**	**26.85 111**		P	**P**	**15 26 41.8**	**+0.7**
	SNR=14						
WSAR	**Wadi Sarin**	**26.85 111**		P	**P**	**15 26 41.6**	**+0.5**
	comp=Z,180nm,0.9s,baz=323,slow=8.9,SNR=59						
WSAR				S	**S**	**15 31 14.9**	**+1.4**
	comp=Z,8.7nm,1.0s,baz=315,slow=10.0,SNR=1.9						
WSAR				ScP	**ScP**	**15 33 36.9**	**-0.5**
	comp=Z,43nm,0.9s,baz=342,slow=4.0,SNR=8.1						
WSAR				LR	LR	15 39 25.3	
	comp=Z,9μm,21.7s,baz=325,slow=41						
HOMB	**Homborsund**	**26.85 333**⇑		*i*P	**P**	**15 26 39.5**	**-1.2**
HOMB				IVmB_BB		15 26 40.2	
	comp=Z,2μm,0.6s						
HOMB				*eS*	**S**	**15 31 12.7**	**-0.1**
SUF	**Sumiainen**	**26.89 355**		P	**P**	**15 26 40.1**	**-0.9**
SUF				pmax	pmax		
	comp=Z,295nm,1.4s						
JOF	**Joensuu**	**26.89 360**		P	**P**	**15 26 40.2**	**-0.9**
JOF				pmax	pmax		
	comp=Z,231nm,1.2s						
ABTO	**Aybut**	**26.95 128**		P	**P**	**15 26 42.7**	**+0.6**
	SNR=15						
ABTO				P	**P**	**15 26 42.7**	**+0.6**
	SNR=15						
ABTO				S	**S**	**15 31 16.8**	**+1.6**
ABTO				S	**S**	**15 31 16.8**	**+1.6**
JMDO	**Jabal Madar**	**26.96 113**		P	**P**	**15 26 42.7**	**+0.6**
	SNR=36						
JMDO				P	**P**	**15 26 42.7**	**+0.6**
	SNR=36						
SESP	**Santiago Espad**	**27.01 285**		P	**P**	**15 26 43.4**	**+0.8**
PRGR	**Permogore**	**27.16 15**⇑		*i*P	**P**	**15 26 42.3**	**-1.1**
PRGR				*i* S	**S**	**15 31 15.7**	**-1.8**
PRGR				pmax	pmax		
	comp=Z,680nm,1.1s						
WACR	**West Acre**	**27.26 317**		*eP*	**P**	**15 26 43.2**	**-1.3**
WACR				IAmb	IAmb	15 26 48.1	
	comp=Z,295nm,0.9s						
OSL	**Oslo**	**27.36 337**		*eP*	**P**	**15 26 44.5**	**-0.8**
OSL				*eS*	**S**	**15 31 24.5**	**+3.8**
SNART	**Snartemo**	**27.39 332**		*eP*	**P**	**15 26 45.0**	**-0.6**
SNART				*eS*	**S**	**15 31 23.0**	**+1.8**
UCM	**Universidad Co**	**27.39 289**		*eP*	P	15 26 55.4	+10
UCM				*eS*	**S**	**15 31 21.2**	**-0.6**
RBK	**Rabkut**	**27.43 126**		P	**P**	**15 26 46.7**	**+0.4**
	SNR=13						
RBK				P	**P**	**15 26 46.7**	**+0.4**
	SNR=13						
ARU	**Arti**	**27.45 33***d*		*i*P	**P**	**15 26 45.9**	**-0.2**
ARU				*PP	**pP**	**15 27 01.5**	**+1.4**
ARU						15 27 32.5	
ARU				S	**S**	**15 31 24.2**	**+2.0**
ARU				*SS	**sS**	**15 31 47.6**	**+1.7**
ARU				SS	**SnSn**	**15 32 41.6**	**+4.6**
ARU				pmax	pmax		
	comp=Z,733nm,1.0s						
ARU				MLR	MLR		
	comp=Z,8μm,24.0s						
ARU	**Arti**	**27.45 33**		P	**P**	**15 26 45.9**	**-0.2**
	comp=Z,66nm,0.4s,baz=228,slow=7.6,SNR=322						
WBK	**Wadi Bani Khal**	**27.47 112**		P	**P**	**15 26 48.0**	**+1.3**
	SNR=27						
WBK				P	**P**	**15 26 48.0**	**+1.3**
	SNR=27						
KONO	**Kongsberg**	**27.50 336**		*i* P	**P**	**15 26 45.3**	**-1.2**
KONO				pmax	pmax		
	comp=Z,349nm,1.2s						
KONO				MLR	MLR		
	comp=Z,6μm,22.0s						
KONO	**Kongsberg**	**27.50 336**⇑		*iP*	**P**	**15 26 45.4**	**-1.1**
KONO				IVmB_BB		15 26 48.9	
	comp=Z,3μm,0.4s						
KONO				*eS*	**S**	**15 31 26.4**	**+3.5**
VAF	**Ylistaro**	**27.54 351**		P	**P**	**15 26 46.0**	**-0.9**
VAF				pmax	pmax		
	comp=Z,143nm,0.9s						
JSA	**Saint Aubin**	**27.68 309**		*eP*	**P**	**15 26 46.4**	**-1.8**
JSA				IAmb	IAmb	15 26 47.6	
	comp=Z,427nm,1.0s						
JVM	**Valle D.L. Mar**	**27.71 309**		*eP*	**P**	**15 26 46.4**	**-2.1**
AAE	**Adis Abeba**	**27.74 164**		*eP*	**P**	**15 26 53.8**	**+4.4**
AAE				*i* S	**S**	**15 31 36.2**	**+8.2**
NC602	**NORSAR Array S**	**27.75 339**		*eP*	**P**	**15 26 47.6**	**-1.2**
NC602				*eS*	**S**	**15 31 28.0**	**+1.1**
NORES	**NORESS Array B**	**27.75 339**		P	**P**	**15 26 50.3**	**+1.5**
NORES				pmax	pmax		
	comp=Z,22nm,0.3s						
MELI	**Melilla**	**27.76 279**		*eP*	**P**	**15 26 55.5**	**+6.4**
MELI				*eS*	**S**	**15 31 30.9**	**+3.4**
WOL	**Wolverton**	**27.76 314**		*eP*	**P**	**15 26 47.5**	**-1.4**
WOL				IAmb	IAmb	15 26 48.7	
	comp=Z,390nm,1.1s						
FURI	**Furi**	**27.85 164**		*eP*	**P**	**15 26 54.4**	**+3.9**
FURI				*i* S	**S**	**15 31 40.5**	**+11**
ESDC

BLS5 eS S 15 31 43.7 +6.1
TMCR Tamitsa 28.44 6 eP P 15 26 53.6 -1.2
TMCR eS S 15 31 37.1 -0.5
TMCR pmax pmax
comp=Z,575nm,0.8s
STRD Stroud 28.47 314⇑eP P 15 26 54.1 -1.2
STRD IAmb IAmb 15 26 55.2
comp=Z,878nm,1.2s
SVE Sverdlovsk 28.61 34*d* iP P 15 26 56.8 +0.3
SVE eS S 15 31 43.6 +3.0
SVE pmax pmax
comp=Z,899nm,1.2s
SVE MLR MLR
comp=Z,6µm,17.0s
EMAL Malaga-Limoner 28.68 282 eP P 15 26 57.6 +0.3
EMAL eS S 15 31 38.6 -3.4
SKAR Skarslia 28.70 336 eP P 15 26 56.9 -0.5
SKAR IVmB_BB 15 27 03.9
comp=Z,3µm,3.0s
SKAR eS S 15 31 42.8 +0.8
ODD1 Odda 28.71 334⇑*i* P P 15 26 56.9 -0.4
KMY Karmoy 28.73 332 eP P 15 26 57.0 -0.5
LBWR Ladybower, Pea 28.84 317 eP P 15 26 56.7 -1.8
LBWR IAmb IAmb 15 26 57.9
comp=Z,130nm,0.9s
PVLZ Pæn de 28.88 279 eP P 15 27 14.2 +15
PVLZ eS S 15 31 46.0 +0.9
STNC Stoke 28.98 317⇑eP P 15 26 59.0 -0.8
STNC IAmb IAmb 15 26 60.0
comp=Z,321nm,1.0s
HPK Haverah Park 29.01 318⇑eP P 15 26 58.3 -1.7
HPK IAmb IAmb 15 26 59.5
comp=Z,143nm,1.0s
MCH1 Michaelchurch 29.04 314⇑eP P 15 26 58.6 -1.7
MCH1 IAmb IAmb 15 26 59.8
comp=Z,269nm,1.1s
HLM1 Long Mynd 29.15 315⇑eP P 15 26 59.8 -1.5
HLM1 IAmb IAmb 15 27 01.5
comp=Z,219nm,1.0s
OUL Oulu 29.25 355 P P 15 27 01.1 -0.9
OUL pmax pmax
comp=Z,252nm,1.3s
LIJA Lijar 29.43 283 eP P 15 27 03.0 -1.1
FOEL Foel Wylfa 29.46 316⇑eP P 15 27 03.1 -1.0
FOEL IAmb IAmb 15 27 04.2
comp=Z,280nm,1.2s
BER Bergen 29.50 334 eP P 15 27 03.7 -0.5
BER eS S 15 31 56.4 +2.0
DOMB Dombas 29.52 339⇑*i* P P 15 27 04.2 -0.3
DOMB IVmB_BB 15 27 04.9
comp=Z,2µm,2.4s
DOMB eS S 15 31 57.5 +2.8
EDMD Edmundbyers 29.56 320⇑eP P 15 27 03.2 -1.7
EDMD IAmb IAmb 15 27 04.4
comp=Z,174nm,1.0s
CEU Ceuta 29.58 281 eP P 15 27 17.5 +12
CEU eS S 15 31 52.1 -4.1
HTL Hartland 29.61 312 eP P 15 27 04.3 -1.0
HTL IAmb IAmb 15 27 05.5
comp=Z,356nm,1.1s
ASK Askoy 29.62 334 eP P 15 27 04.7 -0.6
ALJ Aljibe 29.69 282 eP P 15 27 06.0 -0.3
MDT Midelt 29.70 274 P P 15 27 07.8 +1.3
comp=Z,15nm,0.8s,baz=77,slow=23,SNR=13
MDT Midelt 29.70 274 P P 15 27 19.1 +13
LLW Llanuwchllyn 29.71 315⇑eP P 15 27 05.1 -1.1
LLW IAmb IAmb 15 27 06.3
comp=Z,147nm,1.2s
HYA Hoyanger 29.76 335⇑*i* P P 15 27 05.9 -0.6
IFR Ifrane 29.93 276 eS S 15 32 04.3 +2.2
PBRG Braganca 29.99 293 eP P 15 27 09.2 +0.3
comp=Z,261nm,1.1s
PBRG eScP ScP 15 33 48.3 +1.4
CNIL Conil 30.04 282 eP P 15 27 09.0 -0.3
RSBS Rosebush, Pemb 30.04 313⇑eP P 15 27 07.7 -1.5
RSBS IAmb IAmb 15 27 09.3
comp=Z,366nm,0.9s
YLL Llanberis 30.10 316 eP P 15 27 08.3 -1.4
SFS San Fernando 30.14 282 eS S 15 32 23.8 +19
CHM Chimkent 30.14 66 eP P 15 27 09.5 -0.8
CHM Chimkent 30.14 66 eP P 15 27 09.4 -0.8
TBLU Trondheim 30.15 341 eP P 15 27 09.8 -0.3
TBLU eS S 15 32 07.3 +2.8
SUE Sulen 30.17 334 eP P 15 27 08.6 -1.6
SUE eS S 15 32 12.2 +7.4
MVO Moncorvo 30.23 291 eP P 15 27 11.3 +0.2
comp=Z,218nm,1.4s
MVO eS S 15 32 08.2 +1.8
MVO eLR LR 15 36 24.1
comp=Z,3µm,22.0s
AKN Aaknes 30.25 337 eP P 15 27 10.9 0.0
AKN eS S 15 32 08.3 +2.2
WME Myndd Eilian 30.26 316⇑eP P 15 27 09.7 -1.4
WLF1 Llynfaes 30.28 316 eP P 15 27 09.3 -1.9
WLF1 IAmb IAmb 15 27 10.9
comp=Z,129nm,1.0s
GOLM Goulmima 30.31 272 P P 15 27 28.2 +16
YRC Rhoscolyn 30.36 316⇑eP P 15 27 10.7 -1.3
ESY Stoneypath 30.37 322⇑eP P 15 27 10.8 -1.3
MOL Molde 30.37 338⇑*i* P P 15 27 11.8 -0.2
MOL IVmB_BB 15 27 12.5
comp=Z,3µm,1.3s
MOL eS S 15 32 11.5 +3.5
EKA Eskdalemuir Ar 30.40 320 P P 15 27 10.1 -2.2
ESK Eskdalemuir 30.41 320 eP P 15 27 10.9 -1.6
ESK IAmb IAmb 15 27 12.3
comp=Z,248nm,1.2s
ESK Eskdalemuir 30.41 320 P P 15 27 11.3 -1.1
FOO Floro 30.45 335 eP P 15 27 11.5 -1.2
FOO eS S 15 32 14.1 +4.8
IUG luzhnay 30.46 67⇑*i* P P 15 27 13.3 0.0
comp=Z,67nm,2.2s
IUG eLR LR 15 41 03.4
IUG luzhnay 30.46 67*c i* P P 15 27 13.2 0.0
IUG pmax pmax
comp=Z,67nm,2.2s
EBL Broad Law 30.53 321⇑eP P 15 27 12.4 -1.1
PMRV Marv??o 30.64 288 eP P 15 27 14.6 -0.1
comp=Z,218nm,1.3s
PMRV Marv??o 30.64 288 ePcP PcP 15 30 13.4 +1.8
PMRV eS S 15 32 12.4 -0.4
PMRV eScP ScP 15 33 50.6 +1.5
PMRV eLR LR 15 35 28.9
comp=Z,4µm,20.0s
EDI Edinburgh 30.66 321 eP P 15 27 13.3 -1.4
EDI IAmb IAmb 15 27 14.8
comp=Z,763nm,0.9s
PCBR Castelo Branco 30.66 289 eP P 15 27 15.4 +0.6
comp=Z,257nm,1.2s
PCBR Castelo Branco 30.66 289 ePcP PcP 15 30 13.6 +1.9
PCBR eScP ScP 15 33 50.9 +1.8
MTE Manteigas 30.67 290 eP P 15 27 15.5 +0.5
comp=Z,209nm,1.3s
MTE eS S 15 32 13.5 +0.2
MTE eLR LR 15 36 52.8
comp=Z,5µm,20.0s
IOMK Kirk Michael 30.72 318 eP P 15 27 14.2 -1.0
IOMK IAmb IAmb 15 27 15.2
comp=Z,275nm,0.9s
WIM Isle of Man 30.74 317⇑eP P 15 27 14.3 -1.0
PVRL Vila Real 30.74 292 eP P 15 27 16.2 +0.6
comp=Z,143nm,1.3s
PVRL eScP ScP 15 33 51.4 +2.0
EAU Auchinoon 30.76 321⇑eP P 15 27 14.5 -1.0
DRUM Mains of Drumt 30.77 323 eP P 15 27 13.7 -1.8
DRUM IAmb IAmb 15 27 14.5
comp=Z,139nm,0.9s
POLO Lamas de Olo 30.79 292 eP P 15 27 16.7 +0.6
comp=Z,135nm,1.2s
POLO eScP ScP 15 33 51.5 +1.9
KK31 Karatay Array 30.80 65 *i* P P 15 27 16.4 +0.3
KK31 pmax pmax
comp=Z,262nm,0.8s
NSS Namsos 30.81 344⇑*i* P P 15 27 14.6 -1.2
NSS IVmBBB 15 27 15.4
comp=Z,2µm,1.4s
NSS eS S 15 32 18.0 +3.3
JBG Jabagly 30.84 66 eP P 15 27 15.7 -0.8
JBG pmax pmax
comp=Z,231nm,1.8s
JBG MLR MLR
comp=Z,5µm,20.0s
EDU Dundee 30.86 322⇑eP P 15 27 15.0 -1.3
PVIS Viseu 30.91 291 eP P 15 27 18.4 +1.3
comp=Z,270nm,1.4s
PVIS Viseu 30.91 291 ePcP PcP 15 30 13.0 +0.6
PVIS eScP ScP 15 33 51.6 +1.6
PCAB Cabril 30.95 293 eP P 15 27 18.7 +1.3
comp=Z,360nm,1.3s
PCAB eScP ScP 15 33 52.0 +1.9
GAL1 Galloway 31.03 319 eP P 15 27 16.4 -1.4
GAL1 IAmb IAmb 15 27 17.7
comp=Z,160nm,1.2s
PVAQ Vaqueiros 31.17 284 eP P 15 27 19.8 +0.5
comp=Z,418nm,1.4s
PVAQ esP sP 15 27 39.5 -0.4
PVAQ Vaqueiros 31.17 284 ePcP PcP 15 30 14.7 +1.7
PVAQ eS S 15 32 22.3 +1.3
PVAQ eScP ScP 15 33 52.9 +2.1
PVAQ eLR LR 15 37 01.6
comp=Z,2µm,20.0s
PBEJ Beja 31.19 286 eP P 15 27 20.3 +0.8
comp=Z,488nm,1.5s
PBEJ eScP ScP 15 33 52.5 +1.6
EVO Evora 31.23 287 eP P 15 27 21.0 +1.2
comp=Z,157nm,1.4s
EVO Evora 31.23 287 eS S 15 32 20.4 -1.6
PGBU Glenifferbraes 31.28 321⇑eP P 15 27 19.2 -0.9
PGBU IAmb IAmb 15 27 20.4
comp=Z,393nm,1.0s
INVG Invergeldie, C 31.32 322⇑eP P 15 27 19.1 -1.3
INVG IAmb IAmb 15 27 20.1
comp=Z,307nm,1.0s
PMTG Montargil 31.32 288 eP P 15 27 20.7 0.0
comp=Z,131nm,1.2s
PMTG Montargil 31.32 288 ePcP PcP 15 30 14.2 +0.8
COI Coimbra 31.34 290 eP P 15 27 21.8 +1.0
comp=Z,178nm,0.9s
COI Coimbra 31.34 290 eP P 15 27 22.8 +2.0
COI pmax pmax
comp=Z,177nm,0.9s
SOCY Socotra 31.35 134 P P 15 27 19.5 -1.7
SNR=5.7
EAB Aberfoyle 31.36 321⇑eP P 15 27 19.7 -1.1
PBDV Barranco-do-Ve 31.36 284 eP P 15 27 22.2 +1.1
comp=Z,513nm,1.3s
PBDV Barranco-do-Ve 31.36 284 ePcP PcP 15 30 15.4 +1.8
PCVE Castro Verde 31.38 285 eP P 15 27 22.4 +1.2
comp=Z,467nm,1.5s
PCVE eScP ScP 15 33 53.1 +1.6
PTOM Tomar 31.40 289 eP P 15 27 22.7 +1.3
comp=Z,134nm,2.4s
PTOM Tomar 31.40 289 ePcP PcP 15 30 15.6 +2.0
PTOM eScP ScP 15 33 53.3 +1.7
DZA Taraz 31.41 65 eP P 15 27 20.3 -1.2
DZA Taraz 31.41 65 eP P 15 27 20.2 -1.2
APA Apatity 31.59 2⇑*i* P P 15 27 21.0 -1.6
APA *i* S S 15 32 24.0 -2.9
APA pmax pmax
comp=Z,230nm,0.9s
PNCL Nicolau / Gran 31.69 286 eP P 15 27 24.4 +0.5
comp=Z,254nm,1.3s
PNCL esP sP 15 27 44.7 +0.2
MOR8 Moi Rana 31.74 347⇑*i* P P 15 27 23.6 -0.4
MOR8 IVmB_BB 15 27 24.0
comp=Z,3µm,1.1s
MOR8 eS S 15 32 32.0 +2.6
MLA1 Latheron 31.85 325⇑eP P 15 27 23.9 -1.2
CLGH Cloghs, Cushen 31.86 319 eP P 15 27 23.6 -1.6
CLGH IAmb IAmb 15 27 25.3
comp=Z,222nm,1.0s
LRW Lerwick 31.86 329 eP P 15 27 24.1 -1.0
LRW IAmb IAmb 15 27 25.2
comp=Z,800nm,1.0s
MORF Marmelete 31.92 284 eS S 15 32 35.1 +2.3
MORF AMS AMS 15 44 11.0
comp=N,2µm,16.0s
MORF Marmelete 31.92 284 epP pP 15 27 36.7 -3.2
MORF Marmelete 31.92 284 ePcP PcP 15 30 17.3 +2.2
MDO Dochfour 31.92 323⇑eP P 15 27 23.9 -1.7
LAWE Loch Awe, Argy 31.93 321 eP P 15 27 24.1 -1.7
LAWE IAmb IAmb 15 27 25.2
comp=Z,134nm,1.0s
PTEO Sao Teotonio 31.93 285 eP P 15 27 27.0 +1.0
comp=Z,414nm,1.4s
PTEO esP sP 15 27 46.7 +0.1
LVZ Lovozero 31.95 2*ce* P P 15 27 25.1 -0.8
LVZ pmax pmax
comp=Z,438nm,0.9s
LVZ MLR MLR
comp=Z,10µm,23.0s
YEL1 Yell 32.06 330 eP P 15 27 30.9 +4.0
BRVK Borovoye 32.06 46 *i* P P 15 27 27.0 0.0
BRVK pmax pmax
comp=Z,445nm,1.5s
LIS Lisbon 32.09 287 eP P 15 27 28.1 +0.7
LIS eS S 15 32 37.8 +2.5
LIS AMS AMS 15 43 08.9
comp=N,4µm,14.9s
LIS Lisbon 32.09 287 eP P 15 27 29.8 +2.5
LIS Lisbon 32.09 287 eP P 15 27 28.1 +0.7
LIS eS S 15 32 37.8 +2.5
PFVI Vila Bisbo 32.09 284 eP P 15 27 28.7 +1.3
STOK Stokkvaagen 32.15 346 eP P 15 27 26.8 -0.8
PMAFR Mafra 32.16 288 eP P 15 27 29.8 +1.8
comp=N,232nm,1.4s
BIGH Upper Bighouse 32.20 325 eP P 15 27 26.4 -1.6
BIGH IAmb IAmb 15 27 27.8
comp=Z,390nm,1.1s
KONS Konsvik 32.28 346⇑*i* P P 15 27 27.7 -1.0
KAC Achnashellach 32.40 323⇑eP P 15 27 28.2 -1.7
KPL Plockton 32.50 323⇑eP P 15 27 29.1 -1.6
KPL IAmb IAmb 15 27 30.4
comp=Z,165nm,1.0s
LODK Lodwar 32.68 173 P P 15 27 35.2 +2.4
SNR=31
RSC Scourie 32.71 325⇑eP P 15 27 31.5 -1.1
RRR Rubha Reidh 32.80 323 eP P 15 27 31.9 -1.5
OUK Aukamiemeden 32.83 273 P P 15 27 38.0 +3.6
BRZS Berezniki 32.85 52⇑*i* P P 15 27 34.0 +0.1
comp=Z,289nm,1.5s
BRZS Berezniki 32.85 52*c i* P P 15 27 34.0 +0.1
BRZS pmax pmax
comp=Z,289nm,1.5s
AML Almayashu 33.19 66 P P 15 27 38.6 +1.2
SNR=82
STEI Steigen 33.20 349⇑*i* P P 15 27 36.1 -0.7
STEI eS S 15 32 56.2 +4.2
EKS2 Erkin-Say 33.22 65 P P 15 27 38.4 +1.0
SNR=188
KTK1 Kautokeino 33.32 355⇑*i* P P 15 27 36.7 -1.1
KTK1 eS S 15 32 58.1 +4.2
VAL Valentia 33.33 312 P P 15 27 37.0 -1.1
BTLS Baital 33.36 61 *i* P P 15 27 39.1 +0.6
BTLS Baital 33.36 61 *i* P P 15 27 39.0 +0.6
TTIG Tnine Tigouga, 33.52 272 P P 15 27 43.0 +2.9
LOF Lofoten 33.66 348⇑*i* P P 15 27 39.0 -1.7
LOF IVmB_BB 15 27 40.0
comp=Z,2µm,0.7s
LOF eS S 15 33 00.0 +0.9
ARCES ARCESS Array B 33.69 356 P P 15 27 40.0 -1.0
comp=Z,71nm,0.6s,baz=174,slow=8.0,SNR=239
ARCES PcP PcP 15 30 19.1 -0.3
comp=Z,34nm,0.8s,baz=178,slow=3.3,SNR=3.5
ARCES ScP ScP 15 33 58.5 -0.4
comp=Z,22nm,0.9s,baz=205,slow=2.6,SNR=4.9
ARCES PKiKP PKiKP 15 37 43.1 -0.7
comp=Z,8.6nm,1.0s,baz=318,slow=1.2,SNR=4.1
ARE0 ARCESS Array S 33.69 356⇑*i* P P 15 27 40.1 -0.9
ARE0 eS S 15 33 01.3 +1.7
USP Ospenovka 33.72 64 P P 15 27 41.7 +0.1
SNR=116
AAK Ala-Archa 33.75 65 *i* P P 15 27 42.8 +0.7
SNR=72
AAK Ala-Archa 33.75 65*ce* P P 15 27 43.4 +1.4
AAK pmax pmax
comp=Z,244nm,0.9s
AAK Ala-Archa 33.75 65 P P 15 27 43.2 +1.1
comp=Z,213nm,0.9s,baz=250,slow=9.9
AAK PcP PcP 15 30 20.4 +0.1
comp=Z,37nm,0.9s,baz=153,slow=2.3,SNR=3.6
AAK ScP ScP 15 34 00.0 +0.2
comp=Z,43nm,0.9s,baz=225,slow=4.1,SNR=6.2
AAK Ala-Archa 33.75 65 P P 15 27 43.1 +1.1
SNR=284
UCH Uchtor 33.79 66 P P 15 27 43.4 +0.7
SNR=97
SGDS Sogindy 33.80 64 eP P 15 27 42.0 -0.4
comp=Z,452nm,2.6s
SGDS eS S 15 33 10.2 +8.1
SGDS eLR LR 15 42 43.7
comp=Z,5µm,22.2s
CHMS Chumysh 33.91 65 P P 15 27 44.1 +0.8
SNR=419
KBK Karagaybulak 34.08 65 P P 15 27 46.1 +1.2
SNR=282
NIL Nilore 34.31 81 P P 15 27 47.1 +0.3
TRO Tromso 34.32 352⇑*i* P P 15 27 45.3 -1.1
TRO IVmB_BB 15 27 45.9
comp=Z,2µm,1.4s
TRO eS S 15 33 09.5 +0.3
KZA Kyzart 34.34 66 P P 15 27 48.7 +1.2
SNR=212
TKM2 Tokmak 2 34.54 65 P P 15 27 49.3 +0.4
SNR=290
HAMF Hammerfest 34.90 356 eP P 15 27 50.5 -0.9
HAMF eS S 15 33 21.7 +3.6
KUU Kurty 35.02 63⇑eP P 15 27 53.4 +0.5
comp=Z,2µm,2.3s
KUU eS S 15 33 24.4 +3.7
KUU eLR LR 15 43 54.9
comp=Z,6µm,17.5s
KUU Kurty 35.02 63*ce* P P 15 27 53.4 +0.5
KUU eS S 15 33 24.4 +3.7
KUU pmax pmax
comp=Z,2µm,2.3s
KUU MLR MLR
comp=Z,6µm,18.0s
TOA0 Torodi Ar. Sit 35.05 237 P P 15 27 54.1 +0.7
SNR=60
TOA0 P P 15 27 54.1 +0.7
SNR=60
TOA0 S S 15 33 21.4 -0.2
TOA0 S S 15 33 21.4 -0.2
TORD Torodi Ar. Bea 35.05 237 P P 15 27 53.8 +0.5
comp=Z,123nm,1.0s,baz=41,slow=7.3,SNR=267
TORD PP PnPn 15 29 13.0 +0.8
comp=Z,100nm,0.9s,baz=33,slow=8.6,SNR=4.2
TORD PcP PcP 15 30 24.8 +0.5
comp=Z,35nm,0.9s,baz=33,slow=1.8,SNR=8.7
TORD S S 15 33 20.3 -1.3
comp=Z,2.9nm,0.9s,baz=40,slow=11,SNR=2.6
TORD ScP ScP 15 34 04.2 -0.5
comp=Z,13nm,0.8s,baz=16,slow=3.6,SNR=6.3
TORD PKiKP PKiKP 15 37 46.3 +0.2
comp=Z,2.9nm,0.7s,baz=1.9,slow=3.7,SNR=4.3
TORD LR LR 15 44 48.5
comp=Z,11µm,22.0s,baz=5.0,slow=40
ULHL Ulahol 35.06 66 P P 15 27 54.9 +1.4
SNR=108
MTBS Maitube 35.13 64 eP P 15 27 54.2 +0.3
MTBS Maitube 35.13 64 eP P 15 27 54.2 +0.3
KSH Kashi 35.19 71 P P 15 27 53.8 -0.7
KSH pP pP 15 28 08.8 +0.2
KSH PcP PcP 15 30 25.0 +0.5
KSH S S 15 33 18.8 -4.8
KSH pmax pmax
comp=Z,550nm,1.3s
KSH pmax pmax
comp=Z,5µm,3.8s
KSH LR LR
comp=Z,7µm,15.0s
KSH LR LR
comp=Z,3µm,12.1s
KSH LR LR
comp=Z,5µm,20.2s
BHUJ Bhuj 35.45 100 eP P 15 27 58.3 +1.6
BHUJ IAmb IAmb 15 28 01.2
comp=Z,246nm,0.8s
AAA Alma-Ata 35.48 64 eP P 15 27 56.0 -0.9
AAA eLR LR 15 43 04.7
comp=Z,4µm,21.0s
AAA Alma-Ata 35.48 64 eP P 15 27 56.0 -0.9
AAA MLR MLR
comp=Z,4µm,21.0s
CHKK Chushkaly 35.49 63 eP P 15 27 57.3 +0.4
CHKK Chushkaly 35.49 63 eP P 15 27 57.3 +0.4
TNSS Tian-Shan 35.52 64 eP P 15 27 58.2 +0.6
TNSS Tian-Shan 35.52 64 eP P 15 27 58.2 +0.6
MDOK Medeo 35.58 64 eP P 15 27 58.3 +0.5
MDOK eS S 15 33 45.7 +16
MDOK eLR LR 15 43 03.6
comp=Z,3µm,25.7s
MDOK Medeo 35.58 64 eP P 15 27 58.3 +0.5
MDOK MLR MLR
comp=Z,3µm,26.0s
TDK Taldyqorghan 36.45 61 eP P 15 28 05.2 0.0
comp=Z,1µm,2.0s
TDK eLR LR 15 43 29.2
comp=Z,7µm,17.5s
TDK Taldyqorghan 36.45 61 eP P 15 28 05.1 0.0
TDK pmax pmax
comp=Z,1µm,2.0s
TDK MLR MLR
comp=Z,8µm,18.0s
MBAR Mbarara 36.47 181*d* iP P 15 28 06.9 +1.3
MBAR pmax pmax
comp=Z,78nm,1.2s
MBAR Mbarara 36.47 181 LR LR 15 46 09.5
comp=Z,3µm,18.2s,baz=356,slow=41
SATY Saty 36.58 64⇑eP P 15 28 07.2 +0.8
comp=Z,1µm,2.0s
SATY eS S 15 33 49.7 +4.8
SATY Saty 36.58 64*ce* P P 15 28 07.1 +0.8
SATY eS S 15 33 49.7 +4.8
SATY pmax pmax
comp=Z,1µm,2.0s
ZHN Zhinishke 36.59 64 eP P 15 28 06.8 +0.3
comp=Z,612nm,2.6s
ZHN Zhinishke 36.59 64 eP P 15 28 06.7 +0.3
ZHN pmax pmax
comp=Z,612nm,2.6s
KURK Kurchatov 36.71 51*ce* P P 15 28 06.6 -0.6
KURK pmax pmax
comp=Z,542nm,1.0s
KPKS Kokpek 36.75 64 eP P 15 28 07.9 +0.1
comp=Z,620nm,2.3s
KPKS eLR LR 15 44 48.6
comp=Z,4µm,18.7s
KPKS Kokpek 36.75 64 eP P 15 28 07.8 +0.1
KPKS pmax pmax
comp=Z,620nm,2.3s
KPKS MLR MLR
comp=Z,4µm,19.0s
UZB Uzynbulak 37.02 64 eP P 15 28 10.1 0.0
comp=Z,485nm,2.3s
UZB eS S 15 33 54.4 +2.7
UZB eLR LR 15 44 54.4
comp=Z,3µm,19.8s
UZB Uzynbulak 37.02 64 eP P 15 28 10.1 0.0
UZB eS S 15 33 54.3 +2.7
UZB pmax pmax
comp=Z,485nm,2.3s
UZB MLR MLR
comp=Z,3µm,20.0s
DHRM DHARAMSHALA 37.17 82 eP P 15 28 11.6 0.0
DHRM eP P 15 28 11.7 +0.1
DHRM IAmb IAmb 15 28 16.6
comp=Z,633nm,1.4s
SHLS Shalkode 37.34 64⇑eP P 15 28 15.5 +2.6
comp=Z,577nm,2.5s
SHLS eLR LR 15 45 09.6
comp=Z,2µm,17.5s
SHLS Shalkode 37.34 64*ce* P P 15 28 15.4 +2.6
SHLS pmax pmax
comp=Z,577nm,2.5s
SHLS MLR MLR
comp=Z,2µm,18.0s
PDGK Podgornoye 37.35 64 *i* P P 15 28 12.6 -0.3
PDGK pmax pmax
comp=Z,426nm,0.8s
KMBO Kilima Mbogo 37.40 170 *i* P P 15 28 14.6 +1.0
SNR=37
KMBO Kilima Mbogo 37.40 170 eP P 15 28 16.9 +3.4
KMBO *i* S S 15 33 57.2 -0.6
KMBO Kilima Mbogo 37.40 170 P P 15 28 16.3 +2.7
comp=Z,47nm,1.3s,baz=347,slow=8.0,SNR=29
KMBO PcP PcP 15 30 32.2 +0.7
comp=Z,18nm,0.9s,baz=4.1,slow=3.3,SNR=7.3
KMBO ScP ScP 15 34 14.1 +0.6
comp=Z,17nm,1.0s,baz=12,slow=5.8,SNR=11
SMLA Simla 38.24 84 eP P 15 28 20.8 +0.5
SMLA IAmb IAmb 15 28 25.8
comp=Z,780nm,1.2s
KIBK Kibwezi 38.70 169 P P 15 28 26.9 +2.5

KIBK S **S** **15 34 19.9 +2.7**
SNR=11
KIBK Kibwezi 38.70 169 *i* P P 15 28 18.8 -5.6
KIBK *i* S **S** **15 34 23.5 +6.3**
KIBK *i* S **SS** **15 37 01.2 -8.7**
MAKZ Makanchi 38.86 58 *i* P **P** **15 28 24.8 -0.6**
MAKZ pmax pmax
comp=Z,117nm,0.9s
BJO1 Bjornoya 38.99 355 *eP* **P** **15 28 25.6 -0.5**
BJO1 *eS* **S** **15 34 21.9 +1.6**
MK31 Makanchi Array 39.08 58 *i* P **P** **15 28 26.5 -0.7**
MK31 pmax pmax
comp=Z,152nm,0.8s
MKAR Makanchi Array 39.08 58 *i* P **P** **15 28 27.0 -0.2**
MKAR pmax pmax
comp=Z,166nm,0.8s
MKAR Makanchi Array 39.08 58 P **P** **15 28 27.3 +0.1**
comp=Z,165nm,0.8s,baz=277,slow=6.2,SNR=215
MKAR PcP **PcP** **15 30 36.0 -0.1**
comp=Z,57nm,0.8s,baz=276,slow=3.5,SNR=3.8
MKAR ScP **ScP** **15 34 18.1 -1.2**
comp=Z,17nm,0.7s,baz=271,slow=2.5,SNR=7.9
MKAR LR LR 15 47 09.9
comp=Z,7μm,20.6s,baz=272,slow=40
NDI New Delhi 39.17 87 *eP* **P** **15 28 30.0 +1.8**
DDI Dehra Dun 39.23 85⇑ *iP* **P** **15 28 28.4 -0.4**
DDI *eP* **P** **15 28 29.2 +0.4**
DDI IAmb IAmb 15 28 35.0
comp=Z,289nm,0.8s
PMAR Madeira 39.62 280 *eP* **P** **15 28 34.1 +2.0**
comp=Z,682nm,1.3s
HOPEN Hopen 40.66 358⇑ *iP* **P** **15 28 39.5 -0.4**
HOPEN *eS* **S** **15 34 47.5 +2.4**
ZALV Zalesovo Beam 40.75 47 *i* P **P** **15 28 39.9 -1.1**
ZALV pmax pmax
comp=Z,216nm,0.7s
ZALV Zalesovo Beam 40.75 47 P **P** **15 28 40.4 -0.6**
comp=Z,216nm,0.7s,baz=264,slow=8.0,SNR=325
ZALV LR LR 15 49 41.6
comp=Z,3μm,18.6s,baz=276,slow=42
ZSN Zaisan 40.79 57⇑ *iP* **P** **15 28 41.3 -0.2**
comp=Z,498nm,3.8s
ZSN *ePP* **PP** **15 30 17.3 +1.0**
ZSN Zaisan 40.79 57*c iP* **P** **15 28 41.2 -0.2**
ZSN *e* 15 30 17.2
ZSN pmax pmax
comp=Z,498nm,3.8s
POO Poona 41.26 103 *eP* **P** **15 28 47.2 +1.6**
POO IAmb IAmb 15 28 51.0
comp=Z,353nm,1.5s
POO *i* x x 15 29 03.8
HSPB Hornsund (broa 41.65 355⇑ *iP* **P** **15 28 47.8 -0.3**
HSPB IVmB_BB 15 28 48.3
comp=Z,2μm,2.6s
HSPB *eS* **S** **15 35 00.8 +1.0**
BHPL Bhopal 41.70 95 *eP* **P** **15 28 49.8 +0.7**
BHPL *eP* **P** **15 28 50.3 +1.2**
BHPL IAmb IAmb 15 28 52.1
comp=Z,197nm,0.8s
BHPL *eS* **S** **15 34 56.4 -5.4**
BHPL IAMs_20 IAMs_20 15 47 40.1
comp=Z,4μm,19.4s
KAD Karad 42.21 105 *ex* **P** **15 28 54.0 +0.6**
BORG Borgarnes 42.25 330 P **P** **15 28 53.0 -0.1**
BORG Borgarnes 42.25 330 LR LR 15 50 07.5
comp=Z,2μm,18.2s,baz=115,slow=41
SPA0 Spitsbergen Ar 42.71 356⇑ *iP* **P** **15 28 56.2 -0.5**
SPA0 IVmB_BB 15 28 57.0
comp=Z,3μm,1.6s
SPA0 *eS* **S** **15 35 16.9 +1.4**
SPITS Spitsbergen Ar 42.71 356 P **P** **15 28 55.9 -0.8**
SPITS pmax pmax
comp=Z,8.0nm,0.3s
SPITS Spitsbergen Ar 42.71 356 LR LR 15 47 10.3
comp=Z,3μm,21.5s,baz=155,slow=37
GOA Goa 42.99 107 *eP* **P** **15 29 00.6 +1.0**
GOA IAmb IAmb 15 29 03.8
comp=Z,225nm,1.1s
WMQ Urumqi 43.19 62 P **P** **15 29 03.3 +2.2**
WMQ pP pwP 15 29 17.3 -1.5
WMQ sP sP 15 29 21.8 -0.3
WMQ PP **PP** **15 30 45.5 +3.3**
WMQ S **S** **15 35 26.3 +2.8**
WMQ pmax pmax
comp=Z,450nm,1.3s
WMQ pmax pmax
comp=Z,3μm,3.7s
WMQ LR LR
comp=Z,4μm,19.9s
WMQ LR LR
comp=Z,5μm,20.7s
WMQ LR LR
comp=Z,7μm,22.5s
KBS Kingsbay 43.73 355 P **P** **15 29 04.8 0.0**
KBS Kingsbay 43.73 355 IVmB_BB 15 29 03.8
comp=Z,5μm,3.9s
KBS *eP* **P** **15 29 04.3 -0.5**
KBS *eS* **S** **15 35 32.1 +1.8**
JBP Jabalpur 43.80 93⇑ *eP* **P** **15 29 06.5 +0.4**
JBP AMB AMB 15 29 13.4
comp=Z,244nm,1.5s
JBP *ex* x 15 35 31.5
NGP Nagpur 44.03 96 *eP* **P** **15 29 08.3 +0.3**
NGP IAmb IAmb 15 29 11.0
comp=Z,526nm,1.2s
DBIC Dimbokro 44.16 237 P **P** **15 29 08.9 -0.1**
comp=Z,197nm,1.0s,baz=26,slow=9.6,SNR=87
DBIC ScP **ScP** **15 34 39.7 -0.2**
comp=Z,22nm,1.0s,baz=360,slow=4.2,SNR=3.8
DBIC S **S** **15 35 36.1 -1.9**
comp=Z,45nm,1.2s,baz=173,slow=17,SNR=13
DBIC LR LR 15 50 36.0
comp=Z,6μm,20.7s,baz=22,slow=40
TIC Toumodi 44.29 237 *eP* **P** **15 29 09.4 -0.7**
KIC Kosan Boka 44.31 237 *eP* **P** **15 29 09.6 -0.6**
comp=Z,65nm,0.3s
SCO Scoresbysund 44.38 337⇑ *iP* **P** **15 29 10.9 +0.8**
SCO pmax pmax
comp=Z,400nm,1.0s
SCO Scoresbysund 44.38 337⇑ *iP* **P** **15 29 10.9 +0.8**
comp=Z,396nm,1.0s
DANN Dangsing 44.59 84 *eP* **P** **15 29 13.4 +0.6**
comp=Z,3μm,0.9s
LIC Lamto 44.60 237 *eP* **P** **15 29 11.8 -0.8**
comp=Z,761nm,1.3s
KOLN Koldanda 44.70 85 *eP* **P** **15 29 13.7 +0.2**
comp=Z,3μm,1.4s
NRIK Noril'sk 44.96 25 P **P** **15 29 15.1 +0.3**
comp=Z,252nm,0.9s,baz=242,slow=3.7,SNR=389
NRIK LR LR 15 51 42.6
comp=Z,4μm,19.1s,baz=264,slow=41
GKN Gorkha 45.44 84 *eP* **P** **15 29 19.4 +0.1**
comp=Z,3μm,1.3s
HYB Hyderabad 45.60 101 *eP* **P** **15 29 19.3 -1.3**
HYB IAmb IAmb 15 29 23.6
comp=Z,559nm,1.5s
DMN Daman 45.98 85 *eP* **P** **15 29 24.0 +0.3**
comp=Z,1μm,1.0s
KKN Kakani 46.04 84 *eP* **P** **15 29 24.0 -0.2**
PKIN Phulchoki 46.23 85 *eP* **P** **15 29 25.5 -0.2**
comp=Z,2μm,1.5s
PKI Pulchoki 46.24 85 *eP* **P** **15 29 25.7 -0.1**
comp=Z,367nm,1.5s
DAG Danmarks Havn 46.35 346⇑ *iP* **P** **15 29 25.0 -0.7**
DAG *i* 15 29 38.5
DAG pmax pmax
comp=Z,200nm,0.9s
DAG Danmarks Havn 46.35 346⇑ *iP* **P** **15 29 25.0 -0.7**
comp=Z,201nm,0.9s
DAG *i* 15 29 38.5
MSEY Mahe Island 46.41 146 *i* P **P** **15 29 28.9 +2.1**
SNR=9.6
GUN Gumba 46.48 84 *eP* **P** **15 29 27.6 -0.1**
comp=Z,2μm,1.3s
JIRN Jiri 46.83 84 *eP* **P** **15 29 30.5 0.0**
comp=Z,1μm,1.1s
RAMN Ramite 47.46 85 *eP* **P** **15 29 34.7 -0.6**
comp=Z,650nm,0.9s
ODAN Odare 48.13 84 *eP* **P** **15 29 40.1 -0.4**
comp=Z,2μm,1.6s
TAPN Taplejung 48.19 84 *eP* **P** **15 29 40.7 -0.3**
comp=Z,766nm,1.1s
BOK Bokaro 48.29 89⇑ *iP* **P** **15 29 40.3 -1.2**
BOK *eP* **P** **15 29 41.2 -0.2**
BOK IAmb IAmb 15 29 45.2
comp=Z,233nm,1.2s

GTK Tadong 48.92 83 *eP* **P** **15 29 45.3 -1.1**
GTK IAmb IAmb 15 29 49.5
comp=Z,226nm,0.9s
VIS Vishakhapatnam 49.26 97 *i* P **P** **15 29 48.1 -0.8**
VIS *ex* x 15 30 11.7
comp=Z,2μm,1.2s
VIS *i* S **S** **15 36 47.0 -3.8**
VIS *i* S S 15 36 50.4 -0.3
MDRS Chennai 49.42 105 *eP* **P** **15 29 49.3 -0.9**
MDRS IAmb IAmb 15 29 56.0
comp=Z,96nm,0.9s
MDRS *i* x x 15 30 07.2
TRD Trivandrum 49.72 112 *eP* **P** **15 29 53.2 +0.8**
TRD IAmb IAmb 15 30 04.8
comp=Z,90nm,1.1s
BWNR Bhubaneshwar 49.92 93 *i* P **P** **15 29 54.0 +0.1**
BWNR IAmb IAmb 15 29 57.0
comp=Z,132nm,0.8s
LSA Lhasa 49.97 79 P **P** **15 29 54.9 +0.1**
SUMG Summit 49.98 338⇑ *iP* **P** **15 29 54.0 -0.1**
SUMG pmax pmax
comp=Z,1μm,1.1s
SUMG Summit 49.98 338⇑ *iP* **P** **15 29 54.0 -0.1**
comp=Z,1μm,1.1s
MOY Mondy 50.68 49 *eP* **P** **15 30 00.4 +1.0**
MOY pmax pmax
comp=Z,337nm,1.7s
LSZ Lusaka 51.13 184 *i* P **P** **15 30 06.6 +3.5**
LSZ Lusaka 51.13 184 *i* P **P** **15 30 06.6 +3.5**
ITZ Itezhi-Tezhi 51.76 187 *i* P P 15 30 15.7 +8.0
SBV Sambava 52.29 157 P **P** **15 30 14.0 +2.5**
SNR=14
TLY Talaya 52.29 49*c iP* **P** **15 30 12.2 +0.9**
TLY *e* 15 32 10.7
TLY *eS* **S** **15 37 33.2 +1.2**
TLY *eSSS* SSS 15 42 56.1
TLY pmax pmax
comp=Z,434nm,1.0s
TLY MLR MLR
comp=Z,5μm,17.0s
SHL Shillong 52.33 84 P **P** **15 30 11.1 -1.1**
SNR=96
SHL Shillong 52.33 84 *eP* **P** **15 30 10.0 -2.2**
SHL *eP* **P** **15 30 10.2 -1.9**
SHL IAmb IAmb 15 30 13.7
comp=Z,106nm,0.8s
SHL *i* S **S** **15 37 25.0 -8.5**
ZAK Zakamensk 52.36 50 *eP* **P** **15 30 12.4 +0.4**
ZAK pmax pmax
comp=Z,148nm,1.0s
KAAM Kaadhehdhoo 52.39 123 P **P** **15 30 13.5 +1.0**
SNR=6.5
IRK Irkutsk 52.55 48 *eP* **P** **15 30 12.8 -0.4**
IRK pmax pmax
comp=Z,348nm,2.2s
NRS Narsarsuaq 52.95 324⇑ *iP* **P** **15 30 15.5 -0.4**
NRS pmax pmax
comp=Z,100nm,1.1s
NRS Narsarsuaq 52.95 324⇑ *iP* **P** **15 30 15.5 -0.4**
comp=Z,101nm,1.1s
GTA Gaotai 53.09 64 P **P** **15 30 17.8 +0.3**
GTA pP pP 15 30 30.5 -1.9
GTA S **S** **15 37 43.3 -0.2**
GTA ScS **ScS** **15 40 01.5 -0.4**
GTA pmax pmax
comp=Z,580nm,1.1s
GTA pmax pmax
comp=Z,2μm,8.6s
GTA LR LR
comp=Z,2μm,21.3s
GTA LR LR
comp=Z,3μm,22.0s
GTA LR LR
comp=Z,6μm,21.0s
PALK Pallekele 53.34 110 *i* P **P** **15 30 20.1 +0.6**
SNR=25
PALK Pallekele 53.34 110 P **P** **15 30 19.9 +0.4**
comp=Z,86nm,0.9s,baz=308,slow=8.5,SNR=41
PALK ScP **ScP** **15 35 18.6 -0.3**
comp=Z,3.3nm,0.7s,baz=274,slow=6.4,SNR=3.7
KOHI KOHIMA 54.05 82 *eP* **P** **15 30 24.1 -0.7**
KOHI IAmb IAmb 15 30 25.7
comp=Z,252nm,1.0s
ILULI Ilulissat 54.17 334 *i* P **P** **15 30 23.6 -1.2**
ILULI *i* 15 30 38.8
ILULI pmax pmax
comp=Z,250nm,1.0s
ILULI Ilulissat 54.17 334 *i* P **P** **15 30 23.6 -1.2**
comp=Z,252nm,1.0s
ILULI *i* 15 30 38.8
SFJD Kangerlussuaq 54.31 331⇑ *iP* **P** **15 30 24.9 -0.9**
SFJD Kangerlussuaq 54.31 331⇑ *iP* **P** **15 30 24.9 -0.9**
SFJD Kangerlussuaq 54.31 331 S **S** **15 37 54.9 -4.0**
comp=Z,17nm,1.1s,baz=318,slow=19,SNR=7.7
SONM Songino Array 55.00 53 P **P** **15 30 31.7 +0.3**
comp=Z,72nm,0.8s,baz=290,slow=8.4,SNR=310
SONM ScP **ScP** **15 35 25.0 -0.9**
comp=Z,9.0nm,1.1s,baz=259,slow=1.5,SNR=3.6
SONM LR LR 15 56 51.5
comp=Z,12μm,21.6s,baz=288,slow=39
SONM PKP2bc 16 00 50.3
comp=Z,0.5nm,0.5s,baz=143,slow=0.7,SNR=3.6
KULLO Kullorsuaq 55.24 341⇑ *iP* **P** **15 30 32.0 -0.5**
KULLO pmax pmax
comp=Z,550nm,0.9s
KULLO Kullorsuaq 55.24 341⇑ *iP* **P** **15 30 32.0 -0.5**
comp=Z,550nm,0.9s
ULN Ulaanbaatar 55.41 52 P **P** **15 30 33.9 -0.5**
MATP Matopo 56.23 183 *i* P **P** **15 30 43.7 +3.4**
MATP Matopo 56.23 183 *i* P **P** **15 30 43.7 +3.4**
OPO Ambohidratompo 56.36 162 P **P** **15 30 44.2 +2.8**
comp=Z,202nm,0.9s,baz=339,slow=6.2,SNR=131
OPO PKP2bc 16 00 44.3
comp=Z,2.6nm,0.9s,baz=144,slow=1.7,SNR=1.6
BOD Bodaibo 56.62 39⇑ *iP* **P** **15 30 41.6 -1.0**
BOD pmax pmax
comp=Z,360nm,0.8s
LZH Lanzhou 57.27 67 ⇑P **P** **15 30 48.0 +0.2**
LZH pP pP 15 31 03.0 +0.2
LZH PP **PP** **15 32 53.0 -2.2**
LZH S **S** **15 38 37.3 -2.3**
LZH SS **SS** **15 42 37.0 +7.8**
LZH pmax pmax
comp=Z,1μm,1.2s
LZH pmax pmax
comp=Z,3μm,4.3s
LZH LR LR
comp=Z,4μm,15.7s
LZH LR LR
comp=Z,2μm,13.0s
LZH LR LR
comp=Z,4μm,14.1s
DGAR Diego Garcia 57.98 130 P **P** **15 30 52.1 -0.6**
MSNA Messina 58.09 181 *i* P **P** **15 30 57.7 +4.4**
MSNA Messina 58.09 181 *i* P **P** **15 30 57.7 +4.4**
CIT Chita 58.11 46 *eP* **P** **15 30 52.9 -0.3**
CIT *e* 15 31 16.6
CIT *e* 15 31 45.2
CIT pmax pmax
comp=Z,366nm,1.1s
TIXI Tiksi 58.53 22*c iP* **P** **15 30 55.2 -0.6**
TIXI pmax pmax
comp=Z,337nm,0.9s
TIXI MLR MLR
comp=Z,6μm,23.0s
TIXI Tiksi 58.53 22 LR LR 16 00 27.2
comp=Z,3μm,19.7s,baz=285,slow=40
CD2 Chengdu 59.36 72 ⇑P **P** **15 31 01.8 -0.5**
CD2 pP pP 15 31 16.8 -0.6
CD2 sP sP 15 31 22.5 -1.3
CD2 PP **PP** **15 33 13.0 -0.7**
CD2 S **S** **15 39 06.0 -0.7**
CD2 SS **SS** **15 43 05.8 +3.8**
CD2 pmax pmax
comp=Z,580nm,0.8s
CD2 pmax pmax
comp=Z,2μm,3.9s
CD2 LR LR
comp=Z,4μm,18.6s
CD2 LR LR
comp=Z,4μm,21.1s
CD2 LR LR
comp=Z,5μm,23.0s
DGPR DIGLIPUR 59.47 96 *eP* **P** **15 31 02.8 -0.3**
DGPR *ex* x 15 31 04.6
DGPR IAmb IAmb 15 31 08.5
comp=Z,246nm,0.9s
BTO Baotou 59.95 60 *eP* **P** **15 31 04.5 -1.8**
PBA Port Blair 60.18 97 P **P** **15 31 08.3 +0.3**
SNR=5.1
HHC Hu-ho-hao-te 60.93 59 *eP* **P** **15 31 13.5 +0.6**
HHC S **S** **15 39 25.5 -1.1**
HHC pmax pmax
comp=Z,240nm,1.0s
HHC pmax pmax
comp=Z,2μm,6.3s
HHC LR LR
comp=Z,900nm,19.6s
HHC LR LR
comp=Z,2μm,20.4s
HHC LR LR
comp=Z,3μm,20.4s
LBTB Lobatse 60.97 186 P **P** **15 31 16.0 +2.8**
LBTB Lobatse 60.97 186 P **P** **15 31 15.9 +2.8**
comp=Z,24nm,0.7s,baz=349,slow=7.6,SNR=36
KMI Kunming 61.22 79 P **P** **15 31 15.0 -0.3**
KMI pP pP 15 31 29.3 -1.1
KMI sP sP 15 31 38.0 +1.2
KMI PcP **PcP** **15 31 57.8 +0.3**
KMI PP **PP** **15 33 31.3 +0.8**
KMI S **S** **15 39 27.5 -3.5**
KMI SS **SS** **15 43 35.0 +3.3**
KMI pmax pmax
comp=Z,160nm,1.1s
KMI pmax pmax
comp=Z,2μm,5.6s
KMI LR LR
comp=Z,730nm,25.6s
KMI LR LR
comp=Z,1μm,23.9s
KMI LR LR
comp=Z,3μm,23.9s
CHTO Chiang Mai 61.31 87 P **P** **15 31 14.5 -1.2**
CM31 Chiang Mai Arr 61.50 87 P **P** **15 31 16.3 -0.7**
SNR=81
CM31 P **P** **15 31 16.3 -0.7**
SNR=81
CMAR Chiang Mai Arr 61.50 87 P **P** **15 31 16.5 -0.4**
comp=Z,138nm,0.8s,baz=297,slow=8.3,SNR=460
CMAR PP **PP** **15 33 29.2 -3.5**
comp=Z,36nm,0.9s,baz=293,slow=9.4,SNR=5.3
CMAR S **S** **15 39 34.6 +0.4**
comp=Z,0.3nm,0.3s,baz=302,slow=13,SNR=5.2
CMAR PKP2bc 16 00 35.4
comp=Z,2.7nm,1.0s,baz=204,slow=1.5,SNR=5.0
CMAR LR LR 16 05 32.1
comp=Z,330nm,19.1s,baz=294,slow=43
XAN Xi'an 61.91 67 P **P** **15 31 19.3 -0.3**
XAN pP pwP 15 31 36.8 -1.3
XAN S **S** **15 39 39.8 +0.7**
XAN pmax pmax
comp=Z,660nm,1.1s
XAN pmax pmax
comp=Z,3μm,3.8s
XAN LR LR
comp=Z,3μm,17.6s
XAN LR LR
comp=Z,4μm,16.7s
XAN LR LR
comp=Z,5μm,20.6s
FRB Frobisher Bay 62.42 330 S **S** **15 39 43.4 -1.0**
comp=Z,7.3nm,1.0s,baz=201,slow=18,SNR=6.9
YAK Yakutsk 62.54 32*c iP* **P** **15 31 22.2 -1.0**
YAK *e**PP **pwP** **15 31 42.7 +1.1**
YAK *e* 15 31 58.3
YAK *e* 15 33 40.2
YAK *eS* **S** **15 39 46.4 +0.4**
YAK *e**SS **pS** **15 40 04.7 -0.5**
YAK *e* 15 41 07.9
YAK pmax pmax
comp=Z,175nm,1.1s
YAK pmax pmax
comp=N,71nm,1.4s
YAK pmax pmax
comp=E,188nm,1.4s
YAK pmax pmax
comp=Z,179nm,1.5s
YAK smax smax
comp=N,89nm,1.5s
YAK smax smax
comp=E,66nm,1.5s
YAK Yakutsk 62.54 32 S **S** **15 39 45.0 -1.0**
comp=E,1.4nm,0.4s,baz=239,slow=5.9,SNR=3.7
YAK LR LR 16 02 21.8
comp=E,1μm,19.7s,baz=287,slow=40
TIY Taiyuan 62.86 62 *eP* **P** **15 31 26.0 +0.1**
TIY S **S** **15 39 46.5 -4.6**
TIY pmax pmax
comp=E,300nm,0.9s
TIY pmax pmax
comp=E,2μm,3.7s
UTHA Uthaitani 63.44 90 P P 15 31 24.4 -5.5
comp=E,384μm,1.0s
GYA Guiyang 63.68 75⇑ *iP* **P** **15 31 31.3 -0.2**
GYA pP pP 15 31 46.3 -0.5
GYA sP sP 15 31 54.5 +1.4
GYA ScP 15 36 04.3
GYA S **S** **15 39 58.0 -3.6**
GYA pmax pmax
comp=E,80nm,0.8s
GYA pmax pmax
comp=E,280nm,5.6s
GYA LR LR
comp=E,660nm,18.8s
GYA LR LR
comp=E,480nm,18.2s
RES Resolute Bay 64.05 346 S **S** **15 40 02.9 -1.7**
comp=E,2.3nm,0.9s,baz=115,slow=19,SNR=3.9
RES LR LR 15 59 49.7
comp=E,2μm,21.8s,baz=50,slow=36
BJI Beijing 64.45 58 P **P** **15 31 36.0 -0.2**
BJI S **S** **15 40 12.3 +1.7**
BJI pmax pmax
comp=E,220nm,1.0s
BJI pmax pmax
comp=E,2μm,3.0s
BJI LR LR
comp=E,3μm,21.0s
BJI LR LR
comp=E,2μm,23.0s
BJI LR LR
comp=E,3μm,29.9s
BOSA Boshof 64.57 186 *i* P **P** **15 31 39.8 +2.7**
BOSA Boshof 64.57 186 P **P** **15 31 39.1 +2.0**
comp=E,54nm,0.9s,baz=3.1,slow=6.8,SNR=39
BOSA Boshof 64.57 186 *i* P **P** **15 31 39.8 +2.7**
PHET Kaeng Krachan 65.03 92 P **P** **15 31 40.3 -0.1**
comp=E,472μm,0.9s
ZEA Zeya 65.07 41 *eP* **P** **15 31 40.2 +0.2**
ZEA pmax pmax
comp=N,52nm,0.8s
ZEA pmax pmax
comp=E,52nm,0.8s
ZEA pmax pmax
comp=Z,310nm,1.6s
ZEA pmax pmax
comp=Z,2μm,5.0s
NONG Nongkai 65.10 85 P **P** **15 31 39.7 -1.1**
comp=Z,5.1nm,1.0s,comp=Z,195nm
CHAI Chaiyaphum 65.31 88 P **P** **15 31 41.6 -0.6**
comp=Z,418μm,1.0s
SCHQ Schefferville 65.71 321 P **P** **15 31 42.7 -1.5**
comp=Z,169nm,0.9s,baz=66,slow=6.7,SNR=134
SCHQ LR LR 16 00 47.5
comp=Z,2μm,20.8s,baz=60,slow=36
PATY Pattaya 66.03 91 P **P** **15 31 46.5 -0.3**
comp=Z,226μm,0.8s
SKNT Sakolnakorn 66.35 86 P **P** **15 31 48.1 -0.8**
comp=Z,435nm,1.0s,comp=Z,5μm
MLSI Meulaboh, Aceh 67.43 102 P **P** **15 31 54.2 -1.5**
comp=Z,940nm,1.2s,comp=Z,10μm
WHN Wuhan 67.60 68 ⇑P **P** **15 31 56.5 -0.1**
WHN pP **pwP** **15 32 14.0 -1.4**
WHN S **S** **15 40 48.5 -0.6**
WHN LR LR
comp=Z,3μm,15.9s
WHN LR LR
comp=Z,3μm,11.6s
WHN LR LR
comp=Z,9μm,19.0s
UBPT Khong Chiam 68.47 86 P **P** **15 32 01.5 -0.7**

comp=Z,118nm,1.6s,comp=Z,2µm
SNSI Sinabang, Aceh 68.50 103 P **P** 15 32 02.6 +0.2
comp=Z,575nm,1.0s,comp=Z,7µm
SNY Shenyang 68.57 53 ⇑P **P** 15 32 00.8 -1.7
SNY pP **pP** 15 32 17.3 -0.6
SNY pmax pmax
comp=Z,97nm,0.9s
SNY pmax pmax
comp=Z,1µm,3.9s
SNY LR LR
comp=Z,4µm,19.5s
SNY LR LR
comp=Z,6µm,23.1s
SNY LR LR
comp=Z,11µm,24.5s
DL2 Dalian 68.71 57⇑*iP* **P** 15 32 03.0 -0.4
DL2 pP **pP** 15 32 18.0 -0.8
DL2 PP **PP** 15 34 33.8 -1.6
DL2 *eS* **S** 15 41 03.8 +1.7
DL2 SS **SS** 15 45 33.8 +6.7
DL2 pmax pmax
comp=Z,170nm,0.7s
DL2 pmax pmax
comp=Z,2µm,5.3s
DL2 LR LR
comp=Z,3µm,19.8s
DL2 LR LR
comp=Z,1µm,17.2s
DL2 LR LR
comp=Z,5µm,19.8s
SUR Sutherland 68.78 190 P **P** 15 32 06.3 +2.4
comp=Z,54nm,0.7s,baz=5.5,slow=4.9,SNR=32
CN2 Changchun 68.78 51 *eP* **P** 15 32 02.8 -1.0
CN2 *eS* **S** 15 40 57.8 -5.0
CN2 pmax pmax
comp=Z,2µm,4.0s
CN2 LR LR
comp=Z,3µm,22.0s
CN2 LR LR
comp=Z,4µm,22.0s
CN2 LR LR
comp=Z,6µm,22.0s
SKLT Songkhla 69.09 96 P **P** 15 32 05.5 -0.6
comp=Z,187nm,1.1s,comp=Z,2µm
KLR Kul'dur 69.74 43*c iP* **P** 15 32 09.2 -0.4
KLR pmax pmax
comp=Z,104nm,0.9s
KLR Kul'dur 69.74 43 PKP2bc **P'P'bc** 16 00 13.3 -5.1
comp=Z,4.1nm,1.0s,baz=132,slow=2.9,SNR=4.6
QIZ Qiongzhong 69.98 81 P **P** 15 32 11.0 -0.5
QIZ S **S** 15 41 17.0 -0.5
QIZ pmax pmax
comp=Z,160nm,0.9s
QIZ pmax pmax
comp=Z,1µm,4.4s
QIZ LR LR
comp=Z,950nm,22.1s
QIZ LR LR
comp=Z,810nm,20.1s
QIZ LR LR
comp=Z,1µm,18.6s
GSI Gunungsitoli 70.16 103 P **P** 15 32 11.8 -0.9
comp=Z,609nm,1.1s,comp=Z,7µmcomp=Z,6µm
NJ2 Nanjing 70.18 64 *eP* **P** 15 32 11.8 -0.8
NJ2 pP **pP** 15 32 26.0 -2.0
NJ2 S **S** 15 41 18.3 -1.3
NJ2 SS **SS** 15 45 51.8 +1.8
NJ2 pmax pmax
comp=Z,400nm,0.9s
NJ2 pmax pmax
comp=Z,2µm,4.7s
NJ2 LR LR
comp=Z,2µm,15.6s
NJ2 LR LR
comp=Z,2µm,16.6s
NJ2 LR LR
comp=Z,3µm,19.0s
PSI Prapat 70.32 101 P **P** 15 32 13.3 -0.5
comp=Z,341nm,0.9s,baz=285,slow=6.3,SNR=103
D63A Stockholm 70.33 314 P **P** 15 32 13.1 -0.2
baz=58,SNR=18
E64A Bridgewater 70.49 314 P **P** 15 32 14.1 -0.2
baz=58,SNR=47
GZH Guangzhou 70.61 75 P **P** 15 32 15.0 -0.3
GZH S **S** 15 41 25.3 +0.5
GZH pmax pmax
comp=Z,2µm,3.1s
GZH LR LR
comp=Z,2µm,20.7s
GZH LR LR
comp=Z,2µm,23.8s
SEY Seymchan 70.75 25*c iP* **P** 15 32 16.3 +0.8
SEY Seymchan 70.75 25 P **P** 15 32 15.7 +0.2
comp=Z,143nm,0.9s,baz=295,slow=7.9,SNR=24
E63A Oxbow 70.84 314 P **P** 15 32 16.4 +0.1
baz=58,SNR=35
D62A Allapoint, All 70.85 315 P **P** 15 32 16.5 +0.1
baz=58,SNR=116
BILL Bilibino 70.88 16*c iP* **P** 15 32 16.3 +0.1
BILL pmax pmax
comp=Z,460nm,1.2s
BILL MLR MLR
comp=Z,4µm,21.0s
MDJ Mudanjiang 70.92 48 P **P** 15 32 17.0 +0.1
MDJ pP pP 15 32 31.0 -1.4
MDJ PcP **sP** 15 32 38.3 -0.4
MDJ PP **PP** 15 34 53.8 -0.5
MDJ S **S** 15 41 26.8 -1.1
MDJ sS sS 15 41 56.3 +1.7
MDJ ScS **SKSac** 15 42 12.8 -1.4
MDJ pmax pmax
comp=Z,62nm,1.5s
MDJ pmax pmax
comp=Z,1µm,5.9s
MDJ LR LR
comp=Z,2µm,12.1s
MDJ LR LR
comp=Z,3µm,19.2s
MDJ LR LR
comp=Z,4µm,20.6s
IPM Ipoh 70.99 98 P **P** 15 32 16.0 -1.8
H66A Whiting 71.05 312 P **P** 15 32 17.7 +0.1
baz=58,SNR=26
F64A Sherman 71.09 313 P **P** 15 32 17.8 -0.1
baz=58,SNR=21
GRNR Gornyy 71.43 40⇑*iP* **P** 15 32 19.8 -0.1
GRNR *eS* **S** 15 41 35.9 +2.4
GRNR pmax pmax
comp=Z,50nm,1.1s
GRNR smax smax
comp=N,5.0nm,1.5s
D61A St Aubert, Com 71.44 315 P **P** 15 32 20.1 +0.2
baz=57,SNR=35
PBSI Pulau Batu 71.54 104 P **P** 15 32 20.1 -1.0
comp=N,1µm,1.1s,comp=N,9µm
H65A Eastbrook 71.66 312 P **P** 15 32 21.3 0.0
baz=57,SNR=17
G64A Maxfield 71.66 313 P **P** 15 32 21.7 +0.3
baz=57,SNR=20
PKME Peaks-Kenny Pk 71.97 313 P **P** 15 32 23.4 +0.2
baz=57,SNR=14
D60A Saint Jean D'O 72.02 315 P **P** 15 32 23.2 -0.2
baz=56,SNR=27
E61A Lac Etchemin 72.03 315 P **P** 15 32 23.7 +0.1
baz=56,SNR=25
CHGQ Chibougamau 72.22 319 P **P** 15 32 24.2 -0.4
baz=55,SNR=55
G63A Kingsbury 72.25 313 P **P** 15 32 25.3 +0.4
baz=57,SNR=8.7
H64A Troy 72.27 313 P **P** 15 32 25.1 +0.1
baz=57,SNR=10
SSE Sheshan 72.38 64 P **P** 15 32 25.8 -0.1
SSE S **S** 15 41 43.0 -2.0
SSE pmax pmax
comp=N,170nm,1.1s
SSE pmax pmax
comp=N,910nm,3.4s
SSE LR LR
comp=N,800nm,20.3s
SSE LR LR
comp=N,920nm,22.6s
MA2 Magadan 72.45 28 P **P** 15 32 26.2 +0.4
comp=N,211nm,1.0s,baz=308,slow=6.6,SNR=12
MA2 LR LR 16 08 40.6
comp=N,3µm,19.9s,baz=302,slow=40
D59A Saint-Raymond 72.48 316 P **P** 15 32 26.0 -0.2
baz=56,SNR=14
JRMM Jerantut 72.51 98 P **P** 15 32 26.0 -0.9
F61A St Evariste 72.58 314 P **P** 15 32 27.1 +0.3
baz=56,SNR=20
USRK Ussuriysk Ar. 72.59 48 P **P** 15 32 26.1 -0.9
comp=N,186nm,0.8s,baz=293,slow=5.2,SNR=322
USRK LR LR 16 08 04.5
comp=N,3µm,20.5s,baz=300,slow=39
E60A Ste Agathe de 72.62 315 P **P** 15 32 27.1 0.0
baz=56,SNR=54
G62A West of Eustis 72.73 314 P **P** 15 32 28.3 +0.6
baz=56,SNR=19
G62A S **S** 15 41 49.5 +0.9
baz=56
H63A New Sharon 72.75 313 P **P** 15 32 28.1 +0.2
baz=56,SNR=14
LATQ La Tuque 72.80 316 P **P** 15 32 28.0 -0.1
baz=55,SNR=35
INCN Inchon 72.82 56 P **P** 15 32 28.3 -0.2
I64A Boothbay 72.92 312 P **P** 15 32 29.1 +0.2
baz=56
SISI Saibi 72.96 105 P **P** 15 32 28.2 -1.3
comp=N,281nm,1.1s,comp=N,3µm
D58A Chemin du LacG 73.02 316 P **P** 15 32 29.0 -0.4
baz=55,SNR=48
F60A Warwick 73.13 315 P **P** 15 32 30.1 0.0
baz=56,SNR=58
E59A St. Maurice 73.16 315 P **P** 15 32 30.2 0.0
baz=55
G61A St-Isidore-de- 73.28 314 P **P** 15 32 31.5 +0.5
baz=56,SNR=54
C36M Paulatuk 73.36 351 P **P** 15 32 30.7 -0.3
baz=21,SNR=325
I63A Otisfield 73.41 313 P **P** 15 32 32.1 +0.3
baz=56,SNR=6.9
H62A Milan 73.46 313 P **P** 15 32 32.3 +0.3
baz=56,SNR=21
BKNI Bangkinang 73.49 102 P **P** 15 32 31.3 -1.4
comp=N,1µm,1.2s,comp=N,11µmcomp=N,3µm
E58A La Victoria 73.66 316 P **P** 15 32 33.2 0.0
baz=55,SNR=110
F59A Saint Guilaume 73.68 315 P **P** 15 32 33.4 +0.2
baz=55
QZH Quanzhou 73.70 71⇑*iP* **P** 15 32 33.0 -0.7
QZH pP **PcP** 15 32 48.3 -1.0
QZH *eS* **SKiKP** 15 41 51.8 -6.2
QZH pmax pmax
comp=N,170nm,0.9s
QZH pmax pmax
comp=N,800nm,6.0s
QZH LR LR
comp=N,2µm,20.3s
QZH LR LR
comp=N,1µm,20.4s
QZH LR LR
comp=N,3µm,19.9s
KSRS Korea Array 73.70 55 P **P** 15 32 33.1 -0.5
comp=N,116nm,0.8s,baz=298,slow=5.2,SNR=217
KSRS LR LR 16 08 01.5
comp=N,2µm,20.7s,baz=299,slow=38
PDSI Padang 73.79 103 P **P** 15 32 33.3 -1.1
comp=N,605nm,0.9s,comp=N,4µmcomp=N,2µm
G60A Masonville 73.85 314 P **P** 15 32 34.4 0.0
baz=55,SNR=18
H61A Lyndonville 73.94 314 P **P** 15 32 35.6 +0.7
baz=55,SNR=31
I62A Tamworth 73.96 313 P **P** 15 32 35.8 +0.8
baz=55,SNR=14
MATQ Matagami 74.02 320 P **P** 15 32 34.8 -0.5
baz=53,SNR=167
LSQQ Lebel-sur-Quev 74.10 320 P **P** 15 32 35.3 -0.4
baz=53
LBNH Lisbon 74.10 313 P **P** 15 32 36.6 +0.7
baz=55,SNR=28
J63A Strafford 74.15 312 P **P** 15 32 36.7 +0.7
baz=55,SNR=12
F58A St-Lin Laurent 74.26 316 P **P** 15 32 36.5 -0.1
baz=54
H60A Morristown 74.37 314 P **P** 15 32 38.1 +0.6
baz=55,SNR=47
I61A Oroboro, Fairl 74.45 313 P **P** 15 32 38.8 +0.9
baz=55,SNR=17
D55A Sainte-Anne-du 74.51 317 P **P** 15 32 38.2 +0.1
baz=54,SNR=95
E56A St. Veronique 74.55 317 P **P** 15 32 38.3 -0.1
baz=54,SNR=40
SDSI Sungai Dareh 74.56 103 P **P** 15 32 36.9 -2.0
comp=N,424nm,1.1s,comp=N,5µm
J62A Henniker 74.62 312 P **P** 15 32 39.6 +0.8
baz=55,SNR=12
M66A Nantucket 74.72 310 P **P** 15 32 39.8 +0.4
baz=55
K63A Dunstable 74.75 312 P **P** 15 32 40.0 +0.4
baz=55,SNR=12
L64A Middleborough 74.77 311 P **P** 15 32 40.3 +0.7
baz=55,SNR=11
F57A Harrington 74.79 316 P **P** 15 32 40.0 +0.2
baz=54,SNR=17
G58A Ormstown 74.81 315 P **P** 15 32 40.0 +0.1
baz=54,SNR=27
MYKOM Kota Tinggi 74.85 99 P **P** 15 32 40.0 -0.6
M65A Busby, Falmout 74.86 310 P **P** 15 32 40.6 +0.4
baz=55
HRV Adam Dziewonsk 74.88 312 P **P** 15 32 40.9 +0.5
baz=55
H59A Cadyville 74.90 314 P **P** 15 32 40.7 +0.3
baz=54,SNR=37
J61A Chester 74.99 313 P **P** 15 32 41.8 +0.8
baz=54,SNR=25
D54A Lac Fusel, La 75.08 318 P **P** 15 32 40.9 -0.5
baz=53,SNR=34
I60A Shoreham 75.14 314 P **P** 15 32 42.4 +0.6
baz=54,SNR=12
E55A Montcerf-Lytto 75.17 317 P **P** 15 32 42.1 +0.2
baz=53
K62A Royalston 75.19 312 P **P** 15 32 42.9 +0.8
baz=54,SNR=15
M64A Tiverton 75.21 311 P **P** 15 32 42.9 +0.7
baz=55,SNR=9.3
L63A North Scituate 75.28 311 P **P** 15 32 43.2 +0.6
baz=55,SNR=9.2
KRJI Kerinci 75.30 104 P **P** 15 32 42.6 -0.7
comp=N,2µm,1.0s,comp=N,13µmcomp=N,5µm
H58A Gabriels 75.32 314 P **P** 15 32 43.1 +0.2
baz=54,SNR=40
INK Inuvik 75.34 354 P **P** 15 32 41.7 -0.8
comp=N,76nm,0.8s,baz=14,slow=9.5,SNR=188
INK S **S** 15 42 15.2 -1.8
comp=N,1.6nm,0.5s,baz=320,slow=28,SNR=14
RCBR Riachuelo 75.34 251 *eP* **P** 15 32 45.8 +2.3
RCBR Riachuelo 75.34 251 *eP* **P** 15 32 45.8 +2.3
G57A Newington 75.37 315 P **P** 15 32 43.1 0.0
baz=53,SNR=26
LONY Lake Ozonia 75.43 315 P **P** 15 32 43.7 +0.2
baz=54,SNR=40
I59A Olmsteadville 75.50 314 P **P** 15 32 44.5 +0.6
baz=54,SNR=22
J60A Lant Hill Farm 75.56 313 P **P** 15 32 45.1 +0.8
baz=54,SNR=16
L61B Northampton 75.59 312 P **P** 15 32 45.2 +0.8
baz=54,SNR=12
TOLK Toolik Lake Re 75.62 0 P **P** 15 32 45.0 +0.8
baz=359,SNR=139
E54A Lac Daplat, Po 75.80 317 P **P** 15 32 45.6 0.0
baz=52
K61A Williamstown 75.81 313 P **P** 15 32 46.7 +1.0
baz=54,SNR=18
M63A Gales Ferry 75.81 311 P **P** 15 32 46.4 +0.7
baz=54,SNR=7.0
L62A Suffield 75.82 312 P **P** 15 32 46.3 +0.5
baz=54
TATO Taipei 75.89 69 P **P** 15 32 47.9 +1.5
TPRI Tanjung Pinang 75.91 99 P **P** 15 32 45.1 -1.6
comp=N,217nm,1.3s,comp=N,18µm
H57A Richville 75.99 315 P **P** 15 32 47.1 +0.4
baz=53,SNR=26
J59A Piesco 76.07 314 P **P** 15 32 47.9 +0.6
baz=53,SNR=39
E53A Dumoine, Ponti 76.10 318 P **P** 15 32 47.2 -0.1
baz=52
I58A Old Forge 76.21 314 P **P** 15 32 48.6 +0.5
baz=53,SNR=26
K60A Five Rivers En 76.21 313 P **P** 15 32 48.8 +0.8
baz=54,SNR=16
L61A Hillsdale 1, H 76.26 312 P **P** 15 32 49.0 +0.8
baz=54,SNR=23
M62A Hamden 76.31 311 P **P** 15 32 48.5 0.0
baz=54,SNR=17
N63A Mattituck 76.34 311 P **P** 15 32 48.5 -0.2
baz=54
H56A Elgin 76.40 316 P **P** 15 32 49.4 +0.3
baz=53,SNR=11
I57A Carthage 76.46 315 P **P** 15 32 49.6 +0.2
baz=53,SNR=19
ALGO Algonquin Park 76.57 317 P **P** 15 32 49.7 -0.2
baz=52,SNR=25
D51A Lot 18 Range I 76.58 319 P **P** 15 32 49.7 -0.3
baz=51,SNR=44
J58A Remsen 76.59 314 P **P** 15 32 50.6 +0.4
baz=53,SNR=23
K59A Cooperstown 76.69 313 P **P** 15 32 51.3 +0.6
baz=53,SNR=62
E52A Mattawa 76.69 318 P **P** 15 32 50.2 -0.4
baz=52,SNR=20
D50A G1974 Best Tow 76.78 319 P **P** 15 32 50.7 -0.4
baz=51,SNR=37
L60A Shokan 76.78 312 P **P** 15 32 51.8 +0.6
baz=53,SNR=11
M61A Granite Spring 76.91 312 P **P** 15 32 51.8 -0.2
baz=53,SNR=5.8
G54A Lake Saint Pet 76.94 317 P **P** 15 32 52.1 0.0
baz=52,SNR=59
H55A Tweed 76.95 316 P **P** 15 32 52.2 +0.1
baz=52,SNR=9.8
J57A Williamstown 76.97 314 P **P** 15 32 52.4 +0.1
baz=52,SNR=9.3
E51A G1948 Merrick 76.99 319 P **P** 15 32 52.1 -0.2
baz=51,SNR=21
YSS Yuzh-Sakhalins 77.06 41 *eP* **P** 15 32 52.3 -0.4
YSS *e* 15 33 01.0
YSS *e**PP **pP** 15 33 08.5 +0.2
YSS *e**SP **sP** 15 33 14.8 +0.2
YSS *e* 15 35 51.7
YSS *eS* **S** 15 42 36.4 -0.3
YSS pmax pmax
comp=Z,160nm,1.4s
L59A Walton 77.15 313 P **P** 15 32 53.9 +0.5
baz=53,SNR=62
K58A Earlville 77.16 314 P **P** 15 32 53.9 +0.5
baz=53,SNR=47
PAL Palisades 77.18 312 P **P** 15 32 53.5 0.0
baz=53,SNR=8.1
F52A Sundridge 77.36 318 P **P** 15 32 54.6 +0.2
baz=51,SNR=42
G53A Haliburton 77.40 317 P **P** 15 32 54.3 -0.3
baz=51,SNR=20
M60A Port Jervis 77.42 312 P **P** 15 32 54.5 -0.3
baz=53,SNR=15
I55A Frankford 77.44 316 P **P** 15 32 54.9 +0.1
baz=52,SNR=14
J56A Wolcott 77.55 315 P **P** 15 32 55.5 0.0
baz=52,SNR=15
N61A South Mountain 77.57 311 P **P** 15 32 56.0 +0.3
baz=53,SNR=7.4
F51A Arnstein 77.60 318 P **P** 15 32 55.8 0.0
baz=51,SNR=57
K57A Scipio Center 77.69 314 P **P** 15 32 56.7 +0.4
baz=52,SNR=24
BINY Binghamton 77.70 313 P **P** 15 32 56.7 +0.3
baz=52,SNR=38
L58A Harry Jones Me 77.72 313 P **P** 15 32 56.8 +0.4
baz=52,SNR=29
H53A Bobcaygeon 77.72 317 P **P** 15 32 56.4 0.0
baz=51,SNR=16
M59A Wayart 77.78 313 P **P** 15 32 57.1 +0.3
baz=52,SNR=19
N60A Cedar Hill Far 77.98 312 P **P** 15 32 58.3 +0.3
baz=53,SNR=20
YKA Yellowknife Ar 78.04 345 P **P** 15 32 57.0 -0.8
comp=Z,171nm,0.9s,baz=33,slow=5.3,SNR=936
YKA S **S** 15 42 46.1 -0.6
comp=Z,2.4nm,1.1s,baz=17,slow=9.2,SNR=6.0
YKA PKKPbc **PKKPbc** 15 51 56.3 -0.9
comp=Z,0.8nm,0.9s,baz=196,slow=3.3,SNR=7.2
YKA PKPPKP 15 59 39.3
comp=Z,0.3nm,0.8s,baz=159,slow=1.9,SNR=3.6
J55A Hilton 78.11 315 P **P** 15 32 58.7 +0.1
baz=51
O61A Allentown 78.12 311 P **P** 15 32 58.6 -0.1
baz=53
JNU Nakatsue 78.13 58 P **P** 15 32 59.0 0.0
comp=Z,178nm,0.9s,baz=22,slow=2.0,SNR=38
K56A Middlesex 78.18 314 P **P** 15 32 59.2 +0.1
baz=52,SNR=26
L57A Andrews Acres 78.33 314 P **P** 15 33 00.2 +0.3
baz=52,SNR=47
N59A State Game Lan 78.36 312 P **P** 15 33 00.5 +0.5
baz=52,SNR=24
PMBI Palembang 78.42 102 P **P** 15 32 58.7 -2.0
comp=Z,372nm,0.9s,comp=Z,47µm
E48A Lockeyer 78.44 320 P **P** 15 33 00.1 -0.3
baz=49,SNR=23
M58A Price's Panora 78.49 313 P **P** 15 33 00.8 +0.1
baz=52,SNR=42
O60A Telford 78.50 312 P **P** 15 33 00.6 -0.2
baz=52,SNR=22
P61A Hammonton 78.52 311 P **P** 15 33 00.4 -0.5
baz=52
J54A Appleton 78.57 316 P **P** 15 33 01.1 0.0
baz=51,SNR=5.7
K55A Perry 78.59 315 P **P** 15 33 01.1 -0.1
baz=51,SNR=19
L56A Greenwood 78.66 314 P **P** 15 33 01.8 0.0
baz=51,SNR=32
I53A Kortright Cn E 78.76 316 P **P** 15 33 02.1 0.0
baz=50,SNR=11
ASAJ Asahikawa 78.78 43 LR LR 16 10 32.8
comp=Z,3µm,21.6s,baz=326,slow=38
F49A Sandfield 78.84 319 P **P** 15 33 02.6 0.0
baz=49,SNR=14
MDSI Maura Dua 78.90 104 P **P** 15 33 00.4 -2.9
comp=Z,360nm,1.0s,comp=Z,4µm
M57A Sunshine Farm, 78.91 313 P **P** 15 33 03.4 +0.4
baz=52,SNR=22
I52A Shelburne 78.93 317 P **P** 15 33 03.3 +0.1
baz=50,SNR=32
P60A Greenville 78.95 311 P **P** 15 33 03.1 -0.2
baz=52,SNR=16
N58A Sunbury 78.97 313 P **P** 15 33 03.4 0.0
baz=52,SNR=26
O59A Robesonia 78.98 312 P **P** 15 33 03.6 +0.1
baz=52,SNR=30
K54A Basiliko Farm, 79.02 315 P **P** 15 33 03.4 -0.2
baz=51,SNR=11
E47A Iron Bridge 79.04 320 P **P** 15 33 03.4 -0.2
baz=49,SNR=22
F48A Evansville 79.11 319 P **P** 15 33 03.7 -0.3
baz=49,SNR=9.0
LWLI Liwa 79.13 104 P **P** 15 33 02.9 -1.8
comp=Z,425nm,1.0s,comp=Z,8µm
L55A Hinsdale 79.14 315 P **P** 15 33 04.5 +0.1
baz=51,SNR=33
POKR Poker Plat Res 79.16 359 P **P** 15 33 04.5 +0.5
baz=1.0,SNR=123
Q61A Milford 79.33 310 P **P** 15 33 05.9 +0.5
baz=52
COLA College 79.41 360 P **P** 15 33 04.4 -0.9
TCOL CIGO, UAF Yank 79.41 360 P **P** 15 33 05.5 +0.2
baz=0.7,SNR=21
M56A Emporium 79.43 314 P **P** 15 33 06.1 +0.1
baz=51
ILAR Eielson Array 79.50 359 P **P** 15 33 05.2 -0.6
comp=Z,24nm,0.8s,baz=323,slow=1.9,SNR=221
ILAR PP **PP** 15 36 01.6 -4.4
comp=Z,4.0nm,0.9s,baz=350,slow=7.1,SNR=3.2
ILAR PKKPbc **PKKPbc** 15 51 53.5 -0.7
comp=Z,3.8nm,0.9s,baz=211,slow=2.8,SNR=16
ILAR PKPPKP P'P'df 15 59 44.4 -17
comp=Z,2.1nm,1.2s,baz=205,slow=4.0,SNR=4.1
ILAR LR LR 16 10 44.0
comp=Z,1µm,20.3s,baz=14,slow=38
N57A Milroy 79.52 313 P **P** 15 33 06.5 +0.1
baz=51,SNR=34
O58A Lewisberry 79.54 312 P **P** 15 33 06.3 -0.2
baz=51,SNR=9.5
P59A Jarrettsville 79.56 312 P **P** 15 33 06.7 0.0
baz=52,SNR=22
I51A Listowel 79.57 317 P **P** 15 33 06.5 -0.1
baz=50,SNR=28
Q60A Greensboro 79.58 311 P **P** 15 33 06.8 +0.1
baz=52,SNR=5.9
L54A Sinclairville 79.61 315 P **P** 15 33 06.7 -0.2
baz=50,SNR=21
J52A Paris 79.63 316 P **P** 15 33 06.9 0.0
baz=50,SNR=30
APYP Conner 79.65 75 P **P** 15 33 08.0 +0.5
APYP S **pP** 15 33 26.4 +3.3

R61A Willards 79.68 310 P P 15 33 07.5 +0.2
baz=52
PETK Petropavlovsk- 79.77 30 P P 15 33 06.2 -1.3
comp=Z,28nm,0.9s,baz=337,slow=2.1,SNR=12
PETK PP PP 15 35 52.6 -16
comp=Z,24nm,1.0s,baz=299,slow=6.1,SNR=4.4
PETK PKKPbc PKKPbc 15 51 53.2 0.0
comp=Z,2.9nm,0.7s,baz=101,slow=4.1,SNR=4.4
PETK LR LR 16 13 02.9
comp=Z,1µm,19.7s,baz=301,slow=39
SCZP Santa Cruz 79.78 78 P P 15 33 08.3 +0.2
KASI Kota Agung 79.78 104 P P 15 33 06.3 -1.8
comp=Z,532nm,0.9s,comp=Z,4µmcomp=Z,3µm
M55A Ridgway 79.78 314 P P 15 33 07.9 0.0
baz=51,SNR=52
SSPA Standing Stone 79.79 313 P P 15 33 08.2 +0.3
baz=51
N56A West Decatur 79.86 314 P P 15 33 08.4 +0.1
baz=51,SNR=33
HDA Harding Lake 79.86 359 P P 15 33 07.6 -0.2
baz=1.4,SNR=65
O57A Amberson 79.91 313 P P 15 33 08.4 -0.1
baz=51,SNR=21
K52A Tillsonburg 80.06 316 P P 15 33 09.1 -0.2
baz=50,SNR=10
SGCP Mt. Cagua 80.07 75 P P 15 33 09.7 0.0
ERPA Erie 80.07 315 P P 15 33 09.0 -0.3
baz=50,SNR=14
Q59A Harwood 80.16 311 P P 15 33 09.8 0.0
baz=51,SNR=7.5
SMPP San Manuel, Pa 80.17 77 P P 15 33 09.3 -1.0
PET Petropavlovsk 80.21 29 eP P 15 33 12.5 +2.7
PET eS S 15 43 03.3 -6.8
PET pmax pmax
comp=Z,400nm,13.9s
PET MLR MLR
comp=Z,4µm,20.0s
H48A Harrisville 80.23 319 P P 15 33 09.9 -0.3
baz=48,SNR=10.0
KSM Kuching 80.23 95 P P 15 33 11.0 +0.4
BLSI Bandar Lampung 80.27 104 P P 15 33 08.4 -2.4
comp=Z,520nm,1.0s,comp=Z,6µmcomp=Z,19µm
M54A Oil Creek Stat 80.28 315 P P 15 33 10.6 0.0
baz=50,SNR=34
E44A Grand Marais A 80.28 322 P P 15 33 10.2 -0.2
baz=47,SNR=5.1
S61A Accomac 80.28 310 P P 15 33 11.3 +0.7
baz=52
L53A Girard 80.33 315 P P 15 33 10.6 -0.2
baz=50,SNR=16
N55A Marion Center 80.35 314 P P 15 33 11.1 +0.2
baz=50,SNR=36
O56A Blue Knob Stat 80.43 313 P P 15 33 11.3 -0.1
baz=50,SNR=32
ERM Erimo 80.44 45 P P 15 33 11.7 +0.4
R60A Leonardtown, M 80.48 311 P P 15 33 11.5 -0.2
baz=51
K51A Iona Station 80.54 316 P P 15 33 11.4 -0.5
baz=49,SNR=5.8
P57A Homestead Farm 80.59 312 P P 15 33 12.3 +0.1
baz=51,SNR=50
TPI Tanjungpandan 80.61 100 P P 15 33 10.8 -1.8
comp=Z,163nm,1.1s,comp=Z,2µm
YUK Yuzh-Kuril'sk 80.61 42 P P 15 33 12.3 +0.1
YUK 15 36 17.5
YUK S S 15 43 15.2 +0.6
YUK SS SS 15 48 29.5 +2.3
YUK pmax pmax
comp=Z,530nm,1.2s
YUK pmax pmax
comp=E,302nm,1.3s
YUK pmax pmax
comp=N,364nm,0.8s
YUK pmax pmax
comp=Z,802nm,1.6s
CAUP Cauayan 80.63 76 P P 15 33 12.9 +0.2
F45A CMU Biological 80.71 321 P P 15 33 12.0 -0.7
baz=47,SNR=10
Q58A Fox Den Farm, 80.73 312 P P 15 33 12.6 -0.4
baz=51,SNR=18
H47A Mio 80.76 319 P P 15 33 12.7 -0.3
baz=48
I48A Sherman Twp 80.77 319 P P 15 33 12.6 -0.5
baz=48,SNR=11
N54A Moraine State 80.82 314 P P 15 33 13.3 -0.1
baz=50,SNR=30
GLMI Grayling 80.83 320 P P 15 33 13.0 -0.4
baz=48
R59A King George, V 80.86 311 P P 15 33 13.4 -0.2
baz=51,SNR=13
S60A Water View 80.88 310 P P 15 33 13.9 +0.1
baz=51,SNR=6.6
O55A Ligonier 80.90 313 P P 15 33 13.8 -0.1
baz=50,SNR=38
M53A WI Miller and 80.90 315 P P 15 33 13.4 -0.4
baz=50,SNR=15
MAT Matsushiro 80.92 51 P P 15 33 13.6 -0.5
MAT S S 15 43 23.2 +5.0
MAJO Matsushiro 80.92 51 P P 15 33 12.4 -1.7
MJAR Matsushiro Arr 80.92 51 P P 15 33 14.1 0.0
comp=Z,73nm,0.8s,baz=339,slow=3.8,SNR=92
MJAR LR LR 16 12 54.2
comp=Z,6µm,20.3s,baz=315,slow=38
CBN Corbin Frederi 81.01 311 P P 15 33 14.2 -0.2
baz=51,SNR=7.2
J49A Marlette 81.02 318 P P 15 33 14.1 -0.3
baz=48,SNR=22
P56A Dayton Farm, R 81.07 313 P P 15 33 14.6 -0.1
baz=50,SNR=35
BALP Baler 81.11 77 P P 15 33 15.8 +0.5
BALP S pP 15 33 27.7 -3.4
Q57A Strasburg 81.11 312 P P 15 33 15.1 +0.1
baz=50,SNR=29
K50A Casco 81.12 317 P P 15 33 14.6 -0.3
baz=48,SNR=14
SBUM Sibu 81.20 93 P P 15 33 17.0 +1.2
G45A Suttons Bay 81.22 320 P P 15 33 14.9 -0.6
baz=47,SNR=12
M52A Chesterland 81.22 316 P P 15 33 15.3 -0.3
baz=49,SNR=15
S59A Mechanicsville 81.24 311 P P 15 33 15.6 -0.1
baz=51,SNR=7.5
T60A Surry 81.28 310 P P 15 33 15.9 +0.1
baz=51
I47A Gladwin 81.31 319 P P 15 33 15.6 -0.4
baz=48,SNR=17
H46A Fife Lake 81.33 320 P P 15 33 15.6 -0.4
baz=47,SNR=35
R58A Rapidan 81.33 311 P P 15 33 15.7 -0.5
baz=51,SNR=9.4
N53A Lisbon 81.41 315 P P 15 33 16.4 -0.2
baz=49,SNR=22
J48A Bridge Port 81.41 318 P P 15 33 16.1 -0.4
baz=48,SNR=14
SBJI Serang 81.43 104 P P 15 33 14.9 -2.0
comp=Z,406nm,1.2s,comp=Z,6µm
R58B Mineral 81.47 311 P P 15 33 16.8 -0.1
baz=51,SNR=24
TGY Tagaytay City 81.54 79 P P 15 33 18.0 +0.3
comp=Z,100nm,0.3s,baz=224,slow=8.1,SNR=4.2
O54A Avella 81.55 314 P P 15 33 16.9 -0.4
baz=50,SNR=24
MCWV Mont Chateau 81.57 313 P P 15 33 17.5 +0.1
baz=50,SNR=12
K49A Clarkson 81.58 317 P P 15 33 16.8 -0.6
baz=48,SNR=6.1
Q56A Snyder Ridge, 81.58 312 P P 15 33 17.6 +0.1
baz=50,SNR=46
U61A Possum Corner 81.61 309 P P 15 33 17.9 +0.3
baz=51,SNR=7.8
R57A Stanardsville 81.65 312 P P 15 33 17.7 -0.1
baz=50,SNR=26
P55A Reedsville 81.66 313 P P 15 33 17.9 0.0
baz=50,SNR=32
H45A Beulah 81.71 320 P P 15 33 17.6 -0.4
baz=47,SNR=7.9
L50A Kingsville 81.71 317 P P 15 33 17.6 -0.5
baz=48,SNR=29
V62A Hyde County Ai 81.78 308 P P 15 33 18.9 +0.3
baz=51
S58A Poland Farm, P 81.80 311 P P 15 33 18.5 -0.1
baz=50,SNR=33
M51A Elyria 81.83 316 P P 15 33 18.2 -0.5
baz=49,SNR=13
N52A McGinn's Farm, 81.89 315 P P 15 33 18.7 -0.4
baz=49,SNR=15
T59A Double "B" Far 81.90 310 P P 15 33 18.8 -0.3
baz=51,SNR=18
K48A Perry 81.92 318 P P 15 33 18.7 -0.5
baz=48,SNR=17
U60A Pendleton 81.97 309 P P 15 33 19.6 0.0
baz=51,SNR=8.7
P54A Burton 81.98 314 P P 15 33 19.6 0.0
baz=49,SNR=29
O53A New Philadelph 81.99 314 P P 15 33 19.6 0.0
baz=49,SNR=42
STKI Sintang 82.00 96 P P 15 33 20.1 +0.1
comp=Z,650nm,1.4s,comp=Z,8µm
J47A Sunmer 82.01 319 P P 15 33 19.1 -0.5
baz=47,SNR=9.8
V61A Roper 82.03 309 P P 15 33 19.9 +0.1
baz=51
EYMN Ely 82.04 325 P P 15 33 18.9 -0.9
baz=43,SNR=9.9
R56A Bull Pasture M 82.11 312 P P 15 33 20.3 -0.1
baz=50,SNR=39
Q55A Buckhannon 82.14 313 P P 15 33 20.3 -0.1
baz=50,SNR=29
MDP Montagnes des 82.14 271 P P 15 33 22.2 +1.4
comp=Z,62nm,1.1s,baz=50,slow=6.6
DBJI Dramaga 82.18 104 P P 15 33 18.7 -2.2
comp=Z,508nm,1.2s,comp=Z,6µm
L49A Milan 82.20 317 P P 15 33 20.1 -0.5
baz=48,SNR=6.5
N51A Ashland 82.21 316 P P 15 33 20.1 -0.6
baz=48,SNR=20
I45A Fountain 82.21 320 P P 15 33 20.5 -0.1
baz=46,SNR=11
S57A Dark Hollow, R 82.26 311 P P 15 33 20.8 -0.2
baz=50,SNR=24
ULM Lac du Bonnet 82.26 329 P P 15 33 19.5 -1.3
comp=Z,87nm,0.8s,baz=37,slow=4.4,SNR=156
ULM PKiKP PKiKP 15 38 41.2 -0.8
comp=Z,5.5nm,0.9s,baz=149,slow=3.2,SNR=3.2
M50A Fremont 82.27 316 P P 15 33 20.2 -0.8
baz=48,SNR=16
SKJI Sukabumi 82.30 104 P P 15 33 19.2 -2.3
comp=Z,599nm,1.1s,comp=Z,6µm
J46A Howard City 82.38 319 P P 15 33 21.0 -0.6
baz=47,SNR=9.5
O52A Adamsville 82.43 315 P P 15 33 21.7 -0.2
baz=49,SNR=46
U59A Littleton 82.44 310 P P 15 33 22.2 +0.2
baz=50,SNR=22
V60A Jim Taylor Roa 82.48 309 P P 15 33 22.2 0.0
baz=51,SNR=12
K47A Vermontville 82.49 318 P P 15 33 21.5 -0.7
baz=47,SNR=7.3
T58A Grand View Acr 82.52 311 P P 15 33 22.4 0.0
baz=50,SNR=31
P53A Whipple 82.59 314 P P 15 33 22.9 +0.1
baz=49,SNR=68
Q54A Coxs Mills 82.59 313 P P 15 33 22.3 -0.4
baz=49,SNR=31
R55A Marlinton 82.62 312 P P 15 33 23.2 +0.2
baz=49
L48A N Adams 82.67 317 P P 15 33 22.6 -0.6
baz=47,SNR=24
W61A Ground Anchor 82.68 308 P P 15 33 23.7 +0.5
baz=51
S56A Natural Bridge 82.68 312 P P 15 33 23.3 0.0
baz=50,SNR=18
M49A Liberty Center 82.74 317 P P 15 33 22.7 -0.8
baz=48,SNR=32
N50A Nevada 82.75 316 P P 15 33 23.1 -0.4
baz=48,SNR=42
O51A Pataskala 82.86 315 P P 15 33 23.7 -0.4
baz=48,SNR=48
U58A Oxford 82.88 310 P P 15 33 24.2 -0.1
baz=50,SNR=24
K46A Dorr 82.90 319 P P 15 33 23.7 -0.6
baz=47,SNR=5.2
P52A Corning 82.92 314 P P 15 33 24.0 -0.5
baz=48,SNR=39
T57A Hurt 82.93 311 P P 15 33 24.5 0.0
baz=50,SNR=22
CNJI Cibinong 82.94 104 P P 15 33 22.7 -2.1
comp=Z,426nm,1.4s,comp=Z,5µmcomp=Z,3µm
ACSO Alum Creek Sta 83.01 315 P P 15 33 24.4 -0.6
baz=48,SNR=38
LEM Lembang 83.03 104 P P 15 33 24.5 -1.0
comp=Z,89nm,0.9s,baz=210,slow=6.7,SNR=16
L47A Sherwood 83.07 318 P P 15 33 24.4 -0.9
baz=47,SNR=28
Q53A Leroy 83.08 314 P P 15 33 25.0 -0.3
baz=49,SNR=55
V59A Middlesex 83.09 309 P P 15 33 25.3 -0.1
baz=50,SNR=29
M48A Edgerton 83.14 317 P P 15 33 24.4 -1.1
baz=47,SNR=19
S55A Lewisburg 83.18 312 P P 15 33 25.9 0.0
baz=49,SNR=22
CNNC Cliffs of the 83.21 309 P P 15 33 25.7 -0.2
baz=50
R54A Victor 83.21 313 P P 15 33 25.8 -0.2
baz=49,SNR=22
W60A Pink Hill 83.21 309 P P 15 33 25.9 -0.1
baz=50,SNR=7.3
N49A Columbus Grove 83.23 316 P P 15 33 25.4 -0.6
baz=47,SNR=63
SPMM Sapulut 83.33 89 P P 15 33 28.0 +1.0
U57A Blanch 83.34 311 P P 15 33 26.7 0.0
baz=50,SNR=30
T56A Rocky Mt 83.38 311 P P 15 33 27.2 +0.2
baz=49,SNR=27
O50A Cable 83.43 316 P P 15 33 26.6 -0.5
baz=48,SNR=6.6
Q52A Bidwell 83.45 314 P P 15 33 26.9 -0.3
baz=48,SNR=39
BLA Blacksburg 83.50 312 P P 15 33 27.0 -0.6
baz=49,SNR=6.3
P51A Williamsport 83.56 315 P P 15 33 26.7 -1.1
baz=48,SNR=16
W59A Clinton 83.60 309 P P 15 33 28.4 +0.4
baz=50
V58A Windy Hill, Pi 83.62 310 P P 15 33 28.1 0.0
baz=50,SNR=18
CISI Cisompet, Garu 83.62 104 P P 15 33 26.9 -1.6
comp=Z,773nm,1.0s,comp=Z,8µmcomp=Z,3µm
L46A Eue Claire 83.64 318 P P 15 33 27.2 -0.9
baz=46,SNR=7.4
S54A Dingess, Beckl 83.65 313 P P 15 33 27.8 -0.5
baz=49,SNR=16
R53A Hurricane 83.68 313 P P 15 33 28.4 0.0
baz=48,SNR=22
X60A Albert Glenn T 83.68 308 P P 15 33 28.5 +0.1
baz=50
M47A Cromwell 83.72 318 P P 15 33 27.6 -0.9
baz=46,SNR=7.8
AGMN Agassiz Nation 83.73 328 P P 15 33 27.4 -1.1
baz=40,SNR=46
N48A Decatur 83.74 317 P P 15 33 27.8 -0.9
baz=47,SNR=47
T55A Pulaski 83.78 312 P P 15 33 28.8 -0.2
baz=49,SNR=18
O49A Covington 83.81 316 P P 15 33 28.1 -0.9
baz=47,SNR=63
P50A Jamestown 83.90 315 P P 15 33 28.6 -0.9
baz=48,SNR=26
V57A Coltrane Farms 83.97 310 P P 15 33 29.5 -0.4
baz=49,SNR=32
Q51A Peebles 84.03 315 P P 15 33 29.6 -0.5
baz=48,SNR=44
U56A King 84.04 311 P P 15 33 30.4 +0.1
baz=49,SNR=24
X59A McDuffie Farm, 84.08 309 P P 15 33 30.8 +0.3
baz=50
R52A Catlettsburg 84.08 314 P P 15 33 30.1 -0.3
baz=48,SNR=11
N47A Urbana 84.09 317 P P 15 33 29.4 -1.0
baz=46,SNR=46
W58A Raeford 84.19 309 P P 15 33 31.5 +0.5
baz=50,SNR=18
Y60A Bolivia 84.20 308 P P 15 33 31.2 +0.1
baz=50
S53A Williamson 84.21 313 P P 15 33 30.8 -0.4
baz=48,SNR=13
O48A Farmland 84.22 316 P P 15 33 30.2 -0.9
baz=47,SNR=61
CMJI Cimerak 84.26 104 P P 15 33 29.4 -2.2
comp=Z,270nm,1.6s,comp=Z,3µm
T54A Tazewell 84.30 312 P P 15 33 31.2 -0.5
baz=48,SNR=31
U55A TA2, Sparta 84.34 312 P P 15 33 32.1 +0.1
baz=49
KPJI Karang Pucung 84.37 103 P P 15 33 29.7 -2.5
comp=Z,244nm,1.4s,comp=Z,3µm
L44A Lake County Fo 84.39 319 P P 15 33 31.1 -0.8
baz=45,SNR=13
RCP Roxas 84.44 80 ⇑P P 15 33 32.7 +0.1
V56A Mocksville 84.46 311 P P 15 33 32.4 0.0
baz=49,SNR=19
Q50A Georgetown 84.52 315 P P 15 33 31.8 -0.9
baz=47,SNR=6.9
X58A Rowland 84.56 309 P P 15 33 33.0 +0.1
baz=50,SNR=8.1
W57A Gilead 84.58 310 P P 15 33 32.7 -0.3
baz=49,SNR=13
DLBC Dease Lake 84.58 350 P P 15 33 33.6 +0.9
comp=Z,122nm,0.9s,baz=0.6,slow=5.9,SNR=20
DLBC S S 15 43 47.7 -7.1
comp=Z,36nm,1.0s,baz=210,slow=4.3,SNR=3.8
Y59A Loris 84.63 308 P P 15 33 33.3 +0.1
baz=50,SNR=12
SPMN Marine on St. 84.65 324 P P 15 33 32.2 -1.0
baz=42,SNR=38
R51A Hillsboro 84.66 314 P P 15 33 33.0 -0.3
baz=48,SNR=36
S52A Salyersville 84.78 313 P P 15 33 34.1 +0.2
baz=48,SNR=7.8
U54A Nelsons Funny 84.80 312 P P 15 33 34.2 0.0
baz=48,SNR=15
V55A Taylorsville 84.87 311 P P 15 33 34.5 0.0
baz=49,SNR=16
P48A Milroy 84.92 316 P P 15 33 33.9 -0.7
baz=46,SNR=52
T53A Wise 84.92 313 P P 15 33 34.7 -0.1
baz=48,SNR=9.7
Q49A Aurora 84.93 315 P P 15 33 34.3 -0.4
baz=47,SNR=40
W56A Indian Trail 84.96 310 P P 15 33 34.9 0.0
baz=49,SNR=14
JFWS Jewell Farm 85.08 321 P P 15 33 34.3 -1.1
baz=44,SNR=67
X57A Johnson Farm, 85.09 309 P P 15 33 35.6 +0.1
baz=49
R50A Paris 85.10 315 P P 15 33 35.4 -0.2
baz=47,SNR=43
T52A Hallie 85.11 313 P P 15 33 35.7 +0.1
baz=48,SNR=33
S51A Beattyville 85.11 314 P P 15 33 35.5 -0.1
baz=48,SNR=17
Y58A Scranton 85.18 309 P P 15 33 36.1 +0.1
baz=49
SFIN Lafayette 85.21 318 P P 15 33 35.1 -0.9
baz=46,SNR=18
U53A Fall Branch 85.36 312 P P 15 33 36.7 -0.3
baz=48,SNR=13
Z59A Georgetown, SC 85.37 308 P P 15 33 37.1 +0.1
baz=50
V54A Nebo 85.37 311 P P 15 33 37.1 +0.1
baz=48,SNR=50
KMSC Kings Mountain 85.41 311 P P 15 33 37.2 0.0
baz=48,SNR=17
Q48A North Vernon 85.46 316 P P 15 33 37.1 -0.2
baz=46,SNR=59
S50A Richmond 85.55 314 P P 15 33 37.8 -0.1
baz=47,SNR=39
Y57A Sumter 85.57 309 P P 15 33 38.1 +0.1
baz=49,SNR=6.9
R49A Shelbyville 85.58 315 P P 15 33 37.6 -0.3
baz=47,SNR=48
Z58A St. Stephen 85.65 308 P P 15 33 38.7 +0.3
baz=49,SNR=8.7
X56A White Oak 85.66 310 P P 15 33 38.7 +0.3
baz=49,SNR=22
MDND Maddock 85.67 329 P P 15 33 37.5 -0.8
baz=38,SNR=10
T51A Gray 85.77 313 P P 15 33 39.1 +0.1
baz=47,SNR=43
U52A Thorn Hill 85.81 313 P P 15 33 39.3 +0.1
baz=48,SNR=32
TZTN Tazewell 85.82 313 P P 15 33 39.4 +0.2
baz=47,SNR=23
V53A Saluda 85.97 312 P P 15 33 39.8 -0.2
baz=48,SNR=27
W54A Cherokee Point 85.97 311 P P 15 33 39.7 -0.2
baz=48,SNR=23
S49A Springfield 85.99 315 P P 15 33 39.4 -0.6
baz=46,SNR=43
NHSC New Hope 86.03 308 P P 15 33 40.5 +0.2
baz=49,SNR=5.7
X55A Gracelyn & Ava 86.04 310 P P 15 33 40.6 +0.3
baz=48,SNR=15
U51A La Follette 86.21 313 P P 15 33 41.5 +0.3
baz=47,SNR=91
Z57A Bowman 86.24 309 P P 15 33 41.3 +0.1
baz=49,SNR=25
WOJI Wonogiri, Jawa 86.24 102 P P 15 33 39.7 -1.8
comp=Z,168nm,1.2s,comp=Z,2µmcomp=Z,2µm
T50A Nancy 86.25 314 P P 15 33 41.3 0.0
baz=47,SNR=95
WCI Wyandotte Cave 86.26 316 P P 15 33 41.0 -0.3
baz=46
WCI Wyandotte Cave 86.26 316 P P 15 33 40.7 -0.6
HDIL Hopedale 86.27 319 P P 15 33 40.7 -0.6
baz=44,SNR=31
158A Hollywood 86.28 308 P P 15 33 41.6 +0.2
baz=49
Y56A Pelion 86.29 310 P P 15 33 41.8 +0.3
baz=48
V52A Sevierville 86.32 312 P P 15 33 41.8 +0.1
baz=47,SNR=52
NGJI Ngawi 86.39 102 P P 15 33 42.0 -0.2
comp=Z,141nm,1.3s
X54A Belton 86.45 311 P P 15 33 42.8 +0.5
baz=48,SNR=44
W53A Cullowhee 86.51 312 P P 15 33 43.1 +0.3
baz=48,SNR=41
Y55A Saluda 86.53 310 P P 15 33 43.0 +0.3
baz=48,SNR=26
TKL Tuckaleechee C 86.55 312 P P 15 33 42.6 -0.3
comp=Z,199nm,1.0s,baz=83,slow=4.9,SNR=85
T49A Edmonton 86.60 314 P P 15 33 42.7 -0.3
baz=46,SNR=53
Z56A Williston 86.64 309 P P 15 33 43.3 +0.1
baz=48
PCJI Pacitan 86.66 103 P P 15 33 41.0 -2.6
comp=Z,375nm,1.6s,comp=Z,6µm
U50A Jamestown 86.67 314 P P 15 33 43.6 +0.2
baz=47,SNR=47
V51A Loudon 86.80 313 P P 15 33 44.2 +0.2
baz=47,SNR=25
157A Early Branch 86.83 309 P P 15 33 45.1 +0.9
baz=49,SNR=9.6
SMKI Samarinda 86.93 93 P P 15 33 45.6 +0.6
comp=Z,366nm,1.3s,comp=Z,5µmcomp=Z,4µm
DGMT Dagmar 86.99 332 P P 15 33 44.7 0.0
baz=35,SNR=9.9
W52A Murphy 87.03 312 P P 15 33 45.3 +0.1
baz=47,SNR=29
X53A Estanollee 87.04 311 P P 15 33 45.7 +0.4
baz=48,SNR=44
PWJI Pagerwojo 87.05 102 P P 15 33 43.4 -2.1
comp=Z,388nm,1.0s,comp=Z,4µm
Y54A Tignall 87.10 310 P P 15 33 46.0 +0.5
baz=48,SNR=80
U49A Red Boiling Sp 87.15 314 P P 15 33 45.4 -0.3
baz=46,SNR=48
BKB Balikpapan 87.15 94 P P 15 33 45.7 -0.3
156A Sylvania 87.16 309 P P 15 33 46.1 +0.3
baz=48,SNR=6.6
Z55A Blythe 87.19 310 P P 15 33 46.2 +0.3
baz=48
SCIA State Center 87.31 322 P P 15 33 45.3 -1.1
baz=42
257A Skidaway Islan 87.31 308 P P 15 33 46.3 -0.3
baz=48
V50A Pikevile 87.33 313 P P 15 33 46.8 +0.1
baz=46,SNR=35
X52A Dahlonega 87.34 312 P P 15 33 46.8 +0.1
baz=47,SNR=97
SJMB Sao Joao De Ma 87.47 245 eP P 15 33 48.9 +1.5
SJMB Sao Joao De Ma 87.47 245 eP P 15 33 48.9 +1.5
W51A Cleveland 87.48 313 P P 15 33 47.5 +0.2
baz=47,SNR=20
ECSD EROS Data Cent 87.56 325 P P 15 33 46.6 -1.0
baz=40,SNR=108
Z54A Sparta 87.61 310 P P 15 33 48.4 +0.4
baz=48,SNR=32
Y53A Monroe 87.65 311 P P 15 33 48.3 +0.2
baz=47,SNR=60
V49A McMinnville 87.74 314 P P 15 33 47.8 -0.8

baz=46,SNR=16
KBKI Kotabaru 87.76 96 P P 15 33 48.5 -0.4
comp=Z,184nm,1.1s,comp=Z,2µm
W50A Signal Mountai 87.78 313 P P 15 33 48.7 -0.1
baz=46,SNR=14
155A Kite 87.79 309 P P 15 33 49.2 +0.4
baz=48,SNR=9.7
256A Glennville 87.85 309 P P 15 33 49.5 +0.4
baz=48,SNR=7.3
GOGA Godfrey 87.88 311 P P 15 33 49.4 +0.2
baz=47,SNR=31
Y52A Lilburn 87.94 311 P P 15 33 49.6 +0.1
baz=47,SNR=44
X51A Calhoun 87.94 312 P P 15 33 49.6 0.0
baz=47,SNR=9.8
Z53A Monticello 88.03 311 P P 15 33 50.1 +0.1
baz=47,SNR=25
SUSD Miller 88.08 327 P P 15 33 49.3 -0.7
baz=38
CTBH Cotabato--PC H 88.16 82 ⇑P P 15 33 50.4 -0.5
KMMI Kalianget 88.20 100 P P 15 33 48.9 -2.1
comp=Z,232nm,1.2s,comp=Z,3µm
154A Montrose 88.20 310 P P 15 33 51.0 +0.2
baz=48,SNR=12
255A Hazlehurst 88.26 309 P P 15 33 51.5 +0.5
baz=48,SNR=12
W49A Belvidere 88.40 313 P P 15 33 51.0 -0.7
baz=46,SNR=14
GMJI Gumukmas 88.50 101 P P 15 33 50.8 -1.6
comp=Z,319nm,1.0s,comp=Z,4µm
Y51A Rockmart 88.52 312 P P 15 33 52.2 -0.1
baz=46,SNR=10
WVT Waverly 88.60 315 P P 15 33 51.4 -1.2
baz=45
WVT Waverly 88.60 315 P P 15 33 51.5 -1.1
Z52A Williamson 88.62 311 P P 15 33 52.6 -0.2
baz=47,SNR=13
153A Fort Valley 88.62 310 P P 15 33 52.7 -0.1
baz=47
MPSI Mapaga 88.65 91 P P 15 33 53.1 -0.1
comp=Z,274nm,1.1s,comp=Z,3µmcomp=Z,3µm
254A Abbeville 88.76 309 P P 15 33 53.3 -0.2
baz=47,SNR=5.0
PCRV Puerto La Cruz 88.85 282 P P 15 33 53.4 -0.8
comp=Z,20nm,0.9s,baz=135,slow=3.4,SNR=3.3
KCP Kidapawan 88.96 82 ⇑P P 15 33 53.6 -1.1
CCM Cathedral Cave 89.12 318 P P 15 33 54.3 -0.7
baz=43
CCM Cathedral Cave 89.12 318 P P 15 33 54.4 -0.7
CCM Cathedral Cave 89.12 318 P P 15 33 53.4 -1.6
152A Waverly Hall 89.16 311 P P 15 33 55.2 -0.1
baz=47,SNR=9.3
JAGI Jajag, Banyuwa 89.18 101 P P 15 33 53.5 -2.1
comp=Z,255nm,1.0s,comp=Z,3µmcomp=Z,2µm
253A Americus 89.21 310 P P 15 33 55.7 +0.2
baz=47
LAO LASA Array 89.23 332 P P 15 33 55.7 +0.2
baz=33,SNR=10
TIGA Tifton 89.29 309 P P 15 33 56.1 +0.2
baz=47
DAV Davao City (W) 89.32 82 LR LR 16 18 58.9
comp=Z,918nm,21.1s,baz=350,slow=39
EGMT Eagleton 89.37 335 P P 15 33 55.9 -0.3
baz=31,SNR=14
Z50A Ashland 89.49 312 P P 15 33 56.2 -0.7
baz=46,SNR=10
252A Lumpkin 89.63 310 P P 15 33 57.0 -0.5
baz=47,SNR=6.6
353A Camilla 89.75 309 P P 15 33 57.8 -0.2
baz=47
SRBI Singaraja 89.80 100 P P 15 33 56.9 -1.6
comp=Z,177nm,1.4s,comp=Z,3µmcomp=Z,2µm
BGNE Belgrade 90.08 325 P P 15 33 58.9 -0.6
baz=39,SNR=39
352A Blakely 90.10 310 P P 15 33 58.6 -1.1
baz=46
060A Indiantown 90.12 304 P P 15 33 58.6 -1.2
baz=49
DWPF Disney Wildern 90.13 305 P P 15 34 00.2 +0.3
baz=48
MRSI Marisa 90.23 89 P P 15 33 58.6 -1.9
comp=Z,129nm,1.0s,comp=Z,2µmcomp=Z,2µm
LRAL Lakeview Retre 90.29 312 P P 15 33 59.9 -0.7
baz=45,SNR=36
BBB Bella Bella 90.31 348 P P 15 34 00.5 +0.2
comp=Z,40nm,0.9s,baz=11,slow=3.1,SNR=9.8
RSSD Black Hills 90.50 330 P P 15 34 01.2 -0.5
baz=35
RSSD Black Hills 90.50 330 P P 15 34 00.7 -1.0
TTSI Tana Toraja 90.56 93 P P 15 33 59.6 -2.5
comp=Z,56nm,1.0s,comp=Z,786nm
OXF Oxford 90.66 315 P P 15 34 00.5 -1.7
baz=44
BDFB Brasilia 90.71 251 P P 15 34 04.3 +1.5
comp=Z,46nm,0.9s,baz=85,slow=3.0,SNR=57
BDFB PKKPbc PKKPbc 15 51 27.1 -0.6
comp=Z,3.1nm,0.7s,baz=200,slow=5.1,SNR=5.4
BDFB LR LR 16 15 47.9
comp=Z,2µm,21.9s,baz=73,slow=36
APSI Ampana 90.80 91 P P 15 34 01.2 -2.0
comp=Z,46nm,1.6s,comp=Z,761nm
SPSI Sidrap Palu 91.05 94 P P 15 34 02.1 -2.3
comp=Z,147nm,1.4s,comp=Z,1µm
KSU1 Kansas State U 91.12 322 P P 15 34 03.4 -0.9
baz=40,SNR=16
U40A Yellville 91.24 318 P P 15 34 04.0 -0.9
baz=42,SNR=14
NEW Newport 91.46 340 P P 15 34 05.7 -0.1
baz=25,SNR=125
NEW Newport 91.46 340 P P 15 34 05.3 -0.5
comp=Z,111nm,0.9s,baz=29,slow=4.5,SNR=148
X43A Marvell 91.49 316 P P 15 34 05.6 -0.5
baz=43,SNR=8.7
TWSI Taliwang, Sumb 91.52 100 P P 15 34 02.3 -4.2
comp=Z,59nm,1.1s
BNSI Bone 91.58 94 P P 15 34 05.8 -1.0
comp=Z,53nm,1.4s,comp=Z,1µm
RLMT Red Lodge 91.69 333 P P 15 34 07.4 +0.3
baz=31,SNR=91
W41B Gary Mavity, V 91.78 317 P P 15 34 06.6 -0.9
baz=42,SNR=18
LUWI Luwuk 91.78 90 P P 15 34 03.8 -4.0
comp=Z,56nm,1.1s
MSO Missoula 91.79 337 P P 15 34 06.7 -0.7
baz=28,SNR=21
KMSI Cibinong 91.82 88 P P 15 34 06.5 -1.5
comp=Z,116nm,0.9s,comp=Z,1µm
BKSI Bulukumba 92.13 95 P P 15 34 07.7 -1.6
comp=Z,42nm,0.8s,comp=Z,606nm
OGNE Ogallala 92.23 327 P P 15 34 08.5 -1.1
baz=36,SNR=12
IPMB Ipameri, GO 92.27 249 eP P 15 34 11.5 +1.5
IPMB Ipameri, GO 92.27 249 eP P 15 34 11.5 +1.5
PLAI Plampang 92.28 99 P P 15 34 07.1 -2.9
comp=Z,197nm,1.1s,comp=Z,2µm
A04D Lummi Island 92.49 343 P P 15 34 09.4 -1.1
baz=21
W39A Magazine 92.61 318 P P 15 34 10.4 -0.8
baz=42,SNR=15
X40A Basin Creek Fa 92.61 317 P P 15 34 10.5 -0.8
baz=42,SNR=7.0
K22A Casper 92.73 330 P P 15 34 10.8 -1.2
baz=33,SNR=38
B05A Bryant 92.77 343 P P 15 34 10.9 -0.8
baz=21,SNR=23
C06D Leavenworth 92.79 342 P P 15 34 11.0 -0.9
baz=22,SNR=5.0
H17A Grant Village 92.79 334 P P 15 34 13.7 +1.4
baz=30,SNR=69
CBKS Cedar Bluff 92.87 324 P P 15 34 11.5 -1.0
baz=38,SNR=32
VBMS Vicksburg 92.95 314 P P 15 34 12.6 -0.2
baz=44
MIAR Mount Ida 92.98 317 P P 15 34 12.8 -0.2
baz=42,SNR=32
TUL1 Leonard 93.14 320 P P 15 34 12.7 -1.0
baz=40,SNR=26
KDI Kendari 93.36 92 P P 15 34 14.0 -1.0
comp=Z,140nm,1.0s,comp=Z,1µm
Z41A Richland Creek 93.50 316 P P 15 34 15.4 -0.1
baz=42
ARAG Araguaiana, MT 93.69 253 eP P 15 34 18.0 +1.6
ARAG Araguaiana, MT 93.69 253 eP P 15 34 18.0 +1.6
D03D Eldon 93.69 343 P P 15 34 16.0 0.0
baz=20,SNR=22
BW06 Boulder Array 93.82 332 P P 15 34 15.4 -1.7
baz=31,SNR=31
PDAR Pinedale Array 93.82 332 P P 15 34 16.0 -1.1
comp=Z,18nm,0.8s,baz=58,slow=3.9,SNR=64
PDAR PP PP 15 38 00.9 -1.2
comp=Z,5.0nm,1.0s,baz=67,slow=6.9,SNR=2.6
PDAR PKKPbc PKKPbc 15 51 20.1 +0.2
comp=Z,1.2nm,0.8s,baz=158,slow=4.3,SNR=5.4
PDAR LR LR 16 20 37.7
comp=Z,1µm,19.1s,baz=32,slow=38
D04E Lakebay 93.95 343 P P 15 34 17.9 +0.7
baz=21,SNR=13
N23A Red Feather La 93.96 329 P P 15 34 16.9 -0.9
baz=33,SNR=30
CLDB Colider 94.00 260 eP P 15 34 18.8 +0.8
CLDB Colider 94.00 260 eP P 15 34 18.8 +0.8
KSCO Kaye Shedlock' 94.06 326 P P 15 34 17.5 -0.6
baz=36,SNR=5.1
SDV Santo Domingo 94.35 284 P P 15 34 19.5 -0.4
comp=Z,13nm,0.9s,baz=16,slow=4.8,SNR=11
SDV S SKSac 15 44 47.3 -3.1
comp=Z,1.6nm,0.2s,baz=213,slow=19,SNR=6.8
SDV Santo Domingo 94.35 284 eP P 15 34 20.7 +0.8
SDV Santo Domingo 94.35 284 eP P 15 34 20.7 +0.8
VAO Valinhos 94.36 245 eP P 15 34 20.8 +1.3
VAO Valinhos 94.36 245 eP P 15 34 20.8 +1.3
RCLB Rio Claro- Sao 94.42 246 eP P 15 34 21.4 +1.6
RCLB Rio Claro- Sao 94.42 246 eP P 15 34 21.4 +1.6
E04D Cinebar 94.48 342 P P 15 34 19.4 -0.2
baz=21,SNR=14
ELOV Elorza 94.58 282 eP P 15 34 21.7 +1.0
ELOV Elorza 94.58 282 eP P 15 34 21.7 +1.0
ISCO Idaho Springs 94.73 328 P P 15 34 20.4 -1.0
baz=34,SNR=23
F05D White Salmon 94.82 341 P P 15 34 21.1 -0.2
baz=22,SNR=17
SANI Sanana 94.98 89 P P 15 34 19.8 -2.7
comp=Z,73nm,1.0s,comp=Z,881nm
F04D Rainier, OR 95.03 342 P P 15 34 22.7 +0.5
baz=21
Q24A Divide 95.23 327 P P 15 34 22.4 -1.3
baz=34,SNR=9.5
G05D Wamic, OR 95.38 341 P P 15 34 24.1 +0.2
baz=22
O20A White River Ci 95.55 330 P P 15 34 23.3 -1.6
baz=32,SNR=9.4
WMOK Wichita Mounta 95.60 321 P P 15 34 24.1 -1.0
baz=38,SNR=45
NATX Nacogdoches 95.66 316 P P 15 34 25.3 0.0
baz=41
G03D McMinnville, O 95.91 342 P P 15 34 26.6 +0.4
baz=20,SNR=9.6
I05D Terrebonne, OR 96.23 341 P P 15 34 27.6 -0.2
baz=22,SNR=13
SDCO Great Sand Dun 96.39 327 P P 15 34 27.5 -1.5
baz=34,SNR=17
T25A Trinidad 96.40 326 P P 15 34 27.9 -1.0
baz=35,SNR=24
H04D Lebanon 96.42 342 P P 15 34 28.4 -0.2
baz=21,SNR=7.8
COR Corvallis 96.50 342 P P 15 34 30.7 +1.8
SALV Santo Antonio 96.83 255 eP P 15 34 32.3 +1.5
SALV Santo Antonio 96.83 255 eP P 15 34 32.3 +1.5
AMTX Amarillo 96.94 323 P P 15 34 30.2 -1.1
baz=37
S22A 4UR Ranch, Cre 96.97 328 P P 15 34 30.6 -1.0
baz=33,SNR=34
I04A Tendick Farm, 97.02 341 P P 15 34 30.5 -0.9
baz=21,SNR=16
WHTX Lake Whitney, 97.03 318 P P 15 34 30.6 -1.0
baz=39,SNR=6.0
I02D Swisshome 97.09 342 P Pdif 15 34 31.8 +0.1
baz=20
SMLC San Martn de 97.09 286 eP P 15 34 31.1 -1.1
SMLC San Martn de 97.09 286 eP P 15 34 31.1 -1.1
PP1B Ponte de Pedra 97.17 254 eP Pdif 15 34 34.5 +2.1
PP1B Ponte de Pedra 97.17 254 eP Pdif 15 34 34.5 +2.1
J05D Fort Rock, OR 97.17 340 P Pdif 15 34 32.6 +0.4
baz=22,SNR=26
DUG Dugway, Tooele 97.26 333 P P 15 34 32.3 -0.4
baz=28,SNR=26
SJCC San Jacinto, C 97.28 288 eP Pdif 15 34 34.0 +0.9
SJCC San Jacinto, C 97.28 288 eP Pdif 15 34 34.0 +0.9
I03D Drain, OR 97.35 342 P Pdif 15 34 32.9 +0.1
baz=20,SNR=12
J04D Umpqua Nationa 97.45 341 P P 15 34 33.3 -0.3
baz=21,SNR=7.9
HKT Hockley 97.69 316 P Pdif 15 34 35.7 +1.2
ABTX Abilene, Hawle 97.70 320 P P 15 34 34.0 -0.6
baz=38,SNR=15
AAI Ambon 97.72 89 P P 15 34 33.4 -1.5
comp=Z,75nm,1.1s,comp=Z,1µm
BATI Baumata 97.80 97 LR LR 16 23 30.1
comp=Z,1µm,21.1s,baz=292,slow=38
K04D Chiloquin, OR 97.93 340 P P 15 34 35.5 -0.1
baz=22,SNR=5.2
J01E Myrtle Point 98.00 342 P P 15 34 35.7 0.0
baz=20,SNR=5.1
435B Jarrell 98.03 317 P P 15 34 35.6 -0.5
baz=40
SOEI Soe 98.03 96 P P 15 34 34.9 -1.5
comp=Z,96nm,1.3s
RUSC La Rusia 98.09 283 eP P 15 34 36.6 -0.6
RUSC La Rusia 98.09 283 eP P 15 34 36.6 -0.6
MSAI Masohi 98.11 88 P P 15 34 34.6 -2.1
comp=Z,12nm,1.1s
MVCO Mesa Verde 98.13 329 P P 15 34 35.6 -1.1
baz=32,SNR=6.5
MSTX Muleshoe 98.21 323 P P 15 34 35.7 -1.3
baz=36,SNR=8.2
K02D Willamette Mer 98.37 342 P P 15 34 37.3 -0.2
baz=20
L04D Klamath Falls 98.46 341 P P 15 34 37.5 -0.4
baz=21,SNR=12
SWI Sorong 98.55 85 P P 15 34 37.2 -1.5
comp=Z,40nm,1.2s,comp=Z,942nm
M04C Macdoel 98.73 340 P Pdif 15 34 39.2 0.0
baz=22,SNR=31
PTBC PUERTO BERRIO, 98.78 285 eP P 15 34 39.4 -0.4
PTBC PUERTO BERRIO, 98.78 285 eP P 15 34 39.4 -0.4
L02E Cave Junction 98.86 341 P Pdif 15 34 39.8 +0.2
baz=20
UREC San Jos de Ur 98.88 286 eP Pdif 15 34 41.9 +1.8
UREC San Jos de Ur 98.88 286 eP Pdif 15 34 41.9 +1.8
SPBC San Pablo de B 99.02 284 eP Pdif 15 34 40.9 0.0
SPBC San Pablo de B 99.02 284 eP Pdif 15 34 40.9 0.0
YBH Yreka Blue Hor 99.02 341 P Pdif 15 34 39.5 -1.0
comp=Z,8.6nm,0.8s,baz=38,slow=1.5,SNR=12
YBH PP PP 15 38 41.6 -0.3
comp=Z,2.1nm,0.7s,baz=30,slow=8.2,SNR=3.8
YBH PKKPbc PKKPbc 15 51 05.6 -0.2
comp=Z,1.6nm,0.7s,baz=138,slow=6.3,SNR=3.5
ANMO Albuquerque 99.14 326 P Pdif 15 34 40.7 -0.6
baz=33
ANMO Albuquerque 99.14 326 P Pdif 15 34 40.6 -0.6
comp=Z,2.3nm,0.7s,baz=38,slow=4.0,SNR=4.8
M02C Callahan 99.37 341 P Pdif 15 34 41.6 -0.4
baz=21,SNR=7.4
JCT Junction City 99.46 319 P Pdif 15 34 42.1 -0.5
baz=38,SNR=10
N02D Trinity Center 99.72 340 P Pdif 15 34 43.2 -0.3
baz=21,SNR=9.9
R11A Troy Canyon, C 99.89 334 P Pdif 15 34 44.0 -0.5
baz=27,SNR=18
Y22D IRIS PASSCAL I 100.08 326 P Pdif 15 34 44.6 -0.8
baz=33
O03E Paynes Creek 100.10 339 P Pdif 15 34 44.6 -0.6
baz=22,SNR=8.3
GUY2C Guyana, Caldas 100.29 284 eP Pdif 15 34 51.7 +4.7
GUY2C Guyana, Caldas 100.29 284 eP Pdif 15 34 51.7 +4.7
CBOC Ciudad Bolivar 100.41 285 eP Pdif 15 34 48.3 +1.1
CBOC Ciudad Bolivar 100.41 285 eP Pdif 15 34 48.3 +1.1
W18A Petrified Fore 100.44 328 P Pdif 15 34 46.1 -0.9
baz=31
O02D Mt. Diablo Mer 100.49 340 P Pdif 15 34 47.0 0.0
baz=21
NVAR Mina Array Bea 100.74 336 P Pdif 15 34 47.8 -0.6
comp=Z,2.6nm,0.9s,baz=42,slow=3.6,SNR=13
NVAR PP PP 15 38 47.8 -7.5
comp=Z,2.0nm,1.0s,baz=36,slow=7.0,SNR=4.1
NVAR PKiKP PKiKP 15 39 14.6 +0.5
comp=Z,4.4nm,0.9s,baz=50,slow=4.2,SNR=3.7
NVAR PKKPbc PKKPbc 15 51 00.9 -0.1
comp=Z,3.0nm,0.8s,baz=201,slow=5.0,SNR=13
WUAZ Wupatki 100.78 330 P Pdif 15 34 48.2 -0.3
baz=30,SNR=14
CNLB Canela 100.89 242 eP Pdif 15 34 50.2 +1.5
CNLB Canela 100.89 242 eP Pdif 15 34 50.2 +1.5
833A Chaparral WMA, 100.92 317 P Pdif 15 34 49.0 -0.1
baz=39
ORTC Ortega, Tolima 101.00 283 eP Pdif 15 34 49.4 -0.3
ORTC Ortega, Tolima 101.00 283 eP Pdif 15 34 49.4 -0.3
SIV San Ignacio 101.12 258 P Pdif 15 34 51.7 +1.7
comp=Z,0.5nm,0.5s,baz=94,slow=7.9,SNR=3.3
SIV PP PP 15 38 51.0 -8.6
comp=Z,3.0nm,1.1s,baz=108,slow=6.3,SNR=3.5
MNTX Cornudas Mount 101.32 323 P Pdif 15 34 49.7 -1.1
baz=34,SNR=17
TPNV Topopah Spring 101.38 334 P Pdif 15 34 50.3 -0.8
baz=26
GRAC Grapevine Rang 101.72 335 P Pdif 15 34 52.9 +0.4
baz=25
121A Cookes Peak, D 101.76 326 P Pdif 15 34 52.8 -0.2
baz=33
FURC Furnace Creek, 102.03 334 P Pdif 15 34 54.2 +0.4
baz=26
SHOC Shoshone, Teco 102.33 334 P Pdif 15 34 55.4 +0.2
baz=26
TXAR Lajitas Array 102.39 321 P Pdif 15 34 55.5 -0.2
comp=Z,14nm,0.9s,baz=63,slow=3.8,SNR=49
TXAR PP PP 15 38 58.8 -9.2
comp=Z,2.2nm,0.8s,baz=51,slow=7.1,SNR=3.4
TXAR PKKPbc PKKPbc 15 50 55.8 -0.1
comp=Z,1.6nm,0.9s,baz=189,slow=5.6,SNR=6.6
CWC Cottonwood Cre 102.47 335 P Pdif 15 34 56.3 +0.3
baz=25
TUQ Turquoise Moun 102.61 333 P Pdif 15 34 56.8 +0.2
baz=27
MPMC Manual Prospec 102.61 335 P Pdif 15 34 56.8 +0.1
baz=25,SNR=5.5
GSC Goldstone, Bar 103.05 334 P Pdif 15 34 58.6 +0.1
baz=26,SNR=5.6
GMRC Granite Mounta 103.09 333 P Pdif 15 34 58.8 +0.1
baz=27
LRMC Laurel Mtn Rad 103.20 334 P Pdif 15 34 59.0 -0.2
baz=25,SNR=5.3
TUC Tucson 103.29 328 P Pdif 15 34 59.6 0.0
baz=31
TUC Tucson 103.29 328 P Pdif 15 34 55.6 -4.0
HEC Hector,Ludlow 103.30 333 P Pdif 15 34 59.8 +0.2
baz=26
ISA Isabella, Lake 103.31 335 P Pdif 15 34 59.9 +0.3
baz=25
IRM Iron Mountain 103.45 332 P Pdif 15 35 00.3 +0.1
baz=27,SNR=5.5
Y12C Blythe 103.58 331 P Pdif 15 35 01.2 +0.5
baz=28
FITZ Fitzroy Crossi 103.83 102 Pdiff Pdif 15 35 00.5 -1.5
comp=Z,14nm,0.7s,baz=266,slow=3.7,SNR=11
EDW2 Edwards Air Fo 103.85 334 P Pdif 15 35 02.5 +0.4
baz=25
BELC Belle Mtn. Jos 103.92 332 P Pdif 15 35 02.9 +0.5
baz=27
CPUP Villa Florida 103.96 248 PP PP 15 39 18.1 -2.6
comp=Z,3.8nm,1.1s,baz=63,slow=9.9,SNR=4.0
CPUP PKKPbc PKKPbc 15 50 50.4 -0.9
comp=Z,1.4nm,0.9s,baz=268,slow=5.5,SNR=2.9
BC3 Big Chuckawall 104.02 332 P Pdif 15 35 03.0 +0.2
baz=27
SMMC Simmler 104.14 336 P Pdif 15 35 03.6 +0.4
baz=24
GLA Glamis 104.31 331 P Pdif 15 35 04.1 +0.1
baz=28
PFO Pinyon Flats O 104.44 333 P Pdif 15 35 04.9 +0.1
baz=26,SNR=8.4
PFO Pinyon Flats O 104.44 333 P Pdif 15 35 06.0 +1.3
PFO Pinyon Flats O 104.44 333 Pdiff Pdif 15 35 05.5 +0.8
comp=Z,4.3nm,0.8s,baz=27,slow=5.5,SNR=7.0
214A Organ Pipe Nat 104.45 329 P Pdif 15 35 04.3 -0.5
baz=29
PKM Mcpherson Peak 104.47 336 P Pdif 15 35 05.2 +0.3
baz=24
SYO Syowa Base 104.93 177⇑ epPdiff pPdif 15 35 17.4 -4.2
MONP2 Monument Peak 105.06 332 P Pdif 15 35 07.9 +0.2
baz=26
MAW Mawson 106.05 168 PKiKP PKiKP 15 39 22.0 -0.2
comp=Z,3.8nm,0.8s,baz=225,slow=2.9,SNR=5.6
MAW PKKPbc PKKPbc 15 50 44.0 -2.3
comp=Z,11nm,1.0s,baz=181,slow=1.8,SNR=9.3
MAW PKKP PKKPdf 15 50 58.4 +0.1
comp=Z,7.9nm,0.9s,baz=155,slow=2.8,SNR=6.8
LPAZ La Paz 106.92 262 PKiKP PKiKP 15 39 26.2 0.0
comp=Z,4.9nm,0.8s,baz=61,slow=3.4,SNR=11
LPAZ PKKPbc PKKPbc 15 50 44.2 +1.4
comp=Z,1.7nm,0.7s,baz=225,slow=1.1,SNR=6.9
ATAH Atahualpa 110.09 276 PKiKP PKiKP 15 39 32.5 +0.5
comp=Z,11nm,0.9s,baz=62,slow=3.0,SNR=5.6
SNAA Sanae 110.10 191 PKiKP PKiKP 15 39 30.5 +0.6
comp=Z,1.2nm,0.2s,baz=55,slow=2.3,SNR=2.8
LVC Limon Verde 110.91 257 PKiKP PKiKP 15 39 33.5 +0.3
comp=Z,10.0nm,0.9s,baz=90,slow=4.2,SNR=7.9
NNA Nana 111.60 271 PKiKP PKiKP 15 39 34.5 +0.2
comp=Z,4.1nm,0.4s,baz=322,slow=3.3,SNR=5.4
WRA Warramunga Arr 111.74 99 Pdiff Pdif 15 35 36.0 -1.2
comp=Z,2.4nm,0.8s,baz=312,slow=4.1,SNR=8.5
WRA PKiKP PKiKP 15 39 33.8 -0.6
comp=Z,10nm,1.0s,baz=297,slow=2.0,SNR=17
WRA PP PP 15 40 14.2 -3.5
comp=Z,5.8nm,0.9s,baz=300,slow=8.5,SNR=7.4
WRA SKP 15 43 03.8
comp=Z,5.6nm,1.0s,baz=316,slow=2.1,SNR=6.2
WRA PKPbc PKKPbc 15 50 25.8 -1.0
comp=Z,2.5nm,0.7s,baz=120,slow=2.6,SNR=10
ASAR Alice Springs 113.31 103 Pdiff Pdif 15 35 43.5 -0.6
comp=Z,2.3nm,1.0s,baz=304,slow=4.3,SNR=6.1
ASAR PKiKP PKiKP 15 39 36.8 -0.6
comp=Z,10nm,0.8s,baz=307,slow=1.4,SNR=50
ASAR PP PP 15 40 27.4 -1.6
comp=Z,11nm,1.1s,baz=301,slow=6.4,SNR=7.4
ASAR SKP 15 43 06.7
comp=Z,5.8nm,0.7s,baz=326,slow=1.7,SNR=8.4
ASAR PKKPbc PKKPbc 15 50 20.9 -0.7
comp=Z,3.1nm,0.9s,baz=117,slow=3.9,SNR=18
CFA Coronel Fontan 114.86 248 PKP PKiKP 15 39 40.4 +0.3
comp=Z,9.3nm,0.8s,baz=28,slow=1.8,SNR=13
PLCA Paso Flores 120.50 240 PKP PKiKP 15 39 51.4 +0.6
comp=Z,27nm,0.9s,baz=95,slow=1.9,SNR=42
PLCA SKP 15 43 21.1
comp=Z,14nm,1.1s,baz=63,slow=3.1,SNR=6.5
PLCA PKPbc PKKPbc 15 49 57.1 +0.5
comp=Z,3.0nm,0.8s,baz=235,slow=4.9,SNR=6.5
STKA Stephens Creek 123.15 108 PKP PKPdf 15 39 55.0 -0.9
comp=Z,27nm,0.9s,baz=346,slow=2.9,SNR=26
STKA SKP 15 43 25.9
comp=Z,10nm,0.9s,baz=9.5,slow=3.0,SNR=4.2
USHA Ushuaia 123.87 223 PKP PKiKP 15 39 57.4 +0.5
comp=Z,12nm,0.7s,baz=3.0,slow=2.5,SNR=12
PMSA Palmer Station 124.19 211 PKP PKiKP 15 39 57.6 +0.5
comp=Z,36nm,0.8s,baz=18,slow=1.8,SNR=10
HNR Honiara 126.48 73 PKiKP PKPdf 15 40 02.0 -0.9
HNR Honiara 126.48 73 PKP PKPdf 15 40 02.0 -0.9
comp=Z,41nm,1.0s,baz=98,slow=3.6,SNR=4.7
VNDA Vanda 133.35 167 PKP PKiKP 15 40 14.7 -0.6
comp=Z,6.6nm,1.1s,baz=262,slow=3.0,SNR=8.0
VNDA SKPbc SKPbc 15 43 36.8 -0.4
comp=Z,10nm,1.0s,baz=225,slow=2.9,SNR=6.0
DZM Mont Dzumac 138.73 83 PKhKP PKPpre 15 40 18.2
comp=Z,6.1nm,0.8s,baz=212,slow=5.0,SNR=12
DZM PKP PKPdf 15 40 26.5 +0.7
comp=Z,34nm,0.8s,baz=54,slow=9.4,SNR=18
DZM PP PP 15 43 17.8 0.0
comp=Z,10nm,1.1s,baz=333,slow=9.2,SNR=3.5
DZM Mont Dzumac 138.73 83 ePKiKP PKiKP 15 40 26.9 -1.1
comp=Z,141nm,1.1s
DZM Mont Dzumac 138.73 83 ePP PP 15 43 11.1 -6.7
comp=Z,749nm,25.7s
DZM Mont Dzumac 138.73 83 eLR LR 16 25 26.8
comp=Z,2µm,23.8s
RPZ Rata Peaks 148.41 117 PKPbc PKPbc 15 40 45.9 +0.3
comp=Z,245nm,1.0s,baz=119,slow=1.0,SNR=49
AFI Afiamalu 149.75 49 PKP2 PKPbc 15 40 50.0 +0.2
AFI Afiamalu 149.75 49 PKPbc PKPbc 15 40 50.0 +0.2
comp=Z,156nm,1.0s,baz=222,slow=1.0,SNR=3.7
TAOE Nuku Hiva Isla 151.83 342 ePKiKP PKiKP 15 40 55.0 -0.2
comp=Z,813nm,0.9s
TAOE Nuku Hiva Isla 151.83 342 eLR LR 16 31 16.7
comp=Z,1µm,23.3s
URZ Urewera 152.74 105 PKPbc PKPbc 15 40 54.2 -1.8
comp=Z,105nm,0.9s,baz=355,slow=3.1,SNR=30
PPT2 Papeete2 161.59 3 eLR LR 16 36 06.6
comp=Z,3µm,25.8s
TVO Taravao 161.80 2 ePKiKP PKPdf 15 40 59.7 -1.2
comp=Z,48nm,1.3s
TBI Tubuai 167.32 3 eLR LR 16 38 42.1
comp=Z,2µm,39.5s

*ISCJB **28** 15:25:15.9±0.7,4.˚98N±0.˚05×95.˚77E±0.˚06,h10km,*

mb4.2/4, Error ellipse: s-maj=8.0km s-min=6.4km az=164.3
IDC ***28*** *15:25:15.5±1.2, 4.°27N×95.°20E, h0km, mb4.2/4, mb1 4.3/6, mb1mx4.0/55, mbtmp4.1/6, ML4.0/2, Error ellipse: s-maj=62.8km s-min=20.3km az=38.0*
NEIC ***28*** *15:25:17.2±2.7, 4.°79N±0.°09×95.°75E±0.°07, h10km±2km, mb4.6/5*
DJA ***28*** *15:25:21.2±0.9, 5.°N±4.°×9.°6E±.°, h16km±5km, M4.2/6, mb4.3/1, MLv4.2/6*

ISC 28 15:25:17.5±0.8, 4.°87N±0.°05×95.°85E±0.°07, h10km, n26, σ2°03/28, mb4.4/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.82**	**138**	P	**Pb**	**15 25 34.3**	**+0.5**
MLSI				S	**Sb**	**15 25 46.3**	**+1.4**
LHMI	**Lhok Sumawe**	**1.15**	**72**	P	**Pn**	**15 25 38.6**	**-1.0**
LHMI				S	**Sb**	**15 25 53.9**	**-0.5**
LHMI	**Lhok Sumawe**	**1.15**	**72**		**Pn**	**15 25 39.2**	**-0.4**
SNSI	**Sinabang, Aceh**	**2.49**	**169**	P	**Pb**	**15 26 00.5**	**-1.9**
SNSI				S	**Sb**	**15 26 30.5**	**-2.7**
PSI	**Prapat**	**3.69**	**124**	Pn	**Pn**	**15 26 18.8**	**+4.0**
	9.5nm,0.3s,baz=292,slow=13,SNR=23						
PSI				Sn	**Sb**	**15 27 06.6**	**-1.3**
	6.0nm,0.3s,baz=262,slow=16,SNR=4.2						
RPSI	**Rantau Prapat**	**3.75**	**125**		**Pn**	**15 26 19.1**	**+3.6**
RPSI	**Rantau Prapat**	**3.75**	**125**		**Pn**	**15 26 18.8**	**+3.3**
RPSI					**Sb**	**15 27 06.6**	**-2.9**
GSI	**Gunungsitoli**	**3.94**	**154**	P	**Pb**	**15 26 22.5**	**-4.6**
GSI	**Gunungsitoli**	**3.94**	**154**	Pn	**Pn**	**15 26 20.5**	**+2.4**
KULM	**Kulim**	**4.80**	**85**		**Pn**	**15 26 29.9**	**0.0**
IPM	**Ipoh**	**5.17**	**94**		**Pn**	**15 26 35.2**	**+0.2**
PBKT	**Sadao Pong**	**12.66**	**23**	Pn	**Pn**	**15 28 19.1**	**+1.3**
CMAR	**Chiang Mai Arr**	**13.84**	**12**	Pn	**P**	**15 28 43.3**	**+1.1**
	0.3nm,0.3s,baz=205,slow=11,SNR=11						
UBPT	**Khong Chiam**	**14.01**	**42**		**P**	**15 28 45.9**	**+1.7**
H08S2	**Diego Garcia H**	**26.42**	**242**	T	T	15 57 50.2	
	baz=62,slow=75,SNR=157						
H08S3	**Diego Garcia H**	**26.42**	**242**	T	T	15 57 56.8	
	baz=62,slow=75,SNR=130						
H08S1	**Diego Garcia H**	**26.43**	**242**	T	T	15 57 54.4	
	baz=62,slow=75,SNR=52						
MTN	**Manton Dam**	**39.22**	**117**	P	**P**	**15 32 45.7**	**-0.7**
MTN				IAmb	IAmb	15 32 55.0	
	comp=Z,18nm,1.2s						
MK31	**Makanchi Array**	**43.38**	**346**	P	**P**	**15 33 20.6**	**+0.5**
WRA	**Warramunga Arr**	**45.16**	**124**	P	**P**	**15 33 36.2**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=302,slow=9.2,SNR=13						
WRAB	**Tennant Creek**	**45.16**	**124**	P	**P**	**15 33 33.8**	**-1.0**
WRAB				IAmb	IAmb	15 33 51.8	
	comp=Z,4.3nm,0.9s						
WR0	**Warramunga Arr**	**45.33**	**124**	P	**P**	**15 33 35.8**	**-0.3**
WR0				IAmb	IAmb	15 33 36.4	
	comp=Z,15nm,1.4s						
ASAR	**Alice Springs**	**46.71**	**129**	P	**P**	**15 33 47.5**	**+0.5**
	comp=Z,2.1nm,0.4s,baz=299,slow=7.9,SNR=39						
AS31	**Alice Springs**	**46.71**	**129**	P	**P**	**15 33 46.6**	**-0.4**
BRTR	**Keskin Array B**	**65.67**	**312**	P	**P**	**15 36 01.6**	**-0.9**
	comp=Z,2.5nm,1.0s,baz=130,slow=5.8,SNR=4.0						
GERES	**GERESS Array B**	**81.18**	**319**	P	**P**	**15 37 33.3**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=79,slow=5.1,SNR=3.6						

IDC ***28*** *15:26:52.6±0.7, 58.°50S×25.°17W, h0km, mb4.4/8, mb1 4.5/10, mb1mx4.2/44, mbtmp4.4/10, ML4.4/2, Error ellipse: s-maj=25.5km s-min=18.7km az=65.0*
ISCJB ***28*** *15:26:53.5±0.4, 58.°53S±0.°07×25.°1W±0.°1, h28km, mb4.3/8, Error ellipse: s-maj=12.1km s-min=7.6km az=137.4*
NEIC ***28*** *15:26:53.9±2.2, 58.°5S±0.°1×25.°2W±0.°2, h10km±2km, mb4.6/21*

ISC 28 15:26:55.6±0.5, 58.°49S±0.°09×25.°15W±0.°09, h28km, n49, σ1°14/47, mb4.5/15, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.57**	**299**	Pn	**Pn**	**15 28 41.8**	**-2.2**
VNA1	**Neumayer--Stat**	**14.11**	**157**	P	**Pn**	**15 30 11.8**	**-1.4**
VNA2	**Neumayer--Watz**	**14.51**	**156**	P	**Pn**	**15 30 16.9**	**-1.8**
	baz=320,slow=15						
SNAA	**Sanae**	**16.06**	**154**	Pn	**Pn**	**15 30 37.9**	**-1.2**
	3.8nm,0.3s,baz=330,slow=13,SNR=20						
SNAA				Sn	Sn	15 33 25.3	-11
	0.4nm,0.3s,baz=342,slow=19,SNR=3.0						
SNAA	**Sanae**	**16.06**	**154**		**Pn**	**15 30 38.3**	**-0.8**
PMSA	**Palmer Station**	**19.26**	**235**	P	**Pn**	**15 31 19.0**	**+0.4**
	0.4nm,0.3s,baz=79,slow=10,SNR=2.7						
PMSA	**Palmer Station**	**19.26**	**235**	P	**P**	**15 31 17.1**	**-0.3**
PMSA				IAmb	IAmb	15 31 24.5	
	comp=Z,37nm,1.5s						
EFI	**East Falkland**	**19.88**	**276**	P	**Pn**	**15 31 26.1**	**0.0**
GO10	**Punta Arenas**	**25.91**	**262**	P	**P**	**15 32 26.3**	**+1.4**
GO09	**Cerro Castillo**	**27.59**	**264**	P	**P**	**15 32 38.8**	**-1.2**
GO09				IAmb	IAmb	15 32 53.6	
	comp=Z,15nm,1.0s						
TRQA	**Tornquist**	**31.32**	**294**	P	**P**	**15 33 11.9**	**-1.4**
TRQA				IAmb	IAmb	15 33 28.2	
	comp=Z,15nm,1.4s						
QSPA	**South Pole Qui**	**31.75**	**180**	P	**P**	**15 33 18.0**	**+1.1**
	comp=Z,8.1nm,1.0s,baz=176,slow=1.0,SNR=5.0						
QSPA	**South Pole Qui**	**31.75**	**180**	P	**P**	**15 33 18.1**	**+1.1**
QSPA				IAmb	IAmb	15 33 18.5	
	comp=Z,6.4nm,0.8s						
PLCA	**Paso Flores**	**33.55**	**282**	P	**P**	**15 33 33.7**	**+0.9**
	comp=Z,7.8nm,1.1s,baz=164,slow=7.5,SNR=5.4						
PLCA	**Paso Flores**	**33.55**	**282**		**P**	**15 33 32.3**	**-0.5**
PLCA				IAmb	IAmb	15 33 38.4	
	comp=Z,13nm,1.4s						
GO06	**Curarrehue**	**34.88**	**282**	P	**P**	**15 33 44.0**	**-0.4**
GO06				IAmb	IAmb	15 33 57.4	
	comp=Z,8.7nm,1.1s						
MAW	**Mawson**	**37.54**	**141**	P	**P**	**15 34 05.4**	**-1.2**
CPUP	**Villa Florida**	**39.26**	**311**	P	**P**	**15 34 22.4**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=169,slow=10,SNR=3.1						
CPUP	**Villa Florida**	**39.26**	**311**	IAmb	IAmb	15 34 29.9	
	comp=Z,5.5nm,1.4s						
CFA	**Coronel Fontan**	**39.55**	**294**	P	**P**	**15 34 24.5**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=143,slow=5.1,SNR=2.5						
GO04	**Tololo Observa**	**41.97**	**292**	P	**P**	**15 34 43.1**	**-1.1**
GO04				IAmb	IAmb	15 34 52.7	
	comp=Z,13nm,1.1s						
VNDA	**Vanda**	**44.18**	**182**	P	**P**	**15 35 02.6**	**+1.4**
	comp=Z,6.2nm,0.8s,baz=196,slow=7.7,SNR=14						
VNDA	**Vanda**	**44.18**	**182**	P	**P**	**15 35 02.3**	**+1.1**
VNDA				IAmb	IAmb	15 35 03.9	
	comp=Z,7.1nm,0.8s						
BOSA	**Boshof**	**45.59**	**72**	P	**P**	**15 35 12.3**	**-0.8**
GO01	**Chusmiza**	**50.17**	**301**	P	**P**	**15 35 49.6**	**+0.5**
GO01				IAmb	IAmb	15 36 06.5	
	comp=Z,5.3nm,1.1s						
PB11	**IPOC Station P**	**50.30**	**301**	P	**P**	**15 35 49.8**	**+0.2**
PB11				IAmb	IAmb	15 35 50.8	
	comp=Z,6.3nm,1.0s						
LPAZ	**La Paz**	**52.69**	**305**	P	**P**	**15 36 08.9**	**+0.8**
	comp=Z,1.2nm,0.5s,baz=105,slow=5.1,SNR=4.9						
LPAZ	**La Paz**	**52.69**	**305**	IAmb	IAmb	15 36 13.8	
	comp=Z,2.7nm,1.0s						
SAML	**Samuel**	**57.30**	**314**	P	**P**	**15 36 40.4**	**-0.3**
DBIC	**Dimbokro**	**66.97**	**22**	P	**P**	**15 37 44.3**	**-1.2**
MDP	**Montagnes des**	**67.11**	**330**	P	**P**	**15 37 47.8**	**+1.4**
	comp=Z,6.0nm,0.8s,baz=174,slow=6.7,SNR=4.1						
OTAV	**Otavalo**	**71.92**	**302**	P	**P**	**15 38 15.5**	**-1.2**
OTAV				IAmb	IAmb	15 38 19.1	
	comp=Z,7.9nm,1.4s						
TOA0	**Torodi Ar. Sit**	**74.68**	**27**	P	**P**	**15 38 32.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**74.68**	**27**	P	**P**	**15 38 34.4**	**+2.1**
	comp=Z,1.8nm,0.4s,baz=202,slow=6.3,SNR=19						
CMAR	**Chiang Mai Arr**	**123.18**	**110**	PKP	**PKiKP**		**15 45 49.9**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=226,slow=3.9,SNR=4.3						
YKA	**Yellowknife Ar**	**138.71**	**315**	PKP	**PKiKP**		**15 46 18.6**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=135,slow=2.3,SNR=11						
INK	**Inuvik**	**148.38**	**318**	PKPbc	**PKiKP**		**15 46 38.9**	**-0.2**
	comp=Z,8.7nm,0.9s,baz=94,slow=2.5,SNR=13						
INK	**Inuvik**	**148.38**	**318**		**PKiKP**		**15 46 39.0**	**0.0**
CTGM	**Chitina Glacie**	**148.86**	**302**		**PKiKP**		**15 46 41.0**	**+0.5**
EPYK	**Eagle Plains**	**148.94**	**313**		**PKiKP**		**15 46 40.7**	**+0.3**
BARN	**Barnard Glacie**	**149.04**	**302**	PKPbc	**PKiKP**		**15 46 41.6**	**+0.6**
DAWY	**Dawson**	**149.22**	**308**		**PKiKP**		**15 46 41.2**	**+0.2**
CRQM	**Cirque**	**149.58**	**301**	PKPbc	**PKiKP**		**15 46 42.7**	**+0.6**
SONM	**Songino Array**	**149.71**	**89**	PKPbc	**PKPbc**		**15 46 42.5**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=227,slow=1.5,SNR=10.0						
SCRK	**Sand Creek**	**151.10**	**307**		**PKiKP**		**15 46 46.9**	**+1.9**
IL31		**152.53**	**308**		**PKiKP**		**15 46 49.3**	**+1.6**
ILAR	**Eielson Array**	**152.53**	**308**	PKPbc	**PKiKP**		**15 46 49.0**	**+1.2**
	comp=Z,5.5nm,0.9s,baz=141,slow=2.4,SNR=43						
GHO	**Glory Hole Cre**	**152.56**	**301**	PKPbc	**PKiKP**		**15 46 49.8**	**+1.8**
RC01	**Rabbit Creek A**	**152.70**	**299**	PKPbc	**PKiKP**		**15 46 50.3**	**+2.1**

ISCJB ***28*** *15:48:09.5±0.4, 6.°70N±0.°04×126.°65E±0.°07, h188km±3km, mb3.9/17, Error ellipse: s-maj=11.6km s-min=5.8km az=163.1*
NEIC ***28*** *15:48:10.1±2.1, 6.°62N±0.°09×126.°7E±0.°1, h179km±7km, mb4.6/24*
IDC ***28*** *15:48:11.7±0.8, 6.°72N×126.°61E, h187km±6km, mb3.7/17, mb1 3.7/18, mb1mx3.5/50, mbtmp4.1/18, Error ellipse: s-maj=22.7km s-min=10.4km az=75.0*
MAN ***28*** *15:48:11.8, 6.°75N×126.°53E, h176km, MS3.3*

ISC 28 15:48:10.1±0.7, 6.°72N±0.°05×126.°73E±0.°07, h179km±6km, n53, σ1°67/62, mb4.2/23, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.53**	**296**	P	**Pn**	**15 48 34.8**	**-0.1**
MATI				S	**Sn**	**15 48 52.5**	**-1.4**
DDMP	**Don Marcelino,**	**1.18**	**239**	P	**Pn**	**15 48 39.6**	**+0.4**
DDMP				S	**Sn**	**15 49 01.5**	**-0.1**
DAV	**Davao City (W)**	**1.20**	**287**	P	**Pn**	**15 48 40.7**	**+1.4**
	93nm,0.3s,baz=60,slow=1.2,SNR=5.5						
DAV				S	**Sn**	**15 49 03.3**	**+1.4**
	169nm,0.3s,baz=80,slow=23,SNR=25						
KCP	**Kidapawan**	**1.66**	**280**	⇓P	**Pn**	**15 48 43.8**	**+0.1**
KCP				S	**Sn**	**15 49 09.7**	**+0.2**
GSPH	**General Santos**	**1.88**	**251**	⇓P	**Pn**	**15 48 45.1**	**-0.9**
GSPH				S	**Sn**	**15 49 20.5**	**+6.8**
BUKP	**Musuan**	**2.02**	**305**	P	**Pn**	**15 48 47.5**	**0.0**
BUKP				S	**Sn**	**15 49 15.0**	**-1.3**
SKMP	**Bagumbayan, Su**	**2.18**	**265**	P	**Pn**	**15 48 49.0**	**-0.2**
SKMP				S	**Sn**	**15 49 17.2**	**-2.2**
BUTP	**Butuan**	**2.50**	**334**	P	**Pn**	**15 48 54.3**	**+1.5**
BUTP				S	**Sn**	**15 49 25.5**	**-0.4**
CTBH	**Cotabato--PC H**	**2.52**	**282**	⇓P	**Pn**	**15 48 52.2**	**-0.8**
TNTI	**Ternate**	**5.94**	**174**	Pn	**Pn**	**15 49 37.4**	**+1.0**
LUWI	**Luwuk**	**8.66**	**207**	Pn	**Pn**	**15 50 15.1**	**+2.9**
SIJI	**Sorong**	**8.79**	**149**	P	**Pn**	**15 50 16.9**	**+3.0**
	1.0nm,0.3s,baz=325,slow=19,SNR=5.4						
SIJI				S	**Sn**	**15 51 48.9**	**-3.3**
	0.6nm,0.3s,baz=192,slow=20,SNR=5.0						
SBUM	**Sibu**	**15.07**	**254**	P	**P**	**15 51 36.3**	**+1.0**
SOEI	**Soe**	**16.55**	**189**		**P**	**15 51 50.6**	**-1.1**
KSM	**Kuching**	**17.18**	**253**	P	**P**	**15 51 54.2**	**-4.4**
KSM				IAmb	IAmb	15 52 15.6	
	comp=Z,33nm,1.1s						
TPUB	**Ta-pu**	**17.50**	**341**	P	**P**	**15 52 02.7**	**+0.6**
SSLB	**Suanglung**	**17.86**	**342**	P	**P**	**15 52 05.4**	**-0.5**
SSLB				IAmb	IAmb	15 52 47.4	
	comp=Z,31nm,1.3s						
NACB	**Ninganchiao**	**18.05**	**345**	P	**P**	**15 52 04.2**	**-3.8**
NACB				IAmb	IAmb	15 53 02.1	
	comp=Z,41nm,1.1s						
MTN	**Manton Dam**	**19.92**	**167**	P	**P**	**15 52 26.6**	**-1.7**
MTN				IAmb	IAmb	15 53 02.2	
	comp=Z,70nm,2.0s						
JOW	**Kunigami**	**20.06**	**4**	P	**P**	**15 52 28.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**24.68**	**182**	P	**P**	**15 53 15.8**	**+1.1**
	comp=Z,2.6nm,0.6s,baz=4.5,slow=8.7,SNR=5.0						
PBKT	**Sadao Pong**	**27.03**	**293**	P	**P**	**15 53 34.8**	**-1.1**
PBKT				IAmb	IAmb	15 54 16.4	
	comp=Z,9.5nm,1.4s						
WRAB	**Tennant Creek**	**27.52**	**164**	P	**P**	**15 53 41.4**	**+1.1**
WRAB				IAmb	IAmb	15 53 46.3	
	comp=Z,43nm,1.9s						
WRA	**Warramunga Arr**	**27.53**	**164**	P	**P**	**15 53 40.7**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=329,slow=11,SNR=2.5						
PSA00	**Pilbara Seismi**	**28.91**	**193**	P	**P**	**15 53 50.5**	**-2.0**
CMAR	**Chiang Mai Arr**	**29.47**	**296**	P	**P**	**15 53 58.0**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=85,slow=7.4,SNR=4.7						
AS31	**Alice Springs**	**31.00**	**167**	P	**P**	**15 54 12.7**	**+1.7**
ASAR	**Alice Springs**	**31.00**	**167**	P	**P**	**15 54 12.2**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=342,slow=7.1,SNR=20						
ASAR				PcP	**PcP**	**15 57 03.1**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=347,slow=2.6,SNR=5.1						
USRK	**Ussuriysk Ar.**	**37.62**	**6**	P	**P**	**15 55 08.8**	**+1.2**
	comp=Z,1.8nm,0.4s,baz=178,slow=7.9,SNR=20						
ASAJ	**Asahikawa**	**39.76**	**18**	P	**P**	**15 55 27.2**	**+1.8**
	comp=Z,9.2nm,0.7s,baz=235,slow=8.8,SNR=5.7						
JKA	**Kamikawa-asahi**	**39.76**	**18**	P	**P**	**15 55 27.2**	**+1.8**
KLR	**Kul'dur**	**42.58**	**5**	P	**P**	**15 55 49.2**	**+0.9**
	comp=Z,1.8nm,0.5s,baz=190,slow=8.4,SNR=8.0						
SONM	**Songino Array**	**44.49**	**340**	P	**P**	**15 56 04.5**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=149,slow=6.0,SNR=5.2						
MK31	**Makanchi Array**	**55.14**	**324**	P	**P**	**15 57 24.9**	**+0.9**
MKAR	**Makanchi Array**	**55.14**	**324**	P	**P**	**15 57 24.6**	**+0.6**
	comp=Z,2.4nm,0.5s,baz=120,slow=7.6,SNR=47						
MKAR				PcP	**PcP**	**15 58 23.6**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=122,slow=5.2,SNR=2.5						
YAK	**Yakutsk**	**55.24**	**2**	P	**P**	**15 57 24.9**	**+0.6**
	comp=Z,2.4nm,0.4s,baz=173,slow=7.0,SNR=2.7						
YAK	**Yakutsk**	**55.24**	**2**	IAmb	IAmb	15 57 25.6	
	comp=Z,5.5nm,0.5s						
MAKZ	**Makanchi**	**55.33**	**324**	P	**P**	**15 57 26.1**	**+0.7**
MAKZ				IAmb	IAmb	15 58 28.9	
	comp=Z,7.7nm,1.3s						
MSVF	**Nonsavu**	**56.19**	**116**	P	**P**	**15 57 30.1**	**-1.9**
ZAA0	**Zalesovo Array**	**57.95**	**332**	P	**P**	**15 57 43.5**	**-0.2**
ZALV	**Zalesovo Beam**	**57.95**	**332**	P	**P**	**15 57 43.6**	**0.0**
	comp=Z,1.5nm,0.6s,baz=140,slow=5.0,SNR=5.8						
ARSB	**Arslanbob**	**58.75**	**315**	P	**P**	**15 57 49.3**	**-0.4**
ARSB				IAmb	IAmb	15 59 16.1	
	comp=Z,11nm,1.2s						
KURK	**Kurchatov**	**59.25**	**327**	P	**P**	**15 57 53.1**	**+0.5**
GAR	**Garm**	**59.94**	**311**	P	**P**	**15 57 57.7**	**-0.1**
GAR				IAmb	IAmb	16 00 02.0	
	comp=Z,28nm,1.9s						
TIXI	**Tiksi**	**64.88**	**1**	P	**P**	**15 58 30.1**	**+0.4**
	comp=Z,1.7nm,0.4s,baz=144,slow=6.2,SNR=4.1						
BRVK	**Borovoye**	**64.92**	**326**	P	**P**	**15 58 29.6**	**-0.8**
NRIK	**Noril'sk**	**67.55**	**346**	P	**P**	**15 58 47.2**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=130,slow=8.0,SNR=5.2						
ABKAR	**Akbulak array**	**69.86**	**320**	P	**P**	**15 59 01.5**	**0.0**
ABKAR				IAmb	IAmb	16 00 59.4	
	comp=Z,15nm,1.9s						
ARU	**Arti**	**72.44**	**327**	P	**P**	**15 59 16.6**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=98,slow=5.5,SNR=6.0						
ARU	**Arti**	**72.44**	**327**	IAmb	IAmb	15 59 28.7	
	comp=Z,27nm,1.9s						
ILAR	**Eielson Array**	**82.42**	**26**	P	**P**	**16 00 11.9**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=272,slow=5.4,SNR=5.9						
ARCES	**ARCESS Array B**	**87.67**	**340**	P	**P**	**16 00 37.7**	**-0.4**
	comp=Z,3.8nm,0.9s,baz=86,slow=6.6,SNR=6.6						
YKA	**Yellowknife Ar**	**96.79**	**24**	P	**P**	**16 01 20.7**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=270,slow=2.1,SNR=3.9						

ISK ***28*** *15:54:59.8, 35.°80N×31.°51E, h14km, ML3.0/20*

NIC 28 15:54:58.1±0.0, 35.°25N×31.°02E, h7km±2km, Ml3.0/4, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**1.10**	**101**	P	Pg	15 55 18.7	-0.6
AKMS				S	Sn	15 55 35.7	+0.1
AKMS				AML	AML	15 55 38.1	
	0.6nm,0.2s						
AKMS				AML	AML	15 55 38.1	
	0.6nm,0.2s						
AKMS				AML	AML	15 55 38.2	
	1.0nm,0.3s						
AKMS				AML	AML	15 55 38.2	
	1.0nm,0.3s						
ALFC	**Alefka**	**1.30**	**93**	P	Pn	15 55 20.0	-2.7
ALFC				S	Sn	15 55 41.4	+1.0
ALFC				AML	AML	15 55 42.6	
	0.8nm,0.3s						
ALFC				AML	AML	15 55 42.6	
	0.8nm,0.3s						
ALFC				AML	AML	15 55 43.7	
	0.6nm,0.3s						
ALFC				AML	AML	15 55 43.7	
	0.6nm,0.3s						
NATA	**Nata**	**1.36**	**110**	P	Pn	15 55 22.9	-0.6
NATA				S	Sn	15 55 42.6	+0.8
NATA				AML	AML	15 55 52.8	
	2.3nm,0.5s						
NATA				AML	AML	15 55 52.8	
	2.3nm,0.5s						
NATA				AML	AML	15 55 56.3	
	2.1nm,1.0s						
GAZI	**Gazipasa**	**1.45**	**47**	PG	Pn	15 55 15.5	-9.2
GAZI				SG	Sn	15 55 26.6	-17
AKAS	**Kas**	**1.51**	**311**	PN	Pg	15 55 27.9	+0.8
LEF	**Lefka**	**1.54**	**94**	PN	Pn	15 55 23.9	-2.1
ALAN	**Alanya-ANTALYA**	**1.55**	**32**	PG	Pn	15 55 16.9	-9.2
SZAC	**Souni**	**1.61**	**107**	P	Pn	15 55 26.9	0.0
SZAC				S	Sg	15 55 49.5	-0.3
SZAC				AML	AML	15 56 02.4	
	0.9nm,1.2s						
SZAC				AML	AML	15 56 02.4	
	0.9nm,1.2s						
SZAC				AML	AML	15 56 21.0	
	0.7nm,1.6s						
SZAC				AML	AML	15 56 21.0	
	0.7nm,1.6s						
ELL	**Elmali**	**1.75**	**329**	PN	Pn	15 55 28.7	-0.2
KORT	**Korkueli**	**1.83**	**343**	PN	Pn	15 55 27.1	-3.0
ASGA	**Asgata**	**1.89**	**103**	P	Pn	15 55 31.1	+0.3
ASGA				S	Sn	15 55 55.5	+0.6
CSS	**Mathiatis**	**1.92**	**98**	PN	Pn	15 55 30.1	-1.1
CSS	**Mathiatis**	**1.92**	**98**	P	Pn	15 55 30.3	-0.9
TEKE	**Tekeli-Mersin**	**1.93**	**62**	PN	Pn	15 55 24.1	-7.2
TEKE				SN	Sn	15 55 42.8	-13
BERE	**Bereket-Mersin**	**2.10**	**58**	PN	Pn	15 55 26.9	-7.0
AKKU	**Akkuyu-Mersin**	**2.26**	**65**	PN	Pn	15 55 29.8	-6.0
TEVE	**Tevekalti-Mers**	**2.30**	**58**	PN	Pn	15 55 29.7	-6.8
IKL	**Isikli**	**2.39**	**65**	PN	Pn	15 55 31.8	-5.8
KEBE	**Keben-Mersin**	**2.50**	**61**	PN	Pn	15 55 32.9	-6.3
SILI	**Silifke-Mersin**	**2.62**	**64**	PN	Pn	15 55 34.4	-6.3
KONT	**Konya--Tatoy**	**2.90**	**21**	PN	Pn	15 55 38.1	-6.7
LADK	**Ladik-KONYA**	**3.14**	**20**	PN	Pn	15 55 41.1	-7.0
MERS	**Mersin**	**3.27**	**59**	PN	Pn	15 55 43.2	-6.6
CHBY	**Cihanbeyli**	**3.65**	**24**	PN	Pn	15 55 48.2	-6.9
KIZT	**Kizilcal**	**3.69**	**11**	PN	Pn	15 55 49.5	-6.2
KARA	**Karaisali**	**3.83**	**57**	PN	Pn	15 55 50.8	-6.7
CMRD	**Camardi-Nigde**	**4.01**	**52**	PN	Pn	15 55 53.3	-6.8

ISCJB ***28*** *16:00:11.0±0.7, 20.°28N±0.°05×146.°4E±0.°2, h10km, mb3.8/11, MS4.1/1, Error ellipse: s-maj=20.6km s-min=7.3km az=0.5*
NEIC ***28*** *16:00:11.5±2.5, 20.°37N±0.°09×146.°2E±0.°2, h10km±1km, mb4.7/8*
IDC ***28*** *16:00:13.5±0.8, 20.°73N×146.°76E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.9/42, mbtmp3.8/11, MS4.1/1, Ms1 4.1/1, ms1mx3.4/38, Error ellipse: s-maj=31.1km s-min=18.3km az=99.0*

ISC 28 16:00:13.1±0.8, 20.°33N±0.°07×146.°4E±0.°2, h10km, n19, σ2°26/15, mb3.8/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**3.66**	**190**	Pn	**Pn**	**16 01 08.8**	**-1.1**
ANA2	**Anatahan**	**4.03**	**190**	Pn	**Pn**	**16 01 12.9**	**-2.0**
ANA2				Sn	**Sn**	**16 02 00.6**	**-1.6**
GUMO	**Guam**	**6.87**	**193**	Pn	**Pn**	**16 01 53.0**	**-1.0**
MAJO	**Matsushiro**	**17.68**	**338**	Pn	**Pn**	**16 04 16.1**	**-3.4**
MJB9	**Matsu-Tunnel**	**17.68**	**338**	Pn	**Pn**	**16 04 16.2**	**-3.3**
JOW	**Kunigami**	**17.84**	**295**		**Pn**	**16 04 19.9**	**-1.7**
JOW				IAmb	IAmb	16 04 33.1	
	comp=Z,52nm,1.3s						
KSRS	**Korea Array**	**23.45**	**321**	P	**P**	**16 05 24.1**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=147,slow=8.4,SNR=3.2						
WRA	**Warramunga Arr**	**41.74**	**197**	P	P	16 08 09.1	+6.5
	comp=Z,0.5nm,0.5s,baz=13,slow=8.6,SNR=6.3						
YAK	**Yakutsk**	**43.26**	**349**	LR	LR	16 25 58.3	
	comp=Z,285nm,21.9s,baz=274,slow=36						
FITZ	**Fitzroy Crossi**	**43.29**	**209**	P	P	16 08 21.6	+6.3
	comp=Z,4.9nm,1.0s,baz=353,slow=8.1,SNR=3.5						
FITZ	**Fitzroy Crossi**	**43.29**	**209**	IAmb	IAmb	16 08 31.5	
	comp=Z,28nm,1.4s						
ASAR

YUS	**Yu-Shan**	**0.65**	**257**	*e*P	Pn	16 05 20.5 +0.7
	baz=256					
YUS				*e*S	Sn	16 05 30.0 +0.9
	baz=256					
ELDTW	**Lidau**	**0.73**	**232**	*i* P	Pn	16 05 19.7 -0.7
	baz=231					
ELDTW				*e*S	Sn	16 05 30.3 -0.1
	baz=231					
WHYT	**Xinyi Township**	**0.73**	**275**	*e*P	Pn	16 05 21.4 +1.0
	baz=274					
WHYT				S	Sn	16 05 31.4 +1.1
	baz=274					
TDCB	**Techi**	**0.76**	**324**	*e*P	Pn	16 05 21.8 +0.9
	baz=324					
TDCB				*e*S	Sn	16 05 32.1 +0.9
	baz=324					
DPDB	**Guoxing**	**0.77**	**301**	*e*P	Pn	16 05 22.3 +1.4
	baz=301					
DPDB				*e*S	Sn	16 05 32.1 +0.7
	baz=301					
TYC	**Yuchr**	**0.77**	**290**	*e*P	Pn	16 05 21.9 +1.0
	baz=290					
TYC				*e*S	Sn	16 05 32.0 +0.7
	baz=290					
ALS	**Alishan**	**0.78**	**261**	*e*P	Pn	16 05 21.6 +0.2
	baz=260					
ALS				*e*S	Sn	16 05 32.9 +0.9
	baz=260					
ENA	**Nanau**	**0.79**	**6**	*e*S	Sn	16 05 32.9 +0.9
	baz=6.0					
NANB	**Nanao**	**0.79**	**7**	*e*P	Pn	16 05 22.1 +0.8
	baz=7.0					
NANB				*e*S	Sn	16 05 33.3 +1.4
	baz=7.0					
NNSH	**Datong**	**0.82**	**343**	*e*P	Pn	16 05 22.4 +0.5
	baz=343					
NNSH				*e*S	Sn	16 05 33.2 +0.3
	baz=343					
NNS	**Nan Shan**	**0.84**	**343**	*e*S	Sn	16 05 34.1 +0.9
	baz=343					
WJS	**Zhushan**	**0.86**	**283**	*e*P	Pn	16 05 23.6 +1.4
	baz=282					
WJS				*e*S	Sn	16 05 35.7 +2.1
	baz=282					
CHN5	**Tsauling**	**0.89**	**268**	*e*P	Pn	16 05 24.1 +1.5
	baz=267					
CHN5				*e*S	Sn	16 05 36.4 +2.1
	baz=267					
WHP	**Taichung City**	**0.90**	**315**	*e*P	Pn	16 05 24.8 +1.9
	baz=315					
WHP				S	Sn	16 05 36.2 +1.5
	baz=315					
NDT	**Datong Townshi**	**0.97**	**353**	*e*P	Pn	16 05 26.0 +2.3
	baz=352					
NDT				*e*S	Sn	16 05 36.9 +0.7
	baz=352					
TPUB	**Ta-pu**	**0.99**	**250**	P	Pn	16 05 25.2 +1.3
	baz=250					
TPUB				*e*S	Sn	16 05 38.9 +2.1
	baz=250					
TPUB	**Ta-pu**	**0.99**	**250**	P	Pn	16 05 24.5 +0.5
WGK	**Gukeng**	**0.99**	**273**	*e*S	Sn	16 05 37.8 +1.0
	baz=272					
ENTT	**Nioudou**	**1.00**	**356**	*e*P	Pn	16 05 25.1 +1.0
	baz=356					
ENTT				*e*S	Sn	16 05 37.7 +0.7
	baz=356					
CHN4	**Tsaushan**	**1.01**	**254**	*e*P	Pn	16 05 25.2 +1.1
	baz=253					
CHN4				*e*S	Sn	16 05 40.2 +3.1
	baz=253					
EOS1	**EOS1**	**1.01**	**26**	*e*S	Sn	16 05 39.4 +2.2
	baz=25					
WTP	**Ta-pu**	**1.02**	**248**	*e*P	Pn	16 05 25.7 +1.3
	baz=247					
WTP				*e*S	Sn	16 05 39.0 +1.4
	baz=247					
YHNB	**Yeheng**	**1.06**	**347**	*e*P	Pn	16 05 25.4 +0.4
	baz=346					
YHNB				S	Sn	16 05 39.7 +1.2
	baz=346					
NSK	**Sanguang**	**1.07**	**346**	*e*P	Pn	16 05 26.3 +1.2
	baz=346					
NSK				*e*S	Sn	16 05 40.1 +1.3
	baz=346					
SLGT	**Liugui**	**1.12**	**235**	*e*P	Pn	16 05 27.2 +1.5
	baz=235					
SLGT				*e*S	Sn	16 05 42.5 +2.6
	baz=235					
CHN1	**Nanshi**	**1.12**	**247**	*e*P	Pn	16 05 27.8 +2.1
	baz=246					
CHN1				*e*S	Sn	16 05 43.1 +3.2
	baz=246					
TWK	**Hsinying**	**1.12**	**251**	*e*P	Pn	16 05 26.6 +0.7
	baz=250					
TWK				*e*S	Sn	16 05 42.0 +1.9
	baz=250					

WEL 28 16:35:08.1±1.0, 37°S±9°×17°8E±°, h97km±11km, M3.5/30, ML3.8/12, MLv3.5/30, Error ellipse: s-maj=0.0km s-min=0.0km az=24.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.81**	**187**	P	Pn	16 35 27.1	+0.7
MXZ				S	Sn	16 35 40.6	+0.5
WMGZ	**Waiomatatini S**	**1.06**	**181**	P	Pn	16 35 30.1	+1.0
HAZ	**Te Kaha**	**1.13**	**207**	P	Pn	16 35 29.8	0.0
HAZ				S	Sn	16 35 46.9	+0.9
PKGZ	**Pakihiroa**	**1.17**	**194**	P	Pn	16 35 30.8	+0.5
PKGZ				S	Sn	16 35 47.9	+0.9
WIZ	**White Island**	**1.26**	**232**	P	Pn	16 35 31.5	+0.3
WIZ				S	Sn	16 35 48.4	-0.3
PUZ	**Puketiti**	**1.32**	**186**	P	Pn	16 35 32.2	+0.1
PUZ				S	Sn	16 35 50.4	+0.2
RUGZ	**Raukumara Rang**	**1.35**	**206**	P	Pn	16 35 32.3	-0.2
RUGZ				S	Sn	16 35 50.8	-0.1
TWGZ	**Tauwhareparae**	**1.47**	**194**	P	Pn	16 35 34.2	+0.4
TWGZ				S	Sn	16 35 54.7	+1.4
WHRZ	**Whale Island**	**1.60**	**226**	P	Pn	16 35 36.0	+0.5
WHRZ				S	Sn	16 35 57.0	+0.8
MWZ	**Matawai**	**1.73**	**204**	P	Pn	16 35 37.1	-0.1
CNGZ	**Carnagh Statio**	**1.74**	**186**	P	Pn	16 35 37.5	+0.3
TKGZ	**Te Karaka**	**1.75**	**195**	P	Pn	16 35 37.2	-0.1
URZ	**Urewera**	**1.83**	**214**	P	Pn	16 35 37.8	-0.7
OPRZ	**Ohinepanea**	**1.85**	**233**	P	Pn	16 35 38.6	0.0
MARZ	**Manawahe**	**1.86**	**228**	P	Pn	16 35 39.0	+0.2
EDRZ	**Edgecumbe**	**1.91**	**224**	P	Pn	16 35 39.6	+0.2
RAGZ	**Rawiri**	**1.92**	**205**	P	Pn	16 35 39.5	-0.1
TGRZ	**Tauranga**	**1.99**	**240**	P	Pn	16 35 40.6	+0.3
RIGZ	**Rimuhau**	**2.02**	**195**	P	Pn	16 35 40.2	-0.6
MKRZ	**Makatiti**	**2.09**	**228**	P	Pn	16 35 43.4	+1.6
OMRZ	**Omania**	**2.12**	**230**	P	Pn	16 35 42.6	+0.4
TARZ	**Mount Tarawera**	**2.13**	**225**	P	Pn	16 35 42.6	+0.3
KARZ	**Kaharoa**	**2.15**	**233**	P	Pn	16 35 42.5	0.0
MUGZ	**Murupara**	**2.17**	**217**	P	Pn	16 35 42.0	-0.7
KUZ	**Kuaotunu**	**2.17**	**269**	P	Pn	16 35 43.2	+0.3
RTZ	**Ruatahuna**	**2.19**	**211**	P	Pn	16 35 42.2	-0.9
RRRZ	**Republican Roa**	**2.20**	**223**	P	Pn	16 35 42.9	-0.2
SNGZ	**Shannon Statio**	**2.20**	**203**	P	Pn	16 35 42.8	-0.4
PRGZ	**Paritu Road**	**2.21**	**191**	P	Pn	16 35 42.2	-1.1
HLRZ	**Highlands Stat**	**2.23**	**227**	P	Pn	16 35 43.5	-0.1
KMRZ	**Kaimai**	**2.26**	**240**	P	Pn	16 35 44.3	+0.3
KNZ	**Kokohu**	**2.34**	**195**	P	Pn	16 35 43.5	-1.5
RAHZ	**Arahi**	**2.41**	**206**	P	Pn	16 35 45.3	-0.7
MHGZ	**Mahia Peninsul**	**2.43**	**190**	P	Pn	16 35 45.3	-0.9
GRRZ	**Galatos Road**	**2.44**	**228**	P	Pn	16 35 46.9	+0.6
MTHZ	**Maungataniwha**	**2.44**	**210**	P	Pn	16 35 45.5	-1.0
ALRZ	**Allen Road**	**2.45**	**222**	P	Pn	16 35 46.1	-0.4
WHHZ	**Waihua**	**2.51**	**202**	P	Pn	16 35 46.3	-0.9
WPRZ	**Whakapapatarin**	**2.52**	**225**	P	Pn	16 35 47.4	-0.1
TOZ	**Tahuroa Road**	**2.53**	**246**	P	Pn	16 35 47.8	+0.3
MRHZ	**Matea Rd**	**2.62**	**217**	P	Pn	16 35 47.8	-1.0
MKAZ	**Moumakai**	**2.64**	**261**	P	Pn	16 35 48.8	-0.2
WIAZ	**Waiheke Island**	**2.65**	**268**	P	Pn	16 35 49.8	+0.7
KUTZ	**Kaahu Road**	**2.70**	**229**	P	Pn	16 35 49.8	0.0
ARHZ	**Aropaoanui**	**2.75**	**204**	P	Pn	16 35 49.2	-1.2
TLZ	**Tolley Road**	**2.79**	**235**	P	Pn	16 35 50.9	-0.1
ETAZ	**East Tamaki Re**	**2.82**	**265**	P	Pn	16 35 52.2	+0.9
MBAZ	**Motutapu North**	**2.84**	**269**	P	Pn	16 35 52.5	+0.9
WATZ	**Wairara**	**2.90**	**227**	P	Pn	16 35 52.1	-0.3
HBAZ	**Herne Bay Bore**	**2.97**	**267**	P	Pn	16 35 54.5	+1.1
RITZ	**Rihia Road**	**3.01**	**222**	P	Pn	16 35 53.3	-0.7
MCHZ	**McNeill Hill**	**3.02**	**206**	P	Pn	16 35 52.4	-1.6
CKHZ	**Cape Kidnapper**	**3.09**	**200**	P	Pn	16 35 52.7	-2.3
KWHZ	**Kaweka Forest**	**3.10**	**210**	P	Pn	16 35 53.2	-2.0
KAHZ	**Kahuranaki**	**3.27**	**201**	P	Pn	16 35 55.3	-2.2
NGZ	**Ngauruhoe**	**3.29**	**222**	P	Pn	16 35 57.3	-0.6
BHHZ	**Black Hill Sta**	**3.31**	**214**	P	Pn	16 35 56.0	-2.0
KRHZ	**Kereru**	**3.31**	**209**	P	Pn	16 35 55.5	-2.5
TUVZ	**Tukino**	**3.33**	**220**	P	Pn	16 35 57.7	-0.7
HIZ	**Hauiti**	**3.34**	**237**	P	Pn	16 35 58.9	+0.6
FWVZ	**Far West T-bar**	**3.38**	**221**	P	Pn	16 35 57.9	-1.1
MOVZ	**Moawhango**	**3.39**	**218**	P	Pn	16 35 56.9	-2.2
PXZ	**Pawanui**	**3.50**	**200**	P	Pn	16 35 57.2	-3.2
PKVZ	**Pokaka**	**3.51**	**223**	P	Pn	16 35 59.5	-1.3
PNHZ	**Pukenui**	**3.61**	**208**	P	Pn	16 35 58.9	-3.2
WPHZ	**Waipukurau**	**3.66**	**205**	P	Pn	16 35 59.7	-2.9
VRZ	**Vera Road**	**3.75**	**230**	P	Pn	16 36 03.5	-0.3
PRHZ	**Porangahau**	**3.78**	**201**	P	Pn	16 36 00.9	-3.3
TSZ	**Takapari Road**	**3.83**	**210**	P	Pn	16 36 01.4	-3.5
DVHZ	**Dannevirke**	**3.96**	**206**	P	Pn	16 36 02.7	-4.0
ANWZ	**Angora Road**	**4.01**	**202**	P	Pn	16 36 04.0	-3.3
WAZ	**Wanganui**	**4.04**	**221**	P	Pn	16 36 06.3	-1.5
POWZ	**Post Office Ro**	**4.19**	**209**	P	Pn	16 36 06.5	-3.3
OHWZ	**Ohakea**	**4.23**	**214**	P	Pn	16 36 07.8	-2.5
PRWZ	**Pori Road**	**4.26**	**206**	P	Pn	16 36 07.0	-3.7
TIWZ	**Tintock**	**4.48**	**206**	P	Pn	16 36 09.9	-3.9
CPWZ	**Castlepoint**	**4.50**	**202**	P	Pn	16 36 10.7	-3.3
INZ	**Inchbonnie**	**8.03**	**220**	P	Pn	16 36 57.6	-4.3
FOZ	**Fox Glacier**	**9.45**	**222**	P	Pn	16 37 17.1	-4.1
PYZ	**Puysegur Point**	**12.88**	**219**	P	Pn	16 38 06.1	-1.3

TAP 28 16:51:00.2, 24°49N×121°53E, h12km±2km, ML0.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDT	**Datong Townshi**	**0.11**	**352**	*e*P	Pg	16 51 03.6	+0.4
	baz=351						
NDT				S	Sg	16 51 06.2	+0.7
	baz=351						
NNSH	**Datong**	**0.15**	**245**	P	Pb	16 51 04.6	-0.3
	baz=245						
NNSH				S	Sg	16 51 06.5	0.0
	baz=245						
ENTT	**Nioudou**	**0.15**	**12**	*e*P	Pb	16 51 04.8	-0.1
	baz=15						
ENTT				*e*S	Sg	16 51 07.1	+0.7
	baz=15						
NNS	**Nan Shan**	**0.15**	**250**	*e*P	Pg	16 51 04.4	+0.5
	baz=248						
NNS				*e*S	Sg	16 51 06.8	+0.2
	baz=248						
ENA	**Nanau**	**0.20**	**108**	*e*P	Pb	16 51 05.7	-0.1
	baz=107						
ENA				*e*S	Sg	16 51 10.2	+2.5
	baz=107						
NANB	**Nanao**	**0.21**	**107**	*e*P	Pg	16 51 04.5	-0.2
	baz=107						
NANB				*e*S	Sg	16 51 08.2	+0.3
	baz=107						
YHNB	**Yeheng**	**0.23**	**322**	*e*P	Pg	16 51 05.4	+0.3
	baz=321						
YHNB				*e*S	Sg	16 51 09.3	+0.9
	baz=321						
NSK	**Sanguang**	**0.24**	**320**	*e*S	Sg	16 51 10.1	+1.3
	baz=320						
TWE	**Neicheng**	**0.26**	**29**	*e*P	Pg	16 51 05.9	+0.2
	baz=31						
WHF	**Hehuan Shan**	**0.42**	**215**	*e*P	Pg	16 51 09.2	+0.5
	baz=214						
WHF				*e*S	Sb	16 51 17.7	+1.5
	baz=214						
NTC	**Toucheng**	**0.45**	**37**	*e*P	Pb	16 51 09.9	-0.1
	baz=36						

JMA 28 16:51:49.1±0.1, 24°93N×123°38E, h26km±4km, M2.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.57**	**216**	P	Pb	16 52 00.2	-0.4
YOJ				S	Sb	16 52 08.0	-0.4
JYNG	**Yonagunijimaku**	**0.62**	**220**	P	Pb	16 52 01.0	-0.4
JYNG				S	Sb	16 52 09.0	-0.1
IRIF	**Iriomote-Funau**	**0.67**	**152**	P	Pb	16 52 01.8	-0.4
IRIF				S	Sb	16 52 10.9	-0.3
JIJ	**Ishigaki jima**	**0.89**	**129**	P	Pb	16 52 05.2	-0.8
JIJ				S	Sb	16 52 16.2	-1.3
JKRS	**Kuro-shima**	**0.90**	**140**	P	Pb	16 52 05.7	-0.3
JKRS				S	Sb	16 52 17.3	-0.3
JISG	**Ishigakijimahi**	**0.91**	**112**	P	Pn	16 52 05.8	-0.4
JISG				S	Sb	16 52 17.9	-0.1
HATJ	**Hateruma jima**	**0.95**	**156**	P	Pn	16 52 06.4	-0.4
HATJ				S	Sb	16 52 18.3	-0.8

*AZER **28** 16:55:58.1±0.1, 41°.15N×48°.84E, h10km, ml3.1/33, Error ellipse: s-maj=1.8km s-min=0.7km az=229.0*
*ISCJB **28** 16:55:59.3±0.4, 41°.21N±0°.02×48°.86E±0°.03, h9km±2km, Error ellipse: s-maj=4.4km s-min=2.2km az=147.1*
*DRS **28** 16:55:59.9±0.0, 41°.27N×48°.61E, h10km*
*MOS **28** 16:56:03.1±0.0, 41°.29N×48°.53E, h1km, MPVA4.0*

ISC 28 16:55:59.4±0.9, 41°.20N±0°.02×48°.82E±0°.02, h13km±6km, n52, σ1°83/99, 2C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIZA	**Siyzn**	**0.14**	**155**	P	**Pg**	**16 56 02.3**	**-0.6**
	SNR=144						
SIZA				S	**Sg**	**16 56 05.1**	**-0.4**
QUBA	**Quba, Azerbaij**	**0.29**	**302**	P	**Pg**	**16 56 06.8**	**+1.4**
	SNR=139						
QUBA				S	**Sg**	**16 56 12.1**	**+2.6**
ATGJ	**Altiaghaj**	**0.35**	**166**	P	**Pg**	**16 56 06.1**	**-0.4**
	SNR=68						
ATGJ				S	**Sg**	**16 56 12.2**	**+0.8**
PQL	**Pirkuli**	**0.45**	**203**	P	**Pg**	**16 56 07.9**	**-0.4**
	SNR=81						
PQL				S	**Sg**	**16 56 14.6**	**+0.3**
XNQ	**Khinaliq**	**0.52**	**267**	P	**Pb**	**16 56 09.6**	**-0.8**
	SNR=2259						
XNQ				S	**Sb**	**16 56 18.9**	**+1.0**
QSAR	**Qusar**	**0.52**	**307**	P	**Pn**	**16 56 10.9**	**-1.8**
	SNR=420						
QSAR				S	**Sb**	**16 56 19.2**	**+1.2**
IML	**Ismayilli**	**0.63**	**230**	P	**Pg**	**16 56 11.4**	**-0.3**
	SNR=41						
IML				S	**Sg**	**16 56 20.6**	**+0.4**
GBS	**Qobustan**	**0.67**	**172**	P	**Pb**	**16 56 14.0**	**+1.0**
	SNR=43						
GBS				S	**Sb**	**16 56 24.1**	**+1.8**
QBL	**Gabala**	**0.79**	**251**	P	**Pg**	**16 56 13.9**	**-0.7**
	SNR=30						
QBL				S	**Sb**	**16 56 26.7**	**+1.2**
AKT	**Akhty**	**0.87**	**289**	*e*Pg	**Pn**	**16 56 16.5**	**-0.9**
	382nm,0.2s						
AKT				*e*Sg	**Sn**	**16 56 29.4**	**-0.6**
	2μm,0.4s						
DRN	**Derbent**	**0.91**	**336**	*e*Pg	**Pn**	**16 56 19.0**	**+1.2**
	144nm,0.6s						
DRN				*e*Sg	**Sn**	**16 56 33.0**	**+2.3**
	609nm,0.6s						
KDMR	**Kurdemir**	**0.96**	**211**	P	**Pg**	**16 56 17.9**	**0.0**
	SNR=4.8						
KDMR				S	**Sg**	**16 56 30.8**	**+0.4**
GOBA	**Gobu**	**1.06**	**139**	S	**Sg**	**16 56 33.8**	**+0.2**
NDR	**Nardaran**	**1.08**	**125**	P	**Pg**	**16 56 19.0**	**-1.2**
NDR				S	**Sb**	**16 56 35.6**	**+1.7**
SEKA	**Sheki**	**1.23**	**271**	P	**Pn**	**16 56 22.1**	**-0.2**
	SNR=18						
SEKA				S	**Sb**	**16 56 38.0**	**-0.2**
ALIB	**Äli-Bayra**	**1.25**	**174**	P	**Pn**	**16 56 22.9**	**+0.4**
	SNR=11						
ALIB				S	**Sb**	**16 56 40.1**	**+1.3**
ZRD	**Zardab**	**1.27**	**224**	P	**Pg**	**16 56 23.5**	**-0.2**
	SNR=97						
ZRD				S	**Sn**	**16 56 41.4**	**+1.8**
URKR	**Urkarakh**	**1.31**	**318**	*e*Pg	**Pn**	**16 56 25.4**	**+1.8**
URKR				*e*Sg	**Sn**	**16 56 43.2**	**+2.2**
SAAT	**Saatly**	**1.37**	**193**	P	**Pn**	**16 56 23.5**	**-0.7**
	SNR=4.3						
SAAT				S	**Sb**	**16 56 42.0**	**-0.4**
MNGR	**Mingechevir, A**	**1.38**	**252**	P	**Pb**	**16 56 24.7**	**-0.4**
	SNR=7.7						
MNGR				S	**Sg**	**16 56 45.8**	**+1.9**
BRDA	**Brd**	**1.56**	**234**	P	**Pn**	**16 56 27.2**	**+0.4**
	SNR=7.4						
BRDA				Sn	**Sg**	**16 56 49.6**	**-0.1**
KMKR	**Kumukh**	**1.59**	**306**	*i* Pg	**Pg**	**16 56 30.0**	**+0.1**
	65nm,0.2s						
KMKR				*i* Sg	**Sg**	**16 56 53.0**	**+2.4**
	268nm,0.3s						
AGDM	**Agdam**	**1.70**	**231**	Pn	**Pn**	**16 56 29.9**	**+1.1**
	SNR=12						
AGDM				Sn	**Sb**	**16 56 52.9**	**+1.1**
ZKTA	**Zakatala**	**1.71**	**285**	Pn	**Pg**	**16 56 30.5**	**-1.8**
	SNR=21						
ZKTA				Sn	**Sg**	**16 56 52.6**	**-1.9**
BLQ	**Beylaqan**	**1.77**	**213**	Pn	**Pn**	**16 56 29.3**	**-0.3**
	SNR=11						
BLQ				Sn	**Sn**	**16 56 53.1**	**+1.1**
GNBR	**Gunib**	**1.83**	**311**	*e*Pg	**Pg**	**16 56 35.4**	**+1.0**
GNBR				*e*Sg	**Sg**	**16 57 00.8**	**+2.6**
ARKR	**Arakani**	**1.95**	**316**	*e*Pg	**Pg**	**16 56 36.0**	**-0.9**
	50nm,0.2s						
ARKR				*e*Sg	**Sg**	**16 57 04.0**	**+1.8**
	182nm,0.3s						
GANJ	**Ganja**	**1.97**	**254**	Pn	**Pn**	**16 56 33.6**	**+1.0**
	SNR=38						
GANJ				Sn	**Sb**	**16 57 00.2**	**+0.5**
GLBA	**Clilabad**	**1.99**	**190**	Pn	**Pn**	**16 56 33.2**	**+0.6**
	SNR=9.6						
GLBA				Sn	**Sn**	**16 56 57.6**	**+0.3**
MAK	**Makhachkala**	**2.01**	**331**	*e*Pg	**Pg**	**16 56 40.5**	**+2.6**
MAK				*e*Sg	**Sg**	**16 57 08.4**	**+4.4**
LGD	**Lagodekhi**	**2.04**	**289**	P	**Pg**	**16 56 39.5**	**+1.1**
LGD				S	**Sg**	**16 57 08.7**	**+3.8**
LGD	**Lagodekhi**	**2.04**	**289**	*e*Pg	**Pg**	**16 56 37.8**	**-0.7**
LGD				*e*Sg	**Sg**	**16 57 08.6**	**+3.7**
DDFL	**Dedoflistskaro**	**2.05**	**278**	P	**Pg**	**16 56 39.1**	**+0.4**
QRD	**Qoradiz**	**2.08**	**214**	Pn	**Pn**	**16 56 34.4**	**+0.4**
	SNR=6.9						
QRD				Sn	**Sn**	**16 57 02.5**	**+2.7**
YRD	**Yardimli**	**2.33**	**191**	Pn	**Pn**	**16 56 38.5**	**+0.9**
	SNR=19						
YRD				Sn	**Sn**	**16 57 09.4**	**+3.3**
DBC	**Dubki**	**2.34**	**321**	*e*Pg	**Pg**	**16 56 42.8**	**-1.5**
DBC				*e*Sg	**Sg**	**16 57 15.0**	**+0.2**
GDB	**GEDABAY**	**2.37**	**259**	Pn	**Pn**	**16 56 39.1**	**+1.0**
	SNR=32						
GDB				Sn	**Sb**	**16 57 09.7**	**-1.6**
BTLR	**Botlikh**	**2.43**	**308**	*e*Pg	**Pg**	**16 56 47.1**	**+1.2**
LKRN	**Lenkeran, Azer**	**2.49**	**181**	Pn	**Pn**	**16 56 40.6**	**+1.0**
	SNR=4.3						
LKRN				Sn	**Sn**	**16 57 11.8**	**+2.0**
LRK	**Lerik**	**2.58**	**188**	Pn	**Pn**	**16 56 42.3**	**+1.2**
	SNR=15						
LRK				Sg	**Sb**	**16 57 18.9**	**+1.6**
QZX	**Qazax, Azerbai**	**2.61**	**268**	Pn	**Pn**	**16 56 43.0**	**+1.7**
	SNR=24						
QZX				Sn	**Sb**	**16 57 15.8**	**-2.2**
GROC	**Groznyy**	**3.01**	**313**	*e*Pn	**Pg**	**16 56 58.3**	**+1.3**
GROC				*e*Sn	**Sg**	**16 57 33.7**	**-2.3**
SBZ	**Shahbuz**	**3.08**	**235**	Pn	**Pn**	**16 56 49.4**	**+1.6**
	SNR=5.1						
SBZ				Sg	**Sg**	**16 57 35.6**	**-2.8**
ORD	**Ordubad**	**3.14**	**225**	Pn	**Pn**	**16 56 50.1**	**+1.5**
	SNR=14						
ORD				Sn	**Sn**	**16 57 26.4**	**+0.4**
NAX	**Nakhchivan**	**3.26**	**233**	Pn	**Pn**	**16 56 50.5**	**+0.3**
NAX				Sg	**Sb**	**16 57 39.7**	**+3.1**
HYR	**Heyderabad**	**3.37**	**245**	Pn	**Pn**	**16 56 52.1**	**+0.4**
	SNR=2.8						
HYR				Sn	**Sn**	**16 57 34.2**	**+2.5**
GUDG	**Gudauri**	**3.48**	**293**	*e*Pn	**Pb**	**16 56 59.2**	**-1.8**
GUDG				*e*Sn	**Sb**	**16 57 41.7**	**-1.6**
ZEI	**Tsey**	**4.00**	**295**	*e*Pn	**Pb**	**16 57 05.9**	**-3.8**
ZEI				*e*Sn	**Sb**	**16 57 54.0**	**-4.0**
ONI	**Oni**	**4.24**	**291**	*e*Pn	**Pb**	**16 57 09.4**	**-4.4**
SHA1	**Shidzhatmaz**	**5.22**	**301**	*e*Pn	Pn	16 57 23.0	+5.8
SHA1				*e*Sn	**Sn**	**16 58 20.9**	**+3.5**
AB31	**Akbulak array**	**11.23**	**40**	⇓P	**Pn**	**16 58 39.3**	**-0.2**
	0.2nm,0.3s,baz=228,slow=14,SNR=5.0						
AB31				⇓S	**Sn**	**17 00 41.8**	**-3.0**
	1.3nm,0.8s,baz=238,slow=27,SNR=3.8						
AKTO	**Aktyubinsk**	**11.23**	**32**	⇑P	**Pn**	**16 58 39.8**	**+0.3**
	1.9nm,0.9s						
AKTO				⇑S	**Sn**	**17 00 40.1**	**-4.8**
	2.6nm,0.7s						

IDC 28 17:08:32.4±3.2, 15°24S×173°99W, h105km±76km, mb3.5/2, mb1 3.8/3, mb1mx3.3/40, mbtmp3.9/3, ML4.1/1, Error ellipse: s-maj=329.8km s-min=33.5km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.52**	**59**	P	Pn	17 09 13.9	+2.0
	37nm,0.3s,baz=202,slow=4.6,SNR=76						
AFI				S	Sn	17 09 42.5	+0.2
	40nm,0.3s,baz=307,slow=23,SNR=13						
WRA	**Warramunga Arr**	**49.33**	**257**	P	P	17 17 11.0	-0.4
	0.3nm,0.5s,baz=92,slow=7.2,SNR=8.7						
ASAR	**Alice Springs**	**49.62**	**252**	P	P	17 17 13.2	-0.4
	2.4nm,0.8s,baz=86,slow=8.5,SNR=32						
BRTR	**Keskin Array B**	**145.68**	**321**	PKPbc	PKPdf	17 27 59.2	+0.2
	1.3nm,0.8s,baz=62,slow=2.6,SNR=7.6						

IDC 28 17:10:37.9±26.0, 21°65S×172°71W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.8/37, mbtmp4.2/4, MS4.1/2, Ms1 4.1/2, ms1mx3.3/32, Error ellipse: s-maj=478.5km s-min=159.9km az=75.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**19.35**	**265**	LR	LR	17 21 26.6	
	comp=Z,510nm,20.9s,baz=206,slow=34						
CTA	**Charters Tower**	**38.30**	**265**	P	P	17 18 00.5	0.0
	4.5nm,0.4s,baz=97,slow=11,SNR=23	

MKAR	**Makanchi Array**	**67.55**	**327**	P		P	17 47 01.1	0.0
	0.3nm,0.4s,baz=117,slow=8.0,SNR=11							

*IDC **28** 17:45:40.3±0.5,20.74N×146.78E,h0km,mb4.1/19, mb1 4.2/20,mb1mx4.1/49,mbtmp4.1/20,MS2.4/1, Ms1 2.4/1,ms1mx2.3/51,Error ellipse: s-maj=19.9km s-min=12.5km az=90.0*
*NEIC **28** 17:45:43.4±1.6,20.80N±0.09×146.76E±0.06,h17km±3km, mb4.6/21*
*ISCJB **28** 17:45:44.6±0.3,20.71N±0.04×146.71E±0.08,h40km, mb4.2/25,Error ellipse: s-maj=10.2km s-min=5.6km az=176.7*

ISC 28 17:45:46.3±0.4,20.73N±0.05×146.76E±0.10,h40km,n55, σ1§29/64,mb4.5/33,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GUMO	**Guam**	**7.33**	**195**	Pn	**Pn**		**17 47 28.9**	**-1.9**
	baz=217,slow=16,SNR=1.6							
GUMO				Sn	**Sn**		**17 48 55.4**	**+2.6**
	5.3nm,0.3s,baz=218,slow=19,SNR=2.4							
GUMO				LR	LR		17 49 28.5	
	comp=Z,30nm,21.2s,baz=196,slow=31							
GUMO	**Guam**	**7.33**	**195**	Pn	**Pn**		**17 47 31.4**	**+0.6**
GUMO					**Sn**		**17 48 51.7**	**-1.1**
INU	**Inuyama**	**16.90**	**332**	P	**P**		**17 49 41.8**	**+0.4**
INU				IAmb	IAmb		17 49 43.5	
	comp=Z,34nm,0.9s							
MAJO	**Matsushiro**	**17.44**	**336**	P	**P**		**17 49 47.5**	**+0.1**
PATS	**Pohnpei**	**17.78**	**139**	P	**P**		**17 49 52.1**	**+0.9**
KSRS	**Korea Array**	**23.35**	**320**	P	**P**		**17 50 50.5**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=154,slow=8.9,SNR=4.4							
KRVT	**Keravat (AS076**	**25.41**	**168**	P	**P**		**17 51 08.5**	**-1.8**
	comp=Z,146nm,0.5s,baz=326,slow=7.3,SNR=10.0							
USA0B	**Ussuriysk Arra**	**26.43**	**336**	P	**P**		**17 51 21.2**	**+2.0**
USA0B				IAmb	IAmb		17 51 47.7	
	comp=Z,28nm,1.4s							
USRK	**Ussuriysk Ar.**	**26.43**	**336**	P	**P**		**17 51 20.2**	**+1.0**
	comp=Z,5.1nm,0.9s,baz=122,slow=9.7,SNR=5.1							
NJ2	**Nanjing**	**27.34**	**300**	*eP*	**P**		**17 51 28.5**	**+0.9**
NJ2				pmax	pmax			
	comp=Z,11nm,0.7s							
TNTI	**Ternate**	**27.43**	**226**		**S**		**17 56 05.0**	**-1.5**
PETK	**Petropavlovsk-**	**33.40**	**12**	P	**P**		**17 52 20.9**	**+0.1**
	comp=Z,10nm,1.0s,baz=200,slow=11,SNR=3.6							
HHC	**Hu-ho-hao-te**	**35.95**	**312**	*eP*	**P**		**17 52 43.0**	**-0.2**
HHC				pmax	pmax			
	comp=Z,7.0nm,0.8s							
HHC				pmax	pmax			
	comp=Z,97nm,5.6s							
KNRA	**Kununurra**	**40.27**	**207**	P	**P**		**17 53 21.0**	**+1.4**
CTAO	**Charters Tower**	**40.57**	**181**	P	**P**		**17 53 23.7**	**+1.6**
CTAO				IAmb	IAmb		17 53 42.1	
	comp=Z,18nm,0.9s							
KMI	**Kunming**	**40.65**	**285**	P	**P**		**17 53 21.5**	**-1.6**
KMI				pmax	pmax			
	comp=Z,8.0nm,0.8s							
WRA	**Warramunga Arr**	**42.21**	**198**	P	**P**		**17 53 35.1**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=19,slow=8.5,SNR=7.8							
WRA				PcP	**PcP**		**17 55 29.9**	**+0.7**
	comp=Z,0.9nm,1.1s,baz=8,9,slow=3.3,SNR=4.7							
SONM	**Songino Array**	**42.22**	**320**	P	**P**		**17 53 35.3**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=131,slow=9.7,SNR=4.1							
SONM				PcP	**PcP**		**17 55 29.5**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=103,slow=4.6,SNR=2.7							
SEY	**Seymchan**	**42.35**	**4**	P	**P**		**17 53 36.7**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=200,slow=7.1,SNR=5.4							
YAK	**Yakutsk**	**42.93**	**348**	P	**P**		**17 53 41.5**	**+0.6**
YAK				IAmb	IAmb		17 53 41.6	
	comp=Z,6.0nm,0.7s							
FITZ	**Fitzroy Crossi**	**43.80**	**210**	P	**P**		**17 53 48.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**44.98**	**276**	P	**P**		**17 53 58.4**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=70,slow=7.0,SNR=2.9							
AS31	**Alice Springs**	**45.87**	**197**	P	**P**		**17 54 04.8**	**-0.1**
ASAR	**Alice Springs**	**45.87**	**197**	P	**P**		**17 54 04.4**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=11,slow=6.7,SNR=11							
ASAR				PcP	**PcP**		**17 55 42.6**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=23,slow=3.1,SNR=7.0							
WMQ	**Urumqi**	**53.77**	**310**	*eP*	**P**		**17 55 06.8**	**+2.0**
WMQ				pmax	pmax			
	comp=Z,10.0nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,83nm,4.9s							
ZAA0	**Zalesovo Array**	**57.04**	**322**	P	**P**		**17 55 27.6**	**-0.4**
ZAA0				IAmb	IAmb		17 55 28.3	
	comp=Z,4.6nm,0.8s							
ZALV	**Zalesovo Beam**	**57.04**	**322**	P	**P**		**17 55 27.4**	**-0.6**
	comp=Z,5.0nm,0.6s,baz=106,slow=7.4,SNR=21							
ZALV				PcP	**PcP**		**17 56 22.4**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=100,slow=6.0,SNR=2.0							
MK31	**Makanchi Array**	**57.80**	**313**	P	**P**		**17 55 33.5**	**-0.1**
MKAR	**Makanchi Array**	**57.80**	**313**	P	**P**		**17 55 33.1**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=96,slow=9.9,SNR=12							
MAKZ	**Makanchi**	**58.02**	**313**	P	**P**		**17 55 34.9**	**-0.2**
MAKZ				IAmb	IAmb		17 55 36.6	
	comp=Z,4.2nm,0.9s							
NRIK	**Noril'sk**	**60.06**	**339**	P	**P**		**17 55 49.4**	**+0.5**
	comp=Z,5.6nm,0.7s,baz=116,slow=9.6,SNR=12							
KURK	**Kurchatov**	**60.45**	**317**	P	**P**		**17 55 51.1**	**-0.7**
ILAR	**Eielson Array**	**61.39**	**27**	P	**P**		**17 55 56.3**	**-1.7**
	comp=Z,0.6nm,0.9s,baz=261,slow=7.0,SNR=5.4							
KSH	**Kashi**	**62.53**	**305**	P	**P**		**17 56 08.8**	**+2.5**
KSH				PP	**PP**		**17 58 29.3**	**+5.3**
KSH				PcS	**PcS**		**18 00 48.3**	**-0.3**
KSH				S	**S**		**18 04 27.8**	**-3.5**
KSH	**Kashi**	**62.53**	**305**	SS	SS		18 08 35.3	-0.3
KSH				pmax	pmax			
	comp=Z,320nm,6.3s							
KSH				LR	LR			
	comp=N,780nm,5.6s							
KSH				LR	LR			
	comp=E,1μm,6.6s							
KSH				LR	LR			
	comp=Z,460nm,7.4s							
NIL	**Nilore**	**65.44**	**298**	P	**P**		**17 56 25.2**	**-0.2**
KK31	**Karatay Array**	**66.26**	**309**	P	**P**		**17 56 30.6**	**+0.1**
KK31				IAmb	IAmb		17 56 31.6	
	comp=Z,4.3nm,0.8s							
KKAR	**Karatay Array**	**66.26**	**309**	P	**P**		**17 56 30.5**	**0.0**
KKAR				IAmb	IAmb		17 56 31.6	
	comp=Z,4.3nm,0.8s							
INK	**Inuvik**	**67.12**	**23**	P	**P**		**17 56 35.1**	**-0.3**
	comp=Z,1.5nm,1.0s,baz=252,slow=3.2,SNR=3.2							
CHGR	**Chuyangaron**	**67.90**	**304**	P	**P**		**17 56 41.2**	**+0.1**
CHGR				IAmb	IAmb		17 56 42.0	
	comp=Z,6.1nm,0.7s							
ARU	**Arti**	**72.00**	**324**	P	**P**		**17 57 05.7**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=138,slow=1.1,SNR=14							
ARU	**Arti**	**72.00**	**324**	P	**P**		**17 57 05.7**	**-0.1**
ARU				IAmb	IAmb		17 57 06.5	
	comp=Z,7.9nm,0.8s							
ABKAR	**Akbulak array**	**72.55**	**317**	P	**P**		**17 57 08.7**	**-0.5**
YKA	**Yellowknife Ar**	**75.73**	**28**	P	**P**		**17 57 27.2**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=290,slow=5.7,SNR=14							
ARCES	**ARCESS Array B**	**80.87**	**342**	P	**P**		**17 57 55.8**	**0.0**
	comp=Z,4.8nm,0.8s,baz=48,slow=5.6,SNR=4.1							
NVAR	**Mina Array Bea**	**81.11**	**52**	P	**P**		**17 57 58.7**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=268,slow=6.7,SNR=11							
ELK	**Elko**	**82.54**	**49**	P	**P**		**17 58 06.5**	**+1.0**
FINES	**FINESS Array B**	**85.46**	**336**	P	**P**		**17 58 18.8**	**-0.8**
	comp=Z,4.0nm,0.5s,baz=67,slow=3.9,SNR=27							
PDAR	**Pinedale Array**	**85.69**	**46**	P	**P**		**17 58 21.0**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=259,slow=0.9,SNR=3.5							
SRU	**San Rafael Swe**	**86.51**	**49**	P	**P**		**17 58 25.7**	**+0.2**
AKASG	**Malin Array Be**	**90.21**	**326**	P	**P**		**17 58 40.7**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=44,slow=6.5,SNR=4.5							
PB11	**IPOC Station P**	**145.86**	**95**			**PKPdf**	**18 05 20.7**	**-1.0**
LPAZ	**La Paz**	**146.66**	**88**	PKPbc		**PKPab**	**18 05 26.8**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=320,slow=2.3,SNR=9.1							
LPAZ	**La Paz**	**146.66**	**88**			**PKPab**	**18 05 26.2**	**-0.2**
SAML	**Samuel**	**148.84**	**72**	PKPdf		**PKPdf**	**18 05 24.4**	**-2.1**
SAML						**PKPbc**	**18 05 31.0**	**+0.5**

*ISK **28** 17:48:13.9,36.06N×31.35E,h21km, ML2.9/15*
*NIC **28** 17:48:16.4±0.0,36.12N×31.99E,h4km±2km,Ml2.5/2*

ISC 28 17:48:14.7±1.3,36.05N±0.04×31.37E±0.04,h28km±15km, n22,σ1§08/29,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ALAN	**Alanya-ANTALYA**	**0.74**	**47**	PG	**Pn**		**17 48 29.2**	**-0.1**
ALAN				SG	**Sn**		**17 48 39.8**	**+0.2**
GAZI	**Gazipasa**	**0.79**	**76**	PG	**Pn**		**17 48 30.5**	**+0.5**
GAZI				SG	**Sn**		**17 48 41.8**	**+0.9**
KORT	**Korkueli**	**1.25**	**319**	PN	**Pb**		**17 48 36.9**	**-0.9**
AKMS	**Akamas**	**1.30**	**142**	P	**Pb**		**17 48 38.3**	**-0.2**
AKMS				AML	AML		17 48 51.5	
	0.7nm,0.9s							
AKMS				AML	AML		17 48 51.5	
	0.7nm,0.9s							
AKMS				S	**Sb**		**17 48 55.4**	**+0.5**
AKMS				AML	AML		17 48 55.9	
	0.3nm,0.3s							
AKMS				AML	AML		17 48 55.9	
	0.3nm,0.3s							
ALFC	**Alefka**	**1.34**	**131**	P	**Pn**		**17 48 37.3**	**-0.3**
ALFC				S	**Sn**		**17 48 53.8**	**-0.8**
ALFC				AML	AML		17 48 55.0	
	0.3nm,0.2s							
ALFC				AML	AML		17 48 55.0	
	0.3nm,0.2s							
ALFC				AML	AML		17 48 57.1	
	0.5nm,0.2s							
ALFC				AML	AML		17 48 57.1	
	0.5nm,0.2s							
TEKE	**Tekeli-Mersin**	**1.42**	**86**	PN	**Pb**		**17 48 39.3**	**-1.2**
TEKE				SN	**Sb**		**17 48 58.0**	**-0.2**
AKAS	**Kas**	**1.44**	**278**	PN	**Pn**		**17 48 39.1**	**+0.1**
BERE	**Bereket-Mersin**	**1.53**	**78**	PN	**Pb**		**17 48 41.2**	**-1.3**
NATA	**Nata**	**1.61**	**142**	P	**Pb**		**17 48 45.9**	**+2.1**
AKKU	**Akkuyu-Mersin**	**1.77**	**86**	PN	**Pn**		**17 48 44.4**	**+0.9**
SZAC	**Souni**	**1.79**	**136**	P	**Pb**		**17 48 47.9**	**+1.0**
IKL	**Isikli**	**1.89**	**84**	PN	**Pn**		**17 48 46.1**	**+1.1**
FETY	**Fethiye**	**1.93**	**288**	PN	**Pn**		**17 48 46.0**	**+0.3**
CSS	**Mathiatis**	**1.94**	**124**	P	**Pn**		**17 48 45.7**	**0.0**
CSS				S	**Sn**		**17 49 08.0**	**-1.2**
KEBE	**Keben-Mersin**	**1.94**	**78**	PN	**Pn**		**17 48 46.5**	**+0.7**
KONT	**Konya--Tatoy**	**2.05**	**23**	PN	**Pn**		**17 48 48.3**	**+0.9**
SILI	**Silifke-Mersin**	**2.09**	**81**	PN	**Pn**		**17 48 48.6**	**+0.7**
MVOU	**Mavrovouni**	**2.12**	**119**	P	**Pn**		**17 48 47.4**	**-0.8**
MVOU				S	**Sn**		**17 49 11.1**	**-2.5**
BASM	**Basmaki-Afyon**	**2.14**	**331**	PN	**Pn**		**17 48 49.5**	**+0.9**
LADK	**Ladik-KONYA**	**2.29**	**20**	PN	**Pn**		**17 48 51.0**	**+0.3**
KIZT	**Kizilcal**	**2.85**	**8**	PN	**Pn**		**17 48 59.6**	**+1.1**
CMRD	**Camardi-Nigde**	**3.32**	**60**	PN	**Pn**		**17 49 06.6**	**+1.7**

IDC 28 17:57:22.7±1.3,30.55S×60.04E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.5/61,mbtmp3.7/5,Error ellipse: s-maj=46.6km s-min=30.7km az=94.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
H01W2	**Cape Leeuwin H**	**45.26**	**110**	T	T		18 54 03.5	
	baz=259,slow=75,SNR=5.8							
H01W3	**Cape Leeuwin H**	**45.27**	**110**	T	T		18 54 03.8	
	baz=259,slow=75,SNR=5.4							
H01W1	**Cape Leeuwin H**	**45.28**	**110**	T	T		18 54 04.8	
	baz=259,slow=75,SNR=5.9							
QSPA	**South Pole Qui**	**59.61**	**180**	P	P		18 07 28.4	+0.1
	0.7nm,0.8s,baz=273,slow=6.4,SNR=4.0							
CMAR	**Chiang Mai Arr**	**61.44**	**43**	P	P		18 07 41.5	+0.4
	0.6nm,0.7s,baz=224,slow=7.5,SNR=5.8							
ASAR	**Alice Springs**	**65.06**	**104**	P	P		18 08 05.2	-0.1
	0.7nm,0.9s,baz=237,slow=5.5,SNR=7.0							
WRA	**Warramunga Arr**	**66.98**	**100**	P	P		18 08 17.7	0.0
	0.8nm,0.8s,baz=242,slow=5.8,SNR=4.7							
ZALV	**Zalesovo Beam**	**86.84**	**14**	P	P		18 10 08.2	-0.5
	0.4nm,0.4s,baz=203,slow=3.0,SNR=3.5							
YKA	**Yellowknife Ar**	**147.86**	**355**	PKPbc	PKPbc		18 17 08.5	-0.5
	0.3nm,0.6s,baz=355,slow=3.3,SNR=8.7							

*ISK **28** 17:58:36.8,35.85N×31.44E,h13km, ML3.4/30*
*IDC **28** 17:58:38.4±1.3,35.68N×31.22E,h54km±18km,mb3.5/4, mb1 3.5/10,mb1mx3.2/46,mbtmp3.5/10,ML3.4/6,Error ellipse: s-maj=13.0km s-min=10.6km az=40.0*
*GII **28** 17:58:39.5±0.0,35.54N×31.37E,h10km,MD3.2/2*
*NIC **28** 17:58:40.9±0.0,35.86N×31.94E,h16km±1km, Ml3.0/4*

ISC 28 17:58:37.6±1.3,35.78N±0.03×31.41E±0.03,h28km±11km, n68,σ1§67/87,mb3.6/4,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GAZI	**Gazipasa**	**0.86**	**58**	PG	**Pb**		**17 58 53.8**	**-0.3**
GAZI				SG	**Sb**		**17 59 04.4**	**-0.9**
ALAN	**Alanya-ANTALYA**	**0.92**	**33**	PG	**Pn**		**17 58 54.4**	**-0.6**
ALAN				SG	**Sb**		**17 59 05.5**	**-1.4**
KEMT	**Kemer-ANTALYA**	**1.07**	**320**	PG	**Pn**		**17 58 57.3**	**+0.6**
AKMS	**Akamas**	**1.08**	**135**	P	**Pn**		**17 58 56.6**	**-0.2**
AKMS				S	**Sb**		**17 59 11.0**	**-0.4**
AKMS				AML	AML		17 59 23.0	
	2.7nm,0.5s							
AKMS				AML	AML		17 59 23.0	
	2.7nm,0.5s							
AKMS				AML	AML		17 59 24.2	
	2.0nm,0.4s							
AKMS				AML	AML		17 59 24.2	
	2.0nm,0.4s							
ALFC	**Alefka**	**1.16**	**122**	P	**Pn**		**17 58 57.5**	**-0.5**
ALFC				S	**Sn**		**17 59 11.4**	**-1.5**
ALFC				AML	AML		17 59 21.3	
	2.2nm,0.5s							
ALFC				AML	AML		17 59 21.3	
	2.2nm,0.5s							
DEMR	**Demre-Antalya**	**1.30**	**291**	PN	**Pn**		**17 59 01.3**	**+1.4**
LEF	**Lefka**	**1.38**	**118**	PN	**Pn**		**17 59 01.2**	**+0.2**
NATA	**Nata**	**1.38**	**136**	P	**Pn**		**17 59 02.7**	**+1.6**
NATA				AML	AML		17 59 26.7	
	2.7nm,0.5s							
NATA				AML	AML		17 59 26.7	
	3.2nm,0.3s							
TEKE	**Tekeli-Mersin**	**1.43**	**75**	PN	**Pn**		**17 59 02.8**	**+1.1**
KORT	**Korkueli**	**1.48**	**325**	PN	**Pn**		**17 59 03.5**	**+0.9**
AKAS	**Kas**	**1.53**	**288**	PN	**Pn**		**17 59 04.1**	**+0.9**
BERE	**Bereket-Mersin**	**1.57**	**69**	PN	**Pn**		**17 59 04.8**	**+1.0**
SZAC	**Souni**	**1.58**	**130**	P	**Pn**		**17 59 05.8**	**+1.9**
SZAC				S	**Sn**		**17 59 23.6**	**+0.2**
SZAC				AML	AML		17 59 24.9	
	0.8nm,0.8s							
SZAC				AML	AML		17 59 24.9	
	0.8nm,0.8s							
SZAC				AML	AML		17 59 30.0	
	0.8nm,0.7s							
SZAC				AML	AML		17 59 30.0	
	0.8nm,0.7s							
ATHAL	**Athalassa**	**1.75**	**111**	S	**Sn**		**17 59 24.6**	**-2.8**
AKK1	**Akkuyu-Mersin**	**1.77**	**78**	PN	**Pn**		**17 59 07.3**	**+1.0**
AKK2	**Akkuyu-Mersin**	**1.77**	**78**	PN	**Pn**		**17 59 07.3**	**+0.9**
TEVE	**Tevekalti-Mers**	**1.77**	**68**	PN	**Pn**		**17 59 07.5**	**+1.0**
CSS	**Mathiatis**	**1.77**	**117**	Pn	**Pn**		**17 59 07.6**	**+1.2**
CSS	**Mathiatis**	**1.77**	**117**	P	**Pn**		**17 59 05.9**	**-0.6**
CSS				S	**Sn**		**17 59 25.7**	**-2.3**
AKKU	**Akkuyu-Mersin**	**1.78**	**77**	PN	**Pn**		**17 59 07.8**	**+1.3**
BCK	**Bucak**	**1.80**	**339**	PN	**Pn**		**17 59 08.1**	**+1.2**
ASGA	**Asgata**	**1.81**	**123**	P	**Pn**		**17 59 07.8**	**+0.9**
YESI	**Yesilovacik-Me**	**1.86**	**77**	PN	**Pn**		**17 59 08.8**	**+1.2**
IKL	**Isikli**	**1.90**	**76**	PN	**Pn**		**17 59 08.7**	**+0.5**
MVOU	**Mavrovouni**	**1.97**	**112**	P	**Pn**		**17 59 08.5**	**-0.6**
MVOU				S	**Sn**		**17 59 30.2**	**-2.8**
KEBE	**Keben-Mersin**	**1.98**	**70**	PN	**Pn**		**17 59 10.6**	**+1.2**
GLHS	**Glhisar (BURDU**	**2.06**	**312**	PN	**Pn**		**17 59 11.9**	**+1.4**
FETY	**Fethiye**	**2.06**	**295**	PN	**Pn**		**17 59 11.9**	**+1.5**
SILI	**Silifke-Mersin**	**2.12**	**73**	PN	**Pn**		**17 59 12.2**	**+1.0**
EREN	**Erenkoy**	**2.26**	**96**	PN	**Pn**		**17 59 14.5**	**+1.3**
KONT	**Konya--Tatoy**	**2.29**	**19**	PN	**Pn**		**17 59 14.9**	**+1.3**
KIZK	**Mersin**	**2.32**	**72**	PN	**Pn**		**17 59 15.5**	**+1.5**
BASM	**Basmaki-Afyon**	**2.39**	**333**	PN	**Pn**		**17 59 16.2**	**+1.2**
LADK	**Ladik-KONYA**	**2.53**	**17**	PN	**Pn**		**17 59 18.0**	**+1.0**
MERS	**Mersin**	**2.74**	**66**	PN	**Pn**		**17 59 21.7**	**+1.9**
SHUT	**Suhut-Afyon**	**2.85**	**346**	PN	**Pn**		**17 59 22.6**	**+1.3**
KIZT	**Kizilcal**	**3.11**	**7**	PN	**Pn**		**17 59 26.1**	**+1.1**
KARA	**Karaisali**	**3.29**	**62**	PN	**Pn**		**17 59 28.7**	**+1.4**
CMRD	**Camardi-Nigde**	**3.44**	**56**	PN	**Pn**		**17 59 30.9**	**+1.5**
YAYX	**Yaylak**	**3.69**	**31**	PN	**Pn**		**17 59 33.9**	**+1.1**
KOZT	**Kozan**	**3.94**	**63**	PN	**Pn**		**17 59 37.2**	**+1.0**
HNTI	**Hanita**	**4.12**	**130**	Pn	**Pn**		**17 59 41.4**	**+2.7**
MMA0B	**Mount Meron ar**	**4.31**	**129**	Pn	**Pn**		**17 59 43.2**	**+1.9**
MMAI	**Mount Meron Ar**	**4.31**	**129**	P	**Pn**		**17 59 42.6**	**+1.3**
	5.0nm,0.3s,baz=307,slow=11,SNR=31							
MMAI				S	**Sn**		**18 00 31.6**	**+0.9**
	4.0nm,0.3s,baz=305,slow=23,SNR=5.4							
BRTR	**Keskin Array B**	**4.31**	**24**	P	**Pn**		**17 59 43.3**	**+1.8**
	0.8nm,0.3s,baz=193,slow=16,SNR=23							
BRTR				S	**Sn**		**18 00 34.9**	**+4.0**
	0.4nm,0.3s,baz=190,slow=25,SNR=5.6							
OFRI	**`Ofer**	**4.33**	**136**	Pn	**Pn**		**17 59 43.5**	**+1.9**
GEM	**Giv'at Ha'Em**	**4.35**	**125**	Pn	**Pn**		**17 59 44.2**	**+2.3**
KSDI	**Kefar Szold**	**4.36**	**125**	Pn	**Pn**		**17 59 45.1**	**+3.1**
KSDI				Sn	**Sn**		**18 00 33.6**	**+1.7**
NATI	**Neve Ativ**	**4.37**	**124**	Pn	**Pn**		**17 59 44.7**	**+2.6**
NATI				Sn	**Sn**		**18 00 33.8**	**+1.7**
SLTI	**Sal'it**	**4.65**	**138**	Pn	**Pn**		**17 59 47.1**	**+1.1**
MMLI	**Mount Malkishu**	**4.71**	**134**	Pn	**Pn**		**17 59 48.8**	**+1.9**
HMDT	**Nahal Hemdat**	**4.91**	**135**	Pn	**Pn**		**17 59 51.5**	**+1.9**
HMDT				Sn	**Sn**		**18 00 47.8**	**+2.4**
IDI	**Anoyia**	**5.34**	**267**	P	**Pn**		**17 59 55.2**	**-0.3**
	1.5nm,0.3s,baz=336,slow=12,SNR=13							
IDI				S	**Sn**		**18 00 51.3**	**-4.8**
	4.0nm,0.3s,baz=129,slow=23,SNR=9.0							
DSI	**Dead Sea**	**5.35**	**141**	Pn	**Pn**		**17 59 58.0**	**+2.4**
DSI				Sn	**Sn**		**18 00 57.7**	**+1.4**
YTIR	**Yattir**	**5.39**	**144**	Pn	**Pn**		**17 59 58.7**	**+2.5**
MZDA	**Masada**	**5.55**	**142**	Pn	**Pn**		**17 59 59.8**	**+1.5**
MZDA				Sn	**Sn**		**18 01 02.3**	**+1.1**
ASF	**Jabal al Asfar**	**5.81**	**127**	P	**Pn**		**18 00 04.5**	**+2.4**
	0.5nm,0.3s,baz=282,slow=20,SNR=3.0							
PRNI	**Paran**	**6.20**	**150**	Pn	**Pn**		**18 00 09.2**	**+1.9**
HRFI	**Mount Harif**	**6.49**	**151**	Pn	**Pn**		**18 00 12.1**	**+0.7**
HRFI				Sn	**Sn**		**18 01 25.1**	**+0.6**
MBRI	**Mt Berech**	**6.66**	**153**	Pn	**Pn**		**18 00 15.1**	**+1.4**
MBRI				Sn	**Sn**		**18 01 29.3**	**+0.5**
EIL	**Elat**	**6.79**	**153**	Pn	**Pn**		**18 00 16.8**	**+1.4**
EIL				Sn	**Sn**		**18 01 30.8**	**-0.9**
EIL	**Elat**	**6.79**	**153**	P	**Pn**		**18 00 16.3**	**+0.9**
	1.4nm,0.3s,baz=322,slow=8.7,SNR=14							
EIL				S	**Sn**		**18 01 30.5**	**-1.2**
	0.9nm,0.3s,baz=346,slow=13,SNR=4.8							
AKASG	**Malin Array Be**	**14.99**	**355**	P	**Pn**		**18 02 09.9**	**+2.5**
	0.3nm,0.3s,baz=178,slow=8.8,SNR=3.5							
GERES	**GERESS Array B**	**18.43**	**321**	P	**P**		**18 02 51.8**	**+1.0**
	0.1nm,0.3s,baz=120,slow=12,SNR=3.9							
FINES	**FINESS Array B**	**25.90**	**354**	P	**P**		**18 04 05.2**	**-1.7**
	7.3nm,1.2s,baz=163,slow=10,SNR=3.5							
ARCES	**ARCESS Array B**	**33.96**	**356**	P	**P**		**18 05 17.2**	**-1.1**
	1.2nm,0.7s,baz=163,slow=9.4,SNR=4.0							
MKAR	**Makanchi Array**	**39.16**	**58**	P	**P**		**18 06 02.5**	**-0.3**
	0.3nm,0.5s,baz=270,slow=6.6,SNR=4.4							
YKA	**Yellowknife Ar**	**78.31**	**345**	P	**P**		**18 10 32.5**	**-2.2**
	0.1nm,0.3s,baz=35,slow=5.7,SNR=5.0							

*ANF **28** 18:14:37.5±0.1,33.04N×116.23W,h10km±1km,ML2.7/24, Error ellipse: s-maj=1.3km s-min=1.1km az=158.0*
*SCEDC **28** 18:14:38.5,33.01N×116.23W,h6km,ML2.9,ML2.9,ML2.9*
*PAS **28** 18:14:38.5±1.3,33.01N±0.01×116.23W±0.01,h6km±6km, ML2.9*
*NEIC **28** 18:14:38.2±0.7,33.00N±0.01×116.254W±0.007, h12km±5km*

ISC 28 18:14:38.3±0.8,33.00N±0.02×116.24W±0.02,h12km±6km, n90,σ0§73/116,Southern California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CBKC	**Canebrake**	**0.10**	**187**		**Pg**		**18 14 40.8**	**-0.5**
MONP2	**Monument Peak**	**0.19**	**234**	P	**Pg**		**18 14 42.6**	**0.0**
	baz=54,SNR=97							
MONP2				S	**Sg**		**18 14 45.4**	**-0.3**
	baz=54							
MONP2	**Monument Peak**	**0.19**	**234**		**Pg**		**18 14 42.6**	**0.0**
CRR	**Carrizo Plain**	**0.25**	**117**		**Pg**		**18

HEC	**Hector,Ludlow**	**1.82**	**357**	Pg	**Pb**	**18 15 12.0**	**+0.3**
	baz=177						
GMRC	**Granite Mounta**	**1.84**	**15**	P	**Pn**	**18 15 08.6**	**-1.3**
	baz=195						
GMRC				Sb	**Sb**	**18 15 35.5**	**+0.4**
	baz=195						
CIS	**Catalina Islan**	**1.87**	**283**	P	**Pn**	**18 15 09.8**	**-0.5**
	baz=102						
CIS				S	**Sn**	**18 15 33.8**	**0.0**
	baz=102						
MWC	**Mount Wilson**	**1.95**	**309**		**Pn**	**18 15 12.1**	**+0.7**
RRX	**Edison Barstow**	**1.97**	**342**	Pg	**Pb**	**18 15 14.8**	**+0.6**
	baz=161						
PASC	**Pasadena Art C**	**2.00**	**306**	Pn	**Pn**	**18 15 12.3**	**+0.3**
PASC					**Sb**	**18 15 39.4**	**-0.2**
SPX	**San Pedro Mart**	**2.07**	**161**		**Pb**	**18 15 16.4**	**+0.4**
113A	**Mohawk Valley,**	**2.09**	**96**	Pn	**Pn**	**18 15 13.0**	**-0.2**
DECC	**Green Verdugo**	**2.15**	**306**	Pg	**Pb**	**18 15 18.6**	**+1.4**
	baz=125						
DECC				Sb	**Sb**	**18 15 44.8**	**+0.9**
	baz=125						
NEE2	**Needles Airpor**	**2.21**	**37**	Pg	**Pb**	**18 15 19.5**	**+1.2**
	baz=218						
NEE2				Sb	**Sb**	**18 15 46.6**	**+0.8**
	baz=218						
GSC	**Goldstone, Bar**	**2.34**	**349**	Pg	**Pb**	**18 15 21.6**	**+1.1**
	baz=168						
GSC	**Goldstone, Bar**	**2.34**	**349**		**Pn**	**18 15 16.3**	**-0.5**
EDW2	**Edwards Air Fo**	**2.38**	**323**	Pb	**Pb**	**18 15 20.7**	**-0.4**
	baz=142						
EDW2				Sb	**Sb**	**18 15 51.5**	**+1.1**
	baz=142						
TUQ	**Turquoise Moun**	**2.44**	**6**	Pg	**Pb**	**18 15 23.5**	**+1.3**
	baz=186						
OSI	**Osito Audit: C**	**2.62**	**308**	Sb	**Sb**	**18 15 59.1**	**+1.6**
	baz=127						
LRMC	**Laurel Mtn Rad**	**2.74**	**335**	Pg	**Pb**	**18 15 29.2**	**+1.7**
	baz=154						
Y14A	**Wickenburg**	**2.86**	**70**	Pn	**Pn**	**18 15 23.6**	**-0.2**
W13A	**Hualapai Mount**	**2.86**	**42**	Pn	**Pn**	**18 15 24.2**	**+0.2**
SHOC	**Shoshone, Teco**	**2.89**	**359**	Pg	**Pb**	**18 15 31.7**	**+1.8**
	baz=179						
214A	**Organ Pipe Nat**	**3.08**	**109**	Pn	**Pn**	**18 15 27.6**	**+0.7**
MPMC	**Manual Prospec**	**3.22**	**342**	Pg	**Pb**	**18 15 37.3**	**+1.7**
	baz=161						
ISA	**Isabella, Lake**	**3.23**	**326**		**Pn**	**18 15 30.1**	**+1.1**
DAC	**Darwin (Calif)**	**3.45**	**341**		**Pn**	**18 15 31.8**	**-0.4**
SHPR	**Sheep Range**	**3.60**	**14**		**Pn**	**18 15 34.4**	**+0.2**
SHPR					LR	18 16 32.1	
TPNV	**Topopah Spring**	**3.94**	**360**		**Pn**	**18 15 38.6**	**-0.2**
U15A	**North Rim**	**4.71**	**42**	Pn	**Pn**	**18 15 50.9**	**+1.3**
KNB	**Kanab**	**4.89**	**34**	Pn	**Pn**	**18 15 51.3**	**-0.5**

*ISCJB **28** 18:24:58.4±0.2,20˚19S±0˚03×177˚58W±0˚05,h550km, mb4.2/23,Error ellipse: s-maj=6.6km s-min=4.2km az=20.9*

*NEIC **28** 18:24:58.2±2.8,20˚02S±0˚09×177˚44W±0˚09, h538km±6km,mb4.8/95*

*BJI **28** 18:24:58.4±0.0,20˚24S×177˚09W,h569km,mb4.7/16, mB5.3/6*

*IDC **28** 18:24:59.0±1.7,20˚08S×177˚62W,h535km±18km, mb3.8/20,mb1 3.9/23,mb1mx3.7/42,mbtmp4.7/23,Error ellipse: s-maj=13.9km s-min=11.7km az=118.0*

ISC 28 18:24:58.9±0.3,20˚14S±0˚06×177˚48W±0˚06,h550km, n214,σ1$26/232,mb4.8/68,29C-5D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.86**	**299**	P	**P**	**18 26 29.2**	**+1.4**
NIUE	**Niue**	**7.19**	**83**	P	**P**	**18 26 52.0**	**+3.2**
AFI	**Afiamalu**	**8.25**	**42**	P	**P**	**18 26 59.2**	**-0.2**
	20nm,0.3s,baz=92,slow=2.8,SNR=26						
AFI				S	**S**	**18 28 33.9**	**-4.1**
	18nm,0.3s,baz=93,slow=21,SNR=8.5						
AFI	**Afiamalu**	**8.25**	**42**	P	**P**	**18 26 59.4**	**+0.1**
AFI					**S**	**18 28 35.0**	**-3.0**
DZM	**Mont Dzumac**	**15.13**	**260**	P	**P**	**18 28 08.6**	**-1.3**
	1.1nm,0.3s,baz=103,slow=6.7,SNR=20						
DZM	**Mont Dzumac**	**15.13**	**260**	P	**P**	**18 28 10.7**	**+0.9**
DZM					**S**	**18 30 48.6**	**+1.6**
OUZ	**Omahuta**	**16.96**	**206**	P	**P**	**18 28 28.9**	**+1.7**
MXZ	**Matakaoa Point**	**17.75**	**191**	P	**P**	**18 28 36.4**	**+2.1**
KNTN	**Kanton**	**18.15**	**19**	P	**P**	**18 28 37.5**	**-0.8**
URZ	**Urewera**	**18.66**	**193**	P	**P**	**18 28 41.9**	**-0.7**
	7.8nm,0.3s,baz=286,slow=3.5,SNR=42						
URZ				S	**S**	**18 31 38.1**	**-6.4**
	0.2nm,0.3s,baz=30,slow=20,SNR=4.2						
URZ	**Urewera**	**18.66**	**193**	P	**P**	**18 28 41.7**	**-0.9**
URZ				IAmb	IAmb	18 28 43.4	
	comp=Z,24nm,0.9s						
URZ					**S**	**18 31 40.0**	**-4.5**
HIZ	**Hauiti**	**19.48**	**198**	P	**P**	**18 28 50.0**	**-0.1**
BFZ	**Birch Farm**	**21.17**	**193**	P	**P**	**18 29 05.0**	**-0.3**
BFZ				IAmb	IAmb	18 29 21.6	
	comp=Z,49nm,1.2s						
MSWZ	**Moikau Station**	**22.09**	**195**	P	**P**	**18 29 12.7**	**-1.0**
SNZO	**South Karori**	**22.13**	**196**	P	**P**	**18 29 13.4**	**-0.5**
SNZO				IAmb	IAmb	18 29 17.9	
	comp=Z,56nm,1.3s						
BHW	**Baring Head**	**22.18**	**195**	P	**P**	**18 29 14.0**	**-0.4**
PLWZ	**Palliser**	**22.24**	**195**	P	**P**	**18 29 14.5**	**-0.6**
QRZ	**Quartz Range**	**22.32**	**200**	P	**P**	**18 29 16.3**	**+0.6**
QRZ				IAmb	IAmb	18 29 18.0	
	comp=Z,25nm,1.0s						
NNZ	**Nelson**	**22.41**	**198**	P	**P**	**18 29 16.7**	**+0.2**
NNZ				IAmb	IAmb	18 29 18.6	
	comp=Z,51nm,1.3s						
TUWZ	**Tuamarina**	**22.44**	**197**	P	**P**	**18 29 16.1**	**-0.7**
BSWZ	**Blackbirch Sta**	**22.73**	**197**	P	**P**	**18 29 20.0**	**+0.7**
THZ	**Tophouse**	**23.05**	**199**	P	**P**	**18 29 22.4**	**+0.1**
THZ				IAmb	IAmb	18 29 23.7	
	comp=Z,25nm,1.0s						
TARA	**Tarawa**	**23.34**	**335**	P	**P**	**18 29 23.7**	**-1.4**
KHZ	**Kahutara**	**23.47**	**197**	P	**P**	**18 29 25.6**	**-0.3**
LTZ	**Lake Taylor**	**24.17**	**199**	P	**P**	**18 29 31.4**	**-0.8**
LTZ				IAmb	IAmb	18 29 35.2	
	comp=Z,14nm,0.9s						
HNR	**Honiara**	**24.25**	**293**	P	**P**	**18 29 36.5**	**+3.2**
HNR				IAmb	IAmb	18 29 37.0	
	comp=Z,23nm,0.6s						
OXZ	**Oxford**	**24.74**	**199**	P	**P**	**18 29 37.0**	**-0.2**
OXZ				IAmb	IAmb	18 29 38.2	
	comp=Z,18nm,0.6s						
MQZ	**McQueen's Vall**	**24.91**	**197**	P	**P**	**18 29 38.6**	**0.0**
MQZ				IAmb	IAmb	18 29 48.2	
	comp=Z,53nm,1.4s						
RPZ	**Rata Peaks**	**25.39**	**200**	P	**P**	**18 29 44.8**	**+1.9**
	comp=Z,3.9nm,0.4s,baz=275,slow=2.6,SNR=8.1						
RPZ	**Rata Peaks**	**25.39**	**200**	P	**P**	**18 29 44.9**	**+1.9**
FOZ	**Fox Glacier**	**25.64**	**202**	P	**P**	**18 29 44.5**	**-0.6**
LBZ	**Lake Benmore**	**26.27**	**200**	P	**P**	**18 29 49.5**	**-1.2**
LBZ				IAmb	IAmb	18 30 01.4	
	comp=Z,20nm,1.3s						
DCZ	**Deep Cove**	**28.27**	**203**	P	**P**	**18 30 08.9**	**+0.8**
DCZ				IAmb	IAmb	18 30 09.7	
	comp=Z,31nm,1.3s						
WHZ	**Wether Hill Ro**	**28.35**	**202**	P	**P**	**18 30 09.2**	**+0.3**
WHZ				IAmb	IAmb	18 30 11.3	
	comp=Z,25nm,0.6s						
EIDS	**Eidsvold**	**29.42**	**254**	P	**P**	**18 30 18.3**	**-0.1**
ARMA	**Armidale**	**29.67**	**244**	P	**P**	**18 30 21.5**	**+0.8**
CAN	**Canberra**	**33.12**	**236**	P	**P**	**18 30 49.8**	**-0.2**
PMG	**Port Moresby**	**35.74**	**282**	P	**P**	**18 31 11.6**	**-0.5**
	comp=Z,22nm,0.8s,baz=96,slow=5.0,SNR=9.2						
PMG	**Port Moresby**	**35.74**	**282**	P	**P**	**18 31 11.1**	**-1.0**
PMG				IAmb	IAmb	18 31 13.1	
	comp=Z,31nm,0.9s						
TOO	**Toolangi**	**36.51**	**234**	P	**P**	**18 31 18.8**	**+0.6**
TOO				IAmb	IAmb	18 31 37.1	
	comp=Z,61nm,1.9s						
COEN	**Coen**	**38.05**	**273**	P	**P**	**18 31 31.2**	**+0.1**
COEN				IAmb	IAmb	18 31 32.2	
	comp=Z,17nm,0.9s						
STKA	**Stephens Creek**	**38.39**	**244**	P	**P**	**18 31 34.0**	**+0.5**
	comp=Z,3.7nm,0.5s,baz=96,slow=9.7,SNR=15						
STKA	**Stephens Creek**	**38.39**	**244**	P	**P**	**18 31 34.2**	**+0.6**
BBOO	**Buckleboo**	**43.15**	**243**	P	**P**	**18 32 11.6**	**+0.1**
BBOO				IAmb	IAmb	18 32 29.9	
	comp=Z,109nm,2.0s						
PTCN	**Pitcairn Islan**	**43.85**	**106**	P	**P**	**18 32 15.9**	**-1.1**
JAY	**Jayapura**	**44.40**	**288**	P	**P**	**18 32 21.8**	**+0.4**
	comp=Z,36nm,0.7s,baz=153,slow=4.5						

BYL	**Byron's Ledge**	**44.93**	**30**	P	**P**	**18 32 23.1**	**-2.3**
WR0	**Warramunga Arr**	**44.95**	**262**	P	**P**	**18 32 25.2**	**-0.3**
AS31	**Alice Springs**	**45.08**	**256**	P	**P**	**18 32 26.4**	**-0.1**
ASAR	**Alice Springs**	**45.08**	**256**	P	**P**	**18 32 26.4**	**-0.1**
	comp=Z,12nm,0.5s,baz=88,slow=8.6,SNR=422						
ASAR				PcP	**PcP**	**18 33 56.0**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=99,slow=3.9,SNR=9.2						
ASAR				S	**S**	**18 38 22.4**	**-3.6**
	comp=Z,4.5nm,0.8s,baz=93,slow=15,SNR=20						
WRAB	**Tennant Creek**	**45.13**	**262**	P	**P**	**18 32 26.7**	**-0.2**
WRAB				IAmb	IAmb	18 32 26.9	
	comp=Z,23nm,1.0s						
WRA	**Warramunga Arr**	**45.14**	**262**	P	**P**	**18 32 26.2**	**-0.8**
	comp=Z,9.2nm,0.4s,baz=98,slow=7.8,SNR=199						
WRA				PcP	**PcP**	**18 33 56.0**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=90,slow=2.9,SNR=5.5						
WRA				S	**S**	**18 38 22.0**	**-4.8**
	comp=Z,1.0nm,0.8s,baz=94,slow=13,SNR=4.8						
MTN	**Manton Dam**	**49.65**	**270**	P	**P**	**18 33 00.2**	**-0.6**
MTN				IAmb	IAmb	18 33 01.2	
	comp=Z,25nm,0.7s						
FORT	**Forrest**	**49.89**	**246**	P	**P**	**18 33 02.0**	**-0.4**
FORT				IAmb	IAmb	18 33 19.4	
	comp=Z,24nm,1.0s						
KNRA	**Kununurra**	**51.17**	**266**	P	**P**	**18 33 11.8**	**-0.2**
SARN	**Sarigan**	**51.40**	**313**	P	**P**	**18 33 13.7**	**+0.1**
SARN				IAmb	IAmb	18 33 20.9	
	comp=Z,79nm,1.4s						
FAKI	**Fak Fak**	**51.90**	**283**	P	**P**	**18 33 17.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**53.56**	**262**	P	**P**	**18 33 29.1**	**+0.1**
SIJI	**Sorong**	**53.62**	**284**	P	**P**	**18 33 29.6**	**+0.1**
	comp=Z,41nm,0.8s,baz=83,slow=5.0,SNR=25						
SOEI	**Soe**	**56.98**	**271**	P	**P**	**18 33 54.2**	**+1.1**
TNTI	**Ternate**	**57.85**	**284**	P	**P**	**18 33 59.0**	**+0.2**
PSA00	**Pilbara Seismi**	**58.23**	**257**	P	**P**	**18 34 00.7**	**-0.6**
PSA00				IAmb	IAmb	18 34 02.7	
	comp=Z,139nm,2.0s						
PSA00				PcP	**PcP**	**18 34 45.8**	**+0.5**
NWAO	**Narrogin (SRO)**	**58.97**	**243**	P	**P**	**18 34 05.8**	**-0.2**
NWAO				IAmb	IAmb	18 34 06.6	
	comp=Z,45nm,1.6s						
NWAO	**Narrogin (SRO)**	**58.97**	**243**	P	**P**	**18 34 05.6**	**-0.5**
NWAO				IAmb	IAmb	18 34 06.6	
	comp=Z,37nm,1.6s						
MMRI	**Maumere**	**59.23**	**272**	P	**P**	**18 34 06.5**	**-1.6**
MORW	**Morawa**	**60.42**	**247**	P	**P**	**18 34 15.5**	**-0.3**
LUWI	**Luwuk**	**61.35**	**280**		**P**	**18 34 22.9**	**+0.8**
LUWI				IAmb	IAmb	18 34 23.5	
	comp=Z,30nm,0.8s						
GIRL	**Giralia**	**63.12**	**254**	P	**P**	**18 34 34.1**	**+0.6**
CTBH	**Cotabato--PC H**	**63.42**	**289**	⇑P	**P**	**18 34 36.0**	**+0.6**
JHJ2	**Mitsune**	**66.83**	**322**	P	**P**	**18 34 55.6**	**-0.9**
JAGI	**Jajag, Banyuwa**	**66.88**	**269**	P	**P**	**18 34 56.5**	**-0.7**
JAGI				IAmb	IAmb	18 34 57.2	
	comp=Z,22nm,0.9s						
QSPA	**South Pole Qui**	**69.93**	**180**	P	**P**	**18 35 17.4**	**+2.5**
	comp=Z,1.6nm,0.6s,baz=329,slow=0.9,SNR=12						
QSPA	**South Pole Qui**	**69.93**	**180**	P	**P**	**18 35 17.1**	**+2.2**
KKM	**Kota Kinabalu**	**70.14**	**284**	P	**P**	**18 35 17.1**	**0.0**
KKM				IAmb	IAmb	18 35 18.8	
	comp=Z,71nm,1.4s						
MJAR	**Matsushiro Arr**	**70.21**	**323**	P	**P**	**18 35 17.1**	**+0.2**
	comp=Z,10nm,0.7s,baz=139,slow=6.1,SNR=19						
MAJO	**Matsushiro**	**70.21**	**323**	P	**P**	**18 35 17.4**	**+0.5**
MAJO				IAmb	IAmb	18 35 17.9	
	comp=Z,12nm,0.7s						
MAT	**Matsushiro**	**70.21**	**323**	P	**P**	**18 35 17.3**	**+0.4**
MJB9	**Matsu-Tunnel**	**70.22**	**323**	P	**P**	**18 35 17.1**	**+0.2**
MJB9				IAmb	IAmb	18 35 17.9	
	comp=Z,12nm,0.7s						
UGM	**Wanagama**	**70.46**	**269**	P	**P**	**18 35 18.7**	**-0.2**
ADK	**Adak**	**71.71**	**1**	P	**P**	**18 35 25.8**	**+0.5**
CISI	**Cisompet, Garu**	**73.12**	**268**	P	**P**	**18 35 33.4**	**-1.0**
CISI				IAmb	IAmb	18 35 51.5	
	comp=Z,57nm,1.5s						
LEM	**Lembang**	**73.54**	**269**	P	**P**	**18 35 37.4**	**+0.5**
	comp=Z,27nm,0.7s,baz=300,slow=20						
ASAJ	**Asahikawa**	**73.65**	**331**	P	**P**	**18 35 38.2**	**+1.6**
	comp=Z,12nm,0.7s,baz=209,slow=4.7,SNR=7.2						
YULB	**Yu-li**	**73.71**	**303**	P	**P**	**18 35 36.6**	**-0.9**
YULB				IAmb	IAmb	18 35 42.0	
	comp=Z,21nm,1.1s						
KSM	**Kuching**	**73.85**	**278**	P	**P**	**18 35 39.3**	**+0.9**
KSM				IAmb	IAmb	18 35 40.3	
	comp=Z,20nm,0.8s						
NACB	**Ninganchiao**	**73.88**	**304**	P	**P**	**18 35 38.3**	**-0.1**
SSLB	**Suanglung**	**74.19**	**303**	P	**P**	**18 35 39.2**	**-0.9**
SSLB				IAmb	IAmb	18 35 47.4	
	comp=Z,50nm,1.8s						
TPUB	**Ta-pu**	**74.19**	**303**	P	**P**	**18 35 39.4**	**-0.8**
TPUB				IAmb	IAmb	18 35 40.0	
	comp=Z,27nm,0.7s						
UNV	**Unalaska Valle**	**74.28**	**7**	P	**P**	**18 35 37.9**	**-2.0**
YHNB	**Yeheng**	**74.31**	**304**	P	**P**	**18 35 40.4**	**-0.5**
PEA0B	**Petropavlovsk-**	**76.05**	**345**	P	**P**	**18 35 50.1**	**+0.2**
PEA0B				IAmb	IAmb	18 35 57.2	
	comp=Z,98nm,1.5s						
PETK	**Petropavlovsk-**	**76.05**	**345**	P	**P**	**18 35 49.9**	**+0.1**
	comp=Z,5.5nm,0.7s,baz=135,slow=7.3,SNR=7.1						
KSRS	**Korea Array**	**76.94**	**318**	P	**P**	**18 35 55.2**	**+0.1**
	comp=Z,2.6nm,0.9s,baz=128,slow=6.9,SNR=5.3						
MNAI	**Manna**	**78.73**	**269**	P	**P**	**18 36 05.8**	**+0.5**
USRK	**Ussuriysk Ar.**	**78.94**	**326**	P	**P**	**18 36 07.0**	**+1.3**
	comp=Z,8.5nm,0.8s,baz=140,slow=5.1,SNR=9.6						
NJ2	**Nanjing**	**80.03**	**309**	*e*P	**P**	**18 36 12.0**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,11nm,0.8s						
KLR	**Kul'dur**	**82.47**	**329**	P	**P**	**18 36 25.4**	**+1.6**
	comp=Z,2.9nm,0.9s,baz=103,slow=4.5,SNR=5.9						
UBPT	**Khong Chiam**	**83.48**	**289**		**P**	**18 36 29.9**	**+0.3**
UBPT				IAmb	IAmb	18 36 46.4	
	comp=Z,55nm,1.7s						
IPM	**Ipoh**	**83.57**	**277**	P	**P**	**18 36 31.4**	**+1.1**
IPM				IAmb	IAmb	18 36 31.8	
	comp=Z,12nm,0.7s						
SUA	**Susitna One**	**84.10**	**13**		**P**	**18 36 33.1**	**+1.3**
KULM	**Kulim**	**84.21**	**278**	P	**P**	**18 36 33.7**	**+0.4**
KNK	**Knik Glacier**	**84.54**	**14**	P	**P**	**18 36 35.3**	**+1.4**
KNK				IAmb	IAmb	18 36 47.0	
	comp=Z,39nm,1.7s						
GHO	**Glory Hole Cre**	**84.76**	**13**	P	**P**	**18 36 36.0**	**+1.0**
GHO				IAmb	IAmb	18 36 41.7	
	comp=Z,33nm,1.4s						
SCM	**Sheep Creek Mo**	**85.17**	**14**	P	**P**	**18 36 38.9**	**+1.9**
F10A	**Beach Ranch, E**	**85.42**	**37**	P	**P**	**18 36 40.6**	**+2.0**
GLB	**Gilahina Butte**	**85.66**	**15**	P	**P**	**18 36 40.0**	**+0.7**
GLB				IAmb	IAmb	18 36 42.5	
	comp=Z,58nm,1.8s						
GSI	**Gunungsitoli**	**85.70**	**273**	P	**P**	**18 36 42.1**	**+1.5**
GSI				IAmb	IAmb	18 37 00.4	
	comp=Z,32nm,1.1s						
BARN	**Barnard Glacie**	**85.90**	**17**	P	**P**	**18 36 41.7**	**+1.0**
BARN				IAmb	IAmb	18 36 47.0	
	comp=Z,31nm,1.6s						
CTGM	**Chitina Glacie**	**85.91**	**17**	P	**P**	**18 36 40.7**	**+0.1**
CTGM				IAmb	IAmb	18 36 55.9	
	comp=Z,29nm,1.4s						
BESE	**Bessie Mountai**	**85.95**	**21**	P	**P**	**18 36 38.7**	**-2.0**
KTH	**Kantishna Hill**	**85.97**	**12**	P	**P**	**18 36 41.0**	**+0.2**
KTH				IAmb	IAmb	18 36 48.0	
	comp=Z,41nm,2.0s						
TRF	**Thorofare Moun**	**86.00**	**12**	P	**P**	**18 36 41.8**	**+0.7**
TRF				IAmb	IAmb	18 37 00.4	
	comp=Z,52nm,1.9s						
RND	**Reindeer**	**86.24**	**12**	P	**P**	**18 36 43.1**	**+1.0**
RND				IAmb	IAmb	18 36 44.5	
	comp=Z,19nm,1.2s						
ENH	**Enshi**	**86.24**	**304**	P	**P**	**18 36 43.4**	**+0.5**
TXAR	**Lajitas Array**	**86.45**	**57**	P	**P**	**18 36 46.3**	**+2.4**
	comp=Z,0.4nm,0.8s,baz=190,slow=6.4,SNR=5.5						
SYO	**Syowa Base**	**87.19**	**193**	⇑*e*PcP	**P**	**18 36 48.3**	**+1.8**
WRH	**Wood River Hil**	**87.34**	**12**	P	**P**	**18 36 48.1**	**+0.9**
MLY	**Manley**	**87.35**	**11**	P	**P**	**18 36 47.8**	**+0.5**
HDA	**Harding Lake**	**87.52**	**13**	P	**P**	**18 36 49.1**	**+1.1**
CCB	**Clear Creek Bu**	**87.56**	**12**	P	**P**	**18 36 48.8**	**+0.7**
IL31		**87.86**	**13**	P	**P**	**18 36 50.3**	**+0.8**
ILAR	**Eielson Array**	**87.86**	**13**	P	**P**	**18 36 50.1**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=219,slow=5.9,SNR=25						
XAN	**Xi'an**	**88.31**	**307**	P	**P**	**18 36 53.8**	**+1.4**
XAN				pmax	pmax		
	comp=Z,13nm,0.8s						
XAN	**Xi'an**	**88.31**	**307**	P	**P**	**18 36 53.9**	**+1.5**
XAN				IAmb	IAmb	18 36 54.6	
	comp=Z,9.9nm,0.8s						
PD31	**Pinedale Array**	**88.36**	**43**	P	**P**	**18 36 52.2**	**-0.6**

PDAR	**Pinedale Array**	**88.36**	**43**	P	**P**	**18 36 54.5**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=213,slow=1.9,SNR=5.7						
YHL	**Hebgen Lake**	**88.39**	**41**	P	**P**	**18 36 54.7**	**+1.9**
VNA2	**Neumayer--Watz**	**88.92**	**177**	P	**P**	**18 36 54.1**	**-0.5**
	baz=194,slow=4.2						
DAWY	**Dawson**	**88.98**	**16**	P	**P**	**18 36 56.5**	**+1.7**
DAWY				IAmb	IAmb	18 37 05.2	
	comp=Z,19nm,1.8s						
HHC	**Hu-ho-hao-te**	**89.45**	**314**	*e*P	**P**	**18 36 57.0**	**-0.7**
PAYA	**Payao**	**89.96**	**291**	P	P	18 37 06.5	+6.1
CMAR	**Chiang Mai Arr**	**90.46**	**289**	P	**P**	**18 37 04.2**	**+1.5**
	comp=Z,3.3nm,0.8s,baz=117,slow=2.5,SNR=26						
CHTO	**Chiang Mai**	**90.58**	**290**	P	**P**	**18 37 04.2**	**+0.9**
CHTO				IAmb	IAmb	18 37 05.5	
	comp=Z,5.4nm,0.7s						
LZH	**Lanzhou**	**92.94**	**307**	*e*P	**P**	**18 37 15.5**	**+1.5**
LZH				pP	pP	18 39 14.0	-0.2
LZH				pmax	pmax		
	comp=Z,17nm,0.8s						
YKA	**Yellowknife Ar**	**95.98**	**25**	P	**P**	**18 37 28.2**	**+1.4**
	comp=Z,0.1nm,0.6s,baz=258,slow=6.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**110.52**	**321**	PKiKP	**PKiKP**	**18 42 28.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=220,slow=1.6,SNR=3.5						
MKAR	**Makanchi Array**	**111.31**	**313**	PKiKP	**PKiKP**	**18 42 30.2**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=174,slow=1.0,SNR=10						
KSH	**Kashi**	**115.08**	**305**	*e*PKP	**PKiKP**	**18 42 39.3**	**+1.1**
BVAR	**Borovoye Array**	**119.12**	**320**	PKP	**PKiKP**	**18 42 45.5**	**+0.1**
	comp=Z,1.8nm,0.4s,baz=118,slow=1.8,SNR=19						
ARU	**Arti**	**125.18**	**326**	PKP	**PKiKP**	**18 42 57.5**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=15,slow=2.9,SNR=6.0						
ARU	**Arti**	**125.18**	**326**		**PKiKP**	**18 42 56.6**	**-0.6**
AKTO	**Aktyubinsk**	**127.12**	**319**	PKP	**PKiKP**	**18 43 00.6**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=76,slow=4.4,SNR=3.8						
ARCES	**ARCESS Array B**	**128.65**	**350**	PKP	**PKiKP**	**18 43 03.3**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=5.7,slow=2.4,SNR=8.3						
FINES	**FINESS Array B**	**135.56**	**344**	PKP	**PKiKP**	**18 43 19.1**	**+1.0**
	comp=Z,5.2nm,0.8s,baz=137,slow=4.2,SNR=7.2						
HFS	**Hagfors**	**139.26**	**351**	PKhKP	PKPpre	18 43 14.7	
	comp=Z,3.1nm,0.6s,baz=40,slow=5.8,SNR=8.8						
AKASG	**Malin Array Be**	**142.93**	**332**	PKhKP	PKPpre	18 43 27.5	
	comp=Z,1.3nm,0.7s,baz=41,slow=4.5,SNR=56						
AKBB	**Malin Array Si**	**142.93**	**332**		**PKPdf**	**18 43 27.6**	**-2.4**
EKA	**Eskdalemuir Ar**	**144.60**	**6**	PKP	**PKPab**	**18 43 33.5**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=340,slow=3.4,SNR=7.3						
SORM	**Soroca**	**145.15**	**329**	⇑P	**PKPab**	**18 43 35.0**	**-0.9**
MBAR	**Mbarara**	**145.52**	**237**		**PKPab**	**18 43 37.9**	**-0.8**
MILM	**Milestii Mici**	**145.76**	**327**	⇑P	**PKPab**	**18 43 37.2**	**-1.2**
KWP	**Kalwaria Pacla**	**146.46**	**336**		**PKiKP**	**18 43 39.5**	**-1.3**
BR131	**Keskin Array S**	**146.96**	**313**		**PKiKP**	**18 43 40.9**	**-1.4**
BRTR	**Keskin Array B**	**146.96**	**313**	PKPbc	**PKiKP**	**18 43 40.7**	**-1.6**
	comp=Z,4.5nm,0.7s,baz=146,slow=5.4,SNR=22						
BUR08	**Bucovina Ar. S**	**146.97**	**331**		**PKiKP**	**18 43 41.1**	**-0.9**
BURAR	**Bucovina Array**	**146.99**	**331**	⇓P	**PKiKP**	**18 43 41.6**	**-0.4**
OJC	**Ojcow**	**147.00**	**339**		**PKiKP**	**18 43 40.6**	**-1.3**
ASF	**Jabal al Asfar**	**147.04**	**298**	PKPbc	**PKiKP**	**18 43 42.0**	**-0.6**
	comp=Z,4.7nm,0.9s,baz=340,slow=3.5,SNR=5.6						
BIZ	**Bicaz**	**147.07**	**330**	⇑P	**PKPab**	**18 43 42.1**	**-1.6**
TESR	**Tescani**	**147.12**	**329**	⇓P	**PKiKP**	**18 43 41.4**	**-0.9**
KOLS	**Kolonicke sedl**	**147.19**	**336**	*e*PKP	**PKiKP**	**18 43 42.0**	**-0.3**
KOLS				*e*		18 43 45.2	
VRI

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.97**	**337**		**Pn**	**18 29 38.4**	**-2.3**
ABPO	**Ambohimpanom**	**16.15**	**312**	Pn	**Pn**	**18 31 04.9**	**+0.2**
OPO	**Ambohidratompo**	**16.51**	**313**	Pn	**Pn**	**18 31 10.4**	**+1.2**
	0.2nm,0.3s,baz=120,slow=14,SNR=4.1						
OPO				Sn	Sn	18 34 02.8	-10
	0.6nm,0.3s,baz=353,slow=15,SNR=7.6						
H08S1	**Diego Carcia H**	**25.58**	**30**	T	T	18 59 00.6	
	baz=204,slow=76,SNR=8						
H08S2	**Diego Garcia H**	**25.59**	**30**	T	T	18 59 00.7	
	baz=204,slow=76,SNR=8.7						
H08S3	**Diego Garcia H**	**25.60**	**30**	T	T	18 59 01.4	
	baz=204,slow=76,SNR=21						
BOSA	**Boshof**	**30.11**	**265**	P	**P**	**18 33 27.3**	**0.0**
BOSA				IAmb	IAmb	18 33 29.7	
	comp=Z,17nm,1.4s						
LBTB	**Lobatse**	**30.74**	**272**	P	**P**	**18 33 31.8**	**-1.1**
LSZ	**Lusaka**	**32.73**	**290**	P	**P**	**18 33 51.8**	**+1.3**
LSZ				IAmb	IAmb	18 34 02.2	
	comp=Z,15nm,1.5s						
MAW	**Mawson**	**37.23**	**178**	P	**P**	**18 34 29.0**	**+0.5**
	comp=Z,3.4nm,1.0s,baz=4.7,slow=12,SNR=4.1						
MAW				LR	LR	18 46 23.0	
	comp=Z,116nm,20.8s,baz=55,slow=31						
MAW	**Mawson**	**37.23**	**178**	P	**P**	**18 34 28.9**	**+0.3**
PALK	**Pallekele**	**42.50**	**31**	LR	LR	18 48 31.7	
	comp=Z,73nm,21.0s,baz=221,slow=30						
ATD	**Arta Tunnel**	**44.84**	**336**	LR	LR	18 50 49.0	
	comp=Z,91nm,20.5s,baz=42,slow=32						
H01W2	**Cape Leeuwin H**	**45.43**	**111**	T	T	19 23 57.6	
	baz=259,slow=75,SNR=29						
H01W3	**Cape Leeuwin H**	**45.44**	**111**	T	T	19 23 57.9	
	baz=259,slow=75,SNR=23						
H01W1	**Cape Leeuwin H**	**45.45**	**111**	T	T	19 23 58.9	
	baz=259,slow=75,SNR=29						
CASY	**Casey**	**46.95**	**155**	P	**P**	**18 35 47.0**	**-0.9**
SNAA	**Sanae**	**52.87**	**201**	P	**P**	**18 36 31.3**	**-1.6**
SNAA				IAmb	IAmb	18 36 36.8	
	comp=Z,6.0nm,1.0s						
WSAR	**Wadi Sarin**	**53.39**	**359**	LR	LR	18 56 29.4	
	comp=Z,50nm,18.5s,baz=230,slow=33						
RAYN	**Ar Rayn**	**55.41**	**344**	P	**P**	**18 36 48.8**	**-3.1**
QSPA	**South Pole Qui**	**59.71**	**180**	P	**P**	**18 37 22.0**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=109,slow=3.0,SNR=9.8						
QSPA	**South Pole Qui**	**59.71**	**180**	P	**P**	**18 37 21.6**	**-0.3**
QSPA				IAmb	IAmb	18 37 30.7	
	comp=Z,9.1nm,1.1s						
FITZ	**Fitzroy Crossi**	**60.48**	**95**	P	**P**	**18 37 27.7**	**0.0**
CM31	**Chiang Mai Arr**	**61.47**	**43**	P	**P**	**18 37 35.1**	**+0.8**
CM31				IAmb	IAmb	18 37 36.3	
	comp=Z,6.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**61.47**	**43**	P	**P**	**18 37 35.2**	**+0.9**
	comp=Z,4.1nm,0.9s,baz=230,slow=7.1,SNR=26						
RAMN	**Ramite**	**62.54**	**27**	*e*P	**P**	**18 37 42.6**	**+1.0**
	comp=Z,18nm,0.7s						
DMN	**Daman**	**62.57**	**25**	*e*P	**P**	**18 37 42.4**	**+0.6**
	comp=Z,16nm,0.8s						
PKIN	**Phulchoki**	**62.64**	**26**	*e*P	**P**	**18 37 42.5**	**+0.2**
DANN	**Dangsing**	**62.76**	**24**	*e*P	**P**	**18 37 43.4**	**+0.3**
	comp=Z,30nm,0.7s						
ODAN	**Odare**	**62.77**	**28**	*e*P	**P**	**18 37 43.8**	**+0.7**
KKN	**Kakani**	**62.79**	**25**	*e*P	**P**	**18 37 43.2**	**-0.1**
	comp=Z,20nm,0.9s						
JIRN	**Jiri**	**63.02**	**26**	*e*P	**P**	**18 37 45.4**	**+0.5**
GUN	**Gumba**	**63.13**	**26**	*e*P	**P**	**18 37 46.5**	**+0.9**
	comp=Z,19nm,0.8s						
TAPN	**Taplejung**	**63.34**	**28**	*e*P	**P**	**18 37 47.9**	**+0.9**
	comp=Z,16nm,1.0s						
SHL	**Shillong**	**63.58**	**32**	P	**P**	**18 37 48.6**	**+0.1**
NIL	**Nilore**	**65.00**	**12**	P	**P**	**18 37 57.7**	**+0.3**
NIL				IAmb	IAmb	18 38 17.7	
	comp=Z,12nm,1.4s						
KBL	**Kabul**	**65.22**	**8**	P	**P**	**18 37 57.5**	**-1.6**
KBL				IAmb	IAmb	18 38 07.1	
	comp=Z,19nm,1.9s						
ASAR	**Alice Springs**	**65.22**	**104**	P	**P**	**18 37 58.9**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=245,slow=6.6,SNR=14						
AS31	**Alice Springs**	**65.23**	**104**	P	**P**	**18 37 58.5**	**-0.9**
LSA	**Lhasa**	**66.82**	**29**	P	**P**	**18 38 10.9**	**+1.1**
LSA				IAmb	IAmb	18 38 18.7	
	comp=Z,8.7nm,1.4s						
WRA	**Warramunga Arr**	**67.14**	**100**	P	**P**	**18 38 11.5**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=245,slow=5.6,SNR=12						
CHGR	**Chuyangaron**	**69.30**	**8**	P	**P**	**18 38 26.1**	**+1.4**
TORD	**Torodi Ar. Bea**	**70.75**	**299**	P	**P**	**18 38 35.2**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=131,slow=5.6,SNR=4.7						
BTK	**Batken**	**70.88**	**9**	P	**P**	**18 38 35.3**	**+0.9**
BTK				IAmb	IAmb	18 38 40.2	
	comp=Z,22nm,1.9s						
KK31	**Karatay Array**	**73.84**	**8**	P	**P**	**18 38 52.8**	**+0.9**
KKAR	**Karatay Array**	**73.84**	**8**	P	**P**	**18 38 52.8**	**+0.9**
BRTR	**Keskin Array B**	**73.95**	**339**	P	**P**	**18 38 52.4**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=166,slow=8.6,SNR=2.7						
AAK	**Ala-Archa**	**73.96**	**11**	P	**P**	**18 38 53.3**	**+0.5**
AAK				IAmb	IAmb	18 38 58.0	
	comp=Z,5.3nm,1.2s						
MKAR	**Makanchi Array**	**79.51**	**15**	P	**P**	**18 39 25.0**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=184,slow=3.6,SNR=11						
KURK	**Kurchatov**	**82.50**	**12**	P	**P**	**18 39 40.9**	**+1.3**
KURK				IAmb	IAmb	18 40 01.0	
	comp=Z,5.1nm,0.9s						
BVAR	**Borovoye Array**	**83.63**	**6**	P	**P**	**18 39 46.4**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=180,slow=7.4,SNR=5.3						
AKASG	**Malin Array Be**	**85.22**	**341**	P	**P**	**18 39 54.2**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=157,slow=6.0,SNR=3.0						
ARU	**Arti**	**86.54**	**359**	P	**P**	**18 40 00.8**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=324,slow=7.3,SNR=3.0						
ARU	**Arti**	**86.54**	**359**	P	**P**	**18 40 00.3**	**+0.3**
ZAA0	**Zalesovo Array**	**86.78**	**14**	P	**P**	**18 40 00.6**	**-0.6**
ZAA0				IAmb	IAmb	18 40 10.2	
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**86.78**	**14**	P	**P**	**18 40 01.6**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=208,slow=3.8,SNR=8.9						
YKA	**Yellowknife Ar**	**147.75**	**355**	PKPbc	**PKPbc**	**18 47 01.9**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=356,slow=2.9,SNR=41						
ULM	**Lac du Bonnet**	**153.13**	**324**	PKPbc	**PKPbc**	**18 47 15.0**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=0.0,slow=5.1,SNR=5.7						
PDAR	**Pinedale Array**	**165.08**	**328**	PKP	**PKPdf**	**18 47 22.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=21,slow=3.1,SNR=4.5						

*ISCJB **28** 18:32:31.1±0.5,28°.45N±0°.05×139°.4E±0°.1, h550km, mb3.1/5, Error ellipse: s-maj=12.4km s-min=6.1km az=159.2*

*IDC **28** 18:32:31.8±0.7,28°.38N×139°.15E, h520km±17km, mb2.7/5, mb1 3.0/10, mb1mx2.7/59, mbtmp3.8/10, Error ellipse: s-maj=43.6km s-min=12.0km az=70.0*

*JMA **28** 18:32:32.5±0.1,28°.49N×139°.38E, h535km, M3.7*

ISC 28 18:32:32.0±0.8, 28°.44N±0°.08×139°.4E±0°.1, h550km, n22, σ1§57/27, mb3.0/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.77**	**118**	P	**P**	**18 33 45.7**	**0.0**
CBIJ				*e*S	**S**	**18 34 43.8**	**-1.8**
JCJ	**Chichijima**	**2.77**	**118**	P	**P**	**18 33 45.0**	**-0.7**
	17nm,0.3s,baz=276,slow=24,SNR=5.6						
JCJ				S	**S**	**18 34 43.1**	**-2.6**
	50nm,0.3s,baz=324,slow=23,SNR=6.8						
JHH2	**Haha-jima-NKT2**	**3.02**	**126**	P	**P**	**18 33 47.6**	**+0.4**
JHH2				*e*S	**S**	**18 34 47.0**	**-1.3**
JTNC	**Tanabenakahech**	**6.29**	**329**	P	**P**	**18 34 12.9**	**-0.2**
BSO1	**Boso 1**	**6.33**	**12**	*e*S	**S**	**18 35 35.6**	**-0.1**
JIE	**Ise**	**6.38**	**339**	P	**P**	**18 34 14.9**	**+1.0**
JKN2	**Miekihoku**	**6.38**	**336**	P	**P**	**18 34 14.4**	**+0.4**
BSO3	**Boso 3**	**6.41**	**8**	*e*S	**S**	**18 35 36.4**	**-1.1**
JOD2	**Odawara 2**	**6.81**	**358**	P	**P**	**18 34 18.2**	**+0.2**
JOD2				*e*S	**S**	**18 35 42.5**	**-2.4**
JNY	**Yasuok**	**7.03**	**349**	P	**P**	**18 34 20.9**	**+0.8**
JHU	**Hanno**	**7.39**	**359**	P	**P**	**18 34 23.4**	**-0.2**
JHU				*e*S	**S**	**18 35 50.8**	**-4.3**
JRY	**Ryogami san**	**7.57**	**357**	P	**P**	**18 34 25.7**	**+0.4**
MJAR	**Matsushiro Arr**	**8.15**	**353**	P	**P**	**18 34 30.4**	**-0.6**
	0.4nm,0.3s,baz=168,slow=10,SNR=56						
MAT	**Matsushiro**	**8.15**	**353**	P	**P**	**18 34 30.8**	**-0.2**
JNU	**Nakatsue**	**8.72**	**304**	P	**P**	**18 34 35.0**	**-1.8**
	0.9nm,0.3s,baz=28,slow=4.1,SNR=11						
KSRS	**Korea Array**	**13.20**	**316**	P	**P**	**18 35 20.4**	**-2.3**
	0.2nm,0.3s,baz=133,slow=12,SNR=6.8						
USRK	**Ussuriysk Ar.**	**16.82**	**341**	P	**P**	**18 36 00.6**	**+1.7**
	baz=148,slow=9.2,SNR=19						
KLR	**Kul'dur**	**21.59**	**346**	P	**P**	**18 36 43.8**	**+1.7**
	1.7nm,0.6s,baz=177,slow=11,SNR=6.5						
MKAR	**Makanchi Array**	**47.75**	**309**	P	**P**	**18 40 19.7**	**+0.3**
	0.1nm,0.4s,baz=105,slow=8.8,SNR=2.5						
WRA	**Warramunga Arr**	**48.35**	**186**	P	**P**	**18 40 25.4**	**+1.3**
	0.6nm,0.3s,baz=0.5,slow=7.7,SNR=16						
ASAR	**Alice Springs**	**52.08**	**186**	P	**P**	**18 40 52.8**	**+1.5**
	0.2nm,0.3s,baz=0.9,slow=7.0,SNR=8.0						
BVAR	**Borovoye Array**	**55.41**	**317**	P	**P**	**18 41 15.2**	**+0.7**
	0.2nm,0.3s,baz=104,slow=9.8,SNR=3.2						

*ISCJB **28** 18:34:38.5±1.0, 6°.86N±0°.03×78°.09W±0°.03, h6km±6km, Error ellipse: s-maj=6.8km s-min=4.3km az=41.2*

*UPA **28** 18:34:39.9±0.3, 6°.87N×78°.01W, h5km±2km, MW3.5*

*RSNC **28** 18:34:39.3±1.1, 6°.91N×78°.12W, h4km±6km, ML3.4, Mw3.5*

ISC 28 18:34:39.4±1.4, 6°.87N±0°.04×78°.08W±0°.04, h6km±10km, n24, σ1§09/39, 1C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.39**	**43**	*i* P	**Pg**	**18 34 47.3**	**+0.3**
PTAC				*e*S	**Sg**	**18 34 51.6**	**-0.4**
PTAC				*i*		18 34 52.4	
	comp=Z,116μm,0.2s						
PTAC	**Punta Ardita,**	**0.39**	**43**	*i* P	**Pg**	**18 34 47.3**	**+0.3**
PTAC				*e*S	**Sg**	**18 34 51.6**	**-0.4**
SOLC	**Bahia Solano**	**0.92**	**134**	*e*P	**Pg**	**18 34 56.0**	**-1.1**
SOLC				*e*S	**Sg**	**18 35 09.9**	**+1.0**
SOLC				*i*		18 35 15.4	
	comp=Z,2μm,0.4s						
SOLC				*i*		18 35 15.8	
	comp=Z,2μm,0.4s						
UPD2	**Meteti**	**1.67**	**2**	*e*P	**Pn**	**18 35 08.9**	**-0.3**
UPD2				*e*S	**Sn**	**18 35 30.7**	**-0.3**
DBBC	**Dabeiba**	**1.86**	**85**	*e*P	**Pn**	**18 35 10.5**	**-1.4**
DBBC				*e*S	**Sn**	**18 35 36.4**	**+0.7**
DBBC				*i*		18 35 38.5	
	comp=Z,528nm,0.5s						
DBBC				*i*		18 35 38.7	
	comp=Z,550nm,0.5s						
DBBC	**Dabeiba**	**1.86**	**85**	*e*P	**Pn**	**18 35 10.5**	**-1.4**
DBBC				*e*S	**Sn**	**18 35 36.4**	**+0.7**
CBOC	**Ciudad Bolivar**	**2.28**	**116**	*e*P	**Pn**	**18 35 16.3**	**-1.5**
CBOC				*e*S	**Sn**	**18 35 46.4**	**+0.2**
CBOC				*i*		18 35 49.3	
	comp=Z,89nm,0.4s						
AZU	**Azuero**	**2.37**	**293**	*e*P	**Pn**	**18 35 19.7**	**+0.9**
AZU				*e*S	**Sn**	**18 35 46.0**	**-2.2**
LCBC	**Los crdobas,**	**2.60**	**40**	*e*S	**Sn**	**18 35 55.9**	**+1.8**
HELC	**Santa Helena**	**2.62**	**105**	*e*P	**Pn**	**18 35 22.0**	**-0.6**
HELC				*e*S	**Sn**	**18 35 55.8**	**+0.9**
HELC				*i*		18 35 58.6	
	comp=Z,62nm,0.8s						
HELC	**Santa Helena**	**2.62**	**105**	*i* P	**Pn**	**18 35 22.1**	**-0.6**
HELC				*e*S	**Sn**	**18 35 54.9**	**0.0**
UREC	**San Jos de Ur**	**2.67**	**71**	*e*P	**Pn**	**18 35 22.6**	**-0.4**
UREC				*i*		18 36 20.2	
	comp=Z,81nm,0.1s						
BCIP	**Isla Barro Col**	**2.88**	**323**	*e*P	**Pn**	**18 35 26.2**	**+0.4**
BCIP				*e*S	**Sn**	**18 36 01.3**	**+0.5**
GUY2C	**Guyana, Caldas**	**3.15**	**121**	⇑*e*P	**Pn**	**18 35 30.2**	**+0.2**
GUY2C				*e*S	**Sn**	**18 36 09.3**	**+1.1**
GUY2C				*i*		18 36 17.9	
	comp=Z,66nm,0.9s						
ZARC	**Zaragoza, Cauc**	**3.25**	**79**	*e*P	**Pn**	**18 35 30.7**	**-0.3**
ZARC				*e*S	**Sn**	**18 36 09.0**	**-1.0**
ZARC				*i*		18 36 13.4	
	comp=Z,72nm,0.7s						
YOTC	**Yotoco, Valle**	**3.34**	**149**	*e*P	**Pn**	**18 35 32.8**	**+0.4**
RREF	**El Recreo**	**3.34**	**126**	*e*P	**Pn**	**18 35 33.3**	**+0.5**
RREF				*i*		18 36 22.3	
	comp=Z,47nm,0.6s						
NORC	**Norcasia**	**3.44**	**112**	*e*P	**Pn**	**18 35 34.0**	**+0.3**
NORC				*i*		18 36 22.1	
	comp=Z,39nm,1.0s						
PTBC	**PUERTO BERRIO,**	**3.61**	**95**	*e*P	**Pn**	**18 35 37.1**	**+1.2**
PTBC				*e*S	**Sn**	**18 36 19.7**	**+0.8**
PTBC				*i*		18 36 34.6	
	comp=Z,57nm,0.9s						
SJCC	**San Jacinto, C**	**4.16**	**43**	*e*P	**Pn**	**18 35 45.4**	**+1.9**
SJCC				*e*S	**Sn**	**18 36 29.0**	**-3.5**
SMLC	**San Martn de**	**4.41**	**64**	*e*P	**Pn**	**18 35 47.2**	**+0.3**
SMLC				*i*		18 36 43.5	
	comp=Z,20nm,0.4s						
BARC	**Barichara**	**4.87**	**93**	*e*P	**Pn**	**18 35 53.9**	**+0.4**
BARC				*i*		18 37 08.5	
	comp=Z,87nm,1.3s						
OCAC	**Ocana**	**4.91**	**74**	*e*P	**Pn**	**18 35 54.1**	**+0.2**
OCAC				*i*		18 37 05.0	
	comp=Z,25nm,0.7s						
RUSC	**La Rusia**	**5.05**	**101**	*e*P	**Pn**	**18 35 56.1**	**-0.1**
RUSC				*i*		18 37 19.4	
	comp=Z,38nm,1.1s						

*SNET **28** 18:50:25.7±1.1, 13°.43N×89°.81W, h56km±10km, ML2.6*

*ISCJB **28** 18:50:26.0±1.5, 13°.4N±0°.1×89°.77W±0°.06, h58km, Error ellipse: s-maj=16.5km s-min=8.1km az=15.4*

*GCG **28** 18:50:26.4±0.3, 13°.30N×89°.98W, h17km±9km, MD3.5*

ISC 28 18:50:27.5±2.1, 13°.5N±0°.1×89°.77W±0°.06, h58km, n10, σ1§13/12, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.40**	**20**	*e*P	**Pn**	**18 50 37.8**	**-0.8**
SBLS				*e*S	**Sn**	**18 50 47.2**	**+0.6**
SNJE	**San Jose**	**0.43**	**21**	*e*P	**Pn**	**18 50 38.4**	**-0.5**
LFU	**La Fuente**	**0.69**	**66**	*e*P	**Pn**	**18 50 40.9**	**-0.8**
IXG	**Ixpaco**	**0.96**	**317**	*e*P	**Pn**	**18 50 44.5**	**-0.7**
IXG				*e*S	**Sn**	**18 50 58.6**	**+0.4**
IXG	**Ixpaco**	**0.96**	**317**	*e*P	**Pn**	**18 50 43.4**	**-1.8**
MTO3	**Montecristo**	**1.01**	**23**	*e*P	**Pn**	**18 50 45.0**	**-0.9**
MTO3				*e*S	**Sn**	**18 51 00.4**	**+1.0**
MTO3				IAML		18 51 01.7	
	comp=Z,19nm,0.2s						
TECA	**Tecapa**	**1.23**	**88**	*e*P	**Pn**	**18 50 48.5**	**-0.2**
PACA	**Pacayal**	**1.40**	**89**	IAML		18 51 13.7	
	comp=Z,496nm,0.1s						
FUG	**Fuego 3**	**1.43**	**313**	*e*S	**Sn**	**18 51 11.3**	**+1.9**
STG3	**Santiaguito 3,**	**2.15**	**306**	*e*P	**Pn**	**18 51 01.0**	**-0.1**

*ISCJB **28** 18:55:02.2±0.2, 35°.72N±0°.01×31°.35E±0°.02, h50km±2km, mb4.1/26, MS4.8/2, Error ellipse: s-maj=2.7km s-min=1.7km az=36.5*

*ISK **28** 18:55:02.0, 35°.76N×31°.38E, h31km, ML4.2/39*

*NEIC **28** 18:55:04.0±1.9, 35°.73N±0°.06×31°.31E±0°.06, h49km±5km, mb4.5/64, ML4.2(ISK), ML4.3(THE)*

*HLW **28** 18:55:03.2, 35°.80N×31°.07E, h50km±37km, ML4.4*

*THE **28** 18:55:04.3, 35°.68N×31°.41E, h44km±7km, ML4.3/2, Error ellipse: s-maj=8.0km s-min=1.6km az=84.0*

*MED_RC **28** 18:55:04.0±3.0, 35°.71N×31°.40E, h33km±8km, MW4.5/21, Moment Tensor Solution. Mantle waves: s21,c24; Duration: 1§0 Moment tensor: Scale 10^15 Nm; Mrr=4.62±1.77; Mθθ 1.13±1.62; Mϕϕ 3.49±1.46; Mrθ 1.82±1.02; Mθϕ -4.99±1.48; Mϕr -0.96±.64; Best double couple: Mo 6.46000×10^15 NP1: ϕs 305.00000°, δ 56.00000°, λ -113.00000°. NP2: ϕs 162.00000°, δ 40.00000°, λ -60.00000°. Principal axes: T 7.7300, Plg 9.0000°, Azm 51.0000°; N -2.5400, Plg 19.0000°, Azm 318.0000°; P -5.1900, Plg 69.0000°, Azm 165.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*IDC **28** 18:55:04.3±1.4, 35°.82N×31°.29E, h51km±13km, mb3.9/23, mb1 4.0/34, mb1mx3.9/61, mbtmp4.2/34, ML4.0/10, MS2.9/4, Ms1 2.9/4, ms1mx2.7/53 Error ellipse: s-maj=11.7km s-min=9.9km az=31.0*

*GII **28** 18:55:07.2±0.2, 35°.51N×31°.41E, h50km, mb4.4/7, MD4.3/7*

ISC 28 18:55:03.7±0.8, 35°.73N±0°.04×31°.35E±0°.03, h48km±8km, n281, σ1§27/319, mb4.3/49, 15C-6D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.93**	**57**	PG	**Pn**	**18 55 18.5**	**-2.0**
ALAN	**Alanya-ANTALYA**	**1.00**	**34**	PG	**Pn**	**18 55 19.3**	**-2.0**
KEMT	**Kemer-ANTALYA**	**1.08**	**324**	PG	**Pn**	**18 55 21.2**	**-1.3**
DEMR	**Demre-Antalya**	**1.28**	**294**	PN	**Pn**	**18 55 24.3**	**-0.8**
LEF	**Lefka**	**1.40**	**115**	⇑P	**Pn**	**18 55 24.9**	**-1.8**
LEF				⇑S	**Sn**	**18 55 43.4**	**-0.7**
LEF				AML	AML	18 55 56.5	
LEF	**Lefka**	**1.40**	**115**	PN	**Pn**	**18 55 25.2**	**-1.5**
LEF				SN	**Sn**	**18 55 42.2**	**-1.8**
TEKE	**Tekeli-Mersin**	**1.49**	**73**	PN	**Pn**	**18 55 26.9**	**-1.1**
TEKE				SN	**Sn**	**18 55 44.8**	**-1.5**
AKAS	**Kas**	**1.50**	**290**	PN	**Pn**	**18 55 27.8**	**-0.5**
KORT	**Korkueli**	**1.50**	**328**	PN	**Pn**	**18 55 27.2**	**-1.2**
ELL	**Elmali**	**1.55**	**312**	PN	**Pn**	**18 55 29.9**	**+1.0**
BERE	**Bereket-Mersin**	**1.64**	**67**	PN	**Pn**	**18 55 28.9**	**-1.3**
BERE				SN	**Sn**	**18 55 48.8**	**-1.4**
YORU	**Yoruktepe-Mers**	**1.72**	**75**	PN	**Pn**	**18 55 30.4**	**-0.8**
OREN	**Orenkoy-Mersin**	**1.78**	**74**	PN	**Pn**	**18 55 30.5**	**-1.4**
OREN				SN	**Sn**	**18 55 51.6**	**-1.7**
CSS	**Mathiatis**	**1.79**	**115**	P	**Pn**	**18 55 30.7**	**-1.4**
CSS	**Mathiatis**	**1.79**	**115**	PN	**Pn**	**18 55 30.6**	**-1.5**
CSS	**Mathiatis**	**1.79**	**115**		**Pn**	**18 55 30.5**	**-1.7**
AKK1	**Akkuyu-Mersin**	**1.83**	**76**	PN	**Pn**	**18 55 31.7**	**-0.9**
AKK2	**Akkuyu-Mersin**	**1.83**	**76**	PN	**Pn**	**18 55 31.9**	**-0.7**
BCK	**Bucak**	**1.83**	**341**	PN	**Pn**	**18 55 31.5**	**-1.3**
AKKU	**Akkuyu-Mersin**	**1.84**	**76**	PN	**Pn**	**18 55 31.8**	**-1.0**
TEVE	**Tevekalti-Mers**	**1.84**	**67**	PN	**Pn**	**18 55 31.3**	**-1.5**
AKIN	**Akıncılar- Kıb**	**1.87**	**112**	PN	**Pn**	**18 55 31.9**	**-1.3**
YESI	**Yesilovacik-Me**	**1.92**	**75**	PN	**Pn**	**18 55 33.0**	**-0.8**
TISA	**Tisan-Mersin**	**1.94**	**76**	PN	**Pn**	**18 55 33.6**	**-0.5**
IKL	**Isikli**	**1.96**	**74**	PN	**Pn**	**18 55 33.2**	**-1.3**
FETY	**Fethiye**	**2.04**	**297**	PN	**Pn**	**18 55 35.5**	**-0.1**
KEBE	**Keben-Mersin**	**2.04**	**69**	PN	**Pn**	**18 55 34.5**	**-1.2**
GLHS	**Glhisar (BURDU**	**2.06**	**314**	PN	**Pn**	**18 55 35.4**	**-0.6**
SILI	**Silifke-Mersin**	**2.18**	**72**	PN	**Pn**	**18 55 36.7**	**-0.8**
EREN	**Erenkoy**	**2.31**	**94**	PN	**Pn**	**18 55 38.7**	**-0.5**
KONT	**Konya--Tatoy**	**2.36**	**20**	PN	**Pn**	**18 55 39.2**	**-0.7**
KIZK	**Mersin**	**2.38**	**71**	PN	**Pn**	**18 55 39.6**	**-0.6**
BASM	**Basmaki-Afyon**	**2.42**	**335**	PN	**Pn**	**18 55 40.5**	**-0.4**
TURN	**Turunc**	**2.50**	**298**	PN	**Pn**	**18 55 44.9**	**+3.1**
LADK	**Ladik-KONYA**	**2.60**	**18**	PN	**Pn**	**18 55 42.5**	**-0.8**
ARG	**Arkhangelos**	**2.66**	**282**	P	**Pn**	**18 55 44.6**	**-0.6**
DENT	**Denizli**	**2.75**	**318**	PN	**Pn**	**18 55 45.1**	**-0.2**
MERS	**Mersin**	**2.80**	**65**	PN	**Pn**	**18 55 45.1**	**-1.0**
YER	**Yerkesik**	**2.84**	**300**	PN	**Pn**	**18 55 46.7**	**+0.1**
SHUT	**Suhut-Afyon**	**2.89**	**347**	PN	**Pn**	**18 55 46.7**	**-0.6**
KHL	**Karahalli**	**2.98**	**331**	PN	**Pn**	**18 55 48.2**	**-0.2**
SULT	**Sultanhani-AKS**	**3.02**	**34**	PN	**Pn**	**18 55 48.7**	**-0.3**
CHBY	**Cihanbeyli**	**3.10**	**23**	PN	**Pn**	**18 55 49.3**	**-0.9**
KIZT	**Kizilcal**	**3.17**	**7**	PN	**Pn**	**18 55 50.7**	**-0.5**
KARA	**Karaisali**	**3.35**	**62**	PN	**Pn**	**18 55 53.2**	**-0.4**
KRTS	**Karatas**	**3.37**	**74**	PN	**Pn**	**18 55 53.3**	**-0.4**
KARP	**Karpathos**	**3.42**	**268**	P	**Pn**	**18 55 55.4**	**+0.9**
KARP				S	**Sn**	**18 56 33.8**	**+0.1**
	2μm,0.5s						
KARP	**Karpathos**	**3.42**	**268**		**Pn**	**18 55 55.7**	**+1.2**
CMRD	**Camardi-Nigde**	**3.50**	**55**	PN	**Pn**	**18 55 55.3**	**-0.5**
KULU	**Kulu**	**3.56**	**21**	PN	**Pn**	**18 55 56.4**	**-0.1**
YURE	**YUREGIR**	**3.63**	**71**	PN	**Pn**	**18 55 57.3**	**-0.1**
CIFT	**Cifteler, Eski**	**3.63**	**356**	PN	**Pn**	**18 55 57.2**	**-0.3**
SERE	**Sereflikochisa**	**3.67**	**28**	PN	**Pn**	**18 55 57.4**	**-0.6**
AUSIV	**SIVRIHISAR**	**3.71**	**2**	PN	**Pn**	**18 55 58.3**	**-0.2**
SVRH	**Sivrihisar-ESK**	**3.72**	**2**	PN	**Pn**	**18 55 58.0**	**-0.6**
YAYX	**Yaylak**	**3.76**	**31**	PN	**Pn**	**18 55 59.1**	**-0.1**
CEYT	**Ceyhan**	**3.77**	**69**	PN	**Pn**	**18 55 59.4**	**+0.1**
AFSR	**Afar-Bala (An**	**3.96**	**20**	PN	**Pn**	**18 56 01.9**	**0.0**
BHL	**Bhannes**	**3.98**	**116**	*e*P	**Pn**	**18 56 03.6**	**+1.3**
KOZT	**Kozan**	**4.00**	**63**	PN	**Pn**	**18 56 02.6**	**+0.1**
HWQ	**Hawqa**	**4.04**	**110**	*e*P	**Pn**	**18 56 04.8**	**+1.7**
HNTI	**Hanita**	**4.12**	**129**	P	**Pn**	**18 56 05.6**

MBRI	**Mt Berech**	**6.63**	**152**	Pn		**Pn**	**18 56 39.7**	**+1.0**
ALN	**Alexandroupoli**	**6.63**	**323**	Pn		**Pn**	**18 56 39.5**	**+1.0**
AQBJ	**Aqaba**	**6.75**	**151**	P		**Pn**	**18 56 41.6**	**+1.5**
EIL	**Elat**	**6.76**	**152**	Pn		**Pn**	**18 56 41.0**	**+0.7**
EIL				Sn		**Sn**	**18 57 54.7**	**-1.3**
EIL	**Elat**	**6.76**	**152**	P		**Pn**	**18 56 41.3**	**+1.0**
	5.8nm,0.3s,baz=327,slow=8.3,SNR=49							
EIL				S		**Sn**	**18 57 54.2**	**-1.8**
	3.9nm,0.3s,baz=29,slow=19,SNR=5.3							
EIL				LR		LR	19 00 12.1	
	comp=Z,67nm,18.2s,baz=314,slow=45							
KTHR	**Kythira**	**6.79**	**277**	P		**Pn**	**18 56 40.9**	**+0.2**
NBNS	**Bani Suef**	**7.08**	**180**	P		**Pn**	**18 56 45.8**	**+1.1**
	baz=178							
NBNS				AMP			18 58 00.0	
	baz=178							
NBNS				S		**Sn**	**18 58 00.8**	**-3.2**
	baz=178							
ITM	**Ithomi**	**7.73**	**284**			**Pn**	**18 56 54.2**	**+0.6**
ITM				Sn		**Sn**	**18 58 19.6**	**-0.2**
AGG	**Agios Georgios**	**7.90**	**297**	Pn		**Pn**	**18 56 57.7**	**+1.8**
SWA2		**8.16**	**219**	P		**Pn**	**18 56 59.2**	**-0.2**
	baz=218							
SWA2				AMP			18 58 00.0	
	baz=218							
SWA2				S		**Sn**	**18 58 23.4**	**-6.9**
	baz=218							
LIT	**Litokhoron**	**8.25**	**305**	Pn		**Pn**	**18 57 01.8**	**+1.0**
RAZG	**Razgrad**	**8.67**	**336**	⇑P		**Pn**	**18 57 08.3**	**+1.8**
HFRF	**Wahat Farafira**	**8.94**	**198**	P		**Pn**	**18 57 10.3**	**+0.2**
	baz=196							
HFRF				S		**Sn**	**18 58 44.7**	**-4.8**
	baz=196							
TIRR	**Tirgusor**	**9.01**	**346**	Pn		**Pn**	**18 57 12.7**	**+1.7**
FNA	**Florina**	**9.33**	**306**			**Pn**	**18 57 18.4**	**+2.9**
VTS	**Vitosha**	**9.33**	**320**			**Pn**	**18 57 17.6**	**+2.0**
BISRR	**Bisoca**	**10.42**	**342**	⇓P		**Pn**	**18 57 32.5**	**+2.1**
MLR	**Muntele Rosu**	**10.58**	**339**	P		**Pn**	**18 57 31.8**	**-0.9**
	0.1nm,0.3s,baz=142,slow=17,SNR=2.3							
MLR				LR		LR	19 01 31.2	
	comp=Z,54nm,20.3s,baz=116,slow=37							
MLR	**Muntele Rosu**	**10.58**	**339**	⇑P		**Pn**	**18 57 34.5**	**+1.8**
MLR	**Muntele Rosu**	**10.58**	**339**			**Pn**	**18 57 33.8**	**+1.1**
MTUR	**Matau**	**10.62**	**335**	⇑P		**Pn**	**18 57 35.4**	**+2.2**
VRI	**Vrincioaia**	**10.71**	**342**	⇑P		**Pn**	**18 57 37.0**	**+2.6**
PLOR	**Plostina**	**10.72**	**342**	⇑P		**Pn**	**18 57 35.6**	**+1.1**
VOIR		**10.81**	**336**	⇓P		**Pn**	**18 57 37.9**	**+2.1**
ARR	**Arges**	**10.90**	**334**	⇓P		**Pn**	**18 57 38.1**	**+1.1**
SCTE	**Santa Cesarea**	**11.06**	**297**	Pn		**Pn**	**18 57 38.7**	**-0.5**
OZUR		**11.18**	**340**	⇑P		**Pn**	**18 57 41.6**	**+0.9**
GNI	**Garni**	**11.46**	**63**	LR		LR	19 02 21.3	
	comp=Z,60nm,18.7s,baz=256,slow=38							
GZR	**Gura Zlata**	**11.64**	**329**	⇑P		**Pn**	**18 57 47.8**	**+0.6**
BIZ	**Bicaz**	**11.87**	**342**	⇑P		**Pn**	**18 57 52.4**	**+2.2**
KBZ	**Khabaz**	**11.94**	**45**	P		**Pn**	**18 57 52.0**	**+0.8**
	0.1nm,0.3s,baz=130,slow=7.1,SNR=3.6							
TIP	**Tinpagrande**	**12.10**	**291**			**Pn**	**18 57 50.9**	**-2.5**
BZS	**Buzias**	**12.32**	**326**	⇓P		**Pn**	**18 57 57.2**	**+0.8**
CEL	**Celeste**	**12.61**	**286**	Pn		**Pn**	**18 57 59.6**	**-0.8**
BURAR	**Bucovina Array**	**12.73**	**341**	⇑P		**Pn**	**18 58 05.1**	**+3.2**
ACER	**Acerenza**	**13.12**	**297**	Pn		**Pn**	**18 58 05.6**	**-1.6**
SGRT	**San Giovanni R**	**13.58**	**301**	Pn		**Pn**	**18 58 12.5**	**-1.1**
RAFF	**Raffo Rosso**	**13.76**	**281**	Pn		**Pn**	**18 58 13.3**	**-2.6**
PAOL	**Paolisi**	**14.18**	**297**	Pn		**Pn**	**18 58 23.7**	**+1.9**
CORL	**Corleone**	**14.62**	**284**	Pn		**Pn**	**18 58 26.2**	**-1.4**
KOLS	**Kolonicke sedl**	**14.79**	**336**	*e*P		**P**	**18 58 36.5**	**+1.8**
INTR	**Introdacqua**	**14.96**	**300**	Pn		**Pn**	**18 58 34.0**	**+2.0**
AKASG	**Malin Array Be**	**15.05**	**355**	P		**Pn**	**18 58 31.8**	**-1.2**
	0.3nm,0.3s,baz=178,slow=8.9,SNR=4.6							
AKBB	**Malin Array Si**	**15.05**	**355**	P		**P**	**18 58 36.1**	**-1.3**
AKBB				IAmb		IAmb	18 58 37.8	
	comp=Z,14nm,0.7s							
KWP	**Kalwaria Pacla**	**15.26**	**338**	P		**P**	**18 58 40.4**	**+0.5**
VYHS	**Vyhne**	**15.75**	**328**	*e*P		**P**	**18 58 45.7**	**+0.4**
LANS	**Liptovska Anna**	**16.00**	**331**	*e*P		**P**	**18 58 50.2**	**+2.1**
MURB	**Monte Urbino**	**16.34**	**303**	P		**P**	**18 58 52.2**	**+0.2**
MURB				IAmb		IAmb	18 58 55.6	
	comp=Z,27nm,1.3s							
MODS	**Modra-Piesok**	**16.36**	**325**	*e*P		**P**	**18 58 52.4**	**+0.3**
SOKA	**Soboth**	**16.41**	**317**	*i* P		**P**	**18 58 53.8**	**+1.1**
	SNR=5.0							
ARSA	**Arzberg**	**16.49**	**319**	*i* P		**P**	**18 58 54.8**	**+1.2**
	SNR=5.9							
TRI	**Trieste**	**16.61**	**312**			**Pn**	**18 58 53.6**	**+0.5**
OJC	**Ojcow**	**16.74**	**333**	P		**P**	**18 58 56.3**	**+0.1**
STAL	**STALIGIAL**	**17.53**	**313**	P		**Pn**	**18 59 05.2**	**+0.8**
TEOL	**Teolo**	**17.75**	**309**			**Pn**	**18 59 07.7**	**+0.6**
KEST	**Kesra**	**17.87**	**276**	P		**Pn**	**18 59 09.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=37,slow=4.3,SNR=8.4							
KEST	**Kesra**	**17.87**	**276**	P		**Pn**	**18 59 08.6**	**-0.1**
DPC	**Dobruska-Polom**	**18.23**	**328**	*e*P		**P**	**18 59 12.9**	**+0.1**
GEC2	**GERESS Array S**	**18.44**	**321**	P		**Pn**	**18 59 16.1**	**+0.5**
GERES	**GERESS Array B**	**18.44**	**321**	P		**P**	**18 59 15.9**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=126,slow=7.9,SNR=33							
UPC	**Upice**	**18.48**	**328**	*e*P		**P**	**18 59 16.0**	**+0.5**
KHC	**Kasperske Hory**	**18.69**	**321**	*e*P		**P**	**18 59 18.2**	**+0.4**
KHC				*ex*		x	18 59 24.7	
KHC				*ex*		x	18 59 33.5	
KHC	**Kasperske Hory**	**18.69**	**321**	P		**P**	**18 59 18.4**	**+0.7**
PRU	**Pruhonice**	**18.78**	**325**	*e*P		**Pn**	**18 59 20.4**	**+0.8**
PRU				*ex*		x	18 59 25.4	
PBCC	**Pribram**	**18.84**	**323**	*e*P		**P**	**18 59 19.5**	**+0.1**
SQTA	**Sankt Quirin**	**18.90**	**314**	*i* Pn		**Pn**	**18 59 22.0**	**+0.8**
	SNR=5.3							
MOTA	**Moosalm**	**19.03**	**314**	*i* Pn		**Pn**	**18 59 23.7**	**+0.9**
	SNR=5.0							
FETA	**Feichten**	**19.09**	**313**	*i* Pn		**Pn**	**18 59 23.9**	**+0.3**
	SNR=12							
FUORN	**Ofenpass-Fuorn**	**19.18**	**311**	P		**Pn**	**18 59 24.7**	**-0.1**
DAVOX	**Davos/Dischmat**	**19.49**	**311**	P		**Pn**	**18 59 28.1**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=121,slow=9.3,SNR=30							
BRG	**Berggiesshubel**	**19.66**	**326**	*e*P		**P**	**18 59 28.9**	**+0.5**
	comp=Z,6.0nm,0.9s							
OBN	**Obninsk**	**19.72**	**9**	P		**P**	**18 59 29.8**	**+0.8**
OBN				IAmb		IAmb	18 59 35.3	
	comp=Z,22nm,1.3s							
DAVA	**Damuels**	**19.73**	**312**	*i* Pn		**P**	**18 59 30.1**	**+0.8**
	SNR=8.9							
NKC	**Novy Kostel**	**19.95**	**322**	*e*P		**P**	**18 59 31.9**	**+0.3**
GRA1	**Grafenberg Arr**	**20.25**	**320**	P		**P**	**18 59 34.1**	**-0.7**
GRA1				IAmb		IAmb	18 59 35.8	
	comp=Z,13nm,1.0s							
CLL	**Collm**	**20.39**	**325**	*e*P		**P**	**18 59 34.0**	**-2.3**
CLL	**Collm**	**20.39**	**325**	P		**P**	**18 59 35.0**	**-1.3**
BNI	**Bardonecchia**	**20.91**	**304**	P		**P**	**18 59 42.5**	**+0.4**
BNI				IAmb		IAmb	18 59 56.3	
	comp=Z,26nm,1.5s							
SENIN	**Lac Senin/Sane**	**20.94**	**308**	P		**P**	**18 59 42.4**	**-0.1**
SENIN				IAmb		IAmb	18 59 47.2	
	comp=Z,16nm,1.1s							
BFO	**Black Forest**	**21.14**	**314**	P		**P**	**18 59 46.1**	**+1.7**
BFO				IAmb		IAmb	18 59 48.0	
	comp=Z,20nm,1.0s							
GEYT	**Alibeck**	**21.52**	**76**	P		**P**	**18 59 50.1**	**+1.5**
	comp=Z,4.0nm,0.7s,baz=272,slow=12,SNR=8.5							
GYA0B	**ALIBECK ARRAY**	**21.52**	**76**	P		**P**	**18 59 48.9**	**+0.4**
ECH	**Echery**	**21.79**	**312**	P		**P**	**18 59 51.5**	**+0.2**
BMRD	**Maredsous**	**24.12**	**315**	⇓P		**P**	**19 00 15.5**	**+0.8**
DOU	**Dourbes**	**24.13**	**315**	⇓P		**P**	**19 00 15.4**	**+0.6**
	comp=Z,11nm,1.0s							
AKTO	**Aktyubinsk**	**24.23**	**44**	P		**P**	**19 00 15.9**	**+0.1**
	comp=Z,2.7nm,0.5s,baz=244,slow=10.0,SNR=9.8							
ABKAR	**Akbulak array**	**24.87**	**48**	P		**P**	**19 00 21.1**	**-0.5**
KIRV	**Kirov**	**25.79**	**22**	P		**P**	**19 00 28.6**	**-1.1**
	comp=Z,14nm,0.6s,baz=232,slow=12,SNR=7.3							
TAM	**Tamanrasset**	**25.87**	**247**	P		**P**	**19 00 31.2**	**+0.2**
FINES	**FINESS Array B**	**25.95**	**354**	P		**P**	**19 00 30.1**	**-1.2**
	comp=Z,2.8nm,0.4s,baz=159,slow=11,SNR=33							
FIA1	**FINESS Array S**	**25.95**	**354**	P		**P**	**19 00 30.3**	**-1.0**
FIA1				IAmb		IAmb	19 00 44.3	
	comp=Z,42nm,1.5s							
HFS	**Hagfors**	**26.96**	**340**	P		**P**	**19 00 39.7**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=131,slow=6.7,SNR=8.1							
ARU	**Arti**	**27.70**	**33**	P		**P**	**19 00 47.0**	**0.0**
	comp=Z,1.2nm,0.4s,baz=245,slow=7.3,SNR=8.6							
ARU	**Arti**	**27.70**	**33**	P		**P**	**19 00 46.7**	**-0.4**
ARU				IAmb		IAmb	19 01 09.9	
	comp=Z,10.0nm,1.3s							
KONO	**Kongsberg**	**27.80**	**336**	P		**P**	**19 00 47.0**	**-0.9**
KONO				IAmb		IAmb	19 00 56.8	
	comp=Z,60nm,1.7s							
NC602	**NORSAR Array S**	**28.06**	**339**	P		**P**	**19 00 51.7**	**+1.5**
ESBB	**Sonseca Array**	**28.10**	**289**	P		**P**	**19 00 50.7**	**-0.2**
ESBB				IAmb		IAmb	19 01 09.8	
	comp=Z,10.0nm,1.2s							
ESDC	**Sonseca Array**	**28.10**	**289**	P		**P**	**19 00 51.4**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=84,slow=9.7,SNR=7.4							
NAO01	**NORSAR Array S**	**28.34**	**339**	P		**P**	**19 00 53.5**	**+0.8**
NB201	**NORSAR Array S**	**28.39**	**339**	P		**P**	**19 00 51.9**	**-1.3**
NB2	**NORSAR Subarra**	**28.40**	**339**	P		**P**	**19 00 51.7**	**-1.6**
	comp=Z,4.9nm,1.1s,baz=144,slow=9.3							
NOA	**NORSAR Array B**	**28.40**	**339**	P		**P**	**19 00 51.9**	**-1.4**
	comp=Z,2.5nm,0.8s,baz=144,slow=8.9,SNR=5.3							
NC303	**NORSAR Array S**	**28.51**	**340**	P		**P**	**19 00 52.8**	**-1.4**
NBO00	**NORSAR Array S**	**28.52**	**339**	P		**P**	**19 00 53.9**	**-0.5**
NC204	**NORSAR Array S**	**28.72**	**339**	P		**P**	**19 00 56.6**	**+0.5**
NC204				IAmb		IAmb	19 01 25.6	
	comp=Z,36nm,1.4s							
CHGR	**Chuyangaron**	**30.12**	**73**	P		**P**	**19 01 09.7**	**+0.8**
CHGR				IAmb		IAmb	19 01 10.7	
	comp=Z,5.1nm,0.6s							
ESK	**Eskdalemuir**	**30.68**	**321**	P		**P**	**19 01 13.2**	**-0.3**
KK31	**Karatay Array**	**30.92**	**64**	P		**P**	**19 01 16.2**	**+0.4**
KKAR	**Karatay Array**	**30.92**	**64**	P		**P**	**19 01 16.4**	**+0.6**
GAR	**Garm**	**30.98**	**72**	P		**P**	**19 01 16.8**	**+0.2**
GAR				IAmb		IAmb	19 01 19.6	
	comp=Z,7.2nm,1.1s							
PFVI	**Vila Bisbo**	**32.19**	**285**	P		**P**	**19 01 26.9**	**-0.1**
ARSB	**Arslanbob**	**32.81**	**67**	P		**P**	**19 01 32.2**	**-0.4**
ARSB				IAmb		IAmb	19 01 59.8	
	comp=Z,6.0nm,1.1s							
AAK	**Ala-Archa**	**33.86**	**65**	P		**P**	**19 01 42.9**	**+1.2**
AAK				IAmb		IAmb	19 01 46.2	
	comp=Z,13nm,1.7s							
ARCES	**ARCESS Array B**	**34.02**	**356**	P		**P**	**19 01 41.4**	**-1.2**
	comp=Z,1.9nm,0.7s,baz=171,slow=8.9,SNR=21							
ARCES				PcP		**PcP**	**19 04 19.3**	**0.0**
	comp=Z,3.1nm,1.0s,baz=158,slow=2.6,SNR=5.5							
ARE0	**ARCESS Array S**	**34.02**	**356**	P		**P**	**19 01 42.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**34.90**	**237**	P		**P**	**19 01 51.1**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=43,slow=7.6,SNR=3.8							
BOOM	**Boomskoye usch**	**34.93**	**65**	P		**P**	**19 01 49.4**	**-1.6**
NRN	**Naryn**	**35.06**	**67**	P		**P**	**19 01 53.6**	**+1.2**
NRN				IAmb		IAmb	19 01 55.0	
	comp=Z,5.4nm,1.0s							
KSH	**Kashi**	**35.27**	**70**	P		**P**	**19 01 54.3**	**+0.4**
KSH				sP		sP	19 02 16.0	+4.7
KSH				S		**S**	**19 07 20.5**	**-4.0**
KSH				pmax		pmax		
	comp=Z,410nm,4.8s							
KSH				LR		LR		
	comp=N,350nm,6.0s							
KSH				LR		LR		
	comp=E,680nm,6.5s							
KSH				LR		LR		
	comp=Z,940nm,5.8s							
MAKZ	**Makanchi**	**39.01**	**58**	P		**P**	**19 02 26.1**	**+0.7**
MAKZ				IAmb		IAmb	19 02 27.1	
	comp=Z,4.1nm,0.5s							
MK31	**Makanchi Array**	**39.23**	**58**	P		**P**	**19 02 27.6**	**+0.4**
MK31				IAmb		IAmb	19 02 29.0	
	comp=Z,3.3nm,0.7s							
MKAR	**Makanchi Array**	**39.23**	**58**	P		**P**	**19 02 27.9**	**+0.7**
	comp=Z,3.0nm,0.5s,baz=266,slow=8.8,SNR=49							
MKAR				PcP		**PcP**	**19 04 35.7**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=268,slow=4.3,SNR=2.4							
ZALV	**Zalesovo Beam**	**40.96**	**46**	P		**P**	**19 02 40.9**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=273,slow=9.1,SNR=5.2							
SPA0	**Spitsbergen Ar**	**43.04**	**356**	P		**P**	**19 02 58.2**	**+0.2**
WMQ	**Urumqi**	**43.32**	**61**	*e*P		**P**	**19 03 02.8**	**+1.9**
WMQ				pmax		pmax		
	comp=Z,9.0nm,1.3s							
WMQ				pmax		pmax		
	comp=Z,140nm,5.9s							
WMQ				LR		LR		
	comp=N,690nm,28.9s							
WMQ				LR		LR		
	comp=E,940nm,29.0s							
WMQ				LR		LR		
	comp=Z,680nm,19.5s							
DANN	**Dangsing**	**44.59**	**84**	*e*P		**P**	**19 03 13.2**	**+1.6**
	comp=Z,34nm,0.5s							
NRIK	**Noril'sk**	**45.24**	**25**	P		**P**	**19 03 16.6**	**+0.8**
	comp=Z,2.3nm,0.4s,baz=219,slow=6.0,SNR=3.9							
DMN	**Daman**	**45.98**	**84**	*e*P		**P**	**19 03 23.8**	**+1.3**
	comp=Z,14nm,0.5s							
KKN	**Kakni**	**46.05**	**84**	*e*P		**P**	**19 03 23.9**	**+0.9**
	comp=Z,15nm,0.6s							
PKIN	**Phulchoki**	**46.23**	**84**	*e*P		**P**	**19 03 25.4**	**+0.9**
PKI	**Pulchoki**	**46.24**	**84**	*e*P		**P**	**19 03 25.5**	**+0.9**
GUN	**Gumba**	**46.48**	**84**	*e*P		**P**	**19 03 27.5**	**+0.9**
	comp=Z,7.7nm,0.5s							
JIRN	**Jiri**	**46.84**	**84**	*e*P		**P**	**19 03 30.4**	**+1.0**
	comp=Z,16nm,0.4s							
RAMN	**Ramite**	**47.46**	**84**	*e*P		**P**	**19 03 34.5**	**+0.4**
SFJD	**Kangerlussuaq**	**54.60**	**331**	P		**P**	**19 04 26.2**	**-0.6**
SONM	**Songino Array**	**55.18**	**52**	P		**P**	**19 04 31.7**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=290,slow=8.3,SNR=10.0							
ULN	**Ulaanbaatar**	**55.59**	**52**	P		**P**	**19 04 35.1**	**+0.6**
ULN				IAmb		IAmb	19 04 59.0	
	comp=Z,4.5nm,1.4s							
TIXI	**Tiksi**	**58.82**	**22**	P		**P**	**19 04 56.4**	**-0.2**
TIXI				IAmb		IAmb	19 04 57.8	
	comp=Z,3.5nm,1.0s							
HHC	**Hu-ho-hao-te**	**61.07**	**59**	*e*P		**P**	**19 05 13.5**	**+0.8**
HHC				pmax		pmax		
	comp=Z,6.0nm,0.5s							
HHC				pmax		pmax		
	comp=Z,73nm,5.6s							
HHC				LR		LR		
	comp=N,850nm,10.9s							
HHC				LR		LR		
	comp=E,590nm,11.3s							
HHC				LR		LR		
	comp=Z,320nm,16.0s							
CM31	**Chiang Mai Arr**	**61.49**	**87**	P		**P**	**19 05 15.2**	**-0.5**
CM31				IAmb		IAmb	19 05 29.7	
	comp=Z,3.9nm,0.9s							
CMAR	**Chiang Mai Arr**	**61.49**	**87**	P		**P**	**19 05 16.1**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=294,slow=8.3,SNR=15							
FRB	**Frobisher Bay**	**62.71**	**330**	P		**P**	**19 05 22.4**	**-0.7**
	comp=Z,6.0nm,0.8s,baz=78,slow=7.6,SNR=11							
RES	**Resolute Bay**	**64.37**	**346**	P		**P**	**19 05 34.0**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=36,slow=8.7,SNR=7.3							
RES	**Resolute Bay**	**64.37**	**346**	P		**P**	**19 05 33.4**	**-0.6**
RES				IAmb		IAmb	19 05 53.1	
	comp=Z,8.7nm,1.6s							
SCHQ	**Schefferville**	**65.97**	**321**	P		**P**	**19 05 43.8**	**-1.0**
	comp=Z,4.1nm,0.7s,baz=62,slow=7.2,SNR=8.8							
SCHQ	**Schefferville**	**65.97**	**321**	P		**P**	**19 05 43.7**	**-1.0**
SCHQ				IAmb		IAmb	19 05 45.7	
	comp=Z,21nm,1.6s							
GBN	**Guysborough**	**67.42**	**310**	P		**P**	**19 05 54.4**	**+0.3**
BATG	**Bathurst New B**	**69.25**	**314**	P		**P**	**19 06 05.6**	**+0.1**
KULM	**Kulim**	**70.14**	**98**	P		**P**	**19 06 11.8**	**+0.3**
PQI	**Presque Isle**	**70.71**	**314**	P		**P**	**19 06 14.5**	**+0.1**
E63A	**Oxbow**	**71.08**	**314**	P		**P**	**19 06 16.8**	**+0.1**
USRK	**Ussuriysk Ar.**	**72.79**	**48**	P		**P**	**19 06 26.8**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=309,slow=5.6,SNR=6.5							
KSRS	**Korea Array**	**73.86**	**55**	P		**P**	**19 06 33.8**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=299,slow=6.2,SNR=7.3							
INK	**Inuvik**	**75.66**	**354**	P		**P**	**19 06 42.5**	**-0.7**
INK				IAmb		IAmb	19 07 09.5	
	comp=Z,3.6nm,1.0s							
ACCN	**Adirondack Com**	**75.87**	**313**	P		**P**	**19 06 43.9**	**-1.1**
TOLK	**Toolik Lake Re**	**75.94**	**0**	P		**P**	**19 06 44.9**	**0.0**
TOLK				IAmb		IAmb	19 06 55.6	
	comp=Z,5.8nm,1.4s							
COLD	**Coldfoot**	**77.36**	**1**	P		**P**	**19 06 52.7**	**-0.2**
COLD				IAmb		IAmb	19 06 56.0	
	comp=Z,13nm,1.7s							
YKA	**Yellowknife Ar**	**78.36**	**345**	P		**P**	**19 06 58.1**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=29,slow=5.3,SNR=29							
ANM	**Nome**	**79.17**	**7**	P		**P**	**19 07 04.1**	**+1.2**
ANM				IAmb		IAmb	19 07 30.7	
	comp=Z,9.9nm,1.7s							
MLY	**Manley**	**79.56**	**1**	P		**P**	**19 07 06.0**	**+0.9**
MLY				IAmb		IAmb	19 07 24.1	
	comp=Z,5.8nm,1.6s							
EGAK	**Eagle**	**79.65**	**357**	P		**P**	**19 07 06.0**	**+0.4**
IL31		**79.82**	**359**	P		**P**	**19 07 07.3**	**+0.9**
IL31				IAmb		IAmb	19 07 30.2	
	comp=Z,11nm,1.6s							
ILAR	**Eielson Array**	**79.82**	**359**	P		**P**	**19 07 06.7**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=336,slow=3.6,SNR=8.4							
CCB	**Clear Creek Bu**	**79.95**	**360**	P		**P**	**19 07 07.5**	**+0.3**
CCB				IAmb		IAmb	19 07 13.7	
	comp=Z,12nm,1.7s							
DAWY	**Dawson**	**80.27**	**356**	P		**P**	**19 07 08.9**	**-0.1**
DAWY				IAmb		IAmb	19 07 18.2	
	comp=Z,11nm,1.6s							
MJAR	**Matsushiro Arr**	**81.11**	**51**	P		**P**	**19 07 14.8**	**+0.9**
	comp=Z,2.6nm,0.9s,baz=283,slow=5.9,SNR=4.8							

MOS ***28*** *18:59:02.8±0.9, 1.39S×15.13W, h10km, mb5.5/75, MS5.4/63, Error ellipse: s-maj=7.8km s-min=3.2km az=65.2*

ISCJB ***28*** *18:59:03.2±0.1, 1.40S±0.02×15.18W±0.02, h11km, mb5.3/201, MS5.4/114, Error ellipse: s-maj=3.9km s-min=2.1km az=148.4*

IDC ***28*** *18:59:03.4±0.4, 1.33S×15.18W, h0km, mb4.9/36, mb1 4.9/36, mb1mx4.9/44, mbtmp4.9/36, MS5.3/40, Ms1 5.2/40, ms1mx5.2/43, Error ellipse: s-maj=10.7km s-min=7.7km az=144.0*

NEIC ***28*** *18:59:04.9±1.9, 1.37S±0.08×15.17W±0.08, h10km±3km, mb5.5/374, Ms_20 5.3/445, Mwb5.8, Mww5.8, Mwc6.0(GCMT), Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr0.18; Mθθ2.72; Mφφ-2.90; Mrθ0.56; Mrφ-4.99; Mθφ0.93; Fault plane solution: M05.83000×1017 NP1:φs255.73000°, δ83.06000°, λ-172.79000°. NP2:φs164.85000°, δ82.84000°, λ-6.99000°. Principal axes: T 5.6347, Plg0.0000°, Azm30.0000°; N 0.3757, Plg80.0000°, Azm299.0000°; P -6.0104, Plg10.0000°, Azm120.0000°;*

BJI ***28*** *18:59:04.0±0.0, 1.40S×15.10W, h10km, mb5.3/9, mB5.7/3, Ms5.8/5, Ms7 5.6/9*

GCMT ***28*** *18:59:08.9±0.1, 1.08S×15.03W, h20km, MW5.9/167, Moment Tensor Solution. s142,c267; s167,c519; Duration: 2s2 Moment tensor: Scale 1017Nm; Mrr-0.66±.07; Mθθ3.61±.07; Mφφ-2.96±.07; Mrθ0.71±.14; Mθφ-7.94±.06; Mrf2.49±.16; Best double couple: M08.99200×1017 NP1:φs168.00000°, δ82.00000°, λ-15.00000°. NP2:φs260.00000°, δ75.00000°, λ-172.00000°. Principal axes: T 8.9850, Plg5.0000°, Azm214.0000°; N 0.0060, Plg73.0000°, Azm320.0000°; P -9.0000, Plg17.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***28*** *18:59:09, 1.05S×14.98W, h24km, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr0.55; Mθθ2.18; Mφφ-2.73; Mrθ-0.26; Mθφ-6.40; Mφf1.50; Fault plane solution: M07.03000×1017 NP1:φs259.00000°, δ77.00000°, λ179.00000°. NP2:φs350.00000°, δ89.00000°, λ13.00000°. Principal axes: T 6.7628, Plg10.0000°, Azm215.0000°; N 0.5145, Plg77.0000°, Azm355.0000°; P -7.2773, Plg8.0000°, Azm124.0000°;*

NEIC ***28*** *18:59:11, 1.11S×15.01W, h21km, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr-0.61; Mθθ4.00; Mφφ-3.39; Mrθ-0.63; Mθφ-8.54; Mφf3.33; Fault plane solution: M09.92000×1017 NP1:φs259.00000°, δ70.00000°, λ-178.00000°. NP2:φs168.00000°, δ88.00000°, λ-20.00000°. Principal axes: T 10.1412, Plg13.0000°, Azm215.0000°; N -0.4645, Plg70.0000°, Azm343.0000°; P -9.6767, Plg16.0000°, Azm121.0000°;*

ISC 28 18:59:05.0±0.2, 1.37S±0.04×15.18W±0.04, h11km, n1160, σ1§43/1097, mb5.5/341, MS5.3/311, 44C-37D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**6.46**	**174**	T	T	19 07 26.7	
	baz=357,slow=73,SNR=57						
H10N3	**ASCENSION HYDR**	**6.47**	**174**	T	T	19 07 26.7	
	baz=357,slow=73,SNR=72						
H10N1	**ASCENSION HYDR**	**6

PFVI IAMs_20 IAMs_20 19 20 41.8
comp=Z,6µm,21.0s
ARAG Araguaiana, MT 38.83 246 *e*P **P 19 06 31.1 +0.7**
ARAG Araguaiana, MT 38.83 246 *e*P **P 19 06 31.1 +0.7**
PBDV Barranco-do-Ve 39.00 9 *e*P **P 19 06 33.4 +1.8**
comp=Z,200nm,1.6s
LIJA Lijar 39.15 12 P **P 19 06 35.0 +2.1**
PVAQ Vaqueiros 39.19 9 *e*P **P 19 06 34.9 +1.7**
PVAQ Vaqueiros 39.19 9 *e*LR LR 19 16 57.7
comp=Z,6µm,20.0s
PVAQ Vaqueiros 39.19 9 P **P 19 06 34.1 +0.9**
PVAQ IAmb IAmb 19 07 02.3
comp=Z,87nm,1.3s
PCVE Castro Verde 39.36 9 *e*P **P 19 06 36.8 +2.2**
comp=Z,119nm,1.6s
PNCL Nicolau / Gran 39.76 8 *e*P **P 19 06 40.4 +2.5**
comp=Z,101nm,2.0s
PBEJ Beja 39.78 9 *e*P **P 19 06 40.1 +2.0**
CMLA Cha da Macela 40.09 347 P **P 19 06 41.7 +0.9**
CMLA pmax pmax
comp=Z,217nm,1.2s
CMLA Cha da Macela 40.09 347 P **P 19 06 41.7 +0.9**
CMLA IAmb IAmb 19 07 28.1
comp=Z,217nm,1.2s
EVO Evora 40.25 9 *e*P **P 19 06 43.2 +1.2**
comp=Z,110nm,1.7s
PESTR Estremoz 40.64 9 P **P 19 06 45.9 +0.6**
PESTR IAMs_20 IAMs_20 19 22 57.7
comp=Z,4µm,20.0s
PMTG Montargil 40.74 8 *e*P **P 19 06 47.0 +0.9**
comp=Z,48nm,1.5s
C2SB Chapadao do Su 40.76 242 *e*P **P 19 06 48.0 +1.5**
C2SB Chapadao do Su 40.76 242 *e*P **P 19 06 48.0 +1.5**
CART Cartagena 40.92 17 *e*P **P 19 06 45.4 -2.1**
CART Cartagena 40.92 17 P **P 19 06 48.1 +0.5**
CART IAmb IAmb 19 06 49.4
comp=Z,110nm,1.1s
CART IAMs_20 IAMs_20 19 23 24.3
comp=Z,5µm,22.0s
PMRV Marv??o 41.22 9 *e*P **P 19 06 52.1 +2.1**
comp=Z,97nm,1.4s
PMRV Marv??o 41.22 9 *e*LR LR 19 17 43.1
comp=Z,6µm,18.0s
PTOM Tomar 41.26 8 *e*P **P 19 06 52.5 +2.2**
PCBR Castelo Branco 41.61 9 *e*P **P 19 06 54.9 +1.7**
COI Coimbra 41.84 8 P **P 19 06 55.0 0.0**
COI pmax pmax
comp=Z,100nm,1.2s
COI MLR MLR
comp=Z,7µm,20.0s
COI Coimbra 41.84 8 P **P 19 06 55.0 0.0**
COI IAmb IAmb 19 07 44.7
comp=Z,100nm,1.2s
CKHR Kef el Ahmar 41.90 25 P **P 19 06 57.6 +1.8**
PAB San Pablo 41.91 13 P **P 19 06 56.2 +0.4**
PAB pmax pmax
comp=Z,101nm,1.2s
PAB MLR MLR
comp=Z,7µm,22.0s
PAB San Pablo 41.91 13 P **P 19 06 56.2 +0.4**
PAB IAmb IAmb 19 06 58.1
comp=Z,100nm,1.2s
SET Setif 42.01 25 P **P 19 07 01.0 +4.4**
ESDC Sonseca Array 42.12 13 P **P 19 06 57.1 -0.3**
comp=Z,10nm,1.0s,baz=201,slow=8.1,SNR=14
ESDC PP **PP 19 08 35.1 +0.1**
comp=Z,34nm,1.1s,baz=194,slow=11,SNR=9.7
ESDC S **S 19 13 17.4 +0.3**
comp=Z,0.8nm,0.8s,baz=307,slow=24,SNR=3.0
ESDC LR LR 19 25 08.2
comp=Z,4µm,18.7s,baz=190,slow=37
ESBB Sonseca Array 42.12 13 P **P 19 06 56.8 -0.7**
TRCB Terra Rica 42.14 237 *e*P **P 19 06 58.6 +0.7**
TRCB Terra Rica 42.14 237 *e*P **P 19 06 58.6 +0.7**
MTE Manteigas 42.15 9 *e*P **P 19 06 59.4 +1.7**
comp=Z,141nm,1.4s
MTE Manteigas 42.15 9 *e*LR LR 19 18 12.4
comp=Z,5µm,18.0s
MTE Manteigas 42.15 9 P **P 19 06 55.8 -1.9**
MTE IAmb IAmb 19 07 21.5
comp=Z,170nm,1.6s
PP1B Ponte de Pedra 42.20 245 *e*P **P 19 06 59.4 +0.9**
PP1B Ponte de Pedra 42.20 245 *e*P **P 19 06 59.4 +0.9**
CTEI Djebel Teioual 42.33 26 P **P 19 07 00.0 +0.7**
PVIS Viseu 42.41 8 *e*P **P 19 07 01.2 +1.4**
SALV Santo Antonio 42.46 248 *e*P **P 19 07 01.2 +0.7**
SALV Santo Antonio 42.46 248 *e*P **P 19 07 01.2 +0.7**
DFRA Djebel Bou Aff 42.50 25 P **P 19 07 02.3 +1.6**
CASM Ain Smara 42.53 26 P **P 19 07 01.9 +1.1**
CKFL Kef-Lekhel 42.75 26 P **P 19 07 03.7 +1.0**
MVO Moncorvo 42.98 9 *e*P **P 19 07 05.9 +1.5**
comp=Z,130nm,1.6s
MVO Moncorvo 42.98 9 *e*LR LR 19 18 58.2
comp=Z,4µm,18.0s
PVRL Vila Real 42.98 8 *e*P **P 19 07 06.1 +1.7**
ABSA Djebel Ababsia 42.98 27 P **P 19 07 04.9 +0.3**
GUD Guadarrama 43.00 12 P **P 19 07 06.0 +1.3**
GUD pmax pmax
comp=Z,78nm,1.4s
POLO Lamas de Olo 43.07 8 *e*P **P 19 07 06.2 +1.0**
comp=Z,52nm,1.6s
CAEH 'Ain El Ouahch 43.12 26 P **P 19 07 06.2 +0.6**
CMAH Djebel Manchou 43.25 27 P **P 19 07 07.6 +0.9**
KEST Kesra 43.43 29 P **P 19 07 08.9 +0.7**
comp=Z,75nm,1.1s,baz=172,slow=3.7,SNR=50
KEST PP **PP 19 08 50.6 +1.4**
comp=Z,89nm,1.1s,baz=162,slow=9.6,SNR=7.4
KEST S **S 19 13 39.2 +2.7**
comp=Z,4.9nm,1.1s,baz=157,slow=14,SNR=3.6
KEST LR LR 19 25 36.9
comp=Z,5µm,19.4s,baz=175,slow=37
KEST Kesra 43.43 29 P **P 19 07 08.4 +0.3**
KEST IAmb IAmb 19 07 10.9
comp=Z,143nm,1.2s
KEST **PP 19 08 50.1 +0.9**
PBRG Braganca 43.65 9 *e*P **P 19 07 11.4 +1.6**
comp=Z,67nm,1.5s
ITAB Concordia 43.77 231 *e*P **P 19 07 12.8 +1.8**
ITAB Concordia 43.77 231 *e*P **P 19 07 12.8 +1.8**
CNLB Canela 43.88 227 *e*P **P 19 07 13.5 +1.6**
CNLB Canela 43.88 227 *e*P **P 19 07 13.5 +1.6**
AQDB Aquidauana 43.88 241 *e*P **P 19 07 12.3 +0.3**
AQDB Aquidauana 43.88 241 *e*P **P 19 07 12.3 +0.3**
MAHO Mahon 44.76 21 *e*P **P 19 07 14.8 -3.9**
LSZ Lusaka 44.96 110 P **P 19 07 20.8 0.0**
comp=Z,103nm,0.9s,baz=288,slow=7.1,SNR=224
LSZ Lusaka 44.96 110 P **P 19 07 20.8 0.0**
LSZ Lusaka 44.96 110 IAMs_20 IAMs_20 19 22 30.2
comp=Z,5µm,23.0s
SUR Sutherland 45.81 136 P **P 19 07 27.8 +0.4**
comp=Z,60nm,0.9s,baz=304,slow=5.5,SNR=19
SUR Sutherland 45.81 136 P **P 19 07 27.2 -0.2**
SUR IAMs_20 IAMs_20 19 22 58.6
comp=Z,4µm,19.0s
LBTB Lobatse 45.83 124 P **P 19 07 27.4 -0.2**
comp=Z,94nm,0.7s,baz=288,slow=8.5,SNR=105
LBTB PP **PP 19 09 17.4 +2.4**
comp=Z,14nm,0.9s,baz=296,slow=13,SNR=4.5
LBTB Lobatse 45.83 124 P **P 19 07 26.6 -0.9**
MBAR Mbarara 45.92 90*d* *i*P **P 19 07 29.6 +1.1**
MBAR Mbarara 45.92 90 P **P 19 07 29.1 +0.6**
ETSF Etsaut 45.99 15 *e*P **P 19 07 29.1 +0.6**
ETSF pmax pmax
comp=Z,96nm,1.3s
SJPF Ste Jean 46.02 14 *e*P **P 19 07 29.4 +0.7**
SJPF pmax pmax
comp=Z,101nm,1.3s
WDD Wied Dalam 46.23 34 P **P 19 07 30.9 +0.5**
BBGH Gun Hill 46.31 290 P **P 19 07 31.8 +0.4**
EPF Esparros 46.35 16 *e*P **P 19 07 32.1 +0.8**
EPF pmax pmax
comp=Z,104nm,1.4s
CLTB Caltabellotta 46.82 31 P **P 19 07 35.6 +0.5**
CORL Corleone 47.10 31 P **P 19 07 38.3 +1.0**
BOSA Boshof 47.13 129 P **P 19 07 37.3 -0.5**
comp=Z,140nm,0.8s,baz=300,slow=8.0,SNR=145
BOSA S **S 19 14 26.9 -3.6**
comp=Z,3.7nm,1.0s,baz=236,slow=7.3,SNR=2.3
BOSA LR LR 19 25 05.7
comp=Z,2µm,18.8s,baz=284,slow=33
BOSA Boshof 47.13 129 P **P 19 07 36.9 -0.8**
RAFF Raffo Rosso 47.16 32 P **P 19 07 37.8 +0.1**
RAFF IAMs_20 IAMs_20 19 27 27.9
comp=Z,6µm,25.0s
MTLF Montolieu 47.17 17 P **P 19 07 38.0 +0.3**
MTLF pmax pmax
comp=Z,62nm,1.6s
PLTB Pedras Altas 47.19 226 *e*P **P 19 07 39.1 +1.0**
PLTB Pedras Altas 47.19 226 *e*P **P 19 07 39.1 +1.0**
VAE Valguarnera 47.37 32 LR LR 19 26 54.7
comp=Z,5µm,18.1s,baz=156,slow=35
SIV San Ignacio 47.49 250 LR LR 19 26 59.5
comp=Z,5µm,19.0s,baz=94,slow=35
CPUP Villa Florida 47.50 235 P **P 19 07 41.0 +0.5**
comp=Z,17nm,0.9s,baz=77,slow=7.9,SNR=43
CPUP S **S 19 14 36.4 +0.9**
comp=Z,0.3nm,0.5s,baz=86,slow=16,SNR=2.2
CPUP LR LR 19 25 04.9
comp=Z,3µm,21.9s,baz=72,slow=33
CPUP Villa Florida 47.50 235 P **P 19 07 40.7 +0.2**
CPUP IAmb IAmb 19 07 41.7
comp=Z,29nm,1.0s
MCLT Moule a Chique 47.76 290 P **P 19 07 40.1 -2.6**
FDF Fort de France 48.22 291 P **P 19 07 47.7 +1.4**
FDF pmax pmax
comp=Z,233nm,1.5s
FDF MLR MLR
comp=Z,2µm,24.0s
FDF Fort de France 48.22 291 P **P 19 07 47.7 +1.4**
SAML Samuel 48.35 259 P **P 19 07 48.1 +0.7**
SAML pmax pmax
comp=Z,36nm,1.0s
SAML Samuel 48.35 259 *e*P **P 19 07 48.6 +1.3**
SAML Samuel 48.35 259 *e*P **P 19 07 48.6 +1.3**
SAML Samuel 48.35 259 P **P 19 07 48.1 +0.7**
SAML IAmb IAmb 19 07 53.1
comp=Z,36nm,1.0s
LMR La Mourre 48.58 21 *e*P **P 19 07 48.9 +0.4**
LMR pmax pmax
comp=Z,38nm,0.8s
CAF Calviac 48.58 16 *e*P **P 19 07 48.7 +0.1**
CAF pmax pmax
comp=Z,86nm,1.2s
CEL Celeste 48.74 33 P **P 19 07 50.4 +0.5**
CEL IAMs_20 IAMs_20 19 28 58.8
comp=Z,4µm,20.0s
RJF Les Rejaudoux 48.78 16 *e*P **P 19 07 50.3 +0.2**
RJF pmax pmax
comp=Z,150nm,1.5s
FRF La Foret Royal 48.82 21 *e*P **P 19 07 50.6 +0.1**
FRF pmax pmax
comp=Z,344nm,2.1s
PGF Pioggiola 48.85 24 *e*P **P 19 07 51.1 +0.3**
PGF pmax pmax
comp=Z,123nm,1.5s
VIVF Saint-Julien-l 49.30 19 *e*P **P 19 07 54.6 +0.5**
VIVF pmax pmax
comp=Z,102nm,1.4s
SBF Sospel 49.37 21 *e*P **P 19 07 55.0 +0.3**
SBF pmax pmax
comp=Z,85nm,1.0s
ISO Isola 49.51 21 P **P 19 07 57.7 +1.9**
ISO pmax pmax
comp=Z,60nm,1.0s
SAOF Saorge 49.52 22 P **P 19 07 58.8 +3.0**
SAOF pmax pmax
comp=Z,66nm,1.6s
MFF Saint Martin d 49.57 14 *e*P **P 19 07 56.1 0.0**
MFF pmax pmax
comp=Z,164nm,1.8s
ANWB Willy Bob 49.63 295 P **P 19 07 57.0 -0.1**
SSB Saint Sauveur 49.63 18 P **P 19 07 57.0 +0.3**
SSB pmax pmax
comp=Z,156nm,1.8s
SSB MLR MLR
comp=Z,5µm,21.0s
SSB Saint Sauveur 49.63 18 P **P 19 07 57.0 +0.3**
SSB IAmb IAmb 19 08 09.1
comp=Z,156nm,1.8s
SSB IAMs_20 IAMs_20 19 28 16.6
comp=Z,5µm,21.0s
CASP Castiglione de 49.82 25 P **P 19 07 57.7 -0.4**
CASP IAmb IAmb 19 07 59.8
comp=Z,72nm,1.1s
CASP IAMs_20 IAMs_20 19 26 10.5
comp=Z,4µm,19.0s
TCF Toulx Ste Croi 49.87 16 *e*P **P 19 07 59.1 +0.6**
TCF pmax pmax
comp=Z,230nm,1.8s
TIP Timpagrande 49.87 33 P **P 19 07 58.5 -0.1**
TIP Timpagrande 49.87 33 ||P **P 19 07 59.4 +0.7**
TIP mb 19 08 15.9
TIP Timpagrande 49.87 33 P **P 19 07 58.5 -0.1**
TIP IAMs_20 IAMs_20 19 31 24.8
comp=Z,4µm,19.0s
LATE Laterza 50.08 26 P **P 19 08 00.6 +0.5**
LATE IAMs_20 IAMs_20 19 29 52.6
comp=Z,3µm,20.0s
PAOL Paolisi 50.12 29 P **P 19 07 59.9 -0.6**
PAOL IAmb IAmb 19 08 09.7
comp=Z,87nm,1.3s
BNI Bardonecchia 50.13 20 P **P 19 08 02.2 +1.6**
BNI pmax pmax
comp=Z,70nm,1.1s
BNI MLR MLR
comp=Z,5µm,22.0s
BNI Bardonecchia 50.13 20 P **P 19 08 02.2 +1.6**
BNI IAmb IAmb 19 08 25.6
comp=Z,70nm,1.1s
BNI IAMs_20 IAMs_20 19 26 54.8
comp=Z,5µm,22.0s
BGF Bois d'Agland 50.29 16 *e*P **P 19 08 05.2 +3.6**
BGF pmax pmax
comp=Z,170nm,1.9s
SKI Saint Kitts 50.41 294 IAMs_20 IAMs_20 19 22 39.1
comp=Z,3µm,20.0s
PCRV Puerto La Cruz 50.54 284 LR LR 19 27 38.8
comp=Z,802nm,20.7s,slow=34
MSSA Maissana 50.54 23 P **P 19 08 03.7 0.0**
MSSA IAMs_20 IAMs_20 19 26 23.6
comp=Z,3µm,19.0s
LPG La Plagne 50.55 20 *e*P **P 19 08 04.9 +1.0**
LPG pmax pmax
comp=Z,72nm,1.0s
INTR Introdacqua 50.56 28 P **P 19 08 03.8 0.0**
LPL La Plagne 50.56 20 *e*P **P 19 08 04.9 +1.0**
LPL pmax pmax
comp=Z,31nm,0.6s
ROSF Rostrenen 50.58 10 *e*P **P 19 08 05.7 +2.0**
ROSF pmax pmax
comp=Z,36nm,0.9s
OSSC Osservatorio P 50.58 25 P **P 19 08 03.4 -0.5**
OSSC IAmb IAmb 19 08 14.6
comp=Z,67nm,1.3s
OSSC IAMs_20 IAMs_20 19 26 45.6
comp=Z,4µm,19.0s
AQU L'Aquila 50.59 27 P **P 19 08 04.7 +0.7**
AQU pmax pmax
comp=Z,152nm,1.0s
AQU MLR MLR
comp=Z,13µm,19.0s
AQU L'Aquila 50.59 27 P **P 19 08 04.7 +0.7**
ACER Acerenza 50.62 31 P **P 19 08 03.4 -0.9**
ACER IAmb IAmb 19 08 40.0
comp=Z,65nm,1.2s
SGMF Saint Gilles 50.63 11 *e*P **P 19 08 07.3 +3.2**
SGMF pmax pmax
comp=Z,93nm,1.4s
AVF Avril sur Loir 50.65 16 *e*P **P 19 08 04.7 +0.4**
AVF pmax pmax
comp=Z,55nm,1.3s
SMF Signal de Mont 50.66 17 *e*P **P 19 08 04.7 +0.3**
SMF pmax pmax
comp=Z,85nm,1.5s
RSL Roselend 50.67 20 *e*P **P 19 08 06.4 +1.7**
RSL pmax pmax
comp=Z,43nm,2.1s
VLC Villacollemand 50.76 24 P **P 19 08 05.4 +0.2**
VLC IAmb IAmb 19 08 25.5
comp=Z,46nm,1.1s
VLC IAMs_20 IAMs_20 19 27 42.4
comp=Z,3µm,19.0s
MURB Monte Urbino 50.92 26 P **P 19 08 06.7 +0.2**
SSF Saint Saulge 50.94 16 *e*P **P 19 08 06.9 +0.4**
SSF pmax pmax
comp=Z,110nm,1.4s
GRR Gorron 51.10 12 *e*P **P 19 08 07.7 +0.1**
GRR pmax pmax
comp=Z,42nm,0.7s
ZCCA Zocca 51.15 24 P **P 19 08 08.9 +0.8**
ZCCA IAmb IAmb 19 08 16.6
comp=Z,72nm,1.0s
ZCCA IAMs_20 IAMs_20 19 28 57.0
comp=Z,5µm,23.0s
LOR Lormes 51.23 17 *e*P **P 19 08 08.9 +0.2**
LOR pmax pmax
comp=Z,45nm,1.0s
PRMA PARMA 51.23 23 P **P 19 08 08.8 +0.2**
PRMA IAMs_20 IAMs_20 19 29 38.7
comp=Z,4µm,23.0s
SGRT San Giovanni R 51.25 30 P **P 19 08 09.2 +0.2**
CABF La Chapelle 51.31 19 *e*P **P 19 08 09.7 +0.3**
CABF pmax pmax
comp=Z,95nm,1.3s
SCTE Santa Cesarea 51.43 33 P **P 19 08 10.1 -0.2**
LDF La Druitiere 51.45 13 *e*P **P 19 08 12.3 +2.0**
LDF pmax pmax
comp=Z,45nm,1.3s
CLF Chambon-Foret 51.49 15 P **P 19 08 11.8 +1.2**
SENIN Lac Senin/Sane 51.49 20 P **P 19 08 10.8 -0.1**
SENIN IAmb IAmb 19 08 34.6
comp=Z,58nm,1.2s
ITM Ithomi 51.50 38 P **P 19 08 11.6 +0.7**
ITM IAMs_20 IAMs_20 19 29 18.7
comp=Z,3µm,20.0s
FLN La Foliniere 51.53 12 *e*P **P 19 08 12.8 +1.9**
FLN pmax pmax
comp=Z,18nm,0.7s
AMT Artemida-Makis 51.59 38 P **P 19 08 11.9 +0.3**
RLS Riolos of Patr 51.78 37 P **P 19 08 14.3 +1.3**
DRO Drossia 51.86 37 P **P 19 08 15.3 +1.7**
KEK Kerkira 51.92 34 P **P 19 08 13.2 -0.8**
SALO Salr 52.02 23 P **P 19 08 13.8 -0.9**
SALO IAmb IAmb 19 08 26.5
comp=Z,99nm,1.3s
IGT Igoumenitsa 52.10 35 P **P 19 08 15.7 +0.4**
IGT Igoumenitsa 52.10 35 P **P 19 08 16.2 +0.9**
IGT pmax pmax
comp=Z,67nm,1.3s
PVO Paravola 52.18 36 P **P 19 08 15.5 -0.4**
KLV Kalavryta, Ach 52.19 37 P **P 19 08 17.6 +1.5**
LOMF Lomont 52.20 19 P **P 19 08 16.8 +0.8**
LAKA Lakka 52.21 37 P **P 19 08 17.5 +1.3**
IDI Anoyia 52.25 42 LR LR 19 29 59.6
comp=Z,3µm,20.8s,baz=228,slow=36
TEOL Teolo 52.26 24 P **P 19 08 15.2 -1.2**
TEOL IAmb IAmb 19 08 20.9
comp=Z,33nm,0.8s
TUE Stuetta 52.30 21 P **P 19 08 16.8 -0.2**
TUE IAmb IAmb 19 08 28.9
comp=Z,126nm,1.6s
TRIZ Trizonia 52.35 37 P **P 19 08 18.9 +1.8**
SERG Sergoula 52.37 37 P **P 19 08 18.8 +1.4**
KALE Kalithea 52.40 37 P **P 19 08 18.6 +0.9**
KMBO Kilima Mbogo 52.42 90 *i* P **P 19 08 20.5 +2.0**
SNR=7.5
KMBO Kilima Mbogo 52.42 90 *i* P **P 19 08 20.3 +1.9**
KMBO pmax pmax
comp=Z,24nm,1.1s
KMBO Kilima Mbogo 52.42 90 P **P 19 08 19.8 +1.3**
comp=Z,24nm,1.1s,baz=257,slow=9.0,SNR=29
KMBO S **S 19 15 46.0 +1.0**
comp=Z,0.3nm,0.3s,baz=201,slow=8.6,SNR=2.1
KMBO LR LR 19 28 49.2
comp=Z,8µm,19.4s,baz=255,slow=34
KMBO Kilima Mbogo 52.42 90 P **P 19 08 19.0 +0.6**
KMBO IAmb IAmb 19 08 21.8
comp=Z,70nm,1.4s
TPE Tepelena 52.44 34 P **P 19 08 18.4 +0.6**
JAN Janina 52.48 35 P **P 19 08 19.5 +1.3**
EVR Evrytania 52.55 36 P **P 19 08 20.4 +1.6**
HINF Hinteralfeld 52.62 19 *e*P **P 19 08 18.8 -0.3**
HINF pmax pmax
comp=Z,70nm,1.4s
DUGI Dugi Otok 52.63 27 P **P 19 08 21.0 +1.9**
HAU Haudompre 52.63 18 *e*P **P 19 08 19.1 0.0**
HAU pmax pmax
comp=Z,109nm,1.3s
ZIRJ Zirje 52.64 28 P **P 19 08 18.2 -1.0**
MOF Molkenrain 52.74 19 P **P 19 08 20.5 +0.5**
DAVOX Davos/Dischmat 52.76 21 LR LR 19 30 30.5
comp=Z,5µm,19.6s,baz=238,slow=36
BRJN Brijuni 52.76 26 P P 19 08 27.1 +7.0
FUORN Ofenpass-Fuorn 52.77 22 P **P 19 08 19.8 -0.7**
FUORN IAmb IAmb 19 08 44.0
comp=Z,57nm,1.1s
MORI Morici 52.83 28 P **P 19 08 19.6 -1.1**
AGG Agios Georgios 52.92 36 P P 19 08 14.8 -6.7
AGG Agios Georgios 52.92 36 P **P 19 08 21.8 +0.3**
AGG pmax pmax
comp=Z,141nm,1.8s
AGG MLR MLR
comp=Z,4µm,20.0s
AGG Agios Georgios 52.92 36 P **P 19 08 21.8 +0.3**
AGG IAmb IAmb 19 08 40.1
comp=Z,141nm,1.8s
KPRO Kipourio 52.97 35 P **P 19 08 23.5 +1.6**
NVLJ Novalja 52.99 27 P **P 19 08 21.0 -0.7**
PENT Pentalofos 53.00 35 P **P 19 08 23.5 +1.4**
STON Ston 53.05 30 *e*Pn **P 19 08 22.3 +0.1**
ECH Echery 53.07 19 P **P 19 08 22.2 -0.2**
ECH pmax pmax
comp=Z,124nm,1.6s
ECH MLR MLR
comp=Z,4µm,20.0s
ECH Echery 53.07 19 P **P 19 08 22.2 -0.2**
ECH IAmb IAmb 19 08 34.8
comp=Z,124nm,1.6s
TIR Tirane 53.08 33 P **P 19 08 23.7 +1.1**
TIR Tirane 53.08 33 P **P 19 08 22.0 -0.5**
TIR pmax pmax
comp=Z,222nm,1.6s
TIR MLR MLR
comp=Z,7µm,18.0s
TIR Tirane 53.08 33 ⇑P **P 19 08 24.0 +1.4**
TIR mb 19 08 27.4
TIR Tirane 53.08 33 P **P 19 08 22.1 -0.5**
THL Klokotos Trika 53.09 36 P **P 19 08 23.2 +0.6**
NEST Nestorio 53.10 34 P **P 19 08 24.4 +1.6**
SLE Schleitheim 53.11 20 P **P 19 08 23.6 +0.9**
SLE pmax pmax
comp=Z,56nm,1.4s
DBRK Dubrovnik 53.12 30 P **P 19 08 23.2 +0.3**
ATHU Athens Univers 53.14 38 P **P 19 08 23.0 -0.1**
HCY Herceg Novi 53.14 31 *e*Pn **P 19 08 23.9 +0.9**
HCY Herceg Novi 53.14 31 ||*i*P **P 19 08 23.7 +0.7**
ULC Ulcinj 53.19 32 ||*i*P **P 19 08 24.3 +1.0**
DAVA Damuels 53.19 21 *i* P **P 19 08 23.1 -0.3**
SNR=33
MTP Monte Pirata 53.19 294 P **P 19 08 23.2 -0.5**
MTP IAmb IAmb 19 08 37.2
comp=Z,39nm,1.1s
RICI Ricice 53.23 29 P **P 19 08 22.7 -0.9**
BUM Brajici-Budva 53.24 31 ||*i*P **P 19 08 24.9 +1.1**
SANT Santorini 53.25 41 P **P 19 08 23.9 -0.1**
TREB Trebinje 53.26 31 *e*Pn **P 19 08 24.4 +0.5**
KIJV Kijevo 53.26 28 P **P 19 08 23.5 -0.3**
FETA Feichten 53.28 22 *i* P **P 19 08 23.7 -0.4**
SNR=20
CDF Champ du Feu 53.28 19 *e*P **P 19 08 23.6 -0.4**
CDF pmax pmax
comp=Z,34nm,0.8s
DRME Dracevica, Mon 53.31 32 *e*Pn **P 19 08 25.8 +1.6**
DRME Dracevica, Mon 53.31 32 ||*i*P **P 19 08 25.5 +1.3**
UDBI Udbina 53.36 27 P **P 19 08 24.3 -0.3**
SKDS Skadanscina 53.38 25 *e*P **P 19 08 25.1 +0.3**
TRI Trieste 53.41 25 P **P 19 08 24.7 -0.1**
TRI pmax pmax
comp=Z,132nm,1.3s
TRI MLR MLR
comp=Z,3µm,19.0s
TRI Trieste 53.41 25 P **P 19 08 24.7 -0.1**
TRI IAMs_20 IAMs_20 19 32 38.4
comp=Z,3µm,19.0s
RIY Rijeka 53.41 26 P **P 19 08 25.3 +0.4**
RIY Rijeka 53.41 26 *e*Pn **P 19 08 25.0 +0.1**
STAL STALIGIAL 53.42 24 P **P 19 08 25.2 +0.2**
STAL IAmb IAmb 19 08 43.2
comp=Z,97nm,1.4s
CEME Cevo 53.43 31 ||*i*P **P 19 08 26.0 +0.8**
KZN Kozani 53.44 35 P **P 19 08 25.9 +0.6**
HUMP Col San Antoni 53.48 294 P **P 19 08 26.2 +0.4**
HUMP IAmb IAmb 19 08 41.6
comp=Z,52nm,1.2s

BRY	**Bratogost**	**53.49**	**30**	*e*Pn		**P**		**19 08 26.6**	**+0.9**
BRY	**Bratogost**	**53.49**	**30**	⇓*i*P		**P**		**19 08 26.4**	**+0.7**
EREA	**Eretria**	**53.51**	**38**	P		**P**		**19 08 26.6**	**+0.8**
PDG	**Podgorica**	**53.52**	**31**	*e*Pn		**P**		**19 08 26.8**	**+1.1**
PDG	**Podgorica**	**53.52**	**31**	⇓P		**P**		**19 08 27.1**	**+1.3**
PDG				mb				19 08 45.0	
PDG	**Podgorica**	**53.52**	**31**	P		**P**		**19 08 26.6**	**+0.9**
PDG				IAmb	IAmb			19 08 48.7	
	comp=Z,102nm,1.3s								
PDG				IAMs_20	IAMs_20			19 32 23.4	
	comp=Z,4µm,20.0s								
TTG	**Podgorica**	**53.52**	**31**	⇓*i*P		**P**		**19 08 27.0**	**+1.3**
KNDS	**Knezji Dol**	**53.53**	**26**	*i* P		**P**		**19 08 26.3**	**+0.5**
FNA	**Florina**	**53.53**	**34**	P		**P**		**19 08 26.2**	**+0.2**
FNA	**Florina**	**53.53**	**34**	P		**P**		**19 08 26.7**	**+0.7**
FNA				pmax	pmax				
	comp=Z,91nm,0.9s								
FNA				MLR	MLR				
	comp=Z,5µm,20.0s								
FNA	**Florina**	**53.53**	**34**	P		**P**		**19 08 26.7**	**+0.7**
BFO	**Black Forest**	**53.55**	**19**	P		**P**		**19 08 25.4**	**-0.5**
BFO				pmax	pmax				
	comp=Z,57nm,1.0s								
BFO				MLR	MLR				
	comp=Z,4µm,21.0s								
BFO	**Black Forest**	**53.55**	**19**	P		**P**		**19 08 25.4**	**-0.5**
BFO				IAmb	IAmb			19 08 38.1	
	comp=Z,57nm,1.0s								
BFO				IAMs_20	IAMs_20			19 30 34.2	
	comp=Z,4µm,21.0s								
PDPR	**Patillas Dam,**	**53.60**	**294**	P		**P**		**19 08 25.4**	**-1.4**
NKME	**Niksic**	**53.61**	**31**	⇓*i*P		**P**		**19 08 27.3**	**+0.8**
SQTA	**Sankt Quirin**	**53.62**	**22**	*i* P		**P**		**19 08 26.2**	**-0.3**
	SNR=31								
PHP	**Peshkopia**	**53.63**	**33**	P		**P**		**19 08 28.0**	**+1.3**
NKY	**Niksic**	**53.66**	**31**	⇓*i*P		**P**		**19 08 27.7**	**+0.8**
RETA	**Reutte**	**53.68**	**22**	*i* P		**P**		**19 08 26.7**	**-0.2**
	SNR=20								
MOTA	**Moosalm**	**53.69**	**22**	*i* P		**P**		**19 08 26.8**	**-0.3**
	SNR=11								
APE	**Apeiranthos**	**53.71**	**40**	*i* P		**P**		**19 08 27.6**	**+0.3**
APE				pmax	pmax				
	comp=Z,82nm,1.3s								
APE	**Apeiranthos**	**53.71**	**40**	⇑P		**P**		**19 08 27.5**	**+0.3**
APE				mb				19 08 41.7	
CEY	**Cerknica**	**53.71**	**25**	*e*Pn		**P**		**19 08 26.8**	**-0.4**
LIT	**Litokhoron**	**53.72**	**36**	P		**P**		**19 08 27.5**	**+0.2**
LIT	**Litokhoron**	**53.72**	**36**	P		**P**		**19 08 27.3**	**0.0**
LIT				pmax	pmax				
	comp=Z,94nm,1.0s								
LIT				MLR	MLR				
	comp=Z,5µm,19.0s								
LIT	**Litokhoron**	**53.72**	**36**	P		**P**		**19 08 27.3**	**0.0**
ABTA	**Abfaltersbach**	**53.73**	**23**	*i* P		**P**		**19 08 27.8**	**+0.5**
	SNR=22								
SJG	**San Juan**	**53.74**	**294**	P		**P**		**19 08 29.3**	**+1.5**
	comp=Z,5.5nm,0.6s,baz=186,slow=9.2,SNR=2.4								
SJG	**San Juan**	**53.74**	**294**	P		**P**		**19 08 26.9**	**-0.9**
SJG				IAmb	IAmb			19 08 45.2	
	comp=Z,95nm,1.6s								
SJG	**San Juan**	**53.74**	**294**	IAMs_20	IAMs_20			19 25 41.2	
	comp=Z,2µm,20.0s								
CADS	**Cadrg**	**53.81**	**25**	*i* P		**P**		**19 08 28.2**	**+0.3**
WTTA	**Wattenberg**	**53.82**	**22**	P		**P**		**19 08 28.2**	**+0.1**
WTTA	**Wattenberg**	**53.82**	**22**	*i* P		**P**		**19 08 27.7**	**-0.4**
	SNR=21								
WATA	**Walderalm**	**53.86**	**22**	*i* P		**P**		**19 08 28.3**	**-0.1**
	SNR=16								
BAIF	**Baives**	**53.87**	**15**	*e*P		**P**		**19 08 27.8**	**-0.3**
BAIF				pmax	pmax				
	comp=Z,144nm,1.4s								
MGRS	**Mrkonjic Grad**	**53.90**	**28**	*e*Pn		**P**		**19 08 29.6**	**+1.1**
UPM	**Unac-Piva**	**53.90**	**30**	*e*Pn		**P**		**19 08 30.0**	**+1.3**
UPM	**Unac-Piva**	**53.90**	**30**	⇓*i*P		**P**		**19 08 29.7**	**+1.0**
KARP	**Karpathos**	**53.92**	**43**	P		**P**		**19 08 29.3**	**+0.4**
LANF	**Langenberg**	**53.95**	**19**	P		**P**		**19 08 29.7**	**+0.9**
KOME	**Kolasin**	**53.95**	**31**	⇓*i*P		**P**		**19 08 30.3**	**+1.2**
LJU	**Ljubljana**	**54.00**	**25**	*e*Pn		**P**		**19 08 29.8**	**+0.6**
PVY	**Plav**	**54.01**	**32**	⇓*i*P		**P**		**19 08 30.7**	**+1.2**
WLF	**Walferdange**	**54.05**	**17**	P		**P**		**19 08 29.6**	**+0.1**
WLF				pmax	pmax				
	comp=Z,81nm,1.3s								
WLF				MLR	MLR				
	comp=Z,6µm,18.0s								
WLF	**Walferdange**	**54.05**	**17**	P		**P**		**19 08 29.6**	**+0.1**
WLF				IAmb	IAmb			19 08 55.1	
	comp=Z,81nm,1.3s								
GIVF	**Givet**	**54.07**	**16**	*e*P		**P**		**19 08 29.2**	**-0.4**
GIVF				pmax	pmax				
	comp=Z,144nm,1.5s								
OZLJ	**Ozalj**	**54.07**	**26**	P		**P**		**19 08 29.9**	**+0.3**
MYKA	**Terra Mystica**	**54.09**	**24**	*i* P		**P**		**19 08 31.3**	**+1.3**
	SNR=19								
OBIP	**Obispado Ponce**	**54.14**	**293**	P		**P**		**19 08 30.7**	**0.0**
OBIP				IAmb	IAmb			19 09 48.6	
	comp=Z,76nm,1.6s								
IVA	**Berane**	**54.17**	**31**	⇓*i*P		**P**		**19 08 31.8**	**+1.2**
BLY	**Banja Luka**	**54.19**	**28**	⇑P		**P**		**19 08 31.3**	**+0.7**
BLY				mb				19 08 48.5	
BLY	**Banja Luka**	**54.19**	**28**	P		**P**		**19 08 30.8**	**+0.2**
BLY				IAmb	IAmb			19 08 59.9	
	comp=Z,50nm,1.2s								
LPAZ	**La Paz**	**54.19**	**251**	P		**P**		**19 08 31.5**	**-0.4**
	comp=Z,7.1nm,0.7s,baz=90,slow=5.2,SNR=28								
LPAZ				S		**S**		**19 16 10.0**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=139,slow=20,SNR=2.0								
LPAZ				LR	LR			19 30 42.5	
	comp=Z,4µm,19.8s,baz=90,slow=35								
LPAZ	**La Paz**	**54.19**	**251**	*e*P		**P**		**19 08 31.7**	**-0.1**
LPAZ	**La Paz**	**54.19**	**251**	*e*P		**P**		**19 08 31.7**	**-0.1**
LPAZ	**La Paz**	**54.19**	**251**	P		**P**		**19 08 30.5**	**-1.3**
STU	**Stuttgart**	**54.22**	**20**	P		**P**		**19 08 30.5**	**-0.3**
STU				pmax	pmax				
	comp=Z,68nm,1.3s								
STU				MLR	MLR				
	comp=Z,4µm,18.0s								
STU	**Stuttgart**	**54.22**	**20**	P		**P**		**19 08 30.4**	**-0.3**
STU				IAmb	IAmb			19 08 57.1	
	comp=Z,68nm,1.3s								
GRG	**Griva**	**54.23**	**35**	P		**P**		**19 08 31.2**	**+0.2**
CRES	**Cresnjev**	**54.23**	**26**	*e*Pn		**P**		**19 08 31.2**	**+0.3**
PLE	**Pljevlja**	**54.23**	**31**	⇓*i*P		**P**		**19 08 32.1**	**+1.0**
KTD	**Kalmit**	**54.33**	**19**	P		**P**		**19 08 32.5**	**+0.9**
KBA	**Koelnbreinsper**	**54.34**	**24**	P		**P**		**19 08 33.7**	**+1.8**
KBA				pmax	pmax				
	comp=Z,54nm,1.2s								
KBA	**Koelnbreinsper**	**54.34**	**24**	*i* P		**P**		**19 08 32.4**	**+0.5**
	SNR=13								
THE	**Thessaloniki**	**54.34**	**35**	P		**P**		**19 08 31.3**	**-0.5**
THE	**Thessaloniki**	**54.34**	**35**	P		**P**		**19 08 34.6**	**+2.8**
AOPR	**Arecibo Observ**	**54.36**	**294**	P		**P**		**19 08 32.3**	**0.0**
AOPR				IAmb	IAmb			19 08 49.2	
	comp=Z,102nm,1.4s								
OBKA	**Obir**	**54.38**	**25**	*i* P		**P**		**19 08 33.0**	**+1.0**
	SNR=20								
HORT	**Hortiatis**	**54.39**	**35**	P		**P**		**19 08 31.7**	**-0.6**
FUR	**Furstenfeldbru**	**54.44**	**22**	P		**P**		**19 08 33.6**	**+1.2**
FUR				pmax	pmax				
	comp=Z,134nm,0.9s								
PTJ	**Puntijarka**	**54.52**	**26**	P		**P**		**19 08 33.4**	**+0.3**
MLPR	**Magueyes Islan**	**54.53**	**293**	P		**P**		**19 08 33.5**	**0.0**
MLPR				IAmb	IAmb			19 08 47.4	
	comp=Z,115nm,1.6s								
HAPS	**Han Pijesak,BI**	**54.56**	**30**	*e*Pn		**P**		**19 08 32.9**	**-0.5**
UCC	**Uccle**	**54.58**	**15**	P		**P**		**19 08 33.2**	**-0.1**
UCC				pmax	pmax				
	comp=Z,81nm,1.3s								
UCC				MLR	MLR				
	comp=Z,5µm,21.0s								
UCC	**Uccle**	**54.58**	**15**	P		**P**		**19 08 33.2**	**-0.1**
UCC				IAmb	IAmb			19 08 45.0	
	comp=Z,81nm,1.3s								
CRPR	**Cabo Rojo, PR**	**54.59**	**293**	P		**P**		**19 08 33.2**	**-0.8**
FURI	**Furi**	**54.62**	**78**	P		**P**		**19 08 36.3**	**+1.6**
FURI				IAmb	IAmb			19 08 50.1	
	comp=Z,72nm,1.2s								
FURI	**Furi**	**54.62**	**78**	IAMs_20	IAMs_20			19 29 20.1	
	comp=Z,3µm,20.0s								
BBLS	**Lazići**	**54.62**	**30**	*e*Pn		**P**		**19 08 34.3**	**+0.4**
KNT	**Kendrikon**	**54.65**	**35**	P		**P**		**19 08 38.7**	**+4.7**
MOSL	**Moslavina**	**54.65**	**27**	P		**P**		**19 08 34.4**	**+0.4**
MPR	**Mayaguez**	**54.68**	**293**	P		**P**		**19 08 32.7**	**-1.9**
SOH	**Sokhos**	**54.69**	**35**	P		**P**		**19 08 34.9**	**+0.5**
SOKA	**Soboth**	**54.71**	**25**	*i* P		**P**		**19 08 35.5**	**+1.0**
	SNR=20								
OUR	**Ouranopolis**	**54.74**	**36**	P		**P**		19 08 29.0	-5.7
TOD	**Tromm**	**54.81**	**19**	P		**P**		**19 08 35.5**	**+0.4**
KALN	**Kalnik**	**54.91**	**26**	P		**P**		**19 08 39.0**	**+3.2**
DSB	**Dublin**	**54.92**	**6**	P		**P**		**19 08 36.3**	**+0.6**
HGN	**Heimansgroeve**	**54.97**	**16**	*e*P		**P**		**19 08 35.9**	**-0.3**
	comp=Z,205nm,1.6s								
HGN				*e*S		**S**		**19 16 22.2**	**+4.3**
DIVS	**Divibare**	**55.09**	**30**	*e*Pn		**P**		**19 08 37.9**	**+0.6**
KKB	**Krupnik**	**55.21**	**34**	*e*P		**P**		**19 08 39.3**	**+1.2**
GRC1	**Grafenberg Arr**	**55.22**	**21**	P		**P**		**19 08 37.7**	**-0.4**
TNS	**Taunus Mts**	**55.24**	**18**	P		**P**		**19 08 40.4**	**+2.2**
TNS				pmax	pmax				
	comp=Z,42nm,1.4s								
NVR	**Nevrokopi**	**55.32**	**35**	P		**P**		**19 08 40.0**	**+1.1**
MOA	**Molln**	**55.33**	**24**	*i* P		**P**		**19 08 38.1**	**-0.7**
	SNR=12								
THAS	**Thassos island**	**55.35**	**36**	P		**P**		**19 08 39.3**	**+0.2**
ARSA	**Arzberg**	**55.37**	**25**	*i* P		**P**		**19 08 39.4**	**+0.2**
	SNR=15								
MMB	**Musomiste**	**55.40**	**35**	*e*P		**P**		**19 08 40.2**	**+0.7**
HOPE	**Hope Point**	**55.58**	**195**	P		**P**		**19 08 39.6**	**-0.9**
HOPE				pmax	pmax				
	comp=Z,214nm,1.6s								
HOPE				MLR	MLR				
	comp=Z,4µm,23.0s								
HOPE	**Hope Point**	**55.58**	**195**	P		**P**		**19 08 39.6**	**-0.9**
HOPE	**Hope Point**	**55.58**	**195**	IAMs_20	IAMs_20			19 25 52.5	
	comp=Z,4µm,23.0s								
GRA1	**Grafenberg Arr**	**55.70**	**20**	P		**P**		**19 08 40.9**	**-0.6**
GRA1				IAmb	IAmb			19 09 07.3	
	comp=Z,86nm,1.3s								
GRA1				IAMs_20	IAMs_20			19 32 19.3	
	comp=Z,3µm,19.0s								
GRF	**Grafenberg Arr**	**55.70**	**20**	P		**P**		**19 08 40.9**	**-0.6**
GRF				pmax	pmax				
	comp=Z,86nm,1.3s								
GRF				MLR	MLR				
	comp=Z,3µm,19.0s								
FRGS	**Fruska Gora**	**55.75**	**29**	*e*Pn		**P**		**19 08 41.8**	**-0.2**
VTS	**Vitosha**	**55.79**	**34**	P		**P**		**19 08 43.2**	**+0.8**
VTS	**Vitosha**	**55.79**	**34**	*e*P		**P**		**19 08 43.3**	**+0.8**
VTS	**Vitosha**	**55.79**	**34**	P		**P**		**19 08 43.2**	**+0.8**
VTS				pmax	pmax				
	comp=Z,109nm,1.4s								
VTS				MLR	MLR				
	comp=Z,6µm,18.0s								
VTS	**Vitosha**	**55.79**	**34**	⇑P		**P**		**19 08 43.5**	**+1.0**
VTS				mb				19 09 01.3	
VTS	**Vitosha**	**55.79**	**34**	P		**P**		**19 08 43.2**	**+0.8**
VTS				IAmb	IAmb			19 09 01.2	
	comp=Z,109nm,1.4s								
GO01	**Chusmiza**	**55.84**	**247**	P		**P**		**19 08 41.9**	**-1.7**
GO01				IAMs_20	IAMs_20			19 30 00.8	
	comp=Z,3µm,25.0s								
WET	**Wettzell**	**55.84**	**22**	P		**P**		**19 08 43.2**	**+0.7**
WET				pmax	pmax				
	comp=Z,59nm,1.0s								
EZN	**Ezine**	**55.84**	**38**	P		**P**		**19 08 46.9**	**+4.2**
GEC2	**GERESS Array S**	**55.91**	**23**	P		**P**		**19 08 42.6**	**-0.5**
GERES	**GERESS Array B**	**55.91**	**23**	P		**P**		**19 08 42.6**	**-0.5**
	comp=Z,16nm,0.7s,baz=212,slow=4.7,SNR=62								
GERES				PP		**PP**		**19 10 46.2**	**-1.8**
	comp=Z,11nm,0.9s,baz=206,slow=8.7,SNR=3.9								
GERES				S		**S**		**19 16 30.9**	**+0.1**
	comp=Z,0.1nm,0.6s,baz=225,slow=47,SNR=2.8								
GERES				LR	LR			19 32 43.2	
	comp=Z,3µm,21.9s,baz=230,slow=36								
BUG	**Bochum--Univer**	**55.96**	**17**	P		P		19 08 48.1	+4.9
BUG				pmax	pmax				
	comp=Z,32nm,1.6s								
MORH	**Mrgy, Hungar**	**55.97**	**28**	*e*P		**P**		**19 08 44.0**	**+0.6**
RZN	**Rozhen**	**56.03**	**35**	*e*P		**P**		**19 08 44.9**	**+0.7**
CONA	**Conrad Observa**	**56.05**	**25**	*i* P		**P**		**19 08 44.7**	**+0.6**
	SNR=17								
KHC	**Kasperske Hory**	**56.10**	**22**	*i* P		**P**		**19 08 44.1**	**-0.3**
KHC				pmax	pmax				
	comp=Z,123nm,1.6s								
KHC	**Kasperske Hory**	**56.10**	**22**	*e*P		**P**		**19 08 45.0**	**+0.6**
KHC				*e*pP		**sP**		**19 08 49.5**	**+2.5**
KHC				*e*S		**S**		**19 16 34.3**	**+1.1**
KHC				AMS	AMS			19 35 10.0	
	comp=Z,3µm,13.5s								
KHC	**Kasperske Hory**	**56.10**	**22**	P		**P**		**19 08 43.8**	**-0.6**
MNMC	**Minye Minye**	**56.10**	**248**	P		**P**		**19 08 44.0**	**-1.3**
MNMC				IAMs_20	IAMs_20			19 31 19.7	
	comp=Z,3µm,18.0s								
TIH	**Tihany**	**56.14**	**27**	*e*P		**P**		**19 08 45.0**	**+0.4**
RDO	**Rodhopi**	**56.17**	**36**	P		**P**		**19 08 45.5**	**+0.5**
SDV	**Santo Domingo**	**56.18**	**282**	*e*P		**P**		**19 08 46.6**	**+0.8**
SDV	**Santo Domingo**	**56.18**	**282**	*e*P		**P**		**19 08 46.6**	**+0.8**
SDV	**Santo Domingo**	**56.18**	**282**	P		**P**		**19 08 45.9**	**+0.1**
	comp=Z,9.0nm,0.9s,baz=99,slow=3.3,SNR=9.3								
SDV				LR	LR			19 30 49.9	
	comp=Z,1µm,21.1s,baz=98,slow=34								
SDV	**Santo Domingo**	**56.18**	**282**	P		**P**		**19 08 45.2**	**-0.6**
MPLH	**Magyarpolny**	**56.18**	**26**	*e*P		**P**		**19 08 45.1**	**+0.1**
LVC	**Limon Verde**	**56.25**	**244**	P		**P**		**19 08 45.7**	**-0.7**
LVC				pmax	pmax				
	comp=Z,17nm,1.2s								
LVC				MLR	MLR				
	comp=Z,2µm,24.0s								
LVC	**Limon Verde**	**56.25**	**244**	S		**S**		**19 16 35.1**	**-1.6**
	comp=Z,1.5nm,0.7s,baz=187,slow=22,SNR=1.9								
LVC	**Limon Verde**	**56.25**	**244**	*e*P		**P**		**19 08 46.4**	**+0.1**
LVC	**Limon Verde**	**56.25**	**244**	*e*P		**P**		**19 08 46.4**	**+0.1**
LVC	**Limon Verde**	**56.25**	**244**	P		**P**		**19 08 45.7**	**-0.7**
PB11	**IPOC Station P**	**56.29**	**247**	P		**P**		**19 08 44.9**	**-1.5**
PB11				IAMs_20	IAMs_20			19 30 01.5	
	comp=Z,3µm,25.0s								
PLD	**Plovdiv**	**56.29**	**35**	*e*P		**P**		**19 08 46.5**	**+0.7**
PLD	**Plovdiv**	**56.29**	**35**	P		**P**		**19 08 47.1**	**+1.3**
PLD				pmax	pmax				
	comp=Z,169nm,1.3s								
ALN	**Alexandroupoli**	**56.32**	**37**	P		**P**		**19 08 46.3**	**+0.2**
ALN	**Alexandroupoli**	**56.32**	**37**	P		**P**		**19 08 45.5**	**-0.6**
ALN				pmax	pmax				
	comp=Z,44nm,1.2s								
ALN				MLR	MLR				
	comp=Z,2µm,19.0s								
ALN	**Alexandroupoli**	**56.32**	**37**	P		**P**		**19 08 45.5**	**-0.6**
ALN				IAmb	IAmb			19 09 03.7	
	comp=Z,44nm,1.2s								
ALN				IAMs_20	IAMs_20			19 32 47.5	
	comp=Z,2µm,19.0s								
KDZ	**Kurdzhali**	**56.41**	**36**	*e*P		**P**		**19 08 46.7**	**0.0**
ELL	**Elmali**	**56.44**	**43**	P		**P**		**19 08 48.3**	**+1.1**
ELL				pmax	pmax				
	comp=Z,443nm,1.6s								
ELL	**Elmali**	**56.44**	**43**	P		**P**		**19 08 48.2**	**+1.1**
MDVR	**Moldovita**	**56.44**	**31**	⇓P		**P**		**19 08 48.2**	**+1.2**
BANR	**Banloc**	**56.57**	**30**	⇑P		**P**		**19 08 49.2**	**+1.4**
NKC	**Novy Kostel**	**56.59**	**21**	*e*P		**P**		**19 08 47.7**	**-0.1**
NKC				*e*				19 08 51.3	
NKC				*e*S		**S**		**19 16 42.4**	**+2.8**
NKC				MLR	MLR				
	comp=Z,3µm,19.2s								
NKC	**Novy Kostel**	**56.59**	**21**	*e*P		**P**		**19 08 47.7**	**-0.1**
NKC				*e*pP		**sP**		**19 08 51.3**	**+0.9**
NKC				*e*S		**S**		**19 16 42.4**	**+2.8**
NKC				AMS	AMS			19 32 20.0	
	comp=Z,3µm,19.2s								
MOX	**Moxa**	**56.64**	**20**	P		**P**		**19 08 49.3**	**+1.1**
MOX				pmax	pmax				
	comp=Z,34nm,1.3s								
CSKK	**Cskako**	**56.65**	**27**	*e*P		**P**		**19 08 49.1**	**+0.8**
PBCC	**Pribram**	**56.71**	**22**	*e*P		**P**		**19 08 48.2**	**-0.5**
DIM	**Dimitrovgrad**	**56.73**	**36**	*e*P		**P**		**19 08 49.8**	**+0.8**
PUNG	**Punghina**	**56.73**	**32**	⇓P		**P**		**19 08 50.3**	**+1.4**
ZST	**Bratislava**	**56.78**	**25**	*e*PP		PP		19 10 54.2	-1.4
DR12	**Loma Pena Alta**	**56.88**	**293**	P		**P**		**19 08 50.4**	**-0.1**
EIL	**Elat**	**56.90**	**53**	LR	LR			19 32 54.5	
	comp=Z,6µm,20.6s,baz=250,slow=36								
EIL	**Elat**	**56.90**	**53**	P		**P**		**19 08 54.5**	**+4.1**
	comp=Z,40nm,1.5s								
EIL	**Elat**	**56.90**	**53**	P		**P**		**19 08 51.8**	**+1.4**
KZIT	**Kziot**	**56.97**	**51**	P		**P**		**19 08 51.7**	**+0.8**
	comp=Z,65nm,1.1s								
KZIT	**Kziot**	**56.97**	**51**	P		P		19 08 56.6	+5.7
TREC	**Trest**	**56.97**	**23**	*e*P		**P**		**19 08 49.0**	**-1.6**
TREC				MLR	MLR				
	comp=Z,3µm,16.5s								
TREC	**Trest**	**56.97**	**23**	*e*P		**P**		**19 08 49.0**	**-1.6**
TREC				AMS	AMS			19 34 50.0	
	comp=Z,3µm,16.5s								
BZS	**Buzias**	**56.98**	**30**	P		**P**		**19 08 51.1**	**+0.5**
BZS				pmax	pmax				
	comp=Z,51nm,2.2s								
BZS	**Buzias**	**56.98**	**30**	⇑P		**P**		**19 08 51.3**	**+0.6**
MODS	**Modra-Piesok**	**56.99**	**25**	*e*P		**P**		**19 08 50.1**	**-0.6**
MODS	**Modra-Piesok**	**56.99**	**25**	*e*P		**P**		**19 08 50.1**	**-0.6**
AQBJ	**Aqaba**	**57.00**	**53**	P		**P**		**19 08 52.4**	**+1.3**
	comp=Z,56nm,0.9s								
AQBJ	**Aqaba**	**57.00**	**53**	P		**P**		**19 08 52.4**	**+1.3**
PLVB	**Pleven**	**57.06**	**34**	⇑P		**P**		**19 08 52.2**	**+0.9**
BUD	**Budapest**	**57.09**	**27**	P		**P**		**19 08 53.2**	**+1.8**
BUD				pmax	pmax				
	comp=Z,67nm,0.9s								
HRFI	**Mount Harif**	**57.12**	**53**	P		**P**		**19 08 54.9**	**+2.9**
	comp=Z,96nm,1.2s								
HRFI	**Mount Harif**	**57.12**	**53**	P		**P**		**19 08 53.2**	**+1.2**
SRE	**Strehaia**	**57.14**	**32**	P		**P**		**19 08 53.3**	**+1.5**
SRE	**Strehaia**	**57.14**	**32**	⇑P		**P**		**19 08 53.3**	**+1.5**
KRUC	**Moravsky**	**57.16**	**24**	*e*P		**P**		**19 08 51.1**	**-0.7**
PRU	**Pruhonice**	**57.16**	**22**	*e*P		**P**		**19 08 52.1**	**+0.2**
PRU				*e*S		**S**		**19 16 48.5**	**+1.4**
PRU				MLR	MLR				
	comp=N,3µm,18.6s								
PRU	**Pruhonice**	**57.16**	**22**	*e*P		**P**		**19 08 52.1**	**+0.2**
PRU				*e*S		**S**		**19 16 48.5**	**+1.4**
PRU				AMS	AMS			19 31 20.0	
SMOL	**Smolenice**	**57.16**	**25**	*e*P		**P**		**19 08 52.1**	**+0.2**
SMOL				*e*				19 11 00.7	
SMOL	**Smolenice**	**57.16**	**25**	*e*P		**P**		**19 08 52.1**	**+0.2**
SMOL				*e*PP		**PP**		**19 11 00.7**	**+1.7**
PRA	**Prague**	**57.18**	**22**	*e*S		**S**		**19 16 48.5**	**+1.1**
PRA				AMS	AMS			19 32 30.0	
	comp=N,3µm,18.8s								
GOPC	**GO Pecny, Ondr**	**57.19**	**23**	*e*P		**P**		**19 08 51.7**	**-0.4**
GOPC				*e*				19 08 54.7	
GOPC				*e*S		**S**		**19 16 48.9**	**+1.3**
GOPC				MLR	MLR				
	comp=Z,2µm,16.7s								
GOPC	**GO Pecny, Ondr**	**57.19**	**23**	*e*P		**P**		**19 08 51.7**	**-0.4**
GOPC				*e*pP		**sP**		**19 08 54.7**	**0.0**
GOPC				*e*S		**S**		**19 16 48.9**	**+1.3**
GOPC				AMS	AMS			19 34 50.0	
	comp=Z,2µm,16.7s								
PB04	**IPOC Station P**	**57.30**	**244**	P		**P**		**19 08 53.2**	**-0.4**
PB04				IAmb	IAmb			19 08 54.9	
	comp=Z,55nm,1.0s								
VLAD	**Vladila**	**57.34**	**33**	⇑P		**P**		**19 08 53.4**	**+0.1**
ESK	**Eskdalemuir**	**57.34**	**8**	P		**P**		**19 08 52.9**	**-0.1**
ESK				pmax	pmax				
	comp=Z,70nm,1.0s								
ESK				MLR	MLR				
	comp=Z,2µm,21.0s								
ESK	**Eskdalemuir**	**57.34**	**8**	P		**P**		**19 08 52.9**	**-0.1**
ESK				IAmb	IAmb			19 09 05.4	
	comp=Z,70nm,1.0s								
EKA	**Eskdalemuir Ar**	**57.37**	**8**	LR	LR			19 33 24.9	
	comp=Z,1µm,18.8s,baz=200,slow=36								
GZR	**Gura Zlata**	**57.41**	**31**	⇑P		**P**		**19 08 54.6**	**+0.8**
VRAC	**Vranov**	**57.43**	**24**	P		**P**		**19 08 53.9**	**+0.1**
VRAC	**Vranov**	**57.43**	**24**	⇓P		**P**		**19 08 53.9**	**+0.1**
VRAC				mb				19 09 00.6	
VRAC	**Vranov**	**57.43**	**24**	*e*P		**P**		**19 08 53.0**	**-0.8**
SIRR	**Siria**	**57.45**	**30**	⇑P		**P**		**19 08 54.5**	**+0.4**
ELND	**Elena**	**57.48**	**35**	⇓P		**P**		**19 08 54.9**	**+0.6**
GO02	**Mina Guanaco**	**57.50**	**241**	P		**P**		**19 08 54.9**	**-0.3**
GO02				I

KRLC Kraliky 58.10 24 *e*S **S 19 17 04.5 +4.9**
KRLC AMS AMS 19 36 30.0
comp=Z,2µm,16.8s
DPC Dobruska-Polom 58.14 23 *e*P **P 19 08 58.7 -0.1**
DPC *e*S **S 19 17 01.5 +1.4**
DPC MLR MLR
comp=Z,2µm,14.4s
DPC Dobruska-Polom 58.14 23 *e*P **P 19 08 58.7 -0.1**
DPC *e*S **S 19 17 01.5 +1.4**
DPC AMS AMS 19 33 50.0
comp=Z,2µm,14.4s
UPC Upice 58.14 23 *e*P **P 19 08 58.8 0.0**
UPC MLR MLR
comp=Z,3µm,15.7s
UPC Upice 58.14 23 *e*P **P 19 08 58.8 0.0**
UPC AMS AMS 19 35 10.0
comp=Z,3µm,15.7s
MORC Moravsky Berou 58.18 24 P **P 19 08 59.0 -0.1**
MORC pmax pmax
comp=Z,78nm,1.5s
MORC MLR MLR
comp=Z,2µm,20.0s
MORC Moravsky Berou 58.18 24 ⇓P **P 19 08 59.8 +0.7**
MORC mb 19 09 05.7
MORC Moravsky Berou 58.18 24 *e*P **P 19 08 59.1 -0.1**
MORC Moravsky Berou 58.18 24 P **P 19 08 59.0 -0.1**
MORC IAmb IAmb 19 09 22.6
comp=Z,78nm,1.5s
MORC IAMs_20 IAMs_20 19 36 08.7
comp=Z,2µm,20.0s
GOLR 58.19 33 ⇑P **P 19 09 00.5 +1.2**
GOLR mb 19 09 07.2
CHVC Chvalec 58.22 23 *e*P **P 19 08 59.0 -0.4**
CHVC AMS AMS 19 37 50.0
comp=Z,3µm,15.2s
RAZG Razgrad 58.24 35 ⇑P **P 19 08 59.8 +0.2**
OSTC Ostas 58.26 23 *e*P **P 19 08 59.8 +0.2**
OSTC *e*S **S 19 17 00.4 -1.2**
OSTC AMS AMS 19 37 50.0
comp=Z,3µm,13.2s
RUSC La Rusia 58.26 278 *e*P **P 19 08 59.3 -1.6**
RUSC La Rusia 58.26 278 *e*P **P 19 08 59.3 -1.6**
SC01 Santiago de lo 58.27 294 IAMs_20 IAMs_20 19 28 12.2
comp=Z,4µm,25.0s
CFA Coronel Fontan 58.33 233 LR LR 19 31 31.7
comp=Z,6µm,21.2s,baz=72,slow=33
DRGR 58.34 30 P **P 19 09 00.5 +0.2**
DRGR pmax pmax
comp=Z,27nm,1.4s
DRGR 58.34 30 ⇑P **P 19 09 00.8 +0.5**
LTVH Ltavrtes, Hu 58.36 29 *e*P **P 19 08 58.1 -2.2**
ARR Arges 58.36 32 ⇓P **P 19 09 01.4 +0.9**
MMLI Mount Malkishu 58.41 50 P P 19 09 06.6 +5.6
comp=Z,41nm,1.6s
MMLI Mount Malkishu 58.41 50 P **P 19 09 01.0 0.0**
BARC Barichara 58.43 279 *e*P **P 19 09 03.2 +1.4**
BARC Barichara 58.43 279 *e*P **P 19 09 03.2 +1.4**
OKC Ostrava-Krasne 58.48 25 *e*P **P 19 09 01.4 +0.3**
OKC MLR MLR
comp=Z,2µm,18.5s
OKC Ostrava-Krasne 58.48 25 *e*P **P 19 09 01.4 +0.3**
OKC AMS AMS 19 33 40.0
comp=Z,2µm,18.5s
MTUR Matau 58.50 32 ⇑P **P 19 09 02.1 +0.6**
MTUR mb 19 09 19.0
KSP Ksiaz 58.52 23 *e*P **P 19 09 01.9 +0.5**
KSP Ksiaz 58.52 23 *e*P **P 19 09 01.9 +0.5**
KSP *e*P **P 19 09 01.9 +0.5**
LANS Liptovska Anna 58.52 26 *e*P **P 19 09 02.7 +1.2**
LANS *e* 19 11 11.5
LANS Liptovska Anna 58.52 26 *e*P **P 19 09 02.7 +1.2**
LANS *e*PP **PP 19 11 11.5 +0.4**
LANS *e* 19 25 50.6
VOIR 58.63 32 P **P 19 09 02.8 +0.4**
VOIR 58.63 32 ⇑P **P 19 09 02.8 +0.4**
MMAI Mount Meron Ar 58.63 49 LR LR 19 35 59.8
comp=Z,1µm,18.3s,baz=235,slow=38
SDDR Presa de Saban 58.68 293 P **P 19 09 03.9 +0.7**
SDDR IAmb IAmb 19 09 13.5
comp=Z,100nm,1.6s
SDDR IAMs_20 IAMs_20 19 28 14.0
comp=Z,3µm,23.0s
GO03 Copiap 58.73 238 P **P 19 09 03.3 -0.1**
CJR Cluj-Napoca 58.73 30 P **P 19 09 03.6 +0.6**
CJR Cluj-Napoca 58.73 30 ⇓P **P 19 09 03.6 +0.6**
OCAC Ocana 58.74 280 *e*P **P 19 09 03.4 -0.4**
OCAC Ocana 58.74 280 *e*P **P 19 09 03.4 -0.4**
SHMJ Saham 58.79 50 P P 19 09 09.8 +6.1
SHMJ Saham 58.79 50 P **P 19 09 07.6 +3.9**
CHIC Chingaza 58.80 276 *e*P **P 19 09 05.0 +0.4**
CHIC Chingaza 58.80 276 *e*P **P 19 09 05.0 +0.4**
KSDI Kefar Szold 58.90 49 P P 19 09 09.7 +5.3
ATD Arta Tunnel 59.06 76 LR LR 19 33 21.8
comp=Z,2µm,19.0s,baz=261,slow=35
ATD Arta Tunnel 59.06 76 P **P 19 09 05.8 -0.1**
ATD IAmb IAmb 19 09 08.7
comp=Z,30nm,1.1s
NIE Niedzica 59.09 26 *e*P **P 19 09 06.2 +0.7**
NIE Niedzica 59.09 26 *e*P **P 19 09 06.2 +0.7**
NIE *e*P **P 19 09 06.2 +0.7**
MLR Muntele Rosu 59.14 33 P **P 19 09 05.5 -0.6**
MLR pmax pmax
comp=Z,164nm,1.2s
MLR MLR MLR
comp=Z,6µm,21.0s
MLR Muntele Rosu 59.14 33 ⇑P **P 19 09 06.0 -0.1**
MLR Muntele Rosu 59.14 33 P **P 19 09 05.5 -0.6**
DOPR Dopca 59.16 32 ⇑P **P 19 09 05.9 -0.1**
TRPA Tarpa 59.19 29 ⇓P **P 19 09 06.3 +0.3**
TRPA mb 19 09 12.6
TRPA Tarpa 59.19 29 *e*P **P 19 09 07.1 +1.0**
ISR Istrita 59.23 33 P **P 19 09 07.3 +0.8**
ISR Istrita 59.23 33 ⇓P **P 19 09 07.3 +0.8**
BMR Baia Mare 59.34 29 P **P 19 09 07.6 +0.5**
BMR Baia Mare 59.34 29 ⇑P **P 19 09 07.7 +0.5**
PGOR Pogoanele 59.34 34 ⇓P **P 19 09 08.1 +0.9**
PGOR mb 19 09 22.6
ARCR ARCALIA 59.36 30 ⇑P **P 19 09 07.4 0.0**
ROSC El Rosal 59.40 276 *e*P **P 19 09 08.8 0.0**
ROSC El Rosal 59.40 276 *e*P **P 19 09 08.8 0.0**
ROSC El Rosal 59.40 276 P **P 19 09 10.4 +1.7**
comp=Z,9.4nm,0.3s,baz=91,slow=7.3,SNR=6.7
ROSC LR LR 19 33 03.4
comp=Z,3µm,19.6s,baz=145,slow=34
ROSC El Rosal 59.40 276 P **P 19 09 09.6 +0.9**
ROSC IAmb IAmb 19 09 25.4
comp=Z,20nm,0.7s
ROSC IAMs_20 IAMs_20 19 32 43.4
comp=Z,2µm,19.0s
UZH Uzhgorod 59.43 28 *e*P **P 19 09 07.7 0.0**
UZH *i* 19 09 10.9
UZH *e* 19 09 53.6
UZH *e* 19 11 21.4
UZH *e* 19 12 47.8
UZH *e*S **S 19 17 13.3 -3.4**
UZH *e* 19 21 10.4
UZH *e* 19 23 43.2
ASF Jabal al Asfar 59.44 51 LR LR 19 37 34.2
comp=Z,1µm,18.7s,baz=200,slow=39
ASF Jabal al Asfar 59.44 51 P **P 19 09 09.9 +1.7**
ASF Jabal al Asfar 59.44 51 P **P 19 09 09.7 +1.5**
OZUR 59.45 32 ⇑P **P 19 09 08.6 +0.5**
OJC Ojcow 59.47 25 *e*P **P 19 09 08.0 0.0**
OJC Ojcow 59.47 25 *e*P **P 19 09 08.0 0.0**
OJC *e*P **P 19 09 08.0 0.0**
OJC Ojcow 59.47 25 P **P 19 09 07.4 -0.6**
OJC IAmb IAmb 19 09 25.2
comp=Z,54nm,1.2s
SMLC San Martn de 59.54 281 *e*P **P 19 09 06.7 -2.5**
SMLC San Martn de 59.54 281 *e*P **P 19 09 06.7 -2.5**
BISRR Bisoca 59.59 33 ⇓P **P 19 09 09.4 +0.4**
PTLC Puerto Leguiza 59.63 271 *e*P **P 19 09 09.8 -0.1**
PTLC Puerto Leguiza 59.63 271 *e*P **P 19 09 09.8 -0.1**
KOLS Kolonicke sedl 59.63 28 *e*P **P 19 09 10.0 +0.8**
KOLS *e* 19 11 20.1
KOLS Kolonicke sedl 59.63 28 *e*P **P 19 09 10.0 +0.8**
KOLS *e*PP **PP 19 11 20.1 -0.8**
PTBC PUERTO BERRIO, 59.68 278 *e*P **P 19 09 08.2 -2.0**
PTBC PUERTO BERRIO, 59.68 278 *e*P **P 19 09 08.2 -2.0**
HARR Harsova 59.74 34 P **P 19 09 10.0 +0.1**
HARR Harsova 59.74 34 ⇓P **P 19 09 10.1 +0.1**
HARR mb 19 09 26.9

PLOR Plostina 59.76 33 P **P 19 09 09.7 -0.4**
PLOR Plostina 59.76 33 ⇓P **P 19 09 09.8 -0.4**
VRI Vrincioaia 59.81 33 P **P 19 09 09.8 -0.6**
VRI Vrincioaia 59.81 33 ⇑P **P 19 09 09.9 -0.6**
TIRR Tirgusor 59.87 35 P **P 19 09 11.7 +0.8**
TIRR pmax pmax
comp=Z,399nm,1.8s
TIRR MLR MLR
comp=Z,7µm,19.0s
TIRR Tirgusor 59.87 35 P **P 19 09 11.7 +0.8**
ODBI Odobesti 59.92 33 ⇑P **P 19 09 12.0 +0.8**
ODBI mb 19 09 28.8
GO04 Tololo Observa 59.95 236 P **P 19 09 11.8 -0.2**
GO04 IAmb IAmb 19 09 12.6
comp=Z,46nm,0.9s
BR231 Keskin MP Arra 59.98 41 P **P 19 09 12.2 +0.3**
PETR Petresti 59.99 33 ⇑P **P 19 09 11.8 +0.1**
SMRC Santa Marta, M 60.00 284 *e*P **P 19 09 11.2 -1.1**
SMRC Santa Marta, M 60.00 284 *e*P **P 19 09 11.2 -1.1**
ANTO Ankara 60.00 41 P **P 19 09 12.2 +0.2**
ANTO pmax pmax
comp=Z,61nm,1.2s
ANTO Ankara 60.00 41 ⇑P **P 19 09 13.1 +1.1**
ANTO mb 19 09 31.8
ANTO Ankara 60.00 41 P **P 19 09 12.2 +0.2**
ANTO IAmb IAmb 19 09 29.9
comp=Z,61nm,1.1s
NORC Norcasia 60.01 277 *e*P **P 19 09 11.5 -1.0**
NORC Norcasia 60.01 277 *e*P **P 19 09 11.5 -1.0**
TOPG Topolog 60.10 34 ⇑P **P 19 09 11.8 -0.6**
BURAR Bucovina Array 60.15 30 P **P 19 09 14.0 +1.1**
BURAR Bucovina Array 60.15 30 ⇑P **P 19 09 14.1 +1.1**
BURAR mb 19 09 31.6
BIZ Bicaz 60.16 31 ⇑P **P 19 09 13.7 +0.9**
BUR08 Bucovina Ar. S 60.16 30 P **P 19 09 12.9 -0.1**
BUR08 IAmb IAmb 19 09 31.4
comp=Z,53nm,1.2s
TESR Tescani 60.18 32 ⇑P **P 19 09 13.1 +0.1**
ORTC Ortega, Tolima 60.26 275 *e*P **P 19 09 13.4 -0.7**
ORTC Ortega, Tolima 60.26 275 *e*P **P 19 09 13.4 -0.7**
GHRR 60.30 33 ⇑P **P 19 09 13.9 +0.1**
KWP Kalwaria Pacla 60.33 27 *e*P **P 19 09 14.2 +0.3**
KWP Kalwaria Pacla 60.33 27 *e*P **P 19 09 14.2 +0.3**
KWP *e*P **P 19 09 14.2 +0.3**
KWP Kalwaria Pacla 60.33 27 P **P 19 09 12.4 -1.6**
TOLC Tolima 60.38 276 *e*P **P 19 09 14.6 -0.8**
TOLC Tolima 60.38 276 *e*P **P 19 09 14.6 -0.8**
RREF El Recreo 60.43 276 *e*P **P 19 09 13.9 -2.2**
RREF El Recreo 60.43 276 *e*P **P 19 09 13.9 -2.2**
GUY2C Guyana, Caldas 60.47 277 *e*P **P 19 09 15.9 -0.3**
GUY2C Guyana, Caldas 60.47 277 *e*P **P 19 09 15.9 -0.3**
RGN Rugen 60.49 19 P **P 19 09 13.7 -1.2**
BRTR Keskin Array B 60.49 42 *ce*P **P 19 09 16.1 +0.7**
BRTR pmax pmax
comp=Z,25nm,1.0s
BRTR Keskin Array B 60.49 42 P **P 19 09 16.2 +0.8**
comp=Z,25nm,1.0s,baz=232,slow=6.1,SNR=74
BRTR LR LR 19 37 11.7
comp=Z,964nm,19.7s,baz=203,slow=38
BR131 Keskin Array S 60.49 42 *c i*P **P 19 09 14.9 -0.5**
BR131 Keskin Array S 60.49 42 *i*P **P 19 09 16.0 +0.5**
PRAR RASCA 60.50 31 ⇑P **P 19 09 15.6 +0.4**
FLOC Florencia 60.54 273 *e*P **P 19 09 17.2 +1.2**
FLOC Florencia 60.54 273 *e*P **P 19 09 17.2 +1.2**
HELC Santa Helena 60.71 278 *e*P **P 19 09 19.4 +1.8**
HELC Santa Helena 60.71 278 *e*P **P 19 09 19.4 +1.8**
SJCC San Jacinto, C 60.76 282 *e*P **P 19 09 18.0 +0.4**
SJCC San Jacinto, C 60.76 282 *e*P **P 19 09 18.0 +0.4**
GKP Gorka Klasztor 60.79 22 *e*P **P 19 09 17.9 +0.9**
GKP Gorka Klasztor 60.79 22 *e*P **P 19 09 17.9 +0.9**
PEL Peldehue 60.80 232 P **P 19 09 17.0 -0.6**
PEL pmax pmax
comp=Z,44nm,1.3s
PEL MLR MLR
comp=Z,6µm,25.0s
PEL Peldehue 60.80 232 P **P 19 09 17.0 -0.6**
PEL IAmb IAmb 19 10 05.6
comp=Z,44nm,1.3s
MUD Monsted U'grnd 60.93 15 *i*P **P 19 09 18.1 +0.3**
MUD pmax pmax
comp=Z,54nm,0.9s
MUD Monsted U'grnd 60.93 15 *i*P **P 19 09 18.1 +0.3**
comp=Z,54nm,0.9s
ROC1 El Roble 61.01 233 P **P 19 09 19.2 -0.1**
DAMY Dhamar 61.03 73 P **P 19 09 19.6 -0.1**
DAMY IAmb IAmb 19 09 49.7
comp=Z,35nm,1.1s
DAMY IAMs_20 IAMs_20 19 33 55.0
comp=Z,2µm,18.0s
LVV L'vov 61.07 28 *e*P **P 19 09 18.2 -0.8**
LVV MLR MLR
comp=N,2µm,15.0s
LVV MLR MLR
comp=E,1µm,15.0s
LVV MLR MLR
comp=Z,1µm,15.0s
CBOC Ciudad Bolivar 61.16 277 *e*P **P 19 09 20.2 -0.3**
CBOC Ciudad Bolivar 61.16 277 *e*P **P 19 09 20.2 -0.3**
PCON Cinco Dias 61.31 273 *e*P **P 19 09 23.9 +1.9**
PCON Cinco Dias 61.31 273 *e*P **P 19 09 23.9 +1.9**
YOTC Yotoco, Valle 61.36 275 *e*P **P 19 09 20.2 -1.5**
YOTC Yotoco, Valle 61.36 275 *e*P **P 19 09 20.2 -1.5**
PLMC San Jos del P 61.36 276 *e*P **P 19 09 21.7 0.0**
PLMC San Jos del P 61.36 276 *e*P **P 19 09 21.7 0.0**
SOTA Rioblanco 61.52 273 *e*P **P 19 09 21.8 -1.5**
SOTA Rioblanco 61.52 273 *e*P **P 19 09 21.8 -1.5**
MILM Milestii Mici 61.59 33 ⇓P **P 19 09 21.9 -0.6**
POPC Popayan, Colom 61.60 274 *e*P **P 19 09 23.4 -0.1**
POPC Popayan, Colom 61.60 274 *e*P **P 19 09 23.4 -0.1**
KIS Kishinev 61.64 33 *e*P **P 19 09 22.0 -0.9**
KIS Kishinev 61.64 33 *e*P **P 19 09 22.0 -0.9**
KIS *e* 19 09 27.0
KIS *e*PPP PPP 19 13 10.0
KIS *e*S **S 19 17 42.0 -3.2**
KIS MLR MLR
comp=Z,5µm,18.0s
EFI East Falkland 61.66 209 P **P 19 09 23.7 +0.8**
EFI pmax pmax
comp=Z,109nm,1.3s
EFI MLR MLR
comp=Z,4µm,20.0s
EFI East Falkland 61.66 209 P **P 19 09 23.7 +0.8**
GAZ Gaziantep 61.77 46 P **P 19 09 24.8 +0.7**
NNA Nana 62.02 257 P **P 19 09 26.0 -0.1**
NNA pmax pmax
comp=Z,24nm,1.0s
NNA Nana 62.02 257 P **P 19 09 26.0 -0.1**
NNA IAmb IAmb 19 09 32.5
comp=Z,24nm,1.0s
SORM Soroca 62.10 31 ⇓P **P 19 09 24.3 -1.7**
GO05 Huala 62.39 231 P **P 19 09 26.4 -1.8**
GO05 IAmb IAmb 19 09 46.2
comp=Z,40nm,1.1s
GO05 IAMs_20 IAMs_20 19 34 35.4
comp=Z,2µm,18.0s
HAL Halifax 62.80 323 P **P 19 09 31.2 +0.5**
HAL pmax pmax
comp=Z,162nm,1.9s
HAL Halifax 62.80 323 P **P 19 09 31.2 +0.5**
OTAV Otavalo 63.29 271 P **P 19 09 34.0 -1.1**
OTAV pmax pmax
comp=Z,19nm,1.3s
OTAV MLR MLR
comp=Z,2µm,22.0s
OTAV Otavalo 63.29 271 *e*P **P 19 09 34.7 -0.4**
OTAV Otavalo 63.29 271 *e*P **P 19 09 34.7 -0.4**
OTAV Otavalo 63.29 271 P **P 19 09 34.0 -1.1**
OTAV Otavalo 63.29 271 IAMs_20 IAMs_20 19 33 48.3
comp=Z,2µm,22.0s
PLCA Paso Flores 63.44 224 P **P 19 09 34.8 -0.4**
PLCA pmax pmax
comp=Z,42nm,1.9s
PLCA Paso Flores 63.44 224 P **P 19 09 34.4 -0.8**
comp=Z,3.4nm,0.9s,baz=98,slow=9.5,SNR=4.2
PLCA LR LR 19 32 57.7
comp=Z,3µm,21.5s,baz=90,slow=32
PLCA Paso Flores 63.44 224 P **P 19 09 34.8 -0.4**
PLCA IAmb IAmb 19 11 32.3
comp=Z,42nm,1.9s
SIM Simferopol' 63.49 37 P **P 19 09 33.3 -2.0**
SIM PPP PPP 19 13 22.7
SIM S **S 19 18 06.6 -2.0**

SIM pmax pmax
comp=Z,17nm,1.0s
SIM MLR MLR
comp=Z,280nm,8.1s
VOI Vohitsoka 63.51 114 P **P 19 09 37.4 +1.4**
SNR=5.5
ABPO Ambohimpanom 63.53 110 P **P 19 09 36.8 +0.5**
ABPO pmax pmax
comp=Z,58nm,1.4s
ABPO MLR MLR
comp=Z,2µm,22.0s
ABPO Ambohimpanom 63.53 110 P **P 19 09 36.8 +0.5**
ABPO IAmb IAmb 19 09 39.0
comp=Z,58nm,1.4s
GO06 Curarrehue 63.66 226 P **P 19 09 35.2 -1.5**
GO06 IAMs_20 IAMs_20 19 33 11.5
comp=Z,3µm,20.0s
SUW Suwalki 63.67 24 *e*P **P 19 09 35.7 -0.6**
SUW Suwalki 63.67 24 *e*P **P 19 09 35.7 -0.6**
SUW *e*P **P 19 09 35.7 -0.6**
SUW Suwalki 63.67 24 P **P 19 09 35.4 -0.9**
KONO Kongsberg 63.86 14 P **P 19 09 39.2 +1.8**
KONO pmax pmax
comp=Z,182nm,1.4s
KONO Kongsberg 63.86 14 P **P 19 09 39.2 +1.8**
RAYN Ar Rayn 63.90 63 *i*P **P 19 09 40.1 +1.6**
SNR=8.6
RAYN Ar Rayn 63.90 63 P **P 19 09 38.7 +0.2**
RAYN pmax pmax
comp=Z,92nm,2.0s
RAYN MLR MLR
comp=Z,2µm,19.0s
RAYN Ar Rayn 63.90 63 P **P 19 09 38.6 +0.2**
RAYN IAmb IAmb 19 10 06.3
comp=Z,92nm,2.0s
RAYN IAMs_20 IAMs_20 19 39 10.1
comp=Z,2µm,19.0s
AKASG Malin Array Be 64.16 30 *c i*P **P 19 09 38.7 -0.9**
AKASG pmax pmax
comp=Z,13nm,0.9s
AKASG Malin Array Be 64.16 30 P **P 19 09 38.2 -1.3**
comp=Z,13nm,0.8s,baz=230,slow=6.2,SNR=43
AKASG PP **PP 19 11 57.4 -3.4**
comp=Z,5.1nm,0.9s,baz=230,slow=9.2,SNR=5.4
AKASG LR LR 19 39 40.7
comp=Z,4µm,18.6s,baz=235,slow=38
AKBB Malin Array Si 64.16 30 *i*P **P 19 09 38.7 -0.9**
AKBB Malin Array Si 64.16 30 P **P 19 09 38.2 -1.4**
LMN Caledonia Moun 64.17 324 P **P 19 09 40.1 +0.3**
PABE Paberze 65.06 23 *e*P **P 19 09 44.7 -0.7**
PABE IAmb IAmb 19 09 51.7
comp=Z,75nm,1.1s
EMMW East Machias 65.20 322 IAMs_20 IAMs_20 19 33 30.7
comp=Z,2µm,18.0s
NAO01 NORSAR Array S 65.22 14 P **P 19 09 46.0 -0.4**
NC602 NORSAR Array S 65.28 14 P **P 19 09 47.4 +0.7**
NORES NORESS Array B 65.28 14 P **P 19 09 47.3 +0.6**
NORES pmax pmax
comp=Z,8.0nm,0.8s
HFS Hagfors 65.31 15 LR LR 19 38 06.4
comp=Z,3µm,21.8s,baz=216,slow=36
NBO00 NORSAR Array S 65.36 14 P **P 19 09 47.1 -0.1**
ANN Anapa 65.45 38 *e*P **P 19 09 46.3 -1.8**
ANN *e*S **S 19 18 32.7 0.0**
ANN pmax pmax
comp=Z,89nm,1.3s
ANN MLR MLR
comp=Z,2µm,20.0s
NB2 NORSAR Subarra 65.47 14 P **P 19 09 48.0 0.0**
comp=Z,88nm,1.7s,baz=208,slow=6.9
NB2 NORSAR Subarra 65.47 14 P **P 19 09 47.5 -0.5**
NB2 pmax pmax
comp=Z,10.0nm,0.7s
NB2 NORSAR Subarra 65.47 14 P **P 19 09 48.0 0.0**
baz=208,slow=6.9
NOA NORSAR Array B 65.47 14 P **P 19 09 47.9 0.0**
comp=Z,12nm,0.8s,baz=207,slow=6.8,SNR=17
NOA LR LR 19 39 06.7
comp=Z,2µm,19.8s,baz=205,slow=37
NB201 NORSAR Array S 65.50 14 P **P 19 09 48.0 -0.2**
NC204 NORSAR Array S 65.57 13 P **P 19 09 48.9 +0.2**
NC405 NORSAR Array S 65.66 14 P **P 19 09 49.4 +0.2**
BATG Bathurst New B 65.66 325 P **P 19 09 49.7 +0.2**
NC303 NORSAR Array S 65.67 14 P **P 19 09 49.5 +0.3**
IIGN Ignalina 65.87 24 *e*P **P 19 09 50.3 -0.3**
IIGN IAmb IAmb 19 09 58.6
comp=Z,15nm,0.8s
ISAL Salakas 65.98 24 *e*P **P 19 09 51.0 -0.3**
MICGM Minsk 66.00 26 *e*P **P 19 09 50.0 -1.5**
MICGM *e*LR LR 19 31 24.0
MNK Minsk 66.00 26 *e*P **P 19 09 50.0 -1.5**
F64A Sherman 66.31 322 P **P 19 09 55.5 +1.9**
F64A IAmb IAmb 19 10 10.8
comp=Z,70nm,1.4s
SOC Sochi 66.33 40 *e*P **P 19 09 52.4 -1.4**
SOC *e**SP **sP 19 09 56.5 -0.1**
SOC *e* 19 12 19.4
SOC *e*PPP PPP 19 13 57.4
SOC *e*S **S 19 18 40.0 -3.5**
SOC *e*SS **SS 19 22 58.8 -1.3**
SOC pmax pmax
comp=Z,32nm,0.9s
PQI Presque Isle 66.50 323 IAMs_20 IAMs_20 19 34 41.4
comp=Z,2µm,19.0s
I62A Tamworth 67.28 319 P **P 19 10 00.6 +0.7**
I62A IAmb IAmb 19 10 18.2
comp=Z,56nm,1.4s
I62A IAMs_20 IAMs_20 19 34 35.9
comp=Z,1µm,19.0s
FFD Franklin Falls 67.31 319 IAMs_20 IAMs_20 19 35 47.8
comp=Z,2µm,18.0s
D62A Allapoint, All 67.32 323 P **P 19 10 00.8 +0.7**
D62A IAmb IAmb 19 10 13.9
comp=Z,64nm,1.4s
D62A IAMs_20 IAMs_20 19 34 09.0
comp=Z,2µm,20.0s
IVI Ivigtut 67.34 343 P **P 19 10 00.0 +0.1**
K62A Royalston 67.36 318 P **P 19 10 01.6 +1.2**
K62A IAmb IAmb 19 10 19.2
comp=Z,70nm,1.5s
G62A West of Eustis 67.36 321 P **P 19 10 01.1 +0.7**
G62A IAmb IAmb 19 10 08.5
comp=Z,49nm,1.6s
V62A Hyde County Ai 67.41 310 IAMs_20 IAMs_20 19 32 08.7
comp=Z,3µm,22.0s
HNH Hanover 67.83 319 IAMs_20 IAMs_20 19 38 31.5
comp=Z,2µm,19.0s
AKH Akhalkalaki 67.95 44 P **P 19 10 03.7 -0.7**
AKH pmax pmax
comp=Z,32nm,1.1s
AKH MLR MLR
comp=Z,2µm,21.0s
AKH Akhalkalaki 67.95 44 ⇑P **P 19 10 05.3 +0.9**
AKH Akhalkalaki 67.95 44 P **P 19 10 03.7 -0.7**
AKH IAmb IAmb 19 10 44.3
comp=Z,32nm,1.1s
V61A Roper 67.96 310 IAMs_20 IAMs_20 19 32 24.3
comp=Z,2µm,23.0s
U61A Possum Corner 68.03 310 IAMs_20 IAMs_20 19 31 53.6
comp=Z,2µm,22.0s
VSU Vasula 68.23 22 *e*P **P 19 10 04.7 -0.8**
VSU IAmb IAmb 19 10 12.5
comp=Z,271nm,1.5s
SHA1 Shidzhatmaz 68.32 41 *i*P **P 19 10 06.3 -0.5**
TRY Troy 68.35 317 IAMs_20 IAMs_20 19 32 26.3
comp=Z,2µm,23.0s
ODNJ Ogdensburg 68.35 316 P **P 19 10 07.5 +0.8**
ODNJ IAMs_20 IAMs_20 19 31 18.5
comp=Z,2µm,22.0s
GNI Garni 68.36 46 *i*P **P 19 10 07.7 +0.7**
SNR=12
GNI Garni 68.36 46 P **P 19 10 06.6 -0.4**
GNI pmax pmax
comp=Z,91nm,1.2s
GNI Garni 68.36 46 P **P 19 10 06.6 -0.4**
VT1 Waterbury 68.40 319 P **P 19 10 06.7 -0.2**
VT1 IAmb IAmb 19 10 23.3
comp=Z,80nm,1.7s
KIV Kislovodsk 68.43 41 *i*P **P 19 10 07.2 0.0**
SNR=9.2
KIV Kislovodsk 68.43 41 *e*P **P 19 10 07.3 0.0**
KIV *e* 19 12 37.4
KIV *e*S **S 19 19 10.1 +1.1**
KIV pmax pmax
comp=Z,462nm,4.6s

KIV pmax pmax
comp=Z,98nm,1.0s
KIV Kislovodsk 68.43 41 ⇓P **P 19 10 07.7 +0.4**
KIV mb 19 10 26.4
KIV Kislovodsk 68.43 41 P **P 19 10 06.9 -0.3**
KIV IAmb IAmb 19 10 26.3
comp=Z,67nm,1.3s
KBZ Khabaz 68.47 41 *i*P **P 19 10 07.2 -0.2**
KBZ Khabaz 68.47 41 P **P 19 10 07.4 0.0**
comp=Z,19nm,0.8s,baz=234,slow=5.9,SNR=22
KBZ LR LR 19 42 29.5
comp=Z,615nm,19.9s,baz=252,slow=38
V60A Jim Taylor Roa 68.48 309 IAMs_20 IAMs_20 19 32 50.1
comp=Z,2µm,22.0s
Q60A Greensboro 68.48 313 P **P 19 10 07.0 -0.5**
T60A Surry 68.51 311 IAMs_20 IAMs_20 19 31 46.0
comp=Z,2µm,25.0s
PSUB Penn St. - Bra 68.53 314 P **P 19 10 08.5 +0.7**
PSUB IAmb IAmb 19 10 31.3
comp=Z,57nm,1.8s
P60A Greenville 68.62 314 P **P 19 10 09.1 +0.7**
PYA1 Pyatigorsk 68.74 41 *i*P **P 19 10 08.9 -0.2**
ZEI Tsey 68.77 43 *e*P **P 19 10 08.8 -0.8**
ZEI pmax pmax
comp=Z,40nm,1.6s
ANGG Ammassalik, Gr 68.78 350 P **P 19 10 08.6 -0.2**
ANGG IAmb IAmb 19 10 17.7
comp=Z,42nm,1.2s
CNNC Cliffs of the 68.80 309 IAMs_20 IAMs_20 19 33 39.7
comp=Z,2µm,21.0s
061Z Ochoppi 68.90 298 IAMs_20 IAMs_20 19 34 16.9
comp=Z,2µm,24.0s
TBLG Delisi 68.94 44 P **P 19 10 08.5 -1.9**
TBLG Delisi 68.94 44 P **P 19 10 08.4 -1.9**
GO09 Cerro Castillo 68.96 214 P **P 19 10 11.4 +1.1**
GO09 IAMs_20 IAMs_20 19 43 17.3
comp=Z,2µm,18.0s
U59A Littleton 69.07 310 P **P 19 10 10.6 -0.7**
U59A IAmb IAmb 19 11 04.4
comp=Z,30nm,1.3s
U59A IAMs_20 IAMs_20 19 32 47.3
comp=Z,2µm,22.0s
L59A Walton 69.08 317 P **P 19 10 11.4 +0.1**
T59A Double "B" Far 69.08 311 P **P 19 10 11.6 +0.2**
T59A IAmb IAmb 19 10 27.8
comp=Z,27nm,1.2s
T59A IAMs_20 IAMs_20 19 32 37.3
comp=Z,2µm,23.0s
GO10 Punta Arenas 69.10 212 P **P 19 10 11.6 +0.4**
N59A State Game Lan 69.11 315 P **P 19 10 10.8 -0.7**
N59A IAmb IAmb 19 10 27.9
comp=Z,71nm,1.7s
GOF Gofitskoye 69.12 40 ⇑*i*P **P 19 10 11.1 -0.3**
GOF pmax pmax
comp=Z,97nm,1.0s
MVL Millersville 69.20 314 IAMs_20 IAMs_20 19 32 53.9
comp=Z,2µm,22.0s
J59A Piesco 69.20 318 P **P 19 10 11.2 -0.8**
J59A IAmb IAmb 19 10 58.7
comp=Z,68nm,1.8s
J59A IAMs_20 IAMs_20 19 34 11.9
comp=Z,2µm,21.0s
KSPA Keystone Colle 69.34 316 P **P 19 10 13.6 +0.7**
KSPA IAmb IAmb 19 11 18.2
comp=Z,40nm,1.4s
VORD Divnogorie 69.58 33 *e*P **P 19 10 12.4 -1.7**
VORD pmax pmax
comp=Z,80nm,1.4s
VSR Storozhevoye 69.63 33 *e*P **P 19 10 12.7 -1.7**
VSR pmax pmax
comp=Z,100nm,1.4s
VSR MLR MLR
comp=Z,2µm,16.0s
VNA2 Neumayer--Watz 69.63 177 P **P 19 10 14.6 +0.5**
baz=343,slow=7.4
R58B Mineral 69.64 311 P **P 19 10 13.4 -1.4**
R58B IAMs_20 IAMs_20 19 32 07.1
comp=Z,2µm,22.0s
S58A Poland Farm, P 69.66 311 P **P 19 10 15.6 +0.7**
S58A IAmb IAmb 19 10 31.1
comp=Z,36nm,1.4s
S58A IAMs_20 IAMs_20 19 33 17.3
comp=Z,2µm,22.0s
J58A Remsen 69.69 318 P **P 19 10 15.6 +0.6**
J58A IAmb IAmb 19 10 59.2
comp=Z,64nm,1.6s
K58A Earlville 69.70 317 P **P 19 10 16.1 +1.0**
K58A IAmb IAmb 19 10 58.7
comp=Z,77nm,1.6s
K58A IAMs_20 IAMs_20 19 33 05.3
comp=Z,2µm,25.0s
LONY Lake Ozonia 69.71 319 P **P 19 10 16.3 +1.2**
LATQ La Tuque 69.72 322 P **P 19 10 15.1 +0.1**
BINY Binghamton 69.73 316 P **P 19 10 16.4 +1.1**
BINY IAmb IAmb 19 10 37.9
comp=Z,24nm,1.1s
N58A Sunbury 69.75 315 P **P 19 10 14.2 -1.2**
DWPF Disney Wildern 69.85 301 IAMs_20 IAMs_20 19 32 01.8
comp=Z,2µm,24.0s
CSU Charleston Sou 69.90 306 P **P 19 10 17.0 +0.6**
ESPN Las Esperanzas 69.92 283 P **P 19 10 16.8 -0.1**
V58A Windy Hill, Pi 69.92 309 IAMs_20 IAMs_20 19 34 36.3
comp=Z,2µm,20.0s
NHSC New Hope 70.02 306 IAMs_20 IAMs_20 19 33 14.2
comp=Z,2µm,23.0s
FINES FINESS Array B 70.10 20 P **P 19 10 16.8 -0.3**
comp=Z,8.5nm,0.7s,baz=218,slow=5.7,SNR=20
FINES LR LR 19 41 46.7
comp=Z,2µm,19.5s,baz=230,slow=37
FIA1 FINESS Array S 70.10 20 P **P 19 10 16.6 -0.5**
SCHQ Schefferville 70.15 331 P **P 19 10 20.6 +3.0**
comp=Z,4.4nm,0.6s,baz=121,slow=4.0,SNR=12
SCHQ LR LR 19 36 47.2
comp=Z,979nm,19.6s,baz=132,slow=32
SCHQ Schefferville 70.15 331 P **P 19 10 18.5 +0.9**
SCHQ IAmb IAmb 19 10 34.0
comp=Z,102nm,1.9s
J57A Williamstown 70.18 317 P **P 19 10 19.2 +1.2**
J57A IAmb IAmb 19 10 60.0
comp=Z,104nm,2.0s
LPSR Galich'ya Gora 70.20 32 *e*P **P 19 10 16.6 -1.3**
LPSR pmax pmax
comp=Z,40nm,0.8s
LPSR MLR MLR
comp=Z,3µm,19.0s
GROC Groznyy 70.21 43 *e*P **P 19 10 18.5 +0.3**
GROC *e* 19 10 40.1
GROC *e* 19 12 53.0
GROC pmax pmax
comp=Z,47nm,0.8s
P57A Homestead Farm 70.23 313 P **P 19 10 19.5 +1.1**
P57A IAmb IAmb 19 10 37.3
comp=Z,47nm,1.6s
TRQ Mont Tremblant 70.34 321 P **P 19 10 20.2 +1.2**
OBN Obninsk 70.35 29 P **P 19 10 17.4 -1.3**
T57A Hurt 70.38 310 P **P 19 10 21.0 +1.6**
T57A IAMs_20 IAMs_20 19 33 36.5
comp=Z,2µm,23.0s
S57A Dark Hollow, R 70.39 311 P **P 19 10 19.9 +0.5**
S57A IAMs_20 IAMs_20 19 33 38.5
comp=Z,2µm,23.0s
257A Skidaway Islan 70.42 305 IAMs_20 IAMs_20 19 33 22.8
comp=Z,2µm,21.0s
W57A Gilead 70.42 308 IAMs_20 IAMs_20 19 34 38.3
comp=Z,2µm,21.0s
SSPA Standing Stone 70.52 314 P **P 19 10 21.1 +1.0**
SSPA IAmb IAmb 19 10 36.5
comp=Z,94nm,2.0s
MSEY Mahe Island 70.61 94 P **P 19 10 19.7 -1.6**
MSEY Mahe Island 70.61 94 P **P 19 10 19.7 -1.6**
SNAA Sanae 70.64 176 P **P 19 10 20.7 +0.3**
SNAA Sanae 70.64 176 *i*P **P 19 10 20.8 +0.4**
SNAA Sanae 70.64 176 LR LR 19 33 33.6
comp=Z,2µm,19.7s,baz=349,slow=29
SNAA Sanae 70.64 176 P **P 19 10 19.6 -0.7**
SNAA IAmb IAmb 19 10 35.8
comp=Z,30nm,1.0s
SNAA IAMs_20 IAMs_20 19 33 01.7
comp=Z,3µm,25.0s
BIRD Birdtown, Kers 70.66 307 P **P 19 10 20.6 -0.5**
J56A Wolcott 70.72 317 P **P 19 10 21.5 +0.2**
J56A IAmb IAmb 19 12 27.4
comp=Z,33nm,1.1s
ACON Acoyapa 70.74 283 P **P 19 10 21.3 -0.7**
ACON IAmb IAmb 19 11 24.3
comp=Z,82nm,1.3s
O56A Blue Knob Stat 70.89 314 P **P 19 10 23.7 +1.2**
O56A IAmb IAmb 19 11 16.7
comp=Z,122nm,1.9s
AKT Akhty 70.95 45 *e*P **P 19 10 26.2 +3.3**
AKT *e* 19 10 43.8
AKT *e* 19 12 57.7
AKT pmax pmax
comp=Z,36nm,1.2s
Q56A Snyder Ridge, 70.95 312 P **P 19 10 22.8 0.0**
Q56A IAmb IAmb 19 10 41.8
comp=Z,59nm,1.4s
Q56A IAMs_20 IAMs_20 19 36 26.9
comp=Z,1µm,19.0s
M56A Emporium 71.01 315 P **P 19 10 22.7 -0.5**
M56A IAmb IAmb 19 10 55.1
comp=Z,36nm,1.1s
VRH Novokhopyorsk 71.03 34 *e*P **P 19 10 21.8 -1.2**
VRH pmax pmax
comp=Z,40nm,1.1s
VRH MLR MLR
comp=Z,690nm,9.0s
Z56A Williston 71.04 306 IAMs_20 IAMs_20 19 33 20.2
comp=Z,2µm,22.0s
SUF Sumiainen 71.04 19 P **P 19 10 24.1 +1.3**
SUF pmax pmax
comp=Z,67nm,1.1s
U56A King 71.06 309 IAMs_20 IAMs_20 19 34 17.8
comp=Z,2µm,22.0s
656A Willston 71.07 302 IAMs_20 IAMs_20 19 33 25.2
comp=Z,2µm,21.0s
JSC Jenkinsville 71.20 307 P **P 19 10 25.4 +1.0**
JSC pmax pmax
comp=Z,23nm,1.5s
JSC MLR MLR
comp=Z,700nm,25.0s
JSC Jenkinsville 71.20 307 P **P 19 10 25.4 +1.0**
MOS Moscow 71.20 28 *e*P **P 19 10 22.7 -1.2**
MOS *e* 19 10 26.2
MOS *e* 19 10 41.4
MOS *e* 19 12 59.0
MOS *e*PPP PPP 19 14 45.7
MOS *e*S **S 19 19 40.7 -0.2**
MOS pmax pmax
comp=Z,43nm,0.7s
MOS MLR MLR
comp=Z,2µm,18.0s
MOS MLR MLR
comp=E,2µm,17.0s
MAK Makhachkala 71.30 44 *e*P P 19 10 19.0 -5.8
MAK *e*S **S 19 19 36.5 -6.0**
MAK pmax pmax
comp=Z,260nm,1.0s
MAK MLR MLR
comp=Z,1µm,18.0s
BLA Blacksburg 71.34 310 IAMs_20 IAMs_20 19 34 29.8
comp=Z,2µm,21.0s
R55A Marlinton 71.42 311 P **P 19 10 26.6 +0.8**
R55A IAmb IAmb 19 11 18.9
comp=Z,87nm,1.9s
M55A Ridgway 71.42 315 P **P 19 10 26.3 +0.7**
M55A IAmb IAmb 19 11 24.3
comp=Z,50nm,1.4s
KMSC Kings Mountain 71.48 308 P **P 19 10 26.6 +0.5**
KMSC IAMs_20 IAMs_20 19 35 49.8
comp=Z,1µm,20.0s
NVL N'lazarevskaya 71.49 171 *e*P **P 19 10 27.4 +2.0**
NVL *e*S **S 19 19 44.5 +0.8**
NVL *e*SS **SS 19 24 18.4 -0.2**
NVL pmax pmax
comp=Z,27nm,1.1s
PLVO Plevna 71.51 319 P **P 19 10 28.1 +2.0**
PLVO IAmb IAmb 19 12 20.3
comp=Z,36nm,1.4s
V55A Taylorsville 71.58 309 P **P 19 10 28.0 +1.3**
V55A IAmb IAmb 19 10 40.8
comp=Z,30nm,1.1s
V55A IAMs_20 IAMs_20 19 35 24.4
comp=Z,1µm,20.0s
255A Hazlehurst 71.60 304 IAMs_20 IAMs_20 19 35 02.2
comp=Z,2µm,21.0s
WVNY West Valley, N 71.62 316 P **P 19 10 28.6 +1.8**
WVNY IAmb IAmb 19 10 40.1
comp=Z,36nm,0.9s
HODGE Hodges 71.98 307 IAMs_20 IAMs_20 19 33 59.2
comp=Z,2µm,25.0s
ESTN Estel 72.02 284 P **P 19 10 29.9 +0.1**
M54A Oil Creek Stat 72.08 315 P **P 19 10 29.6 0.0**
N54A Moraine State 72.14 314 P **P 19 10 31.2 +1.2**
N54A IAmb IAmb 19 11 00.3
comp=Z,45nm,1.5s
N54A IAMs_20 IAMs_20 19 35 41.7
comp=Z,1µm,21.0s
Q54A Coxs Mills 72.16 312 P **P 19 10 31.3 +1.2**
Q54A IAmb IAmb 19 10 43.8
comp=Z,49nm,1.4s
O54A Avella 72.18 313 P **P 19 10 31.7 +1.5**
S54A Dingess, Beckl 72.18 310 IAMs_20 IAMs_20 19 34 33.1
comp=Z,2µm,22.0s
U54A Nelsons Funny 72.23 309 IAMs_20 IAMs_20 19 36 07.3
comp=Z,2µm,20.0s
154A Montrose 72.28 305 IAMs_20 IAMs_20 19 34 30.3
comp=Z,2µm,22.0s
PMSA Palmer Station 72.35 200 P **P 19 10 29.9 -0.7**
PMSA IAmb IAmb 19 10 46.4
comp=Z,52nm,1.2s
JMIC Jan Mayen 72.36 2 LR LR 19 38 42.4
comp=Z,1µm,20.5s,baz=250,slow=33
ALLY Alegheny Colle 72.46 315 P **P 19 10 31.3 -0.5**
ALLY IAmb IAmb 19 10 59.7
comp=Z,42nm,1.1s
ERPA Erie 72.50 315 P **P 19 10 30.2 -1.9**
ERPA IAmb IAmb 19 10 37.5
comp=Z,40nm,0.8s
ERPA IAMs_20 IAMs_20 19 34 25.2
comp=Z,2µm,24.0s
SFJD Kangerlussuaq 72.64 346 *i*P **P 19 10 34.0 +1.6**
SFJD Kangerlussuaq 72.64 346 *i*P **P 19 10 34.0 +1.6**
SFJD Kangerlussuaq 72.64 346 P **P 19 10 32.2 -0.2**
comp=Z,19nm,1.0s,baz=136,slow=7.6,SNR=4.1
SFJD Kangerlussuaq 72.64 346 P **P 19 10 33.3 +0.9**
SFJD IAmb IAmb 19 10 56.0
comp=Z,25nm,0.9s
N53A Lisbon 72.70 314 P **P 19 10 34.0 +0.7**
N53A IAmb IAmb 19 10 58.7
comp=Z,56nm,1.4s
N53A IAMs_20 IAMs_20 19 35 03.7
comp=Z,1µm,20.0s
BG3 Lake Jocassee 72.71 307 P **P 19 10 34.6 +1.1**
P53A Whipple 72.72 312 P **P 19 10 33.5 +0.1**
P53A IAMs_20 IAMs_20 19 33 53.2
comp=Z,2µm,25.0s
GOGA Godfrey 72.76 306 P **P 19 10 34.4 +0.6**
GOGA pmax pmax
comp=Z,32nm,1.5s
GOGA MLR MLR
comp=Z,2µm,23.0s
GOGA Godfrey 72.76 306 P **P 19 10 34.4 +0.6**
GOGA Godfrey 72.76 306 IAMs_20 IAMs_20 19 34 46.8
comp=Z,2µm,23.0s
V53A Saluda 72.78 308 P **P 19 10 33.5 -0.4**
SADO Sadowa 72.78 318 P **P 19 10 32.9 -0.8**
comp=Z,4.8nm,0.9s,baz=108,slow=6.4,SNR=2.2
SADO Sadowa 72.78 318 P **P 19 10 33.7 0.0**
SADO IAmb IAmb 19 12 45.6
comp=Z,43nm,1.5s
SADO IAMs_20 IAMs_20 19 33 46.7
comp=Z,2µm,25.0s
R53A Hurricane 72.82 311 IAMs_20 IAMs_20 19 35 17.8
comp=Z,2µm,22.0s
VLDQ Val d'Or 72.90 322 P **P 19 10 36.4 +2.2**
ASUD Al Ashush, Dub 72.92 64 P **P 19 10 36.7 +1.8**
TGUH Tegucigalpa,Un 72.99 285 IAMs_20 IAMs_20 19 37 06.2
comp=Z,1µm,23.0s
253A Americus 73.00 304 IAMs_20 IAMs_20 19 35 22.2
comp=Z,2µm,23.0s
O52A Adamsville 73.23 313 P **P 19 10 38.2 +1.8**
O52A IAmb IAmb 19 11 02.7
comp=Z,55nm,1.2s
T52A Hallie 73.28 309 P **P 19 10 36.1 -0.8**
T52A IAmb IAmb 19 10 54.2
comp=Z,45nm,1.4s
T52A IAMs_20 IAMs_20 19 36 10.2
comp=Z,2µm,21.0s
CRZF Crozet Islands 73.33 138 P **P 19 10 37.6 +0.7**
Y52A Lilburn 73.35 306 P **P 19 10 37.7 +0.4**
Y52A IAmb IAmb 19 10 54.1
comp=Z,52nm,1.5s
Y52A IAMs_20 IAMs_20 19 35 38.8
comp=Z,1µm,22.0s
V52A Sevierville 73.44 308 P **P 19 10 38.5 +0.7**
V52A IAmb IAmb 19 11 19.1
comp=Z,44nm,1.6s
V52A IAMs_20 IAMs_20 19 37 00.8
comp=Z,1µm,19.0s
W52A Murphy 73.53 307 P **P 19 10 37.0 -1.3**
W52A IAMs_20 IAMs_20 19 34 25.1
comp=Z,2µm,25.0s
TKL Tuckaleechee C 73.54 308 P **P 19 10 38.1 -0.3**
TKL pmax pmax
comp=Z,23nm,1.3s
TKL MLR MLR
comp=Z,900nm,20.0s
TKL Tuckaleechee C 73.54 308 P **P 19 10 37.8 -0.6**
comp=Z,2.2nm,0.6s,baz=162,slow=6.4,SNR=1.6
TKL Tuckaleechee C 73.54 308 P **P 19 10 38.1 -0.3**
352A Blakely 73.54 303 P **P 19 10 38.0 -0.4**
352A IAmb IAmb 19 12 35.5
comp=Z,115nm,1.6s
TZTN Tazewell 73.58 309 IAMs_20 IAMs_20 19 36 48.1
comp=Z,2µm,21.0s
ASHO Ashiyiah 73.58 64 P **P 19 10 38.5 -0.4**
152A Waverly Hall 73.62 305 IAMs_20 IAMs_20 19 35 43.6
comp=Z,2µm,21.0s
HATD Hatta, Dubai 73.67 64 P **P 19 10 42.9 +3.5**
HATD Hatta, Dubai 73.67 64 P **P 19 10 43.1 +3.8**
SNR=7.7
UOSS Minazif 73.75 64 P **P 19 10 41.3 +1.4**
UOSS Minazif 73.75 64 P **P 19 10 40.5 +0.7**
UOSS IAmb IAmb 19 10 53.1
comp=Z,52nm,1.1s
UOSS Minazif 73.75 64 IAMs_20 IAMs_20 19 43 31.1
comp=Z,2µm,19.0s
MSFE Esma-Masafi 73.78 63 P P 19 10 44.9 +4.8
ARQ Araqi 73.79 65 P **P 19 10 42.6 +2.5**
SNR=10
N51A Ashland 73.85 313 P **P 19 10 40.9 +0.8**
N51A IAmb IAmb 19 11 12.1
comp=Z,72nm,1.4s
SHME Shamm 73.88 63 P **P 19 10 44.7 +4.1**
S51A Beattyville 73.89 310 P **P 19 10 40.7 +0.3**
S51A IAMs_20 IAMs_20 19 35 57.2
comp=Z,2µm,23.0s
P51A Williamsport 73.96 312 P **P 19 10 41.5 +0.8**
BANOM Banah 74.00 63 P **P 19 10 41.2 -0.1**
BANOM Banah 74.00 63 P **P 19 10 44.8 +3.5**
V51A Loudon 74.03 308 P **P 19 10 41.1 -0.1**
Q51A Peebles 74.05 311 P **P 19 10 42.2 +0.9**
Q51A IAMs_20 IAMs_20 19 35 20.6
comp=Z,2µm,23.0s
451A Vernon 74.05 302 P **P 19 10 42.0 +0.5**
CPCT Cooper Cave 74.08 307 P **P 19 10 42.4 +0.8**
ACSO Alum Creek Sta 74.10 313 P **P 19 10 41.8 +0.2**
ACSO IAMs_20 IAMs_20 19 35 13.9
comp=Z,2µm,23.0s
Z51A Franklin 74.13 305 P **P 19 10 42.1 +0.2**
Z51A IAMs_20 IAMs_20 19 35 38.2
comp=Z,3µm,23.0s
X51A Calhoun 74.15 306 P **P 19 10 43.2 +1.2**
X51A IAmb IAmb 19 10 58.5
comp=Z,82nm,1.4s
X51A IAMs_20 IAMs_20 19 35 28.6
comp=Z,2µm,24.0s
MSF Maaselka 74.19 17 P **P 19 10 42.9 +1.4**
MSF pmax pmax
comp=Z,52nm,1.1s
BSY Bisya 74.32 66 P **P 19 10 46.6 +3.3**
M50A Fremont 74.47 314 P **P 19 10 43.7 0.0**
M50A IAmb IAmb 19 10 56.2
comp=Z,48nm,1.2s
HOQ Hoqain 74.54 65 P **P 19 10 47.5 +3.0**
K50A Casco 74.56 315 P **P 19 10 45.8 +1.7**
K50A IAmb IAmb 19 10 49.7
comp=Z,61nm,1.1s
R50A Paris 74.61 310 P **P 19 10 45.4 +0.8**
R50A IAMs_20 IAMs_20 19 36 20.6
comp=Z,3µm,23.0s
TEIG Tepich 74.64 291 P **P 19 10 47.2 +2.1**
TEIG IAmb IAmb 19 12 20.8
comp=Z,144nm,2.0s
W50A Signal Mountai 74.65 307 P **P 19 10 47.0 +2.0**
Z50A Ashland 74.73 305 P **P 19 10 47.0 +1.6**
Z50A IAMs_20 IAMs_20 19 37 51.1
comp=Z,2µm,20.0s
FPAL Fort Paine 74.75 306 P **P 19 10 46.1 +0.6**
250A Grady 74.76 304 P **P 19 10 46.6 +1.1**
250A IAmb IAmb 19 10 56.6
comp=Z,141nm,1.8s
O49A Covington 75.09 312 P **P 19 10 46.7 -0.6**
O49A IAmb IAmb 19 10 59.8
comp=Z,38nm,1.2s
O49A IAMs_20 IAMs_20 19 36 05.6
comp=Z,2µm,22.0s
JMDO Jabal Madar 75.09 67 P **P 19 10 50.9 +3.2**
SMDO Samad 75.14 66 P **P 19 10 51.5 +3.4**
SNR=8.5
SWET Sewanee 75.15 307 P **P 19 10 48.6 +0.8**
SWET IAmb IAmb 19 11 04.3
comp=Z,38nm,1.3s
SWET IAMs_20 IAMs_20 19 35 48.2
comp=Z,1µm,23.0s
N49A Columbus Grove 75.17 313 P **P 19 10 48.8 +1.1**
N49A IAmb IAmb 19 11 13.3
comp=Z,41nm,1.4s
N49A IAMs_20 IAMs_20 19 37 14.0
comp=Z,1µm,20.0s
R49A Shelbyville 75.25 310 P **P 19 10 47.8 -0.5**
R49A IAMs_20 IAMs_20 19 36 51.4
comp=Z,2µm,22.0s
Y49A Blount Mountai 75.26 305 P **P 19 10 49.1 +0.6**
Y49A IAmb IAmb 19 12 36.9
comp=Z,48nm,1.6s
Y49A IAMs_20 IAMs_20 19 36 24.9
comp=Z,3µm,23.0s
T49A Edmonton 75.26 309 P **P 19 10 48.8 +0.5**
T49A IAmb IAmb 19 11 04.4
comp=Z,51nm,1.4s
T49A IAMs_20 IAMs_20 19 37 30.6
comp=Z,2µm,20.0s
BRAL Brewton 75.26 303 P **P 19 10 47.6 -0.9**
SUMG Summit 75.28 353 *i*P **P 19 10 49.0 +0.8**
SUMG pmax pmax
comp=Z,32nm,0.7s
SUMG Summit 75.28 353 *i*P **P 19 10 49.0 +0.8**
comp=Z,32nm,0.7s
SUMG Summit 75.28 353 P **P 19 10 48.1 -0.1**
SUMG IAmb IAmb 19 11 20.1
comp=Z,34nm,1.1s
J48A Bridge Port 75.52 315 P **P 19 10 50.6 +0.9**
J48A IAmb IAmb 19 11 02.4
comp=Z,36nm,0.9s
LRAL Lakeview Retre 75.57 305 P **P 19 10 50.5 +0.3**
LRAL IAMs_20 IAMs_20 19 36 42.3
comp=Z,1µm,21.0s
H48A Harrisville 75.59 317 P **P 19 10 51.0 +0.9**
CLTN Cedars of Leba 75.66 308 P **P 19 10 50.4 -0.2**
WSAR Wadi Sarin 75.69 66 P **P 19 10 54.8 +3.7**
M48A Edgerton 75.70 313 P **P 19 10 51.5 +0.7**
M48A IAmb IAmb 19 12 51.7
comp=Z,21nm,0.4s
P48A Milroy 75.73 311 P **P 19 10 51.5 +0.5**
P48A IAmb IAmb 19 11 37.5
comp=Z,34nm,1.2s
P48A IAMs_20 IAMs_20 19 35 58.8
comp=Z,2µm,24.0s
ARCES ARCESS Array B 75.85 14 P **P 19 10 50.3 -0.8**
comp=Z,8.7nm,0.8s,baz=212,slow=4.3,SNR=13
ARCES LR LR 19 46 01.8
comp=Z,3µm,20.4s,baz=228,slow=37
ARE0 ARCESS Array S 75.85 14 P **P 19 10 53.0 +1.9**
FRB Frobisher Bay 75.87 338 P **P 19 10 51.2 0.0**
comp=Z,11nm,0.7s,baz=117,slow=5.8,SNR=21
X48A Hartselle 75.89 306 P **P 19 10 51.7 -0.3**
X48A IAmb IAmb 19 11 05.0
comp=Z,38nm,1.4s
X48A IAMs_20 IAMs_20 19 37 31.1
comp=Z,1µm,20.0s
WBK Wadi Bani Khal 75.92 66 P **P 19 10 56.0 +3.6**
V48A Smith Brothers 75.97 307 P **P 19 10 52.9 +0.4**
V48A IAmb IAmb 19 11 17.3
comp=Z,40nm,1.4s

WCI Wyandotte Cave 76.10 310 P **P** **19 10 53.2 +0.1**
WCI pmax pmax
comp=Z,16nm,0.9s
WCI MLR MLR
comp=Z,2µm,22.0s
WCI Wyandotte Cave 76.10 310 P **P** **19 10 53.2 +0.1**
WCI Wyandotte Cave 76.10 310 IAMs_20 IAMs_20 19 37 38.8
comp=Z,2µm,22.0s
I47A Gladwin 76.22 316 P **P** **19 10 53.3 -0.4**
I47A IAmb IAmb 19 11 00.5
comp=Z,91nm,1.6s
I47A IAMs_20 IAMs_20 19 38 54.3
comp=Z,1µm,19.0s
J47A Sunmer 76.23 315 P **P** **19 10 53.3 -0.5**
J47A IAmb IAmb 19 11 40.2
comp=Z,38nm,1.3s
N47A Urbana 76.27 313 P **P** **19 10 52.9 -1.1**
N47A IAMs_20 IAMs_20 19 36 05.1
comp=Z,2µm,24.0s
T47A Sharon Grove 76.46 308 P **P** **19 10 55.1 -0.1**
T47A IAmb IAmb 19 11 10.9
comp=Z,37nm,1.4s
T47A IAMs_20 IAMs_20 19 36 09.7
comp=Z,1µm,24.0s
BLO Bloomington 76.49 311 P **P** **19 10 55.3 0.0**
BLO pmax pmax
comp=Z,36nm,1.2s
BLO MLR MLR
comp=Z,2µm,22.0s
BLO Bloomington 76.49 311 P **P** **19 10 55.3 0.0**
BLO IAmb IAmb 19 11 11.0
comp=Z,36nm,1.2s
BLO IAMs_20 IAMs_20 19 37 30.0
comp=Z,2µm,22.0s
GLMI Grayling 76.51 317 P **P** **19 10 54.7 -0.6**
GLMI IAmb IAmb 19 12 06.6
comp=Z,56nm,1.1s
GLMI IAMs_20 IAMs_20 19 36 52.4
comp=Z,1µm,23.0s
APA Apatity 76.59 17 *ij P* **P** **19 10 58.5 +3.2**
APA pmax pmax
comp=Z,17nm,1.1s
SYO Syowa Base 76.71 162‖ *e*P **P** **19 10 54.9 -1.0**
SYO Syowa Base 76.71 162‖ *e*pP pP 19 10 58.7 +0.8
E46A Sault Ste Mari 76.73 318 IAMs_20 IAMs_20 19 37 35.1
comp=Z,2µm,21.0s
PLAL Pickwick Lake 76.83 306 P **P** **19 10 58.7 +1.4**
PLAL IAMs_20 IAMs_20 19 37 02.2
comp=Z,2µm,24.0s
WVT Waverly 76.85 307 P **P** **19 10 56.4 -1.1**
WVT pmax pmax
comp=Z,21nm,1.2s
WVT MLR MLR
comp=Z,800nm,20.0s
WVT Waverly 76.85 307 P **P** **19 10 56.4 -1.1**
L46A Eue Claire 76.98 314 P **P** **19 10 56.3 -1.8**
L46A IAmb IAmb 19 11 19.3
comp=Z,78nm,1.6s
L46A IAMs_20 IAMs_20 19 38 29.8
comp=Z,1µm,20.0s
P46A Rosedale 77.10 311 P **P** **19 10 57.6 -1.1**
P46A IAmb IAmb 19 11 45.0
comp=Z,30nm,0.9s
P46A IAMs_20 IAMs_20 19 37 51.3
comp=Z,2µm,22.0s
LVZ Lovozero 77.17 17 P **P** **19 10 59.8 +1.2**
LVZ pmax pmax
comp=Z,113nm,1.3s
LVZ Lovozero 77.17 17 P **P** **19 10 59.8 +1.2**
SFIN Lafayette 77.19 312 P **P** **19 10 58.5 -0.7**
SFIN IAmb IAmb 19 11 25.9
comp=Z,60nm,1.6s
SFIN IAMs_20 IAMs_20 19 37 08.5
comp=Z,2µm,22.0s
OLIL Olney 77.59 310 P **P** **19 11 00.5 -1.0**
OLIL IAmb IAmb 19 11 17.7
comp=Z,39nm,1.1s
OLIL IAMs_20 IAMs_20 19 38 58.6
comp=Z,2µm,20.0s
GEYT Alibeck 77.72 51 P **P** **19 11 02.1 -0.2**
comp=Z,1.8nm,0.7s,baz=253,slow=10,SNR=8.4
GEYT LR LR 19 46 26.0
comp=Z,3µm,21.6s,baz=215,slow=37
GYA0B ALIBECK ARRAY 77.72 51 P **P** **19 11 02.3 0.0**
GYA0B IAmb IAmb 19 11 18.7
comp=Z,31nm,1.1s
PRGR Permogore 77.76 25 *e*P **P** **19 11 00.4 -1.5**
PRGR pmax pmax
comp=Z,39nm,0.8s
OXF Oxford 77.82 306 P **P** **19 11 03.3 +0.4**
OXF pmax pmax
comp=Z,18nm,1.0s
OXF Oxford 77.82 306 P **P** **19 11 03.3 +0.4**
E44A Grand Marais A 77.87 318 IAMs_20 IAMs_20 19 37 58.3
comp=Z,1µm,20.0s
DAG Danmarks Havn 78.07 359 *i* P **P** **19 11 04.0 +0.6**
DAG pmax pmax
comp=Z,14nm,0.9s
DAG Danmarks Havn 78.07 359 *i* P **P** **19 11 04.0 +0.6**
comp=Z,14nm,0.9s
M44A Midewin, Midew 78.11 313 P **P** **19 11 02.3 -2.0**
M44A IAMs_20 IAMs_20 19 37 26.2
comp=Z,2µm,24.0s
O44A Mansfield 78.16 311 IAMs_20 IAMs_20 19 38 24.4
comp=Z,2µm,23.0s
L44A Lake County Fo 78.19 314 P **P** **19 11 04.4 -0.4**
L44A IAmb IAmb 19 11 19.1
comp=Z,35nm,0.9s
L44A IAMs_20 IAMs_20 19 39 15.9
comp=Z,2µm,20.0s
SIUC Southern Illin 78.25 309 P **P** **19 11 03.2 -2.0**
SIUC IAMs_20 IAMs_20 19 39 53.3
comp=Z,2µm,20.0s
S44A Carbondale 78.28 309 P **P** **19 11 04.3 -1.0**
S44A IAmb IAmb 19 11 29.8
comp=Z,31nm,1.1s
S44A IAMs_20 IAMs_20 19 39 54.5
comp=Z,2µm,20.0s
MET Memphis--Engin 78.35 306 IAMs_20 IAMs_20 19 37 58.8
comp=Z,2µm,23.0s
PARMO Parma 78.48 308 P **P** **19 11 05.9 -0.6**
PARMO IAmb IAmb 19 11 11.0
comp=Z,26nm,0.9s
E43A Lone Tree Farm 78.53 318 P **P** **19 11 05.6 -0.9**
E43A IAmb IAmb 19 11 59.6
comp=Z,37nm,1.3s
GNAR Gosnell 78.56 307 P **P** **19 11 04.6 -2.4**
H43A Windswept, Lux 78.60 316 P **P** **19 11 06.7 -0.4**
K43A Burlington 78.61 314 P **P** **19 11 06.0 -1.1**
K43A IAmb IAmb 19 11 31.8
comp=Z,44nm,1.1s
K43A IAMs_20 IAMs_20 19 39 49.9
comp=Z,1µm,21.0s
LPAR Lepanto 78.73 307 P **P** **19 11 07.9 0.0**
LPAR IAmb IAmb 19 11 38.2
comp=Z,58nm,1.0s
LPAR IAMs_20 IAMs_20 19 37 57.8
comp=Z,2µm,23.0s
P43A Skaggs, Pawnee 78.86 311 P **P** **19 11 08.7 +0.2**
P43A IAMs_20 IAMs_20 19 39 04.7
comp=Z,2µm,22.0s
HDIL Hopedale 78.86 312 P **P** **19 11 07.2 -1.4**
HBAR Harrisburg 79.01 306 P **P** **19 11 08.2 -1.2**
HBAR IAMs_20 IAMs_20 19 38 06.2
comp=Z,2µm,24.0s
X43A Marvell 79.02 305 P **P** **19 11 08.8 -0.7**
X43A IAmb IAmb 19 11 15.4
comp=Z,40nm,0.8s
X43A IAMs_20 IAMs_20 19 38 29.5
comp=Z,2µm,22.0s
PBMO Poplar Bluff 79.03 308 P **P** **19 11 10.1 +0.6**
F42A Maple Grove Fa 79.15 317 P **P** **19 11 09.0 -1.0**
SLM Saint Louis 79.21 310 P **P** **19 11 08.1 -2.4**
SLM pmax pmax
comp=Z,25nm,0.5s
SLM Saint Louis 79.21 310 P **P** **19 11 08.1 -2.4**
SLM IAmb IAmb 19 11 27.8
comp=Z,24nm,0.5s
I42A Draeger Farm, 79.28 315 P **P** **19 11 07.8 -3.0**
L42A Oliver, Polo 79.43 313 P **P** **19 11 10.1 -1.5**
L42A IAMs_20 IAMs_20 19 38 16.7
comp=Z,1µm,24.0s
LCAR Lake Charles 79.49 307 P **P** **19 11 13.2 +1.1**
CCAR Cane Creek 79.65 305 P **P** **19 11 10.8 -2.2**
CCAR IAmb IAmb 19 11 38.8
comp=Z,46nm,1.2s

CCM Cathedral Cave 79.89 309 P **P** **19 11 13.2 -1.0**
CCM pmax pmax
comp=Z,35nm,1.2s
CCM MLR MLR
comp=Z,1µm,24.0s
CCM Cathedral Cave 79.89 309 P **P** **19 11 13.2 -1.0**
CCM Cathedral Cave 79.89 309 IAMs_20 IAMs_20 19 38 14.3
comp=Z,1µm,24.0s
JFWS Jewell Farm 80.03 314 P **P** **19 11 13.6 -1.3**
JFWS pmax pmax
comp=Z,21nm,1.0s
JFWS MLR MLR
comp=Z,1µm,21.0s
JFWS Jewell Farm 80.03 314 P **P** **19 11 13.6 -1.3**
JFWS Jewell Farm 80.03 314 IAMs_20 IAMs_20 19 40 43.6
comp=Z,1µm,21.0s
N41A Harden Midland 80.06 312 P **P** **19 11 14.9 -0.2**
N41A IAMs_20 IAMs_20 19 39 43.5
comp=Z,2µm,21.0s
W41B Gary Mavity, V 80.23 306 P **P** **19 11 15.1 -1.0**
W41B IAmb IAmb 19 11 38.7
comp=Z,55nm,1.8s
W41B IAMs_20 IAMs_20 19 39 05.6
comp=Z,2µm,23.0s
UALR University of 80.25 305 P **P** **19 11 14.0 -2.2**
WHAR Wooly Hollow 80.28 306 P **P** **19 11 16.5 +0.1**
WHAR IAMs_20 IAMs_20 19 39 19.9
comp=Z,2µm,23.0s
HRA Herat 80.40 55 P **P** **19 11 16.9 -0.5**
G40A Rib Lake 80.46 316 IAMs_20 IAMs_20 19 39 46.9
comp=Z,1µm,21.0s
I40A Norwalk 80.48 315 P **P** **19 11 16.4 -1.0**
I40A IAmb IAmb 19 12 02.6
comp=Z,80nm,1.9s
MGMO Mountain Grove 80.55 308 P **P** **19 11 17.0 -0.8**
L40A Anamosa 80.58 313 P **P** **19 11 17.7 -0.2**
L40A IAMs_20 IAMs_20 19 38 50.1
comp=Z,2µm,24.0s
X40A Basin Creek Fa 80.61 305 P **P** **19 11 17.8 -0.3**
X40A IAMs_20 IAMs_20 19 40 34.6
comp=Z,2µm,22.0s
WLAR White Oak Lake 80.72 304 P **P** **19 11 18.3 -0.4**
WLAR IAmb IAmb 19 12 11.2
comp=Z,92nm,1.6s
WLAR IAMs_20 IAMs_20 19 41 38.8
comp=Z,1µm,20.0s
U40A Yellville 80.89 307 P **P** **19 11 17.6 -2.1**
U40A IAMs_20 IAMs_20 19 39 16.1
comp=Z,1µm,23.0s
MIAR Mount Ida 81.22 305 P **P** **19 11 21.3 -0.2**
MIAR pmax pmax
comp=Z,26nm,1.4s
MIAR MLR MLR
comp=Z,2µm,22.0s
MIAR Mount Ida 81.22 305 P **P** **19 11 21.3 -0.2**
MIAR IAMs_20 IAMs_20 19 40 52.9
comp=Z,1µm,22.0s
SPA0 Spitsbergen Ar 81.23 6 P **P** **19 11 20.4 -0.2**
ABKAR Akbulak array 81.36 40 P **P** **19 11 20.2 -1.6**
KBS Kingsbay 81.44 5 P **P** **19 11 21.2 -0.5**
KBS pmax pmax
comp=Z,206nm,1.8s
KBS MLR MLR
comp=Z,2µm,20.0s
KBS Kingsbay 81.44 5 P **P** **19 11 21.2 -0.5**
KBS Kingsbay 81.44 5 IAMs_20 IAMs_20 19 40 48.3
comp=Z,2µm,20.0s
W39A Magazine 81.48 306 P **P** **19 11 21.9 -0.9**
W39A IAmb IAmb 19 11 31.1
comp=Z,57nm,1.6s
W39A IAMs_20 IAMs_20 19 40 06.8
comp=Z,2µm,22.0s
E38A The Farm, Brul 81.65 317 IAMs_20 IAMs_20 19 47 58.9
comp=Z,1µm,20.0s
HHAR Hobbs 81.75 307 P **P** **19 11 23.9 -0.4**
HHAR IAmb IAmb 19 11 31.6
comp=Z,46nm,1.7s
HHAR IAMs_20 IAMs_20 19 39 40.8
comp=Z,1µm,24.0s
NATX Nacogdoches 81.78 302 P **P** **19 11 24.5 +0.1**
NATX IAmb IAmb 19 11 35.6
comp=Z,22nm,0.7s
EYMN Ely 81.87 319 IAMs_20 IAMs_20 19 40 23.0
comp=Z,1µm,20.0s
SCIA State Center 82.01 312 P **P** **19 11 24.1 -1.3**
SCIA IAMs_20 IAMs_20 19 39 45.2
comp=Z,2µm,23.0s
ARU Arti 82.19 33 *c i* P **P** **19 11 26.0 -0.1**
ARU 19 14 30.0
ARU S **S** **19 21 43.4 +2.3**
ARU pmax pmax
comp=Z,29nm,1.5s
ARU MLR MLR
comp=Z,2µm,19.0s
ARU Arti 82.19 33 P **P** **19 11 25.6 -0.4**
ARU IAmb IAmb 19 11 40.8
comp=Z,35nm,0.9s
SPMN Marine on St. 82.26 316 P **P** **19 11 26.0 -0.7**
SPMN IAMs_20 IAMs_20 19 40 29.6
comp=Z,1µm,21.0s
HKT Hockley 82.58 300 P **P** **19 11 28.7 +0.1**
HKT pmax pmax
comp=Z,24nm,1.5s
HKT MLR MLR
comp=Z,1µm,19.0s
HKT Hockley 82.58 300 P **P** **19 11 28.7 +0.1**
HKT Hockley 82.58 300 IAMs_20 IAMs_20 19 52 51.2
comp=Z,1µm,19.0s
X37A Clayton 82.70 305 P **P** **19 11 29.4 +0.2**
X37A IAmb IAmb 19 13 02.8
comp=Z,59nm,1.6s
X37A IAMs_20 IAMs_20 19 42 42.0
comp=Z,1µm,20.0s
TUL1 Leonard 83.19 306 P **P** **19 11 30.7 -1.1**
TUL1 IAmb IAmb 19 11 56.7
comp=Z,61nm,1.8s
TUL1 IAMs_20 IAMs_20 19 40 46.0
comp=Z,2µm,24.0s
TULEG Thule 83.35 349 P **P** **19 11 32.1 +0.5**
TULEG IAmb IAmb 19 12 13.9
comp=Z,69nm,1.6s
SVE Sverdlovsk 83.40 32 *e*P **P** **19 11 33.7 +1.3**
SVE pmax pmax
comp=Z,32nm,0.9s
WHTX Lake Whitney, 84.17 302 P **P** **19 11 36.8 0.0**
WHTX IAmb IAmb 19 12 18.1
comp=Z,26nm,1.2s
435B Jarrell 84.17 301 P **P** **19 11 37.6 +0.8**
435B IAmb IAmb 19 11 52.6
comp=Z,72nm,1.4s
MAW Mawson 84.19 158 P **P** **19 11 37.6 +1.4**
MAW pmax pmax
comp=Z,9.0nm,1.5s
MAW Mawson 84.19 158 P **P** **19 11 36.9 +0.8**
comp=Z,4.9nm,0.7s,baz=284,slow=5.0,SNR=7.3
MAW LR LR 19 42 13.4
comp=Z,1µm,19.2s,baz=289,slow=31
MAW Mawson 84.19 158 P **P** **19 11 37.6 +1.4**
KSU1 Kansas State U 84.20 309 IAMs_20 IAMs_20 19 41 01.6
comp=Z,2µm,25.0s
FNO Franklin 84.43 305 P **P** **19 11 36.9 -1.2**
OKCFA Oklahoma City 84.48 306 P **P** **19 11 38.7 +0.3**
OKCFA IAmb IAmb 19 12 29.5
comp=Z,34nm,1.0s
OKCFA IAMs_20 IAMs_20 19 42 36.2
comp=Z,1µm,21.0s
X34A Smith Ranch, M 84.72 305 P **P** **19 11 39.2 -0.4**
X34A IAmb IAmb 19 12 05.1
comp=Z,54nm,1.5s
ECSD EROS Data Cent 84.74 314 P **P** **19 11 39.2 -0.4**
ECSD EROS Data Cent 84.74 314 IAMs_20 IAMs_20 19 43 16.4
comp=Z,1µm,22.0s
UNM Universidad Na 84.78 289 IAMs_20 IAMs_20 19 45 11.7
comp=Z,1µm,24.0s
AGMN Agassiz Nation 84.81 319 P **P** **19 11 39.6 -0.1**
AGMN IAmb IAmb 19 12 03.9
comp=Z,66nm,1.4s
AGMN IAMs_20 IAMs_20 19 45 16.9
comp=Z,1µm,19.0s
ULM Lac du Bonnet 85.09 321 P **P** **19 11 42.0 +0.9**
comp=Z,8.4nm,1.0s,baz=117,slow=5.5,SNR=7.8
ULM Lac du Bonnet 85.09 321 P **P** **19 11 41.8 +0.8**
ULM IAMs_20 IAMs_20 19 54 36.1
comp=Z,1µm,22.0s
FCC Fort Churchill 85.41 329 P **P** **19 11 42.7 +0.3**
FCC pmax pmax
comp=Z,28nm,1.4s
FCC MLR MLR
comp=Z,1µm,19.0s
FCC Fort Churchill 85.41 329 P **P** **19 11 42.7 +0.3**
FCC IAmb IAmb 19 11 54.8
comp=Z,28nm,1.4s
FCC IAMs_20 IAMs_20 19 45 20.5
comp=Z,1µm,19.0s
WMOK Wichita Mounta 85.51 305 P **P** **19 11 43.1 -0.5**
WMOK pmax pmax
comp=Z,31nm,1.3s
WMOK MLR MLR
comp=Z,2µm,20.0s
WMOK Wichita Mounta 85.51 305 P **P** **19 11 43.1 -0.5**
WMOK IAmb IAmb 19 12 09.0
comp=Z,31nm,1.2s
WMOK Wichita Mounta 85.51 305 IAMs_20 IAMs_20 19 44 30.4
comp=Z,2µm,20.0s
833A Chaparral WMA, 85.55 298 P **P** **19 11 44.4 +0.6**
833A IAmb IAmb 19 11 59.2
comp=Z,78nm,1.7s
BGNE Belgrade 85.62 312 P **P** **19 11 44.2 +0.2**
BGNE IAmb IAmb 19 12 41.1
comp=Z,41nm,1.1s
U32A Winter Ranch, 85.82 306 P **P** **19 11 45.2 +0.1**
U32A IAMs_20 IAMs_20 19 42 40.7
comp=Z,1µm,21.0s
KBL Kabul 86.00 55 P **P** **19 11 46.0 -0.3**
KBL pmax pmax
comp=Z,10.0nm,1.1s
KBL MLR MLR
comp=Z,3µm,19.0s
KBL Kabul 86.00 55 P **P** **19 11 46.0 -0.3**
JCT Junction City 86.05 301 P **P** **19 11 46.1 -0.3**
JCT pmax pmax
comp=Z,110nm,1.9s
JCT MLR MLR
comp=Z,700nm,21.0s
JCT Junction City 86.05 301 P **P** **19 11 46.1 -0.3**
ABTX Abilene, Hawle 86.06 303 P **P** **19 11 45.5 -0.9**
ABTX IAmb IAmb 19 12 03.2
comp=Z,91nm,1.6s
ABTX IAMs_20 IAMs_20 19 43 08.9
comp=Z,1µm,21.0s
CHGR Chuyangaron 86.42 51 P **P** **19 11 47.5 -0.6**
CHGR IAmb IAmb 19 12 02.8
comp=Z,28nm,0.8s
SUSD Miller 86.50 314 P **P** **19 11 48.6 +0.3**
SUSD IAMs_20 IAMs_20 19 44 20.6
comp=Z,1µm,22.0s
CBKS Cedar Bluff 86.60 309 P **P** **19 11 48.7 -0.2**
CBKS pmax pmax
comp=Z,42nm,1.0s
CBKS MLR MLR
comp=Z,2µm,25.0s
CBKS Cedar Bluff 86.60 309 P **P** **19 11 48.7 -0.2**
CBKS IAmb IAmb 19 12 13.8
comp=Z,42nm,1.0s
CBKS IAMs_20 IAMs_20 19 42 12.9
comp=Z,2µm,25.0s
MDND Maddock 87.25 318 P **P** **19 11 53.2 +1.4**
MDND IAMs_20 IAMs_20 19 43 37.5
comp=Z,1µm,22.0s
GAR Garm 87.34 51 P **P** **19 11 53.6 +0.9**
GAR IAmb IAmb 19 12 05.3
comp=Z,61nm,1.3s
DGAR Diego Garcia 87.48 97 P **P** **19 11 51.9 -1.7**
DGAR pmax pmax
comp=Z,174nm,1.5s
DGAR Diego Garcia 87.48 97 P **P** **19 11 51.9 -1.7**
KK31 Karatay Array 87.77 47 P **P** **19 11 53.8 -0.7**
KK31 pmax pmax
comp=Z,17nm,1.0s
KK31 Karatay Array 87.77 47 P **P** **19 11 53.8 -0.7**
KK31 IAmb IAmb 19 12 08.7
comp=Z,17nm,1.0s
KKAR Karatay Array 87.77 47 P **P** **19 11 53.7 -0.8**
KKAR pmax pmax
comp=Z,17nm,1.0s
KKAR Karatay Array 87.77 47 P **P** **19 11 53.7 -0.8**
KKAR IAmb IAmb 19 12 08.7
comp=Z,17nm,1.0s
BTK Batken 87.80 50 P **P** **19 11 54.8 0.0**
BTK pmax pmax
comp=Z,37nm,1.4s
BTK MLR MLR
comp=Z,2µm,18.0s
BTK Batken 87.80 50 P **P** **19 11 54.8 0.0**
BTK IAmb IAmb 19 12 07.0
comp=Z,37nm,1.4s
AMTX Amarillo 87.90 305 P **P** **19 11 54.1 -1.2**
AMTX IAmb IAmb 19 15 19.9
comp=Z,11nm,0.6s
AMTX IAMs_20 IAMs_20 19 45 15.7
comp=Z,2µm,21.0s
ZAIG Zacatecas 88.11 293 P **P** **19 11 55.6 -1.3**
ZAIG IAmb IAmb 19 12 06.4
comp=Z,42nm,2.0s
KAAM Kaadhehdhoo 88.19 89 P **P** **19 11 56.6 -0.4**
BRVK Borovoye 88.35 37 *ce*P **P** **19 11 56.0 -0.9**
BRVK pmax pmax
comp=Z,21nm,2.5s
BRVK Borovoye 88.35 37 P **P** **19 11 56.0 -0.9**
OGNE Ogallala 88.50 311 P **P** **19 11 58.2 +0.1**
OGNE IAMs_20 IAMs_20 19 46 08.1
comp=Z,2µm,20.0s
RES Resolute Bay 88.59 345 P **P** **19 11 58.5 +0.9**
RES pmax pmax
comp=Z,7.0nm,0.8s
RES Resolute Bay 88.59 345 P **P** **19 11 58.5 +0.9**
QSPA South Pole Qui 88.71 180 P **P** **19 11 59.2 +0.6**
comp=Z,21nm,1.1s,baz=171,slow=1.4,SNR=15
QSPA South Pole Qui 88.71 180 P **P** **19 11 59.2 +0.6**
QSPA South Pole Qui 88.71 180 IAMs_20 IAMs_20 19 45 23.0
comp=Z,2µm,19.0s
MSTX Muleshoe 88.76 304 P **P** **19 11 58.8 -0.7**
MSTX IAMs_20 IAMs_20 19 46 44.4
comp=Z,1µm,25.0s
KSCO Kaye Shedlock' 88.86 309 P **P** **19 11 59.9 0.0**
KSCO IAMs_20 IAMs_20 19 43 46.0
comp=Z,2µm,25.0s
FFC Flin Flon 89.25 325 P **P** **19 12 02.0 +0.9**
FFC pmax pmax
comp=Z,21nm,1.4s
FFC MLR MLR
comp=Z,2µm,19.0s
FFC Flin Flon 89.25 325 P **P** **19 12 02.0 +0.9**
TXAR Lajitas Array 89.34 299 P **P** **19 12 03.0 +0.7**
TXAR Lajitas Array 89.34 299 P **P** **19 12 03.0 +0.7**
comp=Z,0.7nm,0.7s,baz=108,slow=5.8,SNR=8.0
TXAR LR LR 19 48 39.1
comp=Z,266nm,20.8s,baz=0.0,slow=33
TX31 Lajitas Ar. Si 89.34 299 P **P** **19 12 02.5 +0.2**
TX31 IAmb IAmb 19 12 18.5
comp=Z,36nm,1.8s
TX32 Lajitas Array 89.34 299 P **P** **19 12 02.6 +0.3**
TX32 IAmb IAmb 19 12 18.4
comp=Z,36nm,1.8s
NIL Nilore 89.44 56 P **P** **19 12 03.0 +0.4**
NIL pmax pmax
comp=Z,22nm,1.1s
NIL MLR MLR
comp=Z,2µm,20.0s
NIL Nilore 89.44 56 P **P** **19 12 03.0 +0.4**
NIL IAmb IAmb 19 12 17.3
comp=Z,22nm,1.1s
ARSB Arslanbob 89.51 49 P **P** **19 12 03.8 +0.9**
RSSD Black Hills 90.12 314 IAMs_20 IAMs_20 19 46 38.6
comp=Z,1µm,22.0s
T25A Trinidad 90.20 307 P **P** **19 12 06.2 -0.1**
T25A IAmb IAmb 19 13 07.0
comp=Z,70nm,2.0s
T25A IAMs_20 IAMs_20 19 46 51.6
comp=Z,1µm,20.0s
DGMT Dagmar 90.36 318 IAMs_20 IAMs_20 19 51 08.7
comp=Z,2µm,20.0s
AAK Ala-Archa 90.67 48 P **P** **19 12 11.5 +3.1**
AAK Ala-Archa 90.67 48 *ce*P **P** **19 12 09.1 +0.8**
AAK pmax pmax
comp=Z,13nm,1.7s
AAK Ala-Archa 90.67 48 P **P** **19 12 06.8 -1.5**
AAK IAmb IAmb 19 12 21.5
comp=Z,23nm,1.2s
FRU1 Bishkek 90.78 47 IAMs_20 IAMs_20 19 58 52.5
comp=Z,1µm,20.0s
Q24A Divide 90.83 309 IAMs_20 IAMs_20 19 45 48.3

	comp=Z,1µm,22.0s								
SDCO	**Great Sand Dun**	**91.08**	**308**	P		**P**		**19 12 10.3**	**-0.2**
SDCO				IAmb		IAmb		19 12 26.0	
	comp=Z,17nm,1.1s								
SDCO				IAMs_20		IAMs_20		19 46 38.8	
	comp=Z,1µm,25.0s								
ISCO	**Idaho Springs**	**91.20**	**310**	IAMs_20		IAMs_20		19 45 25.5	
	comp=Z,2µm,25.0s								
N23A	**Red Feather La**	**91.47**	**311**	P		**P**		**19 12 12.3**	**+0.2**
N23A				IAmb		IAmb		19 12 37.7	
	comp=Z,24nm,1.4s								
LAO	**LASA Array**	**91.70**	**316**	IAMs_20		IAMs_20		19 50 32.4	
	comp=Z,1µm,20.0s								
KSH	**Kashi**	**91.75**	**51**	P		**P**		**19 12 12.8**	**-0.5**
KSH				PP		**PP**		**19 15 52.5**	**+0.4**
KSH				SKS		**SKSac**		**19 22 42.3**	**-4.2**
KSH				S		**SKKSac**		**19 23 08.5**	**+5.7**
KSH				pmax		pmax			
	comp=Z,51nm,1.3s								
NRN	**Naryn**	**91.78**	**49**	P		**P**		**19 12 12.8**	**-0.9**
NRN				pmax		pmax			
	comp=Z,17nm,1.0s								
NRN				MLR		MLR			
	comp=Z,2µm,19.0s								
NRN	**Naryn**	**91.78**	**49**	P		**P**		**19 12 12.8**	**-0.9**
NRN				IAmb		IAmb		19 12 29.0	
	comp=Z,17nm,0.9s								
ANMO	**Albuquerque**	**91.82**	**305**	*ce*P		**P**		**19 12 12.5**	**-1.4**
ANMO				pmax		pmax			
	comp=Z,7.0nm,1.3s								
ANMO	**Albuquerque**	**91.82**	**305**	P		**P**		**19 12 15.8**	**+1.9**
	comp=Z,2.0nm,0.9s,baz=118,slow=5.2,SNR=7.1								
ANMO	**Albuquerque**	**91.82**	**305**	P		P		19 12 19.8	+6.0
ANMO	**Albuquerque**	**91.82**	**305**	IAMs_20		IAMs_20		19 48 09.6	
	comp=Z,2µm,21.0s								
EPT	**El Paso**	**91.84**	**302**	IAMs_20		IAMs_20		19 47 16.2	
	comp=Z,1µm,20.0s								
S22A	**4UR Ranch, Cre**	**92.14**	**308**	P		**P**		**19 12 15.4**	**+0.1**
S22A				IAMs_20		IAMs_20		19 48 02.7	
	comp=Z,1µm,21.0s								
Y22D	**IRIS PASSCAL I**	**92.20**	**304**	IAMs_20		IAMs_20		19 46 06.7	
	comp=Z,1µm,21.0s								
KDJ	**Kajisay**	**92.66**	**48**	IAMs_20		IAMs_20		19 55 34.3	
	comp=Z,1µm,22.0s								
121A	**Cookes Peak, D**	**92.93**	**302**	IAMs_20		IAMs_20		19 47 44.0	
	comp=Z,2µm,20.0s								
TARG	**Taragay, Kyrgy**	**93.13**	**48**	IAMs_20		IAMs_20		19 58 46.3	
	comp=Z,1µm,20.0s								
KURK	**Kurchatov**	**93.46**	**39**	*i* P		**P**		**19 12 20.6**	**-0.2**
KURK				pmax		pmax			
	comp=Z,3.0nm,1.3s								
EGMT	**Eagleton**	**94.08**	**318**	IAMs_20		IAMs_20		19 51 41.6	
	comp=Z,1µm,20.0s								
BW06	**Boulder Array**	**94.14**	**313**	IAMs_20		IAMs_20		19 46 36.2	
	comp=Z,1µm,21.0s								
PDAR	**Pinedale Array**	**94.14**	**313**	P		**P**		**19 12 25.6**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=83,slow=8.3,SNR=3.0								
W18A	**Petrified Fore**	**94.51**	**305**	IAMs_20		IAMs_20		19 49 58.8	
	comp=Z,1µm,20.0s								
X18A	**Snowflake**	**94.70**	**304**	IAMs_20		IAMs_20		19 50 13.9	
	comp=Z,1µm,20.0s								
FLWY	**Flagg Ranch**	**94.92**	**314**	IAMs_20		IAMs_20		19 50 00.9	
	comp=Z,1µm,19.0s								
REDW	**Red Top Meadow**	**95.06**	**313**	IAMs_20		IAMs_20		19 50 15.8	
	comp=Z,1µm,19.0s								
IMW	**Indian Meadow**	**95.10**	**314**	IAMs_20		IAMs_20		19 50 37.5	
	comp=Z,1µm,20.0s								
TPAW	**Teton Pass**	**95.13**	**313**	IAMs_20		IAMs_20		19 48 29.2	
	comp=Z,1µm,25.0s								
FXWY	**Fox Creek**	**95.18**	**314**	IAMs_20		IAMs_20		19 50 05.5	
	comp=Z,1µm,20.0s								
AHID	**Auburn Hatcher**	**95.28**	**313**	IAMs_20		IAMs_20		19 50 04.2	
	comp=Z,1µm,20.0s								
TUC	**Tucson**	**95.47**	**302**	IAMs_20		IAMs_20		19 47 11.2	
	comp=Z,1µm,25.0s								
YKA	**Yellowknife Ar**	**95.57**	**333**	P		**P**		**19 12 30.0**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=83,slow=5.0,SNR=16								
HSIG		**95.71**	**299**	IAMs_20		IAMs_20		19 48 09.6	
	comp=Z,1µm,25.0s								
NRIK	**Noril'sk**	**95.76**	**20**	P		**P**		**19 12 31.7**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=263,slow=2.0,SNR=2.8								
NRIK				LR		LR		19 56 30.5	
	comp=Z,1µm,22.0s,baz=294,slow=36								
WUAZ	**Wupatki**	**95.84**	**305**	IAMs_20		IAMs_20		19 49 17.8	
	comp=Z,1µm,21.0s								
MAKZ	**Makanchi**	**95.90**	**43**	IAMs_20		IAMs_20		19 55 05.7	
	comp=Z,2µm,25.0s								
X16A	**Lo Mia Camp, P**	**95.94**	**304**	IAMs_20		IAMs_20		19 51 14.0	
	comp=Z,1µm,19.0s								
PALK	**Pallekele**	**96.00**	**83**	IAMs_20		IAMs_20		19 50 32.1	
	comp=Z,1µm,21.0s								
MK31	**Makanchi Array**	**96.11**	**43**	P		**P**		**19 12 32.4**	**-0.7**
MK31				pmax		pmax			
	comp=Z,5.0nm,1.2s								
MK31	**Makanchi Array**	**96.11**	**43**	P		**P**		**19 12 32.4**	**-0.7**
MKAR	**Makanchi Array**	**96.11**	**43**	P		**P**		**19 12 33.0**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=256,slow=4.3,SNR=5.3								
MKAR				PP		**PP**		**19 16 18.6**	**-7.3**
	comp=Z,3.1nm,1.0s,baz=283,slow=6.8,SNR=4.5								
MKAR				LR		LR		20 02 38.0	
	comp=Z,724nm,18.1s,baz=278,slow=40								
DLMT	**Dillon**	**96.19**	**315**	IAMs_20		IAMs_20		19 51 07.4	
	comp=Z,1µm,23.0s								
U15A	**North Rim**	**96.54**	**306**	IAMs_20		IAMs_20		19 50 38.3	
	comp=Z,1µm,21.0s								
DUG	**Dugway, Tooele**	**96.72**	**310**	IAMs_20		IAMs_20		19 49 00.5	
	comp=Z,2µm,24.0s								
ZALV	**Zalesovo Beam**	**96.99**	**36**	PP		**PP**		**19 16 26.7**	**-5.6**
	comp=Z,2.4nm,0.8s,baz=292,slow=7.8,SNR=4.5								
ZALV				LR		LR		19 58 10.5	
	comp=Z,848nm,20.7s,baz=296,slow=37								
JTMT	**Jette**	**97.14**	**318**	IAMs_20		IAMs_20		19 49 48.0	
	comp=Z,1µm,22.0s								
Y14A	**Wickenburg**	**97.26**	**304**	IAMs_20		IAMs_20		19 52 16.3	
	comp=Z,1µm,19.0s								
NEW	**Newport**	**98.97**	**319**	IAMs_20		IAMs_20		19 50 45.4	
	comp=Z,1µm,21.0s								
BMO	**Blue Mountains**	**99.56**	**315**	P		**Pdif**		**19 12 47.8**	**-0.9**
BMO				pmax		pmax			
	comp=Z,8.0nm,1.3s								
BMO				MLR		MLR			
	comp=Z,1µm,21.0s								
BMO	**Blue Mountains**	**99.56**	**315**	P		**Pdif**		**19 12 47.8**	**-0.9**
BMO				IAMs_20		IAMs_20		19 52 55.3	
	comp=Z,1µm,21.0s								
WMQ	**Urumqi**	**100.23**	**46**	*e*P		**Pdif**		**19 12 52.8**	**+1.1**
WMQ				pmax		pmax			
	comp=Z,9.0nm,1.5s								
WMQ				pmax		pmax			
	comp=Z,130nm,6.1s								
WMQ				LR		LR			
	comp=Z,980nm,18.7s								
WMQ				LR		LR			
	comp=Z,970nm,19.9s								
WMQ				LR		LR			
	comp=Z,1µm,29.1s								
B08A	**Colville Reser**	**100.41**	**319**	IAMs_20		IAMs_20		19 52 48.5	
	comp=Z,1µm,20.0s								
LZH	**Lanzhou**	**114.00**	**51**	PKP		**PKiKP**		**19 17 42.3**	**-2.8**
LZH				LR		LR			
	comp=Z,860nm,17.9s								
CD2	**Chengdu**	**115.33**	**56**	PKP		**PKiKP**		**19 17 46.5**	**-1.1**
HHC	**Hu-ho-hao-te**	**117.98**	**43**	*e*PKP		**PKiKP**		**19 17 53.0**	**+0.5**
CBJI	**Citeko**	**121.62**	**98**	P		**PKiKP**		**19 18 00.2**	**0.0**
	comp=Z,591nm,1.1s,comp=Z,5µm								
KLR	**Kul'dur**	**124.55**	**26**	*i* PKIKP		**PKPdf**		**19 18 04.2**	**-0.5**
KLR				pmax		pmax			
	comp=Z,5.0nm,1.1s								
NJ2	**Nanjing**	**127.06**	**50**	*e*PKP		**PKiKP**		**19 18 12.0**	**+1.5**
NJ2				PP		**PP**		**19 20 08.8**	**+0.8**
NJ2				SS		SS		19 37 17.8	+1.6
URZ	**Urewera**	**138.97**	**195**	IAMs_20		IAMs_20		20 08 22.3	
	comp=Z,2µm,22.0s								
SAUI	**Saumlaki**	**145.31**	**106**			**PKPbc**		**19 18 42.8**	**-1.2**
SIJI	**Sorong**	**146.37**	**94**	PKPbc		**PKPab**		**19 18 47.9**	**-0.2**
	comp=Z,12nm,0.9s,baz=124,slow=6.5,SNR=2.7								
FAKI	**Fak Fak**	**147.16**	**97**	PKP		**PKiKP**		**19 18 57.7**	**+5.7**
EIDS	**Eidsvold**	**150.28**	**154**			**PKPbc**		**19 18 54.9**	**-2.4**
CTA	**Charters Tower**	**151.96**	**140**	PKP		**PKPdf**		**19 18 56.6**	**+1.8**
	comp=Z,12nm,1.1s,baz=299,slow=19,SNR=4.7								

*MOS **28** 19:06:09.3±0.6,18°.16S×174°.47W,h42km,mb6.1/36, Error ellipse: s-maj=10.2km s-min=7.6km az=149.1*
*ISCJB **28** 19:06:11.3±0.9,18°.09S±0°.02×174°.48W±0°.02,h57km±7km, mb5.9/199,MS5.4/35,Error ellipse: s-maj=4.0km s-min=2.7km az=147.4*
*NEIC **28** 19:06:16.8±1.2, 18°.20S±0°.04×174°.32W±0°.07,h96km±3km, mb5.8/321,Mwb5.9,Mww5.9,Mwc5.9(GCMT),Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.19; Mθθ-0.08; Mφφ-2.11; Mrθ-0.33; Mθφ2.36; Mφr-8.70; Fault plane solution: Mo9.27000×10¹⁷ NP1: φs180.07000°,δ83.05000°,λ104.87000°. NP2: φs294.57000°,δ16.38000°,λ25.41000°. Principal axes: T 9.3194, Plg50.0000°, Azm106.0000°; N -0.0941, Plg15.0000°, Azm358.0000°; P -9.2253, Plg36.0000°, Azm257.0000°;*
*BJI **28** 19:06:16.0±0.0, 18°.30S×174°.40W,h90km,mb5.5/68, mB5.7/57,Ms6.0/63,Ms7 5.8/57*
*IDC **28** 19:06:17.0±0.4, 18°.19S×174°.46W,h93km±3km,mb5.3/43, mb1 5.3/44,mb1mx5.3/47,mbtmp5.6/44,MS4.9/14, Ms1 4.9/14,ms1mx4.7/33,Error ellipse: s-maj=9.9km s-min=8.2km az=166.0*
*GCMT **28** 19:06:20.8±0.1, 18°.15S±0°.01×174°.00W±0°.01, h108km,MW5.9/159,Moment Tensor Solution. s140,c288; s159,c399; Duration: 2s1 Moment tensor: Scale 10¹⁷Nm; Mrr1.33±.08; Mθθ0.40±.09; Mφφ-1.73±.09; Mrθ-0.63±.06; Mθφ-0.24±.09; Mφr-7.46±.05; Best double couple: Mo7.64400×10¹⁷ NP1:φ185.00000°,δ84.00000°, λ90.00000°. NP2:φ9.00000°,δ6.00000°,λ94.00000°. Principal axes: T 7.4310, Plg51.0000°, Azm94.0000°; N 0.4220, Plg0.0000°, Azm185.0000°; P -7.8570, Plg39.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **28** 19:06:21,18°.16S×174°.01W,h109km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.55; Mθθ0.46; Mφφ-2.02; Mrθ-0.54; Mθφ0.14; Mφr-7.69; Fault plane solution: Mo7.92000×10¹⁷ NP1:φs345.00000°, δ7.00000°,λ71.00000°. NP2:φs184.00000°,δ84.00000°, λ92.00000°. Principal axes: T 7.6976, Plg51.0000°, Azm96.0000°; N 0.4356, Plg2.0000°, Azm4.0000°; P -8.1332, Plg38.0000°, Azm272.0000°;*
*NEIC **28** 19:06:24, 18°.27S×174°.37W,h100km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.96; Mθθ0.45; Mφφ-2.41; Mrθ0.26; Mθφ0.17; Mφr-7.86; Fault plane solution: Mo8.17000×10¹⁷ NP1:φs354.00000°, δ8.00000°,λ86.00000°. NP2:φs178.00000°,δ82.00000°, λ90.00000°. Principal axes: T 7.9317, Plg53.0000°, Azm89.0000°; N 0.4603, Plg1.0000°, Azm358.0000°; P -8.3920, Plg37.0000°, Azm268.0000°:*
ISC 28 19:06:17.1±0.3,18°.27S±0°.04×174°.35W±0°.03, h101km±2km,h101km;pP-P,n1298,σ1s18/1414,mb5.8/314, 82C-35D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.27**	**102**				**Pn**	**19 07 17.1**	**-2.8**
NIUE					Sn		**Sn**	**19 08 02.2**	**-6.5**
AFI	**Afiamalu**	**4.99**	**30**	P			Pn	19 07 23.2	-6.6
AFI	**Afiamalu**	**4.99**	**30**	P			Pn	19 07 22.8	-7.0
	104nm,0.3s,baz=210,slow=3.4,SNR=63								
AFI				S			Sn	19 08 12.0	-14
	6µm,0.3s,baz=59,slow=22,SNR=15								
AFI	**Afiamalu**	**4.99**	**30**				Pn	19 07 23.2	-6.6
AFI							Sn	19 08 12.8	-14
MSVF	**Nonsavu**	**7.25**	**273**				Pn	19 08 05.5	+4.9
RAO	**Raoul Island**	**11.41**	**196**	P			Pn	19 08 50.7	-6.2
	70nm,0.3s,baz=90,slow=20,SNR=2.8								
RAO				S			Sn	19 10 50.9	-11
	84nm,0.3s,baz=287,slow=19,SNR=2.3								
GLKZ	**Green Lake**	**11.42**	**196**	P			**Pn**	**19 08 55.3**	**-1.7**
GLKZ				S			Sn	19 10 53.4	-9.2
FUNA	**Funafuti**	**11.54**	**326**	Pn			**Pn**	**19 08 58.3**	**-0.4**
RAR	**Rarotonga**	**14.03**	**104**	P			**Pn**	**19 09 29.9**	**-1.5**
RAR	**Rarotonga**	**14.03**	**104**	P			**Pn**	**19 09 29.0**	**-2.5**
	45nm,0.3s,baz=256,slow=11,SNR=51								
RAR				S			Sn	19 11 55.7	-10
	19nm,0.3s,baz=40,slow=16,SNR=3.8								
RAR				LR			LR	19 13 43.6	
	comp=Z,4µm,21.9s,baz=276,slow=32								
RAR	**Rarotonga**	**14.03**	**104**				**Pn**	**19 09 29.9**	**-1.5**
KNTN	**Kanton**	**15.61**	**10**				**Pn**	**19 09 50.1**	**-1.5**
KNTN						IAmb	IAmb	19 10 14.5	
	comp=Z,529nm,1.2s								
DZM	**Mont Dzumac**	**18.42**	**255**	P			**P**	**19 10 25.9**	**+1.1**
	comp=Z,5.1nm,0.3s,baz=79,slow=14,SNR=97								
DZM	**Mont Dzumac**	**18.42**	**255**	*e*P			**P**	**19 10 25.8**	**+1.0**
	comp=Z,524nm,1.1s								
DZM					*e*LQ		LQ	19 13 59.7	
	comp=Z,11µm,24.8s								
DZM					*e*LR		LR	19 14 46.4	
	comp=Z,23µm,31.4s								
DZM	**Mont Dzumac**	**18.42**	**255**	P			**Pn**	**19 10 26.1**	**+0.1**
DZM						IAmb	IAmb	19 10 33.1	
	comp=Z,2µm,2.0s								
OUZ	**Omahuta**	**19.99**	**210**	P			**P**	**19 10 42.2**	**+0.6**
OUZ	**Omahuta**	**19.99**	**210**	P			**P**	**19 10 42.4**	**+0.8**
GRZ	**Great Barrier**	**20.05**	**205**	P			**P**	**19 10 44.3**	**+2.1**
WCZ	**Waipu Caves**	**20.25**	**207**	P			**P**	**19 10 45.2**	**+0.9**
MXZ	**Matakaoa Point**	**20.27**	**197**	P			**P**	**19 10 45.5**	**+0.9**
MXZ				S			S	19 14 16.0	-10
MXZ	**Matakaoa Point**	**20.27**	**197**	P			**P**	**19 10 45.4**	**+0.9**
MXZ						IAmb	IAmb	19 10 50.6	
	comp=Z,432nm,1.7s								
KUZ	**Kuaotunu**	**20.38**	**203**	P			**P**	**19 10 47.2**	**+1.5**
WMGZ	**Waiomatatini S**	**20.48**	**197**	P			**P**	**19 10 47.8**	**+1.0**
WMGZ				S			**S**	**19 14 23.1**	**-7.5**
HAZ	**Te Kaha**	**20.60**	**198**	P			**P**	**19 10 48.9**	**+0.8**
PKGZ	**Pakihiroa**	**20.64**	**197**	P			**P**	**19 10 48.6**	**0.0**
PKGZ				S			S	19 14 20.2	-14
WIAZ	**Waiheke Island**	**20.65**	**205**	P			**P**	**19 10 50.4**	**+1.7**
MBAZ	**Motutapu North**	**20.72**	**205**	P			**P**	**19 10 50.7**	**+1.2**
PUZ	**Puketiti**	**20.76**	**197**	P			**P**	**19 10 48.3**	**-1.7**
PUZ				S			S	19 14 24.9	-11
RUGZ	**Raukumara Rang**	**20.83**	**198**	P			**P**	**19 10 50.9**	**+0.2**
RUGZ				S			**S**	**19 14 29.0**	**-8.5**
ETAZ	**East Tamaki Re**	**20.87**	**205**	P			**P**	**19 10 52.8**	**+1.8**
EPAZ	**Eden Park BICE**	**20.88**	**205**	P			**P**	**19 10 52.4**	**+1.3**
MKAZ	**Moumakai**	**20.91**	**204**	P			**P**	**19 10 52.7**	**+1.3**
TWGZ	**Tauwhareparae**	**20.94**	**197**	P			**P**	**19 10 53.7**	**+1.9**
WHRZ	**Whale Island**	**20.94**	**200**	P			**P**	**19 10 54.3**	**+2.4**
WTAZ	**Waiatarua**	**20.99**	**205**	P			**P**	**19 10 53.0**	**+0.6**
TGRZ	**Tauranga**	**21.06**	**201**	P			**P**	**19 10 55.6**	**+2.5**
OPRZ	**Ohinepanea**	**21.07**	**200**	P			**P**	**19 10 55.5**	**+2.3**
CNGZ	**Carnagh Statio**	**21.16**	**196**	P			**P**	**19 10 56.5**	**+2.3**
MWZ	**Matawai**	**21.21**	**198**	P			**P**	**19 10 55.8**	**+1.0**
MWZ				S			S	19 14 33.8	-11
TKGZ	**Te Karaka**	**21.22**	**197**	P			**P**	**19 10 54.5**	**-0.2**
TKGZ				S			**S**	**19 14 36.7**	**-8.2**
URZ	**Urewera**	**21.27**	**199**	P			**P**	**19 10 52.5**	**-2.8**
	comp=Z,159nm,0.3s,baz=339,slow=1.7,SNR=124								
URZ				S			**S**	**19 14 38.8**	**-7.1**
	comp=Z,21nm,0.7s,baz=240,slow=20,SNR=4.6								
URZ				LR			LR	19 17 59.4	
	comp=Z,3µm,22.0s,baz=30,slow=33								
KMRZ	**Kaimai**	**21.28**	**202**	P			**P**	**19 10 57.9**	**+2.5**
KARZ	**Kaharoa**	**21.33**	**201**	P			**P**	**19 10 58.4**	**+2.5**
TARZ	**Mount Tarawera**	**21.44**	**200**	P			**P**	**19 10 59.6**	**+2.4**
UTU	**Utuhina**	**21.49**	**201**	P			**P**	**19 11 01.0**	**+3.4**
RIGZ	**Rimuhau**	**21.49**	**197**	P			**P**	**19 10 57.8**	**+0.1**
RRRZ	**Republican Roa**	**21.53**	**200**	P			**P**	**19 10 59.4**	**+1.2**
RTZ	**Ruatahuna**	**21.64**	**199**	P			**P**	**19 10 59.7**	**+0.4**
HRRZ	**Handcock Road**	**21.65**	**200**	P			**P**	**19 11 01.7**	**+2.2**
PRGZ	**Paritu Road**	**21.66**	**197**	P			**P**	**19 11 01.5**	**+2.0**
GRRZ	**Galatos Road**	**21.67**	**201**	P			**P**	**19 11 01.3**	**+1.7**
SNGZ	**Shannon Statio**	**21.68**	**198**	P			**P**	**19 10 59.6**	**-0.1**
PRRZ	**Plateau Road**	**21.71**	**200**	P			**P**	**19 11 00.9**	**+0.9**
ALRZ	**Allen Road**	**21.79**	**200**	P			**P**	**19 11 01.5**	**+0.7**
WPRZ	**Whakapapatarin**	**21.81**	**200**	P			**P**	**19 11 02.6**	**+1.5**
KNZ	**Kokohu**	**21.81**	**197**	P			**P**	**19 11 02.8**	**+1.8**
RAHZ	**Arahi**	**21.88**	**198**	P			**P**	**19 11 01.9**	**+0.1**
KUTZ	**Kaahu Road**	**21.89**	**201**	P			**P**	**19 11 03.5**	**+1.5**
MTHZ	**Maungataniwha**	**21.90**	**199**	P			**P**	**19 11 02.1**	**0.0**
WHHZ	**Waihua**	**21.99**	**198**	P			**P**	**19 11 03.7**	**+0.7**
MRHZ	**Matea Rd**	**22.01**	**200**	P			**P**	**19 11 03.4**	**+0.2**
WATZ	**Wairara**	**22.12**	**201**	P			**P**	**19 11 05.8**	**+1.4**
ARHZ	**Aropaoanui**	**22.23**	**198**	P			**P**	**19 11 05.7**	**+0.2**
HIZ	**Hauiti**	**22.26**	**203**	P			**P**	**19 11 06.5**	**+0.7**
HIZ						IAmb	IAmb	19 11 10.2	
	comp=Z,163nm,0.7s								
RITZ	**Rihia Road**	**22.32**	**200**	P			**P**	**19 11 07.7**	**+1.2**
MCHZ	**McNeill Hill**	**22.48**	**198**	P			**P**	**19 11 08.1**	**0.0**
WTVZ	**West Tongariro**	**22.54**	**201**	P			**P**	**19 11 10.1**	**+1.3**
CKHZ	**Cape Kidnapper**	**22.57**	**197**	P			**P**	**19 11 10.2**	**+1.2**
KAHZ	**Kahuranaki**	**22.75**	**198**	P			**P**	**19 11 11.5**	**+0.6**
WPHZ	**Waipukurau**	**23.13**	**198**	P			**P**	**19 11 17.2**	**+2.7**
TARA	**Tarawa**	**23.18**	**326**	P			**P**	**19 11 13.9**	**-1.3**
TARA						IAmb	IAmb	19 11 44.6	
	comp=Z,588nm,1.4s								
PAE	**Paea**	**23.57**	**92**	*e*P			**P**	**19 11 18.7**	**0.0**
	comp=Z,92nm,1.1s								
PAE	**Paea**	**23.57**	**92**	*e*T			T	19 34 46.0	
	comp=Z,38nm,0.3s								
PPT2	**Papeete2**	**23.57**	**92**	*e*P			**P**	**19 11 19.0**	**+0.1**
	comp=Z,646nm,1.2s								
PPT2					*e*LQ		LQ	19 16 13.3	
	comp=Z,7µm,22.8s								
PPT2					*e*LR		LR	19 16 51.0	
	comp=Z,27µm,31.8s,baz=254								
PPT2	**Papeete2**	**23.57**	**92**	*e*T			T	19 34 48.6	
	comp=Z,40nm,0.4s								
PPT	**Papeete**	**23.58**	**92**	P			**P**	**19 11 18.5**	**-0.4**
PPT	**Papeete**	**23.58**	**92**	P			**P**	**19 11 19.5**	**+0.6**
	comp=Z,530nm,1.0s,baz=312,slow=3.5,SNR=25								
PPT					LR		LR	19 18 43.1	
	comp=Z,2µm,19.3s,baz=258,slow=32								
PPT	**Papeete**	**23.58**	**92**	P			**P**	**19 11 18.5**	**-0.4**
PPTF	**Pamatai, Papee**	**23.59**	**92**	P			**P**	**19 11 18.8**	**-0.2**
PPTF						IAmb	IAmb	19 11 21.4	
	comp=Z,590nm,1.0s								
TBI	**Tubuai**	**23.79**	**107**	*e*P			**P**	**19 11 21.5**	**+0.8**
	comp=Z,2µm,1.4s								
TBI					*e*LQ		LQ	19 16 12.1	
	comp=Z,7µm,33.8s								
TBI					*e*LR		LR	19 17 04.3	
	comp=Z,18µm,33.5s,baz=283								
TBI	**Tubuai**	**23.79**	**107**	*e*T			T	19 35 19.2	
	comp=Z,61nm,0.3s								
TVO	**Taravao**	**23.87**	**93**	*e*P			**P**	**19 11 21.7**	**+0.2**
	comp=Z,425nm,1.3s								
TVO	**Taravao**	**23.87**	**93**	*e*T			T	19 34 56.2	
	comp=Z,12nm,0.4s								
SNZO	**South Karori**	**24.81**	**200**	P			**P**	**19 11 29.9**	**+0.2**
QRZ	**Quartz Range**	**25.15**	**204**	P			**P**	**19 11 33.8**	**+0.9**
QRZ						IAmb	IAmb	19 11 38.4	
	comp=Z,325nm,0.7s								
BSWZ	**Blackbirch Sta**	**25.45**	**201**	P			**P**	**19 11 36.4**	**+0.9**
XMAS	**Kiritimati**	**26.16**	**41**	P			**P**	**19 11 41.3**	**-0.9**
XMAS						IAmb	IAmb	19 11 43.4	
	comp=Z,346nm,1.0s								
HNR	**Honiara**	**26.43**	**286**	P			**P**	**19 11 44.3**	**-0.4**
HNR						pmax	pmax		
	comp=Z,695nm,1.2s								
HNR	**Honiara**	**26.43**	**286**	P			**P**	**19 11 43.1**	**-1.6**
	comp=Z,203nm,0.7s,baz=192,slow=2.0,SNR=19								
HNR						LR	LR	19 21 43.4	
	comp=Z,984nm,19.2s,baz=116,slow=35								
HNR	**Honiara**	**26.43**	**286**	P			**P**	**19 11 44.0**	**-0.7**
HNR	**Honiara**	**26.43**	**286**	P			**P**	**19 11 44.3**	**-0.4**
LHI	**Lord Howe Isla**	**27.41**	**236**	P			**P**	**19 11 53.7**	**+0.5**
CRLZ	**Canterbury Las**	**27.52**	**201**	P			**P**	**19 11 54.4**	**+0.3**
CRLZ						IAmb	IAmb	19 12 13.2	
	comp=Z,255nm,1.8s								
RPZ	**Rata Peaks**	**28.20**	**203**	P			**P**	**19 12 00.3**	**+0.1**
	comp=Z,125nm,0.6s,baz=354,slow=2.3,SNR=24								
RPZ						LR	LR	19 22 31.3	
	comp=Z,1µm,21.8s,baz=26,slow=34								
RPZ	**Rata Peaks**	**28.20**	**203**	P			**P**	**19 12 00.8**	**+0.6**
RPZ						IAmb	IAmb	19 12 08.1	
	comp=Z,162nm,0.8s								
DCZ	**Deep Cove**	**31.18**	**206**	P			**P**	**19 12 27.1**	**+0.6**
DCZ						IAmb	IAmb	19 12 30.9	
	comp=Z,85nm,0.8s								
PYZ	**Puysegur Point**	**31.95**	**205**

JAY Jayapura 46.73 284 P P 19 14 36.5 0.0
JAY pmax pmax
comp=Z,53nm,0.9s
JAY Jayapura 46.73 284 P P 19 14 35.0 -1.5
comp=Z,53nm,0.9s,comp=Z,2µm
GENI Genyem 47.19 284 P P 19 14 40.0 -0.1
comp=Z,300nm,0.5s,comp=Z,6µmcomp=Z,6µm
WR0 Warramunga Arr 48.17 259 P P 19 14 46.5 -1.1
WR0 IAmb IAmb 19 14 48.5
comp=Z,124nm,0.7s
WRAB Tennant Creek 48.35 259 *ce*P P 19 14 48.1 -0.9
WRAB pmax pmax
comp=Z,299nm,0.7s
WRAB Tennant Creek 48.35 259 P P 19 14 48.0 -1.1
WRA Warramunga Arr 48.36 259 P P 19 14 47.8 -1.3
comp=Z,278nm,0.7s,baz=97,slow=7.4,SNR=1106
WRA PcP PcP 19 16 15.4 +1.1
comp=Z,13nm,0.8s,baz=100,slow=6.0,SNR=2.2
WRA S S 19 21 37.3 -4.8
comp=Z,32nm,1.0s,baz=97,slow=14,SNR=10
WRA LR LR 19 33 51.4
comp=Z,2µm,21.3s,baz=105,slow=34
AS31 Alice Springs 48.41 254 P P 19 14 48.2 -1.3
ASAR Alice Springs 48.41 254 P P 19 14 48.6 -0.9
comp=Z,1µm,0.7s,baz=94,slow=8.6,SNR=2120
ASAR ScP ScP 19 20 02.1 +2.0
comp=Z,5.9nm,1.0s,baz=79,slow=4.8,SNR=2.8
ASAR S S 19 21 39.2 -3.6
comp=Z,31nm,1.0s,baz=90,slow=16,SNR=25
SMPI Sarmi 48.77 284 P P 19 14 49.4 -2.8
comp=Z,79nm,0.9s,comp=Z,2µm
GUMO Guam 51.18 305 P P 19 15 09.9 -0.5
GUMO pmax pmax
comp=Z,480nm,1.6s
GUMO Guam 51.18 305 P P 19 15 09.9 -0.5
ANA2 Anatahan 52.24 309 P P 19 15 17.2 -1.1
SARN Sarigan 52.42 309 P P 19 15 18.1 -1.4
SARN IAmb IAmb 19 15 41.9
comp=Z,140nm,1.2s
MTN Manton Dam 52.65 268 P P 19 15 19.9 -1.5
FORT Forrest 53.35 245 P P 19 15 24.9 -1.5
SAUI Saumlaki 53.74 273 P P 19 15 29.0 -0.3
comp=Z,498nm,1.2s,comp=Z,5µmcomp=Z,6µm
SAUI Saumlaki 53.74 273 P P 19 15 29.1 -0.3
KNRA Kununurra 54.29 264 P P 19 15 32.5 -0.8
FAKI Fak Fak 54.44 280 P P 19 15 32.7 -1.8
comp=Z,50nm,1.2s,comp=Z,2µmcomp=Z,5µm
FAKI Fak Fak 54.44 280 P P 19 15 33.8 -0.7
FAKI IAmb IAmb 19 15 36.0
comp=Z,102nm,1.2s
SWI Sorong 56.09 282 P P 19 15 45.4 -0.9
SWI pmax pmax
comp=Z,171nm,0.6s
SWI Sorong 56.09 282 P P 19 15 45.5 -0.9
comp=Z,170nm,0.6s,comp=Z,2µmcomp=Z,5µm
BNDI Bandanaira 56.11 277 P P 19 15 45.1 -1.4
comp=Z,417nm,0.8s,comp=Z,7µmcomp=Z,5µm
FITZ Fitzroy Crossi 56.77 260 P P 19 15 50.2 -0.9
FITZ IAmb IAmb 19 15 54.0
comp=Z,108nm,1.0s
MSAI Masohi 57.41 278 P P 19 15 54.6 -1.1
comp=Z,70nm,0.7s,comp=Z,724nm
AAI Ambon 57.99 277 P P 19 15 59.1 -0.7
AAI pmax pmax
comp=Z,266nm,0.5s
AAI Ambon 57.99 277 P P 19 15 58.6 -1.2
comp=Z,288nm,0.4s,comp=Z,4µm
NLAI Namlea 59.17 277 P P 19 16 07.0 -1.0
comp=Z,263nm,0.8s,comp=Z,2µm
LBMI Labuha 59.68 280 P P 19 16 11.0 -0.5
comp=Z,130nm,1.1s,comp=Z,2µm
SOEI Soe 59.93 269 P P 19 16 14.0 +0.7
comp=Z,1µm,0.6s,comp=Z,13µmcomp=Z,6µm
SOEI Soe 59.93 269 P P 19 16 13.5 +0.1
TNTI Ternate 60.31 282 P P 19 16 15.1 -0.6
comp=Z,149nm,0.9s,comp=Z,2µmcomp=Z,3µm
TNTI Ternate 60.31 282 P P 19 16 15.2 -0.6
TNTI IAmb IAmb 19 16 21.9
comp=Z,149nm,1.0s
SBA Scott Base 60.33 185 P P 19 16 16.0 +1.1
SBA pmax pmax
comp=Z,78nm,1.0s
SBA Scott Base 60.33 185 P P 19 16 16.0 +1.1
SBA IAmb IAmb 19 16 19.3
comp=Z,78nm,0.9s
BATI Baumata 60.39 268 P P 19 16 17.5 +1.2
comp=Z,436nm,0.6s,baz=165,slow=2.5,SNR=54
VNDA Vanda 60.45 186 P P 19 16 17.2 +1.6
VNDA pmax pmax
comp=Z,38nm,1.0s
VNDA Vanda 60.45 186 P P 19 16 17.9 +2.3
comp=Z,38nm,1.1s,baz=10,slow=7.2,SNR=38
VNDA Vanda 60.45 186 P P 19 16 17.2 +1.6
SANI Sanana 60.61 278 P P 19 16 16.7 -1.1
comp=Z,253nm,1.0s,comp=Z,2µmcomp=Z,5µm
PSA00 Pilbara Seismi 61.55 255 P P 19 16 22.5 -1.5
MMRI Maumere 62.16 270 P P 19 16 26.8 -1.5
comp=Z,714nm,0.7s,comp=Z,6µmcomp=Z,4µm
MMRI Maumere 62.16 270 P P 19 16 27.3 -0.9
NWAO Narrogin (SRO) 62.45 242 P P 19 16 29.0 -0.9
NWAO pmax pmax
comp=Z,109nm,1.4s
NWAO Narrogin (SRO) 62.45 242 P P 19 16 29.0 -0.9
NWAO IAmb IAmb 19 16 33.0
comp=Z,109nm,1.4s
BBSI Bau Bau 62.75 273 P P 19 16 32.1 -0.1
comp=Z,28nm,0.7s,comp=Z,472nm
MNI Manado 62.91 281 P P 19 16 32.8 -0.4
MNI pmax pmax
comp=Z,179nm,0.9s
KDI Kendari 63.18 275 P P 19 16 33.5 -1.5
comp=Z,164nm,0.8s,comp=Z,2µm
KMSI Cibinong 63.40 280 P P 19 16 35.8 -0.7
comp=Z,235nm,0.8s,comp=Z,2µm
WSI Waingapu 63.73 268 P P 19 16 38.1 -0.5
comp=Z,1µm,0.6s,comp=Z,13µm
MORW Morawa 63.87 246 P P 19 16 38.3 -1.1
MORW IAmb IAmb 19 16 39.7
comp=Z,94nm,0.9s
LUWI Luwuk 63.98 278 P P 19 16 40.0 -0.3
comp=Z,355nm,1.4s,comp=Z,3µmcomp=Z,5µm
LUWI Luwuk 63.98 278 P P 19 16 39.8 -0.5
DAV Davao City (W) 64.38 287 P P 19 16 42.7 -0.2
comp=Z,102nm,0.6s,baz=0.0,slow=15
DAV Davao City (W) 64.38 287 P P 19 16 42.0 -0.9
KCP Kidapawan 64.80 287 ⇓P P 19 16 44.9 -0.8
H01W1 Cape Leeuwin H 64.83 239 P P 19 16 47.3 +2.0
baz=105,slow=10,SNR=8.2
H01W2 Cape Leeuwin H 64.85 239 P P 19 16 47.8 +2.4
baz=105,slow=10,SNR=10
H01W3 Cape Leeuwin H 64.85 239 P P 19 16 47.6 +2.2
baz=105,slow=10,SNR=6.2
APSI Ampana 65.08 278 P P 19 16 47.8 +0.3
comp=Z,244nm,1.4s,comp=Z,2µmcomp=Z,3µm
SKMP Bagumbayan, Su 65.10 286 P P 19 16 46.5 -1.1
BUTP Butuan 65.12 289 P P 19 16 47.6 -0.1
BKSI Bulukumba 65.13 273 P P 19 16 46.3 -1.5
comp=Z,117nm,0.7s,comp=Z,1µmcomp=Z,3µm
BUKP Musuan 65.18 288 P P 19 16 48.7 +0.6
MRSI Marisa 65.28 279 P P 19 16 47.7 -1.0
comp=Z,89nm,0.9s,comp=Z,1µmcomp=Z,3µm
BNSI Bone 65.42 274 P P 19 16 48.9 -0.8
comp=Z,275nm,1.1s,comp=Z,2µm
CTBH Cotabato--PC H 65.65 287 ⇓P P 19 16 51.2 +0.1
CGP Cagayan de Oro 65.74 288 ⇓P P 19 16 52.8 +1.1
SPSI Sidrap Palu 65.88 274 P P 19 16 51.2 -1.4
comp=Z,228nm,0.8s,comp=Z,1µmcomp=Z,4µm
TTSI Tana Toraja 66.11 275 P P 19 16 53.7 -0.4
comp=Z,109nm,0.9s,comp=Z,933nmcomp=Z,5µm
MSLP Maasin 66.29 290 P P 19 16 55.2 +0.1
PLAI Plampang 66.35 268 P P 19 16 54.5 -1.1
comp=Z,800nm,0.9s,comp=Z,5µmcomp=Z,4µm
BESP Borongan 66.41 292 P P 19 16 56.6 +0.7
GIRL Giralia 66.48 253 P P 19 16 56.5 +0.1
OCLP Ormoc 66.90 291 P P 19 16 59.2 +0.1
MPSI Mapaga 67.15 278 P P 19 17 00.0 -0.7
comp=Z,213nm,0.8s,comp=Z,2µmcomp=Z,4µm
TWSI Taliwang, Sumb 67.22 268 P P 19 17 00.0 -1.2
comp=Z,731nm,0.9s,comp=Z,5µm
CASY Casey 67.44 205 P P 19 17 02.3 +0.7
CASY IAmb IAmb 19 17 04.0
comp=Z,100nm,1.0s
CNP Catarman 67.48 292 P P 19 17 02.1 -0.6
RCP Roxas 68.77 291 ⇑P P 19 17 10.9 +0.1
DNP Denpasar 68.83 268 P P 19 17 12.0 +0.8
DNP pmax pmax
comp=Z,1µm,0.8s
DNP Denpasar 68.83 268 P P 19 17 10.7 -0.5
comp=Z,998nm,0.8s
IGBI Denpasar 68.85 267 P P 19 17 10.9 -0.4
comp=Z,741nm,0.8s,comp=Z,6µm
SRBI Singaraja 68.99 268 P P 19 17 11.4 -0.8
comp=Z,375nm,1.0s,comp=Z,3µm
SMKI Samarinda 69.42 277 P P 19 17 16.4 +1.5
comp=Z,166nm,0.6s,comp=Z,7µm
KBKI Kotabaru 69.50 273 P P 19 17 15.5 +0.1
comp=Z,85nm,1.1s,comp=Z,764nm
ADK Adak 69.88 358 P P 19 17 15.9 -0.9
ADK pmax pmax
comp=Z,116nm,1.1s
ADK Adak 69.88 358 P P 19 17 15.9 -0.9
ADK IAmb IAmb 19 17 20.0
comp=Z,116nm,1.1s
JAGI Jajag, Banyuwa 69.89 267 P P 19 17 16.2 -1.6
comp=Z,710nm,0.8s,comp=Z,5µmcomp=Z,4µm
JAGI Jajag, Banyuwa 69.89 267 P P 19 17 16.2 -1.6
ATKA Atka Island 70.17 0 P P 19 17 17.5 -1.1
ATKA IAmb IAmb 19 17 19.8
comp=Z,176nm,1.1s
BOAC Boac 70.37 292 P P 19 17 21.5 +0.9
KMMI Kalianget 70.47 269 P P 19 17 21.2 -0.1
comp=Z,254nm,0.8s,comp=Z,3µm
INU Inuyama 70.50 319 P P 19 17 20.2 -0.7
MJAR Matsushiro Arr 70.56 321 P P 19 17 20.9 -0.5
comp=Z,37nm,0.9s,baz=148,slow=5.7,SNR=63
MAJO Matsushiro 70.56 321 *i*P P 19 17 21.0 -0.4
MAJO pmax pmax
comp=Z,73nm,1.0s
MAJO Matsushiro 70.56 321 P P 19 17 20.7 -0.7
MAT Matsushiro 70.56 321 P P 19 17 20.9 -0.5
MAT S S 19 26 26.2 -0.9
MJB9 Matsu-Tunnel 70.56 321 P P 19 17 20.9 -0.5
TGY Tagaytay City 71.44 292 P P 19 17 27.8 +0.7
comp=Z,601nm,0.8s,baz=140,slow=7.9,SNR=3.0
JOW Kunigami 71.47 307 P P 19 17 27.0 -0.1
QSPA South Pole Qui 71.79 180 P P 19 17 29.7 +1.2
QSPA IAmb IAmb 19 17 31.9
comp=Z,176nm,1.2s
SPMM Sapulut 71.88 281 P P 19 17 31.0 +1.2
GRJI Gresik 71.92 269 P P 19 17 29.6 -0.5
comp=Z,207nm,0.9s,comp=Z,2µm
UNV Unalaska Valle 72.13 5 P P 19 17 29.7 -0.7
PWJI Pagerwojo 72.24 267 P P 19 17 30.9 -1.1
comp=Z,398nm,0.8s,comp=Z,3µm
TBJI Tambak Boyo 72.55 268 P P 19 17 33.3 -0.5
comp=Z,339nm,0.7s
KKM Kota Kinabalu 72.58 283 P P 19 17 34.0 -0.1
KKM IAmb IAmb 19 17 35.5
comp=Z,119nm,0.9s
NGJI Ngawi 72.76 268 P P 19 17 35.5 +0.5
comp=Z,393nm,0.8s,comp=Z,4µm
PCJI Pacitan 72.79 267 P P 19 17 34.8 -0.4
comp=Z,2µm,0.7s,comp=Z,12µm
JNU Nakatsue 73.11 314 P P 19 17 37.0 +0.3
JNU IAmb IAmb 19 17 39.3
comp=Z,84nm,0.8s
WOJI Wonogiri, Jawa 73.13 267 P P 19 17 36.9 -0.4
comp=Z,409nm,0.8s,comp=Z,3µm
SNCC San Nicolas Is 73.22 46 P P 19 17 37.9 +0.5
baz=234
UGM Wanagama 73.49 267 P P 19 17 39.1 -0.3
comp=Z,792nm,0.7s,comp=Z,7µm
UGM Wanagama 73.49 267 P P 19 17 39.2 -0.3
ASAJ Asahikawa 73.50 329 LR LR 19 45 48.1
comp=Z,993nm,20.2s,baz=132,slow=32
SCZ2 Santa Cruz Isl 73.58 45 P P 19 17 40.6 +1.1
baz=234,SNR=11
SCI2 San Clemente I 73.73 46 P P 19 17 41.1 +0.7
baz=235,SNR=10.0
YOGI Yogyakarta 73.73 267 P P 19 17 38.7 -2.1
comp=Z,444nm,1.0s,comp=Z,3µm
SBC Santa Barbara 73.79 45 P P 19 17 41.8 +1.1
baz=234
SMRI Semarang 73.82 268 P P 19 17 41.1 -0.2
comp=Z,597nm,0.7s
SMRI Semarang 73.82 268 P P 19 17 41.2 -0.2
PKM Mcpherson Peak 73.99 44 P P 19 17 43.2 +1.1
baz=234,SNR=13
BLG Laguna Peak, P 74.03 45 P P 19 17 42.5 +0.4
baz=234,SNR=5.8
CIS Catalina Islan 74.06 46 P P 19 17 42.6 +0.3
baz=235,SNR=8.5
SMMC Simmler 74.12 44 P P 19 17 44.0 +1.3
baz=233,SNR=5.3
FMP Fort Macarthur 74.33 46 P P 19 17 44.3 +0.5
baz=235
HOPS Hopland Field 74.46 39 P P 19 17 44.9 +0.5
HOPS IAmb IAmb 19 17 47.8
comp=Z,327nm,1.4s
OSI Osito Audit: C 74.56 45 P P 19 17 46.1 +0.9
baz=234
DECC Green Verdugo 74.61 45 P P 19 17 46.0 +0.5
baz=235
PASC Pasadena Art C 74.66 46 P P 19 17 46.1 +0.3
PASC IAmb IAmb 19 17 47.8
comp=Z,58nm,0.8s
109C Camp Elliot, M 74.68 47 P P 19 17 46.5 +0.6
baz=236
109C Camp Elliot, M 74.68 47 P P 19 17 46.1 +0.2
109C IAmb IAmb 19 17 48.1
comp=Z,141nm,1.5s
PET Petropavlovsk 74.75 343 *e*P P 19 17 46.1 +0.3
PET *e*S S 19 27 14.5 +0.7
PET *e*PS PnS 19 28 00.5 -1.9
PET *e*SS SS 19 32 05.6 +1.5
PET pmax pmax
comp=Z,161nm,1.4s
PET MLR MLR
comp=Z,2µm,20.0s
PET Petropavlovsk 74.75 343 P P 19 17 46.0 +0.3
PET IAmb IAmb 19 17 47.1
comp=Z,280nm,1.4s
MWC Mount Wilson 74.78 46 P P 19 17 46.4 -0.2
MWC pmax pmax
comp=Z,82nm,0.9s
MWC Mount Wilson 74.78 46 P P 19 17 46.4 -0.2
MWC IAmb IAmb 19 17 48.8
comp=Z,82nm,0.8s
ARVC Arvin 74.78 44 P P 19 17 47.0 +0.6
baz=234,SNR=8.1
BAR Barrett 74.87 48 P P 19 17 47.0 0.0
STKI Sintang 75.00 275 P P 19 17 48.7 +0.5
comp=Z,293nm,0.8s,comp=Z,3µm
MURC Murrieta 75.02 47 P P 19 17 48.5 +0.6
baz=236,SNR=16
VES Vestal, Richgr 75.03 44 P P 19 17 48.4 +0.6
baz=234,SNR=18
BFSC Mount Baldy Ra 75.06 46 P P 19 17 48.5 +0.4
baz=235,SNR=19
SBUM Sibu 75.08 278 P P 19 17 50.0 +1.4
SBUM Sibu 75.08 278 P P 19 17 49.0 +0.4
PEA0B Petropavlovsk- 75.08 343 P P 19 17 47.3 -0.4
PEA0B pmax pmax
comp=Z,204nm,1.2s
PEA0B Petropavlovsk- 75.08 343 P P 19 17 47.3 -0.4
PEA0B IAmb IAmb 19 17 48.6
comp=Z,204nm,1.2s
PETK Petropavlovsk- 75.08 343 PKIKP pP 19 18 12.0 -1.1
PETK Petropavlovsk- 75.08 343 P P 19 17 48.0 +0.3
PETK Petropavlovsk- 75.08 343 P P 19 17 48.0 +0.3
comp=Z,81nm,0.7s,baz=103,slow=9.3,SNR=115
PETK pP pP 19 18 12.0 -1.1
comp=Z,66nm,1.1s,baz=101,slow=7.5,SNR=1.6
PETK Petropavlovsk- 75.08 343 pP 19 18 12.0 -1.1
VOG Valley Oaks Go 75.12 43 P P 19 17 48.6 +0.3
baz=234
MONP2 Monument Peak 75.16 48 P P 19 17 49.6 +0.8
baz=236,SNR=40
KPJI Karang Pucung 75.17 267 P P 19 17 48.6 -0.5
comp=Z,296nm,0.9s,comp=Z,2µm
EDW2 Edwards Air Fo 75.20 45 P P 19 17 49.5 +0.6
baz=235,SNR=61
IKP In-Ko-Pah, Jac 75.25 48 P P 19 17 50.0 +0.8
baz=237,SNR=39
KHMM Horse Mountain 75.28 37 P P 19 17 50.2 +0.9
LPIG La Paz 75.31 58 P P 19 17 50.6 +1.0
comp=Z,20nm,0.3s,baz=98,slow=2.9,SNR=9.5
SRIG Santa Rosalia 75.33 54 P P 19 17 50.1 +0.5
ISA Isabella, Lake 75.33 44 P P 19 17 50.7 +1.0
baz=234,SNR=82
ISA Isabella, Lake 75.33 44 P P 19 17 50.3 +0.7
ISA pmax pmax
comp=Z,503nm,1.8s
ISA Isabella, Lake 75.33 44 P P 19 17 50.3 +0.7
NACB Ninganchiao 75.36 302 P P 19 17 49.9 -0.1
NACB IAmb IAmb 19 17 51.0
comp=Z,152nm,1.0s
O02D Mt. Diablo Mer 75.38 38 P P 19 17 51.3 +1.4
baz=230,SNR=39
CMJI Cimerak 75.50 266 P P 19 17 48.0 -3.0
comp=Z,212nm,1.0s,comp=Z,2µm
CMB Columbia Colle 75.51 41 P P 19 17 50.6 0.0
CMB pmax pmax
comp=Z,72nm,0.9s
CMB Columbia Colle 75.51 41 P P 19 17 50.6 0.0
CMB IAmb IAmb 19 17 53.5
comp=Z,72nm,0.9s
PFO Pinyon Flats O 75.53 47 P P 19 17 51.5 +0.6
baz=236,SNR=26
PFO Pinyon Flats O 75.53 47 *i*P P 19 17 51.2 +0.3
PFO Pinyon Flats O 75.53 47 P P 19 17 51.5 +0.6
comp=Z,22nm,0.8s,baz=246,slow=4.6,SNR=41
PFO Pinyon Flats O 75.53 47 P P 19 17 51.4 +0.6
YSS Yuzh-Sakhalins 75.53 331 ⇓*e*P P 19 17 50.9 +0.5
YSS *e* 19 18 12.8
YSS *e*S S 19 27 22.7 -0.1
YSS *e* 19 28 02.5
YSS pmax pmax
comp=Z,110nm,0.8s
YSS Yuzh-Sakhalins 75.53 331 P P 19 17 50.7 +0.4
YSS IAmb IAmb 19 17 52.2
comp=Z,95nm,0.8s
XPFO Pion Flat 75.53 47 P P 19 17 51.4 +0.5
BBRC Big Bear Solar 75.58 46 P P 19 17 52.0 +0.7
baz=236
SWSC Sam W. Stewart 75.62 48 P P 19 17 51.8 +0.5
baz=237,SNR=13
SSLB Suanglung 75.70 301 P P 19 17 51.7 -0.2
SSLB IAmb IAmb 19 17 53.9
comp=Z,175nm,1.3s
AFDM Forest Hills D 75.70 40 P P 19 17 52.2 +0.5
TPUB Ta-pu 75.74 301 P P 19 17 51.5 -0.7
LRMC Laurel Mtn Rad 75.75 45 P P 19 17 52.8 +0.7
baz=235,SNR=33
YHNB Yeheng 75.77 302 P P 19 17 52.3 0.0
YHNB IAmb IAmb 19 17 57.0
comp=Z,108nm,0.9s
WDC Whiskeytown Da 75.78 38 P P 19 17 52.2 +0.2
WDC pmax pmax
comp=Z,574nm,1.9s
WDC Whiskeytown Da 75.78 38 P P 19 17 52.2 +0.2
TATO Taipei 75.82 303 P P 19 17 52.8 +0.3
RRX Edison Barstow 75.87 46 P P 19 17 53.2 +0.6
baz=236,SNR=5.6
N02D Trinity Center 75.94 38 P P 19 17 54.3 +1.3
baz=230,SNR=53
O03E Paynes Creek 76.04 39 P P 19 17 54.0 +0.4
baz=231,SNR=49
CWC Cottonwood Cre 76.04 44 P P 19 17 54.6 +0.8
baz=234
BELC Belle Mtn. Jos 76.07 47 P P 19 17 54.6 +0.6
baz=236,SNR=50
MDPB Devils Postpil 76.09 42 P P 19 17 54.6 +0.4
MDPB IAmb IAmb 19 17 57.3
comp=Z,94nm,1.1s
M02C Callahan 76.12 37 P P 19 17 55.2 +1.2
baz=230,SNR=36
CISI Cisompet, Garu 76.16 267 P P 19 17 52.9 -2.0
comp=Z,248nm,0.8s,comp=Z,3µmcomp=Z,3µm
CISI Cisompet, Garu 76.16 267 P P 19 17 53.8 -1.0
CISI IAmb IAmb 19 17 54.9
comp=Z,204nm,0.9s
L02E Cave Junction 76.19 36 P P 19 17 55.4 +1.1
baz=229,SNR=14
MPMC Manual Prospec 76.21 44 P P 19 17 55.5 +0.7
baz=235,SNR=98
GSC Goldstone, Bar 76.24 45 P P 19 17 55.5 +0.6
baz=236,SNR=52
GSC Goldstone, Bar 76.24 45 P P 19 17 55.0 +0.1
GSC pmax pmax
comp=Z,106nm,1.2s
GSC Goldstone, Bar 76.24 45 P P 19 17 55.0 +0.1
GSC IAmb IAmb 19 17 57.2
comp=Z,106nm,1.1s
MLAC Mammoth, Mammo 76.25 42 P P 19 17 56.0 +0.9
baz=234,SNR=11
KEBM Edson Butte 76.25 35 P P 19 17 55.0 +0.2
KEBM IAmb IAmb 19 17 58.2
comp=Z,187nm,1.2s
BC3 Big Chuckawall 76.26 47 P P 19 17 56.0 +1.0
baz=237,SNR=42
DAC Darwin (Calif) 76.27 44 P P 19 17 58.3 +3.2
DAC pmax pmax
comp=Z,120nm,1.3s
HEC Hector,Ludlow 76.29 46 P P 19 17 55.6 +0.4
baz=236,SNR=54
TIN Tinemaha, Big 76.30 43 P P 19 17 56.2 +1.0
baz=234,SNR=11
GLA Glamis 76.37 48 P P 19 17 56.9 +1.3
baz=237,SNR=9.3
YBH Yreka Blue Hor 76.42 37 P P 19 17 56.6 +0.9
YBH pmax pmax
comp=Z,138nm,0.8s
YBH Yreka Blue Hor 76.42 37 P P 19 17 56.6 +0.9
YBH IAmb IAmb 19 17 58.6
comp=Z,138nm,0.8s
K02D Willamette Mer 76.50 36 P P 19 17 57.1 +0.9
baz=229,SNR=16
LEM Lembang 76.56 267 P P 19 17 57.6 +0.4
comp=Z,442nm,0.8s,baz=58,slow=4.9,SNR=91
KSM Kuching 76.56 276 P P 19 17 58.0 +0.9
KSM Kuching 76.56 276 P P 19 17 57.7 +0.7
PNTR Pine Nut 76.64 41 P P 19 17 57.6 +0.4
PNTR IAmb IAmb 19 18 00.3
comp=Z,186nm,0.7s
BEKR Beckworth 76.64 40 P P 19 17 57.4 +0.3
J01E Myrtle Point 76.66 35 P P 19 17 57.9 +1.0
baz=229,SNR=7.0
VCNR Virginia City 76.73 41 P P 19 17 58.4 +0.7
VCNR IAmb IAmb 19 18 00.2
comp=Z,91nm,0.8s
GMRC Granite Mounta 76.73 46 P P 19 17 58.3 +0.7
baz=236,SNR=46
IRM Iron Mountain 76.74 47 P P 19 17 58.7 +1.1
baz=237,SNR=75
GRAC Grapevine Rang 76.83 44 P P 19 17 59.1 +1.0
baz=235,SNR=89
HUMO Hull Mountain 76.84 36 P P 19 17 58.7 +0.7
HUMO IAmb IAmb 19 18 01.8
comp=Z,92nm,1.1s
FURC Furnace Creek, 76.86 44 P P 19 17 59.0 +0.9
baz=235,SNR=26
CNJI Cibinong 76.88 267 P P 19 17 57.6 -1.2
comp=Z,278nm,0.9s,comp=Z,2µmcomp=Z,3µm
TUQ Turquoise Moun 76.91 46 P P 19 17 59.4 +0.7
baz=236,SNR=51
SHOC Shoshone, Teco 76.93 45 P P 19 17 59.4 +0.8
baz=236
M04C Macdoel 76.95 38 P P 19 17 59.7 +0.9
baz=231,SNR=36
Y12C Blythe 76.96 48 P P 19 17 59.7 +0.9
baz=237,SNR=25
Y12C Blythe 76.96 48 P P 19 17 59.6 +0.7
L04D Klamath Falls 76.97 37 P P 19 17 59.8 +0.9
baz=230,SNR=23
113A Mohawk Valley, 76.97 49 P P 19 17 59.4 +0.5
113A IAmb IAmb 19 18 01.6
comp=Z,73nm,0.9s
RYN Ryan 77.03 42 P P 19 17 59.8 +0.5
NVAR Mina Array Bea 77.06 42 P P 19 18 00.3 +0.7
comp=Z,54nm,0.7s,baz=225,slow=8.9,SNR=137
PAHR Pah Rah Range 77.14 40 P P 19 18 00.0 +0.1
HSIG 77.16 53 P P 19 18 00.4 +0.3
214A Organ Pipe Nat 77.24 50 P P 19 18 01.4 +0.9
baz=239
214A Organ Pipe Nat 77.24 50 P P 19 18 01.0 +0.5
214A IAmb IAmb 19 18 03.3
comp=Z,165nm,1.4s
I02D Swisshome 77.33 35 P P 19 18 01.5 +0.9
baz=229
I03D Drain, OR 77.33 35 P P 19 18 01.5 +0.8
baz=229,SNR=15
TJN Taejon 77.34 315 *ce*P P 19 18 01.0 +0.1
NEE2 Needles Airpor 77.44 47 P P 19 18 02.4 +0.9
baz=237,SNR=8.4
DBJI Dramaga 77.47 267 P P 19 18 01.5 -0.6
comp=Z,350nm,0.9s,comp=Z,4µm
SKJI Sukabumi 77.52 267 P P 19 18 01.6 -0.8

comp=Z,471nm,0.7s,comp=Z,4µm
K04D Chiloquin, OR 77.54 37 P **P** **19 18 02.8 +0.8**
baz=230,SNR=6.7
TPNV Topopah Spring 77.54 44 P **P** **19 18 03.1 +0.9**
baz=236,SNR=71
TPNV Topopah Spring 77.54 44 P **P** **19 18 02.9 +0.7**
TPNV pmax pmax
comp=Z,61nm,1.0s
TPNV Topopah Spring 77.54 44 P **P** **19 18 02.9 +0.7**
KVN Kaiserville 77.55 42 P **P** **19 18 02.6 +0.4**
KVN pmax pmax
comp=Z,583nm,2.0s
KVN Kaiserville 77.55 42 P **P** **19 18 02.6 +0.4**
KSRS Korea Array 77.58 316 P **P** **19 18 03.5 +1.3**
comp=Z,41nm,1.0s,baz=133,slow=6.3,SNR=62
KS19 Wonju Array Si 77.64 316 P **P** **19 18 03.0 +0.4**
KS19 lAmb lAmb 19 18 06.2
comp=Z,101nm,1.2s
J04D Umpqua Nationa 77.73 36 P **P** **19 18 03.9 +0.7**
baz=230,SNR=32
TPI Tanjungpandan 77.75 271 P **P** **19 18 04.2 +0.5**
comp=Z,162nm,0.8s,comp=Z,2µm
KDAK Kodiak Island 77.90 12 P **P** **19 18 03.6 +0.1**
KDAK pmax pmax
comp=Z,521nm,2.0s
KDAK Kodiak Island 77.90 12 P **P** **19 18 03.6 +0.1**
KDAK lAmb lAmb 19 18 09.3
comp=Z,522nm,1.9s
I04A Tendick Farm, 77.92 36 P **P** **19 18 04.1 +0.2**
baz=230,SNR=19
MOD Modoc Plateau 77.93 38 P **P** **19 18 04.2 0.0**
SHPR Sheep Range 78.02 45 P **P** **19 18 05.0 +0.1**
SHPR lAmb lAmb 19 18 07.7
comp=Z,545nm,2.0s
Y14A Wickenburg 78.13 48 P **P** **19 18 06.0 +0.5**
QZH Quanzhou 78.14 301 ⇑*i*P **P** **19 18 07.5 +1.9**
QZH pP **pP** **19 18 33.3 +2.2**
QZH sP **sP** **19 18 43.8 +2.1**
QZH S **S** **19 27 52.5 +0.4**
QZH pmax pmax
comp=Z,84nm,1.1s
QZH pmax pmax
comp=Z,680nm,7.7s
QZH LR LR
comp=Z,940nm,14.9s
QZH LR LR
comp=Z,2µm,16.2s
QZH LR LR
comp=Z,2µm,16.6s
SBJI Serang 78.18 267 P **P** **19 18 05.5 -0.6**
comp=Z,416nm,1.0s,comp=Z,5µm
H04D Lebanon 78.21 35 P **P** **19 18 06.3 +0.7**
baz=230,SNR=13
J05D Fort Rock, OR 78.25 37 P **P** **19 18 07.0 +1.0**
baz=231,SNR=76
G03D McMinnville, O 78.37 34 P **P** **19 18 07.2 +0.8**
baz=229,SNR=6.7
INCN Inchon 78.45 316 P **P** **19 18 06.8 -0.2**
INCN pmax pmax
comp=Z,126nm,1.2s
INCN Inchon 78.45 316 P **P** **19 18 06.8 -0.2**
INCN lAmb lAmb 19 18 09.7
comp=Z,126nm,1.2s
H04A Detroit Lake 78.61 35 P **P** **19 18 08.1 +0.3**
PINE Pine Mountain 78.74 36 P **P** **19 18 09.2 +0.5**
PINE lAmb lAmb 19 18 11.4
comp=Z,126nm,0.8s
R11A Troy Canyon, C 78.76 43 P **P** **19 18 09.6 +0.6**
baz=236,SNR=77
I05D Terrebonne, OR 78.86 36 P **P** **19 18 09.7 +0.6**
baz=231,SNR=22
TUC Tucson 78.90 51 P **P** **19 18 11.3 +1.5**
baz=240
TUC Tucson 78.90 51 P **P** **19 18 10.8 +1.0**
TUC pmax pmax
comp=Z,101nm,1.1s
TUC Tucson 78.90 51 P **P** **19 18 10.8 +1.0**
TUC lAmb lAmb 19 18 12.9
comp=Z,101nm,1.1s
SSE Sheshan 78.98 308 P **P** **19 18 10.3 +0.3**
SSE S **S** **19 27 59.3 -1.5**
SSE pmax pmax
comp=Z,19nm,0.8s
SSE pmax pmax
comp=Z,280nm,4.9s
SSE LR LR
comp=Z,1µm,15.8s
SSE LR LR
comp=Z,2µm,15.3s
F04D Rainier, OR 79.08 34 P **P** **19 18 10.8 +0.6**
baz=229
USA0B Ussuriysk Arra 79.14 324 P **P** **19 18 10.7 +0.1**
USA0B pmax pmax
comp=Z,64nm,1.4s
USA0B Ussuriysk Arra 79.14 324 P **P** **19 18 10.7 +0.1**
USRK Ussuriysk Ar. 79.14 324 P **P** **19 18 11.6 +1.0**
comp=Z,6.3nm,0.6s,baz=88,slow=6.6,SNR=15
USRK LR LR 19 46 58.4
comp=Z,2µm,21.6s,baz=40,slow=31
WVOR Wild Horse Val 79.23 39 P **P** **19 18 11.9 +0.5**
WVOR pmax pmax
comp=Z,125nm,1.1s
WVOR Wild Horse Val 79.23 39 P **P** **19 18 11.9 +0.5**
WVOR lAmb lAmb 19 18 14.4
comp=Z,125nm,1.1s
BLSI Bandar Lampung 79.25 268 P **P** **19 18 10.7 -1.2**
comp=Z,225nm,0.7s,comp=Z,2µm
F04A Amboy 79.29 34 P **P** **19 18 11.3 -0.1**
F04A lAmb lAmb 19 18 14.3
comp=Z,445nm,1.9s
G05D Wamic, OR 79.44 35 P **P** **19 18 12.7 +0.4**
baz=230,SNR=12
NLWA Neilton Lookou 79.50 32 P **P** **19 18 12.9 +0.3**
LCMT Little Creek M 79.58 45 P **P** **19 18 14.0 +0.6**
E04D Cinebar 79.62 33 P **P** **19 18 14.0 +0.8**
baz=229,SNR=14
F05D White Salmon 79.78 34 P **P** **19 18 14.4 +0.3**
baz=230,SNR=9.5
KNB Kanab 79.87 46 P **P** **19 18 15.5 +0.5**
KNB pmax pmax
comp=Z,272nm,1.5s
KNB Kanab 79.87 46 P **P** **19 18 15.5 +0.5**
KASI Kota Agung 79.91 267 P **P** **19 18 14.2 -1.3**
comp=Z,420nm,0.9s,comp=Z,3µm
D04E Lakebay 79.92 33 P **P** **19 18 15.7 +0.9**
baz=229,SNR=6.0
D03D Eldon 79.99 32 P **P** **19 18 15.8 +0.7**
baz=229,SNR=16
WUAZ Wupatki 80.09 48 P **P** **19 18 17.4 +1.2**
baz=239
WUAZ Wupatki 80.09 48 P **P** **19 18 16.7 +0.5**
WUAZ lAmb lAmb 19 18 20.1
comp=Z,240nm,1.6s
LON Longmire 80.14 34 P **P** **19 18 15.5 -0.6**
LON pmax pmax
comp=Z,31nm,1.0s
LON Longmire 80.14 34 P **P** **19 18 15.5 -0.6**
D05A Enumclaw 80.33 33 P **P** **19 18 17.6 +0.6**
RSO Redoubt South 80.38 11 P **P** **19 18 16.8 -0.4**
PMBI Palembang 80.43 270 P **P** **19 18 18.9 +0.5**
comp=Z,393nm,1.0s
PMBI Palembang 80.43 270 P **P** **19 18 18.9 +0.5**
LWLI Liwa 80.48 268 P **P** **19 18 17.5 -1.2**
comp=Z,194nm,0.7s,comp=Z,5µm
MDSI Maura Dua 80.52 268 P **P** **19 18 17.5 -1.3**
comp=Z,138nm,0.8s,comp=Z,2µm
X18A Snowflake 80.61 49 P **P** **19 18 19.4 +0.3**
X18A lAmb lAmb 19 18 22.2
comp=Z,158nm,1.6s
F07A Phinny Hill Vi 80.61 35 P **P** **19 18 18.8 +0.2**
F07A lAmb lAmb 19 18 20.8
comp=Z,63nm,0.8s
SEW Seward 80.67 12 P **P** **19 18 18.2 -0.3**
SEW lAmb lAmb 19 18 30.1
comp=Z,126nm,1.2s
HKPS Hong Kong Po S 80.70 297 P **P** **19 18 19.4 -0.1**
HKPS lAmb lAmb 19 18 23.2
comp=Z,137nm,0.9s
MDJ Mudanjiang 80.75 323 P **P** **19 18 20.0 +0.7**
MDJ PcP **PcP** **19 18 25.0 -0.7**
MDJ pP pP 19 18 45.5 +0.5
MDJ sP sP 19 19 00.5 +4.8
MDJ PP **PP** **19 21 25.0 +0.1**
MDJ S **S** **19 28 19.3 +0.4**
MDJ sS sS 19 29 07.0 +4.6
MDJ pmax pmax
comp=Z,700nm,8.3s
MDJ LR LR
comp=Z,2µm,17.8s
MDJ LR LR
comp=Z,4µm,14.9s
MDJ LR LR
comp=Z,7µm,16.4s
MDJ Mudanjiang 80.75 323 P **P** **19 18 19.2 -0.1**
G08A Pilot Rock 80.78 36 P **P** **19 18 19.4 -0.2**
G08A lAmb lAmb 19 18 21.9
comp=Z,92nm,0.9s
BBB Bella Bella 80.84 27 P **P** **19 18 20.2 +0.6**
comp=Z,22nm,0.8s,baz=260,slow=3.8,SNR=10
BBB pP **pP** **19 18 44.4 -1.1**
comp=Z,20nm,0.9s,baz=275,slow=7.4,SNR=2.0
A04D Lummi Island 80.96 32 P **P** **19 18 21.0 +0.7**
baz=229,SNR=11
B05A Bryant 80.97 32 P **P** **19 18 21.0 +0.6**
baz=230,SNR=20
W18A Petrified Fore 81.05 49 P **P** **19 18 22.5 +1.1**
baz=240
LTY Liberty 81.07 34 P **P** **19 18 21.2 +0.2**
LTY lAmb lAmb 19 18 22.9
comp=Z,158nm,1.6s
MOIG Morelia 81.08 66 P **P** **19 18 21.6 -0.3**
MOIG lAmb lAmb 19 18 26.1
comp=Z,364nm,2.0s
ZAIG Zacatecas 81.12 63 P **P** **19 18 22.8 +0.7**
ZAIG lAmb lAmb 19 18 25.9
comp=Z,108nm,1.1s
HAWA Hanford 81.14 35 P **P** **19 18 21.4 +0.1**
NJ2 Nanjing 81.18 308 ⇓P **P** **19 18 22.5 +0.6**
NJ2 sP **sP** **19 18 59.0 +0.9**
NJ2 S **S** **19 28 21.5 -2.4**
NJ2 SS **SS** **19 33 40.5 -1.2**
NJ2 pmax pmax
comp=Z,57nm,1.1s
NJ2 pmax pmax
comp=Z,300nm,3.8s
NJ2 LR LR
comp=Z,3µm,14.7s
NJ2 LR LR
comp=Z,4µm,15.6s
NJ2 LR LR
comp=Z,5µm,15.2s
GRNR Gornyy 81.18 331 ⇓*i*P **P** **19 18 21.8 +0.3**
GRNR *e*S **S** **19 28 28.4 +5.2**
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR smax smax
comp=N,5.0nm,1.3s
121A Cookes Peak, D 81.23 52 P **P** **19 18 24.1 +1.7**
baz=242,SNR=39
121A Cookes Peak, D 81.23 52 P **P** **19 18 22.8 +0.5**
121A lAmb lAmb 19 18 25.8
comp=Z,85nm,1.1s
C06D Leavenworth 81.37 33 P **P** **19 18 22.6 0.0**
baz=230,SNR=8.8
BMO Blue Mountains 81.45 37 P **P** **19 18 22.9 -0.2**
BMO pmax pmax
comp=Z,62nm,0.9s
BMO Blue Mountains 81.45 37 P **P** **19 18 22.9 -0.2**
B06A Marblemount 81.45 32 P **P** **19 18 22.5 -0.3**
E08A Dider Farm, El 81.45 35 P **P** **19 18 23.0 +0.1**
E08A lAmb lAmb 19 18 26.1
comp=Z,434nm,1.9s
MFID Camas Ranch 81.48 39 P **P** **19 18 23.6 +0.2**
MFID lAmb lAmb 19 18 25.6
comp=Z,372nm,2.0s
RC01 Rabbit Creek A 81.52 12 P **P** **19 18 22.8 -0.2**
DUG Dugway, Tooele 81.57 43 P **P** **19 18 24.4 +0.4**
baz=238
DUG Dugway, Tooele 81.57 43 P **P** **19 18 24.3 +0.4**
DUG pmax pmax
comp=Z,52nm,1.2s
DUG Dugway, Tooele 81.57 43 P **P** **19 18 24.2 +0.3**
SUA Susitna One 81.67 11 P **P** **19 18 23.4 -0.6**
GZH Guangzhou 81.70 298 P **P** **19 18 25.0 +0.2**
GZH S **S** **19 28 28.5 -1.1**
GZH LR LR
comp=Z,1µm,18.0s
GZH LR LR
comp=Z,2µm,15.5s
MNAI Manna 81.72 268 P **P** **19 18 24.7 -0.5**
comp=Z,616nm,0.8s,comp=Z,6µmcomp=Z,3µm
MNAI Manna 81.72 268 P **P** **19 18 24.7 -0.5**
GAMB Gambell 81.80 1 P **P** **19 18 24.7 +0.3**
DLV T Lat 81.81 285 P **P** **19 18 25.9 +0.1**
DLV lAmb lAmb 19 18 28.3
comp=Z,171nm,1.1s
BGU Big Grassy Mou 81.82 42 P **P** **19 18 25.3 0.0**
TPRI Tanjung Pinang 81.86 274 P **P** **19 18 26.2 +0.3**
comp=Z,220nm,0.9s,comp=Z,2µm
GLI Glacier Island 81.87 13 P **P** **19 18 24.6 -0.3**
GLI lAmb lAmb 19 18 28.3
comp=Z,125nm,0.9s
NLU North Lily Min 81.92 43 P **P** **19 18 26.4 +0.5**
PMSA Palmer Station 81.94 156 P **P** **19 18 26.6 +1.3**
comp=Z,43nm,0.9s,baz=238,slow=7.4
PMSA Palmer Station 81.94 156 *e*P **P** **19 18 27.7 +2.4**
PMSA Palmer Station 81.94 156 *e*P **P** **19 18 27.7 +2.4**
PMSA Palmer Station 81.94 156 P **P** **19 18 25.8 +0.5**
Q16A Castle Valley 81.98 45 P **P** **19 18 26.9 +0.7**
SKT Skwentna 82.01 11 P **P** **19 18 24.7 -0.9**
KNK Knik Glacier 82.07 12 P **P** **19 18 25.3 -0.6**
PMR Palmer 82.10 12 P **P** **19 18 25.8 -0.2**
PMR pmax pmax
comp=Z,61nm,1.2s
PMR Palmer 82.10 12 P **P** **19 18 25.8 -0.2**
F10A Beach Ranch, E 82.16 36 P **P** **19 18 26.9 0.0**
F10A lAmb lAmb 19 18 28.6
comp=Z,126nm,0.8s
MPU Maple Canyon 82.24 44 P **P** **19 18 27.7 +0.1**
KSI Kapahiang 82.28 269 P **P** **19 18 27.3 -0.9**
comp=Z,362nm,0.8s,comp=Z,3µm
GHO Glory Hole Cre 82.30 12 P **P** **19 18 27.1 -0.1**
GHO lAmb lAmb 19 18 27.9
comp=Z,59nm,0.8s
KLR Kul'dur 82.43 328 *i*P **P** **19 18 28.2 +0.2**
KLR pmax pmax
comp=Z,11nm,1.0s
KLR Kul'dur 82.43 328 P **P** **19 18 28.2 +0.2**
comp=Z,8.5nm,0.7s,baz=117,slow=4.0,SNR=13
HVU Hansel Valley 82.44 42 P **P** **19 18 28.7 +0.2**
HVU pmax pmax
comp=Z,77nm,0.9s
HVU Hansel Valley 82.44 42 P **P** **19 18 28.7 +0.2**
B08A Colville Reser 82.46 33 P **P** **19 18 28.0 -0.3**
SRU San Rafael Swe 82.51 45 P **P** **19 18 29.3 +0.3**
SRU pmax pmax
comp=Z,572nm,2.0s
SRU San Rafael Swe 82.51 45 P **P** **19 18 29.3 +0.3**
DL2 Dalian 82.54 315 P **P** **19 18 30.0 +1.2**
DL2 sP **sP** **19 19 09.5 +4.4**
DL2 S **S** **19 28 40.5 +2.9**
DL2 pmax pmax
comp=Z,79nm,1.0s
DL2 pmax pmax
comp=Z,810nm,5.8s
Y22D IRIS PASSCAL I 82.59 51 P **P** **19 18 30.9 +1.4**
baz=242
LLLB Lillooet 82.61 31 P **P** **19 18 28.9 -0.1**
MA2 Magadan 82.62 343 P **P** **19 18 28.9 +0.1**
comp=Z,33nm,0.6s,baz=159,slow=4.6,SNR=7.8
MA2 Magadan 82.62 343 P **P** **19 18 28.2 -0.5**
MNTX Cornudas Mount 82.66 53 P **P** **19 18 31.0 +1.4**
baz=243,SNR=64
MNTX Cornudas Mount 82.66 53 P **P** **19 18 30.6 +0.9**
MNTX lAmb lAmb 19 18 32.8
comp=Z,166nm,1.4s
C09A Chrisman Ranch 82.68 34 P **P** **19 18 29.1 -0.3**
SCM Sheep Creek Mo 82.68 13 P **P** **19 18 28.6 -0.6**
SCM pmax pmax
comp=Z,56nm,0.7s
SCM Sheep Creek Mo 82.68 13 P **P** **19 18 28.6 -0.6**
SCM lAmb lAmb 19 18 29.9
comp=Z,56nm,0.7s
CN2 Changchun 82.71 321 *e*PKP **P** **19 18 28.3 -1.3**
CN2 Changchun 82.71 321 *e*P **P** **19 18 30.0 +0.4**
CN2 *e*S **S** **19 28 40.5 +1.4**
CN2 pmax pmax
comp=Z,50nm,1.7s
CN2 pmax pmax
comp=Z,300nm,5.0s
MYKOM Kota Tinggi 82.78 274 P **P** **19 18 32.0 +1.3**
MYKOM Kota Tinggi 82.78 274 P **P** **19 18 30.6 -0.1**
MYKOM lAmb lAmb 19 18 32.7
comp=Z,109nm,0.8s
SNY Shenyang 82.79 318 ⇓P **P** **19 18 30.0 0.0**
SNY pP **pP** **19 18 58.8 +3.1**
SNY SKS **S** **19 28 41.5 +1.6**
SNY pmax pmax
comp=Z,73nm,2.1s
SNY pmax pmax
comp=Z,690nm,4.7s
SNY LR LR
comp=Z,1µm,10.9s
SNY LR LR
comp=Z,950nm,11.4s
SNY LR LR
comp=Z,3µm,15.7s
ANM Nome 82.86 4 P **P** **19 18 30.0 +0.1**
ANM pmax pmax
comp=Z,14nm,0.8s
ANM Nome 82.86 4 P **P** **19 18 30.0 +0.1**
LPM Los Pinos Moun 82.91 51 P **P** **19 18 32.0 +0.8**
MVCO Mesa Verde 82.95 47 P **P** **19 18 32.3 +1.0**
baz=241
MVCO Mesa Verde 82.95 47 P **P** **19 18 31.9 +0.5**
TX31 Lajitas Ar. Si 82.95 56 P **P** **19 18 32.8 +1.4**
TX31 lAmb lAmb 19 18 35.0
comp=Z,366nm,1.8s
TXAR Lajitas Array 82.96 56 P **P** **19 18 32.7 +1.3**
comp=Z,15nm,0.8s,baz=217,slow=9.1,SNR=78
TXAR pP **pP** **19 18 56.7 -0.6**
comp=Z,14nm,1.2s,baz=218,slow=5.9,SNR=1.9
VRDI Verde Repeater 83.00 14 P **P** **19 18 30.6 -0.4**
GLB Gilahina Butte 83.11 14 P **P** **19 18 30.7 -0.6**
HWUT Hardware Ranch 83.12 42 P **P** **19 18 32.0 -0.1**
QIZ Qiongzhong 83.14 293 P **P** **19 18 30.8 -1.6**
QIZ sP **sP** **19 19 11.5 +2.7**
QIZ S **S** **19 28 44.8 +0.3**
QIZ sS **sS** **19 29 30.3 +2.0**
QIZ pmax pmax
comp=Z,590nm,6.5s
QIZ LR LR
comp=Z,910nm,15.7s
QIZ LR LR
comp=Z,1µm,16.2s
QIZ LR LR
comp=Z,2µm,26.0s
GO09 Cerro Castillo 83.21 142 P **P** **19 18 32.7 +0.5**
GO10 Punta Arenas 83.27 144 P **P** **19 18 32.9 +0.3**
GO10 lAmb lAmb 19 18 37.5
comp=Z,162nm,1.1s
BARN Barnard Glacie 83.30 15 P **P** **19 18 32.5 0.0**
BARN lAmb lAmb 19 18 39.2
comp=Z,165nm,1.5s
ANMO Albuquerque 83.33 50 P **P** **19 18 34.7 +1.4**
baz=242
ANMO Albuquerque 83.33 50 *i*P **P** **19 18 34.1 +0.8**
ANMO pmax pmax
comp=Z,151nm,1.6s
ANMO Albuquerque 83.33 50 P **P** **19 18 34.2 +0.9**
ANMO lAmb lAmb 19 18 36.4
comp=Z,181nm,1.5s
NEW Newport 83.58 34 P **P** **19 18 33.8 -0.2**
baz=233,SNR=18
NEW Newport 83.58 34 P **P** **19 18 33.4 -0.6**
NEW pmax pmax
comp=Z,152nm,2.0s
NEW Newport 83.58 34 P **P** **19 18 33.4 -0.6**
NEW lAmb lAmb 19 18 35.5
comp=Z,152nm,2.0s
TRF Thorofare Moun 83.59 11 P **P** **19 18 33.4 -0.6**
TRF lAmb lAmb 19 18 34.7
comp=Z,63nm,0.7s
SKAG Skagway 83.74 19 P **P** **19 18 34.0 -0.5**
SKAG lAmb lAmb 19 18 37.8
comp=Z,198nm,1.7s
KRJI Kerinci 83.83 270 P **P** **19 18 34.8 -1.4**
comp=Z,266nm,1.0s,comp=Z,3µm
RDMU Red Mountain 83.88 44 P **P** **19 18 36.4 +0.3**
WHN Wuhan 83.96 305 ⇓P **P** **19 18 37.3 +1.0**
WHN pP **pP** **19 19 00.0 -2.1**
WHN S **S** **19 28 54.0 +1.7**
WHN pmax pmax
comp=Z,190nm,1.3s
WHN LR LR
comp=Z,2µm,12.2s
WHN LR LR
comp=Z,5µm,15.1s
WHN LR LR
comp=Z,6µm,15.0s
AHID Auburn Hatcher 84.02 41 P **P** **19 18 36.9 +0.3**
AHID lAmb lAmb 19 18 39.6
comp=Z,136nm,1.1s
MCMT McKenzie Canyo 84.05 39 P **P** **19 18 37.3 +0.5**
USHA Ushuaia 84.06 146 P **P** **19 18 38.3 +1.8**
comp=Z,28nm,0.9s,baz=261,slow=6.2,SNR=10
PAX Paxson 84.09 13 P **P** **19 18 35.8 -0.6**
PAX pmax pmax
comp=Z,58nm,1.3s
PAX Paxson 84.09 13 P **P** **19 18 35.8 -0.6**
MCK McKinley 84.10 11 P **P** **19 18 35.9 -0.4**
MCK pmax pmax
comp=Z,96nm,0.9s
MCK McKinley 84.10 11 P **P** **19 18 35.9 -0.4**
MCK lAmb lAmb 19 18 38.8
comp=Z,96nm,0.9s
PAYG Puerto Ayora 84.15 89 P **P** **19 18 37.8 0.0**
PAYG lAmb lAmb 19 18 46.1
comp=Z,79nm,1.0s
SDSI Sungai Dareh 84.22 271 P **P** **19 18 37.0 -1.1**
comp=Z,75nm,0.9s,comp=Z,4µm
S22A 4UR Ranch, Cre 84.37 47 P **P** **19 18 39.8 +1.1**
baz=242,SNR=86
S22A 4UR Ranch, Cre 84.37 47 P **P** **19 18 39.3 +0.7**
TIA Tai'an 84.38 311 P **P** **19 18 39.0 +0.7**
TIA S **S** **19 28 55.5 -0.7**
TIA pmax pmax
comp=Z,37nm,1.0s
TIA LR LR
comp=Z,2µm,13.5s
TIA LR LR
comp=Z,2µm,15.7s
TIA LR LR
comp=Z,2µm,17.1s
MENT Mentasta 84.44 14 P **P** **19 18 38.0 0.0**
MSO Missoula 84.51 37 P **P** **19 18 38.6 -0.3**
baz=236,SNR=35
MSO Missoula 84.51 37 P **P** **19 18 38.3 -0.6**
MSO lAmb lAmb 19 18 41.3
comp=Z,216nm,1.7s
O20A White River Ci 84.55 45 P **P** **19 18 39.5 +0.1**
baz=241,SNR=32
O20A White River Ci 84.55 45 P **P** **19 18 39.8 +0.4**
O20A lAmb lAmb 19 18 41.7
comp=Z,237nm,1.6s
SNOW Snow King Moun 84.60 41 P **P** **19 18 39.8 +0.2**
SNOW lAmb lAmb 19 18 42.8
comp=Z,106nm,0.9s
DLBC Dease Lake 84.69 22 P **P** **19 18 39.8 +0.3**
comp=Z,32nm,1.0s,baz=114,slow=0.4,SNR=3.5
MOOW Moose Ponds 84.75 41 P **P** **19 18 40.3 0.0**
MOOW lAmb lAmb 19 18 42.6
comp=Z,170nm,1.8s
MAW Mawson 84.80 199 P **P** **19 18 40.5 +0.5**
comp=Z,73nm,0.8s,baz=122,slow=7.4,SNR=95
MAW Mawson 84.80 199 P **P** **19 18 40.8 +0.9**
JTMT Jette 84.83 36 P **P** **19 18 40.3 -0.3**
WHY Whitehorse 84.83 18 P **P** **19 18 40.6 +0.4**
QLMT Earthquake Lak 84.90 39 P **P** **19 18 41.8 +0.8**
WRH Wood River Hil 84.92 11 P **P** **19 18 39.9 -0.5**
WRH lAmb lAmb 19 19 09.9
comp=Z,126nm,1.0s
FLWY Flagg Ranch 84.95 40 P **P** **19 18 41.7 +0.4**
FLWY lAmb lAmb 19 18 44.8
comp=Z,134nm,1.0s
BKNI Bangkinang 84.98 272 P **P** **19 18 41.1 -0.8**
comp=Z,234nm,1.2s,comp=Z,3µmcomp=Z,3µm
BKNI Bangkinang 84.98 272 P **P** **19 18 41.9 0.0**
MLY Manley 84.98 10 P **P** **19 18 39.7 -1.1**
BW06 Boulder Array 85.00 42 P **P** **19 18 41.4 -0.2**
baz=240,SNR=38
BW06 Boulder Array 85.00 42 P **P** **19 18 41.4 -0.2**
BW06 lAmb lAmb 19 18 43.3
comp=Z,143nm,1.6s
PD31 Pinedale Array 85.00 42 P **P** **19 18 41.5 -0.1**
PD31 lAmb lAmb 19 18 43.3

comp=Z,129nm,1.6s
PDAR Pinedale Array 85.00 42 P **P** **19 18 41.5 -0.1**
comp=Z,21nm,0.7s,baz=209,slow=3.4,SNR=106
PDAR pP **pP** **19 19 07.3 -0.4**
comp=Z,26nm,0.9s,baz=224,slow=4.1,SNR=6.5
PDAR PP **PP** **19 21 54.8 -5.3**
comp=Z,3.9nm,1.1s,baz=258,slow=4.5,SNR=5.0
PDAR PKKPbc **PKKPbc** **19 36 49.5 -1.0**
comp=Z,2.0nm,0.8s,baz=97,slow=3.9,SNR=13
SEY Seymchan 85.05 345 *i* P **P** **19 18 41.4 +0.4**
SEY Seymchan 85.05 345 P **P** **19 18 40.8 -0.2**
comp=Z,69nm,0.9s,baz=142,slow=7.2,SNR=9.3
SEY pP **pP** **19 19 06.7 -0.3**
comp=Z,45nm,1.1s,baz=135,slow=5.9,SNR=2.2
SEY PKKP **PKKPdf** **19 36 44.0 +0.7**
comp=Z,1.7nm,0.5s,baz=336,slow=20,SNR=1.7
YHL Hebgen Lake 85.06 40 P **P** **19 18 43.0 +1.1**
HDA Harding Lake 85.08 12 P **P** **19 18 40.7 -0.5**
baz=206,SNR=43
HDA Harding Lake 85.08 12 P **P** **19 18 40.7 -0.5**
HDA IAmb IAmb 19 18 42.5
comp=Z,85nm,0.8s
CCB Clear Creek Bu 85.14 11 P **P** **19 18 40.7 -0.8**
CCB IAmb IAmb 19 18 41.9
comp=Z,76nm,0.7s
PDSI Padang 85.15 271 P **P** **19 18 41.6 -1.2**
comp=Z,67nm,0.9s,comp=Z,668nmcomp=Z,2µm
H17A Grant Village 85.19 40 P **P** **19 18 44.3 +1.7**
baz=239,SNR=49
H17A Grant Village 85.19 40 P **P** **19 18 43.7 +1.1**
H17A IAmb IAmb 19 18 46.8
comp=Z,57nm,0.8s
SCRK Sand Creek 85.29 13 P **P** **19 18 42.2 -0.2**
SDCO Great Sand Dun 85.30 48 P **P** **19 18 43.6 +0.2**
baz=243,SNR=25
SDCO Great Sand Dun 85.30 48 P **P** **19 18 43.5 +0.1**
SDCO IAmb IAmb 19 18 45.8
comp=Z,113nm,1.9s
TCOL CIGO, UAF Kank 85.33 11 P **P** **19 18 41.6 -0.8**
baz=205,SNR=38
COLA College 85.33 11 *i* P **P** **19 18 41.6 -0.8**
COLA pmax pmax
comp=Z,105nm,0.7s
COLA College 85.33 11 P **P** **19 18 42.0 -0.4**
MDM Murphy Dome 85.34 11 P **P** **19 18 41.8 -0.7**
MDM IAmb IAmb 19 19 11.9
comp=Z,94nm,1.2s
YUF Upper Falls 85.40 40 P **P** **19 18 44.5 +0.9**
IL31 85.42 11 P **P** **19 18 42.1 -0.7**
IL31 IAmb IAmb 19 18 45.4
comp=Z,106nm,1.4s
ILAR Eielson Array 85.42 11 P **P** **19 18 42.7 -0.2**
comp=Z,19nm,0.6s,baz=223,slow=6.3,SNR=83
ILAR pP **pP** **19 19 08.5 -0.6**
comp=Z,29nm,1.0s,baz=213,slow=6.4,SNR=5.0
ILAR S **SKSac** **19 28 57.3 -1.1**
comp=Z,0.9nm,1.0s,baz=259,slow=4.4,SNR=5.5
ILAR PKKP **PKKPdf** **19 36 43.2 +0.5**
comp=Z,0.6nm,0.7s,baz=339,slow=1.6,SNR=8.2
MSTX Muleshoe 85.62 52 P **P** **19 18 45.7 +0.9**
baz=245,SNR=56
MSTX Muleshoe 85.62 52 P **P** **19 18 45.1 +0.3**
MSTX IAmb IAmb 19 18 47.5
comp=Z,128nm,0.8s
POKR Poker Plat Res 85.63 11 P **P** **19 18 43.2 -0.8**
baz=206,SNR=38
CMIG Matias Romero 85.69 71 P **P** **19 18 45.9 +0.6**
comp=Z,21nm,0.8s,baz=248,slow=4.4,SNR=18
UBPT Khong Chiam 85.71 288 P **P** **19 18 47.7 +2.3**
comp=Z,22nm,1.0s
UBPT Khong Chiam 85.71 288 P **P** **19 18 45.4 -0.1**
WALA Waterton Lakes 85.77 35 P **P** **19 18 45.1 0.0**
WALA IAmb IAmb 19 18 48.0
comp=Z,298nm,1.9s
T25A Trinidad 85.80 49 P **P** **19 18 46.0 +0.3**
baz=243,SNR=9.4
T25A Trinidad 85.80 49 P **P** **19 18 45.6 -0.2**
YNE Yellowstone No 85.86 40 P **P** **19 18 46.2 +0.4**
833A Chaparral WMA, 85.96 59 P **P** **19 18 47.6 +1.2**
baz=247,SNR=14
833A Chaparral WMA, 85.96 59 P **P** **19 18 47.6 +1.2**
833A IAmb IAmb 19 18 50.1
comp=Z,102nm,0.9s
RWWY Rawlins 85.98 44 P **P** **19 18 46.6 0.0**
RWWY IAmb IAmb 19 18 49.5
comp=Z,315nm,1.9s
Q24A Divide 86.10 47 P **P** **19 18 47.1 -0.2**
ISCO Idaho Springs 86.17 46 P **P** **19 18 47.7 +0.2**
baz=242,SNR=11
ISCO Idaho Springs 86.17 46 P **P** **19 18 47.8 +0.2**
ISCO pmax pmax
comp=Z,9.0nm,0.8s
ISCO Idaho Springs 86.17 46 P **P** **19 18 47.8 +0.2**
IPM Ipoh 86.30 276 P **P** **19 18 48.6 +0.1**
SISI Saibi 86.32 270 P **P** **19 18 47.5 -1.1**
comp=Z,65nm,1.4s
PRP Porcupine Dome 86.35 12 P **P** **19 18 47.4 -0.3**
PRP IAmb IAmb 19 18 55.0
comp=Z,55nm,0.9s
RLMT Red Lodge 86.36 40 P **P** **19 18 48.8 +0.5**
baz=240,SNR=30
RLMT Red Lodge 86.36 40 P **P** **19 18 48.3 0.0**
RLMT IAmb IAmb 19 18 50.8
comp=Z,161nm,1.9s
DAWY Dawson 86.41 15 P **P** **19 18 47.7 -0.2**
DAWY IAmb IAmb 19 18 51.8
comp=Z,56nm,0.9s
N23A Red Feather La 86.45 45 P **P** **19 18 49.3 +0.4**
baz=242,SNR=10
N23A Red Feather La 86.45 45 P **P** **19 18 48.7 -0.2**
GCMT Greycliff 86.46 39 P **P** **19 18 49.1 +0.5**
JCT Junction City 86.48 56 P **P** **19 18 49.7 +0.7**
baz=246,SNR=15
JCT Junction City 86.48 56 P **P** **19 18 49.4 +0.4**
JCT pmax pmax
comp=Z,441nm,2.0s
JCT Junction City 86.48 56 P **P** **19 18 49.4 +0.4**
RDOG Red Dog Mine 86.48 4 P **P** **19 18 47.8 -0.3**
EGAK Eagle 86.61 14 P **P** **19 18 48.9 +0.2**
BJT Baijiatuan 86.78 314 P **P** **19 18 50.5 +0.3**
BJT pmax pmax
comp=Z,189nm,1.6s
BJT Baijiatuan 86.78 314 P **P** **19 18 50.5 +0.3**
BJT IAmb IAmb 19 18 53.9
comp=Z,189nm,1.6s
AMTX Amarillo 86.83 52 P **P** **19 18 51.2 +0.5**
baz=245
AMTX Amarillo 86.83 52 P **P** **19 18 51.0 +0.4**
AMTX IAmb IAmb 19 18 53.2
comp=Z,302nm,1.9s
K22A Casper 86.89 43 P **P** **19 18 50.8 0.0**
baz=242
K22A Casper 86.89 43 P **P** **19 18 50.6 -0.2**
KULM Kulim 86.91 277 P **P** **19 18 52.1 +0.7**
KULM IAmb IAmb 19 18 53.9
comp=Z,104nm,0.9s
PHWY Pilot Hill 86.96 45 P **P** **19 18 51.0 -0.4**
COLD Coldfoot 87.10 9 P **P** **19 18 51.1 0.0**
BILL Bilibino 87.22 353*ce*P **P** **19 18 51.6 0.0**
BILL pmax pmax
comp=Z,62nm,0.9s
BILL Bilibino 87.22 353 P **P** **19 18 51.2 -0.4**
BILL IAmb IAmb 19 18 57.7
comp=Z,64nm,1.0s
FYU Fort Yukon 87.34 11 P **P** **19 18 51.8 -0.4**
ZEA Zeya 87.41 330 *eP* **P** **19 18 53.3 +0.4**
ZEA pmax pmax
comp=N,58nm,1.2s
ZEA pmax pmax
comp=Z,85nm,1.2s
ZEA pmax pmax
comp=Z,500nm,5.0s
ABTX Abilene, Hawle 87.46 55 P **P** **19 18 54.7 +1.1**
baz=246
ABTX Abilene, Hawle 87.46 55 P **P** **19 18 54.1 +0.4**
SKLT Songkhla 87.53 278 P **P** **19 18 57.0 +2.6**
EGMT Eagleton 87.55 37 P **P** **19 18 54.0 +0.2**
baz=239
EGMT Eagleton 87.55 37 P **P** **19 18 54.0 +0.2**
EGMT IAmb IAmb 19 18 56.8
comp=Z,99nm,1.6s
SKNT Sakolnakorn 87.63 289 P **P** **19 18 57.2 +2.4**
ENH Enshi 87.69 303 P **P** **19 18 55.3 +0.4**
ENH IAmb IAmb 19 18 58.7
comp=Z,137nm,1.0s
RPSI Rantau Prapat 87.73 274 P **P** **19 18 55.6 +0.3**

PSI Prapat 87.76 274 P **P** **19 18 55.5 -0.1**
comp=Z,172nm,0.9s,baz=159,slow=3.5,SNR=77
KSCO Kaye Shedlock' 87.89 48 P **P** **19 18 55.6 -0.1**
baz=244
KSCO Kaye Shedlock' 87.89 48 P **P** **19 18 55.2 -0.5**
KSCO IAmb IAmb 19 19 30.5
comp=Z,61nm,1.2s
GO06 Curarrehue 88.04 131 P **P** **19 18 57.6 +1.0**
GO06 IAmb IAmb 19 19 00.4
comp=Z,43nm,0.9s
PLCA Paso Flores 88.26 132 P **P** **19 18 58.0 +0.5**
PLCA pmax pmax
comp=Z,103nm,1.8s
PLCA Paso Flores 88.26 132 P **P** **19 18 59.1 +1.6**
comp=Z,15nm,1.0s,baz=269,slow=5.3,SNR=16
PLCA pP **pP** **19 19 24.4 +0.8**
comp=Z,12nm,1.1s,baz=230,slow=12,SNR=2.7
PLCA LR LR 19 50 16.3
comp=Z,598nm,20.5s,baz=288,slow=30
PLCA Paso Flores 88.26 132 *eP* **P** **19 18 59.0 +1.4**
PLCA Paso Flores 88.26 132 *eP* **P** **19 18 59.0 +1.4**
PLCA Paso Flores 88.26 132 P **P** **19 18 58.0 +0.5**
PLCA IAmb IAmb 19 19 29.7
comp=Z,103nm,1.8s
435B Jarrell 88.36 57 P **P** **19 18 59.2 +1.2**
baz=248,SNR=8.7
TIY Taiyuan 88.41 311 *eP* **P** **19 18 59.3 +1.2**
TIY S **S** **19 29 31.8 -3.7**
TIY pmax pmax
comp=Z,30nm,0.7s
TIY LR LR
comp=Z,1µm,13.0s
TIY LR LR
comp=Z,4µm,16.5s
TIY LR LR
comp=Z,4µm,17.2s
TOLK Toolik Lake Re 88.50 9 P **P** **19 18 57.8 +0.1**
baz=203
TOLK Toolik Lake Re 88.50 9 P **P** **19 18 57.9 +0.1**
GSI Gunungsitoli 88.58 272 P **P** **19 19 00.6 +1.2**
comp=Z,332nm,1.0s,comp=Z,5µm
GSI Gunungsitoli 88.58 272 P **P** **19 19 00.6 +1.2**
GYA Guiyang 88.59 298 ‖ *iP* **P** **19 19 00.5 +1.2**
GYA pP pwP 19 19 26.5 +1.2
GYA sP sP 19 19 37.0 +1.1
GYA PP **PP** **19 22 35.5 +6.2**
GYA SKS **SKSac** **19 29 20.8 +1.1**
GYA S **S** **19 29 36.8 -0.9**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,190nm,6.1s
GYA LR LR
comp=Z,1µm,18.4s
GYA LR LR
comp=Z,760nm,18.5s
GYA LR LR
comp=Z,490nm,18.5s
NONG Nongkai 88.75 289 P **P** **19 19 02.4 +2.4**
WHTX Lake Whitney, 88.92 56 P **P** **19 19 01.6 +1.1**
baz=248,SNR=27
WHTX Lake Whitney, 88.92 56 P **P** **19 19 01.2 +0.6**
HIA Hailar 88.93 323 *i* P **P** **19 19 00.4 +0.2**
HIA pmax pmax
comp=Z,102nm,1.1s
HIA Hailar 88.93 323 P **P** **19 19 00.3 +0.1**
WMOK Wichita Mounta 88.95 53 P **P** **19 19 00.5 -0.1**
baz=247
WMOK Wichita Mounta 88.95 53 P **P** **19 19 00.1 -0.6**
WMOK pmax pmax
comp=Z,14nm,1.2s
WMOK Wichita Mounta 88.95 53 P **P** **19 19 00.1 -0.6**
EPYK Eagle Plains 88.96 14 P **P** **19 18 59.5 -0.4**
EPYK IAmb IAmb 19 19 05.9
comp=Z,54nm,1.2s
LAO LASA Array 88.98 40 P **P** **19 19 01.3 +0.7**
baz=242
LAO LASA Array 88.98 40 P **P** **19 19 00.6 0.0**
LAO IAmb IAmb 19 19 03.4
comp=Z,69nm,1.1s
CHAI Chaiyaphum 89.08 287 P **P** **19 19 04.2 +2.6**
PATY Pattaya 89.14 284 P **P** **19 19 05.9 +4.0**
SLVN Son La 89.17 293 P **P** **19 19 02.5 +0.4**
RSSD Black Hills 89.17 43 P **P** **19 19 01.9 +0.1**
baz=243
RSSD Black Hills 89.17 43 P **P** **19 19 01.3 -0.4**
RSSD pmax pmax
comp=Z,31nm,1.1s
RSSD Black Hills 89.17 43 P **P** **19 19 01.3 -0.4**
GO05 Huala 89.41 127 P **P** **19 19 03.5 +0.5**
GO05 IAmb IAmb 19 19 34.6
comp=Z,94nm,1.3s
U32A Winter Ranch, 89.43 51 P **P** **19 19 03.2 +0.3**
U32A IAmb IAmb 19 19 06.9
comp=Z,48nm,0.9s
HKT Hockley 89.46 58 P **P** **19 19 03.3 +0.3**
HKT pmax pmax
comp=Z,393nm,1.9s
HKT Hockley 89.46 58 P **P** **19 19 03.3 +0.3**
XAN Xi'an 89.57 306 P **P** **19 19 04.5 +0.9**
XAN SS SS 19 35 44.3 -0.9
XAN pmax pmax
comp=Z,56nm,2.1s
XAN pmax pmax
comp=Z,580nm,4.9s
XAN LR LR
comp=Z,2µm,14.9s
XAN LR LR
comp=Z,2µm,11.9s
XAN LR LR
comp=Z,2µm,16.3s
XAN Xi'an 89.57 306 P **P** **19 19 04.2 +0.6**
XAN pmax pmax
comp=Z,221nm,1.5s
XAN Xi'an 89.57 306 P **P** **19 19 04.2 +0.6**
X34A Smith Ranch, M 89.62 53 P **P** **19 19 04.2 +0.4**
X34A IAmb IAmb 19 19 07.0
comp=Z,87nm,1.1s
SYO Syowa Base 89.62 192 ‖ *iP* **P** **19 19 02.6 -0.6**
SYO Syowa Base 89.62 192 ‖ *i*PcP **P** **19 19 04.2 +1.0**
SYO Syowa Base 89.62 192 ‖ *ep*P pP 19 19 29.0 -0.4
SURT Suratani 89.81 279 P **P** **19 19 08.2 +3.1**
comp=Z,76nm,1.3s,comp=Z,1µm
CBKS Cedar Bluff 89.86 49 P **P** **19 19 05.0 +0.2**
baz=246
CBKS Cedar Bluff 89.86 49 P **P** **19 19 05.1 +0.2**
CBKS pmax pmax
comp=Z,31nm,1.0s
CBKS Cedar Bluff 89.86 49 P **P** **19 19 05.1 +0.2**
SNAA Sanae 90.10 177 P **P** **19 19 05.9 +0.4**
SNAA Sanae 90.10 177 *i* P **P** **19 19 06.2 +0.7**
SNAA Sanae 90.10 177 P **P** **19 19 05.9 +0.4**
SNAA IAmb IAmb 19 19 07.6
comp=Z,50nm,1.1s
SNSI Sinabang, Aceh 90.11 272 P **P** **19 19 07.4 +0.9**
comp=Z,277nm,1.2s,comp=Z,5µm
PBKT Sadao Pong 90.22 287 P **P** **19 19 09.1 +2.2**
PBKT Sadao Pong 90.22 287 P **P** **19 19 08.4 +1.5**
PBKT IAmb IAmb 19 19 12.0
comp=Z,136nm,1.8s
PHET Kaeng Krachan 90.28 283 P **P** **19 19 11.1 +3.8**
HHC Hu-ho-hao-te 90.31 313 *eP* **P** **19 19 07.8 +0.8**
HHC S **S** **19 29 55.3 +2.2**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,270nm,5.0s
HHC LR LR
comp=Z,940nm,16.2s
HHC LR LR
comp=Z,1µm,16.2s
HHC LR LR
comp=Z,1µm,15.3s
VNA2 Neumayer--Watz 90.58 176 P **P** **19 19 08.5 +0.9**
baz=193,slow=3.1
MLSI Meulaboh, Aceh 90.61 274 P **P** **19 19 09.6 +0.7**
comp=Z,219nm,0.8s,comp=Z,8µm
VNA1 Neumayer--Stat 90.78 175 P **P** **19 19 09.9 +1.4**
ROC1 El Roble 90.88 125 *i* P **P** **19 19 11.9 +1.8**
PHIT Phitsanulok 90.92 288 P **P** **19 19 12.8 +2.6**
UTTA Uttaradit 90.97 288 P **P** **19 19 12.6 +2.2**
DGMT Dagmar 91.02 39 P **P** **19 19 10.4 +0.4**
baz=243
DGMT Dagmar 91.02 39 P **P** **19 19 10.6 +0.6**
NATX Nacogdoches 91.05 57 P **P** **19 19 12.0 +1.5**
baz=249
NATX Nacogdoches 91.05 57 P **P** **19 19 11.5 +1.0**
PEL Peldehue 91.07 125 P **P** **19 19 10.9 +0.1**
PEL pmax pmax
comp=Z,113nm,1.1s
PEL Peldehue 91.07 125 P **P** **19 19 10.9 +0.1**
PEL IAmb IAmb 19 19 43.6
comp=Z,112nm,1.1s
NVL N'lazarevskaya 91.09 182 *eP* **P** **19 19 08.8 -1.2**
NVL *eS* **SKSac** **19 29 36.1 +3.5**
NVL pmax pmax
comp=Z,49nm,1.3s
NANT Nan 91.18 289 P **P** **19 19 13.0 +1.6**
SRDT SRDT 91.20 285 P **P** **19 19 15.1 +3.6**
INK Inuvik 91.25 14 P **P** **19 19 10.6 0.0**
comp=Z,22nm,0.8s,baz=216,slow=4.9,SNR=45
INK LR LR 19 53 31.6
comp=Z,728nm,20.9s,baz=68,slow=31
INK Inuvik 91.25 14 P **P** **19 19 10.1 -0.4**
INK IAmb IAmb 19 19 11.4
comp=Z,27nm,0.8s
BTO Baotou 91.29 312 *eP* **P** **19 19 12.5 +1.0**
UTHA Uthaitani 91.29 286 P **P** **19 19 13.9 +2.0**
YAK Yakutsk 91.38 337 *eP* **P** **19 19 10.0 -1.2**
YAK *e* 19 22 46.7
YAK *eS* **SKSac** **19 29 32.1 -1.9**
YAK *e* 19 29 54.0
YAK *e*SSS SSS 19 39 44.6
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=Z,52nm,1.9s
YAK pmax pmax
comp=N,125nm,2.0s
YAK pmax pmax
comp=E,189nm,3.0s
YAK smax smax
comp=N,240nm,3.3s
YAK smax smax
comp=E,138nm,2.5s
YAK Yakutsk 91.38 337 P **P** **19 19 11.2 0.0**
comp=E,28nm,0.7s,baz=229,slow=0.2,SNR=22
YAK pP **pP** **19 19 36.7 -0.8**
comp=E,13nm,0.8s,baz=123,slow=3.0,SNR=2.6
YAK Yakutsk 91.38 337 P **P** **19 19 10.7 -0.6**
YAK IAmb IAmb 19 19 12.2
comp=Z,50nm,0.8s
KMI Kunming 91.45 296 P **P** **19 19 14.0 +1.2**
KMI pP pwP 19 19 41.3 +2.4
KMI sP sP 19 19 54.0 +4.6
KMI PP **PP** **19 22 57.3 +5.2**
KMI SKS **SKSac** **19 29 37.5 +0.9**
KMI S **S** **19 30 03.8 -0.6**
KMI sS sS 19 30 52.0 +3.1
KMI SS **SS** **19 36 08.0 -4.9**
KMI pmax pmax
comp=Z,23nm,1.3s
KMI pmax pmax
comp=Z,240nm,4.7s
KMI LR LR
comp=Z,350nm,13.0s
KMI LR LR
comp=Z,2µm,17.1s
KMI LR LR
comp=Z,2µm,16.7s
KMI Kunming 91.45 296 P **P** **19 19 13.7 +0.9**
KMI pmax pmax
comp=Z,137nm,1.8s
KMI Kunming 91.45 296 P **P** **19 19 13.7 +0.9**
KMI IAmb IAmb 19 19 17.4
comp=Z,137nm,1.8s
X37A Clayton 91.50 54 P **P** **19 19 12.8 +0.3**
PHRA Phrae 91.51 289 P **P** **19 19 14.8 +1.9**
TGUH Tegucigalpa,Un 91.61 76 P **P** **19 19 13.8 +0.2**
TUL1 Leonard 91.66 53 P **P** **19 19 13.3 +0.1**
baz=249
TUL1 Leonard 91.66 53 P **P** **19 19 13.3 +0.1**
TUL1 IAmb IAmb 19 19 15.7
comp=Z,174nm,1.9s
BGNE Belgrade 91.99 47 P **P** **19 19 15.1 +0.4**
baz=247
BGNE Belgrade 91.99 47 P **P** **19 19 15.0 +0.4**
BGNE IAmb IAmb 19 19 18.2
comp=Z,96nm,1.3s
UMPA Umpang Tak 92.03 286 P **P** **19 19 17.6 +2.2**
LAMP Lampang 92.05 289 P **P** **19 19 17.2 +1.8**
GO04 Tololo Observa 92.12 123 P **P** **19 19 16.5 +0.6**
KSU1 Kansas State U 92.22 50 P **P** **19 19 16.1 +0.4**
baz=248
CD2 Chengdu 92.53 302 P **P** **19 19 17.8 +0.4**
CD2 pmax pmax
comp=Z,470nm,7.4s
CD2 LR LR
comp=Z,3µm,21.1s
CD2 LR LR
comp=Z,2µm,25.0s
CD2 LR LR
comp=Z,2µm,20.1s
AAGR Agrelo 92.53 126 *i* P **P** **19 19 19.8 +2.2**
JTS Las Juntas de 92.60 80 *i* P **P** **19 19 19.4 +1.3**
JTS pmax pmax
comp=Z,44nm,0.7s
JTS Las Juntas de 92.60 80 P **P** **19 19 19.0 +0.9**
JTS IAmb IAmb 19 19 22.6
comp=Z,73nm,0.9s
SUSD Miller 92.62 44 P **P** **19 19 17.0 -0.5**
baz=247
CM31 Chiang Mai Arr 92.65 288 P **P** **19 19 19.4 +1.2**
CM31 IAmb IAmb 19 19 22.4
comp=Z,105nm,1.4s
CMAR Chiang Mai Arr 92.65 288*ce*P **P** **19 19 20.0 +1.8**
CMAR pmax pmax
comp=Z,36nm,1.0s
CMAR Chiang Mai Arr 92.65 288 P **P** **19 19 19.7 +1.5**
comp=Z,32nm,1.0s,baz=106,slow=2.5,SNR=65
CMAR PKKP **PKKPdf** **19 36 28.5 +0.3**
comp=Z,1.5nm,0.8s,baz=282,slow=4.9,SNR=12
RTLS Leoncito 92.68 125 *i* P **P** **19 19 21.0 +2.5**
ASAL Salagasta 92.72 125 ‖ *i*P **P** **19 19 20.5 +2.1**
CHTO Chiang Mai 92.76 289 P **P** **19 19 18.8 +1.1**
CHTO Chiang Mai 92.76 289 P **P** **19 19 19.2 +0.5**
CHTO pmax pmax
comp=Z,36nm,0.8s
CHTO Chiang Mai 92.76 289 P **P** **19 19 19.2 +0.5**
CHTO IAmb IAmb 19 19 22.4
comp=Z,36nm,0.8s
MIAR Mount Ida 92.87 55 P **P** **19 19 19.7 +0.9**
baz=250,SNR=32
MIAR Mount Ida 92.87 55 P **P** **19 19 19.3 +0.5**
MIAR pmax pmax
comp=Z,52nm,0.8s
MIAR Mount Ida 92.87 55 P **P** **19 19 19.4 +0.5**
MIAR IAmb IAmb 19 19 21.6
comp=Z,52nm,0.8s
W39A Magazine 92.93 54 P **P** **19 19 20.1 +1.0**
baz=250,SNR=29
W39A Magazine 92.93 54 P **P** **19 19 19.5 +0.4**
W39A IAmb IAmb 19 19 22.7
comp=Z,82nm,1.0s
WLAR White Oak Lake 92.94 56 P **P** **19 19 20.2 +1.0**
Z41A Richland Creek 93.04 56 P **P** **19 19 19.9 +0.2**
baz=250
YKA Yellowknife Ar 93.08 24 P **P** **19 19 19.3 +0.2**
comp=Z,7.4nm,0.8s,baz=238,slow=4.3,SNR=89
YKA pP **pP** **19 19 45.1 -0.3**
comp=Z,5.9nm,1.0s,baz=220,slow=4.5,SNR=3.1
YKA PP **PP** **19 23 03.3 -0.4**
comp=Z,2.8nm,1.1s,baz=245,slow=7.0,SNR=3.9
YKA PKKP **PKKPdf** **19 36 26.3 -2.6**
comp=Z,1.2nm,0.8s,baz=38,slow=2.1,SNR=11
AROD Rodeo 93.18 123 *i* P **P** **19 19 23.3 +2.4**
RTCV Cerro Valdivia 93.24 125 *i* P **P** **19 19 22.8 +2.0**
ACCO Cerro Coronel 93.34 124 *i* P **P** **19 19 23.3 +1.7**
ATAH Atahualpa 93.40 99 P **P** **19 19 24.4 +2.0**
comp=Z,7.3nm,0.8s,baz=268,slow=3.0,SNR=7.2
ATAH PP **PP** **19 23 08.2 +0.5**
comp=Z,2.0nm,0.4s,baz=260,slow=11,SNR=4.7
X40A Basin Creek Fa 93.43 55 P **P** **19 19 22.2 +0.8**
baz=250,SNR=7.3
MHMT Maesarieng 93.48 288 P **P** **19 19 25.1 +3.1**
RTLL Cerro Villicun 93.51 124 *i* P **P** **19 19 22.8 +0.7**

MDND **Maddock** 93.55 41 P P 19 19 21.0 -0.7
baz=247
MDND **Maddock** 93.55 41 P P 19 19 21.5 -0.2
CFA **Coronel Fontan** 93.58 125 P P 19 19 23.9 +1.5
comp=Z,27nm,1.0s,baz=250,slow=3.9,SNR=42
CFA pP pP 19 19 48.0 -0.4
comp=Z,13nm,1.1s,baz=126,slow=2.4,SNR=2.9
AMOG **MOGNA** 93.65 124 *i* P P 19 19 24.6 +1.8
UALR **University of** 93.91 55 P P 19 19 24.4 +0.8
UALR IAmb IAmb 19 19 26.7
comp=Z,50nm,0.8s
ECSD **EROS Data Cent** 93.92 45 P P 19 19 22.8 -0.7
baz=248
ECSD **EROS Data Cent** 93.92 45 P P 19 19 23.2 -0.3
U40A **Yellville** 94.04 53 P P 19 19 24.5 +0.3
baz=250,SNR=41
U40A **Yellville** 94.04 53 P P 19 19 24.1 -0.1
U40A IAmb IAmb 19 19 27.1
comp=Z,62nm,0.9s
W41B **Gary Mavity, V** 94.11 54 P P 19 19 25.7 +1.2
baz=251,SNR=18
W41B **Gary Mavity, V** 94.11 54 P P 19 19 24.9 +0.4
WHAR **Wooly Hollow** 94.12 54 P P 19 19 25.3 +0.7
ACAN **Cantantal** 94.12 126 *i* P P 19 19 26.4 +1.5
LZH **Lanzhou** 94.19 306 *e* P P 19 19 26.3 +1.2
LZH pP pP 19 19 52.5 +1.3
LZH sP sP 19 20 02.8 +1.0
LZH SKS **SKSac** 19 29 50.8 -0.4
LZH pmax pmax
comp=Z,38nm,1.1s
LZH pmax pmax
comp=Z,130nm,4.3s
LZH LR LR
comp=Z,2μm,13.0s
LZH LR LR
comp=Z,3μm,14.6s
LZH LR LR
comp=Z,2μm,16.3s
C36M **Paulatuk** 94.35 16 P P 19 19 24.1 -0.7
baz=227,SNR=11
VBMS **Vicksburg** 94.52 58 P P 19 19 25.7 -0.7
baz=251
MGMO **Mountain Grove** 94.75 53 P P 19 19 27.9 +0.5
VCA **Vinchina** 94.76 122 *i* P P 19 19 30.4 +2.4
X43A **Marvell** 94.96 55 P P 19 19 29.2 +0.8
baz=251
FFC **Flin Flon** 94.98 34 P P 19 19 27.4 -0.7
FFC pmax pmax
comp=Z,53nm,1.9s
FFC **Flin Flon** 94.98 34 P P 19 19 27.4 -0.7
FFC IAmb IAmb 19 20 02.6
comp=Z,53nm,1.9s
GO02 **Mina Guanaco** 95.02 118 P P 19 19 29.2 -0.3
LCAR **Lake Charles** 95.24 54 P P 19 19 29.6 -0.1
LCAR IAmb IAmb 19 19 32.6
comp=Z,66nm,1.2s
APLL **PUNTA DE LOS L** 95.42 124 *i* P P 19 19 32.7 +1.8
ACLC **CERRO LA CRUZ** 95.48 123 ǁ *i* P P 19 19 32.9 +1.6
SCIA **State Center** 95.62 48 P P 19 19 31.4 +0.1
baz=251
SCIA **State Center** 95.62 48 P P 19 19 31.4 +0.1
OTAV **Otavalo** 95.68 92 *e* P P 19 19 32.7 -0.1
OTAV **Otavalo** 95.68 92 *e* P P 19 19 32.7 -0.1
LPAR **Lepanto** 95.75 55 P P 19 19 32.6 +0.5
CCM **Cathedral Cave** 95.81 52 P P 19 19 32.0 -0.2
baz=251
CCM **Cathedral Cave** 95.81 52 P P 19 19 31.4 -0.8
CCM pmax pmax
comp=Z,34nm,1.3s
CCM **Cathedral Cave** 95.81 52 P P 19 19 31.4 -0.8
CCM IAmb IAmb 19 19 34.3
comp=Z,34nm,1.2s
ULN **Ulaanbaatar** 95.96 318 *ce* P P 19 19 33.2 +0.3
ULN pmax pmax
comp=Z,4.0nm,0.9s
PBMO **Poplar Bluff** 96.02 53 P P 19 19 33.2 0.0
PBMO IAmb IAmb 19 19 36.0
comp=Z,83nm,1.5s
AGMN **Agassiz Nation** 96.04 41 P P 19 19 32.5 -0.5
baz=249
AGMN **Agassiz Nation** 96.04 41 P P 19 19 33.1 +0.1
AGMN IAmb IAmb 19 19 34.6
comp=Z,97nm,1.7s
OXF **Oxford** 96.11 56 P P 19 19 33.5 -0.2
baz=252
SONM **Songino Array** 96.37 318 P P 19 19 36.0 +1.3
comp=Z,2.2nm,0.5s,baz=99,slow=3.8,SNR=12
SONM PP PP 19 23 29.3 -0.6
comp=Z,1.7nm,0.9s,baz=124,slow=9.2,SNR=3.9
PARMO **Parma** 96.50 54 P P 19 19 35.9 +0.5
TCA **Tanti** 96.52 126 *i* P P 19 19 37.0 +1.1
LVC **Limon Verde** 96.58 116 P P 19 19 36.7 +0.1
LVC pmax pmax
comp=Z,80nm,2.0s
LVC **Limon Verde** 96.58 116 P P 19 19 39.5 +2.8
comp=Z,4.5nm,0.8s,baz=209,slow=4.7,SNR=8.8
LVC PP PP 19 23 33.3 +1.3
comp=Z,2.6nm,0.8s,baz=230,slow=7.3,SNR=5.1
LVC **Limon Verde** 96.58 116 *e* P P 19 19 37.8 +1.1
LVC **Limon Verde** 96.58 116 *e* P P 19 19 37.8 +1.1
LVC **Limon Verde** 96.58 116 P P 19 19 36.7 +0.1
LVC IAmb IAmb 19 20 12.0
comp=Z,80nm,1.9s
ULM **Lac du Bonnet** 96.72 39 *i* P P 19 19 36.5 +0.4
ULM **Lac du Bonnet** 96.72 39 P P P 19 19 35.4 -0.6
comp=Z,7.2nm,0.7s,baz=251,slow=5.5,SNR=14
ULM pP pP 19 20 01.8 -0.6
comp=Z,4.8nm,0.9s,baz=237,slow=6.2,SNR=3.0
ULM PP PP 19 23 29.9 -2.5
comp=Z,4.5nm,1.0s,baz=274,slow=4.4,SNR=5.4
ULM LR LR 19 57 14.0
comp=Z,897nm,20.7s,baz=256,slow=32
ULM **Lac du Bonnet** 96.72 39 P P 19 19 35.9 -0.2
ULM IAmb IAmb 19 19 37.9
comp=Z,23nm,1.1s
CYA **Choya** 96.81 123 *i* P P 19 19 39.2 +2.1
N41A **Harden Midland** 96.92 50 P P 19 19 37.6 +0.4
SPMN **Marine on St.** 96.99 45 P P 19 19 37.5 0.0
baz=251
SPMN **Marine on St.** 96.99 45 P P 19 19 37.3 -0.1
BRAL **Brewton** 97.01 60 P P 19 19 38.0 +0.1
baz=253
PB11 **IPOC Station P** 97.02 113 P Pdif 19 19 39.6 +1.1
PB11 IAmb IAmb 19 19 44.0
comp=Z,30nm,1.0s
S44A **Carbondale** 97.19 53 P Pdif 19 19 38.8 +0.2
S44A IAmb IAmb 19 19 40.9
comp=Z,45nm,1.4s
MNMC **Minye Minye** 97.31 113 P Pdif 19 19 41.0 +1.0
MNMC IAmb IAmb 19 19 45.4
comp=Z,16nm,0.9s
TIXI **Tiksi** 97.51 344 *ce* P P 19 19 39.0 -0.1
TIXI pmax pmax
comp=Z,16nm,1.0s
TIXI **Tiksi** 97.51 344 P P 19 19 38.6 -0.6
comp=Z,13nm,0.9s,baz=180,slow=24,SNR=21
TIXI PP PP 19 23 33.2 -4.6
comp=Z,1.7nm,0.3s,baz=180,slow=24,SNR=4.3
TIXI **Tiksi** 97.51 344 P P 19 19 38.5 -0.6
TIXI IAmb IAmb 19 19 40.8
comp=Z,13nm,0.8s
LRAL **Lakeview Retre** 97.59 58 P Pdif 19 19 40.9 +0.4
baz=253
WVT **Waverly** 97.83 55 P P 19 19 41.2 -0.3
baz=253
WVT **Waverly** 97.83 55 P P 19 19 41.1 -0.3
WVT pmax pmax
comp=Z,19nm,1.4s
WVT **Waverly** 97.83 55 P P 19 19 41.1 -0.3
HDIL **Hopedale** 98.01 50 P P 19 19 42.1 0.0
baz=253
JFWS **Jewell Farm** 98.03 48 P P 19 19 42.0 -0.2
baz=253,SNR=6.2
JFWS **Jewell Farm** 98.03 48 P Pdif 19 19 42.5 +0.3
JFWS pmax pmax
comp=Z,140nm,2.0s
JFWS **Jewell Farm** 98.03 48 P Pdif 19 19 42.5 +0.3
I40A **Norwalk** 98.06 47 P P 19 19 42.0 -0.3
I40A IAmb IAmb 19 19 43.8
comp=Z,28nm,0.8s
GTA **Gaotai** 98.26 309 *e* P Pdif 19 19 46.5 +3.0
GTA pmax pmax
comp=Z,9.0nm,0.7s
T47A **Sharon Grove** 98.63 54 P Pdif 19 19 45.0 0.0
T47A IAmb IAmb 19 19 49.1
comp=Z,19nm,0.8s
W49A **Belvidere** 98.77 56 Pdiff P 19 19 45.7 0.0
baz=254
V49A **McMinnville** 99.23 55 Pdiff Pdif 19 19 47.9 +0.2
baz=254
TLY **Talaya** 99.30 321 *i* P Pdif 19 19 47.5 -0.2
TLY pmax pmax
comp=Z,6.0nm,1.0s
L44A **Lake County Fo** 99.47 49 Pdiff Pdif 19 19 49.1 +0.5
baz=254
U49A **Red Boiling Sp** 99.52 55 Pdiff Pdif 19 19 49.7 +0.7
baz=254
W50A **Signal Mountai** 99.54 56 Pdiff Pdif 19 19 49.7 +0.5
baz=254
SFIN **Lafayette** 99.57 51 Pdiff Pdif 19 19 50.1 +1.1
baz=254
WCI **Wyandotte Cave** 99.59 53 Pdiff Pdif 19 19 50.9 +1.7
baz=254
LPAZ **La Paz** 99.67 111 P Pdif 19 19 50.5 -0.4
LPAZ pmax pmax
comp=Z,7.0nm,1.4s
LPAZ **La Paz** 99.67 111 PP PP 19 23 57.7 +1.6
comp=Z,4.2nm,1.2s,baz=253,slow=5.7,SNR=7.8
LPAZ LR LR 19 56 27.4
comp=Z,307nm,19.2s,baz=272,slow=30
LPAZ **La Paz** 99.67 111 *eP* Pdif 19 19 51.6 +0.7
LPAZ **La Paz** 99.67 111 *eP* Pdif 19 19 51.6 +0.7
LPAZ **La Paz** 99.67 111 Pdif Pdif 19 19 50.5 -0.4
V50A **Pikeville** 99.83 56 Pdiff Pdif 19 19 50.8 +0.4
baz=255
T49A **Edmonton** 99.87 54 Pdiff Pdif 19 19 51.3 +0.7
baz=255
Q48A **North Vernon** 100.20 52 Pdiff Pdif 19 19 53.6 +1.7
baz=255
U50A **Jamestown** 100.23 55 Pdiff Pdif 19 19 53.3 +1.1
baz=255
S49A **Springfield** 100.24 54 Pdiff Pdif 19 19 53.3 +1.2
baz=255
T50A **Nancy** 100.39 54 Pdiff Pdif 19 19 54.1 +1.3
baz=255
R49A **Shelbyville** 100.46 53 Pdiff Pdif 19 19 54.2 +1.1
baz=255
X52A **Dahlonega** 100.51 57 Pdiff Pdif 19 19 54.4 +0.9
baz=255
U50A **Jamestown** 100.23 55 Pdiff Pdif 19 19 53.3 +1.1
baz=255
S49A **Springfield** 100.24 54 Pdiff Pdif 19 19 53.3 +1.2
baz=255
T50A **Nancy** 100.39 54 Pdiff Pdif 19 19 54.1 +1.3
baz=255
R49A **Shelbyville** 100.46 53 Pdiff Pdif 19 19 54.2 +1.1
baz=255
X52A **Dahlonega** 100.51 57 Pdiff Pdif 19 19 54.4 +0.9
baz=255
GOGA **Godfrey** 100.54 58 Pdiff Pdif 19 19 54.5 +0.9
baz=255
P48A **Milroy** 100.57 52 Pdiff Pdif 19 19 55.0 +1.4
baz=255
Q49A **Aurora** 100.85 52 Pdiff Pdif 19 19 56.5 +1.7
baz=255
S50A **Richmond** 100.89 54 Pdiff Pdif 19 19 55.5 +0.5
baz=255
X53A **Estanollee** 100.95 57 Pdiff Pdif 19 19 55.7 +0.3
baz=255
ROSC **El Rosal** 101.01 89 PP PP 19 24 09.6 +3.3
comp=Z,5.0nm,0.4s,baz=186,slow=20,SNR=3.6
V52A **Sevierville** 101.06 56 Pdiff Pdif 19 19 56.3 +0.4
baz=256
T51A **Gray** 101.06 55 Pdiff Pdif 19 19 56.4 +0.6
baz=256
R50A **Paris** 101.10 53 Pdiff Pdif 19 19 56.9 +1.0
baz=256
O49A **Covington** 101.56 51 Pdiff Pdif 19 19 58.7 +0.8
baz=256
W54A **Cherokee Point** 101.99 57 Pdiff Pdif 19 20 01.3 +1.3
baz=256
Q51A **Peebles** 102.03 53 Pdiff Pdif 19 20 01.1 +1.1
baz=256
O50A **Cable** 102.08 52 Pdiff Pdif 19 20 01.8 +1.5
baz=256
V54A **Nebo** 102.34 56 Pdiff Pdif 19 20 02.6 +1.1
baz=256
N50A **Nevada** 102.58 51 Pdiff Pdif 19 20 03.6 +1.1
baz=257
X56A **White Oak** 102.77 58 Pdiff Pdif 19 20 04.7 +1.2
baz=257
O51A **Pataskala** 102.84 52 Pdiff Pdif 19 20 05.3 +1.6
baz=257
ITQB **Itaqui** 103.37 128 *eP* Pdif 19 20 08.5 +2.2
ITQB **Itaqui** 103.37 128 *eP* Pdif 19 20 08.5 +2.2
V56A **Mocksville** 103.50 57 Pdiff Pdif 19 20 08.1 +1.4
baz=257
W57A **Gilead** 103.75 57 Pdiff Pdif 19 20 09.1 +1.3
baz=257
T56A **Rocky Mt** 104.13 55 Pdiff Pdif 19 20 10.8 +1.3
baz=258
RES **Resolute Bay** 104.72 16 Pdiff Pdif 19 20 11.4 +0.2
comp=Z,2.3nm,0.9s,baz=241,slow=8.2,SNR=6.1
SDV **Santo Domingo** 105.69 86 PP PP 19 24 40.8 -0.2
comp=Z,1.3nm,0.3s,baz=275,slow=5.8,SNR=8.8
SIV **San Ignacio** 106.01 113 PP PP 19 24 43.8 +1.1
comp=Z,1.1nm,0.5s,baz=241,slow=7.5,SNR=5.4
SIV PKKPbc **PKKPbc** 19 35 51.4 -0.7
comp=Z,1.1nm,0.7s,baz=32,slow=4.0,SNR=4.3
SIV PKKPab **PKKPab** 19 36 09.6 -0.6
comp=Z,2.2nm,1.0s,baz=134,slow=5.5,SNR=4.2
PALK **Pallekele** 106.40 272 PP PP 19 24 50.5 +4.4
comp=Z,8.0nm,0.8s,baz=112,slow=12,SNR=4.2
NRIK **Noril'sk** 109.80 338 PP PP 19 25 04.8 -4.5
comp=Z,4.3nm,0.6s,baz=99,slow=7.0,SNR=6.7
ZALV **Zalesovo Beam** 110.91 322 PKiKP **PKiKP** 19 24 37.9 -0.3
comp=Z,4.8nm,0.8s,baz=135,slow=0.6,SNR=18
ZALV PKKPbc **PKKPbc** 19 35 37.6 -0.3
comp=Z,0.2nm,0.3s,baz=226,slow=6.0,SNR=4.5
ZALV PKKPab **PKKPab** 19 35 47.0 +1.7
comp=Z,2.1nm,0.7s,baz=264,slow=4.5,SNR=7.6
MKAR **Makanchi Array** 112.17 314 Pdiff **Pdif** 19 20 46.1 +1.1
comp=Z,0.9nm,0.8s,baz=96,slow=4.9,SNR=7.6
MKAR PKiKP **PKiKP** 19 24 40.6 -0.3
comp=Z,6.9nm,0.8s,baz=67,slow=2.0,SNR=33
MKAR PKKPbc **PKKPbc** 19 35 33.4 -0.1
comp=Z,2.2nm,0.7s,baz=273,slow=3.9,SNR=14
MKAR PKKPab **PKKPab** 19 35 41.2 +1.1
comp=Z,3.7nm,0.9s,baz=274,slow=3.3,SNR=9.5
KURK **Kurchatov** 114.67 318 *c* iPKIKP PKPdf 19 24 45.3 -0.2
KURK pmax pmax
comp=Z,16nm,1.0s
KURBB **Kurchatov Arra** 114.73 318 PKP PKPdf 19 24 45.4 -0.3
comp=Z,8.8nm,0.8s,baz=89,slow=1.9,SNR=40
KURBB PKKPbc **PKKPbc** 19 35 24.4 -0.6
comp=Z,2.6nm,0.8s,baz=270,slow=4.4,SNR=9.8
KURBB PKKPab **PKKPab** 19 35 30.5 +2.0
comp=Z,2.6nm,0.9s,baz=272,slow=4.8,SNR=9.0
SCHQ **Schefferville** 114.81 37 PKKPbc PKKPbc 19 35 23.3 -1.6
comp=Z,3.5nm,0.7s,baz=68,slow=1.9,SNR=9.0
KSH **Kashi** 116.42 306 PKP **PKiKP** 19 24 50.0 +0.6
KSH SKS **SKSdf** 19 31 51.3 -1.3
KSH LR LR
comp=Z,1μm,9.0s
KSH LR LR
comp=Z,2μm,13.4s
KSH LR LR
comp=Z,3μm,16.3s
NRN **Naryn** 116.47 308 PKiKP **PKPdf** 19 24 49.7 0.0
NRN **Naryn** 116.47 308 **PKPdf** 19 24 49.7 0.0
TKM2 **Tokmak 2** 116.80 309 P **PKPdf** 19 24 49.0 -1.2
SNR=11
KZA **Kyzart** 117.04 308 P **PKiKP** 19 24 51.7 +0.8
SNR=5.8
KBK **Karagaybulak** 117.27 309 P **PKPdf** 19 24 51.3 +0.2
SNR=11
BDFB **Brasilia** 117.32 119 PKiKP **PKPdf** 19 24 51.4 -0.4
BDFB **Brasilia** 117.32 119 PKP **PKPdf** 19 24 51.9 +0.1
comp=Z,4.2nm,0.9s,baz=296,slow=2.3,SNR=5.2
BDFB **Brasilia** 117.32 119 **PKPdf** 19 24 51.4 -0.4
CHMS **Chumysh** 117.42 309 P **PKPdf** 19 24 51.2 +0.1
SNR=8.3
UCH **Uchtor** 117.59 309 P **PKiKP** 19 24 52.8 +0.8
SNR=13
USP **Ospenovka** 117.60 310 P **PKPdf** 19 24 51.6 +0.1
SNR=8.6
AAK **Ala-Archa** 117.61 309 *c* iPKIKP **PKiKP** 19 24 52.3 +0.6
AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK **Ala-Archa** 117.61 309 PKP **PKPdf** 19 24 51.2 -0.4
comp=Z,6.5nm,0.8s,baz=209,slow=2.0,SNR=21
AAK PP **PP** 19 26 06.3 +0.6
comp=Z,1.0nm,0.6s,baz=87,slow=7.3,SNR=3.9
AAK PKKPbc **PKKPbc** 19 35 15.1 +0.3
comp=Z,4.4nm,0.9s,baz=201,slow=4.3,SNR=12
AAK **Ala-Archa** 117.61 309 P **PKiKP** 19 24 52.0 +0.3
SNR=5.9
AAK **Ala-Archa** 117.61 309 **PKPdf** 19 24 51.7 0.0
EKS2 **Erkin-Say** 118.13 309 P **PKPdf** 19 24 52.7 0.0
SNR=6.7
AML **Almayashu** 118.20 308 P **PKiKP** 19 24 53.6 +0.5
SNR=15
NIL **Nilore** 118.29 299 PKIKP **PKPdf** 19 24 52.4 -0.7
NIL **Nilore** 118.29 299 **PKPdf** 19 24 52.4 -0.7
ARSB **Arslanbob** 118.74 308 **PKPdf** 19 24 54.1 +0.2
BVAR **Borovoye Array** 119.56 321 PKP **PKPdf** 19 24 54.6 -0.3
comp=Z,20nm,0.8s,baz=91,slow=1.5,SNR=81
BVAR PKKPbc **PKKPab** 19 35 08.0 +0.7
comp=Z,1.0nm,0.7s,baz=289,slow=4.5,SNR=6.1
BRVK **Borovoye** 119.61 321 P **PKPdf** 19 24 54.7 -0.2
BRVK **Borovoye** 119.61 321 *c* iPKIKP **PKPdf** 19 24 55.0 0.0
BRVK pmax pmax
comp=Z,26nm,1.0s
BRVK **Borovoye** 119.61 321 **PKPdf** 19 24 54.8 -0.2
DAG **Danmarks Havn** 120.17 6 *i* PKIKP **PKPdf** 19 24 54.3 -1.1
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG **Danmarks Havn** 120.17 6 *i* P **PKPdf** 19 24 54.3 -1.1
comp=Z,5.2nm,0.8s
SUMG **Summit** 120.18 14 PKIKP **PKPdf** 19 24 55.3 -0.7
SUMG **Summit** 120.18 14 *i* P **PKiKP** 19 24 57.0 +0.9
comp=Z,29nm,1.0s
SUMG **Summit** 120.18 14 **PKPdf** 19 24 55.3 -0.7
BTK **Batken** 120.40 306 PKIKP **PKPdf** 19 24 56.2 -0.8
BTK **Batken** 120.40 306 **PKPdf** 19 24 56.2 -0.8
KK31 **Karatay Array** 120.52 310 PKIKP **PKPdf** 19 24 56.7 -0.4
KK31 **Karatay Array** 120.52 310 **PKPdf** 19 24 56.7 -0.4
KKAR **Karatay Array** 120.52 310 PKIKP **PKPdf** 19 24 56.6 -0.5
KKAR **Karatay Array** 120.52 310 **PKPdf** 19 24 56.6 -0.5
GAR **Garm** 120.81 305 **PKPdf** 19 24 58.2 +0.3
SJMB **Sao Joao De Ma** 121.12 126 *eP* **PKiKP** 19 24 59.9 +0.8
SJMB **Sao Joao De Ma** 121.12 126 *eP* **PKiKP** 19 24 59.9 +0.8
BSFB **Barra de Sao F** 121.30 126 *eP* **PKPdf** 19 24 59.1 -0.2
BSFB **Barra de Sao F** 121.30 126 *eP* **PKPdf** 19 24 59.1 -0.2
CHGR **Chuyangaron** 121.72 305 **PKPdf** 19 24 59.5 -0.1
KBL **Kabul** 121.82 300 PKIKP **PKPdf** 19 25 00.3 +0.2
KBL **Kabul** 121.82 300 **PKPdf** 19 25 00.3 +0.2
ABPO **Ambohimpanom** 124.86 230 PKIKP **PKPdf** 19 25 06.7 +0.4
ABPO **Ambohimpanom** 124.86 230 **PKPdf** 19 25 06.7 +0.4
OPO **Ambohidratompo** 125.17 230 PKP **PKPdf** 19 25 07.5 +0.6
comp=Z,24nm,0.8s,baz=130,slow=2.0,SNR=28
SCO **Scoresbysund** 125.20 11 *i* PKIKP **PKPdf** 19 25 05.0 -0.2
SCO pmax pmax
comp=Z,30nm,1.1s
SCO **Scoresbysund** 125.20 11 *i* P **PKPdf** 19 25 05.0 -0.2
comp=Z,30nm,1.1s
SCO **Scoresbysund** 125.20 11 **PKiKP** 19 25 05.6 +0.1
ARU **Arti** 125.27 327 *i* PKIKP **PKPdf** 19 25 05.8 +0.1
ARU 19 26 53.6
ARU 19 32 11.8
ARU SS SS 19 43 42.4 -3.9
ARU **Arti** 125.27 327 PKP **PKPdf** 19 25 05.8 +0.1
comp=Z,7.4nm,0.8s,baz=163,slow=0.9,SNR=30
ABKAR **Akbulak array** 126.78 318 **PKPdf** 19 25 08.7 -0.1
ARCES **ARCESS Array B** 127.30 351 PKP **PKPdf** 19 25 09.5 +0.2
comp=Z,29nm,0.8s,baz=0.0,slow=1.1,SNR=29
ARE0 **ARCESS Array S** 127.30 351 **PKPdf** 19 25 09.5 +0.2
HRA **Herat** 127.44 300 **PKPdf** 19 25 10.5 -0.3
SUR **Sutherland** 127.59 196 PKP **PKiKP** 19 25 12.1 +0.3
comp=Z,32nm,0.9s,baz=148,slow=2.9,SNR=16
SUR **Sutherland** 127.59 196 **PKPdf** 19 25 11.9 +0.6
APA **Apatity** 127.62 347 ⇑ *i* PKIKP **PKPdf** 19 25 08.5 -1.4
APA pmax pmax
comp=Z,18nm,1.0s
AKTO **Aktyubinsk** 127.63 320 PKP **PKPdf** 19 25 10.6 +0.2
comp=Z,9.0nm,0.9s,baz=70,slow=2.4,SNR=18
PRGR **Permogore** 128.43 337 *e* PKIKP **PKPdf** 19 25 08.9 -2.7
PRGR pmax pmax
comp=Z,31nm,0.9s
KIRV **Kirov** 128.67 332 PKP **PKPdf** 19 25 12.2 +0.2
comp=Z,22nm,0.8s,baz=88,slow=2.1,SNR=6.9
BOSA **Boshof** 129.69 203 PKIKP **PKPdf** 19 25 15.9 +0.6
BOSA **Boshof** 129.69 203 PKP **PKiKP** 19 25 16.7 +0.6
comp=Z,24nm,0.9s,baz=136,slow=2.8,SNR=18
BOSA **Boshof** 129.69 203 **PKPdf** 19 25 15.9 +0.6
MSF **Maaselka** 129.95 348 PKIKP **PKiKP** 19 25 16.2 +1.0
GEYT **Alibeck** 130.43 305 PKP **PKPdf** 19 25 16.2 0.0
comp=Z,6.8nm,0.8s,baz=264,slow=1.5,SNR=14
GEYT PP **PP** 19 27 29.4 -2.3
comp=Z,7.9nm,1.1s,baz=62,slow=3.5,SNR=7.2
GYA0B **ALIBECK ARRAY** 130.43 305 **PKPdf** 19 25 16.8 +0.6
OUL **Oulu** 131.29 349 PKIKP **PKiKP** 19 25 19.4 +1.5
SOHO **SOHO** 132.41 286 P **PKPdf** 19 25 20.7 +0.4
SNR=14
RCBR **Riachuelo** 132.53 116 *eP* **PKPdf** 19 25 20.8 -0.1
RCBR **Riachuelo** 132.53 116 *eP* **PKPdf** 19 25 20.8 -0.1
UOSS **Minazif** 132.75 287 **PKPdf** 19 25 21.2 +0.3
LBTB **Lobatse** 132.80 205 PKIKP **PKPdf** 19 25 21.9 +0.7
LBTB **Lobatse** 132.80 205 PKP **PKPdf** 19 25 22.1 +0.9
comp=Z,8.2nm,0.9s,baz=130,slow=3.5,SNR=6.9
LBTB **Lobatse** 132.80 205 **PKPdf** 19 25 21.9 +0.7
HATD **Hatta, Dubai** 132.81 287 P **PKPdf** 19 25 20.3 -0.8
SNR=5.2
FIA1 **FINESS Array S** 134.52 346 **PKiKP** 19 25 24.0 -0.5
FINES **FINESS Array B** 134.52 346 *c* iPKIKP **PKPdf** 19 25 23.7 +0.6
FINES pmax pmax
comp=Z,14nm,0.8s
FINES **FINESS Array B** 134.52 346 **PKPdf** 19 25 23.3 +0.2
comp=Z,14nm,0.8s,baz=90,slow=3.8,SNR=15
FINES SKPbc **SKPbc** 19 28 45.2 +1.3
comp=Z,17nm,1.1s,baz=40,slow=3.2,SNR=6.7
MOS **Moscow** 135.47 335 *e* PKIKP **PKPdf** 19 25 85.8 +0.8
MOS *e* 19 28 04.2
MOS pmax pmax
comp=Z,36nm,0.7s
OBN **Obninsk** 136.34 335 ⇑ *e* PKIKP **PKPdf** 19 25 27.7 +1.1
OBN pmax pmax
comp=Z,34nm,1.0s
OBN **Obninsk** 136.34 335 PKP **PKPdf** 19 25 27.4 +0.8
comp=Z,2.4nm,0.4s,baz=88,slow=22,SNR=4.9
OBN SKPbc **SKPbc** 19 28 51.1 +1.3
comp=Z,1.6nm,0.4s,baz=340,slow=5.9,SNR=9.2
OBN **Obninsk** 136.34 335 **PKPdf** 19 25 27.2 +0.5
VSU **Vasula** 136.98 344 *c* iPKIKP **PKiKP** 19 25 29.4 -0.2
VSU pmax pmax
comp=Z,95nm,1.0s
NB2 **NORSAR Subarra** 137.09 356 PKP PKPdf 19 25 19.3 -8.7
comp=Z,8.4nm,1.0s,baz=19,slow=4.0
NOA **NORSAR Array B** 137.09 356 PKhKP PKPpre 19 25 16.9
comp=Z,1.0nm,0.7s,baz=330,slow=2.5,SNR=5.1
NOA PKP **PKPdf** 19 25 28.4 +0.4
comp=Z,4.9nm,0.9s,baz=13,slow=4.0,SNR=8.4
NOA SKPbc **SKPbc** 19 28 53.3 +1.3
comp=Z,7.3nm,1.1s,baz=6.3,slow=4.0,SNR=4.8
HFS **Hagfors** 137.79 354 PKhKP PKPpre 19 25 17.8
comp=Z,4.0nm,0.8s,baz=46,slow=4.3,SNR=9.2
HFS PKP **PKPdf** 19 25 29.4 +0.1
comp=Z,11nm,0.8s,baz=66,slow=3.7,SNR=11
TBLG **Delisi** 139.35 314 PKIKP **PKPdf** 19 25 33.5 +0.8
TBLG **Delisi** 139.35 314 **PKPdf** 19 25 33.5 +0.8
ZEI **Tsey** 139.48 315 *i* PKIKP **PKPdf** 19 25 32.1 -1.1
ZEI pmax pmax
comp=Z,12nm,0.9s
ISAL **Salakas** 139.65 342 *eP* **PKPdf** 19 25 30.2 -2.6
KBZ **Khabaz** 139.73 317 PKhKP PKPpre 19 25 30.3
comp=Z,4.9nm,0.9s,baz=69,slow=3.2,SNR=6.3
KBZ PP **PP** 19 28 27.6 -2.1
comp=Z,3.1nm,0.9s,baz=66,slow=8.6,SNR=4.3
KIV **Kislovodsk** 139.76 318 *i* PKIKP **PKiKP** 19 25 35.0 -0.9
KIV pmax pmax
comp=Z,44nm,1.1s
KIV MLR MLR
comp=Z,3μm,24.0s
KIV **Kislovodsk** 139.76 318 ⇑ P **PKPdf** 19 25 33.7 +0.2
KIV **Kislovodsk** 139.76 318 **PKPdf** 19 25 33.5 0.0
IIGN **Ignalina** 139.81 342 *eP* **PKPdf** 19 25 29.1 -3.9
IIGN IAmb IAmb 19 25 35.1
comp=Z,11nm,1.1s
GNI **Garni** 139.94 311 *c* iPKIKP **PKiKP** 19 25 35.8 -0.7
GNI pmax pmax
comp=Z,57nm,1.3s
GNI **Garni** 139.94 311 PKhKP PKPpre 19 25 25.4
comp=Z,1.4nm,0.5s,baz=174,slow=10,SNR=2.1
GNI PKP **PKPdf** 19 25 35.2 +1.2
comp=Z,12nm,0.9s,baz=74,slow=8.6,SNR=8.6
GNI PP **PP** 19 28 27.6 -3.9
comp=Z,7.8nm,1.1s,baz=180,slow=3.5,SNR=3.3
GNI **Garni** 139.94 311 **PKPdf** 19 25 34.7 +0.6
LSZ **Lusaka** 139.95 215 PKIKP **PKPdf** 19 25 34.0 -0.7
LSZ **Lusaka** 139.95 215 PKhKP PKPpre 19 25 26.7
comp=Z,4.9nm,0.6s,baz=115,slow=2.9,SNR=15
LSZ **Lusaka** 139.95 215 **PKPdf** 19 25 34.0 -0.7
NACGM **Naroch** 140.02 341 *e* PKPdf 19 25 24.0 -9.4
PABE **Paberze** 140.31 344 *eP* **PKPdf** 19 25 27.3 -6.6
PABE IAmb IAmb 19 25 42.2
comp=Z,85nm,1.2s
AKH **Akhalkalaki** 140.33 314 PKIKP **PKPdf** 19 25 34.8 +0.1

AKH **Akhalkalaki** 140.33 314 ⇑P **PKPdf** 19 25 33.8 -0.9
AKH **Akhalkalaki** 140.33 314 **PKPdf** 19 25 34.8 +0.1
SOC **Sochi** 141.82 319 *e*PKiKP **PKPdf** 19 25 37.8 +0.7
SOC *e* 19 28 37.3
SOC *e*PPP PPP 19 31 59.4
SOC *e*SS SS 19 47 03.4 -3.1
SOC *e*SSS SSS 19 52 23.5
SOC pmax pmax
comp=Z,19nm,0.7s
SUW **Suwalki** 141.84 343 *e*PKIKP **PKPdf** 19 25 36.4 -0.3
SUW **Suwalki** 141.84 343 *e*PKP **PKPdf** 19 25 36.4 -0.3
SUW *e*PKP **PKPdf** 19 25 36.4 -0.3
EKA **Eskdalemuir Ar** 142.40 8 PKhKP **PKPdf** 19 25 33.5 -4.2
comp=Z,9.2nm,0.8s,baz=352,slow=2.3,SNR=13
ANN **Anapa** 142.55 322 *i* PKIKP **PKPdf** 19 25 35.9 -2.4
ANN pmax pmax
comp=Z,88nm,2.0s
AKASG **Malin Array Be** 142.59 335 PKhKP **PKPdf** 19 25 34.2 -4.0
comp=Z,4.9nm,0.5s,baz=37,slow=4.1,SNR=36
DAMY **Dhamar** 142.71 270 **PKPdf** 19 25 38.9 -0.9
KMBO **Kilima Mbogo** 143.43 242*c i*PKIKP PKPbc 19 25 40.2 +1.6
KMBO pmax pmax
comp=Z,32nm,1.0s
KMBO **Kilima Mbogo** 143.43 242 PKP PKPbc 19 25 39.8 +1.2
comp=Z,32nm,1.0s,baz=82,slow=4.1,SNR=55
SHEL **Horse Pasture** 144.18 161 PKIKP PKPbc 19 25 41.6 +1.2
SHEL **Horse Pasture** 144.18 161 PKPbc 19 25 41.6 +1.2
SIM **Simferopol'** 144.35 325 *i* PKIKP **PKPdf** 19 25 41.1 -0.4
SIM pmax pmax
comp=Z,27nm,0.9s
BEL **Belsk** 144.44 344 *e*PKIKP **PKPdf** 19 25 41.1 -0.3
BEL **Belsk** 144.44 344 *e*PKP **PKPdf** 19 25 41.1 -0.3
BEL *e*PKP **PKPdf** 19 25 41.1 -0.3
SEVA **Sevastopol** 144.85 324 ⇑P **PKPab** 19 25 41.2 -0.4
SORM **Soroca** 144.94 333 ⇑PKIKP **PKPab** 19 25 41.7 -0.2
SORM **Soroca** 144.94 333 ⇑P **PKPab** 19 25 41.7 -0.2
LVV **L'vov** 145.23 339 *e*PKIKP **PKPbc** 19 25 42.3 -0.4
RUE **Ruedersdorf** 145.27 351 *e*P **PKPbc** 19 25 41.4 -1.3
RUE IAmb IAmb 19 25 44.0
comp=Z,57nm,0.7s
KIS **Kishinev** 145.60 332⇑*i*PKP **PKPbc** 19 25 44.0 0.0
comp=Z,290nm,1.4s
KIS *e*L L 20 15 04.0
KIS LRM MLR 20 35 28.0
comp=Z,2μm,18.0s
KIS **Kishinev** 145.60 332 *i* PKIKP **PKPbc** 19 25 44.0 0.0
KIS *e* 19 25 55.0
KIS pmax pmax
comp=Z,290nm,1.4s
DIKM **Dikmen** 145.63 319 ⇑P **PKPab** 19 25 45.5 +0.9
MILM **Milestii Mici** 145.66 331 ⇑P **PKPdf** 19 25 43.0 -0.7
KWP **Kalwaria Pacla** 145.83 340 PKP2 **PKPdf** 19 25 43.8 -0.1
KWP **Kalwaria Pacla** 145.83 340 *e*PKP **PKPab** 19 25 45.0 -0.1
KWP *e*PKP **PKPab** 19 25 45.0 -0.1
KWP **Kalwaria Pacla** 145.83 340 **PKPdf** 19 25 43.8 -0.1
IAS **Iasi** 146.01 333 ⇑PKP2 **PKPdf** 19 25 44.8 +0.5
IAS **Iasi** 146.01 333 ⇑P **PKPdf** 19 25 44.8 +0.5
OJC **Ojcow** 146.17 344 PKP2 **PKPdf** 19 25 44.5 0.0
OJC **Ojcow** 146.17 344 *e*PKP **PKPbc** 19 25 45.3 -0.3
OJC *e*PKP **PKPbc** 19 25 45.3 -0.3
OJC **Ojcow** 146.17 344 **PKPdf** 19 25 44.5 0.0
BZK **Bozkurt** 146.23 320 ⇑P **PKPbc** 19 25 46.4 +0.4
LEOM **Leova** 146.25 331 ⇑PKP2 **PKPdf** 19 25 45.0 +0.3
LEOM **Leova** 146.25 331 ⇑P **PKPdf** 19 25 45.0 +0.3
KSP **Ksiaz** 146.41 348 *e*PKP2 **PKPbc** 19 25 46.4 +0.1
KSP **Ksiaz** 146.41 348 *e*PKP **PKPbc** 19 25 46.4 +0.1
KSP *e*PKP **PKPbc** 19 25 46.4 +0.1
PRAR **RASCA** 146.44 334 ⇑P **PKiKP** 19 25 48.8 -0.6
CLL **Collm** 146.52 352 ⇓*i*PKP2 **PKPbc** 19 25 47.0 +0.4
CLL pmax pmax
comp=Z,153nm,0.9s
CLL **Collm** 146.52 352 ⇓*i*PKPbc **PKPbc** 19 25 47.0 +0.4
comp=Z,153nm,0.9s
CLL *i* PKiKP **PKiKP** 19 25 50.3 +0.9
comp=Z,195nm,1.3s
CLL *i* pPKiKP **pPKiKP** 19 26 15.5 -1.2
CLL *e*SS SS 19 47 54.0 -4.7
CLL *e*SSS SSS 19 53 24.0
CLL **Collm** 146.52 352 **PKPbc** 19 25 46.7 +0.1
GAZ **Gaziantep** 146.53 311 **PKPdf** 19 25 46.0 +0.4
KOLS **Kolonicke sedl** 146.58 340 *e*PKP2 **PKPbc** 19 25 46.6 -0.3
KOLS **Kolonicke sedl** 146.58 340 *e*PKP **PKPbc** 19 25 46.5 -0.3
BUR08 **Bucovina Ar. S** 146.62 336 **PKPbc** 19 25 47.0 -0.2
BURAR **Bucovina Array** 146.64 336 ⇑PKP2 **PKPab** 19 25 48.2 -0.3
BURAR **Bucovina Array** 146.64 336 ⇑P **PKPab** 19 25 48.2 -0.3
BIR **Birlad** 146.69 332 ⇑PKP2 **PKPbc** 19 25 47.4 +0.2
BIR **Birlad** 146.69 332 ⇑P **PKPbc** 19 25 47.4 +0.2
OSTC **Ostas** 146.70 348 *e*PKP **PKPdf** 19 25 46.3 +0.9
CHVC **Chvalec** 146.70 348 *e*PKP **PKPbc** 19 25 46.6 -0.6
NIE **Niedzica** 146.76 342 *e*PKP2 **PKPab** 19 25 48.3 -0.5
NIE **Niedzica** 146.76 342 *e*PKP **PKPab** 19 25 48.3 -0.4
NIE *e*PKP **PKPab** 19 25 48.3 -0.4
UPC **Upice** 146.79 348 *e*PKP2 **PKPdf** 19 25 46.6 +1.1
UPC **Upice** 146.79 348 *e*PKP **PKPdf** 19 25 46.6 +1.1
BRG **Berggiesshubel** 146.81 350 *i* PKP **PKPdf** 19 25 46.1 +0.6
comp=Z,73nm,0.9s
BRG *i* pPKP pPKPab 19 26 16.8 +1.2
comp=Z,102nm,1.3s
BRG *i* sPKP 19 26 26.3
comp=Z,216nm,1.9s
comp=N,666nm,17.5s
comp=E,983nm,17.9s
comp=Z,2μm,15.1s
BRG **Berggiesshubel** 146.81 350 *i* PKP2 **PKPdf** 19 25 46.1 +0.6
BRG pmax pmax
comp=Z,73nm,0.9s
BRG MLR MLR
comp=N,666nm,17.5s
BRG MLR MLR
comp=E,983nm,17.9s
BRG MLR MLR
comp=Z,2μm,15.1s
BIZ **Bicaz** 146.82 334 ⇑P **PKPbc** 19 25 47.0 -0.6
UZH **Uzhgorod** 146.84 340 *e*PKP2 **PKPdf** 19 25 46.3 +0.7
DPC **Dobruska-Polom** 146.87 347 *e*PKP2 **PKPbc** 19 25 47.0 -0.7
DPC **Dobruska-Polom** 146.87 347 *e*PKP **PKPbc** 19 25 47.0 -0.7
BUG **Bochum--Univer** 146.88 358 PKP2 **PKPab** 19 25 48.6 -0.5
TESR **Tescani** 146.93 333 ⇑P **PKPdf** 19 25 46.4 +0.5
TLCR 146.94 329 ⇑PKP2 **PKPbc** 19 25 48.7 +0.8
TLCR 146.94 329 ⇑P **PKPbc** 19 25 48.7 +0.8
OKC **Ostrava-Krasne** 146.94 345 *e*PKP2 **PKPbc** 19 25 47.8 0.0
OKC **Ostrava-Krasne** 146.94 345 *e*PKP **PKPbc** 19 25 47.8 0.0
GHRR 146.95 332 ⇑P **PKPbc** 19 25 48.2 +0.2
KRLC **Kraliky** 147.04 347 *e*PKP2 **PKPbc** 19 25 47.4 -0.8
KRLC **Kraliky** 147.04 347 *e*PKP **PKPbc** 19 25 47.4 -0.8
PVCC **Panska Ves** 147.04 350 *e*PKP2 **PKPbc** 19 25 47.2 -0.9
PVCC **Panska Ves** 147.04 350 *e*PKP **PKPbc** 19 25 47.2 -0.9
MORC **Moravsky Berou** 147.15 346 ⇑PKP2 **PKPdf** 19 25 47.5 +1.3
MORC **Moravsky Berou** 147.15 346 ⇑P **PKPdf** 19 25 47.5 +1.3
MORC **Moravsky Berou** 147.15 346 *e*PKP **PKPdf** 19 25 46.9 +0.7
MORC **Moravsky Berou** 147.15 346 **PKPdf** 19 25 46.5 +0.3
TRPA **Tarpa** 147.19 339 ⇑P **PKPdf** 19 25 46.6 +0.4
TRPA **Tarpa** 147.19 339 *e*PKiKPd **PKPbc** 19 25 48.1 -0.5
BMR **Baia Mare** 147.24 337 ⇑PKP2 **PKPbc** 19 25 48.0 -0.7
BMR **Baia Mare** 147.24 337 ⇑P **PKPbc** 19 25 48.0 -0.7
PETR **Petresti** 147.28 332 ⇑P **PKPbc** 19 25 49.8 +0.9
ASCN **Ascension** 147.32 141 **PKPbc** 19 25 49.8 -0.2
ODBI **Odobesti** 147.33 332 ⇓P **PKPab** 19 25 50.9 -0.2
MOX **Moxa** 147.35 353 PKP2 **PKPbc** 19 25 48.4 -0.6
TOPG **Topolog** 147.38 329 ⇑P **PKPdf** 19 25 47.3 +0.6
VRI **Vrincioaia** 147.40 332 ⇑PKP2 **PKPdf** 19 25 47.9 +1.2
VRI **Vrincioaia** 147.40 332 ⇑P **PKPdf** 19 25 47.9 +1.2
ARCR **ARCALIA** 147.41 336 ⇓P **PKPdf** 19 25 47.7 +1.0
PLOR **Plostina** 147.44 332 ⇓PKIKP **PKPdf** 19 25 47.0 +0.2
PLOR **Plostina** 147.44 332 ⇓P **PKPdf** 19 25 47.0 +0.2
PRU **Prague** 147.50 349 *e*PKP2 **PKPbc** 19 25 50.2 +0.8
PRA **Prague** 147.50 349 *e*PKP **PKPbc** 19 25 50.2 +0.8
UCC **Uccle** 147.53 2 PKP2 **PKPbc** 19 25 49.7 +0.3
UCC **Uccle** 147.53 2 **PKPbc** 19 25 49.7 +0.3
PRU **Pruhonice** 147.56 349 *e*PKIKP **PKPdf** 19 25 47.6 +0.8
PRU *e* 19 25 49.8
PRU **Pruhonice** 147.56 349 *e*PKP **PKPdf** 19 25 47.6 +0.8
PRU *ex* x 19 25 49.8
GOPC **GO Pecny, Ondr** 147.59 349 *e*PKIKP **PKPdf** 19 25 47.3 +0.4
GOPC *e* 19 25 50.0
GOPC **GO Pecny, Ondr** 147.59 349 *e*PKP **PKPdf** 19 25 47.3 +0.4
GOPC *ex* x 19 25 50.0
OZUR 147.63 333 ⇑P **PKPbc** 19 25 49.1 -0.8
NKC **Novy Kostel** 147.65 352 *e*PKIKP **PKPdf** 19 25 47.9 +0.9
NKC *e* 19 25 50.4
NKC **Novy Kostel** 147.65 352 *e*PKP **PKPdf** 19 25 47.9 +0.9
NKC *ex* x 19 25 50.4
BISRR **Bisoca** 147.65 332 ⇑P **PKPbc** 19 25 51.0 +0.9
TIRR **Tirgusor** 147.67 329 ⇓PKP2 **PKPbc** 19 25 50.2 +0.2
TIRR **Tirgusor** 147.67 329 ⇓P **PKPbc** 19 25 50.2 +0.2
TIRR **Tirgusor** 147.67 329 **PKPbc** 19 25 50.2 +0.2
BR131 **Keskin Array S** 147.72 317 PKIKP **PKPdf** 19 25 47.3 -0.3
BR131 19 25 51.2
BR131 **Keskin Array S** 147.72 317 **PKPdf** 19 25 47.3 -0.3
BR131 PKPbc **PKPbc** 19 25 51.2 +0.7
BRTR **Keskin Array B** 147.72 317*c i*PKP2 **PKPbc** 19 25 50.0 -0.5
BRTR pmax pmax
comp=Z,42nm,1.0s
BRTR **Keskin Array B** 147.72 317 PKP **PKPdf** 19 25 46.9 -0.7
comp=Z,42nm,1.0s,baz=134,slow=2.2,SNR=33
BRTR PKPbc **PKPbc** 19 25 51.5 +1.0
comp=Z,32nm,0.9s,baz=132,slow=2.1,SNR=52
HARR **Harsova** 147.73 330 ⇓PKP2 **PKPbc** 19 25 50.6 +0.4
HARR **Harsova** 147.73 330 ⇓P **PKPbc** 19 25 50.6 +0.4
VRAC **Vranov** 147.80 347 PKP **PKPdf** 19 25 46.3 -1.0
comp=Z,28nm,0.9s,baz=65,slow=1.3,SNR=20
VRAC PKPbc **PKPbc** 19 25 50.9 +0.7
comp=Z,48nm,0.9s,baz=313,slow=2.9,SNR=30
VRAC **Vranov** 147.80 347 ⇑P **PKPdf** 19 25 48.6 +1.3
VRAC **Vranov** 147.80 347 *e*PKP **PKPdf** 19 25 47.8 +0.6
DOPR **Dopca** 147.90 334 ⇑P **PKPdf** 19 25 48.7 +1.1
PBCC **Pribram** 147.95 350 *e*PKP **PKPdf** 19 25 48.0 +0.5
PBCC *ex* x 19 25 51.7
VYHS **Vyhne** 148.00 343 *e*PKIKP **PKPdf** 19 25 48.2 +0.6
VYHS *e* 19 25 52.0
VYHS **Vyhne** 148.00 343 *e*PKP **PKPdf** 19 25 48.2 +0.6
VYHS *e* 19 25 52.0
CJR **Cluj-Napoca** 148.01 336 ⇓PKP2 **PKPbc** 19 25 50.8 -0.1
CJR **Cluj-Napoca** 148.01 336 ⇓P **PKPbc** 19 25 50.8 -0.1
PGOR **Pogoanele** 148.02 331 ⇑P **PKPbc** 19 25 51.6 +0.7
MLR **Muntele Rosu** 148.04 333 ⇑PKIKP **PKPdf** 19 25 49.2 +1.3
MLR **Muntele Rosu** 148.04 333 PKP **PKPdf** 19 25 46.9 -1.0
comp=Z,31nm,1.2s,baz=3.2,slow=4.0,SNR=7.7
MLR PKPbc **PKPbc** 19 25 52.0 +0.8
comp=Z,70nm,1.1s,baz=6.8,slow=3.7,SNR=20
MLR **Muntele Rosu** 148.04 333 ⇑P **PKPdf** 19 25 49.2 +1.3
MLR **Muntele Rosu** 148.04 333 **PKPdf** 19 25 47.4 -0.6
MLR **PKPbc** 19 25 51.9 +0.7
KOLL **Kolacno** 148.04 344 *e*PKP **PKiKP** 19 25 52.3 -0.3
LTVH **Ltavrtes, Hu** 148.05 339 *e*PKiKPd **PKPbc** 19 25 51.1 +0.2
ISR **Istrita** 148.06 331 ⇑PKP2 **PKPbc** 19 25 52.1 +1.0
ISR **Istrita** 148.06 331 ⇑P **PKPbc** 19 25 52.1 +1.0
KRUC **Moravsky** 148.08 347 PKIKP **PKPdf** 19 25 48.2 +0.5
KRUC **Moravsky** 148.08 347 *e*PKP **PKPdf** 19 25 47.9 +0.2
ANTO **Ankara** 148.18 318 PKIKP **PKPdf** 19 25 48.4 +0.1
ANTO **Ankara** 148.18 318 **PKPdf** 19 25 48.4 +0.1
BR231 **Keskin MP Arra** 148.21 318 **PKPdf** 19 25 48.5 +0.1
PSZ **Piszkesteto** 148.22 342 ⇓PKP2 **PKPbc** 19 25 52.3 +0.8
PSZ **Piszkesteto** 148.22 342 ⇓P **PKPbc** 19 25 52.3 +0.8
PSZ **Piszkesteto** 148.22 342 *e*PKiKPd **PKPbc** 19 25 52.0 +0.6
PSZ **Piszkesteto** 148.22 342 **PKPbc** 19 25 48.5 +0.4
PSZ PKPbc **PKPbc** 19 25 52.2 +0.8
DRGR 148.27 337 ⇑PKIKP **PKPdf** 19 25 48.9 +0.7
DRGR 148.27 337 ⇑P **PKPdf** 19 25 48.9 +0.7
GRA1 **Grafenberg Arr** 148.33 353 **PKPdf** 19 25 48.5 +0.4
GRF **Grafenberg Arr** 148.33 353 PKIKP **PKPdf** 19 25 48.5 +0.4
SECR 148.34 332 ⇑P **PKPdf** 19 25 48.8 +0.5
SMOL **Smolenice** 148.35 345 *e*PKP2 **PKiKP** 19 25 53.4 +0.1
SMOL **Smolenice** 148.35 345 *e*PKP **PKiKP** 19 25 53.3 0.0
LEHL **Lehliu** 148.42 330 ⇑P **PKPbc** 19 25 51.2 -0.8
RASA **Rasa** 148.46 330 ⇑P **PKPbc** 19 25 52.0 0.0
VOIR 148.47 333 ⇑PKIKP **PKPdf** 19 25 49.4 +0.8
VOIR 148.47 333 ⇑P **PKPdf** 19 25 49.4 +0.8
MODS **Modra-Piesok** 148.52 345 *e*PKIKP **PKPdf** 19 25 49.0 +0.5
MODS *e* 19 25 52.8
MODS **Modra-Piesok** 148.52 345 *e*PKP **PKPdf** 19 25 49.0 +0.5
MODS *e* 19 25 52.8
SULR 148.53 331 ⇑P **PKPdf** 19 25 49.0 +0.5
KHC **Kasperske Hory** 148.55 350 PKIKP **PKPdf** 19 25 48.4 -0.1
KHC 19 25 53.2
KHC **Kasperske Hory** 148.55 350 *e*PKP **PKPdf** 19 25 49.0 +0.5
KHC *ex* x 19 25 52.7
KHC *e*pPKP **pPKPab** 19 26 21.5 -1.1
KHC **Kasperske Hory** 148.55 350 **PKPdf** 19 25 48.4 -0.1
KHC PKPbc **PKiKP** 19 25 53.2 -0.5
WET **Wettzell** 148.65 351 PKIKP **PKPdf** 19 25 49.7 +1.0
ASF **Jabal al Asfar** 148.66 302 PKPbc **PKPbc** 19 25 54.1 +1.0
comp=Z,23nm,1.0s,baz=46,slow=1.7,SNR=18
BSZH **Besenyszg** 148.66 341 *e*PKiKP **PKPbc** 19 25 53.1 +0.6
WLF **Walferdange** 148.68 359 PKP2 **PKiKP** 19 25 53.6 -0.3
WLF **Walferdange** 148.68 359 **PKiKP** 19 25 53.6 -0.3
ARR **Arges** 148.70 334 ⇑P **PKPdf** 19 25 50.4 +1.5
SRO **Srobarova** 148.77 343 *e*PKP2 **PKPbc** 19 25 53.5 +0.7
SRO **Srobarova** 148.77 343 *e*PKP **PKPbc** 19 25 53.5 +0.7
GEC2 **GERESS Array S** 148.81 350 **PKPbc** 19 25 49.3 +0.1
GEC2 PKPbc **PKPbc** 19 25 53.2 +0.3
GERES **GERESS Array B** 148.81 350 PKP **PKPdf** 19 25 49.1 +0.1
comp=Z,32nm,0.9s,baz=28,slow=1.2,SNR=32
GERES PKPbc **PKiKP** 19 25 53.9 -0.4
comp=Z,26nm,0.8s,baz=29,slow=2.5,SNR=114
DEV **Deva** 148.97 336 ⇑PKIKP **PKPdf** 19 25 50.1 +0.9
DEV **Deva** 148.97 336 ⇑P **PKPdf** 19 25 50.1 +0.9
MBAR **Mbarara** 149.01 235 PKP **PKPdf** 19 25 50.7 +0.2
comp=Z,44nm,1.0s,baz=132,slow=5.9,SNR=6.6
MBAR PKPbc **PKPbc** 19 25 55.4 +0.8
comp=Z,44nm,1.0s,baz=89,slow=4.5,SNR=41
SIRR **Siria** 149.10 338 ⇓P **PKPdf** 19 25 51.1 +1.7
CSKK **Cskako** 149.19 343 *e*PKiKPd **PKPbc** 19 25 53.1 -0.8
HUMR **Humele** 149.22 332 ⇑P **PKPdf** 19 25 48.8 -0.9
RAZG **Razgrad** 149.25 330 ⇑P **PKPbc** 19 25 54.2 0.0
CONA **Conrad Observa** 149.26 347 *i* PKPdf **PKPdf** 19 25 50.3 +0.5
comp=Z,12nm,1.1s,SNR=42
CONA *i* PKiKP **PKiKP** 19 25 55.2 -0.1
comp=Z,78nm,1.1s
GZR **Gura Zlata** 149.43 336 ⇓PKIKP **PKPdf** 19 25 50.1 0.0
GZR **Gura Zlata** 149.43 336 ⇓P **PKPdf** 19 25 50.1 0.0
STU **Stuttgart** 149.44 355 **PKPdf** 19 25 50.6 +0.7
MMAI **Mount Meron Ar** 149.55 305 PKPbc **PKiKP** 19 25 56.7 +0.4
comp=Z,17nm,0.5s,baz=72,slow=6.5,SNR=61
MPLH **Magyarpolny** 149.56 344 *e*PKiKPd **PKPbc** 19 25 55.1 +0.3
MOA **Molln** 149.67 348 *i* PKiKP **PKPbc** 19 25 55.6 +0.6
comp=Z,45nm,1.4s,SNR=8.8
BZS **Buzias** 149.67 338 ⇑P **PKPdf** 19 25 50.9 +0.6
TIH **Tihany** 149.72 343 *e*PKiKP **PKPbc** 19 25 55.0 -0.1
SRE **Strehaia** 149.86 335 ⇓P **PKPdf** 19 25 52.2 +1.5
VLAD **Vladila** 149.89 332 ⇑P **PKPdf** 19 25 52.1 +1.3
BFO **Black Forest** 149.94 356 PKP2 **PKPbc** 19 25 56.3 +0.6
BFO **Black Forest** 149.94 356 **PKPbc** 19 25 56.3 +0.6
ARSA **Arzberg** 149.98 347 *i* PKPdf **PKPdf** 19 25 51.2 +0.3
comp=Z,7.5nm,1.1s
ARSA *i* PKiKP **PKPbc** 19 25 56.3 +0.4
comp=Z,24nm,1.1s,SNR=6.7
ELND **Elena** 150.04 329 ⇑P **PKPdf** 19 25 51.8 +0.7
BANR **Banloc** 150.05 338 ⇑P **PKPdf** 19 25 55.8 -0.2
ECH **Echery** 150.10 358 PKP2 **PKPbc** 19 25 56.6 +0.5
ECH **Echery** 150.10 358 **PKPbc** 19 25 56.6 +0.5
MORH **Mrgy, Hungar** 150.13 342 *e*PKiKP **PKPdf** 19 25 50.1 -0.9
CLF **Chambon-Foret** 150.19 5 PKPdf **PKPdf** 19 25 51.9 +0.8
CLF **PKiKP** 19 25 57.2 +0.1
PLVB **Pleven** 150.27 331 ⇑P **PKPdf** 19 25 52.0 +0.7
PUNG **Punghina** 150.29 335 ⇓P **PKPdf** 19 25 52.2 +0.9
CSS **Mathiatis** 150.33 310 **PKPbc** 19 25 57.3 +0.2
MDVR **Moldovita** 150.35 337 ⇑P **PKPdf** 19 25 51.9 +0.3
SLE **Schleitheim** 150.49 356 PKIKP **PKPdf** 19 25 53.7 +2.1
RETA **Reutte** 150.56 353 *i* PKiKP **PKiKP** 19 25 57.9 -0.1
comp=Z,54nm,1.0s,SNR=14
LEF **Lefka** 150.58 310 ⇓P **PKPdf** 19 25 51.8 -0.3
KBA **Koelnbreinsper** 150.58 349 PKiKP **PKPdf** 19 25 53.4 +1.4
KBA **Koelnbreinsper** 150.58 349 *i* PKPdf **PKPdf** 19 25 52.1 +0.1
comp=Z,7.1nm,0.9s,SNR=13
KBA *i* PKiKP **PKPbc** 19 25 57.6 +0.1
comp=Z,40nm,0.9s
WATA **Walderalm** 150.61 352 *i* PKPdf **PKPdf** 19 25 51.9 -0.1
comp=Z,15nm,1.2s
WATA *i* PKiKP **PKPbc** 19 25 57.8 +0.3
comp=Z,59nm,1.0s,SNR=10
SOKA **Soboth** 150.63 347 *i* PKPdf **PKPdf** 19 25 51.8 -0.2
comp=Z,12nm,1.0s,SNR=26
SOKA *i* PKiKP **PKPbc** 19 25 57.7 +0.2
comp=Z,47nm,0.9s
PERS **Pernice** 150.65 347 *i* PKPdf **PKPdf** 19 25 51.8 -0.2
PERS *i* PKPbc **PKPbc** 19 25 57.5 0.0
MOTA **Moosalm** 150.66 352 *i* PKPdf **PKPdf** 19 25 52.6 +0.6
comp=Z,20nm,1.1s
MOTA *i* PKiKP **PKPbc** 19 25 58.0 +0.4
comp=Z,95nm,1.0s,SNR=15
WTTA **Wattenberg** 150.67 352 PKIKP **PKPdf** 19 25 53.3 +1.2
WTTA **Wattenberg** 150.67 352 *i* PKPdf **PKPdf** 19 25 52.4 +0.3
comp=Z,12nm,1.0s
WTTA *i* PKiKP **PKiKP** 19 25 58.2 -0.2
comp=Z,94nm,0.8s,SNR=17
FRGS **Fruska Gora** 150.70 339 *e*P **PKPdf** 19 25 51.6 -0.4
GROS **Grobnik** 150.73 346 *e*PKPdf **PKPdf** 19 25 51.8 -0.3
GROS *e*PKPbc **PKPbc** 19 25 57.5 -0.2
SQTA **Sankt Quirin** 150.77 352 *i* PKPdf **PKPdf** 19 25 52.7 +0.5
comp=Z,12nm,0.9s,SNR=28
SQTA *i* PKiKP **PKiKP** 19 25 58.4 -0.1
comp=Z,77nm,0.9s
DAVA **Damuels** 150.85 354 *i* PKiKP **PKiKP** 19 25 58.8 +0.1
comp=Z,97nm,1.0s,SNR=23
OBKA **Obir** 150.89 347 *i* PKPdf **PKPdf** 19 25 51.9 -0.5
comp=Z,1.5nm,0.9s
OBKA *i* PKiKP **PKPbc** 19 25 58.0 -0.1
comp=Z,25nm,0.8s,SNR=10
MYKA **Terra Mystica** 150.96 349 *i* PKPdf **PKPdf** 19 25 52.6 +0.2
comp=Z,7.3nm,1.0s
MYKA *i* PKiKP **PKPbc** 19 25 58.0 -0.3
comp=Z,41nm,0.8s,SNR=16
EIL **Elat** 151.00 299 PKP **PKPdf** 19 25 53.4 +0.5
comp=Z,9.2nm,1.0s,baz=324,slow=7.5,SNR=4.8
EIL PKPbc **PKiKP** 19 25 59.6 +0.3
comp=Z,56nm,0.9s,baz=2.0,slow=2.1,SNR=34
FETA **Feichten** 151.02 353 *i* PKPdf **PKPdf** 19 25 53.2 +0.6
comp=Z,20nm,0.9s,SNR=19
FETA *i* PKiKP **PKiKP** 19 25 59.7 +0.7
comp=Z,78nm,0.9s
ABTA **Abfaltersbach** 151.04 350 *i* PKPdf **PKPdf** 19 25 52.5 -0.1
comp=Z,30nm,1.1s,SNR=31
ABTA *i* PKiKP **PKPbc** 19 25 58.6 +0.1
comp=Z,103nm,0.8s
TEKS **Tekeris** 151.33 339 *e*P **PKPbc** 19 25 57.0 -2.1
CRES **Cresnjev** 151.34 346 *e*P **PKPdf** 19 25 52.8 -0.2
LJU **Ljubljana** 151.34 347 *e*P **PKPdf** 19 25 53.0 0.0
DAVOX **Davos/Dischmat** 151.35 354 PKP **PKPdf** 19 25 53.8 +0.6
comp=Z,11nm,0.9s,baz=8.1,slow=2.9,SNR=20
DAVOX PKPbc **PKiKP** 19 26 00.3 +0.6
comp=Z,73nm,0.8s,baz=318,slow=3.8,SNR=70
ALN **Alexandroupoli** 151.45 326 PKIKP **PKPbc** 19 25 59.1 -0.3
ALN **Alexandroupoli** 151.45 326 **PKPbc** 19 25 59.1 -0.3
FUORN **Ofenpass-Fuorn** 151.47 353 **PKPdf** 19 25 54.0 +0.5
FUORN PKPbc **PKiKP** 19 26 00.4 +0.3
STAL **STALIGIAL** 151.48 350 **PKPdf** 19 25 53.0 -0.2
VOJS **Vojsko** 151.49 348 *i* PKPdf **PKPdf** 19 25 52.8 -0.5
VOJS *e*PKPbc **PKPbc** 19 25 59.1 -0.4
VTS **Vitosha** 151.50 332 PKIKP **PKPdf** 19 25 53.1 -0.4
VTS 19 26 00.0
VTS **Vitosha** 151.50 332 ⇓P **PKPdf** 19 25 53.8 +0.3
VTS **Vitosha** 151.50 332 **PKPdf** 19 25 53.1 -0.4
VTS **PKPbc** 19 26 00.0 +0.3
DIVS **Divibare** 151.57 338 *e*P **PKPdf** 19 25 52.9 -0.6
CEY **Cerknica** 151.65 347 *e*P **PKPdf** 19 25 53.2 -0.3
TUE **Stuetta** 151.71 355 **PKiKP** 19 26 00.9 +0.4
TRI **Trieste** 151.82 348 PKIKP **PKPdf** 19 25 56.4 +2.7
BLY **Banja Luka** 151.89 342 *e*P **PKPdf** 19 25 54.4 +1.6
BLY **Banja Luka** 151.89 342 ⇑P **PKPdf** 19 25 59.9 -0.4
BLY **Banja Luka** 151.89 342 **PKPdf** 19 25 54.0 +0.2
BLY PKPbc **PKiKP** 19 26 00.7 0.0
HAPS **Han Pijesak,Bl** 151.94 339 *e*P **PKPdf** 19 25 54.6 +0.5
SENIN **Lac Senin/Sane** 151.95 358 **PKPbc** 19 26 00.8 0.0
BBLS **Lazići** 151.97 339 *e*P **PKPdf** 19 25 53.8 -0.3
RIY **Rijeka** 152.03 347 *e*P **PKPdf** 19 25 54.1 +0.1
RUDO **Rudo** 152.20 338 *e*P **PKPbc** 19 26 00.5 -0.6
MGRS **Mrkonjic Grad** 152.22 342 *e*P **PKiKP** 19 26 02.1 +0.7
SALO **Salr** 152.43 353 **PKPbc** 19 26 01.6 0.0
TEOL **Teolo** 152.53 351 **PKPdf** 19 25 54.9 +0.1
UPM **Unac-Piva** 152.73 339 *e*P **PKPbc** 19 26 01.7 -0.8
SSB **Saint Sauveur** 153.05 2 PKIKP **PKPdf** 19 25 55.6 0.0
SSB **Saint Sauveur** 153.05 2 **PKPdf** 19 25 55.6 0.0
BRY **Bratogost** 153.12 339 *e*P **PKPbc** 19 26 02.3 -1.0
PDG **Podgorica** 153.28 337 *e*P **PKPdf** 19 25 55.6 -0.3
PDG **Podgorica** 153.28 337 ⇑P **PKPdf** 19 25 56.0 +0.1
PDG **Podgorica** 153.28 337 **PKPdf** 19 25 55.3 -0.6
PDG PKPbc **PKPbc** 19 26 03.0 -0.4
BNI **Bardonecchia** 153.28 358 PKIKP **PKPdf** 19 25 56.7 +0.6
BNI **Bardonecchia** 153.28 358 **PKPdf** 19 25 56.7 +0.6
TREB **Trebinje** 153.35 339 *e*P **PKPbc** 19 26 01.4 -2.3
STON **Ston** 153.43 340 *e*P **PKPdf** 19 25 56.6 +0.5
DRME **Dracevica, Mon** 153.52 337 *e*P **PKPdf** 19 25 56.4 +0.1
HCY **Herceg Novi** 153.54 338 *e*P **PKPbc** 19 26 04.0 -0.1
ZCCA **Zocca** 153.62 351 **PKiKP** 19 26 05.1 +0.8
FNA **Florina** 153.80 332 PKIKP **PKPdf** 19 25 56.3 -0.5
FNA 19 26 04.4
FNA **Florina** 153.80 332 **PKPdf** 19 25 56.4 -0.5
FNA PKPbc **PKPbc** 19 26 04.4 -0.4
LIT **Litokhoron** 153.83 330 PKIKP **PKPbc** 19 26 04.4 -0.4
LIT **Litokhoron** 153.83 330 **PKPbc** 19 26 04.4 -0.4
PCAB **Cabril** 153.87 24 *e*PKP **PKiKP** 19 26 05.9 +1.0
PBRG **Braganca** 154.26 22 *e*PKP **PKiKP** 19 26 06.3 +0.5
PVRL **Vila Real** 154.37 24 *e*PKP **PKPbc** 19 26 05.7 -0.2
NRCA **Norcia** 154.71 347 **PKPdf** 19 25 57.7 -0.4
NRCA PKPab **PKPab** 19 26 21.9 +0.1
MVO **Moncorvo** 154.72 23 *e*PKP **PKiKP** 19 26 07.8 +1.0
SGRT **San Giovanni R** 155.05 342 **PKPdf** 19 25 57.6 -1.0
AQU **L'Aquila** 155.10 346 PKIKP **PKPdf** 19 25 58.0 -0.6
AQU **L'Aquila** 155.10 346 *e*P **PKPdf** 19 25 58.9 +0.3
AQU **L'Aquila** 155.10 346 **PKPdf** 19 25 58.0 -0.6
MTE **Manteigas** 155.18 25 *e*PKP **PKPdf** 19 26 02.2 +3.4
INTR **Introdacqua** 155.31 345 **PKPdf** 19 25 58.4 -0.5
PCBR **Castelo Branco** 155.69 25 *e*PKP **PKPdf** 19 26 00.8 +1.4
IDI **Anoyia** 155.94 319 PKP **PKPdf** 19 26 01.0 +1.0
comp=Z,12nm,1.0s,baz=327,slow=9.8,SNR=4.3
IDI PKPab **PKPab** 19 26 27.8 +0.4
comp=Z,8.0nm,0.6s,baz=13,slow=13,SNR=7.5
PBEJ **Beja** 157.04 28 *e*PKP **PKPdf** 19 26 05.1 +3.9
TIP **Timpagrande** 157.04 337 **PKPdf** 19 26 01.5 +0.3
TIP **PKPab** 19 26 31.9 0.0
ESBB **Sonseca Array** 157.10 19 **PKPab** 19 26 32.6 +0.4
ESDC **Sonseca Array** 157.10 19 PKP **PKPdf** 19 26 01.8 +0.5
comp=Z,2.7nm,0.8s,baz=342,slow=2.7,SNR=12
ESDC PKPab **PKPab** 19 26 32.0 -0.1
comp=Z,7.0nm,0.8s,baz=331,slow=3.3,SNR=14
ESDC pPKPab **pPKPab** 19 26 58.1 -0.6
comp=Z,7.0nm,1.1s,baz=353,slow=2.7,SNR=2.2
ESDC P

h5$^{km}_{\pm 1}$**,ML0.7/3,Error ellipse: s-maj=0.4km s-min=0.1km az=56.0,Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.03**	**126**	P	Pg	19 23 23.4	-0.1
ATFO				S	Sg	19 23 24.1	-0.1
ATVO	**AVT- Monte Val**	**0.10**	**268**	P	Pg	19 23 24.5	+0.2
ATVO				S	Sg	19 23 26.3	+0.5
ATVO				AML	AML		
	comp=E,49μm,1.2s						
ATVO				AML	AML		
	comp=N,48μm,0.3s						
ATVO				AML	AML		
	comp=N,48μm,0.3s						
ATPI	**Pietralunga -**	**0.12**	**304**	P	Pg	19 23 25.1	+0.3
ATPI				S	Sg	19 23 27.4	+1.0
MURB	**Monte Urbino**	**0.12**	**184**	P	Pg	19 23 25.1	+0.3
MURB				S	Sg	19 23 27.6	+1.1
MURB				AML	AML		
	comp=E,85μm,0.3s						
MURB				AML	AML		
	comp=N,109μm,0.3s						
MURB				AML	AML		
	comp=E,85μm,0.3s						
PIEI	**Pieia**	**0.15**	**359**	P	Pg	19 23 25.9	+0.6
PIEI				S	Sg	19 23 28.8	+1.4
PIEI				AML	AML		
	comp=E,65μm,0.3s						
PIEI				AML	AML		
	comp=N,51μm,0.2s						
PIEI				AML	AML		
	comp=E,65μm,0.3s						
PIEI				AML	AML		
	comp=N,51μm,0.2s						
FOSV	**Fossato di Vic**	**0.19**	**119**	P	Pg	19 23 26.4	+0.4
FOSV				S	Sg	19 23 29.8	+1.4
ATCC	**AVT- Casa Cast**	**0.21**	**159**	P	Pg	19 23 26.8	+0.4
ATCC				S	Sg	19 23 31.0	+1.7
NARO	**Abbazia di Nar**	**0.23**	**8**	P	Pg	19 23 27.1	+0.3
NARO				S	Sg	19 23 31.2	+1.5
BADI	**Badiali**	**0.25**	**300**	P	Pg	19 23 27.8	+0.6
BADI				S	Sg	19 23 31.8	+1.4
CSP1	**Cessapalombo**	**0.57**	**121**	S	Sb	19 23 43.0	-0.2
CADA	**Capodarco di F**	**0.91**	**102**	P	Pg	19 23 39.6	-0.1

IDC ***28*** *19:31:21.7±0.4,20.˚75N×146.˚77E,h0km,mb5.4/33, mb1 5.4/37,mb1mx5.4/41,mbtmp5.4/37,ML4.4/5,MS4.7/25, Ms1 4.7/25,ms1mx4.5/49,Error ellipse: s-maj=14.2km s-min=8.4km az=87.0*

ISCJB ***28*** *19:31:21.7±0.9,20.˚71N±0.˚02×146.˚67E±0.˚02,h9km±5km, mb5.6/204,MS5.1/74,Error ellipse: s-maj=3.1km s-min=2.7km az=40.2*

NEIC ***28*** *19:31:23.8±1.2,20.˚76N±0.˚05×146.˚67E±0.˚05,h12km±3km, mb5.6/228,Ms_20 5.3/259,Mwc5.6(GCMT)*

MOS ***28*** *19:31:26.7±1.0,20.˚73N×146.˚62E,h43km,mb6.0/55, MS5.1/20,Error ellipse: s-maj=7.0km s-min=3.9km az=110.3*

BJI ***28*** *19:31:27.0±0.0,20.˚80N×146.˚70E,h55km,mb5.3/72, mB5.6/63,Ms5.4/72,Ms7 5.2/66*

NEIC ***28*** *19:31:28,20.˚79N×146.˚97E,h16km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-2.97; $M_{\theta\theta}$0.64; $M_{\phi\phi}$2.32; $M_{r\theta}$-1.16; $M_{\theta\phi}$-0.64; $M_{\phi r}$-1.40; Fault plane solution: M_o3.32000×10^{17} NP1:ϕ_s147.00000°, δ37.00000°,λ-122.00000°. NP2:ϕ_s5.00000°,δ59.00000°, λ-68.00000°. Principal axes: T 2.7330, Plg12.0000°, Azm79.0000°; N 0.9603, Plg19.0000°, Azm173.0000°; P -3.6933, Plg68.0000°, Azm319.0000°;*

GCMT ***28*** *19:31:28.8±0.2,20.˚80N±0.˚02×146.˚96E±0.˚01,h14km, MW5.6/131,Moment Tensor Solution. s63,c82; s131,c200; Duration: 1ŧ5 Moment tensor: Scale 10^{17} Nm; M_{rr}-2.81±.09; $M_{\theta\theta}$0.55±.05; $M_{\phi\phi}$2.27±.07; $M_{r\theta}$-0.77±.16; $M_{\theta\phi}$-0.47±.04; $M_{\phi r}$-0.58±.14; Best double couple: M_o2.73800×10^{17} NP1:ϕ_p1.00000°, δ51.00000°, λ-72.00000°. NP2:ϕ_s153.00000°,δ42.00000°, λ-111.00000°. Principal axes: T 2.4160, Plg4.0000°, Azm78.0000°; N 0.6500, Plg14.0000°, Azm169.0000°; P -3.0600, Plg75.0000°, Azm331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 19:31:28.1±0.5,20.˚75N±0.˚03×146.˚68E±0.˚04,h42$^{km}_{\pm 4km}$, n1024,σ1ŧ40/947,mb5.5/282,MS5.3/197,35C-16D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**4.12**	**192**	Pn	**Pn**	**19 32 27.9**	**-0.7**
SARN				Sn	**Sn**	**19 33 15.2**	**-0.4**
ANA2	**Anatahan**	**4.48**	**192**	Pn	**Pn**	**19 32 31.3**	**-2.4**
GUMO	**Guam**	**7.33**	**194**	P	**Pn**	**19 33 11.3**	**-1.4**
GUMO						19 34 34.2	
GUMO	**Guam**	**7.33**	**194**	Pn	**Pn**	**19 33 12.5**	**-0.3**
	41nm,0.3s,baz=136,slow=5.6,SNR=14						
GUMO				Sn	**Sn**	**19 34 36.8**	**+2.1**
	18nm,0.3s,baz=168,slow=20,SNR=2.2						
GUMO	**Guam**	**7.33**	**194**		**Pn**	**19 33 11.3**	**-1.4**
GUMO				Sn	**Sn**	**19 34 34.2**	**-0.5**
JCJ	**Chichijima**	**7.53**	**328**	Pn	**Pn**	**19 33 13.6**	**-1.9**
	28nm,0.3s,baz=137,slow=18,SNR=5.0						
JCJ				Sn	**Sn**	**19 34 32.3**	**-7.3**
	203nm,0.3s,baz=143,slow=20,SNR=11						
JHJ2	**Mitsune**	**13.74**	**335**	Pn	**Pn**	**19 34 36.5**	**-3.9**
INU	**Inuyama**	**16.84**	**332**		**Pn**	**19 35 19.3**	**-1.5**
MJAR	**Matsushiro Arr**	**17.38**	**337**	P	**Pn**	**19 35 24.8**	**-2.8**
	0.1nm,0.3s,baz=160,slow=9.4,SNR=39						
MJAR				S	**Sn**	**19 38 30.4**	**-10**
	0.1nm,0.3s,baz=347,slow=27,SNR=5.3						
MAJO	**Matsushiro**	**17.39**	**337**	*i* P	**Pn**	**19 35 26.3**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,164nm,1.6s						
MAJO	**Matsushiro**	**17.39**	**337**		**Pn**	**19 35 26.3**	**-1.3**
MAT	**Matsushiro**	**17.39**	**337**	P	**Pn**	**19 35 25.7**	**-1.9**
MAT				S	**Sn**	**19 38 39.6**	**-0.6**
MJB9	**Matsu-Tunnel**	**17.39**	**337**		**Pn**	**19 35 26.3**	**-1.4**
PATS	**Pohnpei**	**17.84**	**139**	P	**Pn**	**19 35 32.5**	**-0.8**
PATS				IAmb	IAmb	19 35 49.4	
	comp=Z,474nm,1.1s						
JOW	**Kunigami**	**17.89**	**293**	P	**Pn**	**19 35 33.9**	**0.0**
	comp=Z,0.6nm,0.3s,baz=145,slow=12,SNR=10						
JOW	**Kunigami**	**17.89**	**293**	P	**Pn**	**19 35 32.5**	**-1.4**
JNU	**Nakatsue**	**18.68**	**314**	P	**P**	**19 35 43.6**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=112,slow=4.9,SNR=28						
JNU	**Nakatsue**	**18.68**	**314**	P	**P**	**19 35 42.4**	**-0.5**
WAKE	**Wake Island**	**18.83**	**91**	P	**P**	**19 35 44.1**	**-0.4**
WAKE				IAmb	IAmb	19 35 55.5	
	comp=Z,439nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**19.00**	**90**	P	**P**	**19 35 45.8**	**-0.4**
	baz=264,slow=12,SNR=12						
H11N2	**WAKE ISLAND Hy**	**19.00**	**90**	P	**P**	**19 35 45.8**	**-0.4**
	baz=264,slow=12,SNR=11						
H11N3	**WAKE ISLAND Hy**	**19.01**	**90**	P	**P**	**19 35 45.9**	**-0.4**
	baz=264,slow=12,SNR=9.2						
ERM	**Erimo**	**21.41**	**353**	P	**P**	**19 36 11.6**	**-0.7**
ERM				pmax	pmax		
	comp=Z,230nm,1.3s						
ERM	**Erimo**	**21.41**	**353**	P	**P**	**19 36 11.6**	**-0.7**
ERM				IAmb	IAmb	19 36 21.4	
	comp=Z,230nm,1.2s						
NMR	**Nemuro--Hokkai**	**22.57**	**358**	*e*P	P	19 36 32.5	+7.8
NMR				*e*S	**S**	**19 40 25.8**	**-3.4**
MANU	**Manus Island**	**22.67**	**178**	P	**P**	**19 36 25.2**	**-0.8**
MANU				IAmb	IAmb	19 36 28.8	
	comp=Z,166nm,0.9s						
TJN	**Taejon**	**22.96**	**317**	*ce*P	**P**	**19 36 28.7**	**-0.2**
SHO	**Shikotan**	**23.05**	**0**	P	**P**	**19 36 31.8**	**+2.1**
SHO				S	S	19 40 25.6	-12
SHO				pmax	pmax		
	comp=Z,70nm,0.8s						
SHO				pmax	pmax		
	comp=N,27nm,0.8s						
SHO				pmax	pmax		
	comp=E,18nm,0.8s						
GRPR	**Tuman**	**23.19**	**358**	*e*P	**P**	**19 36 37.6**	**+6.5**
GRPR				*e*S	**S**	**19 40 35.8**	**-3.9**
GRPR				pmax	pmax		
	comp=Z,105nm,0.5s						
GRPR				pmax	pmax		
	comp=E,36nm,0.4s						
GRPR				pmax	pmax		
	comp=N,28nm,0.2s						
KSRS	**Korea Array**	**23.28**	**320**	P	**P**	**19 36 30.5**	**-1.6**
	comp=N,61nm,1.1s,baz=147,slow=8.6,SNR=42						
KSRS				PcP	**PcP**	**19 40 19.6**	**+1.0**
	comp=N,7.2nm,1.0s,baz=150,slow=3.0,SNR=4.8						
KS19	**Wonju Array Si**	**23.35**	**320**	P	**P**	**19 36 31.7**	**-1.1**
NACB	**Ninganchiao**	**23.42**	**283**	P	**P**	**19 36 32.8**	**-0.8**
JKA	**Kamikawa-asahi**	**23.54**	**353**	P	**P**	**19 36 35.7**	**+1.2**
ASAJ	**Asahikawa**	**23.54**	**353**	P	**P**	**19 36 35.7**	**+1.1**
	comp=N,300nm,1.1s,baz=213,slow=13,SNR=24						
ASAJ				S	**S**	**19 40 50.6**	**+5.0**
	comp=N,21nm,1.1s,baz=253,slow=19,SNR=2.3						
YHNB	**Yeheng**	**23.65**	**284**	P	**P**	**19 36 34.3**	**-1.6**
YULB	**Yu-li**	**23.66**	**281**	P	**P**	**19 36 36.0**	**+0.1**
JAY	**Jayapura**	**23.86**	**195**	P	**P**	**19 36 38.0**	**+0.2**
JAY	**Jayapura**	**23.86**	**195**	P	**P**	**19 36 38.0**	**+0.2**
	comp=N,44nm,0.9s,baz=346,slow=5.1,SNR=4.8						
TWG	**Pinlang**	**23.86**	**280**	P	**P**	**19 36 36.0**	**-1.8**
TWG				IAmb	IAmb	19 36 50.5	
	comp=Z,254nm,1.3s						
SSLB	**Suanglung**	**23.99**	**282**	P	**P**	**19 36 37.6**	**-1.4**
SSLB				IAmb	IAmb	19 36 44.2	
	comp=Z,115nm,1.0s						
GENI	**Genyem**	**24.06**	**196**	P	**P**	**19 36 36.0**	**-3.7**
	comp=Z,135nm,1.2s						
INCN	**Inchon**	**24.10**	**318**	P	**P**	**19 36 38.4**	**-1.4**
INCN				pmax	pmax		
	comp=Z,230nm,1.3s						
INCN				MLR	MLR		
	comp=Z,4μm,18.0s						
INCN	**Inchon**	**24.10**	**318**	P	**P**	**19 36 38.4**	**-1.4**
INCN				IAmb	IAmb	19 36 41.8	
	comp=Z,230nm,1.2s						
TPUB	**Ta-pu**	**24.27**	**281**	P	**P**	**19 36 40.3**	**-1.3**
CGP	**Cagayan de Oro**	**24.50**	**243**	P	**P**	**19 36 43.4**	**-0.3**
DAV	**Davao City (W)**	**24.54**	**239**	LR	LR	19 45 12.1	
	comp=Z,4μm,20.3s,baz=93,slow=34						
DAV	**Davao City (W)**	**24.54**	**239**	P	**P**	**19 36 43.3**	**-0.8**
KCP	**Kidapawan**	**24.97**	**240**	⇑P	**P**	**19 36 46.1**	**-1.9**
SSE	**Sheshan**	**25.08**	**299**	P	**P**	**19 36 48.0**	**-0.8**
SSE				S	**S**	**19 41 11.0**	**+0.5**
SSE				pmax	pmax		
	comp=Z,33nm,0.8s						
SSE				pmax	pmax		
	comp=Z,490nm,4.9s						
SSE				LR	LR		
	comp=Z,1μm,14.7s						
SSE				LR	LR		
	comp=Z,2μm,17.4s						
SSE	**Sheshan**	**25.08**	**299**	P	**P**	**19 36 47.3**	**-1.5**
TGY	**Tagaytay City**	**25.41**	**259**	P	**P**	**19 36 53.2**	**+1.2**
	comp=Z,148nm,0.3s,baz=110,slow=11,SNR=5.0						
TGY				LR	LR	19 47 14.0	
	comp=Z,3μm,18.3s,baz=82,slow=37						
KRVT	**Keravat (AS076**	**25.45**	**168**	P	**P**	**19 36 51.3**	**-1.0**
	comp=Z,182nm,0.8s,baz=180,slow=2.0,SNR=3.2						
KRVT				LR	LR	19 46 10.7	
	comp=Z,2μm,20.9s,baz=343,slow=35						
VLA	**Vladivostok**	**25.51**	**334**	*i* P	**P**	**19 36 54.5**	**+1.9**
VLA				pmax	pmax		
	comp=Z,433nm,1.2s						
TEY	**Ternei**	**25.61**	**343**	⇓*i*P	**P**	**19 36 56.4**	**+3.0**
TEY				pmax	pmax		
	comp=E,60nm,1.2s						
TEY				pmax	pmax		
	comp=Z,140nm,1.2s						
TEY				pmax	pmax		
	comp=N,120nm,1.0s						
TEY				pmax	pmax		
	comp=N,300nm,1.6s						
TEY				pmax	pmax		
	comp=Z,400nm,1.6s						
TEY				pmax	pmax		
	comp=E,300nm,0.9s						
WAMI	**Wamena**	**25.70**	**199**	P	P	19 36 47.1	-7.5
SWI	**Sorong**	**26.25**	**217**	P	**P**	**19 36 59.2**	**-0.4**
SWI				pmax	pmax		
	comp=Z,39nm,1.1s						
SWI	**Sorong**	**26.25**	**217**	P	**P**	**19 36 57.6**	**-2.0**
	comp=Z,39nm,1.3s						
SIJI	**Sorong**	**26.26**	**217**	P	**P**	**19 36 59.0**	**-0.7**
	comp=Z,22nm,0.8s,baz=43,slow=7.6,SNR=14						
SIJI				PcP	**PcP**	**19 40 25.4**	**-0.1**
	comp=Z,14nm,1.0s,baz=26,slow=8.0,SNR=4.2						
SIJI				LR	LR	19 45 51.7	
	comp=Z,2μm,20.3s,baz=351,slow=33						
YSS	**Yuzh-Sakhalins**	**26.33**	**354**	⇑*e*P	**P**	**19 36 59.9**	**0.0**
YSS				*e*		19 37 36.9	
YSS				pmax	pmax		
	comp=Z,120nm,0.6s						
YSS				pmax	pmax		
	comp=Z,2μm,5.6s						
YSS	**Yuzh-Sakhalins**	**26.33**	**354**	P	**P**	**19 36 59.6**	**-0.4**
YSS				IAmb	IAmb	19 37 04.5	
	comp=Z,201nm,1.2s						
USA0B	**Ussuriysk Arra**	**26.38**	**336**	P	**P**	**19 37 00.1**	**-0.3**
USA0B				pmax	pmax		
	comp=Z,296nm,1.1s						
USA0B				MLR	MLR		
	comp=Z,3μm,19.0s						
USA0B	**Ussuriysk Arra**	**26.38**	**336**	P	**P**	**19 37 00.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**26.38**	**336**	P	**P**	**19 37 00.9**	**+0.5**
	comp=Z,182nm,1.0s,baz=142,slow=6.8,SNR=55						
NJ2	**Nanjing**	**27.27**	**300**	⇑P	**P**	**19 37 08.0**	**-0.6**
NJ2				pP	**pP**	**19 37 20.5**	**+1.8**
NJ2				sP	**pwP**	**19 37 25.3**	**+1.2**
NJ2				S	**S**	**19 41 48.3**	**+3.2**
NJ2				sS	**sS**	**19 42 06.5**	**+4.7**
NJ2				ScP	**ScP**	**19 44 04.5**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,24nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,590nm,5.7s						
NJ2				LR	LR		
	comp=Z,3μm,14.2s						
NJ2				LR	LR		
	comp=Z,3μm,13.7s						
NJ2				LR	LR		
	comp=Z,4μm,11.4s						
TNTI	**Ternate**	**27.39**	**226**	P	**P**	**19 37 09.7**	**-0.2**
	comp=Z,16nm,0.9s						
FAKI	**Fak Fak**	**27.45**	**213**	P	**P**	**19 37 06.9**	**-3.5**
	comp=Z,39nm,1.1s						
FAKI	**Fak Fak**	**27.45**	**213**	P	**P**	**19 37 09.1**	**-1.3**
MDJ	**Mudanjiang**	**27.69**	**333**	P	**P**	**19 37 13.3**	**+1.1**
MDJ				pP	sP	19 37 26.0	-1.0
MDJ				sP	pwP	19 37 32.5	+4.8
MDJ				PP	**PnPn**	**19 38 00.8**	**+1.5**
MDJ				PcP	**PcP**	**19 40 29.0**	**+0.6**
MDJ				S	**S**	**19 41 45.8**	**-5.7**
MDJ				sS	sS	19 42 15.8	+7.5
MDJ				SS	**SnSn**	**19 43 10.5**	**+4.4**
MDJ				PcS	**PcS**	**19 44 09.0**	**-1.2**
MDJ				ScS	**ScS**	**19 47 56.5**	**-1.2**
MDJ				pmax	pmax		
	comp=Z,58nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,1μm,6.1s						
MDJ				LR	LR		
	comp=Z,5μm,15.0s						
MDJ				LR	LR		
	comp=Z,1μm,12.1s						
MDJ				LR	LR		
	comp=Z,7μm,14.9s						
MDJ	**Mudanjiang**	**27.69**	**333**	P	**P**	**19 37 12.0**	**-0.3**
MDJ				IAmb	IAmb	19 37 15.5	
	comp=Z,110nm,1.4s						
LBMI	**Labuha**	**28.36**	**224**	P	**P**	**19 37 17.4**	**-1.1**
	comp=Z,39nm,0.7s						
SNY	**Shenyang**	**28.67**	**322**	⇑P	**P**	**19 37 20.0**	**-0.9**
SNY				pmax	pmax		
	comp=Z,48nm,1.1s						
SNY				pmax	pmax		
	comp=Z,840nm,6.1s						
SNY				LR	LR		
	comp=Z,2μm,13.8s						
SNY				LR	LR		
	comp=Z,3μm,15.9s						
SNY				LR	LR		
	comp=Z,4μm,15.9s						
CN2	**Changchun**	**29.00**	**327**	*e*P	**P**	**19 37 24.0**	**+0.1**
CN2				*e*S	**S**	**19 42 12.0**	**-0.1**
CN2				pmax	pmax		
	comp=Z,20nm,1.1s						
CN2				pmax	pmax		
	comp=Z,700nm,5.0s						
CN2				LR	LR		
	comp=Z,3μm,19.0s						
CN2				LR	LR		
	comp=Z,3μm,19.0s						
CN2				LR	LR		
	comp=Z,3μm,17.0s						
MSAI	**Masohi**	**29.61**	**218**	P	**P**	**19 37 30.8**	**+1.2**
KMSI	**Cibinong**	**29.90**	**231**	P	**P**	**19 37 31.1**	**-1.1**
	comp=Z,42nm,0.7s						
PMG	**Port Moresby**	**29.98**	**179**	*ce*P	**P**	**19 37 30.5**	**-2.2**
PMG				pmax	pmax		
	comp=Z,601nm,2.4s						
PMG	**Port Moresby**	**29.98**	**179**	P	**P**	**19 37 31.6**	**-1.2**
	comp=Z,44nm,0.9s,baz=1.3,slow=7.2,SNR=18						
PMG	**Port Moresby**	**29.98**	**179**	P	**P**	**19 37 31.6**	**-1.2**
PMG				IAmb	IAmb	19 37 40.1	
	comp=Z,77nm,0.8s						
TIA	**Tai'an**	**30.05**	**307**	P	**P**	**19 37 32.5**	**-0.8**
TIA				pmax	pmax		
	comp=Z,21nm,0.8s						
TIA				LR	LR		
	comp=Z,2μm,16.4s						
TIA				LR	LR		
	comp=Z,1μm,17.1s						
TIA				LR	LR		
	comp=Z,2μm,8.5s						
AAI	**Ambon**	**30.31**	**219**	P	**P**	**19 37 35.4**	**-0.4**
AAI				pmax	pmax		
	comp=Z,76nm,0.8s						
AAI	**Ambon**	**30.31**	**219**	P	**P**	**19 37 34.8**	**-1.0**
	comp=Z,76nm,0.8s						
SANI	**Sanana**	**30.41**	**224**	P	**P**	**19 37 33.6**	**-3.0**
	comp=Z,17nm,0.8s						
WHN	**Wuhan**	**30.64**	**295**	⇓P	**P**	**19 37 42.5**	**+3.9**
WHN				S	S	19 43 06.3	+28
WHN				LR	LR		
	comp=N,4μm,14.8s						
WHN				LR	LR		
	comp=E,5μm,13.0s						
WHN				LR	LR		
	comp=Z,5μm,16.0s						
KLR	**Kul'dur**	**30.81**	**341**	*i* P	**P**	**19 37 40.1**	**+0.2**
KLR				pmax	pmax		
	comp=Z,48nm,0.9s						
KLR	**Kul'dur**	**30.81**	**341**	P	**P**	**19 37 40.4**	**+0.5**
	comp=Z,34nm,0.6s,baz=156,slow=7.0,SNR=100						
KLR				PcP	**PcP**	**19 40 36.8**	**+0.5**
	comp=Z,17nm,0.9s,baz=140,slow=2.4,SNR=7.4						
GRNR	**Gornyy**	**31.03**	**347**	⇓*i*P	**P**	**19 37 42.7**	**+0.9**
GRNR				*e*S	**S**	**19 42 47.0**	**+3.2**
GRNR				pmax	pmax		
	comp=Z,80nm,1.3s						
GRNR				smax	smax		
	comp=N,8.0nm,1.1s						
GRNR				MLR	MLR		
	comp=Z,650nm,12.0s						
MRSI	**Marisa**	**31.47**	**233**	P	**P**	**19 37 44.7**	**-1.3**
	comp=Z,36nm,0.8s,comp=Z,21μm						
LUWI	**Luwuk**	**31.89**	**230**	P	P	19 37 45.2	-4.5
	comp=Z,31nm,0.5s,comp=Z,1μmcomp=Z,33μm						
LUWI	**Luwuk**	**31.89**	**230**	P	**P**	**19 37 48.1**	**-1.5**
SAUI	**Saumlaki**	**32.31**	**209**	P	**P**	**19 37 51.9**	**-1.5**
	comp=Z,88nm,0.9s,comp=Z,3μm						
SAUI	**Saumlaki**	**32.31**	**209**	P	**P**	**19 37 53.2**	**-0.2**
BJT	**Baijiatuan**	**32.34**	**313**	P	**P**	**19 37 52.1**	**-1.4**
BJT				pmax	pmax		
	comp=Z,17nm,1.1s						
BJT	**Baijiatuan**	**32.34**	**313**	P	**P**	**19 37 52.1**	**-1.4**
APSI	**Ampana**	**32.61**	**232**	P	**P**	**19 37 54.3**	**-1.8**
	comp=Z,46nm,1.1s,comp=Z,18μm						
HNR	**Honiara**	**32.71**	**155**	P	**P**	**19 37 56.6**	**-0.2**
HNR				pmax	pmax		
	comp=Z,64nm,0.9s						
HNR				MLR	MLR		
	comp=Z,4μm,19.0s						
HNR	**Honiara**	**32.71**	**155**	P	**P**	**19 37 56.6**	**-0.2**
HNR				IAmb	IAmb	19 38 20.5	
	comp=Z,64nm,0.9s						
HNR	**Honiara**	**32.71**	**155**	IAMs_20	IAMs_20	19 50 52.4	
	comp=Z,4μm,19.0s						
KKM	**Kota Kinabalu**	**32.95**	**248**	P	**P**	**19 37 58.1**	**-1.1**
MPSI	**Mapaga**	**33.12**	**236**	P	**P**	**19 38 00.5**	**0.0**
	comp=Z,21nm,1.5s						
PEA0B	**Petropavlovsk-**	**33.40**	**12**	P	**P**	**19 38 01.6**	**-0.9**
PEA0B				pmax	pmax		
	comp=Z,506nm,2.0s						
PEA0B	**Petropavlovsk-**	**33.40**	**12**	P	**P**	**19 38 01.6**	**-0.9**
PETK	**Petropavlovsk-**	**33.40**	**12**	P	**P**	**19 38 02.4**	**-0.1**
	comp=Z,37nm,1.0s,baz=193,slow=6.4,SNR=10						
PETK				PcP	**PcP**	**19 40 42.8**	**-0.5**
	comp=Z,25nm,1.0s,baz=208,slow=5.9,SNR=4.9						
PETK				LR	LR	19 55 36.4	
	comp=Z,2μm,18.1s,baz=190,slow=44						
TIY	**Taiyuan**	**34.09**	**307**	*e*P	**P**	**19 38 10.3**	**+1.4**
QIZ	**Qiongzhong**	**34.63**	**274**	P	**P**	**19 38 12.8**	**-0.9**
QIZ				S	**S**	**19 43 39.8**	**-0.8**
QIZ				LR	LR		
	comp=Z,1μm,12.7s						
QIZ				LR	LR		
	comp=Z,2μm,15.5s						
QIZ				LR	LR		
	comp=Z,2μm,14.7s						
COEN	**Coen**	**34.67**	**186**	P	**P**	**19 38 12.8**	**-1.1**
ENH	**Enshi**	**34.75**	**293**	P	**P**	**19 38 13.6**	**-1.0**
BBSI	**Bau Bau**	**35.22**	**225**	P	**P**	**19 38 19.0**	**+0.3**
	comp=Z,13nm,0.9s						
TTSI	**Tana Toraja**	**35.40**	**231**	P	**P**	**19 38 20.4**	**+0.2**
	comp=Z,63nm,0.8s,comp=Z,1μmcomp=Z,29μm						
HIA	**Hailar**	**35.64**	**329**	*e*P	**P**	**19 38 22.2**	**+0.2**
HIA				pmax	pmax		
	comp=Z,444nm,1.1s						
HIA	**Hailar**	**35.64**	**329**	P	**P**	**19 38 21.4**	**-0.5**
HIA				IAmb	IAmb	19 38 24.5	
	comp=Z,142nm,1.4s						
SMKI	**Samarinda**	**35.70**	**237**	P	**P**	**19 38 24.4**	**+1.5**
	comp=Z,86nm,1.0s						
XAN	**Xi'an**	**35.84**	**300**	P	**P**	**19 38 23.0**	**-0.9**
XAN				pP	pP	19 38 36.0	+1.8
XAN				pmax	pmax		
	comp=Z,24nm,0.9s						
XAN	**Xi'an**	**35.84**	**300**	P	**P**	**19 38 22.3**	**-1.6**
XAN				pmax	pmax		
	comp=Z,98nm,1.6s						
XAN				MLR	MLR		
	comp=Z,1μm,20.0s						
XAN	**Xi'an**	**35.84**	**300**	P	**P**	**19 38 22.3**	**-1.6**
XAN				IAmb	IAmb	19 38 43.1	
	comp=Z,98nm,1.6s						
HHC	**Hu-ho-hao-te**	**35.88**	**312**	*e*P	**P**	**19 38 24.5**	**+0.3**
HHC				S	**S**	**19 43 56.8**	**-2.6**
HHC				pmax	pmax		
	comp=Z,410nm,6.0s						
HHC				LR	LR		
	comp=Z,890nm,13.6s						
HHC				LR	LR		
	comp=Z,1μm,14.5s						
HHC				LR	LR		
	comp=Z,1μm,14.5s						
SPSI	**Sidrap Palu**	**36.06**	**230**	P	**P**	**19 38 24.9**	**-1.0**
	comp=Z,52nm,0.9s,comp=Z,902nmcomp=Z,30μm						
BNSI	**Bone**	**36.12**	**229**	P	**P**	**19 38 26.5**	**+0.1**
	comp=Z,52nm,1.0s,comp=Z,1μm						
ZEA	**Zeya**	**36.13**	**340**	*e*P	**P**	**19 38 26.2**	**+0.1**
ZEA				pmax	pmax		
	comp=N,59nm,1.0s						
ZEA				pmax	pmax		
	comp

SOEI Soe 37.48 218 P **P** 19 38 36.0 -2.1
comp=Z,1µm,14.6s comp=Z,59nm,0.7s
SOEI Soe 37.48 218 P **P** 19 38 36.4 -1.7
DLV T Lat 37.60 263 P **P** 19 38 38.4 -0.9
DLV IAmb IAmb 19 38 42.0
comp=Z,67nm,0.8s
MMRI Maumere 37.82 222 P **P** 19 38 39.5 -1.4
comp=Z,89nm,1.1s,comp=Z,2µm
MMRI Maumere 37.82 222 P **P** 19 38 39.4 -1.5
MMRI IAmb IAmb 19 38 42.9
comp=Z,72nm,0.9s
SBUM Sibu 38.19 246 P **P** 19 38 45.0 +0.9
SBUM Sibu 38.19 246 P **P** 19 38 43.7 -0.3
BATI Baumata 38.19 218 LR LR 19 52 13.1
comp=Z,1µm,21.2s,baz=48,slow=33
MA2 Magadan 38.89 3*ce*P **P** 19 38 51.0 +1.6
MA2 pmax pmax
comp=Z,218nm,1.1s
MA2 Magadan 38.89 3 LR LR 19 51 41.0
comp=Z,1µm,21.6s,baz=227,slow=31
MA2 Magadan 38.89 3 P **P** 19 38 48.9 -0.4
MA2 IAmb IAmb 19 38 52.4
comp=Z,160nm,0.9s
UBPT Khong Chiam 39.49 269 P P 19 39 01.9 +7.0
UBPT Khong Chiam 39.49 269 P **P** 19 38 54.2 -0.6
CD2 Chengdu 39.73 294 P **P** 19 38 57.5 +0.7
CD2 S **S** 19 44 58.0 +0.1
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,610nm,6.3s
CD2 LR LR
comp=Z,4µm,16.7s
CD2 LR LR
comp=Z,4µm,16.7s
CD2 LR LR
comp=Z,4µm,16.7s
SLVN Son La 39.84 279 P **P** 19 38 56.8 -1.0
KNRA Kununurra 40.25 207 P **P** 19 39 00.5 -0.6
LZH Lanzhou 40.32 302 *eP* **P** 19 39 02.3 +0.5
LZH pP sP 19 39 16.5 -0.1
LZH S **S** 19 45 09.3 +2.5
LZH sS sS 19 45 31.0 +7.1
LZH pmax pmax
comp=Z,140nm,1.1s
LZH pmax pmax
comp=Z,740nm,4.2s
LZH LR LR
comp=Z,2µm,11.9s
LZH LR LR
comp=Z,2µm,10.8s
LZH LR LR
comp=Z,2µm,11.4s
KSM Kuching 40.33 246 P **P** 19 39 00.2 -1.7
CIT Chita 40.42 329 *eP* **P** 19 39 03.1 +0.8
CIT pmax pmax
comp=Z,319nm,1.2s
KMI Kunming 40.57 285 P **P** 19 39 06.0 +1.9
KMI pP pP 19 39 16.0 +1.5
KMI sP pwP 19 39 20.0 +0.3
KMI S **S** 19 45 11.3 +0.4
KMI SS **SS** 19 48 06.3 -5.5
KMI pmax pmax
comp=Z,19nm,0.9s
KMI pmax pmax
comp=Z,520nm,5.9s
KMI LR LR
comp=Z,950nm,17.7s
KMI LR LR
comp=Z,870nm,19.8s
KMI LR LR
comp=Z,1µm,18.4s
KMI Kunming 40.57 285 P **P** 19 39 02.9 -1.2
KMI pmax pmax
comp=Z,17nm,0.6s
KMI MLR MLR
comp=Z,2µm,20.0s
KMI Kunming 40.57 285 P **P** 19 39 02.9 -1.2
CTAO Charters Tower 40.59 181 P **P** 19 39 03.7 -0.2
CTAO pmax pmax
comp=Z,50nm,0.9s
PLAI Plampang 40.88 227 P **P** 19 39 05.2 -1.2
comp=Z,52nm,0.5s
NONG Nongkai 41.06 274 P **P** 19 39 10.4 +2.5
comp=Z,0.7nm,1.1s,comp=Z,149nm
TWSI Taliwang, Sumb 41.44 228 P **P** 19 39 09.6 -1.4
comp=Z,67nm,0.7s,comp=Z,39µm
ULN Ulaanbaatar 41.77 320*ce*P **P** 19 39 14.0 +0.4
ULN pmax pmax
comp=Z,29nm,1.0s
ULN Ulaanbaatar 41.77 320 P **P** 19 39 13.2 -0.3
KIWB Kanaga Island 41.85 33 P **P** 19 39 13.6 -0.3
ADK Adak 42.10 33 P **P** 19 39 15.9 -0.1
ADK pmax pmax
comp=Z,217nm,1.5s
ADK Adak 42.10 33 P **P** 19 39 15.9 -0.1
ADK IAmb IAmb 19 39 18.5
comp=Z,217nm,1.5s
SONM Songino Array 42.16 320 P **P** 19 39 16.8 +0.1
comp=Z,15nm,0.7s,baz=136,slow=8.3,SNR=38
SONM PcP **PcP** 19 41 10.8 +0.4
comp=Z,6.7nm,0.7s,baz=134,slow=3.5,SNR=4.2
SRBI Singaraja 42.16 230 P **P** 19 39 14.1 -2.8
comp=Z,52nm,1.0s,comp=Z,45µm
WR0 Warramunga Arr 42.17 197 P **P** 19 39 16.0 -0.9
WRAB Tennant Creek 42.20 197*ce*P **P** 19 39 16.4 -0.7
WRAB pmax pmax
comp=Z,52nm,0.8s
WRAB Tennant Creek 42.20 197 P **P** 19 39 16.1 -1.0
WRAB Tennant Creek 42.20 197 IAMs_20 IAMs_20 19 56 40.2
comp=Z,3µm,20.0s
WRA Warramunga Arr 42.21 197*ce*P **P** 19 39 16.6 -0.6
WRA pmax pmax
comp=Z,39nm,0.7s
WRA Warramunga Arr 42.21 197 P **P** 19 39 16.6 -0.6
comp=Z,38nm,0.7s,baz=16,slow=8.5,SNR=106
WRA PcP **PcP** 19 41 11.6 +0.7
comp=Z,31nm,0.9s,baz=7.6,slow=3.3,SNR=9.8
WC4 Warramunga Arr 42.23 197 IAMs_20 IAMs_20 19 56 41.1
comp=Z,3µm,20.0s
SEY Seymchan 42.33 4 *i* P **P** 19 39 18.0 +0.3
CHAI Chaiyaphum 42.60 271 P **P** 19 39 22.1 +1.6
comp=Z,55µm,1.0s,comp=Z,450µm
YAK Yakutsk 42.89 348*di*P **P** 19 39 21.6 -0.6
YAK *e* 19 41 06.9
YAK *e* 19 41 12.4
YAK ePPP PPP 19 41 33.4
YAK *e*S **S** 19 45 43.2 -0.6
YAK pmax pmax
comp=Z,74nm,0.9s
YAK pmax pmax
comp=E,14nm,1.1s
YAK pmax pmax
comp=N,37nm,1.1s
YAK pmax pmax
comp=Z,36nm,1.3s
YAK pmax pmax
comp=E,187nm,2.8s
YAK pmax pmax
comp=N,170nm,2.6s
YAK smax smax
comp=E,265nm,3.7s
YAK smax smax
comp=N,776nm,5.3s
YAK Yakutsk 42.89 348 P **P** 19 39 21.6 -0.6
YAK IAmb IAmb 19 39 23.8
comp=Z,112nm,1.1s
JAGI Jajag, Banyuwa 43.19 231 P **P** 19 39 24.7 -0.6
JAGI IAmb IAmb 19 39 42.8
comp=Z,182nm,1.8s
FUNA Funafuti 43.22 129 P **P** 19 39 24.9 -0.6
FUNA IAmb IAmb 19 39 38.5
comp=Z,136nm,1.2s
PBKT Sadao Pong 43.40 272 P **P** 19 39 29.0 +2.0
comp=Z,16nm,1.0s
PBKT Sadao Pong 43.40 272 P **P** 19 39 26.6 -0.4
GRJI Gresik 43.42 234 P **P** 19 39 26.2 -0.9
comp=Z,114nm,1.1s
UTTA Uttaradit 43.54 274 P **P** 19 39 30.6 +2.5
comp=Z,63µm,1.0s,comp=Z,562µm
PHRA Phrae 43.70 275 P **P** 19 39 32.7 +3.3
comp=Z,2.6nm,1.1s,comp=Z,2µm
FITZ Fitzroy Crossi 43.78 210 P **P** 19 39 29.8 0.0
PHIT Phitsanulok 43.78 273 P **P** 19 39 33.1 +3.0
comp=Z,128µm,1.0s

PAYA Payao 43.88 277 P **P** 19 39 33.0 +2.2
comp=Z,34µm,0.8s,comp=Z,337µm
BOD Bodaibo 44.01 335 *eP* **P** 19 39 30.9 -0.4
BOD pmax pmax
comp=Z,43nm,1.2s
GTA Gaotai 44.07 306 *eP* **P** 19 39 32.0 -0.3
GTA pP pP 19 39 44.3 +1.4
GTA sP pwP 19 39 49.5 +1.5
GTA PcP **PcP** 19 41 18.5 +1.4
GTA pmax pmax
comp=Z,22nm,1.0s
GTA pmax pmax
comp=Z,520nm,6.9s
GTA LR LR
comp=Z,2µm,15.8s
GTA LR LR
comp=Z,2µm,17.2s
GTA LR LR
comp=Z,2µm,18.5s
LAMP Lampang 44.25 276 P **P** 19 39 36.8 +3.0
comp=Z,26µm,0.8s,comp=Z,405µm
PATY Pattaya 44.41 267 P **P** 19 39 38.1 +3.0
comp=Z,53µm,0.8s
NGJI Ngawi 44.48 235 P **P** 19 39 35.0 -0.6
comp=Z,77nm,1.2s
PWJI Pagerwojo 44.64 234 P **P** 19 39 35.2 -1.7
comp=Z,60nm,1.0s
CHTO Chiang Mai 44.84 276 P **P** 19 39 37.7 -0.8
CHTO pmax pmax
comp=Z,78nm,2.0s
CHTO MLR MLR
comp=Z,1µm,18.0s
CHTO Chiang Mai 44.84 276 P **P** 19 39 37.7 -0.8
CM31 Chiang Mai Arr 44.90 276 P **P** 19 39 38.4 -0.6
SNR=10
CM31 Chiang Mai Arr 44.90 276 P **P** 19 39 38.7 -0.3
CMAR Chiang Mai Arr 44.90 276*ce*P **P** 19 39 39.7 +0.7
CMAR pmax pmax
comp=Z,6.0nm,0.6s
CMAR Chiang Mai Arr 44.90 276 P **P** 19 39 39.5 +0.5
comp=Z,5.3nm,0.6s,baz=88,slow=5.4,SNR=48
UTHA Uthaitani 45.06 272 P **P** 19 39 41.9 +1.6
comp=Z,72µm,0.9s,comp=Z,540µm
ZAK Zakamensk 45.09 322 *eP* **P** 19 39 40.6 +0.4
ZAK pmax pmax
comp=Z,49nm,1.2s
WOJI Wonogiri, Jawa 45.19 235 P **P** 19 39 39.1 -2.2
comp=Z,41nm,1.1s
IRK Irkutsk 45.35 324 *eP* **P** 19 39 42.0 -0.2
IRK pmax pmax
comp=Z,161nm,2.3s
TLY Talaya 45.45 323*di*P **P** 19 39 43.6 +0.7
TLY *e*S S 19 46 33.0 +12
TLY pmax pmax
comp=Z,250nm,1.3s
TLY Talaya 45.45 323 P **P** 19 39 42.7 -0.2
TLY IAmb IAmb 19 39 46.0
comp=Z,100nm,1.2s
UMPA Umpang Tak 45.45 273 P **P** 19 39 45.6 +2.2
comp=Z,74µm,1.0s,comp=Z,832µm
UGM Wanagama 45.54 235 P **P** 19 39 43.1 -1.0
PHET Kaeng Krachan 45.58 268 P **P** 19 39 45.7 +1.3
comp=Z,132µm,0.8s,comp=Z,854µm
TPRI Tanjung Pinang 45.62 250 P **P** 19 39 45.2 +0.4
comp=Z,26nm,1.3s
SRDT SRDT 45.66 270 P **P** 19 39 46.1 +1.0
comp=Z,44nm,0.8s,comp=Z,627nm
MYKOM Kota Tinggi 45.82 251 P **P** 19 39 48.0 +1.7
MYKOM Kota Tinggi 45.82 251 P **P** 19 39 46.7 +0.4
MYKOM IAmb IAmb 19 39 49.5
comp=Z,65nm,1.1s
AS31 Alice Springs 45.87 196 P **P** 19 39 45.7 -0.8
ASAR Alice Springs 45.87 196 P **P** 19 39 45.2 -1.3
comp=Z,16nm,0.8s,baz=12,slow=6.2,SNR=120
ASAR PcP **PcP** 19 41 24.0 +0.7
comp=Z,12nm,0.9s,baz=14,slow=3.1,SNR=8.4
MHMT Maesarieng 45.90 276 P **P** 19 39 48.7 +1.8
comp=Z,73nm,1.4s,comp=Z,1µm
EIDS Eidsvold 46.05 174 P **P** 19 39 47.7 -0.2
JRMM Jerantut 46.12 255 P **P** 19 39 50.0 +1.3
KPJI Karang Pucung 46.42 237 P **P** 19 39 50.1 -0.9
comp=Z,62nm,1.0s
DZM Mont Dzumac 46.73 154 *eP* **P** 19 39 53.8 +0.4
comp=Z,110nm,1.0s
DZM Mont Dzumac 46.73 154 *e*LR LR 19 53 12.6
comp=Z,4µm,23.6s
DZM Mont Dzumac 46.73 154 P **P** 19 39 53.8 +0.4
DZM IAmb IAmb 19 39 55.0
comp=Z,61nm,1.1s
LEM Lembang 47.16 239 P **P** 19 39 55.9 -1.1
comp=Z,44nm,0.9s
IPM Ipoh 47.19 256 P **P** 19 39 58.0 +0.9
IPM Ipoh 47.19 256 P **P** 19 39 57.3 +0.2
IPM IAmb IAmb 19 39 59.5
comp=Z,41nm,0.9s
IPM PcP **PcP** 19 41 29.3 +1.1
KULM Kulim 47.21 258 P **P** 19 39 58.0 +0.8
KULM Kulim 47.21 258 P **P** 19 39 57.5 +0.3
KULM IAmb IAmb 19 39 59.9
comp=Z,38nm,0.8s
CISI Cisompet, Garu 47.43 238 P **P** 19 39 56.3 -2.7
CISI IAmb IAmb 19 40 08.2
comp=Z,55nm,0.9s
CBJI Citeko 47.53 240 P **P** 19 39 59.6 -0.1
comp=Z,120nm,0.9s
SURT Suratani 47.58 263 P **P** 19 40 01.6 +1.5
CNJI Cibinong 47.83 238 P **P** 19 39 58.6 -3.4
comp=Z,61nm,1.1s
BLSI Bandar Lampung 48.25 242 P **P** 19 40 04.0 -1.3
comp=Z,60nm,0.9s
KLSI 48.31 243 P **P** 19 40 04.4 -1.3
comp=Z,16nm,0.8s
UNV Unalaska Valle 48.45 35 P **P** 19 40 07.0 +0.8
UNV IAmb IAmb 19 40 08.3
comp=Z,106nm,1.2s
MDSI Maura Dua 48.66 244 P **P** 19 40 05.8 -2.6
comp=Z,20nm,1.2s
BILL Bilibino 48.85 10*ce*P **P** 19 40 09.2 +0.1
BILL pmax pmax
comp=Z,113nm,1.0s
BILL Bilibino 48.85 10 P **P** 19 40 09.2 +0.1
BILL PcP **PcP** 19 41 34.4 +1.3
KASI Kota Agung 48.96 242 P **P** 19 40 08.8 -1.9
comp=Z,65nm,0.9s,comp=Z,852nm
AKUT Akutan 48.96 35 P **P** 19 40 09.9 -0.3
BKNI Bangkinang 48.98 251 P **P** 19 40 10.5 -0.4
comp=Z,197nm,0.9s
BKNI Bangkinang 48.98 251 P **P** 19 40 10.8 -0.1
LWLI Liwa 49.05 243 P **P** 19 40 08.9 -2.6
comp=Z,22nm,0.6s,comp=Z,7µm
MSVF Nonsavu 49.09 139*di*P **P** 19 40 12.9 +1.2
MSVF pmax pmax
comp=Z,48nm,0.9s
MSVF Nonsavu 49.09 139 P **P** 19 40 12.1 +0.5
MSVF IAmb IAmb 19 40 14.7
comp=Z,50nm,0.9s
SDSI Sungai Dareh 49.23 250 P **P** 19 40 12.3 -0.5
comp=Z,39nm,1.0s,comp=Z,3µm
KSI Kapahiang 49.56 246 P **P** 19 40 12.7 -2.7
comp=Z,91nm,1.0s,comp=Z,12µm
PSA00 Pilbara Seismi 49.57 214 P **P** 19 40 15.1 -0.1
PSA00 IAmb IAmb 19 40 16.6
comp=Z,52nm,0.8s
MNAI Manna 49.62 245 P **P** 19 40 16.7 +0.9
comp=Z,230nm,1.1s
KRJI Kerinci 49.76 248 P **P** 19 40 16.7 -0.2
comp=Z,293nm,1.0s,comp=Z,3µm
PSI Prapat 49.79 256 P **P** 19 40 17.3 0.0
PSI 19 41 37.9
PSI pmax pmax
comp=Z,26nm,0.8s
PSI MLR MLR
comp=Z,2µm,22.0s
RPSI Rantau Prapat 49.84 255 **P** 19 40 17.3 -0.1
RPSI PcP **PcP** 19 41 37.9 +0.2
SIMRM Sittwe 50.21 279 P **P** 19 40 20.7 +0.5
SHL Shillong 50.32 286 P **P** 19 40 20.3 -0.9
SNR=9.6
SHL Shillong 50.32 286 P **P** 19 40 21.1 -0.1
SHL pmax pmax
comp=Z,26nm,0.6s
SHL Shillong 50.32 286 *eP* **P** 19 40 21.0 -0.1
SHL *ex* x 19 47 31.0
SHL Shillong 50.32 286 P **P** 19 40 21.1 -0.1
FALS False Pass 50.51 35 P **P** 19 40 22.2 +0.3
FALS IAmb IAmb 19 40 39.5

comp=Z,112nm,1.2s
LSA Lhasa 50.62 292 *i* P **P** 19 40 25.3 +1.6
SNR=66
LSA Lhasa 50.62 292 P **P** 19 40 24.0 +0.3
LSA pmax pmax
comp=Z,63nm,0.9s
LSA MLR MLR
comp=Z,2µm,20.0s
LSA Lhasa 50.62 292 P **P** 19 40 24.0 +0.3
LSA IAmb IAmb 19 40 28.4
comp=Z,63nm,0.9s
LHMI Lhok Sumawe 50.63 259 P **P** 19 40 23.6 +0.2
ARMA Armidale 51.10 175 P **P** 19 40 27.1 +0.4
ARMA IAmb IAmb 19 40 32.4
comp=Z,140nm,1.9s
GAMB Gambell 51.21 22 P **P** 19 40 26.8 -0.3
GAMB IAmb IAmb 19 40 29.9
comp=Z,57nm,1.2s
SISI Saibi 51.47 251 P **P** 19 40 28.8 -0.9
GSI Gunungsitoli 51.65 255 P **P** 19 40 30.5 -0.6
comp=Z,120nm,0.9s
GSI Gunungsitoli 51.65 255 P **P** 19 40 30.6 -0.5
GSI IAmb IAmb 19 40 33.0
comp=Z,84nm,0.8s
GSI PcP **PcP** 19 41 45.7 +1.2
TIXI Tiksi 51.95 353*ce*P **P** 19 40 31.8 -0.6
TIXI pmax pmax
comp=Z,20nm,1.1s
TIXI Tiksi 51.95 353 P **P** 19 40 31.9 -0.6
STKA Stephens Creek 52.56 185 P **P** 19 40 36.6 -0.9
comp=Z,18nm,0.9s,baz=349,slow=8.7,SNR=26
STKA PcP **PcP** 19 41 48.3 +0.9
comp=Z,14nm,0.9s,baz=0.5,slow=8.7,SNR=3.1
STKA Stephens Creek 52.56 185 P **P** 19 40 36.8 -0.7
GIRL Giralia 53.50 218 P **P** 19 40 45.2 +0.6
WMQ Urumqi 53.69 310 P **P** 19 40 47.0 +1.1
WMQ pP sP 19 41 01.0 -0.2
WMQ sP pwP 19 41 05.5 +3.6
WMQ PcS **PcS** 19 45 51.0 +0.1
WMQ *e*S **S** 19 48 16.5 -0.6
WMQ pmax pmax
comp=Z,65nm,1.3s
WMQ pmax pmax
comp=Z,390nm,4.3s
WMQ LR LR
comp=Z,1µm,20.3s
WMQ LR LR
comp=Z,1µm,15.7s
WMQ LR LR
comp=Z,1µm,23.5s
WMQ Urumqi 53.69 310 P **P** 19 40 46.0 +0.1
WMQ pmax pmax
comp=Z,156nm,1.3s
WMQ Urumqi 53.69 310 P **P** 19 40 46.0 +0.1
TAPN Taplejung 53.84 289 *eP* **P** 19 40 48.3 +0.8
comp=Z,270nm,1.0s
ANM Nome 53.95 23 P **P** 19 40 47.8 +0.4
ANM pmax pmax
comp=Z,71nm,1.3s
ANM MLR MLR
comp=Z,1µm,21.0s
ANM Nome 53.95 23 P **P** 19 40 47.8 +0.4
ANM IAmb IAmb 19 40 50.4
comp=Z,71nm,1.3s
ODAN Odare 54.18 289 *eP* **P** 19 40 50.6 +0.7
comp=Z,200nm,0.9s
BBOO Buckleboo 54.22 191 P **P** 19 40 48.9 -0.8
BBOO IAmb IAmb 19 40 53.8
comp=Z,61nm,1.4s
BBOO IAMs_20 IAMs_20 20 07 09.8
comp=Z,2µm,18.0s
FORT Forrest 54.27 200 P **P** 19 40 50.2 +0.1
RAMN Ramite 54.87 289 *eP* **P** 19 40 55.7 +0.8
comp=Z,149nm,0.9s
JIRN Jiri 55.14 290 *eP* **P** 19 40 58.0 +0.9
comp=Z,384nm,0.8s
GUN Gumba 55.38 290 *eP* **P** 19 40 59.7 +0.9
comp=Z,340nm,1.0s
CAN Canberra 55.81 178 P **P** 19 41 01.6 +0.4
CAN pmax pmax
comp=Z,233nm,1.8s
CAN Canberra 55.81 178 P **P** 19 41 01.6 +0.4
PKI Pulchoki 55.84 290 *eP* **P** 19 41 02.4 +0.4
comp=Z,10nm,0.6s
PKIN Phulchoki 55.85 290 *eP* **P** 19 41 02.4 +0.4
comp=Z,136nm,1.0s
KKN Kakani 55.92 290 *eP* **P** 19 41 03.2 +0.7
comp=Z,203nm,0.9s
SII Sitkinak Islan 56.00 35 P **P** 19 41 02.0 -0.4
DMN Daman 56.10 290 *eP* **P** 19 41 04.5 +0.7
comp=Z,245nm,1.0s
RDOG Red Dog Mine 56.59 20 P **P** 19 41 06.6 +0.3
OHAK Old Harbor 56.64 34 P **P** 19 41 06.9 +0.1
OHAK IAmb IAmb 19 41 22.4
comp=Z,79nm,1.4s
ZAA0 Zalesovo Array 56.97 322 P **P** 19 41 09.1 -0.1
ZAA0 PcP **PcP** 19 42 04.3 +0.2
ZALV Zalesovo Beam 56.97 322 *i* P **P** 19 41 09.1 -0.2
ZALV pmax pmax
comp=Z,88nm,0.5s
ZALV Zalesovo Beam 56.97 322 P **P** 19 41 09.1 -0.2
comp=Z,87nm,0.5s,baz=109,slow=7.7,SNR=421
ZALV PcP **PcP** 19 42 03.8 -0.3
comp=Z,13nm,0.6s,baz=110,slow=3.5,SNR=2.5
ZALV PKP2bc 20 11 11.2
comp=Z,1.8nm,0.9s,baz=321,slow=4.0,SNR=4.6
KDAK Kodiak Island 57.14 34 P **P** 19 41 10.5 +0.1
KDAK pmax pmax
comp=Z,129nm,1.5s
KDAK MLR MLR
comp=Z,4µm,22.0s
KDAK Kodiak Island 57.14 34 P **P** 19 41 10.5 +0.1
KDAK IAmb IAmb 19 41 12.4
comp=Z,129nm,1.4s
DANN Dangsing 57.19 291 *eP* **P** 19 41 12.7 +1.1
comp=Z,906nm,0.8s
MORW Morawa 57.68 212 P **P** 19 41 14.2 -0.3
MORW IAmb IAmb 19 41 16.0
comp=Z,51nm,0.9s
MK31 Makanchi Array 57.73 313 P **P** 19 41 14.7 -0.1
MK31 pmax pmax
comp=Z,49nm,1.0s
MK31 Makanchi Array 57.73 313 P **P** 19 41 14.7 -0.1
MK31 IAmb IAmb 19 41 16.7
comp=Z,49nm,0.9s
MKAR Makanchi Array 57.73 313 P **P** 19 41 15.1 +0.3
comp=Z,44nm,0.9s,baz=93,slow=8.3,SNR=190
MKAR PKP2bc 20 11 12.2
comp=Z,4.4nm,1.1s,baz=274,slow=3.3,SNR=11
MAKZ Makanchi 57.95 313 P **P** 19 41 16.3 0.0
MAKZ pmax pmax
comp=Z,97nm,1.0s
MAKZ Makanchi 57.95 313 P **P** 19 41 16.3 0.0
TOO Toolangi 58.02 181 P **P** 19 41 17.4 +0.6
TOO pmax pmax
comp=Z,30nm,1.0s
TOO Toolangi 58.02 181 P **P** 19 41 17.4 +0.6
BRLK Bradley Lake 58.47 32 P **P** 19 41 18.9 -0.8
PPLA Purkeypile 58.66 28 P **P** 19 41 21.7 +0.5
PPLA IAmb IAmb 19 41 24.8
comp=Z,84nm,1.4s
SKT Skwentna 58.70 29 P **P** 19 41 21.1 -0.2
SKT IAmb IAmb 19 41 33.0
comp=Z,57nm,1.7s
RC01 Rabbit Creek A 59.32 30 P **P** 19 41 25.5 -0.1
RC01 IAmb IAmb 19 41 27.3
comp=Z,52nm,1.2s
KTH Kantishna Hill 59.39 27 P **P** 19 41 26.1 -0.1
BPAW Bear Paw Mtn. 59.51 27 P **P** 19 41 26.9 0.0
TRF Thorofare Moun 59.64 28 P **P** 19 41 27.3 -0.6
TRF IAmb IAmb 19 41 29.7
comp=Z,85nm,1.3s
TRF IAMs_20 IAMs_20 20 02 48.4
comp=Z,2µm,19.0s
MLY Manley 59.87 26 P **P** 19 41 29.4 0.0
MLY IAmb IAmb 19 41 32.0
comp=Z,48nm,1.1s
MLY IAMs_20 IAMs_20 20 01 45.5
comp=Z,2µm,21.0s
NRIK Noril'sk 60.01 339 *i* P **P** 19 41 30.4 +0.2
NRIK Noril'sk 60.01 339 P **P** 19 41 30.5 +0.3
comp=Z,157nm,0.9s,baz=109,slow=8.0,SNR=88
SML Sawmill 60.14 30 IAMs_20 IAMs_20 20 03 25.7
comp=Z,2µm,22.0s
RND Reindeer 60.26 28 P **P** 19 41 31.8 -0.3
RND pmax pmax

comp=Z,37nm,1.2s
RND MLR MLR
comp=Z,2µm,21.0s
RND Reindeer 60.26 28 P **P** **19 41 31.8 -0.3**
RND IAmb IAmb 19 41 33.5
comp=Z,37nm,1.2s
RND IAMs_20 IAMs_20 20 03 43.6
comp=Z,2µm,21.0s
MCK McKinley 60.30 28 IAMs_20 IAMs_20 20 04 01.9
comp=Z,2µm,22.0s
NWAO Narrogin (SRO) 60.34 208 P **P** **19 41 32.8 -0.1**
NWAO pmax pmax
comp=Z,126nm,1.7s
NWAO Narrogin (SRO) 60.34 208 P **P** **19 41 32.8 -0.1**
NWAO IAmb IAmb 19 41 38.7
comp=Z,126nm,1.7s
KURK Kurchatov 60.38 317 *de*P **P** **19 41 32.9 -0.1**
KURK pmax pmax
comp=Z,108nm,0.9s
KURK Kurchatov 60.38 317 P **P** **19 41 32.9 -0.1**
PRZ Przheval'sk 60.45 308 P **P** **19 41 33.7 -0.1**
PRZ pmax pmax
comp=Z,198nm,1.0s
PRZ Przheval'sk 60.45 308 P **P** **19 41 33.7 -0.1**
SCM Sheep Creek Mo 60.61 30 IAMs_20 IAMs_20 20 03 08.3
comp=Z,2µm,22.0s
WRH Wood River Hil 60.83 27 P **P** **19 41 35.6 -0.2**
WRH IAmb IAmb 19 41 37.4
comp=Z,56nm,1.3s
DHY Denali Highway 60.84 28 P **P** **19 41 36.3 +0.2**
DHY IAmb IAmb 19 41 38.1
comp=Z,60nm,1.4s
MDM Murphy Dome 60.89 26 P **P** **19 41 36.8 +0.5**
TARG Taragay, Kyrgy 60.92 307 P **P** **19 41 37.3 0.0**
TARG IAmb IAmb 19 41 40.8
comp=Z,81nm,1.1s
CCB Clear Creek Bu 60.99 27 P **P** **19 41 37.0 0.0**
CCB IAmb IAmb 19 41 38.4
comp=Z,47nm,1.4s
TCOL CIGO, UAF Yank 61.02 26 P **P** **19 41 37.7 +0.7**
baz=257
OUZ Omahuta 61.25 155 P **P** **19 41 40.5 +1.5**
OUZ IAmb IAmb 19 41 43.1
comp=Z,57nm,0.9s
POKR Poker Plat Res 61.25 26 P **P** **19 41 38.4 -0.3**
baz=257
HDA Harding Lake 61.30 27 P **P** **19 41 38.7 -0.3**
baz=258
TOLK Toolik Lake Re 61.35 22 P **P** **19 41 39.8 +0.4**
baz=253
TOLK Toolik Lake Re 61.35 22 P **P** **19 41 39.3 -0.1**
KDJ Kajisay 61.36 307 P **P** **19 41 40.5 +0.4**
KDJ pmax pmax
comp=Z,60nm,1.2s
KDJ Kajisay 61.36 307 P **P** **19 41 40.5 +0.4**
KDJ IAmb IAmb 19 41 44.5
comp=Z,60nm,1.1s
IL31 61.40 27 P **P** **19 41 38.8 -0.9**
IL31 IAmb IAmb 19 41 40.7
comp=Z,64nm,1.2s
ILAR Eielson Array 61.40 27 P **P** **19 41 38.6 -1.1**
comp=Z,31nm,1.1s,baz=256,slow=5.1,SNR=85
ILAR LR LR 20 10 19.9
comp=Z,390nm,18.3s,baz=287,slow=38
ILAR PKPPKP 20 10 51.9
comp=Z,1.8nm,1.1s,baz=92,slow=0.4,SNR=6.0
PAX Paxson 61.67 29 P **P** **19 41 42.1 +0.4**
PAX pmax pmax
comp=Z,42nm,1.2s
PAX Paxson 61.67 29 P **P** **19 41 42.1 +0.4**
PAX IAmb IAmb 19 41 44.0
comp=Z,42nm,1.2s
ULHL Ulahol 62.05 308 P **P** **19 41 46.3 +1.5**
SNR=15
RIDG Independent Ri 62.08 28 IAMs_20 IAMs_20 20 05 21.0
comp=Z,2µm,20.0s
BOOM Boomskoye usch 62.26 308 P **P** **19 41 46.6 +0.5**
BOOM Boomskoye usch 62.26 308 P **P** **19 41 46.6 +0.5**
NRN Naryn 62.29 307 P **P** **19 41 46.6 +0.1**
NRN pmax pmax
comp=Z,49nm,1.2s
NRN Naryn 62.29 307 P **P** **19 41 46.6 +0.1**
NRN IAmb IAmb 19 41 49.6
comp=Z,49nm,1.1s
VRDI Verde Repeater 62.34 31 P **P** **19 41 47.1 +0.8**
VRDI IAmb IAmb 19 41 48.8
comp=Z,51nm,1.2s
DOT Dot Lake 62.41 28 IAMs_20 IAMs_20 20 04 35.6
comp=Z,2µm,21.0s
KSH Kashi 62.45 305 P **P** **19 41 51.5 +4.1**
KSH pP pwP 19 42 04.5 +0.8
KSH sP sP 19 42 09.5 +6.7
KSH PP **PP** **19 44 11.0 +6.0**
KSH ScP **ScP** **19 46 27.0 +1.7**
KSH S **S** **19 50 14.5 +2.7**
KSH sS sS 19 50 36.0 +6.1
KSH ScS **SKKSac** **19 51 36.8 +0.2**
KSH pmax pmax
comp=Z,77nm,0.9s
KSH pmax pmax
comp=Z,1µm,7.2s
KSH LR LR
comp=Z,2µm,15.2s
KSH LR LR
comp=Z,3µm,18.5s
KSH LR LR
comp=Z,990nm,18.2s
TKM2 Tokmak 2 62.49 308 P **P** **19 41 48.8 +1.1**
SNR=56
KZA Kyzart 62.80 307 P **P** **19 41 51.6 +1.6**
SNR=22
NDI New Delhi 62.83 292 *ex* **P** **19 41 52.0 +2.1**
BALM Baldy 62.86 31 IAMs_20 IAMs_20 20 04 19.7
comp=Z,2µm,22.0s
KBK Karagaybulak 62.98 308 P **P** **19 41 51.8 +0.9**
SNR=35
CHMS Chumysh 63.10 309 P **P** **19 41 52.1 +0.6**
SNR=13
FRU1 Bishkek 63.21 308 P **P** **19 41 52.5 +0.2**
FRU1 pmax pmax
comp=Z,97nm,1.3s
FRU1 Bishkek 63.21 308 P **P** **19 41 52.5 +0.2**
USP Ospenovka 63.27 309 P **P** **19 41 53.3 +0.6**
SNR=32
AAK Ala-Archa 63.32 308 *i* P **P** **19 41 53.7 +0.5**
SNR=26
AAK Ala-Archa 63.32 308 *ce*P **P** **19 41 54.0 +0.8**
AAK pmax pmax
comp=Z,37nm,1.3s
AAK Ala-Archa 63.32 308 P **P** **19 41 53.8 +0.7**
SNR=21
AAK Ala-Archa 63.32 308 P **P** **19 41 53.2 +0.1**
AAK IAmb IAmb 19 41 56.0
comp=Z,56nm,1.4s
UCH Uchtor 63.34 308 P **P** **19 41 55.1 +1.5**
SNR=43
TAU Tasmania Unive 63.35 179 P **P** **19 41 52.8 0.0**
TAU pmax pmax
comp=Z,65nm,1.0s
TAU Tasmania Unive 63.35 179 P **P** **19 41 52.8 0.0**
TAU IAmb IAmb 19 41 54.2
comp=Z,65nm,1.0s
EGAK Eagle 63.82 27 P **P** **19 41 55.7 -0.1**
EGAK IAmb IAmb 19 42 07.1
comp=Z,42nm,1.4s
EKS2 Erkin-Say 63.84 308 P **P** **19 41 57.5 +0.9**
SNR=21
AML Almayashu 63.95 308 P **P** **19 41 59.0 +1.3**
SNR=28
HYB Hyderabad 64.04 280 *i* P **P** **19 41 58.0 -0.1**
DAWY Dawson 64.51 28 P **P** **19 42 00.5 0.0**
DAWY IAmb IAmb 19 42 03.1
comp=Z,47nm,1.1s
ARSB Arslanbob 64.56 307 P **P** **19 42 01.5 +0.2**
HIZ Hauiti 64.61 156 P **P** **19 42 01.9 +0.6**
PALK Pallekele 65.02 268 P **P** **19 42 05.5 +0.9**
PALK Pallekele 65.02 268 P **P** **19 42 04.9 +0.3**
PALK pmax pmax
comp=Z,19nm,1.0s
PALK Pallekele 65.02 268 P **P** **19 42 04.9 +0.3**
NIL Nilore 65.36 298 P **P** **19 42 06.9 +0.4**
NIL pmax pmax
comp=Z,175nm,1.1s
NIL Nilore 65.36 298 P **P** **19 42 06.9 +0.4**
BRVK Borovoye 65.56 320 P **P** **19 42 08.1 +0.7**
BRVK Borovoye 65.56 320 *ce*P **P** **19 42 07.6 +0.2**
BRVK pmax pmax
comp=Z,186nm,1.0s
BRVK Borovoye 65.56 320 P **P** **19 42 07.7 +0.3**
EPYK Eagle Plains 65.81 25 P **P** **19 42 09.3 +0.5**
EPYK IAmb IAmb 19 42 11.2
comp=Z,76nm,1.2s
QRZ Quartz Range 65.81 159 P **P** **19 42 09.9 +0.9**
KK31 Karatay Array 66.19 309 P **P** **19 42 12.1 +0.4**
KK31 pmax pmax
comp=Z,98nm,1.0s
KK31 Karatay Array 66.19 309 P **P** **19 42 12.1 +0.4**
KKAR Karatay Array 66.19 309 P **P** **19 42 12.1 +0.4**
KKAR pmax pmax
comp=Z,98nm,1.0s
KKAR Karatay Array 66.19 309 P **P** **19 42 12.1 +0.4**
BTK Batken 66.34 306 P **P** **19 42 12.8 0.0**
BTK pmax pmax
comp=Z,18nm,1.0s
BTK Batken 66.34 306 P **P** **19 42 12.8 0.0**
THZ Tophouse 66.78 159 IAMs_20 IAMs_20 20 09 06.4
comp=Z,2µm,20.0s
GAR Garm 66.88 305 P **P** **19 42 16.5 +0.3**
GAR IAmb IAmb 19 42 19.0
comp=Z,44nm,0.9s
SNZO South Karori 67.00 157 P **P** **19 42 16.1 -0.5**
BFZ Birch Farm 67.03 156 P **P** **19 42 16.7 -0.1**
INK Inuvik 67.13 23 P **P** **19 42 16.8 -0.3**
INK pmax pmax
comp=Z,71nm,1.1s
INK Inuvik 67.13 23 P **P** **19 42 16.8 -0.3**
INK IAmb IAmb 19 42 19.0
comp=Z,71nm,1.1s
BHW Baring Head 67.15 157 P **P** **19 42 16.8 -0.7**
MSWZ Moikau Station 67.29 157 P **P** **19 42 18.0 -0.5**
FOZ Fox Glacier 67.41 162 P **P** **19 42 19.2 +0.1**
FOZ IAmb IAmb 19 42 21.2
comp=Z,62nm,1.0s
FOZ IAMs_20 IAMs_20 20 11 14.6
comp=Z,2µm,19.0s
PLWZ Palliser 67.43 157 P **P** **19 42 19.2 -0.2**
LTZ Lake Taylor 67.48 160 P **P** **19 42 19.9 +0.2**
LTZ IAmb IAmb 19 42 21.0
comp=Z,31nm,1.0s
CHGR Chuyangaron 67.82 304 P **P** **19 42 22.4 +0.1**
RPZ Rata Peaks 67.94 161 P **P** **19 42 21.9 -0.7**
RPZ IAmb IAmb 19 42 29.5
comp=Z,63nm,1.0s
POO Poona 68.07 282 ⇑ *ix* **P** **19 42 23.0 -1.0**
DCZ Deep Cove 68.48 165 P **P** **19 42 25.7 -0.2**
KBL Kabul 68.64 300 P **P** **19 42 27.9 +0.4**
KBL Kabul 68.64 300 P **P** **19 42 27.6 0.0**
KBL pmax pmax
comp=Z,117nm,0.9s
KBL Kabul 68.64 300 P **P** **19 42 27.6 0.0**
C36M Paulatuk 70.51 22 P **P** **19 42 37.6 -0.5**
baz=277
SVE Sverdlovsk 70.75 324 *ce*P **P** **19 42 40.3 +0.5**
SVE pmax pmax
comp=Z,143nm,1.0s
ARU Arti 71.94 324 *d* P **P** **19 42 47.1 0.0**
ARU S **S** **19 52 08.4 +3.3**
ARU SS **SS** **19 56 45.3 +3.6**
ARU pmax pmax
comp=Z,206nm,1.3s
ARU Arti 71.94 324 P **P** **19 42 47.1 0.0**
comp=Z,32nm,0.7s,baz=91,slow=3.2,SNR=175
ARU Arti 71.94 324 P **P** **19 42 47.0 0.0**
ABKAR Akbulak array 72.48 317 P **P** **19 42 50.3 -0.1**
ABKAR IAmb IAmb 19 42 51.8
comp=Z,62nm,1.1s
PPT Papeete 73.19 117 LR LR 20 08 26.1
comp=Z,1µm,18.7s,baz=328,slow=30
PPT2 Papeete2 73.20 117 *e*S **S** **19 52 15.5 -5.1**
comp=Z,2µm,25.8s
PPT2 *e*LQ LQ 20 02 14.7
comp=Z,3µm,31.0s
PPT2 *e*LR LR 20 05 19.6
comp=Z,3µm,26.2s
AKTO Aktyubinsk 73.45 318 P **P** **19 42 55.9 -0.2**
baz=82,slow=11
HRA Herat 74.15 301 P **P** **19 43 00.6 -0.2**
KAAM Kaadhehdhoo 74.58 265 P **P** **19 43 03.7 +0.3**
KAAM IAmb IAmb 19 43 30.6
comp=Z,50nm,1.1s
A04D Lummi Island 75.09 43 P **P** **19 43 06.6 +0.9**
baz=284
D03D Eldon 75.14 45 P **P** **19 43 06.9 +0.9**
baz=284
D04E Lakebay 75.44 45 P **P** **19 43 09.2 +1.5**
baz=285
B05A Bryant 75.60 44 P **P** **19 43 09.5 +0.9**
baz=285
G03D McMinnville, O 75.61 47 P **P** **19 43 09.8 +1.1**
baz=285
J01E Myrtle Point 75.67 49 P **P** **19 43 10.0 +0.8**
baz=285
E04D Cinebar 75.73 45 P **P** **19 43 09.9 +0.5**
baz=285
COR Corvallis 75.75 47 P **P** **19 43 12.9 +3.4**
COR pmax pmax
comp=Z,54nm,1.2s
COR Corvallis 75.75 47 IAMs_20 IAMs_20 20 08 23.8
comp=Z,2µm,19.0s
YKA Yellowknife Ar 75.75 28 P **P** **19 43 08.7 -0.5**
comp=Z,38nm,1.0s,baz=290,slow=5.6,SNR=123
I03D Drain, OR 75.94 48 P **P** **19 43 11.8 +1.1**
baz=285,SNR=5.4
K02D Willamette Mer 75.99 49 P **P** **19 43 11.2 +0.1**
baz=285
TBI Tubuai 76.11 122 *e*S **S** **19 52 48.6 -4.2**
comp=Z,1µm,32.2s
H04D Lebanon 76.15 47 P **P** **19 43 13.1 +1.3**
baz=286,SNR=5.8
L02E Cave Junction 76.17 50 P **P** **19 43 13.3 +1.2**
baz=286,SNR=5.2
LON Longmire 76.18 45 P **P** **19 43 12.5 +0.4**
LON pmax pmax
comp=Z,30nm,1.3s
LON Longmire 76.18 45 P **P** **19 43 12.5 +0.4**
GEYT Alibeck 76.45 306 P **P** **19 43 14.5 +0.7**
comp=Z,27nm,1.1s,baz=72,slow=1.9,SNR=48
GYA0B ALIBECK ARRAY 76.45 306 P **P** **19 43 14.1 +0.3**
GYA0B IAmb IAmb 19 43 16.9
comp=Z,55nm,1.2s
C06D Leavenworth 76.47 44 P **P** **19 43 13.9 +0.2**
baz=286
H04A Detroit Lake 76.49 47 P **P** **19 43 14.1 +0.3**
H04A IAmb IAmb 19 43 16.3
comp=Z,54nm,1.1s
HUMO Hull Mountain 76.51 49 P **P** **19 43 14.5 +0.5**
HUMO IAmb IAmb 19 43 17.1
comp=Z,43nm,1.3s
I04A Tendick Farm, 76.57 48 P **P** **19 43 15.0 +0.7**
baz=286,SNR=14
F05D White Salmon 76.65 46 P **P** **19 43 15.3 +0.6**
baz=286
M02C Callahan 76.92 51 P **P** **19 43 17.5 +1.1**
baz=286,SNR=6.4
G05D Wamic, OR 76.93 46 P **P** **19 43 16.7 +0.4**
baz=286
J04D Umpqua Nationa 76.94 49 P **P** **19 43 17.5 +0.9**
baz=286,SNR=6.4
PRGR Permogore 77.07 331 ⇓ *i* P **P** **19 43 16.8 +0.1**
PRGR pmax pmax
comp=Z,227nm,0.8s
L04D Klamath Falls 77.08 50 P **P** **19 43 18.1 +0.8**
baz=286,SNR=10
N02D Trinity Center 77.14 51 P **P** **19 43 18.7 +1.0**
baz=286,SNR=10
I05D Terrebonne, OR 77.17 47 P **P** **19 43 18.0 +0.3**
baz=286
RES Resolute Bay 77.22 14 P **P** **19 43 17.3 0.0**
RES pmax pmax
comp=Z,50nm,1.2s
RES Resolute Bay 77.22 14 P **P** **19 43 17.3 0.0**
RES IAmb IAmb 19 43 19.7
comp=Z,50nm,1.2s
SPA0 Spitsbergen Ar 77.30 351 P **P** **19 43 17.8 +0.1**
SPA0 IAmb IAmb 19 43 34.8
comp=Z,92nm,1.5s
O02D Mt. Diablo Mer 77.31 52 P **P** **19 43 20.0 +1.4**
baz=286,SNR=8.0
K04D Chiloquin, OR 77.36 49 P **P** **19 43 19.3 +0.4**
baz=287
KBS Kingsbay 77.39 352 *ce*P **P** **19 43 20.6 +2.4**
KBS pmax pmax
comp=Z,304nm,1.7s
J05D Fort Rock, OR 77.54 48 P **P** **19 43 21.0 +1.0**
baz=287,SNR=32
M04C Macdoel 77.54 50 P **P** **19 43 20.8 +0.8**
baz=287,SNR=18
TAOE Nuku Hiva Isla 77.65 104 *e*LR LR 20 07 13.5
comp=Z,3µm,29.8s
O03E Paynes Creek 78.00 51 P **P** **19 43 22.9 +0.5**
baz=287,SNR=15
HSPB Hornsund (broa 78.24 350 *eP* **P** **19 43 22.6 -0.4**
ORV Oroville 78.44 52 IAMs_20 IAMs_20 20 11 31.5
comp=Z,1µm,18.0s
NEW Newport 78.78 43 P **P** **19 43 26.5 -0.1**
baz=288
NEW Newport 78.78 43 IAmb IAmb 19 43 29.0
comp=Z,60nm,1.2s
LVZ Lovozero 78.86 339 *ce*P **P** **19 43 27.6 +1.0**
LVZ pmax pmax
comp=Z,109nm,1.3s
LVZ Lovozero 78.86 339 P **P** **19 43 26.6 0.0**
BEKR Beckworth 79.18 51 IAmb IAmb 19 43 31.4
comp=Z,47nm,1.1s
TMCR Tamitsa 79.31 335 *eP* **P** **19 43 27.5 -1.5**
TMCR pmax pmax
comp=Z,341nm,1.3s
APA Apatity 79.43 339 ⇓ *i* P **P** **19 43 28.8 -0.9**
APA pmax pmax
comp=Z,83nm,0.9s
F10A Beach Ranch, E 79.44 45 IAMs_20 IAMs_20 20 13 22.5
comp=Z,1µm,18.0s
BMO Blue Mountains 79.75 46 IAmb IAmb 19 43 34.5
comp=Z,96nm,1.3s
BMO IAMs_20 IAMs_20 20 09 18.8
comp=Z,1µm,21.0s
PNTR Pine Nut 79.98 52 IAmb IAmb 19 43 36.3
comp=Z,52nm,0.9s
PNTR IAMs_20 IAMs_20 20 10 19.4
comp=Z,2µm,21.0s
WBK Wadi Bani Khal 80.26 290 P **P** **19 43 35.5 +0.5**
YERR Yerington 80.28 52 IAMs_20 IAMs_20 20 11 02.3
comp=Z,1µm,19.0s
WSAR Wadi Sarin 80.36 291 P **P** **19 43 35.5 -0.1**
WALA Waterton Lakes 80.52 41 IAmb IAmb 19 43 39.1
comp=Z,65nm,1.1s
HAMF Hammerfest 80.67 344 *eP* **P** **19 43 36.1 -0.2**
JTMT Jette 80.75 42 IAmb IAmb 19 43 39.8
comp=Z,74nm,1.2s
ARCES ARCESS Array B 80.83 342 P **P** **19 43 37.1 -0.1**
comp=Z,35nm,1.0s,baz=56,slow=7.7,SNR=39
ARCES LR LR 20 22 56.6
comp=Z,692nm,21.3s,baz=56,slow=38
ARE0 ARCESS Array S 80.83 342 *eP* **P** **19 43 37.4 +0.2**
ARE0 ARCESS Array S 80.83 342 P **P** **19 43 37.3 +0.2**
SMMC Simmler 80.89 56 P **P** **19 43 38.3 0.0**
baz=289
SMDO Samad 80.92 291 P **P** **19 43 41.3 +2.6**
RYN Ryan 80.93 52 IAmb IAmb 19 43 41.1
comp=Z,48nm,1.0s
RYN IAMs_20 IAMs_20 20 10 35.4
comp=Z,2µm,22.0s
MLAC Mammoth, Mammo 81.02 53 P **P** **19 43 38.8 -0.3**
baz=289
VOG Valley Oaks Go 81.03 55 P **P** **19 43 39.2 +0.2**
baz=289
JMDO Jabal Madar 81.09 291 P **P** **19 43 38.7 -0.8**
KVN Kaiserville 81.10 52 IAMs_20 IAMs_20 20 12 05.9
comp=Z,1µm,22.0s
NVAR Mina Array Bea 81.15 52 P **P** **19 43 40.2 +0.4**
comp=Z,75nm,1.0s,baz=271,slow=5.6,SNR=116
PKM Mcpherson Peak 81.17 56 P **P** **19 43 40.8 +0.9**
baz=289,SNR=16
MSO Missoula 81.29 43 P **P** **19 43 40.3 0.0**
baz=291
SBC Santa Barbara 81.39 57 P **P** **19 43 41.4 +0.6**
baz=289
HOQ Hoqain 81.40 292 P **P** **19 43 40.5 -0.6**
SNR=14
VES Vestal, Richgr 81.42 55 P **P** **19 43 41.0 0.0**
baz=289,SNR=11
BANOM Banah 81.51 294 P **P** **19 43 43.0 +1.2**
BANOM Banah 81.51 294 P **P** **19 43 42.1 +0.4**
SNR=5.4
SHME Shamm 81.61 295 P **P** **19 43 43.3 +1.1**
SGF Sodankyl 81.74 340 P **P** **19 43 43.0 +1.0**
SGF pmax pmax
comp=Z,292nm,1.1s
BSY Bisya 81.76 291 P **P** **19 43 45.0 +1.9**
MSF Maaselka 81.78 338 P **P** **19 43 43.2 +0.9**
KTK1 Kautokeino 81.79 342 *eP* **P** **19 43 42.4 +0.1**
MSFE Esma-Masafi 81.81 294 P **P** **19 43 44.2 +0.9**
ARVC Arvin 81.85 56 P **P** **19 43 43.5 +0.2**
baz=290
SOHO SOHO 81.89 293 P **P** **19 43 43.8 +0.1**
SNR=12
UOSS Minazif 81.91 294 P **P** **19 43 44.2 +0.4**
UOSS Minazif 81.91 294 P **P** **19 43 43.7 -0.1**
UOSS Minazif 81.91 294 P **P** **19 43 43.2 -0.6**
UOSS IAmb IAmb 19 43 46.8
comp=Z,49nm,1.1s
SNCC San Nicolas Is 81.93 58 P **P** **19 43 44.4 +0.6**
baz=290
ISA Isabella, Lake 81.95 55 P **P** **19 43 44.3 +0.4**
baz=290,SNR=16
CWC Cottonwood Cre 81.99 54 P **P** **19 43 44.3 +0.1**
baz=290
BLG Laguna Peak, P 82.01 57 P **P** **19 43 44.3 +0.2**
baz=290
HATD Hatta, Dubai 82.01 293 P **P** **19 43 45.1 +0.7**
HATD Hatta, Dubai 82.01 293 P **P** **19 43 44.6 +0.3**
SNR=8.3
OSI Osito Audit: C 82.11 56 P **P** **19 43 44.7 0.0**
baz=290
ASHO Ashiyiah 82.12 293 P **P** **19 43 45.6 +0.7**
ASHO Ashiyiah 82.12 293 P **P** **19 43 43.6 -1.3**
SNR=12
ARQ Araqi 82.16 292 P **P** **19 43 45.9 +0.7**
SNR=5.7
DAG Danmarks Havn 82.28 357 *i* P **P** **19 43 44.2 -0.5**
DAG pmax pmax
comp=Z,15nm,0.9s
DAG Danmarks Havn 82.28 357 *i* P **P** **19 43 44.2 -0.5**
comp=Z,14nm,0.9s
GRAC Grapevine Rang 82.34 53 P **P** **19 43 46.1 +0.2**
baz=290
NAZ Nazwa, Dubai 82.36 294 *i* P **P** **19 43 48.0 +1.8**
SNR=8.8
NAZ Nazwa, Dubai 82.36 294 P **P** **19 43 46.3 +0.2**
SNR=8.1
DQM DQM 82.38 288 P **P** **19 43 46.9 +0.6**
SNR=5.1
MAK Makhachkala 82.55 313 *eP* **P** **19 43 46.8 +0.1**
MAK *eS* **S** **19 53 59.8 -0.9**
MAK pmax pmax
comp=Z,386nm,1.1s
MPMC Manual Prospec 82.57 54 P **P** **19 43 47.4 +0.1**
baz=290,SNR=62
TRO Tromso 82.57 344 *eP* **P** **19 43 47.0 +0.7**
EDW2 Edwards Air Fo 82.58 56 P **P** **19 43 47.1 -0.1**
baz=290,SNR=23
ELK Elko 82.58 49 IAmb IAmb 19 43 49.8
comp=Z,72nm,1.1s
LRMC Laurel Mtn Rad 82.62 55 P **P** **19 43 47.2 -0.2**
baz=290,SNR=17
MWC Mount Wilson 82.76 56 IAmb IAmb 19 43 50.3
comp=Z,52nm,1.2s
MWC IAMs_20 IAMs_20 20 12 09.8
comp=Z,1µm,18.0s
CIS Catalina Islan 82.76 57 P **P** **19 43 47.5 -0.6**
baz=290,SNR=7.7
ASUD Al Ashush, Dub 82.77 293 P **P** **19 43 50.0 +1.8**
SCI2 San Clemente I 82.80 58 P **P** **19 43 48.1 -0.2**
baz=290
FURC Furnace Creek, 82.90 54 P **P** **19 43 48.6 -0.1**
baz=290,SNR=11
AKT Akhty 82.93 312 *eP* **P** **19 43 49.9 +0.9**
AKT pmax pmax
comp=Z,111nm,1.3s
VRH Novokhopyorsk 83.00 322 *eP* **P** **19 43 48.2 -0.7**
VRH pmax pmax
comp=Z,240nm,1.3s
BFSC Mount Baldy Ra 83.06 56 P **P** **19 43 49.9 +0.1**
baz=290,SNR=6.7
R11A Troy Canyon, C 83.19 52 P **P** **19 43 50.6 +0.2**
baz=291,SNR=82
R11A Troy Canyon, C 83.19 52 IAmb IAmb 19 43 53.0
comp=Z,67nm,1.2s
TPNV Topopah Spring 83.19 53 P **P** **19 43 50.4 -0.1**

baz=291,SNR=55
TPNV **Topopah Spring** 83.19 53 IAmb IAmb 19 43 52.8
comp=Z,63nm,1.1s
MOS **Moscow** 83.24 327 eP P **19 43 50.0 -0.1**
MOS pmax pmax
comp=Z,243nm,1.4s
OUL **Oulu** 83.33 339 P P **19 43 51.1 +0.8**
OUL pmax pmax
comp=Z,89nm,1.4s
GSC **Goldstone, Bar** 83.35 55 P P **19 43 51.1 -0.1**
baz=291,SNR=32
GSC **Goldstone, Bar** 83.35 55 IAmb IAmb 19 43 53.6
comp=Z,41nm,1.1s
RRX **Edison Barstow** 83.35 55 P P **19 43 51.2 0.0**
baz=291
EGMT **Eagleton** 83.47 41 P P **19 43 50.6 -0.9**
baz=294
SHOC **Shoshone, Teco** 83.54 54 P P **19 43 52.2 +0.1**
baz=291,SNR=12
GROC **Groznyy** 83.62 314 eP P **19 43 52.7 +0.4**
GROC e 19 47 06.5
GROC pmax pmax
comp=Z,120nm,1.0s
MURC **Murrieta** 83.64 57 P P **19 43 52.5 -0.2**
baz=291,SNR=10
KULLO **Kullorsuaq** 83.66 6 *i* P P **19 43 52.5 +0.6**
KULLO **Kullorsuaq** 83.66 6 *i* P P **19 43 52.5 +0.6**
HEC **Hector,Ludlow** 83.88 55 P P **19 43 53.8 -0.1**
baz=291,SNR=19
109C **Camp Elliot, M** 83.97 57 P P **19 43 54.0 -0.3**
baz=291
LPSR **Galich'ya Gora** 83.97 324 eP P **19 43 52.8 -1.0**
LPSR pmax pmax
comp=Z,270nm,1.0s
TUQ **Turquoise Moun** 83.98 55 P P **19 43 54.3 -0.2**
baz=291,SNR=20
OBN **Obninsk** 84.06 327⇑ eP P **19 43 54.2 -0.1**
OBN pmax pmax
comp=Z,296nm,1.3s
OBN **Obninsk** 84.06 327 LR LR 20 25 14.8
comp=Z,245nm,19.1s,baz=48,slow=38
OBN **Obninsk** 84.06 327 P P **19 43 54.1 -0.2**
SHPR **Sheep Range** 84.17 53 IAMs_20 IAMs_20 20 23 15.4
comp=Z,999nm,18.0s
PFO **Pinyon Flats O** 84.22 56 P P **19 43 54.9 -0.8**
baz=291,SNR=36
PFO **Pinyon Flats O** 84.22 56 P P **19 43 56.7 +1.0**
PFO pmax pmax
comp=Z,48nm,1.1s
H17A **Grant Village** 84.40 45 P P **19 43 58.6 +2.0**
baz=294
GMRC **Granite Mounta** 84.41 55 P P **19 43 56.6 -0.1**
baz=291,SNR=30
BELC **Belle Mtn. Jos** 84.43 56 P P **19 43 56.4 -0.4**
baz=291,SNR=22
VSR **Storozhevoye** 84.45 323 *i* P P **19 43 56.2 -0.1**
VSR pmax pmax
comp=Z,233nm,1.1s
VORD **Divnogorie** 84.49 323 eP P **19 43 55.6 -0.9**
VORD pmax pmax
comp=Z,110nm,1.2s
MONP2 **Monument Peak** 84.50 57 P P **19 43 57.1 -0.2**
baz=291,SNR=40
DUG **Dugway, Tooele** 84.51 49 P P **19 43 56.8 -0.3**
baz=292
DUG **Dugway, Tooele** 84.51 49 P P **19 43 57.1 0.0**
DUG pmax pmax
comp=Z,69nm,1.2s
DUG **Dugway, Tooele** 84.51 49 P P **19 43 57.1 0.0**
DUG IAmb IAmb 19 43 59.5
comp=Z,69nm,1.2s
PUL **Pulkovo** 84.63 333 ceP P **19 43 57.5 +0.5**
PUL pmax pmax
comp=Z,292nm,1.7s
SUF **Sumiainen** 84.63 337 P P **19 43 56.9 -0.1**
SUF pmax pmax
comp=Z,152nm,1.0s
GOF **Gofitskoye** 84.71 316⇑ eP P **19 43 58.0 +0.2**
STEI **Steigen** 84.72 343 eP P **19 43 57.1 -0.2**
IKP **In-Ko-Pah, Jac** 84.83 57 P P **19 43 58.3 -0.5**
baz=291,SNR=18
FFC **Flin Flon** 84.87 33 P P **19 43 58.7 +0.3**
FFC pmax pmax
comp=Z,108nm,1.2s
FFC **Flin Flon** 84.87 33 P P **19 43 58.7 +0.3**
TBLG **Delisi** 84.91 313 P P **19 43 58.8 -0.1**
TBLG pmax pmax
comp=Z,29nm,1.0s
TBLG **Delisi** 84.91 313 P P **19 43 58.8 -0.1**
TBLG IAmb IAmb 19 44 19.5
comp=Z,29nm,1.0s
RLMT **Red Lodge** 84.96 44 P P **19 43 59.9 +0.6**
baz=294
SWSC **Sam W. Stewart** 84.97 57 P P **19 43 58.9 -0.4**
baz=291,SNR=6.2
BC3 **Big Chuckawall** 84.98 56 P P **19 43 58.7 -0.8**
baz=292,SNR=30
LOF **Lofoten** 85.02 344 eP P **19 43 59.7 +0.8**
IRM **Iron Mountain** 85.04 55 P P **19 43 59.1 -0.6**
baz=292,SNR=20
ZEI **Tsey** 85.06 314 eP P **19 43 58.8 -1.1**
ZEI pmax pmax
comp=Z,40nm,1.6s
NEE2 **Needles Airpor** 85.22 55 P P **19 44 00.3 -0.2**
baz=292
KBZ **Khabaz** 85.35 315 P P **19 44 00.9 -0.1**
comp=Z,27nm,0.9s,baz=74,slow=1.5,SNR=29
KBZ LR LR 20 25 34.5
comp=Z,1μm,19.2s,baz=62,slow=38
KIV **Kislovodsk** 85.40 315⇑ eP P **19 44 02.3 +0.9**
KIV pmax pmax
comp=Z,20nm,1.4s
KIV **Kislovodsk** 85.40 315 ⇓P P **19 44 02.3 +0.9**
KIV **Kislovodsk** 85.40 315 P P **19 44 01.7 +0.3**
FIA1 **FINESS Array S** 85.41 335 P P **19 44 00.2 -0.7**
FINES **FINESS Array B** 85.41 335 P P **19 44 00.0 -0.9**
comp=Z,47nm,0.6s,baz=64,slow=4.2,SNR=191
FINES PKKPbc **PKKPbc 20 02 03.5 -3.0**
comp=Z,6.7nm,1.0s,baz=224,slow=7.8,SNR=6.0
FINES LR LR 20 26 21.9
comp=Z,480nm,19.1s,baz=57,slow=39
DMTO **DMTO** 85.44 287 P P **19 44 02.4 +0.4**
SHA1 **Shidzhatmaz** 85.51 315 *i* P P **19 44 01.4 -0.7**
GNI **Garni** 85.53 311 *i* P P **19 44 01.8 -0.5**
GNI pmax pmax
comp=Z,125nm,1.6s
GNI **Garni** 85.53 311 LR LR 20 26 29.0
comp=Z,312nm,18.1s,baz=58,slow=39
Y12C **Blythe** 85.67 56 P P **19 44 02.6 -0.2**
baz=292,SNR=8.8
GLA **Glamis** 85.69 56 P P **19 44 02.4 -0.6**
baz=292,SNR=9.8
VAF **Ylistaro** 85.70 338 P P **19 44 03.1 +0.8**
VAF pmax pmax
comp=Z,109nm,1.1s
BW06 **Boulder Array** 85.73 46 P P **19 44 02.9 -0.4**
baz=294
BW06 **Boulder Array** 85.73 46 IAMs_20 IAMs_20 20 14 56.0
comp=Z,1μm,20.0s
PD31 **Pinedale Array** 85.73 46 P P **19 44 02.9 -0.4**
PDAR **Pinedale Array** 85.73 46 P P **19 44 03.0 -0.3**
comp=Z,4.0nm,0.7s,baz=250,slow=1.0,SNR=34
PDAR PKKPbc **PKKPbc 20 02 04.8 -0.7**
comp=Z,0.2nm,0.6s,baz=64,slow=2.1,SNR=3.5
PDAR LR LR 20 15 18.1
comp=Z,743nm,21.9s,baz=332,slow=31
AKH **Akhalkalaki** 85.90 313 P P **19 44 04.9 +0.8**
AKH **Akhalkalaki** 85.90 313 ⇓P P **19 44 04.9 +0.8**
RBK **Rabkut** 86.17 287 P P **19 44 06.5 +0.9**
MOR8 **Moi Rana** 86.20 342 eP P **19 44 03.0 -1.8**
LAO **LASA Array** 86.21 41 P P **19 44 05.1 -0.3**
baz=296
U15A **North Rim** 86.34 52 P P **19 44 07.0 +0.5**
U15A IAmb IAmb 19 44 09.2
comp=Z,43nm,1.1s
U15A IAMs_20 IAMs_20 20 16 40.7
comp=Z,1μm,22.0s
WHFO **Wadi Hawf** 86.42 288 P P **19 44 06.5 -0.3**
FCC **Fort Churchill** 86.42 27 P P **19 44 05.8 -0.2**
FCC pmax pmax
comp=Z,111nm,1.2s
FCC MLR MLR
comp=Z,900nm,22.0s
FCC **Fort Churchill** 86.42 27 P P **19 44 05.8 -0.2**
113A **Mohawk Valley,** 86.62 56 P P **19 44 07.5 -0.1**
DGMT **Dagmar** 86.62 39 P P **19 44 07.3 0.0**
baz=298
DGMT **Dagmar** 86.62 39 P P **19 44 06.9 -0.4**
DGMT IAmb IAmb 19 44 09.1
comp=Z,75nm,1.2s
DGMT **Dagmar** 86.62 39 IAMs_20 IAMs_20 20 16 53.8
comp=Z,1μm,18.0s
Y14A **Wickenburg** 86.77 55 P P **19 44 08.4 +0.1**
SUMG **Summit** 86.84 2 *i* P P **19 44 09.0 +0.6**
SUMG pmax pmax
comp=Z,150nm,1.0s
SUMG **Summit** 86.84 2 *i* P P **19 44 09.0 +0.6**
comp=Z,150nm,1.0s
SUMG **Summit** 86.84 2 P P **19 44 08.9 +0.6**
VSU **Vasula** 86.90 333 ceP P **19 44 07.7 -0.6**
VSU pmax pmax
comp=Z,177nm,1.2s
VSU **Vasula** 86.90 333 eP P **19 44 06.6 -1.7**
ABTO **Aybut** 87.04 287 P P **19 44 10.6 +0.7**
SNR=6.0
WUAZ **Wupatki** 87.38 53 P P **19 44 11.8 +0.4**
baz=294
WUAZ **Wupatki** 87.38 53 P P **19 44 11.7 +0.4**
WUAZ IAMs_20 IAMs_20 20 13 59.4
comp=Z,963nm,22.0s
SOC **Sochi** 87.50 316 eP P **19 44 09.2 -2.4**
SOC ePPP PPP 19 49 31.8
SOC eS **SKSac** 19 54 30.7 -5.5
SOC eSS **SS** 20 00 42.2 +7.2
SOC pmax pmax
comp=Z,13nm,0.5s
SOC MLR MLR
comp=Z,813nm,18.0s
214A **Organ Pipe Nat** 87.68 57 P P **19 44 13.1 +0.3**
baz=293,SNR=24
O20A **White River Ci** 87.73 48 P P **19 44 13.0 -0.1**
baz=295
K22A **Casper** 87.81 45 P P **19 44 13.4 +0.1**
baz=296
K22A **Casper** 87.81 45 P P **19 44 12.9 -0.4**
K22A IAmb IAmb 19 44 16.6
comp=Z,41nm,1.1s
K22A IAMs_20 IAMs_20 20 16 28.7
comp=Z,1μm,20.0s
NSS **Namsos** 88.11 342 eP P **19 44 12.3 -1.7**
ANN **Anapa** 88.41 318 eP P **19 44 14.4 -1.5**
ANN pmax pmax
comp=Z,57nm,1.2s
SCO **Scoresbysund** 88.66 356 *i* P P **19 44 17.0 +0.5**
SCO pmax pmax
comp=Z,25nm,0.9s
SCO **Scoresbysund** 88.66 356 *i* P P **19 44 17.0 +0.5**
comp=Z,25nm,0.9s
SCO **Scoresbysund** 88.66 356 P P **19 44 16.8 +0.2**
SCO IAmb IAmb 19 44 18.6
comp=Z,35nm,1.1s
MICGM **Minsk** 88.67 329 *e* P **19 44 16.0 -0.9**
MNK **Minsk** 88.67 329 eP P **19 44 16.0 -0.9**
IZAR **Zarasai** 88.71 331 eP P **19 44 16.9 -0.1**
IZAR IAmb IAmb 19 44 19.1
comp=Z,40nm,1.4s
RSSD **Black Hills** 88.75 43 P P **19 44 18.1 +0.2**
baz=298
RSSD **Black Hills** 88.75 43 P P **19 44 17.5 -0.3**
RSSD pmax pmax
comp=Z,46nm,1.4s
RSSD MLR MLR
comp=Z,800nm,18.0s
RSSD **Black Hills** 88.75 43 P P **19 44 17.5 -0.3**
RSSD IAmb IAmb 19 44 20.6
comp=Z,46nm,1.4s
RSSD **Black Hills** 88.75 43 IAMs_20 IAMs_20 20 28 55.5
comp=Z,812nm,18.0s
W18A **Petrified Fore** 88.77 53 P P **19 44 18.4 +0.4**
baz=295
W18A **Petrified Fore** 88.77 53 P P **19 44 17.8 -0.3**
W18A IAmb IAmb 19 44 21.0
comp=Z,52nm,1.1s
MVCO **Mesa Verde** 88.80 51 P P **19 44 18.3 +0.1**
baz=295
MVCO **Mesa Verde** 88.80 51 P P **19 44 17.6 -0.6**
MVCO IAMs_20 IAMs_20 20 17 16.6
comp=Z,1μm,20.0s
ISAL **Salakas** 88.87 331 eP P **19 44 16.8 -1.0**
ISAL IAmb IAmb 19 44 20.0
comp=Z,57nm,1.4s
IIGN **Ignalina** 88.96 331 eP P **19 44 17.4 -0.9**
IIGN IAmb IAmb 19 44 19.7
comp=Z,20nm,1.2s
NACGM **Naroch** 88.96 330 *e* P **19 44 17.0 -1.2**
N23A **Red Feather La** 88.98 46 P P **19 44 20.0 +0.9**
baz=297
TUC **Tucson** 89.12 56 P P **19 44 20.4 +0.8**
baz=294
TUC **Tucson** 89.12 56 P P **19 44 19.6 0.0**
TUC pmax pmax
comp=Z,40nm,1.2s
TUC **Tucson** 89.12 56 P P **19 44 19.6 0.0**
TUC IAmb IAmb 19 44 22.6
comp=Z,40nm,1.2s
PHWY **Pilot Hill** 89.12 46 IAmb IAmb 19 44 22.3
comp=Z,52nm,1.2s
ISCO **Idaho Springs** 89.70 47 P P **19 44 23.2 +0.8**
baz=297
ISCO **Idaho Springs** 89.70 47 P P **19 44 22.5 +0.1**
ISCO pmax pmax
comp=Z,31nm,1.1s
ISCO MLR MLR
comp=Z,900nm,19.0s
ISCO **Idaho Springs** 89.70 47 P P **19 44 22.5 +0.1**
ISCO IAmb IAmb 19 44 25.3
comp=Z,31nm,1.1s
ISCO IAMs_20 IAMs_20 20 20 05.0
comp=Z,923nm,19.0s
S22A **4UR Ranch, Cre** 89.76 49 P P **19 44 23.3 +0.5**
baz=296
PABE **Paberze** 89.89 331 eP P **19 44 22.1 -0.4**
AKASG **Malin Array Be** 90.14 326 P P **19 44 22.5 -1.4**
comp=Z,33nm,1.0s,baz=46,slow=5.6,SNR=69
AKASG PKKPbc **PKKPdf 20 01 52.9 +3.2**
comp=Z,0.8nm,0.6s,baz=260,slow=2.4,SNR=4.8
AKASG LR LR 20 26 36.5
comp=Z,671nm,21.4s,baz=45,slow=37
AKBB **Malin Array Si** 90.14 326 P P **19 44 22.4 -1.5**
AKBB pmax pmax
comp=Z,58nm,1.2s
AKBB **Malin Array Si** 90.14 326 P P **19 44 22.4 -1.5**
AKBB IAmb IAmb 19 44 24.8
comp=Z,58nm,1.1s
KIEV **Kiev** 90.16 326 P P **19 44 22.0 -1.9**
HSIG 90.32 59 P P **19 44 24.9 -0.3**
HSIG IAmb IAmb 19 44 27.7
comp=Z,62nm,1.2s
ULM **Lac du Bonnet** 90.39 35 *i* P P **19 44 25.0 -0.1**
ULM **Lac du Bonnet** 90.39 35 P P **19 44 24.4 -0.6**
comp=Z,24nm,1.0s,baz=299,slow=6.0,SNR=25
ULM LR LR 20 22 53.7
comp=Z,461nm,20.7s,baz=300,slow=34
Q24A **Divide** 90.40 48 P P **19 44 25.7 -0.1**
Q24A IAmb IAmb 19 44 28.4
comp=Z,37nm,1.2s
SIM **Simferopol'** 90.40 319 P P **19 44 24.7 -0.5**
SIM pmax pmax
comp=Z,24nm,0.9s
PBUR **Paburg** 90.46 333 eP P **19 44 23.8 -1.4**
SDCO **Great Sand Dun** 90.70 49 P P **19 44 27.1 0.0**
baz=297
SDCO **Great Sand Dun** 90.70 49 P P **19 44 26.5 -0.7**
SDCO IAmb IAmb 19 44 29.7
comp=Z,29nm,1.2s
MALT **Malatya** 90.75 312 P P **19 44 27.9 +0.8**
NC204 **NORSAR Array S** 90.94 340 P P **19 44 27.1 -0.4**
CASY **Casey** 90.94 194 P P **19 44 27.0 0.0**
CASY IAmb IAmb 19 44 34.3
comp=Z,36nm,1.4s
NB2 **NORSAR Subarra** 90.97 340 P P **19 44 26.4 -1.2**
comp=Z,7nm,0.7s,baz=41,slow=4.6
NB2 **NORSAR Subarra** 90.97 340 P P **19 44 26.4 -1.2**
baz=41,slow=4.6
NOA **NORSAR Array B** 90.97 340 P P **19 44 26.0 -1.6**
NOA **NORSAR Array B** 90.97 340 P P **19 44 26.0 -1.6**
comp=Z,19nm,1.2s,baz=45,slow=4.8,SNR=12
NOA PP PP **19 48 02.0 -1.4**
comp=Z,6.1nm,1.0s,baz=46,slow=8.4,SNR=5.1
NOA PKP2bc 20 09 21.6
comp=Z,1.3nm,0.8s,baz=210,slow=4.2,SNR=3.4
NOA LR LR 20 30 13.1
comp=Z,374nm,20.8s,baz=10.0,slow=39
KVT **Kavak** 91.07 315 P P **19 44 28.9 +0.4**
SUW **Suwalki** 91.17 331 eP P **19 44 27.5 -1.1**
SUW **Suwalki** 91.17 331 eP P **19 44 27.5 -1.1**
SUW eP P **19 44 27.5 -1.1**
SUW **Suwalki** 91.17 331 P P **19 44 27.8 -0.8**
ANMO **Albuquerque** 91.27 52 P P **19 44 30.3 +0.5**
baz=296
ANMO **Albuquerque** 91.27 52 ceP P **19 44 28.9 -0.8**
ANMO pmax pmax
comp=Z,37nm,1.3s
ANMO **Albuquerque** 91.27 52 P P **19 44 30.0 +0.2**
ANMO IAmb IAmb 19 44 32.6
comp=Z,33nm,1.1s
ANMO **Albuquerque** 91.27 52 IAMs_20 IAMs_20 20 15 41.2
comp=Z,852nm,21.0s
Y22D **IRIS PASSCAL I** 91.31 53 IAMs_20 IAMs_20 20 31 56.4
comp=Z,938nm,18.0s
121A **Cookes Peak, D** 91.33 54 P P **19 44 30.6 +0.6**
baz=296
121A **Cookes Peak, D** 91.33 54 P P **19 44 30.6 +0.6**
121A IAmb IAmb 19 44 33.5
comp=Z,38nm,1.1s
AGMN **Agassiz Nation** 91.49 36 P P **19 44 30.4 +0.2**
baz=304
AGMN **Agassiz Nation** 91.49 36 P P **19 44 30.2 0.0**
AGMN IAmb IAmb 19 44 31.9
comp=Z,48nm,1.1s
AGMN IAMs_20 IAMs_20 20 20 14.2
comp=Z,1μm,21.0s
BNM **Barren Site** 91.50 53 P P **19 44 30.3 -0.6**
RAYN **Ar Rayn** 91.53 296 P P **19 44 30.3 -0.7**
RAYN pmax pmax
comp=Z,31nm,1.3s
RAYN **Ar Rayn** 91.53 296 P P **19 44 30.3 -0.7**
RAYN IAmb IAmb 19 44 32.5
comp=Z,31nm,1.3s
SFJD **Kangerlussuaq** 91.56 7 *i* P P **19 44 30.0 -0.1**
SFJD **Kangerlussuaq** 91.56 7 *i* P P **19 44 30.0 -0.1**
SFJD **Kangerlussuaq** 91.56 7 P P **19 44 30.1 -0.1**
SFJD IAmb IAmb 19 44 32.2
comp=Z,45nm,1.1s
OGNE **Ogallala** 91.57 45 P P **19 44 31.2 +0.3**
baz=299
T25A **Trinidad** 91.75 49 P P **19 44 32.4 +0.5**
baz=298
T25A **Trinidad** 91.75 49 P P **19 44 31.3 -0.7**
T25A IAmb IAmb 19 44 34.7
comp=Z,43nm,1.1s
SUSD **Miller** 91.76 41 P P **19 44 31.7 +0.1**
baz=302
SUSD **Miller** 91.76 41 IAMs_20 IAMs_20 20 18 52.9
comp=Z,1μm,22.0s
SORM **Soroca** 92.06 324 ⇑P P **19 44 30.8 -2.0**
SORM **Soroca** 92.06 324 ⇑P P **19 44 30.8 -2.0**
KSCO **Kaye Shedlock'** 92.11 47 P P **19 44 33.7 +0.2**
baz=299
KSCO **Kaye Shedlock'** 92.11 47 P P **19 44 33.6 +0.2**
KSCO IAMs_20 IAMs_20 20 21 05.8
comp=Z,1μm,20.0s
BR131 **Keskin Array S** 93.34 315 P P **19 44 38.1 -1.1**
BR131 **Keskin Array S** 93.34 315 P P **19 44 38.0 -1.1**
BR131 pmax pmax
comp=Z,8.0nm,1.0s
BR131 **Keskin Array S** 93.34 315 P P **19 44 38.0 -1.1**
BRTR **Keskin Array B** 93.34 315 P P **19 44 37.9 -1.3**
comp=Z,7.1nm,0.9s,baz=89,slow=3.4,SNR=26
BRTR LR LR 20 31 03.7
comp=Z,322nm,18.9s,baz=34,slow=38
LVV **L'vov** 93.36 327 eP P **19 44 38.0 -0.8**
MNTX **Cornudas Mount** 93.53 54 P P **19 44 40.3 +0.3**
baz=297
MNTX **Cornudas Mount** 93.53 54 P P **19 44 39.9 -0.1**
MNTX IAmb IAmb 19 44 42.8
comp=Z,34nm,1.1s
ECSD **EROS Data Cent** 93.57 40 P P **19 44 39.7 -0.2**
baz=303
ECSD **EROS Data Cent** 93.57 40 IAMs_20 IAMs_20 20 21 55.7
comp=Z,1μm,18.0s
BGNE **Belgrade** 93.86 43 P P **19 44 40.6 -0.7**
baz=302
TESR **Tescani** 93.94 323 ⇑P P **19 44 40.4 -1.2**
BIZ **Bicaz** 93.99 324 ⇑P P **19 44 42.1 +0.3**
BUR08 **Bucovina Ar. S** 94.07 325 P P **19 44 41.5 -0.8**
EYMN **Ely** 94.07 35 P P **19 44 41.3 -0.9**
baz=307
BURAR **Bucovina Array** 94.08 325 ⇑P P **19 44 41.9 -0.4**
BURAR **Bucovina Array** 94.08 325 ⇑P P **19 44 41.9 -0.4**
KWP **Kalwaria Pacla** 94.15 327 P P **19 44 41.5 -1.0**
KWP pmax pmax
comp=Z,586nm,1.2s
KWP **Kalwaria Pacla** 94.15 327 eP P **19 44 42.9 +0.4**
KWP eP P **19 44 42.9 +0.4**
KWP **Kalwaria Pacla** 94.15 327 P P **19 44 41.5 -1.0**
CBKS **Cedar Bluff** 94.16 46 P P **19 44 42.0 -0.9**
baz=301
CBKS **Cedar Bluff** 94.16 46 IAMs_20 IAMs_20 20 21 25.1
comp=Z,974nm,20.0s
VRI **Vrincioaia** 94.27 323 ⇓P P **19 44 43.5 +0.4**
VRI **Vrincioaia** 94.27 323 ⇓P P **19 44 43.5 +0.4**
MSTX **Muleshoe** 94.42 51 P P **19 44 44.0 -0.2**
baz=299
OZUR 94.67 323 ⇑P P **19 44 45.5 +0.5**
ASF **Jabal al Asfar** 94.70 307 LR LR 20 32 36.1
comp=Z,213nm,19.9s,baz=21,slow=39
AMTX **Amarillo** 94.77 50 P P **19 44 45.6 -0.1**
baz=299
AMTX **Amarillo** 94.77 50 P P **19 44 46.1 +0.3**
AMTX IAMs_20 IAMs_20 20 29 57.7
comp=Z,920nm,19.0s
KOLS **Kolonicke sedl** 94.81 327 eP P **19 44 45.8 +0.3**
KOLS pmax pmax
comp=Z,241nm,3.7s
KOLS **Kolonicke sedl** 94.81 327 eP P **19 44 45.8 +0.3**
KOLS ePP PP **19 48 33.0 -0.9**
E38A **The Farm, Brul** 94.85 36 P P **19 44 45.4 -0.4**
E38A IAmb IAmb 19 44 47.1
comp=Z,36nm,1.0s
SPMN **Marine on St.** 94.97 38 P P **19 44 45.8 -0.5**
baz=306
SPMN **Marine on St.** 94.97 38 P P **19 44 46.1 -0.2**
SPMN IAMs_20 IAMs_20 20 23 45.5
comp=Z,1μm,22.0s
UZH **Uzhgorod** 94.99 327 eP P **19 44 45.8 -0.5**
TRPA **Tarpa** 95.18 326 ⇑P P **19 44 46.7 -0.5**
TRPA **Tarpa** 95.18 326 ePP PP 19 49 00.1 +23
U32A **Winter Ranch,** 95.91 48 IAMs_20 IAMs_20 20 32 09.6
comp=Z,1μm,18.0s
TX32 **Lajitas Array** 95.92 56 P P **19 44 51.0 -0.1**
TX32 IAmb IAmb 19 44 53.8
comp=Z,19nm,1.2s
TXAR **Lajitas Array** 95.92 56 P P **19 44 51.7 +0.6**
comp=Z,5.9nm,1.0s,baz=292,slow=3.4,SNR=32
TXAR PP PP **19 48 43.1 -0.2**
comp=Z,0.4nm,0.9s,baz=326,slow=7.9,SNR=3.1
TXAR PKKPbc **PKKPbc 20 01 40.0 +0.6**
comp=Z,2.0nm,0.9s,baz=131,slow=5.3,SNR=15
TXAR LR LR 20 19 13.5
comp=Z,286nm,21.9s,baz=0.0,slow=30
DRGR 95.93 325 ⇓P P **19 44 50.1 -0.7**
DRGR 95.93 325 ⇓P P **19 44 50.1 -0.7**
KSU1 **Kansas State U** 96.09 44 P P **19 44 51.5 -0.1**
baz=303
OKC **Ostrava-Krasne** 96.26 329 AMS AMS 20 37 40.0
comp=Z,1μm,17.9s
G40A **Rib Lake** 96.41 37 P P **19 44 52.8 -0.1**
G40A IAMs_20 IAMs_20 20 23 52.5
comp=Z,818nm,19.0s
MORC **Moravsky Berou** 96.59 330 P P **19 44 55.0 +1.4**
MORC pmax pmax
comp=Z,21nm,0.5s
MORC **Moravsky Berou** 96.59 330 ePP PP **19 48 47.7 +0.1**
SCIA **State Center** 96.66 41 P P **19 44 53.6 -0.4**
baz=306
OSTC **Ostas** 96.67 331 ePP PP **19 48 50.6 +2.5**
PSZ **Piszkesteto** 96.68 327 ePP PP 19 48 59.1 +11
KRLC **Kraliky** 96.74 330 AMS AMS 20 41 30.0
comp=Z,1μm,16.4s
DPC **Dobruska-Polom** 96.76 331 ePP PP **19 48 49.6 +0.7**
DPC AMS AMS 20 36 20.0
comp=Z,1μm,17.0s
GZR **Gura Zlata** 96.77 324 P P **19 44 56.9 +2.3**
UPC **Upice** 96.80 331 ePP PP **19 48 49.5 +0.4**
UPC AMS AMS 20 33 50.0
comp=Z,1μm,19.7s

VYHS	Vyhne	96.83	328	eP		P		19 44 54.4	-0.3		
VYHS					pmax	pmax					
	comp=Z,73nm,2.4s										
VYHS	Vyhne	96.83	328	eP		P		19 44 54.4	-0.3		
VYHS				ePP		PP		19 48 49.7	+0.3		
WMOK	Wichita Mounta	96.91	49	P		P		19 44 55.5	+0.1		
	baz=301										
WMOK	Wichita Mounta	96.91	49	P		P		19 44 54.9	-0.5		
WMOK					pmax	pmax					
	comp=Z,18nm,1.0s										
WMOK					MLR	MLR					
	comp=Z,1µm,22.0s										
WMOK	Wichita Mounta	96.91	49	P		P		19 44 54.9	-0.5		
WMOK					IAmb	IAmb		19 44 57.3			
	comp=Z,18nm,1.0s										
WMOK	Wichita Mounta	96.91	49	IAMs_20		IAMs_20		20 21 30.2			
	comp=Z,971nm,22.0s										
BZS	Buzias	97.26	325	P		P		19 44 56.7	0.0		
VRAC	Vranov	97.36	330	LR		LR		20 31 17.1			
	comp=Z,39nm,21.3s,baz=39,slow=37										
VRAC	Vranov	97.36	330	ePP		PP		19 48 53.6	+0.1		
ABTX	Abilene, Hawle	97.36	51	P		P		19 44 57.4	-0.1		
	baz=300										
ABTX	Abilene, Hawle	97.36	51	IAMs_20		IAMs_20		20 22 46.4			
	comp=Z,1µm,21.0s										
PVCC	Panska Ves	97.43	331	AMS		AMS		20 38 10.0			
	comp=Z,1µm,19.4s										
BRG	Berggiesshubel	97.46	332	ePP		PP		19 48 52.1	-2.1		
	comp=Z,70nm,2.1s										
CLL	Collm	97.55	333	ePP		PP		19 48 57.0	+2.2		
	comp=Z,26nm,1.3s										
CLL					Lm	MLR		20 36 00.0			
	comp=N,900nm,19.0s										
CLL					Lm	MLR		20 36 00.0			
	comp=E,600nm,18.5s										
KRUC	Moravsky	97.62	330	ePP		PP		19 48 55.8	+0.3		
MODS	Modra-Piesok	97.67	329	ePP		PP		19 48 57.5	+1.6		
GOPC	GO Pecny, Ondr	97.77	331	AMS		AMS		20 40 50.0			
	comp=E,1µm,16.0s										
PRA	Prague	97.82	331	AMS		AMS		20 42 10.0			
	comp=E,1µm,19.1s										
PRU	Pruhonice	97.83	331	ePP		PP		19 48 59.3	+2.3		
PRU				AMS		AMS		20 36 50.0			
	comp=E,1µm,19.9s										
TREC	Trest	97.89	330	AMS		AMS		20 35 40.0			
	comp=E,2µm,19.4s										
VTS	Vitosha	98.23	322	IAMs_20		IAMs_20		20 34 12.1			
	comp=Z,814nm,18.0s										
JCT	Junction City	98.31	53	P		P		19 45 01.6	-0.2		
	baz=300										
JCT	Junction City	98.31	53	P		P		19 45 01.3	-0.5		
JCT					pmax	pmax					
	comp=Z,32nm,1.1s										
JCT	Junction City	98.31	53	P		P		19 45 01.3	-0.5		
MPLH	Magyarpolny	98.37	328	ePP		PP		19 49 03.0	+1.8		
VNDA	Vanda	98.47	177	LR		LR		20 27 05.7			
	comp=Z,222nm,19.1s,baz=304,slow=34										
NKC	Novy Kostel	98.58	332	ePP		PP		19 49 05.0	+2.2		
NKC					AMS	AMS		20 39 00.0			
	comp=Z,1µm,22.4s										
CONA	Conrad Observa	98.67	329	i PP		PP		19 49 07.2	+3.6		
	comp=Z,13nm,1.5s										
N41A	Harden Midland	98.80	40	IAMs_20		IAMs_20		20 22 01.4			
	comp=Z,1µm,22.0s										
KHC	Kasperske Hory	98.88	331	ePP		PP		19 49 05.5	+0.4		
KHC					AMS	AMS		20 41 40.0			
	comp=Z,1µm,18.1s										
GERES	GERESS Array B	99.03	331	PP		PP		19 49 06.9	+0.5		
	comp=Z,4.4nm,1.1s,baz=51,slow=7.7,SNR=6.3										
GERES					LR	LR		20 33 06.4			
	comp=Z,378nm,19.4s,baz=22,slow=37										
WHTX	Lake Whitney,	99.28	51	IAMs_20		IAMs_20		20 32 43.1			
	comp=Z,675nm,19.0s										
ARSA	Arzberg	99.31	329	i PP		PP		19 49 07.5	-0.9		
	comp=Z,6.7nm,1.2s										
HHAR	Hobbs	99.41	46	IAMs_20		IAMs_20		20 22 57.9			
	comp=Z,1µm,21.0s										
SCHQ	Schefferville	99.45	19	P		Pdif		19 45 05.2	-1.1		
	comp=Z,4.1nm,0.6s,baz=292,slow=6.1,SNR=8.7										
SCHQ					LR	LR		20 30 05.9			
	comp=Z,366nm,20.8s,baz=322,slow=35										
SCHQ	Schefferville	99.45	19	P		Pdif		19 45 05.9	-0.5		
MOA	Molln	99.48	330	i PP		PP		19 49 10.6	+0.8		
	comp=Z,9.8nm,1.1s										
ZAIG	Zacatecas	99.82	61	IAMs_20		IAMs_20		20 35 09.7			
	comp=Z,943nm,18.0s										
HDIL	Hopedale	99.84	40	IAMs_20		IAMs_20		20 24 06.6			
	comp=Z,1µm,21.0s										
SOKA	Soboth	99.95	329	i PP		PP		19 49 12.8	-0.6		
	comp=Z,14nm,1.3s										
MGMO	Mountain Grove	100.01	44	IAMs_20		IAMs_20		20 26 04.7			
	comp=Z,930nm,22.0s										
U40A	Yellville	100.09	45	IAMs_20		IAMs_20		20 22 55.8			
	comp=Z,1µm,22.0s										
W39A	Magazine	100.12	46	IAMs_20		IAMs_20		20 25 06.9			
	comp=Z,856nm,20.0s										
LIT	Litokhoron	100.22	320	P		Pdif		19 45 11.5	+1.4		
P43A	Skaggs, Pawnee	100.26	41	IAMs_20		IAMs_20		20 23 20.9			
	comp=Z,1µm,22.0s										
OBKA	Obir	100.30	329	i PP		PP		19 49 17.6	+1.6		
	comp=Z,29nm,1.2s										
SLM	Saint Louis	100.43	42	IAMs_20		IAMs_20		20 22 34.6			
	comp=Z,817nm,21.0s										
KBA	Koelnbreinsper	100.47	330	i PP		PP		19 49 21.8	+4.4		
	comp=Z,32nm,1.3s										
O44A	Mansfield	100.58	40	IAMs_20		IAMs_20		20 25 52.3			
	comp=Z,1µm,21.0s										
PDG	Podgorica	100.62	323	IAMs_20		IAMs_20		20 36 36.2			
	comp=Z,900nm,18.0s										
MIAR	Mount Ida	100.63	47	P		Pdif		19 45 12.0	0.0		
	baz=304										
MIAR	Mount Ida	100.63	47	P		Pdif		19 45 12.1	+0.1		
MIAR					MLR	MLR					
	comp=Z,900nm,21.0s										
MIAR	Mount Ida	100.63	47			Pdif		19 45 12.1	+0.1		
MIAR				IAMs_20		IAMs_20		20 26 46.3			
	comp=Z,930nm,21.0s										
FUR	Furstenfeldbru	100.63	331	P		Pdif		19 45 14.0	+2.2		
FUR					pmax	pmax					
	comp=Z,20nm,1.2s										
MYKA	Terra Mystica	100.66	329	i PP		PP		19 49 19.9	+1.1		
	comp=Z,15nm,1.1s										
CHGQ	Chibougamau	100.81	26	P		Pdif		19 45 11.8	-0.6		
	baz=321										
WHAR	Wooly Hollow	101.07	46	IAMs_20		IAMs_20		20 27 09.0			
	comp=Z,1µm,22.0s										
ABTA	Abfaltersbach	101.11	330	i PP		PP		19 49 24.0	+1.9		
	comp=Z,11nm,1.2s										
WATA	Walderalm	101.11	331	i PP		PP		19 49 24.4	+2.2		
	comp=Z,18nm,1.1s										
WTTA	Wattenberg	101.14	331	i PP		PP		19 49 24.5	+2.1		
	comp=Z,18nm,1.3s										
X40A	Basin Creek Fa	101.17	47	IAMs_20		IAMs_20		20 27 01.5			
	comp=Z,811nm,21.0s										
W41B	Gary Mavity, V	101.17	46	IAMs_20		IAMs_20		20 26 49.5			
	comp=Z,1µm,22.0s										
SFIN	Lafayette	101.25	39	IAMs_20		IAMs_20		20 25 35.9			
	comp=Z,1µm,21.0s										
TRI	Trieste	101.26	328	IAMs_20		IAMs_20		20 38 36.4			
	comp=Z,928nm,20.0s										
MOTA	Moosalm	101.32	331	i PP		PP		19 49 27.3	+3.6		
	comp=Z,7.2nm,1.1s										
UALR	University of	101.33	46	IAMs_20		IAMs_20		20 26 05.9			
	comp=Z,1µm,20.0s										
SQTA	Sankt Quirin	101.36	331	i PP		PP		19 49 27.5	+3.4		
	comp=Z,8.7nm,1.2s										
LCAR	Lake Charles	101.37	44	IAMs_20		IAMs_20		20 26 51.7			
	comp=Z,772nm,22.0s										
NATX	Nacogdoches	101.41	50	IAMs_20		IAMs_20		20 27 12.4			
	comp=Z,896nm,19.0s										
WLAR	White Oak Lake	101.43	47	IAMs_20		IAMs_20		20 39 05.6			
	comp=Z,924nm,18.0s										
S44A	Carbondale	101.62	42	IAMs_20		IAMs_20		20 25 31.9			
	comp=Z,755nm,21.0s										
SIUC	Southern Illin	101.63	42	IAMs_20		IAMs_20		20 19 40.9			
	comp=Z,696nm,19.0s										
OLIL	Olney	101.69	41	IAMs_20		IAMs_20		20 24 14.7			
	comp=Z,1µm,22.0s										
FETA	Feichten	101.73	331	i PP		PP		19 49 28.6	+1.7		
	comp=Z,6.9nm,1.1s										
LPAR	Lepanto	102.21	44	IAMs_20		IAMs_20		20 23 59.8			
	comp=Z,854nm,21.0s										
FUORN	Ofenpass-Fuorn	102.24	331			Pdif		19 45 18.2	-1.0		
P48A	Milroy	102.83	39	IAMs_20		IAMs_20		20 26 22.6			
	comp=Z,1µm,22.0s										
M50A	Fremont	102.89	36	IAMs_20		IAMs_20		20 41 22.9			
	comp=Z,748nm,19.0s										

PLVO	Plevna	103.35	30	IAMs_20		IAMs_20		20 28 48.3			
	comp=Z,744nm,21.0s										
T47A	Sharon Grove	103.40	42	IAMs_20		IAMs_20		20 41 11.0			
	comp=Z,726nm,19.0s										
WVT	Waverly	103.48	43	IAMs_20		IAMs_20		20 27 52.3			
	comp=Z,781nm,20.0s										
M52A	Chesterland	103.71	35	IAMs_20		IAMs_20		20 29 07.5			
	comp=Z,924nm,22.0s										
AQU	L'Aquila	103.83	326	IAMs_20		IAMs_20		20 36 40.0			
	comp=Z,865nm,20.0s										
T49A	Edmonton	104.29	41	IAMs_20		IAMs_20		20 28 19.5			
	comp=Z,845nm,21.0s										
Q51A	Peebles	104.33	38	IAMs_20		IAMs_20		20 26 46.1			
	comp=Z,1µm,22.0s										
V48A	Smith Brothers	104.36	42	IAMs_20		IAMs_20		20 32 05.6			
	comp=Z,690nm,19.0s										
M54A	Oil Creek Stat	104.64	34	IAMs_20		IAMs_20		20 30 51.9			
	comp=Z,815nm,19.0s										
X48A	Hartselle	105.02	44	IAMs_20		IAMs_20		20 28 18.3			
	comp=Z,808nm,22.0s										
S51A	Beattyville	105.11	39	IAMs_20		IAMs_20		20 27 45.0			
	comp=Z,1µm,20.0s										
R53A	Hurricane	105.60	38	IAMs_20		IAMs_20		20 26 24.8			
	comp=Z,1µm,22.0s										
W50A	Signal Mountai	105.65	42	IAMs_20		IAMs_20		20 25 40.8			
	comp=Z,844nm,22.0s										
K58A	Earlville	105.74	31	IAMs_20		IAMs_20		20 30 01.7			
	comp=Z,997nm,22.0s										
Y49A	Blount Mountai	105.80	44	IAMs_20		IAMs_20		20 30 03.0			
	comp=Z,777nm,19.0s										
V51A	Loudon	105.86	41	IAMs_20		IAMs_20		20 29 10.1			
	comp=Z,1µm,22.0s										
LRAL	Lakeview Retre	105.93	45	IAMs_20		IAMs_20		20 29 48.6			
	comp=Z,1µm,22.0s										
CPCT	Cooper Cave	105.98	41	IAMs_20		IAMs_20		20 32 30.5			
	comp=Z,771nm,20.0s										
SSPA	Standing Stone	106.19	34	IAMs_20		IAMs_20		20 30 41.1			
	comp=Z,756nm,20.0s										
ACCN	Adirondack Com	106.19	29	IAMs_20		IAMs_20		20 33 09.6			
	comp=Z,980nm,21.0s										
V52A	Sevierville	106.30	41	IAMs_20		IAMs_20		20 25 21.6			
	comp=Z,875nm,21.0s										
TKL	Tuckaleechee C	106.31	41	IAMs_20		IAMs_20		20 29 35.0			
	comp=Z,1µm,22.0s										
X51A	Calhoun	106.35	42	IAMs_20		IAMs_20		20 31 29.2			
	comp=Z,858nm,19.0s										
L59A	Walton	106.46	31	IAMs_20		IAMs_20		20 30 11.9			
	comp=Z,969nm,22.0s										
Z50A	Ashland	106.50	44	IAMs_20		IAMs_20		20 30 04.5			
	comp=Z,698nm,20.0s										
W52A	Murphy	106.58	41	IAMs_20		IAMs_20		20 31 43.4			
	comp=Z,840nm,21.0s										
Q56A	Snyder Ridge,	106.65	36	IAMs_20		IAMs_20		20 30 38.4			
	comp=Z,1µm,22.0s										
V53A	Saluda	106.89	40	IAMs_20		IAMs_20		20 28 51.2			
	comp=Z,818nm,22.0s										
U54A	Nelsons Funny	106.91	39	IAMs_20		IAMs_20		20 29 44.6			
	comp=Z,907nm,20.0s										
Z51A	Franklin	106.94	44	IAMs_20		IAMs_20		20 35 08.2			
	comp=Z,823nm,18.0s										
Y52A	Lilburn	107.30	42	IAMs_20		IAMs_20		20 26 34.5			
	comp=Z,1µm,22.0s										
MVL	Millersville	107.46	33	IAMs_20		IAMs_20		20 27 32.6			
	comp=Z,1nm,21.0s										
152A	Waverly Hall	107.65	44	IAMs_20		IAMs_20		20 30 13.0			
	comp=Z,660nm,20.0s										
CPNY	Central Park	108.06	31	IAMs_20		IAMs_20		20 23 52.1			
	comp=Z,803nm,20.0s										
PAULI	Pauline	108.06	40	IAMs_20		IAMs_20		20 30 47.3			
	comp=Z,899nm,20.0s										
WSPT	Westport, CT	108.07	31	IAMs_20		IAMs_20		20 31 32.3			
	comp=Z,760nm,21.0s										
KMSC	Kings Mountain	108.13	40	IAMs_20		IAMs_20		20 29 06.2			
	comp=Z,955nm,20.0s										
HODGE	Hodges	108.19	41	IAMs_20		IAMs_20		20 30 41.7			
	comp=Z,940nm,22.0s										
CBN	Corbin Frederi	108.24	35	IAMs_20		IAMs_20		20 31 11.3			
	comp=Z,1µm,22.0s										
Q60A	Greensboro	108.46	34	IAMs_20		IAMs_20		20 33 28.1			
	comp=Z,859nm,21.0s										
V58A	Windy Hill, Pi	108.99	38	IAMs_20		IAMs_20		20 31 55.6			
	comp=Z,882nm,21.0s										
HAL	Halifax	109.29	22	IAMs_20		IAMs_20		20 32 16.8			
	comp=Z,953nm,21.0s										
Z56A	Williston	109.34	41	IAMs_20		IAMs_20		20 34 22.3			
	comp=Z,782nm,18.0s										
U59A	Littleton	109.34	37	IAMs_20		IAMs_20		20 32 03.8			
	comp=Z,855nm,22.0s										
255A	Hazlehurst	109.58	43	IAMs_20		IAMs_20		20 33 08.8			
	comp=Z,827nm,21.0s										
Y59A	Loris	110.39	39	IAMs_20		IAMs_20		20 30 14.0			
	comp=Z,1µm,22.0s										
KEST	Kesra	110.80	324	PP		PP		19 50 34.9	+1.1		
	comp=Z,9.0nm,1.0s,baz=101,slow=5.2,SNR=6.4										
KEST				PKKPbc		PKKPbc		20 00 56.1	+0.4		
	comp=Z,4.2nm,1.0s,baz=281,slow=8.4,SNR=4.7										
ESDC	Sonseca Array	113.92	336	PP		PP		19 50 49.5	-6.2		
	comp=Z,3.9nm,1.0s,baz=33,slow=5.3,SNR=4.4										
ESDC				PKKPbc		PKKPbc		20 00 44.9	-0.6		
	comp=Z,0.9nm,0.7s,baz=216,slow=3.4,SNR=3.9										
ESDC				PKKPab		PKKPab		20 00 53.6	-0.5		
	comp=Z,3.2nm,0.9s,baz=209,slow=4.4,SNR=8.1										
SYO	Syowa Base	115.32	202	epPdiff		Pdif		19 46 19.0	+2.7		
TGUH	Tegucigalpa,Un	116.71	61	IAMs_20		IAMs_20		20 33 11.2			
	comp=Z,611nm,21.0s										
LSZ	Lusaka	121.54	264	PKIKP		PKPdf		19 50 18.9	+0.8		
LSZ	Lusaka	121.54	264			PKPdf		19 50 18.9	+0.8		
TAM	Tamanrasset	122.48	317	IAMs_20		IAMs_20		20 39 49.8			
	comp=Z,593nm,20.0s										
NVL	N'lazarevskaya	123.44	196	ePKIKP		PKPdf		19 50 13.7	-6.3		
NVL				e				19 51 58.7			
SDDR	Presa de Saban	125.75	46	IAMs_20		IAMs_20		20 51 58.7			
	comp=Z,599nm,18.0s										
LBTB	Lobatse	125.91	254	PKIKP		PKPdf		19 50 26.9	+0.6		
LBTB	Lobatse	125.91	254			PKPdf		19 50 26.9	+0.6		
SNAA	Sanae	126.11	191	PKPdf		PKPdf		19 50 25.4	+0.2		
SNAA	Sanae	126.11	191	PKIKP		PKPdf		19 50 25.4	+0.2		
SNAA	Sanae	126.11	191			PKPdf		19 50 25.4	+0.2		
BOSA	Boshof	126.64	249	PKP		PKPdf		19 50 26.7	-0.9		
	comp=Z,6.6nm,0.9s,baz=78,slow=1.8,SNR=8.0										
BOSA	Boshof	126.64	249			PKPdf		19 50 27.4	-0.2		
VNA2	Neumayer--Watz	127.55	190	PKPdf		PKiKP		19 50 29.2	+0.7		
	baz=135,slow=0.3										
SJG	San Juan	129.72	42	IAMs_20		IAMs_20		20 38 58.4			
	comp=Z,593nm,22.0s										
SMLC	San Martn de	130.33	58	eP		PKPdf		19 50 34.1	-0.7		
SMLC	San Martn de	130.33	58	eP		PKPdf		19 50 34.1	-0.7		
CBOC	Ciudad Bolivar	130.44	62	eP		PKPdf		19 50 34.5	-0.8		
CBOC	Ciudad Bolivar	130.44	62	eP		PKPdf		19 50 34.5	-0.8		
OTAV	Otavalo	131.21	70	eP		PKPdf		19 50 38.1	+0.9		
OTAV	Otavalo	131.21	70	eP		PKPdf		19 50 38.1	+0.9		
OCAC	Ocana	131.26	58	eP		PKPdf		19 50 37.8	+0.9		
OCAC	Ocana	131.26	58	eP		PKPdf		19 50 37.8	+0.9		
GUY2C	Guyana, Caldas	131.32	63	eP		PKPpre		19 50 28.6			
GUY2C	Guyana, Caldas	131.32	63	eP		PKPpre		19 50 28.6			
RREF	El Recreo	131.51	63	eP		PKPdf		19 50 39.0	+1.0		
RREF	El Recreo	131.51	63	eP		PKPdf		19 50 39.0	+1.0		
PMSA	Palmer Station	131.53	163	eP		PKPdf		19 50 36.5	+1.0		
PMSA	Palmer Station	131.53	163	eP		PKPdf		19 50 36.5	+1.0		
NORC	Norcasia	131.55	62	eP		PKPpre		19 50 30.3			
NORC	Norcasia	131.55	62	eP		PKPpre		19 50 30.3			
TOA0	Torodi Ar. Sit	131.84	311			PKPdf		19 50 37.7	-0.1		
TORD	Torodi Ar. Bea	131.84	311	PKP		PKPdf		19 50 37.6	-0.1		
	comp=Z,3.1nm,0.7s,baz=31,slow=2.2,SNR=13										
TORD				PP		PP		19 52 56.2	-1.5		
	comp=Z,4.9nm,0.9s,baz=36,slow=5.9,SNR=7.3										
SPBC	San Pablo de B	132.15	61	eP		PKPdf		19 50 38.8	+0.3		
SPBC	San Pablo de B	132.15	61	eP		PKPdf		19 50 38.8	+0.3		
BARC	Barichara	132.34	59	eP		PKPpre		19 50 32.7			
BARC	Barichara	132.34	59	eP		PKPpre		19 50 32.7			
RUSC	La Rusia	132.82	60	eP		PKPdf		19 50 38.7	-1.6		
RUSC	La Rusia	132.82	60	eP		PKPdf		19 50 38.7	-1.6		
SDV	Santo Domingo	132.96	55	eP		PKPdf		19 50 41.1	+1.0		
SDV	Santo Domingo	132.96	55	eP		PKPdf		19 50 41.1	+1.0		
SDV	Santo Domingo	132.96	55			PKPdf		19 50 40.0	-0.1		
CHIC	Chingaza	133.00	62	eP		PKPdf		19 50 40.3	-0.2		
CHIC	Chingaza	133.00	62	eP		PKPdf		19 50 40.3	-0.2		
TOSP	Speyside	138.40	43	IAMs_20		IAMs_20		20 55 36.3			
	comp=Z,593nm,21.0s										
DBIC	Dimbokro	140.95	311	PKIKP		PKPdf		19 50 54.4	-0.2		
DBIC	Dimbokro	140.95	311	PKhKP		PKPdf		19 50 46.6	-8.1		
	comp=Z,9.3nm,1.0s,baz=36,slow=6.6,SNR=8.4										
DBIC	Dimbokro	140.95	311			PKPdf		19 50 54.4	-0.2		
TIC	Toumodi	141.09	311	eP		PKPdf		19 50 48.6	-6.3		
KIC	Kosan Boka	141.09	311	eP		PKPdf		19 50 46.9	-8.0		
	comp=Z,2.9nm,0.7s										

LIC	Lamto	141.38	311	eP		PKPdf		19 50 47.8	-7.6		
	comp=Z,1.5nm,0.3s										
GO06	Curarrehue	142.40	129			PKPdf		19 50 57.5	+0.8		
PLCA	Paso Flores	142.68	131	PKhKP		PKPdf		19 50 54.3	-2.8		
	comp=Z,23nm,1.0s,baz=303,slow=5.1,SNR=7.1										
PLCA	Paso Flores	142.68	131	eP		PKPdf		19 50 59.3	+2.2		
PLCA	Paso Flores	142.68	131	eP		PKPdf		19 50 59.3	+2.2		
ROC1	El Roble	144.42	118			PKPab		19 50 59.7	+0.9		
PEL	Peldehue	144.66	118	PKIKP		PKPab		19 51 00.0	+0.5		
PEL	Peldehue	144.66	118			PKPab		19 50 60.0	+0.5		
GO04	Tololo Observa	145.02	113	eP		PKPbc		19 51 01.4	+0.3		
GO04	Tololo Observa	145.02	113			PKPbc		19 51 01.0	-0.1		
GO04	Tololo Observa	145.02	113	eP		PKPbc		19 51 00.7	-0.4		
PB10	IPOC Station P	145.46	102			PKPdf		19 51 02.7	+0.4		
PSGC	Pisagua	145.48	95	eP		PKPdf		19 51 02.3	-0.3		
PB14	IPOC Station P	145.64	104	eP		PKPdf		19 51 03.4	+0.4		
PB14	IPOC Station P	145.64	104	eP		PKPdf		19 51 03.4	+0.4		
GO03	Copiap	145.73	109			PKPdf		19 51 03.2	+0.5		
PB05	IPOC Station P	145.75	100	eP		PKPab		19 51 04.9	+1.1		
PB04	IPOC Station P	145.76	99	eP		PKPdf		19 51 03.4	+0.3		
PB04	IPOC Station P	145.76	99			PKPdf		19 51 02.8	-0.3		
MNMC	Minye Minye	145.91	94	eP		PKPdf		19 51 04.7	+1.1		
MNMC	Minye Minye	145.91	94			PKPdf		19 51 04.5	+1.0		
MNMC				IAMs_20		IAMs_20		20 52 32.7			
	comp=Z,542nm,18.0s										
PB11	IPOC Station P	145.94	95	eP		PKPdf		19 51 04.2	+0.7		
PB11	IPOC Station P	145.94	95			PKPdf		19 51 04.2	+0.7		
RTLS	Leoncito	146.06	116	eP		PKPbc		19 51 05.0	+0.6		
PB03	IPOC Station P	146.10	99	eP		PKPdf		19 51 03.1	-0.5		
AROD	Rodeo	146.16	113	eP		PKPbc		19 51 05.5	+0.8		
AAGR	Agrelo	146.20	119	eP		PKPbc		19 51 05.4	+0.8		
ASAL	Salagasta	146.30	118	eP		PKPbc		19 51 05.2	+0.4		
PB06	IPOC Station P	146.32	100	eP		PKPdf		19 51 04.9	+0.9		
GO01	Chusmiza	146.36	95			PKPdf		19 51 05.2	+0.6		
GO01				IAMs_20		IAMs_20		20 43 00.7			
	comp=Z,564nm,20.0s										
GO02	Mina Guanaco	146.38	104			PKPdf		19 51 04.8	+0.5		
HOPE	Hope Point

comp=Z,3.2nm,1.1s
KKAR **Karatay Array** **66.20 309** P **P** 19 50 16.4 **-0.1**
KKAR IAmb IAmb 19 50 17.6
comp=Z,3.2nm,1.1s
CHGR **Chuyangaron** **67.83 304** P **P** **19 50 27.2 +0.1**
ARU **Arti** **71.97 324** P **P** **19 50 52.0 0.0**
ABKAR **Akbulak array** **72.50 317** P **P** **19 50 55.3 0.0**
ABKAR IAmb IAmb 19 50 56.3
comp=Z,1.6nm,0.9s
YKA **Yellowknife Ar** **75.79 28** P **P** **19 51 14.1 -0.2**
comp=Z,0.7nm,0.9s,baz=290,slow=6.0,SNR=4.5
NVAR **Mina Array Bea** **81.19 52** P **P** **19 51 45.5 +0.6**
comp=Z,0.8nm,0.7s,baz=275,slow=5.1,SNR=3.9
FINES **FINESS Array B** **85.44 335** P **P** **19 52 05.1 -0.9**
comp=Z,2.2nm,0.7s,baz=57,slow=7.0,SNR=6.1

IDC 28 19:49:28.3±20.0, 21°.18N×146°.84E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/42, mbtmp3.7/3, Error ellipse: s-maj=565.8km s-min=54.5km az=1.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**56.74**	**321**	P	P	19 59 13.8	-0.1
	1.7nm,0.5s,baz=111,slow=7.9,SNR=6.2						
MKAR	**Makanchi Array**	**57.55**	**313**	P	P	19 59 19.8	0.0
	0.4nm,0.6s,baz=98,slow=8.9,SNR=3.6						
YKA	**Yellowknife Ar**	**75.31**	**28**	P	P	20 01 13.1	0.0
	0.4nm,0.8s,baz=293,slow=5.6,SNR=4.6						

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*IDC **28** 19:52:21.8±0.8, 20°.66N×146°.65E, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.8/42, mbtmp3.9/12, MS4.2/1, Ms1 4.2/1, ms1mx3.3/63, Error ellipse: s-maj=29.8km s-min=19.5km az=75.0*
*NEIC **28** 19:52:23.2±1.0, 20°.7N±0°.1×146°.7E±0°.1, h10km±1km, mb4.4/14*
*ISCJB **28** 19:52:25.2±0.7, 20°.67N±0°.06×146°.6E±0°.2, h34km, mb3.9/12, MS4.2/1, Error ellipse: s-maj=23.7km s-min=8.3km az=173.2*

ISC 28 19:52:26.8±0.7, 20°.67N±0°.09×146°.7E±0°.2, h34km, n31, σ0s58/30, mb4.2/19, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**4.05**	**192**	Pn	**Pn**	**19 53 26.9**	**+0.5**
INU	**Inuyama**	**16.92**	**332**		**Pn**	**19 56 21.0**	**+0.1**
INU				IAmb	IAmb	19 56 25.0	
	comp=Z,35nm,1.1s						
MAJO	**Matsushiro**	**17.46**	**337**		**Pn**	**19 56 27.7**	**0.0**
MJB9	**Matsu-Tunnel**	**17.47**	**337**		**Pn**	**19 56 27.7**	**-0.2**
KSRS	**Korea Array**	**23.35**	**320**	P	**P**	**19 57 31.9**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=142,slow=8.7,SNR=7.7						
KLR	**Kul'dur**	**30.89**	**341**	P	**P**	**19 58 40.2**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=160,slow=12,SNR=6.3						
WR0	**Warramunga Arr**	**42.10**	**197**	P	**P**	**20 00 15.7**	**-0.1**
WRAB	**Tennant Creek**	**42.13**	**197**	P	**P**	**20 00 16.3**	**+0.3**
WRA	**Warramunga Arr**	**42.14**	**197**	P	**P**	**20 00 16.0**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=20,slow=9.0,SNR=5.3						
SONM	**Songino Array**	**42.22**	**320**	P	**P**	**20 00 16.5**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=132,slow=9.6,SNR=3.4						
TLY	**Talaya**	**45.52**	**323**	LR	LR	20 20 57.5	
	comp=Z,260nm,18.8s,baz=103,slow=38						
ASAR	**Alice Springs**	**45.80**	**196**	P	**P**	**20 00 44.4**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=24,slow=9.1,SNR=4.3						
ZAA0	**Zalesovo Array**	**57.04**	**322**	P	**P**	**20 02 09.1**	**-0.3**
ZALV	**Zalesovo Beam**	**57.04**	**322**	P	**P**	**20 02 09.1**	**-0.2**
	comp=Z,5.8nm,0.5s,baz=109,slow=7.8,SNR=26						
MK31	**Makanchi Array**	**57.79**	**313**	P	**P**	**20 02 14.9**	**+0.1**
MK31				IAmb	IAmb	20 02 16.0	
	comp=Z,2.3nm,1.1s						
MKAR	**Makanchi Array**	**57.79**	**313**	P	**P**	**20 02 15.1**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=87,slow=7.9,SNR=15						
MAKZ	**Makanchi**	**58.01**	**313**	P	**P**	**20 02 15.9**	**-0.4**
MAKZ				IAmb	IAmb	20 02 18.1	
	comp=Z,6.1nm,1.1s						
NRIK	**Noril'sk**	**60.09**	**339**	P	**P**	**20 02 30.7**	**+0.4**
	comp=Z,3.5nm,0.7s,baz=118,slow=9.4,SNR=7.6						
KURK	**Kurchatov**	**60.45**	**317**	P	**P**	**20 02 33.1**	**0.0**
BRVK	**Borovoye**	**65.63**	**320**	P	**P**	**20 03 07.9**	**+0.4**
KK31	**Karatay Array**	**66.25**	**309**	P	**P**	**20 03 12.2**	**+0.6**
KK31				IAmb	IAmb	20 03 13.1	
	comp=Z,2.9nm,0.8s						
KKAR	**Karatay Array**	**66.25**	**309**	P	**P**	**20 03 12.0**	**+0.3**
KKAR				IAmb	IAmb	20 03 13.1	
	comp=Z,2.9nm,0.8s						
KBL	**Kabul**	**68.69**	**300**	P	**P**	**20 03 27.4**	**0.0**
KBL				IAmb	IAmb	20 03 28.8	
	comp=Z,2.4nm,0.8s						
ARU	**Arti**	**72.01**	**324**	P	**P**	**20 03 46.6**	**-0.5**
ARU				IAmb	IAmb	20 03 58.0	
	comp=Z,3.6nm,0.7s						
ABKAR	**Akbulak array**	**72.55**	**317**	P	**P**	**20 03 50.5**	**+0.1**
ABKAR				IAmb	IAmb	20 03 51.2	
	comp=Z,1.8nm,0.8s						
YKA	**Yellowknife Ar**	**75.81**	**28**	P	**P**	**20 04 08.5**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=292,slow=5.6,SNR=4.3						
ARCES	**ARCESS Array B**	**80.91**	**342**	P	**P**	**20 04 39.0**	**+1.8**
	comp=Z,3.7nm,1.0s,baz=54,slow=9.2,SNR=4.3						
NVAR	**Mina Array Bea**	**81.19**	**52**	P	**P**	**20 04 40.2**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=283,slow=8.0,SNR=3.5						
FINES	**FINESS Array B**	**85.49**	**335**	P	**P**	**20 04 59.8**	**-1.2**
	comp=Z,3.1nm,0.6s,baz=64,slow=4.6,SNR=8.9						
LPAZ	**La Paz**	**146.73**	**88**	PKPbc	**PKPab**	**20 12 08.1**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=2.3,slow=5.9,SNR=7.1						
LPAZ	**La Paz**	**146.73**	**88**		**PKPdf**	**20 12 04.4**	**-0.8**

DJA 28 19:53:05.0±0.4, 11°S±6°×118°E±°, h87km±33km, M4.3/11, mb4.3/5, MLv4.3/11, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.36**	**357**	P	Pn	19 53 43.5	+1.6
PLAI				S	Sn	19 54 10.8	+0.6
TWSI	**Taliwang, Sumb**	**2.64**	**338**	P	Pn	19 53 46.9	+1.2
WSI	**Waingapu**	**2.81**	**58**	P	Pn	19 53 46.8	-1.2
WSI				S	Sn	19 54 21.0	-0.1
IGBI	**Denpasar**	**3.59**	**311**	P	Pn	19 53 58.3	-0.2
IGBI				S	Sn	19 54 39.8	-0.1
DNP	**Denpasar**	**3.64**	**313**	P	Pn	19 53 59.4	+0.2
DNP				S	Sn	19 54 42.7	+1.6
SRBI	**Singaraja**	**4.07**	**319**	P	Pn	19 54 02.2	-2.8
SRBI				S	Sn	19 54 51.2	-0.3
JAGI	**Jajag, Banyuwa**	**4.57**	**306**	P	Pn	19 54 11.9	0.0
JAGI				S	Sn	19 55 02.5	-1.3
GMJI	**Gumukmas**	**5.26**	**303**	P	Pn	19 54 22.4	+1.2
GMJI				S	Sn	19 55 20.1	-0.4
BKSI	**Bulukumba**	**6.24**	**21**	P	Pn	19 54 36.8	+2.2
	27nm,0.5s,0.2nm						
SOEI	**Soe**	**6.43**	**78**	P	Pn	19 54 35.4	-1.9
	51nm,2.5s,0.4nm						
PWJI	**Pagerwojo**	**6.78**	**297**	P	Pn	19 54 42.6	+0.7
	36nm,2.0s,0.2nm						
PCJI	**Pacitan**	**7.26**	**294**	P	Pn	19 54 48.9	+0.4
	31nm,1.2s,0.3nm						

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*ISCJB **28** 20:05:01.2±0.9, 2°.27S±0°.06×140°.22E±0°.04, h10km, mb3.2/2, Error ellipse: s-maj=9.4km s-min=5.6km az=23.0*
*IDC **28** 20:05:01.9±1.4, 2°.35S×140°.15E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.1/47, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=30.3km s-min=10.4km az=14.0*
*DJA **28** 20:05:01.3±0.6, 2°.S±4°×14°.0E±°, h10km, M3.3/4, MLv3.3/4*

ISC 28 20:05:01.8±1.0, 2°.34S±0°.08×140°.23E±0°.05, h10km, n14, σ0s96/12, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.26**	**193**	P	**Pb**	**20 05 08.5**	**-0.2**
GENI				S	**Sb**	**20 05 13.5**	**+0.2**
JAY	**Jayapura**	**0.51**	**111**	Pg	**Pb**	**20 05 12.7**	**-0.2**
	83nm,0.3s,baz=251,slow=9.0,SNR=628						
JAY				Lg	Lg	20 05 21.1	
	226nm,0.3s,baz=2.8,slow=23,SNR=44						
JAY	**Jayapura**	**0.51**	**111**	P	**Pb**	**20 05 12.1**	**-0.8**
JAY				S	**Sb**	**20 05 19.5**	**-0.9**
SMPI	**Sarmi**	**1.56**	**283**	P	**Pn**	**20 05 28.7**	**-0.9**
SMPI				S	**Sn**	**20 05 48.9**	**-0.9**
WAMI	**Wamena**	**2.16**	**224**	P	**Pb**	**20 05 40.2**	**-0.8**
WAMI				Pg	**Pg**	**20 05 43.3**	**0.0**
WRA	**Warramunga Arr**	**18.42**	**198**	P	**P**	**20 09 17.5**	**0.0**
	0.1nm,0.3s,baz=20,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**22.07**	**196**	P	**P**	**20 09 58.2**	**+1.0**
	0.3nm,0.6s,baz=24,slow=9.8,SNR=7.9						
H11S3	**WAKE ISLAND Hy 33.27**	**50**		T	T	20 46 44.9	
	baz=231,slow=75,SNR=6.8						
H11S2	**WAKE ISLAND Hy 33.28**	**50**		T	T	20 46 44.5	
	baz=231,slow=75,SNR=5.1						
H11S1	**WAKE ISLAND Hy 33.28**	**50**		T	T	20 46 44.6	
	baz=231,slow=75,SNR=5.5						
H11N1	**WAKE ISLAND Hy 34.14**	**49**		T	T	20 47 50.0	
	baz=233,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy 34.16**	**49**		T	T	20 47 49.0	
	baz=233,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy 34.16**	**49**		T	T	20 47 54.1	
	baz=233,slow=75,SNR=3.7						
MKAR	**Makanchi Array**	**70.43**	**322**	P	**P**	**20 16 18.3**	**+1.8**
	0.3nm,0.6s,baz=120,slow=8.5,SNR=3.3						

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*ISCJB **28** 20:06:52.0±0.4, 48°.14N±0°.02×78°.12W±0°.03, h0km, Error ellipse: s-maj=3.1km s-min=2.8km az=13.9*
*OTT **28** 20:06:53.9±0.1, 48°.13N×78°.11W, h1km, MN2.7/8, Probable blast, Malartic, Qc Mining explosion.*
*ANF **28** 20:06:53.9±0.6, 48°.08N×78°.11W, h15km±4km, ML2.2/5, Error ellipse: s-maj=1.8km s-min=1.3km az=133.0*

ISC 28 20:06:51.8±0.8, 48°.12N±0°.02×78°.04W±0°.02, h0km, n25, σ0s89/40, Southern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLDQ	**Val d'Or**	**0.39**	**90**	PG	**Pg**	**20 06 57.9**	**-1.4**
VLDQ				SG	**Sg**	**20 07 01.6**	**-2.8**
VLDQ				Trac		20 07 03.4	
	comp=Z,101nm,0.2s						
LSQQ	**Lebel-sur-Quev**	**1.18**	**36**	PG	**Pb**	**20 07 15.1**	**+0.1**
LSQQ				Trac		20 07 36.9	
	comp=Z,3.8nm,0.0s						
KILO	**Kirkland Lake**	**1.19**	**289**	PG	**Pg**	**20 07 14.3**	**-0.2**
KILO				SG	**Sg**	**20 07 29.5**	**-0.4**
KILO				Trac		20 07 35.3	
	comp=Z,14nm,0.1s						
D54A	**Lac Fusel, La**	**1.34**	**135**	P	**Pb**	**20 07 18.5**	**+0.6**
D54A				S	**Sn**	**20 07 36.9**	**+0.5**
	baz=315						
D54A	**Lac Fusel, La**	**1.34**	**135**	SG	**Sn**	**20 07 36.8**	**+0.4**
D51A	**Lot 18 Range I**	**1.37**	**222**	P	**Pg**	**20 07 17.8**	**-0.2**
	baz=39,SNR=45						
D51A				S	**Sb**	**20 07 35.9**	**-0.3**
	baz=39						
D50A	**G1974 Best Tow**	**1.54**	**233**	P	**Pn**	**20 07 20.2**	**-0.4**
	baz=50,SNR=183						
D50A				S	**Sg**	**20 07 40.1**	**-1.3**
	baz=50						
EEO	**Eldee**	**1.64**	**206**	PN	**Pb**	**20 07 22.8**	**0.0**
EEO				SG	**Sg**	**20 07 44.8**	**+0.5**
EEO				Trac		20 07 46.4	
	comp=Z,27nm,0.1s						
MATQ	**Matagami**	**1.67**	**9**	P	**Pb**	**20 07 23.1**	**-0.2**
	baz=191						
MATQ				S	**Sb**	**20 07 45.1**	**+0.2**
	baz=191						
MATQ	**Matagami**	**1.67**	**9**	PG	**Pb**	**20 07 23.5**	**+0.1**
MATQ				SG	**Sg**	**20 07 46.8**	**+1.5**
MATQ				Trac		20 07 49.7	
	comp=Z,5.6nm,0.1s						
E51A	**G1948 Merrick**	**1.87**	**213**	Pb	**Pb**	**20 07 26.6**	**-0.2**
	baz=30,SNR=109						
E51A				Sb	**Sb**	**20 07 50.7**	**+0.1**
	baz=30						
E52A	**Mattawa**	**1.88**	**193**	Pb	**Pb**	**20 07 27.1**	**+0.1**
	baz=11,SNR=45						
E52A				Sb	**Sg**	**20 07 51.8**	**-0.3**
	baz=11						
D55A	**Sainte-Anne-du**	**2.06**	**121**	P	**Pn**	**20 07 28.5**	**+0.9**
	baz=303						
D55A				Sb	**Sg**	**20 07 59.2**	**+1.4**
	baz=303						
GRQ	**Grand Remous**	**2.12**	**135**	PN	**Pb**	**20 07 30.8**	**-0.2**
GRQ				SN	**Sb**	**20 07 58.1**	**+0.3**
GRQ				Trac		20 08 03.9	
	comp=Z,14nm,0.2s						
CRLO	**Chalk River**	**2.13**	**168**	PN	**Pb**	**20 07 31.1**	**-0.2**
CRLO				SN	**Sb**	**20 07 57.4**	**-0.7**
CRLO				Trac		20 08 01.9	
	comp=Z,13nm,0.1s						
E55A	**Montcerf-Lytto**	**2.14**	**140**	Sb	**Sg**	**20 08 00.7**	**+0.1**
	baz=321						
ALGO	**Algonquin Park**	**2.16**	**180**	Pb	**Pb**	**20 07 32.1**	**+0.3**
	baz=359,SNR=33						
ALGO	**Algonquin Park**	**2.16**	**180**	PN	**Pb**	**20 07 30.8**	**-1.0**
ALGO				SN	**Sb**	**20 07 58.1**	**-1.0**
F51A	**Arnstein**	**2.54**	**211**	Sb	**Sb**	**20 08 10.9**	**+1.0**
	baz=28						
E56A	**St. Veronique**	**2.58**	**126**	Sb	**Sg**	**20 08 13.7**	**-0.9**
	baz=308						
D48A	**Paudash Townsh**	**2.72**	**251**	P	**Pn**	**20 07 36.5**	**-0.2**
	baz=68						
G54A	**Lake Saint Pet**	**2.72**	**181**	Sb	**Sb**	**20 08 16.3**	**+1.1**
	baz=360						
VABQ	**Val Des Bois**	**2.77**	**142**	PN	**Pn**	**20 07 39.0**	**+1.6**
VABQ				Trac		20 08 25.7	
	comp=Z,7.3nm,0.2s						
CHGQ	**Chibougamau**	**3.01**	**52**	Sb	**Sg**	**20 08 27.2**	**-1.2**
	baz=235						
D57A	**Chemin Vers le**	**3.02**	**110**	P	**Pn**	**20 07 41.7**	**+0.8**
	baz=293						
D57A				S	**Sn**	**20 08 18.4**	**+0.7**
	baz=293						

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*ISCJB **28** 20:07:35.8±0.6, 6°.15S±0°.08×150°.7E±0°.1, h48km, mb3.7/10, Error ellipse: s-maj=17.2km s-min=8.2km az=33.4*
*IDC **28** 20:07:39.9±1.2, 6°.24S×150°.70E, h74km±12km, mb3.5/11, mb1 3.7/14, mb1mx3.5/48, mbtmp3.8/14, Error ellipse: s-maj=25.0km s-min=8.6km az=126.0*

ISC 28 20:07:37.7±0.7, 6°.20S±0°.10×150°.7E±0°.1, h48km, n16, σ1s75/18, mb3.6/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.31**	**36**	P	**Pn**	**20 08 14.6**	**+1.3**
	51nm,0.3s,baz=228,slow=1.1,SNR=6.5						
KRVT				S	**Sn**	**20 08 45.3**	**+4.7**
	42nm,0.3s,baz=96,slow=15,SNR=3.7						
PMG	**Port Moresby**	**4.72**	**227**	P	**Pn**	**20 08 48.3**	**+1.9**
	1.3nm,0.3s,baz=4.4,slow=6.0,SNR=5.0						
PMG				S	**Sn**	**20 09 41.4**	**+1.5**
	7.3nm,0.3s,baz=91,slow=23,SNR=9.4						
CTA	**Charters Tower**	**14.46**	**197**	P	**Pn**	**20 11 00.3**	**+0.6**
	0.1nm,0.3s,baz=25,slow=17,SNR=2.4						
WRA	**Warramunga Arr**	**20.94**	**228**	P	**P**	**20 12 17.4**	**+0.7**
	4.5nm,0.6s,baz=53,slow=10,SNR=28						
DZM	**Mont Dzumac**	**21.94**	**138**	P	**P**	**20 12 26.6**	**-0.9**
	3.8nm,0.9s,baz=328,slow=19,SNR=3.0						
ASAR	**Alice Springs**	**23.70**	**221**	P	**P**	**20 12 45.6**	**+0.2**
	1.4nm,0.7s,baz=58,slow=8.1,SNR=32						
STKA	**Stephens Creek**	**26.92**	**197**	P	**P**	**20 13 15.4**	**+0.9**
	2.9nm,0.8s,baz=347,slow=10.0,SNR=4.8						
FITZ	**Fitzroy Crossi**	**27.13**	**242**	P	**P**	**20 13 16.8**	**+0.2**
	5.9nm,0.9s,baz=50,slow=7.9,SNR=3.0						
KSRS	**Korea Array**	**48.34**	**336**	P	**P**	**20 16 15.1**	**+0.5**
	1.1nm,0.9s,baz=148,slow=7.2,SNR=3.4						
SONM	**Songino Array**	**66.40**	**329**	P	**P**	**20 18 22.0**	**+0.1**
	0.2nm,0.4s,baz=131,slow=4.4,SNR=3.0						
MKAR	**Makanchi Array**	**79.99**	**320**	P	**P**	**20 19 41.4**	**-0.6**
	0.4nm,0.9s,baz=96,slow=10,SNR=2.8						
ZALV	**Zalesovo Beam**	**81.14**	**327**	P	**P**	**20 19 46.7**	**-1.3**
	0.4nm,0.5s,baz=107,slow=8.0,SNR=2.0						
ILAR	**Eielson Array**	**84.25**	**22**	P	**P**	**20 20 01.2**	**-2.7**
	0.4nm,0.8s,baz=238,slow=4.9,SNR=7.8						
YKA	**Yellowknife Ar**	**97.64**	**28**	P	**P**	**20 21 05.2**	**-1.7**
	0.1nm,0.5s,baz=271,slow=4.8,SNR=4.3						
GERES	**GERESS Array B**	**124.10**	**327**	PKP	**PKPdf**	**20 26 30.1**	**-1.1**
	0.2nm,0.6s,baz=99,slow=1.8,SNR=3.8						
TORD	**Torodi Ar. Bea**	**148.67**	**285**	PKPbc	**PKPbc**	**20 27 20.2**	**-0.6**
	0.7nm,0.5s,baz=34,slow=2.4,SNR=5.7						

IDC 28 20:10:23.5±3.3, 20°.63N×146°.99E, h0km, mb3.9/7, mb1 3.9/7, mb1mx3.5/61, mbtmp3.9/7, Error ellipse: s-maj=135.4km s-min=21.5km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.18**	**198**	P	P	20 18 17.3	-0.8
	0.5nm,0.7s,baz=15,slow=8.2,SNR=2.9						
ASAR	**Alice Springs**	**45.83**	**197**	P	P	20 18 48.0	+0.5
	0.3nm,0.8s,baz=19,slow=5.9,SNR=2.9						
ZALV	**Zalesovo Beam**	**57.25**	**322**	P	P	20 20 12.1	-0.5
	1.5nm,0.5s,baz=114,slow=7.9,SNR=6.8						
MKAR	**Makanchi Array**	**58.03**	**313**	P	P	20 20 18.4	+0.2
	0.3nm,0.6s,baz=91,slow=7.7,SNR=4.6						
KURBB	**Kurchatov Arra**	**60.72**	**317**	P	P	20 20 36.9	+0.1
	1.5nm,0.7s,baz=91,slow=7.8,SNR=13						
BVAR	**Borovoye Array**	**65.78**	**320**	P	P	20 21 10.7	+0.4
	1.3nm,0.4s,baz=100,slow=7.1,SNR=11						
FINES	**FINESS Array B**	**85.64**	**336**	P	P	20 23 03.4	-0.5
	3.4nm,0.9s,baz=74,slow=4.9,SNR=2.7						

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*ISCJB **28** 20:21:33.3±0.2, 6°.80N±0°.02×73°.06W±0°.03, h164km±2km, mb4.0/18, Error ellipse: s-maj=4.6km s-min=3.7km az=25.8*
*NEIC **28** 20:21:34.7±1.4, 6°.74N±0°.08×72°.98W±0°.08, h166km±8km*
*IDC **28** 20:21:34.3±0.5, 6°.78N×72°.94W, h162km±4km, mb3.7/16, mb1 3.8/22, mb1mx3.6/42, mbtmp4.2/22, MS4.0/2, Ms1 4.0/2, ms1mx3.2/43, Error ellipse: s-maj=11.8km s-min=6.5km az=130.0*
*RSNC **28** 20:21:35.9±1.1, 6°.81N×73°.15W, h149km±5km, ML4.0, Mw4.1*

ISC 28 20:21:34.4±0.5, 6°.82N±0°.03×73°.06W±0°.04, h160km±4km, n106, σ1s11/129, mb4.0/26, 4C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**208**	⇓*iP*	**Pn**	**20 21 56.0**	**-0.3**
BARC				*eS*	**Sn**	**20 22 11.9**	**-1.1**
BARC				*i*		20 22 12.8	
	comp=Z,3μm,0.3s						
PAMC	**Pamplona, Colo**	**0.63**	**35**	⇑*iP*	**Pn**	**20 21 58.7**	**+0.6**
PAMC				*eS*	**Sn**	**20 22 16.0**	**-0.2**
PAMC				*i*		20 22 18.3	
	comp=Z,2μm,0.6s						
BRRC	**Barranca, Sant**	**0.70**	**294**	⇑*iP*	**Pn**	**20 21 57.8**	**-0.1**
BRRC				*i*		20 22 19.1	
	comp=Z,1μm,0.2s						
RUSC	**La Rusia**	**0.92**	**181**	⇑*iP*	**Pn**	**20 21 59.7**	**-0.3**
RUSC				*eS*	**Sn**	**20 22 18.2**	**-1.5**
RUSC				*i*		20 22 19.6	
	comp=Z,1μm,0.4s						
TAMC	**Tame, Arauca**	**1.32**	**107**	⇑*iP*	**Pn**	**20 22 04.1**	**+1.1**
TAMC				*eS*	**Sn**	**20 22 25.9**	**+1.1**
TAMC				*i*		20 22 26.6	
	comp=Z,463nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.41**	**259**	*eP*	**Pn**	**20 22 02.4**	**-1.4**
PTBC				*eS*	**Sn**	**20 22 23.8**	**-2.6**
PTBC				*i*		20 22 29.9	
	comp=Z,1μm,0.3s						
OCAC	**Ocana**	**1.43**	**350**	*eP*	**Pn**	**20 22 04.2**	**+0.1**
OCAC				*eS*	**Sn**	**20 22 26.2**	**-0.9**
OCAC				*i*		20 22 31.9	
	comp=Z,2μm,0.3s						
SPBC	**San Pablo de B**	**1.54**	**221**	*eP*	**Pn**	**20 22 04.6**	**-0.5**
SPBC				*eS*	**Sn**	**20 22 27.1**	**-1.8**
SPBC				*i*		20 22 29.8	
	comp=Z,2μm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.90**	**291**	*eP*	**Pn**	**20 22 08.5**	**-0.5**
ZARC				*eS*	**Sn**	**20 22 34.4**	**-1.2**
ZARC				*i*		20 22 41.1	
	comp=Z,2μm,0.3s						
NORC	**Norcasia**	**2.19**	**235**	*eP*	**Pn**	**20 22 11.6**	**-0.8**
NORC				*eS*	**Sn**	**20 22 40.0**	**-1.6**
NORC				*i*		20 22 47.8	
	comp=Z,856nm,0.4s						
SMLC	**San Martn de**	**2.21**	**333**	*eP*	**Pn**	**20 22 12.3**	**-0.2**
SMLC				*eS*	**Sn**	**20 22 41.0**	**-1.0**
SMLC				*i*		20 22 48.3	
	comp=Z,946nm,0.3s						
CHIC	**Chingaza**	**2.28**	**197**	*eP*	**Pn**	**20 22 13.7**	**-0.1**
CHIC				*eS*	**Sn**	**20 22 43.1**	**-1.1**
CHIC				*i*		20 22 46.6	
	comp=Z,469nm,0.5s						
ROSC	**El Rosal**	**2.33**	**212**	*eP*	**Pn**	**20 22 15.6**	**+1.2**
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**20 22 15.8**	**+1.5**
	comp=Z,132nm,0.3s,baz=100,slow=23,SNR=81						
ROSC				S	**Sn**	**20 22 46.5**	**+1.3**
	comp=Z,539nm,0.3s,baz=2.4,slow=23,SNR=18						
ROSC	**El Rosal**	**2.33**	**212**		**Pn**	**20 22 15.5**	**+1.2**
ROSC					**Sn**	**20 22 43.5**	**-1.7**
CVER	**Cruz Verde, Cu**	**2.50**	**204**	*eP*	**Pn**	**20 22 18.2**	**+1.8**
HELC	**Santa Helena**	**2.53**	**256**	*eP*	**Pn**	**20 22 18.2**	**+1.5**
HELC				*i*		20 22 56.0	
	comp=Z,503nm,0.4s						
UREC	**San Jos de Ur**	**2.62**	**291**	*eP*	**Pn**	**20 22 16.4**	**-1.0**
VILC	**Villavicencio,**	**2.76**	**193**	*eP*	**Pn**	**20 22 18.8**	**-0.5**
PTGC	**Puerto Gaitan,**	**2.77**	**160**	*eP*	**Pn**	**20 22 18.8**	**-0.4**
PTGC				*eS*	**Sn**	**20 22 51.9**	**-2.1**
PTGC				*i*		20 22 54.7	
	comp=Z,600nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.79**	**235**	*eP*	**Pn**	**20 22 20.5**	**+0.6**
CBOC	**Ciudad Bolivar**	**3.08**	**252**	*eP*	**Pn**	**20 22 24.2**	**+0.8**
CODC	**Agustn Codazz**	**3.12**	**353**	*eP*	**Pn**	**20 22 23.0**	**-0.6**
DBBC	**Dabeiba**	**3.13**	**274**	*eP*	**Pn**	**20 22 23.5**	**-0.3**
TOLC	**Tolima**	**3.16**	**225**	*eP*	**Pn**	**20 22 25.5**	**+1.0**
SDV	**Santo Domingo**	**3.16**	**49**	P	**Pn**	**20 22 25.2**	**+0.8**
	comp=Z,32nm,0.3s,baz=224,slow=4.9,SNR=169						
SDV				S	**Sn**	**20 23 02.1**	**-1.0**
	comp=Z,53nm,0.3s,baz=227,slow=15,SNR=26						
SDV	**Santo Domingo**	**3.16**	**49**		**Pn**	**20 22 25.1**	**+0.8**
SDV				Sn	**Sn**	**20 23 02.8**	**-0.3**
ARGC	**Ariguani, Magd**	**3.24**	**339**	*eP*	**Pn**	**20 22 25.9**	**+0.8**
ORTC	**Ortega, Tolima**	**3.62**	**217**	*eP*	**Pn**	**20 22 30.0**	**-0.1**
SJCC	**San Jacinto, C**	**3.70**	**326**	*eP*	**Pn**	**20 22 29.5**	**-1.6**

TX32					IAmb	IAmb	20 28 26.0	
	comp=Z,1.9nm,0.9s							
TXAR	**Lajitas Array**	**36.51**	**312**	P		**P**	**20 28 25.4**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=126,slow=9.6,SNR=15							
TXAR					PcP	**PcP**	**20 30 45.4**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=138,slow=6.6,SNR=5.7							
BATG	**Bathurst New B**	**40.75**	**7**	P		**P**	**20 29 00.3**	**+0.7**
WUAZ	**Wupatki**	**45.26**	**315**	P		**P**	**20 29 37.4**	**+1.2**
WUAZ					IAmb	IAmb	20 29 39.1	
	comp=Z,4.2nm,0.9s							
ULM	**Lac du Bonnet**	**47.30**	**340**	P		**P**	**20 29 51.5**	**-0.2**
	comp=Z,2.4nm,0.3s,baz=145,slow=6.3,SNR=10							
ULM	**Lac du Bonnet**	**47.30**	**340**	IAmb		IAmb	20 29 52.3	
	comp=Z,3.8nm,0.6s							
MSU	**Marysvale**	**47.34**	**318**	P		**P**	**20 29 52.8**	**+0.3**
BW06	**Boulder Array**	**48.11**	**324**	P		**P**	**20 29 58.9**	**+0.5**
PD31	**Pinedale Array**	**48.11**	**324**	P		**P**	**20 29 59.0**	**+0.7**
PD31					IAmb	IAmb	20 29 59.7	
	comp=Z,1.9nm,1.1s							
PDAR	**Pinedale Array**	**48.11**	**324**	P		**P**	**20 29 58.8**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=126,slow=7.7,SNR=6.1							
PDAR					PcP	**PcP**	**20 31 23.6**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=126,slow=4.6,SNR=2.8							
SCHQ	**Schefferville**	**48.13**	**5**	P		**P**	**20 29 58.7**	**+0.7**
	comp=Z,3.6nm,0.5s,baz=187,slow=6.8,SNR=14							
SCHQ	**Schefferville**	**48.13**	**5**	P		**P**	**20 29 58.8**	**+0.7**
BGU	**Big Grassy Mou**	**49.18**	**320**	P		**P**	**20 30 07.0**	**+0.5**
MOOW	**Moose Ponds**	**49.40**	**324**	P		**P**	**20 30 08.3**	**+0.1**
NVAR	**Mina Array Bea**	**51.52**	**315**	P		**P**	**20 30 25.3**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=130,slow=7.1,SNR=5.5							
NVAR					PcP	**PcP**	**20 31 36.7**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=128,slow=4.9,SNR=2.4							
KVN	**Kaiserville**	**51.65**	**315**	P		**P**	**20 30 25.8**	**+0.7**
MFID	**Camas Ranch**	**52.26**	**321**	P		**P**	**20 30 29.9**	**+0.5**
MFID					IAmb	IAmb	20 30 32.1	
	comp=Z,2.4nm,0.8s							
NEW	**Newport**	**55.62**	**326**	LR		LR	20 56 27.3	
	comp=Z,119nm,19.1s,baz=334,slow=38							
FRB	**Frobisher Bay**	**56.91**	**2**	P		**P**	**20 31 02.0**	**-0.3**
	comp=Z,2.3nm,0.4s							
YKA	**Yellowknife Ar**	**63.28**	**340**	P		**P**	**20 31 45.8**	**0.0**
	comp=Z,2.7nm,0.6s,baz=133,slow=6.6,SNR=96							
YKA					pP	**pP**	**20 32 24.4**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=131,slow=6.7,SNR=2.4							
TIC	**Toumodi**	**67.52**	**86**	*e*P		**P**	**20 32 12.1**	**-1.8**
LIC	**Lamto**	**67.54**	**86**	*e*P		**P**	**20 32 12.5**	**-1.6**
	comp=Z,1.2nm,0.1s							
DBIC	**Dimbokro**	**67.68**	**86**	P		**P**	**20 32 13.5**	**-1.4**
	comp=Z,2.2nm,0.6s,baz=277,slow=7.4,SNR=6.1							
DBIC	**Dimbokro**	**67.68**	**86**	P		**P**	**20 32 13.7**	**-1.2**
DBIC					IAmb	IAmb	20 32 15.2	
	comp=Z,3.4nm,1.0s							
KIC	**Kosan Boka**	**67.82**	**86**	*e*P		**P**	**20 32 14.1**	**-1.7**
SUMG	**Summit**	**68.98**	**11**	*i* P		**P**	**20 32 22.9**	**+0.5**
	comp=Z,20nm,0.8s							
INK	**Inuvik**	**73.05**	**340**	P		**P**	**20 32 46.1**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=91,slow=8.8,SNR=3.9							
INK	**Inuvik**	**73.05**	**340**	P		**P**	**20 32 47.0**	**+0.5**
TOA0	**Torodi Ar. Sit**	**73.68**	**78**	P		**P**	**20 32 49.9**	**-1.3**
TOA0					IAmb	IAmb	20 32 58.4	
	comp=Z,1.7nm,1.1s							
TORD	**Torodi Ar. Bea**	**73.68**	**78**	P		**P**	**20 32 49.4**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=282,slow=6.4,SNR=10.0							
DAG	**Danmarks Havn**	**75.64**	**11**	*i* P		**P**	**20 33 00.6**	**-0.8**
	comp=Z,4.1nm,1.1s							
IL31		**76.99**	**335**	P		**P**	**20 33 09.2**	**+0.1**
ILAR	**Eielson Array**	**76.99**	**335**	P		**P**	**20 33 09.1**	**0.0**
	comp=Z,0.4nm,0.7s,baz=109,slow=4.6,SNR=7.6							
ILAR					pP	**pP**	**20 33 49.3**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=92,slow=5.4,SNR=2.0							
GERES	**GERESS Array B**	**82.78**	**42**	P		**P**	**20 33 40.4**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=254,slow=5.0,SNR=3.7							
SPITS	**Spitsbergen Ar**	**83.25**	**12**	P		**P**	**20 33 43.8**	**+1.3**
	comp=Z,17nm,1.0s,baz=276,slow=4.2,SNR=3.2							
ARCES	**ARCESS Array B**	**86.65**	**20**	P		**P**	**20 33 59.2**	**-0.4**
	comp=Z,3.5nm,0.9s,baz=289,slow=3.5,SNR=6.7							
ZALV	**Zalesovo Beam**	**116.65**	**14**	PKP		**PKPdf**	**20 39 59.4**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=274,slow=4.2,SNR=3.1							
MKAR	**Makanchi Array**	**122.30**	**20**	PKP		**PKPdf**	**20 40 10.0**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=301,slow=2.9,SNR=15							
SONM	**Songino Array**	**125.58**	**0**	PKP		**PKPdf**	**20 40 17.2**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=324,slow=1.7,SNR=4.5							
ASAR	**Alice Springs**	**149.16**	**234**	PKP		**PKPdf**	**20 41 00.3**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=118,slow=3.6,SNR=31							
ASAR					PKPbc	**PKPbc**	**20 41 03.4**	**-1.4**
	comp=Z,2.2nm,0.5s,baz=118,slow=3.6,SNR=15							
ASAR					pPKPbc	**pPKPbc**	**20 41 45.8**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=112,slow=3.5,SNR=2.3							
WRA	**Warramunga Ar**	**150.39**	**241**	PKP		**PKPdf**	**20 41 01.2**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=104,slow=2.4,SNR=4.5							
WRA					PKPbc	**PKPbc**	**20 41 07.0**	**-0.9**
	comp=Z,2.1nm,0.4s,baz=110,slow=2.6,SNR=41							
WRA					pPKPbc	**pPKPbc**	**20 41 48.8**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=110,slow=2.6,SNR=3.0							
CMAR	**Chiang Mai Arr**	**153.67**	**17**	PKPbc		**PKPbc**	**20 41 15.4**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=324,slow=3.3,SNR=8.0							

*IDC **28** 20:26:24.2±0.9, 20°.76N×146°.53E, h0km, mb3.7/8, mb1 4.0/8, mb1mx3.6/52, mbtmp3.7/8, Error ellipse: s-maj=38.0km s-min=23.7km az=101.0*
*NEIC **28** 20:26:25.8±1.3, 20°.83N±0°.08×146°.3E±0°.1, h10km±1km, mb4.0/6*
*ISCJB **28** 20:26:28.2±0.6, 20°.75N±0°.08×146°.2E±0°.1, h37km, mb3.7/8, Error ellipse: s-maj=17.6km s-min=11.3km az=173.5*

ISC 28 20:26:29.6±0.8, 20°.8N±0°.1×146°.3E±0°.2, h37km, n15, σ0§84/15, mb3.6/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**4.07**	**187**	Pn	**Pn**	**20 27 29.3**	**-0.1**
JOW	**Kunigami**	**17.55**	**294**	Pn	**Pn**	**20 30 30.2**	**-1.3**
JOW				IAmb	IAmb	20 30 48.1	
	comp=Z,18nm,1.1s						
WRAB	**Tennant Creek**	**42.10**	**197**	P	**P**	**20 34 18.3**	**0.0**
WRAB				IAmb	IAmb	20 34 32.4	
	comp=Z,3.5nm,1.1s						
WRA	**Warramunga Ar**	**42.12**	**197**	P	**P**	**20 34 19.1**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=8.0,slow=8.3,SNR=5.0						
PBKT	**Sadao Pong**	**43.04**	**272**	P	**P**	**20 34 25.9**	**-0.1**
PBKT				IAmb	IAmb	20 34 29.2	
	comp=Z,5.8nm,1.2s						
CHTO	**Chiang Mai**	**44.48**	**276**	P	**P**	**20 34 38.0**	**+0.4**
AS31	**Alice Springs**	**45.78**	**196**	P	**P**	**20 34 47.9**	**+0.1**
AS31				IAmb	IAmb	20 34 55.5	
	comp=Z,0.9nm,1.0s						
ASAR	**Alice Springs**	**45.78**	**196**	P	**P**	**20 34 47.7**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=17,slow=6.8,SNR=4.6						
ZALV	**Zalesovo Beam**	**56.74**	**322**	P	**P**	**20 36 11.6**	**+2.0**
	comp=Z,1.3nm,0.6s,baz=118,slow=6.8,SNR=5.4						
MKAR	**Makanchi Array**	**57.46**	**313**	P	**P**	**20 36 16.1**	**+1.2**
	comp=Z,0.7nm,1.1s,baz=96,slow=7.8,SNR=3.0						
KURK	**Kurchatov**	**60.13**	**317**	P	**P**	**20 36 33.3**	**0.0**
YKA	**Yellowknife Ar**	**75.91**	**28**	P	**P**	**20 38 11.4**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=289,slow=5.7,SNR=7.4						
NVAR	**Mina Array Bea**	**81.43**	**52**	P	**P**	**20 38 43.3**	**0.0**
	comp=Z,1.0nm,0.7s,baz=274,slow=6.0,SNR=2.9						
FINES	**FINESS Array B**	**85.25**	**335**	P	**P**	**20 39 01.9**	**-0.4**
	comp=Z,2.9nm,1.0s,baz=82,slow=2.9,SNR=4.9						
PDAR	**Pinedale Array**	**85.98**	**46**	P	**P**	**20 39 06.8**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=270,slow=3.6,SNR=2.4						

IDC 28 20:36:15.5±2.5, 15°.38S×66°.78E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/46, mbtmp3.7/5, Error ellipse: s-maj=77.4km s-min=32.7km az=58.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**9.50**	**37**	T	T	20 47 41.4	
	baz=217,slow=76,SNR=196						
H08S2	**Diego Garcia H**	**9.51**	**37**	T	T	20 47 41.4	
	baz=217,slow=76,SNR=701						
H08S3	**Diego Garcia H**	**9.52**	**37**	T	T	20 47 39.5	
	baz=217,slow=76,SNR=625						
H08N3	**Diego Garcia H**	**9.88**	**25**	T	T	20 48 05.9	
	baz=204,slow=76,SNR=934						
H08N1	**Diego Garcia H**	**9.90**	**25**	T	T	20 48 05.9	
	baz=204,slow=76,SNR=706						
H08N2	**Diego Garcia H**	**9.91**	**25**	T	T	20 48 05.2	
	baz=204,slow=76,SNR=771						
CMAR	**Chiang Mai Arr**	**46.20**	**44**	P	P	20 44 43.3	+0.7
	0.4nm,0.5s,baz=221,slow=7.6,SNR=4.7						
H01W3	**Cape Leeuwin H**	**46.59**	**124**	T	T	21 34 51.9	
	baz=283,slow=75,SNR=16						
H01W2	**Cape Leeuwin H**	**46.59**	**124**	T	T	21 34 52.0	
	baz=283,slow=75,SNR=17						
H01W1	**Cape Leeuwin H**	**46.60**	**124**	T	T	21 34 53.1	
	baz=283,slow=75,SNR=19						
ASAR	**Alice Springs**	**63.32**	**109**	P	P	20 46 46.6	-0.3
	0.5nm,0.6s,baz=274,slow=6.0,SNR=6.9						
MKAR	**Makanchi Array**	**63.44**	**12**	P	P	20 46 47.2	+0.1
	0.4nm,0.7s,baz=193,slow=5.9,SNR=3.7						
WRA	**Warramunga Arr**	**64.17**	**105**	P	P	20 46 52.4	-0.1
	1.4nm,0.9s,baz=273,slow=6.6,SNR=7.5						
ZALV	**Zalesovo Beam**	**70.76**	**11**	P	P	20 47 31.8	-1.5
	0.4nm,0.4s,baz=197,slow=4.5,SNR=2.9						
PDAR	**Pinedale Array**	**152.53**	**354**	PKPbc	PKiKP	20 56 15.2	+0.6
	0.3nm,0.5s,baz=60,slow=3.6,SNR=4.3						

IDC 28 20:36:56.5±1.1, 20°.74N×146°.70E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.4/65, mbtmp3.5/5, Error ellipse: s-maj=49.6km s-min=26.4km az=103.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.20**	**197**	P	P	20 44 50.9	-0.5
	0.5nm,0.7s,baz=25,slow=8.4,SNR=3.5						
ASAR	**Alice Springs**	**45.87**	**196**	P	P	20 45 21.1	+0.2
	0.2nm,0.8s,baz=26,slow=6.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**57.00**	**322**	P	P	20 46 43.8	-0.1
	0.5nm,0.5s,baz=101,slow=7.6,SNR=2.5						
YKA	**Yellowknife Ar**	**75.75**	**28**	P	P	20 48 43.7	-0.2
	0.3nm,0.7s,baz=286,slow=5.9,SNR=5.3						
NVAR	**Mina Array Bea**	**81.14**	**52**	P	P	20 49 15.0	+0.5
	0.4nm,0.5s,baz=282,slow=5.3,SNR=2.9						

IDC 28 20:37:06.7±0.9, 20°.80N×146°.62E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.6/65, mbtmp3.9/6, Error ellipse: s-maj=45.9km s-min=22.7km az=104.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.24**	**197**	P	P	20 45 01.3	-0.6
	1.0nm,0.8s,baz=6.6,slow=8.2,SNR=4.0						
ASAR	**Alice Springs**	**45.90**	**196**	P	P	20 45 31.6	+0.3
	0.2nm,0.7s,baz=14,slow=5.7,SNR=3.7						
ZALV	**Zalesovo Beam**	**56.90**	**322**	P	P	20 46 54.0	+0.6
	1.1nm,0.5s,baz=109,slow=7.5,SNR=5.4						
YKA	**Yellowknife Ar**	**75.73**	**28**	P	P	20 48 53.6	-0.3
	0.8nm,0.8s,baz=289,slow=5.6,SNR=8.9						
NVAR	**Mina Array Bea**	**81.17**	**52**	P	P	20 49 25.4	+0.6
	1.5nm,0.7s,baz=270,slow=6.3,SNR=7.3						
FINES	**FINESS Array B**	**85.35**	**335**	P	P	20 49 44.6	-0.9
	2.0nm,0.8s,baz=46,slow=4.0,SNR=3.9						

*IDC **28** 20:40:53.1±3.4, 20°.83N×147°.38E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.5/58, mbtmp3.8/7, Error ellipse: s-maj=136.1km s-min=24.2km az=82.0*
*NEIC **28** 20:40:54.2±1.6, 20°.66N±0°.09×147°.0E±0°.2, h10km±1km, mb4.3/12*
*ISCJB **28** 20:40:57.4±0.8, 20°.55N±0°.05×146°.8E±0°.2, h44km, mb3.8/7, Error ellipse: s-maj=27.1km s-min=7.5km az=177.0*

ISC 28 20:40:59.1±1.0, 20°.58N±0°.08×146°.8E±0°.2, h44km, n21, σ1§46/22, mb4.3/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**3.99**	**195**	Pn	**Pn**	**20 41 55.9**	**-1.9**
SARN				Sn	**Sn**	**20 42 42.4**	**-1.0**
INU	**Inuyama**	**17.06**	**332**	Pn	**Pn**	**20 44 51.6**	**-2.8**
WRA	**Warramunga Arr**	**42.09**	**198**	P	**P**	**20 48 49.7**	**+2.7**
	0.4nm,0.8s,baz=20,slow=8.3,SNR=2.9						
SONM	**Songino Array**	**42.38**	**320**	P	**P**	**20 48 50.5**	**+1.2**
	0.5nm,0.9s,baz=153,slow=7.6,SNR=3.1						
AS31	**Alice Springs**	**45.75**	**197**	P	**P**	**20 49 16.8**	**+0.4**
ASAR	**Alice Springs**	**45.75**	**197**	P	**P**	**20 49 19.8**	**+3.4**
	0.2nm,0.8s,baz=20,slow=6.2,SNR=3.6						
MSVF	**Nonsavu**	**48.86**	**139**	P	**P**	**20 49 39.9**	**-0.8**
MSVF				IAmb	IAmb	20 49 43.1	
	comp=Z,1.1nm,0.7s						
WMQ	**Urumqi**	**53.91**	**310**	P	**P**	**20 50 17.6**	**-0.7**
ZAA0	**Zalesovo Array**	**57.20**	**322**	P	**P**	**20 50 41.5**	**-0.2**
ZALV	**Zalesovo Beam**	**57.20**	**322**	P	**P**	**20 50 42.5**	**+0.9**
	comp=Z,3.2nm,0.5s,baz=107,slow=7.7,SNR=12						
MORW	**Morawa**	**57.61**	**212**	P	**P**	**20 50 45.5**	**+0.7**
MORW				IAmb	IAmb	20 50 45.9	
	comp=Z,3.0nm,0.8s						
MK31	**Makanchi Array**	**57.95**	**313**	P	**P**	**20 50 46.8**	**-0.4**
MKAR	**Makanchi Array**	**57.95**	**313**	P	**P**	**20 50 48.5**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=89,slow=8.1,SNR=7.2						
MAKZ	**Makanchi**	**58.17**	**313**	P	**P**	**20 50 48.6**	**0.0**
MAKZ				IAmb	IAmb	20 50 55.0	
	comp=Z,2.7nm,1.1s						
KURK	**Kurchatov**	**60.61**	**317**	P	**P**	**20 51 05.8**	**+0.4**
KURK				IAmb	IAmb	20 51 07.2	
	comp=Z,1.9nm,0.7s						
BVAR	**Borovoye Array**	**65.72**	**320**	P	**P**	**20 51 40.8**	**+1.5**
	comp=Z,2.6nm,0.4s,baz=96,slow=8.1,SNR=21						
BRVK	**Borovoye**	**65.79**	**320**	P	**P**	**20 51 39.7**	**+0.1**
BRVK				IAmb	IAmb	20 51 43.1	
	comp=Z,2.5nm,0.9s						
ARU	**Arti**	**72.17**	**324**	P	**P**	**20 52 18.5**	**-0.7**
ABKAR	**Akbulak array**	**72.71**	**317**	P	**P**	**20 52 22.6**	**0.0**
FIA1	**FINESS Array S**	**85.63**	**336**	P	**P**	**20 53 32.2**	**-0.6**
FIA1				IAmb	IAmb	20 53 33.8	
	comp=Z,1.7nm,0.7s						
FINES	**FINESS Array B**	**85.63**	**336**	P	**P**	**20 53 33.2**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=64,slow=3.2,SNR=6.6						

*GCG **28** 20:43:35.0±0.7, 13°.18N×90°.55W, h13km±999km, MD3.6*
*SNET **28** 20:43:36.9±0.7, 13°.41N×90°.41W, h59km±26km, ML3.0*
*UCR **28** 20:43:36.1±1.1, 13°.24N×90°.39W, h18km±7km, MD3.2, ML3.0*

ISC 28 20:43:35.2±3.2, 13°.2N±0°.2×90°.44W±0°.09, h24km, n13, σ0§69/18, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.98**	**360**	*e*P	**Pb**	**20 43 52.5**	**-1.1**
IXG				*e*P	**Pb**	**20 43 53.3**	**-0.4**
IXG	**Ixpaco**	**0.98**	**360**	*e*P	**Pb**	**20 43 53.3**	**-0.4**
IXG	**Ixpaco**	**0.98**	**360**	*e*P	**Pb**	**20 43 52.5**	**-1.1**
CEVE	**Cerro Verde**	**1.01**	**51**	*e*P	**Pb**	**20 43 53.8**	**-0.5**
CEVE				*e*S	**Sb**	**20 44 07.4**	**+0.1**
CEVE				IAML		20 44 11.2	
	comp=Z,991nm,0.3s						
CEVE	**Cerro Verde**	**1.01**	**51**	*e*P	**Pb**	**20 43 53.8**	**-0.5**
CEVE				*e*S	**Sb**	**20 44 07.4**	**+0.1**
CEVE				IAML		20 44 11.2	
	comp=Z,991nm,0.3s						
SBLS	**San Blas**	**1.02**	**50**	*e*P	**Pb**	**20 43 53.8**	**-0.6**
SBLS	**San Blas**	**1.02**	**50**	*e*P	**Pb**	**20 43 53.8**	**-0.6**
PCG	**Pacaya**	**1.21**	**352**	*e*P	**Pn**	**20 43 57.8**	**+0.9**
PCG	**Pacaya**	**1.21**	**352**	*e*P	**Pn**	**20 43 57.8**	**+0.9**
BOQS	**Boqueron**	**1.25**	**64**	*e*P	**Pn**	**20 43 57.4**	**0.0**
FUG	**Fuego 3**	**1.32**	**343**	*e*P	**Pn**	**20 43 58.2**	**-0.1**
FUG				*e*S	**Sb**	**20 44 16.5**	**+0.6**
FUG	**Fuego 3**	**1.32**	**343**	*e*P	**Pn**	**20 43 58.2**	**-0.1**
FUG				*e*S	**Sb**	**20 44 16.5**	**+0.6**
LFRS	**El Faro**	**1.41**	**72**	*e*P	**Pn**	**20 44 00.2**	**+0.8**

IDC 28 20:54:29.0±3.7, 20°.50N×146°.97E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.5/39, mbtmp4.0/5, Error ellipse: s-maj=153.0km s-min=29.1km az=83.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.05**	**198**	P	P	21 02 22.5	-0.2
	0.3nm,0.7s,baz=16,slow=8.7,SNR=3.0						
ZALV	**Zalesovo Beam**	**57.34**	**322**	P	P	21 04 18.3	-0.5
	0.9nm,0.3s,baz=113,slow=7.0,SNR=4.2						
MKAR	**Makanchi Array**	**58.10**	**313**	P	P	21 04 24.5	+0.1
	0.9nm,0.9s,baz=86,slow=7.7,SNR=4.8						
BVAR	**Borovoye Array**	**65.86**	**320**	P	P	21 05 16.8	+0.4
	1.7nm,0.6s,baz=79,slow=7.7,SNR=13						
FINES	**FINESS Array B**	**85.75**	**336**	P	P	21 07 09.4	-0.5
	6.4nm,1.1s,baz=92,slow=4.3,SNR=4.1						

*ISCJB **28** 20:57:00.7±0.6, 44°.48N±0°.05×105°.38W±0°.06, h0km, Error ellipse: s-maj=6.9km s-min=6.6km az=33.2*
*IDC **28** 20:57:01.2±1.4, 44°.58N×105°.86W, h0km, mb1 3.2/3, mb1mx3.1/43, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=43.4km s-min=9.2km az=141.0*
*NEIC **28** 20:57:02.3±1.6, 44°.43N±0°.05×105°.44W±0°.05, h0km±1km, ML2.8/41*

ISC 28 20:57:00.6±1.1, 44°.46N±0°.05×105°.36W±0°.06, h0km, n26, σ1§30/27, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**1.01**	**109**		**Pn**	**20 57 22.8**	**+0.5**
K22A	**Casper**	**2.00**	**205**		**Pn**	**20 57 36.6**	**+0.8**
LAO	**LASA Array**	**2.31**	**345**	Pn	**Pb**	**20 57 41.9**	**-1.3**
RLMT	**Red Lodge**	**2.86**	**285**	Pn	**Pn**	**20 57 48.1**	**+0.4**
RLMT				IAML		20 58 35.6	
	26nm,0.7s						
RLMT				IAML		20 58 46.4	
	23nm,0.8s						
RWWY	**Rawlins**	**3.09**	**207**		**Pn**	**20 57 52.9**	**+2.1**
RWWY				IAML		20 58 35.5	
	23nm,0.9s						
RWWY				IAML		20 58 44.9	
	32nm,1.2s						
PHWY	**Pilot Hill**	**3.16**	**181**		**Pn**	**20 57 51.4**	**-0.5**
PHWY				IAML		20 59 01.4	
	18nm,0.7s						
GCMT	**Greycliff**	**3.32**	**295**	Pn	**Pn**	**20 57 54.3**	**+0.3**
YNE	**Yellowstone No**	**3.36**	**281**		**Pn**	**20 57 54.6**	**+0.1**
YMP	**Mirror Lake Pl**	**3.44**	**276**	Pn	**Pn**	**20 57 55.1**	**-0.6**
BW06	**Boulder Array**	**3.49**	**242**		**Pn**	**20 57 57.0**	**+0.6**
BW06				IAML		20 58 48.5	
	comp=N,19nm,1.1s						
BW06				IAML		20 59 02.8	
	comp=E,19nm,0.8s						
PD31	**Pinedale Array**	**3.49**	**242**		**Pn**	**20 57 56.6**	**+0.2**
PDAR	**Pinedale Array**	**3.49**	**242**	Pn	**Pn**	**20 57 56.5**	**+0.1**
	comp=E,0.2nm,0.3s,baz=64,slow=16,SNR=4.9						
PDAR				Pg	**Pb**	**20 58 02.1**	**-1.3**
	comp=E,2.9nm,0.3s,baz=67,slow=18,SNR=27						
PDAR				Lg	Lg	20 58 44.4	
	comp=E,1.0nm,0.3s,baz=55,slow=33,SNR=3.9						
N23A	**Red Feather La**	**3.59**	**187**		**Pn**	**20 57 59.7**	**+1.8**
N23A				IAML		20 59 23.2	
	comp=E,24nm,0.8s						
FLWY	**Flagg Ranch**	**3.85**	**266**	Pn	**Pn**	**20 58 03.4**	**+2.1**
FLWY				IAML		20 59 10.1	
	comp=E,22nm,1.0s						
YHH	**Holmes Hill**	**3.93**	**277**		**Pn**	**20 58 04.9**	**+2.4**
MOOW	**Moose Ponds**	**3.94**	**261**		**Pn**	**20 58 03.7**	**+1.1**
DGMT	**Dagmar**	**4.09**	**11**	Pn	**Pn**	**20 58 06.1**	**+1.7**
REDW	**Red Top Meadow**	**4.12**	**256**		**Pn**	**20 58 07.1**	**+2.1**
REDW				IAML		20 59 25.2	
	comp=E,18nm,0.8s						
REDW				IAML		20 59 54.9	
	comp=E,14nm,4.5s						
TPAW	**Teton Pass**	**4.15**	**258**		**Pn**	**20 58 06.7**	**+1.2**
TPAW				IAML		20 59 12.6	
	comp=E,8.9nm,4.5s						
TPAW				IAML		20 59 21.4	
	comp=E,14nm,4.4s						
FXWY	**Fox Creek**	**4.17**	**261**		**Pn**	**20 58 06.1**	**+0.5**
YHL	**Hebgen Lake**	**4.17**	**277**		**Pn**	**20 58 07.1**	**+1.3**
YHB	**Horse Butte**	**4.18**	**276**		**Pn**	**20 58 06.7**	**+0.9**
QLMT	**Earthquake Lak**	**4.35**	**277**		**Pn**	**20 58 09.4**	**+1.2**
ISCO	**Idaho Springs**	**4.67**	**182**		**Pn**	**20 58 12.9**	**+0.3**
ISCO				IAML		20 59 17.0	
	comp=E,7.0nm,3.6s						
ISCO				IAML		20 59 32.3	
	comp=E,6.7nm,0.9s						
ULM	**Lac du Bonnet**	**8.65**	**45**	Pn	**Pn**	**20 59 08.4**	**+1.4**
	comp=E,0.1nm,0.3s,baz=234,slow=14,SNR=3.7						
ULM				Lg	Lg	21 01 33.5	
	comp=E,0.1nm,0.3s,baz=148,slow=20,SNR=4.6						
YKA	**Yellowknife Ar**	**18.84**	**347**	P	**Pn**	**21 01 21.1**	**-1.2**
	comp=E,0.0nm,0.3s,baz=160,slow=12,SNR=4.1						

*IDC **28** 21:03:58.6±0.7, 20°.77N×146°.72E, h0km, mb3.

IDC ***28*** *21:07:48.1±1.2,44.61N×105.83W,h0km,mb1 3.1/4, mb1mx3.1/40,mbtmp2.8/4,ML2.6/4,Error ellipse: s-maj=30.1km s-min=9.7km az=141.0*

NEIC ***28*** *21:07:49.2±1.9,44.38N±0.05×105.47W±0.03,h0km±1km, ML2.8/69*

ISC 28 21:07:47.3±0.9**,44.42N**±0.04×**105.34W**±0.06**,h0**km**,n47,** σ1§**55**/49**,Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.98**	**107**			**Pn**	**21 08 09.6**	**+1.0**
K22A	**Casper**	**1.97**	**206**			**Pn**	**21 08 23.2**	**+1.1**
K22A				IAML			21 08 49.8	
	comp=N,143nm,0.5s							
LAO	**LASA Array**	**2.35**	**345**	Pn		**Pb**	**21 08 29.9**	**-0.7**
LAO				IAML			21 09 10.6	
	comp=N,81nm,0.5s							
RLMT	**Red Lodge**	**2.88**	**285**	Pn		**Pn**	**21 08 35.1**	**+0.4**
RLMT				IAML			21 09 18.3	
	comp=N,32nm,0.4s							
RWWY	**Rawlins**	**3.06**	**207**			**Pn**	**21 08 38.1**	**+0.9**
RWWY				IAML			21 09 24.5	
	comp=N,30nm,3.6s							
RWWY				IAML			21 09 26.4	
	comp=N,24nm,0.7s							
PHWY	**Pilot Hill**	**3.12**	**182**			**Pn**	**21 08 38.9**	**+0.8**
GCMT	**Greycliff**	**3.36**	**296**	Pn		**Pn**	**21 08 42.3**	**+1.1**
YNE	**Yellowstone No**	**3.38**	**282**	Pn		**Pn**	**21 08 42.1**	**+0.4**
YMP	**Mirror Lake Pl**	**3.46**	**277**	Pn		**Pn**	**21 08 41.7**	**-1.0**
BW06	**Boulder Array**	**3.48**	**243**	Pn		**Pn**	**21 08 44.2**	**+1.2**
BW06				IAML			21 09 40.2	
	comp=N,18nm,0.8s							
PD31	**Pinedale Array**	**3.48**	**243**	Pn		**Pn**	**21 08 43.6**	**+0.6**
PDAR	**Pinedale Array**	**3.48**	**243**	Pn		**Pn**	**21 08 43.3**	**+0.3**
	comp=N,0.4nm,0.3s,baz=62,slow=16,SNR=12							
PDAR				Lg		Lg	21 09 30.4	
	comp=N,5.6nm,0.3s,baz=65,slow=40,SNR=14							
N23A	**Red Feather La**	**3.55**	**187**			**Pn**	**21 08 45.6**	**+1.6**
N23A				IAML			21 09 21.1	
	comp=N,19nm,4.9s							
N23A				IAML			21 10 05.6	
	comp=E,20nm,1.4s							
LKWY	**Lake**	**3.62**	**274**	Pn		**Pn**	**21 08 45.2**	**+0.2**
LKWY				IAML			21 10 00.4	
	comp=E,17nm,0.6s							
YUF	**Upper Falls**	**3.71**	**276**	Pn		**Pn**	**21 08 47.9**	**+1.8**
H17A	**Grant Village**	**3.75**	**271**	Pn		**Pn**	**21 08 47.0**	**+0.2**
H17A				IAML			21 11 11.8	
	comp=N,16nm,0.1s							
YNR	**Norris Junctio**	**3.83**	**276**	Pn		**Pn**	**21 08 48.3**	**+0.6**
FLWY	**Flagg Ranch**	**3.87**	**267**	Pn		**Pn**	**21 08 49.2**	**+1.0**
FLWY				IAML			21 10 08.8	
	comp=N,15nm,4.5s							
FLWY				IAML			21 10 09.6	
	comp=N,12nm,1.9s							
YPP	**Pitchstone Pla**	**3.92**	**270**			**Pn**	**21 08 49.9**	**+0.8**
MOOW	**Moose Ponds**	**3.95**	**262**			**Pn**	**21 08 51.6**	**+2.2**
YHH	**Holmes Hill**	**3.95**	**277**	Pn		**Pn**	**21 08 51.7**	**+2.2**
SNOW	**Snow King Moun**	**4.03**	**258**			**Pn**	**21 08 52.3**	**+1.8**
SNOW				IAML			21 09 48.6	
	comp=N,18nm,4.6s							
SNOW				IAML			21 09 53.9	
	comp=N,15nm,4.9s							
YMR	**Madison River**	**4.03**	**275**			**Pn**	**21 08 52.5**	**+1.9**
IMW	**Indian Meadow**	**4.07**	**265**	Pn		**Pn**	**21 08 51.3**	**+0.2**
IMW				IAML			21 09 58.5	
	comp=N,22nm,0.5s							
IMW				IAML			21 10 00.6	
	comp=N,10nm,0.9s							
REDW	**Red Top Meadow**	**4.12**	**257**			**Pn**	**21 08 53.6**	**+1.8**
REDW				IAML			21 10 02.2	
	comp=N,11nm,0.7s							
REDW				IAML			21 11 03.9	
	comp=N,11nm,5.0s							
DGMT	**Dagmar**	**4.13**	**11**			**Pn**	**21 08 54.6**	**+2.9**
TPAW	**Teton Pass**	**4.16**	**259**	Pn		**Pn**	**21 08 53.8**	**+1.5**
TPAW				IAML			21 10 42.9	
	comp=N,14nm,1.4s							
FXWY	**Fox Creek**	**4.18**	**261**	Pn		**Pn**	**21 08 53.5**	**+1.0**
YHL	**Hebgen Lake**	**4.19**	**278**			**Pn**	**21 08 55.0**	**+2.2**
YHB	**Horse Butte**	**4.20**	**277**	Pn		**Pn**	**21 08 54.9**	**+2.1**
QLMT	**Earthquake Lak**	**4.37**	**278**	Pn		**Pn**	**21 08 53.7**	**-1.5**
AHID	**Auburn Hatcher**	**4.50**	**250**	Pn		**Pn**	**21 08 57.3**	**+0.3**
AHID				IAML			21 10 12.6	
	comp=N,14nm,0.8s							
AHID				IAML			21 11 06.4	
	comp=E,13nm,4.2s							
SUSD	**Miller**	**4.57**	**87**	Pn		Pn	21 09 01.4	+3.6
ISCO	**Idaho Springs**	**4.62**	**183**	Pn		**Pn**	**21 08 59.3**	**+0.6**
ISCO				IAML			21 10 32.7	
	comp=E,6.5nm,4.8s							
EGMT	**Eagleton**	**4.73**	**321**	Pn		**Pn**	**21 09 03.0**	**+3.1**
EGMT						**Pb**	**21 09 13.0**	**+1.8**
O20A	**White River Ci**	**4.79**	**208**	Pn		**Pn**	**21 09 03.2**	**+2.2**
O20A						**Pb**	**21 09 14.1**	**+1.7**
O20A				IAML			21 10 25.4	
	comp=N,13nm,3.9s							
RDMU	**Red Mountain**	**4.96**	**221**	Pn		**Pn**	**21 09 02.8**	**-0.5**
LRM	**Limekiln Ridge**	**5.22**	**288**	Pn		**Pn**	**21 09 11.4**	**+4.5**
DLMT	**Dillon**	**5.24**	**283**	Pn		**Pn**	**21 09 06.8**	**-0.3**
MCMT	**McKenzie Canyo**	**5.38**	**277**	Pn		**Pn**	**21 09 10.4**	**+1.4**
SMCO	**Snowmass**	**5.38**	**194**	Pn		**Pn**	**21 09 09.9**	**+0.7**
SMCO				IAML			21 10 46.9	
	comp=N,7.8nm,0.2s							
SMCO				IAML			21 11 38.9	
	comp=N,8.1nm,2.1s							
Q24A	**Divide**	**5.45**	**178**	Pn		**Pn**	**21 09 09.6**	**-0.6**
TCUT	**Toone Canyon**	**5.55**	**236**	Pn		**Pn**	**21 09 11.7**	**+0.2**
TCUT						**Pg**	**21 09 31.6**	**-2.2**
KSCO	**Kaye Shedlock'**	**5.77**	**159**	Pn		**Pn**	**21 09 14.3**	**0.0**
ULM	**Lac du Bonnet**	**8.67**	**44**	Pn		**Pn**	**21 09 54.6**	**+0.6**
	comp=N,0.2nm,0.3s,baz=230,slow=14,SNR=2.9							
ULM				Lg		Lg	21 12 20.4	
	comp=N,0.1nm,0.3s,baz=308,slow=19,SNR=2.1							
TXAR	**Lajitas Array**	**15.12**	**174**	Pn		**P**	**21 11 27.2**	**-0.5**
	comp=N,0.0nm,0.3s,baz=350,slow=10,SNR=2.5							
YKA	**Yellowknife Ar**	**18.89**	**347**	P		**P**	**21 12 07.4**	**-1.6**
	comp=N,0.0nm,0.3s,baz=165,slow=12,SNR=4.7							

ISCJB ***28*** *21:23:54.4±1.5,20.74N±0.03×146.73E±0.03,h9km±9km, mb5.0/118,MS3.9/23,Error ellipse: s-maj=4.5km s-min=4.3km az=12.9*

IDC ***28*** *21:23:54.6±0.4,20.76N×146.73E,h0km,mb4.8/43, mb1 4.8/47,mb1mx4.8/56,mbtmp4.8/47,ML4.3/4,MS3.8/19, Ms1 3.8/19,ms1mx3.6/40,Error ellipse: s-maj=13.2km s-min=10.3km az=80.0*

NEIC ***28*** *21:23:57.5±1.3,20.77N±0.06×146.72E±0.08,h19km±2km, mb4.8/216*

MOS ***28*** *21:23:58.0±0.7,20.72N×146.67E,h35km,mb5.4/26,Error ellipse: s-maj=8.8km s-min=4.6km az=112.6*

BJI ***28*** *21:23:58.7±0.0,21.11N×146.23E,h10km,mb5.0/58, mB5.2/37,Ms4.6/18,Ms7 4.4/19*

ISC 28 21:23:57.8±1.2**,20.78N**±0.04×**146.78E**±0.06**,h20**km±10**km, n415,** σ0§**95**/408**,mb4.8**/190**,MS3.9**/24**,9C-3D,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**4.17**	**193**			**Pn**	**21 24 59.7**	**-0.5**
ANA2	**Anatahan**	**4.53**	**193**	Pn		**Pn**	**21 25 03.9**	**-1.3**
GUMO	**Guam**	**7.38**	**195**	Pn		**Pn**	**21 25 44.9**	**+0.5**
	4.3nm,0.3s,baz=0.0,slow=15,SNR=1.9							
GUMO				Sn		**Sn**	**21 27 08.8**	**+1.2**
	9.8nm,0.3s,baz=194,slow=23,SNR=2.5							
GUMO				LR		LR	21 27 47.2	
	comp=Z,189nm,21.8s,baz=9.0,slow=32							
JCJ	**Chichijima**	**7.56**	**327**	Pn		**Pn**	**21 25 46.3**	**-0.6**
	23nm,0.3s,baz=278,slow=19,SNR=4.0							
JCJ				Sn		**Sn**	**21 27 06.8**	**-5.2**
	26nm,0.3s,baz=275,slow=23,SNR=6.3							
JHJ2	**Mitsune**	**13.76**	**335**	Pn		**Pn**	**21 27 11.5**	**-0.2**
INU	**Inuyama**	**16.86**	**331**	P		**Pn**	**21 27 53.3**	**+0.7**
MJAR	**Matsushiro Arr**	**17.40**	**336**	P		**Pn**	**21 27 58.2**	**-1.1**
	0.1nm,0.3s,baz=166,slow=11,SNR=12							
MJAR				S		Sn	21 31 01.6	-11
	0.0nm,0.3s,baz=298,slow=27,SNR=4.8							
MAJO	**Matsushiro**	**17.40**	**336**	*i* P		**P**	**21 28 00.0**	**-0.5**
MAJO	**Matsushiro**	**17.40**	**336**	Pn		**Pn**	**21 27 58.9**	**-0.5**
MAT	**Matsushiro**	**17.40**	**336**	P		**P**	**21 28 00.4**	**-0.1**
MAT				*e*S		**Sn**	**21 31 14.8**	**+2.3**
MJB9	**Matsu-Tunnel**	**17.40**	**336**	Pn		**Pn**	**21 27 59.0**	**-0.4**
PATS	**Pohnpei**	**17.80**	**140**			**P**	**21 28 05.2**	**+0.1**
PATS					IAmb	IAmb	21 28 19.6	
	comp=Z,135nm,1.0s							
JNU	**Nakatsue**	**18.73**	**314**	P		**P**	**21 28 14.3**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=118,slow=6.7,SNR=14							
JNU	**Nakatsue**	**18.73**	**314**	P		**P**	**21 28 15.2**	**0.0**
JNU					IAmb	IAmb	21 28 17.4	
	comp=Z,82nm,1.0s							
H11S3	**WAKE ISLAND Hy**	**18.89**	**93**	T		T	21 46 33.3	
	baz=280,slow=74,SNR=4.4							
H11S1	**WAKE ISLAND Hy**	**18.90**	**93**	T		T	21 46 33.9	
	baz=280,slow=74,SNR=5.3							
H11N1	**WAKE ISLAND Hy**	**18.90**	**90**	T		T	21 46 36.7	
	baz=276,slow=74,SNR=2.9							
H11N2	**WAKE ISLAND Hy**	**18.91**	**90**	T		T	21 46 35.7	
	baz=276,slow=74,SNR=2.6							
H11S2	**WAKE ISLAND Hy**	**18.91**	**93**	T		T	21 46 35.3	
	baz=280,slow=74,SNR=4.2							
H11N3	**WAKE ISLAND Hy**	**18.92**	**90**	T		T	21 46 36.6	
	baz=276,slow=74,SNR=6.4							
TJN	**Taejon**	**23.00**	**317**	*ce*P		**P**	**21 29 01.8**	**+0.5**
KSRS	**Korea Array**	**23.32**	**319**	P		**P**	**21 29 04.2**	**-0.4**
	comp=Z,14nm,0.6s,baz=146,slow=8.3,SNR=38							
KSRS					LR	LR	21 38 39.5	
	comp=Z,321nm,18.0s,baz=125,slow=38							
KS19	**Wonju Array Si**	**23.39**	**320**	P		**P**	**21 29 04.8**	**-0.4**
KS19					IAmb	IAmb	21 29 14.3	
	comp=Z,33nm,1.0s							
ASAJ	**Asahikawa**	**23.53**	**352**	P		**P**	**21 29 07.2**	**+0.7**
	comp=Z,44nm,1.1s,baz=237,slow=8.0,SNR=5.1							
JKA	**Kamikawa-asahi**	**23.53**	**352**	P		**P**	**21 29 07.2**	**+0.7**
TATO	**Taipei**	**23.66**	**285**	P		**P**	**21 29 06.9**	**-1.0**
TATO					IAmb	IAmb	21 29 18.7	
	comp=Z,41nm,1.0s							
YHNB	**Yeheng**	**23.74**	**284**	P		**P**	**21 29 07.3**	**-1.5**
YHNB					IAmb	IAmb	21 29 10.9	
	comp=Z,38nm,1.1s							
YULB	**Yu-li**	**23.75**	**281**	P		**P**	**21 29 08.5**	**-0.4**
SSLB	**Suanglung**	**24.07**	**282**	P		**P**	**21 29 11.6**	**-0.4**
SSLB					IAmb	IAmb	21 29 16.1	
	comp=Z,25nm,0.7s							
INCN	**Inchon**	**24.14**	**318**	P		**P**	**21 29 12.1**	**-0.3**
INCN					pmax	pmax		
	comp=Z,57nm,0.9s							
INCN	**Inchon**	**24.14**	**318**	P		**P**	**21 29 12.1**	**-0.3**
TPUB	**Ta-pu**	**24.36**	**281**	P		**P**	**21 29 13.8**	**-0.8**
TPUB					IAmb	IAmb	21 29 22.6	
	comp=Z,18nm,1.0s							
VLA	**Vladivostok**	**25.53**	**334**	*i* P		**P**	**21 29 25.9**	**+1.0**
VLA					pmax	pmax		
	comp=Z,126nm,1.3s							
YSS	**Yuzh-Sakhalins**	**26.32**	**354**	P		**P**	**21 29 31.8**	**-0.2**
YSS					pmax	pmax		
	comp=Z,32nm,1.1s							
YSS	**Yuzh-Sakhalins**	**26.32**	**354**	P		**P**	**21 29 31.8**	**-0.2**
YSS					IAmb	IAmb	21 29 36.9	
	comp=Z,32nm,1.1s							
USRK	**Ussuriysk Ar.**	**26.39**	**336**	P		**P**	**21 29 34.0**	**+1.2**
	comp=Z,38nm,1.0s,baz=146,slow=9.5,SNR=28							
USRK					LR	LR	21 41 30.0	
	comp=Z,243nm,18.1s,baz=152,slow=40							
USA0B	**Ussuriysk Arra**	**26.39**	**336**	P		**P**	**21 29 34.6**	**+1.8**
USA0B					pmax	pmax		
	comp=Z,64nm,1.2s							
USA0B	**Ussuriysk Arra**	**26.39**	**336**	P		**P**	**21 29 34.6**	**+1.8**
NJ2	**Nanjing**	**27.33**	**300**	*e*P		**P**	**21 29 42.0**	**+0.6**
NJ2					pmax	pmax		
	comp=Z,19nm,0.5s							
FAKI	**Fak Fak**	**27.52**	**213**	P		**P**	**21 29 41.7**	**-1.5**
FAKI					IAmb	IAmb	21 29 45.6	
	comp=Z,8.8nm,0.7s							
MDJ	**Mudanjiang**	**27.71**	**333**	P		**P**	**21 29 46.0**	**+1.4**
MDJ					pmax	pmax		
	comp=Z,22nm,1.1s							
MDJ					pmax	pmax		
	comp=Z,680nm,5.2s							
MDJ	**Mudanjiang**	**27.71**	**333**	P		**P**	**21 29 45.1**	**+0.5**
MDJ					IAmb	IAmb	21 29 52.7	
	comp=Z,9.3nm,0.8s							
SNY	**Shenyang**	**28.70**	**322**	⇓P		**P**	**21 29 52.0**	**-1.5**
SNY					pmax	pmax		
	comp=Z,13nm,0.8s							
CN2	**Changchun**	**29.03**	**327**	*e*P		**P**	**21 29 57.0**	**+0.6**
CN2					pmax	pmax		
	comp=Z,10.0nm,1.0s							
PMG	**Port Moresby**	**30.00**	**179**	P		**P**	**21 30 04.8**	**-0.3**
PMG					pmax	pmax		
	comp=Z,20nm,1.0s							
PMG	**Port Moresby**	**30.00**	**179**	P		**P**	**21 30 04.9**	**-0.3**
	comp=Z,11nm,0.9s,baz=16,slow=7.4,SNR=5.2							
PMG	**Port Moresby**	**30.00**	**179**	IAmb		IAmb	21 30 05.3	
	comp=Z,20nm,1.0s							
KLR	**Kul'dur**	**30.82**	**341**	*i* P		**P**	**21 30 13.3**	**+1.1**
KLR					pmax	pmax		
	comp=Z,12nm,0.9s							
KLR	**Kul'dur**	**30.82**	**341**	PcP		**PcP**	**21 33 09.7**	**+0.7**
	comp=Z,4.2nm,0.8s,baz=113,slow=0.8,SNR=7.3							
KLR					LR	LR	21 42 34.9	
	comp=Z,106nm,21.8s,baz=152,slow=36							
GRNR	**Gornyy**	**31.02**	**347**	*e*P		**P**	**21 30 15.2**	**+1.3**
GRNR				*e*S		**S**	**21 35 19.5**	**+1.7**
GRNR					pmax	pmax		
	comp=Z,10.0nm,1.2s							
GRNR					smax	smax		
	comp=N,4.0nm,0.9s							
PETK	**Petropavlovsk-**	**33.35**	**12**	LR		LR	21 45 59.3	
	comp=N,171nm,18.7s,baz=208,slow=40							
COEN	**Coen**	**34.70**	**186**	P		**P**	**21 30 46.3**	**-0.1**
ENH	**Enshi**	**34.82**	**293**	P		**P**	**21 30 46.7**	**-0.7**
ENH					IAmb	IAmb	21 30 55.2	
	comp=Z,6.8nm,0.6s							
HIA	**Hailar**	**35.66**	**329**	P		**P**	**21 30 54.5**	**0.0**
HIA					pmax	pmax		
	comp=Z,17nm,0.9s							
HIA	**Hailar**	**35.66**	**329**	P		**P**	**21 30 54.5**	**0.0**
HIA					IAmb	IAmb	21 30 55.8	
	comp=Z,17nm,0.9s							
XAN	**Xi'an**	**35.90**	**300**	P		**P**	**21 30 56.0**	**-0.7**
XAN					pP	sP	21 31 04.0	+0.1
XAN					pmax	pmax		
	comp=Z,13nm,1.4s							
XAN	**Xi'an**	**35.90**	**300**	P		**P**	**21 30 56.1**	**-0.7**
XAN					pmax	pmax		
	comp=Z,8.0nm,0.9s							
XAN	**Xi'an**	**35.90**	**300**	P		**P**	**21 30 56.1**	**-0.7**
XAN					IAmb	IAmb	21 30 56.7	
	comp=Z,7.9nm,0.9s							
HHC	**Hu-ho-hao-te**	**35.93**	**312**	*e*P		P	21 30 51.5	-5.4
HHC					S	**S**	**21 36 28.8**	**-5.5**
HHC					pmax	pmax		
	comp=Z,8.0nm,0.9s							
HHC					pmax	pmax		
	comp=Z,120nm,5.9s							
ZEA	**Zeya**	**36.14**	**340**	*e*P		**P**	**21 30 58.8**	**+0.4**
ZEA					pmax	pmax		
	comp=Z,23nm,1.0s							
MTN	**Manton Dam**	**36.78**	**206**	P		**P**	**21 31 03.1**	**-1.1**
MTN					IAmb	IAmb	21 31 03.9	
	comp=Z,24nm,1.1s							
GYA	**Guiyang**	**37.08**	**287**	⇑*i*P		**P**	**21 31 08.3**	**+1.4**
GYA					pP	pP	21 31 12.8	+0.8
GYA					sP	sP	21 31 15.3	+1.2
GYA					PP	**PnPn**	**21 32 35.0**	**+3.1**
GYA					S	**S**	**21 36 53.3**	**+1.1**
GYA					sS	sS	21 37 01.5	+0.5
GYA					pmax	pmax		
	comp=Z,10.0nm,0.7s							
GYA					pmax	pmax		
	comp=Z,90nm,4.6s							
GYA					LR	LR		
	comp=Z,150nm,17.3s							
GYA					LR	LR		
	comp=Z,140nm,17.0s							
GYA					LR	LR		
	comp=Z,140nm,17.8s							
DLV	**T Lat**	**37.70**	**263**	P		**P**	**21 31 12.0**	**-0.3**
DLV					IAmb	IAmb	21 31 24.7	
	comp=Z,25nm,1.0s							
SBUM	**Sibu**	**38.29**	**246**	P		**P**	**21 31 17.5**	**+0.4**
SBUM					IAmb	IAmb	21 31 18.1	
	comp=Z,8.8nm,0.7s							
CD2	**Chengdu**	**39.80**	**294**	*e*P		**P**	**21 31 28.5**	**-1.2**
LZH	**Lanzhou**	**40.38**	**302**	*e*P		**P**	**21 31 34.8**	**+0.2**
LZH					pP	pP	21 31 39.3	-0.4
LZH					sP	sP	21 31 42.0	+0.3
LZH					pmax	pmax		
	comp=Z,29nm,1.2s							
LZH					pmax	pmax		
	comp=Z,96nm,4.1s							
LZH					LR	LR		
	comp=Z,240nm,14.1s							
LZH					LR	LR		
	comp=Z,410nm,13.0s							
LZH					LR	LR		
	comp=Z,440nm,15.2s							
KMI	**Kunming**	**40.65**	**285**	P		**P**	**21 31 39.0**	**+2.0**
KMI					pP	pP	21 31 42.3	+0.2
KMI					pmax	pmax		
	comp=Z,8.0nm,0.7s							
JOHN	**Johnston Islan**	**41.48**	**88**	P		**P**	**21 31 43.5**	**-0.2**
ULN	**Ulaanbaatar**	**41.81**	**320**	P		**P**	**21 31 45.4**	**-0.8**
ULN					pmax	pmax		
	comp=Z,7.0nm,0.8s							
ULN	**Ulaanbaatar**	**41.81**	**320**	P		**P**	**21 31 45.4**	**-0.8**
SONM	**Songino Array**	**42.20**	**319**	P		**P**	**21 31 49.2**	**-0.1**
	comp=Z,6.2nm,0.9s,baz=133,slow=7.3,SNR=25							
SONM					PcP	**PcP**	**21 33 43.7**	**+0.4**
	comp=Z,4.1nm,0.9s,baz=130,slow=2.9,SNR=5.7							
SONM					LR	LR	21 50 32.4	
	comp=Z,171nm,18.2s,baz=126,slow=38							
WR0	**Warramunga Arr**	**42.22**	**197**	P		**P**	**21 31 49.6**	**0.0**
WRAB	**Tennant Creek**	**42.25**	**198**	*ce*P		**P**	**21 31 49.1**	**-0.7**
WRAB					pmax	pmax		
	comp=Z,9.0nm,0.7s							
WRAB	**Tennant Creek**	**42.25**	**198**	P		**P**	**21 31 49.2**	**-0.6**
WRAB					IAmb	IAmb	21 31 49.9	
	comp=Z,10nm,0.7s							
WRA	**Warramunga Arr**	**42.26**	**198**	P		**P**	**21 31 49.2**	**-0.7**
	comp=Z,8.4nm,0.7s,baz=17,slow=8.5,SNR=54							
WRA					PcP	**PcP**	**21 33 44.2**	**+0.5**
	comp=Z,9.0nm,0.9s,baz=6.6,slow=3.3,SNR=13							
WRA					LR	LR	21 50 54.9	
	comp=Z,75nm,18.1s,baz=35,slow=38							
SEY	**Seymchan**	**42.30**	**4**	*i* P		**P**	**21 31 51.1**	**+1.4**
SEY	**Seymchan**	**42.30**	**4**	P		**P**	**21 31 50.9**	**+1.2**
	comp=Z,11nm,0.8s,baz=174,slow=7.3,SNR=18							
CHAI	**Chaiyaphum**	**42.69**	**271**	P		**P**	**21 31 56.8**	**+3.2**
	comp=Z,12μm,1.1s							
YAK	**Yakutsk**	**42.89**	**348**	*e*P		**P**	**21 31 53.5**	**-1.0**
YAK					pmax	pmax		
	comp=Z,24nm,0.9s							
YAK					pmax	pmax		
	comp=N,4.0nm,1.0s							
YAK	**Yakutsk**	**42.89**	**348**	P		**P**	**21 31 54.8**	**+0.3**
	comp=N,12nm,0.7s,baz=349,slow=1.4,SNR=13							
YAK	**Yakutsk**	**42.89**	**348**	P		**P**	**21 31 54.4**	**-0.1**
YAK					IAmb	IAmb	21 31 55.6	
	comp=Z,24nm,0.9s							
BOD	**Bodaibo**	**44.03**	**335**	*e*P		**P**	**21 32 02.5**	**-1.3**
BOD					pmax	pmax		
	comp=Z,15nm,1.1s							
GTA	**Gaotai**	**44.13**	**306**	*e*P		**P**	**21 32 05.0**	**-0.1**
GTA					pP	pP	21 32 09.8	-0.4
GTA					sP	sP	21 32 12.8	+0.6
GTA					PcP	**PcP**	**21 33 50.3**	**+0.3**
GTA					pmax	pmax		
	comp=Z,13nm,1.1s							
GTA					pmax	pmax		
	comp=Z,220nm,6.2s							
GTA					LR	LR		
	comp=Z,310nm,15.1s							
GTA					LR	LR		
	comp=Z,290nm,12.4s							
GTA					LR	LR		
	comp=Z,350nm,15.1s							
CHTO	**Chiang Mai**	**44.92**	**276**	P		**P**	**21 32 11.8**	**+0.3**
CHTO					pmax	pmax		
	comp=Z,4.0nm,1.0s							
CHTO	**Chiang Mai**	**44.92**	**276**	P		**P**	**21 32 11.8**	**+0.3**
CM31	**Chiang Mai Arr**	**44.99**	**276**	P		**P**	**21 32 11.5**	**-0.6**
CM31					IAmb	IAmb	21 32 16.2	
	comp=Z,5.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**44.99**	**276**	P		**P**	**21 32 12.3**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=98,slow=5.3,SNR=29							
CMAR					LR	LR	21 49 30.8	
	comp=Z,63nm,20.8s,baz=85,slow=34							
ZAK	**Zakamensk**	**45.13**	**322**	*e*P		**P**	**21 32 12.6**	**-0.3**
ZAK					pmax	pmax		
	comp=Z,13nm,1.1s							
UTHA	**Uthaitani**	**45.15**	**272**	P		**P**	**21 32 15.1**	**+1.8**
	comp=Z,20μm,1.2s							
IRK	**Irkutsk**	**45.39**	**324**	*e*P		**P**	**21 32 14.6**	**-0.2**
IRK					pmax	pmax		
	comp=Z,65nm,1.8s							
TLY	**Talaya**	**45.48**	**323**	*i* P		**P**	**21 32 15.9**	**+0.4**
TLY					pmax	pmax		
	comp=Z,32nm,1.0s							
TLY	**Talaya**	**45.48**	**323**	P		**P**	**21 32 16.7**	**+1.2**
	comp=Z,20nm,0.9s,baz=172,slow=9.5,SNR=8.5							
TLY	**Talaya**	**45.48**	**323**	P		**P**	**21 32 15.5**	**0.0**
UMPA	**Umpang Tak**	**45.55**	**273**	P		**P**	**21 32 19.8**	**+3.3**
	comp=Z,25μm,1.2s							
SRDT	**SRDT**	**45.76**	**270**	P		**P**	**21 32 19.0**	**+0.9**
AS31	**Alice Springs**	**45.92**	**197**	P		**P**	**21 32 18.4**	**-0.9**
ASAR	**Alice Springs**	**45.92**	**197**	P		**P**	**21 32 18.4**	**-0.9**
	comp=Z,3.6nm,0.7s,baz=19,slow=7.9,SNR=56							
ASAR					PcP	**PcP**	**21 33 56.8**	**+0.6**
	comp=Z,4.6nm,0.8s,baz=23,slow=3.5,SNR=12							
ASAR					S	**S**	**21 39 00.5**	**-2.4**
	comp=Z,0.8nm,1.0s,baz=3.1,slow=33,SNR=5.0							
DZM	**Mont Dzumac**	**46.72**	**155**	*e*P		**P**	**21 32 26.3**	**+0.7**
	com

comp=Z,151nm,1.1s
RDOG **Red Dog Mine** 56.53 20 P P 21 33 39.2 +0.8
RDOG IAmb IAmb 21 33 40.3
comp=Z,7.0nm,1.2s
ZALV **Zalesovo Beam** 57.01 322 P P 21 33 41.6 -0.3
comp=Z,39nm,0.5s,baz=105,slow=7.3,SNR=165
ZALV PcP PcP 21 34 36.2 -0.7
comp=Z,6.0nm,0.6s,baz=116,slow=3.7,SNR=4.1
ZALV LR LR 21 56 51.2
comp=Z,59nm,21.7s,baz=108,slow=35
DANN **Dangsing** 57.26 291 eP P 21 33 45.3 +0.8
comp=Z,452nm,0.9s
RSO **Redoubt South** 57.66 31 P P 21 33 47.5 +0.8
MK31 **Makanchi Array** 57.78 313 i P P 21 33 47.7 +0.1
MK31 **Makanchi Array** 57.78 313 P P 21 33 47.6 +0.1
MKAR **Makanchi Array** 57.78 313 P P 21 33 47.6 0.0
comp=Z,17nm,0.8s,baz=92,slow=8.8,SNR=109
MKAR PcP PcP 21 34 40.4 +0.2
comp=Z,2.5nm,0.7s,baz=71,slow=3.1,SNR=2.7
MKAR LR LR 22 01 25.8
comp=Z,103nm,18.0s,baz=74,slow=39
MAKZ **Makanchi** 58.00 313 P P 21 33 49.4 +0.3
MAKZ pmax pmax
comp=Z,31nm,0.9s
MAKZ **Makanchi** 58.00 313 P P 21 33 49.4 +0.3
KTH **Kantishna Hill** 59.33 27 P P 21 33 58.2 +0.1
KTH IAmb IAmb 21 34 01.0
comp=Z,9.2nm,1.1s
BPAW **Bear Paw Mtn.** 59.45 27 P P 21 33 58.5 -0.4
BPAW IAmb IAmb 21 34 02.1
comp=Z,9.9nm,1.1s
MLY **Manley** 59.81 26 P P 21 34 02.4 +1.0
MLY IAmb IAmb 21 34 04.5
comp=Z,11nm,1.2s
NRIK **Noril'sk** 60.02 339 i P P 21 34 03.6 +0.9
NRIK **Noril'sk** 60.02 339 P P 21 34 03.3 +0.6
comp=Z,33nm,0.7s,baz=111,slow=8.7,SNR=32
NEA **Nenana** 60.38 27 P P 21 34 05.4 +0.1
KURK **Kurchatov** 60.42 317 ceP P 21 34 05.1 -0.6
KURK pmax pmax
comp=Z,41nm,0.9s
KURK **Kurchatov** 60.42 317 P P 21 34 05.6 -0.1
KURBB **Kurchatov Arra** 60.48 317 P P 21 34 06.1 0.0
comp=Z,50nm,0.8s,baz=91,slow=7.7,SNR=169
PRZ **Przheval'sk** 60.50 308 P P 21 34 06.3 -0.4
PRZ pmax pmax
comp=Z,62nm,0.8s
PRZ **Przheval'sk** 60.50 308 P P 21 34 06.3 -0.4
CCB **Clear Creek Bu** 60.93 27 P P 21 34 10.0 +1.1
TARG **Taragay, Kyrgy** 60.98 307 P P 21 34 09.8 -0.4
TOLK **Toolik Lake Re** 61.29 22 P P 21 34 11.9 +0.5
TOLK IAmb IAmb 21 34 24.9
comp=Z,13nm,1.1s
IL31 61.34 27 IAmb IAmb 21 34 13.2
comp=Z,8.6nm,1.1s
ILAR **Eielson Array** 61.34 27 P P 21 34 11.0 -0.8
ILAR **Eielson Array** 61.34 27 P P 21 34 10.9 -0.8
comp=Z,4.9nm,1.1s,baz=255,slow=4.4,SNR=18
ILAR LR LR 21 57 35.9
comp=Z,59nm,21.5s,baz=301,slow=33
DOT **Dot Lake** 62.34 28 P P 21 34 18.2 -0.4
DOT IAmb IAmb 21 34 36.3
comp=Z,13nm,1.2s
NRN **Naryn** 62.34 307 P P 21 34 18.8 -0.5
NRN pmax pmax
comp=Z,13nm,1.1s
NRN **Naryn** 62.34 307 P P 21 34 18.9 -0.5
NRN IAmb IAmb 21 34 22.6
comp=Z,12nm,1.1s
FYU **Fort Yukon** 62.39 25 IAmb IAmb 21 34 20.4
comp=Z,8.7nm,1.1s
SCRK **Sand Creek** 62.43 28 P P 21 34 18.8 -0.5
SCRK IAmb IAmb 21 34 21.8
comp=Z,9.4nm,1.2s
KSH **Kashi** 62.52 305 P P 21 34 23.8 +3.5
KSH PcP PcP 21 35 02.5 +3.1
KSH S S 21 42 50.8 +3.8
KSH ScS ScS 21 44 12.0 +0.1
KSH pmax pmax
comp=Z,51nm,0.9s
KSH pmax pmax
comp=Z,460nm,4.8s
TKM2 **Tokmak 2** 62.55 308 P P 21 34 21.6 +1.1
SNR=23
KZA **Kyzart** 62.86 307 P P 21 34 24.6 +1.7
SNR=9.9
KBK **Karagaybulak** 63.04 308 P P 21 34 24.7 +0.9
SNR=15
CHMS **Chumysh** 63.16 309 P P 21 34 24.6 +0.2
SNR=8.3
FRU1 **Bishkek** 63.26 308 P P 21 34 25.1 0.0
FRU1 pmax pmax
comp=Z,25nm,0.9s
FRU1 **Bishkek** 63.26 308 P P 21 34 25.1 0.0
USP **Ospenovka** 63.33 309 P P 21 34 26.1 +0.6
SNR=8.0
AAK **Ala-Archa** 63.38 308 ceP P 21 34 26.2 +0.2
AAK pmax pmax
comp=Z,10.0nm,0.8s
AAK **Ala-Archa** 63.38 308 P P 21 34 26.1 +0.1
comp=Z,6.9nm,0.7s,baz=98,slow=5.8,SNR=23
AAK **Ala-Archa** 63.38 308 P P 21 34 26.7 +0.7
SNR=9.6
AAK **Ala-Archa** 63.38 308 P P 21 34 25.8 -0.2
AAK IAmb IAmb 21 34 27.2
comp=Z,9.2nm,0.8s
UCH **Uchtor** 63.39 308 P P 21 34 27.8 +1.3
SNR=20
EKS2 **Erkin-Say** 63.90 308 P P 21 34 30.2 +0.8
SNR=5.8
AML **Almayashu** 64.01 308 P P 21 34 31.7 +1.3
SNR=13
DAWY **Dawson** 64.45 28 P P 21 34 33.5 +1.0
DAWY IAmb IAmb 21 34 41.0
comp=Z,5.6nm,1.1s
ARSB **Arslanbob** 64.62 307 P P 21 34 33.7 -0.5
NIL **Nilore** 65.43 298 P P 21 34 39.2 -0.2
NIL pmax pmax
comp=Z,79nm,1.2s
NIL **Nilore** 65.43 298 P P 21 34 39.2 -0.2
BVAR **Borovoye Array** 65.54 320 P P 21 34 40.1 +0.3
comp=Z,51nm,0.6s,baz=90,slow=7.2,SNR=358
BRVK **Borovoye** 65.60 320 eP P 21 34 40.0 -0.1
BRVK pmax pmax
comp=Z,70nm,0.9s
BRVK **Borovoye** 65.60 320 P P 21 34 39.9 -0.3
EPYK **Eagle Plains** 65.75 25 IAmb IAmb 21 34 42.0
comp=Z,8.2nm,1.1s
BTK **Batken** 66.40 306 IAmb IAmb 21 34 46.0
comp=Z,4.5nm,0.7s
JIS **Juneau Island** 66.72 34 P P 21 34 48.0 +0.8
INK **Inuvik** 67.07 23 P P 21 34 49.4 +0.2
comp=Z,8.5nm,0.9s,baz=203,slow=5.2,SNR=14
INK **Inuvik** 67.07 23 IAmb IAmb 21 34 51.4
comp=Z,8.5nm,0.9s
PLWZ **Palliser** 67.42 157 P P 21 34 51.0 -0.8
CHGR **Chuyangaron** 67.88 304 P P 21 34 55.0 -0.1
KBL **Kabul** 68.71 300 P P 21 35 00.2 -0.3
KBL pmax pmax
comp=Z,34nm,0.8s
KBL **Kabul** 68.71 300 P P 21 35 00.2 -0.3
SVE **Sverdlovsk** 70.78 324 ||eP P 21 35 12.9 +0.4
SVE pmax pmax
comp=Z,53nm,1.0s
ARU **Arti** 71.97 324 eP P 21 35 19.6 -0.2
ARU pmax pmax
comp=Z,45nm,0.8s
ARU **Arti** 71.97 324 P P 21 35 19.9 +0.1
comp=Z,14nm,0.6s,baz=95,slow=2.9,SNR=69
ARU **Arti** 71.97 324 P P 21 35 19.8 +0.1
PPT **Papeete** 73.11 117 LR LR 22 02 19.8
comp=Z,117nm,18.2s,baz=278,slow=32
PPT2 **Papeete2** 73.12 117 eLR LR 21 57 49.6
comp=Z,257nm,28.5s
AKTO **Aktyubinsk** 73.50 318 P P 21 35 28.7 -0.3
comp=Z,6.8nm,0.6s,baz=90,slow=7.8,SNR=28
HRA **Herat** 74.22 301 IAmb IAmb 21 35 35.0
comp=Z,11nm,0.9s
LLLB **Lillooet** 75.06 41 IAmb IAmb 21 35 40.9
comp=Z,8.5nm,1.1s
YKA **Yellowknife Ar** 75.68 28 P P 21 35 41.3 -0.1
comp=Z,3.7nm,0.8s,baz=289,slow=5.5,SNR=45
KIRV **Kirov** 76.25 328 P P 21 35 45.1 +0.4
comp=Z,52nm,0.7s,baz=173,slow=0.3,SNR=18
GEYT **Alibeck** 76.52 306 P P 21 35 47.2 +0.5
comp=Z,10nm,1.1s,baz=81,slow=2.0,SNR=20
GEYT LR LR 22 11 51.3
comp=Z,77nm,19.6s,baz=175,slow=38
GYA0B **ALIBECK ARRAY** 76.52 306 IAmb IAmb 21 35 48.2
comp=Z,15nm,1.0s
YBH **Yreka Blue Hor** 76.84 50 P P 21 35 48.4 -0.1
YBH pmax pmax
comp=Z,6.0nm,1.2s
YBH **Yreka Blue Hor** 76.84 50 P P 21 35 50.5 +2.0
comp=Z,2.9nm,1.0s
YBH **Yreka Blue Hor** 76.84 50 P P 21 35 48.4 -0.1
PRGR **Permogore** 77.09 331 ||iP P 21 35 49.6 +0.3
PRGR e 21 35 59.3
PRGR pmax pmax
comp=Z,67nm,0.7s
RES **Resolute Bay** 77.17 14 P P 21 35 50.3 +0.7
RES pmax pmax
comp=Z,10.0nm,1.2s
RES **Resolute Bay** 77.17 14 IAmb IAmb 21 35 51.0
comp=Z,10.0nm,1.1s
B08A **Colville Reser** 77.26 43 P P 21 35 50.9 +0.2
SPA0 **Spitsbergen Ar** 77.29 351 P P 21 35 50.4 +0.1
SPITS **Spitsbergen Ar** 77.29 351 P P 21 35 51.8 +1.6
comp=Z,17nm,1.0s,baz=94,slow=14,SNR=4.7
E07A **Sunnyside** 77.45 45 P P 21 35 51.8 +0.1
PINE **Pine Mountain** 77.51 48 P P 21 35 53.1 +0.8
PINE IAmb IAmb 21 35 54.6
comp=Z,17nm,1.1s
HAWA **Hanford** 77.71 45 P P 21 35 53.4 +0.2
ORV **Oroville** 78.35 52 P P 21 35 57.4 +0.5
ORV pmax pmax
comp=Z,8.0nm,1.2s
ORV **Oroville** 78.35 52 P P 21 35 57.4 +0.5
ORV IAmb IAmb 21 35 58.3
comp=Z,7.8nm,1.1s
G08A **Pilot Rock** 78.42 46 P P 21 35 57.5 +0.2
MOD **Modoc Plateau** 78.52 50 P P 21 35 58.0 +0.1
E09A **Wood Farm, Sta** 78.59 45 P P 21 35 57.7 -0.3
E09A IAmb IAmb 21 35 59.8
comp=Z,9.7nm,1.1s
NEW **Newport** 78.70 43 P P 21 35 59.4 +0.8
comp=Z,2.3nm,0.8s,baz=45,slow=1.3,SNR=4.8
AFDM **Forest Hills D** 78.92 53 P P 21 36 00.6 +0.5
AFDM IAmb IAmb 21 36 02.4
comp=Z,8.1nm,1.1s
BEKR **Beckworth** 79.09 52 P P 21 36 00.4 -0.8
TMCR **Tamitsa** 79.32 335 eP P 21 36 01.3 -0.4
TMCR pmax pmax
comp=Z,102nm,1.3s
F10A **Beach Ranch, E** 79.36 45 P P 21 36 01.8 -0.6
WVOR **Wild Horse Val** 79.53 49 P P 21 36 03.4 0.0
WVOR pmax pmax
comp=Z,5.0nm,1.1s
WVOR **Wild Horse Val** 79.53 49 P P 21 36 03.4 0.0
CMB **Columbia Colle** 79.64 53 IAmb IAmb 21 36 06.3
comp=Z,7.5nm,1.1s
PAHR **Pah Rah Range** 79.86 51 P P 21 36 04.9 -0.4
PNTR **Pine Nut** 79.89 52 P P 21 36 05.7 +0.1
PNTR IAmb IAmb 21 36 07.5
comp=Z,8.0nm,1.1s
YERR **Yerington** 80.19 52 P P 21 36 07.2 0.0
YERR IAmb IAmb 21 36 09.7
comp=Z,7.2nm,1.1s
WAKR **Walker** 80.20 53 P P 21 36 07.1 -0.2
WALA **Waterton Lakes** 80.44 41 P P 21 36 08.9 +0.6
WALA IAmb IAmb 21 36 10.4
comp=Z,12nm,1.1s
PLID **Pearl Lake** 80.47 45 P P 21 36 07.4 -1.2
TULEG **Thule** 80.53 8 P P 21 36 08.5 +0.5
JTMT **Jette** 80.67 43 P P 21 36 09.4 -0.1
JTMT IAmb IAmb 21 36 11.1
comp=Z,10nm,1.2s
MDPB **Devils Postpil** 80.75 53 P P 21 36 08.2 -2.1
OMMB **Old Mammoth Mi** 80.81 53 P P 21 36 10.6 -0.1
ARCES **ARCESS Array B** 80.83 342 P P 21 36 10.1 +0.3
comp=Z,6.1nm,0.7s,baz=58,slow=7.9,SNR=18
ARCES LR LR 22 15 38.1
comp=Z,40nm,21.6s,baz=192,slow=38
RYN **Ryan** 80.84 52 P P 21 36 11.3 +0.7
RYN IAmb IAmb 21 36 12.5
comp=Z,10nm,1.2s
KVN **Kaiserville** 81.01 52 P P 21 36 11.8 +0.2
KVN pmax pmax
comp=Z,8.0nm,1.1s
KVN **Kaiserville** 81.01 52 P P 21 36 11.8 +0.2
KVN IAmb IAmb 21 36 13.3
comp=Z,7.9nm,1.1s
NVAR **Mina Array Bea** 81.07 52 P P 21 36 13.1 +1.2
comp=Z,5.7nm,0.9s,baz=264,slow=6.0,SNR=23
NVAR LR LR 22 04 03.1
comp=Z,84nm,21.5s,baz=274,slow=30
MFID **Camas Ranch** 81.15 47 P P 21 36 12.4 +0.3
MFID IAmb IAmb 21 36 13.9
comp=Z,7.3nm,1.1s
NV11 **Mina Array Sit** 81.17 52 P P 21 36 12.8 +0.4
NV11 IAmb IAmb 21 36 14.2
comp=Z,9.6nm,1.1s
BMN **Battle Mountai** 81.19 50 P P 21 36 11.9 -0.5
BMN pmax pmax
comp=Z,4.0nm,1.0s
BMN **Battle Mountai** 81.19 50 P P 21 36 11.9 -0.5
MSO **Missoula** 81.21 43 P P 21 36 11.2 -1.2
SGF **Sodankyl** 81.75 340 P P 21 36 14.1 -0.6
SGF pmax pmax
comp=Z,39nm,2.5s
ISA **Isabella, Lake** 81.86 55 P P 21 36 15.6 -0.4
ISA **Isabella, Lake** 81.86 55 P P 21 36 15.6 -0.4
UOSS **Minazif** 81.99 294 P P 21 36 16.3 -0.5
UOSS IAmb IAmb 21 36 18.8
comp=Z,12nm,0.9s
DAG **Danmarks Havn** 82.26 357 i P P 21 36 16.1 -1.1
DAG pmax pmax
comp=Z,9.0nm,1.1s
DAG **Danmarks Havn** 82.26 357 i P P 21 36 16.1 -1.1
comp=Z,9.3nm,1.1s
DAC **Darwin (Calif)** 82.32 54 P P 21 36 19.0 +0.4
DAC pmax pmax
comp=Z,5.0nm,1.1s
DAC **Darwin (Calif)** 82.32 54 P P 21 36 19.0 +0.4
ELK **Elko** 82.50 49 P P 21 36 19.4 -0.1
ELK pmax pmax
comp=Z,6.0nm,1.0s
ELK **Elko** 82.50 49 P P 21 36 20.6 +1.1
comp=Z,4.3nm,0.9s,baz=285,slow=6.1,SNR=12
ELK **Elko** 82.50 49 P P 21 36 19.4 -0.1
ELK IAmb IAmb 21 36 21.8
comp=Z,6.1nm,1.0s
JOF **Joensuu** 82.56 335 P P 21 36 18.8 -0.2
JOF pmax pmax
comp=Z,21nm,1.1s
MCMT **McKenzie Canyo** 82.65 45 P P 21 36 20.6 +0.4
AKT **Akhty** 82.98 312 eP P 21 36 21.3 -0.5
AKT pmax pmax
comp=Z,51nm,1.4s
VRH **Novokhopyorsk** 83.04 322 eP P 21 36 20.7 -1.0
VRH pmax pmax
comp=Z,50nm,0.6s
TPNV **Topopah Spring** 83.10 53 IAmb IAmb 21 36 24.1
comp=Z,8.7nm,1.1s
MOS **Moscow** 83.27 327 eP P 21 36 21.7 -1.1
MOS e 21 36 32.5
MOS pmax pmax
comp=Z,82nm,1.2s
QLMT **Earthquake Lak** 83.58 45 P P 21 36 25.7 +0.7
GROC **Groznyy** 83.67 314 eP P 21 36 24.2 -0.9
GROC eS S 21 46 46.5 -0.2
GROC pmax pmax
comp=Z,70nm,1.3s
HVU **Hansel Valley** 83.85 48 P P 21 36 26.6 +0.3
HVU pmax pmax
comp=Z,5.0nm,0.7s
HVU **Hansel Valley** 83.85 48 P P 21 36 26.6 +0.3
109C **Camp Elliot, M** 83.87 57 P P 21 36 26.4 0.0
109C IAmb IAmb 21 36 27.7
comp=Z,6.1nm,0.6s
YMR **Madison River** 83.95 45 P P 21 36 28.2 +1.4
YHH **Holmes Hill** 83.98 44 P P 21 36 27.1 0.0
BGU **Big Grassy Mou** 83.99 49 P P 21 36 26.9 -0.1
LPSR **Galich'ya Gora** 84.00 324 eP P 21 36 26.3 -0.3
LPSR pmax pmax
comp=Z,70nm,0.8s
SHPR **Sheep Range** 84.08 53 P P 21 36 27.7 +0.1
SHPR IAmb IAmb 21 36 29.4
comp=Z,5.6nm,1.0s
OBN **Obninsk** 84.09 327 ||eP P 21 36 25.8 -1.2
OBN pmax pmax
comp=Z,48nm,1.0s
OBN **Obninsk** 84.09 327 P P 21 36 26.7 -0.3
YNR **Norris Junctio** 84.12 44 P P 21 36 28.6 +0.8
PFO **Pinyon Flats O** 84.12 56 P P 21 36 28.2 +0.3
PFO pmax pmax
comp=Z,7.0nm,1.1s
PFO **Pinyon Flats O** 84.12 56 P P 21 36 28.2 +0.3
comp=Z,3.6nm,0.9s,baz=288,slow=3.6,SNR=4.2
PFO **Pinyon Flats O** 84.12 56 IAmb IAmb 21 36 29.1
comp=Z,7.5nm,1.1s
XPFO **Pion Flat** 84.13 56 P P 21 36 28.4 +0.6
XPFO IAmb IAmb 21 36 29.1
comp=Z,7.4nm,1.1s
YPP **Pitchstone Pla** 84.22 45 P P 21 36 29.3 +1.0
YUF **Upper Falls** 84.23 44 P P 21 36 28.6 +0.2
IMW **Indian Meadow** 84.27 45 P P 21 36 28.9 +0.3
IMW IAmb IAmb 21 36 30.8
comp=Z,6.2nm,1.1s
BAR **Barrett** 84.29 57 P P 21 36 27.5 -1.1
BAR IAmb IAmb 21 36 29.6
comp=Z,6.3nm,1.1s
PSUT **Pine Spring** 84.30 51 P P 21 36 29.1 +0.3
H17A **Grant Village** 84.32 45 P P 21 36 30.0 +1.2
H17A IAmb IAmb 21 36 33.1
comp=Z,13nm,1.1s
FXWY **Fox Creek** 84.32 45 P P 21 36 28.4 -0.3
FXWY IAmb IAmb 21 36 30.8
comp=Z,4.9nm,1.1s
GCMT **Greycliff** 84.35 43 P P 21 36 29.6 +0.8
FLWY **Flagg Ranch** 84.36 45 P P 21 36 29.8 +0.8
FLWY IAmb IAmb 21 36 31.4
comp=Z,13nm,1.1s
LKWY **Lake** 84.36 44 P P 21 36 29.9 +0.9
LKWY pmax pmax
comp=Z,8.0nm,1.1s
LKWY **Lake** 84.36 44 P P 21 36 29.9 +0.9
LKWY IAmb IAmb 21 36 44.8
comp=Z,8.4nm,1.1s
DUG **Dugway, Tooele** 84.42 49 P P 21 36 29.3 0.0
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG **Dugway, Tooele** 84.42 49 P P 21 36 29.2 0.0
DUG IAmb IAmb 21 36 30.3
comp=Z,3.0nm,0.8s
TPAW **Teton Pass** 84.43 46 P P 21 36 29.3 -0.1
YNE **Yellowstone No** 84.44 44 P P 21 36 28.9 -0.5
YMP **Mirror Lake Pl** 84.45 44 P P 21 36 29.8 +0.3
MOOW **Moose Ponds** 84.46 45 P P 21 36 29.6 +0.1
VSR **Storozhevoye** 84.48 323 i P P 21 36 28.8 -0.3
VSR pmax pmax
comp=Z,73nm,1.0s
VORD **Divnogorie** 84.52 323 eP P 21 36 28.2 -1.1
VORD pmax pmax
comp=Z,30nm,1.2s
REDW **Red Top Meadow** 84.54 46 P P 21 36 30.1 +0.2
SUF **Sumiainen** 84.64 337 P P 21 36 29.1 -0.6
SUF pmax pmax
comp=Z,65nm,0.8s
HWUT **Hardware Ranch** 84.75 48 P P 21 36 30.8 -0.2
HWUT IAmb IAmb 21 36 33.1
comp=Z,7.2nm,1.1s
FFC **Flin Flon** 84.80 33 P P 21 36 31.3 +0.6
FFC pmax pmax
comp=Z,15nm,1.1s
FFC **Flin Flon** 84.80 33 P P 21 36 31.3 +0.6
RLMT **Red Lodge** 84.88 44 P P 21 36 32.4 +0.8
RLMT IAmb IAmb 21 36 35.3
comp=Z,8.0nm,0.8s
TBLG **Delisi** 84.96 313 P P 21 36 30.9 -0.9
TBLG pmax pmax
comp=Z,12nm,0.9s
TBLG **Delisi** 84.96 313 P P 21 36 30.9 -0.9
CCUT **Cedar City** 85.03 52 P P 21 36 33.1 +0.7
NLU **North Lily Min** 85.04 49 P P 21 36 32.1 -0.4
TCUT **Toone Canyon** 85.05 48 P P 21 36 32.0 -0.5
ZEI **Tsey** 85.11 314 eP P 21 36 32.4 -0.3
ZEI pmax pmax
comp=Z,16nm,1.5s
SZCU **Shurtz Canyon** 85.21 52 P P 21 36 34.1 +0.7
JLU **Jordanelle** 85.22 48 P P 21 36 34.1 +0.7
LCMT **Little Creek M** 85.32 52 P P 21 36 33.5 -0.3
MPU **Maple Canyon** 85.32 49 P P 21 36 33.9 +0.1
KBZ **Khabaz** 85.40 315 i P P 21 36 33.8 0.0
KBZ **Khabaz** 85.40 315 P P 21 36 33.9 +0.1
comp=Z,13nm,0.9s,baz=128,slow=1.8,SNR=17
FINES **FINESS Array B** 85.43 336 P P 21 36 32.6 -1.0
comp=Z,22nm,0.6s,baz=66,slow=4.2,SNR=91
KIV **Kislovodsk** 85.45 315 eP P 21 36 34.1 -0.1
KIV pmax pmax
comp=Z,27nm,1.0s
KIV **Kislovodsk** 85.45 315 P P 21 36 33.3 -0.9
KIV IAmb IAmb 21 36 37.1
comp=Z,6.8nm,0.8s
MSU **Marysvale** 85.52 51 P P 21 36 35.1 +0.2
MSU **Marysvale** 85.52 51 P P 21 36 35.1 +0.2
SHA1 **Shidzhatmaz** 85.56 315 i P P 21 36 34.5 -0.5
W13A **Hualapai Mount** 85.56 54 P P 21 36 34.6 -0.6
Y12C **Blythe** 85.58 56 P P 21 36 34.8 -0.2
GNI **Garni** 85.59 311 P P 21 36 34.5 -0.6
GNI pmax pmax
comp=Z,5.0nm,0.9s
GNI **Garni** 85.59 311 P P 21 36 34.5 -0.6
GNI IAmb IAmb 21 36 35.9
comp=Z,4.9nm,0.9s
BW06 **Boulder Array** 85.65 46 P P 21 36 35.0 -0.5
PDAR **Pinedale Array** 85.65 46 P P 21 36 35.1 -0.4
comp=Z,0.7nm,0.6s,baz=168,slow=1.9,SNR=11
PDAR LR LR 22 08 10.4
comp=Z,54nm,20.2s,baz=342,slow=31
MTPU **Mount Pierson** 85.70 51 P P 21 36 35.8 -0.2
PKCU **Pink Cliffs** 85.84 52 P P 21 36 36.6 0.0
TMUT **Trail Mountain** 85.91 50 P P 21 36 37.1 +0.2
AKH **Akhalkalaki** 85.95 313 P P 21 36 36.6 -0.3
AKH pmax pmax
comp=Z,6.0nm,0.9s
AKH **Akhalkalaki** 85.95 313 P P 21 36 36.6 -0.3
AKH IAmb IAmb 21 36 38.1
comp=Z,5.5nm,0.9s
Q16A **Castle Valley** 86.09 50 P P 21 36 37.9 +0.2
LAO **LASA Array** 86.13 41 P P 21 36 37.1 -0.5
P17A **Butcher Ranch,** 86.17 49 P P 21 36 38.7 +0.6
U15A **North Rim** 86.25 53 P P 21 36 38.5 -0.1
U15A IAmb IAmb 21 36 40.5
comp=Z,5.9nm,1.1s
113A **Mohawk Valley,** 86.53 56 P P 21 36 38.7 -1.0
RDMU **Red Mountain** 86.55 48 P P 21 36 39.4 -0.5
DGMT **Dagmar** 86.55 39 P P 21 36 38.1 -1.4
DGMT IAmb IAmb 21 36 48.8
comp=Z,5.0nm,0.8s
Y14A **Wickenburg** 86.67 55 P P 21 36 39.6 -0.8
Y14A IAmb IAmb 21 36 42.6
comp=Z,5.5nm,0.8s
SUMG **Summit** 86.81 2 i P P 21 36 41.8 +1.0
SUMG pmax pmax
comp=Z,60nm,1.2s
SUMG **Summit** 86.81 2 i P P 21 36 41.8 +1.0
comp=Z,60nm,1.2s
WUAZ **Wupatki** 87.29 53 P P 21 36 43.2 -0.4
214A **Organ Pipe Nat** 87.59 57 IAmb IAmb 21 36 46.7
comp=Z,5.7nm,0.9s
O20A **White River Ci** 87.65 48 IAmb IAmb 21 36 46.3
comp=Z,6.7nm,1.0s
X16A **Lo Mia Camp, P** 87.68 54 P P 21 36 44.6 -0.9
RWWY **Rawlins** 87.69 46 P P 21 36 45.5 0.0
RWWY IAmb IAmb 21 36 48.3
comp=Z,9.8nm,1.1s
RSSD **Black Hills** 88.67 43 P P 21 36 51.1 +1.0
RSSD pmax pmax
comp=Z,6.0nm,1.4s
MVCO **Mesa Verde** 88.71 51 P P 21 36 50.1 -0.3
IZAR **Zarasai** 88.73 331 eP P 21 36 49.1 -0.7
X18A **Snowflake** 88.76 53 P P 21 36 50.2 -0.5
X18A IAmb IAmb 21 36 52.6
comp=Z,4.4nm,1.1s
ISAL **Salakas** 88.89 331 eP P 21 36 50.1 -0.4
ISAL IAmb IAmb 21 36 51.1
comp=Z,9.1nm,1.0s
N23A **Red Feather La** 88.89 46 P P 21 36 51.3 +0.1
SMCO **Snowmass** 88.95 48 P P 21 36 51.6 -0.1
SMCO IAmb IAmb 21 36 53.3
comp=Z,8.8nm,1.1s
IIGN **Ignalina** 88.98 331 eP P 21 36 50.6 -0.3
IIGN IAmb IAmb 21 36 51.5
comp=Z,5.7nm,0.8s

TUC	**Tucson**	**89.03**	**56**	P	**P**	**21 36 52.1**	**+0.3**
TUC				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TUC	**Tucson**	**89.03**	**56**	P	**P**	**21 36 52.1**	**+0.3**
PHWY	**Pilot Hill**	**89.04**	**46**	P	**P**	**21 36 51.5**	**-0.5**
SLIT	**Slitere, Latvi**	**89.30**	**334**	*e*P	P	21 36 57.4	+5.0
ISCO	**Idaho Springs**	**89.61**	**47**	P	**P**	**21 36 55.3**	**+0.6**
ISCO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ISCO	**Idaho Springs**	**89.61**	**47**	P	**P**	**21 36 55.3**	**+0.6**
S22A	**4UR Ranch, Cre**	**89.68**	**50**	P	**P**	**21 36 55.7**	**+0.7**
S22A				IAmb	IAmb	21 36 56.9	
	comp=Z,4.9nm,1.1s						
PABE	**Paberze**	**89.91**	**331**	*e*P	**P**	**21 36 54.1**	**-1.1**
PABE				IAmb	IAmb	21 36 55.4	
	comp=Z,28nm,0.9s						
AKASG	**Malin Array Be**	**90.18**	**326**	P	**P**	**21 36 55.4**	**-1.3**
	comp=Z,8.1nm,0.9s,baz=45,slow=5.4,SNR=24						
AKBB	**Malin Array Si**	**90.18**	**326**	P	**P**	**21 36 55.4**	**-1.3**
AKBB				IAmb	IAmb	21 36 56.7	
	comp=Z,9.7nm,0.9s						
HSIG		**90.23**	**59**	P	**P**	**21 36 57.3**	**0.0**
HSIG				IAmb	IAmb	21 36 59.0	
	comp=Z,4.6nm,0.9s						
ULM	**Lac du Bonnet**	**90.32**	**35**	P	**P**	**21 36 56.0**	**-1.3**
ULM	**Lac du Bonnet**	**90.32**	**35**	P	**P**	**21 36 56.0**	**-1.3**
	comp=Z,4.2nm,0.9s,baz=319,slow=5.1,SNR=5.9						
ULM				LR	LR	22 15 35.8	
	comp=Z,48nm,19.9s,baz=60,slow=34						
ULM	**Lac du Bonnet**	**90.32**	**35**	IAmb	IAmb	21 36 58.1	
	comp=Z,9.4nm,1.1s						
PBUR	**Paburg**	**90.48**	**333**	*e*P	**P**	**21 36 56.8**	**-1.2**
NOA	**NORSAR Array B**	**90.98**	**340**	P	**P**	**21 36 59.5**	**-0.8**
	comp=Z,3.7nm,1.1s,baz=41,slow=4.8,SNR=3.2						
NOA				LR	LR	22 27 17.0	
	comp=Z,33nm,18.5s,baz=40,slow=42						
ANMO	**Albuquerque**	**91.18**	**52**	*ce*P	**P**	**21 37 00.1**	**-1.8**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ANMO	**Albuquerque**	**91.18**	**52**	P	**P**	**21 37 01.9**	**0.0**
	comp=Z,2.4nm,1.1s,baz=296,slow=6.4,SNR=5.5						
ANMO	**Albuquerque**	**91.18**	**52**	P	**P**	**21 37 03.1**	**+1.2**
SUW	**Suwalki**	**91.20**	**331**	P	**P**	**21 37 00.3**	**-1.0**
SUW				pmax	pmax		
	comp=Z,59nm,1.4s						
121A	**Cookes Peak, D**	**91.24**	**55**	P	**P**	**21 37 02.7**	**+0.5**
121A				IAmb	IAmb	21 37 11.7	
	comp=Z,2.6nm,0.8s						
D32A	**Dogwood Acres,**	**91.40**	**38**	P	**P**	**21 37 03.5**	**+1.1**
BNM	**Barren Site**	**91.41**	**53**	P	**P**	**21 37 03.1**	**0.0**
AGMN	**Agassiz Nation**	**91.41**	**36**	P	**P**	**21 37 01.5**	**-0.9**
AGMN				IAmb	IAmb	21 37 07.9	
	comp=Z,2.1nm,0.7s						
RAYN	**Ar Rayn**	**91.60**	**296**	P	**P**	**21 37 02.8**	**-1.1**
RAYN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
RAYN	**Ar Rayn**	**91.60**	**296**	P	**P**	**21 37 02.8**	**-1.1**
RAYN				IAmb	IAmb	21 37 03.8	
	comp=Z,6.7nm,0.9s						
T25A	**Trinidad**	**91.67**	**49**	P	**P**	**21 37 04.5**	**+0.4**
T25A				IAmb	IAmb	21 37 05.8	
	comp=Z,8.0nm,1.1s						
KSCO	**Kaye Shedlock'**	**92.03**	**47**	P	**P**	**21 37 05.5**	**-0.2**
PTCN	**Pitcairn Islan**	**92.70**	**116**	P	**P**	**21 37 08.7**	**0.0**
BR131	**Keskin Array S**	**93.39**	**315**	IAmb	IAmb	21 37 11.4	
	comp=Z,2.9nm,0.8s						
BRTR	**Keskin Array B**	**93.39**	**315**	P	**P**	**21 37 10.6**	**-1.4**
	comp=Z,2.9nm,0.9s,baz=78,slow=3.9,SNR=13						
MNTX	**Cornudas Mount**	**93.44**	**54**	P	**P**	**21 37 12.4**	**+0.2**
MNTX				IAmb	IAmb	21 37 14.0	
	comp=Z,3.9nm,0.8s						
ECSD	**EROS Data Cent**	**93.49**	**40**	P	**P**	**21 37 11.1**	**-1.1**
ECSD				IAmb	IAmb	21 37 12.6	
	comp=Z,6.2nm,0.9s						
BUR08	**Bucovina Ar. S**	**94.10**	**325**	IAmb	IAmb	21 37 16.9	
	comp=Z,4.0nm,1.1s						
KWP	**Kalwaria Pacla**	**94.18**	**327**	P	**P**	**21 37 14.4**	**-0.8**
KWP				pmax	pmax		
	comp=Z,47nm,1.0s						
KWP	**Kalwaria Pacla**	**94.18**	**327**	P	**P**	**21 37 14.4**	**-0.8**
AMTX	**Amarillo**	**94.68**	**50**	P	**P**	**21 37 16.8**	**-1.2**
AMTX				IAmb	IAmb	21 37 19.6	
	comp=Z,6.6nm,0.9s						
SPMN	**Marine on St.**	**94.89**	**38**	P	**P**	**21 37 17.3**	**-1.3**
TXAR	**Lajitas Array**	**95.83**	**56**	P	**P**	**21 37 23.7**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=255,slow=3.8,SNR=5.7						
TXAR			PKKP		**PKKPbc**	**21 54 11.5**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=130,slow=1.4,SNR=5.4						
TXAR				LR	LR	22 14 50.2	
	comp=Z,32nm,20.7s,baz=0.0,slow=32						
VYHS	**Vyhne**	**96.86**	**328**	*e*P	**P**	**21 37 26.9**	**-0.6**
VYHS	**Vyhne**	**96.86**	**328**	*e*P	**P**	**21 37 26.9**	**-0.6**
CLL	**Collm**	**97.57**	**333**	*e*P	**P**	**21 37 28.0**	**-2.6**
CLL	**Collm**	**97.57**	**333**	*e*(P)	**P**	**21 37 28.0**	**-2.6**
CLL				*e*PP	**PP**	**21 41 25.0**	**-2.4**
GERES	**GERESS Array B**	**99.06**	**331**	P	**Pdif**	**21 37 36.5**	**-1.0**
	comp=Z,0.8nm,1.0s,baz=44,slow=4.1,SNR=4.8						
GERES			PP		**PP**	**21 41 39.9**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=5.7,slow=5.4,SNR=4.5						
SCHQ	**Schefferville**	**99.39**	**19**	PKKP	**PKKPbc**	**21 54 04.5**	**+1.2**
	comp=Z,7.0nm,1.2s,baz=90,slow=2.0,SNR=3.8						
ESDC	**Sonseca Array**	**113.94**	**336**	PP	**PP**	**21 43 27.5**	**-0.8**
	comp=Z,1.9nm,1.0s,baz=34,slow=8.1,SNR=5.2						
LSZ	**Lusaka**	**121.64**	**264**	PKIKP	**PKPdf**	**21 42 50.2**	**-0.8**
LSZ	**Lusaka**	**121.64**	**264**		**PKPdf**	**21 42 50.2**	**-0.8**
SNAA	**Sanae**	**126.15**	**191**	PKPdf	**PKPdf**	**21 42 58.2**	**+0.2**
VNA2	**Neumayer--Watz**	**127.59**	**190**	PKPdf	**PKiKP**	**21 43 01.8**	**+0.5**
	baz=46,slow=3.3						
TORD	**Torodi Ar. Bea**	**131.89**	**311**	PKP	**PKPdf**	**21 43 10.8**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=24,slow=2.7,SNR=6.8						
TORD				PP	**PP**	**21 45 28.8**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=47,slow=5.4,SNR=6.0						
DBIC	**Dimbokro**	**141.00**	**311**	PKhKP	PKPpre	21 43 19.7	
	comp=Z,2.1nm,0.6s,baz=350,slow=4.4,SNR=4.0						
PLCA	**Paso Flores**	**142.63**	**131**	PKIKP	**PKiKP**	**21 43 31.3**	**-1.5**
PLCA	**Paso Flores**	**142.63**	**131**	PKhKP	**PKPdf**	**21 43 27.6**	**-2.0**
	comp=Z,4.8nm,0.9s,baz=334,slow=2.3,SNR=4.9						
PLCA	**Paso Flores**	**142.63**	**131**	PKPdf	**PKiKP**	**21 43 31.3**	**-1.5**
MNMC	**Minye Minye**	**145.81**	**94**		**PKPab**	**21 43 37.8**	**+0.8**
PB11	**IPOC Station P**	**145.85**	**95**		**PKPab**	**21 43 37.4**	**+0.4**
LPAZ	**La Paz**	**146.64**	**88**	PKPbc	**PKPab**	**21 43 40.8**	**+0.1**
	comp=Z,7.3nm,0.7s,baz=333,slow=1.6,SNR=28						
SAML	**Samuel**	**148.81**	**72**	PKP2	**PKPbc**	**21 43 44.8**	**0.0**
SAML	**Samuel**	**148.81**	**72**		**PKPbc**	**21 43 44.8**	**0.0**
CPUP	**Villa Florida**	**157.24**	**109**	PKP	**PKPdf**	**21 43 53.3**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=20,slow=2.7,SNR=4.2						

*IDC **28** 21:30:53.9±0.6,20.°71N×146.°72E,h0km,mb4.0/20, mb1 4.1/20,mb1mx3.9/64,mbtmp4.0/20,MS3.5/1, Ms1 3.5/1,ms1mx2.9/35,Error ellipse: s-maj=23.3km s-min=14.1km az=85.0*

*NEIC **28** 21:30:55.5±1.6,20.°72N±0.°08×146.°7E±0.°1,h10km±1km, mb4.4/8*

*ISCJB **28** 21:30:57.2±0.5,20.°71N±0.°05×146.°6E±0.°1,h34km, mb4.0/20,Error ellipse: s-maj=16.6km s-min=7.4km az=2.2*

ISC 28 21:30:58.9±0.6,20.°70N±0.°07×146.°7E±0.°1,h34km,n39, σ0.°78/34,mb4.2/27,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**4.07**	**192**	Pn	**Pn**	**21 31 58.1**	**-0.7**
JHJ2	**Mitsune**	**13.79**	**335**	Pn	**Pn**	**21 34 10.5**	**-1.5**
INU	**Inuyama**	**16.89**	**332**	Pn	**Pn**	**21 34 51.2**	**-1.4**
INU				IAmb	IAmb	21 35 07.3	
	comp=Z,23nm,1.1s						
JNU	**Nakatsue**	**18.73**	**315**	LR	LR	21 42 01.8	
	comp=Z,145nm,18.2s,baz=292,slow=36						
H11S3	**WAKE ISLAND Hy**	**18.98**	**93**	T	T	21 53 30.0	
	baz=281						
H11S1	**WAKE ISLAND Hy**	**18.98**	**93**	T	T	21 53 33.5	
	baz=281						
H11S2	**WAKE ISLAND Hy**	**18.99**	**93**	T	T	21 53 31.2	
	baz=281						
H11N1	**WAKE ISLAND Hy**	**18.99**	**89**	T	T	21 53 34.9	
	baz=274						
H11N2	**WAKE ISLAND Hy**	**19.00**	**89**	T	T	21 53 35.7	
	baz=274						
H11N3	**WAKE ISLAND Hy**	**19.01**	**89**	T	T	21 53 37.3	
	baz=274						
JAY	**Jayapura**	**23.80**	**195**	P	**P**	**21 36 09.9**	**+1.2**
	comp=Z,22nm,0.9s,baz=4.8,slow=12,SNR=2.9						
USRK	**Ussuriysk Ar.**	**26.43**	**336**	P	**P**	**21 36 32.3**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=138,slow=12,SNR=4.7						
FAKI	**Fak Fak**	**27.41**	**213**	P	**P**	**21 36 41.3**	**-0.2**
FAKI				IAmb	IAmb	21 36 48.5	
	comp=Z,9.6nm,1.1s						
KLR	**Kul'dur**	**30.87**	**341**	P	**P**	**21 37 12.7**	**+0.8**
	comp=Z,2.3nm,1.0s,baz=164,slow=7.1,SNR=4.0						
PEA0B	**Petropavlovsk-**	**33.45**	**12**	P	**P**	**21 37 34.3**	**-0.2**
PEA0B				IAmb	IAmb	21 37 40.8	
	comp=Z,10nm,0.8s						
SBUM	**Sibu**	**38.17**	**246**	P	**P**	**21 38 15.5**	**+0.1**
SBUM				IAmb	IAmb	21 38 29.1	
	comp=Z,3.8nm,1.0s						
KNRA	**Kununurra**	**40.20**	**207**	P	**P**	**21 38 31.8**	**-0.5**
KNRA				IAmb	IAmb	21 38 41.5	
	comp=Z,3.6nm,0.8s						
KSM	**Kuching**	**40.31**	**246**	P	**P**	**21 38 33.0**	**-0.3**
KSM				IAmb	IAmb	21 38 51.7	
	comp=Z,16nm,1.0s						
WRA	**Warramunga Arr**	**42.16**	**197**	P	**P**	**21 38 47.6**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=19,slow=8.4,SNR=7.1						
WRA				PcP	**PcP**	**21 40 43.3**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=13,slow=3.5,SNR=4.0						
SONM	**Songino Array**	**42.20**	**320**	P	**P**	**21 38 48.9**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=136,slow=9.8,SNR=3.2						
SONM				PcP	**PcP**	**21 40 42.4**	**0.0**
	comp=Z,0.4nm,0.7s,baz=114,slow=3.5,SNR=2.8						
SEY	**Seymchan**	**42.39**	**4**	P	**P**	**21 38 50.5**	**+0.8**
	comp=Z,3.4nm,1.0s,baz=25,slow=20,SNR=2.5						
CMAR	**Chiang Mai Arr**	**44.91**	**276**	P	**P**	**21 39 12.2**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=94,slow=5.0,SNR=4.5						
ASAR	**Alice Springs**	**45.82**	**196**	P	**P**	**21 39 16.8**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=11,slow=6.0,SNR=8.1						
ASAR				PcP	**PcP**	**21 40 55.9**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=20,slow=3.6,SNR=4.4						
STKA	**Stephens Creek**	**52.50**	**185**	P	**P**	**21 40 08.7**	**0.0**
	comp=Z,2.9nm,1.0s,baz=0.0,slow=5.1,SNR=3.0						
ZALV	**Zalesovo Beam**	**57.02**	**322**	P	**P**	**21 40 41.1**	**-0.1**
	comp=Z,2.6nm,0.5s,baz=105,slow=7.2,SNR=9.9						
MKAR	**Makanchi Array**	**57.77**	**313**	P	**P**	**21 40 47.1**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=104,slow=9.2,SNR=5.6						
NRIK	**Noril'sk**	**60.07**	**339**	P	**P**	**21 41 02.5**	**+0.4**
	comp=Z,3.5nm,0.7s,baz=117,slow=7.9,SNR=5.7						
KURK	**Kurchatov**	**60.42**	**317**	P	**P**	**21 41 05.6**	**+0.7**
KURK	**Kurchatov**	**60.42**	**317**	IAmb	IAmb	21 41 05.8	
	comp=Z,3.1nm,0.9s						
KURBB	**Kurchatov Arra**	**60.48**	**317**	P	**P**	**21 41 05.6**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=92,slow=7.7,SNR=14						
BVAR	**Bovoye Array**	**65.54**	**320**	P	**P**	**21 41 39.2**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=88,slow=7.0,SNR=18						
BRVK	**Borovoye**	**65.61**	**320**	P	**P**	**21 41 40.1**	**+0.8**
BRVK				IAmb	IAmb	21 41 40.6	
	comp=Z,4.1nm,1.1s						
ARU	**Arti**	**71.99**	**324**	P	**P**	**21 42 19.4**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=103,slow=6.6,SNR=4.9						
YKA	**Yellowknife Ar**	**75.80**	**28**	P	**P**	**21 42 40.6**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=289,slow=5.6,SNR=12						
NVAR	**Mina Array Bea**	**81.19**	**52**	P	**P**	**21 43 12.7**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=283,slow=5.0,SNR=8.0						
FINES	**FINESS Array B**	**85.46**	**335**	P	**P**	**21 43 31.7**	**-1.2**
	comp=Z,2.4nm,0.7s,baz=76,slow=5.9,SNR=9.9						
PDAR	**Pinedale Array**	**85.77**	**46**	P	**P**	**21 43 34.6**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=198,slow=1.7,SNR=3.3						
BRTR	**Keskin Array B**	**93.38**	**315**	P	**P**	**21 44 10.4**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=42,slow=13,SNR=2.7						
LPAZ	**La Paz**	**146.74**	**88**	PKPbc	**PKPab**	**21 50 40.0**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=338,slow=3.1,SNR=5.6						

IDC 28 21:41:54.3±1.4,20.°83N×146.°63E,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.3/56,mbtmp3.5/3,Error ellipse: s-maj=65.1km s-min=30.7km az=102.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.27**	**197**	P	P	21 49 49.5	-0.2
	0.4nm,0.6s,baz=18,slow=8.2,SNR=3.7						
ZALV	**Zalesovo Beam**	**56.88**	**322**	P	P	21 51 41.0	+0.1
	0.8nm,0.5s,baz=94,slow=8.0,SNR=3.7						
YKA	**Yellowknife Ar**	**75.71**	**28**	P	P	21 53 41.4	0.0
	0.2nm,0.8s,baz=294,slow=6.0,SNR=2.7						

*IDC **28** 21:42:13.8±0.7,20.°66N×146.°75E,h0km,mb4.0/17, mb1 4.1/18,mb1mx4.0/54,mbtmp4.0/18,ML2.7/1,Error ellipse: s-maj=21.9km s-min=16.5km az=85.0*

*NEIC **28** 21:42:14.9±1.4,20.°63N±0.°08×146.°7E±0.°1,h10km±1km, mb4.5/27*

*ISCJB **28** 21:42:16.4±0.3,20.°62N±0.°04×146.°67E±0.°07,h34km, mb4.0/18,Error ellipse: s-maj=8.9km s-min=6.3km az=175.2*

ISC 28 21:42:18.3±0.5,20.°60N±0.°07×146.°66E±0.°09,h34km,n54, σ0.°99/51,mb4.2/30,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**3.97**	**192**	Pn	**Pn**	**21 43 16.5**	**-0.4**
MJAR	**Matsushiro Arr**	**17.52**	**337**	P	**Pn**	**21 46 19.3**	**-0.6**
	0.0nm,0.3s,baz=159,slow=11,SNR=4.1						
MAJO	**Matsushiro**	**17.52**	**337**	Pn	**Pn**	**21 46 19.1**	**-0.9**
MJB9	**Matsu-Tunnel**	**17.52**	**337**	Pn	**Pn**	**21 46 18.9**	**-1.1**
PATS	**Pohnpei**	**17.74**	**139**		**Pn**	**21 46 22.2**	**-0.5**
PATS				IAmb	IAmb	21 46 23.3	
	comp=Z,53nm,0.9s						
JNU	**Nakatsue**	**18.78**	**315**	P	**P**	**21 46 34.6**	**-0.2**
JNU				IAmb	IAmb	21 46 48.8	
	comp=Z,12nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**19.01**	**89**	T	T	22 06 05.9	
	baz=272						
H11N2	**WAKE ISLAND Hy**	**19.02**	**89**	T	T	22 06 07.1	
	baz=272						
H11N3	**WAKE ISLAND Hy**	**19.03**	**89**	T	T	22 06 08.6	
	baz=272						
KSRS	**Korea Array**	**23.39**	**320**	P	**P**	**21 47 24.8**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=153,slow=9.5,SNR=3.3						
YULB	**Yu-li**	**23.67**	**281**	P	**P**	**21 47 24.4**	**-2.6**
YULB				IAmb	IAmb	21 47 39.6	
	comp=Z,16nm,1.1s						
USRK	**Ussuriysk Ar.**	**26.51**	**336**	P	**P**	**21 47 54.1**	**+1.5**
	comp=Z,5.7nm,1.0s,baz=153,slow=9.7,SNR=5.8						
USA0B	**Ussuriysk Arra**	**26.51**	**336**	P	**P**	**21 47 49.5**	**-3.1**
USA0B				IAmb	IAmb	21 48 09.2	
	comp=Z,5.5nm,1.0s						
KLR	**Kul'dur**	**30.95**	**341**	P	**P**	**21 48 32.6**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=128,slow=9.6,SNR=4.4						
COEN	**Coen**	**34.51**	**186**	P	**P**	**21 49 03.5**	**0.0**
WRA0	**Warramunga Arr**	**42.02**	**197**	P	**P**	**21 50 06.8**	**+0.1**
WRAB	**Tennant Creek**	**42.05**	**197**	P	**P**	**21 50 07.7**	**+0.8**
WRA	**Warramunga Arr**	**42.06**	**197**	P	**P**	**21 50 07.8**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=17,slow=8.4,SNR=9.6						
WRA				PcP	**PcP**	**21 52 03.2**	**+1.6**
	comp=Z,0.6nm,1.0s,baz=6.5,slow=3.0,SNR=5.8						
ADK	**Adak**	**42.24**	**33**	P	**P**	**21 50 07.7**	**-0.5**
SONM	**Songino Array**	**42.26**	**320**	P	**P**	**21 50 08.9**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=139,slow=9.1,SNR=4.5						
SONM				PcP	**PcP**	**21 52 03.2**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=108,slow=4.7,SNR=2.6						
SEY	**Seymchan**	**42.49**	**4**	P	**P**	**21 50 11.0**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=355,slow=24,SNR=2.7						
FITZ	**Fitzroy Crossi**	**43.63**	**210**	P	**P**	**21 50 19.8**	**+0.1**
FITZ				IAmb	IAmb	21 50 21.6	
	comp=Z,8.3nm,1.0s						
ATKA	**Atka Island**	**43.71**	**34**	P	**P**	**21 50 19.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**44.90**	**276**	P	**P**	**21 50 31.8**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=100,slow=5.4,SNR=4.8						
ASAR	**Alice Springs**	**45.72**	**196**	P	**P**	**21 50 36.8**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=11,slow=6.5,SNR=6.3						
NIKH	**Nikolskoje High**	**46.94**	**35**	P	**P**	**21 50 44.5**	**-1.2**
PMBI	**Palembang**	**47.25**	**245**	P	**P**	**21 50 47.3**	**-1.3**
SPIA	**Saint Paul Isl**	**48.25**	**30**	P	**P**	**21 50 54.2**	**-1.5**
UNV	**Unalaska Valle**	**48.59**	**35**	P	**P**	**21 50 58.2**	**-0.2**
UNV				IAmb	IAmb	21 50 58.5	
	comp=Z,15nm,1.1s						
HUH	**Hualalai**	**53.74**	**80**	P	**P**	**21 51 37.9**	**-0.1**
BBOO	**Buckleboo**	**54.07**	**191**	P	**P**	**21 51 39.2**	**-0.5**
BBOO				IAmb	IAmb	21 51 44.8	
	comp=Z,12nm,1.1s						
STCH	**Steam Cracks**	**54.46**	**80**	P	**P**	**21 51 43.0**	**0.0**
ZAA0	**Zalesovo Array**	**57.08**	**322**	P	**P**	**21 52 00.8**	**-0.3**
ZAA0				IAmb	IAmb	21 52 01.8	
	comp=Z,3.4nm,0.7s						
ZALV	**Zalesovo Beam**	**57.08**	**322**	P	**P**	**21 52 01.2**	**+0.1**
	comp=Z,3.9nm,0.6s,baz=104,slow=7.6,SNR=15						
MK31	**Makanchi Array**	**57.82**	**313**	P	**P**	**21 52 06.8**	**+0.2**
MK31				IAmb	IAmb	21 52 07.9	
	comp=Z,2.3nm,1.0s						
MKAR	**Makanchi Array**	**57.82**	**313**	P	**P**	**21 52 06.8**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=95,slow=8.6,SNR=8.1						
MAKZ	**Makanchi**	**58.04**	**313**	P	**P**	**21 52 08.2**	**+0.2**
MAKZ				IAmb	IAmb	21 52 09.6	
	comp=Z,3.2nm,1.0s						
KTH	**Kantishna Hill**	**59.54**	**27**	P	**P**	**21 52 16.9**	**-1.3**
NRIK	**Noril'sk**	**60.15**	**339**	P	**P**	**21 52 22.4**	**+0.2**
	comp=Z,6.6nm,0.8s,baz=114,slow=8.1,SNR=6.6						
KURK	**Kurchatov**	**60.48**	**317**	P	**P**	**21 52 24.0**	**-0.8**
KURK				IAmb	IAmb	21 52 25.8	
	comp=Z,3.7nm,0.8s						
TOLK	**Toolik Lake Re**	**61.50**	**22**	P	**P**	**21 52 30.9**	**-0.6**
ILAR	**Eielson Array**	**61.55**	**27**	P	**P**	**21 52 30.7**	**-1.1**
	comp=Z,0.9nm,1.0s,baz=232,slow=4.9,SNR=4.4						
BRVK	**Borovoye**	**65.67**	**320**	P	**P**	**21 53 00.1**	**+0.9**
BRVK				IAmb	IAmb	21 53 00.7	
	comp=Z,5.9nm,0.9s						
ARU	**Arti**	**72.06**	**324**	P	**P**	**21 53 39.2**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=330,slow=3.7,SNR=7.9						
ARU	**Arti**	**72.06**	**324**	IAmb	IAmb	21 53 39.6	
	comp=Z,4.6nm,0.9s						
YKA	**Yellowknife Ar**	**75.89**	**28**	P	**P**	**21 54 01.1**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=289,slow=5.6,SNR=17						
SPITS	**Spitsbergen Ar**	**77.45**	**351**	P	**P**	**21 54 11.2**	**+1.5**
	comp=Z,27nm,1.0s,baz=16,slow=8.1,SNR=3.6						
KVN	**Kaiserville**	**81.21**	**52**	IAmb	IAmb	21 54 32.9	
	comp=Z,3.3nm,1.1s						
NVAR	**Mina Array Bea**	**81.26**	**52**	P	**P**	**21 54 32.1**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=264,slow=5.6,SNR=11						
ELK	**Elko**	**82.70**	**49**	P	**P**	**21 54 39.9**	**+0.8**
ELK				IAmb	IAmb	21 54 40.4	
	comp=Z,2.1nm,0.9s						
FINES	**FINESS Array B**	**85.55**	**335**	P	**P**	**21 54 52.1**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=80,slow=2.3,SNR=9.0						
PDAR	**Pinedale Array**	**85.85**	**46**	P	**P**	**21 54 55.1**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=297,slow=0.3,SNR=3.8						
LPAZ	**La Paz**	**146.76**	**88**	PKPbc	**PKPab**	**22 02 00.0**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=39,slow=3.7,SNR=5.7						
LPAZ	**La Paz**	**146.76**	**88**		**PKPab**	**22 01 59.5**	**-0.2**

IDC 28 21:59:09.2±4.4,23.°91S×111.°52W,h0km,mb3.7/3, mb1 4.1/3,mb1mx3.7/16,mbtmp3.7/3,Error ellipse: s-maj=315.6km s-min=50.0km az=107.0,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NVAR	**Mina Array Bea**	**62.34**	**354**	P	P	22 09 33.4	-0.2
	0.2nm,0.3s,baz=168,slow=7.6,SNR=4.1						
PDAR	**Pinedale Array**	**66.37**	**2**	P	P	22 09 59.9	-0.1
	0.5nm,0.6s,baz=188,slow=4.2,SNR=7.0						
YKA	**Yellowknife Ar**	**86.14**	**359**	P	P	22 11 52.4	+0.8
	0.4nm,0.8s,baz=171,slow=4.9,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**90.16**	**290**	T	T	23 50 37.4	
	baz=116,slow=74,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**90.17**	**290**	T	T	23 50 34.7	
	baz=116,slow=74,SNR=8.5						
H11S3	**WAKE ISLAND Hy**	**90.18**	**290**	T	T	23 50 38.0	
	baz=116,slow=74,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**90.50**	**291**	T	T	23 51 03.0	
	baz=113,slow=74,SNR=6.1						
H11N1	**WAKE ISLAND Hy**	**90.52**	**291**	T	T	23 51 02.0	
	ba

0.3nm,0.5s,baz=73,slow=9.6,SNR=8.0
ILAR Eielson Array 86.36 18 P P 22 57 21.1 0.0
0.2nm,0.6s,baz=240,slow=5.0,SNR=5.6

IDC 28 22:48:35.5±1.8,3°11N×128°76E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.3/64,mbtmp3.5/5,MS3.3/1,Ms1 3.3/1, ms1mx2.4/31,Error ellipse: s-maj=109.9km s-min=20.2km az=72.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**14.17**	**201**	LR	LR	22 59 23.1	
	comp=Z,102nm,18.5s,baz=220,slow=46						
FITZ	**Fitzroy Crossi**	**21.29**	**188**	P	P	22 53 24.3	+0.4
	3.8nm,0.9s,baz=0.0,slow=6.1,SNR=1.7						
WRA	**Warramunga Arr**	**23.55**	**167**	P	P	22 53 48.0	+0.3
	0.3nm,0.3s,baz=346,slow=10,SNR=8.3						
ASAR	**Alice Springs**	**27.08**	**170**	P	P	22 54 19.4	-0.7
	0.2nm,0.3s,baz=353,slow=7.4,SNR=8.0						
MKAR	**Makanchi Array**	**59.23**	**325**	P	P	22 58 39.1	+0.4
	0.3nm,0.5s,baz=112,slow=8.7,SNR=6.5						
KURBB	**Kurchatov Arra**	**63.36**	**327**	P	P	22 59 06.4	-0.2
	0.4nm,0.5s,baz=129,slow=5.8,SNR=5.8						

*IDC **28** 22:52:08.5±2.1,18°32S×178°10W,h421km±23km, mb3.6/18,mb1 3.8/19,mb1mx3.6/38,mbtmp4.4/19,Error ellipse: s-maj=23.5km s-min=11.7km az=148.0*
*ISCJB **28** 22:52:09.5±0.3,18°39S±0°05×178°04W±0°06,h450km, mb3.9/17,Error ellipse: s-maj=8.6km s-min=5.9km az=41.2*
*NEIC **28** 22:52:10.3±1.7,18°3S±0°1×178°06W±0°10,h444km±7km, mb4.2/26*

ISC 28 22:52:10.2±0.4,18°23S±0°10×178°04W±0°07,h450km, n122,σ1°43/120,mb4.1/29,16C-12D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.76**	**277**	P	P	22 53 28.3	+4.9
AFI	**Afiamalu**	**7.40**	**55**	P	P	**22 53 58.3**	**-1.0**
	4.3nm,0.3s,baz=138,slow=13,SNR=6.7						
AFI				S	S	**22 55 22.7**	**-6.0**
	12nm,0.3s,baz=29,slow=22,SNR=9.4						
AFI	**Afiamalu**	**7.40**	**55**		S	**22 55 26.6**	**-2.1**
NIUE	**Niue**	**7.74**	**98**	P	P	**22 54 03.2**	**+0.4**
DZM	**Mont Dzumac**	**15.06**	**253**	P	P	**22 55 23.2**	**+1.0**
	0.1nm,0.3s,baz=122,slow=15,SNR=4.0						
OUZ	**Omahuta**	**18.48**	**202**	P	P	**22 55 57.9**	**+0.4**
URZ	**Urewera**	**20.40**	**191**	P	P	**22 56 13.3**	**-1.8**
	10nm,0.7s,baz=203,slow=0.9,SNR=6.1						
BFZ	**Birch Farm**	**22.91**	**191**	P	P	**22 56 35.9**	**-1.9**
MSWZ	**Moikau Station**	**23.81**	**193**	P	P	**22 56 44.5**	**-1.5**
QRZ	**Quartz Range**	**23.93**	**198**	P	P	**22 56 45.4**	**-1.6**
QRZ				IAmb	IAmb	22 56 48.5	
	comp=Z,10nm,1.1s						
PLWZ	**Palliser**	**23.96**	**192**	P	P	**22 56 44.9**	**-2.4**
NNZ	**Nelson**	**24.06**	**196**	P	P	**22 56 47.7**	**-0.5**
TUWZ	**Tuamarina**	**24.12**	**195**	P	P	**22 56 47.5**	**-1.2**
CMWZ	**Cape Campbell**	**24.36**	**194**	P	P	**22 56 51.0**	**+0.2**
BSWZ	**Blackbird Sta**	**24.41**	**195**	P	P	**22 56 49.6**	**-1.6**
THZ	**Tophouse**	**24.70**	**196**	P	P	**22 56 53.9**	**0.0**
THZ				IAmb	IAmb	22 57 04.5	
	comp=Z,4.4nm,0.8s						
KHZ	**Kahutara**	**25.15**	**195**	P	P	**22 56 57.3**	**-0.5**
KHZ				IAmb	IAmb	22 57 16.2	
	comp=Z,17nm,1.1s						
LTZ	**Lake Taylor**	**25.82**	**197**	P	P	**22 57 02.7**	**-1.1**
LTZ				IAmb	IAmb	22 57 06.1	
	comp=Z,8.1nm,0.9s						
OXZ	**Oxford**	**26.39**	**196**	P	P	**22 57 08.8**	**+0.1**
OXZ				IAmb	IAmb	22 57 13.0	
	comp=Z,9.8nm,0.9s						
PPT	**Papeete**	**27.08**	**93**	P	P	**22 57 16.1**	**+0.8**
PPTF	**Pamatai, Papee**	**27.09**	**93**	P	P	**22 57 15.8**	**+0.3**
MLZ	**Mavora Lakes**	**29.41**	**200**	P	P	**22 57 35.6**	**+0.3**
MLZ				IAmb	IAmb	22 57 46.2	
	comp=Z,18nm,1.2s						
EIDS	**Eidsvold**	**29.49**	**251**	P	P	**22 57 36.3**	**-0.1**
DCZ	**Deep Cove**	**29.82**	**201**	P	P	**22 57 38.0**	**-0.9**
DCZ				IAmb	IAmb	22 57 52.5	
	comp=Z,8.6nm,1.0s						
WHZ	**Wether Hill Ro**	**29.93**	**200**	P	P	**22 57 40.5**	**+0.6**
WHZ				IAmb	IAmb	22 57 41.3	
	comp=Z,11nm,0.9s						
ARMA	**Armidale**	**30.09**	**240**	P	P	**22 57 41.9**	**+0.3**
CTA	**Charters Tower**	**33.74**	**261**	P	P	**22 58 13.0**	**0.0**
	comp=Z,3.5nm,0.6s,baz=97,slow=12,SNR=9.5						
PMG	**Port Moresby**	**34.86**	**280**	P	P	**22 58 22.6**	**+0.1**
	comp=Z,4.6nm,0.4s,baz=105,slow=7.7,SNR=3.8						
PMG	**Port Moresby**	**34.86**	**280**	P	P	**22 58 23.1**	**+0.6**
PMG				IAmb	IAmb	22 58 23.9	
	comp=Z,16nm,1.1s						
TOO	**Toolangi**	**37.24**	**231**	P	P	**22 58 41.6**	**-0.5**
TOO				IAmb	IAmb	22 58 59.3	
	comp=Z,16nm,1.1s						
COEN	**Coen**	**37.46**	**271**	P	P	**22 58 44.5**	**+0.3**
COEN				IAmb	IAmb	22 58 45.4	
	comp=Z,5.9nm,0.8s						
STKA	**Stephens Creek**	**38.78**	**242**	P	P	**22 58 55.0**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=317,slow=20,SNR=5.0						
STKA	**Stephens Creek**	**38.78**	**242**	IAmb	IAmb	22 59 02.6	
	comp=Z,0.6nm,0.9s						
BBOO	**Buckleboo**	**43.56**	**241**	P	P	**22 59 32.5**	**-0.5**
BBOO				IAmb	IAmb	22 59 33.9	
	comp=Z,7.0nm,0.9s						
SBLHI	**Steaming Bluff**	**43.59**	**32**	P	P	**22 59 34.2**	**+0.8**
WRA	**Warramunga Arr**	**44.92**	**260**	P	P	**22 59 42.8**	**-1.0**
	comp=Z,2.1nm,0.5s,baz=98,slow=6.6,SNR=37						
AS31	**Alice Springs**	**45.04**	**255**	P	P	**22 59 44.0**	**-0.8**
ASAR	**Alice Springs**	**45.04**	**255**	P	P	**22 59 44.5**	**-0.2**
	comp=Z,13nm,0.7s,baz=90,slow=8.3,SNR=208						
ASAR				S	S	**23 05 45.9**	**-4.0**
	comp=Z,1.0nm,0.8s,baz=90,slow=15,SNR=7.8						
FITZ	**Fitzroy Crossi**	**53.32**	**261**	P	P	**23 00 46.5**	**+0.2**
	comp=Z,4.0nm,0.6s,baz=84,slow=6.5,SNR=8.1						
FITZ	**Fitzroy Crossi**	**53.32**	**261**	IAmb	IAmb	23 00 51.7	
	comp=Z,6.7nm,1.1s						
MJAR	**Matsushiro Arr**	**68.38**	**323**	P	P	**23 02 26.5**	**+0.8**
	comp=Z,1.8nm,0.7s,baz=141,slow=5.3,SNR=4.1						
QSPA	**South Pole Qui**	**71.82**	**180**	P	P	**23 02 47.1**	**+1.1**
QSPA				IAmb	IAmb	23 02 48.4	
	comp=Z,5.0nm,0.8s						
PETK	**Petropavlovsk-**	**74.08**	**345**	P	P	**23 03 00.2**	**+1.3**
	comp=Z,12nm,0.8s,baz=136,slow=9.6,SNR=7.5						
NVAR	**Mina Array Bea**	**79.41**	**44**	P	P	**23 03 31.3**	**+2.4**
	comp=Z,0.4nm,0.5s,baz=220,slow=6.8,SNR=3.3						
SEY	**Seymchan**	**84.17**	**347**	P	P	**23 03 53.5**	**+1.1**
	comp=Z,12nm,0.8s,baz=150,slow=5.5,SNR=16						
TXAR	**Lajitas Array**	**85.87**	**57**	P	P	**23 04 04.5**	**+2.7**
	comp=Z,0.7nm,0.6s,baz=220,slow=6.3,SNR=9.8						
ILAR	**Eielson Array**	**86.12**	**13**	P	P	**23 04 02.2**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=224,slow=4.9,SNR=28						
PDAR	**Pinedale Array**	**87.34**	**43**	P	P	**23 04 10.7**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=206,slow=2.6,SNR=6.0						
CMAR	**Chiang Mai Arr**	**89.33**	**290**	P	P	**23 04 19.6**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=126,slow=2.3,SNR=5.5						
INK	**Inuvik**	**92.11**	**15**	P	P	**23 04 30.8**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=226,slow=5.7,SNR=5.9						
INK	**Inuvik**	**92.11**	**15**	IAmb	IAmb	23 04 32.0	
	comp=Z,2.7nm,0.8s						
SONM	**Songino Array**	**94.03**	**319**	P	P	**23 04 40.6**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=134,slow=5.3,SNR=3.1						
YKA	**Yellowknife Ar**	**94.48**	**25**	P	P	**23 04 41.6**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=244,slow=4.5,SNR=11						
BVAR	**Borovoye Array**	**117.32**	**321**	PKP	PKiKP	**23 10 04.5**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=85,slow=1.6,SNR=2.8						
SORM	**Soroca**	**143.25**	**330**	⇓P	PKPdf	**23 10 50.0**	**-2.2**
LEOM	**Leova**	**144.46**	**328**	⇑P	PKPab	**23 10 54.0**	**-0.4**
TLCR		**145.04**	**326**	⇓P	PKPab	**23 10 55.1**	**-1.5**
BURAR	**Bucovina Array**	**145.06**	**332**	⇑P	PKiKP	**23 10 57.8**	**-1.8**
BIZ	**Bicaz**	**145.16**	**331**	⇓P	PKiKP	**23 10 57.8**	**-1.9**
GHRR		**145.16**	**328**	⇑P	PKiKP	**23 10 57.4**	**-2.3**
KOLS	**Kolonicke sedl**	**145.24**	**336**	*e*PKP	PKiKP	**23 10 58.2**	**-1.6**
BRTR	**Keskin Array B**	**145.26**	**315**	PKPbc	PKPab	**23 10 56.3**	**-1.6**
	comp=Z,2.5nm,0.6s,baz=130,slow=3.4,SNR=13						
TOPG	**Topolog**	**145.47**	**326**	⇓P	PKiKP	**23 10 58.9**	**-1.4**
ODBI	**Odobesti**	**145.55**	**328**	⇑P	PKiKP	**23 10 58.6**	**-1.8**
VRI	**Vrincioaia**	**145.64**	**329**	⇓P	PKiKP	**23 10 58.4**	**-2.3**
ASF	**Jabal al Asfar**	**145.65**	**301**	PKPbc	PKiKP	**23 10 59.1**	**-2.1**
	comp=Z,2.5nm,0.8s,baz=58,slow=9.5,SNR=3.0						
BMR	**Baia Mare**	**145.76**	**334**	⇓P	PKiKP	**23 10 59.0**	**-1.8**
TRPA	**Tarpa**	**145.79**	**335**	⇓P	PKiKP	**23 10 59.0**	**-1.9**
OSTC	**Ostas**	**145.80**	**344**	*e*PKP	PKiKP	**23 10 59.7**	**-1.2**
CHVC	**Chvalec**	**145.81**	**344**	*e*PKP	PKiKP	**23 10 59.9**	**-1.0**
HARR	**Harsova**	**145.84**	**326**	⇑P	PKiKP	**23 10 59.1**	**-2.0**
ARCR	**ARCALIA**	**145.85**	**332**	⇑P	PKiKP	**23 10 59.8**	**-1.3**
CLL	**Collm**	**145.85**	**348**	*i* PKPbc	PKiKP	**23 10 59.0**	**-1.9**
	comp=Z,20nm,0.8s						
OKC	**Ostrava-Krasne**	**145.89**	**341**	*e*PKP	PKiKP	**23 10 59.9**	**-1.2**
UPC	**Upice**	**145.90**	**344**	*e*PKP	PKiKP	**23 10 59.6**	**-1.5**
DPC	**Dobruska-Polom**	**145.96**	**344**	*e*PKP	PKiKP	**23 10 59.9**	**-1.4**
BRG	**Berggiesshubel**	**146.06**	**346**	*i* PKP	PKiKP	**23 11 00.3**	**-1.1**
	comp=Z,8.3nm,0.9s						
LANS	**Liptovska Anna**	**146.07**	**339**	*e*PKP	PKiKP	**23 11 00.8**	**-0.7**
MORC	**Moravsky Berou**	**146.13**	**342**	⇓P	PKiKP	**23 11 00.8**	**-0.8**
MORC	**Moravsky Berou**	**146.13**	**342**	*e*PKP	PKiKP	**23 11 00.2**	**-1.4**
DOPR	**Dopca**	**146.21**	**330**	⇑P	PKiKP	**23 11 01.0**	**-0.9**
PVCC	**Panska Ves**	**146.24**	**345**	*e*PKP	PKiKP	**23 11 00.4**	**-1.4**
MLR	**Muntele Rosu**	**146.29**	**329**	PKPbc	PKPab	**23 11 00.3**	**-1.3**
	comp=Z,2.6nm,0.5s,baz=359,slow=13,SNR=14						
MLR	**Muntele Rosu**	**146.29**	**329**	⇑P	PKiKP	**23 11 02.2**	**0.0**
MLR	**Muntele Rosu**	**146.29**	**329**		PKiKP	**23 11 02.1**	**-0.1**
CJR	**Cluj-Napoca**	**146.47**	**333**	⇑P	PKiKP	**23 11 01.3**	**-1.2**
SECR		**146.56**	**328**	⇓P	PKPab	**23 11 01.4**	**-1.2**
MMAI	**Mount Meron Ar**	**146.61**	**303**	PKPbc	PKPab	**23 11 01.9**	**-1.4**
	comp=Z,2.3nm,0.5s,baz=69,slow=5.8,SNR=19						
PLAR	**PLOIESTI**	**146.66**	**328**	⇑P	PKPbc	**23 10 57.9**	**-2.7**
PRU	**Pruhonice**	**146.75**	**345**	*e*PKP	PKiKP	**23 11 01.2**	**-1.6**
PRU				*ex*	x	23 11 04.5	
GOPC	**GO Pecny, Ondr**	**146.76**	**345**	*e*PKP	PKPab	**23 11 02.3**	**-0.9**
VOIR		**146.76**	**330**	⇑P	PKPab	**23 11 02.4**	**-1.1**
DRGR		**146.78**	**334**	⇓P	PKiKP	**23 11 01.5**	**-1.6**
VRAC	**Vranov**	**146.82**	**342**	⇓P	PKPab	**23 11 02.9**	**-0.6**
VRAC	**Vranov**	**146.82**	**342**	*e*PKP	PKPab	**23 11 02.4**	**-1.1**
VYHS	**Vyhne**	**146.84**	**339**	*e*PKP	PKPab	**23 11 02.9**	**-0.7**
VYHS				*e*		23 11 05.4	
ARR	**Arges**	**147.01**	**330**	⇑P	PKPab	**23 11 03.3**	**-1.2**
KRUC	**Moravsky**	**147.10**	**342**	*e*PKP	PKPab	**23 11 02.8**	**-1.8**
PBCC	**Pribram**	**147.16**	**346**	*e*PKP	PKPab	**23 11 03.1**	**-1.7**
PBCC				*ex*	x	23 11 06.3	
SMOL	**Smolenice**	**147.28**	**341**	*e*PKP	PKPab	**23 11 03.9**	**-1.5**
MODS	**Modra-Piesok**	**147.46**	**341**	*e*PKP	PKPab	**23 11 04.2**	**-1.9**
KHC	**Kasperske Hory**	**147.78**	**346**	*e*PKP	PKPab	**23 11 04.5**	**-0.6**
KHC				*ex*	x	23 11 08.7	
GZR	**Gura Zlata**	**147.85**	**332**	⇑P	PKiKP	**23 11 03.8**	**-1.6**
GERES	**GERESS Array B**	**148.01**	**345**	PKPbc	PKiKP	**23 11 05.1**	**-0.5**
	comp=Z,3.9nm,0.5s,baz=24,slow=3.3,SNR=62						
BZS	**Buzias**	**148.18**	**333**	⇑P	PKiKP	**23 11 05.3**	**-0.6**
CONA	**Conrad Observa**	**148.28**	**342**	*i* PKiKP	PKPab	**23 11 06.5**	**-3.1**
	comp=Z,3.5nm,0.5s,SNR=7.5						
PLVB	**Pleven**	**148.46**	**328**	⇑P	PKiKP	**23 11 05.9**	**-0.6**
MOA	**Molln**	**148.79**	**344**	*i* PKiKP	PKiKP	**23 11 07.6**	**+0.4**
	comp=Z,1.0nm,0.5s						
SOKA	**Soboth**	**149.65**	**342**	*i* PKiKP	PKiKP	**23 11 08.8**	**-0.3**
	comp=Z,1.0nm,0.6s						
VTS	**Vitosha**	**149.72**	**328**	⇓P	PKiKP	**23 11 09.5**	**+0.1**
KBA	**Boelnbreinsper**	**149.75**	**344**	*i* PKiKP	PKiKP	**23 11 09.4**	**0.0**
	comp=Z,3.4nm,0.4s						
WATA	**Walderalm**	**149.92**	**347**	*i* PKiKP	PKiKP	**23 11 09.9**	**+0.2**
	comp=Z,4.1nm,0.5s,SNR=6.6						
RETA	**Reutte**	**149.94**	**348**	*i* PKiKP	PKiKP	**23 11 10.1**	**+0.5**
	comp=Z,2.0nm,0.4s						
WTTA	**Wattenberg**	**149.98**	**347**	*i* PKiKP	PKiKP	**23 11 10.0**	**+0.2**
	comp=Z,8.7nm,0.5s,SNR=15						
MOTA	**Moosalm**	**150.01**	**348**	*i* PKiKP	PKiKP	**23 11 10.5**	**+0.6**
	comp=Z,3.7nm,0.7s,SNR=5.0						
MYKA	**Terra Mystica**	**150.08**	**344**	*i* PKPbc	PKiKP	**23 11 09.6**	**-0.4**
	comp=Z,4.5nm,0.5s,SNR=6.4						
SQTA	**Sankt Quirin**	**150.11**	**347**	*i* PKiKP	PKiKP	**23 11 10.6**	**+0.6**
	comp=Z,5.7nm,0.6s,SNR=8.3						
ABTA	**Abfaltersbach**	**150.26**	**345**	*i* PKPbc	PKiKP	**23 11 10.0**	**-0.4**
	comp=Z,7.9nm,0.6s,SNR=15						
DAVA	**Damuels**	**150.30**	**349**	*i* PKiKP	PKiKP	**23 11 11.3**	**+0.9**
	comp=Z,2.9nm,0.5s,SNR=5.7						
FETA	**Feichten**	**150.40**	**348**	*i* PKiKP	PKiKP	**23 11 11.1**	**+0.4**
	comp=Z,3.3nm,0.8s						
BLY	**Banja Luka**	**150.65**	**338**	⇑P	PKiKP	**23 11 12.0**	**+0.9**
FUORN	**Ofenpass-Fuorn**	**150.87**	**348**		PKiKP	**23 11 12.9**	**+1.1**

*NEIC **28** 22:54:24.4±2.0,49°65N±0°03×157°0E±0°1,h36km±3km, mb4.4/52*
*ISCJB **28** 22:54:25.9±0.7,49°89N±0°05×156°68E±0°08,h70km±6km, mb3.9/16,Error ellipse: s-maj=11.7km s-min=3.7km az=44.5*
*MOS **28** 22:54:26.9±0.8,49°99N×156°43E,h76km,mb4.4/12,Error ellipse: s-maj=15.4km s-min=4.1km az=73.7*
*KRSC **28** 22:54:27.4±2.1,50°04N×156°86E,h61km±23km,ML4.5*
*IDC **28** 22:54:28.0±3.6,49°89N×156°68E,h68km±34km,mb3.7/10, mb1 3.9/15,mb1mx3.5/63,mbtmp4.0/15,ML3.7/5,MS3.1/1, Ms1 3.1/1,ms1mx2.4/46,Error ellipse: s-maj=44.7km s-min=11.8km az=138.0*

ISC 28 22:54:25.3±1.2,49°78N±0°07×156°85E±0°06,h46km±12km, n151,σ1°59/177,mb4.2/35,1C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.02**	**333**	*e*P	Pn	**22 54 43.5**	**+0.3**
SKR				*e*S	Sn	**22 54 54.5**	**-1.8**
SKR	**Severo-Kuril's**	**1.02**	**333**	*c i*Pn	Pn	**22 54 43.4**	**+0.3**
SKR				*i* S	Sn	**22 54 54.5**	**-1.8**
PAU	**Pauzhetka**	**1.69**	**359**	*e*P	Pn	**22 54 53.0**	**+0.7**
PAU				*e*S	Sn	**22 55 11.3**	**-1.4**
PAU	**Pauzhetka**	**1.69**	**359**	P Pn	Pn	**22 54 53.4**	**+0.7**
PAU				S	Sn	**22 55 11.3**	**-1.4**
KDTR	**Khodutka, Kamc**	**2.18**	**21**	*e*P	Pn	**22 55 00.3**	**+1.3**
KDTR				*e*S	Sn	**22 55 23.7**	**-1.0**
KDTR	**Khodutka, Kamc**	**2.18**	**21**	PN	Pn	**22 55 00.3**	**+1.3**
KDTR				S	Sn	**22 55 23.7**	**-1.0**
ASAK	**Asacha**	**2.69**	**14**	*e*P	Pn	**22 55 07.7**	**+1.6**
ASAK				*e*S	Sn	**22 55 38.0**	**+0.6**
ASAK	**Asacha**	**2.69**	**14**	PN	Pn	**22 55 07.7**	**+1.6**
ASAK				S	Sn	**22 55 38.0**	**+0.6**
MTVR	**Mutnovka**	**2.83**	**17**	*e*P	Pn	**22 55 09.5**	**+1.4**
MTVR				*e*S	Sn	**22 55 40.1**	**-1.0**
MTVR	**Mutnovka**	**2.83**	**17**	PN	Pn	**22 55 09.5**	**+1.4**
MTVR				S	Sn	**22 55 40.1**	**-1.0**
GRL	**Gorelyy**	**2.88**	**15**	*e*P	Pn	**22 55 10.6**	**+1.8**
GRL				*e*S	Sn	**22 55 41.8**	**-0.4**
GRL	**Gorelyy**	**2.88**	**15**	PN	Pn	**22 55 10.6**	**+1.8**
GRL				S	Sn	**22 55 41.8**	**-0.4**
APC	**Apacha**	**3.15**	**3**	*e*P	Pn	**22 55 13.4**	**+1.0**
APC				*e*S	Sn	**22 55 46.5**	**-2.2**
APC	**Apacha**	**3.15**	**3**	PN	Pn	**22 55 13.4**	**+1.0**
APC				S	Sn	**22 55 46.5**	**-2.2**
KRMR	**Karymshinskiy**	**3.16**	**14**	*e*P	Pn	**22 55 13.8**	**+1.4**
KRMR				*e*S	Sn	**22 55 50.7**	**+1.9**
KRMR	**Karymshinskiy**	**3.16**	**14**	PN	Pn	**22 55 13.8**	**+1.4**
KRMR				S	Sn	**22 55 50.7**	**+1.9**
PEA0B	**Petropavlovsk-**	**3.38**	**9**	*i* PN	Pn	**22 55 15.9**	**+0.5**
PEA0B	**Petropavlovsk-**	**3.38**	**9**		Pn	**22 55 17.1**	**+1.6**
PETK	**Petropavlovsk-**	**3.38**	**9**	P	Pn	**22 55 17.3**	**+1.9**
	27nm,0.3s,baz=180,slow=12,SNR=371						
PETK				S	Sn	**22 56 00.3**	**+6.1**
	4.3nm,0.3s,baz=138,slow=17,SNR=3.0						
PET	**Petropavlovsk**	**3.44**	**18**	*e*P	Pn	**22 55 17.9**	**+1.6**
PET				*e*S	Sn	**22 55 54.8**	**-0.9**
PET	**Petropavlovsk**	**3.44**	**18**	*e*PN	Pn	**22 55 18.3**	**+2.0**
PET				*e*S	Sn	**22 55 56.2**	**+0.5**
PET				pmax	pmax		
	comp=Z,55nm,0.5s						
PET				smax	smax		
	comp=E,345nm,0.5s						
PET				smax	smax		
	comp=N,325nm,0.6s						
PET	**Petropavlovsk**	**3.44**	**18**	Pn	Pn	**22 55 17.4**	**+1.2**
PET					Sn	**22 55 56.0**	**+0.3**
UGLR	**Uglovaya**	**3.65**	**19**	*e*P	Pn	**22 55 21.3**	**+2.0**
UGLR				*e*S	Sn	**22 55 59.4**	**-1.7**
UGLR	**Uglovaya**	**3.65**	**19**	PN	Pn	**22 55 21.3**	**+2.0**
UGLR				S	Sn	**22 55 59.4**	**-1.7**
AVH	**Avacha**	**3.68**	**18**	*e*P	Pn	**22 55 20.9**	**+1.2**
AVH				*e*S	Sn	**22 56 00.0**	**-1.9**
AVH	**Avacha**	**3.68**	**18**	PN	Pn	**22 55 20.9**	**+1.2**
AVH				S	Sn	**22 56 00.0**	**-1.9**
KOK	**Koryaka**	**3.69**	**17**	*e*P	Pn	**22 55 22.7**	**+2.9**
KOK				*e*S	Sn	**22 56 04.2**	**+2.1**
KOK	**Koryaka**	**3.69**	**17**	PN	Pn	**22 55 22.7**	**+2.9**
KOK				S	Sn	**22 56 04.2**	**+2.1**
SMAR	**Somma**	**3.69**	**19**	*e*P	Pn	**22 55 22.1**	**+2.1**
SMAR				*e*S	Sn	**22 56 00.7**	**-1.7**
SMAR	**Somma**	**3.69**	**19**	PN	Pn	**22 55 22.1**	**+2.1**
SMAR				S	Sn	**22 56 00.7**	**-1.7**
KRER	**Koryakskii**	**3.72**	**18**	*e*P	Pn	**22 55 22.7**	**+2.3**
KRER				*e*S	Sn	**22 56 04.5**	**+1.5**
KRER	**Koryakskii**	**3.72**	**18**	PN	Pn	**22 55 22.7**	**+2.3**
KRER				S	Sn	**22 56 04.5**	**+1.5**
NLC	**Nalytchevo**	**3.74**	**24**	*e*S	Sn	**22 56 01.1**	**-1.9**
KRX	**Arik**	**3.76**	**17**	*e*P	Pn	**22 55 23.3**	**+2.5**
KRX				*e*S	Sn	**22 56 04.4**	**+0.6**
KRX	**Arik**	**3.76**	**17**	PN	Pn	**22 55 23.3**	**+2.5**
KRX				S	Sn	**22 56 04.4**	**+0.6**
SPN	**Mys Shipunski**	**3.87**	**30**	*e*P	Pn	**22 55 24.3**	**+2.1**
SPN				*e*S	Sn	**22 56 04.8**	**-1.6**
SPN	**Mys Shipunski**	**3.87**	**30**	PN	Pn	**22 55 24.3**	**+2.1**
SPN				S	Sn	**22 56 04.8**	**-1.6**
GNL	**Ganaly**	**3.98**	**9**	*e*P	Pn	**22 55 26.0**	**+2.2**
GNL	**Ganaly**	**3.98**	**9**	PN	Pn	**22 55 26.0**	**+2.2**
KZV	**Kizimen**	**5.74**	**20**	*e*P	Pn	**22 55 49.9**	**+1.9**
KZV	**Kizimen**	**5.74**	**20**	PN	Pn	**22 55 49.9**	**+1.9**
TUMD	**Tumrok D**	**5.85**	**20**	*e*P	Pn	**22 55 52.0**	**+2.7**
TUMD				*e*S	Sn	**22 56 52.4**	**-2.6**
TUMR	**Tumrok**	**5.87**	**19**	*e*P	Pn	**22 55 52.2**	**+2.5**
TUMR	**Tumrok**	**5.87**	**19**	PN	Pn	**22 55 52.0**	**+2.3**
CIRR	**Tsirk**	**6.77**	**19**	*e*P	Pn	**22 56 05.1**	**+3.0**
CIRR	**Tsirk**	**6.77**	**19**	PN	Pn	**22 56 05.1**	**+3.0**
KBTR	**Krutoberegovo**	**7.38**	**27**	*e*P	Pn	**22 56 11.0**	**+0.8**
KBTR	**Krutoberegovo**	**7.38**	**27**	PN	Pn	**22 56 11.0**	**+0.8**
SHO	**Shikotan**	**9.06**	**233**	*e*PN	Pn	**22 56 34.8**	**+1.5**
SHO				pmax	pmax		
	comp=N,17nm,0.5s						
SHO				pmax	pmax		
	comp=Z,23nm,0.5s						
SHO				pmax	pmax		
	comp=E,15nm,0.3s						
YSS	**Yuzh-Sakhalins**	**9.80**	**259**	PN	Pn	**22 56 43.7**	**+0.3**
YSS	**Yuzh-Sakhalins**	**9.80**	**259**	Pn	Pn	**22 56 43.7**	**+0.3**
NMR	**Nemuro--Hokkai**	**9.98**	**234**	*e*PN	Pn	**22 56 45.3**	**-0.6**
SMY	**Shemya**	**11.21**	**68**	PN	Pn	**22 57 02.0**	**-0.6**
SMY	**Shemya**	**11.21**	**68**	Pn	Pn	**22 57 02.0**	**-0.6**
JKA	**Kamikawa-asahi**	**11.26**	**245**			**22 57 06.3**	**+2.8**
ASAJ	**Asahikawa**	**11.26**	**245**	P	Pn	**22 57 06.3**	**+2.8**
	comp=E,2.8nm,0.3s,baz=60,slow=11,SNR=10						
ERM	**Erimo**	**12.29**	**236**	PN	Pn	**22 57 17.9**	**+0.5**
ERM	**Erimo**	**12.29**	**236**	Pn	Pn	**22 57 17.9**	**+0.5**
SEY	**Seymchan**	**13.41**	**351**	*i* PN	Pn	**22 57 30.5**	**-2.2**
SEY	**Seymchan**	**13.41**	**351**	P	Pn	**22 57 33.5**	**+0.9**
	comp=E,0.2nm,0.3s,baz=180,slow=20,SNR=4.4						
KLR	**Kul'dur**	**16.30**	**278**	*i* P	Pn	**22 58 11.3**	**+0.6**
KLR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KLR	**Kul'dur**	**16.30**	**278**	P	Pn	**22 58 10.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=107,slow=17,SNR=2.9						
ATKA	**Atka Island**	**18.34**	**71**	P	P	**

	comp=Z,10nm,1.0s							
TGL	**Tana Glacier**	**34.82**	**48**	P	**P**	**23 01 08.6**	**-2.8**
TGL				IAmb	IAmb	23 01 19.4	
	comp=Z,9.5nm,1.0s							
WAX	**Waxell Ridge**	**34.86**	**49**	P	**P**	**23 01 10.3**	**-1.4**
BARN	**Barnard Glacie**	**35.34**	**48**	P	**P**	**23 01 16.1**	**+0.1**
BARN				IAmb	IAmb	23 01 17.2	
	comp=Z,7.6nm,1.1s							
CTGM	**Chitina Glacier**	**35.51**	**48**	P	**P**	**23 01 14.2**	**-3.2**
CTGM				IAmb	IAmb	23 01 16.3	
	comp=Z,6.5nm,1.0s							
DAWY	**Dawson**	**35.91**	**42**	P	**P**	**23 01 19.7**	**-1.0**
HYT	**Haines Junctio**	**37.37**	**47**	P	**P**	**23 01 33.7**	**+0.5**
HYT				IAmb	IAmb	23 01 38.0	
	comp=Z,8.6nm,1.2s							
INK	**Inuvik**	**37.74**	**35**	P	**P**	**23 01 36.9**	**+0.8**
INK				pmax	pmax		
	comp=Z,4.0nm,0.5s							
INK	**Inuvik**	**37.74**	**35**	P	**P**	**23 01 36.3**	**+0.2**
	comp=Z,4.1nm,0.4s,baz=271,slow=12,SNR=32							
INK	**Inuvik**	**37.74**	**35**	P	**P**	**23 01 36.9**	**+0.8**
INK				IAmb	IAmb	23 01 37.1	
	comp=Z,4.0nm,0.5s							
DLBC	**Dease Lake**	**41.71**	**49**	P	**P**	**23 02 08.7**	**-0.6**
YKA	**Yellowknife Ar**	**47.00**	**39**	P	**P**	**23 02 52.1**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=297,slow=7.7,SNR=18							
NEW	**Newport**	**53.38**	**56**	P	**P**	**23 03 40.9**	**+1.0**
NEW				pmax	pmax		
	comp=Z,7.0nm,0.6s							
NEW	**Newport**	**53.38**	**56**	P	**P**	**23 03 40.9**	**+1.0**
CHTO	**Chiang Mai**	**55.23**	**258**	P	**P**	**23 03 53.7**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s							
CHTO	**Chiang Mai**	**55.23**	**258**	P	**P**	**23 03 53.7**	**+0.1**
CHTO				IAmb	IAmb	23 03 54.1	
	comp=Z,4.9nm,0.8s							
MOD	**Modoc Plateau**	**55.47**	**64**		pP	23 04 05.0	-2.6
CMAR	**Chiang Mai Arr**	**55.49**	**257**	*e*P	**P**	**23 03 55.7**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**55.49**	**257**	P	**P**	**23 03 55.8**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=32,slow=6.7,SNR=16							
MSO	**Missoula**	**55.97**	**56**		pP	23 04 11.1	+0.1
PDAR	**Pinedale Array**	**60.97**	**57**	P	**P**	**23 04 33.9**	**0.0**
	comp=Z,1.0nm,0.8s,baz=336,slow=3.3,SNR=7.3							
ULM	**Lac du Bonnet**	**62.60**	**44**	P	**P**	**23 04 45.0**	**+0.7**
ULM				pmax	pmax		
	comp=Z,3.0nm,1.0s							
ULM	**Lac du Bonnet**	**62.60**	**44**	P	**P**	**23 04 45.0**	**+0.7**
ULM				IAmb	IAmb	23 04 46.2	
	comp=Z,2.5nm,0.9s							
MTPU	**Mount Pierson**	**62.70**	**63**	P	**P**	**23 04 44.6**	**-1.0**
WRA	**Warramunga Arr**	**72.23**	**202**	P	**P**	**23 05 46.2**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=18,slow=6.3,SNR=4.2							
TXAR	**Lajitas Array**	**73.87**	**64**	*e*P	**P**	**23 05 56.7**	**+1.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s							
TXAR	**Lajitas Array**	**73.87**	**64**	P	**P**	**23 05 56.1**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=301,slow=4.8,SNR=8.4							
ASAR	**Alice Springs**	**75.91**	**202**	*e*P	**P**	**23 06 08.4**	**+1.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**75.91**	**202**	P	**P**	**23 06 08.4**	**+1.6**
	comp=Z,1.4nm,0.6s,baz=14,slow=4.5,SNR=5.7							
ALN	**Alexandroupoli**	**79.89**	**324**	P	**P**	**23 06 30.5**	**+1.6**
ALN				pmax	pmax		
	comp=Z,5.0nm,1.2s							
ALN	**Alexandroupoli**	**79.89**	**324**	P	**P**	**23 06 30.4**	**+1.6**
ALN				IAmb	IAmb	23 06 46.8	
	comp=Z,5.2nm,1.2s							
ARMA	**Armidale**	**79.98**	**185**	P	**P**	**23 06 26.2**	**-3.1**
GOGA	**Godfrey**	**81.44**	**47**	P	**P**	**23 06 36.2**	**-1.1**
GOGA				pmax	pmax		
	comp=Z,2.0nm,0.8s							
GOGA	**Godfrey**	**81.44**	**47**	P	**P**	**23 06 36.2**	**-1.1**
GOGA				IAmb	IAmb	23 06 44.4	
	comp=Z,1.6nm,0.8s							
ITM	**Ithomi**	**84.69**	**325**	P	**P**	**23 06 55.6**	**+1.5**
061Z	**Ochoppi**	**88.92**	**50**	P	**P**	**23 07 14.7**	**-0.1**

*ISCJB **28** 22:54:26.5±1.0, 19°.51N±0°.07×67°.93W±0°.05, h21km, Error ellipse: s-maj=10.0km s-min=6.4km az=177.9*
*NEIC **28** 22:54:26.5±1.4, 19°.54N±0°.09×67°.96W±0°.05, h24km±16km*
*RSPR **28** 22:54:28.6, 19°.54N×67°.97W, h42km±8km, MD2.8/3*
ISC 28 22:54:26.5±1.8**, 19°.5N**±0°.1×**67°.96W**±0°.04**, h21**km**, n32, σ0°74/38, 2C-6D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCDR	**Punta Cana, DR**	**1.06**	**202**	‖	*e*P	**Pb**	**22 54 46.2**	**+0.1**
PCDR	**Punta Cana, DR**	**1.06**	**202**	‖	*e*P	**Pb**	**22 54 46.2**	**+0.1**
PCDR					*e*S	**Sb**	**22 55 00.2**	**+0.6**
PCDR	**Punta Cana, DR**	**1.06**	**202**			**Pb**	**22 54 46.2**	**+0.1**
PCDR	**Punta Cana, DR**	**1.06**	**202**			**Pb**	**22 54 47.0**	**+0.9**
AGPR	**Aguadilla, PR**	**1.31**	**142**	‖	*e*P	**Pn**	**22 54 49.7**	**+0.2**
AGPR	**Aguadilla, PR**	**1.31**	**142**	‖	*e*P	**Pn**	**22 54 49.7**	**+0.2**
AGPR	**Aguadilla, PR**	**1.31**	**142**			**Pn**	**22 54 49.7**	**+0.2**
MPR	**Mayaguez**	**1.50**	**149**	Pn		**Pn**	**22 54 52.0**	**-0.1**
DR12	**Loma Pena Alta**	**1.52**	**242**	Pn		**Pb**	**22 54 53.5**	**-0.4**
LSP	**Las Mesas**	**1.56**	**148**	‖	*e*P	**Pb**	**22 54 53.8**	**-0.8**
LSP	**Las Mesas**	**1.56**	**148**	‖	*e*P	**Pb**	**22 54 53.8**	**-0.8**
LSP					*e*S	**Sn**	**22 55 12.7**	**+0.1**
LSP	**Las Mesas**	**1.56**	**148**			**Pb**	**22 54 53.8**	**-0.8**
LSP						**Sn**	**22 55 12.7**	**+0.1**
AOPR	**Arecibo Observ**	**1.62**	**135**	*e*S		**Sn**	**22 55 13.8**	**-0.3**
AOPR	**Arecibo Observ**	**1.62**	**135**	*e*S		**Sn**	**22 55 13.8**	**-0.3**
AOPR	**Arecibo Observ**	**1.62**	**135**			**Sn**	**22 55 13.8**	**-0.3**
AOPR	**Arecibo Observ**	**1.62**	**135**	Pn		**Pn**	**22 54 53.9**	**0.0**
AOPR						**Pb**	**22 54 54.9**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.69**	**151**	‖	*e*P	**Pn**	**22 54 55.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.69**	**151**	‖	*e*P	**Pn**	**22 54 55.1**	**+0.3**
CRPR					*e*S	**Sn**	**22 55 15.7**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.69**	**151**			**Pn**	**22 54 55.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.69**	**151**			**Sn**	**22 55 15.7**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.69**	**151**			**Pn**	**22 54 55.4**	**+0.5**
EMPR	**Esperanza - Ma**	**1.70**	**127**	Pn		**Pb**	**22 54 59.3**	**+2.3**
MLPR	**Magueyes Islan**	**1.76**	**150**	Pn		**Pn**	**22 54 56.4**	**+0.7**
MLPR				Sn		**Sn**	**22 55 17.4**	**0.0**
OBIP	**Obispado Ponce**	**1.94**	**138**	Pn		**Pn**	**22 54 58.5**	**+0.3**
SDD	**Santo Domingo**	**2.12**	**241**	Pn		**Pn**	**22 55 00.2**	**-0.4**
SJG	**San Juan**	**2.21**	**129**	Pn		**Pn**	**22 55 02.6**	**+0.7**
IGPR	**InterUniversit**	**2.33**	**131**	Pn		**Pb**	**22 55 05.8**	**-2.0**
CBYP	**Canovanas**	**2.34**	**121**	Pn		**Pn**	**22 55 04.5**	**+0.7**
PDPR	**Patillas Dam,**	**2.36**	**128**	Pn		**Pn**	**22 55 02.7**	**-1.2**
HUMP	**Col San Antoni**	**2.42**	**124**	Pn		**Pn**	**22 55 04.6**	**-0.2**
MTP	**Monte Pirata**	**2.68**	**121**	Pn		**Pn**	**22 55 08.3**	**-0.1**
STVI	**Saint Thomas**	**3.07**	**111**	Pn		**Pn**	**22 55 14.9**	**+1.2**

*GII **28** 22:56:30.9±0.0, 32°.82N×47°.70E, h10km*
*ISCJB **28** 22:56:30.9±0.5, 32°.71N±0°.02×47°.60E±0°.01, h17km±4km, mb5.0/174, MS3.8/25, Error ellipse: s-maj=2.9km s-min=1.8km az=26.7*
*BJI **28** 22:56:30.0±0.0, 32°.80N×47°.70E, h10km, mb4.8/53, mB5.2/36, Ms4.8/17, Ms7.4 6/14*
*TEH **28** 22:56:30.3, 32°.79N×47°.51E, h10km, ML4.7*
*DSN **28** 22:56:31.9±0.8, 32°.69N×47°.49E, h10km, mb5.7/4, Error ellipse: s-maj=10.6km s-min=5.8km az=100.0*
*NEIC **28** 22:56:31.9±1.5, 32°.82N±0°.06×47°.61E±0°.07, h10km±2km, mb4.9/181*
*ISN **28** 22:56:32.0±1.3, 32°.72N×47°.73E, h14km±8km, ML4.8*
*THR **28** 22:56:33.9, 32°.98N×47°.59E, h14km, ML4.7*
*IDC **28** 22:56:33.8±1.5, 32°.86N×47°.62E, h22km±8km, mb4.5/38, mb1 4.5/45, mb1mx4.4/58, mbtmp4.6/45, ML3.0/3, MS3.8/29, Ms1 3.8/29, ms1mx3.7/48, Error ellipse: s-maj=10.8km s-min=8.9km az=158.0*
*OMAN **28** 22:56:35.7±1.2, 32°.64N×47°.69E, h30km±10km, mb4.9/2, ms3.7/5, Error ellipse: s-maj=10.1km s-min=3.0km az=36.0*
*MOS **28** 22:56:35.1±1.0, 32°.88N×47°.65E, h17km, mb5.0/55, Error ellipse: s-maj=5.0km s-min=2.9km az=118.7*
ISC 28 22:56:33.5±0.2**, 32°.86N**±0°.03×**47°.62E**±0°.02**, h21**km±2km**, n763**, σ1**837**/767**, mb4.9**/236**, MS3.9**/25**, 40C-26D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKFM	**Kafar-mosalman**	**0.69**	**16**	*e*Pg		**Pb**	**22 56 45.4**	**-1.5**
IKFM					IAMB	IAmb	22 57 05.1	
	comp=Z,0.0nm,0.9s							
IKMR	**Kamar-syah**	**0.92**	**44**	*e*Pg		**Pb**	**22 56 49.5**	**-1.2**
IDOB	**Doab**	**1.04**	**27**	*e*Pg		**Pb**	**22 56 51.5**	**-1.4**
SHGR	**Shooshtar-Gavs**	**1.25**	**126**	*e*Pg		**Pb**	**22 56 58.4**	**+2.1**
SHGR	**Shooshtar-Gavs**	**1.25**	**126**	*e*AML	AML	22 57 19.1		
	comp=N,3μm,0.4s							
SHGR	**Shooshtar-Gavs**	**1.25**	**126**	*e*Pg		**Pb**	**22 56 58.4**	**+2.1**
SHGR	**Shooshtar-Gavs**	**1.25**	**126**	*e*Sg		**Sb**	**22 57 16.7**	**+4.8**
SHGR				*e*AML	AML	22 57 19.3		
	comp=E,6μm,0.6s							
BMDN	**Meydan**	**1.30**	**51**	*e*Pg		**Pn**	**22 56 56.3**	**-0.3**
BMDN				IAMB	IAmb	22 57 20.1		
	comp=Z,0.0nm,0.7s							
IKOM	**Komasi**	**1.32**	**356**	*e*Pg		**Pn**	**22 56 56.7**	**-0.1**
IKOM				IAMB	IAmb	22 57 27.2		
	comp=Z,0.0nm,0.6s							
IBDR	**Badra**	**1.44**	**281**	*e*Pg		**Pb**	**22 57 00.0**	**+0.4**
IBDR				*e*Sg		**Sb**	**22 57 21.0**	**+3.6**
IBDR				AML	AML	22 57 22.5		
	comp=Z,39μm,0.4s							
KCHF	**Cheshme Sefid,**	**1.49**	**341**	*e*Pn		**Pn**	**22 57 00.1**	**+0.8**
KCHF				IAMB	IAmb	22 57 25.9		
	comp=Z,0.0nm,0.3s							
BDRS	**Dareh Seyedi**	**1.52**	**44**	*e*Pn		**Pn**	**22 56 59.8**	**+0.1**
BDRS				IAMB	IAmb	22 57 26.8		
	comp=Z,0.0nm,1.2s							
KER	**Kermanshah**	**1.58**	**345**	P		**Pb**	**22 57 01.7**	**-0.3**
KER	**Kermanshah**	**1.58**	**345**	*e*Pn		**Pn**	**22 57 01.3**	**+0.9**
HSAM	**Samen**	**1.58**	**31**	*e*Pn		**Pn**	**22 57 00.5**	**-0.1**
HSAM				IAMB	IAmb	22 57 29.7		
	comp=Z,0.0nm,0.4s							
IBZA	**Bozab**	**1.62**	**7**	*e*Pn		**Pn**	**22 57 01.5**	**+0.4**
IGHG	**Ghaleghazi**	**1.71**	**330**	IAMB	IAmb	22 57 36.3		
	comp=Z,57μm,0.4s							
IGHG				*e*Pg		**Pb**	**22 57 04.1**	**-0.2**
IDHR	**Dehrash**	**2.10**	**331**	*e*Pn		**Pn**	**22 57 09.1**	**+1.4**
ILIN	**Lien**	**2.13**	**345**	IAMB	IAmb	22 57 49.6		
	comp=Z,23μm,1.0s							
ILIN				*e*Pn		**Pn**	**22 57 09.2**	**+1.2**
KHMZ	**Khomeyn**	**2.15**	**65**	*e*Sg		**Sb**	**22 57 40.9**	**+2.8**
KHMZ				*e*Pn		**Pb**	**22 57 11.3**	**-0.6**
NSR	**Nassriya**	**2.23**	**215**	*e*Pg		**Pn**	**22 57 10.0**	**+0.9**
NSR				AML	AML	22 57 12.7		
	comp=Z,16μm,0.4s							
NSR				*e*Sg		**Sb**	**22 57 39.0**	**-1.1**
HAGD	**Aghdareh**	**2.33**	**32**	*e*Pn		**Pb**	**22 57 13.5**	**-1.5**
HAGD				IAMB	IAmb	22 57 57.0		
	comp=Z,0.0nm,1.0s							
HSRG	**Sareghieh**	**2.44**	**13**	*e*Pn		**Pn**	**22 57 13.8**	**+1.4**
HSRG				IAMB	IAmb	22 57 58.4		
	comp=Z,0.0nm,0.8s							
ASAO	**Ashtian**	**2.62**	**49**	*e*Pn		**Pn**	**22 57 17.3**	**+2.4**
ASAO	**Ashtian**	**2.62**	**49**	*e*Pn		**Pn**	**22 57 17.3**	**+2.4**
BHD	**Baghdad**	**2.75**	**280**	*e*Pn		**Pn**	**22 57 19.0**	**+2.7**
BHD				*e*Sn		**Sb**	**22 57 54.0**	**-1.1**
IBRJ	**Brojen**	**3.23**	**106**	*e*Pn		**Pn**	**22 57 25.3**	**+2.2**
IBRJ				IAMB	IAmb	22 58 29.1		
	comp=Z,18μm,0.8s							
IKLH	**Kolahrood**	**3.36**	**81**	*e*Pn		**Pn**	**22 57 26.6**	**+1.6**
IKLH				IAMB	IAmb	22 58 31.1		
	comp=Z,12μm,0.8s							
GHVR	**GHOM**	**3.47**	**61**	*e*Pn		**Pn**	**22 57 28.6**	**+2.3**
GHVR	**GHOM**	**3.47**	**61**	*e*AML	AML	22 58 16.6		
	comp=E,1μm,0.6s							
GHVR	**GHOM**	**3.47**	**61**	*e*Pn		**Pn**	**22 57 28.6**	**+2.3**
IKRK	**Kirkuk**	**3.72**	**314**	*e*Pn		**Pn**	**22 57 33.0**	**+3.3**
IKRK				AML	AML	22 57 46.0		
	comp=Z,5μm,0.6s							
IKRK				*e*Sn		**Sb**	**22 58 19.0**	**-4.0**
IMHD	**Mahdasht**	**3.79**	**41**	*e*Pn		**Pn**	**22 57 32.4**	**+1.7**
KLNJ	**Kolanjah**	**3.85**	**118**	*e*Pn		**Pn**	**22 57 32.9**	**+1.1**
KRSH	**Karshahi**	**3.94**	**72**	*e*Pn		**Pn**	**22 57 35.4**	**+2.5**
IHSB	**Hasanabad**	**3.98**	**49**	*e*Pn		**Pn**	**22 57 35.1**	**+1.7**
IGZV	**Ghazvin**	**4.12**	**31**	*e*Pn		**Pn**	**22 57 36.8**	**+1.3**
CHTH	**Charan**	**4.21**	**43**	*e*Pn		**Pn**	**22 57 38.9**	**+2.3**
CHTH	**Charan**	**4.21**	**43**	*e*Pn		**Pn**	**22 57 38.9**	**+2.3**
MAHB	**Mahabad**	**4.21**	**339**	*e*Pn		**Pn**	**22 57 38.0**	**+1.5**
IDMV	**Damavand**	**4.55**	**52**	*e*Pn		**Pn**	**22 57 43.3**	**+1.9**
IKAZ	**Kazeroun**	**4.74**	**129**	*e*Pn		**Pn**	**22 57 45.8**	**+1.8**
IFIR	**Firoozkooh**	**5.08**	**55**	*e*Pn		**Pn**	**22 57 49.7**	**+1.0**
ILAS	**Lasjerd**	**5.10**	**59**	*e*Pn		**Pn**	**22 57 50.8**	**+1.9**
MSL	**Mosul**	**5.13**	**315**	*e*Pn		**Pn**	**22 57 53.0**	**+4.0**
MSL				AML	AML	22 58 10.3		
	comp=Z,834nm,0.6s							
MSL				*e*Sn		**Sn**	**22 58 52.0**	**+4.4**
ANAR	**Anarak**	**5.14**	**85**	*e*Pn		**Pn**	**22 57 50.5**	**+1.1**
IHSH	**Hashtrud**	**5.45**	**357**	*e*Pn		Pn	22 57 42.6	-11
IHRS	**Heris**	**5.47**	**355**	*e*Pn		**Pn**	**22 57 56.1**	**+2.1**
CUKT	**Cukurca**	**5.48**	**324**	*e*Pn		**Pn**	**22 57 54.1**	**+0.1**
ICHK	**Chekchek**	**5.77**	**94**	*e*Pn		**Pn**	**22 57 59.2**	**+1.2**
IANJ	**Anjilo**	**5.83**	**62**	*e*Pn		**Pn**	**22 58 00.7**	**+1.7**
IMEH	**Mehriz**	**6.11**	**102**	*e*Pn		**Pn**	**22 58 03.4**	**+0.6**
IGLO	**Ghaloghah**	**6.28**	**53**	*e*Pn		**Pn**	**22 58 07.4**	**+2.3**
SIRT	**Sirnak**	**6.28**	**319**	*e*Pn		**Pn**	**22 58 05.6**	**+0.7**
VANB	**Van**	**6.68**	**330**	*e*Pn		**Pn**	**22 58 14.2**	**+3.8**
JHRM	**Jahrom**	**6.72**	**129**	*e*Pn		**Pn**	**22 58 11.3**	**+0.3**
IBAF	**Bafgh**	**6.86**	**98**	*e*Pn		**Pn**	**22 58 14.2**	**+1.3**
CLDR	**Caldiran**	**6.95**	**336**	*e*Pn		**Pn**	**22 58 17.0**	**+2.7**
GURO	**Guroymak-BITLI**	**7.27**	**323**	*e*Pn		**Pn**	**22 58 19.5**	**+0.9**
SVAN	**Silvan-Diyarba**	**7.43**	**317**	*e*Pn		**Pn**	**22 58 20.8**	**0.0**
MAZI	**Mazidag**	**7.45**	**310**	*e*Pn		**Pn**	**22 58 20.7**	**-0.4**
GNI	**Garni**	**7.64**	**343**	*i* P		**Pn**	**22 58 26.1**	**+2.5**
GNI	**Garni**	**7.64**	**343**	Pn		**Pn**	**22 58 25.8**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=233,slow=10,SNR=2.6							
GNI				Lg	Lg	23 00 40.7		
	comp=Z,0.1nm,0.3s,baz=37,slow=20,SNR=2.1							
GNI	**Garni**	**7.64**	**343**	Pn		**Pn**	**22 58 24.2**	**+0.5**
KHGB	**Koh Gabri**	**7.95**	**106**	*e*Pn		**Pn**	**22 58 28.0**	**0.0**
AKT	**Akhty**	**8.61**	**1**	*e*P		**Pn**	**22 58 40.6**	**+3.7**
AKT				*e*S		**Sn**	**23 00 17.8**	**+4.4**
AKT				pmax	pmax			
	comp=Z,21nm,0.6s							
AKT				smax	smax			
	comp=N,12nm,0.8s							
AKT				smax	smax			
	comp=E,5.0nm,0.4s							
CHMN	**Cheshme madani**	**8.99**	**107**	*e*Pn		**Pn**	**22 58 42.9**	**+0.4**
ASF	**Jabal al Asfar**	**9.08**	**269**	Pn		**Pn**	**22 58 42.4**	**-1.0**
	comp=E,11nm,0.3s,baz=32,slow=4.9,SNR=85							
ASF				Sn		**Sn**	**23 00 18.0**	**-7.0**
	comp=E,3.0nm,0.3s,baz=216,slow=14,SNR=2.5							
ASF				Lg	Lg	23 01 18.4		
	comp=E,2.9nm,0.3s,baz=23,slow=19,SNR=3.7							
ASF	**Jabal al Asfar**	**9.08**	**269**	P		**Pn**	**22 58 43.1**	**-0.3**
AKH	**Akhalkalaki**	**9.15**	**340**	P		**Pn**	**22 58 42.4**	**-2.0**
TBLG	**Delisi**	**9.15**	**346**	P		**Pn**	**22 58 44.1**	**-0.1**
TBLG	**Delisi**	**9.15**	**346**	Pn		**Pn**	**22 58 44.1**	**-0.1**
MALT	**Malatya**	**9.25**	**309**	P		Pn	22 58 50.7	+5.0
RAYN	**Ar Rayn**	**9.48**	**192**	*i* P		**Pn**	**22 58 46.7**	**-2.3**
	SNR=57							
RAYN	**Ar Rayn**	**9.48**	**192**	P		**Pn**	**22 58 47.7**	**-1.2**
RAYN	**Ar Rayn**	**9.48**	**192**	*e*Pn		**Pn**	**22 58 47.0**	**-1.9**
RAYN	**Ar Rayn**	**9.48**	**192**			**Pn**	**22 58 47.7**	**-1.2**
GAZ	**Gaziantep**	**9.56**	**300**	Pn		**Pn**	**22 58 50.7**	**+0.8**
AFRZ	**Afriz**	**9.58**	**84**	*e*Pn		**Pn**	**22 58 50.8**	**+0.6**
IKOO	**Kooshah**	**9.61**	**89**	*e*Pn		**Pn**	**22 58 51.8**	**+0.9**
IKRD	**Kardeh**	**9.78**	**63**	*e*Pn		Pn	22 59 06.6	+14
GEYT	**Alibeck**	**9.95**	**57**	Pn		**Pn**	**22 58 56.5**	**+1.2**
	comp=E,0.4nm,0.3s,baz=282,slow=7.2,SNR=13							
GEYT				Lg	Lg	23 01 47.0		
	comp=E,0.1nm,0.3s,baz=217,slow=35,SNR=2.7							
GEYT				LR	LR	23 03 09.3		
	comp=E,1μm,20.2s,baz=245,slow=40							
GYA0B	**ALIBECK ARRAY**	**9.95**	**57**			**Pn**	**22 58 54.9**	**-0.4**
SHMJ	**Saham**	**9.98**	**272**	P		**Pn**	**22 58 56.6**	**+1.0**
	comp=E,52nm,0.8s,comp=E,1μm							
SHME	**Shamm**	**10.06**	**130**	*i* P		Pn	**22 58 55.5**	**-1.3**
	SNR=11							
WALJ	**Wala**	**10.09**	**266**	P		**Pn**	**22 58 57.0**	**-0.1**
	comp=E,48nm,0.8s,comp=E,51nm							
MAK	**Makhachkala**	**10.09**	**360**	*e*P		**Pn**	**22 58 54.9**	**-2.1**
MAK				*e*S		**Sn**	**23 00 48.8**	**-0.7**
MAK				pmax	pmax			
	comp=Z,319nm,1.4s							
MAK				MLR	MLR			
	comp=Z,608nm,11.0s							
BANOM	**Banah**	**10.25**	**130**	*i* P		**Pn**	**22 58 58.2**	**-1.2**
	SNR=76							
BANOM	**Banah**	**10.25**	**130**	P		**Pn**	**22 58 58.6**	**-0.7**
	SNR=76							
BANOM				S		**Sn**	**23 00 50.1**	**-3.6**
	SNR=7.9							
MMA0B	**Mount Meron ar**	**10.27**	**274**	Pn		**Pn**	**22 58 59.6**	**0.0**
MMAI	**Mount Meron Ar**	**10.27**	**274**	Pn		**Pn**	**22 58 59.3**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=81,slow=17,SNR=14							
MMAI				Sn		**Sn**	**23 00 56.6**	**+2.5**
	comp=Z,1.6nm,0.3s,baz=82,slow=20,SNR=3.1							
MMAI				Lg	Lg	23 01 59.4		
	comp=Z,3.0nm,0.3s,baz=96,slow=36,SNR=3.4							
MMAI				LR	LR	23 03 59.6		
	comp=Z,382nm,19.1s,baz=80,slow=43							
MMLI	**Mount Malkishu**	**10.29**	**271**	Pn		**Pn**	**22 59 00.1**	**+0.2**
HNTI	**Hanita**	**10.46**	**275**	Pn		**Pn**	**22 59 01.4**	**-0.8**
MZDA	**Masada**	**10.51**	**265**	Pn		**Pn**	**22 59 03.5**	**+0.7**
NAZ	**Nazwa, Dubai**	**10.54**	**136**	*i* P		**Pn**	**22 59 03.0**	**-0.3**
	SNR=16							
NAZ	**Nazwa, Dubai**	**10.54**	**136**	P		**Pn**	**22 59 03.1**	**-0.2**
	SNR=16							
NAZ				S		**Sn**	**23 00 58.4**	**-2.3**
	SNR=9.9							
MSFE	**Esma-Masafi**	**10.56**	**133**	*i* P		**Pn**	**22 59 03.8**	**+0.1**
	SNR=18							
ASUD	**Al Ashush, Dub**	**10.63**	**139**	*i* P		**Pn**	**22 59 04.3**	**-0.2**
	SNR=65							
ASUD	**Al Ashush, Dub**	**10.63**	**139**	P		**Pn**	**22 59 04.5**	**0.0**
	SNR=65							
ASUD				S		**Sn**	**23 01 00.5**	**-2.5**
SLTI	**Sal'it**	**10.63**	**270**	Pn		**Pn**	**22 59 05.0**	**+0.4**
OFRI	**`Ofer**	**10.64**	**272**	Pn		**Pn**	**22 59 05.5**	**+0.8**
MDH	**Madha**	**10.69**	**133**	*i* P		**Pn**	**22 59 05.0**	**-0.4**
	SNR=9.3							
MDH	**Madha**	**10.69**	**133**	P		**Pn**	**22 59 04.6**	**-0.8**
	SNR=9.4							
ZFRI	**Zfri**	**10.84**	**261**	Pn		**Pn**	**22 59 06.9**	**-0.5**
UOSS	**Minazif**	**10.89**	**134**	*i* P		**Pn**	**22 59 07.1**	**-1.1**
	SNR=20							
UOSS	**Minazif**	**10.89**	**134**	P		**Pn**	**22 59 07.3**	**-0.9**
UOSS	**Minazif**	**10.89**	**134**			**Pn**	**22 59 07.4**	**-0.7**
HATD	**Hatta, Dubai**	**10.94**	**135**	*i* P		**Pn**	**22 59 08.2**	**-0.6**
	SNR=19							
HATD	**Hatta, Dubai**	**10.94**	**135**	P		**Pn**	**22 59 08.2**	**-0.6**
	SNR=19							
HATD				S		**Sn**	**23 01 06.3**	**-4.3**
ASHO	**Ashiyiah**	**11.00**	**136**	*i* P		**Pn**	**22 59 08.6**	**-1.1**
	SNR=20							
ASHO	**Ashiyiah**	**11.00**	**136**	P		**Pn**	**22 59 08.4**	**-1.3**
	SNR=88							
PRNI	**Paran**	**11.04**	**260**	Pn		**Pn**	**22 59 10.2**	**0.0**
HRFI	**Mount Harif**	**11.11**	**259**	*e*Pn		**Pn**	**22 59 10.1**	**-1.0**
HRFI	**Mount Harif**	**11.11**	**259**	Pn		**Pn**	**22 59 10.2**	**-0.9**
HRFI	**Mount Harif**	**11.11**	**259**	P		**Pn**	**22 59 14.3**	**+3.2**
MBRI	**Mt Berech**	**11.28**	**258**	Pn		**Pn**	**22 59 12.6**	**-1.0**
EIL	**Elat**	**

TIRR pmax pmax
comp=Z,50nm,1.1s
TIRR Tirgusor 18.90 313 P **Pn 23 00 53.5 +0.3**
TIRR IAmb IAmb 23 00 58.6
comp=Z,50nm,1.1s
IDI Anoyia 18.98 284 P **P 23 00 54.2 +0.6**
comp=Z,3.5nm,0.3s,baz=141,slow=5.1,SNR=27
ALN Alexandroupoli 19.00 301 P **P 23 00 54.1 +0.4**
ALN pmax pmax
comp=Z,15nm,0.8s
ALN Alexandroupoli 19.00 301 P **P 23 00 54.1 +0.4**
TLCR 19.05 316 P **Pn 23 00 55.9 +0.9**
TLCR 19.05 316 ⇓P **Pn 23 00 55.9 +0.9**
VORD Divnogorie 19.10 344 *eP* **P 23 00 54.2 -0.5**
VORD pmax pmax
comp=Z,50nm,0.9s
AKTO Aktyubinsk 19.17 21 *i* P **P 23 00 55.2 -0.3**
AKTO pmax pmax
comp=Z,29nm,1.0s
AKTO Aktyubinsk 19.17 21 P **P 23 00 55.3 -0.3**
comp=Z,0.7nm,0.3s,baz=206,slow=11,SNR=40
AKTO LR LR 23 11 00.3
comp=Z,366nm,18.3s,baz=199,slow=45
VSR Storozhevoye 19.37 344 *eP* **P 23 00 57.0 -0.6**
VSR *eS* **Sn 23 04 31.0 -4.3**
VSR pmax pmax
comp=Z,80nm,0.8s
VSR smax smax
comp=N,60nm,1.0s
RAZG Razgrad 19.68 309 ⇓P **Pn 23 01 03.2 +0.5**
KDZ Kurdzhali 19.69 303 *eP* **Pn 23 01 02.9 +0.1**
VORR Voronezh 19.78 344 *eP* **P 23 01 03.0 +0.9**
VORR pmax pmax
comp=Z,350nm,1.2s
ELND Elena 19.84 307 ⇓P **Pn 23 01 05.5 +1.0**
SZH Strazhica 19.93 308 *eP* **Pn 23 01 05.3 -0.3**
BTK Batken 19.97 62 P **Pn 23 01 05.8 -0.3**
BTK pmax pmax
comp=Z,19nm,1.0s
BTK Batken 19.97 62 P **Pn 23 01 05.8 -0.3**
MILM Milestii Mici 20.06 320 ⇑P **Pn 23 01 07.4 +0.3**
LEOM Leova 20.11 318 ⇑P Pn 23 01 07.4 -0.3
PETR Petresti 20.28 315 ⇑P Pn 23 01 10.2 +0.6
SGRR Singureni 20.32 310 ⇓P Pn 23 01 09.9 -0.2
PLD Plovdiv 20.34 304 P Pn 23 01 10.9 +0.5
PLD pmax pmax
comp=Z,102nm,1.1s
GHRR 20.36 316 ⇑P Pn 23 01 11.2 +0.6
ISR Istrita 20.38 313 P Pn 23 01 11.1 +0.2
ISR pmax pmax
comp=Z,102nm,1.2s
ISR Istrita 20.38 313 ⇑P Pn 23 01 11.6 +0.6
ODBI Odobesti 20.40 315 ⇓P Pn 23 01 11.6 +0.5
BISRR Bisoca 20.50 314 ⇑P Pn 23 01 13.3 +1.0
VRI Vrincioaia 20.65 315 P **P 23 01 13.2 +1.5**
VRI pmax pmax
comp=Z,27nm,1.3s
VRI Vrincioaia 20.65 315 ⇓P Pn 23 01 13.3 -0.7
KK31 Karatay Array 20.68 54 ⇑*eP* **P 23 01 11.8 -0.3**
KK31 pmax pmax
comp=Z,21nm,0.8s
KK31 Karatay Array 20.68 54 P **P 23 01 12.5 +0.4**
KK31 IAmb IAmb 23 01 21.7
comp=Z,31nm,0.9s
KKAR Karatay Array 20.68 54 P **P 23 01 12.5 +0.4**
KKAR pmax pmax
comp=Z,31nm,1.0s
KKAR Karatay Array 20.68 54 P **P 23 01 12.5 +0.4**
KKAR IAmb IAmb 23 01 21.7
comp=Z,31nm,0.9s
PLOR Plostina 20.69 315 P Pn 23 01 14.0 -0.5
PLOR Plostina 20.69 315 ⇑P Pn 23 01 14.1 -0.4
LPSR Galich'ya Gora 20.71 345 *eP* **P 23 01 11.3 -0.9**
LPSR *eS* **S 23 04 57.6 -4.8**
LPSR pmax pmax
comp=Z,300nm,0.9s
LPSR smax smax
comp=E,90nm,1.6s
COPA Copaceanca 20.77 309 ⇑P **P 23 01 14.0 +1.1**
PLVB Pleven 20.86 307 ⇑P **P 23 01 14.9 +0.9**
PGB Panagyurishte 20.87 304 *eP* **P 23 01 14.9 +0.8**
IAS Iasi 20.91 319 P Pn 23 01 17.8 +0.8
IAS pmax pmax
comp=Z,25nm,1.1s
IAS Iasi 20.91 319 ⇓P Pn 23 01 17.0 0.0
MLR Muntele Rosu 20.93 313 P **P 23 01 16.4 +1.5**
MLR pmax pmax
comp=Z,61nm,0.9s
MLR Muntele Rosu 20.93 313 P Pn 23 01 17.4 0.0
comp=Z,46nm,0.8s,baz=178,slow=1.6,SNR=64
MLR Muntele Rosu 20.93 313 ⇑P Pn 23 01 18.3 +0.9
MLR Muntele Rosu 20.93 313 P **P 23 01 16.4 +1.5**
MLR IAmb IAmb 23 01 22.8
comp=Z,61nm,0.9s
SOH Sokhos 20.94 299 P **P 23 01 16.3 +1.4**
SOH pmax pmax
comp=Z,25nm,1.6s
TESR Tescani 21.04 317 ⇓P **P 23 01 17.3 +1.4**
SORM Soroca 21.07 322 ⇑P **P 23 01 15.4 -0.7**
HUMR Humele 21.09 310 ⇑P **P 23 01 17.9 +1.5**
THE Thessaloniki 21.18 299 P **P 23 01 18.6 +1.2**
THE pmax pmax
comp=Z,64nm,1.1s
VLAD Vladila 21.25 308 ⇓P **P 23 01 19.4 +1.3**
OZUR 21.33 315 ⇓P **P 23 01 20.3 +1.3**
AGG Agios Georgios 21.34 294 P **P 23 01 20.0 +0.8**
AGG pmax pmax
comp=Z,35nm,1.0s
AGG Agios Georgios 21.34 294 P **P 23 01 20.1 +0.8**
AGG IAmb IAmb 23 01 26.0
comp=Z,35nm,1.0s
MTUR Matau 21.35 312 P **P 23 01 21.3 +2.0**
MTUR Matau 21.35 312 ⇑P **P 23 01 21.4 +2.0**
MTUR mb 23 01 38.9
KNT Kendrikon 21.36 300 P **P 23 01 20.8 +1.5**
KNT pmax pmax
comp=Z,13nm,1.6s
SOCY Socotra 21.39 163 P **P 23 01 15.9 -3.9**
SNR=18
SOCY Socotra 21.39 163 P **P 23 01 16.4 -3.5**
SOCY IAmb IAmb 23 01 23.0
comp=Z,56nm,0.9s
LIT Litokhoron 21.41 297 P **P 23 01 20.2 +0.2**
LIT pmax pmax
comp=Z,18nm,1.0s
LIT Litokhoron 21.41 297 P **P 23 01 20.2 +0.2**
NIL Nilore 21.44 81 P **P 23 01 20.8 +0.5**
NIL pmax pmax
comp=Z,83nm,1.0s
NIL Nilore 21.44 81 P **P 23 01 20.8 +0.5**
NIL IAmb IAmb 23 01 23.9
comp=Z,83nm,0.9s
ITM Ithomi 21.45 289 IAmb IAmb 23 01 25.5
comp=Z,65nm,0.8s
VOIR 21.46 312 P **P 23 01 22.1 +1.6**
VOIR pmax pmax
comp=Z,59nm,1.1s
VOIR 21.46 312 ⇓P **P 23 01 22.3 +1.9**
DOPR Dopca 21.51 314 ⇓P **P 23 01 22.3 +1.3**
VTS Vitosha 21.54 304 P **P 23 01 23.1 +1.7**
VTS pmax pmax
comp=Z,8.0nm,0.9s
VTS Vitosha 21.54 304 ⇓P **P 23 01 24.2 +2.8**
VTS mb 23 01 44.0
VTS Vitosha 21.54 304 P **P 23 01 23.1 +1.7**
BIZ Bicaz 21.59 317 ⇑P **P 23 01 22.8 +1.1**
GRG Griva 21.67 299 P **P 23 01 25.5 +2.8**
GRG pmax pmax
comp=Z,14nm,0.7s
ATD Arta Tunnel 21.67 193 P **P 23 01 24.5 +1.6**
comp=Z,9.0nm,0.8s,baz=252,slow=20,SNR=2.7
ATD LR LR 23 10 31.1
comp=Z,271nm,20.0s,baz=36,slow=39
ATD Arta Tunnel 21.67 193 P **P 23 01 22.6 -0.3**
ATD IAmb IAmb 23 01 40.8
comp=Z,32nm,1.0s
ARR Arges 21.69 312 ⇓P **P 23 01 23.9 +1.0**
PRAR RASCA 21.75 318 ⇑P **P 23 01 24.5 +0.9**
PRAR mb 23 01 27.9
ARSB Arslanbob 21.87 60 IAmb IAmb 23 01 43.8
comp=Z,36nm,1.1s
BAIL Bailesti 21.96 308 ⇑P **P 23 01 26.5 +0.8**
MDB Medias 22.20 313 P **P 23 01 30.8 +2.4**
MDB Medias 22.20 313 ⇑P **P 23 01 30.8 +2.4**
MDB mb 23 01 33.4
LOT Lotru 22.27 311 ⇑P **P 23 01 30.1 +0.9**
SRE Strehaia 22.30 309 P **P 23 01 31.5 +2.1**
SRE Strehaia 22.30 309 ⇓P **P 23 01 31.5 +2.1**
AKASG Malin Array Be 22.39 328 *eP* **P 23 01 29.0 -1.3**
AKASG pmax pmax
comp=Z,21nm,0.8s
AKASG Malin Array Be 22.39 328 P **P 23 01 29.7 -0.5**
comp=Z,8.7nm,0.7s,baz=134,slow=9.1,SNR=30
AKASG PcP **PcP 23 05 25.0 +0.3**
comp=Z,0.6nm,0.3s,baz=88,slow=2.0,SNR=6.1
AKASG ScP **ScP 23 09 01.3 +0.3**
comp=Z,0.4nm,0.5s,baz=122,slow=2.6,SNR=5.1
AKBB Malin Array Si 22.39 328 *i* P **P 23 01 30.5 +0.2**
AKBB Malin Array Si 22.39 328 P **P 23 01 30.3 +0.1**
AKBB IAmb IAmb 23 01 32.8
comp=Z,39nm,0.9s
FNA Florina 22.39 298 P **P 23 01 30.6 +0.1**
FNA pmax pmax
comp=Z,10.0nm,0.7s
FNA Florina 22.39 298 P **P 23 01 30.6 +0.1**
KIEV Kiev 22.39 328 P **P 23 01 30.0 -0.3**
BURAR Bucovina Array 22.46 318 P **P 23 01 32.0 +0.7**
BURAR Bucovina Array 22.46 318 ⇑P **P 23 01 32.0 +0.7**
BURAR mb 23 01 41.3
BUR08 Bucovina Ar. S 22.49 318 IAmb IAmb 23 01 41.2
comp=Z,17nm,0.7s
AML Almayashu 22.60 58 P **P 23 01 34.5 +1.4**
SNR=10
ARCR ARCALIA 22.69 316 ⇑P **P 23 01 34.8 +1.3**
EKS2 Erkin-Say 22.80 57 P **P 23 01 36.6 +1.6**
SNR=7.6
GZR Gura Zlata 22.88 310 ⇑P **P 23 01 35.7 +0.1**
CJR Cluj-Napoca 22.95 314 ⇑P **P 23 01 38.4 +2.1**
DEV Deva 23.00 312 ⇑P **P 23 01 38.1 +1.3**
UCH Uchtor 23.21 58 P **P 23 01 41.9 +2.4**
SNR=6.6
AAK Ala-Archa 23.30 57 *i* P **P 23 01 41.7 +1.6**
SNR=6.1
AAK Ala-Archa 23.30 57 *i* P **P 23 01 39.8 -0.3**
AAK pmax pmax
comp=Z,26nm,1.5s
AAK Ala-Archa 23.30 57 P **P 23 01 40.8 +0.7**
comp=Z,5.9nm,0.7s,baz=239,slow=7.2,SNR=16
AAK PcP **PcP 23 05 27.4 +0.4**
comp=Z,3.8nm,0.7s,baz=196,slow=3.2,SNR=6.3
AAK ScP **ScP 23 09 02.8 -1.0**
comp=Z,1.1nm,0.6s,baz=212,slow=4.8,SNR=4.5
AAK LR LR 23 11 18.4
comp=Z,164nm,21.7s,baz=253,slow=38
AAK Ala-Archa 23.30 57 P **P 23 01 41.4 +1.3**
SNR=5.3
AAK Ala-Archa 23.30 57 P **P 23 01 41.9 +1.8**
MDVR Moldovita 23.33 308 ⇑P **P 23 01 40.2 0.0**
FRU1 Bishkek 23.45 57 P **P 23 01 43.4 +2.0**
FRU1 pmax pmax
comp=Z,14nm,1.0s
FRU1 Bishkek 23.45 57 P **P 23 01 43.4 +2.0**
BMR Baia Mare 23.49 316 ⇓P **P 23 01 43.3 +1.7**
USP Ospenovka 23.49 56 P **P 23 01 42.6 +0.8**
SNR=14
DRGR 23.53 314 ⇓P **P 23 01 42.9 +0.7**
OBN Obninsk 23.57 344 ⇑*eP* **P 23 01 40.4 -1.9**
OBN pmax pmax
comp=Z,105nm,1.2s
OBN Obninsk 23.57 344 P **P 23 01 41.6 -0.7**
comp=Z,8.9nm,0.7s,baz=180,slow=3.9,SNR=14
OBN LR LR 23 11 37.8
comp=Z,45nm,19.4s,baz=183,slow=38
OBN Obninsk 23.57 344 ⇓P **P 23 01 41.6 -0.7**
OBN mb 23 01 45.1
OBN Obninsk 23.57 344 P **P 23 01 41.9 -0.5**
OBN IAmb IAmb 23 01 45.0
comp=Z,48nm,0.8s
CHMS Chumysh 23.59 57 P **P 23 01 44.3 +1.6**
SNR=14
TIR Tirane 23.62 299 P **P 23 01 43.8 +0.7**
TIR pmax pmax
comp=Z,35nm,1.1s
TIR Tirane 23.62 299 P **P 23 01 43.8 +0.7**
TIR IAmb IAmb 23 02 01.1
comp=Z,35nm,1.1s
KBK Karagaybulak 23.63 58 P **P 23 01 46.0 +2.7**
SNR=12
KZA Kyzart 23.70 59 P **P 23 01 47.5 +3.2**
SNR=6.7
BZS Buzias 23.71 310 ⇓P **P 23 01 44.1 +0.2**
KSH Kashi 23.77 66 P **P 23 01 42.0 -2.7**
KSH S **S 23 05 51.0 -8.1**
KSH SS **SnSn 23 06 37.8 0.0**
KSH pmax pmax
comp=Z,48nm,0.9s
KSH pmax pmax
comp=Z,610nm,5.2s
KSH LR LR
comp=Z,890nm,7.6s
KSH LR LR
comp=Z,1μm,11.3s
KSH LR LR
comp=Z,2μm,14.7s
MOS Moscow 23.92 346 *eP* **P 23 01 44.8 -0.9**
MOS *e* 23 02 13.9
MOS *eS* **S 23 06 03.4 +2.6**
MOS pmax pmax
comp=Z,58nm,0.8s
BANR Banloc 23.93 309 ⇓P **P 23 01 47.3 +1.3**
SIRR Siria 23.95 312 ⇑P **P 23 01 47.7 +1.5**
NRN Naryn 24.11 61 P **P 23 01 48.8 +0.7**
NRN pmax pmax
comp=Z,26nm,0.8s
NRN Naryn 24.11 61 P **P 23 01 48.8 +0.7**
NRN IAmb IAmb 23 01 51.8
comp=Z,26nm,0.8s
TKM2 Tokmak 2 24.16 57 P **P 23 01 49.8 +1.4**
SNR=18
DIVS Divibare 24.25 306 *eP* **P 23 01 49.5 +0.4**
TRPA Tarpa 24.27 316 ⇓P **P 23 01 50.8 +1.7**
TRPA mb 23 01 55.0
TRPA Tarpa 24.27 316 *eP* **P 23 01 50.0 +1.0**
DRME Dracevica, Mon 24.30 301 *eP* **P 23 01 49.2 -0.3**
PDG Podgorica 24.31 301 *eP* **P 23 01 48.6 -0.9**
PDG Podgorica 24.31 301 ⇓P **P 23 01 49.5 0.0**
PDG mb 23 02 00.8
LVV L'vov 24.35 321 *eP* **P 23 01 49.8 0.0**
SCTE Santa Cesarea 24.45 295 P **P 23 01 50.4 -0.4**
SCTE IAmb IAmb 23 02 02.5
comp=Z,28nm,0.9s
RUDO Rudo 24.54 304 *eP* **P 23 01 51.8 +0.2**
BBLS Lazići 24.59 305 *eP* **P 23 01 52.9 +0.8**
BBLS Lazići 24.59 305 *eP* **P 23 01 52.9 +0.8**
UZH Uzhgorod 24.67 317 *i* P **P 23 01 51.0 -1.6**
UZH *i* 23 02 05.6
UZH *e* 23 02 27.8
FRGS Fruska Gora 24.72 308 *eP* **P 23 01 53.4 +0.1**
ARU Arti 24.76 15 *d i* P **P 23 01 54.4 +1.0**
ARU S **S 23 06 18.7 +4.3**
ARU SS **SnSn 23 07 02.4 +0.8**
ARU pmax pmax
comp=Z,29nm,0.9s
ARU Arti 24.76 15 P **P 23 01 53.3 -0.1**
comp=Z,4.3nm,0.7s,baz=190,slow=6.4,SNR=22
ARU ScP **ScP 23 09 07.1 -0.1**
comp=Z,2.2nm,0.8s,baz=322,slow=3.5,SNR=6.7
ARU LR LR 23 15 06.6
comp=Z,154nm,19.2s,baz=172,slow=45
ARU Arti 24.76 15 P **P 23 01 54.2 +0.7**
ARU IAmb IAmb 23 01 56.2
comp=Z,25nm,0.9s
ARU **ScP 23 09 06.9 -0.3**
KOLS Kolonicke sedl 24.83 318 *eP* **P 23 01 56.1 +1.9**
KOLS pmax pmax
comp=Z,36nm,0.8s
KOLS Kolonicke sedl 24.83 318 *eP* **P 23 01 56.1 +1.9**
HCY Herceg Novi 24.86 301 *eP* **P 23 01 53.9 -0.6**
BRY Bratogost 24.94 302 *eP* **P 23 01 55.2 -0.1**
KWP Kalwaria Pacla 24.96 320 P **P 23 01 56.6 +1.3**
KWP pmax pmax
comp=Z,62nm,1.4s
HAPS Han Pijesak,Bl 24.96 305 *eP* **P 23 01 55.3 -0.2**
TREB Trebinje 25.03 302 *eP* **P 23 01 55.8 -0.2**
KDJ Kajisay 25.11 60 P **P 23 01 58.4 +1.4**
KDJ pmax pmax
comp=Z,65nm,1.1s
KDJ Kajisay 25.11 60 P **P 23 01 58.4 +1.4**
FURI Furi 25.24 201 P **P 23 02 03.0 +4.5**
FURI IAmb IAmb 23 02 07.2
comp=Z,49nm,1.1s
BSZH Besenyszg 25.25 313 *eP* **P 23 02 00.0 +2.1**
TARG Taragay, Kyrgy 25.49 61 P **P 23 02 01.3 +0.6**
TARG IAmb IAmb 23 02 03.5
comp=Z,19nm,0.8s
STON Ston 25.53 302 *eP* **P 23 02 00.1 -0.4**
SVE Sverdlovsk 25.60 17 *eP* **P 23 02 01.8 +0.8**
SVE pmax pmax
comp=Z,29nm,1.2s
TIP Timpagrande 25.67 293 ⇑P **P 23 02 02.1 +0.2**
TIP mb 23 02 08.6
TIP Timpagrande 25.67 293 IAmb IAmb 23 02 07.6
comp=Z,14nm,0.9s
PSZ Piszkesteto 25.75 314 P **P 23 02 04.2 +1.7**
PSZ pmax pmax
comp=Z,39nm,1.4s
PSZ Piszkesteto 25.75 314 ⇓P **P 23 02 04.0 +1.5**
PSZ mb 23 02 06.2
PSZ Piszkesteto 25.75 314 *eP* **P 23 02 04.1 +1.5**
PSZ Piszkesteto 25.75 314 IAmb IAmb 23 02 06.1
comp=Z,37nm,1.0s
MICGM Minsk 25.75 333 *e* **P 23 02 02.0 -0.4**
MNK Minsk 25.75 333 *eP* **P 23 02 02.0 -0.4**
KIRV Kirov 25.76 2 P **P 23 02 03.0 +0.6**
KIRV Kirov 25.76 2 P **P 23 02 03.0 +0.6**
comp=Z,49nm,0.7s,baz=185,slow=5.1,SNR=19
KIRV LR LR 23 14 22.6
comp=Z,357nm,18.1s,baz=165,slow=42
MORH Mrgy, Hungar 25.86 310 *eP* **P 23 02 04.1 +0.6**
MATE Matera 25.86 296 ⇑P **P 23 02 03.8 +0.3**
MATE mb 23 02 09.9
BRVK Borovoye 25.93 32 *ceP* **P 23 02 05.0 +0.9**
BRVK pmax pmax
comp=Z,21nm,1.0s
BRVK Borovoye 25.93 32 P **P 23 02 04.8 +0.7**
BRVK IAmb IAmb 23 02 12.7
comp=Z,17nm,0.8s
BVAR Borovoye Array 25.96 32 P **P 23 02 05.2 +0.8**
comp=Z,11nm,0.8s,baz=227,slow=7.6,SNR=57
BVAR PcP **PcP 23 05 32.9 +0.5**
comp=Z,2.2nm,0.3s,baz=170,slow=2.8,SNR=12
BVAR ScP **ScP 23 09 10.1 -0.7**
comp=Z,1.6nm,0.5s,baz=186,slow=2.8,SNR=12
BUD Budapest 26.10 312 P **P 23 02 07.0 +1.4**
BUD pmax pmax
comp=Z,57nm,0.9s
NIE Niedzica 26.20 317 P **P 23 02 08.3 +1.7**
NIE pmax pmax
comp=Z,11nm,1.6s
CEL Celeste 26.29 291 P **P 23 02 07.7 +0.2**
CEL IAmb IAmb 23 02 14.0
comp=Z,23nm,0.7s
BLY Banja Luka 26.37 306 ⇓P **P 23 02 09.3 +1.2**
BLY mb 23 02 14.1
ACER Acerenza 26.45 296 P **P 23 02 10.1 +1.1**
NACGM Naroch 26.48 333 *e* **P 23 02 09.0 +0.1**
CSKK Cskako 26.53 312 *eP* **P 23 02 10.0 +0.5**
LANS Liptovska Anna 26.55 316 *eP* **P 23 02 11.5 +1.7**
LANS pmax pmax
comp=Z,18nm,1.0s
LANS Liptovska Anna 26.55 316 *eP* **P 23 02 11.5 +1.7**
TIH Tihany 26.59 311 *eP* **P 23 02 11.1 +1.0**
VYHS Vyhne 26.63 314 *eP* **P 23 02 12.0 +1.5**
VYHS pmax pmax
comp=Z,16nm,1.0s
VYHS Vyhne 26.63 314 *eP* **P 23 02 12.0 +1.5**
SRO Srobarova 26.67 313 *eP* **P 23 02 12.2 +1.4**
SRO pmax pmax
comp=Z,36nm,1.0s
SRO Srobarova 26.67 313 *eP* **P 23 02 12.2 +1.4**
SGRT San Giovanni R 26.74 299 P **P 23 02 12.2 +0.6**
OJC Ojcow 26.87 318 P **P 23 02 13.5 +0.9**
OJC pmax pmax
comp=Z,57nm,1.4s
MPLH Magyarpolny 26.91 311 *eP* **P 23 02 14.0 +1.0**
KOLL Kolacno 26.93 314 *eP* **P 23 02 14.8 +1.7**
IIGN Ignalina 27.02 333 *eP* **P 23 02 14.2 +0.3**
IIGN IAmb IAmb 23 02 16.1
comp=Z,24nm,0.7s
PDGK Podgornoye 27.03 58 *i* P **P 23 02 14.4 +0.1**
PDGK pmax pmax
comp=Z,13nm,1.1s
ISAL Salakas 27.22 333 *eP* **P 23 02 16.2 +0.5**
ISAL IAmb IAmb 23 02 17.9
comp=Z,23nm,0.9s
IZAR Zarasai 27.31 333 *eP* **P 23 02 16.7 +0.2**
IZAR IAmb IAmb 23 02 18.9
comp=Z,27nm,1.0s
SUW Suwalki 27.36 328 P **P 23 02 17.2 +0.3**
SUW pmax pmax
comp=Z,74nm,1.0s
SMOL Smolenice 27.49 314 *eP* **P 23 02 19.0 +0.8**
SMOL pmax pmax
comp=Z,11nm,1.2s
SMOL Smolenice 27.49 314 *eP* **P 23 02 19.0 +0.8**
KOGS Kog 27.50 309 *eP* **P 23 02 19.7 +1.5**
PAOL Paolisi 27.52 297 P **P 23 02 18.8 +0.2**
MODS Modra-Piesok 27.53 313 *eP* **P 23 02 19.0 +0.4**
MODS pmax pmax
comp=Z,49nm,1.6s
MODS Modra-Piesok 27.53 313 *eP* **P 23 02 19.0 +0.4**
OKC Ostrava-Krasne 27.63 317 *eP* **P 23 02 20.1 +0.7**
OKC *e* 23 02 35.4
OKC Ostrava-Krasne 27.63 317 *eP* **P 23 02 20.1 +0.7**
OKC *ex* x 23 02 35.4
CRES Cresnjev 27.84 307 *eP* **P 23 02 22.8 +1.4**
CRES Cresnjev 27.84 307 *eP* **P 23 02 22.1 +0.7**
MORC Moravsky Berou 27.95 316 P **P 23 02 22.4 0.0**
MORC pmax pmax
comp=Z,14nm,1.1s
MORC Moravsky Berou 27.95 316 *eP* **P 23 02 22.9 +0.5**
MORC Moravsky Berou 27.95 316 P **P 23 02 22.4 0.0**
MORC IAmb IAmb 23 02 31.3
comp=Z,14nm,1.1s
PABE Paberze 28.03 331 *eP* **P 23 02 22.3 -0.6**
INTR Introdacqua 28.14 299 P **P 23 02 24.1 -0.1**
ARSA Arzberg 28.23 310 *i* pP **P 23 02 26.8 +1.9**
comp=Z,12nm,1.4s
CONA Conrad Observa 28.24 312 *i* pP **P 23 02 25.8 +0.8**
comp=Z,22nm,1.1s,SNR=10
VRAC Vranov 28.32 315 P **P 23 02 26.6 +1.1**
comp=Z,6.5nm,0.9s,baz=113,slow=9.8,SNR=11
VRAC Vranov 28.32 315 ⇓P **P 23 02 26.4 +0.7**
VRAC mb 23 02 32.2
VRAC Vranov 28.32 315 *eP* **P 23 02 26.3 +0.7**
KRUC Moravsky 28.34 314 P **P 23 02 26.7 +0.9**
KRUC pmax pmax
comp=Z,15nm,1.1s
KRUC Moravsky 28.34 314 *eP* **P 23 02 26.5 +0.7**
SOKA Soboth 28.37 309 *i* pP **P 23 02 28.0 +1.8**
comp=Z,11nm,1.4s
CLTB Caltabellotta 28.40 289 P **P 23 02 26.1 -0.5**
CEY Cerknica 28.51 307 *eP* **P 23 02 27.9 +0.5**
LJU Ljubljana 28.52 307 *eP* **P 23 02 29.1 +1.6**
AQU L'Aquila 28.55 299 P **P 23 02 28.6 +0.8**
AQU pmax pmax
comp=Z,8.0nm,0.8s
AQU L'Aquila 28.55 299 P **P 23 02 28.6 +0.8**
OBKA Obir 28.64 308 *i* pP **P 23 02 30.9 +2.3**
comp=Z,23nm,1.5s
KURBB Kurchatov Arra 28.81 43 P **P 23 02 31.1 +1.2**
comp=Z,12nm,0.7s,baz=248,slow=9.3,SNR=66
KURBB PcP **PcP 23 05 39.7 +0.4**
comp=Z,1.8nm,0.7s,baz=249,slow=2.6,SNR=6.6
KURBB ScP **ScP 23 09 18.8 -0.6**
comp=Z,2.7nm,0.8s,baz=248,slow=4.0,SNR=16
PRGR Permogore 28.82 358 *eP* **P 23 02 26.8 -3.1**
PRGR pmax pmax
comp=Z,14nm,0.9s
NRCA Norcia 28.83 300 P **P 23 02 30.7 +0.4**
NRCA IAmb IAmb 23 02 44.8
comp=Z,13nm,1.0s
KURK Kurchatov 28.90 43 *ceP* **P 23 02 32.3 +1.6**
KURK pmax pmax
comp=Z,36nm,1.3s
KURK Kurchatov 28.90 43 P **P 23 02 31.6 +0.9**
KURK IAmb IAmb 23 02 33.0
comp=Z,21nm,0.8s
KURK Kurchatov 28.90 43 **ScP 23 09 19.1 -0.6**
KURK Kurchatov 28.90 43 **PcP 23 05 39.7 +0.2**
DPC Dobruska-Polom 28.91 317 *eP* **P 23 02 31.4 +0.5**
DPC Dobruska-Polom 28.91 317 *eP* **P 23 02 31.4 +0.5**

TREC	**Trest**	**28.98**	**314**	P	**P**	**23 02 32.3**	**+0.8**
TREC				pmax	pmax		
	comp=Z,6.0nm,1.9s						
OSTC	**Ostas**	**29.06**	**317**	*e*P	**P**	**23 02 32.9**	**+0.7**
UPC	**Upice**	**29.16**	**317**	*e*P	**P**	**23 02 33.6**	**+0.6**
UPC	**Upice**	**29.16**	**317**	*e*P	**P**	**23 02 33.6**	**+0.6**
CHVC	**Chvalec**	**29.17**	**317**	*e*P	**P**	**23 02 33.7**	**+0.6**
VSU	**Vasula**	**29.23**	**337**	*ce*P	**P**	**23 02 34.1**	**+0.6**
VSU				pmax	pmax		
	comp=Z,83nm,1.3s						
VSU	**Vasula**	**29.23**	**337**	*e*P	**P**	**23 02 33.2**	**-0.3**
MOA	**Molln**	**29.23**	**311**	*i* pP	**P**	**23 02 34.7**	**+1.0**
	comp=Z,21nm,1.1s						
PUL	**Pulkovo**	**29.27**	**342**	*ce*P	**P**	**23 02 35.2**	**+1.4**
PUL				pmax	pmax		
	comp=Z,111nm,1.3s						
MYKA	**Terra Mystica**	**29.27**	**308**	*i* pP	**P**	**23 02 36.8**	**+2.6**
	comp=Z,8.4nm,1.3s						
MURB	**Monte Urbino**	**29.33**	**301**	IAmb	IAmb	23 02 53.8	
	comp=Z,16nm,0.9s						
MAKZ	**Makanchi**	**29.58**	**52**	P	**P**	**23 02 38.5**	**+1.7**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MAKZ	**Makanchi**	**29.58**	**52**	P	**P**	**23 02 38.5**	**+1.7**
KBA	**Koelnbreinsper**	**29.59**	**309**	P	**P**	**23 02 38.1**	**+0.9**
KBA				pmax	pmax		
	comp=Z,19nm,1.3s						
KBA	**Koelnbreinsper**	**29.59**	**309**	*i* pP	**P**	**23 02 38.1**	**+0.9**
	comp=Z,16nm,0.9s,SNR=7.2						
GOPC	**GO Pecny, Ondr**	**29.64**	**315**	*e*P	**P**	**23 02 37.2**	**-0.1**
GOPC	**GO Pecny, Ondr**	**29.64**	**315**	*e*P	**P**	**23 02 37.2**	**-0.1**
LATE	**Laterza**	**29.76**	**300**	P	**P**	**23 02 39.0**	**+0.6**
LATE				IAmb	IAmb	23 02 45.4	
	comp=Z,18nm,1.0s						
MK31	**Makanchi Array**	**29.78**	**52**	P	**P**	**23 02 39.8**	**+1.1**
MK31				pmax	pmax		
	comp=Z,12nm,0.9s						
MK31	**Makanchi Array**	**29.78**	**52**	P	**P**	**23 02 39.8**	**+1.1**
MK31				IAmb	IAmb	23 02 41.3	
	comp=Z,12nm,0.9s						
MKAR	**Makanchi Array**	**29.78**	**52**	P	**P**	**23 02 39.9**	**+1.3**
	comp=Z,9.5nm,0.8s,baz=247,slow=7.2,SNR=70						
MKAR				PcP	**PcP**	**23 05 41.9**	**0.0**
	comp=Z,1.3nm,0.7s,baz=268,slow=2.2,SNR=4.2						
MKAR				ScP	**ScP**	**23 09 21.1**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=259,slow=1.5,SNR=5.9						
MKAR				LR	LR	23 15 43.8	
	comp=Z,91nm,18.3s,baz=254,slow=39						
STAL	**STALIGIAL**	**29.80**	**307**	P	**P**	**23 02 38.9**	**+0.1**
PRU	**Pruhonice**	**29.81**	**315**	*e*P	**P**	**23 02 39.5**	**+0.7**
PRU	**Pruhonice**	**29.81**	**315**	*e*P	**P**	**23 02 39.5**	**+0.7**
GEC2	**GERESS Array S**	**29.91**	**312**	P	**P**	**23 02 40.5**	**+0.7**
GERES	**GERESS Array B**	**29.91**	**312**	*e*P	**P**	**23 02 40.1**	**+0.3**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**29.91**	**312**	P	**P**	**23 02 40.2**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=108,slow=8.6,SNR=18						
GERES				PcP	**PcP**	**23 05 42.8**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=101,slow=1.4,SNR=7.5						
GERES				ScP	**ScP**	**23 09 24.1**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=130,slow=2.1,SNR=8.0						
PVCC	**Panska Ves**	**30.01**	**316**	*e*P	**P**	**23 02 41.0**	**+0.5**
PVCC	**Panska Ves**	**30.01**	**316**	*e*P	**P**	**23 02 41.0**	**+0.5**
PBCC	**Pribram**	**30.03**	**314**	*e*P	**P**	**23 02 40.6**	**-0.1**
ABTA	**Abfaltersbach**	**30.05**	**308**	*i* pP	**P**	**23 02 42.8**	**+1.7**
	comp=Z,13nm,1.0s						
KHC	**Kasperske Hory**	**30.09**	**313**	*e*P	**P**	**23 02 41.7**	**+0.4**
KHC	**Kasperske Hory**	**30.09**	**313**	*e*P	**P**	**23 02 41.7**	**+0.4**
TEOL	**Teolo**	**30.31**	**305**	P	**P**	**23 02 43.9**	**+0.6**
TEOL				IAmb	IAmb	23 02 49.7	
	comp=Z,16nm,1.1s						
CASP	**Castiglione de**	**30.47**	**300**	P	**P**	**23 02 45.6**	**+0.9**
BRG	**Berggiesshubel**	**30.51**	**316**	*e*P	**P**	**23 02 45.6**	**+0.7**
	comp=Z,8.3nm,1.2s						
BRG	**Berggiesshubel**	**30.51**	**316**	*e*P	**P**	**23 02 45.6**	**+0.7**
BRG				pmax	pmax		
	comp=Z,8.0nm,1.2s						
WET	**Wettzell**	**30.52**	**313**	P	**P**	**23 02 47.8**	**+2.6**
WET				pmax	pmax		
	comp=Z,12nm,1.2s						
ZCCA	**Zocca**	**30.61**	**303**	P	**P**	**23 02 46.7**	**+0.7**
WTTA	**Wattenberg**	**30.77**	**309**	*i* pP	**P**	**23 02 47.8**	**+0.3**
	comp=Z,15nm,0.7s,SNR=7.8						
WATA	**Walderalm**	**30.82**	**309**	*i* P	**PcP**	**23 05 45.7**	**+0.9**
	comp=Z,1.5nm,0.3s						
WATA	**Walderalm**	**30.82**	**309**	*i* P	**P**	**23 02 48.0**	**0.0**
	comp=Z,20nm,0.8s,SNR=10						
VLC	**Villacollemand**	**31.00**	**302**	P	**P**	**23 02 49.7**	**+0.3**
SQTA	**Sankt Quirin**	**31.04**	**308**	*i* P	**PcP**	**23 05 46.4**	**+1.1**
	comp=Z,2.3nm,0.5s						
SQTA	**Sankt Quirin**	**31.04**	**308**	*i* P	**P**	**23 02 50.0**	**+0.1**
	comp=Z,13nm,0.5s,SNR=6.4						
MOTA	**Moosalm**	**31.14**	**309**	*i* P	**PcP**	**23 05 46.7**	**+1.1**
	comp=Z,1.5nm,0.6s						
MOTA	**Moosalm**	**31.14**	**309**	*i* P	**P**	**23 02 50.7**	**-0.1**
	comp=Z,29nm,1.3s,SNR=6.5						
SALO	**Salr**	**31.15**	**305**	P	**P**	**23 02 50.8**	**+0.1**
NKC	**Novy Kostel**	**31.16**	**314**	*e*P	**P**	**23 02 51.3**	**+0.6**
NKC	**Novy Kostel**	**31.16**	**314**	*e*P	**P**	**23 02 51.3**	**+0.6**
CLL	**Collm**	**31.22**	**317**	*e*P	**P**	**23 02 52.0**	**+0.7**
CLL				pmax	pmax		
	comp=Z,16nm,1.2s						
CLL	**Collm**	**31.22**	**317**	*e*P	**P**	**23 02 52.0**	**+0.7**
	comp=Z,16nm,1.2s						
CLL	**Collm**	**31.22**	**317**	P	**P**	**23 02 51.9**	**+0.6**
CLL				IAmb	IAmb	23 02 53.9	
	comp=Z,11nm,1.1s						
FUR	**Furstenfeldbru**	**31.24**	**310**	P	**P**	**23 02 51.9**	**+0.4**
FUR				pmax	pmax		
	comp=Z,68nm,1.1s						
FETA	**Feichten**	**31.31**	**308**	*i* PcP	**PcP**	**23 05 47.4**	**+1.4**
	comp=Z,3.2nm,0.8s						
FETA	**Feichten**	**31.31**	**308**	*i* pP	**P**	**23 02 53.5**	**+1.3**
	comp=Z,28nm,1.2s,SNR=5.8						
DANN	**Dangsing**	**31.33**	**89**	*e*P	**P**	**23 02 53.9**	**+1.0**
	comp=Z,147nm,0.8s						
RETA	**Reutte**	**31.40**	**309**	*i* PcP	**PcP**	**23 05 47.3**	**+1.1**
	comp=Z,0.4nm,0.2s						
RETA	**Reutte**	**31.40**	**309**	*i* P	**P**	**23 02 52.8**	**-0.2**
	comp=Z,4.7nm,0.5s						
LODK	**Lodwar**	**31.45**	**204**	P	**P**	**23 02 55.8**	**+2.2**
	SNR=19						
FUORN	**Ofenpass-Fuorn**	**31.53**	**307**	P	**P**	**23 02 55.1**	**+0.8**
FUORN				IAmb	IAmb	23 02 59.2	
	comp=Z,12nm,1.1s						
KEST	**Kesra**	**31.62**	**286**	P	**P**	**23 02 55.6**	**+0.6**
	comp=Z,4.6nm,1.0s,baz=1.4,slow=1.2,SNR=5.8						
MSSA	**Maissana**	**31.64**	**302**	P	**P**	**23 02 54.6**	**-0.4**
MSSA				IAmb	IAmb	23 03 09.3	
	comp=Z,29nm,1.1s						
GRA1	**Grafenberg Arr**	**31.72**	**313**	P	**P**	**23 02 54.2**	**-1.5**
GRF	**Grafenberg Arr**	**31.72**	**313**	P	**P**	**23 02 54.2**	**-1.5**
GRF				pmax	pmax		
	comp=Z,26nm,0.9s						
HYB	**Hyderabad**	**31.80**	**111**	*i* P	**P**	**23 02 57.0**	**+0.3**
JOF	**Joensuu**	**31.81**	**346**	P	**P**	**23 02 56.8**	**+0.6**
FIA1	**FINESS Array S**	**31.82**	**340**	P	**P**	**23 02 55.4**	**-1.0**
FIA1				IAmb	IAmb	23 02 57.4	
	comp=Z,19nm,0.9s						
FINES	**FINESS Array B**	**31.82**	**340**	P	**P**	**23 02 56.3**	**0.0**
	comp=Z,12nm,0.8s,baz=144,slow=9.6,SNR=58						
FINES				LR	LR	23 16 46.7	
	comp=Z,122nm,20.1s,baz=104,slow=38						
TMCR	**Tamitsa**	**31.89**	**352**	*e*P	**P**	**23 02 55.1**	**-1.9**
TMCR				pmax	pmax		
	comp=Z,59nm,1.5s						
BSD	**Bornholm Skovb**	**31.91**	**324**	*i* P	**P**	**23 02 57.0**	**-0.2**
BSD				pmax	pmax		
	comp=Z,7.0nm,0.3s						
BSD	**Bornholm Skovb**	**31.91**	**324**	*i* P	**P**	**23 02 57.0**	**-0.2**
	comp=Z,7.3nm,0.3s						
DAVA	**Damuels**	**31.93**	**308**	*i* PcP	**PcP**	**23 05 48.7**	**+1.0**
	comp=Z,1.3nm,0.4s						
DAVA	**Damuels**	**31.93**	**308**	*i* P	**P**	**23 02 57.7**	**-0.1**
	comp=Z,17nm,0.5s,SNR=7.3						
DMN	**Daman**	**32.69**	**89**	*e*P	**P**	**23 03 05.4**	**+0.6**
KKN	**Kakani**	**32.78**	**89**	*e*P	**P**	**23 03 06.2**	**+0.7**
	comp=Z,60nm,0.6s						
SUF	**Sumiainen**	**32.84**	**342**	P	**P**	**23 03 05.9**	**+0.6**
SUF				pmax	pmax		
	comp=Z,54nm,1.0s						
PKIN	**Phulchoki**	**32.95**	**89**	*e*P	**P**	**23 03 07.5**	**+0.5**
	comp=Z,34nm,0.6s						
SLE	**Schleitheim**	**32.95**	**309**	P	**P**	**23 03 06.8**	**+0.2**
SLE				pmax	pmax		
	comp=Z,15nm,2.2s						
PKI	**Pulchoki**	**32.96**	**89**	*e*P	**P**	**23 03 07.8**	**+0.6**
WMQ	**Urumqi**	**32.99**	**59**	*e*P	**P**	**23 03 08.5**	**+1.5**
WMQ				sP	sP	23 03 15.8	-0.5
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,150nm,4.3s						
WMQ	**Urumqi**	**32.99**	**59**	P	**P**	**23 03 06.8**	**-0.2**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ	**Urumqi**	**32.99**	**59**	P	**P**	**23 03 06.8**	**-0.2**
WMQ				IAmb	IAmb	23 03 09.3	
	comp=Z,10nm,0.7s						
BFO	**Black Forest**	**33.19**	**309**	P	**P**	**23 03 09.4**	**+0.8**
BFO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BFO	**Black Forest**	**33.19**	**309**	P	**P**	**23 03 09.4**	**+0.8**
GUN	**Gumba**	**33.25**	**88**	*e*P	**P**	**23 03 10.5**	**+0.8**
	comp=Z,97nm,0.7s						
SENIN	**Lac Senin/Sane**	**33.49**	**306**	P	**P**	**23 03 11.6**	**+0.1**
SENIN				IAmb	IAmb	23 03 19.0	
	comp=Z,15nm,1.1s						
JIRN	**Jiri**	**33.59**	**89**	*e*P	**P**	**23 03 13.6**	**+0.9**
TNS	**Taunus Mts**	**33.59**	**313**	P	**P**	23 03 17.1	+5.0
TNS				pmax	pmax		
	comp=Z,22nm,1.7s						
ZAA0	**Zalesovo Array**	**33.72**	**40**	IAmb	IAmb	23 03 14.3	
	comp=Z,18nm,0.9s						
ZALV	**Zalesovo Beam**	**33.72**	**40**	*e*P	**P**	**23 03 13.6**	**+0.6**
ZALV				pmax	pmax		
	comp=Z,19nm,0.9s						
ZALV	**Zalesovo Beam**	**33.72**	**40**	P	**P**	**23 03 13.4**	**+0.4**
	comp=Z,19nm,0.9s,baz=253,slow=9.3,SNR=64						
ZALV				PcP	**PcP**	**23 05 51.8**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=250,slow=4.3,SNR=3.2						
ZALV				LR	LR	23 20 22.3	
	comp=Z,85nm,21.4s,baz=189,slow=42						
BNI	**Bardonecchia**	**33.74**	**303**	P	**P**	**23 03 14.3**	**+0.7**
BNI				pmax	pmax		
	comp=Z,61nm,1.2s						
RSL	**Roselend**	**33.86**	**304**	P	**P**	**23 03 14.9**	**+0.3**
RSL				pmax	pmax		
	comp=Z,34nm,1.4s						
ECH	**Echery**	**33.93**	**309**	P	**P**	**23 03 15.3**	**+0.3**
ECH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ECH	**Echery**	**33.93**	**309**	P	**P**	**23 03 15.3**	**+0.3**
VAF	**Ylistaro**	**34.06**	**340**	P	**P**	**23 03 16.3**	**+0.4**
VAF				pmax	pmax		
	comp=Z,55nm,0.9s						
RAMN	**Ramite**	**34.16**	**90**	*e*P	**P**	**23 03 17.8**	**+0.2**
	comp=Z,53nm,0.6s						
ODAN	**Odare**	**34.86**	**89**	*e*P	**P**	**23 03 23.9**	**+0.3**
	comp=Z,35nm,0.7s						
OUL	**Oulu**	**34.88**	**344**	P	**P**	**23 03 22.9**	**-0.1**
OUL				pmax	pmax		
	comp=Z,49nm,0.9s						
WLF	**Walferdange**	**34.89**	**311**	P	**P**	**23 03 24.7**	**+1.4**
WLF				pmax	pmax		
	comp=Z,14nm,1.1s						
WLF	**Walferdange**	**34.89**	**311**	P	**P**	**23 03 24.7**	**+1.4**
WLF				IAmb	IAmb	23 03 24.8	
	comp=Z,14nm,1.1s						
MSF	**Maaselka**	**34.93**	**347**	P	**P**	**23 03 23.7**	**+0.3**
TAPN	**Taplejung**	**34.97**	**88**	*e*P	**P**	**23 03 25.2**	**+0.6**
HMDM	**Hanimaadhoo**	**35.18**	**132**	P	**P**	**23 03 24.9**	**-1.2**
KMBO	**Kilima Mbogo**	**35.19**	**198**	P	**P**	**23 03 26.3**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=40,slow=11,SNR=3.2						
KMBO				LR	LR	23 18 09.4	
	comp=Z,172nm,19.0s,baz=86,slow=37						
KMBO	**Kilima Mbogo**	**35.19**	**198**	IAmb	IAmb	23 03 34.5	
	comp=Z,4.2nm,1.1s						
SSB	**Saint Sauveur**	**35.27**	**303**	P	**P**	**23 03 25.9**	**-0.8**
SSB				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SSB	**Saint Sauveur**	**35.27**	**303**	P	**P**	**23 03 25.9**	**-0.8**
MUD	**Monsted U'grnd**	**35.40**	**323**	*i* P	**P**	**23 03 29.0**	**+1.4**
MUD	**Monsted U'grnd**	**35.40**	**323**	*i* P	**P**	**23 03 29.0**	**+1.4**
LVZ	**Lovozero**	**35.88**	**352**	P	**P**	**23 03 32.5**	**+0.8**
LVZ				pmax	pmax		
	comp=Z,22nm,1.0s						
LVZ	**Lovozero**	**35.88**	**352**	P	**P**	**23 03 32.5**	**+0.8**
LVZ				IAmb	IAmb	23 03 38.3	
	comp=Z,22nm,1.0s						
OSL	**Oslo**	**36.35**	**329**	*e*P	**P**	**23 03 35.7**	**+0.1**
NC602	**NORSAR Array S**	**36.43**	**331**	P	**P**	**23 03 36.5**	**+0.1**
NORES	**NORESS Array B**	**36.43**	**331**	P	**P**	**23 03 35.6**	**-0.8**
NORES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HOMB	**Homborsund**	**36.53**	**326**	*e*P	**P**	**23 03 37.4**	**+0.2**
NC405	**NORSAR Array S**	**36.57**	**331**	P	**P**	**23 03 37.3**	**-0.3**
KONO	**Kongsberg**	**36.69**	**328**	P	**P**	**23 03 38.4**	**-0.2**
KONO				pmax	pmax		
	comp=Z,20nm,1.2s						
KONO	**Kongsberg**	**36.69**	**328**	*e*P	**P**	**23 03 38.0**	**-0.6**
KONO	**Kongsberg**	**36.69**	**328**	P	**P**	**23 03 38.4**	**-0.2**
KONO				IAmb	IAmb	23 03 53.3	
	comp=Z,20nm,1.1s						
NB201	**NORSAR Array S**	**36.71**	**331**	P	**P**	**23 03 37.6**	**-1.2**
NB2	**NORSAR Subarra**	**36.73**	**331**	P	**P**	**23 03 38.4**	**-0.7**
	comp=Z,10nm,0.9s,baz=124,slow=8.6						
NB2	**NORSAR Subarra**	**36.73**	**331**	P	**P**	**23 03 38.4**	**-0.7**
	baz=124,slow=8.6						
NOA	**NORSAR Array B**	**36.73**	**331**	*e*P	**P**	**23 03 38.3**	**-0.7**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
NOA	**NORSAR Array B**	**36.73**	**331**	P	**P**	**23 03 38.4**	**-0.7**
	comp=Z,5.1nm,0.7s,baz=125,slow=8.6,SNR=21						
NOA				LR	LR	23 20 09.4	
	comp=Z,92nm,18.6s,baz=110,slow=38						
SGF	**Sodankyl**	**36.76**	**347**	P	**P**	**23 03 39.7**	**+0.6**
SGF				pmax	pmax		
	comp=Z,30nm,2.5s						
NAO01	**NORSAR Array S**	**36.76**	**331**	P	**P**	**23 03 38.8**	**-0.5**
NAO01				IAmb	IAmb	23 03 44.7	
	comp=Z,28nm,1.0s						
NC303	**NORSAR Array S**	**36.77**	**331**	*e*P	**P**	**23 03 38.7**	**-0.6**
NC303	**NORSAR Array S**	**36.77**	**331**	P	**P**	**23 03 38.2**	**-1.1**
MBAR	**Mbarara**	**36.89**	**209**	*i* P	**P**	**23 03 42.0**	**+1.0**
MBAR	**Mbarara**	**36.89**	**209**	P	**P**	**23 03 41.2**	**+0.3**
	comp=Z,2.3nm,0.3s,baz=34,slow=9.0,SNR=8.5						
NBO00	**NORSAR Array S**	**36.91**	**331**	P	**P**	**23 03 39.9**	**-0.6**
NBO00				IAmb	IAmb	23 03 40.4	
	comp=Z,41nm,1.1s						
NC204	**NORSAR Array S**	**37.05**	**331**	P	**P**	**23 03 40.8**	**-0.9**
NC204				IAmb	IAmb	23 03 46.7	
	comp=Z,11nm,0.8s						
LSA	**Lhasa**	**37.15**	**83**	P	**P**	**23 03 43.9**	**+0.5**
LSA	**Lhasa**	**37.15**	**83**	P	**P**	**23 03 42.6**	**-0.8**
LSA				pmax	pmax		
	comp=Z,21nm,0.7s						
LSA	**Lhasa**	**37.15**	**83**	P	**P**	**23 03 42.6**	**-0.8**
LSA				IAmb	IAmb	23 03 46.1	
	comp=Z,21nm,0.7s						
SKAR	**Skarslia**	**37.76**	**329**	*e*P	**P**	**23 03 48.4**	**+0.6**
MSEY	**Mahe Island**	**38.06**	**167**	P	**P**	**23 03 50.5**	**-0.2**
MSEY				pmax	pmax		
	comp=Z,29nm,1.1s						
MSEY	**Mahe Island**	**38.06**	**167**	P	**P**	**23 03 50.5**	**-0.2**
MSEY				IAmb	IAmb	23 03 51.8	
	comp=Z,29nm,1.1s						
ODD1	**Odda**	**38.14**	**328**	*e*P	**P**	**23 03 52.2**	**+1.3**
DOMB	**Dombas**	**38.15**	**332**	*e*P	**P**	**23 03 51.1**	**+0.1**
TAM	**Tamanrasset**	**38.34**	**266**	P	**P**	**23 03 51.9**	**-1.3**
TAM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TAM	**Tamanrasset**	**38.34**	**266**	P	**P**	**23 03 51.9**	**-1.3**
TBLU	**Trondheim**	**38.35**	**334**	*e*P	**P**	**23 03 52.0**	**-0.6**
NSS	**Namsos**	**38.50**	**336**	*e*P	**P**	**23 03 54.2**	**+0.4**
KTK1	**Kautokeino**	**38.75**	**346**	*e*P	**P**	**23 03 55.6**	**-0.2**
ARCES	**ARCESS Array B**	**38.77**	**348**	*e*P	**P**	**23 03 56.1**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ARCES	**ARCESS Array B**	**38.77**	**348**	P	**P**	**23 03 56.4**	**+0.4**
	comp=Z,8.4nm,0.6s,baz=164,slow=9.2,SNR=60						
ARCES				ScP	**S**	**23 09 54.0**	**+2.1**
	comp=Z,5.1nm,0.8s,baz=162,slow=3.8,SNR=6.8						
ARCES				LR	LR	23 21 48.8	
	comp=Z,116nm,19.8s,baz=172,slow=39						
ARE0	**ARCESS Array S**	**38.77**	**348**	*e*P	**P**	**23 03 56.4**	**+0.4**
MOR8	**Moi Rana**	**38.77**	**339**	*e*P	**P**	**23 03 56.2**	**+0.1**
BER	**Bergen**	**38.93**	**328**	*e*P	**P**	**23 03 58.1**	**+0.7**
MOL	**Molde**	**39.02**	**332**	*e*P	**P**	**23 03 58.9**	**+0.6**
SHL	**Shillong**	**39.09**	**89**	P	**P**	**23 03 59.1**	**-0.4**
	SNR=22						
SHL	**Shillong**	**39.09**	**89**	P	**P**	**23 03 58.9**	**-0.6**
SHL				pmax	pmax		
	comp=Z,94nm,1.2s						
SHL	**Shillong**	**39.09**	**89**	P	**P**	**23 03 58.9**	**-0.6**
STOK	**Stokkvaagen**	**39.31**	**339**	*e*P	**P**	**23 04 01.4**	**+0.8**
KONS	**Konsvik**	**39.39**	**339**	*e*P	**P**	**23 04 01.4**	**+0.2**
STEI	**Steigen**	**39.77**	**342**	*e*P	**P**	**23 04 04.7**	**+0.3**
PALK	**Pallekele**	**39.87**	**122**	P	**P**	**23 04 05.3**	**-0.6**
PALK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PALK	**Pallekele**	**39.87**	**122**	P	**P**	**23 04 05.3**	**-0.6**
HAMF	**Hammerfest**	**40.04**	**348**	*e*P	**P**	**23 04 07.1**	**+0.5**
TRO	**Tromso**	**40.16**	**345**	*e*P	**P**	**23 04 07.6**	**0.0**
EKA	**Eskdalemuir Ar**	**41.65**	**318**	P	**P**	**23 04 19.5**	**-0.6**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ESBB	**Sonseca Array**	**41.66**	**295**	P	**P**	**23 04 20.8**	**+0.2**
ESDC	**Sonseca Array**	**41.67**	**295**	P	**P**	**23 04 21.4**	**+0.8**
	comp=Z,1.4nm,0.4s,baz=66,slow=8.4,SNR=32						
ESK	**Eskdalemuir**	**41.67**	**318**	P	**P**	**23 04 20.7**	**+0.4**
ESK	**Eskdalemuir**	**41.67**	**318**	P	**P**	**23 04 20.7**	**+0.4**
GUD	**Guadarrama**	**41.70**	**296**	P	**P**	**23 04 21.3**	**+0.4**
GUD				pmax	pmax		
	comp=Z,22nm,3.3s						
PAB	**San Pablo**	**41.98**	**294**	P	**P**	**23 04 23.5**	**+0.4**
PAB				pmax	pmax		
	comp=Z,3.0nm,1.1s						
PAB	**San Pablo**	**41.98**	**294**	P	**P**	**23 04 23.5**	**+0.4**
GTA	**Gaotai**	**42.17**	**66**	*e*P	**P**	**23 04 25.8**	**+1.0**
GTA				pP	pP	23 04 30.0	-1.6
GTA				sP	sP	23 04 33.0	-1.3
GTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NRIK	**Noril'sk**	**42.79**	**20**	P	**P**	**23 04 29.9**	**+0.7**
	comp=Z,5.9nm,0.8s,baz=229,slow=6.2,SNR=18						
NRIK				ScP	**ScP**	**23 10 09.3**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=284,slow=4.2,SNR=3.8						
NRIK				LR	LR	23 26 42.5	
	comp=Z,223nm,18.2s,baz=218,slow=42						
DSB	**Dublin**	**43.20**	**315**	P	**P**	**23 04 33.6**	**+0.8**
DSB				IAmb	IAmb	23 04 34.4	
	comp=Z,19nm,0.7s						
PBRG	**Braganca**	**43.51**	**298**	*e*P	**P**	**23 04 36.5**	**+1.0**
	comp=Z,45nm,1.7s						
MVO	**Moncorvo**	**43.80**	**297**	*e*P	**P**	**23 04 39.4**	**+1.6**
	comp=Z,80nm,1.9s						
ZAK	**Zakamensk**	**44.05**	**49**	*e*P	**P**	**23 04 40.7**	**+0.9**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MTE	**Manteigas**	**44.29**	**296**	*e*P	**P**	**23 04 42.7**	**+0.9**
	comp=Z,62nm,1.4s						
MTE	**Manteigas**	**44.29**	**296**	P	**P**	**23 04 42.4**	**+0.6**
MTE				IAmb	IAmb	23 04 44.5	
	comp=Z,34nm,1.1s						
PVRL	**Vila Real**	**44.30**	**297**	*e*P	**P**	**23 04 43.0**	**+1.2**
	comp=Z,84nm,1.4s						
PCBR	**Castelo Branco**	**44.32**	**295**	*e*P	**P**	**23 04 42.4**	**+0.4**
	comp=Z,64nm,1.6s						
PMRV	**Marv??o**	**44.32**	**295**	*e*P	**P**	**23 04 42.7**	**+0.7**
	comp=Z,35nm,1.6s						
TLY	**Talaya**	**44.33**	**48**	*i* P	**P**	**23 04 41.6**	**-0.3**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TLY	**Talaya**	**44.33**	**48**	LR	LR	23 26 09.1	
	comp=Z,141nm,19.0s,baz=278,slow=40						
PESTR	**Estremoz**	**44.57**	**294**	P	**P**	**23 04 44.0**	**0.0**
PBEJ	**Beja**	**44.94**	**293**	*e*P	**P**	**23 04 47.5**	**+0.6**
	comp=Z,45nm,1.6s						
PVAQ	**Vaqueiros**	**44.94**	**292**	*e*P	**P**	**23 04 48.1**	**+1.2**
	comp=Z,59nm,1.6s						
EVO	**Evora**	**44.95**	**294**	*e*P	**P**	**23 04 48.3**	**+1.3**
	comp=Z,52nm,1.8s						
COI	**Coimbra**	**44.98**	**296**	P	**P**	**23 04 47.8**	**+0.6**
COI				pmax	pmax		
	comp=Z,53nm,1.2s						
COI	**Coimbra**	**44.98**	**296**	P	**P**	**23 04 47.8**	**+0.6**
PTOM	**Tomar**	**45.07**	**295**	*e*P	**P**	**23 04 49.3**	**+1.4**
	comp=Z,97nm,1.6s						
PFVI	**Vila Bisbo**	**45.86**	**292**	P	**P**	**23 04 55.1**	**+0.8**
SONM	**Songino Array**	**46.13**	**53**	P	**P**	**23 04 57.3**	**+0.9**
	comp=Z,2.9nm,0.6s,baz=285,slow=9.5,SNR=36						
SONM

XAN pmax pmax
comp=Z,23nm,1.0s
XAN Xi'an 50.47 71 P **P** **23 05 30.3 +0.3**
XAN pmax pmax
comp=Z,29nm,1.1s
XAN Xi'an 50.47 71 P **P** **23 05 30.3 +0.3**
PBKT Sadao Pong 50.59 95 P **P** **23 05 31.4 +0.4**
comp=Z,13nm,1.0s,comp=Z,683nm
PBKT Sadao Pong 50.59 95 IAmb IAmb 23 05 32.0
comp=Z,17nm,0.9s
HHC Hu-ho-hao-te 50.78 62 *e*P **P** **23 05 33.0 +0.7**
HHC pmax pmax
comp=Z,6.0nm,1.0s
HHC pmax pmax
comp=Z,110nm,5.6s
SLVN Son La 50.89 88 IAmb IAmb 23 05 34.9
comp=Z,14nm,0.9s
GYA Guiyang 51.15 81 *e*P **P** **23 05 34.5 -0.7**
GYA pmax pmax
comp=Z,10.0nm,0.9s
PHET Kaeng Krachan 51.32 100 P **P** **23 05 37.1 +0.6**
comp=Z,75µm,0.8s
LSZ Lusaka 51.34 204 P **P** **23 05 39.0 +2.4**
LSZ pmax pmax
comp=Z,4.0nm,0.9s
LSZ Lusaka 51.34 204 P **P** **23 05 39.0 +2.4**
ABPO Ambohimpanom 51.58 180 P **P** **23 05 39.0 +0.6**
ABPO pmax pmax
comp=Z,9.0nm,1.1s
ABPO Ambohimpanom 51.58 180 P **P** **23 05 39.0 +0.6**
BORG Borgarnes 51.87 329 P **P** **23 05 40.5 +0.6**
BORG pmax pmax
comp=Z,30nm,1.2s
BORG Borgarnes 51.87 329 P **P** **23 05 40.5 +0.6**
BORG IAmb IAmb 23 05 53.1
comp=Z,30nm,1.1s
ENH Enshi 52.11 75 P **P** **23 05 42.5 +0.2**
ENH IAmb IAmb 23 05 44.4
comp=Z,7.3nm,0.8s
SCO Scoresbysund 52.60 337 P **P** **23 05 46.0 +0.7**
SCO pmax pmax
comp=Z,3.0nm,1.1s
SCO Scoresbysund 52.60 337 *i*P **P** **23 05 46.6 +1.3**
SCO Scoresbysund 52.60 337 P **P** **23 05 46.0 +0.7**
DAG Danmarks Havn 52.88 345 P **P** **23 05 47.6 +0.3**
DAG pmax pmax
comp=Z,14nm,1.2s
RER Riviere de l'E 54.27 171 P **P** **23 05 59.2 +1.1**
BJT Baijiatuan 54.40 62 IAmb IAmb 23 06 00.1
comp=Z,9.7nm,0.7s
HIA Hailar 54.74 50 *i*P **P** **23 06 01.2 -0.2**
HIA Hailar 54.74 50 P **P** **23 06 00.9 -0.5**
UBPT Khong Chiam 55.00 94 P **P** **23 06 02.2 -1.3**
UBPT IAmb IAmb 23 06 17.8
comp=Z,10.0nm,1.1s
DBIC Dimbokro 55.14 254 P **P** **23 06 04.4 -0.2**
comp=Z,1.9nm,0.4s,baz=38,slow=6.6,SNR=14
DBIC Dimbokro 55.14 254 IAmb IAmb 23 06 10.4
comp=Z,9.0nm,1.1s
KIC Kosan Boka 55.23 253 *e*P **P** **23 06 05.3 +0.1**
comp=Z,2.9nm,0.4s
TIC Toumodi 55.29 254 *e*P **P** **23 06 05.5 -0.2**
LIC Lamto 55.53 253 *e*P **P** **23 06 07.3 -0.2**
comp=Z,9.3nm,0.3s
TIA Tai'an 56.23 66 P **P** **23 06 12.8 +0.6**
TIA pmax pmax
comp=Z,29nm,0.8s
GSI Gunungsitoli 56.39 113 P **P** **23 06 13.8 +0.3**
TIXI Tiksi 56.45 22 *ce*P **P** **23 06 13.7 +0.5**
TIXI pmax pmax
comp=Z,11nm,1.3s
TIXI Tiksi 56.45 22 P **P** **23 06 13.1 -0.1**
PSI Prapat 56.51 111 P **P** **23 06 14.1 -0.5**
PSI pmax pmax
comp=Z,16nm,0.7s
RPSI Rantau Prapat 56.58 111 P **P** **23 06 14.1 -0.8**
IPM Ipoh 57.17 108 P **P** **23 06 18.1 -1.1**
SUMG Summit 57.84 339 *i*P **P** **23 06 23.2 -0.3**
SUMG Summit 57.84 339 *i*P **P** **23 06 23.2 -0.3**
SUMG Summit 57.84 339 P **P** **23 06 24.4 +0.9**
SUMG IAmb IAmb 23 06 25.2
comp=Z,18nm,0.9s
YAK Yakutsk 57.93 33 *i*P **P** **23 06 23.5 -0.3**
YAK pmax pmax
comp=Z,8.0nm,1.1s
NJ2 Nanjing 59.00 70 *e*P **P** **23 06 31.5 -0.2**
NJ2 pmax pmax
comp=Z,20nm,0.7s
CN2 Changchun 59.94 55 *e*P **P** **23 06 37.5 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
SDSI Sungai Dareh 60.78 112 P **P** **23 06 40.6 -3.6**
comp=Z,46nm,0.9s,comp=Z,2µm
LBTB Lobatse 61.26 203 P **P** **23 06 47.6 +0.4**
LBTB pmax pmax
comp=Z,6.0nm,1.1s
LBTB Lobatse 61.26 203 P **P** **23 06 47.6 +0.4**
LBTB IAmb IAmb 23 06 49.9
comp=Z,5.5nm,1.1s
KRJI Kerinci 61.53 113 P **P** **23 06 47.6 -1.8**
comp=Z,233nm,0.9s
KLR Kul'dur 62.34 47 *i*P **P** **23 06 54.1 -0.2**
KLR pmax pmax
comp=Z,14nm,1.1s
KLR Kul'dur 62.34 47 P **P** **23 06 54.0 -0.2**
comp=Z,6.6nm,0.8s,baz=278,slow=7.5,SNR=6.1
KLR LR LR 23 36 33.4
comp=Z,145nm,18.5s,baz=273,slow=38
ILULI Ilulissat 62.69 337 P **P** **23 06 56.0 -0.2**
ILULI pmax pmax
comp=Z,21nm,0.9s
ILULI Ilulissat 62.69 337 P **P** **23 06 56.0 -0.2**
SFJD Kangerlussuaq 63.31 334 *i*P **P** **23 06 59.9 -0.5**
SFJD Kangerlussuaq 63.31 334 *i*P **P** **23 06 59.9 -0.5**
SFJD Kangerlussuaq 63.31 334 P **P** **23 06 59.5 -0.8**
SFJD IAmb IAmb 23 07 00.8
comp=Z,6.1nm,0.6s
KSRS Korea Array 63.91 61 P **P** **23 07 04.5 -0.4**
comp=Z,5.8nm,0.6s,baz=287,slow=7.1,SNR=18
KSRS LR LR 23 38 00.6
comp=Z,116nm,19.8s,baz=294,slow=39
TPUB Ta-pu 63.99 78 P **P** **23 07 05.6 -0.1**
TULEG Thule 64.08 347 P **P** **23 07 05.4 +0.1**
TULEG IAmb IAmb 23 07 11.0
comp=Z,8.1nm,1.0s
USA0B Ussuriysk Arra 64.25 53 P **P** **23 07 05.9 -1.1**
USA0B pmax pmax
comp=Z,17nm,0.7s
USA0B Ussuriysk Arra 64.25 53 P **P** **23 07 05.9 -1.1**
USRK Ussuriysk Ar. 64.25 53 *e*P **P** **23 07 06.1 -0.8**
USRK pmax pmax
comp=Z,16nm,0.7s
USRK Ussuriysk Ar. 64.25 53 P **P** **23 07 06.2 -0.8**
comp=Z,16nm,0.7s,baz=286,slow=6.2,SNR=43
USRK LR LR 23 35 27.4
comp=Z,89nm,18.1s,baz=289,slow=36
NACB Ninganchiao 64.40 77 P **P** **23 07 06.9 -1.4**
YULB Yu-li 64.50 78 P **P** **23 07 08.9 0.0**
YULB IAmb IAmb 23 07 18.1
comp=Z,13nm,1.0s
BOSA Boshof 64.71 202 P **P** **23 07 11.0 +0.8**
BOSA Boshof 64.71 202 P **P** **23 07 11.0 +0.8**
comp=Z,7.4nm,0.9s,baz=16,slow=5.2,SNR=7.7
BOSA LR LR 23 36 01.2
comp=Z,106nm,19.7s,baz=16,slow=37
BOSA Boshof 64.71 202 IAmb IAmb 23 07 14.5
comp=Z,11nm,1.1s
YOJ Yonaguni jima 65.43 76 P **P** **23 07 15.3 +0.3**
YOJ pmax pmax
comp=Z,144nm,1.1s
YOJ Yonaguni jima 65.43 76 P **P** **23 07 15.3 +0.3**
KSM Kuching 66.43 104 P **P** **23 07 21.0 -0.6**
JNU Nakatsue 67.88 64 P **P** **23 07 30.1 -0.5**
KKM Kota Kinabalu 68.78 97 P **P** **23 07 35.8 -0.7**
BILL Bilibino 69.61 21 *ce*P **P** **23 07 41.4 +0.8**
BILL pmax pmax
comp=Z,32nm,1.3s
BILL Bilibino 69.61 21 P **P** **23 07 41.1 +0.4**
SUR Sutherland 69.64 204 P **P** **23 07 42.3 +0.8**
SUR IAmb IAmb 23 07 50.7
comp=Z,12nm,1.1s
CISI Cisompet, Garu 69.87 114 P **P** **23 07 41.1 -2.0**
YSS Yuzh-Sakhalins 70.02 47 ‖*e*P **P** **23 07 43.8 +0.3**
YSS pmax pmax
comp=Z,49nm,1.0s

ASAJ Asahikawa 71.22 49 P **P** **23 07 50.1 -0.9**
comp=Z,13nm,0.8s,baz=225,slow=13,SNR=2.3
JKA Kamikawa-asahi 71.22 49 P **P** **23 07 50.1 -0.9**
MJAR Matsushiro Arr 71.75 58 P **P** **23 07 54.4 +0.1**
comp=Z,1.9nm,0.8s,baz=284,slow=4.8,SNR=4.6
MJAR LR LR 23 42 04.8
comp=Z,66nm,21.7s,baz=40,slow=38
DRLN Deer Lake 74.69 319 P **P** **23 08 10.8 -0.6**
MPSI Mapaga 74.97 100 P **P** **23 08 10.8 -2.8**
comp=Z,26nm,0.9s
PETK Petropavlovsk- 75.13 36 LR LR 23 44 50.1
comp=Z,205nm,20.1s,baz=242,slow=39
SCHQ Schefferville 76.18 327 P **P** **23 08 19.6 -0.3**
comp=Z,8.0nm,0.8s,baz=59,slow=9.0,SNR=6.5
SCHQ Schefferville 76.18 327 IAmb IAmb 23 08 20.2
comp=Z,9.0nm,0.9s
RDOG Red Dog Mine 76.83 11 P **P** **23 08 21.7 -1.6**
RDOG IAmb IAmb 23 08 28.6
comp=Z,8.0nm,1.0s
TOLK Toolik Lake Re 78.00 6 P **P** **23 08 30.3 +0.4**
TOLK IAmb IAmb 23 08 31.7
comp=Z,18nm,0.9s
INK Inuvik 79.14 0 P **P** **23 08 36.0 -0.1**
INK pmax pmax
comp=Z,6.0nm,1.1s
INK Inuvik 79.14 0 P **P** **23 08 36.0 -0.1**
BATG Bathurst New B 80.48 321 P **P** **23 08 43.8 0.0**
BATG IAmb IAmb 23 08 46.1
comp=Z,20nm,1.2s
LMN Caledonia Moun 80.69 319 P **P** **23 08 46.0 +1.1**
LMN IAmb IAmb 23 08 47.9
comp=Z,11nm,0.9s
EPYK Eagle Plains 81.03 2 IAmb IAmb 23 08 47.1
comp=Z,9.7nm,1.1s
MLY Manley 81.38 8 IAmb IAmb 23 08 49.9
comp=Z,6.4nm,1.0s
ILAR Eielson Array 82.03 6 P **P** **23 08 52.0 +0.3**
comp=Z,1.7nm,0.9s,baz=334,slow=4.1,SNR=11
ILAR PP **PP** **23 11 57.9 -0.9**
comp=Z,1.0nm,1.0s,baz=354,slow=9.2,SNR=5.4
ILAR PKKPbc **PKKPbc** **23 27 22.9 +1.3**
comp=Z,0.2nm,0.6s,baz=193,slow=3.7,SNR=4.1
D62A Allapoint, All 82.18 322 P **P** **23 08 53.6 +0.8**
WRH Wood River Hil 82.21 7 P **P** **23 08 53.6 +1.0**
BPAW Bear Paw Mtn. 82.25 8 IAmb IAmb 23 08 58.2
comp=Z,6.3nm,1.0s
GGN Saint George 82.27 319 P **P** **23 08 52.5 -0.7**
E63A Oxbow 82.28 321 P **P** **23 08 53.8 +0.4**
E63A IAmb IAmb 23 09 02.8
comp=Z,11nm,1.1s
KTH Kantishna Hill 82.79 8 P **P** **23 08 56.4 +0.6**
KTH IAmb IAmb 23 09 07.0
comp=Z,11nm,1.2s
TRF Thorofare Moun 82.97 8 P **P** **23 08 58.1 +1.3**
SCRK Sand Creek 83.06 5 P **P** **23 08 57.5 +0.3**
SCRK IAmb IAmb 23 08 58.9
comp=Z,9.7nm,1.1s
RND Reindeer 83.17 7 P **P** **23 08 58.2 +0.5**
RND pmax pmax
comp=Z,7.0nm,1.2s
RND Reindeer 83.17 7 P **P** **23 08 58.2 +0.5**
RND IAmb IAmb 23 09 08.5
comp=Z,6.9nm,1.2s
PPLA Purkeypile 83.27 9 P **P** **23 08 59.1 +0.8**
PPLA IAmb IAmb 23 09 17.0
comp=Z,7.0nm,1.2s
FCC Fort Churchill 83.31 341 P **P** **23 08 58.8 +0.4**
FCC pmax pmax
comp=Z,8.0nm,0.9s
FCC Fort Churchill 83.31 341 P **P** **23 08 58.8 +0.4**
FCC IAmb IAmb 23 08 59.9
comp=Z,8.2nm,0.8s
DHY Denali Highway 83.65 7 P **P** **23 09 00.1 -0.2**
YKA Yellowknife Ar 83.91 352 *e*P **P** **23 09 01.0 -0.4**
YKA pmax pmax
comp=Z,5.0nm,1.0s
YKA Yellowknife Ar 83.91 352 P **P** **23 09 01.1 -0.4**
comp=Z,5.5nm,1.0s,baz=14,slow=5.3,SNR=42
BATI Baumata 83.99 106 LR LR 23 50 07.7
comp=Z,82nm,18.2s,baz=341,slow=38
GIRL Giralia 84.15 122 P **P** **23 09 03.6 +0.4**
SKT Skwentna 84.23 9 P **P** **23 09 02.1 -1.0**
SKT IAmb IAmb 23 09 04.1
comp=Z,7.0nm,1.0s
SML Sawmill 84.79 8 P **P** **23 09 06.5 +0.5**
SUA Susitna One 84.83 9 P **P** **23 09 07.0 +0.7**
SUA IAmb IAmb 23 09 08.7
comp=Z,9.6nm,0.7s
SWI Sorong 85.12 94 P **P** **23 09 07.1 -1.3**
SIJI Sorong 85.13 94 P **P** **23 09 08.0 -0.5**
comp=Z,19nm,0.9s,baz=333,slow=4.2,SNR=8.9
KNK Knik Glacier 85.16 8 P **P** **23 09 09.2 +1.3**
KNK IAmb IAmb 23 09 10.3
comp=Z,5.1nm,0.7s
RC01 Rabbit Creek A 85.32 8 P **P** **23 09 08.9 +0.3**
RC01 IAmb IAmb 23 09 09.9
comp=Z,9.6nm,0.8s
BALM Baldy 86.09 5 P **P** **23 09 13.8 +1.2**
CTGM Chitina Glacie 86.23 4 P **P** **23 09 14.2 +0.9**
CTGM IAmb IAmb 23 09 18.2
comp=Z,6.7nm,0.9s
CRQM Cirque 86.31 5 P **P** **23 09 14.1 +0.3**
SEW Seward 86.31 8 P **P** **23 09 14.5 +1.0**
HIN Hinchinbrook I 86.36 7 P **P** **23 09 14.9 +1.0**
BRLK Bradley Lake 86.46 9 P **P** **23 09 14.8 +0.5**
HYT Haines Junctio 86.56 3 P **P** **23 09 16.4 +1.5**
HYT IAmb IAmb 23 09 29.3
comp=Z,5.1nm,1.0s
FAKI Fak Fak 87.06 95 P **P** **23 09 18.5 +0.5**
FAKI IAmb IAmb 23 09 19.4
comp=Z,12nm,1.0s
PSA00 Pilbara Seismi 87.61 117 P **P** **23 09 19.9 -0.5**
PSA00 IAmb IAmb 23 09 33.2
comp=Z,6.4nm,0.8s
PLVO Plevna 87.64 324 P **P** **23 09 21.0 +0.7**
PLVO IAmb IAmb 23 09 22.9
comp=Z,7.3nm,1.0s
KDAK Kodiak Island 88.12 11 P **P** **23 09 23.6 +1.3**
KDAK pmax pmax
comp=Z,9.0nm,1.0s
KDAK Kodiak Island 88.12 11 P **P** **23 09 23.6 +1.3**
KDAK IAmb IAmb 23 09 30.9
comp=Z,8.5nm,1.0s
FFC Flin Flon 88.93 343 P **P** **23 09 26.5 +0.3**
FFC pmax pmax
comp=Z,2.0nm,0.7s
MORW Morawa 89.43 125 P **P** **23 09 29.3 +0.4**
FITZ Fitzroy Crossi 90.03 111 P **P** **23 09 30.9 -1.0**
comp=Z,3.2nm,0.7s,baz=324,slow=8.7,SNR=3.0
FITZ Fitzroy Crossi 90.03 111 IAmb IAmb 23 09 48.5
comp=Z,6.1nm,1.1s
ULM Lac du Bonnet 91.16 338 *e*P **P** **23 09 36.7 0.0**
ULM pmax pmax
comp=Z,4.0nm,1.0s
ULM Lac du Bonnet 91.16 338 P **P** **23 09 36.2 -0.5**
comp=Z,3.9nm,1.0s,baz=25,slow=6.4,SNR=4.5
ULM Lac du Bonnet 91.16 338 IAmb IAmb 23 09 37.5
comp=Z,7.5nm,1.1s
WRA Warramunga Arr 97.92 109 P **P** **23 10 07.0 -1.1**
WRA Warramunga Arr 97.92 109 P **P** **23 10 07.0 -1.1**
comp=Z,0.6nm,0.5s,baz=311,slow=4.2,SNR=8.4
ASAR Alice Springs 99.53 112 P **Pdif** **23 10 14.3 -1.0**
comp=Z,0.6nm,0.7s,baz=306,slow=4.6,SNR=8.3
TXAR Lajitas Array 112.42 333 PKiKP **PKiKP** **23 15 09.0 +0.6**
comp=Z,0.3nm,0.8s,baz=85,slow=1.0,SNR=3.3

*ISCJB **28** 23:28:48.2±0.5, 4.˚16N±0.˚09×32.˚56W±0.˚09, h10km, mb3.8/11, MS3.6/12, Error ellipse: s-maj=15.6km s-min=11.4km az=135.2*
*IDC **28** 23:28:48.8±1.0, 4.˚23N×32.˚55W, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.8/43, mbtmp3.9/11, MS3.6/12, Ms1 3.6/12, ms1mx3.3/29, Error ellipse: s-maj=33.4km s-min=23.9km az=161.0*
*NEIC **28** 23:28:50.1±2.2, 4.˚3N±0.˚1×32.˚7W±0.˚1, h10km±1km, mb4.6/6*
ISC 28 23:28:50.0±0.6,**4.˚2N**±0.˚1×**32.˚6W**±0.˚1,**h10**km,**n32**, σ1ᵎ**30**/21,**mb4.2**/14,**MS3.6**/12,**Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.52**	**199**	Pn	**Pn**	**23 31 21.1**	**+0.1**
SACV	**Santiago Islan**	**13.85**	**39**	Pn	**Pn**	**23 32 04.1**	**-2.5**
MDP	**Montagnes des**	**20.04**	**273**	LR	LR	23 39 51.0	
	comp=Z,149nm,19.8s,baz=77,slow=33						
H10N3	**ASCENSION HYDR**	**21.63**	**124**	T	T	23 56 07.3	
	baz=302,slow=74,SNR=123						
H10N2	**ASCENSION HYDR**	**21.64**	**124**	T	T	23 56 07.3	
	baz=302,slow=74,SNR=123						
H10N1	**ASCENSION HYDR**	**21.65**	**124**	T	T	23 56 07.7	
	baz=302,slow=74,SNR=110						
BDFB	**Brasilia**	**24.97**	**217**	LR	LR	23 43 13.1	
	comp=Z,83nm,21.1s,baz=32,slow=35						
DBIC	**Dimbokro**	**27.68**	**84**	LR	LR	23 43 45.6	
	comp=Z,115nm,18.2s,baz=256,slow=32						
STVI	**Saint Thomas**	**34.65**	**296**	P	**P**	**23 35 40.1**	**+0.2**
TOA0	**Torodi Ar. Sit**	**34.96**	**73**	P	**P**	**23 35 42.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**34.96**	**73**	P	**P**	**23 35 42.6**	**0.0**
	1.7nm,0.8s,baz=263,slow=8.4,SNR=11						
TORD				LR	LR	23 47 42.2	
	comp=Z,150nm,20.6s,baz=300,slow=32						
CPUP	**Villa Florida**	**38.70**	**217**	LR	LR	23 51 24.0	
	comp=Z,112nm,20.1s,baz=38,slow=35						
LPAZ	**La Paz**	**40.65**	**239**	P	**P**	**23 36 32.2**	**+0.8**
	0.3nm,0.4s,baz=35,slow=16,SNR=1.9						
LPAZ				LR	LR	23 52 21.3	
	comp=Z,104nm,20.7s,baz=61,slow=35						
ROSC	**El Rosal**	**41.63**	**273**	LR	LR	23 51 54.9	
	comp=Z,123nm,21.0s,baz=120,slow=33						
ROC1	**El Roble**	**51.91**	**222**	P	**P**	**23 37 56.6**	**-2.8**
PQI	**Presque Isle**	**52.24**	**330**	P	**P**	**23 38 00.5**	**-0.9**
PQI				IAmb	IAmb	23 38 10.5	
	comp=Z,7.1nm,1.1s						
PLCA	**Paso Flores**	**56.65**	**214**	LR	LR	00 02 27.8	
	comp=Z,72nm,20.2s,baz=93,slow=36						
GERES	**GERESS Array B**	**59.31**	**34**	P	**P**	**23 38 52.4**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=234,slow=4.6,SNR=6.3						
PSZ	**Piszkesteto**	**62.43**	**37**	P	**P**	**23 39 15.7**	**+2.3**
PSZ				IAmb	IAmb	23 39 16.4	
	comp=Z,5.3nm,0.8s						
BOSA	**Boshof**	**64.39**	**124**	P	**P**	**23 39 26.9**	**+0.2**
	comp=Z,4.0nm,0.9s,baz=299,slow=13,SNR=3.5						
BOSA				LR	LR	00 01 35.4	
	comp=Z,40nm,20.9s,baz=304,slow=30						
BOSA	**Boshof**	**64.39**	**124**	IAmb	IAmb	23 39 41.6	
	comp=Z,7.4nm,1.1s						
NOA	**NORSAR Array B**	**65.53**	**22**	P	**P**	**23 39 32.9**	**-0.6**
	comp=Z,2.2nm,1.0s,baz=234,slow=6.0,SNR=3.1						
NOA				LR	LR	00 07 32.4	
	comp=Z,25nm,18.1s,baz=50,slow=36						
BRTR	**Keskin Array B**	**69.09**	**49**	P	**P**	**23 39 57.7**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=235,slow=5.1,SNR=4.1						
BRTR				LR	LR	00 11 48.4	
	comp=Z,17nm,18.4s,baz=257,slow=37						
AKASG	**Malin Array Be**	**69.13**	**37**	P	**P**	**23 39 57.7**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=246,slow=7.0,SNR=4.5						
ULM	**Lac du Bonnet**	**69.91**	**322**	LR	LR	00 08 04.4	
	comp=Z,50nm,19.0s,baz=28,slow=34						
TXAR	**Lajitas Array**	**71.49**	**299**	P	**P**	**23 40 11.6**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=104,slow=6.6,SNR=3.5						
FINES	**FINESS Array B**	**71.73**	**26**	P	**P**	**23 40 12.8**	**+0.7**
	comp=Z,5.4nm,1.0s,baz=258,slow=6.5,SNR=2.6						
ARCES	**ARCESS Array B**	**75.29**	**18**	P	**P**	**23 40 33.1**	**+0.1**
	comp=Z,3.6nm,1.0s,baz=232,slow=4.4,SNR=4.3						
RDMU	**Red Mountain**	**77.41**	**310**		**PcP**	**23 40 55.0**	**-1.3**
CCUT	**Cedar City**	**80.16**	**307**		**PcP**	**23 41 10.4**	**+2.0**
ELK	**Elko**	**81.72**	**310**	P	**P**	**23 41 09.4**	**0.0**
ELK				IAmb	IAmb	23 41 13.5	
	comp=Z,3.6nm,0.9s						
YKA	**Yellowknife Ar**	**82.61**	**332**	P	**P**	**23 41 13.9**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=102,slow=5.2,SNR=4.4						

IDC 28 23:29:41.0±11.0,**20.˚38N×144.˚38E, h0km, mb3.5**/5, **mb1 3.6**/5,**mb1mx3.3**/52,**mbtmp3.5**/5,**Error ellipse: s-maj=508.4km s-min=25.9km az=79.0,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.26**	**194**	P	P	23 37 27.9	-0.2
	0.8nm,0.8s,baz=13,slow=8.2,SNR=3.2						
ASAR	**Alice Springs**	**44.95**	**194**	P	P	23 37 58.0	-0.1
	0.1nm,0.6s,baz=22,slow=10,SNR=1.5						
ZALV	**Zalesovo Beam**	**55.93**	**322**	P	P	23 39 20.6	-0.2
	0.7nm,0.5s,baz=108,slow=6.6,SNR=2.9						
KURBB	**Kurchatov Arra**	**59.24**	**317**	P	P	23 39 44.5	+0.3
	0.3nm,0.5s,baz=92,slow=7.7,SNR=6.2						
BVAR	**Borovoye Array**	**64.39**	**320**	P	P	23 40 18.5	-0.3
	0.3nm,0.4s,baz=79,slow=7.3,SNR=5.0						

*ISCJB **28** 23:39:42.4±0.3, 13.˚31S±0.˚05×167.˚18E±0.˚08, h250km, mb3.6/7, Error ellipse: s-maj=10.6km s-min=7.2km az=10.0*
*NEIC **28** 23:39:43.3±1.7, 13.˚2S±0.˚1×167.˚2E±0.˚1, h243km±4km, mb4.1/28*
*IDC **28** 23:39:43.4±4.9, 13.˚23S×167.˚12E, h238km±48km, mb3.3/7, mb1 3.5/8, mb1mx3.3/40, mbtmp3.9/8, MS3.7/1, Ms1 3.7/1, ms1mx2.9/19, Error ellipse: s-maj=39.4km s-min=25.3km az=156.0*
ISC 28 23:39:43.7±0.6,**13.˚24S**±0.˚08×**167.˚2E**±0.˚1,**h250**km,**n47**, σ1ᵎ**15**/48,**mb3.9**/20,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.81**	**185**	P	**Pn**	**23 41 48.0**	**+0.6**
	0.2nm,0.3s,baz=53,slow=9.3,SNR=11						
DZM				S	**S**	**23 43 27.4**	**+0.1**
	0.2nm,0.3s,baz=345,slow=20,SNR=2.1						
DZM	**Mont Dzumac**	**8.81**	**185**		**Pn**	**23 41 47.2**	**-0.1**
EIDS	**Eidsvold**	**19.40**	**229**	P	**P**	**23 43 49.6**	**-1.8**
EIDS				IAmb	IAmb	23 44 05.6	
	comp=Z,9.3nm,1.1s						
PMG	**Port Moresby**	**20.02**	**279**	P	**P**	**23 43 56.6**	**-1.6**
PMG				IAmb	IAmb	23 44 11.6	
	comp=Z,9.1nm,0.9s						
ARMA	**Armidale**	**22.35**	**218**	P	**P**	**23 44 20.9**	**-0.2**
ARMA				IAmb	IAmb	23 44 27.7	
	comp=Z,5.1nm,1.1s						
COEN	**Coen**	**23.37**	**265**	P	**P**	**23 44 31.0**	**+0.6**
URZ	**Urewera**	**26.43**	**162**	P	**P**	**23 44 59.1**	**+1.4**
THZ	**Tophouse**	**28.85**	**171**	P	**P**	**23 45 20.1**	**+1.0**
BHW	**Baring Head**	**28.85**	**168**	P	**P**	**23 45 18.9**	**-0.1**
MSWZ	**Moikau Station**	**28.93**	**167**	P	**P**	**23 45 19.7**	**-0.2**
PLWZ	**Palliser**	**29.08**	**168**	P	**P**	**23 45 21.4**	**+0.2**
LTZ	**Lake Taylor**	**29.76**	**172**	P	**P**	**23 45 28.1**	**+1.0**
STKA	**Stephens Creek**	**29.93**	**227**	P	**P**	**23 45 28.9**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=51,slow=6.5,SNR=4.3						
STKA	**Stephens Creek**	**29.93**	**227**	IAmb	IAmb	23 45 32.0	
	comp=Z,0.5nm,0.9s						
MQZ	**McQueen's Vall**	**30.72**	**172**	P	**P**	**23 45 34.9**	**-0.6**
MLZ	**Mavora Lakes**	**32.03**	**179**	P	**P**	**23 45 44.8**	**-2.1**
MLZ				IAmb	IAmb	23 45 56.1	
	comp=Z,4.1nm,1.1s						
DCZ	**Deep Cove**	**32.12**	**180**	P	**P**	**23 45 46.7**	**-0.9**
DCZ				IAmb	IAmb	23 46 06.1	
	comp=Z,7.6nm,1.0s						
WRA	**Warramunga Arr**	**32.16**	**254**	P	**P**	**23 45 48.0**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=85,slow=9.1,SNR=2.3						
ASAR	**Alice Springs**	**33.17**	**247**	P	**P**	**23 45 56.4**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=73,slow=10,SNR=14						
ASAR				PcP	**PcP**	**23 48 34.4**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=60,slow=2.7,SNR=4.6						
BBOO	**Buckleboo**	**34.46**	**230**	P	**P**	**23 46 07.2**	**-0.9**
KNRA	**Kununurra**	**37.28**	**261**	P	**P**	**23 46 31.9**	**-0.3**
MJAR	**Matsushiro Arr**	**56.57**	**332**	LR	LR	00 10 23.5	
	comp=Z,68nm,21.8s,baz=40,slow=33						
CASY	**Casey**	**64.88**	**202**	P	**P**	**23 49 56.2**	**+0.3**
CASY				IAmb	IAmb	23 50 12.5	
	comp=Z,6.2nm,1.1s						
CMAR	**Chiang Mai Arr**	**74.30**	**294**	P	**P**	**23 50 55.9**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=123,slow=4.8,SNR=6.5						
QSPA	**South Pole Qui**	**76.78**	**180**	P	**P**	**23 51 08.6**	**+1.0**
QSPA				IAmb	IAmb	23 51 26.1	
	comp=Z,3.1nm,1.1s						
ULN	**Ulaanbaatar**	**80.91**	**324**	P	**P**	**23 51 30.1**	**-0.2**
ULN				IAmb	IAmb	23 51 32.2	
	comp=Z,3.0nm,1.1s						
SONM	**Songino Array**	**81.27**	**323**	P	**P**	**23 51 33.0**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=130,slow=5.1,SNR=3.8						
SUA	**Susitna One**	**81.51**	**19**	P	**P**	**23 51 33.1**	**0.0**
SUA				IAmb	IAmb	23 51 37.5	
	comp=Z,3.3nm,1.2s						
RC01	**Rabbit Creek A**	**81.56**	**20**	P	**P**	**23 51 32.6**	**-0.6**
RC01				IAmb	IAmb	23 51 34.3	
	comp=Z,3.5nm,0.8s						
HIN	**Hinchinbrook I**	**82.15**	**21**	P	**P**	**23 51 37.6**	**+1.3**
SCM	**Sheep Creek Mo**	**82.89**	**20**	P	**P**	**23 51 41.4**	**+1.2**

SCM					IAmb	IAmb	23 51 42.9	
	comp=Z,7.0nm,1.0s							
BPAW	**Bear Paw Mtn.**	**83.44**	**17**	P	**P**		**23 51 46.0**	**+3.2**
BPAW					IAmb	IAmb	23 51 53.2	
	comp=Z,2.8nm,1.1s							
RND	**Reindeer**	**83.55**	**18**	P	**P**		**23 51 44.0**	**+0.5**
MLY	**Manley**	**84.21**	**17**	P	**P**		**23 51 47.2**	**+0.5**
WRH	**Wood River Hil**	**84.56**	**18**	P	**P**		**23 51 48.5**	**+0.1**
WRH					IAmb	IAmb	23 52 07.3	
	comp=Z,2.0nm,1.1s							
HDA	**Harding Lake**	**84.86**	**18**	P	**P**		**23 51 50.8**	**+0.8**
HDA					IAmb	IAmb	23 51 51.0	
	comp=Z,2.9nm,0.8s							
IL31		**85.14**	**18**	P	**P**		**23 51 51.8**	**+0.6**
ILAR	**Eielson Array**	**85.14**	**18**	P	**P**		**23 51 51.2**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=240,slow=5.0,SNR=25							
TOLK	**Toolik Lake Re**	**87.24**	**15**	P	**P**		**23 52 02.5**	**+1.0**
DUG	**Dugway, Tooele**	**90.94**	**49**	P	**P**		**23 52 16.9**	**-2.7**
121A	**Cookes Peak, D**	**92.88**	**57**	P	**P**		**23 52 26.2**	**-2.6**
121A					IAmb	IAmb	23 52 42.2	
	comp=Z,1.9nm,0.8s							
YHB	**Horse Butte**	**93.34**	**45**	P	**P**		**23 52 28.6**	**-2.2**
MKAR	**Makanchi Array**	**96.09**	**317**	P	**P**		**23 52 43.5**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=88,slow=5.1,SNR=12							
ARCES	**ARCESS Array B**	**118.81**	**346**	PKP		**PKiKP**	**23 58 02.1**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=79,slow=2.1,SNR=24							
FINES	**FINESS Array B**	**124.33**	**339**	PKP		**PKiKP**	**23 58 13.3**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=76,slow=1.7,SNR=5.1							
KEST	**Kesra**	**150.02**	**322**	PKPbc		**PKiKP**	**23 59 06.7**	**+0.7**
	comp=Z,3.0nm,0.7s,baz=23,slow=3.7,SNR=6.3							
TORD	**Torodi Ar. Bea**	**165.90**	**271**	PKP		**PKPdf**	**23 59 20.2**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=83,slow=4.5,SNR=2.7							
TORD				PKPab		**PKPab**	**00 00 21.6**	**+0.6**
	comp=Z,0.3nm,0.9s,baz=102,slow=6.3,SNR=2.0							

NIC ***28*** *23:40:51.0±0.0,36.19N×31.56E,h4km±3km,Md3.1/3, Ml3.5/2*
ISK ***28*** *23:40:51.5,36.06N×31.33E,h15km,ML3.4/29*
GII ***28*** *23:40:59.5±0.0,35.69N×31.60E,h18km,MD3.3/1*

ISC 28 23:40:50.3±1.4,36.12N±0.04×31.46E±0.03,h7km±11km, n55,σ2s01/70,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZI	**Gazipasa**	**0.70**	**81**	PG	**Pn**	**23 41 08.6**	**+1.9**
GAZI				SG	**Sn**	**23 41 19.4**	**+1.6**
KEMT	**Kemer-ANTALYA**	**0.87**	**304**	PG	**Pg**	**23 41 08.2**	**+1.1**
AKMS	**Akamas**	**1.31**	**147**	P	**Pb**	**23 41 16.6**	**+1.3**
AKMS				S	**Sn**	**23 41 35.0**	**+2.2**
AKMS				AML	AML	23 41 40.8	
	3.0nm,0.3s						
AKMS				AML	AML	23 41 40.8	
	3.0nm,0.3s						
AKMS				AML	AML	23 41 41.8	
	2.8nm,0.3s						
AKMS				AML	AML	23 41 41.8	
	2.8nm,0.3s						
AKMS				AMd		23 42 12.7	
AKMS				AMd		23 42 12.7	
ALFC	**Alefka**	**1.34**	**136**	P	**Pn**	**23 41 15.3**	**-0.1**
ALFC				S	**Sg**	**23 41 33.0**	**-0.3**
ALFC				AML	AML	23 41 35.0	
	1.7nm,0.1s						
ALFC				AML	AML	23 41 35.0	
	1.7nm,0.1s						
ALFC				AML	AML	23 41 35.2	
	2.4nm,0.2s						
ALFC				AML	AML	23 41 35.2	
	2.4nm,0.2s						
ALFC				AMd		23 42 11.6	
ALFC				AMd		23 42 11.6	
TEKE	**Tekeli-Mersin**	**1.34**	**89**	PN	**Pn**	**23 41 17.6**	**+2.2**
ELL	**Elmali**	**1.40**	**297**	PN	**Pn**	**23 41 16.6**	**+0.2**
ELL	**Elmali**	**1.40**	**297**	P	**Pn**	**23 41 17.6**	**+1.3**
ELL				S	**Sn**	**23 41 37.5**	**+2.4**
BERE	**Bereket-Mersin**	**1.44**	**81**	PN	**Pb**	**23 41 19.6**	**+2.0**
AKAS	**Kas**	**1.50**	**275**	PN	**Pn**	**23 41 17.1**	**-0.7**
BCK	**Bucak**	**1.51**	**333**	PN	**Pb**	**23 41 18.9**	**+0.2**
KSL	**Kastellorizon**	**1.52**	**272**	P	**Pn**	**23 41 17.0**	**-0.9**
YORU	**Yoruktepe-Mers**	**1.57**	**88**	PN	**Pg**	**23 41 21.3**	**+0.8**
OREN	**Orenkoy-Mersin**	**1.62**	**86**	PN	**Pg**	**23 41 21.3**	**0.0**
TEVE	**Tevekalli-Mers**	**1.63**	**78**	PN	**Pg**	**23 41 22.5**	**+0.9**
AKK1	**Akkuyu-Mersin**	**1.68**	**89**	PN	**Pg**	**23 41 22.7**	**+0.1**
AKK2	**Akkuyu-Mersin**	**1.69**	**89**	PN	**Pg**	**23 41 22.7**	**0.0**
AKKU	**Akkuyu-Mersin**	**1.69**	**88**	PN	**Pg**	**23 41 23.1**	**+0.3**
YESI	**Yesilovacik-Me**	**1.77**	**87**	PN	**Pg**	**23 41 23.9**	**-0.3**
TISA	**Tisan-Mersin**	**1.80**	**88**	PN	**Pg**	**23 41 24.5**	**-0.2**
IKL	**Isikli**	**1.80**	**86**	PN	**Pg**	**23 41 24.8**	**-0.1**
KARG	**Kargicak-Mersi**	**1.82**	**87**	PN	**Pg**	**23 41 24.9**	**-0.3**
KEBE	**Keben-Mersin**	**1.85**	**79**	PN	**Pg**	**23 41 25.4**	**-0.3**
ATHAL	**Athalassa**	**1.86**	**121**	P	**Pn**	**23 41 23.6**	**+1.1**
ATHAL				S	**Sb**	**23 41 47.6**	**-0.4**
GLHS	**Glhisar (BURDU**	**1.89**	**304**	PN	**Pn**	**23 41 23.6**	**+0.6**
CSS	**Mathiatis**	**1.92**	**127**	Pn	**Pn**	**23 41 23.1**	**-0.3**
CSS	**Mathiatis**	**1.92**	**127**	P	**Pn**	**23 41 23.5**	**+0.1**
CSS				S	**Sn**	**23 41 48.1**	**+0.4**
CSS				AMd		23 42 10.8	
CSS				AMd		23 42 10.8	
FETY	**Fethiye**	**1.98**	**286**	PN	**Pn**	**23 41 24.3**	**0.0**
SILI	**Silifke-Mersin**	**2.01**	**82**	PN	**Pg**	**23 41 27.7**	**-1.1**
LADK	**Ladik-KONYA**	**2.20**	**19**	PN	**Pb**	**23 41 30.1**	**-0.3**
KIZK	**Mersin**	**2.20**	**80**	PN	**Pb**	**23 41 30.3**	**-0.1**
EREN	**Erenkoy**	**2.28**	**104**	PN	**Pb**	**23 41 30.8**	**-1.0**
SHUT	**Suhut-Afyon**	**2.53**	**344**	PN	**Pn**	**23 41 33.0**	**+1.1**
SULT	**Sultanhani-AKS**	**2.64**	**38**	PN	**Pb**	**23 41 36.8**	**-1.2**
CHBY	**Cihanbeyli**	**2.71**	**24**	PN	**Pb**	**23 41 37.2**	**-1.9**
KARA	**Karaisali**	**3.10**	**67**	PN	**Pb**	**23 41 43.5**	**-2.3**
KULU	**Kulu**	**3.16**	**22**	PN	**Pn**	**23 41 43.3**	**+2.7**
KRTS	**Karatas**	**3.19**	**81**	PN	**Pb**	**23 41 44.5**	**-2.8**
CMRD	**Camardi-Nigde**	**3.22**	**60**	PN	**Pb**	**23 41 45.1**	**-2.8**
YAYX	**Yaylak**	**3.38**	**33**	PN	**Pb**	**23 41 47.1**	**-3.4**
YURE	**YUREGIR**	**3.44**	**77**	PN	**Pb**	**23 41 47.9**	**-3.6**
CEYT	**Ceyhan**	**3.56**	**74**	PN	**Pn**	**23 41 49.3**	**+3.3**
KOZT	**Kozan**	**3.76**	**68**	PN	**Pb**	**23 41 52.4**	**-4.6**
HNTI	**Hanita**	**4.31**	**134**	Pn	**Pn**	**23 41 59.1**	**+2.8**
HNTI				Sn	**Sn**	**23 42 45.0**	**-1.8**
MMA0B	**Mount Meron ar**	**4.49**	**132**	Pn	**Pn**	**23 42 01.8**	**+2.9**
GEM	**Giv'at Ha'Em**	**4.52**	**129**	Pn	**Pn**	**23 42 02.8**	**+3.6**
GEM				Sn	**Sn**	**23 42 51.7**	**-0.3**
KSDI	**Kefar Szold**	**4.53**	**129**	Pn	**Pn**	**23 42 03.0**	**+3.7**
KSDI				Sn	**Sn**	**23 42 50.7**	**-1.5**
NATI	**Neve Ativ**	**4.53**	**128**	Pn	**Pn**	**23 42 02.5**	**+3.2**
NATI				Sn	**Sn**	**23 42 51.1**	**-1.2**
OFRI	**`Ofer**	**4.55**	**139**	Pn	**Pn**	**23 42 02.2**	**+2.6**
SLTI	**Sal'it**	**4.88**	**142**	Pn	**Pn**	**23 42 06.4**	**+2.3**
MMLI	**Mount Malkishu**	**4.92**	**137**	Pn	**Pn**	**23 42 07.4**	**+2.6**
MMLI				Sn	**Sn**	**23 42 59.9**	**-2.1**
HMDT	**Nahal Hemdat**	**5.12**	**138**	Pn	**Pn**	**23 42 10.0**	**+2.6**
HMDT				Sn	**Sn**	**23 43 04.8**	**-2.0**
AMAZ	**Amatzia**	**5.41**	**147**	Pn	**Pn**	**23 42 14.0**	**+2.6**
AMAZ				Sn	**Sn**	**23 43 10.9**	**-3.0**
DSI	**Dead Sea**	**5.59**	**143**	Pn	**Pn**	**23 42 16.6**	**+2.7**
DSI				Sn	**Sn**	**23 42 17.2**	**-1.2**
YTIR	**Yattir**	**5.64**	**146**	Pn	**Pn**	**23 42 17.5**	**+2.9**
YTIR				Sn	**Sn**	**23 43 16.9**	**-2.8**
KZIT	**Kziot**	**5.75**	**154**	Pn	**Pn**	**23 42 17.5**	**+1.4**

IDC ***28*** *23:43:38.3±1.4,20.88N×146.87E,h0km,mb3.8/8, mb1 3.9/8,mb1mx3.6/54,mbtmp3.8/8,Error ellipse: s-maj=53.5km s-min=21.5km az=85.0*
NEIC ***28*** *23:43:39.7±1.9,20.90N±0.08×146.71E±0.08,h10km±1km, mb4.7/8*
ISCJB ***28*** *23:43:42.1±0.6,20.86N±0.06×146.6E±0.1,h40km, mb3.8/8,Error ellipse: s-maj=16.4km s-min=8.9km az=175.0*

ISC 28 23:43:43.7±0.8,20.88N±0.09×146.6E±0.1,h40km,n20, σ1s25/20,mb4.2/12,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**4.24**	**191**	Pn	**Pn**	**23 44 45.4**	**-0.4**
GUMO	**Guam**	**7.44**	**193**	Pn	**Pn**	**23 45 28.4**	**-1.5**
JHJ2	**Mitsune**	**13.60**	**335**	Pn	**Pn**	**23 46 53.4**	**-0.7**
JOW	**Kunigami**	**17.79**	**293**		**Pn**	**23 47 46.2**	**-2.2**
JNU	**Nakatsue**	**18.56**	**314**	P	**P**	**23 47 56.3**	**-0.9**
INCN	**Inchon**	**23.96**	**318**	P	**P**	**23 48 55.6**	**+1.2**
INCN				IAmb	IAmb	23 49 10.6	
	comp=Z,14nm,0.6s						
TPUB	**Ta-pu**	**24.19**	**281**	P	**P**	**23 48 58.4**	**+1.7**
TPUB				IAmb	IAmb	23 49 05.8	
	comp=Z,30nm,1.1s						
ADK	**Adak**	**42.03**	**34**	P	**P**	**23 51 30.7**	**-0.5**
WRA	**Warramunga Arr**	**42.32**	**197**	P	**P**	**23 51 35.0**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=13,slow=8.2,SNR=4.5						
FITZ	**Fitzroy Crossi**	**43.86**	**209**	P	**P**	**23 51 46.6**	**+0.3**
FITZ				IAmb	IAmb	23 51 54.7	
	comp=Z,7.6nm,1.1s						
ASAR	**Alice Springs**	**45.98**	**196**	P	**P**	**23 52 03.4**	**+0.2**
	comp=Z,0.6nm,1.1s,baz=17,slow=6.8,SNR=3.3						
ZALV	**Zalesovo Beam**	**56.84**	**322**	P	**P**	**23 53 25.7**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=106,slow=11,SNR=4.5						
MKAR	**Makanchi Array**	**57.60**	**313**	P	**P**	**23 53 30.6**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=98,slow=6.8,SNR=3.6						
KURK	**Kurchatov**	**60.25**	**317**	P	**P**	**23 53 47.9**	**0.0**
KURBB	**Kurchatov Arra**	**60.30**	**317**	P	**P**	**23 53 49.6**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=91,slow=7.6,SNR=7.4						
BVAR	**Borovoye Array**	**65.36**	**320**	P	**P**	**23 54 24.0**	**+2.0**
	comp=Z,1.5nm,0.5s,baz=88,slow=7.2,SNR=18						
YKA	**Yellowknife Ar**	**75.66**	**28**	P	**P**	**23 55 24.6**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=298,slow=5.4,SNR=3.0						
MDPB	**Devils Postpil**	**80.81**	**53**	P	**P**	**23 55 53.4**	**-0.4**
MDPB				IAmb	IAmb	23 55 58.8	
	comp=Z,8.1nm,0.9s						
FIA1	**FINESS Array S**	**85.27**	**335**	P	**P**	**23 56 14.7**	**-1.4**
FINES	**FINESS Array B**	**85.27**	**335**	P	**P**	**23 56 16.9**	**+0.9**
	comp=Z,2.8nm,0.7s,baz=29,slow=4.4,SNR=8.0						

IDC ***28*** *23:57:49.7±0.5,20.66N×146.76E,h0km,mb4.4/27, mb1 4.5/29,mb1mx4.4/44,mbtmp4.4/29,ML3.5/2,MS3.6/22, Ms1 3.6/22,ms1mx3.4/44,Error ellipse: s-maj=17.9km s-min=12.1km az=82.0*
BJI ***28*** *23:57:50.0±0.0,20.73N×147.07E,h25km,mb4.5/31, mB5.1/21,Ms4.8/5,Ms7 4.5/4*
NEIC ***28*** *23:57:51.3±1.5,20.65N±0.06×146.66E±0.08,h10km±1km, mb4.7/165*
MOS ***28*** *23:57:52.8±0.9,20.62N×146.62E,h31km,mb4.9/55,Error ellipse: s-maj=9.4km s-min=5.3km az=105.3*
ISCJB ***28*** *23:57:53.5±0.2,20.64N±0.03×146.63E±0.03,h34km, mb4.6/79,MS3.7/24,Error ellipse: s-maj=4.5km s-min=4.0km az=167.4*

ISC 28 23:57:55.0±0.3,20.67N±0.04×146.73E±0.07,h34km,n289, σ1s09/266,mb4.6/129,MS3.6/24,8C,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**4.05**	**193**	Pn	**Pn**	**23 58 54.5**	**-0.2**
ANA2	**Anatahan**	**4.42**	**193**	Pn	**Pn**	**23 59 00.1**	**+0.4**
GUMO	**Guam**	**7.26**	**194**	P	**Pn**	**23 59 38.9**	**+0.1**
GUMO	**Guam**	**7.26**	**194**	Pn	**Pn**	**23 59 43.2**	**+4.4**
	8.1nm,0.3s,baz=49,slow=20,SNR=3.2						
GUMO				Sn	**Sn**	**00 01 02.0**	**+1.8**
	3.4nm,0.3s,baz=198,slow=19,SNR=2.0						
GUMO	**Guam**	**7.26**	**194**		**Pn**	**23 59 38.9**	**+0.1**
JCJ	**Chichijima**	**7.63**	**328**	Pn	**Pn**	**23 59 46.5**	**+2.7**
	20nm,0.3s,baz=274,slow=19,SNR=3.6						
JCJ				Sn	**Sn**	**00 01 03.1**	**-5.9**
	53nm,0.3s,baz=292,slow=23,SNR=8.5						
INU	**Inuyama**	**16.93**	**332**		**Pn**	**00 01 48.5**	**-0.8**
INU				IAmb	IAmb	00 01 54.3	
	comp=Z,69nm,1.1s						
MJAR	**Matsushiro Arr**	**17.48**	**337**	P	**Pn**	**00 01 55.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=150,slow=9.9,SNR=6.4						
MAJO	**Matsushiro**	**17.48**	**337**	*i* P	**Pn**	**00 01 55.5**	**-0.6**
MAJO	**Matsushiro**	**17.48**	**337**		**Pn**	**00 01 56.2**	**0.0**
MJB9	**Matsu-Tunnel**	**17.48**	**337**		**Pn**	**00 01 55.9**	**-0.3**
PATS	**Pohnpei**	**17.75**	**139**	P	**P**	**00 02 00.8**	**+0.6**
JOW	**Kunigami**	**17.96**	**293**	P	**Pn**	**00 02 01.5**	**-0.7**
JNU	**Nakatsue**	**18.77**	**315**	P	**Pn**	**00 02 12.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=200,slow=15,SNR=2.1						
H11S3	**WAKE ISLAND Hy**	**18.93**	**93**	T	T	00 20 31.2	
	baz=280,slow=74,SNR=4.6						
H11S1	**WAKE ISLAND Hy**	**18.94**	**93**	T	T	00 20 32.4	
	baz=280,slow=74,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**18.95**	**93**	T	T	00 20 32.0	
	baz=280,slow=74,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**18.95**	**89**	T	T	00 20 31.4	
	baz=276,slow=74,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**18.95**	**89**	T	T	00 20 31.0	
	baz=276,slow=74,SNR=2.9						
H11N3	**WAKE ISLAND Hy**	**18.97**	**89**	T	T	00 20 33.5	
	baz=276,slow=74,SNR=3.6						
ERM	**Erimo**	**21.49**	**353**	P	**P**	**00 02 43.4**	**+2.6**
ERM				pmax	pmax		
	comp=Z,71nm,1.2s						
ERM	**Erimo**	**21.49**	**353**	P	**P**	**00 02 43.4**	**+2.6**
KSRS	**Korea Array**	**23.38**	**320**	P	**P**	**00 03 00.3**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=146,slow=7.8,SNR=5.8						
KSRS				LR	LR	00 12 16.6	
	comp=Z,177nm,19.2s,baz=130,slow=37						
JKA	**Kamikawa-asahi**	**23.63**	**353**	P	**P**	**00 03 04.2**	**+1.2**
ASAJ	**Asahikawa**	**23.63**	**353**	P	**P**	**00 03 04.2**	**+1.2**
	comp=Z,6.2nm,0.5s,baz=223,slow=9.0,SNR=5.4						
YHNB	**Yeheng**	**23.72**	**284**	P	**P**	**00 03 01.7**	**-2.5**
YHNB				IAmb	IAmb	00 03 07.3	
	comp=Z,25nm,1.0s						
YULB	**Yu-li**	**23.72**	**281**	P	**P**	**00 03 03.3**	**-0.9**
YULB				IAmb	IAmb	00 03 15.6	
	comp=Z,21nm,1.1s						
JAY	**Jayapura**	**23.79**	**195**	LR	LR	00 11 49.3	
	comp=Z,165nm,18.8s,baz=26,slow=35						
SSLB	**Suanglung**	**24.05**	**282**	P	**P**	**00 03 07.2**	**0.0**
SSLB				IAmb	IAmb	00 03 20.1	
	comp=Z,17nm,1.0s						
DAV	**Davao City (W)**	**24.54**	**240**	LR	LR	00 11 39.4	
	comp=Z,259nm,20.6s,baz=45,slow=34						
TGY	**Tagaytay City**	**25.45**	**259**	LR	LR	00 13 59.9	
	comp=Z,157nm,18.0s,baz=142,slow=38						
YSS	**Yuzh-Sakhalins**	**26.41**	**354**	P	**P**	**00 03 27.5**	**-0.9**
YSS				pmax	pmax		
	comp=Z,31nm,1.1s						
YSS	**Yuzh-Sakhalins**	**26.41**	**354**	P	**P**	**00 03 27.5**	**-0.9**
USA0B	**Ussuriysk Arra**	**26.47**	**336**	P	**P**	**00 03 28.9**	**0.0**
USA0B				pmax	pmax		
	comp=Z,17nm,1.2s						
USA0B	**Ussuriysk Arra**	**26.47**	**336**	P	**P**	**00 03 28.9**	**0.0**
USA0B				IAmb	IAmb	00 03 39.9	
	comp=Z,17nm,1.1s						
USRK	**Ussuriysk Ar.**	**26.47**	**336**	P	**P**	**00 03 30.6**	**+1.6**
	comp=Z,6.6nm,0.6s,baz=150,slow=8.8,SNR=18						
USRK				LR	LR	00 15 44.1	
	comp=Z,128nm,18.1s,baz=141,slow=40						
FAKI	**Fak Fak**	**27.41**	**213**	P	**P**	**00 03 37.2**	**-0.5**
PMG	**Port Moresby**	**29.89**	**179**	*i* P	**P**	**00 03 59.4**	**-0.3**
PMG				pmax	pmax		
	comp=Z,44nm,1.0s						
KLR	**Kul'dur**	**30.91**	**341**	*i* P	**P**	**00 04 08.3**	**-0.1**
KLR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GRNR	**Gornyy**	**31.11**	**347**	*i*P	**P**	**00 04 08.9**	**-1.3**
GRNR				pmax	pmax		
	comp=Z,7.0nm,1.2s						
PEA0B	**Petropavlovsk-**	**33.47**	**12**	P	**P**	**00 04 31.8**	**+1.0**
PEA0B				pmax	pmax		
	comp=Z,31nm,1.2s						
PEA0B	**Petropavlovsk-**	**33.47**	**12**	P	**P**	**00 04 31.8**	**+1.0**
PETK	**Petropavlovsk-**	**33.47**	**12**	LR	LR	00 20 59.9	
	comp=Z,97nm,18.3s,baz=238,slow=42						
COEN	**Coen**	**34.59**	**186**	P	**P**	**00 04 40.5**	**-0.4**
HIA	**Hailar**	**35.73**	**329**	*i* P	**P**	**00 04 49.5**	**-1.0**
HIA				pmax	pmax		
	comp=Z,34nm,1.1s						
HIA	**Hailar**	**35.73**	**329**	P	**P**	**00 04 50.1**	**-0.4**
HIA					**P**	**00 04 50.4**	**-0.1**
HIA				IAmb	IAmb	00 04 51.8	
	comp=Z,7.8nm,0.7s						
XAN	**Xi'an**	**35.91**	**300**	P	**P**	**00 04 51.0**	**-1.3**
XAN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
XAN	**Xi'an**	**35.91**	**300**	P	**P**	**00 04 51.0**	**-1.3**
HHC	**Hu-ho-hao-te**	**35.97**	**312**	*e*P	**P**	**00 04 52.8**	**+0.1**
HHC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,87nm,5.3s						
ZEA	**Zeya**	**36.22**	**340**	*e*P	**P**	**00 04 54.4**	**-0.1**
ZEA				pmax	pmax		
	comp=Z,17nm,1.0s						
LZH	**Lanzhou**	**40.40**	**302**	*e*P	**P**	**00 05 30.8**	**+0.6**
LZH				pP	sP	00 05 41.8	0.0
LZH				pmax	pmax		
	comp=Z,13nm,1.1s						
ULN	**Ulaanbaatar**	**41.86**	**320**	*ce*P	**P**	**00 05 41.7**	**-0.3**
ULN				pmax	pmax		
	comp=Z,17nm,2.5s						
WRAB	**Tennant Creek**	**42.14**	**197**	*i* P	**P**	**00 05 43.6**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,42nm,2.2s						
WRAB	**Tennant Creek**	**42.14**	**197**	P	**P**	**00 05 44.6**	**+0.3**
WRA	**Warramunga Arr**	**42.15**	**198**	P	**P**	**00 05 43.2**	**-1.2**
	comp=Z,3.1nm,0.7s,baz=19,slow=8.3,SNR=28						
WRA				PcP	**PcP**	**00 07 39.9**	**+1.3**
	comp=Z,3.1nm,0.8s,baz=10,slow=3.2,SNR=8.9						
WRA				LR	LR	00 23 19.3	
	comp=Z,145nm,20.4s,baz=0.0,slow=36						
SONM	**Songino Array**	**42.25**	**320**	P	**P**	**00 05 44.7**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=127,slow=9.2,SNR=5.7						
SONM				PcP	**PcP**	**00 07 39.5**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=137,slow=2.2,SNR=4.5						
SEY	**Seymchan**	**42.41**	**4**	*i* P	**P**	**00 05 46.3**	**+0.3**
SEY	**Seymchan**	**42.41**	**4**	P	**P**	**00 05 46.5**	**+0.5**
	comp=Z,5.3nm,0.5s,baz=192,slow=9.1,SNR=11						
YAK	**Yakutsk**	**42.98**	**348**	*i* P	**P**	**00 05 50.8**	**+0.1**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK	**Yakutsk**	**42.98**	**348**	P	**P**	**00 05 51.0**	**+0.3**
	comp=Z,4.3nm,0.5s,baz=251,slow=1.6,SNR=3.6						
YAK	**Yakutsk**	**42.98**	**348**	P	**P**	**00 05 50.2**	**-0.5**
YAK				IAmb	IAmb	00 05 51.8	
	comp=Z,9.8nm,0.8s						
GTA	**Gaotai**	**44.16**	**306**	*e*P	**P**	**00 05 59.3**	**-1.4**
CMAR	**Chiang Mai Arr**	**44.96**	**276**	P	**P**	**00 06 07.5**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=97,slow=5.0,SNR=5.2						
CMAR				LR	LR	00 23 09.0	
	comp=Z,53nm,21.7s,baz=99,slow=34						
ZAK	**Zakamensk**	**45.18**	**322**	*e*P	**P**	**00 06 08.8**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
TLY	**Talaya**	**45.54**	**323**	*i* P	**P**	**00 06 10.9**	**-0.5**
TLY				pmax	pmax		
	comp=Z,19nm,1.8s						
TLY	**Talaya**	**45.54**	**323**	P	**P**	**00 06 12.0**	**+0.7**
AS31	**Alice Springs**	**45.81**	**196**	P	**P**	**00 06 12.7**	**-1.1**
ASAR	**Alice Springs**	**45.81**	**196**	P	**P**	**00 06 13.4**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=14,slow=7.3,SNR=24						
ASAR				PcP	**PcP**	**00 07 50.2**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=18,slow=3.5,SNR=8.6						
ASAR				LR	LR	00 25 34.2	
	comp=Z,99nm,20.6s,baz=32,slow=36						
DZM	**Mont Dzumac**	**46.64**	**155**	P	**P**	**00 06 20.8**	**+0.4**
	comp=Z,5.1nm,0.9s,baz=14,slow=9.8,SNR=6.1						
DZM	**Mont Dzumac**	**46.64**	**155**	*e*P	**P**	**00 06 21.5**	**+1.1**
	comp=Z,30nm,1.6s						
DZM	**Mont Dzumac**	**46.64**	**155**	*e*LR	LR	00 19 26.9	
	comp=Z,258nm,25.3s						
DZM	**Mont Dzumac**	**46.64**	**155**	IAmb	IAmb	00 06 23.1	
	comp=Z,8.4nm,1.0s						
BILL	**Bilibino**	**48.92**	**10**	*c* iP	**P**	**00 06 38.1**	**+0.7**
BILL				pmax	pmax		
	comp=Z,16nm,2.5s						
BILL	**Bilibino**	**48.92**	**10**	P	**P**	**00 06 38.4**	**+0.9**
BILL				IAmb	IAmb	00 06 41.9	
	comp=Z,4.2nm,0.8s						
SHL	**Shillong**	**50.39**	**287**	P	**P**	**00 06 49.5**	**0.0**
SHL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SHL	**Shillong**	**50.39**	**287**	P	**P**	**00 06 49.5**	**0.0**
SHL				IAmb	IAmb	00 06 57.8	
	comp=Z,4.2nm,0.6s						
LSA	**Lhasa**	**50.69**	**292**	P	**P**	**00 06 52.3**	**+0.3**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LSA	**Lhasa**	**50.69**	**292**	P	**P**	**00 06 52.4**	**+0.3**
TIXI	**Tiksi**	**52.03**	**353**	*i* P	**P**	**00 07 00.5**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
STKA	**Stephens Creek**	**52.48**	**186**	P	**P**	**00 07 04.4**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=343,slow=9.9,SNR=4.0						
WMQ	**Urumqi**	**53

AAK	**Ala-Archa**	**63.40**	**308**	*i* P		**P**		**00 08 20.6**	**-0.9**
AAK				pmax		pmax				
	comp=Z,3.0nm,1.1s									
AAK	**Ala-Archa**	**63.40**	**308**	LR		LR		00 38 48.2		
	comp=Z,42nm,18.4s,baz=86,slow=39									
PALK	**Pallekele**	**65.06**	**269**	LR		LR		00 35 11.5		
	comp=Z,31nm,19.1s,baz=64,slow=34									
NIL	**Nilore**	**65.44**	**298**	P		**P**		**00 08 35.5**	**+0.7**
NIL				pmax		pmax				
	comp=Z,17nm,1.1s									
NIL	**Nilore**	**65.44**	**298**	P		**P**		**00 08 35.5**	**+0.7**
BRVK	**Borovoye**	**65.65**	**320**	*ce*P		**P**		**00 08 35.6**	**-0.2**
BRVK				pmax		pmax				
	comp=Z,33nm,1.7s									
BRVK	**Borovoye**	**65.65**	**320**	P		**P**		**00 08 36.3**	**+0.5**
KK31	**Karatay Array**	**66.28**	**309**	P		**P**		**00 08 40.4**	**+0.4**
KK31				pmax		pmax				
	comp=Z,6.0nm,0.9s									
KK31	**Karatay Array**	**66.28**	**309**	P		**P**		**00 08 40.4**	**+0.4**
KK31				IAmb		IAmb		00 08 42.2		
	comp=Z,6.1nm,0.8s									
KKAR	**Karatay Array**	**66.28**	**309**	P		**P**		**00 08 40.1**	**+0.1**
KKAR				pmax		pmax				
	comp=Z,6.0nm,0.9s									
KKAR	**Karatay Array**	**66.28**	**309**	P		**P**		**00 08 40.1**	**+0.1**
KKAR				IAmb		IAmb		00 08 42.2		
	comp=Z,6.1nm,0.8s									
INK	**Inuvik**	**67.18**	**23**	P		**P**		**00 08 45.2**	**-0.1**
	comp=Z,4.2nm,1.0s,baz=282,slow=6.0,SNR=7.3									
INK	**Inuvik**	**67.18**	**23**	IAmb		IAmb		00 08 46.2		
	comp=Z,7.1nm,1.1s									
MSWZ	**Moikau Station**	**67.20**	**157**	P		**P**		**00 08 46.3**	**+0.6**
FOZ	**Fox Glacier**	**67.32**	**162**	P		**P**		**00 08 46.9**	**+0.5**
PLWZ	**Palliser**	**67.33**	**157**	P		**P**		**00 08 47.0**	**+0.5**
LTZ	**Lake Taylor**	**67.39**	**160**	P		**P**		**00 08 46.9**	**0.0**
LTZ				IAmb		IAmb		00 08 58.5		
	comp=Z,5.7nm,0.9s									
RPZ	**Rata Peaks**	**67.85**	**161**	P		**P**		**00 08 50.0**	**+0.2**
MLZ	**Mavora Lakes**	**68.55**	**164**	P		**P**		**00 08 50.7**	**-3.4**
MLZ				IAmb		IAmb		00 08 59.1		
	comp=Z,6.6nm,1.0s									
KBL	**Kabul**	**68.72**	**300**	P		**P**		**00 08 54.7**	**-1.2**
KBL				pmax		pmax				
	comp=Z,7.0nm,0.9s									
KBL	**Kabul**	**68.72**	**300**	P		**P**		**00 08 54.7**	**-1.2**
SVE	**Sverdlovsk**	**70.84**	**325**	*e*P		**P**		**00 09 08.9**	**+0.7**
SVE				pmax		pmax				
	comp=Z,16nm,1.1s									
ARU	**Arti**	**72.03**	**324**	*c i*P		**P**		**00 09 15.4**	**0.0**
ARU								00 11 53.2		
ARU				S		**S**		**00 18 38.1**	**+3.5**
ARU				SS		**SS**		**00 23 10.2**	**-1.2**
ARU				pmax		pmax				
	comp=Z,41nm,1.7s									
ARU	**Arti**	**72.03**	**324**	LR		LR		00 42 07.7		
	comp=Z,42nm,19.4s,baz=162,slow=37									
ARU	**Arti**	**72.03**	**324**	P		**P**		**00 09 15.3**	**-0.1**
ABKAR	**Akbulak array**	**72.57**	**317**	P		**P**		**00 09 18.7**	**-0.1**
ABKAR				IAmb		IAmb		00 09 19.7		
	comp=Z,4.7nm,0.9s									
PPT	**Papeete**	**73.11**	**117**	LR		LR		00 35 59.3		
	comp=Z,53nm,19.2s,baz=184,slow=31									
PPT2	**Papeete2**	**73.12**	**117**	*e*LR		LR		00 31 28.2		
	comp=Z,214nm,28.8s									
AKTO	**Aktyubinsk**	**73.55**	**318**	LR		LR		00 43 58.2		
	comp=Z,54nm,18.1s,baz=77,slow=38									
HRA	**Herat**	**74.23**	**301**	P		**P**		**00 09 27.8**	**-1.3**
KEBM	**Edson Butte**	**75.48**	**49**	P		**P**		**00 09 36.5**	**+0.5**
YKA	**Yellowknife Ar**	**75.80**	**28**	P		**P**		**00 09 36.8**	**-0.5**
	comp=Z,2.9nm,0.7s,baz=287,slow=5.8,SNR=38									
GYA0B	**ALIBECK ARRAY**	**76.54**	**306**	P		**P**		**00 09 42.3**	**+0.2**
GYA0B				IAmb		IAmb		00 09 45.8		
	comp=Z,3.2nm,0.7s									
PRGR	**Permogore**	**77.16**	**331**	*e*P		**P**		**00 09 42.6**	**-2.4**
PRGR				pmax		pmax				
	comp=Z,24nm,0.4s									
B08A	**Colville Reser**	**77.37**	**43**	IAmb		IAmb		00 09 48.2		
	comp=Z,4.4nm,0.8s									
ORV	**Oroville**	**78.45**	**52**	P		**P**		**00 09 52.9**	**+0.2**
ORV				pmax		pmax				
	comp=Z,5.0nm,1.0s									
ORV	**Oroville**	**78.45**	**52**	P		**P**		**00 09 52.9**	**+0.2**
G08A	**Pilot Rock**	**78.53**	**46**	P		**P**		**00 09 53.6**	**+0.4**
MOD	**Modoc Plateau**	**78.62**	**50**	P		**P**		**00 09 53.4**	**-0.4**
MOD				IAmb		IAmb		00 09 55.5		
	comp=Z,6.2nm,1.1s									
E09A	**Wood Farm, Sta**	**78.69**	**45**	P		**P**		**00 09 54.6**	**+0.8**
E09A				IAmb		IAmb		00 09 55.8		
	comp=Z,6.1nm,0.8s									
NEW	**Newport**	**78.81**	**43**	P		**P**		**00 09 54.2**	**-0.4**
NEW				pmax		pmax				
	comp=Z,3.0nm,0.8s									
NEW	**Newport**	**78.81**	**43**	P		**P**		**00 09 54.1**	**-0.4**
WVOR	**Wild Horse Val**	**79.63**	**49**	P		**P**		**00 10 00.1**	**+0.8**
WVOR				pmax		pmax				
	comp=Z,7.0nm,1.1s									
WVOR	**Wild Horse Val**	**79.63**	**49**	P		**P**		**00 10 00.1**	**+0.8**
WVOR				IAmb		IAmb		00 10 01.0		
	comp=Z,6.5nm,1.1s									
CMB	**Columbia Colle**	**79.74**	**53**	P		**P**		**00 09 59.8**	**0.0**
CMB				pmax		pmax				
	comp=Z,6.0nm,1.0s									
CMB	**Columbia Colle**	**79.74**	**53**	P		**P**		**00 09 59.8**	**0.0**
BMO	**Blue Mountains**	**79.78**	**46**	P		**P**		**00 10 00.7**	**+0.7**
BMO				pmax		pmax				
	comp=Z,4.0nm,0.7s									
BMO	**Blue Mountains**	**79.78**	**46**	IAmb		IAmb		00 10 01.7		
	comp=Z,4.5nm,0.7s									
PNTR	**Pine Nut**	**80.00**	**52**	IAmb		IAmb		00 10 03.6		
	comp=Z,5.4nm,0.8s									
YERR	**Yerington**	**80.29**	**52**	P		**P**		**00 10 03.0**	**-0.1**
YERR				IAmb		IAmb		00 10 04.9		
	comp=Z,5.5nm,0.9s									
WAKR	**Walker**	**80.30**	**53**	P		**P**		**00 10 04.1**	**+1.0**
WAKR				IAmb		IAmb		00 10 05.2		
	comp=Z,5.6nm,1.0s									
WALA	**Waterton Lakes**	**80.55**	**41**	P		**P**		**00 10 04.7**	**+0.6**
WALA				IAmb		IAmb		00 10 06.9		
	comp=Z,10nm,1.1s									
PAGB	**Antelope Grade**	**80.57**	**55**	P		**P**		**00 10 03.7**	**-0.6**
PAGB				IAmb		IAmb		00 10 06.5		
	comp=Z,8.7nm,0.9s									
PLID	**Pearl Lake**	**80.58**	**45**	P		**P**		**00 10 04.6**	**+0.1**
TULEG	**Thule**	**80.64**	**8**	P		**P**		**00 10 03.9**	**+0.1**
JTMT	**Jette**	**80.78**	**42**	P		**P**		**00 10 05.6**	**+0.3**
JTMT				IAmb		IAmb		00 10 07.0		
	comp=Z,5.1nm,0.9s									
ARCES	**ARCESS Array B**	**80.92**	**342**	P		**P**		**00 10 05.5**	**0.0**
ARCES				pmax		pmax				
	comp=Z,1.0nm,0.5s									
ARCES	**ARCESS Array B**	**80.92**	**342**	P		**P**		**00 10 05.1**	**-0.4**
	comp=Z,2.7nm,0.6s,baz=60,slow=7.4,SNR=15									
RYN	**Ryan**	**80.94**	**52**	P		**P**		**00 10 07.1**	**+0.7**
KVN	**Kaiserville**	**81.11**	**52**	P		**P**		**00 10 07.3**	**-0.1**
KVN				pmax		pmax				
	comp=Z,6.0nm,0.8s									
KVN	**Kaiserville**	**81.11**	**52**	P		**P**		**00 10 07.3**	**-0.1**
KVN				IAmb		IAmb		00 10 09.2		
	comp=Z,5.8nm,0.8s									
NVAR	**Mina Array Bea**	**81.17**	**52**	P		**P**		**00 10 08.3**	**+0.6**
	comp=Z,5.4nm,0.7s,baz=270,slow=5.8,SNR=29									
NVAR				LR		LR		00 37 46.7		
	comp=Z,66nm,21.9s,baz=268,slow=30									
MFID	**Camas Ranch**	**81.26**	**47**	P		**P**		**00 10 08.5**	**+0.5**
MFID				IAmb		IAmb		00 10 09.8		
	comp=Z,6.7nm,1.1s									
NV11	**Mina Array Sit**	**81.28**	**52**	P		**P**		**00 10 09.3**	**+1.1**
NV11				IAmb		IAmb		00 10 10.2		
	comp=Z,4.5nm,0.8s									
ELK	**Elko**	**82.60**	**49**	P		**P**		**00 10 15.8**	**+0.5**
ELK				pmax		pmax				
	comp=Z,5.0nm,0.9s									
ELK	**Elko**	**82.60**	**49**	P		**P**		**00 10 15.8**	**+0.5**
ELK				IAmb		IAmb		00 10 17.1		
	comp=Z,5.1nm,0.9s									
LRM	**Limekiln Ridge**	**82.65**	**44**	P		**P**		**00 10 14.8**	**-0.7**
VRH	**Novokhopyorsk**	**83.09**	**322**	*e*P		**P**		**00 10 16.1**	**-1.1**
VRH				pmax		pmax				
	comp=Z,10.0nm,1.0s									
R11A	**Troy Canyon, C**	**83.20**	**52**	IAmb		IAmb		00 10 20.9		
	comp=Z,6.7nm,1.1s									
GSC	**Goldstone, Bar**	**83.36**	**55**	P		**P**		**00 10 19.2**	**+0.1**
GSC				pmax		pmax				
	comp=Z,2.0nm,0.8s									
GSC	**Goldstone, Bar**	**83.36**	**55**	P		**P**		**00 10 19.2**	**+0.1**
QLMT	**Earthquake Lak**	**83.69**	**44**	P		**P**		**00 10 21.8**	**+1.1**
YHB	**Horse Butte**	**83.88**	**44**	P		**P**		**00 10 22.1**	**+0.3**
HVU	**Hansel Valley**	**83.95**	**48**	P		**P**		**00 10 22.3**	**+0.2**
HVU				pmax		pmax				
	comp=Z,9.0nm,1.1s									
HVU	**Hansel Valley**	**83.95**	**48**	P		**P**		**00 10 22.3**	**+0.2**
109C	**Camp Elliot, M**	**83.97**	**57**	P		**P**		**00 10 21.0**	**-1.2**
LPSR	**Galich'ya Gora**	**84.06**	**324**	*e*P		**P**		**00 10 21.8**	**-0.4**
LPSR				pmax		pmax				
	comp=Z,40nm,1.6s									
YMR	**Madison River**	**84.06**	**44**	P		**P**		**00 10 23.3**	**+0.6**
YHH	**Holmes Hill**	**84.09**	**44**	P		**P**		**00 10 23.6**	**+0.7**
OBN	**Obninsk**	**84.16**	**327**	*i*P		**P**		**00 10 21.8**	**-0.8**
OBN				pmax		pmax				
	comp=Z,14nm,1.1s									
OBN	**Obninsk**	**84.16**	**327**	P		**P**		**00 10 22.9**	**+0.3**
SHPR	**Sheep Range**	**84.18**	**53**	IAmb		IAmb		00 10 25.4		
	comp=Z,4.2nm,0.9s									
PFO	**Pinyon Flats O**	**84.22**	**56**	P		**P**		**00 10 23.5**	**-0.1**
PFO				pmax		pmax				
	comp=Z,3.0nm,0.8s									
PFO	**Pinyon Flats O**	**84.22**	**56**	P		**P**		**00 10 23.5**	**-0.1**
PFO				IAmb		IAmb		00 10 24.9		
	comp=Z,3.0nm,0.8s									
XPFO	**Pion Flat**	**84.22**	**56**	P		**P**		**00 10 23.8**	**+0.2**
XPFO				IAmb		IAmb		00 10 24.9		
	comp=Z,3.1nm,0.8s									
YNR	**Norris Junctio**	**84.23**	**44**	P		**P**		**00 10 24.8**	**+1.3**
YUF	**Upper Falls**	**84.34**	**44**	P		**P**		**00 10 24.0**	**-0.1**
SPUT	**South Promonto**	**84.36**	**48**	P		**P**		**00 10 24.5**	**+0.4**
IMW	**Indian Meadow**	**84.38**	**45**	P		**P**		**00 10 24.6**	**+0.2**
IMW				IAmb		IAmb		00 10 26.7		
	comp=Z,5.2nm,0.9s									
BAR	**Barrett**	**84.39**	**57**	P		**P**		**00 10 23.9**	**-0.4**
PSUT	**Pine Spring**	**84.40**	**51**	P		**P**		**00 10 24.2**	**-0.3**
FXWY	**Fox Creek**	**84.42**	**45**	P		**P**		**00 10 24.9**	**+0.3**
H17A	**Grant Village**	**84.42**	**45**	P		**P**		**00 10 26.1**	**+1.5**
GCMT	**Greycliff**	**84.45**	**43**	P		**P**		**00 10 24.7**	**+0.2**
FLWY	**Flagg Ranch**	**84.47**	**45**	P		**P**		**00 10 25.2**	**+0.5**
FLWY				IAmb		IAmb		00 10 27.4		
	comp=Z,5.6nm,0.8s									
LKWY	**Lake**	**84.47**	**44**	P		**P**		**00 10 25.7**	**+0.9**
LKWY	**Lake**	**84.47**	**44**	P		**P**		**00 10 25.6**	**+0.9**
LKWY				IAmb		IAmb		00 10 28.5		
	comp=Z,5.4nm,1.1s									
DUG	**Dugway, Tooele**	**84.52**	**49**	P		**P**		**00 10 25.4**	**+0.4**
DUG				pmax		pmax				
	comp=Z,6.0nm,1.0s									
DUG	**Dugway, Tooele**	**84.52**	**49**	P		**P**		**00 10 25.4**	**+0.4**
DUG				IAmb		IAmb		00 10 26.7		
	comp=Z,5.6nm,0.9s									
TPAW	**Teton Pass**	**84.53**	**46**	P		**P**		**00 10 26.0**	**+0.8**
TPAW				IAmb		IAmb		00 10 28.0		
	comp=Z,2.9nm,0.8s									
VSR	**Storozhevoye**	**84.54**	**323**	*i* P		**P**		**00 10 24.4**	**-0.2**
VSR				pmax		pmax				
	comp=Z,19nm,1.1s									
YNE	**Yellowstone No**	**84.55**	**44**	P		**P**		**00 10 24.8**	**-0.4**
YMP	**Mirror Lake Pl**	**84.56**	**44**	P		**P**		**00 10 25.6**	**+0.2**
REDW	**Red Top Meadow**	**84.65**	**46**	P		**P**		**00 10 26.3**	**+0.6**
SNOW	**Snow King Moun**	**84.67**	**46**	P		**P**		**00 10 25.7**	**-0.1**
SNOW				IAmb		IAmb		00 10 27.4		
	comp=Z,3.4nm,0.8s									
AHID	**Auburn Hatcher**	**84.72**	**46**	IAmb		IAmb		00 10 29.1		
	comp=Z,3.6nm,1.1s									
FFC	**Flin Flon**	**84.92**	**33**	P		**P**		**00 10 26.6**	**+0.1**
FFC				pmax		pmax				
	comp=Z,7.0nm,0.8s									
FFC	**Flin Flon**	**84.92**	**33**	P		**P**		**00 10 27.1**	**+0.7**
TBLG	**Delisi**	**85.00**	**313**	P		**P**		**00 10 26.0**	**-1.2**
TBLG				pmax		pmax				
	comp=Z,3.0nm,0.6s									
TBLG	**Delisi**	**85.00**	**313**	P		**P**		**00 10 26.0**	**-1.2**
TBLG				IAmb		IAmb		00 10 34.2		
	comp=Z,3.0nm,0.6s									
TCUT	**Toone Canyon**	**85.15**	**48**	P		**P**		**00 10 28.4**	**+0.1**
SZCU	**Shurtz Canyon**	**85.31**	**52**	P		**P**		**00 10 29.4**	**+0.2**
LCMT	**Little Creek M**	**85.42**	**52**	P		**P**		**00 10 29.8**	**+0.2**
KBZ	**Khabaz**	**85.44**	**315**	P		**P**		**00 10 30.1**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=256,slow=18,SNR=4.5									
KIV	**Kislovodsk**	**85.49**	**315**	*e*P		**P**		**00 10 29.1**	**-0.6**
KIV				pmax		pmax				
	comp=Z,18nm,1.1s									
KIV	**Kislovodsk**	**85.49**	**315**	P		**P**		**00 10 29.2**	**-0.5**
FIA1	**FINESS Array S**	**85.50**	**336**	P		**P**		**00 10 28.1**	**-1.1**
FINES	**FINESS Array B**	**85.50**	**336**	P		**P**		**00 10 28.4**	**-0.9**
	comp=Z,9.0nm,0.6s,baz=68,slow=5.2,SNR=55									
KNB	**Kanab**	**85.73**	**52**	P		**P**		**00 10 32.9**	**+1.7**
KNB				pmax		pmax				
	comp=Z,11nm,1.1s									
KNB	**Kanab**	**85.73**	**52**	P		**P**		**00 10 32.9**	**+1.7**
PD31	**Pinedale Array**	**85.76**	**46**	P		**P**		**00 10 30.8**	**-0.4**
PDAR	**Pinedale Array**	**85.76**	**46**	P		**P**		**00 10 31.1**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=212,slow=1.5,SNR=5.9									
PDAR				LR		LR		00 42 06.1		
	comp=Z,32nm,20.9s,baz=318,slow=31									
P17A	**Butcher Ranch,**	**86.28**	**49**	P		**P**		**00 10 33.8**	**0.0**
U15A	**North Rim**	**86.35**	**52**	IAmb		IAmb		00 10 36.5		
	comp=Z,4.8nm,0.9s									
FCC	**Fort Churchill**	**86.47**	**27**	P		**P**		**00 10 34.1**	**0.0**
FCC				pmax		pmax				
	comp=Z,10.0nm,1.0s									
FCC	**Fort Churchill**	**86.47**	**27**	P		**P**		**00 10 34.1**	**0.0**
113A	**Mohawk Valley,**	**86.63**	**56**	P		**P**		**00 10 33.8**	**-1.6**
113A				IAmb		IAmb		00 10 37.0		
	comp=Z,2.9nm,0.8s									
RDMU	**Red Mountain**	**86.65**	**48**	P		**P**		**00 10 36.2**	**+0.5**
Y14A	**Wickenburg**	**86.77**	**55**	IAmb		IAmb		00 10 38.0		
	comp=Z,5.0nm,0.8s									
214A	**Organ Pipe Nat**	**87.69**	**57**	IAmb		IAmb		00 10 42.6		
	comp=Z,3.8nm,0.8s									
X16A	**Lo Mia Camp, P**	**87.78**	**54**	IAmb		IAmb		00 10 44.0		
	comp=Z,3.9nm,1.1s									
RWWY	**Rawlins**	**87.79**	**46**	P		**P**		**00 10 41.2**	**-0.1**
K22A	**Casper**	**87.83**	**45**	P		**P**		**00 10 39.7**	**-1.6**
K22A				IAmb		IAmb		00 10 50.4		
	comp=Z,4.4nm,0.9s									
W18A	**Petrified Fore**	**88.78**	**53**	P		**P**		**00 10 46.4**	**+0.4**
RSSD	**Black Hills**	**88.78**	**43**	P		**P**		**00 10 45.4**	**-0.4**
RSSD				pmax		pmax				
	comp=Z,4.0nm,1.0s									
RSSD	**Black Hills**	**88.78**	**43**	P		**P**		**00 10 45.4**	**-0.4**
RSSD				IAmb		IAmb		00 10 48.5		
	comp=Z,4.3nm,1.0s									
X18A	**Snowflake**	**88.86**	**53**	P		**P**		**00 10 46.4**	**0.0**
X18A				IAmb		IAmb		00 10 48.6		
	comp=Z,4.7nm,1.1s									
SMCO	**Snowmass**	**89.05**	**48**	IAmb		IAmb		00 10 49.3		
	comp=Z,4.7nm,0.8s									
TUC	**Tucson**	**89.13**	**56**	P		**P**		**00 10 47.2**	**-0.3**
TUC				pmax		pmax				
	comp=Z,5.0nm,1.1s									
TUC	**Tucson**	**89.13**	**56**	P		**P**		**00 10 47.2**	**-0.3**
TUC				IAmb		IAmb		00 10 49.7		
	comp=Z,4.8nm,1.1s									
PHWY	**Pilot Hill**	**89.14**	**46**	P		**P**		**00 10 47.2**	**-0.4**
PHWY				IAmb		IAmb		00 11 02.1		
	comp=Z,3.5nm,1.1s									
MDND	**Maddock**	**89.64**	**38**	P		**P**		**00 10 48.7**	**-0.8**
ISCO	**Idaho Springs**	**89.72**	**47**	P		**P**		**00 10 50.2**	**-0.2**
ISCO				pmax		pmax				
	comp=Z,3.0nm,0.8s									
ISCO	**Idaho Springs**	**89.72**	**47**	P		**P**		**00 10 50.2**	**-0.2**
ISCO				IAmb		IAmb		00 10 52.6		
	comp=Z,2.7nm,0.8s									
S22A	**4UR Ranch, Cre**	**89.78**	**49**	P		**P**		**00 10 50.7**	**-0.1**
S22A				IAmb		IAmb		00 10 52.8		
	comp=Z,3.6nm,1.0s									
AKASG	**Malin Array Se**	**90.24**	**326**	P		**P**		**00 10 50.4**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=42,slow=5.0,SNR=8.7									
HSIG		**90.32**	**59**	IAmb		IAmb		00 10 55.0		
	comp=Z,4.6nm,0.8s									
Q24A	**Divide**	**90.42**	**48**	P		**P**		**00 10 53.4**	**-0.3**
Q24A				IAmb		IAmb		00 11 03.5		
	comp=Z,4.2nm,0.8s									
ULM	**Lac du Bonnet**	**90.43**	**35**	P		**P**		**00 10 52.2**	**-0.9**
ULM				pmax		pmax				
	comp=Z,5.0nm,1.1s									
ULM	**Lac du Bonnet**	**90.43**	**35**	P		**P**		**00 10 52.2**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=307,slow=5.1,SNR=3.3									
ULM	**Lac du Bonnet**	**90.43**	**35**	IAmb		IAmb		00 10 54.6		
	comp=Z,5.3nm,1.1s									
SDCO	**Great Sand Dun**	**90.72**	**49**	IAmb		IAmb		00 10 56.9		
	comp=Z,2.6nm,0.8s									
NOA	**NORSAR Array B**	**91.06**	**340**	P		**P**		**00 10 55.0**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=39,slow=4.8,SNR=2.4									
NOA				LR		LR		01 00 55.1		
	comp=Z,18nm,18.8s,baz=270,slow=42									
ANMO	**Albuquerque**	**91.28**	**52**	*ce*P		**P**		**00 10 56.4**	**-1.3**
ANMO				pmax		pmax				
	comp=Z,2.0nm,1.1s									
ANMO	**Albuquerque**	**91.28**	**52**	P		**P**		**00 10 58.7**	**+1.0**
ANMO				IAmb		IAmb		00 10 59.7		
	comp=Z,3.4nm,1.1s									
121A	**Cookes Peak, D**	**91.34**	**55**	P		**P**		**00 10 58.4**	**+0.4**
121A				IAmb		IAmb		00 11 00.7		
	comp=Z,5.5nm,1.1s									
KSCO	**Kaye Shedlock'**	**92.13**	**47**	P		**P**		**00 11 01.6**	**+0.2**
BR131	**Keskin Array S**	**93.43**	**315**	P		**P**		**00 11 06.5**	**-0.9**
BR131				pmax		pmax				
	comp=Z,2.0nm,1.1s									
BR131	**Keskin Array S**	**93.43**	**315**	P		**P**		**00 11 06.5**	**-0.9**
BRTR	**Keskin Array B**	**93.43**	**315**	P		**P**		**00 11 07.0**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=93,slow=5.8,SNR=3.2									
BRTR				LR		LR		00 57 40.9		
	comp=Z,16nm,19.3s,baz=22,slow=38									
MNTX	**Cornudas Mount**	**93.53**	**54**	IAmb		IAmb		00 11 09.9		
	comp=Z,3.2nm,0.8s									
ECSD	**EROS Data Cent**	**93.60**	**40**	P		**P**		**00 11 08.2**	**+0.2**
BGNE	**Belgrade**	**93.89**	**43**	P		**P**		**00 11 09.9**	**+0.6**
GDL2	**Guadalupe Moun**	**94.08**	**54**	P		**P**		**00 11 10.7**	**+0.2**
AMTX	**Amarillo**	**94.79**	**50**	P		**P**		**00 11 13.1**	**-0.6**
TXAR	**Lajitas Array**	**95.93**	**56**	P		**P**		**00 11 19.2**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=317,slow=3.2,SNR=6.4									
TXAR				LR		LR		00 48 23.5		
	comp=Z,17nm,21.2s,baz=0.0,slow=32									
TORD	**Torodi Ar. Bea**	**131.93**	**311**	PKP		**PKPdf**		**00 17 05.8**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=19,slow=4.3,SNR=3.6									
DBIC	**Dimbokro**	**141.04**	**311**	PKP		**PKPdf**		**00 17 21.9**	**-0.8**
	comp=Z,7.3nm,1.2s,baz=0.0,slow=3.0,SNR=2.8									
PLCA	**Paso Flores**	**142.59**	**131**	PKP		**PKPdf**		**00 17 22.5**	**-2.3**
	comp=Z,3.3nm,0.9s,baz=168,slow=1.3,SNR=3.9									
LPAZ	**La Paz**	**146.69**	**88**	PKP2		**PKPbc**		**00 17 35.4**	**+0.5**
LPAZ	**La Paz**	**146.69**	**88**	PKPbc		**PKPab**		**00 17 35.5**	**-0.5**
	comp=Z,5.7nm,0.6s,baz=272,slow=2.7,SNR=37									
LPAZ	**La Paz**	**146.69**	**88**			**PKPbc**		**00 17 35.4**	**+0.5**

IDC ***29*** *00:00:01.1±0.6,20.74N×146.75E,h0km,mb4.4/22, mb1 4.5/24,mb1mx4.4/45,mbtmp4.4/24,ML3.6/2,Error ellipse: s-maj=19.7km s-min=15.6km az=83.0*
BJI ***29*** *00:00:01.3±0.0,20.63N×147.11E,h30km,mb4.7/31, mB5.1/22,Ms4.8/7,Ms7 4.7/6*
NEIC ***29*** *00:00:02.5±1.4,20.78N±0.07×146.76E±0.09,h10km±1km, mb4.7/110*
MOS ***29*** *00:00:03.3±1.0,20.70N×146.72E,h26km,mb4.9/46,Error ellipse: s-maj=10.2km s-min=5.6km az=108.0*
ISCJB ***29*** *00:00:04.5±0.2,20.71N±0.03×146.73E±0.03,h34km, mb4.6/74,MS4.5/2,Error ellipse: s-maj=4.6km s-min=4.3km az=36.9*

ISC 29 00:00:06.0±0.3, 20.70N±0.05×146.80E±0.06, h34km, n241, σ1§10/245, mb4.7/105, 10C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**4.09**	**194**	Pn	Pn	00 01 09.0	+2.7
ANA2	**Anatahan**	**4.46**	**194**	Pn	**Pn**	**00 01 12.0**	**+0.8**
JHJ2	**Mitsune**	**13.84**	**335**	Pn	**Pn**

	comp=Z,16nm,1.0s						
LZH	**Lanzhou**	**40.44**	**302**	*e*P	**P**	**00 07 41.5**	**0.0**
LZH				pP	pwP	00 07 53.0	-3.0
LZH				sP	sP	00 07 58.3	+4.9
LZH				pmax	pmax		
	comp=Z,15nm,0.9s						
KMI	**Kunming**	**40.69**	**285**	P	**P**	**00 07 46.0**	**+2.2**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ADK	**Adak**	**42.09**	**33**	P	**P**	**00 07 54.4**	**-0.1**
ADK				pmax	pmax		
	comp=Z,25nm,1.1s						
ADK	**Adak**	**42.09**	**33**	P	**P**	**00 07 54.4**	**-0.1**
ADK				IAmb	IAmb	00 08 13.1	
	comp=Z,25nm,1.1s						
WRAB	**Tennant Creek**	**42.18**	**198**	P	**P**	**00 07 55.6**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRAB	**Tennant Creek**	**42.18**	**198**	P	**P**	**00 07 55.6**	**-0.1**
WRA	**Warramunga Arr**	**42.20**	**198**	P	**P**	**00 07 55.6**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=18,slow=8.5,SNR=5.3						
WRA				PcP	**PcP**	**00 09 50.7**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=12,slow=3.3,SNR=8.1						
SONM	**Songino Array**	**42.27**	**320**	P	**P**	**00 07 55.2**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=134,slow=7.2,SNR=5.3						
SONM				PcP	**PcP**	**00 09 50.1**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=148,slow=2.4,SNR=4.2						
SEY	**Seymchan**	**42.38**	**4**	*i* P	**P**	**00 07 59.3**	**+2.6**
SEY	**Seymchan**	**42.38**	**4**	P	**P**	**00 07 57.3**	**+0.6**
	comp=Z,3.6nm,0.5s,baz=202,slow=19,SNR=5.8						
YAK	**Yakutsk**	**42.97**	**348**	*i* P	**P**	**00 08 01.5**	**0.0**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
FUNA	**Funafuti**	**43.10**	**129**	P	**P**	**00 08 03.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**43.79**	**210**	P	**P**	**00 08 09.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**45.02**	**276**	*ce*P	**P**	**00 08 19.7**	**+1.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**45.02**	**276**	P	**P**	**00 08 19.0**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=89,slow=5.5,SNR=5.0						
ZAK	**Zakamensk**	**45.21**	**322**	*e*P	**P**	**00 08 19.8**	**0.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TLY	**Talaya**	**45.56**	**323**	*i* P	**P**	**00 08 22.6**	**+0.1**
TLY				pmax	pmax		
	comp=Z,16nm,1.7s						
TLY	**Talaya**	**45.56**	**323**	P	**P**	**00 08 21.5**	**-1.0**
TLY				IAmb	IAmb	00 08 24.1	
	comp=Z,6.2nm,0.8s						
ASAR	**Alice Springs**	**45.85**	**197**	P	**P**	**00 08 25.0**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=13,slow=7.9,SNR=4.2						
ASAR				PcP	**PcP**	**00 10 02.8**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=22,slow=3.8,SNR=6.5						
EIDS	**Eidsvold**	**45.98**	**175**	P	**P**	**00 08 25.7**	**-0.3**
KULM	**Kulim**	**47.31**	**258**	P	**P**	**00 08 36.9**	**+0.2**
BILL	**Bilibino**	**48.88**	**10**	*i* P	**P**	**00 08 47.2**	**-0.9**
BILL				*i*		00 08 59.5	
BILL				*i*		00 10 09.2	
BILL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SHL	**Shillong**	**50.45**	**287**	P	**P**	**00 08 59.6**	**-1.3**
SHL				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SHL	**Shillong**	**50.45**	**287**	P	**P**	**00 08 59.6**	**-1.3**
SHL				IAmb	IAmb	00 09 01.6	
	comp=Z,5.6nm,0.6s						
LSA	**Lhasa**	**50.74**	**292**	P	**P**	**00 09 03.5**	**+0.1**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LSA	**Lhasa**	**50.74**	**292**	P	**P**	**00 09 03.5**	**+0.1**
LSA				IAmb	IAmb	00 09 05.9	
	comp=Z,6.8nm,0.8s						
TIXI	**Tiksi**	**52.02**	**353**	*i* P	**P**	**00 09 14.5**	**+2.8**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s						
STKA	**Stephens Creek**	**52.52**	**186**	P	**P**	**00 09 15.7**	**-0.2**
STKA				pmax	pmax		
	comp=Z,1.0nm,1.2s						
STKA	**Stephens Creek**	**52.52**	**186**	P	**P**	**00 09 15.7**	**-0.2**
WMQ	**Urumqi**	**53.81**	**310**	*e*P	**P**	**00 09 26.0**	**+0.4**
WMQ				pmax	pmax		
	comp=Z,10.0nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,160nm,6.5s						
WMQ				LR	LR		
	comp=Z,500nm,29.2s						
WMQ				LR	LR		
	comp=Z,630nm,28.8s						
KHU	**Kahuku**	**53.89**	**81**	P	**P**	**00 09 25.9**	**-0.7**
KHU				pmax	pmax		
	comp=Z,87nm,1.2s						
KHU	**Kahuku**	**53.89**	**81**	P	**P**	**00 09 25.9**	**-0.7**
TAPN	**Taplejung**	**53.96**	**289**	*e*P	**P**	**00 09 25.6**	**-1.6**
	comp=Z,14nm,0.7s						
MLH	**Mauna Loa**	**54.05**	**80**	P	**P**	**00 09 24.9**	**-3.0**
FORT	**Forrest**	**54.26**	**200**	P	**P**	**00 09 28.8**	**+0.1**
ODAN	**Odare**	**54.30**	**289**	*e*P	**P**	**00 09 28.2**	**-1.4**
	comp=Z,19nm,0.7s						
RAMN	**Ramite**	**54.99**	**289**	*e*P	**P**	**00 09 34.6**	**0.0**
CHIR	**Chirikof Islan**	**55.01**	**36**	P	**P**	**00 09 35.2**	**+1.2**
JIRN	**Jiri**	**55.27**	**290**	*e*P	**P**	**00 09 36.7**	**0.0**
	comp=Z,43nm,0.7s						
GUN	**Gumba**	**55.51**	**290**	*e*P	**P**	**00 09 38.9**	**+0.5**
	comp=Z,41nm,1.1s						
PKI	**Pulchoki**	**55.96**	**290**	*e*P	**P**	**00 09 41.7**	**0.0**
PKIN	**Phulchoki**	**55.97**	**290**	*e*P	**P**	**00 09 41.5**	**-0.2**
	comp=Z,9.2nm,0.6s						
KKN	**Kakani**	**56.05**	**290**	*e*P	**P**	**00 09 42.5**	**+0.3**
	comp=Z,20nm,0.9s						
BOK	**Bokaro**	**56.09**	**285**	*e*P	**P**	**00 09 43.6**	**+1.4**
BOK				IAmb	IAmb	00 09 46.5	
	comp=Z,6.0nm,0.6s						
DMN	**Daman**	**56.23**	**290**	*e*P	**P**	**00 09 43.8**	**+0.3**
ZAA0	**Zalesovo Array**	**57.09**	**322**	P	**P**	**00 09 48.5**	**-0.3**
ZALV	**Zalesovo Beam**	**57.09**	**322**	P	**P**	**00 09 48.4**	**-0.4**
	comp=Z,19nm,0.5s,baz=108,slow=7.8,SNR=35						
ZALV				PcP	**PcP**	**00 10 42.8**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=118,slow=3.2,SNR=2.5						
DANN	**Dangsing**	**57.31**	**291**	*e*P	**P**	**00 09 51.9**	**+0.7**
	comp=Z,82nm,0.8s						
XMAS	**Kiritimati**	**57.38**	**101**	P	**P**	**00 09 48.9**	**-2.7**
KOLN	**Koldanda**	**57.53**	**290**	*e*P	**P**	**00 09 54.8**	**+2.2**
MK31	**Makanchi Array**	**57.85**	**313**	*i* P	**P**	**00 09 54.4**	**0.0**
MK31	**Makanchi Array**	**57.85**	**313**	P	**P**	**00 09 54.3**	**0.0**
MK31				IAmb	IAmb	00 09 55.4	
	comp=Z,5.4nm,0.9s						
MKAR	**Makanchi Array**	**57.85**	**313**	*ce*P	**P**	**00 09 54.5**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	**Makanchi Array**	**57.85**	**313**	P	**P**	**00 09 54.1**	**-0.2**
	comp=Z,4.7nm,0.7s,baz=92,slow=8.8,SNR=15						
MKAR				PcP	**PcP**	**00 10 46.5**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=73,slow=6.2,SNR=2.8						
NIUE	**Niue**	**57.96**	**130**	P	**P**	**00 09 55.1**	**-0.2**
MAKZ	**Makanchi**	**58.07**	**313**	P	**P**	**00 09 55.3**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MAKZ	**Makanchi**	**58.07**	**313**	P	**P**	**00 09 55.3**	**-0.6**
MAKZ				IAmb	IAmb	00 09 57.0	
	comp=Z,9.0nm,0.8s						
BRLK	**Bradley Lake**	**58.45**	**32**	P	**P**	**00 09 57.6**	**-0.7**
RC01	**Rabbit Creek A**	**59.31**	**30**	P	**P**	**00 10 04.5**	**+0.3**
RC01				IAmb	IAmb	00 10 05.9	
	comp=Z,4.7nm,1.0s						
BPAW	**Bear Paw Mtn.**	**59.51**	**27**	P	**P**	**00 10 06.8**	**+1.2**
MLY	**Manley**	**59.87**	**26**	P	**P**	**00 10 08.7**	**+0.6**
NRIK	**Noril'sk**	**60.10**	**339**	P	**P**	**00 10 10.0**	**+0.4**
	comp=Z,16nm,0.7s,baz=104,slow=8.4,SNR=20						
KURK	**Kurchatov**	**60.50**	**317**	*ce*P	**P**	**00 10 12.6**	**0.0**
KURK				pmax	pmax		
	comp=Z,14nm,0.8s						
TOLK	**Toolik Lake Re**	**61.36**	**22**	P	**P**	**00 10 17.9**	**-0.2**
TOLK				IAmb	IAmb	00 10 19.8	
	comp=Z,4.4nm,1.0s						
ILAR	**Eielson Array**	**61.40**	**27**	P	**P**	**00 10 17.3**	**-1.2**
	comp=Z,1.8nm,1.1s,baz=261,slow=6.0,SNR=4.3						
KDJ	**Kajisay**	**61.49**	**307**	P	**P**	**00 10 16.2**	**-3.5**
KDJ				pmax	pmax		
	comp=Z,18nm,1.1s						
KDJ	**Kajisay**	**61.49**	**307**	P	**P**	**00 10 16.2**	**-3.5**
KSH	**Kashi**	**62.58**	**305**	P	P	00 10 30.5	+3.5
KSH				ScP	**ScP**	**00 15 07.8**	**+2.3**
KSH				S	**S**	**00 18 54.3**	**+1.5**
KSH				sS	sS	00 19 11.5	+4.1
KSH				ScS	**ScS**	**00 20 16.5**	**-0.7**
KSH				SS	**SS**	**00 23 01.3**	**+4.1**
KSH				pmax	pmax		
	comp=Z,300nm,7.9s						
KSH				LR	LR		
	comp=Z,410nm,5.8s						
KSH				LR	LR		
	comp=Z,350nm,6.4s						
KSH				LR	LR		
	comp=Z,300nm,5.2s						
AAK	**Ala-Archa**	**63.44**	**308**	*ce*P	**P**	**00 10 31.7**	**-1.0**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.7s						
AAK	**Ala-Archa**	**63.44**	**308**	P	**P**	**00 10 32.7**	**0.0**
AAK				IAmb	IAmb	00 10 33.5	
	comp=Z,2.8nm,0.8s						
ARSB	**Arslanbob**	**64.68**	**307**	P	**P**	**00 10 40.9**	**0.0**
ARSB				IAmb	IAmb	00 10 42.0	
	comp=Z,3.8nm,0.7s						
BRVK	**Borovoye**	**65.67**	**320**	*ce*P	**P**	**00 10 47.1**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,29nm,1.3s						
BRVK	**Borovoye**	**65.67**	**320**	P	**P**	**00 10 47.0**	**+0.1**
QRZ	**Quartz Range**	**65.72**	**159**	P	**P**	**00 10 48.9**	**+1.7**
KK31	**Karatay Array**	**66.31**	**309**	P	**P**	**00 10 51.4**	**+0.2**
KK31				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KK31	**Karatay Array**	**66.31**	**309**	P	**P**	**00 10 51.4**	**+0.2**
KK31				IAmb	IAmb	00 10 52.5	
	comp=Z,9.2nm,0.8s						
KKAR	**Karatay Array**	**66.31**	**309**	P	**P**	**00 10 51.4**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KKAR	**Karatay Array**	**66.31**	**309**	P	**P**	**00 10 51.4**	**+0.2**
KKAR				IAmb	IAmb	00 10 52.5	
	comp=Z,9.2nm,0.8s						
NNZ	**Nelson**	**66.36**	**158**	P	**P**	**00 10 52.0**	**+0.7**
GAR	**Garm**	**67.00**	**305**	P	**P**	**00 10 55.7**	**-0.1**
GAR				IAmb	IAmb	00 10 56.4	
	comp=Z,6.2nm,0.7s						
INK	**Inuvik**	**67.13**	**23**	P	**P**	**00 10 56.3**	**+0.4**
INK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
INK	**Inuvik**	**67.13**	**23**	P	**P**	**00 10 56.1**	**+0.2**
	comp=Z,5.2nm,1.1s,baz=253,slow=6.1,SNR=3.7						
INK	**Inuvik**	**67.13**	**23**	P	**P**	**00 10 56.3**	**+0.4**
INK				IAmb	IAmb	00 10 57.0	
	comp=Z,4.1nm,1.0s						
CHGR	**Chuyangaron**	**67.95**	**304**	P	**P**	**00 11 02.0**	**+0.3**
KBL	**Kabul**	**68.77**	**300**	P	**P**	**00 11 06.1**	**-1.0**
KBL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KBL	**Kabul**	**68.77**	**300**	P	**P**	**00 11 06.1**	**-1.0**
SVE	**Sverdlovsk**	**70.86**	**325**	*e*P	**P**	**00 11 19.7**	**+0.4**
SVE				pmax	pmax		
	comp=Z,20nm,0.9s						
ARU	**Arti**	**72.05**	**324**	*c i*P	**P**	**00 11 26.6**	**+0.1**
ARU						00 14 02.5	
ARU				S	**S**	**00 20 47.9**	**+2.1**
ARU				pmax	pmax		
	comp=Z,21nm,0.8s						
ARU	**Arti**	**72.05**	**324**	P	**P**	**00 11 26.1**	**-0.4**
ABKAR	**Akbulak array**	**72.60**	**317**	P	**P**	**00 11 29.6**	**-0.3**
ABKAR				IAmb	IAmb	00 11 30.5	
	comp=Z,7.2nm,0.9s						
YKA	**Yellowknife Ar**	**75.74**	**28**	P	**P**	**00 11 47.8**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=289,slow=5.6,SNR=12						
PRGR	**Permogore**	**77.17**	**331**	*e*P	**P**	**00 11 54.2**	**-1.8**
PRGR				pmax	pmax		
	comp=Z,31nm,0.8s						
RES	**Resolute Bay**	**77.24**	**14**	P	**P**	**00 11 57.0**	**+0.7**
RES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RES	**Resolute Bay**	**77.24**	**14**	P	**P**	**00 11 57.0**	**+0.7**
TAOE	**Nuku Hiva Isla**	**77.53**	**104**	P	**P**	**00 11 59.0**	**0.0**
PINE	**Pine Mountain**	**77.55**	**48**	IAmb	IAmb	00 12 01.4	
	comp=Z,8.4nm,0.9s						
TMCR	**Tamitsa**	**79.40**	**335**	*e*P	**P**	**00 12 08.0**	**-0.3**
TMCR				pmax	pmax		
	comp=Z,17nm,0.6s						
BMO	**Blue Mountains**	**79.71**	**46**	P	**P**	**00 12 10.8**	**+0.2**
BMO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BMO	**Blue Mountains**	**79.71**	**46**	P	**P**	**00 12 10.8**	**+0.2**
YERR	**Yerington**	**80.22**	**52**	P	**P**	**00 12 14.4**	**+0.8**
TULEG	**Thule**	**80.60**	**8**	P	**P**	**00 12 14.4**	**-0.2**
TULEG				IAmb	IAmb	00 12 16.1	
	comp=Z,13nm,1.0s						
OMMB	**Old Mammoth Mi**	**80.84**	**53**	P	**P**	**00 12 16.5**	**-0.6**
RYN	**Ryan**	**80.87**	**52**	P	**P**	**00 12 17.0**	**0.0**
RYN				IAmb	IAmb	00 12 19.1	
	comp=Z,4.3nm,0.9s						
ARCES	**ARCESS Array B**	**80.91**	**342**	P	**P**	**00 12 16.5**	**0.0**
	comp=Z,4.1nm,0.7s,baz=60,slow=7.2,SNR=7.9						
ARE0	**ARCESS Array S**	**80.92**	**342**	P	**P**	**00 12 16.8**	**+0.3**
KVN	**Kaiserville**	**81.04**	**52**	P	**P**	**00 12 17.8**	**-0.2**
KVN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KVN	**Kaiserville**	**81.04**	**52**	P	**P**	**00 12 17.8**	**-0.2**
NVAR	**Mina Array Bea**	**81.10**	**52**	P	**P**	**00 12 19.5**	**+1.2**
	comp=Z,4.4nm,0.8s,baz=263,slow=6.2,SNR=11						
MFID	**Camas Ranch**	**81.19**	**47**	P	**P**	**00 12 18.8**	**+0.2**
NV11	**Mina Array Sit**	**81.20**	**52**	P	**P**	**00 12 19.2**	**+0.4**
NV11				IAmb	IAmb	00 12 21.4	
	comp=Z,5.9nm,1.1s						
DAC	**Darwin (Calif)**	**82.35**	**54**	P	**P**	**00 12 24.0**	**-0.9**
DAC				pmax	pmax		
	comp=Z,3.0nm,1.1s						
DAC	**Darwin (Calif)**	**82.35**	**54**	P	**P**	**00 12 24.0**	**-0.9**
ELK	**Elko**	**82.53**	**49**	P	**P**	**00 12 26.4**	**+0.5**
ELK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ELK	**Elko**	**82.53**	**49**	P	**P**	**00 12 26.4**	**+0.5**
ELK				IAmb	IAmb	00 12 27.7	
	comp=Z,5.4nm,1.1s						
LRM	**Limekiln Ridge**	**82.58**	**44**	P	**P**	**00 12 24.1**	**-2.0**
VRH	**Novokhopyorsk**	**83.11**	**322**	*e*P	**P**	**00 12 26.6**	**-1.7**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
R11A	**Troy Canyon, C**	**83.13**	**52**	P	**P**	**00 12 29.0**	**0.0**
R11A				IAmb	IAmb	00 12 31.6	
	comp=Z,3.8nm,1.1s						
TPNV	**Topopah Spring**	**83.13**	**53**	P	**P**	**00 12 29.2**	**+0.2**
TPNV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TPNV	**Topopah Spring**	**83.13**	**53**	P	**P**	**00 12 29.2**	**+0.2**
TPNV				IAmb	IAmb	00 12 30.8	
	comp=Z,4.7nm,0.9s						
QLMT	**Earthquake Lak**	**83.62**	**45**	P	**P**	**00 12 31.5**	**+0.1**
YHL	**Hebgen Lake**	**83.78**	**44**	P	**P**	**00 12 33.0**	**+0.7**
YHB	**Horse Butte**	**83.81**	**45**	P	**P**	**00 12 33.0**	**+0.6**
YHH	**Holmes Hill**	**84.02**	**44**	P	**P**	**00 12 33.6**	**+0.1**
LPSR	**Galich'ya Gora**	**84.08**	**324**	*e*P	**P**	**00 12 32.7**	**-0.5**
LPSR				pmax	pmax		
	comp=Z,20nm,0.8s						
SHPR	**Sheep Range**	**84.11**	**53**	P	**P**	**00 12 33.9**	**-0.1**
SHPR				IAmb	IAmb	00 12 36.2	
	comp=Z,5.3nm,1.1s						
YNR	**Norris Junctio**	**84.16**	**44**	P	**P**	**00 12 34.2**	**0.0**
OBN	**Obninsk**	**84.17**	**327**⇑	*e*P	**P**	**00 12 33.6**	**0.0**
OBN				pmax	pmax		
	comp=Z,41nm,2.5s						
OBN				MLR	MLR		
	comp=Z,110nm,17.0s						
OBN	**Obninsk**	**84.17**	**327**	P	**P**	**00 12 33.0**	**-0.6**
YUF	**Upper Falls**	**84.27**	**44**	P	**P**	**00 12 34.6**	**-0.2**
PSUT	**Pine Spring**	**84.33**	**51**	P	**P**	**00 12 35.3**	**+0.1**
FXWY	**Fox Creek**	**84.36**	**45**	P	**P**	**00 12 35.3**	**+0.1**
FXWY				IAmb	IAmb	00 12 37.4	
	comp=Z,3.0nm,1.0s						
FLWY	**Flagg Ranch**	**84.40**	**45**	P	**P**	**00 12 36.4**	**+1.0**
FLWY				IAmb	IAmb	00 12 53.6	
	comp=Z,3.8nm,1.1s						
DUG	**Dugway, Tooele**	**84.45**	**49**	P	**P**	**00 12 36.2**	**+0.5**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DUG	**Dugway, Tooele**	**84.45**	**49**	P	**P**	**00 12 36.1**	**+0.5**
TPAW	**Teton Pass**	**84.47**	**46**	P	**P**	**00 12 36.6**	**+0.8**
YMP	**Mirror Lake Pl**	**84.49**	**44**	P	**P**	**00 12 36.1**	**+0.2**
VSR	**Storozhevoye**	**84.56**	**323**	*e*P	**P**	**00 12 35.2**	**-0.5**
VSR				pmax	pmax		
	comp=Z,20nm,1.1s						
FFC	**Flin Flon**	**84.86**	**33**	P	**P**	**00 12 37.5**	**+0.3**
FFC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
FFC	**Flin Flon**	**84.86**	**33**	P	**P**	**00 12 37.5**	**+0.3**
FFC				IAmb	IAmb	00 12 38.8	
	comp=Z,7.6nm,1.1s						
RLMT	**Red Lodge**	**84.92**	**44**	P	**P**	**00 12 38.5**	**+0.6**
RLMT				IAmb	IAmb	00 12 40.4	
	comp=Z,4.5nm,0.8s						
TBLG	**Delisi**	**85.03**	**313**	P	**P**	**00 12 37.8**	**-0.6**
TBLG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TBLG	**Delisi**	**85.03**	**313**	P	**P**	**00 12 37.8**	**-0.6**
TBLG				IAmb	IAmb	00 12 42.0	
	comp=Z,5.8nm,1.0s						
JLU	**Jordanelle**	**85.26**	**48**	P	**P**	**00 12 40.0**	**+0.2**
LCMT	**Little Creek M**	**85.35**	**52**	P	**P**	**00 12 40.4**	**+0.2**
KBZ	**Khabaz**	**85.47**	**315**	P	**P**	**00 12 41.0**	**+0.6**
KBZ	**Khabaz**	**85.47**	**315**	P	**P**	**00 12 41.0**	**+0.6**
	comp=Z,4.0nm,0.9s,baz=118,slow=6.4,SNR=4.7						
FIA1	**FINESS Array S**	**85.51**	**336**	P	**P**	**00 12 39.2**	**-1.0**
FINES	**FINESS Array B**	**85.51**	**336**	P	**P**	**00 12 39.1**	**-1.1**
	comp=Z,11nm,0.7s,baz=67,slow=4.8,SNR=17						
KIV	**Kislovodsk**	**85.52**	**315**	*e*P	**P**	**00 12 41.7**	**+0.9**
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
KIV	**Kislovodsk**	**85.52**	**315**	P	**P**	**00 12 40.5**	**-0.4**
KIV				IAmb	IAmb	00 12 46.6	
	comp=Z,4.8nm,1.0s						
MSU	**Marysvale**	**85.55**	**51**	P	**P**	**00 12 40.8**	**-0.5**
MSU	**Marysvale**	**85.55**	**51**	P	**P**	**00 12 40.9**	**-0.5**
KNB	**Kanab**	**85.66**	**52**	P	**P**	**00 12 41.7**	**-0.1**
KNB				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KNB	**Kanab**	**85.66**	**52**	P	**P**	**00 12 41.7**	**-0.1**
PDAR	**Pinedale Array**	**85.69**	**46**	P	**P**	**00 12 41.7**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=288,slow=0.3,SNR=3.2						
TMUT	**Trail Mountain**	**85.94**	**50**	P	**P**	**00 12 42.7**	**-0.6**
P17A	**Butcher Ranch,**	**86.20**	**49**	P	**P**	**00 12 44.2**	**-0.3**
U15A	**North Rim**	**86.28**	**53**	P	**P**	**00 12 45.1**	**+0.1**
U15A				IAmb	IAmb	00 12 47.7	
	comp=Z,3.8nm,1.1s						
FCC	**Fort Churchill**	**86.41**	**27**	P	**P**	**00 12 44.9**	**+0.1**
FCC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
FCC	**Fort Churchill**	**86.41**	**27**	P	**P**	**00 12 44.9**	**+0.1**
FCC				IAmb	IAmb	00 12 46.4	
	comp=Z,5.6nm,1.1s						
SRU	**San Rafael Swe**	**86.50**	**50**	P	**P**	**00 12 45.2**	**-0.7**
SRU				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SRU	**San Rafael Swe**	**86.50**	**50**	P	**P**	**00 12 45.2**	**-0.7**
RDMU	**Red Mountain**	**86.58**	**48**	P	**P**	**00 12 45.7**	**-0.6**
SUMG	**Summit**	**86.89**	**2**	*i* P	**P**	**00 12 48.3**	**+0.9**
SUMG				pmax	pmax		
	comp=Z,20nm,1.1s						
SUMG	**Summit**	**86.89**	**2**	*i* P	**P**	**00 12 48.3**	**+0.9**
	comp=Z,20nm,1.1s						
SUMG	**Summit**	**86.89**	**2**	P	**P**	**00 12 48.2**	**+0.9**
SUMG				IAmb	IAmb	00 12 50.8	
	comp=Z,6.7nm,1.0s						
WUAZ	**Wupatki**	**87.32**	**53**	P	**P**	**00 12 50.3**	**+0.4**
WUAZ				IAmb	IAmb	00 12 52.2	
	comp=Z,6.4nm,0.9s						
214A	**Organ Pipe Nat**	**87.61**	**57**	P	**P**	**00 12 52.3**	**+1.1**
214A				IAmb	IAmb	00 12 53.3	
	comp=Z,4.3nm,1.0s						
O20A	**White River Ci**	**87.69**	**48**	IAmb	IAmb	00 12 53.0	
	comp=Z,5.9nm,0.9s						
N23A	**Red Feather La**	**88.93**	**46**	P	**P**	**00 12 57.5**	**-0.1**
SMCO	**Snowmass**	**88.98**	**48**	P	**P**	**00 12 57.3**	**-0.7**
SMCO				IAmb	IAmb	00 12 60.0	
	comp=Z,2.9nm,0.8s						
TUC	**Tucson**	**89.05**	**56**	P	**P**	**00 12 58.3**	**+0.2**
TUC				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TUC	**Tucson**	**89.05**	**56**	P	**P**	**00 12 58.3**	**+0.2**
AKASG	**Malin Array Be**	**90.25**	**326**	*i* P	**P**	**00 13 02.1**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKASG	**Malin Array Be**	**90.25**	**326**	P	**P**	**00 13 02.0**	**-1.2**
	comp=Z,2.6nm,0.9s,baz=45,slow=4.0,SNR=7.0						
ANMO	**Albuquerque**	**91.21**	**52**	*ce*P	**P**	**00 13 07.9**	**-0.4**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BRTR	**Keskin Array B**	**93.46**	**315**	*ce*P	**P**	**00 13 18.3**	**-0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**93.46**	**315**	P	**P**	**00 13 17.1**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=50,slow=2.1,SNR=4.3						
MNTX	**Cornudas Mount**	**93.46**	**54**	P	**P**	**00 13 18.6**	**+0.1**
MNTX				IAmb	IAmb	00 13 20.6	
	comp=Z,2.4nm,0.8s						
TXAR	**Lajitas Array**	**95.86**	**56**	P	**P**	**00 13 30.4**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=300,slow=7.1,SNR=2.6						
CLL	**Collm**	**97.65**	**333**	*e*P	Pdif	00 13 36.0	-1.2
CLL	**Collm**	**97.65**	**333**	*e*P	Pdif	00 13 36.0	-1.2
BOSA	**Boshof**	**126.73**	**249**	PKP	**PKiKP**	**00 19 07.6**	**+0.5**
	comp=Z,4.1nm,1.0s,baz=96,slow=9.2,SNR=3.1						
OTAV	**Otavalo**	**131.12**	**71**	PKIKP	**PKiKP**	**00 19 19.1**	**+2.3**
TORD	**Torodi Ar. Bea**	**131.96**	**311**	PKP	**PKiKP**	**00 19 16.8**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=10.0,slow=3.4,SNR=4.1						
MNMC	**Minye Minye**	**145.79**	**94**		**PKPab**	**00 19 42.4**	**-0.8**
PB11	**IPOC Station P**	**145.82**	**95**		**PKiKP**	**00 19 43.8**	**-2.4**
LPAZ	**La Paz**	**146.62**	**88**	PKP2	**PKiKP**	**00 19 47.3**	**-1.2**
LPAZ	**La Paz**	**146.62**	**88**	PKPbc	**PKiKP**	**00 19 47.5**	**-1.0**
	comp=Z,4.1nm,0.7s,baz=313,slow=4.7,SNR=9.2						
LPAZ	**La Paz**	**146.62**	**88**		**PKiKP**	**00 19 47.3**	**-1.2**
SAML	**Samuel**	**148.81**	**72**	PKP2	**PKiKP**	**00 19 51.8**	**-0.5**
SAML	**Samuel**	**148.81**	**72**		**PKiKP**	**00 19 51.8**	**-0.5**

*IDC **29** 00:10:11.4±2.9, 2°.43N×95°.63E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/31, mbtmp3.7/6, ML4.2/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/47, Error ellipse: s-maj=110.1km s-min=21.6km az=61.0*

*ISCJB **29** 00:10:12.8±0.5, 2°.52N±0°.06×95°.68E±0°.06, h25km, mb3.7/5, Error ellipse: s-maj=10.0km s-min=6.3km az=44.8*

*NEIC **29** 00:10:15.9±2.0, 2°.57N±0°.06×95°.70E±0°.09, h33km±6km, mb4.2/16*

ISC 29 00:10:14.3±0.6, **2°.55N**±0°.08×**95°.68E**±0°.08, **h25km, n39, σ1.16/31, mb4.0/10, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**2.27**	**123**		**Pn**	**00 10 51.3**	**+1.0**
LHMI	**Lhok Sumawe**	**2.94**	**25**	Pn	**Pn**	**00 11 00.4**	**+0.8**
RPSI	**Rantau Prapat**	**3.25**	**87**		**Pn**	**00 11 04.1**	**+0.3**
KULM	**Kulim**	**5.66**	**61**		**Pn**	**00 11 37.4**	**+0.5**
IPM	**Ipoh**	**5.67**	**70**		**Pn**	**00 11 38.3**	**+1.2**
MYKOM	**Kota Tinggi**	**8.20**	**95**	Pn	**Pn**	**00 12 09.9**	**-2.0**
PBA	**Port Blair**	**9.50**	**342**	Pn	Pn	00 12 30.3	+0.6
MNAI	**Manna**	**10.01**	**133**	Pn	**Pn**	**00 12 37.4**	**+0.8**
PMBI	**Palembang**	**10.60**	**121**	Pn	**Pn**	**00 12 45.0**	**+0.3**
PALK	**Pallekele**	**15.63**	**288**	LR	LR	00 18 31.0	
	comp=Z,33nm,21.0s,baz=279,slow=32						
UBPT	**Khong Chiam**	**15.91**	**37**	Pn	**Pn**	**00 13 57.2**	**+0.5**
UBPT				IAmb	IAmb	00 14 10.8	
	comp=Z,14nm,1.1s						
CMAR	**Chiang Mai Arr**	**16.13**	**11**	Pn	**P**	**00 14 02.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=198,slow=10,SNR=9.6						
CHTO	**Chiang Mai**	**16.48**	**11**	Pn	**Pn**	**00 14 04.8**	**+0.8**
SBUM	**Sibu**	**16.53**	**90**	Pn	**Pn**	**00 14 03.0**	**-1.6**
SMRI	**Semarang**	**17.55**	**123**		**P**	**00 14 18.6**	**+0.1**
KKM	**Kota Kinabalu**	**20.77**	**80**	P	**P**	**00 14 55.1**	**+1.3**
KKM				IAmb	IAmb	00 15 00.9	
	comp=Z,27nm,1.1s						
MNCI	**Minicoy**	**23.21**	**285**	P	**P**	**00 15 19.1**	**-0.6**
H08S2	**Diego Garcia H**	**25.25**	**246**	T	T	00 41 59.3	
	baz=67,slow=76,SNR=112						
H08S3	**Diego Garcia H**	**25.25**	**246**	T	T	00 41 53.3	
	baz=67,slow=76,SNR=88						
H08S1	**Diego Carcia H**	**25.27**	**246**	T	T	00 41 57.9	
	baz=67,slow=76,SNR=90						
SOEI	**Soe**	**30.99**	**114**	P	**P**	**00 16 28.9**	**-1.3**
KBL	**Kabul**	**40.34**	**325**	P	**P**	**00 17 48.2**	**-2.1**
NWAO	**Narrogin (SRO)**	**40.76**	**152**	P	**P**	**00 17 54.5**	**+1.0**
NWAO				IAmb	IAmb	00 17 59.3	
	comp=Z,3.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**40.76**	**152**	P	**P**	**00 17 54.0**	**+0.5**
NWAO				IAmb	IAmb	00 17 59.3	
	comp=Z,3.6nm,0.8s						
H01W3	**Cape Leeuwin H**	**41.08**	**157**	T	T	01 01 32.7	
	baz=333,slow=76,SNR=82						

H01W2	**Cape Leeuwin H**	**41.09**	**157**	T	T	01 01 30.9		
	baz=333,slow=76,SNR=80							
H01W1	**Cape Leeuwin H**	**41.09**	**157**	T	T	01 01 33.9		
	baz=333,slow=76,SNR=77							
SOCY	**Socotra**	**42.38**	**285**	P	**P**	**00 18 07.1**	**-0.1**	
WRA	**Warramunga Arr**	**44.04**	**122**	P	**P**	**00 18 21.2**	**+0.8**	
	comp=Z,0.6nm,0.9s,baz=298,slow=9.5,SNR=5.4							
WR0	**Warramunga Arr**	**44.22**	**122**	P	**P**	**00 18 22.4**	**+0.5**	
JNU	**Nakatsue**	**44.84**	**43**	P	**P**	**00 18 24.7**	**-2.0**	
JNU				IAmb	IAmb	00 18 33.4		
	comp=Z,8.8nm,1.1s							
ASAR	**Alice Springs**	**45.42**	**127**	P	**P**	**00 18 31.9**	**+0.4**	
	comp=Z,0.3nm,0.6s,baz=302,slow=8.1,SNR=6.7							
MK31	**Makanchi Array**	**45.58**	**347**	P	**P**	**00 18 33.5**	**+1.2**	
MK31				IAmb	IAmb	00 18 42.2		
	comp=Z,3.0nm,1.1s							
MKAR	**Makanchi Array**	**45.58**	**347**	P	**P**	**00 18 34.2**	**+1.9**	
	comp=Z,1.2nm,0.7s,baz=156,slow=9.0,SNR=14							
MAKZ	**Makanchi**	**45.66**	**347**	P	**P**	**00 18 34.4**	**+1.4**	
MAKZ				IAmb	IAmb	00 18 42.6		
	comp=Z,1.8nm,0.8s							
SONM	**Songino Array**	**46.05**	**10**	P	**P**	**00 18 37.2**	**+1.0**	
	comp=Z,0.8nm,0.6s,baz=188,slow=8.6,SNR=9.5							
ZALV	**Zalesovo Beam**	**52.00**	**352**	P	**P**	**00 19 23.1**	**+1.6**	
	comp=Z,1.4nm,0.7s,baz=161,slow=9.2,SNR=6.3							
NC303	**NORSAR Array S**	**85.03**	**331**	P	**P**	**00 22 46.6**	**-1.0**	
KEST	**Kesra**	**85.54**	**305**	P	**P**	**00 22 51.3**	**+0.4**	
KEST				IAmb	IAmb	00 22 58.2		
	comp=Z,3.0nm,1.1s							

*ISCJB **29** 00:29:10.3±0.4,29.˚82N±0.˚05×102.˚19E±0.˚05,h10km, mb3.6/11,MS3.1/1,Error ellipse: s-maj=6.7km s-min=5.7km az=7.7*

*IDC **29** 00:29:11.6±0.8,30.˚00N×102.˚33E,h0km,mb3.6/11, mb1 3.8/12,mb1mx3.5/57,mbtmp3.7/12,ML3.7/1,MS3.2/3, Ms1 3.3/3,ms1mx2.8/49,Error ellipse: s-maj=46.9km s-min=16.1km az=62.0*

*NEIC **29** 00:29:12.3±2.4,29.˚89N±0.˚06×102.˚2E±0.˚1,h10km±1km, mb4.1/14*

*BJI **29** 00:29:13.9±0.0,29.˚85N×101.˚97E,h16km,mb3.8/2, ML3.8/15,Ms3.6/3,Ms7 3.6/3*

ISC 29 00:29:13.0±0.5,29.˚94N±0.˚04×102.˚15E±0.˚05,h10km,n41, σ1§86/45,mb3.9/16,1D,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.69**	**55**	Pg	**Pn**	**00 29 45.3**	**+2.5**
CD2				Sg	**Sg**	**00 30 10.3**	**+2.7**
CD2				smax	smax		
	comp=N,6μm,0.6s						
CD2				smax	smax		
	comp=E,2μm,0.8s						
KMI	**Kunming**	**4.83**	**174**	Pn	**Pn**	**00 30 28.5**	**+2.5**
KMI				Sn	**Sn**	**00 31 25.3**	**+3.2**
KMI				Sg	**Sg**	**00 31 44.0**	**-4.1**
KMI				smax	smax		
	comp=N,120nm,1.4s						
KMI				smax	smax		
	comp=E,120nm,0.9s						
KMI				LR	LR		
	comp=N,620nm,7.5s						
KMI				LR	LR		
	comp=Z,290nm,5.9s						
KMI	**Kunming**	**4.83**	**174**	Pn	**Pn**	**00 30 25.2**	**-0.8**
GYA	**Guiyang**	**5.28**	**130**	*i*Pn	**Pn**	**00 30 34.0**	**+1.8**
GYA				Pg	**Pb**	**00 30 47.0**	**+1.4**
GYA				Sn	**Sn**	**00 31 36.0**	**+2.8**
GYA				Sg	**Sb**	**00 31 53.5**	**+4.4**
GYA				smax	smax		
	comp=N,80nm,0.7s						
GYA				smax	smax		
	comp=E,90nm,0.8s						
LZH	**Lanzhou**	**6.29**	**13**	*e*Pg	Pn	00 30 53.8	+7.7
LZH				Sg	**Sb**	**00 32 17.3**	**-0.9**
LZH				smax	smax		
	comp=N,19nm,1.0s						
LZH				smax	smax		
	comp=E,22nm,1.2s						
LZH				LR	LR		
	comp=N,500nm,5.4s						
LZH				LR	LR		
	comp=E,230nm,4.0s						
LZH				LR	LR		
	comp=Z,420nm,5.4s						
ENH	**Enshi**	**6.37**	**85**	Pn	**Pn**	**00 30 46.6**	**-0.3**
ENH					**Pg**	**00 31 13.1**	**-1.9**
XAN	**Xi'an**	**7.06**	**53**	Pn	**Pn**	**00 30 58.3**	**+1.8**
XAN				Sn	**Sn**	**00 32 16.5**	**-0.3**
XAN				Sg	**Sg**	**00 32 57.5**	**-2.1**
XAN				smax	smax		
	comp=Z,230nm,1.1s						
XAN				smax	smax		
	comp=Z,160nm,0.8s						
XAN	**Xi'an**	**7.06**	**53**		**Pn**	**00 30 56.4**	**-0.1**
XAN					LR	00 32 51.5	
GTA	**Gaotai**	**9.64**	**349**	*e*P	Pn	00 32 15.0	+43
GTA				pP		00 32 22.0	
GTA				sP		00 32 25.5	
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**11.80**	**195**	Pg	Pn	00 32 49.7	+48
	comp=Z,0.5nm,0.3s,baz=11,slow=16,SNR=4.1						
CMAR				LR	LR	00 37 02.0	
	comp=Z,64nm,19.9s,baz=354,slow=40						
HKPS	**Hong Kong Po S**	**13.20**	**123**	Pn	Pn	00 32 17.5	-3.1
UBPT	**Khong Chiam**	**14.91**	**167**	Pn	Pn	00 32 40.1	-3.8
BJT	**Baijiatuau**	**15.25**	**45**	Pn	**Pn**	**00 32 47.6**	**-0.9**
BJT				IAmb	IAmb	00 32 57.4	
	comp=Z,4.1nm,0.9s						
SSE	**Sheshan**	**16.45**	**81**	P	**Pn**	**00 33 04.6**	**+0.7**
SSE					**S**	**00 36 15.6**	**-3.2**
YHNB	**Yeheng**	**17.87**	**102**	P	**Pn**	**00 33 21.6**	**-0.3**
YHNB				IAmb	IAmb	00 33 34.1	
	comp=Z,12nm,1.0s						
WMQ	**Urumqi**	**18.01**	**324**	*e*P	**Pn**	**00 33 22.3**	**-1.2**
WMQ				pmax	pmax		
	comp=Z,8.0nm,2.2s						
WMQ				LR	LR		
	comp=Z,330nm,28.9s						
WMQ	**Urumqi**	**18.01**	**324**	P	**Pn**	**00 33 26.0**	**+2.6**
SONM	**Songino Array**	**18.17**	**9**	P	**Pn**	**00 33 26.1**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=192,slow=9.8,SNR=24						
SONM				LR	LR	00 41 35.2	
	comp=Z,118nm,18.4s,baz=16,slow=41						
NACB	**Ninganchiao**	**18.24**	**104**	P	**Pn**	**00 33 23.0**	**-3.3**
NACB				IAmb	IAmb	00 33 41.2	
	comp=Z,29nm,1.1s						
TLY	**Talaya**	**21.75**	**3**	LR	LR	00 42 58.6	
	comp=Z,71nm,18.7s,baz=192,slow=38						
MK31	**Makanchi Array**	**22.82**	**323**	P	**P**	**00 34 14.9**	**-1.2**
MKAR	**Makanchi Array**	**22.82**	**323**	P	**P**	**00 34 15.7**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=126,slow=12,SNR=6.7						
MAKZ	**Makanchi**	**23.00**	**323**	P	**P**	**00 34 17.8**	**-0.1**
MAKZ				IAmb	IAmb	00 34 26.7	
	comp=Z,2.8nm,0.9s						
JNU	**Nakatsue**	**24.66**	**75**	P	**P**	**00 34 32.3**	**-1.8**
JNU				IAmb	IAmb	00 34 43.8	
	comp=Z,13nm,1.1s						
NIL	**Nilore**	**24.80**	**286**	P	**P**	**00 34 34.7**	**-0.6**
NIL				IAmb	IAmb	00 34 43.7	
	comp=Z,3.3nm,0.8s						
ZAA0	**Zalesovo Array**	**27.09**	**337**	P	**P**	**00 34 55.0**	**-0.7**
ZALV	**Zalesovo Beam**	**27.09**	**337**	P	**P**	**00 34 55.0**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=136,slow=9.7,SNR=2.3						
KURBB	**Kurchatov Arra**	**27.20**	**326**	P	**P**	**00 34 56.0**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=127,slow=9.4,SNR=4.1						
KURK	**Kurchatov**	**27.22**	**326**	P	**P**	**00 34 57.2**	**+0.3**
KURK				IAmb	IAmb	00 35 04.4	
	comp=Z,2.6nm,1.1s						
PALK	**Pallekele**	**30.24**	**226**	P	P	00 35 20.4	-3.8
NRIK	**Noril'sk**	**40.33**	**352**	P	**P**	**00 36 50.6**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=154,slow=7.6,SNR=4.0						
KNRA	**Kununurra**	**52.11**	**147**	P	**P**	**00 38 21.6**	**-1.9**
ILGA	**Ilgaz**	**55.51**	**301**	P	**P**	**00 38 48.9**	**+0.3**
AKASG	**Malin Array Be**	**56.95**	**314**	P	**P**	**00 39 00.5**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=68,slow=5.8,SNR=3.2						
FINES	**FINESS Array B**	**57.60**	**326**	P	**P**	**00 39 04.0**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=75,slow=6.3,SNR=4.2						
ARCES	**ARCESS Array B**	**57.63**	**336**	P	**P**	**00 39 02.2**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=83,slow=7.4,SNR=4.0						
WRAB	**Tennant Creek**	**58.48**	**144**	P	**P**	**00 39 08.0**	**-1.6**
WRAB				IAmb	IAmb	00 39 24.3	
	comp=Z,4.9nm,1.0s						
WRA	**Warramunga Arr**	**58.49**	**144**	P	**P**	**00 39 08.7**	**-0.8**
	comp=Z,2.7nm,0.6s,baz=334,slow=7.6,SNR=19						
ASAR	**Alice Springs**	**61.41**	**147**	P	**P**	**00 39 30.0**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=333,slow=6.8,SNR=7.7						
NOA	**NORSAR Array B**	**64.73**	**327**	P	**P**	**00 39 51.8**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=79,slow=4.6,SNR=2.7						
YKA	**Yellowknife A**	**83.29**	**16**	P	**P**	**00 41 38.7**	**-1.0**
	comp=Z,0.1nm,0.6s,baz=332,slow=5.0,SNR=3.2						

*IDC **29** 00:45:09.8±1.7,5.˚07S×145.˚94E,h0km,mb3.6/4, mb1 3.9/6,mb1mx3.7/37,mbtmp3.8/6,ML3.3/2,MS3.0/1, Ms1 3.0/1,ms1mx2.5/36,Error ellipse: s-maj=49.5km s-min=27.6km az=114.0*

*ISCJB **29** 00:45:11.7±1.1,5.˚17S±0.˚09×146.˚1E±0.˚1,h27km,mb3.5/4, Error ellipse: s-maj=19.2km s-min=12.3km az=157.2*

*NEIC **29** 00:45:19.5±1.1,5.˚37S±0.˚09×146.˚1E±0.˚2,h78km±8km, mb4.1/5*

ISC 29 00:45:13.2±1.3,5.˚1S±0.˚1×146.˚1E±0.˚2,h27km,n15, σ1§16/16,mb3.8/6,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.40**	**166**	Pn	**Pn**	**00 46 20.0**	**+1.7**
	26nm,0.3s,baz=347,slow=4.7,SNR=44						
PMG				Sn	**Sn**	**00 47 08.4**	**-0.2**
	9.8nm,0.3s,baz=187,slow=19,SNR=2.9						
PMG				LR	LR	00 48 30.1	
	comp=Z,175nm,19.9s,baz=90,slow=45						
COEN	**Coen**	**9.24**	**198**		**Pn**	**00 47 26.7**	**+2.0**
CTA	**Charters Tower**	**14.88**	**179**	Pn	**P**	**00 48 46.1**	**-1.3**
	1.7nm,0.3s,baz=357,slow=14,SNR=24						
WR0	**Warramunga Arr**	**18.54**	**216**	P	**Pn**	**00 49 28.2**	**0.0**
WRAB	**Tennant Creek**	**18.63**	**217**		**PcP**	**00 53 56.1**	**-1.3**
WRA	**Warramunga Arr**	**18.64**	**217**	P	**P**	**00 49 29.2**	**+0.1**
	0.3nm,0.3s,baz=39,slow=12,SNR=13						
EIDS	**Eidsvold**	**20.70**	**167**	P	**P**	**00 49 51.4**	**-0.1**
EIDS				IAmb	IAmb	00 49 54.1	
	comp=Z,4.4nm,0.9s						
ASAR	**Alice Springs**	**21.86**	**211**	P	**P**	**00 50 03.8**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=45,slow=7.0,SNR=5.1						
FITZ	**Fitzroy Crossi**	**23.77**	**235**	P	**P**	**00 50 23.5**	**-0.2**
	comp=Z,7.4nm,1.2s,baz=51,slow=11,SNR=4.2						
ARMA	**Armidale**	**25.71**	**169**	P	**P**	**00 50 39.4**	**-2.1**
ARMA				IAmb	IAmb	00 50 47.2	
	comp=Z,8.8nm,1.1s						
STKA	**Stephens Creek**	**26.95**	**188**	P	**P**	**00 50 52.3**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=10,slow=12,SNR=2.7						
STKA	**Stephens Creek**	**26.95**	**188**	P	**P**	**00 50 51.5**	**-1.0**
FORT	**Forrest**	**30.64**	**211**	P	**P**	**00 51 25.0**	**-0.4**
TOO	**Toolangi**	**32.31**	**181**	P	**P**	**00 51 39.4**	**-0.6**
TOO				IAmb	IAmb	00 51 59.2	
	comp=Z,7.5nm,1.1s						
ILAR	**Eielson Array**	**85.04**	**23**	P	**P**	**00 57 47.2**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=238,slow=5.0,SNR=4.6						

*ISCJB **29** 00:47:45.0±0.1,20.˚70N±0.˚02×146.˚67E±0.˚02,h10km, mb4.9/117,MS4.1/35,Error ellipse: s-maj=3.4km s-min=3.1km az=156.4*

*IDC **29** 00:47:44.5±0.4,20.˚66N×146.˚75E,h0km,mb4.7/31, mb1 4.8/35,mb1mx4.7/52,mbtmp4.7/35,ML3.9/5,MS4.0/26, Ms1 4.0/26,ms1mx3.8/44,Error ellipse: s-maj=15.0km s-min=9.7km az=82.0*

*NEIC **29** 00:47:46.5±1.4,20.˚73N±0.˚06×146.˚65E±0.˚10,h10km±1km, mb4.9/255*

*BJI **29** 00:47:46.0±0.0,20.˚64N×146.˚94E,h30km,mb4.9/48, mB5.2/40,Ms4.8/22,Ms7 4.5/23*

*MOS **29** 00:47:47.2±1.1,20.˚67N×146.˚62E,h25km,mb5.1/61,Error ellipse: s-maj=8.0km s-min=4.5km az=107.7*

*GCMT **29** 00:47:50.5±0.2,20.˚81N±0.˚02×146.˚96E±0.˚01,h13km, MW5.0/111,Moment Tension Solution. s40,c46; s111,c153; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.27±.14; $M_{\theta\theta}$0.55±.09; $M_{\phi\phi}$2.72±.10; $M_{r\theta}$-0.47±.25; $M_{\theta\phi}$-1.29±.06; $M_{\phi r}$-0.29±.23; Best double couple: M_o3.34200×10^{16} NP1:ϕ_s344.00000°,δ46.00000°, λ-77.00000°. NP2:ϕ_s146.00000°,δ45.00000°, λ-103.00000°. Principal axes: T 3.3220, Plg1.0000°, Azm65.0000°; N 0.0440, Plg9.0000°, Azm155.0000°; P -3.3630, Plg81.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 00:47:46.8±0.3,20.˚75N±0.˚04×146.˚68E±0.˚05,h10km,n528, σ0§92/469,mb4.9/203,MS4.1/35,17C-4D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**4.11**	**192**		**Pn**	**00 48 50.2**	**+0.4**
ANA2	**Anatahan**	**4.48**	**192**	Pn	**Pn**	**00 48 56.2**	**+1.4**
GUMO	**Guam**	**7.33**	**194**	Pn	**Pn**	**00 49 32.3**	**-1.6**
	3.8nm,0.3s,baz=331,slow=18,SNR=3.1						
GUMO				Sn	**Sn**	**00 50 57.8**	**+0.6**
	15nm,0.3s,baz=0.0,slow=20,SNR=2.3						
GUMO	**Guam**	**7.33**	**194**	Pn	**Pn**	**00 49 34.5**	**+0.5**
JCJ	**Chichijima**	**7.54**	**328**	Pn	**Pn**	**00 49 37.0**	**+0.1**
	15nm,0.3s,baz=187,slow=12,SNR=3.4						
JCJ				Sn	**Sn**	**00 50 57.3**	**-5.2**
	78nm,0.3s,baz=107,slow=19,SNR=11						
JHJ2	**Mitsune**	**13.75**	**335**		**Pn**	**00 51 02.5**	**+0.6**
INU	**Inuyama**	**16.85**	**332**		**Pn**	**00 51 43.5**	**+0.7**
INU				IAmb	IAmb	00 51 48.8	
	comp=Z,139nm,1.1s						
MJAR	**Matsushiro Arr**	**17.39**	**337**	P	**Pn**	**00 51 49.2**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=158,slow=11,SNR=15						
MJAR				S	Sn	00 54 55.3	-8.0
	comp=Z,0.1nm,0.3s,baz=157,slow=39,SNR=5.1						
MAJO	**Matsushiro**	**17.39**	**337**	*i*P	**Pn**	**00 51 49.6**	**-0.1**
MAJO	**Matsushiro**	**17.39**	**337**		**Pn**	**00 51 50.8**	**+1.1**
MJB9	**Matsu-Tunnel**	**17.40**	**337**	Pn	**Pn**	**00 51 49.3**	**-0.5**
PATS	**Pohnpei**	**17.83**	**139**		**Pn**	**00 51 56.0**	**+0.8**
PATS				IAmb	IAmb	00 52 06.6	
	comp=Z,138nm,1.0s						
JOW	**Kunigami**	**17.90**	**293**	P	**Pn**	**00 51 57.2**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=123,slow=12,SNR=2.3						
JOW	**Kunigami**	**17.90**	**293**	P	**Pn**	**00 51 55.4**	**-0.6**
JNU	**Nakatsue**	**18.69**	**315**	P	**P**	**00 52 05.5**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=67,slow=8.7,SNR=5.7						
WAKE	**Wake Island**	**18.82**	**91**		**P**	**00 52 09.7**	**+2.9**
H11S3	**WAKE ISLAND Hy**	**18.98**	**93**	T	T	01 11 35.6	
	baz=280,slow=75,SNR=3.9						
H11S1	**WAKE ISLAND Hy**	**18.99**	**93**	T	T	01 11 33.3	
	baz=280,slow=75,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**18.99**	**90**	T	T	01 11 35.6	
	baz=276,slow=75,SNR=5.8						
H11N2	**WAKE ISLAND Hy**	**18.99**	**90**	T	T	01 11 39.1	
	baz=276,slow=75,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**18.99**	**93**	T	T	01 11 36.7	
	baz=280,slow=75,SNR=3.8						
H11N3	**WAKE ISLAND Hy**	**19.01**	**90**	T	T	01 11 38.3	
	baz=276,slow=75,SNR=1.0						
ERM	**Erimo**	**21.41**	**353**	P	**P**	**00 52 35.3**	**+0.5**
ERM				pmax	pmax		
	comp=Z,51nm,1.0s						
ERM	**Erimo**	**21.41**	**353**	P	**P**	**00 52 35.3**	**+0.5**
ERM				IAmb	IAmb	00 52 49.5	
	comp=Z,51nm,1.0s						
YOJ	**Yonaguni jima**	**22.16**	**284**	P	**P**	**00 52 43.8**	**+0.8**
YOJ				pmax	pmax		
	comp=Z,122nm,1.1s						
YOJ	**Yonaguni jima**	**22.16**	**284**	P	**P**	**00 52 43.8**	**+0.8**
TJN	**Taejon**	**22.96**	**317**	*ce*P	**P**	**00 52 53.2**	**+1.7**
KSRS	**Korea Array**	**23.29**	**320**	P	**P**	**00 52 55.3**	**+0.5**
	comp=Z,5.4nm,0.8s,baz=140,slow=9.6,SNR=12						
KSRS				LR	LR	01 02 13.0	
	comp=Z,471nm,19.1s,baz=128,slow=37						
KS19	**Wonju Array Si**	**23.36**	**320**	P	**P**	**00 52 55.1**	**-0.3**
KS19				IAmb	IAmb	00 53 03.8	
	comp=Z,27nm,1.1s						
KWAJ	**Kwajalein Atol**	**23.43**	**117**	P	**P**	**00 52 57.8**	**+1.4**
KWAJ				pmax	pmax		
	comp=Z,187nm,0.9s						
KWAJ	**Kwajalein Atol**	**23.43**	**117**	P	**P**	**00 52 57.8**	**+1.4**
JKA	**Kamikawa-asahi**	**23.55**	**353**	P	**P**	**00 52 58.8**	**+1.5**
ASAJ	**Asahikawa**	**23.55**	**353**	P	**P**	**00 52 58.8**	**+1.5**
	comp=Z,39nm,1.0s,baz=213,slow=16,SNR=11						
YHNB	**Yeheng**	**23.66**	**284**	P	**P**	**00 52 58.1**	**-0.5**
YHNB				IAmb	IAmb	00 53 10.2	
	comp=Z,21nm,0.9s						
SSLB	**Suanglung**	**23.99**	**282**	P	**P**	**00 53 01.6**	**-0.3**
DAV	**Davao City (W)**	**24.54**	**239**	LR	LR	01 01 33.6	
	comp=Z,560nm,21.0s,baz=110,slow=34						
KCP	**Kidapawan**	**24.97**	**240**	⇑P	**P**	**00 53 10.6**	**-0.3**
KRVT	**Keravat (AS076**	**25.44**	**168**	LR	LR	01 02 21.0	
	comp=Z,258nm,20.9s,baz=348,slow=35						
SIJI	**Sorong**	**26.25**	**217**	P	**P**	**00 53 21.2**	**-1.2**
	comp=Z,3.9nm,0.6s,baz=35,slow=12,SNR=3.8						
YSS	**Yuzh-Sakhalins**	**26.34**	**354**	⇓*e*P	**P**	**00 53 23.1**	**+0.2**
YSS				*e*		00 53 30.5	
YSS				pmax	pmax		
	comp=Z,40nm,0.5s						
YSS	**Yuzh-Sakhalins**	**26.34**	**354**	P	**P**	**00 53 23.6**	**+0.7**
USA0B	**Ussuriysk Arra**	**26.39**	**336**	P	**P**	**00 53 24.2**	**+0.9**
USA0B				pmax	pmax		
	comp=Z,46nm,1.2s						
USA0B	**Ussuriysk Arra**	**26.39**	**336**	P	**P**	**00 53 24.2**	**+0.9**
USA0B				IAmb	IAmb	00 53 28.1	
	comp=Z,46nm,1.1s						
USRK	**Ussuriysk Ar.**	**26.39**	**336**	P	**P**	**00 53 25.3**	**+2.0**
	comp=Z,22nm,0.9s,baz=142,slow=9.1,SNR=23						
USRK				LR	LR	01 05 21.8	
	comp=Z,263nm,18.1s,baz=138,slow=40						
NJ2	**Nanjing**	**27.27**	**300**	*e*P	**P**	**00 53 32.0**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
FAKI	**Fak Fak**	**27.45**	**213**	P	**P**	**00 53 30.9**	**-2.3**
PMG	**Port Moresby**	**29.97**	**179**	*ce*P	P	00 53 53.7	-1.8
PMG				pmax	pmax		
	comp=Z,244nm,2.5s						
PMG	**Port Moresby**	**29.97**	**179**	P	**P**	**00 53 54.0**	**-1.5**
	comp=Z,10nm,1.0s,baz=26,slow=13,SNR=5.2						
PMG	**Port Moresby**	**29.97**	**179**	P	**P**	**00 53 54.4**	**-1.1**
PMG				IAmb	IAmb	00 54 04.1	
	comp=Z,19nm,0.8s						
TIA	**Tai'an**	**30.06**	**307**	P	**P**	**00 53 57.0**	**+0.7**
TIA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WHN	**Wuhan**	**30.65**	**295**	P	P	00 54 07.0	+5.5
KLR	**Kul'dur**	**30.82**	**341**	*i* P	**P**	**00 54 03.6**	**+0.8**
KLR				pmax	pmax		
	comp=Z,12nm,0.9s						
GRNR	**Gornyy**	**31.04**	**347**	⇑*i*P	**P**	**00 54 05.2**	**+0.5**
GRNR				*e*S	**S**	**00 59 10.9**	**+1.3**
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GRNR				smax	smax		
	comp=N,2.0nm,1.2s						
LUWI	**Luwuk**	**31.89**	**230**	P	**P**	**00 54 11.4**	**-1.1**
HNR	**Honiara**	**32.70**	**155**	LR	LR	01 09 18.9	
	comp=N,452nm,18.1s,baz=324,slow=40						
MPSI	**Mapaga**	**33.12**	**236**	P	P	00 54 18.1	-5.2
	comp=N,6.2nm,1.2s						
PEA0B	**Petropavlovsk-**	**33.40**	**12**	P	**P**	**00 54 25.3**	**-0.1**
PEA0B	**Petropavlovsk-**	**33.40**	**12**	P	**P**	**00 54 25.3**	**-0.1**
PETK	**Petropavlovsk-**	**33.40**	**12**	LR	LR	01 05 15.4	
	comp=N,262nm,20.1s,baz=218,slow=31						
QIZ	**Qiongzhong**	**34.64**	**274**	P	P	00 54 35.0	-1.6
QIZ				S	**S**	**01 00 04.5**	**-1.9**
QIZ				LR	LR		
	comp=N,360nm,16.3s						
COEN	**Coen**	**34.66**	**186**	P	P	00 54 35.0	-1.7
HIA	**Hailar**	**35.65**	**329**	P	**P**	**00 54 45.7**	**+0.8**
HIA				pmax	pmax		
	comp=Z,17nm,0.9s						
HIA	**Hailar**	**35.65**	**329**	P	**P**	**00 54 45.7**	**+0.8**
HIA				IAmb	IAmb	00 54 46.9	
	comp=Z,17nm,0.9s						
XAN	**Xi'an**	**35.84**	**300**	P	**P**	**00 54 46.8**	**-0.1**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
XAN	**Xi'an**	**35.84**	**300**	P	**P**	**00 54 46.8**	**-0.1**
HHC	**Hu-ho-hao-te**	**35.88**	**312**	*e*P	**P**	**00 54 47.0**	**-0.2**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,180nm,4.8s						
ZEA	**Zeya**	**36.14**	**340**	*e*P	**P**	**00 54 49.2**	**+0.2**
ZEA				pmax	pmax		
	comp=N,31nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,35nm,1.0s						
GYA	**Guiyang**	**37.00**	**287**	P	**P**	**00 54 59.5**	**+2.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SBUM	**Sibu**	**38.19**	**246**	P	**P**	**00 55 07.1**	**+0.1**
MA2	**Magadan**	**38.90**	**3**	P	**P**	**00 55 13.9**	**+1.5**
MA2				pmax	pmax		
	comp=Z,21nm,1.0s						
MA2	**Magadan**	**38.90**	**3**	P	**P**	**00 55 13.9**	**+1.5**
MA2				IAmb	IAmb	00 55 26.8	
	comp=Z,21nm,0.9s						
CD2	**Chengdu**	**39.73**	**294**	P	**P**	**00 55 19.0**	**-0.8**
CD2				S	**S**	**01 01 20.8**	**-3.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,500nm,11.0s						
CD2				LR	LR		
	comp=Z,570nm,15.9s						
CD2				LR	LR		
	comp=Z,450nm,14.5s						
KNRA	**Kununurra**	**40.25**	**207**	P	**P**	**00 55 24.5**	**+0.5**
KNRA				IAmb	IAmb	00 55 37.1	
	comp=Z,20nm,1.1s						
LZH	**Lanzhou**	**40.32**	**302**	*e*P	**P**	**00 55 25.3**	**+0.5**
LZH				pP	pwP	00 55 38.0	+6.2
LZH				PP	**PP**	**00 56 59.5**	**+2.0**
LZH				pmax	pmax		
	comp=Z,29nm,1.2s

BOD Bodaibo 44.02 335 *e*P **P 00 55 54.0 -0.4**
BOD pmax pmax
comp=Z,12nm,1.2s
GTA Gaotai 44.08 306 *e*P **P 00 55 56.0 +0.6**
GTA pP pP 00 56 00.5 +3.2
GTA sP pwP 00 56 03.8 +1.4
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,190nm,6.2s
GTA LR LR
comp=Z,260nm,11.7s
GTA LR LR
comp=Z,290nm,13.7s
GTA LR LR
comp=Z,460nm,15.5s
CMMT Chiang Mai 44.84 276 P P 00 56 09.6 +8.1
comp=Z,3.2nm,2.5s
CHTO Chiang Mai 44.84 276 P **P 00 56 01.8 +0.2**
CHTO pmax pmax
comp=Z,3.0nm,0.7s
CHTO Chiang Mai 44.84 276 P **P 00 56 01.8 +0.2**
CM31 Chiang Mai Arr 44.91 276 P **P 00 56 02.1 +0.1**
CMAR Chiang Mai Arr 44.91 276*ce*P **P 00 56 03.9 +1.8**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
CMAR Chiang Mai Arr 44.91 276 P **P 00 56 02.5 +0.4**
comp=Z,2.2nm,0.5s,baz=92,slow=4.9,SNR=8.6
CMAR LR LR 01 13 02.6
comp=Z,102nm,21.4s,baz=91,slow=34
UTHA Uthaitani 45.06 272 P **P 00 56 05.8 +2.5**
comp=Z,22µm,1.2s
SMRI Semarang 45.07 236 P P 00 56 01.6 -1.7
ZAK Zakamensk 45.10 322 *e*P **P 00 56 03.6 +0.3**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
TLY Talaya 45.45 323 *i* P **P 00 56 07.0 +1.0**
TLY pmax pmax
comp=Z,31nm,1.2s
TLY Talaya 45.45 323 P **P 00 56 06.8 +0.8**
UMPA Umpang Tak 45.46 273 P P 00 56 11.9 +5.4
comp=Z,26µm,1.1s
UGM Wanagama 45.54 235 P **P 00 56 06.3 -0.9**
SRDT SRDT 45.67 270 P **P 00 56 09.6 +1.5**
comp=Z,19nm,0.7s
ASAR Alice Springs 45.87 196 P P 00 56 07.6 -1.9
comp=Z,1.9nm,0.8s,baz=11,slow=5.9,SNR=7.0
ASAR PcP **PcP 00 57 46.2 -0.6**
comp=Z,1.2nm,0.5s,baz=8.6,slow=2.5,SNR=6.1
ASAR LR LR 01 15 27.8
comp=Z,281nm,20.5s,baz=25,slow=36
DZM Mont Dzumac 46.73 154 P **P 00 56 15.2 -1.1**
comp=Z,14nm,1.0s,baz=38,slow=7.8,SNR=9.3
DZM Mont Dzumac 46.73 154 *e*P **P 00 56 16.2 -0.2**
comp=Z,67nm,1.4s
DZM Mont Dzumac 46.73 154 *e*LR LR 01 09 29.6
comp=Z,532nm,23.8s
DZM Mont Dzumac 46.73 154 P **P 00 56 15.9 -0.4**
DZM IAmb IAmb 00 56 17.0
comp=Z,16nm,1.0s
NIKH Nikolski High 46.81 36 P **P 00 56 15.6 -1.0**
KULM Kulim 47.21 258 P **P 00 56 20.8 +0.5**
SURT Suratani 47.58 263 P **P 00 56 25.6 +2.4**
comp=Z,34nm,1.5s
UNV Unalaska Valle 48.45 35 P **P 00 56 29.2 -0.1**
UNV IAmb IAmb 00 56 41.4
comp=Z,21nm,1.1s
BILL Bilibino 48.85 10*c i* P **P 00 56 32.0 -0.2**
BILL *i* 00 56 42.0
BILL *i* 00 57 54.7
BILL pmax pmax
comp=Z,27nm,1.3s
BILL MLR MLR
comp=Z,206nm,18.0s
BILL Bilibino 48.85 10 P **P 00 56 33.1 +0.8**
BILL IAmb IAmb 00 56 34.6
comp=Z,14nm,0.8s
AKUT Akutan 48.97 35 P **P 00 56 33.1 -0.1**
MSVF Nonsavu 49.08 139 P **P 00 56 35.8 +1.2**
LSA Lhasa 50.62 292 P P 00 56 45.4 -1.5
LSA pmax pmax
comp=Z,17nm,0.9s
LSA Lhasa 50.62 292 P P 00 56 45.4 -1.5
LSA IAmb IAmb 00 56 49.9
comp=Z,17nm,0.9s
ARMA Armidale 51.09 175 P **P 00 56 49.7 -0.1**
GSI Gunungsitoli 51.65 255 P **P 00 56 53.2 -1.0**
TIXI Tiksi 51.96 353*ce*P **P 00 56 55.2 -0.4**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
SDPT Sand Point 52.27 35 P **P 00 56 58.5 +0.4**
STKA Stephens Creek 52.55 185 P P 00 56 58.2 -2.3
comp=Z,3.7nm,0.9s,baz=9.3,slow=8.7,SNR=5.8
STKA LR LR 01 20 37.0
comp=Z,138nm,20.4s,baz=11,slow=38
STKA Stephens Creek 52.55 185 P P 00 56 58.6 -1.9
GIRL Giralia 53.50 218 P **P 00 57 07.7 +0.1**
WMQ Urumqi 53.70 310 *e*P **P 00 57 10.3 +1.2**
WMQ pP pP 00 57 14.3 +3.2
WMQ pmax pmax
comp=Z,20nm,1.3s
WMQ pmax pmax
comp=Z,140nm,3.9s
WMQ LR LR
comp=Z,220nm,28.9s
WMQ LR LR
comp=Z,570nm,28.8s
WMQ LR LR
comp=Z,140nm,29.3s
WMQ Urumqi 53.70 310 P **P 00 57 09.4 +0.3**
WMQ pmax pmax
comp=Z,33nm,1.2s
WMQ Urumqi 53.70 310 P **P 00 57 09.4 +0.3**
TAPN Taplejung 53.84 289 *e*P **P 00 57 11.2 +0.5**
comp=Z,150nm,1.3s
ANM Nome 53.96 23 P **P 00 57 10.1 -0.4**
ANM pmax pmax
comp=Z,4.0nm,1.0s
ANM Nome 53.96 23 P **P 00 57 10.1 -0.4**
ODAN Odare 54.18 289 *e*P **P 00 57 13.8 +0.7**
FORT Forrest 54.27 200 P **P 00 57 12.9 -0.2**
RAMN Ramite 54.87 289 *e*P **P 00 57 18.4 +0.3**
comp=Z,45nm,0.9s
CHIR Chirikof Islan 55.04 36 P **P 00 57 20.1 +1.6**
JIRN Jiri 55.15 290 *e*P **P 00 57 21.0 +0.8**
comp=Z,155nm,0.9s
GUN Gumba 55.39 290 *e*P **P 00 57 22.8 +0.8**
comp=Z,121nm,1.1s
CAN Canberra 55.80 178 P **P 00 57 24.7 +0.5**
CAN pmax pmax
comp=Z,14nm,1.0s
CAN Canberra 55.80 178 P **P 00 57 24.7 +0.5**
CAN IAmb IAmb 00 57 28.5
comp=Z,14nm,1.0s
PKI Pulchoki 55.84 290 *e*P **P 00 57 25.5 +0.3**
comp=Z,11nm,1.2s
PKIN Phulchoki 55.85 290 *e*P **P 00 57 25.3 +0.1**
comp=Z,45nm,0.9s
KKN Kakani 55.93 290 *e*P **P 00 57 26.0 +0.3**
comp=Z,74nm,1.0s
SII Sitkinak Islan 56.01 35 P **P 00 57 25.5 0.0**
DMN Daman 56.11 290 *e*P **P 00 57 27.5 +0.5**
comp=Z,130nm,1.2s
RDOG Red Dog Mine 56.60 20 P **P 00 57 30.3 +0.8**
OHAK Old Harbor 56.65 34 P **P 00 57 29.5 -0.5**
ZAA0 Zalesovo Array 56.98 322 P **P 00 57 32.1 -0.3**
ZALV Zalesovo Beam 56.98 322 P **P 00 57 32.1 -0.3**
comp=Z,21nm,0.7s,baz=105,slow=7.2,SNR=75
ZALV PcP **PcP 00 58 26.7 -0.9**
comp=Z,5.1nm,0.9s,baz=118,slow=3.7,SNR=3.6
ZALV LR LR 01 23 49.0
comp=Z,97nm,18.2s,baz=102,slow=38
KDAK Kodiak Island 57.15 34 P **P 00 57 33.9 +0.3**
KDAK pmax pmax
comp=Z,6.0nm,1.0s
KDAK Kodiak Island 57.15 34 P **P 00 57 33.9 +0.3**
DANN Dangsing 57.19 291 *e*P **P 00 57 35.5 +0.7**
comp=Z,144nm,0.6s
MORW Morawa 57.67 212 P **P 00 57 36.8 -0.9**
MORW IAmb IAmb 00 57 55.9
comp=Z,11nm,1.1s
MK31 Makanchi Array 57.74 313 *i* P **P 00 57 38.0 0.0**
MK31 Makanchi Array 57.74 313 P **P 00 57 38.1 +0.2**
MK31 IAmb IAmb 00 57 39.5
comp=Z,12nm,1.0s
MKAR Makanchi Array 57.74 313 P **P 00 57 37.7 -0.3**
comp=Z,7.5nm,0.8s,baz=92,slow=9.0,SNR=53
MKAR LR LR 01 23 32.7
comp=Z,58nm,18.3s,baz=81,slow=37
MAKZ Makanchi 57.95 313 P **P 00 57 39.7 +0.2**
MAKZ pmax pmax
comp=Z,19nm,1.0s
MAKZ Makanchi 57.95 313 P **P 00 57 39.7 +0.2**
MAKZ IAmb IAmb 00 57 41.1
comp=Z,19nm,1.0s
TOO Toolangi 58.02 181 P **P 00 57 39.8 -0.1**
TOO pmax pmax
comp=Z,15nm,1.2s
TOO Toolangi 58.02 181 P **P 00 57 39.8 -0.1**
TOO IAmb IAmb 00 57 51.5
comp=Z,15nm,1.1s
BRLK Bradley Lake 58.47 32 P **P 00 57 42.0 -0.9**
SKT Skwentna 58.71 29 P **P 00 57 45.1 +0.6**
SKT IAmb IAmb 00 57 58.1
comp=Z,6.9nm,1.1s
SUA Susitna One 58.94 30 P **P 00 57 47.3 +1.0**
SEW Seward 59.25 32 P **P 00 57 47.9 -0.3**
KTH Kantishna Hill 59.40 27 P **P 00 57 48.8 -0.5**
KTH IAmb IAmb 00 57 52.4
comp=Z,12nm,1.1s
BPAW Bear Paw Mtn. 59.52 27 IAmb IAmb 00 57 52.1
comp=Z,15nm,1.2s
TRF Thorofare Moun 59.65 28 P **P 00 57 51.4 +0.3**
TRF IAmb IAmb 00 58 08.7
comp=Z,7.8nm,1.0s
GHO Glory Hole Cre 59.86 30 P **P 00 57 51.7 -0.9**
MLY Manley 59.88 26 IAmb IAmb 00 57 54.8
comp=Z,6.7nm,1.0s
NRIK Noril'sk 60.02 339 P **P 00 57 53.2 -0.2**
comp=Z,28nm,0.7s,baz=106,slow=8.2,SNR=64
NRIK LR LR 01 24 28.6
comp=Z,153nm,21.4s,baz=111,slow=37
RND Reindeer 60.26 28 P **P 00 57 55.4 +0.1**
RND pmax pmax
comp=Z,4.0nm,1.0s
RND Reindeer 60.26 28 P **P 00 57 55.4 +0.1**
NWAO Narrogin (SRO) 60.34 208 P P 00 57 54.3 -1.7
NWAO pmax pmax
comp=Z,7.0nm,0.9s
NWAO Narrogin (SRO) 60.34 208 P P 00 57 54.3 -1.7
NWAO IAmb IAmb 00 58 07.2
comp=Z,7.3nm,0.8s
NWAO Narrogin (SRO) 60.34 208 P **P 00 57 55.2 -0.8**
NWAO IAmb IAmb 00 58 07.2
comp=Z,9.0nm,0.8s
KURK Kurchatov 60.39 317*ce*P **P 00 57 55.8 -0.4**
KURK pmax pmax
comp=Z,81nm,2.5s
KURK Kurchatov 60.39 317 P **P 00 57 56.1 -0.1**
TARG Taragay, Kyrgy 60.92 307 P **P 00 58 01.2 +0.6**
TARG IAmb IAmb 00 58 14.3
comp=Z,15nm,1.1s
CCB Clear Creek Bu 61.00 27 P **P 00 58 00.1 0.0**
POKR Poker Plat Res 61.26 26 P **P 00 58 01.4 -0.5**
baz=257
HDA Harding Lake 61.30 27 P **P 00 58 01.6 -0.7**
baz=258
TOLK Toolik Lake Re 61.36 22 P **P 00 58 03.3 +0.7**
baz=253,SNR=8.9
TOLK Toolik Lake Re 61.36 22 P **P 00 58 03.5 +0.9**
TOLK IAmb IAmb 00 58 04.5
comp=Z,8.9nm,0.7s
ILAR Eielson Array 61.41 27 P P 00 57 59.5 -3.5
comp=Z,6.2nm,1.1s,baz=261,slow=5.6,SNR=21
ILAR LR LR 01 27 36.3
comp=Z,70nm,18.0s,baz=276,slow=39
PAX Paxson 61.67 29 P **P 00 58 04.9 0.0**
PAX pmax pmax
comp=Z,3.0nm,0.8s
GLB Gilahina Butte 62.21 31 P **P 00 58 07.3 -1.1**
GLB IAmb IAmb 00 58 17.7
comp=Z,12nm,1.2s
NRN Naryn 62.29 307 P **P 00 58 08.6 -1.1**
NRN pmax pmax
comp=Z,6.0nm,1.0s
NRN Naryn 62.29 307 P **P 00 58 08.6 -1.1**
NRN IAmb IAmb 00 58 13.4
comp=Z,5.8nm,0.9s
VRDI Verde Repeater 62.35 31 P **P 00 58 09.7 +0.1**
VRDI IAmb IAmb 00 58 15.3
comp=Z,11nm,1.1s
DOT Dot Lake 62.41 28 IAmb IAmb 00 58 10.4
comp=Z,6.1nm,1.0s
CRQM Cirque 62.44 31 P **P 00 58 10.6 +0.4**
FYU Fort Yukon 62.45 25 P **P 00 58 09.9 0.0**
KSH Kashi 62.46 305 P **P 00 58 14.0 +3.3**
KSH sP pwP 00 58 27.3 +10
KSH PP **PP 01 00 33.5 +5.6**
KSH PcS **PcS 01 02 54.5 +1.1**
KSH S **S 01 06 37.8 -0.3**
KSH SS **SS 01 10 44.5 +2.7**
KSH pmax pmax
comp=Z,47nm,1.1s
KSH pmax pmax
comp=Z,400nm,4.0s
KSH LR LR
comp=Z,460nm,6.7s
KSH LR LR
comp=Z,410nm,5.8s
KSH LR LR
comp=Z,310nm,6.1s
SCRK Sand Creek 62.50 28 P **P 00 58 10.3 -0.2**
SCRK IAmb IAmb 00 58 25.0
comp=Z,6.2nm,1.0s
AAK Ala-Archa 63.33 308*ce*P **P 00 58 15.7 -0.7**
AAK pmax pmax
comp=Z,18nm,2.5s
AAK Ala-Archa 63.33 308 P **P 00 58 16.5 +0.1**
AAK IAmb IAmb 00 58 34.1
comp=Z,5.8nm,1.1s
DAWY Dawson 64.52 28 P **P 00 58 24.3 +0.6**
DAWY IAmb IAmb 00 58 25.8
comp=Z,7.1nm,1.0s
ARSB Arslanbob 64.57 307 P **P 00 58 24.4 -0.2**
ARSB IAmb IAmb 00 58 32.4
comp=Z,16nm,1.1s
HYT Haines Junctio 65.20 32 P **P 00 58 28.6 +0.3**
HYT IAmb IAmb 00 58 31.1
comp=Z,11nm,0.9s
NIL Nilore 65.36 298 P **P 00 58 29.3 -0.5**
NIL pmax pmax
comp=Z,28nm,0.9s
NIL Nilore 65.36 298 P **P 00 58 29.3 -0.5**
BRVK Borovoye 65.57 320*ce*P **P 00 58 30.1 -0.6**
BRVK pmax pmax
comp=Z,50nm,1.1s
BRVK Borovoye 65.57 320 P **P 00 58 30.9 +0.2**
QRZ Quartz Range 65.80 159 P **P 00 58 32.5 +0.4**
EPYK Eagle Plains 65.81 25 P **P 00 58 32.5 +0.4**
baz=266
EPYK Eagle Plains 65.81 25 IAmb IAmb 00 58 32.5
comp=Z,7.0nm,1.1s
KK31 Karatay Array 66.20 309 P **P 00 58 35.1 +0.1**
KK31 Karatay Array 66.20 309 P **P 00 58 35.1 +0.1**
KKAR Karatay Array 66.20 309 P **P 00 58 35.5 +0.6**
KKAR pmax pmax
comp=Z,17nm,1.0s
KKAR Karatay Array 66.20 309 P **P 00 58 35.5 +0.6**
BTK Batken 66.35 306 P **P 00 58 35.7 -0.4**
BTK pmax pmax
comp=Z,5.0nm,1.1s
BTK Batken 66.35 306 P **P 00 58 35.7 -0.4**
WHY Whitehorse 66.49 32 P **P 00 58 36.8 +0.2**
TUWZ Tuamarina 66.83 158 P **P 00 58 37.9 -0.8**
GAR Garm 66.88 305 P **P 00 58 39.3 -0.3**
INK Inuvik 67.13 23 IAmb IAmb 00 58 41.6
comp=Z,13nm,1.1s
BHW Baring Head 67.14 157 P **P 00 58 40.0 -0.7**
MSWZ Moikau Station 67.28 157 P P 00 58 39.5 -2.2
FOZ Fox Glacier 67.40 162 P **P 00 58 41.8 -0.5**
FOZ IAmb IAmb 00 58 44.4
comp=Z,12nm,1.0s
PLWZ Palliser 67.42 157 P P 00 58 38.0 -4.5
CHGR Chuyangaron 67.83 304 P **P 00 58 45.4 -0.1**
KBL Kabul 68.65 300 P **P 00 58 49.8 -1.0**
KBL pmax pmax
comp=Z,22nm,1.0s
KBL Kabul 68.65 300 P **P 00 58 49.8 -1.0**
C36M Paulatuk 70.51 22 P **P 00 59 00.8 -0.6**
baz=277,SNR=12
SVE Sverdlovsk 70.75 324*jl e* P **P 00 59 03.5 +0.4**
SVE pmax pmax
comp=Z,39nm,1.3s
ARU Arti 71.95 324*d i* P **P 00 59 09.9 -0.5**
ARU S **S 01 08 33.4 +1.9**
ARU SS **SS 01 13 03.4 -4.2**
ARU pmax pmax
comp=Z,46nm,1.1s
ARU Arti 71.95 324 P **P 00 59 10.0 -0.4**
ABKAR Akbulak array 72.49 317 P **P 00 59 13.2 -0.6**
ABKAR IAmb IAmb 00 59 14.7
comp=Z,14nm,1.1s
PPT Papeete 73.18 117 LR LR 01 26 06.0
comp=Z,148nm,18.4s,baz=332,slow=32
PPT2 Papeete2 73.19 117 *e*LR LR 01 21 22.2
comp=Z,555nm,31.0s
HRA Herat 74.16 301 P **P 00 59 23.1 -1.1**
E03A Lebam 75.07 46 P **P 00 59 28.7 -0.2**
E03A IAmb IAmb 00 59 40.4
comp=Z,22nm,1.2s
LLLB Lillooet 75.14 41 P **P 00 59 28.7 -0.7**
LLLB IAmb IAmb 00 59 30.9
comp=Z,10nm,1.1s
D03D Eldon 75.14 45 P **P 00 59 29.8 +0.5**
baz=285
B05A Bryant 75.60 44 P **P 00 59 32.0 +0.1**
baz=285
E04D Cinebar 75.73 45 P **P 00 59 32.4 -0.3**
baz=285
YKA Yellowknife Ar 75.75 28 P **P 00 59 31.6 -0.9**
comp=Z,6.7nm,0.8s,baz=287,slow=5.9,SNR=94
I03D Drain, OR 75.95 48 P **P 00 59 34.0 0.0**
baz=285
D05A Enumclaw 75.95 45 P **P 00 59 34.0 0.0**
D05A IAmb IAmb 00 59 47.7
comp=Z,16nm,1.1s
K02D Willamette Mer 75.99 49 P **P 00 59 34.4 0.0**
baz=285
F04A Amboy 76.00 46 P **P 00 59 33.2 -1.1**
TBI Tubuai 76.10 122 *e*LR LR 01 22 14.7
comp=Z,172nm,36.8s
H04D Lebanon 76.15 47 P **P 00 59 34.9 -0.3**
baz=286
L02E Cave Junction 76.17 50 P **P 00 59 35.0 -0.4**
baz=286
GEYT Alibeck 76.46 306 P **P 00 59 36.5 -0.7**
comp=Z,7.4nm,1.2s,baz=65,slow=10,SNR=9.5
H04A Detroit Lake 76.49 47 P **P 00 59 36.5 -0.6**
H04A IAmb IAmb 00 59 38.9
comp=Z,9.1nm,1.0s
HUMO Hull Mountain 76.52 49 P **P 00 59 37.4 +0.1**
I04A Tendick Farm, 76.58 48 P **P 00 59 36.9 -0.8**
baz=286
F05D White Salmon 76.65 46 P **P 00 59 37.8 -0.3**
baz=286
LTY Liberty 76.80 44 P **P 00 59 37.6 -1.3**
LTY IAmb IAmb 00 59 40.0
comp=Z,11nm,1.1s
M02C Callahan 76.92 51 P **P 00 59 39.2 -0.5**
baz=286
G05D Wamic, OR 76.93 46 P **P 00 59 39.6 -0.1**
baz=286
YBH Yreka Blue Hor 76.93 50 P **P 00 59 39.6 -0.2**
YBH pmax pmax
comp=Z,7.0nm,1.1s
YBH Yreka Blue Hor 76.93 50 P **P 00 59 39.7 -0.2**
comp=Z,6.2nm,1.0s,baz=193,slow=1.8,SNR=5.7
YBH Yreka Blue Hor 76.93 50 P **P 00 59 39.6 -0.2**
YBH IAmb IAmb 00 59 41.5
comp=Z,7.3nm,1.1s
J04D Umpqua Nationa 76.94 49 P **P 00 59 39.2 -0.8**
baz=286
PRGR Permogore 77.08 331*jl i* P **P 00 59 40.0 0.0**
PRGR pmax pmax
comp=Z,67nm,1.0s
L04D Klamath Falls 77.09 50 P **P 00 59 40.1 -0.6**
baz=286
N02D Trinity Center 77.15 51 P **P 00 59 40.8 -0.2**
baz=286
I05D Terrebonne, OR 77.17 47 P **P 00 59 41.3 +0.2**
baz=286
RES Resolute Bay 77.22 14 IAmb IAmb 00 59 43.5
comp=Z,8.3nm,1.1s
O02D Mt. Diablo Mer 77.31 52 P **P 00 59 42.1 +0.2**
baz=286
B08A Colville Reser 77.35 43 P **P 00 59 41.8 -0.2**
B08A IAmb IAmb 00 59 43.5
comp=Z,9.2nm,0.9s
E07A Sunnyside 77.53 45 P **P 00 59 42.7 -0.3**
E07A IAmb IAmb 00 59 46.2
comp=Z,7.8nm,1.0s
J05D Fort Rock, OR 77.54 48 P **P 00 59 43.3 +0.1**
baz=287
M04C Macdoel 77.54 50 P **P 00 59 42.9 -0.4**
baz=287
PINE Pine Mountain 77.60 48 P **P 00 59 43.5 -0.2**
PINE IAmb IAmb 00 59 45.9
comp=Z,16nm,0.9s
GDXM Geysers 77.69 53 P **P 00 59 44.0 -0.1**
GDXM IAmb IAmb 00 59 48.3
comp=Z,11nm,1.1s
HAWA Hanford 77.79 45 P **P 00 59 44.0 -0.4**
HAWA IAmb IAmb 00 59 45.1
comp=Z,4.8nm,0.7s
ORV Oroville 78.44 52 P **P 00 59 46.9 -1.2**
ORV pmax pmax
comp=Z,9.0nm,1.1s
ORV Oroville 78.44 52 P **P 00 59 46.9 -1.2**
ORV IAmb IAmb 00 59 48.4
comp=Z,8.8nm,1.1s
G08A Pilot Rock 78.51 46 P **P 00 59 47.7 -0.9**
MOD Modoc Plateau 78.60 50 P **P 00 59 49.0 -0.2**
E09A Wood Farm, Sta 78.67 45 P **P 00 59 49.1 -0.1**
E09A IAmb IAmb 00 59 50.0
comp=Z,9.8nm,0.9s
NEW Newport 78.78 43 P **P 00 59 49.9 0.0**
baz=289
NEW Newport 78.78 43 P **P 00 59 49.2 -0.7**
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW Newport 78.78 43 P **P 00 59 49.2 -0.7**
AFDM Forest Hills D 79.01 53 P **P 00 59 50.5 -0.9**
AFDM IAmb IAmb 00 59 52.4
comp=Z,14nm,1.2s
TMCR Tamitsa 79.31 335 *e*P **P 00 59 52.1 -0.3**
TMCR pmax pmax
comp=Z,75nm,1.2s
F10A Beach Ranch, E 79.45 45 P **P 00 59 53.5 -0.2**
WVOR Wild Horse Val 79.62 49 P **P 00 59 54.3 -0.4**
WVOR pmax pmax
comp=Z,8.0nm,1.1s
WVOR Wild Horse Val 79.62 49 P **P 00 59 54.3 -0.4**
CMB Columbia Colle 79.73 53 P **P 00 59 55.6 +0.3**
CMB pmax pmax
comp=Z,13nm,1.1s
CMB Columbia Colle 79.73 53 P **P 00 59 55.6 +0.3**
CMB IAmb IAmb 00 59 57.0
comp=Z,13nm,1.1s
BMO Blue Mountains 79.76 46 IAmb IAmb 00 59 55.9
comp=Z,6.6nm,0.8s
PAHR Pah Rah Range 79.95 51 P **P 00 59 56.2 -0.3**
PAHR IAmb IAmb 00 59 57.6
comp=Z,14nm,1.2s
PNTR Pine Nut 79.98 52 P **P 00 59 56.3 -0.6**
PNTR IAmb IAmb 01 00 15.4
comp=Z,9.0nm,0.9s
YERR Yerington 80.28 52 P **P 00 59 58.3 -0.1**
YERR IAmb IAmb 00 59 59.0
comp=Z,9.0nm,0.9s
WAKR Walker 80.29 53 P **P 00 59 58.8 +0.3**
WALA Waterton Lakes 80.52 41 P **P 00 59 59.4 0.0**
WALA IAmb IAmb 01 00 01.1
comp=Z,19nm,1.1s
PLID Pearl Lake 80.55 45 P **P 00 59 58.5 -1.3**
PAGB Antelope Grade 80.56 55 P **P 00 59 59.1 -0.6**
PAGB IAmb IAmb 01 00 00.5
comp=Z,10nm,1.0s
TULEG Thule 80.57 8 P **P 00 59 59.0 0.0**
ARCES ARCESS Array B 80.84 342 P **P 00 59 59.9 -0.7**
comp=Z,5.9nm,0.7s,baz=68,slow=7.1,SNR=15
ARCES LR LR 01 39 20.1
comp=Z,74nm,21.9s,baz=348,slow=38
MDPB Devils Postpil 80.84 53 P **P 01 00 00.8 -0.8**
OMMB Old Mammoth Mi 80.90 53 P **P 01 00 01.9 0.0**
RYN Ryan 80.93 52 P **P 01 00 01.6 -0.2**
RYN IAmb IAmb 01 00 02.5

comp=Z,11nm,1.0s
KVN Kaiserville 81.10 52 P **P** 01 00 02.6 -0.3
KVN pmax pmax
comp=Z,9.0nm,0.8s
KVN Kaiserville 81.10 52 P **P** 01 00 02.6 -0.3
KVN IAmb IAmb 01 00 03.4
comp=Z,8.5nm,0.8s
NVAR Mina Array Bea 81.16 52 P **P** 01 00 03.0 -0.2
comp=Z,21nm,1.1s,baz=271,slow=5.7,SNR=43
NVAR LR LR 01 30 15.1
comp=Z,108nm,19.3s,baz=276,slow=31
PKM Mcpherson Peak 81.17 56 P **P** 01 00 02.5 -0.8
baz=289
MFID Camas Ranch 81.24 47 IAmb IAmb 01 00 06.3
comp=Z,12nm,1.1s
NV11 Mina Array Sit 81.26 52 IAmb IAmb 01 00 05.5
comp=Z,11nm,0.9s
BMN Battle Mountai 81.28 50 P **P** 01 00 03.6 -0.1
BMN pmax pmax
comp=Z,5.0nm,0.9s
BMN Battle Mountai 81.28 50 P **P** 01 00 03.6 -0.1
MSO Missoula 81.30 43 P **P** 01 00 03.1 -0.5
baz=291
MSO Missoula 81.30 43 P **P** 01 00 03.1 -0.5
SCZ2 Santa Cruz Isl 81.60 57 P **P** 01 00 04.7 -0.7
baz=289
ISA Isabella, Lake 81.95 55 P **P** 01 00 06.2 -1.1
baz=290
CWC Cottonwood Cre 81.99 54 P **P** 01 00 06.9 -0.6
baz=290
BLG Laguna Peak, P 82.01 57 P **P** 01 00 07.2 -0.3
baz=290
DAG Danmarks Havn 82.29 357 *i* P **P** 01 00 07.2 -0.9
DAG pmax pmax
comp=Z,8.0nm,1.3s
DAG Danmarks Havn 82.29 357 *i* P **P** 01 00 07.2 -0.9
comp=Z,7.7nm,1.3s
DAC Darwin (Calif) 82.41 54 P **P** 01 00 10.9 +1.1
DAC pmax pmax
comp=Z,8.0nm,1.2s
DAC Darwin (Calif) 82.41 54 P **P** 01 00 10.9 +1.1
DAC IAmb IAmb 01 00 12.5
comp=Z,8.4nm,1.1s
MPMC Manual Prospec 82.57 54 P **P** 01 00 10.5 -0.2
baz=290,SNR=14
EDW2 Edwards Air Fo 82.58 56 P **P** 01 00 10.5 -0.1
baz=290,SNR=7.0
ELK Elko 82.59 49 P **P** 01 00 10.8 +0.1
ELK pmax pmax
comp=Z,12nm,0.9s
ELK Elko 82.59 49 P **P** 01 00 10.8 +0.1
ELK IAmb IAmb 01 00 12.4
comp=Z,12nm,0.9s
LRMC Laurel Mtn Rad 82.62 55 P **P** 01 00 10.6 -0.3
baz=290
LRM Limekiln Ridge 82.62 44 P **P** 01 00 09.9 -0.9
DLMT Dillon 82.70 44 P **P** 01 00 10.7 -0.4
MCMT McKenzie Canyo 82.74 45 P **P** 01 00 10.8 -0.6
FMP Fort Macarthur 82.75 57 P **P** 01 00 11.3 -0.1
baz=290
CIS Catalina Islan 82.76 57 P **P** 01 00 10.8 -0.7
baz=290
FURC Furnace Creek, 82.90 54 P **P** 01 00 12.0 0.0
baz=290
VRH Novokhopyorsk 83.01 322 *e*P **P** 01 00 11.5 -0.8
VRH pmax pmax
comp=Z,30nm,0.8s
BFSC Mount Baldy Ra 83.06 56 P **P** 01 00 12.7 -0.5
baz=290
R11A Troy Canyon, C 83.19 52 P **P** 01 00 13.5 -0.3
baz=291
TPNV Topopah Spring 83.19 53 P **P** 01 00 13.6 -0.2
baz=291
TPNV Topopah Spring 83.19 53 IAmb IAmb 01 00 14.2
comp=Z,9.9nm,0.8s
MOS Moscow 83.25 327 *e*P **P** 01 00 12.1 -1.4
MOS pmax pmax
comp=Z,72nm,1.2s
GSC Goldstone, Bar 83.35 55 P **P** 01 00 14.3 -0.3
baz=291,SNR=6.4
GSC Goldstone, Bar 83.35 55 IAmb IAmb 01 00 16.1
comp=Z,8.9nm,1.1s
EGMT Eagleton 83.47 41 P **P** 01 00 14.1 -0.8
baz=294
EGMT Eagleton 83.47 41 P **P** 01 00 14.6 -0.3
EGMT IAmb IAmb 01 00 15.7
comp=Z,11nm,1.1s
SHOC Shoshone, Teco 83.54 54 P **P** 01 00 15.6 +0.1
baz=291
GROC Groznyy 83.63 314 *e*P **P** 01 00 14.7 -1.0
GROC *e* 01 00 19.5
GROC pmax pmax
comp=Z,41nm,1.2s
MURC Murrieta 83.64 57 P **P** 01 00 15.3 -0.7
baz=291
HEC Hector,Ludlow 83.88 55 P **P** 01 00 16.8 -0.5
baz=291
109C Camp Elliot, M 83.97 57 P **P** 01 00 17.2 -0.4
baz=291
LPSR Galich'ya Gora 83.97 324 *e*P **P** 01 00 16.7 -0.6
LPSR pmax pmax
comp=Z,50nm,1.0s
TUQ Turquoise Moun 83.98 55 P **P** 01 00 17.5 -0.4
baz=291,SNR=5.6
YHH Holmes Hill 84.07 44 P **P** 01 00 18.0 -0.4
OBN Obninsk 84.07 327⇑*i*P **P** 01 00 17.5 -0.2
OBN pmax pmax
comp=Z,78nm,1.4s
OBN Obninsk 84.07 327 P **P** 01 00 17.5 -0.2
SHPR Sheep Range 84.17 53 P **P** 01 00 18.0 -0.9
SHPR IAmb IAmb 01 00 19.5
comp=Z,7.6nm,1.0s
YNR Norris Junctio 84.21 44 P **P** 01 00 19.6 +0.7
PFO Pinyon Flats O 84.22 56 P **P** 01 00 18.5 -0.6
baz=291,SNR=9.0
PFO Pinyon Flats O 84.22 56 *i* P **P** 01 00 18.2 -0.9
PFO pmax pmax
comp=Z,28nm,1.3s
PFO Pinyon Flats O 84.22 56 P **P** 01 00 18.6 -0.5
comp=Z,12nm,1.1s,baz=321,slow=1.6,SNR=9.5
PFO Pinyon Flats O 84.22 56 P **P** 01 00 18.9 -0.2
PFO IAmb IAmb 01 00 20.2
comp=Z,12nm,1.1s
XPFO Pion Flat 84.22 56 P **P** 01 00 18.5 -0.6
XPFO IAmb IAmb 01 00 20.3
comp=Z,12nm,1.1s
YPP Pitchstone Pla 84.30 45 P **P** 01 00 20.0 +0.5
YUF Upper Falls 84.32 44 P **P** 01 00 19.8 +0.2
SPUT South Promonto 84.34 48 P **P** 01 00 20.0 +0.3
IMW Indian Meadow 84.36 45 P **P** 01 00 20.0 +0.2
IMW IAmb IAmb 01 00 20.9
comp=Z,6.9nm,0.9s
BAR Barrett 84.38 57 P P 01 00 18.2 -1.6
BAR IAmb IAmb 01 00 22.1
comp=Z,5.7nm,1.0s
H17A Grant Village 84.40 45 P **P** 01 00 21.6 +1.6
baz=294
H17A Grant Village 84.40 45 P **P** 01 00 20.6 +0.6
H17A IAmb IAmb 01 00 25.7
comp=Z,14nm,1.1s
FXWY Fox Creek 84.40 45 P **P** 01 00 20.1 +0.1
FXWY IAmb IAmb 01 00 23.8
comp=Z,5.8nm,1.1s
GMRC Granite Mounta 84.41 55 P **P** 01 00 19.7 -0.3
baz=291,SNR=6.7
BELC Belle Mtn. Jos 84.44 56 P **P** 01 00 19.1 -1.1
baz=291
FLWY Flagg Ranch 84.44 45 P **P** 01 00 20.3 +0.1
FLWY IAmb IAmb 01 00 21.5
comp=Z,11nm,0.9s
LKWY Lake 84.45 44 P **P** 01 00 22.1 +1.9
LKWY pmax pmax
comp=Z,6.0nm,0.6s
LKWY Lake 84.45 44 P **P** 01 00 22.1 +1.9
LKWY IAmb IAmb 01 00 24.0
comp=Z,6.3nm,0.6s
VSR Storozhevoye 84.46 323 *i* P **P** 01 00 19.9 +0.1
VSR pmax pmax
comp=Z,48nm,1.1s
VORD Divnogorie 84.50 323 *e*P **P** 01 00 20.0 +0.1
VORD pmax pmax
comp=Z,10.0nm,0.9s
MONP2 Monument Peak 84.50 57 P **P** 01 00 20.2 -0.5
baz=291,SNR=8.3
DUG Dugway, Tooele 84.51 49 P **P** 01 00 19.8 -0.7
baz=292
DUG Dugway, Tooele 84.51 49 IAmb IAmb 01 00 20.9
comp=Z,6.1nm,0.8s
TPAW Teton Pass 84.51 46 P **P** 01 00 20.9 +0.3
TPAW IAmb IAmb 01 00 22.1
comp=Z,5.6nm,0.8s
YNE Yellowstone No 84.53 44 P **P** 01 00 20.2 -0.4
YMP Mirror Lake Pl 84.54 44 P **P** 01 00 20.4 -0.4
SUF Sumiainen 84.64 337 P **P** 01 00 21.0 +0.6
SUF pmax pmax
comp=Z,36nm,0.5s
SNOW Snow King Moun 84.65 46 P **P** 01 00 21.2 -0.1
AHID Auburn Hatcher 84.70 46 P **P** 01 00 20.2 -1.3
AHID IAmb IAmb 01 00 25.2
comp=Z,7.3nm,0.9s
IKP In-Ko-Pah, Jac 84.83 57 P **P** 01 00 21.6 -0.6
baz=291
FFC Flin Flon 84.88 33 P **P** 01 00 21.6 -0.2
FFC pmax pmax
comp=Z,26nm,1.2s
FFC Flin Flon 84.88 33 P **P** 01 00 21.6 -0.2
TBLG Delisi 84.92 313 P P 01 00 20.8 -1.6
TBLG pmax pmax
comp=Z,7.0nm,1.0s
TBLG Delisi 84.92 313 P P 01 00 20.9 -1.5
TBLG IAmb IAmb 01 00 24.9
comp=Z,7.2nm,1.0s
RLMT Red Lodge 84.96 44 P **P** 01 00 22.9 +0.2
baz=294
RLMT Red Lodge 84.96 44 P **P** 01 00 21.5 -1.2
RLMT IAmb IAmb 01 00 23.9
comp=Z,12nm,0.9s
BC3 Big Chuckawall 84.98 56 P **P** 01 00 22.5 -0.4
baz=292,SNR=11
IRM Iron Mountain 85.04 55 P **P** 01 00 22.7 -0.4
baz=292,SNR=6.0
ZEI Tsey 85.07 314 *e*P **P** 01 00 22.9 -0.4
ZEI pmax pmax
comp=Z,7.0nm,1.1s
CCUT Cedar City 85.12 52 P **P** 01 00 22.7 -1.0
NLU North Lily Min 85.12 49 P **P** 01 00 22.6 -1.0
TCUT Toone Canyon 85.14 48 P P 01 00 22.1 -1.6
SZCU Shurtz Canyon 85.30 52 P **P** 01 00 23.9 -0.7
JLU Jordanelle 85.31 48 P **P** 01 00 23.7 -0.9
KBZ Khabaz 85.36 315 P **P** 01 00 24.2 -0.2
comp=Z,5.1nm,0.8s,baz=64,slow=3.1,SNR=7.3
KBZ LR LR 01 41 57.4
comp=Z,152nm,18.7s,baz=60,slow=38
TCRU Three Creeks R 85.38 51 P **P** 01 00 24.2 -0.8
KIV Kislovodsk 85.41 315 *e*P **P** 01 00 26.0 +1.2
KIV pmax pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 85.41 315 P **P** 01 00 23.8 -1.0
KIV IAmb IAmb 01 00 39.2
comp=Z,4.6nm,0.8s
LCMT Little Creek M 85.41 52 P **P** 01 00 24.6 -0.4
FIA1 FINESS Array S 85.42 335 P P 01 00 22.4 -1.9
FINES FINESS Array B 85.42 335 P **P** 01 00 23.1 -1.3
comp=Z,10nm,0.7s,baz=72,slow=4.7,SNR=52
FINES LR LR 01 39 00.6
comp=Z,38nm,21.6s,baz=52,slow=36
GNI Garni 85.54 311 *ce*P **P** 01 00 26.3 +0.6
GNI pmax pmax
comp=Z,92nm,2.5s
GNI Garni 85.54 311 P **P** 01 00 26.0 +0.3
MSU Marysvale 85.61 51 P **P** 01 00 26.2 0.0
MSU Marysvale 85.61 51 P **P** 01 00 26.2 0.0
W13A Hualapai Mount 85.65 54 P **P** 01 00 25.6 -0.8
Y12C Blythe 85.67 56 P **P** 01 00 25.9 -0.3
baz=292
Y12C Blythe 85.67 56 IAmb IAmb 01 00 27.2
comp=Z,11nm,1.1s
GLA Glamis 85.69 56 P **P** 01 00 26.4 0.0
baz=292
GLA Glamis 85.69 56 IAmb IAmb 01 00 27.3
comp=Z,11nm,1.1s
BW06 Boulder Array 85.74 46 P **P** 01 00 25.9 -0.8
baz=294
PD31 Pinedale Array 85.74 46 P **P** 01 00 26.1 -0.5
PDAR Pinedale Array 85.74 46 P **P** 01 00 25.9 -0.8
comp=Z,1.7nm,0.7s,baz=182,slow=0.7,SNR=17
PDAR LR LR 01 31 39.7
comp=Z,116nm,21.1s,baz=331,slow=31
PKCU Pink Cliffs 85.93 52 P **P** 01 00 27.5 -0.4
TMUT Trail Mountain 86.00 50 P **P** 01 00 27.0 -1.2
Q16A Castle Valley 86.17 50 P **P** 01 00 28.4 -0.5
LAO LASA Array 86.21 41 P **P** 01 00 28.3 -0.5
baz=296
LAO LASA Array 86.21 41 P **P** 01 00 28.3 -0.5
U15A North Rim 86.34 52 P **P** 01 00 29.1 -0.8
U15A IAmb IAmb 01 00 31.8
comp=Z,8.5nm,1.0s
SRU San Rafael Swe 86.56 49 P **P** 01 00 29.9 -0.9
SRU pmax pmax
comp=Z,14nm,0.7s
SRU San Rafael Swe 86.56 49 P **P** 01 00 29.9 -0.9
113A Mohawk Valley, 86.62 56 IAmb IAmb 01 00 31.1
comp=Z,5.6nm,1.1s
DGMT Dagmar 86.63 39 P **P** 01 00 30.4 -0.3
baz=298
DGMT Dagmar 86.63 39 IAmb IAmb 01 00 31.1
comp=Z,8.4nm,0.8s
RDMU Red Mountain 86.63 48 P **P** 01 00 30.6 -0.5
Y14A Wickenburg 86.77 55 P **P** 01 00 31.2 -0.5
Y14A IAmb IAmb 01 00 33.3
comp=Z,12nm,0.9s
SUMG Summit 86.85 2 *i* P **P** 01 00 32.0 +0.2
SUMG pmax pmax
comp=Z,44nm,1.1s
SUMG Summit 86.85 2 *i* P **P** 01 00 32.0 +0.2
comp=Z,44nm,1.1s
SUMG Summit 86.85 2 P **P** 01 00 32.2 +0.5
WUAZ Wupatki 87.38 53 P **P** 01 00 34.6 -0.2
baz=294,SNR=13
214A Organ Pipe Nat 87.68 57 P **P** 01 00 36.1 0.0
baz=293
O20A White River Ci 87.74 48 P **P** 01 00 36.0 -0.5
baz=295,SNR=10
X16A Lo Mia Camp, P 87.77 54 IAmb IAmb 01 00 37.6
comp=Z,3.5nm,0.8s
K22A Casper 87.81 45 P **P** 01 00 36.4 -0.3
baz=296
K22A Casper 87.81 45 IAmb IAmb 01 00 49.4
comp=Z,5.1nm,0.9s
RSSD Black Hills 88.75 43 P **P** 01 00 41.1 -0.2
baz=298
RSSD Black Hills 88.75 43 P **P** 01 00 40.5 -0.7
RSSD pmax pmax
comp=Z,10.0nm,1.1s
RSSD Black Hills 88.75 43 P **P** 01 00 40.5 -0.7
RSSD IAmb IAmb 01 00 42.7
comp=Z,10.0nm,1.1s
W18A Petrified Fore 88.77 53 P **P** 01 00 41.3 -0.1
baz=295
W18A Petrified Fore 88.77 53 P **P** 01 00 41.4 0.0
MVCO Mesa Verde 88.80 51 P **P** 01 00 41.5 -0.2
baz=295,SNR=8.5
MVCO Mesa Verde 88.80 51 IAmb IAmb 01 00 42.0
comp=Z,11nm,1.1s
X18A Snowflake 88.85 53 P **P** 01 00 42.0 +0.1
X18A IAmb IAmb 01 00 43.2
comp=Z,8.1nm,0.9s
N23A Red Feather La 88.98 46 P **P** 01 00 42.9 +0.5
baz=297,SNR=19
SMCO Snowmass 89.03 48 IAmb IAmb 01 00 44.6
comp=Z,9.6nm,0.9s
TUC Tucson 89.12 56 P **P** 01 00 43.3 +0.3
baz=294
TUC Tucson 89.12 56 P **P** 01 00 42.9 -0.1
TUC pmax pmax
comp=Z,5.0nm,1.1s
TUC Tucson 89.12 56 P **P** 01 00 42.9 -0.1
TUC IAmb IAmb 01 00 49.8
comp=Z,5.0nm,1.1s
PHWY Pilot Hill 89.12 46 IAmb IAmb 01 00 49.4
comp=Z,6.3nm,1.1s
ISCO Idaho Springs 89.70 47 P **P** 01 00 46.0 +0.1
baz=297,SNR=9.7
ISCO Idaho Springs 89.70 47 P **P** 01 00 45.9 0.0
ISCO pmax pmax
comp=Z,6.0nm,1.0s
ISCO Idaho Springs 89.70 47 P **P** 01 00 45.9 0.0
ISCO IAmb IAmb 01 00 46.6
comp=Z,5.7nm,1.0s
S22A 4UR Ranch, Cre 89.76 49 P **P** 01 00 46.3 0.0
baz=296,SNR=13
S22A 4UR Ranch, Cre 89.76 49 P **P** 01 00 46.2 0.0
S22A IAmb IAmb 01 00 47.5
comp=Z,12nm,1.1s
AKASG Malin Array Be 90.15 326 *ce*P **P** 01 00 46.0 -1.3
AKASG pmax pmax
comp=Z,6.0nm,1.0s
AKASG Malin Array Be 90.15 326 P P 01 00 45.8 -1.6
comp=Z,6.0nm,1.0s,baz=44,slow=4.7,SNR=21
AKBB Malin Array Si 90.15 326 *i* P **P** 01 00 46.3 -1.0
AKBB Malin Array Si 90.15 326 P **P** 01 00 46.5 -0.8
AKBB IAmb IAmb 01 00 47.5
comp=Z,11nm,1.1s
HSIG 90.32 59 IAmb IAmb 01 00 50.3
comp=Z,8.7nm,0.9s
ULM Lac du Bonnet 90.39 35 *i* P **P** 01 00 47.1 -1.4
ULM Lac du Bonnet 90.39 35 P P 01 00 46.7 -1.8
comp=Z,5.6nm,0.9s,baz=295,slow=5.5,SNR=6.5
ULM LR LR 01 39 37.6
comp=Z,49nm,20.2s,baz=330,slow=34
ULM Lac du Bonnet 90.39 35 P **P** 01 00 47.4 -1.0
Q24A Divide 90.40 48 P **P** 01 00 48.8 -0.3
baz=297
Q24A Divide 90.40 48 P **P** 01 00 48.9 -0.3
Q24A IAmb IAmb 01 00 49.7
comp=Z,6.1nm,0.9s
SDCO Great Sand Dun 90.71 49 P **P** 01 00 50.5 -0.1
baz=297,SNR=7.7
SDCO Great Sand Dun 90.71 49 P **P** 01 00 50.0 -0.6
NOA NORSAR Array B 90.98 340 P **P** 01 00 50.5 -0.6
comp=Z,2.9nm,1.0s,baz=38,slow=4.8,SNR=3.1
NOA LR LR 01 50 50.9
comp=Z,43nm,18.7s,baz=30,slow=42
SUW Suwalki 91.18 331 P **P** 01 00 51.0 -1.0
SUW pmax pmax
comp=Z,28nm,0.9s
SUW Suwalki 91.18 331 P **P** 01 00 51.0 -1.0
LENM Lemitar 91.23 53 P **P** 01 00 52.1 -0.9
ANMO Albuquerque 91.27 52 P **P** 01 00 53.3 +0.1
baz=296
ANMO Albuquerque 91.27 52 *ce*P P 01 00 51.6 -1.6
ANMO pmax pmax
comp=Z,6.0nm,1.1s
ANMO Albuquerque 91.27 52 P **P** 01 00 53.1 -0.1
ANMO IAmb IAmb 01 00 53.9
comp=Z,5.2nm,1.1s
121A Cookes Peak, D 91.33 54 P **P** 01 00 53.8 +0.4
baz=296
121A Cookes Peak, D 91.33 54 P **P** 01 00 53.5 +0.1
121A IAmb IAmb 01 01 02.5
comp=Z,5.0nm,1.1s
AGMN Agassiz Nation 91.49 36 P **P** 01 00 53.3 -0.4
baz=304
RAYN Ar Rayn 91.54 296 P **P** 01 00 53.8 -0.6
RAYN pmax pmax
comp=Z,7.0nm,1.2s
RAYN Ar Rayn 91.54 296 P **P** 01 00 53.8 -0.6
RAYN IAmb IAmb 01 00 54.6
comp=Z,7.4nm,1.1s
OGNE Ogallala 91.57 45 P **P** 01 00 53.7 -0.6
baz=299
OGNE Ogallala 91.57 45 P P 01 00 52.5 -1.8
T25A Trinidad 91.75 49 P **P** 01 00 55.4 0.0
baz=298
T25A Trinidad 91.75 49 IAmb IAmb 01 00 57.4
comp=Z,9.4nm,1.1s
KSCO Kaye Shedlock' 92.11 47 P **P** 01 00 56.4 -0.5
baz=299
BR131 Keskin Array S 93.35 315 P **P** 01 01 02.3 -0.3
BR131 pmax pmax
comp=Z,2.0nm,0.9s
BR131 Keskin Array S 93.35 315 P **P** 01 01 02.3 -0.3
BRTR Keskin Array B 93.35 315 *ce*P **P** 01 01 01.7 -0.9
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 93.35 315 P **P** 01 01 01.2 -1.4
comp=Z,1.5nm,0.8s,baz=66,slow=2.1,SNR=8.3
MNTX Cornudas Mount 93.53 54 P **P** 01 01 03.5 +0.1
baz=297
MNTX Cornudas Mount 93.53 54 P **P** 01 01 03.0 -0.4
MNTX IAmb IAmb 01 01 04.1
comp=Z,5.3nm,0.8s
ECSD EROS Data Cent 93.57 40 P **P** 01 01 03.0 -0.4
baz=303
KWP Kalwaria Pacla 94.16 327 P **P** 01 01 05.2 -0.8
KWP pmax pmax
comp=Z,57nm,0.9s
KWP Kalwaria Pacla 94.16 327 P **P** 01 01 05.2 -0.8
MSTX Muleshoe 94.42 51 P **P** 01 01 06.6 -1.0
baz=299
AMTX Amarillo 94.77 50 P **P** 01 01 08.2 -1.0
baz=299
AMTX Amarillo 94.77 50 P **P** 01 01 08.8 -0.4
SPMN Marine on St. 94.97 38 P **P** 01 01 09.3 -0.4
baz=306
TX31 Lajitas Ar. Si 95.92 56 IAmb IAmb 01 01 16.4
comp=Z,3.3nm,1.1s
TX32 Lajitas Array 95.92 56 IAmb IAmb 01 01 16.4
comp=Z,3.1nm,1.1s
TXAR Lajitas Array 95.92 56 P **P** 01 01 14.1 -0.5
comp=Z,1.4nm,0.9s,baz=276,slow=2.4,SNR=10
TXAR LR LR 01 38 30.4
comp=Z,38nm,20.6s,baz=0.0,slow=32
WMOK Wichita Mounta 96.91 49 P **P** 01 01 18.2 -0.6
baz=301
WMOK Wichita Mounta 96.91 49 IAmb IAmb 01 01 19.9
comp=Z,5.4nm,1.0s
CLL Collm 97.56 333 *e*PP **PP** 01 05 20.0 +2.0
JCT Junction City 98.32 53 P **P** 01 01 24.9 -0.4
baz=300
ATD Arta Tunnel 98.59 286 LR LR 01 47 16.6
comp=Z,20nm,18.7s,baz=30,slow=36
SCHQ Schefferville 99.45 19 LR LR 01 45 15.2
comp=Z,49nm,21.7s,baz=30,slow=35
G47A Hillman 99.89 34 P **Pdif** 01 01 31.5 -0.4
baz=313
LSZ Lusaka 121.55 264 PKIKP **PKPdf** 01 06 41.2 -0.5
LSZ Lusaka 121.55 264 **PKPdf** 01 06 41.2 -0.5
TORD Torodi Ar. Bea 131.85 311 PKP **PKPdf** 01 07 01.8 +0.5
comp=Z,0.8nm,0.8s,baz=48,slow=2.1,SNR=5.6
DBIC Dimbokro 140.96 311 PKhKP PKPpre 01 07 11.5
comp=Z,2.4nm,0.8s,baz=63,slow=5.6,SNR=3.2
PLCA Paso Flores 142.67 131 PKIKP **PKPdf** 01 07 20.9 +0.3
PLCA Paso Flores 142.67 131 PKhKP PKPpre 01 07 15.1
comp=Z,5.4nm,1.0s,baz=248,slow=6.8,SNR=5.2
PLCA Paso Flores 142.67 131 **PKPdf** 01 07 20.9 +0.3
MNMC Minye Minye 145.90 94 **PKPdf** 01 07 27.8 +0.7
PB11 IPOC Station P 145.94 95 PKPbc **PKPdf** 01 07 27.5 +0.5
GO01 Chusmiza 146.35 95 PKPbc **PKPdf** 01 07 29.2 +1.1
LPAZ La Paz 146.73 88 PKPbc **PKPdf** 01 07 29.2 +0.2
comp=Z,18nm,1.1s,baz=346,slow=2.1,SNR=30
LPAZ La Paz 146.73 88 PKPbc **PKPdf** 01 07 31.2 +2.2
LVC Limon Verde 146.92 100 PKP2 **PKPdf** 01 07 30.2 +1.4
LVC Limon Verde 146.92 100 **PKPdf** 01 07 30.2 +1.4
SAML Samuel 148.90 72 PKP2 **PKPdf** 01 07 35.1 +3.2
SAML Samuel 148.90 72 PKPbc **PKPdf** 01 07 35.1 +3.2
CPUP Villa Florida 157.31 109 PKP **PKPdf** 01 07 43.9 +0.1
comp=Z,1.5nm,1.0s,baz=31,slow=6.0,SNR=2.8
CPUP PKPab **PKPab** 01 08 12.2 -2.7
comp=Z,1.8nm,1.0s,baz=294,slow=2.8,SNR=2.8
BDFB Brasilia 165.14 72 PKP **PKPdf** 01 07 52.2 -0.2
comp=Z,3.9nm,1.0s,baz=255,slow=2.4,SNR=4.1

NEIC ***29*** *00:47:58.2±2.3, 5°.49S±0°.05×130°.98E±0°.05, h182km±8km, mb4.6/25*
DJA ***29*** *00:48:00.2±0.2, 6°S±2°×13°1E±°, h103km±6km, M4.4/12, mb4.4/12, mB5.1/3, MLv4.4/12, Mw(mB)4.4/3*
IDC ***29*** *00:48:01.0±2.9, 5°.48S×131°.09E, h94km±27km, mb3.8/2, mb1 4.0/5, mb1mx3.5/36, mbtmp4.3/5, Error ellipse: s-maj=46.7km s-min=24.4km az=92.0*
ISC 29 00:47:56.7±0.5, **5°.50S**±0°.03×**131°.00E**±0°.05, **h150**km, **n62**, σ**2s.35**/62, **mb4.6**/9, **1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.46**	**312**	P	**Pn**	**00 48 28.1**	**+2.2**
BNDI				S	**Sn**	**00 48 46.5**	**-1.7**
SAUI	**Saumlaki**	**2.48**	**173**	P	**Pn**	**00 48 39.9**	**+2.3**
SAUI				S	**Sn**	**00 49 09.0**	**-0.2**
SAUI	**Saumlaki**	**2.48**	**173**		**Pn**	**00 48 41.2**	**+3.5**
FAKI	**Fak Fak**	**2.85**	**26**	P	**Pn**	**00 48 45.4**	**+3.1**
FAKI				S	**Sn**	**00 49 17.2**	**-0.3**
FAKI	**Fak Fak**	**2.85**	**26**		**Pn**	**00 48 45.5**	**+3.2**
MSAI	**Masohi**	**2.98**	**316**	P	**Pn**	**00 48 46.9**	**+3.1**
MSAI				S	**Sn**	**00 49 19.5**	**-0.7**
KMPI	**Kaimana, Papua**	**3.26**	**56**	P	**Pn**	**00 48 48.5**	**+1.1**

KMPI			S		**Sn**	**00 49 25.9**	**-0.8**
AAI	**Ambon**	**3.33 303**	P		**Pn**	**00 48 51.4**	**+3.1**
NLAI	**Namlea**	**4.49 300**	P		**Pn**	**00 49 07.5**	**+4.0**
NLAI			S		**Sn**	**00 50 00.5**	**+5.1**
SIJI	**Sorong**	**4.61 3**	P		**Pn**	**00 49 08.0**	**+2.9**
	20nm,0.3s,baz=182,slow=12,SNR=47						
SIJI			S		**Sn**	**00 49 55.7**	**-2.6**
	17nm,0.3s,baz=239,slow=23,SNR=18						
SWI	**Sorong**	**4.62 3**	P		**Pn**	**00 49 08.1**	**+3.0**
SWI			S		**Sn**	**00 49 56.3**	**-2.2**
RKPI	**Ransiki, Papua**	**5.08 39**	P		**Pn**	**00 49 15.1**	**+3.8**
	59nm,0.7s,2μm1.0nm						
RKPI			S		**Sn**	**00 50 10.8**	**+1.4**
	59nm,0.7s,2μm1.0nm						
LBMI	**Labuha**	**5.96 324**	P		Pn	00 49 28.0	+5.0
	45nm,0.6s,0.3nm						
SANI	**Sanana**	**6.06 304**	P		Pn	00 49 29.1	+4.8
	62nm,0.5s,1μm0.3nm						
BAKI	**Biak**	**6.66 50**	P		Pn	00 49 38.6	+6.3
TNTI	**Ternate**	**7.21 330**	Pn		**Pn**	**00 49 42.2**	**+2.6**
MTN	**Manton Dam**	**7.29 179**	Pn		**Pn**	**00 49 43.1**	**+2.3**
SOEI	**Soe**	**7.89 237**	P		Pn	00 49 54.5	+5.6
	51nm,2.5s,0.3nm						
SOEI	**Soe**	**7.89 237**	Pn		**Pn**	**00 49 51.9**	**+3.0**
BATI	**Baumata**	**8.64 237**	P		Pn	00 50 04.8	+6.0
	3.8nm,0.3s,baz=77,slow=14,SNR=3.0						
BATI			S		**Sn**	**00 51 38.1**	**+3.3**
	5.4nm,0.3s,baz=59,slow=18,SNR=4.0						
BATI	**Baumata**	**8.64 237**	P		Pn	00 50 04.2	+5.5
	27nm,1.0s						
MMRI	**Maumere**	**9.23 250**	Pn		**Pn**	**00 50 05.9**	**-0.7**
KNRA	**Kununurra**	**10.35 192**	Pn		**Pn**	**00 50 23.6**	**+2.3**
KNRA					**Sn**	**00 52 14.3**	**-1.6**
APSI	**Ampana**	**10.39 296**	P		Pn	00 50 27.1	+5.1
	23nm,0.6s						
FITZ	**Fitzroy Crossi**	**13.57 202**	P		**Pn**	**00 51 04.8**	**+1.6**
	1.8nm,0.3s,baz=15,slow=12,SNR=28						
FITZ			S		Sn	00 53 24.4	-9.1
	0.7nm,0.3s,baz=209,slow=10,SNR=3.8						
FITZ	**Fitzroy Crossi**	**13.57 202**	P		**Pn**	**00 51 05.2**	**+2.0**
DAV	**Davao City (W)**	**13.61 337**			**Pn**	**00 51 06.2**	**+2.3**
COEN	**Coen**	**14.64 126**	P		**P**	**00 51 19.9**	**+0.8**
WRAB	**Tennant Creek**	**14.71 167**			**Pn**	**00 51 18.3**	**+0.7**
WRA	**Warramunga Arr**	**14.71 168**	P		**Pn**	**00 51 19.5**	**+1.8**
	0.5nm,0.3s,baz=344,slow=14,SNR=11						
WRA			S		Sn	00 53 54.0	-7.2
	1.7nm,0.3s,baz=346,slow=24,SNR=9.3						
WR0	**Warramunga Arr**	**14.78 167**	Pn		**Pn**	**00 51 18.3**	**-0.1**
PMG	**Port Moresby**	**16.48 105**	P		**P**	**00 51 37.7**	**-1.8**
AS31	**Alice Springs**	**18.27 171**	P		**P**	**00 51 58.2**	**-0.9**
ASAR	**Alice Springs**	**18.27 171**	P		**Pn**	**00 52 07.5**	**+6.6**
	0.6nm,0.3s,baz=352,slow=9.5,SNR=19						
ASAR			S		**S**	**00 55 21.3**	**+1.0**
	0.4nm,0.3s,baz=345,slow=27,SNR=6.3						
KKM	**Kota Kinabalu**	**18.69 308**	P		**P**	**00 52 02.4**	**-1.4**
KKM			IAmb		IAmb	00 52 18.7	
	comp=Z,22nm,1.0s						
PSAB2	**Pilbara Seismi**	**19.26 213**	P		**P**	**00 52 09.5**	**-0.3**
PSAB2			IAmb		IAmb	00 52 14.1	
	comp=Z,19nm,1.1s						
PSAA3	**Pilbara Seismi**	**19.28 213**	P		**P**	**00 52 09.2**	**-0.8**
PSAA3			IAmb		IAmb	00 52 26.9	
	comp=Z,17nm,1.1s						
PSAB1	**Pilbara Seismi**	**19.29 213**	P		**P**	**00 52 09.5**	**-0.7**
PSAB1			IAmb		IAmb	00 52 22.4	
	comp=Z,14nm,1.1s						
PSAB3	**Pilbara Seismi**	**19.30 213**	P		**P**	**00 52 09.4**	**-0.8**
PSAC3	**Pilbara Seismi**	**19.33 213**	P		**P**	**00 52 09.8**	**-0.8**
PSAD3	**Pilbara Seismi**	**19.38 213**	P		**P**	**00 52 09.7**	**-1.4**
PSAD3			IAmb		IAmb	00 52 14.8	
	comp=Z,11nm,1.0s						
SBUM	**Sibu**	**20.35 292**	P		**P**	**00 52 21.2**	**-0.4**
FORT	**Forrest**	**25.29 186**	P		**P**	**00 53 07.2**	**-2.2**
FORT			IAmb		IAmb	00 53 24.4	
	comp=Z,11nm,0.8s						
MORW	**Morawa**	**27.38 209**	P		**P**	**00 53 27.4**	**-0.7**
MNAI	**Manna**	**27.96 271**	P		**P**	**00 53 31.1**	**-2.4**
YULB	**Yu-li**	**30.24 342**	P		**P**	**00 53 52.0**	**-1.6**
YULB			IAmb		IAmb	00 54 02.3	
	comp=Z,15nm,1.1s						
TPUB	**Ta-pu**	**30.37 341**	P		**P**	**00 53 53.9**	**-0.7**
KULM	**Kulim**	**32.14 289**	P		**P**	**00 54 09.3**	**-1.1**
KULM			IAmb		IAmb	00 54 14.2	
	comp=Z,12nm,1.1s						
HKPS	**Hong Kong Po S**	**32.17 330**	P		**P**	**00 54 07.5**	**-3.0**
LHMI	**Lhok Sumawe**	**35.63 287**	P		P	00 54 36.9	-3.7
SSE	**Sheshan**	**37.58 346**	P		**P**	**00 54 54.9**	**-1.8**
CMAR	**Chiang Mai Arr**	**39.57 308**	P		P	00 55 23.4	+10
	comp=Z,0.7nm,0.3s,baz=140,slow=7.8,SNR=3.4						
PYZ	**Puysegur Point**	**50.92 149**	P		**P**	**00 56 41.9**	**-0.8**
PYZ			IAmb		IAmb	00 56 51.8	
	comp=Z,16nm,0.8s						
LSA	**Lhasa**	**51.83 315**	P		**P**	**00 56 48.5**	**-1.7**
LTZ	**Lake Taylor**	**52.03 142**	P		**P**	**00 56 48.7**	**-2.3**
LTZ			IAmb		IAmb	00 56 53.1	
	comp=Z,11nm,1.1s						
CMWZ	**Cape Campbell**	**52.70 140**	P		**P**	**00 56 54.9**	**-1.0**
NIL	**Nilore**	**67.01 310**	P		**P**	**00 58 31.3**	**-2.6**
NIL			IAmb		IAmb	00 58 32.4	
	comp=Z,28nm,0.9s						
MKAR	**Makanchi Array**	**67.54 326**	P		P	00 58 47.7	+11
	comp=Z,2.2nm,0.6s,baz=112,slow=7.6,SNR=7.2						
KBL	**Kabul**	**70.58 309**	P		P	00 58 51.7	-4.4
KBL			IAmb		IAmb	00 58 52.2	
	comp=Z,22nm,1.0s						
RER	**Riviere de l'E**	**74.29 250**	P		**P**	**00 59 19.1**	**+0.9**
SYO	**Syowa Base**	**85.41 201**	∥*es*P		sP	01 01 18.9	+12
FID	**Port Fidalgo**	**91.11 29**	P		**P**	**01 00 48.0**	**+3.8**
FID			IAmb		IAmb	01 00 50.4	
	comp=Z,16nm,1.2s						

*ISCJB **29** 01:00:57.6±0.5, 19°.23S±0°.07×175°.71W±0°.06, h200km, mb3.9/10, Error ellipse: s-maj=11.2km s-min=7.2km az=152.2*
*IDC **29** 01:00:57.6±2.6, 19°.16S×175°.83W, h181km±26km, mb3.9/10, mb1 4.1/12, mb1mx3.8/27, mbtmp4.4/12, Error ellipse: s-maj=24.4km s-min=13.5km az=135.0*
*NEIC **29** 01:00:58±1.8, 19°.12S±0°.10×175°.8W±0°.1, h189km±9km, mb4.2/8*
ISC 29 01:00:58.5±0.6, 19°.12S±0°.08×175°.69W±0°.07, h200km, n22, σ2ϕ40/25, mb4.0/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.45**	**91**	Pn		**Pn**	**01 02 20.1**	**+1.5**
NIUE						**Sn**	**01 03 20.2**	**-1.7**
AFI	**Afiamalu**	**6.39**	**37**	P		**Pn**	**01 02 31.2**	**+0.2**
	7.7nm,0.3s,baz=203,slow=3.4,SNR=13							
AFI				S		**Sn**	**01 03 38.3**	**-5.9**
	15nm,0.3s,baz=170,slow=19,SNR=8.1							
AFI	**Afiamalu**	**6.39**	**37**			**Pn**	**01 02 31.1**	**+0.2**
AFI						**Sn**	**01 03 40.7**	**-3.5**
DZM	**Mont Dzumac**	**16.99 257**		P		**Pn**	**01 04 47.6**	**+2.8**
	0.9nm,0.3s,baz=76,slow=22,SNR=16							
DZM	**Mont Dzumac**	**16.99 257**		P		**P**	**01 04 40.5**	**-3.0**
DZM				IAmb		IAmb	01 04 51.2	
	comp=Z,10nm,0.7s							
URZ	**Urewera**	**20.08 197**		P		**P**	**01 05 16.0**	**-0.6**
	comp=Z,5.0nm,0.3s,baz=285,slow=0.4,SNR=25							
URZ				S		**S**	**01 08 44.8**	**-6.3**
	comp=Z,0.2nm,0.3s,baz=72,slow=3.2,SNR=3.9							
URZ	**Urewera**	**20.08 197**		IAmb		IAmb	01 05 20.0	
	comp=Z,58nm,1.4s							
LTZ	**Lake Taylor**	**25.70 201**		P		**P**	**01 06 08.7**	**-1.5**
OXZ	**Oxford**	**26.26 201**		P		**P**	**01 06 15.4**	**+0.2**
RPZ	**Rata Peaks**	**26.94 202**		P		**P**	**01 06 21.4**	**+0.1**
	comp=Z,8.6nm,0.4s,baz=18,slow=5.8,SNR=9.8							
RPZ	**Rata Peaks**	**26.94 202**		IAmb		IAmb	01 06 27.8	
	comp=Z,91nm,1.9s							
CTA	**Charters Tower**	**35.82 262**		P		**P**	**01 07 39.1**	**-0.1**
	comp=Z,14nm,0.7s,baz=95,slow=11,SNR=36							
COEN	**Coen**	**39.70 271**		P		**P**	**01 08 11.8**	**0.0**
COEN				IAmb		IAmb	01 08 14.5	
	comp=Z,3.9nm,1.0s							
STKA	**Stephens Creek**	**40.35 243**		P		**P**	**01 08 17.1**	**+0.2**
	comp=Z,4.3nm,0.8s,baz=74,slow=11,SNR=7.1							
AS31	**Alice Springs**	**46.96 255**		P		**P**	**01 09 09.7**	**-0.1**
WRA	**Warramunga Arr**	**46.96 260**		P		**P**	**01 09 08.8**	**-0.9**
	comp=Z,4.1nm,0.5s,baz=97,slow=6.0,SNR=56							
ASAR	**Alice Springs**	**46.97 255**		P		**P**	**01 09 09.7**	**-0.1**
	comp=Z,26nm,0.6s,baz=89,slow=8.4,SNR=212							
ASAR				PcP		**PcP**	**01 10 38.4**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=96,slow=3.4,SNR=3.1							

MJAR	**Matsushiro Arr**	**70.43 322**	P		**P**	**01 11 52.4**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=144,slow=7.0,SNR=4.8						
NVAR	**Mina Array Bea**	**78.53 42**	P		**P**	**01 12 40.0**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=224,slow=7.6,SNR=5.0						
TXAR	**Lajitas Array**	**84.48 57**	P		**P**	**01 13 11.8**	**+2.5**
	comp=Z,0.5nm,0.8s,baz=219,slow=9.3,SNR=5.2						
CMAR	**Chiang Mai Arr**	**91.72 289**	P		**P**	**01 13 44.1**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=132,slow=1.3,SNR=5.7						
YKA	**Yellowknife Ar**	**94.36 24**	P		**P**	**01 13 55.8**	**+0.9**
	comp=Z,0.1nm,0.6s,baz=245,slow=4.3,SNR=3.0						

*ISCJB **29** 01:15:22.2±0.5, 24°.00N±0°.02×122°.42E±0°.02, h18km±6km, Error ellipse: s-maj=4.2km s-min=3.0km az=160.4*
*TAP **29** 01:15:22.6, 24°.04N×122°.36E, h21km, ML2.5, D*
*JMA **29** 01:15:22.2±0.1, 23°.99N×122°.42E, h23km±2km, M2.3*
ISC 29 01:15:22.4±1.1, 24°.01N±0°.03×122°.40E±0°.02, h22km±7km, n36, σ0ϕ39/60, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.59**	**335**	P		**Pb**	**01 15 33.9**	**-0.1**
	baz=337							
EOS1				S		**Sb**	**01 15 41.6**	**-0.2**
	baz=337							
YOJ	**Yonaguni jima**	**0.72**	**51**	P		**Pb**	**01 15 36.0**	**-0.2**
YOJ					*eS*	**Sb**	**01 15 45.6**	**0.0**
NANB	**Nanao**	**0.72**	**305**	P		**Pb**	**01 15 36.0**	**-0.3**
	baz=304							
NANB					*eS*	**Sb**	**01 15 46.2**	**+0.5**
	baz=304							
ENA	**Nanau**	**0.73**	**305**	P		**Pb**	**01 15 36.5**	**+0.1**
	baz=304							
ENA					*eS*	**Sb**	**01 15 46.4**	**+0.6**
	baz=304							
TWD	**Chiawan**	**0.73**	**275**	*eS*		**Sn**	**01 15 47.1**	**-0.8**
	baz=273							
NACB	**Ninganchiao**	**0.75**	**282**	P		**Pb**	**01 15 37.0**	**+0.3**
	baz=280							
NACB					*eS*	**Sb**	**01 15 47.2**	**+0.7**
	baz=280							
TWC	**Suao**	**0.77**	**320**	P		**Pb**	**01 15 37.2**	**0.0**
	baz=321							
ETLH	**Xiulin Townshi**	**0.86**	**283**	P		**Pb**	**01 15 38.7**	**+0.1**
	baz=281							
ETLH					*eS*	**Sb**	**01 15 50.1**	**+0.3**
	baz=281							
ENTT	**Nioudou**	**0.98**	**310**	P		**Pn**	**01 15 41.0**	**+0.2**
	baz=309							
ENTT					*eS*	**Sb**	**01 15 52.9**	**-0.3**
	baz=309							
NDT	**Datong Townshi**	**1.00**	**306**	*eP*		**Pn**	**01 15 41.4**	**+0.3**
	baz=305							
NDT					*eS*	**Sn**	**01 15 54.4**	**-0.1**
	baz=305							
SLBB	**Yuanshan**	**1.01**	**317**	*eP*		**Pb**	**01 15 40.9**	**-0.3**
	baz=317							
SLBB					*eS*	**Sn**	**01 15 55.1**	**+0.2**
	baz=317							
NNSH	**Datong**	**1.01**	**294**	*eP*		**Pb**	**01 15 41.2**	**-0.1**
	baz=293							
NNSH					*eS*	**Sn**	**01 15 54.5**	**-0.5**
	baz=293							
NNS	**Nan Shan**	**1.02**	**295**	*eS*		**Sn**	**01 15 55.0**	**-0.3**
	baz=293							
HGSD	**Ruisui**	**1.03**	**240**	*eP*		**Pb**	**01 15 41.0**	**-0.6**
	baz=237							
HGSD					*eS*	**Sn**	**01 15 55.0**	**-0.3**
	baz=237							
WHF	**Hehuan Shan**	**1.04**	**277**	P		**Pb**	**01 15 41.7**	**-0.3**
	baz=275							
WHF					*eS*	**Sb**	**01 15 54.8**	**-0.6**
	baz=275							
TIPB	**Shuangxi**	**1.09**	**332**	*eP*		**Pn**	**01 15 42.3**	**0.0**
	baz=332							
TIPB					*eS*	**Sb**	**01 15 55.8**	**-0.4**
	baz=332							
EHY	**Hungye**	**1.11**	**243**	*eS*		**Sn**	**01 15 57.2**	**+0.1**
	baz=240							
NWLT	**Wulai**	**1.11**	**313**	*eS*		**Sn**	**01 15 57.3**	**-0.1**
	baz=313							
CHGB	**Renai**	**1.12**	**273**	*eP*		**Pb**	**01 15 43.0**	**-0.1**
	baz=270							
CHGB					*eS*	**Sn**	**01 15 58.0**	**+0.3**
	baz=270							
YHNB	**Yeheng**	**1.14**	**305**	*eP*		**Pb**	**01 15 43.2**	**-0.2**
	baz=304							
YHNB					*eS*	**Sb**	**01 15 57.3**	**-0.5**
	baz=304							
TWT	**Tachien**	**1.14**	**282**	*eS*		**Sn**	**01 15 58.3**	**+0.1**
	baz=280							
NSK	**Sanguang**	**1.15**	**305**	*eP*		**Pn**	**01 15 43.2**	**0.0**
	baz=304							
NSK					*eS*	**Sb**	**01 15 57.8**	**-0.4**
	baz=304							
TDCB	**Techi**	**1.16**	**282**	*eP*		**Pb**	**01 15 43.6**	**-0.1**
	baz=280							
TDCB					*eS*	**Sb**	**01 15 58.1**	**-0.3**
	baz=280							
VWDT	**VWDT**	**1.18**	**258**	*eP*		**Pb**	**01 15 43.8**	**-0.2**
	baz=255							
VWDT					*eS*	**Sn**	**01 15 59.2**	**+0.3**
	baz=255							
YULB	**Yu-li**	**1.18**	**239**	*eP*		**Pn**	**01 15 43.3**	**-0.3**
	baz=236							
YULB					S	**Sb**	**01 15 58.6**	**-0.4**
	baz=236							
NWF	**Wu-fen Shan**	**1.19**	**332**	*eS*		**Sn**	**01 15 59.9**	**+0.5**
	baz=332							
WFSB	**Wu-fen Shan**	**1.19**	**332**	*eS*		**Sn**	**01 15 59.9**	**+0.6**
	baz=332							
TWF1	**Yuli**	**1.20**	**237**	*eP*		**Pn**	**01 15 44.0**	**0.0**
	baz=234							
TWF1					S	**Sb**	**01 15 60.0**	**+0.4**
	baz=234							
IRIF	**Iriomote-Funau**	**1.26**	**75**	P		**Pn**	**01 15 44.7**	**0.0**
IRIF					*eS*	**Sn**	**01 16 00.4**	**-0.5**
FULB	**Fuli**	**1.30**	**231**	*eP*		**Pb**	**01 15 46.5**	**+0.5**
	baz=229							
FULB					*eS*	**Sn**	**01 16 01.7**	**-0.2**
	baz=229							
LIOB	**Emei**	**1.41**	**297**	*eS*		**Sb**	**01 16 05.9**	**+0.4**
	baz=296							
TYC	**Yuchr**	**1.41**	**266**	*eS*		**Sb**	**01 16 06.4**	**+0.8**
	baz=264							
NSTT	**Nanjuang**	**1.41**	**296**	*eS*		**Sb**	**01 16 06.2**	**+0.6**
	baz=295							
JKRS	**Kuro-shima**	**1.49**	**81**	P		**Pn**	**01 15 48.5**	**+0.7**
JIJ	**Ishigaki jima**	**1.63**	**77**	P		**Pn**	**01 15 49.8**	**0.0**
JIJ					*eS*	**Sn**	**01 16 10.8**	**+0.6**
JISG	**Ishigakijimahi**	**1.84**	**72**	P		**Pn**	**01 15 52.5**	**-0.1**
JISG					S	**Sn**	**01 16 15.0**	**-0.2**

*NIED **29** 01:17:00, 33°.20N×139°.50E, h5km, Mw4.5 Best double couple: M0 6.11000×10^15 NP1:ϕs110.00000°, δ29.00000°, λ-127.00000°. NP2:ϕs331.00000°, δ67.00000°, λ-72.00000°.*
*IDC **29** 01:17:43.5±0.7, 33°.25N×139°.61E, h0km, mb4.0/19, mb1 4.2/24, mb1mx4.0/64, mbtmp4.0/24, ML3.9/3, MS3.7/21, Ms1 3.7/21, ms1mx3.5/48, Error ellipse: s-maj=17.6km s-min=15.6km az=94.0*
*ISCJB **29** 01:17:45.0±0.7, 33°.25N±0°.03×139°.46E±0°.04, h10km±4km, mb4.1/23, MS3.8/19, Error ellipse: s-maj=5.9km s-min=3.8km az=150.4*
*JMA **29** 01:17:45.4±0.1, 33°.25N×139°.47E, h14km±4km, M4.8*
JMA Felt III J1.
*BJI **29** 01:17:52.2±0.0, 33°.50N×139°.10E, h30km, mb4.5/25, mB5.1/23, Ms4.7/23, Ms7 4.5/18*
*NEIC **29** 01:17:56.3±1.9, 33°.7N±0°.1×139°.0E±0°.1, h53km±7km, mb4.6/67*
*GCMT **29** 01:17:59.3±0.5, 33°.07N±0°.03×139°.36E±0°.03, h26km±1km, MW4.8/68, Moment Tensor Solution. s11,c12; s68,c88; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.96±.15; Mθθ-1.07±.10; Mϕϕ2.03±.12; Mrθ-0.38±.19; Mθϕ-1.15±.08; Mϕr1.00±.20; Best double couple: M0 2.09000×10^16 NP1:ϕs298.00000°, δ88.00000°, λ159.00000°. NP2: ϕs29.00000°, δ69.00000°, λ3.00000°. Principal axes: T 2.7200, Plg16.0000°, Azm252.0000°; N -1.2600, Plg69.0000°, Azm111.0000°; P -1.4600, Plg13.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function.*
ISC 29 01:17:48.5±0.6, 33°.26N±0°.03×139°.58E±0°.05, h26km±4km, n129, σ2ϕ37/104, mb4.6/50, MS3.8/19, 4D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.25**	**126**	∥P		**Pb**	**01 17 52.0**	**-2.8**
JHJ2					S	**Sb**	**01 17 56.6**	**-2.5**
JHCJ	**Hachijojimakas**	**0.26**	**135**	∥P		**Pb**	**01 17 52.1**	**-2.9**
JHCJ					S	**Sb**	**01 17 56.5**	**-2.9**
JMKN	**Mikurajimanish**	**0.64**	**1**	P		**Pb**	**01 17 58.0**	**-3.1**
JMKN					S	**Sb**	**01 18 07.4**	**-2.2**
JAOM	**Aogashimamukai**	**0.81**	**169**	∥P		**Pb**	**01 18 01.1**	**-2.8**
JAOM					S	**Sb**	**01 18 13.6**	**-0.8**
JKO	**Kozu shima**	**1.00**	**338**	P		**Pn**	**01 18 03.8**	**-3.1**
JKO					S	**Sb**	**01 18 18.0**	**-1.9**
JTHY	**Toshimahigashi**	**1.29**	**349**	P		**Pn**	**01 18 08.6**	**-2.3**
JTHY					*eS*	**Sn**	**01 18 25.6**	**-1.7**
JIM2	**Oshima 3**	**1.46**	**355**	P		**Pn**	**01 18 11.5**	**-1.8**
JIZS	**Izushimoda**	**1.57**	**338**	P		**Pn**	**01 18 12.3**	**-2.5**
TK03	**Tokai 3**	**1.62**	**304**	P		**Pn**	**01 18 13.1**	**-2.3**
TK03					S	**Sn**	**01 18 33.7**	**-1.7**
TK02	**Tokai 2**	**1.67**	**295**	∥P		**Pn**	**01 18 13.1**	**-2.8**
TK01	**Tokai 1**	**1.74**	**288**	P		**Pn**	**01 18 13.9**	**-2.9**
TK01					S	**Sn**	**01 18 35.3**	**-2.7**
INU	**Inuyama**	**2.98**	**315**			**Pn**	**01 18 31.3**	**-2.8**
MJAR	**Matsushiro Arr**	**3.47**	**341**	Pn		**Pn**	**01 18 39.7**	**-1.1**
	0.5nm,0.3s,baz=33,slow=18,SNR=24							
MAJO	**Matsushiro**	**3.47**	**341**			**Pn**	**01 18 40.7**	**-0.2**
MAT	**Matsushiro**	**3.47**	**341**	P		**Pn**	**01 18 40.7**	**-0.2**
MAT					*eS*	**Sn**	**01 19 21.2**	**+0.1**
MJB9	**Matsu-Tunnel**	**3.47**	**341**			**Pn**	**01 18 40.8**	**-0.1**
JCJ	**Chichijima**	**6.54**	**159**	LR		LR	01 21 42.4	
	comp=Z,492nm,21.7s,baz=2.0,slow=37							
JNU	**Nakatsue**	**7.29**	**271**	Pn		**Pn**	**01 19 31.2**	**-2.2**
	4.4nm,0.3s,baz=97,slow=4.8,SNR=25							
JNU					Sn	**Sn**	**01 20 57.5**	**+2.0**
	baz=198,slow=20,SNR=1.9							
JNU					LR	LR	01 22 20.9	
	comp=Z,401nm,18.1s,baz=94,slow=38							
JNU	**Nakatsue**	**7.29**	**271**			**Pn**	**01 19 31.8**	**-1.7**
KSRS	**Korea Array**	**10.40**	**297**	Pn		**Pn**	**01 20 14.9**	**-1.0**
	0.3nm,0.3s,baz=111,slow=13,SNR=2.9							
KSRS					LR	LR	01 23 52.3	
	comp=Z,328nm,19.0s,baz=104,slow=35							
ASAJ	**Asahikawa**	**11.10**	**11**	Pn		**Pn**	**01 20 23.1**	**-2.4**
	1.0nm,0.3s,baz=222,slow=12,SNR=3.7							
ASAJ					LR	LR	01 25 39.1	
	comp=Z,569nm,19.1s,baz=174,slow=43							
USA0B	**Ussuriysk Arra**	**12.42**	**334**			**Pn**	**01 20 42.3**	**-1.4**
USRK	**Ussuriysk Ar.**	**12.42**	**334**	Pn		**Pn**	**01 20 41.3**	**-2.3**
	baz=136,slow=11,SNR=2.8							
MDJ	**Mudanjiang**	**13.74**	**329**			**Pn**	**01 21 00.2**	**-1.4**
KLR	**Kul'dur**	**17.00**	**342**	Pn		**Pn**	**01 21 40.4**	**-4.0**
	0.1nm,0.3s,baz=140,slow=14,SNR=4.2							
NJ2	**Nanjing**	**17.50**	**272**	*eP*		**Pn**	**01 21 48.8**	**-1.9**
NJ2					pmax	pmax		
	comp=Z,8.0nm,0.6s							
TIA	**Tai'an**	**18.68**	**285**	P		**Pn**	**01 22 07.0**	**+1.7**
BJI	**Beijing**	**19.93**	**297**	*eP*		Pn	01 22 27.5	+7.3
BJI					pmax	pmax		
	comp=Z,10.0nm,1.0s							
BJI					LR	LR		
	comp=N,790nm,12.8s							
BJI					LR	LR		
	comp=E,540nm,13.3s							
BJI					LR	LR		
	comp=Z,660nm,6.1s							
GUMO	**Guam**	**20.16**	**165**	LR		LR	01 29 26.1	
	comp=Z,358nm,18.6s,baz=294,slow=35							
WHN	**Wuhan**	**21.58**	**270**	P		**P**	**01 22 41.5**	**+5.3**
HHC	**Hu-ho-hao-te**	**23.54**	**297**	*eP*		**P**	**01 22 56.3**	**-0.6**
HHC					sP	sP	01 23 12.5	+5.6
HHC					PP	**PnPn**	**01 23 27.8**	**+3.9**
HHC					pmax	pmax		
	comp=Z,170nm,4.8s							
HHC					LR	LR		
	comp=Z,420nm,8.3s							
HHC					LR	LR		
	comp=Z,530nm,8.9s							
HHC					LR	LR		
	comp=Z,520nm,9.2s							
PETK	**Petropavlovsk-**	**23.71**	**28**	LR		LR	01 32 50.2	
	baz=305,slow=75,SNR=533							
BTO	**Baotou**	**24.66**	**296**	*eP*		**P**	**01 23 12.5**	**+5.2**
XAN	**Xi'an**	**25.49**	**280**	P		**P**	**01 23 13.9**	**-0.9**
XAN					IAmb	IAmb	01 23 31.9	
	comp=Z,20nm,1.3s							
ENH	**Enshi**	**25.72**	**272**	P		**P**	**01 23 17.0**	**+0.1**
ENH					IAmb	IAmb	01 23 24.3	
	comp=Z,39nm,1.3s							
MA2	**Magadan**	**27.36**	**12**	LR		LR	01 34 23.6	
	comp=Z,174nm,19.4s,baz=110,slow=37							
H11N2	**WAKE ISLAND Hy**	**27.82**	**112**	T		T	01 52 36.7	
	baz=305,slow=75,SNR=687							
H11N1	**WAKE ISLAND Hy**	**27.82**	**112**	T		T	01 52 37.1	
	baz=305,slow=75,SNR=533							
H11N3	**WAKE ISLAND Hy**	**27.83**	**112**	T		T	01 52 38.0	
	baz=305,slow=75,SNR=545							
H11S3	**WAKE ISLAND Hy**	**

KURK	Kurchatov	47.16	311		P		P	01 26 17.8	-0.8
KURK					lAmb		lAmb	01 26 35.5	
	comp=Z,11nm,1.0s								
KSH	Kashi	50.65	296		P		P	01 26 49.3	+3.5
KSH					PP		PP	01 28 47.0	+5.3
KSH					PcS		PcS	01 32 04.0	+3.5
KSH					S		S	01 33 59.5	+0.2
KSH					LR		LR		
	comp=Z,380nm,7.4s								
KSH					LR		LR		
	comp=Z,560nm,6.4s								
KSH					LR		LR		
	comp=Z,570nm,7.5s								
TOLK	Toolik Lake Re	52.52	26		P		P	01 27 00.1	+1.0
MDM	Murphy Dome	52.92	31		P		P	01 27 03.3	+1.1
WRA	Warramunga Arr	53.13	186		P		P	01 27 01.6	-2.6
	comp=Z,0.9nm,0.6s,baz=4.4,slow=7.6,SNR=15								
IL31		53.49	31		P		P	01 27 08.8	+2.5
IL31					lAmb		lAmb	01 27 20.1	
	comp=Z,6.9nm,0.9s								
ILAR	Eielson Array	53.49	31		P		P	01 27 04.7	-1.7
	comp=Z,1.1nm,0.8s,baz=276,slow=6.8,SNR=12								
ILAR					LR		LR	01 52 18.2	
	comp=Z,40nm,18.2s,baz=76,slow=39								
KK31	Karatay Array	53.78	302		P		P	01 27 09.8	+1.0
KKAR	Karatay Array	53.78	302		P		P	01 27 09.5	+0.6
KKAR					lAmb		lAmb	01 27 27.2	
	comp=Z,16nm,1.5s								
CHGR	Chuyangaron	55.99	297		P		P	01 27 25.5	+0.6
ASAR	Alice Springs	56.86	186		P		P	01 27 30.6	-0.6
	comp=Z,0.4nm,0.6s,baz=16,slow=12,SNR=15								
EPYK	Eagle Plains	57.55	28		P		P	01 27 40.5	+5.0
ARU	Arti	58.23	320		P		P	01 27 41.8	+1.3
INK	Inuvik	58.43	26		P		P	01 27 40.7	-0.9
	comp=Z,1.4nm,0.4s,baz=276,slow=24,SNR=15								
INK	Inuvik	58.43	26		lAmb		lAmb	01 27 55.7	
	comp=Z,5.6nm,0.9s								
ABKAR	Akbulak array	59.26	311		P		P	01 27 48.3	+0.6
ABKAR					lAmb		lAmb	01 28 06.5	
	comp=Z,4.1nm,0.8s								
STKA	Stephens Creek	64.81	178		LR		LR	01 57 37.2	
	comp=Z,45nm,18.9s,baz=25,slow=37								
RES	Resolute Bay	66.62	14		P		P	01 28 38.0	+1.8
RES					lAmb		lAmb	01 28 56.1	
	comp=Z,5.7nm,0.8s								
ARCES	ARCESS Array B	67.00	340		LR		LR	02 01 21.9	
	comp=Z,77nm,19.6s,baz=341,slow=39								
YKA	Yellowknife Ar	67.83	29		P		P	01 28 43.0	-1.0
	comp=Z,0.4nm,0.7s,baz=298,slow=6.1,SNR=8.2								
B06A	Marblemount	71.27	44		P		P	01 29 10.7	+5.2
B06A					lAmb		lAmb	01 29 19.5	
	comp=Z,9.9nm,1.1s								
FINES	FINESS Array B	71.45	332		P		P	01 29 04.7	-1.7
	comp=Z,5.9nm,0.9s,baz=57,slow=14,SNR=5.6								
B08A	Colville Reser	72.59	43		lAmb		lAmb	01 29 19.7	
	comp=Z,14nm,1.4s								
H04A	Detroit Lake	72.73	48		lAmb		lAmb	01 29 24.5	
	comp=Z,11nm,1.0s								
SUMG	Summit	74.45	359	*i* P			P	01 29 28.0	+3.5
	comp=Z,18nm,1.0s								
WALA	Waterton Lakes	75.26	41		P		P	01 29 33.5	+4.2
MOD	Modoc Plateau	75.33	49		lAmb		lAmb	01 29 39.9	
	comp=Z,8.6nm,1.1s								
JTMT	Jette	75.78	42		lAmb		lAmb	01 29 54.2	
	comp=Z,5.1nm,0.8s								
HFS	Hagfors	76.90	335		P		P	01 29 38.1	0.0
	comp=Z,11nm,1.1s,baz=64,slow=6.6,SNR=3.7								
NB2	NORSAR Subarra	77.08	337		P		P	01 29 38.2	-1.0
	comp=Z,0.8nm,0.6s,baz=41,slow=5.6								
NOA	NORSAR Array B	77.08	337		P		P	01 29 37.6	-1.6
	comp=Z,2.9nm,0.9s,baz=42,slow=5.9,SNR=4.7								
MFID	Camas Ranch	77.29	46		lAmb		lAmb	01 29 51.9	
	comp=Z,11nm,1.5s								
LRM	Limekiln Ridge	77.91	43		P		P	01 29 44.9	+0.4
DLMT	Dillon	78.10	43		lAmb		lAmb	01 29 51.6	
	comp=Z,10nm,1.3s								
EGMT	Eagleton	78.11	40		P		P	01 29 49.7	+4.4
KVN	Kaiserville	78.27	51		lAmb		lAmb	01 29 52.8	
	comp=Z,6.9nm,1.2s								
NVAR	Mina Array Bea	78.48	52		P		P	01 29 47.5	-0.2
	comp=Z,0.3nm,0.6s,baz=327,slow=4.3,SNR=2.9								
NVAR					LR		LR	01 58 41.8	
	comp=Z,44nm,21.5s,baz=304,slow=31								
ELK	Elko	79.16	48		P		P	01 29 56.3	+4.8
YHB	Horse Butte	79.26	43		P		P	01 29 56.7	+4.8
H17A	Grant Village	79.83	43		lAmb		lAmb	01 30 03.1	
	comp=Z,10nm,1.1s								
FLWY	Flagg Ranch	79.94	44		lAmb		lAmb	01 30 19.0	
	comp=Z,11nm,1.2s								
RLMT	Red Lodge	80.13	42		P		P	01 30 02.0	+5.3
RLMT					lAmb		lAmb	01 30 02.9	
	comp=Z,11nm,1.5s								
BRTR	Keskin Array B	80.21	311		P		P	01 29 55.5	-1.5
	comp=Z,1.9nm,1.0s,baz=60,slow=3.8,SNR=3.8								
TPNV	Topopah Spring	80.66	52		lAmb		lAmb	01 30 05.7	
	comp=Z,7.0nm,1.1s								
DUG	Dugway, Tooele	80.98	48		lAmb		lAmb	01 30 08.3	
	comp=Z,10nm,1.4s								
GSC	Goldstone, Bar	81.22	54		lAmb		lAmb	01 30 09.5	
	comp=Z,10nm,1.4s								
PDAR	Pinedale Array	81.40	44		P		P	01 30 02.1	-1.4
	comp=Z,0.3nm,0.6s,baz=230,slow=2.2,SNR=2.6								
PFO	Pinyon Flats O	82.41	55		P		P	01 30 14.3	+5.5
PFO					lAmb		lAmb	01 30 15.3	
	comp=Z,14nm,1.4s								
XPFO	Pion Flat	82.42	55		P		P	01 30 14.3	+5.5
XPFO					lAmb		lAmb	01 30 15.3	
	comp=Z,12nm,1.4s								
P17A	Butcher Ranch,	82.69	47		P		P	01 30 14.3	+4.1
KNB	Kanab	82.85	50		P		P	01 30 15.2	+4.0
VYHS	Vyhne	82.96	325	*eP*	P		P	01 30 15.6	+4.4
BRG	Berggiesshubel	83.52	329	*eP*	P		P	01 30 17.9	+3.9
	comp=Z,22nm,1.8s								
CLL	Collm	83.60	330	*eP*	P		P	01 30 18.0	+3.5
	comp=Z,8.0nm,1.2s								
CLL				*i* pP		sP		01 30 31.6	+6.3
SMOL	Smolenice	83.62	325	*eP*		P		01 30 19.3	+4.7
PRU	Pruhonice	83.89	328	*eP*		P		01 30 20.1	+4.1
PRU				*ep*P		sP		01 30 33.5	+6.7
PPT	Papeete	84.34	115	LR		LR		02 08 28.4	
	comp=Z,62nm,18.9s,baz=316,slow=36								
KHC	Kasperske Hory	84.95	328	*eP*		P		01 30 23.5	+2.1
KHC				*ep*P		sP		01 30 37.1	+4.8
GERES	GERESS Array B	85.10	328	P		P		01 30 20.4	-1.9
	comp=Z,0.7nm,0.7s,baz=45,slow=5.7,SNR=4.0								
ISCO	Idaho Springs	85.58	45	P		P		01 30 29.6	+4.5
ISCO				lAmb		lAmb		01 30 31.4	
	comp=Z,3.7nm,1.1s								
S22A	4UR Ranch, Cre	86.17	47	lAmb		lAmb		01 30 48.9	
	comp=Z,4.4nm,1.1s								
WMOK	Wichita Mounta	93.00	45	P		P		01 31 04.7	+4.7
TX31	Lajitas Ar. Si	93.63	51	lAmb		lAmb		01 31 09.6	
	comp=Z,3.0nm,0.9s								
TXAR	Lajitas Array	93.63	51	P		P		01 31 01.9	-1.2
	comp=Z,0.4nm,0.7s,baz=299,slow=3.7,SNR=8.3								
SAML	Samuel	147.97	46			PKiKP		01 37 33.9	-0.2
LPAZ	La Paz	149.83	63	PKPbc		PKPbc		01 37 37.6	0.0
	comp=Z,0.9nm,0.6s,baz=334,slow=1.5,SNR=4.7								
LPAZ	La Paz	149.83	63			PKPbc		01 37 36.7	-1.0
LPAZ				PKPbc		PKPab		01 37 42.6	-0.5
LPAZ						sPKPab		01 37 56.3	+2.1

NIED ***29*** *01:22:00,38.˚10N×141.˚80E,h59km,Mw4.3 Best double couple: M0 2.78000×10^15 NP1:φs 224.00000°,δ40.00000°, λ97.00000°. NP2:φs 34.00000°,δ51.00000°,λ84.00000°.*

BJI ***29*** *01:22:08.7±0.0,37.˚91N×142.˚38E,h49km,mb4.6/29, mB5.0/14,Ms4.6/9,Ms7 4.5/8*

MOS ***29*** *01:22:13.8±1.0,38.˚15N×141.˚86E,h52km,mb4.6/34,Error ellipse: s-maj=7.9km s-min=5.2km az=97.6*

ISCJB ***29*** *01:22:14.9±0.4,38.˚14N±0.˚03×141.˚84E±0.˚04,h61km±2km, mb4.4/56,Error ellipse: s-maj=6.3km s-min=3.5km az=31.3*

NEIC ***29*** *01:22:16.9±1.2,38.˚19N±0.˚07×141.˚7E±0.˚1,h61km±5km, mb4.5/69*

JMA ***29*** *01:22:16.5,38.˚11N×141.˚74E,h56km±1km,M4.4 Broadband fault plane solution: P waves. NP1: φs 39.00000°,δ52.00000°,λ92.00000°. NP2:φs 215.00000°, δ38.00000°,λ87.00000°. Principal axes: T Plg83.0000°, Azm323.0000°; N Plg2.0000°, Azm217.0000°; P Plg7.0000°, Azm127.0000°;*

JMA Felt III J1.

IDC ***29*** *01:22:19.0±2.2,38.˚11N×141.˚65E,h80km±19km,mb4.0/25, mb1 4.2/30,mb1mx4.0/62,mbtmp4.3/30,MS3.5/3, Ms1 3.5/3,ms1mx2.9/44 Error ellipse: s-maj=14.9km s-min=10.9km az=88.0*

ISC 29 01:22:15.5±0.7,38.˚11N±0.˚04×141.˚91E±0.˚04,h52km±5km, n220,σ1s27/230,mb4.4/82,MS4.0/6,8C-13D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op		h	m	s	ISC
JIKH	Ishinomakikobu	0.40	300	⇑P		Pn	01	22	26.2	+0.5
JIKH				S		Sn	01	22	33.0	-0.1
JIO	Ouri	0.56	308	⇑P		Pn	01	22	27.8	+0.3
JIO				S		Sn	01	22	35.5	-0.7
JKMT	Kesennumamotoy	0.78	334	P		Pn	01	22	30.8	+0.5
JKMT				S		Sn	01	22	41.0	-0.1
JMST	Minamisoumatoc	0.89	245	⇓P		Pn	01	22	31.5	-0.3
JMST				S		Sn	01	22	42.6	-1.2
JMM	Marumori	0.91	255	⇓P		Pn	01	22	31.4	-0.7
JMM				S		Sn	01	22	42.4	-1.9
JMK	Ichinoseki	1.00	327	⇓P		Pn	01	22	33.7	+0.5
JMK				S		Sn	01	22	46.0	-0.3
JOU	Okura	1.01	285	⇓P		Pn	01	22	33.1	-0.3
JOU				S		Sn	01	22	45.2	-1.4
JFK	Kawauchi	1.11	228	⇑P		Pn	01	22	34.5	-0.2
JFK				*e*S		Sn	01	22	48.1	-0.8
JFT	Otama	1.38	245	⇓P		Pn	01	22	38.4	+0.1
JFT				S		Sn	01	22	54.8	-0.7
JOM	Ohasama	1.44	341	⇓P		Pn	01	22	40.1	+0.9
JOM				S		Sn	01	22	57.8	+0.8
JYS	Shirataka	1.46	275	⇓P		Pn	01	22	39.2	-0.2
JYS				S		Sn	01	22	56.3	-1.1
JYK	Kaneyama	1.46	304	⇓P		Pn	01	22	39.4	0.0
JYK				*e*S		Sn	01	22	57.5	+0.1
JRG	Rokugo	1.62	323	⇓P		Pn	01	22	42.5	+0.8
JRG				*e*S		Sn	01	23	02.6	+1.1
JYA	Atsumi	1.79	286	⇓P		Pn	01	22	43.7	-0.2
JFY	Yanaizu	1.88	249	⇓P		Pn	01	22	45.4	+0.2
JFY				*e*S		Sn	01	23	07.0	-0.8
MJAR	Matsushiro Arr	3.34	243	P		Pn	01	23	06.2	+1.0
	2.7nm,0.3s,baz=61,slow=13,SNR=56									
MJAR				S		Sn	01	23	46.2	+2.6
	2.2nm,0.3s,baz=229,slow=14,SNR=3.7									
MJAR				LR		LR	01	24	30.1	
	comp=Z,484nm,18.8s,baz=180,slow=42									
MAJO	Matsushiro	3.34	243	*i* P		Pn	01	23	06.4	+1.2
MAJO	Matsushiro	3.34	243			Pn	01	23	05.6	+0.4
MJB9	Matsu-Tunnel	3.34	243			Pn	01	23	05.9	+0.7
ERM	Erimo	4.01	13	*i* P		Pn	01	23	15.2	+0.8
ERM	Erimo	4.01	13	Pn		Pn	01	23	14.8	+0.5
INU	Inuyama	4.80	236			Pn	01	23	26.7	+1.6
NMR	Nemuro--Hokkai	6.00	28	*e*P		Pn	01	23	40.6	-1.0
NMR				*e*S		Sn	01	24	44.2	-4.7
ASAJ	Asahikawa	6.02	5	P		Pn	01	23	42.2	+0.3
	3.2nm,0.3s,baz=213,slow=16,SNR=12									
ASAJ				S		Sn	01	24	48.9	-0.6
	3.7nm,0.3s,baz=72,slow=20,SNR=3.4									
JKA	Kamikawa-asahi	6.02	5			Pn	01	23	42.2	+0.3
JKA						Sn	01	24	48.9	-0.6
GLVR	Golovnino	6.25	25	P		Pn	01	23	44.7	-0.3
GLVR				*e*S		Sn	01	24	51.5	-3.5
GLVR				pmax	pmax					
	comp=Z,279nm,0.6s									
GLVR				pmax	pmax					
	comp=N,155nm,0.5s									
GLVR				pmax	pmax					
	comp=E,141nm,0.3s									
GLVR				smax	smax					
	comp=N,520nm,0.2s									
GLVR				smax	smax					
	comp=E,775nm,0.3s									
GRPR	Tuman	6.56	25	*e*P		Pn	01	23	48.6	-0.7
GRPR				*e*S		Sn	01	24	57.9	-4.8
GRPR				pmax	pmax					
	comp=Z,92nm,0.3s									
GRPR				pmax	pmax					
	comp=E,50nm,0.2s									
GRPR				pmax	pmax					
	comp=N,46nm,0.1s									
GRPR				smax	smax					
	comp=N,525nm,0.4s									
GRPR				smax	smax					
	comp=E,261nm,0.3s									
YUK	Yuzh-Kuril'sk	6.63	26	*e*P		Pn	01	23	50.1	-0.1
YUK				*e*S		Sn	01	25	00.7	-3.6
YUK				pmax	pmax					
	comp=Z,158nm,0.1s									
SHO	Shikotan	6.85	31	*e*P		Pn	01	23	51.5	-1.7
SHO				*e*S		Sn	01	25	03.7	-6.1
SHO				pmax	pmax					
	comp=Z,23nm,0.4s									
SHO				pmax	pmax					
	comp=N,12nm,0.2s									
TEY	Ternei	7.98	332	⇑*i*P		Pn	01	24	13.2	+4.5
TEY				pmax	pmax					
	comp=N,80nm,0.8s									
TEY				pmax	pmax					
	comp=E,40nm,0.8s									
TEY				pmax	pmax					
	comp=E,80nm,0.8s									
USA0B	Ussuriysk Arra	9.64	312	P		Pn	01	24	31.1	-0.3
USA0B	Ussuriysk Arra	9.64	312			Pn	01	24	31.1	-0.3
USRK	Ussuriysk Ar.	9.64	312	P		Pn	01	24	32.2	+0.9
	baz=120,slow=14,SNR=43									
JNU	Nakatsue	10.26	244	P		Pn	01	24	40.8	+0.7
	comp=Z,0.5nm,0.3s,baz=77,slow=18,SNR=3.6									
KSRS	Korea Array	11.09	271	*e*P		Pn	01	24	54.1	+2.8
KSRS				pmax	pmax					
	comp=Z,1.0nm,0.3s									
KSRS	Korea Array	11.09	271	P		Pn	01	24	53.6	+2.4
	comp=Z,0.9nm,0.3s,baz=81,slow=14,SNR=6.7									
MDJ	Mudanjiang	11.30	309	P		Pn	01	24	59.3	+5.2
MDJ				pmax	pmax					
	comp=Z,24nm,1.1s									
MDJ	Mudanjiang	11.30	309			Pn	01	24	51.5	-2.6
GRNR	Gornyy	13.24	345	*e*P		Pn	01	25	20.6	0.0
KLR	Kul'dur	13.31	330	*i* P		Pn	01	25	22.7	+1.2
KLR				pmax	pmax					
	comp=Z,1.0nm,0.5s									
KLR	Kul'dur	13.31	330	P		Pn	01	25	22.9	+1.4
	comp=Z,0.2nm,0.3s,baz=138,slow=14,SNR=3.9									
ZEA	Zeya	18.60	332	*e*P		P	01	26	27.2	-1.0
ZEA				pmax	pmax					
	comp=Z,15nm,0.6s									
NJ2	Nanjing	19.79	259	*e*P		P	01	26	41.5	+0.1
NJ2				pmax	pmax					
	comp=Z,9.0nm,0.6s									
TIA	Tai'an	19.83	272	P		Pn	01	26	43.0	-0.8
TIA				pmax	pmax					
	comp=Z,11nm,1.0s									
BJT	Baijiatuan	20.06	283	P		P	01	26	42.7	-1.5
BJT				pmax	pmax					
	comp=Z,11nm,0.5s									
BJT	Baijiatuan	20.06	283	P		P	01	26	42.7	-1.5
BJT				lAmb		lAmb	01	26	47.8	
	comp=Z,11nm,0.5s									
HHC	Hu-ho-hao-te	23.52	286	*e*P		P	01	27	20.0	-0.9
HHC				pmax	pmax					
	comp=Z,10.0nm,0.9s									
HHC				pmax	pmax					
	comp=Z,150nm,4.1s									
YAK	Yakutsk	25.11	346	P		P	01	27	34.3	-0.7
YAK				pmax	pmax					
	comp=Z,14nm,0.7s									
YAK	Yakutsk	25.11	346	P		P	01	27	34.3	-0.7
YAK				lAmb		lAmb	01	27	53.2	
	comp=Z,14nm,0.7s									
SEY	Seymchan	25.66	11	*i* P		P	01	27	41.8	+1.8
SEY	Seymchan	25.66	11	P		P	01	27	41.4	+1.4
	comp=Z,9.1nm,0.9s,baz=197,slow=17,SNR=5.8									
XAN	Xi'an	26.89	271	P		P	01	27	49.2	-2.3
XAN				pmax	pmax					
	comp=Z,9.0nm,0.5s									
XAN	Xi'an	26.89	271	P		P	01	27	49.2	-2.3
XAN				lAmb		lAmb	01	27	57.3	
	comp=Z,8.6nm,0.5s									
SONM	Songino Array	27.53	302	*e*P		P	01	27	57.4	+0.2
SONM				pmax	pmax					
	comp=Z,2.0nm,0.5s									
SONM	Songino Array	27.53	302	P		P	01	27	56.8	-0.4
	comp=Z,1.6nm,0.5s,baz=109,slow=9.0,SNR=8.8									
SONM				PcP		PcP	01	31	14.3	+0.3
	comp=Z,0.4nm,0.5s,baz=127,slow=2.3,SNR=3.3									
ENH	Enshi	27.83	263	P		P	01	27	57.5	-2.4
H11N2	WAKE ISLAND Hy	28.38	123	T		T	01	58	19.6	
	baz=316,slow=75,SNR=77									
H11N1	WAKE ISLAND Hy	28.39	123	T		T	01	58	23.2	
	baz=316,slow=75,SNR=62									
H11N3	WAKE ISLAND Hy	28.40	123	T		T	01	58	21.9	
	baz=316,slow=75,SNR=83									
H11S1	WAKE ISLAND Hy	29.14	125	T		T	01	59	23.8	
	baz=317,slow=76,SNR=79									
H11S3	WAKE ISLAND Hy	29.14	125	T		T	01	59	21.2	
	baz=317,slow=76,SNR=94									
H11S2	WAKE ISLAND Hy	29.15	125	T		T	01	59	17.9	
	baz=317,slow=76,SNR=61									
TLY	Talaya	29.94	309	*i* P		P	01	28	18.1	-0.3
TLY				pmax	pmax					
	comp=Z,4.0nm,1.1s									
GTA	Gaotai	32.64	286	*e*P		P	01	28	41.8	-0.6
GTA				pmax	pmax					
	comp=Z,3.0nm,0.6s									
BILL	Bilibino	32.88	17	*i* P		P	01	28	43.5	-0.6
BILL				*i*			01	28	59.7	
BILL				pmax	pmax					
	comp=Z,9.0nm,1.4s									
BILL				MLR	MLR					
	comp=Z,232nm,15.0s									
TIXI	Tiksi	34.27	353	*i* P		P	01	28	56.3	+0.2
TIXI				pmax	pmax					
	comp=Z,2.0nm,1.2s									
WMQ	Urumqi	40.71	296	*e*P		P	01	29	52.5	+1.5
WMQ				pmax	pmax					
	comp=Z,9.0nm,0.9s									
WMQ				LR	LR					
	comp=Z,600nm,29.2s									
WMQ				LR	LR					
	comp=Z,950nm,29.1s									
WMQ				LR	LR					
	comp=Z,160nm,19.5s									
ZAA0	Zalesovo Array	41.49	311	P		P	01	29	56.9	-0.2
ZAA0				lAmb		lAmb	01	29	57.2	
	comp=Z,5.2nm,0.6s									
ZALV	Zalesovo Beam	41.49	311	*e*P		P	01	29	56.8	-0.3
ZALV				pmax	pmax					
	comp=Z,4.0nm,0.4s									
ZALV	Zalesovo Beam	41.49	311	P		P	01	29	56.6	-0.5
	comp=Z,4.1nm,0.4s,baz=88,slow=7.5,SNR=12									
ZALV				PcP		PcP	01	31	53.4	-0.4
	comp=Z,1.5nm,0.3s,baz=105,slow=2.1,SNR=4.3									
FAKI	Fak Fak	41.79	195	P		P	01	29	60.0	0.0
FAKI				lAmb		lAmb	01	30	09.1	
	comp=Z,8.5nm,0.8s									
CHTO	Chiang Mai	41.94	255	P		P	01	30	00.0	-1.2
CHTO				pmax	pmax					
	comp=Z,6.0nm,1.3s									
CHTO	Chiang Mai	41.94	255	P		P	01	30	00.0	-1.2
CMAR	Chiang Mai Arr	42.16	255	P		P	01	30	02.4	-0.6
	comp=Z,0.8nm,0.3s,baz=40,slow=8.0,SNR=3.1									
NRIK	Noril'sk	42.46	335	*i* P		P	01	30	05.0	+0.2
SHL	Shillong	43.82	269	P		P	01	30	15.6	-1.0
SHL				pmax	pmax					
	comp=Z,7.0nm,0.4s									
SHL	Shillong	43.82	269	P		P	01	30	15.6	-1.0
MK31	Makanchi Array	43.89	301	P		P	01	30	16.3	-0.4
MK31				pmax	pmax					
	comp=Z,3.0nm,0.8s									
MK31	Makanchi Array	43.89	301	P		P	01	30	16.4	-0.4
MKAR	Makanchi Array	43.89	301	P		P	01	30	16.1	-0.6
	comp=Z,2.2nm,0.6s,baz=82,slow=11,SNR=33									
MAKZ	Makanchi	44.10	301	P		P	01	30	18.0	-0.4
MAKZ				pmax	pmax					
	comp=Z,3.0nm,0.7s									
MAKZ	Makanchi	44.10	301	P		P	01	30	18.0	-0.4
KURK	Kurchatov	45.58	307	*i* P		P	01	30	29.7	-0.4
KURK				pmax	pmax					
	comp=Z,5.0nm,0.8s									
KURK	Kurchatov	45.58	307	P		P	01	30	29.6	-0.5
KURK				pP		pP	01	30	42.9	-1.0
TAPN	Taplejung	46.26	273	*e*P		P	01	30	35.4	-0.7
	comp=Z,11nm,0.5s									
ODAN	Odare	46.74	273	*e*P		P	01	30	37.9	-1.9
JIRN	Jiri	47.32	274	*e*P		P	01	30	44.4	-0.1
RAMN	Ramite	47.33	273	*e*P		P	01	30	42.8	-1.6
	comp=Z,19nm,0.5s									
GUN	Gumba	47.45	275	*e*P		P	01	30	45.1	-0.3
KKN	Kakani	47.97	275	*e*P		P	01	30	49.3	-0.1
PKI	Pulchoki	47.97	275	*e*P		P	01	30	48.6	-0.9
	comp=Z,1.1nm,0.5s									
PKIN	Phulchoki	47.98	275	*e*P		P	01	30	48.8	-0.7
	comp=Z,7.3nm,0.5s									
DMN	Daman	48.19	275	*e*P		P	01	30	50.7	-0.4
	comp=Z,7.7nm,0.5s									
IL31		48.38	33	P		P	01	30	53.2	+1.5
IL31				lAmb		lAmb	01	31	09.7	
	comp=Z,3.6nm,0.8s									
ILAR	Eielson Array

comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 62.68 31 P **P 01 32 35.1 +0.8**
comp=Z,1.1nm,0.8s,baz=303,slow=6.7,SNR=12
YKA PcP **PcP 01 33 13.6 +1.0**
comp=Z,0.6nm,0.6s,baz=298,slow=3.8,SNR=6.0
ARCES ARCESS Array B 63.13 339 *e*P **P 01 32 37.5 +0.3**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 63.13 339 P **P 01 32 37.3 0.0**
comp=Z,2.3nm,0.5s,baz=48,slow=8.2,SNR=19
GEYT Alibeck 63.66 299 P **P 01 32 40.7 -0.6**
comp=Z,0.8nm,0.5s,baz=64,slow=6.6,SNR=3.3
DZM Mont Dzumac 64.15 155 P **P 01 32 45.7 +1.1**
comp=Z,3.0nm,0.9s,baz=295,slow=19,SNR=3.4
DZM Mont Dzumac 64.15 155 IAmb IAmb 01 32 48.8
comp=Z,17nm,1.5s
DAG Danmarks Havn 64.74 355 *i*P **P 01 32 47.4 -0.3**
DAG pmax pmax
comp=Z,2.0nm,0.6s
DAG Danmarks Havn 64.74 355 *i*P **P 01 32 47.4 -0.3**
comp=Z,2.3nm,0.6s
OBN Obninsk 67.47 323 *e*P **P 01 33 04.0 -1.5**
OBN *e* 01 35 37.0
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN MLR MLR
comp=Z,103nm,14.0s
FINES FINESS Array B 68.05 332 *i*P **P 01 33 08.8 -0.2**
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 68.05 332 P **P 01 33 08.5 -0.5**
comp=Z,4.8nm,0.6s,baz=39,slow=7.9,SNR=26
VSR Storozhevoye 68.38 319 *i*P **P 01 33 11.0 -0.3**
VSR pmax pmax
comp=Z,8.0nm,0.8s
PINE Pine Mountain 69.34 50 IAmb IAmb 01 33 21.5
comp=Z,8.4nm,0.9s
SUMG Summit 69.61 0 *i*P **P 01 33 20.0 +0.9**
SUMG Summit 69.61 0 *i*P **P 01 33 20.0 +0.9**
STKA Stephens Creek 69.63 180 *e*P **P 01 33 18.3 -0.8**
STKA pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 69.63 180 P **P 01 33 19.2 +0.1**
comp=Z,2.4nm,0.7s,baz=13,slow=10,SNR=4.2
KIV Kislovodsk 70.50 311 *e*P **P 01 33 24.1 -0.6**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV Kislovodsk 70.50 311 P **P 01 33 24.9 +0.3**
KIV IAmb IAmb 01 33 41.3
comp=Z,9.2nm,1.0s
KBZ Khabaz 70.50 311 *e*P **P 01 33 23.7 -0.8**
KBZ pmax pmax
comp=Z,2.0nm,0.7s
KBZ Khabaz 70.50 311 P **P 01 33 24.6 +0.1**
comp=Z,2.0nm,0.7s,baz=329,slow=3.3,SNR=4.7
JTMT Jette 70.94 44 IAmb IAmb 01 33 30.4
comp=Z,5.0nm,0.8s
FFC Flin Flon 72.59 33 P **P 01 33 37.9 +1.0**
FFC pmax pmax
comp=Z,3.0nm,0.8s
FFC Flin Flon 72.59 33 P **P 01 33 37.9 +1.0**
FFC IAmb IAmb 01 33 38.9
comp=Z,2.9nm,0.8s
YERR Yerington 73.11 54 P **P 01 33 42.1 +1.5**
YERR IAmb IAmb 01 33 43.2
comp=Z,3.6nm,0.8s
EGMT Eagleton 73.20 42 IAmb IAmb 01 33 43.4
comp=Z,8.3nm,0.9s
HFS Hagfors 73.27 336 P **P 01 33 40.5 -0.3**
comp=Z,3.4nm,0.4s,baz=42,slow=4.6,SNR=20
NB2 NORSAR Subarra 73.34 337 P **P 01 33 41.5 +0.2**
comp=Z,1.6nm,0.6s,baz=39,slow=6.2
NB2 NORSAR Subarra 73.34 337 P **P 01 33 41.2 -0.1**
NB2 pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 73.34 337 *e*P **P 01 33 41.3 -0.1**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA NORSAR Array B 73.34 337 P **P 01 33 41.0 -0.4**
comp=Z,2.2nm,0.7s,baz=38,slow=5.9,SNR=10
NORES NORESS Array B 73.48 337 P **P 01 33 45.6 +3.5**
AKASG Malin Array Be 73.69 322 P **P 01 33 42.9 -0.5**
comp=Z,4.8nm,0.6s,baz=45,slow=6.1,SNR=29
AKASG LR LR 02 06 00.4
comp=Z,24nm,20.5s,baz=20,slow=36
KVN Kaiserville 73.80 53 IAmb IAmb 01 33 47.8
comp=Z,5.9nm,1.0s
MDPB Devils Postpil 74.00 55 P **P 01 33 46.5 +0.6**
NVAR Mina Array Bea 74.03 54 P **P 01 33 48.0 +2.0**
comp=Z,2.1nm,0.8s,baz=283,slow=5.9,SNR=12
H17A Grant Village 75.03 45 IAmb IAmb 01 33 56.4
comp=Z,6.0nm,0.8s
IMW Indian Meadow 75.14 46 P **P 01 33 53.8 +1.4**
IMW IAmb IAmb 01 33 56.1
comp=Z,4.0nm,0.8s
FLWY Flagg Ranch 75.16 45 IAmb IAmb 01 33 58.4
comp=Z,6.1nm,1.2s
TPNV Topopah Spring 76.22 54 IAmb IAmb 01 34 01.4
comp=Z,3.6nm,0.8s
BW06 Boulder Array 76.63 46 IAmb IAmb 01 34 03.3
comp=Z,4.0nm,0.9s
PD31 Pinedale Array 76.63 46 IAmb IAmb 01 34 02.7
comp=Z,2.5nm,0.7s
PDAR Pinedale Array 76.63 46 P **P 01 34 02.2 +1.3**
comp=Z,2.4nm,0.7s,baz=267,slow=1.9,SNR=15
SHPR Sheep Range 77.18 54 P **P 01 34 05.0 +1.0**
SHPR IAmb IAmb 01 34 07.2
comp=Z,3.4nm,0.9s
GIRR Girov 77.53 321 P **P 01 34 05.5 -0.1**
BUR08 Bucovina Ar. S 77.70 322 P **P 01 34 06.3 -0.3**
BUR08 IAmb IAmb 01 34 22.5
comp=Z,4.5nm,1.1s
BURAR Bucovina Array 77.71 322 ⇓P **P 01 34 07.1 +0.5**
BR131 Keskin Array S 78.43 312 P **P 01 34 09.5 -1.3**
BR131 pmax pmax
comp=Z,1.0nm,0.7s
BR131 Keskin Array S 78.43 312 P **P 01 34 09.5 -1.3**
BRTR Keskin Array B 78.43 312 *e*P **P 01 34 10.8 -0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 78.43 312 P **P 01 34 10.6 -0.2**
comp=Z,1.0nm,0.6s,baz=88,slow=3.2,SNR=12
OZUR 78.48 320 ⇓P **P 01 34 11.6 +0.7**
U15A North Rim 79.04 52 IAmb IAmb 01 34 17.8
comp=Z,7.1nm,1.4s
LANS Liptovska Anna 79.29 326 *e*P **P 01 34 16.3 +1.0**
LANS Liptovska Anna 79.29 326 *e*P **P 01 34 16.3 +1.0**
VOIR 79.31 320 P **P 01 34 16.3 +0.9**
ARR Arges 79.56 320 ⇑P **P 01 34 17.5 +0.7**
MORC Moravsky Berou 79.67 327 P **P 01 34 18.1 +0.8**
DPC Dobruska-Polom 79.75 328 *e*P **P 01 34 18.6 +0.8**
DPC *e* 01 34 33.5
DPC Dobruska-Polom 79.75 328 *e*P **P 01 34 18.6 +0.8**
DPC *e*pP **pP 01 34 33.5 +0.9**
VYHS Vyhne 80.06 326 *e*P **P 01 34 19.9 +0.5**
VYHS Vyhne 80.06 326 *e*P **P 01 34 19.9 +0.5**
Y14A Wickenburg 80.16 55 IAmb IAmb 01 34 23.1
comp=Z,3.0nm,0.8s
CLL Collm 80.36 330 *i*P **P 01 34 20.7 -0.2**
CLL Collm 80.36 330 *i*P **P 01 34 20.7 -0.2**
CLL Collm 80.36 330 P **P 01 34 20.5 -0.4**
CLL IAmb IAmb 01 34 21.7
comp=Z,8.4nm,0.9s
VRAC Vranov 80.43 327 LR LR 02 11 26.7
comp=Z,39nm,18.5s,baz=40,slow=37
GZR Gura Zlata 80.47 321 ⇑P **P 01 34 21.7 0.0**
RAYN Ar Rayn 80.61 292 P **P 01 34 22.2 -0.6**
RAYN pmax pmax
comp=Z,6.0nm,1.4s
RAYN Ar Rayn 80.61 292 P **P 01 34 22.2 -0.6**
RAYN IAmb IAmb 01 34 23.8
comp=Z,6.3nm,1.4s
PRU Pruhonice 80.77 329 *e*P **P 01 34 23.7 +0.6**
PRU Pruhonice 80.77 329 *e*P **P 01 34 23.7 +0.6**
BZS Buzias 80.88 322 ⇑P **P 01 34 23.7 -0.1**
CONA Conrad Observa 81.80 327 *i*P **P 01 34 27.2 -1.6**
comp=Z,5.6nm,1.5s
KHC Kasperske Hory 81.83 329 *e*P **P 01 34 29.0 +0.1**
KHC *e* 01 34 43.6
KHC Kasperske Hory 81.83 329 *e*P **P 01 34 29.0 +0.1**
KHC *e*pP **pP 01 34 43.6 -0.1**
GERES GERESS Array B 82.00 328 *e*P **P 01 34 29.8 0.0**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 82.00 328 P **P 01 34 29.4 -0.4**
comp=Z,1.0nm,0.6s,baz=38,slow=5.5,SNR=8.3
VTS Vitosha 82.22 319 P **P 01 34 32.0 +0.8**
ARSA Arzberg 82.46 326 *i*P **P 01 34 30.9 -1.3**
comp=Z,4.4nm,1.2s
MOA Molln 82.54 327 *i*P **P 01 34 28.7 -3.9**
comp=Z,7.5nm,1.9s
SOKA Soboth 83.12 326 *i*PcP **P 01 34 35.7 +0.1**
comp=Z,2.2nm,0.7s
OBKA Obir 83.46 326 *i*P **P 01 34 36.0 -1.4**
comp=Z,2.6nm,0.9s
KBA Koelnbreinsper 83.53 327 *i*PcP **P 01 34 38.3 +0.4**
comp=Z,3.8nm,0.7s
ANMO Albuquerque 83.59 50 P **P 01 34 40.1 +1.6**
ANMO pmax pmax
comp=Z,3.0nm,1.1s
ANMO Albuquerque 83.59 50 P **P 01 34 40.1 +1.6**
ANMO IAmb IAmb 01 34 41.7
comp=Z,3.3nm,1.1s
MOTA Moosalm 84.26 329 *i*P **P 01 34 37.8 -3.8**
comp=Z,9.2nm,1.4s
PDG Podgorica 84.37 321 P **P 01 34 41.7 -0.3**
DAVA Damuels 84.80 329 *i*P P 01 34 38.5 -5.8
comp=Z,13nm,1.4s
FUORN Ofenpass-Fuorn 85.18 329 P **P 01 34 46.2 -0.2**
FUORN IAmb IAmb 01 35 05.4
comp=Z,4.3nm,0.8s
TX31 Lajitas Ar. Si 89.15 53 P **P 01 35 06.6 +0.9**
TX31 IAmb IAmb 01 35 08.0
comp=Z,2.2nm,0.7s
TX32 Lajitas Array 89.15 53 IAmb IAmb 01 35 08.0
comp=Z,2.3nm,0.7s
TXAR Lajitas Array 89.16 53 P **P 01 35 07.1 +1.4**
comp=Z,2.1nm,0.6s,baz=302,slow=3.3,SNR=28
TORD Torodi Ar. Bea 116.84 316 PKP **PKPdf 01 40 53.5 -1.2**
comp=Z,0.2nm,0.4s,baz=32,slow=2.0,SNR=7.9
LPAZ La Paz 145.81 59 PKPbc **PKPab 01 41 50.8 +0.3**
comp=Z,5.1nm,0.5s,baz=355,slow=2.4,SNR=28
LPAZ La Paz 145.81 59 **PKPab 01 41 50.6 +0.2**

IDC ***29*** *01:25:09.3±0.9, 34°.89N×26°.57E, h0km, mb3.8/11, mb1 3.8/22, mb1mx3.7/50, mbtmp3.7/22, ML3.1/10, MS3.3/3, Ms1 3.3/3, ms1mx2.7/41, Error ellipse: s-maj=20.7km s-min=10.0km az=5.0*
ISCJB ***29*** *01:25:10.0±0.6, 34°.88N±0°.03×26°.52E±0°.02, h11km±4km, mb3.7/11, MS3.9/1, Error ellipse: s-maj=4.9km s-min=2.8km az=179.8*
ISK ***29*** *01:25:10.9, 34°.97N×26°.47E, h10km, ML3.8/27*
ATH ***29*** *01:25:11.9, 35°.08N×26°.43E, h14km±1km, ML3.6/15, Error ellipse: s-maj=2.4km s-min=0.7km az=161.0*
THE ***29*** *01:25:11.1, 34°.96N×26°.46E, h2km±3km, ML3.5/8, Error ellipse: s-maj=4.3km s-min=1.1km az=169.0*
ISC 29 01:25:10.2±1.2, 34°.89N±0°.05×26°.50E±0°.02, h7km±8km, n112, σ1°11/132, mb3.9/11, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.32**	**314**	P		**Pg**	**01 25 16.5**	**+0.1**
ZKR				S		**Sg**	**01 25 20.6**	**0.0**
	17μm,0.5s							
ZKR	**Zakros**	**0.32**	**314**	P		**Pg**	**01 25 16.4**	**+0.1**
ZKR				S		**Sg**	**01 25 19.4**	**-1.3**
ZKR				AML	AML		01 25 22.5	
	comp=E,43518μm,0.5s							
ZKR				AML	AML		01 25 24.8	
	comp=N,21479μm,0.5s							
ZKR	**Zakros**	**0.32**	**314**	PG		**Pg**	**01 25 16.5**	**+0.1**
ZKR				SG		**Sg**	**01 25 20.8**	**+0.2**
STIA	**Sitia Lasithi**	**0.45**	**313**	P		**Pg**	**01 25 18.9**	**-0.1**
STIA				S		**Sg**	**01 25 25.3**	**+0.4**
FRMA	**Ierapetra Chan**	**0.64**	**281**	P		**Pg**	**01 25 20.7**	**-1.8**
FRMA				S		**Sg**	**01 25 28.6**	**-2.1**
	comp=N,4μm,0.4s							
NPS	**Neapolis**	**0.81**	**297**	P		**Pg**	**01 25 25.6**	**-0.2**
NPS				S		**Sg**	**01 25 36.6**	**+0.2**
	comp=N,5μm,0.6s							
NPS	**Neapolis**	**0.81**	**297**	P		**Pg**	**01 25 25.6**	**-0.2**
NPS				S		**Sg**	**01 25 35.7**	**-0.7**
NPS				AML	AML		01 25 45.1	
	comp=E,12189μm,0.5s							
NPS				AML	AML		01 25 49.0	
	comp=N,8596μm,0.6s							
KARP	**Karpathos**	**0.85**	**40**	P		**Pg**	**01 25 26.3**	**-0.2**
KARP				S		**Sb**	**01 25 39.7**	**+0.7**
	comp=N,4μm,0.5s							
KARP	**Karpathos**	**0.85**	**40**	P		**Pg**	**01 25 26.5**	**-0.1**
KARP				S		**Sg**	**01 25 36.8**	**-0.8**
KARP				AML	AML		01 25 47.0	
	comp=N,9962μm,0.5s							
KARP				AML	AML		01 25 51.6	
	comp=E,10494μm,1.0s							
KARP	**Karpathos**	**0.85**	**40**	PG		**Pg**	**01 25 26.6**	**+0.1**
KARP				SG		**Sb**	**01 25 38.7**	**-0.3**
LAST	**Lasithi**	**0.88**	**288**	P		**Pg**	**01 25 26.5**	**-0.5**
LAST				S		**Sb**	**01 25 40.5**	**+0.7**
	comp=E,3μm,0.9s							
LAST	**Lasithi**	**0.88**	**288**	P		**Pg**	**01 25 26.6**	**-0.4**
LAST				S		**Sg**	**01 25 37.3**	**-1.1**
LAST				AML	AML		01 25 46.4	
	comp=N,5747μm,0.7s							
LAST				AML	AML		01 25 50.2	
	comp=E,5480μm,0.8s							
HRKL	**Herakleio**	**1.22**	**290**	P		**Pb**	**01 25 33.7**	**+0.2**
HRKL	**Herakleio**	**1.22**	**290**	PN		**Pn**	**01 25 34.0**	**+0.4**
KSTL	**Kastelli Herak**	**1.24**	**290**	P		Pb	01 25 29.0	-4.9
IACM	**Heraklion**	**1.24**	**290**	P		**Pb**	**01 25 33.9**	**0.0**
IDI	**Anoyia**	**1.37**	**287**	Pg		**Pn**	**01 25 35.8**	**-0.1**
	comp=E,29nm,0.3s,baz=160,slow=12,SNR=82							
IDI				Lg		Lg	01 25 54.6	
	comp=E,48nm,0.3s,baz=25,slow=14,SNR=14							
IDI	**Anoyia**	**1.37**	**287**	P		**Pn**	**01 25 35.8**	**-0.1**
IDI				S		**Sb**	**01 25 53.4**	**-0.6**
IDI				AML	AML		01 26 01.4	
	comp=N,2433μm,0.8s							
IDI				AML	AML		01 26 09.7	
	comp=E,1394μm,0.7s							
IDI	**Anoyia**	**1.37**	**287**	PN		**Pn**	**01 25 36.0**	**+0.1**
SIVA	**Sivas**	**1.39**	**276**	P		**Pb**	**01 25 36.5**	**0.0**
SIVA				S		**Sg**	**01 25 55.5**	**+0.7**
SIVA				AML	AML		01 26 04.7	
	comp=E,7707μm,0.6s							
SIVA				AML	AML		01 26 17.9	
	comp=N,4568μm,0.8s							
SANT	**Santorini**	**1.70**	**331**	P		**Pn**	**01 25 40.0**	**-0.3**
SANT				AML	AML		01 26 06.5	
	comp=N,1089μm,0.3s							
SANT				AML	AML		01 26 07.2	
	comp=E,3389μm,0.8s							
SANT	**Santorini**	**1.70**	**331**	PN		**Pn**	**01 25 40.2**	**-0.1**
THR6	**Thira Island,**	**1.71**	**329**	P		**Pn**	**01 25 40.7**	**+0.3**
SAP1	**Santorini-Akro**	**1.71**	**329**	P		**Pn**	**01 25 40.7**	**+0.2**
SAP1				S		**Sn**	**01 26 00.7**	**-2.0**
	comp=E,5μm,0.8s							
THR3	**Thira Island,**	**1.75**	**330**	P		**Pn**	**01 25 41.4**	**+0.3**
THR7	**Fira-Santorini**	**1.76**	**331**	P		**Pn**	**01 25 41.7**	**+0.6**
THT2	**Imerovigli**	**1.77**	**331**	PN		**Pn**	**01 25 41.3**	**0.0**
THR5	**Thira Island,**	**1.79**	**329**	P		**Pn**	**01 25 42.4**	**+1.0**
NISR	**Nisiros**	**1.79**	**17**	P		**Pn**	**01 25 41.9**	**+0.3**
NISR				S		**Sn**	**01 26 03.7**	**-0.9**
NISR				AML	AML		01 26 13.4	
	comp=N,2805μm,0.5s							
NISR				AML	AML		01 26 18.8	
	comp=E,4709μm,0.7s							
ARG	**Arkhangelos**	**1.87**	**45**	P		**Pb**	**01 25 44.9**	**+0.1**
ARG				AML	AML		01 26 19.2	
	comp=E,1930μm,0.8s							
ARG				AML	AML		01 26 22.6	
	comp=N,1738μm,0.6s							
ARG	**Arkhangelos**	**1.87**	**45**	PN		**Pn**	**01 25 43.2**	**+0.5**
KOSK	**Kos Island**	**1.90**	**12**	PN		**Pn**	**01 25 43.4**	**+0.4**
VAM	**Vamos**	**1.95**	**286**	P		**Pb**	**01 25 45.6**	**-0.5**
VAM				AML	AML		01 26 18.4	
	comp=N,2636μm,0.7s							
VAM				AML	AML		01 26 22.6	
	comp=E,2629μm,0.7s							
GVDS	**Gavdos**	**1.98**	**269**	PN		**Pn**	**01 25 45.3**	**+1.2**
GVD	**Gavdhos**	**1.98**	**269**	P		**Pb**	**01 25 47.2**	**+0.6**
GVD				AML	AML		01 26 28.1	
	comp=E,1894μm,0.6s							
GVD				AML	AML		01 26 38.7	
	comp=N,1955μm,0.6s							
GVD	**Gavdhos**	**1.98**	**269**	PN		**Pn**	**01 25 45.4**	**+1.2**
AMGA	**Amorgos Island**	**2.00**	**346**	P		**Pn**	**01 25 44.5**	**+0.1**
AMGA				S		**Sn**	**01 26 07.8**	**-1.9**
	comp=N,1μm,0.8s							
AMGA	**Amorgos Island**	**2.00**	**346**	P		**Pn**	**01 25 44.7**	**+0.3**
AMGA				AML	AML		01 26 21.4	
	comp=N,2368μm,0.5s							
AMGA				AML	AML		01 26 22.4	
	comp=E,2546μm,0.8s							
DAT	**Datca**	**2.03**	**25**	PN		**Pn**	**01 25 45.6**	**+0.6**
IOSP	**Ios island**	**2.07**	**332**	P		**Pn**	**01 25 45.4**	**-0.1**
DATC	**Datca-Mugla**	**2.09**	**27**	PN		**Pn**	**01 25 46.5**	**+0.8**
IMMV	**Iera Moni Meta**	**2.13**	**286**	P		**Pb**	**01 25 48.2**	**-1.0**
IMMV				AML	AML		01 26 25.1	
	comp=E,2212μm,0.7s							
IMMV				AML	AML		01 26 34.2	
	comp=N,2371μm,0.9s							
IMMV	**Iera Moni Meta**	**2.13**	**286**	PN		**Pn**	**01 25 47.3**	**+1.0**
BODT	**Bodrum**	**2.26**	**17**	PN		**Pn**	**01 25 48.5**	**+0.4**
APE	**Apeiranthos**	**2.31**	**340**	P		**Pn**	**01 25 48.8**	**+0.1**
APE				S		**Sn**	**01 26 16.9**	**-0.5**
	comp=N,512nm,0.6s							
APE	**Apeiranthos**	**2.31**	**340**	P		**Pn**	**01 25 49.0**	**+0.2**
APE				AML	AML		01 26 29.2	
	comp=E,985μm,0.7s							
APE				AML	AML		01 26 29.2	
	comp=N,1048μm,0.6s							
APE	**Apeiranthos**	**2.31**	**340**	PN		**Pn**	**01 25 48.8**	**+0.1**
MHLO	**Agia Marina, M**	**2.47**	**317**	P		**Pn**	**01 25 52.3**	**+1.4**
MHLO				AML	AML		01 26 32.2	
	comp=N,2864μm,0.7s							
MHLO				AML	AML		01 26 32.7	
	comp=E,4592μm,0.7s							
MHLA	**Plaka, Milos I**	**2.50**	**318**	P		**Pn**	**01 25 51.3**	**0.0**
MLSB	**Milas**	**2.61**	**23**	PN		**Pn**	**01 25 53.5**	**+0.6**
TURN	**Turunc**	**2.61**	**40**	PN		**Pn**	**01 25 50.2**	**-2.7**
YER	**Yerkesik**	**2.67**	**32**	PN		**Pn**	**01 25 54.5**	**+0.8**
FETY	**Fethiye**	**2.73**	**50**	PN		**Pn**	**01 25 55.4**	**+0.9**
SMG	**Samos**	**2.82**	**6**	P		**Pn**	**01 25 55.7**	**-0.1**
SMG	**Samos**	**2.82**	**6**	P		**Pn**	**01 25 56.0**	**+0.2**
GCAM	**G?zelcaml?**	**2.86**	**12**	PN		**Pn**	**01 25 56.9**	**+0.6**
AKAS	**Kas**	**2.87**	**61**	PN		**Pn**	**01 25 57.9**	**+1.4**
KTHA	**Kythira Island**	**3.11**	**297**	P		**Pn**	**01 26 01.1**	**+1.3**
KTHA	**Kythira Island**	**3.11**	**297**	PN		**Pn**	**01 26 00.7**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**3.25**	**20**	PN		**Pn**	**01 26 02.5**	**+0.8**
GLHS	**Gihisar (BURDU**	**3.32**	**46**	PN		**Pn**	**01 26 03.5**	**+0.8**
URLA	**Izmir**	**3.46**	**1**	PN		**Pn**	**01 26 04.9**	**+0.3**
CHOS	**Chios island**	**3.50**	**354**	P		**Pn**	**01 26 05.8**	**+0.6**
CHOS	**Chios island**	**3.50**	**354**	PN		**Pn**	**01 26 05.6**	**+0.4**
BLCB	**Balcova**	**3.51**	**7**	PN		**Pn**	**01 26 06.3**	**+1.1**
VLY	**Voula,Athens**	**3.67**	**324**	P		**Pn**	**01 26 07.9**	**+0.5**
KRND	**KRANIDI**	**3.67**	**314**	P		**Pn**	**01 26 09.5**	**+2.0**
DID	**Didima**	**3.71**	**316**	P		**Pn**	**01 26 10.3**	**+2.3**
ATHU	**Athens Univers**	**3.77**	**325**	P		**Pn**	**01 26 10.1**	**+1.3**
KORT	**Korkueli**	**3.77**	**55**	PN		**Pn**	**01 26 10.0**	**+1.1**
EREA	**Eretria**	**4.08**	**330**	P		**Pn**	**01 26 14.7**	**+1.7**
BASM	**Basmaki-Afyon**	**4.16**	**42**	PN		**Pn**	**01 26 15.3**	**+1.0**
BCK	**Bucak**	**4.19**	**51**	PN		**Pn**	**01 26 16.2**	**+1.6**
VIL2	**Platees**	**4.21**	**323**	P		**Pn**	**01 26 15.8**	**+1.0**
LTK	**Loutraki**	**4.22**	**319**	P		**Pn**	**01 26 17.4**	**+2.3**
SIGR	**SIGRI**	**4.34**	**353**	P		**Pn**	**01 26 17.2**	**+0.7**
SIGR	**SIGRI**	**4.34**	**353**	PN		**Pn**	**01 26 17.3**	**+0.7**
PYL	**PYLOS**	**4.34**	**299**	P		**Pn**	**01 26 18.0**	**+1.3**
ITM	**Ithomi**	**4.35**	**303**	P		**Pn**	**01 26 19.4**	**+2.6**
ITM	**Ithomi**	**4.35**	**303**	PN		**Pn**	**01 26 18.2**	**+1.5**
BALB	**Balikesir**	**4.87**	**13**	PN		**Pn**	**01 26 25.6**	**+1.8**
SHUT	**Suhut-Afyon**	**4.89**	**41**	PN		**Pn**	**01 26 25.4**	**+1.1**
EZN	**Ezine**	**4.93**	**358**	PN		**Pn**	**01 26 25.3**	**+0.7**
BRTR	**Keskin Array B**	**7.46**	**48**	Pn		**Pn**	**01 26 59.8**	**+0.2**
	comp=E,0.1nm,0.3s,baz=217,slow=14,SNR=5.5							
BRTR				Sn		**Sn**	**01 28 25.3**	**+0.7**
	comp=E,0.1nm,0.3s,baz=211,slow=25,SNR=3.1							
BRTR				LR	LR		01 30 51.3	
	comp=E,111nm,21.9s,baz=206,slow=46							
MMAI	**Mount Meron Ar**	**7.63**	**102**	Pn		**Pn**	**01 27 00.2**	**-1.7**
	comp=E,0.8nm,0.3s,baz=301,slow=11,SNR=8.0							
MMAI				Sn		**Sn**	**01 28 26.0**	**-2.8**
	comp=E,0.8nm,0.3s,baz=311,slow=23,SNR=3.2							
SHMJ	**Saham**	**8.01**	**103**	P		**Pn**	**01 27 08.7**	**+1.6**
	comp=E,40nm,0.8s,comp=E,0.2nm							
LISJ	**El Lisan**	**8.38**	**113**	P		**Pn**	**01 27 13.9**	**+1.9**
	comp=E,19nm,0.9s,comp=E,0.1nm							
WALJ	**Wala**	**8.48**	**110**	P		**Pn**	**01 27 14.0**	**+0.5**
	comp=E,37nm,0.7s,comp=E,0.1nm							
HRFI	**Mount Harif**	**8.69**	**122**	P		Pn	01 26 56.6	-20
EIL	**Elat**	**8.85**	**124**	Pn		**Pn**	**01 27 18.6**	**0.0**
	comp=E,0.4nm,0.3s,baz=310,slow=2.7,SNR=10							
EIL				Sn		**Sn**	**01 28 55.4**	**-3.2**
	comp=E,0.8nm,0.3s,baz=338,slow=19,SNR=4.0							
AQBJ	**Aqaba**	**8.88**	**123**	P		**Pn**	**01 27 21.2**	**+2.2**
ASF	**Jabal al Asfar**	**9.10**	**104**	Pn		**Pn**	**01 27 22.8**	**+0.7**
	comp=E,0.2nm,0.3s,baz=236,slow=11,SNR=3.5							
ASF				Sn		**Sn**	**01 29 02.8**	**-2.0**
	comp=E,0.1nm,0.3s,baz=326,slow=18,SNR=1.7							
VAE	**Valguarnera**	**10.10**	**288**	Pn		**Pn**	**01 27 38.2**	**+2.5**
	comp=E,0.3nm,0.3s,baz=22,slow=5.4,SNR=4.7							
VAE				Sn		**Sn**	**01 29 31.1**	**+1.8**
	comp=E,0.3nm,0.3s,baz=49,slow=20,SNR=2.5							
MLR	**Muntele Rosu**	**10.59**	**358**	Pn		**Pn**	**01 27 43.8**	**+1.3**
	comp=E,0.0nm,0.3s,baz=150,slow=18,SNR=2.5							
MLR				LR	LR		01 31 58.8	
	comp=E,106nm,18.2s,baz=300,slow=39							
KEST	**Kesra**	**14.03**	**278**	Pn		**Pn**	**01 28 30.9**	**+1.4**
	comp=E,0.0nm,0.3s,baz=66,slow=20,SNR=2.3							
VYHS	**Vyhne**	**14.73**	**340**	*e*PN		**Pn**	**01 28 36.8**	**-2.2**
GNI	**Garni**	**15.39**	**65**	Pn		**Pn**	**01 28 49.7**	**+1.7**
	comp=E,0.0nm,0.3s,baz=258,slow=19,SNR=1.7							
KBZ	**Khabaz**	**15.44**	**50**	Pn		**P**	**01 28 51.6**	**-1.3**
	comp=E,0.0nm,0.3s,baz=238,slow=19,SNR=2.0							
AKASG	**Malin Array Be**	**15.92**	**6**	Pn		**Pn**	**01 28 55.3**	**+0.7**
	comp=E,0.2nm,0.3s,baz=195,slow=11,SNR=3.8							
GERES	**GERESS Array B**	**16.85**	**330**	Pn		**P**	**01 29 08.9**	**+0.2**
	comp=E,0.1nm,0.3s,baz=142,slow=11,SNR=2.5							
ESDC	**Sonseca Array**	**24.64**	**290**	P		**P**	**01 30 31.0**	**-0.4**
	comp=E,0.4nm,0.4s,baz=81,slow=9.6,SNR=7.4							
GEYT	**Alibeck**	**25.57**	**74**	P		**P**	**01 30 39.1**	**-0.7**
	comp=E,1.1nm,0.7s,baz=281,slow=8.2,SNR=2.8							
AKTO	**Aktyubinsk**	**27.64**	**46**	P		**P**	**01 30 57.2**	**-1.1**
	comp=E,1.7nm,0.7s,baz=230,slow=12,SNR=3.2							
EKA	**Eskdalemuir Ar**	**28.89**	**324**	P		**P**	**01 31 09.9**	**+0.4**
	comp=E,1.9nm,0.8s,baz=132,slow=12,SNR=3.2							
TORD	**Torodi Ar. Bea**	**31.17**	**232**	P		**P**	**01 31 31.0**	**+1.0**
	comp=E,1.3nm,0.6s,baz=15,slow=11,SNR=8.5							
MKAR	**Makanchi Array**	**43.01**	**56**	P		**P**	**01 33 10.8**	**+0.6**
	comp=E,1.2nm,0.8s,baz=285,slow=5.9,SNR=6.9							
ZALV	**Zalesovo Beam**	**44.40**	**46**	P		**P**	**01 33 21.2**	**-0.1**
	comp=E,1.6nm,0.4s,baz=264,slow=8.9,SNR=

0.3nm,0.8s,baz=100,slow=8.1,SNR=2.5
YKA Yellowknife Ar 75.81 28 P P 02 29 04.6 -0.7
0.4nm,0.7s,baz=287,slow=5.5,SNR=5.7
NVAR Mina Array Bea 81.20 52 P P 02 29 35.9 0.0
0.3nm,0.5s,baz=288,slow=6.5,SNR=4.9
LPAZ La Paz 146.74 88 PKPbc PKPab 02 37 03.9 -0.5
0.7nm,0.6s,baz=270,slow=4.0,SNR=4.0

IDC ***29*** *02:21:41.8±0.9, 12°.01N×143°.63E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/35, mbtmp3.7/9, Error ellipse: s-maj=36.1km s-min=18.3km az=112.0*
ISCJB ***29*** *02:21:43.9±0.7, 12°.0N±0°.1×143°.6E±0°.2, h25km, mb3.7/9, Error ellipse: s-maj=25.1km s-min=9.5km az=34.9*
ISC 29 02:21:45.8±0.9, 12°.0N±0°.1×143°.7E±0°.2, h25km, n16, σ1§12/11, mb3.7/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.98**	**37**	Pn	**Pn**	**02 22 17.0**	**-0.7**
	11nm,0.3s,baz=201,slow=17,SNR=4.0						
GUMO				Sn	**Sn**	**02 22 41.8**	**+0.1**
	31nm,0.3s,baz=352,slow=22,SNR=3.6						
GUMO				LR	LR	02 23 04.1	
	comp=Z,80nm,21.0s,baz=140,slow=42						
H11S3	**WAKE ISLAND Hy**	**23.13**	**71**	T	T	02 51 05.8	
	baz=251						
H11S1	**WAKE ISLAND Hy**	**23.15**	**71**	T	T	02 51 03.9	
	baz=251						
H11S2	**WAKE ISLAND Hy**	**23.15**	**71**	T	T	02 51 00.4	
	baz=251						
H11N1	**WAKE ISLAND Hy**	**23.62**	**68**	T	T	02 51 38.3	
	baz=255,slow=75,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**23.63**	**68**	T	T	02 51 40.3	
	baz=255,slow=75,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**23.63**	**68**	T	T	02 51 37.3	
	baz=255,slow=75,SNR=3.8						
WRA	**Warramunga Arr**	**33.04**	**196**	P	**P**	**02 28 18.8**	**-0.6**
	0.7nm,0.5s,baz=19,slow=9.6,SNR=10						
ASAR	**Alice Springs**	**36.71**	**195**	P	**P**	**02 28 50.9**	**-0.1**
	0.1nm,0.5s,baz=20,slow=12,SNR=4.4						
SONM	**Songino Array**	**47.36**	**326**	P	**P**	**02 30 18.2**	**+0.3**
	0.2nm,0.3s,baz=142,slow=8.4,SNR=3.5						
MKAR	**Makanchi Array**	**61.81**	**317**	P	**P**	**02 32 03.4**	**+0.6**
	0.1nm,0.4s,baz=88,slow=8.4,SNR=3.2						
ILAR	**Eielson Array**	**70.50**	**25**	P	**P**	**02 32 56.8**	**-1.3**
	0.5nm,1.0s,baz=248,slow=5.2,SNR=4.1						
YKA	**Yellowknife Ar**	**84.81**	**27**	P	**P**	**02 34 18.4**	**+0.5**
	0.2nm,0.4s,baz=286,slow=5.3,SNR=3.1						
ARCES	**ARCESS Array B**	**88.22**	**342**	P	**P**	**02 34 34.3**	**-0.2**
	2.5nm,0.8s,baz=69,slow=5.5,SNR=2.7						
NVAR	**Mina Array Bea**	**88.84**	**51**	P	**P**	**02 34 40.5**	**+2.1**
	0.4nm,0.6s,baz=267,slow=5.4,SNR=4.2						
FINES	**FINESS Array B**	**92.09**	**335**	P	**P**	**02 34 51.2**	**-1.5**
	1.0nm,0.4s,baz=76,slow=5.9,SNR=4.1						

NNC 29 02:36:53.7±6.6, 38°.57N×74°.77E, h0km, mb3.7, mpv3.3, 2C-4D, Error ellipse: s-maj=51.6km s-min=40.1km az=144.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZA	**Kyzart**	**3.52**	**6**	P	Pn	02 37 49.7	-0.4
	SNR=35						
AML	**Almayashu**	**3.65**	**347**	P	Pn	02 37 53.4	+1.6
	SNR=15						
UCH	**Uchtor**	**3.66**	**357**	P	Pn	02 37 52.8	+0.8
	SNR=28						
AAK	**Ala-Archa**	**4.07**	**357**	Pn	Pn	02 37 57.9	+0.5
	1.8nm,0.3s						
AAK				⇓Pg	Pg	02 38 10.6	-1.1
	4.8nm,0.6s						
AAK				Sn	Sn	02 38 47.0	+1.2
	5.9nm,0.9s						
KBK	**Karagaybulak**	**4.08**	**2**	P	Pn	02 37 59.0	+1.4
	SNR=10.0						
EKS2	**Erkin-Say**	**4.16**	**350**	P	Pn	02 38 01.0	+2.5
	SNR=10						
TKM2	**Tokmak 2**	**4.39**	**8**	P	Pn	02 38 01.3	-0.6
	SNR=8.6						
TKM2	**Tokmak 2**	**4.39**	**8**	⇓Pn	Pn	02 38 01.2	-0.6
	7.7nm,1.1s						
TKM2				⇓Pg	Pb	02 38 11.9	0.0
	16nm,1.2s						
TKM2				⇓Sn	Sn	02 38 53.6	-0.3
	4.8nm,0.8s						
KK31	**Karatay Array**	**5.56**	**326**	⇑Pn	Pn	02 38 18.9	+1.2
	0.4nm,0.3s,baz=152,slow=15,SNR=32						
KK31				⇑Sn	Sn	02 39 23.7	+1.4
	4.5nm,0.5s,baz=148,slow=22,SNR=13						

IDC ***29*** *02:41:01.7±0.9, 36°.97N×97°.52W, h0km, mb3.9/2, mb1 3.9/6, mb1mx3.5/59, mbtmp3.6/6, ML3.7/3, Error ellipse: s-maj=13.9km s-min=12.5km az=180.0*
NEIC ***29*** *02:41:02.4, 36°.96N×97°.67W, h35km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr=2.38; Mθθ=2.22; Mφφ=0.16; Mrθ=1.68; Mrφ=-2.31; Mθφ=0.31; Fault plane solution: M0=3.68000×10^14 NP1:ϕ=326.28000°, δ=35.61000°, λ=-54.55000°. NP2:ϕ=105.07000°, δ=61.69000°, λ=-112.56000°. Principal axes: T 4.1053, Plg14.0000°, Azm211.0000°; N -1.0962, Plg20.0000°, Azm116.0000°; P -3.0091, Plg66.0000°, Azm334.0000°.*
TUL ***29*** *02:41:02.4, 36°.96N×97°.67W, h5km, MWR3.6(NEIC)*
NEIC ***29*** *02:41:03.7±6.4, 36°.81N±0°.03×97°.66W±0°.02, h5km±4km*
ANF ***29*** *02:41:03.5±1.9, 36°.89N×97°.63W, h6km±14km, ML4.3/10, Error ellipse: s-maj=5.4km s-min=4.8km az=168.0*
ISC 29 02:41:01.6±0.5, 36°.99N±0°.02×97°.53W±0°.02, h10km, n103, σ2§45/158, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**1.33**	**243**	Pg	**Pn**	**02 41 25.2**	**-1.1**
ADOK	**Arcadia Dam**	**1.34**	**174**		**Pg**	**02 41 26.4**	**-0.9**
OKCFA	**Oklahoma City**	**1.57**	**178**		**Pb**	**02 41 30.2**	**-0.5**
OKCFA					**Sg**	**02 41 51.4**	**-0.6**
OKCSW	**OKLAHOMA CITY**	**1.58**	**177**		**Pg**	**02 41 30.5**	**-1.4**
OKCSW					**Sg**	**02 41 51.6**	**-0.8**
FNO	**Franklin**	**1.73**	**176**		**Pg**	**02 41 33.6**	**-1.2**
FNO				Sg	**Sg**	**02 41 56.0**	**-1.2**
TUL1	**Leonard**	**1.77**	**127**	P	**Pg**	**02 41 35.0**	**-0.5**
	baz=304						
TUL1				S	**Sg**	**02 41 59.4**	**+1.0**
	baz=304						
TUL1	**Leonard**	**1.77**	**127**		**Pg**	**02 41 34.7**	**-0.8**
TUL1					**Sg**	**02 41 59.1**	**+0.7**
KSU1	**Kansas State U**	**2.23**	**19**	P	**Pb**	**02 41 42.4**	**+0.3**
	baz=200						
KSU1				S	**Sg**	**02 42 14.2**	**+0.8**
	baz=200						
X34A	**Smith Ranch, M**	**2.39**	**186**		**Pb**	**02 41 43.4**	**-1.4**
X34A				Sg	**Sg**	**02 42 16.2**	**-2.3**
WMOK	**Wichita Mounta**	**2.46**	**205**	P	**Pn**	**02 41 42.5**	**+0.7**
	baz=23						
WMOK				S	**Sn**	**02 42 13.1**	**+1.1**
	baz=23						
WMOK	**Wichita Mounta**	**2.46**	**205**		**Pn**	**02 41 42.6**	**+0.7**
CBKS	**Cedar Bluff**	**2.53**	**317**	P	**Pb**	**02 41 45.7**	**-1.4**
	baz=139						
CBKS				S	**Sb**	**02 42 18.0**	**-0.3**
	baz=139						
CBKS	**Cedar Bluff**	**2.53**	**317**		**Pb**	**02 41 46.8**	**-0.4**
HHAR	**Hobbs**	**2.97**	**103**		**Pb**	**02 41 52.2**	**-2.5**
W39A	**Magazine**	**3.52**	**119**	P	**Pn**	**02 41 59.1**	**+2.7**
	baz=300						
W39A				S	**Sn**	**02 42 41.6**	**+3.5**
	baz=300						
W39A	**Magazine**	**3.52**	**119**		**Pn**	**02 41 59.1**	**+2.7**
W39A				Sg	**Sg**	**02 42 55.2**	**+0.5**
U40A	**Yellville**	**3.81**	**98**	P	**Pn**	**02 42 03.7**	**+3.2**
	baz=279						
U40A				S	**Sb**	**02 42 49.9**	**-5.3**
	baz=279						
U40A	**Yellville**	**3.81**	**98**		**Pn**	**02 42 02.9**	**+2.5**
U40A				Sg	**Sg**	**02 43 03.5**	**-0.6**
AMTX	**Amarillo**	**3.97**	**239**	P	**Pn**	**02 42 04.2**	**+1.6**
	baz=58						
AMTX				S	**Sn**	**02 42 50.0**	**+0.8**
	baz=58						
AMTX	**Amarillo**	**3.97**	**239**		**Pn**	**02 42 03.6**	**+1.0**
AMTX				Pg	**Pb**	**02 42 12.5**	**+0.8**
AMTX					LR	02 43 03.8	
MIAR	**Mount Ida**	**4.03**	**126**	P	**Pn**	**02 42 06.2**	**+2.7**
	baz=306						
MIAR				S	**Sn**	**02 42 53.6**	**+2.8**
	baz=306						
MIAR	**Mount Ida**	**4.03**	**126**		**Pn**	**02 42 06.4**	**+2.9**
MIAR				Sn	**Sn**	**02 42 52.4**	**+1.6**
MIAR				Sg	**Sg**	**02 43 10.6**	**-0.5**
MGMO	**Mountain Grove**	**4.21**	**86**		**Pn**	**02 42 09.8**	**+3.9**
MGMO				Sn	**Sn**	**02 42 57.7**	**+2.5**
MGMO				Sg	**Sg**	**02 43 16.6**	**-0.3**
BGNE	**Belgrade**	**4.44**	**354**	Pn	**Pn**	**02 42 11.8**	**+2.7**
BGNE					**Pg**	**02 42 26.3**	**-0.4**
BGNE					LR	02 43 26.4	
KSCO	**Kaye Shedlock'**	**4.50**	**298**		**Pn**	**02 42 11.2**	**+1.1**
KSCO				Pg	**Pg**	**02 42 24.5**	**-3.5**
KSCO				Sn	**Sn**	**02 43 05.0**	**+2.4**
X40A	**Basin Creek Fa**	**4.56**	**122**	P	**Pn**	**02 42 13.3**	**+2.6**
	baz=303						
X40A	**Basin Creek Fa**	**4.56**	**122**		**Pn**	**02 42 13.2**	**+2.6**
X40A				Sg	**Sg**	**02 43 26.2**	**-1.9**
WHAR	**Wooly Hollow**	**4.57**	**110**	Pn	**Pn**	**02 42 13.4**	**+2.6**
WHAR				Pg	**Pg**	**02 42 27.9**	**-1.2**
WHAR				Sg	**Sg**	**02 43 25.8**	**-2.5**
W41B	**Gary Mavity, V**	**4.64**	**111**	Pn	**Pn**	**02 42 15.0**	**+3.2**
W41B					**Pg**	**02 42 27.5**	**-3.1**
W41B				Sg	**Sg**	**02 43 28.5**	**-2.3**
ABTX	**Abilene, Hawle**	**4.69**	**202**	P	**Pn**	**02 42 13.1**	**+0.7**
	baz=21						
ABTX	**Abilene, Hawle**	**4.69**	**202**	Pn	**Pn**	**02 42 11.0**	**-1.4**
ABTX					**Pb**	**02 42 24.3**	**+0.4**
ABTX				Sg	**Sb**	**02 43 22.9**	**+2.5**
UALR	**University of**	**4.75**	**116**	Pn	**Pn**	**02 42 14.7**	**+1.3**
UALR					**Sn**	**02 43 11.9**	**+3.4**
UALR					**Sg**	**02 43 33.1**	**-1.2**
WLAR	**White Oak Lake**	**4.88**	**131**		**Pn**	**02 42 16.6**	**+1.5**
WLAR				Pg	**Pg**	**02 42 36.1**	**+0.9**
WLAR					LR	02 43 38.8	
WHTX	**Lake Whitney,**	**4.98**	**179**	Pn	**Pn**	**02 42 17.1**	**+0.6**
WHTX					**Pg**	**02 42 32.8**	**-4.3**
WHTX					LR	02 43 40.4	
CCM	**Cathedral Cave**	**5.11**	**76**		**Pn**	**02 42 21.2**	**+3.0**
CCM				Pg	**Pg**	**02 42 38.3**	**-1.2**
CCM				Sg	**Sg**	**02 43 44.3**	**-1.4**
MSTX	**Muleshoe**	**5.23**	**236**		**Pn**	**02 42 20.5**	**+0.5**
MSTX					**Pb**	**02 42 30.0**	**-3.2**
MSTX				Pg	02 42 36.6	-5.2	
OGNE	**Ogallala**	**5.29**	**320**	Pn	**Pn**	**02 42 23.7**	**+3.0**
OGNE					**Pg**	**02 42 40.6**	**-2.3**
OGNE					LR	02 43 46.2	
Z41A	**Richland Creek**	**5.37**	**132**	Pn	**Pn**	**02 42 23.2**	**+1.4**
Z41A					**Pg**	**02 42 42.7**	**-1.8**
T25A	**Trinidad**	**5.50**	**274**		**Pn**	**02 42 26.1**	**+2.2**
T25A				Pg	**Pg**	**02 42 44.4**	**-2.6**
CCAR	**Cane Creek**	**5.61**	**121**	Pn	**Pn**	**02 42 27.5**	**+2.4**
CCAR					LR	02 44 01.2	
PBMO	**Poplar Bluff**	**5.70**	**90**	Sg	**Sg**	**02 44 00.4**	**-4.1**
HBAR	**Harrisburg**	**5.73**	**102**	Sg	**Sg**	**02 44 03.7**	**-2.0**
SCIA	**State Center**	**5.94**	**33**	Pn	**Pn**	**02 42 33.4**	**+3.7**
SCIA					**Pg**	**02 42 52.6**	**-2.7**
SCIA				Sg	**Sg**	**02 44 08.6**	**-3.8**
X43A	**Marvell**	**5.94**	**113**	Sg	**Sg**	**02 44 09.1**	**-6.4**
SLM	**Saint Louis**	**6.01**	**72**	Sg	**Sg**	**02 44 13.1**	**-1.3**
GNAR	**Gosnell**	**6.14**	**97**	Sg	**Sg**	**02 44 15.8**	**-2.9**
435B	**Jarrell**	**6.19**	**180**		**Pn**	**02 42 33.3**	**+0.3**
435B					Pg	02 42 54.2	-5.9
435B					LR	02 44 14.9	
PEBM	**Pemiscott Bayo**	**6.23**	**96**	Sg	**Sg**	**02 44 19.5**	**-2.2**
PARMO	**Parma**	**6.25**	**91**	Sg	**Sg**	**02 44 16.6**	**-5.5**
HDBT	**Hernando Brdge**	**6.32**	**105**	Pn	**Pn**	**02 42 37.9**	**+3.1**
Q24A	**Divide**	**6.33**	**290**		**Pg**	**02 42 58.8**	**-4.2**
PENMO	**Penman**	**6.37**	**92**	Pn	**Pn**	**02 42 39.4**	**+3.8**
PENMO				Sg	**Sg**	**02 44 23.6**	**-2.5**
SDCO	**Great Sand Dun**	**6.39**	**279**		**Pn**	**02 42 37.4**	**+1.2**
N41A	**Harden Midland**	**6.40**	**52**	Pn	**Pn**	**02 42 39.3**	**+3.3**
N41A					**Pg**	**02 43 02.8**	**-1.3**
N41A					LR	02 44 26.3	
HENM	**Henderson Moun**	**6.47**	**90**	Sg	**Sg**	**02 44 25.6**	**-3.7**
LNXT	**Lenox**	**6.53**	**95**	Sg	**Sg**	**02 44 27.8**	**-3.5**
S44A	**Carbondale**	**6.63**	**81**		**Pn**	**02 42 42.1**	**+3.0**
S44A				Sn	**Sn**	**02 43 56.2**	**+1.4**
S44A				Sg	**Sg**	**02 44 31.0**	**-3.5**
SIUC	**Southern Illin**	**6.66**	**81**	Pn	**Pn**	**02 42 42.1**	**+2.6**
SIUC				Sg	**Sg**	**02 44 31.3**	**-4.2**
GLAT	**Glass**	**6.67**	**94**	Pn	**Pn**	**02 42 42.2**	**+2.5**
GLAT				Sg	**Sg**	**02 44 33.1**	**-2.6**
HICK	**Hickman**	**6.68**	**91**	Sg	**Sg**	**02 44 33.5**	**-2.6**
JCT	**Junction City**	**6.76**	**197**		**Pn**	**02 42 40.9**	**0.0**
JCT				Pg	**Pg**	**02 43 06.6**	**-4.5**
JCT				Sg	Sg	02 44 28.5	-10
ECSD	**EROS Data Cent**	**6.78**	**6**		**Pn**	**02 42 43.2**	**+2.1**
P43A	**Skaggs, Pawnee**	**6.83**	**65**		**Pn**	**02 42 44.8**	**+2.9**
P43A					**Pg**	**02 43 10.8**	**-1.6**
P43A					LR	02 44 39.8	
ISCO	**Idaho Springs**	**6.94**	**296**		**Pn**	**02 42 45.4**	**+1.7**
UTMT	**University of**	**7.00**	**93**	Pn	**Pn**	**02 42 47.5**	**+3.4**
L40A	**Anamosa**	**7.03**	**42**		**Pn**	**02 42 47.4**	**+2.8**
CLNB	**Carlsbad**	**7.04**	**230**	Pn	**Pn**	**02 42 48.2**	**+0.3**
CLNB					LR	02 44 38.9	
OXF	**Oxford**	**7.05**	**108**		**Pn**	**02 42 47.6**	**+2.7**
HDIL	**Hopedale**	**7.36**	**58**		**Pn**	**02 42 52.1**	**+3.0**
HDIL				Pg	**Pg**	**02 43 19.7**	**-2.7**
HDIL					LR	02 44 55.7	
GDL2	**Guadalupe Moun**	**7.38**	**232**	Pn	**Pn**	**02 42 50.7**	**+1.1**
GDL2				Pg	Pg	02 43 17.5	-5.5
GDL2				Sg	Sg	02 44 48.0	-11
S22A	**4UR Ranch, Cre**	**7.44**	**279**	Pn	**Pn**	**02 42 50.7**	**+0.1**
S22A				Pg	**Pg**	**02 43 22.2**	**-1.9**
PHWY	**Pilot Hill**	**7.52**	**307**	Pn	**Pn**	**02 42 51.7**	**+0.1**
PHWY				Pg	**Pg**	**02 43 21.3**	**-4.2**
PHWY					LR	02 44 54.9	
ANMO	**Albuquerque**	**7.52**	**257**	Pg	Pg	02 43 19.4	-6.2
	0.3nm,0.3s,baz=80,slow=18,SNR=11						
ANMO				Lg	Lg	02 44 50.9	
	1.5nm,0.3s,baz=318,slow=23,SNR=7.2						
ANMO	**Albuquerque**	**7.52**	**257**	Pg	**Pg**	**02 43 22.1**	**-3.5**
ANMO					LR	02 44 54.6	
N23A	**Red Feather La**	**7.63**	**303**		**Pn**	**02 42 54.4**	**+1.3**
N23A				Pg	**Pg**	**02 43 23.8**	**-4.0**
N23A					LR	02 45 00.5	
OLIL	**Olney**	**7.66**	**74**	Sg	**Sg**	**02 45 05.1**	**-2.4**
SMCO	**Snowmass**	**7.76**	**289**		**Pg**	**02 43 27.2**	**-3.0**
O44A	**Mansfield**	**7.77**	**63**	Pn	**Pn**	**02 42 56.9**	**+2.1**
O44A				Pg	Pg	02 43 23.5	-6.9
O44A				Sg	**Sg**	**02 45 06.8**	**-4.2**
WVT	**Waverly**	**7.85**	**93**	Pn	**Pn**	**02 42 57.8**	**+1.9**
L42A	**Oliver, Polo**	**7.88**	**48**	Pn	**Pn**	**02 42 58.9**	**+2.7**
L42A					LR	02 45 12.1	
PLAL	**Pickwick Lake**	**7.92**	**102**	Pn	**Pn**	**02 42 57.9**	**+1.1**
BNM	**Barren Site**	**7.93**	**252**	Pn	**Pn**	**02 42 56.4**	**-0.8**
BNM				Pg	Pg	02 43 27.2	-6.4
JFWS	**Jewell Farm**	**8.14**	**41**		**Pn**	**02 43 02.6**	**+2.8**
T47A	**Sharon Grove**	**8.34**	**87**	Pn	**Pn**	**02 43 06.0**	**+3.3**
M44A	**Midewin, Midew**	**8.58**	**56**	Pn	**Pn**	**02 43 08.2**	**+2.3**
RSSD	**Black Hills**	**8.68**	**327**		**Pn**	**02 43 10.1**	**+2.8**
I40A	**Norwalk**	**8.68**	**35**		**Pn**	**02 43 09.8**	**+2.6**
RWWY	**Rawlins**	**8.85**	**305**	Pn	**Pn**	**02 43 10.9**	**+1.1**
K22A	**Casper**	**8.94**	**312**	Pn	**Pn**	**02 43 12.6**	**+1.7**
BLO	**Bloomington**	**8.95**	**73**		**Pn**	**02 43 14.0**	**+3.0**
WCI	**Wyandotte Cave**	**9.00**	**79**	Pn	**Pn**	**02 43 14.1**	**+2.4**
CLTN	**Cedars of Leba**	**9.06**	**92**	Pn	**Pn**	**02 43 14.4**	**+1.9**
TXAR	**Lajitas Array**	**9.20**	**216**	Pn	**Pn**	**02 43 13.7**	**-0.8**
	0.2nm,0.3s,baz=40,slow=11,SNR=6.3						
TXAR				Lg	Lg	02 45 43.4	
	0.4nm,0.3s,baz=38,slow=32,SNR=3.2						
TX31	**Lajitas Ar. Si**	**9.20**	**216**		**Pn**	**02 43 13.3**	**-1.2**
TX32	**Lajitas Array**	**9.20**	**216**		**Pn**	**02 43 14.6**	**+0.1**
I42A	**Draeger Farm,**	**9.52**	**41**	Pn	**Pn**	**02 43 20.6**	**+1.8**
P48A	**Milroy**	**9.84**	**72**	Pn	**Pn**	**02 43 25.4**	**+2.2**
PDAR	**Pinedale Array**	**10.89**	**306**	Pn	**Pn**	**02 43 39.0**	**+1.2**
	0.1nm,0.3s,baz=114,slow=16,SNR=3.2						
PDAR				Lg	Lg	02 46 42.3	
	0.6nm,0.3s,baz=120,slow=23,SNR=3.7						
S51A	**Beattyville**	**11.12**	**82**		**Pn**	**02 43 44.0**	**+3.3**
TKL	**Tuckaleechee C**	**11.18**	**93**	Pn	**Pn**	**02 43 42.7**	**+1.2**
	0.2nm,0.3s,baz=290,slow=15,SNR=2.8						
TKL				Sn	**Sn**	**02 45 44.4**	**-2.2**
	0.4nm,0.3s,baz=347,slow=15,SNR=1.2						
TKL				Lg	Lg	02 46 49.4	
	0.8nm,0.3s,baz=352,slow=16,SNR=3.4						
ULM	**Lac du Bonnet**	**13.31**	**5**	Pn	**Pn**	**02 44 08.1**	**-2.5**
	0.3nm,0.3s,baz=185,slow=11,SNR=3.1						
ULM				Sn	Sn	02 46 28.5	-10
	0.3nm,0.3s,baz=186,slow=17,SNR=1.8						
ULM				Lg	Lg	02 47 53.0	
	0.3nm,0.3s,baz=44,slow=6.8,SNR=1.7						
ILAR	**Eielson Array**	**40.12**	**330**	P	**P**	**02 48 39.6**	**+2.4**
	0.6nm,0.6s,baz=109,slow=7.2,SNR=9.7						
ARCES	**ARCESS Array B**	**65.97**	**19**	P	**P**	**02 51 49.1**	**+1.5**
	3.3nm,0.9s,baz=316,slow=6.3,SNR=2.4						

ISCJB ***29*** *02:42:35.8±1.1, 17°.86N±0°.07×103°.32W±0°.09, h10km, mb3.6/4, MS3.0/1, Error ellipse: s-maj=15.0km s-min=5.8km az=138.9*
MEX ***29*** *02:42:39.8±0.6, 17°.95N×103°.30W, h2km±3km, MD3.9*
IDC ***29*** *02:42:43.4±7.4, 19°.26N×102°.44W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/53, mbtmp3.6/5, ML3.1/1, MS2.9/5, Ms1 2.9/5, ms1mx2.7/34, Error ellipse: s-maj=220.5km s-min=34.1km az=33.0*
ISC 29 02:42:36.9±1.4, 17°.9N±0°.1×103°.3W±0°.1, h10km, n13, σ1§37/13, mb3.6/4, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.39**	**359**	*eP*	**Pg**	**02 42 46.0**	**+1.3**
MMIG				*i* S	**Sg**	**02 42 50.9**	**+1.1**
R15V		**1.41**	**334**	*eP*	**Pn**	**02 43 02.2**	**-0.5**
R15V				*eS*	**Sb**	**02 43 20.3**	**-1.1**
EZ5V		**1.59**	**351**	*eP*	**Pn**	**02 43 05.0**	**-0.4**
EZ5V				*i* S	**Sn**	**02 43 24.3**	**-2.0**
ZIIG	**Zihuatanejo**	**1.81**	**99**	*eP*	**Pn**	**02 43 08.1**	**-0.1**
ZIIG				*i* S	**Sn**	**02 43 30.1**	**-1.1**
CMIG	**Matias Romero**	**8.11**	**94**	Pn	**Pn**	**02 44 34.1**	**-0.7**
	0.3nm,0.3s,baz=286,slow=19,SNR=3.0						
CMIG				Lg	Lg	02 46 34.4	
	0.4nm,0.3s,baz=100,slow=14,SNR=3.7						
CMIG				LR	LR	02 47 59.2	
	comp=Z,88nm,19.0s,baz=266,slow=42						
TXAR	**Lajitas Array**	**11.39**	**359**	LR	LR	02 49 44.8	
	comp=Z,27nm,18.6s,baz=0.0,slow=42						
APG	**El Apazote**	**12.68**	**101**	LR	LR	02 50 13.8	
	comp=Z,79nm,18.3s,baz=32,slow=37						
ANMO	**Albuquerque**	**17.21**	**351**	LR	LR	02 51 58.8	
	comp=Z,29nm,21.2s,baz=134,slow=35						
NVAR	**Mina Array Bea**	**24.28**	**330**	P	**P**	**02 47 56.6**	**+1.9**
	0.6nm,0.6s,baz=141,slow=10,SNR=4.8						
TKL	**Tuckaleechee C**	**24.78**	**41**	LR	LR	02 59 04.8	
	comp=Z,51nm,20.1s,baz=300,slow=42						
YKA	**Yellowknife Ar**	**45.24**	**353**	P	**P**	**02 50 52.3**	**-1.9**
	0.5nm,0.9s,baz=159,slow=7.4,SNR=4.3						
ILAR	**Eielson Array**	**55.13**	**339**	P	**P**	**02 52 09.3**	**+0.1**
	0.6nm,0.6s,baz=165,slow=5.3,SNR=7.2						
ARCES	**ARCESS Array B**	**85.65**	**16**	P	**P**	**02 55 16.6**	**+1.0**
	1.3nm,0.9s,baz=324,slow=6.0,SNR=4.5						

IDC 29 02:59:04.4±3.1, 2°.39N×128°.83E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/58, mbtmp3.4/4, ML3.2/1, MS3.3/3, Ms1 3.3/3, ms1mx2.6/34, Error ellipse: s-maj=107.5km s-min=51.4km az=62.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.05**	**143**	Pn	Pn	03 00 06.4	-1.3
	1.5nm,0.3s,baz=288,slow=20,SNR=7.8						
SIJI				Sn	Sn	03 00 47.0	-9.0
	0.8nm,0.3s,baz=196,slow=22,SNR=1.4						
DAV	**Davao City (W)**	**5.66**	**325**	LR	LR	03 02 42.7	
	comp=Z,66nm,21.9s,baz=133,slow=38						
FITZ	**Fitzroy Crossi**	**20.60**	**189**	LR	LR	03 12 25.2	
	comp=Z,54nm,19.6s,baz=335,slow=39						
WRA	**Warramunga Arr**	**22.85**	**167**	P	P	03 04 08.8	-0.6
	0.3nm,0.6s,baz=345,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**26.37**	**169**	P	P	03 04 42.7	+0.1
	0.2nm,0.5s,baz=355,slow=8.6,SNR=4.4						
ASAR				PcP	PcP	03 08 08.4	-0.3
	0.5nm,1.1s,baz=0.0,slow=2.8,SNR=2.9						
STKA	**Stephens Creek**	**36.17**	**161**	P	P	03 06 09.3	+0.5
	2.6nm,0.9s,baz=325,slow=9.6,SNR=4.5						
AAK	**Ala-Archa**	**62.75**	**318**	LR	LR	03 37 39.3	
	comp=Z,159nm,21.8s,baz=52,slow=37						

IDC ***29*** *02:59:31.8±4.6, 35°.67N×70°.54E, h79km±31km, mb3.5/9, mb1 3.6/14, mb1mx3.3/77, mbtmp3.9/14, Error ellipse: s-maj=52.5km s-min=22.7km az=150.0*
ISCJB ***29*** *02:59:34.5±0.4, 36°.03N±0°.03×70°.40E±0°.05, h110km, mb3.7/9, Error ellipse: s-maj=5.7km s-min=4.4km az=35.9*

KUDL					IAML			03 03 19.9	
	comp=E,118nm,0.2s								
KUDL					IAML			03 03 20.7	
	comp=N,85nm,0.1s								
GEYT	**Alibeck**	**10.04**	**285**	P		**Pn**		**03 01 55.7**	**-0.2**
	comp=N,2.4nm,0.3s,baz=135,slow=11,SNR=24								
GEYT				S		**Sn**		**03 03 41.6**	**-5.0**
	comp=N,1.0nm,0.3s,baz=106,slow=32,SNR=5.2								
GYA0B	**ALIBECK ARRAY**	**10.04**	**285**			**Pn**		**03 01 55.5**	**-0.3**
GYA0B						**Sn**		**03 03 46.7**	**0.0**
GYA0B	**ALIBECK ARRAY**	**10.04**	**285**	⇑P		**Pn**		**03 01 55.8**	**-0.1**
GYA0B				⇑S		**Sn**		**03 03 43.0**	**-3.6**
MAKZ	**Makanchi**	**13.80**	**35**			**Pn**		**03 02 47.1**	**+1.5**
MK31	**Makanchi Array**	**13.94**	**36**			**Pn**		**03 02 48.8**	**+1.5**
MKAR	**Makanchi Array**	**13.94**	**36**	P		**Pn**		**03 02 47.6**	**+0.2**
	comp=N,0.1nm,0.3s,baz=222,slow=13,SNR=8.0								
AB31	**Akbulak array**	**15.30**	**333**	⇑P		**Pn**		**03 03 04.8**	**+0.3**
	comp=N,4.7nm,0.6s,baz=151,slow=12,SNR=99								
AB31				⇑S		**Sn**		**03 05 45.9**	**-7.5**
	comp=N,2.3nm,0.5s,baz=157,slow=28,SNR=8.2								
ABKAR	**Akbulak array**	**15.30**	**333**	Pn		**Pn**		**03 03 04.0**	**-0.5**
ABKAR				IAmb		IAmb		03 03 07.0	
	comp=Z,7.0nm,0.6s								
WMQ	**Urumqi**	**15.34**	**54**	*e*P		**P**		**03 03 07.5**	**0.0**
WMQ				pmax		pmax			
	comp=Z,7.0nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,76nm,4.3s								
WMQ				LR		LR			
	comp=Z,380nm,27.9s								
WMQ				LR		LR			
	comp=Z,860nm,29.1s								
WMQ				LR		LR			
	comp=Z,48nm,29.1s								
KURBB	**Kurchatov Arra**	**15.72**	**19**	P		**Pn**		**03 03 09.6**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=206,slow=10.0,SNR=2.9								
AKTO	**Aktyubinsk**	**16.98**	**332**	P		**P**		**03 03 27.9**	**+2.5**
	comp=Z,0.6nm,0.3s,baz=140,slow=13,SNR=19								
AKTO				S		**Sn**		**03 06 24.3**	**-10**
	comp=Z,0.4nm,0.3s,baz=6.3,slow=18,SNR=6.7								
AKTO	**Aktyubinsk**	**16.98**	**332**	⇓P		**P**		**03 03 27.5**	**+2.1**
	comp=Z,9.2nm,0.8s								
AKTO				⇓S		**Sn**		**03 06 24.6**	**-9.4**
	comp=Z,5.9nm,0.8s								
BVAR	**Borovoye Array**	**17.00**	**360**	P		**P**		**03 03 26.8**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=167,slow=9.3,SNR=7.1								
ZAA0	**Zalesovo Array**	**20.54**	**25**	P		Pn		03 04 06.9	-0.5
ZAA0				IAmb		IAmb		03 04 09.5	
	comp=Z,6.9nm,0.6s								
ZALV	**Zalesovo Beam**	**20.54**	**25**	P		Pn		03 04 07.3	0.0
	comp=Z,7.9nm,0.5s,baz=222,slow=11,SNR=35								
GNI	**Garni**	**20.62**	**289**	P		Pn		03 04 10.0	+1.4
	comp=Z,6.7nm,0.7s,baz=90,slow=1.0,SNR=5.5								
HHC	**Hu-ho-hao-te**	**32.35**	**69**	*e*P		**P**		**03 05 55.5**	**+1.8**
HHC				pmax		pmax			
	comp=Z,7.0nm,0.9s								
AKASG	**Malin Array Be**	**32.90**	**310**	P		**P**		**03 06 00.6**	**+2.5**
	comp=Z,0.4nm,0.4s,baz=88,slow=5.4,SNR=3.0								
FINES	**FINESS Array B**	**37.63**	**327**	P		**P**		**03 06 41.4**	**+2.9**
	comp=Z,5.6nm,1.1s,baz=123,slow=10,SNR=5.1								
ARCES	**ARCESS Array B**	**41.42**	**338**	P		**P**		**03 07 12.8**	**+2.9**
	comp=Z,2.2nm,0.9s,baz=118,slow=4.9,SNR=6.4								
HFS	**Hagfors**	**43.17**	**322**	P		**P**		**03 07 27.1**	**+3.0**
	comp=Z,2.5nm,0.7s,baz=106,slow=9.4,SNR=4.5								
NOA	**NORSAR Array B**	**44.49**	**323**	P		**P**		**03 07 37.1**	**+2.3**
	comp=Z,0.3nm,0.4s,baz=101,slow=7.2,SNR=4.0								
ESDC	**Sonseca Array**	**57.28**	**298**	P		**P**		**03 09 13.0**	**+2.1**
	comp=Z,0.2nm,0.4s,baz=61,slow=7.0,SNR=4.1								
TORD	**Torodi Ar. Bea**	**65.25**	**269**	P		**P**		**03 10 05.6**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=51,slow=5.6,SNR=8.7								
YKA	**Yellowknife Ar**	**81.74**	**2**	P		**P**		**03 11 43.0**	**+2.3**
	comp=Z,0.1nm,0.4s,baz=353,slow=4.7,SNR=3.9								

*ISCJB **29** 03:05:08.7±0.3,8.29S±0.03×120.92E±0.03,h33km, mb3.9/5,MS3.2/1, Error ellipse: s-maj=5.1km s-min=4.1km az=34.3*
*DJA **29** 03:05:09.9±1.1,8.3S×3.12E±.,h30km±11km,M4.5/13, mb4.8/3,mB5.0/1,MLv4.4/13,Mw(mB)4.3/1*
*NEIC **29** 03:05:11.6±1.1,8.21S±0.09×121.0E±0.2,h49km±11km, mb4.0/4*
*IDC **29** 03:05:14.1±3.6,8.41S×120.80E,h79km±37km,mb3.6/5, mb1 3.8/8,mb1mx3.4/53,mbtmp4.0/8,MS3.0/4,Ms1 3.0/4, ms1mx2.7/45,Error ellipse: s-maj=83.0km s-min=20.8km az=58.0*

ISC 29 03:05:09.9±0.6,8.31S±0.04×120.94E±0.04,h35km,n34, σ1$95/38,mb4.0/5,Flores region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
MMRI	**Maumere**	**1.33**	**104**	P		**Pn**	**03**	**05 33.0**	**+1.1**
MMRI				S		**Sn**	**03**	**05 51.7**	**+3.3**
MMRI	**Maumere**	**1.33**	**104**	Pn		**Pn**	**03**	**05 32.9**	**+1.1**
WSI	**Waingapu**	**1.49**	**205**	P		**Pn**	**03**	**05 35.4**	**+1.2**
WSI				S		**Sn**	**03**	**05 55.4**	**+2.9**
BKSI	**Bulukumba**	**3.07**	**345**	P		**Pn**	**03**	**05 55.7**	**-0.3**
BKSI				S		**Sn**	**03**	**06 30.9**	**-0.6**
PLAI	**Plampang**	**3.17**	**260**	P		**Pn**	**03**	**05 58.0**	**+0.8**
PLAI				S		**Sn**	**03**	**06 34.8**	**+0.9**
BBSI	**Bau Bau**	**3.24**	**30**	P		**Pn**	**03**	**05 59.1**	**+0.9**
BBSI				S		**Sn**	**03**	**06 35.7**	**+0.1**
BATI	**Baumata**	**3.29**	**125**	P		Pn	03	06 04.7	+5.8
	22nm,0.3s,baz=29,slow=5.2,SNR=13								
BATI				LR		LR	03	07 49.3	
	comp=Z,309nm,19.6s,baz=12,slow=46								
BATI	**Baumata**	**3.29**	**125**	P		**Pn**	**03**	**05 57.9**	**-1.0**
SOEI	**Soe**	**3.59**	**114**	P		**Pn**	**03**	**06 04.5**	**+1.3**
SOEI				S		**Sn**	**03**	**06 45.2**	**+0.7**
SOEI	**Soe**	**3.59**	**114**			**Pn**	**03**	**06 06.1**	**+2.9**
BNSI	**Bone**	**3.97**	**348**	P		**Pn**	**03**	**06 09.5**	**+1.2**
TWSI	**Taliwang, Sumb**	**4.03**	**264**	P		**Pn**	**03**	**06 08.7**	**-0.5**
SPSI	**Sidrap Palu**	**4.47**	**345**	P		**Pn**	**03**	**06 16.2**	**+1.1**
KDI	**Kendari**	**4.63**	**21**	P		**Pn**	**03**	**06 18.4**	**+1.0**
TTSI	**Tana Toraja**	**5.34**	**348**	P		**Pn**	**03**	**06 28.7**	**+1.5**
	52nm,0.7s,0.2nm								
IGBI	**Denpasar**	**5.75**	**265**	P		**Pn**	**03**	**06 33.4**	**+0.6**
	103nm,1.0s,0.6nm								
JAGI	**Jajag, Banyuwa**	**6.71**	**268**	P		**Pn**	**03**	**06 46.6**	**+0.6**
JAGI	**Jajag, Banyuwa**	**6.71**	**268**			**Pn**	**03**	**06 46.1**	**0.0**
FITZ	**Fitzroy Crossi**	**10.75**	**155**	P		**Pn**	**03**	**07 43.1**	**+1.6**
	0.6nm,0.3s,baz=336,slow=9.9,SNR=17								
FITZ				S		**Sn**	**03**	**09 36.4**	**-4.2**
	0.6nm,0.3s,baz=330,slow=20,SNR=1.6								
MTN	**Manton Dam**	**10.99**	**115**			**Pn**	**03**	**07 44.4**	**-0.3**
DAV	**Davao City (W)**	**15.96**	**17**	LR		LR	03	15 10.6	
	comp=Z,34nm,20.2s,baz=30,slow=37								
WRA	**Warramunga Arr**	**17.38**	**133**	P		**Pn**	**03**	**09 07.9**	**-1.9**
	0.4nm,0.3s,baz=306,slow=13,SNR=14								
WRA				S		Sn	03	12 10.9	-11
	0.1nm,0.3s,baz=307,slow=25,SNR=4.6								
WRA				LR		LR	03	16 00.5	
	comp=Z,30nm,19.9s,baz=160,slow=37								
WRAB	**Tennant Creek**	**17.38**	**133**	P		**P**	**03**	**09 12.1**	**+1.2**
WRAB				IAmb		IAmb	03	09 13.3	
	comp=Z,12nm,1.1s								
AS31	**Alice Springs**	**19.69**	**142**			**Pn**	**03**	**09 39.3**	**+1.5**
ASAR	**Alice Springs**	**19.69**	**142**	P		**Pn**	**03**	**09 37.5**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=328,slow=14,SNR=34								
ASAR				S		**S**	**03**	**13 09.6**	**-7.0**
	baz=320,slow=24,SNR=4.7								
COEN	**Coen**	**22.52**	**106**	P		**P**	**03**	**10 06.5**	**-0.3**
STKA	**Stephens Creek**	**30.32**	**144**	P		**P**	**03**	**11 18.4**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=322,slow=7.6,SNR=10								
STKA	**Stephens Creek**	**30.32**	**144**	IAmb		IAmb	03	11 25.4	
	comp=Z,5.8nm,1.9s								
KRVT	**Keravat (AS076**	**31.15**	**85**	LR		LR	03	26 08.4	
	comp=Z,53nm,18.4s,baz=214,slow=40								
CMAR	**Chiang Mai Arr**	**34.33**	**321**	P		**P**	**03**	**11 54.1**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=150,slow=6.0,SNR=7.2								
SONM	**Songino Array**	**57.36**	**348**	P		**P**	**03**	**14 54.4**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=158,slow=7.6,SNR=2.9								
KSH	**Kashi**	**63.21**	**322**	*e*P		**P**	**03**	**15 38.0**	**+3.1**
MKAR	**Makanchi Array**	**64.74**	**332**	P		**P**	**03**	**15 44.5**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=132,slow=8.3,SNR=8.4								
ZALV	**Zalesovo Beam**	**69.10**	**338**	P		**P**	**03**	**16 10.8**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=140,slow=6.1,SNR=4.2								

*ISCJB **29** 03:11:42.9±0.5,6.70S±0.05×129.03E±0.06,h200km, mb3.9/3,Error ellipse: s-maj=8.6km s-min=7.3km az=26.8*
*NEIC **29** 03:11:43.8±2.2,6.68S±0.09×129.03E±0.06,h188km±10km, mb4.0/4*
*IDC **29** 03:11:43.1±1.9,6.68S×128.99E,h180km±21km,mb3.6/3, mb1 3.6/8,mb1mx3.3/39,mbtmp4.1/8,Error ellipse: s-maj=25.5km s-min=17.1km az=78.0*

ISC 29 03:11:43.3±0.8,6.62S±0.07×129.03E±0.08,h200km,n18, σ1$70/20,mb4.0/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
SAUI	**Saumlaki**	**2.63**	**121**	Pn		**Pn**	**03**	**12 29.2**	**+0.5**
FAKI	**Fak Fak**	**4.88**	**41**	Pn		**Pn**	**03**	**12 56.1**	**-0.1**
SOEI	**Soe**	**5.64**	**236**	Pn		**Pn**	**03**	**13 07.3**	**+1.2**
SIJI	**Sorong**	**6.14**	**21**	P		**Pn**	**03**	**13 12.7**	**+0.3**
	6.0nm,0.3s,baz=160,slow=15,SNR=8.7								
SIJI				S		**Sn**	**03**	**14 19.4**	**-3.6**
	5.4nm,0.3s,baz=58,slow=23,SNR=11								
BATI	**Baumata**	**6.39**	**236**	P		**Pn**	**03**	**13 15.6**	**-0.1**
	2.7nm,0.3s,baz=50,slow=7.9,SNR=2.6								
BATI				S		**Sn**	**03**	**14 26.6**	**-2.2**
	11nm,0.3s,baz=180,slow=20,SNR=6.3								
MTN	**Manton Dam**	**6.52**	**162**			**Pn**	**03**	**13 17.7**	**+0.3**
KNRA	**Kununurra**	**9.00**	**182**			**Pn**	**03**	**13 48.3**	**-1.3**
FITZ	**Fitzroy Crossi**	**11.87**	**196**	P		**Pn**	**03**	**14 25.0**	**-1.6**
	0.8nm,0.3s,baz=18,slow=14,SNR=18								
FITZ				S		Sn	03	16 25.2	-14
	0.3nm,0.3s,baz=124,slow=20,SNR=1.7								
WRA	**Warramunga Arr**	**14.21**	**159**	P		**Pn**	**03**	**14 54.4**	**-1.5**
	0.6nm,0.3s,baz=340,slow=13,SNR=29								
WRA				S		S	03	17 24.3	-10
	0.8nm,0.3s,baz=328,slow=24,SNR=7.2								
COEN	**Coen**	**15.71**	**119**			**Pn**	**03**	**15 14.1**	**-0.2**
AS31	**Alice Springs**	**17.58**	**165**	P		**Pn**	**03**	**15 35.6**	**-0.9**
AS31				IAmb		IAmb	03	15 37.8	
	comp=Z,1.4nm,0.6s								
ASAR	**Alice Springs**	**17.58**	**165**	P		**Pn**	**03**	**15 36.6**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=338,slow=9.6,SNR=41								
ASAR				S		**S**	**03**	**18 46.7**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=336,slow=18,SNR=6.1								
CTA	**Charters Tower**	**21.42**	**130**	P		**P**	**03**	**16 17.5**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=302,slow=9.5,SNR=3.7								
MK31	**Makanchi Array**	**67.39**	**327**	P		**P**	**03**	**22 19.5**	**+2.4**
MK31				IAmb		IAmb	03	22 53.7	
	comp=Z,4.1nm,1.4s								
MKAR	**Makanchi Array**	**67.39**	**327**	P		**P**	**03**	**22 19.4**	**+2.3**
	comp=Z,1.9nm,0.5s,baz=118,slow=5.7,SNR=51								
KURBB	**Kurchatov Arra**	**71.69**	**329**	P		**P**	**03**	**22 45.3**	**+2.0**
	comp=Z,1.5nm,0.6s,baz=130,slow=5.0,SNR=13								
KURK	**Kurchatov**	**71.70**	**329**	P		**P**	**03**	**22 45.3**	**+2.0**
KURK	**Kurchatov**	**71.70**	**329**	IAmb		IAmb	03	24 24.6	
	comp=Z,13nm,1.8s								

IDC 29 03:24:38.9±2.1,2.83N×128.68E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.3/50,mbtmp3.6/4,Error ellipse: s-maj=162.9km s-min=23.5km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
WRA	**Warramunga Arr**	**23.30**	**166**	P		P	03	29 49.2	+0.6
	0.3nm,0.3s,baz=346,slow=10,SNR=7.4								
ASAR	**Alice Springs**	**26.82**	**169**	P		P	03	30 20.6	-0.5
	0.3nm,0.5s,baz=351,slow=7.2,SNR=11								
STKA	**Stephens Creek**	**36.63**	**161**	P		P	03	31 46.6	-0.6
	2.4nm,0.9s,baz=326,slow=7.3,SNR=3.9								
MKAR	**Makanchi Array**	**59.40**	**325**	P		P	03	34 43.6	+0.3
	0.3nm,0.5s,baz=126,slow=6.4,SNR=2.0								

*ISCJB **29** 03:25:09.4±0.3,2.92N±0.03×128.33E±0.04,h100km, mb4.0/15,Error ellipse: s-maj=5.7km s-min=4.5km az=162.3*
*DJA **29** 03:25:12.9±0.4,3.3N±3.12E±.,h116km±5km,M4.5/11, mB4.9/6,mb4.6/8,MLv4.6/3,MLv4.5/11,Mw(mB)4.2/6, Mwp5.5/1*
*NEIC **29** 03:25:13.6±1.3,2.78N±0.09×128.26E±0.08,h134km±2km, mb4.4/4*
*IDC **29** 03:25:13.4±2.2,2.79N×128.26E,h129km±20km,mb3.7/15, mb1 3.8/16,mb1mx3.5/52,mbtmp4.1/16,Error ellipse: s-maj=27.0km s-min=10.4km az=77.0*

ISC 29 03:25:10.9±0.5,2.84N±0.05×128.30E±0.06,h100km,n61, σ1$94/60,mb4.1/15,1C,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
TNTI	**Ternate**	**2.25**	**205**	P		**Pn**	**03**	**25 49.4**	**+2.6**
TNTI				S		**Sn**	**03**	**26 17.2**	**+2.9**
TNTI	**Ternate**	**2.25**	**205**			**Pn**	**03**	**25 49.5**	**+2.7**
SWI	**Sorong**	**4.72**	**141**	P		**Pn**	**03**	**26 23.8**	**+4.0**
SWI				S		**Sn**	**03**	**27 15.7**	**+2.3**
SIJI	**Sorong**	**4.72**	**141**	P		**Pn**	**03**	**26 23.9**	**+3.9**
	5.4nm,0.3s,baz=246,slow=23,SNR=19								
SIJI				S		**Sn**	**03**	**27 15.8**	**+2.1**
	14nm,0.3s,baz=230,slow=22,SNR=18								
KMSI	**Cibinong**	**4.87**	**243**	P		**Pn**	**03**	**26 23.5**	**+1.6**
KMSI				S		**Sn**	**03**	**27 17.0**	**-0.1**
KCP	**Kidapawan**	**5.24**	**322**	⇑P		**Pn**	**03**	**26 30.5**	**+3.6**
KCP				S		**Sn**	**03**	**27 30.3**	**+4.2**
SKMP	**Bagumbayan, Su**	**5.24**	**314**	P		**Pn**	**03**	**26 29.5**	**+2.6**
SKMP				S		**Sn**	**03**	**27 26.9**	**+0.9**
SANI	**Sanana**	**5.38**	**206**	P		Pn	03	26 20.6	-8.2
SANI				S		Sn	03	27 18.2	-11
LUWI	**Luwuk**	**6.74**	**235**	P		**Pn**	**03**	**26 48.7**	**+1.4**
	69nm,0.6s,0.7nm								
LUWI	**Luwuk**	**6.74**	**235**			**Pn**	**03**	**26 48.9**	**+1.6**
LUWI						**Sn**	**03**	**28 05.9**	**+3.3**
MRSI	**Marisa**	**6.78**	**250**	P		**Pn**	**03**	**26 48.9**	**+1.1**
	260nm,0.5s,2μm0.7nm								
FAKI	**Fak Fak**	**6.95**	**145**	P		**Pn**	**03**	**26 53.5**	**+3.4**
	12nm,1.0s,510nm0.1nm								
FAKI	**Fak Fak**	**6.95**	**145**	Pn		**Pn**	**03**	**26 52.2**	**+2.1**
APSI	**Ampana**	**7.62**	**241**	P		Pn	03	27 04.5	+5.2
MPSI	**Mapaga**	**8.76**	**254**	P		**Pn**	**03**	**27 14.9**	**+0.1**
	28nm,0.8s								
KDI	**Kendari**	**8.82**	**220**	P		**Pn**	**03**	**27 14.2**	**-1.5**
	63nm,0.7s,862nm								
PCI	**Palu**	**9.24**	**246**	P		Pn	03	27 18.2	-3.2
TTSI	**Tana Toraja**	**10.30**	**235**	P		**Pn**	**03**	**27 34.4**	**-1.4**
	31nm,0.8s,9μm								
SPSI	**Sidrap Palu**	**10.88**	**232**	P		**Pn**	**03**	**27 48.0**	**+4.3**
BNSI	**Bone**	**10.90**	**229**	P		**Pn**	**03**	**27 43.6**	**-0.3**
	20nm,0.5s,1μm								
BKSI	**Bulukumba**	**11.51**	**225**	P		**Pn**	**03**	**27 53.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**20.97**	**187**	P		**P**	**03**	**29 44.0**	**-2.1**
	5.8nm,1.1s,baz=14,slow=8.3,SNR=3.6								
FITZ	**Fitzroy Crossi**	**20.97**	**187**	IAmb		IAmb	03	30 41.1	
	comp=Z,65nm,1.6s								
WRA	**Warramunga Arr**	**23.40**	**166**	P		**P**	**03**	**30 10.2**	**-1.0**
	comp=Z,3.8nm,0.6s,baz=344,slow=9.9,SNR=35								
ASAR	**Alice Springs**	**26.90**	**169**	P		**P**	**03**	**30 42.1**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=352,slow=7.9,SNR=13								
ASAR				PcP		**PcP**	**03**	**34 02.0**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=356,slow=2.3,SNR=9.8								
ASAR				ScP		**ScP**	**03**	**37 29.2**	**-4.9**
	comp=Z,0.3nm,0.8s,baz=0.0,slow=3.2,SNR=3.3								
CMAR	**Chiang Mai Arr**	**32.67**	**300**	P		**P**	**03**	**31 34.7**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=119,slow=7.3,SNR=4.0								
KSRS	**Korea Array**	**34.45**	**359**	P		**P**	**03**	**31 49.2**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=177,slow=9.3,SNR=4.9								
MJAR	**Matsushiro Ar**	**34.76**	**14**	P		**P**	**03**	**31 50.9**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=181,slow=8.9,SNR=6.8								
STKA	**Stephens Creek**	**36.76**	**161**	P		**P**	**03**	**32 08.2**	**-0.6**
	comp=Z,2.9nm,0.3s,baz=340,slow=7.5,SNR=23								
STKA	**Stephens Creek**	**36.76**	**161**	IAmb		IAmb	03	32 08.9	
	comp=Z,1.0nm,0.8s								
H11S3	**WAKE ISLAND Hy**	**40.67**	**65**	T		T	04	16 16.5	
	baz=252								
H11S2	**WAKE ISLAND Hy**	**40.68**	**65**	T		T	04	16 23.6	
	baz=252								
H11S1	**WAKE ISLAND Hy**	**40.69**	**65**	T		T	04	16 17.6	
	baz=252								
H11N1	**WAKE ISLAND Hy**	**41.24**	**63**	T		T	04	16 53.6	
	baz=250,slow=75								
H11N2	**WAKE ISLAND Hy**	**41.25**	**63**	T		T	04	16 57.2	
	baz=250								
H11N3	**WAKE ISLAND Hy**	**41.25**	**63**	T		T	04	16 56.5	
	baz=250,slow=75								
USRK	**Ussuriysk Ar.**	**41.32**	**4**	P		**P**	**03**	**32 46.4**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=184,slow=5.7,SNR=5.8								
SHL	**Shillong**	**41.67**	**306**	P		**P**	**03**	**32 49.9**	**-0.2**
TAPN	**Taplejung**	**45.81**	**306**	*e*P		**P**	**03**	**33 23.4**	**0.0**
	comp=Z,24nm,1.1s								
ODAN	**Odare**	**45.86**	**305**	*e*P		**P**	**03**	**33 24.5**	**+0.7**
RAMN	**Ramite**	**46.54**	**305**	*e*P		**P**	**03**	**33 29.6**	**+0.5**
	comp=Z,20nm,0.7s								
JIRN	**Jiri**	**47.16**	**306**	*e*P		**P**	**03**	**33 34.3**	**+0.2**
	comp=Z,28nm,0.6s								
GUN	**Gumba**	**47.52**	**306**	*e*P		**P**	**03**	**33 37.1**	**+0.3**
	comp=Z,24nm,0.5s								
PKI	**Pulchoki**	**47.76**	**305**	*e*P		**P**	**03**	**33 38.7**	**0.0**
PKIN	**Phulchoki**	**47.78**	**305**	*e*P		**P**	**03**	**33 38.6**	**-0.1**
	comp=Z,8.2nm,0.5s								
KKN	**Kakani**	**47.95**	**306**	*e*P		**P**	**03**	**33 40.0**	**0.0**
	comp=Z,14nm,0.5s								
DMN	**Daman**	**48.03**	**305**	*e*P		**P**	**03**	**33 40.7**	**+0.1**
	comp=Z,15nm,0.7s								
SONM	**Songino Array**	**48.65**	**340**	P		**P**	**03**	**33 44.6**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=152,slow=7.5,SNR=5.8								
SONM				PcP		**PcP**	**03**	**35 08.1**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=164,slow=3.1,SNR=2.4								
KOLN	**Koldanda**	**49.32**	**305**	*e*P		**P**	**03**	**33 51.0**	**+0.5**
	comp=Z,44nm,0.7s								
DANN	**Dangsing**	**49.41**	**305**	*e*P		**P**	**03**	**33 51.5**	**+0.3**
	comp=Z,49nm,0.6s								
PETK	**Petropavlovsk-**	**55.68**	**21**	P		**P**	**03**	**34 36.7**	**0.0**
	comp=Z,8.0nm,1.0s,baz=179,slow=4.7,SNR=5.8								
MKAR	**Makanchi Array**	**59.18**	**325**	P		**P**	**03**	**35 01.0**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=116,slow=8.2,SNR=5.8								
KSH	**Kashi**	**59.78**	**315**	P		**P**	**03**	**35 07.3**	**+1.4**
KSH				ScP		**ScP**	**03**	**39 40.5**	**-3.1**
KSH				pmax		pmax			
	comp=Z,390nm,5.1s								
ZALV	**Zalesovo Beam**	**62.09**	**333**	P		**P**	**03**	**35 19.5**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=124,slow=7.2,SNR=2.3								
KURBB	**Kurchatov Arra**	**63.34**	**327**	P		**P**	**03**	**35 28.4**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=128,slow=6.0,SNR=4.3								
KURK	**Kurchatov**	**63.34**	**327**	P		**P**	**03**	**35 28.4**	**-0.9**
KURK	**Kurchatov**	**63.34**	**327**	IAmb		IAmb	03	35 29.4	
	comp=Z,8.8nm,1.4s								
BVAR	**Borovoye Array**	**68.92**	**327**	P		**P**	**03**	**36 03.3**	**-1.8**
	comp=Z,0.7nm,0.7s,baz=121,slow=5.6,SNR=3.5								
VNDA	**Vanda**	**82.35**	**173**	P		**P**	**03**	**37 20.4**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=306,slow=5.3,SNR=5.5								
TXAR	**Lajitas Array**	**120.89**	**53**	PKP		**PKPdf**	**03**	**43 52.4**	**0.0**
	comp=Z,0.3nm,0.9s,baz=236,slow=1.0,SNR=3.0								
TORD	**Torodi Ar. Bea**	**124.69**	**288**	PKP		**PKPdf**	**03**	**43 58.4**	**-1.5**
	comp=Z,0.7nm,0.9s,baz=50,slow=1.7,SNR=3.6								

*SOME **29** 03:26:52.9,43.47N×84.62E,h5km*
*IDC **29** 03:26:53.3±1.1,43.25N×84.63E,h0km,mb3.7/7, mb1 3.8/13,mb1mx3.5/60,mbtmp3.7/13,ML3.3/6,Error ellipse: s-maj=23.9km s-min=16.1km az=57.0*
*BJI **29** 03:26:55.2±0.0,43.41N×84.69E,h7km,mb3.5/1,ML3.6/10*
*NNC **29** 03:26:59.5±2.1,43.54N×84.30E,h0km,mb4.2,mpv3.8, Error ellipse: s-maj=18.2km s-min=8.6km az=133.0*

ISC 29 03:26:54.5±0.6,43.46N±0.04×84.52E±0.03,h10km,n51, σ2$53/69,mb3.6/7,11C-10D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res

KTBS Karatobe 5.70 275 *e*P Pg 03 28 39.5 -4.2
6.9nm,0.6s
KTBS *e*S **Sg** **03 29 56.8 -0.7**
47nm,0.8s
KTBS Karatobe 5.70 275 Pg Pg 03 28 39.4 -4.2
4.1nm,0.4s
KTBS Lg Lg 03 29 56.8
38nm,0.6s
MTBS Maitube 5.92 270 *e*P **Pg** **03 28 44.6 -3.1**
5.5nm,0.3s
MTBS *e*S **Sg** **03 30 05.5 +1.1**
27nm,0.4s
MTBS Maitube 5.92 270 Pg **Pg** **03 28 44.6 -3.1**
3.4nm,0.2s
MTBS Lg Lg 03 30 05.5
21nm,0.3s
KUU Kurty 5.95 277 *e*P Pg 03 28 43.8 -4.6
3.6nm,0.5s
KUU *e*S **Sg** **03 30 04.3 -1.2**
30nm,0.5s
KUU Kurty 5.95 277 Pg Pg 03 28 43.8 -4.6
3.6nm,0.5s
KUU Lg Lg 03 30 04.3
16nm,0.5s
KST Kastek 6.26 269 *e*P **Pg** **03 28 50.8 -3.6**
9.4nm,0.4s
KST *e*S **Sg** **03 30 16.2 +0.7**
26nm,0.6s
KST Kastek 6.26 269 Pg **Pg** **03 28 50.8 -3.6**
9.4nm,0.4s
KST Lg Lg 03 30 16.6
26nm,0.6s
DGS Degeres 6.38 271 *e*P **Pg** **03 28 52.8 -3.9**
8.3nm,0.6s
DGS *e*S **Sg** **03 30 18.0 -1.3**
29nm,0.7s
TKM2 Tokmak 2 6.55 268 ⇑Pn Pn 03 28 37.7 +6.7
5.5nm,0.8s
TKM2 ⇑Pg **Pg** **03 28 57.6 -2.2**
20nm,1.3s
TKM2 ⇑Lg Lg 03 30 21.4
13nm,0.5s
AAK Ala-Archa 7.39 267 Pn **Pn** **03 28 46.0 +3.4**
0.3nm,0.3s,baz=99,slow=13,SNR=3.7
AAK Pg **Pb** **03 29 06.4 +3.5**
0.4nm,0.3s,baz=61,slow=5.7,SNR=4.3
AAK Lg Lg 03 30 50.1
0.4nm,0.3s,baz=263,slow=16,SNR=2.2
AAK Ala-Archa 7.39 267 ⇓Pg **Pg** **03 29 15.0 -1.0**
3.9nm,0.7s
AAK ⇑Lg Lg 03 30 52.6
10nm,0.7s
KURBB Kurchatov Arra 8.25 332 Pn **Pn** **03 28 56.7 +2.6**
0.4nm,0.3s,baz=145,slow=13,SNR=3.6
KURBB Lg Lg 03 31 17.8
0.6nm,0.3s,baz=153,slow=32,SNR=7.4
KURBB Kurchatov Arra 8.25 332 ⇓Pn **Pn** **03 28 56.8 +2.6**
1.4nm,0.3s
KURBB ⇓Lg Lg 03 31 17.0
96nm,0.7s
KURK Kurchatov 8.30 333 ⇓Pn **Pn** **03 28 57.8 +3.0**
2.7nm,0.8s
KURK ⇑Sn **Sn** **03 30 33.8 +5.2**
6.3nm,0.9s
KURK ⇓Lg Lg 03 31 18.2
38nm,0.7s
ZALV Zalesovo Beam 10.50 1 Pn **Pn** **03 29 25.8 +0.9**
3.0nm,0.3s,baz=185,slow=13,SNR=29
ZALV Sn **Sn** **03 31 21.4 -1.1**
1.9nm,0.3s,baz=175,slow=25,SNR=9.0
ZALV Lg Lg 03 32 27.7
baz=183,slow=26,SNR=2.5
BVAR Borovoye Array 13.41 320 Pn **Pn** **03 30 07.4 +2.8**
0.2nm,0.3s,baz=124,slow=12,SNR=4.6
BVAR Lg Lg 03 34 07.2
0.2nm,0.3s,baz=124,slow=26,SNR=2.9
SONM Songino Array 15.89 66 Pn **P** **03 30 38.9 -3.1**
0.0nm,0.3s,baz=251,slow=14,SNR=5.6
FINES FINESS Array B 38.36 319 P **P** **03 34 17.9 +2.7**
5.2nm,1.0s,baz=93,slow=9.1,SNR=6.6
ARCES ARCESS Array B 39.34 332 P **P** **03 34 26.1 +2.7**
4.0nm,1.0s,baz=96,slow=6.9,SNR=5.3
NOA NORSAR Array B 45.53 319 P **P** **03 35 15.5 +1.6**
0.7nm,0.9s,baz=78,slow=7.8,SNR=2.7
ESDC Sonseca Array 63.22 300 P **P** **03 37 24.9 +2.0**
0.1nm,0.4s,baz=52,slow=5.6,SNR=3.1
YKA Yellowknife Ar 73.29 9 P **P** **03 38 26.9 +1.4**
0.1nm,0.4s,baz=340,slow=6.1,SNR=3.0
TORD Torodi Ar. Bea 75.91 275 P **P** **03 38 42.3 +0.8**
0.2nm,0.4s,baz=40,slow=5.6,SNR=5.5
WRA Warramunga Arr 77.90 133 P **P** **03 38 52.1 -0.4**
0.3nm,0.5s,baz=330,slow=4.7,SNR=6.9

IDC 29 03:38:40.7±3.4, 5°31S×150°98E, h55km±50km, mb3.0/2, mb1 3.4/2, mb1mx3.0/45, mbtmp3.3/2, Error ellipse: s-maj=131.1km s-min=24.2km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.44**	**46**	P	Pn	03 39 03.3	-1.2
	29nm,0.3s,baz=315,slow=0.3,SNR=9.0						
KRVT				S	Sn	03 39 22.4	+0.1
	45nm,0.3s,baz=357,slow=22,SNR=11						
WRA	**Warramunga Arr**	**21.77**	**227**	P	P	03 43 28.1	+0.1
	0.8nm,0.7s,baz=51,slow=9.8,SNR=6.3						
ASAR	**Alice Springs**	**24.57**	**220**	P	P	03 43 56.1	+0.3
	0.4nm,0.7s,baz=56,slow=8.9,SNR=9.2						
TORD	**Torodi Ar. Bea**	**148.73**	**287**	PKPbc	PKPbc	03 58 22.1	-1.0
	0.4nm,0.8s,baz=89,slow=3.2,SNR=2.7						

*NNC **29** 03:42:14.8±2.9, 37°.87N×71°.50E, h0km, mb4.7, mpv4.3, Error ellipse: s-maj=27.0km s-min=14.6km az=158.0*
*BJI **29** 03:42:15.5±0.0, 37°.51N×71°.86E, h120km, mb4.3/16, mB4.6/9*
*IDC **29** 03:42:16.4±2.9, 37°.38N×72°.14E, h122km±25km, mb3.7/20, mb1 3.8/24, mb1mx3.6/56, mbtmp4.1/24, Error ellipse: s-maj=21.2km s-min=14.6km az=156.0*
*MOS **29** 03:42:16.8±1.0, 37°.54N×72°.04E, h125km, mb4.3/14, Error ellipse: s-maj=7.7km s-min=4.8km az=97.5*
*NEIC **29** 03:42:17.4±2.2, 37°.53N±0°.06×71°.95E±0°.08, h122km±7km, mb4.2/13*
ISC 29 03:42:17.2±0.4, 37°.51N±0°.04×71°.84E±0°.04, h130km, n178, σ2s74/195, mb4.1/45, 25C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**1.91**	**322**		**Pn**	**03 42 49.7**	**-0.5**
GAR				Sn	**Sn**	**03 43 14.1**	**-1.4**
CHGR	**Chuyangaron**	**2.41**	**299**		**Pn**	**03 42 56.0**	**-0.3**
CHGR				Sn	**Sn**	**03 43 24.4**	**-1.9**
BTK	**Batken**	**2.67**	**343**	PN	**Pn**	**03 43 00.8**	**+1.2**
BTK	**Batken**	**2.67**	**343**		**Pn**	**03 43 00.8**	**+1.2**
CEP	**Cherat**	**3.68**	**179**	P	**Pn**	**03 43 13.4**	**+0.5**
CEP				S	**Sn**	**03 43 56.0**	**+0.1**
KBL	**Kabul**	**3.73**	**218**	PN	**Pn**	**03 43 14.9**	**+1.3**
KBL	**Kabul**	**3.73**	**218**		**Pn**	**03 43 14.9**	**+1.3**
KSH	**Kashi**	**3.81**	**57**	P	**Pn**	**03 43 10.3**	**-4.3**
KSH				S	Sn	03 43 48.5	-11
KSH				smax	smax		
	comp=N,10μm,0.6s						
KSH				smax	smax		
	comp=E,5μm,0.4s						
ARSB	**Arslanbob**	**3.91**	**13**		**Pn**	**03 43 15.0**	**-0.9**
CHCP	**Chirah Chowk**	**4.01**	**163**	P	**Pn**	**03 43 18.0**	**+0.8**
NIL	**Nilore**	**4.02**	**163**	PN	**Pn**	**03 43 18.0**	**+0.7**
NIL	**Nilore**	**4.02**	**163**		**Pn**	**03 43 18.0**	**+0.7**
THW	**Thamme Wali**	**4.70**	**181**	P	**Pn**	**03 43 26.3**	**-0.1**
AML	**Almayashu**	**4.83**	**17**	P	**Pn**	**03 43 27.7**	**-0.7**
	SNR=57						
NRN	**Naryn**	**5.07**	**38**	PN	**Pn**	**03 43 30.2**	**-1.4**
NRN	**Naryn**	**5.07**	**38**		**Pn**	**03 43 30.2**	**-1.4**
UCH	**Uchtor**	**5.14**	**23**	P	**Pn**	**03 43 32.2**	**-0.4**
	SNR=66						
KZA	**Kyzart**	**5.27**	**29**	P	**Pn**	**03 43 33.3**	**-0.9**
	SNR=48						
EKS2	**Erkin-Say**	**5.36**	**16**	P	**Pn**	**03 43 35.3**	**+0.2**
	SNR=37						
AAK	**Ala-Archa**	**5.51**	**21**	*ce*PN	**Pn**	**03 43 37.3**	**0.0**
AAK				pmax	pmax		
	comp=Z,21nm,0.4s						
AAK	**Ala-Archa**	**5.51**	**21**	P	**Pn**	**03 43 37.2**	**0.0**
	comp=Z,17nm,0.3s,baz=169,slow=4.5,SNR=183						
AAK				S	**Sn**	**03 44 36.7**	**-3.0**
	comp=Z,16nm,0.3s,baz=120,slow=20,SNR=21						
AAK	**Ala-Archa**	**5.51**	**21**	P	**Pn**	**03 43 37.3**	**0.0**
	SNR=61						
AAK	**Ala-Archa**	**5.51**	**21**		**Pn**	**03 43 36.9**	**-0.3**
AAK				Sn	**Sn**	**03 44 36.0**	**-3.7**
AAK	**Ala-Archa**	**5.51**	**21**	⇑P	**Pn**	**03 43 37.0**	**-0.3**
	comp=Z,34nm,0.6s						
AAK				⇑S	**Sn**	**03 44 36.4**	**-3.3**
	comp=Z,48nm,0.4s						
KBK	**Karagaybulak**	**5.67**	**24**	P	**Pn**	**03 43 39.5**	**+0.1**
	SNR=16						
KK31	**Karatay Array**	**5.68**	**350**	PN	**Pn**	**03 43 38.8**	**-0.6**
KK31	**Karatay Array**	**5.68**	**350**		**Pn**	**03 43 38.8**	**-0.6**
KK31				Sn	**Sn**	**03 44 39.6**	**-3.9**
KK31	**Karatay Array**	**5.68**	**350**	⇑P	**Pn**	**03 43 37.8**	**-1.6**
	comp=Z,49nm,0.5s,baz=170,slow=12,SNR=538						
KK31				⇑S	**Sn**	**03 44 39.2**	**-4.3**
	comp=Z,54nm,0.4s,baz=169,slow=22,SNR=11						
KKAR	**Karatay Array**	**5.68**	**350**	PN	**Pn**	**03 43 38.9**	**-0.5**
KKAR	**Karatay Array**	**5.68**	**350**		**Pn**	**03 43 38.9**	**-0.5**
KKAR				Sn	**Sn**	**03 44 39.3**	**-4.2**
ULHL	**Ulahol**	**5.82**	**34**	P	**Pn**	**03 43 40.6**	**-0.8**
	SNR=29						
CHMS	**Chumysh**	**5.92**	**21**	P	**Pn**	**03 43 42.5**	**-0.1**
	SNR=35						
THN	**Thein Dam**	**5.98**	**147**	*e*P	**Pn**	**03 43 43.0**	**-0.4**
THN				*e*S	**Sn**	**03 44 45.0**	**-5.7**
USP	**Ospenovka**	**6.10**	**19**	P	**Pn**	**03 43 44.4**	**-0.6**
	SNR=16						
TKM2	**Tokmak 2**	**6.12**	**27**	PN	**Pn**	**03 43 45.3**	**-0.2**
TKM2	**Tokmak 2**	**6.12**	**27**	P	**Pn**	**03 43 45.7**	**+0.2**
	SNR=8.2						
TKM2	**Tokmak 2**	**6.12**	**27**	⇓P	**Pn**	**03 43 45.4**	**-0.2**
	comp=Z,15nm,0.5s						
TKM2				⇑S	**Sn**	**03 44 51.7**	**-2.8**
	comp=Z,17nm,0.7s						
TARG	**Taragay, Kyrgy**	**6.24**	**46**		**Pn**	**03 43 47.1**	**-0.2**
DHRM	**DHARAMSHALA**	**6.40**	**144**	*e*P	**Pn**	**03 43 47.9**	**-1.5**
DHRM				*e*S	**Sn**	**03 44 54.7**	**-6.5**
MDOK	**Medeo**	**6.91**	**34**	PN	**Pn**	**03 43 56.1**	**+0.1**
MDOK				S	**Sn**	**03 45 17.0**	**+3.7**
MDOK	**Medeo**	**6.91**	**34**	⇑P	**Pn**	**03 43 56.1**	**+0.1**
	comp=Z,12nm,0.8s						
MDOK				S	**Sn**	**03 45 17.0**	**+3.7**
	comp=Z,9.2nm,0.6s						
SMLA	**Simla**	**7.74**	**144**	*e*P	**Pn**	**03 44 05.1**	**-2.0**
SMLA				*e*S	Sn	03 45 23.9	-9.4
SMLA				IAML		03 45 29.2	
	comp=E,788nm,0.2s						
SMLA				IAML		03 45 29.6	
	comp=N,800nm,0.4s						
PDGK	**Podgornoye**	**8.24**	**43**	PN	**Pn**	**03 44 12.3**	**-1.6**
PDGK				S	**Sn**	**03 45 47.2**	**+1.8**
PDGK	**Podgornoye**	**8.24**	**43**	⇑P	**Pn**	**03 44 12.3**	**-1.6**
	comp=N,5.0nm,0.6s						
PDGK				⇑S	**Sn**	**03 45 47.2**	**+1.8**
	comp=N,18nm,0.9s						
HRA	**Herat**	**8.38**	**251**		**Pn**	**03 44 17.1**	**+1.2**
JOSI	**Joshimath**	**9.44**	**135**	*e*P	**Pn**	**03 44 29.6**	**-0.6**
JOSI				*e*S	Sn	03 46 03.6	-11
AYAN	**Aya Nagar**	**10.03**	**152**	*e*P	**Pn**	**03 44 35.7**	**-2.3**
AYAN				*ex*	x	03 46 18.8	
AYAN				IAML		03 46 24.6	
	comp=Z,60nm,0.5s						
KUDL	**Kundal**	**10.12**	**156**	*e*P	Pn	03 44 31.6	-7.6
KUDL				*e*S	Sn	03 46 17.1	-14
SONA	**Sohna**	**10.23**	**153**	*e*S	Sn	03 46 22.1	-11
SONA				IAML		03 46 28.9	
	comp=N,49nm,0.3s						
GEYT	**Alibeck**	**10.88**	**276**	P	**Pn**	**03 44 46.9**	**-2.4**
	comp=N,3.5nm,0.3s,baz=118,slow=11,SNR=35						
GEYT				S	**Sn**	**03 46 41.8**	**-7.4**
	comp=N,4.6nm,0.3s,baz=81,slow=20,SNR=9.4						
GYA0B	**ALIBECK ARRAY**	**10.88**	**276**		**Pn**	**03 44 46.1**	**-3.2**
GYA0B	**ALIBECK ARRAY**	**10.88**	**276**	⇑P	**Pn**	**03 44 47.3**	**-2.0**
GYA0B				⇑S	**Sn**	**03 46 45.1**	**-4.1**
MAKZ	**Makanchi**	**11.95**	**36**	P	**Pn**	**03 45 01.6**	**-1.7**
MAKZ	**Makanchi**	**11.95**	**36**		**Pn**	**03 45 01.6**	**-1.7**
MK31	**Makanchi Array**	**12.08**	**37**	*i* P	**Pn**	**03 45 04.2**	**-0.9**
MK31	**Makanchi Array**	**12.08**	**37**		**Pn**	**03 45 03.6**	**-1.5**
MKAR	**Makanchi Array**	**12.08**	**37**	*ce*P	**Pn**	**03 45 04.4**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**12.08**	**37**	P	**Pn**	**03 45 03.5**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=218,slow=12,SNR=12						
DANN	**Dangsing**	**13.54**	**129**	*e*P	Pn	03 45 19.3	-5.1
	comp=Z,53nm,0.4s						
DANN				*e*S	Sn	03 47 38.9	-15
WMQ	**Urumqi**	**13.58**	**57**	*e*P	**Pn**	**03 45 24.8**	**+0.3**
WMQ				LR	LR		
	comp=Z,880nm,29.2s						
WMQ				LR	LR		
	comp=Z,2μm,28.8s						
WMQ				LR	LR		
	comp=Z,140nm,29.0s						
KOLN	**Koldanda**	**13.86**	**131**	*e*P	**Pn**	**03 45 23.8**	**-4.6**
	comp=Z,34nm,0.4s						
KURBB	**Kurchatov Arra**	**13.96**	**18**	P	**Pn**	**03 45 25.8**	**-3.4**
	comp=Z,0.0nm,0.3s,baz=209,slow=12,SNR=5.7						
KURK	**Kurchatov**	**14.06**	**18**	*i* P	**Pn**	**03 45 31.6**	**+1.0**
KURK	**Kurchatov**	**14.06**	**18**	Pn	**Pn**	**03 45 29.1**	**-1.4**
GKN	**Gorkha**	**14.33**	**128**	*e*P	**Pn**	**03 45 29.6**	**-4.7**
AB31	**Akbulak array**	**14.56**	**328**	P	**Pn**	**03 45 35.2**	**-1.6**
AB31				S	**Sn**	**03 48 11.2**	**-6.6**
AB31	**Akbulak array**	**14.56**	**328**	⇓P	**Pn**	**03 45 35.2**	**-1.6**
	comp=Z,4.1nm,0.5s,baz=145,slow=12,SNR=168						
AB31				⇑S	**Sn**	**03 48 11.2**	**-6.6**
	comp=Z,15nm,0.6s,baz=154,slow=24,SNR=20						
ABKAR	**Akbulak array**	**14.56**	**328**		**Pn**	**03 45 35.2**	**-1.6**
KKN	**Kakani**	**14.89**	**127**	*e*P	Pn	03 45 36.0	-5.4
	comp=Z,22nm,0.3s						
DMN	**Daman**	**14.90**	**128**	*e*P	**Pn**	**03 45 37.0**	**-4.6**
BHPL	**Bhopal**	**15.01**	**160**	*e*P	**Pn**	**03 45 39.7**	**-3.0**
BHPL				*i* x	x	03 45 44.9	
BHPL				*e*S	Sn	03 48 15.2	-14
BHPL				IAML		03 48 22.4	
	comp=E,19nm,0.3s						
BHPL				IAML		03 48 22.5	
	comp=N,16nm,0.1s						
PKIN	**Phulchoki**	**15.11**	**127**	*e*P	**Pn**	**03 45 39.2**	**-5.0**
PKI	**Pulchoki**	**15.12**	**127**	*e*P	**Pn**	**03 45 39.2**	**-5.2**
	comp=N,5.1nm,0.6s						
GUN	**Gumba**	**15.19**	**125**	*e*P	**Pn**	**03 45 39.9**	**-5.4**
BVAR	**Borovoye Array**	**15.55**	**357**	P	**Pn**	**03 45 47.8**	**-1.4**
	comp=N,1.2nm,0.3s,baz=166,slow=12,SNR=25						
BVAR				S	**Sn**	**03 48 32.4**	**-9.2**
	comp=N,0.3nm,0.3s,baz=167,slow=26,SNR=5.5						
JIRN	**Jiri**	**15.56**	**125**	*e*P	**Pn**	**03 45 45.2**	**-4.7**
	comp=N,54nm,0.3s						
BRVK	**Borovoye**	**15.59**	**357**	*ce*P	**P**	**03 45 51.2**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BRVK	**Borovoye**	**15.59**	**357**		**Pn**	**03 45 49.1**	**-0.5**
AKTO	**Aktyubinsk**	**16.27**	**327**	P	**Pn**	**03 45 58.3**	**+0.2**
AKTO				S	**Sn**	**03 48 52.9**	**-6.0**
AKTO	**Aktyubinsk**	**16.27**	**327**	P	**Pn**	**03 45 57.9**	**-0.2**
	comp=Z,2.9nm,0.3s,baz=129,slow=9.1,SNR=33						
AKTO				S	**Sn**	**03 48 49.6**	**-9.3**
	comp=Z,0.4nm,0.3s,baz=146,slow=20,SNR=5.9						
AKTO	**Aktyubinsk**	**16.27**	**327**	⇑P	**Pn**	**03 45 58.3**	**+0.2**
	comp=Z,12nm,0.6s						
AKTO				⇓S	**Sn**	**03 48 52.9**	**-6.0**
	comp=Z,14nm,0.6s						
RAMN	**Ramite**	**16.31**	**126**	*e*P	**Pn**	**03 45 54.5**	**-4.6**
	comp=Z,43nm,0.5s						
TAPN	**Taplejung**	**16.77**	**123**	*e*P	**Pn**	**03 45 59.9**	**-4.8**
	comp=Z,34nm,0.5s						
ODAN	**Odare**	**16.89**	**124**	*e*P	**P**	**03 46 01.0**	**-5.0**
LSA	**Lhasa**	**17.85**	**110**	P	**Pn**	**03 46 17.3**	**-0.6**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LSA	**Lhasa**	**17.85**	**110**	P	**Pn**	**03 46 17.3**	**-0.6**
LSA				IAmb	IAmb	03 46 20.9	
	comp=Z,9.0nm,0.8s						
WSAR	**Wadi Sarin**	**18.19**	**222**	P	**Pn**	**03 46 21.5**	**0.0**
	comp=Z,0.6nm,0.3s,baz=0.0,slow=7.1,SNR=3.5						
ZAA0	**Zalesovo Array**	**18.72**	**24**	P	**P**	**03 46 25.1**	**-0.4**
ZALV	**Zalesovo Beam**	**18.72**	**24**	*i* P	**P**	**03 46 25.7**	**+0.2**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZALV	**Zalesovo Beam**	**18.72**	**24**	P	**P**	**03 46 25.3**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=217,slow=10,SNR=11						
SHL	**Shillong**	**20.77**	**119**	P	**P**	**03 46 47.8**	**-0.4**
SHL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SHL	**Shillong**	**20.77**	**119**	P	**P**	**03 46 47.8**	**-0.4**
SHL				IAmb	IAmb	03 46 49.2	
	comp=Z,10nm,1.0s						
ARU	**Arti**	**20.91**	**339**	*d* P	**P**	**03 46 50.8**	**+1.7**
ARU						03 47 17.7	
ARU				S	**S**	**03 50 38.1**	**+3.3**
ARU				pmax	pmax		
	comp=Z,18nm,1.5s						
ARU	**Arti**	**20.91**	**339**	P	**P**	**03 46 50.4**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=161,slow=7.0,SNR=11						
ARU	**Arti**	**20.91**	**339**	P	**P**	**03 46 50.0**	**+0.9**
GNI	**Garni**	**21.25**	**286**	*ce*P	**P**	**03 46 56.1**	**+3.0**
GNI				pmax	pmax		
	comp=Z,80nm,1.3s						
GNI	**Garni**	**21.25**	**286**	P	**P**	**03 46 55.6**	**+2.5**
	comp=Z,6.4nm,0.6s,baz=5.7,SNR=9.6						
GNI	**Garni**	**21.25**	**286**	P	**P**	**03 46 55.8**	**+2.8**
TBLG	**Delisi**	**21.26**	**290**	P	**P**	**03 46 54.8**	**+1.8**
TBLG				pmax	pmax		
	comp=Z,14nm,1.0s						
TBLG	**Delisi**	**21.26**	**290**	P	**P**	**03 46 54.8**	**+1.8**
TBLG				IAmb	IAmb	03 47 01.1	
	comp=Z,14nm,1.0s						
GTA	**Gaotai**	**21.96**	**76**	*e*P	**P**	**03 47 02.3**	**+1.7**
GTA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
AKH	**Akhalkalaki**	**22.18**	**289**	P	**P**	**03 47 06.2**	**+3.3**
AKH				pmax	pmax		
	comp=Z,13nm,1.2s						
AKH	**Akhalkalaki**	**22.18**	**289**	⇑P	**P**	**03 47 06.0**	**+3.1**
AKH	**Akhalkalaki**	**22.18**	**289**	P	**P**	**03 47 06.2**	**+3.3**
AKH				IAmb	IAmb	03 47 14.5	
	comp=Z,13nm,1.2s						
KBZ	**Khabaz**	**22.76**	**295**	P	**P**	**03 47 11.3**	**+3.0**
	comp=Z,1.7nm,0.9s,baz=74,slow=7.4,SNR=2.5						
SHA1	**Shidzhatmaz**	**22.93**	**295**	*i* P	**P**	**03 47 12.2**	**+1.9**
KIV	**Kislovodsk**	**22.94**	**295**	*e*P	**P**	**03 47 12.6**	**+2.5**
KIV				pmax	pmax		
	comp=Z,21nm,1.0s						
TLY	**Talaya**	**26.46**	**47**	*i* P	**P**	**03 47 42.2**	**+0.2**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.2s						
VSR	**Storozhevoye**	**26.82**	**311**	*i* P	**P**	**03 47 46.1**	**+1.0**
VSR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SONM	**Songino Array**	**27.22**	**57**	pP	pP	03 48 18.5	+0.5
	comp=Z,1.1nm,0.9s,baz=260,slow=8.6,SNR=4.2						
OBN	**Obninsk**	**29.63**	**318**	*e*P	**P**	**03 48 12.9**	**+3.0**
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BR131	**Keskin Array S**	**29.78**	**286**	P	**P**	**03 48 14.0**	**+2.3**
BR131				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BR131	**Keskin Array S**	**29.78**	**286**	P	**P**	**03 48 14.0**	**+2.3**
BR131				IAmb	IAmb	03 48 15.3	
	comp=Z,1.9nm,0.5s						
BRTR	**Keskin Array B**	**29.78**	**286**	P	**P**	**03 48 14.6**	**+2.9**
	comp=Z,1.5nm,0.5s,baz=95,slow=7.0,SNR=22						
HHC	**Hu-ho-hao-te**	**30.80**	**71**	*e*P	**P**	**03 48 18.8**	**-1.8**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,40nm,4.1s						
AKASG	**Malin Array Be**	**32.85**	**307**	*ce*P	P	03 48 43.5	+5.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**32.85**	**307**	P	**P**	**03 48 40.5**	**+2.2**
	comp=Z,2.1nm,0.4s,baz=108,slow=9.0,SNR=7.4						
SORM	**Soroca**	**33.21**	**303**	⇑P	**P**	**03 48 40.4**	**-1.1**
SORM	**Soroca**	**33.21**	**303**	⇑P	**P**	**03 48 40.4**	**-1.1**
VRI	**Vrincioaia**	**34.32**	**299**	⇓P	**P**	**03 48 54.8**	**+3.6**
VRI	**Vrincioaia**	**34.32**	**299**	⇓P	**P**	**03 48 54.8**	**+3.6**
PLOR	**Plostina**	**34.38**	**299**	⇑P	**P**	**03 48 55.0**	**+3.3**
PLOR	**Plostina**	**34.38**	**299**	⇑P	**P**	**03 48 55.0**	**+3.3**
MLR	**Muntele Rosu**	**34.89**	**298**	P	**P**	**03 48 59.1**	**+2.9**
	baz=104,slow=4.2						
MLR	**Muntele Rosu**	**34.89**	**298**	⇓P	**P**	**03 48 58.8**	**+2.6**
MLR	**Muntele Rosu**	**34.89**	**298**	P	**P**	**03 48 58.9**	**+2.7**
DOPR	**Dopca**	**35.25**	**299**	⇑P	**P**	**03 48 55.0**	**-4.1**
VOIR		**35.52**	**298**	⇓P	**P**	**03 48 59.1**	**-2.4**
VOIR		**35.52**	**298**	⇓P	**P**	**03 48 59.1**	**-2.4**
FINES	**FINESS Array B**	**37.03**	**325**	P	**P**	**03 49 15.8**	**+1.8**
	comp=Z,2.6nm,0.3s,baz=120,slow=9.2,SNR=51						
TRPA	**Tarpa**	**37.10**	**103**	⇑P	**P**	**03 49 17.4**	**+2.6**
OJC	**Ojcow**	**38.84**	**306**	P	**P**	**03 49 31.5**	**+2.1**
OJC				pmax	pmax		
	comp=Z,11nm,1.2s						
OJC	**Ojcow**	**38.84**	**306**	P	**P**	**03 49 31.5**	**+2.1**
ARCES	**ARCESS Array B**	**40.48**	**337**	P	**P**	**03 49 44.2**	**+1.5**
	comp=Z,1.6nm,0.5s,baz=120,slow=9.0,SNR=20						
VRAC	**Vranov**	**40.97**	**305**	P	**P**	**03 49 50.1**	**+3.1**
	comp=Z,3.9nm,0.6s,baz=94,slow=5.9,SNR=4.2						
DPC	**Dobruska-Polom**	**41.06**	**306**	*e*P	**P**	**03 49 50.9**	**+3.1**
DPC	**Dobruska-Polom**	**41.06**	**306**	*e*P	**P**	**03 49 50.9**	**+3.1**
UPC	**Upice**	**41.25**	**307**	*e*P	**P**	**03 49 52.1**	**+2.8**
UPC	**Upice**	**41.25**	**307**	*e*P	**P**	**03 49 52.1**	**+2.8**
CONA	**Conrad Observa**	**41.59**	**303**	*i* P	**P**	**03 49 54.9**	**+2.7**
	comp=Z,4.6nm,0.8s,SNR=6.2						
ARSA	**Arzberg**	**41.90**	**302**	*i* P	**P**	**03 49 57.1**	**+2.5**
	comp=Z,2.8nm,0.8s						
PRU	**Pruhonice**	**42.23**	**306**	*e*P	**P**	**03 50 00.4**	**+3.1**
PRU	**Pruhonice**	**42.23**	**306**	*e*P	**P**	**03 50 00.4**	**+3.1**
SOKA	**Soboth**	**42.31**	**301**	*i* P	**P**	**03 50 00.8**	**+2.7**
	comp=Z,3.1nm,0.7s						
BRG	**Berggiesshubel**	**42.53**	**307**	*e*P	**P**	**03 50 02.4**	**+2.6**
	comp=Z,21nm,1.7s						
BRG	**Berggiesshubel**	**42.53**	**307**	*e*P	**P**	**03 50 02.3**	**+2.6**
BRG				pmax	pmax		
	comp=Z,21nm,1.7s						
MOA	**Molln**	**42.66**	**303**	*i* P	**P**	**03 50 03.1**	**+2.3**
	comp=Z,5.5nm,1.2s						
HFS	**Hagfors**

INK	**Inuvik**	**72.80**	**10**	IAmb	IAmb	03 53 34.7
	comp=Z,4.5nm,1.5s					
ILAR	**Eielson Array**	**73.63**	**16**	P	**P**	**03 53 36.7 +0.8**
	comp=Z,0.2nm,0.7s,baz=328,slow=6.6,SNR=3.4					
YKA	**Yellowknife Ar**	**80.21**	**3**	P	**P**	**03 54 13.9 +1.1**
	comp=Z,0.4nm,0.4s,baz=350,slow=5.5,SNR=13					
WRA	**Warramunga Arr**	**81.96**	**123**	P	**P**	**03 54 21.2 -1.4**
	comp=Z,0.4nm,0.7s,baz=326,slow=4.9,SNR=4.2					

IDC 29 03:59:49.7±10.0, 18°69S×178°12W, h606km±121km, mb2.5/4, mb1 2.9/4, mb1mx2.7/35, mbtmp3.5/4, Error ellipse: s-maj=118.4km s-min=39.2km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.77**	**260**	P		P	04 07 11.3	+0.1
	0.2nm,0.4s,baz=97,slow=7.9,SNR=3.2							
ASAR	**Alice Springs**	**44.85**	**255**	P		P	04 07 11.7	-0.1
	0.4nm,0.6s,baz=86,slow=8.4,SNR=8.6							
ASAR				PcP		PcP	04 08 39.8	-0.5
	0.6nm,0.8s,baz=92,slow=3.8,SNR=5.4							
TXAR	**Lajitas Array**	**86.18**	**57**	P		P	04 11 28.4	0.0
	0.9nm,1.2s,baz=216,slow=4.2,SNR=3.7							
ILAR	**Eielson Array**	**86.58**	**13**	P		P	04 11 29.3	0.0
	0.3nm,0.8s,baz=224,slow=5.0,SNR=5.9							

*IDC **29** 04:09:43.3±1.7, 8°36S×120°43E, h0km, mb3.8/2, mb1 4.1/5, mb1mx3.7/39, mbtmp4.0/5, ML3.7/3, MS3.9/1, Ms1 3.9/1, ms1mx2.6/48, Error ellipse: s-maj=116.2km s-min=22.8km az=54.0*

*DJA **29** 04:09:46.7±0.2, 8°S±2°×120°1E±°, h10km, M4.0/10, MLv4.0/10*

*ISCJB **29** 04:09:48.3±0.5, 8°17S±0°03×120°87E±0°04, h33km, mb3.8/2, MS3.9/1, Error ellipse: s-maj=5.6km s-min=4.8km az=177.6*

ISC 29 04:09:48.5±0.9, 8°23S±0°04×120°92E±0°04, h35km, n17, σ2.2s45/23, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.37**	**107**	P		**Pn**	**04 10 11.3**	**+0.1**
MMRI				S		**Sn**	**04 10 29.1**	**+1.0**
WSI	**Waingapu**	**1.56**	**203**	P		**Pn**	**04 10 14.4**	**+0.6**
WSI				S		**Sn**	**04 10 34.8**	**+2.1**
BKSI	**Bulukumba**	**2.99**	**345**	P		**Pn**	**04 10 33.8**	**+0.3**
BKSI				S		**Sn**	**04 11 07.2**	**-1.0**
PLAI	**Plampang**	**3.16**	**259**	P		**Pn**	**04 10 36.5**	**+0.7**
PLAI				S		**Sn**	**04 11 13.0**	**+0.6**
BBSI	**Bau Bau**	**3.18**	**31**	P		**Pn**	**04 10 37.8**	**+1.7**
BBSI				S		**Sn**	**04 11 14.0**	**+1.2**
BATI	**Baumata**	**3.35**	**126**	Pn		**Pn**	**04 10 43.2**	**+4.7**
	8.9nm,0.3s,baz=253,slow=19,SNR=2.5							
BATI	**Baumata**	**3.35**	**126**	P		**Pn**	**04 10 42.5**	**+4.0**
SOEI	**Soe**	**3.64**	**115**	P		**Pn**	**04 10 46.9**	**+4.3**
BNSI	**Bone**	**3.89**	**348**	P		**Pn**	**04 10 48.5**	**+2.7**
BNSI				S		**Sn**	**04 11 31.7**	**+1.5**
TWSI	**Taliwang, Sumb**	**4.02**	**262**	P		**Pn**	**04 10 50.0**	**+2.3**
SPSI	**Sidrap Palu**	**4.38**	**345**	P		**Pn**	**04 10 51.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**10.84**	**155**	Pn		**Pn**	**04 12 22.1**	**+0.9**
	0.3nm,0.3s,baz=335,slow=12,SNR=3.0							
FITZ				Sn		**Sn**	**04 14 16.2**	**-5.1**
	0.2nm,0.3s,baz=193,slow=19,SNR=1.3							
WRA	**Warramunga Arr**	**17.45**	**133**	P		**Pn**	**04 13 46.6**	**-2.7**
	0.2nm,0.3s,baz=306,slow=12,SNR=16							
ASAR	**Alice Springs**	**19.76**	**142**	P		**P**	**04 14 15.7**	**0.0**
	0.4nm,0.3s,baz=320,slow=12,SNR=32							
DZM	**Mont Dzumac**	**45.87**	**113**	LR		LR	04 38 14.1	
	comp=Z,123nm,18.5s,baz=44,slow=37							
MKAR	**Makanchi Array**	**64.66**	**332**	P		**P**	**04 20 23.0**	**+0.2**
	0.5nm,0.7s,baz=141,slow=7.3,SNR=4.3							
ZALV	**Zalesovo Beam**	**69.02**	**338**	P		**P**	**04 20 49.4**	**-1.0**
	0.8nm,0.4s,baz=139,slow=5.6,SNR=4.0							

*ISCJB **29** 04:20:18.6±1.0, 20°9S±0°1×176°5W±0°2, h300km, mb3.1/4, Error ellipse: s-maj=24.5km s-min=14.0km az=18.3*

*IDC **29** 04:20:19.9±5.4, 21°05S×176°36W, h302km±49km, mb2.9/4, mb1 3.3/6, mb1mx3.1/33, mbtmp3.9/6, Error ellipse: s-maj=31.5km s-min=17.3km az=107.0*

ISC 29 04:20:19.7±1.0, 21°05S±0°1×176°4W±0°2, h300km, n9, σ0.9s67/11, mb3.2/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.96**	**263**	P		**Pn**	**04 23 49.5**	**-0.1**
	0.7nm,0.3s,baz=76,slow=18,SNR=14							
URZ	**Urewera**	**18.09**	**197**	P		**P**	**04 24 09.8**	**-0.4**
	0.6nm,0.3s,baz=352,slow=16,SNR=1.5							
URZ				S		**S**	**04 27 21.5**	**-0.1**
	0.5nm,0.3s,baz=294,slow=20,SNR=1.2							
ASAR	**Alice Springs**	**45.83**	**257**	P		**P**	**04 28 13.2**	**+0.4**
	0.4nm,0.5s,baz=88,slow=8.2,SNR=10.0							
ASAR				PcP		**PcP**	**04 29 46.1**	**+1.4**
	0.3nm,1.0s,baz=104,slow=3.9,SNR=2.6							
WRA	**Warramunga Arr**	**45.98**	**262**	P		**P**	**04 28 13.4**	**-0.5**
	0.2nm,0.4s,baz=95,slow=7.6,SNR=7.0							
NVAR	**Mina Array Bea**	**80.39**	**43**	P		**P**	**04 31 58.9**	**+0.4**
	0.3nm,0.6s,baz=213,slow=6.5,SNR=3.0							
ILAR	**Eielson Array**	**88.48**	**12**	P		**P**	**04 32 36.9**	**-0.9**
	0.2nm,0.4s,baz=210,slow=5.5,SNR=11							
AKASG	**Malin Array Be**	**144.14**	**332**	PKP		**PKPab**	**04 39 18.2**	**-0.1**
	0.2nm,0.4s,baz=41,slow=3.8,SNR=3.6							
BRTR	**Keskin Array B**	**148.25**	**313**	PKPbc		**PKPbc**	**04 39 30.9**	**0.0**
	0.5nm,0.6s,baz=132,slow=3.4,SNR=5.2							
GERES	**GERESS Array B**	**151.04**	**346**	PKPbc		**PKPbc**	**04 39 37.4**	**+0.1**
	0.6nm,0.7s,baz=347,slow=2.6,SNR=4.5							

*IDC **29** 04:24:39.2±0.7, 5°82S×153°20E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.2/31, mbtmp4.2/14, MS3.3/5, Ms1 3.3/5, ms1mx2.9/36, Error ellipse: s-maj=25.1km s-min=15.1km az=85.0*

*ISCJB **29** 04:24:41.6±0.4, 5°87S±0°05×153°31E±0°06, h32km, mb4.1/14, MS3.3/4, Error ellipse: s-maj=8.4km s-min=6.8km az=166.9*

*NEIC **29** 04:24:43.9±1.7, 5°80S±0°03×153°32E±0°09, h35km±7km, mb4.5/11*

ISC 29 04:24:43.5±0.5, 5°80S±0°06×153°32E±0°08, h32km, n35, σ0.9s86/37, mb4.3/18, MS3.2/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.96**	**319**	Pn		**Pn**	**04 25 14.1**	**-0.6**
	26nm,0.3s,baz=174,slow=1.8,SNR=5.6							
KRVT				Sn		**Sn**	**04 25 38.8**	**+0.6**
	181nm,0.3s,baz=74,slow=22,SNR=21							
KRVT				LR		LR	04 26 00.2	
	comp=Z,681nm,18.4s,baz=121,slow=42							
PMG	**Port Moresby**	**7.08**	**239**	Pn		**Pn**	**04 26 25.7**	**+0.7**
	3.8nm,0.3s,baz=23,slow=6.5,SNR=9.7							
PMG				Sn		**Sn**	**04 27 44.3**	**-0.1**
	2.1nm,0.3s,baz=15,slow=20,SNR=4.3							
PMG				LR		LR	04 28 57.1	
	comp=Z,115nm,20.4s,baz=264,slow=37							
PMG	**Port Moresby**	**7.08**	**239**			**Pn**	**04 26 25.1**	**+0.1**
HNR	**Honiara**	**7.50**	**119**	Pn		**Pn**	**04 26 30.9**	**+0.2**
EIDS	**Eidsvold**	**19.58**	**186**	P		**P**	**04 29 09.4**	**+0.5**
DZM	**Mont Dzumac**	**20.56**	**143**	P		Pn	04 29 20.9	-1.3
	5.7nm,0.6s,baz=332,slow=17,SNR=6.8							
DZM	**Mont Dzumac**	**20.56**	**143**	P		**P**	**04 29 20.3**	**+0.5**
DZM					IAmb	IAmb	04 29 22.4	
	comp=Z,24nm,1.1s							
WRA	**Warramunga Arr**	**23.20**	**231**	P		**P**	**04 29 46.1**	**-1.8**
	comp=Z,2.5nm,0.8s,baz=54,slow=10,SNR=8.2							
WRA				PcP		**PcP**	**04 33 37.7**	**+2.1**
	comp=Z,1.1nm,1.1s,baz=54,slow=1.9,SNR=3.3							
WRA				LR		LR	04 39 27.0	
	comp=Z,90nm,18.3s,baz=45,slow=38							
ASAR	**Alice Springs**	**25.78**	**224**	P		**P**	**04 30 11.2**	**-0.7**
	comp=Z,3.5nm,0.8s,baz=57,slow=8.6,SNR=23							
ASAR				PcP		**PcP**	**04 33 41.9**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=57,slow=2.4,SNR=4.3							
STKA	**Stephens Creek**	**28.17**	**201**	P		**P**	**04 30 31.3**	**-1.8**
	comp=Z,5.2nm,1.0s,baz=19,slow=11,SNR=4.7							
STKA				LR		LR	04 41 45.3	
	comp=Z,44nm,19.0s,baz=25,slow=36							
FITZ	**Fitzroy Crossi**	**29.65**	**243**	P		**P**	**04 30 45.6**	**-0.8**
	comp=Z,4.2nm,0.7s,baz=49,slow=8.2,SNR=8.4							
FITZ				LR		LR	04 41 34.1	
	comp=Z,48nm,19.4s,baz=86,slow=34							
FORT	**Forrest**	**34.36**	**221**	P		**P**	**04 31 27.3**	**-0.3**
RPZ	**Rata Peaks**	**40.86**	**160**	LR		LR	04 49 08.5	
	comp=Z,128nm,18.1s,baz=344,slow=36							
KSRS	**Korea Array**	**49.12**	**333**	P		**P**	**04 33 27.6**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=138,slow=7.5,SNR=4.7							
USRK	**Ussuriysk Ar.**	**53.35**	**341**	P		**P**	**04 33 59.3**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=113,slow=14,SNR=4.4							
CMAR	**Chiang Mai Arr**	**58.77**	**296**	P		**P**	**04 34 40.2**	**+1.1**
	comp=Z,1.0nm,0.4s,baz=108,slow=5.2,SNR=8.7							
PETK	**Petropavlovsk-**	**58.80**	**3**	P		**P**	**04 34 38.6**	**0.0**
	comp=Z,2.7nm,0.7s,baz=169,slow=8.3,SNR=2.4							
ULN	**Ulaanbaatar**	**67.11**	**328**	P		**P**	**04 35 35.0**	**+0.8**
ULN					IAmb	IAmb	04 35 36.5	
	comp=Z,6.0nm,1.2s							
SONM	**Songino Array**	**67.44**	**328**	P		**P**	**04 35 37.3**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=139,slow=5.4,SNR=14							
VNDA	**Vanda**	**71.82**	**178**	P		**P**	**04 36 03.4**	**+0.8**
	comp=Z,1.9nm,1.0s,baz=332,slow=4.8,SNR=3.8							
MK31	**Makanchi Array**	**81.41**	**319**	P		**P**	**04 36 57.0**	**-0.5**
MK31					IAmb	IAmb	04 37 08.4	
	comp=Z,5.3nm,1.6s							
MKAR	**Makanchi Array**	**81.41**	**319**	P		**P**	**04 36 57.9**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=98,slow=8.5,SNR=9.0							
ZAA0	**Zalesovo Array**	**82.27**	**326**	P		**P**	**04 37 01.1**	**-0.6**
ZALV	**Zalesovo Beam**	**82.27**	**326**	P		**P**	**04 37 01.3**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=112,slow=6.1,SNR=9.7							
ILAR	**Eielson Array**	**82.89**	**22**	P		**P**	**04 37 03.0**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=241,slow=5.0,SNR=15							
QSPA	**South Pole Qui**	**84.17**	**180**	P		**P**	**04 37 11.4**	**-0.2**
QSPA					IAmb	IAmb	04 37 13.0	
	comp=Z,6.2nm,1.1s							
KURK	**Kurchatov**	**84.87**	**322**	P		**P**	**04 37 15.0**	**-0.1**
KURK					IAmb	IAmb	04 37 19.8	
	comp=Z,7.6nm,1.4s							
NRIK	**Noril'sk**	**87.07**	**341**	P		**P**	**04 37 25.3**	**-0.3**
	comp=Z,2.0nm,0.4s,baz=112,slow=5.5,SNR=5.1							
KK31	**Karatay Array**	**88.69**	**313**	P		**P**	**04 37 35.3**	**+1.3**
KKAR	**Karatay Array**	**88.69**	**313**	P		**P**	**04 37 34.8**	**+0.8**
GERES	**GERESS Array B**	**125.17**	**328**	PKP		**PKiKP**	**04 43 42.0**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=94,slow=1.9,SNR=4.3							
LPAZ	**La Paz**	**133.49**	**119**	PKP		**PKiKP**	**04 43 59.8**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=213,slow=2.3,SNR=4.6							
BDFB	**Brasilia**	**150.00**	**136**	PKPbc		**PKiKP**	**04 44 32.8**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=248,slow=0.3,SNR=7.9							
TOA0	**Torodi Ar. Sit**	**151.10**	**287**			**PKiKP**	**04 44 35.1**	**0.0**
TORD	**Torodi Ar. Bea**	**151.10**	**287**	PKPbc		**PKPbc**	**04 44 34.6**	**0.0**
	comp=Z,3.0nm,0.7s,baz=60,slow=2.1,SNR=16							

IDC 29 04:32:48.1±9.7, 21°36S×178°70W, h589km±123km, mb2.7/4, mb1 3.0/5, mb1mx2.8/26, mbtmp3.9/5, Error ellipse: s-maj=63.7km s-min=33.6km az=24.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.23**	**191**	P		P	04 36 16.6	-0.3
	0.6nm,0.3s,baz=292,slow=6.0,SNR=3.5							
CTA	**Charters Tower**	**32.76**	**266**	P		P	04 38 34.4	+0.4
	0.7nm,0.3s,baz=78,slow=12,SNR=4.1							
ASAR	**Alice Springs**	**43.69**	**258**	P		P	04 40 02.8	+0.4
	1.2nm,0.6s,baz=95,slow=8.0,SNR=23							
WRA	**Warramunga Arr**	**43.84**	**263**	P		P	04 40 02.7	-0.8
	0.4nm,0.3s,baz=95,slow=7.6,SNR=14							
ILAR	**Eielson Array**	**89.29**	**13**	P		P	04 44 42.1	+0.3
	0.2nm,0.8s,baz=220,slow=5.2,SNR=2.8							
AKASG	**Malin Array Be**	**143.43**	**330**	PKP		PKPbc	04 51 14.8	0.0
	0.5nm,0.4s,baz=45,slow=4.1,SNR=5.4							

*ISCJB **29** 04:44:37.5±0.6, 7°09S±0°09×155°27E±0°05, h100km, mb3.7/9, Error ellipse: s-maj=12.1km s-min=7.3km az=0.2*

*NEIC **29** 04:44:39.2±2.0, 7°2S±0°2×155°34E±0°08, h104km±9km, mb4.1/3*

*IDC **29** 04:44:40.2±2.2, 7°21S×155°27E, h110km±21km, mb3.6/9, mb1 3.8/12, mb1mx3.6/38, mbtmp4.0/12, MS3.2/4, Ms1 3.2/4, ms1mx2.9/31, Error ellipse: s-maj=21.4km s-min=13.2km az=171.0*

ISC 29 04:44:39.0±0.6, 7°1S±0°1×155°31E±0°07, h100km, n20, σ1.9s41/21, mb3.9/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.14**	**117**	P		**Pn**	**04 45 54.8**	**+1.2**
	10nm,0.3s,baz=202,slow=3.9,SNR=4.9							
HNR				S		**Sn**	**04 46 54.2**	**+2.5**
	6.3nm,0.3s,baz=330,slow=20,SNR=2.1							
HNR	**Honiara**	**5.14**	**117**	P		**Pn**	**04 45 50.0**	**-3.6**
HNR	**Honiara**	**5.14**	**117**			**Pn**	**04 45 53.4**	**-0.2**
PMG	**Port Moresby**	**8.38**	**254**	P		**Pn**	**04 46 38.2**	**+0.5**
	1.7nm,0.3s,baz=94,slow=19,SNR=2.9							
PMG				S		**Sn**	**04 48 11.3**	**+0.6**
	0.3nm,0.3s,baz=107,slow=20,SNR=1.3							
PMG				LR		LR	04 49 24.7	
	comp=Z,73nm,18.2s,baz=126,slow=34							
CTA	**Charters Tower**	**15.61**	**213**	P		**Pn**	**04 48 13.4**	**0.0**
	0.2nm,0.3s,baz=40,slow=13,SNR=9.0							
WRA	**Warramunga Arr**	**24.01**	**236**	P		**P**	**04 49 43.7**	**-1.0**
	5.8nm,0.9s,baz=61,slow=9.4,SNR=17							
WRA				LR		LR	04 57 56.7	
	comp=Z,41nm,18.2s,baz=50,slow=33							
ASAR	**Alice Springs**	**26.33**	**229**	P		**P**	**04 50 04.4**	**-1.3**
	0.6nm,0.7s,baz=64,slow=9.2,SNR=11							
ASAR				PcP		**PcP**	**04 53 30.3**	**+0.8**
	0.2nm,0.5s,baz=90,slow=1.7,SNR=4.0							
ASAR				LR		LR	04 59 51.5	
	comp=Z,68nm,20.5s,baz=22,slow=35							
STKA	**Stephens Creek**	**27.77**	**206**	P		**P**	**04 50 17.1**	**-1.3**
	2.7nm,0.7s,baz=360,slow=8.2,SNR=7.5							
STKA				LR		LR	05 00 48.1	
	comp=Z,81nm,19.2s,baz=22,slow=35							
STKA	**Stephens Creek**	**27.77**	**206**	IAmb		IAmb	04 50 21.0	
	comp=Z,0.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**61.12**	**296**	P		**P**	**04 54 44.8**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=129,slow=5.0,SNR=5.8							
SONM	**Songino Array**	**69.60**	**327**	P		**P**	**04 55 38.3**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=137,slow=5.9,SNR=8.4							
ILAR	**Eielson Array**	**83.37**	**21**	P		**P**	**04 56 54.2**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=242,slow=5.1,SNR=5.6							
MK31	**Makanchi Array**	**83.70**	**319**	P		**P**	**04 56 55.0**	**-1.8**
MK31					IAmb	IAmb	04 58 03.0	
	comp=Z,3.3nm,1.2s							
MKAR	**Makanchi Array**	**83.70**	**319**	P		**P**	**04 56 57.6**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=123,slow=4.5,SNR=3.8							
INK	**Inuvik**	**89.72**	**21**	P		**P**	**04 57 24.9**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=309,slow=6.5,SNR=3.5							
INK	**Inuvik**	**89.72**	**21**	IAmb		IAmb	05 00 29.5	
	comp=Z,10.0nm,1.6s							
YKA	**Yellowknife Ar**	**96.29**	**28**	P		**P**	**04 57 54.9**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=263,slow=4.6,SNR=8.0							
LPAZ	**La Paz**	**131.13**	**119**	PKP		**PKPdf**	**05 03 41.8**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=322,slow=3.2,SNR=4.3							
BDFB	**Brasilia**	**147.68**	**134**	PKPbc		**PKPbc**	**05 04 12.9**	**-0.2**
	comp=Z,4.3nm,0.8s,baz=315,slow=2.9,SNR=7.8							
TORD	**Torodi Ar. Bea**	**153.36**	**285**	PKPbc		**PKPbc**	**05 04 26.6**	**0.0**
	comp=Z,0.5nm,0.8s,baz=128,slow=1.7,SNR=3.2							

CNRM 29 04:56:05.5, 31°84N×6°06W, h17km, ml1.3, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TISM	**Timmit**	**0.35**	**250**	P		Pg	04 56 12.7	-0.1
TISM				S		Sg	04 56 17.6	0.0
TZRR	**Tazzarine**	**1.13**	**158**	P		Pb	04 56 26.8	+0.1
TZRR				S		Sg	04 56 43.8	+1.5
MD31	**MD31**	**1.50**	**47**	P		Pn	04 56 31.4	-0.5
MD31				S		Sb	04 56 52.2	+0.3
MDT	**Midelt**	**1.57**	**51**	P		Pn	04 56 31.4	-1.4
MDT				S		Sb	04 56 53.9	+0.2
OUK	**Oukaimeden**	**1.67**	**248**	P		Pb	04 56 36.0	-0.1
OUK				S		Sb	04 56 56.3	-0.6
ZGR	**Zagora**	**1.76**	**167**	P		Pb	04 56 37.9	+0.4
ZGR				S		Sn	04 56 55.2	-2.2

IDC 29 05:10:56.2±5.0, 5°30S×103°28E, h0km, mb3.4/3, mb1 3.4/3, mb1mx3.2/54, mbtmp3.4/3, MS4.1/1, Ms1 4.1/1, ms1mx2.8/23, Error ellipse: s-maj=220.6km s-min=31.9km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**30.68**	**264**	T		T	05 49 10.4	
	baz=90							
H08S3	**Diego Garcia H**	**30.69**	**264**	T		T	05 49 21.1	
	baz=90							
H08S1	**Diego Carcia H**	**30.70**	**264**	T		T	05 49 15.8	
	baz=90							
ASAR	**Alice Springs**	**34.68**	**125**	P		P	05 17 48.8	+0.8
	0.2nm,0.4s,baz=298,slow=7.6,SNR=5.2							
CTA	**Charters Tower**	**44.26**	**113**	LR		LR	05 37 09.7	
	comp=Z,201nm,19.0s,baz=271,slow=36							
SONM	**Songino Array**	**52.97**	**3**	P		P	05 20 15.5	+0.8
	0.4nm,0.8s,baz=191,slow=7.0,SNR=2.9							
MKAR	**Makanchi Array**	**55.10**	**343**	P		P	05 20 30.6	+0.5
	0.2nm,0.5s,baz=148,slow=7.2,SNR=3.1							
TXAR	**Lajitas Array**	**145.06**	**44**	PKPbc		PKPbc	05 30 32.7	-3.1
	0.3nm,0.6s,baz=264,slow=1.6,SNR=6.8							

*NIED **29** 05:30:00.37°30N×142°20E, h17km, Mw3.6 Best double couple: M0 2.90000×10^14 NP1:φs332.00000°, δ61.00000°, λ157.00000°. NP2:φs74.00000°, δ70.00000°, λ31.00000°.*

*ISCJB **29** 05:30:09.9±1.3, 37°45N±0°03×142°22E±0°04, h12km±8km, mb3.8/8, Error ellipse: s-maj=6.8km s-min=4.4km az=137.5*

*IDC **29** 05:30:10.6±1.2, 37°61N×142°10E, h0km, mb3.9/8, mb1 3.9/10, mb1mx3.6/51, mbtmp3.8/10, ML3.1/2, Error ellipse: s-maj=26.5km s-min=21.2km az=115.0*

*JMA **29** 05:30:10.5±0.2, 37°33N×142°17E, h29km±4km, M3.9*

*NEIC **29** 05:30:14.4±1.4, 37°42N±0°08×142°3E±0°1, h35km±3km, mb4.2/7*

ISC 29 05:30:10.4±1.9, 37°46N±0°05×142°11E±0°06, h1km±10km, n44, σ1.9s13/53, mb4.0/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.99**	**265**	P		**Pg**	**05 30 29.2**	**-0.1**
JFK				*e*S		**Sg**	**05 30 42.1**	**0.0**
JIKH	**Ishinomakikobu**	**0.99**	**329**	P		**Pg**	**05 30 30.3**	**+0.9**
JMST	**Minamisoumatoc**	**1.00**	**286**	P		**Pg**	**05 30 29.9**	**+0.2**
JMST				*e*S		**Sg**	**05 30 44.2**	**+1.5**
ONAJ	**Iwakimizuishiy**	**1.10**	**252**	P		**Pg**	**05 30 30.4**	**-1.2**
ONAJ				*e*S		**Sg**	**05 30 44.8**	**-1.1**
JMM	**Marumori**	**1.12**	**292**	P		**Pg**	**05 30 31.9**	**0.0**
JIO	**Ouri**	**1.16**	**329**	P		**Pn**	**05 30 33.0**	**-0.7**
JFT	**Otama**	**1.41**	**273**	P		**Pn**	**05 30 36.6**	**-0.6**
JFT				*e*S		**Sb**	**05 30 55.3**	**-0.7**
JOU	**Okura**	**1.46**	**309**	P		**Pn**	**05 30 37.8**	**-0.1**
JOU				*e*S		**Sn**	**05 30 57.6**	**0.0**
JMK	**Ichinoseki**	**1.65**	**335**	P		**Pn**	**05 30 40.5**	**+0.1**
JMK				*e*S		**Sn**	**05 31 02.1**	**-0.1**
JYS	**Shirataka**	**1.79**	**296**	P		**Pn**	**05 30 43.2**	**+0.8**
JYS				*e*S		**Sn**	**05 31 07.0**	**+1.3**
JFY	**Yanaizu**	**1.91**	**269**	P		**Pn**	**05 30 43.5**	**-0.6**
JFY				*e*S		**Sn**	**05 31 08.3**	**-0.5**
JYK	**Kaneyama**	**2.00**	**317**	P		**Pn**	**05 30 45.6**	**+0.2**
JOM	**Ohasama**	**2.11**	**343**	P		**Pn**	**05 30 47.4**	**+0.6**
JOM				*e*S		**Sn**	**05 31 14.3**	**+0.6**
MJAR	**Matsushiro Arr**	**3.25**	**255**	Pn		**Pn**	**05 31 02.2**	**-0.3**
	0.3nm,0.3s,baz=80,slow=16,SNR=21							
MJAR					Sn	**Sb**	**05 31 45.5**	**-3.5**
	0.8nm,0.3s,baz=149,slow=16,SNR=2.0							
MAJO	**Matsushiro**	**3.25**	**255**			**Pn**	**05 31 04.3**	**+1.8**
MAT	**Matsushiro**	**3.25**	**255**	P		**Pn**	**05 31 02.7**	**+0.1**
MAT				S		**Sn**	**05 31 43.9**	**+2.0**
MJB9	**Matsu-Tunnel**	**3.25**	**255**			**Pn**	**05 31 04.5**	**+1.9**
INU	**Inuyama**	**4.61**	**244**	Pn		**Pn**	**05 31 23.4**	**+2.1**
ERM	**Erimo**	**4.62**	**10**	Pn		**Pn**	**05 31 20.6**	**-0.7**
ERM				Sn		**Sn**	**05 32 15.4**	**-0.1**
JHJ2	**Mitsune**	**4.72**	**204**	Pn		**Pn**	**05 31 22.2**	**-0.6**
ASAJ	**Asahikawa**	**6.66**	**3**	Pn		**Pn**	**05 31 49.8**	**+0.5**
	0.9nm,0.3s,baz=164,slow=20,SNR=3.7							
ASAJ				Sn		**Sn**	**05 33 04.6**	**-1.2**
	0.7nm,0.3s,baz=259,slow=22,SNR=1.4							
JKA	**Kamikawa-asahi**	**6.66**	**3**			**Pn**	**05 31 49.8**	**+0.5**
JKA						**Sn**	**05 33 04.6**	**-1.2**
USRK	**Ussuriysk Ar.**	**10.20**	**314**	Pn		**Pn**	**05 32 40.5**	**+2.6**
	baz=122,slow=14,SNR=3.2				

*NEIC **29** 05:32:40.3±1.2, 19.°04S±0.°08×169.°3E±0.°1, h242km±6km, mb4.5/56*

ISC 29 05:32:40.4±0.4, 19.°09S±0.°07×169.°34E±0.°08, h246km, n97, σ0s84/99, mb4.5/43, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.03**	**222**	P	**Pn**	**05 33 43.9**	**-0.5**
	7.3nm,0.3s,baz=59,slow=17,SNR=70						
DZM				S	**S**	**05 34 35.0**	**-0.2**
	4.7nm,0.3s,baz=326,slow=6.8,SNR=4.5						
DZM	**Mont Dzumac**	**4.03**	**222**		**Pn**	**05 33 44.1**	**-0.2**
DZM				S	**S**	**05 34 35.9**	**+0.7**
MSVF	**Nonsavu**	**8.37**	**82**		**Pn**	**05 34 39.5**	**+0.9**
LHI	**Lord Howe Isla**	**15.47**	**215**	P	**Pn**	**05 36 06.6**	**+0.3**
OUZ	**Omahuta**	**16.51**	**168**	P	**Pn**	**05 36 17.1**	**-1.4**
OUZ				IAmb	IAmb	05 36 18.8	
	comp=Z,29nm,1.2s						
EIDS	**Eidsvold**	**18.02**	**246**	P	**Pn**	**05 36 35.2**	**-1.3**
EIDS				IAmb	IAmb	05 36 36.8	
	comp=Z,34nm,1.4s						
ARMA	**Armidale**	**19.62**	**232**	P	**P**	**05 36 52.1**	**+1.3**
ARMA				IAmb	IAmb	05 36 54.6	
	comp=Z,19nm,0.9s						
CTA	**Charters Tower**	**21.78**	**264**	P	**P**	**05 37 13.1**	**+0.2**
	comp=Z,8.9nm,0.8s,baz=88,slow=12,SNR=20						
QRZ	**Quartz Range**	**21.84**	**173**	P	**P**	**05 37 15.2**	**+2.0**
TUWZ	**Tuamarina**	**22.62**	**171**	P	**P**	**05 37 20.8**	**+0.6**
SNZO	**South Karori**	**22.62**	**169**	P	**P**	**05 37 20.3**	**0.0**
BHW	**Baring Head**	**22.75**	**169**	P	**P**	**05 37 20.9**	**-0.5**
THZ	**Tophouse**	**22.81**	**173**	P	**P**	**05 37 22.9**	**+0.9**
MSWZ	**Moikau Station**	**22.82**	**168**	P	**P**	**05 37 22.0**	**-0.1**
PLWZ	**Palliser**	**22.97**	**169**	P	**P**	**05 37 23.1**	**-0.4**
KHZ	**Kahutara**	**23.53**	**172**	P	**P**	**05 37 28.6**	**+0.2**
KHZ				IAmb	IAmb	05 37 37.5	
	comp=Z,26nm,1.2s						
PMG	**Port Moresby**	**23.53**	**291**	P	**P**	**05 37 29.8**	**+0.9**
	comp=Z,14nm,0.7s,baz=93,slow=5.1,SNR=7.0						
PMG	**Port Moresby**	**23.53**	**291**	P	**P**	**05 37 28.9**	**+0.1**
PMG				IAmb	IAmb	05 37 30.8	
	comp=Z,16nm,0.8s						
LTZ	**Lake Taylor**	**23.75**	**175**	P	**P**	**05 37 31.2**	**+0.6**
LTZ				IAmb	IAmb	05 37 32.3	
	comp=Z,11nm,0.7s						
RPZ	**Rata Peaks**	**24.60**	**177**	P	**P**	**05 37 38.7**	**+0.5**
	comp=Z,7.2nm,0.6s,baz=349,slow=5.2,SNR=3.7						
COEN	**Coen**	**25.59**	**278**	P	**P**	**05 37 48.3**	**+0.8**
TOO	**Toolangi**	**27.80**	**224**	P	**P**	**05 38 07.7**	**+0.7**
TOO				IAmb	IAmb	05 38 20.8	
	comp=Z,12nm,1.0s						
STKA	**Stephens Creek**	**28.01**	**238**	P	**P**	**05 38 09.3**	**+0.4**
	comp=Z,14nm,0.7s,baz=68,slow=8.8,SNR=49						
STKA	**Stephens Creek**	**28.01**	**238**	P	**P**	**05 38 09.7**	**+0.9**
BBOO	**Buckleboo**	**32.75**	**239**	P	**P**	**05 38 50.9**	**+0.4**
BBOO				IAmb	IAmb	05 38 51.3	
	comp=Z,9.2nm,0.7s						
WRA	**Warramunga Arr**	**32.97**	**263**	P	**P**	**05 38 51.1**	**-1.4**
	comp=Z,6.0nm,0.6s,baz=89,slow=8.1,SNR=50						
AS31	**Alice Springs**	**33.26**	**256**	P	**P**	**05 38 54.9**	**-0.1**
ASAR	**Alice Springs**	**33.26**	**256**	P	**P**	**05 38 54.3**	**-0.7**
	comp=Z,39nm,0.6s,baz=83,slow=8.9,SNR=840						
ASAR				ScP	**ScP**	**05 44 53.6**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=104,slow=3.9,SNR=8.4						
MTN	**Manton Dam**	**37.20**	**274**	P	**P**	**05 39 28.8**	**+0.3**
KNRA	**Kununurra**	**38.82**	**269**	P	**P**	**05 39 42.0**	**-0.1**
FORT	**Forrest**	**39.00**	**244**	P	**P**	**05 39 42.9**	**-0.5**
FORT				IAmb	IAmb	05 39 43.8	
	comp=Z,16nm,0.8s						
FITZ	**Fitzroy Crossi**	**41.36**	**264**	P	**P**	**05 40 03.5**	**+0.7**
PSAB2	**Pilbara Seismi**	**46.32**	**258**	P	**P**	**05 40 42.8**	**+0.6**
PSAB2				IAmb	IAmb	05 40 43.0	
	comp=Z,40nm,1.1s						
PSAB3	**Pilbara Seismi**	**46.32**	**258**	P	**P**	**05 40 42.6**	**+0.4**
PSAB3				IAmb	IAmb	05 40 44.8	
	comp=Z,44nm,1.5s						
MORW	**Morawa**	**49.32**	**248**	P	**P**	**05 41 05.0**	**-0.1**
MORW				IAmb	IAmb	05 41 05.1	
	comp=Z,14nm,0.9s						
VNDA	**Vanda**	**58.59**	**182**	P	**P**	**05 42 10.8**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=0.4,slow=8.2,SNR=5.3						
VNDA	**Vanda**	**58.59**	**182**	P	**P**	**05 42 11.3**	**+0.2**
SBA	**Scott Base**	**58.82**	**181**	P	**P**	**05 42 13.8**	**+1.2**
MJAR	**Matsushiro Arr**	**62.66**	**332**	P	**P**	**05 42 38.6**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=139,slow=6.6,SNR=4.9						
NJ2	**Nanjing**	**70.17**	**316**	*e*P	**P**	**05 43 28.5**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**71.65**	**333**	P	**P**	**05 43 35.6**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=168,slow=5.8,SNR=4.5						
PETK	**Petropavlovsk-**	**72.60**	**353**	P	**P**	**05 43 41.4**	**+0.8**
	comp=Z,8.4nm,0.8s,baz=150,slow=9.2,SNR=4.8						
NIKH	**Nikolski High**	**74.20**	**13**	P	**P**	**05 43 49.6**	**-0.3**
KLR	**Kul'dur**	**75.77**	**336**	P	**P**	**05 43 59.5**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=89,slow=1.6,SNR=6.9						
HHC	**Hu-ho-hao-te**	**80.17**	**319**	*e*P	**P**	**05 44 24.3**	**+0.8**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,120nm,6.5s						
ORV	**Oroville**	**86.90**	**46**	P	**P**	**05 44 58.1**	**+0.5**
CMB	**Columbia Colle**	**86.98**	**48**	P	**P**	**05 44 58.3**	**+0.3**
AFDM	**Forest Hills D**	**86.99**	**47**	P	**P**	**05 44 56.7**	**-1.3**
AFDM				IAmb	IAmb	05 44 59.4	
	comp=Z,6.7nm,1.0s						
SONM	**Songino Array**	**87.16**	**323**	P	**P**	**05 44 59.3**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=138,slow=4.6,SNR=13						
ISA	**Isabella, Lake**	**87.31**	**51**	P	**P**	**05 44 59.8**	**+0.1**
ISA				IAmb	IAmb	05 45 01.2	
	comp=Z,4.7nm,0.8s						
MDPB	**Devils Postpil**	**87.73**	**49**	P	**P**	**05 45 02.6**	**+0.7**
PAHR	**Pah Rah Range**	**88.43**	**47**	P	**P**	**05 45 05.2**	**+0.2**
PAHR				IAmb	IAmb	05 45 06.5	
	comp=Z,8.7nm,1.3s						
RYN	**Ryan**	**88.56**	**48**	P	**P**	**05 45 05.5**	**-0.1**
NVAR	**Mina Array Bea**	**88.62**	**48**	P	**P**	**05 45 06.3**	**+0.2**
	comp=Z,3.0nm,1.0s,baz=228,slow=7.3,SNR=12						
NV11	**Mina Array Sit**	**88.73**	**49**	P	**P**	**05 45 06.9**	**+0.4**
NV11				IAmb	IAmb	05 45 07.9	
	comp=Z,7.4nm,1.3s						
MOD	**Modoc Plateau**	**88.79**	**45**	P	**P**	**05 45 07.0**	**+0.4**
MOD				IAmb	IAmb	05 45 08.1	
	comp=Z,4.8nm,0.9s						
H04A	**Detroit Lake**	**88.86**	**42**	P	**P**	**05 45 06.9**	**+0.2**
H04A				IAmb	IAmb	05 45 07.8	
	comp=Z,6.1nm,0.9s						
GLA	**Glamis**	**88.97**	**55**	P	**P**	**05 45 06.4**	**-1.2**
GLA				IAmb	IAmb	05 45 08.9	
	comp=Z,6.3nm,0.9s						
KVN	**Kaiserville**	**89.04**	**48**	P	**P**	**05 45 08.0**	**+0.1**
KVN				IAmb	IAmb	05 45 09.1	
	comp=Z,4.5nm,1.1s						
PINE	**Pine Mountain**	**89.24**	**43**	P	**P**	**05 45 08.9**	**+0.2**
F04A	**Amboy**	**89.31**	**40**	P	**P**	**05 45 09.5**	**+0.8**
TPNV	**Topopah Spring**	**89.48**	**51**	P	**P**	**05 45 10.5**	**+0.5**
TPNV				IAmb	IAmb	05 45 11.5	
	comp=Z,6.3nm,0.9s						
Y12C	**Blythe**	**89.48**	**54**	P	**P**	**05 45 10.7**	**+0.8**
Y12C				IAmb	IAmb	05 45 12.9	
	comp=Z,8.9nm,1.3s						
HDA	**Harding Lake**	**89.76**	**17**	P	**P**	**05 45 09.8**	**-0.6**
HDA				IAmb	IAmb	05 45 11.2	
	comp=Z,3.7nm,0.7s						
ILAR	**Eielson Array**	**90.06**	**17**	P	**P**	**05 45 09.9**	**-1.9**
	comp=Z,1.8nm,0.8s,baz=238,slow=5.0,SNR=17						
SHPR	**Sheep Range**	**90.10**	**51**	P	**P**	**05 45 13.4**	**+0.5**
214A	**Organ Pipe Nat**	**90.11**	**56**	P	**P**	**05 45 13.3**	**+0.5**
WVOR	**Wild Horse Val**	**90.14**	**45**	P	**P**	**05 45 13.3**	**+0.4**
WVOR				IAmb	IAmb	05 45 14.5	
	comp=Z,7.9nm,1.2s						
D05A	**Enumclaw**	**90.17**	**39**	P	**P**	**05 45 14.1**	**+1.4**
HSIG		**90.51**	**60**	P	**P**	**05 45 15.1**	**+0.3**
HSIG				IAmb	IAmb	05 45 16.8	
	comp=Z,6.7nm,1.2s						
G08A	**Pilot Rock**	**91.18**	**42**	P	**P**	**05 45 17.9**	**+0.3**
E07A	**Sunnyside**	**91.18**	**41**	P	**P**	**05 45 18.3**	**+0.8**
E07A				IAmb	IAmb	05 45 19.5	
	comp=Z,4.4nm,0.8s						
HAWA	**Hanford**	**91.31**	**41**	P	**P**	**05 45 18.3**	**+0.3**
HAWA				IAmb	IAmb	05 45 19.6	
	comp=Z,11nm,1.5s						
LCMT	**Little Creek M**	**91.71**	**51**	P	**P**	**05 45 20.4**	**+0.1**
TUC	**Tucson**	**91.84**	**57**	P	**P**	**05 45 21.4**	**+0.5**
X16A	**Lo Mia Camp, P**	**92.09**	**54**	P	**P**	**05 45 22.9**	**+0.7**
U15A	**North Rim**	**92.20**	**52**	P	**P**	**05 45 23.3**	**+0.6**
U15A				IAmb	IAmb	05 45 26.0	
	comp=Z,4.4nm,0.9s						
TMUT	**Trail Mountain**	**94.05**	**50**	P	**P**	**05 45 30.7**	**-0.5**
PDAR	**Pinedale Array**	**96.44**	**47**	P	**P**	**05 45 41.7**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=191,slow=4.2,SNR=2.8						
TXAR	**Lajitas Array**	**96.61**	**61**	P	**P**	**05 45 43.4**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=220,slow=5.1,SNR=5.6						
WMQ	**Urumqi**	**97.17**	**314**	*e*P	Pdif	05 45 46.0	+1.0
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,91nm,6.5s						
WMQ				LR	LR		
	comp=N,710nm,29.0s						
WMQ				LR	LR		
	comp=E,640nm,29.2s						
WMQ				LR	LR		
	comp=Z,150nm,29.1s						
YKA	**Yellowknife Ar**	**100.49**	**27**	P	**Pdif**	**05 45 59.9**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=253,slow=4.7,SNR=15						
ARCES	**ARCESS Array B**	**124.94**	**345**	PKP	**PKPdf**	**05 51 08.9**	**-1.6**
	comp=Z,5.0nm,1.1s,baz=48,slow=2.5,SNR=11						
CLL	**Collm**	**142.82**	**335**	*e*pPKPdf	pPKPdf	05 52 47.0	-0.2
CONA	**Conrad Observa**	**144.06**	**329**	*i* PKPdf	**PKPdf**	**05 51 45.4**	**-1.4**
	comp=Z,0.6nm,0.5s						
KHC	**Kasperske Hory**	**144.24**	**333**	*e*PKP	**PKPdf**	**05 51 45.5**	**-1.5**
GERES	**GERESS Array B**	**144.40**	**332**	PKP	**PKPdf**	**05 51 45.9**	**-1.4**
	comp=Z,1.9nm,0.7s,baz=23,slow=4.4,SNR=9.9						
ARSA	**Arzberg**	**144.70**	**329**	*i* PKPab	**PKPdf**	**05 51 46.7**	**-1.1**
	comp=Z,2.2nm,0.7s						
MOA	**Molln**	**144.88**	**330**	*i* PKPdf	**PKPdf**	**05 51 47.6**	**-0.5**
	comp=Z,5.6nm,0.8s						
ABTA	**Abfaltersbach**	**146.50**	**331**	*i* PKPbc	**PKPbc**	**05 51 51.5**	**-1.2**
	comp=Z,2.0nm,0.6s						
WTTA	**Wattenberg**	**146.51**	**332**	*i* PKPbc	**PKPbc**	**05 51 52.3**	**-0.6**
	comp=Z,1.0nm,0.3s						
WLF	**Walferdange**	**146.65**	**340**	PKPbc	**PKPbc**	**05 51 52.4**	**-0.6**
WLF				PKPab	**PKPab**	**05 51 53.4**	**-1.2**
MOTA	**Moosalm**	**146.68**	**333**	*i* PKPbc	**PKPbc**	**05 51 52.5**	**-0.8**
	comp=Z,2.5nm,0.8s						
SQTA	**Sankt Quirin**	**146.73**	**332**	*i* PKPbc	**PKPbc**	**05 51 52.6**	**-0.9**
	comp=Z,2.8nm,0.5s						
DOU	**Dourbes**	**146.75**	**342**	PKPbc	**PKPab**	**05 51 52.9**	**-2.1**
FETA	**Feichten**	**147.09**	**333**	*i* PKPbc	**PKPbc**	**05 51 53.5**	**-1.0**
	comp=Z,2.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**166.75**	**245**	PKP	**PKPdf**	**05 52 16.2**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=50,slow=1.6,SNR=4.0						

*IDC **29** 05:42:57.5±1.2, 26.°11N×128.°62E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.6/53, mbtmp3.8/8, ML3.3/1, Error ellipse: s-maj=60.8km s-min=16.3km az=73.0*
*ISCJB **29** 05:42:59.2±0.8, 26.°10N±0.°04×128.°79E±0.°04, h28km±6km, mb3.7/7, Error ellipse: s-maj=6.7km s-min=5.1km az=25.7*
*JMA **29** 05:42:59.5±0.3, 26.°08N×128.°76E, h34km±5km, M3.2*

ISC 29 05:42:58.8±1.4, 26.°10N±0.°05×128.°76E±0.°04, h14km±8km, n20, σ0s94/32, mb3.8/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.79**	**302**	P	**Pg**	**05 43 14.0**	**0.0**
JNTH				*e*S	**Sg**	**05 43 24.8**	**+0.5**
JOW	**Kunigami**	**0.85**	**329**	P	**Pg**	**05 43 15.5**	**+0.2**
JOW				*e*S	**Sn**	**05 43 27.1**	**-1.6**
JOW	**Kunigami**	**0.85**	**329**	Pn	**Pg**	**05 43 15.4**	**+0.2**
	20nm,0.3s,baz=138,slow=13,SNR=111						
JOW				Sn	**Sg**	**05 43 26.2**	**-0.2**
	33nm,0.3s,baz=123,slow=14,SNR=10						
JJT3	**Tamagusuku3**	**0.88**	**273**	P	**Pg**	**05 43 15.9**	**+0.1**
JJT3				S	**Sg**	**05 43 27.7**	**+0.3**
JYRO	**Yoronjima**	**0.96**	**343**	P	**Pg**	**05 43 17.2**	**-0.2**
JYRO				*e*S	**Sn**	**05 43 30.6**	**-0.8**
JIH	**Iheya**	**1.17**	**323**	P	**Pb**	**05 43 20.4**	**-0.4**
JIH				*e*S	**Sg**	**05 43 35.9**	**-0.7**
JOKE	**Okinoerabujima**	**1.27**	**352**	P	**Pb**	**05 43 22.1**	**-0.4**
JOKE				*e*S	**Sb**	**05 43 37.7**	**-1.0**
JAGN	**Aguni-jima**	**1.45**	**290**	P	**Pn**	**05 43 24.3**	**-0.3**
JAGN				S	**Sn**	**05 43 42.3**	**-1.1**
JTK	**Tokunoshima**	**1.69**	**6**	P	**Pn**	**05 43 28.0**	**+0.1**
JTK				*e*S	**Sn**	**05 43 48.9**	**-0.4**
JKE	**Kume jima 2**	**1.79**	**278**	P	**Pn**	**05 43 28.2**	**-1.1**
JMZ	**Minamidaito 2**	**2.23**	**97**	P	**Pn**	**05 43 35.0**	**-0.3**
JMZ				*e*S	**Sn**	**05 44 00.5**	**-2.2**
JKDJ	**Kitadaitoujima**	**2.28**	**93**	P	**Pn**	**05 43 36.0**	**-0.1**
JKDJ				S	**Sn**	**05 44 02.4**	**-1.6**
JNU	**Nakatsue**	**7.23**	**14**	Pn	**Pn**	**05 44 45.1**	**+0.9**
	0.5nm,0.3s,baz=211,slow=5.9,SNR=2.8						
JNU				Sn	**Sn**	**05 46 05.7**	**-0.5**
	0.2nm,0.3s,baz=288,slow=20,SNR=2.7						
SONM	**Songino Array**	**27.92**	**327**	P	**P**	**05 48 50.7**	**+2.1**
	0.9nm,0.5s,baz=140,slow=10,SNR=7.0						
MKAR	**Makanchi Array**	**41.98**	**312**	P	**P**	**05 50 48.8**	**-0.6**
	0.6nm,0.6s,baz=95,slow=10,SNR=6.1						
WRA	**Warramunga Arr**	**46.09**	**173**	P	**P**	**05 51 23.3**	**+0.7**
	0.8nm,0.7s,baz=353,slow=8.2,SNR=6.4						
ASAR	**Alice Springs**	**49.72**	**174**	P	**P**	**05 51 51.9**	**+1.1**
	0.3nm,0.5s,baz=5.9,slow=14,SNR=8.5						
FINES	**FINESS Array B**	**73.21**	**331**	P	**P**	**05 54 29.4**	**+0.4**
	3.3nm,1.0s,baz=66,slow=6.7,SNR=3.5						
AKASG	**Malin Array Be**	**75.94**	**320**	P	**P**	**05 54 44.5**	**-0.6**
	0.4nm,0.5s,baz=60,slow=6.0,SNR=3.5						
BRTR	**Keskin Array B**	**77.49**	**308**	P	**P**	**05 54 55.3**	**+0.9**
	0.4nm,0.5s,baz=66,slow=4.0,SNR=3.6						

MAN 29 05:48:50.0, 9.°83N×123.°83E, h4km, mb4.4, ML3.2, MS2.9, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.51**	**16**	⇑P	Pg	05 49 00.2	+0.5
LLP				S	Sb	05 49 07.9	-1.3
MSLP	**Maasin**	**1.06**	**73**	P	Pg	05 49 10.3	-0.1
MSLP				S	Sn	05 49 26.7	-0.3
OCLP	**Ormoc**	**1.44**	**32**	P	Pn	05 49 16.0	-0.8
OCLP				S	Sg	05 49 40.1	+3.8

RSNC 29 06:05:51.1±1.1, 6.°81N×73.°13W, h142km±6km, ML2.4, 3C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.22**	**195**	⇓*i*P	Pn	06 06 10.5	-0.3
BARC				*e*S	Sn	06 06 25.3	-0.4
BARC	**Barichara**	**0.22**	**195**	⇓*i*P	Pn	06 06 10.5	-0.3
BARC				*e*S	Sn	06 06 25.2	-0.6
BARC				*i*		06 06 26.8	
	comp=Z,76nm,0.2s						
BRRC	**Barranca, Sant**	**0.65**	**297**	⇑*i*P	Pn	06 06 12.4	-0.1
BRRC				*e*S	Sn	06 06 28.9	+0.3
BRRC				*i*		06 06 29.7	
	comp=Z,26nm,0.1s						
BRRC	**Barranca, Sant**	**0.65**	**297**	⇑*i*P	Pn	06 06 12.4	-0.1
BRRC				*i*		06 06 32.4	
	comp=Z,37nm,0.2s						
PAMC	**Pamplona, Colo**	**0.68**	**39**	*e*P	Pn	06 06 13.4	+0.3
PAMC				*e*S	Sn	06 06 30.0	+0.1
PAMC				*i*		06 06 30.8	
	comp=Z,46nm,0.4s						
PAMC	**Pamplona, Colo**	**0.68**	**39**	*e*P	Pn	06 06 13.4	+0.3
PAMC				*e*S	Sn	06 06 30.1	+0.2
PAMC				*i*		06 06 30.9	
	comp=Z,46nm,0.3s						
RUSC	**La Rusia**	**0.91**	**177**	*e*P	Pn	06 06 14.6	-0.4
RUSC				*e*S	Sn	06 06 32.4	-0.6
RUSC				*i*		06 06 36.0	
	comp=Z,188nm,0.3s						
RUSC	**La Rusia**	**0.91**	**177**	⇑*e*P	Pn	06 06 14.5	-0.4
RUSC				*e*S	Sn	06 06 32.5	-0.5
RUSC				*i*		06 06 36.3	
	comp=Z,15nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.35**	**259**	*e*P	Pn	06 06 17.2	-1.3
PTBC				*i*		06 06 41.0	
	comp=Z,46nm,0.1s						
PTBC	**PUERTO BERRIO,**	**1.35**	**259**	*e*P	Pn	06 06 17.1	-1.3
PTBC				*i*		06 06 41.0	
	comp=Z,48nm,0.1s						
OCAC	**Ocana**	**1.43**	**352**	*e*P	Pn	06 06 19.1	-0.5
OCAC				*e*S	Sn	06 06 40.1	-1.1
OCAC	**Ocana**	**1.43**	**352**	*e*P	Pn	06 06 19.2	-0.4
OCAC				*e*S	Sn	06 06 40.3	-1.0
OCAC				*i*		06 06 44.0	
	comp=Z,27nm,0.3s						
SPBC	**San Pablo de B**	**1.48**	**219**	*e*P	Pn	06 06 19.6	-0.5
SPBC				*i*		06 06 47.1	
	comp=Z,37nm,0.2s						
SPBC	**San Pablo de B**	**1.48**	**219**	*e*P	Pn	06 06 19.6	-0.5
SPBC				*e*S	Sn	06 06 41.2	-0.9
SPBC				*i*		06 06 47.0	
	comp=Z,37nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.85**	**292**	*e*P	Pn	06 06 23.4	-0.6
ZARC				*e*S	Sn	06 06 49.4	+0.2
ZARC				*i*		06 06 54.6	
	comp=Z,32nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.85**	**292**	*e*P	Pn	06 06 24.0	0.0
ZARC				*e*S	Sn	06 06 49.5	+0.3
NORC	**Norcasia**	**2.13**	**235**	*e*P	Pn	06 06 26.6	-0.8
NORC				*e*S	Sn	06 06 55.2	0.0
NORC				*i*		06 06 58.6	
	comp=Z,26nm,0.2s						
NORC	**Norcasia**	**2.13**	**235**	*e*P	Pn	06 06 26.5	-0.9
NORC				*e*S	Sn	06 06 55.3	+0.1
NORC				*i*		06 06 58.5	
	comp=Z,26nm,0.2s						
SMLC	**San Martn de**	**2.19**	**335**	*e*P	Pn	06 06 27.0	-1.1
SMLC				*e*S	Sn	06 06 54.8	-1.7
SMLC				*i*		06 06 59.2	
	comp=Z,22nm,0.1s						
SMLC	**San Martn de**	**2.19**	**335**	*e*P	Pn	06 06 27.0	-1.1
SMLC				*e*S	Sn	06 06 55.1	-1.4
SMLC				*i*		06 06 59.2	
	comp=Z,23nm,0.1s						
CHIC	**Chingaza**	**2.25**	**196**	*e*P	Pn	06 06 28.9	-0.3
CHIC				*e*S	Sn	06 06 58.2	-0.1
CHIC				*i*		06 07 04.2	
	comp=Z,8.3nm,0.2s						
CHIC	**Chingaza**	**2.25**	**196**	*e*P	Pn	06 06 28.9	-0.3
CHIC				*i*		06 07 04.2	
	comp=Z,8.1nm,0.2s						
ROSC	**El Rosal**	**2.29**	**211**	*e*P	Pn	06 06 27.8	-1.8
ROSC				*e*S	Sn	06 07 00.3	+1.1
ROSC	**El Rosal**	**2.29**	**211**	*e*P	Pn	06 06 30.8	+1.2
ROSC				*e*S	Sn	06 06 56.6	-2.6
HELC	**Santa Helena**	**2.46**	**256**	*e*P	Pn	06 06 32.0	+0.2
HELC				*e*S	Sn	06 07 03.1	+0.1
HELC				*i*		06 07 10.3	
	comp=Z,18nm,0.2s						
HELC	**Santa Helena**	**2.46**	**256**	*e*P	Pn	06 06 31.9	+0.1
HELC				*e*S	Sn	06 07 02.5	-0.5
HELC				*i*		06 07 10.3	
	comp=Z,18nm,0.3s						
UREC	**San Jos de Ur**	**2.56**	**292**	*e*P	Pn	06 06 31.0	-1.7
UREC				*e*S	Sn	06 07 02.8	-1.9
UREC	**San Jos de Ur**	**2.56**	**292**	*e*P	Pn	06 06 31.2	-1.5
UREC				*e*S	Sn	06 07 02.9	-1.8
GUY2C	**Guyana, Caldas**	**2.73**	**235**	*e*P	Pn	06 06 35.4	+0.3
GUY2C				*e*S	Sn	06 07 10.8	+1.7
GUY2C	**Guyana, Caldas**	**2.73**	**235**	*e*P	Pn	06 06 35.3	+0.1
GUY2C				*e*S	Sn	06 07 09.3	+0.3
RREF	**El Recreo**	**2.91**	**230**	*e*P	Pn	06 06 38.8	+1.2
CBOC	**Ciudad Bolivar**	**3.02**	**252**	*e*P	Pn	06 06 38.7	+0.1
CBOC				*e*S	Sn	06 07 15.6	+0.4
CBOC	**Ciudad Bolivar**	**3.02**	**252**	*e*P	Pn	06 06 38.7	+0.1
CBOC				*e*S	Sn	06 07 15.2	+0.1
CBOC				*i*		06 07 24.3	
	comp=Z,4.0nm,0.3s						
DBBC	**Dabeiba**	**3.07**	**274**	*e*P	Pn	06 06 38.9	-0.2
SJCC	**San Jacinto, C**	**3.68**	**327**	*e*P	Pn	06 06 45.4	-1.7
SJCC				*i*		06 07 30.6	
	comp=Z,4.5nm,0.4s						

IDC 29 06:11:00.3±2.8, 7.°15S×129.°66E, h102km±38km, mb3.4/1, mb1 3.5/5, mb1mx3.2/48, mbtmp3.8/5, MS3.0/1, Ms1 3.0/1, ms1mx2.3/21, Error ellipse: s-maj=67.7km s-min=22.0km az=91.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.44**	**14**	P	Pn	06 12 32.8	+0.1
	2.8nm,0.3s,baz=72,slow=6.6,SNR=21						
SIJI				S	Sn	06 13 39.9	-4.9
	1.0nm,0.3s,baz=270,slow=20,SNR=3.7						
BATI	**Baumata**	**6.66**	**242**	LR	LR	06 14 55.9	
	comp=Z,123nm,18.8s,baz=12,slow=35						
FITZ	**Fitzroy Crossi**	**11.56**	**199**	P	Pn	06 13 42.4

HAGD					IAMB	IAmb	06 14 27.2		
	comp=Z,0.0nm,0.3s								
ASAO	**Ashtian**	**2.39**	**31**	*e*Pn	**Pn**		**06 13 54.7**	**+1.5**	
ASAO	**Ashtian**	**2.39**	**31**	*e*Pn	**Pn**		**06 13 54.6**	**+1.5**	
ASAO				*e*Sg	**Sb**		**06 14 27.0**	**+0.5**	
IBRJ	**Brojen**	**2.39**	**104**	*e*Pn	**Pb**		**06 13 55.4**	**-1.9**	
IBRJ				IAMB	IAmb		06 14 48.4		
	comp=Z,743nm,0.7s								
IGHG	**Ghaleghazi**	**2.45**	**318**	*e*Pn	**Pb**		**06 13 58.5**	**+0.2**	
IGHG				IAMB	IAmb		06 14 44.6		
	comp=Z,2µm,0.6s								
IVIS	**Veis**	**2.46**	**326**	*e*Pn	**Pb**		**06 13 57.3**	**-1.0**	
IKLH	**Kolahrood**	**2.69**	**72**	*e*Pn	**Pn**		**06 13 58.1**	**+0.8**	
IKLH				IAMB	IAmb		06 14 45.1		
	comp=Z,871nm,0.6s								
HSRG	**Sareghieh**	**2.74**	**356**	*e*Pn	**Pn**		**06 14 00.0**	**+2.0**	
HSRG				IAMB	IAmb		06 14 42.5		
	comp=Z,0.0nm,0.4s								
ILIN	**Lien**	**2.74**	**332**	*e*Pn	**Pb**		**06 14 00.9**	**-2.3**	
ILIN				IAMB	IAmb		06 14 44.5		
	comp=Z,748nm,0.6s								
QAM	**Ghamsar**	**2.74**	**62**	*e*Pn	**Pn**		**06 14 00.1**	**+2.1**	
QAM				IAMB	IAmb		06 14 43.2		
	comp=Z,694nm,0.4s								
IDHR	**Dehrash**	**2.83**	**321**	*e*Pn	**Pn**		**06 14 01.9**	**+2.8**	
IDHR				IAMB	IAmb		06 14 52.7		
	comp=Z,0.0nm,0.6s								
KLNJ	**Kolanjah**	**3.00**	**119**	*e*Pn	**Pn**		**06 14 03.8**	**+2.1**	
KLNJ				IAMB	IAmb		06 15 05.4		
	comp=Z,0.0nm,0.6s								
GHVR	**GHOM**	**3.03**	**49**	*e*Pn	**Pn**		**06 14 03.1**	**+1.2**	
GHVR	**GHOM**	**3.03**	**49**	*e*Pn	**Pn**		**06 14 03.1**	**+1.2**	
GHVR	**GHOM**	**3.03**	**49**	*e*AML	AML		06 14 53.0		
	comp=N,72nm,0.7s								
IRAZ	**Razeghan**	**3.12**	**22**	*e*Pn	**Pn**		**06 14 04.7**	**+1.6**	
IQOM	**Qom**	**3.15**	**42**	IAMB	IAmb		06 14 15.9		
	comp=Z,0.0nm,0.5s								
IQOM				*e*Pn	**Pn**		**06 14 05.0**	**+1.4**	
IZEF	**Zefreh**	**3.23**	**82**	*e*Pn	**Pn**		**06 14 06.0**	**+1.3**	
IZEF				IAMB	IAmb		06 15 03.9		
	comp=Z,424nm,0.8s								
QABG	**Abgarm-Qazvin**	**3.31**	**15**	*e*Pn	**Pn**		**06 14 07.5**	**+1.7**	
QABG				IAMB	IAmb		06 15 07.8		
	comp=Z,0.0nm,0.8s								
IRAM	**Rameshеh**	**3.34**	**101**	*e*Pn	**Pn**		**06 14 07.5**	**+1.3**	
KRSH	**Karshahi**	**3.35**	**63**	*e*Pn	**Pn**		**06 14 07.5**	**+1.2**	
IMHD	**Mahdasht**	**3.63**	**29**	*e*Pn	**Pn**		**06 14 11.4**	**+1.3**	
IVRN	**Varamin**	**3.64**	**46**	*e*Pn	**Pn**		**06 14 11.3**	**+1.1**	
DAMV	**Damavand**	**4.22**	**42**	*e*Pn	**Pn**		**06 14 20.2**	**+1.8**	
DAMV	**Damavand**	**4.22**	**42**	*e*Pn	**Pn**		**06 14 20.2**	**+1.8**	
ILAS	**Lasjerd**	**4.67**	**51**	*e*Pn	**Pn**		**06 14 25.9**	**+1.5**	
YZKH	**Yazd**	**5.12**	**90**	*e*Pn	**Pn**		**06 14 32.6**	**+2.0**	
YZKH	**Yazd**	**5.12**	**90**	*e*Pn	**Pn**		**06 14 32.6**	**+2.0**	
ISHM	**Shahmirzad**	**5.14**	**49**	*e*Pn	**Pn**		**06 14 32.0**	**+1.0**	
MKAR	**Makanchi Array**	**29.39**	**51**	P	**P**		**06 19 16.6**	**-0.2**	
	comp=Z,0.4nm,0.5s,baz=250,slow=8.0,SNR=4.6								
FINES	**FINESS Array B**	**32.41**	**340**	P	**P**		**06 19 43.2**	**+0.1**	
	comp=Z,2.4nm,1.0s,baz=140,slow=11,SNR=3.5								
HFS	**Hagfors**	**35.89**	**331**	P	**P**		**06 20 13.5**	**0.0**	
	comp=Z,3.0nm,0.9s,baz=124,slow=12,SNR=7.0								
NOA	**NORSAR Array B**	**37.41**	**331**	P	**P**		**06 20 25.5**	**-0.9**	
	comp=Z,0.8nm,0.8s,baz=128,slow=9.6,SNR=2.8								

TIR ***29*** *06:15:59.5,39.˚84N×21.˚23E,h5km,Md3.6/7*
ATH ***29*** *06:16:01.7,39.˚93N×21.˚12E,h17km±1km,ML3.1/14,Error ellipse: s-maj=1.3km s-min=0.8km az=323.0*
ISCJB ***29*** *06:16:02.0±0.3,39.˚93N±0.˚01×21.˚12E±0.˚02,h6km±2km, mb3.5/5,Error ellipse: s-maj=2.5km s-min=2.2km az=137.3*
THE ***29*** *06:16:02.4,39.˚93N×21.˚10E,h0km±2km,ML3.1/12,Error ellipse: s-maj=2.8km s-min=0.7km az=320.0*
PDG ***29*** *06:16:02.7±0.6,39.˚93N×21.˚10E,h3km±1km,ML3.4/10, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
IDC ***29*** *06:16:07.7±2.4,39.˚85N×21.˚15E,h51km±28km,mb3.3/6, mb1 3.5/10,mb1mx3.3/54,mbtmp3.5/10,ML3.3/4,Error ellipse: s-maj=27.2km s-min=14.7km az=78.0*

ISC 29 06:16:02.7±0.9,39.˚91N±0.˚02×21.˚13E±0.˚02,h9km±6km, n145,σ1§45/197,mb3.4/5,24C-9D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KPRO	**Kipourio**	**0.19**	**76**	P		**Pg**	**06 16 06.6**	**0.0**
KPRO				S		**Sg**	**06 16 10.4**	**+1.0**
	27µm,0.5s							
KPRO	**Kipourio**	**0.19**	**76**	P		**Pg**	**06 16 06.6**	**0.0**
KPRO				S		**Sg**	**06 16 10.4**	**+1.0**
KPRO				AML	AML		06 16 10.8	
	comp=E,74027µm,0.5s							
KPRO				AML	AML		06 16 13.4	
	comp=N,33643µm,0.6s							
PENT	**Pentalofos**	**0.28**	**2**	P		**Pg**	**06 16 07.5**	**-1.0**
PENT				S		**Sg**	**06 16 12.5**	**+0.2**
	comp=N,4µm,0.5s							
PENT	**Pentalofos**	**0.28**	**2**	P		**Pg**	**06 16 07.4**	**-1.0**
PENT				S		**Sg**	**06 16 12.0**	**-0.4**
JAN	**Janina**	**0.33**	**220**	P		**Pg**	**06 16 08.1**	**-1.2**
JAN				S		**Sg**	**06 16 13.8**	**+0.1**
	comp=N,8µm,0.4s							
JAN	**Janina**	**0.33**	**220**	P		**Pg**	**06 16 08.1**	**-1.2**
JAN				S		**Sg**	**06 16 13.8**	**+0.1**
JAN				AML	AML		06 16 14.3	
	comp=E,15579µm,0.5s							
JAN				AML	AML		06 16 15.2	
	comp=N,16371µm,0.4s							
NEST	**Nestorio**	**0.51**	**353**	P		**Pg**	**06 16 11.1**	**-1.5**
NEST	**Nestorio**	**0.51**	**353**	P		**Pg**	**06 16 11.7**	**-0.9**
NEST				S		**Sg**	**06 16 19.1**	**-0.2**
NEST				AML	AML		06 16 30.4	
	comp=N,3579µm,0.7s							
NEST				AML	AML		06 16 31.7	
	comp=E,4019µm,0.6s							
KZN	**Kozani**	**0.63**	**51**	P		**Pg**	**06 16 13.7**	**-1.2**
KZN				S		**Sb**	**06 16 24.5**	**-0.4**
	comp=E,1µm,0.6s							
KZN	**Kozani**	**0.63**	**51**	P		**Pg**	**06 16 13.8**	**-1.2**
KZN				S		**Sg**	**06 16 23.8**	**+0.6**
KZN				AML	AML		06 16 26.4	
	comp=N,2369µm,0.6s							
KZN				AML	AML		06 16 26.7	
	comp=E,3852µm,0.5s							
IGT	**Igoumenitsa**	**0.72**	**239**	P		**Pg**	**06 16 15.2**	**-1.4**
IGT	**Igoumenitsa**	**0.72**	**239**	P		**Pg**	**06 16 15.5**	**-1.1**
IGT				AML	AML		06 16 31.4	
	comp=E,5003µm,0.5s							
IGT				AML	AML		06 16 34.9	
	comp=N,4971µm,0.6s							
THL	**Klokotos Trika**	**0.77**	**116**	P		**Pg**	**06 16 16.0**	**-1.5**
THL				S		**Sb**	**06 16 28.2**	**-0.5**
	comp=N,1µm,0.6s							
THL	**Klokotos Trika**	**0.77**	**116**	P		**Pg**	**06 16 15.9**	**-1.6**
THL				S		**Sb**	**06 16 28.0**	**-0.6**
THL				AML	AML		06 16 34.0	
	comp=N,3315µm,0.6s							
THL				AML	AML		06 16 36.2	
	comp=E,1348µm,0.4s							
SRN	**Sarande**	**0.87**	**268**	P		**Pg**	**06 16 18.3**	**-1.1**
SRN				S		**Sb**	**06 16 31.7**	**+0.1**
	comp=E,2µm,0.8s							
SRN	**Sarande**	**0.87**	**268**	*i* PG		**Pg**	**06 16 18.5**	**-0.9**
SRN				*i* SG		**Sb**	**06 16 32.4**	**+0.9**
FNA	**Florina**	**0.89**	**12**	P		**Pg**	**06 16 18.2**	**-1.7**
FNA				S		**Sb**	**06 16 32.1**	**-0.3**
	comp=E,912nm,0.7s							
FNA	**Florina**	**0.89**	**12**	P		**Pg**	**06 16 18.2**	**-1.7**
FNA				AML	AML		06 16 40.2	
	comp=E,2280µm,0.8s							
FNA				AML	AML		06 16 41.8	
	comp=N,1307µm,0.5s							
KTI	**Kastanea**	**0.90**	**57**	P		**Pg**	**06 16 18.9**	**-1.1**
KASA	**Kassiopi**	**0.93**	**260**	P		**Pg**	**06 16 19.5**	**-1.1**
TPE	**Tepelena**	**0.94**	**295**	*i* PG		**Pg**	**06 16 19.3**	**-1.5**
TPE				*i* SG		**Sn**	**06 16 35.6**	**+0.1**
LRSO	**Larissa Observ**	**1.00**	**103**	P		**Pg**	**06 16 21.0**	**-0.9**
KEK	**Kerkira**	**1.04**	**260**	P		**Pg**	**06 16 21.2**	**-1.5**
KEK				S		**Sb**	**06 16 37.3**	**+0.7**
	comp=N,1µm,0.6s							
KEK	**Kerkira**	**1.04**	**260**	P		**Pg**	**06 16 21.1**	**-1.5**
KEK				AML	AML		06 16 41.1	
	comp=E,2755µm,0.6s							
KEK				AML	AML		06 16 44.6	
	comp=N,2322µm,0.6s							
LIT	**Litokhoron**	**1.06**	**79**	P		**Pg**	**06 16 22.4**	**-0.7**
LIT				S		**Sn**	**06 16 39.5**	**+0.8**
	comp=N,838nm,0.6s							
LIT	**Litokhoron**	**1.06**	**79**	P		**Pg**	**06 16 21.8**	**-1.4**
LIT				AML	AML		06 16 44.0	
	comp=N,1502µm,0.8s							
LIT				AML	AML		06 16 47.7	
	comp=E,1337µm,0.5s							
EVR	**Evrytania**	**1.12**	**152**	P		**Pg**	**06 16 23.0**	**-1.3**
EVR				AML	AML		06 16 45.9	
	comp=N,1257µm,0.6s							
EVR				AML	AML		06 16 55.5	
	comp=E,1568µm,0.7s							
TSLK	**Tsoukalades, L**	**1.14**	**199**	P		**Pb**	**06 16 24.5**	**-0.1**
TSLK	**Tsoukalades, L**	**1.14**	**199**	P		**Pb**	**06 16 24.4**	**-0.1**
LKD2	**Lefkada island**	**1.18**	**198**	P		**Pb**	**06 16 24.6**	**-0.6**
LKD2				S		**Sn**	**06 16 42.1**	**+0.6**
	comp=E,798nm,0.8s							
LKD2	**Lefkada island**	**1.18**	**198**	P		**Pb**	**06 16 24.6**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.19**	**139**	P		**Pb**	**06 16 24.3**	**-1.1**
MAKR				AML	AML		06 16 45.8	
	comp=E,3054µm,0.2s							
MAKR				AML	AML		06 16 47.5	
	comp=N,2139µm,0.2s							
AGG	**Agios Georgios**	**1.29**	**133**	P		**Pn**	**06 16 26.2**	**-0.6**
AGG				S		**Sn**	**06 16 47.4**	**+3.2**
	comp=N,832nm,0.4s							
AGG	**Agios Georgios**	**1.29**	**133**	P		**Pn**	**06 16 26.3**	**-0.6**
AGG				AML	AML		06 16 49.2	
	comp=N,1803µm,0.2s							
AGG				AML	AML		06 16 53.0	
	comp=E,1410µm,0.7s							
PVO	**Paravola**	**1.33**	**166**	P		**Pb**	**06 16 27.7**	**0.0**
PVO				S		**Sg**	**06 16 48.1**	**+2.7**
	comp=E,730nm,0.6s							
PVO	**Paravola**	**1.33**	**166**	P		**Pn**	**06 16 27.3**	**0.0**
PVO				AML	AML		06 17 04.1	
	comp=E,1565µm,0.7s							
PVO				AML	AML		06 17 07.8	
	comp=N,1330µm,1.1s							
EVGI	**Lefkada island**	**1.34**	**196**	P		**Pn**	**06 16 27.2**	**-0.3**
VLO	**Vlora**	**1.37**	**295**	*i* PN		**Pn**	**06 16 27.5**	**-0.4**
VLO				*i* SN		**Sg**	**06 16 51.5**	**+4.8**
GRG	**Griva**	**1.43**	**43**	P		**Pn**	**06 16 28.2**	**-0.6**
THE	**Thessaloniki**	**1.58**	**62**	P		**Pn**	**06 16 30.9**	**+0.1**
EFP	**Efpalio**	**1.60**	**158**	P		**Pb**	**06 16 32.5**	**+0.1**
AXAR	**Agios Charalam**	**1.65**	**133**	P		**Pb**	**06 16 32.9**	**-0.3**
HORT	**Hortiatis**	**1.66**	**65**	P		**Pn**	**06 16 31.7**	**-0.3**
SERG	**Sergoula**	**1.66**	**154**	P		**Pb**	**06 16 33.4**	**0.0**
SERG	**Sergoula**	**1.66**	**154**	P		**Pb**	**06 16 33.4**	**0.0**
XOR	**Xorichti**	**1.69**	**108**	P		**Pn**	**06 16 32.0**	**-0.3**
XOR	**Xorichti**	**1.69**	**108**	P		**Pn**	**06 16 32.1**	**-0.3**
TRIZ	**Trizonia**	**1.71**	**154**	P		**Pb**	**06 16 33.9**	**-0.3**
KALE	**Kalithea**	**1.71**	**152**	P		**Pb**	**06 16 34.1**	**-0.2**
KALE	**Kalithea**	**1.71**	**152**	P		**Pb**	**06 16 33.8**	**-0.5**
TIR	**Tirane**	**1.73**	**327**	*i* PN		**Pb**	**06 16 34.2**	**-0.3**
TIR				*i* SN		**Sg**	**06 17 02.1**	**+3.9**
TIR	**Tirane**	**1.73**	**327**	⇑P		**Pb**	**06 16 34.0**	**-0.5**
TIR				AML	AML		06 17 11.2	
NEO	**Neokhori**	**1.73**	**110**	P		**Pn**	**06 16 32.9**	**0.0**
NEO				AML	AML		06 17 05.4	
	comp=E,690µm,0.5s							
NEO				AML	AML		06 17 09.5	
	comp=N,940µm,0.7s							
VLS	**Valsamata**	**1.78**	**194**	P		**Pb**	**06 16 34.8**	**-0.6**
VLS	**Valsamata**	**1.78**	**194**	P		**Pb**	**06 16 34.9**	**-0.6**
KFL	**Anninata**	**1.82**	**188**	P		**Pb**	**06 16 35.3**	**-0.8**
PLG	**Polygyros**	**1.84**	**75**	P		**Pn**	**06 16 34.0**	**-0.4**
KNT	**Kendrikon**	**1.84**	**47**	P		**Pn**	**06 16 33.8**	**-0.6**
KNT	**Kendrikon**	**1.84**	**47**	P		**Pn**	**06 16 34.1**	**-0.4**
PHP	**Peshkopia**	**1.85**	**344**	*i* PN		**Pb**	**06 16 36.5**	**-0.2**
PHP				*i* SN		**Sg**	**06 17 05.4**	**+3.3**
LKR	**Lokris**	**1.92**	**130**	P		**Pn**	**06 16 36.5**	**+1.0**
SOKH	**Sokhos**	**1.93**	**61**	P		**Pn**	**06 16 36.7**	**+1.0**
SKIA	**Skiathos**	**1.96**	**112**	P		**Pn**	**06 16 36.2**	**+0.2**
PAIG	**Paliouri**	**1.96**	**89**	P		**Pn**	**06 16 35.5**	**-0.6**
KLV	**Kalavryta, Ach**	**2.03**	**157**	P		**Pb**	**06 16 38.4**	**-1.3**
SCTE	**Santa Cesarea**	**2.05**	**275**	P		**Pn**	**06 16 37.7**	**+0.4**
MRKA	**Markates**	**2.26**	**121**	P		**Pn**	**06 16 40.5**	**+0.4**
PUK	**Puka**	**2.33**	**337**	*i* PN		**Pb**	**06 16 44.7**	**-0.1**
PUK				*i* SN		**Sg**	**06 17 18.4**	**+0.9**
ULC	**Ulcinj**	**2.50**	**326**	⇑*i* PN		**Pn**	**06 16 44.7**	**+1.2**
ULC				*e*Sn		**Sb**	**06 17 18.4**	**-0.2**
BCI	**Bajram Curri**	**2.58**	**342**	*i* PN		**Pb**	**06 16 48.9**	**-0.2**
BCI				*i* SN		**Sg**	**06 17 23.8**	**-1.8**
DRME	**Dracevica, Mon**	**2.71**	**328**	*e*Pn		**Pn**	**06 16 47.9**	**+1.6**
DRME	**Dracevica, Mon**	**2.71**	**328**	⇑*i* Pn		**Pn**	**06 16 47.8**	**+1.5**
DRME				*e*Sn		**Sb**	**06 17 22.9**	**-1.7**
PVY	**Plav**	**2.82**	**342**	⇑*i* Pn		**Pn**	**06 16 49.9**	**+1.9**
PVY				*e*Sn		**Sb**	**06 17 25.3**	**-2.7**
PDG	**Podgorica**	**2.89**	**331**	*e*Pn		**Pn**	**06 16 50.1**	**+1.3**
PDG	**Podgorica**	**2.89**	**331**	⇑P		**Pn**	**06 16 49.5**	**+0.7**
PDG				⇑S		**Sn**	**06 17 23.9**	**+0.3**
PDG				AML	AML		06 17 57.4	
TTG	**Podgorica**	**2.89**	**331**	⇑*i* Pn		**Pn**	**06 16 50.5**	**+1.7**
TTG				*e*Sn		**Sb**	**06 17 27.7**	**-2.0**
DID	**Didima**	**2.91**	**145**	P		**Pn**	**06 16 50.7**	**+1.5**
BUM	**Brajici-Budva**	**2.92**	**325**	⇑*i* Pn		**Pn**	**06 16 50.2**	**+0.8**
BUM				*e*Sn		**Sb**	**06 17 28.0**	**-2.9**
VLY	**Voula,Athens**	**2.92**	**134**	P		**Pn**	**06 16 49.7**	**+0.4**
TAR1	**Taranto**	**3.01**	**283**	*e*Pn		**Pg**	**06 16 59.7**	**-0.6**
IVA	**Berane**	**3.10**	**343**	⇓*i* Pn		**Pn**	**06 16 53.5**	**+1.7**
IVA				*e*Sn		**Sn**	**06 17 32.5**	**+3.5**
CEME	**Cevo**	**3.12**	**328**	⇓*i* Pn		**Pn**	**06 16 53.1**	**+1.1**
CEME				*e*Sn		**Sn**	**06 17 32.8**	**+3.4**
MASS	**Massafra**	**3.13**	**285**	*e*Pn		**Pb**	**06 17 00.3**	**+1.8**
VTS	**Vitosha**	**3.14**	**30**	⇑P		**Pn**	**06 16 53.3**	**+0.9**
VTS				AML	AML		06 17 49.5	
KOME	**Kolasin**	**3.18**	**338**	⇓*i* Pn		**Pn**	**06 16 54.6**	**+1.7**
KOME				*e*Sn		**Sb**	**06 17 35.2**	**-3.0**
HCY	**Herceg Novi**	**3.22**	**323**	⇑*i* Pn		**Pn**	**06 16 54.0**	**+0.6**
HCY				*e*Sn		**Sb**	**06 17 35.8**	**-3.5**
NKME	**Niksic**	**3.29**	**331**	⇓*i* Pn		**Pn**	**06 16 56.1**	**+1.7**
NKME				*e*Sn		**Sn**	**06 17 37.2**	**+3.6**
NKY	**Niksic**	**3.31**	**332**	⇓*i* Pn		**Pn**	**06 16 55.9**	**+1.1**
NKY				*e*Sn		**Sn**	**06 17 38.1**	**+3.8**
BAI	**Bari**	**3.45**	**292**	*e*Pn		**Pn**	**06 16 58.7**	**+2.2**
TIP	**Timpagrande**	**3.46**	**259**	P		**Pn**	**06 16 56.6**	**-0.1**
TIP	**Timpagrande**	**3.46**	**259**	⇑P		**Pn**	**06 16 56.9**	**+0.2**
TIP				⇑S		**Sn**	**06 17 38.6**	**+0.9**
TIP				AML	AML		06 17 39.7	
MATE	**Matera**	**3.46**	**284**	⇓P		**Pn**	**06 16 56.9**	**+0.2**
MATE				⇑S		**Sn**	**06 17 39.4**	**+1.6**
MATE				AML	AML		06 18 01.4	
TREB	**Trebinje**	**3.50**	**324**	*e*Pn		**Pn**	**06 16 57.1**	**-0.1**
SG1	**Sgolgore (BA)**	**3.52**	**287**	*e*Pn		**Pn**	**06 16 57.7**	**+0.1**
DBRK	**Dubrovnik**	**3.56**	**322**	*e*Pn		**Pn**	**06 16 58.3**	**+0.3**
DBRK				Sn		**Sn**	**06 17 41.6**	**+1.5**
BRY	**Bratogost**	**3.57**	**328**	*e*Pn		**Pn**	**06 16 59.1**	**+0.8**
BRY	**Bratogost**	**3.57**	**328**	⇑*i* Pn		**Pn**	**06 16 59.2**	**+0.9**
BRY				*e*Sn		**Sn**	**06 17 44.1**	**+3.5**
UPM	**Unac-Piva**	**3.69**	**334**	⇓*i* Pn		**Pn**	**06 17 01.8**	**+1.8**
UPM				*e*Sn		**Sn**	**06 17 46.8**	**+3.1**
BLKB	**Belogradchik**	**3.89**	**17**	⇑P		**Pn**	**06 17 03.5**	**+0.9**
BLKB				AML	AML		06 18 24.8	
STON	**Ston**	**3.92**	**320**	*e*Pn		**Pn**	**06 17 03.3**	**+0.3**
STON				Sn		**Sn**	**06 17 48.6**	**-0.5**
STON	**Ston**	**3.92**	**320**	*e*Pn		**Pn**	**06 17 02.7**	**-0.3**
BBLS	**Lazići**	**4.16**	**343**	*e*Pn		**Pn**	**06 17 09.2**	**+2.9**
DIVS	**Divibare**	**4.27**	**349**	*e*Pn		**Pn**	**06 17 07.8**	**-0.1**
PLVB	**Pleven**	**4.35**	**36**	⇓P		**Pn**	**06 17 09.7**	**+0.8**
PLVB				AML	AML		06 18 37.0	
HAPS	**Han Pijesak,BI**	**4.48**	**339**	*e*Pn		**Pn**	**06 17 11.1**	**+0.3**
MAKA	**Makarska**	**4.57**	**319**	*e*Pn		**Pn**	**06 17 11.9**	**0.0**
MAKA				Sn		**Sn**	**06 18 03.4**	**-1.6**
RICI	**Ricice**	**4.66**	**321**	⇓Pn			06 17 13.5	
RICI				Sn		**Sn**	**06 18 07.5**	**0.0**
ELND	**Elena**	**4.67**	**48**	⇑P		**Pn**	**06 17 13.8**	**+0.4**
HVAR	**Hvar**	**4.79**	**314**	*i* Pn		**Pn**	**06 17 15.0**	**0.0**
HVAR				Sn		**Sn**	**06 18 08.5**	**-2.1**
FRGS	**Fruska Gora**	**5.33**	**350**	*e*Pn		**Pn**	**06 17 23.5**	**+1.1**
KIJV	**Kijevo**	**5.40**	**321**	*e*Pn		**Pn**	**06 17 23.3**	**0.0**
KIJV				Sn		**Sn**	**06 18 25.1**	**-0.4**
IDI	**Anoyia**	**5.50**	**146**	P		**Pn**	**06 17 27.3**	**+2.5**
	comp=N,0.4nm,0.3s,baz=324,slow=19,SNR=2.5							
IDI				S		**Sn**	**06 18 27.4**	**-0.7**
	comp=N,0.3nm,0.3s,baz=156,slow=2.9,SNR=3.5							
ZIRJ	**Zirje**	**5.55**	**314**	*i* Pn		**Pn**	**06 17 24.8**	**-0.6**
ZIRJ				Sn		**Sn**	**06 18 26.7**	**-2.5**
GZR	**Gura Zlata**	**5.61**	**12**	⇑P		**Pn**	**06 17 26.3**	**0.0**
GZR				⇓S		**Sn**	**06 18 31.2**	**+0.3**
BLY	**Banja Luka**	**5.65**	**330**	⇑P		**Pn**	**06 17 25.8**	**-0.9**
MORI	**Morici**	**5.65**	**316**	*i* Pn		**Pn**	**06 17 25.6**	**-1.2**
BZS	**Buzias**	**5.71**	**3**	⇑P		**Pn**	**06 17 27.4**	**-0.3**
BZS				⇑S		**Sn**	**06 18 31.8**	**-1.5**
DUGI	**Dugi Otok**	**6.09**	**314**	*e*Pn		**Pn**	**06 17 33.3**	**+0.5**
DUGI				Sn		**Sn**	**06 18 39.9**	**-2.7**
UDBI	**Udbina**	**6.09**	**321**	*e*Pn		**Pn**	**06 17 34.3**	**+1.4**
VOIR		**6.23**	**26**	⇑P		**Pn**	**06 17 35.3**	**+0.5**
NVLJ	**Novalja**	**6.57**	**317**	*e*Pn		**Pn**	**06 17 39.4**	**+0.1**
NVLJ				Sn		**Sn**	**06 18 50.9**	**-3.4**
MLR	**Muntele Rosu**	**6.61**	**31**	P		**Pn**	**06 17 44.0**	**+3.9**
	comp=N,0.6nm,0.3s,baz=225,slow=5.1,SNR=5.1							
MLR	**Muntele Rosu**	**6.61**	**31**	⇑P		**Pn**	**06 17 41.1**	**+1.0**
PLOR	**Plostina**	**7.19**	**33**	⇑P		**Pn**	**06 17 50.0**	**+2.1**
CRES	**Cresnjev**	**7.23**	**327**	*e*Pn		**Pn**	**06 17 48.8**	**+0.3**
VRI	**Vrincioaia**	**7.23**	**33**	⇑P		**Pn**	**06 17 49.6**	**+1.0**
CEY	**Cerknica**	**7.62**	**322**	*e*Pn		**Pn**	**06 17 54.5**	**+0.6**
OBKA	**Obir**	**8.16**	**326**	*i* Pn		**Pn**	**06 18 02.6**	**+1.4**
	comp=N,1.7nm,0.6s							
OBKA				*i* Sn		**Sn**	**06 19 36.1**	**+2.6**
ARSA	**Arzberg**	**8.39**	**333**	*i* Pn		**Pn**	**06 18 04.7**	**+0.3**
	comp=N,0.3nm,0.2s							
VYHS	**Vyhne**	**8.74**	**350**	*e*PN		Pn	06 18 17.6	+8.5
ABTA	**Abfaltersbach**	**9.27**	**320**	*i* Pn		**Pn**	**06 18 18.2**	**+1.6**
ABTA				*i* Sn		**Sn**	**06 19 59.4**	**-1.6**
	comp=N,3.6nm,0.8s							
MOA	**Molln**	**9.35**	**330**	*i* Pn		**Pn**	**06 18 18.7**	**+1.2**
	comp=N,0.2nm,0.2s							
BRTR	**Keskin Array B**	**9.63**	**87**	P		**Pn**	**06 18 22.9**	**+1.4**
	comp=N,0.1nm,0.3s,baz=260,slow=12,SNR=3.4							
WTTA	**Wattenberg**	**10.06**	**320**	*i* Pn		**Pn**	**06 18 27.1**	**-0.4**
	comp=N,0.3nm,0.2s							
SQTA	**Sankt Quirin**	**10.25**	**319**	*i* Pn		**Pn**	**06 18 31.0**	**+1.0**
	comp=N,0.8nm,0.3s							
FETA	**Feichten**	**10.37**	**317**	*i* Pn		**Pn**	**06 18 33.0**	**+1.4**
	comp=N,0.5nm,0.4s							
MOTA	**Moosalm**	**10.39**	**319**	*i* Pn		**Pn**	**06 18 31.8**	**-0.1**
	comp=N,0.6nm,0.3s							
GERES	**GERESS Array B**	**10.39**	**332**	P		**Pn**	**06 18 34.5**	**+2.7**
	comp=N,0.1nm,0.3s,baz=166,slow=12,SNR=4.1							
HFS	**Hagfors**	**20.77**	**349**	P		Pn	06 20 45.8	-0.3
	comp=N,2.0nm,0.7s,baz=172,slow=12,SNR=4.2							
FINES	**FINESS Array B**	**21.77**	**6**	P		**P**	**06 20 55.9**	**+1.5**
	comp=N,3.3nm,0.9s,baz=165,slow=16,SNR=4.4							
NB2	**NORSAR Subarra**	**22.02**	**347**	P		**P**	**06 20 56.0**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=153,slow=10							
NOA	**NORSAR Array B**	**22.02**	**347**	P		**P**	**06 20 56.5**	**-0.7**
	comp=Z,1.6n

	baz=46							
KBK				⇓*i*S		**Sb**	**06 36 45.8**	**-0.9**
	baz=46							
KBK	**Karagaybulak**	**2.47**	**345**	P		**Pb**	**06 36 16.5**	**+0.8**
	SNR=21							
AAK	**Ala-Archa**	**2.56**	**337**	P		**Pb**	**06 36 16.3**	**-1.1**
	SNR=7.6							
AAK	**Ala-Archa**	**2.56**	**337**	⇑Pn		**Pn**	**06 36 15.2**	**+1.8**
	5.9nm,0.6s							
AAK				⇑Lg		Lg	06 36 51.4	
	53nm,1.0s							
TKM2	**Tokmak 2**	**2.65**	**356**	⇑*i*P		**Pn**	**06 36 15.7**	**+1.1**
	baz=57							
TKM2				⇑*i*S		**Sb**	**06 36 50.8**	**-1.1**
	baz=57							
TKM2	**Tokmak 2**	**2.65**	**356**	P		**Pn**	**06 36 16.9**	**+2.3**
	SNR=6.2							
TKM2	**Tokmak 2**	**2.65**	**356**	⇓Pn		**Pn**	**06 36 16.7**	**+2.1**
	5.1nm,0.4s							
TKM2				⇑Lg		Lg	06 36 56.7	
	25nm,0.6s							
KST	**Kastek**	**2.76**	**2**	*e*P		**Pb**	**06 36 22.3**	**+1.5**
	7.8nm,0.3s							
KST				*e*S		**Sg**	**06 37 01.6**	**+2.3**
	17nm,0.4s							
KST	**Kastek**	**2.76**	**2**	Pg		**Pb**	**06 36 22.3**	**+1.5**
	7.2nm,0.4s							
KST				Lg		Lg	06 37 01.6	
	17nm,0.4s							
CHMS	**Chumysh**	**2.83**	**344**	⇑*e*P		**Pn**	**06 36 18.0**	**+1.0**
	baz=45							
CHMS				⇑*i*S		**Sb**	**06 36 54.6**	**-2.6**
	baz=45							
ANVS	**Anan'yevo**	**2.86**	**28**	⇑*e*P		**Pn**	**06 36 18.6**	**+1.1**
	baz=28							
ANVS				⇑*i*S		**Sb**	**06 36 55.7**	**-2.3**
	baz=28							
TNSS	**Tian-Shan**	**2.88**	**17**	*e*P		**Pb**	**06 36 23.6**	**+0.6**
	4.3nm,0.3s							
TNSS				*e*S		**Sg**	**06 37 03.8**	**+0.8**
	7.8nm,0.4s							
TNSS	**Tian-Shan**	**2.88**	**17**	Pg		**Pb**	**06 36 23.6**	**+0.6**
	4.3nm,0.3s							
TNSS				Lg		Lg	06 37 03.8	
	7.8nm,0.4s							
MTBS	**Maitube**	**2.88**	**9**	*e*P		**Pb**	**06 36 23.4**	**+0.6**
	6.7nm,0.2s							
MTBS				*e*S		**Sg**	**06 37 03.5**	**+0.4**
	12nm,0.3s							
MTBS	**Maitube**	**2.88**	**9**	Pg		**Pb**	**06 36 23.4**	**+0.6**
	6.7nm,0.2s							
MTBS				Lg		Lg	06 37 03.5	
	12nm,0.3s							
DGS	**Degeres**	**2.96**	**359**	*e*P		**Pb**	**06 36 24.7**	**+0.5**
	7.8nm,0.6s							
DGS				*e*S		**Sg**	**06 37 05.8**	**+0.2**
	15nm,0.4s							
DGS	**Degeres**	**2.96**	**359**	Pg		**Pb**	**06 36 24.7**	**+0.5**
	7.8nm,0.6s							
DGS				Lg		Lg	06 37 05.8	
	15nm,0.4s							
MDOK	**Medeo**	**3.02**	**17**	*e*P		**Pb**	**06 36 26.4**	**+1.2**
	4.6nm,0.6s							
MDOK				*e*S		**Sg**	**06 37 08.7**	**+1.2**
	9.9nm,0.6s							
MDOK	**Medeo**	**3.02**	**17**	Pg		**Pb**	**06 36 26.4**	**+1.2**
	4.6nm,0.6s							
MDOK				Lg		Lg	06 37 08.7	
	9.9nm,0.6s							
KOTS	**Kotyrbulak**	**3.10**	**18**	*e*P		**Pb**	**06 36 27.8**	**+1.1**
	5.8nm,0.4s							
KOTS				*e*S		**Sg**	**06 37 11.1**	**+0.9**
	13nm,0.4s							
KOTS	**Kotyrbulak**	**3.10**	**18**	Pg		**Pb**	**06 36 27.8**	**+1.1**
	5.8nm,0.4s							
KOTS				Lg		Lg	06 37 11.1	
	13nm,0.4s							
MRKS	**Merke**	**3.15**	**322**	*e*P		**Pb**	**06 36 27.8**	**+0.5**
	6.1nm,0.4s							
MRKS				*e*S		**Sg**	**06 37 11.4**	**-0.1**
	8.9nm,0.5s							
MRKS	**Merke**	**3.15**	**322**	Pg		**Pb**	**06 36 27.8**	**+0.5**
	6.1nm,0.4s							
MRKS				Lg		Lg	06 37 11.4	
	8.9nm,0.5s							
USP	**Ospenovka**	**3.15**	**342**	P		**Pn**	**06 36 23.3**	**+1.9**
	SNR=7.5							
SGDS	**Sogindy**	**3.29**	**345**	Pg		**Pb**	**06 36 30.5**	**+0.7**
	2.8nm,0.4s							
SGDS				Lg		Lg	06 37 15.8	
	9.4nm,0.4s							
SATY	**Saty**	**3.38**	**34**	*e*P		**Pb**	**06 36 31.7**	**+0.3**
	7.6nm,1.0s							
SATY				*e*S		**Sg**	**06 37 18.1**	**-1.0**
	17nm,1.4s							
KTBS	**Karatobe**	**3.49**	**10**	*e*P		**Pb**	**06 36 34.4**	**+1.3**
	4.7nm,0.4s							
KTBS				*e*S		**Sg**	**06 37 22.5**	**-0.1**
	19nm,0.4s							
KTBS	**Karatobe**	**3.49**	**10**	Pg		**Pb**	**06 36 34.4**	**+1.3**
	4.7nm,0.4s							
KTBS				Lg		Lg	06 37 22.5	
	19nm,0.4s							
KUU	**Kurty**	**3.63**	**6**	*e*P		**Pb**	**06 36 36.9**	**+1.4**
	3.5nm,0.6s							
KUU				*e*S		**Sg**	**06 37 26.7**	**-0.5**
	19nm,0.5s							
KUU	**Kurty**	**3.63**	**6**	Pg		**Pb**	**06 36 36.9**	**+1.4**
	3.5nm,0.6s							
KUU				Lg		Lg	06 37 26.7	
	19nm,0.5s							
CHKK	**Chushkaly**	**3.67**	**13**	*e*P		**Pb**	**06 36 37.5**	**+1.3**
	4.5nm,0.5s							
CHKK				*e*S		**Sg**	**06 37 27.8**	**-0.7**
	8.3nm,0.3s							
CHKK	**Chushkaly**	**3.67**	**13**	Pg		**Pb**	**06 36 37.5**	**+1.3**
	4.5nm,0.5s							
CHKK				Lg		Lg	06 37 27.8	
	8.3nm,0.3s							
KPKS	**Kokpek**	**3.83**	**33**	*e*P		**Pb**	**06 36 39.9**	**+0.9**
	3.1nm,0.4s							
KPKS				*e*S		**Sg**	**06 37 31.7**	**-1.9**
	19nm,0.6s							
ARXS	**Arharly**	**4.20**	**20**	*e*P		**Pb**	**06 36 46.3**	**+1.0**
	2.6nm,0.5s							
ARXS				*e*S		**Sg**	**06 37 42.8**	**-2.6**
	5.5nm,0.4s							
ARXS	**Arharly**	**4.20**	**20**	Pg		**Pb**	**06 36 46.3**	**+1.0**
	2.6nm,0.5s							
ARXS				Lg		Lg	06 37 42.8	
	5.5nm,0.4s							
KK31	**Karatay Array**	**4.88**	**307**	⇑Pg		**Pb**	**06 36 58.2**	**+1.4**
	1.8nm,0.9s,baz=125,slow=17,SNR=4.3							
KK31				⇓Lg		Lg	06 38 04.1	
	1.1nm,0.5s,baz=130,slow=30,SNR=6.4							

ISCJB ***29*** *06:38:22.9±0.7,21.°99S±0.°03×68.°51W±0.°06,h133km±9km, Error ellipse: s-maj=9.3km s-min=5.3km az=172.7*
SJA ***29*** *06:38:22.9±1.3,22.°04S×68.°42W,h121km±8km,ML2.9, MW3.1*
GUC ***29*** *06:38:23.2±0.5,21.°98S×68.°56W,h125km±4km,ML3.1*

ISC 29 06:38:24.1±1.5,21.°99S±0.°04×68.°49W±0.°05, h122km±11km, n27, σ0°75/42, 6C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	**IPOC Station P**	**0.72**	**285**	⇑*i*P		**Pn**	**06 38 43.8**	**-0.2**
PB09				*i* S		**Sn**	**06 38 59.5**	**+0.5**
PB09	**IPOC Station P**	**0.72**	**285**	*i* P		**Pn**	**06 38 44.1**	**+0.1**
PB09				⇓*e*S		**Sn**	**06 38 59.9**	**+0.9**
PB09				IAML			06 39 00.7	
	comp=Z,192nm,0.2s							
LVC	**Limon Verde**	**0.73**	**212**	*e*P		**Pn**	**06 38 43.4**	**-0.9**
LVC				*i* S		**Sn**	**06 38 59.4**	**-0.2**
LVC	**Limon Verde**	**0.73**	**212**	*i* P		**Pn**	**06 38 43.4**	**-0.9**
LVC				*e*S		**Sn**	**06 38 58.9**	**-0.8**
PB03	**IPOC Station P**	**1.17**	**267**	⇑*i*P		**Pn**	**06 38 47.9**	**-0.3**
PB03				*i* S		**Sn**	**06 39 06.6**	**+0.1**
PB03				IAML			06 39 09.0	
	comp=E,400nm,0.2s							
PB06	**IPOC Station P**	**1.23**	**234**	⇓*i*P		**Pn**	**06 38 48.5**	**-0.2**
PB06				*i* S		**Sn**	**06 39 08.1**	**+0.5**
PB06				IAML			06 39 10.4	
	comp=E,362nm,0.2s							
PB06	**IPOC Station P**	**1.23**	**234**	*i* P		**Pn**	**06 38 48.6**	**-0.2**
PB06				*e*S		**Sn**	**06 39 08.3**	**+0.8**
PB06				IAML			06 39 09.9	
	comp=Z,182nm,0.1s							
PB15	**IPOC Station P**	**1.52**	**216**	⇓*i*P		**Pn**	**06 38 51.9**	**-0.2**
PB15				*e*S		**Sn**	**06 39 14.1**	**+0.8**
PB15	**IPOC Station P**	**1.52**	**216**	⇑*i*P		**Pn**	**06 38 52.1**	**0.0**
PB15				*e*S		**Sn**	**06 39 14.4**	**+1.1**
PB04	**IPOC Station P**	**1.58**	**257**	*e*P		**Pn**	**06 38 52.4**	**-0.3**
PB04				*e*S		**Sn**	**06 39 15.0**	**+0.5**
PB04				IAML			06 39 17.5	
	comp=N,320nm,0.2s							
PB04	**IPOC Station P**	**1.58**	**257**	*i* P		**Pn**	**06 38 52.7**	**0.0**
PB04				*e*S		**Sn**	**06 39 15.9**	**+1.5**
PB05	**IPOC Station P**	**1.80**	**241**	⇓*i*P		**Pn**	**06 38 55.0**	**-0.3**
PB05				*e*S		**Sn**	**06 39 19.3**	**+0.1**
PB05				IAML			06 39 23.4	
	comp=N,116nm,0.2s							
PB05	**IPOC Station P**	**1.80**	**241**	*i* P		**Pn**	**06 38 55.0**	**-0.3**
PB05				*e*S		**Sn**	**06 39 18.7**	**-0.5**
PB05				IAML			06 39 25.1	
	comp=Z,76nm,0.4s							
PB08	**IPOC Station P**	**1.94**	**341**	⇑*i*P		**Pn**	**06 38 57.8**	**+0.5**
PB08				*e*S		**Sn**	**06 39 23.5**	**+1.0**
PB08				IAML			06 39 25.8	
	comp=E,158nm,0.3s							
TA01	**Diego Aracena**	**2.12**	**312**	⇑*i*P		**Pn**	**06 38 58.1**	**-1.0**
TA01				*e*S		**Sn**	**06 39 25.7**	**-0.2**
TA01				IAML			06 39 33.4	
	comp=E,100nm,0.6s							
GO01	**Chusmiza**	**2.40**	**344**	⇓*i*P		**Pn**	**06 39 03.1**	**0.0**
GO01				*e*S		**Sn**	**06 39 33.9**	**+0.9**
GO01				IAML			06 39 38.6	
	comp=N,176nm,0.2s							
PB10	**IPOC Station P**	**2.44**	**231**	IAML			06 39 48.6	
	comp=N,49nm,0.3s							
PB10	**IPOC Station P**	**2.44**	**231**	*i* P		**Pn**	**06 39 03.1**	**0.0**
PB11	**IPOC Station P**	**2.47**	**334**	⇑*i*P		**Pn**	**06 39 02.9**	**-0.8**
PB11				*e*S		**Sn**	**06 39 34.1**	**0.0**
PB11				IAML			06 39 35.2	
	comp=N,189nm,0.2s							
YJA	**Yavi**	**2.77**	**94**	*i* P		**Pn**	**06 39 07.0**	**-0.7**
PSGC	**Pisagua**	**2.82**	**327**	⇑*i*P		**Pn**	**06 39 06.3**	**-1.9**
PSGC				*i* S		**Sn**	**06 39 40.8**	**-1.5**
PSGC				IAML			06 39 48.8	
	comp=E,47nm,0.4s							
HJA	**Humahuaca**	**3.10**	**114**	*i* P		**Pn**	**06 39 11.4**	**-0.6**
PB14	**IPOC Station P**	**3.16**	**213**	*i* P		**Pn**	**06 39 12.4**	**-0.5**
PB14				IAML			06 39 59.5	
	comp=Z,24nm,0.7s							
SLA	**San Lorenzo**	**3.87**	**135**	*i* P		**Pn**	**06 39 22.2**	**+0.2**
LPAZ	**La Paz**	**5.68**	**3**	*i* P		**Pn**	**06 39 47.9**	**+1.1**
ACCO	**Cerro Coronel**	**8.58**	**183**	*i* P		Pn	06 40 19.1	-6.6
RTCV	**Cerro Valdivia**	**9.84**	**180**	*i* P		Pn	06 40 34.3	-8.1

ISCJB ***29*** *06:41:32.9±1.4,29.°6N±0.°1×50.°38E±0.°09,h10km, mb3.5/5, Error ellipse: s-maj=19.2km s-min=11.6km az=173.8*
IDC ***29*** *06:41:32.4±6.7,29.°62N×50.°34E,h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/39, mbtmp3.6/5, Error ellipse: s-maj=149.0km s-min=39.4km az=10.0*
TEH ***29*** *06:41:37.5,29.°84N×50.°66E,h10km, ML3.1*

ISC 29 06:41:34.9±1.4, 29.°8N±0.°1×50.°44E±0.°09, h10km, n14, σ1°46/15, mb3.4/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKAZ	**Kazeroun**	**1.22**	**89**	*e*Pg		**Pg**	**06 41 56.6**	**-1.8**
IKAZ					IAMB	IAmb	06 42 16.0	
	comp=Z,7μm,0.2s							
KLNJ	**Kolanjah**	**1.59**	**38**	*e*Sg		**Sg**	**06 42 26.0**	**-0.1**
KLNJ				*e*Pn		**Pn**	**06 42 03.2**	**-0.3**
KLNJ				IAMB		IAmb	06 42 29.5	
	comp=Z,0.0nm,0.4s							
IBRJ	**Brojen**	**2.25**	**18**	*e*Pn		**Pb**	**06 42 15.5**	**-0.4**
IBRJ					IAMB	IAmb	06 42 56.3	
	comp=Z,1μm,0.4s							
IRAM	**Ramesheh**	**2.63**	**39**	*e*Pn		**Pn**	**06 42 19.7**	**+2.0**
IZEF	**Zefreh**	**3.52**	**27**	*e*Pn		**Pn**	**06 42 31.6**	**+1.7**
ISAD	**Sadrabad**	**3.52**	**52**	*e*Pn		**Pn**	**06 42 32.0**	**+2.1**
IKLH	**Kolahrood**	**3.67**	**15**	*e*Pn		**Pn**	**06 42 33.3**	**+1.2**
IMEH	**Mehriz**	**3.95**	**65**	*e*Pn		**Pn**	**06 42 38.4**	**+2.6**
ANAR	**Anarak**	**4.42**	**39**	*e*Pn		**Pn**	**06 42 43.0**	**+0.8**
AKASG	**Malin Array Be**	**26.28**	**329**	P		**P**	**06 47 11.2**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=139,slow=9.3,SNR=5.9							
MKAR	**Makanchi Array**	**29.96**	**47**	P		**P**	**06 47 43.9**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=248,slow=9.3,SNR=3.0							
FINES	**FINESS Array B**	**35.53**	**340**	P		**P**	**06 48 31.0**	**-0.8**
	comp=Z,3.9nm,1.0s,baz=146,slow=7.7,SNR=5.8							
NOA	**NORSAR Array B**	**40.60**	**332**	P		**P**	**06 49 13.6**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=129,slow=7.1,SNR=2.9							
YKA	**Yellowknife Ar**	**87.28**	**353**	P		**P**	**06 54 21.5**	**0.0**
	comp=Z,0.1nm,0.5s,baz=14,slow=4.3,SNR=3.0							

BJI ***29*** *06:54:55.3±0.0,43.°45N×16.°96E,h8km, mb4.7/29, mB5.2/19, Ms5.0/5, Ms7 4.8/2*
ISCJB ***29*** *06:54:57.4±0.2,43.°133N±0.°008×17.°303E±0.°009, h12km±1km, mb4.4/57, MS3.5/14, Error ellipse: s-maj=1.4km s-min=1.1km az=26.0*
PDG ***29*** *06:54:57.5±0.3,43.°14N×17.°33E, h6km, MD4.5/10, ML4.6/10, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
MOS ***29*** *06:54:57.2±1.0,43.°08N×17.°22E, h17km, mb4.8/28, Error ellipse: s-maj=3.2km s-min=2.4km az=110.0*
PRU ***29*** *06:54:58.8±0.0,43.°16N×17.°23E, h0km, MA4.7*
RHSSO ***29*** *06:54:58.5±0.3,43.°13N×17.°35E, h7km±2km, ML4.4/2*
ROM ***29*** *06:54:58.9±0.2,43.°05N±0.°02×17.°21E±0.°02, h10km, ML4.2/87, Mw4.0, Error ellipse: s-maj=1.8km s-min=1.5km az=339.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.05; Mθθ-0.95; Mϕϕ-0.10; Mrθ0.25; Mθϕ0.63; Mϕr0.02; Fault plane solution: M₀1.19413×10¹⁵ NP1:ϕs307.00000°, δ41.00000°, λ103.00000°. NP2: ϕs110.00000°, δ51.00000°, λ79.00000°.*
LDG ***29*** *06:54:58.2±0.1,43.°16N×17.°45E, h2km, Ml4.5/26 Error ellipse: s-maj=3.6km s-min=2.2km az=24.0*
NEIC ***29*** *06:54:58.4±2.5,43.°09N±0.°04×17.°24E±0.°05, h10km±1km, mb4.7/67, Mwr4.2, ML4.4(ZAG), ML4.5(PDG), ML4.5(LDG), ML4.7(BUC), Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.51; Mθθ-1.76; Mϕϕ-0.75; Mrθ0.24; Mθϕ1.06; Mϕr-0.11; Fault plane solution: M₀2.48000×10¹⁵ NP1:ϕs121.56000°, δ47.99000°, λ89.00000°. NP2: ϕs303.06000°, δ42.02000°, λ91.11000°. Principal axes: T 2.5208, Plg87.0000°, Azm18.0000°; N -0.0789, Plg1.0000°, Azm122.0000°; P -2.4419, Plg3.0000°, Azm212.0000°;*
MED_RC ***29*** *06:54:58.0±0.3,43.°10N×17.°23E, h11km±1km, MW4.3/18, Moment Tensor Solution. Mantle waves: s18,c24; Duration: 1s1 Moment tensor: Scale 10¹⁵Nm; Mrr3.17±.41; Mθθ-2.15±.26; Mϕϕ-1.01±.20; Mrθ-0.25±.47; Mθϕ1.67±.12; Mϕr-1.29±.47; Best double couple: M₀3.51000×10¹⁵ NP1:ϕs144.00000°, δ53.00000°, λ114.00000°. NP2:ϕs288.00000°, δ43.00000°, λ62.00000°. Principal axes: T 3.6300, Plg70.0000°, Azm113.0000°; N -0.2200, Plg19.0000°, Azm309.0000°; P -3.3900, Plg5.0000°, Azm217.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
TIR ***29*** *06:54:59.2,42.°86N×17.°40E, h7km, Md4.6/7*
BEO ***29*** *06:54:59.2±0.3,43.°19N×17.°41E, h0km, ML4.5/17*
IDC ***29*** *06:55:02.7±1.3,43.°16N×17.°35E, h48km±12km, mb4.1/29, mb1 4.1/43, mb1mx4.0/67, mbtmp4.2/43, ML3.8/15, MS3.3/20, Ms1 3.3/20, ms1mx3.1/55, Error ellipse: s-maj=10.5km s-min=9.5km az=7.0*

ISC 29 06:54:58.4±0.8, 43.°13N±0.°02×17.°29E±0.°02, h13km±5km, n841, σ1°95/1055, mb4.6/77, MS3.4/14, 55C-50D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MAKA	**Makarska**	**0.25**	**308**	*i* Pg		**Pg**	**06 55 03.0**	**-0.8**
MAKA				Sg		**Sg**	**06 55 07.1**	**-0.2**
RICI	**Ricice**	**0.38**	**342**	iPg			06 55 05.0	
RICI				Sg		**Sg**	**06 55 11.0**	**-0.2**
STON	**Ston**	**0.40**	**131**	*i* Pg		**Pg**	**06 55 05.2**	**-1.0**
STON				Sg		**Sg**	**06 55 11.4**	**-0.3**
STON	**Ston**	**0.40**	**131**	*e*Pg		**Pg**	**06 55 05.3**	**-1.0**
STON				*e*Sg		**Sg**	**06 55 11.1**	**-0.5**
STON	**Ston**	**0.40**	**131**	⇑*i*Pg		**Pg**	**06 55 05.1**	**-1.2**
STON				*e*Sg		**Sg**	**06 55 11.3**	**-0.3**
STON	**Ston**	**0.40**	**131**	AML		AML		
	comp=N,57700μm,0.3s							
STON				AML		AML		
	comp=E,70900μm,1.1s							
STON				AML		AML		
	comp=E,70900μm,1.1s							
STON				AML		AML		
	comp=N,57700μm,0.3s							
HVAR	**Hvar**	**0.62**	**274**	*e*Pg		**Pg**	**06 55 09.3**	**-1.1**
HVAR				Sg		**Sb**	**06 55 19.4**	**-0.2**
DBRK	**Dubrovnik**	**0.78**	**126**	*i* Pg		**Pg**	**06 55 12.0**	**-1.5**
DBRK				Sg		**Sg**	**06 55 23.8**	**+0.1**
TREB	**Trebinje**	**0.88**	**118**	*e*Pg		**Pg**	**06 55 14.8**	**-0.6**
TREB				*e*Sg		**Sg**	**06 55 25.7**	**-1.2**
TREB	**Trebinje**	**0.88**	**118**	⇓*i*Pg		**Pg**	**06 55 13.3**	**-2.1**
TREB				*e*Sg		**Sg**	**06 55 26.3**	**-0.6**
BRY	**Bratogost**	**0.94**	**104**	P		**Pg**	**06 55 14.1**	**-2.5**
BRY				S		**Sb**	**06 55 29.0**	**0.0**
BRY	**Bratogost**	**0.94**	**104**	⇓*i*Pg		**Pg**	**06 55 14.1**	**-2.5**
BRY				*e*Sg		**Sg**	**06 55 28.3**	**-0.6**
BRY	**Bratogost**	**0.94**	**104**	⇓*i*Pg		**Pg**	**06 55 14.1**	**-2.5**
BRY				*i* Sg		**Sb**	**06 55 29.1**	**0.0**
KLJV	**Kijevo**	**1.08**	**324**	*i* Pg		**Pb**	**06 55 17.1**	**-1.9**
KLJV				Sg		**Sn**	**06 55 34.7**	**+0.5**
HCY	**Herceg Novi**	**1.12**	**127**	P		**Pb**	**06 55 17.8**	**-1.7**
HCY				S		**Sn**	**06 55 35.0**	**+0.1**
HCY	**Herceg Novi**	**1.12**	**127**	⇑*i*Pg		**Pb**	**06 55 17.8**	**-1.7**
HCY	**Herceg Novi**	**1.12**	**127**	⇑*i*Pg		**Pb**	**06 55 17.8**	**-1.7**
HCY				*i* Sg		**Sn**	**06 55 35.8**	**+0.9**
UPM	**Unac-Piva**	**1.18**	**86**	⇓*i*Pg		**Pb**	**06 55 18.3**	**-2.4**
UPM	**Unac-Piva**	**1.18**	**86**	⇓*i*Pg		**Pb**	**06 55 18.4**	**-2.3**
NKME	**Niksic**	**1.27**	**106**	⇑*i*Pg		**Pn**	**06 55 20.7**	**-1.2**
NKME				*i* Sg		**Sg**	**06 55 40.6**	**+1.2**
NKY	**Niksic**	**1.29**	**104**	P		**Pn**	**06 55 21.0**	**-1.1**
NKY				S		**Sg**	**06 55 40.0**	**+0.1**
NKY				smax		smax		
	comp=N,1μm,1.0s							
NKY	**Niksic**	**1.29**	**104**	⇑*i*Pg		**Pn**	**06 55 21.0**	**-1.1**
NKY				*i* Sg		**Sg**	**06 55 40.9**	**+1.0**
MGRS	**Mrkonjic Grad**	**1.29**	**353**	*e*Pg		**Pn**	**06 55 21.4**	**-0.7**
MGRS				*e*Sg		**Sg**	**06 55 40.4**	**+0.3**
ZIRJ	**Zirje**	**1.31**	**294**	*i* Pg		**Pn**	**06 55 21.8**	**-0.5**
ZIRJ				Sg		**Sg**	**06 55 41.4**	**+0.8**
CEME	**Cevo**	**1.33**	**116**	⇑*i*Pg		**Pn**	**06 55 21.6**	**-1.1**
CEME				*i* Sg		**Sg**	**06 55 42.5**	**+1.3**
MORI	**Morici**	**1.37**	**303**	*e*Pg		**Pn**	**06 55 22.6**	**-0.5**
MORI				Sg		**Sg**	**06 55 43.2**	**+0.8**
BUM	**Brajici-Budva**	**1.44**	**125**	⇑*i*Pg		**Pn**	**06 55 23.8**	**-0.4**
BUM				*i* Sg		**Sg**	**06 55 45.8**	**+1.0**
HAPS	**Han Pijesak,Bl**	**1.54**	**51**	*e*Pn		**Pn**	**06 55 25.2**	**-0.3**
HAPS				*e*Sg		**Sn**	**06 55 44.5**	**-0.9**
HAPS	**Han Pijesak,Bl**	**1.54**	**51**	⇑*i*Pg		**Pn**	**06 55 24.8**	**-0.7**
HAPS				*e*Sg		**Sg**	**06 55 47.0**	**-0.8**
PLE	**Pljevlja**	**1.54**	**82**	P		**Pn**	**06 55 25.5**	**-0.2**
PLE				S		**Sg**	**06 55 48.0**	**-0.1**
PLE	**Pljevlja**	**1.54**	**82**	⇑*i*Pg		**Pn**	**06 55 25.5**	**-0.2**
PLE				*i* Sg		**Sg**	**06 55 48.9**	**+0.8**
RUDO	**Rudo**	**1.59**	**72**	⇑*i*Pn		**Pn**	**06 55 25.6**	**-0.6**
RUDO				*e*Sg		**Sb**	**06 55 47.7**	**+0.1**
PDG	**Podgorica**	**1.61**	**115**	*e*Pn		**Pb**	**06 55 28.0**	**+0.2**
PDG				*e*Sg		**Sb**	**06 55 48.5**	**+0.5**
PDG	**Podgorica**	**1.61**	**115**	⇑*i*Pn		**Pn**	**06 55 26.7**	**+0.4**
PDG				*e*Sg		**Sb**	**06 55 48.7**	**+0.7**
PDG	**Podgorica**	**1.61**	**115**	⇑P		**Pn**	**06 55 26.9**	**+0.6**
PDG				⇑S		**Sg**	**06 55 49.8**	**-0.2**
PDG				AML		AML	06 55 51.7	
PDG	**Podgorica**	**1.61**	**115**	P		**Pb**	**06 55 27.7**	**-0.2**
PDG				S		**Sg**	**06 55 50.1**	**0.0**
PDG				AML		AML		
	comp=E,14250μm,1.6s							
PDG				AML		AML		
	comp=N,21800μm,0.4s							
PDG				AML		AML		
	comp=E,11350μm,1.6s							
PDG				AML		AML		
	comp=N,21850μm,0.4s							
PDG				AML		AML		
	comp=N,17050μm,0.4s							
PDG				AML		AML		
	comp=E,14300μm,1.6s							
PDG				AML		AML		
	comp=N,21850μm,0.4s							
PDG	**Podgorica**	**1.61**	**115**			**Pb**	**06 55 27.7**	**-0.2**
PDG						**Sg**	**06 55 50.2**	**+0.2**
TTG	**Podgorica**	**1.61**	**115**	P		**Pn**	**06 55 26.8**	**+0.4**
TTG				S		**Sg**	**06 55 50.0**	**0.0**
TTG	**Podgorica**	**1.61**	**115**	⇑*i*Pn		**Pn**	**06 55 26.8**	**+0.4**
TTG				*i* Sn		**Sg**	**06 55 50.6**	**+0.6**
BLY	**Banja Luka**	**1.62**	**357**	*e*Pn		**Pb**	**06 55 28.0**	**-0.1**
BLY				*e*Sg		**Sg**	**06 55 51.3**	**+0.8**
BLY	**Banja Luka**	**1.62**	**357**	⇓*i*Pn		**Pb**	**06 55 27.3**	**-0.7**
BLY				*e*Sg		**Sg**	**06 55 50.4**	**0.0**
BLY	**Banja Luka**	**1.62**	**357**	⇑P		**Pb**	**06 55 27.9**	**-0.1**
BLY				⇓S		**Sg**	**06 55 51.2**	**+0.8**
BLY				AML		AML	06 55 58.5	
BLY	**Banja Luka**	**1.62**	**357**	P		**Pb**	**06 55 27.5**	**-0.5**
BLY				S		**Sg**	**06 55 51.

MELA	**Melanico ??? S**	**2.15**	**229**	P		**Pn**	**06 55 33.6**	**-0.2**
MELA				AML		AML		
	comp=E,9685µm,0.5s							
MELA				AML		AML		
	comp=E,10110µm,0.5s							
MELA				AML		AML		
	comp=N,7815µm,0.7s							
MELA				AML		AML		
	comp=N,7810µm,0.7s							
TEKS	**Tekeris**	**2.15**	**48**	*e*Pn		**Pn**	**06 55 34.7**	**+0.8**
TEKS	**Tekeris**	**2.15**	**48**	*e*Pn		**Pn**	**06 55 34.3**	**+0.4**
TEKS				*e*Sn		**Sn**	**06 56 00.8**	**+0.4**
BCI	**Bajram Curri**	**2.18**	**110**	*i* PN		**Pb**	**06 55 36.8**	**-0.9**
BCI				*i* SN		**Sg**	**06 56 07.3**	**-1.2**
DIVS	**Divibare**	**2.18**	**63**	*e*Pn		**Pn**	**06 55 35.5**	**+1.1**
DIVS	**Divibare**	**2.18**	**63**	⇓*i* Pn		**Pn**	**06 55 35.1**	**+0.7**
DIVS				*e*Sn		**Sn**	**06 56 01.6**	**+0.2**
PUK	**Puka**	**2.21**	**119**	*i* PN		**Pb**	**06 55 36.6**	**-1.5**
PUK				*i* SN		**Sb**	**06 56 05.8**	**+0.4**
PUK	**Puka**	**2.21**	**119**	P		**Pb**	**06 55 36.6**	**-1.5**
PUK				S		**Sb**	**06 56 06.0**	**+0.6**
PUK				AML		AML		
	comp=E,6890µm,0.3s							
PUK				AML		AML		
	comp=N,7895µm,1.6s							
FRES	**Fresagrandinar**	**2.26**	**240**	P		**Pn**	**06 55 35.8**	**+0.4**
FRES				S		**Sn**	**06 56 03.4**	**+0.3**
FRES				AML		AML		
	comp=N,1715µm,0.5s							
FRES				AML		AML		
	comp=E,1940µm,0.6s							
NVLJ	**Novalja**	**2.26**	**310**	*e*Pn		**Pb**	**06 55 38.0**	**-1.0**
NVLJ				Sn		**Sb**	**06 56 06.3**	**-0.6**
AMUR	**Altamura**	**2.28**	**193**	P		**Pn**	**06 55 35.5**	**-0.3**
AMUR				AML		AML		
	comp=E,2810µm,0.7s							
AMUR				AML		AML		
	comp=N,2585µm,0.5s							
CIGN	**Sant'Elia a Pi**	**2.31**	**231**	P		**Pn**	**06 55 36.1**	**0.0**
CIGN				AML		AML		
	comp=E,1995µm,1.2s							
CIGN				AML		AML		
	comp=N,1665µm,0.7s							
SG1	**Sgolgore (BA)**	**2.34**	**192**	*e*Pn		**Pn**	**06 55 35.0**	**-1.5**
NOCI	**Noci**	**2.35**	**184**	P		**Pn**	**06 55 35.4**	**-1.2**
NOCI				S		**Sn**	**06 56 04.1**	**-1.2**
NOCI				AML		AML		
	comp=E,3495µm,0.6s							
NOCI				AML		AML		
	comp=N,3605µm,1.3s							
CAFR	**Castel Frentan**	**2.35**	**248**	P		**Pn**	**06 55 37.3**	**+0.6**
CAFR				AML		AML		
	comp=N,7540µm,0.6s							
CAFR				AML		AML		
	comp=E,7330µm,1.4s							
GATE	**Gambatesa**	**2.40**	**228**	P		**Pn**	**06 55 37.5**	**+0.2**
GATE				AML		AML		
	comp=E,4260µm,0.5s							
GATE				AML		AML		
	comp=N,4295µm,0.6s							
GATE				AML		AML		
	comp=E,1965µm,0.5s							
GATE				AML		AML		
	comp=N,4400µm,0.6s							
TRIV	**Trivento**	**2.45**	**237**	P		**Pn**	**06 55 38.5**	**+0.5**
SGTA	**Sant Agata di**	**2.46**	**216**	P		**Pn**	**06 55 39.9**	**+1.7**
SGTA				S		**Sg**	**06 56 19.0**	**+1.6**
SGTA				AML		AML		
	comp=E,3560µm,0.5s							
SGTA				AML		AML		
	comp=N,2605µm,0.5s							
SGTA				AML		AML		
	comp=N,2585µm,1.1s							
SGTA				AML		AML		
	comp=E,3555µm,0.6s							
MASS	**Massafra**	**2.50**	**183**	*e*Pn		**Pn**	**06 55 37.4**	**-1.3**
TRUS	**Trudelj**	**2.51**	**63**	*e*Pn		**Pn**	**06 55 40.0**	**+1.2**
MOSL	**Moslavina**	**2.51**	**351**	*e*Pn		**Pn**	**06 55 40.1**	**+1.2**
MATE	**Matera**	**2.52**	**190**	⇑P		**Pn**	**06 55 38.2**	**-0.7**
MATE				AML		AML	06 56 30.4	
MATE	**Matera**	**2.52**	**190**	P		**Pn**	**06 55 37.7**	**-1.3**
MATE				AML		AML		
	comp=E,3950µm,0.7s							
MATE				AML		AML		
	comp=N,3365µm,0.6s							
MATE	**Matera**	**2.52**	**190**			**Pn**	**06 55 38.2**	**-0.7**
LPEL	**Lama dei Pelig**	**2.54**	**246**	P		**Pn**	**06 55 39.9**	**+0.6**
LPEL				AML		AML		
	comp=E,1995µm,0.3s							
LPEL				AML		AML		
	comp=N,1610µm,0.9s							
ACER	**Acerenza**	**2.55**	**204**	P		**Pn**	**06 55 40.6**	**+1.1**
ACER				AML		AML		
	comp=N,8940µm,0.6s							
ACER				AML		AML		
	comp=E,8115µm,0.5s							
ACER				AML		AML		
	comp=E,7915µm,0.5s							
ACER				AML		AML		
	comp=N,8725µm,0.6s							
ACER	**Acerenza**	**2.55**	**204**			**Pn**	**06 55 39.4**	**-0.1**
BSSO	**Busso**	**2.55**	**233**	P		**Pn**	**06 55 41.5**	**+2.0**
BSSO				AML		AML		
	comp=E,738µm,0.8s							
BSSO				AML		AML		
	comp=E,1920µm,0.8s							
BSSO				AML		AML		
	comp=N,814µm,0.7s							
BSSO				AML		AML		
	comp=N,2050µm,0.7s							
GRUS	**Gruza**	**2.60**	**72**	*e*Pn		**Pn**	**06 55 41.5**	**+1.4**
GRUS				*e*Sg		**Sb**	**06 56 18.3**	**+1.6**
MIGL	**Miglionico**	**2.60**	**194**	P		**Pn**	**06 55 39.6**	**-0.5**
MIGL				AML		AML		
	comp=N,11250µm,0.8s							
MIGL				AML		AML		
	comp=E,10150µm,1.5s							
TAR1	**Taranto**	**2.60**	**180**	*e*Pn		**Pn**	**06 55 38.9**	**-1.2**
TIR	**Tirane**	**2.61**	**132**	P		**Pn**	**06 55 40.8**	**+0.6**
TIR	**Tirane**	**2.61**	**132**	*e*Pn		**Pn**	**06 55 42.2**	**+2.0**
TIR	**Tirane**	**2.61**	**132**	P		**Pn**	**06 55 40.3**	**+0.1**
TIR	**Tirane**	**2.61**	**132**	*i* PN		**Pn**	**06 55 41.7**	**+1.5**
TIR				*i* SN		**Sb**	**06 56 14.6**	**-2.4**
TIR	**Tirane**	**2.61**	**132**	⇓P		**Pn**	**06 55 41.8**	**+1.6**
TIR				AML		AML	06 56 34.7	
TIR	**Tirane**	**2.61**	**132**			**Pn**	**06 55 40.3**	**+0.1**
MRB1	**Monte Rocchett**	**2.65**	**222**	P		**Pn**	**06 55 43.3**	**+2.5**
MRB1				AML		AML		
	comp=E,3685µm,0.6s							
MRB1				AML		AML		
	comp=N,3450µm,0.7s							
MRB1				AML		AML		
	comp=E,3690µm,0.6s							
MRB1				AML		AML		
	comp=N,3425µm,0.7s							
SNAL	**S. Angelo Dei**	**2.70**	**216**	P		**Pn**	**06 55 41.8**	**+0.3**
SNAL				AML		AML		
	comp=E,2235µm,0.9s							
SNAL				AML		AML		
	comp=N,2535µm,1.6s							
MIDA	**Miranda**	**2.70**	**238**	P		**Pn**	**06 55 41.4**	**-0.1**
MIDA				AML		AML		
	comp=E,2130µm,0.5s							
MIDA				AML		AML		
	comp=N,1405µm,0.4s							
MIDA				AML		AML		
	comp=E,2125µm,0.6s							
MIDA				AML		AML		
	comp=N,1490µm,0.4s							
FRGS	**Fruska Gora**	**2.72**	**41**	*e*Pn		**Pn**	**06 55 41.3**	**-0.4**
FRGS	**Fruska Gora**	**2.72**	**41**	*e*Pn		**Pn**	**06 55 41.8**	**+0.1**
FRGS				*e*Sn		**Sn**	**06 56 14.9**	**+0.5**
PZUN	**Potenza**	**2.72**	**205**	P		**Pg**	**06 55 49.4**	**-1.1**
MRLC	**Muro Lucano**	**2.73**	**210**	P		**Pn**	**06 55 42.4**	**+0.5**
MRLC				AML		AML		
	comp=E,2115µm,0.6s							
MRLC				AML		AML		
	comp=E,2060µm,0.6s							
MRLC				AML		AML		
	comp=N,1910µm,1.6s							
MRLC				AML		AML		
	comp=N,1895µm,1.6s							
RNI2	**Rionero Sannit**	**2.73**	**239**	P		**Pn**	**06 55 43.8**	**+1.9**
RNI2				AML		AML		
	comp=E,1740µm,1.5s							
RNI2				AML		AML		
	comp=N,1835µm,0.6s							
RNI2				AML		AML		
	comp=E,1765µm,1.4s							
RNI2				AML		AML		
	comp=N,1875µm,0.7s							
INTR	**Introdacqua**	**2.74**	**247**	P		**Pn**	**06 55 42.2**	**+0.1**
INTR				AML		AML		
	comp=E,2480µm,0.7s							
INTR				AML		AML		
	comp=N,3985µm,0.6s							
INTR	**Introdacqua**	**2.74**	**247**			**Pn**	**06 55 42.5**	**+0.3**
PHP	**Peshkopia**	**2.74**	**121**	P		**Pn**	**06 55 43.5**	**+1.4**
PHP	**Peshkopia**	**2.74**	**121**	*i* PN		**Pb**	**06 55 45.5**	**-1.8**
PHP				*i* SN		**Sb**	**06 56 19.3**	**-1.5**
TERO	**Teramo**	**2.76**	**261**	P		**Pn**	**06 55 42.9**	**+0.5**
TERO				AML		AML		
	comp=N,555µm,0.6s							
TERO				AML		AML		
	comp=N,1370µm,0.6s							
TERO				AML		AML		
	comp=E,1977µm,1.4s							
TERO				AML		AML		
	comp=E,484µm,0.7s							
BOJS	**Bojanci**	**2.79**	**329**	P		**Pn**	**06 55 44.9**	**+2.3**
BOJS				S		**Sg**	**06 56 26.0**	**-1.9**
BOJS				AML		AML		
	comp=E,2665µm,1.0s							
BOJS				AML		AML		
	comp=N,2105µm,0.8s							
SELS	**Selova**	**2.80**	**87**	*e*Pn		**Pn**	**06 55 44.2**	**+1.4**
SELS				*e*Sn		**Sn**	**06 56 17.9**	**+1.4**
OZLJ	**Ozalj**	**2.81**	**333**	*e*Pn		**Pn**	**06 55 45.0**	**+2.1**
CRAC	**Craco**	**2.84**	**193**	P		**Pn**	**06 55 43.7**	**+0.3**
BEO	**Beograd**	**2.84**	**53**	P		**Pn**	**06 55 44.0**	**+0.6**
VAGA	**Valle Agricola**	**2.85**	**234**	P		**Pn**	**06 55 45.0**	**+1.5**
VAGA				AML		AML		
	comp=N,2725µm,0.5s							
VAGA				AML		AML		
	comp=E,1250µm,0.9s							
VAGA				AML		AML		
	comp=E,1230µm,0.9s							
VAGA				AML		AML		
	comp=N,2655µm,0.5s							
ZAG	**Zagreb**	**2.85**	**341**	iPn			06 55 45.6	
ZAG				Sn		**Sb**	**06 56 21.1**	**-2.8**
ZAG	**Zagreb**	**2.85**	**341**	*e*P		**Pn**	**06 55 45.0**	**+1.5**
ZAG				*e*S		**Sn**	**06 56 19.0**	**+1.3**
ZAG	**Zagreb**	**2.85**	**341**	*e*Pn		**Pn**	**06 55 45.5**	**+2.0**
ZAG				*e*Sn		**Sn**	**06 56 19.0**	**+1.3**
FAGN	**Fagnano**	**2.87**	**254**	P		**Pn**	**06 55 44.3**	**+0.5**
FAGN				AML		AML		
	comp=E,4385µm,0.5s							
FAGN				AML		AML		
	comp=N,3255µm,0.5s							
CERA	**Filignano**	**2.87**	**239**	P		**Pn**	**06 55 45.7**	**+1.8**
CERA				AML		AML		
	comp=E,2810µm,0.6s							
CERA				AML		AML		
	comp=E,2845µm,0.6s							
CERA				AML		AML		
	comp=N,2265µm,0.4s							
CERA				AML		AML		
	comp=N,2200µm,0.4s							
PAOL	**Paolisi**	**2.92**	**225**	P		**Pn**	**06 55 46.4**	**+1.8**
PAOL				AML		AML		
	comp=E,1093µm,0.4s							
PAOL				AML		AML		
	comp=N,1229µm,0.9s							
PAOL				AML		AML		
	comp=E,1012µm,0.4s							
PAOL				AML		AML		
	comp=N,1130µm,0.7s							
PAOL	**Paolisi**	**2.92**	**225**			**Pn**	**06 55 45.3**	**+0.7**
PTJ	**Puntijarka**	**2.93**	**342**	ePn			06 55 46.0	
PTJ				Sn		**Sn**	**06 56 22.5**	**+2.7**
PTJ	**Puntijarka**	**2.93**	**342**	*e*P		**Pn**	**06 55 46.5**	**+1.8**
PTJ				S		**Sn**	**06 56 22.9**	**+3.1**
SMA1	**SAN MARTINO**	**2.95**	**262**	P		**Pn**	**06 55 45.6**	**+0.5**
SMA1				AML		AML		
	comp=N,1955µm,0.9s							
SMA1				AML		AML		
	comp=E,1635µm,0.6s							
AQU	**L'Aquila**	**2.97**	**256**	P		**Pn**	**06 55 45.4**	**+0.2**
AQU	**L'Aquila**	**2.97**	**256**	⇓*i* Pn		**Pn**	**06 55 45.7**	**+0.5**
AQU				*e*Sn		**Sn**	**06 56 22.5**	**+1.8**
AQU	**L'Aquila**	**2.97**	**256**			**Pn**	**06 55 45.4**	**+0.2**
RIY	**Rijeka**	**2.98**	**318**	ePn			06 55 47.2	
RIY	**Rijeka**	**2.98**	**318**	*e*Pn		**Pn**	**06 55 47.7**	**+2.4**
RIY	**Rijeka**	**2.98**	**318**	*e*Pn		**Pn**	**06 55 47.1**	**+1.8**
RIY				*e*Sn		**Sn**	**06 56 22.7**	**+1.8**
GCIS	**Gornji Cirnik**	**2.98**	**337**	*i* Pn		**Pn**	**06 55 47.2**	**+1.9**
GCIS				*i* Sn		**Sn**	**06 56 23.6**	**+2.7**
	comp=Z,1µm,1.1s							
VVLD	**Villa Vallelon**	**2.99**	**246**	P		**Pn**	**06 55 46.0**	**+0.4**
VVLD				AML		AML		
	comp=N,1315µm,0.8s							
VVLD				AML		AML		
	comp=E,1049µm,1.5s							
CRES	**Cresnjev**	**3.00**	**335**	⇑*i* Pn		**Pn**	**06 55 47.4**	**+1.9**
CRES				*e*Sn		**Sn**	**06 56 23.4**	**+2.1**
CING	**Cingoli**	**3.00**	**276**	P		**Pn**	**06 55 46.8**	**+1.2**
CING				AML		AML		
	comp=E,1052µm,1.4s							
CING				AML		AML		
	comp=N,1133µm,1.0s							
POFI	**Posta Fibreno**	**3.00**	**243**	P		**Pn**	**06 55 45.7**	**0.0**
POFI				AML		AML		
	comp=N,1025µm,0.8s							
POFI				AML		AML		
	comp=E,998µm,0.7s							
SENI	**Senigallia**	**3.01**	**282**	P		**Pn**	**06 55 47.7**	**+2.0**
SENI				AML		AML		
	comp=N,4340µm,0.5s							
SENI				AML		AML		
	comp=E,2009µm,1.0s							
SENI				AML		AML		
	comp=N,1670µm,0.6s							
SENI				AML		AML		
	comp=E,5125µm,1.6s							
PIGN	**Pignataro Magg**	**3.01**	**231**	P		**Pn**	**06 55 47.2**	**+1.4**
PIGN				AML		AML		
	comp=N,634µm,0.6s							
PIGN				AML		AML		
	comp=N,677µm,0.6s							
PIGN				AML		AML		
	comp=E,756µm,0.8s							
PIGN				AML		AML		
	comp=E,714µm,0.8s							
T0104	**Madonna delle**	**3.01**	**256**	P		**Pn**	**06 55 46.9**	**+1.1**
T0104				AML		AML		
	comp=N,1600µm,0.7s							
T0104				AML		AML		
	comp=E,1710µm,0.6s							
T0104				AML		AML		
	comp=N,1630µm,0.9s							
T0104				AML		AML		
	comp=E,1805µm,0.6s							
MCEL	**Monticello**	**3.02**	**202**	P		**Pn**	**06 55 45.1**	**-0.8**
CDRU	**Civita di Ruta**	**3.03**	**210**	P		**Pn**	**06 55 47.0**	**+1.0**
CDRU				AML		AML		
	comp=N,690µm,0.7s							
CDRU				AML		AML		
	comp=E,772µm,0.7s							
KALN	**Kalnik**	**3.06**	**349**	*i* Pn		**Pn**	**06 55 47.8**	**+1.4**
SVIS	**Svilajnac**	**3.06**	**67**	*e*Pn		**Pn**	**06 55 47.2**	**+0.8**
SVIS				*e*Sn		**Sn**	**06 56 23.3**	**+0.5**
EL6	**Elcito**	**3.07**	**275**	P		**Pn**	**06 55 45.7**	**-0.9**
EL6				AML		AML		
	comp=N,2360µm,1.0s							
EL6				AML		AML		
	comp=E,1580µm,0.9s							
SCHR	**S. Chirico Rap**	**3.07**	**198**	P		**Pn**	**06 55 46.0**	**-0.6**
SCHR				AML		AML		
	comp=N,1283µm,0.8s							
SCHR				AML		AML		
	comp=E,1305µm,0.6s							
NRCA	**Norcia**	**3.08**	**266**			**Pn**	**06 55 47.1**	**+0.3**
PTQR	**Pietraquaria**	**3.08**	**250**	P		**Pn**	**06 55 48.7**	**+1.9**
PTQR				AML		AML		
	comp=E,578µm,0.4s							
PTQR				AML		AML		
	comp=N,760µm,0.7s							
FDMO	**Fiordimonte**	**3.08**	**270**	P		**Pn**	**06 55 47.9**	**+1.1**
FDMO				AML		AML		
	comp=N,636µm,0.7s							
FDMO				AML		AML		
	comp=E,770µm,0.6s							
MTSN	**Montesano sull**	**3.09**	**202**	P		**Pn**	**06 55 46.3**	**-0.6**
MTSN				AML		AML		
	comp=E,1345µm,0.6s							
MTSN				AML		AML		
	comp=N,1490µm,0.8s							
BRJN	**Brijuni**	**3.11**	**306**	*e*Pn		**Pn**	**06 55 48.8**	**+1.7**
VLO	**Vlora**	**3.13**	**148**	P		**Pn**	**06 55 50.1**	**+2.8**
VLO				S		**Sn**	**06 56 26.9**	**+2.4**
VLO	**Vlora**	**3.13**	**148**	*i* PN		**Pn**	**06 55 50.1**	**+2.8**
VLO				*i* SN		**Sn**	**06 56 26.9**	**+2.4**
SIRI	**Monte Sirino -**	**3.14**	**200**	P		**Pn**	**06 55 46.9**	**-0.6**
SIRI				AML		AML		
	comp=E,1109µm,0.5s							
SIRI				AML		AML		
	comp=N,1225µm,0.7s							
LNSS	**Leonessa**	**3.17**	**262**	P		**Pn**	**06 55 48.9**	**+0.9**
LNSS				AML		AML		
	comp=E,1705µm,1.0s							
LNSS				AML		AML		
	comp=N,1140µm,0.6s							
SCTE	**Santa Cesarea**	**3.18**	**164**			**Pn**	**06 55 47.6**	**-0.5**
CMPR	**Campora**	**3.18**	**209**	P		**Pn**	**06 55 47.7**	**-0.4**
CMPR				AML		AML		
	comp=E,780µm,1.6s							
CMPR				AML		AML		
	comp=N,804µm,0.5s							
SNTG	**Esanatoglia**	**3.19**	**274**	P		**Pn**	**06 55 50.4**	**+2.2**
SNTG				S		**Sn**	**06 56 29.0**	**+3.0**
SNTG				AML		AML		
	comp=N,822µm,0.8s							
SNTG				AML		AML		
	comp=E,720µm,0.7s							
ARVD	**Arcevia**	**3.20**	**278**	P		**Pn**	**06 55 50.1**	**+1.8**
ARVD				AML		AML		
	comp=N,596µm,1.0s							
ARVD				AML		AML		
	comp=E,544µm,0.7s							
FIAM	**Fiamignano**	**3.20**	**256**	P		**Pn**	**06 55 49.4**	**+1.0**
CESI	**CESI - Serrava**	**3.22**	**269**	P		**Pn**	**06 55 50.2**	**+1.6**
CESI				AML		AML		
	comp=N,544µm,0.7s							
CESI				AML		AML		
	comp=E,271µm,0.9s							
MODR	**Mondragone**	**3.22**	**233**	P		**Pn**	**06 55 48.8**	**+0.1**
MODR				AML		AML		
	comp=E,755µm,1.2s							
MODR				AML		AML		
	comp=N,1118µm,1.4s							
MORH	**Mrgy, Hungar**	**3.23**	**17**	*e*Pn		**Pn**	**06 55 49.0**	**+0.3**
MORH				*e*Sn		**Sn**	**06 56 27.5**	**+0.5**
MORH	**Mrgy, Hungar**	**3.23**	**17**	*e*Pn		**Pn**	**06 55 52.0**	**+3.3**
MORH				*e*Sgd			06 56 44.0	
BOVS	**Bovan**	**3.25**	**80**	*e*Pn		**Pn**	**06 55 50.3**	**+1.2**
BOVS				*e*Sn		**Sn**	**06 56 28.0**	**+0.4**
MGR	**Morigerati**	**3.26**	**204**	P		**Pn**	**06 55 49.4**	**+0.2**
MGR				AML		AML		
	comp=N,457µm,0.5s							
MGR				AML		AML		
	comp=E,360µm,0.3s							
SKO	**Skopje**	**3.27**	**109**	P		**Pn**	**06 55 51.0**	**+1.6**
OHR	**Ohrid**	**3.30**	**127**	P		**Pn**	**06 55 51.7**	**+2.0**
CEY	**Cerknica**	**3.32**	**323**	*e*Pn		**Pn**	**06 55 52.0**	**+2.0**
CEY	**Cerknica**	**3.32**	**323**	⇑*i* Pn		**Pn**	**06 55 51.7**	**+1.7**
CEY				*e*Sn		**Sn**	**06 56 30.7**	**+1.5**
FOSV	**Fossato di Vic**	**3.32**	**274**	P		**Pn**	**06 55 51.1**	**+1.1**
FOSV				AML		AML		
	comp=N,965µm,0.4s							
FOSV				AML		AML		
	comp=E,908µm,0.6s							
SALB	**San Lorenzo Be**	**3.33**	**193**	P		**Pn**	**06 55 49.2**	**-1.0**
SALB				AML		AML		
	comp=E,1150µm,1.4s							
SALB				AML		AML		
	comp=N,796µm,0.7s							
SALB				AML		AML		
	comp=E,1190µm,1.4s							
SALB				AML		AML		
	comp=N,796µm,0.7s							
BARS	**Barje**	**3.33**	**94**	*e*Pn		**Pn**	**06 55 52.3**	**+2.1**
BARS	**Barje**	**3.33**	**94**	*e*Pn		**Pn**	**06 55 53.2**	**+3.0**
BARS				*e*Sn		**Sn**	**06 56 31.6**	**+2.0**
BARS				*e*Sn		**Sb**	**06 56 35.1**	**-2.6**
MPAG	**Monte Paganucc**	**3.34**	**280**	P		**Pn**	**06 55 51.7**	**+1.3**
MPAG				AML		AML		
	comp=N,1665µm,0.7s							
MPAG				AML		AML		
	comp=E,1144µm,0.6s							
FRON	**Frontone**	**3.35**	**278**	P		**Pn**	**06 55 51.5**	**+1.1**
FRON				AML		AML		
	comp=N,1540µm,0.5s							
FRON				AML		AML		
	comp=E,934µm,1.1s							
SKDS	**Skadanscina**	**3.37**	**317**	*i* Pn		**Pn**	**06 55 51.6**	**+0.9**
SKDS				*e*Sn		**Sn**	**06 56 32.6**	**+2.1**
	comp=Z,1µm,0.6s							
ARRO	**Arrone**	**3.38**	**262**	P		**Pn**	**06 55 52.9**	**+2.1**
ARRO				AML		AML		
	comp=N,580µm,1.6s							
ARRO				AML		AML		
	comp=E,519µm,0.7s							
MMN	**Mormanno**	**3.38**	**197**	P		**Pn**	**06 55 52.1**	**+1.3**
MMN				AML		AML		
	comp=N,512µm,1.1s							
MMN				AML		AML		
	comp=E,306µm,0.8s							
KOGS	**Kog**	**3.40**	**348**	P		**Pn**	**06 55 52.4**	**+1.3**
KOGS				S		**Sn**	**06 56 34.0**	**+2.8**
KOGS				AML		AML		
	comp=E,3000µm,0.6s							
KOGS				AML		AML		
	comp=N,2880µm,0.5s							
CERT	**Cerreto**	**3.40**	**251**	P		**Pn**	**06 55 53.4**	**+2.3**
CERT				AML		AML		
	comp=E,1038µm,1.6s							
CERT				AML		AML		
	comp=N,725µm,1.5s							
ATCC	**AVT- Casa Cast**	**3.41**	**272**	P		**Pn**	**06 55 52.6**	**+1.5**
ATCC				AML		AML		
	comp=E,2060µm,0.6s							
ATCC				AML		AML		
	comp=N,1620µm,0.5s							
KUBS	**Kucevo**	**3.42**	**67**	*e*Pn		**Pn**	**06 55 51.6**	**+0.2**
KUBS				*e*Sn		**Sn**	**06 56 32.1**	**+0.3**
NARO	**Abbazia di Nar**	**3.47**	**280**	P		**Pn**	**06 55 53.3**	**+1.3**
NARO				AML		AML		
	comp=E,638µm,0.9s							
NARO				AML		AML		
	comp=N,716µm,0.8s							
MOMA	**Monte Martano**	**3.48**	**266**	P		**Pn**	**06 55 54.5**	**+2.2**
MOMA				AML		AML		
	comp=E,800µm,1.3s							
MOMA				AML		AML		
	comp=E,770µm,1.2s							
MOMA				AML		AML		
	comp=N,1040µm,0.4s							
MOMA				AML		AML		
	comp=N,924µm,0.4s							
TPE	**Tepelena**	**3.49**	**143**	*i* PN		**Pn**	**06 55 55.2**	**+2.9**
TPE				*i* SN		**Sn**	**06 56 37.1**	**+3.7**
MURB	**Monte Urbino**	**3.49**	**274**	P		**Pn**	**06 55 54.5**	**+2.1**
MURB				AML		AML		
	comp=E,2725µm,0.3s							
MURB				AML		AML		
	comp=N,2570µm,0.3s							
MURB				AML		AML		
	comp=E,2730µm,0.3s							
MURB				AML		AML		
	comp=N,2575µm,0.3s							
MURB	**Monte Urbino**	**3.49**	**274**			**Pn**	**06 55 53.8**	**+1.5**
PIEI	**Pieia**	**3.50**	**278**	P		**Pn**	**06 55 53.7**	**+1.3**
PIEI				AML		AML		
	comp=E,713µm,0.4s							
PIEI				AML		AML		
	comp=N,628µm,0.3s							
LJU	**Ljubljana**	**3.52**	**327**	*e*Pn		**Pn**	**06 55 54.5**	**+1.8**
LJU	**Ljubljana**	**3.52**	**327**	*e*P		**Pn**	**06 55 54.0**	**+1.3**
LJU				*e*S		**Sn**	**06 56 35.0**	**+0.9**
LJU	**Ljubljana**	**3.52**	**327**	*i* Pn		**Pn**	**06 55 54.5**	**+1.8**
LJU				*i* Sn		**Sn**	**06 56 38.5**	**+4.4**
	comp=Z,833nm,1.0s							
LJU	**Ljubljana**	**3.52**	**327**	⇑*i* Pn		**Pn**	**06 55 54.3**	**+1.6**
LJU				*e*Sn		**Sn**	**06 56 35.2**	**+1.1**

LJU Ljubljana 3.52 327 P Pn 06 55 54.6 +1.8
LJU AML AML
comp=N,3980µm,0.6s
LJU AML AML
comp=E,3250µm,0.7s
BANR Banloc 3.56 50 ⇑P Pn 06 55 55.6 +2.4
BANR AML AML 06 57 08.4
BANR Banloc 3.56 50 Pn 06 55 55.6 +2.4
ATVO AVT- Monte Val 3.58 276 P Pn 06 55 55.5 +1.9
ATVO AML AML
comp=N,1300µm,1.6s
ATVO AML AML
comp=E,788µm,1.2s
ATPI Pietralunga - 3.58 277 P Pn 06 55 55.4 +1.8
ATPI AML AML
comp=E,1310µm,0.5s
ATPI AML AML
comp=N,1275µm,1.6s
MDVR Moldovita 3.59 61 ⇓P Pn 06 55 55.3 +1.6
MDVR AML AML 06 57 01.5
MDVR Moldovita 3.59 61 Pn 06 55 55.3 +1.6
ZAGS Zajecar 3.66 78 ePn Pn 06 55 55.9 +1.3
PIPA Pietrapaola 3.66 186 P Pn 06 55 54.3 -0.4
ATMI Monte Miggiano 3.68 275 P Pn 06 55 58.2 +3.3
ATMI AML AML
comp=N,1830µm,0.8s
ATMI AML AML
comp=E,1635µm,0.3s
CPGN Carpegna, Ital 3.68 282 P Pn 06 55 57.4 +2.4
CPGN AML AML
comp=N,1340µm,0.6s
CPGN AML AML
comp=E,1395µm,0.8s
BADI Badiali 3.70 278 P Pn 06 55 57.4 +2.2
BADI AML AML
comp=N,2410µm,0.7s
BADI AML AML
comp=E,2160µm,0.8s
CDCA Citt' di Caste 3.71 277 P Pn 06 55 57.6 +2.3
CDCA AML AML
comp=E,3690µm,0.9s
CDCA AML AML
comp=N,5265µm,1.5s
VENT Ventotene 3.71 232 P Pn 06 55 55.3 0.0
VENT AML AML
comp=N,439µm,1.6s
VENT AML AML
comp=E,566µm,1.1s
CET2 Cetraro 3.74 196 P Pn 06 55 56.6 +0.8
CET2 AML AML
comp=N,1960µm,0.8s
CET2 AML AML
comp=E,1093µm,0.8s
TIH Tihany 3.79 6 ePn Pn 06 55 56.1 -0.4
TIH Sn **Sn 06 56 43.0 +2.2**
TIM Timisoara 3.83 46 P Pn 06 55 59.1 +2.1
TIM Timisoara 3.83 46 ⇓P Pn 06 55 59.1 +2.1
TIM AML AML 06 57 19.5
TIM Timisoara 3.83 46 Pn 06 55 59.1 +2.1
SRN Sarande 3.83 147 i PN Pn 06 55 59.7 +2.7
SRN i SN **Sn 06 56 44.5 +2.6**
FNA Florina 3.84 126 P Pn 06 55 58.2 +1.0
FNA Florina 3.84 126 P Pn 06 55 58.7 +1.5
FNA Florina 3.84 126 P Pn 06 55 58.6 +1.4
FNA Florina 3.84 126 Pn 06 55 58.7 +1.4
LADO San Nicola del 3.85 184 P Pn 06 55 58.8 +1.4
BOSS Bosilegrad 3.87 98 ePn Pn 06 55 59.1 +1.6
BOSS eSn **Sn 06 56 42.6 -0.2**
SABO M.te Sabotino 3.88 318 P Pn 06 55 58.7 +1.0
SABO AML AML
comp=E,4185µm,1.1s
SABO AML AML
comp=N,4420µm,0.6s
SOKA Soboth 3.89 336 i Pn Pn 06 55 59.9 +1.9
comp=N,62nm,0.4s,SNR=139
SOKA i Sn **Sn 06 56 44.9 +1.4**
comp=N,167nm,0.5s
SOKA Soboth 3.89 336 Pn 06 55 59.9 +1.9
SOKA **Sn 06 56 44.9 +1.4**
CAFI Castiglion Fio 3.90 275 P Pn 06 56 01.0 +3.1
OBKA Obir 3.90 331 i Pn Pn 06 56 00.2 +2.2
comp=N,11nm,0.2s,SNR=14
OBKA i Sn **Sn 06 56 47.7 +4.0**
comp=N,462nm,0.7s
OBKA Obir 3.90 331 Pn 06 56 00.2 +2.2
OBKA **Sn 06 56 47.7 +4.0**
KEK Kerkira 3.90 150 P Pn 06 55 59.3 +1.3
NEST Nestorio 3.91 133 P Pn 06 55 59.2 +1.1
ZAPS Zavoj 3.91 86 ePn Pn 06 56 00.4 +2.3
ZAPS eSn **Sn 06 56 43.7 -0.1**
BLKB Belogradchik 3.95 81 ⇓P Pn 06 56 01.1 +2.4
BLKB ⇓S **Sn 06 56 45.9 +0.9**
BLKB AML AML 06 56 47.9
BLKB Belogradchik 3.95 81 Pn 06 56 01.1 +2.4
BLKB **Sn 06 56 45.9 +0.9**
CAR1 CAROLEI 3.96 192 P Pn 06 55 59.2 +0.3
CAR1 AML AML
comp=E,1360µm,1.0s
CAR1 AML AML
comp=N,792µm,1.6s
CAR1 AML AML
comp=N,848µm,1.6s
CAR1 AML AML
comp=E,1370µm,1.0s
BZS Buzias 3.97 50 P Pn 06 56 00.0 +1.1
BZS Buzias 3.97 50 ⇓P Pn 06 55 59.9 +1.1
BZS AML AML 06 56 47.3
BZS Buzias 3.97 50 P Pn 06 55 58.6 -0.3
BZS AML AML
comp=N,2265µm,0.5s
BZS AML AML
comp=N,1785µm,0.5s
BZS AML AML
comp=E,3745µm,0.5s
BZS AML AML
comp=E,2785µm,0.5s
BZS Buzias 3.97 50 Pn 06 55 60.0 +1.1
TIP Timpagrande 3.97 186 P Pn 06 55 58.5 -0.4
TIP Timpagrande 3.97 186 ⇑P Pn 06 55 59.0 0.0
TIP AML AML 06 57 25.6
TIP Timpagrande 3.97 186 P Pn 06 55 58.6 -0.4
TIP AML AML
comp=E,648µm,1.1s
TIP AML AML
comp=E,749µm,1.1s
TIP AML AML
comp=N,402µm,0.8s
TIP AML AML
comp=N,323µm,0.8s
TIP Timpagrande 3.97 186 Pn 06 55 58.6 -0.3
MPLH Magyarpolny 4.04 2 ePn Pn 06 56 00.1 +0.2
MPLH Sn **Sn 06 56 47.0 0.0**
ASQU Asqua 4.06 281 P Pn 06 56 02.7 +2.4
ASQU AML AML
comp=E,625µm,0.5s
ASQU AML AML
comp=N,623µm,0.7s
LATE Laterza 4.07 265 Pn 06 56 00.4 +0.1
PENT Pentalofos 4.11 134 P Pn 06 56 03.1 +2.2
PUNG Punghina 4.25 72 ⇑P Pn 06 56 04.5 +1.9
PUNG AML AML 06 57 24.6
PUNG Punghina 4.25 72 Pn 06 56 04.5 +1.9
RUFI Rufina 4.27 282 P Pn 06 56 05.4 +2.5
CSKK Cskako 4.29 9 ePn Pn 06 56 04.0 +0.8
CSKK Sn **Sn 06 56 53.0 0.0**
ARSA Arzberg 4.30 344 P Pn 06 56 05.5 +2.0
ARSA AML AML
comp=N,428µm,0.5s
ARSA AML AML
comp=E,442µm,0.5s
ARSA Arzberg 4.30 344 i Pn Pn 06 56 05.2 +1.7
comp=E,141nm,0.3s,SNR=137
ARSA i Sn **Sn 06 56 54.7 +1.2**
comp=E,168nm,0.4s
ARSA Arzberg 4.30 344 Pn 06 56 05.2 +1.7
ARSA **Sn 06 56 54.7 +1.2**
PTCC Patocco-Chiusa 4.31 321 P Pn 06 56 05.3 +1.7
PTCC AML AML
comp=E,1465µm,0.8s
PTCC AML AML
comp=N,1060µm,1.2s
VAY Valandovo 4.32 113 ePn Pn 06 56 05.0 +1.4
VAY Valandovo 4.32 113 P Pn 06 56 04.6 +1.0
ACOM Acomizza, Ital 4.35 323 P Pn 06 56 05.6 +1.4
ACOM AML AML
comp=N,1835µm,1.6s
ACOM AML AML
comp=E,1845µm,0.5s
MYKA Terra Mystica 4.35 325 i Pn Pn 06 56 05.6 +1.4
comp=E,16nm,0.4s,SNR=22
MYKA i Sn **Sn 06 56 59.5 +4.7**
comp=E,81nm,0.5s
MYKA Terra Mystica 4.35 325 Pn 06 56 05.6 +1.4
MYKA **Sn 06 56 59.5 +4.7**
GRG Griva 4.38 118 P Pn 06 56 05.7 +1.1
GRG Griva 4.38 118 P Pn 06 56 05.9 +1.3
GRG Griva 4.38 118 eP Pn 06 56 04.6 0.0
KZN Kozani 4.38 129 P Pn 06 56 06.2 +1.6
KZN Kozani 4.38 129 P Pn 06 56 07.3 +2.7
VTS Vitosha 4.40 95 P Pn 06 56 06.0 +1.1
VTS Vitosha 4.40 95 eP Pn 06 56 07.6 +2.7
VTS Vitosha 4.40 95 P Pn 06 56 07.3 +2.4
VTS 06 56 58.4
VTS Vitosha 4.40 95 ⇓P Pn 06 56 06.8 +1.9
VTS ⇓S **Sn 06 56 58.0 +1.9**
VTS AML AML 06 56 58.8
VTS Vitosha 4.40 95 P Pn 06 56 06.2 +1.3
VTS S **Sn 06 56 59.0 +3.0**
VTS AML AML
comp=N,548µm,0.6s
VTS AML AML
comp=E,384µm,0.5s
VTS Vitosha 4.40 95 Pn 06 56 07.3 +2.4
VTS **Sn 06 56 58.4 +2.3**
KPRO Kipourio 4.41 135 P Pn 06 56 06.2 +1.3
SIRR Siria 4.42 43 ⇓P Pn 06 56 05.6 +0.5
SIRR AML AML 06 57 11.8
SIRR Siria 4.42 43 Pn 06 56 05.6 +0.5
OSSC Osservatorio P 4.43 277 Pn 06 56 06.6 +1.4
OSSC Sn **Sn 06 56 58.4 +1.8**
KKB Krupnik 4.46 104 eP Pn 06 56 08.6 +2.9
BUD Budapest 4.52 15 P Pn 06 56 07.2 +0.8
STAL STALIGIAL 4.52 315 Pn 06 56 07.0 +0.5
SRE Strehaia 4.54 68 P Pn 06 56 08.8 +2.1
SRE Strehaia 4.54 68 ⇑P Pn 06 56 08.8 +2.1
SRE AML AML 06 57 45.5
SRE Strehaia 4.54 68 Pn 06 56 08.8 +2.1
GZR Gura Zlata 4.54 58 ⇑P Pn 06 56 07.8 +1.0
GZR AML AML 06 57 03.9
GZR Gura Zlata 4.54 58 Pn 06 56 07.8 +1.0
IST3 Stromboli F 4.60 201 P Pb 06 56 16.6 -2.3
KNT Kendrikon 4.61 113 P Pn 06 56 08.8 +1.1
KNT Kendrikon 4.61 113 P Pn 06 56 08.9 +1.2
KNT Kendrikon 4.61 113 eP Pn 06 56 08.0 +0.3
TEOL Teolo 4.61 301 Pn 06 56 07.9 +0.2
TEOL Sn **Sn 06 57 02.1 +1.0**
BSZH Besenyszg 4.67 26 ePn Pn 06 56 11.1 +2.6
BSZH Sn **Sg 06 57 30.0 +1.9**
PLAC Placanica 4.72 188 P Pn 06 56 09.3 0.0
PLAC AML AML
comp=E,312µm,1.5s
PLAC AML AML
comp=N,269µm,0.8s
PLAC AML AML
comp=N,331µm,0.9s
PLAC AML AML
comp=E,266µm,0.7s
CASP Castiglione de 4.73 268 Pn Pn 06 56 09.6 +0.3
SRO Srobarova 4.74 8 eP Pn 06 56 11.2 +1.8
SRO Srobarova 4.74 8 ePN Pn 06 56 11.2 +1.8
ZCCA Zocca 4.74 287 Pn 06 56 12.3 +2.9
CGRP Cima Grappa 4.79 307 P Pn 06 56 12.1 +1.7
CGRP AML AML
comp=N,1235µm,0.8s
CGRP AML AML
comp=E,1500µm,0.7s
KBA Koelnbreinsper 4.83 326 P Pn 06 56 12.4 +1.5
KBA 06 57 09.7
KBA Koelnbreinsper 4.83 326 i Pn Pn 06 56 12.4 +1.5
comp=E,43nm,0.6s
KBA i Sn **Sn 06 57 09.7 +2.9**
comp=E,62nm,0.7s
KBA Koelnbreinsper 4.83 326 Pn 06 56 12.4 +1.5
KBA **Sn 06 57 09.7 +2.9**
DEV Deva 4.86 54 P Pn 06 56 12.8 +1.6
DEV Deva 4.86 54 ⇓P Pn 06 56 12.8 +1.6
DEV AML AML 06 57 10.6
DEV Deva 4.86 54 Pn 06 56 12.8 +1.6
CONA Conrad Observa 4.90 349 i Pn Pn 06 56 13.2 +1.4
comp=E,37nm,0.4s,SNR=35
CONA i Sn **Sn 06 57 11.3 +3.0**
comp=E,81nm,0.5s
CONA Conrad Observa 4.90 349 Pn 06 56 13.2 +1.4
CONA **Sn 06 57 11.3 +3.0**
THE Thessaloniki 4.92 119 P Pn 06 56 12.7 +0.8
LIT Litokhoron 4.93 126 P Pn 06 56 12.2 0.0
LIT Litokhoron 4.93 126 P Pn 06 56 13.0 +0.9
LIT 06 57 11.3
LIT Litokhoron 4.93 126 Pn 06 56 13.0 +0.9
LIT Sn **Sn 06 57 11.2 +2.2**
ABTA Abfaltersbach 4.96 318 i Pn Pn 06 56 13.5 +0.9
comp=E,15nm,0.3s,SNR=19
ABTA i Sn **Sn 06 57 11.4 +1.6**
comp=E,55nm,0.3s
ABTA Abfaltersbach 4.96 318 Pn 06 56 13.5 +0.9
ABTA **Sn 06 57 11.4 +1.6**
CEL Celeste 4.98 193 Pn 06 56 12.6 -0.3
MMB Musomiste 5.01 106 P Pn 06 56 15.5 +2.3
HORT Hortiatis 5.02 118 eP Pn 06 56 13.3 -0.1
LKD2 Lefkada island 5.03 148 P Pn 06 56 12.9 -0.6
THL Klokotos Trika 5.03 134 P Pn 06 56 13.6 +0.1
ZST Bratislava 5.07 359 eP Pn 06 56 14.8 +0.9
ZST e 06 57 10.8
ZST Bratislava 5.07 359 ePN Pn 06 56 14.8 +0.9
ZST eSN **Sn 06 57 10.8 -1.5**
PGB Panagyurishte 5.09 94 eP Pn 06 56 17.7 +3.4
ROVR Rover Verones 5.12 302 P Pn 06 56 15.4 +0.6
ROVR AML AML
comp=E,792µm,0.7s
ROVR AML AML
comp=N,1149µm,0.5s
ROVR AML AML
comp=E,276µm,0.8s
ROVR AML AML
comp=N,414µm,0.9s
PSZ Piszkesteto 5.12 20 P Pn 06 56 15.6 +0.8
PSZ Piszkesteto 5.12 20 ⇓P Pn 06 56 15.8 +1.0
PSZ AML AML 06 57 53.0
PSZ Piszkesteto 5.12 20 ePn Pb 06 56 25.0 -2.8
PSZ Sn **Sn 06 57 14.1 +0.3**
PSZ Piszkesteto 5.12 20 Pn 06 56 15.6 +0.8
PSZ Piszkesteto 5.12 20 Pn 06 56 15.8 +1.0
MOA Molln 5.17 337 i Pn Pn 06 56 17.8 +2.3
comp=N,58nm,0.4s,SNR=88
MOA i Sn **Sn 06 57 17.6 +2.6**
comp=N,173nm,0.6s
MOA Molln 5.17 337 Pn 06 56 17.8 +2.3
MOA **Sn 06 57 17.6 +2.6**
EVGI Lefkada island 5.18 149 P Pn 06 56 14.6 -0.9
NVR Nevrokopi 5.19 108 P Pn 06 56 17.8 +2.1
LOT Lotru 5.19 61 ⇓P Pn 06 56 18.2 +2.4
LOT AML AML 06 57 24.0
LOT Lotru 5.19 61 Pn 06 56 18.2 +2.4
VLAD Vladila 5.24 78 ⇓P Pn 06 56 16.5 +0.2
VLAD AML AML 06 58 05.0
VLAD Vladila 5.24 78 Pn 06 56 16.5 +0.2
MODS Modra-Piesok 5.24 360 eP Pn 06 56 16.7 +0.3
MODS e 06 57 14.9
MODS pmax pmax
comp=N,351nm,0.5s
MODS Modra-Piesok 5.24 360 ePN Pn 06 56 16.7 +0.3
MODS eSN **Sn 06 57 14.9 -1.7**
MODS eLG Lg 06 57 16.9
MCSR Castroreale 5.30 198 P Pn 06 56 20.3 +3.1
MCSR AML AML
comp=E,364µm,0.4s
MCSR AML AML
comp=N,344µm,0.4s
PRMA PARMA 5.30 290 Pn 06 56 19.5 +2.4
DRGR 5.31 45 P Pn 06 56 18.3 +1.0
DRGR 5.31 45 ⇑P Pn 06 56 18.3 +1.0
DRGR AML AML 06 57 22.8
DRGR 5.31 45 Pn 06 56 18.3 +1.0
RISI Rein 5.31 318 P Pn 06 56 18.8 +1.3
RISI AML AML
comp=N,1995µm,0.5s
RISI AML AML
comp=E,1415µm,0.6s
LTVH Ltavrtes, Hu 5.35 36 ePg Pn 06 56 22.1 +4.2
LTVH eSg **Sg 06 57 45.0 -5.1**
PLVB Pleven 5.36 85 ⇓P Pn 06 56 20.1 +2.2
PLVB AML AML 06 58 03.3
PLVB Pleven 5.36 85 Pn 06 56 20.1 +2.2
PLG Polygyros 5.36 119 P Pn 06 56 18.9 +0.8
PLG Polygyros 5.36 119 P Pn 06 56 19.8 +1.7
KOSI Kohlern 5.37 310 P Pn 06 56 19.5 +1.3
SMOL Smolenice 5.38 1 eP Pn 06 56 19.7 +1.4
SMOL e 06 57 19.4
SMOL pmax pmax
comp=N,106nm,0.5s
SMOL Smolenice 5.38 1 ePN Pn 06 56 19.7 +1.4
SMOL eSN **Sn 06 57 19.4 -0.7**
SMOL eLG Lg 06 57 22.7
EVR Evrytania 5.42 139 P Pn 06 56 19.7 +0.8
SALO Salr 5.45 299 Pn 06 56 20.3 +1.0
VYHS Vyhne 5.47 11 eP Pn 06 56 20.8 +1.3
VYHS e 06 57 23.1
VYHS Vyhne 5.47 11 ePN Pn 06 56 20.8 +1.3
VYHS eSN **Sn 06 57 23.1 +0.9**
KOLL Kolacno 5.50 8 ePN Pn 06 56 21.0 +1.1
KOLL eSN **Sn 06 57 22.7 -0.3**
MAKR Makrakomi, Fth 5.50 137 P Pn 06 56 20.7 +0.7
PVO Paravola 5.54 143 P Pn 06 56 20.5 +0.1
VLS Valsamata 5.55 152 P Pn 06 56 19.7 -0.9
ABSI Aberstueckl 5.56 312 P Pn 06 56 21.8 +0.9
AGG Agios Georgios 5.60 135 P Pn 06 56 21.4 +0.1
AGG Agios Georgios 5.60 135 P Pn 06 56 22.0 +0.7
AGG Agios Georgios 5.60 135 eP Pn 06 56 21.1 -0.2
AGG Agios Georgios 5.60 135 Pn 06 56 22.0 +0.7
ROSI Rosskopf 5.64 314 P Pn 06 56 25.2 +3.3
KFL Anninata 5.68 151 P Pn 06 56 22.7 +0.3
RZN Rozhen 5.68 102 eP Pn 06 56 24.4 +1.8
ARR Arges 5.73 65 ⇓P Pn 06 56 25.7 +2.7
ARR Arges 5.73 65 Pn 06 56 25.7 +2.7
CJR Cluj-Napoca 5.73 49 P Pn 06 56 24.8 +1.7
CJR Cluj-Napoca 5.73 49 ⇓P Pn 06 56 24.8 +1.7
CJR Cluj-Napoca 5.73 49 Pn 06 56 24.8 +1.7
OUR Ouranopolis 5.73 117 eP Pn 06 56 19.9 -3.2
HUMR Humele 5.73 73 ⇑P Pn 06 56 25.0 +1.9
HUMR Humele 5.73 73 Pn 06 56 25.0 +1.9
WTTA Wattenberg 5.75 318 P Pn 06 56 24.8 +1.3
WTTA 06 57 29.5
WTTA Wattenberg 5.75 318 P Pn 06 56 28.2 +4.7
WTTA Wattenberg 5.75 318 i Pn Pn 06 56 24.8 +1.3
comp=N,12nm,0.3s,SNR=28
WTTA i Sn **Sn 06 57 29.5 +0.1**
comp=N,67nm,0.5s
WTTA Wattenberg 5.75 318 Pn 06 56 24.8 +1.3
WTTA **Sn 06 57 29.5 +0.1**
MSSA Maissana 5.76 285 Pn 06 56 24.5 +1.0
PAIG Paliouri 5.76 122 P Pn 06 56 23.5 0.0
PAIG Paliouri 5.76 122 P Pn 06 56 21.5 -2.0
PAIG pmax pmax
comp=Z,60nm,0.8s
KAVA Kavala 5.78 109 P Pn 06 56 25.1 +1.3
GOLR 5.79 70 ⇓P Pn 06 56 24.9 +1.0
GOLR 5.79 70 Pn 06 56 24.9 +1.0
GALF Gagliano Caste 5.80 202 P Pn 06 56 30.1 +5.9
XOR Xorichti 5.82 128 P Pn 06 56 23.7 -0.7
WATA Walderalm 5.83 318 P Pn 06 56 26.2 +1.6
WATA 06 57 32.4
WATA Walderalm 5.83 318 i Pn Pn 06 56 26.2 +1.6
comp=Z,40nm,0.6s,SNR=36
WATA i Sn **Sn 06 57 32.4 +1.1**
comp=Z,109nm,0.7s
WATA Walderalm 5.83 318 Pn 06 56 26.2 +1.6
WATA **Sn 06 57 32.4 +1.1**
COPA Copaceanca 5.84 77 ⇑P Pn 06 56 25.9 +1.4
COPA Copaceanca 5.84 77 Pn 06 56 25.9 +1.4
PVL Pavlikeni 5.88 86 eP Pn 06 56 27.0 +1.9
SQTA Sankt Quirin 5.93 316 P Pn 06 56 27.9 +2.0
SQTA 06 57 36.7
SQTA Sankt Quirin 5.93 316 i Pn Pn 06 56 27.9 +2.0
comp=Z,16nm,0.3s,SNR=18
SQTA i Sn **Sn 06 57 36.7 +2.9**
comp=Z,64nm,0.5s
SQTA Sankt Quirin 5.93 316 Pn 06 56 27.9 +2.0
SQTA **Sn 06 57 36.7 +2.9**
SERG Sergoula 5.94 141 P Pn 06 56 27.9 +1.9
KRUC Moravsky 5.96 354 P Pn 06 56 28.0 +1.7
KRUC pmax pmax
comp=Z,34nm,0.6s
KRUC Moravsky 5.96 354 ePN Pn 06 56 27.7 +1.4
KRUC eSN **Sn 06 57 34.1 -0.3**
KALE Kalithea 6.00 141 P Pn 06 56 27.0 +0.2
VOIR 6.03 65 P Pn 06 56 29.7 +2.5
VOIR 6.03 65 ⇑P Pn 06 56 29.7 +2.5
VOIR 6.03 65 Pn 06 56 29.7 +2.5
MDI Monti di Nese 6.04 299 P Pn 06 56 29.8 +2.5
CORL Corleone 6.05 211 Pn 06 56 29.5 +1.9
FETA Feichten 6.06 312 i Pn Pn 06 56 28.5 +0.8
comp=Z,6.9nm,0.4s
FETA i Sn **Sn 06 57 39.9 +2.9**
comp=Z,61nm,0.6s
FETA Feichten 6.06 312 Pn 06 56 28.5 +0.8
FETA **Sn 06 57 39.9 +2.9**
VAE Valguarnera 6.06 202 P Pn 06 56 33.4 +5.7
comp=Z,0.7nm,0.3s,baz=36,slow=2.5,SNR=4.3
HLNI Lentini 6.07 199 P Pn 06 56 26.8 -1.0
MOTA Moosalm 6.07 316 P Pn 06 56 29.6 +1.8
MOTA 06 57 39.5
MOTA Moosalm 6.07 316 i Pn Pn 06 56 29.6 +1.8
comp=Z,64nm,0.5s,SNR=47
MOTA i Sn **Sn 06 57 39.5 +2.3**
comp=Z,36nm,0.5s
MOTA Moosalm 6.07 316 Pn 06 56 29.6 +1.8
MOTA **Sn 06 57 39.5 +2.3**
FUORN Ofenpass-Fuorn 6.09 307 Pn 06 56 30.4 +2.1
PGF Pioggiola 6.13 267 ePn Pn 06 56 30.2 +1.6
SNR=1.0
PGF eSn **Sn 06 57 37.7 -0.9**
comp=Z,145nm,1.3s
PGF Pioggiola 6.13 267 P Pn 06 56 30.2 +1.6
PGF 06 57 37.7
PGF Pioggiola 6.13 267 Pn 06 56 30.2 +1.6
PGF **Sn 06 57 37.7 -0.9**
DRO Drossia 6.17 146 P Pn 06 56 28.8 -0.4
KDZ Kurdzhali 6.19 101 eP Pn 06 56 30.4 +0.9
VRAC Vranov 6.20 356 P Pn 06 56 31.1 +1.6
comp=Z,2.3nm,0.3s,baz=187,slow=13,SNR=22
VRAC S **Sn 06 57 40.0 -0.2**
comp=Z,13nm,0.3s,baz=264,slow=15,SNR=11
VRAC LR LR 06 58 21.9
comp=Z,106nm,21.8s,baz=324,slow=32
VRAC Vranov 6.20 356 ⇓P Pn 06 56 31.3 +1.9
VRAC Vranov 6.20 356 ePN Pn 06 56 31.0 +1.6
VRAC eSN **Sn 06 57 39.8 -0.3**
VRAC Vranov 6.20 356 Pn 06 56 31.3 +1.9
TRPA Tarpa 6.20 35 ⇑P Pn 06 56 30.9 +1.4
TRPA Tarpa 6.20 35 ePn Pn 06 56 27.0 -2.5
TRPA Sn **Sn 06 57 42.1 +1.8**
TRPA Tarpa 6.20 35 Pn 06 56 30.9 +1.4
LANS Liptovska Anna 6.21 13 eP Pn 06 56 31.8 +2.2
LANS Liptovska Anna 6.21 13 ePN Pn 06 56 31.8 +2.2
GEC2 GERESS Array S 6.24 338 Pn 06 56 31.8 +1.7
GEC2 Sn **Sn 06 57 42.1 +0.8**
GERES GERESS Array B 6.24 338 P Pn 06 56 32.1 +2.0
comp=Z,4.9nm,0.3s,baz=156,slow=13,SNR=111
GERES S **Sn 06 57 41.8 +0.6**
comp=Z,19nm,0.3s,baz=141,slow=24,SNR=15
HVZN Vizzini 6.27 199 P Pn 06 56 27.9 -2.6
KLV Kalavryta, Ach 6.28 142 P Pn 06 56 31.4 +0.6
TREC Trest 6.29 349 eP Pn 06 56 32.8 +2.0
TREC Trest 6.29 349 ePN Pn 06 56 32.8 +2.0
ELND Elena 6.29 89 ⇓P Pn 06 56 32.8 +2.0
ELND Elena 6.29 89 Pn 06 56 32.8 +2.0
BMR Baia Mare 6.30 42 P Pn 06 56 33.6 +2.7
BMR Baia Mare 6.30 42 ⇓P Pn 06 56 33.6 +2.7
BMR Baia Mare 6.30 42 Pn 06 56 33.6 +2.7
SZH Strazhica 6.32 86 eP Pn 06 56 33.0 +1.9
RETA Reutte 6.34 316 i Pn Pn 06 56 32.9 +1.4
comp=Z,12nm,0.4s
RETA i Sn **Sn 06 57 46.4 +2.7**
comp=Z,28nm,0.4s
RETA Reutte 6.34 316 Pn 06 56 32.9 +1.4
RETA **Sn 06 57 46.4 +2.7**
AOS Alonnisos 6.35 126 eP Pn 06 56 27.2 -4.4
CLTB Caltabellotta 6.36 211 Pn 06 56 33.2 +1.4

ARCR	ARCALIA	6.37	49	⇑P		Pn	06 56 33.7	+1.8
ARCR	ARCALIA	6.37	49			Pn	06 56 33.6	+1.8
HAVL	Avola	6.39	196	P		Pn	06 56 31.2	-0.9
DOPR	Dopca	6.44	61	⇓P		Pn	06 56 34.8	+1.9
DOPR	Dopca	6.44	61			Pn	06 56 34.8	+1.9
RDO	Rodhopi	6.44	105	P		Pn	06 56 34.3	+1.5
RDO	Rodhopi	6.44	105	*e*P		Pn	06 56 33.2	+0.4
UZH	Uzhgorod	6.51	31	⇑*i*P		Pn	06 56 36.3	+2.5
UZH				*e*S		Sn	06 57 50.5	+2.7
UZH				MLR	MLR			
	comp=N,20nm,1.0s							
UZH				MLR	MLR			
	comp=E,20nm,1.0s							
UZH				MLR	MLR			
	comp=Z,10.0nm,1.0s							
KHC	Kasperske Hory	6.53	338	*d i*P		Pn	06 56 36.0	+1.9
KHC	Kasperske Hory	6.53	338	*e*PN		Pn	06 56 36.0	+1.9
KHC				*ex*		x	06 56 52.5	
KHC				*e*SN		Sn	06 57 46.6	-1.8
KHC				AMS	AMS		06 59 00.0	
	comp=Z,2µm,8.7s							
KHC	Kasperske Hory	6.53	338			Pn	06 56 36.6	+2.6
KHC				Sn		Sn	06 57 47.1	-1.3
AMT	Artemida-Makis	6.53	147	P		Pn	06 56 36.2	+2.1
FUR	Furstenfeldbru	6.56	322	P		Pn	06 56 35.9	+1.4
FUR				pmax	pmax			
	comp=Z,62nm,0.8s							
TUE	Stuetta	6.56	303			Pn	06 56 36.4	+1.7
NIE	Niedzica	6.62	17	*e*P		Pn	06 56 38.1	+2.8
NIE				*e*			06 57 53.9	
NIE	Niedzica	6.62	17	*e*Pn		Pn	06 56 38.1	+2.8
NIE				*e*Pn		Pn	06 56 38.1	+2.8
NIE				*e*Sn		Sn	06 57 53.9	+3.3
NIE				*e*Sn		Sn	06 57 53.9	+3.3
MLR	Muntele Rosu	6.64	66	P		Pn	06 56 38.0	+2.3
MLR							06 57 53.7	
MLR	Muntele Rosu	6.64	66	P		Pn	06 56 38.7	+3.1
	comp=Z,1.3nm,0.3s,baz=252,slow=4.6,SNR=24							
MLR				S		Sn	06 57 52.8	+1.6
	comp=Z,3.3nm,0.3s,baz=147,slow=16,SNR=4.2							
MLR				LR	LR		06 59 38.3	
	comp=Z,594nm,19.7s,baz=296,slow=42							
MLR	Muntele Rosu	6.64	66	⇑P		Pn	06 56 38.1	+2.4
MLR	Muntele Rosu	6.64	66			Pn	06 56 38.0	+2.4
MLR						Sn	06 57 53.7	+2.5
MORC	Moravsky Berou	6.65	1	P		Pn	06 56 37.1	+1.4
MORC							06 57 51.6	
MORC	Moravsky Berou	6.65	1	⇑P		Pn	06 56 37.7	+2.0
MORC	Moravsky Berou	6.65	1	*e*PN		Pn	06 56 37.7	+2.0
MORC				*e*SN		Sn	06 57 50.5	-0.8
MORC	Moravsky Berou	6.65	1			Pn	06 56 37.1	+1.4
MORC				Sn		Sn	06 57 51.6	+0.3
MORC	Moravsky Berou	6.65	1			Pn	06 56 37.7	+2.0
SULR		6.66	74	⇓P		Pn	06 56 37.9	+2.2
SULR		6.66	74			Pn	06 56 37.9	+2.2
DAVA	Damuels	6.68	311	*i* Pn		Pn	06 56 38.3	+2.0
	comp=Z,22nm,0.6s							
DAVA				*i* Sn		Sn	06 57 56.2	+3.9
	comp=Z,32nm,0.5s							
DAVA	Damuels	6.68	311			Pn	06 56 38.3	+2.0
DAVA						Sn	06 57 56.2	+3.9
LTK	Loutraki	6.68	138	P		Pn	06 56 35.5	-0.7
RAZG	Razgrad	6.73	83	⇑P		Pn	06 56 37.7	+0.9
RAZG	Razgrad	6.73	83			Pn	06 56 37.7	+0.9
OKC	Ostrava-Krasne	6.73	5	*e*P		Pn	06 56 38.3	+1.5
OKC				*e*			06 57 52.6	
OKC	Ostrava-Krasne	6.73	5	*e*PN		Pn	06 56 38.3	+1.5
OKC				*e*SN		Sn	06 57 52.6	-0.7
OZUR		6.75	61	⇑P		Pn	06 56 39.1	+2.1
OZUR		6.75	61			Pn	06 56 39.1	+2.1
WET	Wettzell	6.75	335	P		Pn	06 56 39.0	+1.9
KOLS	Kolonicke sedl	6.76	29	*e*P		Pn	06 56 38.9	+1.7
KOLS	Kolonicke sedl	6.76	29	*e*PN		Pn	06 56 38.9	+1.7
JMB	Yambol	6.87	92	*e*P		Pn	06 56 41.5	+2.8
ALN	Alexandroupoli	6.89	106	P		Pn	06 56 41.0	+2.0
ALN	Alexandroupoli	6.89	106	*e*P		Pn	06 56 39.9	+0.9
ALN	Alexandroupoli	6.89	106			Pn	06 56 41.0	+2.0
ITM	Ithomi	6.92	148	*e*P		Pn	06 56 41.5	+2.0
ITM	Ithomi	6.92	148			Pn	06 56 39.7	+0.2
PBCC	Pribram	6.94	342	*e*PN		Pn	06 56 41.4	+1.7
PBCC				*e*SN		Sn	06 57 57.3	-1.1
GOPC	GO Pecny, Ondr	7.00	347	*e*P		Pn	06 56 43.1	+2.6
GOPC				*e*			06 57 58.4	
GOPC	GO Pecny, Ondr	7.00	347	*e*PN		Pn	06 56 43.1	+2.6
GOPC				*e*SN		Sn	06 57 58.4	-1.5
LEHL	Lehliu	7.02	76	⇑P		Pn	06 56 43.2	+2.5
LEHL	Lehliu	7.02	76			Pn	06 56 43.2	+2.5
PRU	Pruhonice	7.12	346	*e*P		Pn	06 56 44.5	+2.4
PRU				MLR	MLR			
	comp=Z,900nm,11.3s							
PRU	Pruhonice	7.12	346	*e*PN		Pn	06 56 44.5	+2.4
PRU				AMS	AMS		06 59 20.0	
	comp=Z,900nm,11.3s							
BURAR	Bucovina Array	7.16	48	P		Pn	06 56 44.4	+1.7
BURAR	Bucovina Array	7.16	48	⇑P		Pn	06 56 45.5	+2.8
BURAR	Bucovina Array	7.16	48			Pn	06 56 45.5	+2.8
BUR08	Bucovina Ar. S	7.16	48			Pn	06 56 44.0	+1.2
SBF	Sospel	7.21	279	*e*Pn		Pn	06 56 43.7	+0.3
	SNR=1.0							
SBF				*e*Sn		Sn	06 58 02.6	-2.5
	comp=Z,155nm,0.8s							
SBF	Sospel	7.21	279	P		Pn	06 56 44.1	+0.7
SBF	Sospel	7.21	279			Pn	06 56 43.7	+0.3
SBF						Sn	06 58 02.6	-2.5
PLOR	Plostina	7.22	65	P		Pn	06 56 45.0	+1.4
PLOR	Plostina	7.22	65	⇓P		Pn	06 56 45.0	+1.4
PLOR	Plostina	7.22	65			Pn	06 56 45.0	+1.4
UKOP	Uzunkopru-Edir	7.22	103	*e*P		Pn	06 56 43.9	+0.3
DPC	Dobruska-Polom	7.25	355	*e*P		Pn	06 56 46.1	+2.1
DPC				*e*			06 58 05.4	
DPC	Dobruska-Polom	7.25	355	*e*PN		Pn	06 56 46.1	+2.1
DPC				*e*SN		Sn	06 58 05.4	-0.7
VRI	Vrincioaia	7.28	65	P		Pn	06 56 46.8	+2.5
VRI	Vrincioaia	7.28	65	⇓P		Pn	06 56 46.8	+2.5
VRI	Vrincioaia	7.28	65			Pn	06 56 46.8	+2.5
OJC	Ojcow	7.29	13	P		Pn	06 56 45.6	+1.1
OJC	Ojcow	7.29	13	*e*Pn		Pn	06 56 46.8	+2.2
OJC				*e*Pn		Pn	06 56 46.8	+2.2
OJC				*e*Sn		Sn	06 58 08.9	+1.8
OJC				*e*Sn		Sn	06 58 08.9	+1.8
OJC	Ojcow	7.29	13			Pn	06 56 45.6	+1.1
ERIK	Erikli-Kesan	7.30	107	*e*P		Pn	06 56 43.5	-1.2
PRD	Provadia	7.39	86	*e*P		Pn	06 56 50.5	+4.7
TESR	Tescani	7.46	60	⇓P		Pn	06 56 49.4	+2.6
TESR	Tescani	7.46	60			Pn	06 56 49.4	+2.6
OSTC	Ostas	7.46	355	*e*PN		Pn	06 56 49.5	+2.6
OSTC				*e*SN		Sn	06 58 08.5	-2.8
KWP	Kalwaria Pacla	7.50	28	P		Pn	06 56 48.1	+0.7
KWP	Kalwaria Pacla	7.50	28			Pn	06 56 48.1	+0.7
CHVC	Chvalec	7.51	354	*e*PN		Pn	06 56 49.3	+1.8
EZN	Ezine	7.54	113	P		Pn	06 56 49.9	+2.0
EZN	Ezine	7.54	113	*e*P		Pn	06 56 46.5	-1.4
PVCC	Panska Ves	7.63	347	*e*P		Pn	06 56 52.1	+3.0
PVCC	Panska Ves	7.63	347	*e*PN		Pn	06 56 52.1	+3.0
SLE	Schleitheim	7.73	310	P		Pn	06 56 55.5	+5.0
KSP	Ksiaz	7.74	355	*e*P		Pn	06 56 53.5	+2.8
KSP				*e*			06 58 19.0	
KSP	Ksiaz	7.74	355	*e*Pn		Pn	06 56 53.5	+2.8
KSP				*e*Pn		Pn	06 56 53.5	+2.8
KSP				*e*Sn		Sn	06 58 19.0	+0.8
KSP				*e*Sn		Sn	06 58 19.0	+0.8
MBDF	Montbardon	7.76	285	*e*Pn		Pn	06 56 50.5	-0.6
MBDF				*e*Sn		Sn	06 58 16.0	-2.9
	comp=Z,58nm,0.7s							
MBDF	Montbardon	7.76	285	P		Pn	06 56 50.5	-0.6
MBDF							06 58 16.0	
MBDF	Montbardon	7.76	285			Pn	06 56 50.5	-0.6
MBDF						Sn	06 58 16.0	-2.9
FRF	La Foret Royal	7.77	277	*e*Pn		Pn	06 56 51.7	+0.6
	SNR=1.0							
FRF				*e*Sn		Sn	06 58 16.0	-3.0
	comp=Z,43nm,0.8s							
FRF	La Foret Royal	7.77	277	P		Pn	06 56 51.7	+0.6
FRF							06 58 16.0	
FRF	La Foret Royal	7.77	277			Pn	06 56 51.7	+0.6
FRF						Sn	06 58 16.0	-3.0
GRA1	Grafenberg Arr	7.79	330			Pn	06 56 53.2	+1.9
GRF	Grafenberg Arr	7.79	330	P		Pn	06 56 53.2	+1.9
SENIN	Lac Senin/Sane	7.81	298			Pn	06 56 53.0	+1.1
SENIN					Sn	Sn	06 58 19.8	-0.4
NKC	Novy Kostel	7.84	337	*e*P		Pn	06 56 53.4	+1.3
NKC	Novy Kostel	7.84	337	*e*PN		Pn	06 56 53.4	+1.3
BNI	Bardonecchia	7.88	288	P		Pn	06 56 52.5	-0.2
BNI	Bardonecchia	7.88	288			Pn	06 56 52.5	-0.2
LMR	La Mourre	7.88	275	*e*Pn		Pn	06 56 52.7	+0.1
	SNR=1.0							
LMR				*e*Sn		Sn	06 58 18.7	-2.8
	comp=Z,69nm,1.1s							
LMR	La Mourre	7.88	275	P		Pn	06 56 52.7	+0.1
LMR							06 58 18.7	
LMR	La Mourre	7.88	275			Pn	06 56 52.7	+0.1
LMR						Sn	06 58 18.7	-2.8
LPG	La Plagne	7.92	291	*e*Pn		Pn	06 56 54.2	+0.8
	SNR=1.0							
LPG				*e*Sn		Sn	06 58 18.5	-4.5
	comp=Z,84nm,0.6s							
LPG	La Plagne	7.92	291	P		Pn	06 56 54.2	+0.8
LPG							06 58 18.5	
LPG	La Plagne	7.92	291			Pn	06 56 54.2	+0.8
LPG						Sn	06 58 18.5	-4.5
LPL	La Plagne	7.94	291	*e*Pn		Pn	06 56 53.7	+0.1
	SNR=1.0							
LPL				*e*Sn		Sn	06 58 18.3	-5.0
	comp=Z,57nm,0.4s							
LPL	La Plagne	7.94	291	P		Pn	06 56 53.7	+0.1
LPL							06 58 18.3	
LPL	La Plagne	7.94	291			Pn	06 56 53.7	+0.1
LPL						Sn	06 58 18.3	-5.0
STU	Stuttgart	7.97	318	P		Pn	06 56 54.3	+0.4
STU	Stuttgart	7.97	318			Pn	06 56 54.3	+0.4
RSL	Roselend	8.05	292	P		Pn	06 56 58.4	+3.3
BRG	Berggiesshubel	8.07	345	PN		Pn	06 56 58.2	+3.0
BRG				SN		Sn	06 58 25.2	-1.0
BRG				SG		Sg	06 59 10.1	-7.2
	comp=Z,134nm,1.5s							
	comp=N,1µm,8.0s							
	comp=E,1µm,13.1s							
	comp=Z,2µm,7.3s							
BRG	Berggiesshubel	8.07	345	P		Pn	06 56 58.2	+3.0
BRG							06 58 25.2	
BRG				smax	smax			
	comp=N,134nm,1.5s							
BRG				MLR	MLR			
	comp=N,1µm,8.0s							
BRG				MLR	MLR			
	comp=E,1µm,13.1s							
BRG				MLR	MLR			
	comp=Z,2µm,7.3s							
MRMT	Marmara Adasi	8.09	105	*e*P		Pn	06 56 56.2	+0.6
BFO	Black Forest	8.14	313	P		Pn	06 56 56.7	+0.5
BFO	Black Forest	8.14	313			Pn	06 56 56.6	+0.5
LVV	L'vov	8.14	32	*e*P		Pn	06 57 01.0	+4.8
LVV				*e*S		Sn	06 58 33.0	+5.0
LVV				MLR	MLR			
	comp=Z,1µm,9.0s							
KTHR	Kythira	8.15	145	P		Pn	06 56 56.2	-0.1
TIRR	Tirgusor	8.15	77	P		Pn	06 56 57.3	+1.0
TIRR	Tirgusor	8.15	77	Pn		Pn	06 56 57.3	+1.0
KTHA	Kythira Island	8.18	145	*e*P		Pn	06 56 56.6	-0.1
TOPG	Topolog	8.18	74	⇑P		Pn	06 56 58.3	+1.6
DKL	Dikili	8.31	116	*e*P		Pn	06 56 56.2	-2.3
ORIF	Oris-en-Rattie	8.42	286	*e*Pn		Pn	06 57 00.2	+0.2
	SNR=1.0							
ORIF				*e*Sn		Sn	06 58 32.7	-2.2
	comp=Z,59nm,0.7s							
ORIF	Oris-en-Rattie	8.42	286	P		Pn	06 57 00.7	+0.7
ORIF	Oris-en-Rattie	8.42	286			Pn	06 57 00.2	+0.2
ORIF						Sn	06 58 32.7	-2.2
MOX	Moxa	8.46	335	P		Pn	06 57 01.8	+1.3
MOX				pmax	pmax			
	comp=Z,92nm,0.9s							
URLA	Izmir	8.52	121	*e*P		Pn	06 56 58.6	-2.8
TLCR		8.53	72	P		Pn	06 57 03.6	+2.1
TLCR		8.53	72	⇓P		Pn	06 57 03.6	+2.1
TLCR		8.53	72			Pn	06 57 03.6	+2.1
SMRF	Simiane la Rot	8.55	280	*e*Pn		Pn	06 57 03.9	+2.0
	SNR=1.0							
SMRF				*e*Sn		Sn	06 58 32.0	-6.2
	comp=Z,211nm,1.8s							
SMRF	Simiane la Rot	8.55	280			Pn	06 57 03.9	+2.0
SMRF						Sn	06 58 32.0	-6.2
CLL	Collm	8.68	342	P		Pn	06 57 04.4	+0.8
CLL	Collm	8.68	342	*e*Pn		Pn	06 57 07.0	+3.5
CLL				*e*Sn		Sn	06 58 26.0	-15
CLL				*e*			06 58 47.0	
CLL				*e*Sb		Sg	06 59 08.0	-29
CLL				*e*Sg		Sg	06 59 30.0	-6.7
	comp=N,300nm,20.2s							
CLL				*e*Sg		Sg	06 59 30.0	-6.7
	comp=E,700nm,17.1s							
CLL	Collm	8.68	342			Pn	06 57 04.4	+0.8
CABF	La Chapelle	8.68	297	*e*Pn		Pn	06 57 04.1	+0.4
	SNR=1.0							
CABF				*e*Sn		Sn	06 58 37.7	-3.8
	comp=E,47nm,0.6s							
CABF	La Chapelle	8.68	297	P		Pn	06 57 04.1	+0.4
CABF							06 58 37.7	
CABF	La Chapelle	8.68	297			Pn	06 57 04.1	+0.4
CABF						Sn	06 58 37.7	-3.8
HINF	Hinteralfeld	8.70	306	*e*Pn		Pn	06 57 04.2	+0.3
	SNR=1.0							
HINF				*e*Sn		Sn	06 58 41.6	-0.2
	comp=E,30nm,0.5s							
HINF	Hinteralfeld	8.70	306	P		Pn	06 57 04.2	+0.3
HINF							06 58 41.6	
HINF	Hinteralfeld	8.70	306			Pn	06 57 04.2	+0.3
HINF						Sn	06 58 41.6	-0.2
ECH	Echery	8.73	309	P		Pn	06 57 04.5	+0.3
ECH	Echery	8.73	309			Pn	06 57 04.5	+0.3
APE	Apeiranthos	8.74	131	⇑*e*P		Pn	06 57 06.5	+2.0
CDF	Champ du Feu	8.77	310	*e*Pn		Pn	06 57 05.3	+0.5
	SNR=1.0							
CDF				*e*Sn		Sn	06 58 37.9	-5.5
	comp=E,43nm,0.8s							
CDF	Champ du Feu	8.77	310	P		Pn	06 57 05.3	+0.5
CDF							06 58 37.9	
CDF	Champ du Feu	8.77	310			Pn	06 57 05.3	+0.5
CDF						Sn	06 58 37.9	-5.5
HAU	Haudompre	9.09	306	*e*Pn		Pn	06 57 10.6	+1.4
	SNR=1.0							
HAU				*e*Sn		Sn	06 58 46.4	-4.9
	comp=E,72nm,0.6s							
HAU	Haudompre	9.09	306	P		Pn	06 57 10.6	+1.4
HAU							06 58 46.4	
HAU	Haudompre	9.09	306			Pn	06 57 10.6	+1.4
HAU						Sn	06 58 46.4	-4.9
VIVF	Saint-Julien-l	9.26	285	*e*Pn		Pn	06 57 10.2	-1.3
	SNR=1.0							
VIVF				*e*Sn		Sn	06 58 51.3	-4.2
	comp=E,24nm,0.8s							
VIVF	Saint-Julien-l	9.26	285	P		Pn	06 57 10.2	-1.3
VIVF							06 58 51.3	
VIVF	Saint-Julien-l	9.26	285			Pn	06 57 10.2	-1.3
VIVF						Sn	06 58 51.3	-4.2
TNS	Taunus Mts	9.34	322	P		Pn	06 57 15.2	+2.6
TNS				pmax	pmax			
	comp=Z,24nm,0.6s							
SSB	Saint Sauveur	9.41	288	P		Pn	06 57 12.7	-0.9
SSB	Saint Sauveur	9.41	288	Pn		Pn	06 57 12.7	-0.9
KEST	Kesra	9.61	222	P		Pn	06 57 20.0	+3.6
	comp=Z,1.0nm,0.3s,baz=341,slow=1.7,SNR=10							
KEST				LR	LR		07 01 14.5	
	comp=Z,195nm,18.5s,baz=207,slow=38							
KEST	Kesra	9.61	222	Pn		Pn	06 57 16.4	0.0
PAGF	Fort de Pagny	9.72	308	*e*Pn		Pn	06 57 20.4	+2.6
PAGF				*e*Sn		Sn	06 59 02.4	-4.4
	comp=Z,32nm,0.6s							
PAGF	Fort de Pagny	9.72	308			Pn	06 57 20.4	+2.6
PAGF						Sn	06 59 02.4	-4.4
LASF	Ste Croix	9.79	280	*e*Pn		Pn	06 57 17.2	-1.7
LASF	Ste Croix	9.79	280			Pn	06 57 17.2	-1.7
IDI	Anoyia	9.80	141	P		Pn	06 57 17.5	-1.4
	comp=Z,0.7nm,0.3s,baz=317,slow=14,SNR=3.6							
IDI				S		Sn	06 59 00.6	-8.2
	comp=Z,2.7nm,0.3s,baz=27,slow=6.8,SNR=6.3							
SFTF	Sexfontaines	9.96	305	*e*Pn		Pn	06 57 20.8	-0.3
SFTF				*e*Sn		Sn	06 59 09.2	-3.5
	comp=Z,145nm,1.6s							
SFTF	Sexfontaines	9.96	305			Pn	06 57 20.8	-0.3
SFTF						Sn	06 59 09.2	-3.5
MEZF	Maizieres J'vi	10.09	306	*e*Pn		Pn	06 57 21.1	-1.7
	baz=124							
MEZF				*e*Sn		Sn	06 59 10.9	-4.8
	comp=Z,17nm,0.6s							
MEZF	Maizieres J'vi	10.09	306			Pn	06 57 21.1	-1.7
MEZF						Sn	06 59 10.9	-4.8
WLF	Walferdange	10.09	314	P		Pn	06 57 23.6	+0.8
WLF	Walferdange	10.09	314	PgPg		PgPg	06 58 11.7	+0.2
WLF	Walferdange	10.09	314	Pn		Pn	06 57 23.6	+0.8
SMF	Signal de Mont	10.17	295	*e*Pn		Pn	06 57 23.9	-0.1
	SNR=1.0							
SMF				*e*Sn		Sn	06 59 12.7	-5.2
	comp=Z,35nm,0.5s							
SMF	Signal de Mont	10.17	295	P		Pn	06 57 23.9	-0.1
SMF							06 59 12.7	
SMF	Signal de Mont	10.17	295			Pn	06 57 23.9	-0.1
SMF						Sn	06 59 12.7	-5.2
LOR	Lormes	10.34	298	*e*Pn		Pn	06 57 27.0	+0.7
	baz=109,SNR=1.0							
LOR				*e*Sn		Sn	06 59 17.2	-4.8
	comp=Z,48nm,0.4s							
LOR	Lormes	10.34	298	P		Pn	06 57 27.0	+0.7
LOR							06 59 17.2	
LOR	Lormes	10.34	298			Pn	06 57 27.0	+0.7
LOR						Sn	06 59 17.2	-4.8
SSF	Saint Saulge	10.51	297	*e*Pn		Pn	06 57 29.0	+0.4
	SNR=1.0							
SSF				*e*Sn		Sn	06 59 20.4	-5.7
	comp=Z,23nm,0.6s							
SSF	Saint Saulge	10.51	297	P		Pn	06 57 29.0	+0.4
SSF							06 59 20.4	
SSF	Saint Saulge	10.51	297			Pn	06 57 29.0	+0.4
SSF						Sn	06 59 20.4	-5.7
AVF	Avril sur Loir	10.53	295	*e*Pn		Pn	06 57 28.4	-0.5
	SNR=1.0							
AVF				*e*Sn		Sn	06 59 22.8	-3.9
	comp=Z,26nm,0.9s							
AVF	Avril sur Loir	10.53	295	P		Pn	06 57 28.4	-0.5
AVF							06 59 22.8	
AVF	Avril sur Loir	10.53	295			Pn	06 57 28.4	-0.5
AVF						Sn	06 59 22.8	-3.9
MEM	Membach	10.74	318	sPn		Pn	06 57 36.1	+4.4
BGF	Bois d'Agland	10.81	293	*e*Sn		Sn	06 59 27.2	-6.4
	comp=Z,71nm,0.9s							
BGF	Bois d'Agland	10.81	293			Sn	06 59 27.2	-6.4
BCLA	Clavier	10.98	316	Pn		Pn	06 57 35.3	+0.4
BCLA				PbPb		PbPb	06 58 05.8	-4.8
BCLA				PgPg		PgPg	06 58 29.5	+0.9
GIVF	Givet	11.04	313	*e*Pn		Pn	06 57 40.1	+4.2
GIVF	Givet	11.04	313	P		Pn	06 57 40.1	+4.2
GIVF	Givet	11.04	313			Pn	06 57 40.1	+4.2
KIEV	Kiev	11.11	43	P		Pn	06 57 39.0	+2.3
CAF	Calviac	11.11	285	*e*Pn		Pn	06 57 34.2	-2.7
CAF	Calviac	11.11	285	P		Pn	06 57 34.2	-2.7
CAF	Calviac	11.11	285			Pn	06 57 34.2	-2.7
AKASG	Malin Array Be	11.12	43	*ce*P		Pn	06 57 39.0	+2.1
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKASG	Malin Array Be	11.12	43	P		Pn	06 57 39.0	+2.1
	comp=Z,0.3nm,0.3s,baz=234,slow=12,SNR=6.6							
AKASG				LR	LR		07 02 01.9	
	comp=Z,117nm,21.7s,baz=235,slow=38							
AKBB	Malin Array Si	11.12	43	⇑*i*P		Pn	06 57 37.9	+1.0
AKBB	Malin Array Si	11.12	43			Pn	06 57 38.3	+1.4
HYF	Humbligny	11.13	297	*e*Sn		Sn	06 59 35.5	-5.9
HYF	Humbligny	11.13	297			Sn	06 59 35.5	-5.9
TCF	Toulx Ste Croi	11.19	292	*e*Sn		Sn	06 59 36.7	-6.1
	comp=Z,32nm,0.9s							
TCF	Toulx Ste Croi	11.19	292			Sn	06 59 36.7	-6.1
BAIF	Baives	11.35	312	*e*Pn		Pn	06 57 43.7	+3.6
BAIF	Baives	11.35	312	P		Pn	06 57 43.7	+3.6
BAIF	Baives	11.35	312			Pn	06 57 43.7	+3.6
RJF	Les Rejaudoux	11.53	286	*e*Pn		Pn	06 57 41.7	-0.9
	SNR=1.0							
RJF				*e*Sn		Sn	06 59 45.6	-5.6
	comp=Z,322nm,2.3s							
RJF	Les Rejaudoux	11.53	286	P		Pn	06 57 41.7	-0.9
RJF							06 59 45.6	
RJF	Les Rejaudoux	11.53	286			Pn	06 57 41.7	-0.9
RJF						Sn	06 59 45.6	-5.6
ELL	Elmali	11.59	119	P		Pn	06 57 42.9	-0.6
ELL	Elmali	11.59	119			Pn	06 57 42.9	-0.6
CLF	Chambon-Foret	11.61	300	Pn		Pn	06 57 46.9	+3.3
LFF	La Frestale	12.05	284	*e*Pn		Pn	06 57 51.1	+1.4
LFF	La Frestale	12.05	284	P		Pn	06 57 51.1	+1.4
LFF	La Frestale	12.05	284			Pn	06 57 51.1	+1.4
BR131	Keskin Array S	12.73	100	⇓*i*P		Pn	06 58 01.6	+2.5
BR131	Keskin Array S	12.73	100			Pn	06 57 60.0	+0.8
BRTR	Keskin Array B	12.73	100	P		Pn	06 58 02.1

KBZ **Khabaz** 18.59 79⇑*eP* **P** 06 59 14.9 -0.1
KBZ **Khabaz** 18.59 79 P **Pn** 06 59 15.7 +0.4
comp=Z,0.1nm,0.3s,baz=290,slow=6.0,SNR=4.8
KBZ LR LR 07 07 45.5
comp=Z,75nm,20.4s,baz=278,slow=41
ASF Jabal al Asfar 18.94 119 P **P** 06 59 19.3 +0.2
comp=Z,0.1nm,0.3s,baz=291,slow=7.8,SNR=3.9
FINES FINESS Array B 19.08 13 P **Pn** 06 59 20.8 -0.3
comp=Z,0.6nm,0.3s,baz=185,slow=9.8,SNR=24
COI Coimbra 19.40 270 P **P** 06 59 23.0 -1.0
COI pmax pmax
comp=Z,68nm,1.3s
COI Coimbra 19.40 270 P **P** 06 59 23.1 -1.0
COI IAmb IAmb 06 59 24.0
comp=Z,68nm,1.2s
AKH Akhalkalaki 19.44 86 P **P** 06 59 23.7 -0.9
AKH pmax pmax
comp=Z,8.0nm,0.9s
AKH Akhalkalaki 19.44 86 P **P** 06 59 23.7 -0.9
EIL Eilat 19.50 128 P **P** 06 59 24.1 -1.1
comp=Z,0.3nm,0.3s,baz=0.0,slow=10,SNR=3.8
MDT Midelt 20.05 246 P Pn 06 59 32.6 -0.4
comp=Z,9.8nm,0.8s,baz=175,slow=14,SNR=12
MDT LR LR 07 06 12.1
comp=Z,61nm,19.7s,baz=42,slow=33
TBLG Delisi 20.28 85 P Pn 06 59 34.9 -0.7
TBLG pmax pmax
comp=Z,24nm,0.8s
TBLG Delisi 20.28 85 P Pn 06 59 34.9 -0.7
TBLG IAmb IAmb 06 59 39.3
comp=Z,24nm,0.8s
SUF Sumiainen 20.30 12 P **P** 06 59 33.5 -0.1
SUF pmax pmax
comp=Z,37nm,2.2s
GNI Garni 20.69 89*ceP* **P** 06 59 38.8 +0.5
GNI pmax pmax
comp=Z,199nm,1.0s
GNI Garni 20.69 89 P **P** 06 59 39.3 +1.1
comp=Z,50nm,0.9s,baz=16,slow=1.8,SNR=10
GNI LR LR 07 10 21.6
comp=Z,44nm,18.3s,baz=287,slow=44
GNI Garni 20.69 89 P Pn 06 59 39.7 -0.9
BTLR Botlikh 21.16 81⇑*eP* **P** 06 59 44.4 +1.3
BTLR pmax pmax
comp=Z,23nm,1.0s
AKT Akhty 22.51 84⇑*eP* **P** 06 59 57.5 -0.3
AKT pmax pmax
comp=Z,46nm,1.1s
PRGR Permogore 25.01 32 *eP* **P** 07 00 18.7 -2.8
PRGR pmax pmax
comp=Z,45nm,0.8s
KIRV Kirov 25.17 41 P **P** 07 00 21.4 -1.6
comp=Z,8.1nm,0.6s,baz=253,slow=2.5,SNR=3.3
KIRV LR LR 07 09 35.2
comp=Z,82nm,18.2s,baz=253,slow=35
LVZ Lovozero 26.49 15⇑*iP* **P** 07 00 37.4 +2.4
LVZ pmax pmax
comp=Z,35nm,1.4s
ARCES ARCESS Array B 26.80 6 P **P** 07 00 36.7 -1.1
comp=Z,3.7nm,0.6s,baz=184,slow=8.4,SNR=30
ARCES LR LR 07 12 38.2
comp=Z,86nm,19.1s,baz=324,slow=39
AKTO Aktyubinsk 28.53 61 LR LR 07 12 24.6
comp=Z,77nm,20.4s,baz=321,slow=37
ARU Arti 29.29 48*diP* **P** 07 00 58.3 -1.8
ARU S **S** 07 05 50.4 -2.2
ARU pmax pmax
comp=Z,17nm,0.9s
ARU Arti 29.29 48 P **P** 07 00 58.6 -1.5
comp=Z,2.5nm,0.7s,baz=245,slow=6.3,SNR=9.1
ARU LR LR 07 13 10.4
comp=Z,57nm,18.6s,baz=280,slow=37
ARU Arti 29.29 48 P **P** 07 00 58.0 -2.1
ARU IAmb IAmb 07 01 03.0
comp=Z,15nm,0.9s
SVE Sverdlovsk 30.49 48 *eP* **P** 07 01 10.1 -0.6
SVE pmax pmax
comp=Z,14nm,1.0s
GEYT Alibeck 31.23 86 P **P** 07 01 17.7 +0.2
comp=Z,3.0nm,0.6s,baz=283,slow=13,SNR=4.4
GYA0B ALIBECK ARRAY 31.23 86 P **P** 07 01 18.2 +0.7
GYA0B IAmb IAmb 07 01 22.5
comp=Z,18nm,1.4s
TOA0 Torodi Ar. Sit 32.77 209 P **P** 07 01 31.5 +0.3
TORD Torodi Ar. Bea 32.77 209 P **P** 07 01 29.9 -1.2
comp=Z,1.0nm,0.6s,baz=14,slow=8.9,SNR=7.3
TORD LR LR 07 15 36.2
comp=Z,53nm,18.6s,baz=345,slow=38
SPA0 Spitsbergen Ar 35.16 360 P **P** 07 01 51.4 +0.1
BRVK Borovoye 35.99 55*ceP* **P** 07 01 58.1 -0.6
BRVK pmax pmax
comp=Z,32nm,1.0s
BRVK Borovoye 35.99 55 P **P** 07 01 58.4 -0.3
BVAR Borovoye Array 36.05 55 P **P** 07 01 58.9 -0.4
comp=Z,12nm,0.8s,baz=262,slow=8.4,SNR=44
BVAR PcP **PcP** 07 04 23.8 -1.4
comp=Z,0.5nm,0.6s,baz=305,slow=5.1,SNR=2.9
KK31 Karatay Array 38.29 71 P **P** 07 02 18.9 +0.5
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KK31 Karatay Array 38.29 71 P **P** 07 02 18.9 +0.5
KKAR Karatay Array 38.29 71 P **P** 07 02 18.6 +0.2
KKAR pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 38.29 71 P **P** 07 02 18.6 +0.2
CHGR Chuyangaron 38.95 78 P **P** 07 02 24.5 +0.5
CHGR IAmb IAmb 07 02 28.7
comp=Z,23nm,0.9s
GAR Garm 39.64 77 P **P** 07 02 30.7 +0.9
AAK Ala-Archa 41.20 70⇑*eP* **P** 07 02 43.3 +0.5
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 41.20 70 P **P** 07 02 42.9 +0.2
comp=Z,3.6nm,0.8s,baz=233,slow=3.5,SNR=6.8
AAK Ala-Archa 41.20 70 P **P** 07 02 43.0 +0.2
DBIC Dimbokro 41.23 215 P **P** 07 02 43.4 +0.4
comp=Z,3.2nm,0.8s,baz=12,slow=9.2,SNR=4.0
DBIC LR LR 07 20 50.3
comp=Z,69nm,18.0s,baz=352,slow=38
KURBB Kurchatov Arra 41.45 58 P **P** 07 02 42.7 -1.8
comp=Z,1.2nm,0.6s,baz=290,slow=10,SNR=5.6
KURK Kurchatov 41.48 57⇓*eP* **P** 07 02 43.6 -1.1
KURK pmax pmax
comp=Z,8.0nm,1.3s
BOOM Boomskoye usch 42.25 70 P **P** 07 02 51.8 +0.4
BOOM pmax pmax
comp=Z,33nm,1.4s
BOOM Boomskoye usch 42.25 70 P **P** 07 02 51.9 +0.4
KSH Kashi 43.44 74 P **P** 07 03 01.0 0.0
KSH pP sP 07 03 06.3 -0.5
KSH PP **PP** 07 04 45.0 +3.2
KSH S **S** 07 09 27.5 -1.5
KSH sS sS 07 09 35.5 -0.4
KSH pmax pmax
comp=Z,28nm,0.6s
KSH pmax pmax
comp=Z,130nm,7.9s
KSH LR LR
comp=Z,630nm,5.6s
KSH LR LR
comp=Z,240nm,6.4s
NRIK Noril'sk 43.56 29⇓*eP* **P** 07 03 01.9 +0.5
NRIK Noril'sk 43.56 29 P **P** 07 03 01.1 -0.3
comp=Z,4.0nm,0.7s,baz=261,slow=5.9,SNR=7.8
NRIK LR LR 07 22 07.9
comp=Z,67nm,18.6s,baz=304,slow=37
NIL Nilore 44.15 83 P **P** 07 03 07.6 +1.0
NIL pmax pmax
comp=Z,21nm,1.0s
NIL Nilore 44.15 83 P **P** 07 03 07.6 +1.0
ZAA0 Zalesovo Array 44.36 51 P **P** 07 03 07.0 -1.0
ZAA0 IAmb IAmb 07 03 11.4
comp=Z,6.3nm,0.8s
ZALV Zalesovo Beam 44.36 51 P **P** 07 03 07.2 -0.8
comp=Z,5.0nm,0.6s,baz=286,slow=8.8,SNR=15
ZALV PcP **PcP** 07 04 51.9 +0.1
comp=Z,0.8nm,0.3s,baz=284,slow=5.8,SNR=3.1
MK31 Makanchi Array 44.96 62 *eP* **P** 07 03 11.7 -1.3
MK31 Makanchi Array 44.96 62 P **P** 07 03 11.2 -1.8
MKAR Makanchi Array 44.96 62 P **P** 07 03 11.8 -1.2
comp=Z,4.3nm,0.9s,baz=279,slow=7.4,SNR=15
MKAR PcP **PcP** 07 04 53.5 -0.5
comp=Z,1.8nm,0.8s,baz=295,slow=4.1,SNR=6.1
MKAR LR LR 07 22 16.2
comp=Z,56nm,20.5s,baz=324,slow=36
WMQ Urumqi 49.62 64 *eP* **P** 07 03 53.0 +3.6
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ pmax pmax
comp=Z,180nm,4.5s
WMQ LR LR
comp=Z,270nm,29.2s
WMQ LR LR
comp=Z,1μm,28.9s
SCHQ Schefferville 53.20 314 P **P** 07 04 15.0 -1.0
comp=Z,3.8nm,0.6s,baz=78,slow=7.3,SNR=7.1
SCHQ Schefferville 53.20 314 P **P** 07 04 15.7 -0.2
SCHQ IAmb IAmb 07 04 17.5
comp=Z,14nm,1.1s
RES Resolute Bay 54.32 342 P **P** 07 04 23.5 -0.3
comp=Z,1.7nm,1.0s,baz=335,slow=3.1,SNR=4.1
RES Resolute Bay 54.32 342 P **P** 07 04 24.6 +0.8
TLY Talaya 55.80 49*deP* **P** 07 04 35.3 +0.4
TLY pmax pmax
comp=Z,7.0nm,1.0s
TLY Talaya 55.80 49 P **P** 07 04 34.1 -0.8
comp=Z,4.5nm,0.8s,baz=250,slow=7.3,SNR=4.7
TLY Talaya 55.80 49 P **P** 07 04 35.5 +0.7
TLY IAmb IAmb 07 04 39.6
comp=Z,6.1nm,0.9s
TIXI Tiksi 55.88 21⇓*eP* **P** 07 04 35.0 -0.1
TIXI pmax pmax
comp=Z,5.0nm,1.4s
TIXI MLR MLR
comp=Z,55nm,15.0s
TIXI Tiksi 55.88 21 LR LR 07 29 25.8
comp=Z,32nm,19.8s,baz=360,slow=37
TIXI Tiksi 55.88 21 P **P** 07 04 34.5 -0.6
TIXI IAmb IAmb 07 04 34.9
comp=Z,12nm,1.5s
LSA Lhasa 59.14 77 P **P** 07 04 59.5 +0.2
LSA pmax pmax
comp=Z,11nm,0.9s
LSA Lhasa 59.14 77 P **P** 07 04 59.5 +0.2
SONM Songino Array 59.26 52 P **P** 07 04 58.8 -0.6
comp=Z,4.5nm,1.0s,baz=301,slow=8.7,SNR=14
ULN Ulaanbaatar 59.62 51⇓*eP* **P** 07 05 04.7 +2.7
ULN pmax pmax
comp=Z,10.0nm,2.5s
ULN Ulaanbaatar 59.62 51 P **P** 07 05 02.8 +0.9
GTA Gaotai 59.70 63 *eP* P 07 04 55.3 -7.3
GTA pP pP 07 04 59.3 -7.6
GTA sP sP 07 05 02.5 -6.0
GTA pmax pmax
comp=Z,3.0nm,0.7s
FCC Fort Churchill 63.75 327 P **P** 07 05 29.4 0.0
FCC pmax pmax
comp=Z,4.0nm,0.8s
FCC Fort Churchill 63.75 327 P **P** 07 05 29.4 0.0
FCC IAmb IAmb 07 05 33.5
comp=Z,3.6nm,0.8s
LZH Lanzhou 64.20 64 *eP* **P** 07 05 35.0 +2.0
LZH pP sP 07 05 40.5 +1.6
LZH sP pP 07 05 43.0 +5.7
LZH pmax pmax
comp=Z,21nm,0.8s
L59A Walton 64.30 305 P **P** 07 05 33.5 +0.1
HHC Hu-ho-hao-te 66.26 56 *eP* **P** 07 05 47.5 +1.3
HHC pmax pmax
comp=Z,8.0nm,1.1s
HHC pmax pmax
comp=Z,66nm,6.3s
BILL Bilibino 66.72 12 *iP* **P** 07 05 50.9 +2.4
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,163nm,20.0s
YKA Yellowknife Ar 67.89 338 P **P** 07 05 55.6 -0.4
comp=Z,1.6nm,0.7s,baz=39,slow=6.0,SNR=30
LBTB Lobatse 68.24 172 P **P** 07 05 59.8 +1.1
LBTB pmax pmax
comp=Z,9.0nm,1.0s
LBTB Lobatse 68.24 172 P **P** 07 05 59.8 +1.1
COLD Coldfoot 69.56 355 P **P** 07 06 06.7 +0.3
COLD IAmb IAmb 07 06 10.0
comp=Z,7.8nm,1.4s
FFC Flin Flon 69.68 327 P **P** 07 06 07.5 +0.2
FFC pmax pmax
comp=Z,6.0nm,0.7s
FFC Flin Flon 69.68 327 P **P** 07 06 07.5 +0.2
FFC IAmb IAmb 07 06 11.9
comp=Z,5.9nm,0.7s
P53A Whipple 69.76 305 P **P** 07 06 08.8 +0.8
CHTO Chiang Mai 71.39 81 P **P** 07 06 17.4 -0.9
CHTO pmax pmax
comp=Z,7.0nm,1.1s
CHTO Chiang Mai 71.39 81 P **P** 07 06 17.4 -0.9
CHTO IAmb IAmb 07 06 22.0
comp=Z,6.5nm,1.1s
DAWY Dawson 71.56 349 P **P** 07 06 19.1 +0.3
DAWY IAmb IAmb 07 06 20.0
comp=Z,9.4nm,1.1s
KLR Kul'dur 71.59 39⇓*eP* **P** 07 06 18.5 -0.6
KLR pmax pmax
comp=Z,4.0nm,0.9s
KLR MLR MLR
comp=Z,34nm,8.0s
KLR Kul'dur 71.59 39 P **P** 07 06 17.6 -1.5
comp=Z,2.8nm,0.7s,baz=320,slow=5.6,SNR=7.4
CMAR Chiang Mai Arr 71.62 82 P **P** 07 06 18.4 -1.3
comp=Z,0.7nm,0.4s,baz=304,slow=7.5,SNR=5.1
COLA College 71.70 353⇑*eP* **P** 07 06 20.2 +0.8
COLA pmax pmax
comp=Z,2.0nm,0.9s
ILAR Eielson Array 71.72 353 P **P** 07 06 20.1 +0.6
comp=Z,1.2nm,0.9s,baz=1.3,slow=5.4,SNR=15
BOSA Boshof 71.77 173 P **P** 07 06 19.8 -0.5
comp=Z,2.8nm,0.7s,baz=355,slow=6.9,SNR=4.7
BOSA LR LR 07 41 54.3
comp=Z,43nm,18.1s,baz=24,slow=39
BOSA Boshof 71.77 173 P **P** 07 06 20.3 0.0
MLY Manley 71.77 355 P **P** 07 06 20.7 +0.8
MLY IAmb IAmb 07 06 21.6
comp=Z,7.6nm,1.1s
HDA Harding Lake 72.08 353 P **P** 07 06 21.8 0.0
HDA IAmb IAmb 07 06 22.6
comp=Z,5.6nm,0.8s
WRH Wood River Hil 72.12 353 P **P** 07 06 22.1 +0.2
WRH IAmb IAmb 07 06 26.0
comp=Z,7.9nm,1.2s
CN2 Changchun 72.26 46 *eP* **P** 07 06 22.5 -0.7
CN2 pmax pmax
comp=Z,10.0nm,1.0s
GRNR Gornyy 72.54 36 *eP* P 07 06 18.2 -6.5
BPAW Bear Paw Mtn. 72.71 355 P **P** 07 06 25.5 0.0
MCK McKinley 72.92 354 P **P** 07 06 27.0 +0.2
MCK pmax pmax
comp=Z,14nm,1.2s
MCK McKinley 72.92 354 P **P** 07 06 27.0 +0.2
DHY Denali Highway 73.43 353 P **P** 07 06 29.8 -0.2
PPLA Purkeypile 73.98 355 P **P** 07 06 34.0 +0.8
SUA Susitna One 75.31 354 P **P** 07 06 41.5 +0.6
USRK Ussuriysk Ar. 75.33 42 P **P** 07 06 40.8 -0.3
comp=Z,2.8nm,0.8s,baz=271,slow=6.4,SNR=4.5
NJ2 Nanjing 76.40 59 *eP* **P** 07 06 48.5 +1.1
NJ2 pmax pmax
comp=Z,12nm,0.5s
LAO LASA Array 77.53 324 P **P** 07 06 55.1 +1.4
LAO IAmb IAmb 07 06 55.9
comp=Z,9.3nm,1.0s
EGMT Eagleton 77.94 327 P **P** 07 06 56.7 +0.7
KSRS Korea Array 78.04 50 P **P** 07 06 55.9 -0.6
comp=Z,2.4nm,0.9s,baz=299,slow=5.1,SNR=4.0
GCMT Greycliff 79.70 325 P **P** 07 07 06.2 +0.4
JTMT Jette 79.93 329 P **P** 07 07 07.2 +0.2
JTMT IAmb IAmb 07 07 12.3
comp=Z,5.8nm,0.8s
YNE Yellowstone No 80.48 325 P **P** 07 07 11.1 +1.0
K22A Casper 80.83 322 P **P** 07 07 12.0 +0.1
K22A IAmb IAmb 07 07 16.8
comp=Z,8.2nm,0.9s
YHB Horse Butte 81.18 326 P **P** 07 07 14.3 +0.5
H17A Grant Village 81.21 325 P **P** 07 07 13.1 -1.0
H17A IAmb IAmb 07 07 21.3
comp=Z,9.3nm,1.4s
QLMT Earthquake Lak 81.21 326 P **P** 07 07 15.6 +1.6
DLMT Dillon 81.25 327 P **P** 07 07 14.4 +0.3
DLMT IAmb IAmb 07 07 19.8
comp=Z,6.4nm,1.0s
PHWY Pilot Hill 81.40 320 P **P** 07 07 15.3 +0.1
FLWY Flagg Ranch 81.52 325 P **P** 07 07 17.0 +1.4
IMW Indian Meadow 81.77 325 P **P** 07 07 18.0 +0.9
IMW IAmb IAmb 07 07 23.6
comp=Z,8.0nm,1.2s
MCMT McKenzie Canyo 81.79 327 P **P** 07 07 18.1 +1.0
KSCO Kaye Shedlock' 81.80 317 P **P** 07 07 17.9 +0.8
MOOW Moose Ponds 81.81 325 P **P** 07 07 18.3 +1.1
PD31 Pinedale Array 82.09 323 P **P** 07 07 18.7 0.0
PDAR Pinedale Array 82.09 323 P **P** 07 07 19.0 +0.3
comp=Z,0.9nm,0.8s,baz=71,slow=6.4,SNR=8.4
TPAW Teton Pass 82.10 325 P **P** 07 07 18.6 -0.2
ISCO Idaho Springs 82.65 319 P **P** 07 07 22.5 +0.7
ISCO pmax pmax
comp=Z,6.0nm,0.9s
ISCO Idaho Springs 82.65 319 P **P** 07 07 22.5 +0.7
ISCO IAmb IAmb 07 07 27.5
comp=Z,5.9nm,0.9s
Q24A Divide 83.08 318 P **P** 07 07 23.4 -0.6
Q24A IAmb IAmb 07 07 29.4
comp=Z,5.3nm,1.1s
BMO Blue Mountains 83.50 329 P **P** 07 07 25.0 -0.8
BMO pmax pmax
comp=Z,4.0nm,1.0s
BMO Blue Mountains 83.50 329 P **P** 07 07 25.1 -0.8
BMO IAmb IAmb 07 07 30.4
comp=Z,4.3nm,1.0s
T25A Trinidad 84.14 317 P **P** 07 07 29.6 +0.3
T25A IAmb IAmb 07 07 34.9
comp=Z,5.7nm,1.1s
MFID Camas Ranch 84.15 328 P **P** 07 07 29.6 +0.4
MFID IAmb IAmb 07 07 30.4
comp=Z,4.1nm,0.8s
MJAR Matsushiro Arr 84.20 44 P **P** 07 07 28.9 -0.5
comp=Z,4.7nm,1.0s,baz=310,slow=5.1,SNR=6.9
SDCO Great Sand Dun 84.21 318 P **P** 07 07 29.9 +0.1
SDCO IAmb IAmb 07 07 31.3
comp=Z,5.0nm,1.1s
S22A 4UR Ranch, Cre 84.85 319 P **P** 07 07 33.8 +0.7
S22A IAmb IAmb 07 07 34.4
comp=Z,6.5nm,1.5s
YBH Yreka Blue Hor 88.17 331 P **P** 07 07 48.9 -0.1
YBH Yreka Blue Hor 88.17 331 P **P** 07 07 48.9 -0.1
NVAR Mina Array Bea 89.38 327 P **P** 07 07 55.0 +0.1
comp=Z,0.4nm,0.8s,baz=81,slow=11,SNR=3.6
TX31 Lajitas Ar. Si 89.82 312 P **P** 07 07 57.2 +0.3
TXAR Lajitas Array 89.82 312 P **P** 07 07 57.7 +0.7
comp=Z,0.9nm,0.8s,baz=63,slow=3.1,SNR=8.4
TX32 Lajitas Array 89.82 312 P **P** 07 07 57.2 +0.3
TX32 IAmb IAmb 07 08 02.0
comp=Z,5.4nm,1.5s
ASAR Alice Springs 124.93 91 PKP **PKPdf** 07 13 57.5 -0.7
comp=Z,1.2nm,0.9s,baz=354,slow=1.7,SNR=6.5

IDC ***29*** *07:05:56.2±1.5, 11°.94N×125°.86E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.5/48, mbtmp3.8/6, Error ellipse: s-maj=188.3km s-min=19.2km az=68.0*
ISCJB ***29*** *07:06:05.2±0.8, 11°.75N±0°.07×125°.4E±0°.1, h82km±5km, mb3.6/6, Error ellipse: s-maj=19.5km s-min=9.8km az=162.1*
MAN ***29*** *07:06:06.0, 11°.74N×125°.35E, h69km, mb4.3, ML3.1, MS2.9*

ISC 29 07:06:06.4±0.9, 11°.71N±0°.07×125°.4E±0°.1, h78km±7km, n15, σ1°.19/15, mb3.8/6, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.12**	**160**	P	**Pn**	**07 06 17.8**	**+0.1**
BESP				S	**Sn**	**07 06 25.7**	**-0.3**
OCLP	**Ormoc**	**1.02**	**230**	P	**Pn**	**07 06 25.8**	**+0.2**
CNP	**Catarman**	**1.07**	**318**	P	**Pn**	**07 06 25.7**	**-0.4**
CNP				S	**Sn**	**07 06 40.0**	**-0.9**
MSLP	**Maasin**	**1.66**	**199**	P	**Pn**	**07 06 30.9**	**-2.8**
MSLP				S	**Sn**	**07 06 56.6**	**+2.2**
RCP	**Roxas**	**2.60**	**267**	⇓P	**Pn**	**07 06 45.8**	**-0.5**
WRA	**Warramunga Arr**	**32.67**	**164**	P	**P**	**07 12 30.6**	**-0.7**
	0.1nm,0.3s,baz=349,slow=9.8,SNR=3.0						
ASAR	**Alice Springs**	**36.13**	**167**	P	**P**	**07 13 01.1**	**-0.1**
	0.4nm,0.4s,baz=348,slow=7.3,SNR=18						
H11N1	**WAKE ISLAND Hy**	**40.64**	**73**	T	T	07 57 12.7	
	baz=261,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**40.65**	**73**	T	T	07 57 13.0	
	baz=261						
H11N3	**WAKE ISLAND Hy**	**40.66**	**73**	T	T	07 57 20.8	
	baz=261						
STKA	**Stephens Creek**	**46.04**	**161**	PKIKP	**P**	**07 14 23.0**	**+0.6**
STKA	**Stephens Creek**	**46.04**	**161**	P	**P**	**07 14 22.9**	**+0.6**
	0.5nm,0.3s,baz=350,slow=9.6,SNR=5.3						
MKAR	**Makanchi Array**	**50.37**	**322**	P	**P**	**07 14 56.1**	**+0.5**
	0.3nm,0.6s,baz=130,slow=7.6,SNR=3.2						
ARCES	**ARCESS Array B**	**82.55**	**340**	P	**P**	**07 18 20.6**	**+0.1**
	1.5nm,0.6s,baz=88,slow=6.7,SNR=6.8						
FINES	**FINESS Array B**	**84.22**	**332**	P	**P**	**07 18 29.0**	**-0.1**
	2.6nm,1.0s,baz=106,slow=5.1,SNR=3.0						

NNC 29 07:14:47.8±0.9, 50°.01N×78°.75E, h0km, mb3.5, mpv3.2, 8C-4D, Error ellipse: s-maj=15.1km s-min=4.5km az=79.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.63**	**347**	⇓P	Pg	07 15 00.2	+0.4
	35nm,0.3s						
KURBB				⇓S	Sg	07 15 09.4	+1.4
	73nm,0.5s						
KURK	**Kurchatov**	**0.71**	**353**	⇑P	Pg	07 15 01.6	+0.2
	15nm,0.4s						
KURK				⇓S	Sg	07 15 10.9	+0.4
	31nm,0.5s						
MAKZ	**Makanchi**	**3.86**	**145**	⇑Pg	Pb	07 15 56.8	0.0
	1.9nm,0.6s						
MAKZ				⇑Lg	Lg	07 16 51.7	
	8.5nm,0.6s						
BRZS	**Berezniki**	**3.92**	**272**	Pg	Pb	07 15 59.4	+1.6
BRZS				Lg	Lg	07 16 51.8	
MK31	**Makanchi Array**	**3.99**	**142**	⇑Pn	Pn	07 15 52.6	+2.3
	0.1nm,0.2s,baz=285,slow=5.6,SNR=34						
MK31				⇓Pg	Pb	07 16 00.7	+1.7
	2.1nm,0.5s,baz=314,slow=16,SNR=9.7						
MK31				⇑Lg	Lg	07 16 53.8	
	5.0nm,0.5s,baz=316,slow=26,SNR=11						
KAPS	**Kapalarasan**	**4.75**	**175**	Pg	Pb	07 16 12.7	+0.7
	1.9nm,0.3s						
KAPS				Lg	Lg	07 17 15.7	
	8.7nm,0.5s						
ARXS	**Arharly**	**5.84**	**187**	Pg	Pb	07 16 33.6	+3.1
	1.3nm,0.2s						
ARXS				Lg	Lg	07 17 51.1	
	5.8nm,0.3s						
BRVK	**Borovoye**	**6.10**	**303**	⇑Pn	Pn	07 16 20.6	+1.4
	1.7nm,0.7s						
BRVK				⇑Sn	Sn	07 17 30.7	+1.1
	3.0nm,0.6s						
BRVK				⇑Lg	Lg	07 18 01.1	
	1.7nm,0.6s						
KTBS	**Karatobe**	**6.46**	**193**	Pg	Pg	07 16 46.5	-5.1
	1.2nm,0.5s						
KTBS				Lg	Lg	07 18 12.7	
	9.2nm,0.4s						

IDC ***29*** *07:26:36.3±1.1, 15°.28S×173°.57W, h0km, mb3.7/6, mb1 4.2/7, mb1mx3.9/30, mbtmp3.9/7, ML3.0/1, MS3.7/22, Ms1 3.7/22, ms1mx3.7/33, Error ellipse: s-maj=55.5km s-min=22.5km az=154.0*
ISCJB ***29*** *07:26:40.9±0.8, 15°.0S±0°.1×173°.2W±0°.1, h35km, mb3.7/6, MS3.8/22, Error ellipse: s-maj=21.0km s-min=10.3km az=145.9*

ISC 29 07:26:44.3±0.8, 15°.0S±0°.1×173°.0W±0°.1, h35km, n47, σ2°.66/17, mb3.6/6, MS3.8/22, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.63**	**49**	Pn	**Pn**	**07 27 07.6**	**-3.1**
	41nm,0.3s,baz=248,slow=3.2,SNR=45						
AFI				Sn	**Sn**	**07 27 30.8**	**+0.2**
	92nm,0.3s,baz=42,slow=22,SNR=12						
AFI				LR	LR	07 27 58.1	
	comp=Z,1μm,20.6s,baz=246,slow=37						
RAR	**Rarotonga**	**14.04**	**118**	Pn	**Pn**	**07 30 00.9**	**+0.1**
	0.7nm,0.3s,baz=291,slow=6.9,SNR=5.2						
RAR				LR	LR	07 33 58.0	
	comp=Z,287nm,21.1s,baz=264,slow=31						

DZM	**Mont Dzumac**	**20.67**	**247**	P		**P**	**07 31 17.5**	**-3.9**
	14nm,1.2s,baz=70,slow=14,SNR=4.8							
DZM				LR		LR	07 38 33.2	
	comp=Z,98nm,18.1s,baz=46,slow=36							
DZM	**Mont Dzumac**	**20.67**	**247**	*e*LR		LR	07 36 38.5	
	comp=Z,377nm,27.4s							
PPT	**Papeete**	**22.66**	**100**	LR		LR	07 40 03.2	
	comp=Z,100nm,18.1s,baz=330,slow=35							
PPT2	**Papeete2**	**22.66**	**100**	*e*LQ		LQ	07 36 06.0	
	933nm,26.8s							
PPT2				*e*LR		LR	07 37 03.1	
	comp=Z,250nm,26.8s,baz=298							
PPT2	**Papeete2**	**22.66**	**100**	*e*T		T	07 55 05.3	
	2.9nm,0.4s							
PAE	**Paea**	**22.67**	**100**	*e*T		T	07 55 03.9	
	1.8nm,0.3s							
TVO	**Taravao**	**22.98**	**100**	*e*T		T	07 55 29.3	
	0.7nm,0.3s							
TBI	**Tubuai**	**23.74**	**114**	*e*LQ		LQ	07 36 36.8	
	484nm,27.8s							
TBI				*e*LR		LR	07 37 36.9	
	comp=Z,354nm,26.0s,baz=310							
TBI	**Tubuai**	**23.74**	**114**	*e*T		T	07 56 40.9	
	8.6nm,0.3s							
HNR	**Honiara**	**26.96**	**279**	LR		LR	07 40 47.3	
	comp=Z,136nm,20.0s,baz=127,slow=32							
RPZ	**Rata Peaks**	**31.68**	**202**	LR		LR	07 45 37.6	
	comp=Z,194nm,18.1s,baz=22,slow=36							
H11S2	**WAKE ISLAND Hy**	**38.80**	**328**	T		T	08 15 03.2	
	baz=149,slow=76,SNR=32							
H11S3	**WAKE ISLAND Hy**	**38.82**	**328**	T		T	08 15 10.5	
	baz=149,slow=76,SNR=24							
H11S1	**WAKE ISLAND Hy**	**38.82**	**328**	T		T	08 15 03.9	
	baz=149,slow=76,SNR=14							
H11N3	**WAKE ISLAND Hy**	**39.74**	**330**	T		T	08 16 16.1	
	baz=149,slow=76,SNR=11							
H11N1	**WAKE ISLAND Hy**	**39.74**	**330**	T		T	08 16 02.7	
	baz=149,slow=76,SNR=15							
H11N2	**WAKE ISLAND Hy**	**39.76**	**330**	T		T	08 16 17.5	
	baz=149,slow=76,SNR=9.3							
STKA	**Stephens Creek**	**44.54**	**240**	LR		LR	07 49 33.1	
	comp=Z,73nm,19.9s,baz=30,slow=31							
WRA	**Warramunga Arr**	**50.27**	**256**	P		P	07 35 30.2	-7.5
	0.6nm,0.6s,baz=91,slow=7.2,SNR=8.6							
WRA				LR		LR	07 55 00.5	
	comp=Z,76nm,19.2s,baz=80,slow=34							
ASAR	**Alice Springs**	**50.56**	**252**	P		P	07 35 32.5	-7.5
	5.0nm,0.7s,baz=87,slow=7.7,SNR=80							
ASAR				LR		LR	07 55 03.4	
	comp=Z,68nm,20.2s,baz=90,slow=34							
VNDA	**Vanda**	**63.81**	**186**	LR		LR	07 58 37.1	
	comp=Z,24nm,20.9s,baz=353,slow=30							
MJAR	**Matsushiro Arr**	**68.86**	**320**	LR		LR	08 01 52.0	
	comp=Z,96nm,21.9s,baz=150,slow=31							
NVAR	**Mina Array Bea**	**73.80**	**42**	P		**P**	**07 38 16.4**	**+0.8**
	0.4nm,0.6s,baz=227,slow=8.5,SNR=3.2							
NVAR				LR		LR	08 06 57.6	
	comp=Z,53nm,19.5s,baz=285,slow=32							
KSRS	**Korea Array**	**76.12**	**315**	LR		LR	08 04 16.4	
	comp=Z,56nm,21.0s,baz=94,slow=30							
USRK	**Ussuriysk Ar.**	**77.28**	**323**	LR		LR	08 04 44.1	
	comp=Z,137nm,20.8s,baz=131,slow=30							
TXAR	**Lajitas Array**	**80.16**	**56**	P		**P**	**07 38 52.0**	**+0.9**
	1.0nm,1.1s,baz=241,slow=4.1,SNR=4.5							
PDAR	**Pinedale Array**	**81.74**	**42**	LR		LR	08 08 19.6	
	comp=Z,48nm,20.3s,baz=320,slow=30							
ILAR	**Eielson Array**	**81.99**	**11**	P		**P**	**07 38 59.0**	**-1.3**
	0.3nm,0.8s,baz=196,slow=6.1,SNR=3.5							
MAW	**Mawson**	**88.28**	**199**	LR		LR	08 16 27.2	
	comp=Z,59nm,20.7s,baz=52,slow=34							
PLCA	**Paso Flores**	**89.52**	**132**	LR		LR	08 13 02.8	
	comp=Z,65nm,19.0s,baz=260,slow=31							
YKA	**Yellowknife Ar**	**89.59**	**23**	P		**P**	**07 39 36.7**	**-1.2**
	0.2nm,0.7s,baz=245,slow=4.3,SNR=3.9							
CMAR	**Chiang Mai Arr**	**92.82**	**288**	LR		LR	08 15 32.2	
	comp=Z,27nm,21.9s,baz=70,slow=32							
ULM	**Lac du Bonnet**	**93.40**	**39**	LR		LR	08 16 19.9	
	comp=Z,67nm,18.2s,baz=238,slow=32							
CFA	**Coronel Fontan**	**94.39**	**124**	LR		LR	08 12 19.0	
	comp=Z,49nm,21.2s,baz=264,slow=29							
SONM	**Songino Array**	**94.78**	**318**	LR		LR	08 15 12.1	
	comp=Z,84nm,21.9s,baz=188,slow=31							
TKL	**Tuckaleechee C**	**98.00**	**55**	LR		LR	08 21 28.6	
	comp=Z,48nm,18.5s,baz=302,slow=33							
GERES	**GERESS Array B**	**145.80**	**352**	PKPbc		**PKPdf**	**07 46 18.4**	**-1.0**
	0.1nm,0.4s,baz=337,slow=4.3,SNR=2.1							
BRTR	**Keskin Array B**	**146.06**	**322**	PKPbc		**PKPdf**	**07 46 18.9**	**-1.3**
	1.3nm,0.7s,baz=122,slow=1.3,SNR=6.6							
CONA	**Conrad Observa**	**146.35**	**349**	*i* PKPdf		**PKiKP**	**07 46 29.5**	**+4.8**
	4.3nm,1.3s							
MOA	**Molln**	**146.69**	**351**	*i* PKPdf		**PKiKP**	**07 46 28.7**	**+3.4**
	6.0nm,1.2s							
RETA	**Reutte**	**147.45**	**355**	*i* PKPbc		**PKiKP**	**07 46 29.4**	**+2.5**
	5.5nm,1.4s							
WTTA	**Wattenberg**	**147.60**	**354**	*i* PKPbc		**PKPab**	**07 46 30.1**	**+2.6**
	10nm,1.9s							
SOKA	**Soboth**	**147.70**	**350**	*i* PKPbc		**PKPbc**	**07 46 26.4**	**+0.9**
	0.5nm,0.3s							
DAVA	**Damuels**	**147.72**	**356**	*i* PKPbc		**PKPab**	**07 46 30.3**	**+2.5**
	11nm,1.2s							
MYKA	**Terra Mystica**	**147.97**	**351**	*i* PKPab		**PKPab**	**07 46 32.2**	**+3.4**
	6.0nm,1.1s							

*ISCJB **29** 07:36:52.4±1.0,24°.8S±0°.2×179°.7E±0°.2,h501km,mb3.6/6, Error ellipse: s-maj=27.5km s-min=19.6km az=155.7*
*IDC **29** 07:36:53.4±8.4,24°.77S×179°.76E,h503km±108km, mb3.2/6,mb1 3.5/7,mb1mx3.2/27,mbtmp4.1/7,Error ellipse: s-maj=79.9km s-min=24.4km az=1.0*

ISC 29 07:36:53.2±1.1,24°.8S±0°.2×179°.8E±0°.2,h501km,n7, σ0s53/7,mb3.8/6,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**13.58**	**189**	P	**P**	**07 39 48.3**	**0.0**
	1.2nm,0.3s,baz=140,slow=1.7,SNR=8.5						
CTA	**Charters Tower**	**31.29**	**272**	P	**P**	**07 42 32.5**	**+0.7**
	4.5nm,0.3s,baz=94,slow=10,SNR=20						
STKA	**Stephens Creek**	**34.20**	**249**	P	**P**	**07 42 56.4**	**0.0**
	1.2nm,0.4s,baz=85,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**41.70**	**262**	P	**P**	**07 43 57.4**	**-0.4**
	0.9nm,0.4s,baz=95,slow=7.1,SNR=46						
WRA	**Warramunga Arr**	**42.16**	**267**	P	**P**	**07 44 00.7**	**-0.7**
	2.7nm,0.3s,baz=100,slow=6.9,SNR=44						
NVAR	**Mina Array Bea**	**55.55**	**44**	P	**P**	**07 48 38.1**	**-0.2**
	0.1nm,0.3s,baz=235,slow=8.7,SNR=2.7						
TXAR	**Lajitas Array**	**91.09**	**58**	P	**P**	**07 49 04.3**	**+0.2**
	0.2nm,0.8s,baz=236,slow=6.4,SNR=2.7						

IDC 29 07:38:37.7±28.0,22°.44S×172°.38W,h0km,mb3.8/4, mb1 3.9/4,mb1mx3.7/29,mbtmp3.8/4,Error ellipse: s-maj=518.3km s-min=164.4km az=76.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.54**	**266**	P	P	07 46 02.1	-0.2
	0.7nm,0.3s,baz=82,slow=14,SNR=4.1						
STKA	**Stephens Creek**	**41.76**	**247**	P	P	07 46 28.5	-0.4
	0.7nm,0.4s,baz=71,slow=8.7,SNR=3.7						
ASAR	**Alice Springs**	**49.19**	**258**	P	P	07 47 27.9	-0.2
	0.2nm,0.3s,baz=94,slow=6.7,SNR=8.6						
WRA	**Warramunga Arr**	**49.53**	**262**	P	P	07 47 30.9	+0.4
	0.5nm,0.3s,baz=102,slow=8.0,SNR=5.0						

BEO 29 07:54:09.0±0.9,43°.40N×17°.75E,h4km,ML1.4/4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RICI	**Ricice**	**0.46**	**283**	iPg	Pg	07 54 19.1	+1.3
RICI				Sg	Sb	07 54 27.8	+1.0
STON	**Ston**	**0.52**	**184**	*i* Pg	Pg	07 54 18.7	-0.3
STON				Sg	Sg	07 54 26.5	+0.7
STON	**Ston**	**0.52**	**184**	*e*Pg	Pg	07 54 18.7	-0.3
STON				*e*Sg	Sg	07 54 25.4	-0.4
MAKA	**Makarska**	**0.54**	**259**	*e*Pg	Pg	07 54 20.1	+0.7
MAKA				Sg	Sb	07 54 29.1	0.0
DBRK	**Dubrovnik**	**0.78**	**158**	*e*Pg	Pg	07 54 23.2	-0.7
DBRK				Sg	Sb	07 54 35.3	-0.8
TREB	**Trebinje**	**0.81**	**147**	*e*Pg	Pg	07 54 23.8	-0.7
TREB				*e*Sg	Sg	07 54 35.2	+0.2
HVAR	**Hvar**	**0.97**	**258**	*e*Pg	Pb	07 54 28.4	+0.1
HVAR				Sg	Sn	07 54 43.5	-0.2
HAPS	**Han Pijesak,Bl**	**1.11**	**51**	*e*Pg	Pg	07 54 29.4	-1.0
HAPS				*e*Sg	Sg	07 54 44.2	-0.6
KIJV	**Kijevo**	**1.15**	**303**	*e*Pg	Pn	07 54 32.9	+1.0
KIJV				Sg	Sn	07 54 50.0	+2.0
BBLS	**Lazići**	**1.29**	**68**	*e*Pg	Pg	07 54 32.0	-1.8
BBLS				*e*Sg	Sg	07 54 49.9	-0.7
ZIRJ	**Zirje**	**1.55**	**280**	*i* Pn	Pg	07 54 39.9	+1.2
ZIRJ				Sn	Sg	07 55 02.0	+3.1

*ISCJB **29** 08:03:50.1±0.7,13°.7S±0°.1×73°.1W±0°.1,h33km,mb3.5/4, Error ellipse: s-maj=24.7km s-min=11.4km az=38.3*
*IDC **29** 08:03:54.6±2.4,13°.70S×73°.13W,h59km±25km,mb3.3/4, mb1 3.6/9,mb1mx3.4/48,mbtmp3.6/9,ML3.4/5,MS2.2/1, Ms1 2.2/1,ms1mx2.1/21,Error ellipse: s-maj=47.6km s-min=17.8km az=35.0*

ISC 29 08:03:52.8±0.8,13°.6S±0°.2×73°.0W±0°.1,h35km,n10, σ2s17/10,mb3.5/4,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.10**	**292**	P	**Pn**	**08 04 52.3**	**-0.8**
	6.9nm,0.3s,baz=117,slow=12,SNR=15						
NNA				S	**Sn**	**08 05 44.2**	**+4.2**
	5.3nm,0.3s,baz=247,slow=18,SNR=9.3						
NNA				LR	LR	08 06 35.1	
	comp=Z,36nm,21.8s,baz=246,slow=40						
LPAZ	**La Paz**	**5.39**	**121**	P	Pn	08 05 16.3	+5.0
	0.5nm,0.3s,baz=280,slow=5.5,SNR=18						
SIV	**San Ignacio**	**11.74**	**103**	P	**Pn**	**08 06 41.2**	**+3.1**
	0.1nm,0.3s,baz=310,slow=15,SNR=2.6						
CFA	**Coronel Fontan**	**18.45**	**167**	P	**P**	**08 08 04.7**	**-0.9**
	0.1nm,0.3s,baz=323,slow=10,SNR=5.3						
CPUP	**Villa Florida**	**19.38**	**133**	P	**P**	**08 08 15.3**	**-0.5**
	0.1nm,0.3s,baz=312,slow=11,SNR=8.3						
TXAR	**Lajitas Array**	**51.95**	**326**	P	**P**	**08 12 57.3**	**-1.4**
	0.4nm,0.6s,baz=148,slow=7.4,SNR=6.1						
NVAR	**Mina Array Bea**	**66.90**	**323**	P	**P**	**08 14 41.7**	**-0.3**
	0.1nm,0.3s,baz=134,slow=10,SNR=2.8						
TORD	**Torodi Ar. Bea**	**78.59**	**73**	P	**P**	**08 15 50.4**	**-1.1**
	1.0nm,0.7s,baz=255,slow=4.3,SNR=4.6						
YKA	**Yellowknife Ar**	**82.49**	**342**	P	**P**	**08 16 10.6**	**-0.8**
	0.3nm,0.8s,baz=135,slow=5.5,SNR=6.1						
SONM	**Songino Array**	**145.85**	**1**	PKPbc	**PKPdf**	**08 23 28.4**	**+0.2**
	0.4nm,0.5s,baz=274,slow=1.7,SNR=3.2						

*ATH **29** 08:10:40.4,36°.26N×28°.99E,h37km±3km,ML2.6/2, Error ellipse: s-maj=4.5km s-min=2.0km az=17.0*
*ISK **29** 08:10:40.6,36°.22N×28°.96E,h18km,ML3.2/11*
*DDA **29** 08:10:40.5,36°.20N×28°.95E,h7km±2km,ML2.6*
*ISCJB **29** 08:10:41.3±0.6,36°.18N±0°.04×28°.95E±0°.04,h20km±6km, Error ellipse: s-maj=6.2km s-min=4.9km az=172.8*

ISC 29 08:10:40.4±1.2,36°.19N±0°.03×28°.97E±0°.02,h15km±10km, n33,σ0s66/46,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**0.45**	**12**	*i* P	**Pg**	**08 10 49.3**	**-0.2**
FETY				IAML		08 10 56.0	
	comp=N,771nm,0.4s						
FETY				*i* S	**Sb**	**08 10 56.4**	**-0.3**
FETY				IAML		08 10 57.0	
	comp=E,550nm,0.4s						
FETY	**Fethiye**	**0.45**	**12**	PG	**Pg**	**08 10 49.2**	**-0.2**
FETY				SG	**Sb**	**08 10 56.4**	**-0.3**
KSL	**Kastellorizon**	**0.50**	**95**	P	**Pg**	**08 10 50.7**	**+0.4**
KSL				S	**Sn**	**08 11 00.1**	**-1.4**
KSL				AML	AML	08 11 00.7	
	comp=N,737μm,0.7s						
KSL				AML	AML	08 11 01.7	
	comp=E,1279μm,0.8s						
AKAS	**Kas**	**0.52**	**86**	*i* P	**Pb**	**08 10 51.1**	**-0.2**
AKAS				*i* S	**Sn**	**08 11 00.7**	**-1.4**
AKAS				IAML		08 11 04.0	
	comp=E,255nm,0.6s						
AKAS				IAML		08 11 05.0	
	comp=N,391nm,0.4s						
AKAS	**Kas**	**0.52**	**86**	PG	**Pb**	**08 10 51.1**	**-0.2**
AKAS				SG	**Sb**	**08 10 59.6**	**+0.9**
ARG	**Arkhangelos**	**0.68**	**272**	P	**Pb**	**08 10 54.3**	**+0.3**
ARG				S	**Sn**	**08 11 05.8**	**-0.1**
ARG				AML	AML	08 11 07.3	
	comp=N,1253μm,0.3s						
ARG				AML	AML	08 11 07.3	
	comp=E,2284μm,0.3s						
ARG	**Arkhangelos**	**0.68**	**272**	PG	**Pb**	**08 10 54.3**	**+0.3**
ARG				SG	**Sn**	**08 11 04.6**	**-1.4**
TURN	**Turunc**	**0.74**	**337**	*i* P	**Pn**	**08 10 56.4**	**0.0**
TURN				*i* S	**Sn**	**08 11 09.0**	**+1.6**
TURN				IAML		08 11 10.0	
	comp=N,229nm,0.2s						
TURN				IAML		08 11 11.0	
	comp=E,268nm,0.5s						
TURN	**Turunc**	**0.74**	**337**	PG	**Pn**	**08 10 56.1**	**-0.3**
TURN				SG	**Sn**	**08 11 08.5**	**+1.1**
ELL	**Elmali**	**0.94**	**54**	PG	**Pg**	**08 10 58.8**	**+0.2**
GLHS	**Gihisar (BURDU**	**1.05**	**24**	PG	**Pb**	**08 10 59.9**	**-0.5**
YER	**Yerkesik**	**1.09**	**330**	PG	**Pb**	**08 11 00.5**	**-0.6**
AKUM	**Antalya-Kumluc**	**1.12**	**83**	*i* P	**Pn**	**08 11 01.7**	**+0.1**
AKUM				IAML		08 11 21.0	
	comp=E,78nm,0.4s						
AKUM				IAML		08 11 47.0	
	comp=N,116nm,2.1s						
DATC	**Datca-Mugla**	**1.20**	**299**	PN	**Pb**	**08 11 02.9**	**+0.1**
DAT	**Datca**	**1.24**	**296**	*i* P	**Pg**	**08 11 04.1**	**-0.3**
DAT				IAML		08 11 23.0	
	comp=N,66nm,0.2s						
DAT				IAML		08 11 26.0	
	comp=E,91nm,0.4s						
DAT	**Datca**	**1.24**	**296**	PN	**Pn**	**08 11 03.3**	**-0.1**
TAVA	**DENIZLI_Tavas**	**1.27**	**358**	*i* P	**Pb**	**08 11 04.0**	**-0.2**
TAVA				*i* S	**Sg**	**08 11 21.6**	**+0.1**
TAVA				IAML		08 11 22.0	
	comp=N,290nm,0.4s						
TAVA				IAML		08 11 22.0	
	comp=E,204nm,0.4s						
MLSB	**Milas**	**1.46**	**319**	PN	**Pb**	**08 11 06.8**	**-0.5**
DENT	**Denizli**	**1.56**	**2**	PN	**Pn**	**08 11 08.2**	**+0.5**
BODT	**Bodrum**	**1.59**	**304**	PN	**Pn**	**08 11 07.8**	**-0.3**
KARP	**Karpathos**	**1.60**	**247**	P	**Pn**	**08 11 08.7**	**+0.5**
KARP				S	**Sb**	**08 11 29.7**	**-0.2**
KARP	**Karpathos**	**1.60**	**247**	PN	**Pn**	**08 11 08.8**	**+0.5**
AYDN	**Tasoluk**	**1.70**	**330**	*i* P	**Pb**	**08 11 11.6**	**0.0**
AYDN				*i* S	**Sb**	**08 11 32.6**	**-0.3**
AYDN				IAML		08 11 36.0	
	comp=E,230nm,0.3s						
AYDN				IAML		08 11 37.0	
	comp=N,140nm,0.4s						
BRDR	**BURDUR-Merkez**	**1.74**	**30**	*i* P	**Pb**	**08 11 12.4**	**+0.3**
BRDR				IAML		08 11 36.0	
	comp=E,78nm,0.9s						
BRDR				*i* S	**Sg**	**08 11 36.0**	**-0.3**
BRDR				IAML		08 11 38.0	
	comp=N,66nm,0.7s						
BCK	**Bucak**	**1.81**	**45**	PN	**Pn**	**08 11 11.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.95**	**334**	PN	**Pn**	**08 11 13.9**	**+0.7**
GCAM	**G?zelcaml?**	**2.05**	**318**	PN	**Pn**	**08 11 14.5**	**+0.1**
SMG	**Samos**	**2.28**	**312**	P	**Pn**	**08 11 17.4**	**-0.2**
ZKR	**Zakros**	**2.49**	**245**	P	**Pn**	**08 11 21.4**	**+1.0**
SHUT	**Suhut-Afyon**	**2.67**	**28**	PN	**Pn**	**08 11 24.4**	**+1.3**
BLCB	**Balcova**	**2.67**	**325**	PN	**Pn**	**08 11 23.8**	**+0.8**
URLA	**Izmir**	**2.87**	**320**	PN	**Pn**	**08 11 26.6**	**+0.8**
NPS	**Neapolis**	**2.88**	**252**	P	**Pn**	**08 11 25.9**	**0.0**

*ISCJB **29** 08:14:34.4±0.5,35°.99N±0°.02×97°.24W±0°.02,h10km±4km, mb3.4/3,MS2.9/1,Error ellipse: s-maj=3.3km s-min=2.3km az=172.7*
*IDC **29** 08:14:35.6±0.9,35°.93N×97°.25W,h0km,mb3.6/3, mb1 3.9/9,mb1mx3.6/64,mbtmp3.7/9,ML3.6/6,MS2.9/2, Ms1 2.9/2,ms1mx2.6/34,Error ellipse: s-maj=15.4km s-min=10.6km az=139.0*
*NEIC **29** 08:14:36.6±0.5,35.89N±0°.02×97°.29W±0°.02,h5km±2km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.06; $M_{\theta\theta}$3.25; $M_{\phi\phi}$-3.19; $M_{r\theta}$-1.35; $M_{\theta\phi}$1.59; $M_{\phi r}$-1.60; Fault plane solution: $M_0$4.16000×10^{14} NP1: ϕ_s302.82000°,δ60.12000°,λ2.06000°. NP2:ϕ_s211.80000°, δ88.22000°,λ150.11000°. Principal axes: T 4.3007, Plg22.0000°, Azm163.0000°; N -0.2991, Plg60.0000°, Azm29.0000°; P -4.0016, Plg19.0000°, Azm261.0000°;*

*ANF **29** 08:14:36.8±0.5,35°.89N×97°.29W,h5km,ML4.9/12 Error ellipse: s-maj=8.2km s-min=3.8km az=159.0*
*TUL **29** 08:14:36.5,35°.89N×97°.30W,h5km,MWR3.7(NEIC)*

ISC 29 08:14:35.4±1.3,35°.93N±0°.04×97°.24W±0°.04,h1km±10km, n181,σ1s15/193,mb3.2/3,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK005	**Luther M Schoo**	**0.28**	**171**		**Pg**	**08 14 41.7**	**+1.0**
ADOK	**Arcadia Dam**	**0.30**	**201**		**Pg**	**08 14 41.5**	**+0.4**
OK001	**Jones High Sch**	**0.37**	**186**	Pg	**Pg**	**08 14 43.1**	**+0.6**
OKCFA	**Oklahoma City**	**0.54**	**198**		**Pg**	**08 14 46.1**	**+0.4**
OKCSW	**OKLAHOMA CITY**	**0.55**	**197**		**Pg**	**08 14 46.3**	**+0.4**
FNO	**Franklin**	**0.68**	**191**		**Pg**	**08 14 49.5**	**+1.1**
W35A	**Tecumseh**	**0.83**	**159**		**Pg**	**08 14 51.6**	**+0.3**
W35A				Sg	**Sg**	**08 15 02.7**	**+0.6**
TUL1	**Leonard**	**1.18**	**91**	P	**Pb**	**08 14 58.7**	**+0.2**
	baz=270						
TUL1				S	**Sn**	**08 15 15.7**	**-0.1**
	baz=270						
TUL1	**Leonard**	**1.18**	**91**		**Pn**	**08 14 58.9**	**-0.2**
TUL1				Sg	**Sn**	**08 15 15.8**	**+0.1**
X34A	**Smith Ranch, M**	**1.41**	**200**		**Pn**	**08 15 02.0**	**-0.2**
U32A	**Winter Ranch,**	**1.49**	**288**		**Pn**	**08 15 03.3**	**-0.1**
U32A				Sn	**Sn**	**08 15 23.0**	**-0.5**
WMOK	**Wichita Mounta**	**1.73**	**227**	P	**Pn**	**08 15 06.8**	**+0.2**
	baz=46						
WMOK				S	**Sn**	**08 15 29.0**	**-0.4**
	baz=46						
WMOK	**Wichita Mounta**	**1.73**	**227**		**Pn**	**08 15 06.6**	**-0.1**
WMOK				Sn	**Sn**	**08 15 28.2**	**-1.1**
HHAR	**Hobbs**	**2.70**	**82**		**Pn**	**08 15 21.4**	**+1.5**
W39A	**Magazine**	**2.91**	**104**	P	**Pn**	**08 15 24.4**	**+1.5**
	baz=285						
W39A				S	**Sn**	**08 16 00.9**	**+2.3**
	baz=285						
W39A	**Magazine**	**2.91**	**104**		**Pn**	**08 15 24.3**	**+1.4**
KSU1	**Kansas State U**	**3.21**	**9**	P	**Pn**	**08 15 28.4**	**+1.5**
	baz=190						
KSU1				Sb	**Sg**	**08 16 17.6**	**-0.9**
	baz=190						
MIAR	**Mount Ida**	**3.30**	**114**	P	**Pn**	**08 15 29.7**	**+1.5**
	baz=295						
MIAR				S	**Sn**	**08 16 10.4**	**+2.3**
	baz=295						
MIAR	**Mount Ida**	**3.30**	**114**		**Pn**	**08 15 30.1**	**+1.8**
CBKS	**Cedar Bluff**	**3.50**	**326**	P	**Pn**	**08 15 32.4**	**+1.4**
	baz=146						
CBKS				S	**Sn**	**08 16 15.6**	**+2.6**
	baz=146						
CBKS	**Cedar Bluff**	**3.50**	**326**		**Pn**	**08 15 31.3**	**+0.3**
U40A	**Yellville**	**3.58**	**82**	P	**Pn**	**08 15 33.2**	**+1.2**
	baz=264						
U40A				S	**Sn**	**08 16 16.8**	**+1.8**
	baz=264						
U40A	**Yellville**	**3.58**	**82**		**Pn**	**08 15 33.5**	**+1.5**
AMTX	**Amarillo**	**3.77**	**255**	P	**Pn**	**08 15 35.7**	**+0.9**
	baz=73						
AMTX				S	**Sn**	**08 16 20.3**	**+0.4**
	baz=73						
ABTX	**Abilene, Hawle**	**3.85**	**212**	P	**Pn**	**08 15 35.9**	**+0.1**
	baz=30						
X40A	**Basin Creek Fa**	**3.89**	**110**	P	**Pn**	**08 15 37.7**	**+1.5**
	baz=292						
WHTX	**Lake Whitney,**	**3.93**	**183**	P	**Pn**	**08 15 37.1**	**+0.2**
	baz=2.0						
WLAR	**White Oak Lake**	**4.07**	**122**		**Pn**	**08 15 40.6**	**+1.9**
WLAR				Sn	**Sn**	**08 16 25.9**	**-1.1**
WHAR	**Wooly Hollow**	**4.09**	**98**		**Pn**	**08 15 40.7**	**+1.7**
W41B	**Gary Mavity, V**	**4.14**	**99**	P	**Pn**	**08 15 41.1**	**+1.3**
	baz=281						
W41B	**Gary Mavity, V**	**4.14**	**99**		**Pn**	**08 15 41.5**	**+1.7**
UALR	**University of**	**4.17**	**105**		**Pn**	**08 15 42.6**	**+2.5**
MGMO	**Mountain Grove**	**4.19**	**72**		**Pn**	**08 15 42.0**	**+1.6**
Z41A	**Richland Creek**	**4.53**	**125**		**Pn**	**08 15 45.8**	**+0.7**
NATX	**Nacogdoches**	**4.68**	**152**		**Pn**	**08 15 47.5**	**+0.3**
CCAR	**Cane Creek**	**4.92**	**112**		**Pn**	**08 15 52.2**	**+1.7**
MSTX	**Muleshoe**	**4.94**	**248**		**Pn**	**08 15 50.2**	**-0.7**
435B	**Jarrell**	**5.14**	**183**		**Pn**	**08 15 53.5**	**0.0**
CCM	**Cathedral Cave**	**5.25**	**64**		**Pn**	**08 15 56.3**	**+1.3**
KSCO	**Kaye Shedlock'**	**5.27**	**307**		**Pn**	**08 15 55.9**	**+0.4**
HBAR	**Harrisburg**	**5.37**	**92**		**Pn**	**08 15 56.6**	**0.0**
X43A	**Marvell**	**5.39**	**103**		**Pn**	**08 15 59.8**	**+2.8**
BGNE	**Belgrade**	**5.52**	**353**		**Pn**	**08 15 59.0**	**+0.3**
PBMO	**Poplar Bluff**	**5.56**	**79**		**Pn**	**08 16 00.6**	**+1.3**
LPAR	**Lepanto**	**5.66**	**91**	Pn	**Pn**	**08 16 01.2**	**+0.6**
JCT	**Junction City**	**5.84**	**202**		**Pn**	**08 16 02.7**	**-0.5**
GNAR	**Gosnell**	**5.86**	**88**	Pn	**Pn**	**08 16 05.2**	**+1.8**
T25A	**Trinidad**	**5.90**	**284**		**Pn**	**08 16 04.6**	**+0.5**
HKT	**Hockley**	**6.08**	**168**	Pn

N47A	**Urbana**	**10.32**	**58**	Pn		**Pn**	**08 17 05.9**	**+1.3**
CPCT	**Cooper Cave**	**10.36**	**89**	Pn		**Pn**	**08 17 05.4**	**+0.3**
L46A	**Eue Claire**	**10.46**	**51**			**Pn**	**08 17 06.6**	**+0.1**
V51A	**Loudon**	**10.46**	**87**	Pn		**Pn**	**08 17 06.7**	**+0.1**
R50A	**Paris**	**10.58**	**73**	Pn		**Pn**	**08 17 09.3**	**+1.2**
G40A	**Rib Lake**	**10.75**	**28**	Pn		**Pn**	**08 17 10.2**	**-0.2**
152A	**Waverly Hall**	**10.86**	**104**	Pn		**Pn**	**08 17 13.6**	**+1.6**
TKL	**Tuckaleechee C**	**10.95**	**87**	Pn		**Pn**	**08 17 11.8**	**-1.3**
	0.2nm,0.3s,baz=278,slow=7.1,SNR=4.1							
TKL				Lg		Lg	08 20 18.2	
	2.9nm,0.3s,baz=11,slow=22,SNR=11							
TKL	**Tuckaleechee C**	**10.95**	**87**	Pn		**Pn**	**08 17 14.5**	**+1.3**
Y52A	**Lilburn**	**11.02**	**97**	Pn		**Pn**	**08 17 13.4**	**-0.8**
O49A	**Covington**	**11.03**	**63**	Pn		**Pn**	**08 17 13.8**	**-0.5**
V52A	**Sevierville**	**11.07**	**86**	Pn		**Pn**	**08 17 15.2**	**+0.3**
TZTN	**Tazewell**	**11.08**	**83**	Pn		**Pn**	**08 17 15.9**	**+1.0**
S51A	**Beattyville**	**11.08**	**77**			**Pn**	**08 17 15.7**	**+0.7**
H43A	**Windswept, Lux**	**11.18**	**37**	Pn		**Pn**	**08 17 15.8**	**-0.6**
N49A	**Columbus Grove**	**11.39**	**60**	Pn		**Pn**	**08 17 18.2**	**-1.0**
T52A	**Hallie**	**11.54**	**80**	Pn		**Pn**	**08 17 19.6**	**-1.6**
GOGA	**Godfrey**	**11.62**	**99**	Pn		**Pn**	**08 17 22.9**	**+0.6**
BW06	**Boulder Array**	**11.72**	**309**	Pn		**Pn**	**08 17 23.6**	**-0.3**
PD31	**Pinedale Array**	**11.72**	**309**			**Pn**	**08 17 23.8**	**-0.2**
PDAR	**Pinedale Array**	**11.72**	**309**	Pn		**Pn**	**08 17 24.0**	**+0.1**
	0.4nm,0.3s,baz=126,slow=14,SNR=12							
PDAR				Lg		Lg	08 20 48.2	
	1.3nm,0.3s,baz=103,slow=31,SNR=6.8							
V53A	**Saluda**	**11.72**	**87**	Pn		**Pn**	**08 17 25.7**	**+1.9**
COWI	**Conover**	**11.85**	**29**	Pn		**Pn**	**08 17 25.3**	**-0.2**
F42A	**Maple Grove Fa**	**11.99**	**32**	Pn		**Pn**	**08 17 26.6**	**-0.8**
ACSO	**Alum Creek Sta**	**12.03**	**65**			**Pn**	**08 17 27.4**	**-0.6**
J47A	**Sunmer**	**12.04**	**49**	Pn		**Pn**	**08 17 27.2**	**-0.8**
M50A	**Fremont**	**12.37**	**60**	Pn		**Pn**	**08 17 31.7**	**-0.8**
AGMN	**Agassiz Nation**	**12.40**	**4**	Pn		**Pn**	**08 17 31.0**	**-2.0**
U54A	**Nelsons Funny**	**12.47**	**83**	Pn		**Pn**	**08 17 33.1**	**-1.0**
I47A	**Gladwin**	**12.66**	**46**			**Pn**	**08 17 35.4**	**-1.3**
N51A	**Ashland**	**12.68**	**62**	Pn		**Pn**	**08 17 37.0**	**+0.2**
LAO	**LASA Array**	**12.68**	**331**	Pn		**Pn**	**08 17 36.7**	**-0.2**
J48A	**Bridge Port**	**12.71**	**51**			**Pn**	**08 17 36.4**	**-0.9**
EYMN	**Ely**	**12.74**	**18**	Pn		**Pn**	**08 17 36.4**	**-1.2**
S54A	**Dingess, Beckl**	**12.90**	**77**	Pn		**Pn**	**08 17 39.0**	**-0.9**
RLMT	**Red Lodge**	**12.95**	**319**	Pn		**Pn**	**08 17 40.2**	**-0.5**
TPAW	**Teton Pass**	**12.97**	**310**	Pn		**Pn**	**08 17 39.5**	**-1.5**
E43A	**Lone Tree Farm**	**12.97**	**33**	Pn		**Pn**	**08 17 39.6**	**-1.1**
V55A	**Taylorsville**	**13.00**	**86**	Pn		**Pn**	**08 17 40.1**	**-1.2**
P53A	**Whipple**	**13.05**	**69**	Pn		**Pn**	**08 17 40.9**	**-0.9**
FXWY	**Fox Creek**	**13.09**	**310**	Pn		**Pn**	**08 17 42.3**	**-0.4**
IMW	**Indian Meadow**	**13.17**	**311**	Pn		**Pn**	**08 17 44.0**	**+0.2**
Q54A	**Coxs Mills**	**13.39**	**72**	Pn		**Pn**	**08 17 46.0**	**-0.5**
DGMT	**Dagmar**	**13.54**	**340**			**Pn**	**08 17 48.1**	**-0.5**
BLA	**Blacksburg**	**13.59**	**80**	Pn		**Pn**	**08 17 52.1**	**+2.9**
M52A	**Chesterland**	**13.60**	**61**	Pn		**Pn**	**08 17 46.7**	**-2.8**
I49A	**Point Hope**	**13.64**	**50**	Pn		**Pn**	**08 17 48.5**	**-1.4**
H48A	**Harrisville**	**13.75**	**46**	Pn		**Pn**	**08 17 50.0**	**-1.4**
N53A	**Lisbon**	**13.76**	**64**	Pn		**Pn**	**08 17 49.5**	**-2.1**
O54A	**Avella**	**13.95**	**67**	Pn		**Pn**	**08 17 53.8**	**-0.4**
ULM	**Lac du Bonnet**	**14.35**	**4**	Pn		**Pn**	**08 17 55.6**	**-4.0**
	0.9nm,0.3s,baz=181,slow=11,SNR=15							
ULM				Lg		Lg	08 22 01.4	
	0.8nm,0.3s,baz=97,slow=18,SNR=3.8							
T57A	**Hurt**	**14.52**	**80**	Pn		**Pn**	**08 18 00.7**	**-1.3**
S57A	**Dark Hollow, R**	**14.76**	**77**	Pn		**Pn**	**08 18 04.6**	**-0.7**
M54A	**Oil Creek Stat**	**14.80**	**63**	Pn		**Pn**	**08 18 03.0**	**-2.8**
WVNY	**West Valley, N**	**15.82**	**60**	Pn		**Pn**	**08 18 17.8**	**-1.5**
WVNY				IAmb		IAmb	08 18 23.3	
	comp=Z,9.9nm,1.0s							
SSPA	**Standing Stone**	**15.90**	**67**	Pn		**Pn**	**08 18 19.3**	**-1.1**
SSPA				IAmb		IAmb	08 18 36.9	
	comp=Z,6.9nm,0.9s							
SADO	**Sadowa**	**16.36**	**52**	Pn		**Pn**	**08 18 23.5**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=270,slow=17,SNR=2.7							
SADO				Lg		Lg	08 23 03.7	
	comp=Z,0.2nm,0.3s,baz=278,slow=14,SNR=3.6							
L56A	**Greenwood**	**16.49**	**62**			**Pn**	**08 18 26.3**	**-1.7**
L56A				IAmb		IAmb	08 18 31.7	
	comp=Z,14nm,1.1s							
CMIG	**Matias Romero**	**18.88**	**173**	LR		LR	08 27 17.7	
	comp=Z,26nm,21.4s,baz=76,slow=40							
VLDQ	**Val d'Or**	**19.02**	**44**	P		**P**	**08 18 56.6**	**-2.0**
VLDQ				IAmb		IAmb	08 18 57.0	
	comp=Z,11nm,1.1s							
NCB	**Newcomb**	**19.35**	**58**	P		**P**	**08 19 02.3**	**+0.1**
KSCT	**Kent School, K**	**19.37**	**65**	P		**Pn**	**08 19 04.6**	**+1.1**
ACCN	**Adirondack Com**	**19.58**	**60**	P		**P**	**08 19 04.9**	**+0.1**
ACCN				IAmb		IAmb	08 19 23.4	
	comp=Z,11nm,1.2s							
TRQ	**Mont Tremblant**	**19.89**	**52**	P		**Pn**	**08 19 08.7**	**-1.1**
APG	**El Apazote**	**21.70**	**162**	LR		LR	08 29 30.2	
	comp=Z,46nm,19.0s,baz=90,slow=41							
SCHQ	**Schefferville**	**28.18**	**38**	P		**P**	**08 20 29.8**	**+0.5**
YKA	**Yellowknife Ar**	**28.71**	**343**	P		**P**	**08 20 33.8**	**0.0**
	comp=Z,0.4nm,0.9s,baz=140,slow=8.2,SNR=4.1							
ILAR	**Eielson Array**	**41.14**	**330**	P		**P**	**08 22 22.6**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=110,slow=6.2,SNR=5.8							
EKA	**Eskdalemuir Ar**	**63.49**	**40**	P		**P**	**08 25 06.9**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=309,slow=5.3,SNR=4.6							

*ISCJB **29** 08:21:03.8±0.9, 10.06N±0.03×124.21E±0.04, h9km±6km, mb3.8/4, MS3.0/3, Error ellipse: s-maj=7.6km s-min=4.2km az=142.6*
*IDC **29** 08:21:03.5±1.3, 10.10N×124.08E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/59, mbtmp3.9/5, ML4.3/1, MS3.0/4, Ms1 3.1/4, ms1mx2.7/39, Error ellipse: s-maj=165.1km s-min=19.5km az=67.0*
*MAN **29** 08:21:03.5, 10.05N×124.20E, h1km, mb5.2, ML4.1, MS4.3*
MAN Intensity IV - Mandaue City; Intensity II - Cebu City.
*NEIC **29** 08:21:03.1±1.1, 10.2N±0.1×123.9E±0.2, h10km±3km, mb4.3/10*

ISC 29 08:21:03.9±1.1, 10.11N±0.03×124.27E±0.04, h13km±7km, n29, σ2°09/39, mb4.1/8, MS2.9/3, 3C-3D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.37**	**305**	⇓P		**Pg**	**08 21 10.6**	**-0.7**
LLP				S		**Sg**	**08 21 15.9**	**-0.5**
SCPH	**Surigao**	**1.24**	**105**	P		**Pg**	**08 21 28.2**	**+0.4**
SCPH				S		**Sg**	**08 21 43.8**	**-0.1**
CGP	**Cagayan de Oro**	**1.69**	**166**	⇓P		**Pn**	**08 21 32.9**	**-0.1**
CGP				S		**Sb**	**08 21 55.7**	**-0.3**
GUIM	**Jordan**	**1.74**	**287**	P		**Pn**	**08 21 34.0**	**+0.2**
GUIM				S		**Sn**	**08 21 56.5**	**+0.8**
BESP	**Borongan**	**1.88**	**37**	P		**Pb**	**08 21 38.0**	**+0.1**
BESP				S		**Sg**	**08 22 06.2**	**+2.0**
RCP	**Roxas**	**2.08**	**314**	⇓P		**Pn**	**08 21 39.7**	**+1.2**
RCP				S		**Sb**	**08 22 06.7**	**-0.7**
CNP	**Catarman**	**2.42**	**9**	P		**Pn**	**08 21 39.9**	**-3.2**
CNP				S		**Sb**	**08 22 16.7**	**-0.3**
CTBH	**Cotabato--PC H**	**2.87**	**181**	⇑P		**Pn**	**08 21 50.3**	**+1.0**
CTBH				S		**Sn**	**08 22 25.9**	**+2.3**
OTRP	**Odiongan**	**3.15**	**316**	P		**Pn**	**08 21 55.3**	**+2.1**
OTRP				S		**Sn**	**08 22 31.4**	**+0.8**
KCP	**Kidapawan**	**3.18**	**165**	⇑P		**Pn**	**08 21 54.9**	**+1.3**
KCP				S		**Sn**	**08 22 26.0**	**-5.5**
DAV	**Davao City (W)**	**3.28**	**157**	Pn		**Pn**	**08 21 58.1**	**+3.1**
	32nm,0.3s,baz=253,slow=19,SNR=1.7							
DAV				Sn		**Sg**	**08 22 48.2**	**-1.2**
	28nm,0.3s,baz=53,slow=20,SNR=2.8							
DAV				LR		LR	08 22 52.4	
	comp=Z,143nm,21.3s,baz=292,slow=32							
DAV	**Davao City (W)**	**3.28**	**157**			**Pn**	**08 21 58.0**	**+3.0**
DAV						**Sb**	**08 22 40.4**	**-1.4**
LQP	**Lukban**	**4.80**	**326**	⇑P		**Pn**	**08 22 20.4**	**+4.4**
GUMO	**Guam**	**20.45**	**78**	LR		LR	08 31 51.7	
	comp=Z,33nm,21.4s,baz=284,slow=31							
MNAI	**Manna**	**25.64**	**237**	P		**P**	**08 26 31.4**	**-2.0**
CMAR	**Chiang Mai Arr**	**25.89**	**292**	LR		LR	08 37 17.8	
	comp=Z,36nm,19.1s,baz=184,slow=38							
RPSI	**Rantau Prapat**	**26.23**	**255**	P		**P**	**08 26 38.1**	**-0.7**
KS19	**Wonju Array Si**	**27.47**	**6**	P		**P**	**08 26 48.9**	**-0.8**
KS19				IAmb		IAmb	08 26 49.6	
	comp=Z,14nm,1.1s							
ASAR	**Alice Springs**	**34.86**	**164**	P		**P**	**08 27 56.2**	**+1.2**
	comp=Z,1.2nm,0.5s,baz=341,slow=6.6,SNR=27							
MORW	**Morawa**	**39.75**	**191**	P		**P**	**08 28 37.7**	**+1.3**
MORW				IAmb		IAmb	08 28 45.3	
	comp=Z,13nm,1.0s							
ULN	**Ulaanbaatar**	**40.34**	**342**	P		**P**	**08 28 39.2**	**-2.0**
SONM	**Songino Array**	**40.52**	**341**	P		**P**	**08 28 43.3**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=153,slow=4.8,SNR=2.5							
SONM				LR		LR	08 45 36.6	
	comp=Z,61nm,20.7s,baz=180,slow=36							
PALK	**Pallekele**	**43.14**	**270**	P		**P**	**08 29 03.4**	**-1.2**
STKA	**Stephens Creek**	**44.92**	**159**	P		**P**	**08 29 21.0**	**+2.6**
	comp=Z,3.2nm,1.1s,baz=355,slow=11,SNR=3.1							
STKA	**Stephens Creek**	**44.92**	**159**	P		**P**	**08 29 19.9**	**+1.4**
STKA				IAmb		IAmb	08 29 20.6	
	comp=Z,2.6nm,1.4s							
MK31	**Makanchi Array**	**50.98**	**324**	P		**P**	**08 30 07.2**	**+1.8**
MKAR	**Makanchi Array**	**50.98**	**324**	P		**P**	**08 30 06.8**	**+1.5**
	comp=Z,1.4nm,0.9s,baz=124,slow=6.0,SNR=8.9							
KK31	**Karatay Array**	**56.98**	**315**	P		**P**	**08 30 45.8**	**-3.4**
KK31				IAmb		IAmb	08 30 52.9	
	comp=Z,3.1nm,1.4s							
KKAR	**Karatay Array**	**56.98**	**315**	P		**P**	**08 30 46.1**	**-3.1**
KKAR				IAmb		IAmb	08 30 52.9	
	comp=Z,3.1nm,1.4s							

*ISCJB **29** 08:22:04.5±0.8, 6.77S±0.08×155.25E±0.07, h33km, mb3.7/8, Error ellipse: s-maj=11.9km s-min=10.3km az=176.4*
*IDC **29** 08:22:07.7±4.3, 6.73S×155.23E, h49km±35km, mb3.6/8, mb1 3.8/10, mb1mx3.6/47, mbtmp3.9/10, ML3.0/2, MS2.6/1, Ms1 2.6/1, ms1mx2.3/32, Error ellipse: s-maj=34.4km s-min=17.5km az=97.0*

ISC 29 08:22:06.0±0.9, 6.72S±0.10×155.3E±0.1, h35km, n14, σ0°94/16, mb3.7/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.08**	**306**	P		**Pn**	**08 23 06.3**	**+0.3**
	8.8nm,0.3s,baz=111,slow=14,SNR=2.1							
KRVT				S		**Sn**	**08 23 52.5**	**-0.1**
	14nm,0.3s,baz=299,slow=19,SNR=2.6							
KRVT				LR		LR	08 24 25.4	
	comp=Z,79nm,21.4s,baz=128,slow=34							
PMG	**Port Moresby**	**8.53**	**251**	P		**Pn**	**08 24 08.1**	**+1.0**
	2.2nm,0.3s,baz=104,slow=3.0,SNR=7.5							
PMG				S		**Sn**	**08 25 41.4**	**-0.9**
	0.7nm,0.3s,baz=90,slow=20,SNR=3.1							
WRA	**Warramunga Arr**	**24.26**	**235**	P		**P**	**08 27 19.5**	**-0.6**
	0.8nm,0.4s,baz=65,slow=11,SNR=4.4							
WRA				PcP		**PcP**	**08 30 59.7**	**-0.2**
	0.7nm,0.7s,baz=57,slow=2.6,SNR=4.8							
ASAR	**Alice Springs**	**26.61**	**228**	P		**P**	**08 27 41.0**	**-0.5**
	0.5nm,0.5s,baz=58,slow=9.2,SNR=17							
ASAR				pP		**pP**	**08 27 52.4**	**+1.4**
	0.6nm,0.4s,baz=56,slow=9.5,SNR=17							
ASAR				PcP		**PcP**	**08 31 05.0**	**-0.2**
	0.4nm,0.7s,baz=71,slow=2.8,SNR=4.0							
H11S3	**WAKE ISLAND Hy**	**27.44**	**24**	T		T	08 56 11.4	
	baz=204,slow=75,SNR=12							
H11S2	**WAKE ISLAND Hy**	**27.45**	**24**	T		T	08 56 06.9	
	baz=204,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**27.46**	**24**	T		T	08 56 06.7	
	baz=204,slow=75,SNR=6.3							
CMAR	**Chiang Mai Arr**	**60.98**	**295**	P		**P**	**08 32 15.9**	**-0.4**
	2.0nm,0.7s,baz=119,slow=5.1,SNR=13							
SONM	**Songino Array**	**69.30**	**327**	P		**P**	**08 33 11.6**	**+1.7**
	0.3nm,0.4s,baz=133,slow=5.4,SNR=4.8							
ILAR	**Eielson Array**	**83.00**	**21**	P		**P**	**08 34 26.9**	**-0.3**
	0.2nm,0.4s,baz=244,slow=5.8,SNR=6.6							
QSPA	**South Pole Qui**	**83.25**	**180**	P		**P**	**08 34 28.8**	**-0.1**
	1.2nm,0.7s,baz=284,slow=1.1,SNR=11							
MKAR	**Makanchi Array**	**83.43**	**319**	P		**P**	**08 34 28.5**	**-1.4**
	0.3nm,0.6s,baz=100,slow=4.8,SNR=3.7							
YKA	**Yellowknife Ar**	**95.94**	**28**	P		**P**	**08 35 29.6**	**+0.7**
	0.2nm,0.5s,baz=269,slow=4.8,SNR=4.7							
TORD	**Torodi Ar. Bea**	**153.29**	**286**	PKPbc		**PKPbc**	**08 42 00.2**	**-1.3**
	1.0nm,0.7s,baz=70,slow=2.1,SNR=5.4							

IDC 29 08:32:39.7±14.0, 17.68S×179.01W, h628km±137km, mb3.1/3, mb1 3.3/3, mb1mx2.8/32, mbtmp4.2/3, Error ellipse: s-maj=128.1km s-min=79.2km az=110.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.24**	**241**	P		P	08 39 08.4	0.0
	1.5nm,0.5s,baz=89,slow=10,SNR=11							
WRA	**Warramunga Arr**	**44.11**	**259**	P		P	08 39 54.7	0.0
	0.7nm,0.5s,baz=93,slow=7.0,SNR=11							
WRA				PcP		PcP	08 41 25.3	-0.2
	0.2nm,0.5s,baz=96,slow=3.6,SNR=3.2							
ASAR	**Alice Springs**	**44.30**	**254**	P		P	08 39 56.1	0.0
	4.4nm,0.4s,baz=88,slow=8.3,SNR=128							
ASAR				PcP		PcP	08 41 26.0	-0.2
	0.3nm,0.5s,baz=99,slow=4.4,SNR=4.6							
GERES	**GERESS Array B**	**147.24**	**344**	PKPbc		PKPbc	08 51 13.5	-0.5
	0.3nm,0.4s,baz=27,slow=3.3,SNR=4.4							

*JMA **29** 08:32:40.9±0.1, 24.19N×121.77E, h0km, M3.1*
*TAP **29** 08:32:40.7, 24.19N×121.78E, h8km, ML3.6, C*
*ISCJB **29** 08:32:41.2±0.3, 24.20N±0.01×121.78E±0.02, h4km±2km, Error ellipse: s-maj=2.8km s-min=1.6km az=25.4*

ISC 29 08:32:41.1±0.9, 24.19N±0.01×121.78E±0.02, h8km±7km, n105, σ0°52/157, 20D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.17**	**265**	⇓P		**Pg**	**08 32 44.5**	**-0.2**
	baz=265							
NACB				S		**Sg**	**08 32 47.2**	**+0.1**
	baz=265							
TWD	**Chiawan**	**0.20**	**238**	⇓*i*P		**Pg**	**08 32 45.1**	**-0.1**
	baz=243							
TWD				S		**Sg**	**08 32 48.2**	**+0.2**
	baz=243							
NANB	**Nanao**	**0.24**	**352**	⇓*i*P		**Pg**	**08 32 45.8**	**-0.1**
	baz=354							
NANB				*i* S		**Sg**	**08 32 49.2**	**0.0**
	baz=354							
ENA	**Nanau**	**0.24**	**351**	⇓*i*P		**Pg**	**08 32 45.8**	**-0.1**
	baz=354							
ENA				S		**Sg**	**08 32 49.3**	**+0.1**
	baz=354							
HWA	**Hwalien**	**0.27**	**218**	*e*P		**Pb**	**08 32 47.4**	**-0.8**
	baz=228							
ETLH	**Xiulin Townshi**	**0.28**	**274**	⇓P		**Pg**	**08 32 46.5**	**-0.1**
	baz=275							
ETLH				S		**Sg**	**08 32 50.5**	**+0.1**
	baz=275							
ENLB	**Shoufeng**	**0.33**	**210**	⇓P		**Pg**	**08 32 48.1**	**+0.5**
	baz=223							
ENLB				*e*S		**Sb**	**08 32 55.7**	**+1.0**
	baz=223							
TWC	**Suao**	**0.42**	**8**	⇓*i*P		**Pg**	**08 32 49.3**	**-0.1**
	baz=7.0							
TWC				*i* S		**Sg**	**08 32 54.9**	**0.0**
	baz=7.0							
NNSH	**Datong**	**0.44**	**303**	⇓P		**Pg**	**08 32 49.7**	**0.0**
	baz=304							
NNSH				S		**Sg**	**08 32 55.5**	**+0.1**
	baz=304							
NNS	**Nan Shan**	**0.45**	**304**	⇓*i*P		**Pg**	**08 32 50.0**	**+0.1**
	baz=305							
NNS				*i* S		**Sg**	**08 32 56.0**	**+0.2**
	baz=305							
EOS1	**EOS1**	**0.48**	**41**	⇓P		**Pb**	**08 32 51.0**	**-0.7**
	baz=29							
EOS1				S		**Sb**	**08 32 59.0**	**+0.1**
	baz=29							
WHF	**Hehuan Shan**	**0.48**	**265**	⇓*i*P		**Pg**	**08 32 50.4**	**-0.1**
	baz=266							
WHF				S		**Sg**	**08 32 57.0**	**+0.2**
	baz=266							
NDT	**Datong Townshi**	**0.48**	**329**	⇓*i*P		**Pg**	**08 32 50.7**	**+0.2**
	baz=330							
NDT				*i* S		**Sg**	**08 32 57.4**	**+0.7**
	baz=330							
ENTT	**Nioudou**	**0.49**	**336**	⇓*i*P		**Pg**	**08 32 50.7**	**+0.1**
	baz=338							
ENTT				*i* S		**Sg**	**08 32 57.7**	**+0.6**
	baz=338							
ESL	**Shilin**	**0.49**	**221**	*e*P		**Pg**	**08 32 50.4**	**-0.3**
	baz=232							
TWE	**Neicheng**	**0.54**	**349**	⇓*i*P		**Pg**	**08 32 51.7**	**+0.1**
	baz=351							
TWE				*i* S		**Sg**	**08 32 58.9**	**+0.2**
	baz=351							
TWT	**Tachien**	**0.56**	**277**	*e*P		**Pb**	**08 32 52.7**	**-0.6**
	baz=278							
TWT				*e*S		**Sb**	**08 33 00.2**	**-1.3**
	baz=278							
CHGB	**Renai**	**0.57**	**257**	⇓P		**Pg**	**08 32 52.3**	**+0.1**
	baz=250							
CHGB				*e*S		**Sg**	**08 33 00.4**	**+0.6**
	baz=250							
ILA	**Ilan**	**0.57**	**357**	*e*P		**Pg**	**08 32 52.5**	**+0.2**
	baz=350							
ILA				*e*S		**Sb**	**08 33 01.3**	**-0.4**
	baz=350							
TDCB	**Techi**	**0.57**	**276**	P		**Pg**	**08 32 52.5**	**+0.3**
	baz=277							
TDCB				*e*S		**Sg**	**08 32 59.8**	**0.0**
	baz=277							
SLBB	**Yuanshan**	**0.58**	**346**	P		**Pg**	**08 32 51.7**	**-0.6**
	baz=355							
SLBB				*e*S		**Sg**	**08 33 00.2**	**+0.3**
	baz=355							
OWD	**Renai**	**0.60**	**247**	*e*P		**Pb**	**08 32 53.4**	**-0.6**
	baz=249							
YHNB	**Yeheng**	**0.61**	**322**	⇓P		**Pb**	**08 32 53.2**	**-0.8**
	baz=323							
YHNB				*e*S		**Sg**	**08 33 01.2**	**+0.4**
	baz=323							
EGFH	**Guangfu**	**0.61**	**212**	*e*P		**Pb**	**08 32 53.3**	**-0.8**
	baz=223							
EGFH				*e*S		**Sb**	**08 33 03.0**	**+0.1**
	baz=223							
NSK	**Sanguang**	**0.62**	**321**	⇓*i*P		**Pg**	**08 32 53.4**	**+0.2**
	baz=323							
NSK				S		**Sg**	**08 33 01.4**	**+0.1**
	baz=323							
NWLT	**Wulai**	**0.64**	**336**	P		**Pg**	**08 32 53.6**	**+0.2**
	baz=337							
NWLT				*e*S		**Sg**	**08 33 02.2**	**+0.4**
	baz=337							
NTC	**Toucheng**	**0.66**	**4**	*e*P		**Pg**	**08 32 54.1**	**+0.2**
	baz=15							
EGS		**0.67**	**12**	*e*P		**Pg**	**08 32 54.0**	**0.0**
	baz=20							
EGS				*e*S		**Sb**	**08 33 03.6**	**-0.8**
	baz=20							
VWDT	**VWDT**	**0.73**	**234**	*e*P		**Pb**	**08 32 55.5**	**-0.5**
	baz=235							
VWDT				*e*S		**Sb**	**08 33 06.3**	**+0.1**
	baz=235							
HGSD	**Ruisui**	**0.77**	**205**	*e*P		**Pb**	**08 32 56.6**	**-0.1**
	baz=195							
WHP	**Taichung City**	**0.77**	**277**	*e*P		**Pb**	**08 32 56.2**	**-0.6**
	baz=278							
WHP				*e*S		**Sb**	**08 33 06.9**	**-0.6**
	baz=278							
TIPB	**Shuangxi**	**0.78**	**3**	⇓*i*P		**Pg**	**08 32 56.1**	**-0.1**
	baz=3.0							
TIPB				S		**Sg**	**08 33 06.0**	**-0.3**
	baz=3.0							
DPDB	**Guoxing**	**0.80**	**259**	*e*P		**Pb**	**08 32 56.9**	**-0.4**
	baz=251							
DPDB				*e*S		**Sb**	**08 33 07.9**	**-0.4**
	baz=251							
EHY	**Hungye**	**0.80**	**212**	*e*P		**Pg**	**08 32 56.0**	**-0.5**
	baz=224							
EHY				*e*S		**Sb**	**08 33 09.3**	**+1.0**
	baz=224							
TWA	**Mucha**	**0.81**	**347**	P		**Pb**	**08 32 56.9**	**-0.6**
	baz=348							
TWA				*e*S		**Sg**	**08 33 07.1**	**-0.1**
	baz=348							
WLTB	**Daxi**	**0.82**	**324**	P		**Pb**	**08 32 57.7**	**+0.1**
	baz=325							
WLTB				*e*S		**Sb**	**08 33 08.8**	**0.0**
	baz=325							
TATO	**Taipei**	**0.83**	**341**	⇓P		**Pg**	**08 32 57.4**	**-0.4**
	baz=342							
TATO				S		**Sg**	**08 33 07.8**	**-0.1**
	baz=342							
LIOB	**Emei**	**0.83**	**303**	*e*P		**Pb**	**08 32 58.2**	**+0.3**
	baz=304							
LIOB				*e*S		**Sb**	**08 33 08.7**	**-0.6**
	baz=304							
TWB1	**Santiao Chiao**	**0.84**	**13**	*e*P		**Pg**	**08 32 56.9**	**-0.4**
	baz=14							
TWB1				*e*S		**Sg**	**08 33 08.1**	**0.0**
	baz=14							
NSTT	**Nanjuang**	**0.84**	**302**	*e*P		**Pb**	**08 32 57.6**	**-0.3**
	baz=303							
NSTT				*e*S		**Sb**	**08 33 08.6**	**-0.8**
	baz=303							
SSLB	**Suanglung**	**0.86**	**242**	⇓P		**Pg**	**08 32 57.2**	**-0.4**
	baz=255							
SSLB				*e*S		**Sg**	**08 33 08.2**	**-0.6**

YOJ				eS		Sn	08 33 19.6 +0.1
YOJ	**Yonaguni jima**	**1.15**	**76**	*e*P		**Pg**	**08 33 03.0 -0.2**
	baz=58						
CHKT	**Chengkung**	**1.15**	**200**	*e*P		**Pg**	**08 33 01.8 -1.4**
	baz=191						
CHN5	**Tsauling**	**1.17**	**240**	*e*P		**Pn**	**08 33 04.3 +0.4**
	baz=242						
CHN5				eS		Sn	08 33 20.6 +0.5
	baz=242						
ELDTW	**Lidau**	**1.22**	**215**	*e*P		**Pg**	**08 33 02.6 -1.9**
	baz=205						
ELDTW				eS		Sb	08 33 20.8 +0.4
	baz=205						
WGK	**Gukeng**	**1.23**	**246**	*e*P		**Pn**	**08 33 05.2 +0.6**
	baz=251						
RLNB	**Erlin**	**1.34**	**257**	*e*P		**Pg**	**08 33 06.7 -0.1**
	baz=260						
RLNB				eS		Sn	08 33 24.9 +0.9
	baz=260						
CHN4	**Tsaushan**	**1.37**	**233**	*e*P		**Pg**	**08 33 07.5 0.0**
	baz=238						
TPUB	**Ta-pu**	**1.38**	**230**	*e*P		**Pg**	**08 33 07.4 -0.2**
	baz=236						
STYT	**Tauyuan**	**1.39**	**223**	*e*P		**Pn**	**08 33 06.8 -0.1**
	baz=226						
STYT				eS		Sn	08 33 26.2 +0.8
	baz=226						
CHY	**Chiayi**	**1.42**	**241**	*e*P		**Pg**	**08 33 08.4 0.0**
	baz=247						
WTP	**Ta-pu**	**1.43**	**229**	*e*P		**Pg**	**08 33 08.1 -0.4**
	baz=235						
TWK	**Hsinying**	**1.50**	**233**	*e*P		**Pg**	**08 33 09.5 -0.4**
	baz=238						
TWGBT	**Beinan**	**1.51**	**205**	*e*P		**Pn**	**08 33 06.6 -1.9**
	baz=211						
TWG	**Pinlang**	**1.51**	**206**	*e*P		**Pn**	**08 33 07.7 -0.8**
	baz=211						
SNST	**Tainan City**	**1.52**	**231**	*e*P		**Pb**	**08 33 09.5 -0.1**
	baz=237						
CHN1	**Nanshi**	**1.53**	**229**	*e*P		**Pb**	**08 33 09.6 0.0**
	baz=236						
SLGT	**Liugui**	**1.58**	**221**	*e*P		**Pg**	**08 33 10.9 -0.6**
	baz=228						
IRIF	**Iriomote-Funau**	**1.78**	**85**	P		**Pb**	**08 33 13.6 -0.4**
SSD	**Sandimen**	**1.79**	**217**	*e*P		**Pn**	**08 33 12.8 +0.5**
	baz=223						
TWM1	**Shoushan**	**1.85**	**223**	*e*P		**Pb**	**08 33 14.8 -0.4**
	baz=224						
MASBT	**Mashibuluo**	**1.89**	**214**	*e*P		**Pn**	**08 33 13.5 -0.2**
	baz=209						
JKRS	**Kuro-shima**	**2.03**	**88**	P		**Pb**	**08 33 17.7 -0.6**
SCZT	**Fangliau**	**2.10**	**211**	*e*P		**Pn**	**08 33 17.6 +1.0**
	baz=216						
SCZT				eS		Sb	08 33 46.2 +0.4
	baz=216						
PNG	**Penghu**	**2.13**	**254**	*e*P		**Pn**	**08 33 17.2 +0.2**
	baz=260						
PHUB	**P'eng-hu**	**2.13**	**252**	*e*P		**Pn**	**08 33 17.4 +0.3**
	baz=259						
WDGT	**Dungji**	**2.16**	**245**	*e*P		**Pn**	**08 33 18.0 +0.7**
	baz=252						
VWUC	**VWUC**	**2.27**	**291**	*e*P		**Pn**	**08 33 18.2 -0.8**
	baz=294						
VCHM	**Qimei**	**2.37**	**246**	*e*P		**Pn**	**08 33 20.9 +0.6**
	baz=238						
TWKBT	**Hengchun**	**2.41**	**202**	*e*P		**Pn**	**08 33 22.6 +1.7**
	baz=195						
MATB	**Ma-tsu**	**2.57**	**320**	*e*P		**Pn**	**08 33 22.4 -0.6**
	baz=321						
PTMZ	**Houxiangcun**	**2.57**	**290**	*e*P		**Pn**	**08 33 22.7 -0.3**
	baz=293						
KNMB	**Chin-men Tao**	**3.11**	**276**	*e*P		**Pn**	**08 33 30.5 0.0**
	baz=279						
AXDP	**Jialang**	**3.54**	**282**	*e*P		**Pn**	**08 33 36.3 -0.2**
	baz=285						

IDC 29 08:36:08.7±13.0, 15°.39S×165°.52E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/30, mbtmp4.0/4, ML4.3/1, Error ellipse: s-maj=229.6km s-min=35.6km az=54.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.70**	**173**	Pn	Pn	08 37 48.5	-0.1
	6.3nm,0.3s,baz=330,slow=6.3,SNR=41						
DZM				Sn	Sn	08 39 06.2	+0.5
	0.6nm,0.3s,baz=156,slow=19,SNR=2.7						
STKA	**Stephens Creek**	**27.28**	**229**	P	P	08 41 55.6	+0.6
	6.0nm,0.5s,baz=49,slow=8.7,SNR=38						
WRA	**Warramunga Arr**	**30.02**	**257**	P	P	08 42 19.2	-0.4
	0.4nm,0.8s,baz=86,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**30.86**	**250**	P	P	08 42 26.8	-0.2
	0.3nm,0.4s,baz=81,slow=9.0,SNR=9.2						

*MOS **29** 08:55:06.1±1.4, 45°.55N×150°.85E, h115km, mb4.0/12, Error ellipse: s-maj=10.6km s-min=7.1km az=54.4*
*NEIC **29** 08:55:08.3±1.0, 45°.9N±0°.1×150°.8E±0°.1, h106km±3km, mb4.2/28*
*SKHL **29** 08:55:09.3±0.2, 45°.46N×150°.81E, h130km±9km, mb5.6/3, msh5.3/3*
*IDC **29** 08:55:09.7±2.5, 46°.02N×150°.79E, h118km±22km, mb3.6/16, mb1 3.7/20, mb1mx3.6/35, mbtmp3.9/20, Error ellipse: s-maj=21.1km s-min=12.9km az=158.0*
*JMA **29** 08:55:10.8±0.3, 45°.10N×150°.80E, h112km, M3.8*

ISC 29 08:55:05.8±0.6, 45°.52N±0°.07×151°.05E±0°.06, h100km, n129, σ1s98/138, mb4.0/36, 5C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.27**	**264**	*d i* PN	**Pn**	**08 55 44.4**	**+2.7**
KUR				*i* S	**Sn**	**08 56 11.7**	**+2.4**
KUR				pmax	pmax		
	comp=N,94nm,0.2s						
KUR				pmax	pmax		
	comp=Z,250nm,0.2s						
KUR				pmax	pmax		
	comp=E,92nm,0.1s						
KUR				smax	smax		
	comp=N,1μm,0.4s						
KUR				smax	smax		
	comp=E,484nm,0.4s						
KUR	**Kuril'sk**	**2.27**	**264**	*e*P	**Pn**	**08 55 44.6**	**+2.9**
KUR				AMB	AMB	08 55 45.0	
	comp=E,500nm,0.4s						
KUR				AMB	AMB	08 55 46.2	
	comp=E,6μm,5.0s						
KUR				eS	**Sn**	**08 56 11.0**	**+1.7**
KUR				A	A	08 56 13.0	
	comp=E,2μm,0.6s						
KUR				A	A	08 56 13.0	
	comp=E,2μm,0.6s						
KUR				A	A	08 56 14.0	
	comp=E,8μm,5.0s						
KUR				A	A	08 56 14.0	
	comp=E,7μm,5.0s						
SHO	**Shikotan**	**3.44**	**243**	*e*PN	**Pn**	**08 55 58.6**	**+1.3**
SHO				eS	**Sn**	**08 56 36.1**	**-1.0**
SHO				pmax	pmax		
	comp=Z,17nm,0.4s						
SHO				pmax	pmax		
	comp=N,13nm,0.2s						
SHO				pmax	pmax		
	comp=E,8.0nm,0.2s						
SHO				smax	smax		
	comp=N,234nm,0.5s						
SHO				smax	smax		
	comp=E,175nm,0.5s						
SHO	**Shikotan**	**3.44**	**243**	*e*P	**Pn**	**08 55 58.7**	**+1.4**
SHO				AMB	AMB	08 55 59.3	
	comp=E,40nm,0.9s						
SHO				AMB	AMB	08 56 06.4	
	comp=E,5μm,4.0s						
SHO				eS	**Sn**	**08 56 35.9**	**-1.2**
SHO				A	A	08 56 41.0	
	comp=E,220nm,0.6s						
SHO				A	A	08 56 41.0	
	comp=E,230nm,0.6s						
SHO				A	A	08 56 55.0	
	comp=E,3μm,4.0s						
SHO				A	A	08 56 55.0	
	comp=E,3μm,4.0s						
YUK	**Yuzn-Kuril'sk**	**3.98**	**250**	*e*PN	**Pn**	**08 56 07.5**	**+2.8**
YUK				eS	**Sn**	**08 56 51.7**	**+1.3**
YUK				pmax	pmax		
	comp=N,19nm,0.2s						
YUK				pmax	pmax		
	comp=E,21nm,0.2s						
YUK				pmax	pmax		
	comp=Z,137nm,0.2s						
YUK				smax	smax		
	comp=N,160nm,0.4s						
YUK				smax	smax		
	comp=E,265nm,0.4s						
YUK	**Yuzn-Kuril'sk**	**3.98**	**250**	*e*P	**Pn**	**08 56 07.2**	**+2.5**
YUK				AMB	AMB	08 56 07.9	
	comp=E,1μm,2.0s						
YUK				AMB	AMB	08 56 07.9	
	comp=E,140nm,0.3s						
YUK				eS	**Sn**	**08 56 50.6**	**+0.2**
YUK				A	A	08 56 56.7	
	comp=E,3μm,3.0s						
YUK				A	A	08 56 56.7	
	comp=E,3μm,3.0s						
YUK				A	A	08 56 57.0	
	comp=E,320nm,0.6s						
YUK				A	A	08 56 57.0	
	comp=E,290nm,0.6s						
GRPR	**Tuman**	**4.06**	**250**	*e*PN	**Pn**	**08 56 07.8**	**+2.1**
GRPR				eS	**Sn**	**08 56 53.0**	**+0.8**
GRPR				pmax	pmax		
	comp=Z,83nm,0.4s						
GRPR				pmax	pmax		
	comp=N,32nm,0.2s						
GRPR				smax	smax		
	comp=E,105nm,0.2s						
GRPR				smax	smax		
	comp=N,241nm,0.4s						
GRPR	**Tuman**	**4.06**	**250**	*e*P	**Pn**	**08 56 08.1**	**+2.4**
GRPR				AMB	AMB	08 56 09.0	
	comp=N,83nm,0.4s						
GRPR				eS	**Sn**	**08 56 52.4**	**+0.2**
GRPR				A	A	08 56 56.0	
	comp=N,241nm,0.4s						
GRPR				A	A	08 56 56.0	
	comp=N,105nm,0.4s						
GLVR	**Golovnino**	**4.33**	**248**	*e*PN	**Pn**	**08 56 11.9**	**+2.5**
GLVR				eS	**Sn**	**08 57 01.0**	**+2.2**
GLVR				pmax	pmax		
	comp=Z,136nm,0.6s						
GLVR				pmax	pmax		
	comp=E,33nm,0.7s						
GLVR				smax	smax		
	comp=E,379nm,0.5s						
GLVR				smax	smax		
	comp=N,136nm,0.1s						
GLVR	**Golovnino**	**4.33**	**248**	*e*P	**Pn**	**08 56 11.0**	**+1.6**
GLVR				AMB	AMB	08 56 12.0	
	comp=N,136nm,0.6s						
GLVR				eS	**Sn**	**08 56 59.2**	**+0.4**
GLVR				A	A	08 57 04.0	
	comp=N,136nm,0.5s						
GLVR				A	A	08 57 04.0	
	comp=N,379nm,0.5s						
NEM2	**Nemuro 2**	**4.37**	**242**	P	**Pn**	**08 56 11.5**	**+1.6**
NEM2				eS	**Sn**	**08 56 58.5**	**-1.2**
NMR	**Nemuro--Hokkai**	**4.38**	**242**	*e*PN	**Pn**	**08 56 11.4**	**+1.4**
NMR				eS	**Sn**	**08 56 58.7**	**-1.2**
NMR				pmax	pmax		
	comp=Z,37nm,0.1s						
NMR				pmax	pmax		
	comp=N,6.0nm,0.2s						
NMR				smax	smax		
	comp=N,398nm,0.2s						
NMR				smax	smax		
	comp=E,299nm,0.2s						
NMR	**Nemuro--Hokkai**	**4.38**	**242**	*e*P	**Pn**	**08 56 11.0**	**+1.0**
NMR				AMB	AMB	08 56 12.0	
	comp=E,37nm,0.3s						
NMR				eS	**Sn**	**08 56 58.0**	**-1.9**
NMR				A	A	08 57 04.0	
	comp=E,398nm,0.3s						
NMR				A	A	08 57 04.0	
	comp=E,299nm,0.3s						
JNK	**Nakash**	**4.92**	**249**	P	**Pn**	**08 56 19.8**	**+2.4**
JAK	**Akkeshi**	**5.22**	**243**	P	**Pn**	**08 56 22.8**	**+1.4**
JAK				eS	**Sn**	**08 57 18.4**	**-1.8**
JTKR	**Abashiri--Toko**	**5.32**	**256**	P	**Pn**	**08 56 25.5**	**+2.7**
JAR	**Ashorobuto**	**5.67**	**249**	P	**Pn**	**08 56 30.3**	**+2.7**
JOB	**Onbets**	**5.81**	**246**	P	**Pn**	**08 56 31.8**	**+2.4**
JOB				eS	**Sn**	**08 57 34.6**	**-0.1**
YSS	**Yuzh-Sakhalins**	**5.93**	**287**	*i e*PN	**Pn**	**08 56 32.3**	**+1.3**
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS				pmax	pmax		
	comp=N,30nm,0.6s						
YSS				pmax	pmax		
	comp=E,40nm,1.1s						
YSS	**Yuzh-Sakhalins**	**5.93**	**287**	*e*P	**Pn**	**08 56 32.3**	**+1.3**
YSS				AMB	AMB	08 56 33.4	
	comp=E,40nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.93**	**287**		**Pn**	**08 56 33.5**	**+2.5**
JKK2	**Kamakawa 2**	**6.15**	**257**	P	**Pn**	**08 56 36.8**	**+2.8**
JKA	**Kamikawa-asahi**	**6.18**	**260**	*e*P	**Pn**	**08 56 37.3**	**+2.9**
JKA	**Kamikawa-asahi**	**6.18**	**260**		**Pn**	**08 56 37.3**	**+2.9**
SKR	**Severo-Kuril's**	**6.18**	**31**	*i e*PN	Pn	08 56 21.4	-13
SKR	**Severo-Kuril's**	**6.18**	**31**	*e*P	Pn	08 56 40.2	+5.9
SKR				AMB	AMB	08 56 47.7	
	comp=E,235nm,0.8s						
ASAJ	**Asahikawa**	**6.18**	**260**	P	**Pn**	**08 56 37.6**	**+3.2**
ASAJ	**Asahikawa**	**6.18**	**260**	P	**Pn**	**08 56 37.3**	**+2.9**
	comp=E,1.1nm,0.3s,baz=190,slow=33,SNR=9.5						
JCH	**Churui**	**6.26**	**245**	P	**Pn**	**08 56 37.2**	**+1.7**
JCH				eS	**Sn**	**08 57 43.5**	**-2.0**
ERM	**Erimo**	**6.71**	**241**	PN	**Pn**	**08 56 42.0**	**+0.4**
ERM	**Erimo**	**6.71**	**241**	Pn	**Pn**	**08 56 42.0**	**+0.4**
ERM				Sn	**Sn**	**08 57 54.8**	**-1.6**
JEM	**Erimo**	**6.71**	**241**	eS	**Sn**	**08 57 55.9**	**-0.5**
JNBK	**Urakawa-nobuka**	**6.81**	**245**	eS	**Sn**	**08 57 56.9**	**-2.2**
JBT2	**Biratori 2**	**6.83**	**249**	P	**Pn**	**08 56 45.1**	**+1.9**
JNB	**Noboribetsu**	**7.84**	**251**	eS	**Sn**	**08 58 23.4**	**-0.6**
JKB	**Kayabe**	**8.12**	**247**	P	**Pn**	**08 57 02.1**	**+1.3**
JKB				eS	**Sn**	**08 58 26.3**	**-4.5**
JANG	**Nango**	**8.68**	**237**	eS	**Sn**	**08 58 39.1**	**-5.5**
JTM	**Tenmabayashi**	**8.70**	**241**	eS	**Sn**	**08 58 40.1**	**-4.8**
PEA0B	**Petropavlovsk-**	**8.74**	**27**	PN	**Pn**	**08 57 08.1**	**-1.1**
PEA0B	**Petropavlovsk-**	**8.74**	**27**	Pn	**Pn**	**08 57 08.1**	**-1.1**
PETK	**Petropavlovsk-**	**8.74**	**27**	*e*PN	**Pn**	**08 57 07.9**	**-1.3**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**8.74**	**27**	P	**Pn**	**08 57 08.0**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=205,slow=10,SNR=7.1						
JTH	**Tanohata**	**8.77**	**234**	eS	**Sn**	**08 58 41.4**	**-5.2**
OFUJ	**Ofunato**	**9.47**	**230**	eS	**Sn**	**08 58 59.5**	**-4.3**
JRG	**Rokugo**	**9.83**	**235**	eS	**Sn**	**08 59 09.8**	**-2.8**
JIO	**Ouri**	**10.10**	**229**	eS	**Sn**	**08 59 13.0**	**-6.0**
GRNR	**Gornyy**	**11.09**	**303**	*e* rx	rx	08 57 27.0	
KLR	**Kul'dur**	**13.59**	**293**	*i e*PN	**Pn**	**08 58 13.4**	**-0.8**
EKMR	**Tikimchan**	**13.99**	**309**	*e*P	**Pn**	**08 58 18.8**	**-0.6**
BMKR	**Bomnak**	**16.89**	**311**	*e*P	**Pn**	**08 58 54.0**	**-1.7**
SEY	**Seymchan**	**17.46**	**2**	*i e*P	P	08 58 53.2	-9.2
SEY	**Seymchan**	**17.46**	**2**	P	**P**	**08 58 59.6**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=164,slow=10,SNR=5.5						
KROS	**Kirovskiy**	**17.80**	**309**	*e*P	**P**	**08 59 05.0**	**-1.2**
KSRS	**Korea Array**	**19.07**	**253**	*e*P	**Pn**	**08 59 25.2**	**+3.2**
KSRS	**Korea Array**	**19.07**	**253**	P	**Pn**	**08 59 23.6**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=56,slow=11,SNR=5.4						
YAK	**Yakutsk**	**20.64**	**331**	*i e*P	**P**	**08 59 33.2**	**-3.7**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HIA	**Hailar**	**21.44**	**291**	*i* P	**P**	**08 59 46.8**	**+1.1**
TIXI	**Tiksi**	**28.27**	**345**	P	**P**	**09 00 45.2**	**-3.9**
	comp=Z,1.1nm,0.5s,baz=166,slow=5.6,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**28.86**	**148**	T	T	09 32 37.8	
	baz=338,slow=76,SNR=79						
H11N1	**WAKE ISLAND Hy**	**28.88**	**148**	T	T	09 32 43.8	
	baz=338,slow=76,SNR=68						
H11N3	**WAKE ISLAND Hy**	**28.88**	**148**	T	T	09 32 39.0	
	baz=338,slow=76,SNR=65						
H11S1	**WAKE ISLAND Hy**	**29.91**	**149**	T	T	09 33 56.7	
	baz=350,slow=76,SNR=56						
H11S3	**WAKE ISLAND Hy**	**29.92**	**149**	T	T	09 34 01.7	
	baz=350						
H11S2	**WAKE ISLAND Hy**	**29.93**	**149**	T	T	09 34 00.0	
	baz=350,slow=76,SNR=8.1						
ULN	**Ulaanbaatar**	**29.97**	**291**	*i e*P	**P**	**09 01 07.0**	**+2.4**
ULN				pmax	pmax		
	comp=Z,3.0nm,2.1s						
ULN	**Ulaanbaatar**	**29.97**	**291**	*e*P	**P**	**09 01 07.0**	**+2.4**
ANM	**Nome**	**30.53**	**36**	P	**P**	**09 01 09.3**	**+0.2**
ANM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ANM	**Nome**	**30.53**	**36**	P	**P**	**09 01 09.3**	**+0.2**
KDAK	**Kodiak Island**	**35.99**	**49**	P	**P**	**09 01 56.8**	**+0.2**
KDAK				pmax	pmax		
	comp=Z,16nm,1.2s						
KDAK	**Kodiak Island**	**35.99**	**49**	P	**P**	**09 01 56.8**	**+0.2**
PPLA	**Purkeypile**	**36.03**	**41**	P	**P**	**09 01 57.3**	**+0.2**
KTH	**Kantishna Hill**	**36.62**	**40**	P	**P**	**09 02 02.9**	**+0.8**
KTH				lAmb	lAmb	09 02 14.0	
	comp=Z,8.5nm,1.4s						
MLY	**Manley**	**36.76**	**37**	P	**P**	**09 02 04.0**	**+0.8**
TRF	**Thorofare Moun**	**36.90**	**40**	P	**P**	**09 02 05.3**	**+0.7**
TRF				lAmb	lAmb	09 02 17.4	
	comp=Z,8.9nm,1.4s						
MCK	**McKinley**	**37.51**	**39**	P	**P**	**09 02 10.1**	**+0.6**
MCK				pmax	pmax		
	comp=Z,9.0nm,1.4s						
MCK	**McKinley**	**37.51**	**39**	P	**P**	**09 02 10.1**	**+0.6**
MCK				lAmb	lAmb	09 02 24.0	
	comp=Z,9.4nm,1.4s						
RND	**Reindeer**	**37.55**	**40**	P	**P**	**09 02 10.4**	**+0.5**
RND				pmax	pmax		
	comp=Z,3.0nm,1.3s						
RND	**Reindeer**	**37.55**	**40**	P	**P**	**09 02 10.4**	**+0.5**
RND				lAmb	lAmb	09 02 27.7	
	comp=Z,3.2nm,1.3s						
SML	**Sawmill**	**37.84**	**42**	P	**P**	**09 02 12.8**	**+0.4**
WRH	**Wood River Hil**	**37.88**	**38**	P	**P**	**09 02 13.7**	**+1.1**
WRH				lAmb	lAmb	09 02 25.2	
	comp=Z,5.2nm,1.3s						
COLA	**College**	**37.98**	**37**	*i e*P	**P**	**09 02 10.3**	**-3.1**
COLA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
DHY	**Denali Highway**	**38.23**	**40**	P	**P**	**09 02 16.0**	**+0.3**
DHY				lAmb	lAmb	09 02 16.7	
	comp=Z,1.5nm,0.6s						
IL31		**38.40**	**38**	P	**P**	**09 02 17.1**	**+0.3**
IL31				lAmb	lAmb	09 02 20.2	
	comp=Z,3.3nm,1.2s						
ILAR	**Eielson Array**	**38.40**	**38**	P	**P**	**09 02 16.8**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=265,slow=7.3,SNR=15						
DAWY	**Dawson**	**41.69**	**38**	P	**P**	**09 02 44.6**	**+0.4**
HYT	**Haines Junctio**	**43.15**	**43**	P	**P**	**09 02 58.2**	**+2.1**
HYT				lAmb	lAmb	09 03 11.2	
	comp=Z,14nm,1.5s						
INK	**Inuvik**	**43.45**	**32**	P	**P**	**09 02 58.8**	**+0.6**
INK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
INK	**Inuvik**	**43.45**	**32**	P	**P**	**09 02 58.6**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=278,slow=7.4,SNR=6.6						
INK	**Inuvik**	**43.45**	**32**	P	**P**	**09 02 58.9**	**+0.6**
MKAR	**Makanchi Array**	**46.24**	**298**	P	**P**	**09 03 19.5**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=83,slow=7.3,SNR=3.6						
MKAR				PcP	**PcP**	**09 04 54.8**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=67,slow=2.8,SNR=3.7						
KURK	**Kurchatov**	**46.85**	**304**	*i e*P	**P**	**09 03 26.7**	**+1.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**46.85**	**304**	*e*P	**P**	**09 03 26.7**	**+1.3**
YKA	**Yellowknife Ar**	**52.76**	**36**	*e*P	**P**	**09 04 10.2**	**+0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**52.76**	**36**	P	**P**	**09 04 10.2**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=298,slow=7.1,SNR=8.0						
B08A	**Colville Reser**	**57.79**	**52**	P	**P**	**09 04 47.4**	**+1.1**
B08A				lAmb	lAmb	09 04 48.0	
	comp=Z,3.4nm,1.1s						
ABKAR	**Akbulak array**	**58.11**	**310**	P	**P**	**09 04 47.4**	**-1.1**
CHGR	**Chuyangaron**	**58.67**	**295**	P	**P**	**09 04 52.5**	**-0.1**
PINE	**Pine Mountain**	**59.46**	**57**	P	**P**	**09 05 00.8**	**+2.6**
SUMG	**Summit**	**62.02**	**3**	P	**P**	**09 05 15.3**	**0.0**
SUMG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SUMG	**Summit**	**62.02**	**3**	*i* P	**P**	**09 05 14.0**	**-1.3**
	comp=Z,3.5nm,0.4s						
SUMG	**Summit**	**62.02**	**3**	P	**P**	**09 05 15.3**	**0.0**
NVAR	**Mina Array Bea**	**64.28**	**61**	P	**P**	**09 05 32.0**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=298,slow=6.7,SNR=4.9						
FINES	**FINESS Array B**	**64.53**	**334**	*e*P	**P**	**09 05 30.4**	**-1.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**64.53**	**334**	P	**P**	**09 05 29.7**	**-1.8**
	comp=Z,2.8nm,0.9s,baz=28,slow=4.9,SNR=7.4						
RLMT	**Red Lodge**	**65.25**	**50**	P	**P**	**09 05 38.7**	**+1.9**
RLMT				lAmb	lAmb	09 05 39.5	
	comp=Z,3.9nm,1.4s						
GEYT	**Alibeck**	**65.99**	**300**	P	**P**	**09 05 41.7**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=12,slow=7.4,SNR=3.1						
PD31	**Pinedale Array**	**66.63**	**52**	P	**P**	**09 05 47.0**	**+1.3**
PD31				lAmb	lAmb	09 05 47.4	
	comp=Z,1.9nm,0.8s						
PDAR	**Pinedale Array**	**66.63**	**52**	P	**P**	**09 05 46.5**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=260,slow=1.5,SNR=14						
NB2	**NORSAR Subarra**	**68.91**	**340**	P	**P**	**09 05 57.2**	**-2.2**
	comp=Z,0.7nm,0.5s,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.91**	**340**	P	**P**	**09 05 57.5**	**-1.9**
	comp=Z,0.9nm,0.6s,baz=29,slow=6.6,SNR=5.6						
ASAR	**Alice Springs**	**70.61**	**197**	*e*P	**P**	**09 06 14.2**	**+4.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**70.61**	**197**	P	**P**	**09 06 14.2**	**+4.1**
	comp=Z,0.4nm,0.8s,baz=328,slow=4.5,SNR=4.8						
KBZ	**Khabaz**	**70.67**	**313**	P	**P**	**09 06 09.7**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=1.6,slow=6.6,SNR=4.3						
KBZ	**Khabaz**	**70.67**	**313**	*e*P	**P**	**09 06 09.6**	**-0.8**
AKASG	**Malin Array Be**	**71.75**	**325**	P	**P**	**09 06 14.8**	**-2.1**
	comp=Z,0.7nm,0.5s,baz=38,slow=6.3,SNR=4.1						
BUR08	**Bucovina Ar. S**	**75.79**	**326**	P	**P**	**09 06 40.3**	**-0.3**
BUR08				lAmb	lAmb	09 06 40.9	
	comp=Z,3.0nm,0.7s						
CLL	**Collm**	**76.97**	**334**	*i* P	**P**	**09 06 46.1**	**-1.0**
CLL	**Collm**	**76.97**	**334**	*i* P	**P**	**09 06 46.1**	**-1.0**
BRTR	**Keskin Array B**	**78.28**	**316**	P	**P**	**09 06 54.6**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=74,slow=9.1,SNR=5.3						
KHC	**Kasperske Hory**	**78.70**	**333**	P	**P**	**09 06 56.7**	**-0.1**
KHC				pmax	pmax		
	comp=Z,2.0nm,1.3s						
KHC	**Kasperske Hory**	**78.70**	**333**	P	**P**	**09 06 56.7**	**-0.1**
GERES	**GERESS Array B**	**78.91**	**333**	P	**P**	**09 06 57.5**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=0.0,slow=8.0,SNR=4.2						
TX31	**Lajitas Ar. Si**	**79.35**

*NEIC **29** 09:11:32.7±1.3, 26°10'N±0'04×128°6'E±0'1, h20km±5km, mb4.6/18*
*JMA **29** 09:11:33.2±0.2, 26°17'N×128°65'E, h41km±4km, M3.4*

ISC 29 09:11:31.0±1.5, 26°11'N±0'04×128°73'E±0'04, h11km±9km, n64, σ1°s48/67, mb4.3/23, MS3.6/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.76**	**303**	P	**Pg**	**09 11 45.9**	**+0.2**
JNTH				*eS*	**Sg**	**09 11 55.4**	**-0.2**
JOW	**Kunigami**	**0.83**	**330**	P	**Pg**	**09 11 47.4**	**+0.4**
JOW	**Kunigami**	**0.83**	**330**	Pn	**Pg**	**09 11 47.5**	**+0.4**
	54nm,0.3s,baz=140,slow=13,SNR=467						
JOW				Sn	**Sn**	**09 11 60.0**	**-0.9**
	48nm,0.3s,baz=102,slow=14,SNR=22						
JOW	**Kunigami**	**0.83**	**330**		**Pg**	**09 11 47.3**	**+0.3**
JOW					**Sn**	**09 11 59.5**	**-1.4**
JJT3	**Tamagusuku3**	**0.85**	**272**	P	**Pg**	**09 11 48.0**	**+0.5**
JYRO	**Yoronjima**	**0.94**	**345**	P	**Pb**	**09 11 49.1**	**-0.3**
JYRO				*eS*	**Sb**	**09 12 00.4**	**-1.6**
JIH	**Iheya**	**1.15**	**324**	P	**Pb**	**09 11 52.3**	**-0.6**
JIH				*eS*	**Sb**	**09 12 05.3**	**-2.5**
JOKE	**Okinoerabujima**	**1.25**	**353**	P	**Pn**	**09 11 53.8**	**-0.7**
JOKE				*eS*	**Sb**	**09 12 09.0**	**-1.9**
JAGN	**Aguni-jima**	**1.42**	**290**	P	**Pn**	**09 11 56.2**	**-0.6**
JTK	**Tokunoshima**	**1.68**	**7**	P	**Pn**	**09 11 59.8**	**-0.6**
JTK				S	**Sn**	**09 12 19.4**	**-2.5**
JKE	**Kume jima 2**	**1.76**	**277**	P	**Pn**	**09 12 00.1**	**-1.4**
JKE				*eS*	**Sn**	**09 12 21.5**	**-2.4**
JMZ	**Minamidaito 2**	**2.26**	**97**	P	**Pn**	**09 12 06.9**	**-1.4**
JMZ				S	**Sn**	**09 12 32.0**	**-4.2**
JKDJ	**Kitadaitoujima**	**2.31**	**93**	P	**Pn**	**09 12 07.8**	**-1.3**
JKDJ				*eS*	**Sn**	**09 12 34.1**	**-3.4**
NACB	**Ninganchiao**	**6.75**	**255**	Pn	**Pn**	**09 13 07.9**	**-2.2**
YHNB	**Yeheng**	**6.81**	**259**	Pn	**Pn**	**09 13 11.2**	**+0.3**
JNU	**Nakatsue**	**7.23**	**14**	Pn	**Pn**	**09 13 16.7**	**-0.1**
	0.5nm,0.3s,baz=190,slow=5.4,SNR=7.1						
JNU				Sn	**Sn**	**09 14 36.8**	**-2.1**
	0.1nm,0.3s,baz=130,slow=19,SNR=2.7						
JNU				LR	LR	09 16 32.9	
	comp=Z,316nm,19.7s,baz=196,slow=42						
JNU	**Nakatsue**	**7.23**	**14**		**Pn**	**09 13 17.1**	**+0.4**
YULB	**Yu-li**	**7.28**	**250**	Pn	Pn	09 13 12.3	-5.1
SSLB	**Sunaglung**	**7.43**	**254**	Pn	**Pn**	**09 13 16.8**	**-2.7**
TPUB	**Ta-pu**	**7.88**	**251**	Pn	**Pn**	**09 13 23.3**	**-2.4**
KSRS	**Korea Array**	**11.33**	**357**	LR	LR	09 18 55.7	
	comp=Z,249nm,18.4s,baz=175,slow=40						
MJAR	**Matsushiro Arr**	**13.17**	**36**	LR	LR	09 19 06.1	
	comp=Z,80nm,21.4s,baz=235,slow=35						
USRK	**Ussuriysk Ar.**	**18.24**	**8**	P	**P**	**09 15 46.5**	**+2.2**
	baz=198,slow=6.3,SNR=4.8						
KLR	**Kul'dur**	**23.20**	**5**	P	**P**	**09 16 39.5**	**+1.7**
	0.9nm,0.5s,baz=256,slow=7.2,SNR=3.7						
SIJI	**Sorong**	**26.93**	**174**	LR	LR	09 27 00.1	
	comp=Z,45nm,18.8s,baz=3.0,slow=34						
ULN	**Ulaanbaatar**	**27.60**	**328**	P	**P**	**09 17 20.0**	**+1.5**
ULN				IAmb	IAmb	09 17 20.9	
	comp=Z,8.0nm,0.9s						
SONM	**Songino Array**	**27.90**	**327**	P	**P**	**09 17 22.5**	**+1.3**
	comp=Z,5.4nm,0.9s,baz=139,slow=10,SNR=27						
CMAR	**Chiang Mai Arr**	**28.55**	**261**	P	**P**	**09 17 28.0**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=55,slow=7.0,SNR=5.3						
SHL	**Shillong**	**33.10**	**277**	P	**P**	**09 18 06.3**	**-1.1**
SHL				IAmb	IAmb	09 18 07.7	
	comp=Z,9.4nm,0.9s						
WMQ	**Urumqi**	**37.54**	**309**	P	**P**	**09 18 44.9**	**-0.3**
WMQ				IAmb	IAmb	09 18 45.2	
	comp=Z,12nm,1.2s						
KNRA	**Kununurra**	**41.54**	**180**	P	**P**	**09 19 19.2**	**+0.5**
MK31	**Makanchi Array**	**41.95**	**312**	P	**P**	**09 19 21.2**	**-0.7**
MKAR	**Makanchi Array**	**41.95**	**312**	P	**P**	**09 19 21.2**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=100,slow=10,SNR=19						
MAKZ	**Makanchi**	**42.16**	**312**	P	**P**	**09 19 23.1**	**-0.5**
KDJ	**Kajisay**	**44.89**	**304**	P	**P**	**09 19 44.9**	**-1.0**
KDJ				IAmb	IAmb	09 20 01.5	
	comp=Z,16nm,1.3s						
WRA	**Warramunga Arr**	**46.10**	**173**	P	**P**	**09 19 55.5**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=352,slow=8.1,SNR=6.1						
CTA	**Charters Tower**	**48.97**	**158**	P	**P**	**09 20 18.4**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=348,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**49.74**	**174**	P	**P**	**09 20 23.9**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=356,slow=9.1,SNR=11						
FORT	**Forrest**	**56.57**	**181**	P	**P**	**09 21 14.5**	**+0.8**
ABKAR	**Akbulak array**	**57.05**	**313**	P	**P**	**09 21 16.7**	**-0.3**
ABKAR				IAmb	IAmb	09 21 18.2	
	comp=Z,3.3nm,0.8s						
ARU	**Arti**	**57.76**	**322**	LR	LR	09 49 03.1	
	comp=Z,106nm,18.4s,baz=104,slow=39						
GEYT	**Alibeck**	**59.74**	**300**	LR	LR	09 50 26.8	
	comp=Z,35nm,18.4s,baz=30,slow=39						
PPLA	**Purkeypile**	**62.15**	**31**	P	**P**	**09 21 53.8**	**+1.6**
PPLA				IAmb	IAmb	09 22 12.0	
	comp=Z,7.1nm,1.2s						
MLY	**Manley**	**62.67**	**28**	P	**P**	**09 21 57.2**	**+1.8**
SUA	**Susitna One**	**62.93**	**32**	P	**P**	**09 21 58.6**	**+1.2**
RND	**Reindeer**	**63.62**	**30**	P	**P**	**09 22 02.6**	**+0.7**
RND				IAmb	IAmb	09 22 10.5	
	comp=Z,6.7nm,1.4s						
ILAR	**Eielson Array**	**64.33**	**28**	P	**P**	**09 22 06.5**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=246,slow=5.0,SNR=5.6						
HDA	**Harding Lake**	**64.35**	**29**	P	**P**	**09 22 07.4**	**+0.9**
HDA				IAmb	IAmb	09 22 20.6	
	comp=Z,8.7nm,1.5s						
SCM	**Sheep Creek Mo**	**64.51**	**32**	P	**P**	**09 22 08.2**	**+0.5**
SCRK	**Sand Creek**	**65.69**	**29**	P	**P**	**09 22 16.1**	**+0.7**
KBZ	**Khabaz**	**69.58**	**310**	LR	LR	09 58 57.7	
	comp=Z,37nm,21.5s,baz=226,slow=41						
ARCES	**ARCESS Array B**	**70.28**	**339**	LR	LR	09 58 51.2	
	comp=Z,44nm,20.4s,baz=325,slow=40						
FINES	**FINESS Array B**	**73.19**	**331**	P	**P**	**09 23 01.1**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=138,slow=12,SNR=4.1						
AKASG	**Malin Array Be**	**75.32**	**320**	P	**P**	**09 23 16.9**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=54,slow=6.0,SNR=5.4						
TULEG	**Thule**	**77.02**	**4**	P	**P**	**09 23 24.7**	**+1.3**
TULEG				IAmb	IAmb	09 23 27.3	
	comp=Z,8.0nm,0.9s						
BR131	**Keskin Array S**	**77.46**	**308**	P	**P**	**09 23 26.2**	**-0.6**
BR131				IAmb	IAmb	09 23 28.5	
	comp=Z,7.2nm,1.1s						
BRTR	**Keskin Array B**	**77.46**	**308**	P	**P**	**09 23 27.2**	**+0.3**
	comp=Z,3.3nm,0.9s,baz=113,slow=6.0,SNR=12						
YKA	**Yellowknife Ar**	**78.44**	**25**	P	**P**	**09 23 32.0**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=301,slow=5.0,SNR=7.4						
NB2	**NORSAR Subarra**	**79.62**	**334**	P	**P**	**09 23 37.2**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=54,slow=5.9						
NOA	**NORSAR Array B**	**79.62**	**334**	P	**P**	**09 23 37.1**	**-1.0**
	comp=Z,1.8nm,0.9s,baz=52,slow=5.6,SNR=4.1						
NAO01	**NORSAR Array S**	**79.86**	**334**	P	**P**	**09 23 38.4**	**-1.1**
SUMG	**Summit**	**81.18**	**356**	*i* P	**P**	**09 23 51.1**	**+4.2**
SUMG				*i*		09 23 59.4	
CLL	**Collm**	**84.50**	**325**	*eP*	**P**	**09 24 04.0**	**0.0**
GERES	**GERESS Array B**	**85.56**	**323**	P	**P**	**09 24 10.1**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=107,slow=3.3,SNR=3.5						

IDC 29 09:12:12.7±2.8, 6°17S×130°19E, h132km±38km, mb3.3/1, mb1 3.4/5, mb1mx3.1/32, mbtmp3.7/5, Error ellipse: s-maj=77.4km s-min=20.5km az=87.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.37**	**12**	P	Pn	09 13 31.1	+0.2
	3.3nm,0.3s,baz=235,slow=22,SNR=25						
SIJI				S	Sn	09 14 26.6	-5.2
	6.5nm,0.3s,baz=245,slow=24,SNR=4.1						
FITZ	**Fitzroy Crossi**	**12.66**	**200**	P	Pn	09 15 08.2	+0.1
	0.3nm,0.3s,baz=26,slow=7.4,SNR=9.5						
FITZ				S	Sn	09 17 21.2	-6.7
	0.6nm,0.3s,baz=127,slow=19,SNR=6.3						
WRA	**Warramunga Arr**	**14.27**	**164**	P	Pn	09 15 27.1	-1.8
	0.5nm,0.3s,baz=346,slow=16,SNR=22						
WRA				S	Sn	09 17 54.9	-12
	0.4nm,0.3s,baz=338,slow=22,SNR=5.6						
ASAR	**Alice Springs**	**17.76**	**169**	P	Pn	09 16 11.8	0.0
	0.3nm,0.3s,baz=350,slow=7.8,SNR=15						
MKAR	**Makanchi Array**	**67.64**	**327**	P	P	09 22 55.4	0.0
	0.4nm,0.4s,baz=110,slow=8.9,SNR=8.1						

IDC 29 09:24:08.1±2.8, 8°76S×119°29E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/33, mbtmp3.4/3, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/26, Error ellipse: s-maj=260.2km s-min=26.7km az=51.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**11.73**	**279**	LR	LR	09 32 10.2	
	comp=Z,51nm,19.1s,baz=119,slow=41						
WRA	**Warramunga Arr**	**18.32**	**129**	P	Pn	09 28 23.4	-0.4
	0.2nm,0.3s,baz=305,slow=13,SNR=7.3						
ASAR	**Alice Springs**	**20.38**	**138**	P	P	09 28 47.0	+0.3
	1.1nm,0.7s,baz=310,slow=8.1,SNR=20						
MKAR	**Makanchi Array**	**64.37**	**333**	P	P	09 34 45.8	-0.1
	0.4nm,0.8s,baz=142,slow=7.3,SNR=2.5						

*IDC **29** 09:38:26.7±0.6, 11°58S×165°44E, h0km, mb4.3/15, mb1 4.5/17, mb1mx4.2/43, mbtmp4.3/17, ML4.6/2, MS3.5/14, Ms1 3.5/14, ms1mx3.3/34, Error ellipse: s-maj=21.0km s-min=17.8km az=140.0*
*ISCJB **29** 09:38:27.1±0.2, 11°55S±0'04×165°30E±0'05, h10km, mb4.3/17, MS3.6/13, Error ellipse: s-maj=6.5km s-min=6.1km az=6.5*
*NEIC **29** 09:38:27.9±1.0, 11°50S±0'09×165°3E±0'1, h7km±3km, mb4.8/45*
*BJI **29** 09:38:28.2±0.0, 11°43S×165°06E, h6km, mb4.8/12, mB5.3/12, Ms5.0/1, Ms7 4.7/1*

ISC 29 09:38:28.7±0.4, 11°56S±0'06×165°37E±0'07, h10km, n94, σ1°s41/94, mb4.7/39, MS3.5/13, 2C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.74**	**291**	Pn	**Pn**	**09 39 54.3**	**+0.3**
	30nm,0.3s,baz=128,slow=9.0,SNR=9.6						
HNR				Sn	**Sn**	**09 40 57.7**	**-2.3**
	21nm,0.3s,baz=99,slow=22,SNR=8.1						
HNR				LR	LR	09 42 24.0	
	comp=Z,320nm,19.7s,baz=128,slow=41						
HNR	**Honiara**	**5.74**	**291**	P	**Pn**	**09 39 54.0**	**0.0**
HNR	**Honiara**	**5.74**	**291**		**Pn**	**09 39 52.2**	**-1.8**
HNR				Sn	**Sn**	**09 40 57.4**	**-2.6**
DZM	**Mont Dzumac**	**10.50**	**175**	Pn	**Pn**	**09 41 00.5**	**+1.0**
	2.4nm,0.3s,baz=339,slow=22,SNR=45						
DZM				Sn	**Sn**	**09 42 54.9**	**-2.4**
	0.4nm,0.3s,baz=270,slow=17,SNR=3.3						
DZM	**Mont Dzumac**	**10.50**	**175**	*e*Pn	**Pn**	**09 40 59.8**	**+0.4**
	8.9nm,0.3s						
DZM				*e*Sn	**Sn**	**09 42 51.7**	**-5.6**
	1.2nm,0.2s						
DZM				*e*LR	LR	09 43 21.9	
	comp=Z,204nm,30.9s						
DZM	**Mont Dzumac**	**10.50**	**175**		**Pn**	**09 40 59.9**	**+0.5**
KRVT	**Keravat (AS076**	**15.05**	**298**	LR	LR	09 47 59.3	
	comp=Z,214nm,18.6s,baz=121,slow=38						
PMG	**Port Moresby**	**18.04**	**275**	LR	LR	09 48 47.2	
	comp=Z,118nm,20.9s,baz=99,slow=34						
PMG	**Port Moresby**	**18.04**	**275**		**Pn**	**09 42 39.1**	**-0.5**
EIDS	**Eidsvold**	**19.27**	**223**	P	**Pn**	**09 42 57.3**	**+2.7**
CTA	**Charters Tower**	**20.24**	**243**	P	**P**	**09 43 05.2**	**+1.0**
	7.2nm,1.0s,baz=68,slow=14,SNR=6.0						
AFI	**Afiamalu**	**22.41**	**98**	LR	LR	09 50 12.2	
	comp=Z,124nm,19.2s,baz=275,slow=32						
URZ	**Urewera**	**28.58**	**160**	P	**P**	**09 44 24.4**	**-0.6**
	20nm,1.1s,baz=5.4,slow=9.6,SNR=3.2						
URZ				LR	LR	09 53 36.0	
	comp=Z,61nm,19.9s,baz=306,slow=32						
URZ	**Urewera**	**28.58**	**160**	P	**P**	**09 44 27.0**	**+2.1**
URZ				IAmb	IAmb	09 44 27.1	
	comp=Z,32nm,1.3s						
STKA	**Stephens Creek**	**29.82**	**224**	P	**P**	**09 44 38.6**	**+2.6**
	comp=Z,1.1nm,0.7s,baz=45,slow=11,SNR=2.6						
STKA				LR	LR	09 55 48.9	
	comp=Z,118nm,19.7s,baz=26,slow=35						
STKA	**Stephens Creek**	**29.82**	**224**	P	**P**	**09 44 38.8**	**+2.8**
BFZ	**Birch Farm**	**30.55**	**164**	P	**P**	**09 44 42.4**	**0.0**
TUWZ	**Tuamarina**	**30.69**	**167**	P	**P**	**09 44 44.3**	**+0.7**
SNZO	**South Karori**	**30.75**	**166**	P	**P**	**09 44 46.3**	**+2.3**
SNZO				IAmb	IAmb	09 44 48.7	
	comp=Z,24nm,1.1s						
THZ	**Tophouse**	**30.80**	**169**	P	**P**	**09 44 46.0**	**+1.4**
BHW	**Baring Head**	**30.88**	**166**	P	**P**	**09 44 45.5**	**+0.3**
WRA	**Warramunga Arr**	**30.97**	**251**	P	**P**	**09 44 45.5**	**-0.9**
	comp=Z,5.5nm,0.8s,baz=83,slow=9.1,SNR=13						
WRA				PcP	**PcP**	**09 47 42.2**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=70,slow=2.8,SNR=3.6						
WRA				LR	LR	09 56 30.7	
	comp=Z,64nm,18.0s,baz=75,slow=35						
MSWZ	**Moikau Station**	**30.98**	**165**	P	**P**	**09 44 46.2**	**0.0**
PLWZ	**Palliser**	**31.12**	**166**	P	**P**	**09 44 47.3**	**-0.2**
TOO	**Toolangi**	**31.44**	**211**	P	**P**	**09 44 52.2**	**+1.8**
TOO				IAmb	IAmb	09 45 00.8	
	comp=Z,23nm,1.3s						
GUMO	**Guam**	**32.22**	**320**	LR	LR	09 58 18.1	
	comp=Z,44nm,18.6s,baz=138,slow=37						
AS31	**Alice Springs**	**32.23**	**244**	P	**P**	**09 44 56.8**	**-0.8**
ASAR	**Alice Springs**	**32.24**	**244**	P	**P**	**09 44 56.0**	**-1.5**
	comp=Z,1.6nm,1.0s,baz=73,slow=9.6,SNR=10						
ASAR				PcP	**PcP**	**09 47 45.8**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=70,slow=2.7,SNR=6.0						
ASAR				LR	LR	09 57 12.7	
	comp=Z,89nm,19.5s,baz=80,slow=35						
RPZ	**Rata Peaks**	**32.41**	**172**	P	**P**	**09 45 00.4**	**+1.6**
RPZ				IAmb	IAmb	09 45 15.6	
	comp=Z,30nm,1.4s						
RAR	**Rarotonga**	**34.72**	**111**	LR	LR	09 57 07.6	
	comp=Z,41nm,19.1s,baz=254,slow=32						
SIJI	**Sorong**	**35.48**	**285**	LR	LR	10 00 35.8	
	comp=Z,6μm,21.8s,baz=335,slow=37						
FITZ	**Fitzroy Crossi**	**38.90**	**256**	LR	LR	10 00 36.9	
	comp=Z,101nm,19.6s,baz=74,slow=34						
FITZ	**Fitzroy Crossi**	**38.90**	**256**	P	**P**	**09 45 53.9**	**-0.9**
FITZ				IAmb	IAmb	09 46 11.4	
	comp=Z,24nm,1.4s						
PPT2	**Papeete2**	**43.93**	**103**	*e*LR	LR	09 58 55.9	
	comp=Z,133nm,29.2s						
PSA00	**Pilbara Seismi**	**44.62**	**251**	P	**P**	**09 46 40.5**	**-1.1**
NWAO	**Narrogin (SRO)**	**48.87**	**236**	LR	LR	10 07 40.6	
	comp=Z,127nm,19.5s,baz=152,slow=36						
NJ2	**Nanjing**	**62.13**	**316**	*e*P	**P**	**09 48 49.5**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
USRK	**Ussuriysk Ar.**	**63.24**	**334**	P	**P**	**09 48 57.9**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=124,slow=6.5,SNR=6.7						
KLR	**Kul'dur**	**67.39**	**337**	P	**P**	**09 49 24.3**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=136,slow=7.5,SNR=5.0						
CMAR	**Chiang Mai Arr**	**71.98**	**294**	P	**P**	**09 49 54.2**	**+1.1**
	comp=Z,2.5nm,0.7s,baz=124,slow=4.7,SNR=12						
HHC	**Hu-ho-hao-te**	**71.99**	**320**	*e*P	**P**	**09 49 54.5**	**+1.7**
HHC				pmax	pmax		
	comp=Z,130nm,6.5s						
QSPA	**South Pole Qui**	**78.44**	**180**	P	**P**	**09 50 29.6**	**-0.1**
QSPA				IAmb	IAmb	09 50 30.1	
	comp=Z,4.5nm,0.8s						
SONM	**Songino Array**	**78.87**	**324**	P	**P**	**09 50 32.5**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=149,slow=6.3,SNR=5.3						
GTA	**Gaotai**	**79.15**	**314**	*e*P	**P**	**09 50 35.0**	**+1.0**
GTA				pP	sP	09 50 39.5	+3.5
GTA				sP	PcP	09 50 42.5	+0.1
BRLK	**Bradley Lake**	**79.25**	**21**	P	**P**	**09 50 33.2**	**-0.7**
SUA	**Susitna One**	**80.53**	**20**	P	**P**	**09 50 40.4**	**-0.6**
KNK	**Knik Glacier**	**81.27**	**21**	P	**P**	**09 50 45.0**	**+0.3**
SCM	**Sheep Creek Mo**	**81.95**	**21**	P	**P**	**09 50 48.5**	**0.0**
KTH	**Kantishna Hill**	**82.00**	**18**	P	**P**	**09 50 48.8**	**+0.1**
KTH				IAmb	IAmb	09 50 54.9	
	comp=Z,8.0nm,1.3s						
TRF	**Thorofare Moun**	**82.12**	**18**	P	**P**	**09 50 49.8**	**+0.4**
RND	**Reindeer**	**82.54**	**19**	P	**P**	**09 50 50.8**	**-0.7**
RND				IAmb	IAmb	09 50 54.2	
	comp=Z,13nm,1.4s						
WAX	**Waxell Ridge**	**82.67**	**23**	P	**P**	**09 50 52.5**	**+0.3**
VRDI	**Verde Repeater**	**82.94**	**22**	P	**P**	**09 50 53.3**	**-0.5**
VRDI				IAmb	IAmb	09 51 07.0	
	comp=Z,17nm,1.5s						
GLB	**Gilahina Butte**	**82.94**	**22**	P	**P**	**09 50 53.1**	**-0.5**
BALM	**Baldy**	**83.23**	**23**	P	**P**	**09 50 54.9**	**-0.3**
BALM				IAmb	IAmb	09 51 10.5	
	comp=Z,13nm,1.4s						
BARN	**Barnard Glacie**	**83.51**	**23**	P	**P**	**09 50 56.7**	**0.0**
WRH	**Wood River Hil**	**83.53**	**18**	P	**P**	**09 50 56.2**	**-0.3**
WRH				IAmb	IAmb	09 51 09.8	
	comp=Z,5.5nm,1.1s						
CTGM	**Chitina Glacie**	**83.57**	**23**	P	**P**	**09 50 57.0**	**0.0**
CCB	**Clear Creek Bu**	**83.74**	**18**	P	**P**	**09 50 57.2**	**-0.4**
MDM	**Murphy Dome**	**83.83**	**18**	P	**P**	**09 50 57.9**	**-0.2**
MDM				IAmb	IAmb	09 51 08.3	
	comp=Z,6.0nm,0.9s						
HDA	**Harding Lake**	**83.85**	**19**	P	**P**	**09 50 57.9**	**-0.3**
HDA				IAmb	IAmb	09 50 58.9	
	comp=Z,7.1nm,0.7s						
MENT	**Mentasta**	**83.94**	**21**	P	**P**	**09 50 58.2**	**-0.5**
MENT				IAmb	IAmb	09 51 02.7	
	comp=Z,7.8nm,1.2s						
IL31		**84.12**	**19**	P	**P**	**09 50 58.8**	**-0.6**
ILAR	**Eielson Array**	**84.12**	**19**	P	**P**	**09 50 58.8**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=237,slow=5.1,SNR=55						
SCRK	**Sand Creek**	**84.52**	**20**	P	**P**		
SCRK				IAmb	IAmb	**09 51 01.4**	**-0.4**
	comp=Z,3.8nm,1.0s					09 51 02.0	
AFDM	**Forest Hills D**	**84.81**	**49**	P	**P**	**09 51 03.3**	**-0.4**
AFDM				IAmb	IAmb	09 51 04.0	
	comp=Z,6.7nm,1.1s						
EGAK	**Eagle**	**85.98**	**20**	P	**P**	**09 51 08.9**	**0.0**
EGAK				IAmb	IAmb	09 51 09.8	
	comp=Z,6.1nm,0.8s						
PAHR	**Pah Rah Range**	**86.22**	**48**	P	**P**	**09 51 11.2**	**+0.3**
NVAR	**Mina Array Bea**	**86.63**	**50**	P	**P**	**09 51 12.9**	**-0.1**
	comp=Z,2.7nm,1.0s,baz=226,slow=8.7,SNR=10						
NVAR				LR	LR	10 24 28.2	
	comp=Z,53nm,18.5s,baz=330,slow=32						
WVOR	**Wild Horse Val**	**87.61**	**46**	P	**P**	**09 51 17.1**	**-0.4**
WVOR				IAmb	IAmb	09 51 18.4	
	comp=Z,5.5nm,1.2s						
G08A	**Pilot Rock**	**88.27**	**43**	P	**P**	**09 51 19.1**	**-1.5**
G08A				IAmb	IAmb	09 51 21.1	
	comp=Z,4.6nm,1.2s						
R11A	**Troy Canyon, C**	**88.66**	**51**	P	**P**	**09 51 22.4**	**-0.3**
R11A				IAmb	IAmb	09 51 23.2	
	comp=Z,5.1nm,1.3s						
WMQ	**Urumqi**	**89.20**	**315**	*e*P	**P**	**09 51 25.0**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,130nm,5.1s						
PSUT	**Pine Spring**	**90.02**	**51**	P	**P**	**09 51 27.6**	**-1.5**
U15A	**North Rim**	**90.71**	**53**	P	**P**	**09 51 32.5**	**+0.1**
U15A				IAmb	IAmb	09 51 33.6	
	comp=Z,5.5nm,0.8s						
X16A	**Lo Mia Camp, P**	**90.91**	**55**	P	**P**	**09 51 33.6**	**+0.3**
X16A				IAmb	IAmb	09 51 34.5	
	comp=Z,3.3nm,0.9s						
MTPU	**Mount Pierson**	**91.17**	**52**	P	**P**	**09 51 34.3**	**-0.3**
SYO	**Syowa Base**	**91.19**	**197°**	*e*P	**P**	**09 51 32.2**	**-1.4**
SYO	**Syowa Base**	**91.19**	**197°**	*e*pP	**P**	**09 51 35.5**	**+1.9**
DLMT	**Dillon**	**92.60**	**44**	P	**P**	**09 51 40.4**	**-0.5**
DLMT				IAmb	IAmb	09 51 41.6	
	comp=Z,5.9nm,1.0s						
MK31	**Makanchi Array**	**93.65**	**317**	P	**P**	**09 51 44.9**	**-0.6**
MKAR	**Makanchi Array**	**93.65**	**317**	P	**P**	**09 51 45.3**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=100,slow=5.6,SNR=16						
ZALV	**Zalesovo Beam**	**93.76**	**324**	P	**P**	**09 51 44.6**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=94,slow=2.2,SNR=3.5						
PDAR	**Pinedale Array**	**94.17**	**47**	P	**P**	**09 51 47.1**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=343,slow=1.5,SNR=6.5						
YKA	**Yellowknife Ar**	**95.60**	**27**	P	**P**	**09 51 52.0**	**-2.0**
	comp=Z,0.6nm,0.8s,baz=256,slow=4.6,SNR=7.9						
TXAR	**Lajitas Array**	**96.39**	**61**	P	**P**	**09 51 57.5**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=251,slow=2.8,SNR=2.9						
TXAR				LR	LR	10 30 56.7	
	comp=Z,21nm,18.5s,baz=0.0,slow=33						
KSH	**Kashi**	**96.79**	**309**	P	**P**	**09 52 00.8**	**+0.6**
KSH				PP	**PP**	**09 55 59.0**	**+3.7**
KSH				S	**S**	**10 03 19.8**	**-2.6**
ARCES	**ARCESS Array B**	**116.74**	**345**	PKP	**PKPdf**	**09 57 12.2**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=64,slow=5.5,SNR=3.8						
M57A	**Sunshine Farm,**	**118.15**	**49**	PKPdf	**PKPdf**	**09 57 15.7**	**-0.6**
CPUP	**Villa Florida**	**123.95**	**133**	PKP	**PKPdf**	**09 57 27.8**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=243,slow=4.1,SNR=5.1						
VYHS	**Vyhne**	**133.83

mb4.1/5
IDC ***29*** *10:00:26.3±5.7,6˚.35S×103˚.92E,h63km±45km,mb3.7/8, mb1 3.7/9,mb1mx3.5/43,mbtmp3.9/9,ML3.9/1,Error ellipse: s-maj=63.6km s-min=19.2km az=58.0*
ISC 29 10:00:24.1±1.0,**6˚.55S**±0˚.07×**103˚.86E**±0˚.08,**h55**km±8km, **n48**,σ1°**50**/54,**mb4.0**/11,**Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.19**	**32**	P		**Pn**	**10 00 43.3**	**-1.3**
KASI				S		**Sn**	**10 00 58.2**	**-1.6**
KASI	**Kota Agung**	**1.19**	**32**	P		**Pn**	**10 00 43.1**	**-1.5**
LWLI	**Liwa**	**1.53**	**7**	P		**Pn**	**10 00 48.5**	**-0.8**
LWLI				S		**Sn**	**10 01 07.7**	**-0.4**
LWLI	**Liwa**	**1.53**	**7**	P		**Pn**	**10 00 48.3**	**-1.0**
BLSI	**Bandar Lampung**	**1.81**	**50**	P		**Pn**	**10 00 52.7**	**-0.2**
BLSI				S		**Sn**	**10 01 14.0**	**-0.7**
BLSI	**Bandar Lampung**	**1.81**	**50**	P		**Pn**	**10 00 53.8**	**+0.9**
KLSI		**2.04**	**25**	P		**Pn**	**10 00 56.1**	**+0.1**
KLSI				S		**Sn**	**10 01 21.4**	**+1.1**
MDSI	**Maura Dua**	**2.07**	**9**	P		**Pn**	**10 00 56.2**	**-0.3**
MDSI				S		**Sn**	**10 01 21.2**	**+0.1**
MDSI	**Maura Dua**	**2.07**	**9**	P		**Pn**	**10 00 55.9**	**-0.6**
MNAI	**Manna**	**2.35**	**337**	P		**Pn**	**10 00 58.9**	**-1.5**
MNAI	**Manna**	**2.35**	**337**	Pn		**Pn**	**10 00 58.6**	**-1.7**
MNAI				Sn		**Sn**	**10 01 27.9**	**-0.1**
KSI	**Kapahiang**	**3.14**	**336**	P		**Pn**	**10 01 08.0**	**-3.2**
CNJI	**Cibinong**	**3.33**	**103**	P		**Pn**	**10 01 11.8**	**-2.0**
CNJI				S		**Sn**	**10 01 47.3**	**-4.8**
LEM	**Lembang**	**3.74**	**95**	P		**Pn**	**10 01 22.6**	**+3.0**
	10nm,0.3s,baz=309,slow=22,SNR=4.1							
LEM				S		**Sn**	**10 02 02.5**	**+0.1**
	5.3nm,0.3s,baz=323,slow=20,SNR=3.1							
CISI	**Cisompet, Garu**	**4.05**	**105**	P		**Pn**	**10 01 22.8**	**-0.9**
CISI	**Cisompet, Garu**	**4.05**	**105**	Pn		**Pn**	**10 01 22.9**	**-0.7**
CISI				Sn		**Sn**	**10 02 08.4**	**-1.5**
CMJI	**Cimerak**	**4.71**	**105**	P		**Pn**	**10 01 31.9**	**-0.8**
KPJI	**Karang Pucung**	**5.09**	**99**	P		**Pn**	**10 01 39.3**	**+1.4**
	21nm,0.9s,0.1nm							
DSRI	**Dabo**	**6.07**	**7**	P		**Pn**	**10 01 48.8**	**-2.5**
	134nm,0.5s,13nm							
UGM	**Wanagama**	**6.75**	**102**	P		**Pn**	**10 02 01.5**	**+0.8**
	128nm,1.8s,1.0nm							
UGM	**Wanagama**	**6.75**	**102**	Pn		**Pn**	**10 02 01.9**	**+1.3**
UGM				Sn		**Sn**	**10 03 14.9**	**-1.3**
PCJI	**Pacitan**	**7.44**	**103**	P		**Pn**	**10 02 10.0**	**-0.1**
GSI	**Gunungsitoli**	**10.01**	**321**	Pn		**Pn**	**10 02 43.6**	**-1.7**
JAGI	**Jajag, Banyuwa**	**10.38**	**101**	Pn		**Pn**	**10 02 51.9**	**+1.5**
KULM	**Kulim**	**12.19**	**345**	Pn		**Pn**	**10 03 14.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**25.31**	**349**	P		**P**	**10 05 45.1**	**-0.8**
	1.0nm,0.4s,baz=182,slow=9.9,SNR=7.1							
KNRA	**Kununurra**	**26.04**	**112**	P		**P**	**10 05 52.1**	**-0.4**
H01W3	**Cape Leeuwin H**	**29.75**	**163**	T		T	10 37 32.4	
	baz=340,slow=76,SNR=13							
H01W2	**Cape Leeuwin H**	**29.76**	**163**	T		T	10 37 32.1	
	baz=340,slow=76,SNR=14							
H01W1	**Cape Leeuwin H**	**29.77**	**163**	T		T	10 37 33.4	
	baz=340,slow=76,SNR=13							
H08S2	**Diego Garcia H**	**31.14**	**266**	T		T	10 39 12.5	
	baz=90,slow=75,SNR=18							
H08S3	**Diego Garcia H**	**31.15**	**266**	T		T	10 39 11.8	
	baz=90,slow=75,SNR=19							
H08S1	**Diego Carcia H**	**31.16**	**266**	T		T	10 39 15.1	
	baz=90,slow=75,SNR=16							
WRAB	**Tennant Creek**	**32.45**	**117**	P		**P**	**10 06 50.4**	**+0.9**
ASAR	**Alice Springs**	**33.51**	**124**	P		**P**	**10 06 59.6**	**+0.9**
	0.5nm,0.8s,baz=306,slow=7.9,SNR=5.2							
STKA	**Stephens Creek**	**43.28**	**131**	P		**P**	**10 08 22.2**	**+1.6**
	1.3nm,0.7s,baz=277,slow=8.1,SNR=4.6							
STKA	**Stephens Creek**	**43.28**	**131**	P		**P**	**10 08 22.5**	**+1.9**
MJAR	**Matsushiro Arr**	**53.59**	**34**	P		**P**	**10 09 38.6**	**-1.2**
	0.4nm,0.4s,baz=202,slow=7.0,SNR=4.3							
SONM	**Songino Array**	**54.19**	**2**	P		**P**	**10 09 44.7**	**+0.5**
	2.4nm,1.1s,baz=185,slow=8.9,SNR=7.7							
MK31	**Makanchi Array**	**56.46**	**342**	P		**P**	**10 10 00.8**	**+0.4**
MKAR	**Makanchi Array**	**56.46**	**342**	P		**P**	**10 10 00.3**	**0.0**
	0.7nm,0.5s,baz=144,slow=8.2,SNR=12							
MKAR				pP		**pP**	**10 10 15.5**	**+0.9**
	0.6nm,0.7s,baz=150,slow=6.6,SNR=3.8							
USRK	**Ussuriysk Ar.**	**56.52**	**24**	P		**P**	**10 10 00.6**	**-0.2**
	2.4nm,0.6s,baz=208,slow=4.7,SNR=6.3							
KURK	**Kurchatov**	**61.06**	**342**	P		**P**	**10 10 33.1**	**+0.9**
KURK				IAmb		IAmb	10 10 47.2	
	comp=Z,2.4nm,1.1s							
ZALV	**Zalesovo Beam**	**62.37**	**347**	P		**P**	**10 10 40.8**	**-0.1**
	comp=Z,2.2nm,0.4s,baz=153,slow=5.2,SNR=6.0							
BRVK	**Borovoye**	**65.84**	**339**	P		**P**	**10 11 03.7**	**0.0**
BRVK				IAmb		IAmb	10 11 19.4	
	comp=Z,1.4nm,0.8s							
ABKAR	**Akbulak array**	**67.46**	**331**	P		**P**	**10 11 14.7**	**+0.6**
ABKAR				IAmb		IAmb	10 11 30.4	
	comp=Z,2.0nm,1.1s							
NLU	**North Lily Min**	**133.69**	**39**	PKPdf		**PKPdf**	**10 19 32.5**	**-3.0**
TXAR	**Lajitas Array**	**145.54**	**46**	PKPbc		**PKPab**	**10 19 58.8**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=284,slow=0.8,SNR=10.0							
TXAR				pPKPbc		**pPKPdf**	**10 20 15.0**	**+2.1**
	comp=Z,0.4nm,0.5s,baz=288,slow=1.1,SNR=4.3							

KRNET ***29*** *10:14:36.7±0.1,41˚.24N×70˚.09E,mb2.4*
SOME ***29*** *10:14:38.1,40˚.87N×70˚.80E,h10km*
NNC ***29*** *10:14:41.0±1.9,41˚.08N×70˚.93E,h0km,mb3.2,mpv3.1, Error ellipse: s-maj=15.3km s-min=5.4km az=14.0*
ISCJB ***29*** *10:14:45.0±0.9,41˚.04N±0˚.05×70˚.57E±0˚.08,h33km,Error ellipse: s-maj=8.3km s-min=6.8km az=174.8*
ISC 29 10:14:40.9±1.3,**41˚.00N**±0˚.06×**70˚.81E**±0˚.06,**h15**km,**n14**, σ**2**°**25**/26,**5C-7D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.94**	**180**	⇑*i*P		**Pn**	**10 15 00.1**	**+0.5**
	baz=55							
BTK				⇑*i*S		Sn	10 15 17.5	+4.7
	baz=55							
ARK	**Arkit**	**1.18**	**47**	⇑*i*P		**Pg**	**10 15 03.8**	**+0.1**
	baz=68							
ARK				⇑*i*S		**Sg**	**10 15 23.2**	**+4.1**
	baz=68							
IUG	**luzhnay**	**1.29**	**333**	*e*P		**Pn**	**10 15 04.0**	**-0.4**
	8.2nm,0.2s							
IUG				*e*S		**Sn**	**10 15 22.1**	**+0.6**
	62nm,0.2s							
IUG	**luzhnay**	**1.29**	**333**	P		**Pn**	**10 15 04.0**	**-0.4**
	8.2nm,0.2s							
IUG				P		**Pn**	**10 15 04.0**	**-0.4**
	8.2nm,0.2s							
IUG				S		**Sn**	**10 15 22.1**	**+0.6**
	62nm,0.2s							
IUG				S		**Sn**	**10 15 22.1**	**+0.6**
	62nm,0.2s							
KK31	**Karatay Array**	**2.12**	**354**	⇓Pn		**Pb**	**10 15 17.3**	**-1.6**
	1.0nm,0.2s,baz=178,slow=16,SNR=81							
KK31				⇑Lg		Lg	10 15 45.0	
	0.9nm,0.2s,baz=167,slow=27,SNR=5.3							
MRKS	**Merke**	**2.51**	**45**	*e*P		**Pb**	**10 15 25.4**	**-0.3**
	3.0nm,0.4s							
MRKS				*e*S		**Sb**	**10 15 58.4**	**+1.9**
	4.4nm,0.4s							
MRKS	**Merke**	**2.51**	**45**	Pg		**Pb**	**10 15 25.4**	**-0.3**
	3.0nm,0.4s							
MRKS				Pg		**Pb**	**10 15 25.4**	**-0.3**
	3.0nm,0.4s							
MRKS				Lg		Lg	10 15 58.4	
	4.4nm,0.4s							
MRKS				Lg		Lg	10 15 58.4	
	4.4nm,0.4s							
ARLS	**Aral**	**2.78**	**71**	⇓*e*P		**Pb**	**10 15 27.4**	**-2.9**
	baz=77							
ARLS				⇓*i*S		**Sb**	**10 16 04.5**	**+0.2**
	baz=77							
AAK	**Ala-Archa**	**3.21**	**58**	⇓Pg		**Pb**	**10 15 34.9**	**-2.6**
	1.5nm,0.7s							
AAK				⇓Lg		Lg	10 16 17.3	
	1.3nm,0.7s							
TKM2	**Tokmak 2**	**4.05**	**60**	⇓Pg		**Pb**	**10 15 49.5**	**-2.5**
	2.6nm,1.2s							
TKM2				⇓Lg		Lg	10 16 45.2	
	3.7nm,1.1s							
DGS	**Degeres**	**4.32**	**57**	*e*P		**Pb**	**10 15 59.1**	**+2.6**
	1.6nm,0.5s							
DGS				*e*S		**Sg**	**10 16 55.4**	**-4.1**
	2.6nm,0.5s							
DGS	**Degeres**	**4.32**	**57**	Pg		**Pb**	**10 15 59.1**	**+2.6**
	1.6nm,0.5s							
DGS				Pg		**Pb**	**10 15 59.1**	**+2.6**
	2.6nm,0.5s							
DGS				Lg		Lg	10 16 55.4	
	2.6nm,0.5s							
KST	**Kastek**	**4.35**	**60**	*e*P		**Pb**	**10 15 59.5**	**+2.4**
	2.1nm,0.1s							
KST				*e*S		**Sg**	**10 16 56.7**	**-3.8**
	1.3nm,0.1s							
KST	**Kastek**	**4.35**	**60**	Pg		**Pb**	**10 15 59.5**	**+2.4**
	2.1nm,0.1s							
KST				Pg		**Pb**	**10 15 59.5**	**+2.4**
	2.1nm,0.1s							
KST				Lg		Lg	10 16 56.7	
	1.3nm,0.1s							
KST				Lg		Lg	10 16 56.7	
	1.3nm,0.1s							

NORS ***29*** *10:41:45.5±0.0,42˚.92N×45˚.24E,h8km,MPVA3.5*
MOS ***29*** *10:41:46.0±0.0,42˚.92N×45˚.22E,h15km,MPVA3.3*
ISC 29 10:41:47.7±1.1,**42˚.91N**±0˚.03×**45˚.18E**±0˚.02,**h8**km±9km, **n29**,σ1°**48**/54,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KMGR	**Komgaron**	**0.27**	**303**	*e*Pg		**Pg**	**10 41 52.4**	**-0.7**
KMGR				*e*Sg		**Sg**	**10 41 57.6**	**+0.9**
VLKR	**Vladikavkaz**	**0.39**	**291**	*e*Pg		**Pg**	**10 41 55.6**	**+0.2**
VLKR				*e*Sg		**Sb**	**10 42 02.9**	**-0.3**
GROC	**Groznyy**	**0.54**	**57**	*e*Pg		**Pg**	**10 41 57.7**	**-0.5**
GROC				*e*Sg		**Sg**	**10 42 05.4**	**+0.1**
LACR	**Lac**	**0.65**	**263**	*e*Pg		**Pb**	**10 42 00.5**	**-1.0**
LACR				*e*Sg		**Sn**	**10 42 12.7**	**-1.3**
BTKR	**Batakoyurt**	**0.65**	**315**	*e*Pg		**Pb**	**10 42 01.4**	**0.0**
BTKR				*e*Sg		**Sb**	**10 42 12.2**	**+1.4**
GUDG	**Gudauri**	**0.68**	**229**	P		**Pb**	**10 42 00.7**	**-1.3**
GUDG				S		**Sn**	**10 42 12.2**	**-2.6**
GUDG	**Gudauri**	**0.68**	**229**	*e*Pg		**Pb**	**10 42 00.7**	**-1.3**
GUDG				*e*Sg		**Sn**	**10 42 11.9**	**-2.9**
ARNR	**Ardon**	**0.71**	**293**	*e*Pg		**Pb**	**10 42 02.1**	**-0.3**
ARNR				*e*Sg		**Sb**	**10 42 13.5**	**+1.2**
BTLR	**Botlikh**	**0.81**	**107**	*e*Pg		**Pb**	**10 42 03.6**	**-0.5**
BTLR				*e*Sg		**Sn**	**10 42 16.3**	**-1.5**
KORR	**Kora**	**0.83**	**283**	*e*Pg		**Pn**	**10 42 05.7**	**-0.2**
KORR				*e*Sg		**Sn**	**10 42 18.1**	**-0.3**
STDR	**Stavd-Durt**	**0.93**	**300**	*e*Pg		**Pg**	**10 42 05.8**	**+0.1**
STDR				*e*Sg		**Sb**	**10 42 19.7**	**+0.9**
ZEI	**Tsey**	**0.94**	**263**	*e*Pg		**Pb**	**10 42 06.0**	**-0.5**
ZEI				*e*Sg		**Sn**	**10 42 21.2**	**-0.2**
LSNR	**Lesken**	**1.05**	**291**	*e*Pg		**Pn**	**10 42 09.4**	**+0.4**
LSNR				*e*Sg		**Sn**	**10 42 25.8**	**+2.0**
PRTR	**Priterechnaya**	**1.06**	**323**	*e*Pg		**Pn**	**10 42 09.1**	**+0.1**
PRTR				*e*Sg		**Sb**	**10 42 24.4**	**+1.8**
DIGR	**Digorskoe uzhe**	**1.17**	**270**	*e*Pg		**Pn**	**10 42 10.3**	**-0.3**
DIGR				*e*Sg		**Sn**	**10 42 26.9**	**-0.1**
DBC	**Dubki**	**1.22**	**84**	*e*Pg		**Pg**	**10 42 09.4**	**-1.7**
DBC				*e*Sg		**Sg**	**10 42 26.4**	**-0.6**
ONI	**Oni**	**1.31**	**256**	P		**Pg**	**10 42 12.1**	**-0.7**
ONI				S		**Sn**	**10 42 28.9**	**-1.2**
ONI	**Oni**	**1.31**	**256**	*e*Pg		**Pg**	**10 42 12.9**	**0.0**
LGD	**Lagodekhi**	**1.33**	**143**	P		**Pg**	**10 42 13.6**	**+0.3**
LGD				S		**Sn**	**10 42 36.9**	**+6.2**
LGD	**Lagodekhi**	**1.33**	**143**	*e*Pg		**Pg**	**10 42 13.8**	**+0.4**
LGD				*e*Sg		**Sn**	**10 42 29.8**	**-0.9**
GNBR	**Gunib**	**1.42**	**111**	*e*Pg		**Pb**	**10 42 13.2**	**-1.3**
GNBR				*e*Sg		**Sn**	**10 42 32.6**	**-0.2**
KBTC	**Kuba-Taba**	**1.57**	**306**	*e*Pg		**Pb**	**10 42 17.2**	**0.0**
TRLG	**Trialeti**	**1.58**	**211**	P		**Pg**	**10 42 18.1**	**0.0**
TRLG				S		**Sg**	**10 42 42.8**	**+4.1**
DDFL	**Dedoflistskaro**	**1.62**	**154**	P		**Pg**	**10 42 20.8**	**+2.0**
DDFL				S		Sg	10 42 48.5	+8.6
NEY	**Neytrino**	**1.83**	**282**	*e*Pg		**Pn**	**10 42 19.4**	**-0.3**
NEY				*e*Sg		**Sb**	**10 42 45.0**	**+0.3**
KBZ	**Khabaz**	**1.85**	**297**	*e*Pg		**Pb**	**10 42 21.8**	**-0.1**
KBZ				*e*Sg		**Sb**	**10 42 45.8**	**+0.6**
PYA1	**Pyatigorsk**	**1.90**	**308**	*e*Pg		**Pb**	**10 42 22.4**	**-0.3**
AKH	**Akhalkalaki**	**1.95**	**220**	*e*Pg		**Pg**	**10 42 24.2**	**-1.0**
AKH				*e*Sg		**Sg**	**10 42 48.7**	**-1.8**
SHA1	**Shidzhatmaz**	**2.02**	**295**	*e*Pg		**Pn**	**10 42 22.6**	**+0.2**
SHA1				*e*Sg		**Sb**	**10 42 50.2**	**+0.1**

IAG ***29*** *10:50:37,36˚.51N×2˚.98W,h4km,MW3.8,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.15; $M_{\theta\theta}$=-0.09; $M_{\phi\phi}$=0.24; $M_{r\theta}$=0.40; $M_{r\phi}$=0.09; $M_{\theta\phi}$=0.29; Fault plane solution: $M_0$5.39000×10^{14} NP1:ϕ_s230.00000°, δ82.00000°,λ-69.00000°. NP2:ϕ_s342.00000°,δ21.00000°, λ-157.00000°.*
INMG ***29*** *10:50:39.3±1.1,36˚.61N×3˚.00W,h5km,ML3.5 Error ellipse: s-maj=2.1km s-min=1.6km az=161.0*
MDD ***29*** *10:50:39.3±0.3,36˚.62N×3˚.00W,h0km,mbLg3.7/45,Error ellipse: s-maj=2.8km s-min=2.4km az=144.0,PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
SFS ***29*** *10:50:39.0,36˚.62N×2˚.99W,ML3.8,N. DE ALBORAN*
LDG ***29*** *10:50:40.2±0.2,36˚.60N×3˚.00W,h2km,Ml3.2/7,Error ellipse: s-maj=4.0km s-min=3.4km az=167.0*
CNRM ***29*** *10:50:41.0,36˚.54N×2˚.76W,h111km,ml3.6*
ISC 29 10:50:38.7±0.9,**36˚.64N**±0˚.02×**2˚.98W**±0˚.02,**h19**km±2km, **n137**,σ**2**°**28**/214,**1C-3D**,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EBER	**Berja**	**0.27**	**15**	⇓Pg		**Pg**	**10 50 44.4**	**-0.6**
	713nm,0.3s,SNR=18							
EBER				Lg		Lg	10 50 48.7	
	16μm,0.4s,SNR=5.0							
ELGU	**Los Guajares,**	**0.57**	**294**	⇑Pg		**Pg**	**10 50 49.2**	**-0.9**
	52nm,0.1s,SNR=18							
ELGU				Lg		Lg	10 50 57.2	
	8μm,0.4s,SNR=7.9							
EQUE	**Quentar**	**0.68**	**327**	Pg		**Pg**	**10 50 52.0**	**-0.1**
	61nm,0.2s,SNR=86							
EQUE				Lg		Lg	10 51 00.4	
	1μm,0.3s,SNR=25							
EALB	**Alboran**	**0.69**	**184**	⇓Pg		**Pg**	**10 50 52.1**	**-0.3**
	414nm,0.4s,SNR=18							
EALB				Lg		Lg	10 51 01.5	
	1μm,0.2s,SNR=16							
ENIJ	**Nijar**	**0.70**	**61**	Pg		**Pg**	**10 50 52.1**	**-0.6**
	75nm,0.3s,SNR=7.9							
ENIJ				Lg		Lg	10 51 02.5	
	6μm,0.3s,SNR=7.9							
GORA	**Gorafe**	**0.84**	**357**	Pg		**Pg**	**10 50 55.3**	**+0.1**
	204nm,0.2s,SNR=7.9							
GORA				Lg		Lg	10 51 07.3	
	3μm,0.6s,SNR=7.9							
EGOR	**Sierra Gorda,**	**1.02**	**298**	Pg		**Pb**	**10 50 57.6**	**-0.3**
	15nm,0.2s,SNR=7.9							
EGOR				Lg		Lg	10 51 12.4	
	2μm,0.6s,SNR=7.9							
EQES	**Quesada**	**1.17**	**356**	⇓Pg		**Pn**	**10 51 01.4**	**+1.2**
	40nm,0.5s,SNR=18							
EQES				Lg		Lg	10 51 17.8	
	463nm,0.3s,SNR=7.2							
EMAL	**Malaga-Limoner**	**1.17**	**277**	*e*P		**Pn**	**10 50 57.3**	**-2.7**
EMAL				*e*S		**Sb**	**10 51 08.7**	**-6.4**
MELI	**Melilla**	**1.34**	**178**	*e*P		Pg	10 51 10.0	+5.4
MELI	**Melilla**	**1.34**	**178**	Lg		Lg	10 51 20.3	
	40nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**1.45**	**268**	Pn		**Pn**	**10 51 01.4**	**-2.5**
	24nm,0.3s,SNR=48							
EMIJ				Lg		Lg	10 51 20.5	
	161nm,0.2s,SNR=7.9							
TLOR	**Lorca, Murcia**	**1.45**	**45**	Sn		**Sb**	**10 51 25.3**	**+2.1**
	5μm,0.8s,SNR=7.9							
SESP	**Santiago Espad**	**1.52**	**13**	P		**Pg**	**10 51 09.5**	**+1.4**
SESP				S		**Sg**	**10 51 31.1**	**+3.1**
SESP	**Santiago Espad**	**1.52**	**13**	Pg		**Pb**	**10 51 08.0**	**+1.6**
	4.1nm,0.2s,SNR=7.9							
SESP				Lg		Lg	10 51 29.2	
	698nm,0.4s,SNR=7.9							
PALE	**Palemas**	**1.61**	**209**	P		**Pg**	**10 51 10.2**	**+0.3**
PALE				S		**Sg**	**10 51 32.4**	**+1.6**
REAL	**Reales**	**1.80**	**266**	*e*P		**Pn**	**10 51 07.2**	**-1.7**
REAL	**Reales**	**1.80**	**266**	Pn		**Pn**	**10 51 07.2**	**-1.7**
PVLZ	**Peæn de**	**1.81**	**217**	*e*P		**Pb**	**10 51 12.5**	**+1.3**
PVLZ	**Peæn de**	**1.81**	**217**	Pg		**Pb**	**10 51 12.5**	**+1.3**
EMUR	**La Murta**	**1.84**	**49**	Pn		**Pn**	**10 51 10.0**	**+0.7**
	6.7nm,0.3s,SNR=47							
EMUR				Sn		**Sn**	**10 51 33.1**	**+1.0**
	119nm,0.4s,SNR=5.0							
CART	**Cartagena**	**1.84**	**58**	*e*P		**Pn**	**10 51 08.8**	**-0.6**
CART				*e*S		**Sn**	**10 51 26.8**	**-5.4**
CART	**Cartagena**	**1.84**	**58**	Pn		**Pn**	**10 51 08.8**	**-0.6**
CART				Sn		**Sn**	**10 51 26.8**	**-5.4**
LIJA	**Lijar**	**1.96**	**279**	*e*P		**Pb**	**10 51 14.0**	**0.0**
LIJA	**Lijar**	**1.96**	**279**	Pg		**Pb**	**10 51 14.0**	**0.0**
EADA	**Adamuz**	**1.99**	**321**	Pg		**Pb**	**10 51 15.2**	**+0.8**
	3.6nm,0.3s,SNR=78							
EADA				Lg		Lg	10 51 42.8	
	654nm,0.5s,SNR=7.9							
CEU	**Ceuta**	**2.07**	**250**	*e*P		**Pn**	**10 51 09.8**	**-2.6**
CEU				*e*S		**Sn**	**10 51 33.7**	**-3.9**
CEU	**Ceuta**	**2.07**	**250**	Pn		**Pn**	**10 51 09.8**	**-2.6**
CEU				Sn		**Sn**	**10 51 33.7**	**-3.9**
ECEU	**Ceuta**	**2.07**	**250**	Pn		**Pn**	**10 51 12.1**	**-0.4**
	4.0nm,0.2s,SNR=7.0							
ECEU				Sn		**Sn**	**10 51 35.5**	**-2.3**
	10nm,0.2s,SNR=5.0							
ALJ	**Aljibe**	**2.15**	**268**	*e*P		**Pn**	**10 51 15.8**	**+2.2**
ALJ	**Aljibe**	**2.15**	**268**	Pn		**Pn**	**10 51 15.8**	**+2.2**
HORN	**Hornachuelos**	**2.18**	**304**	P		**Pg**	**10 51 20.6**	**0.0**
HORN				S		**Sg**	**10 51 50.1**	**+1.1**
AKLM	**AKL**	**2.24**	**199**	P		**Pn**	**10 51 16.0**	**+1.2**
AKLM				S		**Sn**	**10 51 42.9**	**+0.9**
ETOB	**Tobarra**	**2.31**	**29**	Pn		**Pn**	**10 51 19.2**	**+3.5**
	4.1nm,0.2s,SNR=158							
ETOB				Sn		**Sn**	**10 51 45.8**	**+2.2**
	79nm,0.4s,SNR=7.9							
ETOB				Lg		Lg	10 51 53.2	
	547nm,1.1s,SNR=5.0							
JBK	**JBK**	**2.32**	**172**	P		**Pn**	**10 51 16.7**	**+0.6**
JBK				S		**Sn**	**10 51 43.6**	**-0.6**
GIBL	**Gibalbin**	**2.41**	**276**	*e*P		**Pg**	**10 51 26.0**	**+1.1**
GIBL	**Gibalbin**	**2.41**	**276**	Pg		**Pg**	**10 51 26.0**	**+1.1**
ECAB	**El Cabril**	**2.42**	**307**	Pn		**Pn**	**10 51 19.0**	**+1.8**
	2.3nm,0.2s,SNR=34							
ECAB				Pg		**Pb**	**10 51 23.9**	**+2.3**
	47nm,0.3s,SNR=7.9							
ECAB				Lg		Lg	10 51 55.9	
	387nm,0.6s,SNR=8.2							
CHEFC	**Chefchaouen**	**2.45**	**232**	P		**Pn**	**10 51 19.3**	**+1.6**
CHEFC				S		**Sn**	**10 51 50.1**	**+2.9**
AFON	**Font Roja**	**2.80**	**43**	Pn		**Pn**	**10 51 25.9**	**+3.2**
	0.5nm,0.2s,SNR=14							
AFON				Sn		**Sn**	**10 51 55.3**	**-0.6**
	21nm,0.3s,SNR=5.9							
RSA	**Sarsar**	**2.90**	**234**	P		**Pn**	**10 51 27.2**	**+3.3**
RSA				S		**Sb**	**10 52 05.8**	**+0.9**
OKGL	**Djebel Kef Gue**	**2.98**	**100**	Pn		**Pn**	**10 51 26.5**	**+1.4**
	2.9nm,0.2s,SNR=7.9							
OKGL				Sn		**Sn**	**10 52 00.5**	**+0.2**
	16nm,0.2s,SNR=7.9							
PAB	**San Pablo**	**3.10**	**340**	Pn		**Pn**	**10 51 29.0**	**+2.3**
	1.5nm,0.4s,SNR=7.9							
PAB				Pg		**Pg**	**10 51 37.7**	**-0.5**
	SNR=7.9							
PAB				Sn		**Sn**	**10 52 04.4**	**+1.1**
	7.9nm,0.3s,SNR=7.9							
PAB				Lg		Lg	10 52 17.9	
	200nm,0.8s,SNR=7.9							
ESDC	**Sonseca Array**	**3.13**	**346**	Pn		**Pn**	**10 51 30.4**	**+3.3**
	3.2nm,0.3s,baz=165,slow=12,SNR=45							
ESDC				Pg		**Pg**	**10 51 37.8**	**-0.9**
	18nm,0.4s,baz=162,slow=16,SNR=18							
ESDC				Lg		Lg	10 52 20.5	
	7.5nm,0.4s,baz=160,slow=17,SNR=7.7							
EMIN	**Mina Concepcio**	**3.16**	**292**	Pn		**Pn**	**10 51 29.1**	**+1.7**
	1.6nm,0.3s,SNR=7.9							
EMIN				Sn		**Sn**	**10 52 05.1**	**+0.5**
	6.9nm,0.2s,SNR=7.9							
EMIN				Lg		Lg	10 52 20.8	
	164nm,0.7s,SNR=7.9							
LCRM	**LCR**	**3.32**	**208**	P		**Pn**	**10 51 32.4**	**+2.6**
LCRM				S		**Sb**	**10 52 15.0**	**-2.2**
ECHE	**Chera**	**3.35**	**28**

EVO				*e*Sg	**Sg**	**10 53 01.5**	**+0.8**
EVO				A	A	10 53 06.4	
	53nm,0.4s						
EVO	**Evora**	**4.42**	**297**	*e*P	**Pn**	**10 51 45.9**	**+1.1**
EVO				*e*S	**Sn**	**10 52 34.6**	**-1.2**
EVO	**Evora**	**4.42**	**297**	Pn	**Pn**	**10 51 46.0**	**+1.2**
EVO				Sn	**Sn**	**10 52 35.3**	**-0.5**
EVO				Lg	Lg	10 53 01.5	
	53nm,0.4s						
PMRV	**Marv??o**	**4.46**	**310**	*e*Pn	**Pn**	**10 51 47.7**	**+2.4**
PMRV				*e*Sg	**Sg**	**10 53 02.4**	**+0.5**
PMRV				A	A	10 53 14.4	
	79nm,0.7s						
PMRV	**Marv??o**	**4.46**	**310**	Pn	**Pn**	**10 51 47.7**	**+2.4**
PMRV				Lg	Lg	10 53 02.4	
	79nm,0.7s						
MORF	**Marmelete**	**4.59**	**280**	*e*Pn	**Pn**	**10 51 46.8**	**-0.3**
MORF				*e*Sn	**Sn**	**10 52 40.2**	**+0.2**
MORF				A	A	10 53 21.1	
	17nm,0.5s						
MORF	**Marmelete**	**4.59**	**280**	Pn	**Pn**	**10 51 46.8**	**-0.3**
MORF				Sn	**Sn**	**10 52 40.2**	**+0.2**
	17nm,0.5s						
PNCL	**Nicolau / Gran**	**4.66**	**290**	*e*Pn	**Pn**	**10 51 49.5**	**+1.5**
PNCL				*e*Sn	**Sn**	**10 52 40.9**	**-0.7**
PNCL				*e*Sg	**Sg**	**10 53 08.1**	**-0.2**
PNCL				A	A	10 53 15.0	
	32nm,0.6s						
PNCL	**Nicolau / Gran**	**4.66**	**290**	Pn	**Pn**	**10 51 49.5**	**+1.5**
PNCL				Sn	**Sn**	**10 52 40.9**	**-0.7**
PNCL				Lg	Lg	10 53 08.1	
	32nm,0.6s						
PTEO	**Sao Teotonio**	**4.68**	**283**	*e*Sn	**Sn**	**10 52 41.6**	**-0.5**
PTEO				A	A	10 53 22.9	
	55nm,0.8s						
PTEO	**Sao Teotonio**	**4.68**	**283**	Sn	**Sn**	**10 52 41.6**	**-0.5**
	28nm,0.8s						
PFVI	**Vila Bisbo**	**4.71**	**278**	*e*Pn	**Pn**	**10 51 49.5**	**+0.7**
PFVI				*e*Sn	**Sn**	**10 52 42.3**	**-0.6**
PFVI				A	A	10 52 47.0	
	22nm,0.5s						
PFVI	**Vila Bisbo**	**4.71**	**278**	Pn	**Pn**	**10 51 49.6**	**+0.8**
	3.9nm,0.4s,SNR=7.9						
PFVI				Sn	**Sn**	**10 52 41.4**	**-1.6**
	48nm,4.2s,SNR=7.9						
PCBR	**Castelo Branco**	**4.77**	**313**	*e*Pn	**Pn**	**10 51 51.3**	**+1.7**
PCBR				*e*Sn	**Sn**	**10 52 44.6**	**+0.2**
PCBR				*e*Sg	**Sg**	**10 53 12.2**	**+0.3**
PCBR				A	A	10 53 20.0	
	61nm,0.6s						
PCBR	**Castelo Branco**	**4.77**	**313**	Pn	**Pn**	**10 51 51.3**	**+1.7**
PCBR				Sn	**Sn**	**10 52 44.6**	**+0.2**
PCBR				Lg	Lg	10 53 12.2	
	31nm,0.6s						
PMTG	**Montargil**	**4.81**	**302**	*e*Pn	**Pn**	**10 51 50.6**	**+0.5**
PMTG				*e*Sg	**Sg**	**10 53 12.6**	**-0.5**
PMTG				A	A	10 53 21.3	
	68nm,0.6s						
PMTG	**Montargil**	**4.81**	**302**	Pn	**Pn**	**10 51 50.6**	**+0.5**
PMTG				Lg	Lg	10 53 12.6	
	68nm,0.6s						
ERTA	**Horta de San J**	**5.03**	**30**	Pn	**Pn**	**10 51 57.2**	**+4.0**
	8.2nm,0.4s,SNR=7.3						
MTE	**Manteigas**	**5.19**	**318**	*e*Pn	**Pn**	**10 51 58.5**	**+3.1**
MTE				*e*Sn	**Sn**	**10 52 59.4**	**+4.6**
MTE				*e*Sg	**Sg**	**10 53 25.5**	**+0.2**
MTE				A	A	10 53 31.6	
	126nm,0.6s						
MTE	**Manteigas**	**5.19**	**318**	Pn	**Pn**	**10 51 58.5**	**+3.1**
MTE				Sn	**Sn**	**10 52 59.4**	**+4.6**
MTE				Lg	Lg	10 53 25.5	
	63nm,0.6s						
PTOM	**Tomar**	**5.21**	**306**	*e*Pn	**Pn**	**10 51 57.9**	**+2.2**
PTOM				*e*Sn	**Sn**	**10 52 57.9**	**+2.6**
PTOM				*e*Sg	**Sg**	**10 53 25.3**	**-0.8**
PTOM				A	A	10 53 40.3	
	83nm,0.8s						
PTOM	**Tomar**	**5.21**	**306**	Pn	**Pn**	**10 51 57.9**	**+2.2**
PTOM				Sn	**Sn**	**10 52 57.9**	**+2.6**
PTOM				Lg	Lg	10 53 25.3	
	41nm,0.8s						
ESAC	**San Caprasio**	**5.44**	**20**	Lg	Lg	10 53 30.8	
	142nm,0.7s,SNR=7.9						
PMAFR	**Mafra**	**5.50**	**297**	*e*Sg	**Sg**	**10 53 33.6**	**-1.7**
PMAFR				A	A	10 54 01.0	
	62nm,0.6s						
MVO	**Moncorvo**	**5.52**	**326**	*e*Pn	**Pn**	**10 52 01.8**	**+1.9**
MVO	**Moncorvo**	**5.52**	**326**	Pn	**Pn**	**10 52 01.5**	**+1.7**
	14nm,0.3s,SNR=14						
MVO				Sn	**Sn**	**10 53 03.4**	**+0.6**
	115nm,0.6s,SNR=5.6						
MVO				Lg	Lg	10 53 36.0	
	242nm,1.1s,SNR=7.9						
ETOS	**Mallorca**	**5.53**	**54**	Pn	**Pn**	**10 52 01.5**	**+1.5**
	23nm,0.6s,SNR=7.9						
ETOS				Sn	**Sn**	**10 53 00.1**	**-3.1**
	2.2nm,0.3s,SNR=7.9						
COI	**Coimbra**	**5.56**	**312**	*e*Sn	**Sn**	**10 53 05.0**	**+1.2**
COI				*e*Sg	**Sg**	**10 53 37.2**	**+0.1**
COI				A	A	10 53 53.8	
	89nm,0.6s						
COI	**Coimbra**	**5.56**	**312**	Sn	**Sn**	**10 53 05.0**	**+1.2**
COI				Lg	Lg	10 53 37.2	
	44nm,0.6s						
PVIS	**Viseu**	**5.60**	**318**	*e*Pn	**Pn**	**10 52 05.3**	**+4.3**
PVIS				*e*Sn	**Sn**	**10 53 07.0**	**+2.1**
PVIS				*e*Sg	**Sg**	**10 53 38.3**	**-0.1**
PVIS				A	A	10 53 46.3	
	45nm,0.6s						
PVIS	**Viseu**	**5.60**	**318**	Pn	**Pn**	**10 52 05.3**	**+4.3**
PVIS				Sn	**Sn**	**10 53 07.0**	**+2.1**
PVIS				Lg	Lg	10 53 38.3	
	22nm,0.6s						
EPOB	**Poblet**	**5.67**	**33**	Pn	**Pn**	**10 52 04.3**	**+2.3**
	SNR=7.9						
PVRL	**Vila Real**	**5.92**	**323**	*e*Pn	**Pn**	**10 52 09.2**	**+3.8**
PVRL				*e*Sn	**Sn**	**10 53 14.4**	**+1.6**
PVRL				*e*Sg	**Sg**	**10 53 48.5**	**-0.2**
PVRL				A	A	10 54 00.1	
	42nm,0.6s						
PVRL	**Vila Real**	**5.92**	**323**	Pn	**Pn**	**10 52 09.2**	**+3.8**
PVRL				Sn	**Sn**	**10 53 14.4**	**+1.6**
PVRL				Lg	Lg	10 53 48.5	
	21nm,0.6s						
PBRG	**Braganca**	**5.93**	**332**	*e*Pn	**Pn**	**10 52 10.0**	**+4.4**
PBRG				*e*Sg	**Sg**	**10 53 48.6**	**-0.4**
PBRG				A	A	10 53 58.4	
	32nm,0.7s						
PBRG	**Braganca**	**5.93**	**332**	Pn	**Pn**	**10 52 10.0**	**+4.4**
PBRG				Lg	Lg	10 53 48.6	
	16nm,0.7s						
ECAL	**Calabor**	**6.05**	**332**	Pn	**Pn**	**10 52 10.0**	**+2.9**
	5.5nm,0.4s,SNR=4.7						
ECAL				Lg	Lg	10 53 54.2	
	266nm,0.9s,SNR=7.9						
EORO	**Oroz-Betelu**	**6.38**	**11**	Pn	Pn	10 52 17.2	+5.4
	17nm,0.7s,SNR=13						
EORO				Lg	Lg	10 54 02.9	
	53nm,0.7s,SNR=7.9						
PCAB	**Cabril**	**6.41**	**324**	*e*Pn	**Pn**	**10 52 15.8**	**+3.7**
PCAB				*e*Sg	**Sg**	**10 54 04.6**	**+0.4**
PCAB				A	A	10 54 14.2	
	59nm,0.6s						
PCAB	**Cabril**	**6.41**	**324**	Pn	**Pn**	**10 52 15.8**	**+3.7**
PCAB				Lg	Lg	10 54 04.6	
	29nm,0.6s						
ETSF	**Etsaut**	**6.53**	**16**	*e*Pn	**Pn**	**10 52 16.8**	**+3.0**
ETSF				*e*Sg	**Sg**	**10 54 05.8**	**-2.3**
	6.2nm,0.5s						
ETSF	**Etsaut**	**6.53**	**16**	Pn	**Pn**	**10 52 16.8**	**+3.0**
ETSF				Lg	Lg	10 54 05.8	
	3.1nm,0.5s						
ELOB	**Lobios**	**6.54**	**325**	Pn	**Pn**	**10 52 18.2**	**+4.2**
	SNR=7.9						
ELOB				Sn	**Sn**	**10 53 26.1**	**-2.0**
	36nm,0.5s,SNR=5.0						
ELOB				Lg	Lg	10 54 07.9	
	174nm,1.1s,SNR=5.7						
CSOR	**Sort**	**6.55**	**28**	Pn	**Pn**	**10 52 17.2**	**+3.0**
	6.3nm,0.4s,SNR=6.7						
ELAN	**Lanestosa**	**6.60**	**357**	Pn	**Pn**	**10 52 17.6**	**+2.9**
	SNR=7.9						
ELAN				Lg	Lg	10 54 10.6	
	31nm,0.6s,SNR=7.9						
SJPF	**Ste Jean**	**6.61**	**11**	*e*Pn	**Pn**	**10 52 18.1**	**+3.3**
SJPF				*e*Sg	**Sg**	**10 54 08.2**	**-2.5**
	16nm,0.7s						
SJPF	**Ste Jean**	**6.61**	**11**	Pn	**Pn**	**10 52 18.1**	**+3.3**
SJPF				Lg	Lg	10 54 08.2	
	7.9nm,0.7s						
CFON	**Fontmartina**	**6.62**	**38**	Pn	**Pn**	**10 52 18.0**	**+2.9**
	0.9nm,0.3s,SNR=7.9						
ATE	**Arette**	**6.68**	**15**	Pn	**Pn**	**10 52 19.5**	**+3.7**
	3.5nm,0.6s,SNR=7.9						
ATE				Lg	Lg	10 54 12.5	
	41nm,1.2s,SNR=7.9						
EARI	**Arriondas**	**6.87**	**346**	Pn	**Pn**	**10 52 22.2**	**+3.7**
	2.6nm,0.5s,SNR=7.9						
EARI				Lg	Lg	10 54 17.9	
	132nm,1.1s,SNR=7.9						
EPF	**Esparros**	**6.88**	**21**	*e*Pn	**Pn**	**10 52 21.7**	**+3.1**
EPF				*e*Sg	**Sg**	**10 54 17.0**	**-2.3**
	21nm,0.8s						
EPF	**Esparros**	**6.88**	**21**	Pn	**Pn**	**10 52 21.7**	**+3.1**
EPF				Lg	Lg	10 54 17.0	
	11nm,0.8s						
CLLI	**Llivia**	**6.98**	**32**	Pn	**Pn**	**10 52 23.4**	**+3.4**
	10.0nm,1.0s,SNR=7.9						
EAGO	**Agolada(Pontev**	**7.31**	**329**	Lg	Lg	10 54 33.0	
	104nm,1.1s,SNR=7.9						
EPON	**Pontenova**	**7.41**	**336**	Lg	Lg	10 54 37.4	
	75nm,0.9s,SNR=7.9						
MTLF	**Montolieu**	**7.79**	**29**	*e*P	Pn	10 52 37.2	+6.1
MTLF				*e*Sn	**Sn**	**10 53 57.2**	**-1.6**
	0.6nm,0.3s						
MTLF	**Montolieu**	**7.79**	**29**	Pn	Pn	10 52 37.2	+6.1
MTLF				Sn	**Sn**	**10 53 57.2**	**-1.6**
	0.3nm,0.3s						
EMAZ	**Mazaricos**	**7.81**	**326**	Pn	**Pn**	**10 52 34.2**	**+2.8**
	4.3nm,0.3s,SNR=7.9						
EMAZ				Lg	Lg	10 54 52.0	
	96nm,1.1s,SNR=7.9						
LFF	**La Frestale**	**8.76**	**18**	*e*Pn	**Pn**	**10 52 45.8**	**+1.5**
LASF	**Ste Croix**	**9.08**	**33**	*e*P	Pn	10 52 55.8	+7.1
LASF	**Ste Croix**	**9.08**	**33**	*e*Pg	Pn	10 53 28.1	+39
CAF	**Calviac**	**9.12**	**23**	*e*P	Pn	10 52 55.4	+6.1
CAF				*e*Sn	**Sn**	**10 54 28.4**	**-3.0**
	0.4nm,0.2s						
MFF	**Saint Martin d**	**10.18**	**11**	*e*Pn	**Pn**	**10 53 06.4**	**+2.6**
MFF				*e*Sn	**Sn**	**10 54 53.7**	**-3.7**
	0.8nm,0.4s						
QUIF	**Quistinic**	**11.28**	**359**	*e*Pn	**Pn**	**10 53 21.1**	**+2.4**
QUIF	**Quistinic**	**11.28**	**359**	*e*Pg	Pn	10 54 08.7	+50
SGMF	**Saint Gilles**	**11.62**	**1**	*e*Pn	**Pn**	**10 53 24.8**	**+1.4**
ROSF	**Rostrenen**	**11.70**	**359**	*e*Pn	**Pn**	**10 53 26.8**	**+2.3**
LDF	**La Druitiere**	**12.13**	**9**	*e*Pn	**Pn**	**10 53 33.4**	**+2.9**

IDC ***29*** *10:51:42.9±0.8,20°.81N×146°.71E,h0km,mb3.7/10, mb1 3.9/10,mb1mx3.7/41,mbtmp3.7/10,MS3.3/1, Ms1 3.3/1,ms1mx2.4/34,Error ellipse: s-maj=32.2km s-min=19.3km az=79.0*

NEIC ***29*** *10:51:45.3±1.7,21°.0N±0°.1×146°.7E±0°.2,h10km±4km, mb4.4/8*

ISCJB ***29*** *10:51:46.3±0.7,20°.76N±0°.08×146°.8E±0°.2,h37km, MS3.3/1,Error ellipse: s-maj=25.0km s-min=10.6km az=172.6*

ISC 29 10:51:48.6±0.7,20°.89N±0°.09×146°.8E±0°.2,h37km,n24, σ1s07/24,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANA2	**Anatahan**	**4.64**	**193**	Pn	**Pn**	**10 52 57.9**	**+1.8**
INU	**Inuyama**	**16.76**	**331**	P	**P**	**10 55 43.2**	**+0.8**
INU				IAmb	IAmb	10 55 45.5	
	comp=Z,16nm,1.0s						
MJB9	**Matsu-Tunnel**	**17.30**	**336**	P	**Pn**	**10 55 46.2**	**-1.0**
KSRS	**Korea Array**	**23.23**	**319**	P	**P**	**10 56 53.4**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=144,slow=8.1,SNR=5.6						
SONM	**Songjino Array**	**42.10**	**319**	P	**P**	**10 59 37.2**	**0.0**
	comp=Z,0.3nm,0.5s,baz=125,slow=6.7,SNR=3.1						
WR0	**Warramunga Arr**	**42.33**	**197**	P	**P**	**10 59 36.0**	**-3.0**
WRA	**Warramunga Arr**	**42.37**	**197**	P	**P**	**10 59 38.2**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=12,slow=8.6,SNR=6.3						
WRA				PcP	**PcP**	**11 01 32.9**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=13,slow=3.4,SNR=3.2						
FITZ	**Fitzroy Crossi**	**43.94**	**210**	P	**P**	**10 59 51.4**	**-0.7**
ASAR	**Alice Springs**	**46.03**	**196**	P	**P**	**11 00 06.7**	**-2.1**
	comp=Z,0.2nm,0.9s,baz=20,slow=7.9,SNR=5.2						
TIXI	**Tiksi**	**51.82**	**353**	LR	LR	11 25 09.3	
	comp=Z,28nm,19.8s,baz=198,slow=39						
ZALV	**Zalesovo Beam**	**56.91**	**321**	P	**P**	**11 01 29.5**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=111,slow=8.1,SNR=5.1						
MK31	**Makanchi Array**	**57.70**	**313**	P	**P**	**11 01 35.8**	**+0.2**
MKAR	**Makanchi Array**	**57.70**	**313**	P	**P**	**11 01 35.6**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=91,slow=9.4,SNR=5.7						
NRIK	**Noril'sk**	**59.91**	**339**	P	**P**	**11 01 50.5**	**0.0**
	comp=Z,2.2nm,0.8s,baz=119,slow=10,SNR=4.9						
KURK	**Kurchatov**	**60.34**	**317**	P	**P**	**11 01 53.9**	**+0.2**
KURK				IAmb	IAmb	11 01 54.4	
	comp=Z,3.4nm,0.9s						
BRVK	**Borovoye**	**65.51**	**320**	P	**P**	**11 02 28.6**	**+0.5**
BRVK				IAmb	IAmb	11 02 28.7	
	comp=Z,2.6nm,0.8s						
KK31	**Karatay Array**	**66.17**	**309**	P	**P**	**11 02 33.3**	**+0.7**
KKAR	**Karatay Array**	**66.17**	**309**	P	**P**	**11 02 33.1**	**+0.6**
ABKAR	**Akbulak array**	**72.44**	**317**	P	**P**	**11 03 11.0**	**-0.2**
ABKAR				IAmb	IAmb	11 03 11.7	
	comp=Z,2.3nm,0.8s						
YKA	**Yellowknife Ar**	**75.59**	**28**	P	**P**	**11 03 29.0**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=290,slow=5.9,SNR=3.6						
NVAR	**Mina Array Bea**	**81.00**	**52**	P	**P**	**11 04 00.8**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=252,slow=5.6,SNR=4.1						
FINES	**FINESS Array B**	**85.32**	**336**	P	**P**	**11 04 20.7**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=46,slow=5.5,SNR=10.0						
LPAZ	**La Paz**	**146.65**	**88**	PKPbc	**PKPab**	**11 11 29.3**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=9.5,slow=6.1,SNR=4.1						
LPAZ	**La Paz**	**146.65**	**88**		**PKPab**	**11 11 29.5**	**+0.4**

IDC ***29*** *10:55:43.1±1.5,1°.90S×139°.18E,h0km,mb3.2/2, mb1 3.6/3,mb1mx3.4/21,mbtmp3.4/3,ML3.5/1,Error ellipse: s-maj=30.6km s-min=14.7km az=23.0*

DJA ***29*** *10:55:44.9±1.3,2°.5±15°×13°9E±3°3,h32km±60km,M3.1/3, MLv3.1/3*

ISCJB ***29*** *10:55:45.7±1.3,1°.8S±0°.1×139°.13E±0°.05,h29km, mb3.1/2,Error ellipse: s-maj=17.5km s-min=6.6km az=4.0*

ISC 29 10:55:46.7±1.3,1°.9S±0°.2×139°.14E±0°.06,h29km,n10, σ0s99/10,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.44**	**259**	P	**Pn**	**10 55 56.3**	**-0.8**
SMPI				S	**Sn**	**10 56 03.7**	**-0.5**
GENI	**Genyem**	**1.23**	**124**	P	**Pb**	**10 56 09.0**	**-0.4**
GENI				S	**Sb**	**10 56 26.6**	**+1.7**
JAY	**Jayapura**	**1.68**	**111**	Pg	**Pn**	**10 56 13.3**	**-0.8**
	3.9nm,0.3s,baz=309,slow=14,SNR=13						
JAY				Lg	Lg	10 56 34.6	
	6.6nm,0.3s,baz=306,slow=19,SNR=5.1						
JAY	**Jayapura**	**1.68**	**111**	P	**Pn**	**10 56 13.4**	**-0.8**
JAY				S	**Sb**	**10 56 36.9**	**-0.8**
WRA	**Warramunga Arr**	**18.54**	**194**	P	**Pn**	**11 00 01.5**	**0.0**
	0.2nm,0.3s,baz=16,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**22.22**	**193**	P	**P**	**11 00 41.8**	**+0.6**
	0.8nm,0.8s,baz=20,slow=11,SNR=11						
H11S3	**WAKE ISLAND Hy**	**33.84**	**52**	T	T	11 38 02.3	
	baz=236,slow=75,SNR=9.1						
H11S2	**WAKE ISLAND Hy**	**33.85**	**52**	T	T	11 38 02.6	
	baz=236,slow=75,SNR=8.4						
H11S1	**WAKE ISLAND Hy**	**33.86**	**52**	T	T	11 38 04.5	
	baz=236,slow=75,SNR=9.1						
MKAR	**Makanchi Array**	**69.42**	**322**	P	**P**	**11 06 53.2**	**+1.0**
	0.2nm,0.8s,baz=126,slow=7.3,SNR=3.1						

ISK ***29*** *11:01:40.6,38°.87N×43°.54E,h5km,ML3.5/12*

ISCJB ***29*** *11:01:41.8±0.4,38°.86N±0°.02×43°.55E±0°.02,h2km±3km, Error ellipse: s-maj=3.6km s-min=2.6km az=136.7*

DDA ***29*** *11:01:41.2,38°.87N×43°.57E,h16km,ML3.1*

NSSP ***29*** *11:01:41.2,38°.88N×43°.60E,h6km,Ms3.2*

AZER ***29*** *11:01:43.0±1.0,38°.88N×43°.53E,h7km,ml3.4/18,Error ellipse: s-maj=10.0km s-min=6.8km az=108.0*

ISC 29 11:01:42.3±0.9,38°.89N±0°.02×43°.54E±0°.02,h7km±7km, n55,σ1s12/84,8C,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.10**	**15**	*i* P	**Pg**	**11 01 44.7**	**-0.1**
VMUR				*i* S	**Sg**	**11 01 47.8**	**+1.4**
VMUR				IAML		11 01 48.0	
	comp=E,26μm,0.4s						
VMUR				IAML		11 01 49.0	
	comp=N,19μm,0.3s						
VANB	**Van**	**0.32**	**202**	PG	**Pg**	**11 01 49.2**	**+0.7**
VANB				SG	**Sb**	**11 01 55.4**	**-0.4**
TVAN	**Van**	**0.38**	**196**	*i* P	**Pg**	**11 01 49.1**	**-0.6**
TVAN				IAML		11 01 57.0	
	comp=N,5μm,0.6s						
TVAN				*i* S	**Sb**	**11 01 57.2**	**-0.4**
TVAN				IAML		11 01 59.0	
	comp=E,3μm,0.4s						
CLDR	**Calderan**	**0.39**	**49**	*i* P	**Pg**	**11 01 49.4**	**-0.6**
CLDR				*i* S	**Sb**	**11 01 57.0**	**-1.0**
CLDR				IAML		11 01 59.0	
	comp=N,2μm,0.4s						
CLDR				IAML		11 01 59.0	
	comp=E,2μm,0.3s						
CLDR	**Calderan**	**0.39**	**49**	PG	**Pg**	**11 01 49.5**	**-0.5**
CLDR				SG	**Sb**	**11 01 56.5**	**-1.5**
ADCV	**BITLIS_Adilcev**	**0.64**	**263**	*i* P	**Pg**	**11 01 54.2**	**-0.4**
ADCV				*i* S	**Sb**	**11 02 04.3**	**-0.9**
ADCV				IAML		11 02 05.0	
	comp=N,2μm,0.5s						
ADCV				IAML		11 02 05.0	
	comp=E,2μm,0.3s						
DYDN	**Diyadin**	**0.66**	**10**	*i* P	**Pg**	**11 01 54.3**	**-0.8**
DYDN				*i* S	**Sg**	**11 02 04.0**	**+0.2**
DYDN				IAML		11 02 06.0	
	comp=N,637nm,0.2s						
DYDN				IAML		11 02 06.0	
	comp=E,650nm,0.1s						
GEVA	**Gevas**	**0.69**	**213**	*i* P	**Pg**	**11 01 54.1**	**-1.5**
GEVA				IAML		11 02 15.0	
	comp=N,594nm,0.6s						
GEVA				IAML		11 02 15.0	
	comp=E,453nm,0.5s						
AKDM	**Akdamar-Van**	**0.71**	**218**	PG	**Pg**	**11 01 54.8**	**-1.2**
AKDM				SG	**Sg**	**11 02 05.9**	**+0.6**
TUTA	**Tutak**	**0.76**	**312**	*i* P	**Pg**	**11 01 55.7**	**-1.2**
TUTA				*i* S	**Sb**	**11 02 08.7**	**0.0**
TUTA				IAML		11 02 09.0	
	comp=N,2μm,0.3s						
AGRB	**Hanur-Agry**	**0.81**	**328**	PG	**Pg**	**11 01 57.0**	**-0.8**
AGRB				SG	**Sb**	**11 02 10.1**	**+0.1**
MLAZ	**Malazgirt-MUS**	**0.81**	**288**	PG	**Pg**	**11 01 57.7**	**-0.2**
MLAZ				SG	**Sb**	**11 02 10.2**	**+0.1**
IGDI	**IGDIR**	**1.06**	**23**	*i* P	**Pg**	**11 02 01.8**	**-0.9**
IGDI				IAML		11 02 21.0	
	comp=N,232nm,0.8s						
IGDI				*i* S	**Sn**	**11 02 21.4**	**+2.5**
IGDI				IAML		11 02 23.0	
	comp=E,299nm,0.7s						
BLIS	**Bitlis-Merkez**	**1.21**	**247**	*i* P	**Pg**	**11 02 03.5**	**-2.1**
BLIS				IAML		11 02 22.0	
	comp=N,690nm,0.4s						
BLIS				IAML		11 02 24.0	
	comp=E,658nm,0.4s						
TASB	**TASBURUN-IGDIR**	**1.22**	**26**	PN	**Pb**	**11 02 05.4**	**-0.4**
GURO	**Guroymak-BITLI**	**1.23**	**254**	PN	**Pb**	**11 02 04.3**	**-1.6**
VNNZ	**Vanand**	**1.23**	**10⇑**	*i* P	**Pn**	**11 02 05.7**	**-0.3**
VNNZ			**⇑**	*i* S	**Sn**	**11 02 23.5**	**+0.5**
EATA	**Eleskirt**	**1.27**	**320**	*i* P	**Pn**	**11 02 05.2**	**-1.6**
EATA				*i* S	**Sn**	**11 02 25.7**	**+1.6**
EATA				IAML		11 02 36.0	
	comp=E,226nm,0.8s						
EATA				IAML		11 02 37.0	
	comp=N,215nm,0.4s						
HYR	**Heyderabad**	**1.31**	**51**	P	**Pg**	**11 02 07.4**	**-0.1**
	SNR=9.2						
HYR				S	**Sn**	**11 02 27.3**	**+2.3**
METS	**Metsamor**	**1.33**	**18⇑**	*i* P	**Pg**	**11 02 08.5**	**+0.7**
METS			**⇑**	*i* S	**Sn**	**11 02 28.3**	**+2.9**
NRKZ	**NAREK**	**1.41**	**38**	*i* P	**Pn**	**11 02 08.2**	**-0.3**
NRKZ				*i* S	**Sg**	**11 02 27.6**	**0.0**
YOVA	**Hakkari_Yksek**	**1.43**	**155**	*i* P	**Pn**	**11 02 08.4**	**-0.5**
YOVA				*i* S	**Sg**	**11 02 31.0**	**+2.7**
YOVA				IAML		11 02 31.0	
	comp=N,224nm,0.9s						
YOVA				IAML		11 02 31.0	
	comp=E,206nm,0.7s						
NAX	**Nakhchivan**	**1.55**	**79**	P	**Pg**	**11 02 11.2**	**-0.9**
	SNR=29						
NAX				S	**Sg**	**11 02 32.3**	**+0.1**
SRTM	**Siirt_Merkez**	**1.55**	**235**	*i* P	**Pn**	**11 02 10.7**	**+0.2**
SRTM				*i* S	**Sg**	**11 02 33.6**	**+1.3**
SRTM				IAML		11 02 39.0	
	comp=E,285nm,0.5s						
SRTM				IAML		11 02 42.0	
	comp=N,482nm,1.2s						
GNI	**Garni**	**1.56**	**36⇑**	*i* P	**Pb**	**11 02 11.0**	**-0.7**
GNI			**⇑**	*i* S	**Sg**	**11 02 32.7**	**+0.1**
GNI	**Garni**	**1.56**	**36**	PN	**Pb**	**11 02 11.4**	**-0.3**
MUSM	**Mu-Merkez**	**1.59**	**265**	*i* P	**Pn**	**11 02 10.4**	**-0.6**
MUSM				IAML		11 02 45.0	
	comp=E,73nm,0.9s						
MUSM				IAML		11 02 50.0	
	comp=N,60nm,0.8s						
SIRT	**Sirnak**	**1.64**	**212**	PN	**Pn**	**11 02 11.8**	**+0.2**
CUKT	**Cukurca**	**1.64**	**178**	PN	**Pn**	**11 02 11.2**	**-0.5**
VRTB	**Varto-Mus**	**1.64**	**280**	*i* P	**Pb**	**11 02 12.5**	**-0.6**
VRTB				IAML		11 02 47.0	
	comp=E,386nm,1.5s						
V

*NEIC **29** 11:15:43.9±1.8, 53°59N±0.07°×162°76W±0.04, h9km±5km*
*AEIC **29** 11:15:45.1±1.7, 53°55N±0.07°×162°77W±0.05, h20km±4km, ML3.5,mb4.3/41(NEIC)*

ISC 29 11:15:43.9±1.8,**53°65N**±0.07°×**162°76W**±0.04,**h6**km±10km, **n115**,σ1°55/102,**mb4.3**/45,**MS3.6**/6,**South of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FALS	**False Pass**	**1.27**	**343**		**Pg**	**11 16 08.7**	**+0.4**
FALS				Sn	**Sn**	**11 16 26.6**	**+1.1**
WESE	**West Dahl East**	**1.36**	**308**		**Pn**	**11 16 09.6**	**+0.2**
SSBA	**Shishaldin**	**1.38**	**325**		**Pn**	**11 16 10.2**	**+0.4**
SSBA					**Sg**	**11 16 29.8**	**+1.5**
WEBT	**Westdahl Beart**	**1.51**	**310**		**Pn**	**11 16 11.9**	**+0.5**
AKSA	**Akutan Strait**	**1.80**	**287**		**Pn**	**11 16 15.5**	**0.0**
AKSA					**Sn**	**11 16 38.6**	**0.0**
AKUT	**Akutan**	**1.85**	**287**		**Pn**	**11 16 15.8**	**-0.2**
AKUT				Sn	**Sn**	**11 16 39.5**	**-0.1**
AKBBA	**Akutan Broad B**	**1.93**	**285**		**Pn**	**11 16 17.3**	**+0.1**
AKLV	**Akutan Long Va**	**1.96**	**287**		**Pn**	**11 16 17.6**	**0.0**
AKMO	**Akutan Morgan**	**1.97**	**284**		**Pn**	**11 16 17.9**	**+0.1**
AKGG	**Akutan Green G**	**1.99**	**287**		**Pn**	**11 16 18.3**	**+0.3**
AKGG					**Sn**	**11 16 42.4**	**-0.8**
AKRB	**Akutan Reef Bi**	**2.02**	**285**		**Pn**	**11 16 18.6**	**+0.3**
SDPT	**Sand Point**	**2.17**	**37**		**Pn**	**11 16 21.6**	**+1.1**
SDPT					**Sn**	**11 16 46.7**	**-0.9**
CNBA	**Chernabura Isl**	**2.20**	**56**		**Pn**	**11 16 21.3**	**+0.3**
UNV	**Unalaska Valle**	**2.23**	**277**		**Pn**	**11 16 20.6**	**-0.7**
MTBL	**Makushin Table**	**2.34**	**280**		**Pn**	**11 16 23.2**	**+0.2**
MREP	**Makushin Rep't**	**2.37**	**276**		**Pn**	**11 16 23.2**	**-0.1**
MSW	**Makushin Switc**	**2.40**	**278**		**Pn**	**11 16 23.6**	**0.0**
MCIR	**Makushin Cirqu**	**2.47**	**279**		**Pn**	**11 16 25.1**	**+0.5**
OKFG	**Magazine Ridge**	**3.08**	**268**		**Pn**	**11 16 34.1**	**+1.1**
OKNC	**Okmok New Cone**	**3.20**	**269**		**Pn**	**11 16 35.5**	**+0.8**
OKCE	**Okmok Cone E**	**3.23**	**268**		**Pn**	**11 16 35.8**	**+0.7**
NIKH	**Nikolski High**	**3.71**	**262**		**Pn**	**11 16 40.8**	**-1.0**
CHIR	**Chirikof Islan**	**4.68**	**59**		**Pn**	**11 16 55.9**	**+0.9**
SII	**Sitkinak Islan**	**5.72**	**56**		**Pn**	**11 17 09.6**	**+0.3**
OHAK	**Old Harbor**	**6.47**	**53**		**Pn**	**11 17 19.0**	**-0.6**
ATKA	**Atka Island**	**7.06**	**263**		**Pn**	**11 17 28.6**	**+1.0**
KDAK	**Kodiak Island**	**7.09**	**50**	Pn	**Pn**	**11 17 26.7**	**-1.2**
ADK	**Adak**	**8.63**	**264**	Pn	**Pn**	**11 17 47.1**	**-2.0**
BRLK	**Bradley Lake**	**8.95**	**42**		**Pn**	**11 17 53.8**	**+0.2**
SEW	**Seward**	**9.73**	**43**	Pn	**Pn**	**11 18 04.3**	**+0.1**
SUA	**Susitna One**	**10.14**	**35**		**Pn**	**11 18 10.8**	**+0.9**
SKT	**Skwentna**	**10.27**	**31**		**Pn**	**11 18 12.5**	**+1.0**
GHO	**Glory Hole Cre**	**10.98**	**37**	Pn	**Pn**	**11 18 21.4**	**-0.1**
HIN	**Hinchinbrook I**	**11.13**	**46**	Pn	**Pn**	**11 18 23.6**	**+0.2**
SCM	**Sheep Creek Mo**	**11.61**	**39**		**Pn**	**11 18 29.8**	**-0.1**
TRF	**Thorofare Moun**	**11.77**	**28**	Pn	**Pn**	**11 18 32.0**	**-0.2**
DHY	**Denali Highway**	**12.39**	**34**		**Pn**	**11 18 38.5**	**-2.2**
CRQM	**Cirque**	**12.77**	**48**	Pn	**Pn**	**11 18 45.9**	**0.0**
MLY	**Manley**	**12.93**	**23**		**Pn**	**11 18 49.7**	**+1.7**
RIDG	**Independent Ri**	**13.69**	**35**		**Pn**	**11 18 57.1**	**-1.3**
ILAR	**Eielson Array**	**13.75**	**30**	Pn	**Pn**	**11 18 56.1**	**-3.0**
	0.1nm,0.3s,baz=218,slow=13,SNR=5.6						
SCRK	**Sand Creek**	**14.14**	**36**		**Pn**	**11 19 01.9**	**-2.6**
COLD	**Coldfoot**	**14.92**	**19**	P	**P**	**11 19 18.1**	**-2.7**
EGAK	**Eagle**	**15.60**	**36**		**Pn**	**11 19 23.0**	**-1.1**
DAWY	**Dawson**	**15.86**	**40**		**Pn**	**11 19 27.5**	**0.0**
TOLK	**Toolik Lake Re**	**16.27**	**17**	IAmb	IAmb	11 19 38.8	
	comp=Z,19nm,0.8s						
INK	**Inuvik**	**20.11**	**32**	P	**P**	**11 20 12.8**	**-5.1**
	comp=Z,2.4nm,0.5s,baz=214,slow=7.3,SNR=13						
INK	**Inuvik**	**20.11**	**32**	P	**P**	**11 20 12.7**	**-5.2**
PEA0B	**Petropavlovsk-**	**23.39**	**285**	P	**P**	**11 20 51.9**	**-1.2**
PETK	**Petropavlovsk-**	**23.39**	**285**	P	**P**	**11 20 51.4**	**-1.7**
	comp=Z,5.2nm,0.9s,baz=86,slow=12,SNR=8.4						
PETK				LR	LR	11 30 07.8	
	comp=Z,90nm,19.0s,baz=61,slow=37						
SEY	**Seymchan**	**24.83**	**310**	P	**P**	**11 21 06.5**	**0.0**
	comp=Z,2.9nm,0.8s,baz=46,slow=10,SNR=3.5						
YKA	**Yellowknife Ar**	**26.36**	**51**	P	**P**	**11 21 21.4**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=269,slow=9.0,SNR=19						
HAWA	**Hanford**	**28.34**	**87**	P	**P**	**11 21 38.5**	**+0.2**
HAWA				IAmb	IAmb	11 21 41.5	
	comp=Z,7.3nm,1.2s						
YBH	**Yreka Blue Hor**	**29.08**	**98**	P	**P**	**11 21 48.2**	**+3.2**
	comp=Z,1.8nm,0.8s,baz=271,slow=5.7,SNR=3.9						
MFID	**Camas Ranch**	**32.17**	**89**	P	**P**	**11 22 10.8**	**-1.5**
MFID				IAmb	IAmb	11 22 15.3	
	comp=Z,4.3nm,1.1s						
VCNR	**Virginia City**	**32.43**	**99**	P	**P**	**11 22 13.3**	**-1.4**
VCNR				IAmb	IAmb	11 22 18.9	
	comp=Z,3.6nm,1.0s						
YERR	**Yerington**	**32.87**	**99**	IAmb	IAmb	11 22 22.2	
	comp=Z,6.6nm,1.0s						
KVN	**Kaiserville**	**33.50**	**97**	IAmb	IAmb	11 22 27.4	
	comp=Z,3.9nm,1.0s						
RYN	**Ryan**	**33.53**	**98**	IAmb	IAmb	11 22 27.2	
	comp=Z,3.1nm,0.7s						
NVAR	**Mina Array Bea**	**33.79**	**98**	P	**P**	**11 22 29.0**	**+2.4**
	comp=Z,2.7nm,0.7s,baz=302,slow=9.1,SNR=24						
OMMB	**Old Mammoth Mi**	**33.93**	**100**	IAmb	IAmb	11 22 31.6	
	comp=Z,1.9nm,0.7s						
ELK	**Elko**	**34.12**	**93**	IAmb	IAmb	11 22 32.8	
	comp=Z,3.3nm,0.9s						
R11A	**Troy Canyon, C**	**35.45**	**96**	IAmb	IAmb	11 22 44.6	
	comp=Z,4.0nm,1.1s						
DUG	**Dugway, Tooele**	**35.91**	**91**	IAmb	IAmb	11 22 48.0	
	comp=Z,6.4nm,1.1s						
TPNV	**Topopah Spring**	**35.99**	**98**	IAmb	IAmb	11 22 48.9	
	comp=Z,6.3nm,0.9s						
PDAR	**Pinedale Array**	**36.28**	**85**	P	**P**	**11 22 49.5**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=290,slow=4.7,SNR=4.9						
MSU	**Marysvale**	**37.37**	**93**	P	**P**	**11 22 59.6**	**+2.3**
O20A	**White River Ci**	**38.67**	**88**	IAmb	IAmb	11 23 10.6	
	comp=Z,4.9nm,0.9s						
U15A	**North Rim**	**38.68**	**96**	IAmb	IAmb	11 23 11.8	
	comp=Z,4.3nm,1.1s						
KLR	**Kul'dur**	**39.77**	**291**	P	**P**	**11 23 15.4**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=72,slow=5.7,SNR=4.3						
WUAZ	**Wupatki**	**39.85**	**96**	P	**P**	**11 23 20.2**	**+2.1**
WUAZ				IAmb	IAmb	11 23 21.3	
	comp=Z,6.7nm,0.9s						
ULM	**Lac du Bonnet**	**40.00**	**67**	P	**P**	**11 23 19.9**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=281,slow=6.1,SNR=6.0						
ULM	**Lac du Bonnet**	**40.00**	**67**	IAmb	IAmb	11 23 20.7	
	comp=Z,5.0nm,0.9s						
MVCO	**Mesa Verde**	**40.41**	**91**	P	**P**	**11 23 22.4**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**41.09**	**226**	T	T	12 07 22.2	
	baz=27,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**41.10**	**226**	T	T	12 07 20.3	
	baz=27,slow=76,SNR=32						
H11N1	**WAKE ISLAND Hy**	**41.11**	**226**	T	T	12 07 30.0	
	baz=27,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**42.26**	**226**	T	T	12 09 18.7	
	baz=26,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy**	**42.27**	**226**	T	T	12 09 19.8	
	baz=26,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**42.28**	**226**	T	T	12 09 19.2	
	baz=26,slow=76,SNR=23						
ANMO	**Albuquerque**	**43.16**	**92**	P	**P**	**11 23 46.5**	**+1.1**
121A	**Cookes Peak, D**	**44.06**	**96**	P	**P**	**11 23 53.5**	**+0.9**
121A				IAmb	IAmb	11 23 55.5	
	comp=Z,4.2nm,0.8s						
TXAR	**Lajitas Array**	**48.81**	**95**	P	**P**	**11 24 31.2**	**+1.4**
	comp=Z,3.1nm,0.5s,baz=298,slow=5.6,SNR=82						
KSRS	**Korea Array**	**49.16**	**280**	P	**P**	**11 24 32.9**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=39,slow=8.0,SNR=3.6						
KSRS				LR	LR	11 46 05.4	
	comp=Z,18nm,18.4s,baz=50,slow=37						
HDIL	**Hopedale**	**49.50**	**74**	P	**P**	**11 24 34.4**	**-0.5**
SONM	**Songino Array**	**54.00**	**304**	P	**P**	**11 25 08.0**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=43,slow=9.1,SNR=5.4						
HHC	**Hu-ho-hao-te**	**56.11**	**294**	*eP*	**P**	**11 25 22.5**	**-1.4**
HHC				pmax	pmax		
	comp=Z,5.0nm,1.2s						
HHC				pmax	pmax		
	comp=Z,95nm,6.3s						
ARCES	**ARCESS Array B**	**56.98**	**357**	P	**P**	**11 25 28.4**	**-1.1**
	comp=Z,4.1nm,0.9s,baz=19,slow=7.7,SNR=3.7						
KURK	**Kurchatov**	**63.96**	**322**	P	**P**	**11 26 16.6**	**-0.8**
KURK				IAmb	IAmb	11 26 18.6	
	comp=Z,4.3nm,1.1s						
FINES	**FINESS Array B**	**65.04**	**355**	P	**P**	**11 26 23.7**	**-0.6**
	comp=Z,4.1nm,1.0s,baz=27,slow=9.4,SNR=4.4						
NOA	**NORSAR Array B**	**65.56**	**3**	P	**P**	**11 26 28.1**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=356,slow=6.6,SNR=3.3						
MKAR	**Makanchi Array**	**65.72**	**317**	P	**P**	**11 26 28.0**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=48,slow=5.7,SNR=8.6						
WMQ	**Urumqi**	**65.78**	**312**	*eP*	**P**	**11 26 31.0**	**+1.5**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,110nm,3.9s						
WMQ				LR	LR		
	comp=N,370nm,29.2s						
WMQ				LR	LR		
	comp=E,1μm,29.3s						
WMQ				LR	LR		
	comp=Z,110nm,29.3s						
EKA	**Eskdalemuir Ar**	**70.09**	**12**	P	**P**	**11 26 56.2**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=350,slow=4.2,SNR=5.5						
ABKAR	**Akbulak array**	**71.32**	**332**	P	**P**	**11 27 04.2**	**+0.3**
AAK	**Ala-Archa**	**72.26**	**319**	LR	LR	12 02 26.1	
	comp=Z,44nm,18.8s,baz=21,slow=39						
AAK	**Ala-Archa**	**72.26**	**319**	P	**P**	**11 27 10.1**	**+0.2**
AAK				IAmb	IAmb	11 27 11.4	
	comp=Z,2.1nm,0.6s						
KSH	**Kashi**	**74.32**	**317**	P	**P**	**11 27 24.0**	**+1.9**
KSH				PP	**PP**	**11 30 14.0**	**+6.6**
KSH				S	**S**	**11 36 58.3**	**+1.8**
KSH	**Kashi**	**74.32**	**317**	ScS	**ScS**	**11 37 33.0**	**-0.3**
KSH				pmax	pmax		
	comp=Z,260nm,4.7s						
KSH				LR	LR		
	comp=N,640nm,5.5s						
KSH				LR	LR		
	comp=E,520nm,5.9s						
KSH				LR	LR		
	comp=Z,310nm,6.6s						
CLL	**Collm**	**75.36**	**3**	*eP*	**P**	**11 27 25.0**	**-2.7**
AKASG	**Malin Array Be**	**75.54**	**352**	P	**P**	**11 27 28.0**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=11,slow=5.7,SNR=6.7						
GAR	**Garm**	**77.00**	**320**	P	**P**	**11 27 37.7**	**+0.3**
CHGR	**Chuyangaron**	**77.74**	**321**	P	**P**	**11 27 41.3**	**-0.2**
GEC2	**GERESS Array S**	**77.84**	**2**	P	**P**	**11 27 41.7**	**-0.2**
GERES	**GERESS Array B**	**77.84**	**2**	P	**P**	**11 27 42.6**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=5.7,slow=6.7,SNR=6.7						
CONA	**Conrad Observa**	**78.79**	**1**	*i* pP	**P**	**11 27 48.3**	**+1.1**
	comp=Z,2.2nm,1.4s						
MOTA	**Moosalm**	**79.25**	**4**	*i* pP	**P**	**11 27 51.2**	**+1.4**
	comp=Z,12nm,2.0s						
WATA	**Walderalm**	**79.28**	**4**	*i* P	**P**	**11 27 47.6**	**-2.3**
	comp=Z,4.2nm,1.0s						
SQTA	**Sankt Quirin**	**79.38**	**4**	*i* pP	**P**	**11 27 51.5**	**+1.0**
	comp=Z,4.2nm,0.7s						
FETA	**Feichten**	**79.56**	**5**	*i* pP	**P**	**11 27 52.8**	**+1.3**
	comp=Z,5.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**80.13**	**288**	P	**P**	**11 27 54.2**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=24,slow=4.4,SNR=6.3						
OBKA	**Obir**	**80.19**	**2**	*i* pP	**P**	**11 27 55.9**	**+1.0**
	comp=Z,7.6nm,0.7s						
GNI	**Garni**	**83.61**	**339**	LR	LR	12 09 41.8	
	comp=Z,18nm,18.3s,baz=346,slow=39						
ROSC	**El Rosal**	**85.21**	**88**	LR	LR	12 06 46.5	
	comp=Z,82nm,20.3s,baz=192,slow=36						
BRTR	**Keskin Array B**	**85.93**	**347**	P	**P**	**11 28 25.4**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=346,slow=1.3,SNR=5.7						

*NDI **29** 11:45:25.8±3.0, 11°88N×95°48E, h10km, mb4.6, mb4.4(NEIC)*
*ISCJB **29** 11:45:28.7±0.5, 12°25N±0.06°×95°27E±0.04, h10km, mb3.9/8, MS3.2/5, Error ellipse: s-maj=8.5km s-min=6.0km az=1.5*
*IDC **29** 11:45:28.3±1.0, 12°14N×95°06E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.7/55, mbtmp3.8/9, ML3.3/1, MS3.2/6, Ms1 3.2/6, ms1mx2.9/40, Error ellipse: s-maj=42.4km s-min=18.3km az=51.0*
*NEIC **29** 11:45:32.2±2.2, 12°30N±0.09°×95°11E±0.04, h23km±6km, mb4.4/4*

ISC 29 11:45:31.5±0.7,**12°30N**±0.08°×**95°19E**±0.07,**h10**km,**n38**, σ3°48/32,**mb4.0**/10,**MS3.2**/5,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGPR	**DIGLIPUR**	**2.37**	**292**	*eP*	**Pn**	**11 46 07.9**	**-2.5**
DGPR				*eS*	**Sb**	**11 46 43.4**	**-0.2**
PBA	**Port Blair**	**2.48**	**255**	*eP*	Pn	11 46 10.7	-1.2
PBA				*eS*	Sn	11 46 42.2	0.0
PBA	**Port Blair**	**2.48**	**255**	Pn	Pn	11 46 10.0	-1.9
PBKT	**Sadao Pong**	**7.03**	**52**		**Pn**	**11 47 14.2**	**-0.2**
CM31	**Chiang Mai Arr**	**7.11**	**30**	Pn	**Pn**	**11 47 13.2**	**-2.4**
CMAR	**Chiang Mai Arr**	**7.11**	**30**	Pn	**Pn**	**11 47 16.1**	**+0.5**
	0.1nm,0.3s,baz=218,slow=14,SNR=6.7						
UBPT	**Khong Chiam**	**10.42**	**72**	Pn	**Pn**	**11 48 02.7**	**+1.7**
GSI	**Gunungsitoli**	**11.18**	**168**	Pn	**Pn**	**11 48 12.1**	**+0.6**
VIS	**Vishakhapatnam**	**12.66**	**297**	*eP*	**Pn**	**11 48 31.0**	**-0.7**
KOHI	**KOHIMA**	**13.39**	**356**	*eP*	**Pn**	**11 48 40.8**	**-1.0**
KOHI				IAmb	IAmb	11 48 44.7	
	comp=Z,4.4nm,0.5s						
SHL	**Shillong**	**13.56**	**347**	*ex*	Pn	11 48 35.4	-8.7
SHL				*eS*	**Sn**	**11 51 09.8**	**-5.2**
PALK	**Pallekele**	**15.12**	**252**	LR	LR	11 53 37.5	
	comp=Z,29nm,21.8s,baz=64,slow=33						
TAPN	**Taplejung**	**16.53**	**336**	*eP*	**P**	**11 49 32.5**	**+6.0**
RAMN	**Ramite**	**16.66**	**332**	*eP*	P	11 49 35.4	+7.6
	comp=Z,43nm,0.8s						
JIRN	**Jiri**	**17.45**	**332**	*eP*	**P**	**11 49 42.9**	**+6.2**
	comp=Z,54nm,0.9s						
PKI	**Pulchoki**	**17.74**	**330**	*eP*	**P**	**11 49 45.2**	**+5.3**
	comp=Z,3.6nm,0.8s						
PKIN	**Phulchoki**	**17.75**	**330**	*eP*	**P**	**11 49 45.3**	**+5.4**
GUN	**Gumba**	**17.80**	**332**	*eP*	**P**	**11 49 46.0**	**+5.4**
DMN	**Daman**	**17.92**	**330**	*eP*	**P**	**11 49 47.4**	**+5.6**
	comp=Z,38nm,0.9s						
KKN	**Kakani**	**17.98**	**330**	*eP*	**P**	**11 49 48.2**	**+5.7**
GKN	**Gorkha**	**18.48**	**329**	*eP*	**Pn**	**11 49 53.2**	**+5.3**
KOLN	**Koldanda**	**18.83**	**327**	*eP*	**Pn**	**11 49 56.7**	**+4.5**
	comp=Z,26nm,0.9s						
DANN	**Dangsing**	**19.21**	**328**	*eP*	**Pn**	**11 49 59.3**	**+2.4**
	comp=Z,66nm,0.9s						
LEM	**Lembang**	**22.67**	**146**	LR	LR	11 59 52.9	
	comp=Z,91nm,18.2s,baz=292,slow=38						
YULB	**Yu-li**	**27.14**	**62**	P	**P**	**11 51 13.7**	**-1.3**
MKAR	**Makanchi Array**	**36.06**	**345**	P	**P**	**11 52 32.3**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=160,slow=9.8,SNR=7.2						
WSAR	**Wadi Sarin**	**36.37**	**293**	LR	LR	12 07 56.2	
	comp=Z,33nm,19.2s,baz=104,slow=37						
KURBB	**Kurchatov Arra**	**40.57**	**344**	P	**P**	**11 53 09.8**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=161,slow=7.1,SNR=5.3						
KURK	**Kurchatov**	**40.63**	**344**	P	**P**	**11 53 10.1**	**-1.4**
KURK				IAmb	IAmb	11 53 20.2	
	comp=Z,2.7nm,0.9s						
GEYT	**Alibeck**	**41.73**	**314**	P	**P**	**11 53 19.7**	**-1.2**
	comp=Z,5.5nm,0.8s,baz=115,slow=6.8,SNR=6.1						
GEYT				LR	LR	12 12 33.5	
	comp=Z,28nm,18.3s,baz=25,slow=39						
WRA	**Warramunga Arr**	**50.12**	**129**	P	**P**	**11 54 25.2**	**-2.0**
	comp=Z,2.3nm,0.9s,baz=307,slow=8.3,SNR=12						
WR0	**Warramunga Arr**	**50.28**	**129**	P	**P**	**11 54 26.8**	**-1.7**
WR0				IAmb	IAmb	11 54 35.3	
	comp=Z,14nm,1.4s						
AS31	**Alice Springs**	**52.07**	**133**	P	**P**	**11 54 40.3**	**-1.6**
ASAR	**Alice Springs**	**52.07**	**133**	P	**P**	**11 54 40.1**	**-1.8**
	comp=Z,0.9nm,0.9s,baz=311,slow=6.9,SNR=13						
BRTR	**Keskin Array B**	**60.41**	**309**	P	**P**	**11 55 40.7**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=130,slow=7.3,SNR=4.2						
BRTR				LR	LR	12 25 52.6	
	comp=Z,21nm,18.1s,baz=150,slow=40						
STKA	**Stephens Creek**	**62.48**	**136**	LR	LR	12 25 18.0	
	comp=Z,22nm,18.1s,baz=28,slow=38						
GERES	**GERESS Array B**	**75.25**	**318**	P	**P**	**11 57 12.4**	**-2.4**
	comp=Z,0.7nm,0.6s,baz=79,slow=6.9,SNR=5.6						
ILAR	**Eielson Array**	**90.28**	**22**	P	**P**	**11 58 33.4**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=301,slow=4.3,SNR=4.0						

*ISCJB **29** 11:48:56.7±0.6, 23°04S±0.09°×177°66W±0.10, h150km, mb3.8/3, Error ellipse: s-maj=15.5km s-min=9.4km az=136.0*
*NEIC **29** 11:48:57.1±1.6, 23°0S±0.1°×177°7W±0.1, h139km±9km, mb4.1/8*
*IDC **29** 11:48:58.2±3.6, 23°13S×177°38W, h169km±39km, mb3.5/3, mb1 3.8/5, mb1mx3.4/41, mbtmp4.2/5, MS3.2/1, Ms1 3.2/1, ms1mx2.5/23, Error ellipse: s-maj=55.8km s-min=25.2km az=132.0*

ISC 29 11:48:57.3±0.6,**22°92S**±0.09°×**177°61W**±0.09,**h150**km, **n22**,σ2°53/26,**mb4.0**/6,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.31**	**182**	Pn	**Pn**	**11 50 26.6**	**-1.4**
NIUE	**Niue**	**8.13**	**63**	Pn	**Pn**	**11 50 54.0**	**+1.4**
NIUE				Sn	**Sn**	**11 52 18.9**	**-4.2**
AFI	**Afiamalu**	**10.53**	**33**	P	**Pn**	**11 51 26.2**	**+1.6**
	2.7nm,0.3s,baz=196,slow=10.0,SNR=10						
AFI				S	**Sn**	**11 53 14.5**	**-6.7**
	2.5nm,0.3s,baz=232,slow=19,SNR=5.8						
AFI	**Afiamalu**	**10.53**	**33**		**Pn**	**11 51 26.0**	**+1.4**
AFI				Sn	**Sn**	**11 53 17.5**	**-3.7**
OUZ	**Omahuta**	**14.45**	**210**		**P**	**11 52 16.2**	**-1.2**
URZ	**Urewera**	**15.94**	**195**	P	**Pn**	**11 52 30.2**	**-3.0**
	0.9nm,0.3s,baz=83,slow=8.1,SNR=5.3						
URZ				S	Sn	11 55 11.9	-19
	0.5nm,0.3s,baz=15,slow=18,SNR=3.2						
URZ	**Urewera**	**15.94**	**195**	P	**Pn**	**11 52 31.0**	**-2.3**
RAR	**Rarotonga**	**16.62**	**88**	P	**Pn**	**11 52 47.2**	**+5.5**
STKA	**Stephens Creek**	**37.12**	**247**	P	**P**	**11 55 54.2**	**+0.7**
	1.2nm,0.8s,baz=99,slow=13,SNR=3.6						
STKA	**Stephens Creek**	**37.12**	**247**	P	**P**	**11 55 54.0**	**+0.5**
STKA				IAmb	IAmb	11 55 54.8	
	comp=Z,1.5nm,1.2s						
BBOO	**Buckleboo**	**41.84**	**246**	P	**P**	**11 56 33.4**	**+0.8**
BBOO				IAmb	IAmb	11 56 36.4	
	comp=Z,16nm,1.5s						
AS31	**Alice Springs**	**44.37**	**259**	P	**P**	**11 56 52.8**	**-0.2**
ASAR	**Alice Springs**	**44.37**	**259**	P	**P**	**11 56 53.5**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=92,slow=7.4,SNR=20						
ASAR				PcP	**PcP**	**11 58 33.3**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=101,slow=3.5,SNR=3.4						
WR0	**Warramunga Arr**	**44.49**	**264**	P	**P**	**11 56 54.3**	**+0.3**
WRAB	**Tennant Creek**	**44.67**	**264**	P	**P**	**11 56 55.9**	**+0.5**
WRA	**Warramunga Arr**	**44.68**	**264**	P	**P**	**11 56 55.8**	**+0.3**
	comp=Z,1.9nm,0.3s,baz=95,slow=8.3,SNR=64						
WRA				LR	LR	12 14 46.9	
	comp=Z,28nm,18.5s,baz=55,slow=34						
KNRA	**Kununurra**	**50.90**	**268**	P	**P**	**11 57 44.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**53.10**	**264**	P	**P**	**11 58 00.6**	**+0.9**
FITZ				IAmb	IAmb	11 58 01.2	
	comp=Z,1.9nm,0.7s						
TPNV	**Topopah Spring**	**82.98**	**45**	P	**P**	**12 01 07.9**	**+2.0**
TPNV				IAmb	IAmb	12 01 08.1	
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**145.29**	**330**	PKPbc	**PKPdf**	**12 08 15.7**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=46,slow=3.7,SNR=4.7						
AKBB	**Malin Array Si**	**145.29**	**330**	PKPdf	**PKPdf**	**12 08 16.7**	**-0.3**
GAZ	**Gaziantep**	**146.89**	**303**	PKPab	**PKiKP**	**12 08 27.3**	**+2.5**

*IDC **29** 11:49:50.0±3.4, 11°67N×95°48E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.3/60, mbtmp3.4/4, ML3.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/36, Error ellipse: s-maj=106.0km s-min=32.6km az=79.0*
*NEIC **29** 11:49:53.1±1.0, 11°8N±0.1°×95°53E±0.1°, h22km±2km, mb4.1/3*

ISC 29 11:49:52.1±1.4,**11°8N**±0.2°×**95°8E**±0.2,**h10**km,**n12**, σ1°75/10,**mb3.9/6**,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**3.03**	**268**	Pn	Pn	11 50 35.5	-4.7
PBKT	**Sadao Pong**	**6.88**	**46**	Pn	**Pn**	**11 51 31.1**	**-2.1**
CM31	**Chiang Mai Arr**	**7.28**	**24**	Pn	**Pn**	**11 51 39.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**7.28**	**24**	Pn	**Pn**	**11 51 40.5**	**+1.9**
	0.1nm,0.3s,baz=213,slow=16,SNR=3.8						
CHTO	**Chiang Mai**	**7.60**	**23**	Pn	**Pn**	**11 51 44.7**	**+1.6**
KK31	**Karatay Array**	**38.15**	**330**	P	**P**	**11 57 09.6**	**-2.0**
KK31	

SDD	**Santo Domingo**	**1.92 252**	*i* P	**Pn**	**11 54 44.7 +2.0**
SDD			*e*S	**Sn**	**11 55 10.7 +5.0**
GCPR	**Guaynabo City**	**1.96 112**		**Pn**	**11 54 42.9 -0.3**
SJG	**San Juan**	**1.99 118**	*e*P	**Sn**	**11 55 06.5 -0.7**
SJG	**San Juan**	**1.99 118**	*e*P	**Sn**	**11 55 06.5 -0.7**
SJG	**San Juan**	**1.99 118**	Pn	**Pn**	**11 54 43.9 +0.3**
	comp=Z,86nm,0.3s,baz=312,slow=12,SNR=230				
SJG			Sn	**Sn**	**11 55 08.8 +1.6**
	comp=Z,207nm,0.3s,baz=335,slow=19,SNR=11				
SJG			LR	LR	11 55 52.0
	comp=Z,1μm,18.7s,baz=298,slow=51				
IGPR	**InterUniversit**	**2.10 121**⇑	*e*P	**Pn**	**11 54 46.2 +1.1**
IGPR	**InterUniversit**	**2.10 121**	*e*S	**Sn**	**11 55 12.8 +2.9**
IGPR	**InterUniversit**	**2.10 121**		**Pn**	**11 54 46.1 +1.1**
PDPR	**Patillas Dam,**	**2.14 119**⇑	*e*P	**Pn**	**11 54 46.8 +1.1**
PDPR	**Patillas Dam,**	**2.14 119**		**Pn**	**11 54 46.1 +0.4**
CBYP	**Canovanas**	**2.17 111**⇓	*e*P	**Pn**	**11 54 45.9 -0.3**
CBYP	**Canovanas**	**2.17 111**⇓	*e*P	**Pn**	**11 54 45.9 -0.3**
CBYP	**Canovanas**	**2.17 111**		**Pn**	**11 54 46.1 -0.1**
HUMP	**Col San Antoni**	**2.23 114**⇓	*e*P	**Pn**	**11 54 47.1 +0.2**
HUMP	**Col San Antoni**	**2.23 114**⇓	*e*P	**Pn**	**11 54 47.1 +0.2**
HUMP			*e*S	**Sn**	**11 55 15.6 +2.4**
HUMP	**Col San Antoni**	**2.23 114**		**Pn**	**11 54 46.8 -0.2**
HUMP				**Sn**	**11 55 13.8 +0.5**
MTP	**Monte Pirata**	**2.50 112**		**Pn**	**11 54 50.6 -0.2**
STVI	**Saint Thomas**	**2.96 103**⇑	*e*P	**Pn**	**11 54 56.4 -0.6**
STVI	**Saint Thomas**	**2.96 103**⇑	*e*P	**Pn**	**11 54 56.4 -0.6**
STVI			*e*S	**Sn**	**11 55 32.7 +1.4**
STVI	**Saint Thomas**	**2.96 103**		**Pn**	**11 54 56.6 -0.5**
STVI				**Sn**	**11 55 32.4 +1.0**
SDDR	**Presa de Saban**	**3.12 269**	*i* P	**Pn**	**11 55 01.5 +2.2**
SDDR			*e*S	**Sn**	**11 55 41.4 +6.0**
SDDR			IAML		11 55 59.5
	comp=Z,742nm,0.5s				
TBVI	**Tortola**	**3.26 101**⇑	*e*P	**Pn**	**11 55 00.4 -0.8**
TBVI	**Tortola**	**3.26 101**⇑	*e*P	**Pn**	**11 55 00.4 -0.8**
TBVI	**Tortola**	**3.26 101**		**Pn**	**11 55 00.4 -0.8**
ABV	**Anegada**	**3.48 95**⇑	*e*P	**Pn**	**11 54 04.3 +0.2**
ABV	**Anegada**	**3.48 95**⇑	*e*P	**Pn**	**11 55 04.3 +0.2**
ABVI	**Anegada Island**	**3.48 95**	Pn	**Pn**	**11 55 03.2 -0.9**
LGNH	**Logne**	**4.41 264**	*i* P	**Pn**	**11 55 20.6 +3.7**
LGNH			IAML		11 56 48.2
	comp=Z,115nm,1.2s				
PCRV	**Puerto La Cruz**	**9.41 159**	Pn	**Pn**	**11 56 29.1 +3.4**
	comp=Z,1.3nm,0.3s,baz=331,slow=5.9,SNR=10.0				
PCRV			Sn	**Sn**	**11 58 05.7 -4.6**
	comp=Z,0.8nm,0.3s,baz=31,slow=18,SNR=4.7				
PLCV	**Puerto La Cruz**	**9.44 159**		**Pn**	**11 56 29.1 +3.0**
PLCV				**Sn**	**11 58 05.7 -5.3**
SMRC	**Santa Marta, M**	**9.89 218**	*e*P	**Pn**	**11 56 30.0 -2.2**
SMRC	**Santa Marta, M**	**9.89 218**	*e*P	**Pn**	**11 56 30.0 -2.2**
BBGH	**Gun Hill**	**10.01 125**	Pn	**Pn**	**11 56 34.8 +0.9**
SDV	**Santo Domingo**	**10.44 195**	*e*P	**Pn**	**11 56 42.2 +2.3**
SDV	**Santo Domingo**	**10.44 195**	*e*P	**Pn**	**11 56 42.2 +2.3**
SDV	**Santo Domingo**	**10.44 195**	Pn	**Pn**	**11 56 42.2 +2.3**
	comp=Z,3.1nm,0.3s,baz=316,slow=17,SNR=12				
SDV			Sn	**Sn**	**11 58 29.3 -6.4**
	comp=Z,0.7nm,0.3s,baz=308,slow=17,SNR=1.8				
SDV			LR	LR	12 01 22.1
	comp=Z,54nm,21.6s,baz=108,slow=41				
CODC	**Agustn Codazz**	**10.50 211**	*e*P	**Pn**	**11 56 39.7 -0.8**
CODC	**Agustn Codazz**	**10.50 211**	*e*P	**Pn**	**11 56 39.7 -0.8**
SJCC	**San Jacinto, C**	**11.47 218**	*e*P	**Pn**	**11 56 52.2 -1.5**
SJCC	**San Jacinto, C**	**11.47 218**	*e*P	**Pn**	**11 56 52.2 -1.5**
SMLC	**San Martn de**	**11.79 211**	*e*P	**Pn**	**11 56 56.0 -2.1**
SMLC	**San Martn de**	**11.79 211**	*e*P	**Pn**	**11 56 56.0 -2.1**
OCAC	**Ocana**	**11.94 206**	*e*P	**Pn**	**11 56 59.4 -1.0**
OCAC	**Ocana**	**11.94 206**	*e*P	**Pn**	**11 56 59.4 -1.0**
PAMC	**Pamplona, Colo**	**12.52 202**	*e*P	**Pn**	**11 57 09.0 +0.4**
PAMC	**Pamplona, Colo**	**12.52 202**	*e*P	**Pn**	**11 57 09.0 +0.4**
ZARC	**Zaragoza, Cauc**	**13.30 211**	*e*P	**Pn**	**11 57 18.7 -0.1**
ZARC	**Zaragoza, Cauc**	**13.30 211**	*e*P	**Pn**	**11 57 18.7 -0.1**
BARC	**Barichara**	**13.39 203**	*e*P	**Pn**	**11 57 20.1 -0.1**
BARC	**Barichara**	**13.39 203**	*e*P	**Pn**	**11 57 20.1 -0.1**
UREC	**San Jos de Ur**	**13.42 214**	*e*P	**Pn**	**11 57 20.9 +0.4**
UREC	**San Jos de Ur**	**13.42 214**	*e*P	**Pn**	**11 57 20.9 +0.4**
PTBC	**PUERTO BERRIO,**	**13.95 208**	*e*P	**Pn**	**11 57 27.0 -0.7**
PTBC	**PUERTO BERRIO,**	**13.95 208**	*e*P	**Pn**	**11 57 27.0 -0.7**
RUSC	**La Rusia**	**14.00 201**	*e*P	**Pn**	**11 57 28.3 -0.5**
RUSC	**La Rusia**	**14.00 201**	*e*P	**Pn**	**11 57 28.3 -0.5**
DBBC	**Dabeiba**	**14.40 215**	*e*P	**Pn**	**11 57 33.9 +0.1**
DBBC	**Dabeiba**	**14.40 215**	*e*P	**Pn**	**11 57 33.9 +0.1**
SPBC	**San Pablo de B**	**14.59 205**	*e*P	**Pn**	**11 57 38.5 +2.1**
SPBC	**San Pablo de B**	**14.59 205**	*e*P	**Pn**	**11 57 38.5 +2.1**
HELC	**Santa Helena**	**14.75 211**	*e*P	**Pn**	**11 57 40.5 +1.7**
HELC	**Santa Helena**	**14.75 211**	*e*P	**Pn**	**11 57 40.5 +1.7**
NORC	**Norcasia**	**15.00 207**	*e*P	**P**	**11 57 44.2 -2.3**
NORC	**Norcasia**	**15.00 207**	*e*P	**P**	**11 57 44.2 -2.3**
BCIP	**Isla Barro Col**	**15.12 231**	Pn	**Pn**	**11 57 42.4 -0.9**
BCIP			IAmb	IAmb	11 57 45.7
	comp=Z,25nm,0.8s				
PTAC	**Punta Ardita,**	**15.21 220**	*e*P	**Pn**	**11 57 39.9 -4.6**
PTAC	**Punta Ardita,**	**15.21 220**	*e*P	**Pn**	**11 57 39.9 -4.6**
CBOC	**Ciudad Bolivar**	**15.27 212**	*e*P	**Pn**	**11 57 47.3 +1.8**
CBOC	**Ciudad Bolivar**	**15.27 212**	*e*P	**Pn**	**11 57 47.3 +1.8**
CHIC	**Chingaza**	**15.40 202**	*e*P	**Pn**	**11 57 47.0 -0.4**
CHIC	**Chingaza**	**15.40 202**	*e*P	**Pn**	**11 57 47.0 -0.4**
ROSC	**El Rosal**	**15.43 204**	*e*P	**P**	**11 57 53.3 +1.7**
ROSC	**El Rosal**	**15.43 204**	*e*P	**P**	**11 57 53.3 +1.7**
ROSC	**El Rosal**	**15.43 204**	Pn	**P**	**11 57 54.2 +2.6**
	comp=Z,4.0nm,0.3s,baz=354,slow=19,SNR=7.5				
GUY2C	**Guyana, Caldas**	**15.53 209**	*e*P	**P**	**11 57 51.2 -1.5**
GUY2C	**Guyana, Caldas**	**15.53 209**	*e*P	**P**	**11 57 51.2 -1.5**
SOLC	**Bahia Solano**	**15.72 217**	*e*P	**Pn**	**11 57 48.4 -2.7**
SOLC	**Bahia Solano**	**15.72 217**	*e*P	**Pn**	**11 57 48.4 -2.7**
RREF	**El Recreo**	**15.80 208**	*e*P	**Pn**	**11 57 53.8 +1.0**
RREF	**El Recreo**	**15.80 208**	*e*P	**Pn**	**11 57 53.8 +1.0**
ORTC	**Ortega, Tolima**	**16.65 206**	*e*P	**P**	**11 58 05.5 +0.7**
ORTC	**Ortega, Tolima**	**16.65 206**	*e*P	**P**	**11 58 05.5 +0.7**
RGRS	**Roger Stewart**	**17.60 324**		sP	11 58 23.1 -5.5
JTS	**Las Juntas de**	**18.57 244**	LR	LR	12 05 18.8
	comp=Z,74nm,21.8s,baz=122,slow=36				
FLOC	**Florencia**	**18.93 204**	*e*P	**Pn**	**11 58 31.6 +0.7**
FLOC	**Florencia**	**18.93 204**	*e*P	**Pn**	**11 58 31.6 +0.7**
TEIG	**Tepich**	**19.14 277**	LR	LR	12 06 36.0
	comp=Z,161nm,19.2s,slow=39				
MDP	**Montagnes des**	**20.41 131**	LR	LR	12 08 46.1
	comp=Z,54nm,18.6s,baz=351,slow=43				
TKL	**Tuckaleechee C**	**21.62 323**	P	**P**	**11 59 00.2 +1.2**
	comp=Z,9.1nm,0.9s,baz=160,slow=11,SNR=4.6				
TKL			S	**S**	**12 02 46.0 -10**
	comp=Z,3.0nm,0.6s,baz=54,slow=19,SNR=3.4				
TKL			LR	LR	12 06 38.8
	comp=Z,46nm,21.1s,baz=84,slow=35				
APG	**El Apazote**	**21.86 263**	LR	LR	12 08 26.2
	comp=Z,104nm,19.4s,baz=89,slow=39				
CMIG	**Matias Romero**	**25.64 270**	P	**P**	**11 59 40.3 +2.0**
	comp=Z,3.0nm,0.8s,baz=90,slow=8.1,SNR=3.8				
CMIG			LR	LR	12 09 06.3
	comp=Z,45nm,20.1s,baz=81,slow=35				
ATAH	**Atahualpa**	**27.98 202**	LR	LR	12 11 50.7
	comp=Z,167nm,21.0s,baz=25,slow=38				
SAML	**Samuel**	**28.24 170**	P	**P**	**11 59 60.0 -1.6**
SAML			IAmb	IAmb	12 00 14.6
	comp=Z,11nm,1.5s				
TXAR	**Lajitas Array**	**33.99 294**	P	**P**	**12 00 53.6 +1.2**
	comp=Z,3.4nm,0.7s,baz=112,slow=9.0,SNR=54				
TX31	**Lajitas Ar. Si**	**33.99 294**	P	**P**	**12 00 53.4 +1.1**
TX31			IAmb	IAmb	12 00 55.4
	comp=Z,4.5nm,0.8s				
TX32	**Lajitas Array**	**33.99 294**	P	**P**	**12 00 53.0 +0.6**
TX32			IAmb	IAmb	12 00 55.4
	comp=Z,4.6nm,0.8s				
ECSD	**EROS Data Cent**	**34.36 322**	P	**P**	**12 00 55.5 +0.2**
LPAZ	**La Paz**	**35.13 180**	P	**P**	**12 01 06.9 +4.1**
	comp=Z,0.5nm,0.5s,baz=355,slow=11,SNR=2.8				
MNMC	**Minye Minye**	**37.99 182**	P	**P**	**12 01 24.6 -2.2**
ULM	**Lac du Bonnet**	**38.22 331**	P	**P**	**12 01 27.8 -0.3**
	comp=Z,2.5nm,0.7s,baz=134,slow=9.2,SNR=5.2				
PB11	**IPOC Station P**	**38.62 183**	P	**P**	**12 01 30.0 -1.9**
PB11			IAmb	IAmb	12 01 48.4
	comp=Z,9.1nm,1.2s				
PDAR	**Pinedale Array**	**42.20 313**	P	**P**	**12 02 02.3 +0.8**
	comp=Z,0.8nm,0.8s,baz=115,slow=10.0,SNR=7.0				
PDAR			PcP	**PcP**	**12 03 56.0 +0.8**
	comp=Z,0.7nm,0.7s,baz=138,slow=4.7,SNR=4.9				
NVAR	**Mina Array Bea**	**47.52 305**	P	**P**	**12 02 45.5 +1.6**
	comp=Z,3.1nm,0.9s,baz=97,slow=6.7,SNR=17				
NVAR			LR	LR	12 25 27.4
	comp=Z,89nm,18.1s,baz=334,slow=40				
YKA	**Yellowknife Ar**	**53.90 335**	P	**P**	**12 03 31.5 +0.3**
	comp=Z,1.1nm,0.8s,baz=112,slow=7.4,SNR=12				
SUMG	**Summit**	**56.12 10**	*i* P	**P**	**12 03 49.3 +1.7**
	comp=Z,12nm,0.7s				
ESDC	**Sonseca Array**	**58.25 55**	P	**P**	**12 04 04.5 +1.6**
	comp=Z,3.3nm,0.8s,baz=272,slow=7.1,SNR=15				
DBIC	**Dimbokro**	**62.48 92**	P	**P**	**12 04 32.6 +0.6**
	comp=Z,2.2nm,0.8s,baz=250,slow=7.2,SNR=4.8				
DBIC	**Dimbokro**	**62.48 92**	P	**P**	**12 04 30.1 -1.9**
TOA0	**Torodi Ar. Sit**	**66.84 84**	P	**P**	**12 05 01.2 +0.7**
TORD	**Torodi Ar. Bea**	**66.84 84**	P	**P**	**12 04 59.8 -0.7**
	comp=Z,1.7nm,0.8s,baz=287,slow=6.3,SNR=6.5				
TORD			LR	LR	12 34 09.6
	comp=Z,41nm,19.0s,baz=330,slow=36				
ILAR	**Eielson Array**	**68.20 333**	P	**P**	**12 05 07.0 -1.2**
	comp=Z,0.9nm,0.8s,baz=113,slow=4.8,SNR=9.5				
FETA	**Feichten**	**68.69 46**	*i* P	P	12 05 06.9 -4.9
	comp=Z,3.0nm,1.0s				
MOTA	**Moosalm**	**68.91 46**	*i* P	P	12 05 06.8 -6.4
	comp=Z,5.7nm,1.2s				
SQTA	**Sankt Quirin**	**69.00 46**	*i* P	**P**	**12 05 09.3 -4.4**
	comp=Z,9.4nm,1.4s				
ARCES	**ARCESS Array B**	**73.52 21**	P	**P**	**12 05 41.8 +1.3**
	comp=Z,2.6nm,0.9s,baz=295,slow=4.9,SNR=3.8				
AKASG	**Malin Array Be**	**79.92 40**	LR	LR	12 39 04.9
	comp=Z,33nm,20.8s,baz=295,slow=34				
STKA	**Stephens Creek**	**150.51 239**	PKPbc	**PKPbc**	**12 14 00.4 +0.4**
	comp=Z,1.9nm,0.7s,baz=129,slow=8.0,SNR=3.9				
ASAR	**Alice Springs**	**159.11 253**	PKPab	**PKPab**	**12 14 43.3 -0.4**
	comp=Z,1.2nm,0.7s,baz=110,slow=4.5,SNR=13				

IDC 29 12:09:12.9±5.4, 48.°91S×120.°50E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/18, mbtmp3.6/2, Error ellipse: s-maj=483.0km s-min=67.5km az=109.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.77**	**339**	T	T		12 28 04.1	
	baz=161,slow=74,SNR=61							
H01W1	**Cape Leeuwin H**	**14.77**	**339**	T	T		12 28 04.4	
	baz=161,slow=74,SNR=44							
H01W3	**Cape Leeuwin H**	**14.79**	**339**	T	T		12 28 05.4	
	baz=161,slow=74,SNR=47							
ASAR	**Alice Springs**	**27.33**	**28**	P	P		12 14 59.2	-0.2
	1.6nm,0.9s,baz=203,slow=8.6,SNR=7.8							
WRA	**Warramunga Arr**	**30.97**	**26**	P	P		12 15 31.9	+0.1
	0.5nm,0.9s,baz=199,slow=8.0,SNR=2.7							
H08S2	**Diego Garcia H**	**57.53**	**299**	T	T		13 21 29.5	
	baz=144							
H08S1	**Diego Carcia H**	**57.54**	**299**	T	T		13 21 32.9	
	baz=144							
H08S3	**Diego Garcia H**	**57.55**	**299**	T	T		13 21 24.9	
	baz=144							
YKA	**Yellowknife Ar**	**147.23**	**45**	PKPbc	PKPbc		12 28 56.1	-0.7
	0.5nm,0.7s,baz=271,slow=2.7,SNR=9.7							

*ISCJB **29** 12:22:03.6±0.3, 23.°69N±0.°01×122.°52E±0.°02, h16km±2km, Error ellipse: s-maj=2.8km s-min=2.0km az=141.4*
*TAP **29** 12:22:03.8, 23.°73N×122.°39E, h7km, ML3.0, D*
*JMA **29** 12:22:04.4±0.1, 23.°78N×122.°49E, h26km, M2.4*
ISC 29 12:22:03.4±1.1, 23.°74N±0.°02×122.°48E±0.°02, h16km±9km, n89, σ0°52/162, 3C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ENLB	**Shoufeng**	**0.82**	**282**	P		**Pb**	**12 22 18.9**	**-0.5**
	baz=283							
ENLB				S		**Sn**	**12 22 31.4**	**-0.8**
	baz=283							
JYNG	**Yonagunijimaku**	**0.83**	**31**	P		**Pb**	**12 22 19.2**	**-0.3**
JYNG				*e*S		**Sb**	**12 22 29.2**	**-1.2**
HWA	**Hwalien**	**0.84**	**287**	*e*P		**Pb**	**12 22 19.3**	**-0.3**
	baz=288							
YOJ	**Yonaguni jima**	**0.87**	**34**	P		**Pb**	**12 22 19.9**	**-0.3**
YOJ				*e*S		**Sb**	**12 22 30.2**	**-1.4**
YOJ	**Yonaguni jima**	**0.87**	**34**	*e*P		**Pn**	**12 22 21.7**	**+0.7**
	baz=37							
EOS1	**EOS1**	**0.87**	**338**	P		**Pn**	**12 22 21.2**	**+0.1**
	baz=343							
EOS1				S		**Sn**	**12 22 34.0**	**+0.6**
	baz=343							
TWD	**Chiawan**	**0.88**	**293**⇑	*i*P		**Pg**	**12 22 20.5**	**0.0**
	baz=295							
TWD				*i* S		**Sg**	**12 22 31.8**	**-0.3**
	baz=295							
NACB	**Ninganchiao**	**0.92**	**298**	⇑P		**Pb**	**12 22 21.0**	**0.0**
	baz=301							
NACB				S		**Sg**	**12 22 33.4**	**0.0**
	baz=301							
NANB	**Nanao**	**0.96**	**316**	*i* P		**Pn**	**12 22 22.4**	**+0.1**
	baz=319							
NANB				*e*S		**Sn**	**12 22 35.3**	**-0.3**
	baz=319							
ESL	**Shilin**	**0.96**	**275**⇑	*i*P		**Pb**	**12 22 21.4**	**-0.3**
	baz=275							
ESL				S		**Sn**	**12 22 35.1**	**-0.6**
	baz=275							
ENA	**Nanau**	**0.97**	**316**	P		**Pn**	**12 22 22.4**	**0.0**
	baz=319							
ENA				*e*S		**Sn**	**12 22 35.7**	**-0.1**
	baz=319							
EGFH	**Guangfu**	**0.97**	**266**	*e*P		**Pb**	**12 22 22.1**	**+0.2**
	baz=266							
EGFH				*e*S		**Sg**	**12 22 35.0**	**+0.1**
	baz=266							
HGSD	**Ruisui**	**1.00**	**256**	P		**Pb**	**12 22 22.5**	**+0.2**
	baz=255							
HGSD				S		**Sg**	**12 22 35.4**	**-0.4**
	baz=255							
ETLH	**Xiulin Townshi**	**1.03**	**297**	P		**Pb**	**12 22 22.8**	**-0.1**
	baz=299							
ETLH				S		**Sg**	**12 22 36.3**	**-0.5**
	baz=299							
TWC	**Suao**	**1.04**	**327**	*i* P		**Pb**	**12 22 23.3**	**+0.1**
	baz=330							
TWC				*i* S		**Sn**	**12 22 37.9**	**+0.2**
	baz=330							
EHY	**Hungye**	**1.09**	**258**	*i* P		**Pn**	**12 22 24.1**	**+0.1**
	baz=256							
EHY				*i* S		**Sg**	**12 22 38.5**	**-0.2**
	baz=256							
YULB	**Yu-li**	**1.14**	**253**	P		**Pn**	**12 22 25.1**	**+0.4**
	baz=251							
YULB				S		**Sg**	**12 22 40.2**	**-0.1**
	baz=251							
TWF1	**Yuli**	**1.15**	**251**	*i* P		**Pn**	**12 22 25.2**	**+0.3**
	baz=249							
TWF1				S		**Sn**	**12 22 40.1**	**-0.3**
	baz=249							
WHF	**Hehuan Shan**	**1.19**	**290**	*i* P		**Pb**	**12 22 25.4**	**-0.4**
	baz=291							
WHF				S		**Sg**	**12 22 41.1**	**-0.8**
	baz=291							
CHKT	**Chengkung**	**1.21**	**239**	*e*P		**Pn**	**12 22 25.3**	**-0.3**
	baz=236							
CHKT				S		**Sb**	**12 22 40.5**	**-0.7**
	baz=236							
EGS		**1.21**	**336**	*e*P		**Pg**	**12 22 27.1**	**+0.3**
	baz=339							
EGS				*e*S		**Sg**	**12 22 43.6**	**+0.9**
	baz=339							
FULB	**Fuli**	**1.22**	**244**	P		**Pn**	**12 22 25.8**	**0.0**
	baz=242							
FULB				S		**Sb**	**12 22 41.1**	**-0.4**
	baz=242							
OWD	**Renai**	**1.22**	**281**	*e*S		**Sg**	**12 22 42.1**	**-0.6**
	baz=281							
NNSH	**Datong**	**1.22**	**305**	*e*P		**Pb**	**12 22 26.2**	**+0.1**
	baz=306							
NNSH				*e*S		**Sg**	**12 22 42.5**	**-0.3**
	baz=306							
VWDT	**VWDT**	**1.23**	**271**	P		**Pn**	**12 22 26.1**	**+0.2**
	baz=271							
VWDT				S		**Sb**	**12 22 41.6**	**-0.3**
	baz=271							
ENTT	**Nioudou**	**1.23**	**317**	P		**Pb**	**12 22 26.5**	**+0.2**
	baz=320							
ENTT				S		**Sg**	**12 22 43.6**	**+0.4**
	baz=320							
TWE	**Neicheng**	**1.23**	**323**	P		**Pb**	**12 22 26.7**	**+0.4**
	baz=326							
TWE				S		**Sg**	**12 22 43.9**	**+0.7**
	baz=326							
NNS	**Nan Shan**	**1.23**	**305**	P		**Pn**	**12 22 26.2**	**0.0**
	baz=307							
NNS				*e*S		**Sg**	**12 22 43.2**	**-0.1**
	baz=307							
NDT	**Datong Townshi**	**1.24**	**314**	P		**Pb**	**12 22 26.5**	**0.0**
	baz=317							
NDT				S		**Sg**	**12 22 43.2**	**-0.2**
	baz=317							
CHGB	**Renai**	**1.24**	**285**	P		**Pn**	**12 22 26.4**	**+0.1**
	baz=286							
CHGB				S		**Sn**	**12 22 42.4**	**-0.4**
	baz=286							
HATJ	**Hateruma jima**	**1.25**	**75**	*e*S		**Sb**	**12 22 42.4**	**-0.2**
NTC	**Toucheng**	**1.26**	**332**	*e*P		**Pg**	**12 22 28.2**	**+0.5**
	baz=335							
NTC				*e*S		**Sg**	**12 22 44.2**	**0.0**
	baz=335							
SLBB	**Yuanshan**	**1.27**	**323**	P		**Pn**	**12 22 26.6**	**0.0**
	baz=325							
SLBB				*e*S		**Sg**	**12 22 45.1**	**+0.5**
	baz=325							
IRIF	**Iriomote-Funau**	**1.29**	**62**	P		**Pn**	**12 22 27.3**	**+0.5**
TWT	**Tachien**	**1.30**	**294**	*e*P		**Pb**	**12 22 27.7**	**+0.1**
	baz=294							
TWT				*e*S		**Sg**	**12 22 45.5**	**0.0**
	baz=294							
TDCB	**Techi**	**1.31**	**293**	P		**Pb**	**12 22 27.9**	**0.0**
	baz=294							
TDCB				*e*S		**Sn**	**12 22 44.4**	**-0.2**
	baz=294							
TWB1	**Santiao Chiao**	**1.34**	**341**	*e*P		**Pb**	**12 22 28.4**	**+0.1**
	baz=344							
TWB1				*e*S		**Sg**	**12 22 47.0**	**+0.2**
	baz=344							
NWLT	**Wulai**	**1.37**	**319**	*e*P		**Pb**	**12 22 28.4**	**-0.3**
	baz=322							
NWLT				*e*S		**Sg**	**12 22 48.3**	**+0.7**
	baz=322							
TIPB	**Shuangxi**	**1.37**	**334**	P		**Pn**	**12 22 28.3**	**+0.4**
	baz=337							
TIPB				*e*S		**Sg**	**12 22 47.1**	**-0.6**
	baz=337							
YHNB	**Yeheng**	**1.37**	**313**	P		**Pb**	**12 22 28.6**	**-0.2**
	baz=315							
YHNB				*e*S		**Sg**	**12 22 48.3**	**+0.5**
	baz=315							
TWH	**Lutao**	**1.38**	**222**	P		**Pb**	**12 22 29.3**	**+0.5**
	baz=218							
NSK	**Sanguang**	**1.39**	**313**	P		**Pb**	**12 22 28.8**	**-0.3**
	baz=315							
NSK				S		**Sg**	**12 22 48.0**	**-0.3**
	baz=315							
SSLB	**Suanglung**	**1.40**	**272**	*e*P		**Pn**	**12 22 28.8**	**+0.4**
	baz=272							
SSLB				*e*S		**Sb**	**12 22 46.7**	**-0.2**
	baz=272							
YUS	**Yu-Shan**	**1.42**	**260**	*e*P		**Pb**	**12 22 29.8**	**-0.1**
	baz=259							
YUS				*e*S		**Sn**	**12 22 47.6**	**-0.2**
	baz=259							
DPDB	**Guoxing**	**1.45**	**282**	*e*P		**Pb**	**12 22 30.0**	**-0.2**
	baz=282							
DPDB				*e*S		**Sb**	**12 22 48.7**	**+0.2**
	baz=282							
SMLT	**Sun Moon Lake**	**1.46**	**276**	P		**Pb**	**12 22 30.1**	**-0.1**
	baz=276							
SMLT				S		**Sb**	**12 22 48.8**	**+0.2**
	baz=276							
NWF	**Wu-fen Shan**	**1.48**	**334**	P		**Pn**	**12 22 29.6**	**+0.2**
	baz=337							
NWF				S		**Sg**	**12 22 51.0**	**-0.1**
	baz=337							
WFSB	**Wu-fen Shan**	**1.48**	**334**	P		**Pn**	**12 22 29.6**	**+0.3**
	baz=337							
WFSB				*e*S		**Sg**	**12 22 51.0**	**-0.1**
	baz=337							
JKRS	**Kuro-shima**	**1.48**	**70**	P		**Pn**	**12 22 29.8**	**+0.3**
JKRS				*e*S		**Sn**	**12 22 48.2**	**-0.3**
TWA	**Mucha**	**1.48**	**327**	*e*P		**Pb**	**12 22 30.9**	**+0.2**
	baz=329							
TWA				*e*S		**Sg**	**12 22 51.0**	**-0.4**
	baz=329							
WHYT	**Xinyi Township**	**1.49**	**269**	*e*P		**Pb**	**12 22 30.7**	**-0.1**
	baz=268							
WHYT				*e*S		**Sg**	**12 22 50.2**	**-1.4**
	baz=268							
TYC	**Yuchr**	**1.50**	**277**	P		**Pb**	**12 22 30.3**	**-0.5**
	baz=277							
TYC				*e*S		**Sb**	**12 22 49.5**	**-0.1**
	baz=277							
WHP	**Taichung City**	**1.50**	**291**	*e*P		**Pb**	**12 22 31.4**	**+0.4**
	baz=292							
WHP				*e*S		**Sg**	**12 22 50.6**	**-1.4**
	baz=292							
TATO	**Taipei**	**1.53**	**324**	*e*P		**Pn**	**12 22 30.5**	**+0.3**
	baz=326							
TATO				*e*S		**Sg**	**12 22 53.1**	**+0.3**
	baz=326							
ALS	**Alishan**	**1.55**	**262**	*e*P		**Pb**	**12 22 31.6**	**-0.4**
	baz=261							
ALS				*e*S		**Sn**	**12 22 50

TPUB eS **Sb** **12 22 56.8 -0.3**
baz=255
WGK Gukeng 1.76 269 *e*P **Pn** **12 22 33.7 +0.4**
baz=268
CHN4 Tsaushan 1.77 258 *e*P **Pb** **12 22 35.8 +0.2**
baz=257
CHN4 eS **Sn** **12 22 55.9 +0.1**
baz=257
WTP Ta-pu 1.78 255 *e*P **Pb** **12 22 35.1 -0.7**
baz=253
WTP eS **Sb** **12 22 57.3 -0.6**
baz=253
ECL Taimali 1.81 231 *e*P **Pn** **12 22 34.9 +1.0**
baz=229
ECL eS **Sn** **12 22 56.9 +0.4**
baz=229
SLGT Liugui 1.84 247 *e*P **Pn** **12 22 35.8 +1.4**
baz=245
SLGT eS **Sb** **12 22 58.5 -1.1**
baz=245
JISG Ishigakijimahi 1.87 63 P **Pn** **12 22 34.6 -0.2**
JISG eS **Sn** **12 22 58.3 +0.1**
TWK Hsinying 1.89 256 *e*P **Pb** **12 22 37.2 -0.4**
baz=255
TWK eS **Sn** **12 22 59.0 +0.4**
baz=255
SNST Tainan City 1.89 255 *e*P **Pb** **12 22 37.0 -0.6**
baz=253
EAST Anshuo 2.02 228 *e*P **Pn** **12 22 37.0 +0.2**
baz=226
MASBT Mashibuluo 2.04 237 *e*P **Pn** **12 22 38.1 +1.0**
baz=235
MASBT eS **Sn** **12 23 02.6 +0.4**
baz=235
SSPT Xinbi 2.16 235 *e*P **Pn** **12 22 40.4 +1.6**
baz=233
SCZT Fangliau 2.19 232 *e*P **Pn** **12 22 40.0 +0.9**
baz=230
SCZT eS **Sn** **12 23 06.8 +0.9**
baz=230
JTJ Tarama 2.22 66 P **Pn** **12 22 40.3 +0.7**

IDC 29 12:30:46.0±2.1,3°12.5S×128°39.9E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.4/31,mbtmp3.4/4,ML3.4/1,Error ellipse: s-maj=198.4km s-min=23.9km az=68.0,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.70**	**161**	P		Pn	12 34 53.5	-0.6
	0.1nm,0.3s,baz=343,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**21.11**	**166**	P		P	12 35 32.8	+0.3
	1.5nm,0.6s,baz=349,slow=11,SNR=27						
MKAR	**Makanchi Array**	**64.12**	**327**	P		P	12 41 22.4	+0.2
	0.1nm,0.4s,baz=111,slow=7.9,SNR=4.5						
KURBB	**Kurchatov Arra**	**68.39**	**328**	P		P	12 41 49.2	-0.2
	0.4nm,0.6s,baz=122,slow=5.3,SNR=4.0						

HLW ***29*** *12:32:55.7,30.°19N×36.°98E,h9km±9km,Ml3.9*
ISCJB ***29*** *12:33:04.1±1.7,29.°9N±0.°1×36.°3E±0.°1,h5km,Error ellipse: s-maj=23.0km s-min=7.2km az=37.6*
JSO ***29*** *12:33:06.1±1.5,30.°1N×12.°3°6E±1.°0,h10km,M3.1/9, Mjma3.2/9,ML3.0/4,MLv3.2/9*
ISC 29 12:33:03.9±1.8,29.88N±0.08°×36.3E±0.°1,h5km,n11, σ1s06/13,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**1.05**	**262**	P		**Pg**	**12 33 24.0**	**-0.1**
HRFI	**Mount Harif**	**1.07**	**279**	P		**Pg**	**12 33 24.1**	**-0.2**
EIL	**Elat**	**1.15**	**260**	P		**Pn**	**12 33 26.5**	**-0.1**
SWQJ	**Swaqa**	**1.37**	**353**	P		**Pg**	**12 33 31.3**	**+1.2**
HBST	**Basata**	**1.48**	**244**	P		**Pb**	**12 33 31.6**	**-0.3**
	baz=245						
HBST				AMP			12 33 00.0	
	baz=245						
HBST				S		**Sg**	**12 33 53.6**	**+2.2**
	baz=245						
WALJ	**Wala**	**1.72**	**347**	P		**Pb**	**12 33 34.7**	**-1.2**
HDHB	**Dhahab**	**1.83**	**231**	P		**Pn**	**12 33 36.3**	**+0.3**
	baz=236						
KZIT	**Kziot**	**1.90**	**303**	P		**Pb**	**12 33 38.4**	**-0.7**
ASF	**Jabal al Asfar**	**2.35**	**13**	P		**Pb**	**12 33 45.6**	**-1.2**
HKAT	**Jabal Katrina**	**2.39**	**236**	P		**Pn**	**12 33 44.1**	**+0.2**
	baz=239						
HKAT				S		**Sg**	**12 34 19.7**	**-1.1**
	baz=239						
SHMJ	**Saham**	**2.87**	**352**	P		**Pn**	**12 33 50.8**	**+0.5**

BJI ***29*** *12:49:13.7±0.0,5.°32S×154.°46E,h18km,mb5.7/81, mB5.6/64,Ms5.4/74,Ms7 5.0/65*
ISCJB ***29*** *12:49:15.6±1.0,5.°64S±0.°02×154.°00E±0.°03,h27km±6km, mb5.7/151,MS4.9/58,Error ellipse: s-maj=4.6km s-min=4.0km az=161.1*
MOS ***29*** *12:49:15.6±0.9,5.°55S×153.°97E,h25km,mb5.8/37, MS4.9/10,Error ellipse: s-maj=7.2km s-min=5.5km az=101.7*
NEIC ***29*** *12:49:16.7±2.0,5.°61S±0.°07×153.°99E±0.°07,h24km±1km, mb5.6/221,Ms_20 5.4/334,Mwb5.5,Mww5.5, Mwc5.6(GCMT),Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.70; Mθθ-0.96; Mϕϕ-0.73; Mrθ0.38; Mϕ1.09; Mϕr-0.18; Fault plane solution: M₀1.88000×10¹⁷ NP1:φs127.44000°,δ51.46000°, λ84.10000°. NP2:φs316.85000°,δ38.91000°,λ97.35000°. Principal axes: T 1.7532, Plg82.0000°, Azm5.0000°; N 0.2384, Plg5.0000°, Azm131.0000°; P -1.9916, Plg6.0000°, Azm222.0000°;*
IDC ***29*** *12:49:18.2±2.0,5.°59S×154.°03E,h33km±14km,mb5.0/40, mb1 5.1/44,mb1mx5.0/49,mbtmp5.2/44,ML4.0/4,MS4.8/35, Ms1 4.9/35,ms1mx4.8/42 Error ellipse: s-maj=11.2km s-min=8.4km az=82.0*
NEIC ***29*** *12:49:20,5.°88S×153.°69E,h24km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.45; Mθθ-1.27; Mϕϕ-1.18; Mrθ0.38; Mϕϕ 1.25; Mϕr0.01; Fault plane solution: M₀2.49000×10¹⁷ NP1:φs320.00000°, δ42.00000°,λ99.00000°. NP2:φs128.00000°,δ48.00000°, λ82.00000°. Principal axes: T 2.4944, Plg83.0000°, Azm340.0000°; N -0.0040, Plg6.0000°, Azm133.0000°; P -2.4904, Plg3.0000°, Azm224.0000°;*
GCMT ***29*** *12:49:20.7±0.1,5.°90S±0.°01×153.°74E±0.°01,h34km, MW5.5/138,Moment Tensor Solution. s138,c233; s134,c224; Duration: 1s4 Moment tensor: Scale 10¹⁷ Nm; Mrr2.25±.03; Mθθ-1.14±.02; Mϕϕ-1.11±.02; Mrθ0.80±.04; Mϕϕ1.19±.02; Mϕr-0.81±.04; Best double couple: M₀2.55100×10¹⁷ NP1:φs135.00000°,δ58.00000°, λ90.00000°. NP2:φs314.00000°,δ32.00000°,λ90.00000°. Principal axes: T 2.5180, Plg77.0000°, Azm46.0000°; N 0.0650, Plg0.0000°, Azm315.0000°; P -2.5830, Plg13.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***29*** *12:49:21,5.°91S×153.°83E,h34km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.35; Mθθ-1.20; Mϕϕ-1.15; Mrθ0.70; Mϕϕ 1.35; Mϕr-0.62; Fault plane solution: M₀2.61000×10¹⁷ NP1:φs316.00000°, δ35.00000°,λ92.00000°. NP2:φs133.00000°,δ55.00000°, λ89.00000°. Principal axes: T 2.5224, Plg79.0000°, Azm38.0000°; N 0.1743, Plg1.0000°, Azm134.0000°; P -2.6968, Plg10.0000°, Azm224.0000°;*
DJA ***29*** *12:49:21.5±0.4,6.°S±2.°×15.°4E±.°,h51km±4km,M5.5/88, mB5.9/53,mb5.7/88,MLv5.8/3,Mw(mB)5.5/53,Mwp5.5/15*
ISC 29 12:49:16.8±0.5,5.66S±0.°04×154.06E±0.°04,h26km±2km, h27km:pP-P,n856,σ1s51/571,mb5.6/239,MS5.4/371, 44C-17D,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.44**	**303**	Pn		**Pn**	**12 49 56.5**	**+1.6**
	125nm,0.3s,baz=342,slow=1.5,SNR=30						
KRVT					Sn	**Sn**	**12 50 23.8**	**-0.1**
	350nm,0.3s,baz=319,slow=20,SNR=12						
KRVT					LR	LR	12 50 41.8	
	comp=Z,16μm,20.1s,baz=110,slow=35						
HNR	**Honiara 6.93 123**			Pn		Pn	12 51 03.9	+7.2
	27nm,0.3s,baz=226,slow=2.7,SNR=31						
HNR					Sn	**Sn**	**12 52 22.7**	**+7.9**
	28nm,0.3s,baz=168,slow=16,SNR=2.1						
HNR					LR	LR	12 53 50.0	
	comp=Z,15μm,20.6s,baz=282,slow=39						
HNR	**Honiara 6.93 123**			*e*P		Pn	12 51 04.0	+7.2
HNR				*i* S		**Sb**	**12 52 31.5**	**-7.4**
HNR	**Honiara 6.93 123**					Pn	12 51 04.2	+7.5
HNR					Sn	Sn	12 52 26.8	+12
MANU	**Manus Island 7.59 298**					**Pn**	**12 51 08.8**	**+3.0**
PMG	**Port Moresby 7.79 241**			*d* i P		**Pn**	**12 51 08.6**	**0.0**
PMG	**Port Moresby 7.79 241**			Pn		**Pn**	**12 51 09.1**	**+0.5**
	26nm,0.3s,baz=58,slow=7.4,SNR=223						
PMG					Sn	**Sn**	**12 52 35.1**	**-0.9**
	10nm,0.3s,baz=158,slow=19,SNR=5.3						
PMG					LR	LR	12 54 01.5	
	comp=Z,13μm,21.9s,baz=66,slow=36						
PMG	**Port Moresby 7.79 241**					**Pn**	**12 51 08.9**	**+0.3**
PATS	**Pohnpei 13.12 19**					**Pn**	**12 52 23.1**	**+1.5**
COEN	**Coen 13.52 232**			P		**Pn**	**12 52 26.5**	**-0.6**
	baz=13,SNR=8.7						
COEN	**Coen 13.52 232**					**Pn**	**12 52 25.5**	**-1.6**
JAY	**Jayapura 13.69 283**			Pn		**Pn**	**12 52 30.4**	**+1.1**
	0.6nm,0.3s,baz=127,slow=3.4,SNR=11						
JAY					LR	LR	12 58 05.9	
	comp=Z,5μm,19.0s,baz=79,slow=39						
JAY	**Jayapura 13.69 283**			P		**Pn**	**12 52 29.1**	**-0.3**
	106nm,1.5s,2μm						
MMPI	**Merauke 13.86 258**			P		**Pn**	**12 52 32.7**	**+1.0**
	1μm,0.8s,14μm						
GENI	**Genyem 14.19 282**			P		**Pn**	**12 52 36.3**	**+0.1**
	308nm,1.4s,6μm						
MTSU	**Mount Surprise 15.63 217**			P		**Pn**	**12 52 57.0**	**+1.5**
	baz=16,SNR=175						
SMPI	**Sarmi 15.75 283**			P		**Pn**	**12 52 57.1**	**+0.1**
	273nm,1.6s,5μm						
CTA	**Charters Tower 16.23 207**			Pn		**Pn**	**12 53 03.5**	**+0.3**
	0.9nm,0.3s,baz=32,slow=15,SNR=46						
CTA					LR	LR	12 58 50.7	
	comp=Z,5μm,20.6s,baz=24,slow=35						
CTAO	**Charters Tower 16.23 207**			P		**Pn**	**12 53 04.4**	**+1.3**
CTAO				pmax		pmax		
	comp=Z,249nm,1.6s						
BAKI	**Biak 18.46 283**			P		**Pn**	**12 53 33.7**	**+2.7**
EIDS	**Eidsvold 19.80 188**			P		**Pn**	**12 53 47.3**	**+0.2**
	baz=20,SNR=18						
EIDS	**Eidsvold 19.80 188**			P		**Pn**	**12 53 47.4**	**+0.3**
TARA	**Tarawa 20.08 70**			P		Pn	12 53 53.2	+2.8
DZM	**Mont Dzumac 20.24 145**			P		Pn	12 53 53.0	+0.7
	comp=Z,240nm,0.9s,baz=333,slow=9.2,SNR=94						
DZM	**Mont Dzumac 20.24 145**			*e*P		Pn	12 53 53.0	+0.7
	comp=Z,777nm,1.0s						
DZM				*e*LR		LR	12 58 44.2	
	comp=Z,7μm,23.2s						
DZM	**Mont Dzumac 20.24 145**			P		Pn	12 53 53.2	+0.9
DZM				IAmb		IAmb	12 54 03.1	
	comp=Z,917nm,1.5s						
DZM				IAMs_20		IAMs_20	13 00 58.4	
	comp=Z,4μm,22.0s						
RKPI	**Ransiki, Papua 20.27 281**			P		Pn	12 53 52.0	-0.7
	comp=Z,383nm,1.1s,comp=Z,5μm						
QIS	**Mount Isa 20.41 222**			P		**P**	**12 53 52.4**	**+0.4**
	baz=20,SNR=69						
GUMO	**Guam 21.19 335**			P		**P**	**12 54 01.7**	**+1.2**
	comp=Z,358nm,1.0s,baz=190,slow=9.2,SNR=8.2						
GUMO					LR	LR	13 03 01.1	
	comp=Z,964nm,18.2s,baz=150,slow=39						
GUMO	**Guam 21.19 335**			P		**P**	**12 54 02.0**	**+1.5**
RMQ	**Roma 21.32 193**			P		**P**	**12 54 03.5**	**+1.7**
	baz=21,SNR=79						
FAKI	**Fak Fak 21.92 276**			P		**P**	**12 54 07.8**	**-0.6**
	comp=Z,100nm,0.8s,comp=Z,2μmcomp=Z,5μm						
FAKI	**Fak Fak 21.92 276**			P		**P**	**12 54 07.9**	**-0.6**
KDU	**Kakadu 22.42 250**			P		**P**	**12 54 12.6**	**-1.1**
	baz=22,SNR=85						
SAUI	**Saumlaki 22.72 263**			P		**P**	**12 54 19.0**	**+2.0**
	comp=Z,939nm,1.2s,comp=Z,14μmcomp=Z,11μm						
SAUI	**Saumlaki 22.72 263**			P		**P**	**12 54 18.0**	**+1.1**
QLP	**Quilpie 22.82 203**			P		**P**	**12 54 18.2**	**+0.3**
	baz=23,SNR=36						
SIJI	**Sorong 23.25 281**			P		**P**	**12 54 21.1**	**-1.3**
	comp=Z,138nm,1.0s,baz=89,slow=8.1,SNR=47						
SWI	**Sorong 23.25 281**			P		**P**	**12 54 21.7**	**-0.8**
SWI				pmax		pmax		
	comp=Z,213nm,1.2s						
SWI	**Sorong 23.25 281**			P		**P**	**12 54 21.9**	**-0.6**
	comp=Z,215nm,1.1s,comp=Z,2μm						
ANA2	**Anatahan 23.37 339**			P		**P**	**12 54 21.5**	**-2.1**
ANA2				IAmb		IAmb	12 54 27.6	
	comp=Z,241nm,0.6s						
WR0	**Warramunga Arr 23.71 231**			P		**P**	**12 54 25.9**	**-1.0**
WR0				IAmb		IAmb	12 54 40.0	
	comp=Z,112nm,0.9s						
WR0				IAMs_20		IAMs_20	13 03 28.3	
	comp=Z,5μm,19.0s						
MTN	**Manton Dam 23.72 251**			P		**P**	**12 54 26.2**	**-0.8**
	baz=24,SNR=34						
MTN	**Manton Dam 23.72 251**			P		**P**	**12 54 26.1**	**-0.8**
MTN				IAmb		IAmb	12 54 35.7	
	comp=Z,201nm,0.8s						
WR8	**Warramunga Arr 23.74 231**			IAMs_20		IAMs_20	13 03 30.1	
	comp=Z,5μm,19.0s						
WR7	**Warramunga Arr 23.76 232**			IAMs_20		IAMs_20	13 03 39.6	
	comp=Z,5μm,19.0s						
WR6	**Warramunga Arr 23.78 232**			IAMs_20		IAMs_20	13 03 31.0	
	comp=Z,5μm,20.0s						
WB5	**Warramunga Arr 23.80 232**			IAMs_20		IAMs_20	13 03 31.7	
	comp=Z,5μm,19.0s						
WB4	**Warramunga Arr 23.82 232**			IAMs_20		IAMs_20	13 03 41.2	
	comp=Z,5μm,19.0s						
WR3	**Warramunga Arr 23.83 232**			IAMs_20		IAMs_20	13 03 32.3	
	comp=Z,5μm,19.0s						
WC3	**Warramunga Arr 23.84 232**			IAMs_20		IAMs_20	13 03 32.8	
	comp=Z,5μm,20.0s						
WRAB	**Tennant Creek 23.85 232**			*de*P		**P**	**12 54 27.3**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,103nm,1.7s						
WRAB	**Tennant Creek 23.85 232**			P		**P**	**12 54 27.3**	**-0.9**
WRAB				IAmb		IAmb	12 54 37.5	
	comp=Z,116nm,1.0s						
WRAB	**Tennant Creek 23.85 232**			IAMs_20		IAMs_20	13 03 42.3	
	comp=Z,5μm,19.0s						
WR1	**Warramunga Arr 23.86 232**			IAMs_20		IAMs_20	13 03 33.2	
	comp=Z,4μm,19.0s						
WRA	**Warramunga Arr 23.86 232**			*i* P		**P**	**12 54 27.5**	**-0.8**
WRA				pmax		pmax		
	comp=Z,27nm,0.8s						
WRA	**Warramunga Arr 23.86 232**			P		**P**	**12 54 27.3**	**-1.0**
	comp=Z,27nm,0.8s,baz=53,slow=10,SNR=103						
WRA					PcP	**PcP**	**12 58 12.0**	**+0.8**
	comp=Z,73nm,0.7s,baz=58,slow=2.2,SNR=32						
WRA					S	**S**	**12 58 39.6**	**-3.4**
	comp=Z,13nm,1.1s,baz=56,slow=17,SNR=4.4						
WRA					ScP	**ScP**	**13 01 46.8**	**-1.2**
	comp=Z,3.9nm,0.7s,baz=57,slow=2.5,SNR=6.6						
WRA					LR	LR	13 03 53.8	
	comp=Z,4μm,18.9s,baz=65,slow=37						
WB1	**Warramunga Ar. 23.86 232**			IAMs_20		IAMs_20	13 03 33.3	
	comp=Z,5μm,19.0s						
WC4	**Warramunga Arr 23.87 232**			IAMs_20		IAMs_20	13 03 43.5	
	comp=Z,5μm,19.0s						
BNDI	**Bandanaira 24.09 272**			P		**P**	**12 54 31.5**	**+1.0**
	comp=Z,307nm,1.1s,comp=Z,5μmcomp=Z,4μm						
ARMA	**Armidale 24.73 185**			P		**P**	**12 54 38.5**	**+2.2**
	baz=25,SNR=26						
ARMA	**Armidale 24.73 185**			P		**P**	**12 54 36.2**	**-0.1**
ARMA				IAmb		IAmb	12 54 57.8	
	comp=Z,128nm,1.2s						
ARMA				IAMs_20		IAMs_20	13 03 07.2	
	comp=Z,6μm,21.0s						
AAI	**Ambon 25.86 273**			P		**P**	**12 54 46.7**	**+0.1**
AAI				pmax		pmax		
	comp=Z,98nm,0.8s						
AAI	**Ambon 25.86 273**			P		**P**	**12 54 46.3**	**-0.3**
	comp=Z,99nm,1.0s,comp=Z,2μm						
LHI	**Lord Howe Isla 26.15 170**			P		**P**	**12 54 50.5**	**+1.5**
	baz=26,SNR=7.3						
LHI	**Lord Howe Isla 26.15 170**			P		**P**	**12 54 50.1**	**+1.1**
LHI				IAmb		IAmb	12 54 51.3	
	comp=Z,105nm,0.8s						
LHI				IAMs_20		IAMs_20	13 02 51.3	
	comp=Z,4μm,22.0s						
MSVF	**Nonsavu 26.33 119**			P		**P**	**12 54 53.7**	**+2.8**
MSVF				pmax		pmax		
	comp=Z,54nm,1.0s						
MSVF				MLR		MLR		
	comp=Z,4μm,21.0s						
MSVF	**Nonsavu 26.33 119**			P		**P**	**12 54 53.7**	**+2.8**
MSVF	**Nonsavu 26.33 119**			IAMs_20		IAMs_20	13 04 01.5	
	comp=Z,4μm,21.0s						
ASAR	**Alice Springs 26.40 225**			P		**P**	**12 54 51.5**	**+0.1**
	comp=Z,66nm,0.9s,baz=53,slow=7.9,SNR=321						
ASAR				PcP		**PcP**	**12 58 17.9**	**+1.0**
	comp=Z,84nm,0.7s,baz=61,slow=2.5,SNR=45						
ASAR				ScP		**ScP**	**13 01 54.9**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=43,slow=2.4,SNR=7.5						
ASAR				LR		LR	13 05 12.1	
	comp=Z,5μm,19.9s,baz=110,slow=36						
KNRA	**Kununurra 26.75 246**			P		**P**	**12 54 55.1**	**+0.5**
	baz=27,SNR=21						
CMSA	**Cobar Meteorol 26.91 196**			P		**P**	**12 54 56.5**	**+0.6**
	baz=27,SNR=36						
LBMI	**Labuha 26.98 280**			P		**P**	**12 54 59.1**	**+2.4**
	comp=Z,205nm,1.1s,comp=Z,3μm						
NLAI	**Namlea 26.99 274**			P		**P**	**12 54 58.2**	**+1.4**
	comp=Z,58nm,0.9s,comp=Z,4μm						
H11S3	**WAKE ISLAND Hy 27.04 27**			T		T	13 23 09.1	
	baz=208,slow=76,SNR=400						
H11S2	**WAKE ISLAND Hy 27.04 27**			T		T	13 23 09.2	
	baz=208,slow=76,SNR=378						
H11S1	**WAKE ISLAND Hy 27.06 27**			T		T	13 23 17.8	
	baz=208,slow=76,SNR=75						
TNTI	**Ternate 27.41 283**			IAMs_20		IAMs_20	13 07 18.8	
	comp=Z,1μm,20.0s						
WAKE	**Wake Island 27.72 26**			IAMs_20		IAMs_20	13 06 20.5	
	comp=Z,7μm,19.0s						
SANI	**Sanana 28.24 276**			P		**P**	**12 55 07.2**	**-0.8**
	comp=Z,102nm,1.0s,comp=Z,1μmcomp=Z,3μm						
STKA	**Stephens Creek 28.57 203**			P		**P**	**12 55 10.2**	**-0.6**
	comp=Z,13nm,0.8s,baz=11,slow=9.3,SNR=12						
STKA				PcP		**PcP**	**12 58 22.5**	**+0.7**
	comp=Z,52nm,0.8s,baz=42,slow=3.0,SNR=13						
STKA				ScP		**ScP**	**13 02 01.9**	**+0.4**
	comp=Z,13nm,0.9s,baz=55,slow=3.5,SNR=7.9						
STKA				LR		LR	13 06 40.4	
	comp=Z,3μm,20.7s,baz=20,slow=36						
STKA	**Stephens Creek 28.57 203**					**ScP**	**13 02 02.3**	**+0.8**
STKA				IAMs_20		IAMs_20	13 06 17.9	
	comp=Z,672nm,21.0s						
SOEI	**Soe 29.80 260**			P		**P**	**12 55 22.6**	**+0.6**
	comp=Z,116nm,0.9s,comp=Z,3μm						
SOEI	**Soe 29.80 260**			P		**P**	**12 55 23.2**	**+1.2**
SOEI				IAmb		IAmb	12 56 18.6	
	comp=Z,155nm,0.9s						
CAN	**Canberra 29.88 188**			IAMs_20		IAMs_20	13 06 20.5	
	comp=Z,3μm,21.0s						
FITZ	**Fitzroy Crossi 30.38 244**			P		**P**	**12 55 26.3**	**-0.7**
	baz=30,SNR=45						
FITZ	**Fitzroy Crossi 30.38 244**			P		**P**	**12 55 26.1**	**-0.9**
	comp=Z,115nm,0.8s,baz=82,slow=7.2,SNR=91						
FITZ				PcP		**PcP**	**12 58 27.6**	**+0.9**
	comp=Z,41nm,0.8s,baz=38,slow=3.9,SNR=4.0						
FITZ				LR		LR	13 08 01.4	
	comp=Z,3μm,20.2s,baz=81,slow=37						
FITZ	**Fitzroy Crossi 30.38 244**			IAmb		IAmb	12 55 27.7	
	comp=Z,105nm,0.8s						
FITZ	**Fitzroy Crossi 30.38 244**			IAMs_20		IAMs_20	13 07 39.5	
	comp=Z,3μm,21.0s						
BATI	**Baumata 30.43 260**			P		**P**	**12 55 29.1**	**+1.6**
	comp=Z,123nm,0.7s,baz=147,slow=2.3,SNR=8.9						
BATI	**Baumata 30.43 260**			P		**P**	**12 55 28.9**	**+1.4**
	comp=Z,108nm,1.1s						
HTT	**Hallett 31.01 205**			P		**P**	**12 55 31.9**	**-0.5**
	baz=31,SNR=9.4						
DAV	**Davao City (W) 31.11 294**			IAMs_20		IAMs_20	13 08 36.7	
	comp=Z,2μm,19.0s						
WRKA	**Warakurna 31.32 229**			P		**P**	**12 55 34.5**	**-0.8**
	baz=31,SNR=38						
BBSI	**Bau Bau 31.34 269**			P		P	12 55 44.4	+8.9
LUWI	**Luwuk 31.57 277**			P		**P**	**12 55 36.7**	**-0.8**
LUWI				IAmb		IAmb	12 55 38.5	
	comp=Z,162nm,0.9s						
MMRI	**Maumere 31.71 263**			P		**P**	**12 55 38.5**	**-0.2**
BBOO	**Buckleboo 31.80 210**			P		**P**	**12 55 39.0**	**-0.3**
	baz=32,SNR=10						
BBOO	**Buckleboo 31.80 210**			P		**P**	**12 55 39.2**	**-0.2**
BBOO				IAmb		IAmb	12 55 42.5	
	comp=Z,47nm,1.1s						
BBOO				IAMs_20		IAMs_20	13 08 50.1	
	comp=Z,3μm,20.0s						
CTBH	**Cotabato--PC H 32.39 293**			⇑P		**P**	**12 55 44.6**	**-0.1**
MRSI	**Marisa 32.65 280**			P		P	12 55 54.2	+7.2
APSI	**Ampana 32.70 277**			P		P	12 55 54.5	+7.1
TOO	**Toolangi 32.71 193**			P		**P**	**12 55 46.7**	**-0.5**
	baz=33,SNR=5.6						
TOO	**Toolangi 32.71 193**			P		**P**	**12 55 47.5**	**+0.2**
TOO				pmax		pmax		
	comp=Z,22nm,0.9s						
TOO				MLR		MLR		
	comp=Z,4μm,20.0s						
TOO	**Toolangi 32.71 193**			P		**P**	**12 55 47.5**	**+0.2**
TOO				IAMs_20		IAMs_20	13 07 57.1	
	comp=Z,3μm,20.0s						
ARPS	**Mount Arapiles 32.92 198**			P		**P**	**12 55 50.0**	**+0.9**
	baz=33,SNR=8.5						
WSI	**Waingapu 33.69 261**			P		**P**	**12 55 57.9**	**+1.8**
	comp=Z,840nm,0.9s,comp=Z,24μm						
BKSI	**Bulukumba 33.78 269**			P		**P**	**12 55 56.9**	**0.0**
	comp=Z,96nm,1.1s,comp=Z,938nmcomp=Z,2μm						
BNSI	**Bone 33.85 271**			P		**P**	**12 55 57.9**	**+0.4**
	comp=Z,148nm,1.3s,comp=Z,2μm						
SPSI	**Sidrap Palu 34.21 271**			P		**P**	**12 56 00.0**	**-0.6**
	comp=Z,129nm,1.0s,comp=Z,1μm						
TTSI	**Tana Toraja 34.24 273**			P		**P**	**12 56 01.1**	**+0.2**
	comp=Z,84nm,1.2s,comp=Z,1μm						
OUZ	**Omahuta 34.49 151**			P		**P**	**12 56 05.4**	**+2.6**
OUZ				IAmb		IAmb	12 56 08.5	
	comp=Z,96nm,0.8s						
OUZ				IAMs_20		IAMs_20	13 08 22.8	
	comp=Z,2μm,22.0s						
AFI	**Afiamalu 34.61 106**			P		**P**	**12 56 05.2**	**+1.1**
	comp=Z,28nm,0.9s,baz=105,slow=22,SNR=3.7						
AFI				LR		LR	13 08 25.3	
	comp=Z,1μm,19.3s,baz=277,slow=33						
AFI	**Afiamalu 34.61 106**			P		**P**	**12 56 04.6**	**+0.5**
AFI				IAmb		IAmb	12 56 33.5	
	comp=Z,55nm,1.1s						
MPSI	**Mapaga 34.63 279**			P		**P**	**12 56 03.2**	**-1.0**
	comp=Z,62nm,0.9s,comp=Z,602nm						
FORT	**Forrest 34.95 221**			P		**P**	**12 56 07.6**	**+0.8**
	baz=35,SNR=22						
FORT	**Forrest 34.95 221**			P		**P**	**12 56 06.6**	**-0.1**
FORT				IAMs_20		IAMs_20	13 10

KKM	**Kota Kinabalu**	**39.53 287**	P	**P**	**12 56 45.1**	**-1.0**	
KKM			IAMs_20	IAMs_20	13 11 39.0		
	comp=Z,1µm,21.0s						
KMBL	**Kambalda**	**39.53 226**	P	**P**	**12 56 45.3**	**-0.4**	
	baz=39,SNR=11						
THZ	**Tophouse**	**39.68 158**	IAmb	IAmb	12 56 51.9		
	comp=Z,106nm,0.8s						
THZ			IAMs_20	IAMs_20	13 11 52.2		
	comp=Z,2µm,19.0s						
JAGI	**Jajag, Banyuwa**	**39.69 264**	P	**P**	**12 56 45.4**	**-1.9**	
JAGI	**Jajag, Banyuwa**	**39.69 264**	IAmb	IAmb	12 56 46.5		
	comp=Z,118nm,1.0s						
JAGI			IAMs_20	IAMs_20	13 14 15.5		
	comp=Z,919nm,21.0s						
MEEK	**Meekatharra**	**39.71 234**	P	**P**	**12 56 46.9**	**-0.4**	
	baz=40,SNR=16						
SNZO	**South Karori**	**40.00 156**	P	**P**	**12 56 50.5**	**+1.1**	
SNZO			IAmb	IAmb	12 56 52.3		
	comp=Z,90nm,0.8s						
SNZO	**South Karori**	**40.00 156**	IAMs_20	IAMs_20	13 11 01.5		
	comp=Z,2µm,22.0s						
BFZ	**Birch Farm**	**40.14 154**	IAmb	IAmb	12 57 16.8		
	comp=Z,160nm,1.3s						
FOZ	**Fox Glacier**	**40.19 162**	P	**P**	**12 56 52.2**	**+1.3**	
FOZ			IAMs_20	IAMs_20	13 11 27.4		
	comp=Z,5µm,22.0s						
LTZ	**Lake Taylor**	**40.33 159**	P	**P**	**12 56 53.5**	**+1.3**	
LTZ			IAmb	IAmb	12 56 58.1		
	comp=Z,75nm,0.7s						
LTZ			IAMs_20	IAMs_20	13 11 23.1		
	comp=Z,3µm,20.0s						
KHZ	**Kahutara**	**40.48 158**	P	**P**	**12 56 54.1**	**+0.8**	
KHZ			IAmb	IAmb	12 56 55.1		
	comp=Z,125nm,0.9s						
KHZ			IAMs_20	IAMs_20	13 12 29.1		
	comp=Z,3µm,21.0s						
OXZ	**Oxford**	**40.73 160**	IAmb	IAmb	12 57 05.3		
	comp=Z,140nm,1.2s						
OXZ			IAMs_20	IAMs_20	13 15 39.6		
	comp=Z,3µm,18.0s						
RPZ	**Rata Peaks**	**40.75 161**	P	**P**	**12 56 56.9**	**+1.3**	
	comp=Z,110nm,0.8s,baz=340,slow=3.0,SNR=31						
RPZ			LR	LR	13 12 21.9		
	comp=Z,3µm,20.9s,baz=327,slow=34						
RPZ	**Rata Peaks**	**40.75 161**	P	**P**	**12 56 56.7**	**+1.1**	
RPZ			IAmb	IAmb	12 57 01.3		
	comp=Z,120nm,0.8s						
RPZ			IAMs_20	IAMs_20	13 12 11.0		
	comp=Z,4µm,21.0s						
JOW	**Kunigami**	**40.83 324**	P	**P**	**12 56 57.6**	**+1.2**	
	comp=Z,9.2nm,0.7s,baz=146,slow=12,SNR=13						
JOW	**Kunigami**	**40.83 324**	IAmb	IAmb	12 56 58.2		
	comp=Z,60nm,0.9s						
LBZ	**Lake Benmore**	**41.08 162**	P	**P**	**12 56 58.9**	**+0.6**	
LBZ			IAMs_20	IAMs_20	13 11 54.8		
	comp=Z,5µm,21.0s						
WKZ	**Wanaka**	**41.15 164**	IAmb	IAmb	12 57 43.3		
	comp=Z,137nm,1.6s						
WKZ			IAMs_20	IAMs_20	13 11 18.3		
	comp=Z,4µm,22.0s						
CRLZ	**Canterbury Las**	**41.15 159**	IAMs_20	IAMs_20	13 11 46.1		
	comp=Z,2µm,21.0s						
DCZ	**Deep Cove**	**41.26 166**	IAMs_20	IAMs_20	13 13 17.1		
	comp=Z,1µm,18.0s						
MQZ	**McQueen's Vall**	**41.28 159**	IAmb	IAmb	12 57 10.3		
	comp=Z,218nm,1.5s						
MLZ	**Mavora Lakes**	**41.40 165**	IAmb	IAmb	12 57 03.3		
	comp=Z,131nm,1.0s						
MLZ			IAMs_20	IAMs_20	13 13 35.3		
	comp=Z,3µm,18.0s						
PYZ	**Puysegur Point**	**41.81 167**	IAmb	IAmb	12 57 06.5		
	comp=Z,89nm,1.1s						
PYZ			IAMs_20	IAMs_20	13 11 11.9		
	comp=Z,2µm,20.0s						
ODZ	**Otahua Downs**	**41.81 162**	IAMs_20	IAMs_20	13 11 42.3		
	comp=Z,4µm,22.0s						
PWJI	**Pagerwojo**	**42.01 264**	P	**P**	**12 57 05.4**	**-1.0**	
	comp=Z,121nm,1.0s						
SBUM	**Sibu**	**42.56 280**	P	**P**	**12 57 10.6**	**-0.3**	
PCJI	**Pacitan**	**42.63 264**	P	**P**	**12 57 11.8**	**+0.3**	
	comp=Z,241nm,0.9s						
KLBR	**Kellerberrin**	**42.66 228**	P	**P**	**12 57 10.6**	**-0.8**	
	baz=42,SNR=11						
MORW	**Morawa**	**42.80 233**	P	**P**	**12 57 11.6**	**-1.0**	
	baz=43,SNR=10						
MORW	**Morawa**	**42.80 233**	P	**P**	**12 57 11.8**	**-0.9**	
MORW			IAmb	IAmb	12 57 13.5		
	comp=Z,65nm,0.9s						
WOJI	**Wonogiri, Jawa**	**42.88 265**	P	**P**	**12 57 14.6**	**+1.1**	
	comp=Z,83nm,1.7s						
TWG	**Pinlang**	**42.92 312**	IAmb	IAmb	12 57 23.8		
	comp=Z,110nm,0.8s						
TWG			IAMs_20	IAMs_20	13 14 33.6		
	comp=Z,6µm,18.0s						
BLDU	**Ballidu**	**42.98 230**	P	**P**	**12 57 13.3**	**-0.8**	
	baz=43,SNR=6.7						
YULB	**Yu-li**	**43.10 313**	IAmb	IAmb	12 57 18.4		
	comp=Z,76nm,0.8s						
YULB			IAMs_20	IAMs_20	13 11 19.2		
	comp=Z,1µm,21.0s						
NACB	**Ninganchiao**	**43.37 314**	IAmb	IAmb	12 57 19.0		
	comp=Z,111nm,0.9s						
TPUB	**Ta-pu**	**43.53 313**	IAmb	IAmb	12 57 19.9		
	comp=Z,76nm,0.8s						
TPUB			IAMs_20	IAMs_20	13 11 35.1		
	comp=Z,2µm,22.0s						
SSLB	**Suanglung**	**43.59 313**	IAmb	IAmb	12 57 21.4		
	comp=Z,46nm,0.8s						
SSLB			IAMs_20	IAMs_20	13 11 46.7		
	comp=Z,2µm,21.0s						
NWAO	**Narrogin (SRO)**	**43.70 227**	P	**P**	**12 57 21.3**	**+1.4**	
	comp=Z,7.5nm,0.7s,baz=93,slow=6.7,SNR=5.5						
NWAO			LR	LR	13 15 51.0		
	comp=Z,5µm,19.1s,baz=72,slow=36						
NWAO	**Narrogin (SRO)**	**43.70 227**	IAmb	IAmb	12 57 29.3		
	comp=Z,94nm,1.6s						
NWAO			IAMs_20	IAMs_20	13 15 48.9		
	comp=Z,4µm,19.0s						
INU	**Inuyama**	**43.83 340**	P	**P**	**12 57 20.9**	**+0.1**	
INU			IAmb	IAmb	12 57 36.0		
	comp=Z,104nm,1.6s						
YHNB	**Yeheng**	**43.84 315**	P	**P**	**12 57 21.9**	**+0.8**	
YHNB			IAmb	IAmb	12 57 24.2		
	comp=Z,127nm,1.0s						
YHNB			IAMs_20	IAMs_20	13 12 49.2		
	comp=Z,2µm,21.0s						
MUN	**Mundaring**	**43.99 229**	P	**P**	**12 57 21.5**	**-0.8**	
	baz=44,SNR=9.8						
KSM	**Kuching**	**44.27 278**	P	**P**	**12 57 25.0**	**+0.3**	
KSM	**Kuching**	**44.27 278**	P	**P**	**12 57 24.2**	**-0.5**	
KSM			IAmb	IAmb	12 57 27.6		
	comp=Z,76nm,0.9s						
JNU	**Nakatsue**	**44.41 332**	P	**P**	**12 57 25.3**	**-0.2**	
	comp=Z,100nm,0.8s,baz=112,slow=5.1,SNR=50						
JNU	**Nakatsue**	**44.41 332**	IAmb	IAmb	12 57 26.5		
	comp=Z,131nm,0.9s						
MJAR	**Matsushiro Arr**	**44.53 342**	P	**P**	**12 57 24.3**	**-2.1**	
	comp=Z,9.7nm,0.9s,baz=148,slow=8.0,SNR=15						
MJAR			LR	LR	13 14 09.7		
	comp=Z,508nm,21.3s,baz=190,slow=34						
MAJO	**Matsushiro**	**44.53 342**⇓	*e*P	**P**	**12 57 24.8**	**-1.6**	
MAJO			pmax	pmax			
	comp=Z,16nm,1.1s						
MAJO	**Matsushiro**	**44.53 342**	P	**P**	**12 57 24.8**	**-1.6**	
MAJO	**Matsushiro**	**44.53 342**	IAMs_20	IAMs_20	13 13 48.1		
	comp=Z,707nm,20.0s						
MAT	**Matsushiro**	**44.53 342**	P	**P**	**12 57 24.6**	**-1.8**	
MAT			S	**S**	**13 03 59.0**	**-1.4**	
MJB9	**Matsu-Tunnel**	**44.54 342**	IAMs_20	IAMs_20	13 13 37.1		
	comp=Z,905nm,22.0s						
RKGY	**Rocky Gully**	**44.75 225**	P	**P**	**12 57 27.8**	**-0.4**	
	baz=45,SNR=5.7						
KPJI	**Karang Pucung**	**44.86 265**	P	**P**	**12 57 30.4**	**+1.0**	
	comp=Z,102nm,1.1s						
CMJI	**Cimerak**	**45.34 265**	P	**P**	**12 57 32.6**	**-0.6**	
	comp=Z,156nm,1.1s						
CISI	**Cisompet, Garu**	**45.97 265**	P	**P**	**12 57 37.3**	**-0.9**	
	comp=Z,240nm,0.7s,comp=Z,2µm						
QZH	**Quanzhou**	**46.00 313**⇑	*i*P	**P**	**12 57 39.0**	**+0.8**	
QZH			S	**S**	**13 04 26.5**	**+4.6**	
QZH			pmax	pmax			
	comp=Z,120nm,0.9s						
QZH			pmax	pmax			
	comp=Z,740nm,2.6s						
QZH			LR	LR			
	comp=Z,1µm,20.4s						
QZH			LR	LR			
	comp=Z,940nm,20.8s						
LEM	**Lembang**	**46.17 266**	P	**P**	**12 57 39.4**	**-0.6**	
	baz=112,slow=11						
TPI	**Tanjungpandan**	**46.37 272**	P	**P**	**12 57 42.0**	**+0.7**	
	comp=Z,155nm,1.1s,comp=Z,1µm						
CNJI	**Cibinong**	**46.65 265**	P	**P**	**12 57 42.4**	**-1.1**	
	comp=Z,267nm,0.9s,comp=Z,3µm						
HKPS	**Hong Kong Po S**	**47.93 307**	P	**P**	**12 57 54.7**	**+1.3**	
HKPS			IAMs_20	IAMs_20	13 15 04.7		
	comp=Z,3µm,20.0s						
DLV	**T Lat**	**48.58 291**	IAmb	IAmb	12 58 00.6		
	comp=Z,93nm,0.9s						
TJN	**Taejon**	**48.73 331**	*c i*P	**P**	**12 57 59.2**	**-0.1**	
XMAS	**Kiritimati**	**49.03 82**	IAMs_20	IAMs_20	13 18 32.5		
	comp=Z,5µm,20.0s						
KLSI		**49.13 269**	P	**P**	**12 58 06.8**	**+4.0**	
PMBI	**Palembang**	**49.22 271**	P	**P**	**12 58 03.5**	**+0.1**	
KASI	**Kota Agung**	**49.32 268**	P	**P**	**12 58 02.1**	**-2.1**	
	comp=Z,89nm,1.1s						
KSRS	**Korea Array**	**49.34 332**	P	**P**	**12 58 04.0**	**+0.1**	
KSRS	**Korea Array**	**49.34 332**	P	**P**	**12 58 04.0**	**+0.1**	
	comp=Z,41nm,0.9s,baz=148,slow=8.8,SNR=77						
KSRS			LR	LR	13 18 37.0		
	comp=Z,242nm,18.1s,baz=150,slow=36						
KS19	**Wonju Array Si**	**49.40 332**	IAmb	IAmb	12 58 05.2		
	comp=Z,45nm,0.8s						
MDSI	**Maura Dua**	**49.69 269**	P	**P**	**12 58 05.5**	**-1.6**	
	comp=Z,54nm,1.2s,comp=Z,846nm						
LWLI	**Liwa**	**49.78 268**	P	**P**	**12 58 12.6**	**+4.7**	
TPRI	**Tanjung Pinang**	**49.90 276**	P	**P**	**12 58 09.9**	**+1.3**	
INCN	**Inchon**	**49.96 331**	P	**P**	**12 58 09.0**	**+0.2**	
INCN			pmax	pmax			
	comp=Z,222nm,0.9s						
INCN	**Inchon**	**49.96 331**	P	**P**	**12 58 08.9**	**+0.2**	
QIZ	**Qiongzhong**	**49.99 301**	P	**P**	**12 58 10.8**	**+1.6**	
QIZ			S	**S**	**13 05 17.0**	**-1.7**	
QIZ			SS	**SS**	**13 08 55.0**	**+2.9**	
QIZ			pmax	pmax			
	comp=Z,89nm,0.9s						
QIZ			LR	LR			
	comp=Z,650nm,20.2s						
QIZ			LR	LR			
	comp=Z,1µm,22.1s						
QIZ			LR	LR			
	comp=Z,1µm,21.6s						
QIZ	**Qiongzhong**	**49.99 301**	IAmb	IAmb	12 58 11.8		
	comp=Z,90nm,0.9s						
QIZ			IAMs_20	IAMs_20	13 15 18.9		
	comp=Z,2µm,22.0s						
NJ2	**Nanjing**	**50.30 320**	*e*P	**P**	**12 58 12.3**	**+0.9**	
NJ2			pP	**sP**	**12 58 20.8**	**-1.6**	
NJ2			S	**S**	**13 05 27.5**	**+4.8**	
NJ2			sS	**sS**	**13 05 37.3**	**+1.7**	
NJ2			pmax	pmax			
	comp=Z,96nm,1.0s						
NJ2			pmax	pmax			
	comp=Z,580nm,3.8s						
NJ2			LR	LR			
	comp=Z,910nm,21.5s						
NJ2			LR	LR			
	comp=Z,380nm,16.1s						
NJ2			LR	LR			
	comp=Z,2µm,23.7s						
ASAJ	**Asahikawa**	**50.62 349**	P	**P**	**12 58 14.2**	**+0.7**	
	comp=Z,33nm,0.8s,baz=223,slow=10.0,SNR=11						
MYKOM	**Kota Tinggi**	**50.69 277**	P	**P**	**12 58 14.0**	**-0.7**	
MYKOM	**Kota Tinggi**	**50.69 277**	IAmb	IAmb	12 58 16.0		
	comp=Z,59nm,1.2s						
WHN	**Wuhan**	**52.35 316**	⇑P	**P**	**12 58 27.5**	**+0.8**	
WHN			S	**S**	**13 05 57.5**	**+6.6**	
WHN			pmax	pmax			
	comp=Z,350nm,1.0s						
WHN			LR	LR			
	comp=Z,1µm,13.1s						
WHN			LR	LR			
	comp=Z,810nm,10.4s						
WHN			LR	LR			
	comp=Z,2µm,18.9s						
JRMM	**Jerantut**	**52.39 279**	P	**P**	**12 58 27.0**	**-0.3**	
UBPT	**Khong Chiam**	**52.44 294**	P	**P**	**12 58 29.0**	**+1.3**	
	comp=Z,41nm,1.2s						
UBPT	**Khong Chiam**	**52.44 294**	IAmb	IAmb	12 58 29.9		
	comp=Z,49nm,0.9s						
VLA	**Vladivostok**	**52.55 340**⇑	*e*P	**P**	**12 58 27.8**	**-0.2**	
VLA			pmax	pmax			
	comp=Z,32nm,1.0s						
KRJI	**Kerinci**	**52.59 272**	P	**P**	**12 58 30.4**	**+1.5**	
	comp=Z,280nm,1.1s						
SDSI	**Sungai Dareh**	**52.74 273**	P	**P**	**12 58 29.1**	**-0.8**	
	comp=Z,154nm,1.2s,comp=Z,5µm						
BKNI	**Bangkinang**	**53.27 275**	P	**P**	**12 58 33.7**	**-0.2**	
	comp=Z,205nm,0.9s,comp=Z,2µm						
YSS	**Yuzh-Sakhalins**	**53.34 350**⇓	*e*P	**P**	**12 58 34.2**	**+0.5**	
YSS			*e**SP	**sP**	**12 58 48.1**	**+3.3**	
YSS			*e*		12 59 37.6		
YSS			*e*S	**S**	**13 06 03.2**	**-0.6**	
YSS			pmax	pmax			
	comp=Z,50nm,0.8s						
YSS	**Yuzh-Sakhalins**	**53.34 350**	P	**P**	**12 58 33.8**	**+0.1**	
YSS			IAmb	IAmb	12 58 38.2		
	comp=Z,63nm,1.0s						
USA0B	**Ussuriysk Arra**	**53.47 340**	*c i*P	**P**	**12 58 34.5**	**-0.3**	
USRK	**Ussuriysk Ar.**	**53.47 340**	P	**P**	**12 58 34.6**	**-0.1**	
	comp=Z,20nm,0.8s,baz=174,slow=8.4,SNR=36						
USRK			LR	LR	13 17 41.2		
	comp=Z,514nm,21.7s,baz=147,slow=32						
DL2	**Dalian**	**53.56 329**	P	**P**	**12 58 35.8**	**+0.3**	
DL2			PP	**PP**	**13 00 41.0**	**+4.6**	
DL2			*e*S	**S**	**13 06 07.3**	**+0.2**	
DL2			pmax	pmax			
	comp=Z,99nm,1.1s						
DL2			pmax	pmax			
	comp=Z,260nm,5.5s						
DL2			LR	LR			
	comp=Z,700nm,15.4s						
DL2			LR	LR			
	comp=Z,760nm,15.6s						
DL2			LR	LR			
	comp=Z,750nm,19.7s						
PDSI	**Padang**	**53.70 273**	P	**P**	**12 58 35.0**	**-2.1**	
	comp=Z,63nm,0.8s						
IPM	**Ipoh**	**53.92 280**	P	**P**	**12 58 38.0**	**-0.6**	
IPM	**Ipoh**	**53.92 280**	IAmb	IAmb	12 59 46.7		
	comp=Z,70nm,0.9s						
TIA	**Tai'an**	**54.15 323**	P	**P**	**12 58 40.0**	**+0.1**	
TIA			pmax	pmax			
	comp=Z,94nm,0.9s						
SKNT	**Sakolnakorn**	**54.36 295**	P	**P**	**12 58 42.7**	**+0.9**	
	comp=Z,285nm,1.0s,comp=Z,3µm						
KULM	**Kulim**	**54.43 281**	IAmb	IAmb	12 58 43.4		
	comp=Z,92nm,0.9s						
MDJ	**Mudanjiang**	**54.67 339**	P	**P**	**12 58 43.5**	**0.0**	
MDJ			pmax	pmax			
	comp=Z,24nm,0.9s						
MDJ			pmax	pmax			
	comp=Z,640nm,5.1s						
NONG	**Nongkai**	**55.48 296**	P	**P**	**12 58 50.5**	**+0.6**	
	comp=Z,9.2nm,0.9s						
CN2	**Changchun**	**55.60 335**	*e*P	**P**	**12 58 50.0**	**-0.3**	
CN2			*e*S	**S**	**13 06 30.5**	**-4.0**	
CN2			pmax	pmax			
	comp=Z,30nm,1.0s						
CN2			pmax	pmax			
	comp=Z,300nm,4.0s						
CN2			LR	LR			
	comp=Z,700nm,20.0s						
CN2			LR	LR			
	comp=Z,400nm,20.0s						
CN2			LR	LR			
	comp=Z,800nm,19.0s						
ENH	**Enshi**	**55.66 313**	IAMs_20	IAMs_20	13 19 27.3		
	comp=Z,1µm,21.0s						
RPSI	**Rantau Prapat**	**55.69 277**	IAmb	IAmb	12 58 54.0		
	comp=Z,41nm,1.0s						
CHAI	**Chaiyaphum**	**55.82 293**	P	**P**	**12 58 52.9**	**+0.6**	
	comp=Z,146µm,0.8s						
TRTT	**Trang**	**55.87 283**	P	**P**	**12 58 53.3**	**+0.6**	
	comp=Z,97nm,1.3s						
GYA	**Guiyang**	**55.91 307**⇑	*i*P	**P**	**12 58 54.0**	**+1.0**	
GYA			pP	pP	12 59 01.8	+0.9	
GYA			sP	sP	12 59 05.0	+0.9	
GYA			ScP	**ScP**	**13 03 51.0**	**+1.9**	
GYA			S	**S**	**13 06 38.0**	**-1.6**	
GYA			sS	sS	13 06 53.8	+1.2	
GYA			pmax	pmax			
	comp=Z,30nm,0.7s						
GYA			pmax	pmax			
	comp=Z,130nm,5.3s						
GYA			LR	LR			
	comp=Z,510nm,15.0s						
GYA			LR	LR			
	comp=Z,1µm,19.8s						
GYA			LR	LR			
	comp=Z,1µm,19.2s						
PATY	**Pattaya**	**55.98 290**	P	**P**	**12 58 55.2**	**+1.7**	
	comp=Z,176µm,0.8s						
SLVN	**Son La**	**56.02 300**	IAmb	IAmb	12 58 56.5		
	comp=Z,88nm,1.0s						
SLVN			IAMs_20	IAMs_20	13 19 18.6		
	comp=Z,1µm,22.0s						
PPT	**Papeete**	**56.27 107**	LR	LR	13 20 55.8		
	comp=Z,428nm,18.7s,baz=291,slow=34						
PPT2	**Papeete2**	**56.27 107**	*e*S	**S**	**13 06 44.2**	**-0.3**	
PPT2	comp=Z,504nm,24.8s		*e*LQ	LQ	13 13 01.7		
	comp=Z,1µm,30.5s						
PPT2			*e*LR	LR	13 15 27.8		
	comp=Z,1µm,27.2s						
COCO	**West Island**	**56.82 259**	IAMs_20	IAMs_20	13 25 54.3		
	comp=Z,0.5nm,20.0s						
GSI	**Gunungsitoli**	**56.83 275**	P	**P**	**12 58 58.5**	**-1.2**	
	comp=Z,141nm,0.9s						
GSI	**Gunungsitoli**	**56.83 275**	IAmb	IAmb	12 58 59.2		
	comp=Z,87nm,0.8s						
PBKT	**Sadao Pong**	**56.95 294**	P	**P**	**12 59 01.6**	**+1.2**	
	comp=Z,65nm,1.3s,comp=Z,1µm						
PBKT	**Sadao Pong**	**56.95 294**	IAmb	IAmb	12 59 03.0		
	comp=Z,119nm,1.0s						
TBI	**Tubuai**	**57.06 114**	*e*S	**S**	**13 06 56.8**	**+2.2**	
	comp=Z,477nm,27.2s						
TBI			*e*LQ	LQ	13 13 21.9		
	comp=Z,3µm,31.0s						
TBI			*e*LR	LR	13 15 49.1		
	comp=Z,2µm,26.8s,baz=292						
PHET	**Kaeng Krachan**	**57.14 289**	P	**P**	**12 59 03.1**	**+1.4**	
	comp=Z,274µm,0.8s						
TYV	**Tymovskoe**	**57.15 351**	*e*P	**P**	**12 59 01.8**	**+0.6**	
TYV			pmax	pmax			
	comp=Z,60nm,0.9s						
BJT	**Baijiatuau**	**57.29 326**	IAMs_20	IAMs_20	13 20 35.5		
	comp=Z,768nm,21.0s						
BJI	**Beijing**	**57.30 326**⇑	*i*P	**P**	**12 59 02.3**	**-0.2**	
BJI			sP	**pP**	**12 59 11.3**	**+0.9**	
BJI			S	**S**	**13 07 00.3**	**+3.1**	
BJI			sS	**sS**	**13 07 10.0**	**-0.3**	
BJI			pmax	pmax			
	comp=Z,17nm,1.2s						
BJI			pmax	pmax			
	comp=Z,550nm,5.8s						
BJI			LR	LR			
	comp=Z,360nm,18.9s						
BJI			LR	LR			
	comp=Z,620nm,17.1s						
BJI			LR	LR			
	comp=Z,660nm,18.1s						
TPTI		**57.50 277**	P	**P**	**12 59 03.9**	**-0.5**	
	comp=Z,13nm,0.8s						
PHIT	**Phitsanulok**	**57.65 294**	P	**P**	**12 59 06.8**	**+1.5**	
UTTA	**Uttaradit**	**57.70 295**	P	**P**	**12 59 06.8**	**+1.1**	
	comp=Z,554µm,0.8s						
TIY	**Taiyuan**	**57.98 322**	*e*P	**P**	**12 59 08.0**	**+0.6**	
SRDT	**SRDT**	**58.00 291**	P	**P**	**12 59 09.3**	**+1.5**	
	comp=Z,121nm,1.0s,comp=Z,1µm						
KLR	**Kul'dur**	**58.03 343**⇑	*e*P	**P**	**12 59 07.3**	**-0.1**	
KLR			pmax	pmax			
	comp=Z,15nm,0.9s						
KLR	**Kul'dur**	**58.03 343**	P	**P**	**12 59 07.4**	**0.0**	
	comp=Z,35nm,1.0s,baz=165,slow=4.4,SNR=25						
UTHA	**Uthaitani**	**58.05 292**	P	**P**	**12 59 09.1**	**+1.0**	
	comp=Z,247µm,0.8s						
LHMI	**Lhok Sumawe**	**58.05 280**	P	**P**	**12 59 07.8**	**-0.4**	
XAN	**Xi'an**	**58.11 316**	P	**P**	**12 59 09.0**	**+0.7**	
XAN			S	**S**	**13 07 06.3**	**-1.8**	
XAN			pmax	pmax			
	comp=Z,210nm,0.9s						
XAN			pmax	pmax			
	comp=Z,790nm,3.7s						
XAN			LR	LR			
	comp=Z,710nm,18.4s						
XAN			LR	LR			
	comp=Z,820nm,17.3s						
XAN			LR	LR			
	comp=Z,1µm,19.5s						
XAN	**Xi'an**	**58.11 316**	IAMs_20	IAMs_20	13 21 51.1		
	comp=Z,1µm,20.0s						
GRNR	**Gornyy**	**58.23 347**⇓	*i*P	**P**	**12 59 09.6**	**+0.8**	
GRNR			*i*		12 59 13.1		
GRNR			*e*S	**S**	**13 07 12.2**	**+3.2**	
GRNR			pmax	pmax			
	comp=Z,30nm,1.0s						
GRNR			smax	smax			
	comp=N,3.0nm,1.0s						
PHRA	**Phrae**	**58.24 296**	P	**P**	**12 59 10.6**	**+1.2**	
	comp=N,45nm,1.1s						
MLSI	**Meulaboh, Aceh**	**58.42 278**	P	**P**	**12 59 09.4**	**-1.4**	
	comp=N,166nm,1.3s						
KMI	**Kunming**	**58.51 304**	P	**P**	**12 59 13.0**	**+1.5**	
KMI			pP	pP	12 59 19.8	+0.3	
KMI			PcP	**PcP**	**13 00 03.0**	**+1.1**	
KMI			S	**S**	**13 07 10.5**	**-3.5**	
KMI			pmax	pmax			
	comp=N,140nm,1.2s						
KMI			pmax	pmax			
	comp=N,610nm,3.1s						
KMI			LR	LR			
	comp=N,440nm,17.6s						
KMI			LR	LR			
	comp=N,710nm,20.9s						
KMI			LR	LR			
	comp=N,1µm,23.3s						
KMI	**Kunming**	**58.51 304**	IAMs_20	IAMs_20	13 20 23.7		
	comp=Z,1µm,22.0s						
PET	**Petropavlovsk**	**58.59 3**	*e*P	**P**	**12 59 11.1**	**-0.1**	
PET			*e*S	**S**	**13 07 09.5**	**-4.0**	
PET					13 13 35.1		
PET			MLR	MLR			
	comp=Z,3µm,22.0s						
PET			MLR	MLR			
	comp=Z,2µm,15.0s						
PEA0B	**Petropavlovsk-**	**58.63 3**⇓	*e*P	**P**	**12 59 12.3**	**+0.8**	
PEA0B	**Petropavlovsk-**	**58.63 3**	P	**P**	**12 59 12.3**	**+0.8**	
PETK	**Petropavlovsk-**	**58.63 3**	P	**P**	**12 59 12.4**	**+0.9**	
	comp=Z,49nm,0.8s,baz=172,slow=8.5,SNR=30						
PETK			LR	LR	13 20 43.8		
	comp=Z,841nm,21.7s,baz=192,slow=32						
UMPA	**Umpang Tak**	**58.77 293**	P	**P**	**12 59 14.4**	**+1.2**	
	comp=Z,174µm,1.1s						
LAMP	**Lampang**	**58.78 296**	P	**P**	**12 59 14.6**	**+1.4**	
	comp=Z,684µm,0.8s						
CMAR	**Chiang Mai Arr**	**59.38 295**	P	**P**	**12 59 18.9**	**+1.4**	
	comp=Z,172nm,0.8s,baz=111,slow=5.1,SNR=623						
CMAR			PcP	**PcP**	**13 00 06.2**	**+1.1**	
	comp=Z,25nm,0.8s,baz=101,slow=2.8,SNR=7.0						
CMAR			LR	LR	13 25 01.5		
	comp=Z,298nm,19.5s,baz=104,slow=36						
CMAR			PKP2bc		13 28 56.5		
	comp=Z,0.8

HHC pmax pmax
comp=Z,21nm,1.0s
HHC pmax pmax
comp=Z,230nm,8.6s
HHC LR LR
comp=Z,440nm,17.8s
HHC LR LR
comp=Z,320nm,16.8s
HHC LR LR
comp=Z,650nm,16.4s
BTO Baotou 61.24 323 *e*P **P 12 59 31.3 +1.4**
HIA Hailar 62.33 335*c i*P **P 12 59 36.8 -0.1**
HIA pmax pmax
comp=Z,230nm,0.9s
HIA Hailar 62.33 335 IAmb IAmb 12 59 39.5
comp=Z,41nm,0.9s
LZH Lanzhou 62.72 316 ⇑P **P 12 59 41.5 +1.5**
LZH pP sP 12 59 49.8 -1.4
LZH S **S 13 08 07.8 +0.4**
LZH pmax pmax
comp=Z,510nm,1.2s
LZH pmax pmax
comp=Z,390nm,4.9s
LZH LR LR
comp=Z,690nm,14.6s
LZH LR LR
comp=Z,980nm,14.1s
LZH LR LR
comp=Z,900nm,16.8s
ZEA Zeya 63.33 343 *e*P **P 12 59 43.4 0.0**
ZEA pmax pmax
comp=E,31nm,0.8s
ZEA pmax pmax
comp=N,59nm,1.0s
ZEA pmax pmax
comp=Z,64nm,1.0s
ZEA MLR MLR
comp=Z,1µm,15.0s
DGPR DIGLIPUR 63.53 288 *e*P **P 12 59 44.5 -1.0**
DGPR IAmb IAmb 12 59 48.0
comp=Z,91nm,0.9s
MA2 Magadan 65.08 358 P **P 12 59 54.3 -0.5**
MA2 pmax pmax
comp=Z,59nm,0.7s
MA2 Magadan 65.08 358 P **P 12 59 54.3 -0.5**
MA2 IAmb IAmb 12 59 56.1
comp=Z,59nm,0.7s
TAOE Nuku Hiva Isla 65.27 97 *e*LR LR 13 19 39.2
comp=Z,896nm,23.2s
SIMRM Sittwe 65.34 295 IAmb IAmb 13 00 00.3
comp=Z,56nm,0.9s
CIT Chita 67.02 334 *e*P **P 13 00 08.2 +0.7**
CIT *e* 13 00 14.3
CIT *e* 13 00 19.7
CIT *e* 13 00 38.2
GTA Gaotai 67.14 317 P **P 13 00 10.3 +1.7**
GTA pP pP 13 00 14.8 -2.0
GTA sP sP 13 00 17.5 -2.4
GTA S **S 13 09 03.5 +1.9**
GTA pmax pmax
comp=Z,290nm,1.0s
GTA pmax pmax
comp=Z,780nm,7.9s
GTA LR LR
comp=Z,270nm,20.3s
GTA LR LR
comp=Z,700nm,21.0s
GTA LR LR
comp=Z,970nm,18.9s
ULN Ulaanbaatar 67.39 328*c i*P **P 13 00 11.0 +0.9**
ULN pmax pmax
comp=Z,31nm,0.7s
ULN Ulaanbaatar 67.39 328 P **P 13 00 11.0 +0.9**
ULN IAmb IAmb 13 00 12.2
comp=Z,39nm,1.0s
ULN IAMs_20 IAMs_20 13 31 00.9
comp=Z,731nm,19.0s
CASY Casey 67.57 198 P **P 13 00 11.0 +0.3**
CASY IAmb IAmb 13 00 12.3
comp=Z,58nm,1.0s
CASY Casey 67.57 198 IAMs_20 IAMs_20 13 25 52.0
comp=Z,2µm,21.0s
SONM Songino Array 67.72 327 P **P 13 00 12.9 +0.7**
comp=Z,12nm,0.5s,baz=138,slow=4.9,SNR=88
SONM PKPPKP **P'P'df 13 28 34.1 +0.7**
comp=Z,2.0nm,1.0s,baz=256,slow=2.9,SNR=7.0
SONM LR LR 13 29 46.1
comp=Z,429nm,19.2s,baz=134,slow=36
SHL Shillong 67.83 300 *e*P **P 13 00 13.7 +0.4**
SHL ⇑*i*P **pP 13 00 15.0 -6.4**
UNV Unalaska Valle 67.88 24 IAMs_20 IAMs_20 13 25 46.7
comp=Z,3µm,19.0s
SEY Seymchan 68.41 359‖ *e*P **P 13 00 16.0 0.0**
SEY Seymchan 68.41 359 P **P 13 00 15.8 -0.2**
comp=Z,15nm,0.9s,baz=115,slow=1.5,SNR=11
LSA Lhasa 69.76 304 P **P 13 00 26.9 +1.2**
LSA Lhasa 69.76 304 IAMs_20 IAMs_20 13 28 39.2
comp=Z,632nm,21.0s
FALS False Pass 69.87 25 IAmb IAmb 13 00 26.5
comp=Z,66nm,0.8s
FALS IAMs_20 IAMs_20 13 28 23.3
comp=Z,3µm,20.0s
YAK Yakutsk 70.07 348 *e*P **P 13 00 26.1 -0.1**
YAK *e* 13 00 51.9
YAK *e*S **S 13 09 35.4 +0.2**
YAK *e**SS **SKiKP 13 10 01.1 -10**
YAK pmax pmax
comp=Z,46nm,1.1s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,12nm,1.2s
YAK smax smax
comp=E,588nm,4.3s
YAK smax smax
comp=N,717nm,4.3s
YAK Yakutsk 70.07 348 P **P 13 00 26.1 -0.1**
comp=N,15nm,0.7s,baz=212,slow=1.7,SNR=10
YAK Yakutsk 70.07 348 P **P 13 00 26.0 -0.1**
YAK IAmb IAmb 13 00 44.2
comp=Z,50nm,1.0s
ZAK Zakamensk 70.88 328 *e*P **P 13 00 31.7 +0.1**
ZAK pmax pmax
comp=Z,56nm,0.8s
BOD Bodaibo 71.04 339 *e*P **P 13 00 31.8 -0.5**
BOD pmax pmax
comp=Z,40nm,0.9s
GTK Tadong 71.16 301 *e*P **P 13 00 35.1 +1.3**
GTK IAmb IAmb 13 00 43.8
comp=Z,69nm,1.1s
TLY Talaya 71.45 330*c i*P **P 13 00 35.3 +0.4**
TLY pmax pmax
comp=Z,21nm,0.9s
TLY Talaya 71.45 330 P **P 13 00 35.1 +0.2**
comp=Z,17nm,0.9s,baz=179,slow=2.1,SNR=9.4
TLY Talaya 71.45 330 P **P 13 00 35.3 +0.4**
IRK Irkutsk 71.47 330 *e*P **P 13 00 33.9 -1.1**
IRK pmax pmax
comp=Z,66nm,0.7s
BWNR Bhubaneshwar 71.81 293 *e*P **P 13 00 38.4 +0.8**
BWNR IAmb IAmb 13 00 39.8
comp=Z,147nm,0.2s
TAPN Taplejung 71.93 301 *e*P **P 13 00 39.4 +0.7**
comp=Z,236nm,0.9s
VNDA Vanda 71.93 178 P **P 13 00 38.6 +1.2**
comp=Z,26nm,0.8s,baz=336,slow=6.9,SNR=95
VNDA Vanda 71.93 178 IAmb IAmb 13 00 40.0
comp=Z,42nm,0.9s
ODAN Odare 72.06 300 *e*P **P 13 00 40.1 +0.7**
comp=Z,334nm,0.7s
SBA Scott Base 72.46 177 P **P 13 00 42.6 +2.1**
SBA pmax pmax
comp=Z,117nm,1.5s
SBA Scott Base 72.46 177 P **P 13 00 42.6 +2.1**
SBA IAmb IAmb 13 00 52.1
comp=Z,117nm,1.4s
BOK Bokaro 72.57 297 *e*P **P 13 00 42.4 +0.2**
BOK IAmb IAmb 13 00 52.3
comp=Z,52nm,1.1s
RAMN Ramite 72.77 300 *e*P **P 13 00 44.1 +0.5**
comp=Z,56nm,0.6s
MOY Mondy 72.80 329 *e*P **P 13 00 43.7 +0.6**
MOY pmax pmax
comp=Z,88nm,1.4s
JIRN Jiri 73.31 301 *e*P **P 13 00 47.6 +0.6**
comp=Z,184nm,0.8s

GUN Gumba 73.64 301 *e*P **P 13 00 49.6 +0.7**
comp=Z,188nm,0.7s
CHIR Chirikof Islan 73.87 27 IAMs_20 IAMs_20 13 28 37.3
comp=Z,3µm,19.0s
GAMB Gambell 73.87 15 IAmb IAmb 13 01 10.5
comp=Z,101nm,1.2s
GAMB IAMs_20 IAMs_20 13 27 08.5
comp=Z,1µm,21.0s
PKI Pulchoki 73.95 301 *e*P **P 13 00 51.0 +0.3**
comp=Z,30nm,1.2s
PKIN Phulchoki 73.97 301 *e*P **P 13 00 50.9 +0.2**
comp=Z,90nm,0.9s
BILL Bilibino 74.03 5*c i*P **P 13 00 50.0 +0.1**
BILL *i* 13 01 08.8
BILL *i* 13 03 36.8
BILL pmax pmax
BILL comp=Z,60nm,1.0s MLR MLR
comp=Z,541nm,17.0s
KKN Kakani 74.12 301 *e*P **P 13 00 52.0 +0.4**
comp=Z,150nm,0.8s
DMN Daman 74.22 301 *e*P **P 13 00 52.9 +0.7**
comp=Z,434nm,1.1s
PALK Pallekele 74.31 279 *i* P **P 13 00 52.9 +0.1**
SNR=8.5
PALK Pallekele 74.31 279*c i*P **P 13 00 52.7 0.0**
PALK Pallekele 74.31 279 P **P 13 00 53.1 +0.4**
PALK IAmb IAmb 13 00 54.3
PALK comp=Z,66nm,0.9s IAMs_20 IAMs_20 13 28 44.9
comp=Z,418nm,22.0s
GKN Gorkha 74.72 301 *e*P **P 13 00 55.4 +0.4**
comp=Z,728nm,1.4s
KOLN Koldanda 75.55 300 *e*P **P 13 01 00.0 +0.2**
comp=Z,485nm,1.2s
DANN Dangsing 75.56 301 *e*P **P 13 01 00.0 0.0**
comp=Z,342nm,1.1s
OHAK Old Harbor 75.75 26 IAmb IAmb 13 01 20.9
comp=Z,163nm,1.2s
KDAK Kodiak Island 76.38 26 P **P 13 01 04.8 +1.2**
KDAK pmax pmax
comp=Z,120nm,1.2s
KDAK Kodiak Island 76.38 26 P **P 13 01 04.8 +1.2**
KDAK IAmb IAmb 13 01 24.6
comp=Z,120nm,1.1s
WMQ Urumqi 77.22 317 *e*P **P 13 01 10.0 +1.2**
WMQ pP PcP 13 01 19.0 -0.4
WMQ pmax pmax
WMQ comp=Z,60nm,1.3s
WMQ pmax pmax
WMQ comp=Z,330nm,3.7s
WMQ LR LR
WMQ comp=Z,570nm,29.0s
WMQ LR LR
comp=Z,630nm,29.2s
HYB Hyderabad 77.96 289 *i* P **P 13 01 12.0 -1.4**
HYB Hyderabad 77.96 289 *e*P **P 13 01 12.8 -0.6**
HYB IAmb IAmb 13 01 14.6
comp=Z,28nm,0.8s
NGP Nagpur 78.17 293 *e*P **P 13 01 13.5 -1.0**
NGP IAmb IAmb 13 01 23.6
comp=Z,35nm,0.7s
TIXI Tiksi 78.92 352‖ *e*P **P 13 01 17.0 -0.5**
TIXI pmax pmax
comp=Z,25nm,1.7s
TIXI Tiksi 78.92 352 P **P 13 01 16.2 -1.3**
comp=Z,6.6nm,0.9s,baz=360,slow=24,SNR=8.7
TIXI Tiksi 78.92 352 P **P 13 01 16.2 -1.3**
SEW Seward 79.02 25 IAMs_20 IAMs_20 13 35 13.3
comp=Z,3µm,18.0s
SKT Skwentna 79.21 23 IAMs_20 IAMs_20 13 34 11.2
comp=Z,2µm,20.0s
SUA Susitna One 79.23 24 IAmb IAmb 13 01 39.7
comp=Z,92nm,0.8s
RDOG Red Dog Mine 79.48 15 IAMs_20 IAMs_20 13 33 04.6
comp=Z,1µm,20.0s
PPLA Purkeypile 79.49 22 IAmb IAmb 13 01 41.6
comp=Z,164nm,1.6s
PPLA IAMs_20 IAMs_20 13 33 15.4
comp=Z,2µm,20.0s
PMR Palmer 79.95 24 IAMs_20 IAMs_20 13 31 54.8
comp=Z,1µm,20.0s
BHPL Bhopal 80.03 295 *e*P **P 13 01 24.3 -0.4**
BHPL IAmb IAmb 13 01 26.9
comp=Z,31nm,0.8s
KNK Knik Glacier 80.13 24 IAMs_20 IAMs_20 13 30 51.6
comp=Z,2µm,21.0s
GHO Glory Hole Cre 80.13 24 IAmb IAmb 13 01 45.2
comp=Z,88nm,0.8s
KTH Kantishna Hill 80.34 22 IAmb IAmb 13 01 45.5
comp=Z,93nm,1.0s
KTH IAMs_20 IAMs_20 13 35 01.0
comp=Z,2µm,20.0s
SML Sawmill 80.39 24 IAMs_20 IAMs_20 13 32 30.4
comp=Z,2µm,20.0s
TRF Thorofare Moun 80.51 22 IAmb IAmb 13 01 47.9
comp=Z,53nm,0.8s
TRF IAMs_20 IAMs_20 13 33 59.5
comp=Z,3µm,19.0s
FID Port Fidalgo 80.62 25 IAmb IAmb 13 01 47.3
comp=Z,103nm,0.9s
SCM Sheep Creek Mo 80.81 24 IAMs_20 IAMs_20 13 36 52.5
comp=Z,2µm,19.0s
DGAR Diego Garcia 80.99 263*c i*P **P 13 01 30.0 0.0**
DGAR pmax pmax
comp=Z,126nm,1.0s
DGAR Diego Garcia 80.99 263 P **P 13 01 30.3 +0.4**
RND Reindeer 81.03 22 IAmb IAmb 13 01 49.4
comp=Z,101nm,0.9s
RND IAMs_20 IAMs_20 13 33 41.2
comp=Z,2µm,20.0s
MCK McKinley 81.18 22 P **P 13 01 29.3 -0.6**
MCK pmax pmax
comp=Z,227nm,1.0s
MCK McKinley 81.18 22 P **P 13 01 29.3 -0.6**
MCK IAMs_20 IAMs_20 13 34 07.0
comp=Z,3µm,19.0s
BWN Browne 81.22 22 IAMs_20 IAMs_20 13 37 07.7
comp=Z,2µm,20.0s
MLY Manley 81.24 21 IAmb IAmb 13 01 51.1
comp=Z,101nm,1.1s
MLY IAMs_20 IAMs_20 13 33 06.5
comp=Z,1µm,19.0s
NDI New Delhi 81.25 300 *e*P **P 13 01 31.5 +0.5**
DHY Denali Highway 81.43 23 IAmb IAmb 13 01 52.4
comp=Z,66nm,0.9s
NEA Nenana 81.58 21 IAmb IAmb 13 01 52.1
comp=Z,96nm,1.0s
SMLA Simla 81.78 302 *e*P **P 13 01 34.1 +0.4**
MK31 Makanchi Array 81.80 319 *i* P **P 13 01 33.8 +0.2**
MK31 pmax pmax
comp=Z,86nm,0.9s
MK31 Makanchi Array 81.80 319 IAmb IAmb 13 01 35.3
comp=Z,62nm,0.8s
MKAR Makanchi Array 81.80 319 P **P 13 01 34.0 +0.5**
comp=Z,69nm,0.8s,baz=106,slow=5.7,SNR=457
MKAR S **S 13 11 45.0 -0.3**
comp=Z,1.2nm,1.1s,baz=98,slow=10,SNR=4.2
MKAR PKKPbc **PKKPbc 13 20 04.9 -1.9**
comp=Z,0.5nm,0.7s,baz=291,slow=2.1,SNR=5.1
MKAR PKPPKP 13 28 11.3
comp=Z,0.4nm,0.8s,baz=266,slow=0.9,SNR=4.3
MKAR LR LR 13 37 30.5
comp=Z,564nm,20.4s,baz=90,slow=35
WRH Wood River Hil 81.88 22 IAmb IAmb 13 01 53.7
comp=Z,96nm,1.1s
WRH IAMs_20 IAMs_20 13 37 24.7
comp=Z,1µm,20.0s
MNCI Minicoy 81.95 279 P **P 13 01 34.7 -0.3**
MAKZ Makanchi 82.01 319 *i* P **P 13 01 34.4 -0.3**
MAKZ pmax pmax
comp=Z,118nm,0.9s
MAKZ Makanchi 82.01 319 P **P 13 01 35.1 +0.4**
MAKZ IAmb IAmb 13 01 36.3
comp=Z,116nm,0.8s
MAKZ IAMs_20 IAMs_20 13 38 58.7
comp=Z,714nm,20.0s
CCB Clear Creek Bu 82.08 22 IAmb IAmb 13 01 54.5
comp=Z,67nm,1.1s
CCB IAMs_20 IAMs_20 13 38 46.9
comp=Z,2µm,19.0s
GLB Gilahina Butte 82.09 25 IAMs_20 IAMs_20 13 36 16.4
comp=Z,1µm,19.0s
MDM Murphy Dome 82.09 21 IAmb IAmb 13 01 54.8
comp=Z,58nm,1.1s
PAX Paxson 82.13 24 IAmb IAmb 13 01 55.9
comp=Z,36nm,1.1s

PAX IAMs_20 IAMs_20 13 35 34.3
comp=Z,2µm,20.0s
COLA College 82.18 21*c i*P **P 13 01 33.8 -1.3**
COLA pmax pmax
comp=Z,32nm,0.8s
COLA College 82.18 21 P **P 13 01 34.0 -1.1**
COLA IAmb IAmb 13 01 55.1
comp=Z,117nm,0.9s
TGL Tana Glacier 82.20 26 IAmb IAmb 13 01 56.9
comp=Z,139nm,1.2s
TGL IAMs_20 IAMs_20 13 31 48.5
comp=Z,2µm,19.0s
HDA Harding Lake 82.28 22 IAMs_20 IAMs_20 13 36 59.1
comp=Z,3µm,19.0s
MCARA McCarthy VSAT 82.40 26 IAMs_20 IAMs_20 13 37 32.7
comp=Z,2µm,18.0s
IL31 82.48 22 IAmb IAmb 13 01 56.4
comp=Z,56nm,1.0s
ILAR Eielson Array 82.48 22 P **P 13 01 35.2 -1.5**
comp=Z,17nm,0.8s,baz=245,slow=5.4,SNR=196
ILAR PKKPbc **PKKPbc 13 20 02.5 -3.5**
comp=Z,1.4nm,0.7s,baz=11,slow=0.6,SNR=14
ILAR LR LR 13 36 09.8
comp=Z,1µm,19.7s,baz=238,slow=34
BALM Baldy 82.54 26 IAmb IAmb 13 01 58.0
comp=Z,71nm,0.9s
BALM IAMs_20 IAMs_20 13 31 46.4
comp=Z,1µm,20.0s
POO Poona 82.56 289‖ *i*P **P 13 01 36.0 -2.2**
comp=Z,100nm,0.5s
POO *e*P **P 13 01 37.1 -1.0**
POO IAmb IAmb 13 01 41.6
comp=Z,39nm,0.7s
ZAA0 Zalesovo Array 82.56 326 IAmb IAmb 13 01 39.5
comp=Z,27nm,0.7s
ZAA0 IAMs_20 IAMs_20 13 38 27.0
comp=Z,435nm,19.0s
ZALV Zalesovo Beam 82.56 326 P **P 13 01 36.7 -0.6**
comp=Z,36nm,0.7s,baz=111,slow=6.0,SNR=48
ZALV LR LR 13 38 38.6
comp=Z,284nm,20.7s,baz=120,slow=36
COLD Coldfoot 82.65 19 IAMs_20 IAMs_20 13 36 23.8
comp=Z,1µm,20.0s
DHRM DHARAMSHALA 82.72 303 *e*P **P 13 01 38.4 -0.6**
PDGK Podgornoye 82.75 315 *i* P **P 13 01 38.7 -0.1**
PDGK pmax pmax
comp=Z,65nm,0.9s
MENT Mentasta 82.82 24 IAmb IAmb 13 01 59.3
comp=Z,33nm,0.8s
MENT IAMs_20 IAMs_20 13 32 36.6
comp=Z,2µm,21.0s
DOT Dot Lake 83.01 23 IAMs_20 IAMs_20 13 32 45.6
comp=Z,2µm,21.0s
SCRK Sand Creek 83.20 23 IAmb IAmb 13 02 01.6
comp=Z,72nm,1.1s
SCRK IAMs_20 IAMs_20 13 34 30.4
comp=Z,2µm,20.0s
PRP Porcupine Dome 83.36 21 IAMs_20 IAMs_20 13 35 37.6
comp=Z,1µm,21.0s
TOLK Toolik Lake Re 83.64 18 IAmb IAmb 13 02 04.3
comp=Z,40nm,0.9s
FYU Fort Yukon 83.98 21 IAmb IAmb 13 02 05.8
comp=Z,34nm,1.0s
QSPA South Pole Qui 84.30 180 P **P 13 01 47.1 +0.7**
KSH Kashi 84.45 310 P **P 13 01 50.0 +2.4**
KSH sP sP 13 02 01.3 +2.4
KSH S **S 13 12 14.0 +1.4**
KSH SS **SS 13 17 49.0 +5.4**
KSH pmax pmax
comp=Z,390nm,0.9s
KSH pmax pmax
comp=Z,2µm,7.8s
KSH LR LR
comp=Z,470nm,6.7s
KSH LR LR
comp=Z,590nm,5.9s
KSH LR LR
comp=Z,450nm,5.7s
HYT Haines Junctio 84.62 27 IAMs_20 IAMs_20 13 35 12.4
comp=Z,1µm,20.0s
EGAK Eagle 84.66 23 IAmb IAmb 13 02 09.3
comp=Z,53nm,0.9s
EGAK IAMs_20 IAMs_20 13 39 02.9
comp=Z,2µm,19.0s
ULHL Ulahol 84.82 313 P **P 13 01 50.9 +1.4**
SNR=7.6
NRN Naryn 84.83 312 IAmb IAmb 13 02 00.2
comp=Z,102nm,1.2s
DAWY Dawson 85.06 24 IAmb IAmb 13 02 11.9
comp=Z,52nm,1.2s
DAWY IAMs_20 IAMs_20 13 33 57.7
comp=Z,2µm,22.0s
KURK Kurchatov 85.22 322*c i*P **P 13 01 50.6 -0.4**
KURK pmax pmax
comp=Z,117nm,1.3s
KURK Kurchatov 85.22 322 P **P 13 01 50.8 -0.2**
MAW Mawson 85.26 203 P **P 13 01 51.6 +0.7**
baz=85,SNR=18
MAW Mawson 85.26 203 P **P 13 01 51.2 +0.3**
MAW pmax pmax
comp=Z,26nm,1.2s
MAW Mawson 85.26 203 P **P 13 01 51.6 +0.7**
comp=Z,33nm,0.7s,baz=97,slow=6.5,SNR=38
MAW LR LR 13 36 15.6
comp=Z,584nm,21.7s,baz=70,slow=33
MAW Mawson 85.26 203 P **P 13 01 51.2 +0.3**
MAW IAmb IAmb 13 02 00.7
comp=Z,26nm,1.2s
TKM2 Tokmak 2 85.43 314 *i* P **P 13 01 51.8 -0.8**
TKM2 pmax pmax
comp=Z,86nm,0.7s
TKM2 Tokmak 2 85.43 314 P **P 13 01 52.9 +0.3**
SNR=123
NIL Nilore 85.50 304 P **P 13 01 52.8 -0.1**
NIL pmax pmax
comp=Z,232nm,0.8s
NIL Nilore 85.50 304 P **P 13 01 52.8 -0.1**
KZA Kyzart 85.51 313 P **P 13 01 54.8 +1.5**
SNR=82
WHY Whitehorse 85.77 28 IAmb IAmb 13 02 15.4
comp=Z,52nm,1.4s
KBK Karagaybulak 85.84 313 P **P 13 01 55.2 +0.6**
SNR=59
CHMS Chumysh 86.06 314 P **P 13 01 55.9 +0.4**
SNR=65
UCH Uchtor 86.08 313 P **P 13 01 57.3 +1.2**
SNR=66
FRU1 Bishkek 86.11 314 IAmb IAmb 13 01 57.8
comp=Z,70nm,0.9s
AAK Ala-Archa 86.17 313 *i* P **P 13 01 56.7 +0.5**
SNR=78
AAK Ala-Archa 86.17 313*c i*P **P 13 01 56.6 +0.5**
AAK pmax pmax
comp=Z,67nm,1.0s
AAK Ala-Archa 86.17 313 LR LR 13 40 37.9
comp=Z,458nm,20.5s,baz=88,slow=36
AAK Ala-Archa 86.17 313 P **P 13 01 56.8 +0.5**
SNR=61
AAK Ala-Archa 86.17 313 P **P 13 01 56.4 +0.2**
AAK IAmb IAmb 13 01 58.2
comp=Z,62nm,1.0s
AAK IAMs_20 IAMs_20 13 40 27.0
comp=Z,601nm,20.0s
USP Ospenovka 86.29 314 P **P 13 01 57.1 +0.5**
SNR=60
AML Almayashu 86.66 313 P **P 13 01 59.9 +1.0**
SNR=84
EKS2 Erkin-Say 86.69 313 P **P 13 01 59.2 +0.5**
SNR=43
BHUJ Bhuj 87.09 294 *e*P **P 13 02 01.1 +0.3**
BHUJ IAmb IAmb 13 02 03.0
comp=Z,122nm,0.9s
NRIK Noril'sk 87.18 341 *e*P **P 13 01 59.0 -1.3**
NRIK Noril'sk 87.18 341 P **P 13 01 59.4 -0.9**
comp=Z,18nm,0.9s,baz=108,slow=4.1,SNR=12
NRIK LR LR 13 40 02.8
comp=Z,394nm,21.5s,baz=104,slow=35
JCC Jacoby Creek, 87.56 49 IAMs_20 IAMs_20 13 31 51.5
comp=Z,2µm,22.0s
KBO Bosley Butte 87.65 47 IAMs_20 IAMs_20 13 34 23.7
comp=Z,2µm,21.0s
KRMB Red Mountain 87.77 48 IAMs_20 IAMs_20 13 33 32.0
comp=Z,3µm,21.0s
HUMO Hull Mountain 88.64 47 IAMs_20 IAMs_20 13 34 13.9
comp=Z,3µm,20.0s
WDC Whiskeytown Da 88.64 49 IAMs_20 IAMs_20 13 33 22.1
comp=Z,2µm,22.0s

YBH	**Yreka Blue Hor**	**88.69**	**48**	P	**P**		**13 02 08.6**	**+0.4**		
	comp=Z,2.3nm,0.9s,baz=270,slow=3.0,SNR=3.3									
YBH				PKKPbc	**PKKPbc**		**13 19 49.4**	**-0.9**		
	comp=Z,2.3nm,1.1s,baz=135,slow=1.2,SNR=4.7									
YBH				LR	LR		13 34 24.5			
	comp=Z,3µm,21.9s,baz=278,slow=30									
YBH	**Yreka Blue Hor**	**88.69**	**48**	IAMs_20	IAMs_20		13 33 28.2			
	comp=Z,3µm,22.0s									
NLWA	**Neilton Lookou**	**88.77**	**42**	IAMs_20	IAMs_20		13 35 42.9			
	comp=Z,2µm,20.0s									
INK	**Inuvik**	**88.81**	**21**	P	**P**		**13 02 07.2**	**-0.8**		
	comp=Z,12nm,0.9s,baz=240,slow=5.0,SNR=23									
INK				PKKPbc	**PKKPdf**		**13 19 48.0**	**+2.2**		
	comp=Z,7.4nm,0.9s,baz=19,slow=4.1,SNR=12									
INK				LR	LR		13 40 27.9			
	comp=Z,1µm,19.6s,baz=240,slow=35									
INK	**Inuvik**	**88.81**	**21**	IAMs_20	IAMs_20		13 40 38.6			
	comp=Z,2µm,20.0s									
KBL	**Kabul**	**89.08**	**305**	P	**P**		**13 02 09.4**	**-1.0**		
KBL				pmax	pmax					
	comp=Z,47nm,0.9s									
KBL				MLR	MLR					
	comp=Z,700nm,22.0s									
KBL	**Kabul**	**89.08**	**305**	P	**P**		**13 02 09.4**	**-1.0**		
KBL				IAmb	IAmb		13 02 10.6			
	comp=Z,47nm,0.8s									
KBL				IAMs_20	IAMs_20		13 40 51.3			
	comp=Z,666nm,22.0s									
KK31	**Karatay Array**	**89.13**	**313**⇑	*e*P	**P**		**13 02 09.2**	**-1.0**		
KK31				pmax	pmax					
	comp=Z,22nm,0.8s									
KK31	**Karatay Array**	**89.13**	**313**	IAmb	IAmb		13 02 11.2			
	comp=Z,27nm,0.8s									
KKAR	**Karatay Array**	**89.13**	**313**	IAmb	IAmb		13 02 11.2			
	comp=Z,27nm,0.8s									
ORV	**Oroville**	**89.29**	**50**	IAMs_20	IAMs_20		13 34 03.3			
	comp=Z,1µm,21.0s									
AFDM	**Forest Hills D**	**89.61**	**51**	IAMs_20	IAMs_20		13 33 49.0			
	comp=Z,1µm,19.0s									
CMB	**Columbia Colle**	**89.95**	**52**	IAMs_20	IAMs_20		13 39 28.1			
	comp=Z,1µm,18.0s									
LON	**Longmire**	**90.06**	**43**	IAMs_20	IAMs_20		13 35 02.0			
	comp=Z,2µm,21.0s									
BEKR	**Beckworth**	**90.20**	**50**	IAMs_20	IAMs_20		13 34 20.5			
	comp=Z,2µm,22.0s									
RUBR	**Rubicon Trail**	**90.26**	**51**	IAMs_20	IAMs_20		13 34 10.0			
	comp=Z,1µm,21.0s									
PINE	**Pine Mountain**	**90.27**	**46**	IAMs_20	IAMs_20		13 38 25.9			
	comp=Z,2µm,20.0s									
MOD	**Modoc Plateau**	**90.50**	**48**	IAMs_20	IAMs_20		13 35 12.0			
	comp=Z,2µm,21.0s									
LLLB	**Lillooet**	**90.56**	**39**	IAMs_20	IAMs_20		13 40 46.9			
	comp=Z,1µm,19.0s									
VCNR	**Virginia City**	**90.67**	**51**	IAMs_20	IAMs_20		13 34 56.1			
	comp=Z,1µm,20.0s									
PNTR	**Pine Nut**	**90.69**	**51**	IAMs_20	IAMs_20		13 34 42.5			
	comp=Z,1µm,21.0s									
BRVK	**Borovoye**	**90.75**	**323**	*i* P	**P**		**13 02 16.0**	**-1.5**		
BRVK				pmax	pmax					
	comp=Z,48nm,1.8s									
BRVK	**Borovoye**	**90.75**	**323**	P	**P**		**13 02 15.7**	**-1.8**		
BRVK				IAmb	IAmb		13 02 36.7			
	comp=Z,25nm,0.9s									
OSI	**Osito Audit: C**	**90.89**	**55**	IAMs_20	IAMs_20		13 34 51.2			
	comp=Z,943nm,18.0s									
PAHR	**Pah Rah Range**	**90.93**	**50**	IAMs_20	IAMs_20		13 35 24.7			
	comp=Z,1µm,20.0s									
MDPB	**Devils Postpil**	**90.93**	**52**	IAMs_20	IAMs_20		13 33 26.1			
	comp=Z,1µm,22.0s									
YERR	**Yerington**	**90.96**	**51**	IAMs_20	IAMs_20		13 35 04.8			
	comp=Z,1µm,22.0s									
OMMB	**Old Mammoth Mi**	**90.99**	**52**	IAMs_20	IAMs_20		13 33 26.7			
	comp=Z,1µm,22.0s									
ISA	**Isabella, Lake**	**91.20**	**54**	P	**P**		**13 02 21.1**	**+1.0**		
ISA				pmax	pmax					
	comp=Z,8.0nm,1.2s									
ISA	**Isabella, Lake**	**91.20**	**54**	P	**P**		**13 02 21.1**	**+1.0**		
NVAR	**Mina Array Bea**	**91.63**	**52**	P	**P**		**13 02 23.1**	**+0.9**		
	comp=Z,6.1nm,0.9s,baz=255,slow=6.5,SNR=30									
NVAR				PKKPbc	**PKKPbc**		**13 19 43.4**	**+0.4**		
	comp=Z,2.4nm,0.8s,baz=112,slow=2.4,SNR=11									
NVAR				PKPPKP	**P'P'df**		**13 27 50.4**	**-1.7**		
	comp=Z,0.6nm,0.7s,baz=123,slow=3.7,SNR=4.0									
NVAR				LR	LR		13 41 16.3			
	comp=Z,634nm,18.1s,baz=282,slow=34									
NV11	**Mina Array Sit**	**91.74**	**52**	IAmb	IAmb		13 02 44.1			
	comp=Z,32nm,1.3s									
NV11				IAMs_20	IAMs_20		13 40 46.4			
	comp=Z,1µm,20.0s									
WVOR	**Wild Horse Val**	**91.79**	**48**	P	**P**		**13 02 22.5**	**-0.2**		
WVOR				pmax	pmax					
	comp=Z,8.0nm,2.4s									
WVOR	**Wild Horse Val**	**91.79**	**48**	IAMs_20	IAMs_20		13 35 53.2			
	comp=Z,3µm,21.0s									
KVN	**Kaiserville**	**91.85**	**51**	IAmb	IAmb		13 02 43.8			
	comp=Z,19nm,1.3s									
KVN				IAMs_20	IAMs_20		13 48 53.1			
	comp=Z,832nm,19.0s									
B08A	**Colville Reser**	**91.93**	**42**	IAMs_20	IAMs_20		13 39 22.3			
	comp=Z,2µm,21.0s									
DAC	**Darwin (Calif)**	**91.97**	**54**	IAMs_20	IAMs_20		13 37 45.8			
	comp=Z,2µm,21.0s									
109C	**Camp Elliot, M**	**92.06**	**57**	IAmb	IAmb		13 02 44.1			
	comp=Z,27nm,1.2s									
109C				IAMs_20	IAMs_20		13 38 53.3			
	comp=Z,1µm,19.0s									
BAR	**Barrett**	**92.40**	**58**	IAmb	IAmb		13 02 31.9			
	comp=Z,17nm,1.2s									
BAR				IAMs_20	IAMs_20		13 38 43.5			
	comp=Z,2µm,18.0s									
C09A	**Chrisman Ranch**	**92.58**	**42**	IAMs_20	IAMs_20		13 38 52.6			
	comp=Z,2µm,19.0s									
BMN	**Battle Mountai**	**92.65**	**50**	IAMs_20	IAMs_20		13 36 00.3			
	comp=Z,1µm,22.0s									
PFO	**Pinyon Flats O**	**92.66**	**57**⇑	*e*P	**P**		**13 02 27.2**	**+0.2**		
PFO				pmax	pmax					
	comp=Z,12nm,1.3s									
PFO	**Pinyon Flats O**	**92.66**	**57**	P	**P**		**13 02 27.9**	**+0.9**		
	comp=Z,3.9nm,0.9s,baz=245,slow=5.8,SNR=6.0									
PFO	**Pinyon Flats O**	**92.66**	**57**	P	**P**		**13 02 27.1**	**+0.2**		
PFO	**Pinyon Flats O**	**92.66**	**57**	IAMs_20	IAMs_20		13 43 47.3			
	comp=Z,1µm,20.0s									
XPFO	**Pion Flat**	**92.66**	**57**	P	**P**		**13 02 27.7**	**+0.7**		
XPFO	**Pion Flat**	**92.66**	**57**	IAMs_20	IAMs_20		13 43 47.3			
	comp=Z,1µm,20.0s									
BMO	**Blue Mountains**	**92.98**	**45**	P	**P**		**13 02 28.4**	**+0.3**		
BMO				pmax	pmax					
	comp=Z,8.0nm,1.0s									
BMO	**Blue Mountains**	**92.98**	**45**	P	**P**		**13 02 28.4**	**+0.3**		
BMO				IAMs_20	IAMs_20		13 36 55.5			
	comp=Z,876nm,18.0s									
SYO	**Syowa Base**	**93.28**	**199**⇓	*i*P	**P**		**13 02 27.4**	**-1.4**		
SYO	**Syowa Base**	**93.28**	**199**⇑	*e*PcP	**P**		**13 02 29.0**	**+0.2**		
SYO	**Syowa Base**	**93.28**	**199**⇑	*i*pP	pP		13 02 35.0	-2.2		
NEW	**Newport**	**93.39**	**42**	P	**P**		**13 02 29.8**	**-0.1**		
	comp=Z,4.1nm,1.0s,baz=264,slow=7.4,SNR=7.5									
R11A	**Troy Canyon, C**	**93.75**	**52**	IAmb	IAmb		13 03 05.6			
	comp=Z,14nm,1.1s									
PLID	**Pearl Lake**	**93.92**	**45**	IAMs_20	IAMs_20		13 37 02.4			
	comp=Z,842nm,20.0s									
MFID	**Camas Ranch**	**93.93**	**47**	IAMs_20	IAMs_20		13 40 33.7			
	comp=Z,2µm,20.0s									
ELK	**Elko**	**94.18**	**50**	P	**P**		**13 02 33.9**	**-0.1**		
	comp=Z,1.8nm,1.0s,baz=252,slow=5.0,SNR=4.3									
ELK	**Elko**	**94.18**	**50**	IAMs_20	IAMs_20		13 37 19.8			
	comp=Z,1µm,22.0s									
113A	**Mohawk Valley,**	**94.85**	**58**	IAMs_20	IAMs_20		13 45 32.3			
	comp=Z,1µm,18.0s									
W13A	**Hualapai Mount**	**94.89**	**55**	IAMs_20	IAMs_20		13 40 16.2			
	comp=Z,834nm,18.0s									
JTMT	**Jette**	**95.26**	**43**	IAMs_20	IAMs_20		13 37 49.6			
	comp=Z,2µm,20.0s									
MSO	**Missoula**	**95.45**	**44**	IAMs_20	IAMs_20		13 37 33.8			
	comp=Z,2µm,20.0s									
Y14A	**Wickenburg**	**95.55**	**57**	IAMs_20	IAMs_20		13 46 45.9			
	comp=Z,749nm,18.0s									
YKA	**Yellowknife Ar**	**95.60**	**28**	P	**P**		**13 02 39.2**	**-0.4**		
	comp=Z,3.8nm,1.0s,baz=271,slow=4.6,SNR=26									
YKA				PP	**PP**		**13 06 29.7**	**-1.1**		
	comp=Z,1.2nm,1.0s,baz=269,slow=7.9,SNR=3.5									
YKA				PKKPbc	**PKKPbc**		**13 19 29.8**	**-3.3**		
	comp=Z,5.0nm,0.8s,baz=87,slow=2.7,SNR=40									
214A	**Organ Pipe Nat**	**95.61**	**59**	IAMs_20	IAMs_20		13 40 33.5			
	comp=Z,1µm,19.0s									
SRIG	**Santa Rosalia**	**95.84**	**63**	IAMs_20	IAMs_20		13 40 17.2			
	comp=Z,2µm,20.0s									
DUG	**Dugway, Tooele**	**96.00**	**50**	IAMs_20	IAMs_20		13 38 03.0			
	comp=Z,1µm,20.0s									
X16A	**Lo Mia Camp, P**	**96.87**	**56**	IAMs_20	IAMs_20		13 48 54.7			
	comp=Z,942nm,18.0s									
AB31	**Akbulak array**	**96.94**	**319**⇑	*e*P	**P**		**13 02 44.0**	**-2.0**		
AB31				pmax	pmax					
	comp=Z,2.0nm,0.6s									
WUAZ	**Wupatki**	**96.96**	**55**	IAMs_20	IAMs_20		13 37 36.1			
	comp=Z,901nm,20.0s									
HSIG		**97.07**	**62**	IAMs_20	IAMs_20		13 40 50.5			
	comp=Z,2µm,20.0s									
TUC	**Tucson**	**97.34**	**58**	IAMs_20	IAMs_20		13 41 08.4			
	comp=Z,1µm,19.0s									
AHID	**Auburn Hatcher**	**97.36**	**48**	IAMs_20	IAMs_20		13 38 59.6			
	comp=Z,2µm,21.0s									
FXWY	**Fox Creek**	**97.42**	**47**	IAMs_20	IAMs_20		13 39 49.3			
	comp=Z,2µm,20.0s									
TPAW	**Teton Pass**	**97.48**	**47**	IAMs_20	IAMs_20		13 42 49.1			
	comp=Z,2µm,19.0s									
IMW	**Indian Meadow**	**97.49**	**47**	IAMs_20	IAMs_20		13 42 33.5			
	comp=Z,2µm,18.0s									
REDW	**Red Top Meadow**	**97.55**	**47**	IAMs_20	IAMs_20		13 39 09.6			
	comp=Z,3µm,21.0s									
SNOW	**Snow King Moun**	**97.62**	**47**	IAMs_20	IAMs_20		13 39 45.5			
	comp=Z,3µm,20.0s									
MOOW	**Moose Ponds**	**97.63**	**47**	IAMs_20	IAMs_20		13 39 23.7			
	comp=Z,2µm,22.0s									
FLWY	**Flagg Ranch**	**97.67**	**46**	IAMs_20	IAMs_20		13 43 06.6			
	comp=Z,1µm,20.0s									
ARU	**Arti**	**97.73**	**326**	*d* iP	**P**		**13 02 48.3**	**-1.1**		
ARU							13 06 46.7			
ARU				S	**SKSac**		**13 13 23.0**	**-2.1**		
ARU				SP	**SP**		**13 15 33.6**	**-2.1**		
ARU				pmax	pmax					
	comp=Z,10.0nm,0.7s									
ARU				MLR	MLR					
	comp=Z,545nm,20.0s									
ARU	**Arti**	**97.73**	**326**	LR	LR		13 47 58.9			
	comp=Z,472nm,20.6s,baz=102,slow=36									
ARU	**Arti**	**97.73**	**326**	P	**P**		**13 02 47.5**	**-1.9**		
ARU				IAmb	IAmb		13 02 48.9			
	comp=Z,10nm,0.7s									
LKWY	**Lake**	**97.88**	**46**	IAMs_20	IAMs_20		13 42 44.3			
	comp=Z,1µm,19.0s									
X18A	**Snowflake**	**98.10**	**56**	IAMs_20	IAMs_20		13 46 30.4			
	comp=Z,954nm,21.0s									
GEYT	**Alibeck**	**98.14**	**307**	P	**P**		**13 02 51.2**	**-0.6**		
	comp=Z,8.0nm,0.9s,baz=162,slow=0.9,SNR=14									
GEYT				PP	**PP**		**13 06 51.3**	**+0.1**		
	comp=Z,8.1nm,1.1s,baz=76,slow=6.3,SNR=5.0									
GEYT				LR	LR		13 47 26.3			
	comp=Z,248nm,21.9s,baz=90,slow=36									
GYA0B	**ALIBECK ARRAY**	**98.14**	**307**	IAmb	IAmb		13 02 52.4			
	comp=Z,12nm,0.9s									
AKTO	**Aktyubinsk**	**98.19**	**320**	LR	LR		13 46 36.2			
	comp=Z,260nm,21.7s,baz=82,slow=35									
W18A	**Petrified Fore**	**98.29**	**55**	IAMs_20	IAMs_20		13 49 53.3			
	comp=Z,927nm,18.0s									
EGMT	**Eagleton**	**98.31**	**42**	IAMs_20	IAMs_20		13 39 00.3			
	comp=Z,2µm,20.0s									
BW06	**Boulder Array**	**98.49**	**48**	IAMs_20	IAMs_20		13 39 58.7			
	comp=Z,2µm,21.0s									
PDAR	**Pinedale Array**	**98.49**	**48**	P	**P**		**13 02 52.5**	**-0.9**		
	comp=Z,0.6nm,0.8s,baz=222,slow=3.6,SNR=6.4									
PDAR				PP	**PP**		**13 06 56.0**	**+1.9**		
	comp=Z,1.5nm,0.9s,baz=269,slow=5.9,SNR=3.8									
PDAR				PKKPbc	**PKKPbc**		**13 19 22.7**	**-2.1**		
	comp=Z,0.7nm,0.8s,baz=104,slow=7.5,SNR=4.9									
PDAR				PKPPKP	**P'P'df**		**13 27 35.8**	**-3.1**		
	comp=Z,1.1nm,1.0s,baz=101,slow=3.0,SNR=5.5									
PDAR				LR	LR		13 43 34.5			
	comp=Z,1µm,19.2s,baz=268,slow=33									
MVCO	**Mesa Verde**	**99.31**	**53**	IAMs_20	IAMs_20		13 43 04.1			
	comp=Z,966nm,20.0s									
BANOM	**Banah**	**99.42**	**295**	P	**Pdif**		**13 02 57.0**	**-0.7**		
UOSS	**Minazif**	**99.48**	**294**	P	**Pdif**		**13 02 56.5**	**-1.5**		
UOSS	**Minazif**	**99.48**	**294**	P	**Pdif**		**13 02 56.8**	**-1.2**		
UOSS				IAmb	IAmb		13 02 57.6			
	comp=Z,22nm,0.8s									
MSFE	**Esma-Masafi**	**99.53**	**295**	P	**Pdif**		**13 02 57.5**	**-0.8**		
HATD	**Hatta, Dubai**	**99.54**	**294**	*i* P	**Pdif**		**13 02 57.4**	**-0.9**		
	SNR=6.1									
ASHO	**Ashiyiah**	**99.60**	**294**	P	**Pdif**		**13 02 57.3**	**-1.3**		
NVL	**N'lazarevskaya**	**99.69**	**192**	*e*P	**Pdif**		**13 02 55.7**	**-2.2**		
NVL				pmax	pmax					
	comp=Z,9.0nm,0.7s									
ALNE	**Al Ain**	**99.86**	**293**	P	**Pdif**		**13 02 58.8**	**-0.9**		
121A	**Cookes Peak, D**	**99.88**	**58**	IAMs_20	IAMs_20		13 43 25.6			
	comp=Z,1µm,19.0s									
NAZ	**Nasa, Dubai**	**99.97**	**294**	P	**Pdif**		**13 02 59.0**	**-1.2**		
RWWY	**Rawlins**	**100.25**	**49**	IAMs_20	IAMs_20		13 45 24.7			
	comp=Z,1µm,19.0s									
ASUD	**Al Ashush, Dub**	**100.26**	**294**	*i* P	**Pdif**		**13 03 00.7**	**-0.7**		
	SNR=10.0									
SMCO	**Snowmass**	**100.50**	**51**	IAMs_20	IAMs_20		13 40 27.1			
	comp=Z,946nm,19.0s									
Y22D	**IRIS PASSCAL I**	**100.61**	**57**	IAMs_20	IAMs_20		13 47 58.7			
	comp=Z,956nm,18.0s									
K22A	**Casper**	**100.73**	**48**	IAMs_20	IAMs_20		13 40 35.9			
	comp=Z,1µm,21.0s									
RES	**Resolute Bay**	**100.92**	**15**	P	**Pdif**		**13 03 02.5**	**-0.7**		
RES	**Resolute Bay**	**100.92**	**15**	P	**Pdif**		**13 03 02.1**	**-1.1**		
	comp=Z,3.0nm,0.8s,baz=322,slow=4.0,SNR=11									
RES				PKKPbc	**PKKPbc**		**13 19 15.7**	**-2.8**		
	comp=Z,2.7nm,0.7s,baz=69,slow=3.3,SNR=9.4									
RES	**Resolute Bay**	**100.92**	**15**		**Pdif**		**13 03 02.5**	**-0.7**		
EPT	**El Paso**	**100.97**	**59**	IAMs_20	IAMs_20		13 40 19.4			
	comp=Z,1µm,21.0s									
ANMO	**Albuquerque**	**100.98**	**56**	PKKPbc	PKKPbc		13 19 17.6	+0.2		
	comp=Z,0.9nm,0.7s,baz=153,slow=6.2,SNR=4.5									
N23A	**Red Feather La**	**101.23**	**50**	IAMs_20	IAMs_20		13 39 41.4			
	comp=Z,830nm,22.0s									
SNAA	**Sanae**	**101.34**	**187**	Pdiff	**Pdif**		**13 03 05.4**	**0.0**		
SNAA	**Sanae**	**101.34**	**187**⇑	*e*P	**Pdif**		**13 03 04.6**	**-0.8**		
SNAA	**Sanae**	**101.34**	**187**		**Pdif**		**13 03 04.2**	**-1.1**		
SNAA				IAMs_20	IAMs_20		13 46 54.5			
	comp=Z,804nm,20.0s									
ISCO	**Idaho Springs**	**101.53**	**51**	IAMs_20	IAMs_20		13 43 04.4			
	comp=Z,904nm,19.0s									
SDCO	**Great Sand Dun**	**101.69**	**53**	IAMs_20	IAMs_20		13 45 03.9			
	comp=Z,1µm,19.0s									
Q24A	**Divide**	**101.92**	**52**	IAMs_20	IAMs_20		13 42 03.9			
	comp=Z,746nm,20.0s									
MNTX	**Cornudas Mount**	**101.92**	**59**	IAMs_20	IAMs_20		13 40 48.8			
	comp=Z,1µm,21.0s									
DGMT	**Dagmar**	**102.00**	**42**	IAMs_20	IAMs_20		13 41 10.7			
	comp=Z,2µm,20.0s									
RSSD	**Black Hills**	**102.46**	**46**	IAMs_20	IAMs_20		13 41 44.5			
	comp=Z,2µm,22.0s									
VNA2	**Neumayer--Watz**	**102.57**	**186**	Pdiff	**Pdif**		**13 03 10.8**	**0.0**		
	baz=159,slow=4.9									
FFC	**Flin Flon**	**102.66**	**35**	IAMs_20	IAMs_20		13 47 54.1			
	comp=Z,1µm,18.0s									
TXAR	**Lajitas Array**	**103.44**	**61**	Pdiff	**Pdif**		**13 03 16.5**	**+0.9**		
	comp=Z,0.7nm,0.9s,baz=256,slow=3.7,SNR=4.6									
TXAR				PKKPbc	**PKKPbc**		**13 19 08.7**	**-1.2**		
	comp=Z,1.8nm,0.8s,baz=122,slow=4.5,SNR=16									
TXAR				PKPPKP	**P'P'df**		**13 27 30.9**	**+0.5**		
	comp=Z,0.4nm,0.8s,baz=134,slow=4.4,SNR=4.5									
PRGR	**Permogore**	**103.67**	**332**	*e*P	**Pdif**		**13 03 13.8**	**-1.9**		
PRGR				pmax	pmax					
	comp=Z,12nm,0.8s									
KSCO	**Kaye Shedlock'**	**103.88**	**51**	IAMs_20	IAMs_20		13 42 31.7			
	comp=Z,1µm,22.0s									
OGNE	**Ogallala**	**104.19**	**49**	IAMs_20	IAMs_20		13 46 53.6			
	comp=Z,1µm,19.0s									
PMSA	**Palmer Station**	**104.30**	**164**	IAMs_20	IAMs_20		13 41 32.8			
	comp=Z,882nm,22.0s									
ZAIG	**Zacatecas**	**104.48**	**68**	IAMs_20	IAMs_20		13 43 58.5			
	comp=Z,815nm,18.0s									
AMTX	**Amarillo**	**104.91**	**56**	IAMs_20	IAMs_20		13 45 38.4			
	comp=Z,1µm,20.0s									
MDND	**Maddock**	**105.13**	**42**	IAMs_20	IAMs_20		13 47 16.1			
	comp=Z,2µm,20.0s									
CBKS	**Cedar Bluff**	**106.14**	**51**	IAMs_20	IAMs_20		13 47 23.9			
	comp=Z,964nm,20.0s									
APA	**Apatity**	**106.57**	**340**⇓	*i* P	**Pdif**		**13 03 30.2**	**+1.7**		
APA				pmax	pmax					
	comp=Z,6.0nm,0.9s									
APA				MLR	MLR					
	comp=Z,2µm,14.0s									
ABTX	**Abilene, Hawle**	**106.75**	**58**	IAMs_20	IAMs_20		13 42 46.4			
	comp=Z,1µm,22.0s									
JCT	**Junction City**	**106.75**	**60**	IAMs_20	IAMs_20		13 47 02.7			
	comp=Z,3µm,19.0s									
U32A	**Winter Ranch,**	**106.97**	**54**	IAMs_20	IAMs_20		13 43 29.8			
	comp=Z,925nm,22.0s									
D32A	**Dogwood Acres,**	**106.97**	**42**	IAMs_20	IAMs_20		13 47 32.0			
	comp=Z,2µm,19.0s									
BGNE	**Belgrade**	**107.05**	**49**	IAMs_20	IAMs_20		13 47 13.4			
	comp=Z,1µm,20.0s									
833A	**Chaparral WMA,**	**107.22**	**62**	IAMs_20	IAMs_20		13 43 49.4			
	comp=Z,1µm,22.0s									
AGMN	**Agassiz Nation**	**107.52**	**41**	IAMs_20	IAMs_20		13 49 34.7			
	comp=Z,1µm,18.0s									
UNM	**Universidad Na**	**107.65**	**72**	IAMs_20	IAMs_20		13 44 56.7			
	comp=Z,611nm,20.0s									
ECSD	**EROS Data Cent**	**107.83**	**46**	IAMs_20	IAMs_20		13 44 28.0			
	comp=Z,2µm,21.0s									
ARCES	**ARCESS Array B**	**108.05**	**343**	PKKPbc	PKKPbc		13 18 54.0	-2.9		
	comp=Z,6.7nm,0.9s,baz=197,slow=0.9,SNR=5.3									
OKCFA	**Oklahoma City**	**108.32**	**55**	IAMs_20	IAMs_20		13 50 28.6			
	comp=Z,784nm,21.0s									
435B	**Jarrell**	**108.64**	**60**	IAMs_20	IAMs_20		13 48 21.6			
	comp=Z,2µm,20.0s									
WHTX	**Lake Whitney,**	**108.64**	**58**	IAMs_20	IAMs_20		13 53 59.5			
	comp=Z,1µm,18.0s									
KBZ	**Khabaz**	**109.15**	**314**	PP	**PP**		**13 08 13.4**	**+0.3**		
	comp=Z,8.4nm,1.3s,baz=48,slow=9.2,SNR=5.2									
HKT	**Hockley**	**110.22**	**60**	IAMs_20	IAMs_20		13 50 08.3			
	comp=Z,3µm,19.0s									
SPMN	**Marine on St.**	**110.22**	**44**	IAMs_20	IAMs_20		13 46 35.0			
	comp=Z,2µm,19.0s									
EYMN	**Ely**	**110.45**	**41**	IAMs_20	IAMs_20		13 47 06.1			
	comp=Z,1µm,21.0s									
SCIA	**State Center**	**110.62**	**47**	IAMs_20	IAMs_20		13 50 15.9			
	comp=Z,2µm,20.0s									
HHAR	**Hobbs**	**111.03**	**53**	IAMs_20	IAMs_20		13 57 41.5			
	comp=Z,1µm,18.0s									
NATX	**Nacogdoches**	**111.03**	**58**	IAMs_20	IAMs_20		13 46 51.9			
	comp=Z,1µm,20.0s									
SOC	**Sochi**	**111.44**	**315**	*i* PKIKP	**PKiKP**		**13 07 44.5**	**-4.4**		
SOC				*e*			13 08 24.5			
SOC				*e*PPP	PPP		13 10 47.8			
SOC				*e*PS	**PS**		**13 17 56.3**	**-5.8**		
SOC				*e*SS	SS		13 24 00.5	-1.8		
SOC				*e*SSS	SSS		13 28 03.9			
SOC				pmax	pmax					
	comp=Z,10.0nm,0.6s									
SOC				MLR	MLR					
	comp=Z,285nm,21.0s									
MIAR	**Mount Ida**	**111.58**	**55**	IAMs_20

	comp=Z,2µm,22.0s							
Z51A	**Franklin**	**118.67**	**55**	IAMs_20	IAMs_20	13 56 14.8		
	comp=Z,1µm,20.0s							
CPCT	**Cooper Cave**	**118.69**	**53**	IAMs_20	IAMs_20	13 53 42.9		
	comp=Z,1µm,19.0s							
P51A	**Williamsport**	**118.69**	**48**	IAMs_20	IAMs_20	13 50 40.7		
	comp=Z,2µm,20.0s							
N51A	**Ashland**	**118.74**	**46**	IAMs_20	IAMs_20	13 56 04.8		
	comp=Z,1µm,20.0s							
TGUH	**Tegucigalpa,Un**	**119.14**	**77**	IAMs_20	IAMs_20	13 53 43.4		
	comp=Z,1µm,18.0s							
152A	**Waverly Hall**	**119.19**	**56**	IAMs_20	IAMs_20	13 55 05.6		
	comp=Z,793nm,18.0s							
TKL	**Tuckaleechee C**	**119.23**	**52**	PKP	**PKPdf**	**13 08 03.2**	**-1.0**	
	comp=Z,6.6nm,0.9s,baz=68,slow=3.7,SNR=4.6							
W52A	**Murphy**	**119.25**	**53**	IAMs_20	IAMs_20	13 58 04.0		
	comp=Z,1µm,20.0s							
V52A	**Sevierville**	**119.32**	**52**	IAMs_20	IAMs_20	13 56 50.6		
	comp=Z,1µm,19.0s							
O52A	**Adamsville**	**119.39**	**47**	IAMs_20	IAMs_20	13 51 22.0		
	comp=Z,1µm,21.0s							
BIZ	**Bicaz**	**119.40**	**322**	⇑P	**PKiKP**	**13 08 05.1**	**+0.9**	
T52A	**Hallie**	**119.45**	**50**	IAMs_20	IAMs_20	13 51 18.9		
	comp=Z,2µm,21.0s							
SADO	**Sadowa**	**119.56**	**41**	IAMs_20	IAMs_20	13 56 09.9		
	comp=Z,2µm,20.0s							
BURAR	**Bucovina Array**	**119.64**	**323**	⇑PKIKP	**PKiKP**	**13 08 05.5**	**+0.7**	
BURAR	**Bucovina Array**	**119.64**	**323**	⇑P	**PKiKP**	**13 08 05.5**	**+0.7**	
BOSA	**Boshof**	**120.11**	**232**	PKP	**PKiKP**	**13 08 06.5**	**+0.2**	
	comp=Z,28nm,0.7s,baz=119,slow=1.8,SNR=62							
MLR	**Muntele Rosu**	**120.12**	**320**	PKP	**PKPdf**	**13 08 05.6**	**-0.1**	
	comp=Z,2.0nm,0.7s,baz=154,slow=15,SNR=3.4							
MLR	**Muntele Rosu**	**120.12**	**320**	⇑P	**PKPdf**	**13 08 02.8**	**-2.9**	
N54A	**Moraine State**	**120.43**	**45**	IAMs_20	IAMs_20	13 58 22.3		
	comp=Z,1µm,19.0s							
J54A	**Appleton**	**120.49**	**42**	IAMs_20	IAMs_20	13 53 50.6		
	comp=Z,2µm,21.0s							
S54A	**Dingess, Beckl**	**120.51**	**49**	IAMs_20	IAMs_20	13 56 34.0		
	comp=Z,1µm,20.0s							
MEDO	**Medina**	**120.66**	**42**	IAMs_20	IAMs_20	13 54 27.0		
	comp=Z,2µm,20.0s							
KOLS	**Kolonicke sedl**	**120.73**	**325**	*e*PKIKP	**PKiKP**	**13 08 08.0**	**+1.3**	
KOLS	**Kolonicke sedl**	**120.73**	**325**	*e*PKP	**PKiKP**	**13 08 08.0**	**+1.3**	
TRPA	**Tarpa**	**120.98**	**324**	⇑P	**PKiKP**	**13 08 07.6**	**+0.4**	
ARR	**Arges**	**121.00**	**321**	⇑P	**PKiKP**	**13 08 07.8**	**+0.3**	
SCHQ	**Schefferville**	**121.01**	**26**	PKKPbc	PKKPbc	13 18 10.7	-1.2	
	comp=Z,5.2nm,0.8s,baz=182,slow=3.2,SNR=4.6							
J55A	**Hilton**	**121.04**	**42**	IAMs_20	IAMs_20	13 54 18.2		
	comp=Z,2µm,20.0s							
V55A	**Taylorsville**	**121.17**	**51**	IAMs_20	IAMs_20	13 55 54.3		
	comp=Z,2µm,20.0s							
ACON	**Acoyapa**	**121.22**	**79**	IAMs_20	IAMs_20	14 06 59.6		
	comp=Z,620nm,22.0s							
ELND	**Elena**	**121.23**	**318**	⇑P	**PKPdf**	**13 08 07.6**	**-0.2**	
LBTB	**Lobatse**	**121.36**	**236**	PKIKP	**PKPdf**	**13 08 08.3**	**-0.4**	
LBTB	**Lobatse**	**121.36**	**236**		**PKPdf**	**13 08 08.3**	**-0.4**	
BLA	**Blacksburg**	**121.37**	**50**	IAMs_20	IAMs_20	13 56 58.7		
	comp=Z,1µm,19.0s							
JTS	**Las Juntas de**	**121.44**	**81**	IAMs_20	IAMs_20	13 52 52.5		
	comp=Z,966nm,20.0s							
SUR	**Sutherland**	**121.65**	**226**		**PKiKP**	**13 08 10.2**	**+0.9**	
U56A	**King**	**121.67**	**51**	IAMs_20	IAMs_20	13 53 35.7		
	comp=Z,2µm,21.0s							
J56A	**Wolcott**	**121.68**	**42**	IAMs_20	IAMs_20	13 54 15.0		
	comp=Z,2µm,20.0s							
O56A	**Blue Knob Stat**	**121.69**	**46**	IAMs_20	IAMs_20	13 59 13.7		
	comp=Z,861nm,20.0s							
EZN	**Ezine**	**122.11**	**314**	⇑PKIKP	**PKiKP**	**13 08 15.3**	**+5.6**	
EZN	**Ezine**	**122.11**	**314**	⇑P	**PKiKP**	**13 08 15.3**	**+5.6**	
GZR	**Gura Zlata**	**122.16**	**321**	⇓PKIKP	**PKPdf**	**13 08 09.6**	**0.0**	
GZR	**Gura Zlata**	**122.16**	**321**	⇓P	**PKPdf**	**13 08 09.6**	**0.0**	
J57A	**Williamstown**	**122.19**	**41**	IAMs_20	IAMs_20	13 54 07.4		
	comp=Z,2µm,22.0s							
LANS	**Liptovska Anna**	**122.19**	**326**	*e*PKIKP	**PKiKP**	**13 08 10.1**	**+0.5**	
LANS	**Liptovska Anna**	**122.19**	**326**	*e*PKP	**PKiKP**	**13 08 10.1**	**+0.5**	
HDC	**Heredia**	**122.26**	**82**	IAMs_20	IAMs_20	13 52 23.5		
	comp=Z,850nm,20.0s							
S57A	**Dark Hollow, R**	**122.29**	**48**	IAMs_20	IAMs_20	14 00 21.0		
	comp=Z,1µm,19.0s							
T57A	**Hurt**	**122.32**	**49**	IAMs_20	IAMs_20	13 57 37.6		
	comp=Z,1µm,20.0s							
W57A	**Gilead**	**122.33**	**52**	IAMs_20	IAMs_20	13 57 07.4		
	comp=Z,1µm,20.0s							
P57A	**Homestead Farm**	**122.37**	**46**	IAMs_20	IAMs_20	13 59 24.9		
	comp=Z,958nm,19.0s							
LSZ	**Lusaka**	**122.49**	**248**	PKIKP	**PKiKP**	**13 08 11.7**	**+0.4**	
LSZ	**Lusaka**	**122.49**	**248**		**PKiKP**	**13 08 11.7**	**+0.4**	
J58A	**Remsen**	**122.68**	**41**	IAMs_20	IAMs_20	13 59 01.3		
	comp=Z,1µm,20.0s							
K58A	**Earlville**	**122.70**	**42**	IAMs_20	IAMs_20	13 55 17.0		
	comp=Z,2µm,20.0s							
BINY	**Binghamton**	**122.71**	**43**	IAMs_20	IAMs_20	13 54 45.7		
	comp=Z,2µm,20.0s							
BZS	**Buzias**	**122.77**	**322**	⇑PKIKP	**PKiKP**	**13 08 11.4**	**+0.6**	
BZS	**Buzias**	**122.77**	**322**	⇑P	**PKiKP**	**13 08 11.4**	**+0.6**	
V58A	**Windy Hill, Pi**	**122.82**	**51**	IAMs_20	IAMs_20	13 53 35.1		
	comp=Z,1µm,21.0s							
MORC	**Moravsky Berou**	**122.87**	**328**	*e*PKP	**PKiKP**	**13 08 12.3**	**+1.3**	
VYHS	**Vyhne**	**122.90**	**326**	*e*PKIKP	**PKiKP**	**13 08 11.5**	**+0.5**	
VYHS				*e*		13 09 49.6		
VYHS	**Vyhne**	**122.90**	**326**	*e*PKP	**PKiKP**	**13 08 11.5**	**+0.5**	
VYHS				*e*PP	**PP**	**13 09 49.6**	**+0.5**	
S58A	**Poland Farm, P**	**123.02**	**48**	IAMs_20	IAMs_20	13 53 16.8		
	comp=Z,2µm,22.0s							
MBAR	**Mbarara**	**123.07**	**266**	*d i*PKIKP	**PKiKP**	**13 08 12.7**	**+0.1**	
MBAR	**Mbarara**	**123.07**	**266**		**PKiKP**	**13 08 12.6**	**0.0**	
NCB	**Newcomb**	**123.09**	**40**	IAMs_20	IAMs_20	14 06 17.4		
	comp=Z,1µm,18.0s							
MDVR	**Moldovita**	**123.11**	**321**	⇓P	**PKPdf**	**13 08 10.1**	**-1.3**	
VTS	**Vitosha**	**123.12**	**318**	PKIKP	**PKPdf**	**13 08 11.3**	**-0.3**	
VTS	**Vitosha**	**123.12**	**318**	⇑P	**PKiKP**	**13 08 12.4**	**+0.6**	
VTS	**Vitosha**	**123.12**	**318**		**PKPdf**	**13 08 11.3**	**-0.3**	
KSPA	**Keystone Colle**	**123.13**	**43**	IAMs_20	IAMs_20	13 54 36.6		
	comp=Z,1µm,20.0s							
J59A	**Piesco**	**123.14**	**41**	IAMs_20	IAMs_20	13 59 51.9		
	comp=Z,1µm,19.0s							
CBN	**Corbin Frederi**	**123.31**	**47**	IAMs_20	IAMs_20	13 55 41.3		
	comp=Z,2µm,21.0s							
L59A	**Walton**	**123.35**	**42**	IAMs_20	IAMs_20	13 55 27.3		
	comp=Z,2µm,21.0s							
MVL	**Millersville**	**123.36**	**45**	IAMs_20	IAMs_20	13 58 39.5		
	comp=Z,895nm,20.0s							
T59A	**Double "B" Far**	**123.61**	**49**	IAMs_20	IAMs_20	13 58 53.0		
	comp=Z,1µm,19.0s							
U59A	**Littleton**	**123.64**	**50**	IAMs_20	IAMs_20	13 56 10.9		
	comp=Z,2µm,20.0s							
VRAC	**Vranov**	**123.65**	**328**	PKP	**PKiKP**	**13 08 13.3**	**+0.8**	
	comp=Z,2.6nm,0.9s,baz=354,slow=7.2,SNR=4.0							
VRAC	**Vranov**	**123.65**	**328**	*e*PKP	**PKiKP**	**13 08 13.4**	**+0.9**	
MODS	**Modra-Piesok**	**123.82**	**327**	*e*PKIKP	**PKiKP**	**13 08 14.8**	**+1.9**	
MODS	**Modra-Piesok**	**123.82**	**327**	*e*PKP	**PKiKP**	**13 08 14.8**	**+1.9**	
VT1	**Waterbury**	**123.85**	**39**	IAMs_20	IAMs_20	14 02 16.4		
	comp=Z,1µm,18.0s							
KRUC	**Moravsky**	**123.90**	**328**	*e*PKP	**PKiKP**	**13 08 13.7**	**+0.7**	
CNNC	**Cliffs of the**	**123.94**	**51**	IAMs_20	IAMs_20	13 57 06.9		
	comp=Z,2µm,20.0s							
TRY	**Troy**	**124.02**	**41**	IAMs_20	IAMs_20	13 58 05.9		
	comp=Z,1µm,20.0s							
PSUB	**Penn St. - Bra**	**124.02**	**45**		**PKPdf**	**13 08 12.4**	**-0.8**	
BRG	**Berggiesshubel**	**124.03**	**331**	*e*PKP	**PKPdf**	**13 08 10.9**	**-2.0**	
	comp=Z,15nm,1.6s							
BRG				*i*		13 08 17.1		
	comp=Z,9.0nm,0.9s							
BRG				*e*		13 08 24.1		
	comp=Z,9.0nm,1.3s							
BRG	**Berggiesshubel**	**124.03**	**331**	*e*PKIKP	**PKPdf**	**13 08 10.9**	**-2.0**	
BRG				*i*		13 08 17.1		
BRG				*e*		13 08 24.1		
BRG				pmax	pmax			
	comp=Z,15nm,1.6s							
Y60A	**Bolivia**	**124.08**	**53**	IAMs_20	IAMs_20	13 59 02.8		
	comp=Z,1µm,20.0s							
Q60A	**Greensboro**	**124.11**	**46**	IAMs_20	IAMs_20	14 04 28.9		
	comp=Z,1µm,18.0s							
ODNJ	**Ogdensburg**	**124.12**	**43**	IAMs_20	IAMs_20	13 58 33.9		
	comp=Z,1µm,21.0s							
CLL	**Collm**	**124.21**	**332**	*e*PKIKP	**PKiKP**	**13 08 15.0**	**+1.5**	
CLL				pmax	pmax			
	comp=Z,8.0nm,1.0s							
CLL				MLR	MLR			
	comp=Z,400nm,18.9s							
CLL	**Collm**	**124.21**	**332**	*e*PKPdf	**PKiKP**	**13 08 15.0**	**+1.5**	
	comp=Z,8.0nm,1.0s							
CLL				*e*PP	**PP**	**13 10 00.0**	**+2.4**	
CLL				*e*SKPdf	**SKPdf**	**13 11 45.0**	**-2.1**	
CLL				*e*PSKS		13 19 54.0		
CLL				*e*PPS	PPS	13 21 24.0		
CLL				*e*PPPrev		13 25 24.0		
CLL				*e*PSPS		13 27 18.0		
CLL				*e*(SSS)		13 31 54.0		
CLL				LmV		14 07 00.0		
	comp=Z,400nm,18.9s							
CLL	**Collm**	**124.21**	**332**		**PKiKP**	**13 08 15.1**	**+1.6**	
MORH	**Mrgy, Hungar**	**124.25**	**324**	*e*PKiKP	**PKiKP**	**13 08 14.1**	**+0.4**	
V60A	**Jim Taylor Roa**	**124.25**	**50**	IAMs_20	IAMs_20	13 55 36.0		
	comp=Z,1µm,20.0s							
KSCT	**Kent School, K**	**124.60**	**42**	IAMs_20	IAMs_20	13 55 56.3		
	comp=Z,2µm,21.0s							
PAL	**Palisades**	**124.63**	**43**	IAMs_20	IAMs_20	13 58 57.3		
	comp=Z,2µm,19.0s							
U61A	**Possum Corner**	**124.67**	**49**	IAMs_20	IAMs_20	13 58 19.1		
	comp=Z,1µm,19.0s							
CONA	**Conrad Observa**	**124.86**	**327**	*i* PKPdf	**PKPdf**	**13 08 13.1**	**-1.6**	
	comp=Z,5.6nm,1.3s							
WSPT	**Westport, CT**	**124.95**	**43**	IAMs_20	IAMs_20	13 58 39.7		
	comp=Z,2µm,20.0s							
K62A	**Royalston**	**124.98**	**41**	IAMs_20	IAMs_20	13 59 59.6		
	comp=Z,1µm,21.0s							
QUA2	**Belchertown**	**125.09**	**41**	IAMs_20	IAMs_20	14 01 01.2		
	comp=Z,2µm,19.0s							
FNA	**Florina**	**125.18**	**317**	PKIKP	**PKPdf**	**13 08 15.0**	**-0.5**	
FNA	**Florina**	**125.18**	**317**		**PKPdf**	**13 08 15.0**	**-0.5**	
AGG	**Agios Georgios**	**125.27**	**315**	IAMs_20	IAMs_20	14 09 24.7		
	comp=Z,235nm,21.0s							
KHC	**Kasperske Hory**	**125.32**	**329**	⇑*i*PKIKP	**PKPdf**	**13 08 14.8**	**-0.7**	
KHC	**Kasperske Hory**	**125.32**	**329**	*e*PKPDF	**PKPdf**	**13 08 14.0**	**-1.4**	
KHC	**Kasperske Hory**	**125.32**	**329**		**PKPdf**	**13 08 14.1**	**-1.4**	
I63A	**Otisfield**	**125.34**	**38**	IAMs_20	IAMs_20	14 03 00.9		
	comp=Z,1µm,18.0s							
ARSA	**Arzberg**	**125.44**	**326**	*i* PKPdf	**PKPdf**	**13 08 11.6**	**-4.1**	
	comp=Z,7.6nm,2.0s							
GERES	**GERESS Array B**	**125.44**	**329**	PKP	**PKPdf**	**13 08 15.2**	**-0.6**	
	comp=Z,3.2nm,0.7s,baz=146,slow=2.6,SNR=19							
HRV	**Adam Dziewonsk**	**125.50**	**40**	IAMs_20	IAMs_20	14 08 24.2		
	comp=Z,817nm,18.0s							
WES	**Weston**	**125.71**	**41**	IAMs_20	IAMs_20	14 05 13.8		
	comp=Z,1µm,19.0s							
MOA	**Molin**	**125.76**	**328**	*i* PKPdf	**PKPdf**	**13 08 14.5**	**-1.8**	
	comp=Z,5.4nm,1.4s							
BRYW	**Bryant College**	**125.79**	**41**	IAMs_20	IAMs_20	13 59 32.2		
	comp=Z,1µm,20.0s							
SOKA	**Soboth**	**126.05**	**326**	*i* PKiKP	**PKPdf**	**13 08 17.0**	**0.0**	
	comp=Z,6.6nm,1.0s							
M65A	**Busby, Falmout**	**126.55**	**41**	IAMs_20	IAMs_20	14 02 02.8		
	comp=Z,1µm,21.0s							
EKA	**Eskdalemuir Ar**	**127.21**	**344**	PKP	**PKiKP**	**13 08 19.2**	**-0.1**	
	comp=Z,0.8nm,0.6s,baz=27,slow=2.5,SNR=3.3							
OTAV	**Otavalo**	**127.30**	**94**	IAMs_20	IAMs_20	13 57 12.3		
	comp=Z,550nm,18.0s							
ABTA	**Abfaltersbach**	**127.38**	**327**	*i* PKiKP	**PKPdf**	**13 08 18.6**	**-0.9**	
	comp=Z,6.9nm,1.2s							
WATA	**Walderalm**	**127.50**	**329**	*i* PKiKP	**PKPdf**	**13 08 19.5**	**-0.3**	
	comp=Z,8.4nm,1.2s							
WTTA	**Wattenberg**	**127.52**	**328**	*i* PKiKP	**PKPdf**	**13 08 18.7**	**-1.3**	
	comp=Z,9.0nm,1.0s							
GO02	**Mina Guanaco**	**127.67**	**128**		**PKPdf**	**13 08 19.0**	**-2.1**	
LMN	**Caledonia Moun**	**127.71**	**34**	IAMs_20	IAMs_20	14 03 22.5		
	comp=Z,1µm,19.0s							
MOTA	**Moosalm**	**127.74**	**329**	*i* PKiKP	**PKPdf**	**13 08 19.7**	**-0.6**	
	comp=Z,7.5nm,1.0s							
SQTA	**Sankt Quirin**	**127.77**	**329**	*i* PKPdf	**PKPdf**	**13 08 19.0**	**-1.3**	
	comp=Z,14nm,1.2s							
RETA	**Reutte**	**127.82**	**329**	*i* PKiKP	**PKPdf**	**13 08 20.4**	**+0.1**	
	comp=Z,10nm,2.4s							
FETA	**Feichten**	**128.14**	**329**	*i* PKiKP	**PKPdf**	**13 08 20.2**	**-0.9**	
	comp=Z,8.2nm,1.2s							
DAVA	**Damuels**	**128.40**	**329**	*i* PKiKP	**PKPdf**	**13 08 20.7**	**-0.9**	
	comp=Z,6.3nm,0.8s							
FUORN	**Ofenpass-Fuorn**	**128.65**	**329**		**PKiKP**	**13 08 22.9**	**+0.1**	
TEOL	**Teolo**	**128.71**	**327**	IAMs_20	IAMs_20	14 05 37.5		
	comp=Z,695nm,19.0s							
TIP	**Timpagrande**	**129.06**	**317**	⇓P	**PKiKP**	**13 08 27.6**	**+3.9**	
HAL	**Halifax**	**129.13**	**34**	IAMs_20	IAMs_20	14 01 10.3		
	comp=Z,952nm,19.0s							
MURB	**Monte Urbino**	**129.51**	**324**	IAMs_20	IAMs_20	14 16 59.9		
	comp=Z,210nm,20.0s							
AQU	**L'Aquila**	**129.52**	**322**	IAMs_20	IAMs_20	14 04 34.4		
	comp=Z,540nm,21.0s							
PAOL	**Paolisi**	**129.54**	**320**	IAMs_20	IAMs_20	14 07 59.0		
	comp=Z,444nm,21.0s							
GBN	**Guysborough**	**129.77**	**32**	IAMs_20	IAMs_20	14 10 08.0		
	comp=Z,1µm,20.0s							
PB11	**IPOC Station P**	**130.13**	**122**		**PKPdf**	**13 08 24.5**	**-1.2**	
CORL	**Corleone**	**132.05**	**318**	IAMs_20	IAMs_20	14 09 19.7		
	comp=Z,266nm,22.0s							
LPAZ	**La Paz**	**132.90**	**118**	PKIKP	**PKPdf**	**13 08 30.9**	**-0.6**	
LPAZ	**La Paz**	**132.90**	**118**	PKP	**PKiKP**	**13 08 32.9**	**+0.2**	
	comp=Z,3.7nm,0.7s,baz=235,slow=3.1,SNR=12							
LPAZ	**La Paz**	**132.90**	**118**		**PKPdf**	**13 08 30.9**	**-0.6**	
SDDR	**Presa de Saban**	**133.91**	**69**	IAMs_20	IAMs_20	14 02 47.1		
	comp=Z,1µm,19.0s							
SC01	**Santiago de lo**	**134.34**	**68**	IAMs_20	IAMs_20	14 02 50.5		
	comp=Z,962nm,21.0s							
SDV	**Santo Domingo**	**135.57**	**83**		**PKPdf**	**13 08 35.0**	**-1.1**	
CPUP	**Villa Florida**	**135.98**	**138**	PKIKP	**PKPdf**	**13 08 35.6**	**-0.7**	
CPUP	**Villa Florida**	**135.98**	**138**	PKP	**PKPdf**	**13 08 36.5**	**+0.2**	
	comp=Z,2.0nm,0.7s,baz=241,slow=2.6,SNR=5.5							
CPUP	**Villa Florida**	**135.98**	**138**		**PKPdf**	**13 08 35.6**	**-0.7**	
SJG	**San Juan**	**138.86**	**69**	IAMs_20	IAMs_20	14 05 02.2		
	comp=Z,610nm,21.0s							
HUMP	**Col San Antoni**	**139.13**	**69**		**PKPdf**	**13 08 41.6**	**-0.6**	
SAML	**Samuel**	**140.13**	**111**	PKIKP	**PKPdf**	**13 08 42.3**	**-1.9**	
SAML	**Samuel**	**140.13**	**111**		**PKPdf**	**13 08 42.3**	**-1.9**	
ESDC	**Sonseca Array**	**140.77**	**333**	PKhKP	PKPpre	13 08 38.2		
	comp=Z,0.6nm,0.7s,baz=21,slow=2.9,SNR=6.1							
ESDC				PP	**PP**	**13 11 43.0**	**-0.9**	
	comp=Z,2.8nm,0.8s,baz=32,slow=6.7,SNR=8.1							
PVIS	**Viseu**	**141.53**	**338**	*e*PKPdf	**PKPdf**	**13 08 45.4**	**-0.7**	
PCBR	**Castelo Branco**	**142.12**	**337**	*e*PKPdf	**PKPdf**	**13 08 47.6**	**+0.5**	
PMRV	**Marv??o**	**142.44**	**336**	*e*PKPdf	**PKPdf**	**13 08 46.1**	**-1.6**	
PMTG	**Montargil**	**143.08**	**337**	*e*PKPdf	**PKPdf**	**13 08 48.9**	**+0.1**	
EVO	**Evora**	**143.46**	**336**	*e*PKPdf	**PKPdf**	**13 08 48.6**	**-0.9**	
PMAFR	**Mafra**	**143.59**	**338**	*e*PKPdf	**PKPdf**	**13 08 49.5**	**-0.2**	
PBEJ	**Beja**	**143.83**	**335**	*e*PKPdf	PKPbc	13 08 49.0	+1.2	
PCVE	**Castro Verde**	**144.24**	**335**	*e*PKPdf	**PKPdf**	**13 08 50.5**	**-0.4**	
PVAQ	**Vaqueiros**	**144.30**	**335**	*e*PKPdf	PKPbc	13 08 49.3	0.0	
PTEO	**Sao Teotonio**	**144.59**	**336**	*e*PKPdf	PKPbc	13 08 50.5	+0.3	
AKLM	**AKL**	**144.77**	**327**	P	PKPbc	13 08 51.2	+0.2	
CHEFC	**Chefchaouen**	**145.07**	**330**	P	**PKPbc**	**13 08 52.0**	**0.0**	
TAM	**Tamanrasset**	**145.20**	**302**	PKIKP	**PKPbc**	**13 08 52.8**	**0.0**	
TAM	**Tamanrasset**	**145.20**	**302**		**PKPbc**	**13 08 52.8**	**0.0**	
LCRM	**LCR**	**145.93**	**328**	P	**PKPab**	**13 08 56.0**	**+0.7**	
MDT	**Midelt**	**146.46**	**326**	PKPbc	**PKPbc**	**13 08 56.3**	**0.0**	
	comp=Z,29nm,0.8s,baz=14,slow=2.8,SNR=35							
MDT	**Midelt**	**146.46**	**326**	P	**PKPab**	**13 08 58.2**	**+1.0**	
MDT	**Midelt**	**146.46**	**326**	P	**PKPab**	**13 08 58.2**	**+1.0**	
MDT	**Midelt**	**146.46**	**326**	P	**PKPab**	**13 08 58.2**	**+1.0**	
ZHG	**ZHG**	**147.05**	**329**	P	**PKiKP**	**13 09 00.1**	**-0.4**	
ZHG	**ZHG**	**147.05**	**329**	P	**PKiKP**	**13 09 00.1**	**-0.4**	
ZHG	**ZHG**	**147.05**	**329**	P	**PKiKP**	**13 09 00.1**	**-0.4**	
TZRR	**Tazzarine**	**148.52**	**325**	P	**PKiKP**	**13 09 03.0**	**-0.7**	
TZRR	**Tazzarine**	**148.52**	**325**	P	**PKiKP**	**13 09 03.0**	**-0.7**	
ZGR	**Zagora**	**149.04**	**324**	P	**PKiKP**	**13 09 05.0**	**+0.2**	
ZGR	**Zagora**	**149.04**	**324**	P	**PKiKP**	**13 09 05.0**	**+0.2**	
OUZM	**OUZ**	**149.09**	**327**	P	**PKiKP**	**13 09 05.0**	**+0.2**	
OUZM	**OUZ**	**149.09**	**327**	P	**PKiKP**	**13 09 05.0**	**+0.2**	
BDFB	**Brasilia**	**149.57**	**134**	PKP	**PKPdf**	**13 09 00.4**	**-0.2**	
	comp=Z,28nm,0.6s,baz=235,slow=3.3,SNR=10							
BDFB				PKPbc	**PKPbc**	**13 09 05.0**	**-0.1**	
	comp=Z,28nm,0.6s,baz=254,slow=1.7,SNR=36							
BDFB	**Brasilia**	**149.57**	**134**		**PKPdf**	**13 08 60.0**	**-0.6**	
BDFB				PKPbc	**PKPbc**	**13 09 05.5**	**+0.3**	
SHEL	**Horse Pasture**	**150.66**	**223**	PKIKP	**PKiKP**	**13 09 09.0**	**+0.6**	
SHEL	**Horse Pasture**	**150.66**	**223**		**PKiKP**	**13 09 09.0**	**+0.6**	
TOA0	**Torodi Ar. Sit**	**151.77**	**287**		**PKPdf**	**13 09 03.3**	**-0.5**	
TOA0				PKPbc	**PKPbc**	**13 09 09.6**	**-0.6**	
TOA0				PKPab	**pPKPbc**	**13 09 18.5**	**-0.3**	
TORD	**Torodi Ar. Bea**	**151.77**	**287**	PKP	**PKPdf**	**13 09 03.6**	**-0.3**	
	comp=Z,5.2nm,0.9s,baz=44,slow=1.6,SNR=23							
TORD				PKPbc	**PKPbc**	**13 09 09.9**	**-0.3**	
	comp=Z,54nm,0.8s,baz=67,slow=2.3,SNR=87							
TORD				PKPab	**pPKPbc**	**13 09 18.4**	**-0.4**	
	comp=Z,101nm,0.9s,baz=78,slow=3.3,SNR=32							
KIC	**Kosan Boka**	**158.91**	**273**	*e*P	**PKPdf**	**13 09 10.9**	**-2.7**	
	comp=Z,30nm,1.4s							
DBIC	**Dimbokro**	**159.02**	**274**	PKP	**PKPdf**	**13 09 13.8**	**+0.2**	
	comp=Z,8.9nm,1.1s,baz=94,slow=5.2,SNR=6.1							
DBIC				PKPab	**PKPab**	**13 09 49.8**	**-0.4**	
	comp=Z,26nm,0.8s,baz=89,slow=5.5,SNR=12							
TIC	**Toumodi**	**159.18**	**274**	*e*P	**PKPdf**	**13 09 12.4**	**-1.5**	
LIC	**Lamto**	**159.20**	**273**	*e*P	**PKPdf**	**13 09 13.7**	**-0.2**	
	comp=Z,1.6nm,0.3s							

NEIC ***29*** *13:04:21.6±1.4, 19°.4N±0°.1×68°.13W±0°.06, h38km±87km*
ISCJB ***29*** *13:04:22.2±1.1, 19°.32N±0°.06×68°.07W±0°.05, h27km±11km, Error ellipse: s-maj=10.0km s-min=7.4km az=163.3*
RSPR ***29*** *13:04:23.9, 19°.38N×68°.09W, h28km±22km, MD3.4/13*
OSPL ***29*** *13:04:25.5±1.6, 19°.16N×67°.99W, h0km±14km, MD3.8, ML2.6*

ISC 29 13:04:21.7±1.9**, 19°.35N**±0°.08×**68°.11W**±0°.05**, h25**km±17km**, n55, σ0.65/81, 22C-2D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	
						h m s	ISC
PCDR	**Punta Cana, DR**	**0.87**	**197**	⇓*e*P	**Pb**	**13 04 37.7**	**-0.5**
PCDR	**Punta Cana, DR**	**0.87**	**197**	⇓*e*P	**Pb**	**13 04 37.7**	**-0.5**
PCDR				*e*S	**Sb**	**13 04 50.0**	**+0.7**
PCDR	**Punta Cana, DR**	**0.87**	**197**	*i* P	**Pb**	**13 04 37.6**	**-0.5**
PCDR				*e*S	**Sb**	**13 04 49.0**	**-0.3**
PCDR				IAML		13 04 51.3	
	comp=Z,182nm,0.1s						
PCDR	**Punta Cana, DR**	**0.87**	**197**		**Pb**	**13 04 37.7**	**-0.5**
PCDR					**Sb**	**13 04 50.0**	**+0.7**
AGPR	**A

KRMR eS Sn 13 26 50.2 -5.9
KRMR Karymshinskiy 10.04 283 P Pn 13 25 04.3 +0.1
KRMR S Sn 13 26 50.2 -5.9
GRL Gorelyy 10.07 281 eP Pn 13 25 03.6 -1.2
GRL eS Sn 13 26 52.5 -4.7
GRL Gorelyy 10.07 281 P Pn 13 25 03.6 -1.2
GRL S Sn 13 26 52.5 -4.7
ASAK Asacha 10.19 280 eP Pn 13 25 06.7 +0.4
ASAK eS Sn 13 26 53.6 -6.3
ASAK Asacha 10.19 280 P Pn 13 25 06.7 +0.4
ASAK S Sn 13 26 53.6 -6.3
GNL Ganaly 10.19 288 eP Pn 13 25 07.9 +1.6
GNL Ganaly 10.19 288 P Pn 13 25 07.9 +1.6
ESO Esso 10.20 301 eP Pn 13 25 07.8 +1.4
ESO Esso 10.20 301 P Pn 13 25 07.8 +1.4
PEA0B Petropavlovsk- 10.30 285‖ eP Pn 13 25 05.6 -2.2
PEA0B Petropavlovsk- 10.30 285 Pn Pn 13 25 06.8 -1.0
PETK Petropavlovsk- 10.30 285 eP Pn 13 25 09.2 +1.4
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK Petropavlovsk- 10.30 285 Pn Pn 13 25 08.8 +1.0
comp=Z,1.0nm,0.3s,baz=90,slow=18,SNR=22
PETK Sn Sn 13 26 57.0 -5.6
comp=Z,0.6nm,0.3s,baz=80,slow=25,SNR=5.3
NIKH Nikolski High 10.35 76 Pn Pn 13 25 09.4 +1.0
SPIA Saint Paul Isl 10.50 52 Pn Pn 13 25 09.7 -0.8
UNV Unalaska Valle 11.78 72 Pn Pn 13 25 28.5 +0.5
AKUT Akutan 12.23 71 Pn Pn 13 25 34.6 +0.5
FALS False Pass 13.65 68 Pn Pn 13 25 53.7 +0.2
GAMB Gambell 14.18 26 Pn Pn 13 26 01.1 +0.4
SDPT Sand Point 15.37 66 Pn Pn 13 26 14.9 -1.9
CNBA Chernabura Isl 15.86 68 Pn Pn 13 26 23.5 +0.4
CNBA IAmb IAmb 13 26 45.5
comp=Z,102nm,1.5s
SEY Seymchan 16.28 322‖ eP Pn 13 26 26.8 -1.7
SEY Seymchan 16.28 322 Pn P 13 26 32.3 +0.9
comp=Z,0.9nm,0.3s,baz=113,slow=12,SNR=18
ANM Nome 16.66 31 P P 13 26 34.1 -1.5
ANM pmax pmax
comp=Z,20nm,1.4s
ANM Nome 16.66 31 P 13 26 34.1 -1.5
BILL Bilibino 16.89 349 *i* P P 13 26 37.3 -0.8
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL Bilibino 16.89 349 Pn 13 26 36.7 +0.6
CHIR Chirikof Islan 18.14 65 P 13 26 52.4 +0.5
SII Sitkinak Islan 18.96 63 P P 13 27 00.5 -0.5
OHAK Old Harbor 19.48 61 P P 13 27 03.9 -2.6
RDOG Red Dog Mine 19.78 25 P P 13 27 09.7 -0.2
KDAK Kodiak Island 19.89 59 P P 13 27 08.8 -2.3
KDAK pmax pmax
comp=Z,162nm,1.9s
KDAK Kodiak Island 19.89 59 P P 13 27 08.8 -2.3
RSO Redoubt South 20.14 51 P P 13 27 14.0 -0.1
BRLK Bradley Lake 20.96 54 P P 13 27 21.3 -1.5
PPLA Purkeypile 21.00 45 P P 13 27 22.9 -0.3
PPLA IAmb IAmb 13 28 06.8
comp=Z,38nm,1.3s
SKT Skwentna 21.05 47 P P 13 27 23.9 +0.2
SKT IAmb IAmb 13 28 16.5
comp=Z,32nm,1.6s
YSS Yuzh-Sakhalins 21.05 270 P P 13 27 22.0 -1.8
YSS pmax pmax
comp=Z,113nm,1.7s
YSS Yuzh-Sakhalins 21.05 270 P P 13 27 22.0 -1.8
SUA Susitna One 21.30 49 P P 13 27 26.3 -0.2
SUA IAmb IAmb 13 27 49.0
comp=Z,28nm,1.5s
RC01 Rabbit Creek A 21.71 50 P P 13 27 31.4 +0.6
RC01 IAmb IAmb 13 28 26.9
comp=Z,58nm,2.0s
SEW Seward 21.71 53 P P 13 27 30.0 -0.8
SEW IAmb IAmb 13 28 26.7
comp=Z,98nm,1.9s
KTH Kantishna Hill 21.74 43 P P 13 27 30.9 -0.2
KTH IAmb IAmb 13 28 05.0
comp=Z,22nm,1.2s
TRF Thorofare Moun 21.98 44 P P 13 27 33.7 -0.2
PMR Palmer 22.09 49 P P 13 27 33.0 -1.8
PMR pmax pmax
comp=Z,34nm,2.0s
PMR Palmer 22.09 49 P P 13 27 33.0 -1.8
PMR IAmb IAmb 13 28 21.1
comp=Z,34nm,2.0s
GHO Glory Hole Cre 22.22 49 P P 13 27 35.6 -0.7
GHO IAmb IAmb 13 28 01.4
comp=Z,45nm,1.8s
MLY Manley 22.29 40 P P 13 27 36.9 -0.1
KNK Knik Glacier 22.38 50 P P 13 27 37.8 -0.2
KNK IAmb IAmb 13 28 07.0
comp=Z,22nm,1.2s
SML Sawmill 22.50 49 P P 13 27 38.3 -1.0
SML pmax pmax
comp=Z,13nm,1.0s
SML Sawmill 22.50 49 P P 13 27 38.3 -1.0
RND Reindeer 22.59 45 P P 13 27 39.8 -0.5
RND pmax pmax
comp=Z,14nm,1.3s
RND Reindeer 22.59 45 P P 13 27 39.8 -0.5
SCM Sheep Creek Mo 22.97 49 P P 13 27 43.3 -1.0
SCM pmax pmax
comp=Z,23nm,1.1s
SCM Sheep Creek Mo 22.97 49 P P 13 27 43.3 -1.0
SCM IAmb IAmb 13 28 10.7
comp=Z,23nm,1.1s
DHY Denali Highway 23.17 46 P P 13 27 45.3 -1.1
WRH Wood River Hil 23.19 42 P P 13 27 45.7 -0.7
HIN Hinchinbrook I 23.21 53 P P 13 27 46.1 -0.5
FID Port Fidalgo 23.25 52 P P 13 27 45.6 -1.4
FID IAmb IAmb 13 28 42.2
comp=Z,66nm,1.7s
MDM Murphy Dome 23.27 41 P P 13 27 45.1 -2.2
CCB Clear Creek Bu 23.36 42 P P 13 27 46.9 -1.1
COLA College 23.40 41‖ eP P 13 27 48.3 -0.2
COLA pmax pmax
comp=Z,4.0nm,1.0s
EYAK Cordova Ski Ar 23.59 52 P P 13 27 50.1 -0.3
EYAK IAmb IAmb 13 28 12.7
comp=Z,27nm,1.3s
GRNR Gornyy 23.62 283 eP P 13 27 55.4 +4.6
GRNR pmax pmax
comp=Z,10.0nm,1.1s
HDA Harding Lake 23.66 43 P P 13 27 49.3 -1.7
HDA IAmb IAmb 13 28 22.5
comp=Z,22nm,1.6s
IL31 23.77 42 P P 13 27 50.4 -1.7
IL31 IAmb IAmb 13 28 45.3
comp=Z,26nm,1.9s
ILAR Eielson Array 23.77 42 P P 13 27 50.2 -1.9
comp=Z,1.3nm,0.6s,baz=245,slow=8.5,SNR=32
PAX Paxson 24.01 46 P P 13 27 53.2 -1.3
PAX pmax pmax
comp=Z,8.0nm,1.0s
PAX Paxson 24.01 46 P P 13 27 53.1 -1.3
RAGM Ragged Mountai 24.11 53 P P 13 27 55.8 +0.4
TOLK Toolik Lake Re 24.14 32 P P 13 27 55.2 -0.4
TOLK IAmb IAmb 13 28 15.9
comp=Z,61nm,1.9s
HMT Hamilton 24.32 53 P P 13 27 56.2 -1.1
RIDG Independent Ri 24.42 45 P P 13 27 57.4 -0.8
RIDG IAmb IAmb 13 28 21.2
comp=Z,42nm,1.8s
PRP Porcupine Dome 24.52 40 P P 13 27 58.0 -1.2
GLB Gilahina Butte 24.60 50 P P 13 27 58.9 -1.0
GLB IAmb IAmb 13 28 33.4
comp=Z,15nm,1.2s
DOT Dot Lake 24.75 45 P P 13 27 59.6 -1.5
DOT IAmb IAmb 13 28 30.2
comp=Z,28nm,1.8s
VRDI Verde Repeater 24.76 51 P P 13 28 01.1 -0.4
VRDI IAmb IAmb 13 28 12.7
comp=Z,39nm,1.6s
MENT Mentasta 24.80 47 P P 13 28 00.9 -0.6
MENT IAmb IAmb 13 28 26.6
comp=Z,26nm,1.8s
SCRK Sand Creek 24.83 44 P P 13 28 00.4 -1.6
SCRK IAmb IAmb 13 28 16.2
comp=Z,32nm,1.8s
CRQM Cirque 24.89 52 P P 13 28 02.7 0.0
CRQM IAmb IAmb 13 28 49.4
comp=Z,31nm,1.3s
FYU Fort Yukon 24.93 38 P P 13 28 03.4 +0.7
FYU IAmb IAmb 13 28 53.0
comp=Z,20nm,1.4s

MCARA McCarthy VSAT 24.97 51 P P 13 28 03.5 +0.3
MCARA IAmb IAmb 13 28 44.6
comp=Z,15nm,1.1s
TGL Tana Glacier 25.04 52 P P 13 28 02.7 -1.1
TGL IAmb IAmb 13 28 57.0
comp=Z,24nm,1.3s
BALM Baldy 25.28 51 P P 13 28 05.2 -1.0
MESA MESA 25.46 53 P P 13 28 07.9 0.0
BARN Barnard Glacie 25.62 51 P P 13 28 09.4 +0.2
BARN IAmb IAmb 13 29 05.8
comp=Z,22nm,1.4s
CTGM Chitina Glacie 25.77 52 P P 13 28 10.9 +0.2
CTGM IAmb IAmb 13 29 00.7
comp=Z,14nm,1.1s
YAK Yakutsk 26.01 311 eP P 13 28 12.2 -0.3
YAK pmax pmax
comp=Z,15nm,0.8s
YAK Yakutsk 26.01 311 P P 13 28 12.4 -0.1
comp=Z,8.1nm,0.6s,baz=354,slow=2.1,SNR=7.8
YAK Yakutsk 26.01 311 P P 13 28 12.5 0.0
YAK IAmb IAmb 13 28 24.9
comp=Z,22nm,0.8s
EGAK Eagle 26.18 43 P P 13 28 12.7 -1.3
YKU2 Yakutat 26.64 55 P P 13 28 18.6 +0.4
DAWY Dawson 26.85 45 P P 13 28 19.2 -1.0
DAWY IAmb IAmb 13 28 57.6
comp=Z,27nm,1.8s
KLR Kul'dur 26.98 282‖ eP P 13 28 21.4 0.0
KLR pmax pmax
comp=Z,5.0nm,1.1s
KLR Kul'dur 26.98 282 P P 13 28 22.7 +1.3
comp=Z,2.2nm,0.6s,baz=90,slow=5.2,SNR=3.8
HYT Haines Junctio 27.65 52 P P 13 28 27.5 0.0
HYT IAmb IAmb 13 29 11.9
comp=Z,25nm,1.7s
EPYK Eagle Plains 28.23 40 P P 13 28 32.0 -0.5
TIXI Tiksi 28.31 332‖ eP P 13 28 34.0 +0.9
TIXI pmax pmax
comp=Z,3.0nm,1.4s
TIXI Tiksi 28.31 332 P P 13 28 31.1 -2.0
TIXI IAmb IAmb 13 29 13.0
comp=Z,16nm,1.7s
INK Inuvik 29.70 36 P P 13 28 45.7 +0.2
INK pmax pmax
comp=Z,12nm,1.6s
INK Inuvik 29.70 36 P P 13 28 45.7 +0.2
INK IAmb IAmb 13 29 11.8
comp=Z,12nm,1.6s
H11N2 WAKE ISLAND Hy 32.42 193 T T 14 04 06.0
baz=9.6,slow=76,SNR=22
H11N3 WAKE ISLAND Hy 32.43 193 T T 14 04 13.8
baz=9.6,slow=76,SNR=23
H11N1 WAKE ISLAND Hy 32.43 193 T T 14 04 09.0
baz=9.6,slow=76,SNR=21
H11S1 WAKE ISLAND Hy 33.65 193 T T 14 05 40.7
baz=9.2,slow=76,SNR=12
H11S3 WAKE ISLAND Hy 33.66 193 T T 14 05 46.5
baz=9.2,slow=76,SNR=10
H11S2 WAKE ISLAND Hy 33.66 193 T T 14 05 42.0
baz=9.2,slow=76,SNR=3.2
HIA Hailar 34.18 288‖ eP P 13 29 25.1 +0.1
HIA pmax pmax
comp=Z,36nm,1.3s
YKA Yellowknife Ar 38.09 45 eP P 13 29 59.1 +0.9
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 38.09 45 P P 13 29 58.1 0.0
comp=Z,1.4nm,0.8s,baz=289,slow=8.3,SNR=11
KHLH Kahului Airpor 38.21 133 P P 13 29 58.6 -1.0
HLK Haleakala 38.41 132 P P 13 30 01.9 +0.2
LLLB Lillooet 38.86 66 P P 13 30 04.9 -0.1
LLLB IAmb IAmb 13 30 59.4
comp=Z,20nm,1.6s
HPAH Hawaii Prepara 39.30 132 P P 13 30 08.9 0.0
LON Longmire 40.79 71 P P 13 30 21.2 +0.2
LON pmax pmax
comp=Z,9.0nm,1.7s
LON Longmire 40.79 71 P P 13 30 21.2 +0.2
F04A Amboy 40.86 72 P P 13 30 21.0 -0.5
F04A IAmb IAmb 13 30 28.6
comp=Z,37nm,1.8s
COR Corvallis 41.05 74 P P 13 30 23.5 +0.4
COR pmax pmax
comp=Z,53nm,1.4s
COR Corvallis 41.05 74 P P 13 30 23.5 +0.4
RES Resolute Bay 41.21 24 P P 13 30 24.0 -0.1
comp=Z,8nm,1.0s,baz=292,slow=8.5,SNR=5.6
B08A Colville Reser 41.41 67 P P 13 30 25.4 -0.6
NRIK Noril'sk 41.95 328‖ eP P 13 30 30.3 +0.2
NRIK Noril'sk 41.95 328 P P 13 30 30.5 +0.4
comp=Z,4.5nm,0.7s,baz=91,slow=12,SNR=5.0
TLY Talaya 42.25 299 P P 13 30 32.8 -0.1
TLY pmax pmax
comp=Z,11nm,0.7s
TLY Talaya 42.25 299 P P 13 30 32.8 -0.1
TLY IAmb IAmb 13 30 34.9
comp=Z,10nm,0.7s
ULN Ulaanbaatar 42.26 292‖ eP P 13 30 33.3 +0.1
ULN pmax pmax
comp=Z,2.0nm,1.2s
HAWA Hanford 42.31 70 P P 13 30 32.6 -0.9
HAWA IAmb IAmb 13 30 59.8
comp=Z,16nm,1.7s
SONM Songino Array 42.65 293 P P 13 30 37.8 +1.4
comp=Z,0.7nm,0.5s,baz=58,slow=5.6,SNR=6.2
NEW Newport 42.72 66 P P 13 30 35.5 -1.2
comp=Z,1.1nm,0.6s,baz=299,slow=13,SNR=4.0
NEW Newport 42.72 66 P P 13 30 36.3 -0.5
PINE Pine Mountain 42.91 74 P P 13 30 38.8 +0.3
PINE IAmb IAmb 13 31 52.7
comp=Z,16nm,1.7s
YBH Yreka Blue Hor 43.02 78 P P 13 30 38.8 -0.5
YBH pmax pmax
comp=Z,18nm,1.6s
YBH Yreka Blue Hor 43.02 78 P P 13 30 38.9 -0.4
comp=Z,1.3nm,0.6s,baz=338,slow=4.8,SNR=4.4
YBH Yreka Blue Hor 43.02 78 P P 13 30 38.8 -0.5
YBH IAmb IAmb 13 31 22.5
comp=Z,18nm,1.6s
HHC Hu-ho-hao-te 43.48 281 eP P 13 30 42.5 -0.6
HHC pmax pmax
comp=Z,6.0nm,1.0s
HHC pmax pmax
comp=Z,130nm,6.4s
WDC Whiskeytown Da 43.80 79 P P 13 30 45.7 +0.2
WDC pmax pmax
comp=Z,15nm,1.5s
WDC Whiskeytown Da 43.80 79 P P 13 30 45.7 +0.2
WDC IAmb IAmb 13 30 56.8
comp=Z,15nm,1.5s
WALA Waterton Lakes 44.12 64 P P 13 30 47.1 -1.0
WALA IAmb IAmb 13 32 25.0
comp=Z,8.6nm,0.5s
MOD Modoc Plateau 44.38 76 P P 13 30 49.8 -0.5
BMO Blue Mountains 44.47 71 P P 13 30 50.0 -0.9
BMO pmax pmax
comp=Z,9.0nm,1.8s
BMO Blue Mountains 44.47 71 P P 13 30 50.0 -0.9
NJ2 Nanjing 44.56 266 eP P 13 30 51.5 -0.2
NJ2 pmax pmax
comp=Z,11nm,0.5s
JTMT Jette 44.61 66 P P 13 30 51.4 -0.8
JTMT IAmb IAmb 13 31 30.7
comp=Z,34nm,2.0s
WVOR Wild Horse Val 45.07 74 P P 13 30 55.1 -0.7
WVOR pmax pmax
comp=Z,4.0nm,1.3s
WVOR Wild Horse Val 45.07 74 P P 13 30 55.1 -0.7
MSO Missoula 45.31 66 P P 13 30 56.2 -1.5
MSO IAmb IAmb 13 31 23.2
comp=Z,18nm,1.9s
BEKR Beckworth 45.56 78 P P 13 30 59.0 -0.8
PAHR Pah Rah Range 46.25 78 P P 13 31 04.4 -0.8
PAHR IAmb IAmb 13 31 18.6
comp=Z,18nm,1.7s
PNTR Pine Nut 46.50 79 P P 13 31 07.0 -0.3
PNTR IAmb IAmb 13 31 24.7
comp=Z,5.8nm,0.7s
WAKR Walker 46.97 79 P P 13 31 08.1 -2.8
WAKR IAmb IAmb 13 31 23.9
comp=Z,5.6nm,0.9s
EGMT Eagleton 47.00 63 P P 13 31 09.4 -1.4
EGMT IAmb IAmb 13 31 24.8
comp=Z,5.8nm,0.9s
MCMT McKenzie Canyo 47.08 68 P P 13 31 10.1 -1.7

KVN Kaiserville 47.44 78 P P 13 31 13.0 -1.6
KVN pmax pmax
comp=Z,3.0nm,1.0s
KVN Kaiserville 47.44 78 P P 13 31 13.0 -1.6
RYN Ryan 47.45 78 P P 13 31 13.7 -0.9
RYN IAmb IAmb 13 31 25.1
comp=Z,7.0nm,1.3s
NVAR Mina Array Bea 47.70 78 P P 13 31 16.4 -0.2
comp=Z,0.7nm,0.5s,baz=295,slow=7.7,SNR=8.4
NV11 Mina Array Sit 47.79 78 P P 13 31 16.6 -0.7
NV11 IAmb IAmb 13 31 34.1
comp=Z,9.5nm,1.6s
QLMT Earthquake Lak 47.89 67 P P 13 31 17.0 -1.0
YHL Hebgen Lake 48.02 67 P P 13 31 18.1 -1.0
YHB Horse Butte 48.08 67 P P 13 31 18.4 -1.1
GCMT Greycliff 48.33 65 P P 13 31 19.0 -2.4
FCC Fort Churchill 48.77 44 P P 13 31 23.6 -0.7
FCC pmax pmax
comp=Z,5.0nm,0.8s
FCC Fort Churchill 48.77 44 P P 13 31 23.6 -0.7
FCC IAmb IAmb 13 31 25.2
comp=Z,5.3nm,0.8s
RLMT Red Lodge 48.96 66 P P 13 31 26.1 -0.2
RLMT IAmb IAmb 13 31 27.2
comp=Z,5.8nm,0.9s
R11A Troy Canyon, C 49.41 77 P P 13 31 29.1 -0.6
SPA0 Spitsbergen Ar 49.72 354 P P 13 31 31.3 0.0
SPITS Spitsbergen Ar 49.72 354 P P 13 31 31.5 +0.2
SPITS pmax pmax
comp=Z,1.0nm,0.2s
LAO LASA Array 49.73 62 P P 13 31 31.9 0.0
DGMT Dagmar 49.77 60 P P 13 31 31.7 -0.5
TPNV Topopah Spring 49.90 79 P P 13 31 33.0 -0.5
TPNV pmax pmax
comp=Z,7.0nm,1.0s
TPNV Topopah Spring 49.90 79 P P 13 31 33.0 -0.5
TPNV IAmb IAmb 13 31 43.4
comp=Z,6.6nm,0.9s
DUG Dugway, Tooele 49.91 73 P P 13 31 32.7 -0.8
DUG pmax pmax
comp=Z,14nm,1.8s
DUG Dugway, Tooele 49.91 73 P P 13 31 32.7 -0.8
DUG IAmb IAmb 13 31 45.1
comp=Z,14nm,1.8s
PD31 Pinedale Array 50.22 68 P P 13 31 35.0 -1.0
PDAR Pinedale Array 50.22 68 P P 13 31 34.9 -1.0
comp=Z,1.7nm,0.6s,baz=310,slow=3.7,SNR=24
PSUT Pine Spring 50.34 75 P P 13 31 36.0 -0.8
NLU North Lily Min 50.50 73 P P 13 31 37.0 -1.0
GSC Goldstone, Bar 50.64 81 P P 13 31 38.5 -0.5
GSC pmax pmax
comp=Z,5.0nm,0.9s
GSC Goldstone, Bar 50.64 81 P P 13 31 38.5 -0.5
GSC IAmb IAmb 13 31 39.6
comp=Z,5.2nm,0.8s
SHPR Sheep Range 50.85 78 P P 13 31 39.9 -0.8
LZH Lanzhou 51.18 281 eP P 13 31 43.3 +0.2
LZH pP sP 13 31 50.3 +0.5
LZH sP pwP 13 31 55.0 +2.2
LZH pmax pmax
comp=Z,14nm,0.7s
GTA Gaotai 51.45 287 eP P 13 31 46.8 +1.7
GTA pP sP 13 31 51.0 -0.8
GTA sP pwP 13 31 54.5 -0.3
GTA pmax pmax
comp=Z,5.0nm,0.8s
LCMT Little Creek M 51.69 76 P P 13 31 46.1 -0.8
KNB Kanab 51.94 76 P P 13 31 48.7 -0.1
KNB pmax pmax
comp=Z,9.0nm,1.4s
KNB Kanab 51.94 76 P P 13 31 48.7 -0.1
MDND Maddock 52.59 58 P P 13 31 52.9 -0.4
O20A White River Ci 52.65 70 P P 13 31 53.1 -1.0
O20A IAmb IAmb 13 32 37.3
comp=Z,24nm,1.9s
U15A North Rim 52.65 76 P P 13 31 53.9 -0.3
U15A IAmb IAmb 13 32 07.7
comp=Z,7.1nm,1.0s
ULM Lac du Bonnet 53.01 53 eP P 13 31 55.6 -0.7
ULM pmax pmax
comp=Z,3.0nm,0.5s
ULM Lac du Bonnet 53.01 53 P P 13 31 55.4 -0.9
comp=Z,2.9nm,0.5s,baz=309,slow=6.4,SNR=6.6
ULM Lac du Bonnet 53.01 53 P P 13 31 55.5 -0.9
ULM IAmb IAmb 13 33 54.2
comp=Z,20nm,1.6s
WUAZ Wupatki 53.81 77 P P 13 32 01.0 -1.6
SUMG Summit 53.95 12 *i* P P 13 32 03.8 +0.4
SUMG pmax pmax
comp=Z,13nm,0.7s
SUMG Summit 53.95 12 *i* P P 13 32 03.8 +0.4
comp=Z,13nm,0.7s
SUMG Summit 53.95 12 P P 13 32 03.8 +0.4
SUMG IAmb IAmb 13 32 04.7
comp=Z,16nm,1.4s
MVCO Mesa Verde 54.41 73 P P 13 32 06.2 -0.9
X16A Lo Mia Camp, P 54.51 78 P P 13 32 06.3 -1.5
ILULI Ilulissat 54.90 18 P P 13 32 10.1 +0.3
ILULI pmax pmax
comp=Z,88nm,1.4s
ILULI Ilulissat 54.90 18 P P 13 32 10.1 +0.3
FRB Frobisher Bay 54.91 29 P P 13 32 08.6 -1.4
FRB pmax pmax
comp=Z,10.0nm,3.0s
S22A 4UR Ranch, Cre 55.04 72 P P 13 32 11.5 -0.2
S22A IAmb IAmb 13 32 31.3
comp=Z,16nm,1.9s
WMQ Urumqi 55.53 299 eP P 13 32 16.5 +1.6
WMQ PcP PcP 13 33 15.3 +0.7
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,130nm,5.1s
WMQ LR LR
comp=Z,520nm,28.9s
WMQ LR LR
comp=Z,700nm,29.2s
KURK Kurchatov 55.65 310*c* eP P 13 32 15.9 +0.4
KURK pmax pmax
comp=Z,14nm,1.0s
KURK Kurchatov 55.65 310 P P 13 32 15.3 -0.2
KURBB Kurchatov Arra 55.75 310 P P 13 32 16.4 +0.1
comp=Z,8.1nm,1.0s,baz=49,slow=7.0,SNR=35
MK31 Makanchi Array 56.43 305 *i* P P 13 32 21.1 -0.2
MK31 Makanchi Array 56.43 305 P P 13 32 21.0 -0.3
MKAR Makanchi Array 56.43 305 P P 13 32 21.2 -0.1
comp=Z,1.4nm,0.4s,baz=54,slow=6.6,SNR=37
MAKZ Makanchi 56.58 305 P P 13 32 22.0 -0.3
MAKZ pmax pmax
comp=Z,5.0nm,1.1s
MAKZ Makanchi 56.58 305 P P 13 32 22.0 -0.3
MAKZ IAmb IAmb 13 32 34.0
comp=Z,4.7nm,1.1s
EYMN Ely 56.69 53 P P 13 32 22.8 -0.3
T25A Trinidad 56.88 71 P P 13 32 24.4 -0.4
T25A IAmb IAmb 13 32 39.3
comp=Z,17nm,1.6s
ARCES ARCESS Array B 56.98 347 eP P 13 32 24.9 +0.2
ARCES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 56.98 347 P P 13 32 24.7 -0.1
comp=Z,1.3nm,0.4s,baz=33,slow=7.7,SNR=16
ARE0 ARCESS Array S 56.98 347 P P 13 32 24.9 +0.1
LENM Lemitar 57.38 75 P P 13 32 28.0 -0.3
BVAR Borovoye Array 57.82 316 P P 13 32 31.6 +0.7
comp=Z,3.7nm,0.5s,baz=55,slow=7.3,SNR=26
BRVK Borovoye 57.84 316*c i* P P 13 32 31.6 +0.6
BRVK pmax pmax
comp=Z,2.0nm,0.5s
BRVK Borovoye 57.84 316 P P 13 32 31.3 +0.2
BRVK IAmb IAmb 13 32 32.5
comp=Z,6.1nm,0.5s
CBKS Cedar Bluff 58.44 66 P P 13 32 34.9 -0.7
CBKS pmax pmax
comp=Z,14nm,1.0s
CBKS Cedar Bluff 58.44 66 P P 13 32 34.9 -0.7
MSF Maaselka 59.78 344 P P 13 32 44.6 +0.2
MSF pmax pmax
comp=Z,26nm,2.3s
PRGR Permogore 59.91 335 eP P 13 32 44.5 -0.8
PRGR pmax pmax
comp=Z,13nm,0.8s
ARU Arti 60.00 325*c i* P P 13 32 46.9 +0.9
ARU 13 34 54.4

ARU S **S** **13 40 59.7 +2.5**
ARU SS **SS** **13 44 55.4 +2.4**
ARU pmax pmax
comp=Z,14nm,1.6s
ARU Arti 60.00 325 P **P** **13 32 45.6 -0.4**
comp=Z,1.2nm,0.6s,baz=112,slow=3.2,SNR=5.6
MNTX Cornudas Mount 60.05 76 P **P** **13 32 47.0 +0.3**
MNTX IAmb IAmb 13 32 48.1
comp=Z,6.4nm,0.9s
OUL Oulu 61.06 345 P **P** **13 32 52.7 -0.3**
OUL pmax pmax
comp=Z,27nm,2.6s
JOF Joensuu 62.10 342 P **P** **13 33 00.9 +0.8**
SCHQ Schefferville 62.31 35 P **P** **13 33 01.0 -0.6**
comp=Z,13nm,0.9s,baz=333,slow=8.3,SNR=7.1
SCHQ Schefferville 62.31 35 P **P** **13 33 01.1 -0.6**
TX31 Lajitas Ar. Si 62.77 76 P **P** **13 33 05.1 -0.2**
TX32 Lajitas Array 62.77 76 P **P** **13 33 05.3 0.0**
TXAR Lajitas Array 62.77 76 P **P** **13 33 05.4 +0.1**
comp=Z,6.2nm,0.8s,baz=300,slow=4.3,SNR=76
ABTX Abilene, Hawle 62.82 71 P **P** **13 33 05.5 0.0**
SUF Sumiainen 63.22 344 P **P** **13 33 07.3 -0.3**
AAK Ala-Archa 63.31 306 *de*P **P** **13 33 10.0 +1.3**
AAK pmax pmax
comp=Z,10.0nm,2.5s
AAK Ala-Archa 63.31 306 P **P** **13 33 09.7 +0.9**
comp=Z,1.5nm,0.6s,baz=31,slow=5.3,SNR=4.9
AAK Ala-Archa 63.31 306 IAmb IAmb 13 33 10.7
comp=Z,5.5nm,1.1s
VAF Ylistaro 63.48 346 P **P** **13 33 09.5 +0.3**
JCT Junction City 64.27 73 P **P** **13 33 15.2 +0.1**
JCT pmax pmax
comp=Z,7.0nm,0.8s
JCT Junction City 64.27 73 P **P** **13 33 15.2 +0.1**
JCT IAmb IAmb 13 33 16.2
comp=Z,6.5nm,0.8s
FINES FINESS Array B 64.43 344 P **P** **13 33 15.7 +0.2**
comp=Z,6.9nm,0.8s,baz=24,slow=7.1,SNR=19
KSH Kashi 64.82 302 P **P** **13 33 22.3 +3.6**
KSH PcP **PcP** **13 33 55.0 +3.0**
AKTO Aktyubinsk 64.87 321 P **P** **13 33 19.4 +0.8**
comp=Z,2.7nm,0.5s,baz=59,slow=7.5,SNR=6.8
KK31 Karatay Array 64.95 308 P **P** **13 33 19.4 +0.1**
KK31 pmax pmax
comp=Z,3.0nm,1.1s
KK31 Karatay Array 64.95 308 P **P** **13 33 19.4 +0.1**
KKAR Karatay Array 64.95 308 P **P** **13 33 19.4 +0.1**
KKAR pmax pmax
comp=Z,3.0nm,1.1s
KKAR Karatay Array 64.95 308 P **P** **13 33 19.4 +0.1**
ABKAR Akbulak array 65.02 319 P **P** **13 33 20.2 +0.5**
ABKAR IAmb IAmb 13 33 37.9
comp=Z,16nm,1.8s
SHL Shillong 65.84 281 P **P** **13 33 25.6 +0.1**
SHL pmax pmax
comp=Z,11nm,1.1s
SHL Shillong 65.84 281 P **P** **13 33 25.6 +0.1**
CMAR Chiang Mai Arr 66.75 271 *e*P **P** **13 33 32.4 +1.2**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 66.75 271 P **P** **13 33 32.1 +1.0**
comp=Z,1.3nm,0.7s,baz=29,slow=6.7,SNR=7.7
NB201 NORSAR Array S 66.81 351 P **P** **13 33 31.4 +0.4**
NB2 NORSAR Subarra 66.83 351 P **P** **13 33 31.7 +0.6**
comp=Z,2.5nm,0.5s,baz=11,slow=6.5
NOA NORSAR Array B 66.83 351 P **P** **13 33 31.3 +0.2**
comp=Z,4.1nm,0.6s,baz=11,slow=6.4,SNR=20
TAPN Taplejung 67.06 285 *e*P **P** **13 33 34.1 +0.6**
comp=Z,57nm,1.4s
BTK Batken 67.08 306 P **P** **13 33 33.7 +0.6**
BTK pmax pmax
comp=Z,11nm,1.3s
BTK Batken 67.08 306 P **P** **13 33 33.7 +0.6**
BTK IAmb IAmb 13 33 35.0
comp=Z,11nm,1.2s
VSU Vasula 67.10 342 P **P** **13 33 33.5 +0.7**
NORES NORESS Array B 67.10 351 P **P** **13 33 33.1 +0.3**
NORES pmax pmax
comp=Z,1.0nm,0.3s
HFS Hagfors 67.46 350 P **P** **13 33 35.3 +0.2**
comp=Z,5.7nm,0.5s,baz=38,slow=2.6,SNR=16
GUN Gumba 67.74 287 *e*P **P** **13 33 39.3 +1.5**
comp=Z,30nm,0.9s
JIRN Jiri 67.74 287 *e*P **P** **13 33 39.2 +1.3**
comp=Z,48nm,1.1s
CLTN Cedars of Leba 67.82 60 P **P** **13 33 37.0 -0.7**
CLTN IAmb IAmb 13 33 38.8
comp=Z,7.3nm,0.9s
OBN Obninsk 67.95 335 *je*P **P** **13 33 38.4 +0.2**
OBN pmax pmax
comp=Z,35nm,2.5s
RAMN Ramite 68.02 286 *e*P **P** **13 33 40.5 +1.0**
comp=Z,28nm,0.9s
GAR Garm 68.13 305 P **P** **13 33 40.3 +0.5**
KKN Kakani 68.19 287 *e*P **P** **13 33 41.7 +1.2**
PKI Pulchoki 68.28 287 *e*P **P** **13 33 41.9 +0.7**
comp=Z,2.4nm,0.9s
PKIN Phulchoki 68.28 287 *e*P **P** **13 33 41.8 +0.7**
GKN Gorkha 68.41 288 *e*P **P** **13 33 42.8 +1.0**
DMN Daman 68.43 287 *e*P **P** **13 33 43.0 +1.0**
comp=Z,5.3nm,0.5s
DANN Dangsing 68.67 289 *e*P **P** **13 33 45.0 +1.4**
comp=Z,20nm,0.9s
CHGR Chuyangaron 68.98 306 P **P** **13 33 45.5 +0.4**
KOLN Koldanda 69.20 289 *e*P **P** **13 33 47.5 +0.7**
AKASG Malin Array Be 73.81 338 *j* P **P** **13 34 14.5 +0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 73.81 338 P **P** **13 34 14.2 +0.3**
comp=Z,1.1nm,0.5s,baz=23,slow=6.0,SNR=5.7
KBZ Khabaz 76.12 326 P **P** **13 34 28.8 +1.4**
comp=Z,2.5nm,0.8s,baz=340,slow=2.9,SNR=3.8
OJC Ojcow 76.21 344 P **P** **13 34 28.6 +0.8**
OJC pmax pmax
comp=Z,11nm,1.0s
OJC Ojcow 76.21 344 P **P** **13 34 28.6 +0.8**
OJC IAmb IAmb 13 34 30.0
comp=Z,11nm,1.0s
KWP Kalwaria Pacla 76.23 341 P **P** **13 34 30.1 +2.2**
DPC Dobruska-Polom 76.66 346 *e*P **P** **13 34 31.9 +1.5**
DPC Dobruska-Polom 76.66 346 *e*P **P** **13 34 31.9 +1.5**
KOLS Kolonicke sedl 76.98 342 *e*P **P** **13 34 32.5 +0.3**
KOLS Kolonicke sedl 76.98 342 *e*P **P** **13 34 32.5 +0.3**
MORC Moravsky Berou 77.02 345 *e*P **P** **13 34 33.4 +0.9**
LANS Liptovska Anna 77.30 343 *e*P **P** **13 34 35.7 +1.7**
LANS pmax pmax
comp=Z,7.0nm,1.1s
LANS Liptovska Anna 77.30 343 *e*P **P** **13 34 35.7 +1.7**
BUR08 Bucovina Ar. S 77.59 339 P **P** **13 34 36.4 +0.6**
BUR08 IAmb IAmb 13 34 53.3
comp=Z,13nm,1.4s
VRAC Vranov 77.63 345 P **P** **13 34 37.0 +1.2**
VRAC Vranov 77.63 345 P **P** **13 34 37.0 +1.2**
comp=Z,2.8nm,0.6s,baz=4.7,slow=4.0
VRAC Vranov 77.63 345 *e*P **P** **13 34 37.1 +1.2**
KRUC Moravsky 77.90 345 P **P** **13 34 38.9 +1.6**
KRUC pmax pmax
comp=Z,8.0nm,2.5s
KRUC Moravsky 77.90 345 *e*P **P** **13 34 38.4 +1.1**
VYHS Vyhne 78.04 344 *e*P **P** **13 34 39.5 +1.4**
VYHS pmax pmax
comp=Z,9.0nm,1.4s
VYHS Vyhne 78.04 344 *e*P **P** **13 34 39.5 +1.4**
KHC Kasperske Hory 78.25 347 P **P** **13 34 40.4 +1.2**
KHC Kasperske Hory 78.25 347 *e*P **P** **13 34 40.5 +1.2**
KHC *ex* x 13 34 50.1
WET Wettzell 78.33 348 P **P** **13 34 40.7 +1.0**
MODS Modra-Piesok 78.42 345 *e*P **P** **13 34 41.7 +1.4**
MODS pmax pmax
comp=Z,15nm,1.5s
MODS Modra-Piesok 78.42 345 *e*P **P** **13 34 41.7 +1.4**
GERES GERESS Array B 78.51 347 P **P** **13 34 41.8 +1.0**
comp=Z,1.1nm,0.7s,baz=15,slow=5.5,SNR=6.5
DNP Denpasar 78.57 240 P **P** **13 34 43.1 +1.7**
DNP pmax pmax
comp=Z,261nm,1.2s
CONA Conrad Observa 79.08 345 *j* pP **P** **13 34 45.5 +1.5**
comp=Z,4.8nm,1.0s
WRA Warramunga Arr 79.45 218 *e*P **P** **13 34 46.8 +0.7**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 79.45 218 P **P** **13 34 46.0 -0.1**
comp=Z,0.7nm,0.6s,baz=31,slow=6.3,SNR=8.3
ARSA Arzberg 79.80 346 *j* pP **P** **13 34 48.8 +1.0**
comp=Z,3.1nm,1.2s

RETA Reutte 80.22 349 *j* P **P** **13 34 47.6 -2.6**
comp=Z,6.2nm,1.3s
WATA Walderalm 80.27 348 *j* pP **P** **13 34 51.7 +1.2**
comp=Z,4.9nm,1.1s
KBA Koelnbreinsper 80.29 347 *j* pP **P** **13 34 51.3 +0.6**
comp=Z,9.3nm,0.7s
WTTA Wattenberg 80.33 348 *j* P **P** **13 34 49.6 -1.3**
comp=Z,17nm,1.5s
SOKA Soboth 80.43 346 *j* pP **P** **13 34 52.4 +1.1**
comp=Z,4.7nm,0.6s
SQTA Sankt Quirin 80.43 348 *j* pP **P** **13 34 52.4 +1.0**
comp=Z,3.4nm,0.7s
OBKA Obir 80.67 346 *j* P **P** **13 34 51.7 -0.9**
comp=Z,6.0nm,0.6s
FETA Feichten 80.69 349 *j* P **P** **13 34 50.8 -1.9**
comp=Z,8.1nm,1.6s
ABTA Abfaltersbach 80.73 347 *j* P P 13 34 46.6 -6.3
comp=Z,7.7nm,1.2s
TEOL Teolo 82.20 348 P **P** **13 35 01.3 +0.7**
BRTR Keskin Array B 82.75 331 P **P** **13 35 04.4 +0.6**
comp=Z,1.0nm,0.7s,baz=72,slow=4.3,SNR=5.3
ASAR Alice Springs 83.00 217 *e*P **P** **13 35 05.4 +0.5**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 83.00 217 P **P** **13 35 05.4 +0.5**
comp=Z,0.4nm,0.6s,baz=20,slow=5.7,SNR=12
BOSA Boshof 147.43 303 PKPbc **PKPbc** **13 42 23.4 -0.1**
comp=Z,2.9nm,0.8s,baz=45,slow=5.7,SNR=3.2

*ROM **29** 13:25:32.7±0.0, 43°.367N±0°.003×12°.529E±0°.004, h8km, ML2.3/29, Error ellipse: s-maj=0.3km s-min=0.2km az=228.0*
*ISCJB **29** 13:25:33.5±0.2, 43°.37N±0°.01×12°.53E±0°.02, h8km±2km, Error ellipse: s-maj=2.5km s-min=2.2km az=27.6*
ISC 29 13:25:33.0±0.8, 43°.37N±0°.02×12°.53E±0°.02, h9km±5km, n45, σ0s78/74, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.03**	**94**	P	**Pg**	**13 25 34.5**	**-0.4**
ATFO				S	**Sg**	**13 25 35.6**	**-0.6**
ATFO				AML	AML		
	comp=E,22050μm,0.2s						
ATFO				AML	AML		
	comp=N,28800μm,0.5s						
ATFO				AML	AML		
	comp=E,22100μm,0.2s						
ATFO				AML	AML		
	comp=E,22100μm,0.2s						
ATFO				AML	AML		
	comp=N,28800μm,0.5s						
ATVO	**AVT- Monte Val**	**0.09**	**279**	P	**Pg**	**13 25 35.5**	**0.0**
ATVO				S	**Sg**	**13 25 37.2**	**0.0**
ATVO				AML	AML		
	comp=N,10585μm,0.2s						
ATVO				AML	AML		
	comp=E,6425μm,0.1s						
MURB	**Monte Urbino**	**0.11**	**182**	P	**Pg**	**13 25 35.9**	**+0.2**
MURB				S	**Sg**	**13 25 38.0**	**+0.5**
MURB				AML	AML		
	comp=E,7745μm,0.4s						
MURB				AML	AML		
	comp=N,7115μm,0.2s						
MURB				AML	AML		
	comp=E,8245μm,0.4s						
MURB				AML	AML		
	comp=E,7740μm,0.4s						
MURB				AML	AML		
	comp=E,7740μm,0.4s						
MURB				AML	AML		
	comp=N,7550μm,0.2s						
ATPI	**Pietralunga -**	**0.12**	**312**	P	**Pg**	**13 25 36.1**	**+0.1**
ATPI				S	**Sg**	**13 25 38.4**	**+0.4**
ATPI				AML	AML		
	comp=E,1640μm,0.3s						
ATPI				AML	AML		
	comp=N,2130μm,0.8s						
ATPI				AML	AML		
	comp=E,1635μm,0.3s						
PIEI	**Pieia**	**0.17**	**2**	P	**Pg**	**13 25 36.9**	**+0.3**
PIEI				S	**Sg**	**13 25 40.1**	**+0.9**
PIEI				AML	AML		
	comp=E,2500μm,0.3s						
PIEI				AML	AML		
	comp=N,1560μm,0.5s						
FOSV	**Fossato di Vic**	**0.18**	**113**	P	**Pg**	**13 25 37.1**	**+0.2**
FOSV				S	**Sg**	**13 25 40.7**	**+1.1**
FOSV				AML	AML		
	comp=E,848μm,0.3s						
FOSV				AML	AML		
	comp=N,726μm,1.2s						
FOSV				AML	AML		
	comp=E,848μm,0.3s						
ATMI	**Monte Miggiano**	**0.19**	**260**	P	**Pg**	**13 25 37.4**	**+0.3**
ATMI				S	**Sg**	**13 25 40.6**	**+0.7**
ATMI				AML	AML		
	comp=N,1975μm,0.3s						
ATMI				AML	AML		
	comp=E,1615μm,0.3s						
SSFR	**Montelago di S**	**0.20**	**70**	P	**Pg**	**13 25 37.3**	**+0.2**
SSFR				S	**Sg**	**13 25 41.2**	**+1.2**
SSFR				AML	AML		
	comp=N,2430μm,0.1s						
SSFR				AML	AML		
	comp=E,2335μm,1.2s						
SSFR				AML	AML		
	comp=N,2135μm,0.3s						
SSFR				AML	AML		
	comp=E,2585μm,0.1s						
ATCC	**AVT- Casa Cast**	**0.20**	**156**	P	**Pg**	**13 25 37.6**	**+0.4**
ATCC				S	**Sg**	**13 25 41.6**	**+1.6**
ATCC				AML	AML		
	comp=E,1350μm,0.6s						
ATCC				AML	AML		
	comp=N,1470μm,0.5s						
FRON	**Frontone**	**0.21**	**44**	P	**Pg**	**13 25 37.5**	**+0.2**
FRON				S	**Sg**	**13 25 41.1**	**+0.9**
FRON				AML	AML		
	comp=N,1235μm,0.3s						
FRON				AML	AML		
	comp=N,1230μm,0.3s						
FRON				AML	AML		
	comp=E,668μm,1.1s						
ATTE	**AVT- Monte Tez**	**0.21**	**217**	P	**Pg**	**13 25 37.6**	**+0.1**
ATTE				S	**Sg**	**13 25 41.0**	**+0.5**
ATTE				AML	AML		
	comp=N,610μm,0.9s						
ATTE				AML	AML		
	comp=E,796μm,0.6s						
CDCA	**Citt' di Caste**	**0.23**	**293**	AML	AML		
	comp=N,2755μm,0.5s						
CDCA				AML	AML		
	comp=E,1950μm,0.4s						
CDCA				AML	AML		
	comp=E,516μm,1.6s						
CDCA				AML	AML		
	comp=N,737μm,0.3s						
CDCA				AML	AML		
	comp=E,1945μm,0.4s						
CDCA				AML	AML		
	comp=E,517μm,1.6s						
CDCA				AML	AML		
	comp=N,738μm,0.3s						
BADI	**Badiali**	**0.25**	**304**	P	**Pg**	**13 25 38.5**	**+0.4**
BADI				S	**Sb**	**13 25 42.9**	**-1.3**
BADI				AML	AML		
	comp=N,5785μm,0.2s						
BADI				AML	AML		
	comp=E,6515μm,0.2s						
MPAG	**Monte Paganucc**	**0.31**	**33**	P	**Pg**	**13 25 39.5**	**+0.2**
MPAG				S	**Sb**	**13 25 44.7**	**-1.3**
MPAG				AML	AML		
	comp=N,294μm,0.7s						
MPAG				AML	AML		
	comp=N,294μm,0.7s						
MPAG				AML	AML		
	comp=E,380μm,0.3s						
SNTG	**Esanatoglia**	**0.32**	**111**	P	**Pg**	**13 25 39.6**	**+0.1**
SNTG				S	**Sb**	**13 25 45.0**	**-1.2**
SNTG				AML	AML		
	comp=N,1024μm,0.2s						
SNTG				AML	AML		
	comp=E,533μm,0.7s						
ARVD	**Arcevia**	**0.33**	**67**	P	**Pg**	**13 25 39.8**	**+0.2**
ARVD				S	**Sb**	**13 25 45.4**	**-1.1**
ARVD				AML	AML		
	comp=E,328μm,0.1s						
ARVD				AML	AML		
	comp=N,244μm,1.1s						
PE3	**Peglio**	**0.33**	**356**	P	**Pb**	**13 25 40.1**	**-1.0**
PE3				S	**Sb**	**13 25 46.1**	**-0.4**
PE3				AML	AML		
	comp=E,655μm,1.3s						
PE3				AML	AML		
	comp=N,752μm,1.0s						
PE3				AML	AML		
	comp=E,656μm,1.3s						
PE3				AML	AML		
	comp=N,752μm,1.0s						
PARC	**Parchiule**	**0.35**	**323**	P	**Pg**	**13 25 40.4**	**+0.4**
PARC				S	**Sb**	**13 25 46.5**	**-0.7**
PARC				AML	AML		
	comp=E,486μm,0.4s						
PARC				AML	AML		
	comp=N,298μm,1.2s						
PARC				AML	AML		
	comp=E,486μm,0.4s						
SSP9	**Sansepolcro**	**0.35**	**305**	P	**Pb**	**13 25 40.5**	**-1.0**
SSP9				S	**Sb**	**13 25 46.2**	**-1.0**
SSP9				AML	AML		
	comp=E,218μm,1.5s						
SSP9				AML	AML		
	comp=N,210μm,1.4s						
SSP9				AML	AML		
	comp=N,208μm,1.4s						
FSSB	**Fossombrone**	**0.37**	**29**	P	**Pg**	**13 25 40.6**	**+0.2**
FSSB				S	**Sb**	**13 25 46.9**	**-0.9**
FSSB				AML	AML		
	comp=E,1142μm,1.1s						
FSSB				AML	AML		
	comp=N,1006μm,1.2s						
FSSB				AML	AML		
	comp=E,1142μm,1.1s						
CAFI	**Castiglion Fio**	**0.41**	**265**	P	**Pg**	**13 25 41.4**	**+0.3**
CAFI				AML	AML		
	comp=N,2904μm,1.5s						
CAFI				AML	AML		
	comp=E,336μm,0.1s						
CAFI				AML	AML		
	comp=E,302μm,0.1s						
CAFI				AML	AML		
	comp=N,2903μm,1.5s						
CAFI				AML	AML		
	comp=E,336μm,0.1s						
CAFI				AML	AML		
	comp=N,226μm,0.3s						
CAFI				AML	AML		
	comp=N,226μm,0.3s						
EL6	**Elcito**	**0.42**	**95**	P	**Pg**	**13 25 41.4**	**+0.1**
EL6				S	**Sb**	**13 25 48.5**	**-0.7**
CESI	**CESI - Serrava**	**0.46**	**143**	P	**Pg**	**13 25 41.9**	**0.0**
CESI				S	**Sb**	**13 25 49.4**	**-0.8**
CESI				AML	AML		
	comp=E,45μm,0.3s						
CESI				AML	AML		
	comp=N,86μm,0.7s						
CESI				AML	AML		
	comp=N,86μm,0.7s						
CESI				AML	AML		
	comp=E,45μm,0.3s						
CPGN	**Carpegna, Ital**	**0.46**	**341**	P	**Pb**	**13 25 43.1**	**-0.3**
CING	**Cingoli**	**0.49**	**89**	P	**Pg**	**13 25 42.6**	**+0.1**
CING				S	**Sb**	**13 25 50.8**	**-0.2**
CING				AML	AML		
	comp=E,161μm,1.0s						
CING				AML	AML		
	comp=N,152μm,0.9s						
FDMO	**Fiordimonte**	**0.53**	**129**	P	**Pg**	**13 25 43.1**	**-0.1**
FDMO				S	**Sb**	**13 25 51.3**	**-0.9**
FDMO				AML	AML		
	comp=E,245μm,0.2s						
FDMO				AML	AML		
	comp=N,316μm,0.2s						
FDMO				AML	AML		
	comp=E,246μm,0.2s						
FDMO				AML	AML		
	comp=N,317μm,0.2s						
MGAB	**Montegabbione**	**0.55**	**214**	P	**Pg**	**13 25 43.8**	**+0.1**
MGAB				S	**Sb**	**13 25 52.1**	**-0.7**
MGAB				AML	AML		
	comp=E,475μm,0.2s						
MGAB				AML	AML		
	comp=E,507μm,1.3s						
MGAB				AML	AML		
	comp=N,637μm,0.2s						
MGAB				AML	AML		
	comp=N,612μm,0.2s						
CSP1	**Cessapalombo**	**0.57**	**119**	P	**Pg**	**13 25 43.5**	**-0.6**
CSP1				S	**Sb**	**13 25 53.2**	**-0.2**
CSP1				AML	AML		
	comp=E,272μm,0.4s						
CSP1				AML	AML		
	comp=N,307μm,1.6s						
CSP1				AML	AML		
	comp=E,269μm,0.4s						
PESA	**Pesaro**	**0.61**	**21**	P	**Pb**	**13 25 45.4**	**-0.6**
PESA				AML	AML		
	comp=E,766μm,1.6s						
PESA				AML	AML		
	comp=N,728μm,1.4s						
PESA				AML	AML		
	comp=E,766μm,1.6s						
NRCA	**Norcia**	**0.69**	**141**	P	**Pg**	**13 25 46.2**	**0.0**
NRCA				AML	AML		
	comp=E,176μm,0.4s						
NRCA				AML	AML		
	comp=N,186μm,0.4s						
ASQU	**Asqua**	**0.69**	**309**	P	**Pb**	**13 25 47.0**	**-0.3**
ASQU				AML	AML		
	comp=N,114μm,0.5s						
SACS	**San Casciano d**	**0.69**	**221**	P	**Pg**	**13 25 46.1**	**-0.3**
SACS				S	**Sn**	**13 25 59.0**	**-0.9**
SACS				AML	AML		
	comp=E,167μm,0.5s						
SACS				AML	AML		
	comp=N,191μm,0.6s						
SACS				AML	AML		
	comp=E,147μm,0.5s						
SACS				AML	AML		
	comp=N,190μm,0.6s						
SFI	**Santa Sofia**	**0.73**	**318**	P	**Pg**	**13 25 46.9**	**-0.3**
SFI				S	**Sb**	**13 25 59.0**	**+0.9**
SFI				AML	AML		
	comp=E,54μm,1.1s						
SFI				AML	AML		
	comp=N,62μm,1.2s						
ARRO	**Arrone**	**0.81**	**167**	P	**Pg**	**13 25 48.4**	**-0.2**
LNSS	**Leonessa**	**0.85**	**154**	P	**Pb**	**13 25 49.8**	**-0.3**
LNSS				S	**Sn**	**13 26 04.0**	**0.0**
LNSS				AML	AML		
	comp=E,111μm,0.4s						
RUFI	**Rufina**	**0.88**	**303**	P	**Pb**	**13 25 50.0**	**-0.5**
LATE	**Laterza**	**0.92**	**215**	P	**Pn**	**13 25 52.7**	**+0.5**
GUMA	**Gualdo di Mace**	**1.07**	**106**	P	Pg	13 25 46.1	-7.5
GUMA				S	Sg	13 25 58.0	-10
GUMA				AML	AML		
	comp=N,286μm,0.4s						
GUMA				AML	AML		
	comp=E,331μm,0.9s						
AQU	**L'Aquila**	**1.20**	**147**	S	**Sn**	**13 26 14.0**	**+1.5**
MA9	**Marino**	**1.60**	**177**	P	**Pg**	**13 26 03.6**	**-0.1**
ZIRJ	**Zirje**	**2.28**	**82**	*e*Pn	**Pn**	**13 26 11.5**	**+0.7**
ZIRJ				Sn	**Sn**	**13 26 38.5**	**-0.6**
MORI	**Morici**	**2.36**	**77**	*i* Pn	**Pn**	**13 26 12.3**	**+0.4**
MORI				Sn	**Sn**	**13 26 41.6**	**+0.6**
UDBI	**Udbina**	**2.61**	**63**	Sn	**Sb**	**13 26 51.5**	**-0.6**
HVAR	**Hvar**	**2.87**	**92**	*e*Pn	**Pn**	**13 26 19.2**	**+0.3**
KIJV	**Kijevo**	**2.88**	**76**	*i* Pn	**Pn**	**13 26 20.9**	**+1.7**
KIJV				Sn	**Sb**	**13 26 56.9**	**-3.0**

ROM 29 13:26:11.3±0.1, 43°.370N±0°.003×12°.528E±0°.004, h9km, ML1.7/1, Error ellipse: s-maj=0.3km s-min=0.3km az=15.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.03**	**96**	P	Pg	13 26 13.2	0.0
ATFO				S	Sg	13 26 14.2	-0.3
ATFO				AML	AML		
	comp=N,2015μm,0.5s						

ATFO				AML	AML			
	comp=E,1560µm,0.2s							
ATFO				END				
ATVO	**AVT- Monte Val**	**0.09**	**278**	P	Pg	13 26 14.1	+0.4	
ATVO				S	Sg	13 26 15.8	+0.4	
ATVO				AML	AML			
	comp=E,492µm,0.1s							
ATVO				AML	AML			
	comp=N,742µm,0.2s							
ATVO				AML	AML			
	comp=N,743µm,0.2s							
ATVO				AML	AML			
	comp=E,491µm,0.1s							
ATVO				END				
MURB	**Monte Urbino**	**0.11**	**181**	P	Pg	13 26 14.5	+0.5	
MURB				S	Sg	13 26 16.6	+0.8	
MURB				END				
ATPI	**Pietralunga -**	**0.12**	**311**	P	Pg	13 26 14.7	+0.5	
ATPI				S	Sg	13 26 17.2	+0.9	
ATPI				END				
PIEI	**Pieia**	**0.17**	**2**	P	Pg	13 26 15.6	+0.6	
PIEI				S	Sg	13 26 18.7	+1.3	
PIEI				END				
FOSV	**Fossato di Vic**	**0.19**	**114**	P	Pg	13 26 15.7	+0.5	
FOSV				S	Sg	13 26 19.6	+1.7	
FOSV				END				
ATCC	**AVT- Casa Cast**	**0.20**	**156**	P	Pg	13 26 16.3	+0.8	
ATCC				S	Sg	13 26 20.3	+1.9	
ATCC				END				
FRON	**Frontone**	**0.21**	**44**	P	Pg	13 26 16.2	+0.6	
FRON				S	Sg	13 26 19.7	+1.2	
FRON				END				
ATTE	**AVT- Monte Tez**	**0.21**	**217**	P	Pg	13 26 16.3	+0.6	
ATTE				S	Sg	13 26 19.9	+1.1	
ATTE				END				
BADI	**Badiali**	**0.25**	**304**	P	Pg	13 26 17.2	+0.8	
BADI				S	Sg	13 26 21.6	+1.8	
BADI				AML	AML			
	comp=N,387µm,0.2s							
BADI				AML	AML			
	comp=E,472µm,0.2s							
BADI				AML	AML			
	comp=E,472µm,0.2s							
BADI				END				
SNTG	**Esanatoglia**	**0.32**	**111**	P	Pg	13 26 18.3	+0.5	
SNTG				S	Sb	13 26 23.6	-1.0	
SNTG				END				
ARVD	**Arcevia**	**0.33**	**67**	P	Pg	13 26 18.4	+0.5	
ARVD				S	Sb	13 26 24.0	-0.7	

ROM 29 13:26:39.8±0.2, 43°402N±0°004×12°505E±0°005, h5km±1km, Md0.9/5, Error ellipse: s-maj=0.4km s-min=0.1km az=58.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.06**	**126**	P	Pg	13 26 41.4	0.0
ATFO				S	Sg	13 26 42.7	+0.2
ATFO				END			
ATVO	**AVT- Monte Val**	**0.07**	**254**	P	Pg	13 26 41.7	+0.1
ATVO				S	Sg	13 26 43.2	+0.4
ATVO				END			
ATPI	**Pietralunga -**	**0.09**	**303**	P	Pg	13 26 42.0	+0.2
ATPI				S	Sg	13 26 43.8	+0.6
ATPI				END			
PIEI	**Pieia**	**0.14**	**9**	P	Pg	13 26 42.9	+0.3
PIEI				S	Sg	13 26 45.6	+1.1
PIEI				END			
MURB	**Monte Urbino**	**0.14**	**174**	P	Pg	13 26 43.0	+0.4
MURB				S	Sg	13 26 45.9	+1.3
MURB				END			

*TEH **29** 13:27:15.9, 28°11N×53°49E, h5km, ML3.8*
*ISCJB **29** 13:27:15.9±0.3, 28°00N±0°02×53°32E±0°04, h10km, mb3.8/11, Error ellipse: s-maj=5.5km s-min=2.7km az=152.9*
*IDC **29** 13:27:16.6±1.0, 28°10N×53°29E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.6/49, mbtmp3.8/11, ML3.6/2, Error ellipse: s-maj=28.0km s-min=19.7km az=44.0*
*NEIC **29** 13:27:20.4±1.2, 28°0N±0°1×53°41E±0°08, h37km±7km*
*THR **29** 13:27:21.3, 28°32N×53°56E, h17km, ML3.6*
*OMAN **29** 13:27:23.4±1.9, 27°75N×53°36E, h171km±38km, ml3.9/8, Error ellipse: s-maj=28.8km s-min=16.4km az=95.0*

ISC 29 13:27:16.6±0.5, 28°00N±0°03×53°42E±0°04, h10km, n76, σ2§14/83, mb3.9/14, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**0.52**	**16**	*e*Pg	**Pg**	**13 27 23.8**	**-3.0**
JHRM				IAMB	IAmb	13 27 32.8	
	comp=Z,0.0nm,0.2s						
LMD1	**Lamerd**	**0.69**	**199**	*e*Pg	**Pn**	**13 27 33.6**	**+1.1**
LMD1				IAMB	IAmb	13 27 54.4	
	comp=Z,0.0nm,0.4s						
SHI	**Shiraz**	**1.82**	**334**	*e*Pn	**Pg**	**13 27 48.9**	**-2.6**
SHI				IAMB	IAmb	13 28 29.5	
	comp=Z,0.0nm,0.8s						
IKAZ	**Kazeroun**	**2.25**	**322**	*e*Pn	**Pb**	**13 27 55.9**	**-1.6**
IKAZ				IAMB	IAmb	13 28 39.6	
	comp=Z,11µm,0.6s						
BNDS	**Bandar-Abbas**	**2.51**	**103**	*e*Pn	**Pg**	**13 28 03.3**	**-1.5**
BNDS	**Bandar-Abbas**	**2.51**	**103**	*e*Pn	**Pg**	**13 28 03.3**	**-1.5**
GENO	**Geno**	**2.52**	**103**	*e*Pn	**Pb**	**13 27 59.7**	**-2.3**
GENO				IAMB	IAmb	13 28 47.2	
	comp=Z,0.0nm,0.7s						
NIAN	**Nian**	**3.06**	**97**	IAMB	IAmb	13 28 56.9	
	comp=Z,0.0nm,0.4s						
NIAN				*e*Pn	**Pn**	**13 28 06.7**	**+1.7**
SHME	**Shamm**	**3.11**	**128**	*e*Pn	**Pn**	**13 28 07.9**	**+2.1**
NGRK	**Negar Kerman**	**3.34**	**60**	*e*Pn	**Pn**	**13 28 10.2**	**+1.0**
NGRK				IAMB	IAmb	13 29 17.0	
	comp=Z,0.0nm,1.0s						
KLNJ	**Kolanjah**	**3.39**	**332**	*e*Pn	**Pn**	**13 28 10.4**	**+0.4**
KRBR	**Kerman**	**3.53**	**55**	*e*Pn	Pb	13 28 13.9	-5.5
KRBR	**Kerman**	**3.53**	**55**	*e*Pn	Pb	13 28 13.9	-5.5
IMEH	**Mehriz**	**3.54**	**17**	*e*Pn	Pb	13 28 13.2	-6.2
TVBK	**TV Kerman**	**3.54**	**55**	*e*Pn	Pb	13 28 13.6	-5.9
TVBK				IAMB	IAmb	13 28 27.4	
	comp=Z,0.0nm,0.9s						
KHGB	**Koh Gabri**	**3.57**	**48**	*e*Pn	**Pn**	**13 28 12.8**	**+0.5**
KHGB				IAMB	IAmb	13 29 11.4	
	comp=Z,0.0nm,0.9s						
MSFE	**Esma-Masafi**	**3.60**	**136**	*e*Pn	**Pn**	**13 28 15.6**	**+3.1**
NAZ	**Nazwa, Dubai**	**3.61**	**146**	P	**Pn**	**13 28 16.0**	**+3.4**
NAZ	**Nazwa, Dubai**	**3.61**	**146**	*e*Pn	**Pn**	**13 28 15.0**	**+2.4**
MDH	**Madha**	**3.73**	**136**	*e*Pn	**Pn**	**13 28 16.3**	**+2.1**
ASUD	**Al Ashush, Dub** SNR=11	**3.77**	**153**	P	**Pn**	**13 28 18.2**	**+3.4**
ASUD				S	**Sn**	**13 29 04.0**	**+4.7**
ASUD	**Al Ashush, Dub**	**3.77**	**153**	*e*Pn	**Pn**	**13 28 18.0**	**+3.1**
FAQ	**Al Faqa, Dubai**	**3.78**	**148**	P	**Pb**	**13 28 24.1**	**+0.6**
FAQ				S	**Sn**	**13 29 02.5**	**+2.9**
IRAM	**Ramesheh**	**3.90**	**347**	*e*Pn	**Pn**	**13 28 17.9**	**+1.1**
ISAD	**Sadrabad**	**3.91**	**3**	*e*Pn	**Pn**	**13 28 18.1**	**+1.1**
UOSS	**Minazif**	**3.94**	**140**	*e*Pn	**Pn**	**13 28 19.0**	**+1.9**
UOSS	**Minazif**	**3.94**	**140**		**Pn**	**13 28 18.7**	**+1.6**
HATD	**Hatta, Dubai**	**3.99**	**142**	P	**Pb**	**13 28 23.4**	**-3.7**
HATD				S	**Sb**	**13 29 11.4**	**-4.0**
HATD	**Hatta, Dubai**	**3.99**	**142**	*e*Pn	**Pn**	**13 28 21.0**	**+3.1**
IBAF	**Bafgh**	**4.04**	**27**	*e*Pn	**Pn**	**13 28 19.7**	**+1.1**
SLWS		**4.04**	**219**	*e*Pn	**Pn**	**13 28 22.9**	**+4.3**
CHMN	**Cheshme madani**	**4.06**	**62**	*e*Pn	**Pn**	**13 28 20.0**	**+0.9**
ASHO	**Ashiyiah**	**4.07**	**144**	P	**Pn**	**13 28 21.3**	**+2.3**
ASHO				S	**Sn**	**13 29 08.7**	**+2.1**
ASHO	**Ashiyiah**	**4.07**	**144**	*e*Pn	**Pn**	**13 28 21.4**	**+2.5**
ICHK	**Chekchek**	**4.32**	**11**	*e*Pn	**Pn**	**13 28 23.5**	**+1.0**
ALNE	**Al Ain**	**4.45**	**151**	*e*Pn	**Pn**	**13 28 26.4**	**+2.2**
YZKH	**Yazd**	**4.49**	**13**	*e*Pn	**Pn**	**13 28 26.3**	**+1.5**
YZKH	**Yazd**	**4.49**	**13**	*e*Pn	**Pn**	**13 28 26.2**	**+1.5**
YZKH				*e*Sg	**Sb**	**13 29 30.3**	**+0.5**
SOHO	**SOHO**	**4.76**	**143**	P	**Pn**	**13 28 30.8**	**+2.4**
SOHO				S	**Sn**	**13 29 25.7**	**+2.0**
JHBN	**Jahan bin**	**4.84**	**331**	*e*Pn	**Pn**	**13 28 31.2**	**+1.3**
IZEF	**Zefreh**	**4.97**	**349**	*e*Pn	**Pn**	**13 28 32.7**	**+1.2**
ANAR	**Anarak**	**5.18**	**3**	*e*Pn	**Pn**	**13 28 35.6**	**+1.3**
ARQ	**Araqi** SNR=9.4	**5.42**	**148**	P	**Pn**	**13 28 40.0**	**+2.4**
ARQ				S	**Sn**	**13 29 42.1**	**+2.0**
HOQ	**Hoqain**	**5.63**	**141**	P	**Pn**	**13 28 44.1**	**+3.7**
HOQ				S	**Sn**	**13 29 45.5**	**+0.4**
TPRV	**Parvadeh(Tabas**	**5.75**	**29**	*e*Pn	**Pn**	**13 28 43.6**	**+1.5**
SMDO	**Samad**	**6.46**	**139**	P	**Pn**	**13 28 54.0**	**+2.1**
SMDO				S	**Sn**	**13 30 06.8**	**+1.0**
WSAR	**Wadi Sarin**	**6.68**	**134**	Pn	**Pn**	**13 28 56.3**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=343,slow=7.4,SNR=11						
WSAR				Sn	**Sn**	**13 30 09.3**	**-1.7**
	comp=Z,1.9nm,0.3s,baz=49,slow=17,SNR=5.8						
WBK	**Wadi Bani Khal**	**7.35**	**136**	P	**Pn**	**13 29 04.8**	**+0.8**
WBK				S	**Sn**	**13 30 28.5**	**+0.9**
RAYN	**Ar Rayn**	**8.41**	**240**		**Pn**	**13 29 19.8**	**+1.2**
WHFO	**Wadi Hawf** SNR=25	**10.04**	**178**	P	**Pn**	**13 29 42.5**	**+1.5**
WHFO				S	**Sn**	**13 31 30.3**	**-3.4**
RBK	**Rabkut**	**10.47**	**176**	P	**Pn**	**13 29 47.7**	**+0.8**
RBK				S	**Sn**	**13 31 40.1**	**-4.3**
ABTO	**Aybut**	**10.60**	**181**	P	**Pn**	**13 29 49.3**	**+0.7**
ABTO				S	**Sn**	**13 31 42.0**	**-5.5**
NIL	**Nilore**	**17.93**	**67**	P	**P**	**13 31 25.1**	**-1.7**
NIL				IAmb	IAmb	13 31 32.4	
	comp=Z,11nm,1.1s						
BR131	**Keskin Array S**	**20.11**	**311**		Pn	13 31 52.0	-0.6
BRTR	**Keskin Array B**	**20.11**	**311**	P	Pn	13 31 51.9	-0.7
	comp=Z,0.2nm,0.3s,baz=134,slow=12,SNR=7.3						
ILGA	**Ilgaz**	**20.75**	**314**	P	**P**	**13 31 57.6**	**-0.2**
ILGA				IAmb	IAmb	13 32 56.0	
	comp=Z,14nm,1.1s						
ARSB	**Arslanbob**	**20.81**	**45**	P	Pn	13 31 59.1	-1.6
ARSB				IAmb	IAmb	13 32 13.3	
	comp=Z,4.2nm,1.1s						
ELL	**Elmali**	**21.64**	**300**	P	**P**	**13 32 07.4**	**+0.1**
ABKAR	**Akbulak array**	**21.81**	**12**	P	**P**	**13 32 09.3**	**+0.5**
AKTO	**Aktyubinsk**	**22.68**	**8**	P	**P**	**13 32 19.7**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=194,slow=15,SNR=3.8						
KARP	**Karpathos**	**23.51**	**295**	P	**P**	**13 32 27.0**	**+0.2**
AKASG	**Malin Array Be**	**29.15**	**328**	P	**P**	**13 33 17.4**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=137,slow=8.3,SNR=4.2						
MKAR	**Makanchi Array**	**29.38**	**43**	P	**P**	**13 33 20.4**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=227,slow=6.9,SNR=2.4						
KHC	**Kasperske Hory**	**37.05**	**316**	P	**P**	**13 34 26.7**	**0.0**
KHC				IAmb	IAmb	13 34 41.5	
	comp=Z,2.5nm,1.1s						
BRG	**Berggiesshubel**	**37.46**	**319**	*e*PKP	**P**	**13 34 29.6**	**-0.6**
	comp=Z,5.5nm,0.9s						
BRG	**Berggiesshubel**	**37.46**	**319**	*e*P	**P**	**13 34 29.5**	**-0.6**
BRG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
FINES	**FINESS Array B**	**38.09**	**339**	P	**P**	**13 34 36.4**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=144,slow=9.7,SNR=2.6						
SENIN	**Lac Senin/Sane**	**40.41**	**310**	P	**P**	**13 34 55.1**	**-0.1**
SENIN				IAmb	IAmb	13 35 37.0	
	comp=Z,3.8nm,1.1s						
BNI	**Bardonecchia**	**40.63**	**308**	P	**P**	**13 34 56.7**	**-0.2**
BNI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BNI	**Bardonecchia**	**40.63**	**308**	P	**P**	**13 34 56.7**	**-0.2**
BNI				IAmb	IAmb	13 35 21.2	
	comp=Z,7.6nm,1.1s						
HFS	**Hagfors**	**41.87**	**331**	P	**P**	**13 35 06.3**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=134,slow=6.2,SNR=2.2						
NC204	**NORSAR Array S**	**43.69**	**332**	P	**P**	**13 35 20.2**	**-1.3**
NC204				IAmb	IAmb	13 35 50.1	
	comp=Z,5.5nm,0.9s						
ARCES	**ARCESS Array B**	**44.60**	**346**	P	**P**	**13 35 28.4**	**-0.3**
	comp=Z,5.9nm,1.1s,baz=156,slow=6.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**50.27**	**264**	P	**P**	**13 36 13.6**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=64,slow=7.6,SNR=11						
WRA	**Warramunga Arr**	**91.55**	**112**	P	**P**	**13 40 26.8**	**+2.8**
	comp=Z,0.5nm,0.8s,baz=321,slow=4.0,SNR=3.3						
ASAR	**Alice Springs**	**93.00**	**115**	P	**P**	**13 40 34.6**	**+3.9**
	comp=Z,0.2nm,0.6s,baz=306,slow=4.5,SNR=5.3						

*ISCJB **29** 13:48:01.4±0.6, 18°1S±0°1×178°5W±0°1, h579km, Error ellipse: s-maj=17.0km s-min=12.0km az=156.1*
*IDC **29** 13:48:02.5±12.0, 17°86S×178°46W, h578km±120km, mb3.1/5, mb1 3.3/5, mb1mx2.9/41, mbtmp4.1/5, Error ellipse: s-maj=119.0km s-min=34.6km az=122.0*
*NEIC **29** 13:48:04.1±1.3, 18°1S±0°2×178°3W±0°2, h609km±11km, mb4.6/8*

ISC 29 13:48:02.9±0.7, 18°1S±0°2×178°4W±0°1, h579km, n17, σ1§50/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.44**	**275**	P	**P**	**13 49 27.3**	**+4.2**
AFI	**Afiamalu**	**7.55**	**58**	P	**P**	**13 49 59.1**	**+1.8**
RAR	**Rarotonga**	**17.77**	**103**	P	**P**	**13 51 37.2**	**-0.2**
THZ	**Tophouse**	**24.78**	**196**	P	**P**	**13 52 40.1**	**+0.1**
THZ				IAmb	IAmb	13 53 11.9	
	comp=Z,74nm,1.7s						
FOZ	**Fox Glacier**	**27.29**	**199**	P	**P**	**13 53 01.0**	**-0.9**
WHZ	**Wether Hill Ro**	**29.99**	**199**	P	**P**	**13 53 25.5**	**+0.1**
COEN	**Coen**	**37.16**	**271**	P	**P**	**13 54 26.1**	**+0.1**
COEN				IAmb	IAmb	13 54 54.5	
	comp=Z,16nm,1.6s						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**13 54 37.5**	**0.0**
	comp=Z,1.4nm,0.8s,baz=90,slow=10,SNR=3.7						
STKA	**Stephens Creek**	**38.60**	**241**	P	**P**	**13 54 37.7**	**+0.2**
WR0	**Warramunga Arr**	**44.47**	**260**	P	**P**	**13 55 22.9**	**-1.0**
WR0				IAmb	IAmb	13 56 42.9	
	comp=Z,32nm,1.8s						
WRAB	**Tennant Creek**	**44.65**	**260**	P	**P**	**13 55 23.9**	**-1.3**
WRAB				IAmb	IAmb	13 56 16.9	
	comp=Z,39nm,1.9s						
WRA	**Warramunga Arr**	**44.66**	**260**	P	**P**	**13 55 24.1**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=96,slow=7.0,SNR=11						
AS31	**Alice Springs**	**44.80**	**254**	P	**P**	**13 55 25.2**	**-1.2**
ASAR	**Alice Springs**	**44.80**	**254**	P	**P**	**13 55 25.8**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=87,slow=8.8,SNR=68						
ASAR				PcP	**PcP**	**13 56 54.7**	**-1.0**
	comp=Z,0.2nm,0.8s,baz=107,slow=3.6,SNR=3.0						
PETK	**Petropavlovsk-**	**73.84**	**345**	P	**P**	**13 58 37.8**	**-1.3**
	comp=Z,3.2nm,0.9s,baz=129,slow=5.4,SNR=4.3						
ILAR	**Eielson Array**	**86.03**	**13**	P	**P**	**13 59 40.6**	**-1.7**
	comp=Z,1.4nm,1.2s,baz=222,slow=4.7,SNR=7.4						
GERES	**GERESS Array B**	**147.78**	**345**	PKPbc	**PKPbc**	**14 06 42.5**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=20,slow=3.1,SNR=3.9						

*IDC **29** 13:48:32.1±1.9, 26°09N×128°58E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/49, mbtmp3.4/4, Error ellipse: s-maj=116.8km s-min=16.8km az=72.0*
*ISCJB **29** 13:48:33.3±0.9, 26°11N±0°05×128°75E±0°04, h28km±7km, mb3.4/4, Error ellipse: s-maj=7.9km s-min=5.4km az=23.4*
*JMA **29** 13:48:35.9±0.2, 26°18N×128°63E, h39km±4km, M3.0*

ISC 29 13:48:31.9±1.8, 26°11N±0°05×128°73E±0°04, h8km±12km, n16, σ1§38/25, mb3.3/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.75**	**303**	P	**Pn**	**13 48 48.3**	**-0.5**
JNTH				*e*S	**Sb**	**13 49 57.2**	**-0.5**
JOW	**Kunigami**	**0.83**	**331**	P	**Pn**	**13 48 49.7**	**-0.1**
JOW	**Kunigami**	**0.83**	**331**	Pn	**Pn**	**13 48 49.8**	**-0.1**
	11nm,0.3s,baz=143,slow=13,SNR=210						
JOW				Sn	**Sg**	**13 48 58.0**	**-0.6**
	43nm,0.3s,baz=330,slow=16,SNR=35						
JJT3	**Tamagusuku3**	**0.85**	**272**	P	**Pn**	**13 48 50.3**	**+0.1**
JJT3				*e*S	**Sn**	**13 49 00.5**	**-2.3**
JYRO	**Yoronjima**	**0.94**	**345**	P	**Pn**	**13 48 51.5**	**0.0**
JIH	**Iheya**	**1.15**	**324**	P	**Pn**	**13 48 54.7**	**+0.5**
JIH				*e*S	**Sb**	**13 49 08.0**	**-1.0**
JOKE	**Okinoerabujima**	**1.25**	**354**	P	**Pb**	**13 48 56.3**	**+0.5**
JOKE				*e*S	**Sb**	**13 49 11.7**	**-0.4**
JAGN	**Aguni-jima**	**1.42**	**290**	P	**Pb**	**13 48 58.8**	**-0.3**
JTK	**Tokunoshima**	**1.68**	**7**	P	**Pn**	**13 49 02.2**	**+0.6**
JTK				*e*S	**Sn**	**13 49 21.8**	**-1.5**
JKE	**Kume jima 2**	**1.76**	**277**	P	**Pn**	**13 49 02.5**	**-0.1**
JKE				*e*S	**Sn**	**13 49 23.0**	**-2.2**
JMZ	**Minamidaito 2**	**2.26**	**97**	P	**Pn**	**13 49 09.4**	**-0.2**
JMZ				S	**Sn**	**13 49 34.9**	**-2.8**
JKDJ	**Kitadaitoujima**	**2.32**	**93**	P	**Pn**	**13 49 10.3**	**0.0**
JKDJ				S	**Sn**	**13 49 36.3**	**-2.7**
SONM	**Songino Array**	**27.90**	**327**	P	**P**	**13 54 25.0**	**+2.6**
	0.4nm,0.6s,baz=145,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**41.95**	**312**	P	**P**	**13 56 23.5**	**+0.3**
	0.3nm,0.6s,baz=94,slow=9.3,SNR=3.2						
WRA	**Warramunga Arr**	**46.10**	**173**	P	**P**	**13 56 57.5**	**+0.9**
	0.4nm,0.3s,baz=351,slow=8.4,SNR=6.0						
ASAR	**Alice Springs**	**49.74**	**174**	P	**P**	**13 57 26.3**	**+1.4**
	0.2nm,0.6s,baz=4.7,slow=12,SNR=8.7						

*NNC **29** 13:49:05.6±1.3, 41°95N×72°74E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=13.5km s-min=5.0km az=174.0*
*KRNET **29** 13:49:07.6±0.1, 41°92N×72°87E, h19km, mb3.3*
*SOME **29** 13:49:07.2, 42°00N×72°83E, h10km*

ISC 29 13:49:07.0±1.2, 41°93N±0°03×72°83E±0°02, h2km±10km, n57, σ1§37/90, 29C-16D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob** baz=72	**0.61**	**169**	⇓*i*P	**Pg**	**13 49 19.1**	**+0.4**
ARSB				⇓*i*S	**Sg**	**13 49 27.7**	**+1.1**
ARK	**Arkit** baz=58	**0.66**	**259**	⇑*i*P	**Pb**	**13 49 20.6**	**-0.7**
ARK				⇑*i*S	**Sb**	**13 49 29.8**	**-1.2**
AML	**Almayashu** baz=71	**0.68**	**72**	⇑*i*P	**Pg**	**13 49 20.1**	**+0.2**
AML				⇑*i*S	**Sg**	**13 49 28.9**	**+0.2**
AML	**Almayashu** SNR=133	**0.68**	**72**	P	**Pg**	**13 49 20.3**	**+0.4**
MRKS	**Merke** 36nm,0.1s	**0.87**	**19**	*e*P	**Pg**	**13 49 24.0**	**+0.3**
MRKS				*e*S	**Sg**	**13 49 36.0**	**+1.0**
	580nm,0.2s						
MRKS	**Merke** 36nm,0.1s	**0.87**	**19**	P	**Pg**	**13 49 24.0**	**+0.3**
MRKS				S	**Sg**	**13 49 36.0**	**+1.0**
	580nm,0.2s						
EKS2	**Erkin-Say** baz=42	**1.02**	**43**	⇑*i*P	**Pg**	**13 49 26.4**	**-0.1**
EKS2				⇑*i*S	**Sg**	**13 49 39.9**	**+0.3**
EKS2	**Erkin-Say** SNR=80 baz=42	**1.02**	**43**	P	**Pg**	**13 49 26.5**	**+0.1**
ARLS	**Aral** baz=92	**1.11**	**93**	⇑*i*P	**Pb**	**13 49 27.7**	**-1.4**
ARLS				⇑*i*S	**Sg**	**13 49 42.5**	**-0.3**
UCH	**Uchtor** baz=75	**1.29**	**76**	⇑*i*P	**Pn**	**13 49 30.9**	**-1.5**
UCH				⇑*i*S	**Sb**	**13 49 47.7**	**-1.7**
UCH	**Uchtor** SNR=34 baz=75	**1.29**	**76**	P	**Pn**	**13 49 31.1**	**-1.3**
AAK	**Ala-Archa** baz=59	**1.42**	**59**	⇓*i*P	**Pn**	**13 49 33.6**	**-0.4**
AAK				⇓*i*S	**Sn**	**13 49 51.9**	**-1.6**
AAK	**Ala-Archa** SNR=31 baz=59	**1.42**	**59**	P	**Pn**	**13 49 33.7**	**-0.4**
AAK	**Ala-Archa** 14nm,0.5s	**1.42**	**59**	⇑P	**Pn**	**13 49 33.6**	**-0.4**
AAK				⇑S	**Sn**	**13 49 51.9**	**-1.6**
	14nm,0.3s						
DZA	**Taraz** 167nm,0.1s	**1.47**	**312**	*e*P	**Pg**	**13 49 35.1**	**-0.1**
DZA				*e*S	**Sg**	**13 49 55.6**	**+1.4**
	326nm,0.3s						
DZA	**Taraz** 167nm,0.1s	**1.47**	**312**	P	**Pg**	**13 49 35.1**	**-0.1**
DZA				S	**Sg**	**13 49 55.7**	**+1.4**
	326nm,0.3s						
FRU1	**Bishkek** baz=55	**1.60**	**56**	⇑*i*P	**Pb**	**13 49 36.6**	**-0.7**
FRU1				⇑*i*S	**Sb**	**13 49 57.4**	**-0.6**
	baz=55						
KBK	**Karagaybulak** baz=64	**1.73**	**64**	⇑*i*P	**Pb**	**13 49 39.0**	**-0.6**
KBK				⇑*i*S	**Sb**	**13 50 01.4**	**-0.5**
	baz=64						
KBK	**Karagaybulak** SNR=30	**1.73**	**64**	P	**Pb**	**13 49 39.2**	**-0.4**
CHMS	**Chumysh** baz=52	**1.78**	**52**	⇑*i*P	**Pb**	**13 49 39.6**	**-0.7**
CHMS				⇑*i*S	**Sb**	**13 50 03.0**	**-0.2**
	baz=52						
CHMS	**Chumysh** SNR=16	**1.78**	**52**	P	**Pb**	**13 49 39.7**	**-0.7**
KZA	**Kyzart** baz=84	**1.81**	**84**	⇑*i*P	**Pb**	**13 49 40.2**	**-0.9**
KZA				⇑*i*S	**Sb**	**13 50 03.7**	**-0.6**
	baz=84						
KZA	**Kyzart** SNR=46	**1.81**	**84**	P	**Pb**	**13 49 40.4**	**-0.7**
USP	**Ospenovka** baz=41	**1.82**	**42**	⇓*i*P	**Pb**	**13 49 40.4**	**-0.7**
USP				⇓*i*S	**Sb**	**13 50 04.4**	**+0.1**
	baz=41						
USP	**Ospenovka** SNR=71	**1.82**	**42**	P	**Pb**	**13 49 40.1**	**-0.9**
SGDS	**Sogindy** 14nm,0.2s	**2.02**	**40**	Pg	**Pb**	**13 49 43.5**	**-1.0**
SGDS				Lg	Lg	13 50 10.5	
	73nm,0.3s						
KK31	**Karatay Array**	**2.08**	**305**	⇓Pn	**Pb**	**13 49 43.4**	**-2.0**
	35nm,0.5s,baz=120,slow=13,SNR=329						
KK31				⇑Lg	Lg	13 50 12.8	
	37nm,0.3s,baz=119,slow=27,SNR=15						
IUG	**Iuzhnay** 23nm,0.2s	**2.10**	**277**	*e*P	**Pb**	**13 49 45.1**	**-0.7**
IUG				*e*S	**Sg**	**13 50 13.1**	**-1.2**
	103nm,0.3s						
TKM2	**Tokmak 2** baz=63	**2.28**	**63**	⇑*i*P	**Pn**	**13 49 46.9**	**+1.1**
TKM2				⇑*i*S	**Sn**	**13 50 15.4**	**+0.8**
	baz=63						
TKM2	**Tokmak 2** SNR=59	**2.28**	**63**	P	**Pb**	**13 49 47.4**	**-1.5**
TKM2	**Tokmak 2** 11nm,0.3s	**2.28**	**63**	⇑Pn	**Pb**	**13 49 47.4**	**-1.5**
TKM2				⇓Lg	Lg	13 50 18.2	
	96nm,0.6s						
BOOM	**Boomskoye usch** baz=75	**2.38**	**75**	⇓*i*P	**Pn**	**13 49 48.3**	**+1.

MDOK					*e*S		**Sg**	**13 50 52.4**	**-2.3**
	17nm,0.5s								
MDOK	**Medeo**	**3.35**	**67**	Pg			**Pb**	**13 50 07.2**	**0.0**
	8.7nm,0.8s								
MDOK					Lg		Lg	13 50 51.3	
	15nm,0.6s								
MDOK	**Medeo**	**3.35**	**67**	Pg			**Pb**	**13 50 08.4**	**+1.2**
	4.0nm,0.3s								
MDOK					Lg		Lg	13 50 52.4	
	17nm,0.5s								
KOTS	**Kotyrbulak**	**3.42**	**66**	*e*P			**Pb**	**13 50 10.1**	**+1.7**
	9.7nm,0.5s								
KOTS					*e*S		**Sg**	**13 50 55.1**	**-1.8**
	16nm,0.6s								
KOTS	**Kotyrbulak**	**3.42**	**66**	Pg			**Pb**	**13 50 10.1**	**+1.7**
	9.7nm,0.5s								
KOTS					Lg		Lg	13 50 55.1	
	16nm,0.6s								
CHKK	**Chushkaly**	**3.61**	**56**	*e*P			**Pb**	**13 50 13.7**	**+2.1**
	6.8nm,0.4s								
CHKK					*e*S		**Sg**	**13 51 01.2**	**-1.7**
	17nm,0.3s								
CHKK	**Chushkaly**	**3.61**	**56**	Pg			**Pb**	**13 50 13.6**	**+2.1**
	6.8nm,0.4s								
CHKK					Lg		Lg	13 51 01.2	
	17nm,0.3s								
TARG	**Taragay, Kyrgy**	**3.72**	**91**	⇑Pg			**Pn**	**13 50 07.1**	**+1.2**
	baz=91								
TARG				⇑*i*S			**Sn**	**13 50 50.2**	**-0.3**
	baz=91								
ARXS	**Arharly**	**4.32**	**56**	*e*P			**Pb**	**13 50 24.9**	**+1.4**
	7.0nm,0.5s								
ARXS					*e*S		**Sg**	**13 51 21.1**	**-4.4**
	21nm,0.4s								
ARXS	**Arharly**	**4.32**	**56**	Pg			**Pb**	**13 50 25.0**	**+1.4**
	7.0nm,0.5s								
ARXS					Lg		Lg	13 51 21.2	
	21nm,0.4s								
KPKS	**Kokpek**	**4.58**	**68**	*e*P			**Pb**	**13 50 30.3**	**+2.2**
	9.4nm,0.5s								
KPKS					*e*S		**Sg**	**13 51 29.7**	**-4.3**
	25nm,0.4s								
PDGK	**Podgornoye**	**5.11**	**72**	⇑Pg			**Pb**	**13 50 40.5**	**+3.4**
	3.9nm,0.9s								
PDGK				⇑Lg			Lg	13 51 48.0	
	15nm,1.0s								
MK31	**Makanchi Array**	**8.34**	**51**	Pn			**Pn**	**13 51 10.0**	**+1.1**
	0.7nm,0.6s,baz=232,slow=14,SNR=9.6								
MK31				⇑Lg			Lg	13 53 28.9	
	2.3nm,1.0s								

*ISCJB **29** 13:54:50.9±0.3,23°.53N±0°.02×121°.67E±0°.02,h27km, Error ellipse: s-maj=2.6km s-min=1.8km az=137.1*
*JMA **29** 13:54:50.3±0.1,23°.49N×121°.61E,h46km±2km,M3.0*
*TAP **29** 13:54:51.0,23°.54N×121°.63E,h33km,ML2.8,D*
ISC 29 13:54:50.9±0.9,23°.54N±0°.02×121°.63E±0°.02,h27km,n66, σ0$63/116,1C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.20**	**258**	*i* P			**Pn**	**13 54 58.7**	**+0.6**
	baz=255								
HGSD				*e*S			**Sb**	**13 55 02.9**	**+2.2**
	baz=255								
EGFH	**Guangfu**	**0.23**	**305**	*e*P			**Pn**	**13 54 58.7**	**+0.1**
	baz=304								
EGFH				*e*S			**Sb**	**13 55 04.0**	**+2.6**
	baz=304								
EHY	**Hungye**	**0.29**	**264**	P			**Pn**	**13 54 58.7**	**-0.6**
	baz=262								
EHY				*e*S			**Sn**	**13 55 04.1**	**-0.7**
	baz=262								
ESL	**Shilin**	**0.33**	**327**	P			**Pn**	**13 54 59.4**	**-0.6**
	baz=327								
ESL				*e*S			**Sn**	**13 55 05.5**	**-0.5**
	baz=327								
YULB	**Yu-li**	**0.34**	**245**	⇓*i*P			**Pn**	**13 54 59.6**	**-0.5**
	baz=244								
YULB				*e*S			**Sn**	**13 55 05.4**	**-0.7**
	baz=244								
TWF1	**Yuli**	**0.36**	**240**	⇓*i*P			**Pn**	**13 54 59.9**	**-0.5**
	baz=237								
TWF1				*e*S			**Sn**	**13 55 05.8**	**-0.7**
	baz=237								
ENLB	**Shoufeng**	**0.37**	**355**	⇑*i*P			**Pb**	**13 54 59.5**	**+0.4**
	baz=356								
ENLB				S			**Sn**	**13 55 06.6**	**-0.1**
	baz=356								
HWA	**Hwalien**	**0.44**	**357**	*e*P			**Pn**	**13 55 01.7**	**+0.2**
	baz=358								
HWA				*e*S			**Sn**	**13 55 08.3**	**-0.3**
	baz=358								
FULB	**Fuli**	**0.46**	**223**	*e*P			**Pn**	**13 55 01.5**	**-0.2**
	baz=222								
FULB				S			**Sn**	**13 55 08.6**	**-0.4**
	baz=222								
CHKT	**Chengkung**	**0.50**	**210**	*e*P			**Pn**	**13 55 02.1**	**-0.2**
	baz=208								
CHKT				*e*S			**Sn**	**13 55 09.5**	**-0.5**
	baz=208								
VWDT	**VWDT**	**0.50**	**296**	P			**Pn**	**13 55 02.0**	**-0.3**
	baz=295								
VWDT				*e*S			**Sn**	**13 55 09.5**	**-0.6**
	baz=295								
TWD	**Chiawan**	**0.54**	**356**	P			**Pn**	**13 55 02.6**	**-0.3**
	baz=357								
TWD				*e*S			**Sn**	**13 55 10.5**	**-0.6**
	baz=357								
OWD	**Renai**	**0.59**	**315**	*e*P			**Pn**	**13 55 03.4**	**-0.3**
	baz=314								
OWD				*e*S			**Sb**	**13 55 11.2**	**+0.3**
	baz=314								
YUS	**Yu-Shan**	**0.63**	**266**	*e*P			**Pn**	**13 55 04.1**	**-0.4**
	baz=264								
YUS				*e*S			**Sb**	**13 55 12.6**	**+0.3**
	baz=264								
NACB	**Ninganchiao**	**0.64**	**357**	*e*P			**Pb**	**13 55 03.4**	**-0.1**
	baz=357								
NACB				*e*S			**Sb**	**13 55 11.9**	**-0.1**
	baz=357								
ELDTW	**Lidau**	**0.66**	**239**	⇓*i*P			**Pb**	**13 55 03.4**	**-0.6**
	baz=237								
ELDTW				*e*S			**Sb**	**13 55 12.5**	**-0.3**
	baz=237								
CHGB	**Renai**	**0.67**	**321**	P			**Pb**	**13 55 04.4**	**+0.2**
	baz=321								
CHGB				S			**Sb**	**13 55 13.3**	**+0.1**
	baz=321								
SSLB	**Suanglung**	**0.67**	**292**	⇓*i*P			**Pb**	**13 55 04.1**	**0.0**
	baz=291								
SSLB				*e*S			**Sb**	**13 55 12.9**	**-0.2**
	baz=291								
ETLH	**Xiulin Townshi**	**0.68**	**348**	*e*P			**Pb**	**13 55 03.8**	**-0.5**
	baz=348								
ETLH				*e*S			**Sb**	**13 55 13.0**	**-0.4**
	baz=348								
WHF	**Hehuan Shan**	**0.69**	**331**	*e*P			**Pb**	**13 55 04.6**	**-0.1**
	baz=331								
WHF				*e*S			**Sb**	**13 55 14.7**	**+0.6**
	baz=331								
WHYT	**Xinyi Township**	**0.73**	**283**	*e*P			**Pn**	**13 55 05.8**	**+0.3**
	baz=282								
WHYT				*e*S			**Sn**	**13 55 15.7**	**-0.2**
	baz=282								
ALS	**Alishan**	**0.76**	**268**	⇓*i*P			**Pn**	**13 55 06.2**	**+0.1**
	baz=267								
ALS				*e*S			**Sb**	**13 55 16.0**	**+0.2**
	baz=267								
TYC	**Yuchr**	**0.80**	**297**	*e*P			**Pn**	**13 55 06.4**	**0.0**
	baz=297								
TYC				*e*S			**Sb**	**13 55 16.6**	**0.0**
	baz=297								
DPDB	**Guoxing**	**0.82**	**308**	*e*P			**Pn**	**13 55 06.9**	**+0.2**
	baz=307								
DPDB				*e*S			**Sn**	**13 55 18.4**	**+0.5**
	baz=307								
TWT	**Tachien**	**0.83**	**330**	*e*P			**Pn**	**13 55 07.1**	**+0.2**
	baz=328								
TWT				*e*S			**Sb**	**13 55 17.5**	**-0.2**
	baz=328								
TDCB	**Techi**	**0.84**	**329**	*e*P			**Pn**	**13 55 07.1**	**0.0**
	baz=328								
TDCB				*e*S			**Sb**	**13 55 16.9**	**-1.0**
	baz=328								
TWGBT	**Beinan**	**0.88**	**216**	*e*P			**Pn**	**13 55 05.7**	**-1.8**
	baz=215								
WJS	**Zhushan**	**0.88**	**289**	P			**Pb**	**13 55 08.0**	**+0.5**
	baz=288								
WJS				*e*S			**Sn**	**13 55 19.9**	**+0.6**
	baz=288								
CHN5	**Tsauling**	**0.88**	**274**	P			**Pb**	**13 55 07.9**	**+0.3**
	baz=273								
CHN5				*e*S			**Sn**	**13 55 20.0**	**+0.5**
	baz=273								
NNSH	**Datong**	**0.92**	**346**	*e*P			**Pn**	**13 55 07.5**	**-0.7**
	baz=345								
NNSH				*e*S			**Sb**	**13 55 18.5**	**-1.7**
	baz=345								
NNS	**Nan Shan**	**0.93**	**345**	*e*P			**Pn**	**13 55 07.8**	**-0.6**
	baz=345								
WNT	**Mingjian**	**0.94**	**292**	*e*P			**Pb**	**13 55 08.8**	**+0.3**
	baz=291								
TPUB	**Ta-pu**	**0.95**	**256**	P			**Pb**	**13 55 08.9**	**+0.2**
	baz=255								
TPUB				*e*S			**Sn**	**13 55 21.9**	**+0.8**
	baz=255								
WHP	**Taichung City**	**0.97**	**320**	P			**Pb**	**13 55 09.5**	**+0.3**
	baz=319								
WHP				*e*S			**Sn**	**13 55 22.0**	**+0.2**
	baz=319								
CHN4	**Tsaushan**	**0.97**	**259**	*e*P			**Pb**	**13 55 09.4**	**+0.3**
	baz=258								
CHN4				*e*S			**Sn**	**13 55 21.9**	**+0.2**
	baz=258								
WTP	**Ta-pu**	**0.98**	**253**	*e*P			**Pb**	**13 55 09.3**	**+0.1**
	baz=252								
SLGT	**Liugui**	**1.06**	**240**	*e*P			**Pn**	**13 55 10.0**	**+0.1**
	baz=238								
SLGT				*e*S			**Sb**	**13 55 24.0**	**0.0**
	baz=238								
TCU	**Taichung**	**1.07**	**305**	*e*P			**Pn**	**13 55 10.2**	**+0.1**
	baz=304								
TCU				*e*S			**Sn**	**13 55 23.5**	**-0.5**
	baz=304								
NDT	**Datong Townshi**	**1.07**	**354**	*e*P			**Pb**	**13 55 11.1**	**+0.3**
	baz=354								
NDT				*e*S			**Sn**	**13 55 23.6**	**-0.5**
	baz=354								
CHN1	**Nanshi**	**1.07**	**251**	*e*P			**Pb**	**13 55 10.9**	**+0.1**
	baz=250								
CHN1				*e*S			**Sb**	**13 55 26.0**	**+1.5**
	baz=250								
TWK	**Hsinying**	**1.09**	**256**	*e*P			**Pn**	**13 55 10.8**	**+0.4**
	baz=255								
TWK				*e*S			**Sn**	**13 55 24.0**	**-0.5**
	baz=255								
TWC	**Suao**	**1.09**	**10**	*e*P			**Pb**	**13 55 11.0**	**0.0**
	baz=11								
TWC				*e*S			**Sb**	**13 55 25.0**	**+0.2**
	baz=11								
SNST	**Tainan City**	**1.09**	**254**	*e*P			**Pb**	**13 55 10.8**	**-0.3**
	baz=252								
ENTT	**Nioudou**	**1.10**	**357**	*e*P			**Pn**	**13 55 10.3**	**-0.3**
	baz=357								
ENTT				*e*S			**Sn**	**13 55 24.0**	**-1.0**
	baz=357								
CHY	**Chiayi**	**1.11**	**268**	*e*P			**Pb**	**13 55 11.1**	**-0.3**
	baz=267								
ECL	**Taimali**	**1.12**	**214**	*e*P			**Pn**	**13 55 09.1**	**-1.8**
	baz=213								
WCHH	**Zhanghua**	**1.12**	**299**	*e*P			**Pb**	**13 55 11.8**	**+0.1**
	baz=298								
WCHH				*e*S			**Sb**	**13 55 26.9**	**+1.0**
	baz=298								
YHNB	**Yeheng**	**1.15**	**348**	*e*P			**Pn**	**13 55 11.5**	**+0.2**
	baz=348								
YHNB				*e*S			**Sn**	**13 55 25.8**	**-0.5**
	baz=348								
NSK	**Sanguang**	**1.16**	**348**	*e*P			**Pb**	**13 55 12.0**	**-0.4**
	baz=348								
TWE	**Neicheng**	**1.18**	**1**	*e*P			**Pn**	**13 55 11.8**	**+0.2**
	baz=2.0								
NSY	**Sanyi**	**1.19**	**318**	*e*P			**Pn**	**13 55 11.9**	**+0.2**
	baz=317								
SSD	**Sandimen**	**1.21**	**230**	*e*P			**Pn**	**13 55 12.0**	**-0.1**
	baz=228								
SSD				*e*S			**Sb**	**13 55 28.8**	**+0.4**
	baz=228								
WDJ	**Dajia District**	**1.22**	**312**	*e*P			**Pb**	**13 55 13.2**	**0.0**
	baz=311								
NSTT	**Nanjuang**	**1.23**	**332**	*e*P			**Pb**	**13 55 13.0**	**-0.5**
	baz=332								
LIOB	**Emei**	**1.24**	**333**	*e*P			**Pb**	**13 55 13.2**	**-0.5**
	baz=333								
NWLT	**Wulai**	**1.24**	**354**	*e*P			**Pb**	**13 55 13.2**	**-0.5**
	baz=354								
MASBT	**Mashibuluo**	**1.30**	**225**	*e*P			**Pn**	**13 55 13.2**	**-0.1**
	baz=224								
MASBT				*e*S			**Sb**	**13 55 31.1**	**+0.1**
	baz=224								
CHN8	**Yiju**	**1.32**	**262**	P			**Pn**	**13 55 14.0**	**+0.5**
	baz=261								
CHN8				*e*S			**Sn**	**13 55 30.4**	**+0.2**
	baz=261								
JYNG	**Yonagunijimaku**	**1.51**	**52**	P			**Pn**	**13 55 16.3**	**+0.2**
JYNG				*e*S			**Sn**	**13 55 34.7**	**-0.2**
YOJ	**Yonaguni jima**	**1.56**	**53**	P			**Pn**	**13 55 17.6**	**+0.7**
YOJ				*e*S			**Sn**	**13 55 36.6**	**+0.4**
PHUB	**P'eng-hu**	**1.89**	**270**	*e*P			**Pn**	**13 55 21.2**	**-0.2**
	baz=269								
PNG	**Penghu**	**1.91**	**271**	*e*P			**Pn**	**13 55 21.3**	**-0.3**
	baz=270								
IRIF	**Iriomote-Funau**	**2.08**	**67**	P			**Pn**	**13 55 24.9**	**+1.0**
IRIF				*e*S			**Sn**	**13 55 48.6**	**-0.3**
JKRS	**Kuro-shima**	**2.28**	**72**	P			**Pn**	**13 55 27.9**	**+1.1**
JKRS				*e*S			**Sn**	**13 55 55.0**	**+1.0**
JIJ	**Ishigaki jima**	**2.44**	**70**	P			**Pn**	**13 55 29.1**	**+0.2**
JIJ				*e*S			**Sn**	**13 55 57.2**	**-0.7**
JISG	**Ishigakijimahi**	**2.66**	**66**	P			**Pn**	**13 55 32.1**	**+0.1**
JISG				*e*S			**Sn**	**13 56 02.5**	**-0.9**

*ISCJB **29** 14:00:54.8±0.7,29°.49S±0°.06×176°.03W±0°.08,h21km, mb3.8/7,Error ellipse: s-maj=11.2km s-min=8.4km az=32.3*
*NEIC **29** 14:01:01.1±1.1,29°.5S±0°.2×176°.2W±0°.1,h61km±7km, mb4.5/6*
*IDC **29** 14:01:03.8±2.6,29°.00S×176°.35W,h71km±20km,mb3.5/7, mb1 3.9/7,mb1mx3.6/34,mbtmp3.8/7,Error ellipse: s-maj=52.3km s-min=23.4km az=165.0*
ISC 29 14:00:56.6±0.8,29°.4S±0°.1×176°.07W±0°.09,h21km,n21, σ1$06/23,mb3.9/7,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.62**	**274**	P			**Pb**	**14 01 26.2**	**+0.4**
	384nm,0.3s,baz=343,slow=21,SNR=40								
RAO				*e*S			**Sn**	**14 01 45.3**	**+1.1**
	1µm,0.3s,baz=108,slow=21,SNR=17								
URZ	**Urewera**	**10.52**	**211**	P			**Pn**	**14 03 26.4**	**+0.3**
	0.3nm,0.3s,baz=333,slow=16,SNR=2.8								
URZ				S			**Sn**	**14 05 23.0**	**-0.4**
	2.3nm,0.3s,baz=162,slow=19,SNR=8.9								
TUWZ	**Tuamarina**	**14.52**	**211**	Pn			**Pn**	**14 04 20.0**	**-0.7**
THZ	**Tophouse**	**15.26**	**213**	Pn			**Pn**	**14 04 30.9**	**+0.1**
KHZ	**Kahutara**	**15.49**	**210**	Pn			**Pn**	**14 04 33.8**	**+0.1**
KHZ				IAmb			IAmb	14 05 01.6	
	comp=Z,28nm,1.1s								
LTZ	**Lake Taylor**	**16.35**	**212**	Pn			**Pn**	**14 04 44.3**	**-0.6**
LTZ				IAmb			IAmb	14 05 18.6	
	comp=Z,102nm,1.9s								
OXZ	**Oxford**	**16.88**	**211**	Pn			**Pn**	**14 04 49.9**	**-1.6**
CTA	**Charters Tower**	**35.32**	**276**	P			**P**	**14 07 51.1**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=119,slow=13,SNR=3.0								
ASAR	**Alice Springs**	**44.86**	**265**	P			**P**	**14 09 08.6**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=105,slow=7.7,SNR=9.3								
WR0	**Warramunga Arr**	**45.57**	**270**	P			**P**	**14 09 14.3**	**-1.0**
WRAB	**Tennant Creek**	**45.75**	**270**	P			**P**	**14 09 15.5**	**-1.2**
WRA	**Warramunga Arr**	**45.76**	**270**	P			**P**	**14 09 15.3**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=108,slow=7.5,SNR=9.3								
NVAR	**Mina Array Bea**	**86.35**	**42**	P			**P**	**14 13 37.7**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=212,slow=3.2,SNR=4.5								
TXAR	**Lajitas Array**	**90.42**	**56**	P			**P**	**14 13 57.4**	**+0.6**
	comp=Z,0.9nm,1.1s,baz=206,slow=5.4,SNR=4.9								
PDAR	**Pinedale Array**	**94.24**	**43**	P			**P**	**14 14 15.0**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=198,slow=5.7,SNR=2.5								
ILAR	**Eielson Array**	**96.56**	**12**	P			**P**	**14 14 23.1**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=229,slow=5.9,SNR=4.4								
FINES	**FINESS Array B**	**144.73**	**342**	PKP			**PKPab**	**14 20 29.0**	**-0.9**
	comp=Z,3.5nm,1.0s,baz=64,slow=3.2,SNR=6.8								
NB2	**NORSAR Subarra**	**147.96**	**353**	PKP			**PKPbc**	**14 20 39.3**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=9.8,slow=2.9								
NOA	**NORSAR Array B**	**147.96**	**353**	PKPbc			**PKPbc**	**14 20 39.2**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=14,slow=4.5,SNR=5.6								
AKASG	**Malin Array Be**	**151.46**	**325**	PKPbc			**PKPbc**	**14 20 48.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=41,slow=2.9,SNR=4.8								
TORD	**Torodi Ar. Bea**	**163.72**	**172**	PKPab			**PKPab**	**14 21 53.4**	**+2.9**
	comp=Z,1.0nm,0.8s,baz=192,slow=2.8,SNR=4.5								

IDC 29 14:08:54.6±2.6,6°.66S×130°.12E,h150km±37km,mb2.9/1, mb1 3.1/5,mb1mx2.9/36,mbtmp3.5/5,Error ellipse: s-maj=67.8km s-min=20.6km az=89.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.87**	**11**	P			**Pn**	**14 10 19.9**	**+0.3**
	0.6nm,0.3s,baz=181,slow=22,SNR=16								
SIJI				S			**Sn**	**14 11 24.4**	**-1.7**
	1.5nm,0.3s,baz=239,slow=23,SNR=12								
FITZ	**Fitzroy Crossi**	**12.18**	**201**	P			**Pn**	**14 11 42.5**	**-0.7**
	0.2nm,0.3s,baz=17,slow=11,SNR=7.4								
FITZ				S			**Sn**	**14 13 47.4**	**-11**
	0.2nm,0.3s,baz=270,slow=20,SNR=4.2								
WRA	**Warramunga Arr**	**13.82**	**163**	P			**Pn**	**14 12 02.8**	**-1.6**
	0.2nm,0.3s,baz=348,slow=13,SNR=9.6								
WRA				S			**Sn**	**14 14 30.9**	**-6.6**
	0.2nm,0.3s,baz=342,slow=20,SNR=5.2								
ASAR	**Alice Springs**	**17.29**	**168**	P			**Pn**	**14 12 48.2**	**+1.1**
	0.1nm,0.3s,baz=347,slow=10,SNR=16								
ASAR				S			**S**	**14 15 57.4**	**-1.5**
	0.0nm,0.3s,baz=301,slow=22,SNR=3.7								
MKAR	**Makanchi Array**	**68.01**	**327**	P			**P**	**14 19 37.4**	**-0.3**
	0.2nm,0.4s,baz=118,slow=6.6,SNR=2.7								

*ISCJB **29** 14:09:03.9±1.1,19°.14N±0°.07×67°.98W±0°.04,h19km±8km, Error ellipse: s-maj=11.6km s-min=5.2km az=14.3*
*RSPR **29** 14:09:04.0,19°.07N×68°.16W,h68km±6km,MD3.4/12*
*NEIC **29** 14:09:06.0±2.9,19°.0N±0°.1×68°.04W±0°.04,h38km±54km*
*OSPL **29** 14:09:06.5±2.6,19°.07N×67°.98W,h0km±29km,MD3.6, ML3.0*
ISC 29 14:09:05.9±1.6,18°.97N±0°.08×67°.98W±0°.03,h17km±10km, n49,σ1$19/66,13C-12D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.59**	**220**	⇓*e*P			**Pg**	**14 09 17.2**	**-0.4**
PCDR	**Punta Cana, DR**	**0.59**	**220**	⇓*e*P			**Pg**	**14 09 17.2**	**-0.4**
PCDR				*e*S			**Sb**	**14 09 27.4**	**+1.5**
PCDR	**Punta Cana, DR**	**0.59**	**220**	*i* P			**Pg**	**14 09 17.3**	**-0.4**
PCDR				*e*S			**Sb**	**14 09 27.5**	**+1.7**
PCDR				IAML				14 09 35.2	
	comp=Z,261nm,0.3s								
PCDR	**Punta Cana, DR**	**0.59**	**220**				**Pg**	**14 09 17.2**	**-0.4**
IDE	**Isla Desecheo**	**0.75**	**140**	⇓*e*P			**Pb**	**14 09 19.0**	**-1.4**
IDE	**Isla Desecheo**	**0.75**	**140**	⇓*e*P			**Pb**	**14 09 19.0**	**-1.4**
IDE				*e*S			**Sb**	**14 09 30.8**	**+0.4**
IDE	**Isla Desecheo**	**0.75**	**140**				**Pb**	**14 09 19.0**	**-1.4**
IDE							**Sb**	**14 09 30.8**	**+0.4**
AGPR	**Aguadilla, PR**	**0.96**	**121**	⇑*e*P			**Pb**	**14 09 23.7**	**-0.4**
AGPR	**Aguadilla, PR**	**0.96**	**121**	⇑*e*P			**Pb**	**14 09 23.7**	**-0.4**
AGPR				*e*S			**Sn**	**14 09 38.9**	**+1.1**
AGPR	**Aguadilla, PR**	**0.96**	**121**	*i* P			**Pb**	**14 09 24.4**	**+0.4**
AGPR				*e*S			**Sn**	**14 09 39.2**	**+1.4**
AGPR				IAML				14 09 40.3	
	comp=Z,403nm,0.3s								
AGPR	**Aguadilla, PR**	**0.96**	**121**				**Pb**	**14 09 23.7**	**-0.4**
AGPR							**Sn**	**14 09 38.9**	**+1.1**
MPR	**Mayaguez**	**1.09**	**133**	*i* P			**Pb**	**14 09 26.0**	**-0.3**
MPR				*e*S			**Sg**	**14 09 44.2**	**+2.7**
MPR	**Mayaguez**	**1.09**	**133**				**Pb**	**14 09 24.4**	**-2.0**
LSP	**Las Mesas**	**1.16**	**133**	⇑*e*P			**Pn**	**14 09 26.0**	**-1.3**
LSP	**Las Mesas**	**1.16**	**133**	⇑*e*P			**Pn**	**14 09 26.0**	**-1.3**
LSP	**Las Mesas**	**1.16**	**133**				**Pn**	**14 09 26.0**	**-1.3**
CRPR	**Cabo Rojo, PR**	**1.26**	**139**	⇓*e*P			**Pn**	**14 09 27.1**	**-1.6**
CRPR	**Cabo Rojo, PR**	**1.26**	**139**	⇓*e*P			**Pn**	**14 09 27.1**	**-1.6**
CRPR				*e*S			**Sn**	**14 09 45.8**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.26**	**139**				**Pn**	**14 09 27.1**	**-1.6**
CRPR							**Sn**	**14 09 45.8**	**+0.5**
AOPR	**Arecibo Observ**	**1.31**	**118**	⇑*e*P			**Pn**	**14 09 28.3**	**-1.2**
AOPR	**Arecibo Observ**	**1.31**	**118**	⇑*e*P			**Pn**	**14 09 28.3**	**-1.2**
AOPR				*e*S			**Sn**	**14 09 46.8**	**+0.2**
AOPR	**Arecibo Observ**	**1.31**	**118**				**Pn**	**14 09 28.3**	**-1.2**
AOPR							**Sn**	**14 09 46.8**	**+0.2**
MLPR	**Magueyes Islan**	**1.33**	**138**	⇑*e*P			**Pn**	**14 09 27.3**	**-2.3**
MLPR	**Magueyes Islan**	**1.33**	**138**	*e*S			**Sb**	**14 09 48.5**	**+1.3**
MLPR	**Magueyes Islan**	**1.33**	**138**				**Pn**	**14 09 27.3**	**-2.3**
MLPR							**Sb**	**14 09 48.5**	**+1.3**
DR12	**Loma Pena Alta**	**1.34**	**263**				**Pn**	**14 09 27.6**	**-2.3**
EMPR	**Esperanza - Ma**	**1.46**	**109**	⇑*e*P			**Pn**	**14 09 30.6**	**-0.8**
EMPR	**Esperanza - Ma**	**1.46**	**109**	*e*S			**Sb**	**14 09 51.3**	**+0.5**
EMPR	**Esperanza - Ma**	**1.46**	**109**				**Pn**	**14 09 30.6**	**-0.8**
EMPR							**Sb**	**14 09 51.3**	**+0.5**
OBIP	**Obispado Ponce**	**1.59**	**125**	⇓*e*P			**Pn**	**14 09 33.2**	**0.0**
OBIP	**Obispado Ponce**	**1.59**	**125**	⇓*e*P			**Pn**	**14 09 33.2**	**0.0**
OBIP				*e*S			**Sb**	**14 09 54.8**	**+0.1**

UZB	**Uzynbulak**	**2.52**	**8**	Pg	**Pb**	**14 28 17.4**	**+1.0**			
	5.0nm,0.4s									
UZB				Lg	Lg	14 28 50.2				
	16nm,0.3s									
SHLS	**Shalkode**	**2.60**	**15**	*eP*	**Pg**	**14 28 21.0**	**+0.8**			
	29nm,0.4s									
SHLS				*eS*	**Sg**	**14 28 56.7**	**+2.8**			
	36nm,0.5s									
SHLS	**Shalkode**	**2.60**	**15**	Pg	**Pg**	**14 28 21.0**	**+0.8**			
	29nm,0.4s									
SHLS				Lg	Lg	14 28 56.7				
	36nm,0.5s									
BOOM	**Boomskoye usch**	**2.69**	**314**	⇑*iP*	**Pb**	**14 28 19.7**	**+0.4**			
	baz=13									
BOOM				⇑*iS*	**Sb**	**14 28 53.5**	**+0.7**			
	baz=13									
MDOK	**Medeo**	**2.75**	**336**	*eP*	**Pb**	**14 28 22.1**	**+1.7**			
	5.9nm,0.3s									
MDOK				*eS*	**Sg**	**14 28 58.8**	**-0.1**			
	22nm,0.8s									
MDOK	**Medeo**	**2.75**	**336**	⇓Pg	**Pg**	**14 28 22.6**	**-0.6**			
	7.1nm,0.5s									
MDOK				Lg	Lg	14 28 56.2				
	9.5nm,0.5s									
MDOK	**Medeo**	**2.75**	**336**	Pg	**Pb**	**14 28 22.1**	**+1.7**			
	5.9nm,0.3s									
MDOK				Lg	Lg	14 28 58.8				
	22nm,0.8s									
PDGK	**Podgornoye**	**2.77**	**14**	Pg	**Pb**	**14 28 21.1**	**+0.5**			
	2.2nm,0.2s									
PDGK				Lg	Lg	14 28 56.7				
	13nm,0.4s									
PDGK	**Podgornoye**	**2.77**	**14**	⇓Pg	**Pb**	**14 28 21.3**	**+0.6**			
	3.7nm,0.4s									
PDGK				⇑Lg	Lg	14 28 56.2				
	16nm,0.5s									
IZV	**Izvestkoviy**	**2.79**	**329**	*eP*	**Pg**	**14 28 23.4**	**-0.5**			
	3.8nm,0.5s									
IZV				*eS*	**Sg**	**14 29 00.8**	**+0.6**			
	11nm,0.3s									
IZV	**Izvestkoviy**	**2.79**	**329**	Pg	**Pg**	**14 28 23.4**	**-0.5**			
	3.8nm,0.5s									
IZV				Lg	Lg	14 29 00.8				
	11nm,0.3s									
KOTS	**Kotyrbulak**	**2.80**	**338**	*eP*	**Pg**	**14 28 23.8**	**-0.3**			
	14nm,0.4s									
KOTS				*eS*	**Sg**	**14 29 00.5**	**+0.2**			
	37nm,0.5s									
KOTS	**Kotyrbulak**	**2.80**	**338**	Pg	**Pg**	**14 28 23.8**	**-0.3**			
	14nm,0.4s									
KOTS				Lg	Lg	14 29 00.5				
	37nm,0.5s									
KPKS	**Kokpek**	**2.82**	**2**	*eP*	**Pb**	**14 28 22.5**	**+1.0**			
	16nm,0.5s									
KPKS				*eS*	**Sg**	**14 28 58.8**	**-2.1**			
	49nm,0.6s									
KURS	**Kuram**	**2.85**	**354**	*eP*	**Pb**	**14 28 23.5**	**+1.5**			
	8.8nm,0.3s									
KURS				*eS*	**Sg**	**14 29 00.6**	**-1.5**			
	14nm,0.6s									
KURS	**Kuram**	**2.85**	**354**	Pg	**Pb**	**14 28 23.5**	**+1.5**			
	8.8nm,0.3s									
KURS				Lg	Lg	14 29 00.6				
	14nm,0.6s									
KST	**Kastek**	**3.08**	**322**	*eP*	**Pg**	**14 28 28.6**	**-0.8**			
	7.3nm,0.5s									
KST				*eS*	**Sg**	**14 29 09.2**	**0.0**			
	12nm,0.7s									
KST	**Kastek**	**3.08**	**322**	Pg	**Pg**	**14 28 28.6**	**-0.8**			
	7.3nm,0.5s									
KST				Lg	Lg	14 29 09.2				
	12nm,0.7s									
TKM2	**Tokmak 2**	**3.17**	**317**	⇑Pn	**Pg**	**14 28 31.0**	**-0.2**			
	3.0nm,0.5s									
TKM2				⇑Lg	Lg	14 29 15.1				
	5.4nm,0.6s									
DGS	**Degeres**	**3.32**	**322**	*eP*	**Pb**	**14 28 32.6**	**+2.6**			
	2.5nm,0.7s									
DGS				*eS*	**Sg**	**14 29 17.4**	**+0.3**			
	9.6nm,0.6s									
DGS	**Degeres**	**3.32**	**322**	Pg	**Pb**	**14 28 32.6**	**+2.6**			
	2.5nm,0.7s									
DGS				Lg	Lg	14 29 17.4				
	9.6nm,0.6s									
KTBS	**Karatobe**	**3.36**	**336**	*eP*	**Pb**	**14 28 32.9**	**+2.1**			
	3.4nm,0.4s									
KTBS				*eS*	**Sg**	**14 29 17.1**	**-1.3**			
	10.0nm,0.3s									
KTBS	**Karatobe**	**3.36**	**336**	Pg	**Pb**	**14 28 32.9**	**+2.1**			
	3.4nm,0.4s									
KTBS				Lg	Lg	14 29 17.1				
	10.0nm,0.3s									
CHKK	**Chushkaly**	**3.41**	**341**	*eP*	**Pg**	**14 28 33.9**	**-1.8**			
	3.3nm,0.4s									
CHKK				*eS*	**Sg**	**14 29 18.2**	**-1.7**			
	13nm,0.3s									
CHKK	**Chushkaly**	**3.41**	**341**	Pg	**Pg**	**14 28 33.9**	**-1.8**			
	3.3nm,0.4s									
CHKK				Lg	Lg	14 29 18.2				
	13nm,0.3s									
ARLS	**Aral**	**3.41**	**292**	⇓*iP*	**Pb**	**14 28 29.6**	**-2.0**			
	baz=91									
ARLS				⇓*iS*	**Sb**	**14 29 10.7**	**-2.8**			
	baz=91									
ARXS	**Arharly**	**3.60**	**352**	*eP*	**Pb**	**14 28 37.2**	**+2.3**			
	3.1nm,0.5s									
ARXS				*eS*	**Sg**	**14 29 23.9**	**-2.3**			
	8.8nm,0.5s									
ARXS	**Arharly**	**3.60**	**352**	Pg	**Pb**	**14 28 37.2**	**+2.3**			
	3.1nm,0.5s									
ARXS				Lg	Lg	14 29 23.8				
	8.8nm,0.5s									
AAK	**Ala-Archa**	**3.63**	**305**	⇑Pn	**Pb**	**14 28 34.6**	**-0.8**			
	3.5nm,1.0s									
AAK				⇑Lg	Lg	14 29 31.8				
	7.4nm,1.0s									
KUU	**Kurty**	**3.64**	**334**	*eP*	**Pb**	**14 28 37.3**	**+2.0**			
	0.6nm,0.3s									
KUU				*eS*	**Sg**	**14 29 25.1**	**-2.1**			
	6.0nm,0.3s									
KUU	**Kurty**	**3.64**	**334**	Pg	**Pb**	**14 28 37.3**	**+2.0**			
	0.6nm,0.3s									
KUU				Lg	Lg	14 29 25.1				
	6.0nm,0.3s									
DJR	**Jarkent**	**3.80**	**14**	*eP*	**Pb**	**14 28 40.0**	**+1.9**			
	0.9nm,0.4s									
DJR				*eS*	**Sg**	**14 29 28.7**	**-3.6**			
	4.2nm,0.4s									
DJR	**Jarkent**	**3.80**	**14**	Pg	**Pb**	**14 28 40.0**	**+1.9**			
	0.9nm,0.4s									
DJR				Lg	Lg	14 29 28.7				
	4.2nm,0.4s									
KAPS	**Kapalarasan**	**4.67**	**7**	*eP*	**Pg**	**14 28 57.9**	**-2.1**			
	1.0nm,0.4s									
KAPS				*eS*	**Sg**	**14 29 59.7**	**-0.8**			
	6.1nm,0.5s									
KAPS	**Kapalarasan**	**4.67**	**7**	Pg	**Pg**	**14 28 57.8**	**-2.1**			
	1.0nm,0.4s									
KAPS				Lg	Lg	14 29 59.7				
	6.1nm,0.5s									

*ISCJB **29** 14:29:13.3±0.6, 43˚.06N±0˚.05×145˚.50E±0˚.05, h97km±3km, mb3.5/7, Error ellipse: s-maj=9.4km s-min=5.1km az=155.5*
*MOS **29** 14:29:13.7±0.8, 43˚.18N×145˚.49E, h103km, mb3.9/1, Error ellipse: s-maj=20.9km s-min=15.8km az=67.8*
*JMA **29** 14:29:14.4±0.1, 43˚.06N×145˚.46E, h92km±1km, M3.3*
JMA Felt I J1.
*SKHL **29** 14:29:14.2±0.5, 43˚.15N×145˚.61E, h102km±4km, mb4.5/4, msh4.9/4*
*IDC **29** 14:29:17.3±6.0, 43˚.20N×145˚.30E, h113km±29km, mb3.3/6, mb1 3.4/7, mb1mx3.1/46, mbtmp3.6/7, Error ellipse: s-maj=85.3km s-min=23.8km az=172.0*

ISC 29 14:29:13.9±0.9, 43˚.06N±0˚.06×145˚.50E±0˚.04, h93km±6km, n42, σ1§17/55, mb3.5/7, 6C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.25**	**276**		Op P	**Pn**	**14 29 28.0**	**+0.6**
JKHN					*eS*	**Sn**	**14 29 38.1**	**+0.6**
NMR	**Nemuro--Hokkai**	**0.35**	**28**		⇓*iP/N*	**Pn**	**14 29 28.4**	**+0.4**
NMR					*iS*	**Sn**	**14 29 38.5**	**0.0**
NMR	**Nemuro--Hokkai**	**0.35**	**28**		*iP*	**Pn**	**14 29 28.0**	**0.0**
NMR					*iS*	**Sn**	**14 29 38.0**	**-0.5**
NEM2	**Nemuro 2**	**0.35**	**30**		P	**Pn**	**14 29 28.3**	**+0.3**
NEM2					*eS*	**Sn**	**14 29 38.5**	**0.0**
JAK	**Akkeshi**	**0.59**	**264**		P	**Pn**	**14 29 29.7**	**0.0**
JAK					*eS*	**Sn**	**14 29 41.4**	**-0.1**
GLVR	**Golovnino**	**0.68**	**1**	⇑	*iPN*	**Pn**	**14 29 31.1**	**+0.5**
GLVR					*iS*	**Sn**	**14 29 44.3**	**+1.4**
GLVR					pmax	pmax		
	comp=Z,1μm,0.2s							
GLVR					pmax	pmax		
	comp=N,222nm,0.1s							
GLVR					pmax	pmax		
	comp=E,162nm,0.1s							
GLVR					smax	smax		
	comp=N,3μm,0.2s							
GLVR					smax	smax		
	comp=E,3μm,0.2s							
GLVR	**Golovnino**	**0.68**	**1**		*iP*	**Pn**	**14 29 31.0**	**+0.5**
GLVR					AMB	AMB	14 29 31.0	
	comp=E,121nm,0.2s							
GLVR					*iS*	**Sn**	**14 29 44.0**	**+1.1**
GLVR					A	A	14 29 45.0	
	comp=E,269nm,0.2s							
GLVR					A	A	14 29 45.0	
	comp=E,328nm,0.2s							
JNK	**Nakash**	**0.78**	**313**		P	**Pn**	**14 29 31.2**	**-0.3**
JNK					*eS*	**Sn**	**14 29 43.6**	**-1.0**
JNSB	**Nemuroshibetsu**	**0.81**	**333**		P	**Pn**	**14 29 31.9**	**+0.2**
JNSB					*eS*	**Sn**	**14 29 45.0**	**0.0**
JRA	**Rausu**	**0.92**	**343**		P	**Pn**	**14 29 33.4**	**+0.5**
JRA					*eS*	**Sn**	**14 29 47.8**	**+0.6**
GRPR	**Tuman**	**0.96**	**12**	⇑	*iPN*	**Pn**	**14 29 33.7**	**+0.4**
GRPR					*iS*	**Sn**	**14 29 48.0**	**+0.1**
GRPR					pmax	pmax		
	comp=E,195nm,0.3s							
GRPR					pmax	pmax		
	comp=Z,980nm,0.3s							
GRPR					pmax	pmax		
	comp=N,116nm,0.1s							
GRPR					smax	smax		
	comp=N,1μm,0.2s							
GRPR					smax	smax		
	comp=E,1μm,0.3s							
GRPR	**Tuman**	**0.96**	**12**		*iP*	**Pn**	**14 29 33.0**	**-0.3**
GRPR					AMB	AMB	14 29 34.0	
	comp=E,98nm,0.3s							
GRPR					*iS*	**Sn**	**14 29 48.0**	**+0.1**
GRPR					A	A	14 29 48.0	
	comp=E,142nm,0.3s							
GRPR					A	A	14 29 48.0	
	comp=E,136nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.01**	**15**	*d*	*iPN*	**Pn**	**14 29 34.4**	**+0.5**
YUK					*iS*	**Sn**	**14 29 49.2**	**+0.2**
YUK					pmax	pmax		
	comp=E,172nm,0.2s							
YUK					pmax	pmax		
	comp=Z,3μm,0.2s							
YUK					pmax	pmax		
	comp=N,204nm,0.1s							
YUK					smax	smax		
	comp=N,1μm,0.3s							
YUK					smax	smax		
	comp=E,2μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.01**	**15**		*iP*	**Pn**	**14 29 34.0**	**+0.1**
YUK					AMB	AMB	14 29 34.0	
	comp=E,252nm,0.4s							
YUK					*iS*	**Sn**	**14 29 49.0**	**0.0**
YUK					A	A	14 29 50.0	
	comp=E,125nm,0.4s							
YUK					A	A	14 29 50.0	
	comp=E,171nm,0.4s							
JOB	**Onbets**	**1.23**	**263**		P	**Pn**	**14 29 36.7**	**+0.2**
JOB					*eS*	**Sn**	**14 29 53.3**	**-0.2**
SHO	**Shikotan**	**1.26**	**49**	*d*	*iPN*	**Pn**	**14 29 37.2**	**+0.3**
SHO					*iS*	**Sn**	**14 29 53.6**	**-0.6**
SHO					pmax	pmax		
	comp=N,19nm,0.2s							
SHO					pmax	pmax		
	comp=E,31nm,0.2s							
SHO					pmax	pmax		
	comp=Z,160nm,0.2s							
SHO					smax	smax		
	comp=N,1μm,0.3s							
SHO					smax	smax		
	comp=E,1μm,0.2s							
SHO	**Shikotan**	**1.26**	**49**		*iP*	**Pn**	**14 29 37.0**	**+0.1**
SHO					AMB	AMB	14 29 37.0	
	comp=E,160nm,0.2s							
SHO					*iS*	**Sn**	**14 29 53.0**	**-1.2**
SHO					A	A	14 29 54.0	
	comp=E,140nm,0.3s							
SHO					A	A	14 29 54.0	
	comp=E,134nm,0.3s							
JAR	**Ashorobuto**	**1.29**	**281**		P	**Pn**	**14 29 37.4**	**+0.2**
JAR					*eS*	**Sn**	**14 29 54.5**	**-0.3**
JTKR	**Abashiri--Toko**	**1.48**	**309**		P	**Pn**	**14 29 39.8**	**+0.3**
JTKR					*eS*	**Sn**	**14 29 58.6**	**-0.2**
JCH	**Churui**	**1.64**	**255**		P	**Pn**	**14 29 41.6**	**+0.1**
JCH					*eS*	**Sn**	**14 30 01.5**	**-0.9**
JMP	**Maruseppu**	**1.82**	**302**		P	**Pn**	**14 29 44.4**	**+0.5**
JMP					*eS*	**Sn**	**14 30 06.6**	**-0.2**
ERM	**Erimo**	**2.02**	**240**	⇑	*eP*	**Pn**	**14 29 48.4**	**+1.9**
JKA	**Kamikawa-asahi**	**2.36**	**298**		*eP*	**Pn**	**14 29 52.2**	**+1.3**
ASAJ	**Asahikawa**	**2.36**	**298**		P	**Pn**	**14 29 52.1**	**+1.2**
	comp=E,11nm,0.3s,baz=141,slow=9.2,SNR=156							
ASAJ					S	**Sn**	**14 30 20.2**	**+0.9**
	comp=E,9.7nm,0.3s,baz=37,slow=30,SNR=33							
KUR	**Kuril'sk**	**2.76**	**37**		*erx*	rx	14 30 30.6	
ULN	**Ulaanbaatar**	**27.20**	**294**	⇑	*eP*	**P**	**14 34 41.9**	**-6.9**
SONM	**Songino Array**	**27.64**	**294**		P	**P**	**14 34 52.9**	**+0.2**
	comp=E,0.6nm,0.4s,baz=81,slow=8.0,SNR=8.7							
H11N2	**WAKE ISLAND Hy**	**29.41**	**136**		T	T	15 06 17.0	
	baz=328,slow=76,SNR=107							
H11N1	**WAKE ISLAND Hy**	**29.42**	**136**		T	T	15 06 18.0	
	baz=328,slow=76,SNR=101							
H11N3	**WAKE ISLAND Hy**	**29.42**	**136**		T	T	15 06 19.3	
	baz=328,slow=76,SNR=101							
H11S1	**WAKE ISLAND Hy**	**30.33**	**137**		T	T	15 07 27.6	
	baz=329,slow=76,SNR=145							
H11S3	**WAKE ISLAND Hy**	**30.34**	**137**		T	T	15 07 26.6	
	baz=329,slow=76,SNR=82							
H11S2	**WAKE ISLAND Hy**	**30.35**	**137**		T	T	15 07 29.9	
	baz=329,slow=76,SNR=62							
NRIK	**Noril'sk**	**39.28**	**332**	⇑	*eP*	P	14 36 27.2	-5.8
ILAR	**Eielson Array**	**42.75**	**36**		P	**P**	**14 37 02.4**	**+0.8**
	comp=E,0.4nm,0.7s,baz=279,slow=8.0,SNR=5.4							
MKAR	**Makanchi Array**	**43.84**	**298**		*iP*	**P**	**14 37 11.3**	**+0.7**
MKAR	**Makanchi Array**	**43.84**	**298**		P	**P**	**14 37 10.3**	**-0.2**
	comp=E,0.5nm,0.6s,baz=76,slow=9.4,SNR=4.9							
MKAR	**Makanchi Array**	**43.84**	**298**		*eP*	**P**	**14 37 11.3**	**+0.7**
BRVK	**Borovoye**	**49.06**	**309**	⇑	*eP*	P	14 37 43.8	-7.4
BRVK					pmax	pmax		
	comp=Z,2.0nm,1.2s							
YKA	**Yellowknife Ar**	**57.04**	**33**		P	**P**	**14 38 51.1**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=300,slow=6.0,SNR=3.9							
FINES	**FINESS Array B**	**64.94**	**332**		P	**P**	**14 39 42.6**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=47,slow=8.2,SNR=11							
NOA	**NORSAR Array B**	**69.81**	**338**		P	**P**	**14 40 13.9**	**0.0**
	comp=Z,0.4nm,0.7s,baz=33,slow=6.5,SNR=3.9							

*ISCJB **29** 14:29:52.7±0.3, 0˚.00S±0˚.02×123˚.44E±0˚.03, h168km±3km, mb4.8/82, Error ellipse: s-maj=4.3km s-min=3.5km az=153.5*
*NEIC **29** 14:29:52.8±2.0, 0˚.01N±0˚.07×123˚.37E±0˚.06, h156km±4km, mb5.0/67*
*MOS **29** 14:29:52.8±1.0, 0˚.08N×123˚.32E, h169km, mb4.7/31, Error ellipse: s-maj=10.6km s-min=5.8km az=110.1*
*BJI **29** 14:29:52.5±0.0, 0˚.10N×123˚.40E, h154km, mb4.7/44, mB5.0/33*
*DJA **29** 14:29:53.7±0.2, 0˚.N±3˚×12˚.3E±˚, h142km±3km, M4.6/21, mb4.7/17, mB5.0/8, MLv4.8/21, Mw(mB)4.3/8*
*IDC **29** 14:29:53.4±1.7, 0˚.04N×123˚.38E, h158km±15km, mb4.2/24, mb1 4.3/27, mb1mx4.1/39, mbtmp4.6/27, MS3.2/3, Ms1 3.2/3, ms1mx2.7/42, Error ellipse: s-maj=16.4km s-min=8.0km az=82.0*
*KLM **29** 14:29:56.0, 0˚.05N×123˚.33E, h11km, mb4.8*

ISC 29 14:29:53.7±0.6, 0˚.03S±0˚.04×123˚.42E±0˚.05, h163km±5km, n434, σ1§13/452, mb4.8/98, 17C-7D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.82**	**43**		Op P	**Pn**	**14 30 17.3**	**-1.1**
LUWI	**Luwuk**	**1.20**	**213**		P	**Pn**	**14 30 18.8**	**-2.6**
LUWI	**Luwuk**	**1.20**	**213**		P	**Pn**	**14 30 19.1**	**-2.3**
MRSI	**Marisa**	**1.56**	**289**		P	**Pn**	**14 30 22.2**	**-2.7**
APSI	**Ampana**	**1.97**	**244**		P	**Pn**	**14 30 27.6**	**-1.7**
MNI	**Manado**	**2.04**	**44**		P	**Pn**	**14 30 30.2**	**+0.1**
SANI	**Sanana**	**3.26**	**128**		P	**Pn**	**14 30 41.8**	**-3.1**
MPSI	**Mapaga**	**3.54**	**276**		P	**Pn**	**14 30 48.0**	**-0.4**
TNTI	**Ternate**	**4.03**	**79**		P	**Pn**	**14 30 53.2**	**-1.5**
TNTI	**Ternate**	**4.03**	**79**			**Pn**	**14 30 52.9**	**-1.8**
LBMI	**Labuha**	**4.13**	**98**		P	**Pn**	**14 30 54.3**	**-1.7**
TTSI	**Tana Toraja**	**4.68**	**230**		P	**Pn**	**14 31 02.8**	**-0.4**
NLAI	**Namlea**	**4.87**	**131**		P	**Pn**	**14 31 05.1**	**-0.6**
SPSI	**Sidrap Palu**	**5.35**	**223**		P	**Pn**	**14 31 12.2**	**+0.3**
	121nm,0.9s,2μm1.0nm							
BNSI	**Bone**	**5.46**	**217**		P	**Pn**	**14 31 14.8**	**+1.4**
	122nm,0.6s,1μm0.7nm							
BBSI	**Bau Bau**	**5.49**	**189**		P	**Pn**	**14 31 13.2**	**-0.6**
	33nm,1.0s,445nm0.1nm							
AAI	**Ambon**	**6.00**	**127**		P	**Pn**	**14 31 20.2**	**-0.4**
AAI					pmax	pmax		
	comp=Z,128nm,0.8s							
AAI	**Ambon**	**6.00**	**127**		P	**Pn**	**14 31 23.6**	**+3.0**
	comp=Z,94nm,0.6s,comp=Z,0.7nm							
BKSI	**Bulukumba**	**6.20**	**212**		P	**Pn**	**14 31 23.1**	**-0.1**
	comp=Z,48nm,0.5s,comp=Z,836nmcomp=Z,0.4nm							
MSAI	**Masohi**	**6.42**	**121**		P	**Pn**	**14 31 27.0**	**+0.9**
	comp=Z,21nm,0.6s,comp=Z,286nmcomp=Z,0.3nm							
DDMP	**Don Marcelino,**	**6.51**	**21**		P	**Pn**	**14 31 29.1**	**+1.8**
DDMP					S	**Sn**	**14 32 38.4**	**-2.5**
SKMP	**Bagumbayan, Su**	**6.60**	**10**		P	**Pn**	**14 31 29.1**	**+0.5**
BKB	**Balikpapan**	**6.63**	**259**		P	**Pn**	**14 31 29.1**	**+0.1**
	comp=Z,153nm,0.7s,comp=Z,2μmcomp=Z,0.5nm							
BKB	**Balikpapan**	**6.63**	**259**			**Pn**	**14 31 26.1**	**-2.9**
CTBH	**Cotabato--PC H**	**7.25**	**7**	⇓	P	**Pn**	**14 31 38.6**	**+1.5**
DAV	**Davao City (W)**	**7.37**	**17**		P	**Pn**	**14 31 41.5**	**+2.7**
	comp=Z,11nm,0.3s,baz=140,slow=3.4,SNR=6.0							
PAGZ	**Pagadian**	**7.83**	**360**		P	**Pn**	**14 31 48.9**	**+4.1**
BNDI	**Bandanaira**	**7.87**	**125**		P	**Pn**	**14 31 46.1**	**+0.7**
	comp=Z,119nm,1.2s,comp=Z,4μmcomp=Z,0.6nm							
SIJI	**Sorong**	**7.89**	**96**		P	**Pn**	**14 31 45.2**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=284,slow=4.5,SNR=9.9							
SIJI					S	**Sn**	**14 33 14.2**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=229,slow=20,SNR=2.6							
KBKI	**Kotabaru**	**7.94**	**246**		P	**Pn**	**14 31 47.3**	**+1.0**
	comp=Z,17nm,0.8s,comp=Z,0.1nm							
SPMM	**Sapulu**	**8.39**	**304**		P	**Pn**	**14 31 54.0**	**+1.7**
CGP	**Cagayan de Oro**	**8.52**	**9**		P	Pn	14 32 01.8	+7.8
MMRI	**Maumere**	**8.63**	**188**		Pn	**Pn**	**14 31 53.1**	**-2.3**
FAKI	**Fak Fak**	**9.28**	**108**		Pn	**Pn**	**14 32 03.2**	**-0.9**
KKM	**Kota Kinabalu**	**9.38**	**310**			Pn	14 32 10.2	+4.6
SOEI	**Soe**	**9.70**	**175**		P	Pn	14 32 18.5	+8.8
SOEI	**Soe**	**9.70**	**175**			**Pn**	**14 32 11.7**	**+1.9**
BATI	**Baumata**	**10.11**	**179**		P	**Pn**	**14 32 17.7**	**+2.6**
	comp=Z,9.8nm,0.3s,baz=296,slow=1.4,SNR=9.5							
BATI					LR	LR	14 36 17.9	
	comp=Z,148nm,19.2s,baz=333,slow=38							
SAUI	**Saumlaki**	**11.14**	**135**		P	**Pn**	**14 32 31.8**	**+3.2**
KSM	**Kuching**	**13.19**	**277**		P	**P**	**14 33 02.0**	**+2.9**
KSM	**Kuching**	**13.19**	**277**		P	**P**	**14 32 57.3**	**-1.7**
TGY	**Tagaytay City**	**14.25**	**350**		P	**P**	**14 33 12.9**	**+2.0**
	comp=Z,14nm,0.3s,baz=152,slow=6.1,SNR=3.7							
MTN	**Manton Dam**	**14.85**	**149**		P	**Pn**	**14 33 15.6**	**-0.2**
	baz=15,SNR=51							
MTN	**Manton Dam**	**14.85**	**149**			**Pn**	**14 33 15.3**	**-0.5**
KDU	**Kakadu**	**15.45**	**145**		P	**Pn**	**14 33 23.1**	**-0.1**
	baz=16,SNR=39							
KNRA	**Kununurra**	**16.42**	**161**		P	**Pn**	**14 33 35.9**	**+1.0**
	baz=16,SNR=51							
KNRA	**Kununurra**	**16.42**	**161**		P	**Pn**	**14 33 35.3**	**+0.3**
KNRA					IAmb	IAmb	14 33 37.6	
	comp=Z,76nm,0.7s							
LEM	**Lembang**	**17.15**	**246**		LR	LR	14 42 06.8	
	comp=Z,69nm,18.7s,baz=222,slow=43							
CISI	**Cisompet, Garu**	**17.26**	**244**		Pn	**Pn**	**14 33 46.6**	**+1.4**
CISI					IAmb	IAmb	14 34 12.8	
	comp=Z,92nm,1.4s							
FITZ	**Fitzroy Crossi**	**18.09**	**173**		P	**P**	**14 33 54.0**	**+0.8**
	baz=18,SNR=56							
FITZ	**Fitzroy Crossi**	**18.09**	**173**		P	**P**	**14 33 53.9**	**+0.8**
	comp=Z,5.0nm,0.3s,baz=3.0,slow=8.1,SNR=107							
FITZ	**Fitzroy Crossi**	**18.09**	**173**			**P**	**14 33 53.6**	**+0.5**
FITZ					IAmb	IAmb	14 33 57.0	
	comp=Z,38nm,1.0s							
KLSI		**19.23**	**256**		P	**Pn**	**14 34 10.4**	**+2.0**
	comp=Z,9.4nm,1.5s							
MYKOM	**Kota Tinggi**	**19.65**	**275**		P	**P**	**14 34 10.7**	**+0.6**
MNAI	**Manna**	**20.89**	**258**		P	**P**	**14 34 23.6**	**+0.2**
PSA00	**Pilbara Seismi**	**21.70**	**189**		P	**P**	**14 34 31.9**	**0.0**
WRAB	**Tennant Creek**	**22.50**	**152**	*d*	*iP*	**P**	**14 34 39.8**	**0.0**
WRAB					pmax	pmax		
	comp=Z,15nm,1.0s							
WRAB	**Tennant Creek**	**22.50**	**152**		P	**P**	**14 34 39.6**	**-0.2**
WRAB					IAmb	IAmb	14 34 41.1	
	comp=Z,23nm,0.6s							
WRA	**Warramunga Arr**	**22.50**	**152**		P	**P**	**14 34 39.8**	**0.0**
	comp=Z,15nm,0.5s,baz=331,slow=10,SNR=299							
WRA					S	**S**	**14 38 32.5**	**-2.0**
	comp=Z,2.6nm,0.7s,baz=334,slow=16,SNR=5.5							
WRA					ScP

UTHA Uthaitani 28.29 304 P **P** **14 35 34.5 +2.4**
comp=Z,72µm,0.7s,comp=Z,562µm
PHIT Phitsanulok 28.39 308 P **P** **14 35 36.3 +3.3**
comp=Z,109µm,0.8s
UTTA Uttaradit 28.60 309 P **P** **14 35 37.6 +2.8**
comp=Z,33µm,0.8s
UMPA Umpang Tak 29.11 305 P **P** **14 35 42.0 +2.6**
comp=Z,29µm,0.9s
PHRA Phrae 29.29 310 P **P** **14 35 43.7 +2.7**
comp=Z,4.2nm,0.8s,comp=Z,1µm
MORW Morawa 29.73 193 P **P** **14 35 44.6 0.0**
MORW lAmb lAmb 14 36 45.6
comp=Z,75nm,1.7s
CM31 Chiang Mai Arr 30.26 309 P **P** **14 35 49.4 -0.2**
CM31 lAmb lAmb 14 35 52.9
comp=Z,13nm,0.7s
CMAR Chiang Mai Arr 30.26 309 *ce*P **P** **14 35 50.7 +1.2**
CMAR pmax pmax
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 30.26 309 P **P** **14 35 50.8 +1.2**
comp=Z,10nm,0.7s,baz=135,slow=7.0,SNR=71
CMAR PcP **PcP** **14 38 47.2 +0.9**
comp=Z,2.1nm,0.7s,baz=152,slow=1.3,SNR=12
CMAR LR LR 14 49 31.6
comp=Z,30nm,19.2s,baz=138,slow=39
CMMT Chiang Mai 30.46 309 P **P** **14 35 52.6 +1.3**
comp=Z,19nm,0.8s
CHTO Chiang Mai 30.46 309 P **P** **14 35 51.5 +0.2**
CHTO pmax pmax
comp=Z,25nm,0.8s
CHTO Chiang Mai 30.46 309 P **P** **14 35 51.5 +0.2**
CHTO lAmb lAmb 14 35 54.6
comp=Z,25nm,0.8s
FORT Forrest 30.90 172 P **P** **14 35 55.6 +0.7**
baz=31,SNR=23
FORT Forrest 30.90 172 P **P** **14 35 55.4 +0.4**
MHMT Maesarieng 30.90 307 P **P** **14 35 57.7 +2.5**
comp=Z,54nm,0.8s
BLDU Ballidu 31.08 191 P **P** **14 35 56.5 0.0**
baz=31,SNR=9.9
KMI Kunming 32.02 323 P **P** **14 36 07.5 +2.4**
KMI pmax pmax
comp=Z,10.0nm,0.5s
NJ2 Nanjing 32.20 353 *e*P **P** **14 36 06.8 +0.5**
NJ2 pmax pmax
comp=Z,14nm,0.6s
JCJ Chichijima 32.45 32 P **P** **14 36 08.3 -0.3**
comp=Z,129nm,0.7s,baz=267,slow=18,SNR=3.9
ENH Enshi 32.92 337 P **P** **14 36 13.2 +0.5**
ENH lAmb lAmb 14 36 15.5
comp=Z,23nm,0.8s
NWAO Narrogin (SRO) 33.24 190 P **P** **14 36 15.8 +0.4**
NWAO pmax pmax
comp=Z,44nm,1.5s
NWAO Narrogin (SRO) 33.24 190 P **P** **14 36 15.6 +0.2**
comp=Z,4.0nm,0.4s,baz=22,slow=5.4,SNR=7.4
NWAO Narrogin (SRO) 33.24 190 P **P** **14 36 15.8 +0.4**
NWAO lAmb lAmb 14 36 23.9
comp=Z,44nm,1.4s
NWAO Narrogin (SRO) 33.24 190 P **P** **14 36 15.3 -0.1**
NWAO lAmb lAmb 14 36 23.9
comp=Z,50nm,1.4s
BBOO Buckleboo 34.72 161 P **P** **14 36 28.9 +0.8**
baz=35,SNR=4.7
BBOO Buckleboo 34.72 161 P **P** **14 36 28.7 +0.5**
BBOO lAmb lAmb 14 37 41.5
comp=Z,56nm,1.8s
RMQ Roma 35.88 139 P **P** **14 36 34.1 -4.2**
baz=36,SNR=6.8
CD2 Chengdu 35.99 331 P **P** **14 36 38.5 -0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
STKA Stephens Creek 36.04 153 P **P** **14 36 40.8 +1.3**
comp=Z,4.5nm,0.7s,baz=330,slow=9.0,SNR=17
STKA Stephens Creek 36.04 153 P **P** **14 36 40.3 +0.8**
HTT Hallett 36.28 158 P **P** **14 36 42.4 +0.8**
baz=36,SNR=10
XAN Xi'an 36.52 340 P **P** **14 36 43.8 +0.2**
XAN pmax pmax
comp=Z,10.0nm,0.7s
XAN Xi'an 36.52 340 P **P** **14 36 43.8 +0.2**
XAN lAmb lAmb 14 36 45.2
comp=Z,10nm,0.7s
INU Inuyama 37.41 18 P **P** **14 36 51.5 +0.5**
KSRS Korea Array 37.53 6 P **P** **14 36 51.3 -0.7**
comp=Z,2.2nm,0.6s,baz=180,slow=9.1,SNR=9.7
HNR Honiara 37.54 105 P **P** **14 36 52.9 +0.5**
HNR pmax pmax
comp=Z,48nm,1.3s
HNR Honiara 37.54 105 P **P** **14 36 52.9 +0.5**
HNR lAmb lAmb 14 37 31.6
comp=Z,48nm,1.3s
CMSA Cobar Meteorol 37.78 148 P **P** **14 36 54.3 +0.2**
baz=38,SNR=23
MJAR Matsushiro Arr 38.89 19 P **P** **14 37 02.2 -1.2**
comp=Z,6.5nm,0.7s,baz=188,slow=8.6,SNR=20
MAJO Matsushiro 38.89 19⇑ *e*P **P** **14 37 02.1 -1.3**
MAJO pmax pmax
comp=Z,15nm,1.0s
MAJO Matsushiro 38.89 19 P **P** **14 37 02.9 -0.6**
MAJO lAmb lAmb 14 38 24.6
comp=Z,68nm,1.8s
MJB9 Matsu-Tunnel 38.89 19 P **P** **14 37 02.9 -0.6**
MJB9 lAmb lAmb 14 38 24.5
comp=Z,72nm,1.8s
SHL Shillong 39.68 312 P **P** **14 37 10.3 -0.1**
SHL pmax pmax
comp=Z,21nm,0.9s
SHL Shillong 39.68 312 P **P** **14 37 10.3 -0.1**
SHL lAmb lAmb 14 37 12.3
comp=Z,21nm,0.9s
LZH Lanzhou 40.28 335 *e*P **P** **14 37 17.3 +2.2**
LZH pP pP 14 37 48.3 -2.3
LZH pmax pmax
comp=Z,22nm,1.0s
ARPS Mount Arapiles 40.35 157 P **P** **14 37 17.1 +1.7**
baz=40,SNR=12
ARMA Armidale 40.41 141 P **P** **14 37 15.1 -1.0**
baz=40,SNR=5.8
ARMA Armidale 40.41 141 P **P** **14 37 18.6 +2.4**
ARMA lAmb lAmb 14 38 03.6
comp=Z,86nm,1.8s
HHC Hu-ho-hao-te 42.09 347 *e*P **P** **14 37 31.5 +1.8**
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,60nm,5.8s
CAN Canberra 42.45 148 P **P** **14 37 35.3 +2.6**
CAN pmax pmax
comp=Z,116nm,1.9s
CAN Canberra 42.45 148 P **P** **14 37 35.3 +2.6**
CAN lAmb lAmb 14 39 06.8
comp=Z,116nm,1.9s
TOO Toolangi 42.55 154 P **P** **14 37 36.0 +2.6**
TOO pmax pmax
comp=Z,58nm,2.0s
TOO Toolangi 42.55 154 P **P** **14 37 36.0 +2.6**
TOO lAmb lAmb 14 38 21.0
comp=Z,58nm,1.9s
LSA Lhasa 42.66 317 P **P** **14 37 36.2 +1.3**
LSA pmax pmax
comp=Z,13nm,0.6s
LSA Lhasa 42.66 317 P **P** **14 37 36.2 +1.3**
LSA lAmb lAmb 14 37 37.6
comp=Z,13nm,0.6s
VLA Vladivostok 43.62 9⇑ *e*P **P** **14 37 41.3 -0.5**
VLA pmax pmax
comp=Z,8.0nm,0.8s
ODAN Odare 43.76 311 *e*P **P** **14 37 44.3 +0.8**
comp=Z,61nm,0.7s
TAPN Taplejung 43.78 311 *e*P **P** **14 37 44.5 +0.8**
comp=Z,36nm,0.5s
RAMN Ramite 44.41 310 *e*P **P** **14 37 49.8 +1.1**
comp=Z,124nm,0.6s
USA0B Ussuriysk Arra 44.69 9⇓ *e*P **P** **14 37 50.4 +0.1**
USA0B Ussuriysk Arra 44.69 9 P **P** **14 37 49.9 -0.5**
USA0B lAmb lAmb 14 39 16.4
comp=Z,66nm,2.0s
USRK Ussuriysk Ar. 44.69 9 P **P** **14 37 49.8 -0.6**
comp=Z,6.7nm,0.9s,baz=190,slow=6.5,SNR=12
MDJ Mudanjiang 44.79 6 P **P** **14 37 51.5 +0.4**
MDJ pmax pmax
comp=Z,13nm,0.8s
MDJ pmax pmax
comp=Z,280nm,5.8s
GTA Gaotai 44.80 334 *e*P **P** **14 37 53.0 +1.5**
GTA pmax pmax
comp=Z,21nm,0.7s
JIRN Jiri 45.09 311 *e*P **P** **14 37 54.9 +0.7**
comp=Z,86nm,0.4s
GUN Gumba 45.45 311 *e*P **P** **14 37 57.6 +0.5**
comp=Z,90nm,0.4s
PKI Pulchoki 45.64 310 *e*P **P** **14 37 58.7 +0.2**
comp=Z,4.8nm,0.6s
PKIN Phulchoki 45.65 310 *e*P **P** **14 37 58.6 +0.1**
comp=Z,30nm,0.5s
KKN Kakani 45.85 310 *e*P **P** **14 38 00.3 +0.3**
comp=Z,78nm,0.9s
DMN Daman 45.89 310 *e*P **P** **14 38 00.8 +0.4**
comp=Z,58nm,0.7s
GKN Gorkha 46.44 310 *e*P **P** **14 38 04.8 +0.2**
comp=Z,95nm,0.5s
KOLN Koldanda 47.13 309 *e*P **P** **14 38 10.5 +0.5**
comp=Z,158nm,0.7s
ASAJ Asahikawa 47.16 19 P **P** **14 38 10.2 +0.6**
comp=Z,17nm,0.7s,baz=174,slow=5.1,SNR=7.4
JKA Kamikawa-asahi 47.16 19 P **P** **14 38 10.2 +0.6**
DANN Dangsing 47.29 310 *e*P **P** **14 38 11.7 +0.4**
comp=Z,207nm,0.7s
KLR Kul'dur 49.59 7⇓ *e*P **P** **14 38 27.5 -0.7**
KLR pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 49.78 346⇓ *e*P **P** **14 38 30.0 +0.1**
ULN pmax pmax
comp=Z,8.0nm,0.6s
ULN Ulaanbaatar 49.78 346 P **P** **14 38 29.7 -0.2**
ULN lAmb lAmb 14 38 31.2
comp=Z,10nm,0.6s
SONM Songino Array 49.92 345 P **P** **14 38 30.4 -0.5**
comp=Z,12nm,0.8s,baz=160,slow=8.1,SNR=74
SONM PcP **PcP** **14 39 48.3 -0.4**
comp=Z,2.4nm,0.6s,baz=173,slow=2.8,SNR=10
GRNR Gornyy 51.81 10⇑ *i*P **P** **14 38 45.0 +0.3**
GRNR *e*S **S** **14 45 56.8 +2.6**
GRNR pmax pmax
comp=Z,10.0nm,1.3s
GRNR smax smax
comp=N,5.0nm,1.2s
GRNR MLR MLR
comp=Z,390nm,13.0s
WMQ Urumqi 54.03 329 *e*P **P** **14 39 03.5 +2.2**
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,220nm,5.3s
WMQ LR LR
comp=Z,560nm,28.9s
WMQ LR LR
comp=Z,2µm,28.9s
WMQ LR LR
comp=Z,130nm,29.3s
TLY Talaya 54.16 345⇑ *e*P **P** **14 39 02.5 +0.5**
TLY pmax pmax
comp=Z,3.0nm,0.7s
TLY Talaya 54.16 345 P **P** **14 39 03.4 +1.4**
comp=Z,4.4nm,0.5s,baz=78,slow=19,SNR=4.3
TLY Talaya 54.16 345 lAmb lAmb 14 39 04.1
comp=Z,6.3nm,0.5s
NIL Nilore 57.72 311 P **P** **14 39 27.2 -0.5**
NIL pmax pmax
comp=Z,13nm,0.7s
NIL Nilore 57.72 311 P **P** **14 39 27.2 -0.5**
NIL lAmb lAmb 14 39 28.9
comp=Z,13nm,0.7s
KSH Kashi 58.48 318 P **P** **14 39 34.3 +1.4**
KSH S **S** **14 47 24.8 +1.1**
KSH ScS **ScS** **14 49 04.8 -2.0**
KSH pmax pmax
comp=Z,22nm,0.6s
KSH pmax pmax
comp=Z,250nm,4.5s
KSH LR LR
comp=Z,310nm,6.4s
KSH LR LR
comp=Z,760nm,5.9s
KSH LR LR
comp=Z,250nm,13.5s
MK31 Makanchi Array 58.86 328 *i*P **P** **14 39 34.9 -0.4**
MK31 Makanchi Array 58.86 328 P **P** **14 39 34.6 -0.7**
MK31 PcP **PcP** **14 40 21.8 -1.2**
MKAR Makanchi Array 58.86 328 P **P** **14 39 34.8 -0.5**
comp=Z,6.2nm,0.5s,baz=121,slow=8.6,SNR=81
MKAR pP **pP** **14 40 13.2 -0.2**
comp=Z,1.2nm,0.5s,baz=125,slow=9.0,SNR=2.2
MKAR PcP **PcP** **14 40 22.1 -0.9**
comp=Z,5.2nm,0.6s,baz=146,slow=3.3,SNR=14
MAKZ Makanchi 59.03 328 P **P** **14 39 35.5 -1.0**
MAKZ **14 40 22.4**
MAKZ pmax pmax
comp=Z,5.0nm,0.6s
MAKZ Makanchi 59.03 328 P **P** **14 39 35.5 -1.0**
MAKZ PcP **PcP** **14 40 22.4 -1.2**
NRN Naryn 59.44 320 P **P** **14 39 39.1 -0.7**
NRN pmax pmax
comp=Z,6.0nm,1.4s
NRN Naryn 59.44 320 P **P** **14 39 39.1 -0.7**
PETK Petropavlovsk- 60.15 23 P **P** **14 39 45.0 +1.0**
PETK Petropavlovsk- 60.15 23 P **P** **14 39 45.0 +1.0**
comp=Z,6.3nm,0.6s,baz=200,slow=2.6,SNR=25
AAK Ala-Archa 61.02 321 *ce*P **P** **14 39 50.3 0.0**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 61.02 321 P **P** **14 39 49.9 -0.4**
KBL Kabul 61.28 310 P **P** **14 39 51.0 -1.3**
KBL pmax pmax
comp=Z,31nm,0.4s
KBL Kabul 61.28 310 P **P** **14 39 51.0 -1.3**
MCQ Macquarie Isla 61.64 157 P **P** **14 39 54.6 +0.7**
baz=62,SNR=3.8
YAK Yakutsk 62.08 3 *e*P **P** **14 39 56.5 -0.3**
YAK pmax pmax
comp=Z,40nm,0.9s
YAK Yakutsk 62.08 3 P **P** **14 39 57.0 +0.2**
comp=Z,21nm,0.6s,baz=241,slow=0.2,SNR=20
YAK Yakutsk 62.08 3 P **P** **14 39 56.1 -0.7**
GAR Garm 62.13 315 P **P** **14 39 56.1 -1.6**
ZAA0 Zalesovo Array 62.51 335 P **P** **14 39 57.7 -2.1**
ZALV Zalesovo Beam 62.51 335 *i*P **P** **14 39 59.2 -0.6**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
ZALV Zalesovo Beam 62.51 335 P **P** **14 39 58.9 -0.9**
comp=Z,4.3nm,0.6s,baz=116,slow=5.7,SNR=14
CHGR Chuyangaron 62.80 314 P **P** **14 40 00.6 -1.6**
KURK Kurchatov 63.21 330 *c i*P **P** **14 40 03.4 -1.1**
KURK pmax pmax
comp=Z,8.0nm,0.5s
KURK Kurchatov 63.21 330 P **P** **14 40 03.4 -1.1**
KURK lAmb lAmb 14 40 05.0
comp=Z,14nm,0.5s
SEY Seymchan 66.43 14⇑ *e*P **P** **14 40 26.3 +1.2**
SEY Seymchan 66.43 14 P **P** **14 40 25.6 +0.6**
comp=Z,5.5nm,0.8s,baz=212,slow=9.5,SNR=8.3
BRVK Borovoye 68.79 329⇑ *e*P **P** **14 40 38.8 -1.3**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 68.79 329 P **P** **14 40 38.7 -1.4**
TIXI Tiksi 71.65 2 *ce*P **P** **14 40 55.5 -1.6**
TIXI pmax pmax
comp=Z,20nm,1.0s
TIXI Tiksi 71.65 2 P **P** **14 40 55.7 -1.4**
comp=Z,13nm,0.8s,baz=188,slow=3.6,SNR=22
TIXI Tiksi 71.65 2 P **P** **14 40 56.1 -1.0**
TIXI pP **pP** **14 41 33.8 -2.8**
TIXI lAmb lAmb 14 41 34.4
comp=Z,18nm,0.4s
ABKAR Akbulak array 73.01 322 P **P** **14 41 04.3 -1.3**
NRIK Noril'sk 73.31 347 *e*P **P** **14 41 06.4 -0.6**
NRIK Noril'sk 73.31 347 P **P** **14 41 06.2 -0.8**
comp=Z,7.3nm,0.7s,baz=171,slow=9.1,SNR=7.1
BILL Bilibino 74.02 15 *i*P **P** **14 41 09.2 -1.9**
BILL pmax pmax
comp=Z,13nm,1.9s
SVE Sverdlovsk 75.46 330 *e*P **P** **14 41 18.7 -0.9**
SVE pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 76.37 329 *d i*P **P** **14 41 23.1 -1.7**
ARU **14 44 14.0**
ARU S **S** **14 50 57.2 +0.9**
ARU SS **SS** **14 55 54.4 +0.2**
ARU pmax pmax
comp=Z,24nm,2.1s
ARU Arti 76.37 329 P **P** **14 41 22.7 -2.1**
RAYN Ar Rayn 78.93 294 P **P** **14 41 39.5 -0.3**
RAYN pmax pmax
comp=Z,7.0nm,0.9s
RAYN Ar Rayn 78.93 294 P **P** **14 41 39.5 -0.3**
VNDA Vanda 80.16 172 P **P** **14 41 46.1 +0.8**
comp=Z,1.6nm,0.8s,baz=328,slow=6.6,SNR=7.8
FALS False Pass 80.38 34 P **P** **14 41 46.5 -0.3**
AKH Akhalkalaki 82.46 312⇑ P **P** **14 41 56.8 -1.5**
KIV Kislovodsk 83.34 314 *e*P **P** **14 42 00.5 -2.2**
KIV pmax pmax
comp=Z,16nm,1.0s
PRGR Permogore 84.23 332 *e*P **P** **14 42 04.6 -2.0**
PRGR pmax pmax
comp=Z,16nm,0.7s
VRH Novokhopyorsk 84.81 321 *e*P **P** **14 42 07.4 -2.4**
VRH pmax pmax
comp=Z,10.0nm,0.9s
TTA Tatalina 85.73 27 P **P** **14 42 14.8 +0.6**
TTA Tatalina 85.73 27 P **P** **14 42 14.8 +0.6**
KMBO Kilima Mbogo 86.17 269 P **P** **14 42 17.5 -0.1**
comp=Z,0.8nm,0.3s,baz=41,slow=16,SNR=5.3
VORD Divnogorie 86.31 321 *e*P **P** **14 42 15.4 -1.8**
VORD pmax pmax
comp=Z,10.0nm,0.5s
VSR Storozhevoye 86.41 321 *e*P **P** **14 42 15.6 -2.1**
VSR pmax pmax
comp=Z,10.0nm,0.5s
LPSR Galich'ya Gora 86.67 323 *e*P **P** **14 42 16.9 -2.0**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SYO Syowa Base 87.75 201⇑ *e*P **P** **14 42 24.9 +1.2**
OBN Obninsk 88.21 325⇓ *e*P **P** **14 42 25.0 -1.2**
OBN pmax pmax
comp=Z,4.0nm,0.7s
MLY Manley 88.26 25 P **P** **14 42 26.4 0.0**
TOLK Toolik Lake Re 88.93 21 P **P** **14 42 30.4 +1.0**
baz=267
COLA College 89.48 25⇑ *e*P **P** **14 42 31.2 -0.8**
COLA pmax pmax
comp=Z,3.0nm,1.8s
BRTR Keskin Array B 89.85 310 *ce*P **P** **14 42 32.2 -2.3**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 89.85 310 P **P** **14 42 32.6 -1.8**
comp=Z,0.8nm,0.8s,baz=72,slow=4.0,SNR=3.7
HDA Harding Lake 89.87 26 P **P** **14 42 32.5 -1.4**
baz=270
ILAR Eielson Array 89.89 25 P **P** **14 42 32.5 -1.5**
comp=Z,0.9nm,0.6s,baz=241,slow=5.2,SNR=8.8
AKASG Malin Array Be 92.69 321 *ce*P **P** **14 42 45.0 -2.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 92.69 321 P **P** **14 42 44.8 -2.3**
comp=Z,0.5nm,0.4s,baz=66,slow=4.3,SNR=6.6
ARCES ARCESS Array B 92.80 340 P **P** **14 42 45.5 -1.8**
comp=Z,2.0nm,0.7s,baz=91,slow=6.6,SNR=8.5
FINES FINESS Array B 93.55 331 P **P** **14 42 48.8 -2.0**
comp=Z,3.1nm,0.9s,baz=52,slow=3.1,SNR=7.3
EPYK Eagle Plains 93.98 23 P **P** **14 42 51.8 -1.1**
baz=279
LSZ Lusaka 95.04 255 P **P** **14 42 58.1 -0.8**
LSZ pmax pmax
comp=Z,12nm,0.8s
LSZ Lusaka 95.04 255 P **P** **14 42 58.1 -0.8**
BURAR Bucovina Array 95.56 318⇑ P **P** **14 42 59.2 -1.3**
BUR08 Bucovina Ar. S 95.57 318 P **P** **14 42 59.1 -1.5**
WHY Whitehorse 95.76 29 P **P** **14 43 01.9 +0.7**
UZH Uzhgorod 97.38 319 *e*P **P** **14 43 06.9 -1.7**
C36M Paulatuk 97.83 19 P **P** **14 43 09.2 -1.0**
baz=291
YKA Yellowknife Ar 104.26 24 Pdiff **Pdif** **14 43 38.4 -0.5**
comp=Z,0.1nm,0.4s,baz=306,slow=5.2,SNR=5.1
YKA PKiKP **PKiKP** **14 47 54.5 -0.3**
comp=Z,0.3nm,0.4s,baz=301,slow=1.8,SNR=6.8
YKA PKKPbc **PKKPbc** **14 59 24.9 -3.8**
comp=Z,0.4nm,0.7s,baz=105,slow=1.9,SNR=5.4
A04D Lummi Island 105.57 39 P **PKiKP** **14 47 56.4 -1.1**
baz=288
NVAR Mina Array Bea 111.86 48 PKiKP **PKiKP** **14 48 11.5 +1.5**
comp=Z,0.8nm,0.7s,baz=250,slow=1.8,SNR=7.1
REDW Red Top Meadow 115.23 41 **PKPdf** **14 48 17.2 +0.9**
PDAR Pinedale Array 116.34 41 PKP **PKiKP** **14 48 18.9 +0.3**
comp=Z,0.6nm,0.6s,baz=97,slow=1.3,SNR=7.5
PDAR PKKPab **PKKPab** **14 58 52.5 -0.7**
comp=Z,0.4nm,0.5s,baz=113,slow=6.1,SNR=5.9
LAO LASA Array 116.50 36 **PKPdf** **14 48 18.0 -0.5**
TMUT Trail Mountain 116.71 45 **PKiKP** **14 48 19.8 +0.3**
SRU San Rafael Swe 117.27 45 PKiKP **PKiKP** **14 48 20.8 +0.4**
SRU San Rafael Swe 117.27 45 **PKiKP** **14 48 20.9 +0.4**
WUAZ Wupatki 118.08 49 P **PKiKP** **14 48 23.5 +1.5**
baz=292
214A Organ Pipe Nat 118.22 53 P **PKiKP** **14 48 23.1 +0.9**
baz=290
O20A White River Ci 118.42 43 P **PKiKP** **14 48 22.9 +0.3**
baz=297
O20A White River Ci 118.42 43 **PKiKP** **14 48 23.1 +0.5**
RSSD Black Hills 119.17 37 P **PKiKP** **14 48 23.9 0.0**
baz=303
RSSD Black Hills 119.17 37 PKIKP **PKiKP** **14 48 24.6 +0.6**
MVCO Mesa Verde 119.52 46 P **PKiKP** **14 48 26.3 +1.4**
baz=295
N23A Red Feather La 119.61 41 P **PKiKP** **14 48 26.3 +1.3**
baz=299
TUC Tucson 119.71 52 P **PKiKP** **14 48 26.2 +1.0**
baz=291
ULM Lac du Bonnet 119.82 28 PKP **PKPdf** **14 48 24.5 -0.2**
comp=Z,4.8nm,0.6s,baz=318,slow=0.4,SNR=11
ISCO Idaho Springs 120.36 42 P **PKiKP** **14 48 27.4 +0.8**
baz=299
S22A 4UR Ranch, Cre 120.48 45 P **PKiKP** **14 48 27.8 +1.0**
baz=297
TORD Torodi Ar. Bea 120.82 285 PKP **PKPdf** **14 48 26.8 -0.7**
comp=Z,1.3nm,0.6s,baz=60,slow=1.7
TORD PKKPab **PKKPab** **14 58 34.3 +0.8**
comp=Z,1.0nm,0.7s,baz=280,slow=3.7,SNR=5.2
Q24A Divide 121.08 43 P **PKiKP** **14 48 28.3 +0.3**
baz=299
SDCO Great Sand Dun 121.41 44 P **PKiKP** **14 48 29.6 +1.0**
baz=298
ANMO Albuquerque 121.98 48 P **PKiKP** **14 48 31.0 +1.2**
baz=296
ANMO Albuquerque 121.98 48 PKIKP **PKiKP** **14 48 30.1 +0.4**
ANMO Albuquerque 121.98 48 **PKiKP** **14 48 30.1 +0.4**
T25A Trinidad 122.47 45 P **PKiKP** **14 48 32.1 +1.4**
baz=299
EYMN Ely 123.48 27 P **PKPdf** **14 48 31.5 -0.3**
baz=317
ECSD EROS Data Cent 123.74 34 P **PKiKP** **14 48 32.6 -0.1**
baz=310
ECSD EROS Data Cent 123.74 34 **PKPdf** **14 48 32.3 -0.1**
MNTX Cornudas Mount 124.17 51 P **PKiKP** **14 48 34.4 +0.5**
baz=295
MNTX Cornudas Mount 124.17 51 **PKPdf** **14 48 32.6 -1.0**
BGNE Belgrade 124.27 37 P **PKiKP** **14 48 33.8 -0.1**
baz=307
SCHQ Schefferville 124.73 7 PKP **PKiKP** **14 48 34.5 +0.2**
comp=Z,4.4nm,0.6s,baz=331,slow=1.2,SNR=7.9
MSTX Muleshoe 125.14 47 P **PKPdf** **14 48 35.2 -0.4**
baz=298
TXAR Lajitas Array 126.50 53 PKP **PKiKP** **14 48 39.9 +1.2**
comp=Z,0.6nm,0.7s,baz=234,slow=0.4,SNR=10
KSU1 Kansas State U 126.59 39 P **PKiKP** **14 48 38.5 0.0**
baz=307
D46A Sault St. Mari 127.51 23 P **PKiKP** **14 48 40.2 +0.1**
baz=325
JFWS Jewell Farm 127.72 31 P **PKPdf** **14 48 40.0 0.0**
baz=316
CHGQ Chibougamau 128.02 15 P **PKPdf** **14 48 40.5 +0.1**
baz=337
LSQQ Lebel-sur-Quev 128.09 17 P **PKPdf** **14 48 40.6 +0.1**
baz=334
E47A Iron Bridge 128.17 23 P **PKiKP** **14 48 41.4 0.0**
baz=325
G46A Petoskey 128.44 25 P **PKPdf** **14 48 41.6 +0.3**
baz=323
E48A Lockeyer 128.58 22 P **PKPdf** **14 48 41.4 -0.2**
baz=327
D50A G1974 Best Tow 128.85 20 P **PKPdf** **14 48 41.9 -0.2**
baz=330
JCT Junction City 129.00 50 PKIKP **PKPdf** **14 48 42.9 0.0**
JCT Junction City 129.00 50 **PKPdf** **14 48 42.9 0.0**
E51A G1948 Merrick 129.51 20 P **PKPdf** **14 48 43.7 +0.3**
baz=330
D54A Lac Fusel, La 129.90 18 P **PKPdf** **14 48 44.2 +0.1**
baz=334
J47A Sunmer 130.10 27 P **PKPdf** **14 48 44.6 +0.1**

	baz=322							
D55A	Sainte-Anne-du	130.37	17	P		PKiKP	14 48 45.6	-0.2
	baz=335							
CCM	Cathedral Cave	130.51	36	P		PKPdf	14 48 45.3	-0.2
	baz=312							
U40A	Yellville	130.63	39	P		PKPdf	14 48 45.1	-0.7
	baz=309							
U40A	Yellville	130.63	39			PKPdf	14 48 45.7	-0.1
E55A	Montcerf-Lytto	130.71	18	P		PKPdf	14 48 45.2	-0.3
	baz=334							
K48A	Perry	130.76	27	P		PKPdf	14 48 46.2	+0.4
	baz=323							
LATQ	La Tuque	130.76	14	P		PKiKP	14 48 46.1	-0.4
	baz=338							
D57A	Chemin Vers le	130.81	16	P		PKiKP	14 48 46.3	-0.4
	baz=337							
L47A	Sherwood	130.91	28	P		PKPdf	14 48 46.4	+0.2
	baz=321							
E56A	St. Veronique	130.93	17	P		PKPdf	14 48 46.2	+0.2
	baz=335							
D58A	Chemin du LacG	131.00	15	P		PKPdf	14 48 45.8	-0.4
	baz=338							
MIAR	Mount Ida	131.27	41	P		PKiKP	14 48 48.3	+0.2
	baz=307							
MIAR	Mount Ida	131.27	41		PKiKP	PKiKP	14 48 48.2	+0.2
MIAR	Mount Ida	131.27	41			PKiKP	14 48 48.2	+0.2
L48A	N Adams	131.30	28	P		PKiKP	14 48 47.6	-0.2
	baz=322							
L49A	Milan	131.47	27	P		PKPdf	14 48 47.3	+0.1
	baz=323							
H53A	Bobcaygeon	131.53	21	P		PKPdf	14 48 47.7	+0.5
	baz=330							
E58A	La Victoria	131.57	15	P		PKiKP	14 48 48.0	-0.3
	baz=338							
N48A	Decatur	131.85	29	P		PKiKP	14 48 48.6	-0.4
	baz=320							
L50A	Kingsville	131.95	26	P		PKPdf	14 48 48.3	+0.2
	baz=324							
E61A	Lac Etchemin	132.20	13	P		PKiKP	14 48 49.3	-0.3
	baz=341							
N49A	Columbus Grove	132.21	28	P		PKiKP	14 48 49.9	+0.2
	baz=322							
G57A	Newington	132.25	18	P		PKiKP	14 48 49.8	+0.2
	baz=335							
O48A	Farmland	132.25	30	P		PKiKP	14 48 49.5	-0.4
	baz=320							
F60A	Warwick	132.29	14	P		PKiKP	14 48 49.8	+0.1
	baz=339							
H56A	Elgin	132.31	19	P		PKPdf	14 48 48.9	+0.3
	baz=333							
G58A	Ormstown	132.48	17	P		PKPdf	14 48 49.3	+0.4
	baz=336							
H57A	Richville	132.70	18	P		PKiKP	14 48 50.6	0.0
	baz=334							
O49A	Covington	132.71	29	P		PKiKP	14 48 50.5	-0.2
	baz=321							
P48A	Milroy	132.72	31	P		PKiKP	14 48 50.6	-0.2
	baz=319							
N50A	Nevada	132.81	28	P		PKiKP	14 48 50.8	-0.1
	baz=323							
N51A	Ashland	133.05	27	P		PKPdf	14 48 50.7	+0.5
	baz=324							
O50A	Cable	133.08	28	P		PKiKP	14 48 51.0	-0.5
	baz=322							
H58A	Gabriels	133.11	17	P		PKPdf	14 48 50.4	+0.2
	baz=336							
L53A	Girard	133.11	24	P		PKiKP	14 48 51.3	-0.3
	baz=327							
WCI	Wyandotte Cave	133.18	32	P		PKiKP	14 48 52.3	+0.6
	baz=317							
L54A	Sinclairville	133.26	23	P		PKiKP	14 48 51.9	0.0
	baz=328							
K55A	Perry	133.31	22	P		PKiKP	14 48 51.8	-0.1
	baz=330							
Q49A	Aurora	133.33	31	P		PKiKP	14 48 52.0	0.0
	baz=320							
M53A	WI Miller and	133.37	25	P		PKiKP	14 48 52.0	-0.1
	baz=326							
H60A	Morristown	133.40	16	P		PKiKP	14 48 51.9	-0.2
	baz=338							
P50A	Jamestown	133.42	29	P		PKiKP	14 48 51.9	-0.3
	baz=321							
N52A	McGinn's Farm,	133.44	26	P		PKiKP	14 48 52.0	-0.2
	baz=324							
J57A	Williamstown	133.44	19	P		PKiKP	14 48 52.0	-0.2
	baz=333							
I58A	Old Forge	133.53	18	P		PKiKP	14 48 52.3	0.0
	baz=334							
O51A	Pataskala	133.56	28	P		PKiKP	14 48 52.6	+0.1
	baz=323							
H61A	Lyndonville	133.63	15	P		PKiKP	14 48 53.0	+0.5
	baz=339							
L55A	Hinsdale	133.64	22	P		PKiKP	14 48 52.3	-0.3
	baz=329							
G64A	Maxfield	133.70	12	P		PKiKP	14 48 52.7	+0.2
	baz=343							
J58A	Remsen	133.72	19	P		PKiKP	14 48 52.2	-0.5
	baz=334							
R49A	Shelbyville	133.73	31	P		PKiKP	14 48 52.4	-0.4
	baz=319							
M54A	Oil Creek Stat	133.73	24	P		PKiKP	14 48 52.2	-0.6
	baz=327							
H62A	Milan	133.79	14	P		PKiKP	14 48 52.7	-0.1
	baz=340							
N53A	Lisbon	133.82	26	P		PKiKP	14 48 52.9	-0.1
	baz=326							
WVT	Waverly	133.82	36	P		PKiKP	14 48 53.1	0.0
	baz=314							
K57A	Scipio Center	133.87	20	P		PKiKP	14 48 53.0	-0.1
	baz=332							
P51A	Williamsport	133.87	29	P		PKiKP	14 48 52.8	-0.3
	baz=322							
J59A	Piesco	133.88	18	P		PKiKP	14 48 53.3	+0.3
	baz=335							
I60A	Shoreham	133.90	17	P		PKiKP	14 48 53.1	+0.1
	baz=337							
LBNH	Lisbon	133.91	15	P		PKiKP	14 48 53.0	0.0
	baz=339							
Q50A	Georgetown	133.92	30	P		PKiKP	14 48 52.9	-0.3
	baz=320							
L56A	Greenwood	134.01	22	P		PKPdf	14 48 52.6	+0.5
	baz=330							
S49A	Springfield	134.05	32	P		PKiKP	14 48 53.0	-0.5
	baz=318							
N54A	Moraine State	134.05	25	P		PKiKP	14 48 53.3	-0.1
	baz=327							
Q51A	Peebles	134.09	29	P		PKiKP	14 48 53.1	-0.5
	baz=321							
O53A	New Philadelph	134.11	26	P		PKiKP	14 48 53.6	0.0
	baz=325							
M55A	Ridgway	134.12	23	P		PKPdf	14 48 52.9	+0.6
	baz=328							
P52A	Corning	134.19	28	P		PKPdf	14 48 52.6	+0.2
	baz=323							
M56A	Emporium	134.34	23	P		PKPdf	14 48 52.6	0.0
	baz=329							
L57A	Andrews Acres	134.39	21	P		PKPdf	14 48 53.4	+0.6
	baz=331							
T49A	Edmonton	134.42	33	P		PKiKP	14 48 54.3	0.0
	baz=318							
BINY	Binghamton	134.52	20	P		PKiKP	14 48 54.7	+0.4
	baz=332							
O54A	Avella	134.53	26	P		PKiKP	14 48 54.9	+0.5
	baz=326							
R51A	Hillsboro	134.53	30	P		PKiKP	14 48 54.2	-0.3
	baz=321							
S50A	Richmond	134.59	31	P		PKiKP	14 48 54.8	+0.2
	baz=319							
N55A	Marion Center	134.62	24	P		PKiKP	14 48 54.8	+0.2
	baz=328							
P53A	Whipple	134.65	27	P		PKiKP	14 48 55.0	+0.3
	baz=324							
Q52A	Bidwell	134.66	28	P		PKiKP	14 48 54.6	-0.1
	baz=323							
L58A	Harry Jones Me	134.71	20	P		PKiKP	14 48 54.4	-0.3
	baz=332							
U49A	Red Boiling Sp	134.71	34	P		PKiKP	14 48 54.9	-0.1
	baz=317							
N56A	West Decatur	134.78	23	P		PKPdf	14 48 54.2	+0.7
	baz=329							
T50A	Nancy	134.85	32	P		PKiKP	14 48 55.7	+0.5
	baz=318							
M57A	Sunshine Farm,	134.87	22	P		PKiKP	14 48 55.6	+0.5
	baz=330							
P54A	Burton	134.97	26	P		PKiKP	14 48 55.4	0.0
	baz=325							
R52A	Catlettsburg	134.97	29	P		PKiKP	14 48 55.9	+0.5
	baz=322							
K61A	Williamstown	134.98	17	P		PKiKP	14 48 55.8	+0.5
	baz=336							
S51A	Beattyville	135.04	31	P		PKiKP	14 48 55.5	0.0
	baz=320							
M58A	Price's Panora	135.08	21	P		PKiKP	14 48 55.7	+0.1
	baz=331							
Q53A	Leroy	135.09	28	P		PKiKP	14 48 55.6	0.0
	baz=324							
SSPA	Standing Stone	135.18	23	P		PKiKP	14 48 55.1	-0.7
	baz=329							
V49A	McMinnville	135.18	34	P		PKiKP	14 48 55.7	-0.2
	baz=316							
MCWV	Mont Chateau	135.20	26	P		PKiKP	14 48 55.6	-0.2
	baz=326							
N57A	Milroy	135.21	23	P		PKiKP	14 48 55.1	-0.7
	baz=330							
S52A	Salyersville	135.27	30	P		PKiKP	14 48 55.7	-0.3
	baz=321							
U50A	Jamestown	135.30	33	P		PKiKP	14 48 56.4	+0.2
	baz=318							
Q54A	Coxs Mills	135.31	27	P		PKiKP	14 48 56.3	+0.2
	baz=324							
R53A	Hurricane	135.31	29	P		PKiKP	14 48 56.0	0.0
	baz=323							
P55A	Reedsville	135.33	26	P		PKiKP	14 48 55.9	-0.2
	baz=326							
W49A	Belvidere	135.44	35	P		PKiKP	14 48 55.9	-0.6
	baz=315							
N58A	Sunbury	135.45	22	P		PKiKP	14 48 55.6	-0.7
	baz=331							
K63A	Dunstable	135.46	16	P		PKiKP	14 48 56.2	0.0
	baz=339							
Q55A	Buckhannon	135.64	26	P		PKiKP	14 48 56.6	-0.2
	baz=325							
S53A	Williamson	135.74	29	P		PKiKP	14 48 56.5	-0.5
	baz=322							
P56A	Dayton Farm, R	135.75	25	P		PKiKP	14 48 56.4	-0.6
	baz=327							
U51A	La Follette	135.77	32	P		PKiKP	14 48 57.6	+0.5
	baz=319							
R54A	Victor	135.88	28	P		PKiKP	14 48 57.2	-0.1
	baz=324							
TZTN	Tazewell	135.89	32	P		PKiKP	14 48 57.7	+0.4
	baz=320							
W50A	Signal Mountai	135.93	34	P		PKiKP	14 48 57.2	-0.3
	baz=316							
Q56A	Snyder Ridge,	135.99	26	P		PKiKP	14 48 57.5	0.0
	baz=327							
N60A	Cedar Hill Far	136.01	20	P		PKiKP	14 48 57.6	+0.2
	baz=333							
V51A	Loudon	136.02	33	P		PKiKP	14 48 57.6	0.0
	baz=318							
S54A	Dingess, Beckl	136.04	29	P		PKiKP	14 48 57.9	+0.3
	baz=321							
M61A	Granite Spring	136.06	19	P		PKiKP	14 48 57.4	-0.1
	baz=335							
P57A	Homestead Farm	136.11	24	P		PKiKP	14 48 57.3	-0.4
	baz=328							
Q57A	Strasburg	136.33	25	P		PKiKP	14 48 58.2	+0.1
	baz=328							
O60A	Telford	136.39	21	P		PKPdf	14 48 57.2	+0.8
	baz=332							
V52A	Sevierville	136.40	32	P		PKiKP	14 48 58.5	+0.1
	baz=315							
R56A	Bull Pasture M	136.42	26	P		PKPdf	14 48 57.4	+0.7
	baz=326							
T54A	Tazewell	136.50	29	P		PKiKP	14 48 58.6	-0.1
	baz=322							
Q58A	Fox Den Farm,	136.71	24	P		PKiKP	14 48 58.1	-0.8
	baz=328							
R57A	Stanardsville	136.90	25	P		PKiKP	14 48 59.4	+0.1
	baz=327							
BLA	Blacksburg	136.93	28	P		PKiKP	14 48 59.6	+0.1
	baz=324							
V53A	Saluda	136.94	32	P		PKiKP	14 49 00.1	+0.5
	baz=320							
R58A	Rapidan	137.12	25	P		PKiKP	14 48 59.9	+0.2
	baz=328							
W53A	Cullowhee	137.13	33	P		PKiKP	14 49 00.3	+0.3
	baz=319							
X52A	Dahlonega	137.16	34	P		PKiKP	14 49 00.3	+0.3
	baz=318							
U55A	TA2, Sparta	137.20	29	P		PKiKP	14 48 60.0	-0.1
	baz=323							
R58B	Mineral	137.45	25	P		PKiKP	14 49 00.2	-0.2
	baz=328							
CBN	Corbin Frederi	137.46	24	P		PKiKP	14 49 00.8	+0.3
	baz=328							
X53A	Estanollee	137.56	33	P		PKiKP	14 49 01.1	+0.3
	baz=318							
Y52A	Auburn	137.60	35	P		PKiKP	14 49 01.1	+0.2
	baz=317							
V57A	Coltrane Farms	138.31	29	P		PKiKP	14 49 02.3	+0.1
	baz=324							
X56A	White Oak	138.78	31	P		PKiKP	14 49 03.5	+0.3
	baz=321							
W57A	Gilead	138.79	30	P		PKiKP	14 49 03.1	-0.1
	baz=323							
CPUP	Villa Florida	153.78	178		PKPbc	PKiKP	14 49 35.1	+0.8
	comp=Z,2.6nm,0.9s,baz=218,slow=3.5,SNR=4.7							
CPUP					PKPab	PKPab	14 49 46.0	-1.5
	comp=Z,1.6nm,0.9s,baz=160,slow=4.1,SNR=3.2							

*SJA **29** 14:34:54.7±1.1,28°.64S×72°.21W,h30km±32km, ML3.2, MW3.5*
*ISCJB **29** 14:34:56.4±1.0,28°.57S±0°.04×72°.07W±0°.09,h20km, Error ellipse: s-maj=11.3km s-min=6.1km az=5.8*
*GUC **29** 14:34:59.9±0.8,28°.76S×71°.54W,h58km±14km, ML3.3*
ISC 29 14:34:56.8±1.9,**28°.68S**±0°.05×**71°.9W**±0°.1,**h20**km,**n21,**
σ3°04/27,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSCH	La Serena	1.36	154	eP			Pn	14 35 21.5	+0.8
LSCH				i	S		Sn	14 35 37.1	-1.1
GO03	Copiap	1.85	55⇑	iP			Pb	14 35 28.4	-1.5
GO03				i	S		Sb	14 35 49.5	-3.1
GO03					IAML			14 35 53.7	
	comp=E,602nm,0.6s								
AROD	Rodeo	2.61	125	i	P		Pb	14 35 40.5	-2.5
CO02	Combarbal	2.64	162	eP			Pn	14 35 40.3	+1.9
CO02				i	S		Sn	14 36 10.2	+0.2
ACCO	Cerro Coronel	3.14	128	eP			Pb	14 35 48.6	-3.5
ACCO				i	P		Pn	14 35 48.9	+3.5
ACCO					IAML			14 36 41.5	
	comp=Z,46nm,0.3s								
VCA	Vinchina	3.27	92	i	P		Pb	14 35 51.4	-2.8
VCA				eS			Sb	14 36 31.9	-1.8
VCA					IAML			14 36 37.9	
	comp=Z,81nm,0.2s								
AMOG	MOGNA	3.74	128	i	P		Pn	14 35 56.9	+3.4
AMOG				eS			Sn	14 36 40.7	+3.7
AMOG					IAML			14 36 51.7	
	comp=Z,49nm,0.4s								
RTLS	Leoncito	3.85	144⇑	i	P		Pb	14 36 00.1	-4.2
RTLS				eS			Sb	14 36 49.6	-1.0
RTLS					IAML			14 36 56.8	
	comp=Z,29nm,0.9s								
RTLL	Cerro Villicun	3.99	132	i	P		Pn	14 36 00.0	+3.1
RTLL					IAML			14 37 08.8	
	comp=Z,24nm,0.3s								
ZON	Zonda	4.01	136	i	P		Pb	14 36 03.1	-3.7
ZON					IAML			14 37 15.7	
	comp=Z,17nm,0.7s								
RTCV	Cerro Valdivia	4.32	138	i	P		Pn	14 36 04.9	+3.5
RTCV					IAML			14 37 24.5	
	comp=Z,22nm,2.5s								
ROC1	El Roble	4.35	170	i	P		Pn	14 36 04.4	+2.3
ASAL	Salagasta	4.72	146	i	P		Pn	14 36 11.1	+4.1
ASAL				eS			Sn	14 37 07.5	+6.3
ASAL					IAML			14 37 23.6	
	comp=Z,17nm,1.9s								
ARCO	CERRO ARCO	4.88	149	i	P		Pn	14 36 15.3	+6.0
ARCO					IAML			14 37 36.4	
	comp=Z,21nm,1.6s								
CYA	Choya	5.39	89	eP			Pn	14 36 17.3	+1.1
CYA					IAML			14 37 56.7	
	comp=Z,5.0nm,1.1s								
ACAN	Cantantal	5.44	132	i	P		Pn	14 36 18.9	+2.1
ACAN					IAML			14 38 03.7	
	comp=Z,5.4nm,2.1s								
PB05	IPOC Station P	6.01	15	i	P		Pn	14 36 25.1	+0.4
PB05					IAML			14 38 26.4	
	comp=Z,11nm,0.6s								
AHML	Horco Molle	6.14	74	i	P		Pn	14 36 29.9	+3.4
LVC	Limon Verde	6.63	25	i	P		Pn	14 36 35.1	+1.6
TCA	Tanti	6.89	114	i	P		Pn	14 36 37.5	+0.8
PIL	Pilar	7.58	115	i	P		Pn	14 36 53.8	+7.7

*IDC **29** 14:51:49.0±2.2,37°.50N×142°.24E,h0km,mb3.3/4, mb1 3.6/6,mb1mx3.4/60,mbtmp3.4/6,ML3.0/2,Error ellipse: s-maj=51.2km s-min=27.4km az=159.0*
*ISCJB **29** 14:51:49.7±1.4,37°.66N±0°.03×142°.01E±0°.05, h13km±10km,mb3.2/4,Error ellipse: s-maj=7.7km s-min=4.6km az=32.0*
*JMA **29** 14:51:50.3±0.1,37°.62N×141°.99E,h26km±2km,M3.9*
ISC 29 14:51:49.4±1.9,**37°.67N**±0°.04×**141°.96E**±0°.06,**h0**km±11km,
n27,σ1°16/36,mb3.3/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	0.75	329	P			Pb	14 52 05.3	-0.1
JIKH				S			Sb	14 52 15.6	-0.5
JMST	Minamisoumatoc	0.85	274	P			Pb	14 52 06.3	-0.8
JMST				S			Sb	14 52 18.0	-1.0
JFK	Kawauchi	0.91	251	P			Pg	14 52 07.1	+0.2
JFK				eS			Sb	14 52 19.3	-1.5
JIO	Ouri	0.92	329	P			Pg	14 52 07.9	+0.8
JIO				S			Sg	14 52 20.4	+1.4
JMM	Marumori	0.94	282	P			Pg	14 52 07.9	+0.4
JMM				eS			Sb	14 52 20.7	-1.0
ONAJ	Iwakimizuishiy	1.08	239	P			Pg	14 52 09.6	-0.6
ONAJ				S			Sg	14 52 23.0	-1.2
JKMT	Kesennumamotoy	1.20	342	P			Pb	14 52 12.1	-1.0
JKMT				S			Sb	14 52 27.1	-2.1
JOU	Okura	1.24	305	P			Pn	14 52 13.5	-0.5
JOU				S			Sg	14 52 29.9	+0.7
JFT	Otama	1.30	264	P			Pn	14 52 13.9	-0.9
JFT				S			Sb	14 52 30.5	-1.4
JMK	Ichinoseki	1.41	336	P			Pn	14 52 15.4	-0.9
JMK				eS			Sn	14 52 33.6	-1.9
JYS	Shirataka	1.59	291	P			Pb	14 52 19.0	-0.8
JYS				eS			Sb	14 52 39.7	-0.8
JYK	Kaneyama	1.77	315	P			Pn	14 52 20.9	-0.4
JFY	Yanaizu	1.81	262	P			Pn	14 52 21.8	-0.1
JFY				S			Sn	14 52 44.5	-1.0
JOM	Ohasama	1.88	344	P			Pn	14 52 22.3	-0.5
MJAR	Matsushiro Arr	3.20	251	Pn			Pn	14 52 41.5	+0.5
	0.4nm,0.3s,baz=76,slow=17,SNR=41								
MJAR					Sn		Sn	14 53 19.8	-0.1
	0.4nm,0.3s,baz=70,slow=16,SNR=5.1								
MAT	Matsushiro	3.20	251	P			Pn	14 52 42.3	+1.3
MAT				S			Sn	14 53 21.5	+1.6
ASAJ	Asahikawa	6.46	4	Pn			Pn	14 53 25.8	+0.1
	0.6nm,0.3s,baz=264,slow=13,SNR=5.8								
ASAJ					Sn		Sn	14 54 39.0	-1.1
	0.2nm,0.3s,baz=97,slow=19,SNR=2.0								
SONM	Songino Array	27.80	303	P			P	14 57 42.6	+2.4
	0.3nm,0.5s,baz=99,slow=8.9,SNR=3.1								
H11N2	WAKE ISLAND Hy	28.11	123	T			T	15 26 58.8	
	baz=315,slow=75,SNR=62								
H11N1	WAKE ISLAND Hy	28.12	123	T			T	15 27 03.3	
	baz=315,slow=75,SNR=46								
H11N3	WAKE ISLAND Hy	28.13	123	T			T	15 27 00.2	
	baz=315,slow=75,SNR=48								
H11S1	WAKE ISLAND Hy	28.85	125	T			T	15 27 51.9	
	baz=317,slow=76,SNR=34								
H11S3	WAKE ISLAND Hy	28.85	125	T			T	15 27 56.9	
	baz=317,slow=76,SNR=32								
H11S2	WAKE ISLAND Hy	28.87	125	T			T	15 27 51.5	
	baz=317,slow=76,SNR=23								
MKAR	Makanchi Array	44.15	302	P			P	15 00 01.9	+2.2
	0.1nm,0.4s,baz=81,slow=8.9,SNR=2.3								
ILAR	Eielson Array	48.73	33	P			P	15 00 34.9	-0.5
	0.2nm,0.7s,baz=281,slow=6.3,SNR=3.5								
TXAR	Lajitas Array	89.39	53	P			P	15 04 47.8	-0.5
	0.3nm,0.7s,baz=306,slow=2.1,SNR=3.2								

*IDC **29** 14:53:19.8±0.3,1°.31N×126°.12E,h0km,mb4.8/39, mb1 4.8/41,mb1mx4.8/49,mbtmp4.8/41,ML4.7/2,MS4.1/16, Ms1 4.1/16,ms1mx3.8/42,Error ellipse: s-maj=15.8km s-min=9.1km az=71.0*
*BJI **29** 14:53:21.9±0.0,1°.16N×126°.26E,h39km,mb4.8/56, mB5.2/38,Ms4.7/26,Ms7 4.4/29*
*NEIC **29** 14:53:24.7±2.4,1°.34N±0°.07×126°.28E±0°.05,h35km±1km, mb5.1/105*
*MOS **29** 14:53:24.5±1.0,1°.32N×126°.20E,h49km,mb5.3/53,Error ellipse: s-maj=8.3km s-min=4.7km az=118.8*
*ISCJB **29** 14:53:25.1±0.4,1°.33N±0°.02×126°.28E±0°.02,h53km±3km, mb5.0/116,MS4.2/21,Error ellipse: s-maj=3.8km s-min=3.0km az=151.3*
*GCMT **29** 14:53:26.7±0.2,1°.34N±0°.01×126°.35E±0°.02,h30km, MW5.0/84,Moment Tensor Solution. s66,c86; s84,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.94±.17; $M_{\theta\theta}$-0.60±.11; $M_{\phi\phi}$-3.34±.14; $M_{r\theta}$-0.29±.19; $M_{\theta\phi}$-2.48±.09; $M_{\phi r}$1.20±.20; Best double couple: $M_0$4.56900×10^{16} NP1:ϕ_s17.00000°,δ52.00000°,λ72.00000°. NP2: ϕ_s225.00000°,δ41.00000°,λ112.00000°. Principal axes: T 4.2450, Plg75.0000°, Azm232.0000°; N 0.6500, Plg14.0000°, Azm28.0000°; P -4.8930, Plg6.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*KLM **29** 14:53:26.0,1°.29N×126°.44E,h52km, mb5.1*
*DJA **29** 14:53:26.3±0.3,1°.N±2°×12°.6E±°,h39km±3km,M4.9/55, mB5.4/19,mb5.1/55,MLv5.1/19,Mw(mB)4.9/19,Mwp5.1/7*
ISC 29 14:53:26.8±0.5,**1°.33N**±0°.03×**126°.27E**±0°.04,**h51**km±4km,
n412,σ1°50/425,mb5.0/143,MS4.2/21,19C-19D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	Ternate	1.23	117	P			Pn	14 53 44.9	-2.7
TNTI				S			Sn	14 54 01.4	-1.8
TNTI	Ternate	1.23	117				Pn	14 53 44.0	-3.6
MNI	Manado	1.44	274	P			Pn	14 53 49.2	-1.2
LBMI	Labuha	2.31	148	P			Pn	14 54 00.7	-1.8
KMSI	Cibinong	2.41	252	P			Pn	14 54 03.6	-0.2
KMSI				S			Sn	14 54 33.1	+1.0
SANI	Sanana	3.37	185	P			Pn	14 54 15.8	-1.2
LUWI	Luwuk	4.22	236	P			Pn	14 54 30.3	+1.7
LUWI	Luwuk	4.22	236				Pn	14 54 28.3	-0.3
MRSI	Marisa	4.41	259	P			Pn	14 54 31.8	+0.5
NLAI	Namlea	4.62	170	P			Pn	14 54 34.1	0.0
DDMP	Don Marcelino,	4.77	353	P			Pn	14 54 35.4	-0.8
DDMP				S			Sn	14 55 31.9	+1.7
GSPH	General Santos	4.90	344	P⇑			Pn	14 54 38.0	-0.1
GSPH				S			Sn	14 55 30.6	-3.0
APSI	Ampana	5.13	244	P			Pn	14 54 42.7	+1.6
	946nm,0.8s,10μm4.7nm								
AAI	Ambon	5.34	159	P			Pn	14 54 45.7	+1.6
AAI				pmax		pmax			
	comp=Z,249nm,0.8s								
AAI	Ambon	5.34	159	P			Pn	14 54 46.0	+1.9
	comp=Z,249nm,0.8s,comp=Z,2μmcomp=Z,0.9nm								
MSAI	Masohi	5.35	150	P			Pn	14 54 45.8	+1.6
	comp=Z,76

PAGZ S Sn 14 56 22.9 -4.2
CGP Cagayan de Oro 7.25 348 ⇓P Pn 14 55 14.3 +4.2
FAKI Fak Fak 7.32 125 P Pn 14 55 10.8 -0.4
comp=Z,197nm,1.0s,comp=Z,2µmcomp=Z,4µmcomp=Z,0.8nm
FAKI Fak Fak 7.32 125 Pn 14 55 10.0 -1.2
BBSI Bau Bau 7.72 209 P Pn 14 55 19.0 +2.4
comp=Z,91nm,0.7s,comp=Z,694nmcomp=Z,0.3nm
TTSI Tana Toraja 7.78 236 P Pn 14 55 18.2 +0.7
comp=Z,416nm,1.1s,comp=Z,4µmcomp=Z,1.1nm
SPSI Sidrap Palu 8.36 231 P Pn 14 55 27.3 +1.8
comp=Z,186nm,0.7s,comp=Z,2µm
BNSI Bone 8.39 227 P Pn 14 55 26.8 +1.0
comp=Z,177nm,1.2s,comp=Z,2µm
BKSI Bulukumba 9.02 223 P Pn 14 55 35.9 +1.4
comp=Z,94nm,0.5s,comp=Z,2µm
BKB Balikpapan 9.72 255 Pn 14 55 43.8 -0.3
BAKI Biak 10.15 104 P Pn 14 55 52.5 +2.5
comp=Z,302nm,1.0s,comp=Z,5µm
SAUI Saumlaki 10.53 152 P Pn 14 56 01.7 +6.6
SAUI Saumlaki 10.53 152 Pn 14 55 52.8 -2.3
MMRI Maumere 10.69 202 Pn Pn 14 55 56.9 -0.4
KKM Kota Kinabalu 11.07 295 Pn 14 56 05.3 +2.7
KBKI Kotabaru 11.10 245 P Pn 14 56 09.9 +7.0
SOEI Soe 11.20 190 P Pn 14 56 11.2 +6.8
SOEI Soe 11.20 190 Pn Pn 14 56 03.3 -1.1
PLAI Plampang 13.17 220 P P 14 56 41.8 +1.9
TWSI Taliwang, Sumb 13.70 223 P P 14 56 47.3 +1.6
TGY Tagaytay City 13.74 338 LR LR 15 02 29.6
comp=Z,745nm,19.8s,baz=146,slow=40
SBUM Sibu 14.09 275 P Pn 14 56 45.0 +1.3
SBUM Sibu 14.09 275 P P 14 56 49.6 -0.5
SRBI Singaraja 14.46 230 P P 14 56 56.0 +1.8
KMMI Kalianget 14.84 236 P P 14 57 00.5 +2.1
DNP Denpasar 14.85 228 P P 14 57 01.4 +2.9
MTN Manton Dam 14.89 161 P Pn 14 56 52.6 -1.7
baz=15,SNR=18
MTN Manton Dam 14.89 161 Pn 14 56 51.9 -2.4
JAY Jayapura 14.93 105 LR LR 15 02 44.3
comp=Z,796nm,18.9s,baz=281,slow=38
KDU Kakadu 15.23 156 P Pn 14 56 55.4 -3.3
baz=15,SNR=9.3
JAGI Jajag, Banyuwa 15.52 231 P P 14 57 08.2 +2.2
comp=Z,192nm,1.1s,comp=Z,2µm
JAGI Jajag, Banyuwa 15.52 231 Pn Pn 14 57 02.1 -0.3
JAGI IAmb IAmb 14 57 12.5
comp=Z,188nm,1.0s
GMJI Gumukmas 15.96 233 P P 14 57 13.4 +2.6
comp=Z,182nm,1.3s
KSM Kuching 15.96 271 P Pn 14 57 09.0 +0.9
KSM Kuching 15.96 271 P P 14 57 12.2 +1.3
KSM IAmb IAmb 14 57 20.0
comp=Z,183nm,1.1s
KNRA Kununurra 17.08 172 P Pn 14 57 21.5 -0.6
baz=17,SNR=49
KNRA Kununurra 17.08 172 P Pn 14 57 22.0 -0.2
KNRA IAmb IAmb 14 57 22.7
comp=Z,170nm,1.1s
NGJI Ngawi 17.12 239 P P 14 57 36.6 +13
PWJI Pagerwojo 17.16 237 P P 14 57 25.9 +1.7
comp=Z,93nm,0.8s
PCJI Pacitan 17.78 238 P P 14 57 35.5 +4.5
comp=Z,179nm,1.4s
WOJI Wonogiri, Jawa 17.81 239 P P 14 57 38.2 +6.8
FITZ Fitzroy Crossi 19.32 182 P P 14 57 46.8 -1.1
baz=19,SNR=64
FITZ Fitzroy Crossi 19.32 182 Pn P 14 57 46.8 -1.1
comp=Z,4.7nm,0.3s,baz=12,slow=8.4,SNR=104
FITZ Fitzroy Crossi 19.32 182 P P 14 57 46.8 -1.1
FITZ IAmb IAmb 14 57 52.0
comp=Z,274nm,2.0s
KPJI Karang Pucung 19.32 243 P P 14 57 47.1 -0.9
comp=Z,85nm,0.7s
LEM Lembang 20.30 246 P P 14 57 56.5 -2.3
comp=Z,8.6nm,0.4s,baz=330,slow=20,SNR=2.8
LEM LR LR 15 07 35.3
comp=Z,490nm,18.2s,baz=70,slow=42
CISI Cisompet, Garu 20.42 244 P P 14 58 00.0 0.0
comp=Z,90nm,0.8s
CISI Cisompet, Garu 20.42 244 Pn 14 58 01.4 -1.1
CISI IAmb IAmb 14 58 06.5
comp=Z,58nm,0.7s
MANU Manus Island 21.36 99 P P 14 58 08.9 -1.2
MANU IAmb IAmb 14 58 11.9
comp=Z,106nm,1.6s
TWG Pinlang 21.95 347 P P 14 58 13.9 -2.4
GUMO Guam 22.07 56 LR LR 15 05 41.6
comp=Z,393nm,20.9s,baz=226,slow=33
KLSI 22.34 254 P P 14 58 23.5 +2.9
comp=Z,16nm,0.8s
MYKOM Kota Tinggi 22.42 271 P P 14 58 21.0 -0.5
MYKOM Kota Tinggi 22.42 271 P P 14 58 21.7 +0.2
MYKOM IAmb IAmb 14 58 25.9
comp=Z,95nm,1.4s
YULB Yu-li 22.45 348 P P 14 58 19.3 -2.4
YULB IAmb IAmb 14 58 39.7
comp=Z,162nm,2.0s
TPUB Ta-pu 22.51 346 P P 14 58 19.8 -2.5
TPUB IAmb IAmb 14 58 24.6
comp=Z,54nm,0.7s
WRAB Tennant Creek 22.57 160*de*P P 14 58 21.5 -1.5
WRAB pmax pmax
comp=Z,191nm,1.0s
WRAB Tennant Creek 22.57 160 P P 14 58 21.2 -1.9
WRA Warramunga Arr 22.58 160 P P 14 58 21.2 -1.9
comp=Z,114nm,0.7s,baz=338,slow=11,SNR=396
WRA PcP PcP 15 02 15.5 +0.3
comp=Z,4.0nm,0.8s,baz=322,slow=2.0,SNR=4.4
WRA S S 15 02 25.8 -1.4
comp=Z,2.5nm,0.3s,baz=331,slow=17,SNR=12
WRA ScP ScP 15 05 53.3 +4.5
comp=Z,1.7nm,1.1s,baz=345,slow=2.4,SNR=3.3
COEN Coen 22.61 133 P P 14 58 22.3 -1.2
baz=23,SNR=32
COEN Coen 22.61 133 P P 14 58 22.0 -1.5
WR0 Warramunga Arr 22.66 159 P P 14 58 22.1 -1.9
WR0 IAmb IAmb 14 58 24.6
comp=Z,64nm,0.7s
KASI Kota Agung 22.79 252 P P 14 58 26.3 +0.9
comp=Z,72nm,0.9s
MDSI Maura Dua 22.82 255 P P 14 58 27.1 +1.4
comp=Z,29nm,0.8s
SSLB Suanglung 22.91 347 P P 14 58 25.1 -1.4
SSLB IAmb IAmb 14 58 30.6
comp=Z,26nm,0.6s
NACB Ninganchiao 23.15 349 P P 14 58 27.3 -1.6
YOJ Yonaguni jima 23.21 352 P P 14 58 26.2 -3.2
YOJ pmax pmax
comp=Z,470nm,1.8s
YOJ Yonaguni jima 23.21 352 P P 14 58 26.2 -3.2
PMG Port Moresby 23.38 118*ce*P P 14 58 31.3 0.0
PMG pmax pmax
comp=Z,156nm,1.0s
PMG Port Moresby 23.38 118 P P 14 58 30.9 -0.4
comp=Z,27nm,0.8s,baz=289,slow=4.2,SNR=14
PMG LR LR 15 10 15.4
comp=Z,804nm,19.7s,baz=324,slow=43
PMG Port Moresby 23.38 118 P P 14 58 30.8 -0.5
PSA00 Pilbara Seismi 23.62 195 P P 14 58 31.9 -1.5
YHNB Yeheng 23.68 349 P P 14 58 34.3 +0.3
QIZ Qiongzhong 23.84 319 P P 14 58 34.8 -0.7
QIZ pmax pmax
comp=Z,27nm,1.5s
QIZ LR LR
comp=Z,500nm,21.6s
QIZ LR LR
comp=Z,420nm,17.7s
QIZ LR LR
comp=Z,610nm,19.1s
JRMM Jerantut 23.90 277 P P 14 58 36.0 -0.1
UBPT Khong Chiam 24.77 305 P P 14 58 52.6 +8.6
SDSI Sungai Dareh 24.94 265 P P 14 58 49.8 +4.2
comp=Z,33nm,1.4s,comp=Z,3µm
KRJI Kerinci 25.04 262 P P 14 58 49.5 +2.9
comp=Z,195nm,0.9s
BKNI Bangkinang 25.25 268 P P 14 58 50.9 +2.5
comp=Z,82nm,0.8s,comp=Z,2µm
BKNI Bangkinang 25.25 268 P P 14 58 46.9 -1.6
QIS Mount Isa 25.38 150 P P 14 58 49.1 -0.4
baz=25,SNR=27
IPM Ipoh 25.40 278 P P 14 58 50.0 +0.2
IPM Ipoh 25.40 278 P P 14 58 48.5 -1.3
IPM IAmb IAmb 14 59 25.1
comp=Z,81nm,1.6s
JOW Kunigami 25.43 4 P P 14 58 50.5 +0.7
comp=Z,4.5nm,0.8s,baz=170,slow=13,SNR=7.7
JOW Kunigami 25.43 4 P P 14 58 50.0 +0.2
JOW IAmb IAmb 14 59 08.8
comp=Z,36nm,0.9s
KULM Kulim 25.87 279 P P 14 58 54.0 -0.1
PDSI Padang 25.90 265 P P 14 58 57.1 +2.7
comp=Z,18nm,0.9s
AS31 Alice Springs 25.93 164 P P 14 58 53.3 -1.2
ASAR Alice Springs 25.94 164 P P 14 58 53.8 -0.8
comp=Z,13nm,0.5s,baz=344,slow=8.5,SNR=524
ASAR PcP PcP 15 02 23.1 +0.7
comp=Z,5.8nm,0.7s,baz=340,slow=2.3,SNR=6.5
ASAR S S 15 03 23.3 +1.8
comp=Z,3.9nm,0.8s,baz=350,slow=22,SNR=5.6
ASAR ScP ScP 15 06 02.9 +4.9
comp=Z,1.2nm,0.9s,baz=350,slow=1.0,SNR=3.7
MTSU Mount Surprise 26.26 138 P P 14 58 57.0 -0.5
baz=26,SNR=14
WRKA Warakurna 26.29 176 P P 14 58 57.8 +0.1
baz=26,SNR=129
KRVT Keravat (AS076 26.34 102 LR LR 15 08 06.7
comp=Z,717nm,18.4s,baz=256,slow=34
SKNT Sakolnakorn 26.88 307 P P 14 59 13.3 +10
RPSI Rantau Prapat 27.36 273 P P 14 59 06.7 -0.8
RPSI IAmb IAmb 14 59 10.5
comp=Z,34nm,0.9s
PSI Prapat 27.37 273 P P 14 59 06.7 -1.0
PSI pmax pmax
comp=Z,34nm,0.9s
CHAI Chaiyaphum 27.98 302 P P 14 59 12.7 -0.3
comp=Z,43µm,0.7s,comp=Z,427µm
GSI Gunungsitoli 28.69 270 P P 14 59 21.0 +1.6
comp=Z,48nm,1.0s
GSI Gunungsitoli 28.69 270 P P 14 59 18.0 -1.4
GSI IAmb IAmb 14 59 21.2
comp=Z,52nm,1.1s
MEEK Meekatharra 28.77 194 P P 14 59 19.6 -0.4
baz=29,SNR=22
CTA Charters Tower 28.93 138 P P 14 59 21.5 +0.1
comp=Z,5.0nm,0.6s,baz=330,slow=11,SNR=7.7
CTAO Charters Tower 28.93 138 P P 14 59 20.8 -0.6
CTAO pmax pmax
comp=Z,25nm,0.9s
PBKT Sadao Pong 29.15 303 P P 14 59 25.1 +1.7
comp=Z,3.5nm,0.8s
PBKT Sadao Pong 29.15 303 P P 14 59 22.9 -0.5
SLVN Son La 29.51 314 P P 14 59 24.0 -2.6
PHIT Phitsanulok 29.91 303 P P 14 59 31.8 +1.6
comp=Z,67µm,0.8s
UTHA Uthaitani 30.00 300 P P 14 59 31.0 +0.1
comp=Z,32µm,0.7s,comp=Z,495µm
UTTA Uttaradit 30.07 304 P P 14 59 33.2 +1.7
comp=Z,13µm,0.8s
PHRA Phrae 30.72 305 P P 14 59 38.4 +1.1
comp=Z,1.1nm,0.7s,comp=Z,1µm
UMPA Umpang Tak 30.79 300 P P 14 59 44.6 +6.7
WHN Wuhan 31.18 340 P P 14 59 52.8 +12
NJ2 Nanjing 31.34 348 *eP* P 14 59 42.5 -0.1
NJ2 pmax pmax
comp=Z,12nm,0.5s
CMAR Chiang Mai Arr 31.75 304*ce*P P 14 59 46.7 +0.3
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 31.75 304 P P 14 59 45.8 -0.6
comp=Z,1.7nm,0.8s,baz=136,slow=8.0,SNR=12
CMAR PcP PcP 15 02 38.9 +1.8
comp=Z,3.3nm,0.8s,baz=178,slow=2.0,SNR=14
CMAR LR LR 15 12 46.6
comp=Z,277nm,20.4s,baz=120,slow=37
MORW Morawa 31.78 197 P P 14 59 46.4 0.0
baz=32,SNR=9.3
JNU Nakatsue 31.92 7 P P 14 59 47.2 -0.4
comp=Z,21nm,0.8s,baz=30,slow=12,SNR=9.0
JNU Nakatsue 31.92 7 P P 14 59 47.0 -0.7
JNU IAmb IAmb 14 59 48.4
comp=Z,29nm,0.9s
CMMT Chiang Mai 31.93 305 P P 14 59 48.3 +0.4
comp=Z,5.4nm,1.6s
CHTO Chiang Mai 31.93 305 P P 14 59 47.5 -0.4
CHTO pmax pmax
comp=Z,40nm,1.9s
CHTO Chiang Mai 31.93 305 P P 14 59 47.5 -0.4
CHTO IAmb IAmb 14 59 51.9
comp=Z,40nm,1.9s
FORT Forrest 31.98 177 P P 14 59 48.1 0.0
baz=32,SNR=22
FORT Forrest 31.98 177 P P 14 59 47.7 -0.5
MHMT Maesarieng 32.47 303 P P 14 59 53.7 +1.1
comp=Z,21nm,1.2s,comp=Z,792nm
KMBL Kambalda 32.79 187 P P 14 59 55.0 -0.2
baz=33,SNR=12
KMI Kunming 32.79 318 P P 14 59 58.8 +3.1
KMI pmax pmax
comp=Z,23nm,0.9s
KMI LR LR
comp=Z,430nm,20.2s
KMI LR LR
comp=Z,290nm,21.1s
KMI LR LR
comp=Z,730nm,21.1s
ENH Enshi 32.90 333 P P 14 59 55.1 -1.2
ENH IAmb IAmb 15 00 07.7
comp=Z,17nm,0.8s
BLDU Ballidu 33.05 195 P P 14 59 57.2 -0.3
baz=33,SNR=31
KLBR Kellerberrin 33.73 193 P P 15 00 03.4 -0.1
baz=34,SNR=42
MUN Mundaring 34.48 195 P P 15 00 10.6 +0.6
baz=35,SNR=13
TJN Taejon 34.88 2⇓*e*P P 15 00 13.9 +0.5
NWAO Narrogin (SRO) 35.13 193 P P 15 00 15.9 +0.3
baz=35,SNR=20
BBOO Buckleboo 35.20 166 P P 15 00 15.6 -0.6
baz=35,SNR=25
BBOO Buckleboo 35.20 166 P P 15 00 15.4 -0.8
BBOO IAmb IAmb 15 00 16.2
comp=Z,23nm,0.6s
HNR Honiara 35.20 108 P P 15 00 15.2 -1.3
HNR pmax pmax
comp=Z,59nm,0.7s
HNR Honiara 35.20 108 P P 15 00 15.2 -1.3
INU Inuyama 35.29 15 P P 15 00 16.5 -0.4
KSRS Korea Array 35.98 2 P P 15 00 23.1 +0.4
comp=Z,5.9nm,0.7s,baz=180,slow=9.4,SNR=22
KSRS PcP PcP 15 02 50.1 +1.5
comp=Z,1.6nm,0.7s,baz=193,slow=2.1,SNR=4.2
STKA Stephens Creek 36.09 158 P P 15 00 23.5 -0.3
comp=Z,22nm,0.8s,baz=327,slow=11,SNR=37
STKA Stephens Creek 36.09 158 P P 15 00 23.2 -0.6
CD2 Chengdu 36.33 326 P P 15 00 25.3 -0.7
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 LR LR
comp=Z,460nm,12.7s
CD2 LR LR
comp=Z,650nm,14.2s
CD2 LR LR
comp=Z,450nm,14.7s
XAN Xi'an 36.36 335 P P 15 00 24.5 -1.7
XAN pP pP 15 00 35.0 -3.9
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN Xi'an 36.36 335 P P 15 00 24.5 -1.7
XAN pmax pmax
comp=Z,11nm,0.8s
XAN Xi'an 36.36 335 P P 15 00 24.5 -1.7
HTT Hallett 36.58 162 P P 15 00 28.0 0.0
baz=37,SNR=11
MAJO Matsushiro 36.73 16⇓*e*P P 15 00 30.2 +0.9
MAJO pmax pmax
comp=Z,11nm,0.9s
MJAR Matsushiro Arr 36.73 16 P P 15 00 28.4 -0.9
comp=Z,11nm,0.9s,baz=182,slow=9.4,SNR=21
MJAR PcP PcP 15 02 52.3 +1.3
comp=Z,1.8nm,0.8s,baz=197,slow=2.5,SNR=4.8
MJAR LR LR 15 15 49.6
comp=Z,121nm,21.3s,baz=195,slow=37
RKGY Rocky Gully 36.80 193 P P 15 00 31.6 +1.7
baz=37,SNR=22
CMSA Cobar Meteorol 37.53 152 P P 15 00 36.1 0.0
baz=38,SNR=12
DL2 Dalian 37.63 354 P P 15 00 37.8 +1.0
DL2 *e*S S 15 06 27.8 +4.7
DL2 pmax pmax
comp=Z,61nm,0.8s
DL2 LR LR
comp=Z,660nm,12.7s
DL2 LR LR
comp=Z,300nm,13.2s
DL2 LR LR
comp=Z,440nm,15.0s
BJT Baijiatuao 39.59 348 P P 15 00 53.4 +0.2
BJT pmax pmax
comp=Z,12nm,0.7s
BJT Baijiatuao 39.59 348 P P 15 00 53.4 +0.2
BJI Beijing 39.61 348⇓*i*P P 15 00 53.5 +0.1
BJI pmax pmax
comp=Z,11nm,0.9s
ARMA Armidale 39.76 145 P P 15 00 55.8 +0.9
baz=40,SNR=8.0
LZH Lanzhou 40.35 331 *e*P P 15 01 00.0 +0.2
LZH pP pP 15 01 10.5 -2.1
LZH sP pwP 15 01 15.0 -0.3
LZH pmax pmax
comp=Z,21nm,1.2s
LZH pmax pmax
comp=Z,110nm,4.2s
LZH LR LR
comp=Z,430nm,14.6s
LZH LR LR
comp=Z,340nm,13.6s
LZH LR LR
comp=Z,350nm,13.0s
ARPS Mount Arapiles 40.58 161 P P 15 01 02.1 +0.6
baz=41,SNR=24
SHL Shillong 40.97 309 P P 15 01 03.7 -1.4
SHL pmax pmax
comp=Z,14nm,0.6s
SHL Shillong 40.97 309 P P 15 01 03.7 -1.4
HHC Hu-ho-hao-te 41.53 343 *e*P P 15 01 09.5 +0.1
HHC pmax pmax
comp=Z,5.0nm,1.0s
HHC pmax pmax
comp=Z,61nm,5.5s
VLA Vladivostok 41.91 6*de*P P 15 01 13.2 +0.9
VLA pmax pmax
comp=Z,30nm,0.9s
USA0B Ussuriysk Arra 42.98 6*d*⇑P P 15 01 21.7 +0.7
USA0B Ussuriysk Arra 42.98 6 P P 15 01 21.5 +0.5
USA0B IAmb IAmb 15 01 23.0
comp=Z,22nm,0.8s
USRK Ussuriysk Ar. 42.98 6 P P 15 01 21.8 +0.8
comp=Z,18nm,0.7s,baz=198,slow=7.2,SNR=40
USRK LR LR 15 20 41.2
comp=Z,70nm,19.1s,baz=187,slow=38
MDJ Mudanjiang 43.20 3 P P 15 01 23.3 +0.5
MDJ pmax pmax
comp=Z,41nm,0.9s
MDJ pmax pmax
comp=Z,360nm,6.5s
MDJ Mudanjiang 43.20 3 P P 15 01 23.2 +0.4
MDJ IAmb IAmb 15 01 24.8
comp=Z,35nm,0.9s
LSA Lhasa 43.71 314 P P 15 01 26.8 -0.9
LSA pmax pmax
comp=Z,58nm,1.7s
LSA Lhasa 43.71 314 P P 15 01 26.8 -0.9
LSA IAmb IAmb 15 01 43.5
comp=Z,58nm,1.7s
GTA Gaotai 44.93 331 *e*P P 15 01 36.3 -0.6
GTA pmax pmax
comp=Z,83nm,5.5s
GTA LR LR
comp=Z,270nm,14.1s
GTA LR LR
comp=Z,190nm,13.4s
GTA LR LR
comp=Z,360nm,18.5s
TAPN Taplejung 45.10 308 *e*P P 15 01 37.6 -1.0
comp=Z,9.2nm,0.4s
ODAN Odare 45.12 308 *e*P P 15 01 37.6 -1.2
comp=Z,30nm,0.8s
DZM Mont Dzumac 45.58 123 P P 15 01 42.4 +0.1
DZM IAmb IAmb 15 01 47.8
comp=Z,17nm,1.0s
RAMN Ramite 45.79 307 *e*P P 15 01 43.1 -1.0
comp=Z,72nm,1.2s
PALK Pallekele 45.80 279⇓*e*P P 15 01 45.2 +1.1
PALK pmax pmax
comp=Z,44nm,1.6s
PALK Pallekele 45.80 279 LR LR 15 22 39.4
comp=Z,348nm,20.3s,baz=112,slow=38
JIRN Jiri 46.44 308 *e*P P 15 01 48.8 -0.5
GUN Gumba 46.80 308 *e*P P 15 01 51.7 -0.4
comp=Z,50nm,0.7s
PKI Pulchoki 47.01 307 *e*P P 15 01 52.4 -1.4
PKIN Phulchoki 47.03 307 *e*P P 15 01 52.7 -1.1
comp=Z,12nm,0.6s
KKN Kakani 47.21 308 *e*P P 15 01 54.5 -0.7
comp=Z,11nm,0.5s
DMN Daman 47.27 307 *e*P P 15 01 54.1 -1.6
comp=Z,19nm,0.7s
GKN Gorkha 47.82 308 *e*P P 15 01 58.8 -1.0
KLR Kul'dur 47.95 5*ce*P P 15 02 00.1 -0.1
KLR pmax pmax
comp=Z,22nm,0.9s
KLR Kul'dur 47.95 5 P P 15 02 00.6 +0.4
comp=Z,21nm,0.9s,baz=212,slow=4.9,SNR=52
HIA Hailar 48.08 354⇓*e*P P 15 02 01.9 +0.6
HIA pmax pmax
comp=Z,104nm,1.1s
HIA Hailar 48.08 354 P P 15 02 01.3 0.0
HIA IAmb IAmb 15 02 02.8
comp=Z,25nm,1.2s
KOLN Koldanda 48.54 307 *e*P P 15 02 04.4 -1.1
comp=Z,68nm,0.8s
DANN Dangsing 48.66 308 *e*P P 15 02 04.8 -1.7
comp=Z,73nm,0.7s
ULN Ulaanbaatar 49.25 343⇑*e*P P 15 02 10.4 -0.1
ULN pmax pmax
comp=Z,5.0nm,1.3s
ULN Ulaanbaatar 49.25 343 P P 15 02 10.4 -0.1
SONM Songino Array 49.42 342 P P 15 02 11.6 -0.1
comp=Z,1.8nm,0.5s,baz=153,slow=9.2,SNR=10
SONM PcP PcP 15 03 34.2 +0.7
comp=Z,4.3nm,0.8s,baz=166,slow=3.8,SNR=6.6
SONM LR LR 15 26 24.0
comp=Z,114nm,18.3s,baz=144,slow=40
GRNR Gornyy 50.00 8⇑*i*P P 15 02 16.4 +0.4
GRNR *e*S S 15 09 27.3 +4.2
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR smax smax
comp=N,3.0nm,1.4s
GRNR MLR MLR
comp=Z,430nm,14.0s
ZEA Zeya 52.23 1 *e*P P 15 02 32.6 0.0
ZEA pmax pmax
comp=Z,17nm,1.0s
ZAK Zakamensk 52.63 342 *e*P P 15 02 42.9 +7.1
ZAK pmax pmax
comp=Z,3.0nm,1.4s
TLY Talaya 53.66 343 *e*P P 15 02 48.1 +4.9
TLY pmax pmax
comp=Z,10.0nm,0.6s
TLY MLR MLR
comp=Z,225nm,6.0s
MSVF Nonsavu 54.37 113⇑*e*P P 15 02 49.5 +0.4
MSVF pmax pmax
comp=Z,15nm,0.9s
MSVF Nonsavu 54.37 113 P P 15 02 49.3 +0.3
WMQ Urumqi 54.43 326 *e*P P 15 02 48.3 -0.8
WMQ pP pP 15 02 58.5 -3.8
WMQ pmax pmax
comp=Z,11nm,0.9s
WMQ pmax pmax
comp=Z,160nm,5.3s
WMQ LR LR
comp=Z,440nm,29.0s
WMQ LR LR
comp=Z,1µm,29.1s
WMQ LR LR
comp=Z,280nm,25.3s
WMQ Urumqi 54.43 326 P P 15 02 48.6 -0.5
WMQ pmax pmax
comp=Z,19nm,1.0s
WMQ Urumqi 54.43 326 P P 15 02 48.6 -0.5
WMQ IAmb IAmb 15 02 54.9
comp=Z,19nm,1.0s
MOY Mondy 54.47 341 *e*P P 15 02 52.6 +3.3
BOD Bodaibo 57.16 352 *e*P P 15 03 07.4 -0.8
BOD pmax pmax
comp=Z,20nm,0.7s

PETK Petropavlovsk- 57.81 22 P **P** **15 03 14.0 +1.1**
comp=Z,9.4nm,0.8s,baz=185,slow=4.3,SNR=11
NIL Nilore 59.04 309 P **P** **15 03 20.6 -1.3**
NIL pmax pmax
comp=Z,13nm,0.9s
NIL Nilore 59.04 309 P **P** **15 03 20.6 -1.3**
NIL IAmb IAmb 15 03 52.6
comp=Z,13nm,0.8s
TARG Taragay, Kyrgy 59.23 319 P **P** **15 03 22.0 -1.6**
TARG IAmb IAmb 15 03 41.3
comp=Z,6.5nm,0.7s
MK31 Makanchi Array 59.27 326 *e*P **P** **15 03 22.1 -1.1**
MK31 Makanchi Array 59.27 326 P **P** **15 03 22.2 -1.0**
MK31 IAmb IAmb 15 03 28.2
comp=Z,6.1nm,0.6s
MKAR Makanchi Array 59.27 326 P **P** **15 03 22.2 -1.0**
comp=Z,3.3nm,0.3s,baz=121,slow=7.8,SNR=75
KSH Kashi 59.43 316 P **P** **15 03 24.8 +0.2**
KSH PP **PP** **15 05 37.5 +1.2**
KSH ScP **ScP** **15 08 08.3 -0.4**
KSH S **S** **15 11 27.0 -3.3**
KSH ScS **ScS** **15 13 05.3 -5.5**
KSH pmax pmax
comp=Z,10.0nm,0.7s
KSH pmax pmax
comp=Z,360nm,5.7s
KSH LR LR
comp=Z,500nm,5.6s
KSH LR LR
comp=Z,500nm,6.3s
KSH LR LR
comp=Z,550nm,6.2s
MAKZ Makanchi 59.45 326 P **P** **15 03 23.4 -1.1**
MAKZ pmax pmax
comp=Z,10.0nm,0.6s
MAKZ Makanchi 59.45 326 P **P** **15 03 23.4 -1.1**
MAKZ IAmb IAmb 15 03 29.3
comp=Z,10nm,0.6s
LBZ Lake Benmore 59.98 145 P **P** **15 03 27.9 -0.2**
RPZ Rata Peaks 60.09 144 LR LR 15 30 06.4
comp=Z,196nm,21.8s,baz=268,slow=37
NRN Naryn 60.28 318 P **P** **15 03 29.4 -1.3**
NRN pmax pmax
comp=Z,4.0nm,0.8s
NRN Naryn 60.28 318 P **P** **15 03 29.4 -1.3**
TUWZ Tuamarina 60.59 140 P **P** **15 03 30.4 -1.9**
YAK Yakutsk 60.60 2 *e*P **pP** **15 03 32.4 +0.4**
YAK *e**PP **pP** **15 03 44.5 -1.2**
YAK *e*S **S** **15 11 45.7 +1.5**
YAK *e**SS **sS** **15 12 09.3 +2.2**
YAK *e* 15 13 13.2
YAK pmax pmax
comp=Z,51nm,0.7s
YAK pmax pmax
comp=N,22nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK smax smax
comp=E,291nm,3.8s
YAK smax smax
comp=N,646nm,3.7s
YAK Yakutsk 60.60 2 P **P** **15 03 32.4 +0.4**
comp=N,32nm,0.7s,baz=220,slow=0.2,SNR=34
YAK Yakutsk 60.60 2 P **P** **15 03 31.4 -0.6**
AAK Ala-Archa 61.83 319⇑ *e*P **P** **15 03 40.7 -0.3**
AAK pmax pmax
comp=Z,17nm,1.7s
AAK Ala-Archa 61.83 319 P **P** **15 03 38.9 -2.1**
AAK IAmb IAmb 15 03 47.9
comp=Z,24nm,1.6s
ARSB Arslanbob 62.27 317 P **P** **15 03 42.5 -1.5**
ARSB IAmb IAmb 15 03 49.4
comp=Z,15nm,1.1s
ZAA0 Zalesovo Array 62.51 334 P **P** **15 03 44.0 -1.1**
ZAA0 IAmb IAmb 15 03 54.1
comp=Z,16nm,1.3s
ZALV Zalesovo Beam 62.51 334 P **P** **15 03 43.6 -1.5**
comp=Z,2.9nm,0.5s,baz=129,slow=6.0,SNR=8.7
KBL Kabul 62.63 309 P **P** **15 03 44.3 -2.2**
KBL pmax pmax
comp=Z,23nm,1.3s
KBL Kabul 62.63 309 P **P** **15 03 44.3 -2.2**
KBL IAmb IAmb 15 03 50.4
comp=Z,23nm,1.3s
AFI Afiamalu 63.20 106 LR LR 15 29 29.8
comp=Z,198nm,21.7s,baz=236,slow=34
GAR Garm 63.22 314 P **P** **15 03 48.9 -1.3**
BTK Batken 63.26 315 P **P** **15 03 49.0 -1.5**
BTK pmax pmax
comp=Z,34nm,1.6s
BTK Batken 63.26 315 P **P** **15 03 49.0 -1.5**
BTK IAmb IAmb 15 04 00.4
comp=Z,34nm,1.6s
KURK Kurchatov 63.51 328 *d i*P **P** **15 03 51.0 -0.8**
KURK pmax pmax
comp=Z,28nm,0.7s
KURK Kurchatov 63.51 328 P **P** **15 03 50.6 -1.1**
CHGR Chuyangaron 63.93 313 P **P** **15 03 52.2 -2.7**
SEY Seymchan 64.45 13⇓ *e*P **P** **15 03 59.2 +1.5**
SEY Seymchan 64.45 13 P **P** **15 03 59.9 +2.2**
comp=Z,11nm,0.9s,baz=255,slow=6.2,SNR=7.4
KK31 Karatay Array 64.68 318 P **P** **15 03 58.3 -1.3**
KK31 pmax pmax
comp=Z,11nm,1.3s
KK31 Karatay Array 64.68 318 P **P** **15 03 58.3 -1.3**
KKAR Karatay Array 64.68 318 P **P** **15 03 58.3 -1.3**
KKAR pmax pmax
comp=Z,11nm,1.3s
KKAR Karatay Array 64.68 318 P **P** **15 03 58.3 -1.3**
BVAR Borovoye Array 69.08 328 P **P** **15 04 26.5 -0.9**
comp=Z,2.6nm,0.5s,baz=101,slow=3.4,SNR=24
BRVK Borovoye 69.15 328 *de*P **P** **15 04 27.1 -0.7**
BRVK pmax pmax
comp=Z,18nm,1.3s
BRVK Borovoye 69.15 328 P **P** **15 04 26.0 -1.8**
BRVK IAmb IAmb 15 04 37.6
comp=Z,14nm,0.9s
TIXI Tiksi 70.23 1⇓ *e*P **P** **15 04 33.0 -1.1**
TIXI pmax pmax
comp=Z,27nm,1.3s
TIXI Tiksi 70.23 1 P **P** **15 04 32.6 -1.4**
TIXI IAmb IAmb 15 04 35.3
comp=Z,15nm,0.8s
BILL Bilibino 71.97 15 *i*P **P** **15 04 45.2 +0.5**
BILL *i* 15 05 03.6
BILL pmax pmax
comp=Z,3.0nm,1.4s
GEYT Alibeck 72.04 310 P **P** **15 04 45.1 -0.7**
comp=Z,4.0nm,0.7s,baz=151,slow=6.6,SNR=7.7
NRIK Noril'sk 72.64 347 *i*P **P** **15 04 48.4 -0.2**
NRIK Noril'sk 72.64 347 P **P** **15 04 48.9 +0.2**
comp=Z,18nm,0.6s,baz=133,slow=6.2,SNR=35
ABKAR Akbulak array 73.71 321 P **P** **15 04 54.3 -1.1**
AKTO Aktyubinsk 75.25 322 P **P** **15 05 04.0 -0.3**
comp=Z,8.2nm,0.6s,baz=102,slow=8.7,SNR=17
SVE Sverdlovsk 75.75 329⇑ *e*P **P** **15 05 06.8 -0.3**
SVE pmax pmax
comp=Z,63nm,1.5s
ARU Arti 76.71 328 *c i*P **P** **15 05 11.6 -0.9**
ARU S **S** **15 14 56.8 +1.3**
ARU SS **SS** **15 19 48.5 -3.5**
ARU pmax pmax
comp=Z,65nm,1.6s
ARU Arti 76.71 328 P **P** **15 05 11.8 -0.6**
comp=Z,4.7nm,0.5s,baz=114,slow=1.7,SNR=33
ARU Arti 76.71 328 P **P** **15 05 11.5 -1.0**
GAMB Gambell 76.76 24 P **P** **15 05 13.2 +0.7**
FALS False Pass 77.67 34 P **P** **15 05 17.7 -0.1**
SDPT Sand Point 79.42 34 P **P** **15 05 28.4 +0.9**
ABPO Ambohimpanom 80.08 251 P **P** **15 05 32.0 -0.1**
ABPO pmax pmax
comp=Z,8.0nm,0.9s
ABPO Ambohimpanom 80.08 251 P **P** **15 05 32.0 -0.1**
RAYN Ar Rayn 81.00 293 P **P** **15 05 35.9 -0.9**
RAYN pmax pmax
comp=Z,8.0nm,0.9s
RAYN Ar Rayn 81.00 293 P **P** **15 05 35.9 -0.9**
VNDA Vanda 81.12 173 P **P** **15 05 36.4 +0.1**
comp=Z,4.6nm,0.7s,baz=319,slow=6.0,SNR=36
VNDA Vanda 81.12 173 P **P** **15 05 35.5 -0.8**
VNDA IAmb IAmb 15 05 37.8
comp=Z,40nm,1.9s
MAW Mawson 81.36 200 P **P** **15 05 38.7 +1.1**
comp=Z,8.8nm,0.9s,baz=42,slow=4.9,SNR=6.2
KIRV Kirov 82.02 329 P **P** **15 05 41.6 +0.3**
comp=Z,29nm,0.7s,baz=77,slow=1.8,SNR=9.8
GNI Garni 82.66 310 *de*P **P** **15 05 47.1 +1.7**
GNI pmax pmax
comp=Z,32nm,1.5s
TBLG Delisi 82.79 312 P **P** **15 05 45.7 -0.1**
TBLG pmax pmax
comp=Z,33nm,1.3s
TBLG Delisi 82.79 312 P **P** **15 05 45.7 -0.1**
TBLG IAmb IAmb 15 05 49.8
comp=Z,33nm,1.3s
TTA Tatalina 83.23 27 P **P** **15 05 48.7 +1.0**
TTA Tatalina 83.23 27 P **P** **15 05 48.7 +1.0**
ZEI Tsey 83.49 313 *e*P **P** **15 05 48.8 -0.8**
ZEI pmax pmax
comp=Z,22nm,0.8s
AKH Akhalkalaki 83.70 311 P **P** **15 05 51.2 +0.5**
AKH pmax pmax
comp=Z,25nm,1.0s
AKH Akhalkalaki 83.70 311⇑ P **P** **15 05 52.0 +1.3**
AKH Akhalkalaki 83.70 311 P **P** **15 05 51.2 +0.5**
AKH IAmb IAmb 15 05 55.3
comp=Z,25nm,1.0s
KBZ Khabaz 84.29 314⇑ *e*P **P** **15 05 55.1 +1.7**
KBZ Khabaz 84.29 314 P **P** **15 05 53.5 +0.1**
comp=Z,5.2nm,0.7s,baz=113,slow=7.2,SNR=14
PRGR Permogore 84.38 332 *e*P **P** **15 05 52.5 -0.9**
PRGR pmax pmax
comp=Z,18nm,0.6s
RSO Redoubt South 84.39 29 P **P** **15 05 54.1 +0.3**
KIV Kislovodsk 84.45 314 *e*P **P** **15 05 55.0 +0.6**
KIV pmax pmax
comp=Z,49nm,1.0s
KIV Kislovodsk 84.45 314 P **P** **15 05 54.2 -0.2**
SKT Skwentna 85.15 28 P **P** **15 05 57.1 -0.3**
BRLK Bradley Lake 85.24 30 P **P** **15 05 57.7 -0.2**
SUA Susitna One 85.47 29 P **P** **15 05 59.0 -0.2**
SUA IAmb IAmb 15 06 01.2
comp=Z,15nm,0.7s
VRH Novokhopyorsk 85.54 321 *e*P **P** **15 05 58.9 -0.6**
VRH pmax pmax
comp=Z,180nm,1.9s
MLY Manley 85.83 25 P **P** **15 06 01.2 +0.5**
MLY IAmb IAmb 15 06 03.1
comp=Z,9.6nm,1.2s
RC01 Rabbit Creek A 85.92 29 P **P** **15 06 01.6 +0.3**
COLD Coldfoot 86.26 23 P **P** **15 06 04.1 +1.4**
NEA Nenana 86.50 26 P **P** **15 06 02.6 -1.4**
MCK McKinley 86.50 26 P **P** **15 06 03.6 -0.4**
MCK pmax pmax
comp=Z,5.0nm,0.8s
MCK McKinley 86.50 26 P **P** **15 06 03.6 -0.4**
RND Reindeer 86.51 27 P **P** **15 06 02.9 -1.3**
RND pmax pmax
comp=Z,6.0nm,0.8s
RND Reindeer 86.51 27 P **P** **15 06 02.9 -1.3**
KNK Knik Glacier 86.56 29 P **P** **15 06 04.3 -0.1**
KNK IAmb IAmb 15 06 06.9
comp=Z,12nm,0.8s
SOC Sochi 86.59 313 *e*P **P** **15 06 02.4 -2.5**
SOC *e* 15 09 23.7
SOC *e*PPP PPP 15 11 20.9
SOC *e*S **SKSac** **15 16 24.8 -2.7**
SOC *e*SS **SS** **15 22 20.8 +1.2**
SOC *e*SSS SSS 15 25 50.5
SOC pmax pmax
comp=Z,14nm,0.6s
TOLK Toolik Lake Re 86.63 21 P **P** **15 06 05.5 +0.9**
baz=265
TOLK Toolik Lake Re 86.63 21 P **P** **15 06 04.8 +0.1**
TOLK IAmb IAmb 15 06 07.4
comp=Z,7.2nm,0.8s
SML Sawmill 86.65 28 P **P** **15 06 05.3 +0.4**
SML pmax pmax
comp=Z,23nm,1.2s
SML Sawmill 86.65 28 P **P** **15 06 05.3 +0.4**
SML IAmb IAmb 15 06 39.8
comp=Z,23nm,1.2s
WRH Wood River Hil 86.92 26 P **P** **15 06 06.0 0.0**
WRH IAmb IAmb 15 07 07.1
comp=Z,29nm,2.0s
TCOL CIGO_UAF Yank 87.04 25⇑ *e*P **P** **15 06 05.5 -1.1**
baz=267
COLA College 87.04 25⇑ *e*P **P** **15 06 06.2 -0.4**
COLA pmax pmax
comp=Z,9.0nm,1.8s
CCB Clear Creek Bu 87.05 25 P **P** **15 06 05.7 -1.0**
VORD Divnogorie 87.06 321 *e*P **P** **15 06 05.1 -1.9**
VORD pmax pmax
comp=Z,30nm,0.4s
VSR Storozhevoye 87.15 321 *e*P **P** **15 06 06.1 -1.3**
VSR pmax pmax
comp=Z,20nm,0.7s
POKR Poker Flat Res 87.23 25 P **P** **15 06 06.9 -0.6**
baz=267
LPSR Galich'ya Gora 87.33 322 *e*P **P** **15 06 08.0 -0.2**
LPSR pmax pmax
comp=Z,30nm,0.7s
HDA Harding Lake 87.41 26 P **P** **15 06 08.0 -0.4**
baz=268
HDA Harding Lake 87.41 26 P **P** **15 06 07.6 -0.8**
HDA IAmb IAmb 15 06 08.7
comp=Z,5.5nm,0.8s
IL31 87.45 25 P **P** **15 06 07.4 -1.2**
ILAR Eielson Array 87.45 25 P **P** **15 06 07.5 -1.1**
comp=Z,1.3nm,0.6s,baz=237,slow=5.3,SNR=36
ILAR PKKPbc **PKKPbc** **15 23 58.6 -2.2**
comp=Z,0.3nm,0.7s,baz=62,slow=2.2,SNR=4.2
PAX Paxson 88.03 27 P **P** **15 06 11.0 -0.5**
PAX pmax pmax
comp=Z,30nm,1.9s
PAX Paxson 88.03 27 P **P** **15 06 11.0 -0.5**
PAX IAmb IAmb 15 06 57.1
comp=Z,30nm,1.9s
MOS Moscow 88.14 326 *e*P P 15 05 56.1 -16
MOS *e* 15 06 07.9
ANN Anapa 88.24 315 *e*P **P** **15 06 11.5 -1.3**
ANN pmax pmax
comp=Z,100nm,1.6s
RIDG Independent Ri 88.32 26 P **P** **15 06 12.0 -0.8**
RIDG IAmb IAmb 15 06 14.1
comp=Z,8.8nm,0.8s
SCRK Sand Creek 88.70 26 P **P** **15 06 14.1 -0.6**
SCRK IAmb IAmb 15 06 29.1
comp=Z,22nm,1.8s
OBN Obninsk 88.74 325⇑ *e*P **P** **15 06 14.7 -0.2**
OBN *i* 15 06 32.9
OBN pmax pmax
comp=Z,23nm,1.3s
OBN MLR MLR
comp=Z,90nm,12.0s
OBN Obninsk 88.74 325 P **P** **15 06 14.5 -0.4**
comp=Z,2.2nm,0.5s,baz=72,slow=20,SNR=2.9
OBN Obninsk 88.74 325 IAmb IAmb 15 06 16.8
comp=Z,35nm,1.3s
ASF Jabal al Asfar 88.77 302 P **P** **15 06 16.2 +0.5**
comp=Z,10nm,0.7s,baz=64,slow=4.1,SNR=14
MENT Mentasta 88.83 27 P **P** **15 06 16.2 +1.0**
MENT IAmb IAmb 15 06 31.2
comp=Z,5.1nm,0.8s
KMBO Kilima Mbogo 89.05 269 P **P** **15 06 17.8 +0.2**
comp=Z,5.8nm,0.7s,baz=34,slow=5.7,SNR=6.8
KMBO Kilima Mbogo 89.05 269 P **P** **15 06 16.4 -1.1**
KMBO IAmb IAmb 15 06 23.5
comp=Z,10.0nm,0.9s
BARN Barnard Glacie 89.85 29 P **P** **15 06 21.6 +1.3**
MMAI Mount Meron Ar 90.01 303 P **P** **15 06 22.1 +0.6**
comp=Z,3.9nm,0.5s,baz=83,slow=6.8,SNR=5.7
SYO Syowa Base 90.04 201⇑ *e*P **P** **15 06 20.2 -0.5**
SYO Syowa Base 90.04 201⇑ *ep*P pP 15 06 30.0 -4.9
EIL Elat 90.50 300 P **P** **15 06 24.1 +0.4**
comp=Z,3.2nm,0.6s,baz=139,slow=9.3,SNR=3.8
DAWY Dawson 90.72 26 P **P** **15 06 23.7 -0.4**
DAWY IAmb IAmb 15 06 29.7
comp=Z,31nm,1.9s
BR131 Keskin Array S 91.19 310 *de*P **P** **15 06 25.5 -1.4**
BR131 Keskin Array S 91.19 310 P **P** **15 06 25.3 -1.6**
BRTR Keskin Array B 91.19 310 P **P** **15 06 25.7 -1.2**
comp=Z,2.8nm,0.8s,baz=126,slow=5.2,SNR=14
QSPA South Pole Qui 91.26 180 P **P** **15 06 26.3 -0.3**
EPYK Eagle Plains 91.61 24 P **P** **15 06 28.4 +0.3**
baz=277
ARCES ARCESS Array B 92.52 340 P **P** **15 06 32.2 -0.1**
comp=Z,11nm,0.9s,baz=72,slow=5.6,SNR=12
INK Inuvik 92.54 21 P **P** **15 06 31.5 -0.8**
INK pmax pmax
comp=Z,4.0nm,0.6s
INK Inuvik 92.54 21 P **P** **15 06 31.5 -0.8**
INK IAmb IAmb 15 08 55.4
comp=Z,3.6nm,0.6s
SPITS Spitsbergen Ar 92.72 349 P **P** **15 06 33.1 0.0**
comp=Z,11nm,0.8s,baz=100,slow=8.1,SNR=3.5
AKASG Malin Array Be 93.45 321 P **P** **15 06 35.9 -1.0**
comp=Z,0.8nm,0.6s,baz=83,slow=3.6,SNR=5.0
FINES FINESS Array B 93.71 332 P **P** **15 06 36.9 -0.9**
comp=Z,1.9nm,0.6s,baz=57,slow=5.1,SNR=7.4
SORM Soroca 94.31 318⇑ P **P** **15 06 40.2 -0.7**
C36M Paulatuk 95.61 20 P **P** **15 06 46.5 +0.2**
baz=289
TESR Tescani 95.66 317⇑ P **P** **15 06 47.2 0.0**
MLR Muntele Rosu 96.29 316⇓ P **P** **15 06 50.0 -0.2**
BURAR Bucovina Array 96.47 318⇑ P **P** **15 06 51.2 +0.2**
BUR08 Bucovina Ar. S 96.47 318 P **P** **15 06 49.5 -1.5**
KOLS Kolonicke sedl 98.17 320 *e*P Pdif 15 07 01.3 +2.8
KOLS Kolonicke sedl 98.17 320 *e*PDIFF Pdif 15 07 01.2 +2.7
UZH Uzhgorod 98.22 319⇓ *i*P **P** **15 06 56.3 -2.3**
UZH *e* 15 07 12.7
IDI Anoyia 98.52 306 LR LR 15 59 59.2
comp=Z,40nm,19.7s,baz=75,slow=41
KNT Kendrikon 99.17 312 P **Pdif** **15 07 00.7 -2.4**
KNT pmax pmax
comp=Z,9.0nm,1.2s
HFS Hagfors 99.91 332 P **Pdif** **15 07 05.2 -0.7**
comp=Z,3.2nm,0.9s,baz=69,slow=7.9,SNR=2.7
VYHS Vyhne 100.48 320 *e*P **Pdif** **15 07 09.2 +0.4**
VYHS Vyhne 100.48 320 *e*PDIFF **Pdif** **15 07 09.2 +0.4**
NOA NORSAR Array B 100.71 333 P **Pdif** **15 07 08.7 -0.9**
comp=Z,0.8nm,0.7s,baz=68,slow=4.4,SNR=2.8
YKA Yellowknife Ar 101.86 24 P **Pdif** **15 07 15.6 +1.1**
comp=Z,0.6nm,0.6s,baz=298,slow=4.3,SNR=9.1
YKA PKiKP **PKiKP** **15 11 37.4 +0.1**
comp=Z,0.3nm,0.5s,baz=301,slow=1.5,SNR=5.9
YKA PKKPbc **PKKPbc** **15 23 19.4 -2.9**
comp=Z,0.3nm,0.6s,baz=124,slow=3.6,SNR=4.9
CLL Collm 103.29 324 *e*P **Pdif** **15 07 19.0 -2.2**
NVAR Mina Array Bea 108.83 49 Pdiff **Pdif** **15 07 50.6 +4.2**
comp=Z,0.6nm,0.7s,baz=280,slow=5.4,SNR=4.3
NVAR PKKPbc **PKKPbc** **15 22 59.5 -1.1**
comp=Z,0.5nm,0.6s,baz=122,slow=3.4,SNR=4.8
NVAR PKKP **PKKPab** **15 23 13.2 +0.4**
comp=Z,1.0nm,0.8s,baz=137,slow=4.2,SNR=6.6
PDAR Pinedale Array 113.44 42 PKKPbc PKKPbc 15 22 44.5 -1.2
comp=Z,0.8nm,0.6s,baz=111,slow=5.1,SNR=7.4
ULM Lac du Bonnet 117.27 29 PKP **PKPdf** **15 12 06.3 -0.3**
comp=Z,3.0nm,0.6s,baz=314,slow=0.6,SNR=6.4
ANMO Albuquerque 118.96 48⇓ *i*PKiKP **PKiKP** **15 12 12.1 +1.4**
ANMO pmax pmax
comp=Z,8.0nm,2.5s
ECSD EROS Data Cent 121.00 35 **PKiKP** **15 12 14.1 -0.1**
MNTX Cornudas Mount 121.11 51 **PKPdf** **15 12 14.0 -0.6**
SCHQ Schefferville 122.99 9 PKP **PKiKP** **15 12 18.2 +0.5**
comp=Z,3.3nm,0.5s,baz=325,slow=1.7,SNR=7.3
TORD Torodi Ar. Bea 123.19 287 PKP **PKiKP** **15 12 19.3 0.0**
comp=Z,8.7nm,0.8s,baz=56,slow=2.1,SNR=48
TORD PKKPbc **PKKPab** **15 22 10.6 +0.9**
comp=Z,1.7nm,0.8s,baz=259,slow=4.5,SNR=5.0
TX31 Lajitas Ar. Si 123.41 53 PKPdf **PKiKP** **15 12 20.0 +0.5**
TX32 Lajitas Array 123.41 53 PKPdf **PKiKP** **15 12 19.9 +0.4**
TXAR Lajitas Array 123.41 53 PKP **PKiKP** **15 12 20.1 +0.7**
comp=Z,1.6nm,0.7s,baz=238,slow=1.3,SNR=23
TXAR PKKPbc **PKKPbc** **15 22 09.4 +0.4**
comp=Z,0.4nm,0.7s,baz=118,slow=6.9,SNR=5.4
JCT Junction City 125.95 50 PKiKP **PKPdf** **15 12 24.1 +0.1**
JCT Junction City 125.95 50 **PKPdf** **15 12 24.1 +0.1**
KIC Kosan Boka 130.50 279 *e*PKiKP **PKiKP** **15 12 34.5 +0.6**
comp=Z,15nm,0.9s
KIC Kosan Boka 130.50 279 **PKiKP** **15 12 34.5 +0.6**
DBIC Dimbokro 130.58 280 PKP **PKiKP** **15 12 34.2 +0.2**
comp=Z,4.4nm,0.7s,baz=87,slow=2.6,SNR=6.3
TIC Toumodi 130.74 280 *e*PKiKP **PKiKP** **15 12 34.8 +0.4**
TIC Toumodi 130.74 280 PKiKP **PKiKP** **15 12 34.8 +0.4**
TIC Toumodi 130.74 280 **PKiKP** **15 12 34.8 +0.4**
LIC Lamto 130.80 279 *e*PKiKP **PKiKP** **15 12 35.0 +0.5**
comp=Z,29nm,1.0s
LIC Lamto 130.80 279 **PKiKP** **15 12 35.0 +0.5**
WVT Waverly 131.04 37 PKiKP **PKPdf** **15 12 33.5 +0.1**
WVT Waverly 131.04 37 **PKPdf** **15 12 33.5 +0.1**
JTS Las Juntas de 146.85 69 PKPbc **PKPab** **15 13 05.6 -0.4**
comp=Z,9.8nm,0.8s,baz=262,slow=15,SNR=6.5
JTS Las Juntas de 146.85 69 PKPdf **PKPdf** **15 13 00.9 -1.9**
ATAH Atahualpa 154.75 104 PKPbc **PKiKP** **15 13 25.9 +1.8**
comp=Z,6.7nm,0.8s,baz=173,slow=7.0,SNR=4.5
NNA Nana 154.75 116 PKPbc **PKiKP** **15 13 24.9 +1.3**
comp=Z,4.9nm,0.6s,baz=208,slow=14,SNR=3.7
CPUP Villa Florida 154.91 172 PKPbc **PKiKP** **15 13 24.1 +0.6**
comp=Z,4.6nm,0.8s,baz=164,slow=2.4,SNR=6.5
LPAZ La Paz 159.45 137 PKP **PKPdf** **15 13 23.3 +1.7**
comp=Z,4.2nm,0.7s,baz=217,slow=1.0,SNR=3.6
SDV Santo Domingo 160.33 59 PKP **PKPdf** **15 13 21.9 -0.2**
comp=Z,3.1nm,0.3s,baz=251,slow=2.2,SNR=4.5
SIV San Ignacio 163.74 154 PKP **PKPdf** **15 13 26.7 +1.4**
comp=Z,2.7nm,0.9s,baz=204,slow=2.1,SNR=4.9
SIV PKPab **PKPab** **15 14 18.4 +1.1**
comp=Z,3.6nm,0.7s,baz=216,slow=5.0,SNR=8.3

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*ISCJB **29** 14:58:36.5±0.4, 30.10°N±0.04°×51.06°E±0.04°, h10km, mb3.8/7, Error ellipse: s-maj=6.2km s-min=4.9km az=28.0*
*IDC **29** 14:58:37.4±2.7, 30.30°N×51.02°E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.5/46, mbtmp3.8/8, ML3.3/1, Error ellipse: s-maj=58.5km s-min=27.1km az=145.0*
*NEIC **29** 14:58:39.0±1.4, 30.26°N±0.08°×51.04°E±0.08°, h15km±6km, mb4.3/15*
*THR **29** 14:58:38.5, 30.29°N×51.18°E, h14km, ML3.3*
*TEH **29** 14:58:38.2, 30.29°N×51.25°E, h10km, ML3.3*
ISC 29 14:58:37.9±0.5, 30.26°N±0.04°×51.20°E±0.05, h10km, n57, σ1.5s59, mb4.0/10, Northern and central Iran

Code	Station Name	Δ°	Az°	Phase	ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**0.73**	**130**	*e*Pg		**Pg**	**14 58 51.8**	**-0.3**
IKAZ					IAMB	IAmb	14 59 05.2	
	comp=Z,30μm,0.2s							
KLNJ	**Kolanjah**	**0.82**	**24**	*e*Pg		**Pg**	**14 58 52.9**	**-0.9**
KLNJ					IAMB	IAmb	14 59 08.3	
	comp=Z,0.0nm,0.4s							
SHI	**Shiraz**	**1.29**	**118**	*e*Pg		**Pb**	**14 59 02.4**	**0.0**
SHI					IAMB	IAmb	14 59 27.4	
	comp=Z,0.0nm,0.4s							
IBRJ	**Brojen**	**1.65**	**2**	*e*Pn		**Pg**	**14 59 10.3**	**+0.8**
IBRJ					IAMB	IAmb	14 59 40.6	
	comp=Z,3μm,0.6s							
IRAM	**Rameseh**	**1.85**	**33**	*e*Pn		**Pb**	**14 59 11.1**	**-0.8**
IRAM					IAMB	IAmb	14 59 41.4	
	comp=Z,4μm,0.6s							
JHBN	**Jahan bin**	**2.02**	**347**	*e*Pn		**Pb**	**14 59 15.3**	**+0.4**
ROKH	**ROKH**	**2.09**	**356**	*e*Pn		**Pb**	**14 59 15.7**	**-0.3**
ROKH					IAMB	IAmb	14 59 53.5	
	comp=Z,0.0nm,0.7s							
IPIR	**Pirpir**	**2.43**	**354**	*e*Pn		**Pb**	**14 59 21.2**	**-0.8**
IPIR					IAMB	IAmb	15 00 09.7	
	comp=Z,2μm,0.8s							
ISAD	**Sadrabad**	**2.70**	**52**	*e*Pn		**Pb**	**14 59 24.1**	**-2.3**
ISAD					IAMB	IAmb	14 59 30.4	
	comp=Z,1μm,0.4s							
SHGR	**Shooshtar-Gavs**	**2.76**	**313**	*e*Pn		**Pn**	**14 59 23.9**	**+1.7**
SHGR	**Shooshtar-Gavs**	**2.76**	**313**	*e*Pn		**Pn**	**14 59 23.9**	**+1.7**
SHGR	**Shooshtar-Gavs**	**2.76**	**313**	*e*AML		AML	15 00 26.8	
	comp=N,145nm,0.8s							
SHGR	**Shooshtar-Gavs**	**2.76**	**313**	*e*AML		AML	15 00 29.9	
	comp=E,99nm,0.7s							
IZEF	**Zefreh**	**2.80**	**20**	*e*Pn		**Pb**	**14 59 26.0**	**-2.2**
IZEF					IAMB	IAmb	14 59 35.8	
	comp=Z,557nm,0.5s							
IKLH	**Kolahrood**	**3.07**	**6**	*e*Pn		**Pn**	**14 59 29.2**	**+2.5**
IMEH	**Mehriz**	**3.15**	**68**	*e*Pn		**Pn**	**14 59 30.2**	**+2.5**
IMEH					IAMB	IAmb	15 00 21.8	
	comp=Z,514nm,0.5s							
ICHK	**Chekchek**	**3.39**	**53**	*e*Pn		**Pn**	**14 59 32.7**	**+1.7**
YZKH	**Yazd**	**3.60**	**53**	*e*Pn		**Pn**	**14 59 36.2**	**+2.4**
YZKH	**Yazd**	**3.60**	**53**	*e*Pn		**Pn**	**14 59 36.2**	**+2.4**
KHMZ	**Khomeyn**	**3.63**	**343**	*e*Pn		**Pn**	**14 59 35.9**	**+1.6**
KHMZ	**Khomeyn**	**3.63**	**343**	*e*Pn		**Pn**	**14 59 35.9**	**+1.6**
KHMZ	**Khomeyn**	**3.63**	**343**	*e*AML		AML	15 00 24.5	
	comp=E,26nm,0.4s							
ANAR	**Anarak**	**3.63**	**36**	*e*Pn		**Pn**	**14 59 36.5**	**+2.2**
BMDN	**Meydan**	**3.96**	**330**	*e*Pn		**Pn**	**14 59 40.9**	**+2.1**
HSAM	**Samen**	**4.51**	**332**	*e*Pn		**Pn**	**14 59 49.2**	**+2.6**
IQOM	**Qom**	**4.57**	**359**	*e*Pn		**Pn**	**14 59 49.0**	**+1.6**
HAGD	**Aghdareh**	**4.87**	**340**	*e*Pn		**Pn**	**14 59 54.1**	**+2.6**

IKOM	**Komasi**	**5.00**	**322**	*e*Pn		**Pn**	**14 59 55.3**	**+2.1**
BNDS	**Bandar-Abbas**	**5.21**	**122**	*e*Pn		**Pn**	**14 59 58.6**	**+2.6**
BNDS	**Bandar-Abbas**	**5.21**	**122**	*e*Pn		**Pn**	**14 59 58.6**	**+2.6**
UOSS	**Minazif**	**6.91**	**139**	Pn		**Pn**	**15 00 21.1**	**+1.9**
RAYN	**Ar Rayn**	**8.42**	**219**			**Pn**	**15 00 39.7**	**-0.3**
GEYT	**Alibeck**	**9.56**	**35**	Pn		**Pn**	**15 00 58.7**	**+3.1**
	comp=E,0.3nm,0.3s,baz=210,slow=8.3,SNR=3.3							
GNI	**Garni**	**11.19**	**334**	Pn		**Pn**	**15 01 17.7**	**-0.3**
GAZ	**Gaziantep**	**13.53**	**304**	Pn		**Pn**	**15 01 47.9**	**-2.0**
KIV	**Kislovodsk**	**15.25**	**336**	Pn		**Pn**	**15 02 13.4**	**0.0**
KIV				IAmb		IAmb	15 02 22.0	
	comp=Z,11nm,1.1s							
KBL	**Kabul**	**15.66**	**70**	Pn		**P**	**15 02 21.0**	**-2.0**
CSS	**Mathiatis**	**15.77**	**292**	Pn		**Pn**	**15 02 18.8**	**-1.2**
CSS				IAmb		IAmb	15 03 03.5	
	comp=Z,110nm,1.8s							
CHGR	**Chuyangaron**	**17.00**	**56**	Pn		**P**	**15 02 37.6**	**-0.1**
BTK	**Batken**	**18.75**	**53**	P		**Pn**	**15 02 58.5**	**+1.1**
BTK				IAmb		IAmb	15 03 55.0	
	comp=Z,14nm,1.1s							
KK31	**Karatay Array**	**20.05**	**45**	P		**P**	**15 03 10.5**	**-0.6**
KK31				IAmb		IAmb	15 04 04.7	
	comp=Z,11nm,1.2s							
KKAR	**Karatay Array**	**20.05**	**45**	P		**P**	**15 03 10.5**	**-0.6**
KKAR				IAmb		IAmb	15 04 04.7	
	comp=Z,11nm,1.2s							
ABKAR	**Akbulak array**	**20.10**	**17**	P		Pn	15 03 12.6	-0.9
ATD	**Arta Tunnel**	**20.19**	**204**	P		**P**	**15 03 12.1**	**-0.7**
ATD				IAmb		IAmb	15 03 13.2	
	comp=Z,50nm,1.5s							
MLR	**Muntele Rosu**	**24.93**	**315**	P		**P**	**15 04 02.1**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=128,slow=9.5,SNR=3.1							
AKASG	**Malin Array Be**	**26.21**	**327**	P		**P**	**15 04 12.1**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=131,slow=8.3,SNR=5.4							
BUR08	**Bucovina Ar. S**	**26.46**	**318**	P		**P**	**15 04 15.6**	**+0.5**
BUR08				IAmb		IAmb	15 05 11.7	
	comp=Z,14nm,1.6s							
BVAR	**Borovoye Array**	**26.73**	**26**	P		**P**	**15 04 18.6**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=213,slow=7.8,SNR=7.1							
FINES	**FINESS Array B**	**35.30**	**339**	P		**P**	**15 05 32.4**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=156,slow=7.2,SNR=7.2							
SSB	**Saint Sauveur**	**39.26**	**306**	P		**P**	**15 06 06.6**	**0.0**
SSB				IAmb		IAmb	15 07 00.4	
	comp=Z,52nm,1.9s							
NBO00	**NORSAR Array S**	**40.66**	**331**	P		**P**	**15 06 17.1**	**-0.9**
ARE0	**ARCESS Array S**	**41.97**	**347**	P		**P**	**15 06 29.5**	**+0.8**
ARE0				IAmb		IAmb	15 07 55.3	
	comp=Z,5.4nm,1.7s							
ESBB	**Sonseca Array**	**45.55**	**297**	P		**P**	**15 06 56.4**	**-1.6**
EKA	**Eskdalemuir Ar**	**45.61**	**319**	P		**P**	**15 06 58.3**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=110,slow=7.9,SNR=4.4							
TORD	**Torodi Ar. Bea**	**48.65**	**261**	P		**P**	**15 07 22.3**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=52,slow=8.7,SNR=10							
SPA0	**Spitsbergen Ar**	**50.43**	**351**	P		**P**	**15 07 34.8**	**-0.4**
YKA	**Yellowknife Ar**	**86.87**	**353**	P		**P**	**15 11 22.7**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=7,9,slow=5.1,SNR=4.2							

*TAP **29** 15:02:18.6,24.37N×122.54E,h84km,ML2.6,C*
*JMA **29** 15:02:18.6±0.1,24.33N×122.56E,h74km±2km,M1.8*
*ISCJB **29** 15:02:19.0±0.5,24.35N±0.03×122.59E±0.02,h68km±6km, Error ellipse: s-maj=5.8km s-min=2.8km az=172.4*
ISC 29 15:02:19.5±1.4,24.36N±0.05×122.58E±0.03,h69km±9km, n55,σ0=82/101,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.35**	**75**	P			**Pn**	**15 02 30.9**	**0.0**
JYNG				S			**Sn**	**15 02 39.5**	**+0.3**
YOJ	**Yonaguni jima**	**0.41**	**76**	P			**Pn**	**15 02 31.3**	**-0.1**
YOJ				S			**Sn**	**15 02 40.2**	**+0.2**
YOJ	**Yonaguni jima**	**0.41**	**76**	*e*P			**Pn**	**15 02 31.5**	**+0.2**
	baz=70								
YOJ				*e*S			**Sn**	**15 02 42.1**	**+2.1**
	baz=70								
EOS1	**EOS1**	**0.45**	**295**	P			**Pn**	**15 02 31.8**	**+0.1**
	baz=302								
EOS1				S			**Sn**	**15 02 42.4**	**+1.7**
	baz=302								
TWC	**Suao**	**0.71**	**290**	*e*P			**Pn**	**15 02 33.3**	**-1.1**
	baz=296								
TWC				S			**Sn**	**15 02 45.4**	**0.0**
	baz=296								
NANB	**Nanao**	**0.76**	**275**	*i* P			**Pn**	**15 02 34.7**	**-0.3**
	baz=275								
NANB				S			**Sn**	**15 02 46.4**	**-0.1**
	baz=275								
ENA	**Nanau**	**0.77**	**275**	*i* P			**Pn**	**15 02 34.8**	**-0.3**
	baz=275								
ENA				S			**Sn**	**15 02 46.9**	**+0.3**
	baz=275								
TIPB	**Shuangxi**	**0.92**	**312**	P			**Pn**	**15 02 36.2**	**-0.7**
	baz=309								
TIPB				S			**Sn**	**15 02 48.5**	**-1.4**
	baz=309								
NACB	**Ninganchiao**	**0.92**	**258**	P			**Pn**	**15 02 36.2**	**-0.7**
	baz=252								
NACB				S			**Sn**	**15 02 48.8**	**-1.0**
	baz=252								
TWD	**Chiawan**	**0.94**	**253**	S			**Sn**	**15 02 49.6**	**-0.7**
	baz=252								
SLBB	**Yuanshan**	**0.94**	**295**	P			**Pn**	**15 02 36.3**	**-1.0**
	baz=300								
ENTT	**Nioudou**	**0.96**	**287**	*i* P			**Pn**	**15 02 37.4**	**-0.1**
	baz=293								
ENTT				S			**Sn**	**15 02 51.2**	**+0.4**
	baz=293								
NDT	**Datong Townshi**	**1.00**	**284**	P			**Pn**	**15 02 38.0**	**0.0**
	baz=281								
NDT				S			**Sn**	**15 02 51.9**	**+0.2**
	baz=281								
ETLH	**Xiulin Townshi**	**1.01**	**261**	P			**Pn**	**15 02 37.8**	**-0.4**
	baz=257								
ETLH				S			**Sn**	**15 02 51.8**	**-0.3**
	baz=257								
IRIF	**Iriomote-Funau**	**1.05**	**91**	P			**Pn**	**15 02 38.3**	**-0.3**
IRIF				*e*S			**Sn**	**15 02 52.7**	**-0.1**
NWLT	**Wulai**	**1.06**	**293**	P			**Pn**	**15 02 38.7**	**-0.1**
	baz=297								
NWLT				S			**Sn**	**15 02 53.3**	**+0.1**
	baz=297								
NNSH	**Datong**	**1.09**	**274**	P			**Pn**	**15 02 38.5**	**-0.7**
	baz=275								
NNSH				S			**Sn**	**15 02 53.2**	**-0.7**
	baz=275								
NNS	**Nan Shan**	**1.10**	**274**	P			**Pn**	**15 02 39.0**	**-0.4**
	baz=275								
NNS				S			**Sn**	**15 02 53.8**	**-0.4**
	baz=275								
YHNB	**Yeheng**	**1.14**	**286**	P			**Pn**	**15 02 39.5**	**-0.3**
	baz=287								
YHNB				S			**Sn**	**15 02 55.1**	**+0.2**
	baz=287								
NSK	**Sanguang**	**1.16**	**286**	P			**Pn**	**15 02 39.9**	**-0.1**
	baz=287								
NSK				S			**Sn**	**15 02 54.9**	**-0.3**
	baz=287								
ESL	**Shilin**	**1.18**	**243**	P			**Pn**	**15 02 39.4**	**-0.8**
	baz=248								
ESL				*e*S			**Sn**	**15 02 54.5**	**-1.3**
	baz=248								
WHF	**Hehuan Shan**	**1.22**	**260**	P			**Pn**	**15 02 40.6**	**-0.6**
	baz=253								
WHF				S			**Sn**	**15 02 56.4**	**-0.9**
	baz=253								
EGFH	**Guangfu**	**1.26**	**237**	P			**Pn**	**15 02 40.6**	**-0.6**
	baz=232								
EGFH				S			**Sn**	**15 02 56.6**	**-0.9**
	baz=232								
TWT	**Tachien**	**1.28**	**265**	P			**Pn**	**15 02 42.1**	**+0.3**
	baz=261								
TWT				S			**Sn**	**15 02 58.5**	**0.0**
	baz=261								
TDCB	**Techi**	**1.30**	**265**	P			**Pn**	**15 02 42.1**	**+0.2**
	baz=261								
TDCB				S			**Sn**	**15 02 58.0**	**-0.7**
	baz=261								
JKRS	**Kuro-shima**	**1.31**	**95**	P			**Pn**	**15 02 42.2**	**+0.3**
JKRS				S			**Sn**	**15 02 59.2**	**+0.4**
CHGB	**Renai**	**1.32**	**257**	P			**Pn**	**15 02 42.1**	**-0.1**
	baz=250								
CHGB				S			**Sn**	**15 02 58.5**	**-0.7**
	baz=250								
HGSD	**Ruisui**	**1.37**	**231**	P			**Pn**	**15 02 42.0**	**-0.6**
	baz=227								
HGSD				S			**Sn**	**15 02 59.7**	**-0.4**
	baz=227								
JIJ	**Ishigaki jima**	**1.43**	**90**	P			**Pn**	**15 02 43.0**	**-0.5**
JIJ				S			**Sn**	**15 03 00.5**	**-1.0**
VWDT	**VWDT**	**1.45**	**246**	P			**Pn**	**15 02 43.6**	**-0.1**
	baz=238								
VWDT				S			**Sn**	**15 03 00.5**	**-1.5**
	baz=238								
LIOB	**Emei**	**1.45**	**282**	P			**Pn**	**15 02 43.8**	**0.0**
	baz=293								
LIOB				S			**Sn**	**15 03 02.8**	**+0.7**
	baz=293								
NSTT	**Nanjuang**	**1.46**	**281**	*e*P			**Pn**	**15 02 43.9**	**-0.1**
	baz=282								
NSTT				S			**Sn**	**15 03 02.5**	**+0.2**
	baz=282								
WHP	**Taichung City**	**1.49**	**267**	P			**Pn**	**15 02 45.2**	**+0.8**
	baz=265								
WHP				S			**Sn**	**15 03 03.5**	**+0.4**
	baz=265								
YULB	**Yu-li**	**1.52**	**231**	P			**Pn**	**15 02 43.6**	**-1.2**
	baz=238								
YULB				S			**Sn**	**15 03 02.2**	**-1.5**
	baz=238								
DPDB	**Guoxing**	**1.54**	**258**	*e*P			**Pn**	**15 02 45.0**	**-0.1**
	baz=256								
DPDB				*e*S			**Sn**	**15 03 04.4**	**0.0**
	baz=256								
TWF1	**Yuli**	**1.54**	**230**	P			**Pn**	**15 02 44.4**	**-0.6**
	baz=237								
TWF1				S			**Sn**	**15 03 03.0**	**-1.4**
	baz=237								
SSLB	**Suanglung**	**1.59**	**249**	P			**Pn**	**15 02 45.5**	**-0.2**
	baz=249								
SSLB				*e*S			**Sn**	**15 03 04.1**	**-1.4**
	baz=249								
JISG	**Ishigakijimahi**	**1.59**	**82**	P			**Pn**	**15 02 45.1**	**-0.6**
JISG				S			**Sn**	**15 03 04.5**	**-1.0**
TYC	**Yuchr**	**1.64**	**254**	P			**Pn**	**15 02 46.8**	**+0.5**
	baz=250								
TYC				*e*S			**Sn**	**15 03 06.0**	**-0.4**
	baz=250								
FULB	**Fuli**	**1.65**	**226**	*e*P			**Pn**	**15 02 46.4**	**-0.1**
	baz=217								
FULB				S			**Sn**	**15 03 06.1**	**-0.8**
	baz=217								
WHYT	**Xinyi Township**	**1.71**	**248**	P			**Pn**	**15 02 48.0**	**+0.7**
	baz=249								
WHYT				S			**Sn**	**15 03 08.5**	**+0.2**
	baz=249								
WJS	**Zhushan**	**1.77**	**253**	S			**Sn**	**15 03 12.1**	**+2.3**
	baz=252								
WNT	**Mingjian**	**1.80**	**255**	*e*S			**Sn**	**15 03 12.4**	**+2.1**
	baz=254								
ALS	**Alishan**	**1.83**	**243**	*e*S			**Sn**	**15 03 11.4**	**-0.2**
	baz=235								
ELDTW	**Lidau**	**1.85**	**231**	P			**Pn**	**15 02 48.3**	**-0.9**
	baz=225								
ELDTW				S			**Sn**	**15 03 10.2**	**-1.5**
	baz=225								
CHN5	**Tsauling**	**1.90**	**247**	*e*S			**Sn**	**15 03 13.9**	**+1.0**
	baz=239								
TPUB	**Ta-pu**	**2.07**	**240**	*e*P			**Pn**	**15 02 53.0**	**+0.8**
	baz=231								
TPUB				*e*S			**Sn**	**15 03 17.3**	**+0.3**
	baz=231								
CHN4	**Tsaushan**	**2.08**	**241**	P			**Pn**	**15 02 53.4**	**+1.2**
	baz=234								
CHN4				*e*S			**Sn**	**15 03 17.9**	**+0.8**
	baz=234								
RLNB	**Erlin**	**2.08**	**257**	*e*S			**Sn**	**15 03 17.1**	**-0.1**
	baz=258								
WTP	**Ta-pu**	**2.12**	**239**	*e*P			**Pn**	**15 02 53.6**	**+0.9**
	baz=237								
WTP				*e*S			**Sn**	**15 03 18.9**	**+0.9**
	baz=237								
TWK	**Hsinying**	**2.20**	**241**	*e*S			**Sn**	**15 03 21.3**	**+1.1**
	baz=239								
CHN1	**Nanshi**	**2.21**	**238**	*e*P			**Pn**	**15 02 54.6**	**+0.6**
	baz=237								
CHN1				*e*S			**Sn**	**15 03 20.8**	**+0.3**
	baz=237								
SNST	**Tainan City**	**2.22**	**240**	S			**Sn**	**15 03 21.5**	**+0.9**
	baz=238								
SLGT	**Liugui**	**2.23**	**233**	*e*P			**Pn**	**15 02 55.8**	**+1.5**
	baz=222								
SLGT				S			**Sn**	**15 03 22.5**	**+1.5**
	baz=222								
MASBT	**Mashibuluo**	**2.50**	**226**	*e*P			**Pn**	**15 02 58.6**	**+0.7**
	baz=223								
MASBT				*e*S			**Sn**	**15 03 28.3**	**+1.0**
	baz=223								

*ISCJB **29** 15:08:32.8±0.3,33.94S±0.03×70.25W±0.05,h119km±2km, mb4.2/11,Error ellipse: s-maj=6.4km s-min=4.2km az=14.0*
*BJI **29** 15:08:32.0±0.0,33.90S×70.00W,h90km,Ms7 4.7/1*
*SJA **29** 15:08:32.3±1.2,33.94S×70.31W,h122km±13km,ML3.6, MW3.6*
*NEIC **29** 15:08:33.5±2.2,33.95S±0.06×70.1W±0.1,h109km±2km, mb4.6/19,ML4.1(GUC)*
*IDC **29** 15:08:34.7±2.7,33.92S×70.05W,h116km±24km,mb4.0/10, mb1 4.0/14,mb1mx3.8/32,mbtmp4.2/14,Error ellipse: s-maj=21.6km s-min=13.1km az=97.0*
*GUC **29** 15:08:34.1±0.7,33.99S×70.33W,h101km±3km,ML4.1*
ISC 29 15:08:33.7±0.6,33.94S±0.04×70.27W±0.04,h112km±5km, n94,σ1=32/109,mb4.5/15,9C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.11**	**32**	*e*P			**Pn**	**15 08 49.4**	**+0.1**
LMEL				*i* S			**Sn**	**15 09 01.0**	**-0.1**
ANTU	**Antumapu**	**0.48**	**321**	*i* P			**Pn**	**15 08 52.0**	**+1.4**
ANTU				*i* S			**Sn**	**15 09 03.0**	**-0.4**
ANTU				IAML				15 09 05.9	
	comp=N,8μm,0.5s								
FSR	**Penalolen**	**0.51**	**335**	*e*P			**Pn**	**15 08 51.9**	**+1.0**
FSR				*i* S			**Sn**	**15 09 04.9**	**+1.1**
CLCH	**Cerro Calan**	**0.58**	**338**	*e*P			**Pn**	**15 08 51.8**	**+0.4**
CLCH				*i* S			**Sn**	**15 09 04.8**	**0.0**
CLCH				IAML				15 09 08.8	
	comp=E,11μm,0.4s								
FCH	**Farellones**	**0.61**	**358**	*e*P			**Pn**	**15 08 52.3**	**+0.4**
FCH				*i* S			**Sn**	**15 09 06.3**	**+0.7**
FCH				IAML				15 09 07.3	
	comp=N,6μm,0.3s								
PEL	**Peldehue**	**0.87**	**336**	*i* P			**Pn**	**15 08 54.2**	**+0.5**
PEL				*i* S			**Sn**	**15 09 09.4**	**+0.5**
PEL				IAML				15 09 10.7	
	comp=N,8μm,0.5s								
PEL	**Peldehue**	**0.87**	**336**				**Pn**	**15 08 54.2**	**+0.5**
PEL	**Peldehue**	**0.87**	**336**	*e*P			**Pn**	**15 08 54.3**	**+0.5**
PEL				*e*S			**Sn**	**15 09 09.6**	**+0.7**
ROC1	**El Roble**	**1.15**	**327**				**Pn**	**15 08 57.1**	**+0.2**
ROC1	**El Roble**	**1.15**	**327**	*e*P			**Pn**	**15 08 57.2**	**+0.3**
ROC1				*e*S			**Sn**	**15 09 14.4**	**+0.1**
ROCH	**El Roble**	**1.15**	**327**	*i* P			**Pn**	**15 08 57.0**	**+0.2**
ROCH				*i* S			**Sn**	**15 09 14.6**	**+0.3**
ROCH				IAML				15 09 18.2	
	comp=E,8μm,0.5s								
COIS	**El Sosneado**	**1.29**	**155**	*i* P			**Pn**	**15 08 58.4**	**+0.1**
VA01	**Torpederas**	**1.47**	**308**	*e*P			**Pn**	**15 09 00.7**	**+0.5**
VA01				*e*S			**Sn**	**15 09 21.0**	**+0.6**
VA01				IAML				15 09 24.9	
	comp=E,5μm,0.3s								
AAGR	**Agrelo**	**1.48**	**55**	*i* P			**Pn**	**15 09 01.0**	**+0.6**
AAGR				IAML				15 09 29.7	
	comp=Z,297nm,0.5s								
ARCO	**CERRO ARCO**	**1.57**	**46**	*i* P			**Pn**	**15 09 02.0**	**+0.5**
ARCO				IAML				15 09 25.8	
	comp=Z,236nm,0.4s								
GO05	**Huala**	**1.74**	**232**	*e*P			**Pn**	**15 09 03.4**	**-0.1**
GO05				*i* S			**Sn**	**15 09 25.7**	**-0.6**
GO05				IAML				15 09 29.0	
	comp=E,2μm,0.5s								
GO05	**Huala**	**1.74**	**232**				**Pn**	**15 09 03.3**	**-0.1**
ASAL	**Salagasta**	**1.80**	**42**	*i* P			**Pn**	**15 09 05.2**	**+0.8**
ASAL				*e*S			**Sn**	**15 09 31.3**	**+3.5**
ASAL				IAML				15 09 41.5	
	comp=Z,170nm,0.5s								
EDS3	**Malargue**	**1.96**	**159**	*i* P			**Pn**	**15 09 07.1**	**+0.7**
ZON	**Zonda**	**2.74**	**30**	*i* P			**Pn**	**15 09 15.3**	**-1.1**
ZON				*e*S			**Sn**	**15 09 49.8**	**+0.7**
	comp=Z,159nm,0.3s								
CO02	**Combarbal**	**2.80**	**347**	*e*P			**Pn**	**15 09 16.9**	**-0.3**
CO02				*i* S			**Sn**	**15 09 50.3**	**-0.3**
RTLL	**Cerro Villicun**	**3.01**	**31**	*i* P			**Pn**	**15 09 20.0**	**+0.1**
RTLL				*e*S			**Sn**	**15 09 55.2**	**-0.4**
RTLL				IAML				15 09 57.3	
	comp=Z,400nm,0.5s								
ACAN	**Cantantal**	**3.07**	**58**	*i* P			**Pn**	**15 09 21.0**	**+0.2**
ACAN				IAML				15 10 11.0	
	comp=Z,67nm,0.5s								
AMOG	**MOGNA**	**3.35**	**27**	*i* P			**Pn**	**15 09 24.9**	**+0.4**
AMOG				*e*S			**Sn**	**15 10 03.6**	**0.0**
AMOG				IAML				15 10 05.3	
	comp=Z,303nm,0.4s								
ACCO	**Cerro Coronel**	**3.49**	**17**	*i* P			**Pn**	**15 09 27.2**	**+0.5**
ACCO				*e*S			**Sn**	**15 10 08.7**	**+1.2**
TCA	**Tanti**	**5.45**	**63**	*e*P			**Pn**	**15 09 51.1**	**-1.5**
TCA				*i* P				15 09 51.2	
TCA				IAML				15 11 25.1	
	comp=Z,39nm,2.0s								
VCA	**Vinchina**	**5.48**	**19**	*i* P			**Pn**	**15 09 52.4**	**-0.7**
GO06	**Curarrehue**	**5.72**	**189**				**Pn**	**15 09 55.4**	**-0.8**
GO03	**Copiap**	**6.33**	**0**				**Pn**	**15 10 02.9**	**-1.7**
CYA	**Choya**	**6.68**	**36**	*i* P			**Pn**	**15 10 06.0**	**-3.4**
CYA				IAML				15 11 24.3	
	comp=Z,20nm,0.5s								
PLCA	**Paso Flores**	**6.79**	**182**	P			**Pn**	**15 10 11.3**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=23,slow=11,SNR=11								
PLCA	**Paso Flores**	**6.79**	**182**	Pn			**Pn**	**15 10 10.9**	**+0.2**
PLCA	**Paso Flores**	**6.79**	**182**	*i* P			**Pn**	**15 10 12.0**	**+1.3**
GO02	**Mina Guanaco**	**8.77**	**4**				**Pn**	**15 10 33.6**	**-4.3**
PB14	**IPOC Station P**	**9.28**	**359**	*i* P			Pn	15 10 39.8	-5.0
PB10	**IPOC Station P**	**10.39**	**359**	Pn			**Pn**	**15 10 56.4**	**-3.2**
LVC	**Limon Verde**	**11.35**	**6**	P			**Pn**	**15 11 08.4**	**-4.5**
	comp=Z,0.3nm,0.3s,baz=204,slow=10.0,SNR=4.5								
LVC				S			Sn	15 13 05.9	-12
	comp=Z,0.1nm,0.3s,baz=232,slow=18,SNR=2.3								
LVC	**Limon Verde**	**11.35**	**6**	Pn			**Pn**	**15 11 08.8**	**-4.1**
PB09	**IPOC Station P**	**12.13**	**5**	*i* P			Pn	**15 11 19.8**	**-3.2**
CPUP	**Villa Florida**	**13.52**	**59**	P			**Pn**	**15 11 40.7**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=222,slow=15,SNR=3.0								
CPUP	**Villa Florida**	**13.52**	**59**	P			**Pn**	**15 11 41.3**	**+0.4**
PB11	**IPOC Station P**	**14.13**	**2**				**Pn**	**15 11 46.0**	**-3.1**
PB11				P			**P**	**15 11 54.3**	**+1.1**
GO01	**Chusmiza**	**14.25**	**4**				**Pn**	**15 11 50.2**	**-0.6**
MNMC	**Minye Minye**	**14.76**	**3**				**Pn**	**15 11 56.0**	**-1.2**
GO09	**Cerro Castillo**	**17.39**	**184**	P			Pn	**15 12 29.0**	**-0.1**
GO09				IAmb		IAmb		15 12 29.9	
	comp=Z,24nm,1.1s								
LPAZ	**La Paz**	**17.68**	**7**	P			**Pn**	**15 12 34.1**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=189,slow=6.6,SNR=28								
LPAZ	**La Paz**	**17.68**	**7**	P			**P**	**15 12 32.6**	**-0.3**
SIV	**San Ignacio**	**19.70**	**27**	P			**P**	**15 12 53.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=228,slow=14,SNR=12								
EFI	**East Falkland**	**19.81**	**157**	P			**P**	**15 12 54.1**	**-1.1**
EFI				IAmb		IAmb		15 13 28.6	
	comp=Z,23nm,1.0s								
USHA	**Ushuaia**	**20.93**	**177**	P			**P**	**15 13 08.5**	**+1.3**
	comp=Z,26nm,0.8s,baz=24,slow=9.0,SNR=9.4								
NNA	**Nana**	**22.66**	**343**	P			**P**	**15 13 26.8**	**+1.1**
BDFB	**Brasilia**	**27.10**	**53**	P			**P**	**15 14 04.8**	**-1.5**
	comp=Z,4.9nm,0.4s,baz=228,slow=10,SNR=14								
BDFB	**Brasilia**	**27.10**	**53**	P			**P**	**15 14 04.2**	**-2.1**
BDFB				IAmb		IAmb		15 14 05.9	
	comp=Z,8.7nm,0.8s								
PMSA	**Palmer Station**	**31.10**	**175**	P			**P**	**15 14 38.7**	**-2.3**
PMSA				IAmb		IAmb		15 15 40.1	
	comp=Z,34nm,1.1s								
HOPE	**Hope Point**	**31.20**	**141**	P			**P**	**15 14 41.8**	**-0.3**
HOPE				IAmb		IAmb		15 15 06.3	
	comp=Z,18nm,1.1s								
BBGH	**Gun Hill**	**47.92**	**14**	P			**P**	**15 17 02.4**	**+1.6**
VNA2	**Neumayer--Watz**	**49.50**	**157**	P			**P**	**15 17 12.7**	**+0.4**
	baz=286,slow=8.7								
SNAA	**Sanae**	**51.09**	**158**	P			**P**	**15 17 24.4**	**0.0**
	comp=Z,3.4nm,0.3s,baz=297,slow=8.6,SNR=12								
SNAA	**Sanae**	**51.09**	**158**	P			**P**	**15 17 24.4**	**0.0**
SNAA				IAmb		IAmb		15 17 25.6	
	comp=Z,9.7nm,0.9s								
LGNH	**Logne**	**52.20**	**357**	P			**P**	**15 17 32.3**	**-0.8**
QSPA	**South Pole Qui**	**56.30**	**180**	P			**P**	**15 18 03.6**	**+1.1**
	comp=Z,4.1nm,0.8s,baz=164,slow=1.7,SNR=27								
QSPA	**South Pole Qui**	**56.30**	**180**	P			**P**	**15 18 03.5**	**+1.0**
QSPA				IAmb		IAmb		15 18 04.6	
	comp=Z,9.2nm,1.1s								
TEIG	**Tepich**	**56.53**	**340**	P			**P**	**15 18 04.5**	**+0.2**
SYO	**Syowa Base**	**65.38**	**158**	*e*pP			pP	15 19 26.0	-6.3
TX32	**Lajitas Array**	**70.42**	**329**	P			**P**	**15 19 36.7**	**+0.9**
TXAR	**Lajitas Array**	**70.42**	**329**	P			**P**	**15 19 36.8**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=162,slow=9.2,SNR=20								
TXAR				pP			**pP**	**15 20 04.1**	**0.0**
	comp=Z,0.6nm,0.7s,baz=156,slow=8.2,SNR=3.8								
TX31	**Lajitas Ar. Si**	**70.42**	**329**	P			**P**	**15 19 36.8**	**+0.9**
WVT	**

M_o3.84000×10^{17} NP1:ϕ_s194.32000°,δ34.66000°, λ98.43000°. NP2:ϕ_s4.10000°,δ55.77000°,λ84.21000°. Principal axes: T 3.7829, Plg78.0000°, Azm253.0000°; N 0.1145, Plg5.0000°, Azm7.0000°; P -3.8973, Plg11.0000°, Azm98.0000°;

DJA ***29*** *15:37:39.2±0.2, 1°N±2°×12°6E±°, h47km±2km, M5.6/112, mB6.0/93, mb5.7/112, MLv5.8/19, Mw(mB)5.6/93, Mwp5.7/51*

GCMT ***29*** *15:37:40.1±0.1, 1°.41N±0°.01×126°.33E±0°.01, h29km, MW5.8/151, Moment Tensor Solution. s151,c296; s151,c304; Duration: 1§8 Moment tensor: Scale 10^{17} Nm; M_{rr}4.85±.06; $M_{\theta\theta}$-1.17±.04; $M_{\phi\phi}$-3.68±.05; $M_{r\theta}$-1.11±.09; $M_{\theta\phi}$-2.63±.04; $M_{\phi r}$1.01±.09; Best double couple: M_o5.32800×10^{17} NP1:ϕ_s16.00000°,δ49.00000°, λ67.00000°. NP2:ϕ_s229.00000°,δ46.00000°,λ114.00000°. Principal axes: T 5.3090, Plg73.0000°, Azm217.0000°; N 0.0370, Plg17.0000°, Azm31.0000°; P -5.3460, Plg2.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***29*** *15:37:41, 1°.41N×126°.39E, h36km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}4.29; $M_{\theta\theta}$-1.36; $M_{\phi\phi}$-2.94; $M_{r\theta}$1.54; $M_{\theta\phi}$-1.36; $M_{\phi r}$1.70; Fault plane solution: M_w4.64000×10^{17} NP1:ϕ_s206.00000°, δ30.00000°,λ81.00000°. NP2:ϕ_s35.00000°,δ60.00000°, λ95.00000°. Principal axes: T 4.9190, Plg75.0000°, Azm319.0000°; N -0.6100, Plg4.0000°, Azm213.0000°; P -4.3090, Plg15.0000°, Azm122.0000°;*

NEIC ***29*** *15:37:41, 1°.42N×126°.37E, h28km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}4.61; $M_{\theta\theta}$-0.93; $M_{\phi\phi}$-3.68; $M_{r\theta}$-0.43; $M_{\theta\phi}$-2.75; $M_{\phi r}$1.15; Fault plane solution: M_o5.19000×10^{17} NP1:ϕ_s225.00000°, δ42.00000°,λ110.00000°. NP2:ϕ_s19.00000°,δ51.00000°, λ73.00000°. Principal axes: T 4.8937, Plg76.0000°, Azm229.0000°; N 0.5430, Plg13.0000°, Azm30.0000°; P -5.4367, Plg4.0000°, Azm121.0000°;*

ISC 29 15:37:37.1±0.4, 1°.31N±0°.03×126°.20E±0°.03, h34km±1km, h34km:pP-P,n1533,c_1§50/1574,mb5.6/252,MS5.2/144, 57C-29D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.28**	**115**	P			**Pn**	**15 37 57.1**	**-1.5**
TNTI				S			**Sn**	**15 38 14.2**	**-0.5**
TNTI	**Ternate**	**1.28**	**115**				**Pn**	**15 37 57.3**	**-1.4**
MNI	**Manado**	**1.37**	**275**	P			**Pb**	**15 38 01.8**	**-0.4**
LBMI	**Labuha**	**2.33**	**146**	P			**Pn**	**15 38 13.4**	**+0.3**
KMSI	**Cibinong**	**2.34**	**252**	P			**Pb**	**15 38 16.3**	**-2.4**
KMSI				S			**Sb**	**15 38 46.4**	**-0.8**
SANI	**Sanana**	**3.35**	**184**	P			**Pn**	**15 38 28.5**	**+1.4**
SANI				S			**Sn**	**15 39 07.7**	**+2.0**
LUWI	**Luwuk**	**4.15**	**236**	P			**Pn**	**15 38 42.4**	**+4.2**
LUWI	**Luwuk**	**4.15**	**236**				**Pn**	**15 38 41.7**	**+3.5**
MRSI	**Marisa**	**4.34**	**259**	P			**Pn**	**15 38 44.2**	**+3.4**
NLAI	**Namlea**	**4.61**	**169**	P			**Pn**	**15 38 46.3**	**+1.8**
NLAI				S			**Sn**	**15 39 39.8**	**+3.0**
APSI	**Ampana**	**5.06**	**244**	P			Pn	15 38 55.5	+4.8
	11μm,1.1s,66μm22μm31nm								
AAI	**Ambon**	**5.35**	**158**	P			**Pn**	**15 38 57.5**	**+2.9**
AAI					pmax	pmax			
	comp=Z,875nm,0.7s								
AAI	**Ambon**	**5.35**	**158**	P			**Pn**	**15 38 56.6**	**+1.9**
	comp=Z,883nm,0.5s,comp=Z,12μmcomp=Z,47μmcomp=Z,4.6nm								
MSAI	**Masohi**	**5.37**	**150**	P			**Pn**	**15 38 58.0**	**+3.1**
	comp=Z,372nm,0.9s,comp=Z,6μmcomp=Z,23μmcomp=Z,1.4nm								
SWI	**Sorong**	**5.50**	**113**	P			**Pn**	**15 38 57.2**	**+0.5**
SWI					pmax	pmax			
	comp=Z,552nm,0.7s								
SWI	**Sorong**	**5.50**	**113**	P			**Pn**	**15 38 56.9**	**+0.2**
	comp=Z,557nm,0.7s,comp=Z,11μmcomp=Z,70μmcomp=Z,2.1nm								
SIJI	**Sorong**	**5.51**	**113**	Pn			**Pn**	**15 38 57.1**	**+0.3**
	comp=Z,35nm,0.3s,baz=307,slow=8.8,SNR=134								
SIJI					LR		LR	15 41 37.0	
	comp=Z,41μm,18.0s,baz=302,slow=44								
DAV	**Davao City (W)**	**5.75**	**354**	Pn			**Pn**	**15 39 01.8**	**+1.6**
	comp=Z,82nm,0.3s,baz=91,slow=1.9,SNR=12								
DAV					Sn		**Sn**	**15 40 10.5**	**+5.4**
	comp=Z,45nm,0.3s,baz=338,slow=18,SNR=1.9								
DAV					LR		LR	15 41 26.2	
	comp=Z,18μm,19.5s,baz=202,slow=41								
DAV	**Davao City (W)**	**5.75**	**354**	P			**Pn**	**15 39 01.8**	**+1.6**
DAV	**Davao City (W)**	**5.75**	**354**				**Pn**	**15 39 03.7**	**+3.4**
KCP	**Kidapawan**	**5.77**	**349**	⇓P			**Pn**	**15 39 04.0**	**+3.5**
CTBH	**Cotabato--PC H**	**6.19**	**342**	⇑P			**Pn**	**15 39 08.2**	**+2.1**
MPSI	**Mapaga**	**6.38**	**261**	P			**Pn**	**15 39 12.9**	**+4.1**
	comp=Z,746nm,1.3s,comp=Z,14μmcomp=Z,72μmcomp=Z,4.4nm								
BNDI	**Bandanaira**	**6.88**	**147**	P			**Pn**	**15 39 16.7**	**+1.1**
	comp=Z,989nm,1.1s,comp=Z,18μmcomp=Z,51μmcomp=Z,4.9nm								
ZCP	**Zamboanga City**	**6.94**	**324**	⇓P			**Pn**	**15 39 17.3**	**+0.9**
ZCP					S		**Sn**	**15 40 32.1**	**-2.2**
CGP	**Cagayan de Oro**	**7.25**	**348**	⇓P			**Pn**	**15 39 25.1**	**+4.3**
FAKI	**Fak Fak**	**7.36**	**125**	P			**Pn**	**15 39 22.8**	**+0.5**
	comp=Z,952nm,0.7s,comp=Z,13μmcomp=Z,44μmcomp=Z,3.1nm								
FAKI	**Fak Fak**	**7.36**	**125**				**Pn**	**15 39 22.5**	**+0.2**
BBSI	**Bau Bau**	**7.67**	**208**	P			**Pn**	**15 39 30.2**	**+3.7**
	comp=Z,433nm,0.9s,comp=Z,4μmcomp=Z,1.3nm								
TTSI	**Tana Toraja**	**7.71**	**236**	P			**Pn**	**15 39 30.2**	**+3.1**
	comp=Z,2μm,1.1s,comp=Z,22μmcomp=Z,20μmcomp=Z,7.4nm								
SPSI	**Sidrap Palu**	**8.30**	**231**	P			**Pn**	**15 39 39.6**	**+4.5**
	comp=Z,806nm,0.6s,comp=Z,10μmcomp=Z,17μm								
BNSI	**Bone**	**8.33**	**227**	P			**Pn**	**15 39 38.9**	**+3.4**
	comp=Z,1μm,1.2s,comp=Z,11μm								
RKPI	**Ransiki, Papua**	**8.45**	**109**	P			**Pn**	**15 39 40.1**	**+2.8**
	comp=Z,567nm,0.7s,comp=Z,6μmcomp=Z,52μm								
BKSI	**Bulukumba**	**8.96**	**223**	P			**Pn**	**15 39 48.0**	**+3.7**
	comp=Z,471nm,0.6s,comp=Z,10μmcomp=Z,12μm								
KMPI	**Kaimana, Papua**	**8.98**	**123**	P			**Pn**	**15 39 45.9**	**+1.4**
	comp=Z,963nm,1.1s,comp=Z,14μm								
SMKI	**Samarinda**	**9.16**	**259**	P			Pn	15 39 53.7	+6.7
	comp=Z,392nm,0.8s,comp=Z,7μmcomp=Z,38μm								
LLP	**Lapu-Lapu**	**9.22**	**346**	⇑P			Pn	15 39 52.9	+5.1
LLP				S			Sn	15 41 48.2	+18
BKB	**Balikpapan**	**9.65**	**255**	P			**Pn**	**15 39 57.5**	**+3.8**
	comp=Z,665nm,1.3s,comp=Z,8μmcomp=Z,33μm								
BKB	**Balikpapan**	**9.65**	**255**				**Pn**	**15 39 56.7**	**+2.9**
SAUI	**Saumlaki**	**10.54**	**151**	P			**Pn**	**15 40 07.6**	**+1.7**
	comp=Z,360nm,0.8s,comp=Z,6μmcomp=Z,24μm								
SAUI	**Saumlaki**	**10.54**	**151**				**Pn**	**15 40 06.3**	**+0.4**
MMRI	**Maumere**	**10.64**	**202**	P			**Pn**	**15 40 10.5**	**+3.2**
	comp=Z,314nm,1.3s,comp=Z,6μmcomp=Z,9μm								
MMRI	**Maumere**	**10.64**	**202**				**Pn**	**15 40 09.6**	**+2.3**
RCP	**Roxas**	**10.74**	**342**	⇓P			**Pn**	**15 40 13.1**	**+4.4**
KKM	**Kota Kinabalu**	**11.02**	**296**				**Pn**	**15 40 15.7**	**+3.1**
KBKI	**Kotabaru**	**11.03**	**245**	P			**Pn**	**15 40 17.0**	**+4.4**
	comp=Z,190nm,1.2s,comp=Z,2μm								
SOEI	**Soe**	**11.16**	**190**	P			Pn	15 40 21.0	+6.4
	comp=Z,1μm,0.9s,comp=Z,13μmcomp=Z,13μm								
SOEI	**Soe**	**11.16**	**190**	Pn			**Pn**	**15 40 13.1**	**-1.4**
BATI	**Baumata**	**11.72**	**192**	Pn			**Pn**	**15 40 25.8**	**+3.7**
	comp=Z,2.4nm,0.3s,baz=27,slow=2.3,SNR=3.0								
WSI	**Waingapu**	**12.39**	**208**	P			**Pn**	**15 40 34.3**	**+3.0**
	comp=Z,604nm,0.5s,comp=Z,13μm								
SMPI	**Sarmi**	**12.93**	**105**	P			**Pn**	**15 40 40.4**	**+1.8**
	comp=Z,194nm,1.2s,comp=Z,10μm								
GQP	**Guinayangan**	**13.05**	**344**	⇑P			**P**	**15 40 47.8**	**-2.4**
PLAI	**Plampang**	**13.12**	**220**	P			**P**	**15 40 48.3**	**-2.6**
	comp=Z,1μm,0.9s,comp=Z,11μmcomp=Z,9μm								
TWSI	**Taliwang, Sumb**	**13.64**	**223**	P			**P**	**15 40 56.6**	**-0.1**
SBUM	**Sibu**	**14.02**	**275**	Pn			**Pn**	**15 40 54.4**	**+0.8**
SRBI	**Singaraja**	**14.40**	**229**	P			**P**	**15 41 03.8**	**-1.3**
	comp=Z,378nm,0.9s,comp=Z,7μmcomp=Z,9μm								
GENI	**Genyem**	**14.49**	**106**	P			**Pn**	**15 41 01.3**	**+1.4**
	comp=Z,453nm,1.5s,comp=Z,11μmcomp=Z,19μm								
KMMI	**Kalianget**	**14.77**	**236**	P			**P**	**15 41 10.0**	**+0.7**
	comp=Z,464nm,0.8s,comp=Z,6μm								
STKI	**Sintang**	**14.78**	**265**	P			**P**	**15 41 08.0**	**-1.4**
	comp=Z,496nm,1.8s,comp=Z,12μm								
DNP	**Denpasar**	**14.78**	**228**	P			**P**	**15 41 09.7**	**+0.3**
DNP					pmax	pmax			
	comp=Z,2μm,2.0s								
DNP	**Denpasar**	**14.78**	**228**	P			**P**	**15 41 12.1**	**+2.7**
MTN	**Manton Dam**	**14.89**	**161**	P			**Pn**	**15 41 04.8**	**-0.5**
	baz=15,SNR=35								
MTN	**Manton Dam**	**14.89**	**161**				**Pn**	**15 41 03.8**	**-1.6**
IGBI	**Denpasar**	**14.92**	**227**	P			**P**	**15 41 13.6**	**+2.6**
	comp=Z,708nm,1.0s,comp=Z,14μm								
JAY	**Jayapura**	**14.99**	**105**	Pn			**P**	**15 41 09.3**	**-2.4**
	comp=Z,2.8nm,0.3s,baz=289,slow=6.9,SNR=7.4								
JAY					LR		LR	15 46 48.2	
	comp=Z,9μm,19.9s,baz=279,slow=37								
KDU	**Kakadu**	**15.24**	**156**	P			**Pn**	**15 41 07.7**	**-2.2**
	baz=15,SNR=70								
JAGI	**Jajag, Banyuwa**	**15.45**	**231**	P			**P**	**15 41 19.1**	**+2.2**
	comp=Z,599nm,1.5s,comp=Z,11μmcomp=Z,8μm								
JAGI	**Jajag, Banyuwa**	**15.45**	**231**	Pn			**Pn**	**15 41 13.4**	**+0.7**
GMJI	**Gumukmas**	**15.89**	**233**	P			**P**	**15 41 23.3**	**+1.6**
	comp=Z,786nm,1.4s,comp=Z,11μmcomp=Z,8μm								
KSM	**Kuching**	**15.89**	**271**	P			**P**	**15 41 23.9**	**+2.1**
KSM					IAmb	IAmb		15 41 32.6	
	comp=Z,957nm,1.2s								
GRJI	**Gresik**	**15.95**	**239**	P			**P**	**15 41 25.4**	**+3.0**
	comp=Z,277nm,1.1s,comp=Z,2μm								
TBJI	**Tambak Boyo**	**16.45**	**240**	P			**P**	**15 41 32.4**	**+4.5**
	comp=Z,649nm,1.2s,comp=Z,6μmcomp=Z,5μm								
NGJI	**Ngawi**	**17.05**	**239**	P			**P**	**15 41 39.0**	**+4.4**
	comp=Z,504nm,1.1s,comp=Z,9μmcomp=Z,17μm								
KNRA	**Kununurra**	**17.07**	**172**	P			**Pn**	**15 41 33.8**	**+0.5**
	baz=17,SNR=234								
KNRA	**Kununurra**	**17.07**	**172**	P			**Pn**	**15 41 33.4**	**+0.1**
PWJI	**Pagerwojo**	**17.09**	**237**	P			**P**	**15 41 37.0**	**+1.9**
	comp=Z,600nm,1.2s,comp=Z,7μmcomp=Z,8μm								
MMPI	**Merauke**	**17.15**	**125**	P			**Pn**	**15 41 33.7**	**-0.7**
	comp=Z,880nm,0.6s,comp=Z,15μmcomp=Z,11μm								
PCJI	**Pacitan**	**17.71**	**238**	P			**P**	**15 41 45.2**	**+3.3**
	comp=Z,525nm,1.2s,comp=Z,10μmcomp=Z,11μm								
WOJI	**Wonogiri, Jawa**	**17.74**	**239**	P			**P**	**15 41 46.5**	**+4.2**
	comp=Z,240nm,1.2s,comp=Z,4μmcomp=Z,5μm								
SMRI	**Semarang**	**17.79**	**242**	P			**Pn**	**15 41 42.8**	**+0.5**
UGM	**Wanagama**	**18.12**	**239**	P			**P**	**15 41 51.6**	**+5.1**
	comp=Z,361nm,1.5s,comp=Z,9μmcomp=Z,11μm								
UGM	**Wanagama**	**18.12**	**239**	P			**P**	**15 41 47.5**	**+0.9**
UGM					IAmb	IAmb		15 42 13.9	
	comp=Z,851nm,1.4s								
YOGI	**Yogyakarta**	**18.27**	**240**	P			**Pn**	**15 41 52.5**	**+4.2**
	comp=Z,328nm,0.8s,comp=Z,5μmcomp=Z,5μm								
TPI	**Tanjungpandan**	**18.98**	**258**	P			**Pn**	**15 41 59.7**	**+2.9**
	comp=Z,87nm,1.1s,comp=Z,2μmcomp=Z,9μm								
KPJI	**Karang Pucung**	**19.25**	**243**	P			**Pn**	**15 41 59.9**	**-0.2**
	comp=Z,469nm,1.0s,comp=Z,4μmcomp=Z,9μm								
FITZ	**Fitzroy Crossi**	**19.30**	**182**	P			**P**	**15 41 59.2**	**-0.1**
	baz=20,SNR=269								
FITZ	**Fitzroy Crossi**	**19.30**	**182**	P			**P**	**15 41 59.5**	**+0.1**
	comp=Z,20nm,0.3s,baz=1.1,slow=8.6,SNR=363								
FITZ	**Fitzroy Crossi**	**19.30**	**182**				**P**	**15 41 59.3**	**0.0**
CISI	**Cimerak**	**19.88**	**243**	P			**P**	**15 42 06.4**	**+0.6**
	comp=Z,188nm,0.7s,comp=Z,4μm								
LEM	**Lembang**	**20.23**	**246**	P			**P**	**15 42 10.0**	**+0.2**
	comp=Z,49nm,0.8s,baz=52,slow=9.7,SNR=8.4								
LEM					LR	LR		15 51 57.4	
	comp=Z,6μm,18.5s,baz=61,slow=43								
CISI	**Cisompet, Garu**	**20.35**	**244**	P			**P**	**15 42 10.6**	**-0.3**
	comp=Z,319nm,0.7s,comp=Z,4μmcomp=Z,7μm								
CISI	**Cisompet, Garu**	**20.35**	**244**	P			**P**	**15 42 09.2**	**-1.8**
CISI					IAmb	IAmb		15 42 46.4	
	comp=Z,200nm,0.7s								
DLV	**T Lat**	**20.50**	**302**	P			**P**	**15 42 13.3**	**+0.6**
DLV					IAmb	IAmb		15 42 22.8	
	comp=Z,640nm,1.2s								
CBJI	**Citeko**	**20.79**	**248**	P			Pn	15 42 18.6	+0.4
	comp=Z,429nm,0.7s,comp=Z,7μm								
CNJI	**Cibinong**	**20.87**	**246**	P			**P**	**15 42 17.8**	**+1.3**
	comp=Z,342nm,0.9s,comp=Z,4μmcomp=Z,7μm								
DBJI	**Dramaga**	**20.93**	**248**	P			Pn	15 42 22.0	+2.1
	comp=Z,90nm,0.7s,comp=Z,3μm								
SKJI	**Sukabumi**	**21.28**	**247**	P			**P**	**15 42 24.5**	**+3.6**
	comp=Z,291nm,0.6s,comp=Z,6μmcomp=Z,6μm								
SBJI	**Serang**	**21.36**	**250**	P			**P**	**15 42 22.3**	**+0.5**
	comp=Z,178nm,1.1s,comp=Z,3μm								
TPRI	**Tanjung Pinang**	**21.68**	**269**	P			**P**	**15 42 31.9**	**+6.7**
PMBI	**Palembang**	**21.84**	**259**	P			**P**	**15 42 30.3**	**+3.4**
	comp=Z,415nm,1.1s,comp=Z,10μmcomp=Z,9μm								
PMBI	**Palembang**	**21.84**	**259**		IAMs_20	IAMs_20		15 51 37.7	
	comp=Z,11μm,21.0s								
TWG	**Pinlang**	**21.95**	**347**	P			**P**	**15 42 24.2**	**-3.8**
BLSI	**Bandar Lampung**	**21.96**	**252**	P			**P**	**15 42 31.7**	**+3.4**
	comp=Z,211nm,0.6s,comp=Z,7μm								
GUMO	**Guam**	**22.14**	**56**	P			**P**	**15 42 28.8**	**-1.3**
	comp=Z,137nm,0.7s,baz=184,slow=19,SNR=3.9								
GUMO	**Guam**	**22.14**	**56**	P			**P**	**15 42 27.8**	**-2.3**
GUMO					IAmb	IAmb		15 42 42.0	
	comp=Z,219nm,0.8s								
KLSI		**22.27**	**254**	P			**P**	**15 42 31.1**	**-0.5**
	comp=Z,76nm,1.4s,comp=Z,886nm								
MYKOM	**Kota Tinggi**	**22.35**	**272**	P			**P**	**15 42 35.0**	**+2.5**
MYKOM	**Kota Tinggi**	**22.35**	**272**	P			**P**	**15 42 33.3**	**+0.9**
MYKOM					IAmb	IAmb		15 42 39.3	
	comp=Z,389nm,1.2s								
YULB	**Yu-li**	**22.46**	**348**	P			**P**	**15 42 30.2**	**-3.4**
TPUB	**Ta-pu**	**22.52**	**347**	P			**P**	**15 42 31.5**	**-2.6**
TPUB					IAmb	IAmb		15 42 41.4	
	comp=Z,252nm,0.9s								
TPUB					IAMs_20	IAMs_20		15 52 04.3	
	comp=Z,9μm,21.0s								
WRAB	**Tennant Creek**	**22.57**	**160**	*ce*P			**P**	**15 42 33.4**	**-1.4**
WRAB					pmax	pmax			
	comp=Z,362nm,0.6s								
WRAB	**Tennant Creek**	**22.57**	**160**	P			**P**	**15 42 33.5**	**-1.3**
WRA	**Warramunga Arr**	**22.58**	**160**	P			**P**	**15 42 33.9**	**-0.9**
	comp=Z,444nm,0.6s,baz=338,slow=11,SNR=594								
WRA					PcP		**PcP**	**15 46 28.1**	**+0.5**
	comp=Z,17nm,0.6s,baz=311,slow=2.5,SNR=4.8								
WRA					S		**S**	**15 46 37.1**	**-3.3**
	comp=Z,30nm,1.0s,baz=343,slow=20,SNR=12								
WRA					PKiKP		**PKiKP**	**15 54 11.9**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=321,slow=1.4,SNR=4.2								
WRA					P3KPbc			16 16 04.3	
	comp=Z,0.3nm,0.7s,baz=152,slow=3.1,SNR=3.8								
COEN	**Coen**	**22.65**	**133**	P			**P**	**15 42 33.6**	**-2.0**
	baz=23,SNR=131								
COEN	**Coen**	**22.65**	**133**	P			**P**	**15 42 33.4**	**-2.2**
COEN					IAmb	IAmb		15 42 49.2	
	comp=Z,280nm,1.5s								
WR0	**Warramunga Arr**	**22.67**	**159**	P			**P**	**15 42 34.4**	**-1.3**
KASI	**Kota Agung**	**22.72**	**252**	P			**P**	**15 42 36.8**	**+0.4**
	comp=Z,242nm,1.2s,comp=Z,2μmcomp=Z,7μm								
MDSI	**Maura Dua**	**22.75**	**255**	P			**P**	**15 42 36.2**	**-0.5**
	comp=Z,156nm,1.1s,comp=Z,2μm								
SSLB	**Suanglung**	**22.91**	**348**	P			**P**	**15 42 35.5**	**-2.8**
SSLB					IAMs_20	IAMs_20		15 52 43.8	
	comp=Z,9μm,20.0s								
LWLI	**Liwa**	**23.00**	**254**	P			**P**	**15 42 45.5**	**+6.1**
NACB	**Ninganchiao**	**23.16**	**349**	P			**P**	**15 42 38.1**	**-2.6**
YOJ	**Yonaguni jima**	**23.22**	**353**	P			**P**	**15 42 42.1**	**+0.7**
YOJ					pmax	pmax			
	comp=Z,225nm,1.0s								
YOJ	**Yonaguni jima**	**23.22**	**353**	P			**P**	**15 42 42.1**	**+0.7**
YOJ					IAmb	IAmb		15 43 10.0	
	comp=Z,225nm,1.0s								
PMG	**Port Moresby**	**23.43**	**117**	*di*P			**P**	**15 42 43.4**	**-0.2**
PMG					pmax	pmax			
	comp=Z,237nm,0.7s								
PMG	**Port Moresby**	**23.43**	**117**	P			**P**	**15 42 43.6**	**0.0**
	comp=Z,64nm,0.8s,baz=316,slow=9.9,SNR=40								
PMG					LR	LR		15 54 28.3	
	comp=Z,9μm,19.5s,baz=323,slow=43								
PMG	**Port Moresby**	**23.43**	**117**	P			**P**	**15 42 42.9**	**-0.7**
PSA00	**Pilbara Seismi**	**23.58**	**195**	P			**P**	**15 42 44.3**	**-0.6**
YHNB	**Yeheng**	**23.68**	**349**	P			**P**	**15 42 44.0**	**-1.9**
YHNB					IAmb	IAmb		15 42 50.6	
	comp=Z,254nm,1.2s								
YHNB					IAMs_20	IAMs_20		15 52 53.2	
	comp=Z,10μm,21.0s								
QIZ	**Qiongzhong**	**23.82**	**319**	P			**P**	**15 42 47.3**	**+0.1**
QIZ					pmax	pmax			
	comp=Z,1μm,3.7s								
QIZ					LR	LR			
	comp=Z,5μm,19.0s								
QIZ					LR	LR			
	comp=Z,4μm,18.1s								
QIZ					LR	LR			
	comp=Z,7μm,21.1s								
QIZ	**Qiongzhong**	**23.82**	**319**	P			**P**	**15 42 47.2**	**0.0**
QIZ	**Qiongzhong**	**23.82**	**319**	IAMs_20	IAMs_20			15 51 04.5	
	comp=Z,10μm,21.0s								
JRMM	**Jerantut**	**23.84**	**277**	P			**P**	**15 42 49.0**	**+1.5**
MNAI	**Manna**	**23.90**	**256**	P			**P**	**15 42 48.0**	**-0.1**
MNAI					IAMs_20	IAMs_20		15 53 24.7	
	comp=Z,11μm,21.0s								
HKPS	**Hong Kong Po S**	**23.92**	**331**	P			**P**	**15 42 48.4**	**+0.2**
TATO	**Taipei**	**23.96**	**349**	P			**P**	**15 42 47.8**	**-0.7**
TATO					IAmb	IAmb		15 43 30.7	
	comp=Z,193nm,1.2s								
TATO					IAMs_20	IAMs_20		15 53 34.5	
	comp=Z,7μm,20.0s								
KSI	**Kapahiang**	**24.11**	**258**	P			**P**	**15 42 50.6**	**+0.5**
KSI					pmax	pmax			
	comp=Z,173nm,0.7s								
KSI	**Kapahiang**	**24.11**	**258**	P			**P**	**15 42 53.4**	**+3.3**
	comp=Z,174nm,0.7s,comp=Z,14μm								
KNMB	**Chin-men Tao**	**24.23**	**342**	P			**P**	**15 42 51.1**	**+0.2**
QZH	**Quanzhou**	**24.62**	**343**	P			**P**	**15 42 53.8**	**-0.7**
QZH					S		**S**	**15 47 10.0**	**-3.7**
QZH					pmax	pmax			
	comp=Z,65nm,0.8s								
QZH					pmax	pmax			
	comp=Z,1μm,3.0s								
QZH					LR	LR			
	comp=Z,4μm,20.8s								
QZH					LR	LR			
	comp=Z,5μm,21.3s								
SDSI	**Sungai Dareh**	**24.87**	**265**	P			**P**	**15 42 58.9**	**+1.9**
	comp=Z,257nm,1.0s,comp=Z,4μm								
KRJI	**Kerinci**	**24.97**	**262**	P			**P**	**15 43 01.1**	**+3.1**
	comp=Z,834nm,1.0s,comp=Z,14μm								
BKNI	**Bangkinang**	**25.18**	**268**	P			**P**	**15 43 00.6**	**+0.8**
	comp=Z,418nm,1.1s,comp=Z,4μmcomp=Z,7μm								
BKNI	**Bangkinang**	**25.18**	**268**	P			**P**	**15 42 59.2**	**-0.6**
BKNI					IAmb	IAmb		15 43 08.2	
	comp=Z,256nm,0.8s								
BKNI					IAMs_20	IAMs_20		15 53 55.7	
	comp=Z,9μm,22.0s								
IPM	**Ipoh**	**25.34**	**278**	P			**P**	**15 43 02.0**	**+0.8**
IPM	**Ipoh**	**25.34**	**278**	P			**P**	**15 43 01.0**	**-0.3**
IPM					IAmb	IAmb		15 43 10.0	
	comp=Z,106nm,0.7s								
IPM							**PcP**	**15 46 35.0**	**+1.3**
QIS	**Mount Isa**	**25.39**	**150**	P			**P**	**15 43 01.4**	**-0.2**
	baz=26,SNR=180								
JOW	**Kunigami**	**25.45**	**4**	P			**P**	**15 43 03.0**	**+1.0**
	comp=Z,41nm,0.8s,baz=173,slow=13,SNR=51								
JOW	**Kunigami**	**25.45**	**4**	P			**P**	**15 43 01.6**	**-0.4**
JOW					IAmb	IAmb		15 43 05.2	
	comp=Z,226nm,0.7s								
KULM	**Kulim**	**25.81**	**279**	P			**P**	**15 43 06.0**	**+0.5**
KULM	**Kulim**	**25.81**	**279**	P			**P**	**15 43 05.2**	**-0.3**
KULM					IAmb	IAmb		15 43 35.2	
	comp=Z,389nm,1.5s								
PDSI	**Padang**	**25.84**	**265**	P			**P**	**15 43 07.3**	**+1.5**
	comp=Z,108nm,0.8s,comp=Z,1μm								
AS31	**Alice Springs**	**25.93**	**164**	P			**P**	**15 43 06.0**	**-0.5**
ASAR	**Alice Springs**	**25.93**	**164**	P			**P**	**15 43

CM31 Chiang Mai Arr 31.71 304 P **P** **15 44 01.9 +3.9**
SNR=11
CM31 Chiang Mai Arr 31.71 304 P **P** **15 43 57.7 -0.3**
CMAR Chiang Mai Arr 31.71 304 P **P** **15 43 58.6 +0.6**
comp=Z,15nm,0.8s,baz=138,slow=8.3,SNR=47
CMAR PcP **PcP** **15 46 51.2 +1.8**
comp=Z,9.7nm,0.8s,baz=159,slow=1.9,SNR=11
CMAR ScP **ScP** **15 50 33.1 +2.7**
comp=Z,2.2nm,1.0s,baz=146,slow=2.4,SNR=4.3
CMAR PKiKP **PKiKP** **15 54 18.2 -0.4**
comp=Z,1.3nm,0.6s,baz=258,slow=1.1,SNR=9.9
CMAR LR LR 15 56 59.2
comp=Z,3μm,20.3s,baz=106,slow=37
MORW Morawa 31.74 197 P **P** **15 43 58.6 +0.5**
baz=32,SNR=17
MORW Morawa 31.74 197 P **P** **15 43 58.0 -0.1**
CMMT Chiang Mai 31.88 305 P **P** **15 43 59.5 -0.1**
comp=Z,20nm,0.6s
CHTO Chiang Mai 31.89 305 P **P** **15 43 58.9 -0.7**
CHTO pmax pmax
comp=Z,28nm,0.7s
CHTO MLR MLR
comp=Z,4μm,20.0s
CHTO Chiang Mai 31.89 305 P **P** **15 43 58.9 -0.7**
JNU Nakatsue 31.95 7 P **P** **15 43 59.0 -0.9**
JNU IAmb IAmb 15 44 01.9
comp=Z,138nm,0.8s
FORT Forrest 31.96 177 P **P** **15 44 00.3 +0.2**
baz=32,SNR=182
FORT Forrest 31.96 177 P **P** **15 44 00.3 +0.2**
QLP Quilpie 32.74 149 P **P** **15 44 06.5 -0.4**
baz=33,SNR=14
KMBL Kambalda 32.76 187 P **P** **15 44 07.4 +0.3**
baz=33,SNR=56
KMI Kunming 32.76 318 P **P** **15 44 10.8 +3.4**
KMI pP pwP 15 44 18.8 -0.6
KMI sP sP 15 44 21.8 +1.5
KMI PP **PP** **15 45 20.0 -1.9**
KMI S **S** **15 49 24.5 +2.1**
KMI pmax pmax
comp=Z,34nm,1.4s
KMI pmax pmax
comp=Z,480nm,3.8s
KMI LR LR
comp=Z,4μm,21.7s
KMI LR LR
comp=Z,4μm,22.1s
KMI LR LR
comp=Z,9μm,21.7s
KMI Kunming 32.76 318 P **P** **15 44 07.8 +0.4**
KMI pmax pmax
comp=Z,34nm,0.7s
KMI MLR MLR
comp=Z,10μm,22.0s
KMI Kunming 32.76 318 P **P** **15 44 07.8 +0.4**
ENH Enshi 32.89 333 P **P** **15 44 07.1 -1.2**
ENH IAmb IAmb 15 44 32.4
comp=Z,70nm,0.8s
ENH IAMs_20 IAMs_20 15 58 24.3
comp=Z,5μm,21.0s
BLDU Ballidu 33.01 195 P **P** **15 44 09.8 +0.6**
baz=33,SNR=95
KLBR Kellerberrin 33.69 193 P **P** **15 44 15.8 +0.6**
baz=34,SNR=137
MUN Mundaring 34.44 195 P **P** **15 44 22.4 +0.7**
baz=35,SNR=23
TJN Taejon 34.91 2*c e* **P** **P** **15 44 26.2 +0.6**
NWAO Narrogin (SRO) 35.09 193 P **P** **15 44 28.1 +0.8**
baz=35,SNR=56
NWAO Narrogin (SRO) 35.09 193 P **P** **15 44 28.1 +0.8**
comp=Z,37nm,0.4s,baz=25,slow=8.6,SNR=89
NWAO PcP **PcP** **15 46 59.5 +0.9**
comp=Z,18nm,0.6s,baz=345,slow=4.0,SNR=4.8
NWAO Narrogin (SRO) 35.09 193 P **P** **15 44 27.6 +0.3**
NWAO Narrogin (SRO) 35.09 193 P **P** **15 44 27.7 +0.4**
NWAO IAmb IAmb 15 44 29.7
comp=Z,493nm,2.0s
RMQ Roma 35.18 143 P **P** **15 44 27.9 -0.2**
baz=35,SNR=15
BBOO Buckleboo 35.19 166 P **P** **15 44 28.0 -0.2**
baz=35,SNR=180
BBOO Buckleboo 35.19 166 P **P** **15 44 27.5 -0.7**
HNR Honiara 35.26 108 P **P** **15 44 28.3 -0.7**
comp=Z,159nm,0.6s,baz=254,slow=2.4,SNR=24
HNR Honiara 35.26 108 P **P** **15 44 28.0 -1.0**
HNR Honiara 35.26 108 P **P** **15 44 27.8 -1.2**
INU Inuyama 35.33 15 P **P** **15 44 28.9 -0.4**
INU IAmb IAmb 15 44 40.7
comp=Z,151nm,1.1s
TIA Tai'an 35.73 347 P **P** **15 44 33.0 +0.2**
TIA S **S** **15 50 05.5 -2.1**
TIA pmax pmax
comp=Z,17nm,0.8s
TIA pmax pmax
comp=Z,280nm,4.7s
TIA LR LR
comp=Z,1μm,21.2s
TIA LR LR
comp=Z,1μm,20.8s
TIA LR LR
comp=Z,3μm,24.4s
EIDS Eidsvold 35.82 139 P **P** **15 44 33.6 0.0**
baz=36,SNR=9.1
EIDS Eidsvold 35.82 139 P **P** **15 44 32.5 -1.2**
EIDS IAmb IAmb 15 44 39.3
comp=Z,190nm,1.7s
EIDS IAMs_20 IAMs_20 16 01 40.4
comp=Z,4μm,20.0s
KSRS Korea Array 36.00 2 P **P** **15 44 35.4 +0.4**
comp=Z,24nm,0.6s,baz=180,slow=9.7,SNR=79
KSRS PcP **PcP** **15 47 02.4 +1.3**
comp=Z,6.6nm,0.7s,baz=186,slow=2.7,SNR=9.3
KS19 Wonju Array Si 36.05 2 P **P** **15 44 35.5 0.0**
STKA Stephens Creek 36.09 157 P **P** **15 44 35.7 -0.2**
comp=Z,70nm,0.7s,baz=331,slow=8.5,SNR=168
STKA Stephens Creek 36.09 157 P **P** **15 44 35.3 -0.6**
CD2 Chengdu 36.31 326 P **P** **15 44 39.8 +1.9**
CD2 pP pP 15 44 46.8 -0.3
CD2 sP sP 15 44 51.8 +0.7
CD2 PP **PP** **15 46 01.5 +0.6**
CD2 S **S** **15 50 21.5 +4.8**
CD2 sS sS 15 50 31.0 -0.8
CD2 pmax pmax
comp=Z,110nm,0.8s
CD2 pmax pmax
comp=Z,410nm,4.2s
CD2 LR LR
comp=Z,5μm,20.1s
CD2 LR LR
comp=Z,6μm,19.1s
CD2 LR LR
comp=Z,5μm,19.6s
XAN Xi'an 36.35 335 P **P** **15 44 36.8 -1.4**
XAN pP pP 15 44 47.0 -0.3
XAN S S 15 50 07.3 -10
XAN SS SS 15 52 37.0 -20
XAN pmax pmax
comp=Z,67nm,0.7s
XAN pmax pmax
comp=Z,360nm,3.9s
XAN LR LR
comp=Z,2μm,18.4s
XAN LR LR
comp=Z,1μm,20.6s
XAN Xi'an 36.35 335 P **P** **15 44 36.8 -1.4**
XAN pmax pmax
comp=Z,78nm,0.9s
XAN MLR MLR
comp=Z,3μm,21.0s
XAN Xi'an 36.35 335 P **P** **15 44 36.8 -1.4**
XAN IAmb IAmb 15 44 49.7
comp=Z,78nm,0.9s
XAN Xi'an 36.35 335 IAMs_20 IAMs_20 16 00 29.8
comp=Z,3μm,21.0s
HTT Hallett 36.58 162 P **P** **15 44 40.6 +0.6**
baz=37,SNR=60
RKGY Rocky Gully 36.77 193 P **P** **15 44 43.7 +2.1**
baz=37,SNR=83
MJAR Matsushiro Arr 36.77 16 P **P** **15 44 40.5 -1.2**
comp=Z,62nm,0.7s,baz=176,slow=8.4,SNR=106
MJAR PcP **PcP** **15 47 04.9 +1.3**
comp=Z,6.9nm,0.6s,baz=162,slow=1.9,SNR=6.0
MJAR LR LR 16 00 23.8
comp=Z,1μm,20.9s,baz=200,slow=37
MAJO Matsushiro 36.77 16⇑ *eP* **P** **15 44 40.4 -1.3**
MAJO pmax pmax
comp=Z,87nm,0.8s
MAJO Matsushiro 36.77 16 P **P** **15 44 40.0 -1.7**
MAJO IAmb IAmb 15 44 42.4
comp=Z,75nm,0.8s
MAT Matsushiro 36.77 16 P **P** **15 44 40.3 -1.4**
MAT S **S** **15 50 28.8 +5.2**
MJB9 Matsu-Tunnel 36.78 16 P **P** **15 44 40.1 -1.6**
MJB9 IAmb IAmb 15 44 42.4
comp=Z,76nm,0.8s
CMSA Cobar Meteorol 37.54 152 P **P** **15 44 48.4 +0.2**
baz=38,SNR=43
DL2 Dalian 37.65 354 P **P** **15 44 49.3 +0.3**
DL2 S **S** **15 50 39.0 +2.3**
DL2 pmax pmax
comp=Z,290nm,0.7s
DL2 pmax pmax
comp=Z,940nm,4.7s
DL2 LR LR
comp=Z,2μm,18.7s
DL2 LR LR
comp=Z,2μm,16.2s
DL2 LR LR
comp=Z,3μm,18.6s
H01W3 Cape Leeuwin H 37.74 196 P **P** **15 44 52.4 +2.8**
baz=40,slow=4.8,SNR=7.6
H01W1 Cape Leeuwin H 37.74 196 P **P** **15 44 52.4 +2.8**
baz=40,slow=4.8,SNR=7.7
H01W2 Cape Leeuwin H 37.76 196 P **P** **15 44 52.5 +2.8**
baz=40,slow=4.8,SNR=5.4
TIY Taiyuan 38.38 342 *eP* **P** **15 44 58.0 +2.7**
BJT Baijiatuau 39.59 348 P **P** **15 45 04.4 -0.9**
BJT pmax pmax
comp=Z,44nm,0.7s
BJT MLR MLR
comp=Z,2μm,22.0s
BJT Baijiatuau 39.59 348 P **P** **15 45 04.4 -0.9**
BJI Beijing 39.61 348 *eP* **P** **15 45 05.0 -0.5**
BJI sP **sP** **15 45 19.8 +1.0**
BJI PcP **PcP** **15 47 13.0 +0.8**
BJI S **S** **15 51 08.8 +2.5**
BJI sS **sS** **15 51 25.0 +3.2**
BJI pmax pmax
comp=Z,56nm,0.7s
BJI pmax pmax
comp=Z,540nm,4.4s
BJI LR LR
comp=Z,710nm,18.4s
BJI LR LR
comp=Z,1μm,19.4s
BJI LR LR
comp=Z,1μm,18.6s
ARMA Armidale 39.78 145 P **P** **15 45 08.0 +0.8**
baz=40,SNR=59
ARMA Armidale 39.78 145 P **P** **15 45 07.6 +0.4**
ARMA IAmb IAmb 15 45 17.0
comp=Z,75nm,0.8s
LZH Lanzhou 40.34 332 *eP* **P** **15 45 11.8 0.0**
LZH pP pP 15 45 20.8 -0.3
LZH SS SS 15 54 12.5 -4.8
LZH pmax pmax
comp=Z,70nm,1.3s
LZH pmax pmax
comp=Z,500nm,4.3s
LZH LR LR
comp=Z,3μm,14.1s
LZH LR LR
comp=Z,3μm,16.3s
LZH LR LR
comp=Z,3μm,16.3s
SNY Shenyang 40.40 357⇑ P **P** **15 45 11.3 -0.7**
SNY PP **PnPn** **15 46 49.0 -0.4**
SNY S **S** **15 51 15.0 -3.1**
SNY sS **sS** **15 51 32.3 -1.3**
SNY pmax pmax
comp=Z,63nm,0.6s
SNY pmax pmax
comp=Z,470nm,2.8s
SNY LR LR
comp=Z,2μm,19.2s
SNY LR LR
comp=Z,3μm,20.6s
SNY LR LR
comp=Z,3μm,19.4s
ARPS Mount Arapiles 40.58 161 P **P** **15 45 14.3 +0.7**
baz=41,SNR=108
SHL Shillong 40.93 309 P **P** **15 45 16.7 -0.2**
SNR=23
SHL Shillong 40.93 309 P **P** **15 45 15.8 -1.1**
SHL pmax pmax
comp=Z,64nm,0.7s
SHL MLR MLR
comp=Z,2μm,20.0s
SHL Shillong 40.93 309 *eP* **P** **15 45 18.0 +1.1**
SHL Shillong 40.93 309 P **P** **15 45 15.8 -1.1**
SHL IAmb IAmb 15 45 23.3
comp=Z,64nm,0.7s
YNG Young 41.10 152 P **P** **15 45 18.8 +0.9**
baz=41,SNR=11
HHC Hu-ho-hao-te 41.53 343 *eP* **P** **15 45 23.0 +1.5**
HHC pP sP 15 45 33.8 -0.9
HHC sP pP 15 45 37.3 +6.3
HHC S **S** **15 51 37.8 +2.6**
HHC ScS **ScS** **15 55 20.5 -2.3**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,340nm,4.9s
HHC LR LR
comp=Z,1μm,14.3s
HHC LR LR
comp=Z,740nm,14.4s
HHC LR LR
comp=Z,2μm,15.0s
MGCD Mangrove Creek 41.60 148 P **P** **15 45 23.5 +1.5**
baz=42,SNR=10
BTO Baotou 41.78 341 *eP* **P** **15 45 23.0 -0.5**
VLA Vladivostok 41.93 6*c i* P **P** **15 45 24.2 -0.4**
VLA pmax pmax
comp=Z,119nm,1.0s
CAN Canberra 42.22 152 P **P** **15 45 27.8 +0.7**
CAN pmax pmax
comp=Z,49nm,0.8s
CAN Canberra 42.22 152 P **P** **15 45 27.8 +0.7**
CN2 Changchun 42.31 359 *eP* **P** **15 45 26.8 -0.9**
CN2 *eS* **S** **15 51 40.3 -6.1**
CN2 pmax pmax
comp=Z,600nm,5.0s
CN2 LR LR
comp=Z,2μm,21.0s
CN2 LR LR
comp=Z,2μm,21.0s
CN2 LR LR
comp=Z,2μm,21.0s
CNB Canberra Magne 42.39 152 P **P** **15 45 29.9 +1.4**
baz=42,SNR=12
TOO Toolangi 42.61 157 P **P** **15 45 31.8 +1.6**
baz=43,SNR=14
TOO Toolangi 42.61 157 P **P** **15 45 31.2 +0.9**
TOO pmax pmax
comp=Z,181nm,1.8s
TOO Toolangi 42.61 157 P **P** **15 45 31.2 +0.9**
TOO IAmb IAmb 15 45 34.2
comp=Z,180nm,1.8s
USA0B Ussuriysk Arra 43.01 6*ce* **P** **P** **15 45 33.7 +0.3**
USA0B Ussuriysk Arra 43.01 6 P **P** **15 45 33.5 +0.1**
USA0B IAmb IAmb 15 45 35.7
comp=Z,131nm,0.9s
USRK Ussuriysk Ar. 43.01 6 P **P** **15 45 33.8 +0.4**
comp=Z,134nm,0.8s,baz=192,slow=5.9,SNR=315
USRK LR LR 16 02 55.9
comp=Z,902nm,21.9s,baz=180,slow=36
H11S3 WAKE ISLAND Hy 43.22 64 T T 16 32 52.7
baz=252
MDJ Mudanjiang 43.23 4 P **P** **15 45 35.5 +0.4**
MDJ pP pP 15 45 45.0 +0.5
MDJ sP sP 15 45 49.8 +1.4
MDJ S **S** **15 52 03.8 +4.0**
MDJ sS sS 15 52 20.3 +4.9
MDJ pmax pmax
comp=Z,150nm,0.8s
MDJ pmax pmax
comp=Z,1μm,5.9s
MDJ LR LR
comp=Z,2μm,8.0s
MDJ LR LR
comp=Z,1μm,13.6s
MDJ LR LR
comp=Z,3μm,19.6s
MDJ Mudanjiang 43.23 4 P **P** **15 45 35.0 -0.1**
MDJ IAmb IAmb 15 45 38.0
comp=Z,189nm,0.9s
H11S2 WAKE ISLAND Hy 43.23 64 T T 16 32 45.7
baz=252,slow=74
H11S1 WAKE ISLAND Hy 43.23 64 T T 16 32 41.5
baz=252,slow=74
ERM Erimo 43.30 18⇓ *eP* **P** **15 45 36.2 +0.5**
ERM pmax pmax
comp=Z,69nm,0.9s
LSA Lhasa 43.67 314 *i* P **P** **15 45 39.7 +0.2**
SNR=46
LSA Lhasa 43.67 314 P **P** **15 45 39.1 -0.4**
LSA pmax pmax
comp=Z,43nm,0.7s
LSA MLR MLR
comp=Z,2μm,21.0s
LSA Lhasa 43.67 314 P **P** **15 45 39.1 -0.4**
MILA Mila 43.71 153 P **P** **15 45 39.9 +0.7**
baz=44,SNR=8.0
H11N1 WAKE ISLAND Hy 43.80 63 T T 16 33 46.9
baz=251,slow=75
H11N2 WAKE ISLAND Hy 43.81 63 T T 16 33 45.7
baz=251
H11N3 WAKE ISLAND Hy 43.81 63 T T 16 33 43.7
baz=251,slow=75
GTA Gaotai 44.91 331 *eP* **P** **15 45 48.0 -0.9**
GTA pP pP 15 45 57.3 -0.9
GTA sP pwP 15 46 01.3 +0.3
GTA PcP **PcP** **15 47 31.5 +1.4**
GTA ScS ScS 15 55 43.0 -1.0
GTA pmax pmax
comp=Z,360nm,4.8s
GTA LR LR
comp=Z,2μm,16.8s
GTA LR LR
comp=Z,2μm,19.6s
GTA LR LR
comp=Z,4μm,19.2s
TAPN Taplejung 45.06 309 *eP* **P** **15 45 49.6 -0.9**
comp=Z,62nm,0.5s
ODAN Odare 45.08 308 *eP* **P** **15 45 49.7 -0.9**
comp=Z,114nm,0.6s
DZM Mont Dzumac 45.62 123 P **P** **15 45 54.6 -0.1**
comp=Z,25nm,0.7s,baz=270,slow=6.1,SNR=26
DZM Mont Dzumac 45.62 123 *eS* **S** **15 52 31.0 -4.5**
comp=Z,2μm,37.5s
DZM *e*LR LR 15 58 38.0
comp=Z,3μm,23.7s
DZM Mont Dzumac 45.62 123 P **P** **15 45 54.5 -0.3**
PALK Pallekele 45.73 279 P **P** **15 45 56.1 +0.4**
PALK Pallekele 45.73 279⇑ *eP* **P** **15 45 54.9 -0.8**
PALK pmax pmax
comp=Z,42nm,1.4s
PALK Pallekele 45.73 279 LR LR 16 06 42.5
comp=Z,4μm,20.6s,baz=109,slow=38
PALK Pallekele 45.73 279 P **P** **15 45 55.0 -0.8**
PALK Pallekele 45.73 279 IAMs_20 IAMs_20 16 06 20.5
comp=Z,5μm,20.0s
RAMN Ramite 45.75 307 *eP* **P** **15 45 55.3 -0.6**
comp=Z,92nm,0.6s
YUK Yuzh-Kuril'sk 45.99 20 *eP* **P** **15 45 55.3 -1.8**
YUK *e* 15 47 43.5
YUK *e*PPP PPP 15 48 24.1
YUK *e*S **S** **15 52 41.1 +1.2**
YUK *e*SSS SSS 15 56 59.4
YUK pmax pmax
comp=E,223nm,0.8s
YUK pmax pmax
comp=Z,113nm,0.8s
YUK pmax pmax
comp=N,284nm,0.7s
YUK pmax pmax
comp=Z,463nm,3.1s
YUK MLR MLR
comp=Z,637nm,20.0s
YUK MLR MLR
comp=N,568nm,19.0s
YUK MLR MLR
comp=E,486nm,13.0s
JIRN Jiri 46.40 308 *eP* **P** **15 46 00.3 -0.8**
comp=E,124nm,0.5s
GUN Gumba 46.76 308 *eP* **P** **15 46 03.0 -0.9**
comp=E,129nm,0.5s
PKI Pulchoki 46.97 307 *eP* **P** **15 46 04.2 -1.4**
PKIN Phulchoki 46.99 307 *eP* **P** **15 46 04.1 -1.5**
comp=E,72nm,0.7s
KKN Kakani 47.17 308 *eP* **P** **15 46 05.7 -1.3**
comp=E,61nm,0.6s
DMN Daman 47.23 307 *eP* **P** **15 46 06.4 -1.1**
comp=E,152nm,0.9s
MOO Moorlands 47.50 159 P **P** **15 46 11.1 +2.1**
baz=48,SNR=8.6
YSS Yuzh-Sakhalins 47.70 15⇓ *i* P **P** **15 46 10.7 +0.3**
YSS *e* 15 46 20.4
YSS *e*S **S** **15 53 07.2 +3.0**
YSS pmax pmax
comp=Z,70nm,1.0s
YSS Yuzh-Sakhalins 47.70 15 P **P** **15 46 10.2 -0.2**
YSS IAmb IAmb 15 46 16.8
comp=Z,58nm,0.6s
GKN Gorkha 47.78 308 *eP* **P** **15 46 10.2 -1.4**
comp=Z,113nm,0.9s
KLR Kul'dur 47.97 5*c i* P **P** **15 46 12.4 -0.2**
KLR pmax pmax
comp=Z,78nm,0.9s
KLR MLR MLR
comp=Z,2μm,21.0s
HIA Hailar 48.09 354 P **P** **15 46 13.4 -0.1**
HIA pmax pmax
comp=Z,232nm,1.7s
HIA MLR MLR
comp=Z,2μm,18.0s
HIA Hailar 48.09 354 P **P** **15 46 13.4 -0.1**
HIA Hailar 48.09 354 IAMs_20 IAMs_20 16 10 25.4
comp=Z,2μm,18.0s
KOLN Koldanda 48.50 307 *eP* **P** **15 46 16.4 -0.9**
comp=Z,309nm,0.8s
DANN Dangsing 48.62 308 *eP* **P** **15 46 17.2 -1.1**
comp=Z,345nm,0.7s
ULN Ulaanbaatar 49.25 343*de* **P** **15 46 22.5 -0.1**
ULN pmax pmax
comp=Z,25nm,1.0s
ULN Ulaanbaatar 49.25 343 P **P** **15 46 22.5 -0.1**
SONM Songino Array 49.42 343 P **P** **15 46 23.5 -0.4**
comp=Z,16nm,0.8s,baz=156,slow=7.6,SNR=41
SONM PcP **PcP** **15 47 46.6 +0.8**
comp=Z,13nm,0.7s,baz=163,slow=3.1,SNR=5.3
SONM LR LR 16 10 46.3
comp=Z,1μm,18.7s,baz=156,slow=40
HYB Hyderabad 49.48 292 *i* P **P** **15 46 23.0 -1.7**
HYB *e*S **S** **15 53 24.0 -6.3**
NGP Nagpur 50.00 297 *eP* **P** **15 46 26.6 -2.1**
GRNR Gornyy 50.03 8⇑ *i* P **P** **15 46 28.9 +0.6**
GRNR *e*S **S** **15 53 42.5 +5.4**
GRNR pmax pmax
comp=Z,100nm,1.1s
GRNR smax smax
comp=N,3.0nm,1.2s
TYV Tymovskoe 51.30 13 *eP* **P** **15 46 37.4 -0.5**
TYV pmax pmax
comp=Z,18nm,0.9s
ZEA Zeya 52.26 1 *eP* **P** **15 46 44.8 -0.2**
ZEA pmax pmax
comp=E,20nm,0.6s
ZEA pmax pmax
comp=N,31nm,0.8s
ZEA pmax pmax
comp=Z,82nm,0.8s
ZAK Zakamensk 52.63 342 *eP* **P** **15 46 47.4 -0.5**
ZAK pmax pmax
comp=Z,12nm,1.1s
MNCI Minicoy 53.36 279 P **P** **15 46 53.6 -0.2**
KAD Karad 53.53 291 *ex* **P** **15 46 53.8 -1.2**
TLY Talaya 53.66 343 *eP* **P** **15 46 56.3 +0.9**
TLY *e*S **S** **15 54 20.6 -6.3**
TLY pmax pmax
comp=Z,51nm,0.7s
TLY MLR MLR
comp=Z,2μm,14.0s
TLY Talaya 53.66 343 P **P** **15 46 55.8 +0.5**
TLY IAmb IAmb 15 47 01.6
comp=Z,160nm,2.0s
IRK Irkutsk 53.97 344 *eP* **P** **15 46 57.5 -0.2**

IRK				pmax	pmax				
	comp=Z,110nm,2.8s								
POO	**Poona**	**54.09**	**292**	*ex*	**P**	**15 46 56.5**	**-2.6**		
H08S2	**Diego Garcia H**	**54.30**	**260**	P	**P**	**15 46 59.2**	**-1.1**		
	baz=54,slow=11,SNR=10								
H08S3	**Diego Garcia H**	**54.31**	**260**	P	**P**	**15 46 59.2**	**-1.3**		
	baz=54,slow=11,SNR=12								
DGAR	**Diego Garcia**	**54.31**	**260**⇓	*e*P	**P**	**15 47 00.0**	**-0.8**		
DGAR				pmax	pmax				
	comp=Z,33nm,1.0s								
H08S1	**Diego Carcia H**	**54.32**	**260**	P	**P**	**15 46 56.9**	**-3.6**		
	baz=54,slow=11,SNR=3.3								
WMQ	**Urumqi**	**54.41**	**326**	*e*P	**P**	**15 47 02.0**	**+0.9**		
WMQ				pP	pP	15 47 08.8	-1.8		
WMQ				sP	sP	15 47 15.3	+0.9		
WMQ				PcP	**PcP**	**15 48 01.3**	**-3.3**		
WMQ				pmax	pmax				
	comp=Z,71nm,0.9s								
WMQ				pmax	pmax				
	comp=Z,190nm,3.7s								
WMQ				LR	LR				
	comp=Z,2μm,19.5s								
WMQ				LR	LR				
	comp=Z,1μm,23.9s								
WMQ				LR	LR				
	comp=Z,4μm,23.9s								
WMQ	**Urumqi**	**54.41**	**326**	P	**P**	**15 47 00.6**	**-0.5**		
WMQ				pmax	pmax				
	comp=Z,98nm,0.8s								
WMQ				MLR	MLR				
	comp=Z,4μm,21.0s								
WMQ	**Urumqi**	**54.41**	**326**	P	**P**	**15 47 00.6**	**-0.5**		
WMQ				IAmb	IAmb	15 47 09.7			
	comp=Z,98nm,0.8s								
MSVF	**Nonsavu**	**54.43**	**113***c*	*e*P	**P**	**15 47 02.3**	**+0.7**		
MSVF				pmax	pmax				
	comp=Z,56nm,0.8s								
MSVF	**Nonsavu**	**54.43**	**113**	P	**P**	**15 47 02.6**	**+0.9**		
MSVF				IAmb	IAmb	15 47 17.5			
	comp=Z,104nm,0.8s								
MOY	**Mondy**	**54.47**	**341**	*e*P	**P**	**15 47 01.9**	**+0.5**		
MOY				pmax	pmax				
	comp=Z,182nm,3.8s								
H08N1	**Diego Carcia H**	**55.61**	**261**	P	**P**	**15 47 08.4**	**-1.4**		
	baz=105,slow=4.1,SNR=16								
H08N2	**Diego Carcia H**	**55.63**	**261**	P	**P**	**15 47 08.6**	**-1.3**		
	baz=105,slow=4.1,SNR=14								
H08N3	**Diego Carcia H**	**55.64**	**261**	P	**P**	**15 47 10.0**	**0.0**		
	baz=105,slow=4.1,SNR=23								
BOD	**Bodaibo**	**57.17**	**352**	*e*P	**P**	**15 47 20.3**	**-0.2**		
BOD				pmax	pmax				
	comp=Z,35nm,0.9s								
OUZ	**Omahuta**	**57.24**	**134**	P	**P**	**15 47 22.0**	**+0.6**		
OUZ				IAmb	IAmb	15 47 39.5			
	comp=Z,81nm,1.6s								
OUZ				IAMs_20	IAMs_20	16 13 41.6			
	comp=Z,2μm,20.0s								
PEA0B	**Petropavlovsk-**	**57.85**	**22**⇑	*e*P	**P**	**15 47 26.4**	**+1.0**		
PEA0B	**Petropavlovsk-**	**57.85**	**22**	P	**P**	**15 47 25.7**	**+0.3**		
PETK	**Petropavlovsk-**	**57.85**	**22**	P	**P**	**15 47 26.0**	**+0.6**		
	comp=Z,47nm,0.6s,baz=182,slow=5.2,SNR=160								
PET	**Petropavlovsk**	**58.15**	**22**	*e*P	**P**	**15 47 27.9**	**+0.5**		
PET				*e*		15 49 45.8			
PET				*e*S	**S**	**15 55 24.6**	**-1.9**		
PET				pmax	pmax				
	comp=Z,41nm,0.6s								
PET				MLR	MLR				
	comp=Z,2μm,14.0s								
PET				MLR	MLR				
	comp=Z,800nm,15.0s								
SHLS	**Shalkode**	**58.88**	**321**	*e*P	**P**	**15 47 30.5**	**-2.5**		
	comp=Z,72nm,1.5s								
SHLS	**Shalkode**	**58.88**	**321**	*e*P	**P**	**15 47 30.4**	**-2.5**		
SHLS				pmax	pmax				
	comp=Z,71nm,1.5s								
PDGK	**Podgornoye**	**58.95**	**322**	*i* P	**P**	**15 47 32.2**	**-1.3**		
PDGK				pmax	pmax				
	comp=Z,62nm,0.8s								
DCZ	**Deep Cove**	**58.99**	**147**	P	**P**	**15 47 33.2**	**-0.2**		
DCZ				IAmb	IAmb	15 47 50.7			
	comp=Z,77nm,1.3s								
DCZ				IAMs_20	IAMs_20	16 13 48.6			
	comp=Z,2μm,21.0s								
NIL	**Nilore**	**59.00**	**309**	P	**P**	**15 47 32.3**	**-1.6**		
NIL				pmax	pmax				
	comp=Z,58nm,0.8s								
NIL				MLR	MLR				
	comp=Z,1μm,21.0s								
NIL	**Nilore**	**59.00**	**309**	P	**P**	**15 47 32.3**	**-1.6**		
NIL				IAmb	IAmb	15 47 53.4			
	comp=Z,58nm,0.8s								
UZB	**Uzynbulak**	**59.15**	**321**	*e*P	**P**	**15 47 34.0**	**-0.8**		
	comp=Z,129nm,3.2s								
UZB	**Uzynbulak**	**59.15**	**321**	*e*P	**P**	**15 47 34.0**	**-0.8**		
UZB				pmax	pmax				
	comp=Z,129nm,3.2s								
PYZ	**Puysegur Point**	**59.19**	**148**	P	**P**	**15 47 35.1**	**+0.2**		
PYZ				IAMs_20	IAMs_20	16 13 02.0			
	comp=Z,3μm,21.0s								
PRZ	**Przheval'sk**	**59.20**	**320**	P	**P**	**15 47 35.3**	**0.0**		
PRZ				pmax	pmax				
	comp=Z,212nm,1.4s								
PRZ				MLR	MLR				
	comp=Z,2μm,20.0s								
PRZ	**Przheval'sk**	**59.20**	**320**	P	**P**	**15 47 35.2**	**0.0**		
PRZ				IAMs_20	IAMs_20	16 14 42.0			
	comp=Z,2μm,20.0s								
TARG	**Taragay, Kyrgy**	**59.21**	**319**	P	**P**	**15 47 34.3**	**-1.3**		
TARG				IAmb	IAmb	15 47 51.3			
	comp=Z,59nm,0.9s								
MK31	**Makanchi Array**	**59.25**	**326**	*e*P	**P**	**15 47 34.6**	**-0.7**		
MK31				pmax	pmax				
	comp=Z,38nm,0.6s								
MK31	**Makanchi Array**	**59.25**	**326**	P	**P**	**15 47 34.2**	**-1.1**		
MK31				IAmb	IAmb	15 47 42.5			
	comp=Z,36nm,0.7s								
MKAR	**Makanchi Array**	**59.25**	**326**	P	**P**	**15 47 34.4**	**-0.9**		
	comp=Z,19nm,0.5s,baz=120,slow=7.7,SNR=370								
MKAR				LR	LR	16 13 53.3			
	comp=Z,4μm,20.0s,baz=118,slow=37								
MKAR				PKPPKP	**P'P'df**	**16 17 09.0**	**+1.4**		
	comp=Z,1.1nm,0.7s,baz=290,slow=3.1,SNR=4.9								
FOZ	**Fox Glacier**	**59.28**	**144**	P	**P**	**15 47 35.9**	**+0.4**		
FOZ				IAmb	IAmb	15 47 58.6			
	comp=Z,38nm,1.0s								
KSH	**Kashi**	**59.40**	**316**	P	**P**	**15 47 37.5**	**+0.9**		
KSH				S	**S**	**15 55 42.3**	**-1.2**		
KSH				pmax	pmax				
	comp=Z,160nm,1.4s								
KSH				pmax	pmax				
	comp=Z,500nm,4.8s								
KSH				LR	LR				
	comp=Z,990nm,12.5s								
KSH				LR	LR				
	comp=Z,1μm,13.5s								
KSH				LR	LR				
	comp=Z,3μm,17.0s								
QRZ	**Quartz Range**	**59.40**	**140**	P	**P**	**15 47 36.5**	**+0.1**		
QRZ				IAMs_20	IAMs_20	16 16 10.5			
	comp=Z,2μm,20.0s								
MAKZ	**Makanchi**	**59.43**	**326**	*i* P	**P**	**15 47 35.1**	**-1.4**		
MAKZ				pmax	pmax				
	comp=Z,46nm,0.7s								
MAKZ	**Makanchi**	**59.43**	**326**	P	**P**	**15 47 35.9**	**-0.7**		
MAKZ				IAmb	IAmb	15 47 43.3			
	comp=Z,56nm,0.8s								
MLZ	**Mavora Lakes**	**59.45**	**147**	P	**P**	**15 47 36.8**	**+0.1**		
MLZ				IAmb	IAmb	15 47 38.8			
	comp=Z,165nm,2.0s								
MLZ				IAMs_20	IAMs_20	16 14 00.8			
	comp=Z,3μm,21.0s								
SATY	**Saty**	**59.49**	**321**	*e*P	**P**	**15 47 36.5**	**-0.7**		
	comp=Z,117nm,1.1s								
SATY	**Saty**	**59.49**	**321**	*e*P	**P**	**15 47 36.4**	**-0.7**		
SATY				pmax	pmax				
	comp=Z,117nm,1.0s								
KPKS	**Kokpek**	**59.52**	**321**	*e*P	**P**	**15 47 36.2**	**-1.2**		
	comp=Z,82nm,1.4s								
KPKS	**Kokpek**	**59.52**	**321**	*e*P	**P**	**15 47 36.1**	**-1.2**		
KPKS				pmax	pmax				
	comp=Z,82nm,1.4s								
ZHN	**Zhinishke**	**59.53**	**321**	*e*P	**P**	**15 47 36.0**	**-1.4**		
ZHN	**Zhinishke**	**59.53**	**321**	*e*P	**P**	**15 47 36.0**	**-1.4**		
WKZ	**Wanaka**	**59.61**	**146**	P	**P**	**15 47 38.0**	**+0.2**		
WHZ	**Wether Hill Ro**	**59.69**	**147**	P	**P**	**15 47 38.0**	**-0.3**		
WHZ				IAmb	IAmb	15 47 39.2			
	comp=Z,96nm,1.6s								
WHZ				IAMs_20	IAMs_20	16 14 19.2			
	comp=Z,2μm,20.0s								
LBZ	**Lake Benmore**	**60.00**	**145**	P	**P**	**15 47 40.4**	**-0.2**		
RPZ	**Rata Peaks**	**60.11**	**144**	P	**P**	**15 47 41.9**	**+0.6**		
	comp=Z,30nm,0.6s,baz=285,slow=3.5,SNR=22								
RPZ				LR	LR	16 14 20.4			
	comp=Z,2μm,21.8s,baz=304,slow=37								
RPZ	**Rata Peaks**	**60.11**	**144**	P	**P**	**15 47 41.9**	**+0.6**		
RPZ				IAmb	IAmb	15 47 45.1			
	comp=Z,40nm,0.8s								
RPZ				IAMs_20	IAMs_20	16 13 45.5			
	comp=Z,2μm,19.0s								
THZ	**Tophouse**	**60.14**	**141**	P	**P**	**15 47 42.5**	**+1.0**		
THZ				IAmb	IAmb	15 47 46.6			
	comp=Z,40nm,0.6s								
NRN	**Naryn**	**60.26**	**318**	P	**P**	**15 47 41.5**	**-1.2**		
NRN				pmax	pmax				
	comp=Z,41nm,1.1s								
NRN				MLR	MLR				
	comp=Z,2μm,19.0s								
NRN	**Naryn**	**60.26**	**318**	P	**P**	**15 47 41.5**	**-1.2**		
NRN				IAmb	IAmb	15 47 48.2			
	comp=Z,41nm,1.1s								
NRN				IAMs_20	IAMs_20	16 17 24.7			
	comp=Z,2μm,19.0s								
LTZ	**Lake Taylor**	**60.31**	**142**	P	**P**	**15 47 43.1**	**+0.4**		
LTZ				IAmb	IAmb	15 47 57.4			
	comp=Z,74nm,1.2s								
MDOK	**Medeo**	**60.40**	**320**	*e*P	**P**	**15 47 42.5**	**-1.0**		
MDOK				*e*LR	LR	16 12 18.4			
	comp=Z,898nm,25.6s								
MDOK	**Medeo**	**60.40**	**320**	*e*P	**P**	**15 47 42.5**	**-1.0**		
MDOK				MLR	MLR				
	comp=Z,898nm,26.0s								
TNSS	**Tian-Shan**	**60.40**	**320**	*e*P	**P**	**15 47 43.3**	**-0.6**		
TNSS	**Tian-Shan**	**60.40**	**320**	*e*P	**P**	**15 47 43.2**	**-0.6**		
OXZ	**Oxford**	**60.48**	**143**	P	**P**	**15 47 43.4**	**-0.4**		
OXZ				IAmb	IAmb	15 48 00.8			
	comp=Z,37nm,0.7s								
OXZ				IAMs_20	IAMs_20	16 15 03.1			
	comp=Z,2μm,21.0s								
TDK	**Taldyqorghan**	**60.50**	**323**	*e*P	**P**	**15 47 43.0**	**-0.9**		
TDK				*e*LR	LR	16 15 08.5			
	comp=Z,964nm,22.0s								
TDK	**Taldyqorghan**	**60.50**	**323**	*e*P	**P**	**15 47 43.0**	**-0.9**		
TDK				MLR	MLR				
	comp=Z,964nm,22.0s								
AAA	**Alma-Ata**	**60.51**	**320**	*e*P	**P**	**15 47 42.9**	**-1.3**		
AAA				*e*LR	LR	16 12 34.7			
	comp=Z,1μm,22.9s								
AAA	**Alma-Ata**	**60.51**	**320**	*e*P	**P**	**15 47 42.8**	**-1.3**		
AAA				MLR	MLR				
	comp=Z,1μm,23.0s								
TUWZ	**Tuamarina**	**60.62**	**140**	P	**P**	**15 47 43.1**	**-1.7**		
YAK	**Yakutsk**	**60.62**	**2***c*	*i* P	**P**	**15 47 44.6**	**+0.2**		
YAK				*e**PP	**pwP**	**15 47 57.0**	**+0.7**		
YAK				*e*S	**S**	**15 55 57.4**	**-0.8**		
YAK				*e**SS	**sS**	**15 56 19.6**	**+5.3**		
YAK				*e*		15 57 21.2			
YAK				*e*SS	**SS**	**16 00 02.7**	**+5.7**		
YAK				pmax	pmax				
	comp=Z,208nm,0.7s								
YAK				pmax	pmax				
	comp=N,37nm,0.9s								
YAK				pmax	pmax				
	comp=E,11nm,0.7s								
YAK				smax	smax				
	comp=N,653nm,4.0s								
YAK				smax	smax				
	comp=E,424nm,3.4s								
YAK	**Yakutsk**	**60.62**	**2**	P	**P**	**15 47 43.9**	**-0.5**		
CHKK	**Chushkaly**	**60.78**	**321**	*e*P	**P**	**15 47 44.3**	**-1.6**		
CHKK	**Chushkaly**	**60.78**	**321**	*e*P	**P**	**15 47 44.2**	**-1.6**		
KHZ	**Kahutara**	**60.89**	**141**	P	**P**	**15 47 46.4**	**-0.2**		
KHZ				IAmb	IAmb	15 47 51.6			
	comp=Z,58nm,1.2s								
KHZ				IAMs_20	IAMs_20	16 14 43.9			
	comp=Z,2μm,22.0s								
SNZO	**South Karori**	**61.05**	**140**	P	**P**	**15 47 46.2**	**-1.5**		
SNZO				IAmb	IAmb	15 47 52.4			
	comp=Z,49nm,0.7s								
KZA	**Kyzart**	**61.05**	**319**	P	**P**	**15 47 47.6**	**-0.6**		
	SNR=29								
MA2	**Magadan**	**61.16**	**14**	P	**P**	**15 47 48.7**	**+0.6**		
MA2				pmax	pmax				
	comp=Z,78nm,0.7s								
MA2	**Magadan**	**61.16**	**14**	P	**P**	**15 47 48.7**	**+0.6**		
URZ	**Urewera**	**61.17**	**136**	P	**P**	**15 47 47.5**	**-1.1**		
	comp=Z,41nm,0.6s,baz=2.3,slow=2.7,SNR=17								
URZ	**Urewera**	**61.17**	**136**	P	**P**	**15 47 47.4**	**-1.1**		
URZ				IAmb	IAmb	15 47 51.6			
	comp=Z,48nm,0.7s								
BHW	**Baring Head**	**61.20**	**140**	P	**P**	**15 47 47.5**	**-1.3**		
KUU	**Kurty**	**61.21**	**321**	*e*P	**P**	**15 47 47.5**	**-1.3**		
	comp=Z,192nm,1.6s								
KUU	**Kurty**	**61.21**	**321**	*e*P	**P**	**15 47 47.5**	**-1.3**		
KUU				pmax	pmax				
	comp=Z,193nm,1.6s								
TKM2	**Tokmak 2**	**61.22**	**320**	*i* P	**P**	**15 47 48.4**	**-0.7**		
TKM2				pmax	pmax				
	comp=Z,60nm,1.2s								
TKM2	**Tokmak 2**	**61.22**	**320**	P	**P**	**15 47 48.3**	**-0.8**		
	SNR=26								
MSWZ	**Moikau Station**	**61.45**	**140**	P	**P**	**15 47 50.0**	**-0.4**		
KBK	**Karagaybulak**	**61.52**	**319**	P	**P**	**15 47 54.1**	**+3.0**		
	SNR=19								
PLWZ	**Palliser**	**61.53**	**140**	P	**P**	**15 47 50.1**	**-0.9**		
UCH	**Uchtor**	**61.61**	**319**	P	**P**	**15 47 51.7**	**-0.4**		
	SNR=42								
MXZ	**Matakaoa Point**	**61.69**	**135**	IAMs_20	IAMs_20	16 15 05.1			
	comp=Z,3μm,20.0s								
BFZ	**Birch Farm**	**61.74**	**139**	P	**P**	**15 47 51.8**	**-0.6**		
BFZ				IAmb	IAmb	15 49 06.9			
	comp=Z,56nm,1.1s								
FRU1	**Bishkek**	**61.79**	**319**	IAMs_20	IAMs_20	16 17 12.2			
	comp=Z,2μm,22.0s								
CHMS	**Chumysh**	**61.80**	**319**	P	**P**	**15 47 52.1**	**-0.7**		
	SNR=10								
AAK	**Ala-Archa**	**61.80**	**319**	*i* P	**P**	**15 47 52.5**	**-0.5**		
	SNR=38								
AAK	**Ala-Archa**	**61.80**	**319**⇑	*e*P	**P**	**15 47 52.5**	**-0.5**		
AAK				pmax	pmax				
	comp=Z,32nm,1.3s								
AAK	**Ala-Archa**	**61.80**	**319**	P	**P**	**15 47 55.4**	**+2.4**		
	SNR=18								
AAK	**Ala-Archa**	**61.80**	**319**	P	**P**	**15 47 52.2**	**-0.8**		
AAK				IAmb	IAmb	15 48 01.2			
	comp=Z,50nm,1.1s								
AAK	**Ala-Archa**	**61.80**	**319**	IAMs_20	IAMs_20	16 17 36.5			
	comp=Z,3μm,21.0s								
MCQ	**Macquarie Isla**	**61.84**	**159**	P	**P**	**15 47 55.6**	**+2.9**		
	baz=62,SNR=5.1								
MCQ	**Macquarie Isla**	**61.84**	**159**	P	**P**	**15 47 52.4**	**-0.3**		
MCQ				pmax	pmax				
	comp=Z,325nm,1.3s								
MCQ	**Macquarie Isla**	**61.84**	**159**	P	**P**	**15 47 52.4**	**-0.3**		
USP	**Ospenovka**	**62.09**	**320**	P	**P**	**15 47 54.1**	**-0.7**		
	SNR=30								
SGDS	**Sogindy**	**62.09**	**320**	*e*P	**P**	**15 47 53.1**	**-1.7**		
	comp=Z,76nm,3.2s								
AML	**Almayashu**	**62.11**	**318**	P	**P**	**15 47 55.0**	**-0.3**		
	SNR=51								
EKS2	**Erkin-Say**	**62.29**	**319**	P	**P**	**15 47 56.0**	**-0.3**		
	SNR=35								
ZAA0	**Zalesovo Array**	**62.50**	**334**	P	**P**	**15 47 55.6**	**-1.6**		
ZAA0				IAmb	IAmb	15 48 07.3			
	comp=Z,55nm,1.2s								
ZALV	**Zalesovo Beam**	**62.50**	**334**	P	**P**	**15 47 55.6**	**-1.6**		
	comp=Z,16nm,0.5s,baz=130,slow=6.2,SNR=30								
ZALV				LR	LR	16 15 17.1			
	comp=Z,1μm,21.7s,baz=124,slow=36								
ZALV				PKP2ab		16 17 14.9			
	comp=Z,1.3nm,0.4s,baz=299,slow=3.1,SNR=5.6								
KBL	**Kabul**	**62.59**	**309**	P	**P**	**15 47 56.7**	**-1.8**		
KBL				pmax	pmax				
	comp=Z,55nm,0.8s								
KBL	**Kabul**	**62.59**	**309**	P	**P**	**15 47 56.7**	**-1.8**		
KBL				IAmb	IAmb	15 48 03.1			
	comp=Z,55nm,0.8s								
GAR	**Garm**	**63.18**	**314**	P	**P**	**15 48 01.0**	**-1.3**		
BTK	**Batken**	**63.23**	**315**	P	**P**	**15 48 02.3**	**-0.2**		
BTK				pmax	pmax				
	comp=Z,50nm,0.7s								
BTK				MLR	MLR				
	comp=Z,2μm,21.0s								
BTK	**Batken**	**63.23**	**315**	P	**P**	**15 48 02.3**	**-0.2**		
BTK				IAmb	IAmb	15 48 18.3			
	comp=Z,50nm,0.7s								
BTK				IAMs_20	IAMs_20	16 16 10.4			
	comp=Z,1μm,21.0s								
AFI	**Afiamalu**	**63.25**	**106**	P	**P**	**15 48 03.6**	**+0.6**		
	comp=Z,27nm,0.6s,baz=268,slow=5.3,SNR=8.9								
AFI	**Afiamalu**	**63.25**	**106**	P	**P**	**15 48 00.7**	**-2.3**		
AFI				IAmb	IAmb	15 48 20.3			
	comp=Z,72nm,1.0s								
AFI	**Afiamalu**	**63.25**	**106**	P	**P**	**15 48 03.9**	**+0.8**		
KURK	**Kurchatov**	**63.50**	**328***c*	*i* P	**P**	**15 48 02.9**	**-1.0**		
KURK				pmax	pmax				
	comp=Z,118nm,0.6s								
KURK	**Kurchatov**	**63.50**	**328**	P	**P**	**15 48 02.7**	**-1.2**		
CHGR	**Chuyangaron**	**63.90**	**313**	P	**P**	**15 48 05.3**	**-1.6**		
CHGR				IAMs_20	IAMs_20	16 20 57.3			
	comp=Z,2μm,21.0s								
DZA	**Taraz**	**64.01**	**318**	*e*P	**P**	**15 48 06.9**	**-0.6**		
DZA	**Taraz**	**64.01**	**318**	*e*P	**P**	**15 48 06.9**	**-0.6**		
JBG	**Jabagly**	**64.35**	**317**	*e*P	**P**	**15 48 11.1**	**+1.2**		
JBG				pmax	pmax				
	comp=Z,39nm,0.9s								
JBG				MLR	MLR				
	comp=Z,388nm,18.0s								
SEY	**Seymchan**	**64.49**	**13**‖	*e*P	**P**	**15 48 11.6**	**+1.4**		
IUG	**Iuzhnay**	**64.59**	**317**	*e*P	**P**	**15 48 10.9**	**-0.5**		
IUG	**Iuzhnay**	**64.59**	**317**	*e*P	**P**	**15 48 10.9**	**-0.5**		
KK31	**Karatay Array**	**64.65**	**318**	*i* P	**P**	**15 48 10.3**	**-1.4**		
KK31				pmax	pmax				
	comp=Z,24nm,0.6s								
KK31	**Karatay Array**	**64.65**	**318**	P	**P**	**15 48 10.8**	**-0.9**		
KK31				IAmb	IAmb	15 48 18.7			
	comp=Z,37nm,0.8s								
KKAR	**Karatay Array**	**64.65**	**318**	P	**P**	**15 48 10.6**	**-1.1**		
KKAR				pmax	pmax				
	comp=Z,37nm,0.8s								
KKAR	**Karatay Array**	**64.65**	**318**	P	**P**	**15 48 10.6**	**-1.1**		
KKAR				IAmb	IAmb	15 48 18.7			
	comp=Z,37nm,0.8s								
CHM	**Chimkent**	**64.95**	**317**	*e*P	**P**	**15 48 13.9**	**+0.2**		
CHM	**Chimkent**	**64.95**	**317**	*e*P	**P**	**15 48 13.9**	**+0.2**		
BRZS	**Berezniki**	**66.36**	**325**	*e*P	**P**	**15 48 21.1**	**-1.6**		
	comp=Z,348nm,5.3s								
BRZS				*e*LR	LR	16 17 17.5			
	comp=Z,1μm,20.5s								
BRZS	**Berezniki**	**66.36**	**325**	*e*P	**P**	**15 48 21.0**	**-1.6**		
BRZS				MLR	MLR				
	comp=Z,1μm,21.0s								
HRA	**Herat**	**67.93**	**307**	P	**P**	**15 48 32.2**	**-1.0**		
HRA				IAMs_20	IAMs_20	16 23 17.9			
	comp=Z,2μm,20.0s								
CASY	**Casey**	**68.37**	**187**	P	**P**	**15 48 35.0**	**+0.1**		
WBK	**Wadi Bani Khal**	**68.52**	**294**	P	**P**	**15 48 34.8**	**-2.1**		
WSAR	**Wadi Sarin**	**68.92**	**294**	P	**P**	**15 48 38.2**	**-1.0**		
	comp=Z,11nm,0.8s,baz=131,slow=3.6,SNR=6.7								
KIWB	**Kanaga Island**	**68.97**	**34**	P	**P**	**15 48 39.1**	**+0.1**		
BRVK	**Borovoye**	**69.13**	**328**	*i* P	**P**	**15 48 39.2**	**-0.8**		
BRVK				pmax	pmax				
	comp=Z,40nm,0.7s								
BRVK	**Borovoye**	**69.13**	**328**	P	**P**	**15 48 38.9**	**-1.1**		
BRVK				IAmb	IAmb	15 48 57.0			
	comp=Z,51nm,0.8s								
BRVK	**Borovoye**	**69.13**	**328**	IAMs_20	IAMs_20	16 19 25.5			
	comp=Z,2μm,20.0s								
JMDO	**Jabal Madar**	**69.28**	**293**	P	**P**	**15 48 40.7**	**-0.9**		
BIDO	**Bidbid**	**69.41**	**295**	P	**P**	**15 48 41.8**	**-0.5**		
DQM	**DQM**	**69.52**	**291**	P	**P**	**15 48 42.6**	**-0.4**		
	SNR=5.4								
BSY	**Bisya**	**70.16**	**294**	P	**P**	**15 48 45.3**	**-1.6**		
HOQ	**Hoqain**	**70.16**	**295**	P	**P**	**15 48 48.6**	**+1.7**		
TIXI	**Tiksi**	**70.25**	**1***d*	*i* P	**P**	**15 48 46.3**	**-0.2**		
TIXI				pmax	pmax				
	comp=Z,38nm,0.8s								
TIXI	**Tiksi**	**70.25**	**1**	P	**P**	**15 48 45.4**	**-1.1**		
TIXI				IAmb	IAmb	15 48 48.3			
	comp=Z,54nm,0.9s								
TIXI				IAMs_20	IAMs_20	16 25 36.8			
	comp=Z,2μm,19.0s								
ATKA	**Atka Island**	**70.78**	**34**	P	**P**	**15 48 50.5**	**+0.4**		
ATKA				IAmb	IAmb	15 49 10.5			
	comp=Z,116nm,1.0s								
ARQ	**Araqi**	**70.85**	**294**	P	**P**	**15 48 50.2**	**-0.9**		
MSEY	**Mahe Island**	**70.91**	**265**	IAMs_20	IAMs_20	16 16 29.1			
	comp=Z,3μm,22.0s								
SOHO	**SOHO**	**70.94**	**295**	P	**P**	**15 48 51.2**	**-0.5**		
SHAO	**Shalim**	**71.14**	**288**	P	**P**	**15 48 53.2**	**+0.3**		
UOSS	**Minazif**	**71.34**	**296**	P	**P**	**15 48 53.7**	**-0.4**		
UOSS	**Minazif**	**71.34**	**296**	P	**P**	**15 48 53.7**	**-0.4**		
BANOM	**Banah**	**71.38**	**297**	P	**P**	**15 48 54.8**	**+0.4**		
BANOM	**Banah**	**71.38**	**297**	P	**P**	**15 48 54.9**	**+0.6**		
HATD	**Hatta, Dubai**	**71.39**	**296**	P	**P**	**15 48 53.9**	**-0.5**		
HATD	**Hatta, Dubai**	**71.39**	**296**	P	**P**	**15 48 54.0**	**-0.5**		
MSFE	**Esma-Masafi**	**71.43**	**296**	P	**P**	**15 48 55.1**	**+0.5**		
ASHO	**Ashiyiah**	**71.44**	**296**	P	**P**	**15 48 54.7**	**0.0**		
ASHO	**Ashiyiah**	**71.44**	**296**	P	**P**	**15 48 55.0**

MLH Mauna Loa 78.64 70 P **P** **15 49 37.8 +1.2**
SDPT Sand Point 79.48 34 P **P** **15 49 40.1 0.0**
ABPO Ambohimpanom 80.01 251 P **P** **15 49 43.2 -0.8**
ABPO pmax pmax
comp=Z,64nm,1.5s
ABPO Ambohimpanom 80.01 251 P **P** **15 49 43.2 -0.8**
ABPO Ambohimpanom 80.01 251 IAMs_20 IAMs_20 16 21 02.3
comp=Z,1µm,21.0s
AKT Akhty 80.50 312 *e*P **P** **15 49 45.4 -0.8**
AKT pmax pmax
comp=Z,55nm,0.6s
MAK Makhachkala 80.84 313 *e*P P 15 49 42.6 -5.1
MAK *e*S **S** **15 59 47.5 -6.4**
MAK pmax pmax
comp=Z,388nm,1.3s
MAK MLR MLR
comp=Z,705nm,19.0s
RAYN Ar Rayn 80.95 293 *i* P **P** **15 49 48.0 -0.9**
SNR=58
RAYN Ar Rayn 80.95 293 P **P** **15 49 47.7 -1.1**
RAYN pmax pmax
comp=Z,54nm,1.0s
RAYN MLR MLR
comp=Z,900nm,20.0s
RAYN Ar Rayn 80.95 293 P **P** **15 49 47.7 -1.1**
RAYN IAmb IAmb 15 49 54.1
comp=Z,54nm,0.9s
RAYN IAMs_20 IAMs_20 16 28 20.6
comp=Z,870nm,20.0s
VNDA Vanda 81.11 173 P **P** **15 49 49.0 +0.5**
comp=Z,23nm,0.6s,baz=320,slow=5.9,SNR=56
VNDA LR LR 16 26 36.4
comp=Z,653nm,20.1s,baz=342,slow=36
VNDA Vanda 81.11 173 P **P** **15 49 48.5 0.0**
MAW Mawson 81.32 200 P **P** **15 49 51.2 +1.4**
baz=81,SNR=30
MAW Mawson 81.32 200 P **P** **15 49 51.2 +1.4**
comp=Z,34nm,0.6s,baz=72,slow=4.8,SNR=58
MAW LR LR 16 22 14.4
comp=Z,540nm,21.4s,baz=59,slow=33
MAW Mawson 81.32 200 P **P** **15 49 50.1 +0.3**
DAMY Dhamar 81.75 284 P **P** **15 49 55.0 +1.5**
DAMY IAmb IAmb 15 50 26.8
comp=Z,51nm,1.0s
KIRV Kirov 82.01 329 P **P** **15 49 53.4 -0.2**
comp=Z,118nm,0.6s,baz=88,slow=0.6,SNR=57
SBA Scott Base 82.03 172 P **P** **15 49 54.6 +1.2**
SBA pmax pmax
comp=Z,55nm,1.1s
SBA MLR MLR
comp=Z,900nm,21.0s
SBA Scott Base 82.03 172 P **P** **15 49 54.6 +1.2**
SBA IAmb IAmb 15 50 00.6
comp=Z,55nm,1.1s
GROC Groznyy 82.11 313 *e*P **P** **15 49 56.2 +1.7**
GROC pmax pmax
comp=Z,88nm,1.0s
GNI Garni 82.62 310⇑ *e*P **P** **15 49 57.1 -0.4**
GNI pmax pmax
comp=Z,28nm,1.2s
GNI Garni 82.62 310 P **P** **15 49 57.2 -0.3**
comp=Z,5.9nm,0.7s,baz=146,slow=5.7,SNR=4.8
GNI Garni 82.62 310 P **P** **15 49 58.2 +0.7**
GNI IAmb IAmb 15 50 24.3
comp=Z,49nm,0.8s
TBLG Delisi 82.75 312 P **P** **15 49 57.2 -0.8**
TBLG pmax pmax
comp=Z,71nm,0.6s
TBLG Delisi 82.75 312 P **P** **15 49 57.1 -0.8**
TBLG IAmb IAmb 15 50 02.9
comp=Z,71nm,0.6s
SII Sitkinak Islan 83.18 33 P **P** **15 49 59.8 -0.1**
ATD Arta Tunnel 83.23 281 P **P** **15 50 02.2 +1.2**
comp=Z,20nm,0.7s,baz=52,slow=3.2,SNR=7.5
ATD Arta Tunnel 83.23 281 P **P** **15 50 00.5 -0.5**
ATD IAmb IAmb 15 50 11.0
comp=Z,65nm,1.1s
TTA Tatalina 83.28 27 P **P** **15 50 01.0 +0.7**
TTA Tatalina 83.28 27 P **P** **15 50 00.9 +0.7**
ZEI Tsey 83.46 313 *e*P **P** **15 49 57.7 -4.1**
ZEI pmax pmax
comp=Z,75nm,0.7s
AKH Akhalkalaki 83.66 311 P **P** **15 50 02.8 0.0**
AKH pmax pmax
comp=Z,76nm,0.9s
AKH Akhalkalaki 83.66 311 ⇓P **P** **15 50 03.7 +0.9**
AKH Akhalkalaki 83.66 311 P **P** **15 50 02.8 0.0**
AKH IAmb IAmb 15 50 09.9
comp=Z,76nm,0.9s
OHAK Old Harbor 83.76 33 P **P** **15 50 03.1 +0.4**
KDAK Kodiak Island 84.20 32 P **P** **15 50 05.2 +0.2**
KDAK pmax pmax
comp=Z,93nm,0.9s
KDAK Kodiak Island 84.20 32 P **P** **15 50 05.2 +0.2**
GOF Gofitskoye 84.24 315⇑ *e*P **P** **15 50 04.9 -0.6**
GOF pmax pmax
comp=Z,56nm,0.7s
KBZ Khabaz 84.25 314*c i*P **P** **15 50 05.2 -0.3**
KBZ Khabaz 84.25 314 P **P** **15 50 05.6 0.0**
comp=Z,16nm,0.6s,baz=108,slow=4.3,SNR=60
PRGR Permogore 84.37 332⇑ *i*P **P** **15 50 04.8 -0.9**
PRGR *e* 15 50 23.5
PRGR *e*S **S** **16 00 27.8 -1.4**
PRGR pmax pmax
comp=Z,68nm,0.6s
KVAR Kislovodsk Arr 84.41 314 P **P** **15 50 07.8 +1.3**
comp=Z,11nm,0.7s,baz=130,slow=4.8,SNR=14
KIV Kislovodsk 84.42 314 *i* P **P** **15 50 06.5 0.0**
SNR=16
KIV Kislovodsk 84.42 314 *e*P **P** **15 50 06.2 -0.3**
KIV *e* 16 00 27.7
KIV *e*SS SS 16 06 01.9 +0.5
KIV pmax pmax
comp=Z,149nm,3.2s
KIV pmax pmax
comp=Z,126nm,1.0s
KIV MLR MLR
comp=Z,1µm,19.0s
KIV Kislovodsk 84.42 314 ⇑P **P** **15 50 06.5 0.0**
KIV mb 15 50 21.6
KIV Kislovodsk 84.42 314 P **P** **15 50 05.8 -0.7**
KIV IAmb IAmb 15 50 24.7
comp=Z,53nm,0.9s
RSO Redoubt Soth 84.44 29 P **P** **15 50 06.7 +0.3**
PPT Papeete 84.88 108 LR LR 16 25 24.5
comp=Z,318nm,20.6s,baz=262,slow=34
PPT2 Papeete2 84.88 108 *e*S **S** **16 00 34.6 -1.6**
comp=Z,1µm,23.5s
PPT2 Papeete2 84.88 108 *e*LR LR 16 16 57.2
comp=Z,2µm,28.8s
HOM Homer 84.90 30 P **P** **15 50 08.8 +0.3**
PPLA Purkeypile 85.00 27 P **P** **15 50 09.2 +0.1**
PPLA IAmb IAmb 15 51 01.4
comp=Z,54nm,1.2s
SKT Skwentna 85.20 28 P **P** **15 50 09.2 -0.8**
SKT IAmb IAmb 15 50 12.0
comp=Z,34nm,0.7s
BRLK Bradley Lake 85.29 30 P **P** **15 50 10.1 -0.4**
TBI Tubuai 85.31 113 *e*S **S** **16 00 36.6 -3.5**
comp=Z,1µm,26.5s
TBI Tubuai 85.31 113 *e*LQ LQ 16 13 24.7
comp=Z,901nm,33.8s
TBI *e*LR LR 16 17 12.8
comp=Z,1µm,34.5s
VRH Novokhopyorsk 85.52 321 *e*P **P** **15 50 11.1 -0.6**
VRH *e*S **S** **16 00 39.2 -1.8**
VRH pmax pmax
comp=Z,330nm,0.7s
VRH smax smax
comp=N,400nm,4.6s
SUA Susitna One 85.52 29 P **P** **15 50 10.9 -0.8**
KTH Kantishna Hill 85.65 26 P **P** **15 50 11.8 -0.4**
BPAW Bear Paw Mtn. 85.68 26 P **P** **15 50 11.9 -0.4**
BPAW IAMs_20 IAMs_20 16 30 18.4
comp=Z,870nm,20.0s
MLY Manley 85.88 25 P **P** **15 50 12.9 -0.4**
TRF Thorofare Moun 85.92 27 P **P** **15 50 12.8 -0.9**
RC01 Rabbit Creek A 85.98 29 P **P** **15 50 13.4 -0.4**
SEW Seward 86.04 30 P **P** **15 50 14.2 +0.1**
PMR Palmer 86.31 28 P **P** **15 50 15.4 0.0**
PMR pmax pmax
comp=Z,37nm,0.8s
PMR Palmer 86.31 28 P **P** **15 50 15.4 0.0**
PMR IAmb IAmb 15 50 18.8
comp=Z,37nm,0.8s

COLD Coldfoot 86.31 23 P **P** **15 50 16.0 +0.6**
GHO Glory Hole Cre 86.42 28 P **P** **15 50 16.1 0.0**
GHO IAmb IAmb 15 50 44.0
comp=Z,28nm,0.8s
NEA Nenana 86.55 26 P **P** **15 50 16.6 +0.1**
NEA IAmb IAmb 15 50 56.7
comp=Z,34nm,1.0s
MCK McKinley 86.55 26 P **P** **15 50 15.8 -0.9**
MCK pmax pmax
comp=Z,27nm,0.8s
MCK McKinley 86.55 26 P **P** **15 50 15.8 -0.9**
MCK IAmb IAmb 15 50 17.7
comp=Z,27nm,0.8s
SOC Sochi 86.55 313 *e*P **P** **15 50 15.0 -2.0**
SOC *e**SP **pP** **15 50 23.3 -3.7**
SOC *e* 15 53 36.4
SOC *e*S S 16 00 38.8 -13
SOC *e*SSS SSS 16 10 00.8
SOC pmax pmax
comp=Z,83nm,0.7s
RND Reindeer 86.56 27 P **P** **15 50 15.7 -1.1**
RND pmax pmax
comp=Z,29nm,0.8s
RND Reindeer 86.56 27 P **P** **15 50 15.7 -1.1**
RND IAmb IAmb 15 50 17.6
comp=Z,29nm,0.8s
KNK Knik Glacier 86.62 29 P **P** **15 50 16.6 -0.4**
KNK IAmb IAmb 15 50 39.8
comp=Z,79nm,1.0s
TOLK Toolik Lake Re 86.67 21 P **P** **15 50 18.2 +1.0**
baz=265
TOLK Toolik Lake Re 86.67 21 P **P** **15 50 17.4 +0.3**
TOLK IAmb IAmb 15 50 19.8
comp=Z,39nm,0.8s
SML Sawmill 86.70 28 P **P** **15 50 17.1 -0.4**
SML IAmb IAmb 15 50 19.8
comp=Z,45nm,0.7s
MDM Murphy Dome 86.93 25 P **P** **15 50 17.1 -1.4**
WRH Wood River Hil 86.97 26 P **P** **15 50 17.2 -1.4**
VORD Divnogorie 87.04 321 *e*P **P** **15 50 18.2 -1.0**
VORD pmax pmax
comp=Z,60nm,0.6s
TCOL CIGO, UAF Yank 87.09 25 P **P** **15 50 18.6 -0.5**
baz=267
COLA College 87.09 25⇑ *e*P **P** **15 50 18.7 -0.5**
COLA pmax pmax
comp=Z,7.0nm,0.7s
COLA College 87.09 25 P **P** **15 50 18.1 -1.0**
CCB Clear Creek Bu 87.10 25 P **P** **15 50 18.6 -0.6**
VORR Voronezh 87.11 321 P **P** **15 50 19.0 -0.6**
VORR pmax pmax
comp=Z,400nm,1.6s
VSR Storozhevoye 87.12 321 *e*P **P** **15 50 19.1 -0.6**
VSR *e*S **S** **16 00 54.9 -1.8**
VSR pmax pmax
comp=Z,100nm,0.7s
VSR smax smax
comp=N,30nm,1.4s
SCM Sheep Creek Mo 87.18 28 P **P** **15 50 19.0 -0.8**
SCM Sheep Creek Mo 87.18 28 P **P** **15 50 19.0 -0.8**
SCM IAmb IAmb 15 50 23.1
comp=Z,38nm,0.8s
DHY Denali Highway 87.21 27 P **P** **15 50 19.7 -0.4**
DHY IAmb IAmb 15 50 49.3
comp=Z,49nm,1.5s
GLI Glacier Island 87.25 29 P **P** **15 50 19.5 -0.5**
GLI IAmb IAmb 15 50 41.8
comp=Z,30nm,0.8s
POKR Poker Plat Res 87.28 25 P **P** **15 50 20.3 +0.2**
baz=267,SNR=8.3
LPSR Galich'ya Gora 87.31 322 *e*P **P** **15 50 20.2 -0.3**
LPSR *e*S **S** **16 00 55.8 -2.6**
LPSR pmax pmax
comp=Z,140nm,0.9s
LPSR smax smax
comp=E,70nm,2.6s
HDA Harding Lake 87.46 26 P **P** **15 50 20.1 -0.9**
baz=268,SNR=28
HDA Harding Lake 87.46 26 P **P** **15 50 19.1 -1.9**
HDA IAmb IAmb 15 50 21.8
comp=Z,28nm,0.8s
IL31 87.50 25 P **P** **15 50 19.2 -1.9**
ILAR Eielson Array 87.50 25 P **P** **15 50 19.4 -1.9**
comp=Z,5.8nm,0.8s,baz=238,slow=5.0,SNR=70
ILAR PKKP **PKKPdf** **16 08 07.7 +1.0**
comp=Z,1.1nm,0.7s,baz=109,slow=1.7,SNR=6.5
ILAR LR LR 16 27 54.6
comp=Z,179nm,20.5s,baz=272,slow=35
FID Port Fidalgo 87.55 29 P **P** **15 50 21.4 -0.1**
FID IAmb IAmb 15 50 23.9
comp=Z,26nm,0.8s
TMCR Tamitsa 88.03 334 *e*P **P** **15 50 24.0 +0.3**
TMCR pmax pmax
comp=Z,49nm,0.9s
PAX Paxson 88.08 27 P **P** **15 50 23.6 -0.5**
PAX pmax pmax
comp=Z,33nm,1.1s
PAX Paxson 88.08 27 P **P** **15 50 23.6 -0.5**
PAX IAmb IAmb 15 50 45.7
comp=Z,33nm,1.1s
PRP Porcupine Dome 88.09 25 P **P** **15 50 22.4 -1.8**
MOS Moscow 88.12 326 *e*P **P** **15 50 21.5 -2.8**
MOS *e* 15 53 48.0
MOS pmax pmax
comp=Z,102nm,0.6s
ANN Anapa 88.21 315 *e*P **P** **15 50 23.3 -1.7**
ANN *e*S **SKSac** **16 00 49.0 -2.4**
ANN *e* 16 01 02.9
ANN pmax pmax
comp=N,26nm,0.8s
ANN pmax pmax
comp=Z,155nm,0.7s
ANN pmax pmax
comp=E,35nm,0.8s
ANN MLR MLR
comp=E,2µm,22.0s
ANN MLR MLR
comp=Z,2µm,22.0s
ANN MLR MLR
comp=N,862nm,22.0s
KIBK Kibwezi 88.21 268 P **P** **15 50 27.4 +1.6**
SNR=17
KIBK Kibwezi 88.21 268 *i* P P 15 50 19.2 -6.6
FYU Fort Yukon 88.23 24 P **P** **15 50 24.5 -0.1**
FYU IAmb IAmb 15 50 50.2
comp=Z,59nm,1.2s
RIDG Independent Ri 88.37 26 P **P** **15 50 24.6 -0.8**
RIDG IAmb IAmb 15 50 27.2
comp=Z,37nm,0.7s
GAZ Gaziantep 88.41 307 P **P** **15 50 26.1 -0.2**
DOT Dot Lake 88.72 27 P **P** **15 50 26.5 -0.5**
DOT IAmb IAmb 15 50 28.9
comp=Z,23nm,0.7s
ASF Jabal al Asfar 88.72 302 P **P** **15 50 28.8 +1.0**
comp=Z,71nm,1.0s,baz=54,slow=3.1,SNR=46
OBN Obninsk 88.72 325⇑ *e*P **P** **15 50 26.0 -1.2**
OBN *i* S **S** **16 01 10.3 -1.4**
OBN *e*PS **PnS** **16 02 18.6 0.0**
OBN pmax pmax
comp=Z,43nm,0.7s
OBN MLR MLR
comp=Z,2µm,22.0s
OBN Obninsk 88.72 325 P **P** **15 50 26.5 -0.7**
comp=Z,9.4nm,0.6s,baz=37,slow=7.4,SNR=9.6
OBN Obninsk 88.72 325 P **P** **15 50 26.4 -0.7**
SCRK Sand Creek 88.75 26 P **P** **15 50 26.4 -0.9**
GLB Gilahina Butte 88.85 29 P **P** **15 50 27.4 -0.4**
MENT Mentasta 88.88 27 P **P** **15 50 27.7 -0.1**
MENT IAmb IAmb 15 50 33.1
comp=Z,28nm,0.8s
KMBO Kilima Mbogo 88.98 269 *i* P **P** **15 50 30.8 +1.2**
SNR=13
KMBO Kilima Mbogo 88.98 269 *i* P **P** **15 50 30.8 +1.2**
KMBO pmax pmax
comp=Z,5.0nm,0.5s
KMBO Kilima Mbogo 88.98 269 P **P** **15 50 30.6 +1.0**
comp=Z,5.2nm,0.5s,baz=72,slow=4.7,SNR=26
KMBO LR LR 16 27 33.5
comp=Z,2µm,21.2s,baz=94,slow=34
KMBO Kilima Mbogo 88.98 269 *i* S **P** **15 50 33.1 +3.5**
KMBO *i* S P 15 50 35.2 +5.6
KMBO Kilima Mbogo 88.98 269 P **P** **15 50 30.3 +0.7**
KMBO IAmb IAmb 15 50 60.0
comp=Z,54nm,1.2s
VRDI Verde Repeater 89.03 29 P **P** **15 50 28.5 -0.2**

CRQM Cirque 89.19 29 P **P** **15 50 29.6 0.0**
CRQM IAmb IAmb 15 50 35.2
comp=Z,67nm,1.5s
MCARA McCarthy VSAT 89.23 29 P **P** **15 50 30.3 +0.8**
MCARA IAmb IAmb 15 50 33.4
comp=Z,26nm,0.9s
TGL Tana Glacier 89.34 29 P **P** **15 50 30.4 +0.2**
BALM Baldy 89.57 29 P **P** **15 50 31.6 +0.4**
BALM pmax pmax
comp=Z,27nm,1.3s
BALM Baldy 89.57 29 P **P** **15 50 31.6 +0.4**
DIKM Dikmen 89.85 311 ⇓P **P** **15 50 32.9 +0.1**
DIKM mb 15 50 48.9
APA Apatity 89.87 337⇑ *i*P **P** **15 50 33.1 +0.8**
APA pmax pmax
comp=Z,13nm,0.7s
BARN Barnard Glacie 89.90 29 P **P** **15 50 33.3 +0.5**
BARN IAmb IAmb 15 50 35.4
comp=Z,38nm,1.0s
EGAK Eagle 89.95 25 P **P** **15 50 32.3 -0.4**
MMAI Mount Meron Ar 89.97 303 P **P** **15 50 34.3 +0.7**
comp=Z,19nm,0.5s,baz=84,slow=7.6,SNR=54
SYO Syowa Base 90.00 201 ⇓*i*P **P** **15 50 32.0 -0.8**
SYO Syowa Base 90.00 201 ⇓*i*X P 15 50 42.4 +10
EIL Elat 90.45 300 P **P** **15 50 36.0 +0.1**
comp=Z,13nm,0.6s,baz=29,slow=1.9,SNR=22
EIL Elat 90.45 300 P **P** **15 50 36.3 +0.4**
SIM Simferopol' 90.56 315*de*P **P** **15 50 36.4 +0.3**
SIM *e* 16 01 08.0
SIM *e*S **S** **16 01 30.0 +0.6**
SIM pmax pmax
comp=Z,64nm,0.7s
LODK Lodwar 90.76 273 P **P** **15 50 39.5 +1.7**
SNR=9.0
DAWY Dawson 90.76 26 P **P** **15 50 36.3 -0.4**
DAWY IAmb IAmb 15 50 39.2
comp=Z,20nm,0.8s
JOF Joensuu 91.08 333 P **P** **15 50 36.9 -1.1**
JOF pmax pmax
comp=Z,27nm,0.9s
BR131 Keskin Array S 91.15 310 P **P** **15 50 38.4 -0.7**
SNR=6.3
BR131 Keskin Array S 91.15 310*c i*P **P** **15 50 37.9 -1.2**
BR131 Keskin Array S 91.15 310 P **P** **15 50 37.6 -1.5**
BRTR Keskin Array B 91.15 310 P **P** **15 50 37.9 -1.2**
comp=Z,13nm,0.7s,baz=128,slow=5.0,SNR=54
BRTR PKKP **PKKPdf** **16 08 00.1 +0.1**
comp=Z,0.8nm,0.7s,baz=227,slow=4.3,SNR=4.8
BRTR LR LR 16 36 09.4
comp=Z,292nm,21.1s,baz=60,slow=39
QSPA South Pole Qui 91.23 180 PKKP **PKKPdf** **16 08 00.4 -0.5**
comp=Z,1.4nm,0.7s,baz=215,slow=0.7,SNR=6.7
QSPA South Pole Qui 91.23 180 P **P** **15 50 39.3 +0.4**
CSS Mathiatis 91.61 305 P **P** **15 50 40.2 -1.0**
EPYK Eagle Plains 91.65 24 P **P** **15 50 40.1 -0.6**
baz=277
EPYK Eagle Plains 91.65 24 P **P** **15 50 40.0 -0.6**
EPYK IAmb IAmb 15 50 42.9
comp=Z,31nm,1.0s
MSF Maaselka 91.74 336 P **P** **15 50 40.1 -1.0**
ANTO Ankara 91.79 310 P **P** **15 50 41.7 -0.3**
ANTO pmax pmax
comp=Z,17nm,1.1s
HYT Haines Junctio 91.94 29 P **P** **15 50 42.4 +0.1**
HYT IAmb IAmb 15 50 44.7
comp=Z,25nm,1.0s
ARCES ARCESS Array B 92.52 340 P **P** **15 50 43.4 -1.2**
comp=Z,20nm,0.7s,baz=75,slow=5.5,SNR=26
ARCES PKKP **PKKPdf** **16 07 57.8 -0.1**
comp=Z,1.6nm,0.5s,baz=268,slow=2.4,SNR=17
ARE0 ARCESS Array S 92.52 340 *e*P **P** **15 50 43.6 -1.0**
ARE0 ARCESS Array S 92.52 340 P **P** **15 50 43.5 -1.1**
INK Inuvik 92.59 21 P **P** **15 50 44.5 -0.4**
comp=Z,12nm,0.9s,baz=271,slow=4.0,SNR=25
INK PKKP **PKKPdf** **16 07 58.0 +0.3**
comp=Z,1.7nm,0.5s,baz=106,slow=0.9,SNR=6.3
INK Inuvik 92.59 21 P **P** **15 50 44.1 -0.8**
INK IAmb IAmb 15 51 09.4
comp=Z,27nm,1.1s
SPA0 Spitsbergen Ar 92.73 349 *e*P **P** **15 50 45.0 -0.5**
SPA0 Spitsbergen Ar 92.73 349 P **P** **15 50 44.4 -1.0**
SPITS Spitsbergen Ar 92.73 349 P **P** **15 50 44.7 -0.8**
SPITS pmax pmax
comp=Z,15nm,0.6s
SPITS Spitsbergen Ar 92.73 349 P **P** **15 50 45.0 -0.5**
comp=Z,22nm,0.7s,baz=90,slow=7.5,SNR=19
HAMF Hammerfest 92.91 341 *e*P **P** **15 50 45.2 -1.1**
OUL Oulu 93.16 335 P **P** **15 50 46.7 -0.9**
OUL pmax pmax
comp=Z,31nm,1.3s
SKAG Skagway 93.19 30 P **P** **15 50 47.2 -0.7**
WHY Whitehorse 93.24 29 P **P** **15 50 48.5 +0.3**
WHY IAmb IAmb 15 50 50.8
comp=Z,34nm,0.8s
KBS Kingsbay 93.27 350 *e*P **P** **15 50 47.6 -0.3**
HSPB Hornsund (broa 93.31 348 *e*P **P** **15 50 46.3 -1.8**
KTK1 Kautokeino 93.42 339 *e*P **P** **15 50 47.7 -1.0**
AKASG Malin Array Be 93.42 321 *i* P **P** **15 50 48.5 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 93.42 321 P **P** **15 50 47.6 -1.5**
comp=Z,3.5nm,0.5s,baz=64,slow=6.0,SNR=16
AKASG LR LR 16 36 51.8
comp=Z,961nm,21.1s,baz=75,slow=38
AKBB Malin Array Si 93.42 321 P **P** **15 50 47.1 -2.0**
AKBB pmax pmax
comp=Z,17nm,0.9s
AKBB Malin Array Si 93.42 321 P **P** **15 50 47.1 -2.0**
KIEV Kiev 93.43 321 P **P** **15 50 49.0 -0.2**
SUF Sumiainen 93.45 333 P **P** **15 50 50.4 +1.4**
SUF pmax pmax
comp=Z,33nm,2.1s
FINES FINESS Array B 93.70 332 P **P** **15 50 49.0 -1.2**
FINES FINESS Array B 93.70 332 P **P** **15 50 49.0 -1.2**
comp=Z,4.2nm,0.5s,baz=66,slow=4.8,SNR=31
FINES LR LR 16 36 39.4
comp=Z,993nm,19.8s,baz=78,slow=38
MICGM Minsk 93.78 325 *e*P **P** **15 50 48.0 -2.7**
MICGM *e*LR LR 16 32 00.0
MNK Minsk 93.78 325 *e*P **P** **15 50 48.0 -2.7**
TAOE Nuku Hiva Isla 93.80 99 *e*LR LR 16 21 12.4
comp=Z,1µm,23.1s
JIS Juneau Island 93.85 31 P **P** **15 50 51.2 +0.3**
JIS IAmb IAmb 15 50 55.8
comp=Z,29nm,0.8s
VSU Vasula 93.85 329 *e*P **P** **15 50 51.1 +0.2**
VSU IAmb IAmb 15 50 57.5
comp=Z,42nm,0.7s
KIS Kishinev 94.09 317 *e*P P 15 51 04.0 +12
KIS *e*L L 16 30 50.0
KIS LRM MLR 16 38 00.0
comp=Z,700nm,20.0s
KIS Kishinev 94.09 317 *e*P P 15 51 04.0 +12
KIS *e* 16 03 25.0
MILM Milestii Mici 94.11 317⇑P **P** **15 50 51.3 -1.1**
ELL Elmali 94.27 307 P **P** **15 50 52.7 -0.9**
ELL pmax pmax
comp=Z,76nm,0.6s
ELL Elmali 94.27 307 P **P** **15 50 52.7 -0.9**
SORM Soroca 94.28 318 P **P** **15 50 51.9 -1.2**
SORM Soroca 94.28 318⇑P **P** **15 50 52.0 -1.2**
TLCR 94.29 315 P **P** **15 50 52.1 -1.1**
TLCR 94.29 315⇑P **P** **15 50 52.1 -1.1**
TLCR mb 15 50 57.7
JURR Jurilovca 94.29 315⇑P **P** **15 50 52.8 -0.5**
JURR mb 15 50 54.5
YLV Yalova 94.35 311⇑P **P** **15 50 53.3 -0.4**
YLV mb 15 51 13.1
IZAR Zarasai 94.53 326 *e*P **P** **15 50 57.0 +2.9**
IZAR IAmb IAmb 15 51 09.9
comp=Z,8.4nm,0.9s
IIGN Ignalina 94.61 326 *e*P **P** **15 50 52.7 -1.8**
IIGN IAmb IAmb 15 51 05.2
comp=Z,8.4nm,0.9s
ISAL Salakas 94.63 326 *e*P **P** **15 50 53.6 -1.0**
TIRR Tirgusor 94.66 315 P **P** **15 50 54.7 -0.2**
TIRR pmax pmax
comp=Z,53nm,1.1s
TRO Tromso 94.74 340 *e*P **P** **15 50 53.1 -1.6**
ICOR Ion Corvin 95.13 314⇑P **PKKPdf** **16 07 49.2 -3.6**
WRAK Wrangell Islan 95.24 33 P **P** **15 50 58.0 +0.7**
MBAR Mbarara 95.48 270 IAMs_20 IAMs_20 16 31 22.0
comp=Z,1µm,20.0s
TESR Tescani 95.63 317⇑P **P** **15 50 58.9 -0.5**

C36M **Paulatuk** 95.65 20 P P 15 50 58.2 -0.7
baz=289,SNR=40
VRI **Vrincioaia** 95.67 316 P P 15 50 59.8 +0.2
VRI pmax pmax
comp=Z,31nm,0.8s
VRI **Vrincioaia** 95.67 316 ⇑P P 15 51 00.3 +0.7
VRI **Vrincioaia** 95.67 316 ⇓P PKKPdf 16 07 51.7 -0.2
BISRR **Bisoca** 95.72 316 ⇓P P 15 51 00.1 +0.1
PLOR **Plostina** 95.72 316 P P 15 50 59.3 -0.5
PLOR **Plostina** 95.72 316 ⇑P P 15 50 59.4 -0.5
PLOR **Plostina** 95.72 316 ⇑P PKKPdf 16 07 50.8 -1.0
PABE **Paberze** 95.84 326 eP P 15 50 59.6 -0.5
PABE IAmb IAmb 15 51 14.1
comp=Z,33nm,0.6s
BIZ **Bicaz** 95.94 317 ⇑P P 15 51 00.4 -0.4
MLR **Muntele Rosu** 96.26 316 P P 15 51 02.5 0.0
comp=Z,8.9nm,0.8s,baz=55,slow=1,5,SNR=11
MLR **Muntele Rosu** 96.26 316 ⇑P P 15 51 01.8 -0.6
MLR **Muntele Rosu** 96.26 316 ⇓P PKKPdf 16 07 46.3 -4.6
MLR **Muntele Rosu** 96.26 316 P P 15 51 01.6 -0.9
MLR IAmb IAmb 15 51 11.3
comp=Z,28nm,1.0s
OZUR 96.28 316 ⇑P P 15 51 03.0 +0.6
BURAR **Bucovina Array** 96.44 318 P P 15 51 02.9 -0.3
BURAR **Bucovina Array** 96.44 318 ⇑P P 15 51 02.9 -0.3
BURAR mb 15 51 12.9
BURAR **Bucovina Array** 96.44 318 ⇑P PKKPbc 16 07 49.6 0.0
BUR08 **Bucovina Ar. S** 96.45 318 P P 15 51 02.7 -0.5
BUR08 IAmb IAmb 15 51 13.2
comp=Z,28nm,0.8s
STEI **Steigen** 96.55 339 eP P 15 51 01.1 -2.0
DOPR **Dopca** 96.58 316 ⇓P P 15 51 03.5 -0.3
SUW **Suwalki** 96.58 325 P P 15 51 02.6 -0.9
SUW pmax pmax
comp=Z,84nm,1.0s
SUW **Suwalki** 96.58 325 P P 15 51 02.0 -1.5
ELND **Elena** 96.67 313 ⇑P P 15 51 03.4 -0.8
VOIR 96.89 316 P P 15 51 06.2 +0.9
VOIR 96.89 316 ⇑P P 15 51 04.7 -0.6
VOIR 96.89 316 ⇑P PKKPbc 16 07 48.3 0.0
COPA **Copaceanca** 96.97 315 ⇑P P 15 51 05.9 +0.4
ARCR **ARCALIA** 97.11 318 ⇑P P 15 51 05.8 -0.2
MOR8 **Moi Rana** 97.46 338 eP P 15 51 05.6 -1.6
PLVB **Pleven** 97.51 314 ⇓P P 15 51 06.7 -1.3
CJR **Cluj-Napoca** 97.68 317 P Pdif 15 51 09.2 +0.4
CJR **Cluj-Napoca** 97.68 317 ⇓P Pdif 15 51 09.2 +0.4
LSZ **Lusaka** 98.08 255 P P 15 51 10.3 -1.0
LSZ pmax pmax
comp=Z,28nm,1.5s
LSZ MLR MLR
comp=Z,2µm,20.0s
LSZ **Lusaka** 98.08 255 P P 15 51 10.3 -1.0
LSZ IAmb IAmb 15 51 39.8
comp=Z,28nm,1.5s
TRPA **Tarpa** 98.12 319 eP P 15 51 08.0 -2.6
KOLS **Kolonicke sedl** 98.14 320 eP Pdif 15 51 12.4 +1.7
KOLS **Kolonicke sedl** 98.14 320 ePDIFF Pdif 15 51 12.4 +1.7
UZH **Uzhgorod** 98.19 319 eP P 15 51 07.0 -3.9
UZH e 15 51 20.0
UZH i 15 51 22.2
DRGR 98.27 318 P P 15 51 11.1 -0.3
DRGR pmax pmax
comp=Z,41nm,1.2s
DRGR 98.27 318 ⇓P P 15 51 10.8 -0.6
IDI **Anoyia** 98.47 306 P Pdif 15 51 13.0 +0.4
comp=Z,11nm,0.6s,baz=39,slow=10,SNR=12
GZR **Gura Zlata** 98.48 316 ⇓P P 15 51 12.5 +0.1
GZR **Gura Zlata** 98.48 316 ⇑P PKKPbc 16 07 42.0 -1.9
VTS **Vitosha** 98.64 313 P P 15 51 12.2 -1.1
VTS pmax pmax
comp=Z,15nm,1.1s
VTS MLR MLR
comp=Z,700nm,22.0s
VTS **Vitosha** 98.64 313 ⇑P P 15 51 12.2 -1.1
VTS mb 15 51 22.0
VTS **Vitosha** 98.64 313 P P 15 51 12.2 -1.1
VTS IAMs_20 IAMs_20 16 40 28.3
comp=Z,736nm,22.0s
NSS **Namsos** 99.03 336 eP Pdif 15 51 14.2 -0.1
SIRR **Siria** 99.08 317 ⇑P Pdif 15 51 14.6 -0.4
NVL **N'lazarevskaya** 99.10 198 eP Pdif 15 51 15.5 +1.0
NVL pmax pmax
comp=Z,6.0nm,0.9s
NVL MLR MLR
comp=Z,1µm,21.0s
KNT **Kendrikon** 99.14 312 P Pdif 15 51 13.8 -1.6
KNT pmax pmax
comp=Z,23nm,1.0s
BZS **Buzias** 99.24 317 ⇑P Pdif 15 51 14.6 -1.0
BZS **Buzias** 99.24 317 ⇑P PKKPbc 16 07 42.0 +0.4
NIE **Niedzica** 99.31 320 P Pdif 15 51 16.8 +0.9
NIE pmax pmax
comp=Z,7.0nm,1.2s
MDVR **Moldovita** 99.33 316 ⇓P Pdif 15 51 15.3 -0.9
VAY **Valandovo** 99.35 312 P Pdif 15 51 15.5 -0.8
VAY pmax pmax
comp=Z,29nm,1.5s
OJC **Ojcow** 99.44 321 P Pdif 15 51 16.9 +0.4
OJC pmax pmax
comp=Z,9.0nm,0.8s
OJC **Ojcow** 99.44 321 P Pdif 15 51 16.9 +0.4
GRG **Griva** 99.54 312 P Pdif 15 51 16.4 -0.8
DAG **Danmarks Havn** 99.56 352 iP Pdif 15 51 15.4 -1.0
DAG pmax pmax
comp=Z,11nm,0.7s
DAG **Danmarks Havn** 99.56 352 iP Pdif 15 51 15.4 -1.0
comp=Z,11nm,0.7s
LIT **Litokhoron** 99.62 311 P Pdif 15 51 15.6 -2.0
LIT pmax pmax
comp=Z,45nm,1.3s
LIT **Litokhoron** 99.62 311 Pdif 15 51 15.6 -2.0
LIT IAmb IAmb 15 51 24.9
comp=Z,45nm,1.3s
HFS **Hagfors** 99.90 332 LR LR 16 39 44.2
comp=Z,1µm,21.6s,baz=62,slow=37
LANS **Liptovska Anna** 99.90 320 eP Pdif 15 51 20.8 +2.2
LANS **Liptovska Anna** 99.90 320 ePDIFF Pdif 15 51 20.8 +2.2
PSZ **Piszkesteto** 99.91 319 P Pdif 15 51 18.7 0.0
PSZ pmax pmax
comp=Z,17nm,1.4s
PSZ **Piszkesteto** 99.91 319 eP Pdif 15 51 21.1 +2.4
BOSA **Boshof** 100.24 241 P Pdif 15 51 21.0 +0.3
comp=Z,2.7nm,0.8s,baz=153,slow=3.4,SNR=5.3
BOSA PKKPbc PKKPbc 16 07 37.9 -0.6
comp=Z,1.7nm,0.6s,baz=275,slow=4.7,SNR=3.7
RES **Resolute Bay** 100.27 10 P Pdif 15 51 19.8 +0.2
comp=Z,5.6nm,0.8s,baz=299,slow=6.1,SNR=27
RES PP PP 15 55 27.9 +2.6
comp=Z,3.4nm,0.9s,baz=322,slow=6.6,SNR=5.5
RES **Resolute Bay** 100.27 10 Pdif 15 51 19.4 -0.2
FNA **Florina** 100.34 312 P Pdif 15 51 18.9 -1.9
FNA pmax pmax
comp=Z,7.0nm,0.7s
FNA **Florina** 100.34 312 IAMs_20 IAMs_20 16 44 48.6
comp=Z,829nm,22.0s
NC405 **NORSAR Array S** 100.45 333 Pdif 15 51 19.4 -1.3
VYHS **Vyhne** 100.46 320 eP Pdif 15 51 22.0 +0.9
VYHS **Vyhne** 100.46 320 ePDIFF Pdif 15 51 22.0 +0.9
OKC **Ostrava-Krasne** 100.56 321 iP Pdif 15 51 24.3 +2.8
OKC **Ostrava-Krasne** 100.56 321 ePDIFF Pdif 15 51 24.3 +2.8
NC602 **NORSAR Array S** 100.67 333 eP Pdif 15 51 20.8 -0.9
NORES **NORESS Array B** 100.67 333 P Pdif 15 51 23.8 +2.1
NORES pmax pmax
comp=Z,1.0nm,0.4s
NB2 **NORSAR Subarra** 100.70 333 P Pdif 15 51 20.2 -1.7
comp=Z,6.8nm,0.9s,baz=69,slow=4.6
NB2 **NORSAR Subarra** 100.70 333 P Pdif 15 51 20.2 -1.7
baz=69,slow=4.6
NOA **NORSAR Array B** 100.70 333 P Pdif 15 51 20.4 -1.5
comp=Z,1.9nm,0.7s,baz=69,slow=4.4,SNR=11
NOA PP PP 15 55 33.9 +4.7
comp=Z,1.5nm,0.8s,baz=74,slow=7.4,SNR=3.3
NOA PKKPbc PKKPbc 16 07 37.1 -1.0
comp=Z,0.7nm,0.6s,baz=253,slow=2.3,SNR=5.4
MORC **Moravsky Berou** 100.96 321 P Pdif 15 51 25.0 +1.7
MORC **Moravsky Berou** 100.96 321 ⇓P Pdif 15 51 24.4 +1.1
MORH **Mrgy, Hungar** 101.13 318 eP Pdif 15 51 23.1 -1.0
DOMB **Dombas** 101.24 335 eP Pdif 15 51 23.6 -0.6
KRLC **Kraliky** 101.35 322 AMS AMS 16 39 20.0
comp=Z,800nm,20.3s
OSL **Oslo** 101.36 332 eP Pdif 15 51 24.2 -0.5
TIH **Tihany** 101.47 318 eP Pdif 15 51 23.0 -2.5
DPC **Dobruska-Polom** 101.56 322 iP Pdif 15 51 31.2 +5.2
DPC MLR MLR
comp=Z,1µm,20.3s
DPC **Dobruska-Polom** 101.56 322 ePDIFF Pdif 15 51 31.2 +5.2
DPC AMS AMS 16 41 10.0
comp=Z,1µm,20.3s
OSTC **Ostas** 101.56 322 ePDIFF Pdif 15 51 31.4 +5.5
OSTC AMS AMS 16 39 10.0
comp=Z,1µm,21.5s
PDG **Podgorica** 101.56 314 Pdif 15 51 25.7 -0.3
PDG IAMs_20 IAMs_20 16 42 12.9
comp=Z,823nm,22.0s
MPLH **Magyarpolny** 101.63 319 eP Pdif 15 51 25.1 -1.2
CHVC **Chvalec** 101.65 322 ePDIFF Pdif 15 51 32.9 +6.5
CHVC ePDIFF pPdif 15 51 34.0 -2.4
VRAC **Vranov** 101.68 321 P Pdif 15 51 26.8 +0.3
comp=Z,2.1nm,0.7s,baz=75,slow=4.5,SNR=5.1
UPC **Upice** 101.70 322 iP Pdif 15 51 27.6 +1.1
UPC MLR MLR
comp=Z,1µm,19.5s
UPC **Upice** 101.70 322 ePDIFF Pdif 15 51 27.6 +1.1
UPC AMS AMS 16 41 20.0
comp=Z,1µm,19.5s
KRUC **Moravsky** 101.87 321 P Pdif 15 51 28.3 +1.0
KRUC pmax pmax
comp=Z,8.0nm,2.1s
YKA **Yellowknife Ar** 101.90 24 P Pdif 15 51 27.4 +0.3
comp=Z,2.5nm,0.7s,baz=297,slow=4.4,SNR=37
YKA PKiKP PKiKP 15 55 49.7 -0.1
comp=Z,2.4nm,0.5s,baz=302,slow=1.9,SNR=30
YKA PKKPbc PKKPbc 16 07 28.0 -6.5
comp=Z,1.0nm,0.5s,baz=120,slow=3.3,SNR=10
KONO **Kongsberg** 101.99 332 eP Pdif 15 51 26.2 -1.4
SKAR **Skarslia** 102.15 334 eP Pdif 15 51 27.5 -0.8
TREC **Trest** 102.38 321 AMS AMS 16 41 50.0
comp=Z,1µm,17.9s
CONA **Conrad Observa** 102.53 320 iPdiff Pdif 15 51 29.2 -1.2
comp=Z,4.1nm,1.0s
CONA iPKiKP PKiKP 15 55 49.1 -2.5
comp=Z,7.4nm,1.1s
GOPC **GO Pecny, Ondr** 102.63 322 AMS AMS 16 42 10.0
comp=Z,1µm,21.9s
SNAA **Sanae** 102.76 195 PKKPbc PKKPbc 16 07 29.6 -2.8
comp=Z,1.5nm,0.4s,baz=2,4,slow=1.2,SNR=5.4
SNAA **Sanae** 102.76 195 IAMs_20 IAMs_20 16 40 23.8
comp=Z,854nm,20.0s
PRU **Pruhonice** 102.76 322 iP Pdif 15 51 33.0 +1.8
PRU MLR MLR
comp=Z,1µm,16.7s
PRU **Pruhonice** 102.76 322 ePDIFF Pdif 15 51 33.0 +1.8
PRU AMS AMS 16 42 10.0
comp=Z,1µm,16.7s
PRA **Prague** 102.80 322 AMS AMS 16 42 10.0
comp=Z,2µm,18.4s
BRG **Berggiesshubel** 102.85 323 ePDIFF Pdif 15 51 32.7 +1.1
comp=Z,5.6nm,0.7s
BRG **Berggiesshubel** 102.85 323 ePKP PKiKP 15 55 38.2 -14
comp=Z,4.9nm,1.0s
BRG **Berggiesshubel** 102.85 323 eP Pdif 15 51 32.7 +1.1
BRG pmax pmax
comp=Z,6.0nm,0.7s
D03D **Elden** 102.87 41 P Pdif 15 51 30.9 -0.9
baz=286
ARSA **Arzberg** 102.94 319 iPdiff Pdif 15 51 32.0 -0.1
comp=Z,4.6nm,1.1s
PBCC **Pribram** 103.19 322 ePDIFF Pdif 15 51 33.5 +0.3
CLL **Collm** 103.27 324 eP Pdif 15 51 29.0 -4.5
CLL e 15 54 56.0
CLL e 15 55 23.0
CLL ePP PP 15 55 48.0 -0.7
CLL iPKiKP PKiKP 15 55 54.2 +1.5
comp=Z,16nm,1.3s
CLL ePPP PPP 15 58 12.0
CLL eSKSac SKSac 16 02 24.0 +13
CLL eSdif Sdif 16 03 30.0 +11
CLL ePPS PPS 16 05 42.0
CLL eSS SS 16 10 24.0 -5.5
CLL e 16 11 06.0
CLL eSSS SSS 16 14 24.0
CLL eSSSS 16 18 12.0
CLL Lm MLR 16 43 00.0
comp=Z,1µm,21.0s
B05A **Bryant** 103.30 40 P Pdif 15 51 32.8 -0.9
baz=287
SOKA **Soboth** 103.42 319 iPdiff Pdif 15 51 37.8 +3.4
comp=Z,6.3nm,1.1s
SOKA iPKiKP PKiKP 15 55 52.5 -0.7
comp=Z,7.3nm,1.6s
MOA **Molln** 103.58 320 iPdiff Pdif 15 51 36.0 +1.0
comp=Z,8.7nm,0.9s
MOA iPP PP 15 55 50.8 -0.4
comp=Z,8.3nm,1.6s
KHC **Kasperske Hory** 103.62 321 iP Pdif 15 51 39.8 +4.7
KHC MLR MLR
comp=Z,800nm,19.9s
KHC **Kasperske Hory** 103.62 321 ePDIFF Pdif 15 51 39.8 +4.7
KHC ex x 15 54 17.0
KHC AMS AMS 16 42 30.0
comp=Z,800nm,19.9s
GEC2 **GERESS Array S** 103.63 321 IAMs_20 IAMs_20 16 42 47.7
comp=Z,1µm,21.0s
GERES **GERESS Array B** 103.63 321 Pdiff Pdif 15 51 35.2 -0.1
comp=Z,0.7nm,0.6s,baz=46,slow=7.0,SNR=5.8
GERES PKKPbc PKKPbc 16 07 24.9 -4.3
comp=Z,0.3nm,0.7s,baz=235,slow=3.5,SNR=3.6
OBKA **Obir** 103.79 319 iPdiff pPdif 15 51 42.1 -3.9
comp=Z,6.0nm,1.1s
OBKA iPKiKP PKiKP 15 55 58.9 +5.0
comp=Z,11nm,1.4s
TIP **Timpagrande** 104.14 311 IAMs_20 IAMs_20 16 44 43.6
comp=Z,688nm,22.0s
VNA2 **Neumayer--Watz** 104.37 194 Pdiff Pdif 15 51 41.6 +3.7
baz=114,slow=4.1
KBA **Koelnbreinsper** 104.41 319 iPdiff pPdif 15 51 51.0 +2.1
comp=Z,2.9nm,0.7s
B08A **Colville Reser** 105.02 39 Pdif 15 51 41.8 +0.4
ABTA **Abfaltersbach** 105.05 319 iPdiff Pdif 15 51 41.2 -0.4
comp=Z,3.4nm,0.8s
HOPS **Hopland Field** 105.16 49 IAMs_20 IAMs_20 16 27 56.6
comp=Z,1µm,20.0s
WTTA **Wattenberg** 105.45 320 iPdiff Pdif 15 51 46.4 +2.9
comp=Z,5.2nm,0.9s
WTTA iPKiKP PKiKP 15 55 57.1 0.0
comp=Z,5.2nm,0.7s
WATA **Walderalm** 105.47 320 iPdiff Pdif 15 51 46.7 +3.2
comp=Z,3.6nm,0.9s
SQTA **Sankt Quirin** 105.74 320 iPdiff Pdif 15 51 44.4 -0.3
comp=Z,4.6nm,0.8s
MOTA **Moosalm** 105.77 320 iPdiff Pdif 15 51 44.9 0.0
comp=Z,5.8nm,0.7s
AQU **L'Aquila** 105.78 315 IAMs_20 IAMs_20 16 43 58.4
comp=Z,1µm,21.0s
FETA **Feichten** 106.12 320 iPdiff Pdif 15 51 49.2 +2.8
comp=Z,5.0nm,1.1s
FETA iPKiKP PKiKP 15 55 58.4 +0.1
comp=Z,5.7nm,1.3s
NEW **Newport** 106.44 38 P Pdif 15 51 48.6 +0.9
NEW **Newport** 106.44 38 Pdif 15 51 48.6 +0.9
DAVA **Damuels** 106.57 320 iPKiKP PKiKP 15 55 59.1 0.0
comp=Z,14nm,1.3s
OSSC **Osservatorio P** 106.93 316 IAMs_20 IAMs_20 16 44 14.7
comp=Z,1µm,19.0s
BEKR **Beckworth** 106.95 48 IAMs_20 IAMs_20 16 33 11.9
comp=Z,1µm,19.0s
PNTR **Pine Nut** 107.73 48 IAMs_20 IAMs_20 16 34 50.8
comp=Z,1µm,21.0s
NVAR **Mina Array Bea** 108.90 49 Pdiff Pdif 15 52 00.9 +1.8
comp=Z,1.6nm,0.8s,baz=261,slow=5.3,SNR=11
NVAR PKiKP PKiKP 15 56 04.8 +1.0
comp=Z,1.0nm,0.6s,baz=270,slow=1.8,SNR=8.3
NVAR PKKPbc PKKPbc 16 07 13.8 +1.0
comp=Z,1.4nm,0.6s,baz=124,slow=4.7,SNR=12
NVAR PKKP PKKPab 16 07 25.2 +0.3
comp=Z,3.8nm,0.9s,baz=117,slow=5.2,SNR=11
R11A **Troy Canyon, C** 110.95 48 P PKiKP 15 56 07.6 0.0
baz=289
GSC **Goldstone, Bar** 110.98 51 P PKiKP 15 56 08.5 +0.8
baz=287
PFO **Pinyon Flats O** 111.75 53 ⇓iPKiKP PKiKP 15 56 10.2 +1.0
SFJD **Kangerlussuaq** 111.80 359 iPKiKP PKiKP 15 56 08.0 -0.1
SFJD **Kangerlussuaq** 111.80 359 PKiKP PKiKP 15 56 08.0 -0.1
comp=Z,4.0nm,0.7s,baz=26,slow=3.7,SNR=4.6
MONP2 **Monument Peak** 111.99 54 P PKiKP 15 56 10.7 +0.9
baz=287
GMRC **Granite Mounta** 112.03 52 P PKiKP 15 56 09.5 -0.2
baz=288
DUG **Dugway, Tooele** 112.31 45 P PKiKP 15 56 11.0 +0.9
baz=292
IKP **In-Ko-Pah, Jac** 112.31 54 P PKiKP 15 56 11.3 +1.1
baz=287
IRM **Iron Mountain** 112.63 52 P PKiKP 15 56 11.0 +0.3
baz=288
PDAR **Pinedale Array** 113.50 42 PKiKP PKiKP 15 56 12.4 0.0
comp=Z,1.3nm,0.6s,baz=183,slow=1.5,SNR=13
PDAR PKKPbc PKKPbc 16 06 54.8 -3.1
comp=Z,2.9nm,0.6s,baz=104,slow=3.8,SNR=11
LAO **LASA Array** 113.78 37 P PKiKP 15 56 13.2 +0.6
baz=300
FRB **Frobisher Bay** 114.18 7 PKKPbc PKKPbc 16 06 53.2 -2.6
comp=Z,2.0nm,0.6s,baz=76,slow=0.8,SNR=5.0
WUAZ **Wupatki** 115.09 49 P PKiKP 15 56 15.4 -0.2
baz=291,SNR=5.3
O20A **White River Ci** 115.54 44 P PKPdf 15 56 16.8 +0.4
baz=296
O20A **White River Ci** 115.54 44 PKPdf 15 56 16.7 +0.3
RWWY **Rawlins** 115.55 42 PKiKP 15 56 15.9 -0.5
K22A **Casper** 115.55 41 P PKiKP 15 56 15.7 -0.6
baz=298
PMSA **Palmer Station** 116.24 175 IAMs_20 IAMs_20 16 44 10.3
comp=Z,904nm,21.0s
RSSD **Black Hills** 116.41 38 P PKPdf 15 56 17.7 -0.2
baz=301
RSSD **Black Hills** 116.41 38 PKiKP PKPdf 15 56 17.6 -0.4
RSSD **Black Hills** 116.41 38 PKPdf 15 56 17.6 -0.4
W18A **Petrified Fore** 116.49 49 P PKPdf 15 56 17.6 -0.8
baz=292
W18A **Petrified Fore** 116.49 49 PKPdf 15 56 17.3 -1.1
MVCO **Mesa Verde** 116.58 47 P PKPdf 15 56 18.6 0.0
baz=294
MVCO **Mesa Verde** 116.58 47 IAMs_20 IAMs_20 16 40 36.7
comp=Z,739nm,20.0s
TUC **Tucson** 116.69 53 P PKiKP 15 56 19.5 +0.8
baz=290
TUC **Tucson** 116.69 53 PKiKP PKPdf 15 56 16.5 -2.1
TUC **Tucson** 116.69 53 PKPdf 15 56 16.5 -2.1
N23A **Red Feather La** 116.76 42 P PKiKP 15 56 19.1 +0.3
baz=298
MDND **Maddock** 116.91 33 P PKPdf 15 56 17.9 -0.6
baz=306
MDND **Maddock** 116.91 33 PKPdf 15 56 15.8 -2.8
ULM **Lac du Bonnet** 117.32 29 ⇓iPKiKP PKPdf 15 56 18.9 -0.3
ULM **Lac du Bonnet** 117.32 29 PKP PKPdf 15 56 18.6 -0.6
comp=Z,12nm,0.5s,baz=304,slow=1.4,SNR=41
ULM PKKPbc PKKPbc 16 06 43.4 -1.2
comp=Z,4.5nm,0.5s,baz=129,slow=4.1,SNR=9.8
ULM **Lac du Bonnet** 117.32 29 PKPdf 15 56 18.2 -1.0
ISCO **Idaho Springs** 117.49 43 P PKiKP 15 56 20.5 +0.2
baz=298
ISCO **Idaho Springs** 117.49 43 PKiKP PKiKP 15 56 20.4 +0.1
ISCO **Idaho Springs** 117.49 43 PKiKP 15 56 20.4 +0.1
TAM **Tamanrasset** 117.52 297 PKiKP PKiKP 15 56 23.3 +2.7
TAM **Tamanrasset** 117.52 297 IAMs_20 IAMs_20 16 47 41.9
comp=Z,757nm,22.0s
S22A **4UR Ranch, Cre** 117.56 46 P PKiKP 15 56 20.6 +0.2
baz=296
S22A **4UR Ranch, Cre** 117.56 46 PKiKP 15 56 20.9 +0.4
HSIG 117.64 56 PKiKP 15 56 20.6 +0.1
SDCO **Great Sand Dun** 118.51 45 P PKiKP 15 56 22.7 +0.4
baz=297
SDCO **Great Sand Dun** 118.51 45 PKiKP 15 56 22.5 +0.1
AGMN **Agassiz Nation** 118.60 31 P PKPdf 15 56 20.9 -0.9
baz=310
D32A **Dogwood Acres,** 118.73 32 PKPdf 15 56 20.9 -1.2
ESDC **Sonseca Array** 118.90 318 PKP PKiKP 15 56 23.1 +0.4
comp=Z,0.3nm,0.4s,baz=29,slow=1.9,SNR=4.2
ESDC PP PP 15 57 44.5 +3.2
comp=Z,3.1nm,0.9s,baz=55,slow=7.2,SNR=6.4
ESDC PKKPbc PKKPbc 16 06 38.7 +0.1
comp=Z,0.7nm,0.7s,baz=269,slow=5.1,SNR=3.8
ESDC PKKP PKKPdf 16 07 09.2 +0.5
comp=Z,0.1nm,0.4s,baz=243,slow=1.8,SNR=4.5
LENM **Lemitar** 118.95 49 PKiKP 15 56 23.8 +0.6
121A **Cookes Peak, D** 118.97 51 P PKiKP 15 56 23.7 +0.6
baz=292,SNR=5.9
121A **Cookes Peak, D** 118.97 51 PKiKP 15 56 23.8 +0.6
ANMO **Albuquerque** 119.02 48 P PKiKP 15 56 24.5 +1.3
baz=295
ANMO **Albuquerque** 119.02 48 ⇑iPKiKP PKiKP 15 56 23.5 +0.2
ANMO **Albuquerque** 119.02 48 PKiKP 15 56 23.7 +0.4
BNM **Barren Site** 119.22 49 PKiKP 15 56 23.9 +0.2
T25A **Trinidad** 119.56 45 P PKPdf 15 56 24.2 0.0
baz=297
T25A **Trinidad** 119.56 45 PKiKP 15 56 25.0 +0.7
EPT **El Paso** 120.26 52 IAMs_20 IAMs_20 16 41 16.4
comp=Z,877nm,19.0s
MTE **Manteigas** 120.88 320 ePKPdf PKiKP 15 56 27.2 +0.6
EYMN **Ely** 121.00 29 P PKPdf 15 56 25.8 -0.6
baz=314
ECSD **EROS Data Cent** 121.06 35 P PKPdf 15 56 26.5 -0.1
baz=308
ECSD **EROS Data Cent** 121.06 35 PKPdf 15 56 26.2 -0.5
PCBR **Castelo Branco** 121.14 319 ePKPdf PKiKP 15 56 27.2 +0.2
MNTX **Cornudas Mount** 121.17 51 P PKiKP 15 56 27.5 +0.2
baz=294,SNR=11
MNTX **Cornudas Mount** 121.17 51 PKPdf 15 56 27.0 -0.2
MNTX IAMs_20 IAMs_20 16 40 22.4
comp=Z,802nm,20.0s
BGNE **Belgrade** 121.52 38 P PKPdf 15 56 27.3 -0.3
baz=305
BGNE **Belgrade** 121.52 38 PKPdf 15 56 26.6 -1.0
CBKS **Cedar Bluff** 121.93 41 P PKPdf 15 56 28.2 -0.4
baz=302
CBKS **Cedar Bluff** 121.93 41 IAMs_20 IAMs_20 16 41 07.9
comp=Z,1µm,22.0s
PMTG **Montargil** 122.04 319 ePKPdf PKiKP 15 56 30.9 +2.1
EVO **Evora** 122.19 318 ePKPdf PKiKP 15 56 29.2 +0.1
MSTX **Muleshoe** 122.19 48 P PKPdf 15 56 29.3 0.0
baz=297
MSTX **Muleshoe** 122.19 48 PKPdf 15 56 28.6 -0.6
SPMN **Marine on St.** 122.20 32 P PKiKP 15 56 28.9 0.0
baz=312
SPMN **Marine on St.** 122.20 32 PKPdf 15 56 28.3 -0.5
PBEJ **Beja** 122.36 318 ePKPdf PKiKP 15 56 30.7 +1.2
PVAQ **Vaqueiros** 122.58 317 ePKPdf PKiKP 15 56 31.8 +1.9
PCVE **Castro Verde** 122.68 317 ePKPdf PKiKP 15 56 30.6 +0.5
PNCL **Nicolau / Gran** 122.75 318 ePKPdf PKiKP 15 56 32.0 +1.8
PBDV **Barranco-do-Ve** 122.81 317 ePKPdf PKiKP 15 56 33.0 +2.6
SCHQ **Schefferville** 123.02 9 PKP PKiKP 15 56 30.5 +0.2
comp=Z,21nm,0.5s,baz=330,slow=1.6,SNR=57
SCHQ PKKPbc PKKPab 16 06 21.1 -1.3
comp=Z,2.5nm,0.5s,baz=157,slow=3.8,SNR=4.8
SCHQ **Schefferville** 123.02 9 PKPdf 15 56 29.9 -0.2
TOC2 **Torodi Ar. Sit** 123.11 287 IAMs_20 IAMs_20 16 49 35.3
comp=Z,738nm,21.0s
TOB2 **Torodi Ar. Sit** 123.12 287 IAMs_20 IAMs_20 16 49 35.2
comp=Z,754nm,22.0s
TOA2 **Torodi Ar. Sit** 123.13 287 IAMs_20 IAMs_20 16 49 25.9
comp=Z,726nm,21.0s
TOA0 **Torodi Ar. Sit** 123.13 287 PKPdf 15 56 30.6 -0.7
TOC4 **Torodi Ar. Sit** 123.13 287 IAMs_20 IAMs_20 16 49 26.0
comp=Z,715nm,21.0s
TORD **Torodi Ar. Bea** 123.13 287 PKP PKPdf 15 56 31.4 +0.1
comp=Z,28nm,0.7s,baz=62,slow=2.0,SNR=105
TORD PKKPbc PKKPab 16 06 22.9 +0.6
comp=Z,7.2nm,0.7s,baz=273,slow=3.5,SNR=32
PTEO **Sao Teotonio** 123.19 318 ePKPdf PKiKP 15 56 33.5 +2.4
MORF **Marmelete** 123.27 317 ePKPdf PKiKP 15 56 33.2 +1.9
COWI **Conover** 123.44 29 PKiKP 15 56 30.5 -0.6
TX31 **Lajitas Ar. Si** 123.47 53 PKiKP 15 56 32.0 0.0
TX32 **Lajitas Array** 123.47 53 PKPdf 15 56 31.9 +0.1
TXAR **Lajitas Array** 123.47 53 PKP PKiKP 15 56 32.2 +0.1
comp=Z,7.3nm,0.6s,baz=250,slow=0.6,SNR=88
TXAR PKKPbc PKKPbc 16 06 21.2 +0.1
comp=Z,1.2nm,0.7s,baz=109,slow=6.6,SNR=11
G40A **Rib Lake** 123.51 30 PKPdf 15 56 31.1 -0.3
U32A **Winter Ranch,** 123.71 44 PKiKP 15 56 32.3 0.0
U32A IAMs_20 IAMs_20 16 44 56.2
comp=Z,845nm,21.0s
KSU1 **Kansas State U** 123.80 40 P PKPdf 15 56 32.1 0.0
baz=305
I40A **Norwalk** 124.25 32 PKPdf 15 56 32.0 -0.8
JFWS **Jewell Farm** 125.12 32 P PKPdf 15 56 33.6 -0.9
baz=314
JFWS **Jewell Farm** 125.12 32 PKiKP PKPdf 15 56 33.6 -0.9
JFWS **Jewell Farm** 125.12 32 PKPdf 15 56 33.6 -0.9
MATQ **Matagami** 125.15 19 P PKPdf 15 56 33.5 -0.8
baz=330
D46A **Sault St. Mari** 125.16 25 P PKiKP 15 56 34.7 0.0

	baz=322							
L40A	Anamosa	125.17	34			PKPdf	15 56 33.8	-0.7
USHA	Ushuaia	125.32	170	PKP		PKiKP	15 56 36.3	+1.5
	comp=Z,32nm,0.6s,baz=167,slow=4.5,SNR=21							
X34A	Smith Ranch, M	125.45	45			PKiKP	15 56 35.6	-0.1
E46A	Sault Ste Mari	125.45	26			PKPdf	15 56 34.4	-0.6
E47A	Iron Bridge	125.82	25	P		PKPdf	15 56 35.5	-0.1
	baz=323							
W35A	Tecumseh	125.83	44			PKPdf	15 56 36.3	+0.2
D48A	Paudash Townsh	125.84	23	P		PKPdf	15 56 35.2	-0.5
	baz=325							
LSQQ	Lebel-sur-Quev	125.97	19	P		PKPdf	15 56 35.9	0.0
	baz=331							
CHGQ	Chibougamau	126.00	16	P		PKiKP	15 56 36.3	0.0
	baz=334							
JCT	Junction City	126.02	50	P		PKiKP	15 56 36.9	-0.1
	baz=297							
JCT	Junction City	126.02	50	PKIKP		PKPdf	15 56 36.4	-0.2
JCT	Junction City	126.02	50			PKPdf	15 56 36.4	-0.2
G46A	Petoskey	126.02	27	P		PKPdf	15 56 35.9	-0.2
	baz=320							
L42A	Oliver, Polo	126.06	33			PKPdf	15 56 35.9	-0.4
E48A	Lockeyer	126.26	24	P		PKPdf	15 56 36.5	0.0
	baz=324							
N41A	Harden Midland	126.28	35			PKPdf	15 56 36.3	-0.4
F48A	Evansville	126.60	25	P		PKPdf	15 56 37.4	+0.2
	baz=323							
D50A	G1974 Best Tow	126.60	22	P		PKPdf	15 56 37.1	-0.1
	baz=327							
VLDQ	Val d'Or	126.64	20			PKPdf	15 56 35.9	-1.3
D51A	Lot 18 Range I	126.84	22	P		PKiKP	15 56 38.1	0.0
	baz=327							
WHTX	Lake Whitney,	127.06	47	P		PKiKP	15 56 39.1	+0.1
	baz=300							
WHTX	Lake Whitney,	127.06	47			PKiKP	15 56 39.0	+0.1
WHTX				IAMs_20	IAMs_20	16 43 59.0		
	comp=Z,845nm,21.0s							
HHAR	Hobbs	127.16	41			PKPdf	15 56 36.7	-1.9
X37A	Clayton	127.17	43			PKiKP	15 56 39.0	-0.1
HDIL	Hopedale	127.26	34	P		PKPdf	15 56 38.9	+0.3
	baz=313							
HDIL	Hopedale	127.26	34			PKPdf	15 56 38.5	-0.1
E51A	G1948 Merrick	127.26	22	P		PKiKP	15 56 38.8	-0.1
	baz=327							
833A	Chaparral WMA,	127.30	52	P		PKiKP	15 56 40.2	+0.7
	baz=296							
833A	Chaparral WMA,	127.30	52			PKPdf	15 56 38.6	-0.4
435B	Jarrell	127.56	49	P		PKiKP	15 56 40.1	+0.1
	baz=299							
435B	Jarrell	127.56	49			PKPdf	15 56 39.1	-0.4
K46A	Dorr	127.58	30	P		PKPdf	15 56 39.3	+0.2
	baz=318							
F51A	Arnstein	127.61	23	P		PKiKP	15 56 39.8	+0.1
	baz=326							
J47A	Sunmer	127.63	28	P		PKPdf	15 56 39.5	+0.3
	baz=319							
J47A	Sunmer	127.63	28			PKPdf	15 56 39.1	-0.1
MGMO	Mountain Grove	127.71	39			PKPdf	15 56 38.5	-1.1
D54A	Lac Fusel, La	127.74	20	P		PKPdf	15 56 39.5	+0.2
	baz=331							
P43A	Skaggs, Pawnee	127.75	35			PKPdf	15 56 38.9	-0.6
CCM	Cathedral Cave	127.78	37	P		PKiKP	15 56 40.1	-0.2
	baz=310							
CCM	Cathedral Cave	127.78	37	PKIKP		PKPdf	15 56 39.3	-0.4
CCM	Cathedral Cave	127.78	37			PKPdf	15 56 39.3	-0.4
L46A	Eue Claire	127.82	30	P		PKPdf	15 56 39.9	+0.3
	baz=317							
U40A	Yellville	127.83	40	P		PKPdf	15 56 40.1	+0.2
	baz=307,SNR=13							
U40A	Yellville	127.83	40			PKPdf	15 56 39.7	-0.1
W39A	Magazine	127.90	42	P		PKiKP	15 56 40.8	+0.2
	baz=306							
W39A	Magazine	127.90	42			PKPdf	15 56 40.1	+0.2
F52A	Sundridge	127.95	22	P		PKPdf	15 56 40.1	+0.3
	baz=327							
K47A	Vermontville	127.97	29	P		PKPdf	15 56 39.9	0.0
	baz=319							
O44A	Mansfield	128.00	34			PKPdf	15 56 40.2	+0.2
I49A	Point Hope	128.01	26	P		PKPdf	15 56 39.9	0.0
	baz=322							
J48A	Bridge Port	128.07	28	P		PKPdf	15 56 40.4	+0.3
	baz=321							
J48A	Bridge Port	128.07	28			PKPdf	15 56 40.4	+0.3
D55A	Sainte-Anne-du	128.25	19	P		PKiKP	15 56 40.7	-0.2
	baz=332							
ALGO	Algonquin Park	128.29	21	P		PKPdf	15 56 40.4	0.0
	baz=328							
K48A	Perry	128.29	28	P		PKPdf	15 56 40.7	+0.2
	baz=320							
J49A	Marlette	128.32	27	P		PKPdf	15 56 40.9	+0.3
	baz=321							
L47A	Sherwood	128.40	30	P		PKPdf	15 56 40.6	-0.1
	baz=318							
MIAR	Mount Ida	128.41	42	P		PKiKP	15 56 41.4	-0.2
	baz=305,SNR=13							
MIAR	Mount Ida	128.41	42	PKIKP		PKiKP	15 56 41.6	0.0
MIAR				MLR		MLR		
	comp=Z,1μm,20.0s							
MIAR	Mount Ida	128.41	42			PKiKP	15 56 41.6	0.0
SFIN	Lafayette	128.58	32	P		PKPdf	15 56 41.2	+0.1
	baz=315							
M47A	Cromwell	128.64	31	P		PKPdf	15 56 41.5	+0.2
	baz=318							
LATQ	La Tuque	128.74	16	P		PKPdf	15 56 41.3	+0.1
	baz=335							
LATQ	La Tuque	128.74	16			PKPdf	15 56 40.9	-0.2
D57A	Chemin Vers le	128.74	18	P		PKPdf	15 56 41.5	+0.3
	baz=334							
G54A	Lake Saint Pet	128.75	22	P		PKPdf	15 56 41.6	+0.3
	baz=328							
G53A	Haliburton	128.78	22	P		PKiKP	15 56 42.2	+0.2
	baz=327							
L48A	N Adams	128.80	29	P		PKPdf	15 56 41.9	+0.3
	baz=319							
E56A	St. Veronique	128.81	19	P		PKiKP	15 56 41.8	-0.2
	baz=332							
SADO	Sadowa	128.87	23	PKP		PKPdf	15 56 41.8	+0.3
	comp=Z,8.1nm,0.5s,baz=313,slow=0.9,SNR=14							
I51A	Listowel	128.90	25	P		PKPdf	15 56 42.0	+0.4
	baz=324							
W41B	Gary Mavity, V	128.93	41	P		PKiKP	15 56 42.6	0.0
	baz=307							
N47A	Urbana	128.96	31	P		PKPdf	15 56 42.2	+0.4
	baz=317							
N47A	Urbana	128.96	31			PKPdf	15 56 41.5	-0.3
D58A	Chemin du LacG	128.97	17	P		PKiKP	15 56 42.2	-0.2
	baz=335							
L49A	Milan	128.99	29	P		PKiKP	15 56 42.6	0.0
	baz=320							
P46A	Rosedale	129.06	33			PKPdf	15 56 41.8	-0.3
LCAR	Lake Charles	129.09	39			PKPdf	15 56 42.0	-0.2
PBMO	Poplar Bluff	129.09	38	PKPdf		PKPdf	15 56 42.4	+0.2
OLIL	Olney	129.18	35			PKiKP	15 56 43.1	+0.1
NATX	Nacogdoches	129.21	46	P		PKiKP	15 56 43.0	-0.2
	baz=302							
S44A	Carbondale	129.21	36			PKPdf	15 56 42.5	+0.1
SIUC	Southern Illin	129.22	36			PKiKP	15 56 43.0	-0.1
WLAR	White Oak Lake	129.22	43			PKiKP	15 56 43.5	+0.3
H53A	Bobcaygeon	129.26	23	P		PKPdf	15 56 42.4	+0.1
	baz=327							
HKT	Hockley	129.28	49	*i* PKIKP		PKiKP	15 56 43.8	+0.4
HKT	Hockley	129.28	49			PKiKP	15 56 43.7	+0.3
N48A	Decatur	129.31	31	P		PKPdf	15 56 42.4	-0.1
	baz=318							
M49A	Liberty Center	129.38	29	P		PKPdf	15 56 42.8	+0.2
	baz=320							
L50A	Kingsville	129.50	28	P		PKPdf	15 56 43.2	+0.4
	baz=321							
E58A	La Victoria	129.51	17	P		PKPdf	15 56 43.1	+0.4
	baz=334							
PARMO	Parma	129.58	38			PKiKP	15 56 43.7	-0.2
D61A	St Aubert, Com	129.59	14	P		PKPdf	15 56 43.1	+0.3
	baz=338							
D60A	Saint Jean D'O	129.67	15	P		PKPdf	15 56 43.1	+0.2
	baz=338							
N49A	Columbus Grove	129.69	30	P		PKPdf	15 56 43.5	+0.3
	baz=319							
N49A	Columbus Grove	129.69	30			PKPdf	15 56 43.2	-0.1
O48A	Farmland	129.69	31	P		PKPdf	15 56 43.4	+0.2
	baz=318,SNR=6.5							
BLO	Bloomington	129.75	33	PKIKP		PKPdf	15 56 43.7	+0.3
BLO	Bloomington	129.75	33			PKPdf	15 56 43.6	+0.3
H55A	Tweed	129.81	22	P		PKPdf	15 56 43.4	+0.1
	baz=329							
K52A	Tillsonburg	129.86	26	P		PKPdf	15 56 43.2	-0.3
	baz=324							
M50A	Fremont	129.88	29	P		PKPdf	15 56 43.7	+0.2
	baz=320							
M50A	Fremont	129.88	29			PKPdf	15 56 43.6	0.0
D62A	Allapoint, All	129.98	14	P		PKiKP	15 56 44.2	-0.2
	baz=340							
E60A	Ste Agathe de	130.03	16	P		PKPdf	15 56 43.8	+0.1
	baz=337							
G57A	Newington	130.10	20	P		PKPdf	15 56 43.7	-0.1
	baz=332							
P48A	Milroy	130.13	32	P		PKPdf	15 56 43.8	-0.3
	baz=317,SNR=6.9							
P48A	Milroy	130.13	32			PKPdf	15 56 44.1	-0.1
O49A	Covington	130.17	31	P		PKPdf	15 56 44.3	+0.2
	baz=318,SNR=6.3							
O49A	Covington	130.17	31			PKPdf	15 56 44.0	-0.2
E61A	Lac Etchemin	130.23	15	P		PKPdf	15 56 44.5	+0.4
	baz=338,SNR=6.6							
D63A	Stockholm	130.24	13	P		PKPdf	15 56 44.4	+0.3
	baz=341							
F60A	Warwick	130.26	17	P		PKPdf	15 56 44.1	0.0
	baz=336							
N50A	Nevada	130.32	29	P		PKPdf	15 56 44.4	-0.1
	baz=320,SNR=11							
M51A	Elyria	130.35	28	P		PKPdf	15 56 44.1	-0.4
	baz=321							
Q48A	North Vernon	130.35	33	P		PKPdf	15 56 44.7	+0.1
	baz=316,SNR=6.0							
G58A	Ormstown	130.36	19	P		PKPdf	15 56 44.1	-0.2
	baz=333							
KIC	Kosan Boka	130.44	279	*e*PKIKP		PKiKP	15 56 46.5	+0.3
	comp=Z,40nm,0.8s							
KIC	Kosan Boka	130.44	279			PKiKP	15 56 46.5	+0.3
DBIC	Dimbokro	130.52	280	PKP		PKiKP	15 56 46.8	+0.4
	comp=Z,12nm,0.6s,baz=80,slow=2.2,SNR=28							
DBIC	Dimbokro	130.52	280			PKiKP	15 56 46.2	-0.2
F61A	St Evariste	130.52	16	P		PKiKP	15 56 45.6	+0.1
	baz=337							
H57A	Richville	130.52	20	P		PKPdf	15 56 45.0	+0.3
	baz=331							
WCI	Wyandotte Cave	130.54	34	P		PKPdf	15 56 45.2	+0.2
	baz=315							
WCI	Wyandotte Cave	130.54	34	PKIKP		PKPdf	15 56 45.1	+0.2
WCI	Wyandotte Cave	130.54	34			PKPdf	15 56 45.1	+0.2
O50A	Cable	130.56	30	P		PKiKP	15 56 45.4	-0.3
	baz=319							
M52A	Chesterland	130.56	27	P		PKPdf	15 56 44.3	-0.6
	baz=322							
N51A	Ashland	130.58	29	P		PKPdf	15 56 44.8	-0.2
	baz=321,SNR=5.9							
N51A	Ashland	130.58	29			PKPdf	15 56 44.9	0.0
PQI	Presque Isle	130.61	13			PKPdf	15 56 45.1	+0.3
J55A	Hilton	130.66	23	P		PKPdf	15 56 44.7	-0.3
	baz=328							
LONY	Lake Ozonia	130.66	20	P		PKPdf	15 56 45.0	0.0
	baz=332							
TIC	Toumodi	130.68	280	*e*PKIKP		PKiKP	15 56 46.9	+0.2
	comp=Z,34nm,0.7s							
TIC	Toumodi	130.68	280	PKIKP		PKiKP	15 56 46.9	+0.2
TIC	Toumodi	130.68	280			PKiKP	15 56 46.9	+0.2
G59A	Clarenceville	130.70	18	P		PKPdf	15 56 44.8	-0.2
	baz=334							
ERPA	Erie	130.71	26	P		PKPdf	15 56 45.2	+0.1
	baz=324							
LIC	Lamto	130.74	279	*e*PKIKP		PKiKP	15 56 47.0	+0.2
	comp=Z,62nm,0.8s							
LIC	Lamto	130.74	279			PKiKP	15 56 47.0	+0.2
Q49A	Aurora	130.75	32	P		PKPdf	15 56 45.0	-0.3
	baz=317							
E63A	Oxbow	130.75	13	P		PKPdf	15 56 45.5	+0.4
	baz=340							
ACSO	Alum Creek Sta	130.81	30	P		PKPdf	15 56 45.5	+0.1
	baz=320,SNR=7.4							
ACSO	Alum Creek Sta	130.81	30			PKPdf	15 56 45.5	+0.1
K54A	Basiliko Farm,	130.85	24	P		PKPdf	15 56 45.1	-0.3
	baz=326							
P50A	Jamestown	130.87	31	P		PKPdf	15 56 45.3	-0.2
	baz=319,SNR=8.3							
I57A	Carthage	130.89	21	P		PKPdf	15 56 45.4	0.0
	baz=330							
E64A	Bridgewater	130.89	13	P		PKPdf	15 56 45.5	+0.2
	baz=341							
L54A	Sinclairville	130.90	25	P		PKPdf	15 56 45.5	0.0
	baz=325							
H59A	Cadyville	130.93	19	P		PKPdf	15 56 46.0	+0.5
	baz=333							
G60A	Masonville	130.94	17	P		PKPdf	15 56 45.7	+0.2
	baz=335							
T47A	Sharon Grove	130.95	36			PKPdf	15 56 46.1	+0.4
M53A	WI Miller and	130.95	27	P		PKPdf	15 56 45.1	-0.5
	baz=323							
H58A	Gabriels	130.97	19	P		PKPdf	15 56 45.0	-0.6
	baz=332							
N52A	McGinn's Farm,	130.99	28	P		PKPdf	15 56 45.6	-0.1
	baz=322,SNR=5.2							
K55A	Perry	131.01	24	P		PKPdf	15 56 45.4	-0.3
	baz=327							
G61A	St-Isidore-de-	131.01	17	P		PKPdf	15 56 46.0	+0.4
	baz=336							
J56A	Wolcott	131.02	22	P		PKPdf	15 56 45.2	-0.4
	baz=329							
O51A	Pataskala	131.06	29	P		PKPdf	15 56 45.7	-0.2
	baz=320,SNR=8.5							
WVT	Waverly	131.10	37	P		PKiKP	15 56 46.8	-0.1
	baz=312							
WVT	Waverly	131.10	37	PKIKP		PKPdf	15 56 46.0	0.0
WVT	Waverly	131.10	37			PKPdf	15 56 46.0	0.0
R49A	Shelbyville	131.12	33	P		PKPdf	15 56 46.4	+0.3
	baz=316,SNR=5.1							
OXF	Oxford	131.17	40	P		PKPdf	15 56 46.7	+0.5
	baz=309							
J57A	Williamstown	131.22	21	P		PKPdf	15 56 46.2	+0.2
	baz=330							
F64A	Sherman	131.29	14	P		PKiKP	15 56 47.0	0.0
	baz=340							
L55A	Hinsdale	131.31	24	P		PKPdf	15 56 46.6	+0.2
	baz=326							
H60A	Morristown	131.32	18	P		PKiKP	15 56 47.0	-0.1
	baz=334							
P51A	Williamsport	131.34	30	P		PKPdf	15 56 46.7	+0.3
	baz=319							
P51A	Williamsport	131.34	30			PKPdf	15 56 46.3	-0.1
I58A	Old Forge	131.34	20	P		PKPdf	15 56 46.6	+0.3
	baz=331							
M54A	Oil Creek Stat	131.35	26	P		PKPdf	15 56 46.0	-0.4
	baz=324,SNR=8.2							
M54A	Oil Creek Stat	131.35	26			PKPdf	15 56 46.2	-0.2
Q50A	Georgetown	131.35	32	P		PKPdf	15 56 46.4	-0.1
	baz=318,SNR=5.3							
NCB	Newcomb	131.35	20			PKiKP	15 56 46.9	-0.4
N53A	Lisbon	131.38	27	P		PKPdf	15 56 46.7	+0.2
	baz=323							
S49A	Springfield	131.42	33	P		PKPdf	15 56 46.6	0.0
	baz=316,SNR=6.8							
O52A	Adamsville	131.46	29	P		PKPdf	15 56 47.0	+0.4
	baz=321							
O52A	Adamsville	131.46	29			PKPdf	15 56 46.8	+0.2
J58A	Remsen	131.52	21	P		PKPdf	15 56 46.8	+0.1
	baz=331,SNR=6.1							
J58A	Remsen	131.52	21			PKPdf	15 56 46.8	+0.1
Q51A	Peebles	131.54	31	P		PKPdf	15 56 47.1	+0.3
	baz=319,SNR=5.0							
Q51A	Peebles	131.54	31			PKPdf	15 56 47.3	+0.5
H61A	Lyndonville	131.57	17	P		PKiKP	15 56 47.9	+0.2
	baz=335,SNR=5.9							
R50A	Paris	131.58	32	P		PKPdf	15 56 47.1	+0.2
	baz=317,SNR=5.2							
R50A	Paris	131.58	32			PKPdf	15 56 47.0	+0.1
K57A	Scipio Center	131.61	22	P		PKPdf	15 56 47.4	+0.5
	baz=329							
PKME	Peaks-Kenny Pk	131.63	15	P		PKPdf	15 56 47.3	+0.5
	baz=339							
N54A	Moraine State	131.65	27	P		PKPdf	15 56 46.6	-0.4
	baz=324							
N54A	Moraine State	131.65	27			PKPdf	15 56 47.0	+0.1
O53A	New Philadelph	131.65	28	P		PKPdf	15 56 47.4	+0.5
	baz=322							
G63A	Kingsbury	131.68	15	P		PKPdf	15 56 47.4	+0.5
	baz=339							
P52A	Corning	131.69	29	P		PKPdf	15 56 47.1	0.0
	baz=321,SNR=9.5							
J59A	Piesco	131.71	20	P		PKPdf	15 56 47.3	+0.2
	baz=332,SNR=6.2							
J59A	Piesco	131.71	20			PKPdf	15 56 47.2	+0.2
L56A	Greenwood	131.71	24	P		PKPdf	15 56 46.9	-0.1
	baz=327							
L56A	Greenwood	131.71	24			PKPdf	15 56 47.0	-0.1
PLAL	Pickwick Lake	131.71	38			PKPdf	15 56 46.8	-0.4
T49A	Edmonton	131.77	34	P		PKiKP	15 56 48.0	-0.3
	baz=315,SNR=7.6							
T49A	Edmonton	131.77	34			PKPdf	15 56 47.3	0.0
M55A	Ridgway	131.77	25	P		PKPdf	15 56 47.5	+0.3
	baz=326,SNR=5.7							
M55A	Ridgway	131.77	25			PKPdf	15 56 46.9	-0.3
G64A	Maxfield	131.77	14	P		PKPdf	15 56 47.8	-0.2
	baz=340							
I60A	Shoreham	131.77	19	P		PKiKP	15 56 47.8	-0.3
	baz=333							
LBNH	Lisbon	131.84	17	P		PKiKP	15 56 48.0	-0.3
	baz=335							
K58A	Earlville	131.91	22	P		PKPdf	15 56 47.7	+0.3
	baz=330							
R51A	Hillsboro	131.96	32	P		PKiKP	15 56 48.5	-0.2
	baz=318							
V48A	Smith Brothers	131.97	37			PKPdf	15 56 47.9	+0.2
S50A	Richmond	131.98	33	P		PKiKP	15 56 48.3	-0.4
	baz=317,SNR=12							
H63A	New Sharon	131.99	16	P		PKPdf	15 56 47.6	+0.2
	baz=338							
M56A	Emporium	132.00	25	P		PKPdf	15 56 47.6	0.0
	baz=326,SNR=5.7							
M56A	Emporium	132.00	25			PKPdf	15 56 47.2	-0.4
CLTN	Cedars of Leba	132.01	36			PKPdf	15 56 47.3	-0.4
I61A	Oroboro, Fairl	132.04	18	P		PKPdf	15 56 48.1	+0.6
	baz=335							
U49A	Red Boiling Sp	132.04	35	P		PKiKP	15 56 48.7	-0.2
	baz=315							
O54A	Avella	132.09	28	P		PKPdf	15 56 48.0	+0.2
	baz=323,SNR=7.2							
O54A	Avella	132.09	28			PKPdf	15 56 47.6	-0.2
L57A	Andrews Acres	132.11	23	P		PKPdf	15 56 48.2	+0.4
	baz=328							
Q52A	Bidwell	132.14	30	P		PKPdf	15 56 48.1	+0.2
	baz=320,SNR=7.2							
P53A	Whipple	132.16	29	P		PKPdf	15 56 48.5	+0.6
	baz=321,SNR=5.9							
P53A	Whipple	132.16	29			PKPdf	15 56 47.9	-0.1
K59A	Cooperstown	132.19	21	P		PKPdf	15 56 48.4	+0.5
	baz=331							
T50A	Nancy	132.22	34	P		PKPdf	15 56 47.6	-0.5
	baz=316,SNR=14							
HNH	Hanover	132.22	18			PKiKP	15 56 48.7	-0.3
N55A	Marion Center	132.24	26	P		PKPdf	15 56 48.3	+0.2
	baz=325							
J60A	Lant Hill Farm	132.27	19	P		PKPdf	15 56 48.6	+0.6
	baz=333							
BINY	Binghamton	132.27	22	P		PKPdf	15 56 48.4	+0.3
	baz=329							
BINY	Binghamton	132.27	22			PKPdf	15 56 47.6	-0.5
I63A	Otisfield	132.41	16	P		PKiKP	15 56 49.2	-0.1
	baz=337							
H65A	Eastbrook	132.42	14	P		PKiKP	15 56 49.3	0.0
	baz=340							
N56A	West Decatur	132.42	25	P		PKPdf	15 56 48.4	0.0
	baz=326,SNR=5.2							
R52A	Catlettsburg	132.42	31	P		PKiKP	15 56 49.4	-0.1
	baz=319							
S51A	Beattyville	132.44	32	P		PKPdf	15 56 48.7	+0.2
	baz=318,SNR=8.1							
S51A	Beattyville	132.44	32			PKPdf	15 56 48.9	+0.4
L58A	Harry Jones Me	132.45	22	P		PKPdf	15 56 49.1	+0.6
	baz=329							
V49A	McMinnville	132.49	36	P		PKPdf	15 56 48.9	+0.2
	baz=314,SNR=6.8							
P54A	Burton	132.51	28	P		PKiKP	15 56 49.5	-0.2
	baz=322							
H66A	Whiting	132.55	13	P		PKiKP	15 56 49.3	-0.3
	baz=342							
M57A	Sunshine Farm,	132.56	24	P		PKPdf	15 56 48.9	+0.3
	baz=328							
M57A	Sunshine Farm,	132.56	24			PKPdf	15 56 48.6	-0.1
O55A	Ligonier	132.56	27	P		PKPdf	15 56 48.8	+0.1
	baz=324							
Q53A	Leroy	132.59	30	P		PKiKP	15 56 49.4	-0.5
	baz=321							
L59A	Walton	132.63	21	P		PKPdf	15 56 49.4	+0.6
	baz=330							
TRY	Troy	132.64	20			PKPdf	15 56 49.1	+0.4
U50A	Jamestown	132.65	34	P		PKPdf	15 56 49.5	+0.5
	baz=316,SNR=14							
S52A	Salyersville	132.69	32	P		PKiKP	15 56 49.8	-0.4
	baz=318							
X48A	Hartselle	132.69	38			PKPdf	15 56 49.2	+0.1
W49A	Belvidere	132.72	37	P		PKPdf	15 56 49.4	+0.2
	baz=313							
T51A	Gray	132.75	33	P		PKPdf	15 56 49.7	+0.5
	baz=317							
MCWV	Mont Chateau	132.76	27	P		PKPdf	15 56 49.6	+0.6
	baz=323							
R53A	Hurricane	132.78	30	P		PKPdf	15 56 49.7	+0.5
	baz=320,SNR=6.0							
R53A	Hurricane	132.78	30			PKPdf	15 56 49.4	+0.2
I64A	Boothbay	132.79	16	P		PKPdf	15 56 49.4	+0.5
	baz=338							
M58A	Price's Panora	132.79	23	P		PKPdf	15 56 49.3	+0.2
	baz=328							
Q54A	Coxs Mills	132.83	29	P		PKPdf	15 56 49.7	+0.5
	baz=322,SNR=6.1							
Q54A	Coxs Mills	132.83	29			PKPdf	15 56 49.5	+0.3
SSPA	Standing Stone	132.83	25	P		PKPdf	15 56 49.4	+0.3
	baz=326							
SSPA	Standing Stone	132.83	25			PKPdf	15 56 49.5	+0.3
K61A	Williamstown	132.83	20	P		PKiKP	15 56 49.9	-0.4
	baz=333							
Q56A	Blue Knob Stat	132.84	26			PKPdf	15 56 49.2	0.0
SWET	Sewanee	132.85	36			PKPdf	15 56 49.1	-0.3
N57A	Milroy	132.87	25	P		PKPdf	15 56 49.6	+0.4
	baz=327							
P55A	Reedsville	132.89	28	P		PKPdf	15 56 49.5	+0.2
	baz=323							
J63A	Strafford

	baz=311							
LRAL	Lakeview Retre	133.66	39		PKPdf	PKPdf	15 56 50.1	-0.8
O58A	Lewisberry	133.66	25		P	PKPdf	15 56 51.3	+0.5
	baz=327							
P57A	Homestead Farm	133.73	26		P	PKPdf	15 56 51.0	+0.1
	baz=326							
P57A	Homestead Farm	133.73	26			PKPdf	15 56 50.3	-0.6
N60A	Cedar Hill Far	133.75	22		P	PKPdf	15 56 51.5	+0.6
	baz=330							
ODNJ	Ogdensburg	133.75	22			PKiKP	15 56 51.6	-0.6
V52A	Sevierville	133.76	34		P	PKPdf	15 56 51.7	+0.7
	baz=317							
V52A	Sevierville	133.76	34			PKPdf	15 56 50.2	-0.9
TKL	Tuckaleechee C	133.79	34		PKIKP	PKPdf	15 56 50.9	-0.3
TKL	Tuckaleechee C	133.79	34			PKPdf	15 56 50.9	-0.3
O59A	Robesonia	133.80	24		P	PKPdf	15 56 50.7	-0.3
	baz=328							
M61A	Granite Spring	133.86	21		P	PKPdf	15 56 51.7	+0.6
	baz=332							
U53A	Fall Branch	133.94	33		P	PKPdf	15 56 52.0	+0.6
	baz=318							
X51A	Calhoun	133.94	36		P	PKiKP	15 56 52.3	-0.4
	baz=314							
T54A	Tazewell	133.94	31		P	PKiKP	15 56 52.4	-0.4
	baz=320							
R56A	Bull Pasture M	133.97	28		P	PKPdf	15 56 52.1	+0.6
	baz=323							
MVL	Millersville	134.00	24			PKPdf	15 56 51.8	+0.4
M62A	Hamden	134.05	20		P	PKPdf	15 56 52.1	+0.7
	baz=333							
PAL	Palisades	134.08	21		P	PKiKP	15 56 52.6	-0.2
	baz=331							
PAL	Palisades	134.08	21		PKIKP	PKPdf	15 56 51.9	+0.4
PAL					MLR	MLR		
	comp=Z,900nm,21.0s							
PAL	Palisades	134.08	21			PKPdf	15 56 51.9	+0.4
L63A	North Scituate	134.09	19		P	PKPdf	15 56 52.1	+0.6
	baz=335							
W52A	Murphy	134.11	35		P	PKiKP	15 56 52.8	-0.4
	baz=316							
O60A	Telford	134.11	23		P	PKPdf	15 56 52.0	+0.4
	baz=329							
BRNJ	Basking Ridge	134.12	22		IAMs_20	IAMs_20	17 04 32.2	
	comp=Z,660nm,20.0s							
N61A	South Mountain	134.16	22		P	PKiKP	15 56 52.6	-0.4
	baz=331							
Z50A	Ashland	134.19	38		P	PKPdf	15 56 52.6	+0.6
	baz=312							
Z50A	Ashland	134.19	38			PKPdf	15 56 51.7	-0.3
U54A	Nelsons Funny	134.22	32		P	PKPdf	15 56 52.4	+0.3
	baz=319							
Y51A	Rockmart	134.28	37		P	PKPdf	15 56 52.8	+0.7
	baz=314							
SDMD	Soldier's Deli	134.29	25		IAMs_20	IAMs_20	17 04 22.0	
	comp=Z,567nm,20.0s							
T55A	Pulaski	134.30	30		P	PKPdf	15 56 52.6	+0.5
	baz=321							
Q58A	Fox Den Farm,	134.32	26		P	PKPdf	15 56 52.3	+0.3
	baz=326							
V53A	Saluda	134.32	34		P	PKPdf	15 56 52.6	+0.4
	baz=317							
V53A	Saluda	134.32	34			PKPdf	15 56 52.1	-0.1
BLA	Blacksburg	134.41	30		P	PKiKP	15 56 53.4	-0.3
	baz=321							
BLA	Blacksburg	134.41	30		PKIKP	PKPdf	15 56 52.5	+0.2
BLA	Blacksburg	134.41	30			PKPdf	15 56 52.5	+0.2
P60A	Greenville	134.45	24		P	PKiKP	15 56 53.1	-0.5
	baz=329							
R57A	Stanardsville	134.46	27		P	PKiKP	15 56 53.4	-0.3
	baz=324							
S56A	Natural Bridge	134.47	29		P	PKiKP	15 56 53.2	-0.6
	baz=322							
X52A	Dahlonega	134.48	35		P	PKPdf	15 56 53.2	+0.7
	baz=315							
W53A	Cullowhee	134.49	34		P	PKPdf	15 56 52.9	+0.3
	baz=317							
U55A	TA2, Sparta	134.64	31		P	PKPdf	15 56 53.4	+0.6
	baz=320							
R58A	Rapidan	134.70	27		P	PKPdf	15 56 53.2	+0.4
	baz=325							
V54A	Nebo	134.71	33		P	PKPdf	15 56 53.5	+0.6
	baz=318							
BG3	Lake Jocassee	134.75	34			PKPpre	15 56 41.6	
BG3						PKPdf	PKPdf	15 56 53.2	+0.3
T56A	Rocky Mt	134.75	30		P	PKPdf	15 56 53.4	+0.5
	baz=322							
X53A	Estanollee	134.89	35		P	PKiKP	15 56 54.3	-0.4
	baz=316							
Y52A	Lilburn	134.90	36		P	PKiKP	15 56 54.8	+0.1
	baz=315							
Y52A	Lilburn	134.90	36			PKiKP	15 56 55.0	+0.2
R58B	Mineral	135.03	27		P	PKPdf	15 56 53.8	+0.5
	baz=325							
R58B	Mineral	135.03	27			PKPdf	15 56 53.2	-0.1
V55A	Taylorsville	135.05	32		P	PKiKP	15 56 54.5	-0.5
	baz=319							
V55A	Taylorsville	135.05	32			PKPdf	15 56 53.9	+0.4
CBN	Corbin Frederi	135.06	26		P	PKiKP	15 56 54.8	-0.1
	baz=326							
CBN	Corbin Frederi	135.06	26			PKPdf	15 56 53.9	+0.5
W54A	Cherokee Point	135.09	34		P	PKiKP	15 56 54.6	-0.5
	baz=318							
U56A	King	135.10	31		P	PKiKP	15 56 54.7	-0.4
	baz=321							
Z52A	Williamson	135.16	37		P	PKiKP	15 56 55.0	-0.2
	baz=314							
T57A	Hurt	135.16	29		P	PKiKP	15 56 54.7	-0.5
	baz=322							
Y53A	Monroe	135.19	36		P	PKiKP	15 56 55.4	+0.1
	baz=315							
152A	Waverly Hall	135.33	38		P	PKiKP	15 56 55.2	-0.4
	baz=313							
152A	Waverly Hall	135.33	38			PKPdf	15 56 53.0	-1.1
V56A	Mocksville	135.46	31		P	PKiKP	15 56 55.7	-0.1
	baz=320							
S59A	Mechanicsville	135.46	27		P	PKiKP	15 56 55.5	-0.3
	baz=325							
PAULI	Pauline	135.50	33		PKPdf	PKPdf	15 56 54.3	0.0
KMSC	Kings Mountain	135.52	33		P	PKPdf	15 56 55.0	+0.6
	baz=319							
KMSC	Kings Mountain	135.52	33			PKPpre	15 56 43.4	
KMSC						PKPdf	15 56 54.6	+0.3
T58A	Grand View Acr	135.55	29		P	PKPdf	15 56 55.2	+0.8
	baz=323							
GOGA	Godfrey	135.57	36		P	PKiKP	15 56 56.0	-0.1
	baz=315							
Z53A	Monticello	135.60	36		P	PKiKP	15 56 56.2	+0.1
	baz=315							
HODGE	Hodges	135.68	34			PKPdf	15 56 54.9	+0.2
Y54A	Tignall	135.70	35		P	PKiKP	15 56 56.5	+0.1
	baz=316							
V57A	Coltrane Farms	135.77	31		P	PKiKP	15 56 56.3	-0.2
	baz=321							
252A	Lumpkin	135.77	39		P	PKiKP	15 56 56.2	-0.4
	baz=313							
X55A	Gracelyn & Ava	135.85	34		P	PKPdf	15 56 55.4	+0.4
	baz=318							
W56A	Indian Trail	135.93	32		P	PKPdf	15 56 56.0	+0.8
	baz=320							
U58A	Oxford	135.98	29		P	PKPdf	15 56 56.0	+0.8
	baz=323							
T59A	Double "B" Far	135.99	28		P	PKiKP	15 56 56.5	-0.3
	baz=325							
T59A	Double "B" Far	135.99	28			PKPdf	15 56 55.6	+0.4
X56A	White Oak	136.17	33		P	PKPdf	15 56 56.1	+0.5
	baz=319							
V58A	Windy Hill, Pi	136.18	30		P	PKPdf	15 56 56.3	+0.8
	baz=322							
353A	Camilla	136.54	39		P	PKiKP	15 56 57.4	-0.7
	baz=313							
U60A	Pendleton	136.58	28		P	PKiKP	15 56 57.3	-0.7
	baz=325							
V59A	Middlesex	136.63	29		P	PKPdf	15 56 56.9	+0.5
	baz=323							
155A	Kite	136.72	36		P	PKPdf	15 56 57.4	+0.7
	baz=316							
PLCA	Paso Flores	137.92	161		PKhKP	PKPpre	15 56 49.9	
	comp=Z,2.9nm,0.7s,baz=230,slow=2.9,SNR=6.8							
PLCA					PKP	PKiKP	15 57 00.3	-0.5
	comp=Z,18nm,0.7s,baz=264,slow=1.8,SNR=23							
PLCA	Paso Flores	137.92	161	*eP*		PKiKP	15 57 00.1	-0.7
PLCA	Paso Flores	137.92	161	*eP*		PKiKP	15 57 00.1	-0.7
PLCA	Paso Flores	137.92	161			PKPpre	15 56 49.0	
PLCA					PKPdf	PKPdf	15 56 59.8	+1.0
GO05	Huala	142.46	155			PKPdf	15 57 05.1	-2.0
TGUH	Tegucigalpa,Un	143.49	64			PKPbc	15 57 08.0	+1.2
PEL	Peldehue	144.58	155		PKIKP	PKPbc	15 57 09.8	+0.2
PEL	Peldehue	144.58	155			PKPbc	15 57 09.8	+0.2
PEL	Peldehue	144.58	155	*eP*		PKPbc	15 57 10.0	+0.4
ROC1	El Roble	144.59	155			PKPbc	15 57 10.1	+0.2
ROC1	El Roble	144.59	155	*eP*		PKPdf	15 57 11.1	-0.1
BBSR	BB Station	144.95	16			PKPdf	15 57 11.2	-0.3
AAGR	Agrelo	145.38	157	*eP*		PKPab	15 57 13.5	+1.1
UTNM	Universidad Te	145.54	157	*eP*		PKPab	15 57 13.5	+0.6
ARCO	CERRO ARCO	145.56	157	*eP*		PKPab	15 57 13.6	+0.5
ASAL	Salagasta	145.82	157	*eP*		PKPab	15 57 14.7	+0.8
ACON	Acoyapa	146.15	66			PKPdf	15 57 13.9	-0.1
FSCY	Frank Sound, G	146.19	51		PKPbc	PKPbc	15 57 14.5	-0.4
RTLS	Leoncito	146.33	156	*eP*		PKPab	15 57 16.0	-0.2
RTCV	Cerro Valdivia	146.58	157	*eP*		PKPbc	15 57 15.8	-0.1
ACAN	Cantantal	146.72	159	*eP*		PKPbc	15 57 16.0	-0.3
ZON	Zonda	146.80	156	*eP*		PKPbc	15 57 16.4	-0.1
ESPN	Las Esperanzas	146.87	65			PKPbc	15 57 16.7	-0.4
JTS	Las Juntas de	146.92	69	*c i*	PKP2	PKPbc	15 57 17.5	+0.2
JTS	Las Juntas de	146.92	69		PKPbc	PKPbc	15 57 16.4	-0.9
	baz=27,slow=2.3							
JTS	Las Juntas de	146.92	69			PKPdf	15 57 15.6	+0.3
JTS					IAMs_20	IAMs_20	16 54 30.8	
	comp=Z,634nm,22.0s							
CBCY	The Bluff, Cay	147.04	49			PKPdf	15 57 16.0	+0.6
RTLL	Cerro Villicun	147.07	156	*eP*		PKPbc	15 57 16.7	-0.6
MRA	San Martin	147.08	161	*eP*		PKPdf	15 57 16.0	+0.7
AMOG	MOGNA	147.41	156	*eP*		PKPbc	15 57 18.3	0.0
ACCO	Cerro Coronel	147.48	155	*eP*		PKPdf	15 57 17.2	+1.0
AROD	Rodeo	147.67	154	*eP*		PKPbc	15 57 18.3	-1.0
HDC	Heredia	147.79	69			PKPdf	15 57 17.9	+1.0
ACDV	Cuesta del Vie	147.82	155	*eP*		PKiKP	15 57 21.1	-0.5
TCA	Tanti	148.44	162	*eP*		PKPdf	15 57 18.6	+1.0
PRVC	Isla de Provid	149.01	61	*eP*		PKiKP	15 57 23.9	-0.2
PRVC	Isla de Provid	149.01	61	*eP*		PKiKP	15 57 23.9	-0.2
VCA	Vinchina	149.46	155	*eP*		PKPdf	15 57 19.9	+0.5
GO03	Copiap	149.49	150		PKPbc	PKPdf	15 57 21.5	+2.2
PLTB	Pedras Altas	149.71	180	*eP*		PKPbc	15 57 23.6	-0.6
PLTB	Pedras Altas	149.71	180	*eP*		PKPbc	15 57 23.6	-0.6
GTBY	Guantanamo Bay	150.29	44			PKPbc	15 57 25.5	-0.3
CYA	Choya	150.68	158	*eP*		PKPbc	15 57 27.0	+0.4
CYA				*eP*		PKiKP	15 57 27.1	-0.2
PB14	IPOC Station P	151.80	147	*eP*		PKiKP	15 57 30.5	+0.4
CNLB	Canela	152.01	185	*eP*		PKPdf	15 57 25.4	+2.3
CNLB	Canela	152.01	185	*eP*		PKPdf	15 57 25.4	+2.3
BCIP	Isla Barro Col	152.05	68	*eP*		PKPbc	15 57 30.0	-0.1
BCIP	Isla Barro Col	152.05	68	*eP*		PKPbc	15 57 30.0	-0.1
AHML	Horco Molle	152.35	157	*eP*		PKPdf	15 57 24.7	+1.0
PB10	IPOC Station P	152.59	145	*eP*		PKiKP	15 57 31.9	+0.6
PB15	IPOC Station P	153.44	146	*eP*		PKiKP	15 57 34.5	+1.2
SDDR	Presa de Saban	153.50	40			PKPbc	15 57 32.7	-0.5
PB04	IPOC Station P	153.74	144			PKiKP	15 57 34.8	+0.8
PB04	IPOC Station P	153.74	144	*eP*		PKPdf	15 57 26.8	+0.8
PB06	IPOC Station P	153.78	145	*eP*		PKPdf	15 57 28.4	+2.4
SLA	San Lorenzo	154.12	155	*eP*		PKPdf	15 57 27.2	+0.7
ITAB	Concordia	154.18	183	*eP*		PKPdf	15 57 28.6	+2.3
ITAB	Concordia	154.18	183	*eP*		PKPdf	15 57 28.6	+2.3
PB03	IPOC Station P	154.19	144	*eP*		PKPdf	15 57 26.7	+0.1
LVC	Limon Verde	154.23	146	PKP		PKPdf	15 57 28.6	+1.7
	comp=Z,6.9nm,0.6s,baz=249,slow=0.7,SNR=12							
LVC					PKPbc	pPKPdf	15 57 36.8	-0.6
	comp=Z,17nm,0.5s,baz=248,slow=2.2,SNR=30							
LVC	Limon Verde	154.23	146	*eP*		PKPdf	15 57 28.3	+1.4
LVC	Limon Verde	154.23	146	*eP*		PKPdf	15 57 28.3	+1.4
LVC	Limon Verde	154.23	146	*eP*		PKiKP	15 57 36.9	+1.7
AZAP	Zapla	154.75	155	*eP*		PKiKP	15 57 36.6	+0.6
NNA	Nana	154.80	116	*i*	PKIKP	PKPdf	15 57 27.6	+0.1
NNA	Nana	154.80	116			PKPdf	15 57 26.2	-1.3
NNA						PKiKP	15 57 36.5	+0.4
ATAH	Atahualpa	154.81	104	PKP		PKPdf	15 57 29.4	+1.4
	comp=Z,5.3nm,0.7s,baz=271,slow=3.5,SNR=7.6							
ATAH					PKPbc	PKPbc	15 57 39.0	+2.3
	comp=Z,35nm,0.8s,baz=261,slow=3.3,SNR=12							
DR12	Loma Pena Alta	154.83	37			PKPab	15 57 51.4	+0.3
CPUP	Villa Florida	154.89	173	PKP		PKPdf	15 57 28.2	+1.0
	comp=Z,4.7nm,0.7s,baz=160,slow=1.3,SNR=15							
CPUP	Villa Florida	154.89	173	*eP*		PKPdf	15 57 30.1	+2.9
CPUP	Villa Florida	154.89	173	*eP*		PKPdf	15 57 30.1	+2.9
OTAV	Otavalo	155.30	87	*eP*		PKPdf	15 57 29.7	+0.9
OTAV	Otavalo	155.30	87	*eP*		PKPdf	15 57 29.7	+0.9
OTAV	Otavalo	155.30	87	PKIKP		PKPdf	15 57 28.5	-0.3
OTAV				MLR		MLR		
	comp=Z,500nm,18.0s							
OTAV	Otavalo	155.30	87	*eP*		PKPdf	15 57 30.5	+1.8
OTAV	Otavalo	155.30	87	*eP*		PKPdf	15 57 30.5	+1.8
OTAV	Otavalo	155.30	87			PKPdf	15 57 28.5	-0.3
OTAV	Otavalo	155.30	87		IAMs_20	IAMs_20	17 00 13.0	
	comp=Z,529nm,18.0s							
SJCC	San Jacinto, C	155.97	62	*eP*		PKPdf	15 57 30.3	+1.2
SJCC	San Jacinto, C	155.97	62	*eP*		PKPdf	15 57 30.3	+1.2
PB11	IPOC Station P	155.98	141			PKPdf	15 57 28.8	-0.3
PB11	IPOC Station P	155.98	141	*eP*		PKPdf	15 57 29.7	+0.6
DBBC	Dabeiba	156.15	69	*eP*		PKPdf	15 57 31.6	+2.2
DBBC	Dabeiba	156.15	69	*eP*		PKPdf	15 57 31.6	+2.2
GCUF	Volcan Galeras	156.32	84	*eP*		PKPdf	15 57 41.1	+11
GCUF	Volcan Galeras	156.32	84	*eP*		PKPdf	15 57 41.1	+11
BBAC	Balboa, Cauca	156.32	82	*eP*		PKPdf	15 57 30.1	+0.3
BBAC	Balboa, Cauca	156.32	82	*eP*		PKPdf	15 57 30.1	+0.3
YJA	Yavi	156.33	152	*eP*		PKPdf	15 57 31.0	+1.1
GO01	Chusmiza	156.34	141			PKPdf	15 57 30.4	+0.4
MNMC	Minye Minye	156.48	140			PKPdf	15 57 30.1	+0.2
MNMCX	Minye Minye	156.48	140	*eP*		PKPdf	15 57 30.6	+0.7
ESAR	Angra dos Reis	156.59	202	*eP*		PKPdf	15 57 31.2	+1.6
ESAR	Angra dos Reis	156.59	202	*eP*		PKPdf	15 57 31.2	+1.6
PTGB	Pitanga	156.67	184	*eP*		PKPdf	15 57 32.5	+2.7
PTGB	Pitanga	156.67	184	*eP*		PKPdf	15 57 32.5	+2.7
CBOC	Ciudad Bolivar	156.70	72	*eP*		PKPdf	15 57 30.5	+0.3
CBOC	Ciudad Bolivar	156.70	72	*eP*		PKPdf	15 57 30.5	+0.3
POPC	Popayan, Colom	156.81	81	*eP*		PKPdf	15 57 30.6	+0.1
POPC	Popayan, Colom	156.81	81	*eP*		PKPdf	15 57 30.6	+0.1
YOTC	Yotoco, Valle	156.86	77	*eP*		PKPdf	15 57 30.8	+0.4
YOTC	Yotoco, Valle	156.86	77	*eP*		PKPdf	15 57 30.8	+0.4
SPB	Sao Paulo	157.01	195	*eP*		PKPdf	15 57 32.5	+2.3
SPB	Sao Paulo	157.01	195	*eP*		PKPdf	15 57 32.5	+2.3
HELC	Santa Helena	157.06	71	*eP*		PKPdf	15 57 31.8	+0.9
HELC	Santa Helena	157.06	71	*eP*		PKPdf	15 57 31.8	+0.9
PB16	IPOC Station P	157.11	139	*eP*		PKPdf	15 57 30.3	-0.8
PCON	Cinco Dias	157.12	81	*eP*		PKPdf	15 57 31.1	-0.2
PCON	Cinco Dias	157.12	81	*eP*		PKPdf	15 57 31.1	-0.2
SJG	San Juan	157.19	32		IAMs_20	IAMs_20	17 24 48.9	
	comp=Z,453nm,21.0s							
ZARC	Zaragoza, Cauc	157.24	67	*eP*		PKPdf	15 57 29.4	-1.3
ZARC	Zaragoza, Cauc	157.24	67	*eP*		PKPdf	15 57 29.4	-1.3
SMLC	San Martn de	157.43	63	*eP*		PKPdf	15 57 31.1	+0.2
SMLC	San Martn de	157.43	63	*eP*		PKPdf	15 57 31.1	+0.2
CODC	Agustn Codazz	157.47	60	*eP*		PKPdf	15 57 31.4	+0.4
CODC	Agustn Codazz	157.47	60	*eP*		PKPdf	15 57 31.4	+0.4
GUY2C	Guyana, Caldas	157.50	73	*eP*		PKPdf	15 57 31.9	+0.3
GUY2C	Guyana, Caldas	157.50	73	*eP*		PKPdf	15 57 31.9	+0.3
MTP	Monte Pirata	157.51	30	PKPdf		PKPdf	15 57 31.3	+0.4
MTP						PKPab	15 58 02.5	0.0
RREF	El Recreo	157.60	74	*eP*		PKPdf	15 57 33.0	+1.0
RREF	El Recreo	157.60	74	*eP*		PKPdf	15 57 33.0	+1.0
TOLC	Tolima	157.71	75	*eP*		PKPdf	15 57 32.6	+0.9
TOLC	Tolima	157.71	75	*eP*		PKPdf	15 57 32.6	+0.9
FRTB	Fartura	157.72	190	*eP*		PKPdf	15 57 34.6	+3.5
FRTB	Fartura	157.72	190	*eP*		PKPdf	15 57 34.6	+3.5
URIC	Uribia, Colomb	157.77	54	*eP*		PKPdf	15 57 37.8	+6.5
URIC	Uribia, Colomb	157.77	54	*eP*		PKPdf	15 57 37.8	+6.5
NORC	Norcasia	157.87	72	*eP*		PKPdf	15 57 31.9	+0.3
NORC	Norcasia	157.87	72	*eP*		PKPdf	15 57 31.9	+0.3
ORTC	Ortega, Tolima	157.94	76	*eP*		PKPdf	15 57 30.9	-0.7
ORTC	Ortega, Tolima	157.94	76	*eP*		PKPdf	15 57 30.9	-0.7
PTBC	PUERTO BERRIO	157.95	69	*eP*		PKPdf	15 57 31.2	-0.4
PTBC	PUERTO BERRIO	157.95	69	*eP*		PKPdf	15 57 31.2	-0.4
FLOC	Florencia	157.96	83	*eP*		PKPdf	15 57 31.9	+0.2
FLOC	Florencia	157.96	83	*eP*		PKPdf	15 57 31.9	+0.2
RCLB	Rio Claro- Sao	158.15	196	*eP*		PKPdf	15 57 34.6	+2.9
RCLB	Rio Claro- Sao	158.15	196	*eP*		PKPdf	15 57 34.6	+2.9
OCAC	Ocana	158.35	64	*eP*		PKPdf	15 57 32.6	+0.4
OCAC	Ocana	158.35	64	*eP*		PKPdf	15 57 32.6	+0.4
BRRC	Barranca, Sant	158.44	67	*eP*		PKPdf	15 57 32.7	+0.6
BRRC	Barranca, Sant	158.44	67	*eP*		PKPdf	15 57 32.7	+0.6
BSFB	Barra de Sao F	158.45	215	*eP*		PKPdf	15 57 34.8	+2.8
BSFB	Barra de Sao F	158.45	215	*eP*		PKPdf	15 57 34.8	+2.8
SPBC	San Pablo de B	158.60	71	*eP*		PKPdf	15 57 32.8	+0.3
SPBC	San Pablo de B	158.60	71	*eP*		PKPdf	15 57 32.8	+0.3
ROSC	El Rosal	158.60	73	*eP*		PKPdf	15 57 33.7	+0.8
ROSC	El Rosal	158.60	73	*eP*		PKPdf	15 57 33.7	+0.8
ROSC	El Rosal	158.60	73	PKP		PKPdf	15 57 34.2	+1.4
	comp=Z,29nm,0.6s,baz=201,slow=9.9,SNR=13							
ROSC	El Rosal	158.60	73			PKPdf	15 57 33.1	+0.2
SJMB	Sao Joao De Ma	158.75	215	*eP*		PKPdf	15 57 34.8	+2.4
SJMB	Sao Joao De Ma	158.75	215	*eP*		PKPdf	15 57 34.8	+2.4
BARC	Barichara	159.12	68	*eP*		PKPdf	15 57 33.3	0.0
BARC	Barichara	159.12	68	*eP*		PKPdf	15 57 33.3	0.0
CHIC	Chingaza	159.22	73	*eP*		PKPdf	15 57 33.8	+0.1
CHIC	Chingaza	159.22	73	*eP*		PKPdf	15 57 33.8	+0.1
PAMC	Pamplona, Colo	159.28	65	*eP*		PKPdf	15 57 34.3	+0.5
PAMC	Pamplona, Colo	159.28	65	*eP*		PKPdf	15 57 34.3	+0.5
VILC	Villavicencio,	159.40	75	*eP*		PKPdf	15 57 35.6	+2.1
VILC	Villavicencio,	159.40	75	*eP*		PKPdf	15 57 35.6	+2.1
RUSC	La Rusia	159.45	69	*eP*		PKPdf	15 57 34.0	0.0
RUSC	La Rusia	159.45	69	*eP*		PKPdf	15 57 34.0	0.0
LPAZ	La Paz	159.48	137	PKIKP		PKPdf	15 57 34.6	+0.5
LPAZ	La Paz	159.48	137	PKP		PKPdf	15 57 35.2	+1.2
	comp=Z,11nm,0.7s,baz=358,slow=1.1,SNR=57							
LPAZ	La Paz	159.48	137	*eP*		PKPdf	15 57 36.1	+2.0
LPAZ	La Paz	159.48	137	*eP*		PKPdf	15 57 36.1	+2.0
LPAZ	La Paz	159.48	137			PKPdf	15 57 34.6	+0.5
LPAZ	La Paz	159.48	137	*eP*		PKPdf	15 57 34.8	+0.7
MACC	Macarena, Meta	159.66	80	*eP*		PKPdf	15 57 33.9	+0.2
MACC	Macarena, Meta	159.66	80	*eP*		PKPdf	15 57 33.9	+0.2
BB19B	Bebedouro	159.70	194	*eP*		PKPdf	15 57 36.4	+2.9
BB19B	Bebedouro	159.70	194	*eP*		PKPdf	15 57 36.4	+2.9
SDV	Santo Domingo	160.40	59	*eP*		PKPdf	15 57 34.9	+0.2
SDV	Santo Domingo	160.40	59	*eP*		PKPdf	15 57 34.9	+0.2
SDV	Santo Domingo	160.40	59			PKPdf	15 57 34.0	-0.7
AQDB	Aquidauana	160.86	175	*eP*		PKPdf	15 57 36.4	+1.6
AQDB	Aquidauana	160.86	175	*eP*		PKPdf	15 57 36.4	+1.6
ITRB	Iturama	161.41	190	*eP*		PKPdf	15 57 40.4	+5.0
ITRB	Iturama	161.41	190	*eP*		PKPdf	15 57 40.4	+5.0
PP1B	Ponte de Pedra	163.78	176	*eP*		PKPdf	15 57 41.0	+3.2
PP1B	Ponte de Pedra	163.78	176	*eP*		PKPdf	15 57 41.0	+3.2
BDFB	Brasilia	164.66	202	PKP		PKPdf	15 57 39.1	+0.4
	comp=Z,4.8nm,0.8s,baz=147,slow=2.9,SNR=6.9							
BDFB					PKPab	PKPab	15 58 34.4	+0.6
	comp=Z,6.3nm,0.6s,baz=121,slow=3.2,SNR=5.9							
BDFB	Brasilia	164.66	202			PKPdf	15 57 38.4	-0.3
BDFB						PKPab	15 58 32.9	-1.0
SALV	Santo Antonio	165.38	173	*eP*		PKPdf	15 57 42.9	+3.7
SALV	Santo Antonio	165.38	173	*eP*		PKPdf	15 57 42.9	+3.7
SAML	Samuel	167.97	129	PKIKP		PKPdf	15 57 41.0	-0.3
SAML	Samuel	167.97

comp=Z,0.7nm,0.6s,baz=220,slow=2.2,SNR=3.6
CMAR Chiang Mai Arr 90.08 290 P **P** 15 58 08.0 +1.7
comp=Z,3.0nm,0.9s,baz=124,slow=2.7,SNR=15
CHTO Chiang Mai 90.21 290 P **P** 15 58 07.5 +0.7
SONM Songino Array 95.68 319 P **P** 15 58 31.9 +0.5
comp=Z,0.4nm,0.6s,baz=106,slow=4.3,SNR=2.8
MKAR Makanchi Array 111.13 313 PKiKP **PKiKP** 16 03 34.9 -0.8
comp=Z,0.5nm,0.5s,baz=91,slow=1.7,SNR=9.9
KURBB Kurchatov Arra 113.97 317 PKiKP **PKiKP** 16 03 39.7 -1.1
comp=Z,0.6nm,0.6s,baz=94,slow=1.8,SNR=6.8
BVAR Borovoye Array 119.00 320 PKP **PKPdf** 16 03 50.3 -0.2
comp=Z,1.6nm,0.3s,baz=96,slow=2.9,SNR=14
ARCES ARCESS Array B 128.83 350 PKP **PKPdf** 16 04 08.5 -0.4
comp=Z,5.9nm,1.0s,baz=64,slow=2.1,SNR=6.0
FINES FINESS Array B 135.68 344 PKhKP PKPpre 16 04 17.5
comp=Z,1.7nm,0.8s,baz=45,slow=0.8,SNR=3.2
AKASG Malin Array Be 142.93 331 PKhKP PKPpre 16 04 32.7
comp=Z,4.3nm,0.5s,baz=43,slow=4.4,SNR=23
AKBB Malin Array Si 142.93 331 PKPpre 16 04 31.6
SORM Soroca 145.12 329 ⇑P **PKPbc** 16 04 39.7 -0.4
BR131 Keskin Array S 146.77 312 **PKPbc** 16 04 45.1 -0.2
BRTR Keskin Array B 146.77 312 PKPbc **PKPbc** 16 04 45.4 +0.1
comp=Z,1.9nm,0.6s,baz=130,slow=5.0,SNR=10.0
BUR08 Bucovina Ar. S 146.96 331 **PKPbc** 16 04 45.6 +0.1
BURAR Bucovina Array 146.98 331 ⇑P **PKiKP** 16 04 47.2 -0.2
GHRR 147.01 327 ⇑P **PKiKP** 16 04 47.0 -0.3
BIZ Bicaz 147.05 329 ⇑P **PKiKP** 16 04 47.1 -0.4
TOPG Topolog 147.27 324 ⇓P **PKPbc** 16 04 46.7 +0.5
VRI Vrincioaia 147.49 327 ⇑P **PKPbc** 16 04 46.5 -0.3
TRPA Tarpa 147.75 334 ⇑P **PKiKP** 16 04 48.2 -0.6
OSTC Ostas 147.88 343 ⇓*e*PKP **PKiKP** 16 04 48.5 -0.6
CLL Collm 147.97 347 ⇓*i*PKPbc **PKiKP** 16 04 48.5 -0.7
comp=Z,9.0nm,0.6s
CLL *i* PKPab **PKPab** 16 04 52.8 +0.4
comp=Z,4.0nm,0.8s
CLL Collm 147.97 347 **PKPbc** 16 04 47.8 0.0
UPC Upice 147.98 343 ⇑*e*PKP **PKiKP** 16 04 48.7 -0.6
DPC Dobruska-Polom 148.03 343 ⇑*e*PKP **PKiKP** 16 04 49.3 -0.1
DOPR Dopca 148.09 328 ⇑P **PKiKP** 16 04 49.7 0.0
MLR Muntele Rosu 148.14 327 ⇑P **PKPbc** 16 04 49.0 +0.4
VOIR 148.63 328 ⇑P **PKPbc** 16 04 49.8 +0.1
PRU Pruhonice 148.84 344 ⇑*e*PKP **PKiKP** 16 04 50.8 -0.2
GOPC GO Pecny, Ondr 148.85 344 ⇑*e*PKP **PKPbc** 16 04 50.3 +0.2
ARR Arges 148.89 328 ⇑P **PKiKP** 16 04 51.0 -0.4
SIRR Siria 149.59 333 ⇑P **PKPbc** 16 04 50.8 -1.2
KHC Kasperske Hory 149.88 345 ⇑*e*PKP **PKiKP** 16 04 53.3 0.0
KHC *ex* x 16 05 01.8
KHC Kasperske Hory 149.88 345 **PKPbc** 16 04 52.1 -0.5
GERES GERESS Array B 150.11 344 PKPbc **PKiKP** 16 04 53.8 0.0
comp=Z,1.3nm,0.6s,baz=26,slow=2.8,SNR=12
BZS Buzias 150.11 332 ⇓P **PKiKP** 16 04 53.4 -0.3
CONA Conrad Observa 150.34 341 *i* PKiKP **PKiKP** 16 04 54.6 +0.3
comp=Z,2.5nm,0.6s
MOA Molln 150.88 343 *i* PKPbc **PKPbc** 16 04 54.6 -0.3
comp=Z,1.1nm,0.5s
VTS Vitosha 151.55 326 ⇑P **PKiKP** 16 04 57.5 +0.4
SOKA Soboth 151.71 341 *i* PKPdf **PKPdf** 16 04 52.4 +2.3
comp=Z,7.9nm,1.7s
WATA Walderalm 152.03 346 *i* PKiKP **PKPbc** 16 04 57.5 -0.2
comp=Z,1.3nm,0.5s
WTTA Wattenberg 152.08 346 *i* PKiKP **PKPbc** 16 04 57.6 -0.3
comp=Z,3.1nm,0.5s
SQTA Sankt Quirin 152.22 346 *i* PKiKP **PKiKP** 16 04 58.1 -0.1
comp=Z,2.7nm,0.9s
ABTA Abfaltersbach 152.35 344 *i* PKiKP **PKPbc** 16 04 58.0 -0.3
comp=Z,2.9nm,0.5s

*IDC **29** 15:48:31.1±1.2,2°.83S×129°.01E,h0km,mb3.6/3,*
mb1 3.7/5,mb1mx3.4/49,mbtmp3.5/5,ML3.3/2,MS4.5/1,
Ms1 4.5/1,ms1mx3.8/35,Error ellipse: s-maj=32.7km
s-min=23.3km az=83.0
*ISCJB **29** 15:48:33.4±0.6,2°.83S±0°.07×128°.97E±0°.07,h33km,*
mb3.6/3,MS4.5/1,Error ellipse: s-maj=11.3km
s-min=8.8km az=140.0
*NEIC **29** 15:48:36.1±2.0,2°.8S±0°.1×129°.05E±0°.09,h40km±11km,*
mb4.6/4
ISC 29 15:48:35.1±0.8,2°.8S±0°.1×128°.98E±0°.09,h33km,n12,
σ1s05/12,mb3.6/5,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.01**	**49**	Pn		**Pn**	**15 49 20.1**	**-0.4**
	3.1nm,0.3s,baz=204,slow=22,SNR=21							
SIJI				Sn		**Sn**	**15 49 55.5**	**+0.1**
	1.8nm,0.3s,baz=239,slow=19,SNR=4.4							
FAKI	**Fak Fak**	**3.27**	**91**	Pn		**Pn**	**15 49 22.9**	**-1.1**
WRA	**Warramunga Arr**	**17.79**	**163**	P		**P**	**15 52 41.1**	**+0.2**
	0.1nm,0.3s,baz=344,slow=12,SNR=3.1							
KSM	**Kuching**	**19.15**	**283**	P		**Pn**	**15 52 57.0**	**+0.1**
KSM				IAmb		IAmb	15 53 39.2	
	comp=Z,88nm,1.6s							
AS31	**Alice Springs**	**21.25**	**167**	P		**P**	**15 53 19.3**	**+0.7**
AS31				IAmb		IAmb	15 53 27.7	
	comp=Z,1.7nm,0.7s							
ASAR	**Alice Springs**	**21.25**	**167**	P		**P**	**15 53 18.6**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=346,slow=11,SNR=12							
DZM	**Mont Dzumac**	**41.08**	**121**	LR		LR	16 13 48.3	
	comp=Z,673nm,20.1s,baz=312,slow=37							
TUWZ	**Tuamarina**	**55.68**	**140**	P		**P**	**15 58 09.3**	**+1.1**
KAAM	**Kaadhehdhoo**	**56.06**	**272**	P		**P**	**15 58 09.7**	**-1.8**
MKAR	**Makanchi Array**	**64.22**	**326**	P		**P**	**15 59 08.2**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=115,slow=8.0,SNR=3.6							
BTK	**Batken**	**68.11**	**315**	P		**P**	**15 59 31.6**	**-0.4**
BTK				IAmb		IAmb	15 59 38.3	
	comp=Z,7.3nm,0.6s							
KURBB	**Kurchatov Arra**	**68.46**	**328**	P		**P**	**15 59 35.0**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=133,slow=5.4,SNR=7.1							

ROM 29 15:48:55.5±0.1,43°.388N±0°.003×12°.535E±0°.005,
h5km±1km,ML0.8/5,Error ellipse: s-maj=0.4km
s-min=0.1km az=75.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.03**	**129**	P		Pg	15 48 56.6	-0.1
ATFO				S		Sg	15 48 57.5	0.0
ATVO	**AVT- Monte Val**	**0.09**	**266**	P		Pg	15 48 57.6	+0.1
ATVO				S		Sg	15 48 59.4	+0.5
ATPI	**Pietralunga -**	**0.12**	**303**	P		Pg	15 48 58.2	+0.3
ATPI				S		Sg	15 49 00.4	+0.9
ATPI				AML		AML		
	comp=E,41μm,1.6s							
ATPI				AML		AML		
	comp=N,50μm,1.6s							
ATPI				AML		AML		
	comp=N,50μm,1.6s							
ATPI				AML		AML		
	comp=E,41μm,1.6s							
MURB	**Monte Urbino**	**0.12**	**184**	P		Pg	15 48 58.4	+0.3
MURB				S		Sg	15 49 00.8	+1.0
MURB				AML		AML		
	comp=E,72μm,1.4s							
MURB				AML		AML		
	comp=N,105μm,1.6s							
MURB				AML		AML		
	comp=N,105μm,1.6s							
PIEI	**Pieia**	**0.15**	**360**	P		Pg	15 48 58.9	+0.4
PIEI				S		Sg	15 49 01.8	+1.3
PIEI				AML		AML		
	comp=N,95μm,0.2s							
PIEI				AML		AML		
	comp=E,112μm,0.3s							
FRON	**Frontone**	**0.19**	**47**	P		Pg	15 48 59.5	+0.2
FRON				S		Sg	15 49 03.1	+1.3
ATCC	**AVT- Casa Cast**	**0.22**	**159**	P		Pg	15 49 00.2	+0.5
ATCC				S		Sg	15 49 04.5	+2.0
ATCC				AML		AML		
	comp=E,53μm,1.5s							
ATCC				AML		AML		
	comp=N,51μm,1.4s							
ATCC				AML		AML		
	comp=E,53μm,1.5s							
ATCC				AML		AML		
	comp=N,51μm,1.4s							
NARO	**Abbazia di Nar**	**0.23**	**8**	AML		AML		
	comp=E,37μm,1.5s							
NARO				AML		AML		
	comp=N,37μm,1.5s							

*MDD **29** 15:51:45.0±0.4,36°.62N×2°.97W,h0km,mbLg2.3/17,Error*
ellipse: s-maj=3.7km s-min=3.1km az=122.0,PRXIMO

*SFS **29** 15:51:44.0,36°.61N×2°.97W,ML2.3,N. DE ALBORAN*
*CNRM **29** 15:51:50.3,36°.72N×2°.80W,h109km,ml3.1*
ISC 29 15:51:41.9±1.6,36°.45N±0°.06×2°.88W±0°.04,h13km±11km,
n23,σ2s02/31,1D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EBER	**Berja**	**0.45**	**359**	⇓Pg		**Pg**	**15 51 50.0**	**-0.8**
	35nm,0.2s,SNR=18							
EBER				Lg		Lg	15 51 54.5	
	264nm,0.2s,SNR=5.0							
EALB	**Alboran**	**0.52**	**194**	Pg		**Pn**	**15 51 57.3**	**+2.3**
	11nm,0.1s,SNR=257							
EALB				Lg		Lg	15 52 07.1	
	114nm,0.3s,SNR=10							
ELGU	**Los Guajares,**	**0.73**	**305**	Pg		**Pb**	**15 51 54.9**	**-1.6**
	19nm,0.2s,SNR=7.9							
ELGU				Lg		Lg	15 52 02.6	
	80nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**0.75**	**46**	Pg		**Pn**	**15 51 57.9**	**-0.3**
	13nm,0.2s,SNR=7.9							
ENIJ				Lg		Lg	15 52 07.7	
	215nm,0.2s,SNR=7.9							
EQUE	**Quentar**	**0.88**	**329**	Pg		**Pb**	**15 51 57.8**	**-1.2**
	8.2nm,0.1s,SNR=9.5							
EQUE				Lg		Lg	15 52 04.9	
	101nm,0.3s,SNR=16							
GORA	**Gorafe**	**1.04**	**353**	Pg		**Pb**	**15 52 02.0**	**+0.2**
	11nm,0.1s,SNR=7.9							
GORA				Lg		Lg	15 52 12.3	
	76nm,0.3s,SNR=7.9							
EGOR	**Sierra Gorda,**	**1.19**	**304**	Pg		**Pn**	**15 52 03.3**	**-1.0**
	1.0nm,0.2s,SNR=7.9							
EGOR				Lg		Lg	15 52 17.8	
	70nm,0.5s,SNR=7.9							
EMAL	**Malaga-Limoner**	**1.28**	**285**	*e*P		**Pb**	**15 52 06.5**	**+0.6**
EMAL				*i* S		**Sn**	**15 52 16.6**	**-5.9**
EQES	**Quesada**	**1.36**	**354**	Pg		**Pb**	**15 52 08.0**	**+0.7**
	2.1nm,0.2s,SNR=7.9							
EQES				Lg		Lg	15 52 24.2	
	12nm,0.4s,SNR=7.9							
PALE	**Palemas**	**1.50**	**215**	P		Pg	15 52 21.1	+10
PALE				S		Sg	15 52 42.9	+13
EMIJ	**Mijas**	**1.53**	**275**	Pg		**Pn**	**15 52 07.4**	**-1.5**
	2.5nm,0.4s,SNR=9.3							
EMIJ				Lg		Lg	15 52 24.2	
	8.3nm,0.3s,SNR=5.0							
SESP	**Santiago Espad**	**1.69**	**9**	P		**Pg**	**15 52 15.2**	**+0.8**
SESP				S		**Sg**	**15 52 37.0**	**+0.6**
SESP	**Santiago Espad**	**1.69**	**9**	Pg		**Pg**	**15 52 13.9**	**-0.5**
	14nm,0.2s,SNR=7.9							
SESP				Lg		Lg	15 52 34.0	
	16nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**1.91**	**43**	Pg		**Pg**	**15 52 18.1**	**-0.5**
	0.9nm,0.2s,SNR=7.9							
EMUR				Sn		**Sb**	**15 52 38.9**	**-1.4**
	9.3nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**2.19**	**322**	Pg		**Pb**	**15 52 22.3**	**+1.1**
	2.5nm,0.2s,SNR=7.9							
EADA				Lg		Lg	15 52 49.2	
	17nm,0.4s,SNR=7.9							
HORN	**Hornachuelos**	**2.36**	**307**	P		**Pg**	**15 52 26.7**	**-0.4**
HORN				S		**Sb**	**15 52 54.8**	**+1.6**
ETOB	**Tobarra**	**2.44**	**25**	Pn		**Pb**	**15 52 23.3**	**-2.2**
	0.4nm,0.3s,SNR=7.9							
ETOB				Pg		Pg	15 52 26.9	-1.7
	1.0nm,0.2s,SNR=7.9							
ETOB				Sn		**Sn**	**15 52 52.1**	**+1.0**
	7.4nm,0.6s,SNR=7.9							
ETOB				Lg		Lg	15 52 59.5	
	12nm,0.4s,SNR=7.9							
ECAB	**El Cabril**	**2.60**	**309**	Pn		**Pn**	**15 52 25.3**	**+1.7**
	0.0nm,0.1s,SNR=7.9							
ECAB				Pg		Pg	15 52 29.4	-2.2
	1.8nm,0.3s,SNR=7.0							
ECAB				Sn		**Sn**	**15 52 53.4**	**-1.5**
	4.1nm,0.5s,SNR=7.9							
ECAB				Lg		Lg	15 53 01.8	
	9.9nm,0.6s,SNR=5.0							
PAB	**San Pablo**	**3.30**	**340**	Pn		**Pn**	**15 52 35.0**	**+1.6**
	0.1nm,0.2s,SNR=7.9							
PAB				Pg		Pg	15 52 42.4	-2.8
	0.2nm,0.2s,SNR=7.9							
PAB				Lg		Lg	15 53 24.6	
	1.0nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.31**	**295**	Pn		**Pn**	**15 52 36.2**	**+2.9**
	0.2nm,0.2s,SNR=7.9							
EMIN				Sn		**Sn**	**15 53 12.5**	**+0.1**
	0.5nm,0.3s,SNR=7.9							
EMIN				Lg		Lg	15 53 25.2	
	1.8nm,0.4s,SNR=7.9							
ESDC	**Sonseca Array**	**3.33**	**345**	Pg		**Pg**	**15 52 43.8**	**-1.9**
	0.5nm,0.2s,baz=164,slow=18,SNR=7.9							
ESDC				Sn		**Sn**	**15 53 11.9**	**-1.3**
	0.4nm,0.1s,baz=170,slow=16,SNR=3.6							
ESDC				Lg		Lg	15 53 26.5	
	3.9nm,0.4s,baz=167,slow=27,SNR=9.8							
UCM	**Universidad Co**	**3.86**	**356**	*e*P		**Pg**	**15 52 56.4**	**+0.5**
UCM				*e*S		**Sb**	**15 53 41.3**	**+4.8**
ETOR	**Torete**	**4.41**	**8**	Pg		**Pg**	**15 53 04.9**	**-1.5**
	1.1nm,0.2s,SNR=7.9							
ETOR				Lg		Lg	15 54 00.0	
	6.7nm,0.5s,SNR=7.9							

*ISCJB **29** 16:29:34.6±0.6,26°.48N±0°.04×54°.20E±0°.07,h10km,Error*
ellipse: s-maj=9.3km s-min=3.8km az=156.2
*TEH **29** 16:29:35.5,26°.53N×54°.27E,h17km,ML3.1*
*OMAN **29** 16:29:39.5±1.7,26°.31N×54°.02E,h37km,ml2.6/8,Error*
ellipse: s-maj=15.6km s-min=13.3km az=13.0
ISC 29 16:29:35.9±1.3,26°.48N±0°.06×54°.23E±0°.06,h10km,n32,
σ0s94/37,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**1.28**	**312**	*e*Pg		**Pn**	**16 29 59.4**	**-0.5**
LMD1				IAMB		IAmb	16 30 19.7	
	comp=Z,0.0nm,0.4s							
SHME	**Shamm**	**1.77**	**103**	*e*Pn		**Pn**	**16 30 04.7**	**-2.0**
BANOM	**Banah**	**1.94**	**106**	P		**Pn**	**16 30 08.8**	**-0.3**
BANOM				S		**Sg**	**16 30 39.9**	**+1.5**
GENO	**Geno**	**1.97**	**62**	IAMB		IAmb	16 30 59.1	
	comp=Z,0.0nm,0.3s							
GENO				*e*Pn		**Pn**	**16 30 09.1**	**-0.4**
MSFE	**Esma-Masafi**	**2.07**	**122**	*e*Pn		**Pn**	**16 30 11.2**	**+0.4**
ASUD	**Al Ashush, Dub**	**2.10**	**151**	P		**Pb**	**16 30 13.2**	**-0.8**
	SNR=17							
JHRM	**Jahrom**	**2.10**	**344**	*e*Pn		**Pn**	**16 30 11.0**	**-0.3**
MDH	**Madha**	**2.21**	**122**	*e*Pn		**Pn**	**16 30 13.0**	**+0.4**
UOSS	**Minazif**	**2.35**	**130**	P		**Pn**	**16 30 15.1**	**+0.5**
UOSS	**Minazif**	**2.35**	**130**	*e*Pn		**Pn**	**16 30 15.3**	**+0.7**
HATD	**Hatta, Dubai**	**2.38**	**133**	*e*Pn		**Pn**	**16 30 15.8**	**+0.8**
ASHO	**Ashiyiah**	**2.43**	**137**	P		**Pn**	**16 30 16.9**	**+1.0**
	SNR=7.1							
ASHO	**Ashiyiah**	**2.43**	**137**	*e*Pn		**Pn**	**16 30 16.8**	**+1.0**
NIAN	**Nian**	**2.56**	**65**	IAMB		IAmb	16 30 06.3	
	comp=Z,0.0nm,0.2s							
NIAN				*e*Pn		**Pn**	**16 30 17.0**	**-0.6**
ALNE	**Al Ain**	**2.78**	**150**	*e*Pn		**Pn**	**16 30 21.3**	**+0.8**
ISRV	**Sarvestan**	**3.06**	**341**	*e*Pn		**Pn**	**16 30 24.1**	**-0.5**
SOHO	**SOHO**	**3.13**	**138**	P		**Pn**	**16 30 26.0**	**+0.6**
	SNR=8.6							
KHNJ	**Kahnooj**	**3.43**	**64**	*e*Pn		**Pn**	**16 30 28.2**	**-1.3**
ARQ	**Araqi**	**3.76**	**146**	P		**Pn**	**16 30 35.0**	**+1.0**
	SNR=13							
ARQ				S		**Sn**	**16 31 17.8**	**-0.6**
NGRK	**Negar Kerman**	**3.85**	**34**	*e*Pn		**Pn**	**16 30 34.5**	**-1.2**
NGRK				IAMB		IAmb	16 30 37.2	
	comp=Z,0.0nm,0.2s							
HOQ	**Hoqain**	**4.02**	**135**	P		**Pn**	**16 30 38.6**	**+1.1**
	SNR=6.1							
HOQ				S		**Sn**	**16 31 24.1**	**-0.6**
TVBK	**TV Kerman**	**4.15**	**32**	*e*Pn		**Pn**	**16 30 39.8**	**+0.1**
TVBK				IAMB		IAmb	16 30 43.3	
	comp=Z,0.0nm,0.2s							
KHGB	**Koh Gabri**	**4.36**	**27**	*e*Pn		**Pn**	**16 30 42.7**	**+0.2**
KHGB				IAMB		IAmb	16 30 43.5	
	comp=Z,0.0nm,0.2s							
CHMN	**Cheshme madani**	**4.46**	**40**	*e*Pn		**Pn**	**16 30 44.2**	**+0.2**
CHMN				IAMB		IAmb	16 30 45.5	
	comp=Z,0.0nm,0.2s							
BSY	**Bisya**	**4.60**	**143**	P		**Pn**	**16 30 46.3**	**+0.8**
BSY				S		**Sn**	**16 31 39.4**	**+0.4**
SMDO	**Samad**	**4.86**	**134**	P		**Pn**	**16 30 50.9**	**+1.6**
SMDO				S		**Sn**	**16 31 46.3**	**+0.6**
IMEH	**Mehriz**	**4.91**	**4**	*e*Pn		**Pn**	**16 30 49.9**	**-0.1**
KLNJ	**Kolanjah**	**5.07**	**333**	*e*Pn		**Pn**	**16 30 52.5**	**+0.1**
IBAF	**Bafgh**	**5.23**	**13**	*e*Pn		**Pn**	**16 30 53.8**	**-0.6**
SHAO	**Shalim**	**8.51**	**171**	P		**Pn**	**16 31 38.2**	**-1.2**
	SNR=7.9							
WHFO	**Wadi Hawf**	**8.53**	**183**	P		**Pn**	**16 31 37.8**	**-1.8**
	SNR=37							
ABTO	**Aybut**	**9.12**	**186**	P		**Pn**	**16 31 46.1**	**-1.6**
	SNR=16							

*SOME **29** 16:29:59.7,40°.97N×73°.30E,h10km*
*NNC **29** 16:30:02.8±0.8,41°.16N×73°.32E,h0km,mb3.9,mpv3.6,*
Error ellipse: s-maj=6.9km s-min=3.7km az=171.0
*KRNET **29** 16:30:03.2±0.1,41°.18N×73°.31E,h24km,mb3.5*
ISC 29 16:30:02.2±1.2,41°.18N±0°.03×73°.41E±0°.02,h6km±10km,
n70,σ1s57/110,28C-23D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.35**	**294**	⇓*i*P		**Pg**	**16 30 09.4**	**+0.3**
	baz=0.0							
ARSB				⇓*i*S		**Sg**	**16 30 14.5**	**+0.7**
	baz=0.0							
ARLS	**Aral**	**0.97**	**45**	⇑*i*P		**Pn**	**16 30 21.9**	**-0.6**
	baz=47							
ARLS				⇑*i*S		**Sn**	**16 30 35.7**	**-1.0**
	baz=47							
AML	**Almayashu**	**0.97**	**13**	⇓*i*P		**Pn**	**16 30 22.1**	**-0.8**
	baz=17							
AML				⇓*i*S		**Sn**	**16 30 35.7**	**-1.5**
	baz=17							
AML	**Almayashu**	**0.97**	**13**	P		**Pn**	**16 30 22.1**	**-0.8**
	SNR=225							
ARK	**Arkit**	**1.25**	**300**	⇑*i*P		**Pg**	**16 30 25.3**	**-0.9**
	baz=1.0							
ARK				⇑*i*S		**Sg**	**16 30 40.9**	**-1.5**
	baz=1.0							
UCH	**Uchtor**	**1.33**	**38**	⇓*i*P		**Pb**	**16 30 28.6**	**+0.7**
	baz=40							
UCH				⇓*i*S		**Sn**	**16 30 47.2**	**+1.0**
	baz=40							
UCH	**Uchtor**	**1.33**	**38**	P		**Pb**	**16 30 28.8**	**+0.9**
	SNR=167							
EKS2	**Erkin-Say**	**1.50**	**10**	⇓*i*P		**Pg**	**16 30 31.1**	**0.0**
	baz=13							
EKS2				⇓*i*S		**Sg**	**16 30 51.0**	**+0.4**
	baz=13							
EKS2	**Erkin-Say**	**1.50**	**10**	P		**Pg**	**16 30 31.5**	**+0.4**
	SNR=59							
MRKS	**Merke**	**1.57**	**355**	*e*P		**Pg**	**16 30 32.3**	**0.0**
	60nm,0.3s							
MRKS				*e*S		**Sg**	**16 30 55.0**	**+2.3**
	171nm,0.3s							
MRKS	**Merke**	**1.57**	**355**	P		**Pg**	**16 30 32.3**	**0.0**
	60nm,0.3s							
MRKS				S		**Sg**	**16 30 55.0**	**+2.3**
	171nm,0.3s							
KZA	**Kyzart**	**1.65**	**56**	⇓*i*P		**Pg**	**16 30 34.3**	**+0.5**
	baz=58							
KZA				⇓*i*S		**Sg**	**16 30 56.8**	**+1.6**
	baz=58							
KZA	**Kyzart**	**1.65**	**56**	P		**Pg**	**16 30 34.5**	**+0.7**
	SNR=54							
AAK	**Ala-Archa**	**1.67**	**29**	⇓*i*P		**Pg**	**16 30 34.0**	**-0.2**
	baz=31							
AAK				⇓*i*S		**Sg**	**16 30 56.4**	**+0.6**
	baz=31							
AAK	**Ala-Archa**	**1.67**	**29**	P		**Pg**	**16 30 34.7**	**+0.5**
	SNR=136							
AAK	**Ala-Archa**	**1.67**	**29**	P		**Pg**	**16 30 34.7**	**+0.5**
	34nm,0.3s							
AAK				S		**Sg**	**16 30 57.0**	**+1.2**
	165nm,0.5s							
FRU1	**Bishkek**	**1.87**	**29**	⇓*i*P		**Pb**	**16 30 36.9**	**+0.1**
	baz=31							
FRU1				⇓*i*S		**Sg**	**16 31 00.9**	**-1.3**
	baz=31							
KBK	**Karagaybulak**	**1.87**	**37**	⇑*i*P		**Pg**	**16 30 37.0**	**+0.1**
	baz=39							
KBK				⇑*i*S		**Sg**	**16 31 01.4**	**-0.9**
	baz=39							
KBK	**Karagaybulak**	**1.87**	**37**	P		**Pg**	**16 30 38.6**	**+0.5**
	SNR=76							
NRN	**Naryn**	**1.97**	**82**	⇓*i*P		**Pb**	**16 30 38.3**	**-0.4**
	baz=82							
NRN				⇓*i*S		**Sg**	**16 31 04.2**	**-1.3**
	baz=82							
CHMS	**Chumysh**	**2.07**	**28**	⇓*i*P		**Pb**	**16 30 39.4**	**-0.9**
	baz=30							
CHMS				⇓*i*S		**Sb**	**16 31 05.6**	**-0.8**
	baz=30							
CHMS	**Chumysh**	**2.07**	**28**	P		**Pg**	**16 30 41.6**	**-0.4**
	SNR=49							
USP	**Ospenovka**	**2.24**	**21**	⇓*i*P		**Pb**	**16 30 41.9**	**-1.2**
	baz=22							
USP				⇓*i*S		**Sb**	**16 31 09.6**	**-1.5**
	baz=22							
USP	**Ospenovka**	**2.24**	**21**	P		**Pb**	**16 30 43.5**	**+0.4**
	SNR=65							
BTK	**Batken**	**2.27**	**241**	⇑*i*P		**Pn**	**16 30 40.5**	**+0.2**
	baz=40							
BTK				⇑*i*S		**Sn**	**16 31 07.9**	**-0.8**
	baz=40							
BOOM	**Boomskoye usch**	**2.30**	**54**	⇑*i*P		**Pb**	**16 30 43.6**	**-0.6**
	baz=55							
BOOM				⇑*i*S		**Sb**	**16 31 11.8**	**-1.2**
	baz=55							
DZA	**Taraz**	**2.31**	**319**	*e*P		**Pb**	**16 30 45.1**	**+0.9**
	86nm,0.1s							
DZA				*e*S		**Sg**	**16 31 15.9**	**-0.4**
	380nm,0.4s							
DZA	**Taraz**	**2.31**	**319**	Pg		**Pb**	**16 30 45.1**	**+0.9**
	50nm,0.2s							
DZA				Lg		Lg	16 31 15.9	
	355nm,0.3s							
ULHL	**Ulahol**	**2.37**	**62**	⇑*e*P		**Pb**	**16 30 44.1**	**-1.4**
	baz=63							
ULHL				⇑*i*S		**Sb**	**16 31 14.3**	**-0.8**
	baz=63							
ULHL	**Ulahol**	**2.37**	**62**	P		**Pg**	**16 30 47.6**	**-0.1**

comp=E,7.5nm,0.4s
TNSS *eS* **Sg** **16 31 47.4 +1.7**
comp=E,65nm,0.5s
TNSS Tian-Shan 3.22 54 Pg **Pg** **16 31 03.4 -0.6**
comp=E,7.5nm,0.4s
TNSS Lg Lg 16 31 47.4
comp=E,65nm,0.5s
KNDC Almaty 3.34 51 ⇑Pg **Pg** **16 31 05.5 -0.6**
comp=E,19nm,0.5s
KNDC ⇑Lg Lg 16 31 49.9
comp=E,186nm,1.1s
MDOK Medeo 3.35 53 *eP* **Pg** **16 31 04.8 -1.7**
comp=E,6.1nm,0.4s
MDOK *eS* **Sg** **16 31 50.2 +0.3**
comp=E,44nm,0.3s
MDOK Medeo 3.35 53 ⇑Pg **Pg** **16 31 04.9 -1.7**
comp=E,15nm,0.6s
MDOK ⇑Lg Lg 16 31 48.7
comp=E,33nm,0.5s
MDOK Medeo 3.35 53 Pg **Pg** **16 31 04.8 -1.7**
comp=E,6.1nm,0.4s
MDOK Lg Lg 16 31 50.2
comp=E,44nm,0.3s
KOTS Kotyrbulak 3.43 52 *eP* **Pg** **16 31 06.7 -1.3**
comp=E,24nm,0.5s
KOTS *eS* **Sg** **16 31 52.8 +0.3**
comp=E,351nm,0.5s
KOTS Kotyrbulak 3.43 52 Pg **Pg** **16 31 06.7 -1.3**
comp=E,24nm,0.5s
KOTS Lg Lg 16 31 52.8
comp=E,351nm,0.5s
KUU Kurty 3.47 38 *eP* **Pg** **16 31 06.9 -1.8**
comp=E,7.1nm,0.4s
KUU *eS* **Sg** **16 31 53.0 -0.7**
comp=E,122nm,0.4s
KUU Kurty 3.47 38 Pg **Pg** **16 31 06.9 -1.8**
comp=E,7.1nm,0.4s
KUU Lg Lg 16 31 53.0
comp=E,122nm,0.4s
KTBS Karatobe 3.50 43 *eP* **Pg** **16 31 07.7 -1.6**
comp=E,3.6nm,0.3s
KTBS *eS* **Sg** **16 31 54.5 -0.2**
comp=E,179nm,0.6s
KTBS Karatobe 3.50 43 Pg **Pg** **16 31 07.7 -1.6**
comp=E,3.6nm,0.3s
KTBS Lg Lg 16 31 54.5
comp=E,179nm,0.6s
ANVS Anan'yevo 3.56 62 ⇑*iP* **Pn** **16 31 00.9 +2.8**
baz=62
ANVS ⇑*iS* **Sn** **16 31 42.0 +1.4**
baz=62
CHKK Chushkaly 3.76 44 *eP* **Pg** **16 31 12.3 -1.9**
comp=E,2.9nm,0.4s
CHKK *eS* **Sg** **16 32 02.6 -0.3**
comp=E,74nm,0.4s
CHKK Chushkaly 3.76 44 Pg **Pg** **16 31 12.3 -1.9**
comp=E,2.9nm,0.4s
CHKK Lg Lg 16 32 02.6
comp=E,74nm,0.4s
BTLS Baital 3.89 7 *eP* **Pg** **16 31 14.4 -2.2**
comp=E,2.0nm,0.3s
BTLS *eS* **Sg** **16 32 06.3 -0.8**
comp=E,37nm,0.7s
BTLS Baital 3.89 7 Pg **Pg** **16 31 14.4 -2.2**
comp=E,2.0nm,0.3s
BTLS Lg Lg 16 32 06.3
comp=E,37nm,0.7s
SATY Saty 4.16 62 *eP* **Pg** **16 31 20.5 -1.5**
comp=E,6.6nm,0.7s
SATY *eS* **Sg** **16 32 16.6 +0.6**
comp=E,54nm,0.5s
SATY Saty 4.16 62 Pg **Pg** **16 31 20.5 -1.5**
comp=E,6.6nm,0.7s
SATY Lg Lg 16 32 16.6
comp=E,54nm,0.5s
KURS Kuram 4.22 55 *eP* **Pg** **16 31 21.0 -2.0**
comp=E,5.2nm,0.6s
KURS *eS* **Sg** **16 32 17.3 -0.3**
comp=E,17nm,0.6s
KURS Kuram 4.22 55 Pg **Pg** **16 31 21.0 -2.0**
comp=E,5.2nm,0.6s
KURS Lg Lg 16 32 17.3
comp=E,17nm,0.6s
KPKS Kokpek 4.53 58 *eP* **Pg** **16 31 27.1 -1.9**
comp=E,11nm,0.6s
KPKS *eS* **Sg** **16 32 27.8 +0.2**
comp=E,48nm,0.6s
SHLS Shalkode 4.91 64 *eP* **Pg** **16 31 38.6 +2.3**
comp=E,5.0nm,0.5s
SHLS *eS* **Sg** **16 32 48.0 +8.0**
comp=E,28nm,0.7s
SHLS Shalkode 4.91 64 Pg **Pg** **16 31 38.6 +2.3**
comp=E,5.0nm,0.5s
SHLS Lg Lg 16 32 48.0
comp=E,28nm,0.7s
PDGK Podgornoye 5.00 63 Pg **Pg** **16 31 34.6 -3.3**
comp=E,1.1nm,0.7s
PDGK Lg Lg 16 32 41.6
comp=E,8.6nm,0.6s
PDGK Podgornoye 5.00 63 ⇑Pg **Pg** **16 31 35.3 -2.6**
comp=E,4.4nm,0.7s
PDGK ⇓Lg Lg 16 32 43.8
comp=E,21nm,0.8s
TDK Taldyqorghan 5.29 42 *eP* **Pg** **16 31 41.5 -2.0**
comp=E,19nm,0.3s
TDK *eS* **Sg** **16 32 52.8 +0.8**
comp=E,105nm,0.8s
TDK Taldyqorghan 5.29 42 Pg **Pg** **16 31 41.5 -2.0**
comp=E,19nm,0.3s
TDK Lg Lg 16 32 52.8
comp=E,105nm,0.8s
MK31 Makanchi Array 8.51 46 ⇑Pn **Pn** **16 32 09.4 +3.4**
comp=E,1.1nm,0.6s,baz=236,slow=13,SNR=4.5
MK31 ⇑Lg Lg 16 34 35.1
comp=E,6.3nm,1.1s,baz=232,slow=25,SNR=4.3

ISCJB ***29*** *16:48:56.9±0.5, 3°.26S±0°.06×139°.97E±0°.06, h103km±6km, mb3.6/3, Error ellipse: s-maj=11.3km s-min=8.1km az=44.9*
IDC ***29*** *16:48:57.0±2.0, 3°.15S×139°.74E, h79km±27km, mb3.5/4, mb1 3.8/5, mb1mx3.4/25, mbtmp3.9/5, Error ellipse: s-maj=51.3km s-min=17.1km az=115.0*
NEIC ***29*** *16:48:57.3±1.6, 3°.2S±0°.1×139°.9E±0°.1, h92km±11km, mb4.5/7*
DJA ***29*** *16:49:00.1±1.1, 3°.5S±4°×14°.0E±°, h78km±12km, M3.8/3, MLv3.8/3*

ISC 29 16:48:57.8±0.7,**3°.23S**±0°.07×**139°.99E**±0°.06,**h99**km±8km, **n19**,σ1**°31**/26,**mb3.6**/3,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.65**	**16**	P	**Pn**	**16 49 15.4**	**+0.6**
GENI				S	**Sn**	**16 49 28.8**	**+1.3**
JAY	**Jayapura**	**1.01**	**45**	P	**Pn**	**16 49 18.7**	**+0.3**
	31nm,0.3s,baz=233,slow=10.0,SNR=179						
JAY				S	**Sn**	**16 49 33.6**	**-0.2**
	66nm,0.3s,baz=73,slow=21,SNR=15						
JAY	**Jayapura**	**1.01**	**45**	P	**Pn**	**16 49 18.4**	**+0.1**
JAY				S	**Sn**	**16 49 32.4**	**-1.3**
WAMI	**Wamena**	**1.43**	**243**	P	**Pn**	**16 49 24.7**	**+1.5**
WAMI				S	**Sn**	**16 49 41.8**	**-0.7**
SMPI	**Sarmi**	**1.77**	**314**	P	**Pn**	**16 49 28.8**	**+1.4**
SMPI				S	**Sn**	**16 49 48.0**	**-2.0**
COEN	**Coen**	**11.12**	**164**	Pn	**Pn**	**16 51 33.9**	**+0.1**
MTN	**Manton Dam**	**12.96**	**222**		**Pn**	**16 51 56.7**	**-1.6**
KNRA	**Kununurra**	**16.59**	**221**		**Pn**	**16 52 43.6**	**-1.0**
SOEI	**Soe**	**16.91**	**247**		**Pn**	**16 52 47.3**	**-1.2**
SOEI				IAmb	IAmb	16 53 05.2	
	comp=Z,41nm,1.2s						
WR0	**Warramunga Arr**	**17.46**	**197**	P	**P**	**16 52 54.3**	**-0.6**
WR0				IAmb	IAmb	16 52 59.7	
	comp=Z,11nm,1.2s						
WRAB	**Tennant Creek**	**17.49**	**198**	P	**P**	**16 52 55.3**	**0.0**
WRAB				IAmb	IAmb	16 53 51.9	
	comp=Z,42nm,1.8s						
WRA	**Warramunga Arr**	**17.51**	**198**	P	**P**	**16 52 55.4**	**0.0**
	comp=Z,1.4nm,0.3s,baz=17,slow=13,SNR=57						
WRA				S	Sn	16 56 00.3	-11
	comp=Z,0.2nm,0.3s,baz=13,slow=20,SNR=3.9						
CTAO	**Charters Tower**	**17.84**	**160**		**P**	**16 52 58.7**	**-0.4**
CTAO				IAmb	IAmb	16 52 59.3	
	comp=Z,24nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.40**	**223**	P	**P**	**16 53 27.2**	**+0.2**
	comp=Z,3.9nm,0.9s,baz=43,slow=11,SNR=7.8						
FITZ				S	**S**	**16 57 06.9**	**-3.2**
	comp=Z,4.3nm,0.9s,baz=76,slow=19,SNR=2.7						
FITZ	**Fitzroy Crossi**	**20.40**	**223**	P	**P**	**16 53 26.8**	**-0.2**
FITZ				IAmb	IAmb	16 53 38.5	
	comp=Z,92nm,1.9s						
AS31	**Alice Springs**	**21.15**	**196**	P	**P**	**16 53 36.3**	**+1.2**
ASAR	**Alice Springs**	**21.16**	**196**	P	**P**	**16 53 36.4**	**+1.3**
	comp=Z,2.8nm,0.6s,baz=24,slow=11,SNR=69						
ASAR				S	**S**	**16 57 27.4**	**+2.4**
	comp=Z,0.4nm,0.6s,baz=12,slow=28,SNR=4.2						
MKAR	**Makanchi Array**	**70.97**	**322**	P	**P**	**17 00 05.5**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=109,slow=6.9,SNR=11						
ILAR	**Eielson Array**	**85.77**	**24**	P	**P**	**17 01 25.8**	**0.0**
	comp=Z,0.6nm,0.9s,baz=259,slow=4.3,SNR=6.2						

DJA 29 16:59:03.6±1.1,**1°N**±9°×**12°6E**±°,**h11**km±12km,**M3.4**/6, **MLv3.4**/6,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.23**	**98**	P	Pn	16 59 25.6	-1.1
TNTI				S	Sg	16 59 43.0	-0.2
KMSI	**Cibinong**	**2.20**	**261**	P	Pn	16 59 39.0	-1.1
KMSI				S	Sn	17 00 08.5	+1.2
SANI	**Sanana**	**2.97**	**183**	P	Pn	16 59 51.1	+0.3

ISCJB ***29*** *16:59:17.3±0.3, 7°.00S±0°.03×130°.54E±0°.06, h100km, mb4.3/10, Error ellipse: s-maj=8.5km s-min=4.0km az=163.3*
BJI ***29*** *16:59:17.6±0.0, 6°.98S×130°.32E, h93km, mb4.7/11, mB5.1/8*
IDC ***29*** *16:59:18.9±2.3, 6°.83S×130°.33E, h88km±22km, mb3.8/8, mb1 3.9/11, mb1mx3.7/38, mbtmp4.2/11, Error ellipse: s-maj=19.5km s-min=15.2km az=74.0*
DJA ***29*** *16:59:18.2±0.4, 7°.5S±2°×13°.1E±°, h136km±7km, M4.5/10, mb4.4/6, mB5.1/4, MLv4.6/10, Mw(mB)4.5/4*
NEIC ***29*** *16:59:19.1±1.8, 6°.77S±0°.07×130°.5E±0°.1, h94km±6km, mb4.6/9*

ISC 29 16:59:18.9±0.5,**6°.93S**±0°.04×**130°.51E**±0°.06,**h100**km,**n48**, σ2**°96**/56,**mb4.3**/14,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.31**	**143**	P	**Pn**	**16 59 45.3**	**+2.4**
SAUI				S	**Sn**	**17 00 05.1**	**+4.1**
SAUI	**Saumlaki**	**1.31**	**143**		**Pn**	**16 59 45.3**	**+2.4**
BNDI	**Bandanaira**	**2.46**	**346**	P	**Pn**	**16 59 57.7**	**+0.1**
BNDI				S	**Sn**	**17 00 29.2**	**+2.0**
MSAI	**Masohi**	**3.89**	**336**	P	**Pn**	**17 00 17.5**	**+0.8**
MSAI				S	**Sn**	**17 01 01.8**	**+0.4**
AAI	**Ambon**	**3.96**	**324**	P	**Pn**	**17 00 17.6**	**0.0**
AAI				S	**Sn**	**17 01 05.0**	**+1.9**
FAKI	**Fak Fak**	**4.34**	**24**	P	**Pn**	**17 00 21.4**	**-1.4**
FAKI				S	**Sn**	**17 01 08.0**	**-4.4**
FAKI	**Fak Fak**	**4.34**	**24**		**Pn**	**17 00 21.1**	**-1.7**
NLAI	**Namlea**	**5.00**	**317**	P	**Pn**	**17 00 34.2**	**+2.5**
	37nm,0.4s,2μm0.2nm						
MTN	**Manton Dam**	**5.91**	**174**		**Pn**	**17 00 43.9**	**-0.2**
SIJI	**Sorong**	**6.06**	**7**	P	**Pn**	**17 00 44.5**	**-1.7**
	7.7nm,0.3s,baz=188,slow=22,SNR=32						
SIJI				S	**Sn**	**17 01 46.2**	**-8.0**
	23nm,0.3s,baz=78,slow=24,SNR=17						
SWI	**Sorong**	**6.07**	**7**	P	**Pn**	**17 00 44.6**	**-1.6**
SWI	**Sorong**	**6.07**	**7**	P	**Pn**	**17 00 44.8**	**-1.4**
SANI	**Sanana**	**6.62**	**317**	P	**Pn**	**17 00 54.9**	**+1.2**
	25nm,0.7s,0.1nm						
SOEI	**Soe**	**6.79**	**245**	P	**Pn**	**17 00 55.9**	**-0.2**
	82nm,0.8s,0.8nm						
SOEI	**Soe**	**6.79**	**245**		**Pn**	**17 00 56.0**	**-0.2**
BATI	**Baumata**	**7.51**	**244**	P	**Pn**	**17 01 05.7**	**-0.2**
	9.3nm,0.3s,baz=68,slow=13,SNR=12						
BATI				S	**Sn**	**17 02 25.8**	**-3.8**
	28nm,0.3s,baz=139,slow=19,SNR=11						
KNRA	**Kununurra**	**8.86**	**191**		**Pn**	**17 01 22.6**	**-1.7**
APSI	**Ampana**	**10.67**	**304**	P	Pn	17 01 36.7	-12
FITZ	**Fitzroy Crossi**	**12.08**	**203**	P	**Pn**	**17 02 03.3**	**-4.4**
	4.9nm,0.3s,baz=21,slow=7.9,SNR=71						
FITZ				S	Sn	17 04 07.0	-13
	3.5nm,0.3s,baz=135,slow=19,SNR=6.6						
FITZ	**Fitzroy Crossi**	**12.08**	**203**		**Pn**	**17 02 03.8**	**-3.9**
WRAB	**Tennant Creek**	**13.46**	**164**		**Pn**	**17 02 22.5**	**-3.4**
WRA	**Warramunga Arr**	**13.46**	**164**	P	**Pn**	**17 02 22.6**	**-3.4**
	6.6nm,0.3s,baz=345,slow=13,SNR=148						
WRA				S	Sn	17 04 44.2	-10
	4.6nm,0.3s,baz=352,slow=22,SNR=7.3						
WR0	**Warramunga Arr**	**13.53**	**164**		**Pn**	**17 02 23.4**	**-3.6**
COEN	**Coen**	**14.28**	**120**	P	**Pn**	**17 02 35.1**	**-1.5**
PMG	**Port Moresby**	**16.66**	**100**	P	**P**	**17 03 08.4**	**+1.1**
	0.6nm,0.3s,baz=292,slow=12,SNR=4.1						
AS31	**Alice Springs**	**16.96**	**169**	P	**Pn**	**17 03 08.0**	**-2.2**
AS31				IAmb	IAmb	17 03 15.5	
	comp=Z,9.9nm,0.5s						
ASAR	**Alice Springs**	**16.96**	**169**	P	**Pn**	**17 03 08.9**	**-1.2**
	comp=Z,4.5nm,0.3s,baz=340,slow=8.0,SNR=249						
ASAR				S	**Sn**	**17 06 08.1**	**-11**
	comp=Z,1.4nm,0.3s,baz=351,slow=27,SNR=6.0						
PSA00	**Pilbara Seismi**	**17.84**	**214**	P	**P**	**17 03 16.2**	**-4.0**
CTA	**Charters Tower**	**20.11**	**132**	P	Pn	17 03 49.1	+1.4
	comp=Z,4.0nm,0.7s,baz=308,slow=12,SNR=9.6						
CTA				S	**S**	**17 07 28.2**	**+2.7**
	comp=Z,1.3nm,0.6s,baz=18,slow=20,SNR=2.3						
FORT	**Forrest**	**23.84**	**185**	P	**P**	**17 04 25.1**	**+2.1**
FORT				IAmb	IAmb	17 04 35.2	
	comp=Z,30nm,0.8s						
MORW	**Morawa**	**25.91**	**210**	P	**P**	**17 04 44.5**	**+2.7**
MORW				IAmb	IAmb	17 04 48.3	
	comp=Z,37nm,1.4s						
BBOO	**Buckleboo**	**26.27**	**169**	P	**P**	**17 04 46.6**	**+1.7**
BBOO				IAmb	IAmb	17 05 35.2	
	comp=Z,75nm,1.9s						
STKA	**Stephens Creek**	**26.89**	**159**	P	**P**	**17 04 52.9**	**+2.2**
	comp=Z,2.9nm,0.4s,baz=344,slow=7.6,SNR=22						
STKA	**Stephens Creek**	**26.89**	**159**	P	**P**	**17 04 53.0**	**+2.4**
ANA2	**Anatahan**	**27.58**	**33**	P	**P**	**17 04 54.2**	**-2.7**
NJ2	**Nanjing**	**40.32**	**345**	*eP*	**P**	**17 06 47.0**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
LZH	**Lanzhou**	**49.58**	**331**	*eP*	**P**	**17 08 02.8**	**+2.6**
LZH				pP	pwP	17 08 25.0	-4.0
LZH				sP	sP	17 08 36.0	+2.7
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC	**Hu-ho-hao-te**	**50.63**	**341**	*eP*	**P**	**17 08 09.0**	**+1.0**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,150nm,6.7s						
TUWZ	**Tuamarina**	**51.60**	**139**	P	**P**	**17 08 17.1**	**+1.9**
SONM	**Songino Array**	**58.53**	**341**	P	**P**	**17 09 05.8**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=159,slow=6.5,SNR=7.0						
WMQ	**Urumqi**	**63.61**	**327**	*eP*	**P**	**17 09 40.0**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,180nm,5.9s						
WMQ				LR	LR		
	comp=Z,650nm,29.1s						
WMQ				LR	LR		
	comp=Z,760nm,28.8s						
WMQ				LR	LR		
	comp=Z,240nm,29.1s						
PETK	**Petropavlovsk-**	**64.10**	**18**	P	**P**	**17 09 44.0**	**+1.7**
	comp=Z,4.5nm,0.8s,baz=193,slow=5.8,SNR=3.5						
KSH	**Kashi**	**68.31**	**317**	P	**P**	**17 10 12.8**	**+3.1**
KSH				PP	**PP**	**17 12 47.0**	**+5.2**
KSH				pmax	pmax		
	comp=Z,270nm,8.0s						
MK31	**Makanchi Array**	**68.44**	**327**	P	**P**	**17 10 10.7**	**+0.4**
MK31				IAmb	IAmb	17 10 19.3	
	comp=Z,5.0nm,1.7s						
MKAR	**Makanchi Array**	**68.44**	**327**	P	**P**	**17 10 10.8**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=113,slow=8.7,SNR=32						
ZALV	**Zalesovo Beam**	**71.74**	**334**	P	**P**	**17 10 29.7**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=120,slow=5.2,SNR=3.2						
VNDA	**Vanda**	**72.46**	**173**	P	**P**	**17 10 36.3**	**+2.2**
	comp=Z,1.7nm,1.0s,baz=337,slow=7.6,SNR=5.7						
ILAR	**Eielson Array**	**93.06**	**25**	P	**P**	**17 12 20.6**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=247,slow=4.7,SNR=4.3						

BJI ***29*** *17:08:39.2±0.0, 41°.39N×14°.19E, h6km, mb5.0/43, mB5.3/38, Ms5.2/32, Ms7 4.9/32*
TIR ***29*** *17:08:42.8, 41°.51N×14°.50E, h43km, Md5.3/7*
IDC ***29*** *17:08:42.5±0.4, 41°.51N×14°.29E, h0km, mb4.7/30, mb1 4.8/45, mb1mx4.7/50, mbtmp4.7/45, ML4.4/13, MS4.6/43, Ms1 4.6/43, ms1mx4.5/53, Error ellipse: s-maj=9.4km s-min=8.0km az=98.0*
MOS ***29*** *17:08:42.3±1.1, 41°.45N×14°.42E, h12km, mb5.2/45, MS4.7/36, Error ellipse: s-maj=2.6km s-min=2.1km az=90.0*
PDG ***29*** *17:08:43.2±0.6, 41°.46N×14°.50E, h11km±1km, MD5.0/9, ML4.9/11, Error ellipse: s-maj=0.8km s-min=0.7km az=90.0*
NEIC ***29*** *17:08:43.9±2.2, 41°.43N±0°.05×14°.36E±0°.05, h10km±1km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-4.48; $M_{\theta\theta}$2.68; $M_{\phi\phi}$1.80; $M_{r\theta}$-0.66; $M_{\theta\phi}$-3.08; $M_{\phi r}$-1.03; Fault plane solution: $M_0$5.12000×10^{16} NP1: ϕ_s327.09000°,δ48.46000°,λ-67.10000°. NP2: ϕ_s114.59000°,δ46.41000°,λ-113.71000°. Principal axes: T 5.3547, Plg1.0000°, Azm41.0000°; N -0.5009, Plg17.0000°, Azm131.0000°; P -4.8538, Plg73.0000°, Azm308.0000°;*
BEO ***29*** *17:08:43.8±0.7, 41°.39N×14°.39E, h15km, ML4.8/6*
ROM ***29*** *17:08:43.2±0.0, 41°.395N±0°.004×14°.434E±0°.004, h20km, ML5.0/67, Mw5.0, Error ellipse: s-maj=0.4km s-min=0.0km az=170.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-3.24; $M_{\theta\theta}$1.67; $M_{\theta\theta}$1.57; $M_{r\theta}$0.03; $M_{\theta\phi}$-1.96; $M_{\phi r}$-0.75; Fault plane solution: $M_0$3.50032×10^{16} NP1:ϕ_s125.00000°,δ41.00000°, λ-105.00000°. NP2:ϕ_s324.00000°,δ50.00000°, λ-78.00000°.*
MED_RC ***29*** *17:08:43.0±0.1, 41°.39N×14°.52E, h14km, MW5.2/37, Moment Tensor Solution. Body waves: s4,c4;Mantle waves: s37,c78; Duration: 1s5 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.41±.22; $M_{\theta\theta}$3.79±.14; $M_{\phi\phi}$2.62±.13; $M_{r\theta}$-0.79±.19; $M_{\theta\phi}$-3.42±.07; $M_{\phi r}$-2.21±.21; Best double couple: $M_0$6.94000×10^{16} NP1:ϕ_s327.00000°,δ51.00000°, λ-67.00000°. NP2:ϕ_s113.00000°,δ44.00000°, λ-116.00000°. Principal axes: T 6.7300, Plg4.0000°, Azm41.0000°; N 0.4300, Plg18.0000°, Azm133.0000°; P -7.1600, Plg72.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
ISCJB ***29*** *17:08:43.5±0.2, 41°.417N±0°.008×14°.424E±0°.008, h22km±1km, mb4.9/102, MS4.7/55 Error ellipse: s-maj=1.4km s-min=1.0km az=11.6*
PRU ***29*** *17:08:44.6±0.0, 41°.36N×14°.39E, h16km, M5.3*
LDG ***29*** *17:08:46.3±0.1, 41°.41N×14°.42E, h7km, Md3.8/1, Ml4.7/42, Error ellipse: s-maj=3.0km s-min=1.8km az=15.0*
GCMT ***29*** *17:08:46.0±0.2, 41°.33N±0°.01×14°.51E±0°.01, h12km, MW5.2/127, Moment Tensor Solution. s72,c98; s127,c222; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.69±.17; $M_{\theta\theta}$3.31±.11; $M_{\phi\phi}$2.38±.11; $M_{r\theta}$-1.74±.28; $M_{\theta\phi}$-3.15±.07; $M_{\phi r}$-4.20±.35; Best double couple: $M_0$7.22800×10^{16} NP1:ϕ_s339.00000°,δ59.00000°, λ-58.00000°. NP2:ϕ_s108.00000°,δ43.00000°, λ-132.00000°. Principal axes: T 6.2530, Plg9.0000°, Azm47.0000°; N 1.9500, Plg28.0000°, Azm141.0000°; P -8.2020, Plg61.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 17:08:43.3±0.8,**41°.42N**±0°.02×**14°.43E**±0°.01,**h7**km±4km, **n1478**,σ1**°95**/1655,**mb5.2**/130,**MS4.7**/55,**105C-53D**, **Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAGA	**Valle Agricola**	**0.14**	**269**	P	**Pg**	**17 08 47.8**	**+1.4**
VAGA				S	**Sg**	**17 08 51.6**	**+3.1**
VAGA				AML	AML		
VAGA				AML	AML		
BSSO	**Busso**	**0.18**	**44**	P	**Pg**	**17 08 48.5**	**+1.5**
BSSO				S	**Sg**	**17 08 52.5**	**+2.9**
BSSO				AML	AML		
BSSO				AML	AML		
BSSO				AML	AML		
BSSO				AML	AML		
BSSO				AML	AML		
BSSO				AML	AML		
SACR	**S. Croce Del S**	**0.21**	**95**	P	**Pg**	**17 08 48.2**	**+0.7**
SACR				S	**Sg**	**17 08 52.7**	**+2.3**
SACR				AML	AML		
SACR				AML	AML		
MIDA	**Miranda**	**0.26**	**330**	P	**Pb**	**17 08 49.7**	**-0.7**
MIDA				AML	AML		
MIDA				AML	AML		
MIDA				AML	AML		
MIDA				AML	AML		
MIDA				AML	AML		
PIGN	**Pignataro Magg**	**0.29**	**221**	P	**Pg**	**17 08 49.3**	**+0.3**
PIGN				S	**Sb**	**17 08 54.4**	**-1.4**
PIGN				AML	AML		
PIGN				AML	AML		
PIGN				AML	AML		
PIGN				AML	AML		
PIGN				AML	AML		
PIGN				AML	AML		
PSB1	**Pescosannita**	**0.35**	**124**	P	**Pg**	**17 08 50.3**	**+0.2**
PSB1				AML	AML		
PSB1				AML	AML		
PSB1				AML	AML		
PSB1				AML	AML		
PSB1				AML	AML		
RNI2	**Rionero Sannit**	**0.35**	**324**	P	**Pb**	**17 08 51.5**	**-0.5**
RNI2				AML	AML		
RNI2				AML	AML		
RNI2				AML	AML		
RNI2				AML	AML		
CERA	**Filignano**	**0.36**	**301**	P	**Pb**	**17 08 51.3**	**-0.8**
CERA				AML	AML		
CERA				AML	AML		
CERA				AML	AML		
CERA				AML	AML		
TRIV	**Trivento**	**0.36**	**15**	P	**Pb**	**17 08 51.5**	**-0.6**
TRIV				AML	AML		
TRIV				AML	AML		
TRIV				AML	AML		
GATE	**Gambatesa**	**0.38**	**75**	P	**Pb**	**17 08 51.8**	**-0.5**
GATE				AML	AML		
GATE				AML	AML		
GATE				AML	AML		
GATE				AML	AML		
GATE				AML	AML		
GATE				AML	AML		
PAOL	**Paolisi**	**0.40**	**165**	P	**Pg**	**17 08 50.7**	**-0.4**
PAOL				AML	AML		
PAOL				AML	AML		
PAOL				AML	AML		
PAOL				AML	AML		
PAOL				AML	AML		
PAOL				AML	AML		
PAOL	**Paolisi**	**0.40**	**165**		**Pg**	**17 08 50.9**	**-0.2**
CIGN	**Sant'Elia a Pi**	**0.43**	**56**	P	**Pg**	**17 08 52.5**	**+0.8**
CIGN				S	**Sb**	**17 08 59.2**	**-0.7**
CIGN				AML	AML		
CIGN				AML	AML		
CIGN				AML	AML		
CIGN				AML	AML		
MODR	**Mondragone**	**0.49**	**237**	P	**Pg**	**17 08 53.2**	**+0.3**
MODR				S	**Sb**	**17 09 00.8**	**-1.1**
MODR				AML	AML		
MODR				AML	AML		
MRB1	**Monte Rocchett**	**0.50**	**125**	P	**Pg**	**17 08 53.1**	**+0.1**
MRB1				AML	AML		
MRB1				AML	AML		
MRB1				AML	AML		
MRB1				AML	AML		
MRB1				AML	AML		
MRB1				AML	AML		
MOCO	**Biccari - m.te**	**0.55**	**95**	AML	AML		
	comp=E,91350μm,1.6s						
MOCO				AML	AML		
	comp=E,90650μm,1.6s						
MOCO				AML	AML		
	comp=N,54600μm,1.3s						
MOCO				AML	AML		
	comp=E,91400μm,1.6s						
MOCO				AML	AML		
	comp=N,55050μm,1.2s						

MOCO				AML	AML			
	comp=E,90650µm,1.6s							
MOCO				AML	AML			
	comp=N,54600µm,1.3s							
MOCO				AML	AML			
	comp=N,55450µm,1.6s							
MOCO				AML	AML			
	comp=N,55450µm,1.6s							
MOCO				AML	AML			
	comp=E,91350µm,1.6s							
MOCO				AML	AML			
	comp=E,90650µm,1.6s							
MOCO				AML	AML			
	comp=N,54600µm,1.3s							
BIOG	**Biogem**	**0.57**	**112**	AML	AML			
BIOG				AML	AML			
BIOG				AML	AML			
BIOG				AML	AML			
FRES	**Fresagrandinar**	**0.58**	**18**	P	**Pg**	**17 08 54.9**	**+0.2**	
FRES				AML	AML			
	comp=E,65250µm,1.6s							
FRES				AML	AML			
	comp=N,51550µm,0.8s							
FRES				AML	AML			
	comp=N,51550µm,0.8s							
FRES				AML	AML			
	comp=E,65250µm,1.6s							
OVO	**Vesuviano**	**0.59**	**182**	P	**Pg**	**17 08 54.7**	**0.0**	
OVO				AML	AML			
OVO				AML	AML			
MELA	**Melanico ??? S**	**0.60**	**61**	P	**Pg**	**17 08 54.6**	**-0.3**	
MELA				S	**Sb**	**17 09 04.2**	**-0.6**	
MELA				AML	AML			
MELA				AML	AML			
MELA				AML	AML			
MELA				AML	AML			
POFI	**Posta Fibreno**	**0.61**	**299**	P	**Pg**	**17 08 55.7**	**+0.5**	
POFI				AML	AML			
	comp=N,84600µm,0.7s							
POFI				AML	AML			
POFI				AML	AML			
	comp=N,74600µm,0.7s							
POFI				AML	AML			
	comp=N,84600µm,0.7s							
POFI				AML	AML			
POFI				AML	AML			
	comp=N,84600µm,0.7s							
POFI				AML	AML			
	comp=N,74600µm,0.7s							
LPEL	**Lama dei Pelig**	**0.66**	**344**	P	**Pg**	**17 08 56.2**	**+0.2**	
LPEL				S	**Sg**	**17 09 05.6**	**+1.1**	
LPEL				AML	AML			
LPEL				AML	AML			
INTR	**Introdacqua**	**0.71**	**327**	P	**Pg**	**17 08 57.0**	**0.0**	
INTR				AML	AML			
INTR				AML	AML			
INTR				AML	AML			
INTR				AML	AML			
INTR	**Introdacqua**	**0.71**	**327**		**Pb**	**17 08 58.4**	**+0.3**	
CAFE	**Carife**	**0.72**	**122**	P	**Pg**	**17 08 57.0**	**-0.3**	
CAFE				AML	AML			
	comp=E,87100µm,1.2s							
CAFE				AML	AML			
	comp=N,67050µm,1.4s							
CAFE				AML	AML			
	comp=E,87950µm,1.2s							
CAFE				AML	AML			
	comp=N,68200µm,1.4s							
CAFE				AML	AML			
	comp=E,87050µm,1.2s							
CAFE				AML	AML			
	comp=N,67000µm,1.4s							
CAFE				AML	AML			
	comp=E,87900µm,1.2s							
CAFE				AML	AML			
	comp=N,68200µm,1.4s							
CAFE				AML	AML			
	comp=N,67000µm,1.4s							
CAFE				AML	AML			
	comp=E,87050µm,1.2s							
CAFE				AML	AML			
	comp=E,87900µm,1.2s							
CAFE				AML	AML			
	comp=N,67000µm,1.4s							
CAFE				AML	AML			
	comp=E,87050µm,1.2s							
VVLD	**Villa Vallelon**	**0.76**	**307**	P	**Pg**	**17 08 57.7**	**-0.2**	
VVLD				AML	AML			
	comp=E,98650µm,0.6s							
VVLD				AML	AML			
VVLD				AML	AML			
	comp=E,98700µm,0.6s							
VVLD				AML	AML			
	comp=E,98700µm,0.6s							
SGTA	**Sant Agata di**	**0.76**	**111**	P	**Pg**	**17 08 57.3**	**-0.7**	
SGTA				AML	AML			
	comp=E,69700µm,0.6s							
SGTA				AML	AML			
	comp=N,40600µm,0.8s							
SGTA				AML	AML			
	comp=N,44000µm,0.8s							
SGTA				AML	AML			
	comp=E,69700µm,0.6s							
SGTA				AML	AML			
	comp=N,45900µm,1.5s							
SGTA				AML	AML			
	comp=E,70300µm,0.6s							
SGTA				AML	AML			
	comp=N,46750µm,1.5s							
SGTA				AML	AML			
	comp=N,45900µm,1.5s							
SGTA				AML	AML			
	comp=E,69700µm,0.6s							
SGTA				AML	AML			
	comp=E,69700µm,0.6s							
SGTA				AML	AML			
	comp=E,70300µm,0.6s							
SGTA				AML	AML			
	comp=N,45900µm,1.5s							
SNAL	**S. Angelo Dei**	**0.77**	**130**	AML	AML			
SNAL				AML	AML			
	comp=E,97750µm,1.4s							
SNAL				AML	AML			
SNAL				AML	AML			
CAFR	**Castel Frentan**	**0.81**	**356**	P	**Pg**	**17 08 58.8**	**-0.1**	
CAFR				AML	AML			
CAFR				AML	AML			
MCRV	**Calabrutti - M**	**0.85**	**138**	P	**Pg**	**17 08 59.1**	**-0.5**	
MCRV				AML	AML			
	comp=N,86800µm,0.4s							
MCRV				AML	AML			
	comp=E,87250µm,0.7s							
MCRV				AML	AML			
	comp=N,86800µm,0.4s							
GIUL	**Giuliano Di Ro**	**0.89**	**279**	P	**Pg**	**17 09 00.6**	**+0.1**	
GIUL				AML	AML			
	comp=N,63650µm,0.7s							
GUAR	**Guarcino**	**0.92**	**295**	P	**Pg**	**17 09 00.5**	**-0.5**	
GUAR				AML	AML			
	comp=E,58000µm,0.9s							
GUAR				AML	AML			
	comp=N,95200µm,1.6s							
GUAR				AML	AML			
	comp=E,62500µm,1.5s							
GUAR				AML	AML			
	comp=E,62500µm,1.5s							
GUAR				AML	AML			
	comp=N,95250µm,1.6s							
PTQR	**Pietraquaria**	**0.98**	**309**	P	**Pg**	**17 09 01.4**	**-0.7**	
PTQR				AML	AML			
	comp=E,55600µm,1.6s							
PTQR				AML	AML			
	comp=N,29150µm,1.2s							
PTQR				AML	AML			
	comp=E,55600µm,1.6s							
PTQR				AML	AML			
	comp=N,29150µm,1.2s							
VENT	**Ventotene**	**0.98**	**231**	P	**Pg**	**17 09 01.1**	**-1.1**	
VENT				S	**Sg**	**17 09 14.8**	**-0.1**	
VENT				AML	AML			
VENT				AML	AML			
VENT				AML	AML			
VENT				AML	AML			
VULT	**Monte Vulture**	**1.01**	**117**	P	**Pg**	**17 09 01.3**	**-1.5**	
VULT				AML	AML			
	comp=E,79050µm,0.6s							
VULT				AML	AML			
	comp=E,80300µm,0.6s							
VULT				AML	AML			
	comp=E,79050µm,0.6s							
VULT				AML	AML			
	comp=E,80300µm,0.6s							
VULT				AML	AML			
VULT				AML	AML			
MRLC	**Muro Lucano**	**1.04**	**129**	P	**Pg**	**17 09 02.0**	**-1.2**	
MRLC				AML	AML			
	comp=E,49650µm,1.1s							
MRLC				AML	AML			
	comp=N,36350µm,0.6s							
MRLC				AML	AML			
	comp=E,47050µm,1.1s							
MRLC				AML	AML			
	comp=N,35650µm,0.7s							
MRLC				AML	AML			
	comp=E,49650µm,1.1s							
MRLC				AML	AML			
	comp=N,36350µm,0.6s							
MRLC				AML	AML			
	comp=E,47050µm,1.1s							
MRLC				AML	AML			
	comp=N,35650µm,0.7s							
SGRT	**San Giovanni R**	**1.04**	**71**		**Pg**	**17 09 03.4**	**0.0**	
FAGN	**Fagnano**	**1.06**	**324**	AML	AML			
FAGN				AML	AML			
FAGN				AML	AML			
FAGN				AML	AML			
VCEL	**Villa Celiera**	**1.07**	**336**	P	**Pg**	**17 09 03.8**	**-0.1**	
VCEL				AML	AML			
VCEL				AML	AML			
VCEL				AML	AML			
VCEL				AML	AML			
LATB	**Latina**	**1.10**	**274**	P	**Pg**	**17 09 03.4**	**-1.1**	
LATB				AML	AML			
	comp=E,37100µm,1.6s							
LATB				AML	AML			
	comp=N,21800µm,0.8s							
LATB				AML	AML			
	comp=E,37100µm,1.6s							
LATB				AML	AML			
	comp=E,37150µm,1.6s							
LATB				AML	AML			
	comp=N,21800µm,0.8s							
CDRU	**Civita di Ruta**	**1.14**	**144**	P	**Pg**	**17 09 03.7**	**-1.5**	
CDRU				AML	AML			
	comp=E,32400µm,1.6s							
CDRU				AML	AML			
	comp=N,28250µm,0.7s							
CDRU				AML	AML			
	comp=E,32400µm,1.6s							
CDRU				AML	AML			
	comp=N,28250µm,0.7s							
MSAG	**Monte S. Angel**	**1.15**	**75**	P	**Pg**	**17 09 03.9**	**-1.5**	
MSAG				S	**Sg**	**17 09 19.9**	**-0.5**	
MSAG				AML	AML			
	comp=E,62050µm,1.0s							
MSAG				AML	AML			
	comp=N,75050µm,0.6s							
MSAG				AML	AML			
	comp=E,61700µm,0.9s							
MSAG				AML	AML			
	comp=N,75050µm,0.6s							
MSAG				AML	AML			
	comp=E,61700µm,0.9s							
MSAG				AML	AML			
	comp=E,62050µm,1.0s							
MSAG				AML	AML			
	comp=N,75050µm,0.6s							
MSAG				AML	AML			
	comp=N,75050µm,0.6s							
CERT	**Cerreto**	**1.21**	**297**	P	**Pb**	**17 09 05.6**	**-1.0**	
CERT				AML	AML			
	comp=E,52900µm,0.7s							
CERT				AML	AML			
	comp=E,52900µm,0.7s							
CERT				AML	AML			
	comp=N,31050µm,0.6s							
AQU	**L'Aquila**	**1.21**	**321**	P	**Pn**	**17 09 06.8**	**+0.1**	
AQU	**L'Aquila**	**1.21**	**321** ⇑*i*	Pn	**Pb**	**17 09 04.8**	**-1.8**	
AQU	**L'Aquila**	**1.21**	**321**	P	**Pn**	**17 09 07.5**	**+0.7**	
AQU				AML	AML			
	comp=E,68750µm,1.6s							
AQU				AML	AML			
	comp=N,60600µm,1.6s							
AQU				AML	AML			
	comp=E,66650µm,1.6s							
AQU				AML	AML			
	comp=N,60550µm,1.6s							
AQU				AML	AML			
	comp=N,60550µm,1.6s							
AQU				AML	AML			
	comp=E,66650µm,1.6s							
AQU				AML	AML			
	comp=N,60600µm,1.6s							
AQU	**L'Aquila**	**1.21**	**321**		**Pn**	**17 09 07.3**	**+0.6**	
T0104	**Madonna delle**	**1.25**	**320**	P	**Pg**	**17 09 10.5**	**+3.3**	
T0104				AML	AML			
T0104				AML	AML			
	comp=N,71200µm,0.7s							
T0104				AML	AML			
	comp=N,71050µm,0.7s							
T0104				AML	AML			
T0104				AML	AML			
	comp=N,71200µm,0.7s							
T0104				AML	AML			
	comp=N,71050µm,0.7s							
CMPR	**Campora**	**1.28**	**149**	AML	AML			
	comp=E,28200µm,0.8s							
CMPR				AML	AML			
	comp=E,28200µm,0.8s							
CMPR				AML	AML			
	comp=N,25650µm,1.0s							
PZUN	**Potenza**	**1.30**	**126**	AML	AML			
	comp=E,36700µm,1.6s							
PZUN				AML	AML			
	comp=E,37350µm,1.6s							
PZUN				AML	AML			
	comp=E,36700µm,1.6s							
PZUN				AML	AML			
	comp=N,44300µm,1.0s							
PZUN				AML	AML			
	comp=N,44300µm,1.0s							
PZUN				AML	AML			
	comp=E,37350µm,1.6s							
PZUN				AML	AML			
	comp=N,45000µm,1.0s							
ACER	**Acerenza**	**1.31**	**118**	P	**Pn**	**17 09 07.2**	**-0.8**	
ACER				AML	AML			
	comp=E,41950µm,0.7s							
ACER				AML	AML			
	comp=N,46300µm,0.9s							
ACER				AML	AML			
	comp=E,42900µm,0.6s							
ACER				AML	AML			
	comp=N,46300µm,0.9s							
ACER				AML	AML			
	comp=N,47500µm,0.9s							
ACER				AML	AML			
	comp=E,42900µm,0.6s							
ACER				AML	AML			
	comp=E,41950µm,0.7s							
ACER	**Acerenza**	**1.31**	**118**		**Pb**	**17 09 08.3**	**+0.1**	
LAV9	**Lanuvio**	**1.32**	**282**	AML	AML			
	comp=E,96550µm,1.4s							
LAV9				AML	AML			
	comp=N,82150µm,0.7s							
LAV9				AML	AML			
	comp=E,98550µm,1.3s							
LAV9				AML	AML			
	comp=N,89550µm,0.7s							
LAV9				AML	AML			
	comp=N,82150µm,0.7s							
LAV9				AML	AML			
	comp=E,96550µm,1.4s							
LAV9				AML	AML			
	comp=E,98550µm,1.3s							
LAV9				AML	AML			
	comp=N,89550µm,0.7s							
LAV9				AML	AML			
	comp=N,82150µm,0.7s							
RDP	**Rocca di Papa**	**1.33**	**285**	P	**Pn**	**17 09 07.5**	**-0.8**	
RDP				AML	AML			
	comp=E,92550µm,0.7s							
RDP				AML	AML			
	comp=E,92550µm,0.7s							
RDP				AML	AML			
CAMP	**Campotosto**	**1.35**	**326**	P	**Pb**	**17 09 09.2**	**+0.1**	
CAMP				AML	AML			
	comp=E,39200µm,1.3s							
CAMP				AML	AML			
	comp=N,30650µm,0.9s							
CAMP				AML	AML			
	comp=N,30650µm,0.9s							
CAMP				AML	AML			
	comp=E,39200µm,1.3s							
RMP	**Rome, Mte Porz**	**1.35**	**287**	P	**Pn**	**17 09 07.9**	**-0.8**	
RMP				AML	AML			
	comp=E,78200µm,0.9s							
RMP				AML	AML			
	comp=N,70350µm,1.5s							
RMP				AML	AML			
	comp=E,78200µm,0.9s							
RMP				AML	AML			
	comp=N,70350µm,1.5s							
TERO	**Teramo**	**1.35**	**333**	P	**Pn**	**17 09 07.3**	**-1.4**	
TERO				AML	AML			
	comp=E,35500µm,1.1s							
TERO				AML	AML			
	comp=N,48550µm,0.9s							
TERO				AML	AML			
	comp=N,19700µm,0.9s							
TERO				AML	AML			
	comp=N,19700µm,0.9s							
TERO				AML	AML			
	comp=E,14450µm,1.1s							
TERO				AML	AML			
	comp=N,48550µm,0.9s							
MA9	**Marino**	**1.37**	**285**	P	**Pn**	**17 09 08.2**	**-0.7**	
MA9				AML	AML			
	comp=E,52050µm,0.7s							
MA9				AML	AML			
	comp=N,81250µm,1.6s							
MA9				AML	AML			
	comp=E,52050µm,0.7s							
MRVN	**Minervino Murg**	**1.38**	**104**	P	**Pn**	**17 09 07.8**	**-1.3**	
MRVN				AML	AML			
	comp=N,15050µm,0.7s							
MRVN				AML	AML			
	comp=E,12870µm,0.9s							
MTCE	**Montecelio**	**1.40**	**296**	P	**Pn**	**17 09 08.6**	**-0.7**	
MTCE				AML	AML			
	comp=E,42250µm,1.4s							
MTCE				AML	AML			
	comp=N,43900µm,1.2s							
MTCE				AML	AML			
	comp=N,43900µm,1.2s							
TRTR	**Tortoreto Alta**	**1.44**	**345**	P	**Pg**	**17 09 12.6**	**+1.6**	
TRTR				AML	AML			
TRTR				AML	AML			
TRTR				AML	AML			
SMA1	**SAN MARTINO**	**1.46**	**326**	P	**Pb**	**17 09 10.9**	**0.0**	
SMA1				AML	AML			
	comp=E,59200µm,0.9s							
SMA1				AML	AML			
	comp=N,63800µm,0.9s							
SMA1				AML	AML			
	comp=E,59200µm,0.9s							
SMA1				AML	AML			
	comp=N,63800µm,0.9s							
MCEL	**Monticello**	**1.51**	**136**	AML	AML			
	comp=N,29350µm,0.8s							
MCEL				AML	AML			
	comp=E,37250µm,0.9s							
MCEL				AML	AML			
	comp=N,29000µm,0.8s							
MTSN	**Montesano sull**	**1.53**	**138**	AML	AML			
	comp=N,31250µm,1.0s							
MTSN				AML	AML			
	comp=E,30400µm,0.8s							
MTSN				AML	AML			
	comp=E,30400µm,0.8s							
MGR	**Morigerati**	**1.54**	**146**	AML	AML			
	comp=N,20400µm,1.3s							
MGR				AML	AML			
	comp=E,17050µm,0.7s							
MGR				AML	AML			
	comp=N,20400µm,1.3s							
MGR				AML	AML			
	comp=N,18150µm,1.3s							
MGR				AML	AML			
	comp=E,14350µm,0.9s							
LNSS	**Leonessa**	**1.57**	**319**	P	**Pn**	**17 09 12.2**	**+0.4**	
LNSS				AML	AML			
	comp=E,54950µm,0.8s							
LNSS				AML	AML			
	comp=N,39850µm,0.8s							
LNSS				AML	AML			
	comp=E,54950µm,0.8s							
LNSS				AML	AML			
	comp=N,39850µm,0.8s							
OFFI	**Offida**	**1.61**	**340**	P	**Pg**	**17 09 15.2**	**+0.9**	
OFFI				AML	AML			
SIRI	**Monte Sirino -**	**1.65**	**138**	AML	AML			
	comp=N,23450µm,1.6s							
SIRI				AML	AML			
	comp=E,17800µm,1.0s							
SIRI				AML	AML			
	comp=N,23450µm,1.6s							
SIRI				AML	AML			
	comp=N,23550µm,1.6s							
SIRI				AML	AML			
	comp=E,17900µm,1.0s							
GUMA	**Gualdo di Mace**	**1.69**	**348**	P	**Pg**	**17 09 16.8**	**+1.1**	
GUMA				AML	AML			
	comp=N,80750µm,0.6s							
GUMA				AML	AML			
GUMA				AML	AML			
	comp=N,78250µm,0.8s							
GUMA				AML	AML			
	comp=E,97500µm,0.7s							
GUMA				AML	AML			
GUMA				AML	AML			
	comp=E,97500µm,0.7s							
GUMA				AML	AML			
	comp=N,80750µm,0.7s							
ARRO	**Arrone**	**1.70**	**314**	P	**Pn**	**17 09 13.9**	**+0.5**	
ARRO				AML	AML			
	comp=E,25150µm,1.0s							
ARRO				AML	AML			
	comp=N,20550µm,1.4s							
ARRO				AML	AML			
	comp=E,25200µm,1.0s							
ARRO				AML	AML			
	comp=N,20550µm,1.4s							
NRCA	**Norcia**	**1.72**	**326**	P	**Pb**	**17 09 14.9**	**-0.4**	
NRCA				AML	AML			
	comp=E,30200µm,0.8s							
NRCA				AML	AML			
	comp=N,18350µm,0.9s							
NRCA				AML	AML			
	comp=E,30750µm,0.8s							
NRCA				AML	AML			
	comp=N,18750µm,0.9s							
NRCA				AML	AML			
	comp=E,30200µm,0.8s							
NRCA				AML	AML			
	comp=E,30750µm,0.8s							
NRCA				AML	AML			
	comp=N,18350µm,0.9s							
NRCA				AML	AML			
	comp=E,30200µm,0.8s							
NRCA	**Norcia**	**1.72**	**326**		**Pb**	**17 09 15.6**	**+0.2**	
AMUR	**Altamura**	**1.72**	**107**	P	**Pn**	**17 09 12.6**	**-1.2**	
AMUR				AML	AML			
	comp=E,14600µm,0.8s							
AMUR				AML	AML			
	comp=N,15750µm,1.4s							
MIGL	**Miglionico**	**1.73**	**117**	P	**Pn**	**17 09 13.2**	**-0.6**	
MIGL				AML	AML			
	comp=E,52600µm,1.5s							
MIGL				AML	AML			
	comp=N,77550µm,1.0s							
MIGL				AML	AML			
	comp=E,52600µm,1.5s							
MIGL				AML	AML			
	comp=N,77550µm,1.0s							
SCHR	**S. Chirico Rap**	**1.75**	**134**	P	**Pn**	**17 09 13.2**	**-0.9**	
SCHR				AML	AML			
	comp=E,9950µm,1.5s							

SCHR AML AML
comp=E,9945µm,1.5s
SCHR AML AML
comp=N,15750µm,1.2s
CUC Castrocucco 1.77 143 AML AML
comp=E,29600µm,0.9s
CUC AML AML
comp=N,16200µm,0.9s
CUC AML AML
comp=E,29600µm,0.9s
CUC AML AML
comp=N,19450µm,0.9s
CUC AML AML
comp=N,19450µm,0.9s
CUC AML AML
comp=E,24250µm,0.9s
CUC AML AML
comp=N,16200µm,0.9s
SG1 Sgolgore (BA) 1.80 108 *e*Pn **Pn 17 09 13.7 -1.1**
CESX Cesi 1.82 312 P **Pn 17 09 15.4 +0.3**
CESX AML AML
comp=E,27600µm,1.1s
CESX AML AML
comp=N,25800µm,1.1s
CESX AML AML
comp=N,25800µm,1.1s
CESX AML AML
comp=E,27600µm,1.1s
CRAC Craco 1.85 124 AML AML
comp=N,23250µm,1.0s
BAI Bari 1.87 99 ⇑*i*Pn **Pn 17 09 15.2 -0.6**
MATE Matera 1.89 113 ⇓P **Pn 17 09 15.1 -0.8**
MATE ⇓S **Sn 17 09 40.9 +0.9**
MATE AML AML 17 09 52.5
MATE Matera 1.89 113 P **Pn 17 09 15.0 -1.0**
MATE AML AML
comp=E,10300µm,1.0s
MATE AML AML
comp=N,14850µm,1.1s
T0721 Laino Castello 1.89 141 P **Pg 17 09 20.1 +0.6**
FDMO Fiordimonte 1.90 329 P **Pn 17 09 17.1 +0.9**
FDMO AML AML
comp=E,18750µm,1.1s
FDMO AML AML
comp=N,24750µm,0.8s
FDMO AML AML
comp=E,18750µm,1.1s
CSP1 Cessapalombo 1.90 332 P **Pn 17 09 17.0 +0.7**
CSP1 AML AML
comp=E,31900µm,0.9s
CSP1 AML AML
comp=N,30050µm,0.8s
CSP1 AML AML
comp=E,31900µm,0.9s
CSP1 AML AML
comp=N,30050µm,0.8s
CSP1 AML AML
comp=N,30000µm,0.8s
TOLF Tolfa 1.93 290 P **Pn 17 09 15.9 -0.7**
TOLF AML AML
comp=E,10285µm,1.0s
TOLF AML AML
comp=N,14100µm,1.3s
TOLF AML AML
comp=N,14100µm,1.3s
MMN Mormanno 1.93 142 P **Pg 17 09 20.9 +0.5**
CESI CESI - Serrava 1.95 325 P **Pn 17 09 17.8 +0.9**
CESI AML AML
comp=E,4060µm,0.9s
CESI AML AML
comp=N,11490µm,1.2s
MOMA Monte Martano 1.96 316 P **Pn 17 09 17.9 +0.8**
MOMA AML AML
comp=E,20200µm,0.9s
MOMA AML AML
comp=N,36050µm,1.1s
MOMA AML AML
comp=E,19200µm,0.9s
MOMA AML AML
comp=N,36950µm,1.1s
MOMA AML AML
comp=E,19200µm,0.9s
MOMA AML AML
comp=N,36950µm,1.1s
MOMA AML AML
comp=N,36050µm,1.1s
LTRZ Laterza 1.98 113 P **Pn 17 09 16.3 -1.1**
NOCI Noci 2.09 107 P **Pn 17 09 18.4 -0.4**
NOCI AML AML
comp=N,16250µm,0.8s
NOCI AML AML
comp=N,16250µm,0.8s
NOCI AML AML
comp=E,12400µm,0.4s
T0702 Acquaformosa (2.11 143 P **Pn 17 09 17.6 -1.5**
T0702 AML AML
comp=N,10590µm,1.2s
T0702 AML AML
comp=N,10560µm,1.2s
T0702 AML AML
comp=E,14900µm,1.0s
SALB San Lorenzo Be 2.12 136 P **Pn 17 09 20.1 +0.7**
SALB AML AML
comp=N,8120µm,0.9s
SALB AML AML
comp=E,7580µm,1.0s
SALB AML AML
comp=N,8255µm,0.9s
SALB AML AML
comp=E,8145µm,1.0s
SNTG Esanatoglia 2.14 330 P **Pn 17 09 20.7 +1.2**
SNTG AML AML
comp=N,21850µm,1.3s
SNTG AML AML
comp=N,2825µm,1.2s
SNTG AML AML
comp=E,16900µm,1.0s
SNTG AML AML
comp=E,2180µm,1.0s
SNTG AML AML
comp=E,2180µm,1.0s
SNTG AML AML
comp=N,2825µm,1.3s
SNTG AML AML
comp=N,21850µm,1.3s
EL6 Elcito 2.15 333 P **Pn 17 09 20.5 +0.8**
CING Cingoli 2.16 335 P **Pn 17 09 20.9 +1.1**
CING AML AML
comp=N,9135µm,0.9s
CING AML AML
comp=E,19000µm,0.9s
MASS Massafra 2.20 110 *e*Pn **Pn 17 09 19.5 -0.8**
ATCC AVT- Casa Cast 2.21 324 P **Pn 17 09 21.4 +0.9**
ATCC AML AML
comp=E,38550µm,1.1s
ATCC AML AML
comp=N,25550µm,1.0s
ATCC AML AML
comp=E,38550µm,1.1s
ATCC AML AML
comp=N,25550µm,1.0s
AOI Ancona 2.22 344 P **Pb 17 09 22.6 -1.2**
AOI AML AML
comp=E,19850µm,0.9s
CET2 Cetraro 2.22 148 P **Pn 17 09 19.9 -0.7**
CET2 AML AML
comp=N,20500µm,1.1s
CET2 AML AML
comp=E,23750µm,1.1s
FOSV Fossato di Vic 2.25 327 P **Pn 17 09 22.1 +1.2**
FOSV P **Pb 17 09 23.8 -0.5**
FOSV AML AML
comp=E,15800µm,0.9s
FOSV AML AML
comp=N,18000µm,1.0s
FOSV AML AML
comp=E,15800µm,0.9s
FOSV AML AML
comp=N,18050µm,1.0s
MGAB Montegabbione 2.28 312 P **Pn 17 09 22.0 +0.6**
MGAB AML AML
comp=E,14350µm,1.3s
MGAB AML AML
comp=E,14260µm,1.4s
MGAB AML AML
comp=N,12950µm,1.3s
MGAB AML AML
comp=N,12700µm,1.0s
MGAB AML AML
comp=E,14350µm,1.3s
LATE Laterza 2.29 302 P **Pb 17 09 25.1 +0.1**
LATE AML AML
comp=N,13200µm,1.3s
LATE Laterza 2.29 302 **Pn 17 09 21.4 -0.2**
LATE **Pb 17 09 21.6 -3.5**
HVAR Hvar 2.31 40 *e*Pn **Pn 17 09 21.3 -0.5**
HVAR Sn **Sn 17 09 50.0 -0.5**
MURB Monte Urbino 2.32 323 P **Pn 17 09 22.6 +0.5**
MURB AML AML
comp=E,36650µm,1.0s
MURB AML AML
comp=N,33400µm,1.6s
MURB AML AML
comp=E,33650µm,0.9s
MURB AML AML
comp=N,33400µm,1.6s
MURB AML AML
comp=N,33400µm,1.6s
MURB AML AML
comp=N,33400µm,1.6s
MURB AML AML
comp=E,33650µm,0.9s
MURB AML AML
comp=E,36650µm,1.0s
MURB AML AML
comp=E,36650µm,1.0s
MURB AML AML
comp=N,33400µm,1.6s
MURB Monte Urbino 2.32 323 **Pn 17 09 22.2 +0.2**
TAR1 Taranto 2.34 111 *e*Pn **Pn 17 09 21.6 -0.6**
ARVD Arcevia 2.35 333 P **Pn 17 09 24.2 +1.8**
ARVD AML AML
comp=E,10770µm,1.1s
ARVD AML AML
comp=N,9510µm,1.1s
ATTE AVT- Monte Tez 2.35 320 P **Pn 17 09 21.7 -0.8**
ATTE AML AML
comp=E,15235µm,1.6s
ATTE AML AML
comp=N,17650µm,1.1s
ATTE AML AML
comp=N,17650µm,1.1s
ATTE AML AML
comp=E,15235µm,1.6s
SACS San Casciano d 2.36 308 P **Pn 17 09 23.3 +0.8**
SACS AML AML
comp=E,10695µm,1.5s
SACS AML AML
comp=N,15000µm,1.4s
SACS AML AML
comp=E,10535µm,1.6s
SACS AML AML
comp=N,14500µm,1.4s
SACS AML AML
comp=N,15000µm,1.4s
SSFR Montelago di S 2.36 329 P **Pb 17 09 24.4 -1.7**
SSFR AML AML
comp=E,13500µm,1.0s
SSFR AML AML
comp=N,9620µm,1.2s
SSFR AML AML
comp=N,10035µm,1.2s
SSFR AML AML
comp=E,13900µm,1.0s
SSFR AML AML
comp=E,13500µm,1.0s
ATFO Monte Foce - G 2.38 325 P **Pn 17 09 23.4 +0.5**
ATFO P **Pb 17 09 26.0 -0.6**
ATFO AML AML
comp=E,26250µm,1.2s
ATFO AML AML
comp=N,14050µm,0.9s
ZIRJ Zirje 2.41 21 *e*Pn **Pn 17 09 23.4 +0.2**
ZIRJ Sn **Sn 17 09 53.6 +0.7**
FRON Frontone 2.45 330 P **Pb 17 09 26.5 -1.2**
FRON AML AML
comp=N,19400µm,1.6s
SENI Senigallia 2.45 339 P **Pb 17 09 25.9 -1.8**
SENI AML AML
comp=E,45200µm,1.0s
SENI AML AML
comp=N,35900µm,0.9s
SENI AML AML
comp=E,33350µm,1.3s
SENI AML AML
comp=N,27550µm,1.5s
SENI AML AML
comp=E,45200µm,1.0s
SENI AML AML
comp=E,33350µm,1.3s
SENI AML AML
comp=N,35900µm,0.9s
SENI AML AML
comp=N,27550µm,1.5s
MCIV Monte Civitell 2.46 305 P **Pn 17 09 24.2 +0.3**
MCIV AML AML
comp=E,6000µm,1.6s
MCIV AML AML
comp=N,5230µm,1.1s
ATVO AVT- Monte Val 2.47 323 P **Pn 17 09 24.3 +0.2**
ATVO AML AML
comp=E,14650µm,1.4s
ATVO AML AML
comp=N,12650µm,1.3s
ATVO AML AML
comp=E,14650µm,1.4s
ATMI Monte Miggiano 2.50 321 P **Pn 17 09 25.8 +1.4**
ATMI AML AML
comp=E,22950µm,0.7s
ATMI AML AML
comp=N,18650µm,0.8s
ATMI AML AML
comp=E,22950µm,0.7s
ATMI AML AML
comp=N,18650µm,0.8s
ATPI Pietralunga - 2.52 324 P **Pb 17 09 27.1 -1.9**
ATPI AML AML
comp=E,16560µm,1.5s
ATPI AML AML
comp=N,12480µm,1.1s
ATPI AML AML
comp=E,16560µm,1.5s
ATPI AML AML
comp=N,12505µm,1.1s
MPAG Monte Paganucc 2.53 331 P **Pn 17 09 26.6 +1.7**
MPAG AML AML
comp=E,11525µm,1.0s
MPAG AML AML
comp=N,9890µm,1.1s
MPAG AML AML
comp=E,11175µm,1.0s
MPAG AML AML
comp=N,10220µm,1.1s
MPAG AML AML
comp=E,11195µm,1.0s
PIEI Pieia 2.54 327 P **Pn 17 09 26.8 +1.8**
PIEI AML AML
comp=N,7055µm,1.6s
PIEI AML AML
comp=E,7370µm,0.9s
CAR1 CAROLEI 2.56 147 P **Pn 17 09 23.9 -1.3**
CAR1 AML AML
comp=N,14950µm,0.8s
CAR1 AML AML
comp=N,14100µm,0.8s
CAR1 AML AML
comp=E,10270µm,0.9s
CAR1 AML AML
comp=E,10320µm,0.9s
CAR1 AML AML
comp=N,14950µm,0.8s
CELI Celico 2.56 141 P **Pn 17 09 24.8 -0.6**
CELI P **Pb 17 09 28.1 -1.6**
FSSB Fossombrone 2.58 332 P **Pn 17 09 27.2 +1.6**
FSSB AML AML
comp=N,16500µm,0.9s
FSSB AML AML
comp=E,11800µm,0.9s
DUGI Dugi Otok 2.62 10 *e*Pn **Pn 17 09 26.3 +0.3**
DUGI Sn **Sn 17 09 56.7 -1.3**
MORI Morici 2.62 21 *e*Pn **Pn 17 09 26.2 +0.1**
MORI Sn **Sn 17 09 58.1 -0.1**
CAFI Castiglion Fio 2.64 317 P **Pn 17 09 27.5 +1.1**
BADI Badiali 2.64 323 P **Pn 17 09 26.9 +0.5**
BADI AML AML
comp=E,14450µm,1.6s
BADI AML AML
comp=E,14450µm,1.6s
BADI AML AML
comp=E,14400µm,1.6s
BADI AML AML
comp=N,14250µm,1.2s
MAON Monte Argentar 2.66 293 P **Pn 17 09 26.2 -0.4**
MAON AML AML
comp=E,4855µm,1.4s
MAON AML AML
comp=N,3550µm,1.5s
MAKA Makarska 2.68 45 *i*Pn **Pn 17 09 27.4 +0.6**
MAKA Sn **Sn 17 09 58.6 -1.0**
IST3 Stromboli F 2.69 166 P **Pn 17 09 27.2 +0.2**
IST3 AML AML
comp=E,2370µm,1.1s
IST3 AML AML
comp=N,3120µm,1.0s
PE3 Peglio 2.69 329 P **Pb 17 09 30.0 -1.8**
SSP9 Sansepolcro 2.74 323 P **Pn 17 09 29.0 +1.2**
SSP9 AML AML
comp=E,23200µm,1.6s
PARC Parchiule 2.75 325 P **Pn 17 09 29.8 +1.8**
PARC AML AML
comp=N,11300µm,1.1s
PARC AML AML
comp=E,10700µm,1.3s
PESA Pesaro 2.78 336 P **Pn 17 09 29.6 +1.4**
PESA AML AML
comp=E,18850µm,1.2s
PESA AML AML
comp=N,17700µm,1.2s
PESA AML AML
comp=N,17700µm,1.2s
STON Ston 2.83 58 *e*Pn **Pn 17 09 29.4 +0.4**
STON Sn **Sn 17 10 00.7 -2.7**
STON Ston 2.83 58 *e*Pn **Pn 17 09 29.1 +0.1**
STON Ston 2.83 58 P **Pn 17 09 27.9 -1.1**
STON AML AML
comp=N,6425µm,0.8s
STON AML AML
comp=E,4980µm,0.7s
CPGN Carpegna, Ital 2.84 328 P **Pb 17 09 34.4 -0.1**
IFIL Filicudi I Eol 2.85 178 P **Pn 17 09 29.2 0.0**
IFIL P **Pb 17 09 31.5 -3.1**
TIP Timpagrande 2.86 141 P **Pn 17 09 31.5 +2.1**
TIP Timpagrande 2.86 141 ⇑P **Pn 17 09 31.5 +2.1**
TIP Timpagrande 2.86 141 P **Pn 17 09 31.0 +1.6**
TIP AML AML
comp=E,3470µm,1.6s
TIP AML AML
comp=E,4035µm,1.6s
TIP AML AML
comp=N,3220µm,1.0s
TIP AML AML
comp=N,4055µm,1.0s
TIP Timpagrande 2.86 141 **Pn 17 09 31.0 +1.6**
USI Ustica 2.87 200 P **Pn 17 09 28.8 -0.8**
USI AML AML
comp=N,2760µm,1.6s
USI AML AML
comp=N,2765µm,1.6s
USI AML AML
comp=E,2405µm,1.3s
IACL Alicudi 2.88 181 P **Pn 17 09 29.2 -0.4**
IACL AML AML
comp=E,1232µm,1.2s
IACL AML AML
comp=N,1440µm,1.6s
RICI Ricice 2.88 43 ePn **Pn 17 09 29.9 +0.1**
RICI Sn **Sn 17 10 04.2 -0.4**
KIJV Kijevo 2.97 29 *e*Pn **Pn 17 09 31.8 +1.0**
KIJV Sn **Sn 17 10 07.9 +1.1**
CASP Castiglione de 2.98 299 P **Pn 17 09 30.1 -1.0**
CASP AML AML
comp=E,1865µm,1.6s
CASP AML AML
comp=N,1920µm,1.6s
CASP Castiglione de 2.98 299 **Pn 17 09 30.9 -0.2**
LLI Lipari 3.00 172 P **Pn 17 09 26.6 -4.7**
GRI Girifalco 3.01 149 P **Pn 17 09 32.8 +1.4**
GRI P **Pb 17 09 34.1 -3.2**
GRI AML AML
comp=E,4720µm,1.1s
GRI AML AML
comp=N,3715µm,0.8s
FROS Frosini 3.02 308 P **Pn 17 09 33.1 +1.6**
FROS AML AML
comp=E,4950µm,1.6s
FROS AML AML
comp=N,5180µm,1.6s
FROS AML AML
comp=N,5180µm,1.6s
JOPP Joppolo 3.02 158 P **Pn 17 09 30.7 -0.9**
JOPP AML AML
comp=E,2215µm,1.6s
JOPP AML AML
comp=N,1795µm,1.6s
DBRK Dubrovnik 3.04 64 *e*Pn **Pn 17 09 32.6 +0.7**
DBRK Sn **Sn 17 10 09.0 +0.6**
VPL Vulcano Piano 3.06 172 P **Pn 17 09 31.3 -0.9**
VPL AML AML
comp=E,5905µm,1.1s
VPL AML AML
comp=N,6415µm,1.0s
ASQU Asqua 3.07 322 P **Pn 17 09 33.0 +0.6**
ASQU AML AML
comp=E,5810µm,1.6s
ASQU AML AML
comp=N,6235µm,1.6s
CSNT Castellina Chi 3.10 313 P **Pb 17 09 36.3 -2.5**
CSNT AML AML
comp=N,3090µm,1.6s
CSNT AML AML
comp=E,2565µm,1.3s
TRIF Trifonti 3.12 304 P **Pn 17 09 33.6 +0.6**
TRIF AML AML
comp=E,3085µm,1.6s
TRIF AML AML
comp=N,2220µm,1.6s
SFI Santa Sofia 3.13 323 P **Pn 17 09 34.5 +1.4**
SFI AML AML
comp=N,7625µm,1.6s
SFI AML AML
comp=E,7430µm,1.4s
SFI AML AML
comp=E,5325µm,1.6s
SFI AML AML
comp=N,7030µm,1.6s
SFI AML AML
comp=E,7425µm,1.4s
SFI AML AML
comp=N,7630µm,1.6s
SFI AML AML
comp=N,7035µm,1.6s
SFI AML AML
comp=E,5325µm,1.6s
OSSC Osservatorio P 3.16 313 P **Pn 17 09 33.9 +0.4**
OSSC AML AML
comp=E,4295µm,1.5s
OSSC AML AML
comp=N,3825µm,1.6s
OSSC AML AML
comp=E,4140µm,1.5s
OSSC AML AML
comp=N,3745µm,1.6s
OSSC AML AML
comp=N,3825µm,1.6s
OSSC AML AML
comp=E,4290µm,1.5s
OSSC Osservatorio P 3.16 313 **Pn 17 09 34.7 +1.2**
NVLJ Novalja 3.16 6 *e*Pn **Pn 17 09 33.9 +0.4**
NVLJ Sn **Sn 17 10 09.6 -1.9**
TREB Trebinje 3.20 65 ⇓*i*Pn **Pn 17 09 34.3 +0.3**
TREB *e*Sn **Sn 17 10 11.4 -0.9**
TREB Trebinje 3.20 65 *e*Pn **Pn 17 09 34.3 +0.3**
HCY Herceg Novi 3.20 70 P **Pn 17 09 33.9 -0.2**
HCY Herceg Novi 3.20 70 ⇑*i*Pn **Pn 17 09 33.5 -0.6**
HCY Herceg Novi 3.20 70 *i*Pn **Pn 17 09 33.7 -0.4**
HCY *e*Sn **Sn 17 10 12.6 +0.1**
RUFI Rufina 3.24 319 P **Pn 17 09 35.5 +0.9**
RUFI AML AML
comp=E,4985µm,1.6s

RUFI AML AML
comp=N,8480µm,1.6s
RUFI AML AML
comp=N,8455µm,1.6s
RUFI AML AML
comp=E,5000µm,1.6s
MSRU Castanea 3.26 165 P Pn 17 09 34.3 -0.6
MSRU AML AML
comp=N,2550µm,1.2s
MSRU AML AML
comp=E,3200µm,1.0s
UDBI Udbina 3.26 17 *i* Pn **Pn 17 09 36.1 +1.2**
MCPD Capo d'Orlando 3.30 176 P Pn 17 09 32.5 -3.0
MCPD AML AML
comp=E,678µm,1.5s
PLAC Placanica 3.34 152 P Pn 17 09 37.0 +0.9
PLAC AML AML
comp=E,3500µm,1.4s
PLAC AML AML
comp=N,3325µm,1.4s
PLAC AML AML
comp=E,3335µm,1.4s
PLAC AML AML
comp=N,3545µm,1.4s
PLAC AML AML
comp=N,3330µm,1.4s
CEL Celeste 3.35 160 Pn 17 09 35.9 -0.3
SCTE Santa Cesarea 3.35 112 P Pn 17 09 36.1 0.0
SCTE AML AML
comp=E,10250µm,1.0s
SCTE AML AML
comp=N,6280µm,1.0s
SCTE Santa Cesarea 3.35 112 Pn 17 09 36.0 0.0
MPG Monte Pellegri 3.35 195 P Pn 17 09 35.7 -0.5
MPG AML AML
comp=N,456µm,1.6s
MPG AML AML
comp=E,475µm,1.6s
SOLUN Solunto 3.39 192 P Pn 17 09 36.8 +0.1
SOLUN AML AML
comp=N,486µm,1.5s
SOLUN AML AML
comp=E,410µm,1.6s
BRY Bratogost 3.40 63 P Pn 17 09 37.1 +0.2
BRY Bratogost 3.40 63 ⇓ *i* Pn **Pn 17 09 36.9 0.0**
BRY Bratogost 3.40 63 ⇓ *i* Pn **Pn 17 09 36.6 -0.3**
BRY *e*Sn **Sn 17 10 17.2 -0.3**
MCSR Castroreale 3.41 169 P Pn 17 09 40.2 +3.2
MCSR AML AML
comp=N,1528µm,1.1s
GIB Gibilmanna 3.44 185 P Pn 17 09 37.1 -0.3
GIB AML AML
comp=N,2045µm,1.6s
GIB AML AML
comp=E,1690µm,1.2s
BUM Brajici-Budva 3.45 74 ⇑ *i* Pn **Pn 17 09 37.3 -0.3**
BUM *e*Sn **Sn 17 10 18.6 -0.1**
SEI Scarperia 3.47 320 P Pn 17 09 39.7 +1.9
SEI AML AML
comp=N,4970µm,1.6s
SEI AML AML
comp=E,3765µm,1.1s
BRIS BRISIGHELLA 3.47 323 P Pn 17 09 40.7 +2.9
BRIS AML AML
comp=N,7930µm,1.6s
BRIS AML AML
comp=E,4805µm,0.9s
BRIS AML AML
comp=E,6050µm,0.9s
BRIS AML AML
comp=N,10000µm,1.6s
AIO Antillo 3.50 170 P Pn 17 09 37.6 -0.6
AIO AML AML
comp=N,852µm,0.8s
AIO AML AML
comp=E,656µm,1.5s
BRJN Brijuni 3.52 352 *e*Pn **Pn 17 09 39.5 +1.1**
BRJN Sn **Sn 17 10 18.2 -2.2**
CEME Cevo 3.53 70 ⇓ *i* Pn **Pn 17 09 38.4 -0.3**
CEME *e*Sn **Sn 17 10 20.2 -0.5**
PTF Prato 3.55 317 P Pn 17 09 39.6 +0.8
MGRS Mrkonjic Grad 3.58 32 ⇓ *i* Pn **Pn 17 09 41.2 +1.9**
PETRA Petralia Sopra 3.59 184 P Pn 17 09 39.5 0.0
PETRA AML AML
comp=E,1018µm,1.1s
PETRA AML AML
comp=N,1335µm,0.8s
CORL Corleone 3.62 194 P Pn 17 09 40.0 +0.1
CORL AML AML
comp=E,1184µm,1.6s
CORL AML AML
comp=N,1300µm,0.8s
CORL Corleone 3.62 194 Pn 17 09 40.9 +0.9
NKME Niksic 3.63 67 ⇑ *i* Pn **Pn 17 09 39.6 -0.4**
NKME *e*Sn **Sn 17 10 23.2 +0.1**
MTCR Monte La Croce 3.63 317 P Pn 17 09 38.5 -1.6
MTCR AML AML
comp=N,3405µm,1.4s
MTCR AML AML
comp=E,3320µm,1.6s
MTCR AML AML
comp=N,3410µm,1.4s
DRME Dracevica, Mon 3.64 76 ⇑ *i* Pn **Pn 17 09 40.2 +0.1**
DRME Dracevica, Mon 3.64 76 ⇑ *i* Pn **Pn 17 09 39.9 -0.2**
DRME *e*Sn **Sn 17 10 23.1 -0.1**
ULC Ulcinj 3.65 80 P Pn 17 09 40.4 +0.2
ULC Ulcinj 3.65 80 ⇓ *i* Pn **Pn 17 09 39.6 -0.6**
ULC *e*Sn **Sn 17 10 23.1 -0.4**
MPAZ Palizzi 3.67 160 P Pn 17 09 43.0 +2.5
MPAZ AML AML
comp=N,1445µm,0.8s
MPAZ AML AML
comp=E,1430µm,1.0s
MTRZ Monterenzio 3.67 325 P Pn 17 09 42.8 +2.3
MTRZ AML AML
comp=E,13650µm,1.4s
MTRZ AML AML
comp=N,8365µm,1.6s
MTRZ AML AML
comp=N,8370µm,1.6s
MTRZ AML AML
comp=N,8530µm,1.6s
MTRZ AML AML
comp=E,13550µm,1.4s
NKY Niksic 3.67 66 P Pn 17 09 41.6 +1.0
NKY Niksic 3.67 66 ⇓ *i* Pn **Pn 17 09 40.6 0.0**
NKY *e*Sn **Sn 17 10 23.5 -0.7**
PDG Podgorica 3.74 73 ⇑ *i* Pn **Pn 17 09 41.4 -0.1**
PDG *e*Sn **Sn 17 10 24.5 -1.3**
PDG Podgorica 3.74 73 ⇑ *i* Pn **Pn 17 09 41.4 -0.1**
PDG Podgorica 3.74 73 ⇑ P **Pn 17 09 42.0 +0.6**
PDG ⇓ S Sn 17 10 09.3 -16
PDG AML AML 17 10 54.2
PDG Podgorica 3.74 73 P Pn 17 09 41.8 +0.3
PDG AML AML
comp=E,2600µm,0.8s
PDG AML AML
comp=N,4360µm,1.6s
PDG AML AML
comp=E,3275µm,0.8s
PDG AML AML
comp=N,5660µm,1.6s
PDG Podgorica 3.74 73 Pn 17 09 42.3 +0.8
TTG Podgorica 3.74 73 ⇓ *i* Pn **Pn 17 09 41.1 -0.4**
TTG *e*Sn **Sn 17 10 25.3 -0.5**
UPM Unac-Piva 3.77 60 ⇓ *i* Pn **Pn 17 09 42.8 +0.7**
UPM Unac-Piva 3.77 60 ⇓ *i* Pn **Pn 17 09 42.3 +0.2**
UPM *e*Sn **Sn 17 10 25.8 -1.0**
RESU Resuttano 3.78 184 P Pn 17 09 43.8 +1.7
RESU AML AML
comp=E,1088µm,1.4s
RESU AML AML
comp=N,1340µm,1.2s
CAGR Agira 3.79 179 P Pn 17 09 45.4 +3.2
CAGR AML AML
comp=N,2395µm,1.1s
CAGR AML AML
comp=E,1930µm,1.6s
MAIM Mastiano 3.83 312 P Pn 17 09 44.0 +1.4
MAIM AML AML
comp=N,1525µm,1.6s
MAIM AML AML
comp=E,1835µm,1.6s
BLY Banja Luka 3.89 30 ⇑ *i* Pn **Pn 17 09 44.7 +1.1**
BLY Banja Luka 3.89 30 ⇑ P **Pn 17 09 45.0 +1.4**
BLY AML AML 17 11 09.2
BLY Banja Luka 3.89 30 P Pn 17 09 44.4 +0.8
BLY AML AML
comp=E,11400µm,1.2s
BLY AML AML
comp=E,11400µm,1.2s
BLY AML AML
comp=N,5960µm,1.1s
BLY AML AML
comp=N,6475µm,1.1s
BLY Banja Luka 3.89 30 Pn 17 09 45.2 +1.6
SMPL Sampolo 3.91 282 P Pn 17 09 42.7 -1.1
SMPL AML AML
comp=E,51850µm,1.6s
SMPL AML AML
comp=N,48350µm,1.6s
SMPL AML AML
comp=N,48350µm,1.6s
SMPL AML AML
comp=E,51850µm,1.6s
RIY Rijeka 3.91 1 *e*Pn **Pn 17 09 44.3 +0.5**
RIY Rijeka 3.91 1 *e*Pn **Pn 17 09 43.5 -0.2**
VAE Valguarnera 3.93 180 Pn **Pn 17 09 47.0 +2.8**
comp=E,1.9nm,0.3s,baz=31,slow=3.0,SNR=23
CLTB Caltabellotta 3.95 194 P Pn 17 09 44.9 +0.5
CLTB AML AML
comp=E,2865µm,0.5s
CLTB Caltabellotta 3.95 194 Pn 17 09 46.3 +1.9
VLO Vlora 3.95 102 P Pn 17 09 45.7 +1.3
VLO S Sn 17 10 32.4 +1.4
VLO Vlora 3.95 102 *i* PN **Pn 17 09 45.8 +1.3**
VLO *i* SN **Sn 17 10 32.5 +1.4**
VLC Villacollemand 4.04 314 Pn 17 09 46.6 +0.9
KOME Kolasin 4.05 68 ⇑ *i* Pn **Pn 17 09 46.3 +0.5**
KOME *e*Sn **Sn 17 10 33.1 -0.3**
SARO Sassorosso 4.05 314 P Pn 17 09 46.4 +0.6
SARO AML AML
comp=N,1035µm,1.6s
SARO AML AML
comp=E,734µm,1.6s
TIR Tirane 4.09 89 P Pn 17 09 46.2 -0.1
TIR Tirane 4.09 89 ⇑ *i* Pn **Pn 17 09 46.6 +0.3**
TIR Tirane 4.09 89 P Pn 17 09 47.4 +1.1
TIR Tirane 4.09 89 *i* PN **Pn 17 09 47.0 +0.7**
TIR *i* SN **Sn 17 10 35.3 +0.9**
TIR Tirane 4.09 89 ⇑ P **Pn 17 09 46.9 +0.7**
TIR Tirane 4.09 89 AML AML 17 11 35.4
TIR Tirane 4.09 89 P Pn 17 09 47.3 +1.0
TIR AML AML
comp=E,4260µm,1.5s
TIR AML AML
comp=N,3630µm,1.6s
TIR Tirane 4.09 89 Pn 17 09 47.4 +1.1
BOJS Bojanci 4.13 8 P Pn 17 09 46.7 -0.1
BOJS S **Sn 17 10 36.0 +0.7**
BOJS AML AML
comp=E,6270µm,1.3s
BOJS AML AML
comp=N,3425µm,1.2s
PUK Puka 4.14 80 *i* PN **Pn 17 09 47.8 +0.8**
PUK *i* SN **Sn 17 10 36.0 +0.3**
PUK Puka 4.14 80 P Pn 17 09 47.7 +0.7
PUK S **Sn 17 10 36.0 +0.3**
PUK AML AML
comp=E,2730µm,1.3s
PUK AML AML
comp=N,3640µm,0.6s
SKDS Skadanscina 4.14 356 *i* Pn **Pn 17 09 46.4 -0.6**
SKDS *i* Sn **Sn 17 10 35.5 -0.2**
comp=Z,9µm,1.9s
PLE Pljevlja 4.14 61 P Pn 17 09 49.2 +2.1
PLE Pljevlja 4.14 61 ⇓ *i* Pn **Pn 17 09 47.5 +0.4**
PLE *e*Sn **Sn 17 10 35.1 -0.8**
HAGA Augusta 4.17 172 P Pn 17 09 48.1 +0.8
HAGA AML AML
comp=N,816µm,1.4s
HAGA AML AML
comp=E,638µm,1.6s
EQUI Equi 4.18 313 P Pn 17 09 48.9 +1.5
EQUI AML AML
comp=N,1295µm,1.4s
EQUI AML AML
comp=E,1520µm,1.6s
FAVR Favara 4.19 188 P Pn 17 09 51.0 +3.4
FAVR AML AML
comp=N,2205µm,1.6s
PGF Pioggiola 4.20 287 *e*Pn **Pn 17 09 47.9 0.0**
SNR=1.0
PGF *e*Sn **Sn 17 10 37.7 +0.4**
comp=N,479nm,0.6s
PGF Pioggiola 4.20 287 P Pn 17 09 47.9 0.0
PGF 17 10 37.7
PGF Pioggiola 4.20 287 Pn 17 09 47.9 0.0
PGF **Sn 17 10 37.7 +0.4**
HVZN Vizzini 4.24 177 P Pn 17 09 48.9 +0.5
HVZN AML AML
comp=N,3365µm,0.7s
HVZN AML AML
comp=E,4000µm,1.1s
OZLJ Ozalj 4.26 10 *e*Pn **Pn 17 09 49.3 +0.7**
RUDO Rudo 4.26 57 ⇑ *i* Pn **Pn 17 09 48.5 -0.2**
HAPS Han Pijesak,Bl 4.27 50 ⇑ *i* Pn **Pn 17 09 49.1 +0.3**
HAPS *e*Sn **Sn 17 10 38.3 -0.6**
HAPS Han Pijesak,Bl 4.27 50 *e*Pn **Pn 17 09 48.1 -0.7**
DOB Doboj 4.27 38 *e*Pn **Pn 17 09 48.5 -0.2**
CLTA Licata 4.27 185 P Pn 17 09 51.4 +2.6
CLTA AML AML
comp=E,4345µm,1.0s
CLTA AML AML
comp=N,5190µm,1.4s
PLMA Palmaria, Port 4.28 309 P Pn 17 09 48.8 0.0
PLMA AML AML
comp=E,676µm,0.8s
PLMA AML AML
comp=N,664µm,1.4s
PVY Plav 4.29 72 ⇓ *i* Pn **Pn 17 09 49.8 +0.7**
PVY *e*Sn **Sn 17 10 38.7 -0.7**
VSL Villasalto 4.30 245 P Pn 17 09 47.0 -2.2
BCI Bajram Curri 4.32 75 *i* PN **Pn 17 09 50.5 +1.0**
BCI *i* SN **Sn 17 10 40.5 +0.5**
IVA Berane 4.32 69 ⇓ *i* Pn **Pn 17 09 49.8 +0.3**
IVA *e*Sn **Sn 17 10 39.0 -1.1**
CEY Cerknica 4.32 360 *e*Pn **Pn 17 09 49.1 -0.4**
MEU Monte Lauro 4.33 175 P Pn 17 09 51.7 +2.0
MEU AML AML
comp=N,676µm,1.1s
MEU AML AML
comp=E,751µm,1.0s
TPE Tepelena 4.38 103 P Pn 17 09 50.9 +0.6
TPE Tepelena 4.38 103 *i* PN **Pn 17 09 51.4 +1.2**
TPE *i* SN **Sn 17 10 43.3 +1.8**
BBLS Lazići 4.41 55 ⇑ *i* Pn **Pn 17 09 50.3 -0.5**
BBLS Lazići 4.41 55 ⇑ *i* Pn **Pn 17 09 51.5 +0.7**
CGL Cagliari Serpe 4.42 244 P Pn 17 09 49.1 -1.9
CGL S **Sn 17 10 40.0 -2.7**
CGL AML AML
comp=N,1565µm,1.1s
CGL AML AML
comp=E,1650µm,0.9s
TEOL Teolo 4.42 334 P Pn 17 09 51.7 +0.8
TEOL AML AML
comp=N,9365µm,1.1s
TEOL AML AML
comp=E,8530µm,0.9s
TEOL Teolo 4.42 334 Pn 17 09 50.6 -0.3
KEK Kerkira 4.43 111 P Pn 17 09 50.6 -0.4
KEK Kerkira 4.43 111 P Pn 17 09 52.5 +1.5
KEK AML AML
comp=N,664µm,1.2s
GRAM Graiana 4.44 315 P Pn 17 09 54.5 +3.4
GRAM AML AML
comp=E,2100µm,1.6s
GRAM AML AML
comp=N,2770µm,1.6s
CRES Cresnjev 4.47 9 ⇑ *i* Pn **Pn 17 09 51.4 -0.1**
PRMA PARMA 4.50 319 Pn 17 09 51.9 0.0
SJES Sjenica 4.50 64 ⇑ *i* Pn **Pn 17 09 51.8 -0.3**
SJES *e*Sn **Sn 17 10 43.3 -1.5**
SRN Sarande 4.51 108 P Pn 17 09 52.0 0.0
SRN Sarande 4.51 108 *i* PN **Pn 17 09 53.6 +1.6**
SRN *i* SN **Sn 17 10 47.7 +3.0**
SRN Sarande 4.51 108 P Pn 17 09 52.8 +0.8
SRN AML AML
comp=N,1720µm,1.3s
PHP Peshkopia 4.52 85 P Pn 17 09 52.8 +0.6
PHP Peshkopia 4.52 85 P Pn 17 09 52.4 +0.1
PHP S **Sn 17 10 43.8 -1.3**
PHP Peshkopia 4.52 85 *i* PN **Pn 17 09 53.1 +0.9**
PHP *i* SN **Sn 17 10 46.3 +1.2**
MOSL Moslavina 4.52 21 *i* Pn **Pn 17 09 51.9 -0.3**
ZAG Zagreb 4.55 14 *e*Pn **Pn 17 09 53.3 +0.7**
ZAG Zagreb 4.55 14 *e*Pn **Pn 17 09 53.5 +0.9**
SABO M.te Sabotino 4.60 353 P Pn 17 09 53.8 +0.5
SABO AML AML
comp=E,7135µm,0.9s
SABO AML AML
comp=N,7360µm,1.1s
PTJ Puntijarka 4.62 13 ePn Pn 17 09 53.9 +0.2
LJU Ljubljana 4.63 1 *i* Pn **Pn 17 09 53.9 +0.2**
LJU *i* Sn **Sn 17 10 47.1 -0.5**
comp=Z,9µm,2.2s
LJU Ljubljana 4.63 1 *e*Pn **Pn 17 09 53.3 -0.3**
LJU Ljubljana 4.63 1 P Pn 17 09 53.7 +0.1
LJU AML AML
comp=N,12600µm,0.9s
LJU AML AML
comp=E,9970µm,1.3s
MSSA Maissana 4.63 310 P Pb 17 09 59.5 -5.3
MSSA Maissana 4.63 310 Pn 17 09 56.0 +2.3
IVAS Ivanjica 4.75 61 ⇑ *i* Pn **Pn 17 09 55.1 -0.3**
IVAS *e*Sn **Sn 17 10 48.8 -2.0**
OHR Ohrid 4.81 92 P Pn 17 09 57.2 +0.9
CGRP Cima Grappa 4.85 338 P Pn 17 09 55.5 -1.4
TEKS Tekeris 4.88 48 ⇑ *i* Pn **Pn 17 09 56.9 -0.2**
TEKS Tekeris 4.88 48 *e*Pn **Pn 17 09 57.1 0.0**
ROVR Rover Verones 4.88 331 P Pn 17 09 58.5 +1.2
DIVS Divibare 4.89 55 ⇑ *i* Pn **Pn 17 09 57.1 -0.3**
DIVS Divibare 4.89 55 ⇑ *i* Pn **Pn 17 09 57.4 0.0**
KALN Kalnik 4.94 17 *i* Pn **Pn 17 09 58.3 +0.3**
PTMD Pantelleria Cu 5.00 203 P Pn 17 09 57.2 -1.5
STAL STALIGIAL 5.00 346 P Pn 17 09 59.1 +0.4
STAL STALIGIAL 5.00 346 Pn 17 09 58.6 -0.2
PTCC Patocco-Chiusa 5.05 352 P Pn 17 10 00.3 +0.8
SALO Salr 5.07 327 P Pn 17 10 00.2 +0.5
SALO Salr 5.07 327 Pn 17 10 00.1 +0.3
OBKA Obir 5.09 1 *i* Pn **Pn 17 10 00.3 +0.1**
comp=E,156nm,0.6s,SNR=53
OBKA *i* Sn **Sn 17 10 58.0 -1.2**
comp=E,1µm,0.9s
NEST Nestorio 5.12 99 P Pn 17 10 02.1 +1.6
CTL8 Castelleone 5.14 320 P Pn 17 10 05.3 +4.6
MAGA Magasa 5.16 329 P Pn 17 10 00.5 -0.5
ACOM Acomizza, Ital 5.17 353 P Pn 17 10 02.0 +0.6
KOGS Kog 5.20 14 P Pn 17 10 00.3 -1.2
JAN Janina 5.20 108 P Pn 17 10 02.8 +1.2
TRUS Trudelj 5.21 55 ⇑ *i* Pn **Pn 17 10 01.5 -0.2**
PENT Pentalofos 5.24 101 P Pn 17 10 03.8 +1.7
MYKA Terra Mystica 5.24 354 *i* Pn **Pn 17 10 02.7 +0.5**
comp=E,104nm,0.4s,SNR=61
MYKA *i* Sn **Sn 17 11 03.8 +0.9**
comp=E,247nm,0.9s
GRUS Gruza 5.25 60 ⇑ *i* Pn **Pn 17 10 01.8 -0.5**
SELS Selova 5.28 68 ⇓ *i* Pn **Pn 17 10 02.4 -0.2**
SELS *e*Sn **Sn 17 11 00.8 -2.9**
SOKA Soboth 5.28 5 *i* Pn **Pn 17 10 02.1 -0.6**
comp=E,110nm,0.4s,SNR=51
SOKA *i* Sn **Sn 17 11 04.7 +0.9**
comp=E,163nm,0.6s
SKO Skopje 5.28 82 P Pn 17 10 03.1 +0.5
SKO pmax pmax
comp=Z,465nm,1.2s
FNA Florina 5.29 95 P Pn 17 10 02.6 -0.2
FNA Florina 5.29 95 P Pn 17 10 04.0 +1.2
FNA Florina 5.29 95 Pn 17 10 04.0 +1.2
FVI Forni Avoltri 5.31 348 P Pn 17 10 04.3 +1.1
PCP Piancastagn 5.33 308 P Pn 17 10 05.1 +1.8
FRGS Fruska Gora 5.42 45 ⇑ *i* Pn **Pn 17 10 03.4 -1.2**
FRGS Fruska Gora 5.42 45 ⇑ *i* Pn **Pn 17 10 03.5 -1.2**
MEV Metsovon 5.43 105 P Pn 17 10 06.7 +1.9
TSLK Tsoukalades, L 5.43 116 P Pn 17 10 05.4 +0.7
MABI Malga Bissina 5.43 330 P Pn 17 10 05.1 +0.2
LKD2 Lefkada island 5.45 117 P Pn 17 10 05.4 +0.4
KPRO Kipourio 5.47 103 P Pn 17 10 07.1 +1.8
ABTA Abfaltersbach 5.50 346 *i* Pn **Pn 17 10 06.3 +0.5**
comp=E,230nm,0.6s,SNR=84
ABTA *i* Sn **Sn 17 11 11.0 +1.7**
comp=Z,846nm,1.0s
EVGI Lefkada island 5.54 118 P Pn 17 10 07.0 +0.8
BEO Beograd 5.57 51 P Pn 17 10 05.3 -1.3
BEO pmax pmax
comp=Z,149nm,1.0s
BARS Barje 5.67 73 ⇑ *i* Pn **Pn 17 10 07.5 -0.5**
BARS Barje 5.67 73 ⇓ *i* Pn Pn 17 10 13.2 +5.2
KZN Kozani 5.68 99 P Pn 17 10 09.2 +1.0
SAOF Saorge 5.68 299 P Pn 17 10 09.0 +0.9
SAOF pmax pmax
comp=Z,424nm,0.6s
MORH Mrgy, Hungar 5.68 31 *e*Pn **Pn 17 10 04.1 -4.0**
MORH Sn **Sn 17 11 17.1 +3.5**
MORH *e*Sg **Sg 17 11 49.0 +3.3**
SBF Sospel 5.71 298 *e*Pn **Pn 17 10 08.8 +0.2**
SNR=1.0
SBF Sospel 5.71 298 *e*P Pn 17 10 14.3 +5.7
SBF *e*Sn **Sn 17 11 11.1 -3.2**
comp=Z,287nm,0.8s
SBF Sospel 5.71 298 P Pn 17 10 08.8 +0.2
SBF 17 11 11.1
SBF Sospel 5.71 298 Pn 17 10 08.8 +0.2
SBF Pb 17 10 14.3 -8.9
SBF **Sn 17 11 11.1 -3.2**
KBA Koelnbreinsper 5.71 353 P Pn 17 10 10.0 +1.3
KBA pmax pmax
comp=Z,282nm,0.8s
KBA Koelnbreinsper 5.71 353 *i* Pn **Pn 17 10 09.4 +0.7**
comp=Z,83nm,0.6s,SNR=41
VLS Valsamata 5.74 122 P Pn 17 10 08.6 -0.4
BOVS Bovan 5.82 65 ⇑ *i* Pn **Pn 17 10 09.4 -0.6**
ARSA Arzberg 5.88 7 *i* Pn **Pn 17 10 10.2 -0.7**
comp=Z,21nm,0.4s,SNR=35
ARSA *i* Sn **Sn 17 11 18.9 +0.2**
comp=Z,82nm,0.6s
PDO Prodromos 5.90 116 P Pn 17 10 12.2 +1.0
KFL Anninata 5.91 122 P Pn 17 10 11.2 -0.1
STV Sant Anna di V 5.94 301 P Pn 17 10 14.4 +2.7
FUORN Ofenpass-Fuorn 6.00 331 Pn 17 10 14.2 +1.3
TIH Tihany 6.02 23 *e*Pn **Pn 17 10 10.1 -2.7**
TIH *e*Sg **Sg 17 12 02.0 +5.4**
GRG Griva 6.03 92 P Pn 17 10 13.0 0.0
GRG Griva 6.03 92 P Pn 17 10 13.2 +0.2
GRG pmax pmax
comp=Z,624nm,1.1s
THL Klokotos Trika 6.07 105 P Pn 17 10 14.6 +1.1
ISO Isola 6.09 299 P Pn 17 10 15.8 +2.0
ISO pmax pmax
comp=Z,124nm,0.9s
KUBS Kucevo 6.11 58 ⇓ *i* Pn **Pn 17 10 13.1 -0.9**
PVO Paravola 6.12 115 P Pn 17 10 15.3 +1.1
VAY Valandovo 6.13 88 P Pn 17 10 14.3 0.0
VAY pmax pmax
comp=Z,413nm,1.0s
FRF La Foret Royal 6.14 293 *e*Pn **Pn 17 10 14.1 -0.3**
SNR=1.0
FRF *e*Sn **Sn 17 11 20.4 -4.4**
comp=Z,111nm,0.7s,SNR=1.0
FRF La Foret Royal 6.14 293 P Pn 17 10 14.1 -0.3
FRF 17 11 20.4
FRF La Foret Royal 6.14 293 Pn 17 10 14.1 -0.3
FRF **Sn 17 11 20.4 -4.4**
LMR La Mourre 6.17 291 *e*Pn **Pn 17 10 14.0 -0.8**
SNR=1.0
LMR La Mourre 6.17 291 *e*P Pn 17 10 19.8 +5.0
LMR *e*Sn **Sn 17 11 22.8 -2.8**
comp=Z,118nm,0.7s
LMR La Mourre 6.17 291 P Pn 17 10 14.0 -0.8
LMR 17 11 22.8
LMR La Mourre 6.17 291 Pn 17 10 14.0 -0.8
LMR Pb 17 10 19.8 -11
LMR **Sn 17 11 22.8 -2.8**
MPLH Magyarpolny 6.17 20 *e*Pn **Pn 17 10 16.0 +1.2**
MPLH Sn **Sg 17 12 00.0 -1.3**
WTTA Wattenberg 6.18 342 *i* Pn **Pn 17 10 15.7 +0.6**
comp=Z,170nm,0.9s,SNR=33
WTTA *i* Sn **Sn 17 11 27.0 +1.0**
comp=Z,0.8nm,0.2s
EVR Evrytania 6.18 111 P Pn 17 10 17.2 +2.1
PZZ Stroppo 6.19 302 P Pn 17 10 19.0 +3.8
FETA Feichten 6.20 336 *i* Pn **Pn 17 10 15.7 +0.2**

PROD Prodromos 7.24 113 P Pn 17 10 30.9 +1.3
MODS Modra-Piesok 7.24 15 eP Pn 17 10 28.5 -1.1
MODS Modra-Piesok 7.24 15 ePN Pn 17 10 28.5 -1.1
PYL PYLOS 7.26 126 P Pn 17 10 29.5 -0.3
GZR Gura Zlata 7.26 54 ⇓P Pn 17 10 29.9 0.0
SKIA Skiathos 7.27 105 P Pn 17 10 30.0 +0.1
OUR Ouranopolis 7.32 95 P Pn 17 10 30.1 -0.5
OUR Ouranopolis 7.32 95 P Pn 17 10 29.6 -1.0
PGB Panagyurishte 7.34 78 P Pn 17 10 32.0 +1.0
VLX Vlachokerasia 7.36 121 P Pn 17 10 34.5 +3.1
SMOL Smolenice 7.41 16 eP Pn 17 10 32.0 +0.2
SMOL e 17 11 53.0
SMOL Smolenice 7.41 16 ePN Pn 17 10 32.0 +0.2
SMOL eSN Sn 17 11 53.0 -3.1
GEC2 GERESS Array S 7.45 356 P Pn 17 10 32.3 -0.1
GEC2 pmax pmax
comp=Z,130nm,0.8s
GEC2 GERESS Array S 7.45 356 Pn 17 10 32.0 -0.4
GERES GERESS Array B 7.45 356 Pn Pn 17 10 31.6 -0.9
comp=Z,11nm,0.3s,baz=170,slow=13,SNR=160
GERES Sn Sn 17 11 53.1 -4.1
comp=Z,11nm,0.3s,baz=166,slow=23,SNR=7.3
GERES LR LR 17 14 30.3
comp=Z,5μm,18.4s,baz=180,slow=47
MRKA Markates 7.53 108 P Pn 17 10 34.1 +0.6
AOS Alonnisos 7.57 104 P Pn 17 10 33.5 -0.5
VILL Villia 7.57 113 P Pn 17 10 34.8 +0.6
PSZ Piszkesteto 7.58 29 P Pn 17 10 34.5 +0.3
PSZ Piszkesteto 7.58 29 ⇑P Pn 17 10 35.1 +0.9
PSZ Piszkesteto 7.58 29 ePn Pn 17 10 36.1 +1.9
PSZ Sn Sn 17 12 08.1 +7.7
PSZ Piszkesteto 7.58 29 Pn 17 10 34.5 +0.3
DEV Deva 7.59 51 P Pn 17 10 34.4 0.0
DEV pmax pmax
comp=Z,253nm,0.9s
DEV Deva 7.59 51 ⇑P Pn 17 10 35.3 +0.9
KAVA Kavala 7.62 90 P Pn 17 10 34.3 -0.4
SLE Schleitheim 7.63 328 P Pn 17 10 34.4 -0.5
SLE S Sn 17 12 06.1 +4.6
SLE pmax pmax
comp=Z,57nm,0.8s
KOLL Kolacno 7.69 20 eSN Sn 17 12 00.1 -3.0
DYR Agios Nikonas 7.71 125 P Pn 17 10 36.6 +0.6
PLD Plovdiv 7.71 81 P Pn 17 10 36.9 +0.9
PLD pmax pmax
comp=Z,1μm,1.1s
RZN Rozhen 7.72 85 P Pn 17 10 35.9 -0.4
VYHS Vyhne 7.74 22 eP Pn 17 10 36.4 +0.1
VYHS e 17 12 01.5
VYHS Vyhne 7.74 22 ePN Pn 17 10 36.4 +0.1
VYHS eSN Sn 17 12 01.5 -2.6
KHC Kasperske Hory 7.74 356 dP Pn 17 10 36.0 -0.4
KHC Kasperske Hory 7.74 356 ePN Pn 17 10 35.3 -1.1
KHC eSN Sn 17 12 00.7 -3.5
KHC AMS AMS 17 14 00.0
comp=Z,13μm,11.1s
KHC Kasperske Hory 7.74 356 Pn 17 10 36.4 0.0
KRUC Moravsky 7.77 10 P Pn 17 10 37.2 +0.4
KRUC pmax pmax
comp=Z,55nm,0.8s
KRUC Moravsky 7.77 10 ePN Pn 17 10 36.4 -0.4
VLAD Vladila 7.79 67 ⇓P Pn 17 10 38.2 +1.2
PLVB Pleven 7.80 72 ⇑P Pn 17 10 38.7 +1.5
WET Wettzell 7.80 352 P Pn 17 10 37.0 -0.3
WET pmax pmax
comp=Z,88nm,0.8s
GRC1 Grafenberg Arr 7.85 346 P Pn 17 10 36.7 -1.2
GRC1 S Sn 17 12 07.4 +0.4
DID Didima 7.85 117 P Pn 17 10 38.3 +0.3
KRND KRANIDI 7.86 118 P Pn 17 10 39.2 +1.1
MAHO Mahon 7.87 262 eP Pn 17 10 41.4 +3.1
EREA Eretria 7.89 109 P Pn 17 10 39.7 +1.2
LOT Lotru 7.90 56 ⇑P Pn 17 10 40.3 +1.6
TREC Trest 7.91 5 eP Pn 17 10 38.1 -0.7
TREC Trest 7.91 5 ePN Pn 17 10 38.1 -0.7
VIVF Saint-Julien-l 7.92 299 ePn Pn 17 10 39.8 +0.9
SNR=1.0
VIVF eSn Sn 17 12 02.6 -6.1
comp=Z,154nm,1.3s
VIVF Saint-Julien-l 7.92 299 P Pn 17 10 39.8 +0.9
VIVF 17 12 02.6
VIVF Saint-Julien-l 7.92 299 Pn 17 10 39.8 +0.9
VIVF Sn 17 12 02.6 -6.1
CABF La Chapelle 7.94 314 ePn Pn 17 10 40.5 +1.3
SNR=1.0
CABF La Chapelle 7.94 314 ePg Pg 17 11 12.2 -3.1
CABF eSn Sn 17 12 05.0 -4.3
CABF eSg Sg 17 12 56.1 -2.0
comp=Z,647nm,1.5s
CABF La Chapelle 7.94 314 P Pn 17 10 40.5 +1.3
CABF 17 12 05.0
CABF La Chapelle 7.94 314 Pn 17 10 40.5 +1.3
CABF Pg 17 11 12.2 -3.1
CABF Sn 17 12 05.0 -4.3
CABF LR LR 17 12 56.1
ATH Athens Observa 7.94 113 P Pn 17 10 40.6 +1.4
ATHU Athens Univers 7.99 112 P Pn 17 10 40.9 +1.0
LTVH Ltavrtes, Hu 8.01 39 ePn Pn 17 10 43.0 +3.0
LTVH eSg Sg 17 12 55.0 -5.3
DRGR 8.02 45 P Pn 17 10 42.4 +2.1
DRGR pmax pmax
comp=Z,219nm,1.4s
DRGR 8.02 45 ⇑P Pn 17 10 42.9 +2.5
VRAC Vranov 8.04 10 Pn Pn 17 10 39.6 -0.9
comp=Z,2.1nm,0.3s,baz=194,slow=14,SNR=25
VRAC Sn Sn 17 12 05.6 -6.0
baz=135,slow=18,SNR=2.3
VRAC LR LR 17 14 54.8
comp=Z,3μm,18.6s,baz=202,slow=47
VRAC Vranov 8.04 10 ⇓P Pn 17 10 39.9 -0.5
VRAC Vranov 8.04 10 ePN Pn 17 10 39.5 -0.9
LOMF Lomont 8.05 320 P Pn 17 10 40.7 0.0
VLY Voula,Athens 8.06 113 P Pn 17 10 41.2 +0.5
VLI Veliai 8.11 123 P Pn 17 10 40.6 -0.9
BFO Black Forest 8.15 330 P Pn 17 10 41.9 -0.2
BFO Black Forest 8.15 330 Pn 17 10 41.9 -0.2
SSB Saint Sauveur 8.17 301 P Pn 17 10 44.7 +2.3
SSB pmax pmax
comp=Z,169nm,1.4s
LASF Ste Croix 8.22 292 ePn Pn 17 10 42.4 -0.6
SNR=1.0
LASF eSn Sn 17 12 11.1 -5.0
comp=Z,109nm,1.2s
LASF Ste Croix 8.22 292 Pn 17 10 42.4 -0.6
LASF Sn 17 12 11.1 -5.0
STU Stuttgart 8.23 335 P Pn 17 10 43.2 +0.1
STU pmax pmax
comp=Z,116nm,0.8s
KDZ Kurdzhali 8.25 85 P Pn 17 10 42.6 -0.8
MOF Molkenrain 8.27 324 P Pn 17 10 42.9 -0.8
PBCC Pribram 8.28 358 ePN Pn 17 10 44.2 +0.5
PVL Pavlikeni 8.28 74 P Pn 17 10 42.3 -1.5
DIM Dimitrovgrad 8.33 82 P Pn 17 10 46.3 +1.8
HUMR Humele 8.34 65 ⇑P Pn 17 10 45.9 +1.3
HINF Hinteralfeld 8.37 322 ePn Pn 17 10 44.3 -0.8
HINF eSn Sn 17 12 15.0 -4.8
comp=Z,411nm,1.2s
HINF Hinteralfeld 8.37 322 P Pn 17 10 44.3 -0.8
HINF 17 12 15.0
HINF Hinteralfeld 8.37 322 Pn 17 10 44.3 -0.8
HINF Sn 17 12 15.0 -4.8
RDO Rodhopi 8.37 88 P Pn 17 10 44.5 -0.6
ARR Arges 8.41 59 ⇓P Pn 17 10 47.8 +2.1
GOLR 8.43 63 ⇑P Pn 17 10 47.5 +1.7
KTHR Kythira 8.44 125 P Pn 17 10 47.5 +1.5
CJR Cluj-Napoca 8.46 48 P Pn 17 10 47.9 +1.6
CJR Cluj-Napoca 8.46 48 ⇑P Pn 17 10 48.0 +1.6
KTHA Kythira Island 8.48 125 P Pn 17 10 46.9 +0.3
GOPC GO Pecny, Ondr 8.50 2 eP Pn 17 10 46.0 -0.8
GOPC e 17 12 19.3
GOPC MLR MLR
comp=Z,10μm,11.4s
GOPC GO Pecny, Ondr 8.50 2 ePN Pn 17 10 46.0 -0.8
GOPC eSN Sn 17 12 19.3 -3.7
GOPC AMS AMS 17 14 30.0
comp=Z,10μm,11.4s
LANS Liptovska Anna 8.51 23 eP Pn 17 10 48.4 +1.4
LANS Liptovska Anna 8.51 23 ePN Pn 17 10 48.4 +1.4
ECH Echery 8.54 325 P Pn 17 10 46.2 -1.1
ECH Echery 8.54 325 Pn 17 10 46.1 -1.1
PRU Pruhonice 8.57 0 eP Pn 17 10 47.1 -0.7
PRU MLR MLR
comp=Z,11μm,11.7s
PRU Pruhonice 8.57 0 ePN Pn 17 10 47.1 -0.7
PRU AMS AMS 17 14 30.0
comp=Z,11μm,11.7s
GRA1 Grafenberg Arr 8.57 346 Pn 17 10 46.4 -1.5
GRF Grafenberg Arr 8.57 346 P Pn 17 10 46.4 -1.5
WLS Welschbruch 8.61 327 P Pn 17 10 47.3 -1.0
MDB Medias 8.61 53 ⇑P Pn 17 10 50.9 +2.6
ELND Elena 8.64 76 ⇑P Pn 17 10 49.9 +1.2
CDF Champ du Feu 8.64 326 ePn Pn 17 10 47.4 -1.4
CDF eSn Sn 17 12 21.7 -4.7
comp=Z,298nm,1.1s
CDF Champ du Feu 8.64 326 P Pn 17 10 47.4 -1.4
CDF 17 12 21.7
CDF Champ du Feu 8.64 326 Pn 17 10 47.4 -1.4
CDF Sn 17 12 21.7 -4.7
MORC Moravsky Berou 8.64 14 P Pn 17 10 49.8 +1.1
MORC Moravsky Berou 8.64 14 ⇑P Pn 17 10 51.6 +2.9
MORC Moravsky Berou 8.64 14 ePN Pn 17 10 49.6 +0.8
MORC Moravsky Berou 8.64 14 Pn 17 10 49.9 +1.1
PRA Prague 8.65 0 eP Pn 17 10 48.9 0.0
PRA MLR MLR
comp=Z,11μm,11.1s
PRA Prague 8.65 0 ePN Pn 17 10 48.9 0.0
PRA AMS AMS 17 14 30.0
comp=Z,11μm,11.1s
VOIR 8.71 59 P Pn 17 10 51.8 +2.0
VOIR pmax pmax
comp=Z,195nm,1.2s
VOIR 8.71 59 ⇑P Pn 17 10 51.4 +1.6
HAU Haudompre 8.74 322 ePn Pn 17 10 49.1 -1.0
HAU eSn Sn 17 12 22.7 -6.2
comp=Z,262nm,0.8s
HAU Haudompre 8.74 322 P Pn 17 10 49.1 -1.0
HAU 17 12 22.7
HAU Haudompre 8.74 322 Pn 17 10 49.1 -1.0
HAU Sn 17 12 22.7 -6.2
ALN Alexandroupoli 8.78 90 P Pn 17 10 50.9 +0.3
ALN Alexandroupoli 8.78 90 Pn 17 10 50.9 +0.3
KRLC Kraliky 8.81 10 eP Pn 17 10 51.6 +0.5
KRLC MLR MLR
comp=Z,6μm,14.2s
KRLC Kraliky 8.81 10 ePN Pn 17 10 51.6 +0.5
KRLC AMS AMS 17 14 40.0
comp=Z,6μm,14.2s
OKC Ostrava-Krasne 8.81 16 eP Pn 17 10 51.5 +0.4
OKC MLR MLR
comp=Z,15μm,11.4s
OKC Ostrava-Krasne 8.81 16 ePN Pn 17 10 51.5 +0.4
OKC AMS AMS 17 15 10.0
comp=Z,15μm,11.4s
TRPA Tarpa 8.85 38 ⇓P Pn 17 10 53.4 +1.8
TRPA Tarpa 8.85 38 ePn Pn 17 10 51.0 -0.5
TRPA Sn Sn 17 12 36.1 +4.7
TRPA eSg Sg 17 13 19.1 -8.1
ANKY Antikythira Is 8.88 126 P Pn 17 10 52.8 +0.8
NKC Novy Kostel 8.93 352 eP Pn 17 10 52.8 +0.2
NKC MLR MLR
comp=Z,14μm,10.6s
NKC Novy Kostel 8.93 352 ePN Pn 17 10 52.8 +0.2
NKC AMS AMS 17 14 50.0
comp=Z,14μm,10.6s
SGRR Singureni 8.94 68 ⇑P Pn 17 10 53.8 +1.0
BMR Baia Mare 9.00 43 P Pn 17 10 56.1 +2.5
BMR pmax pmax
comp=Z,232nm,1.1s
BMR Baia Mare 9.00 43 ⇑P Pn 17 10 56.2 +2.5
NIE Niedzica 9.00 25 eP Pn 17 10 56.0 +2.3
NIE Niedzica 9.00 25 eP Pn 17 10 56.0 +2.3
NIE eP Pn 17 10 56.0 +2.3
TRSU Trosnyk 9.02 39 P Pn 17 10 56.0 +2.1
DPC Dobruska-Polom 9.03 8 eP Pn 17 10 54.5 +0.4
DPC MLR MLR
comp=Z,9μm,10.2s
DPC Dobruska-Polom 9.03 8 ePN Pn 17 10 54.5 +0.4
DPC AMS AMS 17 14 40.0
comp=Z,9μm,10.2s
RAC Raciborz 9.06 16 eP Pn 17 10 57.5 +3.1
RAC MLR MLR
comp=Z,15μm,14.2s
TOD Tromm 9.09 336 P Pn 17 10 55.7 +0.8
ARCR ARCALIA 9.10 48 ⇑P Pn 17 10 57.8 +2.8
UZH Uzhgorod 9.11 35 eP Pn 17 10 53.0 -2.1
UZH eS Sn 17 12 36.0 -1.8
UZH MLR MLR
comp=Z,3μm,10.0s
PVCC Panska Ves 9.11 1 eP Pn 17 10 54.7 -0.5
PVCC MLR MLR
comp=Z,9μm,10.6s
PVCC Panska Ves 9.11 1 ePN Pn 17 10 54.7 -0.5
PVCC AMS AMS 17 14 50.0
comp=Z,9μm,10.6s
DOPR Dopca 9.15 57 ⇑P Pn 17 10 57.8 +2.1
UPC Upice 9.16 6 eP Pn 17 10 55.4 -0.4
UPC MLR MLR
comp=Z,11μm,12.7s
UPC Upice 9.16 6 ePN Pn 17 10 55.4 -0.4
UPC AMS AMS 17 15 00.0
comp=Z,11μm,12.7s
RAZG Razgrad 9.18 72 ⇑P Pn 17 10 57.1 +1.0
EZN Ezine 9.19 96 P Pn 17 10 55.3 -0.9
OSTC Ostas 9.22 7 ePN Pn 17 10 56.7 -0.1
OSTC AMS AMS 17 14 50.0
comp=Z,9μm,11.4s
SECR 9.23 63 ⇓P Pn 17 10 59.2 +2.3
MTLF Montolieu 9.24 286 eSn Sn 17 12 35.3 -5.9
comp=Z,28nm,0.5s
MTLF Montolieu 9.24 286 P Pn 17 10 56.2 -0.8
MTLF pmax pmax
comp=Z,53nm,0.7s
MTLF Montolieu 9.24 286 Sn 17 12 35.3 -5.9
SMF Signal de Mont 9.24 308 ePn Pn 17 10 58.9 +1.9
SNR=1.0
SMF eSn Sn 17 12 36.2 -5.0
comp=Z,87nm,0.9s
SMF Signal de Mont 9.24 308 P Pn 17 10 58.9 +1.9
SMF 17 12 36.2
SMF Signal de Mont 9.24 308 Pn 17 10 58.9 +1.9
SMF Sn 17 12 36.2 -5.0
CHVC Chvalec 9.24 6 ePN Pn 17 10 56.3 -0.7
CHVC AMS AMS 17 14 50.0
comp=Z,10μm,12.7s
SULR 9.25 65 ⇑P Pn 17 10 58.2 +1.1
PRK Paraskevi 9.30 100 P Pn 17 10 58.3 +0.5
MLR Muntele Rosu 9.31 60 P Pn 17 10 00.6 +2.5
MLR Muntele Rosu 9.31 60 Pn Pn 17 10 59.5 +1.5
comp=Z,1.0nm,0.3s,baz=242,slow=5.0,SNR=85
MLR LR LR 17 15 36.9
comp=Z,7μm,21.6s,baz=256,slow=44
MLR Muntele Rosu 9.31 60 ⇑P Pn 17 11 00.5 +2.4
MLR Muntele Rosu 9.31 60 Pn 17 11 00.6 +2.5
STHS Stebnicka Huta 9.32 29 eP Pn 17 10 59.9 +1.8
STHS Stebnicka Huta 9.32 29 ePN Pn 17 10 59.9 +1.8
KOLS Kolonicke sedl 9.33 34 eP Pn 17 11 00.1 +1.9
KOLS Kolonicke sedl 9.33 34 ePN Pn 17 11 00.1 +1.9
PAGF Fort de Pagny 9.43 322 ePn Pn 17 10 58.7 -0.8
baz=141
PAGF eSn Sn 17 12 40.0 -5.7
comp=Z,2μm,1.8s
PAGF Fort de Pagny 9.43 322 Pn 17 10 58.7 -0.8
PAGF Sn 17 12 40.0 -5.7
MOX Moxa 9.43 349 P Pn 17 10 58.9 -0.7
MOX pmax pmax
comp=Z,70nm,1.0s
OZUR 9.45 57 ⇑P Pn 17 11 02.1 +2.2
BRG Berggiesshubel 9.46 358 PN Pn 17 10 59.1 -0.9
BRG PG 17 12 00.1
BRG SN Sn 17 12 39.6 -7.0
BRG SG 17 12 54.6
comp=Z,288nm,1.4s
comp=N,7μm,10.9s
comp=E,8μm,10.5s
comp=Z,11μm,11.0s
BRG Berggiesshubel 9.46 358 P Pn 17 10 59.1 -0.9
BRG 17 12 54.6
BRG smax smax
comp=N,288nm,1.4s
BRG MLR MLR
comp=N,7μm,10.9s
BRG MLR MLR
comp=E,8μm,10.5s
BRG MLR MLR
comp=Z,11μm,11.0s
SFTF Sexfontaines 9.51 319 ePn Pn 17 11 01.0 +0.3

FETA *i* Sn Sn 17 11 27.9 +1.3
comp=Z,156nm,0.9s
VDL Val di Lei 6.21 326 P Pn 17 10 17.6 +2.0
ZAGS Zajecar 6.24 65 ⇑ *i* Pn Pn 17 10 14.9 -0.8
TUE Stuetta 6.24 326 Pn 17 10 17.1 +1.0
SQTA Sankt Quirin 6.24 339 *i* Pn Pn 17 10 16.7 +0.7
comp=Z,115nm,0.6s,SNR=55
SQTA *i* Sn Sn 17 11 29.3 +1.7
comp=Z,188nm,0.6s
WATA Walderalm 6.26 342 *i* Pn Pn 17 10 17.2 +1.0
comp=Z,114nm,0.5s,SNR=67
WATA *i* Sn Sn 17 11 29.4 +1.4
comp=Z,110nm,0.5s
LIT Litokhoron 6.26 99 P Pn 17 10 16.4 +0.3
LIT Litokhoron 6.26 99 P Pn 17 10 16.5 +0.3
LIT Litokhoron 6.26 99 Pn 17 10 16.5 +0.4
DAVOX Davos/Dischmat 6.28 330 P Pn 17 10 18.6 +2.0
BANR Banloc 6.29 49 ⇑P Pn 17 10 17.2 +0.8
MDVR Moldovita 6.30 55 ⇓P Pn 17 10 16.6 -0.1
ZAPS Zavoj 6.36 70 ⇑ Pn Pn 17 10 17.9 +0.4
MAKR Makrakomi, Fth 6.37 110 P Pn 17 10 19.4 +1.8
RLS Riolos of Patr 6.38 119 P Pn 17 10 19.1 +1.4
KNT Kendrikon 6.39 89 P Pn 17 10 17.4 -0.4
KNT Kendrikon 6.39 89 P Pn 17 10 17.6 -0.2
KNT pmax pmax
comp=Z,158nm,0.8s
MOTA Moosalm 6.39 339 *i* Pn Pn 17 10 19.2 +1.3
comp=Z,155nm,0.7s,SNR=41
MOTA *i* Sn Sn 17 11 34.1 +3.0
comp=Z,130nm,0.7s
MOA Molln 6.43 359 *i* Pn Pn 17 10 19.2 +0.7
comp=Z,264nm,0.6s,SNR=125
MOA *i* Sn Sn 17 11 32.9 +0.7
comp=Z,143nm,0.6s
EFP Efpalio 6.48 115 P Pn 17 10 20.1 +1.0
KKB Krupnik 6.50 83 P Pn 17 10 20.5 +1.1
AGG Agios Georgios 6.50 109 P Pn 17 10 20.7 +1.2
AGG Agios Georgios 6.50 109 P Pn 17 10 20.4 +0.9
AGG Agios Georgios 6.50 109 Pn 17 10 20.4 +0.9
THE Thessaloniki 6.50 94 P Pn 17 10 18.8 -0.6
THE Thessaloniki 6.50 94 P Pn 17 10 19.0 -0.4
THE pmax pmax
comp=Z,379nm,1.1s
MBDF Montbardon 6.51 303 ePn Pn 17 10 21.1 +1.5
SNR=1.0
MBDF Montbardon 6.51 303 eP Pn 17 10 24.9 +5.3
MBDF eSn Sn 17 11 30.2 -4.0
comp=Z,258nm,1.1s
MBDF Montbardon 6.51 303 P Pn 17 10 21.1 +1.5
MBDF 17 11 30.2
MBDF Montbardon 6.51 303 Pn 17 10 21.1 +1.5
MBDF Pb 17 10 24.9 -12
MBDF Sn 17 11 30.2 -4.0
CSKK Cskako 6.55 23 ePn Pn 17 10 22.0 +2.0
CSKK Sn Sn 17 11 32.0 -2.9
MMK Mattmark 6.58 317 P Pn 17 10 22.3 +1.5
SERG Sergoula 6.59 115 P Pn 17 10 22.3 +1.7
CONA Conrad Observa 6.59 8 *i* Pn Pn 17 10 20.1 -0.6
comp=Z,100nm,0.5s,SNR=63
CONA *i* Sn Sn 17 11 36.7 +0.6
comp=Z,106nm,0.6s
DRO Drossia 6.60 119 P Pn 17 10 21.3 +0.6
RETA Reutte 6.61 338 *i* Pn Pn 17 10 21.9 +0.9
comp=Z,105nm,0.8s,SNR=29
RETA *i* Sn Sn 17 11 37.7 +1.1
comp=Z,78nm,0.8s
HORT Hortiatis 6.61 94 P Pn 17 10 20.3 -0.7
LAKA Lakka 6.62 116 P Pn 17 10 22.5 +1.4
TRIZ Trizonia 6.62 115 P Pn 17 10 22.4 +1.4
KALE Kalithea 6.66 114 P Pn 17 10 23.4 +1.8
VTS Vitosha 6.67 77 P Pn 17 10 22.0 +0.2
VTS Vitosha 6.67 77 P Pn 17 10 21.7 -0.1
VTS Vitosha 6.67 77 ⇓P Pn 17 10 22.0 +0.2
VTS Vitosha 6.67 77 Pn 17 10 21.7 -0.1
LSD Lago del Serru 6.67 310 P Pn 17 10 24.7 +2.8
LLS Linth-Limmern 6.68 326 P Pn 17 10 23.4 +1.3
ALIK Aliki, Aigiali 6.70 116 P Pn 17 10 23.4 +1.3
BZS Buzias 6.70 49 P Pn 17 10 21.8 -0.3
BZS pmax pmax
comp=Z,200nm,0.8s
BZS Buzias 6.70 49 ⇑P Pn 17 10 21.4 -0.7
DAVA Damuels 6.71 332 *i* Pn Pn 17 10 23.4 +1.0
comp=Z,113nm,0.7s,SNR=28
DAVA *i* Sn Sn 17 11 39.7 +0.6
comp=Z,192nm,0.7s
BNI Bardonecchia 6.72 305 P Pn 17 10 23.4 +0.8
BNI Bardonecchia 6.72 305 Pn 17 10 23.4 +0.8
DJES Djerdap 6.76 59 ⇑ *i* Pn Pn 17 10 22.4 -0.5
SOH Sokhos 6.77 92 P Pn 17 10 22.8 -0.3
SOH Sokhos 6.77 92 P Pn 17 10 23.5 +0.4
SOH pmax pmax
comp=Z,169nm,1.2s
AMT Artemida-Makis 6.84 122 P Pn 17 10 26.2 +2.1
KLV Kalavryta, Ach 6.84 117 P Pn 17 10 25.1 +1.0
PUNG Punghina 6.87 63 ⇑P Pn 17 10 25.3 +0.8
BUD Budapest 6.90 27 P Pn 17 10 25.3 +0.5
BUD pmax pmax
comp=Z,193nm,0.9s
PLG Polygyros 6.91 96 P Pn 17 10 24.6 -0.5
LPG La Plagne 6.92 309 ePn Pn 17 10 28.4 +3.1
SNR=1.0
LPG La Plagne 6.92 309 ePg Pg 17 10 55.8 +0.1
SNR=1.0
LPG eSn Sn 17 11 40.0 -4.4
LPG eSg Sg 17 12 24.5 -0.8
comp=Z,217nm,0.9s
LPG La Plagne 6.92 309 P Pn 17 10 28.4 +3.1
LPG 17 11 40.0
LPG La Plagne 6.92 309 Pn 17 10 28.4 +3.1
LPG Pg 17 10 55.8 +0.1
LPG Sn 17 11 40.0 -4.4
LPG LR 17 12 24.5
KEST Kesra 6.93 217 Pn Pn 17 10 26.6 +1.1
comp=Z,4.3nm,0.3s,baz=308,slow=3.8,SNR=102
KEST LR LR 17 13 15.1
comp=Z,9μm,18.0s,baz=313,slow=39
KEST Kesra 6.93 217 Pn 17 10 26.1 +0.7
LPL La Plagne 6.94 309 ePn Pn 17 10 28.2 +2.6
LPL eSn Sn 17 11 40.9 -3.9
comp=Z,169nm,1.0s
LPL La Plagne 6.94 309 P Pn 17 10 28.2 +2.6
LPL 17 11 40.9
LPL La Plagne 6.94 309 Pn 17 10 28.2 +2.6
LPL Sn 17 11 40.9 -3.9
SRO Srobarova 6.97 22 eP Pn 17 10 26.0 +0.2
SRO Srobarova 6.97 22 ePN Pn 17 10 26.0 +0.2
MMB Musomiste 6.98 86 P Pn 17 10 25.7 -0.4
XOR Xorichti 7.00 104 P Pn 17 10 25.9 -0.3
SMRF Simiane la Rot 7.00 294 ePn Pn 17 10 26.8 +0.4
SNR=1.0
SMRF eSn Sn 17 11 41.7 -4.6
comp=Z,98nm,0.9s
SMRF Simiane la Rot 7.00 294 Pn 17 10 26.8 +0.4
SMRF Sn 17 11 41.7 -4.6
NEO Neokhori 7.04 105 P Pn 17 10 26.9 +0.1
ZST Bratislava 7.04 15 eP Pn 17 10 28.0 +1.2
ZST e 17 11 41.2
ZST Bratislava 7.04 15 ePN Pn 17 10 28.0 +1.2
ZST eSN Sn 17 11 41.2 -5.8
RSL Roselend 7.09 310 P Pn 17 10 30.9 +3.2
NVR Nevrokopi 7.10 87 P Pn 17 10 28.1 +0.5
FUR Furstenfeldbru 7.11 343 P Pn 17 10 28.5 +0.7
FUR pmax pmax
comp=Z,301nm,1.2s
SIRR Siria 7.13 45 ⇓P Pn 17 10 27.5 -0.5
SENIN Lac Senin/Sane 7.14 316 Pn 17 10 29.4 +1.0
ORIF Oris-en-Rattie 7.16 302 ePn Pn 17 10 31.8 +3.3
ORIF eSn Sn 17 11 45.6 -4.6
comp=Z,274nm,1.1s
ORIF Oris-en-Rattie 7.16 302 P Pn 17 10 31.8 +3.3
ORIF 17 11 45.6
ORIF Oris-en-Rattie 7.16 302 Pn 17 10 31.8 +3.3
ORIF Sn 17 11 45.6 -4.6
PAIG Paliouri 7.19 99 P Pn 17 10 28.0 -0.8
PAIG Paliouri 7.19 99 P Pn 17 10 28.8 0.0
PAIG pmax pmax
comp=Z,335nm,0.9s
ITM Ithomi 7.19 124 Pn 17 10 30.4 +1.5
SRE Strehaia 7.20 60 P Pn 17 10 30.1 +1.1
SRE Strehaia 7.20 60 ⇑P Pn 17 10 30.2 +1.1
BSZH Besenyszg 7.22 33 ePn Pn 17 10 34.0 +4.9
BSZH Sn Sn 17 11 46.1 -5.3

baz=133
SFTF eSn Sn 17 12 42.6 -5.2
comp=Z,794nm,1.8s
SFTF Sexfontaines 9.51 319 Pn 17 11 01.0 +0.3
SFTF Sn 17 12 42.6 -5.2
KSP Ksiaz 9.52 7 eP Pn 17 11 01.7 +1.0
KSP Ksiaz 9.52 7 eP Pn 17 11 01.7 +1.0
KSP eP Pn 17 11 01.7 +1.0
LOR Lormes 9.56 311 ePn Pn 17 11 01.9 +0.5
baz=130,SNR=1.0
LOR eSn Sn 17 12 44.1 -5.0
comp=Z,95nm,1.0s,SNR=1.0
LOR Lormes 9.56 311 P Pn 17 11 01.9 +0.5
LOR 17 12 44.1
LOR Lormes 9.56 311 Pn 17 11 01.9 +0.5
LOR Sn 17 12 44.1 -5.0
OJC Ojcow 9.56 21 eP Pn 17 11 04.1 +2.7
OJC Ojcow 9.56 21 eP Pn 17 11 04.1 +2.7
OJC eP Pn 17 11 04.1 +2.7
OJC eS Sn 17 13 06.5 +17
OJC eS Sn 17 13 06.5 +17
OJC Ojcow 9.56 21 Pn 17 11 03.2 +1.8
ISR Istrita 9.58 63 P Pn 17 11 03.0 +1.3
ISR pmax pmax
comp=Z,256nm,1.0s
ISR Istrita 9.58 63 ⇓P Pn 17 11 02.9 +1.3
LEHL Lehliu 9.59 67 ⇓P Pn 17 11 03.2 +1.6
AVF Avril sur Loir 9.60 308 ePn Pn 17 11 02.3 +0.4
SNR=1.0
AVF eSn Sn 17 12 43.9 -6.1
comp=Z,271nm,1.7s
AVF Avril sur Loir 9.60 308 P Pn 17 11 02.3 +0.4
AVF 17 12 43.9
AVF Avril sur Loir 9.60 308 Pn 17 11 02.3 +0.4
AVF Sn 17 12 43.9 -6.1
APE Apeiranthos 9.64 113⇓eP Pn 17 11 02.4 -0.2
APE Apeiranthos 9.64 113⇑P Pn 17 11 03.1 +0.6
SSF Saint Saulge 9.65 309 ePn Pn 17 11 02.9 +0.3
SNR=1.0
SSF eSn Sn 17 12 45.0 -6.3
comp=Z,211nm,1.5s
SSF Saint Saulge 9.65 309 P Pn 17 11 02.9 +0.3
SSF 17 12 45.0
SSF Saint Saulge 9.65 309 Pn 17 11 02.9 +0.3
SSF Sn 17 12 45.0 -6.3
CAF Calviac 9.69 295 ePn Pn 17 11 03.8 +0.7
SNR=1.0
CAF eSn Sn 17 12 51.1 -1.1
comp=Z,22nm,0.7s
CAF Calviac 9.69 295 P Pn 17 11 03.8 +0.7
CAF 17 12 51.1
CAF Calviac 9.69 295 Pn 17 11 03.8 +0.7
CAF Sn 17 12 51.1 -1.1
MEZF Maizieres J'vi 9.71 320 ePn Pn 17 11 04.0 +0.7
baz=137,SNR=1.0
MEZF eSn Sn 17 12 46.5 -6.1
comp=Z,631nm,1.6s
MEZF Maizieres J'vi 9.71 320 Pn 17 11 04.0 +0.7
MEZF Sn 17 12 46.5 -6.1
TNS Taunus Mts 9.74 337 P Pn 17 11 04.5 +0.6
TNS pmax pmax
comp=Z,68nm,0.7s
RASA Rasa 9.76 69⇑P Pn 17 11 05.2 +1.2
PRD Provadia 9.78 75 P Pn 17 11 04.1 -0.2
BGF Bois d'Agland 9.80 306 ePn Pn 17 11 05.4 +0.8
BGF eSn Sn 17 12 49.2 -5.6
comp=Z,100nm,1.0s
BGF Bois d'Agland 9.80 306 P Pn 17 11 05.4 +0.8
BGF 17 12 49.2
BGF Bois d'Agland 9.80 306 Pn 17 11 05.4 +0.8
BGF Sn 17 12 49.2 -5.6
PGOR Pogoanele 9.82 65⇑P Pn 17 11 06.8 +2.0
BISRR Bisoca 9.83 61⇓P Pn 17 11 06.7 +1.6
BURAR Bucovina Array 9.88 48 P Pn 17 11 08.0 +2.1
BURAR Bucovina Array 9.88 48⇑P Pn 17 11 08.8 +2.9
BUR08 Bucovina Ar. S 9.89 47 Pn 17 11 08.8 +2.8
PLOR Plostina 9.90 59 P Pn 17 11 07.4 +1.3
PLOR Plostina 9.90 59⇑P Pn 17 11 07.5 +1.3
CLL Collm 9.94 355 eP Pn 17 11 07.0 +0.5
CLL Collm 9.94 355 ePn Pn 17 11 07.0 +0.5
CLL eSn Sn 17 12 47.0 -11
CLL e 17 13 21.0
CLL eSb 17 13 30.0
CLL e 17 13 57.0
CLL Lmax 17 14 00.0
CLL eSg 17 14 09.0
CLL eSglp 17 14 15.0
comp=N,2μm,22.8s
CLL eSglp 17 14 15.0
comp=E,10μm,19.5s
CLL Collm 9.94 355 Pn 17 11 06.7 +0.1
VRI Vrincioaia 9.96 59 P Pn 17 11 07.9 +1.0
VRI pmax pmax
comp=Z,85nm,0.8s
VRI Vrincioaia 9.96 59⇑P Pn 17 11 08.3 +1.4
SANT Santorini 9.96 117 Pn 17 11 08.5 +1.5
AVR AVREN 9.96 76 P Pn 17 11 08.9 +2.0
AMRR Amara 9.98 67⇑P Pn 17 11 49.1 +42
AMGA Amorgos Island 10.01 113 P Pn 17 11 08.7 +1.1
BIZ Bicaz 10.04 53⇑P Pn 17 11 09.6 +1.7
KWP Kalwaria Pacla 10.05 32 P Pn 17 11 11.0 +2.9
KWP Kalwaria Pacla 10.05 32 eP Pn 17 11 11.9 +3.8
KWP eP Pn 17 11 11.9 +3.8
KWP eS Sn 17 13 36.7 +36
KWP eS Sn 17 13 36.7 +36
KWP Kalwaria Pacla 10.05 32 Pn 17 11 11.0 +2.9
TCF Toulx Ste Croi 10.08 303 ePn Pn 17 11 09.3 +0.9
SNR=1.0
TCF eSn Sn 17 12 56.1 -5.6
comp=Z,61nm,1.0s
TCF Toulx Ste Croi 10.08 303 P Pn 17 11 09.3 +0.9
TCF 17 12 56.1
TCF Toulx Ste Croi 10.08 303 Pn 17 11 09.3 +0.9
TCF Sn 17 12 56.1 -5.6
WLF Walferdange 10.08 328 P Pn 17 11 09.1 +0.7
WLF Walferdange 10.08 328 Pn Pn 17 11 09.1 +0.7
WLF Walferdange 10.08 328 Pn 17 11 09.1 +0.7
ODBI Odobesti 10.14 60⇓P Pn 17 11 13.2 +4.0
RJF Les Rejaudoux 10.17 297 ePn Pn 17 11 09.9 +0.2
SNR=1.0
RJF eSn Sn 17 12 58.9 -5.1
comp=Z,91nm,1.4s
RJF Les Rejaudoux 10.17 297 P Pn 17 11 09.9 +0.2
RJF 17 12 58.9
RJF Les Rejaudoux 10.17 297 Pn 17 11 09.9 +0.2
RJF Sn 17 12 58.9 -5.1
TESR Tescani 10.17 56⇑P Pn 17 11 11.8 +2.0
ICOR Ion Corvin 10.20 70⇑P Pn 17 11 11.1 +1.0
KSV Kosov 10.22 44 P Pn 17 11 11.5 +1.1
PETR Petresti 10.24 61⇑P Pn 17 11 12.2 +1.6
IDI Anoyia 10.24 123 Pn Pn 17 11 12.3 +1.5
comp=Z,3.3nm,0.3s,baz=307,slow=15,SNR=13
IDI Sn Sn 17 12 59.0 -6.8
comp=Z,1.7nm,0.3s,baz=3.6,slow=16,SNR=3.1
IDI LR LR 17 16 31.1
comp=Z,1μm,19.6s,baz=317,slow=45
HYF Humbligny 10.27 309 ePn Pn 17 11 12.6 +1.6
HYF Humbligny 10.27 309 ePg Pn 17 11 58.8 +48
HYF eSn Sn 17 12 59.9 -6.4
HYF Humbligny 10.27 309 Pn 17 11 12.6 +1.6
HYF PgPg 17 11 58.8 -1.2
HYF Sn 17 12 59.9 -6.4
GIRR Girov 10.28 53⇓P Pn 17 11 13.7 +2.5
PRAR RASCA 10.32 51⇑P Pn 17 11 14.3 +2.6
PSN Preselentsi 10.40 73 P Pn 17 12 12.8 -0.1
CVDA Cernavoda 10.41 69⇑P Pn 17 11 14.6 +1.7
HARR Harsova 10.41 67 P Pn 17 11 14.8 +1.9
HARR Harsova 10.41 67⇑P Pn 17 11 14.9 +1.9
KALB Balgarevo 10.54 74⇑P Pn 17 11 16.4 +1.7
EPF Esparros 10.57 283 ePn Pn 17 11 15.2 -0.1
SNR=1.0
EPF Esparros 10.57 283 eP Pn 17 11 21.5 +6.2
EPF eSn Sn 17 13 08.0 -6.0
comp=Z,19nm,0.6s
EPF Esparros 10.57 283 P Pn 17 11 15.2 -0.1
EPF 17 13 08.0
EPF Esparros 10.57 283 Pn 17 11 15.2 -0.1
EPF Pn 17 11 21.5 +6.2
EPF Sn 17 13 08.0 -6.0
LFF La Frestale 10.60 294 ePn Pn 17 11 15.5 0.0
LFF La Frestale 10.60 294 eP Pn 17 11 21.8 +6.3
LFF La Frestale 10.60 294 ePg Pn 17 12 01.9 +46
LFF eSn Sn 17 13 07.0 -7.4
comp=Z,27nm,0.6s
LFF La Frestale 10.60 294 P Pn 17 11 15.5 0.0
LFF 17 13 07.0
LFF La Frestale 10.60 294 Pn 17 11 15.5 0.0
LFF Pn 17 11 21.8 +6.3
LFF PgPg 17 12 01.9 -4.4
LFF Sn 17 13 07.0 -7.4
MFTR Murfatlar 10.65 70⇑P Pn 17 11 17.9 +1.6
TIRR Tirgusor 10.70 69 P Pn 17 11 17.9 +1.0
TIRR Tirgusor 10.70 69⇑P Pn 17 11 18.1 +1.2
TIRR Tirgusor 10.70 69⇑P Pn 17 11 18.1 +1.2
TIRR Tirgusor 10.70 69 Pn 17 11 17.9 +1.0
LVV L'vov 10.75 35 eP Pn 17 11 20.8 +3.1
LVV eS Sn 17 13 20.0 +1.8
LVV pmax pmax
comp=Z,2μm,1.6s
LVV MLR MLR
comp=N,6μm,11.0s
LVV MLR MLR
comp=E,6μm,11.0s
LVV MLR MLR
comp=Z,6μm,11.0s
TOPG Topolog 10.76 67⇑P Pn 17 11 18.7 +0.9
EFOR EFORIE 10.78 71⇑P Pn 17 11 19.9 +1.9
MEM Membach 10.89 330 Pn Pn 17 11 19.5 0.0
MEM x x 17 11 30.1
MEM x x 17 11 41.4
MEM PbPb **PbPb** 17 11 52.8 -1.8
MEM PgPg **PgPg** 17 12 10.4 -1.5
GIVF Givet 10.97 326 ePn Pn 17 11 23.3 +2.7
GIVF eSn Sn 17 13 16.6 -6.8
comp=Z,232nm,1.2s
GIVF Givet 10.97 326 P Pn 17 11 23.3 +2.7
GIVF 17 13 16.6
GIVF Givet 10.97 326 Pn 17 11 23.3 +2.7
GIVF Sn 17 13 16.6 -6.8
BCLA Clavier 11.01 328 Pn Pn 17 11 22.2 +1.0
BCLA PnPn **PnPn** 17 11 29.1 +0.2
BCLA PbPb **PbPb** 17 11 56.5 -0.2
BCLA PgPg **PgPg** 17 12 13.4 -0.8
DOU Dourbes 11.06 325 Pn Pn 17 11 24.4 +2.5
DOU PbPb **PbPb** 17 11 57.2 -0.3
DOU PgPg **PgPg** 17 12 16.7 +1.6
JURR Jurilovca 11.08 68⇑P Pn 17 11 23.3 +1.2
BMRD Maredsous 11.14 326 Pn Pn 17 11 22.7 -0.2
BMRD x x 17 11 28.3
BMRD x x 17 11 41.6
BAIF Baives 11.20 324 ePn Pn 17 11 25.1 +1.3
SNR=1.0
BAIF eSn Sn 17 13 21.9 -7.3
comp=Z,107nm,1.2s
BAIF Baives 11.20 324 P Pn 17 11 25.1 +1.3
BAIF 17 13 21.9
BAIF Baives 11.20 324 Pn 17 11 25.1 +1.3
BAIF Sn 17 13 21.9 -7.3
ETSF Etsaut 11.23 283 ePn Pn 17 11 25.7 +1.5
ETSF eSn Sn 17 13 25.7 -4.3
comp=Z,49nm,0.7s
ETSF Etsaut 11.23 283 P Pn 17 11 25.7 +1.5
ETSF 17 13 25.7
ETSF Etsaut 11.23 283 Pn 17 11 25.7 +1.5
ETSF Sn 17 13 25.7 -4.3
BEL Belsk 11.30 21 eP Pn 17 11 28.9 +3.9
BEL Belsk 11.30 21 eP Pn 17 11 28.9 +3.9
BEL eP Pn 17 11 28.9 +3.9
HORU Horodok 11.48 43 P Pn 17 11 28.5 +0.8
YERK Yerkesik 11.56 107 P Pn 17 11 27.8 -1.0
MILM Milestii Mici 11.70 57⇑P Pn 17 11 31.9 +1.4
MFF Saint Martin d 11.70 301 ePn Pn 17 11 32.0 +1.4
MFF eSn Sn 17 13 36.8 -4.6
comp=Z,293nm,1.9s
MFF Saint Martin d 11.70 301 P Pn 17 11 32.0 +1.4
MFF 17 13 36.8
MFF Saint Martin d 11.70 301 Pn 17 11 32.0 +1.4
MFF Sn 17 13 36.8 -4.6
SJPF Ste Jean 11.72 284 ePn Pn 17 11 32.0 +1.0
SJPF eSn Sn 17 13 35.2 -6.9
comp=Z,179nm,1.6s
SJPF Ste Jean 11.72 284 P Pn 17 11 32.0 +1.0
SJPF 17 13 35.2
SJPF Ste Jean 11.72 284 Pn 17 11 32.0 +1.0
SJPF Sn 17 13 35.2 -6.9
KIS Kishinev 11.73 57⇓*i*P Pn 17 11 32.0 +1.0
KIS eS Sn 17 13 42.0 -0.2
KIS *i* Li 17 14 10.0
KIS *i* LQ LQ 17 15 34.0
KIS LRM MLR 17 17 14.0
comp=Z,2μm,10.0s
KIS Kishinev 11.73 57⇓*i*P Pn 17 11 32.0 +1.0
KIS eS Sn 17 13 42.0 -0.2
KIS pmax pmax
comp=Z,840nm,2.0s
KIS MLR MLR
comp=Z,2μm,10.0s
KIS MLR MLR
comp=N,2μm,10.0s
SORM Soroca 11.95 51 P Pn 17 11 35.4 +1.4
SORM Soroca 11.95 51⇑P Pn 17 11 35.4 +1.4
GKP Gorka Klasztor 12.01 8 eP Pn 17 11 38.4 +3.6
GKP Gorka Klasztor 12.01 8 eP Pn 17 11 38.4 +3.6
GKP eP Pn 17 11 38.4 +3.6
LDF La Druitiere 12.54 310 ePn Pn 17 11 42.5 +0.4
SNR=1.0
LDF eSn Sn 17 13 55.8 -6.1
comp=N,133nm,1.4s
LDF La Druitiere 12.54 310 P Pn 17 11 42.5 +0.4
LDF 17 13 55.8
LDF La Druitiere 12.54 310 Pn 17 11 42.5 +0.4
LDF Sn 17 13 55.8 -6.1
BSEG Bad Segeberg 12.82 349 P Pn 17 11 49.4 +3.5
BSEG pmax pmax
comp=Z,44nm,1.1s
FLN La Foliniere 12.83 310 ePn Pn 17 11 41.7 -4.3
baz=130
FLN eSn Sn 17 14 00.6 -8.4
comp=Z,255nm,1.8s
FLN La Foliniere 12.83 310 P Pn 17 11 41.7 -4.3
FLN La Foliniere 12.83 310 Pn 17 11 41.7 -4.3
FLN Sn 17 14 00.6 -8.4
GRR Gorron 12.87 308 ePn Pn 17 11 46.5 -0.1
GRR Gorron 12.87 308 ePg Pn 17 12 43.5 +57
GRR eSn Sn 17 14 02.7 -7.3
GRR Gorron 12.87 308 P Pn 17 11 46.5 -0.1
GRR 17 14 02.7
GRR Gorron 12.87 308 Pn 17 11 46.5 -0.1
GRR PgPg 17 12 43.5 -6.3
GRR Sn 17 14 02.7 -7.3
ELL Elmali 12.90 106 P Pn 17 11 51.6 +4.5
ELL Elmali 12.90 106 Pn 17 11 51.6 +4.5
KIEV Kiev 13.81 43 P Pn 17 12 00.0 +0.6
AKASG Malin Array Be 13.82 43 Pn Pn 17 11 59.2 -0.4
comp=Z,1.1nm,0.3s,baz=235,slow=12,SNR=46
AKASG LR LR 17 18 28.8
comp=Z,4μm,19.8s,baz=230,slow=42
AKBB Malin Array Si 13.82 43⇓eP Pn 17 11 58.7 -0.9
AKBB Malin Array Si 13.82 43 Pn 17 11 59.1 -0.5
SGMF Saint Gilles 13.84 305 ePn Pn 17 11 59.9 +0.1
SGMF eSn Sn 17 14 25.8 -7.9
SGMF Saint Gilles 13.84 305 P Pn 17 11 59.9 +0.1
SGMF 17 14 25.8
SGMF Saint Gilles 13.84 305 Pn 17 11 59.9 +0.1
SGMF Sn 17 14 25.8 -7.9
SUW Suwalki 13.90 22 P Pn 17 12 01.6 +1.1
SUW Suwalki 13.90 22 eP Pn 17 12 01.1 +0.6
SUW eP Pn 17 12 01.1 +0.6
SUW Suwalki 13.90 22 Pn 17 12 01.1 +1.1
ANTO Ankara 14.03 90 P Pn 17 12 01.0 -1.6
ANTO Ankara 14.03 90 Pn 17 12 01.0 -1.6
GUD Guadarrama 14.05 273 P Pn 17 12 01.6 -1.3
GUD pmax pmax
comp=Z,62nm,1.2s
QUIF Quistinic 14.09 303 ePn Pn 17 12 03.3 +0.1
QUIF eSn Sn 17 14 31.4 -8.4
comp=Z,173nm,1.5s
QUIF Quistinic 14.09 303 P Pn 17 12 03.3 +0.1
QUIF 17 14 31.4
QUIF Quistinic 14.09 303 Pn 17 12 03.3 +0.1
QUIF Sn 17 14 31.4 -8.4
ESBB Sonseca Array 14.09 269 Pn 17 12 02.2 -1.2
ESDC Sonseca Array 14.10 269 Pn Pn 17 12 03.5 0.0
comp=Z,2.4nm,0.3s,baz=76,slow=14,SNR=62
ESDC LR LR 17 17 08.1
comp=Z,2μm,18.6s,baz=90,slow=36
ROSF Rostrenen 14.31 305 ePn Pn 17 12 05.8 -0.5
ROSF Rostrenen 14.31 305 ePg P 17 13 11.9 +58
ROSF eSn Sn 17 14 38.8 -6.4
ROSF Rostrenen 14.31 305 P Pn 17 12 05.8 -0.5
ROSF 17 14 38.8
ROSF Rostrenen 14.31 305 Pn 17 12 05.8 -0.5
ROSF P 17 13 11.9 +58
ROSF Sn 17 14 38.8 -6.4
PAB San Pablo 14.41 269 P Pn 17 12 07.2 -0.6
PAB San Pablo 14.41 269 Pn 17 12 07.2 -0.6
SEVA Sevastopol 14.43 71⇑P Pn 17 12 07.9 0.0
ILGA Ilgaz 14.52 85 Pn 17 12 11.3 +1.9
BR131 Keskin Array S 14.70 90 deP Pn 17 12 13.0 +1.2
BR131 Keskin Array S 14.70 90 P Pn 17 12 13.5 +1.7
BRTR Keskin Array B 14.70 90 Pn Pn 17 12 13.1 +1.3
comp=Z,0.3nm,0.3s,baz=289,slow=12,SNR=17
BRTR LR LR 17 19 34.7
comp=Z,3μm,18.5s,baz=268,slow=44
SIM Simferopol' 14.79 70 eP Pn 17 12 14.0 +1.2
SIM pmax pmax
comp=Z,49nm,1.0s
SIM MLR MLR
comp=Z,900nm,10.8s
MELI Melilla 14.92 251 eP P 17 12 22.7 +2.3
MELI S S 17 15 26.1 +7.8
EMAL Malaga-Limoner 15.36 259 eP P 17 12 23.3 -1.9
EMAL L L 17 16 12.9
PBUR Paburg 15.42 16 eP Pn 17 12 20.9 -0.2
PBUR IAmb IAmb 17 12 29.8
comp=Z,532nm,1.7s
PABE Paberze 15.43 21 eP Pn 17 12 21.2 0.0
PABE IAmb IAmb 17 12 23.1
comp=Z,252nm,1.2s
PABE eS S 17 15 27.8 -0.7
OLDB Oldbury-Upon-S 15.50 317 eP P 17 12 26.7 0.0
OLDB IAmb IAmb 17 12 27.8
comp=Z,146nm,0.8s
CWF Charnwood Fore 15.55 322 eP P 17 12 27.6 +0.3
CWF IAmb IAmb 17 12 29.0
comp=Z,66nm,0.9s
DIKM Dikmen 15.60 82⇑P Pn 17 12 24.8 +1.1
NACGM Naroch 15.78 27 eP Pn 17 12 24.0 -1.8
NACGM eS Sn 17 15 19.0 -1.8
NACGM eLQ LQ 17 17 22.0
NACGM eLR LR 17 18 40.0
NACGM LRM MLR 17 20 09.0
comp=Z,9.9nm,9.0s
PBRG Braganca 15.84 278 eP P 17 12 29.6 -1.0
comp=Z,62nm,1.8s
MICGM Minsk 15.85 30⇑eP Pn 17 12 26.0 -0.8
MICGM PM 17 12 27.0
comp=Z,0.3nm,2.0s
MICGM eS Sn 17 15 21.0 -1.6
MICGM eLR LR 17 18 06.0
MICGM LRM MLR 17 19 28.0
comp=Z,12nm,10.0s
MNK Minsk 15.85 30 eP Pn 17 12 26.0 -0.8
MNK eS Sn 17 15 21.0 -1.6
MNK pmax pmax
comp=Z,310nm,2.0s
MNK MLR MLR
comp=Z,12μm,10.0s
MCH1 Michaelchurch 15.92 318 eP P 17 12 30.6 -0.8
MCH1 IAmb IAmb 17 12 32.6
comp=Z,48nm,0.9s
IIGN Ignalina 15.96 25 eP Pn 17 12 28.4 +0.2
IIGN eS S 17 15 37.8 -1.5
IIGN eS S 17 15 37.8 -1.5
PVLZ Peæn de 15.96 253 eP P 17 12 31.5 -0.4
PVLZ S S 17 15 49.9 +10
ISAL Salakas 16.11 25 eP Pn 17 12 29.6 -0.5
ISAL IAmb IAmb 17 13 01.0
comp=Z,17nm,1.0s
ISAL eS S 17 15 39.1 -3.4
MVO Moncorvo 16.13 276 eP Pn 17 12 30.9 +0.4
comp=Z,51nm,2.0s
MVO eLQ LQ 17 16 51.9
MVO eLR LR 17 18 00.1
comp=Z,3μm,18.0s
HLM1 Long Mynd 16.17 319 eP P 17 12 33.8 -0.4
HLM1 IAmb IAmb 17 12 35.6
comp=Z,102nm,1.0s
IZAR Zarasai 16.30 24 eP Pn 17 12 31.6 -1.0
CEU Ceuta 16.41 257 eP P 17 12 36.0 -0.9
CEU S S 17 15 55.2 +6.4
HPK Haverah Park 16.51 325 eP P 17 12 39.1 +1.2
HPK IAmb IAmb 17 12 41.0
comp=Z,304nm,1.3s
FOEL Foel Wylfa 16.54 320 eP P 17 12 39.2 +0.9
FOEL IAmb IAmb 17 12 39.8
comp=Z,97nm,1.2s
PVRL Vila Real 16.63 277 eP Pn 17 12 38.0 +1.1
MTE Manteigas 16.64 274 eP P 17 12 39.5 0.0
comp=Z,62nm,1.8s
MTE eLQ LQ 17 16 36.9
MTE eLR LR 17 18 09.5
comp=Z,2μm,16.0s
POLO Lamas de Olo 16.67 277 eP P 17 12 41.6 +1.7
PCBR Castelo Branco 16.70 272 eP P 17 12 40.3 +0.2
PMRV Marv??o 16.73 270 eP P 17 12 41.1 +0.6
comp=Z,76nm,1.8s
PMRV eLQ LQ 17 16 13.3
PMRV eLR LR 17 18 03.2
comp=Z,2μm,16.0s
SFS San Fernando 16.79 260 eP Pn 17 12 38.1 -0.7
SFS S S 17 15 59.4 +2.9
RSBS Rosebush, Pemb 16.80 315 eP P 17 12 41.8 +0.6
RSBS IAmb IAmb 17 12 48.1
comp=Z,133nm,1.3s
PCAB Cabril 16.80 278 eP Pn 17 12 39.8 +0.7
PVIS Viseu 16.85 275 eP Pn 17 12 40.6 +0.9
comp=Z,75nm,1.7s
SLIT Slitere, Latvi 16.99 15 eP P 17 12 42.6 -0.6
SLIT IAmb IAmb 17 12 53.4
comp=Z,913nm,1.4s
PESTR Estremoz 17.02 269 Pn 17 12 40.7 -1.1
ANN Anapa 17.12 71 d*i*P P 17 12 44.8 +0.1
ANN eS Sn 17 15 56.9 +3.4
ANN pmax pmax
comp=Z,262nm,1.1s
ANN MLR MLR
comp=Z,1μm,11.0s
COI Coimbra 17.33 274 eP P 17 12 49.0 +2.0
comp=Z,173nm,1.6s
IFR Ifrane 17.39 249 eP P 17 12 51.5 +3.5
IFR Ifrane 17.39 249 PcP S 17 16 09.2 +0.1
MDT Midelt 17.41 247 P Pn 17 12 47.0 +0.1
comp=Z,0.1nm,0.3s,baz=88,slow=8.9,SNR=6.4
MDT LR LR 17 18 45.0
comp=Z,2μm,18.8s,baz=54,slow=35
EVO Evora 17.43 268 eP P 17 12 49.4 +1.2
comp=Z,36nm,1.7s
EVO Evora 17.43 268 S S 17 16 19.4 +10
PMTG Montargil 17.45 270 eP P 17 12 49.4 +1.0
comp=Z,78nm,1.4s
PTOM Tomar 17.45 272 eP P 17 12 48.3 -0.1
comp=Z,123nm,1.5s
PBEJ Beja 17.47 266 eP P 17 12 50.2 +1.5
PVAQ Vaqueiros 17.57 264 eP P 17 12 52.2 +2.5
comp=Z,127nm,1.7s
PVAQ eLQ LQ 17 16 29.4
PVAQ eLR LR 17 18 09.5
comp=Z,2μm,18.0s
PVAQ Vaqueiros 17.57 264 P Pn 17 12 49.1 +0.5
PCVE Castro Verde 17.73 265 eP P 17 12 52.1 +0.6
comp=Z,93nm,1.2s
PBDV Barranco-do-Ve 17.78 264 eP P 17 12 55.4 +3.3
comp=Z,104nm,1.4s
EKA Eskdalemuir Ar 18.10 326 P Pn 17 12 55.2 +0.1
baz=133,slow=12,SNR=14
ESY Stoneypath 18.29 328 eP P 17 12 58.5 +1.0
DSB Dublin 18.33 317 P Pn 17 12 57.8 -0.1
KONO Kongsberg 18.50 352⇑eP Pn 17 13 00.2 +0.3
EDI Edinburgh 18.52 328 eP Pn 17 13 01.1 +1.0
MMAI Mount Meron Ar 18.66 110 P Pn 17 13 02.8 +0.7
comp=Z,2.1nm,0.3s,baz=319,slow=6.3,SNR=8.9
MMAI LR LR 17 22 10.4
comp=Z,685nm,19.5s,baz=310,slow=43
HFS Hagfors 18.75 359 P Pn 17 13 02.8 -0.2
comp=Z,0.5nm,0.3s,baz=166,slow=7.6,SNR=13
HFS LR LR 17 21 39.9

comp=Z,3µm,18.5s,baz=180,slow=42
SOC Sochi 18.75 75 *e*P **Pn 17 13 03.1 0.0**
SOC *e* 17 16 33.2
SOC pmax pmax
comp=Z,152nm,1.0s
SOC MLR MLR
comp=Z,523nm,11.0s
VSU Vasula 18.76 20∥ *e*P **P 17 13 02.5 -0.1**
VSU pmax pmax
comp=Z,489nm,1.7s
VSU Vasula 18.76 20 *e*P **P 17 13 02.4 -0.3**
VSU IAmb IAmb 17 13 11.2
comp=Z,267nm,0.7s
MMLI Mount Malkishu 18.99 111 P **Pn 17 13 08.3 +2.2**
comp=Z,69nm,1.9s
SHMJ Saham 19.07 110 P Pn 17 13 15.3 +8.2
comp=Z,101nm,0.9s
AMAZ Amatzia 19.16 114 P **Pn 17 13 14.1 +5.9**
comp=Z,160nm,1.4s
KZIT Kziot 19.19 117 P **Pn 17 13 12.8 +4.3**
comp=Z,131nm,1.0s
NC602 NORSAR Array S 19.43 356 P **Pn 17 13 10.7 -0.4**
NORES NORESS Array B 19.43 356 P **Pn 17 13 11.7 +0.6**
NORES pmax pmax
comp=Z,4.0nm,0.4s
NAO01 NORSAR Array S 19.57 355 P **P 17 13 12.1 +0.5**
VORD Divnogorie 19.60 52 *e*P **P 17 13 10.0 -2.0**
VORD pmax pmax
comp=Z,30nm,0.8s
VSR Storozhevoye 19.61 52 *e*P **P 17 13 10.0 -2.1**
VSR *e*S **S 17 16 44.3 -9.2**
VSR pmax pmax
comp=Z,60nm,1.3s
VSR smax smax
comp=E,240nm,11.3s
VSR MLR MLR
comp=Z,5µm,13.0s
NB2 NORSAR Subarra 19.75 355 P **P 17 13 13.6 +0.1**
comp=Z,77nm,1.2s,baz=172,slow=11
NOA NORSAR Array B 19.75 355 P **P 17 13 13.9 +0.3**
comp=Z,0.1nm,0.3s,baz=168,slow=11,SNR=21
NOA PcP **PcP 17 17 30.5 -1.1**
comp=Z,0.0nm,0.3s,baz=149,slow=1.6,SNR=3.2
NOA LR LR 17 22 11.6
comp=Z,2µm,18.8s,baz=180,slow=41
NB201 NORSAR Array S 19.75 355 P **Pn 17 13 15.1 +0.1**
WALJ Wala 19.76 113 P **Pn 17 13 22.1 +6.8**
comp=Z,85nm,0.9s
NBO00 NORSAR Array S 19.77 355 P **Pn 17 13 15.5 +0.3**
NC405 NORSAR Array S 19.79 356 P **Pn 17 13 15.7 +0.1**
NC405 IAmb IAmb 17 13 22.6
comp=Z,145nm,1.2s
VORR Voronezh 19.80 50 *e*P **Pn 17 13 15.0 -0.6**
VORR pmax pmax
comp=Z,300nm,2.0s
NC303 NORSAR Array S 19.92 356 P **P 17 13 15.8 +0.4**
LPSR Galich'ya Gora 20.00 48 *e*P **P 17 13 14.9 -1.4**
LPSR *e*S **S 17 16 58.6 -2.7**
LPSR pmax pmax
comp=Z,60nm,0.9s
LPSR smax smax
comp=E,340nm,7.6s
LPSR MLR MLR
comp=Z,3µm,11.0s
OBN Obninsk 20.01 39∥ *e*P **P 17 13 15.0 -1.3**
OBN *e*S **S 17 16 59.1 -2.2**
OBN pmax pmax
comp=Z,135nm,1.4s
OBN MLR MLR
comp=Z,4µm,16.0s
OBN Obninsk 20.01 39 P **P 17 13 16.4 +0.1**
comp=Z,1.4nm,0.3s,baz=235,slow=12,SNR=15
OBN LR LR 17 22 16.0
comp=Z,883nm,18.9s,baz=215,slow=41
OBN Obninsk 20.01 39 P **P 17 13 16.0 -0.3**
OBN IAmb IAmb 17 13 21.0
comp=Z,157nm,1.3s
NC204 NORSAR Array S 20.01 355 P **P 17 13 16.2 -0.3**
TAM Tamanrasset 20.02 205 P **P 17 13 16.5 -0.4**
TAM Tamanrasset 20.02 205 P **P 17 13 16.5 -0.4**
HRFI Mount Harif 20.17 118 P **P 17 13 18.6 +0.2**
comp=Z,86nm,1.7s
ASF Jabal al Asfar 20.18 110 P Pn 17 13 23.4 +3.0
comp=Z,9.9nm,1.0s,baz=238,slow=7.5,SNR=7.6
ASF LR LR 17 23 16.9
comp=Z,749nm,18.4s,baz=299,slow=43
ASF Jabal al Asfar 20.18 110 P Pn 17 13 23.7 +3.3
comp=Z,30nm,1.6s
EIL Elat 20.35 119 P Pn 17 13 22.4 +0.1
comp=Z,4.2nm,0.5s,baz=334,slow=8.6,SNR=7.5
EIL LR LR 17 23 02.3
comp=Z,243nm,21.6s,baz=310,slow=42
EIL Elat 20.35 119 P Pn 17 13 23.7 +1.4
AQBJ Aqaba 20.38 118 P P 17 13 11.4 -9.2
KAC Achnashellach 20.45 329 *e*P **P 17 13 20.6 -0.6**
KPL Plockton 20.48 328 *e*P **P 17 13 21.1 -0.3**
MOS Moscow 20.86 39 *e*P **P 17 13 23.2 -2.3**
MOS *e* 17 13 42.5
MOS *e*S **S 17 17 16.2 -2.0**
MOS *e*SS **SnSn 17 17 37.1 -1.0**
MOS pmax pmax
comp=Z,73nm,0.7s
MOS MLR MLR
comp=Z,6µm,12.0s
PUL Pulkovo 20.86 23∥ *e*P Pn 17 13 28.9 +0.9
PUL pmax pmax
comp=Z,152nm,1.1s
PUL MLR MLR
comp=Z,2µm,15.0s
SHA1 Shidzhatmaz 20.88 74 *de*P Pn 17 13 27.6 -1.1
KIV Kislovodsk 20.89 74 *i* P Pn 17 13 29.2 +0.6
SNR=14
KIV Kislovodsk 20.89 74 *e*P Pn 17 13 27.8 -0.8
KIV *e*S Sn 17 17 22.2 -2.4
KIV pmax pmax
comp=Z,253nm,4.9s
KIV pmax pmax
comp=Z,226nm,1.1s
KIV MLR MLR
comp=Z,1µm,14.0s
KVAR Kislovodsk Arr 20.89 74 P Pn 17 13 32.3 +3.6
comp=Z,9.8nm,0.9s,baz=291,slow=23,SNR=11
RSC Scourie 21.00 330 *e*P **P 17 13 27.5 +0.5**
KBZ Khabaz 21.05 74 *ce*P **P 17 13 28.9 +1.1**
KBZ Khabaz 21.05 74 P **P 17 13 30.0 +2.2**
comp=Z,28nm,0.8s,baz=266,slow=14,SNR=29
KBZ LR LR 17 24 43.3
comp=Z,907nm,18.4s,baz=282,slow=46
GOF Gofitskoye 21.11 70∥ *e*P P 17 13 35.7 +7.2
GOF pmax pmax
comp=Z,282nm,0.9s
VRH Novokhopyorsk 21.13 53 *e*P **P 17 13 27.2 -1.4**
VRH *e*S **S 17 17 18.6 -5.1**
VRH pmax pmax
comp=Z,90nm,0.7s
VRH smax smax
comp=N,400nm,6.2s
VRH MLR MLR
comp=Z,4µm,13.0s
PYA1 Pyatigorsk 21.18 73∥ *e*P **P 17 13 31.0 +1.8**
FINES FINESS Array B 21.26 16 P **P 17 13 30.2 +0.3**
comp=Z,18nm,0.7s,baz=184,slow=7.6,SNR=30
FINES LR LR 17 21 58.0
comp=Z,531nm,21.5s,baz=204,slow=38
FIA1 FINESS Array S 21.27 16 P **P 17 13 29.7 -0.3**
ZEI Tsey 21.87 77 *e*P **P 17 13 39.2 +2.4**
ZEI pmax pmax
comp=Z,90nm,1.0s
VAF Ylistaro 22.20 10 P **P 17 13 41.5 +1.5**
VAF pmax pmax
comp=Z,128nm,1.4s
SUF Sumiainen 22.45 14 P **P 17 13 44.3 +1.7**
SUF pmax pmax
comp=Z,109nm,1.4s
GNI Garni 22.94 83 *i* P **P 17 13 50.0 +1.8**
SNR=44
GNI Garni 22.94 83 *ce*P **P 17 13 49.6 +1.4**
GNI pmax pmax
comp=Z,516nm,1.1s
GNI MLR MLR
comp=Z,2µm,18.0s
GNI Garni 22.94 83 P **P 17 13 50.9 +2.7**
comp=Z,157nm,1.1s,baz=180,slow=2.5,SNR=37
GNI LR LR 17 24 23.4
comp=Z,942nm,20.6s,baz=234,slow=41
GROC Groznyy 23.20 75 *e*P **P 17 13 52.4 +1.7**
GROC *e* 17 14 17.9
GROC *e* 17 17 42.3
GROC *e*S **S 17 18 07.0 +4.2**
GROC pmax pmax
comp=Z,189nm,1.1s
BTLR Botlikh 23.58 76∥ *e*P **P 17 13 57.0 +2.4**
BTLR pmax pmax
comp=Z,64nm,1.4s
NAX Nakhchivan 23.74 85 P **P 17 13 58.5 +2.3**
JOF Joensuu 23.75 19 P **P 17 13 56.9 +1.0**
JOF pmax pmax
comp=Z,42nm,2.0s
GANJ Ganja 24.00 81 P **P 17 14 01.6 +2.9**
GNBR Gunib 24.16 77∥ *e*P **P 17 14 00.9 +0.8**
GNBR pmax pmax
comp=Z,140nm,1.4s
GNBR MLR MLR
comp=Z,2µm,16.0s
MAK Makhachkala 24.47 75 *c i*P **P 17 14 05.6 +2.7**
MAK pmax pmax
comp=Z,971nm,1.6s
MAK MLR MLR
comp=Z,1µm,14.0s
SEKA Sheki 24.54 80 P **P 17 14 06.6 +3.0**
MNGR Mingechevir, A 24.55 81 P **P 17 14 06.3 +2.8**
OUL Oulu 24.60 12 P **P 17 14 05.0 +1.2**
OUL pmax pmax
comp=Z,62nm,1.5s
AKT Akhty 24.88 79 *d i*P **P 17 14 11.0 +4.3**
AKT pmax pmax
comp=Z,110nm,0.9s
MSF Maaselka 25.88 14 P **P 17 14 18.4 +3.0**
MSF pmax pmax
comp=Z,47nm,1.0s
LKRN Lenkeran, Azer 26.33 84 P **P 17 14 22.9 +3.2**
TMCR Tamitsa 26.57 23 *e*P **P 17 14 24.9 +3.3**
TMCR pmax pmax
comp=Z,114nm,1.8s
PRGR Permogore 27.59 32 *e*P **P 17 14 30.3 -0.6**
PRGR pmax pmax
comp=Z,116nm,0.9s
KIRV Kirov 27.85 40 P **P 17 14 34.8 +1.6**
comp=Z,27nm,0.7s,baz=73,slow=6.7,SNR=11
KIRV LR LR 17 27 00.8
comp=Z,2µm,18.9s,baz=258,slow=40
APA Apatity 28.17 15∥ *i*P P 17 14 27.3 -8.7
APA pmax pmax
comp=Z,6.0nm,1.3s
APA MLR MLR
comp=Z,4µm,12.0s
ARCES ARCESS Array B 28.77 8 P **P 17 14 41.1 -0.3**
comp=Z,3.1nm,0.9s,baz=198,slow=11,SNR=4.1
ARCES PcP **PcP 17 17 50.5 -0.4**
comp=Z,2.1nm,0.9s,baz=186,slow=2.6,SNR=4.9
ARCES LR LR 17 27 26.7
comp=Z,2µm,18.2s,baz=202,slow=39
TOA0 Torodi Ar. Sit 30.28 205 P **P 17 14 53.5 -1.6**
TORD Torodi Ar. Bea 30.28 205 P **P 17 14 55.6 +0.5**
comp=Z,48nm,1.2s,baz=17,slow=8.0,SNR=40
TORD LR LR 17 28 45.1
comp=Z,1µm,18.7s,baz=10.0,slow=40
RAYN Ar Rayn 31.48 115 *i* P **P 17 15 05.4 -0.4**
SNR=10
RAYN Ar Rayn 31.48 115 P **P 17 15 07.1 +1.3**
RAYN pmax pmax
comp=Z,18nm,1.3s
RAYN Ar Rayn 31.48 115 P **P 17 15 07.1 +1.3**
ARU Arti 32.02 47 *d i*P **P 17 15 10.1 0.0**
ARU 17 16 15.1
ARU 17 17 56.0
ARU S **S 17 20 25.6 +3.7**
ARU SS **SnSn 17 22 10.3 -0.4**
ARU pmax pmax
comp=Z,83nm,1.0s
ARU MLR MLR
comp=Z,2µm,14.0s
ARU Arti 32.02 47 P **P 17 15 10.8 +0.6**
comp=Z,24nm,1.0s,baz=243,slow=8.2,SNR=16
ARU Arti 32.02 47 P **P 17 15 11.2 +1.1**
AB31 Akbulak array 32.52 60 *i* P **P 17 15 15.3 +0.7**
AB31 pmax pmax
comp=Z,16nm,1.0s
ABKAR Akbulak array 32.52 60 P **P 17 15 14.5 -0.1**
SVE Sverdlovsk 33.21 46∥ *e*P **P 17 15 21.2 +0.6**
SVE *e*S **S 17 20 44.4 +3.9**
SVE pmax pmax
comp=Z,73nm,1.3s
SVE MLR MLR
comp=Z,3µm,17.0s
GEYT Alibeck 33.54 81 P **P 17 15 24.3 +0.5**
comp=Z,32nm,1.1s,baz=286,slow=6.9,SNR=28
GEYT LR LR 17 30 36.8
comp=Z,302nm,21.9s,baz=240,slow=39
GYA0B ALIBECK ARRAY 33.54 81 P **P 17 15 24.3 +0.6**
SPITS Spitsbergen Ar 36.88 1 P **P 17 15 52.3 +0.3**
comp=Z,18nm,1.1s,baz=157,slow=8.9,SNR=2.6
SHME Shamm 37.54 101 P **P 17 15 59.6 +1.4**
BANOM Banah 37.73 101 P **P 17 15 58.6 -1.2**
ASUD Al Ashush, Dub 37.77 103 P **P 17 16 00.9 +0.8**
NAZ Nazwa, Dubai 37.80 103 P **P 17 16 00.8 +0.5**
MSFE Esma-Masafi 37.95 102 P **P 17 16 02.4 +0.8**
DAG Danmarks Havn 38.15 348 *i* P **P 17 16 02.9 +0.3**
DAG pmax pmax
comp=Z,25nm,1.3s
DAG Danmarks Havn 38.15 348 *i* P **P 17 16 02.9 +0.3**
comp=Z,25nm,1.3s
UOSS Minazif 38.23 102 P **P 17 16 04.6 +0.6**
HATD Hatta, Dubai 38.24 102 P **P 17 16 04.1 0.0**
ASHO Ashiyiah 38.27 103 P **P 17 16 04.0 -0.4**
DBIC Dimbokro 38.63 212 P **P 17 16 07.6 +0.3**
comp=Z,15nm,0.9s,baz=359,slow=10.0,SNR=14
DBIC LR LR 17 32 52.9
comp=Z,673nm,19.9s,baz=18,slow=38
DBIC Dimbokro 38.63 212 P **P 17 16 06.5 -0.8**
TIC Toumodi 38.72 212 *e*PKP2 **P 17 16 09.0 +0.9**
BRVK Borovoye 38.72 53 *ce*P **P 17 16 08.2 +0.4**
BRVK pmax pmax
comp=Z,32nm,1.6s
BRVK MLR MLR
comp=Z,1µm,16.0s
BRVK Borovoye 38.72 53 P **P 17 16 07.6 -0.2**
BRVK IAmb IAmb 17 16 15.0
comp=Z,72nm,1.1s
KIC Kosan Boka 38.87 211 *e*PKP2 **P 17 16 10.6 +1.3**
comp=Z,78nm,1.3s
LIC Lamto 39.10 212 *e*PKP2 **P 17 16 10.6 -0.7**
comp=Z,101nm,1.1s
SUMG Summit 40.08 338 *i* P **P 17 16 20.0 +0.6**
SUMG pmax pmax
comp=Z,46nm,1.1s
SUMG Summit 40.08 338 *i* P **P 17 16 20.0 +0.6**
comp=Z,46nm,1.1s
SUMG Summit 40.08 338 P **P 17 16 17.5 -1.9**
KK31 Karatay Array 40.88 68∥ *e*P **P 17 16 25.7 -0.2**
KK31 pmax pmax
comp=Z,11nm,0.7s
KK31 Karatay Array 40.88 68 P **P 17 16 26.2 +0.3**
KKAR Karatay Array 40.88 68 P **P 17 16 26.2 +0.3**
KKAR pmax pmax
comp=Z,14nm,0.8s
KKAR Karatay Array 40.88 68 P **P 17 16 26.2 +0.3**
JBG Jabagly 41.11 69 *e*P **P 17 16 27.3 -0.7**
JBG pmax pmax
comp=Z,36nm,1.7s
CHGR Chuyangaron 41.41 75 P **P 17 16 29.8 -0.6**
CHGR IAmb IAmb 17 16 35.8
comp=Z,100nm,1.4s
KBL Kabul 42.99 81 P **P 17 16 44.1 +0.6**
KBL pmax pmax
comp=Z,15nm,1.2s
SFJD Kangerlussuaq 43.05 329 P **P 17 16 43.0 -0.3**
SFJD Kangerlussuaq 43.05 329 *i* P **P 17 16 42.8 -0.5**
SFJD Kangerlussuaq 43.05 329 P **P 17 16 43.0 -0.3**
comp=Z,15nm,1.1s,baz=101,slow=5.2,SNR=3.5
EKS2 Erkin-Say 43.30 68 P **P 17 16 43.4 -2.4**
SNR=42
USP Ospenovka 43.60 67 P **P 17 16 50.6 +2.5**
SNR=8.4
SGDS Sogindy 43.63 66 *ep* **P 17 16 48.5 +0.1**
comp=Z,48nm,3.3s
AAK Ala-Archa 43.80 67 *i* P **P 17 16 50.5 +0.6**
SNR=15
AAK Ala-Archa 43.80 67 P **P 17 16 51.1 +1.2**
AAK pmax pmax
comp=Z,31nm,1.5s
AAK Ala-Archa 43.80 67 P **P 17 16 51.6 +1.7**
SNR=8.0
AAK Ala-Archa 43.80 67 P **P 17 16 50.3 +0.4**
CHMS Chumysh 43.86 67 P **P 17 16 54.0 +3.8**
SNR=8.9
UCH Uchtor 43.96 68 P P 17 16 57.2 +5.7
SNR=9.1
KBK Karagaybulak 44.11 67 P P 17 16 57.5 +5.1
SNR=5.4
KURK Kurchatov 44.20 55 *de*P **P 17 16 53.4 +0.6**
KURK pmax pmax
comp=Z,54nm,1.7s
KURK MLR MLR
comp=Z,778nm,14.0s
KURK Kurchatov 44.20 55 P **P 17 16 53.0 +0.2**
MBAR Mbarara 44.36 156∥ *e*P **P 17 16 54.4 -0.2**
MBAR pmax pmax
comp=Z,14nm,1.8s
MBAR MLR MLR
comp=Z,459nm,15.0s
TKM2 Tokmak 2 44.47 67 *i* P **P 17 16 55.1 -0.2**
TKM2 pmax pmax
comp=Z,26nm,1.4s
TKM2 Tokmak 2 44.47 67 P P 17 17 01.6 +6.3
SNR=6.1
KZA Kyzart 44.52 68 P **P 17 16 57.1 +1.2**
SNR=21
KUU Kurty 44.66 65 *e*P **P 17 16 57.0 +0.4**
KUU pmax pmax
comp=Z,125nm,1.9s
KUU Kurty 44.66 65 *e*P **P 17 16 56.9 +0.4**
KUU pmax pmax
comp=Z,125nm,1.9s
AAA Alma-Ata 45.28 66 *e*P **P 17 17 01.5 -0.1**
AAA *e*LR LR 17 37 43.3
comp=Z,389nm,18.0s
AAA Alma-Ata 45.28 66 *e*P **P 17 17 01.5 -0.1**
AAA MLR MLR
comp=Z,389nm,18.0s
MDOK Medeo 45.39 66 *e*P **P 17 17 02.1 -0.5**
MDOK Medeo 45.39 66 *e*P **P 17 17 02.0 -0.5**
TDK Taldyqorghan 45.69 63 *e*P **P 17 17 03.9 -0.8**
TDK Taldyqorghan 45.69 63 *e*P **P 17 17 03.9 -0.8**
KSH Kashi 45.98 71 P **P 17 17 09.5 +2.2**
KSH ScP **ScP 17 22 33.5 -3.9**
KSH pmax pmax
comp=Z,57nm,1.2s
KSH pmax pmax
comp=Z,610nm,5.4s
KSH LR LR
comp=Z,390nm,6.9s
KSH LR LR
comp=Z,430nm,6.8s
KSH LR LR
comp=Z,680nm,6.0s
NRIK Noril'sk 46.08 28 *e*P **P 17 17 09.2 +1.7**
NRIK Noril'sk 46.08 28 P **P 17 17 08.7 +1.3**
comp=Z,30nm,0.9s,baz=264,slow=7.2,SNR=13
NRIK LR LR 17 39 23.5
comp=Z,1µm,18.5s,baz=278,slow=40
SATY Saty 46.36 66 *e*P **P 17 17 10.1 0.0**
comp=Z,53nm,1.8s
SATY Saty 46.36 66 *e*P **P 17 17 10.1 0.0**
SATY pmax pmax
comp=Z,53nm,1.8s
KPKS Kokpek 46.40 65 *e*P **P 17 17 10.8 +0.3**
comp=Z,55nm,2.7s
KPKS Kokpek 46.40 65 *e*P **P 17 17 10.8 +0.3**
KPKS pmax pmax
comp=Z,55nm,2.7s
UZB Uzynbulak 46.74 65 *e*P **P 17 17 12.9 -0.4**
comp=Z,27nm,1.8s
UZB Uzynbulak 46.74 65 *e*P **P 17 17 12.8 -0.4**
UZB pmax pmax
comp=Z,27nm,1.8s
PDGK Podgornoye 47.00 65 *i* P **P 17 17 16.3 +1.1**
PDGK pmax pmax
comp=Z,62nm,1.3s
SHLS Shalkode 47.04 65 *e*P **P 17 17 18.9 +3.3**
comp=Z,52nm,2.3s
SHLS Shalkode 47.04 65 *e*P **P 17 17 18.8 +3.3**
SHLS pmax pmax
comp=Z,52nm,2.3s
ZALV Zalesovo Beam 47.10 49 P **P 17 17 16.5 +0.8**
comp=Z,8.7nm,0.9s,baz=285,slow=8.7,SNR=8.2
ZALV PP **PP 17 19 08.5 +2.5**
comp=Z,10nm,0.9s,baz=288,slow=11,SNR=5.7
ZALV LR LR 17 39 30.4
comp=Z,1µm,18.1s,baz=282,slow=39
KMBO Kilima Mbogo 47.14 148 P **P 17 17 19.2 +2.6**
comp=Z,2.9nm,1.0s,baz=352,slow=9.0,SNR=6.5
MAKZ Makanchi 47.45 60 *i* P **P 17 17 19.2 +0.7**
MAKZ pmax pmax
comp=Z,21nm,1.2s
MAKZ Makanchi 47.45 60 P **P 17 17 18.4 -0.1**
MAKZ IAmb IAmb 17 17 23.5
comp=Z,21nm,1.2s
MK31 Makanchi Array 47.66 59 *e*P **P 17 17 19.7 -0.4**
MK31 pmax pmax
comp=Z,17nm,0.9s
MK31 Makanchi Array 47.66 59 P **P 17 17 19.6 -0.6**
MKAR Makanchi Array 47.66 59 P **P 17 17 19.4 -0.7**
comp=Z,6.9nm,0.8s,baz=291,slow=6.7,SNR=40
MKAR LR LR 17 39 50.1
comp=Z,406nm,20.1s,baz=280,slow=39
ZSN Zaisan 49.09 58 *e*P **P 17 17 30.0 -1.1**
ZSN Zaisan 49.09 58 *e*P **P 17 17 30.0 -1.1**
WMQ Urumqi 52.30 61 *e*P **P 17 17 57.0 +1.4**
WMQ LR LR
comp=Z,580nm,16.5s
WMQ LR LR
comp=Z,460nm,15.1s
WMQ LR LR
comp=Z,410nm,25.1s
SCHQ Schefferville 52.87 314 P **P 17 17 57.9 -1.5**
comp=Z,13nm,0.7s,baz=68,slow=6.3,SNR=19
SCHQ LR LR 17 40 23.7
comp=Z,700nm,18.3s,baz=94,slow=36
SCHQ Schefferville 52.87 314 P **P 17 17 58.0 -1.5**
GBN Guysborough 53.38 302 P **P 17 18 02.0 -1.3**
HAL Halifax 55.05 302 P **P 17 18 14.3 -1.2**
HAL pmax pmax
comp=Z,64nm,1.1s
HAL Halifax 55.05 302 P **P 17 18 14.3 -1.2**
RES Resolute Bay 55.31 342 P **P 17 18 15.7 -1.2**
RES pmax pmax
comp=Z,8.0nm,1.0s
RES Resolute Bay 55.31 342 P **P 17 18 15.7 -1.2**
BATG Bathurst New B 55.44 305 P **P 17 18 16.5 -1.8**
BATG IAmb IAmb 17 18 18.6
comp=Z,46nm,1.1s
D63A Stockholm 56.80 306 P **P 17 18 26.2 -1.8**
baz=63,SNR=6.3
E64A Bridgewater 56.91 305 P **P 17 18 27.5 -1.3**
baz=63,SNR=5.5
PQI Presque Isle 56.91 305 P **P 17 18 26.4 -2.4**
PQI IAmb IAmb 17 18 28.8
comp=Z,61nm,1.2s
DANN Dangsing 56.96 80 *e*P **P 17 18 29.1 -0.7**
comp=Z,134nm,1.1s
MOY Mondy 57.07 48 *e*P **P 17 18 32.2 +2.2**
MOY pmax pmax
comp=Z,39nm,2.9s
E63A Oxbow 57.27 305 P **P 17 18 30.0 -1.4**
baz=62
E63A Oxbow 57.27 305 P **P 17 18 29.8 -1.6**
E63A IAmb IAmb 17 18 31.6
comp=Z,48nm,1.2s
H66A Whiting 57.34 303 P **P 17 18 30.4 -1.5**
baz=62
D62A Allapoint, All 57.35 306 P **P 17 18 31.2 -0.7**
baz=62,SNR=7.2
D62A Allapoint, All 57.35 306 P **P 17 18 30.8 -1.1**
D62A IAmb IAmb 17 18 33.0
comp=Z,47nm,1.1s
F64A Sherman 57.49 305 P **P 17 18 31.8 -1.1**
baz=62
D61A St Aubert, Com 57.98 307 P **P 17 18 35.4 -1.0**
baz=62,SNR=5.4
G64A Maxfield 58.02 304 P **P 17 18 35.5 -1.2**
baz=62
TIXI Tiksi 58.23 20∥ *e*P **P 17 18 38.5 +0.8**
TIXI pmax pmax
comp=Z,38nm,1.7s
TIXI MLR MLR
comp=Z,1µm,18.0s
PKME Peaks-Kenny Pk 58.35 304 P **P 17 18 38.0 -1.0**

baz=61
DMN Daman 58.36 80 *e*P P 17 18 38.7 -0.9
comp=Z,91nm,1.1s
TLY Talaya 58.52 47 *e*P P 17 18 42.6 +2.4
TLY *e*S S 17 26 52.1 +8.2
TLY pmax pmax
comp=Z,132nm,2.0s
TLY MLR MLR
comp=Z,4µm,17.0s
E61A Lac Etchemin 58.53 306 P P 17 18 39.5 -0.8
baz=61
D60A Saint Jean D'O 58.56 307 P P 17 18 39.5 -0.9
baz=61
PKIN Phulchoki 58.59 79 *e*P P 17 18 40.5 -0.8
comp=Z,39nm,1.1s
IRK Irkutsk 58.60 46 *e*P P 17 18 39.9 -0.8
IRK pmax pmax
comp=Z,61nm,2.6s
PKI Pulchoki 58.60 79 *e*P P 17 18 40.1 -1.3
comp=Z,8.8nm,1.3s
H64A Troy 58.61 304 P P 17 18 39.9 -0.9
baz=61
GUN Gumba 58.76 79 *e*P P 17 18 40.9 -1.7
comp=Z,75nm,1.0s
ZAK Zakamensk 58.94 48 *e*P P 17 18 43.0 -0.2
ZAK pmax pmax
comp=Z,10.0nm,1.5s
F61A St Evariste 59.05 306 P P 17 18 43.5 -0.4
baz=61
H63A New Sharon 59.10 304 P P 17 18 42.5 -1.8
baz=61
CHGQ Chibougamau 59.14 311 P P 17 18 43.3 -1.1
baz=61,SNR=12
E60A Ste Agathe de 59.14 306 P P 17 18 43.2 -1.3
baz=61,SNR=6.0
G62A West of Eustis 59.14 305 P P 17 18 43.4 -1.2
baz=61
I64A Boothbay 59.22 303 P P 17 18 44.2 -0.9
baz=60
LATQ La Tuque 59.45 308 P P 17 18 45.3 -1.3
baz=61,SNR=5.7
F60A Warwick 59.64 306 P P 17 18 46.6 -1.3
baz=60,SNR=8.1
D58A Chemin du LacG 59.65 308 P P 17 18 46.9 -1.0
baz=60
G61A St-Isidore-de- 59.72 305 P P 17 18 48.0 -0.6
baz=60,SNR=8.8
I63A Otisfield 59.75 304 P P 17 18 48.3 -0.4
baz=60
RAMN Ramite 59.83 79 *e*P P 17 18 47.8 -2.0
comp=Z,37nm,0.8s
H62A Milan 59.84 305 P P 17 18 48.7 -0.7
baz=60
F59A Saint Guilaume 60.20 306 P P 17 18 50.6 -1.2
baz=60
E58A La Victoria 60.24 307 P P 17 18 50.7 -1.3
baz=60,SNR=9.1
D57A Chemin Vers le 60.28 308 P P 17 18 51.2 -1.2
baz=60
I62A Tamworth 60.31 304 P P 17 18 51.7 -0.9
baz=60
G60A Masonville 60.31 306 P P 17 18 51.4 -1.2
baz=60
H61A Lyndonville 60.34 305 P P 17 18 52.1 -0.7
baz=60
TAPN Taplejung 60.42 78 *e*P P 17 18 53.0 -1.0
comp=Z,46nm,1.1s
ODAN Odare 60.46 79 *e*P P 17 18 53.2 -0.9
comp=Z,69nm,1.4s
LBNH Lisbon 60.49 304 P P 17 18 53.4 -0.5
baz=60
LBNH Lisbon 60.49 304 IAmb IAmb 17 18 55.0
comp=Z,34nm,1.2s
BOD Bodaibo 60.67 37 *e*P P 17 18 54.0 -0.8
BOD pmax pmax
comp=Z,34nm,1.9s
H60A Morristown 60.80 305 P P 17 18 55.3 -0.7
baz=59
I61A Oroboro, Fairl 60.82 304 P P 17 18 54.7 -1.4
baz=59
J62A Henniker 60.94 303 P P 17 18 56.6 -0.3
baz=59
L64A Middleborough 60.98 302 P P 17 18 56.4 -0.7
baz=59
K63A Dunstable 61.03 303 P P 17 18 56.6 -0.9
baz=59
LSQQ Lebel-sur-Quev 61.04 311 P P 17 18 56.8 -0.7
baz=59
MATQ Matagami 61.05 312 P P 17 18 56.8 -0.7
baz=59
HRV Adam Dziewonsk 61.15 303 P P 17 18 57.2 -1.1
baz=59
E56A St. Veronique 61.20 308 P P 17 18 57.2 -1.4
baz=59,SNR=5.9
D55A Sainte-Anne-du 61.22 309 P P 17 18 58.0 -0.7
baz=59
J61A Chester 61.34 304 P P 17 18 58.8 -0.8
baz=59
H59A Cadyville 61.37 306 P P 17 18 58.9 -0.8
baz=59,SNR=6.5
K62A Royalston 61.49 303 P P 17 18 59.4 -1.2
baz=59
L63A North Scituate 61.51 302 P P 17 18 59.7 -1.1
baz=58
I60A Shoreham 61.54 305 P P 17 18 59.9 -1.0
baz=59
LSA Lhasa 61.63 74 P P 17 19 03.0 +0.6
H58A Gabriels 61.79 306 P P 17 19 01.7 -1.0
baz=58
D54A Lac Fusel, La 61.84 309 P P 17 19 00.8 -2.1
baz=58
E55A Montcerf-Lytto 61.85 308 P P 17 19 03.0 0.0
baz=58
L61B Northampton 61.88 303 P P 17 19 03.3 0.0
baz=58
G57A Newington 61.92 307 P P 17 19 03.3 -0.1
baz=58
LONY Lake Ozonia 61.93 306 P P 17 19 03.0 -0.6
baz=58
J60A Lant Hill Farm 61.93 304 P P 17 19 03.3 -0.3
baz=58
SONM Songino Array 61.99 50 P P 17 19 04.9 +0.8
comp=Z,8.2nm,0.9s,baz=295,slow=6.4,SNR=38
SONM LR LR 17 48 35.4
comp=Z,1µm,18.6s,baz=308,slow=39
M63A Gales Ferry 62.03 302 P P 17 19 03.5 -0.7
baz=58
K61A Williamstown 62.14 304 P P 17 19 03.9 -1.1
baz=58
ULN Ulaanbaatar 62.35 49⇑ *e*P P 17 19 06.6 +0.1
ULN pmax pmax
comp=Z,25nm,1.7s
ULN MLR MLR
comp=Z,1µm,16.0s
GTA Gaotai 62.38 61 *e*P P 17 19 06.0 -0.8
GTA pP sP 17 19 11.0 +0.8
GTA sP pP 17 19 13.5 +4.2
GTA pmax pmax
comp=Z,100nm,5.8s
GTA LR LR
comp=Z,420nm,13.4s
GTA LR LR
comp=Z,440nm,14.8s
GTA LR LR
comp=Z,740nm,15.8s
J59A Piesco 62.49 305 P P 17 19 06.4 -0.9
baz=58
H57A Richville 62.50 306 P P 17 19 07.2 -0.2
baz=58
L61A Hillsdale 1, H 62.57 303 P P 17 19 07.3 -0.6
baz=58
I58A Old Forge 62.66 305 P P 17 19 08.4 0.0
baz=58
I57A Carthage 62.94 306 P P 17 19 09.6 -0.8
baz=58
H56A Elgin 62.96 307 P P 17 19 10.1 -0.3
baz=58
J58A Remsen 63.02 305 P P 17 19 10.8 -0.1
baz=58
K59A Cooperstown 63.07 304 P P 17 19 11.1 -0.1
baz=57
L60A Shokan 63.10 303 P P 17 19 11.2 -0.2
baz=57
M61A Granite Spring 63.18 302 P P 17 19 10.6 -1.3
baz=57
ALGO Algonquin Park 63.29 309 P P 17 19 12.1 -0.5
baz=57
PAL Palisades 63.43 302 P P 17 19 13.0 -0.6
baz=57
J57A Williamstown 63.43 305 P P 17 19 13.1 -0.5
baz=57
D51A Lot 18 Range I 63.44 310 P P 17 19 12.7 -0.9
baz=57
E52A Mattawa 63.47 309 P P 17 19 13.0 -0.8
baz=57
L59A Walton 63.50 304 P P 17 19 13.5 -0.6
baz=57
H55A Tweed 63.53 307 P P 17 19 13.4 -0.9
baz=57
K58A Earlville 63.57 305 P P 17 19 13.8 -0.7
baz=57
G54A Lake Saint Pet 63.62 308 P P 17 19 14.1 -0.7
baz=57
D50A G1974 Best Tow 63.67 311 P P 17 19 14.6 -0.5
baz=57
M60A Port Jervis 63.71 303 P P 17 19 15.3 -0.2
baz=57
N61A South Mountain 63.81 302 P P 17 19 15.4 -0.7
baz=57
I55A Frankford 64.02 307 P P 17 19 16.8 -0.7
baz=57
FCC Fort Churchill 64.02 327 P P 17 19 15.4 -1.8
FCC pmax pmax
comp=Z,35nm,1.3s
FCC Fort Churchill 64.02 327 P P 17 19 15.4 -1.8
FCC IAmb IAmb 17 19 18.0
comp=Z,35nm,1.2s
J56A Wolcott 64.03 306 P P 17 19 17.2 -0.4
baz=57
G53A Haliburton 64.08 308 P P 17 19 17.6 -0.3
baz=56
BINY Binghamton 64.09 304 P P 17 19 17.7 -0.3
baz=57
L58A Harry Jones Me 64.09 304 P P 17 19 17.6 -0.4
baz=57
M59A Waymart 64.10 303 P P 17 19 17.4 -0.6
baz=57
K57A Scipio Center 64.12 305 P P 17 19 17.8 -0.4
baz=57
N60A Cedar Hill Far 64.26 303 P P 17 19 18.6 -0.5
baz=56,SNR=5.3
H53A Bobcaygeon 64.36 308 P P 17 19 19.5 -0.2
baz=56
YAK Yakutsk 64.54 28 *e*P P 17 19 20.0 -0.5
YAK pmax pmax
comp=Z,25nm,1.1s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,20nm,1.2s
J55A Hilton 64.62 306 P P 17 19 20.8 -0.6
baz=56
K56A Middlesex 64.64 305 P P 17 19 20.9 -0.7
baz=56
N59A State Game Lan 64.66 303 P P 17 19 21.4 -0.4
baz=56
N59A State Game Lan 64.66 303 P P 17 19 20.4 -1.3
N59A IAmb IAmb 17 19 26.9
comp=Z,40nm,1.3s
L57A Andrews Acres 64.73 305 P P 17 19 21.5 -0.7
baz=56
O60A Telford 64.76 302 P P 17 19 21.5 -0.9
baz=56,SNR=5.2
M58A Price's Panora 64.84 304 P P 17 19 22.5 -0.4
baz=56
K55A Perry 65.08 306 P P 17 19 23.8 -0.6
baz=56
L56A Greenwood 65.09 305 P P 17 19 23.6 -1.0
baz=56
J54A Appleton 65.12 306 P P 17 19 23.3 -1.3
baz=56
P60A Greeneville 65.19 302 P P 17 19 24.9 -0.3
baz=56
O59A Robesonia 65.26 303 P P 17 19 24.8 -0.8
baz=56
M57A Sunshine Farm, 65.28 304 P P 17 19 25.3 -0.4
baz=56,SNR=7.2
M57A Sunshine Farm, 65.28 304 P P 17 19 25.0 -0.7
N58A Sunbury 65.30 303 P P 17 19 25.2 -0.6
baz=56
N58A Sunbury 65.30 303 P P 17 19 23.6 -2.3
N58A IAmb IAmb 17 19 27.4
comp=Z,36nm,1.3s
C36M Paulatuk 65.40 345 P P 17 19 25.5 -0.5
baz=33,SNR=12
K54A Basiliko Farm, 65.52 306 P P 17 19 27.1 -0.2
baz=56
WVNY West Valley, N 65.58 306 P P 17 19 26.7 -1.1
I52A Shelburne 65.59 308 P P 17 19 27.1 -0.6
baz=55
L55A Hinsdale 65.61 305 P P 17 19 27.0 -1.0
baz=56
O58A Lewisberry 65.83 303 P P 17 19 28.7 -0.7
baz=55
M56A Emporium 65.85 305 P P 17 19 29.0 -0.5
baz=55
M56A Emporium 65.85 305 P P 17 19 27.7 -1.7
M56A IAmb IAmb 17 19 31.1
comp=Z,44nm,1.2s
N57A Milroy 65.87 304 P P 17 19 28.7 -0.9
baz=55
E47A Iron Bridge 66.02 311 P P 17 19 29.6 -0.8
baz=55
L54A Sinclairville 66.12 306 P P 17 19 30.7 -0.5
baz=55
SSPA Standing Stone 66.15 304 P P 17 19 30.9 -0.4
baz=55
SSPA Standing Stone 66.15 304 P P 17 19 29.9 -1.4
D46A Sault St. Mari 66.19 312 P P 17 19 30.4 -1.2
baz=54
M55A Ridgway 66.22 305 P P 17 19 31.0 -0.8
baz=55
O57A Amberson 66.23 303 P P 17 19 31.0 -0.9
baz=55
N56A West Decatur 66.24 304 P P 17 19 31.8 -0.2
baz=55
I51A Listowel 66.24 308 P P 17 19 31.1 -0.8
baz=55
P58A Pank, Wackersv 66.43 302 P P 17 19 32.5 -0.6
baz=55
ERPA Erie 66.59 306 P P 17 19 33.5 -0.7
baz=55
K52A Tillsonburg 66.65 307 P P 17 19 33.7 -0.8
baz=55
M54A Oil Creek Stat 66.75 305 P P 17 19 34.4 -0.8
baz=55
N55A Marion Center 66.75 304 P P 17 19 34.5 -0.7
baz=55
O56A Blue Knob Stat 66.78 304 P P 17 19 34.4 -1.1
baz=55
L53A Girard 66.85 306 P P 17 19 35.1 -0.8
baz=54
LZH Lanzhou 66.88 62 *e*P P 17 19 36.5 +0.2
LZH pP sP 17 19 41.3 +1.6
LZH sP pP 17 19 43.8 +5.0
LZH SS SS 17 32 47.8 +0.7
LZH pmax pmax
comp=Z,27nm,1.3s
LZH pmax pmax
comp=Z,87nm,4.2s
LZH LR LR
comp=Z,440nm,13.6s
LZH LR LR
comp=Z,540nm,13.6s
LZH LR LR
comp=Z,400nm,11.9s
P57A Homestead Farm 66.88 303 P P 17 19 35.8 -0.3
baz=55
LBTB Lobatse 66.90 169 P P 17 19 35.9 -0.4
LBTB pmax pmax
comp=Z,23nm,1.1s
LBTB Lobatse 66.90 169 P P 17 19 35.9 -0.4
LBTB IAmb IAmb 17 19 38.9
comp=Z,23nm,1.1s
Q58A Fox Den Farm, 66.99 302 P P 17 19 36.3 -0.5
baz=55
H48A Harrisville 67.07 310 P P 17 19 36.9 -0.3
baz=54
G47A Hillman 67.09 311 P P 17 19 36.9 -0.4
baz=54
N54A Moraine State 67.26 305 P P 17 19 37.9 -0.6
baz=54
O55A Ligonier 67.28 304 P P 17 19 38.2 -0.4
baz=54
P56A Dayton Farm, R 67.39 303 P P 17 19 38.6 -0.8
baz=54
M53A WI Miller and 67.40 306 P P 17 19 38.5 -0.9
baz=54
PALK Pallekele 67.47 101 P P 17 19 40.9 +0.7
PALK Pallekele 67.47 101⇑ *e*P P 17 19 39.1 -1.1
PALK pmax pmax
comp=Z,35nm,1.5s
PALK MLR MLR
comp=Z,208nm,18.0s
R58A Rapidan 67.56 302 P P 17 19 40.4 0.0
baz=54
R58B Mineral 67.68 301 P P 17 19 40.5 -0.6
baz=54
R58B Mineral 67.68 301 P P 17 19 39.6 -1.6
M52A Chesterland 67.76 306 P P 17 19 40.5 -1.1
baz=54
N53A Lisbon 67.88 305 P P 17 19 41.7 -0.7
baz=54
Q56A Snyder Ridge, 67.88 303 P P 17 19 41.8 -0.7
baz=54
MCWV Mont Chateau 67.94 304 P P 17 19 42.1 -0.7
baz=54
O54A Avella 67.96 305 P P 17 19 42.3 -0.6
baz=54
S58A Poland Farm, P 67.99 301 P P 17 19 42.6 -0.5
baz=54
P55A Reedsville 68.01 304 P P 17 19 42.1 -1.2
baz=54
T59A Double "B" Far 68.05 300 P P 17 19 42.2 -1.3
baz=54
I47A Gladwin 68.16 310 P P 17 19 43.1 -0.9
baz=53
J48A Bridge Port 68.17 309 P P 17 19 43.1 -1.0
baz=53
P54A Burton 68.36 304 P P 17 19 44.5 -0.9
baz=54
M51A Elyria 68.38 306 P P 17 19 44.6 -0.9
baz=53
N52A McGinn's Farm, 68.39 306 P P 17 19 44.6 -1.0
baz=54
R56A Bull Pasture M 68.39 303 P P 17 19 45.2 -0.5
baz=54
O53A New Philadelph 68.43 305 P P 17 19 45.5 -0.3
baz=54
Q55A Buckhannon 68.47 303 P P 17 19 45.8 -0.4
baz=54
S57A Dark Hollow, R 68.49 302 P P 17 19 46.0 -0.2
baz=54
U59A Littleton 68.57 300 P P 17 19 46.3 -0.5
baz=54
V60A Jim Taylor Roa 68.57 299 P P 17 19 46.3 -0.4
baz=54
YKA Yellowknife Ar 68.67 337 P P 17 19 46.1 -0.8
comp=Z,8.5nm,0.9s,baz=42,slow=6.4,SNR=13
T58A Grand View Acr 68.70 301 P P 17 19 46.8 -0.7
baz=54
W61A Ground Anchor 68.73 299 P P 17 19 47.1 -0.7
baz=54
I46A Reed City 68.74 310 P P 17 19 46.9 -0.8
baz=53
N51A Ashland 68.75 306 P P 17 19 46.8 -1.0
baz=53
BILL Bilibino 68.83 11⇑ *i*P P 17 19 50.8 +3.0
BILL pmax pmax
comp=Z,8.0nm,1.1s
M50A Fremont 68.86 307 P P 17 19 47.7 -0.8
baz=53
O52A Adamsville 68.90 305 P P 17 19 48.4 -0.3
baz=53
S56A Natural Bridge 68.93 302 P P 17 19 48.3 -0.7
baz=53
Q54A Coxs Mills 68.95 304 P P 17 19 48.7 -0.4
baz=53
HHC Hu-ho-hao-te 68.99 54 *e*P P 17 19 49.5 0.0
HHC pP pP 17 19 52.8 +0.8
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,180nm,7.2s
HHC LR LR
comp=Z,310nm,16.9s
HHC LR LR
comp=Z,490nm,15.7s
HHC LR LR
comp=Z,590nm,14.0s
P53A Whipple 69.00 304 P P 17 19 48.4 -1.0
baz=53
U58A Oxford 69.03 300 P P 17 19 49.4 -0.2
baz=53
T57A Hurt 69.13 301 P P 17 19 50.0 -0.3
baz=53
I45A Fountain 69.14 311 P P 17 19 49.8 -0.3
baz=52
V59A Middlesex 69.21 300 P P 17 19 49.8 -0.9
baz=53
K47A Vermontville 69.25 309 P P 17 19 50.4 -0.6
baz=52
O51A Pataskala 69.35 306 P P 17 19 50.1 -1.5
baz=53
L48A N Adams 69.36 308 P P 17 19 51.1 -0.6
baz=52
P52A Corning 69.37 305 P P 17 19 50.8 -0.9
baz=53
M49A Liberty Center 69.38 307 P P 17 19 51.3 -0.4
baz=53
Q53A Leroy 69.46 304 P P 17 19 51.3 -1.0
baz=53
S55A Lewisburg 69.47 303 P P 17 19 51.7 -0.7
baz=53
MDP Montagnes des 69.51 258 LR LR 17 48 13.5
comp=Z,232nm,18.5s,baz=25,slow=34
U57A Blanch 69.52 301 P P 17 19 52.0 -0.7
baz=53
ACSO Alum Creek Sta 69.53 306 P P 17 19 51.5 -1.1
baz=53
R54A Victor 69.53 303 P P 17 19 52.1 -0.7
baz=53
EYMN Ely 69.56 316 P P 17 19 51.7 -1.1
baz=50
T56A Rocky Mt 69.61 302 P P 17 19 52.7 -0.5
baz=53
TOLK Toolik Lake Re 69.61 354 P P 17 19 51.7 -1.1
baz=13,SNR=11
TOLK Toolik Lake Re 69.61 354 P P 17 19 54.0 +1.2
TOLK IAmb IAmb 17 19 54.8
comp=Z,20nm,1.1s
BLA Blacksburg 69.75 302 P P 17 19 53.1 -1.0
baz=53
L47A Sherwood 69.80 308 P P 17 19 53.2 -1.1
baz=52
M48A Edgerton 69.81 308 P P 17 19 53.5 -0.9
baz=52
N49A Columbus Grove 69.84 307 P P 17 19 53.1 -1.5
baz=52
CD2 Chengdu 69.85 66 *e*P P 17 19 54.5 -0.4
Q52A Bidwell 69.86 304 P P 17 19 53.7 -1.0
baz=53
FFC Flin Flon 69.95 326 P P 17 19 54.8 -0.2
FFC pmax pmax
comp=Z,21nm,1.1s
FFC Flin Flon 69.95 326 P P 17 19 54.8 -0.2
FFC IAmb IAmb 17 19 55.9
comp=Z,21nm,1.1s
O50A Cable 69.97 306 P P 17 19 54.4 -1.0
baz=52
P51A Williamsport 70.03 305 P P 17 19 54.4 -1.3
baz=52
R53A Hurricane 70.04 304 P P 17 19 54.4 -1.4
baz=53
U56A King 70.25 301 P P 17 19 56.5 -0.6
baz=53
ULM Lac du Bonnet 70.26 320 *ce*P P 17 19 56.2 -0.8
ULM Lac du Bonnet 70.26 320 P P 17 19 55.4 -1.5
comp=Z,21nm,0.9s,baz=56,slow=6.5,SNR=22
ULM Lac du Bonnet 70.26 320 P P 17 19 55.5 -1.5
ULM IAmb IAmb 17 19 57.2
comp=Z,31nm,1.1s
EPYK Eagle Plains 70.27 348 P P 17 19 55.7 -1.1
baz=23
EPYK Eagle Plains 70.27 348 P P 17 19 55.8 -1.0
EPYK IAmb IAmb 17 20 04.3
comp=Z,29nm,1.3s
W58A Raeford 70.30 300 P P 17 19 56.6 -0.9
baz=53
O49A Covington 70.38 307 P P 17 19 56.8 -1.1
baz=52
N48A Decatur 70.38 307 P P 17 19 56.8 -1.1
baz=52
BOSA Boshof 70.40 170 P P 17 19 57.7 -0.3

comp=Z,12nm,0.9s,baz=4.9,slow=5.7,SNR=12
BOSA LR LR 17 54 42.1
BOSA Boshof 70.40 170 P P 17 19 57.2 -0.9
BOSA IAmb IAmb 17 20 04.8
comp=Z,14nm,0.8s
P50A Jamestown 70.41 306 P P 17 19 56.9 -1.2
baz=52
R52A Catlettsburg 70.47 304 P P 17 19 57.3 -1.2
baz=52
Q51A Peebles 70.48 305 P P 17 19 57.1 -1.5
baz=52
S53A Williamson 70.55 303 P P 17 19 57.5 -1.5
baz=52
T54A Tazewell 70.58 302 P P 17 19 58.1 -1.2
baz=52
U55A TA2, Sparta 70.58 302 P P 17 19 58.5 -0.8
baz=52
SEY Seymchan 70.70 19⇑ eP P 17 20 00.2 +0.8
W57A Gilead 70.72 300 P P 17 19 59.7 -0.3
baz=52
O48A Farmland 70.83 307 P P 17 19 59.7 -0.9
baz=52
U54A Nelsons Funny 71.06 302 P P 17 20 01.8 -0.4
baz=52
R51A Hillsboro 71.08 305 P P 17 20 00.7 -1.4
baz=52
W56A Indian Trail 71.11 300 P P 17 20 01.7 -0.7
baz=52
S52A Salyersville 71.14 304 P P 17 20 01.7 -0.9
baz=52
FYU Fort Yukon 71.22 352 P P 17 20 02.9 +0.4
Y58A Scranton 71.26 299 P P 17 20 02.9 -0.4
baz=52
R50A Paris 71.55 305 P P 17 20 04.4 -0.7
baz=52
AGMN Agassiz Nation 71.55 319 P P 17 20 04.1 -0.8
baz=48
X56A White Oak 71.80 300 P P 17 20 06.3 -0.2
baz=52
SFIN Lafayette 71.91 308 P P 17 20 05.8 -1.3
baz=51
Q48A North Vernon 72.00 306 P P 17 20 07.1 -0.6
baz=51
SPMN Marine on St. 72.01 315 P P 17 20 07.0 -0.7
baz=49
R49A Shelbyville 72.06 305 P P 17 20 07.0 -1.1
baz=51
JFWS Jewell Farm 72.11 312 P P 17 20 06.8 -1.5
baz=50
U52A Thorn Hill 72.12 303 P P 17 20 07.6 -0.9
baz=51
T51A Gray 72.13 304 P P 17 20 07.2 -1.3
baz=51
X55A Gracelyn & Ava 72.20 300 P P 17 20 08.0 -1.0
baz=52
V53A Saluda 72.22 302 P P 17 20 08.5 -0.7
baz=52
BJI Beijing 72.26 52 eP P 17 20 09.0 -0.2
BJI pmax pmax
comp=Z,6.0nm,1.0s
Z57A Bowman 72.32 299 P P 17 20 09.6 -0.1
baz=52
S49A Springfield 72.45 305 P P 17 20 10.1 -0.3
baz=51
U51A La Follette 72.54 303 P P 17 20 10.7 -0.3
baz=51
V52A Sevierville 72.61 303 P P 17 20 10.6 -0.9
baz=51
X54A Belton 72.63 301 P P 17 20 10.5 -1.0
baz=51
KMI Kunming 72.64 72 P P 17 20 12.0 -0.1
KMI pmax pmax
comp=Z,9.0nm,0.5s
T50A Nancy 72.65 304 P P 17 20 11.0 -0.6
baz=51
Y55A Saluda 72.68 300 P P 17 20 10.7 -1.1
baz=51
W53A Cullowhee 72.75 302 P P 17 20 11.8 -0.6
baz=51
WCI Wyandotte Cave 72.79 306 P P 17 20 11.9 -0.5
baz=51
POKR Poker Plat Res 72.86 352 P P 17 20 11.9 -0.5
baz=14,SNR=10.0
157A Early Branch 72.89 299 P P 17 20 13.1 0.0
baz=51
T49A Edmonton 73.03 305 P P 17 20 12.8 -1.1
baz=51
U50A Jamestown 73.03 304 P P 17 20 13.2 -0.7
baz=51
HDIL Hopedale 73.09 309 P P 17 20 13.1 -1.1
baz=50
V51A Loudon 73.11 303 P P 17 20 13.9 -0.5
baz=51
ILAR Eielson Array 73.14 352 P P 17 20 15.0 +0.9
ILAR Eielson Array 73.14 352 P P 17 20 14.9 +0.9
comp=Z,5.3nm,1.0s,baz=4.3,slow=5.6,SNR=34
ILAR LR LR 17 55 32.3
comp=Z,222nm,19.3s,baz=60,slow=38
COLA College 73.14 352⇓ eP P 17 20 14.6 +0.6
COLA pmax pmax
comp=Z,7.0nm,1.0s
MLY Manley 73.25 353 P P 17 20 15.2 +0.4
MLY IAmb IAmb 17 20 24.2
comp=Z,47nm,1.3s
X53A Estanollee 73.26 301 P P 17 20 15.0 -0.3
baz=51
Y54A Tignall 73.26 300 P P 17 20 14.9 -0.4
baz=51
W52A Murphy 73.29 302 P P 17 20 14.5 -1.0
baz=51
CCB Clear Creek Bu 73.36 352 P P 17 20 16.3 +0.9
CCB IAmb IAmb 17 20 23.1
comp=Z,25nm,1.4s
MHMT Maesarieng 73.43 80 P P 17 20 22.0 +5.5
HDA Harding Lake 73.50 352 P P 17 20 15.9 -0.3
baz=14,SNR=18
HDA Harding Lake 73.50 352 P P 17 20 15.9 -0.3
WRH Wood River Hil 73.56 352 P P 17 20 16.7 +0.2
WRH IAmb IAmb 17 20 24.3
comp=Z,41nm,1.2s
U49A Red Boiling Sp 73.56 304 P P 17 20 16.8 -0.2
baz=50
SCRK Sand Creek 73.56 350 P P 17 20 16.8 +0.1
X52A Dahlonega 73.57 302 P P 17 20 16.8 -0.4
baz=51
V50A Pikevile 73.67 303 P P 17 20 18.0 +0.3
baz=50
Z54A Sparta 73.75 300 P P 17 20 18.3 +0.1
baz=51
W51A Cleveland 73.77 303 P P 17 20 18.2 -0.1
baz=50
CMMT Chiang Mai 73.78 79 P P 17 20 21.6 +3.0
Y53A Monroe 73.85 301 P P 17 20 18.7 -0.1
baz=51
CMAR Chiang Mai Arr 74.00 79 P P 17 20 19.9 0.0
comp=Z,1.6nm,0.7s,baz=304,slow=7.4,SNR=9.8
CMAR PP PP 17 23 03.0 -1.8
comp=Z,2.7nm,1.0s,baz=299,slow=8.1,SNR=5.0
T47A Sharon Grove 74.07 305 P P 17 20 18.7 -1.3
T47A IAmb IAmb 17 20 24.1
comp=Z,29nm,1.1s
W50A Signal Mountai 74.10 303 P P 17 20 19.6 -0.7
baz=50
V49A McMinnville 74.11 304 P P 17 20 19.1 -1.2
baz=50
Y52A Lilburn 74.15 301 P P 17 20 19.3 -1.3
baz=50
Z53A Monticello 74.20 300 P P 17 20 20.2 -0.6
baz=51
X51A Calhoun 74.21 302 P P 17 20 20.9 +0.1
baz=50
KLR Kul'dur 74.25 37⇑ eP P 17 20 20.4 -0.5
KLR pmax pmax
comp=Z,18nm,1.9s
KLR MLR MLR
comp=Z,936nm,15.0s
154A Montrose 74.32 300 P P 17 20 21.6 0.0
baz=51
GYA Guiyang 74.59 68 eP P 17 20 26.0 +2.6
GYA pmax pmax
comp=Z,10.0nm,1.1s
RND Reindeer 74.67 352 P P 17 20 22.4 -0.8
RND pmax pmax
comp=Z,13nm,0.9s
RND Reindeer 74.67 352 P P 17 20 22.4 -0.8
KTH Kantishna Hill 74.72 353 P P 17 20 23.8 +0.4

W49A Belvidere 74.75 303 P P 17 20 23.7 -0.3
baz=50
TRF Thorofare Moun 74.77 353 P P 17 20 23.9 +0.1
TRF IAmb IAmb 17 20 30.6
comp=Z,18nm,0.8s
Y51A Rockmart 74.77 302 P P 17 20 23.3 -0.8
baz=50
DHY Denali Highway 74.84 352 P P 17 20 24.3 0.0
254A Abbeville 74.86 299 P P 17 20 24.2 -0.5
baz=50
CN2 Changchun 74.98 44 eP P 17 20 25.5 +0.3
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,800nm,14.0s
CN2 LR LR
comp=Z,700nm,14.0s
CN2 LR LR
comp=Z,1µm,14.0s
ECSD EROS Data Cent 75.03 316 P P 17 20 24.6 -1.0
baz=46,SNR=12
ECSD EROS Data Cent 75.03 316 P P 17 20 24.0 -1.5
ECSD IAmb IAmb 17 20 25.8
comp=Z,25nm,1.1s
WVT Waverly 75.07 305 P P 17 20 25.2 -0.6
baz=49
GRNR Gornyy 75.16 34 eP P 17 20 21.6 -4.5
GRNR pmax pmax
comp=Z,10.0nm,1.4s
152A Waverly Hall 75.33 301 P P 17 20 26.7 -0.7
baz=50
253A Americus 75.34 300 P P 17 20 26.4 -1.0
baz=50
DGMT Dagmar 75.40 323 P P 17 20 26.9 -0.7
baz=43
PPLA Purkeypile 75.48 354 P P 17 20 28.0 +0.1
PPLA IAmb IAmb 17 20 35.6
comp=Z,20nm,0.8s
Z50A Ashland 75.73 302 P P 17 20 28.3 -1.4
baz=50
252A Lumpkin 75.77 300 P P 17 20 29.1 -0.9
baz=50
353A Camilla 75.85 299 P P 17 20 29.6 -0.7
baz=50
CCM Cathedral Cave 75.87 308 P P 17 20 29.6 -0.7
baz=48
SCM Sheep Creek Mo 76.04 351 P P 17 20 32.9 +1.8
SCM pmax pmax
comp=Z,139nm,1.4s
SCM Sheep Creek Mo 76.04 351 P P 17 20 32.9 +1.8
DWPF Disney Wildern 76.05 295 P P 17 20 30.6 -1.0
baz=50
BALM Baldy 76.16 349 P P 17 20 32.9 +1.2
BALM IAmb IAmb 17 20 40.2
comp=Z,41nm,1.3s
SML Sawmill 76.18 352 P P 17 20 33.1 +1.2
SML IAmb IAmb 17 20 42.5
comp=Z,41nm,1.1s
GHO Glory Hole Cre 76.28 352 P P 17 20 32.3 -0.1
GHO IAmb IAmb 17 20 40.2
comp=Z,32nm,1.1s
SKT Skwentna 76.33 353 P P 17 20 32.3 -0.3
SKT IAmb IAmb 17 20 41.4
comp=Z,20nm,1.0s
PMR Palmer 76.48 352 P P 17 20 33.8 +0.4
PMR pmax pmax
comp=Z,37nm,1.3s
PMR Palmer 76.48 352 P P 17 20 33.8 +0.4
PMR IAmb IAmb 17 20 41.0
comp=Z,37nm,1.3s
CRQM Cirque 76.54 349 P P 17 20 34.2 +0.2
LRAL Lakeview Retre 76.56 302 P P 17 20 33.1 -1.2
baz=49,SNR=5.9
LRAL Lakeview Retre 76.56 302 P P 17 20 33.2 -1.2
LRAL IAmb IAmb 17 20 34.5
comp=Z,44nm,1.5s
KNK Knik Glacier 76.58 352 P P 17 20 33.6 -0.5
SUA Susitna One 76.77 353 P P 17 20 35.6 +0.3
FID Port Fidalgo 77.00 351 P P 17 20 37.0 +0.6
FID IAmb IAmb 17 20 45.6
comp=Z,44nm,1.2s
RC01 Rabbit Creek A 77.03 352 P P 17 20 37.3 +0.7
RC01 IAmb IAmb 17 20 45.8
comp=Z,42nm,1.2s
OXF Oxford 77.11 305 P P 17 20 36.5 -1.0
baz=48
BGNE Belgrade 77.47 315 P P 17 20 38.5 -0.9
baz=45
LAO LASA Array 77.64 323 P P 17 20 40.1 -0.3
baz=41,SNR=9.8
U40A Yellville 77.96 308 P P 17 20 41.6 -0.7
baz=47
USA0B Ussuriysk Arra 78.02 41⇑ eP P 17 20 43.2 +0.8
USRK Ussuriysk Ar. 78.02 41 P P 17 20 42.8 +0.5
comp=Z,5.5nm,0.9s,baz=318,slow=2.6,SNR=8.5
USRK LR LR 17 59 02.4
comp=Z,932nm,18.6s,baz=308,slow=39
EGMT Eagleton 78.18 325 P P 17 20 42.6 -0.8
baz=39,SNR=6.5
KSU1 Kansas State U 78.24 312 P P 17 20 42.6 -1.1
baz=46,SNR=7.4
W41B Gary Mavity, V 78.40 307 P P 17 20 44.1 -0.5
baz=47
RSSD Black Hills 78.52 320 P P 17 20 44.5 -0.9
baz=42
NJ2 Nanjing 79.11 57 eP P 17 20 47.5 -1.1
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
X40A Basin Creek Fa 79.22 307 P P 17 20 48.4 -0.8
baz=47
W39A Magazine 79.30 308 P P 17 20 48.6 -1.0
baz=46
MIAR Mount Ida 79.62 307 P P 17 20 50.3 -1.1
baz=46
OGNE Ogallala 79.84 316 P P 17 20 51.7 -0.9
baz=43,SNR=5.2
TUL1 Leonard 79.99 309 P P 17 20 53.3 0.0
baz=46
RLMT Red Lodge 80.21 323 P P 17 20 53.5 -1.2
baz=39,SNR=7.8
JTMT Jette 80.28 328 P P 17 20 54.4 -0.5
JTMT IAmb IAmb 17 20 56.2
comp=Z,40nm,1.1s
KDAK Kodiak Island 80.57 353 P P 17 20 55.6 -0.4
KDAK pmax pmax
comp=Z,88nm,1.4s
KDAK Kodiak Island 80.57 353 P P 17 20 55.6 -0.4
YNE Yellowstone No 80.63 324 P P 17 20 56.0 -0.9
PETK Petropavlovsk- 80.66 21 LR LR 18 02 48.9
comp=Z,485nm,18.2s,baz=28,slow=40
YSS Yuzh-Sakhalins 80.76 33⇓ eP P 17 21 00.8 +3.5
YSS e 17 21 05.8
YSS pmax pmax
comp=Z,50nm,1.1s
KSRS Korea Array 80.77 48 P P 17 20 59.0 +1.6
comp=Z,6.5nm,1.0s,baz=321,slow=4.6,SNR=8.4
K22A Casper 80.82 320 P P 17 20 57.4 -0.6
baz=41,SNR=6.1
BDFB Brasilia 80.87 240 P P 17 20 59.5 +1.2
comp=Z,2.8nm,0.6s,baz=104,slow=12,SNR=1.7
BDFB LR LR 17 56 26.6
comp=Z,335nm,18.8s,baz=85,slow=35
MSO Missoula 80.88 327 P P 17 20 57.8 -0.2
baz=37,SNR=13
NEW Newport 80.97 330 P P 17 20 58.4 -0.1
baz=35,SNR=8.8
H17A Grant Village 81.36 324 P P 17 21 00.0 -0.9
baz=38,SNR=14
KSCO Kaye Shedlock' 81.57 315 P P 17 21 01.5 -0.4
baz=42,SNR=7.9
N23A Red Feather La 81.86 319 P P 17 21 03.9 +0.2
baz=41,SNR=9.2
PDAR Pinedale Array 82.17 322 P P 17 21 04.2 -0.9
comp=Z,4.2nm,1.0s,baz=57,slow=5.5,SNR=19
PDAR LR LR 17 57 23.2
comp=Z,403nm,18.4s,baz=42,slow=36
BW06 Boulder Array 82.17 322 P P 17 21 04.5 -0.7
baz=39,SNR=6.5
REDW Red Top Meadow 82.30 323 P P 17 21 06.2 +0.4
REDW IAmb IAmb 17 21 08.2
comp=Z,37nm,1.3s
ISCO Idaho Springs 82.52 318 P P 17 21 07.3 +0.2
baz=41,SNR=19
WMOK Wichita Mounta 82.55 310 P P 17 21 07.3 +0.3
baz=44
Q24A Divide 82.92 317 P P 17 21 08.9 -0.4
baz=41

O20A White River Ci 83.58 320 P P 17 21 11.9 -0.6
baz=40,SNR=10
WHTX Lake Whitney, 83.73 308 P P 17 21 11.9 -1.2
baz=44
D03D Eldon 83.75 333 P P 17 21 12.8 -0.1
baz=31,SNR=12
BMO Blue Mountains 83.85 328 P P 17 21 12.8 -0.8
BMO pmax pmax
comp=Z,61nm,1.1s
BMO Blue Mountains 83.85 328 P P 17 21 12.8 -0.8
T25A Trinidad 83.90 315 P P 17 21 14.0 -0.2
baz=41,SNR=13
D04E Lakebay 83.95 332 P P 17 21 14.1 +0.1
baz=31
SDCO Great Sand Dun 84.02 316 P P 17 21 14.3 -0.5
baz=41,SNR=26
SDCO Great Sand Dun 84.02 316 P P 17 21 14.8 -0.1
SDCO IAmb IAmb 17 21 16.6
comp=Z,26nm,1.2s
HKT Hockley 84.19 305 eP P 17 21 15.4 0.0
HKT pmax pmax
comp=Z,27nm,1.3s
E04D Cinebar 84.41 332 P P 17 21 16.3 0.0
baz=31
ABTX Abilene, Hawle 84.56 309 P P 17 21 16.7 -0.7
baz=44
F05D White Salmon 84.58 331 P P 17 21 17.5 +0.3
baz=32
435B Jarrell 84.66 307 P P 17 21 17.2 -0.7
baz=44
S22A 4UR Ranch, Cre 84.70 317 P P 17 21 18.5 +0.1
baz=40,SNR=14
G06A Carlson Farm, 84.83 330 P P 17 21 18.4 -0.2
G05D Wamic, OR 85.08 330 P P 17 21 18.6 -1.2
baz=32
MSTX Muleshoe 85.36 312 P P 17 21 20.7 -0.8
baz=42
DUG Dugway, Tooele 85.70 322 P P 17 21 22.8 -0.3
baz=37
G03D McMinnville, O 85.81 332 P P 17 21 22.3 -1.0
baz=30
ROSC El Rosal 85.89 273 LR LR 17 58 60.0
comp=Z,161nm,19.3s,baz=76,slow=35
MVCO Mesa Verde 85.96 318 P P 17 21 24.7 +0.1
baz=39
JCT Junction City 86.21 308 P P 17 21 25.3 -0.4
baz=43
H04D Lebanon 86.22 331 P P 17 21 25.7 +0.3
baz=31
ANMO Albuquerque 86.64 315 P P 17 21 27.6 -0.3
baz=40
J05D Fort Rock, OR 86.71 329 P P 17 21 27.7 -0.3
baz=32,SNR=13
I04A Tendick Farm, 86.72 330 P P 17 21 28.1 +0.1
baz=31
MJAR Matsushiro Arr 86.91 42 P P 17 21 28.0 -1.0
comp=Z,4.2nm,1.1s,baz=335,slow=4.3,SNR=4.0
MJAR LR LR 18 04 18.0
comp=Z,697nm,18.6s,baz=310,slow=38
I02D Swisshome 86.98 331 P P 17 21 29.4 +0.3
baz=30
L04D Klamath Falls 88.03 329 P P 17 21 33.7 -0.8
baz=31
M04C Macdoel 88.22 329 P P 17 21 34.8 -0.6
baz=31
R11A Troy Canyon, C 88.45 323 P P 17 21 35.9 -0.7
baz=35
MNTX Cornudas Mount 88.52 312 P P 17 21 36.8 0.0
baz=41
WUAZ Wupatki 88.73 319 P P 17 21 37.1 -0.8
baz=38
121A Cookes Peak, D 89.19 314 P P 17 21 40.1 0.0
baz=39
N02D Trinity Center 89.25 329 P P 17 21 39.5 -0.6
baz=31
TXAR Lajitas Array 89.32 310 P P 17 21 40.7 +0.1
comp=Z,2.1nm,1.0s,baz=72,slow=4.1,SNR=13
TXAR LR LR 18 02 07.9
comp=Z,208nm,18.4s,baz=0.0,slow=36
O03E Paynes Creek 89.48 328 P P 17 21 41.6 +0.3
baz=31
NVAR Mina Array Bea 89.59 325 P P 17 21 41.7 -0.3
comp=Z,3.1nm,1.0s,baz=45,slow=4.7,SNR=13
NVAR LR LR 18 02 30.0
comp=Z,486nm,19.4s,baz=27,slow=36
O02D Mt. Diablo Mer 89.97 329 P P 17 21 43.4 -0.2
baz=31
TUC Tucson 90.95 316 P P 17 21 48.3 0.0
baz=38
CWC Cottonwood Cre 91.15 324 P P 17 21 49.5 +0.3
baz=34
MPMC Manual Prospec 91.20 323 P P 17 21 49.9 +0.4
baz=34
GMRC Granite Mounta 91.40 321 P P 17 21 50.1 -0.2
baz=35
GSC Goldstone, Bar 91.51 322 P P 17 21 50.5 -0.3
baz=34
IRM Iron Mountain 91.66 320 P P 17 21 51.4 -0.1
baz=35
HEC Hector,Ludlow 91.68 321 P P 17 21 51.4 -0.1
baz=35
LRMC Laurel Mtn Rad 91.77 323 P P 17 21 51.2 -0.8
baz=34
ISA Isabella, Lake 91.97 323 P P 17 21 52.3 -0.6
baz=33
EDW2 Edwards Air Fo 92.40 323 P P 17 21 55.2 +0.3
baz=34
TPFO Pinon Flats 92.74 321 P P 17 21 56.2 -0.3
baz=35
MONP2 Monument Peak 93.31 320 P P 17 21 59.8 +0.5
baz=35
CPUP Villa Florida 94.56 239 LR LR 18 04 51.6
comp=Z,558nm,18.9s,baz=47,slow=36
LPAZ La Paz 95.17 253 LR LR 18 04 14.8
comp=Z,129nm,18.5s,baz=19,slow=35
JCJ Chichijima 96.43 45 LR LR 18 10 02.4
comp=Z,227nm,18.7s,baz=310,slow=38
LPIG La Paz 97.12 311 LR LR 18 05 38.4
comp=Z,166nm,18.9s,baz=34,slow=35
SYO Syowa Base 111.68 171⇓ eP Pdiff Pdif 17 23 20.0 -0.1
SYO Syowa Base 111.68 171⇑ eP Pdiff pPdif 17 23 24.3 +1.6
WRA Warramunga Arr 125.19 86 PKP PKPdf 17 27 43.4 -1.6
comp=Z,1.5nm,0.9s,baz=313,slow=2.0,SNR=6.8
ASAR Alice Springs 127.04 90 PKP PKPdf 17 27 47.0 -1.3
comp=Z,3.1nm,1.0s,baz=344,slow=1.6,SNR=15
STKA Stephens Creek 137.13 95 PKP PKiKP 17 28 08.1 -0.8
comp=Z,3.6nm,0.9s,baz=326,slow=4.8,SNR=4.1

*ISCJB **29** 17:17:42.6±1.1, 15°.91N±0°.09×98°.63W±0°.05, h17km, Error ellipse: s-maj=12.9km s-min=6.2km az=10.2*
*NEIC **29** 17:17:45.0±2.6, 16°.05N±0°.08×98°.61W±0°.03, h26km±14km, Md4.0(MEX)*
*MEX **29** 17:17:46.9±0.3, 16°.09N×98°.60W, h1km, MD4.0*
ISC 29 17:17:42.4±1.1, 15°.96N±0°.08×98°.58W±0°.05, h17km, n14, σ1s 89/21, Off coast of Guerrero

Code	Station Name	Δ°	Az°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.61**	**45**	*eP*		**Pn**	**17 17 57.1**	**+0.8**
PNIG				*i* S		**Sb**	**17 18 04.9**	**+1.9**
PNIG	**Pinotepa**	**0.61**	**45**			**Pn**	**17 17 57.1**	**+0.8**
PNIG						**Sb**	**17 18 04.9**	**+1.9**
CAIG	**El Cayaco**	**1.95**	**304**	*i* P		**Pn**	**17 18 15.8**	**+1.1**
CAIG				*i* S		**Sn**	**17 18 39.4**	**+0.7**
CAIG	**El Cayaco**	**1.95**	**304**			**Pn**	**17 18 15.8**	**+1.1**
CAIG						**Sn**	**17 18 39.4**	**+0.7**
VHO	**Vista Hermosa**	**2.08**	**58**	*eP*		**Pb**	**17 18 18.9**	**-1.1**
VHO				*eS*		**Sb**	**17 18 44.5**	**-1.2**
HUIG	**Huatulco**	**2.38**	**94**	*i P*		**Pb**	**17 18 25.2**	**+0.3**
HUIG				*i S*		**Sb**	**17 18 52.5**	**-1.6**
HUIG	**Huatulco**	**2.38**	**94**			**Pb**	**17 18 25.2**	**+0.3**
HUIG						**Sb**	**17 18 52.5**	**-1.6**
UNM	**Universidad Na**	**3.40**	**350**	Pn		**Pn**	**17 18 36.5**	**+1.6**
TEIG	**Tepich**	**10.67**	**65**	Pn		**Pn**	**17 20 16.8**	**+2.2**
KVTX	**Kingsville**	**11.54**	**3**	Pn		**Pn**	**17 20 24.4**	**-2.1**
ACON	**Acoyapa**	**13.60**	**105**	Pn		**Pn**	**17 20 56.6**	**+1.9**
TX31	**Lajitas Ar. Si**	**14.11**	**341**	Pn		**Pn**	**17 20 58.0**	**-3.7**
HKT	**Hockley**	**14.15**	**10**	Pn		**Pn**	**17 20 59.9**	**-2.2**
ETX02	**Prairie Street**	**16.32**	**13**	Pn		**Pn**	**17 21 27.5**	**-3.4**

ROM 29 17:21:29.6±0.2, 41°.354N±0°.006×14°.448E±0°.007, h21km±1km, Md1.7/2, Error ellipse: s-maj=0.8km s-min=0.2km az=148.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.17**	**291**	P	Pb	17 21 34.4	-1.1
VAGA				S	Sb	17 21 38.4	-1.4
VAGA				AML	AML		
	comp=E,2785µm,0.4s						
VAGA				AML	AML		
	comp=N,3825µm,0.7s						
VAGA				AML	AML		
	comp=E,3025µm,0.4s						
VAGA				AML	AML		
	comp=N,3950µm,0.7s						
VAGA				AML	AML		
	comp=E,2835µm,0.4s						
VAGA				AML	AML		
	comp=N,3965µm,0.6s						
VAGA				AML	AML		
	comp=E,3025µm,0.4s						
VAGA				AML	AML		
	comp=N,4130µm,0.6s						
VAGA				END			
SACR	**S. Croce Del S**	**0.20**	**77**	P	Pb	17 21 34.7	-0.8
SACR				S	Sb	17 21 38.6	-1.1
SACR				AML	AML		
	comp=E,1263µm,1.6s						
SACR				AML	AML		
	comp=N,1047µm,0.6s						
SACR				AML	AML		
	comp=E,1125µm,0.7s						
SACR				AML	AML		
	comp=N,1072µm,0.6s						
SACR				AML	AML		
	comp=N,1450µm,0.5s						
SACR				AML	AML		
	comp=E,1812µm,1.6s						
SACR				AML	AML		
	comp=N,1490µm,0.5s						
SACR				AML	AML		
	comp=E,1450µm,0.8s						
SACR				END			
BSSO	**Busso**	**0.22**	**30**	P	Pb	17 21 35.3	-0.4
BSSO				S	Sb	17 21 39.7	-0.2
BSSO				AML	AML		
	comp=N,1790µm,0.5s						
BSSO				AML	AML		
	comp=E,643µm,0.3s						
BSSO				AML	AML		
	comp=N,699µm,0.5s						
BSSO				AML	AML		
	comp=E,1515µm,0.3s						
BSSO				AML	AML		
	comp=E,723µm,0.5s						
BSSO				AML	AML		
	comp=N,2575µm,0.7s						
BSSO				AML	AML		
	comp=N,973µm,0.7s						
PIGN	**Pignataro Magg**	**0.25**	**233**	P	Pb	17 21 35.9	+0.1
PIGN				AML	AML		
	comp=E,364µm,0.2s						
PIGN				AML	AML		
	comp=N,380µm,0.8s						
PIGN				AML	AML		
	comp=E,399µm,0.3s						
PIGN				AML	AML		
	comp=N,390µm,0.4s						
PIGN				AML	AML		
	comp=N,453µm,0.5s						
PIGN				AML	AML		
	comp=E,502µm,0.4s						
PIGN				AML	AML		
	comp=E,567µm,0.4s						
PIGN				AML	AML		
	comp=N,467µm,0.5s						
MIDA	**Miranda**	**0.32**	**333**	P	Pb	17 21 36.5	-0.1
MIDA				S	Sb	17 21 41.8	+0.2
MIDA				AML	AML		
	comp=E,519µm,0.9s						
MIDA				AML	AML		
	comp=N,468µm,0.6s						
PAOL	**Paolisi**	**0.34**	**164**	P	Pb	17 21 37.1	+0.3
PAOL				AML	AML		
	comp=E,380µm,0.3s						
PAOL				AML	AML		
	comp=N,454µm,0.3s						
PAOL				AML	AML		
	comp=E,352µm,0.2s						
PAOL				AML	AML		
	comp=N,442µm,0.3s						
PAOL				AML	AML		
	comp=N,453µm,0.3s						
PAOL				AML	AML		
	comp=E,367µm,0.3s						
PAOL				AML	AML		
	comp=N,443µm,0.3s						
PAOL				AML	AML		
	comp=E,418µm,1.0s						
TRIV	**Trivento**	**0.42**	**11**	P	Pb	17 21 38.4	+0.2
TRIV				S	Sb	17 21 45.2	+1.1
TRIV				AML	AML		
	comp=E,396µm,0.5s						
TRIV				AML	AML		
	comp=N,266µm,0.3s						
TRIV				AML	AML		
	comp=E,446µm,0.4s						
TRIV				AML	AML		
	comp=N,297µm,0.7s						
MODR	**Mondragone**	**0.48**	**244**	P	Pb	17 21 39.9	+0.7
MODR				AML	AML		
	comp=E,476µm,0.6s						
MODR				AML	AML		
	comp=N,500µm,0.9s						
MODR				AML	AML		
	comp=E,1088µm,0.8s						
MODR				AML	AML		
	comp=N,786µm,1.4s						
MELA	**Melanico ??? S**	**0.62**	**55**	AML	AML		
	comp=N,315µm,0.2s						
MELA				AML	AML		
	comp=E,296µm,0.4s						
INTR	**Introdacqua**	**0.77**	**328**	AML	AML		
	comp=N,475µm,0.6s						
INTR				AML	AML		
	comp=E,358µm,0.7s						
SGRT	**San Giovanni R**	**1.05**	**67**	S	Sn	17 22 06.0	+2.8
MSAG	**Monte S. Angel**	**1.15**	**71**	S	Sn	17 22 10.0	+4.3

ROM 29 17:21:55.3±0.2, 41°.360N±0°.008×14°.437E±0°.008, h22km±1km, ML2.4/4, Error ellipse: s-maj=0.9km s-min=0.3km az=339.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.16**	**290**	P	Pb	17 22 00.2	-0.5
VAGA				S	Sb	17 22 03.8	-0.6
SACR	**S. Croce Del S**	**0.21**	**79**	P	Pb	17 22 00.7	-0.4
SACR				S	Sb	17 22 04.8	-0.2
BSSO	**Busso**	**0.22**	**32**	P	Pb	17 22 01.1	-0.1
BSSO				S	Sb	17 22 05.7	+0.4
PIGN	**Pignataro Magg**	**0.25**	**231**	P	Pb	17 22 01.4	0.0
PIGN				S	Sb	17 22 06.1	+0.5
PSB1	**Pescosannita**	**0.31**	**116**	P	Pb	17 22 02.6	+0.3
PSB1				S	Sb	17 22 08.1	+1.0
PSB1				AML	AML		
	comp=E,819µm,0.9s						
PSB1				AML	AML		
	comp=N,736µm,0.6s						
PSB1				AML	AML		
	comp=N,696µm,1.5s						
PSB1				AML	AML		
	comp=E,846µm,0.9s						
MIDA	**Miranda**	**0.31**	**334**	P	Pb	17 22 02.2	-0.2
PAOL	**Paolisi**	**0.34**	**163**	P	Pb	17 22 03.1	+0.3
RNI2	**Rionero Sannit**	**0.40**	**328**	P	Pb	17 22 04.0	+0.1
TRIV	**Trivento**	**0.41**	**12**	P	Pb	17 22 04.4	+0.4
MODR	**Mondragone**	**0.47**	**243**	P	Pb	17 22 05.4	+0.5
MODR				AML	AML		
	comp=E,1088µm,0.8s						
MODR				AML	AML		
	comp=N,786µm,1.4s						
MELA	**Melanico ??? S**	**0.62**	**56**	P	Pb	17 22 06.8	-0.7
INTR	**Introdacqua**	**0.76**	**329**	AML	AML		
	comp=N,475µm,0.6s						
INTR				AML	AML		
	comp=E,358µm,0.7s						
VVLD	**Villa Vallelon**	**0.80**	**310**	AML	AML		
	comp=E,140µm,0.5s						
VVLD				AML	AML		
	comp=N,156µm,0.6s						

ROM 29 17:25:49.9±0.3, 41°.374N±0°.008×14°.43E±0°.01, h21km±2km, Md1.4/5, Error ellipse: s-maj=0.9km s-min=0.2km az=357.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.15**	**286**	P	Pb	17 25 54.7	-1.2
VAGA				S	Sb	17 25 58.5	-1.8
VAGA				AML	AML		
	comp=E,582µm,1.3s						
VAGA				AML	AML		
	comp=N,658µm,0.3s						
VAGA				AML	AML		
	comp=E,627µm,1.3s						
VAGA				AML	AML		
	comp=N,684µm,1.0s						
VAGA				AML	AML		
	comp=E,11550µm,0.4s						
VAGA				AML	AML		
	comp=N,19250µm,0.4s						
VAGA				AML	AML		
	comp=E,12125µm,0.4s						
VAGA				AML	AML		
	comp=N,19900µm,0.4s						
VAGA				END			
SACR	**S. Croce Del S**	**0.21**	**84**	P	Pb	17 25 55.0	-0.9
SACR				S	Sb	17 25 58.6	-1.5
SACR				AML	AML		
	comp=E,359µm,1.1s						
SACR				AML	AML		
	comp=N,267µm,1.4s						
SACR				AML	AML		
	comp=E,8125µm,0.9s						
SACR				AML	AML		
	comp=N,9300µm,0.6s						
SACR				AML	AML		
	comp=E,8250µm,0.8s						
SACR				AML	AML		
	comp=N,9495µm,0.6s						
SACR				END			
BSSO	**Busso**	**0.21**	**35**	P	Pb	17 25 55.4	-0.5
BSSO				S	Sb	17 26 00.1	0.0
BSSO				AML	AML		
	comp=E,322µm,0.3s						
BSSO				AML	AML		
	comp=N,403µm,0.9s						
BSSO				AML	AML		
	comp=E,138µm,0.2s						
BSSO				AML	AML		
	comp=N,156µm,0.9s						
BSSO				AML	AML		
	comp=E,10265µm,0.8s						
BSSO				AML	AML		
	comp=N,14750µm,0.7s						
BSSO				AML	AML		
	comp=E,5000µm,0.8s						
BSSO				AML	AML		
	comp=N,5345µm,0.7s						
BSSO				END			
PIGN	**Pignataro Magg**	**0.26**	**227**	P	Pb	17 25 55.9	-0.1
PIGN				S	Sb	17 26 00.7	+0.3
PIGN				AML	AML		
	comp=E,96µm,0.6s						
PIGN				AML	AML		
	comp=N,121µm,1.5s						
PIGN				AML	AML		
	comp=E,2880µm,0.2s						
PIGN				AML	AML		
	comp=N,2985µm,0.4s						
PIGN				AML	AML		
	comp=E,2850µm,0.2s						
PIGN				AML	AML		
	comp=N,2950µm,0.4s						
PIGN				END			
MIDA	**Miranda**	**0.30**	**334**	P	Pb	17 25 56.6	-0.1
MIDA				S	Sb	17 26 02.0	+0.7
MIDA				AML	AML		
	comp=E,82µm,0.1s						
MIDA				AML	AML		
	comp=N,79µm,0.4s						
MIDA				AML	AML		
	comp=E,2785µm,0.4s						
MIDA				AML	AML		
	comp=N,2490µm,0.6s						
MIDA				AML	AML		
	comp=E,2850µm,0.5s						
MIDA				AML	AML		
	comp=N,2590µm,0.6s						
MIDA				END			
PSB1	**Pescosannita**	**0.32**	**118**	P	Pb	17 25 57.5	+0.6
PSB1				S	Sb	17 26 03.3	+1.5
PAOL	**Paolisi**	**0.36**	**163**	P	Pb	17 25 57.5	+0.1
MELA	**Melanico ??? S**	**0.62**	**57**	P	Pb	17 26 01.8	-0.2
MELA				AML	AML		
	comp=E,2940µm,0.6s						
MELA				AML	AML		
	comp=N,1510µm,0.3s						
MELA				AML	AML		
	comp=E,3010µm,0.6s						
MELA				AML	AML		
	comp=N,1465µm,0.3s						
VENT	**Ventotene**	**0.96**	**233**	AML	AML		
	comp=N,1035µm,0.3s						
VENT				AML	AML		
	comp=E,990µm,1.0s						

ROM 29 17:26:14.8±0.2, 41°.371N±0°.007×14°.452E±0°.007, h18km±2km, Md1.5/4, Error ellipse: s-maj=0.8km s-min=0.3km az=147.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.17**	**285**	P	Pg	17 26 19.6	+0.2
VAGA				S	Sg	17 26 23.1	+0.5
VAGA				AML	AML		
	comp=E,11550µm,0.4s						
VAGA				AML	AML		
	comp=N,19250µm,0.4s						
VAGA				AML	AML		
	comp=E,12125µm,0.4s						
VAGA				AML	AML		
	comp=N,19900µm,0.4s						
VAGA				END			
SACR	**S. Croce Del S**	**0.19**	**82**	P	Pg	17 26 19.9	+0.1
SACR				S	Sg	17 26 23.1	0.0
SACR				AML	AML		
	comp=E,8125µm,0.9s						
SACR				AML	AML		
	comp=N,9300µm,0.6s						
SACR				AML	AML		
	comp=E,8250µm,0.8s						
SACR				AML	AML		
	comp=N,9495µm,0.6s						
SACR				END			
BSSO	**Busso**	**0.20**	**31**	P	Pg	17 26 20.2	+0.3
BSSO				S	Sg	17 26 23.7	+0.2
BSSO				AML	AML		
	comp=E,10265µm,0.8s						
BSSO				AML	AML		
	comp=N,14750µm,0.7s						
BSSO				AML	AML		
	comp=E,5000µm,0.8s						
BSSO				AML	AML		
	comp=N,5345µm,0.7s						
BSSO				END			
PIGN	**Pignataro Magg**	**0.27**	**230**	P	Pb	17 26 20.9	-0.1
PIGN				S	Sb	17 26 25.4	+0.3
PIGN				AML	AML		
	comp=E,2880µm,0.2s						
PIGN				AML	AML		
	comp=N,2985µm,0.4s						
PIGN				AML	AML		
	comp=E,2850µm,0.2s						
PIGN				AML	AML		
	comp=N,2950µm,0.4s						
PIGN				END			
PSB1	**Pescosannita**	**0.31**	**119**	P	Pb	17 26 21.7	-0.1
PSB1				S	Sb	17 26 27.2	+0.8
PAOL	**Paolisi**	**0.35**	**166**	P	Pg	17 26 22.1	-0.1
PAOL				S	Sb	17 26 28.0	+0.2

*ISCJB **29** 17:26:47.6±0.3, 41°.38N±0°.02×14°.46E±0°.02, h20km±3km, Error ellipse: s-maj=3.5km s-min=2.7km az=136.8*
*ROM **29** 17:26:47.0±0.1, 41°.375N±0°.004×14°.460E±0°.006, h20km±1km, ML2.9/38, Error ellipse: s-maj=0.5km s-min=0.1km az=110.0*

ISC 29 17:26:47.6±0.8, 41°.37N±0°.02×14°.45E±0°.02, h12km±6km, n64, σ1.317/81, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.17**	**285**	P	**Pb**	**17 26 51.8**	**-0.9**
VAGA				S	**Sg**	**17 26 55.8**	**+1.5**
VAGA				AML	AML		
	comp=E,11555µm,0.4s						
VAGA				AML	AML		
	comp=N,19250µm,0.4s						
VAGA				AML	AML		
	comp=E,11550µm,0.4s						
VAGA				AML	AML		
	comp=N,19900µm,0.4s						
VAGA				AML	AML		
	comp=E,12125µm,0.4s						
VAGA				AML	AML		
	comp=N,19900µm,0.4s						
VAGA				AML	AML		
	comp=E,11570µm,0.4s						
SACR	**S. Croce Del S**	**0.19**	**83**	P	**Pb**	**17 26 52.0**	**-1.1**
SACR				S	**Sg**	**17 26 56.0**	**+1.0**
SACR				AML	AML		
	comp=E,8125µm,0.9s						
SACR				AML	AML		
	comp=N,9495µm,0.6s						
SACR				AML	AML		
	comp=N,9300µm,0.6s						
SACR				AML	AML		
	comp=E,8130µm,0.9s						
SACR				AML	AML		
	comp=E,8250µm,0.8s						
SACR				AML	AML		
	comp=N,9295µm,0.6s						
BSSO	**Busso**	**0.20**	**32**	P	**Pg**	**17 26 52.6**	**+0.4**
BSSO				S	**Sg**	**17 26 55.8**	**+0.5**
BSSO				AML	AML		
	comp=E,10285µm,0.8s						
BSSO				AML	AML		
	comp=E,10275µm,0.8s						
BSSO				AML	AML		
	comp=N,14750µm,0.7s						
BSSO				AML	AML		
	comp=N,5345µm,0.7s						
BSSO				AML	AML		
	comp=E,10270µm,0.8s						
BSSO				AML	AML		
	comp=E,5000µm,0.8s						
BSSO				AML	AML		
	comp=N,14800µm,0.7s						
BSSO				AML	AML		
	comp=E,10265µm,0.8s						
PIGN	**Pignataro Magg**	**0.27**	**230**	P	**Pg**	**17 26 53.2**	**0.0**
PIGN				S	**Sg**	**17 26 57.3**	**+0.3**
PIGN				AML	AML		
	comp=N,2990µm,0.4s						
PIGN				AML	AML		
	comp=N,2950µm,0.4s						
PIGN				AML	AML		
	comp=E,2850µm,0.2s						
PIGN				AML	AML		
	comp=E,2880µm,0.2s						
PIGN				AML	AML		
	comp=N,2985µm,0.4s						
MIDA	**Miranda**	**0.31**	**331**	P	**Pg**	**17 26 53.7**	**-0.2**
MIDA				S	**Sg**	**17 26 58.8**	**+0.6**
MIDA				AML	AML		
	comp=N,2595µm,0.6s						
MIDA				AML	AML		
	comp=E,2785µm,0.4s						
MIDA				AML	AML		
	comp=N,2590µm,0.6s						
MIDA				AML	AML		
	comp=N,2490µm,0.6s						
MIDA				AML	AML		
	comp=E,2850µm,0.5s						
MIDA				AML	AML		
	comp=N,2485µm,0.6s						
PSB1	**Pescosannita**	**0.31**	**119**	P	**Pg**	**17 26 54.0**	**0.0**
PSB1				S	**Sg**	**17 26 58.8**	**+0.5**
PSB1				AML	AML		
	comp=E,2335µm,1.2s						
PSB1				AML	AML		
	comp=N,2710µm,0.6s						
PSB1				AML	AML		
	comp=N,2770µm,0.6s						
PSB1				AML	AML		
	comp=E,2315µm,0.5s						
PAOL	**Paolisi**	**0.35**	**165**	P	**Pg**	**17 26 54.3**	**-0.4**
PAOL				AML	AML		
	comp=E,2185µm,0.9s						
PAOL				AML	AML		
	comp=E,2305µm,0.2s						
PAOL				AML	AML		
	comp=E,2180µm,0.9s						
PAOL				AML	AML		
	comp=N,2175µm,1.2s						
PAOL				AML	AML		
	comp=N,2150µm,1.2s						
PAOL				AML	AML		
	comp=E,2180µm,0.9s						
PAOL				AML	AML		
	comp=N,2175µm,1.2s						
GATE	**Gambatesa**	**0.37**	**68**	AML	AML		
	comp=N,2295µm,0.5s						
GATE				AML	AML		
	comp=E,2175µm,0.9s						
GATE				AML	AML		
	comp=N,2300µm,0.5s						
GATE				AML	AML		
	comp=N,2300µm,0.5s						
GATE				AML	AML		
	comp=E,2170µm,0.9s						
GATE				AML	AML		
	comp=E,1645µm,0.6s						
CERA	**Filignano**	**0.40**	**305**	AML	AML		
	comp=E,1945µm,0.8s						
CERA				AML	AML		
	comp=E,1950µm,0.8s						
CERA				AML	AML		
	comp=N,2360µm,1.3s						
CERA				AML	AML		
	comp=N,2265µm,1.3s						
CERA				AML	AML		
	comp=E,1970µm,0.8s						
RNI2	**Rionero Sannit**	**0.40**	**326**	P	**Pg**	**17 26 55.5**	**-0.1**
RNI2				S	**Sb**	**17 27 02.4**	**-0.3**
RNI2				AML	AML		
	comp=N,2185µm,0.5s						
RNI2				AML	AML		
	comp=E,2725µm,0.4s						
RNI2				AML	AML		
	comp=N,2165µm,0.5s						
RNI2				AML	AML		
	comp=E,2775µm,0.4s						
TRIV	**Trivento**	**0.40**	**11**	P	**Pg**	**17 26 55.4**	**-0.2**
TRIV				S	**Sb**	**17 27 01.9**	**-0.8**
TRIV				AML	AML		
	comp=E,2015µm,0.4s						
TRIV				AML	AML		
	comp=N,1830µm,0.4s						
CIGN	**Sant'Elia a Pi**	**0.44**	**50**	P	**Pg**	**17 26 56.5**	**+0.1**
CIGN				AML	AML		
	comp=E,1226µm,0.5s						
CIGN				AML	AML		
	comp=N,1160µm,0.7s						
CIGN				AML	AML		
	comp=N,1160µm,0.7s						
MRB1	**Monte Rocchett**	**0.47**	**122**	P	**Pb**	**17 26 56.9**	**-0.8**
MRB1				S	**Sg**	**17 27 02.5**	**-0.4**
MRB1				AML	AML		
	comp=N,2610µm,0.8s						
MRB1				AML	AML		
	comp=E,2420µm,0.6s						
MRB1				AML	AML		
	comp=N,2615µm,0.8s						
MRB1				AML	AML		
	comp=E,2365µm,0.5s						
MRB1				AML	AML		
	comp=N,2710µm,0.8s						

MRB1				AML	AML		
	comp=E,2415µm,0.5s						
MRB1				AML	AML		
	comp=E,2415µm,0.6s						
MODR	**Mondragone**	**0.49**	**242**	P	**Pg**	**17 26 57.1**	**-0.2**
MODR				S	**Sb**	**17 27 04.7**	**-0.5**
MODR				AML	AML		
	comp=N,4500µm,0.5s						
MODR				AML	AML		
	comp=E,5475µm,0.7s						
OVO	**Vesuviano**	**0.55**	**184**	P	**Pb**	**17 26 58.5**	**-0.6**
OVO				AML	AML		
	comp=N,2565µm,0.6s						
MELA	**Melanico ??? S**	**0.61**	**57**	P	**Pg**	**17 26 58.4**	**-1.1**
MELA				S	**Sg**	**17 27 07.3**	**-0.2**
MELA				AML	AML		
	comp=E,2940µm,0.6s						
MELA				AML	AML		
	comp=N,1540µm,0.6s						
MELA				AML	AML		
	comp=E,3010µm,0.6s						
MELA				AML	AML		
	comp=E,2940µm,0.6s						
MELA				AML	AML		
	comp=N,1505µm,0.6s						
FRES	**Fresagrandinar**	**0.62**	**15**	P	**Pb**	**17 26 58.8**	**-1.6**
FRES				S	**Sg**	**17 27 07.8**	**-0.2**
FRES				AML	AML		
	comp=E,714µm,0.5s						
FRES				AML	AML		
	comp=E,714µm,0.5s						
FRES				AML	AML		
	comp=N,474µm,0.4s						
POFI	**Posta Fibreno**	**0.65**	**302**	P	**Pb**	**17 27 00.1**	**-0.8**
POFI				AML	AML		
	comp=N,466µm,0.7s						
POFI				AML	AML		
	comp=E,572µm,0.7s						
POFI				AML	AML		
	comp=N,458µm,0.7s						
POFI				AML	AML		
	comp=N,458µm,0.7s						
POFI				AML	AML		
	comp=E,538µm,0.5s						
POFI				AML	AML		
	comp=E,571µm,0.7s						
CAFE	**Carife**	**0.69**	**120**	P	**Pb**	**17 27 00.6**	**-1.0**
CAFE				AML	AML		
	comp=E,1076µm,0.8s						
CAFE				AML	AML		
	comp=E,1083µm,0.8s						
CAFE				AML	AML		
	comp=E,1077µm,0.8s						
CAFE				AML	AML		
	comp=N,538µm,0.7s						
CAFE				AML	AML		
	comp=E,1084µm,0.8s						
CAFE				AML	AML		
	comp=N,496µm,0.5s						
CAFE				AML	AML		
	comp=N,538µm,0.7s						
CAFE				AML	AML		
	comp=E,1076µm,0.8s						
LPEL	**Lama dei Pelig**	**0.70**	**344**	P	**Pg**	**17 27 01.5**	**+0.2**
LPEL				S	**Sn**	**17 27 12.0**	**-2.2**
LPEL				AML	AML		
	comp=N,745µm,0.5s						
LPEL				AML	AML		
	comp=E,1051µm,0.3s						
SNAL	**S. Angelo Dei**	**0.73**	**128**	P	**Pb**	**17 27 01.5**	**-0.7**
SNAL				AML	AML		
	comp=N,556µm,0.7s						
SNAL				AML	AML		
	comp=N,558µm,0.9s						
SNAL				AML	AML		
	comp=E,805µm,1.1s						
SGTA	**Sant Agata di**	**0.73**	**109**	AML	AML		
	comp=N,684µm,0.6s						
SGTA				AML	AML		
	comp=E,766µm,0.6s						
SGTA				AML	AML		
	comp=E,766µm,0.5s						
SGTA				AML	AML		
	comp=N,684µm,0.6s						
SGTA				AML	AML		
	comp=N,799µm,0.6s						
SGTA				AML	AML		
	comp=E,766µm,0.6s						
INTR	**Introdacqua**	**0.76**	**328**	P	**Pb**	**17 27 01.2**	**-1.6**
INTR				S	**Sn**	**17 27 14.0**	**-1.6**
INTR				AML	AML		
	comp=N,1545µm,0.6s						
INTR				AML	AML		
	comp=E,1645µm,1.3s						
INTR				AML	AML		
INTR				AML	AML		
VVLD	**Villa Vallelon**	**0.80**	**309**	P	**Pb**	**17 27 02.0**	**-1.4**
VVLD				AML	AML		
	comp=E,476µm,0.4s						
VVLD				AML	AML		
	comp=N,680µm,0.8s						
VVLD				AML	AML		
	comp=E,476µm,0.4s						
VVLD				AML	AML		
	comp=N,680µm,0.8s						
CAFR	**Castel Frentan**	**0.86**	**355**	P	**Pn**	**17 27 06.2**	**+0.8**
CAFR				AML	AML		
	comp=E,1555µm,0.5s						
CAFR				AML	AML		
	comp=N,1870µm,0.8s						
CAFR				AML	AML		
	comp=E,1560µm,0.5s						
GIUL	**Giuliano Di Ro**	**0.92**	**282**	P	**Pn**	**17 27 05.5**	**-0.8**
GIUL				AML	AML		
	comp=N,250µm,1.4s						
GIUL				AML	AML		
	comp=E,212µm,1.2s						
GUAR	**Guarcino**	**0.95**	**297**	P	**Pn**	**17 27 06.5**	**-0.3**
GUAR				AML	AML		
	comp=E,294µm,1.6s						
GUAR				AML	AML		
	comp=N,394µm,0.4s						
GUAR				AML	AML		
	comp=E,294µm,1.6s						
VENT	**Ventotene**	**0.97**	**234**	P	**Pb**	**17 27 04.7**	**-1.6**
VENT				AML	AML		
	comp=E,987µm,1.0s						
VENT				AML	AML		
	comp=N,1040µm,0.3s						
VENT				AML	AML		
	comp=E,990µm,1.0s						
VENT				AML	AML		
	comp=N,1035µm,0.3s						
VENT				AML	AML		
	comp=E,988µm,1.0s						
VENT				AML	AML		
	comp=N,1110µm,0.3s						
VENT				AML	AML		
	comp=E,1060µm,1.0s						
VULT	**Monte Vulture**	**0.97**	**115**	AML	AML		
	comp=N,1280µm,0.4s						
VULT				AML	AML		
	comp=E,682µm,0.4s						
VULT				AML	AML		
	comp=N,1278µm,0.4s						
VULT				AML	AML		
	comp=E,714µm,0.4s						
VULT				AML	AML		
	comp=N,1268µm,0.4s						
VULT				AML	AML		
	comp=E,682µm,0.4s						
VULT				AML	AML		
	comp=N,1269µm,0.4s						
MRLC	**Muro Lucano**	**1.00**	**128**	P	**Pb**	**17 27 05.6**	**-1.3**
MRLC				AML	AML		
	comp=E,332µm,1.1s						
MRLC				AML	AML		
	comp=N,387µm,0.9s						
MRLC				AML	AML		
	comp=E,328µm,1.1s						
MRLC				AML	AML		
	comp=N,354µm,0.9s						
PTQR	**Pietraquaria**	**1.02**	**310**	P	**Pg**	**17 27 07.8**	**+0.5**
PTQR				AML	AML		
	comp=E,170µm,0.6s						
SGRT	**San Giovanni R**	**1.04**	**68**	P	**Pn**	**17 27 07.3**	**-0.8**
SGRT				S	**Sn**	**17 27 24.0**	**+1.4**
SGRT				AML	AML		
	comp=E,1165µm,0.7s						
SGRT				AML	AML		
	comp=N,1200µm,0.5s						
CDRU	**Civita di Ruta**	**1.09**	**143**	P	**Pb**	**17 27 07.7**	**-0.8**
CDRU				AML	AML		
	comp=N,206µm,0.9s						
CDRU				AML	AML		
	comp=E,288µm,1.5s						
FAGN	**Fagnano**	**1.10**	**324**	P	**Pg**	**17 27 11.6**	**+2.7**
FAGN				AML	AML		
	comp=N,866µm,0.6s						
FAGN				AML	AML		
	comp=E,1265µm,0.6s						
FAGN				AML	AML		
	comp=N,865µm,0.6s						
FAGN				AML	AML		
	comp=N,1168µm,0.6s						
VCEL	**Villa Celiera**	**1.12**	**336**	P	**Pg**	**17 27 10.6**	**+1.4**
VCEL				AML	AML		
	comp=E,687µm,0.6s						
VCEL				AML	AML		
	comp=N,496µm,0.4s						
VCEL				AML	AML		
	comp=N,496µm,0.4s						
LATB	**Latina**	**1.12**	**277**	P	**Pn**	**17 27 07.8**	**-1.3**
LATB				AML	AML		
	comp=E,104µm,0.7s						
LATB				AML	AML		
	comp=N,68µm,0.8s						
LATB				AML	AML		
	comp=N,68µm,0.8s						
MSAG	**Monte S. Angel**	**1.15**	**72**	P	**Pb**	**17 27 09.0**	**-0.4**
MSAG				S	**Sg**	**17 27 27.0**	**+2.4**
MSAG				AML	AML		
	comp=N,1695µm,0.8s						
MSAG				AML	AML		
	comp=E,1215µm,0.6s						
CMPR	**Campora**	**1.24**	**148**	P	**Pg**	**17 27 12.9**	**+1.5**
CMPR				AML	AML		
	comp=E,164µm,0.4s						
CERT	**Cerreto**	**1.24**	**298**	P	**Pb**	**17 27 10.6**	**-0.4**
CERT				AML	AML		
	comp=E,265µm,0.5s						
MRVN	**Minervino Murg**	**1.35**	**103**	P	**Pb**	**17 27 12.7**	**-0.2**
MRVN				AML	AML		
	comp=E,158µm,0.6s						
TERO	**Teramo**	**1.40**	**333**	P	**Pg**	**17 27 14.9**	**+0.3**
TERO				AML	AML		
	comp=N,110µm,0.7s						
TERO				AML	AML		
	comp=E,58µm,0.7s						
MCEL	**Monticello**	**1.47**	**135**	P	**Pg**	**17 27 16.8**	**+1.0**
MCEL				AML	AML		
	comp=N,264µm,0.9s						
MCEL				AML	AML		
	comp=N,268µm,1.4s						
MCEL				AML	AML		
	comp=E,166µm,0.8s						
MCEL				AML	AML		
	comp=E,170µm,0.7s						
MCEL				AML	AML		
	comp=E,166µm,0.8s						
MCEL				AML	AML		
	comp=N,264µm,0.9s						
SIRI	**Monte Sirino -**	**1.60**	**137**	P	**Pg**	**17 27 18.0**	**-0.4**
SIRI				AML	AML		
	comp=E,132µm,1.5s						
SIRI				AML	AML		
	comp=E,137µm,1.6s						
SIRI				AML	AML		
	comp=N,146µm,0.7s						
SIRI				AML	AML		
	comp=N,140µm,0.7s						
MIGL	**Miglionico**	**1.69**	**116**	P	**Pb**	**17 27 18.4**	**-0.2**
MIGL				AML	AML		
	comp=N,549µm,1.0s						
MIGL				AML	AML		
	comp=E,417µm,0.7s						
AMUR	**Altamura**	**1.69**	**105**	P	**Pn**	**17 27 16.9**	**0.0**
AMUR				AML	AML		
	comp=E,182µm,0.6s						
AMUR				AML	AML		
	comp=N,244µm,1.4s						
CUC	**Castrocucco**	**1.73**	**143**	P	**Pg**	**17 27 22.4**	**+1.7**
NOCI	**Noci**	**2.06**	**106**	P	**Pb**	**17 27 22.8**	**-2.2**
NOCI				AML	AML		
	comp=E,150µm,0.3s						
NOCI				AML	AML		
	comp=N,228µm,0.8s						
PE3	**Peglio**	**2.73**	**329**	S	**Sb**	**17 28 07.0**	**-2.9**
PE3				S	**Sg**	**17 28 18.0**	**+2.5**
USI	**Ustica**	**2.84**	**201**	S	**Sb**	**17 28 13.0**	**+0.2**
STON	**Ston**	**2.84**	**57**	AML	AML		
	comp=N,55µm,0.5s						
STON				AML	AML		
	comp=E,50µm,0.5s						
PUK	**Puka**	**4.13**	**79**	AML	AML		
	comp=E,38µm,0.3s						
PUK				AML	AML		
	comp=N,39µm,0.4s						
BOJS	**Bojanci**	**4.17**	**8**	AML	AML		
	comp=N,21µm,0.8s						
BOJS				AML	AML		
	comp=E,32µm,1.5s						
OBKA	**Obir**	**5.13**	**1**	*i* Pn	**Pn**	**17 28 05.5**	**+1.2**
	comp=E,0.7nm,0.2s						
MYKA	**Terra Mystica**	**5.29**	**354**	*i* Pn	**Pn**	**17 28 05.7**	**-0.7**
	comp=E,1.1nm,0.3s						
MYKA				*i* Sn	**Sn**	**17 29 08.5**	**+1.2**
	comp=E,1.0nm,0.5s						
SOKA	**Soboth**	**5.32**	**4**	*i* Pn	**Pn**	**17 28 05.6**	**-1.3**
	comp=E,0.4nm,0.2s						
ABTA	**Abfaltersbach**	**5.55**	**346**	*i* Pn	**Pn**	**17 28 10.2**	**+0.2**
	comp=E,0.3nm,0.2s						
ABTA				*i* Sn	**Sn**	**17 29 12.9**	**-0.9**
ARSA	**Arzberg**	**5.93**	**7**	*i* Pn	**Pn**	**17 28 15.1**	**-0.1**
	comp=E,1.4nm,0.3s						
WTTA	**Wattenberg**	**6.22**	**342**	*i* Sn	**Sn**	**17 29 32.1**	**+1.6**
	comp=E,1.6nm,0.6s						
FETA	**Feichten**	**6.25**	**336**	*i* Sn	**Sn**	**17 29 33.3**	**+2.3**
	comp=E,1.2nm,0.5s						
SQTA	**Sankt Quirin**	**6.29**	**339**	*i* Pn	**Pn**	**17 28 21.0**	**+0.8**
	comp=E,0.4nm,0.2s						
SQTA				*i* Sn	**Sn**	**17 29 34.2**	**+2.2**
	comp=E,1.6nm,0.3s						
WATA	**Walderalm**	**6.31**	**342**	*i* Pn	**Pn**	**17 28 20.7**	**+0.3**
	comp=E,0.6nm,0.2s						
WATA				*i* Sn	**Sn**	**17 29 34.2**	**+1.7**
	comp=E,1.6nm,0.4s						
MOTA	**Moosalm**	**6.43**	**339**	*i* Pn	**Pn**	**17 28 22.2**	**-0.1**
	comp=E,0.9nm,0.5s						
MOTA				*i* Sn	**Sn**	**17 29 37.0**	**+1.4**
MOA	**Molln**	**6.48**	**359**	*i* Pn	**Pn**	**17 28 22.9**	**+0.2**
	comp=E,0.9nm,0.3s						
MOA				*i* Sn	**Sn**	**17 29 38.0**	**+1.5**
	comp=E,1.2nm,0.5s						
CONA	**Conrad Observa**	**6.63**	**8**	*i* Pn	**Pn**	**17 28 24.4**	**-0.5**
	comp=E,0.6nm,0.3s						
CONA				*i* Sn	**Sn**	**17 29 40.9**	**+0.6**

ISC 29 17:26:49.0±1.9, 41°47N±0'.07×14°5E±0'.1, h12km, n19, σ1§05/22, 4C-2D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SG1	**Sgolgore (BA)**	**1.78**	**110**	*e*Pn	**Pn**	**17 27 18.0**	**-1.6**
BAI	**Bari**	**1.84**	**100**	*e*Pn	**Pn**	**17 27 19.1**	**-1.4**
MATE	**Matera**	**1.87**	**115**	⇑P	**Pn**	**17 27 19.6**	**-1.2**
MATE				⇓S	**Sg**	**17 27 50.7**	**+1.5**
MASS	**Massafra**	**2.18**	**112**	*e*Pn	**Pn**	**17 27 23.9**	**-1.2**
HVAR	**Hvar**	**2.25**	**40**	*e*Pn	**Pn**	**17 27 25.2**	**-0.9**
ZIRJ	**Zirje**	**2.35**	**21**	*i* Pn	**Pn**	**17 27 26.7**	**-0.7**
DUGI	**Dugi Otok**	**2.56**	**9**	*e*Pn	**Pn**	**17 27 29.8**	**-0.6**
MORI	**Morici**	**2.56**	**20**	*i* Pn	**Pn**	**17 27 29.5**	**-0.9**
MAKA	**Makarska**	**2.62**	**45**	*i* Pn	**Pn**	**17 27 30.5**	**-0.6**
STON	**Ston**	**2.78**	**59**	*e*Pn	**Pn**	**17 27 33.0**	**-0.3**
TIP	**Tippagrande**	**2.88**	**142**	⇑P	**Pb**	**17 27 41.4**	**+1.1**
KIJV	**Kijevo**	**2.91**	**29**	*i* Pn	**Pn**	**17 27 35.0**	**-0.1**
DBRK	**Dubrovnik**	**2.98**	**65**	*i* Pn	**Pn**	**17 27 36.2**	**0.0**
DBRK				Sn	**Sn**	**17 28 11.6**	**-0.3**
NVLJ	**Novalja**	**3.11**	**5**	*i* Pn	**Pn**	**17 27 37.5**	**-0.3**
UDBI	**Udbina**	**3.20**	**17**	*e*Pn	**Pn**	**17 27 40.0**	**+0.8**
PDG	**Podgorica**	**3.69**	**73**	⇑P	**Pn**	**17 27 45.2**	**-0.7**
BLY	**Banja Luka**	**3.83**	**30**	⇓P	**Pn**	**17 27 48.1**	**+0.3**
VTS	**Vitosha**	**6.62**	**77**	⇑P	**Pn**	**17 28 26.4**	**+0.2**
VYHS	**Vyhne**	**7.67**	**22**	*e*PN	**Pn**	**17 28 40.7**	**+0.1**
VYHS				*e*SN	**Sn**	**17 30 05.0**	**-2.4**

ROM 29 17:28:54.3±0.2, 41°380N±0'.006×14°441E±0'.008, h18km±2km, Md1.7/4, Error ellipse: s-maj=0.8km s-min=0.2km az=140.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAGA	**Valle Agricola**	**0.16**	**283**	P	Pg	17 28 58.9	+0.1
VAGA				S	Sg	17 29 02.5	+0.7
VAGA				AML	AML		
	comp=E,916µm,0.3s						
VAGA				AML	AML		
	comp=N,1052µm,0.2s						
VAGA				AML	AML		
	comp=E,947µm,0.3s						
VAGA				AML	AML		
	comp=N,1098µm,0.2s						
VAGA				AML	AML		
	comp=E,14190µm,0.5s						
VAGA				AML	AML		
	comp=N,23950µm,0.5s						
VAGA				AML	AML		
	comp=E,14750µm,0.5s						
VAGA				AML	AML		
	comp=N,24500µm,0.5s						
VAGA				END			
SACR	**S. Croce Del S**	**0.20**	**85**	P	Pg	17 28 59.4	+0.1
BSSO	**Busso**	**0.20**	**35**	P	Pg	17 28 59.5	+0.1
BSSO				S	Sg	17 29 03.7	+0.8
BSSO				AML	AML		
	comp=E,636µm,0.3s						
BSSO				AML	AML		
	comp=N,683µm,0.4s						
BSSO				AML	AML		
	comp=E,279µm,0.3s						
BSSO				AML	AML		
	comp=N,270µm,0.4s						
BSSO				AML	AML		
	comp=E,8705µm,1.4s						
BSSO				AML	AML		
	comp=N,13500µm,0.4s						
BSSO				AML	AML		
	comp=E,3790µm,1.3s						
BSSO				AML	AML		
	comp=N,5480µm,0.4s						
BSSO				END			
PIGN	**Pignataro Magg**	**0.27**	**228**	P	Pg	17 29 00.2	-0.1
PIGN				S	Sb	17 29 04.8	+0.4
PIGN				AML	AML		
	comp=E,177µm,1.5s						
PIGN				AML	AML		
	comp=N,125µm,1.5s						
PIGN				AML	AML		
	comp=E,3170µm,0.4s						
PIGN				AML	AML		
	comp=N,2375µm,1.4s						
PIGN				AML	AML		
	comp=E,3145µm,0.4s						
PIGN				AML	AML		
	comp=N,2355µm,0.3s						
MIDA	**Miranda**	**0.30**	**332**	P	Pg	17 29 00.5	-0.4
MIDA				S	Sg	17 29 05.3	-0.1
MIDA				AML	AML		
	comp=E,262µm,0.7s						
MIDA				AML	AML		
	comp=N,196µm,0.4s						
MIDA				AML	AML		
	comp=E,2770µm,1.6s						
MIDA				AML	AML		
	comp=N,2800µm,0.4s						
MIDA				AML	AML		
	comp=E,2800µm,1.6s						
MIDA				AML	AML		
	comp=N,2685µm,0.4s						
MIDA				END			
PSB1	**Pescosannita**	**0.32**	**119**	P	Pb	17 29 01.7	+0.3
PAOL	**Paolisi**	**0.36**	**165**	P	Pg	17 29 01.8	-0.1
CERA	**Filignano**	**0.39**	**305**	P	Pb	17 29 03.0	+0.3
RNI2	**Rionero Sannit**	**0.39**	**326**	P	Pg	17 29 02.4	-0.1
RNI2				S	Sb	17 29 08.8	+0.4
RNI2				AML	AML		
	comp=E,213µm,1.6s						
RNI2				AML	AML		
	comp=N,196µm,0.6s						
RNI2				AML	AML		
	comp=E,226µm,0.2s						
RNI2				AML	AML		
	comp=N,204µm,0.6s						
RNI2				AML	AML		
	comp=E,2255µm,0.8s						
RNI2				AML	AML		
	comp=N,2255µm,0.7s						
RNI2				AML	AML		
	comp=E,2310µm,0.8s						
RNI2				AML	AML		
	comp=N,2290µm,0.7s						
RNI2				END			
MODR	**Mondragone**	**0.48**	**241**	P	Pb	17 29 04.4	+0.2
MODR				AML	AML		
	comp=E,174µm,0.5s						
MODR				AML	AML		
	comp=N,130µm,0.4s						
MODR				AML	AML		
	comp=E,3960µm,0.8s						
MODR				AML	AML		
	comp=N,3155µm,0.6s						
MELA	**Melanico ??? S**	**0.61**	**57**	P	Pb	17 29 06.3	0.0
MELA				AML	AML		
	comp=E,3005µm,0.5s						
MELA				AML	AML		
	comp=N,2505µm,0.5s						
MELA				AML	AML		
	comp=E,3140µm,0.5s						
MELA				AML	AML		
	comp=N,2525µm,0.5s						

ROM 29 17:29:34.5±0.2, 41°380N±0'.006×14°423E±0'.008, h21km±2km, Md1.1/3, Error ellipse: s-maj=0.8km s-min=0.1km az=144.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAGA	**Valle Agricola**	**0.15**	**284**	P	Pb	17 29 39.1	-1.5
VAGA				S	Sb	17 29 42.6	-2.4
VAGA				AML	AML		
	comp=E,14175µm,0.5s						
VAGA				AML	AML		
	comp=E,14750µm,0.5s						
VAGA				AML	AML		
	comp=E,14190µm,0.5s						
VAGA				AML	AML		
	comp=N,24500µm,0.5s						
VAGA				AML	AML		
	comp=E,14165µm,0.5s						
VAGA				AML	AML		
	comp=N,23950µm,0.5s						
VAGA				END			
BSSO	**Busso**	**0.21**	**38**	P	Pb	17 29 40.0	-0.6
BSSO				S	Sb	17 29 44.8	0.0
BSSO				AML	AML		
	comp=E,8700µm,1.4s						
BSSO				AML	AML		
	comp=N,13500µm,0.4s						
BSSO				AML	AML		
	comp=E,8705µm,1.4s						
BSSO				AML	AML		
	comp=N,5480µm,0.4s						
BSSO				AML	AML		
	comp=E,3790µm,1.3s						
BSSO				END			
SACR	**S. Croce Del S**	**0.21**	**85**	P	Pb	17 29 39.9	-0.6
SACR				S	Sb	17 29 43.9	-0.8
SACR				AML	AML		
	comp=E,4505µm,0.8s						
SACR				AML	AML		
	comp=N,5265µm,0.4s						
SACR				AML	AML		
	comp=E,4645µm,0.8s						
SACR				AML	AML		
	comp=N,5415µm,0.4s						
SACR				AML	AML		

	comp=E,4510μm,0.8s						
SACR				AML	AML		
	comp=N,5270μm,0.4s						
SACR				END			
PIGN	**Pignataro Magg**	**0.26**	**226**	P	Pb	17 29 40.8	+0.1
PIGN				S	Sb	17 29 45.7	+0.7
PIGN				AML	AML		
	comp=N,2375μm,1.4s						
PIGN				AML	AML		
	comp=N,2355μm,0.3s						
PIGN				AML	AML		
	comp=E,3170μm,0.4s						
PIGN				AML	AML		
	comp=E,3165μm,0.4s						
PIGN				AML	AML		
	comp=E,3145μm,0.4s						
MIDA	**Miranda**	**0.29**	**334**	P	Pb	17 29 41.0	-0.2
MIDA				S	Sb	17 29 45.9	+0.1
MIDA				AML	AML		
	comp=E,2765μm,1.6s						
MIDA				AML	AML		
	comp=N,2805μm,0.4s						
MIDA				AML	AML		
	comp=E,2800μm,1.6s						
MIDA				AML	AML		
	comp=E,2770μm,1.6s						
MIDA				AML	AML		
	comp=N,2685μm,0.4s						
MIDA				AML	AML		
	comp=N,2800μm,0.4s						
RNI2	**Rionero Sannit**	**0.38**	**328**	P	Pb	17 29 42.8	+0.3
RNI2				S	Sb	17 29 48.6	+0.6
RNI2				AML	AML		
	comp=N,2290μm,0.7s						
RNI2				AML	AML		
	comp=E,2255μm,0.8s						
RNI2				AML	AML		
	comp=E,2310μm,0.8s						
RNI2				AML	AML		
	comp=N,2255μm,0.7s						
TRIV	**Trivento**	**0.40**	**14**	P	Pb	17 29 42.8	0.0
TRIV				S	Sb	17 29 49.6	+1.2
TRIV				AML	AML		
	comp=N,1555μm,1.6s						
TRIV				AML	AML		
	comp=E,1860μm,0.5s						

ROM ***29*** *17:29:44.9±0.1, 41°.407N±0°.006×14°.424E±0°.008, h18km±1km, ML2.8/41, Error ellipse: s-maj=0.7km s-min=0.3km az=211.0*

ISCJB ***29*** *17:29:45.2±0.3, 41°.40N±0°.02×14°.44E±0°.03, h13km±2km, Error ellipse: s-maj=3.7km s-min=2.9km az=142.0*

ISC 29 17:29:45.4±0.9, 41°.38N±0°.02×14°.41E±0°.02, h19km±2km, n84, σ1§41/90, 6C-1D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAGA	**Valle Agricola**	**0.14**	**284**	P	**Pg**	**17 29 49.1**	**-0.6**
VAGA				S	**Sg**	**17 29 52.5**	**-0.1**
VAGA				AML	AML		
	comp=N,23950μm,0.5s						
VAGA				AML	AML		
	comp=E,14750μm,0.5s						
VAGA				AML	AML		
	comp=E,14175μm,0.5s						
VAGA				AML	AML		
	comp=N,24500μm,0.5s						
VAGA				AML	AML		
	comp=E,14190μm,0.5s						
VAGA				AML	AML		
	comp=E,14165μm,0.5s						
BSSO	**Busso**	**0.21**	**40**	P	**Pg**	**17 29 50.2**	**-0.5**
BSSO				S	**Sg**	**17 29 53.6**	**-0.8**
BSSO				AML	AML		
	comp=E,8700μm,1.4s						
BSSO				AML	AML		
	comp=E,3790μm,1.3s						
BSSO				AML	AML		
	comp=N,13500μm,0.4s						
BSSO				AML	AML		
	comp=E,8705μm,1.4s						
BSSO				AML	AML		
	comp=N,5480μm,0.4s						
SACR	**S. Croce Del S**	**0.22**	**86**	P	**Pb**	**17 29 50.0**	**-0.5**
SACR				AML	AML		
	comp=E,4510μm,0.8s						
SACR				AML	AML		
	comp=N,5265μm,0.4s						
SACR				AML	AML		
	comp=N,5270μm,0.4s						
SACR				AML	AML		
	comp=E,4645μm,0.8s						
SACR				AML	AML		
	comp=N,5415μm,0.4s						
PIGN	**Pignataro Magg**	**0.25**	**224**	P	**Pg**	**17 29 50.7**	**-0.5**
PIGN				AML	AML		
	comp=E,3165μm,0.4s						
PIGN				AML	AML		
	comp=N,2355μm,0.3s						
PIGN				AML	AML		
	comp=E,3170μm,0.4s						
PIGN				AML	AML		
	comp=E,3145μm,0.4s						
PIGN				AML	AML		
	comp=N,2375μm,1.4s						
PIGN				AML	AML		
	comp=E,3165μm,0.4s						
MIDA	**Miranda**	**0.28**	**336**	P	**Pb**	**17 29 51.2**	**-0.7**
MIDA				S	**Sb**	**17 29 55.7**	**-0.5**
PSB1	**Pescosannita**	**0.34**	**118**	P	**Pg**	**17 29 52.0**	**-0.7**
PSB1				AML	AML		
	comp=E,2375μm,0.5s						
PSB1				AML	AML		
	comp=E,2180μm,0.5s						
PSB1				AML	AML		
	comp=N,2840μm,0.9s						
PSB1				AML	AML		
	comp=N,2795μm,0.9s						
CERA	**Filignano**	**0.36**	**306**	P	**Pb**	**17 29 53.5**	**0.0**
CERA				AML	AML		
	comp=E,2500μm,1.4s						
CERA				AML	AML		
	comp=E,2495μm,1.4s						
CERA				AML	AML		
	comp=N,2095μm,0.4s						
CERA				AML	AML		
	comp=E,2570μm,1.5s						
CERA				AML	AML		
	comp=N,2155μm,0.4s						
PAOL	**Paolisi**	**0.37**	**161**	P	**Pg**	**17 29 52.4**	**-0.9**
PAOL				AML	AML		
	comp=E,1480μm,0.4s						
PAOL				AML	AML		
	comp=N,1710μm,0.7s						
PAOL				AML	AML		
	comp=E,1480μm,0.4s						
PAOL				AML	AML		
	comp=N,1705μm,0.7s						
PAOL				AML	AML		
	comp=E,1535μm,0.4s						
PAOL				AML	AML		
	comp=N,1820μm,0.3s						
PAOL				AML	AML		
	comp=N,1705μm,0.7s						
RNI2	**Rionero Sannit**	**0.37**	**329**	P	**Pb**	**17 29 52.9**	**-0.7**
RNI2				S	**Sg**	**17 29 57.5**	**-1.2**
RNI2				AML	AML		
	comp=E,2260μm,0.8s						
RNI2				AML	AML		
	comp=N,2290μm,0.7s						
RNI2				AML	AML		
	comp=E,2310μm,0.8s						
RNI2				AML	AML		
	comp=E,2255μm,0.8s						
RNI2				AML	AML		
	comp=N,2255μm,0.7s						
GATE	**Gambatesa**	**0.40**	**71**	AML	AML		
	comp=N,1990μm,0.5s						
GATE				AML	AML		
	comp=E,1815μm,0.5s						
GATE				AML	AML		
	comp=N,1990μm,0.5s						
GATE				AML	AML		
	comp=E,1076μm,0.5s						
GATE				AML	AML		
	comp=E,1076μm,0.5s						
GATE				AML	AML		
	comp=E,1820μm,0.5s						
GATE				AML	AML		
	comp=E,1820μm,0.5s						
GATE				AML	AML		
	comp=N,1985μm,0.5s						
TRIV	**Trivento**	**0.40**	**15**	P	**Pb**	**17 29 53.1**	**-0.9**
TRIV				S	**Sb**	**17 29 58.4**	**-1.4**
TRIV				AML	AML		
	comp=E,1860μm,0.5s						
TRIV				AML	AML		
	comp=N,1560μm,1.6s						
TRIV				AML	AML		
	comp=N,1555μm,1.6s						
CIGN	**Sant'Elia a Pi**	**0.46**	**54**	P	**Pb**	**17 29 54.1**	**-0.9**
CIGN				AML	AML		
	comp=E,942μm,0.6s						
CIGN				AML	AML		
	comp=N,950μm,0.7s						
CIGN				AML	AML		
	comp=E,943μm,0.6s						
CIGN				AML	AML		
	comp=N,950μm,0.7s						
MODR	**Mondragone**	**0.47**	**240**	P	**Pg**	**17 29 54.4**	**-0.6**
MODR				AML	AML		
	comp=N,3155μm,0.6s						
MODR				AML	AML		
	comp=E,3960μm,0.8s						
MRB1	**Monte Rocchett**	**0.50**	**121**	AML	AML		
	comp=N,3280μm,0.8s						
MRB1				AML	AML		
	comp=E,2150μm,1.4s						
MRB1				AML	AML		
	comp=E,2155μm,1.4s						
MRB1				AML	AML		
	comp=E,2225μm,1.4s						
MRB1				AML	AML		
	comp=N,3400μm,0.8s						
OVO	**Vesuviano**	**0.56**	**181**	P	**Pb**	**17 29 57.0**	**+0.5**
MOCO	**Biccari - m.te**	**0.56**	**91**	P	**Pn**	**17 29 58.7**	**+0.2**
MOCO				AML	AML		
	comp=E,992μm,0.4s						
MOCO				AML	AML		
	comp=N,385μm,0.5s						
MOCO				AML	AML		
	comp=E,1018μm,0.5s						
MOCO				AML	AML		
	comp=E,1018μm,0.5s						
MOCO				AML	AML		
	comp=E,990μm,0.4s						
MOCO				AML	AML		
	comp=N,414μm,0.5s						
FRES	**Fresagrandinar**	**0.62**	**18**	P	**Pb**	**17 29 56.3**	**-1.3**
FRES				AML	AML		
	comp=N,426μm,0.4s						
FRES				AML	AML		
	comp=E,648μm,0.9s						
POFI	**Posta Fibreno**	**0.62**	**303**	P	**Pg**	**17 29 57.3**	**-0.5**
POFI				AML	AML		
	comp=N,574μm,0.7s						
POFI				AML	AML		
	comp=E,566μm,0.4s						
POFI				AML	AML		
	comp=N,560μm,0.7s						
POFI				AML	AML		
	comp=E,544μm,0.5s						
POFI				AML	AML		
	comp=N,574μm,0.7s						
POFI				AML	AML		
	comp=E,567μm,0.4s						
MELA	**Melanico ??? S**	**0.63**	**59**	P	**Pb**	**17 29 55.9**	**-1.8**
MELA				AML	AML		
	comp=E,3005μm,0.5s						
MELA				AML	AML		
	comp=E,3140μm,0.5s						
MELA				AML	AML		
	comp=N,2525μm,0.5s						
MELA				AML	AML		
	comp=E,3005μm,0.5s						
MELA				AML	AML		
	comp=N,2505μm,0.5s						
MELA				AML	AML		
	comp=N,2505μm,0.5s						
LPEL	**Lama dei Pelig**	**0.68**	**346**	AML	AML		
	comp=E,1010μm,0.4s						
LPEL				AML	AML		
	comp=N,820μm,1.6s						
LPEL				AML	AML		
	comp=E,1010μm,0.4s						
CAFE	**Carife**	**0.72**	**119**	P	**Pb**	**17 29 58.9**	**-0.5**
CAFE				AML	AML		
	comp=N,550μm,0.5s						
CAFE				AML	AML		
	comp=N,534μm,1.2s						
CAFE				AML	AML		
	comp=E,790μm,1.5s						
CAFE				AML	AML		
	comp=N,550μm,0.5s						
CAFE				AML	AML		
	comp=E,808μm,1.5s						
CAFE				AML	AML		
	comp=N,535μm,1.2s						
CAFE				AML	AML		
	comp=N,550μm,0.5s						
INTR	**Introdacqua**	**0.73**	**329**	P	**Pb**	**17 29 58.4**	**-1.2**
INTR				AML	AML		
	comp=N,1620μm,0.4s						
INTR				AML	AML		
	comp=E,1075μm,0.6s						
SNAL	**S. Angelo Dei**	**0.76**	**127**	P	**Pg**	**17 29 59.9**	**-0.4**
SNAL				AML	AML		
	comp=E,651μm,0.8s						
SNAL				AML	AML		
	comp=N,658μm,1.1s						
SGTA	**Sant Agata di**	**0.76**	**109**	AML	AML		
	comp=E,713μm,0.5s						
SGTA				AML	AML		
	comp=E,734μm,0.8s						
SGTA				AML	AML		
	comp=N,530μm,0.3s						
SGTA				AML	AML		
	comp=N,571μm,0.3s						
SGTA				AML	AML		
	comp=E,734μm,0.7s						
SGTA				AML	AML		
	comp=E,734μm,0.7s						
VVLD	**Villa Vallelon**	**0.77**	**310**	P	**Pb**	**17 29 59.5**	**-0.7**
VVLD				AML	AML		
	comp=E,660μm,0.4s						
MCRV	**Calabrutti - M**	**0.83**	**136**	P	**Pb**	**17 30 01.2**	**-0.1**
MCRV				AML	AML		
	comp=E,847μm,1.5s						
MCRV				AML	AML		
	comp=N,888μm,0.4s						
MCRV				AML	AML		
	comp=E,846μm,1.5s						
MCRV				AML	AML		
	comp=N,887μm,0.4s						
CAFR	**Castel Frentan**	**0.84**	**357**	P	**Pb**	**17 30 00.8**	**-0.7**
CAFR				AML	AML		
	comp=N,2035μm,0.6s						
CAFR				AML	AML		
	comp=E,1570μm,0.7s						
GIUL	**Giuliano Di Ro**	**0.89**	**282**	P	**Pg**	**17 30 02.1**	**-0.6**
GIUL				AML	AML		
	comp=E,241μm,0.8s						
GIUL				AML	AML		
	comp=N,221μm,0.8s						
GIUL				AML	AML		
	comp=E,240μm,0.8s						
VENT	**Ventotene**	**0.95**	**232**	AML	AML		
	comp=E,1455μm,0.4s						
VENT				AML	AML		
	comp=N,1135μm,0.4s						
VENT				AML	AML		
	comp=E,1560μm,0.4s						
VENT				AML	AML		
	comp=N,1215μm,0.4s						
MRLC	**Muro Lucano**	**1.03**	**127**	P	**Pb**	**17 30 04.2**	**-0.4**
MRLC				AML	AML		
	comp=E,384μm,0.5s						
MRLC				AML	AML		
	comp=N,376μm,0.5s						
MRLC				AML	AML		
	comp=E,410μm,0.4s						
MRLC				AML	AML		
	comp=N,394μm,0.5s						
MRLC				AML	AML		
	comp=N,376μm,0.5s						
SGRT	**San Giovanni R**	**1.07**	**69**	P	**Pn**	**17 30 05.0**	**-0.4**
SGRT				S	**Sg**	**17 30 21.0**	**+0.8**
SGRT				AML	AML		
	comp=E,1050μm,1.5s						
SGRT				AML	AML		
	comp=N,955μm,0.5s						
FAGN	**Fagnano**	**1.08**	**325**	P	**Pg**	**17 30 08.5**	**+2.2**
FAGN				AML	AML		
	comp=N,1030μm,0.5s						
FAGN				AML	AML		
	comp=E,1275μm,0.5s						
FAGN				AML	AML		
	comp=N,1395μm,0.5s						
LATB	**Latina**	**1.09**	**276**	P	**Pn**	**17 30 04.8**	**-0.9**
VCEL	**Villa Celiera**	**1.10**	**337**	P	**Pg**	**17 30 08.1**	**+1.3**
VCEL				AML	AML		
	comp=N,526μm,0.4s						
VCEL				AML	AML		
	comp=E,704μm,0.5s						
CDRU	**Civita di Ruta**	**1.12**	**143**	P	**Pg**	**17 30 07.4**	**+0.2**
CDRU				AML	AML		
	comp=E,230μm,0.5s						
CDRU				AML	AML		
	comp=N,193μm,0.4s						
MSAG	**Monte S. Angel**	**1.17**	**73**	P	**Pb**	**17 30 06.5**	**-0.6**
MSAG				S	**Sg**	**17 30 25.0**	**+1.5**
MSAG				AML	AML		
	comp=E,838μm,0.6s						
MSAG				AML	AML		
	comp=N,1400μm,0.3s						
CMPR	**Campora**	**1.26**	**147**	P	**Pg**	**17 30 09.6**	**-0.3**
CMPR				AML	AML		
	comp=N,144μm,0.4s						
CMPR				AML	AML		
	comp=E,218μm,0.5s						
T0104	**Madonna delle**	**1.26**	**321**	P	**Pg**	**17 30 10.6**	**+0.8**
T0104				AML	AML		
	comp=E,422μm,0.7s						
T0104				AML	AML		
	comp=N,391μm,0.8s						
T0104				AML	AML		
	comp=N,403μm,0.8s						
ACER	**Acerenza**	**1.30**	**117**	P	**Pg**	**17 30 10.8**	**+0.2**
ACER				AML	AML		
	comp=N,392μm,0.9s						
ACER				AML	AML		
	comp=N,410μm,0.9s						
ACER				AML	AML		
	comp=N,391μm,0.9s						
ACER				AML	AML		
	comp=E,358μm,0.5s						
ACER				AML	AML		
	comp=E,348μm,0.5s						
TERO	**Teramo**	**1.38**	**334**	P	**Pg**	**17 30 12.2**	**+0.1**
TERO				AML	AML		
	comp=N,281μm,0.5s						
TERO				AML	AML		
	comp=N,120μm,0.5s						
TERO				AML	AML		
	comp=E,62μm,0.6s						
TERO				AML	AML		
	comp=E,1594μm,1.4s						
SIRI	**Monte Sirino -**	**1.63**	**137**	P	**Pg**	**17 30 16.7**	**-0.2**
SIRI				AML	AML		
	comp=E,144μm,1.0s						
SIRI				AML	AML		
	comp=N,149μm,0.8s						
SIRI				AML	AML		
	comp=E,156μm,0.5s						
AMUR	**Altamura**	**1.72**	**105**	P	**Pb**	**17 30 15.2**	**-1.2**
AMUR				P	**Pg**	**17 30 19.0**	**+0.4**
AMUR				AML	AML		
	comp=E,172μm,0.4s						
AMUR				AML	AML		
	comp=N,184μm,0.3s						
SG1	**Sgolgore (BA)**	**1.80**	**107**	*e*Pn	**Pn**	**17 30 15.2**	**-0.2**
BAI	**Bari**	**1.88**	**98**	*e*Pn	**Pn**	**17 30 17.2**	**+0.7**
MATE	**Matera**	**1.89**	**112**	⇑P	**Pg**	**17 30 22.1**	**+0.4**
MATE				⇓S	**Sg**	**17 30 50.0**	**+3.8**
FDMO	**Fiordimonte**	**1.92**	**330**	P	**Pg**	**17 30 21.4**	**-1.0**
FDMO				AML	AML		
	comp=N,103μm,0.6s						
CSP1	**Cessapalombo**	**1.93**	**333**	P	**Pg**	**17 30 21.4**	**-1.1**
T0702	**Acquaformosa (**	**2.09**	**142**	P	**Pg**	**17 30 25.5**	**-0.1**
GAG1	**Gagliole**	**2.10**	**332**	P	**Pb**	**17 30 22.3**	**-0.6**
EL6	**Elcito**	**2.17**	**334**	P	**Pb**	**17 30 23.8**	**-0.4**
EL6				AML	AML		
	comp=E,125μm,1.5s						
MASS	**Massafra**	**2.20**	**109**	*e*Pn	**Pg**	**17 30 26.9**	**-0.8**
HVAR	**Hvar**	**2.35**	**39**	*i* Pn	**Pn**	**17 30 22.9**	**-0.1**
HVAR					Sn	**17 30 49.1**	**-2.1**
ZIRJ	**Zirje**	**2.45**	**21**	*e*Pn	**Pn**	**17 30 24.3**	**0.0**
ZIRJ					Sn	**17 30 55.2**	**-3.3**
DUGI	**Dugi Otok**	**2.65**	**10**	*e*Pn	**Pn**	**17 30 26.8**	**-0.3**
CAFI	**Castiglion Fio**	**2.66**	**318**	P	**Pn**	**17 30 29.1**	**+1.9**
CAFI				P	**Pg**	**17 30 35.0**	**-1.3**
CAFI				S	**Sg**	**17 31 08.0**	**-2.9**
MORI	**Morici**	**2.66**	**21**	*e*Pn	**Pn**	**17 30 27.4**	**+0.2**
MORI					Sn	**17 30 59.7**	**+0.8**
MAKA	**Makarska**	**2.71**	**45**	*e*Pn	**Pn**	**17 30 28.0**	**0.0**
TIP	**Timpagrande**	**2.84**	**140**	⇑P	Pg	17 30 45.9	+6.0
STON	**Ston**	**2.86**	**58**	*e*Pn	**Pn**	**17 30 30.2**	**+0.2**
STON	**Ston**	**2.86**	**58**	P	**Pn**	**17 30 29.2**	**-0.8**
STON				S	**Sn**	**17 31 06.0**	**+2.1**
STON				AML	AML		
	comp=E,64μm,1.0s						
STON				AML	AML		
	comp=N,69μm,0.6s						
LADO	**San Nicola del**	**2.87**	**136**	P	**Pn**	**17 30 28.4**	**-1.8**
RICI	**Ricice**	**2.92**	**43**	ePn		17 30 31.1	
KIJV	**Kijevo**	**3.00**	**29**	*e*Pn	**Pn**	**17 30 32.5**	**+0.5**
DBRK	**Dubrovnik**	**3.07**	**64**	*e*Pn	**Pn**	**17 30 33.6**	**+0.7**
DBRK					Sn	**17 31 08.1**	**-0.9**
NVLJ	**Novalja**	**3.20**	**6**	*i* Pn	**Pn**	**17 30 34.9**	**+0.3**
UDBI	**Udbina**	**3.30**	**17**	*e*Pn	**Pn**	**17 30 37.5**	**+1.5**
UDBI					Sn	**17 31 17.1**	**+2.4**
MPG	**Monte Pellegri**	**3.32**	**194**	S	**Sn**	**17 31 15.0**	**-0.3**
FAEN	**Faenza**	**3.45**	**328**	P	**Pb**	**17 30 47.8**	**+1.9**
PDG	**Podgorica**	**3.76**	**72**	⇑P	**Pn**	**17 30 43.9**	**+1.5**
BLY	**Banja Luka**	**3.93**	**30**	⇑P	**Pn**	**17 30 46.4**	**+1.7**
PUK	**Puka**	**4.16**	**79**	AML	AML		
	comp=N,55μm,0.4s						
PUK				AML	AML		
	comp=E,39μm,0.3s						
OBKA	**Obir**	**5.12**	**1**	*i* Pn	**Pn**	**17 31 02.2**	**+1.0**
	comp=E,0.6nm,0.1s						
MYKA	**Terra Mystica**	**5.27**	**354**	*i* Pn	**Pn**	**17 31 06.0**	**+2.8**
	comp=E,0.7nm,0.2s						
SOKA	**Soboth**	**5.31**	**5**	*i* Pn	**Pn**	**17 31 06.5**	**+2.7**
	comp=E,0.3nm,0.1s						
ABTA	**Abfaltersbach**	**5.53**	**346**	*i* Pn	**Pn**	**17 31 09.7**	**+2.9**
	comp=E,0.7nm,0.4s						
ARSA	**Arzberg**	**5.92**	**7**	*i* Pn	**Pn**	**17 31 15.0**	**+2.9**
	comp=E,0.5nm,0.2s						
WTTA	**Wattenberg**	**6.21**	**342**	*i* Pn	Pn	17 31 22.5	+6.4
	comp=E,0.2nm,0.1s						
SQTA	**Sankt Quirin**	**6.27**	**340**	*i* Pn	Pn	17 31 22.5	+5.5
	comp=E,0.5nm,0.3s						
WATA	**Walderalm**	**6.29**	**342**	*i* Pn	Pn	17 31 23.9	+6.7
	comp=E,0.4nm,0.2s						
MDVR	**Moldovita**	**6.33**	**55**	⇑P	**Pn**	**17 31 17.9**	**+0.2**
MOA	**Molln**	**6.47**	**359**	*i* Pn	**Pn**	**17 31 23.5**	**+3.9**
	comp=E,0.3nm,0.2s						
CONA	**Conrad Observa**	**6.62**	**8**	*i* Pn	**Pn**	**17 31 25.8**	**+4.0**
	comp=E,0.4nm,0.3s						
GZR	**Gura Zlata**	**7.29**	**54**	⇑P	**Pn**	**17 31 31.0**	**0.0**
VYHS	**Vyhne**	**7.77**	**22**	*e*PN	**Pn**	**17 31 38.2**	**+0.8**

IDC 29 17:33:41.5±2.0, 1°.16N×125°.97E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/31, mbtmp3.1/3, MS3.6/1, Ms1 3.5/1, ms1mx2.7/18, Error ellipse: s-maj=196.8km s-min=25.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.52**	**159**	P	P	17 38 42.8	-0.3
	0.2nm,0.3s,baz=338,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**25.86**	**163**	P	P	17 39 15.2	+0.1
	0.1nm,0.3s,baz=342,slow=8.7,SNR=6.7						
STKA	**Stephens Creek**	**36.04**	**157**	LR	LR	17 58 16.9	
	comp=Z,78nm,18.5s,baz=16,slow=41						
MKAR	**Makanchi Array**	**59.24**	**326**	P	P	17 43 44.8	0.0

0.6nm,1.1s,baz=113,slow=7.8,SNR=2.5

IDC 29 17:36:43.2±2.3, 6°06'S×130°28'E, h0km, mb3.7/1, mb1 3.6/4, mb1mx3.3/29, mbtmp3.4/4, ML3.1/3, Error ellipse: s-maj=93.9km s-min=28.4km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.79**	**200**	Pn	Pn	17 39 48.4	+1.9
	0.2nm,0.3s,baz=28,slow=9.8,SNR=17						
FITZ				Sn	Sn	17 41 58.8	-11
	0.2nm,0.3s,baz=210,slow=20,SNR=4.1						
WRA	**Warramunga Arr**	**14.35**	**164**	Pn	Pn	17 40 08.6	+0.8
	0.1nm,0.3s,baz=345,slow=13,SNR=3.6						
WRA				Sn	Sn	17 42 35.4	-12
	0.2nm,0.3s,baz=348,slow=24,SNR=3.4						
ASAR	**Alice Springs**	**17.85**	**169**	P	Pn	17 40 51.5	-1.7
	0.0nm,0.3s,baz=348,slow=13,SNR=3.0						
MKAR	**Makanchi Array**	**67.60**	**326**	P	P	17 47 41.8	0.0
	0.3nm,0.4s,baz=118,slow=7.6,SNR=6.5						

*IDC **29** 17:37:37.7±0.9, 2°82'S×129°79'E, h0km, mb3.9/6, mb1 4.1/9, mb1mx3.8/32, mbtmp4.0/9, ML3.9/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/53, Error ellipse: s-maj=28.4km s-min=16.5km az=74.0*

*ISCJB **29** 17:37:42.3±0.4, 2°74'S±0°03'×129°75'E±0°03, h67km±6km, mb3.8/6, Error ellipse: s-maj=5.3km s-min=4.7km az=151.7*

*DJA **29** 17:37:42.4±0.4, 3°S±2°×13°0E±°, h88km±9km, M4.1/10, mb4.5/3, MLv3.8/10*

*NEIC **29** 17:37:42.4±1.6, 2°82'S±0°07×129°75'E±0°07, h46km±10km, mb4.1/14*

ISC 29 17:37:43.2±0.9, 2°75'S±0°04×129°76'E±0°04, h56km±11km, n40, σ1s74/49, mb3.9/11, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**1.02**	**234**	P	**Pn**	**17 38 01.1**	**-0.3**
MSAI				S	**Sn**	**17 38 19.4**	**+4.6**
BNDI	**Bandanaira**	**1.77**	**175**	P	**Pn**	**17 38 13.0**	**+1.5**
BNDI				S	**Sn**	**17 38 34.6**	**+1.7**
AAI	**Ambon**	**1.82**	**239**	P	**Pn**	**17 38 13.0**	**+0.8**
AAI				S	**Sn**	**17 38 35.1**	**+0.9**
SIJI	**Sorong**	**2.40**	**39**	Pn	**Pn**	**17 38 19.9**	**-0.2**
	57nm,0.3s,baz=225,slow=23,SNR=586						
SIJI				Sn	**Sn**	**17 38 48.8**	**+0.4**
	16nm,0.3s,baz=360,slow=22,SNR=6.6						
SIJI				LR	LR	17 39 35.6	
	comp=Z,187nm,21.9s,baz=104,slow=48						
SWI	**Sorong**	**2.40**	**39**	P	**Pn**	**17 38 19.1**	**-1.0**
SWI				S	**Sn**	**17 38 48.9**	**+0.6**
FAKI	**Fak Fak**	**2.49**	**94**	P	**Pn**	**17 38 21.5**	**+0.1**
FAKI				S	**Sn**	**17 38 51.3**	**+0.6**
FAKI	**Fak Fak**	**2.49**	**94**		**Pn**	**17 38 22.0**	**+0.6**
NLAI	**Namlea**	**2.70**	**260**	P	**Pn**	**17 38 24.3**	**+0.1**
NLAI				S	**Sn**	**17 38 56.4**	**+0.7**
LBMI	**Labuha**	**3.08**	**313**	P	**Pn**	**17 38 28.4**	**-1.0**
SANI	**Sanana**	**3.83**	**280**	P	**Pn**	**17 38 38.2**	**-1.5**
SANI				S	**Sn**	**17 39 20.1**	**-3.4**
KMPI	**Kaimana, Papua**	**4.04**	**103**	P	**Pn**	**17 38 42.8**	**+0.2**
TNTI	**Ternate**	**4.24**	**326**	Pn	**Pn**	**17 38 45.1**	**-0.2**
RKPI	**Ransiki, Papua**	**4.58**	**75**	P	**Pn**	**17 38 50.7**	**+0.7**
LUWI	**Luwuk**	**7.19**	**284**	Pn	**Pn**	**17 39 27.8**	**+2.1**
APSI	**Ampana**	**8.31**	**283**	P	**Pn**	**17 39 40.2**	**-0.9**
	50nm,0.6s						
MRSI	**Marisa**	**8.45**	**292**	P	**Pn**	**17 39 40.5**	**-2.5**
BATI	**Baumata**	**9.57**	**219**	LR	LR	17 44 29.7	
	comp=Z,136nm,19.4s,baz=326,slow=43						
KNRA	**Kununurra**	**12.88**	**184**	Pn	**Pn**	**17 40 42.0**	**-1.6**
FITZ	**Fitzroy Crossi**	**15.78**	**195**	Pn	**Pn**	**17 41 20.8**	**-1.2**
	0.1nm,0.3s,baz=23,slow=13,SNR=3.6						
FITZ	**Fitzroy Crossi**	**15.78**	**195**	IAmb	IAmb	17 41 36.7	
	comp=Z,8.7nm,1.1s						
KKM	**Kota Kinabalu**	**16.10**	**303**	Pn	**Pn**	**17 41 26.6**	**+0.4**
KKM				IAmb	IAmb	17 41 35.0	
	comp=Z,38nm,1.1s						
COEN	**Coen**	**17.31**	**131**	P	**P**	**17 41 41.7**	**-0.2**
WRAB	**Tennant Creek**	**17.66**	**166**	P	**Pn**	**17 41 42.8**	**-2.7**
WRAB				IAmb	IAmb	17 41 47.9	
	comp=Z,20nm,1.5s						
WRA	**Warramunga Arr**	**17.66**	**166**	P	**Pn**	**17 41 42.7**	**-2.9**
	comp=Z,0.6nm,0.3s,baz=346,slow=11,SNR=18						
WRA				S	**Sn**	**17 44 57.3**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=327,slow=22,SNR=2.7						
WR0	**Warramunga Arr**	**17.73**	**165**	P	**Pn**	**17 41 45.9**	**-0.5**
PSA00	**Pilbara Seismi**	**21.05**	**206**	P	**P**	**17 42 21.5**	**-1.2**
AS31	**Alice Springs**	**21.18**	**169**	P	**P**	**17 42 24.7**	**+0.6**
AS31				IAmb	IAmb	17 42 31.7	
	comp=Z,4.7nm,0.7s						
ASAR	**Alice Springs**	**21.18**	**169**	P	**P**	**17 42 24.4**	**+0.2**
	comp=Z,6.9nm,0.5s,baz=348,slow=10,SNR=44						
ASAR				S	**S**	**17 46 15.1**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=346,slow=14,SNR=3.3						
ASAR				PcP	**PcP**	**17 46 30.7**	**+2.5**
	comp=Z,0.5nm,0.6s,baz=358,slow=1.5,SNR=4.9						
CTA	**Charters Tower**	**23.59**	**138**	P	**P**	**17 42 50.1**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=317,slow=9.7,SNR=3.9						
JOW	**Kunigami**	**29.44**	**357**	P	**P**	**17 43 42.0**	**+0.2**
IPM	**Ipoh**	**29.59**	**284**	P	**P**	**17 43 43.0**	**-0.4**
BBOO	**Buckleboo**	**30.48**	**170**	P	**P**	**17 43 48.1**	**-2.9**
BBOO				IAmb	IAmb	17 44 02.0	
	comp=Z,14nm,1.3s						
STKA	**Stephens Creek**	**31.05**	**160**	P	**P**	**17 43 56.7**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=336,slow=12,SNR=3.4						
STKA	**Stephens Creek**	**31.05**	**160**	P	**P**	**17 43 55.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**36.94**	**306**	P	**P**	**17 44 50.4**	**+3.2**
	comp=Z,0.7nm,0.7s,baz=141,slow=8.7,SNR=7.8						
MK31	**Makanchi Array**	**64.58**	**326**	P	**P**	**17 48 15.4**	**+0.7**
MK31				IAmb	IAmb	17 48 24.6	
	comp=Z,1.1nm,0.9s						
MKAR	**Makanchi Array**	**64.58**	**326**	P	**P**	**17 48 16.9**	**+2.2**
	comp=Z,0.7nm,0.6s,baz=117,slow=8.1,SNR=8.6						
MAKZ	**Makanchi**	**64.76**	**326**	P	**P**	**17 48 16.2**	**+0.2**
MAKZ				IAmb	IAmb	17 48 28.0	
	comp=Z,1.5nm,1.1s						
ZALV	**Zalesovo Beam**	**67.70**	**333**	P	**P**	**17 48 36.1**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=141,slow=4.8,SNR=4.7						
KURK	**Kurchatov**	**68.80**	**328**	P	**P**	**17 48 41.2**	**-0.3**
KURK				IAmb	IAmb	17 48 51.3	
	comp=Z,4.7nm,0.8s						

*SJA **29** 17:39:28.6±1.1, 21°27'S×68°57'W, h139km±8km, ML4.1, MW3.9*

*ISCJB **29** 17:39:28.3±0.2, 21°28'S±0°02×68°52'W±0°04, h140km±3km, mb4.0/10, Error ellipse: s-maj=5.8km s-min=3.6km az=164.7*

*IDC **29** 17:39:29.3±0.9, 21°25'S×68°26'W, h119km±10km, mb4.0/8, mb1 4.1/13, mb1mx3.9/25, mbtmp4.3/13, Error ellipse: s-maj=19.0km s-min=13.7km az=120.0*

*NEIC **29** 17:39:29.0±1.4, 21°27'S±0°05×68°40'W±0°06, h124km±7km, mb4.6/15, ML4.1(GUC)*

*GUC **29** 17:39:29.2±0.8, 21°25'S×68°62'W, h133km±5km, ML4.1*

*VAO **29** 17:39:30.7±0.4, 21°29'S×68°45'W, h141km, mb4.5*

ISC 29 17:39:29.5±0.6, 21°26'S±0°03×68°45'W±0°04, h131km±6km, n126, σ1s55/161, mb4.5/16, 7C-7D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.91**	**234**	↑*iP*	**Pn**	**17 39 52.0**	**+0.2**
PB09				*i* S	**Sn**	**17 40 08.3**	**-0.5**
PB09				IAML		17 40 09.8	
	comp=N,3μm,0.3s						
PB09	**IPOC Station P**	**0.91**	**234**	*eP*	**Pn**	**17 39 52.0**	**+0.2**
PB09				*eS*	**Sn**	**17 40 09.0**	**+0.2**
PB09				IAML		17 40 09.8	
	comp=Z,4μm,0.7s						
PB09	**IPOC Station P**	**0.91**	**234**	*i* P	**Pn**	**17 39 52.1**	**+0.2**
PB09				*eS*	**Sn**	**17 40 09.1**	**+0.3**
PB08	**IPOC Station P**	**1.29**	**329**	↓*iP*	**Pn**	**17 39 55.9**	**0.0**
PB08				*i* S	**Sn**	**17 40 15.5**	**-0.3**
PB08				IAML		17 40 16.8	
	comp=N,2μm,0.5s						
PB08	**IPOC Station P**	**1.29**	**329**	*eP*	**Pn**	**17 39 56.0**	**+0.1**
PB08				*eS*	**Sn**	**17 40 15.3**	**-0.4**
PB08				IAML		17 40 16.3	
	comp=Z,2μm,1.0s						
LVC	**Limon Verde**	**1.41**	**197**	↓*iP*	**Pn**	**17 39 57.3**	**+0.3**
LVC				*i* S	**Sn**	**17 40 18.3**	**+0.3**
LVC	**Limon Verde**	**1.41**	**197**	P	**Pn**	**17 39 57.3**	**+0.3**
	comp=Z,458nm,0.3s,baz=23,slow=9.7,SNR=3288						
LVC				S	**Sn**	**17 40 17.6**	**-0.4**
	comp=Z,342nm,0.3s,baz=120,slow=20,SNR=70						
LVC				LR	LR	17 40 34.6	
	comp=Z,595nm,18.6s,baz=38,slow=44						
LVC	**Limon Verde**	**1.41**	**197**	*eP*	**Pn**	**17 39 57.3**	**+0.3**
LVC	**Limon Verde**	**1.41**	**197**	*eP*	**Pn**	**17 39 57.3**	**+0.3**
LVC	**Limon Verde**	**1.41**	**197**		**Pn**	**17 39 57.4**	**+0.4**
LVC				Sn	**Sn**	**17 40 17.3**	**-0.7**
LVC	**Limon Verde**	**1.41**	**197**	*eP*	**Pn**	**17 39 57.3**	**+0.3**
LVC				*eS*	**Sn**	**17 40 17.5**	**-0.5**
LVC				IAML		17 40 18.9	
	comp=Z,985nm,0.5s						
LVC	**Limon Verde**	**1.41**	**197**	↑*iP*	**Pn**	**17 39 57.3**	**+0.3**
LVC				*eS*	**Sn**	**17 40 17.4**	**-0.7**
LVC				IAML		17 40 18.9	
	comp=Z,985nm,0.5s						
PB03	**IPOC Station P**	**1.44**	**237**	↑*iP*	**Pn**	**17 39 56.8**	**-0.4**
PB03				*i* S	**Sn**	**17 40 17.1**	**-1.1**
PB03				IAML		17 40 18.0	
	comp=E,4μm,0.3s						
PB03	**IPOC Station P**	**1.44**	**237**	*eP*	**Pn**	**17 39 56.8**	**-0.4**
PB03				*eS*	**Sn**	**17 40 17.2**	**-1.1**
GO01	**Chusmiza**	**1.73**	**336**	↓*iP*	**Pn**	**17 40 00.7**	**-0.1**
GO01				*i* S	**Sn**	**17 40 24.6**	**-0.1**
GO01	**Chusmiza**	**1.73**	**336**		**Pn**	**17 40 00.7**	**-0.1**
GO01				Sn	**Sn**	**17 40 24.4**	**-0.3**
TA01	**Diego Aracena**	**1.76**	**293**	↑*iP*	**Pn**	**17 39 59.5**	**-1.1**
TA01				*i* S	**Sn**	**17 40 22.4**	**-2.0**
PB06	**IPOC Station P**	**1.77**	**216**	↑*iP*	**Pn**	**17 40 01.0**	**0.0**
PB06				*i* S	**Sn**	**17 40 24.6**	**-0.4**
PB06				IAML		17 40 25.8	
	comp=E,5μm,0.2s						
PB06	**IPOC Station P**	**1.77**	**216**	*eP*	**Pn**	**17 40 00.9**	**0.0**
PB06				*eS*	**Sn**	**17 40 24.7**	**-0.4**
PB06	**IPOC Station P**	**1.77**	**216**	*i* P	**Pn**	**17 40 00.9**	**0.0**
PB06				*eS*	**Sn**	**17 40 24.7**	**-0.4**
PB06				IAML		17 40 25.3	
	comp=Z,3μm,0.3s						
PB11	**IPOC Station P**	**1.87**	**323**	↓*iP*	**Pn**	**17 40 01.2**	**-0.8**
PB11				*i* S	**Sn**	**17 40 25.9**	**-1.2**
PB11	**IPOC Station P**	**1.87**	**323**		**Pn**	**17 40 01.3**	**-0.8**
PB11				Sn	**Sn**	**17 40 26.0**	**-1.1**
PB11	**IPOC Station P**	**1.87**	**323**	*eP*	**Pn**	**17 40 01.4**	**-0.8**
PB11				*eS*	**Sn**	**17 40 26.8**	**-0.3**
PB11				IAML		17 40 28.3	
	comp=Z,1μm,1.1s						
PB04	**IPOC Station P**	**1.91**	**236**	↑*iP*	**Pn**	**17 40 01.7**	**-0.7**
PB04				*i* S	**Sn**	**17 40 26.5**	**-1.3**
PB04				IAML		17 40 35.5	
	comp=N,2μm,0.5s						
PB04	**IPOC Station P**	**1.91**	**236**		**Pn**	**17 40 02.2**	**-0.3**
PB04				Sn	**Sn**	**17 40 28.0**	**+0.2**
PB04	**IPOC Station P**	**1.91**	**236**	*eP*	**Pn**	**17 40 01.9**	**-0.7**
PB04				*eS*	**Sn**	**17 40 26.6**	**-1.1**
PB04	**IPOC Station P**	**1.91**	**236**	*i* P	**Pn**	**17 40 01.8**	**-0.7**
PB04				*eS*	**Sn**	**17 40 26.5**	**-1.3**
PB15	**IPOC Station P**	**2.16**	**206**	*i* P	Pn	17 40 00.2	-5.4
PB15				*eS*	**Sn**	**17 40 33.1**	**-0.3**
PB05	**IPOC Station P**	**2.27**	**225**	↑*iP*	**Pn**	**17 40 06.1**	**-0.8**
PB05				IAML		17 40 43.6	
	comp=N,1μm,0.3s						
PB05	**IPOC Station P**	**2.27**	**225**	*eP*	**Pn**	**17 40 06.2**	**-0.8**
PB05				*eS*	**Sn**	**17 40 33.3**	**-2.4**
PB05				IAML		17 40 42.7	
	comp=Z,1μm,0.5s						
PB05	**IPOC Station P**	**2.27**	**225**	*i* P	**Pn**	**17 40 06.2**	**-0.8**
PB05				*eS*	**Sn**	**17 40 33.2**	**-2.4**
PB05				IAML		17 40 42.7	
	comp=Z,1μm,0.5s						
PSGC	**Pisagua**	**2.28**	**316**	↓*iP*	**Pn**	**17 40 05.5**	**-1.6**
PSGC				*i* S	**Sn**	**17 40 33.4**	**-2.4**
MNMC	**Minye Minye**	**2.38**	**333**	↓*iP*	**Pn**	**17 40 08.1**	**-0.4**
MNMC				*i* S	**Sn**	**17 40 37.7**	**-0.6**
MNMC	**Minye Minye**	**2.38**	**333**		**Pn**	**17 40 08.5**	**+0.1**
MNMC				Sn	**Sn**	**17 40 37.8**	**-0.6**
YJA	**Yavi**	**2.88**	**109**	*eP*	**Pn**	**17 40 17.1**	**+2.2**
YJA	**Yavi**	**2.88**	**109**	*i* P	**Pn**	**17 40 16.8**	**+1.8**
YJA				IAML		17 40 56.5	
	comp=Z,25nm,0.4s						
PB10	**IPOC Station P**	**2.97**	**221**	*eP*	**Pn**	**17 40 15.2**	**-0.6**
PB10				*i* S	**Sn**	**17 40 46.8**	**-4.6**
PB10	**IPOC Station P**	**2.97**	**221**		**Pn**	**17 40 14.5**	**-1.2**
PB10				Sn	**Sn**	**17 40 46.9**	**-4.5**
PB10	**IPOC Station P**	**2.97**	**221**	*eP*	**Pn**	**17 40 15.1**	**-0.6**
PB10				IAML		17 41 05.8	
	comp=Z,385nm,0.5s						
PB10	**IPOC Station P**	**2.97**	**221**	*i* P	**Pn**	**17 40 14.9**	**-0.8**
PB10				↓*eS*	**Sn**	**17 40 45.6**	**-5.8**
PB10				IAML		17 41 05.8	
	comp=Z,385nm,0.5s						
HJA	**Humahuaca**	**3.42**	**125**	*eP*	**Pn**	**17 40 24.4**	**+2.4**
HJA	**Humahuaca**	**3.42**	**125**	*i* P	**Pn**	**17 40 24.4**	**+2.4**
HJA				IAML		17 41 17.4	
	comp=Z,49nm,0.5s						
GO02	**Mina Guanaco**	**4.02**	**195**		**Pn**	**17 40 29.2**	**-0.7**
AZAP	**Zapla**	**4.30**	**134**	*eP*	**Pn**	**17 40 32.4**	**-1.0**
AZAP	**Zapla**	**4.30**	**134**	*i* P	**Pn**	**17 40 34.4**	**+1.0**
AZAP				IAML		17 41 29.1	
	comp=Z,24nm,0.6s						
SLA	**San Lorenzo**	**4.39**	**142**	↑*iP*	**Pn**	**17 40 36.7**	**+2.2**
SLA				IAML		17 41 31.2	
	comp=Z,24nm,0.9s						
ASTB	**Santa Barbara**	**4.56**	**127**	↑*iP*	**Pn**	**17 40 37.8**	**+1.0**
ASTB				*eS*	**Sn**	**17 41 26.9**	**-2.4**
ASTB				IAML		17 41 31.7	
	comp=Z,29nm,0.4s						
LPAZ	**La Paz**	**4.96**	**4**	P	**Pn**	**17 40 43.6**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=186,slow=5.9,SNR=41						
LPAZ				S	**Sn**	**17 41 36.2**	**-3.2**
	comp=Z,0.7nm,0.3s,baz=75,slow=12,SNR=1.7						
LPAZ	**La Paz**	**4.96**	**4**	*eP*	**Pn**	**17 40 44.5**	**+1.9**
LPAZ	**La Paz**	**4.96**	**4**	*eP*	**Pn**	**17 40 44.5**	**+1.9**
AHML	**Horco Molle**	**6.19**	**153**	*i* P	**Pn**	**17 40 59.4**	**+0.7**
AHML				IAML		17 42 18.4	
	comp=Z,5.2nm,0.7s						
GO03	**Copiap**	**6.51**	**194**		**Pn**	**17 41 00.3**	**-2.6**
SIV	**San Ignacio**	**8.74**	**54**	P	**Pn**	**17 41 30.2**	**-2.8**
	comp=Z,3.7nm,0.3s,baz=248,slow=12,SNR=124						
SIV				S	**Sn**	**17 43 01.2**	**-8.7**
	comp=Z,0.4nm,0.3s,baz=285,slow=17,SNR=5.6						
ACCO	**Cerro Coronel**	**9.30**	**183**	*i* P	**Pn**	**17 41 39.0**	**-1.8**
RTCV	**Cerro Valdivia**	**10.56**	**180**	*i* P	**Pn**	**17 41 54.4**	**-2.9**
TCA	**Tanti**	**10.61**	**162**	*i* P	**Pn**	**17 41 55.4**	**-2.7**
ASAL	**Salagasta**	**11.29**	**182**	*i* P	**Pn**	**17 42 04.2**	**-2.9**
CPUP	**Villa Florida**	**11.36**	**119**	P	**Pn**	**17 42 07.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=274,slow=11,SNR=3.3						
AQDB	**Aquidauana**	**11.95**	**89**	*eP*	**Pn**	**17 42 17.2**	**+1.5**
AQDB	**Aquidauana**	**11.95**	**89**	*eP*	**Pn**	**17 42 17.2**	**+1.5**
SAML	**Samuel**	**13.25**	**23**	*eP*	**Pn**	**17 42 33.4**	**+0.7**
SAML	**Samuel**	**13.25**	**23**	*eP*	**Pn**	**17 42 33.4**	**+0.7**
TRCB	**Terra Rica**	**14.75**	**99**	*eP*	**P**	**17 42 53.8**	**-0.6**
TRCB	**Terra Rica**	**14.75**	**99**	*eP*	**P**	**17 42 53.8**	**-0.6**
ARAG	**Araguaiana, MT**	**16.72**	**73**	*eP*	**P**	**17 43 17.0**	**+0.9**
ARAG	**Araguaiana, MT**	**16.72**	**73**	*eP*	**P**	**17 43 17.0**	**+0.9**
FRTB	**Fartura**	**17.60**	**100**	*eP*	**P**	**17 43 25.8**	**-0.1**
FRTB	**Fartura**	**17.60**	**100**	*eP*	**P**	**17 43 25.8**	**-0.1**
GO06	**Curarrehue**	**18.45**	**187**	P	**P**	**17 43 32.7**	**-2.3**
GO06				IAmb	IAmb	17 43 38.2	
	comp=Z,27nm,0.8s						
BB19B	**Bebedouro**	**18.59**	**93**	*eP*	**P**	**17 43 36.1**	**-0.6**
BB19B	**Bebedouro**	**18.59**	**93**	*eP*	**P**	**17 43 36.1**	**-0.6**
IPMB	**Ipameri, GO**	**19.34**	**84**	*eP*	**P**	**17 43 44.4**	**-0.5**
IPMB	**Ipameri, GO**	**19.34**	**84**	*eP*	**P**	**17 43 44.4**	**-0.5**
PLCA	**Paso Flores**	**19.49**	**185**	P	**Pn**	**17 43 47.9**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=22,slow=13,SNR=16						
PLCA	**Paso Flores**	**19.49**	**185**	*eP*	**Pn**	**17 43 47.7**	**-1.2**
PLCA	**Paso Flores**	**19.49**	**185**	*eP*	**Pn**	**17 43 47.7**	**-1.2**
PLCA	**Paso Flores**	**19.49**	**185**	P	**P**	**17 43 45.2**	**-1.2**
SPB	**Sao Paulo**	**19.57**	**101**	*eP*	**Pn**	**17 43 48.1**	**-1.7**
SPB	**Sao Paulo**	**19.57**	**101**	*eP*	**Pn**	**17 43 48.1**	**-1.7**
VAO	**Valinhos**	**19.98**	**99**	*eP*	**P**	**17 43 51.0**	**-0.8**
VAO	**Valinhos**	**19.98**	**99**	*eP*	**P**	**17 43 51.0**	**-0.8**
BDFB	**Brasília**	**20.17**	**77**	P	**P**	**17 43 53.4**	**-0.6**
	comp=Z,4.2nm,0.3s,baz=254,slow=10,SNR=42						
BDFB	**Brasília**	**20.17**	**77**	P	**P**	**17 43 53.1**	**-0.8**
BDFB				IAmb	IAmb	17 43 54.2	
	comp=Z,16nm,0.6s						
PMNB	**Patos De Minas**	**20.88**	**86**	*eP*	**P**	**17 44 00.9**	**-0.6**
PMNB	**Patos De Minas**	**20.88**	**86**	*eP*	**P**	**17 44 00.9**	**-0.6**
OTAV	**Otavalo**	**23.49**	**334**	P	**P**	**17 44 26.4**	**-1.8**
BBAC	**Balboa, Cauca**	**24.69**	**339**	*eP*	**P**	**17 44 37.6**	**-1.1**
BBAC	**Balboa, Cauca**	**24.69**	**339**	*eP*	**P**	**17 44 37.6**	**-1.1**
ORTC	**Ortega, Tolima**	**25.89**	**344**	*eP*	**P**	**17 44 50.0**	**+0.7**
ORTC	**Ortega, Tolima**	**25.89**	**344**	*eP*	**P**	**17 44 50.0**	**+0.7**
YOTC	**Yotoco, Valle**	**26.25**	**342**	*eP*	**P**	**17 44 50.1**	**-2.7**
YOTC	**Yotoco, Valle**	**26.25**	**342**	*eP*	**P**	**17 44 50.1**	**-2.7**
RREF	**El Recreo**	**26.86**	**345**	*eP*	**P**	**17 45 00.4**	**+1.6**
RREF	**El Recreo**	**26.86**	**345**	*eP*	**P**	**17 45 00.4**	**+1.6**
RUSC	**La Rusia**	**27.36**	**350**	*eP*	**P**	**17 45 03.4**	**+0.3**
RUSC	**La Rusia**	**27.36**	**350**	*eP*	**P**	**17 45 03.4**	**+0.3**
NORC	**Norcasia**	**27.39**	**346**	*eP*	**P**	**17 45 03.5**	**+0.7**
NORC	**Norcasia**	**27.39**	**346**	*eP*	**P**	**17 45 03.5**	**+0.7**
CBOC	**Ciudad Bolivar**	**27.96**	**344**	*eP*	**P**	**17 45 08.0**	**0.0**
CBOC	**Ciudad Bolivar**	**27.96**	**344**	*eP*	**P**	**17 45 08.0**	**0.0**
TXAR	**Lajitas Array**	**60.68**	**325**	P	**P**	**17 49 27.9**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=143,slow=9.1,SNR=2.8						
VNA2	**Neumayer--Watz**	**60.73**	**161**	P	**P**	**17 49 27.4**	**+0.6**
	baz=298,slow=7.1						
N54A	**Moraine State**	**62.83**	**350**	P	**P**	**17 49 42.0**	**+0.9**
KSPA	**Keystone Colle**	**62.86**	**354**	P	**P**	**17 49 41.5**	**+0.2**
KSPA				IAmb	IAmb	17 49 56.8	
	comp=Z,8.4nm,1.1s						
WVNY	**West Valley, N**	**64.04**	**352**	P	**P**	**17 49 48.8**	**-0.3**
K58A	**Earlville**	**64.05**	**354**	P	**P**	**17 49 49.4**	**+0.3**
K58A				IAmb	IAmb	17 49 51.0	
	comp=Z,9.7nm,1.1s						
HSIG		**64.64**	**319**	P	**P**	**17 49 54.0**	**+0.7**
HSIG				IAmb	IAmb	17 49 57.0	
	comp=Z,3.6nm,0.6s						
J59A	**Piesco**	**64.64**	**355**	P	**P**	**17 49 52.7**	**-0.3**
J59A				IAmb	IAmb	17 49 59.7	
	comp=Z,9.3nm,1.1s						
F64A	**Sherman**	**66.80**	**0**	P	**P**	**17 50 07.4**	**+0.7**
F64A				IAmb	IAmb	17 50 20.4	
	comp=Z,6.3nm,1.1s						
LIC	**Lamto**	**67.91**	**74**	*e*PKP1	**P**	**17 50 16.3**	**+1.8**
D62A	**Allapoint, All**	**68.02**	**360**	*e*PKP1	**P**	**17 50 14.8**	**+0.4**
TIC	**Toumodi**	**68.10**	**73**	*e*PKP1	**P**	**17 50 15.3**	**-0.4**
KIC	**Kosan Boka**	**68.23**	**74**	*e*PKP1	**P**	**17 50 16.1**	**-0.4**
	comp=Z,28nm,1.0s						
DBIC	**Dimbokro**	**68.26**	**73**	P	**P**	**17 50 16.6**	**-0.1**
	comp=Z,7.4nm,0.7s,baz=223,slow=6.0,SNR=10						
DBIC	**Dimbokro**	**68.26**	**73**	P	**P**	**17 50 16.7**	**+0.1**
DBIC				IAmb	IAmb	17 50 17.5	
	comp=Z,7.8nm,0.8s						
QSPA	**South Pole Qui**	**68.93**	**180**	P	**P**	**17 50 22.6**	**+2.4**
QSPA				IAmb	IAmb	17 50 22.9	
	comp=Z,4.7nm,0.6s						
NVAR	**Mina Array Bea**	**75.57**	**322**	P	**P**	**17 51 02.4**	**+2.3**
	comp=Z,0.3nm,0.5s,baz=166,slow=6.9,SNR=4.1						
SYO	**Syowa Base**	**76.58**	**159**	↑*es*P	sP	17 51 48.4	-5.3
TOA0	**Torodi Ar. Sit**	**76.87**	**70**	P	**P**	**17 51 07.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**76.87**	**70**	P	**P**	**17 51 07.6**	**0.0**
	comp=Z,15nm,0.7s,baz=252,slow=5.3,SNR=63						
VNDA	**Vanda**	**77.16**	**190**	P	**P**	**17 51 11.2**	**+3.0**
	comp=Z,1.5nm,0.9s,baz=137,slow=4.8,SNR=3.7						
BOSA	**Boshof**	**83.18**	**118**	P	**P**	**17 51 40.9**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=254,slow=20,SNR=2.8						
ESDC	**Sonseca Array**	**85.36**	**44**	P	**P**	**17 51 52.4**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=235,slow=4.8,SNR=4.9						
YKA	**Yellowknife Ar**	**91.11**	**340**	P	**P**	**17 52 19.5**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=134,slow=4.5

SPSI Sidrap Palu 16.04 207 P **P** **17 53 39.7 -1.3**
comp=Z,75nm,0.8s,comp=Z,834nm
BNSI Bone 16.28 205 P **P** **17 53 42.7 -1.0**
comp=Z,34nm,1.5s,comp=Z,873nm
JOW Kunigami 16.30 4 Pn **P** **17 53 43.0 -1.0**
comp=Z,0.1nm,0.3s,baz=73,slow=25,SNR=4.3
JOW Kunigami 16.30 4 **P** **17 53 42.8 -1.2**
SBUM Sibu 16.65 242 P **P** **17 53 47.5 -0.3**
SMPI Sarmi 17.07 136 P **P** **17 53 51.9 -0.5**
comp=Z,132nm,1.5s,comp=Z,2µm
BKSI Bulukumba 17.11 204 P **Pn** **17 53 51.6 +0.3**
comp=Z,24nm,0.9s
KBKI Kotabaru 17.40 219 P **Pn** **17 53 53.2 -1.6**
GUMO Guam 17.81 78 LR LR 18 00 36.7
comp=Z,337nm,18.6s,baz=242,slow=36
QIZ Qiongzhong 18.56 299 P **P** **17 54 08.8 -0.2**
QIZ S **Sn** **17 57 38.5 +1.7**
QIZ LR LR
comp=Z,330nm,13.2s
QIZ LR LR
comp=Z,370nm,15.2s
KSM Kuching 18.79 243 P **Pn** **17 54 14.1 +2.1**
KSM IAmb IAmb 17 54 15.7
comp=Z,86nm,0.7s
JAY Jayapura 18.84 133 P **Pn** **17 54 13.8 +1.2**
comp=Z,0.5nm,0.3s,baz=261,slow=7.0,SNR=3.9
SAUI Saumlaki 18.86 167 P **P** **17 54 12.5 +0.2**
comp=Z,128nm,1.2s
SAUI Saumlaki 18.86 167 P **P** **17 54 10.1 -2.2**
SAUI IAmb IAmb 17 54 21.9
comp=Z,182nm,1.3s
SOEI Soe 20.29 188 P Pn 17 54 29.4 -0.6
comp=Z,101nm,1.3s
SOEI Soe 20.29 188 P **P** **17 54 28.4 +0.4**
SOEI IAmb IAmb 17 54 43.2
comp=Z,113nm,1.2s
BATI Baumata 20.82 189 P **P** **17 54 34.1 +0.5**
comp=Z,141nm,0.6s,baz=42,slow=1.1,SNR=34
UBPT Khong Chiam 21.45 285 P P 17 54 53.6 +13
UBPT Khong Chiam 21.45 285 P **P** **17 54 40.8 +0.3**
UBPT IAmb IAmb 17 54 53.0
comp=Z,65nm,1.5s
JCJ Chichijima 21.90 39 P **P** **17 54 45.7 +0.6**
comp=Z,81nm,0.6s,baz=250,slow=16,SNR=3.6
NJ2 Nanjing 22.72 342 *e*P **P** **17 54 55.3 +1.4**
NJ2 pmax pmax
comp=Z,44nm,1.4s
NJ2 LR LR
comp=Z,530nm,14.9s
NJ2 LR LR
comp=Z,520nm,15.3s
NJ2 LR LR
comp=Z,690nm,13.7s
JNU Nakatsue 22.81 9 P **P** **17 54 54.9 0.0**
comp=Z,49nm,1.0s,baz=160,slow=4.3,SNR=12
JNU Nakatsue 22.81 9 **P** **17 54 54.7 -0.2**
JNU IAmb IAmb 17 54 57.5
comp=Z,62nm,1.0s
JNU Sn Sn 17 59 13.0 -5.8
WHN Wuhan 23.13 331 P **P** **17 55 09.5 +0.3**
SKNT Sakolnakorn 23.19 289 P P 17 55 09.5 +11
MTN Manton Dam 23.56 170 P **P** **17 55 02.2 -0.3**
MYKOM Kota Tinggi 24.50 251 P **P** **17 55 12.0 +0.4**
MYKOM Kota Tinggi 24.50 251 P **P** **17 55 11.9 +0.4**
MYKOM IAmb IAmb 17 55 12.9
comp=Z,41nm,1.0s
CHAI Chaiyaphum 24.86 285 P **P** **17 55 13.8 -1.0**
comp=Z,45µm,0.8s
GYA Guiyang 24.87 312⇑ *i*P **P** **17 55 15.3 +0.4**
GYA S **S** **17 59 42.0 +4.0**
GYA SS **SnSn** **18 00 40.3 +15**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,150nm,4.1s
GYA LR LR
comp=Z,290nm,11.9s
GYA LR LR
comp=Z,180nm,8.9s
ENH Enshi 25.52 323 P **P** **17 55 20.0 -0.6**
PATY Pattaya 25.63 278 P **P** **17 55 23.1 +1.3**
comp=Z,47µm,0.7s
TJN Taejon 25.77 1⇑ *e*P **P** **17 55 24.1 +1.3**
LEM Lembang 25.80 229 P **P** **17 55 24.6 +1.1**
comp=Z,47nm,0.7s,baz=72,slow=7.5,SNR=13
DBJI Dramaga 26.28 231 P **P** **17 55 28.9 +1.3**
comp=Z,58nm,0.9s,comp=Z,4µm
IPM Ipoh 26.36 259 P **P** **17 55 28.0 -0.4**
IPM Ipoh 26.36 259 P **P** **17 55 28.4 0.0**
IPM IAmb IAmb 17 55 30.4
comp=Z,42nm,0.7s
INU Inuyama 26.39 19 P **P** **17 55 28.1 -0.3**
UTTA Uttaradit 26.55 289 P **P** **17 55 29.9 -0.2**
comp=Z,11µm,0.7s
KLSI 26.76 237 P **P** **17 55 32.8 +0.8**
PHET Kaeng Krachan 26.84 278 P **P** **17 55 32.3 -0.4**
comp=Z,60µm,0.7s,comp=Z,674µm
KSRS Korea Array 26.86 2 P **P** **17 55 33.4 +0.8**
comp=Z,8.6nm,0.7s,baz=177,slow=10,SNR=27
KS19 Wonju Array Si 26.91 2 P **P** **17 55 33.6 +0.6**
KS19 IAmb IAmb 17 55 37.9
comp=Z,64nm,1.5s
PHRA Phrae 27.02 290 P **P** **17 55 32.8 -1.5**
comp=Z,1.8nm,0.9s
TIA Tal'an 27.10 342 P **P** **17 55 35.0 +0.1**
TIA pmax pmax
comp=Z,14nm,1.3s
MDSI Maura Dua 27.11 238 P **P** **17 55 35.4 +0.3**
comp=Z,41nm,1.1s
KMI Kunming 27.17 306 P **P** **17 55 38.5 +2.6**
KMI pmax pmax
comp=Z,12nm,0.5s
UTHA Uthaitani 27.23 284 P **P** **17 55 35.9 -0.4**
comp=Z,18µm,0.7s
SRDT SRDT 27.42 281 P **P** **17 55 37.7 -0.2**
comp=Z,10.0nm,0.8s,comp=Z,722nm
LWLI Liwa 27.50 237 P **P** **17 55 40.3 +1.5**
SDSI Sungai Dareh 27.80 247 P P 17 55 52.1 +11
MAJO Matsushiro 27.87 20⇑ *e*P **P** **17 55 40.9 -0.9**
MAJO pmax pmax
comp=Z,12nm,1.2s
MJAR Matsushiro Arr 27.87 20 P **P** **17 55 41.0 -0.7**
comp=Z,4.8nm,0.8s,baz=192,slow=7.9,SNR=10
UMPA Umpang Tak 27.88 285 P **P** **17 55 46.7 +4.6**
KSI Kapahiang 28.01 241 P P 17 55 51.1 +7.8
CMAR Chiang Mai Arr 28.20 290 P **P** **17 55 43.2 -1.7**
comp=Z,3.8nm,0.8s,baz=102,slow=7.3,SNR=41
CMAR PcP **PcP** **17 58 59.8 +1.1**
comp=Z,1.6nm,0.7s,baz=78,slow=1.8,SNR=9.2
PMG Port Moresby 28.21 134⇑ *e*P **P** **17 55 44.0 -1.0**
PMG pmax pmax
comp=Z,89nm,1.3s
PMG Port Moresby 28.21 134 P **P** **17 55 44.3 -0.7**
comp=Z,11nm,1.0s,baz=350,slow=6.2,SNR=6.7
PMG Port Moresby 28.21 134 P **P** **17 55 41.5 -3.5**
KRJI Kerinci 28.27 245 P **P** **17 55 48.7 +3.1**
CHTO Chiang Mai 28.28 290 P **P** **17 55 44.7 -0.9**
CHTO pmax pmax
comp=Z,8.0nm,1.1s
CHTO Chiang Mai 28.28 290 P **P** **17 55 44.7 -0.9**
FITZ Fitzroy Crossi 28.44 183 P **P** **17 55 46.1 -0.8**
comp=Z,6.2nm,0.7s,baz=6.4,slow=7.4,SNR=7.1
XAN Xi'an 28.66 328 P **P** **17 55 48.8 -0.1**
XAN pP pwP 17 55 59.3 -1.0
XAN pmax pmax
comp=Z,27nm,0.9s
XAN pmax pmax
comp=Z,78nm,3.6s
XAN Xi'an 28.66 328 P **P** **17 55 49.5 +0.6**
XAN pmax pmax
comp=Z,23nm,0.8s
XAN Xi'an 28.66 328 P **P** **17 55 49.5 +0.6**
XAN IAmb IAmb 17 55 51.2
comp=Z,23nm,0.8s
PDSI Padang 28.67 248 P **P** **17 55 50.6 +1.5**
comp=Z,20nm,0.7s
PSI Prapat 28.83 257 P **P** **17 55 50.6 -0.1**
PSI pmax pmax
comp=Z,17nm,1.0s
RPSI Rantau Prapat 28.86 256 P **P** **17 55 50.6 -0.2**
KRVT Keravat (AS076 28.99 119 LR LR 18 06 52.0
comp=Z,97nm,18.7s,baz=329,slow=35
COEN Coen 29.15 146 P **P** **17 55 53.0 -0.3**
COEN IAmb IAmb 17 55 58.4
comp=Z,32nm,1.1s
CD2 Chengdu 29.59 317 *e*P **P** **17 55 58.8 +1.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
BJI Beijing 30.94 344⇓ *i*P **P** **17 56 10.0 +1.1**
BJI pmax pmax
comp=Z,11nm,1.3s
WRAB Tennant Creek 31.10 166⇓ *e*P **P** **17 56 09.3 -1.3**
WRAB pmax pmax
comp=Z,31nm,2.5s
WRA Warramunga Arr 31.11 166 P **P** **17 56 09.3 -1.3**
comp=Z,5.9nm,0.7s,baz=346,slow=9.7,SNR=23
WRA PcP **PcP** **17 59 06.2 +0.1**
comp=Z,1.7nm,0.6s,baz=341,slow=2.9,SNR=5.3
WR0 Warramunga Arr 31.17 166 P **P** **17 56 08.0 -3.2**
WR0 IAmb IAmb 17 56 11.0
comp=Z,32nm,1.4s
PSA00 Pilbara Seismi 32.62 192 P **P** **17 56 22.6 -1.2**
PSA00 PcP **PcP** **17 59 07.2 -2.9**
LZH Lanzhou 32.97 324 *e*P **P** **17 56 28.0 +0.9**
LZH pP sP 17 56 33.0 +3.3
LZH sP pwP 17 56 38.5 +0.1
LZH SS SS 18 03 46.8 -21
LZH pmax pmax
comp=Z,31nm,1.2s
LZH pmax pmax
comp=Z,130nm,4.3s
HHC Hu-ho-hao-te 33.15 338 *e*P **P** **17 56 29.5 +1.1**
HHC sP pwP 17 56 39.8 -0.2
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,130nm,4.3s
CN2 Changchun 33.21 358 *e*P **P** **17 56 29.5 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,1.6s
USA0B Ussuriysk Arra 33.87 7⇑ *e*P **P** **17 56 35.6 +1.1**
USA0B Ussuriysk Arra 33.87 7 P **P** **17 56 34.7 +0.2**
USA0B IAmb IAmb 17 56 36.2
comp=Z,23nm,0.8s
USRK Ussuriysk Ar. 33.87 7 P **P** **17 56 35.4 +0.9**
comp=Z,15nm,0.7s,baz=182,slow=7.4,SNR=30
USRK PcP **PcP** **17 59 13.1 -0.1**
comp=Z,1.5nm,0.8s,baz=111,slow=3.6,SNR=3.8
MDJ Mudanjiang 34.08 3 P **P** **17 56 37.3 +1.0**
MDJ pmax pmax
comp=Z,32nm,1.3s
MDJ pmax pmax
comp=Z,480nm,5.4s
AS31 Alice Springs 34.63 169 P **P** **17 56 40.8 -0.5**
AS31 PcP **PcP** **17 59 13.9 -1.9**
ASAR Alice Springs 34.63 169 P **P** **17 56 40.5 -0.8**
comp=Z,4.8nm,0.6s,baz=352,slow=6.6,SNR=78
ASAR PcP **PcP** **17 59 15.9 +0.2**
comp=Z,2.4nm,0.6s,baz=348,slow=2.8,SNR=10
CTA Charters Tower 35.85 148 P **P** **17 56 52.2 +0.3**
comp=Z,9.0nm,0.8s,baz=327,slow=12,SNR=16
CTAO Charters Tower 35.85 148 P **P** **17 56 53.1 +1.2**
CTAO pmax pmax
comp=Z,24nm,1.3s
GTA Gaotai 37.57 325 P **P** **17 57 07.3 +0.7**
GTA pP pwP 17 57 14.3 -3.7
GTA sP sP 17 57 18.0 +8.8
GTA pmax pmax
comp=Z,22nm,1.0s
LSA Lhasa 38.43 305 P **P** **17 57 13.8 -0.6**
LSA 17 59 28.6
LSA pmax pmax
comp=Z,28nm,1.5s
LSA Lhasa 38.43 305 P **P** **17 57 13.8 -0.6**
LSA IAmb IAmb 17 57 26.5
comp=Z,28nm,1.5s
LSA **PcP** **17 59 28.6 +0.9**
YSS Yuzh-Sakhalins 38.74 17⇑ *e*P **P** **17 57 17.3 +1.2**
YSS pmax pmax
comp=Z,34nm,1.2s
KLR Kul'dur 38.82 5⇑ *e*P **P** **17 57 18.1 +1.3**
KLR pmax pmax
comp=Z,16nm,1.2s
TAPN Taplejung 40.50 300 *e*P **P** **17 57 29.8 -1.7**
comp=Z,13nm,0.6s
ODAN Odare 40.64 299 *e*P **P** **17 57 31.0 -1.6**
comp=Z,36nm,0.7s
MORW Morawa 40.71 195 P **P** **17 57 32.3 -0.4**
MORW IAmb IAmb 17 57 48.1
comp=Z,18nm,1.0s
ULN Ulaanbaatar 40.84 340⇑ *e*P **P** **17 57 34.7 +0.9**
ULN pmax pmax
comp=Z,23nm,1.7s
ULN Ulaanbaatar 40.84 340 P **P** **17 57 34.2 +0.4**
GRNR Gornyy 40.91 9⇓ *i*P **P** **17 57 32.1 -2.1**
GRNR *e*S **S** **18 03 44.0 -1.5**
GRNR pmax pmax
comp=Z,20nm,1.3s
GRNR smax smax
comp=N,4.0nm,1.0s
SONM Songino Array 41.04 339 P **P** **17 57 36.1 +0.7**
comp=N,5.4nm,0.7s,baz=156,slow=8.1,SNR=35
FORT Forrest 41.05 179 P **P** **17 57 35.4 -0.1**
RAMN Ramite 41.34 299 *e*P **P** **17 57 36.9 -1.5**
comp=N,13nm,0.6s
JIRN Jiri 41.88 300 *e*P **P** **17 57 41.4 -1.6**
comp=N,38nm,0.8s
GUN Gumba 42.22 300 *e*P **P** **17 57 43.7 -2.0**
comp=N,48nm,0.8s
PKIN Phulchoki 42.54 299 *e*P **P** **17 57 45.9 -2.3**
comp=N,8.6nm,0.6s
KKN Kakani 42.70 300 *e*P **P** **17 57 46.9 -2.5**
comp=N,23nm,1.0s
EIDS Eidsvold 42.71 147 P **P** **17 57 49.2 0.0**
EIDS IAmb IAmb 17 57 49.7
comp=Z,23nm,0.9s
ZEA Zeya 43.13 0 *e*P **P** **17 57 52.4 +0.2**
ZEA pmax pmax
comp=Z,46nm,1.4s
BBOO Buckleboo 43.93 169 P **P** **17 57 59.6 +0.6**
DANN Dangsing 44.14 300 *e*P **P** **17 57 58.8 -2.3**
comp=Z,48nm,1.3s
NWAO Narrogin (SRO) 44.16 192 P **P** **17 58 00.3 -0.4**
comp=Z,8.8nm,0.7s,baz=223,slow=6.2,SNR=5.5
NWAO Narrogin (SRO) 44.16 192 IAmb IAmb 17 58 08.2
comp=Z,21nm,1.1s
ZAK Zakamensk 44.30 338 *e*P **P** **17 58 01.6 -0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
STKA Stephens Creek 44.41 162 P **P** **17 58 03.2 +0.4**
STKA 17 59 47.0
STKA pmax pmax
comp=Z,8.0nm,1.5s
STKA Stephens Creek 44.41 162 P **P** **17 58 02.7 -0.1**
comp=Z,4.7nm,0.5s,baz=339,slow=8.8,SNR=22
STKA PcP **PP** **17 59 46.8 +0.3**
comp=Z,3.9nm,0.6s,baz=339,slow=8.5,SNR=4.9
STKA Stephens Creek 44.41 162 P **P** **17 58 03.2 +0.4**
STKA **PP** **17 59 47.0 +0.5**
TLY Talaya 45.25 340 *c e*P **P** **17 58 09.8 +0.5**
TLY pmax pmax
comp=Z,7.0nm,0.8s
TLY Talaya 45.25 340 P **P** **17 58 09.3 0.0**
MOY Mondy 46.18 338 *e*P **P** **17 58 17.8 +1.0**
MOY pmax pmax
comp=Z,41nm,2.2s
WMQ Urumqi 47.45 322 *e*P **P** **17 58 28.0 +1.2**
WMQ sP pwP 17 58 39.3 +1.0
WMQ pmax pmax
comp=Z,17nm,1.1s
WMQ pmax pmax
comp=Z,71nm,3.6s
WMQ LR LR
comp=Z,740nm,29.1s
WMQ LR LR
comp=Z,830nm,28.9s
BOD Bodaibo 48.25 351 *e*P P 17 58 26.7 -6.0
BOD pmax pmax
comp=Z,14nm,1.4s
PEA0B Petropavlovsk- 49.17 24 P **P** **17 58 41.2 +1.4**
PEA0B pmax pmax
comp=Z,46nm,1.2s
PEA0B Petropavlovsk- 49.17 24 P **P** **17 58 41.2 +1.4**
PETK Petropavlovsk- 49.17 24 P **P** **17 58 41.2 +1.4**
comp=Z,8.4nm,0.6s,baz=204,slow=3.8,SNR=20
CAN Canberra 50.12 156 P **P** **17 58 47.1 -0.2**
CAN 18 00 02.9
CAN pmax pmax
comp=Z,20nm,1.0s
CAN Canberra 50.12 156 P **P** **17 58 47.1 -0.2**
CAN IAmb IAmb 17 58 51.1
comp=Z,20nm,1.0s
CAN PcP **PcP** **18 00 02.9 -3.9**
DZM Mont Dzumac 50.49 130 P **P** **17 58 51.3 +0.9**
DZM IAmb IAmb 17 58 58.6
comp=Z,22nm,1.3s
TOO Toolangi 50.88 161 P **P** **17 58 54.0 +1.0**
TOO pmax pmax
comp=Z,31nm,1.2s
TOO Toolangi 50.88 161 P **P** **17 58 54.0 +1.0**
YAK Yakutsk 51.49 2 *e*P **P** **17 58 57.4 +0.2**
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=N,19nm,1.1s
MK31 Makanchi Array 52.25 322 *e*P **P** **17 59 04.0 +0.8**
MK31 pmax pmax
comp=Z,37nm,1.0s
MK31 Makanchi Array 52.25 322 P **P** **17 59 03.9 +0.8**
MKAR Makanchi Array 52.25 322 P **P** **17 59 03.7 +0.5**
comp=Z,24nm,0.7s,baz=118,slow=7.8,SNR=95
MKAR ScP **ScP** **18 04 13.5 +1.8**
comp=Z,0.2nm,0.5s,baz=119,slow=5.1,SNR=3.9
MAKZ Makanchi 52.44 322 *i* P **P** **17 59 03.8 -0.9**
MAKZ pmax pmax
comp=Z,34nm,0.9s
MAKZ Makanchi 52.44 322 P **P** **17 59 05.3 +0.7**
PDGK Podgornoye 52.48 317 *i* P **P** **17 59 03.8 -1.3**
PDGK pmax pmax
comp=Z,31nm,0.9s
TARG Taragay, Kyrgy 53.01 315 P **P** **17 59 10.4 +1.0**
TARG IAmb IAmb 17 59 19.7
comp=Z,9.0nm,0.7s
KSH Kashi 53.57 312 P **P** **17 59 15.8 +2.6**
KSH PP **PP** **18 01 17.3 +3.4**
KSH PcS **PcS** **18 04 16.0 -3.0**
KSH S **S** **18 06 46.0 -0.5**
KSH pmax pmax
comp=Z,29nm,1.1s
KSH pmax pmax
comp=Z,260nm,4.9s
KSH LR LR
comp=Z,300nm,7.8s
KSH LR LR
comp=Z,490nm,5.4s
KSH LR LR
comp=Z,460nm,5.7s
NRN Naryn 54.17 314 P **P** **17 59 18.3 +0.5**
NRN pmax pmax
comp=Z,14nm,0.8s
NRN Naryn 54.17 314 P **P** **17 59 18.3 +0.5**
NRN IAmb IAmb 17 59 20.1
comp=Z,14nm,0.8s
ZAA0 Zalesovo Array 54.75 331 P **P** **17 59 20.4 -0.9**
ZALV Zalesovo Beam 54.75 331 P **P** **17 59 21.1 -0.3**
comp=Z,5.0nm,0.6s,baz=119,slow=6.1,SNR=21
KZA Kyzart 54.92 314 P **P** **17 59 23.4 +0.1**
SNR=25
TKM2 Tokmak 2 54.96 316 *i* P **P** **17 59 22.9 -0.5**
TKM2 pmax pmax
comp=Z,13nm,0.8s
TKM2 Tokmak 2 54.96 316 P **P** **17 59 24.3 +0.9**
SNR=12
KBK Karagaybulak 55.32 315 P **P** **17 59 27.0 +1.0**
SNR=13
SEY Seymchan 55.45 14⇑ *e*P **P** **17 59 28.0 +1.7**
SEY Seymchan 55.45 14 P **P** **17 59 27.9 +1.7**
comp=Z,10nm,1.0s,baz=209,slow=10
UCH Uchtor 55.48 314 P **P** **17 59 27.6 +0.1**
SNR=39
CHMS Chumysh 55.57 315 P **P** **17 59 26.8 -0.8**
SNR=11
AAK Ala-Archa 55.63 315 *c e*P **P** **17 59 28.5 +0.3**
AAK pmax pmax
comp=Z,22nm,1.9s
AAK Ala-Archa 55.63 315 LR LR 18 27 00.4
comp=Z,108nm,18.4s,baz=32,slow=40
AAK Ala-Archa 55.63 315 P **P** **17 59 32.7 +4.5**
SNR=6.1
AAK Ala-Archa 55.63 315 P **P** **17 59 28.8 +0.6**
USP Ospenovka 55.84 316 P **P** **17 59 29.7 +0.2**
SNR=20
AML Almayashu 56.03 314 P **P** **17 59 32.4 +1.1**
SNR=20
EKS2 Erkin-Say 56.14 315 P **P** **17 59 31.7 -0.1**
SNR=13
KURK Kurchatov 56.26 325 *c i*P **P** **17 59 32.7 +0.4**
KURK pmax pmax
comp=Z,100nm,1.3s
KURK Kurchatov 56.26 325 P **P** **17 59 32.9 +0.6**
ARSB Arslanbob 56.29 313 P **P** **17 59 32.0 -1.0**
ARSB IAmb IAmb 17 59 44.7
comp=Z,23nm,1.3s
ARSB PcP **PcP** **18 00 29.9 -0.5**
BTK Batken 57.53 311 P **P** **17 59 42.4 +0.7**
BTK pmax pmax
comp=Z,8.0nm,1.0s
BTK Batken 57.53 311 P **P** **17 59 42.4 +0.7**
GAR Garm 57.65 310 P **P** **17 59 42.6 0.0**
KBL Kabul 57.74 304 P **P** **17 59 43.7 +0.2**
KBL pmax pmax
comp=Z,11nm,0.9s
KBL Kabul 57.74 304 P **P** **17 59 43.7 +0.2**
KBL IAmb IAmb 17 59 45.3
comp=Z,11nm,0.8s
MSVF Nonsavu 57.75 119⇑ *e*P **P** **17 59 45.1 +1.6**
MSVF pmax pmax
comp=Z,12nm,1.2s
CHGR Chuyangaron 58.45 309 P **P** **17 59 48.0 -0.2**
KK31 Karatay Array 58.56 314⇑ *e*P **P** **17 59 48.1 -0.7**
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KK31 Karatay Array 58.56 314 P **P** **17 59 48.9 +0.1**
KK31 IAmb IAmb 18 00 00.1
comp=Z,25nm,1.4s
KKAR Karatay Array 58.56 314 P **P** **17 59 48.5 -0.3**
KKAR Karatay Array 58.56 314 P **P** **17 59 48.5 -0.3**
KKAR IAmb IAmb 18 00 00.1
comp=Z,25nm,1.4s
TIXI Tiksi 61.12 1⇑ *e*P **P** **18 00 05.8 0.0**
TIXI pmax pmax
comp=Z,18nm,1.7s
BRVK Borovoye 61.93 325 *c e*P **P** **18 00 11.7 +0.1**
BRVK pmax pmax
comp=Z,30nm,0.9s
BRVK Borovoye 61.93 325 P **P** **18 00 11.7 +0.1**
ATKA Atka Island 62.90 36 P **P** **18 00 15.5 -2.6**
BILL Bilibino 63.02 16 *c i*P **P** **18 00 19.1 +0.5**
BILL *i* 18 00 30.8
BILL *i* 18 00 57.0
BILL pmax pmax
comp=Z,12nm,1.3s
NRIK Noril'sk 63.96 345⇑ *e*P **P** **18 00 25.0 +0.2**
NRIK Noril'sk 63.96 345 P **P** **18 00 24.4 -0.4**
comp=Z,9.5nm,0.9s,baz=121,slow=6.0,SNR=14
RAO Raoul Island 66.22 128 P **P** **18 00 40.7 +0.5**
comp=Z,303nm,0.4s,baz=270,slow=20,SNR=3.1
GEYT Alibeck 66.93 307 P **P** **18 00 43.8 -0.9**
comp=Z,1.8nm,0.6s,baz=110,slow=3.9,SNR=3.9
AB31 Akbulak array 67.13 319 *i* P **P** **18 00 45.5 -0.2**
AB31 pmax pmax
comp=Z,10.0nm,0.7s
ABKAR Akbulak array 67.13 319 IAmb IAmb 18 00 47.0
comp=Z,16nm,0.8s
RPZ Rata Peaks 67.21 147 P **P** **18 00 46.1 -0.2**
comp=Z,11nm,0.9s,baz=136,slow=18,SNR=2.5
RPZ Rata Peaks 67.21 147 P **P** **18 00 45.6 -0.7**
RPZ IAmb IAmb 18 00 48.0
comp=Z,24nm,1.1s
SVE Sverdlovsk 68.38 327⇓ *e*P **P** **18 00 53.5 +0.1**
SVE pmax pmax
comp=Z,43nm,1.5s
ARU Arti 69.40 327 *c i*P **P** **18 00 59.3 -0.5**
ARU 18 01 23.7
ARU S **S** **18 10 06.8 +0.2**
ARU pmax pmax
comp=Z,28nm,1.1s
ARU Arti 69.40 327 LR LR 18 35 01.6
comp=Z,49nm,18.3s,baz=202,slow=39
ARU Arti 69.40 327 P **P** **18 00 58.6 -1.2**
ARU IAmb IAmb 18 01 01.4
comp=Z,16nm,0.8s
PRGR Permogore 76.70 331 *e*P **P** **18 01 40.5 -2.4**
PRGR pmax pmax
comp=Z,22nm,0.8s
KTH Kantishna Hill 77.18 27 P **P** **18 01 45.7 +0.1**

SUA	**Susitna One**	**77.19**	**29**	P	**P**	**18 01 45.0**	**-0.8**
SUA				IAmb	IAmb	18 01 46.6		
	comp=Z,15nm,0.9s							
MLY	**Manley**	**77.32**	**26**	P	**P**	**18 01 46.5**	**+0.1**
MLY				IAmb	IAmb	18 01 48.4		
	comp=Z,12nm,1.0s							
GNI	**Garni**	**77.37**	**309**	*de*P	**P**	**18 01 48.4**	**+1.0**
GNI				pmax	pmax			
	comp=Z,63nm,1.5s							
TRF	**Thorofare Moun**	**77.46**	**27**	P	**P**	**18 01 45.7**	**-1.7**
TRF				IAmb	IAmb	18 01 48.5		
	comp=Z,12nm,1.0s							
COLD	**Coldfoot**	**77.63**	**23**	P	**P**	**18 01 47.1**	**-0.9**
ZEI	**Tsey**	**77.86**	**312**	*e*P	**P**	**18 01 49.4**	**-0.7**
ZEI				pmax	pmax			
	comp=Z,18nm,0.9s							
TOLK	**Toolik Lake Re**	**77.93**	**22**	P	**P**	**18 01 51.0**	**+1.3**
	baz=266							
TOLK	**Toolik Lake Re**	**77.93**	**22**	IAmb	IAmb	18 01 52.0		
	comp=Z,12nm,0.8s							
PMR	**Palmer**	**77.96**	**29**	P	**P**	**18 01 49.0**	**-0.9**
PMR				pmax	pmax			
	comp=Z,11nm,0.8s							
PMR	**Palmer**	**77.96**	**29**	P	**P**	**18 01 49.0**	**-0.9**
PMR				IAmb	IAmb	18 01 50.8		
	comp=Z,11nm,0.8s							
RAYN	**Ar Rayn**	**78.09**	**292**	P	**P**	**18 01 50.3**	**-1.3**
RAYN				pmax	pmax			
	comp=Z,6.0nm,0.8s							
RAYN	**Ar Rayn**	**78.09**	**292**	P	**P**	**18 01 50.3**	**-1.3**
AKH	**Akhalkalaki**	**78.24**	**310**	⇑P	**P**	**18 01 54.3**	**+2.1**
KNK	**Knik Glacier**	**78.28**	**29**	P	**P**	**18 01 51.4**	**-0.4**
KNK				IAmb	IAmb	18 01 54.5		
	comp=Z,16nm,0.9s							
WRH	**Wood River Hil**	**78.44**	**26**	P	**P**	**18 01 51.5**	**-1.0**
WRH				IAmb	IAmb	18 01 54.2		
	comp=Z,15nm,1.3s							
KBZ	**Khabaz**	**78.54**	**313**	*de*P	**P**	**18 01 54.2**	**+0.7**
KBZ	**Khabaz**	**78.54**	**313**	P	**P**	**18 01 53.9**	**+0.4**
	comp=Z,6.8nm,1.0s,baz=72,slow=3.1,SNR=6.8							
COLA	**College**	**78.54**	**26**	⇑*e*P	**P**	**18 01 53.1**	**0.0**
COLA				pmax	pmax			
	comp=Z,7.0nm,1.0s							
KIV	**Kislovodsk**	**78.68**	**313**	*e*P	**P**	**18 01 55.9**	**+1.5**
KIV				pmax	pmax			
	comp=Z,55nm,1.1s							
KIV	**Kislovodsk**	**78.68**	**313**	P	**P**	**18 01 55.2**	**+0.8**
KIV				IAmb	IAmb	18 01 56.6		
	comp=Z,13nm,0.7s							
POKR	**Poker Plat Res**	**78.72**	**25**	P	**P**	**18 01 54.9**	**+0.8**
	baz=270							
DHY	**Denali Highway**	**78.77**	**28**	P	**P**	**18 01 55.3**	**+0.7**
SCM	**Sheep Creek Mo**	**78.82**	**29**	P	**P**	**18 01 53.7**	**-1.1**
SCM				pmax	pmax			
	comp=Z,27nm,1.0s							
SCM	**Sheep Creek Mo**	**78.82**	**29**	P	**P**	**18 01 53.7**	**-1.1**
VRH	**Novokhopyorsk**	**78.91**	**320**	*e*P	**P**	**18 01 55.1**	**-0.3**
VRH				pmax	pmax			
	comp=Z,60nm,1.4s							
HDA	**Harding Lake**	**78.94**	**26**	P	**P**	**18 01 55.2**	**-0.1**
	baz=271							
HDA	**Harding Lake**	**78.94**	**26**	P	**P**	**18 01 54.2**	**-1.1**
HDA				IAmb	IAmb	18 01 58.0		
	comp=Z,12nm,1.2s							
IL31		**78.96**	**26**	P	**P**	**18 01 53.6**	**-1.8**
ILAR	**Eielson Array**	**78.96**	**26**	P	**P**	**18 01 54.5**	**-1.0**
	comp=Z,2.4nm,0.7s,baz=238,slow=5.0,SNR=32							
TMCR	**Tamitsa**	**80.16**	**334**	*e*P	**P**	**18 02 02.5**	**+0.6**
TMCR				pmax	pmax			
	comp=Z,23nm,0.9s							
VSR	**Storozhevoye**	**80.52**	**320**	*e*P	**P**	**18 02 03.3**	**-0.8**
VSR				pmax	pmax			
	comp=Z,20nm,0.8s							
LPSR	**Galich'ya Gora**	**80.55**	**322**	*e*P	**P**	**18 02 04.0**	**-0.3**
LPSR				pmax	pmax			
	comp=Z,30nm,0.8s							
SOC	**Sochi**	**80.85**	**313**	*e*P	**P**	**18 02 04.9**	**-1.2**
SOC				*e*PPP	PPP	18 07 02.8		
SOC				*e*S	**S**	**18 12 15.2**	**+0.7**
SOC				pmax	pmax			
	comp=Z,21nm,0.8s							
MOS	**Moscow**	**81.03**	**325**	*e*P	**P**	**18 02 05.5**	**-1.3**
MOS				pmax	pmax			
	comp=Z,48nm,0.9s							
OBN	**Obninsk**	**81.69**	**325**	⇑*e*P	**P**	**18 02 10.1**	**-0.2**
OBN				pmax	pmax			
	comp=Z,71nm,1.7s							
DAWY	**Dawson**	**82.25**	**26**	P	**P**	**18 02 12.5**	**-0.7**
DAWY				IAmb	IAmb	18 02 15.9		
	comp=Z,21nm,1.3s							
ANN	**Anapa**	**82.35**	**314**	*e*P	**P**	**18 02 12.1**	**-1.9**
ANN				pmax	pmax			
	comp=Z,102nm,1.6s							
EPYK	**Eagle Plains**	**83.01**	**24**	P	**P**	**18 02 18.0**	**+0.9**
	baz=280							
EPYK	**Eagle Plains**	**83.01**	**24**	IAmb	IAmb	18 02 21.0		
	comp=Z,11nm,1.0s							
JOF	**Joensuu**	**83.29**	**333**	P	**P**	**18 02 18.8**	**+0.3**
JOF				pmax	pmax			
	comp=Z,21nm,1.2s							
MSF	**Maaselka**	**83.71**	**336**	P	**P**	**18 02 21.1**	**+0.5**
INK	**Inuvik**	**83.84**	**22**	P	**P**	**18 02 21.8**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=20,slow=1.4,SNR=6.9							
INK	**Inuvik**	**83.84**	**22**	P	**P**	**18 02 19.9**	**-1.3**
INK				IAmb	IAmb	18 02 22.6		
	comp=Z,25nm,1.5s							
ARCES	**ARCESS Array B**	**84.21**	**340**	P	**P**	**18 02 23.2**	**+0.1**
	comp=Z,12nm,0.8s,baz=80,slow=6.4,SNR=34							
SIM	**Simferopol'**	**84.66**	**315**	*e*P	**P**	**18 02 27.1**	**+1.2**
SIM				pmax	pmax			
	comp=Z,18nm,0.9s							
SUF	**Sumiainen**	**85.65**	**333**	P	**P**	**18 02 32.3**	**+1.8**
SUF				pmax	pmax			
	comp=Z,32nm,0.8s							
BR131	**Keskin Array S**	**85.89**	**309**	*c i*P	**P**	**18 02 31.7**	**-0.7**
BR131	**Keskin Array S**	**85.89**	**309**	P	**P**	**18 02 31.3**	**-1.1**
BR131				IAmb	IAmb	18 02 34.3		
	comp=Z,8.0nm,0.8s							
BRTR	**Keskin Array B**	**85.89**	**309**	P	**P**	**18 02 31.7**	**-0.7**
	comp=Z,7.9nm,0.7s,baz=115,slow=4.7,SNR=46							
FIA1	**FINESS Array S**	**86.00**	**332**	P	**P**	**18 02 31.8**	**-0.4**
FINES	**FINESS Array B**	**86.00**	**332**	P	**P**	**18 02 31.7**	**-0.5**
	comp=Z,13nm,0.9s,baz=75,slow=4.5,SNR=38							
VSU	**Vasula**	**86.42**	**329**	⇓*e*P	**P**	**18 02 34.8**	**+0.5**
VSU				pmax	pmax			
	comp=Z,147nm,1.3s							
ANTO	**Ankara**	**86.51**	**310**	P	**P**	**18 02 36.3**	**+1.0**
ANTO				pmax	pmax			
	comp=Z,17nm,1.1s							
AKASG	**Malin Array Be**	**86.80**	**321**	P	**P**	**18 02 35.7**	**-0.7**
	comp=Z,5.8nm,0.7s,baz=62,slow=5.1,SNR=34							
AKASG				LR	LR	18 45 40.9		
	comp=Z,36nm,18.3s,baz=270,slow=39							
AKBB	**Malin Array Si**	**86.80**	**321**	*d i*P	**P**	**18 02 36.2**	**-0.2**
C36M	**Paulatuk**	**86.81**	**20**	P	**P**	**18 02 36.2**	**+0.2**
	baz=291							
KIEV	**Kiev**	**86.81**	**321**	P	**P**	**18 02 37.0**	**+0.6**
CSS	**Mathiatis**	**86.99**	**305**	P	**P**	**18 02 37.1**	**-0.7**
PPT	**Papeete**	**87.02**	**108**	LR	LR	18 37 27.5		
	comp=Z,117nm,18.4s,baz=335,slow=33							
SORM	**Soroca**	**87.93**	**318**	P	**P**	**18 02 41.1**	**-0.8**
SORM	**Soroca**	**87.93**	**318**	⇓P	**P**	**18 02 41.2**	**-0.8**
JURR	**Jurilovca**	**88.35**	**315**	⇑P	**P**	**18 02 43.0**	**-0.9**
TOPG	**Topolog**	**88.67**	**315**	⇑P	**P**	**18 02 45.3**	**-0.2**
TIRR	**Tirgusor**	**88.74**	**315**	P	**P**	**18 02 46.1**	**+0.3**
TIRR	**Tirgusor**	**88.74**	**315**	⇑P	**P**	**18 02 46.1**	**+0.3**
HORU	**Horodok**	**88.91**	**320**	P	**P**	**18 02 45.3**	**-1.2**
HARR	**Harsova**	**89.02**	**315**	P	**P**	**18 02 47.5**	**+0.4**
HARR	**Harsova**	**89.02**	**315**	⇑P	**P**	**18 02 47.6**	**+0.4**
HARR				mb		18 02 48.8		
TESR	**Tescani**	**89.45**	**317**	⇑P	**P**	**18 02 48.9**	**-0.2**
PRAR	**RASCA**	**89.51**	**318**	⇑P	**P**	**18 02 48.1**	**-1.4**
PRAR				mb		18 02 51.4		
SUW	**Suwalki**	**89.54**	**325**	P	**P**	**18 02 49.7**	**+0.4**
SUW				pmax	pmax			
	comp=Z,46nm,1.3s							
VRI	**Vrincioaia**	**89.56**	**317**	P	**P**	**18 02 50.6**	**+0.9**
VRI				pmax	pmax			
	comp=Z,19nm,1.5s							
VRI	**Vrincioaia**	**89.56**	**317**	⇑P	**P**	**18 02 49.5**	**-0.2**
PLOR	**Plostina**	**89.62**	**317**	P	**P**	**18 02 48.6**	**-1.3**
PLOR	**Plostina**	**89.62**	**317**	⇑P	**P**	**18 02 48.7**	**-1.3**
KMBO	**Kilima Mbogo**	**89.89**	**269**	P	**P**	**18 02 52.5**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=126,slow=8.7,SNR=3.4							
KMBO				LR	LR	18 43 10.0		
	comp=Z,42nm,18.1s,baz=92,slow=36							
VNDA	**Vanda**	**90.07**	**173**	P	**P**	**18 02 51.7**	**+0.5**
VNDA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
VNDA	**Vanda**	**90.07**	**173**	P	**P**	**18 02 51.5**	**+0.2**
	comp=Z,4.8nm,0.8s,baz=323,slow=4.9,SNR=14							
VNDA	**Vanda**	**90.07**	**173**	P	**P**	**18 02 51.7**	**+0.5**
VNDA				IAmb	IAmb	18 02 53.2		
	comp=Z,10nm,1.0s							
BURAR	**Bucovina Array**	**90.11**	**319**	P	**P**	**18 02 52.6**	**+0.3**
BURAR	**Bucovina Array**	**90.11**	**319**	⇑P	**P**	**18 02 52.6**	**+0.3**
BURAR				mb		18 02 56.2		
BUR08	**Bucovina Ar. S**	**90.11**	**319**	IAmb	IAmb	18 02 56.4		
	comp=Z,5.8nm,0.8s							
MAW	**Mawson**	**90.13**	**200**	P	**P**	**18 02 50.9**	**-0.8**
	comp=Z,2.5nm,0.5s,baz=59,slow=9.2,SNR=3.8							
MAW	**Mawson**	**90.13**	**200**	P	**P**	**18 02 50.3**	**-1.3**
OZUR		**90.14**	**317**	⇑P	**P**	**18 02 51.3**	**-1.1**
MLR	**Muntele Rosu**	**90.19**	**316**	P	**P**	**18 02 52.8**	**0.0**
MLR				pmax	pmax			
	comp=Z,9.0nm,1.5s							
MLR	**Muntele Rosu**	**90.19**	**316**	⇑P	**P**	**18 02 52.2**	**-0.6**
LVV	**L'vov**	**90.25**	**321**	*e*P	**P**	**18 02 52.7**	**-0.1**
RAZG	**Razgrad**	**90.29**	**314**	⇑P	**P**	**18 02 53.4**	**+0.3**
DOPR	**Dopca**	**90.44**	**317**	⇑P	**P**	**18 02 54.3**	**+0.6**
DAG	**Danmarks Havn**	**90.62**	**353**	*i*P	**P**	**18 02 52.8**	**-1.2**
DAG	**Danmarks Havn**	**90.62**	**353**	*i*P	**P**	**18 02 52.8**	**-1.2**
VOIR		**90.81**	**316**	P	**P**	**18 02 55.9**	**+0.3**
VOIR		**90.81**	**316**	⇑P	**P**	**18 02 56.0**	**+0.3**
ARCR	**ARCALIA**	**90.82**	**318**	⇑P	**P**	**18 02 55.6**	**+0.1**
RES	**Resolute Bay**	**91.16**	**10**	P	**P**	**18 02 57.3**	**+0.8**
	comp=Z,9.4nm,0.8s,baz=313,slow=5.7,SNR=38							
KOLS	**Kolonicke sedl**	**91.61**	**320**	*e*P	**P**	**18 03 00.3**	**+1.1**
KOLS				pmax	pmax			
	comp=Z,23nm,1.7s							
KOLS	**Kolonicke sedl**	**91.61**	**320**	*e*P	**P**	**18 03 00.3**	**+1.1**
TRPA	**Tarpa**	**91.69**	**320**	⇑P	**P**	**18 02 59.7**	**+0.2**
TRPA				mb		18 03 01.1		
TRPA	**Tarpa**	**91.69**	**320**	*e*P	**P**	**18 03 00.0**	**+0.6**
UZH	**Uzhgorod**	**91.69**	**320**	*e*P	**P**	**18 02 55.3**	**-4.2**
UZH				*i*		18 03 10.9		
DRGR		**91.98**	**318**	P	**P**	**18 03 01.2**	**+0.2**
DRGR				pmax	pmax			
	comp=Z,25nm,1.6s							
DEV	**Deva**	**92.12**	**317**	P	**P**	**18 03 02.0**	**+0.4**
DEV				pmax	pmax			
	comp=Z,6.0nm,0.5s							
GZR	**Gura Zlata**	**92.36**	**317**	⇑P	**P**	**18 03 03.5**	**+0.8**
NIE	**Niedzica**	**92.68**	**321**	P	**P**	**18 03 04.9**	**+0.8**
NIE				pmax	pmax			
	comp=Z,4.0nm,2.1s							
SIRR	**Siria**	**92.83**	**318**	⇑P	**P**	**18 03 04.3**	**-0.6**
NB2	**NORSAR Subarra**	**92.85**	**334**	P	**P**	**18 03 02.9**	**-1.7**
	comp=Z,6.3nm,0.8s,baz=65,slow=4.6							
NB2	**NORSAR Subarra**	**92.85**	**334**	P	**P**	**18 03 02.9**	**-1.7**
	baz=65,slow=4.6							
NOA	**NORSAR Array B**	**92.85**	**334**	P	**P**	**18 03 03.3**	**-1.3**
	comp=Z,2.6nm,0.7s,baz=64,slow=4.5,SNR=11							
NOA				LR	LR	18 49 53.6		
	comp=Z,26nm,18.4s,baz=285,slow=39							
VTS	**Vitosha**	**92.86**	**314**	P	**P**	**18 03 04.0**	**-1.2**
VTS				pmax	pmax			
	comp=Z,7.0nm,0.9s							
VTS	**Vitosha**	**92.86**	**314**	⇑P	**P**	**18 03 04.4**	**-0.8**
VTS				mb		18 03 08.2		
VTS	**Vitosha**	**92.86**	**314**	P	**P**	**18 03 04.0**	**-1.2**
VTS				IAmb	IAmb	18 03 06.5		
	comp=Z,6.6nm,0.9s							
BZS	**Buzias**	**93.06**	**317**	P	**P**	**18 03 06.6**	**+0.7**
BZS				pmax	pmax			
	comp=Z,7.0nm,2.0s							
YKA	**Yellowknife Ar**	**93.29**	**24**	P	**P**	**18 03 07.0**	**+0.4**
YKA	**Yellowknife Ar**	**93.29**	**24**	P	**P**	**18 03 07.0**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=299,slow=4.7,SNR=42							
PSZ	**Piszkesteto**	**93.44**	**320**	P	**P**	**18 03 07.7**	**0.0**
PSZ				pmax	pmax			
	comp=Z,13nm,1.4s							
PSZ	**Piszkesteto**	**93.44**	**320**	*e*P	**P**	**18 03 07.0**	**-0.7**
VYHS	**Vyhne**	**93.91**	**321**	*e*P	**P**	**18 03 09.6**	**-0.2**
VYHS				pmax	pmax			
	comp=Z,20nm,1.7s							
VYHS	**Vyhne**	**93.91**	**321**	*e*P	**P**	**18 03 09.6**	**-0.2**
MORC	**Moravsky Berou**	**94.24**	**322**	*e*P	**P**	**18 03 10.0**	**-1.3**
KSP	**Ksiaz**	**94.58**	**323**	P	**P**	**18 03 13.7**	**+0.9**
KSP				pmax	pmax			
	comp=Z,6.0nm,1.6s							
VRAC	**Vranov**	**94.99**	**322**	P	**P**	**18 03 15.4**	**+0.7**
VRAC	**Vranov**	**94.99**	**322**	*e*P	**P**	**18 03 14.9**	**+0.2**
TIH	**Tihany**	**95.07**	**319**	*e*P	**P**	**18 03 13.0**	**-2.1**
MPLH	**Magyarpolny**	**95.19**	**320**	*e*P	**P**	**18 03 16.0**	**+0.4**
KRUC	**Moravsky**	**95.20**	**322**	P	**P**	**18 03 16.9**	**+1.2**
KRUC	**Moravsky**	**95.20**	**322**	*e*P	**P**	**18 03 15.6**	**-0.1**
D03D	**Eldon**	**95.43**	**40**	P	**P**	**18 03 18.1**	**+1.4**
	baz=292							
B05A	**Bryant**	**95.77**	**39**	P	**P**	**18 03 19.3**	**+1.0**
	baz=293							
CONA	**Conrad Observa**	**95.96**	**321**	*i* PcP	**P**	**18 03 19.5**	**+0.2**
	comp=Z,13nm,1.5s							
CLL	**Collm**	**96.29**	**325**	*e*P	**P**	**18 03 21.0**	**+0.4**
CLL	**Collm**	**96.29**	**325**	*e*P	**P**	**18 03 21.0**	**+0.4**
ARSA	**Arzberg**	**96.44**	**320**	*i* PcP	**P**	**18 03 21.0**	**-0.3**
	comp=Z,7.5nm,1.3s							
GERES	**GERESS Array B**	**96.92**	**322**	P	**P**	**18 03 23.8**	**+0.2**
	comp=Z,1.9nm,1.0s,baz=60,slow=5.4,SNR=10							
SOKA	**Soboth**	**96.97**	**320**	*i* PcP	**P**	**18 03 22.4**	**-1.5**
	comp=Z,6.4nm,1.0s							
MOA	**Molln**	**96.98**	**321**	*i* PcP	**P**	**18 03 24.2**	**+0.4**
	comp=Z,20nm,1.7s							
OBKA	**Obir**	**97.34**	**320**	*i* PcP	**P**	**18 03 25.1**	**-0.5**
	comp=Z,6.6nm,1.3s							
MYKA	**Terra Mystica**	**97.87**	**320**	*i* PcP	**P**	**18 03 26.4**	**-1.5**
	comp=Z,4.8nm,0.9s							
ABTA	**Abfaltersbach**	**98.52**	**321**	*i* Pdiff	**P**	**18 03 30.2**	**-0.6**
	comp=Z,9.2nm,1.1s							
SYO	**Syowa Base**	**98.76**	**201**	⇑*e*Pdiff	**P**	**18 03 31.0**	**-0.2**
WTTA	**Wattenberg**	**98.84**	**321**	*i* Pdiff	**P**	**18 03 31.4**	**-1.0**
	comp=Z,8.2nm,0.8s							
WATA	**Walderalm**	**98.85**	**322**	*i* Pdiff	**P**	**18 03 32.0**	**-0.4**
	comp=Z,10nm,1.2s							
SQTA	**Sankt Quirin**	**99.12**	**322**	*i* Pdiff	**Pdif**	**18 03 33.7**	**+0.1**
	comp=Z,15nm,1.7s							
MOTA	**Moosalm**	**99.13**	**322**	*i* Pdiff	**Pdif**	**18 03 33.5**	**-0.2**
	comp=Z,7.8nm,1.3s							
RETA	**Rettenbe**	**99.28**	**322**	*i* Pdiff	**Pdif**	**18 03 32.7**	**-1.5**
	comp=Z,11nm,1.4s							
FETA	**Feichten**	**99.51**	**322**	*i* Pdiff	**Pdif**	**18 03 34.4**	**-0.9**
	comp=Z,10nm,1.3s							
DAVA	**Damuels**	**99.90**	**322**	*i* Pdiff	**Pdif**	**18 03 36.2**	**-0.9**
	comp=Z,11nm,1.8s							
FUORN	**Ofenpass-Fuorn**	**99.97**	**321**		**Pdif**	**18 03 37.5**	**-0.1**
QSPA	**South Pole Qui**	**100.36**	**180**	P	**Pdif**	**18 03 38.3**	**-0.2**
	comp=Z,1.9nm,1.0s,baz=237,slow=4.0,SNR=3.4							
NVAR	**Mina Array Bea**	**102.21**	**47**	P	**Pdif**	**18 03 48.9**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=336,slow=2.0,SNR=3.5							
SNAA	**Sanae**	**111.76**	**195**	PKiKP	**PKiKP**	**18 08 24.7**	**-1.6**
VNA2	**Neumayer--Watz**	**113.38**	**195**	PKiKP	**PKiKP**	**18 08 28.2**	**-1.1**
	baz=40,slow=2.2							
TXAR	**Lajitas Array**	**117.19**	**49**	PKP	**PKiKP**	**18 08 38.4**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=14,slow=1.5,SNR=6.5							
TOA0	**Torodi Ar. Sit**	**120.79**	**292**		**PKPdf**	**18 08 43.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**120.79**	**292**	PKP	**PKPdf**	**18 08 44.6**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=59,slow=1.6,SNR=14							
TKL	**Tuckaleechee C**	**125.71**	**31**	PKP	**PKPdf**	**18 08 54.3**	**+0.2**
	comp=Z,7.2nm,0.9s,baz=159,slow=6.2,SNR=4.6							
SDDR	**Presa de Saban**	**145.64**	**32**		**PKPab**	**18 09 33.0**	**+1.1**
PLCA	**Paso Flores**	**146.15**	**156**	PKPbc	**PKPab**	**18 09 33.6**	**+0.3**
	comp=Z,9.9nm,0.6s,baz=235,slow=2.6,SNR=22							
PLCA	**Paso Flores**	**146.15**	**156**		**PKPab**	**18 09 33.8**	**+0.5**
CPUP	**Villa Florida**	**163.74**	**166**	PKP	**PKPdf**	**18 09 56.2**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=217,slow=3.3,SNR=5.0							
CPUP				PKPab	**PKPab**	**18 10 47.8**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=163,slow=3.7,SNR=4.3							
LPAZ	**La Paz**	**164.26**	**113**	PKP	**PKPdf**	**18 09 58.3**	**+1.0**
	comp=Z,3.7nm,1.2s,baz=340,slow=1.2,SNR=7.9							
LPAZ				PKPab	**pPKPab**	**18 10 53.4**	**+0.3**
	comp=Z,4.1nm,1.0s,baz=262,slow=2.2,SNR=9.5							

*IDC **29** 17:59:26.1±5.2,22.02S×69.12W,h0km,mb3.7/1, mb1 3.7/2,mb1mx3.4/26,mbtmp3.6/2,ML3.1/1,Error ellipse: s-maj=166.2km s-min=60.4km az=80.0*
*ISCJB **29** 17:59:33.6±0.5,21.26S±0.02×69.64W±0.07,h62km±10km, mb3.6/1, Error ellipse: s-maj=10.7km s-min=3.8km az=1.8*
*GUC **29** 17:59:33.0±0.7,21.25S×69.61W,h52km±9km, ML3.7*

ISC 29 17:59:34.1±1.0,21.26S±0.03×69.67W±0.07,h51km±12km, n23,σ1°41/28,2C-10D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.67**	**144**	⇓*i*P	**Pn**	**17 59 47.1**	**-0.6**
PB09				*i* S	**Sn**	**17 59 57.2**	**-0.3**
PB09				IAML		17 59 57.9	
	comp=E,4μm,0.2s						
PB03	**IPOC Station P**	**0.79**	**186**	⇓*i*P	**Pn**	**17 59 49.0**	**-0.4**
PB03				*i* S	**Sn**	**18 00 00.2**	**-0.2**
PB03				IAML		18 00 00.6	
	comp=E,6μm,0.1s						
TA01	**Diego Aracena**	**0.84**	**325**	*i* P	**Pn**	**17 59 49.5**	**-0.2**
TA01				*i* S	**Sn**	**18 00 01.5**	**+0.4**
TA01				IAML		18 00 02.6	
	comp=E,6μm,0.3s						
PB04	**IPOC Station P**	**1.16**	**203**	⇓*i*P	**Pn**	**17 59 54.1**	**-0.1**
PB04				⇓*i*S	**Sn**	**18 00 10.5**	**+1.3**
PB04				IAML		18 00 11.1	
	comp=N,3μm,0.1s						
PB08	**IPOC Station P**	**1.21**	**23**	⇓*i*P	**Pn**	**17 59 54.5**	**-0.5**
PB08				*i* S	**Sn**	**18 00 10.5**	**0.0**
PB08				IAML		18 00 11.8	
	comp=N,4μm,0.1s						
PB06	**IPOC Station P**	**1.45**	**177**	⇓*i*P	**Pn**	**17 59 58.1**	**0.0**
PB06				*i* S	**Sn**	**18 00 16.8**	**+0.7**
PB06				IAML		18 00 17.9	
	comp=E,2μm,0.4s						
PB11	**IPOC Station P**	**1.49**	**0**	⇓*i*P	**Pn**	**17 59 58.1**	**-0.5**
PB11				*i* S	**Sn**	**18 00 17.7**	**+0.7**
PB11				IAML		18 00 19.8	
	comp=N,2μm,0.1s						
GO01	**Chusmiza**	**1.64**	**16**	⇓*i*P	**Pn**	**18 00 01.2**	**+0.2**
GO01				*i* S	**Sn**	**18 00 21.9**	**+0.7**
PB05	**IPOC Station P**	**1.67**	**197**	⇓*i*P	**Pn**	**18 00 01.0**	**-0.1**
PB05				*i* S	**Sn**	**18 00 23.3**	**+1.9**
PSGC	**Pisagua**	**1.71**	**345**	⇓*i*P	**Pn**	**18 00 01.0**	**-0.5**
PSGC				*i* S	**Sn**	**18 00 23.2**	**+0.9**
PSGC				IAML		18 00 26.2	
	comp=E,748nm,0.2s						
PB15	**IPOC Station P**	**1.95**	**175**	*e*P	**Pn**	**18 00 05.3**	**+0.2**
PB15				*i* S	**Sn**	**18 00 32.2**	**+3.7**
MNMC	**Minye Minye**	**2.11**	**2**	*i* P	**Pn**	**18 00 07.5**	**+0.2**
PB10	**IPOC Station P**	**2.39**	**200**	⇑*i*P	**Pn**	**18 00 10.8**	**-0.1**
PB10				IAML		18 00 52.2	
	comp=E,169nm,0.5s						
GO02	**Mina Guanaco**	**3.89**	**179**	⇑*i*P	**Pn**	**18 00 32.5**	**+0.8**
GO02				*i* S	Sn	18 01 30.1	+14
LPAZ	**La Paz**	**5.15**	**17**	Pn	**Pn**	**18 00 53.7**	**+4.4**
	comp=E,0.3nm,0.3s,baz=210,slow=8.0,SNR=6.4						
TORD	**Torodi Ar. Bea**	**77.94**	**71**	P	**P**	**18 11 25.4**	**-1.9**
	comp=E,0.6nm,0.8s,baz=262,slow=4.1,SNR=2.1						
H11S2	**WAKE ISLAND Hy**	**27.15**	**278**	T	T	20 38 28.5	
	baz=102,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy**	**27.16**	**278**	T	T	20 38 28.6	
	baz=102,slow=75,SNR=39						
H11S3	**WAKE ISLAND Hy**	**27.17**	**278**	T	T	20 38 24.4	
	baz=102,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hy**	**27.22**	**279**	T	T	20 38 28.6	
	baz=104,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy**	**27.24**	**279**	T	T	20 38 30.1	
	baz=104,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**27.24**	**279**	T	T	20 38 25.8	
	baz=104,slow=75,SNR=19						
MKAR	**Makanchi Array**	**145.84**	**35**	PKPbc	**PKPab**	**18 19 07.5**	**-0.8**
	comp=E,0.2nm,0.5s,baz=335,slow=3.6,SNR=1.8						

**ROM 29 18:00:58.7±0.3,43.382N±0.008×12.54E±0.01,h6km±1km, Md1.0/3,Error ellipse: s-maj=0.9km s-min=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.18**	**286**	P	Pb	18 15 41.1	-0.5
VAGA				S	Sg	18 15 44.2	+0.6
VAGA				AML	AML		
	comp=N,7540μm,0.5s						
VAGA				AML	AML		
	comp=N,7830μm,0.5s						
VAGA				AML	AML		
	comp=E,3915μm,1.1s						
VAGA				AML	AML		
	comp=E,3760μm,1.1s						
VAGA				AML	AML		
	comp=N,7535μm,0.5s						
VAGA				END			
SACR	**S. Croce Del S**	**0.18**	**80**	P	Pb	18 15 41.4	-0.3
SACR				S	Sg	18 15 44.2	+0.6
SACR				AML	AML		
	comp=E,729μm,0.3s						
SACR				AML	AML		
	comp=N,830μm,0.6s						
SACR				AML	AML		
	comp=E,1445μm,1.2s						
SACR				AML	AML		
	comp=N,1345μm,0.4s						
SACR				END			
BSSO	**Busso**	**0.21**	**28**	P	Pb	18 15 41.8	-0.2
BSSO				S	Sg	18 15 44.9	+0.7
BSSO				AML	AML		
	comp=E,967μm,0.2s						
BSSO				AML	AML		
	comp=N,1062μm,0.6s						
BSSO				AML	AML		
	comp=E,426μm,0.2s						
BSSO				AML	AML		
	comp=N,424μm,0.6s						
BSSO				AML	AML		
	comp=E,2640μm,0.4s						
BSSO				AML	AML		
	comp=E,1171μm,0.4s						
BSSO				AML	AML		
	comp=N,1445μm,0.4s						
BSSO				AML	AML		
	comp=N,3600μm,0.4s						
BSSO				END			
PIGN	**Pignataro Magg**	**0.27**	**233**	P	Pg	18 15 42.4	+0.3
PIGN				S	Sg	18 15 46.7	+0.8
PIGN				AML	AML		
	comp=E,258μm,0.8s						
PIGN				AML	AML		
	comp=N,321μm,0.4s						
PIGN				AML	AML		
	comp=E,255μm,0.2s						
PIGN				AML	AML		
	comp=N,236μm,0.4s						
PIGN				AML	AML		
	comp=E,740μm,0.3s						
PIGN				AML	AML		
	comp=N,643μm,0.6s						
PIGN				AML	AML		
	comp=N,543μm,0.6s						
PIGN				AML	AML		
	comp=N,542μm,0.6s						
PIGN				AML	AML		
	comp=E,740μm,0.3s						
PIGN				AML	AML		
	comp=E,764μm,0.3s						
PSB1	**Pescosannita**	**0.30**	**118**	P	Pb	18 15 43.1	-0.4
PSB1				AML	AML		
	comp=E,866μm,0.5s						
PSB1				AML	AML		
	comp=N,588μm,0.9s						
PSB1				AML	AML		
	comp=N,627μm,0.9s						
PSB1				AML	AML		
	comp=E,802μm,0.5s						
MIDA	**Miranda**	**0.32**	**330**	P	Pg	18 15 43.0	0.0
MIDA				AML	AML		
	comp=E,903μm,0.6s						
MIDA				AML	AML		
	comp=E,862μm,0.6s						
MIDA				AML	AML		
	comp=N,786μm,0.7s						
MIDA				AML	AML		
	comp=N,1210μm,0.9s						
PAOL	**Paolisi**	**0.34**	**167**	P	Pg	18 15 43.5	+0.1
PAOL				AML	AML		
	comp=E,211μm,0.2s						
PAOL				AML	AML		
	comp=N,174μm,0.3s						
PAOL				AML	AML		
	comp=E,575μm,1.2s						
PAOL				AML	AML		
	comp=N,428μm,1.2s						
PAOL				AML	AML		
	comp=N,403μm,0.4s						
PAOL				AML	AML		
	comp=E,454μm,0.2s						
TRIV	**Trivento**	**0.41**	**9**	P	Pg	18 15 45.0	+0.4
TRIV				AML	AML		
	comp=E,570μm,0.4s						
TRIV				AML	AML		
	comp=N,473μm,0.5s						
CERA	**Filignano**	**0.41**	**305**	AML	AML		
	comp=E,718μm,0.8s						
CERA				AML	AML		
	comp=N,619μm,0.4s						
CERA				AML	AML		
	comp=E,740μm,0.8s						
CERA				AML	AML		
	comp=N,634μm,0.4s						
RNI2	**Rionero Sannit**	**0.41**	**325**	P	Pg	18 15 44.8	+0.1
RNI2				AML	AML		
	comp=E,222μm,0.4s						
RNI2				AML	AML		
	comp=N,192μm,0.5s						
RNI2				AML	AML		
	comp=E,223μm,0.4s						
RNI2				AML	AML		
	comp=N,192μm,0.4s						
RNI2				AML	AML		
	comp=E,706μm,1.3s						
RNI2				AML	AML		
	comp=E,722μm,0.3s						
RNI2				AML	AML		
	comp=N,587μm,0.7s						
RNI2				AML	AML		
	comp=N,578μm,0.7s						
CIGN	**Sant'Elia a Pi**	**0.44**	**49**	AML	AML		
	comp=N,252μm,0.9s						
CIGN				AML	AML		
	comp=E,261μm,0.7s						
MODR	**Mondragone**	**0.49**	**244**	P	Pg	18 15 46.3	+0.2
MODR				AML	AML		
	comp=N,712μm,0.6s						
MODR				AML	AML		
	comp=E,955μm,0.8s						
MELA	**Melanico ??? S**	**0.60**	**55**	P	Pg	18 15 47.7	-0.5
MELA				AML	AML		
	comp=E,254μm,0.7s						
MELA				AML	AML		
	comp=N,149μm,0.8s						
MELA				AML	AML		
	comp=N,620μm,0.9s						
MELA				AML	AML		
	comp=E,694μm,0.5s						
MELA				AML	AML		
	comp=N,692μm,0.9s						
MELA				AML	AML		
	comp=E,650μm,0.5s						
FRES	**Fresagrandinar**	**0.63**	**14**	P	Pg	18 15 48.1	-0.6
INTR	**Introdacqua**	**0.77**	**327**	P	Pb	18 15 51.8	+0.2
GIUL	**Giuliano Di Ro**	**0.93**	**282**	P	Pg	18 15 54.4	0.0
GIUL				AML	AML		
	comp=N,69μm,1.3s						
GIUL				AML	AML		
	comp=E,64μm,1.2s						
SGRT	**San Giovanni R**	**1.04**	**67**	P	Pn	18 15 56.6	0.0
SGRT				S	Sn	18 16 12.0	+1.0
SGRT				AML	AML		
	comp=E,326μm,0.8s						
SGRT				AML	AML		
	comp=N,249μm,0.5s						
MSAG	**Monte S. Angel**	**1.14**	**72**	P	Pg	18 15 59.3	+0.9
MSAG				S	Sn	18 16 16.0	+2.5

ROM 29 18:16:18.7±0.1, 41°.376N±0°.009×14°.455E±0°.008, h11km, ML2.3/18, Error ellipse: s-maj=1.0km s-min=0.7km az=346.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.17**	**283**	P	Pg	18 16 22.9	+0.4
VAGA				S	Sg	18 16 26.1	+0.9
VAGA				AML	AML		
	comp=E,3915μm,1.1s						
VAGA				AML	AML		
	comp=E,3760μm,1.1s						
VAGA				AML	AML		
	comp=N,7830μm,0.5s						
VAGA				AML	AML		
	comp=N,7535μm,0.5s						
VAGA				AML	AML		
	comp=N,7540μm,0.5s						
SACR	**S. Croce Del S**	**0.19**	**83**	P	Pb	18 16 23.8	-0.4
SACR				S	Sg	18 16 26.8	+1.1
SACR				AML	AML		
	comp=N,1302μm,0.4s						
SACR				AML	AML		
	comp=E,1350μm,0.5s						
SACR				AML	AML		
	comp=N,1345μm,0.4s						
BSSO	**Busso**	**0.20**	**31**	P	Pb	18 16 23.8	-0.6
BSSO				S	Sg	18 16 26.9	+0.9
BSSO				AML	AML		
	comp=E,2640μm,0.4s						
BSSO				AML	AML		
	comp=E,1171μm,0.4s						
BSSO				AML	AML		
	comp=N,3600μm,0.4s						
PIGN	**Pignataro Magg**	**0.27**	**230**	P	Pg	18 16 24.4	+0.2
PIGN				AML	AML		
	comp=E,740μm,0.3s						
PIGN				AML	AML		
	comp=N,543μm,0.6s						
PIGN				AML	AML		
	comp=E,740μm,0.3s						
PIGN				AML	AML		
	comp=N,644μm,0.6s						
PIGN				AML	AML		
	comp=E,764μm,0.3s						
PIGN				AML	AML		
	comp=N,643μm,0.6s						
PIGN				AML	AML		
	comp=N,542μm,0.6s						
MIDA	**Miranda**	**0.31**	**330**	P	Pg	18 16 25.3	+0.4
MIDA				AML	AML		
	comp=E,866μm,0.6s						
MIDA				AML	AML		
	comp=N,786μm,0.7s						
MIDA				AML	AML		
	comp=N,1208μm,0.9s						
PAOL	**Paolisi**	**0.35**	**166**	P	Pg	18 16 26.2	+0.4
PAOL				AML	AML		
	comp=N,403μm,0.4s						
PAOL				AML	AML		
	comp=E,454μm,0.2s						
GATE	**Gambatesa**	**0.37**	**68**	AML	AML		
	comp=N,506μm,1.6s						
GATE				AML	AML		
	comp=E,530μm,1.4s						
GATE				AML	AML		
	comp=N,490μm,0.5s						
CERA	**Filignano**	**0.40**	**304**	P	Pb	18 16 27.7	0.0
TRIV	**Trivento**	**0.40**	**10**	P	Pg	18 16 26.8	+0.3
TRIV				AML	AML		
	comp=E,570μm,0.4s						
RNI2	**Rionero Sannit**	**0.40**	**325**	P	Pg	18 16 26.5	-0.1
RNI2				AML	AML		
	comp=E,722μm,0.3s						
RNI2				AML	AML		
	comp=N,578μm,0.7s						
RNI2				AML	AML		
	comp=N,587μm,0.7s						
RNI2				AML	AML		
	comp=E,706μm,1.3s						
CIGN	**Sant'Elia a Pi**	**0.44**	**50**	AML	AML		
	comp=E,262μm,0.7s						
CIGN				AML	AML		
	comp=N,252μm,0.9s						
MODR	**Mondragone**	**0.49**	**242**	P	Pg	18 16 28.3	+0.1
MODR				AML	AML		
	comp=N,712μm,0.6s						
MODR				AML	AML		
	comp=E,955μm,0.8s						
MOCO	**Biccari - m.te**	**0.53**	**90**	AML	AML		
	comp=E,218μm,0.5s						
MOCO				AML	AML		
	comp=N,86μm,1.2s						
MELA	**Melanico ??? S**	**0.60**	**57**	P	Pg	18 16 29.9	-0.5
MELA				AML	AML		
	comp=E,694μm,0.5s						
MELA				AML	AML		
	comp=E,650μm,0.6s						
MELA				AML	AML		
	comp=N,620μm,0.9s						
FRES	**Fresagrandinar**	**0.62**	**15**	P	Pg	18 16 30.3	-0.4
FRES				AML	AML		
	comp=N,140μm,1.1s						
POFI	**Posta Fibreno**	**0.65**	**302**	P	Pb	18 16 31.8	-0.3
POFI				AML	AML		
	comp=E,132μm,0.5s						
POFI				AML	AML		
	comp=N,146μm,0.7s						
INTR	**Introdacqua**	**0.76**	**327**	AML	AML		
	comp=E,70700μm,1.0s						
INTR				AML	AML		
	comp=N,485μm,0.4s						
INTR				AML	AML		
	comp=N,79300μm,0.9s						
CAFR	**Castel Frentan**	**0.85**	**355**	AML	AML		
	comp=E,464μm,1.6s						
CAFR				AML	AML		
	comp=N,598μm,0.6s						
GIUL	**Giuliano Di Ro**	**0.92**	**282**	P	Pb	18 16 36.9	+0.2
GUAR	**Guarcino**	**0.95**	**296**	P	Pn	18 16 38.6	+0.5
GUAR				AML	AML		
	comp=E,89μm,0.8s						
VENT	**Ventotene**	**0.97**	**234**	P	Pg	18 16 36.4	-1.0
VENT				AML	AML		
	comp=E,468μm,0.4s						
VENT				AML	AML		
	comp=N,322μm,0.9s						
VENT				AML	AML		
	comp=N,346μm,0.9s						
VENT				AML	AML		
	comp=E,500μm,0.4s						
SGRT	**San Giovanni R**	**1.04**	**68**	P	Pn	18 16 39.1	-0.1
SGRT				S	Sn	18 16 54.0	+0.2
MSAG	**Monte S. Angel**	**1.14**	**72**	P	Pg	18 16 40.6	0.0
MSAG				AML	AML		
	comp=E,250μm,0.3s						
MSAG				AML	AML		
	comp=N,440μm,0.5s						
TERO	**Teramo**	**1.40**	**333**	P	Pg	18 16 46.0	+0.4

ROM 29 18:18:53.2±0.2, 41°.388N±0°.008×14°.438E±0°.008, h17km±1km, Md1.5/2, Error ellipse: s-maj=0.9km s-min=0.2km az=339.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.16**	**280**	P	Pb	18 18 57.7	-0.1
VAGA				S	Sb	18 19 00.9	+0.2
VAGA				AML	AML		
	comp=E,602μm,1.1s						
VAGA				AML	AML		
	comp=N,1115μm,0.5s						
VAGA				AML	AML		
	comp=E,634μm,1.1s						
VAGA				AML	AML		
	comp=N,1175μm,0.5s						
VAGA				AML	AML		
	comp=E,1715μm,0.5s						
VAGA				AML	AML		
	comp=N,3070μm,0.6s						
VAGA				AML	AML		
	comp=E,1785μm,0.5s						
VAGA				AML	AML		
	comp=N,3145μm,0.6s						
VAGA				END			
BSSO	**Busso**	**0.20**	**36**	P	Pb	18 18 58.6	+0.2
BSSO				S	Sg	18 19 01.7	+0.3
BSSO				AML	AML		
	comp=E,576μm,0.7s						
BSSO				AML	AML		
	comp=N,781μm,0.8s						
BSSO				AML	AML		
	comp=E,313μm,0.7s						
BSSO				AML	AML		
	comp=N,261μm,0.9s						
BSSO				AML	AML		
	comp=E,1625μm,0.4s						
BSSO				AML	AML		
	comp=N,2005μm,0.7s						
BSSO				AML	AML		
	comp=E,743μm,1.4s						
BSSO				AML	AML		
	comp=N,754μm,0.7s						
BSSO				END			
SACR	**S. Croce Del S**	**0.20**	**87**	P	Pb	18 18 58.6	+0.1
SACR				S	Sb	18 19 02.0	-0.1
SACR				AML	AML		
	comp=E,639μm,1.2s						
SACR				AML	AML		
	comp=N,734μm,0.5s						
SACR				AML	AML		
	comp=E,588μm,0.9s						
SACR				AML	AML		
	comp=N,712μm,0.5s						
SACR				AML	AML		
	comp=E,1020μm,1.1s						
SACR				AML	AML		
	comp=N,1050μm,0.4s						
SACR				AML	AML		
	comp=E,878μm,1.1s						
SACR				AML	AML		
	comp=N,1064μm,0.3s						
PIGN	**Pignataro Magg**	**0.27**	**226**	P	Pg	18 18 59.3	+0.1
PIGN				S	Sb	18 19 03.8	-0.1
PIGN				AML	AML		
	comp=E,156μm,1.3s						
PIGN				AML	AML		
	comp=N,170μm,0.4s						
PIGN				AML	AML		
	comp=E,212μm,1.1s						
PIGN				AML	AML		
	comp=N,230μm,0.2s						
MIDA	**Miranda**	**0.29**	**332**	P	Pg	18 18 59.5	-0.1
MIDA				S	Sg	18 19 03.6	-0.3
MIDA				AML	AML		
	comp=E,137μm,0.1s						
MIDA				AML	AML		
	comp=N,122μm,1.1s						
MIDA				AML	AML		
	comp=E,249μm,0.5s						
MIDA				AML	AML		
	comp=N,230μm,1.4s						
CERA	**Filignano**	**0.38**	**304**	P	Pb	18 19 01.6	+0.1
CERA				AML	AML		
	comp=E,160μm,1.4s						
CERA				AML	AML		
	comp=N,148μm,0.6s						
CERA				AML	AML		
	comp=E,158μm,1.4s						
CERA				AML	AML		
	comp=N,142μm,0.7s						
RNI2	**Rionero Sannit**	**0.38**	**326**	P	Pb	18 19 01.4	-0.1
RNI2				S	Sb	18 19 07.3	0.0
RNI2				AML	AML		
	comp=E,120μm,1.3s						
RNI2				AML	AML		
	comp=N,87μm,0.6s						
RNI2				AML	AML		
	comp=E,240μm,0.6s						
RNI2				AML	AML		
	comp=N,227μm,0.7s						
RNI2				AML	AML		
	comp=E,252μm,0.5s						
RNI2				AML	AML		
	comp=N,208μm,0.7s						
TRIV	**Trivento**	**0.39**	**13**	P	Pb	18 19 01.6	-0.1
TRIV				AML	AML		
	comp=E,84μm,1.5s						
TRIV				AML	AML		
	comp=N,77μm,1.6s						
TRIV				AML	AML		
	comp=E,199μm,0.5s						
TRIV				AML	AML		
	comp=N,170μm,0.3s						
INTR	**Introdacqua**	**0.74**	**328**	P	Pn	18 19 09.8	+0.8
INTR				AML	AML		
	comp=E,96μm,1.1s						
INTR				AML	AML		
	comp=N,132μm,1.3s						

ROM 29 18:19:12.0±0.2, 41°.349N±0°.008×14°.46E±0°.01, h19km±2km, Md1.6/4, Error ellipse: s-maj=0.9km s-min=0.5km az=331.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.18**	**292**	P	Pg	18 19 17.1	+0.2
VAGA				S	Sg	18 19 20.7	+0.6
VAGA				AML	AML		
	comp=E,1795μm,0.3s						
VAGA				AML	AML		
	comp=E,1890μm,0.2s						
VAGA				AML	AML		
	comp=N,4115μm,0.3s						
VAGA				AML	AML		
	comp=N,3975μm,0.3s						
VAGA				END			
SACR	**S. Croce Del S**	**0.20**	**76**	P	Pg	18 19 17.0	-0.1
SACR				S	Sg	18 19 20.3	-0.3
SACR				AML	AML		
	comp=E,602μm,0.9s						
SACR				AML	AML		
	comp=N,776μm,0.5s						
SACR				AML	AML		
	comp=N,1064μm,0.3s						
SACR				AML	AML		
	comp=E,1032μm,0.7s						
SACR				END			
BSSO	**Busso**	**0.22**	**28**	P	Pg	18 19 17.7	+0.2
BSSO				S	Sg	18 19 22.2	+0.9
BSSO				AML	AML		
	comp=E,991μm,0.3s						
BSSO				AML	AML		
	comp=N,978μm,0.5s						
BSSO				AML	AML		
	comp=E,398μm,0.3s						
BSSO				AML	AML		
	comp=N,378μm,0.6s						
BSSO				AML	AML		
	comp=N,2140μm,0.4s						
BSSO				AML	AML		
	comp=N,860μm,0.5s						
BSSO				AML	AML		
	comp=E,1625μm,0.4s						
BSSO				AML	AML		
	comp=E,743μm,1.4s						
BSSO				AML	AML		
	comp=N,2145μm,0.4s						
BSSO				END			
PIGN	**Pignataro Magg**	**0.26**	**234**	P	Pg	18 19 18.3	+0.4
PIGN				S	Sg	18 19 22.4	+0.5
PIGN				AML	AML		
	comp=E,208μm,1.2s						
PIGN				AML	AML		
	comp=N,230μm,0.2s						
PIGN				AML	AML		
	comp=E,467μm,0.5s						
PIGN				AML	AML		
	comp=E,415μm,0.4s						
PIGN				AML	AML		
	comp=N,350μm,0.4s						
PIGN				AML	AML		
	comp=N,322μm,0.4s						
PIGN				END			
PSB1	**Pescosannita**	**0.30**	**115**	AML	AML		
	comp=N,362μm,0.3s						
PSB1				AML	AML		
	comp=E,551μm,0.5s						
PSB1				AML	AML		
	comp=N,396μm,0.4s						
PSB1				AML	AML		
	comp=E,590μm,0.5s						

PAOL	**Paolisi**	**0.33**	**165**	P	Pb	18 19 19.3	0.0	
PAOL				AML	AML			
	comp=E,181μm,0.2s							
PAOL				AML	AML			
	comp=N,240μm,0.3s							
PAOL				AML	AML			
	comp=N,302μm,0.6s							
PAOL				AML	AML			
	comp=E,288μm,0.5s							
CERA	**Filignano**	**0.41**	**307**	AML	AML			
	comp=E,390μm,0.8s							
CERA				AML	AML			
	comp=N,340μm,0.4s							
CERA				AML	AML			
	comp=N,354μm,0.4s							
CERA				AML	AML			
	comp=E,393μm,0.8s							
RNI2	**Rionero Sannit**	**0.42**	**327**	P	Pg	18 19 20.5	-0.2	
RNI2				S	Sg	18 19 26.6	-0.1	
RNI2				AML	AML			
	comp=E,442μm,1.5s							
RNI2				AML	AML			
	comp=N,238μm,0.5s							
RNI2				AML	AML			
	comp=N,232μm,0.7s							
RNI2				AML	AML			
	comp=E,422μm,1.5s							
TRIV	**Trivento**	**0.42**	**10**	P	Pb	18 19 20.9	-0.1	
TRIV				S	Sb	18 19 27.6	+0.6	
TRIV				AML	AML			
	comp=E,199μm,0.5s							
TRIV				AML	AML			
	comp=N,170μm,0.3s							
TRIV				AML	AML			
	comp=E,335μm,1.3s							
TRIV				AML	AML			
	comp=N,308μm,0.5s							
MELA	**Melanico ??? S**	**0.62**	**55**	AML	AML			
	comp=E,428μm,0.3s							
MELA				AML	AML			
	comp=E,178μm,0.2s							
MELA				AML	AML			
	comp=N,166μm,0.3s							
MELA				AML	AML			
	comp=E,442μm,0.3s							
MELA				AML	AML			
	comp=N,416μm,0.5s							
MELA				AML	AML			
	comp=N,443μm,0.5s							
SGRT	**San Giovanni R**	**1.05**	**67**	S	Sg	18 19 48.0	+1.8	
LAV9	**Lanuvio**	**1.36**	**285**	S	Sg	18 20 01.0	+5.0	
CAMP	**Campotosto**	**1.42**	**327**	P	Pg	18 19 38.7	-0.7	
ARRO	**Arrone**	**1.76**	**315**	S	Sg	18 20 12.0	+3.2	
T0721	**Laino Castello**	**1.82**	**140**	S	Sg	18 20 12.0	+1.2	
T0702	**Acquaformosa (**	**2.05**	**142**	P	Pb	18 19 48.4	-0.2	
ARVD	**Arcevia**	**2.42**	**333**	S	Sn	18 20 21.0	+1.4	
MPAG	**Monte Paganucc**	**2.60**	**332**	P	Pb	18 19 57.6	-0.4	
LADO	**San Nicola del**	**2.83**	**136**	S	Sn	18 20 32.0	+2.4	
GMB	**Gambarie**	**3.35**	**161**	S	Sn	18 20 40.0	-2.6	
FAEN	**Faenza**	**3.50**	**328**	P	Pb	18 20 14.5	+1.3	

ROM 29 18:19:59.0±0.1, 41°38.1′N±0.0′06×14°43.2′E±0.0′07, h18km±1km, ML2.1/15, Error ellipse: s-maj=0.7km s-min=0.4km az=153.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.15**	**283**	P	Pg	18 20 03.4	+0.1
VAGA				S	Sg	18 20 06.5	+0.3
VAGA				AML	AML		
	comp=E,1795μm,0.3s						
VAGA				AML	AML		
	comp=E,1890μm,0.2s						
VAGA				AML	AML		
	comp=N,4115μm,0.3s						
VAGA				AML	AML		
	comp=N,3975μm,0.3s						
BSSO	**Busso**	**0.20**	**36**	P	Pb	18 20 04.4	+0.3
BSSO				S	Sb	18 20 07.6	0.0
BSSO				AML	AML		
	comp=E,1625μm,0.4s						
BSSO				AML	AML		
	comp=N,2140μm,0.4s						
BSSO				AML	AML		
	comp=N,2145μm,0.4s						
BSSO				AML	AML		
	comp=N,860μm,0.5s						
BSSO				AML	AML		
	comp=E,743μm,1.4s						
SACR	**S. Croce Del S**	**0.21**	**85**	P	Pb	18 20 04.3	+0.1
SACR				S	Sb	18 20 08.2	+0.6
SACR				AML	AML		
	comp=E,1032μm,0.7s						
SACR				AML	AML		
	comp=N,1064μm,0.3s						
PIGN	**Pignataro Magg**	**0.26**	**226**	P	Pb	18 20 05.1	-0.1
PIGN				S	Sg	18 20 08.8	0.0
PIGN				AML	AML		
	comp=E,467μm,0.5s						
PIGN				AML	AML		
	comp=N,322μm,0.4s						
PIGN				AML	AML		
	comp=N,350μm,0.4s						
PIGN				AML	AML		
	comp=N,350μm,0.4s						
PIGN				AML	AML		
	comp=N,322μm,0.4s						
PIGN				AML	AML		
	comp=E,466μm,0.5s						
PIGN				AML	AML		
	comp=E,415μm,0.4s						
MIDA	**Miranda**	**0.29**	**333**	P	Pg	18 20 05.3	-0.2
MIDA				S	Sb	18 20 10.3	0.0
MIDA				AML	AML		
	comp=N,446μm,0.8s						
MIDA				AML	AML		
	comp=E,480μm,0.5s						
PAOL	**Paolisi**	**0.36**	**164**	P	Pg	18 20 06.8	+0.2
PAOL				AML	AML		
	comp=N,302μm,0.6s						
PAOL				AML	AML		
	comp=E,288μm,0.5s						
CERA	**Filignano**	**0.38**	**305**	AML	AML		
	comp=N,340μm,0.4s						
CERA				AML	AML		
	comp=N,341μm,0.4s						
CERA				AML	AML		
	comp=N,354μm,0.4s						
CERA				AML	AML		
	comp=E,390μm,0.8s						
CERA				AML	AML		
	comp=E,389μm,0.8s						
CERA				AML	AML		
	comp=E,393μm,0.8s						
GATE	**Gambatesa**	**0.38**	**70**	AML	AML		
	comp=N,320μm,1.6s						
GATE				AML	AML		
	comp=N,348μm,1.3s						
GATE				AML	AML		
	comp=E,340μm,0.7s						
RNI2	**Rionero Sannit**	**0.38**	**327**	P	Pb	18 20 07.2	-0.1
RNI2				AML	AML		
	comp=N,232μm,0.7s						
RNI2				AML	AML		
	comp=N,238μm,0.5s						
RNI2				AML	AML		
	comp=E,422μm,1.5s						
RNI2				AML	AML		
	comp=N,232μm,0.7s						
RNI2				AML	AML		
	comp=E,442μm,1.5s						
RNI2				AML	AML		
	comp=N,238μm,0.5s						
RNI2				AML	AML		
	comp=E,441μm,1.5s						
TRIV	**Trivento**	**0.40**	**13**	P	Pb	18 20 07.4	-0.1
TRIV				S	Sb	18 20 14.0	+0.7
TRIV				AML	AML		
	comp=N,308μm,0.5s						
TRIV				AML	AML		
	comp=E,335μm,1.3s						
CIGN	**Sant'Elia a Pi**	**0.45**	**52**	AML	AML		
	comp=E,201μm,1.3s						
CIGN				AML	AML		
	comp=N,146μm,0.6s						
MODR	**Mondragone**	**0.48**	**241**	P	Pb	18 20 08.9	0.0
MODR				AML	AML		
	comp=E,504μm,0.8s						
MODR				AML	AML		
	comp=N,404μm,0.6s						
MELA	**Melanico ??? S**	**0.61**	**58**	P	Pg	18 20 10.6	-0.5
MELA				S	Sb	18 20 19.5	0.0
MELA				AML	AML		
	comp=E,428μm,0.3s						
MELA				AML	AML		
	comp=N,443μm,0.5s						
INTR	**Introdacqua**	**0.74**	**328**	AML	AML		
	comp=E,26400μm,1.4s						
INTR				AML	AML		
	comp=E,164μm,0.7s						
INTR				AML	AML		
	comp=N,250μm,0.5s						
INTR				AML	AML		
	comp=N,28055μm,1.3s						
GIUL	**Giuliano Di Ro**	**0.90**	**282**	P	Pn	18 20 18.2	+1.4
VULT	**Monte Vulture**	**0.99**	**115**	P	Pg	18 20 20.4	+2.2
VULT				AML	AML		
	comp=E,118μm,0.7s						
VULT				AML	AML		
	comp=N,198μm,0.5s						
SGRT	**San Giovanni R**	**1.05**	**69**	P	Pg	18 20 20.1	+0.7
SGRT				S	Sn	18 20 35.0	+1.8
SGRT				AML	AML		
	comp=E,214μm,0.8s						
CDRU	**Civita di Ruta**	**1.11**	**143**	P	Pg	18 20 20.1	-0.3
CDRU				AML	AML		
	comp=N,36μm,0.4s						
MSAG	**Monte S. Angel**	**1.16**	**73**	P	Pg	18 20 21.8	+0.4
MSAG				S	Sg	18 20 38.0	+1.5
MSAG				AML	AML		
	comp=E,166μm,0.4s						
MSAG				AML	AML		
	comp=N,332μm,0.5s						
T0721	**Laino Castello**	**1.86**	**140**	S	Sb	18 20 55.0	-0.4

*ISCJB **29** 18:22:17.9±0.4, 7°.24S±0°.04×129°.40E±0°.05, h139km, mb3.5/4, Error ellipse: s-maj=6.9km s-min=5.7km az=26.6*
*IDC **29** 18:22:17.5±1.7, 7°.24S×129°.44E, h106km±17km, mb3.4/4, mb1 3.8/9, mb1mx3.4/54, mbtmp4.1/9, Error ellipse: s-maj=20.3km s-min=12.7km az=103.0*
*NEIC **29** 18:22:19.5±3.0, 7°.22S±0°.04×129°.33E±0°.08, h145km±13km, mb4.3/9*

ISC 29 18:22:19.4±0.7, 7°.24S±0°.06×129°.38E±0°.07, h139km, n27, σ1s75/30, mb3.8/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.04**	**111**	Pn	**Pn**	**18 22 56.6**	**+2.2**
FAKI	**Fak Fak**	**5.15**	**34**		**Pn**	**18 23 35.4**	**+0.6**
SOEI	**Soe**	**5.64**	**243**	Pn	**Pn**	**18 23 42.5**	**+1.1**
SOEI					**Sn**	**18 24 45.5**	**+0.2**
MTN	**Manton Dam**	**5.83**	**163**		**Pn**	**18 23 43.6**	**-0.2**
BATI	**Baumata**	**6.37**	**242**	P	**Pn**	**18 23 51.6**	**+0.6**
	18nm,0.3s,baz=96,slow=3.8,SNR=30						
BATI				S	**Sn**	**18 25 01.5**	**-1.2**
	13nm,0.3s,baz=90,slow=20,SNR=11						
SIJI	**Sorong**	**6.60**	**17**	P	**Pn**	**18 23 52.0**	**-2.1**
	2.7nm,0.3s,baz=68,slow=22,SNR=26						
SIJI				S	**Sn**	**18 25 05.8**	**-2.4**
	5.1nm,0.3s,baz=271,slow=22,SNR=12						
KNRA	**Kununurra**	**8.41**	**184**		**Pn**	**18 24 16.8**	**-1.6**
FITZ	**Fitzroy Crossi**	**11.39**	**198**	P	**Pn**	**18 24 56.3**	**-1.9**
	1.3nm,0.3s,baz=34,slow=11,SNR=33						
FITZ				S	Sn	18 26 51.5	-12
	3.3nm,0.3s,baz=317,slow=22,SNR=7.7						
FITZ	**Fitzroy Crossi**	**11.39**	**198**		**Pn**	**18 24 56.5**	**-1.7**
WRAB	**Tennant Creek**	**13.51**	**160**	Pn	**Pn**	**18 25 23.9**	**-1.8**
WRA	**Warramunga Arr**	**13.52**	**160**	P	**Pn**	**18 25 23.1**	**-2.7**
	3.8nm,0.3s,baz=339,slow=13,SNR=59						
WRA				S	Sn	18 27 43.5	-12
	2.8nm,0.3s,baz=337,slow=23,SNR=12						
WR0	**Warramunga Arr**	**13.60**	**159**		**Pn**	**18 25 23.1**	**-3.7**
COEN	**Coen**	**15.11**	**117**	Pn	**Pn**	**18 25 46.0**	**+0.1**
AS31	**Alice Springs**	**16.91**	**166**	P	**P**	**18 26 07.8**	**+0.2**
AS31				IAmb	IAmb	18 26 13.7	
	comp=Z,3.0nm,0.4s						
ASAR	**Alice Springs**	**16.91**	**166**	P	**P**	**18 26 07.3**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=335,slow=9.7,SNR=75						
ASAR				S	Sn	18 29 04.0	-13
	comp=Z,0.7nm,0.3s,baz=346,slow=23,SNR=5.7						
PSA00	**Pilbara Seismi**	**16.97**	**212**	P	**P**	**18 26 08.4**	**+0.2**
SBUM	**Sibu**	**19.64**	**299**	P	**P**	**18 26 36.0**	**-1.5**
SBUM				IAmb	IAmb	18 26 39.0	
	comp=Z,13nm,1.5s						
KSM	**Kuching**	**20.90**	**294**	P	**P**	**18 26 49.7**	**-1.3**
FORT	**Forrest**	**23.45**	**183**	P	**P**	**18 27 18.0**	**+1.6**
FORT				IAmb	IAmb	18 27 28.8	
	comp=Z,21nm,1.0s						
MORW	**Morawa**	**25.10**	**208**	P	**P**	**18 27 32.0**	**+0.7**
BBOO	**Buckleboo**	**26.19**	**167**	P	**P**	**18 27 42.5**	**+1.3**
BBOO				IAmb	IAmb	18 27 49.2	
	comp=Z,14nm,1.4s						
STKA	**Stephens Creek**	**27.04**	**157**	P	**P**	**18 27 50.3**	**+1.5**
	comp=Z,1.3nm,0.5s,baz=333,slow=7.5,SNR=9.3						
STKA	**Stephens Creek**	**27.04**	**157**	P	**P**	**18 27 49.8**	**+1.1**
TOO	**Toolangi**	**33.56**	**156**	P	**P**	**18 28 43.6**	**-2.5**
TOO				IAmb	IAmb	18 28 55.7	
	comp=Z,18nm,1.3s						
SONM	**Songino Array**	**58.47**	**342**	P	**P**	**18 32 03.5**	**+2.6**
	comp=Z,0.2nm,0.4s,baz=188,slow=2.9,SNR=2.6						
MKAR	**Makanchi Array**	**68.08**	**327**	P	**P**	**18 33 06.2**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=116,slow=7.9,SNR=15						
KURBB	**Kurchatov Arra**	**72.39**	**329**	P	**P**	**18 33 31.4**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=126,slow=5.2,SNR=12						

IDC 29 18:23:50.6±2.4, 60°.84S×42°.76W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.4/23, mbtmp3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/23, Error ellipse: s-maj=129.7km s-min=74.1km az=171.0, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**35.90**	**337**	LR	LR	18 46 08.8	
	comp=Z,44nm,19.1s,baz=43,slow=37						
TORD	**Torodi Ar. Bea**	**81.75**	**44**	P	P	18 36 10.8	0.0
	0.9nm,1.0s,baz=192,slow=4.5,SNR=3.3						
MKAR	**Makanchi Array**	**145.76**	**89**	PKPbc	PKPdf	18 43 29.6	-0.4
	0.5nm,0.6s,baz=229,slow=2.8,SNR=6.5						
ILAR	**Eielson Array**	**147.03**	**310**	PKPbc	PKPbc	18 43 32.8	-0.8
	0.5nm,0.6s,baz=129,slow=2.4,SNR=7.0						

ROM 29 18:33:15.2±0.1, 41°.366N±0°.005×14°.435E±0°.006, h17km±1km, Md1.5/3, Error ellipse: s-maj=0.6km s-min=0.2km az=358.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.16**	**288**	P	Pg	18 33 19.3	-0.2
VAGA				S	Sb	18 33 23.0	+0.2
VAGA				END			
SACR	**S. Croce Del S**	**0.21**	**81**	P	Pg	18 33 20.0	-0.2
SACR				S	Sb	18 33 24.2	+0.1
SACR				END			
BSSO	**Busso**	**0.22**	**34**	P	Pg	18 33 20.2	-0.1
BSSO				S	Sb	18 33 24.5	0.0
BSSO				AML	AML		
	comp=E,3600μm,0.4s						
BSSO				AML	AML		
	comp=N,1455μm,0.7s						
BSSO				AML	AML		
	comp=E,3595μm,0.4s						
BSSO				AML	AML		
	comp=N,3715μm,0.8s						
BSSO				AML	AML		
	comp=E,1500μm,0.4s						
BSSO				END			
PIGN	**Pignataro Magg**	**0.25**	**229**	P	Pg	18 33 21.1	+0.2
PIGN				S	Sb	18 33 25.3	-0.1
PIGN				AML	AML		
	comp=E,781μm,1.1s						
PIGN				AML	AML		
	comp=N,946μm,0.4s						
PIGN				AML	AML		
	comp=N,914μm,0.4s						
PIGN				AML	AML		
	comp=E,782μm,1.1s						
PIGN				AML	AML		
	comp=N,944μm,0.4s						
PIGN				AML	AML		
	comp=E,866μm,0.4s						
PSB1	**Pescosannita**	**0.32**	**117**	P	Pg	18 33 22.0	+0.1
PSB1				S	Sb	18 33 27.9	+0.6
PAOL	**Paolisi**	**0.35**	**163**	P	Pb	18 33 22.9	-0.1
PAOL				S	Sb	18 33 28.2	0.0
CERA	**Filignano**	**0.39**	**307**	P	Pb	18 33 23.6	-0.1
CERA				AML	AML		
	comp=N,662μm,0.4s						
CERA				AML	AML		
	comp=E,621μm,0.4s						
CERA				AML	AML		
	comp=N,678μm,0.4s						
CERA				AML	AML		
	comp=E,598μm,0.4s						
CERA				AML	AML		
	comp=N,662μm,0.4s						
RNI2	**Rionero Sannit**	**0.40**	**328**	P	Pg	18 33 23.2	-0.1
RNI2				S	Sb	18 33 30.1	+0.4
RNI2				AML	AML		
	comp=E,634μm,0.5s						
RNI2				AML	AML		
	comp=N,508μm,0.4s						
RNI2				AML	AML		
	comp=E,630μm,1.4s						
RNI2				AML	AML		
	comp=N,528μm,0.5s						
TRIV	**Trivento**	**0.41**	**12**	P	Pb	18 33 23.8	-0.2
TRIV				AML	AML		
	comp=N,520μm,0.4s						
TRIV				AML	AML		
	comp=E,751μm,0.5s						
TRIV				AML	AML		
	comp=N,520μm,0.4s						

*ROM **29** 18:33:28.9±0.1, 41°.371N±0°.005×14°.463E±0°.006, h19km±1km, ML2.4/7, Error ellipse: s-maj=0.6km s-min=0.0km az=338.0*
*ISCJB **29** 18:33:29.3±0.5, 41°.37N±0°.04×14°.45E±0°.04, h18km±4km, Error ellipse: s-maj=6.3km s-min=5.4km az=147.6*

ISC 29 18:33:29.3±1.0, 41°.39N±0°.03×14°.46E±0°.03, h19km±2km, n32, σ1s50/36, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.17**	**277**	P	**Pg**	**18 33 33.7**	**-0.2**
VAGA				S	**Sg**	**18 33 37.6**	**+0.5**
VAGA				AML	AML		
	comp=E,3345μm,0.4s						
VAGA				AML	AML		
	comp=E,3350μm,0.4s						
VAGA				AML	AML		
	comp=N,5230μm,0.5s						
VAGA				AML	AML		
	comp=E,3475μm,0.4s						
VAGA				AML	AML		
	comp=N,5095μm,0.5s						
BSSO	**Busso**	**0.18**	**34**	P	**Pg**	**18 33 34.2**	**0.0**
BSSO				S	**Sg**	**18 33 37.8**	**+0.3**
BSSO				AML	AML		
	comp=E,3600μm,0.4s						
BSSO				AML	AML		
	comp=E,1500μm,0.4s						
BSSO				AML	AML		
	comp=N,1455μm,0.7s						
BSSO				AML	AML		
	comp=E,3595μm,0.4s						
BSSO				AML	AML		
	comp=N,3715μm,0.8s						
SACR	**S. Croce Del S**	**0.19**	**89**	P	**Pb**	**18 33 33.7**	**+0.3**
SACR				S	**Sg**	**18 33 37.6**	**+0.1**
SACR				AML	AML		
	comp=E,2270μm,0.7s						
SACR				AML	AML		
	comp=N,2760μm,0.6s						
SACR				AML	AML		
	comp=E,2225μm,0.7s						
SACR				AML	AML		
	comp=E,2275μm,0.7s						
SACR				AML	AML		
	comp=N,2850μm,0.6s						
SACR				AML	AML		
	comp=E,2230μm,0.7s						
PIGN	**Pignataro Magg**	**0.28**	**227**	P	**Pg**	**18 33 35.0**	**-0.6**
PIGN				S	**Sg**	**18 33 39.6**	**-0.4**
PIGN				AML	AML		
	comp=N,946μm,0.4s						
PIGN				AML	AML		
	comp=N,914μm,0.4s						
PIGN				AML	AML		
	comp=E,782μm,1.1s						
PIGN				AML	AML		
	comp=E,866μm,0.4s						
PIGN				AML	AML		
	comp=E,781μm,1.1s						
PIGN				AML	AML		
	comp=N,944μm,0.4s						
MIDA	**Miranda**	**0.29**	**328**	P	**Pg**	**18 33 35.7**	**-0.1**
MIDA				AML	AML		
	comp=E,770μm,0.5s						
MIDA				AML	AML		
	comp=E,792μm,1.6s						
MIDA				AML	AML		
	comp=N,1037μm,0.3s						
MIDA				AML	AML		
	comp=N,1045μm,0.3s						
MIDA				AML	AML		
	comp=N,1036μm,0.3s						
PSB1	**Pescosannita**	**0.32**	**122**	P	**Pg**	**18 33 35.9**	**-0.3**
PAOL	**Paolisi**	**0.37**	**167**	P	**Pg**	**18 33 36.8**	**-0.3**
TRIV	**Trivento**	**0.38**	**11**	P	**Pb**	**18 33 37.7**	**+0.2**
TRIV				AML	AML		
	comp=N,520μm,0.4s						
TRIV				AML	AML		
	comp=E,751μm,0.5s						
TRIV				AML	AML		
	comp=N,520μm,0.4s						
RNI2	**Rionero Sannit**	**0.38**	**324**	P	**Pb**	**18 33 37.6**	**-0.1**
RNI2				AML	AML		
	comp=N,508μm,0.4s						
RNI2				AML	AML		
	comp=E,630μm,1.4s						
RNI2				AML	AML		
	comp=E,634μm,0.5s						
CERA	**Filignano**	**0.39**	**302**	AML	AML		
	comp=E,621μm,0.4s						
CERA				AML	AML		
	comp=E,598μm,0.4s						
CERA				AML	AML		
	comp=N,678μm,0.4s						
CERA				AML	AML		
	comp=N,662μm,0.4s						
MODR	**Mondragone**	**0.50**	**241**	AML	AML		
	comp=E,1070μm,0.6s						
MODR				AML	AML		
	comp=N,976μm,0.9s						
MODR				AML	AML		
	comp=N,975μm,0.9s						
MELA	**Melanico ??? S**	**0.59**	**58**	P	**Pb**	**18 33 40.3**	**-0.6**
MELA				AML	AML		
	comp=E,568μm,0.7s						
MELA				AML	AML		
	comp=N,540μm,0.4s						
MELA				AML	AML		
	comp=E,593μm,0.6s						
MELA				AML	AML		
	comp=N,581μm,0.4s						
FRES	**Fresagrandinar**	**0.60**	**15**	P	**Pg**	**18 33 41.2**	**-0.1**
INTR	**Introdacqua**	**0.74**	**326**	AML	AML		
	comp=N,616μm,0.4s						
INTR				AML	AML		
	comp=E,279μm,0.8s						
GIUL	**Giuliano Di Ro**	**0.92**	**281**	S	**Pn**	**18 33 48.0**	**+0.7**
GIUL				AML	AML		
	comp=E,62μm,0.5s						
GIUL				AML	AML		
	comp=N,82μm,1.5s						
VULT	**Monte Vulture**	**0.98**	**116**	S	**Pn**	**18 33 49.0**	**+0.9**
VULT				AML	AML		
	comp=E,185μm,0.3s						
VULT				AML	AML		
	comp=N,348μm,0.4s						
VENT	**Ventotene**	**0.98**	**233**	S	**Pn**	**18 33 49.0**	**+0.9**
MRLC	**Muro Lucano**	**1.01**	**129**	S	**Pn**	**18 33 51.0**	**+2.5**
MRLC				AML	AML		

	comp=N,105μm,0.4s							
MRLC					AML	AML		
	comp=E,104μm,0.5s							
SGRT	**San Giovanni R**	**1.03**	**69**	S		**Pn**	**18 33 50.0**	**+1.2**
FAGN	**Fagnano**	**1.09**	**323**	S		**Pn**	**18 33 54.0**	**+4.4**
MSAG	**Monte S. Angel**	**1.14**	**73**	S		**Pn**	**18 33 53.0**	**+2.7**
SG1	**Sgolgore (BA)**	**1.77**	**108**	*e*Pn		**Pn**	**18 33 59.8**	**+0.9**
BAI	**Bari**	**1.85**	**98**	*e*Pn		**Pb**	**18 34 01.3**	**-1.1**
HVAR	**Hvar**	**2.32**	**39**	*e*Pn		**Pn**	**18 34 07.5**	**+1.1**
HVAR				Sn		**Sn**	**18 34 36.2**	**+1.9**
ZIRJ	**Zirje**	**2.42**	**21**	*e*Pn		**Pb**	**18 34 10.2**	**-2.0**
DUGI	**Dugi Otok**	**2.63**	**9**	*e*Pn		**Pn**	**18 34 10.4**	**-0.3**
MORI	**Morici**	**2.64**	**20**	*i* Pn		**Pn**	**18 34 10.6**	**-0.2**
MORI				Sn		**Sb**	**18 34 45.4**	**-2.5**
MAKA	**Makarska**	**2.68**	**44**	*e*Pn		**Pn**	**18 34 12.7**	**+1.3**
STON	**Ston**	**2.83**	**57**	*e*Pn		**Pn**	**18 34 14.9**	**+1.5**
RICI	**Ricice**	**2.89**	**42**	ePn			18 34 14.4	
RICI				Sn		**Sb**	**18 34 52.2**	**-2.9**
KIJV	**Kijevo**	**2.98**	**28**	*e*Pn		**Pn**	**18 34 16.1**	**+0.5**
DBRK	**Dubrovnik**	**3.03**	**64**	*e*Pn		**Pn**	**18 34 18.0**	**+1.8**
DBRK				Sn		**Sn**	**18 34 52.9**	**+0.9**

*ISCJB **29** 18:59:33.2±0.8, 55.03°N±0.06°×153.23°W±0.06, h33km, mb3.1/2, Error ellipse: s-maj=9.2km s-min=5.0km az=171.9*
*NEIC **29** 18:59:35.6±1.3, 55.02°N±0.10°×153.40°W±0.03, h32km±11km, ML3.0(AEIC)*
*AEIC **29** 18:59:36.0±2.4, 54.94°N±0.10°×153.2°W±0.1, h11km±7km*
*IDC **29** 18:59:39.8±3.2, 55.12N×152.56W, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/48, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=53.7km s-min=33.9km az=139.0*

ISC 29 18:59:37.2±2.0, 55.2N±0.1×153.33W±0.07, h35km, n56, σ1.19/54, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**1.46**	**298**			**Pn**	**18 59 59.6**	**-1.5**
CHIR						**Sn**	**19 00 19.0**	**0.0**
SII	**Sitkinak Islan**	**1.48**	**341**			**Pn**	**19 00 00.8**	**-0.5**
SII						**Sn**	**19 00 20.8**	**+1.3**
OHAK	**Old Harbor**	**2.06**	**1**			**Pn**	**19 00 09.0**	**-0.4**
OHAK						**Sn**	**19 00 33.8**	**-0.1**
KDAK	**Kodiak Island**	**2.66**	**9**			**Pn**	**19 00 17.3**	**-0.2**
KDAK						**Sn**	**19 00 47.2**	**-1.3**
PLK3	**Peulik 3**	**3.01**	**328**			**Pn**	**19 00 23.0**	**+0.6**
PLK2	**Peulik 2**	**3.09**	**329**			**Pn**	**19 00 24.1**	**+0.6**
CAHL	**Cahill**	**3.10**	**340**			**Pn**	**19 00 24.0**	**+0.4**
KJL	**Kejulik**	**3.15**	**338**			**Pn**	**19 00 25.3**	**+0.9**
VNSG	**Veniaminof 6**	**3.40**	**289**			**Pn**	**19 00 26.7**	**-1.1**
VNKR	**Veniaminof 5**	**3.54**	**287**			**Pn**	**19 00 28.5**	**-1.1**
KAHC	**Katmai Hardscr**	**3.61**	**346**			**Pn**	**19 00 31.4**	**+0.6**
CNIA	**Chernabura Isl**	**3.62**	**267**			**Pn**	**19 00 27.2**	**-3.5**
FOSS	**Fourpeaked Sta**	**3.65**	**357**			**Pn**	**19 00 31.9**	**+0.7**
SDPT	**Sand Point**	**4.09**	**276**			**Pn**	**19 00 34.9**	**-2.3**
HOM	**Homer**	**4.60**	**11**	Pn		**Pn**	**19 00 44.6**	**+0.4**
BRLK	**Bradley Lake**	**4.80**	**15**			**Pn**	**19 00 46.0**	**-1.0**
RED	**Redoubt Volcan**	**5.28**	**3**			**Pn**	**19 00 53.7**	**+0.1**
RSO	**Redoubt South**	**5.32**	**3**			**Pn**	**19 00 55.4**	**+1.1**
RDWB	**Redoubt West**	**5.35**	**3**			**Pn**	**19 00 54.7**	**+0.1**
SEW	**Seward**	**5.37**	**21**			**Pn**	**19 00 54.6**	**-0.2**
NCT	**North Crescent**	**5.42**	**2**			**Pn**	**19 00 55.4**	**-0.1**
DFR	**Drift River**	**5.46**	**3**			**Pn**	**19 00 56.2**	**+0.2**
SLKM	**Skilak Lake**	**5.61**	**16**			**Pn**	**19 00 57.2**	**-0.9**
RC01	**Rabbit Creek A**	**6.24**	**16**	Pn		**Pn**	**19 01 07.5**	**+0.8**
PWL	**Port Wells**	**6.30**	**23**			**Pn**	**19 01 06.2**	**-1.3**
HIN	**Hinchinbrook I**	**6.39**	**32**	Pn		**Pn**	**19 01 09.5**	**+0.7**
SUA	**Susitna One**	**6.46**	**11**	Pn		**Pn**	**19 01 10.3**	**+0.5**
FID	**Port Fidalgo**	**6.68**	**30**	Pn		**Pn**	**19 01 11.8**	**-0.9**
EYAK	**Cordova Ski Ar**	**6.74**	**34**	Pn		**Pn**	**19 01 14.3**	**+0.7**
KNIK	**Knik Glacier**	**6.77**	**20**			**Pn**	**19 01 13.1**	**-0.9**
RAGM	**Ragged Mountai**	**6.99**	**38**	Pn		**Pn**	**19 01 18.3**	**+1.4**
GHO	**Glory Hole Cre**	**7.02**	**17**	Pn		**Pn**	**19 01 17.1**	**-0.3**
SCM	**Sheep Creek Mo**	**7.39**	**23**			**Pn**	**19 01 22.1**	**-0.4**
WAX	**Waxell Ridge**	**7.70**	**42**	Pn		**Pn**	**19 01 26.8**	**0.0**
CRQM	**Cirque**	**7.79**	**40**	Pn		**Pn**	**19 01 28.9**	**+0.7**
MESA	**MESA**	**7.90**	**46**	Pn		**Pn**	**19 01 30.0**	**+0.4**
TGL	**Tana Glacier**	**7.91**	**41**	Pn		**Pn**	**19 01 29.9**	**+0.2**
VRDI	**Verde Repeater**	**8.01**	**37**	Pn		**Pn**	**19 01 31.6**	**+0.6**
GLB	**Gilahina Butte**	**8.04**	**35**	Pn		**Pn**	**19 01 31.8**	**+0.4**
MCARA	**McCarthy VSAT**	**8.26**	**37**	Pn		**Pn**	**19 01 34.6**	**+0.2**
BALM	**Baldy**	**8.27**	**40**	Pn		**Pn**	**19 01 34.3**	**-0.3**
TRF	**Thorofare Moun**	**8.46**	**9**	Pn		**Pn**	**19 01 38.2**	**+1.0**
DHY	**Denali Highway**	**8.50**	**19**	Pn		**Pn**	**19 01 39.1**	**+1.2**
BARN	**Barnard Glacie**	**8.54**	**41**			**Pn**	**19 01 37.7**	**-0.7**
RND	**Reindeer**	**8.58**	**14**	Pn		**Pn**	**19 01 37.7**	**-1.1**
CTGM	**Chitina Glacie**	**8.61**	**43**	Pn		**Pn**	**19 01 39.8**	**+0.5**
DHAK	**Deception Hill**	**9.11**	**58**	Pn		**Pn**	**19 01 46.2**	**+0.2**
ILAR	**Eielson Array**	**10.16**	**16**	Pn		**Pn**	**19 02 01.0**	**+0.7**
	0.1nm,0.3s,baz=204,slow=13,SNR=7.4							
ILAR					Sn	**Sn**	**19 03 48.7**	**-4.1**
	0.1nm,0.3s,baz=202,slow=24,SNR=3.8							
YKA	**Yellowknife Ar**	**21.06**	**54**	P		**P**	**19 04 20.9**	**+3.0**
	0.3nm,0.7s,baz=267,slow=12,SNR=6.8							
H11N2	**WAKE ISLAND Hy**	**46.35**	**236**	T		T	19 58 18.4	
	baz=29							
H11N3	**WAKE ISLAND Hy**	**46.35**	**236**	T		T	19 58 31.5	
	baz=29							
H11N1	**WAKE ISLAND Hy**	**46.36**	**236**	T		T	19 58 33.0	
	baz=29							
H11S1	**WAKE ISLAND Hy**	**47.49**	**236**	T		T	20 00 00.3	
	baz=25,slow=74							
H11S2	**WAKE ISLAND Hy**	**47.50**	**236**	T		T	19 59 53.3	
	baz=25,slow=74							
H11S3	**WAKE ISLAND Hy**	**47.51**	**236**	T		T	20 00 06.1	
	baz=25							
SONM	**Songino Array**	**57.57**	**308**	P		P	19 09 33.7	+10
	0.2nm,0.5s,baz=53,slow=5.8,SNR=2.5							

ROM 29 19:00:22.8±0.1, 41.382N±0.005×14.466E±0.006, h8km±1km, Md1.4/5, Error ellipse: s-maj=0.6km s-min=0.1km az=176.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.18**	**281**	P		Pg	19 00 26.7	+0.2
VAGA				S		Sg	19 00 30.7	+1.7
VAGA				AML		AML		
	comp=E,1276μm,0.2s							
VAGA				AML		AML		
	comp=N,1720μm,1.6s							
VAGA				AML		AML		
	comp=E,1355μm,0.2s							
VAGA				AML		AML		
	comp=N,1790μm,1.3s							
VAGA				AML		AML		
	comp=E,4015μm,0.3s							
VAGA				AML		AML		
	comp=N,5930μm,0.3s							
VAGA				AML		AML		
	comp=N,5935μm,0.3s							
VAGA				AML		AML		
	comp=E,4365μm,1.3s							
VAGA				AML		AML		
	comp=E,4010μm,0.3s							
VAGA				AML		AML		
	comp=N,6170μm,0.3s							
VAGA				END				
SACR	**S. Croce Del S**	**0.18**	**85**	P		Pg	19 00 26.8	+0.2
SACR				S		Sg	19 00 30.6	+1.5
SACR				AML		AML		
	comp=E,1024μm,1.6s							
SACR				AML		AML		
	comp=N,832μm,0.4s							
SACR				AML		AML		
	comp=E,780μm,0.9s							
SACR				AML		AML		
	comp=N,860μm,0.4s							
SACR				AML		AML		
	comp=E,2280μm,0.9s							
SACR				AML		AML		
	comp=E,2350μm,0.9s							
SACR				AML		AML		
	comp=N,2905μm,0.6s							
SACR				AML		AML		
	comp=E,2285μm,0.9s							
SACR				AML		AML		
	comp=N,2845μm,0.6s							
SACR				END				
BSSO	**Busso**	**0.19**	**30**	P		Pg	19 00 27.2	+0.5
BSSO				S		Sg	19 00 30.3	+0.9
BSSO				AML		AML		
	comp=E,840μm,0.4s							
BSSO				AML		AML		
	comp=N,1545μm,0.9s							
BSSO				AML		AML		
	comp=E,390μm,0.7s							
BSSO				AML		AML		
	comp=N,601μm,0.9s							
BSSO				AML		AML		
	comp=E,3330μm,0.3s							
BSSO				AML		AML		
	comp=N,3965μm,0.7s							
BSSO				AML		AML		
	comp=E,1410μm,0.2s							
BSSO				AML		AML		
	comp=N,3970μm,0.7s							
BSSO				AML		AML		
	comp=N,1500μm,0.6s							
BSSO				AML		AML		
	comp=E,3335μm,0.3s							
BSSO				END				
PIGN	**Pignataro Magg**	**0.28**	**230**	P		Pg	19 00 29.2	+0.8
PIGN				S		Sb	19 00 33.8	-1.2
PIGN				AML		AML		
	comp=E,410μm,0.9s							
PIGN				AML		AML		
	comp=N,506μm,1.0s							
PIGN				AML		AML		
	comp=E,355μm,1.2s							
PIGN				AML		AML		
	comp=N,428μm,1.0s							
PIGN				AML		AML		
	comp=E,1020μm,0.6s							
PIGN				AML		AML		
	comp=N,965μm,0.4s							
PIGN				AML		AML		
	comp=E,987μm,0.6s							
PIGN				AML		AML		
	comp=N,951μm,0.4s							
PIGN				AML		AML		
	comp=E,986μm,0.6s							
PIGN				AML		AML		
	comp=E,1024μm,0.6s							
PIGN				END				
PSB1	**Pescosannita**	**0.30**	**121**	P		Pb	19 00 30.0	-0.5
PSB1				S		Sb	19 00 35.5	-0.2
MIDA	**Miranda**	**0.30**	**329**	P		Pg	19 00 29.7	+0.8
MIDA				S		Sb	19 00 35.0	-0.7
MIDA				AML		AML		
	comp=E,444μm,0.6s							
MIDA				AML		AML		
	comp=N,268μm,0.2s							
MIDA				AML		AML		
	comp=E,1012μm,0.6s							
MIDA				AML		AML		
	comp=N,671μm,0.4s							
MIDA				END				
PAOL	**Paolisi**	**0.36**	**168**	P		Pg	19 00 30.4	+0.5
PAOL				AML		AML		
	comp=E,276μm,0.2s							
PAOL				AML		AML		
	comp=N,278μm,0.5s							
PAOL				AML		AML		
	comp=E,750μm,0.2s							
PAOL				AML		AML		
	comp=N,622μm,1.1s							
PAOL				AML		AML		
	comp=E,787μm,0.2s							
PAOL				AML		AML		
	comp=N,560μm,1.1s							
RNI2	**Rionero Sannit**	**0.40**	**324**	P		Pg	19 00 31.4	+0.7
RNI2				AML		AML		
	comp=E,292μm,1.0s							
RNI2				AML		AML		
	comp=N,228μm,1.1s							
RNI2				AML		AML		
	comp=E,326μm,1.0s							
RNI2				AML		AML		
	comp=N,230μm,1.1s							
RNI2				AML		AML		
	comp=N,489μm,1.5s							
RNI2				AML		AML		
	comp=E,953μm,0.4s							
RNI2				AML		AML		
	comp=N,488μm,1.5s							
RNI2				AML		AML		
	comp=N,517μm,1.5s							
RNI2				AML		AML		
	comp=E,982μm,0.4s							
CERA	**Filignano**	**0.40**	**303**	P		Pb	19 00 31.9	-0.3
MELA	**Melanico ??? S**	**0.59**	**57**	P		Pg	19 00 34.7	+0.4
MELA				AML		AML		
	comp=E,588μm,0.7s							
MELA				AML		AML		
	comp=N,532μm,0.6s							
MELA				AML		AML		
	comp=E,604μm,0.7s							
MELA				AML		AML		
	comp=N,457μm,0.2s							
MELA				AML		AML		
	comp=E,588μm,0.7s							
MELA				AML		AML		
	comp=N,532μm,0.6s							

ROM 29 19:00:40.7±0.1, 41.365N±0.005×14.462E±0.007, h21km±1km, ML2.5/11, Error ellipse: s-maj=0.7km s-min=0.2km az=319.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.18**	**286**	P		Pb	19 00 45.7	-1.0
VAGA				S		Sb	19 00 49.6	-1.2
VAGA				AML		AML		
	comp=E,4015μm,0.3s							
VAGA				AML		AML		
	comp=N,5930μm,0.3s							
VAGA				AML		AML		
	comp=E,4365μm,1.3s							
VAGA				AML		AML		
	comp=N,6170μm,0.3s							
VAGA				AML		AML		
	comp=E,4010μm,0.3s							
VAGA				AML		AML		
	comp=N,5935μm,0.3s							
SACR	**S. Croce Del S**	**0.19**	**80**	P		Pb	19 00 45.9	-0.8
SACR				S		Sb	19 00 50.2	-0.7
SACR				AML		AML		
	comp=E,2280μm,0.9s							
SACR				AML		AML		
	comp=N,2845μm,0.6s							
SACR				AML		AML		
	comp=E,2285μm,0.9s							
SACR				AML		AML		
	comp=N,2905μm,0.6s							
SACR				AML		AML		
	comp=E,2350μm,0.9s							
BSSO	**Busso**	**0.21**	**29**	P		Pb	19 00 46.5	-0.3
BSSO				S		Sb	19 00 49.9	-1.0
BSSO				AML		AML		
	comp=E,3335μm,0.3s							
BSSO				AML		AML		
	comp=E,1410μm,0.2s							
BSSO				AML		AML		
	comp=E,3330μm,0.3s							
BSSO				AML		AML		
	comp=N,3965μm,0.7s							
BSSO				AML		AML		
	comp=N,1500μm,0.6s							
BSSO				AML		AML		
	comp=N,3970μm,0.7s							
PIGN	**Pignataro Magg**	**0.27**	**232**	P		Pb	19 00 47.0	-0.1
PIGN				S		Sb	19 00 52.0	+0.5
PIGN				AML		AML		
	comp=N,965μm,0.5s							
PIGN				AML		AML		
	comp=E,987μm,0.6s							
PIGN				AML		AML		
	comp=E,1020μm,0.6s							
PIGN				AML		AML		
	comp=N,951μm,0.4s							
PIGN				AML		AML		
	comp=N,966μm,0.5s							
PIGN				AML		AML		
	comp=E,1024μm,0.6s							
PIGN				AML		AML		
	comp=E,986μm,0.6s							
PSB1	**Pescosannita**	**0.30**	**118**	P		Pb	19 00 47.8	+0.3
PSB1				AML		AML		
	comp=E,836μm,1.0s							
PSB1				AML		AML		
	comp=N,1016μm,0.5s							
PSB1				AML		AML		
	comp=E,849μm,1.0s							
PSB1				AML		AML		
	comp=N,1065μm,0.5s							
PSB1				AML		AML		
	comp=N,1014μm,0.5s							
MIDA	**Miranda**	**0.32**	**331**	P		Pb	19 00 47.9	+0.1
MIDA				S		Sb	19 00 53.0	+0.4
MIDA				AML		AML		
	comp=N,671μm,0.4s							
MIDA				AML		AML		
	comp=E,1012μm,0.6s							
PAOL	**Paolisi**	**0.34**	**166**	P		Pb	19 00 48.2	+0.1
PAOL				AML		AML		
	comp=N,622μm,1.1s							
PAOL				AML		AML		
	comp=E,786μm,0.2s							
PAOL				AML		AML		
	comp=N,560μm,1.1s							
PAOL				AML		AML		
	comp=E,787μm,0.2s							
PAOL				AML		AML		
	comp=N,560μm,1.1s							
PAOL				AML		AML		
	comp=N,622μm,1.1s							
PAOL				AML		AML		
	comp=E,750μm,0.2s							
TRIV	**Trivento**	**0.41**	**9**	P		Pb	19 00 49.7	+0.6
TRIV				AML		AML		
	comp=E,650μm,0.5s							
TRIV				AML		AML		
	comp=N,616μm,0.3s							
RNI2	**Rionero Sannit**	**0.41**	**326**	P		Pb	19 00 49.6	+0.4
RNI2				AML		AML		
	comp=E,953μm,0.4s							
RNI2				AML		AML		
	comp=N,516μm,1.5s							
RNI2				AML		AML		
	comp=N,489μm,1.5s							
RNI2				AML		AML		
	comp=E,982μm,0.4s							
RNI2				AML		AML		
	comp=N,517μm,1.5s							
RNI2				AML		AML		
	comp=N,488μm,1.5s							
MODR	**Mondragone**	**0.49**	**244**	P		Pb	19 00 51.1	+0.4
MODR				AML		AML		
	comp=E,1071μm,0.6s							
MODR				AML		AML		
	comp=N,1038μm,0.5s							
MELA	**Melanico ??? S**	**0.60**	**56**	P		Pb	19 00 52.4	-0.3
MELA				AML		AML		
	comp=E,588μm,0.7s							
MELA				AML		AML		
	comp=N,532μm,0.6s							
MELA				AML		AML		
	comp=N,457μm,0.2s							
MELA				AML		AML		
	comp=E,588μm,0.7s							
MELA				AML		AML		
	comp=N,532μm,0.6s							
MELA				AML		AML		
	comp=E,604μm,0.7s							
SG1	**Sgolgore (BA)**	**1.76**	**107**	*e*Pn		Pb	19 01 12.1	-0.1

*IDC **29** 19:02:52.4±2.1, 43.13N×105.02W, h0km, mb4.5/2, mb1 4.4/4, mb1mx3.6/39, mbtmp4.3/4, ML3.7/2, Error ellipse: s-maj=43.8km s-min=8.2km az=158.0*
*ISCJB **29** 19:02:54.9±0.4, 43.68N±0.03×105.21W±0.05, h0km, mb4.6/2, Error ellipse: s-maj=5.2km s-min=4.7km az=36.9*
*NEIC **29** 19:02:56.7±1.5, 43.68N±0.05×105.24W±0.06, h0km±2km, ML3.4/55*

ISC 29 19:02:55.9±0.9, 43.71N±0.06×105.19W±0.06, h0km, n50, σ0.98/50, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**63**			**Pn**	**19 03 15.9**	**-0.7**
K22A	**Casper**	**1.44**	**223**			**Pn**	**19 03 21.0**	**-2.5**
K22A				IAML			19 03 45.4	
	comp=N,882nm,0.3s							
PHWY	**Pilot Hill**	**2.41**	**185**			**Pn**	**19 03 37.0**	**0.0**
RWWY	**Rawlins**	**2.51**	**217**			**Pn**	**19 03 38.9**	**+0.7**
RWWY				IAML			19 04 13.8	
	comp=N,332nm,0.3s							
N23A	**Red Feather La**	**2.87**	**191**			**Pn**	**19 03 43.7**	**+0.6**
N23A				IAML			19 04 25.6	
	comp=N,162nm,0.4s							
N23A				IAML			19 04 26.3	
	comp=E,150nm,0.4s							
LAO	**LASA Array**	**3.07**	**347**			**Pn**	**19 03 45.8**	**+0.1**
LAO				IAML			19 04 35.2	
	comp=E,98nm,0.6s							
LAO				IAML			19 04 45.7	
	comp=E,108nm,0.6s							
RLMT	**Red Lodge**	**3.24**	**297**			**Pn**	**19 03 48.5**	**+0.2**
RLMT				IAML			19 04 40.3	
	comp=E,93nm,0.3s							
PD31	**Pinedale Array**	**3.33**	**255**			**Pn**	**19 03 49.5**	**+0.1**
PDAR	**Pinedale Array**	**3.33**	**255**	Pn		**Pn**	**19 03 49.1**	**-0.3**
	comp=E,5.7nm,0.3s,baz=85,slow=17,SNR=54							
PDAR				Sn		**Sn**	**19 04 32.2**	**+2.5**
	comp=E,58nm,0.3s,baz=88,slow=27,SNR=23							
PDAR				Lg		Lg	19 04 36.8	
	comp=E,57nm,0.3s,baz=76,slow=34,SNR=18							
BW06	**Boulder Array**	**3.33**	**255**			**Pn**	**19 03 49.0**	**-0.5**
BW06				IAML			19 04 38.0	
	comp=N,118nm,0.3s							
BW06				IAML			19 04 39.4	
	comp=E,87nm,0.3s							
OGNE	**Ogallala**	**3.62**	**139**			**Pn**	**19 03 54.8**	**+1.5**
OGNE				IAML			19 04 58.9	
	comp=E,93nm,1.0s							
YNE	**Yellowstone No**	**3.69**	**292**			**Pn**	**19 03 54.4**	**-0.1**
YMP	**Mirror Lake Pl**	**3.71**	**288**			**Pn**	**19 03 55.1**	**+0.3**
LKWY	**Lake**	**3.85**	**285**			**Pn**	**19 03 58.4**	**+1.8**
ISCO	**Idaho Springs**	**3.92**	**185**			**Pn**	**19 03 58.7**	**+1.1**
H17A	**Grant Village**	**3.94**	**282**			**Pn**	**19 03 59.1**	**+1.2**
H17A				IAML			19 05 00.2	
	comp=E,43nm,0.4s							
H17A				IAML			19 05 02.9	
	comp=N,44nm,0.4s							
FLWY	**Flagg Ranch**	**4.00**	**277**			**Pn**	**19 03 59.8**	**+1.2**
FLWY				IAML			19 05 16.0	
	comp=N,36nm,2.0s							
FLWY				IAML			19 05 18.3	
	comp=N,35nm,1.4s							
MOOW	**Moose Ponds**	**4.03**	**272**			**Pn**	**19 03 59.6**	**+0.5**
SNOW	**Snow King Moun**	**4.05**	**268**			**Pn**	**19 03 59.3**	**-0.1**
SNOW				IAML			19 05 20.5	
	comp=N,44nm,1.2s							
SNOW				IAML			19 05 26.5	
	comp=N,37nm,1.1s							
REDW	**Red Top Meadow**	**4.13**	**267**			**Pn**	**19 04 00.8**	**+0.3**
REDW				IAML			19 05 06.0	
	comp=N,44nm,0.5s							
REDW				IAML			19 05 16.5	
	comp=N,61nm,1.9s							
IMW	**Indian Meadow**	**4.17**	**275**			**Pn**	**19 04 01.8**	**+0.8**
IMW				IAML			19 05 11.0	
	comp=N,36nm,0.5s							
IMW				IAML			19 05 13.3	
	comp=N,40nm,0.6s							
TPAW	**Teton Pass**	**4.19**	**269**			**Pn**	**19 04 02.4**	**+1.1**
TPAW				IAML			19 05 16.4	
	comp=N,52nm,0.6s							
FXWY	**Fox Creek**	**4.23**	**271**			**Pn**	**19 04 02.4**	**+0.5**
O20A	**White River Ci**	**4.23**	**214**			**Pn**	**19 04 01.9**	**+0.1**
O20A				IAML			19 05 08.1	
	comp=E,54nm,0.3s							
O20A				IAML			19 05 14.7	
	comp=N,45nm,1.6s							
YHL	**Hebgen Lake**	**4.45**	**287**			**Pn**	**19 04 05.1**	**+0.1**
RDMU	**Red Mountain**	**4.52**	**228**			**Pn**	**19 04 06.4**	**+0.6**
QLMT	**Earthquake Lak**	**4.62**	**286**			**Pn**	**19 04 07.7**	**+0.5**
DGMT	**Dagmar**	**4.81**	**9**			**Pn**	**19 04 11.8**	**+2.1**
KSCO	**Kaye Shedlock'**	**5.07**	**157**			**Pn**	**19 04 13.9**	**+0.5**
TCUT	**Toone Canyon**	**5.28**	**243**			**Pn**	**19 04 16.8**	**+0.5**
EGMT	**Eagleton**	**5.36**	**325**			**Pn**	**19 04 18.3**	**+1.0**
JLU	**Jordanelle**	**5.59**	**238**			**Pn**	**19 04 19.6**	**-1.0**

SPUT	South Promonto	5.88	248			Pn		19 04 25.0 +0.6
P17A	Butcher Ranch,	5.93	226			Pn		19 04 24.7 -0.5
MPU	Maple Canyon	6.06	235			Pn		19 04 26.4 -0.6
SRU	San Rafael Swe	6.09	223			Pn		19 04 26.4 -1.0
ECSD	EROS Data Cent	6.22	87			Pn		19 04 30.5 +1.5
TMUT	Trail Mountain	6.31	228			Pn		19 04 30.3 -0.2
Q16A	Castle Valley	6.57	225			Pn		19 04 32.7 -1.2
DUG	Dugway, Tooele	6.68	241			Pn		19 04 34.4 -1.0
JTMT	Jette	7.53	306		Pn	Pn		19 04 47.7 +0.6
MTPU	Mount Pierson	7.75	225			Pn		19 04 50.0 -0.4
PSUT	Pine Spring	8.33	235			Pn		19 04 57.9 -0.3
I10CA	LAC DU BONNET	9.02	41	*i*				20 00 00.0
	baz=216,slow=319,SNR=2.8							
ULM	Lac du Bonnet	9.13	41	Pn		Pn		19 05 08.6 -0.2
	comp=N,1.9nm,0.3s,baz=233,slow=12,SNR=16							
ULM				Lg		Lg		19 07 42.1
	comp=N,0.4nm,0.3s,baz=139,slow=20,SNR=2.5							
WUAZ	Wupatki	9.47	212			Pn		19 05 13.9 +0.2
FFC	Flin Flon	11.22	10			Pn		19 05 35.9 -1.6
YKA	Yellowknife Ar	19.61	347	P		Pn		19 07 27.5 +0.7
	comp=N,0.2nm,0.5s,baz=160,slow=12,SNR=7.0							
ARCES	ARCESS Array B	61.43	18	P		P		19 13 12.6 -0.9
	comp=N,6.3nm,1.1s,baz=330,slow=5.9,SNR=5.5							
FINES	FINESS Array B	68.04	23	P		P		19 13 55.9 -0.8
	comp=N,4.1nm,1.0s,baz=4.8,slow=2.3,SNR=3.4							

*NEIC **29** 19:19:51.0±2.6, 24°.34S±0°.09×178°.9W±0°.1, h333km±6km, mb4.2/18*
*ISCJB **29** 19:19:54.5±0.5, 24°.39S±0°.04×178°.79W±0°.08, h400km, mb3.6/10, Error ellipse: s-maj=10.6km s-min=4.7km az=169.3*
*IDC **29** 19:19:56.4±1.9, 24°.44S×179°.07W, h383km±20km, mb3.4/11, mb1 3.6/11, mb1mx3.3/42, mbtmp4.2/11, Error ellipse: s-maj=20.4km s-min=13.9km az=161.0*

ISC 29 19:19:55.1±0.6, **24°.39S**±0°.06×**178°.66W**±0°.09, **h400**km, **n100**, σ1§**53**/97, **mb4.0**/18, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RIZ	Raoul Island	4.88	173	P		Pn	19 21 16.5	+0.7
RAO	Raoul Island	4.89	172	P		Pn	19 21 16.9	+1.1
	309nm,0.3s,baz=87,slow=4.3,SNR=17							
RAO				S		S	19 22 10.4	-11
	35nm,0.3s,baz=307,slow=20,SNR=1.9							
GLKZ	Green Lake	4.90	172	P		Pn	19 21 16.5	+0.6
AFI	Afiamalu	12.28	33	P		P	19 22 36.3	-1.8
	8.0nm,0.3s,baz=64,slow=1.7,SNR=8.9							
AFI				S		S	19 24 41.5	-11
	7.3nm,0.3s,baz=208,slow=22,SNR=10.0							
OUZ	Omahuta	12.71	210	P		Pn	19 22 45.5	+1.1
GRZ	Great Barrier	12.86	202	P		Pn	19 22 47.3	+1.3
WCZ	Waipu Caves	13.00	206	P		Pn	19 22 49.1	+1.5
KUZ	Kuaotunu	13.23	204	P		Pn	19 22 51.1	+0.8
MXZ	Matakaoa Point	13.38	190	P		Pn	19 22 52.1	-0.1
MXZ				S		S	19 25 12.6	-1.7
WIAZ	Waiheke Island	13.46	202	P		Pn	19 22 53.8	+0.7
WMGZ	Waiomatatini S	13.62	190	P		Pn	19 22 52.9	-1.9
WMGZ				S		S	19 25 18.7	-0.3
HAZ	Te Kaha	13.67	192	P		Pn	19 22 52.6	-2.7
HAZ				S		S	19 25 19.7	-0.3
ETAZ	East Tamaki Re	13.68	202	P		Pn	19 22 57.2	+1.6
MKAZ	Moumakai	13.74	201	P		Pn	19 22 57.0	+0.8
PKGZ	Pakihiroa	13.74	191	P		P	19 22 53.0	-0.8
WTAZ	Waiatarua	13.79	203	P		Pn	19 22 57.4	+0.6
RUGZ	Raukumara Rang	13.89	192	P		Pn	19 22 56.8	-1.3
RUGZ				S		S	19 25 21.9	-2.9
PUZ	Puketiti	13.89	190	P		Pn	19 22 54.9	-3.1
PUZ				S		S	19 25 24.2	-0.4
DZM	Mont Dzumac	13.89	277	P		Pn	19 22 59.0	+0.7
	1.2nm,0.3s,baz=76,slow=18,SNR=17							
DZM	Mont Dzumac	13.89	277	P		Pn	19 22 59.1	+0.8
OPRZ	Ohinepanea	14.02	196	P		P	19 22 59.9	+3.1
TWGZ	Tauwhareparae	14.04	191	P		P	19 22 55.9	-1.1
MARZ	Manawahe	14.13	195	P		P	19 23 01.3	+3.4
KMRZ	Kaimai	14.18	198	P		P	19 23 02.5	+3.9
TOZ	Tahuroa Road	14.20	199	P		P	19 23 02.0	+3.2
EDRZ	Edgecumbe	14.23	195	P		P	19 23 00.5	+1.4
KARZ	Kaharoa	14.27	197	P		P	19 23 03.4	+3.9
MWZ	Matawai	14.28	192	P		P	19 22 59.1	-0.5
MWZ				S		S	19 25 30.7	-1.6
URZ	Urewera	14.29	194	P		P	19 23 00.0	+0.4
	30nm,0.3s,baz=255,slow=3.3,SNR=89							
URZ				S		S	19 25 34.3	+1.8
	6.5nm,0.3s,baz=271,slow=23,SNR=14							
URZ	Urewera	14.29	194	P		P	19 22 59.3	-0.3
URZ				S		S	19 25 31.1	-1.3
URZ	Urewera	14.29	194	P		P	19 22 59.6	-0.1
URZ				S		S	19 25 36.4	+4.0
OMRZ	Omania	14.31	196	P		P	19 23 04.6	+4.6
TKGZ	Te Karaka	14.32	191	P		P	19 22 59.3	-0.6
TKGZ				S		S	19 25 30.8	-2.2
TARZ	Mount Tarawera	14.40	195	P		P	19 23 04.8	+3.8
RAGZ	Rawiri	14.45	192	P		P	19 23 02.2	+0.7
RRRZ	Republican Roa	14.50	195	P		P	19 23 05.4	+3.4
HSRZ	Hossack Road	14.54	196	P		P	19 23 07.1	+4.6
RIGZ	Rimuhau	14.59	191	P		P	19 23 02.3	-0.7
RIGZ				S		S	19 25 35.3	-3.3
HRRZ	Handcock Road	14.61	196	P		P	19 23 06.8	+3.6
GRRZ	Galatos Road	14.61	197	P		P	19 23 07.3	+4.1
RTZ	Ruatahuna	14.66	194	P		P	19 23 04.6	+0.9
SNGZ	Shannon Statio	14.74	192	P		P	19 23 05.0	+0.3
TLZ	Tolley Road	14.75	198	P		P	19 23 07.9	+3.2
ALRZ	Allen Road	14.75	196	P		P	19 23 06.6	+1.8
KNZ	Kokohu	14.92	191	P		P	19 23 05.8	-0.6
KNZ				S		S	19 25 40.9	-4.0
RAHZ	Arahi	14.93	193	P		P	19 23 06.3	-0.3
MRHZ	Matea Rd	14.99	195	P		P	19 23 09.1	+1.7
MHGZ	Mahia Peninsul	15.00	190	P		P	19 23 09.2	+1.7
WHHZ	Waihua	15.05	192	P		P	19 23 09.2	+1.3
RATZ	Rangitukua	15.19	197	P		P	19 23 11.7	+2.3
RITZ	Rihia Road	15.27	196	P		P	19 23 10.8	+0.5
ARHZ	Aropaoanui	15.28	193	P		P	19 23 11.2	+0.8
WTVZ	West Tongariro	15.47	197	P		P	19 23 13.7	+1.1
MCHZ	McNeill Hill	15.52	194	P		P	19 23 13.2	+0.3
NGZ	Ngauruhoe	15.52	197	P		P	19 23 14.4	+1.2
KWHZ	Kaweka Forest	15.56	194	P		P	19 23 14.0	+0.5
CKHZ	Cape Kidnapper	15.64	192	P		P	19 23 15.9	+1.6
MOVZ	Moawhango	15.70	196	P		P	19 23 16.0	+1.0
KAHZ	Kahuranaki	15.81	193	P		P	19 23 16.5	+0.3
PXZ	Pawanui	16.05	193	P		P	19 23 18.3	-0.4
PNHZ	Pukenui	16.07	194	P		P	19 23 19.7	+0.7
PRHZ	Porangahau	16.32	193	P		P	19 23 21.9	+0.4
TUWZ	Tuamarina	18.08	198	P		P	19 23 38.9	-1.4
TUWZ						S	19 26 48.6	+2.2
THZ	Tophouse	18.69	200			S	19 26 59.2	+1.7
OXZ	Oxford	20.38	200	P		P	19 24 04.1	+1.3
OXZ				IAmb		IAmb	19 24 04.2	
	comp=Z,16nm,0.8s							
RPZ	Rata Peaks	21.05	201	P		P	19 24 09.4	+0.5
	comp=Z,9.0nm,0.5s,baz=176,slow=1.9,SNR=8.2							
ARMA	Armidale	27.01	251	P		P	19 25 01.4	-1.3
ARMA				IAmb		IAmb	19 25 15.0	
	comp=Z,19nm,1.4s							
EIDS	Eidsvold	27.45	262	P		P	19 25 06.9	+0.4
EIDS				IAmb		IAmb	19 25 15.8	
	comp=Z,28nm,1.5s							
CTA	Charters Tower	32.71	270	P		P	19 25 52.2	-0.2
	comp=Z,1.9nm,0.4s,baz=93,slow=9.9,SNR=10.0							
STKA	Stephens Creek	35.69	249	P		P	19 26 15.4	-2.1
	comp=Z,1.1nm,0.6s,baz=34,slow=2.6,SNR=4.7							
PMG	Port Moresby	35.81	289	P		P	19 26 17.7	-1.1
	comp=Z,5.9nm,0.7s,baz=85,slow=5.6,SNR=4.2							
PMG	Port Moresby	35.81	289	IAmb		IAmb	19 26 20.6	
	comp=Z,6.6nm,0.7s							
COEN	Coen	37.40	279	P		P	19 26 31.6	-0.5
TAOE	Nuku Hiva Isla	39.83	74	P		P	19 26 53.9	+1.8
BBOO	Buckleboo	40.39	247	P		P	19 26 55.9	-0.3
BBOO				IAmb		IAmb	19 26 58.7	
	comp=Z,17nm,1.4s							
AS31	Alice Springs	43.17	261	P		P	19 27 17.5	-1.2
ASAR	Alice Springs	43.17	261	P		P	19 27 18.8	+0.1
	comp=Z,0.8nm,0.4s,baz=91,slow=6.2,SNR=28							
ASAR				pP		pP	19 28 33.0	-2.2
	comp=Z,0.4nm,0.8s,baz=88,slow=7.5,SNR=3.9							
ASAR				S		S	19 33 13.5	-1.5
	comp=Z,0.3nm,0.8s,baz=103,slow=16,SNR=4.1							
WR0	Warramunga Arr	43.41	266	P		P	19 27 18.7	-1.9
WRA	Warramunga Arr	43.60	266	P		P	19 27 21.2	-0.8
	comp=Z,1.4nm,0.7s,baz=104,slow=8.2,SNR=10							
WRA				ScP		ScP	19 32 22.9	+8.8
	comp=Z,0.8nm,1.0s,baz=104,slow=4.5,SNR=6.3							
FORT	Forrest	47.29	250	P		P	19 27 50.4	-0.1
FORT				IAmb		IAmb	19 28 07.4	
	comp=Z,17nm,0.9s							
KNRA	Kununurra	49.91	270	P		P	19 28 10.7	+0.4
KNRA				IAmb		IAmb	19 28 20.0	
	comp=Z,24nm,1.4s							
FITZ	Fitzroy Crossi	52.02	266	P		P	19 28 26.9	+1.1
	comp=Z,2.4nm,1.0s,baz=135,slow=7.1,SNR=3.6							
FITZ	Fitzroy Crossi	52.02	266	IAmb		IAmb	19 28 38.3	
	comp=Z,16nm,1.4s							
CASY	Casey	60.21	206	P		P	19 29 23.3	+1.1
CASY				IAmb		IAmb	19 29 30.5	
	comp=Z,8.8nm,1.3s							
QSPA	South Pole Qui	65.70	180	P		P	19 30 03.0	+4.9
QSPA				IAmb		IAmb	19 30 03.7	
	comp=Z,3.2nm,0.8s							
MAJO	Matsushiro	73.00	325	P		P	19 30 41.6	-0.9
MJB9	Matsu-Tunnel	73.00	325	P		P	19 30 41.8	-0.7
PETK	Petropavlovsk-	79.87	346	P		P	19 31 21.3	+1.2
	comp=Z,8.4nm,0.9s,baz=144,slow=5.4,SNR=3.9							
NVAR	Mina Array Bea	84.26	43	P		P	19 31 47.6	+4.3
	comp=Z,0.6nm,0.8s,baz=219,slow=8.5,SNR=3.9							
TXAR	Lajitas Array	89.65	58	P		P	19 32 13.3	+4.2
	comp=Z,1.3nm,0.8s,baz=205,slow=5.5,SNR=10							
ILAR	Eielson Array	92.22	13	P		P	19 32 24.6	+4.5
	comp=Z,0.5nm,0.7s,baz=216,slow=5.9,SNR=5.4							
NNA	Nana	95.62	106			pP	19 33 59.7	-9.3
FINES	FINESS Array B	139.29	342	PKP		PKiKP	19 38 39.0	+1.9
	comp=Z,6nm,1.0s,baz=109,slow=3.7,SNR=5.4							
NB2	NORSAR Subarra1	142.74	352	PKP		PKiKP	19 38 42.0	-2.3
	comp=Z,0.5nm,0.5s,baz=21,slow=3.7							
NOA	NORSAR Array B	142.74	352	PKP		PKiKP	19 38 41.8	-2.5
	comp=Z,0.8nm,0.7s,baz=30,slow=4.4,SNR=6.1							
AKASG	Malin Array Be	146.04	328	PKPbc		PKiKP	19 38 51.0	-0.3
	comp=Z,1.9nm,0.5s,baz=42,slow=4.4,SNR=20							
AKBB	Malin Array Si	146.04	328			PKiKP	19 38 51.8	+0.5
BR131	Keskin Array S	148.85	307			PKPab	19 39 05.1	+3.1
BRTR	Keskin Array B	148.85	307	PKPbc		PKPab	19 38 59.6	-2.4
	comp=Z,0.4nm,0.6s,baz=145,slow=5.8,SNR=3.3							
BRTR				PKPab		PKiKP	19 39 04.8	+7.2
	comp=Z,1.4nm,0.6s,baz=88,slow=3.5,SNR=8.4							
TORD	Torodi Ar. Bea	168.81	182	PKP		PKPdf	19 39 17.2	+1.6
	comp=Z,0.7nm,0.8s,baz=288,slow=1.4,SNR=3.0							
TORD				PKPab		PKPab	19 40 31.4	+2.9
	comp=Z,0.6nm,0.6s,baz=178,slow=4.3,SNR=4.0							

*ISCJB **29** 19:22:11.9±0.3, 45°.65N±0°.02×26°.47E±0°.03, h147km±2km, mb3.0/3, Error ellipse: s-maj=3.2km s-min=2.9km az=26.6*
*SIGU **29** 19:22:11.8±0.2, 45°.7N±0°.9×26°.4E±0°.9, h150km±1km, mb2.8/3*
*NEIC **29** 19:22:12.2±0.8, 45°.67N±0°.04×26°.39E±0°.06, h151km±1km*
*IDC **29** 19:22:12.3±0.8, 45°.77N×26°.43E, h136km±7km, mb2.8/3, mb1 2.6/5, mb1mx2.6/47, mbtmp3.2/5, MS3.2/1, Ms1 3.2/1, ms1mx2.1/21, Error ellipse: s-maj=32.0km s-min=13.2km az=119.0*
*BUC **29** 19:22:12.5±0.3, 45°.64N×26°.46E, h145km±2km, ml3.9/48, Error ellipse: s-maj=2.1km s-min=1.7km az=137.0*

ISC 29 19:22:12.4±0.8, **45°.67N**±0°.02×**26°.44E**±0°.02, **h153**km±4km, **n223**, σ1§**08**/337, **mb3.2**/3, **126C-68D, Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BISRR	Bisoca	0.23	121	⇓P		Pn	19 22 32.8	-0.3
BISRR				⇓S		Sn	19 22 48.8	-0.1
BISRR	Bisoca	0.23	121	⇓P		Pn	19 22 32.8	-0.3
BISRR				⇓S		Sn	19 22 48.8	-0.1
BISRR				AML		AML	19 22 57.1	
BISRR	Bisoca	0.23	121			Pn	19 22 32.8	-0.3
BISRR						Sn	19 22 48.8	-0.1
PLOR	Plostina	0.24	39	⇓P		Pn	19 22 32.4	-0.7
PLOR				⇓S		Sn	19 22 48.3	-0.7
PLOR	Plostina	0.24	39	⇓P		Pn	19 22 32.4	-0.7
PLOR				⇓S		Sn	19 22 48.3	-0.7
PLOR				AML		AML	19 22 48.6	
PLOR	Plostina	0.24	39			Pn	19 22 32.4	-0.7
PLOR						Sn	19 22 48.3	-0.7
VRI	Vrincioaia	0.29	45	⇑P		Pn	19 22 32.6	-0.6
VRI				⇑S		Sn	19 22 47.9	-1.3
VRI	Vrincioaia	0.29	45	⇑P		Pn	19 22 32.6	-0.6
VRI				⇑S		Sn	19 22 47.9	-1.3
VRI				AML		AML	19 22 50.4	
VRI	Vrincioaia	0.29	45			Pn	19 22 32.6	-0.6
VRI						Sn	19 22 47.9	-1.3
MLR	Muntele Rosu	0.39	243	⇑P		Pn	19 22 33.3	-0.5
MLR				⇑S		Sn	19 22 49.0	-0.9
MLR	Muntele Rosu	0.39	243	P		Pn	19 22 33.2	-0.5
	38nm,0.3s,baz=9.5,slow=3.4,SNR=1163							
MLR				S		Sn	19 22 48.1	-1.8
	26nm,0.3s,baz=321,slow=5.5,SNR=9.8							
MLR	Muntele Rosu	0.39	243	⇑P		Pn	19 22 33.3	-0.5
MLR				⇑S		Sn	19 22 49.0	-0.9
MLR				AML		AML	19 22 50.0	
MLR	Muntele Rosu	0.39	243			Pn	19 22 33.3	-0.5
MLR						Sn	19 22 49.0	-0.9
ODBI	Odobesti	0.45	77	⇑P		Pn	19 22 34.0	+0.3
ODBI				⇓S		Sn	19 22 50.5	+0.5
ODBI	Odobesti	0.45	77	⇑P		Pn	19 22 34.0	+0.3
ODBI				⇓S		Sn	19 22 50.5	+0.5
ODBI				AML		AML	19 22 51.4	
ODBI	Odobesti	0.45	77			Pn	19 22 34.0	+0.3
ODBI						Sn	19 22 50.5	+0.5
ISR	Istrita	0.55	172	⇑P		Pn	19 22 34.1	-0.3
ISR				⇓S		Sn	19 22 50.2	-1.0
ISR	Istrita	0.55	172	⇑P		Pn	19 22 34.1	-0.3
ISR				⇓S		Sn	19 22 50.2	-1.0
ISR				AML		AML	19 22 52.5	
ISR	Istrita	0.55	172			Pn	19 22 34.1	-0.3
ISR						Sn	19 22 50.1	-1.0
PETR	Petresti	0.56	84	⇑P		Pn	19 22 34.3	0.0
PETR				⇑S		Sn	19 22 50.9	-0.1
PETR	Petresti	0.56	84	⇑P		Pn	19 22 34.3	0.0
PETR				⇑S		Sn	19 22 50.9	-0.1
PETR				AML		AML	19 22 51.6	
PETR	Petresti	0.56	84			Pn	19 22 34.3	0.0
PETR						Sn	19 22 50.9	-0.1
OZUR		0.62	314	⇓P		Pn	19 22 34.0	-0.7
OZUR				⇑S		Sn	19 22 49.6	-2.3
OZUR		0.62	314	⇓P		Pn	19 22 34.0	-0.7
OZUR				⇑S		Sn	19 22 49.6	-2.3
OZUR				AML		AML	19 22 50.1	
OZUR		0.62	314			Pn	19 22 34.0	-0.7
OZUR						Sn	19 22 49.6	-2.3
SECR		0.68	202	⇑P		Pn	19 22 35.0	-0.1
SECR				⇓S		Sn	19 22 52.0	-0.4
SECR		0.68	202	⇑P		Pn	19 22 35.0	-0.1
SECR				⇓S		Sn	19 22 52.0	-0.4
SECR		0.68	202			Pn	19 22 35.0	-0.1
SECR						Sn	19 22 52.0	-0.4
GHRR		0.79	59	⇑P		Pn	19 22 35.6	-0.1
GHRR				⇑S		Sn	19 22 53.0	-0.5
GHRR		0.79	59	⇑P		Pn	19 22 35.6	-0.1
GHRR				⇑S		Sn	19 22 53.0	-0.5
GHRR				AML		AML	19 22 53.7	
GHRR		0.79	59			Pn	19 22 35.6	-0.1
GHRR						Sn	19 22 53.0	-0.5
DOPR	Dopca	0.79	293	⇓P		Pn	19 22 35.4	-0.4
DOPR				⇑S		Sn	19 22 52.6	-1.1
DOPR	Dopca	0.79	293	⇓P		Pn	19 22 35.4	-0.4
DOPR				⇑S		Sn	19 22 52.6	-1.1
DOPR				AML		AML	19 22 53.4	
DOPR	Dopca	0.79	293			Pn	19 22 35.4	-0.4
DOPR						Sn	19 22 52.6	-1.1
PLAR	PLOIESTI	0.80	201	⇑P		Pn	19 22 35.8	0.0
PLAR				⇑S		Sn	19 22 53.7	-0.1
PLAR	PLOIESTI	0.80	201	⇑P		Pn	19 22 35.8	0.0
PLAR				⇑S		Sn	19 22 53.7	-0.1
PLAR				AML		AML	19 22 53.8	
PLAR	PLOIESTI	0.80	201			Pn	19 22 35.8	0.0
PLAR						Sn	19 22 53.7	-0.1
PGOR	Pogoanele	0.85	153	⇑P		Pn	19 22 35.9	-0.3
PGOR				⇓S		Sn	19 22 53.9	-0.5
PGOR	Pogoanele	0.85	153	⇑P		Pn	19 22 35.9	-0.3
PGOR				⇓S		Sn	19 22 53.9	-0.5
PGOR				AML		AML	19 22 55.1	
PGOR	Pogoanele	0.85	153			Pn	19 22 35.9	-0.3
PGOR						Sn	19 22 53.9	-0.5
TESR	Tescani	0.86	10	⇑P		Pn	19 22 35.7	-0.6
TESR				⇑S		Sn	19 22 52.6	-2.1
TESR	Tescani	0.86	10	⇑P		Pn	19 22 35.7	-0.6
TESR				⇑S		Sn	19 22 52.6	-2.1
TESR				AML		AML	19 22 53.4	
TESR	Tescani	0.86	10			Pn	19 22 35.7	-0.6
TESR						Sn	19 22 52.6	-2.1
TUDR		0.87	94	⇑P		Pn	19 22 35.6	-0.7
TUDR				⇑S		Sn	19 22 53.3	-1.2
TUDR		0.87	94	⇑P		Pn	19 22 35.6	-0.7
TUDR				⇑S		Sn	19 22 53.3	-1.2
TUDR				AML		AML	19 22 53.8	
TUDR		0.87	94			Pn	19 22 35.6	-0.7
TUDR						Sn	19 22 53.3	-1.2
IZVR	Izvoarele	0.94	97	⇑P		Pn	19 22 36.2	-0.7
IZVR	Izvoarele	0.94	97	⇑P		Pn	19 22 36.2	-0.7
IZVR				AML		AML	19 22 54.7	
SULR		0.99	187	⇑P		Pn	19 22 37.1	-0.2
SULR				⇑S		Sn	19 22 55.6	-0.7
SULR		0.99	187	⇑P		Pn	19 22 37.1	-0.2
SULR				⇑S		Sn	19 22 55.6	-0.7
SULR				AML		AML	19 22 56.1	
SULR		0.99	187			Pn	19 22 37.1	-0.2
SULR						Sn	19 22 55.6	-0.7
VOIR		1.00	257	⇓P		Pn	19 22 36.7	-0.8
VOIR				⇑S		Sn	19 22 54.5	-2.1
VOIR		1.00	257	⇓P		Pn	19 22 36.7	-0.8
VOIR				⇑S		Sn	19 22 54.5	-2.1
VOIR				AML		AML	19 22 56.7	
VOIR		1.00	257			Pn	19 22 36.7	-0.8
VOIR						Sn	19 22 54.5	-2.1
BRAG	Branistea	1.01	102	⇑P		Pn	19 22 36.7	-0.7
BRAG	Branistea	1.01	102	⇑P		Pn	19 22 36.7	-0.7
BRAG				AML		AML	19 22 55.7	
BIR	Birlad	1.03	54	⇑P		Pn	19 22 37.4	-0.2
BIR				⇓S		Sn	19 22 55.5	-1.3
BIR	Birlad	1.03	54	⇑P		Pn	19 22 37.4	-0.2
BIR				⇓S		Sn	19 22 55.5	-1.3
BIR				AML		AML	19 22 56.4	
BIR	Birlad	1.03	54			Pn	19 22 37.4	-0.2
BIR						Sn	19 22 55.5	-1.3
MTUR	Matau	1.06	246	⇓P		Pn	19 22 37.8	-0.2
MTUR	Matau	1.06	246	⇓P		Pn	19 22 37.8	-0.2
MTUR	Matau	1.06	246			Pn	19 22 37.8	-0.2
GISR	Galati	1.16	101	⇓P		Pn	19 22 38.5	-0.2
GISR	Galati	1.16	101	⇓P		Pn	19 22 38.5	-0.2
GISR				AML		AML	19 22 58.0	
GISR	Galati	1.16	101			Pn	19 22 38.5	-0.2
LEHL	Lehliu	1.22	167	⇑P		Pn	19 22 39.2	-0.2
LEHL	Lehliu	1.22	167	⇑P		Pn	19 22 39.2	-0.2
LEHL				AML		AML	19 23 00.1	
LEHL	Lehliu	1.22	167			Pn	19 22 39.2	-0.2
INCR	INCERC-Sediu C	1.24	189	⇓S		Sn	19 22 58.8	-1.4
INCR	INCERC-Sediu C	1.24	189	⇓S		Sn	19 22 58.8	-1.4
INCR				AML		AML	19 22 59.0	
INCR	INCERC-Sediu C	1.24	189			Sn	19 22 58.8	-1.4
GIUM	Giurgiulesti	1.26	98	P		Pn	19 22 39.5	-0.1
GIUM				S		Sn	19 22 59.4	-1.1
GIUM	Giurgiulesti	1.26	98	⇓P		Pn	19 22 39.5	-0.1
GIUM				⇑S		Sn	19 22 59.5	-1.1
GIUM	Giurgiulesti	1.26	98	⇓P		Pn	19 22 39.5	-0.1
GIUM				⇑S		Sn	19 22 59.5	-1.1
GIUM	Giurgiulesti	1.26	98			Pn	19 22 39.5	-0.1
GIUM						Sn	19 22 59.5	-1.1
GIRR	Girov	1.29	2	⇓P		Pn	19 22 40.0	0.0
GIRR	Girov	1.29	2	⇓P		Pn	19 22 40.0	0.0
GIRR	Girov	1.29	2			Pn	19 22 40.0	0.0
BIZ	Bicaz	1.29	350	⇑P		Pn	19 22 40.8	+0.8
BIZ	Bicaz	1.29	350	⇑P		Pn	19 22 40.8	+0.8
BIZ	Bicaz	1.29	350			Pn	19 22 40.8	+0.8
ARR	Arges	1.30	257	⇓P		Pn	19 22 40.1	-0.1
ARR	Arges	1.30	257	⇓P		Pn	19 22 40.1	-0.1
ARR				AML		AML	19 23 02.6	
ARR	Arges	1.30	257			Pn

MFTR	**Murfatlar**	**2.05**	**136**	⇓P		**Pn**	**19 22 47.8**	**-0.4**
MFTR				⇑S		**Sn**	**19 23 13.4**	**-2.4**
MFTR				AML		AML	19 23 14.0	
MFTR	**Murfatlar**	**2.05**	**136**			**Pn**	**19 22 47.8**	**-0.4**
MFTR						**Sn**	**19 23 13.4**	**-2.4**
MILM	**Milestii Mici**	**2.07**	**52**	P		**Pn**	**19 22 48.2**	**-0.1**
MILM	**Milestii Mici**	**2.07**	**52**	⇑P		**Pn**	**19 22 48.3**	**-0.1**
MILM	**Milestii Mici**	**2.07**	**52**	⇑P		**Pn**	**19 22 48.3**	**-0.1**
MILM				AML		AML	19 23 14.7	
MILM	**Milestii Mici**	**2.07**	**52**			**Pn**	**19 22 48.3**	**-0.1**
RAZG	**Razgrad**	**2.10**	**179**	⇑P		**Pn**	**19 22 48.8**	**0.0**
RAZG				⇓S		**Sn**	**19 23 14.8**	**-2.0**
RAZG	**Razgrad**	**2.10**	**179**	⇑P		**Pn**	**19 22 48.8**	**0.0**
RAZG				⇓S		**Sn**	**19 23 14.8**	**-2.0**
RAZG				AML		AML	19 23 16.9	
RAZG	**Razgrad**	**2.10**	**179**			**Pn**	**19 22 48.8**	**0.0**
RAZG						**Sn**	**19 23 14.8**	**-2.0**
KIS	**Kishinev**	**2.12**	**50**	P		**Pn**	**19 22 49.0**	**+0.1**
KIS				S		**Sn**	**19 23 15.4**	**-1.8**
KIS	**Kishinev**	**2.12**	**50**	⇓P		**Pn**	**19 22 49.1**	**+0.1**
KIS				⇓S		**Sn**	**19 23 15.5**	**-1.8**
KIS	**Kishinev**	**2.12**	**50**	⇓P		**Pn**	**19 22 49.1**	**+0.1**
KIS				⇓S		**Sn**	**19 23 15.5**	**-1.8**
KIS	**Kishinev**	**2.12**	**50**			**Pn**	**19 22 49.1**	**+0.1**
KIS						**Sn**	**19 23 15.4**	**-1.8**
BURAR	**Bucovina Array**	**2.12**	**337**	⇓P		**Pn**	**19 22 50.4**	**+1.3**
BURAR	**Bucovina Array**	**2.12**	**337**	⇓P		**Pn**	**19 22 50.4**	**+1.3**
BURAR	**Bucovina Array**	**2.12**	**337**			**Pn**	**19 22 50.4**	**+1.3**
ZIMR		**2.15**	**201**	⇑P		**Pn**	**19 22 48.9**	**-0.5**
ZIMR				⇑S		**Sn**	**19 23 15.5**	**-2.3**
ZIMR		**2.15**	**201**	⇑P		**Pn**	**19 22 48.9**	**-0.5**
ZIMR				⇑S		**Sn**	**19 23 15.5**	**-2.3**
ZIMR				AML		AML	19 23 27.2	
ZIMR		**2.15**	**201**			**Pn**	**19 22 48.9**	**-0.5**
ZIMR						**Sn**	**19 23 15.5**	**-2.3**
BUR08	**Bucovina Ar. S**	**2.15**	**337**			**Pn**	**19 22 50.7**	**+1.2**
VLAD	**Vladila**	**2.21**	**222**	⇑P		**Pn**	**19 22 49.4**	**-0.7**
VLAD	**Vladila**	**2.21**	**222**	⇑P		**Pn**	**19 22 49.4**	**-0.7**
VLAD				AML		AML	19 22 50.7	
VLAD	**Vladila**	**2.21**	**222**			**Pn**	**19 22 49.4**	**-0.7**
EFOR	**EFORIE**	**2.23**	**135**	⇑P		**Pn**	**19 22 50.1**	**-0.1**
EFOR				⇓S		**Sn**	**19 23 17.8**	**-1.7**
EFOR	**EFORIE**	**2.23**	**135**	⇑P		**Pn**	**19 22 50.1**	**-0.1**
EFOR				⇓S		**Sn**	**19 23 17.8**	**-1.7**
EFOR				AML		AML	19 23 19.6	
EFOR	**EFORIE**	**2.23**	**135**			**Pn**	**19 22 50.1**	**-0.1**
EFOR						**Sn**	**19 23 17.8**	**-1.7**
CJR	**Cluj-Napoca**	**2.23**	**299**	⇑P		**Pn**	**19 22 50.6**	**+0.2**
CJR	**Cluj-Napoca**	**2.23**	**299**	⇑P		**Pn**	**19 22 50.6**	**+0.2**
CJR				AML		AML	19 23 38.9	
CJR	**Cluj-Napoca**	**2.23**	**299**			**Pn**	**19 22 50.6**	**+0.2**
PSN	**Preselentsi**	**2.34**	**147**	*i* P		**Pn**	**19 22 51.6**	**-0.1**
MANR	**Mangalia**	**2.40**	**140**	⇓P		**Pn**	**19 22 52.1**	**-0.3**
MANR	**Mangalia**	**2.40**	**140**	⇓P		**Pn**	**19 22 52.1**	**-0.3**
MANR				AML		AML	19 23 22.5	
MANR	**Mangalia**	**2.40**	**140**			**Pn**	**19 22 52.1**	**-0.3**
SZH	**Strazhica**	**2.42**	**189**	*i* P		**Pn**	**19 22 52.0**	**-0.7**
SRE	**Strehaia**	**2.50**	**247**	⇑P		**Pn**	**19 22 53.3**	**-0.2**
SRE				⇓S		**Sn**	**19 23 24.4**	**-0.8**
SRE	**Strehaia**	**2.50**	**247**	⇑P		**Pn**	**19 22 53.3**	**-0.2**
SRE				⇓S		**Sn**	**19 23 24.4**	**-0.8**
SRE				AML		AML	19 23 25.3	
SRE	**Strehaia**	**2.50**	**247**			**Pn**	**19 22 53.3**	**-0.2**
SRE						**Sn**	**19 23 24.4**	**-0.8**
PRD	**Provadia**	**2.56**	**164**	*i* P		**Pn**	**19 22 54.5**	**+0.2**
PVL	**Pavlikeni**	**2.57**	**198**	*e*P		**Pn**	**19 22 55.4**	**+0.9**
GZR	**Gura Zlata**	**2.58**	**265**	⇓P		**Pn**	**19 22 54.9**	**+0.2**
GZR	**Gura Zlata**	**2.58**	**265**	⇓P		**Pn**	**19 22 54.9**	**+0.2**
GZR				AML		AML	19 22 57.7	
GZR	**Gura Zlata**	**2.58**	**265**			**Pn**	**19 22 54.9**	**+0.2**
PLVB	**Pleven**	**2.62**	**210**	⇑P		**Pn**	**19 22 54.6**	**-0.5**
PLVB	**Pleven**	**2.62**	**210**	⇑P		**Pn**	**19 22 54.6**	**-0.5**
PLVB	**Pleven**	**2.62**	**210**			**Pn**	**19 22 54.6**	**-0.5**
ROIA	**ROIAK**	**2.66**	**165**	*e*P		**Pn**	**19 22 56.7**	**+1.1**
ELND	**Elena**	**2.77**	**189**	⇑P		**Pn**	**19 22 56.5**	**-0.4**
ELND	**Elena**	**2.77**	**189**	AML		AML	19 22 52.1	
ELND				⇑P		**Pn**	**19 22 56.5**	**-0.4**
ELND	**Elena**	**2.77**	**189**			**Pn**	**19 22 56.5**	**-0.4**
SORM	**Soroca**	**2.80**	**27**	⇑P		**Pn**	**19 22 56.9**	**-0.3**
SORM	**Soroca**	**2.80**	**27**	⇑P		**Pn**	**19 22 56.9**	**-0.3**
SORM	**Soroca**	**2.80**	**27**			**Pn**	**19 22 56.9**	**-0.3**
KSV	**Kosov**	**2.81**	**341**	*e*Pn		**Pn**	**19 22 57.7**	**+0.3**
RAKU	**Rahkiv**	**2.83**	**327**	*e*Pn		**Pn**	**19 22 58.2**	**+0.6**
PUNG	**Punghina**	**2.85**	**242**	⇑P		**Pn**	**19 22 56.8**	**-1.0**
PUNG	**Punghina**	**2.85**	**242**	⇑P		**Pn**	**19 22 56.8**	**-1.0**
PUNG				AML		AML	19 23 10.7	
PUNG	**Punghina**	**2.85**	**242**			**Pn**	**19 22 56.8**	**-1.0**
NSLU	**Nyzhne Selyshc**	**2.87**	**333**	*e*Pn		Pn	19 23 03.5	+5.4
KMPD	**K-Podol'skiy**	**2.90**	**0**	*e*Sn		**Sn**	**19 23 31.4**	**-2.8**
NDNU	**Novodnistrovsk**	**3.00**	**12**	*e*Pn		**Pn**	**19 23 00.4**	**+0.7**
NDNU				Pm			19 23 05.0	
NDNU				*e*Sn		**Sn**	**19 23 33.7**	**-2.8**
NDNU				Sm			19 23 34.3	
JMB	**Yambol**	**3.20**	**178**	*e*P		**Pn**	**19 23 01.7**	**-0.7**
STNU	**Starunia**	**3.32**	**337**	*e*Pn		**Pn**	**19 23 04.4**	**+0.6**
KORU	**Korolevo**	**3.37**	**319**	*e*Pn		**Pn**	**19 23 05.1**	**+0.7**
BZS	**Buzias**	**3.38**	**271**	⇑P		**Pn**	**19 23 04.5**	**-0.1**
BZS	**Buzias**	**3.38**	**271**	⇑P		**Pn**	**19 23 04.5**	**-0.1**
BZS	**Buzias**	**3.38**	**271**			**Pn**	**19 23 04.5**	**-0.1**
SIRR	**Siria**	**3.38**	**282**	⇑P		**Pn**	**19 23 04.9**	**+0.3**
SIRR	**Siria**	**3.38**	**282**	⇑P		**Pn**	**19 23 04.9**	**+0.3**
SIRR	**Siria**	**3.38**	**282**			**Pn**	**19 23 05.0**	**+0.3**
MDVR	**Moldovita**	**3.45**	**257**	⇑P		**Pn**	**19 23 05.6**	**0.0**
MDVR	**Moldovita**	**3.45**	**257**	⇑P		**Pn**	**19 23 05.6**	**0.0**
MDVR				AML		AML	19 23 06.8	
MDVR	**Moldovita**	**3.45**	**257**			**Pn**	**19 23 05.6**	**0.0**
MEZ	**Mezhgor'ye**	**3.48**	**326**	*e*Pn		**Pn**	**19 23 07.7**	**+1.8**
PGB	**Panagyurishte**	**3.52**	**208**	*e*P		**Pn**	**19 23 06.8**	**+0.3**
HORU	**Horodok**	**3.55**	**360**	P		**Pn**	**19 23 07.0**	**+0.2**
HORU				*e*Sn		**Sn**	**19 23 48.5**	**-0.6**
VTS	**Vitosha**	**3.82**	**218**	*e*P		**Pn**	**19 23 10.6**	**+0.1**
VTS	**Vitosha**	**3.82**	**218**	⇑P		**Pn**	**19 23 10.5**	**+0.1**
VTS	**Vitosha**	**3.82**	**218**	⇑P		**Pn**	**19 23 10.5**	**+0.1**
VTS	**Vitosha**	**3.82**	**218**			**Pn**	**19 23 10.5**	**+0.1**
MORS	**Morshin**	**3.88**	**334**	*e*Pn		**Pn**	**19 23 12.4**	**+1.5**
KOLS	**Kolonicke sedl**	**4.33**	**321**	*e*P		**Pn**	**19 23 18.0**	**+1.2**
SEV	**Sevastopol'**	**5.24**	**100**	P		**Pn**	**19 23 27.9**	**-1.0**
SEV				Pm			19 23 28.5	
SEV				S		**Sn**	**19 24 26.4**	**-2.3**
SEV				Sm			19 24 30.8	
AKASG	**Malin Array Be**	**5.37**	**19**	P		**Pn**	**19 23 30.2**	**-0.4**
	2.5nm,0.3s,baz=203,slow=12,SNR=12							
AKASG				S		**Sn**	**19 24 27.7**	**-4.1**
	1.1nm,0.3s,baz=201,slow=22,SNR=6.7							
AKBB	**Malin Array Si**	**5.37**	**19**	Pn		**Pn**	**19 23 30.6**	**0.0**
VYHS	**Vyhne**	**5.91**	**301**	*e*P		**Pn**	**19 23 33.1**	**-4.7**
VYHS				*e*			19 39 19.5	
SUDU	**Sudak**	**6.09**	**94**	P		**Pn**	**19 23 39.2**	**-1.0**
SUDU				Pm			19 23 40.1	
SUDU				S		**Sn**	**19 24 49.0**	**0.0**
SUDU				Sm			19 24 49.7	
BRTR	**Keskin Array B**	**7.96**	**136**	P		**Pn**	**19 24 04.6**	**-0.7**
	0.1nm,0.3s,baz=326,slow=12,SNR=4.8							
TIP	**Timpagrande**	**9.65**	**231**	Pn		**Pn**	**19 24 23.3**	**-4.4**
AQU	**L'Aquila**	**9.96**	**255**	Pn		**Pn**	**19 24 30.0**	**-1.7**
CLL	**Collm**	**10.55**	**307**	*e*(P)		**Pn**	**19 24 41.0**	**+1.7**
SENIN	**Lac Senin/Sane**	**13.32**	**280**	P		**P**	**19 25 19.9**	**0.0**
FIA1	**FINESS Array S**	**15.81**	**359**	Pn		**Pn**	**19 25 44.8**	**-1.5**
FIA1				IAmb		IAmb	19 25 47.8	
	comp=Z,24nm,1.4s							
ARU	**Arti**	**22.68**	**50**	P		**P**	**19 27 01.3**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=283,slow=14,SNR=3.6							
ARU				LR		LR	19 35 51.2	
	comp=Z,61nm,18.1s,baz=198,slow=36							
MKAR	**Makanchi Array**	**37.96**	**68**	P		**P**	**19 29 17.2**	**+2.2**
	comp=Z,0.1nm,0.5s,baz=270,slow=8.8,SNR=2.6							
TORD	**Torodi Ar. Bea**	**38.60**	**221**	P		**P**	**19 29 22.0**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=34,slow=7.4,SNR=2.6							

*ISCJB **29** 19:26:46.4±1.1, 1°.11N±0°.07×127°.58E±0°.07, h10km, mb3.5/3, Error ellipse: s-maj=10.5km s-min=9.6km az=168.5*
*IDC **29** 19:26:47.2±2.1, 0°.88N×127°.11E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/50, mbtmp3.6/3, Error ellipse: s-maj=180.4km s-min=25.3km az=66.0*
*DJA **29** 19:26:49.2±0.3, 1°.N±2°×12°.8E±°, h10km, M3.5/7, MLv3.5/7*
ISC 29 19:26:48.2±1.5, 1°.04N±0°.08×127°.56E±0°.09, h10km, n9, σ0°.88/11, mb3.7/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**0.33**	**216**	P		**Pg**	**19 26 53.5**	**-1.3**
TNTI				S		**Sg**	**19 26 59.2**	**0.0**
LBMI	**Labuha**	**1.67**	**182**	P		**Pn**	**19 27 18.0**	**+0.5**
LBMI				S		**Sn**	**19 27 40.3**	**+1.3**
SANI	**Sanana**	**3.45**	**207**	P		**Pn**	**19 27 41.8**	**-0.2**
KMSI	**Cibinong**	**3.61**	**263**	P		**Pn**	**19 27 44.5**	**+0.3**
KMSI				S		**Sn**	**19 28 28.3**	**+1.4**
NLAI	**Namlea**	**4.28**	**186**	P		**Pg**	**19 28 09.7**	**-0.5**
WRA	**Warramunga Arr**	**21.89**	**163**	P		**P**	**19 31 41.3**	**-0.3**
	1.1nm,0.8s,baz=340,slow=11,SNR=6.9							
LWLI	**Liwa**	**24.23**	**255**	P		P	19 31 55.8	-10
ASAR	**Alice Springs**	**25.32**	**166**	P		**P**	**19 32 15.9**	**+0.5**
	1.5nm,0.9s,baz=344,slow=10,SNR=11							
MKAR	**Makanchi Array**	**60.23**	**326**	P		**P**	**19 36 56.4**	**-0.3**
	0.6nm,0.6s,baz=128,slow=8.7,SNR=7.1							

*ISCJB **29** 19:28:49.8±0.5, 51°.66N±0°.09×177°.15W±0°.06, h66km±3km, mb3.6/11, Error ellipse: s-maj=16.0km s-min=5.5km az=170.9*
*AEIC **29** 19:28:49.2±2.6, 51°.4N±0°.1×177°.05W±0°.06, h37km±5km, ML3.9, mb4.1/31(NEIC)*
*NEIC **29** 19:28:50.7±2.2, 51°.6N±0°.1×177°.15W±0°.06, h61km±5km*
*IDC **29** 19:28:52.6±7.2, 51°.74N×177°.19W, h75km±62km, mb3.4/12, mb1 3.7/12, mb1mx3.4/62, mbtmp3.7/12, Error ellipse: s-maj=51.1km s-min=14.1km az=1.0*
ISC 29 19:28:50.3±1.2, 51°.6N±0°.2×177°.16W±0°.05, h57km±8km, n81, σ0°.95/77, mb4.0/23, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KIMD	**Kanaga Island**	**0.15**	**342**			**Pn**	**19 28 58.6**	**-0.6**
KIWB	**Kanaga Island**	**0.23**	**1**			**Pn**	**19 28 59.7**	**0.0**
KIKV	**Kanaga Island**	**0.26**	**359**			**Pn**	**19 29 00.1**	**+0.2**
KICM	**Kanaga Island**	**0.30**	**356**			**Pn**	**19 29 00.8**	**+0.7**
ADK	**Adak**	**0.40**	**48**			**Pn**	**19 29 00.5**	**-0.5**
TAPA	**Tanaga Point A**	**0.45**	**296**			**Pn**	**19 29 01.9**	**+0.3**
ADAG	**Mount Adagdak**	**0.50**	**44**			**Pn**	**19 29 02.5**	**+0.4**
TAFP	**Tanaga Falls P**	**0.58**	**299**			**Pn**	**19 29 03.8**	**+0.8**
TASE	**Tanaga Southea**	**0.59**	**292**			**Pn**	**19 29 03.8**	**+0.7**
GSTD	**Great Sitkin T**	**0.77**	**55**			**Pn**	**19 29 05.3**	**0.0**
GSMY	**Great Sitkin M**	**0.81**	**58**			**Pn**	**19 29 05.6**	**-0.1**
GSTR	**Great Sitkin T**	**0.83**	**55**			**Pn**	**19 29 06.5**	**+0.4**
GALAA	**Gareloi Lava P**	**1.01**	**279**			**Pn**	**19 29 08.9**	**+0.5**
ATKA	**Atka Island**	**1.93**	**71**			**Pn**	**19 29 20.0**	**-0.7**
ATKA	**Atka Island**	**1.93**	**71**			**Sn**	**19 29 44.8**	**+1.0**
KOKL	**Mount Kliuchef**	**1.96**	**68**			**Pn**	**19 29 21.8**	**+0.5**
KOFP	**Korovin Flat P**	**2.01**	**70**			**Pn**	**19 29 22.1**	**+0.2**
KOSE	**Korovin Southe**	**2.06**	**68**			**Pn**	**19 29 23.3**	**+0.8**
NIKH	**Nikolski High**	**5.27**	**72**			**Pn**	**19 30 07.6**	**+1.1**
OKTU	**Okmok Mt. Tuli**	**5.84**	**69**			**Pn**	**19 30 18.7**	**+1.3**
MREP	**Makushin Rep't**	**6.70**	**67**			**Pn**	**19 30 27.2**	**+1.2**
MSW	**Makushin Switc**	**6.70**	**66**			**Pn**	**19 30 27.7**	**+1.6**
UNV	**Unalaska Valle**	**6.84**	**67**	Pn		**Pn**	**19 30 27.1**	**-0.9**
SPIA	**Saint Paul Isl**	**6.87**	**33**	Pn		**Pn**	**19 30 25.9**	**-2.4**
SDPT	**Sand Point**	**10.62**	**63**	Pn		**Pn**	**19 31 18.7**	**-0.8**
CNBA	**Chernabura Isl**	**11.01**	**66**	Pn		**Pn**	**19 31 24.0**	**-0.9**
ANM	**Nome**	**14.36**	**21**	Pn		**Pn**	**19 32 10.8**	**+0.6**
OHAK	**Old Harbor**	**14.94**	**59**	Pn		**Pn**	**19 32 15.2**	**-2.7**
KDAK	**Kodiak Island**	**15.43**	**57**	Pn		**Pn**	**19 32 21.5**	**-2.7**
KDAK				IAmb		IAmb	19 32 31.7	
	comp=Z,12nm,0.7s							
BRLK	**Bradley Lake**	**16.81**	**51**			**Pn**	**19 32 41.6**	**0.0**
BRLK				IAmb		IAmb	19 32 48.4	
	comp=Z,35nm,1.2s							
SKT	**Skwentna**	**17.32**	**43**	P		**P**	**19 32 51.4**	**+2.8**
SKT				IAmb		IAmb	19 32 56.7	
	comp=Z,12nm,0.9s							
SUA	**Susitna One**	**17.46**	**45**	Pn		**Pn**	**19 32 49.3**	**-0.3**
SUA				IAmb		IAmb	19 33 04.3	
	comp=Z,5.7nm,1.1s							
SEW	**Seward**	**17.60**	**50**	Pn		**Pn**	**19 32 49.9**	**-1.3**
SEW				IAmb		IAmb	19 32 52.4	
	comp=Z,28nm,1.4s							
KTH	**Kantishna Hill**	**18.29**	**39**	P		**Pn**	**19 33 00.6**	**+0.9**
KTH				IAmb		IAmb	19 33 17.2	
	comp=Z,6.6nm,0.9s							
GHO	**Glory Hole Cre**	**18.38**	**46**	P		**Pn**	**19 33 01.9**	**+1.0**
GHO				IAmb		IAmb	19 33 11.7	
	comp=Z,8.2nm,1.3s							
KNK	**Knik Glacier**	**18.47**	**47**	P		**Pn**	**19 33 02.5**	**+0.7**
KNK				IAmb		IAmb	19 33 20.0	
	comp=Z,12nm,1.2s							
TRF	**Thorofare Moun**	**18.49**	**40**	P		**Pn**	**19 33 02.8**	**+0.6**
TRF				IAmb		IAmb	19 33 17.0	
	comp=Z,19nm,1.4s							
RND	**Reindeer**	**19.05**	**41**	P		**P**	**19 33 08.0**	**+0.4**
RND				IAmb		IAmb	19 33 23.0	
	comp=Z,4.5nm,0.8s							
HIN	**Hinchinbrook I**	**19.10**	**51**	P		**Pn**	**19 33 09.1**	**-0.3**
HIN				IAmb		IAmb	19 33 27.0	
	comp=Z,39nm,1.3s							
MLY	**Manley**	**19.10**	**35**	P		**Pn**	**19 33 10.0**	**+0.5**
MLY				IAmb		IAmb	19 33 22.6	
	comp=Z,6.7nm,1.3s							
FID	**Port Fidalgo**	**19.19**	**50**	P		**P**	**19 33 08.9**	**-0.2**
FID				IAmb		IAmb	19 33 20.4	
	comp=Z,20nm,1.3s							
EYAK	**Cordova Ski Ar**	**19.49**	**51**	P		**P**	**19 33 12.1**	**-0.3**
EYAK				IAmb		IAmb	19 33 18.5	
	comp=Z,14nm,1.3s							
DHY	**Denali Highway**	**19.53**	**43**	P		**P**	**19 33 13.3**	**+0.4**
DHY				IAmb		IAmb	19 33 27.2	
	comp=Z,5.2nm,0.9s							
HDA	**Harding Lake**	**20.24**	**39**	P		**P**	**19 33 20.6**	**+0.1**
HDA				IAmb		IAmb	19 33 33.6	
	comp=Z,9.8nm,1.4s							
ILAR	**Eielson Array**	**20.42**	**38**	P		**P**	**19 33 22.2**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=232,slow=8.6,SNR=6.8							
RIDG	**Independent Ri**	**20.83**	**42**	P		**P**	**19 33 27.4**	**+0.5**
RIDG				IAmb		IAmb	19 33 31.4	
	comp=Z,6.6nm,1.0s							
SCRK	**Sand Creek**	**21.27**	**42**	P		**P**	**19 33 31.2**	**-0.5**
SCRK				IAmb		IAmb	19 33 34.5	
	comp=Z,6.2nm,1.3s							
EGAK	**Eagle**	**22.70**	**41**	P		**P**	**19 33 46.6**	**-0.1**
EGAK				IAmb		IAmb	19 34 04.7	
	comp=Z,8.4nm,1.4s							
DAWY	**Dawson**	**23.23**	**43**	P		**P**	**19 33 52.4**	**+0.1**
DAWY				IAmb		IAmb	19 33 59.0	
	comp=Z,3.5nm,1.4s							
WRAK	**Wrangell Islan**	**26.39**	**62**	P		**P**	**19 34 20.6**	**-0.3**
WRAK				IAmb		IAmb	19 34 22.8	
	comp=Z,67nm,1.4s							
ERM	**Erimo**	**28.49**	**266**	P		**P**	**19 34 38.2**	**-1.6**
ERM				IAmb		IAmb	19 34 54.9	
	comp=Z,78nm,0.9s							
KLR	**Kul'dur**	**32.10**	**286**	P		**P**	**19 35 11.8**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=42,slow=12,SNR=2.8							
H11N2	**WAKE ISLAND Hy**	**34.20**	**207**	T		T	20 11 51.9	
	baz=18,slow=76							
H11N3	**WAKE ISLAND Hy**	**34.21**	**207**	T		T	20 11 56.6	
	baz=18,slow=76							
H11N1	**WAKE ISLAND Hy**	**34.22**	**207**	T		T	20 11 57.5	
	baz=18,slow=76							
USRK	**Ussuriysk Ar.**	**34.28**	**278**	P		**P**	**19 35 30.2**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=51,slow=10.0,SNR=3.8							
YKA	**Yellowknife Ar**	**34.32**	**47**	P		**P**	**19 35 30.4**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=282,slow=7.9,SNR=4.6							
YKA				PcP		**PcP**	**19 38 06.2**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=281,slow=3.2,SNR=5.1							
H11S1	**WAKE ISLAND Hy**	**35.41**	**207**	T		T	20 13 25.4	
	baz=18,slow=76							
H11S2	**WAKE ISLAND Hy**	**35.43**	**207**	T		T	20 13 22.0	
	baz=18,slow=76							
H11S3	**WAKE ISLAND Hy**	**35.43**	**207**	T		T	20 13 26.3	
	baz=18,slow=76							
NEW	**Newport**	**37.84**	**71**	P		**P**	**19 36 01.4**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=276,slow=7.2,SNR=8.1							
NEW	**Newport**	**37.84**	**71**	P		**P**	**19 36 01.8**	**+0.6**
NEW				IAmb		IAmb	19 36 02.9	
	comp=Z,5.5nm,1.1s							
WVOR	**Wild Horse Val**	**39.95**	**80**	P		**P**	**19 36 18.5**	**-0.5**
PNTR	**Pine Nut**	**41.30**	**84**	P		**P**	**19 36 31.1**	**+0.8**
PNTR				IAmb		IAmb	19 36 34.2	
	comp=Z,5.5nm,0.6s							
MCMT	**McKenzie Canyo**	**42.13**	**73**	P		**P**	**19 36 38.0**	**+1.0**
NVAR	**Mina Array Bea**	**42.51**	**84**	P		**P**	**19 36 40.8**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=291,slow=8.7,SNR=7.3							
RLMT	**Red Lodge**	**44.09**	**71**	P		**P**	**19 36 52.5**	**-0.2**
RLMT				IAmb		IAmb	19 36 55.0	
	comp=Z,5.6nm,1.1s							
DUG	**Dugway, Tooele**	**44.82**	**78**	P		**P**	**19 36 59.6**	**+1.0**
DUG				IAmb		IAmb	19 36 59.8	
	comp=Z,2.2nm,0.6s							
BW06	**Boulder Array**	**45.26**	**73**	P		**P**	**19 37 01.5**	**-0.6**
BW06				IAmb		IAmb	19 37 03.5	
	comp=Z,4.2nm,0.8s							
PD31	**Pinedale Array**	**45.26**	**73**	P		**P**	**19 37 02.4**	**+0.3**
PD31				IAmb		IAmb	19 37 03.5	
	comp=Z,3.8nm,0.8s							
PDAR	**Pinedale Array**	**45.26**	**73**	P		**P**	**19 37 02.8**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=311,slow=3.8,SNR=28							
SONM	**Songino Array**	**47.45**	**297**	P		**P**	**19 37 20.2**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=51,slow=10.0,SNR=3.1							
SONM				PcP		**PcP**	**19 38 47.5**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=35,slow=3.1,SNR=4.3							
O20A	**White River Ci**	**47.63**	**76**	P		**P**	**19 37 21.1**	**+0.4**
O20A				IAmb		IAmb	19 37 21.8	
	comp=Z,6.4nm,0.9s							
RSSD	**Black Hills**	**47.72**	**69**	P		**P**	**19 37 21.4**	**0.0**
RSSD				IAmb		IAmb	19 37 21.5	
	comp=Z,2.6nm,0.6s							
TXAR	**Lajitas Array**	**57.60**	**83**	P		**P**	**19 38 34.0**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=299,slow=4.4,SNR=8.1							
MKAR	**Makanchi Array**	**60.68**	**309**	P		**P**	**19 38 54.4**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=46,slow=7.4,SNR=4.1							
CBN	**Corbin Frederi**	**66.54**	**58**	P		**P**	**19 39 34.9**	**+0.9**
CBN				IAmb		IAmb	19 39 42.2	
	comp=Z,38nm,0.3s							
CMAR	**Chiang Mai Arr**	**72.00**	**277**	P		**P**	**19 40 08.9**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=18,slow=5.2,SNR=5.1							
BRTR	**Keskin Array B**	**85.14**	**337**	P		**P**	**19 41 20.1**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=18,slow=5.0,SNR=2.9							
TORD	**Torodi Ar. Bea**	**115.50**	**1**	PKP		**PKiKP**	**19 47 24.3**	**-1.6**
	comp=Z,0.8nm,1.1s,baz=347,slow=2.3,SNR=3.2							
BOSA	**Boshof**	**151.55**	**315**	PKPbc		**PKPbc**	**19 48 37.5**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=32,slow=2.2,SNR=3.6							

*ISCJB **29** 19:28:53.4±0.6, 16°.83S±0°.09×174°.30W±0°.08, h124km, mb3.9/4, Error ellipse: s-maj=14.1km s-min=8.2km az=142.4*
*NEIC **29** 19:28:55.9±2.1, 16°.86S±0°.10×174°.3W±0°.1, h136km±7km, mb4.3/5*
*IDC **29** 19:28:56.3±5.2, 17°.01S×174°.16W, h137km±39km, mb3.6/4, mb1 3.9/5, mb1mx3.4/42, mbtmp4.1/5, Error ellipse: s-maj=151.8km s-min=23.2km az=148

$M_{\phi\phi}$1.43; $M_{r\theta}$2.24; $M_{\theta\phi}$-3.03; $M_{\phi r}$-2.87; Fault plane solution: $M_0$6.47309×10^{14} NP1:ϕ_s114.00000°,δ29.00000°, λ-109.00000°. NP2:ϕ_s315.00000°,δ62.00000°, λ-80.00000°.

*ISCJB **29** 19:49:49.5±0.2, 41.°42N±0.°01×14.°45E±0.°02, h21km±2km, mb3.4/5, MS3.2/4 Error ellipse: s-maj=2.4km s-min=1.7km az=32.7*

*PDG **29** 19:49:50.8±0.5, 41.°42N×14.°62E, h16km, ML3.8/11, Error ellipse: s-maj=0.9km s-min=1.3km az=0.0*

*LDG **29** 19:49:50.5±0.2, 41.°37N×14.°48E, h11km, Ml3.0/10, Error ellipse: s-maj=5.2km s-min=2.8km az=15.0*

ISC 29 19:49:49.9±0.8, **41.°39N**±0.°02×**14.°43E**±0.°02, **h16**km±5km, **n255**, σ**1.50**/315, **mb3.5**/5, **MS3.3**/4, **22C-14D, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.15**	**278**	P	**Pg**	**19 49 53.8**	**-0.2**
VAGA				S	**Sb**	**19 49 57.5**	**+0.2**
VAGA				AML	AML		
	comp=N,52150µm,1.2s						
VAGA				AML	AML		
	comp=E,30600µm,0.8s						
VAGA				AML	AML		
	comp=N,50350µm,1.2s						
VAGA				AML	AML		
	comp=E,31650µm,0.8s						
VAGA				AML	AML		
	comp=N,50350µm,1.2s						
VAGA				AML	AML		
	comp=E,31650µm,0.8s						
VAGA				AML	AML		
	comp=N,52150µm,1.2s						
VAGA				AML	AML		
	comp=E,30600µm,0.8s						
BSSO	**Busso**	**0.19**	**39**	P	**Pg**	**19 49 54.5**	**-0.2**
BSSO				S	**Sb**	**19 49 58.3**	**-0.4**
BSSO				AML	AML		
	comp=E,50500µm,0.9s						
BSSO				AML	AML		
	comp=N,64300µm,0.6s						
BSSO				AML	AML		
	comp=E,22850µm,0.9s						
BSSO				AML	AML		
	comp=N,25000µm,0.6s						
BSSO				AML	AML		
	comp=N,64300µm,0.6s						
BSSO				AML	AML		
	comp=E,22850µm,0.9s						
SACR	**S. Croce Del S**	**0.21**	**89**	P	**Pg**	**19 49 54.0**	**-0.9**
SACR				S	**Sg**	**19 49 58.2**	**0.0**
SACR				AML	AML		
	comp=E,61200µm,0.7s						
SACR				AML	AML		
	comp=N,71100µm,0.4s						
SACR				AML	AML		
	comp=N,69950µm,0.4s						
SACR				AML	AML		
	comp=N,70000µm,0.4s						
SACR				AML	AML		
	comp=E,61200µm,0.7s						
SACR				AML	AML		
	comp=E,62250µm,1.1s						
SACR				AML	AML		
	comp=N,71100µm,0.4s						
PIGN	**Pignataro Magg**	**0.27**	**224**	P	**Pg**	**19 49 55.1**	**-0.7**
PIGN				S	**Sg**	**19 50 00.1**	**+0.2**
PIGN				AML	AML		
	comp=E,13940µm,0.8s						
PIGN				AML	AML		
	comp=N,11655µm,1.1s						
PIGN				AML	AML		
	comp=E,13940µm,0.7s						
PIGN				AML	AML		
	comp=N,11850µm,0.4s						
PIGN				AML	AML		
	comp=E,13945µm,0.8s						
PIGN				AML	AML		
	comp=N,11660µm,1.1s						
PIGN				AML	AML		
	comp=E,13940µm,0.7s						
PIGN				AML	AML		
	comp=N,11655µm,1.1s						
PIGN				AML	AML		
	comp=E,13670µm,0.8s						
MIDA	**Miranda**	**0.28**	**332**	P	**Pg**	**19 49 55.8**	**-0.3**
MIDA				S	**Sb**	**19 50 00.9**	**-0.3**
MIDA				AML	AML		
	comp=N,10030µm,0.5s						
MIDA				AML	AML		
	comp=E,9420µm,1.2s						
MIDA				AML	AML		
	comp=N,9995µm,0.5s						
MIDA				AML	AML		
	comp=N,10850µm,0.5s						
MIDA				AML	AML		
	comp=E,9645µm,1.2s						
MIDA				AML	AML		
	comp=E,9650µm,1.2s						
PSB1	**Pescosannita**	**0.33**	**121**	P	**Pg**	**19 49 55.9**	**-1.0**
PSB1				S	**Sg**	**19 50 01.6**	**-0.1**
PSB1				AML	AML		
	comp=E,22300µm,0.9s						
PSB1				AML	AML		
	comp=N,24800µm,0.7s						
PSB1				AML	AML		
	comp=N,24850µm,0.7s						
PSB1				AML	AML		
	comp=E,23300µm,1.0s						
PSB1				AML	AML		
	comp=N,24850µm,0.7s						
PSB1				AML	AML		
	comp=N,24750µm,1.5s						
PSB1				AML	AML		
	comp=N,24800µm,0.7s						
CERA	**Filignano**	**0.37**	**303**	P	**Pg**	**19 49 57.5**	**-0.1**
CERA				AML	AML		
	comp=E,9570µm,0.4s						
CERA				AML	AML		
	comp=E,9565µm,0.4s						
CERA				AML	AML		
	comp=N,11755µm,0.5s						
CERA				AML	AML		
	comp=E,9590µm,0.4s						
CERA				AML	AML		
	comp=N,11380µm,0.5s						
CERA				AML	AML		
	comp=E,9810µm,0.5s						
CERA				AML	AML		
	comp=N,11385µm,0.5s						
RNI2	**Rionero Sannit**	**0.37**	**326**	P	**Pg**	**19 49 57.5**	**-0.1**
RNI2				AML	AML		
	comp=E,8460µm,1.2s						
RNI2				AML	AML		
	comp=N,10015µm,1.1s						
RNI2				AML	AML		
	comp=E,8555µm,1.2s						
RNI2				AML	AML		
	comp=N,10245µm,1.2s						
RNI2				AML	AML		
	comp=N,10010µm,1.1s						
RNI2				AML	AML		
	comp=E,8465µm,1.2s						
RNI2				AML	AML		
	comp=E,8455µm,1.2s						
RNI2				AML	AML		
	comp=N,10025µm,1.1s						
PAOL	**Paolisi**	**0.38**	**164**	P	**Pg**	**19 49 56.4**	**-1.3**
PAOL				AML	AML		
	comp=E,16600µm,0.5s						
PAOL				AML	AML		
	comp=N,17450µm,0.6s						
PAOL				AML	AML		
	comp=E,16600µm,0.5s						
PAOL				AML	AML		
	comp=N,17450µm,0.6s						
PAOL				AML	AML		
	comp=E,17350µm,0.5s						
PAOL				AML	AML		
	comp=N,17450µm,0.6s						
PAOL				AML	AML		
	comp=N,17450µm,0.6s						
PAOL				AML	AML		
	comp=N,18500µm,0.6s						
GATE	**Gambatesa**	**0.38**	**72**	P	**Pg**	**19 49 57.6**	**-0.2**
GATE				AML	AML		
	comp=N,18700µm,0.5s						
GATE				AML	AML		
	comp=E,14600µm,0.7s						
GATE				AML	AML		
	comp=N,19000µm,0.5s						
GATE				AML	AML		
	comp=E,14050µm,0.7s						
GATE				AML	AML		
	comp=N,18700µm,0.5s						
GATE				AML	AML		
	comp=E,14650µm,0.7s						
GATE				AML	AML		
	comp=N,19000µm,0.5s						
TRIV	**Trivento**	**0.38**	**13**	P	**Pg**	**19 49 57.6**	**-0.2**
TRIV				S	**Sg**	**19 50 03.1**	**-0.1**
TRIV				AML	AML		
	comp=E,8640µm,1.1s						
TRIV				AML	AML		
	comp=N,8470µm,1.0s						
TRIV				AML	AML		
	comp=E,8635µm,1.1s						
TRIV				AML	AML		
	comp=N,8465µm,1.0s						
CIGN	**Sant'Elia a Pi**	**0.44**	**54**	P	**Pg**	**19 49 58.3**	**-0.5**
CIGN				AML	AML		
	comp=N,9740µm,0.7s						
CIGN				AML	AML		
	comp=N,9735µm,0.7s						
CIGN				AML	AML		
	comp=E,10205µm,0.7s						
MODR	**Mondragone**	**0.49**	**239**	P	**Pg**	**19 49 59.0**	**-0.6**
MODR				AML	AML		
	comp=N,14700µm,0.8s						
MODR				AML	AML		
	comp=E,18800µm,1.2s						
MODR				AML	AML		
	comp=N,14700µm,0.8s						
MODR				AML	AML		
	comp=E,18800µm,1.2s						
MRB1	**Monte Rocchett**	**0.49**	**123**	P	**Pg**	**19 49 58.2**	**-1.5**
MRB1				S	**Sg**	**19 50 06.2**	**-0.1**
MRB1				AML	AML		
	comp=E,21050µm,1.2s						
MRB1				AML	AML		
	comp=N,28600µm,0.6s						
MRB1				AML	AML		
	comp=E,21400µm,1.2s						
MRB1				AML	AML		
	comp=E,21100µm,1.2s						
MRB1				AML	AML		
	comp=N,29650µm,0.6s						
MRB1				AML	AML		
	comp=N,29650µm,0.6s						
MRB1				AML	AML		
	comp=N,28600µm,0.6s						
MRB1				AML	AML		
	comp=E,21050µm,1.2s						
MRB1				AML	AML		
	comp=E,21400µm,1.2s						
MRB1				AML	AML		
	comp=E,21100µm,1.2s						
MOCO	**Biccari - m.te**	**0.55**	**92**	P	**Pg**	**19 49 59.9**	**-0.9**
MOCO				S	**Sg**	**19 50 07.5**	**-0.6**
MOCO				AML	AML		
	comp=E,7645µm,0.5s						
MOCO				AML	AML		
	comp=N,4015µm,0.6s						
MOCO				AML	AML		
	comp=E,7710µm,0.5s						
MOCO				AML	AML		
	comp=N,3905µm,0.6s						
MOCO				AML	AML		
	comp=N,3900µm,0.6s						
BIOG	**Biogem**	**0.56**	**110**	P	**Pg**	**19 50 01.0**	**-0.1**
BIOG				AML	AML		
	comp=E,18750µm,0.6s						
BIOG				AML	AML		
	comp=N,18200µm,0.8s						
BIOG				AML	AML		
	comp=E,18750µm,0.6s						
BIOG				AML	AML		
	comp=N,18200µm,0.8s						
OVO	**Vesuviano**	**0.57**	**183**	P	**Pg**	**19 50 00.1**	**-1.0**
OVO				AML	AML		
	comp=E,20400µm,0.8s						
FRES	**Fresagrandinar**	**0.60**	**17**	P	**Pg**	**19 50 00.7**	**-1.2**
FRES				AML	AML		
	comp=N,2365µm,0.7s						
FRES				AML	AML		
	comp=E,2890µm,1.2s						
MELA	**Melanico ??? S**	**0.61**	**59**	P	**Pg**	**19 50 00.5**	**-1.5**
MELA				AML	AML		
	comp=E,16150µm,0.8s						
MELA				AML	AML		
	comp=N,11215µm,0.7s						
MELA				AML	AML		
	comp=E,16350µm,0.8s						
MELA				AML	AML		
	comp=N,11745µm,0.7s						
MELA				AML	AML		
	comp=N,11255µm,0.7s						
POFI	**Posta Fibreno**	**0.63**	**301**	P	**Pg**	**19 50 01.6**	**-0.8**
POFI				AML	AML		
	comp=N,1890µm,0.7s						
POFI				AML	AML		
	comp=E,2000µm,1.4s						
POFI				AML	AML		
	comp=N,2005µm,0.7s						
POFI				AML	AML		
	comp=N,1895µm,0.7s						
POFI				AML	AML		
	comp=E,1945µm,1.4s						
LPEL	**Lama dei Pelig**	**0.68**	**344**	P	**Pg**	**19 50 02.1**	**-1.1**
LPEL				AML	AML		
	comp=E,3450µm,1.0s						
LPEL				AML	AML		
	comp=N,2690µm,1.4s						
CAFE	**Carife**	**0.71**	**121**	P	**Pg**	**19 50 02.5**	**-1.4**
CAFE				AML	AML		
	comp=E,9730µm,0.5s						
CAFE				AML	AML		
	comp=E,9835µm,0.5s						
CAFE				AML	AML		
	comp=N,6090µm,0.5s						
CAFE				AML	AML		
	comp=N,5940µm,0.5s						
CAFE				AML	AML		
	comp=E,9755µm,0.5s						
CAFE				AML	AML		
	comp=N,5945µm,0.4s						
INTR	**Introdacqua**	**0.73**	**328**	P	**Pg**	**19 50 02.8**	**-1.5**
INTR				AML	AML		
	comp=N,6825µm,0.9s						
INTR				AML	AML		
	comp=E,7010µm,1.3s						
INTR				AML	AML		
	comp=N,49276µm,1.6s						
INTR				AML	AML		
	comp=E,54400µm,1.5s						
SGTA	**Sant Agata di**	**0.75**	**110**	P	**Pg**	**19 50 02.8**	**-1.8**
SGTA				AML	AML		
	comp=E,6310µm,1.5s						
SGTA				AML	AML		
	comp=N,6480µm,0.6s						
SGTA				AML	AML		
	comp=E,6355µm,1.5s						
SGTA				AML	AML		
	comp=N,6870µm,0.6s						
SNAL	**S. Angelo Dei**	**0.75**	**128**	P	**Pg**	**19 50 03.2**	**-1.4**
SNAL				AML	AML		
	comp=N,8335µm,0.8s						
SNAL				AML	AML		
	comp=E,7620µm,1.0s						
VVLD	**Villa Vallelon**	**0.77**	**308**	P	**Pg**	**19 50 03.8**	**-1.2**
VVLD				AML	AML		
	comp=E,2185µm,0.5s						
MCRV	**Calabrutti - M**	**0.83**	**137**	P	**Pb**	**19 50 04.7**	**-1.3**
MCRV				AML	AML		
	comp=N,13800µm,0.5s						
MCRV				AML	AML		
	comp=E,9940µm,0.8s						
CAFR	**Castel Frentan**	**0.83**	**356**	P	**Pb**	**19 50 05.7**	**-0.3**
CAFR				AML	AML		
	comp=E,6795µm,1.3s						
CAFR				AML	AML		
	comp=N,5890µm,1.4s						
GIUL	**Giuliano Di Ro**	**0.90**	**281**	P	**Pb**	**19 50 07.0**	**-0.1**
GIUL				AML	AML		
	comp=N,1630µm,1.3s						
GIUL				AML	AML		
	comp=E,1178µm,0.6s						
GUAR	**Guarcino**	**0.93**	**296**	P	**Pn**	**19 50 11.7**	**+3.3**
GUAR				AML	AML		
	comp=N,1600µm,0.4s						
GUAR				AML	AML		
	comp=E,1280µm,1.1s						
VENT	**Ventotene**	**0.97**	**232**	P	**Pb**	**19 50 07.1**	**-1.2**
VENT				AML	AML		
	comp=E,5615µm,1.0s						
VENT				AML	AML		
	comp=N,5090µm,1.5s						
VENT				AML	AML		
	comp=N,5445µm,1.5s						
PTQR	**Pietraquaria**	**0.99**	**309**	P	**Pn**	**19 50 09.8**	**+0.5**
PTQR				AML	AML		
	comp=E,989µm,1.3s						
VULT	**Monte Vulture**	**1.00**	**116**	P	**Pb**	**19 50 07.5**	**-1.3**
VULT				AML	AML		
	comp=N,11000µm,0.5s						
VULT				AML	AML		
	comp=E,6985µm,0.5s						
VULT				AML	AML		
	comp=N,11200µm,0.5s						
VULT				AML	AML		
	comp=E,7210µm,0.5s						
MRLC	**Muro Lucano**	**1.02**	**128**	P	**Pb**	**19 50 08.1**	**-1.1**
MRLC				AML	AML		
	comp=E,3600µm,0.5s						
MRLC				AML	AML		
	comp=E,3365µm,0.5s						
MRLC				AML	AML		
	comp=N,3135µm,0.5s						
MRLC				AML	AML		
	comp=N,3170µm,0.5s						
MRLC				AML	AML		
	comp=E,3605µm,0.5s						
SGRT	**San Giovanni R**	**1.05**	**69**	P	**Pb**	**19 50 08.1**	**-1.6**
SGRT				S	**Sn**	**19 50 25.0**	**+0.7**
SGRT				AML	AML		
	comp=E,7330µm,1.0s						
SGRT				AML	AML		
	comp=N,11050µm,0.7s						
FAGN	**Fagnano**	**1.08**	**324**	P	**Pg**	**19 50 11.3**	**+0.5**
FAGN				AML	AML		
	comp=E,4295µm,1.5s						
FAGN				AML	AML		
	comp=N,4155µm,0.5s						
FAGN				AML	AML		
	comp=E,5805µm,1.5s						
FAGN				AML	AML		
	comp=N,5610µm,0.5s						
VCEL	**Villa Celiera**	**1.09**	**336**	P	**Pg**	**19 50 12.4**	**+1.3**
VCEL				AML	AML		
	comp=N,2130µm,1.2s						
VCEL				AML	AML		
	comp=E,3035µm,1.2s						
LATB	**Latina**	**1.11**	**276**	P	**Pb**	**19 50 09.9**	**-0.8**
LATB				AML	AML		
	comp=E,646µm,1.4s						
LATB				AML	AML		
	comp=N,427µm,1.0s						
CDRU	**Civita di Ruta**	**1.12**	**144**	P	**Pb**	**19 50 09.7**	**-1.3**
CDRU				AML	AML		
	comp=N,2095µm,0.5s						
CDRU				AML	AML		
	comp=E,3185µm,1.6s						
MSAG	**Monte S. Angel**	**1.15**	**74**	P	**Pn**	**19 50 11.0**	**-0.5**
MSAG				S	**Sg**	**19 50 28.0**	**+0.7**
MSAG				AML	AML		
	comp=N,10940µm,0.5s						
MSAG				AML	AML		
	comp=N,10935µm,0.5s						
MSAG				AML	AML		
	comp=N,10805µm,0.5s						
MSAG				AML	AML		
	comp=E,9435µm,0.6s						
MSAG				AML	AML		
	comp=E,9780µm,0.6s						
MSAG				AML	AML		
	comp=N,10810µm,0.5s						
CERT	**Cerreto**	**1.22**	**298**	P	**Pb**	**19 50 12.8**	**+0.1**
CERT				AML	AML		
	comp=N,784µm,0.9s						
CERT				AML	AML		
	comp=E,1031µm,1.0s						
AQU	**L'Aquila**	**1.23**	**322**	*e*Pn	**Pg**	**19 50 13.3**	**-0.4**
CMPR	**Campora**	**1.26**	**148**	P	**Pn**	**19 50 12.8**	**-0.1**
CMPR				AML	AML		
	comp=N,2025µm,0.5s						
CMPR				AML	AML		
	comp=E,1770µm,0.5s						
T0104	**Madonna delle**	**1.26**	**320**	P	**Pg**	**19 50 15.1**	**+0.8**
T0104				AML	AML		
	comp=N,1480µm,1.6s						
T0104				AML	AML		
	comp=E,1795µm,0.7s						
T0104				AML	AML		
	comp=N,1515µm,1.6s						
T0104				AML	AML		
	comp=E,1875µm,0.7s						
ACER	**Acerenza**	**1.29**	**117**	P	**Pn**	**19 50 13.2**	**-0.2**
ACER				AML	AML		
	comp=E,4040µm,0.7s						
ACER				AML	AML		
	comp=N,3380µm,1.0s						
ACER				AML	AML		
	comp=N,3280µm,1.0s						
ACER				AML	AML		
	comp=E,3985µm,0.7s						
FIAM	**Fiamignano**	**1.31**	**312**	P	**Pg**	**19 50 15.2**	**-0.1**
FIAM				AML	AML		
	comp=N,982µm,0.7s						
FIAM				AML	AML		
	comp=E,1560µm,0.7s						
RMP	**Rome, Mte Porz**	**1.36**	**288**	P	**Pn**	**19 50 14.1**	**-0.2**
RMP				AML	AML		
	comp=N,2135µm,0.7s						
RMP				AML	AML		
	comp=E,1670µm,1.0s						
MRVN	**Minervino Murg**	**1.37**	**103**	P	**Pn**	**19 50 13.5**	**-0.9**
MRVN				AML	AML		
	comp=E,1445µm,0.6s						
MRVN				AML	AML		
	comp=N,1560µm,0.9s						
TERO	**Teramo**	**1.37**	**334**	P	**Pb**	**19 50 15.6**	**+0.3**
TERO				AML	AML		
	comp=E,376µm,1.2s						
TERO				AML	AML		
	comp=N,399µm,0.6s						
SMA1	**SAN MARTINO**	**1.48**	**327**	P	**Pg**	**19 50 18.2**	**-0.3**
SMA1				AML	AML		
	comp=N,1375µm,0.8s						
SMA1				AML	AML		
	comp=E,1070µm,1.4s						
MCEL	**Monticello**	**1.49**	**135**	P	**Pb**	**19 50 17.3**	**+0.1**
MCEL				AML	AML		
	comp=N,3175µm,0.7s						
MCEL				AML	AML		
	comp=N,3135µm,0.7s						
MCEL				AML	AML		
	comp=E,2240µm,0.7s						
MTSN	**Montesano sull**	**1.51**	**138**	P	**Pn**	**19 50 16.6**	**+0.3**
MTSN				AML	AML		
	comp=E,2585µm,0.6s						
MGR	**Morigerati**	**1.52**	**145**	P	**Pn**	**19 50 15.6**	**-0.8**
MGR				AML	AML		
	comp=E,1240µm,0.5s						
MGR				AML	AML		
	comp=N,1525µm,0.8s						
LNSS	**Leonessa**	**1.59**	**320**	P	**Pb**	**19 50 19.8**	**+0.7**
LNSS				AML	AML		
	comp=N,936µm,1.1s						
LNSS				AML	AML		
	comp=E,898µm,0.9s						
SIRI	**Monte Sirino -**	**1.63**	**138**	P	**Pn**	**19 50 17.7**	**-0.3**
SIRI				AML	AML		
	comp=E,1595µm,1.0s						
SIRI				AML	AML		
	comp=N,1340µm,0.9s						
SIRI				AML	AML		
	comp=E,1615µm,1.0s						
SIRI				AML	AML		
	comp=N,1330µm,0.9s						
OFFI	**Offida**	**1.64**	**340**	P	**Pg**	**19 50 21.3**	**0.0**

OFFI AML AML
comp=E,2600µm,1.1s
OFFI AML AML
comp=N,2705µm,0.7s
AMUR Altamura 1.71 106 P **Pn** 19 50 18.8 -0.3
AMUR AML AML
comp=E,1660µm,0.5s
AMUR AML AML
comp=N,2220µm,0.5s
MIGL Miglionico 1.71 117 P **Pn** 19 50 18.8 -0.3
MIGL P **Pb** 19 50 20.7 -0.3
MIGL AML AML
comp=E,3535µm,1.2s
MIGL AML AML
comp=N,6920µm,0.8s
ARRO Arrone 1.72 314 P **Pb** 19 50 21.1 0.0
ARRO AML AML
comp=E,421µm,1.5s
SCHR S. Chirico Rap 1.73 133 P **Pn** 19 50 20.0 +0.6
SCHR AML AML
comp=E,706µm,1.2s
SCHR AML AML
comp=N,680µm,0.9s
SCHR AML AML
comp=N,680µm,0.9s
NRCA Norcia 1.74 326 P **Pb** 19 50 22.2 +0.7
NRCA AML AML
comp=E,474µm,1.2s
NRCA AML AML
comp=N,424µm,0.7s
CUC Castrocucco 1.75 143 P **Pg** 19 50 24.7 +1.2
CUC AML AML
comp=N,1250µm,1.4s
CUC AML AML
comp=N,1500µm,1.4s
CUC AML AML
comp=E,1810µm,0.9s
CUC AML AML
comp=E,1480µm,1.0s
CRAC Craco 1.83 123 P **Pn** 19 50 21.4 +0.6
CRAC AML AML
comp=N,2065µm,1.3s
BAI Bari 1.87 98 *e*Pn **Pn** 19 50 21.1 -0.1
T0721 Laino Castello 1.87 141 P **Pg** 19 50 26.0 +0.2
T0721 AML AML
comp=E,1725µm,1.3s
T0721 AML AML
comp=N,2560µm,0.8s
MATE Matera 1.87 113 ⇑P **Pb** 19 50 22.7 -1.0
MATE AML 19 50 59.2
MATE Matera 1.87 113 P **Pn** 19 50 22.3 +1.1
MATE AML AML
comp=N,2455µm,0.6s
MATE AML AML
comp=E,1130µm,0.5s
FDMO Fiordimonte 1.92 329 P **Pb** 19 50 24.2 -0.4
FDMO AML AML
comp=E,278µm,1.4s
FDMO AML AML
comp=N,500µm,1.0s
CSP1 Cessapalombo 1.93 332 P **Pg** 19 50 26.4 -0.5
MOMA Monte Martano 1.98 316 P **Pb** 19 50 25.6 +0.1
MOMA AML AML
comp=E,432µm,0.8s
MOMA AML AML
comp=N,398µm,1.6s
NOCI Noci 2.08 106 P **Pn** 19 50 24.7 +0.6
NOCI AML AML
comp=E,1284µm,0.4s
NOCI AML AML
comp=N,1260µm,0.6s
SALB San Lorenzo Be 2.10 136 P **Pb** 19 50 28.8 +1.1
SALB AML AML
comp=N,476µm,0.7s
SALB AML AML
comp=E,472µm,0.5s
SALB AML AML
comp=N,517µm,0.8s
SALB AML AML
comp=E,487µm,0.5s
FIU1 Fiuminata 2.11 329 P **Pn** 19 50 23.8 -0.8
SNTG Esanatoglia 2.16 330 P **Pb** 19 50 29.1 +0.4
SNTG AML AML
comp=E,238µm,1.5s
SNTG AML AML
comp=N,354µm,1.3s
EL6 Elcito 2.17 333 P **Pb** 19 50 28.9 0.0
MASS Massafra 2.19 109 *e*Pn **Pn** 19 50 25.7 +0.1
FOSV Fossato di Vic 2.27 327 P **Pb** 19 50 31.0 +0.5
FOSV AML AML
comp=N,308µm,1.6s
HVAR Hvar 2.33 39 *e*Pn **Pn** 19 50 27.1 -0.4
HVAR Sn **Sn** 19 50 56.2 +0.5
TAR1 Taranto 2.33 111 *e*Pn **Pn** 19 50 27.9 +0.4
MURB Monte Urbino 2.34 324 P **Pb** 19 50 31.1 -0.7
MURB AML AML
comp=E,632µm,0.9s
ATTE AVT- Monte Tez 2.37 320 P **Pb** 19 50 30.6 -1.6
ATTE AML AML
comp=E,490µm,1.1s
ATTE AML AML
comp=N,366µm,1.5s
ARVD Arcevia 2.37 333 P **Pb** 19 50 30.9 -1.4
ARVD P **Pg** 19 50 32.1 -3.3
ARVD AML AML
comp=N,259µm,1.6s
ARVD AML AML
comp=E,212µm,1.4s
ZIRJ Zirje 2.43 21 *i* Pn **Pn** 19 50 29.0 +0.1
ZIRJ Sn **Sn** 19 50 57.7 -0.6
ATVO AVT- Monte Val 2.49 324 P **Pn** 19 50 31.3 +1.6
ATVO AML AML
comp=N,288µm,1.4s
ATMI Monte Miggiano 2.52 321 P **Pb** 19 50 33.1 -1.6
ATMI AML AML
comp=E,347µm,0.5s
PIEI Pieia 2.56 327 P **Pb** 19 50 34.6 -0.8
PIEI AML AML
comp=E,124µm,0.5s
PIEI AML AML
comp=N,218µm,1.3s
PIPA Pietrapaola 2.64 136 P **Pb** 19 50 36.8 0.0
DUGI Dugi Otok 2.64 10 *e*Pn **Pn** 19 50 31.4 -0.4
DUGI Sn **Sn** 19 51 02.1 -1.3
MORI Morici 2.64 20 *i* Pn **Pn** 19 50 31.4 -0.5
MORI Sn **Sn** 19 51 04.0 +0.5
MAKA Makarska 2.69 45 *e*Pn **Pn** 19 50 32.1 -0.5
MAKA Sn **Sn** 19 51 04.4 -0.4
PE3 Peglio 2.71 329 P **Pg** 19 50 42.1 +0.3
PESA Pesaro 2.80 336 P **Pn** 19 50 32.2 -1.8
PESA AML AML
comp=E,418µm,1.6s
TIP Timpagrande 2.84 140 P **Pn** 19 50 36.9 +2.3
TIP Timpagrande 2.84 140 ⇓P **Pb** 19 50 38.2 -2.1
TIP AML AML 19 51 43.7
STON Ston 2.84 58 *e*Pn **Pn** 19 50 34.2 -0.3
STON Sn **Sn** 19 51 09.0 +0.5
STON Ston 2.84 58 *e*Pn **Pn** 19 50 35.2 +0.6
STON Ston 2.84 58 P **Pn** 19 50 36.1 +1.5
STON AML AML
comp=E,405µm,0.7s
STON AML AML
comp=N,350µm,0.6s
USI Ustica 2.85 200 S **Sb** 19 51 15.0 0.0
LADO San Nicola del 2.87 136 P **Pn** 19 50 37.4 +2.4
LADO AML AML
comp=E,1545µm,1.6s
LADO AML AML
comp=N,157µm,1.6s
LADO AML AML
comp=N,157µm,1.6s
LADO AML AML
comp=E,1560µm,1.6s
RICI Ricice 2.90 43 ePn **Pn** 19 50 35.3 0.0
RICI Sn **Sn** 19 51 12.5 +2.6
KIJV Kijevo 2.99 28 *e*Pn **Pn** 19 50 37.4 +0.8
KIJV Sn **Sn** 19 51 13.7 +1.6
DBRK Dubrovnik 3.05 64 *e*Pn **Pn** 19 50 37.9 +0.5
DBRK Sn **Sn** 19 51 12.3 -1.2
NVLJ Novalja 3.18 6 *i* Pn **Pn** 19 50 39.3 0.0
NVLJ Sn **Sn** 19 51 17.1 +0.3
TREB Trebinje 3.20 64 *e*Pn **Pn** 19 50 39.9 +0.3
HCY Herceg Novi 3.21 70 ⇑*i* Pn **Pn** 19 50 39.4 -0.2
HCY *e*Sn **Sn** 19 51 17.6 +0.1
UDBI Udbina 3.28 17 *e*Pn **Pn** 19 50 41.9 +1.3

ATN Antennamare 3.33 166 P **Pb** 19 50 48.4 -0.2
BRY Bratogost 3.41 62 *e*Pn **Pn** 19 50 42.8 +0.3
BRY Bratogost 3.41 62 ⇓*i* Pn **Pn** 19 50 43.0 +0.5
BRY *e*Sn **Sn** 19 51 22.3 -0.3
BUM Brajici-Budva 3.45 73 ⇓*i* Pn **Pn** 19 50 43.0 -0.1
BUM *e*Sn **Sn** 19 51 23.3 -0.4
CEME Cevo 3.54 70 ⇓*i* Pn **Pn** 19 50 44.2 0.0
CEME *e*Sn **Sn** 19 51 25.3 -0.4
BRJN Brijuni 3.54 352 *i* Pn **Pn** 19 50 47.0 +2.8
BRJN Sn **Sn** 19 51 23.5 -2.2
MGRS Mrkonjic Grad 3.59 32 *e*Pn **Pn** 19 50 47.0 +2.0
NKME Niksic 3.63 66 ⇑*i* Pn **Pn** 19 50 45.7 +0.2
NKME *e*Sn **Sn** 19 51 27.7 -0.4
DRME Dracevica, Mon 3.64 76 *e*Pn **Pn** 19 50 45.9 +0.4
DRME Dracevica, Mon 3.64 76 ⇑*i* Pn **Pn** 19 50 46.0 +0.4
DRME *e*Sn **Sn** 19 51 28.1 -0.1
ULC Ulcinj 3.65 79 ⇑*i* Pn **Pn** 19 50 45.8 +0.1
ULC *e*Sn **Sn** 19 51 28.0 -0.4
MTCR Monte La Croce 3.65 317 P **Pb** 19 50 50.1 -4.0
NKY Niksic 3.68 66 ⇑*i* Pn **Pn** 19 50 46.7 +0.5
NKY *e*Sn **Sn** 19 51 28.7 -0.5
PDG Podgorica 3.75 72 *e*Pn **Pn** 19 50 47.5 +0.5
PDG Podgorica 3.75 72 ⇑P **Pn** 19 50 47.6 +0.5
PDG AML AML 19 51 34.0
TTG Podgorica 3.75 72 ⇑*i* Pn **Pn** 19 50 47.5 +0.5
TTG *e*Sn **Sn** 19 51 30.2 -0.5
UPM Unac-Piva 3.78 60 ⇑*i* Pn **Pn** 19 50 48.7 +1.1
UPM *e*Sn **Sn** 19 51 31.4 -0.4
VAE Valguarnera 3.91 180 Pn **Pn** 19 50 52.0 +2.7
comp=E,0.6nm,0.3s,baz=34,slow=15,SNR=2.0
BLY Banja Luka 3.91 30 *e*Pn **Pn** 19 50 50.4 +1.1
BLY Banja Luka 3.91 30 ⇑P **Pn** 19 50 50.7 +1.4
BLY AML AML 19 52 11.1
CARD Cardoso 3.92 313 P **Pb** 19 50 56.5 -2.1
CARD P Pg 19 50 58.7 -6.3
RIY Rijeka 3.93 1 *e*Pn **Pn** 19 50 50.4 +0.9
KOME Kolasin 4.05 67 ⇑*i* Pn **Pn** 19 50 51.8 +0.5
KOME *e*Sn **Sn** 19 51 37.6 -0.8
TIR Tirane 4.09 89 P **Pn** 19 50 52.2 +0.5
TIR Tirane 4.09 89 ⇑P **Pn** 19 50 52.8 +1.1
TIR AML AML 19 51 41.5
TIR Tirane 4.09 89 P **Pn** 19 50 52.8 +1.1
PUK Puka 4.14 79 P **Pn** 19 50 53.6 +1.1
PUK S **Sn** 19 51 42.0 +1.4
PUK AML AML
comp=N,430µm,0.5s
PUK AML AML
comp=E,360µm,1.3s
BOJS Bojanci 4.15 8 P **Pn** 19 50 53.4 +0.9
BOJS S **Sn** 19 51 43.0 +2.3
PLE Pljevlja 4.15 61 ⇓*i* Pn **Pn** 19 50 53.9 +1.2
PLE *e*Sn **Sn** 19 51 40.0 -0.9
PGF Pioggiola 4.21 288 *e*Pn **Pn** 19 50 53.4 -0.1
PGF *e*Sn **Sn** 19 51 43.5 +1.1
comp=E,6.8nm,0.4s
RUDO Rudo 4.27 57 *e*Pn **Pn** 19 50 55.0 +0.7
HAPS Han Pijesak,Bl 4.28 50 *e*Pn **Pn** 19 50 54.3 -0.1
OZLJ Ozalj 4.29 10 *i* Pn **Pn** 19 50 55.0 +0.7
OZLJ *e*Sn **Sn** 19 51 45.0 +1.0
PVY Plav 4.29 72 ⇑*i* Pn **Pn** 19 50 55.3 +0.7
PVY *e*Sn **Sn** 19 51 43.9 -0.5
IVA Berane 4.32 68 ⇓*i* Pn **Pn** 19 50 55.6 +0.6
IVA *e*Sn **Sn** 19 51 44.6 -0.5
CEY Cerknica 4.34 360 *e*Pn **Pn** 19 50 56.5 +1.3
KEK Kerkira 4.42 111 P **Pn** 19 50 57.0 +0.7
BBLS Lazići 4.42 54 *e*Pn **Pn** 19 50 57.5 +1.1
CRES Cresnjev 4.49 9 *e*Pn **Pn** 19 50 58.1 +0.8
PHP Peshkopia 4.52 84 P **Pn** 19 50 58.7 +1.0
MOSL Moslavina 4.54 21 *e*Pn **Pn** 19 50 58.0 +0.1
PTJ Puntijarka 4.65 13 ePn **Pn** 19 50 59.9 +0.4
PTJ Sn **Sn** 19 51 52.1 -0.9
LJU Ljubljana 4.65 1 *e*Pn **Pn** 19 51 00.4 +1.0
LJU Ljubljana 4.65 1 P **Pn** 19 51 00.6 +1.2
LJU AML AML
comp=E,258µm,1.0s
LJU AML AML
comp=N,255µm,1.5s
TEKS Tekeris 4.89 48 *e*Pn **Pn** 19 51 03.2 +0.4
DIVS Divibare 4.91 55 *e*Pn **Pn** 19 51 03.6 +0.6
KALN Kalnik 4.96 17 *i* Pn **Pn** 19 51 04.2 +0.5
NEST Nestorio 5.11 99 P **Pn** 19 51 08.2 +2.4
OBKA Obir 5.11 1 *i* Pn **Pn** 19 51 05.9 0.0
comp=N,1.3nm,0.2s
OBKA *i* Sn **Sn** 19 52 07.4 +2.8
comp=N,7.9nm,0.3s
PENT Pentalofos 5.23 101 P **Pn** 19 51 10.0 +2.5
MYKA Terra Mystica 5.26 354 *i* Pn **Pn** 19 51 09.5 +1.5
comp=N,1.7nm,0.3s
MYKA *i* Sn **Sn** 19 52 09.4 +1.1
comp=N,5.0nm,0.3s
FNA Florina 5.28 94 P **Pn** 19 51 09.4 +1.2
SOKA Soboth 5.30 4 Pn **Pn** 19 51 08.6 +0.2
comp=N,2.3nm,0.3s,SNR=12
FRGS Fruska Gora 5.44 44 *e*Pn **Pn** 19 51 09.5 -0.8
KPRO Kipourio 5.46 103 P **Pn** 19 51 13.4 +2.7
ABTA Abfaltersbach 5.53 346 *i* Pn **Pn** 19 51 12.5 +0.9
comp=N,5.8nm,0.6s
ABTA *i* Sn **Sn** 19 52 17.5 +2.7
KZN Kozani 5.67 99 P **Pn** 19 51 15.3 +1.8
MORH Mrgy, Hungar 5.70 31 *e*Pn **Pn** 19 51 13.0 -0.8
SBF Sospel 5.72 298 *e*Pn **Pn** 19 51 14.7 +0.5
KBA Koelnbreinsper 5.74 353 *i* Pn **Pn** 19 51 16.5 +2.0
comp=N,0.5nm,0.2s
ARSA Arzberg 5.91 7 Pn **Pn** 19 51 16.5 -0.2
comp=N,3.4nm,0.3s,SNR=11
ARSA *i* Sn **Sn** 19 52 26.3 +2.2
comp=N,2.7nm,0.4s
GRG Griva 6.03 92 P **Pn** 19 51 18.9 +0.5
TIH Tihany 6.04 23 *e*Pn **Pn** 19 51 17.1 -1.4
THL Klokotos Trika 6.06 105 P **Pn** 19 51 21.0 +2.2
PVO Paravola 6.11 115 P **Pn** 19 51 21.9 +2.4
FRF La Foret Royal 6.15 293 *e*Pn **Pn** 19 51 19.9 -0.1
FRF *e*Sn **Sn** 19 52 25.5 -4.5
comp=N,1.0nm,0.2s
EVR Evrytania 6.17 111 P **Pn** 19 51 23.2 +2.8
LMR La Mourre 6.18 291 *e*Pn **Pn** 19 51 20.0 -0.4
LMR *e*Sn **Sn** 19 52 28.7 -2.0
comp=N,1.6nm,0.3s
WTTA Wattenberg 6.20 342 *i* Pn **Pn** 19 51 19.7 -1.2
WTTA *i* Sn **Sn** 19 52 33.7 +2.2
comp=N,2.5nm,0.3s
FETA Feichten 6.22 336 *i* Pn **Pn** 19 51 21.4 +0.2
comp=N,6.1nm,0.8s
FETA *i* Sn **Sn** 19 52 34.4 +2.4
comp=N,1.7nm,0.4s
LIT Litokhoron 6.25 99 P **Pn** 19 51 22.8 +1.3
SQTA Sankt Quirin 6.27 339 *i* Pn **Pn** 19 51 23.5 +1.8
comp=N,4.1nm,0.3s
WATA Walderalm 6.28 342 *i* Pn **Pn** 19 51 23.5 +1.5
MDVR Moldovita 6.31 55 ⇓P **Pn** 19 51 22.6 +0.3
MAKR Makrakomi, Fth 6.36 109 P **Pn** 19 51 25.8 +2.9
KNT Kendrikon 6.38 89 P **Pn** 19 51 23.6 +0.3
MOTA Moosalm 6.41 339 *i* Pn **Pn** 19 51 25.9 +2.2
comp=N,0.9nm,0.4s
MOA Molln 6.46 359 Pn **Pn** 19 51 25.2 +0.9
comp=N,1.6nm,0.2s,SNR=14
MOA *i* Sn **Sn** 19 52 37.8 +0.3
comp=N,4.2nm,0.4s
EFP Efpalio 6.46 115 P **Pn** 19 51 26.3 +1.9
AGG Agios Georgios 6.49 109 P **Pn** 19 51 27.3 +2.5
MBDF Montbardon 6.52 303 *e*Pn **Pn** 19 51 24.6 -0.7
SERG Sergoula 6.58 114 P **Pn** 19 51 28.5 +2.6
DRO Drossia 6.58 119 P **Pn** 19 51 27.8 +1.8
CONA Conrad Observa 6.61 8 *i* Pn **Pn** 19 51 26.3 -0.1
comp=N,3.1nm,0.4s,SNR=14
CONA *i* Sn **Sn** 19 52 43.3 +1.8
comp=N,1µm,0.0s
RETA Reutte 6.63 338 *i* Pn **Pn** 19 51 27.9 +1.2
RETA *i* Sn **Sn** 19 52 44.4 +2.5
VTS Vitosha 6.67 77 P **Pn** 19 51 28.0 +0.6
VTS Vitosha 6.67 77 ⇑P **Pn** 19 51 27.9 +0.6
DAVA Damuels 6.73 333 *i* Pn **Pn** 19 51 30.2 +2.0
KLV Kalavryta, Ach 6.83 117 P **Pn** 19 51 31.1 +1.7
PLG Polygyros 6.91 96 P **Pn** 19 51 31.0 +0.5
KEST Kesra 6.92 217 Pn **Pn** 19 51 32.7 +2.1
comp=N,1.2nm,0.3s,baz=318,slow=5.7,SNR=16
LPG La Plagne 6.93 309 *e*Pn **Pn** 19 51 30.3 -0.7
LPG *e*Sn **Sn** 19 52 45.9 -3.7
comp=N,0.5nm,0.3s
LPL La Plagne 6.95 309 *e*Pn **Pn** 19 51 30.9 -0.4
XOR Xorichti 6.99 104 P **Pn** 19 51 32.2 +0.6
SMRF Simiane la Rot 7.02 295 *e*Pn **Pn** 19 51 31.3 -0.7

NVR Nevrokopi 7.09 87 P **Pn** 19 51 34.3 +1.3
ORIF Oris-en-Rattie 7.18 302 *e*P **Pn** 19 51 38.1 +3.9
SRE Strehaia 7.21 60 ⇑P **Pn** 19 51 35.9 +1.3
MODS Modra-Piesok 7.26 15 *e*PN **Pn** 19 51 36.1 +0.8
GZR Gura Zlata 7.27 54 ⇑P **Pn** 19 51 35.7 +0.2
GERES GERESS Array B 7.47 356 Pn **Pn** 19 51 37.7 -0.5
comp=N,1.2nm,0.3s,baz=173,slow=13,SNR=40
GERES Sn **Sn** 19 52 59.7 -2.8
comp=N,1.4nm,0.3s,baz=167,slow=25,SNR=7.8
PSZ Piszkesteto 7.59 29 ⇓P **Pn** 19 51 42.2 +2.3
PSZ Piszkesteto 7.59 29 *e*Pn **Pn** 19 51 38.1 -1.9
DEV Deva 7.61 51 ⇓P **Pn** 19 51 40.7 +0.7
KOLL Kolacno 7.71 20 *e*PN **Pn** 19 51 42.2 +0.7
VYHS Vyhne 7.75 22 *e*Pn **Pn** 19 51 42.8 +0.7
VYHS *e*SN **Sn** 19 53 07.1 -2.4
KHC Kasperske Hory 7.76 356 *e*PN **Pn** 19 51 41.5 -0.7
KHC *e*SN **Sn** 19 53 07.7 -1.9
KRUC Moravsky 7.79 10 *e*PN **Pn** 19 51 44.6 +2.1
PLVB Pleven 7.80 72 ⇓P **Pn** 19 51 43.3 +0.6
LOT Lotru 7.91 56 ⇑P **Pn** 19 51 45.9 +1.6
CABF La Chapelle 7.96 314 *e*Pn **Pn** 19 51 44.0 -0.9
CABF *e*Sn **Sn** 19 53 08.6 -6.0
comp=N,1.8nm,0.3s
VRAC Vranov 8.06 10 Pn **Pn** 19 51 45.6 -0.7
comp=N,0.4nm,0.3s,baz=205,slow=14,SNR=2.3
VRAC LR LR 19 54 39.0
comp=N,31nm,19.0s,baz=206,slow=37
VRAC Vranov 8.06 10 *e*PN **Pn** 19 51 45.7 -0.5
LASF Ste Croix 8.23 293 *e*Pn **Pn** 19 51 48.8 +0.2
KECS Kecovo 8.28 29 *e*PN **Pn** 19 51 53.0 +3.7
PBCC Pribram 8.30 358 *e*PN **Pn** 19 51 49.8 +0.3
HINF Hinteralfeld 8.39 322 *e*Pn **Pn** 19 51 50.0 -0.8
HINF *e*Sn **Sn** 19 53 19.3 -5.9
comp=N,2.8nm,0.4s
GOPC GO Pecny, Ondr 8.52 2 *e*PN **Pn** 19 51 52.1 -0.5
LANS Liptovska Anna 8.53 23 *e*PN **Pn** 19 51 51.9 -0.8
ELND Elena 8.64 76 ⇓P **Pn** 19 51 55.3 +1.1
CDF Champ du Feu 8.66 327 *e*Pn **Pn** 19 51 53.6 -0.9
CDF *e*Sn **Sn** 19 53 25.6 -6.2
comp=N,2.4nm,0.5s
MORC Moravsky Berou 8.66 14 ⇓P **Pn** 19 51 57.0 +2.5
MORC Moravsky Berou 8.66 14 *e*PN **Pn** 19 51 57.2 +2.7
VOIR 8.72 59 ⇓P **Pn** 19 51 57.2 +1.9
HAU Haudompre 8.76 322 *e*Pn **Pn** 19 51 55.6 -0.3
KRLC Kraliky 8.84 10 *e*PN **Pn** 19 51 57.7 +0.8
TRPA Tarpa 8.86 38 *e*Pn **Pn** 19 51 58.0 +0.8
DOPR Dopca 9.16 56 ⇑P **Pn** 19 52 02.9 +1.6
RAZG Razgrad 9.18 72 ⇑P **Pn** 19 52 01.5 -0.1
CHVC Chvalec 9.26 6 *e*PN **Pn** 19 52 02.7 -0.1
MLR Muntele Rosu 9.32 60 Pn **Pn** 19 52 04.6 +1.0
comp=N,0.2nm,0.3s,baz=300,slow=18,SNR=6.6
MLR Muntele Rosu 9.32 60 ⇑P **Pn** 19 52 07.3 +3.6
SSF Saint Saulge 9.67 310 *e*Pn **Pn** 19 52 06.3 -2.0
SSF *e*Sn **Sn** 19 53 49.4 -7.1
comp=N,0.4nm,0.2s
BURAR Bucovina Array 9.90 47 ⇑P **Pn** 19 52 13.5 +2.1
PLOR Plostina 9.91 59 ⇓P **Pn** 19 52 12.7 +1.1
IDI Anoyia 10.22 123 Pn **Pn** 19 52 18.8 +2.8
comp=N,0.5nm,0.3s,baz=285,slow=12,SNR=3.0
IDI Sn **Sn** 19 54 08.7 -1.7
comp=N,0.4nm,0.3s,baz=342,slow=20,SNR=5.2
HARR Harsova 10.42 67 ⇑P **Pn** 19 52 20.1 +1.6
ESDC Sonseca Array 14.10 269 Pn **Pn** 19 53 08.8 -0.1
comp=N,0.1nm,0.3s,baz=71,slow=13,SNR=4.3
BRTR Keskin Array B 14.70 90 Pn **Pn** 19 53 17.7 +0.5
comp=N,0.1nm,0.3s,baz=265,slow=12,SNR=3.6
MMAI Mount Meron Ar 18.65 110 P **Pn** 19 54 09.9 +2.5
comp=N,0.2nm,0.3s,baz=321,slow=11,SNR=2.3
HFS Hagfors 18.77 359 LR LR 20 01 29.6
comp=N,93nm,18.6s,baz=242,slow=38
NOA NORSAR Array B 19.77 355 P **P** 19 54 19.2 +0.1
comp=N,0.0nm,0.3s,baz=219,slow=7.3,SNR=2.6
NOA LR LR 20 03 40.4
comp=N,35nm,18.3s,baz=180,slow=42
FINES FINESS Array B 21.29 15 P **P** 19 54 34.7 -0.6
comp=N,1.9nm,0.8s,baz=182,slow=9.7,SNR=3.1
FINES LR LR 20 03 53.0
comp=N,70nm,20.6s,baz=264,slow=40
KIRV Kirov 27.87 40 LR LR 20 08 20.9
comp=N,96nm,18.7s,baz=192,slow=40
TORD Torodi Ar. Bea 30.26 205 P **P** 19 56 01.1 +1.0
comp=N,0.8nm,0.8s,baz=22,slow=9.1,SNR=3.6
ARU Arti 32.03 47 P **P** 19 56 17.1 +1.7
comp=N,0.3nm,0.4s,baz=287,slow=11,SNR=2.9
MKAR Makanchi Array 47.66 59 P **P** 19 58 24.6 -0.7
comp=N,0.2nm,0.6s,baz=284,slow=6.1,SNR=4.1
MKAR LR LR 20 21 43.5
comp=N,31nm,18.6s,baz=347,slow=40
OPO Ambohidratompo 66.94 146 LR LR 20 29 14.0
comp=N,16nm,19.9s,baz=351,slow=35
YKA Yellowknife Ar 68.69 337 P **P** 20 00 52.2 +0.1
comp=N,0.1nm,0.2s,baz=38,slow=6.5,SNR=4.9

ISCJB ***29*** *20:05:43.3±0.3, 1°.15N±0°.04×127°.23E±0°.04, h150km, mb4.5/11, Error ellipse: s-maj=6.3km s-min=4.1km az=142.9*
NEIC ***29*** *20:05:44.3±1.1, 1°.07N±0°.10×127°.17E±0°.08, h143km±8km, mb4.5/9*
DJA ***29*** *20:05:44.2±0.2, 1°.N±2°×12°.7E±°, h135km±2km, M4.5/13, mB5.0/7, mb4.8/13, MLv4.6/13, Mw(mB)4.3/7*
IDC ***29*** *20:05:45.1±2.4, 1°.12N×127°.30E, h156km±26km, mb3.9/9, mb1 4.0/12, mb1mx3.5/64, mbtmp4.3/12, Error ellipse: s-maj=27.7km s-min=12.1km az=74.0*

ISC 29 20:05:44.3±0.6, **1°.18N**±0°.05×**127°.23E**±0°.06, **h150**km, **n55,**
σ1§**63**/62, **mb4.3**/15, **1C, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.43**	**161**	P	**Pn**	**20 06 04.5**	**-0.8**
TNTI				S	**Sn**	**20 06 19.3**	**-2.1**
TNTI	**Ternate**	**0.43**	**161**		**Pn**	**20 06 04.2**	**-1.1**
LBMI	**Labuha**	**1.83**	**171**	P	**Pn**	**20 06 17.4**	**-0.1**
LBMI				S	**Sn**	**20 06 41.8**	**-1.2**
KMSI	**Cibinong**	**3.30**	**259**	P	**Pn**	**20 06 35.1**	**-0.4**
KMSI				S	**Sn**	**20 07 13.8**	**-1.3**
SANI	**Sanana**	**3.44**	**201**	P	**Pn**	**20 06 35.8**	**-1.5**
SANI				S	**Sn**	**20 07 12.8**	**-5.6**
NLAI	**Namlea**	**4.39**	**182**	P	**Pn**	**20 06 49.4**	**-0.3**
SIJI	**Sorong**	**4.53**	**117**	P	**Pn**	**20 06 52.6**	**+1.1**
	3.3nm,0.3s,baz=317,slow=17,SNR=15						
SIJI				S	**Sn**	**20 07 42.4**	**-1.4**
	1.0nm,0.3s,baz=29,slow=19,SNR=2.8						
AAI	**Ambon**	**4.93**	**169**	P	**Pn**	**20 06 57.2**	**+0.4**
LUWI	**Luwuk**	**4.97**	**244**	P	**Pn**	**20 06 55.8**	**-1.5**
LUWI	**Luwuk**	**4.97**	**244**	Pn	**Pn**	**20 06 56.0**	**-1.3**
DDMP	**Don Marcelino,**	**5.12**	**343**	P	**Pn**	**20 06 57.6**	**-1.6**
DDMP				S	**Sn**	**20 07 53.1**	**-4.7**
MRSI	**Marisa**	**5.33**	**262**	P	**Pn**	**20 07 01.0**	**-1.1**
	150nm,0.7s,2µm0.6nm						
SKMP	**Bagumbayan, Su**	**5.94**	**333**	P	**Pn**	**20 07 08.9**	**-1.3**
SKMP				S	**Sn**	**20 08 12.7**	**-4.7**
APSI	**Ampana**	**5.95**	**250**	P	**Pn**	**20 07 09.1**	**-1.3**
	102nm,0.5s,3µm0.6nm						
CTBH	**Cotabato--PC H**	**6.69**	**334**	⇑P	**Pn**	**20 07 19.1**	**-1.1**
BUKP	**Musuan**	**6.99**	**342**	P	**Pn**	**20 07 23.4**	**-0.9**
MPSI	**Mapaga**	**7.38**	**264**	P	**Pn**	**20 07 29.6**	**+0.2**
	35nm,0.6s,1µm0.2nm						
TTSI	**Tana Toraja**	**8.51**	**240**	P	**Pn**	**20 07 43.9**	**-0.7**
	67nm,0.8s,789nm						
BNSI	**Bone**	**9.02**	**232**	P	**Pn**	**20 07 51.1**	**-0.2**
	37nm,0.7s						
SPSI	**Sidrap Palu**	**9.04**	**236**	P	**Pn**	**20 07 52.0**	**+0.5**
	68nm,0.5s,938nm						
SAUI	**Saumlaki**	**9.97**	**156**	P	**Pn**	**20 08 04.5**	**+0.6**
SAUI	**Saumlaki**	**9.97**	**156**		**Pn**	**20 08 03.5**	**-0.5**
BATI	**Baumata**	**11.86**	**197**	P	**Pn**	**20 08 28.8**	**0.0**
	1.2nm,0.3s,baz=149,slow=5.9,SNR=2.3						
MTN	**Manton Dam**	**14.46**	**165**	P	**Pn**	**20 08 60.0**	**-2.2**
KNRA	**Kununurra**	**16.82**	**175**	P	**P**	**20 09 30.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**19.22**	**185**	P	**P**	**20 09 56.4**	**-0.5**
	2.1nm,0.3s,baz=17,slow=9.1,SNR=48						
FITZ	**Fitzroy Crossi**	**19.22**	**185**	P	**P**	**20 09 56.7**	**-0.2**
FITZ				IAmb	IAmb	20 09 59.6	
	comp=Z,97nm,1.9s						
KPJI	**Karang Pucung**	**20.12**	**245**	P	**P**	**20 10 08.3**	**+1.7**
	comp=Z,56nm,0.8s						
COEN	**Coen**	**21.82**	**134**	P	**P**	**20 10 25.3**	**+0.5**
COEN				IAmb	IAmb	20 10 33.0	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**22.12**	**162**	P	**P**	**20 10 27.4**	**-0.4**
WRA	**Warramunga Arr**	**22.12**	**162**	P	**P**	**20 10 27.2**	**-0.7**
	comp=Z,20nm,0.5s,baz=340,slow=11,SNR=145						

WR0	**Warramunga Arr**	**22.20**	**162**	P	**P**	**20 10 28.0**	**-0.6**
WR0				IAmb	IAmb	20 10 28.4	
	comp=Z,17nm,0.5s						
MDSI	**Maura Dua**	**23.71**	**256**	P	**P**	**20 10 44.7**	**+2.0**
	comp=Z,13nm,1.1s						
AS31	**Alice Springs**	**25.54**	**166**	P	**P**	**20 10 59.1**	**-0.2**
AS31				IAmb	IAmb	20 11 05.5	
	comp=Z,3.9nm,0.3s						
ASAR	**Alice Springs**	**25.54**	**166**	P	**P**	**20 10 59.0**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=344,slow=7.3,SNR=51						
NANT	**Nan**	**31.35**	**306**	P	**P**	**20 11 53.8**	**+2.9**
	comp=Z,58μm,0.7s						
CMAR	**Chiang Mai Arr**	**32.63**	**303**	P	**P**	**20 12 03.2**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=118,slow=7.3,SNR=4.6						
NWAO	**Narrogin (SRO)**	**35.21**	**195**	P	**P**	**20 12 23.8**	**-0.4**
	comp=Z,3.3nm,0.5s,baz=38,slow=11,SNR=4.6						
STKA	**Stephens Creek**	**35.59**	**159**	P	**P**	**20 12 27.3**	**-0.2**
	comp=Z,6.5nm,0.4s,baz=335,slow=8.6,SNR=39						
STKA	**Stephens Creek**	**35.59**	**159**	P	**P**	**20 12 27.2**	**-0.2**
SHL	**Shillong**	**41.81**	**308**	P	**P**	**20 13 20.4**	**+0.8**
SHL				IAmb	IAmb	20 13 21.1	
	comp=Z,4.3nm,0.6s						
LSA	**Lhasa**	**44.51**	**313**	P	**P**	**20 13 44.2**	**+2.6**
TAPN	**Taplejung**	**45.94**	**308**	*e*P	**P**	**20 13 54.1**	**+1.4**
	comp=Z,2.8nm,0.4s						
ODAN	**Odare**	**45.97**	**307**	*e*P	**P**	**20 13 54.2**	**+1.3**
	comp=Z,5.3nm,0.6s						
RAMN	**Ramite**	**46.64**	**307**	*e*P	**P**	**20 13 59.9**	**+1.8**
	comp=Z,6.9nm,0.6s						
JIRN	**Jiri**	**47.28**	**308**	*e*P	**P**	**20 14 04.7**	**+1.4**
	comp=Z,9.5nm,0.5s						
GUN	**Gumba**	**47.64**	**308**	*e*P	**P**	**20 14 07.3**	**+1.3**
	comp=Z,7.7nm,0.4s						
PKI	**Pulchoki**	**47.86**	**307**	*e*P	**P**	**20 14 08.9**	**+1.2**
PKIN	**Phulchoki**	**47.88**	**307**	*e*P	**P**	**20 14 09.0**	**+1.3**
	comp=Z,2.6nm,0.3s						
DMN	**Daman**	**48.12**	**307**	*e*P	**P**	**20 14 11.5**	**+1.9**
DANN	**Dangsing**	**49.52**	**307**	*e*P	**P**	**20 14 21.6**	**+1.3**
	comp=Z,24nm,0.6s						
SONM	**Songino Array**	**49.85**	**342**	P	**P**	**20 14 22.6**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=157,slow=8.6,SNR=5.5						
MKAR	**Makanchi Array**	**59.92**	**326**	P	**P**	**20 15 35.8**	**+1.2**
	comp=Z,2.1nm,0.3s,baz=116,slow=8.0,SNR=63						
KURBB	**Kurchatov Arra**	**64.14**	**328**	P	**P**	**20 16 03.1**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=125,slow=6.2,SNR=13						
VNDA	**Vanda**	**80.85**	**173**	P	**P**	**20 17 40.7**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=310,slow=6.6,SNR=5.4						

SJA ***29*** *20:07:37.1±5.8, 48.˚18S×75.˚79W, h10km, MW4.9(GFZ)*
GUC ***29*** *20:07:59.2±0.5, 45.˚74S×76.˚90W, h10km, MW4.8*
IDC ***29*** *20:08:00.4±0.6, 45.˚72S×76.˚56W, h0km, mb4.3/13, mb1 4.5/15, mb1mx4.3/39, mbtmp4.3/15, ML4.0/2, MS4.0/16, Ms1 4.0/16, ms1mx3.9/27, Error ellipse: s-maj=24.9km s-min=14.5km az=99.0*
ISCJB ***29*** *20:08:01.5±0.5, 45.˚80S±0.˚04×76.˚79W±0.˚10, h17km, mb4.2/13, MS4.1/17, Error ellipse: s-maj=10.0km s-min=5.5km az=173.0*
NEIC ***29*** *20:08:03.9±2.1, 45.˚71S±0.˚07×76.˚5W±0.˚2, h24km±3km, mb4.9/17, Mwr4.8(GUC)*
GCMT ***29*** *20:08:03.9±0.4, 45.˚99S±0.˚02×76.˚95W±0.˚03, h16km±1km, MW4.9/69, Moment Tensor Solution. s13,c13; s69,c91; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.07±.13; Mθθ=1.55±.08; Mϕϕ=2.62±.13; Mrθ=-1.16±.33; Mθϕ=0.00±.08; Mϕr=1.02±.30; Best double couple: M₀=2.74100×10¹⁶ NP1:ϕ=143.00000°, δ=74.00000°, λ=-137.00000°. NP2: ϕ=39.00000°, δ=49.00000°, λ=-21.00000°. Principal axes: T 2.9040, Plg15.0000°, Azm266.0000°; N -0.3250, Plg45.0000°, Azm160.0000°; P -2.5780, Plg41.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***29*** *20:08:04.0±0.0, 45.˚70S×76.˚50W, h30km, Ms5.3/1, Ms7 4.5/1*
VAO ***29*** *20:08:36.4±1.2, 43.˚96S×75.˚63W, h180km±9km, mb4.5*

ISC 29 20:08:02.8±0.4, 45.˚70S±0.˚06×76.˚62W±0.˚08, h17km, n135, σ2ˢ18/122, mb4.5/17, MS4.1/17, 2C, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
COYC	**Coyhaique**	**3.19**	**89**	*i*P		**Pn**	**20 08 52.6**	**+0.4**
GO08	**Villa O'Higgin**	**3.92**	**136**	*i*P		**Pn**	**20 09 01.7**	**-0.6**
GO08				*e*S		**Sn**	**20 09 49.6**	**+1.7**
GO09	**Cerro Castillo**	**6.26**	**155**	Pn		**Pn**	**20 09 33.4**	**-1.0**
PLCA	**Paso Flores**	**6.65**	**44**	*e*P		**Pn**	**20 09 40.5**	**+0.7**
PLCA	**Paso Flores**	**6.65**	**44**	Pn		**Pn**	**20 09 40.8**	**+0.9**
	1.0nm,0.3s,baz=249,slow=13,SNR=19							
PLCA				LR		LR	20 12 12.8	
	comp=Z,2μm,20.1s,baz=246,slow=38							
PLCA	**Paso Flores**	**6.65**	**44**	*e*P		Pb	20 09 49.7	-8.4
PLCA	**Paso Flores**	**6.65**	**44**	*e*P		Pb	20 09 49.7	-8.4
PLCA	**Paso Flores**	**6.65**	**44**			**Pn**	**20 09 39.8**	**-0.1**
GO06	**Curarrehue**	**7.19**	**34**	*i* P		**Pn**	**20 09 47.7**	**+0.4**
GO06	**Curarrehue**	**7.19**	**34**			**Pn**	**20 09 47.7**	**+0.4**
USHA	**Ushuaia**	**10.53**	**153**	Pn		**Pn**	**20 10 32.6**	**-0.3**
	0.6nm,0.3s,baz=340,slow=14,SNR=3.0							
USHA				LR		LR	20 14 46.6	
	comp=Z,1μm,18.5s,baz=331,slow=39							
GO05	**Huala**	**11.26**	**20**			**Pn**	**20 10 41.7**	**-1.2**
PEL	**Peldehue**	**13.34**	**22**			**Pn**	**20 11 09.6**	**-1.9**
ROC1	**El Roble**	**13.42**	**21**			**Pn**	**20 11 10.9**	**-1.8**
RTLS	**Leoncito**	**15.00**	**25**	*e*P		**P**	**20 11 39.2**	**-0.5**
RTCV	**Cerro Valdivia**	**15.17**	**27**	*e*P		**Pn**	**20 11 33.9**	**-2.5**
RTLL	**Cerro Villicun**	**15.69**	**27**	*e*P		**P**	**20 11 46.7**	**-0.4**
MRA	**San Martin**	**15.71**	**36**	*e*P		**Pn**	**20 11 40.5**	**-3.0**
AMOG	**MOGNA**	**16.04**	**26**	*e*P		**Pn**	**20 11 49.0**	**+1.3**
ACCO	**Cerro Coronel**	**16.20**	**24**	*i* P		**Pn**	**20 11 51.0**	**+1.0**
TCA	**Tanti**	**17.12**	**37**	*e*P		**Pn**	**20 11 56.1**	**-5.3**
VCA	**Vinchina**	**18.19**	**24**	*e*P		**Pn**	**20 12 09.4**	**-5.3**
CYA	**Choya**	**19.23**	**30**	*e*P		**P**	**20 12 26.9**	**+0.7**
PMSA	**Palmer Station**	**20.34**	**164**	LR		LR	20 19 14.5	
	comp=Z,191nm,18.0s,baz=310,slow=33							
GO02	**Mina Guanaco**	**21.26**	**18**	P		**P**	**20 12 48.4**	**-0.1**
ITQB	**Itaqui**	**22.41**	**51**	*e*P		**P**	**20 13 03.1**	**+2.6**
ITQB	**Itaqui**	**22.41**	**51**	*e*P		**P**	**20 13 03.1**	**+2.6**
LVC	**Limon Verde**	**23.88**	**18**	P		**P**	**20 13 16.5**	**+0.7**
	11nm,0.9s,baz=179,slow=9.3,SNR=17							
LVC				LR		LR	20 23 17.1	
	comp=Z,229nm,19.5s,baz=200,slow=38							
LVC	**Limon Verde**	**23.88**	**18**	*e*P		**P**	**20 13 16.8**	**+1.0**
LVC	**Limon Verde**	**23.88**	**18**	*e*P		**P**	**20 13 16.8**	**+1.0**
PB04	**IPOC Station P**	**23.90**	**15**	P		**P**	**20 13 16.8**	**+1.0**
PB04				IAmb		IAmb	20 13 17.4	
	comp=Z,42nm,0.9s							
CPUP	**Villa Florida**	**24.73**	**45**	P		**P**	**20 13 23.8**	**+0.6**
	comp=Z,29nm,0.9s,baz=227,slow=9.0,SNR=39							
CPUP				LR		LR	20 23 43.5	
	comp=Z,832nm,19.3s,baz=216,slow=38							
CPUP	**Villa Florida**	**24.73**	**45**	*e*P		**P**	**20 13 25.4**	**+2.2**
CPUP	**Villa Florida**	**24.73**	**45**	*e*P		**P**	**20 13 25.4**	**+2.2**
CPUP	**Villa Florida**	**24.73**	**45**	P		**P**	**20 13 24.0**	**+0.8**
CNLB	**Canela**	**26.02**	**60**	*e*P		**P**	**20 13 38.9**	**+3.9**
CNLB	**Canela**	**26.02**	**60**	*e*P		**P**	**20 13 38.9**	**+3.9**
ITAB	**Concordia**	**26.80**	**55**	*e*P		**P**	**20 13 43.7**	**+1.7**
ITAB	**Concordia**	**26.80**	**55**	*e*P		**P**	**20 13 43.7**	**+1.7**
PTGB	**Pitanga**	**28.80**	**52**	*e*P		**P**	**20 14 03.3**	**+3.3**
PTGB	**Pitanga**	**28.80**	**52**	*e*P		**P**	**20 14 03.3**	**+3.3**
LPAZ	**La Paz**	**30.17**	**16**	P		**P**	**20 14 13.7**	**+0.9**
	comp=Z,4.7nm,1.1s,baz=182,slow=8.8,SNR=10							
LPAZ	**La Paz**	**30.17**	**16**	*e*P		**P**	**20 14 14.5**	**+1.7**
LPAZ	**La Paz**	**30.17**	**16**	*e*P		**P**	**20 14 14.5**	**+1.7**
LPAZ	**La Paz**	**30.17**	**16**	P		**P**	**20 14 11.8**	**-1.0**
AQDB	**Aquidauana**	**30.48**	**41**	*e*P		**P**	**20 14 15.8**	**+1.0**
AQDB	**Aquidauana**	**30.48**	**41**	*e*P		**P**	**20 14 15.8**	**+1.0**
FRTB	**Fartura**	**31.27**	**54**	*e*P		P	20 14 26.9	+5.1
FRTB	**Fartura**	**31.27**	**54**	*e*P		P	20 14 26.9	+5.1
SPB	**Sao Paulo**	**32.31**	**57**	*e*P		**P**	**20 14 34.8**	**+3.9**
SPB	**Sao Paulo**	**32.31**	**57**	*e*P		**P**	**20 14 34.8**	**+3.9**
VAO	**Valinhos**	**33.03**	**57**	*e*P		**P**	**20 14 40.9**	**+3.5**
VAO	**Valinhos**	**33.03**	**57**	*e*P		**P**	**20 14 40.9**	**+3.5**
RCLB	**Rio Claro- Sao**	**33.16**	**55**	*e*P		**P**	**20 14 42.7**	**+4.3**
RCLB	**Rio Claro- Sao**	**33.16**	**55**	*e*P		**P**	**20 14 42.7**	**+4.3**
PP1B	**Ponte de Pedra**	**33.36**	**40**	*e*P		**P**	**20 14 41.7**	**+1.6**
PP1B	**Ponte de Pedra**	**33.36**	**40**	*e*P		**P**	**20 14 41.7**	**+1.6**
BB19B	**Bebedouro**	**33.66**	**53**	*e*P		**P**	**20 14 46.5**	**+3.7**
BB19B	**Bebedouro**	**33.66**	**53**	*e*P		**P**	**20 14 46.5**	**+3.7**
ITRB	**Iturama**	**33.78**	**49**	*e*P		**P**	**20 14 46.8**	**+3.0**
ITRB	**Iturama**	**33.78**	**49**	*e*P		**P**	**20 14 46.8**	**+3.0**
SALV	**Santo Antonio**	**34.50**	**37**	*e*P		**P**	**20 14 50.6**	**+0.5**
SALV	**Santo Antonio**	**34.50**	**37**	*e*P		**P**	**20 14 50.6**	**+0.5**
ESAR	**Angra dos Reis**	**34.53**	**60**	*e*P		P	20 14 55.9	+5.7
ESAR	**Angra dos Reis**	**34.53**	**60**	*e*P		P	20 14 55.9	+5.7
IPMB	**Ipameri, GO**	**36.33**	**50**	*e*P		**P**	**20 15 10.6**	**+4.8**
IPMB	**Ipameri, GO**	**36.33**	**50**	*e*P		**P**	**20 15 10.6**	**+4.8**
PMNB	**Patos De Minas**	**36.85**	**53**	*e*P		**P**	**20 15 13.9**	**+3.6**
PMNB	**Patos De Minas**	**36.85**	**53**	*e*P		**P**	**20 15 13.9**	**+3.6**
BDFB	**Brasilia**	**38.38**	**48**	P		**P**	**20 15 23.2**	**-0.1**
	comp=Z,14nm,1.0s,baz=197,slow=5.7,SNR=14							
BDFB				LR		LR	20 32 54.2	
	comp=Z,312nm,18.2s,baz=215,slow=39							
BDFB	**Brasilia**	**38.38**	**48**	P		**P**	**20 15 23.9**	**+0.6**
BDFB				IAmb		IAmb	20 15 24.9	
	comp=Z,17nm,1.1s							
SAML	**Samuel**	**38.40**	**22**	*e*P		**P**	**20 15 23.8**	**+0.5**
SAML	**Samuel**	**38.40**	**22**	*e*P		**P**	**20 15 23.8**	**+0.5**
SAML	**Samuel**	**38.40**	**22**	P		**P**	**20 15 23.6**	**+0.3**
SAML				IAmb		IAmb	20 15 25.0	
	comp=Z,28nm,1.1s							
VNA1	**Neumayer--Stat**	**40.65**	**152**	P		**P**	**20 15 41.8**	**+0.3**
VNA2	**Neumayer--Watz**	**40.94**	**152**	P		**P**	**20 15 44.4**	**+0.5**
	baz=277,slow=8.7							
SNAA	**Sanae**	**42.39**	**153**	P		**P**	**20 15 56.5**	**+0.6**
SNAA	**Sanae**	**42.39**	**153**	P		**P**	**20 15 56.2**	**+0.3**
	comp=Z,3.7nm,0.9s,baz=256,slow=7.6,SNR=5.9							
SNAA	**Sanae**	**42.39**	**153**	P		**P**	**20 15 56.8**	**+1.0**
QSPA	**South Pole Qui**	**44.55**	**180**	P		**P**	**20 16 13.2**	**-0.3**
	comp=Z,10nm,0.8s,baz=142,slow=6.1,SNR=17							
QSPA				LR		LR	20 33 14.6	
	comp=Z,92nm,18.2s,baz=126,slow=34							
QSPA	**South Pole Qui**	**44.55**	**180**	P		**P**	**20 16 12.5**	**-1.0**
QSPA				IAmb		IAmb	20 16 26.9	
	comp=Z,19nm,1.1s							
OTAV	**Otavalo**	**45.77**	**357**	*e*P		**P**	**20 16 25.8**	**+1.9**
OTAV	**Otavalo**	**45.77**	**357**	*e*P		**P**	**20 16 25.8**	**+1.9**
OTAV	**Otavalo**	**45.77**	**357**	P		**P**	**20 16 24.4**	**+0.4**
OTAV				IAmb		IAmb	20 16 26.9	
	comp=Z,21nm,1.5s							
ROSC	**El Rosal**	**50.35**	**3**	LR		LR	20 36 15.4	
	comp=Z,265nm,18.5s,baz=201,slow=34							
VNDA	**Vanda**	**51.94**	**194**	P		**P**	**20 17 11.1**	**+1.0**
	comp=Z,5.5nm,1.0s,baz=138,slow=8.9,SNR=9.7							
VNDA				LR		LR	20 36 52.9	
	comp=Z,58nm,19.3s,baz=122,slow=33							
VNDA	**Vanda**	**51.94**	**194**	P		**P**	**20 17 10.1**	**0.0**
VNDA				IAmb		IAmb	20 17 19.7	
	comp=Z,12nm,1.1s							
TBI	**Tubuai**	**61.89**	**265**	*e*LR		LR	20 36 43.7	
	comp=Z,561nm,27.5s							
MAW	**Mawson**	**62.96**	**164**	LR		LR	20 44 53.8	
	comp=Z,217nm,21.0s,baz=237,slow=35							
CMIG	**Matias Romero**	**64.65**	**341**	LR		LR	20 39 41.6	
	comp=Z,59nm,20.0s,baz=170,slow=29							
PPT2	**Papeete2**	**65.78**	**269**	*e*S		**S**	**20 27 33.6**	**+0.5**
	comp=Z,70nm,24.2s							
PPT2	**Papeete2**	**65.78**	**269**	*e*LR		LR	20 38 26.1	
	comp=Z,270nm,26.5s							
PPT	**Papeete**	**65.80**	**269**	LR		LR	20 39 20.5	
	comp=Z,161nm,20.6s,baz=189,slow=29							
CASY	**Casey**	**68.22**	**183**	P		**P**	**20 19 02.1**	**+0.2**
TUWZ	**Tuamarina**	**72.85**	**228**	P		**P**	**20 19 34.1**	**+3.6**
BOSA	**Boshof**	**77.70**	**118**	LR		LR	20 51 00.3	
	comp=Z,89nm,19.6s,baz=210,slow=33							
TXAR	**Lajitas Array**	**78.61**	**336**	P		**P**	**20 20 04.0**	**+0.5**
	comp=Z,1.5nm,1.1s,baz=148,slow=7.4,SNR=6.8							
LBTB	**Lobatse**	**80.48**	**116**	P		**P**	**20 20 14.1**	**0.0**
	comp=Z,2.4nm,0.8s,baz=263,slow=8.1,SNR=3.0							
DBIC	**Dimbokro**	**82.21**	**72**	P		**P**	**20 20 22.8**	**-0.4**
	comp=Z,4.3nm,0.9s,baz=225,slow=8.4,SNR=5.3							
DBIC				LR		LR	20 51 51.9	
	comp=Z,78nm,21.0s,baz=210,slow=32							
CCM	**Cathedral Cave**	**84.41**	**348**	P		**P**	**20 20 33.2**	**-0.6**
ANMO	**Albuquerque**	**84.68**	**336**	P		**P**	**20 20 36.1**	**+0.5**
	comp=Z,1.7nm,1.0s,baz=172,slow=7.4,SNR=3.9							
ANMO	**Albuquerque**	**84.68**	**336**	P		**P**	**20 20 34.8**	**-0.7**
ANMO				IAmb		IAmb	20 20 50.7	
	comp=Z,8.2nm,1.2s							
ECSD	**EROS Data Cent**	**90.80**	**346**	P		**P**	**20 21 04.7**	**+0.1**
ECSD				IAmb		IAmb	20 21 11.7	
	comp=Z,5.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**91.32**	**73**	P		**P**	**20 21 07.0**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=255,slow=2.8,SNR=2.7							
TORD				LR		LR	20 57 58.8	
	comp=Z,75nm,20.6s,baz=245,slow=33							
DZM	**Mont Dzumac**	**91.60**	**236**	*e*LR		LR	20 50 37.3	
	comp=Z,163nm,31.1s							
NVAR	**Mina Array Bea**	**91.74**	**328**	P		**P**	**20 21 10.4**	**+1.0**
	comp=Z,0.1nm,0.5s,baz=152,slow=5.8,SNR=3.5							
STKA	**Stephens Creek**	**95.37**	**212**	LR		LR	20 55 34.0	
	comp=Z,64nm,20.7s,baz=49,slow=30							
H11S2	**WAKE ISLAND Hyd**	**121.56**	**264**	T		T	22 39 53.7	
	baz=135,slow=75,SNR=43							
H11S1	**WAKE ISLAND Hyd**	**121.58**	**264**	T		T	22 40 06.5	
	baz=135,slow=75,SNR=13							
H11S3	**WAKE ISLAND Hyd**	**121.58**	**264**	T		T	22 40 00.5	
	baz=135,slow=75,SNR=17							
GERES	**GERESS Array B**	**122.56**	**52**	PKP		**PKPdf**	**20 26 56.2**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=195,slow=3.0,SNR=3.1							
ILAR	**Eielson Array**	**122.89**	**331**	PKP		**PKPdf**	**20 26 56.6**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=195,slow=2.8,SNR=3.9							
PETK	**Petropavlovsk-**	**144.64**	**302**	PKP		PKPbc	20 27 36.6	+0.1
	comp=Z,8.4nm,1.0s,baz=320,slow=4.3,SNR=3.1							
KIRV	**Kirov**	**145.45**	**48**	PKPbc		**PKPdf**	**20 27 36.7**	**-2.0**
	comp=Z,17nm,0.8s,baz=260,slow=1.8,SNR=7.2							
GEYT	**Alibeck**	**145.76**	**87**	PKPbc		**PKPab**	**20 27 40.9**	**-0.1**
	comp=Z,4.7nm,0.8s,baz=251,slow=4.5,SNR=12							
UBPT	**Khong Chiam**	**149.63**	**184**	P		PKPab	20 28 09.8	+13
AKTO	**Aktyubinsk**	**149.69**	**64**	PKPbc		**PKPbc**	**20 27 49.9**	**-0.9**
	comp=Z,4.2nm,1.0s,baz=293,slow=3.8,SNR=5.5							
ARU	**Arti**	**150.38**	**52**			**PKiKP**	**20 27 53.0**	**0.0**
ABKAR	**Akbulak array**	**150.73**	**67**			**PKiKP**	**20 27 53.8**	**-0.2**
PHIT	**Phitsanulok**	**151.47**	**174**	P		**PKPab**	**20 28 11.1**	**+6.9**
	comp=Z,97μm,1.0s							
UTTA	**Uttaradit**	**152.03**	**174**	P		**PKPab**	**20 28 04.3**	**-2.2**
	comp=Z,18μm,0.8s							
CMAR	**Chiang Mai Arr**	**152.59**	**171**	PKPbc		**PKiKP**	**20 27 59.7**	**+0.9**
	comp=Z,5.2nm,0.8s,baz=211,slow=3.4,SNR=9.2							
CMAR				PKPab		**sPKPbc**	**20 28 05.1**	**0.0**
	comp=Z,5.2nm,0.8s,baz=217,slow=3.7,SNR=23							
PHRA	**Phrae**	**152.75**	**173**	P		**PKPab**	**20 28 05.9**	**-3.7**
CMMT	**Chiang Mai**	**152.94**	**171**	P		**PKPbc**	**20 27 57.7**	**-1.6**
	comp=Z,4.2nm,0.9s							
CHTO	**Chiang Mai**	**152.94**	**171**			**PKPbc**	**20 27 57.7**	**-1.5**
KSH	**Kashi**	**158.97**	**97**	PKP		**PKPdf**	**20 27 59.0**	**-0.6**
KSH				pPKP		sPKPdf	20 28 09.3	+3.2
KSH				PKS		**PKSdf**	**20 31 30.8**	**-2.4**
KSH				PP		**PP**	**20 32 17.5**	**+0.1**
KSH				SKS		**SKSdf**	**20 34 58.8**	**-5.5**
KSH				SKKS		**SKKSac**	**20 39 00.8**	**-4.3**
NJ2	**Nanjing**	**161.85**	**227**	*e*PKP		**PKPdf**	**20 28 03.8**	**+1.0**
KURBB	**Kurchatov Arra**	**162.74**	**64**	PKP		**PKPdf**	**20 28 02.8**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=354,slow=1.9,SNR=2.6							
KURBB				PKPab		**PKPab**	**20 28 51.6**	**-0.5**
	comp=Z,2.0nm,1.0s,baz=270,slow=4.6,SNR=10							
KURK	**Kurchatov**	**162.79**	**64**			**PKPdf**	**20 28 02.8**	**-0.3**
KURK						**PKPab**	**20 28 51.6**	**-0.6**
CD2	**Chengdu**	**165.23**	**181**	PKP		**PKPdf**	**20 28 05.0**	**-1.1**
MKAR	**Makanchi Array**	**165.37**	**78**	PKPab		**PKPab**	**20 29 03.3**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=263,slow=4.2,SNR=5.7							
ZALV	**Zalesovo Beam**	**165.49**	**49**	PKP		**PKPdf**	**20 28 04.2**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=209,slow=2.7,SNR=4.7							
WMQ	**Urumqi**	**168.69**	**94**	*e*PKP		**PKPdf**	**20 28 08.0**	**-0.3**
WMQ				LR		LR		
	comp=Z,480nm,29.3s							
WMQ				LR		LR		
	comp=Z,95nm,29.1s							
LZH	**Lanzhou**	**170.39**	**182**	*e*PKP		**PKPdf**	**20 28 08.5**	**-1.2**
LZH				pPKP		sPKPdf	20 28 18.5	+2.3
LZH				sPKP			20 28 24.0	
HHC	**Hu-ho-hao-te**	**172.31**	**234**	*e*PKP		**PKPdf**	**20 28 09.3**	**-1.1**

ROM ***29*** *20:17:17.1±0.1, 41.˚353N±0.˚006×14.˚454E±0.˚007, h21km±1km, ML2.3/20, Error ellipse: s-maj=0.6km s-min=0.2km az=347.0*
ISCJB ***29*** *20:17:18.3±0.3, 41.˚39N±0.˚02×14.˚44E±0.˚03, h22km±3km, Error ellipse: s-maj=4.0km s-min=3.7km az=137.0*

ISC 29 20:17:18.2±0.9, 41.˚37N±0.˚02×14.˚44E±0.˚02, h14km±6km, n45, σ0ˢ95/59, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.16**	**286**	P		**Pb**	**20 17 22.3**	**-0.7**
VAGA				S		**Sb**	**20 17 26.0**	**-0.3**
VAGA				AML		AML		
	comp=E,2455μm,0.4s							
VAGA				AML		AML		
	comp=N,4005μm,0.4s							
VAGA				AML		AML		
	comp=E,2460μm,0.4s							
VAGA				AML		AML		
	comp=N,4155μm,0.4s							
VAGA				AML		AML		
	comp=N,4010μm,0.4s							
VAGA				AML		AML		
	comp=E,2585μm,0.4s							
VAGA				END				
SACR	**S. Croce Del S**	**0.20**	**82**	P		**Pb**	**20 17 22.2**	**-1.4**
SACR				S		**Sg**	**20 17 26.2**	**+0.3**
SACR				AML		AML		
	comp=N,2885μm,0.5s							
SACR				AML		AML		
	comp=E,2500μm,0.3s							
SACR				AML		AML		
	comp=N,2940μm,0.5s							
SACR				AML		AML		
	comp=E,2305μm,0.3s							
SACR				AML		AML		
	comp=E,2300μm,0.3s							
SACR				AML		AML		
	comp=N,2880μm,0.5s							
BSSO	**Busso**	**0.21**	**33**	P		**Pb**	**20 17 22.8**	**-1.1**
BSSO				S		**Sg**	**20 17 27.3**	**+1.1**
BSSO				AML		AML		
	comp=N,3715μm,0.9s							
BSSO				AML		AML		
	comp=E,1340μm,0.7s							
BSSO				AML		AML		
	comp=E,2900μm,0.7s							
BSSO				AML		AML		
	comp=N,3720μm,0.9s							
BSSO				AML		AML		
	comp=N,1460μm,0.6s							
PIGN	**Pignataro Magg**	**0.26**	**229**	P		**Pg**	**20 17 23.4**	**-0.3**
PIGN				S		**Sg**	**20 17 27.6**	**+0.1**
PIGN				AML		AML		
	comp=N,594μm,1.4s							
PIGN				AML		AML		
	comp=E,693μm,0.8s							
PIGN				AML		AML		
	comp=N,603μm,0.4s							
PIGN				AML		AML		
	comp=E,656μm,0.7s							
PIGN				AML		AML		
	comp=E,694μm,0.8s							
PIGN				END				
MIDA	**Miranda**	**0.31**	**333**	P		**Pg**	**20 17 24.1**	**-0.5**
MIDA				S		**Sg**	**20 17 29.5**	**+0.6**
MIDA				AML		AML		
	comp=N,1022μm,0.6s							
MIDA				AML		AML		
	comp=E,919μm,0.5s							
MIDA				AML		AML		
	comp=E,928μm,0.5s							
MIDA				AML		AML		
	comp=N,764μm,1.3s							
MIDA				AML		AML		
	comp=N,1022μm,0.6s							
MIDA				AML		AML		
	comp=E,928μm,0.5s							
PSB1	**Pescosannita**	**0.32**	**118**	P		**Pb**	**20 17 26.1**	**+0.5**
PSB1				AML		AML		
	comp=N,782μm,1.6s							
PSB1				AML		AML		
	comp=N,764μm,1.6s							
PSB1				AML		AML		
	comp=E,670μm,1.5s							
PSB1			

MELA					AML	AML		
	comp=E,878μm,0.3s							
MELA					AML	AML		
	comp=N,530μm,1.6s							
MELA					AML	AML		
	comp=N,506μm,1.3s							
MELA					AML	AML		
	comp=E,828μm,0.3s							
FRES	**Fresagrandinar**	**0.63**	**16**	P	**Pb**	**20 17 30.2**	**-0.7**	
FRES				AML	AML			
	comp=E,178μm,1.1s							
POFI	**Posta Fibreno**	**0.65**	**303**	P	**Pg**	**20 17 32.1**	**+1.2**	
POFI				AML	AML			
	comp=E,162μm,0.6s							
POFI				AML	AML			
	comp=N,122μm,0.7s							
POFI				AML	AML			
	comp=E,162μm,0.6s							
LPEL	**Lama dei Pelig**	**0.70**	**344**	P	**Pb**	**20 17 31.8**	**-0.5**	
LPEL				AML	AML			
	comp=N,211μm,1.4s							
LPEL				AML	AML			
	comp=E,222μm,0.8s							
SNAL	**S. Angelo Dei**	**0.73**	**127**	P	**Pb**	**20 17 32.5**	**-0.2**	
SNAL				S	**Sn**	**20 17 44.0**	**-1.1**	
SNAL				AML	AML			
	comp=E,206μm,1.3s							
SNAL				AML	AML			
	comp=N,177μm,0.7s							
SNAL				AML	AML			
	comp=N,206μm,0.8s							
INTR	**Introdacqua**	**0.76**	**328**	P	**Pn**	**20 17 34.5**	**0.0**	
INTR				AML	AML			
	comp=E,368μm,0.7s							
INTR				AML	AML			
	comp=N,384μm,0.7s							
INTR				AML	AML			
	comp=E,368μm,0.7s							
INTR				AML	AML			
	comp=E,58350μm,1.2s							
INTR				AML	AML			
	comp=N,61850μm,1.1s							
VVLD	**Villa Vallelon**	**0.79**	**309**	P	**Pg**	**20 17 34.9**	**+1.3**	
VVLD				AML	AML			
	comp=E,166μm,0.4s							
VVLD				AML	AML			
	comp=N,156μm,1.6s							
VVLD				AML	AML			
	comp=N,155μm,1.6s							
VVLD				AML	AML			
	comp=E,165μm,0.4s							
GIUL	**Giuliano Di Ro**	**0.91**	**282**	P	**Pb**	**20 17 36.0**	**+0.3**	
GIUL				AML	AML			
	comp=E,58μm,1.4s							
GIUL				AML	AML			
	comp=N,72μm,0.7s							
GIUL				AML	AML			
	comp=E,58μm,1.4s							
VENT	**Ventotene**	**0.96**	**234**	P	**Pb**	**20 17 35.1**	**-1.5**	
VULT	**Monte Vulture**	**0.98**	**115**	P	**Pg**	**20 17 37.9**	**+0.7**	
VULT				AML	AML			
	comp=E,255μm,0.4s							
VULT				AML	AML			
	comp=N,270μm,0.6s							
VULT				AML	AML			
	comp=N,269μm,0.6s							
VULT				AML	AML			
	comp=E,256μm,0.4s							
MRLC	**Muro Lucano**	**1.00**	**127**	P	**Pg**	**20 17 38.8**	**+1.3**	
MRLC				AML	AML			
	comp=E,79μm,0.5s							
SGRT	**San Giovanni R**	**1.05**	**68**	P	**Pb**	**20 17 37.4**	**-0.8**	
SGRT				S	**Sg**	**20 17 53.0**	**+0.8**	
SGRT				AML	AML			
	comp=E,363μm,0.6s							
SGRT				AML	AML			
	comp=N,366μm,0.6s							
CDRU	**Civita di Ruta**	**1.10**	**143**	P	**Pn**	**20 17 39.3**	**+0.1**	
CDRU				AML	AML			
	comp=E,80μm,0.4s							
CDRU				AML	AML			
	comp=N,65μm,1.0s							
FAGN	**Fagnano**	**1.10**	**325**	P	**Pg**	**20 17 40.4**	**+0.9**	
FAGN				AML	AML			
	comp=E,394μm,0.5s							
MSAG	**Monte S. Angel**	**1.15**	**72**	P	**Pn**	**20 17 39.2**	**-0.8**	
MSAG				S	**Sg**	**20 17 58.0**	**+2.5**	
MSAG				AML	AML			
	comp=N,478μm,0.8s							
MSAG				AML	AML			
	comp=E,290μm,1.0s							
CMPR	**Campora**	**1.24**	**148**	P	**Pb**	**20 17 41.7**	**+0.4**	
CMPR				AML	AML			
	comp=N,45μm,0.5s							
SG1	**Sgolgore (BA)**	**1.77**	**107**	*e*Pn	**Pn**	**20 17 48.5**	**+0.1**	
BAI	**Bari**	**1.86**	**97**	*e*Pn	**Pn**	**20 17 49.6**	**+0.1**	
HVAR	**Hvar**	**2.34**	**39**	*e*Pn	**Pn**	**20 17 55.7**	**-0.5**	
HVAR				Sn	**Sn**	**20 18 25.1**	**+0.3**	
ZIRJ	**Zirje**	**2.45**	**21**	*e*Pn	**Pn**	**20 17 57.1**	**-0.6**	
ZIRJ				Sn	**Sn**	**20 18 26.3**	**-1.1**	
MCIV	**Monte Civitell**	**2.49**	**305**	AML	AML			
	comp=N,236μm,0.2s							
MCIV				AML	AML			
	comp=E,135μm,0.7s							
MCIV				AML	AML			
	comp=E,135μm,0.6s							
DUGI	**Dugi Otok**	**2.66**	**10**	*e*Pn	**Pn**	**20 18 00.3**	**-0.3**	
DUGI				Sn	**Sn**	**20 18 31.3**	**-1.3**	
MORI	**Morici**	**2.66**	**20**	*e*Pn	**Pn**	**20 18 00.4**	**-0.2**	
MAKA	**Makarska**	**2.71**	**44**	*i* Pn	**Pn**	**20 18 00.4**	**-0.8**	
MAKA				Sn	**Sn**	**20 18 32.2**	**-1.6**	
STON	**Ston**	**2.85**	**57**	*e*Pn	**Pn**	**20 18 03.4**	**+0.2**	
STON				Sn	**Sn**	**20 18 36.6**	**-0.7**	
RICI	**Ricice**	**2.91**	**42**	iPn		20 18 04.2		
RICI				Sn	**Sn**	**20 18 40.9**	**+2.0**	
KIJV	**Kijevo**	**3.00**	**28**	*e*Pn	**Pn**	**20 18 05.4**	**0.0**	
KIJV				Sn	**Sn**	**20 18 40.4**	**-0.8**	
DBRK	**Dubrovnik**	**3.05**	**64**	*i* Pn	**Pn**	**20 18 06.7**	**+0.7**	
DBRK				Sn	**Sn**	**20 18 40.7**	**-1.6**	
NVLJ	**Novalja**	**3.21**	**5**	*e*Pn	**Pn**	**20 18 08.3**	**+0.2**	
NVLJ				Sn	**Sn**	**20 18 45.9**	**-0.1**	
UDBI	**Udbina**	**3.30**	**17**	*e*Pn	**Pn**	**20 18 10.8**	**+1.3**	
VYHS	**Vyhne**	**7.77**	**22**	*e*PN	**Pn**	**20 19 12.3**	**+1.5**	

ROM 29 20:18:10.1±0.2, 41°.367N±0°.007×14°.466E±0°.010, h19km±1km, ML2.1/5, Error ellipse: s-maj=0.8km s-min=0.4km az=324.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.18**	**286**	P	Pg	20 18 15.1	+0.1
VAGA				S	Sg	20 18 18.9	+0.6
VAGA				AML	AML		
	comp=E,930μm,0.5s						
VAGA				AML	AML		
	comp=E,979μm,0.5s						
VAGA				AML	AML		
	comp=E,928μm,0.5s						
VAGA				AML	AML		
	comp=N,1335μm,0.8s						
VAGA				AML	AML		
	comp=N,1270μm,0.8s						
SACR	**S. Croce Del S**	**0.18**	**80**	P	Pg	20 18 15.2	+0.3
SACR				S	Sg	20 18 18.9	+0.5
SACR				AML	AML		
	comp=E,992μm,1.4s						
SACR				AML	AML		
	comp=E,1008μm,0.8s						
SACR				AML	AML		
	comp=N,652μm,0.5s						
SACR				AML	AML		
	comp=E,654μm,0.2s						
SACR				AML	AML		
	comp=N,676μm,0.5s						
SACR				AML	AML		
	comp=N,653μm,0.5s						
SACR				AML	AML		
	comp=E,1008μm,0.8s						
BSSO	**Busso**	**0.20**	**28**	P	Pg	20 18 15.7	+0.4
BSSO				S	Sg	20 18 18.9	+0.1
BSSO				AML	AML		
	comp=N,1006μm,0.7s						
BSSO				AML	AML		
	comp=N,1004μm,0.7s						
BSSO				AML	AML		
	comp=E,392μm,0.7s						
BSSO				AML	AML		
	comp=N,376μm,0.6s						
BSSO				AML	AML		
	comp=E,823μm,1.6s						
BSSO				AML	AML		
	comp=E,822μm,1.6s						
PIGN	**Pignataro Magg**	**0.27**	**232**	P	Pb	20 18 16.2	-0.1
PIGN				S	Sg	20 18 20.9	+0.4
PIGN				AML	AML		
	comp=N,193μm,1.4s						
PIGN				AML	AML		
	comp=E,197μm,1.4s						
MIDA	**Miranda**	**0.32**	**330**	P	Pg	20 18 17.0	-0.1
MIDA				S	Sb	20 18 21.9	0.0
PAOL	**Paolisi**	**0.34**	**167**	P	Pg	20 18 17.2	-0.3
PAOL				AML	AML		
	comp=E,147μm,0.3s						
PAOL				AML	AML		
	comp=N,142μm,1.2s						
TRIV	**Trivento**	**0.40**	**9**	P	Pb	20 18 18.8	0.0
MODR	**Mondragone**	**0.49**	**244**	P	Pb	20 18 20.6	+0.5
MODR				AML	AML		
	comp=N,298μm,0.3s						
MODR				AML	AML		
	comp=E,306μm,0.7s						
MSAG	**Monte S. Angel**	**1.14**	**72**	S	Sg	20 18 49.0	+1.9
PZUN	**Potenza**	**1.25**	**125**	P	Pg	20 18 36.2	+2.0

IDC 29 20:36:24.8±1.9, 0°.31N×124°.81E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/36, mbtmp3.2/3, Error ellipse: s-maj=183.3km s-min=26.9km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.19**	**156**	P	P	20 41 23.6	+0.7
	0.4nm,0.4s,baz=334,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**25.42**	**160**	P	P	20 41 53.7	-0.7
	0.3nm,0.7s,baz=341,slow=7.8,SNR=3.3						
MKAR	**Makanchi Array**	**59.31**	**327**	P	P	20 46 28.6	0.0
	0.1nm,0.3s,baz=123,slow=6.8,SNR=5.2						

ROM 29 20:41:09.5±0.1, 41°.379N±0°.004×14°.424E±0°.005, h20km±1km, ML2.1/21, Error ellipse: s-maj=0.5km s-min=0.2km az=171.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.15**	**284**	P	Pg	20 41 14.1	+0.1
VAGA				S	Sg	20 41 17.5	+0.4
VAGA				AML	AML		
	comp=N,3745μm,0.2s						
VAGA				AML	AML		
	comp=E,2075μm,0.6s						
VAGA				AML	AML		
	comp=N,3915μm,0.2s						
VAGA				AML	AML		
	comp=E,1965μm,0.6s						
BSSO	**Busso**	**0.21**	**37**	P	Pg	20 41 14.8	0.0
BSSO				S	Sg	20 41 19.1	+0.6
BSSO				AML	AML		
	comp=N,349μm,0.2s						
BSSO				AML	AML		
	comp=E,1090μm,0.3s						
BSSO				AML	AML		
	comp=E,444μm,0.3s						
BSSO				AML	AML		
	comp=N,859μm,0.3s						
SACR	**S. Croce Del S**	**0.21**	**85**	P	Pg	20 41 14.7	-0.2
SACR				S	Sg	20 41 18.6	+0.1
SACR				AML	AML		
	comp=E,822μm,1.3s						
SACR				AML	AML		
	comp=N,630μm,0.3s						
PIGN	**Pignataro Magg**	**0.26**	**226**	P	Pg	20 41 15.8	+0.3
PIGN				S	Sg	20 41 20.0	+0.4
PIGN				AML	AML		
	comp=N,412μm,0.4s						
PIGN				AML	AML		
	comp=E,420μm,0.4s						
PIGN				AML	AML		
	comp=E,416μm,0.4s						
PIGN				AML	AML		
	comp=N,304μm,0.4s						
MIDA	**Miranda**	**0.29**	**334**	P	Pb	20 41 15.8	-0.3
MIDA				S	Sb	20 41 20.6	0.0
MIDA				AML	AML		
	comp=E,416μm,0.5s						
MIDA				AML	AML		
	comp=N,298μm,1.0s						
PSB1	**Pescosannita**	**0.33**	**118**	P	Pb	20 41 16.9	+0.1
PSB1				S	Sg	20 41 21.6	0.0
PSB1				AML	AML		
	comp=E,364μm,0.4s						
PSB1				AML	AML		
	comp=E,369μm,0.4s						
PSB1				AML	AML		
	comp=N,440μm,0.7s						
PSB1				AML	AML		
	comp=N,440μm,0.7s						
PSB1				AML	AML		
	comp=N,424μm,0.7s						
PSB1				AML	AML		
	comp=E,365μm,0.4s						
PAOL	**Paolisi**	**0.36**	**163**	P	Pg	20 41 17.3	+0.1
PAOL				AML	AML		
	comp=E,224μm,1.1s						
PAOL				AML	AML		
	comp=N,238μm,0.7s						
CERA	**Filignano**	**0.38**	**306**	P	Pb	20 41 17.9	+0.3
CERA				AML	AML		
	comp=N,405μm,0.3s						
CERA				AML	AML		
	comp=N,418μm,0.3s						
CERA				AML	AML		
	comp=E,250μm,0.5s						
CERA				AML	AML		
	comp=E,232μm,0.5s						
RNI2	**Rionero Sannit**	**0.38**	**328**	P	Pg	20 41 17.6	-0.1
RNI2				S	Sg	20 41 23.2	+0.1
RNI2				AML	AML		
	comp=E,502μm,1.2s						
RNI2				AML	AML		
	comp=E,518μm,1.2s						
RNI2				AML	AML		
	comp=N,363μm,0.7s						
RNI2				AML	AML		
	comp=N,358μm,0.7s						
RNI2				AML	AML		
	comp=E,518μm,1.2s						
RNI2				AML	AML		
	comp=E,501μm,1.2s						
RNI2				AML	AML		
	comp=N,358μm,0.7s						
GATE	**Gambatesa**	**0.39**	**70**	P	Pb	20 41 18.2	+0.4
GATE				S	Sb	20 41 24.1	+0.6
GATE				AML	AML		
	comp=E,100μm,0.6s						
GATE				AML	AML		
	comp=N,102μm,0.5s						
GATE				AML	AML		
	comp=E,100μm,0.6s						
GATE				AML	AML		
	comp=N,102μm,0.5s						
TRIV	**Trivento**	**0.40**	**14**	P	Pg	20 41 17.9	0.0
TRIV				S	Sb	20 41 24.4	+0.6
TRIV				AML	AML		
	comp=E,190μm,0.4s						
TRIV				AML	AML		
	comp=N,170μm,1.2s						
CIGN	**Sant'Elia a Pi**	**0.45**	**53**	P	Pg	20 41 18.8	0.0
CIGN				AML	AML		
	comp=E,105μm,1.0s						
CIGN				AML	AML		
	comp=N,92μm,1.3s						
MODR	**Mondragone**	**0.47**	**241**	P	Pb	20 41 19.7	+0.5
MODR				AML	AML		
	comp=N,210μm,0.3s						
MRB1	**Monte Rocchett**	**0.48**	**121**	P	Pb	20 41 19.5	+0.1
MRB1				AML	AML		
	comp=E,247μm,0.7s						
MRB1				AML	AML		
	comp=N,238μm,0.4s						
MELA	**Melanico ??? S**	**0.62**	**58**	P	Pb	20 41 21.0	-0.7
MELA				S	Sg	20 41 30.6	+0.4
MELA				AML	AML		
	comp=N,220μm,0.6s						
MELA				AML	AML		
	comp=E,364μm,0.3s						
FRES	**Fresagrandinar**	**0.62**	**17**	P	Pb	20 41 21.4	-0.2
FRES				S	Sg	20 41 30.9	+0.6
POFI	**Posta Fibreno**	**0.63**	**303**	P	Pg	20 41 22.1	0.0
POFI				AML	AML		
	comp=E,86μm,1.1s						
POFI				AML	AML		
	comp=N,87μm,0.5s						
LPEL	**Lama dei Pelig**	**0.69**	**345**	P	Pg	20 41 23.4	+0.1
LPEL				AML	AML		
	comp=N,94μm,0.2s						
LPEL				AML	AML		
	comp=E,121μm,0.3s						
INTR	**Introdacqua**	**0.74**	**329**	P	Pn	20 41 26.0	+1.0
INTR				AML	AML		
	comp=N,208μm,1.3s						
INTR				AML	AML		
	comp=E,160μm,0.6s						
VVLD	**Villa Vallelon**	**0.78**	**310**	P	Pb	20 41 22.4	-2.0
CAFR	**Castel Frentan**	**0.85**	**356**	S	Sn	20 41 39.0	+0.7
GIUL	**Giuliano Di Ro**	**0.90**	**282**	P	Pn	20 41 27.9	+0.8
SGRT	**San Giovanni R**	**1.06**	**69**	P	Pn	20 41 29.7	+0.3
SGRT				AML	AML		
	comp=E,88μm,0.6s						
SGRT				AML	AML		
	comp=N,74μm,0.4s						
FAGN	**Fagnano**	**1.09**	**325**	P	Pg	20 41 32.8	+2.2
FAGN				AML	AML		
	comp=E,83μm,0.5s						
FAGN				AML	AML		
	comp=N,124μm,0.5s						
FAGN				AML	AML		
	comp=E,112μm,0.5s						
FAGN				AML	AML		
	comp=N,167μm,0.5s						
MSAG	**Monte S. Angel**	**1.16**	**73**	P	Pg	20 41 31.6	-0.5
MSAG				AML	AML		
	comp=N,152μm,1.1s						
MSAG				AML	AML		
	comp=E,98μm,0.6s						
CERT	**Cerreto**	**1.22**	**298**	S	Sg	20 41 49.0	-0.2
AMUR	**Altamura**	**1.71**	**105**	S	Sb	20 42 03.0	+1.5

ROM 29 20:42:05.4±0.1, 41°.370N±0°.007×14°.432E±0°.007, h18km±1km, ML1.8/1, Error ellipse: s-maj=0.6km s-min=0.6km az=216.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.15**	**287**	P	Pg	20 42 10.0	+0.2
VAGA				S	Sg	20 42 13.0	+0.3
SACR	**S. Croce Del S**	**0.21**	**82**	P	Pg	20 42 10.3	-0.2
SACR				S	Sb	20 42 14.2	0.0
SACR				AML	AML		
	comp=N,116μm,1.6s						
SACR				AML	AML		
	comp=E,1008μm,1.5s						
BSSO	**Busso**	**0.21**	**35**	P	Pg	20 42 10.7	0.0
BSSO				S	Sb	20 42 15.2	+0.7
PIGN	**Pignataro Magg**	**0.26**	**228**	P	Pb	20 42 11.6	+0.1
PIGN				S	Sb	20 42 15.6	+0.1
MIDA	**Miranda**	**0.30**	**334**	P	Pg	20 42 12.0	0.0
MIDA				S	Sb	20 42 17.2	+0.1
PSB1	**Pescosannita**	**0.32**	**117**	P	Pg	20 42 12.3	0.0
PSB1				S	Sb	20 42 17.8	+0.3
PAOL	**Paolisi**	**0.35**	**163**	P	Pb	20 42 13.1	-0.2

IDC 29 20:50:16.9±5.1, 26°.03N×92°.42E, h52km±45km, mb3.1/3, mb1 3.4/4, mb1mx3.0/49, mbtmp3.4/4, ML3.6/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/15, 1C, Error ellipse: s-maj=132.1km s-min=26.0km az=61.0, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**0.67**	**226**	*i*PG	Pn	20 50 43.0	+12
SHL				*e*SG	Sn	20 50 57.0	+17
BRDH	**Bariadhala**	**3.42**	**192**	S	Sn	20 51 57.4	+10
	0.3nm,0.3s,baz=142,slow=24,SNR=5.7						
CMAR	**Chiang Mai Arr**	**9.66**	**140**	P	Pn	20 52 33.3	0.0
	0.1nm,0.3s,baz=316,slow=13,SNR=7.9						
MKAR	**Makanchi Array**	**22.23**	**341**	P	P	20 55 09.0	-0.1
	0.6nm,0.7s,baz=150,slow=12,SNR=3.8						
LEM	**Lembang**	**35.84**	**154**	LR	LR	21 15 02.6	
	comp=Z,41nm,19.1s,baz=205,slow=42						
WRA	**Warramunga Arr**	**61.20**	**134**	P	P	21 00 26.8	+0.2
	0.3nm,0.5s,baz=321,slow=7.7,SNR=6.6						
ASAR	**Alice Springs**	**63.66**	**137**	P	P	21 00 42.7	-0.3
	0.3nm,0.8s,baz=324,slow=7.1,SNR=4.2						

*ISCJB **29** 21:05:18.6±0.5, 2°.59N±0°.04×128°.38E±0°.05, h33km, mb3.6/9, MS3.2/2, Error ellipse: s-maj=7.0km s-min=5.9km az=159.9*
*DJA **29** 21:05:18.8±0.4, 3°.N±4°×12°.8E±°, h10km, M4.3/10, mb4.4/4, mB4.6/1, MLv4.2/10, Mw(mB)3.9/1*
*IDC **29** 21:05:23.0±3.4, 2°.44N×128°.40E, h62km±33km, mb3.4/9, mb1 3.6/10, mb1mx3.4/32, mbtmp3.7/10, ML4.0/1, MS3.3/2, Ms1 3.2/2, ms1mx2.8/15, Error ellipse: s-maj=36.0km s-min=14.7km az=73.0*
*NEIC **29** 21:05:23.3±1.1, 2°.4N±0°.1×128°.33E±0°.08, h71km±11km, mb4.0/4*

ISC 29 21:05:20.4±0.7, 2°.54N±0°.07×128°.39E±0°.07, h35km, n33, σ1s46/29, mb3.8/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.03**	**210**	P	**Pn**	**21 05 52.4**	**+0.3**
TNTI				S	**Sn**	**21 06 18.9**	**+2.6**
TNTI	**Ternate**	**2.03**	**210**		**Pn**	**21 05 52.7**	**+0.6**
TNTI				Sn	**Sn**	**21 06 15.7**	**-0.6**
LBMI	**Labuha**	**3.28**	**196**	P	**Pn**	**21 06 10.5**	**+1.2**
SWI	**Sorong**	**4.43**	**140**	P	**Pn**	**21 06 27.2**	**+2.0**
SIJI	**Sorong**	**4.44**	**140**	P	**Pn**	**21 06 27.3**	**+2.0**
	8.1nm,0.3s,baz=116,slow=16,SNR=50						
SIJI				S	**Sn**	**21 07 16.9**	**+1.1**
	8.3nm,0.3s,baz=334,slow=21,SNR=9.3						
KMSI	**Cibinong**	**4.82**	**246**	P	Pn	21 06 40.4	+10
SANI	**Sanana**	**5.15**	**208**	P	Pn	21 06 41.4	+6.3
LUWI	**Luwuk**	**6.65**	**238**	Pn	**Pn**	**21 06 55.2**	**-0.5**
FAKI	**Fak Fak**	**6.65**	**145**	P	**Pn**	**21 06 57.8**	**+2.0**
	45nm,0.9s,0.1nm						
FAKI	**Fak Fak**	**6.65**	**145**		**Pn**	**21 06 57.9**	**+2.2**
FAKI				Sn	**Sn**	**21 08 10.1**	**-0.3**
MRSI	**Marisa**	**6.76**	**252**	P	**Pn**	**21 06 57.4**	**+0.2**
	35nm,0.8s,457nm0.1nm						
BNDI	**Bandanaira**	**7.17**	**168**	P	Pn	21 07 18.5	+16
APSI	**Ampana**	**7.56**	**243**	P	**Pn**	**21 07 08.7**	**+0.5**
	13nm,0.9s,0.1nm						
COEN	**Coen**	**21.99**	**139**	P	**P**	**21 10 10.9**	**-0.8**
COEN				IAmb	IAmb	21 10 21.4	
	comp=Z,5.4nm,1.1s						
WRAB	**Tennant Creek**	**23.09**	**166**	P	**P**	**21 10 22.7**	**-0.5**
WRAB				IAmb	IAmb	21 10 35.8	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**23.09**	**166**	P	**P**	**21 10 24.5**	**+1.2**
	comp=Z,2.6nm,0.7s,baz=343,slow=10,SNR=12						
WR0	**Warramunga Arr**	**23.16**	**165**	P	**P**	**21 10 21.1**	**-2.9**
ASAR	**Alice Springs**	**26.59**	**169**	P	**P**	**21 10 53.0**	**-2.7**
	comp=Z,0.4nm,0.5s,baz=353,slow=7.7,SNR=14						
ASAR				PcP	**PcP**	**21 14 20.1**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=352,slow=1.9,SNR=8.5						
ASAR				LR	LR	21 23 01.0	
	comp=Z,70nm,19.2s,baz=25,slow=40						
CMAR	**Chiang Mai Arr**	**32.90**	**301**	P	**P**	**21 11 52.2**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=121,slow=8.5,SNR=4.3						
KSRS	**Korea Array**	**34.75**	**359**	P	**P**	**21 12 08.1**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=178,slow=10,SNR=5.4						
STKA	**Stephens Creek**	**36.45**	**161**	P	**P**	**21 12 20.8**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=335,slow=14,SNR=3.8						
STKA				LR	LR	21 30 38.4	
	comp=Z,36nm,18.3s,baz=24,slow=42						
STKA	**Stephens Creek**	**36.45**	**161**	P	**P**	**21 12 19.5**	**-2.5**
H11S3	**WAKE ISLAND Hy**	**40.72**	**64**	T	T	21 56 20.2	
	baz=251,slow=75,SNR=32						
H11S2	**WAKE ISLAND Hy**	**40.74**	**64**	T	T	21 56 31.1	
	baz=251,slow=75,SNR=15						

H11S1	**WAKE ISLAND Hy**	**40.74**	**64**	T	T	21 56 32.0		
	baz=251,slow=75,SNR=16							
H11N1	**WAKE ISLAND Hy**	**41.30**	**63**	T	T	21 56 49.9		
	baz=250,slow=75,SNR=50							
H11N2	**WAKE ISLAND Hy**	**41.31**	**63**	T	T	21 57 00.8		
	baz=250,slow=75,SNR=24							
H11N3	**WAKE ISLAND Hy**	**41.31**	**63**	T	T	21 56 51.0		
	baz=250,slow=75,SNR=47							
USRK	**Ussurisk Ar.**	**41.61**	**4**	P	**P**	**21 13 05.7**	**+0.7**	
	comp=Z,1.7nm,0.7s,baz=190,slow=7.5,SNR=3.8							
SONM	**Songino Array**	**48.96**	**340**	P	**P**	**21 14 03.6**	**+0.2**	
	comp=Z,0.3nm,0.7s,baz=161,slow=9.2,SNR=3.2							
MK31	**Makanchi Array**	**59.47**	**325**	P	**P**	**21 15 20.0**	**0.0**	
MKAR	**Makanchi Array**	**59.47**	**325**	P	**P**	**21 15 20.2**	**+0.2**	
	comp=Z,0.5nm,0.6s,baz=121,slow=8.1,SNR=5.5							
ILAR	**Eielson Array**	**85.46**	**25**	P	**P**	**21 17 53.8**	**-0.6**	
	comp=Z,0.2nm,0.5s,baz=237,slow=6.3,SNR=3.6							

ROM 29 21:05:52.4±0.2, 41°.397N±0°.008×14°.43E±0°.01, h20km±1km, Md1.3/3, Error ellipse: s-maj=0.9km s-min=0.4km az=314.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAGA	**Valle Agricola**	**0.15**	**277**	P	Pg	21 05 56.9	0.0
VAGA				S	Sg	21 06 00.7	+0.7
VAGA				AML	AML		
	comp=N,1710μm,0.9s						
VAGA				AML	AML		
	comp=E,1255μm,0.6s						
VAGA				AML	AML		
	comp=N,1790μm,0.9s						
VAGA				AML	AML		
	comp=E,1190μm,0.6s						
VAGA				END			
SACR	**S. Croce Del S**	**0.21**	**90**	P	Pg	21 05 57.5	-0.1
SACR				S	Sg	21 06 01.7	+0.4
PIGN	**Pignataro Magg**	**0.27**	**224**	P	Pb	21 05 58.5	-0.1
PIGN				S	Sg	21 06 03.4	+0.6
PIGN				AML	AML		
	comp=E,242μm,0.5s						
PIGN				AML	AML		
	comp=N,198μm,0.3s						
PIGN				END			
MIDA	**Miranda**	**0.28**	**332**	P	Pg	21 05 58.8	0.0
MIDA				S	Sb	21 06 03.1	+0.1
CERA	**Filignano**	**0.37**	**303**	P	Pb	21 06 00.8	+0.4
CERA				AML	AML		
	comp=E,171μm,1.4s						
CERA				AML	AML		
	comp=N,176μm,1.0s						
CERA				AML	AML		
	comp=N,176μm,1.0s						
CERA				AML	AML		
	comp=E,167μm,1.4s						
CERA				AML	AML		
	comp=N,162μm,0.4s						
RNI2	**Rionero Sannit**	**0.37**	**326**	P	Pb	21 06 00.6	+0.1
RNI2				S	Sb	21 06 05.8	0.0
RNI2				AML	AML		
	comp=E,259μm,0.2s						
RNI2				AML	AML		
	comp=E,252μm,1.4s						
RNI2				AML	AML		
	comp=N,180μm,0.5s						
RNI2				AML	AML		
	comp=N,178μm,0.4s						
RNI2				END			
CIGN	**Sant'Elia a Pi**	**0.44**	**54**	P	Pb	21 06 02.4	+0.8
MODR	**Mondragone**	**0.49**	**239**	P	Pb	21 06 02.3	0.0
INTR	**Introdacqua**	**0.73**	**328**	S	Sn	21 06 18.0	-0.4
GIUL	**Giuliano Di Ro**	**0.90**	**281**	S	Sb	21 06 13.0	-7.9
COR1	**Corinaldo**	**2.47**	**335**	P	Pn	21 06 25.9	-5.7
GRI	**Girifalco**	**2.99**	**149**	P	Pb	21 06 46.4	+1.4
LMD	**Lutirano**	**3.35**	**324**	S	Sn	21 07 12.0	-11
CLTB	**Caltabellotta**	**3.93**	**194**	P	Pb	21 07 03.8	+2.7
ERBM	**Eremo**	**4.22**	**317**	P	Pn	21 06 54.5	-1.3

ROM 29 21:06:00.9±0.1, 41°.350N±0°.005×14°.455E±0°.006, h8km, ML2.0/12, Error ellipse: s-maj=0.5km s-min=0.4km az=357.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAGA	**Valle Agricola**	**0.18**	**291**	P	Pg	21 06 05.4	+0.8
VAGA				S	Sg	21 06 08.2	+1.0
VAGA				AML	AML		
	comp=N,1710μm,0.9s						
VAGA				AML	AML		
	comp=E,1255μm,0.6s						
VAGA				AML	AML		
	comp=N,1790μm,0.9s						
VAGA				AML	AML		
	comp=E,1190μm,0.6s						
SACR	**S. Croce Del S**	**0.20**	**76**	P	Pg	21 06 05.4	+0.5
SACR				S	Sg	21 06 09.1	+1.4
BSSO	**Busso**	**0.22**	**28**	P	Pg	21 06 06.0	+0.6
BSSO				AML	AML		
	comp=E,830μm,0.4s						
BSSO				AML	AML		
	comp=N,1053μm,0.7s						
BSSO				AML	AML		
	comp=E,336μm,1.3s						
BSSO				AML	AML		
	comp=N,424μm,0.6s						
BSSO				AML	AML		
	comp=E,830μm,0.4s						
BSSO				AML	AML		
	comp=N,1050μm,0.7s						
BSSO				AML	AML		
	comp=E,336μm,1.3s						
BSSO				AML	AML		
	comp=N,424μm,0.6s						
BSSO	**Busso**	**0.22**	**28**	P	Pg	21 06 05.9	+0.5
BSSO				AML	AML		
	comp=N,1050μm,0.7s						
BSSO				AML	AML		
	comp=N,424μm,0.6s						
BSSO				AML	AML		
	comp=N,1050μm,0.7s						
BSSO				AML	AML		
	comp=E,336μm,1.3s						
BSSO				AML	AML		
	comp=E,830μm,0.4s						
PIGN	**Pignataro Magg**	**0.26**	**234**	P	Pg	21 06 06.6	+0.6
PIGN				S	Sb	21 06 11.2	-1.2
PIGN				AML	AML		
	comp=N,198μm,0.3s						
PIGN				AML	AML		
	comp=E,242μm,0.5s						
PSB1	**Pescosannita**	**0.30**	**115**	P	Pb	21 06 08.2	-0.3
PSB1				S	Sb	21 06 12.2	-1.4
MIDA	**Miranda**	**0.33**	**333**	P	Pg	21 06 08.2	+0.8
PAOL	**Paolisi**	**0.33**	**165**	P	Pg	21 06 07.7	+0.2
PAOL				AML	AML		
	comp=E,178μm,1.6s						
PAOL				AML	AML		
	comp=N,178μm,0.2s						
PAOL				AML	AML		
	comp=E,178μm,1.6s						
PAOL				AML	AML		
	comp=N,178μm,0.2s						
PAOL	**Paolisi**	**0.33**	**165**	P	Pg	21 06 07.6	+0.2
PAOL				S	Sb	21 06 14.0	-0.6
PAOL				AML	AML		
	comp=N,178μm,0.2s						
PAOL				AML	AML		
	comp=E,178μm,1.6s						
GATE	**Gambatesa**	**0.38**	**64**	P	Pn	21 06 13.8	+1.0
GATE				AML	AML		
	comp=E,136μm,0.7s						
GATE				AML	AML		
	comp=N,154μm,0.4s						
GATE	**Gambatesa**	**0.38**	**64**	P	Pb	21 06 10.0	0.0
CERA	**Filignano**	**0.41**	**307**	AML	AML		
	comp=E,172μm,1.4s						
CERA				AML	AML		
	comp=N,176μm,1.0s						
CERA				AML	AML		
	comp=E,167μm,1.4s						
CERA				AML	AML		
	comp=N,162μm,0.4s						
RNI2	**Rionero Sannit**	**0.42**	**327**	P	Pb	21 06 10.1	-0.6
RNI2				S	Sb	21 06 16.1	-1.1
RNI2				AML	AML		
	comp=E,252μm,1.4s						
RNI2				AML	AML		
	comp=N,180μm,0.5s						
RNI2				AML	AML		
	comp=N,178μm,0.4s						
RNI2				AML	AML		
	comp=E,259μm,0.2s						
TRIV	**Trivento**	**0.42**	**10**	P	Pg	21 06 09.8	+0.6
TRIV				AML	AML		
	comp=E,174μm,0.5s						
TRIV				AML	AML		
	comp=N,197μm,0.3s						
TRIV				AML	AML		
	comp=E,175μm,0.5s						
TRIV				AML	AML		
	comp=N,198μm,0.3s						
TRIV	**Trivento**	**0.42**	**10**	P	Pg	21 06 09.8	+0.6
TRIV				S	Sb	21 06 16.4	-0.9
TRIV				AML	AML		
	comp=N,198μm,0.3s						
TRIV				AML	AML		
	comp=E,174μm,0.5s						
CIGN	**Sant'Elia a Pi**	**0.46**	**48**	P	Pg	21 06 10.2	+0.4
MODR	**Mondragone**	**0.48**	**245**	P	Pb	21 06 11.5	-0.1
MODR				AML	AML		
	comp=E,298μm,0.7s						
MODR				AML	AML		
	comp=N,330μm,0.4s						
MODR				AML	AML		
	comp=N,331μm,0.4s						
MODR				AML	AML		
	comp=E,298μm,0.7s						
MOCO	**Biccari - m.te**	**0.53**	**88**	P	Pg	21 06 11.8	+0.6
MELA	**Melanico ??? S**	**0.62**	**55**	P	Pg	21 06 11.9	-1.0
MELA				AML	AML		
	comp=E,271μm,0.4s						
MELA				AML	AML		
	comp=N,144μm,0.6s						
MELA	**Melanico ??? S**	**0.62**	**55**	P	Pb	21 06 13.4	-0.5
MELA				AML	AML		
	comp=N,144μm,0.6s						
MELA				AML	AML		
	comp=E,271μm,0.4s						
INTR	**Introdacqua**	**0.78**	**328**	P	Pb	21 06 16.4	-0.4
INTR				AML	AML		
	comp=E,138μm,1.2s						
INTR				AML	AML		
	comp=N,118μm,0.7s						
SGRT	**San Giovanni R**	**1.05**	**67**	P	Pg	21 06 20.6	-0.5
SGRT				AML	AML		
	comp=E,92μm,0.9s						
SGRT				AML	AML		
	comp=N,85μm,1.4s						
SGRT	**San Giovanni R**	**1.05**	**67**	P	Pg	21 06 20.3	-0.8
SGRT				S	Sg	21 06 35.0	+0.3
SGRT				AML	AML		
	comp=N,85μm,1.4s						
SGRT				AML	AML		
	comp=E,92μm,0.9s						
MSAG	**Monte S. Angel**	**1.15**	**71**	P	Pb	21 06 23.1	0.0
MSAG				AML	AML		
	comp=E,87μm,1.1s						
MSAG				AML	AML		
	comp=N,135μm,0.6s						
MSAG	**Monte S. Angel**	**1.15**	**71**	P	Pg	21 06 22.7	-0.3
MSAG				AML	AML		
	comp=E,87μm,1.1s						
MSAG				AML	AML		
	comp=N,135μm,0.6s						
OFFI	**Offida**	**1.68**	**340**	P	Pn	21 06 30.9	+0.2
FDMO	**Fiordimonte**	**1.97**	**329**	S	Sb	21 07 01.0	-0.7

ROM 29 21:06:52.5±0.1, 42°.717N±0°.005×13°.290E±0°.007, h10km, ML0.8/2, Error ellipse: s-maj=0.8km s-min=0.3km az=226.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.09**	**159**	S	Pg	21 06 56.0	+0.9
SMA1	**SAN MARTINO**	**0.09**	**159**	P	Pg	21 06 55.7	+0.6
SMA1				S	Sg	21 06 57.5	+0.5
NRCA	**Norcia**	**0.17**	**312**	S	Pg	21 06 57.0	+0.7
NRCA	**Norcia**	**0.17**	**312**	P	Pg	21 06 56.9	+0.6
NRCA				S	Sg	21 06 59.8	+0.8
NRCA				AML	AML		
	comp=N,58μm,0.5s						
NRCA				AML	AML		
	comp=E,90μm,0.1s						
LNSS	**Leonessa**	**0.22**	**238**	S	Pg	21 06 58.0	+0.9
LNSS	**Leonessa**	**0.22**	**238**	P	Pg	21 06 57.8	+0.7
LNSS				S	Sg	21 07 01.4	+1.3
TERO	**Teramo**	**0.25**	**112**	P	Pg	21 06 58.3	+0.6
TERO				S	Sg	21 07 02.3	+1.2
TERO				AML	AML		
	comp=E,17μm,0.9s						
TERO				AML	AML		
	comp=N,22μm,0.6s						
FDMO	**Fiordimonte**	**0.35**	**335**	P	Pb	21 07 00.3	-0.6
FDMO				S	Sb	21 07 05.5	-1.0
CSP1	**Cessapalombo**	**0.38**	**351**	P	Pg	21 07 00.7	+0.7
CSP1				S	Sb	21 07 06.7	-0.8

IDC 29 21:10:21.1±2.4, 17°.28S×177°.55W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.5/5, Error ellipse: s-maj=136.5km s-min=28.2km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.55**	**259**	P		21 18 43.0	-0.1
	0.3nm,0.9s,baz=96,slow=7.2,SNR=2.2						
ASAR	**Alice Springs**	**45.75**	**254**	P	P	21 18 44.5	-0.1
	1.2nm,0.5s,baz=90,slow=8.3,SNR=30						
TXAR	**Lajitas Array**	**84.97**	**57**	P	P	21 22 59.4	+0.6
	0.3nm,0.7s,baz=256,slow=3.6,SNR=2.9						
ILAR	**Eielson Array**	**85.10**	**13**	P	P	21 22 58.5	+0.1
	0.1nm,0.4s,baz=217,slow=5.2,SNR=5.3						
YKA	**Yellowknife Ar**	**93.42**	**24**	P	P	21 23 37.0	-1.0
	0.2nm,0.7s,baz=256,slow=7.5,SNR=1.6						

ROM 29 21:10:23.6±0.1, 41°.36N±0°.01×14°.476E±0°.007, h10km±1km, Md1.9/5, Error ellipse: s-maj=1.1km s-min=0.5km az=357.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SACR	**S. Croce Del S**	**0.18**	**77**	P	Pg	21 10 28.3	+0.9
SACR				S	Sg	21 10 30.5	+0.4
SACR				AML	AML		
	comp=E,859μm,0.3s						
SACR				AML	AML		
	comp=N,1030μm,0.6s						
SACR				AML	AML		
	comp=N,1034μm,0.6s						
SACR				AML	AML		
	comp=N,1026μm,0.6s						
SACR				AML	AML		
	comp=E,876μm,0.3s						
SACR				AML	AML		
	comp=E,862μm,0.3s						
SACR				END			
VAGA	**Valle Agricola**	**0.19**	**288**	P	Pg	21 10 28.2	+0.6
VAGA				S	Sg	21 10 31.8	+1.3
VAGA				AML	AML		
	comp=E,921μm,0.6s						
VAGA				AML	AML		
	comp=N,1840μm,0.4s						
VAGA				AML	AML		
	comp=N,1900μm,0.4s						
VAGA				AML	AML		
	comp=E,966μm,0.6s						
VAGA				END			
BSSO	**Busso**	**0.21**	**25**	P	Pg	21 10 29.0	+1.0
BSSO				S	Sg	21 10 32.3	+1.3
BSSO				AML	AML		
	comp=N,1305μm,0.7s						
BSSO				AML	AML		
	comp=E,481μm,0.2s						
BSSO				AML	AML		
	comp=N,496μm,0.6s						
BSSO				AML	AML		
	comp=E,1080μm,0.2s						
BSSO				END			
PIGN	**Pignataro Magg**	**0.27**	**235**	P	Pg	21 10 29.6	+0.5
PIGN				AML	AML		
	comp=E,248μm,0.2s						
PIGN				AML	AML		
	comp=N,260μm,0.4s						
PIGN				AML	AML		
	comp=N,294μm,1.0s						
PIGN				AML	AML		
	comp=E,277μm,1.1s						
PIGN				END			
PSB1	**Pescosannita**	**0.29**	**118**	P	Pb	21 10 30.3	-0.5
MIDA	**Miranda**	**0.33**	**330**	P	Pg	21 10 30.4	+0.2
PAOL	**Paolisi**	**0.33**	**168**	P	Pg	21 10 30.9	+0.7
PAOL				AML	AML		
	comp=E,236μm,0.6s						
PAOL				AML	AML		
	comp=E,216μm,0.2s						
PAOL				AML	AML		
	comp=N,210μm,1.2s						
PAOL				AML	AML		
	comp=N,306μm,1.0s						
PAOL				END			
GATE	**Gambatesa**	**0.36**	**64**	P	Pb	21 10 31.5	-0.6
MODR	**Mondragone**	**0.50**	**245**	P	Pg	21 10 33.6	+0.4
MODR				AML	AML		
	comp=E,460μm,0.7s						
MODR				AML	AML		
	comp=N,424μm,0.5s						

ROM 29 21:11:13.4±0.2, 41°.373N±0°.007×14°.453E±0°.007, h21km±1km, ML2.1/7, Error ellipse: s-maj=0.8km s-min=0.4km az=155.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAGA	**Valle Agricola**	**0.17**	**284**	P	Pb	21 11 18.3	-1.1
VAGA				S	Sb	21 11 22.2	-1.5
VAGA				AML	AML		
	comp=E,922μm,0.6s						
VAGA				AML	AML		
	comp=N,1900μm,0.4s						
VAGA				AML	AML		
	comp=N,1995μm,0.2s						
VAGA				AML	AML		
	comp=E,963μm,1.0s						
VAGA				AML	AML		
	comp=E,1017μm,1.0s						
VAGA				AML	AML		
	comp=N,1900μm,0.2s						
VAGA				AML	AML		
	comp=N,1840μm,0.4s						
VAGA				AML	AML		
	comp=E,966μm,0.6s						
SACR	**S. Croce Del S**	**0.19**	**83**	P	Pb	21 11 18.6	-0.9
SACR				S	Sb	21 11 22.4	-1.3
SACR				AML	AML		
	comp=E,858μm,0.3s						
SACR				AML	AML		
	comp=N,1028μm,0.6s						
SACR				AML	AML		
	comp=E,859μm,0.3s						
SACR				AML	AML		
	comp=N,1030μm,0.6s						
SACR				AML	AML		
	comp=N,1034μm,0.6s						
SACR				AML	AML		
	comp=N,1026μm,0.6s						
SACR				AML	AML		
	comp=E,862μm,0.3s						
SACR				AML	AML		
	comp=E,876μm,0.3s						
BSSO	**Busso**	**0.20**	**31**	P	Pb	21 11 19.0	-0.4
BSSO				S	Sb	21 11 22.4	-1.3
BSSO				AML	AML		
	comp=N,1305μm,0.7s						
BSSO				AML	AML		
	comp=E,1080μm,0.2s						
BSSO				AML	AML		
	comp=E,481μm,0.2s						
BSSO				AML	AML		
	comp=N,1300μm,0.7s						
BSSO				AML	AML		
	comp=N,496μm,0.6s						
PIGN	**Pignataro Magg**	**0.27**	**230**	P	Pb	21 11 19.6	-0.1
PIGN				S	Sb	21 11 24.7	+0.6
PIGN				AML	AML		
	comp=N,260μm,0.4s						
PIGN				AML	AML		
	comp=E,248μm,0.2s						
MIDA	**Miranda**	**0.31**	**331**	P	Pb	21 11 20.2	-0.1
MIDA				S	Sb	21 11 25.5	+0.4
MIDA				AML	AML		
	comp=N,223μm,0.3s						
MIDA				AML	AML		
	comp=E,276μm,0.4s						
PSB1	**Pescosannita**	**0.31**	**119**	P	Pb	21 11 20.4	+0.2
PSB1				S	Sb	21 11 25.9	+0.9
PSB1				AML	AML		
	comp=E,258μm,1.1s						
PSB1				AML	AML		
	comp=N,275μm,0.5s						
PSB1				AML	AML		
	comp=N,267μm,0.6s						
PSB1				AML	AML		
	comp=E,274μm,1.1s						
PAOL	**Paolisi**	**0.35**	**166**	P	Pb	21 11 20.9	0.0
PAOL				AML	AML		
	comp=N,210μm,1.2s						
PAOL				AML	AML		
	comp=E,237μm,0.6s						
PAOL				AML	AML		
	comp=E,216μm,0.2s						
PAOL				AML	AML		
	comp=N,306μm,1.0s						
GATE	**Gambatesa**	**0.37**	**68**	P	Pb	21 11 21.9	+0.7
GATE				AML	AML		
	comp=E,154μm,0.7s						
GATE				AML	AML		
	comp=N,216μm,0.5s						
GATE				AML	AML		
	comp=E,154μm,0.7s						
GATE				AML	AML		
	comp=N,217μm,0.5s						
CERA	**Filignano**	**0.40**	**305**	AML	AML		
	comp=E,191μm,0.8s						
CERA				AML	AML		
	comp=E,197μm,0.8s						
CERA				AML	AML		
	comp=N,222μm,1.1s						
CERA				AML	AML		
	comp=N,209μm,1.1s						
RNI2	**Rionero Sannit**	**0.40**	**326**	AML	AML		
	comp=N,223μm,0.6s						
RNI2				AML	AML		
	comp=N,218μm,0.6s						
RNI2				AML	AML		
	comp=E,266μm,0.4s						
RNI2				AML	AML		
	comp=E,266μm,0.7s						
TRIV	**Trivento**	**0.40**	**11**	P	Pb	21 11 22.4	+0.6
TRIV				AML	AML		
	comp=E,180μm,0.4s						
TRIV				AML	AML		
	comp=N,172μm,0.4s						
CIGN	**Sant'Elia a Pi**	**0.44**	**50**	P	Pb	21 11 22.8	+0.4
CIGN				AML	AML		
	comp=N,121μm,0.7s						
CIGN				AML	AML		
	comp=E,120μm,1.0s						
MODR	**Mondragone**	**0.49**	**243**	AML	AML		
	comp=E,460μm,0.7s						
MODR				AML	AML		
	comp=N,424μm,0.5s						
MOCO	**Biccari - m.te**	**0.53**	**90**	AML	AML		
	comp=E,85μm,0.6s						
MOCO				AML	AML		
	comp=N,62μm,1.4s						
MELA	**Melanico ??? S**	**0.60**	**56**	AML	AML		
	comp=N,182μm,0.8s						
MELA				AML	AML		
	comp=E,293μm,0.7s						
INTR	**Introdacqua**	**0.76**	**327**	AML	AML		
	comp=N,154μm,0.6s						
INTR				AML	AML		
	comp=E,132μm,1.3s						

SGRT	**San Giovanni R**	**1.04**	**68**	AML	AML				
	comp=E,110μm,0.7s								
SGRT				AML	AML				
	comp=N,109μm,0.6s								

ROM 29 21:12:04.8±0.2, 41°.396N±0°.006×14°.422E±0°.008, h20km±1km, ML1.8/9, Error ellipse: s-maj=0.8km s-min=0.4km az=47.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAGA	**Valle Agricola**	**0.14**	**278**	P	Pb	21 12 09.1	-1.4
VAGA				S	Sb	21 12 12.8	-1.7
BSSO	**Busso**	**0.20**	**41**	P	Pb	21 12 10.1	-0.5
BSSO				AML	AML		
	comp=E,638μm,1.5s						
BSSO				AML	AML		
	comp=N,613μm,0.4s						
BSSO				AML	AML		
	comp=E,283μm,1.5s						
BSSO				AML	AML		
	comp=N,241μm,0.5s						
BSSO				AML	AML		
	comp=E,638μm,1.5s						
BSSO				AML	AML		
	comp=N,614μm,0.4s						
SACR	**S. Croce Del S**	**0.21**	**89**	P	Pb	21 12 10.1	-0.5
SACR				S	Sb	21 12 14.3	-0.4
SACR				AML	AML		
	comp=E,400μm,0.3s						
SACR				AML	AML		
	comp=N,346μm,0.4s						
PIGN	**Pignataro Magg**	**0.27**	**223**	P	Pb	21 12 10.8	-0.2
PIGN				S	Sb	21 12 15.8	+0.5
PIGN				AML	AML		
	comp=N,168μm,0.4s						
PIGN				AML	AML		
	comp=E,160μm,1.1s						
MIDA	**Miranda**	**0.28**	**333**	P	Pb	21 12 11.1	-0.1
MIDA				S	Sb	21 12 16.1	+0.4
MIDA				AML	AML		
	comp=E,192μm,0.9s						
MIDA				AML	AML		
	comp=N,176μm,0.5s						
MIDA				AML	AML		
	comp=N,176μm,0.5s						
MIDA				AML	AML		
	comp=N,385μm,1.6s						
MIDA				AML	AML		
	comp=E,192μm,0.9s						
MIDA				AML	AML		
	comp=E,192μm,0.9s						
CERA	**Filignano**	**0.36**	**304**	P	Pb	21 12 13.0	+0.5
CERA				AML	AML		
	comp=E,166μm,1.0s						
CERA				AML	AML		
	comp=N,186μm,0.4s						
CERA				AML	AML		
	comp=E,180μm,1.0s						
CERA				AML	AML		
	comp=N,184μm,0.4s						
RNI2	**Rionero Sannit**	**0.37**	**327**	P	Pb	21 12 12.8	+0.3
RNI2				AML	AML		
	comp=E,202μm,0.6s						
RNI2				AML	AML		
	comp=N,123μm,0.7s						
RNI2				AML	AML		
	comp=E,202μm,0.6s						
RNI2				AML	AML		
	comp=N,122μm,0.7s						
PAOL	**Paolisi**	**0.38**	**163**	P	Pb	21 12 12.7	0.0
PAOL				S	Sb	21 12 19.3	+1.2
PAOL				AML	AML		
	comp=E,120μm,0.7s						
PAOL				AML	AML		
	comp=N,104μm,0.2s						
PAOL				AML	AML		
	comp=N,104μm,0.2s						
PAOL				AML	AML		
	comp=E,120μm,0.7s						
TRIV	**Trivento**	**0.38**	**15**	P	Pb	21 12 13.2	+0.4
MELA	**Melanico ??? S**	**0.61**	**59**	P	Pb	21 12 16.5	-0.3
MELA				AML	AML		
	comp=N,136μm,1.4s						
MELA				AML	AML		
	comp=E,182μm,1.0s						
MSAG	**Monte S. Angel**	**1.16**	**74**	P	Pb	21 12 27.4	+1.3
MSAG				AML	AML		
	comp=N,136μm,0.3s						
MSAG				AML	AML		
	comp=E,74μm,0.6s						

ROM 29 21:12:40.4±0.1, 41°.393N±0°.006×14°.424E±0°.007, h21km±1km, ML1.6/1, Error ellipse: s-maj=0.7km s-min=0.5km az=161.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAGA	**Valle Agricola**	**0.14**	**279**	P	Pb	21 12 44.8	-1.6
VAGA				S	Sb	21 12 48.6	-2.1
BSSO	**Busso**	**0.20**	**40**	P	Pb	21 12 45.9	-0.5
BSSO				AML	AML		
	comp=E,288μm,1.3s						
BSSO				AML	AML		
	comp=E,118μm,0.3s						
BSSO				AML	AML		
	comp=N,321μm,0.7s						
BSSO				AML	AML		
	comp=N,120μm,0.7s						
SACR	**S. Croce Del S**	**0.21**	**89**	P	Pb	21 12 45.9	-0.5
SACR				S	Sb	21 12 49.9	-0.6
PIGN	**Pignataro Magg**	**0.27**	**224**	P	Pb	21 12 46.6	-0.1
PIGN				S	Sb	21 12 51.5	+0.5
MIDA	**Miranda**	**0.28**	**333**	P	Pb	21 12 47.0	+0.1
PSB1	**Pescosannita**	**0.34**	**120**	P	Pb	21 12 48.0	+0.3
TRIV	**Trivento**	**0.39**	**14**	P	Pb	21 12 48.9	+0.4

*SOME **29** 21:33:30.7, 40°.45N×81°.95E, h15km*
*ISCJB **29** 21:33:31.6±0.7, 41°.34N±0°.05×83°.73E±0°.05, h10km, mb3.5/5, Error ellipse: s-maj=7.8km s-min=5.8km az=8.5*
*IDC **29** 21:33:31.5±1.1, 41°.39N×83°.51E, h0km, mb3.6/5, mb1 3.6/10, mb1mx3.4/64, mbtmp3.5/10, ML2.9/5, Error ellipse: s-maj=21.5km s-min=15.8km az=72.0*
*BJI **29** 21:33:34.7±0.0, 41°.35N×83°.56E, h11km, ML3.3/11, Ms3.2/1*
*NNC **29** 21:33:35.9±1.5, 41°.59N×83°.57E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=13.2km s-min=8.0km az=167.0*
ISC 29 21:33:33.7±0.8, 41°.37N±0°.06×83°.63E±0°.05, h10km, n29, σ2s17/46, mb3.6/5, 6C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**3.58**	**301**	*e*P	**Pn**	**21 34 27.5**	**-1.8**
	12nm,0.1s						
SHLS				*e*S	**Sn**	**21 35 08.8**	**-2.9**
	48nm,0.4s						
PDGK	**Podgornoye**	**3.64**	**304**	⇑Pn	**Pn**	**21 34 31.3**	**+1.0**
	3.9nm,0.4s						
PDGK				⇑Sn	**Sn**	**21 35 14.7**	**+1.3**
	42nm,0.4s						
PDGK				⇑Lg	Lg	21 35 25.4	
	87nm,0.6s						
UZB	**Uzynbulak**	**3.86**	**299**	*e*P	**Pn**	**21 34 34.6**	**+1.3**
	5.3nm,0.1s						
UZB				*e*S	**Sn**	**21 35 20.7**	**+2.0**
	27nm,0.3s						
WMQ	**Urumqi**	**3.88**	**49**	*e*Pn	**Pn**	**21 34 35.8**	**+2.4**
WMQ				Sg	**Sb**	**21 35 33.0**	**+3.8**
WMQ				smax	smax		
	comp=N,48nm,0.9s						
WMQ				smax	smax		
	comp=E,55nm,0.7s						
DJR	**Jarkent**	**4.10**	**318**	*e*P	**Pb**	**21 34 48.1**	**+2.2**
	5.5nm,0.4s						
DJR				*e*S	**Sg**	**21 35 43.9**	**-1.4**
	38nm,0.5s						
KPKS	**Kokpek**	**4.22**	**301**	*e*P	**Pn**	**21 34 39.0**	**+0.8**
	18nm,0.3s						
KPKS				*e*S	**Sn**	**21 35 28.2**	**+0.6**
	110nm,0.4s						
SATY	**Saty**	**4.24**	**295**	*e*P	**Pn**	**21 34 39.8**	**+1.4**
	9.3nm,0.3s						
SATY				*e*S	**Sn**	**21 35 29.4**	**+1.4**
	55nm,0.3s						
KAPS	**Kapalarasan**	**5.01**	**323**	*e*P	**Pb**	**21 35 05.3**	**+3.8**
	12nm,0.3s						
KAPS				*e*S	**Sg**	**21 36 12.9**	**-1.5**
	21nm,0.6s						
KOTS	**Kotyrbulak**	**5.18**	**293**	*e*P	**Pn**	**21 34 53.1**	**+1.7**
	11nm,0.3s						
KOTS				*e*S	**Sn**	**21 35 53.2**	**+1.8**
	34nm,0.5s						
TNSS	**Tian-Shan**	**5.24**	**291**	*e*P	**Pn**	**21 34 54.5**	**+2.1**
	3.8nm,0.4s						
TNSS				*e*S	**Sn**	**21 35 54.7**	**+1.6**
	14nm,0.7s						
MK31	**Makanchi Array**	**5.51**	**350**	Pn	**Pn**	**21 34 56.0**	**+0.1**
	0.5nm,0.2s,baz=169,slow=13,SNR=78						
MK31				Pg	**Pb**	**21 35 10.3**	**+0.3**
	3.4nm,0.4s,baz=169,slow=15,SNR=18						
MK31				⇓Lg	Lg	21 36 25.8	
	15nm,0.5s,baz=164,slow=30,SNR=5.1						
MKAR	**Makanchi Array**	**5.51**	**350**	Pn	**Pn**	**21 34 56.5**	**+0.7**
	0.7nm,0.3s,baz=185,slow=14,SNR=23						
MKAR				Pg	**Pb**	**21 35 10.6**	**+0.5**
	1.7nm,0.3s,baz=171,slow=15,SNR=20						
MKAR				Sn	**Sn**	**21 35 59.7**	**+0.4**
	1.2nm,0.3s,baz=169,slow=16,SNR=2.9						
MKAR				Lg	Lg	21 36 27.1	
	5.2nm,0.3s,baz=182,slow=29,SNR=6.8						
MAKZ	**Makanchi**	**5.57**	**348**	⇑Pn	**Pn**	**21 34 57.5**	**+0.9**
	2.8nm,0.8s						
MAKZ				⇓Pg	**Pb**	**21 35 13.4**	**+2.4**
	3.2nm,0.5s						
MAKZ				⇑Lg	Lg	21 36 25.5	
	8.7nm,0.7s						
KST	**Kastek**	**5.94**	**289**	*e*P	**Pn**	**21 35 05.9**	**+4.1**
	4.1nm,0.3s						
KST				*e*S	**Sn**	**21 36 14.2**	**+4.2**
	7.2nm,0.4s						
TKM2	**Tokmak 2**	**6.17**	**287**	⇑Pn	**Pn**	**21 35 07.1**	**+2.0**
	1.3nm,0.3s						
TKM2				⇓Lg	Lg	21 36 49.3	
	10.0nm,0.8s						
AAK	**Ala-Archa**	**6.93**	**284**	Pn	**Pn**	**21 35 17.3**	**+1.9**
	0.2nm,0.3s,baz=100,slow=6.1,SNR=3.8						
AAK				Lg	Lg	21 37 08.8	
	0.2nm,0.3s,baz=180,slow=20,SNR=3.0						
KURBB	**Kurchatov Arra**	**9.91**	**341**	Pn	**Pn**	**21 35 55.7**	**-0.5**
	0.1nm,0.3s,baz=152,slow=12,SNR=3.8						
KURBB				Sn	**Sn**	**21 37 41.7**	**-5.7**
	0.1nm,0.3s,baz=166,slow=19,SNR=3.9						
KURBB				Lg	Lg	21 38 45.1	
	0.1nm,0.3s,baz=351,slow=29,SNR=5.5						
CHCP	**Chirah Chowk**	**11.26**	**230**	P	**Pn**	**21 36 14.5**	**-0.2**
CEP	**Cherat**	**11.96**	**235**	P	**Pn**	**21 36 22.9**	**-1.4**
CEP				S	**Sn**	**21 38 34.0**	**-3.8**
ZALV	**Zalesovo Beam**	**12.62**	**3**	Pn	**Pn**	**21 36 31.0**	**-2.1**
	0.4nm,0.3s,baz=185,slow=13,SNR=7.4						
ZALV				Lg	Lg	21 40 11.2	
	0.2nm,0.3s,baz=192,slow=26,SNR=2.7						
THW	**Thamme Wali**	**12.77**	**232**	P	**Pn**	**21 36 33.9**	**-1.4**
BVAR	**Borovoye Array**	**14.70**	**327**	Pn	**Pn**	**21 37 01.5**	**-0.1**
	0.2nm,0.3s,baz=138,slow=15,SNR=3.5						
SONM	**Songino Array**	**17.42**	**61**	P	**Pn**	**21 37 37.9**	**+1.0**
	0.0nm,0.3s,baz=251,slow=11,SNR=2.9						
ARU	**Arti**	**22.15**	**321**	P	**P**	**21 38 29.3**	**-0.2**
	0.3nm,0.4s,baz=90,slow=19,SNR=3.4						
ARCES	**ARCESS Array B**	**40.88**	**333**	P	**P**	**21 41 15.4**	**-0.1**
	5.2nm,1.0s,baz=101,slow=9.3,SNR=3.0						
ILAR	**Eielson Array**	**67.06**	**21**	P	**P**	**21 44 26.5**	**-0.2**
	0.3nm,0.6s,baz=317,slow=3.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**75.43**	**275**	P	**P**	**21 45 16.8**	**-1.3**
	0.5nm,0.9s,baz=50,slow=4.5,SNR=2.5						
WRA	**Warramunga Arr**	**76.98**	**132**	P	**P**	**21 45 27.0**	**+0.3**
	0.3nm,0.6s,baz=329,slow=5.8,SNR=3.5						
LPAZ	**La Paz**	**145.12**	**307**	PKPbc	**PKPbc**	**21 53 08.7**	**-3.3**
	1.5nm,0.4s,baz=297,slow=1.8,SNR=5.5						

ROM 29 21:35:02.8±0.2, 41°.393N±0°.006×14°.432E±0°.008, h21km±1km, Md1.5/5, Error ellipse: s-maj=0.8km s-min=0.2km az=310.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAGA	**Valle Agricola**	**0.15**	**279**	P	Pb	21 35 07.3	-1.6
VAGA				S	Sb	21 35 10.6	-2.6
VAGA				AML	AML		
	comp=E,797μm,0.3s						
VAGA				AML	AML		
	comp=N,1570μm,0.9s						
VAGA				AML	AML		
	comp=E,856μm,0.3s						
VAGA				AML	AML		
	comp=N,1640μm,0.9s						
VAGA				AML	AML		
	comp=E,23950μm,0.4s						
VAGA				AML	AML		
	comp=N,36100μm,0.5s						
VAGA				AML	AML		
	comp=E,25000μm,0.4s						
VAGA				AML	AML		
	comp=N,37050μm,0.5s						
VAGA				END			
BSSO	**Busso**	**0.20**	**38**	P	Pb	21 35 08.3	-0.5
BSSO				S	Sb	21 35 12.5	-0.6
BSSO				AML	AML		
	comp=E,431μm,0.7s						
BSSO				AML	AML		
	comp=N,456μm,0.5s						
BSSO				AML	AML		
	comp=E,178μm,0.7s						
BSSO				AML	AML		
	comp=N,188μm,0.5s						
BSSO				AML	AML		
	comp=E,18950μm,0.4s						
BSSO				AML	AML		
	comp=N,26750μm,0.5s						
BSSO				AML	AML		
	comp=E,8590μm,0.4s						
BSSO				AML	AML		
	comp=N,10785μm,0.5s						
BSSO				END			
SACR	**S. Croce Del S**	**0.21**	**89**	P	Pb	21 35 08.2	-0.6
SACR				S	Sb	21 35 12.4	-0.6
SACR				AML	AML		
	comp=E,300μm,1.3s						
SACR				AML	AML		
	comp=N,266μm,0.4s						
SACR				AML	AML		
	comp=E,10640μm,1.2s						
SACR				AML	AML		
	comp=N,9780μm,1.1s						
SACR				AML	AML		
	comp=E,10605μm,1.3s						
SACR				AML	AML		
	comp=N,10085μm,1.1s						
SACR				END			
PIGN	**Pignataro Magg**	**0.27**	**225**	P	Pb	21 35 09.0	-0.2
PIGN				S	Sb	21 35 14.5	+1.0
PIGN				AML	AML		
	comp=E,146μm,0.3s						
PIGN				AML	AML		
	comp=N,103μm,0.3s						
PIGN				AML	AML		
	comp=E,5370μm,0.4s						
PIGN				AML	AML		
	comp=N,4030μm,0.6s						
PIGN				AML	AML		
	comp=E,5310μm,0.4s						
PIGN				AML	AML		
	comp=N,3865μm,1.1s						
PIGN				END			
MIDA	**Miranda**	**0.28**	**332**	P	Pb	21 35 09.1	-0.3
MIDA				S	Sb	21 35 14.1	+0.1
MIDA				AML	AML		
	comp=E,144μm,0.6s						
MIDA				AML	AML		
	comp=N,112μm,0.3s						
MIDA				AML	AML		
	comp=E,5495μm,0.7s						
MIDA				AML	AML		
	comp=N,6250μm,0.7s						
MIDA				AML	AML		
	comp=E,5525μm,0.7s						
MIDA				AML	AML		
	comp=N,6240μm,0.7s						
MIDA				END			

CERA	**Filignano**	**0.37**	**303**	P	Pb	21 35 11.3	+0.6
CERA				AML	AML		
	comp=E,4945μm,0.6s						
CERA				AML	AML		
	comp=N,3495μm,0.5s						
CERA				AML	AML		
	comp=E,5045μm,0.6s						
CERA				AML	AML		
	comp=N,3525μm,0.5s						
RNI2	**Rionero Sannit**	**0.37**	**326**	P	Pb	21 35 11.2	+0.5
RNI2				AML	AML		
	comp=E,4005μm,0.5s						
RNI2				AML	AML		
	comp=N,3150μm,0.4s						
RNI2				AML	AML		
	comp=E,4085μm,0.5s						
RNI2				AML	AML		
	comp=N,3190μm,0.4s						
PAOL	**Paolisi**	**0.38**	**164**	P	Pb	21 35 10.8	+0.1
PAOL				AML	AML		
	comp=E,103μm,1.4s						
PAOL				AML	AML		
	comp=N,82μm,0.7s						
PAOL				AML	AML		
	comp=E,3675μm,0.3s						
PAOL				AML	AML		
	comp=N,3135μm,0.5s						
PAOL				AML	AML		
	comp=E,3860μm,0.3s						
PAOL				AML	AML		
	comp=N,3240μm,0.5s						
TRIV	**Trivento**	**0.38**	**13**	P	Pb	21 35 11.4	+0.6
TRIV				AML	AML		
	comp=E,78μm,0.3s						
TRIV				AML	AML		
	comp=N,132μm,0.8s						
TRIV				AML	AML		
	comp=E,3355μm,1.2s						
TRIV				AML	AML		
	comp=N,3090μm,1.2s						
MODR	**Mondragone**	**0.48**	**240**	P	Pb	21 35 13.0	+0.3
MODR				AML	AML		
	comp=E,5500μm,0.8s						
MODR				AML	AML		
	comp=N,4680μm,1.0s						
MELA	**Melanico ??? S**	**0.61**	**59**	P	Pb	21 35 14.5	-0.3
MELA				AML	AML		
	comp=E,2735μm,0.3s						
MELA				AML	AML		
	comp=N,2980μm,0.9s						
MELA				AML	AML		
	comp=E,2880μm,0.3s						
MELA				AML	AML		
	comp=N,3135μm,0.9s						

*IDC **29** 21:35:34.7±1.3, 41°.61N×14°.31E, h0km, mb3.1/2, mb1 3.4/5, mb1mx3.2/60, mbtmp3.2/5, ML3.2/3, Error ellipse: s-maj=22.3km s-min=15.4km az=94.0*
*ISCJB **29** 21:35:35.7±0.2, 41°.43N±0°.02×14°.43E±0°.02, h19km±2km, mb3.0/2, Error ellipse: s-maj=3.3km s-min=2.6km az=37.6*
*ROM **29** 21:35:35.2±0.1, 41°.385N±0°.004×14°.423E±0°.005, h18km±1km, ML3.0/52, Error ellipse: s-maj=0.5km s-min=0.2km az=195.0*
*BEO **29** 21:35:39.1±0.7, 41°.46N×14°.40E, h38km±3km, ML3.2/7*
ISC 29 21:35:35.9±0.8, 41°.42N±0°.02×14°.42E±0°.02, h15km±5km, n140, σ1s17/163, 7C-5D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAGA	**Valle Agricola**	**0.14**	**270**	P	**Pg**	**21 35 39.4**	**-0.2**
VAGA				S	**Sg**	**21 35 42.7**	**+0.6**
VAGA				AML	AML		
	comp=E,24000μm,0.4s						
VAGA				AML	AML		
	comp=N,36150μm,0.5s						
VAGA				AML	AML		
	comp=N,36100μm,0.5s						
VAGA				AML	AML		
	comp=N,37050μm,0.5s						
VAGA				AML	AML		
	comp=N,36150μm,0.5s						
VAGA				AML	AML		
	comp=N,37050μm,0.5s						
VAGA				AML	AML		
	comp=E,25000μm,0.4s						
VAGA				AML	AML		
	comp=E,23950μm,0.4s						
BSSO	**Busso**	**0.19**	**46**	P	**Pg**	**21 35 40.5**	**+0.1**
BSSO				S	**Sb**	**21 35 44.3**	**-0.3**
BSSO				AML	AML		
	comp=E,18950μm,0.4s						
BSSO				AML	AML		
	comp=E,8590μm,0.4s						
BSSO				AML	AML		
	comp=N,10785μm,0.5s						
BSSO				AML	AML		
	comp=E,19000μm,0.4s						
BSSO				AML	AML		
	comp=N,26750μm,0.5s						
SACR	**S. Croce Del S**	**0.22**	**95**	P	**Pg**	**21 35 40.4**	**-0.5**
SACR				S	**Sg**	**21 35 44.4**	**+0.2**
SACR				AML	AML		
	comp=E,10635μm,1.2s						
SACR				AML	AML		
	comp=N,9820μm,1.1s						
SACR				AML	AML		
	comp=N,10085μm,1.1s						
SACR				AML	AML		
	comp=E,10640μm,1.2s						
SACR				AML	AML		
	comp=N,9780μm,1.1s						
SACR				AML	AML		
	comp=E,10605μm,1.3s						
SACR				AML	AML		
	comp=N,9800μm,1.1s						
SACR				AML	AML		
	comp=E,10625μm,1.2s						
MIDA	**Miranda**	**0.26**	**332**	P	**Pg**	**21 35 41.3**	**-0.2**
MIDA				S	**Sb**	**21 35 46.2**	**-0.4**
MIDA				AML	AML		
	comp=E,5500μm,0.7s						
MIDA				AML	AML		
	comp=N,6245μm,0.7s						
MIDA				AML	AML		
	comp=E,5525μm,0.7s						
MIDA				AML	AML		
	comp=E,5495μm,0.7s						
MIDA				AML	AML		
	comp=N,6250μm,0.7s						
MIDA				AML	AML		
	comp=N,6240μm,0.7s						
PIGN	**Pignataro Magg**	**0.28**	**220**	P	**Pg**	**21 35 41.1**	**-0.7**
PIGN				AML	AML		
	comp=E,5370μm,0.4s						
PIGN				AML	AML		
	comp=N,3865μm,1.1s						
PIGN				AML	AML		
	comp=E,5310μm,0.4s						
PIGN				AML	AML		
	comp=E,5365μm,0.4s						
PIGN				AML	AML		
	comp=N,4030μm,0.6s						
RNI2	**Rionero Sannit**	**0.35**	**326**	P	**Pg**	**21 35 43.1**	**+0.1**
RNI2				S	**Sb**	**21 35 49.4**	**+0.1**
RNI2				AML	AML		
	comp=E,4000μm,0.5s						
RNI2				AML	AML		
	comp=E,4085μm,0.5s						
RNI2				AML	AML		
	comp=N,3195μm,0.4s						
RNI2				AML	AML		
	comp=E,4005μm,0.5s						
RNI2				AML	AML		
	comp=N,3150μm,0.4s						
RNI2				AML	AML		
	comp=N,3190μm,0.4s						
RNI2				AML	AML		
	comp=N,3155μm,0.4s						
CERA	**Filignano**	**0.35**	**301**	P	**Pg**	**21 35 43.1**	**+0.1**
CERA				AML	AML		
	comp=N,3525μm,0.5s						
CERA				AML	AML		
	comp=N,3495μm,0.5s						
CERA				AML	AML		
	comp=N,3500μm,0.5s						

CERA					AML	AML			
	comp=E,5045µm,0.6s								
CERA					AML	AML			
	comp=E,4945µm,0.6s								
PSB1	**Pescosannita**	**0.35**	**123**		P	**Pg**	**21**	**35**	**42.5 -0.7**
PSB1					AML	AML			
	comp=E,5870µm,0.4s								
PSB1					AML	AML			
	comp=N,4035µm,0.6s								
PSB1					AML	AML			
	comp=N,4305µm,0.7s								
PSB1					AML	AML			
	comp=E,5875µm,0.4s								
PSB1					AML	AML			
	comp=E,6345µm,0.4s								
TRIV	**Trivento**	**0.36**	**16**		P	**Pg**	**21**	**35**	**43.4 0.0**
TRIV					S	**Sb**	**21**	**35**	**49.9 +0.2**
TRIV					AML	AML			
	comp=E,3355µm,1.2s								
TRIV					AML	AML			
	comp=N,3090µm,1.2s								
GATE	**Gambatesa**	**0.38**	**75**		P	**Pg**	**21**	**35**	**43.7 0.0**
GATE					AML	AML			
	comp=E,3990µm,0.7s								
GATE					AML	AML			
	comp=N,3725µm,0.5s								
GATE					AML	AML			
	comp=E,3990µm,0.7s								
GATE					AML	AML			
	comp=E,2065µm,0.9s								
GATE					AML	AML			
	comp=E,3985µm,0.7s								
GATE					AML	AML			
	comp=N,3810µm,0.5s								
GATE					AML	AML			
	comp=N,3725µm,0.5s								
GATE					AML	AML			
	comp=E,2060µm,0.9s								
PAOL	**Paolisi**	**0.40**	**163**		P	**Pg**	**21**	**35**	**42.8 -1.1**
PAOL					AML	AML			
	comp=E,3680µm,0.3s								
PAOL					AML	AML			
	comp=N,3135µm,0.6s								
PAOL					AML	AML			
	comp=N,3240µm,0.5s								
PAOL					AML	AML			
	comp=N,3135µm,0.5s								
PAOL					AML	AML			
	comp=E,3675µm,0.3s								
PAOL					AML	AML			
	comp=E,3860µm,0.3s								
PAOL					AML	AML			
	comp=N,3140µm,0.6s								
CIGN	**Sant'Elia a Pi**	**0.44**	**57**		P	**Pg**	**21**	**35**	**44.5 -0.2**
CIGN					AML	AML			
	comp=E,1815µm,0.5s								
CIGN					AML	AML			
	comp=N,2205µm,0.6s								
MODR	**Mondragone**	**0.49**	**237**		P	**Pg**	**21**	**35**	**45.0 -0.6**
MODR					AML	AML			
	comp=E,5500µm,0.8s								
MODR					AML	AML			
	comp=N,4680µm,1.0s								
MRB1	**Monte Rocchett**	**0.51**	**124**		P	**Pg**	**21**	**35**	**45.1 -0.9**
MRB1					AML	AML			
	comp=E,3675µm,1.4s								
MRB1					AML	AML			
	comp=E,3655µm,1.4s								
MRB1					AML	AML			
	comp=N,5190µm,0.5s								
MRB1					AML	AML			
	comp=E,3675µm,1.3s								
MRB1					AML	AML			
	comp=N,5100µm,0.5s								
MRB1					AML	AML			
	comp=N,5195µm,0.5s								
MOCO	**Biccari - m.te**	**0.56**	**94**		P	**Pg**	**21**	**35**	**46.5 -0.5**
MOCO					AML	AML			
	comp=N,616µm,1.3s								
MOCO					AML	AML			
	comp=E,1765µm,0.5s								
MOCO					AML	AML			
	comp=N,617µm,1.3s								
MOCO					AML	AML			
	comp=N,657µm,1.3s								
MOCO					AML	AML			
	comp=E,1760µm,0.5s								
MOCO					AML	AML			
	comp=E,1745µm,0.5s								
FRES	**Fresagrandinar**	**0.59**	**19**		P	**Pg**	**21**	**35**	**46.7 -0.8**
FRES					AML	AML			
	comp=E,1175µm,0.6s								
FRES					AML	AML			
	comp=N,725µm,0.4s								
MELA	**Melanico ??? S**	**0.61**	**61**		P	**Pg**	**21**	**35**	**46.6 -1.2**
MELA					S	**Sg**	**21**	**35**	**55.4 -0.4**
MELA					AML	AML			
	comp=N,2985µm,0.9s								
MELA					AML	AML			
	comp=E,2735µm,0.3s								
MELA					AML	AML			
	comp=E,2880µm,0.3s								
MELA					AML	AML			
	comp=N,3135µm,0.9s								
MELA					AML	AML			
	comp=N,2980µm,0.9s								
POFI	**Posta Fibreno**	**0.61**	**300**		P	**Pg**	**21**	**35**	**47.1 -0.7**
POFI					AML	AML			
	comp=E,712µm,0.5s								
POFI					AML	AML			
	comp=E,754µm,0.6s								
POFI					AML	AML			
	comp=N,740µm,0.6s								
POFI					AML	AML			
	comp=E,712µm,0.5s								
POFI					AML	AML			
	comp=N,760µm,0.6s								
POFI					AML	AML			
	comp=N,740µm,0.6s								
LPEL	**Lama dei Pelig**	**0.65**	**345**		P	**Pg**	**21**	**35**	**47.9 -0.8**
LPEL					AML	AML			
	comp=N,976µm,0.7s								
LPEL					AML	AML			
	comp=E,1185µm,1.4s								
INTR	**Introdacqua**	**0.71**	**327**		P	**Pg**	**21**	**35**	**48.6 -1.2**
INTR					AML	AML			
	comp=E,1895µm,0.7s								
INTR					AML	AML			
	comp=N,2915µm,0.8s								
CAFE	**Carife**	**0.73**	**122**		P	**Pg**	**21**	**35**	**49.3 -0.9**
CAFE					AML	AML			
	comp=E,1320µm,0.6s								
CAFE					AML	AML			
	comp=N,939µm,0.5s								
CAFE					AML	AML			
	comp=E,1340µm,0.6s								
CAFE					AML	AML			
	comp=E,1315µm,0.6s								
CAFE					AML	AML			
	comp=N,939µm,0.4s								
CAFE					AML	AML			
	comp=N,1008µm,0.4s								
VVLD	**Villa Vallelon**	**0.75**	**308**		P	**Pg**	**21**	**35**	**50.3 -0.2**
VVLD					AML	AML			
	comp=E,820µm,0.5s								
VVLD					AML	AML			
	comp=N,1240µm,0.8s								
SGTA	**Sant Agata di**	**0.77**	**111**		P	**Pg**	**21**	**35**	**47.9 -2.9**
SGTA					AML	AML			
	comp=E,990µm,0.7s								
SGTA					AML	AML			
	comp=E,952µm,0.7s								
SGTA					AML	AML			
	comp=N,742µm,0.5s								
SGTA					AML	AML			
	comp=N,828µm,0.5s								
SNAL	**S. Angelo Dei**	**0.77**	**129**		P	**Pg**	**21**	**35**	**50.7 -0.3**
SNAL					AML	AML			
	comp=E,1278µm,0.7s								
SNAL					AML	AML			
	comp=N,1480µm,1.0s								
CAFR	**Castel Frentan**	**0.81**	**356**		P	**Pb**	**21**	**35**	**50.9 -0.9**
CAFR					AML	AML			
	comp=N,3610µm,0.7s								
CAFR					AML	AML			
	comp=E,2500µm,0.8s								
MCRV	**Calabrutti - M**	**0.85**	**138**		P	**Pb**	**21**	**35**	**52.3 -0.1**
MCRV					AML	AML			
	comp=N,1510µm,0.5s								
MCRV					AML	AML			
	comp=E,1340µm,0.4s								
GIUL	**Giuliano Di Ro**	**0.88**	**280**		P	**Pb**	**21**	**35**	**52.8 -0.2**
GIUL					AML	AML			
	comp=E,436µm,1.1s								
GIUL					AML	AML			
	comp=N,406µm,1.2s								
VENT	**Ventotene**	**0.97**	**231**		P	**Pb**	**21**	**35**	**53.0 -1.5**
VENT					AML	AML			
	comp=E,2150µm,0.4s								
VENT					AML	AML			
	comp=N,1855µm,0.6s								
MRLC	**Muro Lucano**	**1.04**	**129**		P	**Pb**	**21**	**35**	**55.0 -0.7**
MRLC					AML	AML			
	comp=N,748µm,0.5s								
MRLC					AML	AML			
	comp=N,750µm,0.5s								
MRLC					AML	AML			
	comp=E,666µm,0.6s								
MRLC					AML	AML			
	comp=E,674µm,0.6s								
SGRT	**San Giovanni R**	**1.05**	**71**		P	**Pb**	**21**	**35**	**55.4 -0.5**
SGRT					AML	AML			
	comp=N,1760µm,0.6s								
SGRT					AML	AML			
	comp=E,2120µm,0.8s								
VCEL	**Villa Celiera**	**1.07**	**336**		P	**Pg**	**21**	**35**	**58.0 +1.4**
VCEL					AML	AML			
	comp=N,1010µm,1.1s								
VCEL					AML	AML			
	comp=E,1270µm,0.9s								
LATB	**Latina**	**1.09**	**275**		P	**Pb**	**21**	**35**	**55.5 -1.0**
LATB					AML	AML			
	comp=E,195µm,1.0s								
LATB					AML	AML			
	comp=N,113µm,1.6s								
LATB					AML	AML			
	comp=N,124µm,1.0s								
CDRU	**Civita di Ruta**	**1.14**	**144**		P	**Pn**	**21**	**35**	**56.1 -1.4**
CDRU					AML	AML			
	comp=N,406µm,0.4s								
CDRU					AML	AML			
	comp=E,512µm,0.5s								
MSAG	**Monte S. Angel**	**1.16**	**75**		P	**Pn**	**21**	**35**	**56.5 -1.1**
MSAG					AML	AML			
	comp=E,1465µm,0.7s								
MSAG					AML	AML			
	comp=N,2710µm,0.5s								
MSAG					AML	AML			
	comp=E,1360µm,0.7s								
MSAG					AML	AML			
	comp=N,2755µm,0.5s								
CERT	**Cerreto**	**1.20**	**297**		P	**Pn**	**21**	**35**	**58.2 0.0**
CERT					AML	AML			
	comp=N,228µm,0.7s								
CERT					AML	AML			
	comp=E,372µm,0.5s								
AQU	**L'Aquila**	**1.21**	**321**	*e*Pn		**Pg**	**21**	**36**	**00.0 +0.9**
CMPR	**Campora**	**1.29**	**148**		P	**Pn**	**21**	**36**	**00.2 +0.7**
CMPR					AML	AML			
	comp=E,428µm,0.6s								
CMPR					AML	AML			
	comp=N,272µm,0.5s								
FIAM	**Fiamignano**	**1.29**	**312**		P	**Pb**	**21**	**36**	**00.7 +0.7**
ACER	**Acerenza**	**1.31**	**118**		P	**Pg**	**21**	**36**	**01.8 +0.6**
ACER					AML	AML			
	comp=N,665µm,0.9s								
ACER					AML	AML			
	comp=N,656µm,0.9s								
ACER					AML	AML			
	comp=E,644µm,0.4s								
ACER					AML	AML			
	comp=E,634µm,0.5s								
TERO	**Teramo**	**1.35**	**334**		P	**Pg**	**21**	**36**	**02.5 +0.6**
TERO					AML	AML			
	comp=N,200µm,0.6s								
TERO					AML	AML			
	comp=E,108µm,1.0s								
SMA1	**SAN MARTINO**	**1.46**	**327**		P	**Pg**	**21**	**36**	**04.5 +0.6**
SMA1					AML	AML			
	comp=N,437µm,0.6s								
SMA1					AML	AML			
	comp=E,390µm,0.8s								
MCEL	**Monticello**	**1.51**	**136**		P	**Pb**	**21**	**36**	**04.9 +1.1**
MCEL					AML	AML			
	comp=E,382µm,0.8s								
MCEL					AML	AML			
	comp=N,348µm,0.8s								
MCEL					AML	AML			
	comp=E,375µm,0.8s								
MCEL					AML	AML			
	comp=N,356µm,0.8s								
MTSN	**Montesano sull**	**1.53**	**138**		P	**Pn**	**21**	**36**	**02.8 -0.1**
MTSN					AML	AML			
	comp=E,430µm,0.7s								
MTSN					AML	AML			
	comp=N,461µm,0.8s								
MGR	**Morigerati**	**1.54**	**146**		P	**Pg**	**21**	**36**	**06.2 +0.7**
MGR					AML	AML			
	comp=E,237µm,0.5s								
MGR					AML	AML			
	comp=N,262µm,0.6s								
SIRI	**Monte Sirino -**	**1.65**	**138**		P	**Pg**	**21**	**36**	**08.5 +0.8**
SIRI					AML	AML			
	comp=E,274µm,0.9s								
SIRI					AML	AML			
	comp=N,298µm,0.7s								
SIRI					AML	AML			
	comp=E,268µm,0.9s								
SIRI					AML	AML			
	comp=N,299µm,0.8s								
ARRO	**Arrone**	**1.69**	**314**		P	**Pg**	**21**	**36**	**09.7 +1.4**
ARRO					AML	AML			
	comp=E,164µm,1.1s								
ARRO					AML	AML			
	comp=N,142µm,0.8s								
AMUR	**Altamura**	**1.73**	**106**		P	**Pn**	**21**	**36**	**05.7 +0.2**
AMUR					AML	AML			
	comp=N,250µm,0.8s								
AMUR					AML	AML			
	comp=E,220µm,0.4s								
MIGL	**Miglionico**	**1.73**	**117**		P	**Pb**	**21**	**36**	**07.2 -0.2**
MIGL					AML	AML			
	comp=E,612µm,0.6s								
MIGL					AML	AML			
	comp=N,708µm,0.6s								
CUC	**Castrocucco**	**1.77**	**143**		P	**Pg**	**21**	**36**	**09.8 -0.1**
CUC					AML	AML			
	comp=E,254µm,0.8s								
CUC					AML	AML			
	comp=N,228µm,0.6s								
CUC					AML	AML			
	comp=N,271µm,0.6s								
CUC					AML	AML			
	comp=E,303µm,0.8s								
SG1	**Sgolgore (BA)**	**1.80**	**108**	*e*Pn		**Pn**	**21**	**36**	**06.3 -0.2**
BAI	**Bari**	**1.88**	**99**	*e*Pn		**Pn**	**21**	**36**	**07.6 +0.1**
MATE	**Matera**	**1.89**	**113**	⇓P		**Pn**	**21**	**36**	**07.9 +0.3**
MATE				⇑S		**Sb**	**21**	**36**	**33.6 0.0**
MATE					AML	AML	21	36	44.5
FDMO	**Fiordimonte**	**1.90**	**329**		P	**Pb**	**21**	**36**	**10.3 0.0**
FDMO					AML	AML			
	comp=E,140µm,0.6s								
FDMO					AML	AML			
	comp=N,191µm,0.8s								
LTRZ	**Laterza**	**1.99**	**113**		P	**Pn**	**21**	**36**	**09.0 -0.1**
LTRZ					AML	AML			
	comp=N,84µm,1.2s								
LTRZ					AML	AML			
	comp=E,122µm,0.6s								
SALB	**San Lorenzo Be**	**2.13**	**136**		P	**Pb**	**21**	**36**	**15.2 +1.0**
SALB					AML	AML			
	comp=E,124µm,1.0s								
SALB					AML	AML			
	comp=N,98µm,0.8s								
EL6	**Elcito**	**2.15**	**333**		P	**Pb**	**21**	**36**	**13.9 -0.7**
MASS	**Massafra**	**2.21**	**110**	*e*Pn		**Pn**	**21**	**36**	**13.1 +1.1**
HVAR	**Hvar**	**2.32**	**40**	*e*Pn		**Pn**	**21**	**36**	**13.2 -0.4**
ZIRJ	**Zirje**	**2.41**	**22**	*e*Pn		**Pn**	**21**	**36**	**14.2 -0.6**
DUGI	**Dugi Otok**	**2.62**	**10**	*e*Pn		**Pn**	**21**	**36**	**17.0 -0.6**
DUGI					Sn	**Sn**	**21**	**36**	**49.2 0.0**
MORI	**Morici**	**2.63**	**21**		Sn	**Sn**	**21**	**36**	**50.9 +1.5**
MAKA	**Makarska**	**2.69**	**45**	*e*Pn		**Pn**	**21**	**36**	**18.5 -0.1**
ISTR	**Stromboli Gino**	**2.69**	**167**		S	**Sg**	**21**	**37**	**01.0 -1.4**
CPGN	**Carpegna, Ital**	**2.84**	**328**		P	**Pb**	**21**	**36**	**24.3 -2.1**
STON	**Ston**	**2.84**	**58**	*i*	Pn	**Pn**	**21**	**36**	**20.7 0.0**
STON					Sn	**Sn**	**21**	**36**	**54.2 -0.4**
STON	**Ston**	**2.84**	**58**	*e*	Pn	**Pn**	**21**	**36**	**21.4 +0.7**
STON				*e*	Sn	**Sn**	**21**	**36**	**54.3 -0.4**
STON	**Ston**	**2.84**	**58**	*e*	Pn	**Pn**	**21**	**36**	**21.2 +0.5**
STON	**Ston**	**2.84**	**58**	*e*	Pn	**Pn**	**21**	**36**	**21.4 +0.7**
STON	**Ston**	**2.84**	**58**		P	**Pn**	**21**	**36**	**21.5 +0.7**
STON					AML	AML			
	comp=E,131µm,0.8s								
STON					AML	AML			
	comp=N,132µm,0.6s								
TIP	**Timpagrande**	**2.86**	**141**	⇑	P	**Pn**	**21**	**36**	**24.1 +3.0**
TIP					AML	AML	21	37	38.0
RICI	**Ricice**	**2.89**	**43**		ePn	**Pn**	**21**	**36**	**21.7 +0.2**
RICI					Sn	**Sn**	**21**	**36**	**58.0 +2.1**
KIJV	**Kijevo**	**2.97**	**29**	*e*	Pn	**Pn**	**21**	**36**	**22.7 +0.2**
KIJV					Sn	**Sn**	**21**	**36**	**59.0 +1.0**
DBRK	**Dubrovnik**	**3.05**	**65**	*i*	Pn	**Pn**	**21**	**36**	**24.2 +0.6**
DBRK					Sn	**Sn**	**21**	**36**	**59.9 +0.1**
NVLJ	**Novalja**	**3.16**	**6**	*e*	Pn	**Pn**	**21**	**36**	**25.0 -0.1**
NVLJ					Sn	**Sn**	**21**	**37**	**03.7 +1.1**
TREB	**Trebinje**	**3.21**	**65**	*e*	Pn	**Pn**	**21**	**36**	**26.5 +0.7**
TREB	**Trebinje**	**3.21**	**65**	*e*	Pn	**Pn**	**21**	**36**	**26.4 +0.7**
HCY	**Herceg Novi**	**3.21**	**70**	*e*	Pn	**Pn**	**21**	**36**	**25.7 -0.1**
UDBI	**Udbina**	**3.26**	**17**	*i*	Pn	**Pn**	**21**	**36**	**27.7 +1.1**
BRY	**Bratogost**	**3.41**	**63**	*e*	Pn	**Pn**	**21**	**36**	**29.0 +0.4**
MGRS	**Mrkonjic Grad**	**3.58**	**32**	*e*	Pn	**Pn**	**21**	**36**	**33.1 +2.1**
DRME	**Dracevica, Mon**	**3.65**	**76**	*e*	Pn	**Pn**	**21**	**36**	**32.3 +0.5**
PDG	**Podgorica**	**3.75**	**73**	*e*	Pn	**Pn**	**21**	**36**	**33.9 +0.7**
PDG				*e*	Sn	**Sn**	**21**	**37**	**15.2 -1.9**
PDG	**Podgorica**	**3.75**	**73**	*e*	Pn	**Pn**	**21**	**36**	**33.7 +0.4**
PDG	**Podgorica**	**3.75**	**73**	⇑	P	**Pn**	**21**	**36**	**33.6 +0.4**
PDG				⇑	S	**Sn**	**21**	**37**	**15.5 -1.6**
PDG					AML	AML	21	37	46.4
UPM	**Unac-Piva**	**3.78**	**60**	*e*	Pn	**Pn**	**21**	**36**	**34.9 +1.1**
BLY	**Banja Luka**	**3.90**	**30**	*e*	Pn	**Pn**	**21**	**36**	**36.6 +1.3**
BLY	**Banja Luka**	**3.90**	**30**	*e*	Pn	**Pn**	**21**	**36**	**36.2 +0.9**
BLY	**Banja Luka**	**3.90**	**30**	⇓	P	**Pn**	**21**	**36**	**35.6 +0.3**
BLY					AML	AML	21	38	02.4
TIR	**Tirane**	**4.10**	**89**	⇑	P	**Pn**	**21**	**36**	**38.8 +0.8**
TIR					AML	AML	21	37	29.9
BOJS	**Bojanci**	**4.13**	**8**	*e*	Pn	**Pn**	**21**	**36**	**38.7 +0.2**
PUK	**Puka**	**4.15**	**80**		P	**Pn**	**21**	**36**	**40.2 +1.4**
PUK					AML	AML			
	comp=N,94µm,0.5s								
PUK					AML	AML			
	comp=E,74µm,1.4s								
RUDO	**Rudo**	**4.27**	**57**	*e*	Pn	**Pn**	**21**	**36**	**41.3 +0.9**
HAPS	**Han Pijesak,Bl**	**4.28**	**50**	*e*	Pn	**Pn**	**21**	**36**	**41.0 +0.5**
HAPS	**Han Pijesak,Bl**	**4.28**	**50**	*e*	Pn	**Pn**	**21**	**36**	**41.2 +0.7**
CEY	**Cerknica**	**4.32**	**0**	*e*	Pn	**Pn**	**21**	**36**	**42.1 +1.0**
CEY	**Cerknica**	**4.32**	**0**	*e*	Pn	**Pn**	**21**	**36**	**42.2 +1.1**
BBLS	**Lazići**	**4.42**	**55**	*e*	Pn	**Pn**	**21**	**36**	**43.4 +0.9**
BBLS				*e*	Sn	**Sn**	**21**	**37**	**31.3 -2.5**
BBLS	**Lazići**	**4.42**	**55**	*e*	Pn	**Pn**	**21**	**36**	**43.8 +1.3**
CRES	**Cresnjev**	**4.47**	**9**	*e*	Pn	**Pn**	**21**	**36**	**43.4 +0.2**
SJES	**Sjenica**	**4.51**	**64**	*e*	Pn	**Pn**	**21**	**36**	**45.4 +1.6**
MOSL	**Moslavina**	**4.53**	**21**	*e*	Pn	**Pn**	**21**	**36**	**43.6 -0.4**
MSSA	**Maissana**	**4.62**	**310**		P	**Pg**	**21**	**37**	**01.9 -2.4**
IVAS	**Ivanjica**	**4.76**	**61**	*e*	Pn	**Pn**	**21**	**36**	**48.0 +0.8**
IVAS				*e*	Sn	**Sn**	**21**	**37**	**40.5 -1.6**
DIVS	**Divibare**	**4.90**	**55**	*e*	Pn	**Pn**	**21**	**36**	**49.8 +0.6**
DIVS	**Divibare**	**4.90**	**55**	*e*	Pn	**Pn**	**21**	**36**	**49.7 +0.6**
OBKA	**Obir**	**5.09**	**1**	*i*	Pn	**Pn**	**21**	**36**	**52.7 +0.9**
	comp=E,1.3nm,0.2s								
LEOD	**Capriano del C**	**5.11**	**324**		P	**Pn**	**21**	**36**	**49.2 -2.7**
TRUS	**Trudelj**	**5.22**	**56**	*e*	Pn	**Pn**	**21**	**36**	**54.1 +0.6**
MYKA	**Terra Mystica**	**5.24**	**354**	*i*	Pn	**Pn**	**21**	**36**	**53.9 +0.1**
	comp=E,1.1nm,0.3s								
GRUS	**Gruza**	**5.26**	**60**	*e*	Pn	**Pn**	**21**	**36**	**54.5 +0.5**
GRUS				*e*	Sn	**Sn**	**21**	**37**	**51.4 -3.0**
SOKA	**Soboth**	**5.28**	**5**	*i*	Pn	**Pn**	**21**	**36**	**53.9 -0.4**
	comp=E,0.8nm,0.3s								
SELS	**Selova**	**5.29**	**68**	*e*	Pn	**Pn**	**21**	**36**	**55.1 +0.7**
FRGS	**Fruska Gora**	**5.43**	**45**	*e*	Pn	**Pn**	**21**	**36**	**55.8 -0.5**
FRGS	**Fruska Gora**	**5.43**	**45**	*e*	Pn	**Pn**	**21**	**36**	**55.8 -0.5**
ABTA	**Abfaltersbach**	**5.50**	**346**	*i*	Pn	**Pn**	**21**	**36**	**58.2 +0.8**
	comp=E,0.7nm,0.3s								
BARS	**Barje**	**5.68**	**73**	*e*	Pn	**Pn**	**21**	**37**	**00.7 +1.0**
ARSA	**Arzberg**	**5.89**	**7**	*e*	Pn	**Pn**	**21**	**37**	**02.3 -0.3**
ARSA	**Arzberg**	**5.89**	**7**	*i*	Pn	**Pn**	**21**	**37**	**02.4 -0.2**
	comp=E,0.5nm,0.3s								
BOSS	**Bosilegrad**	**6.11**	**77**	*e*	Pn	**Pn**	**21**	**37**	**06.1 +0.5**
WTTA	**Wattenberg**	**6.18**	**342**	*i*	Pn	**Pn**	**21**	**37**	**07.6 +0.9**
	comp=E,0.1nm,0.2s								
FETA	**Feichten**	**6.20**	**336**	*i*	Pn	**Pn**	**21**	**37**	**06.7 -0.3**
	comp=E,0.4nm,0.4s								
SQTA	**Sankt Quirin**	**6.24**	**339**	*i*	Pn	**Pn**	**21**	**37**	**06.9 -0.7**
	comp=E,0.5nm,0.3s								
ZAGS	**Zajecar**	**6.25**	**65**	*e*	Pn	**Pn**	**21**	**37**	**07.8 +0.3**
ZAGS				*e*	Sn	**Sn**	**21**	**38**	**15.4 -3.2**
WATA	**Walderalm**	**6.26**	**342**	*i*	Pn	**Pn**	**21**	**37**	**05.8 -2.0**
	comp=E,0.2nm,0.2s								
MDVR	**Moldovita**	**6.31**	**55**	⇑	P	**Pn**	**21**	**37**	**08.4 0.0**
ZAPS	**Zavoj**	**6.37**	**70**	*e*	Pn	**Pn**	**21**	**37**	**10.3 +1.1**
ZAPS				*e*	Sn	**Sn**	**21**	**38**	**17.9 -3.7**
MOTA	**Moosalm**	**6.38**	**339**	*i*	Pn	**Pn**	**21**	**37**	**07.3 -2.2**
	comp=E,0.3nm,0.3s								
MOA	**Molln**	**6.43**	**359**	*i*	Pn	**Pn**	**21**	**37**	**10.8 +0.6**
	comp=E,4.3nm,0.7s								
CONA	**Conrad Observa**	**6.59**	**9**	*i*	Pn	**Pn**	**21**	**37**	**11.3 -1.0**
	comp=E,0.6nm,0.3s								
RETA	**Reutte**	**6.61**	**338**	*i*	Pn	**Pn**	**21**	**37**	**11.2 -1.3**
	comp=E,0.4nm,0.2s								
VTS	**Vitosha**	**6.68**	**77**	⇓	P	**Pn**	**21**	**37**	**14.1 +0.6**
BZS	**Buzias**	**6.71**	**49**	⇑	P	**Pn**	**21**	**37**	**13.3 -0.6**
KEST	**Kesra**	**6.92**	**217**		Pn	**Pn**	**21**	**37**	**19.7 +2.8**
	comp=E,0.4nm,0.3s,baz=325,slow=2.8,SNR=6.1								
GZR	**Gura Zlata**	**7.27**	**54**	⇓	P	**Pn**	**21**	**37**	**21.4 -0.2**
GERES	**GERESS Array B**	**7.45**	**356**		Pn	**Pn**	**21**	**37**	**23.4 -0.6**
	comp=E,0.2nm,0.3s,baz=170,slow=14,SNR=9.5								
GERES					Sn	**Sn**	**21**	**38**	**43.0 -5.3**
	comp=E,0.3nm,0.3s,baz=169,slow=22,SNR=5.4								
VYHS	**Vyhne**	**7.74**	**22**	*e*	PN	**Pn**	**21**	**37**	**29.3 +1.3**
VOIR		**8.72**	**59**	⇓	P	**Pn**	**21**	**37**	**40.1 -1.4**
MLR	**Muntele Rosu**	**9.32**	**60**		Pn	**Pn**	**21**	**37**	**50.3 +0.5**
	comp=E,0.1nm,0.3s,baz=216,slow=19,SNR=2.5								
TORD	**Torodi Ar. Bea**	**30.27**	**205**		P	**P**	**21**	**41**	**47.1 +0.7**
	comp=E,0.1nm,0.3s,baz=22,slow=9.1,SNR=1.1								
MKAR	**Makanchi Array**	**47.66**	**59**		P	**P**	**21**	**44**	**14.1 +2.5**
	comp=E,0.1nm,0.7s,baz=285,slow=11,SNR=2.2								

ROM 29 21:43:56.8±0.1,39°878N±0'.006×16°02E±0'.01,h8km, Md1.1/3,Error ellipse: s-maj=1.0km s-min=0.6km az=254.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MMN	**Mormanno**	**0.03**	**296**	P		Pg	21 43 58.6	+0.3
MMN				S		Sg	21 43 59.5	+0.1
MMN				END				
T0721	**Laino Castello**	**0.07**	**329**	P		Pg	21 43 59.2	+0.4
T0721				S		Sg	21 44 00.7	+0.4
T0721				AML	AML

ROM 29 21:44:22.3±0.1, 39°890N×0°005×16°045E±0°008, h7km, ML1.9/1, Error ellipse: s-maj=0.7km s-min=0.3km az=236.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMN	**Mormanno**	**0.04**	**270**	P	Pg	21 44 24.0	+0.3
MMN				S	Sg	21 44 24.9	+0.1
T0721	**Laino Castello**	**0.07**	**312**	P	Pg	21 44 24.5	+0.4
T0721				S	Sg	21 44 26.0	+0.5
T0721	comp=E,1550µm,0.2s			AML	AML		
T0721	comp=N,1495µm,1.0s			AML	AML		
T0721	comp=N,1495µm,1.0s			AML	AML		
T0721	comp=E,1555µm,0.2s			AML	AML		
T0702	**Acquaformosa (**	**0.17**	**170**	P	Pg	21 44 26.5	+0.7
T0702				S	Sg	21 44 29.8	+1.6
CUC	**Castrocucco**	**0.20**	**300**	P	Pg	21 44 26.9	+0.6
CUC				S	Sg	21 44 30.1	+0.9
SALB	**San Lorenzo Be**	**0.23**	**93**	P	Pg	21 44 27.4	+0.5
SALB				S	Sg	21 44 31.2	+1.2
SCHR	**S. Chirico Rap**	**0.31**	**4**	P	Pb	21 44 29.4	-0.8
SIRI	**Monte Sirino -**	**0.32**	**335**	P	Pg	21 44 29.5	+0.8
SIRI				S	Sb	21 44 35.0	-1.0
CET2	**Cetraro**	**0.37**	**191**	P	Pg	21 44 30.0	+0.5
MTSN	**Montesano sull**	**0.44**	**329**	P	Pb	21 44 31.9	-0.6
MGR	**Morigerati**	**0.45**	**303**	P	Pb	21 44 32.3	-0.3
CDRU	**Civita di Ruta**	**0.82**	**317**	P	Pg	21 44 37.6	-0.5

IDC 29 21:44:24.3±2.3, 3°53N×126°89E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.2/44, mbtmp3.4/3, Error ellipse: s-maj=185.5km s-min=28.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.45**	**163**	P	P	21 49 43.5	-1.6
	2.1nm,0.7s,baz=342,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**27.89**	**166**	P	P	21 50 17.9	+1.9
	0.1nm,0.3s,baz=346,slow=12,SNR=4.1						
MKAR	**Makanchi Array**	**57.81**	**325**	P	P	21 54 17.4	-0.1
	0.1nm,0.3s,baz=128,slow=6.6,SNR=4.2						

*LDG **29** 21:46:15.8±0.2, 36°82N×4°12W, h2km, Ml3.5/18, Error ellipse: s-maj=4.1km s-min=3.8km az=171.0*
*ISCJB **29** 21:46:19.8±0.2, 36°94N±0°02×4°17W±0°01, h35km, Error ellipse: s-maj=2.4km s-min=1.7km az=170.7*
*MED_RC **29** 21:46:20.0±2.2, 36°73N×4°14W, h209km±28km, MW4.5/15, Moment Tensor Solution. Mantle waves: s15,c22; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; Mrr-1.89±2.16; Mθθ-2.61±2.37; Mθφ4.50±2.12; Mrθ1.45±1.69; Mφφ6.59±1.99; Mrφ3.26±1.76; Best double couple: M₀8.06000×10¹⁵ NP1:φs345.00000°, δ82.00000°, λ163.00000°. NP2:φs78.00000°, δ73.00000°, λ8.00000°. Principal axes: T 9.5300, Plg17.0000°, Azm300.0000°; N -2.9400, Plg72.0000°, Azm142.0000°; P -6.5900, Plg6.0000°, Azm32.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*SFS **29** 21:46:20.0, 36°70N×4°10W, h68km, ML4.4, IZNATE (MALAGA)*
*INMG **29** 21:46:21.2±1.8, 36°80N×4°18W, h61km±4km, ML3.5, Error ellipse: s-maj=2.5km s-min=2.4km az=169.0*
*MDD **29** 21:46:21.1±0.3, 36°75N×4°13W, h68km±4km, mb4.4/54, Error ellipse: s-maj=3.2km s-min=2.3km az=165.0, PRXIMO*
MDD EMS: I-II INTENSIDAD MAXIMA.
*CNRM **29** 21:46:21.8, 36°73N×4°42W, h30km, ml3.6*
*IGIL **29** 21:46:21.8, 36°73N×4°14W, h31km, ML3.8*

ISC 29 21:46:19.6±1.0, 36°82N±0°03×4°12W±0°02, h35km, n169, σ25 21/298, 8C-28D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.25**	**257**	*e*P	**Pn**	**21 46 31.3**	**+4.3**
EMAL				*i* S	**Sn**	**21 46 39.3**	**+7.3**
EGOR	**Sierra Gorda,**	**0.29**	**2**	⇑P	**Pn**	**21 46 32.3**	**+4.7**
	57nm,0.1s,SNR=18						
EGOR				S	**Sn**	**21 46 41.0**	**+7.8**
	282nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**0.40**	**83**	⇓P	**Pn**	**21 46 32.3**	**+3.4**
	519nm,0.1s,SNR=18						
ELGU				S	**Sn**	**21 46 41.1**	**+5.7**
	3µm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**0.58**	**244**	⇑P	**Pn**	**21 46 33.5**	**+2.1**
	188nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**21 46 42.6**	**+2.9**
	295nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**0.67**	**54**	⇓P	**Pn**	**21 46 36.1**	**+3.4**
	32nm,0.1s,SNR=18						
EQUE				S	**Sn**	**21 46 45.9**	**+3.9**
	56nm,0.1s,SNR=7.9						
REAL	**Reales**	**0.93**	**249**	⇑*e*P	**Pn**	**21 46 38.6**	**+2.2**
REAL				*e*S	**Sn**	**21 46 51.1**	**+2.5**
REAL	**Reales**	**0.93**	**249**	P	**Pn**	**21 46 38.6**	**+2.2**
REAL				S	**Sn**	**21 46 51.1**	**+2.5**
EBER	**Berja**	**0.99**	**85**	⇓P	**Pn**	**21 46 39.1**	**+1.9**
	38nm,0.2s,SNR=18						
EBER				S	**Sn**	**21 46 52.6**	**+2.5**
	286nm,0.3s,SNR=7.9						
LIJA	**Lijar**	**1.03**	**275**	*e*P	**Pn**	**21 46 40.6**	**+2.9**
LIJA				*e*S	**Sn**	**21 46 53.1**	**+2.1**
LIJA	**Lijar**	**1.03**	**275**	P	**Pn**	**21 46 40.6**	**+2.9**
LIJA				S	**Sn**	**21 46 53.1**	**+2.1**
GORA	**Gorafe**	**1.09**	**52**	⇓P	**Pn**	**21 46 41.6**	**+3.2**
	59nm,0.1s,SNR=18						
GORA				S	**Sn**	**21 46 55.6**	**+3.3**
	288nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.24**	**135**	⇓P	**Pn**	**21 46 40.4**	**0.0**
	42nm,0.1s,SNR=18						
EALB				S	**Sn**	**21 46 55.1**	**-0.8**
	325nm,0.2s,SNR=7.9						
ALJ	**Aljibe**	**1.26**	**257**	*e*P	**Pn**	**21 46 43.1**	**+2.3**
ALJ	**Aljibe**	**1.26**	**257**	P	**Pn**	**21 46 43.1**	**+2.3**
EQES	**Quesada**	**1.29**	**40**	⇑P	**Pn**	**21 46 43.8**	**+2.5**
	26nm,0.1s,SNR=18						
EQES				S	**Sn**	**21 47 00.2**	**+2.8**
	167nm,0.3s,SNR=7.9						
CEU	**Ceuta**	**1.36**	**228**	⇓*i*P	**Pn**	**21 46 42.2**	**+0.1**
CEU				*e*S	**Sn**	**21 46 57.7**	**-1.2**
CEU	**Ceuta**	**1.36**	**228**	⇓P	**Pn**	**21 46 42.2**	**+0.1**
CEU				S	**Sn**	**21 46 57.7**	**-1.2**
ECEU	**Ceuta**	**1.37**	**228**	P	**Pn**	**21 46 43.6**	**+1.4**
	16nm,0.1s,SNR=7.9						
ECEU				S	**Sn**	**21 46 58.9**	**-0.2**
	5.6nm,0.2s,SNR=7.9						
HORN	**Hornachuelos**	**1.37**	**319**	P	**Pn**	**21 46 43.6**	**+1.3**
HORN	**Hornachuelos**	**1.37**	**319**	P	**Pn**	**21 46 43.6**	**+1.3**
HORN	**Hornachuelos**	**1.37**	**319**	P	**Pn**	**21 46 44.2**	**+1.9**
HORN	**Hornachuelos**	**1.37**	**319**	P	**Pn**	**21 46 44.2**	**+1.9**
EADA	**Adamuz**	**1.40**	**345**	⇓P	**Pn**	**21 46 44.8**	**+2.2**
	27nm,0.1s,SNR=18						
EADA				S	**Sn**	**21 47 01.4**	**+1.5**
	528nm,0.2s,SNR=7.9						
GIBL	**Gibalbin**	**1.48**	**271**	*e*P	**Pn**	**21 46 45.7**	**+1.9**
GIBL				*e*S	**Sn**	**21 46 60.0**	**-1.9**
GIBL	**Gibalbin**	**1.48**	**271**	P	**Pn**	**21 46 45.7**	**+1.9**
GIBL				S	**Sn**	**21 46 60.0**	**-1.9**
SMIR	**Smir Dam**	**1.52**	**222**	P	**Pn**	**21 46 44.4**	**+0.1**
SMIR	**Smir Dam**	**1.52**	**222**	P	**Pn**	**21 46 44.4**	**+0.1**
SMIR	**Smir Dam**	**1.52**	**222**	P	**Pn**	**21 46 44.4**	**+0.1**
SMIR	**Smir Dam**	**1.52**	**222**	P	**Pn**	**21 46 44.4**	**+0.1**
ENIJ	**Nijar**	**1.54**	**84**	P	**Pn**	**21 46 46.1**	**+1.4**
	21nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**21 47 04.1**	**+0.6**
	100nm,0.3s,SNR=7.9						
PALE	**Palemas**	**1.60**	**175**	P	**Pn**	**21 46 47.1**	**+1.6**
PALE	**Palemas**	**1.60**	**175**	P	**Pn**	**21 46 47.1**	**+1.6**
CNIL	**Conil**	**1.62**	**255**	*e*P	**Pn**	**21 46 48.0**	**+2.4**
CNIL				*e*S	**Sn**	**21 47 06.2**	**+1.0**
CNIL	**Conil**	**1.62**	**255**	P	**Pn**	**21 46 48.0**	**+2.4**
CNIL				S	**Sn**	**21 47 06.2**	**+1.0**
ECAB	**El Cabril**	**1.62**	**321**	⇓P	**Pn**	**21 46 47.1**	**+1.4**
	23nm,0.1s,SNR=18						
ECAB				S	**Sn**	**21 47 05.9**	**+0.4**
	172nm,0.2s,SNR=7.9						
PVLZ	**Peæn de**	**1.65**	**185**	⇓*i*P	**Pn**	**21 46 47.5**	**+1.4**
PVLZ				*e*S	**Sn**	**21 47 04.4**	**-1.5**
PVLZ	**Peæn de**	**1.65**	**185**	⇓P	**Pn**	**21 46 47.5**	**+1.4**
PVLZ				S	**Sn**	**21 47 04.4**	**-1.5**
EMEL	**Melilla**	**1.78**	**148**	⇓P	**Pn**	**21 46 48.1**	**+0.1**
	187nm,0.1s,SNR=18						
EMEL				S	**Sn**	**21 47 07.7**	**-1.7**
	540nm,0.2s,SNR=7.9						
MELI	**Melilla**	**1.80**	**147**	*i* P	**Pn**	**21 46 48.3**	**+0.2**
MELI				*e*S	**Sn**	**21 47 08.1**	**-1.6**
MELI	**Melilla**	**1.80**	**147**	P	**Pn**	**21 46 48.3**	**+0.2**
	91nm,0.1s,SNR=7.9						
MELI				S	**Sn**	**21 47 08.3**	**-1.4**
	153nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**1.81**	**44**	P	**Pn**	**21 46 50.6**	**+2.2**
SESP	**Santiago Espad**	**1.81**	**44**	P	**Pn**	**21 46 50.6**	**+2.2**
SESP	**Santiago Espad**	**1.81**	**44**	⇓P	**Pn**	**21 46 50.4**	**+1.9**
	23nm,0.1s,SNR=18						
SESP				S	**Sn**	**21 47 12.1**	**+1.9**
	196nm,0.2s,SNR=7.9						
TLOR	**Lorca, Murcia**	**2.12**	**66**	P	**Pn**	**21 46 54.7**	**+2.2**
	59nm,0.1s,SNR=7.9						
TLOR				S	**Sn**	**21 47 19.0**	**+1.4**
	147nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.24**	**296**	⇓P	**Pn**	**21 46 55.2**	**+0.9**
	36nm,0.1s,SNR=18						
EMIN				S	**Sn**	**21 47 20.3**	**-0.5**
	201nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**2.52**	**65**	P	**Pn**	**21 46 59.5**	**+1.5**
	17nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	**21 47 27.5**	**0.0**
	40nm,0.4s,SNR=7.9						
PBAR	**Barrancos**	**2.69**	**301**	*e*P	**Pn**	**21 47 01.3**	**+1.0**
PBAR				*e*S	**Sn**	**21 47 31.8**	**+0.2**
PBAR	**Barrancos**	**2.69**	**301**	P	**Pn**	**21 47 01.3**	**+1.0**
PBAR				S	**Sn**	**21 47 31.8**	**+0.2**
PAB	**San Pablo**	**2.73**	**356**	P	**Pn**	**21 47 02.7**	**+1.6**
	16nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**21 47 32.0**	**-0.8**
	17nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**2.74**	**47**	⇓P	**Pn**	**21 47 02.8**	**+1.7**
	41nm,0.1s,SNR=18						
ETOB				S	**Sn**	**21 47 32.2**	**-0.9**
	24nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.78**	**286**	⇓P	**Pn**	**21 47 02.4**	**+0.8**
	46nm,0.1s,SNR=18						
EGRO				S	**Sn**	**21 47 32.3**	**-1.6**
	199nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**2.85**	**2**	⇓P	**Pn**	**21 47 04.3**	**+1.6**
	0.6nm,0.1s,baz=181,slow=12,SNR=18						
ESDC				S	**Sn**	**21 47 35.4**	**-0.5**
	15nm,0.1s,baz=189,slow=23,SNR=4.6						
ETRV	**Los Montesinos**	**2.93**	**65**	P	**Pn**	**21 47 05.3**	**+1.6**
	21nm,0.1s,SNR=7.9						
ETRV				S	**Sn**	**21 47 37.7**	**+0.1**
	16nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**2.93**	**283**	⇓*e*P	**Pn**	**21 47 04.4**	**+0.7**
PVAQ				*e*S	**Sn**	**21 47 35.7**	**-2.0**
PVAQ				A	A	21 47 38.7	
	290nm,0.3s						
PVAQ	**Vaqueiros**	**2.93**	**283**	P	**Pn**	**21 47 04.0**	**+0.3**
PVAQ	**Vaqueiros**	**2.93**	**283**	P	**Pn**	**21 47 04.0**	**+0.3**
PVAQ	**Vaqueiros**	**2.93**	**283**	P	**Pn**	**21 47 04.0**	**+0.3**
PVAQ	**Vaqueiros**	**2.93**	**283**	P	**Pn**	**21 47 04.0**	**+0.3**
PVAQ	**Vaqueiros**	**2.93**	**283**	P	**Pn**	**21 47 04.4**	**+0.7**
PVAQ				S	**Sn**	**21 47 35.7**	**-2.0**
	290nm,0.3s						
EBAD	**Badajoz**	**3.00**	**311**	⇓P	**Pn**	**21 47 05.9**	**+1.3**
	54nm,0.1s,SNR=18						
EBAD				S	**Sn**	**21 47 38.7**	**-0.6**
	325nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**3.08**	**279**	*e*P	**Pn**	**21 47 06.6**	**+0.9**
PBDV				*e*S	**Sn**	**21 47 40.0**	**-1.3**
PBDV				A	A	21 47 43.0	
	124nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.08**	**279**	P	**Pn**	**21 47 06.6**	**+0.9**
PBDV				S	**Sn**	**21 47 40.0**	**-1.3**
	124nm,0.4s						
PBEJ	**Beja**	**3.22**	**293**	*e*P	**Pn**	**21 47 08.5**	**+0.9**
PBEJ				*e*S	**Sn**	**21 47 43.1**	**-1.6**
PBEJ				A	A	21 47 45.1	
	85nm,0.4s						
PBEJ	**Beja**	**3.22**	**293**	P	**Pn**	**21 47 08.5**	**+0.9**
PBEJ				S	**Sn**	**21 47 43.1**	**-1.6**
	42nm,0.4s						
PCVE	**Castro Verde**	**3.23**	**286**	⇓*e*P	**Pn**	**21 47 08.6**	**+0.8**
PCVE				*e*S	**Sn**	**21 47 44.1**	**-1.0**
PCVE				A	A	21 47 45.1	
	109nm,0.2s						
PCVE	**Castro Verde**	**3.23**	**286**	P	**Pn**	**21 47 08.6**	**+0.8**
PCVE				S	**Sn**	**21 47 44.1**	**-1.0**
	109nm,0.2s						
AFON	**Font Roja**	**3.38**	**56**	⇓P	**Pn**	**21 47 11.9**	**+1.8**
	18nm,0.1s,SNR=18						
AFON				S	**Sn**	**21 47 48.6**	**-0.4**
	33nm,0.1s,SNR=7.9						
IFR	**Ifrane**	**3.39**	**194**	*e*P	**Pn**	**21 47 11.0**	**+0.7**
IFR				*e*S	**Sn**	**21 47 47.6**	**-1.8**
PESTR	**Estremoz**	**3.42**	**308**	⇓*e*P	**Pn**	**21 47 11.7**	**+1.2**
PESTR				*e*S	**Sn**	**21 47 48.4**	**-1.5**
PESTR				A	A	21 47 50.0	
	88nm,0.5s						
PESTR	**Estremoz**	**3.42**	**308**	P	**Pn**	**21 47 11.5**	**+1.0**
PESTR	**Estremoz**	**3.42**	**308**	P	**Pn**	**21 47 11.5**	**+1.0**
PESTR	**Estremoz**	**3.42**	**308**	P	**Pn**	**21 47 11.5**	**+1.0**
PESTR	**Estremoz**	**3.42**	**308**	P	**Pn**	**21 47 11.5**	**+1.0**
EVO	**Evora**	**3.53**	**300**	⇓*e*P	**Pn**	**21 47 13.1**	**+1.2**
EVO				*e*S	**Sn**	**21 47 51.3**	**-1.1**
EVO				A	A	21 47 53.7	
	134nm,0.1s						
EVO	**Evora**	**3.53**	**300**	⇑*i*P	**Pn**	**21 47 13.6**	**+1.7**
EVO				*i* S	**Sn**	**21 47 50.8**	**-1.7**
EVO	**Evora**	**3.53**	**300**	⇑P	**Pn**	**21 47 13.6**	**+1.7**
EVO				S	**Sn**	**21 47 50.8**	**-1.7**
UCM	**Universidad Co**	**3.55**	**11**	⇓*i*P	**Pn**	**21 47 14.7**	**+2.5**
UCM				*e*S	**Sn**	**21 47 52.6**	**-0.5**
EPLA	**Plasencia**	**3.59**	**335**	P	**Pn**	**21 47 14.5**	**+1.7**
	14nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**21 47 54.0**	**0.0**
	11nm,0.2s,SNR=7.9						
EBEN2	**Beniarda presa**	**3.63**	**58**	P	**Pn**	**21 47 14.8**	**+1.5**
	27nm,0.1s,SNR=7.9						
EBEN2				S	**Sn**	**21 47 53.8**	**-1.1**
	15nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**3.66**	**279**	*e*P	**Pn**	**21 47 14.2**	**+0.6**
MORF				*e*S	**Sn**	**21 47 52.6**	**-3.1**
MORF				AML	AML	21 47 57.3	
	comp=N,271nm,0.2s						
MORF	**Marmelete**	**3.66**	**279**	*e*P	**Pn**	**21 47 14.3**	**+0.6**
MORF				*e*S	**Sn**	**21 47 53.9**	**-1.7**
MORF				A	A	21 47 59.3	
	comp=N,130nm,0.2s						
MORF	**Marmelete**	**3.66**	**279**	P	**Pn**	**21 47 14.3**	**+0.6**
MORF				S	**Sn**	**21 47 53.9**	**-1.7**
	comp=N,130nm,0.2s						
PMRV	**Marv??o**	**3.67**	**316**	⇓*e*P	**Pn**	**21 47 15.1**	**+1.3**
PMRV				*e*S	**Sn**	**21 47 53.9**	**-1.9**
PMRV				A	A	21 48 09.4	
	comp=N,55nm,0.6s						
PMRV	**Marv??o**	**3.67**	**316**	P	**Pn**	**21 47 15.1**	**+1.3**
PMRV				S	**Sn**	**21 47 53.9**	**-1.9**
	comp=N,55nm,0.6s						
ECHE	**Chera**	**3.72**	**41**	⇑P	**Pn**	**21 47 16.0**	**+1.4**
	comp=N,4.7nm,0.2s,SNR=18						
ECHE				S	**Sn**	**21 47 55.1**	**-2.2**
	comp=N,23nm,0.2s,SNR=7.9						
PNCL	**Nicolau / Gran**	**3.74**	**292**	⇓*e*P	**Pn**	**21 47 15.8**	**+1.0**
PNCL				*e*S	**Sn**	**21 47 55.6**	**-1.9**
PNCL				A	A	21 47 57.6	
	comp=N,56nm,0.2s						
PNCL	**Nicolau / Gran**	**3.74**	**292**	P	**Pn**	**21 47 15.8**	**+1.0**
PNCL				S	**Sn**	**21 47 55.6**	**-1.9**
	comp=N,56nm,0.2s						
PTEO	**Sao Teotonio**	**3.75**	**283**	*e*P	**Pn**	**21 47 16.1**	**+1.2**
PTEO				*e*S	**Sn**	**21 47 55.8**	**-2.0**
PTEO				A	A	21 47 58.1	
	comp=N,131nm,0.4s						
PTEO	**Sao Teotonio**	**3.75**	**283**	P	**Pn**	**21 47 16.1**	**+1.2**
PTEO				S	**Sn**	**21 47 55.8**	**-2.0**
	comp=N,66nm,0.4s						
PFVI	**Vila Bisbo**	**3.78**	**276**	*e*P	**Pn**	**21 47 15.9**	**+0.6**
PFVI				*e*S	**Sn**	**21 47 55.7**	**-2.9**
PFVI				A	A	21 48 00.4	
	comp=N,95nm,0.4s						
PFVI	**Vila Bisbo**	**3.78**	**276**	P	**Pn**	**21 47 16.1**	**+0.8**
PFVI				S	**Sn**	**21 47 55.8**	**-2.9**
PFVI	**Vila Bisbo**	**3.78**	**276**	P	**Pn**	**21 47 16.1**	**+0.8**
PFVI				S	**Sn**	**21 47 55.8**	**-2.9**
PFVI	**Vila Bisbo**	**3.78**	**276**	P	**Pn**	**21 47 16.0**	**+0.6**
	comp=N,42nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**21 47 56.2**	**-2.4**
	comp=N,145nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**3.82**	**360**	P	**Pn**	**21 47 18.3**	**+2.3**
	comp=N,2.2nm,0.1s,SNR=7.9						
GUD				S	**Sn**	**21 47 58.6**	**-1.2**
	comp=N,16nm,0.4s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**3.92**	**100**	P	**Pn**	**21 47 18.0**	**+0.6**
	comp=N,12nm,0.1s,SNR=7.9						
OKGL				S	**Sn**	**21 47 60.0**	**-2.2**
	comp=N,68nm,0.3s,SNR=7.9						
PMTG	**Montargil**	**3.95**	**306**	*e*P	**Pn**	**21 47 17.8**	**+0.1**
PMTG				*e*S	**Sn**	**21 48 00.0**	**-2.7**
PMTG				A	A	21 48 02.1	
	comp=N,51nm,0.4s						
PMTG	**Montargil**	**3.95**	**306**	P	**Pn**	**21 47 17.8**	**+0.1**
PMTG				S	**Sn**	**21 48 00.0**	**-2.7**
	comp=N,51nm,0.4s						
PCBR	**Castelo Branco**	**4.01**	**320**	*e*P	**Pn**	**21 47 19.9**	**+1.4**
PCBR				*e*S	**Sn**	**21 48 02.2**	**-2.0**
PCBR				A	A	21 48 04.7	
	comp=N,77nm,0.5s						
PCBR	**Castelo Branco**	**4.01**	**320**	P	**Pn**	**21 47 19.9**	**+1.4**
PCBR				S	**Sn**	**21 48 02.2**	**-2.0**
	comp=N,39nm,0.5s						
MDT	**Midelt**	**4.01**	**186**	P	**Pn**	**21 47 19.9**	**+1.2**
MDT	**Midelt**	**4.01**	**186**	P	**Pn**	**21 47 19.9**	**+1.2**
ETOR	**Torete**	**4.31**	**21**	⇑P	**Pn**	**21 47 24.5**	**+1.7**
	comp=N,38nm,0.2s,SNR=18						
ETOR				S	**Sn**	**21 48 08.8**	**-3.0**
	comp=N,240nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**4.38**	**311**	⇓*e*P	**Pn**	**21 47 24.9**	**+1.2**
PTOM				*e*S	**Sn**	**21 48 10.8**	**-2.7**
PTOM				A	A	21 48 14.5	
	comp=N,56nm,0.1s						
PTOM	**Tomar**	**4.38**	**311**	P	**Pn**	**21 47 24.9**	**+1.2**
PTOM				S	**Sn**	**21 48 10.8**	**-2.7**
	comp=N,28nm,0.1s						
LIS	**Lisbon**	**4.41**	**297**	*e*P	**Pn**	**21 47 25.9**	**+1.9**
LIS				*e*S	**Sn**	**21 48 13.1**	**-1.0**
LIS				A	A	21 48 16.9	
	comp=N,82nm,0.2s						
LIS	**Lisbon**	**4.41**	**297**	P	**Pn**	**21 47 25.9**	**+1.9**
LIS				S	**Sn**	**21 48 13.1**	**-1.0**
	comp=N,82nm,0.2s						
MTE	**Manteigas**	**4.47**	**324**	*e*P	**Pn**	**21 47 26.8**	**+1.9**
MTE				*e*S	**Sn**	**21 48 14.6**	**-1.1**
MTE				A	A	21 48 45.6	
	comp=N,40nm,0.6s						
MTE	**Manteigas**	**4.47**	**324**	P	**Pn**	**21 47 26.8**	**+1.9**
MTE				S	**Sn**	**21 48 14.6**	**-1.1**
	comp=N,20nm,0.6s						
EMOS	**Mosqueruela**	**4.55**	**38**	⇓P	**Pn**	**21 47 28.2**	**+2.0**
	comp=N,3.1nm,0.1s,SNR=18						
EMOS				S	**Sn**	**21 48 15.2**	**-2.7**
	comp=N,7.4nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**4.61**	**299**	*e*P	**Pn**	**21 47 27.8**	**+1.1**
PMAFR				*e*S	**Sn**	**21 48 17.1**	**-1.9**
PMAFR				A	A	21 48 18.5	
	comp=N,87nm,0.2s						
PMAFR	**Mafra**	**4.61**	**299**	P	**Pn**	**21 47 27.8**	**+1.1**
	comp=N,34nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**21 48 16.8**	**-2.2**
	comp=N,132nm,0.3s,SNR=7.9						
COI	**Coimbra**	**4.77**	**316**	*e*P	**Pn**	**21 47 30.9**	**+1.9**
COI				*e*S	**Sn**	**21 48 20.9**	**-2.2**
COI				A	A	21 48 21.5	
	comp=N,67nm,0.3s						
COI	**Coimbra**	**4.77**	**316**	P	**Pn**	**21 47 30.9**	**+1.9**
COI				S	**Sn**	**21 48 20.9**	**-2.2**
	comp=N,34nm,0.3s						
EIBI	**Ibiza**	**4.85**	**61**	P	**Pn**	**21 47 31.1**	**+1.0**
	comp=N,4.2nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**21 48 23.1**	**-1.9**
	comp=N,5.2nm,0.4s,SNR=7.9						
PVIS	**Viseu**	**4.88**	**324**	*e*P	**Pn**	**21 47 32.1**	**+1.5**
PVIS				*e*S	**Sn**	**21 48 24.0**	**-1.9**
PVIS				A	A	21 48 26.3	
	comp=N,48nm,0.2s						
PVIS	**Viseu**	**4.88**	**324**	P	**Pn**	**21 47 32.1**	**+1.5**
PVIS				S	**Sn**	**21 48 24.0**	**-1.9**
	comp=N,24nm,0.2s						
MVO	**Moncorvo**	**4.90**	**333**	*e*P	**Pn**	**21 47 32.5**	**+1.8**
MVO				*e*S	**Sn**	**21 48 25.2**	**-1.0**
MVO				A	A	21 48 28.4	
	comp=N,36nm,0.3s						
MVO	**Moncorvo**	**4.90**	**333**	P	**Pn**	**21 47 32.6**	**+1.8**
	comp=N,38nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**21 48 24.5**	**-1.7**
	comp=N,14nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**5.26**	**329**	*e*P	**Pn**	**21 47 37.2**	**+1.5**
PVRL				*e*S	**Sn**	**21 48 33.3**	**-1.8**
PVRL				A	A	21 48 35.7	
	comp=N,42nm,0.3s						
PVRL	**Vila Real**	**5.26**	**329**	P	**Pn**	**21 47 37.2**	**+1.5**
PVRL				S	**Sn**	**21 48 33.3**	**-1.8**
	comp=N,21nm,0.3s						
POLO	**Lamas de Olo**	**5.37**	**329**	*e*P	**Pn**	**21 47 39.0**	**+1.7**
POLO				*e*S	**Sn**	**21 48 35.7**	**-2.

	comp=N,8.1nm,0.2s							
SJPF	**Ste Jean**	**6.67**	**19**	P	**Pn**	**21 47 57.1 +2.0**		
SJPF				S	**Sn**	**21 49 05.9 -3.9**		
	comp=N,4.1nm,0.2s							
EALK	**Alkurruntz**	**6.70**	**17**	P	**Pn**	**21 47 58.3 +2.8**		
	comp=N,5.4nm,0.1s,SNR=7.9							
EALK				S	**Sn**	**21 49 07.5 -3.2**		
	comp=N,29nm,0.3s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.71**	**334**	P	**Pn**	**21 47 57.8 +2.1**		
	comp=N,1.7nm,0.1s,SNR=7.9							
EAGO				S	**Sn**	**21 49 06.9 -4.0**		
	comp=N,7.6nm,0.1s,SNR=7.9							
ECHI	**Chisagues Biel**	**6.72**	**28**	P	**Pn**	**21 47 57.0 +1.1**		
	comp=N,2.9nm,0.2s,SNR=7.9							
ATE	**Arette**	**6.79**	**22**	P	**Pn**	**21 47 59.7 +3.0**		
	comp=N,4.7nm,0.1s,SNR=7.9							
ATE				S	**Sn**	**21 49 09.7 -3.1**		
	comp=N,7.9nm,0.3s,SNR=7.9							
CSOR	**Sort**	**6.88**	**35**	P	**Pn**	**21 47 59.6 +1.6**		
	comp=N,1.0nm,0.1s,SNR=7.9							
CSOR				S	**Sn**	**21 49 11.3 -3.7**		
	comp=N,19nm,0.5s,SNR=7.9							
EPON	**Pontenova**	**6.90**	**341**	P	**Pn**	**21 48 00.5 +2.2**		
	comp=N,10nm,0.3s,SNR=7.9							
EPON				S	**Sn**	**21 49 11.7 -3.8**		
	comp=N,14nm,0.3s,SNR=7.9							
CFON	**Fontmartina**	**7.09**	**44**	P	**Pn**	**21 48 01.4 +0.6**		
	comp=N,1.4nm,0.2s,SNR=7.9							
CFON				S	**Sn**	**21 49 15.3 -4.9**		
	comp=N,5.3nm,0.3s,SNR=7.9							
EPF	**Esparros**	**7.09**	**28**	*e*P	**Pn**	**21 48 02.5 +1.6**		
EPF				*e*Sn	**Sn**	**21 49 16.1 -4.1**		
	comp=N,7.2nm,0.3s							
EPF	**Esparros**	**7.09**	**28**	P	**Pn**	**21 48 02.5 +1.6**		
EPF				S	**Sn**	**21 49 16.1 -4.1**		
	comp=N,3.6nm,0.3s							
EMAZ	**Mazaricos**	**7.17**	**330**	P	**Pn**	**21 48 04.0 +2.1**		
	comp=N,4.2nm,0.2s,SNR=7.9							
EMAZ				S	**Sn**	**21 49 19.0 -3.2**		
	comp=N,3.5nm,0.3s,SNR=7.9							
CLLI	**Llivia**	**7.35**	**38**	P	**Pn**	**21 48 06.4 +1.9**		
	comp=N,0.6nm,0.1s,SNR=7.9							
CLLI				S	**Sn**	**21 49 23.2 -3.7**		
	comp=N,2.6nm,0.2s,SNR=7.9							
EJON	**La Jonquera**	**7.80**	**42**	P	**Pn**	**21 48 12.7 +2.0**		
	comp=N,0.4nm,0.1s,SNR=7.9							
SJAF	**Saint Jean de**	**7.82**	**42**	P	**Pn**	**21 48 13.5 +2.6**		
	comp=N,0.2nm,0.1s,SNR=7.9							
MTLF	**Montolieu**	**8.13**	**35**	*e*P	**Pn**	**21 48 16.4 +1.4**		
MTLF				*e*Sn	**Sn**	**21 49 40.3 -5.3**		
	comp=N,1.5nm,0.3s							
MTLF	**Montolieu**	**8.13**	**35**	P	**Pn**	**21 48 16.4 +1.4**		
MTLF				S	**Sn**	**21 49 40.3 -5.3**		
	comp=N,0.8nm,0.3s							
LFF	**La Frestale**	**8.91**	**23**	*e*P	**Pn**	**21 48 27.7 +2.0**		
LFF				*e*Sn	**Sn**	**21 49 59.4 -5.4**		
	comp=N,5.4nm,0.4s							
CAF	**Calviac**	**9.35**	**28**	*e*P	**Pn**	**21 48 33.2 +1.3**		
CAF				*e*Sn	Sn	21 50 08.8 -7.0		
	comp=N,1.9nm,0.2s							
LASF	**Ste Croix**	**9.46**	**38**	*e*P	**Pn**	**21 48 34.5 +1.2**		
LASF				*e*Sn	**Sn**	**21 50 12.3 -6.1**		
	comp=N,1.2nm,0.3s							
RJF	**Les Rejaudoux**	**9.48**	**25**	*e*P	**Pn**	**21 48 33.8 +0.1**		
RJF				*e*Sn	Sn	21 50 12.4 -6.6		
	comp=N,3.2nm,0.3s							
MFF	**Saint Martin d**	**10.22**	**16**	*e*P	**Pn**	**21 48 44.8 +1.1**		
MFF				*e*Sn	Sn	21 50 29.7 -7.2		
	comp=N,1.4nm,0.3s							
BGF	**Bois d'Agland**	**11.03**	**26**	*e*P	**Pn**	**21 48 56.6 +1.7**		
BGF				*e*Sn	Sn	21 50 50.0 -6.9		
	comp=N,0.8nm,0.3s							
QUIF	**Quistinic**	**11.12**	**3**	*e*P	**Pn**	**21 48 57.5 +1.6**		
QUIF				*e*Sn	Sn	21 50 51.0 -7.9		
	comp=N,3.7nm,0.4s							
AVF	**Avril sur Loir**	**11.41**	**27**	*e*P	**Pn**	**21 49 01.1 +1.1**		
AVF				*e*Sn	Sn	21 50 58.9 -7.3		
	comp=N,0.4nm,0.3s							
SMF	**Signal de Mont**	**11.47**	**29**	*e*P	**Pn**	**21 49 01.1 +0.2**		
ROSF	**Rostrenen**	**11.53**	**3**	*e*P	**Pn**	**21 49 03.7 +2.1**		
ROSF				*e*Sn	Sn	21 50 59.8 -9.2		
HYF	**Humbligny**	**11.58**	**24**	*e*P	**Pn**	**21 49 04.4 +2.0**		
SSF	**Saint Saulge**	**11.70**	**27**	*e*P	**Pn**	**21 49 04.6 +0.7**		
SSF				*e*Sn	Sn	21 51 06.2 -7.0		
GRR	**Gorron**	**11.81**	**11**	*e*P	**Pn**	**21 49 07.4 +2.0**		
GRR				*e*Sn	Sn	21 51 08.3 -7.6		
	comp=N,2.5nm,0.3s							
LDF	**La Druitiere**	**12.13**	**13**	*e*P	**Pn**	**21 49 11.5 +1.7**		
LDF				*e*Sn	Sn	21 51 15.8 -7.9		
	comp=N,2.9nm,0.5s							
FLN	**La Foliniere**	**12.23**	**11**	*e*P	**Pn**	**21 49 12.9 +1.7**		
	baz=191							
FLN				*e*Sn	Sn	21 51 18.6 -7.6		
	comp=N,1.0nm,0.3s							

ROM 29 21:52:29.3±0.1, 41°361N±0°004×14°460E±0°005, h11km, Md1.7/4, Error ellipse: s-maj=0.5km s-min=0.3km az=344.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAGA	**Valle Agricola**	**0.18**	**288**	P	Pg	21 52 33.9	+0.6
VAGA				S	Sg	21 52 37.1	+1.1
VAGA				AML	AML		
	comp=E,548μm,0.4s						
VAGA				AML	AML		
	comp=N,992μm,0.4s						
VAGA				AML	AML		
	comp=E,570μm,0.7s						
VAGA				AML	AML		
	comp=N,1014μm,0.4s						
VAGA				AML	AML		
	comp=E,2985μm,0.8s						
VAGA				AML	AML		
	comp=N,5510μm,0.5s						
VAGA				AML	AML		
	comp=E,3135μm,0.8s						
VAGA				AML	AML		
	comp=N,5505μm,0.5s						
VAGA				AML	AML		
	comp=N,5755μm,0.5s						
VAGA				END			
SACR	**S. Croce Del S**	**0.19**	**79**	P	Pg	21 52 34.1	+0.7
SACR				S	Sg	21 52 37.5	+1.3
SACR				AML	AML		
	comp=E,636μm,1.1s						
SACR				AML	AML		
	comp=N,533μm,0.6s						
SACR				AML	AML		
	comp=E,453μm,0.9s						
SACR				AML	AML		
	comp=N,540μm,0.6s						
SACR				AML	AML		
	comp=E,1175μm,0.8s						
SACR				AML	AML		
	comp=E,1068μm,0.8s						
SACR				AML	AML		
	comp=N,1350μm,0.6s						
SACR				AML	AML		
	comp=N,1300μm,0.6s						
SACR				END			
BSSO	**Busso**	**0.21**	**29**	P	Pg	21 52 34.5	+0.6
BSSO				S	Sg	21 52 37.6	+0.7
BSSO				AML	AML		
	comp=E,614μm,0.2s						
BSSO				AML	AML		
	comp=N,760μm,0.8s						
BSSO				AML	AML		
	comp=E,284μm,0.3s						
BSSO				AML	AML		
	comp=N,284μm,0.8s						
BSSO				AML	AML		
	comp=E,752μm,0.3s						
BSSO				AML	AML		
	comp=N,859μm,0.4s						
BSSO				AML	AML		
	comp=N,2085μm,0.4s						
BSSO				AML	AML		
	comp=E,1710μm,0.2s						
BSSO				END			
PIGN	**Pignataro Magg**	**0.27**	**233**	P	Pg	21 52 35.2	+0.4
PIGN				S	Sb	21 52 39.8	-0.9
PIGN				AML	AML		
	comp=E,172μm,0.7s						
PIGN				AML	AML		
	comp=N,179μm,0.8s						
PIGN				AML	AML		
	comp=E,448μm,0.4s						
PIGN				AML	AML		
	comp=N,318μm,1.1s						
PIGN				AML	AML		
	comp=N,424μm,1.1s						
PIGN				AML	AML		
	comp=E,480μm,0.4s						
PIGN				END			
PSB1	**Pescosannita**	**0.30**	**117**	P	Pg	21 52 36.0	+0.6
MIDA	**Miranda**	**0.32**	**331**	AML	AML		
	comp=N,457μm,1.2s						
MIDA				AML	AML		
	comp=E,572μm,1.6s						
MIDA				END			
PAOL	**Paolisi**	**0.34**	**166**	P	Pg	21 52 36.4	+0.2
PAOL				AML	AML		
	comp=E,132μm,0.5s						
PAOL				AML	AML		
	comp=N,117μm,0.3s						
PAOL				AML	AML		
	comp=E,356μm,0.3s						
PAOL				AML	AML		
	comp=N,309μm,0.3s						
PAOL				AML	AML		
	comp=E,356μm,0.3s						
PAOL				END			
CERA	**Filignano**	**0.41**	**306**	P	Pb	21 52 38.1	-0.6
CERA				AML	AML		
	comp=E,109μm,0.8s						
CERA				AML	AML		
	comp=N,117μm,0.4s						
CERA				AML	AML		
	comp=E,114μm,0.8s						
CERA				AML	AML		
	comp=N,114μm,0.9s						
CERA				AML	AML		
	comp=E,444μm,0.8s						
CERA				AML	AML		
	comp=N,387μm,0.9s						
CERA				AML	AML		
	comp=N,402μm,0.9s						
CERA				AML	AML		
	comp=E,446μm,0.8s						
CERA				AML	AML		
	comp=E,444μm,0.8s						
CERA				END			
TRIV	**Trivento**	**0.41**	**9**	P	Pg	21 52 37.8	+0.3
TRIV				AML	AML		
	comp=E,141μm,0.5s						
TRIV				AML	AML		
	comp=N,116μm,0.6s						
TRIV				END			
MODR	**Mondragone**	**0.49**	**244**	P	Pg	21 52 39.0	+0.1
MODR				AML	AML		
	comp=E,212μm,0.7s						
MODR				AML	AML		
	comp=N,207μm,0.4s						
MODR				AML	AML		
	comp=E,571μm,0.8s						
MODR				AML	AML		
	comp=N,517μm,0.9s						
MELA	**Melanico ??? S**	**0.61**	**55**	P	Pg	21 52 40.6	-0.5
INTR	**Introdacqua**	**0.77**	**328**	P	Pn	21 52 45.9	-0.4
INTR				AML	AML		
	comp=E,194μm,0.8s						
INTR				AML	AML		
	comp=N,314μm,0.4s						
SGRT	**San Giovanni R**	**1.04**	**67**	P	Pg	21 52 49.3	0.0

ROM 29 21:52:57.6±0.1, 41°370N±0°006×14°430E±0°006, h11km, ML2.2/10, Error ellipse: s-maj=0.7km s-min=0.2km az=357.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAGA	**Valle Agricola**	**0.15**	**287**	P	Pg	21 53 01.7	+0.6
VAGA				S	Sg	21 53 04.6	+1.0
VAGA				AML	AML		
	comp=N,5510μm,0.5s						
VAGA				AML	AML		
	comp=E,3135μm,0.8s						
VAGA				AML	AML		
	comp=N,5755μm,0.5s						
VAGA				AML	AML		
	comp=E,2985μm,0.8s						
VAGA				AML	AML		
	comp=N,5505μm,0.5s						
SACR	**S. Croce Del S**	**0.21**	**82**	P	Pg	21 53 02.5	+0.4
SACR				S	Sg	21 53 06.7	+1.7
SACR				AML	AML		
	comp=E,918μm,0.7s						
SACR				AML	AML		
	comp=N,890μm,0.4s						
BSSO	**Busso**	**0.21**	**35**	P	Pg	21 53 02.6	+0.4
BSSO				S	Sg	21 53 06.8	+1.5
BSSO				AML	AML		
	comp=E,1655μm,0.4s						
BSSO				AML	AML		
	comp=E,730μm,0.4s						
BSSO				AML	AML		
	comp=N,860μm,0.4s						
BSSO				AML	AML		
	comp=E,1710μm,0.2s						
BSSO				AML	AML		
	comp=E,752μm,0.3s						
BSSO				AML	AML		
	comp=N,859μm,0.4s						
BSSO				AML	AML		
	comp=N,2085μm,0.4s						
PIGN	**Pignataro Magg**	**0.25**	**228**	P	Pg	21 53 03.3	+0.5
MIDA	**Miranda**	**0.30**	**334**	P	Pg	21 53 03.8	+0.1
MIDA				AML	AML		
	comp=E,572μm,1.6s						
MIDA				AML	AML		
	comp=N,457μm,1.2s						
PSB1	**Pescosannita**	**0.32**	**117**	P	Pg	21 53 04.7	+0.7
PSB1				AML	AML		
	comp=N,404μm,1.0s						
PSB1				AML	AML		
	comp=E,536μm,0.5s						
PSB1				AML	AML		
	comp=N,386μm,0.9s						
PSB1				AML	AML		
	comp=E,494μm,0.5s						
PAOL	**Paolisi**	**0.35**	**163**	P	Pg	21 53 05.2	+0.6
PAOL				AML	AML		
	comp=N,283μm,0.6s						
PAOL				AML	AML		
	comp=E,356μm,0.3s						
PAOL				AML	AML		
	comp=N,309μm,0.3s						
PAOL				AML	AML		
	comp=E,356μm,0.3s						
CERA	**Filignano**	**0.39**	**307**	P	Pb	21 53 06.0	-0.6
CERA				AML	AML		
	comp=N,388μm,0.9s						
CERA				AML	AML		
	comp=N,402μm,0.9s						
CERA				AML	AML		
	comp=E,444μm,0.8s						
CERA				AML	AML		
	comp=E,444μm,0.8s						
CERA				AML	AML		
	comp=E,446μm,0.8s						
CERA				AML	AML		
	comp=N,387μm,0.9s						
GATE	**Gambatesa**	**0.39**	**68**	P	Pb	21 53 06.2	-0.4
RNI2	**Rionero Sannit**	**0.39**	**328**	P	Pg	21 53 05.6	+0.2
RNI2				S	Sb	21 53 12.1	-0.7
RNI2				AML	AML		
	comp=E,462μm,0.5s						
RNI2				AML	AML		
	comp=N,322μm,1.2s						
RNI2				AML	AML		
	comp=N,321μm,0.6s						
RNI2				AML	AML		
	comp=N,362μm,0.4s						
RNI2				AML	AML		
	comp=N,339μm,0.4s						
RNI2				AML	AML		
	comp=E,476μm,0.5s						
TRIV	**Trivento**	**0.41**	**13**	P	Pg	21 53 05.8	+0.2
TRIV				AML	AML		
	comp=N,318μm,1.0s						
TRIV				AML	AML		
	comp=E,352μm,0.5s						
MELA	**Melanico ??? S**	**0.62**	**57**	P	Pg	21 53 08.9	-0.7
MELA				S	Sb	21 53 18.7	-0.6
MELA				AML	AML		
	comp=E,400μm,0.3s						
MELA				AML	AML		
	comp=N,404μm,0.5s						
MELA				AML	AML		
	comp=N,401μm,0.5s						
MELA				AML	AML		
	comp=E,400μm,0.3s						
MELA				AML	AML		
	comp=E,446μm,0.3s						
FRES	**Fresagrandinar**	**0.63**	**16**	P	Pg	21 53 09.8	0.0
FRES				AML	AML		
	comp=N,91μm,0.5s						
FRES				AML	AML		
	comp=E,149μm,0.6s						

ROM 29 21:54:49.3±0.1, 41°384N±0°007×14°418E±0°010, h17km±1km, Md1.7/4, ML2.0/12, Error ellipse: s-maj=0.9km s-min=0.2km az=320.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAGA	**Valle Agricola**	**0.14**	**283**	P	Pb	21 54 53.5	-0.1
VAGA				S	Sb	21 54 56.8	+0.3
VAGA				AML	AML		
	comp=N,2105μm,0.5s						
VAGA				AML	AML		
	comp=N,2190μm,0.5s						
VAGA				AML	AML		
	comp=E,1655μm,0.1s						
VAGA				AML	AML		
	comp=E,1765μm,0.7s						
VAGA				END			
BSSO	**Busso**	**0.21**	**39**	P	Pb	21 54 54.6	-0.2
BSSO				AML	AML		
	comp=E,694μm,0.5s						
BSSO				AML	AML		
	comp=N,891μm,0.7s						
BSSO				AML	AML		
	comp=E,310μm,0.5s						
BSSO				AML	AML		
	comp=N,354μm,0.5s						
BSSO				AML	AML		
	comp=E,1100μm,0.3s						
BSSO				AML	AML		
	comp=N,444μm,0.5s						
BSSO				AML	AML		
	comp=N,1160μm,0.5s						
BSSO				AML	AML		
	comp=E,439μm,0.3s						
BSSO				AML	AML		
	comp=E,1100μm,0.3s						
BSSO				AML	AML		
	comp=N,1155μm,0.5s						
BSSO				AML	AML		
	comp=N,444μm,0.5s						
BSSO				AML	AML		
	comp=E,1101μm,0.3s						
BSSO				END			
SACR	**S. Croce Del S**	**0.22**	**86**	P	Pg	21 54 54.5	+0.1
SACR				S	Sb	21 54 58.7	0.0
SACR				AML	AML		
	comp=E,438μm,0.7s						
SACR				AML	AML		
	comp=N,438μm,0.2s						
SACR				AML	AML		
	comp=E,952μm,1.1s						
SACR				AML	AML		
	comp=E,623μm,0.9s						
SACR				AML	AML		
	comp=N,776μm,0.5s						
SACR				AML	AML		
	comp=E,952μm,1.1s						
SACR				AML	AML		
	comp=N,766μm,0.5s						
SACR				AML	AML		
	comp=N,776μm,0.5s						
SACR				END			
PIGN	**Pignataro Magg**	**0.26**	**224**	P	Pg	21 54 55.2	+0.2
PIGN				S	Sb	21 54 59.4	-0.3
PIGN				AML	AML		
	comp=E,234μm,0.2s						
PIGN				AML	AML		
	comp=N,182μm,0.3s						
PIGN				AML	AML		
	comp=N,288μm,0.4s						
PIGN				AML	AML		
	comp=E,263μm,0.2s						
PIGN				AML	AML		
	comp=N,289μm,0.4s						
PIGN				END			
MIDA	**Miranda**	**0.29**	**335**	P	Pg	21 54 55.4	-0.2
MIDA				S	Sg	21 55 00.1	+0.2
MIDA				AML	AML		
	comp=E,290μm,0.5s						
MIDA				AML	AML		
	comp=E,290μm,0.5s						
MIDA				AML	AML		
	comp=N,238μm,0.7s						
MIDA				AML	AML		
	comp=N,238μm,0.7s						
MIDA				END			
CERA	**Filignano**	**0.37**	**306**	P	Pb	21 54 57.8	+0.4
CERA				AML	AML		
	comp=E,142μm,1.0s						
CERA				AML	AML		
	comp=N,187μm,0.9s						
CERA				AML	AML		
	comp=E,175μm,1.0s						
CERA				AML	AML		
	comp=E,197μm,1.1s						
CERA				AML	AML		
	comp=N,192μm,0.9s						
CERA				AML	AML		
	comp=E,194μm,1.1s						
PAOL	**Paolisi**	**0.37**	**162**	P	Pg	21 54 57.0	0.0
PAOL				AML	AML		
	comp=E,122μm,0.6s						
PAOL				AML	AML		
	comp=N,159μm,0.6s						
PAOL				AML	AML		
	comp=N,222μm,0.3s						
PAOL				AML	AML		
	comp=E,232μm,0.3s						
PAOL				AML	AML		
	comp=N,222μm,0.3s						
RNI2	**Rionero Sannit**	**0.38**	**328**	P	Pg	21 54 57.4	+0.2
RNI2				AML	AML		
	comp=E,189μm,1.0s						
RNI2				AML	AML		
	comp=N,142μm,0.4s						
RNI2				AML	AML		
	comp=E,192μm,0.6s						
RNI2				AML	AML		
	comp=N,142μm,0.5s						
RNI2				AML	AML		
	comp=E,244μm,0.7s						
RNI2				AML	AML		
	comp=N,176μm,0.5s						
RNI2				AML	AML		
	comp=E,238μm,0.4s						
RNI2				AML	AML		
	comp=N,176μm,0.7s						
RNI2				AML	AML		
	comp=E,244μm,0.7s						
GATE	**Gambatesa**	**0.39**	**71**	P	Pb	21 54 58.1	+0.3
GATE				AML	AML		
	comp=E,203μm,1.1s						
GATE				AML	AML		
	comp=E,136μm,0.7s						
GATE				AML	AML		
	comp=N,245μm,1.2s						
GATE				AML	AML		
	comp=N,188μm,0.6s						
TRIV	**Trivento**	**0.40**	**15**	P	Pg	21 54 57.6	+0.1
TRIV				AML	AML		
	comp=E,224μm,0.5s						
TRIV				AML	AML		
	comp=N,204μm,0.7s						
MODR	**Mondragone**	**0.47**	**240**	P	Pb	21 54 59.2	0.0
MODR				AML	AML		
	comp=E,292μm,0.6s						
MODR				AML	AML		

	comp=N,288μm,1.0s							
MELA	**Melanico ??? S**	**0.62**	**59**	P	Pg	21 55 00.9	-0.7	
MELA				AML	AML			
	comp=E,199μm,0.3s							
MELA				AML	AML			
	comp=N,156μm,0.5s							

ROM 29 21:55:26.4±0.2, 41°.360N±0°.007×14°.455E±0°.008, h17km±2km, ML2.0/9, Error ellipse: s-maj=0.8km s-min=0.3km az=196.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.17**	**289**	P	Pb	21 55 31.1	-0.1
VAGA				S	Sb	21 55 34.5	+0.1
VAGA				AML	AML		
	comp=E,1300μm,0.1s						
VAGA				AML	AML		
	comp=N,2025μm,0.3s						
VAGA				AML	AML		
	comp=E,1305μm,0.1s						
VAGA				AML	AML		
	comp=E,1225μm,0.2s						
VAGA				AML	AML		
	comp=N,1940μm,0.3s						
SACR	**S. Croce Del S**	**0.19**	**79**	P	Pb	21 55 31.3	-0.2
SACR				S	Sb	21 55 34.7	-0.2
SACR				AML	AML		
	comp=N,776μm,0.5s						
SACR				AML	AML		
	comp=N,776μm,0.5s						
SACR				AML	AML		
	comp=E,623μm,0.9s						
BSSO	**Busso**	**0.21**	**29**	P	Pb	21 55 31.8	-0.1
BSSO				S	Sb	21 55 36.1	+0.5
BSSO				AML	AML		
	comp=E,1100μm,0.3s						
BSSO				AML	AML		
	comp=N,1155μm,0.5s						
BSSO				AML	AML		
	comp=N,444μm,0.5s						
BSSO				AML	AML		
	comp=N,1160μm,0.5s						
BSSO				AML	AML		
	comp=N,444μm,0.5s						
BSSO				AML	AML		
	comp=E,1100μm,0.3s						
BSSO				AML	AML		
	comp=E,439μm,0.3s						
BSSO				AML	AML		
	comp=E,1101μm,0.3s						
PIGN	**Pignataro Magg**	**0.26**	**232**	P	Pg	21 55 32.3	+0.2
PIGN				S	Sb	21 55 36.6	-0.2
PIGN				AML	AML		
	comp=N,288μm,0.4s						
PIGN				AML	AML		
	comp=E,263μm,0.2s						
PIGN				AML	AML		
	comp=N,289μm,0.4s						
MIDA	**Miranda**	**0.32**	**332**	P	Pg	21 55 33.0	-0.2
MIDA				S	Sg	21 55 38.0	+0.1
MIDA				AML	AML		
	comp=E,290μm,0.5s						
MIDA				AML	AML		
	comp=N,238μm,0.7s						
MIDA				AML	AML		
	comp=N,238μm,0.7s						
MIDA				AML	AML		
	comp=E,290μm,0.5s						
PAOL	**Paolisi**	**0.34**	**165**	P	Pg	21 55 33.6	+0.1
PAOL				AML	AML		
	comp=N,222μm,0.3s						
PAOL				AML	AML		
	comp=N,222μm,0.3s						
PAOL				AML	AML		
	comp=E,232μm,0.3s						
RNI2	**Rionero Sannit**	**0.41**	**327**	P	Pg	21 55 34.8	0.0
RNI2				S	Sg	21 55 40.4	-0.1
RNI2				AML	AML		
	comp=E,244μm,0.7s						
RNI2				AML	AML		
	comp=E,244μm,0.7s						
RNI2				AML	AML		
	comp=N,176μm,0.5s						
TRIV	**Trivento**	**0.41**	**10**	P	Pb	21 55 35.0	-0.2
TRIV				AML	AML		
	comp=N,204μm,0.7s						
TRIV				AML	AML		
	comp=E,224μm,0.5s						
MODR	**Mondragone**	**0.48**	**244**	P	Pg	21 55 36.2	+0.1
MODR				AML	AML		
	comp=E,292μm,0.6s						
MODR				AML	AML		
	comp=N,288μm,1.0s						
MELA	**Melanico ??? S**	**0.61**	**55**	P	Pg	21 55 37.7	-0.8
POFI	**Posta Fibreno**	**0.66**	**303**	P	Pb	21 55 40.0	+0.5
INTR	**Introdacqua**	**0.77**	**328**	P	Pg	21 55 41.7	+0.2
VVLD	**Villa Vallelon**	**0.81**	**310**	P	Pg	21 55 42.4	+0.3

ROM 29 22:02:38.0±0.1, 41°.368N±0°.007×14°.466E±0°.005, h10km, Md1.8/3, Error ellipse: s-maj=0.7km s-min=0.4km az=355.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.18**	**285**	P	Pg	22 02 42.6	+0.6
VAGA				S	Sg	22 02 45.9	+1.2
VAGA				AML	AML		
	comp=E,35250μm,0.3s						
VAGA				AML	AML		
	comp=N,65200μm,0.4s						
VAGA				AML	AML		
	comp=E,37150μm,0.4s						
VAGA				AML	AML		
	comp=N,66750μm,0.4s						
VAGA				END			
SACR	**S. Croce Del S**	**0.18**	**81**	P	Pg	22 02 42.6	+0.6
SACR				S	Sg	22 02 46.0	+1.2
SACR				AML	AML		
	comp=E,180μm,0.3s						
SACR				AML	AML		
	comp=N,140μm,0.5s						
SACR				AML	AML		
	comp=E,16400μm,1.2s						
SACR				AML	AML		
	comp=N,17800μm,0.7s						
SACR				AML	AML		
	comp=E,16250μm,1.2s						
SACR				AML	AML		
	comp=N,17800μm,0.7s						
SACR				END			
BSSO	**Busso**	**0.20**	**28**	P	Pb	22 02 43.2	-0.6
BSSO				S	Sg	22 02 46.2	+0.9
BSSO				AML	AML		
	comp=E,241μm,0.3s						
BSSO				AML	AML		
	comp=N,252μm,0.6s						
BSSO				AML	AML		
	comp=E,97μm,0.3s						
BSSO				AML	AML		
	comp=N,102μm,0.7s						
BSSO				AML	AML		
	comp=E,32150μm,1.3s						
BSSO				AML	AML		
	comp=N,44200μm,0.7s						
BSSO				AML	AML		
	comp=E,14850μm,1.3s						
BSSO				AML	AML		
	comp=N,17300μm,0.5s						
BSSO				END			
PIGN	**Pignataro Magg**	**0.27**	**232**	P	Pg	22 02 43.8	+0.3
PIGN				S	Sb	22 02 48.7	-1.0
PIGN				AML	AML		
	comp=E,64μm,1.3s						
PIGN				AML	AML		
	comp=N,58μm,1.1s						
PIGN				AML	AML		
	comp=E,6260μm,0.4s						
PIGN				AML	AML		
	comp=N,6150μm,0.4s						
PIGN				AML	AML		
	comp=E,6195μm,0.4s						
PIGN				AML	AML		
	comp=N,6460μm,0.4s						
MIDA	**Miranda**	**0.32**	**330**	P	Pb	22 02 45.3	-0.5
MIDA				AML	AML		
	comp=E,8800μm,0.4s						
MIDA				AML	AML		
	comp=N,7660μm,0.8s						
MIDA				AML	AML		
	comp=E,9015μm,0.5s						
MIDA				AML	AML		
	comp=N,7805μm,0.9s						
PAOL	**Paolisi**	**0.34**	**167**	P	Pb	22 02 45.6	-0.6
PAOL				AML	AML		
	comp=E,4590μm,1.1s						
PAOL				AML	AML		
	comp=N,3985μm,0.5s						
PAOL				AML	AML		
	comp=E,4795μm,1.1s						
PAOL				AML	AML		
	comp=N,4030μm,0.5s						
TRIV	**Trivento**	**0.40**	**9**	P	Pg	22 02 46.4	+0.4
TRIV				AML	AML		
	comp=E,6540μm,1.3s						
TRIV				AML	AML		
	comp=N,6135μm,0.5s						
CERT	**Cerreto**	**1.25**	**298**	P	Pn	22 03 00.2	-1.5

LDG ***29*** *22:03:26.5±0.2, 41°.42N×14°.38E, h10km, Ml3.0/6, Error ellipse: s-maj=5.3km s-min=2.8km az=6.0*
IDC ***29*** *22:03:26.1±1.3, 41°.57N×14°.24E, h0km, mb3.5/4, mb1 3.6/8, mb1mx3.4/51, mbtmp3.5/8, ML3.5/4, Error ellipse: s-maj=25.0km s-min=17.0km az=105.0*
PDG ***29*** *22:03:27.4±0.3, 41°.40N×14°.45E, h17km, ML3.5/11, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
ISCJB ***29*** *22:03:27.4±0.2, 41°.42N±0°.01×14°.42E±0°.02, h22km±2km, mb3.5/4, Error ellipse: s-maj=2.6km s-min=1.8km az=31.9*
ROM ***29*** *22:03:27.1±0.1, 41°.398N±0°.004×14°.415E±0°.006, h17km±1km, ML3.3/61, Error ellipse: s-maj=0.6km s-min=0.0km az=227.0*
BEO ***29*** *22:03:29.9±0.7, 41°.46N×14°.53E, h15km±4km, ML3.6/9*
PRU ***29*** *22:03:30.1±0.0, 41°.47N×14°.44E, h19km*

ISC 29 22:03:27.8±0.8, 41°.40N±0°.02×14°.41E±0°.02, h14km±5km, n209, σ1°60/273, mb3.5/4, 25C-18D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.13**	**276**	P	**Pg**	**22 03 31.3**	**-0.2**
VAGA				S	**Sg**	**22 03 34.4**	**+0.4**
VAGA				AML	AML		
	comp=N,66750μm,0.4s						
VAGA				AML	AML		
	comp=E,35250μm,0.3s						
VAGA				AML	AML		
	comp=N,65200μm,0.4s						
VAGA				AML	AML		
	comp=E,37150μm,0.4s						
VAGA				AML	AML		
	comp=E,37150μm,0.4s						
VAGA				AML	AML		
	comp=N,66750μm,0.4s						
VAGA				AML	AML		
	comp=N,65200μm,0.4s						
BSSO	**Busso**	**0.20**	**43**	P	**Pg**	**22 03 32.3**	**-0.1**
BSSO				S	**Sg**	**22 03 35.2**	**-0.5**
BSSO				AML	AML		
	comp=N,44200μm,0.7s						
BSSO				AML	AML		
	comp=E,32150μm,1.3s						
BSSO				AML	AML		
	comp=E,14850μm,1.3s						
BSSO				AML	AML		
	comp=N,17300μm,0.5s						
BSSO				AML	AML		
	comp=E,14850μm,1.3s						
BSSO				AML	AML		
	comp=N,17300μm,0.5s						
BSSO				AML	AML		
	comp=N,44150μm,0.7s						
BSSO				AML	AML		
	comp=E,32100μm,1.3s						
SACR	**S. Croce Del S**	**0.22**	**91**	P	**Pg**	**22 03 32.3**	**-0.5**
SACR				S	**Sg**	**22 03 36.4**	**+0.2**
SACR				AML	AML		
	comp=N,17800μm,0.7s						
SACR				AML	AML		
	comp=E,16250μm,1.2s						
SACR				AML	AML		
	comp=N,17800μm,0.7s						
SACR				AML	AML		
	comp=E,16400μm,1.2s						
PIGN	**Pignataro Magg**	**0.27**	**221**	P	**Pg**	**22 03 33.0**	**-0.5**
PIGN				S	**Sg**	**22 03 38.0**	**+0.6**
PIGN				AML	AML		
	comp=E,6260μm,0.4s						
PIGN				AML	AML		
	comp=N,6155μm,0.4s						
PIGN				AML	AML		
	comp=E,6260μm,0.4s						
PIGN				AML	AML		
	comp=E,6195μm,0.4s						
PIGN				AML	AML		
	comp=N,6150μm,0.4s						
PIGN				AML	AML		
	comp=N,6460μm,0.4s						
PIGN				AML	AML		
	comp=N,6155μm,0.4s						
MIDA	**Miranda**	**0.27**	**334**	P	**Pg**	**22 03 33.1**	**-0.5**
MIDA				S	**Sg**	**22 03 37.8**	**+0.3**
MIDA				AML	AML		
	comp=N,7660μm,0.8s						
MIDA				AML	AML		
	comp=N,7805μm,0.9s						
MIDA				AML	AML		
	comp=E,8805μm,0.4s						
MIDA				AML	AML		
	comp=E,9015μm,0.5s						
MIDA				AML	AML		
	comp=N,7655μm,0.8s						
MIDA				AML	AML		
	comp=E,8800μm,0.4s						
PSB1	**Pescosannita**	**0.35**	**121**	P	**Pg**	**22 03 34.4**	**-0.6**
PSB1				S	**Sb**	**22 03 40.6**	**-0.6**
PSB1				AML	AML		
	comp=E,8510μm,0.5s						
PSB1				AML	AML		
	comp=E,9210μm,0.5s						
PSB1				AML	AML		
	comp=N,7170μm,0.9s						
PSB1				AML	AML		
	comp=N,6775μm,0.9s						
PSB1				AML	AML		
	comp=E,8505μm,0.5s						
CERA	**Filignano**	**0.35**	**304**	P	**Pg**	**22 03 34.9**	**-0.2**
CERA				AML	AML		
	comp=E,7205μm,1.0s						
CERA				AML	AML		
	comp=N,6585μm,0.4s						
CERA				AML	AML		
	comp=N,6580μm,0.4s						
CERA				AML	AML		
	comp=E,7385μm,1.0s						
CERA				AML	AML		
	comp=N,6765μm,0.9s						
CERA				AML	AML		
	comp=E,7210μm,1.0s						
RNI2	**Rionero Sannit**	**0.36**	**327**	P	**Pg**	**22 03 34.9**	**-0.3**
RNI2				S	**Sg**	**22 03 40.8**	**+0.6**
RNI2				AML	AML		
	comp=N,5135μm,0.3s						
RNI2				AML	AML		
	comp=E,7595μm,0.8s						
RNI2				AML	AML		
	comp=E,7510μm,0.8s						
RNI2				AML	AML		
	comp=N,5220μm,0.5s						
TRIV	**Trivento**	**0.38**	**16**	P	**Pg**	**22 03 35.3**	**-0.3**
TRIV				S	**Sb**	**22 03 41.9**	**-0.2**
TRIV				AML	AML		
	comp=E,6535μm,1.3s						
TRIV				AML	AML		
	comp=N,6135μm,0.5s						
TRIV				AML	AML		
	comp=E,6540μm,1.3s						
PAOL	**Paolisi**	**0.39**	**162**	P	**Pg**	**22 03 34.8**	**-0.9**
PAOL				S	**Sg**	**22 03 41.1**	**+0.1**
PAOL				AML	AML		
	comp=N,3985μm,0.5s						
PAOL				AML	AML		
	comp=N,3985μm,0.5s						
PAOL				AML	AML		
	comp=E,4590μm,1.1s						
PAOL				AML	AML		
	comp=N,4030μm,0.5s						
PAOL				AML	AML		
	comp=E,4795μm,1.1s						
GATE	**Gambatesa**	**0.39**	**73**	P	**Pg**	**22 03 35.6**	**-0.1**
GATE				AML	AML		
	comp=E,5845μm,0.7s						
GATE				AML	AML		
	comp=N,6385μm,0.5s						
GATE				AML	AML		
	comp=E,3130μm,0.5s						
GATE				AML	AML		
	comp=N,6285μm,0.5s						
CIGN	**Sant'Elia a Pi**	**0.45**	**56**	P	**Pg**	**22 03 36.4**	**-0.4**
CIGN				AML	AML		
	comp=E,4010μm,0.5s						
CIGN				AML	AML		
	comp=N,2905μm,0.4s						
MODR	**Mondragone**	**0.48**	**238**	P	**Pg**	**22 03 36.8**	**-0.5**
MODR				AML	AML		
	comp=N,9605μm,0.5s						
MODR				AML	AML		
	comp=E,11105μm,0.8s						
MRB1	**Monte Rocchett**	**0.51**	**123**	P	**Pg**	**22 03 37.0**	**-0.9**
MRB1				AML	AML		
	comp=E,5755μm,0.4s						
MRB1				AML	AML		
	comp=E,5950μm,0.4s						
MRB1				AML	AML		
	comp=N,8580μm,0.6s						
MRB1				AML	AML		
	comp=N,8385μm,0.6s						
MRB1				AML	AML		
	comp=N,8575μm,0.6s						
MRB1				AML	AML		
	comp=N,8385μm,0.7s						
MRB1				AML	AML		
	comp=E,5750μm,0.4s						
MOCO	**Biccari - m.te**	**0.56**	**93**	P	**Pg**	**22 03 38.3**	**-0.6**
MOCO				AML	AML		
	comp=E,3280μm,0.6s						
MOCO				AML	AML		
	comp=N,1415μm,0.5s						
MOCO				AML	AML		
	comp=N,1310μm,0.5s						
MOCO				AML	AML		
	comp=E,3230μm,0.6s						
FRES	**Fresagrandinar**	**0.60**	**19**	P	**Pg**	**22 03 38.5**	**-1.2**
FRES				AML	AML		
	comp=N,1285μm,0.5s						
FRES				AML	AML		
	comp=E,2525μm,0.5s						
POFI	**Posta Fibreno**	**0.61**	**301**	P	**Pg**	**22 03 39.0**	**-0.9**
POFI				AML	AML		
	comp=N,1385μm,0.6s						
POFI				AML	AML		
	comp=N,1390μm,0.6s						
POFI				AML	AML		
	comp=E,1855μm,0.6s						
POFI				AML	AML		
	comp=E,1800μm,0.6s						
POFI				AML	AML		
	comp=N,1445μm,0.6s						
MELA	**Melanico ??? S**	**0.62**	**60**	P	**Pg**	**22 03 38.5**	**-1.4**
MELA				AML	AML		
	comp=N,7775μm,0.5s						
MELA				AML	AML		
	comp=E,8040μm,0.3s						
MELA				AML	AML		
	comp=E,7770μm,0.3s						
MELA				AML	AML		
	comp=N,7715μm,0.5s						
LPEL	**Lama dei Pelig**	**0.67**	**345**	P	**Pg**	**22 03 39.7**	**-1.2**
LPEL				S	**Sb**	**22 03 51.0**	**+0.6**
LPEL				AML	AML		
	comp=E,4285μm,1.1s						
LPEL				AML	AML		
	comp=N,3500μm,0.8s						
INTR	**Introdacqua**	**0.72**	**328**	P	**Pg**	**22 03 40.4**	**-1.4**
INTR				AML	AML		
	comp=E,3275μm,0.8s						
INTR				AML	AML		
	comp=N,5945μm,0.6s						
CAFE	**Carife**	**0.73**	**121**	P	**Pg**	**22 03 41.2**	**-0.7**
CAFE				AML	AML		
	comp=E,1850μm,0.9s						
CAFE				AML	AML		
	comp=N,1230μm,0.6s						
CAFE				AML	AML		
	comp=N,1295μm,0.6s						
CAFE				AML	AML		
	comp=E,1850μm,0.8s						
CAFE				AML	AML		
	comp=N,1235μm,0.5s						
CAFE				AML	AML		
	comp=E,1895μm,0.9s						
VVLD	**Villa Vallelon**	**0.76**	**309**	P	**Pg**	**22 03 41.3**	**-1.2**
VVLD				AML	AML		
	comp=N,2565μm,0.7s						
VVLD				AML	AML		
	comp=E,1760μm,0.4s						
OC9	**Casamicciola**	**0.76**	**211**	P	**Pg**	**22 03 42.1**	**-0.5**
SGTA	**Sant Agata di**	**0.77**	**110**	P	**Pn**	**22 03 44.6**	**+0.3**
SGTA				AML	AML		
	comp=N,1385μm,0.4s						
SGTA				AML	AML		
	comp=E,1910μm,1.3s						
SGTA				AML	AML		
	comp=E,1880μm,1.2s						
SGTA				AML	AML		
	comp=N,1255μm,0.4s						
SNAL	**S. Angelo Dei**	**0.77**	**128**	P	**Pg**	**22 03 41.8**	**-1.0**
SNAL				AML	AML		
	comp=E,2195μm,1.1s						
SNAL				AML	AML		
	comp=N,2090μm,1.0s						
CAFR	**Castel Frentan**	**0.83**	**357**	P	**Pg**	**22 03 42.4**	**-1.5**
CAFR				AML	AML		
	comp=N,6180μm,0.6s						
CAFR				AML	AML		
	comp=E,5495μm,1.4s						
MCRV	**Calabrutti - M**	**0.84**	**137**	P	**Pg**	**22 03 44.1**	**-0.1**
MCRV				AML	AML		
	comp=E,2175μm,1.3s						
MCRV				AML	AML		
	comp=N,2140μm,0.3s						
GIUL	**Giuliano Di Ro**	**0.88**	**281**	P	**Pb**	**22 03 44.6**	**-0.3**
GIUL				AML	AML		
	comp=E,726μm,0.6s						
GIUL				AML	AML		
	comp=N,770μm,0.9s						
GIUL				AML	AML		
	comp=N,770μm,0.9s						
GUAR	**Guarcino**	**0.91**	**296**	P	**Pn**	**22 03 46.1**	**-0.2**
GUAR				AML	AML		
	comp=E,979μm,0.4s						
GUAR				AML	AML		
	comp=N,1465μm,0.4s						
GUAR				AML	AML		
	comp=E,978μm,0.4s						
VENT	**Ventotene**	**0.96**	**231**	P	**Pb**	**22 03 44.8**	**-1.4**
VENT				AML	AML		
	comp=E,4145μm,0.4s						
VENT				AML	AML		
	comp=N,3490μm,0.5s						
VENT				AML	AML		
	comp=E,4140μm,0.4s						
PTQR	**Pietraquaria**	**0.98**	**310**	P	**Pb**	**22 03 46.0**	**-0.6**
PTQR				AML	AML		
	comp=N,437μm,1.4s						
PTQR				AML	AML		
	comp=E,586μm,1.6s						
VULT	**Monte Vulture**	**1.01**	**116**	P	**Pn**	**22 03 48.0**	**+0.3**
VULT				AML	AML		
	comp=E,2180μm,0.6s						
VULT				AML	AML		
	comp=N,3415μm,0.4s						
VULT				AML	AML		
	comp=E,2180μm,0.7s						
VULT				AML	AML		
	comp=N,3380μm,0.5s						
MRLC	**Muro Lucano**	**1.04**	**128**	P	**Pb**	**22 03 46.7**	**-0.8**
MRLC				AML	AML		

	comp=E,923µm,0.5s								
MRLC				AML	AML				
	comp=N,1017µm,1.6s								
MRLC				AML	AML				
	comp=N,994µm,1.6s								
MRLC				AML	AML				
	comp=E,950µm,0.5s								
SGRT	**San Giovanni R**	**1.06**	**70**	P	**Pb**	**22 03 46.5**	**-1.5**		
SGRT				S	**Sg**	**22 04 02.0**	**-0.2**		
SGRT				AML	AML				
	comp=N,3080µm,0.6s								
SGRT				AML	AML				
	comp=E,4295µm,0.8s								
FAGN	**Fagnano**	**1.06**	**325**	P	**Pg**	**22 03 48.9**	**+0.6**		
FAGN				AML	AML				
	comp=E,3720µm,0.4s								
FAGN				AML	AML				
	comp=N,2975µm,0.6s								
VCEL	**Villa Celiera**	**1.08**	**337**	P	**Pg**	**22 03 50.2**	**+1.5**		
VCEL				AML	AML				
	comp=E,2255µm,0.5s								
VCEL				AML	AML				
	comp=N,1890µm,0.5s								
LATB	**Latina**	**1.09**	**275**	P	**Pb**	**22 03 47.2**	**-1.3**		
LATB				AML	AML				
	comp=E,379µm,0.8s								
LATB				AML	AML				
	comp=N,222µm,0.8s								
CDRU	**Civita di Ruta**	**1.14**	**143**	P	**Pb**	**22 03 47.8**	**-1.4**		
CDRU				AML	AML				
	comp=E,673µm,0.4s								
CDRU				AML	AML				
	comp=N,491µm,0.5s								
MSAG	**Monte S. Angel**	**1.17**	**74**	P	**Pn**	**22 03 48.7**	**-1.1**		
MSAG				S	**Sg**	**22 04 06.0**	**+0.5**		
MSAG				AML	AML				
	comp=E,3125µm,0.4s								
MSAG				AML	AML				
	comp=E,3120µm,0.4s								
MSAG				AML	AML				
	comp=N,5700µm,0.4s								
MSAG				AML	AML				
	comp=N,5635µm,0.4s								
MSAG				AML	AML				
	comp=E,3355µm,0.6s								
CERT	**Cerreto**	**1.20**	**298**	P	**Pn**	**22 03 50.0**	**-0.3**		
CERT				AML	AML				
	comp=E,900µm,0.5s								
CERT				AML	AML				
	comp=N,465µm,0.6s								
AQU	**L'Aquila**	**1.21**	**322**	*e*Pn	**Pg**	**22 03 51.2**	**0.0**		
T0104	**Madonna delle**	**1.25**	**320**	P	**Pg**	**22 03 52.0**	**+0.2**		
T0104				AML	AML				
	comp=N,1265µm,0.6s								
T0104				AML	AML				
	comp=E,1225µm,0.9s								
T0104				AML	AML				
	comp=E,1285µm,0.9s								
T0104				AML	AML				
	comp=N,1218µm,0.6s								
CMPR	**Campora**	**1.28**	**148**	P	**Pn**	**22 03 49.5**	**-1.7**		
CMPR				AML	AML				
	comp=N,407µm,0.5s								
CMPR				AML	AML				
	comp=E,578µm,0.6s								
ACER	**Acerenza**	**1.31**	**117**	P	**Pn**	**22 03 51.8**	**+0.1**		
ACER				AML	AML				
	comp=N,1455µm,0.9s								
ACER				AML	AML				
	comp=N,1500µm,0.9s								
ACER				AML	AML				
	comp=E,1055µm,0.8s								
ACER				AML	AML				
	comp=E,1038µm,0.8s								
RDP	**Rocca di Papa**	**1.32**	**286**	P	**Pn**	**22 03 51.6**	**-0.3**		
RDP				AML	AML				
	comp=N,1855µm,0.5s								
RDP				AML	AML				
	comp=E,1600µm,0.6s								
TERO	**Teramo**	**1.36**	**334**	P	**Pb**	**22 03 53.4**	**+0.3**		
TERO				AML	AML				
	comp=N,416µm,0.6s								
TERO				AML	AML				
	comp=E,254µm,0.6s								
MRVN	**Minervino Murg**	**1.39**	**104**	P	**Pn**	**22 03 52.9**	**+0.1**		
MRVN				AML	AML				
	comp=N,566µm,0.8s								
MRVN				AML	AML				
	comp=E,480µm,0.5s								
MCEL	**Monticello**	**1.51**	**135**	P	**Pb**	**22 03 56.0**	**+0.4**		
MCEL				AML	AML				
	comp=E,578µm,0.6s								
MCEL				AML	AML				
	comp=E,586µm,0.6s								
MCEL				AML	AML				
	comp=N,454µm,0.6s								
MCEL				AML	AML				
	comp=N,454µm,0.6s								
MTSN	**Montesano sull**	**1.52**	**138**	P	**Pn**	**22 03 54.4**	**-0.3**		
MTSN				AML	AML				
	comp=E,590µm,0.8s								
MTSN				AML	AML				
	comp=N,622µm,0.8s								
MGR	**Morigerati**	**1.53**	**145**	P	**Pn**	**22 03 53.6**	**-1.2**		
MGR				AML	AML				
	comp=E,286µm,1.0s								
MGR				AML	AML				
	comp=N,352µm,0.4s								
OFFI	**Offida**	**1.62**	**341**	P	**Pg**	**22 03 59.6**	**+0.6**		
SIRI	**Monte Sirino -**	**1.65**	**137**	P	**Pn**	**22 03 56.3**	**-0.1**		
SIRI				AML	AML				
	comp=N,423µm,0.7s								
SIRI				AML	AML				
	comp=E,335µm,1.1s								
SIRI				AML	AML				
	comp=E,320µm,0.9s								
SIRI				AML	AML				
	comp=N,443µm,0.7s								
GUMA	**Gualdo di Mace**	**1.70**	**348**	P	**Pg**	**22 04 02.6**	**+2.2**		
ARRO	**Arrone**	**1.70**	**314**	P	**Pn**	**22 03 55.4**	**-1.6**		
ARRO				AML	AML				
	comp=E,239µm,0.7s								
ARRO				AML	AML				
	comp=N,218µm,0.8s								
NRCA	**Norcia**	**1.73**	**326**	P	**Pb**	**22 03 59.1**	**-0.3**		
NRCA				AML	AML				
	comp=E,254µm,0.7s								
NRCA				AML	AML				
	comp=N,243µm,1.2s								
AMUR	**Altamura**	**1.73**	**106**	P	**Pn**	**22 03 57.4**	**-0.1**		
AMUR				AML	AML				
	comp=E,444µm,1.3s								
AMUR				AML	AML				
	comp=N,532µm,0.6s								
MIGL	**Miglionico**	**1.73**	**117**	P	**Pn**	**22 03 58.2**	**+0.8**		
MIGL				AML	AML				
	comp=N,1190µm,0.8s								
MIGL				AML	AML				
	comp=N,1130µm,0.7s								
SG1	**Sgolgore (BA)**	**1.80**	**107**	*e*Pn	**Pn**	**22 03 58.4**	**-0.1**		
BAI	**Bari**	**1.88**	**98**	*e*Pn	**Pn**	**22 03 59.5**	**0.0**		
MATE	**Matera**	**1.89**	**113**	⇑P	**Pn**	**22 03 59.4**	**-0.2**		
MATE				AML	AML	22 04 36.0			
FDMO	**Fiordimonte**	**1.91**	**329**	P	**Pb**	**22 04 01.3**	**-1.1**		
FDMO				AML	AML				
	comp=E,234µm,0.7s								
FDMO				AML	AML				
	comp=N,332µm,0.8s								
CSP1	**Cessapalombo**	**1.91**	**332**	P	**Pb**	**22 04 02.1**	**-0.4**		
CIMA	**Civitanova Mar**	**1.98**	**344**	S	**Sb**	**22 04 27.0**	**-1.1**		
NOCI	**Noci**	**2.10**	**106**	P	**Pn**	**22 04 02.8**	**+0.3**		
NOCI				AML	AML				
	comp=E,386µm,0.5s								
NOCI				AML	AML				
	comp=N,540µm,0.8s								
CING	**Cingoli**	**2.17**	**336**	P	**Pb**	**22 04 05.2**	**-1.6**		
CING				AML	AML				
	comp=E,225µm,0.9s								
CING				AML	AML				
	comp=N,193µm,1.0s								
MASS	**Massafra**	**2.21**	**109**	*e*Pn	**Pn**	**22 04 04.9**	**+0.9**		
HVAR	**Hvar**	**2.33**	**40**	*e*Pn	**Pn**	**22 04 05.5**	**-0.2**		
HVAR				Sn	**Sn**	**22 04 34.7**	**+0.6**		
TAR1	**Taranto**	**2.34**	**111**	*e*Pn	**Pn**	**22 04 06.6**	**+0.7**		
ARVD	**Arcevia**	**2.36**	**333**	P	**Pb**	**22 04 08.4**	**-1.7**		
ARVD				AML	AML				
	comp=N,100µm,0.8s								
ARVD				AML	AML				
	comp=E,183µm,1.3s								
ZIRJ	**Zirje**	**2.43**	**22**	*e*Pn	**Pn**	**22 04 06.4**	**-0.6**		
ZIRJ				Sn	**Sn**	**22 04 34.6**	**-1.9**		
COR1	**Corinaldo**	**2.46**	**335**	P	**Pb**	**22 04 12.6**	**+0.8**		
MPAG	**Monte Paganucc**	**2.54**	**332**	P	**Pn**	**22 04 10.8**	**+2.1**		
MPAG				AML	AML				
	comp=E,132µm,1.1s								
MPAG				AML	AML				
	comp=N,150µm,0.7s								
DUGI	**Dugi Otok**	**2.63**	**10**	*e*Pn	**Pn**	**22 04 09.3**	**-0.5**		
DUGI				Sn	**Sn**	**22 04 41.0**	**-0.6**		
MORI	**Morici**	**2.64**	**21**	*i* Pn	**Pn**	**22 04 09.4**	**-0.5**		
MORI				Sn	**Sn**	**22 04 41.8**	**0.0**		
MAKA	**Makarska**	**2.70**	**45**	*e*Pn	**Pn**	**22 04 10.3**	**-0.5**		
CPGN	**Carpegna, Ital**	**2.85**	**328**	P	**Pb**	**22 04 16.6**	**-1.9**		
USI	**Ustica**	**2.85**	**200**	P	**Pn**	**22 04 10.0**	**-2.9**		
STON	**Ston**	**2.85**	**58**	*e*Pn	**Pn**	**22 04 12.8**	**0.0**		
STON	**Ston**	**2.85**	**58**	*e*Pn	**Pn**	**22 04 13.0**	**+0.2**		
STON	**Ston**	**2.85**	**58**	P	**Pn**	**22 04 13.2**	**+0.4**		
STON				AML	AML				
	comp=E,208µm,0.9s								
STON				AML	AML				
	comp=N,224µm,0.6s								
TIP	**Timpagrande**	**2.85**	**140**	⇑P	**Pb**	**22 04 16.9**	**-1.7**		
TIP				AML	AML	22 05 13.3			
RICI	**Ricice**	**2.90**	**43**	iPn	**Pn**	**22 04 13.3**	**-0.3**		
KIJV	**Kijevo**	**2.99**	**29**	*e*Pn	**Pn**	**22 04 15.1**	**+0.3**		
KIJV				Sn	**Sn**	**22 04 50.8**	**+0.4**		
DBRK	**Dubrovnik**	**3.06**	**64**	*e*Pn	**Pn**	**22 04 15.9**	**+0.2**		
DBRK				Sn	**Sn**	**22 04 50.6**	**-1.5**		
NVLJ	**Novalja**	**3.18**	**6**	*e*Pn	**Pn**	**22 04 17.2**	**-0.1**		
TREB	**Trebinje**	**3.21**	**65**	*e*Pn	**Pn**	**22 04 18.1**	**+0.3**		
TREB				*e*Sn	**Sn**	**22 04 53.9**	**-2.0**		
TREB	**Trebinje**	**3.21**	**65**	*e*Pn	**Pn**	**22 04 18.2**	**+0.4**		
HCY	**Herceg Novi**	**3.22**	**70**	*e*Pn	**Pn**	**22 04 17.7**	**-0.2**		
HCY	**Herceg Novi**	**3.22**	**70**	⇓*i*Pn	**Pn**	**22 04 17.8**	**-0.2**		
HCY				*e*Sn	**Sn**	**22 04 56.6**	**+0.5**		
UDBI	**Udbina**	**3.28**	**17**	*e*Pn	**Pn**	**22 04 19.5**	**+0.7**		
UDBI				Sn	**Sn**	**22 04 58.5**	**+1.0**		
BRY	**Bratogost**	**3.42**	**63**	*e*Pn	**Pn**	**22 04 21.1**	**+0.4**		
BRY	**Bratogost**	**3.42**	**63**	⇓*i*Pn	**Pn**	**22 04 20.7**	**0.0**		
BRY				*e*Sn	**Sn**	**22 05 01.5**	**+0.4**		
BUM	**Brajici-Budva**	**3.47**	**74**	⇑*i*Pn	**Pn**	**22 04 21.5**	**+0.1**		
BUM				*e*Sn	**Sn**	**22 05 02.6**	**+0.4**		
BRJN	**Brijuni**	**3.54**	**352**	*e*Pn	**Pn**	**22 04 22.3**	**+0.1**		
CEME	**Cevo**	**3.55**	**70**	⇓*i*Pn	**Pn**	**22 04 22.4**	**-0.1**		
CEME				*e*Sn	**Sn**	**22 05 05.0**	**+0.7**		
MGRS	**Mrkonjic Grad**	**3.60**	**32**	*e*Pn	**Pn**	**22 04 24.9**	**+1.8**		
NKME	**Niksic**	**3.65**	**67**	⇓*i*Pn	**Pn**	**22 04 24.2**	**+0.4**		
NKME				*e*Sn	**Sn**	**22 05 07.4**	**+0.8**		
DRME	**Dracevica, Mon**	**3.65**	**76**	*e*Pn	**Pn**	**22 04 24.0**	**+0.2**		
DRME	**Dracevica, Mon**	**3.65**	**76**	⇑*i*Pn	**Pn**	**22 04 24.1**	**+0.2**		
DRME				*e*Sn	**Sn**	**22 05 07.2**	**+0.4**		
ULC	**Ulcinj**	**3.66**	**80**	⇑*i*Pn	**Pn**	**22 04 23.7**	**-0.3**		
ULC				*e*Sn	**Sn**	**22 05 07.5**	**+0.5**		
NKY	**Niksic**	**3.69**	**66**	⇓*i*Pn	**Pn**	**22 04 24.5**	**0.0**		
NKY				*e*Sn	**Sn**	**22 05 08.0**	**+0.2**		
PDG	**Podgorica**	**3.76**	**73**	*e*Pn	**Pn**	**22 04 25.7**	**+0.4**		
PDG				*e*Sn	**Sn**	**22 05 08.2**	**-1.1**		
PDG	**Podgorica**	**3.76**	**73**	*e*Pn	**Pn**	**22 04 25.6**	**+0.3**		
PDG	**Podgorica**	**3.76**	**73**	⇑P	**Pn**	**22 04 25.8**	**+0.4**		
PDG				AML	AML	22 05 11.0			
TTG	**Podgorica**	**3.76**	**73**	⇑*i*Pn	**Pn**	**22 04 25.7**	**+0.4**		
TTG				*e*Sn	**Sn**	**22 05 10.1**	**+0.8**		
UPM	**Unac-Piva**	**3.79**	**60**	*e*Pn	**Pn**	**22 04 26.5**	**+0.5**		
UPM	**Unac-Piva**	**3.79**	**60**	⇑*i*Pn	**Pn**	**22 04 26.4**	**+0.5**		
UPM				*e*Sn	**Sn**	**22 05 11.0**	**+0.7**		
BLY	**Banja Luka**	**3.91**	**30**	*e*Pn	**Pn**	**22 04 28.7**	**+1.3**		
BLY				*e*Sn	**Sn**	**22 05 12.6**	**-0.5**		
BLY	**Banja Luka**	**3.91**	**30**	*e*Pn	**Pn**	**22 04 28.8**	**+1.3**		
BLY	**Banja Luka**	**3.91**	**30**	⇓P	**Pn**	**22 04 28.6**	**+1.1**		
BLY				AML	AML	22 05 21.1			
BLY	**Banja Luka**	**3.91**	**30**	P	**Pn**	**22 04 29.1**	**+1.7**		
BLY				AML	AML				
	comp=E,218µm,0.7s								
BLY				AML	AML				
	comp=N,152µm,1.0s								
VLO	**Vlora**	**3.96**	**102**	S	**Sn**	**22 05 12.0**	**-2.3**		
KOME	**Kolasin**	**4.06**	**67**	⇑*i*Pn	**Pn**	**22 04 30.5**	**+0.9**		
KOME				*e*Sn	**Sn**	**22 05 17.3**	**+0.3**		
TIR	**Tirane**	**4.10**	**89**	*e*Pn	**Pn**	**22 04 30.6**	**+0.5**		
TIR				*e*Sn	**Sn**	**22 05 16.4**	**-1.5**		
TIR	**Tirane**	**4.10**	**89**	⇑P	**Pn**	**22 04 30.8**	**+0.8**		
TIR				AML	AML	22 05 21.9			
BOJS	**Bojanci**	**4.15**	**8**	P	**Pn**	**22 04 30.8**	**+0.2**		
PUK	**Puka**	**4.15**	**79**	P	**Pn**	**22 04 31.8**	**+1.0**		
PUK				AML	AML				
	comp=N,188µm,0.6s								
PUK				AML	AML				
	comp=E,128µm,0.3s								
PLE	**Pljevlja**	**4.16**	**61**	⇑*i*Pn	**Pn**	**22 04 31.1**	**+0.1**		
PLE				*e*Sn	**Sn**	**22 05 19.2**	**-0.2**		
PGF	**Pioggiola**	**4.19**	**288**	*e*Pn	**Pn**	**22 04 28.0**	**-3.4**		
PGF	**Pioggiola**	**4.19**	**288**	*e*P	**Pn**	**22 04 31.8**	**+0.4**		
PGF				*e*Sn	**Sn**	**22 05 15.1**	**-5.1**		
	comp=E,5.2nm,0.3s								
RUDO	**Rudo**	**4.28**	**57**	*e*Pn	**Pn**	**22 04 33.3**	**+0.8**		
HAPS	**Han Pijesak,Bl**	**4.29**	**50**	*e*Pn	**Pn**	**22 04 32.2**	**-0.5**		
HAPS	**Han Pijesak,Bl**	**4.29**	**50**	*e*Pn	**Pn**	**22 04 32.4**	**-0.3**		
PVY	**Plav**	**4.30**	**72**	⇓*i*Pn	**Pn**	**22 04 33.8**	**+0.9**		
PVY				*e*Sn	**Sn**	**22 05 23.1**	**+0.2**		
IVA	**Berane**	**4.33**	**68**	⇓*i*Pn	**Pn**	**22 04 34.1**	**+0.8**		
IVA				*e*Sn	**Sn**	**22 05 23.7**	**+0.1**		
CEY	**Cerknica**	**4.34**	**0**	*e*Pn	**Pn**	**22 04 34.2**	**+0.9**		
BBLS	**Lazići**	**4.43**	**55**	⇑*i*Pn	**Pn**	**22 04 35.2**	**+0.6**		
BBLS				*e*Sn	**Sn**	**22 05 24.7**	**-1.3**		
BBLS	**Lazići**	**4.43**	**55**	*e*Pn	**Pn**	**22 04 35.5**	**+0.9**		
CRES	**Cresnjev**	**4.49**	**9**	*e*Pn	**Pn**	**22 04 35.3**	**-0.1**		
SJES	**Sjenica**	**4.52**	**64**	⇑*i*Pn	**Pn**	**22 04 36.6**	**+0.7**		
SJES				*e*Sn	**Sn**	**22 05 26.8**	**-1.5**		
MOSL	**Moslavina**	**4.54**	**21**	*e*Pn	**Pn**	**22 04 36.0**	**-0.1**		
MSSA	**Maissana**	**4.63**	**311**	P	**Pg**	**22 04 54.4**	**-2.0**		
LJU	**Ljubljana**	**4.64**	**1**	*e*Pn	**Pn**	**22 04 38.1**	**+0.6**		
LJU	**Ljubljana**	**4.64**	**1**	P	**Pn**	**22 04 38.4**	**+0.9**		
IVAS	**Ivanjica**	**4.77**	**61**	⇑*i*Pn	**Pn**	**22 04 39.4**	**+0.1**		
IVAS				*e*Sn	**Sn**	**22 05 31.2**	**-3.1**		
DIVS	**Divibare**	**4.91**	**55**	⇓*i*Pn	**Pn**	**22 04 41.8**	**+0.5**		
DIVS	**Divibare**	**4.91**	**55**	*e*Pn	**Pn**	**22 04 41.6**	**+0.3**		
OBKA	**Obir**	**5.11**	**1**	*i* Pn	**Pn**	**22 04 43.8**	**-0.2**		
	comp=E,2.1nm,0.2s,SNR=4.4								
OBKA				*i* Sn	**Sn**	**22 05 43.5**	**+0.8**		
	comp=E,7.8nm,0.3s								
KOGS	**Kog**	**5.22**	**14**	P	**Pn**	**22 04 44.0**	**-1.3**		
TRUS	**Trudelj**	**5.23**	**55**	⇑*i*Pn	**Pn**	**22 04 45.7**	**+0.1**		
MYKA	**Terra Mystica**	**5.26**	**354**	*i* Pn	**Pn**	**22 04 45.9**	**-0.1**		
	comp=E,3.1nm,0.3s								
MYKA				*i* Sn	**Sn**	**22 05 46.2**	**-0.1**		
	comp=E,3.7nm,0.3s								
GRUS	**Gruza**	**5.27**	**60**	⇓*i*Pn	**Pn**	**22 04 46.6**	**+0.5**		
SOKA	**Soboth**	**5.29**	**5**	Pn	**Pn**	**22 04 45.9**	**-0.7**		
	comp=E,1.2nm,0.3s,SNR=5.1								
SOKA				*i* Sn	**Sn**	**22 05 47.8**	**+0.5**		
	comp=E,2.8nm,0.4s								
SELS	**Selova**	**5.29**	**68**	⇑*i*Pn	**Pn**	**22 04 46.7**	**+0.2**		
FRGS	**Fruska Gora**	**5.44**	**45**	⇑*i*Pn	**Pn**	**22 04 48.1**	**-0.4**		
ABTA	**Abfaltersbach**	**5.52**	**346**	Pn	**Pn**	**22 04 50.1**	**+0.5**		
	comp=E,2.4nm,0.5s,SNR=4.8								
ABTA				*i* Sn	**Sn**	**22 05 52.4**	**-0.4**		
	comp=E,11nm,0.6s								
BARS	**Barje**	**5.69**	**73**	⇑*i*Pn	**Pn**	**22 04 52.3**	**+0.5**		
MORH	**Mrgy, Hungar**	**5.70**	**31**	*e*Pn	**Pn**	**22 04 50.1**	**-1.9**		
MORH				Sn	**Sn**	**22 05 56.0**	**-1.2**		
SBF	**Sospel**	**5.70**	**298**	*e*Pn	**Pn**	**22 04 49.0**	**-3.1**		
SBF	**Sospel**	**5.70**	**298**	*e*P	**Pn**	**22 04 53.1**	**+1.0**		
KBA	**Koelnbreinsper**	**5.73**	**353**	*i* Pn	**Pn**	**22 04 52.1**	**-0.4**		
	comp=E,2.2nm,0.5s								
ABSI	**Aberstueckl**	**5.77**	**338**	P	**Pn**	**22 04 53.3**	**+0.2**		
BOVS	**Bovan**	**5.83**	**65**	⇑*i*Pn	**Pn**	**22 04 53.2**	**-0.6**		
ARSA	**Arzberg**	**5.90**	**7**	*i* Pn	**Pn**	**22 04 54.0**	**-0.8**		
	comp=E,1.4nm,0.3s								
ARSA				*i* Sn	**Sn**	**22 06 02.0**	**-0.2**		
TIH	**Tihany**	**6.04**	**23**	*e*Pn	**Pn**	**22 04 56.1**	**-0.6**		
TIH				Sn	**Sn**	**22 06 07.1**	**+1.6**		
BOSS	**Bosilegrad**	**6.12**	**77**	⇑*i*Pn	**Pn**	**22 04 58.1**	**+0.4**		
FRF	**La Foret Royal**	**6.13**	**293**	*e*Pn	**Pn**	**22 04 57.5**	**-0.5**		
LMR	**La Mourre**	**6.16**	**291**	*e*Pn	**Pn**	**22 04 55.3**	**-3.1**		
LMR				*e*Sn	**Sn**	**22 06 01.0**	**-7.6**		
	comp=E,1.1nm,0.3s								
MPLH	**Magyarpolny**	**6.19**	**20**	*e*Pn	**Pn**	**22 04 57.1**	**-1.6**		
WTTA	**Wattenberg**	**6.19**	**342**	*i* Pn	**Pn**	**22 05 00.0**	**+1.2**		
	comp=E,0.6nm,0.2s								
WTTA				*i* Sn	**Sn**	**22 06 10.1**	**+0.6**		
	comp=E,2.0nm,0.3s								
FETA	**Feichten**	**6.21**	**336**	*i* Pn	**Pn**	**22 05 01.1**	**+1.9**		
	comp=E,0.7nm,0.3s								
FETA				*i* Sn	**Sn**	**22 06 10.7**	**+0.7**		
	comp=E,2.7nm,0.6s								
ZAGS	**Zajecar**	**6.25**	**65**	⇑*i*Pn	**Pn**	**22 04 59.7**	**+0.1**		
ZAGS				*e*Sn	**Sn**	**22 06 07.2**	**-3.6**		
SQTA	**Sankt Quirin**	**6.25**	**340**	*i* Pn	**Pn**	**22 04 59.0**	**-0.7**		
	comp=E,1.4nm,0.3s								
SQTA				*i* Sn	**Sn**	**22 06 13.3**	**+2.3**		
	comp=E,1.2nm,0.3s								
WATA	**Walderalm**	**6.27**	**342**	*i* Pn	**Pn**	**22 05 01.4**	**+1.4**		
	comp=E,0.9nm,0.3s								
WATA				*i* Sn	**Sn**	**22 06 12.7**	**+1.3**		
	comp=E,8.7nm,0.4s								
MDVR	**Moldovita**	**6.32**	**55**	⇓P	**Pn**	**22 05 00.5**	**-0.1**		
ZAPS	**Zavoj**	**6.37**	**70**	⇑*i*Pn	**Pn**	**22 05 02.0**	**+0.7**		
ZAPS				*e*Sn	**Sn**	**22 06 09.5**	**-4.3**		
MOTA	**Moosalm**	**6.40**	**339**	*i* Pn	**Pn**	**22 04 60.0**	**-1.7**		
	comp=E,1.1nm,0.4s								
MOTA				*i* Sn	**Sn**	**22 06 16.4**	**+1.9**		
MOA	**Molln**	**6.45**	**359**	Pn	**Pn**	**22 05 02.6**	**+0.3**		
	comp=E,1.0nm,0.2s,SNR=10								
MOA				*i* Sn	**Sn**	**22 06 16.4**	**+0.8**		
	comp=E,5.0nm,0.4s								
MBDF	**Montbardon**	**6.51**	**303**	*e*Pn	**Pn**	**22 04 59.6**	**-3.6**		
MBDF	**Montbardon**	**6.51**	**303**	*e*P	**Pn**	**22 05 04.4**	**+1.2**		
CONA	**Conrad Observa**	**6.61**	**9**	Pn	**Pn**	**22 05 02.6**	**-1.9**		
	comp=E,1.2nm,0.3s,SNR=5.8								
CONA				*i* Sn	**Sn**	**22 06 21.0**	**+1.3**		
	comp=E,4.3nm,0.5s								
RETA	**Reutte**	**6.62**	**338**	*i* Pn	**Pn**	**22 05 06.9**	**+2.2**		
	comp=E,0.2nm,0.1s								
RETA				*i* Sn	**Sn**	**22 06 22.0**	**+2.1**		
VTS	**Vitosha**	**6.68**	**77**	*e*Pn	**Pn**	**22 05 05.1**	**-0.6**		
VTS	**Vitosha**	**6.68**	**77**	⇑P	**Pn**	**22 05 05.9**	**+0.2**		
DAVA	**Damuels**	**6.72**	**333**	*i* Pn	**Pn**	**22 05 05.9**	**-0.3**		
	comp=E,0.2nm,0.1s								
DAVA				*i* Sn	**Sn**	**22 06 24.5**	**+2.0**		
	comp=E,7.0nm,0.6s								
BZS	**Buzias**	**6.72**	**49**	*e*Pn	**Pn**	**22 05 05.2**	**-0.8**		
BZS	**Buzias**	**6.72**	**49**	⇓P	**Pn**	**22 05 05.7**	**-0.3**		
KEST	**Kesra**	**6.91**	**217**	Pn	**Pn**	**22 05 10.2**	**+1.5**		
	comp=E,0.7nm,0.3s,baz=302,slow=7.5,SNR=10								
SMRF	**Simiane la Rot**	**7.00**	**294**	*e*Pn	**Pn**	**22 05 06.7**	**-3.2**		
SMRF	**Simiane la Rot**	**7.00**	**294**	*e*P	**Pn**	**22 05 11.0**	**+1.1**		
SMRF				*e*Sn	**Sn**	**22 06 21.9**	**-7.4**		
	comp=E,0.4nm,0.2s								
ORIF	**Oris-en-Rattie**	**7.16**	**302**	*e*P	**Pn**	**22 05 13.8**	**+1.7**		
GZR	**Gura Zlata**	**7.28**	**54**	⇓P	**Pn**	**22 05 13.8**	**0.0**		
GERES	**GERESS Array B**	**7.46**	**356**	Pn	**Pn**	**22 05 15.5**	**-0.8**		
	comp=E,0.4nm,0.3s,baz=173,slow=14,SNR=21								
GERES				Sn	Sn	22 06 30.8	-10		
	comp=E,0.1nm,0.3s,baz=174,slow=21,SNR=2.3								
PSZ	**Piszkesteto**	**7.60**	**29**	*e*Pn	Pn	22 05 13.1	-5.0		
PSZ				Sn	**Sn**	**22 06 38.0**	**-5.9**		
KHC	**Kasperske Hory**	**7.75**	**356**	*e*PN	**Pn**	**22 05 18.8**	**-1.4**		
KHC				*e*SN	**Sn**	**22 06 43.3**	**-4.4**		
VYHS	**Vyhne**	**7.75**	**22**	*e*PN	**Pn**	**22 05 20.7**	**+0.5**		
VYHS				*e*SN	**Sn**	**22 06 41.5**	**-6.2**		
CABF	**La Chapelle**	**7.94**	**314**	*e*P	**Pn**	**22 05 24.3**	**+1.4**		
DRGR		**8.04**	**45**	⇓P	**Pn**	**22 05 25.3**	**+1.1**		
VRAC	**Vranov**	**8.05**	**10**	Pn	**Pn**	**22 05 21.5**	**-2.8**		
	comp=E,0.1nm,0.3s,baz=204,slow=12,SNR=2.5								
PBCC	**Pribram**	**8.29**	**358**	*e*PN	**Pn**	**22 05 27.8**	**+0.3**		
HINF	**Hinteralfeld**	**8.38**	**323**	*e*Pn	**Pn**	**22 05 24.6**	**-4.2**		
HINF	**Hinteralfeld**	**8.38**	**323**	*e*P	**Pn**	**22 05 29.9**	**+1.1**		
HINF				*e*Sn	Sn	22 06 53.5	-10		
	comp=E,2.5nm,0.3s			

0.3nm,0.4s,baz=90,slow=5.6,SNR=4.0
NVAR Mina Array Bea 91.37 52 P P 22 34 13.5 +1.7
0.4nm,0.9s,baz=207,slow=1.8,SNR=3.6
YKA Yellowknife Ar 96.27 28 P P 22 34 34.3 +0.8
0.4nm,0.6s,baz=267,slow=4.7,SNR=6.2
GERES GERESS Array B 127.62 329 PKP PKiKP 22 40 11.2 -0.1
0.4nm,0.7s,baz=17,slow=7.2,SNR=3.0
LPAZ La Paz 130.76 119 PKP PKiKP 22 40 19.1 -0.1
1.4nm,0.9s,baz=63,slow=2.3,SNR=3.9
BDFB Brasilia 147.33 134 PKPbc PKPab 22 40 51.5 -0.4
5.4nm,0.8s,baz=166,slow=4.1,SNR=7.5
TORD Torodi Ar. Bea 153.72 285 PKPbc PKPbc 22 41 04.8 -0.6
0.5nm,0.8s,baz=78,slow=2.0,SNR=6.3

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*ISCJB **29** 22:26:20.1±1.4, 13.°14N±0.°07×89.°74W±0.°04, h22km±9km, Error ellipse: s-maj=12.9km s-min=4.5km az=22.8*
*SNET **29** 22:26:21.3±1.4, 13.°21N×89.°68W, h13km±9km, ML3.4*
*UCR **29** 22:26:22.3±1.4, 13.°30N×89.°69W, h33km±3km, MD3.3, ML3.5*
*GCG **29** 22:26:24.1±0.5, 13.°31N×89.°90W, h22km±5km, MD3.7*

ISC 29 22:26:21.5±1.7, 13.°24N±0.°10×89.°69W±0.°04, h28km±12km, n32, σ0842/57, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEVE	**Cerro Verde**	**0.59**	**6**	*eP*	**Pb**	**22 26 33.9**	**+0.3**
CEVE				*eS*	**Sn**	**22 26 43.0**	**-0.2**
CEVE				IAML		22 26 47.0	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**0.59**	**6**	*eP*	**Pb**	**22 26 33.9**	**+0.3**
CEVE				*eS*	**Sn**	**22 26 43.0**	**-0.2**
CEVE				IAML		22 26 47.0	
	comp=Z,2μm,0.3s						
SBLS	**San Blas**	**0.60**	**6**	*eP*	**Pb**	**22 26 34.1**	**+0.4**
SBLS				*eS*	**Sn**	**22 26 43.4**	**0.0**
SBLS	**San Blas**	**0.60**	**6**	*eP*	**Pb**	**22 26 34.1**	**+0.4**
SBLS				*eS*	**Sn**	**22 26 43.4**	**0.0**
SNET	**Serv Nac Est T**	**0.63**	**44**	*eP*	**Pb**	**22 26 34.3**	**+0.3**
SNET				*eS*	**Sn**	**22 26 43.7**	**-0.2**
SNET				IAML		22 26 46.6	
	comp=Z,2μm,0.2s						
SNET	**Serv Nac Est T**	**0.63**	**44**	*eP*	**Pb**	**22 26 34.3**	**+0.3**
SNET				*eS*	**Sn**	**22 26 43.7**	**-0.2**
SNET				IAML		22 26 46.6	
	comp=Z,2μm,0.2s						
BOQS	**Boqueron**	**0.64**	**38**	*eP*	**Pb**	**22 26 34.8**	**+0.6**
BOQS				*eS*	**Sn**	**22 26 43.5**	**-0.7**
SNJE	**San Jose**	**0.64**	**7**	*eP*	**Pb**	**22 26 34.5**	**+0.3**
SNJE				*eS*	**Sn**	**22 26 43.7**	**-0.5**
SNJE	**San Jose**	**0.64**	**7**	*eP*	**Pb**	**22 26 34.5**	**+0.3**
SNJE				*eS*	**Sn**	**22 26 43.7**	**-0.5**
UEES	**Universidad Ev**	**0.65**	**42**	*eP*	**Pb**	**22 26 34.8**	**+0.4**
UEES				*eS*	**Sn**	**22 26 44.2**	**-0.1**
UEES				IAML		22 26 47.1	
	comp=Z,2μm,0.1s						
UEES	**Universidad Ev**	**0.65**	**42**	*eP*	**Pb**	**22 26 34.8**	**+0.4**
UEES				*eS*	**Sn**	**22 26 44.2**	**-0.1**
UEES				IAML		22 26 47.1	
	comp=Z,2μm,0.1s						
LFRS	**El Faro**	**0.72**	**57**	*eP*	**Pb**	**22 26 35.6**	**+0.1**
LFRS				*eS*	**Sn**	**22 26 46.1**	**0.0**
LFU	**La Fuente**	**0.76**	**47**	*eP*	**Pb**	**22 26 36.1**	**0.0**
LFU	**La Fuente**	**0.76**	**47**	*eP*	**Pb**	**22 26 36.1**	**0.0**
LBRS	**Las Brisas**	**0.80**	**51**	*eP*	**Pb**	**22 26 36.6**	**-0.3**
LBRS				*eS*	**Sn**	**22 26 48.6**	**+0.5**
PAVA	**Las Pavas**	**0.87**	**57**	*eP*	**Pb**	**22 26 37.8**	**-0.3**
PAVA				*eS*	**Sn**	**22 26 50.2**	**+0.4**
PAVA	**Las Pavas**	**0.87**	**57**	*eP*	**Pb**	**22 26 37.8**	**-0.3**
PAVA				*eS*	**Sn**	**22 26 50.2**	**+0.4**
COEG	**Centro de Oper**	**0.87**	**64**	*eP*	**Pb**	**22 26 37.2**	**-0.9**
COEB	**Comit de Eme**	**1.16**	**77**	*eP*	**Pn**	**22 26 41.9**	**-0.1**
COEB				*eS*	**Sb**	**22 26 57.6**	**+0.1**
TECA	**Tecapa**	**1.18**	**77**	*eP*	**Pn**	**22 26 42.2**	**-0.1**
TECA				*eS*	**Sb**	**22 26 58.6**	**+0.3**
TECA	**Tecapa**	**1.18**	**77**	*eP*	**Pn**	**22 26 42.2**	**-0.1**
TECA				*eS*	**Sb**	**22 26 58.6**	**+0.3**
IXG	**Ixpaco**	**1.19**	**322**	*eP*	**Pn**	**22 26 42.4**	**0.0**
IXG				*eS*	**Sb**	**22 26 57.4**	**-1.1**
IXG	**Ixpaco**	**1.19**	**322**	*eP*	**Pn**	**22 26 42.4**	**0.0**
IXG				*eS*	**Sb**	**22 26 57.4**	**-1.1**
PACA	**Pacayal**	**1.35**	**80**	*eP*	**Pn**	**22 26 44.6**	**0.0**
PACA	**Pacayal**	**1.35**	**80**	*eP*	**Pn**	**22 26 44.6**	**0.0**
LCY	**Lacayo**	**1.37**	**82**	*eP*	**Pn**	**22 26 45.3**	**+0.4**
LCY	**Lacayo**	**1.37**	**82**	*eP*	**Pn**	**22 26 45.3**	**+0.4**
FUG	**Fuego 3**	**1.65**	**317**	*eP*	**Pn**	**22 26 49.6**	**+0.8**
FUG				*eS*	**Sn**	**22 27 09.1**	**-0.1**
FUG	**Fuego 3**	**1.65**	**317**	*eP*	**Pn**	**22 26 49.6**	**+0.8**
FUG				*eS*	**Sn**	**22 27 09.1**	**-0.1**
LCND	**La Caada**	**1.75**	**87**	*eP*	**Pn**	**22 26 50.1**	**0.0**
LCND				*eS*	**Sb**	**22 27 14.3**	**-0.2**
LCND	**La Caada**	**1.75**	**87**	*eP*	**Pn**	**22 26 50.1**	**0.0**
LCND				*eS*	**Sb**	**22 27 14.3**	**-0.2**
STG3	**Santiaguito 3,**	**2.34**	**309**	*eP*	**Pn**	**22 26 59.1**	**+0.7**
STG3				*eS*	**Sn**	**22 27 26.1**	**-0.3**

IDC 29 22:27:53.3±1.4, 4.°12S×128.°73E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.5/44, mbtmp3.7/5, ML3.6/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/26, Error ellipse: s-maj=49.5km s-min=26.3km az=83.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.10**	**38**	Pn	Pn	22 28 58.2	+0.9
	6.7nm,0.3s,baz=234,slow=7.6,SNR=16						
SIJI				Sn	Sn	22 29 43.6	-2.4
	3.4nm,0.3s,baz=212,slow=22,SNR=7.0						
BATI	**Baumata**	**7.87**	**219**	LR	LR	22 32 45.8	
	comp=Z,116nm,18.2s,baz=206,slow=37						
WRA	**Warramunga Arr**	**16.65**	**161**	Pn	Pn	22 31 46.4	-1.9
	0.2nm,0.3s,baz=344,slow=12,SNR=9.6						
ASAR	**Alice Springs**	**20.07**	**166**	P	Pn	22 32 29.6	-0.6
	2.7nm,0.6s,baz=346,slow=10.0,SNR=47						
MKAR	**Makanchi Array**	**65.14**	**327**	P	P	22 38 36.4	+0.2
	0.2nm,0.4s,baz=119,slow=8.6,SNR=6.1						
ILAR	**Eielson Array**	**91.29**	**25**	P	P	22 40 59.8	-0.7
	0.2nm,0.9s,baz=279,slow=6.0,SNR=2.1						

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*IDC **29** 23:08:46.5±4.3, 2.°40S×130.°93E, h0km, mb3.4/2, mb1 3.8/3, mb1mx3.4/23, mbtmp3.5/3, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/16, Error ellipse: s-maj=299.2km s-min=29.5km az=72.0*
*ISCJB **29** 23:08:50.9±0.5, 3.°16S±0.°06×129.°25E±0.°07, h35km, mb3.1/1, MS3.2/1, Error ellipse: s-maj=10.8km s-min=7.7km az=155.2*
*NEIC **29** 23:08:53.8±1.6, 3.°17S±0.°08×129.°30E±0.°04, h53km±9km, mb4.3/8*

ISC 29 23:08:52.8±0.6, 3.°19S±0.°08×129.°32E±0.°09, h35km, n20, σ1921/18, mb4.3/4, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.94**	**85**		**Pn**	**23 09 38.0**	**+1.0**
SOEI	**Soe**	**8.23**	**217**	Pn	**Pn**	**23 10 50.6**	**+0.8**
DAV	**Davao City (W)**	**10.85**	**340**	Pn	**Pn**	**23 11 27.3**	**+1.6**
KNRA	**Kununurra**	**12.42**	**182**	Pn	**Pn**	**23 11 48.4**	**+1.1**
BKB	**Balikpapan**	**12.56**	**278**		**Pn**	**23 11 49.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**15.25**	**193**	Pn	**Pn**	**23 12 25.6**	**0.0**
WRA	**Warramunga Arr**	**17.36**	**164**	P	**Pn**	**23 12 53.8**	**+1.4**
	0.2nm,0.3s,baz=349,slow=12,SNR=11						
COEN	**Coen**	**17.37**	**129**		**Pn**	**23 12 53.0**	**+0.3**
KSM	**Kuching**	**19.56**	**283**	P	**P**	**23 13 18.2**	**+0.4**
KSM				IAmb	IAmb	23 13 27.7	
	comp=Z,18nm,1.0s						
ASAR	**Alice Springs**	**20.84**	**168**	P	Pn	23 13 35.9	+1.7
	comp=Z,1.9nm,0.6s,baz=347,slow=10,SNR=11						
YULB	**Yu-li**	**27.55**	**344**	P	**P**	**23 14 35.6**	**-0.9**
YHNB	**Yeheng**	**28.75**	**345**	P	**P**	**23 14 46.7**	**-0.6**
BBOO	**Buckleboo**	**30.14**	**169**	P	**P**	**23 14 59.1**	**-0.4**
BBOO				IAmb	IAmb	23 15 04.9	
	comp=Z,7.7nm,1.1s						
SLVN	**Son La**	**34.83**	**316**	P	**P**	**23 15 39.1**	**-1.6**
SLVN				IAmb	IAmb	23 15 53.6	
	comp=Z,4.3nm,1.1s						
BHW	**Baring Head**	**55.78**	**140**	P	**P**	**23 18 27.2**	**+0.8**
PLWZ	**Palliser**	**56.12**	**139**	P	**P**	**23 18 26.3**	**-2.5**
PETK	**Petropavlovsk-**	**60.95**	**19**	LR	LR	23 45 23.5	
	comp=Z,17nm,18.0s,baz=60,slow=37						
MKAR	**Makanchi Array**	**64.69**	**326**	P	**P**	**23 19 28.3**	**+1.0**
	comp=Z,0.1nm,0.5s,baz=112,slow=8.3,SNR=2.4						
QSPA	**South Pole Qui**	**86.76**	**180**	P	**P**	**23 21 32.1**	**-1.1**
TRF	**Thorofare Moun**	**88.54**	**26**	P	**P**	**23 21 40.8**	**-1.0**
TRF				IAmb	IAmb	23 21 41.2	
	comp=Z,2.4nm,1.2s						

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*BEO **29** 23:33:58.4±3.3, 41.°10N×13.°76E, h82km±3km, ML3.3/12*
*PRU **29** 23:34:02.1±0.0, 41.°36N×14.°56E, h14km*

ROM 29 23:34:01.2±0.1, 41.°393N±0.°004×14.°427E±0.°005, h20km±1km, ML2.9/2, 4C-5D, Error ellipse: s-maj=0.5km s-min=0.1km az=207.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAGA	**Valle Agricola**	**0.15**	**279**	P	Pg	23 34 05.8	+0.2
VAGA				S	Sg	23 34 08.9	+0.2
VAGA				AML	AML		
	comp=N,29350μm,0.2s						
VAGA				AML	AML		
	comp=N,30700μm,0.2s						
VAGA				AML	AML		
	comp=E,16400μm,0.7s						
VAGA				AML	AML		
	comp=E,17200μm,0.7s						
VAGA				AML	AML		
	comp=N,30700μm,0.2s						
VAGA				AML	AML		
	comp=N,29350μm,0.2s						
BSSO	**Busso**	**0.20**	**39**	P	Pg	23 34 06.6	+0.2
BSSO				AML	AML		
	comp=N,14100μm,0.4s						
BSSO				AML	AML		
	comp=N,5840μm,0.4s						
BSSO				AML	AML		
	comp=N,14050μm,0.4s						
BSSO				AML	AML		
	comp=E,5190μm,1.5s						
BSSO				AML	AML		
	comp=E,11800μm,1.5s						
BSSO				AML	AML		
	comp=N,14050μm,0.4s						
SACR	**S. Croce Del S**	**0.21**	**89**	P	Pg	23 34 06.5	0.0
SACR				S	Sg	23 34 10.2	+0.1
SACR				AML	AML		
	comp=E,10120μm,0.5s						
SACR				AML	AML		
	comp=N,10000μm,0.4s						
SACR				AML	AML		
	comp=E,10100μm,0.5s						
SACR				AML	AML		
	comp=N,10005μm,0.4s						
SACR				AML	AML		
	comp=E,10425μm,0.5s						
SACR				AML	AML		
	comp=N,9990μm,0.4s						
SACR				AML	AML		
	comp=N,10490μm,0.4s						
SACR				AML	AML		
	comp=E,10085μm,0.5s						
PIGN	**Pignataro Magg**	**0.27**	**224**	P	Pg	23 34 07.5	+0.1
PIGN				AML	AML		
	comp=E,4125μm,1.1s						
PIGN				AML	AML		
	comp=N,3005μm,0.3s						
PIGN				AML	AML		
	comp=N,3030μm,0.4s						
PIGN				AML	AML		
	comp=E,4120μm,1.1s						
PIGN				AML	AML		
	comp=E,4130μm,0.4s						
PIGN				AML	AML		
	comp=N,3005μm,0.4s						
MIDA	**Miranda**	**0.28**	**333**	P	Pg	23 34 07.6	0.0
MIDA				S	Sg	23 34 12.4	+0.4
MIDA				AML	AML		
	comp=N,2710μm,0.4s						
MIDA				AML	AML		
	comp=E,3815μm,0.4s						
MIDA				AML	AML		
	comp=N,2885μm,0.4s						
MIDA				AML	AML		
	comp=E,3740μm,0.4s						
PSB1	**Pescosannita**	**0.34**	**120**	P	Pb	23 34 08.5	-0.1
PSB1				S	Sb	23 34 13.7	+0.2
PSB1				AML	AML		
	comp=E,3175μm,0.8s						
PSB1				AML	AML		
	comp=E,3135μm,0.7s						
PSB1				AML	AML		
	comp=N,2835μm,0.9s						
PSB1				AML	AML		
	comp=N,2965μm,0.9s						
CERA	**Filignano**	**0.37**	**304**	P	Pb	23 34 09.3	+0.1
CERA				AML	AML		
	comp=E,3225μm,0.7s						
CERA				AML	AML		
	comp=E,3335μm,0.4s						
CERA				AML	AML		
	comp=N,3770μm,0.4s						
CERA				AML	AML		
	comp=N,3680μm,0.4s						
RNI2	**Rionero Sannit**	**0.37**	**326**	P	Pb	23 34 09.4	+0.1
RNI2				S	Sg	23 34 14.5	0.0
RNI2				AML	AML		
	comp=N,2525μm,0.3s						
RNI2				AML	AML		
	comp=N,2585μm,0.3s						
RNI2				AML	AML		
	comp=N,2520μm,0.3s						
RNI2				AML	AML		
	comp=E,3755μm,0.7s						
RNI2				AML	AML		
	comp=E,3660μm,0.7s						
PAOL	**Paolisi**	**0.38**	**164**	P	Pg	23 34 09.0	-0.2
PAOL				AML	AML		
	comp=N,2635μm,0.2s						
PAOL				AML	AML		
	comp=E,2935μm,0.3s						
PAOL				AML	AML		
	comp=N,2830μm,0.2s						
PAOL				AML	AML		
	comp=E,2800μm,0.3s						
PAOL				AML	AML		
	comp=N,2640μm,0.2s						
GATE	**Gambatesa**	**0.38**	**72**	P	Pb	23 34 09.8	+0.4
GATE				AML	AML		
	comp=E,2450μm,0.7s						
GATE				AML	AML		
	comp=E,2445μm,0.7s						
GATE				AML	AML		
	comp=E,1475μm,1.2s						
GATE				AML	AML		
	comp=N,2010μm,0.7s						
GATE				AML	AML		
	comp=N,2030μm,0.7s						
TRIV	**Trivento**	**0.39**	**14**	P	Pb	23 34 09.6	+0.1
TRIV				S	Sb	23 34 15.5	+0.4
TRIV				AML	AML		
	comp=E,2920μm,0.4s						
TRIV				AML	AML		
	comp=N,2115μm,0.3s						
CIGN	**Sant'Elia a Pi**	**0.44**	**54**	P	Pb	23 34 10.6	+0.1
CIGN				S	Sb	23 34 17.3	+0.6
CIGN				AML	AML		
	comp=N,1200μm,1.6s						
CIGN				AML	AML		
	comp=E,1253μm,1.4s						
CIGN				AML	AML		
	comp=E,1252μm,1.4s						
MODR	**Mondragone**	**0.48**	**239**	P	Pb	23 34 11.3	+0.3
MODR				AML	AML		
	comp=E,4140μm,0.6s						
MODR				AML	AML		
	comp=N,3680μm,1.0s						
MRB1	**Monte Rocchett**	**0.49**	**123**	AML	AML		
	comp=N,3200μm,0.5s						
MRB1				AML	AML		
	comp=E,2480μm,0.6s						
MRB1				AML	AML		
	comp=E,2475μm,0.6s						
MRB1				AML	AML		
	comp=E,2440μm,0.6s						
MRB1				AML	AML		
	comp=N,3230μm,0.5s						
MOCO	**Biccari - m.te**	**0.55**	**92**	P	Pg	23 34 12.6	+0.2
MOCO				AML	AML		
	comp=E,1011μm,0.4s						
MOCO				AML	AML		
	comp=N,487μm,0.5s						
MOCO				AML	AML		
	comp=N,478μm,0.5s						
MOCO				AML	AML		
	comp=E,1010μm,0.4s						
MOCO				AML	AML		
	comp=N,488μm,0.5s						
MOCO				AML	AML		
	comp=E,996μm,0.4s						
FRES	**Fresagrandinar**	**0.61**	**17**	P	Pb	23 34 12.8	-0.3
FRES				AML	AML		
	comp=N,556μm,0.4s						
FRES				AML	AML		
	comp=N,555μm,0.4s						
FRES				AML	AML		
	comp=E,911μm,0.9s						
MELA	**Melanico ??? S**	**0.61**	**59**	P	Pb	23 34 12.7	-0.5
MELA				AML	AML		
	comp=E,2570μm,0.4s						
MELA				AML	AML		
	comp=N,2750μm,0.4s						
MELA				AML	AML		
	comp=E,2670μm,0.3s						
MELA				AML	AML		
	comp=E,2735μm,0.3s						
POFI	**Posta Fibreno**	**0.63**	**301**	P	Pb	23 34 13.4	0.0
POFI				AML	AML		
	comp=E,928μm,0.9s						
POFI				AML	AML		
	comp=E,964μm,0.5s						
POFI				AML	AML		
	comp=E,928μm,0.9s						
POFI				AML	AML		
	comp=N,582μm,0.5s						
POFI				AML	AML		
	comp=N,588μm,0.4s						
LPEL	**Lama dei Pelig**	**0.68**	**344**	P	Pb	23 34 13.9	-0.4
LPEL				AML	AML		
	comp=N,1400μm,0.8s						
LPEL				AML	AML		
	comp=E,1500μm,0.3s						
CAFE	**Carife**	**0.71**	**121**	P	Pb	23 34 14.8	-0.2
CAFE				AML	AML		
	comp=E,1034μm,0.4s						
CAFE				AML	AML		
	comp=N,690μm,0.8s						
CAFE				AML	AML		
	comp=E,1039μm,0.4s						
CAFE				AML	AML		
	comp=N,658μm,0.5s						
CAFE				AML	AML		
	comp=N,690μm,0.7s						
CAFE				AML	AML		
	comp=E,1036μm,0.4s						
INTR	**Introdacqua**	**0.73**	**328**	P	Pb	23 34 14.9	-0.4
INTR				AML	AML		
	comp=E,2600μm,0.5s						
INTR				AML	AML		
	comp=N,2305μm,0.5s						
SGTA	**Sant Agata di**	**0.75**	**110**	P	Pb	23 34 15.7	0.0
SGTA				AML	AML		
	comp=E,706μm,0.5s						
SGTA				AML	AML		
	comp=N,700μm,0.4s						
SGTA				AML	AML		
	comp=E,763μm,0.5s						
SGTA				AML	AML		
	comp=N,784μm,0.4s						
SGTA				AML	AML		
	comp=E,764μm,0.5s						
SGTA				AML	AML		
	comp=N,784μm,0.4s						
SNAL	**S. Angelo Dei**	**0.75**	**128**	P	Pg	23 34 16.2	+0.2
SNAL				AML	AML		
	comp=E,679μm,1.0s						
SNAL				AML	AML		
	comp=E,680μm,1.0s						
SNAL				AML	AML		
	comp=N,924μm,0.9s						
VVLD	**Villa Vallelon**	**0.77**	**309**	P	Pb	23 34 15.8	-0.2
VVLD				AML	AML		
	comp=E,934μm,0.6s						
VVLD				AML	AML		
	comp=N,1550μm,0.9s						
VVLD				AML	AML		
	comp=E,938μm,0.6s						
MCRV	**Calabrutti - M**	**0.83**	**137**	P	Pn	23 34 17.9	0.0
MCRV				AML	AML		
	comp=E,1165μm,0.4s						
MCRV				AML	AML		
	comp=N,1244μm,0.3s						
CAFR	**Castel Frentan**	**0.84**	**356**	P	Pb	23 34 16.8	-0.3
CAFR				AML	AML		
	comp=E,2715μm,0.5s						
CAFR				AML	AML		
	comp=N,3725μm,0.4s						
GIUL	**Giuliano Di Ro**	**0.90**	**281**	P	Pn	23 34 19.2	+0.5
GIUL				AML	AML		
	comp=E,363μm,0.6s						
GIUL				AML	AML		
	comp=N,343μm,0.4s						
GIUL				AML	AML		
	comp=E,364μm,0.6s						
GUAR	**Guarcino**	**0.93**	**296**	P	Pg	23 34 20.2	+1.0
GUAR				AML	AML		
	comp=N,832μm,0.4s						
GUAR				AML	AML		
	comp=E,498μm,0.6s						
GUAR				AML	AML		
	comp=N,831μm,0.4s						
VENT	**Ventotene**	**0.97**	**232**	P	Pb	23 34 19.4	+0.1
VENT				AML	AML		
	comp=N,1202μm,1.5s						
VENT				AML	AML		
	comp=E,1125μm,0.4s						
VENT				AML	AML		
	comp=N,1202μm,1.5s						
PTQR	**Pietraquaria**	**0.99**	**310**	P	Pg	23 34 20.6	0.0
PTQR				AML	AML		
	comp=E,265μm,1.1s						
PTQR				AML	AML		
	comp=N,278μm,0.8s						
VULT	**Monte Vulture**	**1.00**	**116**	P	Pg	23 34 21.3	+0.7
VULT				AML	AML		
	comp=N,1335μm,0.5s						
VULT				AML	AML		
	comp=E,910μm,0.3s						
VULT				AML	AML		
	comp=N,1345μm,0.5s						
VULT				AML	AML		
	comp=E,944μm,1.3s						
MRLC	**Muro Lucano**	**1.02**	**128**	P	Pg	23 34 20.9	-0.2
MRLC				AML	AML		
	comp=N,484μm,0.6s						
MRLC				AML	AML		
	comp=E,472μm,0.6s						
SGRT	**San Giovanni R**	**1.05**	**69**	P	Pn	23 34 21.0	0.0
SGRT				AML	AML		
	comp=E,1995μm,0.8s						
SGRT				AML	AML		
	comp=N,1700μm,0.8s						
FAGN	**Fagnano**	**1.08**	**324**	P	Pg	23 34 21.8	-0.3
FAGN				AML	AML		
	comp=N,1075μm,0.6s						
FAGN				AML	AML		
	comp=E,1405μm,0.6s						
VCEL	**Villa Celiera**	**1.09**	**337**	P	Pg	23 34 23.9	+1.4
VCEL				AML	AML		
	comp=E,1165μm,1.0s						
VCEL				AML	AML		
	comp=N,1044μm,1.4s						
LATB	**Latina**	**1.11**	**276**	P	Pb	23 34 21.8	+0.1
LATB				AML	AML		
	comp=E,146μm,0.6s						
LATB				AML	AML		
	comp=N,128μm,0.6s						
CDRU	**Civita di Ruta**	**1.12**	**143**	P	Pb	23 34 22.1	+0.1
CDRU				AML	AML		
	comp=E,328μm,0.6s						
CDRU				AML	AML		
	comp=N,244μm,0.5s						
CDRU				AML	AML		
	comp=E,328μm,0.6s						
MSAG	**Monte S. Angel**	**1.16**	**74**	P	Pb	23 34 23.0	+0.4
MSAG				AML	AML		
	comp=E,1310μm,1.2s						

MSAG					AML	AML					
	comp=E,1230µm,1.1s										
MSAG					AML	AML					
	comp=N,2165µm,0.5s										
MSAG					AML	AML					
	comp=N,2140µm,0.5s										
CERT	**Certeto**	**1.22**	**298**		P	Pg	23 34 24.4	-0.4			
CERT					AML	AML					
	comp=N,233µm,1.4s										
CERT					AML	AML					
	comp=E,292µm,0.6s										
AQU	**L'Aquila**	**1.23**	**322**	*e*Pn		Pg	23 34 25.3	+0.3			
CMPR	**Campora**	**1.26**	**148**		P	Pg	23 34 26.0	+0.4			
CMPR					AML	AML					
	comp=N,235µm,1.0s										
CMPR					AML	AML					
	comp=E,218µm,0.8s										
LAV9	**Lanuvio**	**1.33**	**283**		S	Sg	23 34 44.0	-0.2			
RDP	**Rocca di Papa**	**1.33**	**286**		P	Pb	23 34 25.8	+0.2			
RDP					AML	AML					
	comp=N,664µm,1.6s										
RDP					AML	AML					
	comp=E,645µm,1.0s										
CAMP	**Campotosto**	**1.37**	**327**		P	Pg	23 34 27.8	+0.1			
CAMP					AML	AML					
	comp=E,156µm,1.2s										
CAMP					AML	AML					
	comp=N,304µm,0.7s										
TERO	**Teramo**	**1.37**	**334**		P	Pg	23 34 27.5	-0.2			
TERO					AML	AML					
	comp=E,98µm,1.2s										
TERO					AML	AML					
	comp=N,144µm,0.6s										
MA9	**Marino**	**1.38**	**286**		S	Sg	23 34 50.0	+4.1			
SMA1	**SAN MARTINO**	**1.48**	**327**		P	Pg	23 34 29.5	-0.3			
SMA1					AML	AML					
	comp=N,410µm,1.1s										
SMA1					AML	AML					
	comp=E,308µm,0.6s										
MCEL	**Monticello**	**1.49**	**135**		P	Pg	23 34 30.4	+0.4			
MTSN	**Montesano sull**	**1.51**	**138**		P	Pb	23 34 29.2	+0.6			
MTSN					AML	AML					
	comp=N,190µm,0.7s										
MTSN					AML	AML					
	comp=E,322µm,0.6s										
MGR	**Morigerati**	**1.52**	**145**		P	Pn	23 34 27.4	+0.1			
MGR					AML	AML					
	comp=E,149µm,0.9s										
MGR					AML	AML					
	comp=N,176µm,1.3s										
OFFI	**Offida**	**1.64**	**341**		P	Pg	23 34 34.2	+1.5			
AMUR	**Altamura**	**1.71**	**106**		P	Pb	23 34 31.5	-0.5			
AMUR					AML	AML					
	comp=E,184µm,0.5s										
AMUR					AML	AML					
	comp=N,241µm,0.6s										
ARRO	**Arrone**	**1.71**	**314**		P	Pb	23 34 32.3	+0.3			
ARRO					AML	AML					
	comp=N,98µm,0.2s										
ARRO					AML	AML					
	comp=E,113µm,1.1s										
SG1	**Sgolgore (BA)**	**1.79**	**107**	*e*Pn		Pn	23 34 32.1	+1.1			
BAI	**Bari**	**1.87**	**98**	*e*Pn		Pb	23 34 33.7	-1.0			
T0721	**Laino Castello**	**1.87**	**140**		P	Pb	23 34 34.3	-0.5			
MATE	**Matera**	**1.88**	**113**	⇓P		Pn	23 34 33.0	+0.9			
MATE					AML	AML	23 35 10.8				
FDMO	**Fiordimonte**	**1.92**	**329**		P	Pb	23 34 36.0	+0.4			
FDMO					AML	AML					
	comp=N,138µm,0.8s										
FDMO					AML	AML					
	comp=E,112µm,0.9s										
CSP1	**Cessapalombo**	**1.93**	**332**		P	Pb	23 34 35.8	+0.1			
CESI	**CESI - Serrava**	**1.97**	**325**		P	Pb	23 34 36.2	-0.2			
CESI					AML	AML					
	comp=E,34µm,0.6s										
CESI					AML	AML					
	comp=N,75µm,0.7s										
LTRZ	**Laterza**	**1.98**	**113**		P	Pb	23 34 35.1	-1.4			
NOCI	**Noci**	**2.08**	**106**		P	Pb	23 34 37.1	-1.3			
NOCI					AML	AML					
	comp=E,148µm,1.4s										
NOCI					AML	AML					
	comp=N,229µm,0.8s										
EL6	**Elcito**	**2.17**	**334**		P	Pb	23 34 40.6	+0.8			
MASS	**Massafra**	**2.19**	**109**	*e*Pn		Pb	23 34 39.2	-1.0			
HVAR	**Hvar**	**2.33**	**39**	*e*Pn		Pn	23 34 39.5	+1.1			
HVAR					Sn	Sn	23 35 08.2	+1.6			
ARVD	**Arcevia**	**2.37**	**333**		P	Pb	23 34 42.2	-1.1			
ARVD					AML	AML					
	comp=E,56µm,0.8s										
ARVD					AML	AML					
	comp=N,55µm,1.5s										
ZIRJ	**Zirje**	**2.43**	**21**	*i* Pn		Pn	23 34 41.5	+1.7			
ZIRJ					Sn	Sn	23 35 10.8	+1.8			
DUGI	**Dugi Otok**	**2.64**	**10**	*e*Pn		Pn	23 34 43.3	+0.6			
DUGI					Sn	Sn	23 35 15.8	+1.6			
MORI	**Morici**	**2.65**	**20**	*e*Pn		Pn	23 34 44.0	+1.2			
MORI					Sn	Sn	23 35 16.0	+1.7			
MAKA	**Makarska**	**2.70**	**45**	*e*Pn		Pn	23 34 44.6	+1.2			
STON	**Ston**	**2.85**	**58**	*e*Pn		Pn	23 34 46.7	+1.2			
STON					Sn	Sn	23 35 21.7	+2.5			
STON	**Ston**	**2.85**	**58**	*e*Pn		Pn	23 34 47.5	+2.0			
STON					eSn	Sn	23 35 21.8	+2.6			
STON	**Ston**	**2.85**	**58**	*e*Pn		Pn	23 34 46.9	+1.4			
STON	**Ston**	**2.85**	**58**	P		Pn	23 34 46.9	+1.4			
STON					AML	AML					
	comp=E,65µm,0.5s										
STON					AML	AML					
	comp=N,67µm,0.8s										
LADO	**San Nicola del**	**2.87**	**136**		S	Sg	23 35 30.0	-3.5			
RICI	**Ricice**	**2.90**	**43**	ePn			23 34 47.7				
KIJV	**Kijevo**	**2.99**	**29**	*e*Pn		Pn	23 34 49.4	+1.9			
KIJV					Sn	Sn	23 35 25.9	+3.1			
DBRK	**Dubrovnik**	**3.05**	**64**	*e*Pn		Pn	23 34 50.0	+1.7			
DBRK					Sn	Sn	23 35 25.6	+1.3			
NVLJ	**Novalja**	**3.19**	**6**	*i* Pn		Pn	23 34 51.6	+1.4			
TREB	**Trebinje**	**3.21**	**64**	*e*Pn		Pn	23 34 52.5	+2.0			
TREB					eSn	Sn	23 35 29.2	+1.1			
TREB	**Trebinje**	**3.21**	**64**	*e*Pn		Pn	23 34 52.4	+1.9			
HCY	**Herceg Novi**	**3.21**	**70**	*e*Pn		Pn	23 34 51.8	+1.2			
UDBI	**Udbina**	**3.28**	**17**	*e*Pn		Pn	23 34 53.7	+2.1			
UDBI					Sn	Sn	23 35 33.6	+3.5			
BRY	**Bratogost**	**3.41**	**62**	*e*Pn		Pn	23 34 55.2	+1.8			
MGRS	**Mrkonjic Grad**	**3.60**	**32**	*e*Pn		Pn	23 34 58.8	+2.9			
DRME	**Dracevica, Mon**	**3.65**	**76**	*e*Pn		Pn	23 34 58.1	+1.6			
PDG	**Podgorica**	**3.75**	**72**	*e*Pn		Pn	23 34 59.8	+1.9			
PDG					eSn	Sn	23 35 41.4	-0.1			
PDG	**Podgorica**	**3.75**	**72**	*e*Pn		Pn	23 34 59.8	+1.9			
PDG	**Podgorica**	**3.75**	**72**	⇑P		Pn	23 34 59.9	+2.0			
PDG					AML	AML	23 36 11.9				
PDG	**Podgorica**	**3.75**	**72**	P		Pn	23 35 00.7	+2.8			
PDG					AML	AML					
	comp=N,71µm,0.6s										
PDG					AML	AML					
	comp=N,41µm,0.6s										
PDG					AML	AML					
	comp=E,45µm,0.4s										
PDG					AML	AML					
	comp=E,75µm,1.6s										
UPM	**Unac-Piva**	**3.78**	**60**	*e*Pn		Pn	23 35 01.0	+2.4			
BLY	**Banja Luka**	**3.92**	**30**	*e*Pn		Pn	23 35 02.8	+2.6			
BLY	**Banja Luka**	**3.92**	**30**	*e*Pn		Pn	23 35 02.3	+2.1			
BLY	**Banja Luka**	**3.92**	**30**	⇑P		Pn	23 35 02.6	+2.4			
BLY					AML	AML	23 36 17.6				
TIR	**Tirane**	**4.09**	**89**	⇓P		Pn	23 35 04.6	+2.0			
TIR					AML	AML	23 35 55.6				
PUK	**Puka**	**4.14**	**79**	P		Pn	23 35 06.0	+2.6			
PUK					AML	AML					
	comp=E,45µm,0.4s										
PUK					AML	AML					
	comp=N,62µm,1.4s										
RUDO	**Rudo**	**4.28**	**57**	*e*Pn		Pn	23 35 07.4	+2.2			
HAPS	**Han Pijesak,BI**	**4.28**	**50**	*e*Pn		Pn	23 35 07.0	+1.6			
HAPS					eSn	Sn	23 35 54.7	-0.1			
HAPS	**Han Pijesak,BI**	**4.28**	**50**	*e*Pn		Pn	23 35 07.1	+1.7			
OZLJ	**Ozalj**	**4.29**	**10**	*e*Pn		Pn	23 35 07.3	+2.0			
VSL	**Villasalto**	**4.29**	**245**	P		Pn	23 35 05.0	-0.4			
CEY	**Cerknica**	**4.34**	**360**	*e*Pn		Pn	23 35 08.6	+2.5			
BBLS	**Lazići**	**4.43**	**54**	*e*Pn		Pn	23 35 10.0	+2.7			
BBLS					eSn	Sn	23 35 59.5	+1.2			
BBLS	**Lazići**	**4.43**	**54**	*e*Pn		Pn	23 35 09.9	+2.6			
CRES	**Cresnjev**	**4.49**	**9**	*e*Pn		Pn	23 35 09.4	+1.2			
SJES	**Sjenica**	**4.52**	**64**	*e*Pn		Pn	23 35 11.1	+2.5			
SJES					*e*Sn	Sn	23 36 01.6	+1.0			
PTJ	**Puntijarka**	**4.65**	**13**	ePn			23 35 11.6				
IVAS	**Ivanjica**	**4.76**	**61**	*e*Pn		Pn	23 35 14.1	+2.2			
IVAS					*e*Sn	Sn	23 36 06.5	-0.1			
DIVS	**Divibare**	**4.91**	**55**	*e*Pn		Pn	23 35 16.0	+2.0			
DIVS					*e*Sn	Sn	23 36 10.8	+0.6			
DIVS	**Divibare**	**4.91**	**55**	*e*Pn		Pn	23 35 15.8	+1.8			
OBKA	**Obir**	**5.12**	**1**	*i* Pn		Pn	23 35 17.1	+0.3			
	comp=N,0.7nm,0.2s										
OBKA					*i* Sn	Sn	23 36 19.3	+3.9			
	comp=N,1.7nm,0.3s										
TRUS	**Trudelj**	**5.23**	**55**	*e*Pn		Pn	23 35 20.0	+1.7			
GRUS	**Gruza**	**5.27**	**60**	*e*Pn		Pn	23 35 20.6	+1.8			
GRUS					*e*Sn	Sn	23 36 18.9	0.0			
MYKA	**Terra Mystica**	**5.27**	**354**	*i* Pn		Pn	23 35 23.2	+4.4			
	comp=N,1.7nm,0.4s										
MYKA					*i* Sn	Sn	23 36 21.1	+2.2			
	comp=N,2.3nm,0.5s										
SELS	**Selova**	**5.29**	**68**	*e*Pn		Pn	23 35 20.9	+1.8			
FRGS	**Fruska Gora**	**5.44**	**44**	*e*Pn		Pn	23 35 22.3	+1.1			
FRGS					*e*Sn	Sn	23 36 21.6	-1.6			
ABTA	**Abfaltersbach**	**5.53**	**346**	*i* Pn		Pn	23 35 24.6	+2.2			
ABTA					*i* Sn	Sn	23 36 29.0	+3.5			
	comp=N,1.3nm,0.3s										
BARS	**Barje**	**5.68**	**73**	*e*Pn		Pn	23 35 26.6	+2.2			
BOVS	**Bovan**	**5.83**	**65**	*e*Pn		Pn	23 35 29.1	+2.6			
ARSA	**Arzberg**	**5.91**	**7**	*i* Pn		Pn	23 35 28.6	+1.0			
	comp=N,0.8nm,0.4s										
BOSS	**Bosilegrad**	**6.11**	**77**	*e*Pn		Pn	23 35 32.2	+1.9			
WTTA	**Wattenberg**	**6.20**	**342**	*i* Pn		Pn	23 35 33.7	+1.9			
	comp=N,0.7nm,0.2s										
WTTA					*i* Sn	Sn	23 36 45.4	+3.2			
	comp=N,1.3nm,0.3s										
FETA	**Feichten**	**6.22**	**336**	*i* Pn		Pn	23 35 35.1	+3.0			
	comp=N,0.3nm,0.4s										
FETA					*i* Sn	Sn	23 36 46.8	+4.1			
	comp=N,0.6nm,0.4s										
ZAGS	**Zajecar**	**6.25**	**65**	*e*Pn		Pn	23 35 34.0	+1.8			
ZAGS					*e*Sn	Sn	23 36 41.1	-1.9			
SQTA	**Sankt Quirin**	**6.27**	**339**	*i* Pn		Pn	23 35 35.0	+2.3			
	comp=N,1.0nm,0.3s										
SQTA					*i* Sn	Sn	23 36 46.5	+2.8			
	comp=N,1.8nm,0.4s										
WATA	**Walderalm**	**6.28**	**342**	*i* Pn		Pn	23 35 34.8	+1.9			
	comp=N,0.9nm,0.3s										
WATA					*i* Sn	Sn	23 36 48.4	+4.3			
	comp=N,0.7nm,0.2s										
MDVR	**Moldovita**	**6.32**	**55**	⇓P		Pn	23 35 34.8	+1.6			
ZAPS	**Zavoj**	**6.37**	**70**	*e*Pn		Pn	23 35 36.5	+2.6			
ZAPS					*e*Sn	Sn	23 36 44.5	-1.5			
MOTA	**Moosalm**	**6.41**	**339**	*i* Pn		Pn	23 35 37.1	+2.5			
	comp=N,0.4nm,0.3s										
MOTA					*i* Sn	Sn	23 36 50.8	+3.6			
	comp=N,0.7nm,0.4s										
MOA	**Molln**	**6.46**	**359**	*i* Pn		Pn	23 35 35.7	+0.5			
	comp=N,0.4nm,0.2s										
MOA					*i* Sn	Sn	23 36 50.8	+2.6			
	comp=N,2.0nm,0.3s										
CONA	**Conrad Observa**	**6.61**	**8**	*i* Pn		Pn	23 35 38.3	+1.0			
	comp=N,0.5nm,0.3s										
CONA					*i* Sn	Sn	23 36 53.3	+1.1			
	comp=N,0.1nm,0.3s										
VTS	**Vitosha**	**6.67**	**77**	⇑P		Pn	23 35 39.0	+0.7			
BZS	**Buzias**	**6.72**	**49**	⇓P		Pn	23 35 39.5	+0.8			
DAVA	**Damuels**	**6.73**	**333**	*i* Pn		Pn	23 35 40.0	+1.0			
	comp=N,0.5nm,0.2s										
DAVA					*i* Sn	Sn	23 36 58.1	+2.9			
	comp=N,3.9nm,0.6s										
GZR	**Gura Zlata**	**7.28**	**54**	⇓P		Pn	23 35 48.1	+1.7			
VYHS	**Vyhne**	**7.76**	**22**	*e*PN		Pn	23 35 54.6	+1.6			
KHC	**Kasperske Hory**	**7.76**	**356**	*e*PN		Pn	23 35 54.6	+1.5			
KHC					*e*SN	Sn	23 37 18.1	-2.3			
VOIR		**8.72**	**59**	⇑P		Pn	23 36 07.1	+0.8			

*IDC **29** 23:34:54.2±1.1,20˚.47N×146˚.61E,h0km,mb3.8/7,*
mb1 4.0/7,mb1mx3.6/35,mbtmp3.8/7,Error ellipse:
s-maj=39.1km s-min=28.2km az=93.0
*ISCJB **29** 23:34:57.8±1.0,20˚.5N±0˚.2×146˚.5E±0˚.3,h34km,mb3.7/7,*
Error ellipse: s-maj=33.9km s-min=23.8km az=1.6

ISC 29 23:34:59.4±1.1,20˚.5N±0˚.2×146˚.6E±0˚.3,h34km,n13,
σ1s00/7,mb3.7/7,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**19.06**	**92**	T	T	23 57 33.1	
	baz=284						
H11S1	**WAKE ISLAND Hy**	**19.07**	**92**	T	T	23 57 31.5	
	baz=284						
H11S2	**WAKE ISLAND Hy**	**19.07**	**92**	T	T	23 57 34.9	
	baz=284						
H11N1	**WAKE ISLAND Hy**	**19.09**	**89**	T	T	23 57 35.1	
	baz=278						
H11N2	**WAKE ISLAND Hy**	**19.09**	**89**	T	T	23 57 35.3	
	baz=278						
H11N3	**WAKE ISLAND Hy**	**19.11**	**89**	T	T	23 57 35.5	
	baz=278						
WRA	**Warramunga Arr**	**41.90**	**197**	P	**P**	**23 42 46.7**	**0.0**
	0.4nm,0.7s,baz=14,slow=8.2,SNR=2.6						
ZALV	**Zalesovo Beam**	**57.15**	**322**	P	**P**	**23 44 42.4**	**-0.2**
	0.9nm,0.5s,baz=106,slow=9.4,SNR=5.0						
MKAR	**Makanchi Array**	**57.87**	**313**	P	**P**	**23 44 48.7**	**+0.8**
	0.2nm,0.5s,baz=85,slow=8.7,SNR=3.8						
NRIK	**Noril'sk**	**60.26**	**339**	P	**P**	**23 45 04.8**	**+0.8**
	1.1nm,0.5s,baz=117,slow=11,SNR=3.8						
YKA	**Yellowknife Ar**	**76.06**	**28**	P	**P**	**23 46 42.5**	**-0.6**
	0.5nm,0.9s,baz=284,slow=5.0,SNR=4.1						
NVAR	**Mina Array Bea**	**81.41**	**52**	P	**P**	**23 47 14.2**	**+0.8**
	0.5nm,0.6s,baz=280,slow=5.6,SNR=6.4						
FINES	**FINESS Array B**	**85.65**	**335**	P	**P**	**23 47 33.0**	**-1.3**
	1.8nm,0.9s,baz=37,slow=7.1,SNR=5.9						

*ISK **30** 00:02:47.0,37˚.86N×38˚.34E,h8km,ML3.5/35*
*DDA **30** 00:02:47.6,37˚.85N×38˚.35E,h16km±1km,MW3.7*

ISC 30 00:02:47.9±1.0,37˚.85N±0˚.02×38˚.33E±0˚.02,h7km±9km,
n95,σ0s96/112,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	**Bozova**	**0.38**	**184**	*i* PA	**Pg**	**00 02 55.7**	**+0.5**
ATAB				IAML		00 03 02.0	
	comp=E,2µm,0.7s						
MALT	**Malatya**	**0.47**	**9**	PG	**Pg**	**00 02 56.6**	**-0.5**
MALT				SG	**Sg**	**00 03 03.2**	**-0.1**
AKCD	**Akcadag**	**0.55**	**325**	*i* PA	**Pg**	**00 02 58.6**	**+0.1**
AKCD				*i* S	**Sg**	**00 03 06.5**	**+0.7**
AKCD				IAML		00 03 07.0	
	comp=N,10µm,0.5s						
AKCD				IAML		00 03 08.0	
	comp=E,6µm,0.2s						
URFA	**Urfa**	**0.56**	**136**	PG	**Pg**	**00 02 58.8**	**0.0**
URFA				SG	**Sg**	**00 03 06.2**	**+0.1**
GZT	**Gaziantep**	**0.78**	**231**	*i* PA	**Pg**	**00 03 03.4**	**+0.4**
GZT				*i* S	**Sb**	**00 03 14.2**	**-0.6**
GZT				IAML		00 03 17.0	
	comp=N,3µm,0.2s						
GZT				IAML		00 03 17.0	
	comp=E,3µm,0.4s						
ELZG	**Elazig**	**0.83**	**38**	*i* PA	**Pg**	**00 03 03.1**	**-0.8**
ELZG				IAML		00 03 22.0	
	comp=E,1µm,0.5s						
ELZG				IAML		00 03 24.0	
	comp=N,1µm,0.6s						
SANL	**SANLIURFA_Merk**	**0.85**	**142**	*i* PA	**Pg**	**00 03 04.3**	**-0.1**
SANL				*i* S	**Sb**	**00 03 15.9**	**-0.9**
SANL				IAML		00 03 19.0	
	comp=E,2µm,0.4s						
SANL				IAML		00 03 21.0	
	comp=N,2µm,0.4s						
DARE	**Darende-Malaty**	**0.98**	**318**	PG	**Pg**	**00 03 06.1**	**-0.7**
DARE				SG	**Sg**	**00 03 19.9**	**+0.3**
ELBS	**KAHRAMANMARAS**	**1.06**	**297**	*i* PA	**Pg**	**00 03 07.7**	**-0.5**
ELBS				IAML		00 03 26.0	
	comp=N,905nm,0.4s						
ELBS				IAML		00 03 29.0	
	comp=E,1µm,0.5s						
GAZ	**Gaziantep**	**1.11**	**233**	PN	**Pn**	**00 03 09.6**	**-0.5**
KMRS	**Kahramanmaras**	**1.18**	**254**	PN	**Pb**	**00 03 10.5**	**-0.2**
CUGUR	**Gurin_SVAS**	**1.21**	**317**	*i* P	**Pb**	**00 03 10.3**	**-0.9**
CUGUR				*i* S	**Sn**	**00 03 28.8**	**+0.7**
CUGUR				IAML		00 03 32.0	
	comp=N,2µm,0.7s						
CUGUR				IAML		00 03 33.0	
	comp=E,2µm,0.6s						

HCB	**Kahramanmara**	**1.23**	**246**	*i* PA		**Pg**	**00 03 11.2**	**-0.4**			
HCB				*i* S		**Sb**	**00 03 26.1**	**-1.6**			
HCB				IAML			00 03 29.0				
	comp=N,960nm,0.3s										
HCB				IAML			00 03 33.0				
	comp=E,858nm,0.3s										
ARPR	**Arapgir-MALATY**	**1.24**	**0**	PN		**Pn**	**00 03 10.7**	**-1.2**			
DIYA	**Diyarbakir**	**1.42**	**86**	*i* P		**Pb**	**00 03 14.4**	**-0.4**			
DIYA				*i* S		**Sg**	**00 03 34.7**	**+1.1**			
DIYA				IAML			00 03 36.0				
	comp=N,1µm,0.3s										
DIYA				IAML			00 03 36.0				
	comp=E,2µm,0.3s										
KEMA	**Kemaliye**	**1.43**	**5**	*i* PA		**Pn**	**00 03 13.5**	**-0.9**			
KEMA				*i* S		**Sn**	**00 03 32.7**	**-0.7**			
KEMA				IAML			00 03 38.0				
	comp=N,398nm,0.3s										
KEMA				IAML			00 03 38.0				
	comp=E,536nm,0.3s										
KUZU	**Kuzuini**	**1.47**	**223**	*i* P		**Pg**	**00 03 16.2**	**+0.3**			
KUZU				*i* S		**Sg**	**00 03 36.0**	**+1.1**			
KAMA	**Osmaniye**	**1.48**	**244**	*i* P		**Pn**	**00 03 14.4**	**-0.6**			
KAMA				IAML			00 03 37.0				
	comp=N,450nm,0.2s										
KAMA				IAML			00 03 40.0				
	comp=E,351nm,0.2s										
REFA	**Refahiye_ERZN**	**1.58**	**12**	*i* PA		Pg	00 03 26.4	+8.1			
TNCL	**Tunceli-Merkez**	**1.58**	**37**	*i* PA		**Pn**	**00 03 16.6**	**+0.1**			
TNCL				IAML			00 03 46.0				
	comp=E,289nm,0.6s										
TNCL				IAML			00 03 52.0				
	comp=N,202nm,0.8s										
ANDN	**Andirin**	**1.60**	**261**	*i* PA		**Pn**	**00 03 16.4**	**-0.3**			
ANDN				*i* S		**Sg**	**00 03 38.9**	**-0.3**			
ANDN				IAML			00 03 43.0				
	comp=E,723nm,0.4s										
ANDN				IAML			00 03 44.0				
	comp=N,766nm,0.7s										
CUKAN	**kangal_SIVAS**	**1.62**	**336**	*i* P		**Pb**	**00 03 17.6**	**-0.6**			
CUKAN				*i* S		**Sg**	**00 03 39.6**	**-0.2**			
CUKAN				IAML			00 03 43.0				
	comp=E,218nm,0.5s										
CUKAN				IAML			00 03 52.0				
	comp=N,216nm,0.7s										
HANI	**Diyarbakir_Han**	**1.73**	**70**	*i* PA			00 03 18.4				
HANI				*i* S		**Sn**	**00 03 41.0**	**+0.1**			
HANI				IAML			00 03 49.0				
	comp=E,460nm,0.5s										
HANI				IAML			00 03 54.0				
	comp=N,341nm,0.8s										
SAIM	**ADANA**	**1.78**	**275**	*i* P		**Pn**	**00 03 19.3**	**0.0**			
SAIM				*i* S		**Sg**	**00 03 44.6**	**-0.6**			
SAIM				IAML			00 03 48.0				
	comp=N,516nm,0.3s										
SAIM				IAML			00 03 54.0				
	comp=E,486nm,0.3s										
CUALT	**Altinyayla-SIV**	**1.89**	**320**	*i* P		**Pb**	**00 03 22.4**	**-0.4**			
CUALT				*i* S		**Sb**	**00 03 47.2**	**+0.5**			
MARD	**Mardin**	**2.02**	**105**	*i* PA		**Pn**	**00 03 22.6**	**+0.1**			
MARD				*i* S		**Sg**	**00 03 53.0**	**+0.3**			
MARD				IAML			00 03 56.0				
	comp=E,1µm,0.4s										
MARD				IAML			00 03 58.0				
	comp=N,1µm,0.3s										
KOZT	**Kozan**	**2.02**	**260**	PN		**Pn**	**00 03 22.1**	**-0.3**			
ERZN	**Erzincan**	**2.05**	**32**	PN		**Pn**	**00 03 22.9**	**-0.1**			
CUZAR	**Zara_SIVAS**	**2.08**	**348**	*i* PA		**Pb**	**00 03 25.8**	**-0.4**			
CUZAR				IAML			00 04 01.0				
	comp=N,183nm,0.8s										
CUZAR				IAML			00 04 04.0				
	comp=E,187nm,1.3s										
BNGB	**Bingl**	**2.17**	**58**	PN		**Pn**	**00 03 24.4**	**-0.2**			
BNN	**Bunyan**	**2.19**	**298**	PN		**Pn**	**00 03 26.2**	**+1.2**			
CEYT	**Ceyhan**	**2.22**	**249**	PN		**Pn**	**00 03 25.3**	**+0.2**			
SCER	**sogukcermik**	**2.22**	**335**	*i* PA		**Pn**	**00 03 26.9**	**+1.6**			
SCER				IAML			00 04 07.0				
	comp=N,126nm,0.7s										
SCER				IAML			00 04 07.0				
	comp=E,201nm,0.8s										
CUSAR	**Sarkisla-SIVAS**	**2.27**	**315**	*i* P		**Pn**	**00 03 27.0**	**+1.1**			
CUSAR				IAML			00 04 11.0				
	comp=N,60nm,0.9s										
CUSAR

comp=E,18nm,1.7s
DELI IAML 00 05 13.0
comp=N,20nm,1.7s
VANB Van 4.05 78 PN **Pn 00 03 51.3 +0.8**
DBAD Bademkaya 4.10 38 *i P* **Pn 00 03 52.4 +1.2**
BRTR Keskin Array B 4.12 299 PN **Pn 00 03 52.7 +1.3**
SENK Senkaya-Erzuru 4.14 48 PN **Pn 00 03 52.4 +0.7**
TEVE Tevekalti-Mers 4.15 252 PN **Pn 00 03 52.7 +0.9**
DAGI Agillar 4.26 40 *i P* **Pn 00 03 54.8 +1.5**
HAKT HÄKKARI 4.28 92 *i P* **Pn 00 03 53.6 0.0**
DBOC Borcka 4.34 35 *i P* **Pn 00 03 55.8 +1.4**

NEIC ***30*** *00:04:03.9±0.8, 43.723N±0.010×111.13W±0.03, h4km±6km, ML3.1/95*
IDC ***30*** *00:04:03.1±0.9, 43.81N×111.07W, h0km, mb1 3.3/4, mb1mx3.1/53, mbtmp2.9/4, ML3.1/3, Error ellipse: s-maj=13.5km s-min=6.4km az=35.0*
BUT ***30*** *00:04:03.0, 43.72N×111.14W, h5km*
ANF ***30*** *00:04:04.8±2.2, 43.73N×110.97W, h5km, ML3.0/4, Error ellipse: s-maj=23.2km s-min=8.6km az=82.0*

ISC 30 00:04:03.9±1.1, 43.73N±0.02×111.12W±0.04, h2km±10km, n75,σ1$47/89, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FXWY	**Fox Creek**	**0.12**	**146**			**Pg**		**00 04 06.3**	**+0.1**
FXWY						**Sg**		**00 04 07.9**	**+0.2**
IMW	**Indian Meadow**	**0.21**	**38**			**Pg**		**00 04 08.3**	**+0.4**
IMW						**Sg**		**00 04 11.4**	**+0.7**
MOOW	**Moose Ponds**	**0.27**	**87**			**Pg**		**00 04 09.4**	**+0.3**
MOOW						**Sg**		**00 04 12.8**	**+0.2**
MOOW				IAML				00 04 12.8	
	3μm,0.3s								
TPAW	**Teton Pass**	**0.27**	**154**	Pg		**Pg**		**00 04 09.2**	**+0.1**
TPAW				Sg		**Sg**		**00 04 12.5**	**-0.2**
TPAW				IAML				00 04 16.1	
	4μm,0.5s								
SNOW	**Snow King Moun**	**0.38**	**136**			**Pg**		**00 04 11.6**	**+0.4**
SNOW						**Sg**		**00 04 16.2**	**+0.1**
SNOW				IAML				00 04 17.2	
	3μm,0.7s								
SNOW				IAML				00 04 18.4	
	2μm,0.5s								
REDW	**Red Top Meadow**	**0.42**	**153**			**Pg**		**00 04 11.9**	**0.0**
REDW				IAML				00 04 20.9	
	2μm,0.5s								
REDW				IAML				00 04 23.1	
	2μm,0.6s								
FLWY	**Flagg Ranch**	**0.46**	**41**			**Pg**		**00 04 13.2**	**+0.5**
FLWY						**Sg**		**00 04 18.9**	**+0.1**
FLWY				IAML				00 04 20.3	
	2μm,0.8s								
FLWY				IAML				00 04 20.4	
	2μm,0.7s								
YPP	**Pitchstone Pla**	**0.58**	**23**			**Pg**		**00 04 15.6**	**+0.5**
YPP				Sg		**Sg**		**00 04 23.5**	**+0.9**
H17A	**Grant Village**	**0.77**	**30**	P		**Pg**		**00 04 19.0**	**+0.4**
	baz=211								
H17A				S		**Sg**		**00 04 28.7**	**+0.1**
	baz=211								
H17A	**Grant Village**	**0.77**	**30**			**Pb**		**00 04 19.2**	**-0.9**
H17A				Sg		**Sg**		**00 04 29.1**	**+0.5**
H17A				IAML				00 04 30.9	
	comp=N,417nm,0.2s								
YMR	**Madison River**	**0.94**	**7**			**Pg**		**00 04 22.1**	**+0.1**
YMR				Sg		**Sb**		**00 04 35.2**	**-0.9**
AHID	**Auburn Hatcher**	**0.97**	**179**			**Pg**		**00 04 22.8**	**+0.3**
AHID				Sg		**Sg**		**00 04 35.2**	**+0.2**
AHID				IAML				00 04 37.7	
	comp=E,304nm,0.4s								
LKWY	**Lake**	**0.98**	**32**			**Pb**		**00 04 23.5**	**-0.2**
LKWY				Sg		**Sb**		**00 04 36.5**	**-0.6**
YHB	**Horse Butte**	**1.02**	**357**			**Pg**		**00 04 22.9**	**-0.5**
YNR	**Norris Junctio**	**1.03**	**18**			**Pb**		**00 04 24.0**	**-0.6**
YNM	**Yellowstone No**	**1.03**	**16**	Pg		**Pg**		**00 04 23.4**	**-0.3**
YHL	**Hebgen Lake**	**1.12**	**358**			**Pg**		**00 04 24.8**	**-0.5**
QLMT	**Earthquake Lak**	**1.12**	**348**			**Pg**		**00 04 24.8**	**-0.6**
BW06	**Boulder Array**	**1.49**	**130**	P		**Pb**		**00 04 31.6**	**-0.9**
	baz=310								
BW06				S		**Sn**		**00 04 51.6**	**-0.4**
	baz=310								
BW06	**Boulder Array**	**1.49**	**130**			**Pb**		**00 04 31.8**	**-0.7**
BW06				IAML				00 04 52.7	
	comp=E,130nm,0.6s								
BW06				IAML				00 04 53.4	
	comp=N,132nm,0.7s								
PD31	**Pinedale Array**	**1.49**	**130**			**Pb**		**00 04 31.8**	**-0.6**
PDAR	**Pinedale Array**	**1.49**	**130**	Pg		**Pb**		**00 04 31.9**	**-0.6**
	comp=N,26nm,0.3s,baz=319,slow=15,SNR=237								
PDAR				Lg		Lg		00 04 51.4	
	comp=N,12nm,0.3s,baz=326,slow=23,SNR=9.7								
YNE	**Yellowstone No**	**1.50**	**32**			**Pn**		**00 04 31.2**	**-0.9**
MCMT	**McKenzie Canyo**	**1.66**	**312**			**Pn**		**00 04 34.1**	**-0.1**
RLMT	**Red Lodge**	**1.92**	**43**	P		**Pn**		**00 04 37.7**	**0.0**
	baz=224								
RLMT				S		**Sb**		**00 05 03.5**	**-0.6**
	baz=224								
RLMT	**Red Lodge**	**1.92**	**43**			**Pb**		**00 04 38.3**	**-1.4**
RLMT				IAML				00 05 06.6	
	comp=N,100nm,0.5s								
RLMT				IAML				00 05 08.4	
	comp=N,146nm,0.5s								
DLMT	**Dillon**	**1.94**	**327**			**Pn**		**00 04 38.2**	**+0.2**
DLMT				IAML				00 05 08.6	
	comp=N,88nm,1.3s								
HWUT	**Hardware Ranch**	**2.15**	**189**			**Pn**		**00 04 41.5**	**+0.6**
GCMT	**Greycliff**	**2.30**	**26**			**Pn**		**00 04 43.5**	**+0.5**
HVU	**Hansel Valley**	**2.30**	**213**	Pn		**Pn**		**00 04 42.0**	**-0.9**
SPUT	**South Promonto**	**2.62**	**203**			**Pn**		**00 04 46.8**	**-0.4**
TCUT	**Toone Canyon**	**2.62**	**185**			**Pn**		**00 04 48.0**	**+0.6**
BGU	**Big Grassy Mou**	**3.15**	**207**			**Pn**		**00 04 55.3**	**+0.7**
RDMU	**Red Mountain**	**3.36**	**159**			**Pb**		**00 05 01.2**	**-3.1**
MFID	**Camas Ranch**	**3.44**	**266**	IAML				00 05 56.9	
	comp=N,24nm,0.5s								
MFID				IAML				00 06 03.1	
	comp=N,36nm,1.0s								
K22A	**Casper**	**3.53**	**106**	Pb		**Pb**		**00 05 04.7**	**-2.4**
	baz=289								
K22A				Sb		**Sb**		**00 05 51.3**	**+0.9**
	baz=289								
RWWY	**Rawlins**	**3.53**	**124**	Pn		**Pn**		**00 05 02.5**	**+2.6**
RWWY				IAML				00 06 02.5	
	comp=N,54nm,0.6s								
MSO	**Missoula**	**3.68**	**328**	Pn		**Pn**		**00 05 03.2**	**+1.3**
MSO				IAML				00 06 01.7	
	comp=N,29nm,0.6s								
MSO				IAML				00 06 03.4	
	comp=N,35nm,0.6s								
PLID	**Pearl Lake**	**3.75**	**293**			**Pn**		**00 05 04.6**	**+1.7**
PLID				IAML				00 06 06.4	
	comp=N,18nm,0.7s								
DUG	**Dugway, Tooele**	**3.76**	**200**	Pn		**Pn**		**00 05 03.3**	**+0.4**
NLU	**North Lily Min**	**3.84**	**191**			**Pn**		**00 05 05.1**	**+0.9**
O20A	**White River Ci**	**4.19**	**148**			**Pn**		**00 05 08.8**	**0.0**
O20A				IAML				00 06 23.6	
	comp=N,31nm,0.7s								
P17A	**Butcher Ranch,**	**4.27**	**176**	Pn		**Pn**		**00 05 09.2**	**-0.8**
ELK	**Elko**	**4.28**	**227**	Pn		**Pn**		**00 05 11.5**	**+1.4**
	comp=N,0.8nm,0.3s,baz=43,slow=11,SNR=13								
ELK				Lg		Lg		00 06 13.6	
	comp=N,0.4nm,0.3s,baz=191,slow=16,SNR=2.7								
ELK	**Elko**	**4.28**	**227**			**Pn**		**00 05 09.6**	**-0.6**
EGMT	**Eagleton**	**4.39**	**12**	Pn		**Pn**		**00 05 11.3**	**-0.3**
EGMT				IAML				00 06 27.4	
	comp=N,29nm,1.1s								
TMUT	**Trail Mountain**	**4.43**	**181**			**Pn**		**00 05 13.0**	**+0.6**
LAO	**LASA Array**	**4.55**	**48**	Pn		**Pn**		**00 05 13.6**	**-0.1**
JTMT	**Jette**	**4.58**	**332**	Pn		**Pn**		**00 05 15.8**	**+1.5**
JTMT				IAML				00 06 29.2	
	comp=E,17nm,0.5s								
JTMT				IAML				00 06 40.1	
	comp=N,13nm,2.2s								
Q16A	**Castle Valley**	**4.81**	**181**	Pn		**Pn**		**00 05 20.3**	**+2.8**
PHWY	**Pilot Hill**	**4.84**	**118**	Pn		**Pn**		**00 05 19.6**	**+1.7**
PHWY				IAML				00 06 36.8	
	comp=N,24nm,0.7s								
F10A	**Beach Ranch, E**	**4.89**	**299**	IAML				00 06 16.8	
	comp=E,17nm,4.9s								
F10A				IAML				00 06 35.9	
	comp=N,17nm,0.6s								
RSSD	**Black Hills**	**5.13**	**83**	Pn		**Pn**		**00 05 19.0**	**-2.9**
RSSD				IAML				00 06 50.1	
	comp=N,18nm,0.9s								
MSU	**Marysvale**	**5.28**	**189**	Pn		**Pn**		**00 05 26.7**	**+2.8**
PSUT	**Pine Spring**	**5.59**	**203**	Pn		**Pn**		**00 05 29.8**	**+1.6**
WVOR	**Wild Horse Val**	**5.66**	**259**	Pn		**Pn**		**00 05 33.0**	**+4.0**
ISCO	**Idaho Springs**	**5.69**	**132**	Pn		**Pn**		**00 05 32.9**	**+3.3**
MTPU	**Mount Pierson**	**5.75**	**188**	Pn		**Pn**		**00 05 33.8**	**+3.3**
NEW	**Newport**	**6.17**	**319**	Pn		**Pn**		**00 05 36.6**	**+0.7**
	comp=N,0.5nm,0.3s,baz=141,slow=12,SNR=8.0								
NEW				Lg		Lg		00 07 15.6	
	comp=N,0.7nm,0.3s,baz=247,slow=21,SNR=9.5								
NEW	**Newport**	**6.17**	**319**	Pn		**Pn**		**00 05 37.3**	**+1.4**
HAWA	**Hanford**	**6.53**	**297**	Pn		**Pn**		**00 05 42.9**	**+2.1**
Q24A	**Divide**	**6.55**	**135**	Pn		**Pn**		**00 05 42.8**	**+1.4**
F07A	**Phinny Hill Vi**	**6.63**	**292**	Pn		**Pn**		**00 05 44.7**	**+2.5**
DGMT	**Dagmar**	**6.75**	**43**	Pn		**Pn**		**00 05 45.0**	**+1.1**
E07A	**Sunnyside**	**6.79**	**298**	Pn		**Pn**		**00 05 45.9**	**+1.3**
S22A	**4UR Ranch, Cre**	**6.81**	**150**	Pn		**Pn**		**00 05 47.3**	**+2.3**
MVCO	**Mesa Verde**	**6.81**	**162**	Pn		**Pn**		**00 05 47.7**	**+2.7**
KNB	**Kanab**	**6.83**	**192**	Pn		**Pn**		**00 05 48.0**	**+2.8**
LCMT	**Little Creek M**	**6.91**	**194**	Pn		**Pn**		**00 05 48.7**	**+2.4**
OGNE	**Ogallala**	**7.28**	**109**	Pn		**Pn**		**00 05 50.4**	**-0.9**
SDCO	**Great Sand Dun**	**7.34**	**143**	Pn		**Pn**		**00 05 53.7**	**+1.3**
B08A	**Colville Reser**	**7.35**	**312**	Pn		**Pn**		**00 05 53.2**	**+1.0**
PAHR	**Pah Rah Range**	**7.38**	**240**	Pn		**Pn**		**00 05 55.2**	**+2.6**
NVAR	**Mina Array Bea**	**7.58**	**228**	Pn		**Pn**		**00 05 58.7**	**+3.2**
	comp=N,0.0nm,0.3s,baz=38,slow=10,SNR=2.2								
NVAR				Pg		**Pb**		**00 06 14.2**	**-2.0**
	comp=N,0.1nm,0.3s,baz=37,slow=14,SNR=5.0								
NVAR				Lg		Lg		00 08 04.2	
	comp=N,0.1nm,0.3s,baz=38,slow=26,SNR=3.1								
YKA	**Yellowknife Ar**	**18.90**	**355**	P		**P**		**00 08 25.0**	**-0.4**
	comp=N,0.1nm,0.3s,baz=169,slow=10,SNR=4.5								

ISCJB ***30*** *00:12:56.4±0.2, 6.75N±0.02×73.04W±0.02, h159km±1km, mb4.2/28, Error ellipse: s-maj=3.0km s-min=2.4km az=32.7*
IDC ***30*** *00:12:57.5±0.4, 6.77N×72.96W, h157km±4km, mb3.8/17, mb1 4.0/24, mb1mx3.9/31, mbtmp4.3/24, MS2.9/2, Ms1 2.9/2, ms1mx2.7/22, Error ellipse: s-maj=8.7km s-min=6.3km az=126.0*
NEIC ***30*** *00:12:57.8±1.4, 6.71N±0.06×72.95W±0.07, h161km±4km, mb4.8/427*
UPA ***30*** *00:12:57.0±1.7, 6.86N×73.08W, h146km, MW5.0*
RSNC ***30*** *00:12:58.4±1.1, 6.81N×73.15W, h152km±4km, ML4.8, Mw4.5, Fault plane solution: NP1:φ=55.00000°, δ=62.00000°, λ=-169.00000°.*

ISC 30 00:12:57.1±0.4, 6.84N±0.03×73.07W±0.03, h155km±4km, h155km:pP-P,n897,σ1$66/900, mb4.8/225, 21C-10D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**205**	⇓*i*		**Pn**		**00 13 18.9**	**+0.5**
BARC						*eS*	**Sn**	**00 13 34.2**	**-0.4**
BARC				*i*				00 13 36.4	
	comp=Z,33μm,0.3s								
PAMC	**Pamplona, Colo**	**0.62**	**36**	⇓*i*		**Pn**		**00 13 21.7**	**+1.5**
PAMC						*eS*	**Sn**	**00 13 38.7**	**+0.9**
PAMC				*i*				00 13 40.8	
	comp=Z,9μm,0.5s								
BRRC	**Barranca, Sant**	**0.69**	**293**	⇑*i*		**Pn**		**00 13 20.7**	**+0.7**
BRRC						*eS*	**Sn**	**00 13 37.3**	**-0.3**
BRRC				*i*				00 13 41.9	
	comp=Z,7μm,0.2s								
RUSC	**La Rusia**	**0.94**	**181**	⇑*i*		**Pn**		**00 13 22.8**	**+0.4**
RUSC				*i*				00 13 42.9	
	comp=Z,9μm,0.3s								
TAMC	**Tame, Arauca**	**1.33**	**107**	⇓*i*		**Pn**		**00 13 27.2**	**+1.9**
TAMC						*eS*	**Sn**	**00 13 48.1**	**+1.1**
TAMC				*i*				00 13 50.4	
	comp=Z,4μm,0.3s								
PTBC	**PUERTO BERRIO,**	**1.41**	**258**	⇑*i*		**Pn**		**00 13 25.4**	**-0.7**
PTBC						*eS*	**Sn**	**00 13 46.4**	**-1.9**
PTBC				*i*				00 13 53.7	
	comp=Z,7μm,0.4s								
OCAC	**Ocana**	**1.42**	**350**	⇑*eP*		**Pn**		**00 13 26.9**	**+0.6**
OCAC						*eS*	**Sn**	**00 13 49.8**	**+1.0**
OCAC				*i*				00 13 52.1	
	comp=Z,8μm,0.3s								
SPBC	**San Pablo de B**	**1.54**	**220**	⇑*eP*		**Pn**		**00 13 27.7**	**+0.2**
SPBC				*i*				00 13 56.8	
	comp=Z,12μm,0.4s								
ZARC	**Zaragoza, Cauc**	**1.89**	**290**	⇓*i*		**Pn**		**00 13 31.1**	**-0.2**
ZARC				*i*				00 14 03.0	
	comp=Z,5μm,0.3s								
ZARC				*i*				00 14 05.3	
	comp=Z,6μm,0.4s								
SMLC	**San Martn de**	**2.19**	**333**	*eP*		**Pn**		**00 13 34.9**	**+0.2**
SMLC						*eS*	**Sn**	**00 14 03.4**	**-0.4**
SMLC				*i*				00 14 04.6	
	comp=Z,4μm,0.5s								
NORC	**Norcasia**	**2.19**	**235**	⇑*i*		**Pn**		**00 13 34.5**	**-0.3**
NORC						*eS*	**Sn**	**00 14 03.2**	**-0.6**
NORC				*i*				00 14 07.9	
	comp=Z,9μm,0.5s								
CHIC	**Chingaza**	**2.29**	**197**	⇑*eP*		**Pn**		**00 13 36.8**	**+0.4**
CHIC						*eS*	**Sn**	**00 14 06.0**	**-0.6**
CHIC				*i*				00 14 12.2	
	comp=Z,4μm,0.3s								
ROSC	**El Rosal**	**2.34**	**212**	⇑*eP*		**Pn**		**00 13 38.8**	**+1.8**
ROSC						*eS*	**Sn**	**00 14 08.7**	**+1.1**
ROSC				*i*				00 14 17.3	
	comp=Z,7μm,0.3s								
ROSC	**El Rosal**	**2.34**	**212**	P		**Pn**		**00 13 39.0**	**+2.0**
	comp=Z,2μm,0.3s,baz=55,slow=12,SNR=3587								
ROSC				S			**Sn**	**00 14 08.3**	**+0.7**
	comp=Z,1μm,0.3s,baz=140,slow=19,SNR=14								
ROSC				LR		LR		00 14 18.0	
	comp=Z,275nm,21.1s,baz=248,slow=34								
ROSC	**El Rosal**	**2.34**	**212**	Sn		**Sn**		**00 14 08.0**	**+0.3**
CVER	**Cruz Verde, Cu**	**2.51**	**204**	*eP*		**Pn**		**00 13 41.4**	**+2.3**
CVER				*i*				00 14 22.6	
	comp=Z,58μm,0.5s								
HELC	**Santa Helena**	**2.53**	**255**	⇓*i*		**Pn**		**00 13 38.5**	**-0.7**
HELC						*eS*	**Sn**	**00 14 12.6**	**+1.1**
HELC				*i*				00 14 16.9	
	comp=Z,4μm,0.9s								
HELC	**Santa Helena**	**2.53**	**255**	*eP*		**Pn**		**00 13 39.8**	**+0.7**
HELC						*eS*	**Sn**	**00 14 11.2**	**-0.3**
UREC	**San Jos de Ur**	**2.61**	**291**	⇓*eP*		**Pn**		**00 13 38.6**	**-1.2**
UREC						*eS*	**Sn**	**00 14 08.1**	**-4.6**
UREC				*i*				00 14 23.1	
	comp=Z,2μm,0.4s								
UREC				*i*				00 14 23.1	
	comp=Z,3μm,0.4s								
VILC	**Villavicencio,**	**2.78**	**193**	⇑*i*		**Pn**		**00 13 42.1**	**+0.1**
VILC				*i*				00 14 22.4	
	comp=Z,5μm,0.5s								
PTGC	**Puerto Gaitan,**	**2.78**	**160**	⇑*i*		**Pn**		**00 13 42.0**	**+0.1**
PTGC						*eS*	**Sn**	**00 14 14.4**	**-2.2**
PTGC				*i*				00 14 22.7	
	comp=Z,4μm,0.4s								
GUY2C	**Guyana, Caldas**	**2.79**	**235**	*eP*		**Pn**		**00 13 42.9**	**+0.4**
GUY2C				*i*				00 14 25.1	
	comp=Z,7μm,0.4s								
RREF	**El Recreo**	**2.97**	**230**	⇑*eP*		**Pn**		**00 13 45.1**	**+0.2**
RREF				*i*				00 14 31.1	
	comp=Z,4μm,0.2s								
CBOC	**Ciudad Bolivar**	**3.08**	**252**	⇓*i*		**Pn**		**00 13 46.3**	**+0.4**
CBOC				*i*				00 14 36.2	
	comp=Z,2μm,0.7s								
CODC	**Agustn Codazz**	**3.10**	**353**	⇑*i*		**Pn**		**00 13 46.1**	**+0.1**
CODC				*i*				00 14 35.1	
	comp=Z,1μm,0.7s								
DBBC	**Dabeiba**	**3.12**	**273**	⇓*i*		**Pn**		**00 13 46.5**	**+0.2**
SDV	**Santo Domingo**	**3.16**	**50**	P		**Pn**		**00 13 48.3**	**+1.4**
	comp=Z,664nm,0.3s,baz=257,slow=5.2,SNR=1826								
SDV				S			**Sn**	**00 14 25.6**	**+0.2**
	comp=Z,419nm,0.3s,baz=53,slow=22,SNR=25								
SDV				LR		LR		00 14 41.5	
	comp=Z,198nm,18.4s,baz=292,slow=33								
ARGC	**Ariguani, Magd**	**3.22**	**339**	⇑*eP*		**Pn**		**00 13 49.0**	**+1.5**
ARGC						*eS*	**Sn**	**00 14 28.5**	**+1.9**
ARGC				*i*				00 14 35.7	
	comp=Z,1μm,0.3s								
ARGC				*i*				00 14 37.9	
	comp=Z,1μm,0.3s								
ORTC	**Ortega, Tolima**	**3.63**	**217**	⇑*eP*		**Pn**		**00 13 52.9**	**+0.2**
ORTC				*i*				00 14 42.5	
	comp=Z,3μm,0.9s								
SJCC	**San Jacinto, C**	**3.69**	**326**	⇑*eP*		**Pn**		**00 13 52.7**	**-0.8**
SJCC				*i*				00 14 38.0	
	comp=Z,1μm,0.6s								
SJCC				*i*				00 14 48.5	
	comp=Z,2μm,0.6s								
SJCC	**San Jacinto, C**	**3.69**	**326**	*eP*		**Pn**		**00 13 50.9**	**-2.6**
SJCC				*eS*		**Sn**		**00 14 34.8**	**-2.6**
PLMC	**San Jos del P**	**3.73**	**239**	*eP*		**Pn**		**00 13 54.1**	**0.0**
PLMC				*i*				00 14 42.8	
	comp=Z,2μm,0.5s								
PLMC				*i*				00 14 43.6	
	comp=Z,2μm,0.5s								
LCBC	**Los crdobas,**	**3.83**	**302**	*eP*		**Pn**		**00 13 54.5**	**-0.9**
LCBC				*eS*		**Sn**		**00 14 40.8**	**+0.1**
YOTC	**Yotoco, Valle**	**4.32**	**229**	*i P*		**Pn**		**00 14 01.2**	**-0.6**
YOTC				*eS*		**Sn**		**00 14 49.7**	**-2.5**
YOTC				*i*				00 15 02.8	
	comp=Z,383nm,0.7s								
SOLC	**Bahia Solano**	**4.35**	**262**	*eP*		**Pn**		**00 14 02.1**	**0.0**
SOLC				*i*				00 15 17.6	
	comp=Z,359nm,0.9s								
SMRC	**Santa Marta, M**	**4.45**	**345**	*eP*		**Pn**		**00 14 03.7**	**+0.4**
SMRC				*eS*		**Sn**		**00 14 51.7**	**-3.4**
SMRC				*i*				00 14 53.0	
	comp=Z,469nm,0.8s								
SMRC				*i*				00 14 55.1	
	comp=Z,442nm,0.2s								
PTAC	**Punta Ardita,**	**4.71**	**274**	*eP*		**Pn**		**00 14 05.7**	**-1.1**
PTAC				*i*				00 15 03.4	
	comp=Z,742nm,0.3s								
MACC	**Macarena, Meta**	**4.72**	**189**	⇑*i P*		**Pn**		**00 14 05.7**	**-1.3**
MACC				*i*				00 15 01.3	
	comp=Z,1μm,1.0s								
MACC				*i*				00 15 02.9	
	comp=Z,819nm,0.4s								
BETC	**Betania**	**4.76**	**210**	*eP*		**Pn**		**00 14 06.9**	**-0.6**
BETC				*i*				00 15 09.3	
	comp=Z,133nm,0.6s								
URIC	**Uribia, Colomb**	**4.95**	**12**	⇑*eP*		**Pn**		**00 14 09.2**	**-0.8**
URIC				*eS*		**Sn**		**00 15 03.4**	**-3.5**
URIC				*i*				00 15 28.0	
	comp=Z,252nm,0.9s								
MALC	**Bahia Malaga**	**5.09**	**237**	⇑*eP*		**Pn**		**00 14 13.1**	**+1.3**
MALC				*i*				00 15 23.9	
	comp=Z,694nm,0.8s								
MALC				AMP				00 15 24.1	
	comp=Z,496nm,0.7s								
UPD2	**Meteti**	**5.19**	**289**	*eP*		**Pn**		**00 14 10.9**	**-2.2**
UPD2				*eS*		**Sn**		**00 15 10.0**	**-2.4**
BAUV	**El Baul**	**5.40**	**67**	*eP*		**Sn**		**00 15 10.2**	**-7.4**
BAUV				*eS*		**Sn**		**00 15 14.8**	**-2.8**
PCON	**Cinco Dias**	**5.57**	**217**	*eP*		**Pn**		**00 14 19.4**	**+0.6**
PCON				*i*				00 15 36.0	
	comp=Z,349nm,0.6s								
POPC	**Popayan, Colom**	**5.58**	**220**	*i P*		**Pn**		**00 14 18.4**	**-0.2**
POPC				*i*				00 15 26.8	
	comp=Z,161nm,0.4s								
FLOC	**Florencia**	**5.82**	**206**	⇑*eP*		**Pn**		**00 14 21.0**	**-0.6**
FLOC				*i*				00 15 33.1	
	comp=Z,353nm,0.4s								
FLOC				*i*				00 15 55.9	
	comp=Z,544nm,1.2s								
BBAC	**Balboa, Cauca**	**6.34**	**221**	*eP*		**Pn**		**00 14 29.6**	**+0.9**
BBAC				*eS*		**Sn**		**00 15 37.2**	**-3.2**
CRUC	**La Cruz**	**6.51**	**217**	*eP*		**Pn**		**00 14 32.5**	**+1.4**
UPA	**Univ. de Panam**	**6.75**	**289**	*eP*		**Pn**		**00 14 31.5**	**-2.4**
UPA				*eS*		**Sn**		**00 15 44.4**	**-5.3**
PTLC	**Puerto Leguiza**	**6.84**	**195**	*eP*		**Pn**		**00 14 37.6**	**+2.4**
BCIP	**Isla Barro Col**	**7.09**	**290**	*eP*		**Pn**		**00 14 37.1**	**-1.3**
BCIP				*eS*		**Sn**		**00 15 52.9**	**-5.1**
BCIP	**Isla Barro Col**	**7.09**	**290**			**Pn**		**00 14 36.8**	**-1.6**
AZU	**Azuero**	**7.21**	**278**	*eP*		**Pn**		**00 14 39.0**	**-1.0**
CACAO	**El Cacao, Vera**	**7.75**	**274**	*eP*		**Pn**		**00 14 45.4**	**-1.8**
OTAV	**Otavalo**	**8.47**	**220**			**Pn**		**00 14 56.6**	**-0.7**
PCRV	**Puerto La Cruz**	**8.98**	**68**	P		**Pn**		**00 15 03.0**	**-0.6**
	comp=Z,14nm,0.3s,baz=312,slow=6.0,SNR=29								
PCRV				S			**Sn**	**00 16 42.9**	**-0.5**
	comp=Z,7.0nm,0.3s,baz=132,slow=16,SNR=2.5								
PLCV	**Puerto La Cruz**	**9.02**	**68**				**Pn**	**00 15 03.0**	**-1.1**
PLCV							**Sn**	**00 16 42.9**	**-1.4**
CHGR2	**Aguacate**	**9.23**	**284**	*eP*		**Pn**		**00 15 06.1**	**-0.8**
BRU2	**Volcan**	**9.73**	**282**	*eP*		**Pn**		**00 15 12.4**	**-1.2**
PRVC	**Isla de Provid**	**10.43**	**309**	*eP*		**Pn**		**00 15 19.4**	**-3.4**
PRVC				*eS*		Sn		00 17 09.1	-9.3
PRVC				*i*				00 17 18.6	
	comp=Z,99nm,1.1s								
HDC	**Heredia**

SIV	**San Ignacio**	**25.60 152**	P	**P**	**00 18 11.3 -1.0**
	comp=Z,2.3nm,1.0s,baz=3.4,slow=7.6,SNR=8.7				
SIV			pP	**pP**	**00 18 43.9 -1.4**
	comp=Z,9.1nm,0.8s,baz=329,slow=9.3,SNR=14				
MNMC	**Minye Minye**	**26.03 172**	P	**P**	**00 18 15.4 -1.0**
256A	**Glennville**	**26.34 343**	P	**P**	**00 18 20.7 +2.0**
	baz=160				
TIGA	**Tifton**	**26.38 339**	P	**P**	**00 18 21.4 +2.3**
	baz=156				
TIGA	**Tifton**	**26.38 339**	P	**P**	**00 18 21.2 +2.1**
TIGA			IAmb	IAmb	00 18 22.5
	comp=Z,20nm,0.8s				
255A	**Hazlehurst**	**26.46 342**	P	**P**	**00 18 21.9 +2.1**
	baz=159				
255A	**Hazlehurst**	**26.46 342**	P	**P**	**00 18 21.2 +1.4**
255A			IAmb	IAmb	00 18 30.3
	comp=Z,56nm,1.4s				
353A	**Camilla**	**26.52 338**	P	**P**	**00 18 22.6 +2.3**
	baz=154				
158A	**Hollywood**	**26.61 347**	P	**P**	**00 18 23.5 +2.4**
	baz=164				
GO01	**Chusmiza**	**26.61 172**	P	**P**	**00 18 20.8 -1.0**
GO01				pP	**00 18 54.7 -0.2**
PB11	**IPOC Station P**	**26.64 173**	P	**P**	**00 18 21.5 -0.2**
PB11				pP	**00 18 55.1 +0.3**
254A	**Abbeville**	**26.74 340**	P	**P**	**00 18 24.7 +2.4**
	baz=157				
156A	**Sylvania**	**26.86 344**	P	**P**	**00 18 25.6 +2.2**
	baz=161				
352A	**Blakely**	**26.91 337**	P	**P**	**00 18 26.2 +2.3**
	baz=153				
352A	**Blakely**	**26.91 337**	P	**P**	**00 18 25.8 +2.0**
NHSC	**New Hope**	**26.96 347**	P	**P**	**00 18 25.7 +1.4**
Z58A	**St. Stephen**	**27.10 348**	P	**P**	**00 18 27.6 +2.1**
	baz=165				
155A	**Kite**	**27.11 342**	P	**P**	**00 18 28.2 +2.6**
	baz=159				
253A	**Americus**	**27.14 339**	P	**P**	**00 18 27.8 +2.0**
	baz=155				
253A	**Americus**	**27.14 339**	P	**P**	**00 18 27.7 +1.9**
Z57A	**Bowman**	**27.27 346**	P	**P**	**00 18 29.2 +2.2**
	baz=163				
154A	**Montrose**	**27.30 341**	P	**P**	**00 18 29.8 +2.5**
	baz=158				
154A	**Montrose**	**27.30 341**	P	**P**	**00 18 28.9 +1.7**
154A			IAmb	IAmb	00 18 30.6
	comp=Z,32nm,0.8s				
252A	**Lumpkin**	**27.30 338**	P	**P**	**00 18 29.6 +2.3**
	baz=154				
Y59A	**Loris**	**27.55 350**	P	**P**	**00 18 31.7 +2.3**
	baz=167				
153A	**Fort Valley**	**27.57 340**	P	**P**	**00 18 32.1 +2.5**
	baz=156				
Z55A	**Blythe**	**27.57 343**	P	**P**	**00 18 32.1 +2.4**
	baz=160				
Y58A	**Scranton**	**27.62 348**	P	**P**	**00 18 32.3 +2.2**
	baz=166				
Y58A	**Scranton**	**27.62 348**	P	**P**	**00 18 31.6 +1.4**
Z54A	**Sparta**	**27.79 342**	P	**P**	**00 18 33.2 +1.6**
	baz=159				
250A	**Grady**	**27.88 335**	IAmb	IAmb	00 18 35.8
	comp=Z,24nm,0.7s				
Y57A	**Sumter**	**27.88 347**	P	**P**	**00 18 34.7 +2.3**
	baz=164				
Y56A	**Pelion**	**27.89 345**	P	**P**	**00 18 34.6 +2.1**
	baz=162				
152A	**Waverly Hall**	**27.89 339**	P	**P**	**00 18 34.9 +2.2**
	baz=155,SNR=6.8				
Z53A	**Monticello**	**28.06 341**	P	**P**	**00 18 35.9 +1.9**
	baz=157				
X59A	**McDuffie Farm,**	**28.07 350**	P	**P**	**00 18 35.9 +1.8**
	baz=168				
GOGA	**Godfrey**	**28.15 341**	P	**P**	**00 18 36.9 +2.1**
	baz=158				
GOGA	**Godfrey**	**28.15 341**	P	**P**	**00 18 37.2 +2.4**
GOGA			IAmb	IAmb	00 18 37.5
	comp=Z,10nm,0.6s				
Y55A	**Saluda**	**28.17 344**	P	**P**	**00 18 37.2 +2.2**
	baz=161				
X58A	**Rowland**	**28.18 349**	P	**P**	**00 18 37.1 +2.0**
	baz=167				
X58A	**Rowland**	**28.18 349**	P	**P**	**00 18 35.6 +0.4**
X58A			IAmb	IAmb	00 18 35.8
	comp=Z,17nm,0.8s				
X57A	**Johnson Farm,**	**28.25 348**	P	**P**	**00 18 37.4 +1.7**
	baz=165				
Z52A	**Williamson**	**28.26 340**	P	**P**	**00 18 38.3 +2.4**
	baz=156				
Y54A	**Tignall**	**28.33 343**	P	**P**	**00 18 38.4 +1.9**
	baz=160				
JSC	**Jenkinsville**	**28.34 346**	P	**P**	**00 18 37.9 +1.4**
JSC			IAmb	IAmb	00 18 39.4
	comp=Z,8.7nm,0.8s				
X56A	**White Oak**	**28.49 346**	P	**P**	**00 18 39.9 +2.1**
	baz=163				
BIRD	**Birdtown, Kers**	**28.50 347**	P	**P**	**00 18 38.2 +0.3**
HODGE	**Hodges**	**28.55 344**	P	**P**	**00 18 40.4 +1.9**
HODGE			IAmb	IAmb	00 18 41.3
	comp=Z,16nm,0.5s				
Y53A	**Monroe**	**28.59 342**	P	**P**	**00 18 41.2 +2.4**
	baz=158				
X55A	**Gracelyn & Ava**	**28.61 345**	P	**P**	**00 18 41.3 +2.3**
	baz=162				
Z51A	**Franklin**	**28.64 339**	P	**P**	**00 18 41.5 +2.2**
Y52A	**Lilburn**	**28.76 341**	P	**P**	**00 18 42.5 +2.3**
	baz=157				
Y52A	**Lilburn**	**28.76 341**	P	**P**	**00 18 41.1 +0.8**
Y52A			IAmb	IAmb	00 18 43.0
	comp=Z,15nm,0.6s				
Z50A	**Ashland**	**28.87 337**	P	**P**	**00 18 43.7 +2.4**
	baz=153,SNR=9.5				
Z50A	**Ashland**	**28.87 337**	P	**P**	**00 18 43.3 +2.1**
X54A	**Belton**	**28.88 344**	P	**P**	**00 18 43.8 +2.5**
	baz=160				
W57A	**Gilead**	**28.89 348**	P	**P**	**00 18 42.7 +1.3**
W57A			IAmb	IAmb	00 18 44.9
	comp=Z,25nm,1.3s				
PAULI	**Pauline**	**28.99 345**	P	**P**	**00 18 44.0 +1.7**
PAULI			IAmb	IAmb	00 18 44.9
	comp=Z,14nm,0.6s				
V61A	**Roper**	**29.00 354**	P	**P**	**00 18 44.1 +1.8**
	baz=173				
V61A	**Roper**	**29.00 354**	P	**P**	**00 18 43.4 +1.1**
V60A	**Jim Taylor Roa**	**29.05 353**	P	**P**	**00 18 44.5 +1.8**
	baz=171				
V60A	**Jim Taylor Roa**	**29.05 353**	P	**P**	**00 18 44.3 +1.5**
LRAL	**Lakeview Retre**	**29.10 335**	P	**P**	**00 18 45.5 +2.1**
	baz=151				
LRAL	**Lakeview Retre**	**29.10 335**	P	**P**	**00 18 45.4 +2.1**
LRAL			IAmb	IAmb	00 18 46.4
	comp=Z,9.5nm,0.8s				
X53A	**Estanollee**	**29.11 342**	P	**P**	**00 18 45.6 +2.2**
	baz=159				
Y51A	**Rockmart**	**29.13 339**	P	**P**	**00 18 45.6 +2.0**
	baz=155				
KMSC	**Kings Mountain**	**29.18 346**	P	**P**	**00 18 45.8 +1.8**
	baz=163				
KMSC	**Kings Mountain**	**29.18 346**	P	**P**	**00 18 45.6 +1.7**
KMSC			IAmb	IAmb	00 18 46.4
	comp=Z,11nm,0.7s				
V59A	**Middlesex**	**29.18 351**	P	**P**	**00 18 45.9 +1.9**
	baz=169				
W54A	**Cherokee Point**	**29.34 345**	P	**P**	**00 18 47.6 +2.2**
	baz=161				
V58A	**Windy Hill, Pi**	**29.35 350**	P	**P**	**00 18 47.2 +1.7**
	baz=168				
V58A	**Windy Hill, Pi**	**29.35 350**	P	**P**	**00 18 46.6 +1.1**
V58A			IAmb	IAmb	00 18 54.7
	comp=Z,35nm,1.4s				
X52A	**Dahlonega**	**29.38 342**	P	**P**	**00 18 47.9 +2.1**
	baz=158,SNR=5.3				
BG3	**Lake Jocassee**	**29.46 343**	P	**P**	**00 18 48.6 +2.2**
U61A	**Possum Corner**	**29.52 354**	P	**P**	**00 18 49.0 +2.1**
	baz=173				
U61A	**Possum Corner**	**29.52 354**	P	**P**	**00 18 47.8 +0.8**
V57A	**Coltrane Farms**	**29.56 349**	P	**P**	**00 18 48.8 +1.5**
	baz=166				
Y49A	**Blount Mountai**	**29.59 337**	P	**P**	**00 18 49.8 +2.2**
V56A	**Mocksville**	**29.63 348**	P	**P**	**00 18 50.5 +2.6**
	baz=165				
X51A	**Calhoun**	**29.66 340**	P	**P**	**00 18 50.3 +2.0**
	baz=156				
W53A	**Cullowhee**	**29.69 343**	P	**P**	**00 18 51.1 +2.5**
	baz=159				
U60A	**Pendleton**	**29.73 353**	P	**P**	**00 18 50.6 +1.8**
	baz=172				
V55A	**Taylorsville**	**29.83 347**	P	**P**	**00 18 51.5 +1.8**
	baz=164				
V55A	**Taylorsville**	**29.83 347**	P	**P**	**00 18 52.0 +2.3**
V55A			IAmb	IAmb	00 18 52.9
	comp=Z,12nm,0.8s				
U58A	**Oxford**	**29.84 351**	P	**P**	**00 18 51.6 +1.8**
	baz=169				
W52A	**Murphy**	**29.84 342**	P	**P**	**00 18 52.4 +2.4**
	baz=158,SNR=6.4				
W52A	**Murphy**	**29.84 342**	P	**P**	**00 18 52.2 +2.3**
W52A			IAmb	IAmb	00 18 53.2
	comp=Z,25nm,0.8s				
FPAL	**Fort Paine**	**29.90 339**	P	**P**	**00 18 52.2 +1.8**
V54A	**Nebo**	**29.93 345**	P	**P**	**00 18 53.0 +2.3**
	baz=162				
U57A	**Blanch**	**30.01 350**	P	**P**	**00 18 53.0 +1.7**
	baz=167				
VBMS	**Vicksburg**	**30.04 329**	P	**P**	**00 18 53.9 +2.4**
	baz=144				
V53A	**Saluda**	**30.06 344**	P	**P**	**00 18 54.0 +2.3**
	baz=160				
V53A	**Saluda**	**30.06 344**	P	**P**	**00 18 54.1 +2.3**
V53A			IAmb	IAmb	00 18 55.0
	comp=Z,15nm,0.8s				
U56A	**King**	**30.13 348**	P	**P**	**00 18 54.1 +1.7**
	baz=165				
W51A	**Cleveland**	**30.17 341**	P	**P**	**00 18 54.9 +2.1**
	baz=156				
PB10	**IPOC Station P**	**30.26 175**	P	**P**	**00 18 53.1 -0.6**
PB10			IAmb	IAmb	00 18 53.2
	comp=Z,16nm,0.9s				
T59A	**Double "B" Far**	**30.27 353**	P	**P**	**00 18 55.4 +1.8**
	baz=171				
T59A	**Double "B" Far**	**30.27 353**	IAmb	IAmb	00 18 56.1
	comp=Z,23nm,0.8s				
TKL	**Tuckaleechee C**	**30.32 343**	P	**P**	**00 18 55.9 +1.8**
	comp=Z,4.6nm,0.7s,baz=169,slow=9.2,SNR=8.7				
TKL	**Tuckaleechee C**	**30.32 343**	P	**P**	**00 18 55.6 +1.6**
TKL			IAmb	IAmb	00 19 14.1
	comp=Z,17nm,1.4s				
T60A	**Surry**	**30.35 354**	P	**P**	**00 18 56.1 +1.9**
	baz=173				
T60A	**Surry**	**30.35 354**	P	**P**	**00 18 55.4 +1.2**
X48A	**Hartselle**	**30.36 337**	P	**P**	**00 18 56.5 +2.1**
X48A			IAmb	IAmb	00 18 57.4
	comp=Z,22nm,0.7s				
CPCT	**Cooper Cave**	**30.36 341**	P	**P**	**00 18 56.6 +2.2**
CPCT			IAmb	IAmb	00 18 57.6
	comp=Z,17nm,0.8s				
T58A	**Grand View Acr**	**30.38 351**	P	**P**	**00 18 56.3 +1.7**
	baz=169				
W50A	**Signal Mountai**	**30.39 340**	P	**P**	**00 18 57.1 +2.4**
	baz=155,SNR=5.5				
W50A	**Signal Mountai**	**30.39 340**	IAmb	IAmb	00 18 57.9
	comp=Z,24nm,0.8s				
V52A	**Sevierville**	**30.44 343**	P	**P**	**00 18 57.1 +2.0**
	baz=159				
V52A	**Sevierville**	**30.44 343**	P	**P**	**00 18 56.5 +1.3**
V52A			IAmb	IAmb	00 18 58.2
	comp=Z,15nm,1.1s				
T57A	**Hurt**	**30.55 350**	P	**P**	**00 18 57.7 +1.7**
	baz=168				
T57A	**Hurt**	**30.55 350**	P	**P**	**00 18 56.5 +0.4**
T57A			IAmb	IAmb	00 18 58.5
	comp=Z,16nm,0.8s				
U54A	**Nelsons Funny**	**30.61 346**	P	**P**	**00 18 59.1 +2.4**
	baz=163,SNR=6.5				
U54A	**Nelsons Funny**	**30.61 346**	P	**P**	**00 18 58.6 +1.9**
SWET	**Sewanee**	**30.62 339**	P	**P**	**00 18 58.7 +1.9**
SWET			IAmb	IAmb	00 18 59.7
	comp=Z,26nm,1.3s				
V51A	**Loudon**	**30.63 342**	P	**P**	**00 18 59.2 +2.4**
	baz=158,SNR=5.9				
V51A	**Loudon**	**30.63 342**	P	**P**	**00 18 58.8 +2.0**
U53A	**Fall Branch**	**30.65 345**	P	**P**	**00 18 58.9 +1.9**
	baz=161				
W49A	**Belvidere**	**30.66 338**	P	**P**	**00 18 58.7 +1.7**
	baz=154				
T56A	**Rocky Mt**	**30.72 349**	P	**P**	**00 18 59.5 +2.0**
	baz=166				
V50A	**Pikevile**	**30.75 341**	P	**P**	**00 19 00.0 +2.2**
	baz=156				
U52A	**Thorn Hill**	**30.89 344**	P	**P**	**00 19 01.1 +2.0**
	baz=160				
S60A	**Water View**	**30.90 354**	P	**P**	**00 19 01.5 +2.4**
	baz=173				
T55A	**Pulaski**	**30.95 348**	P	**P**	**00 19 02.1 +2.4**
	baz=165				
BLA	**Blacksburg**	**30.97 349**	P	**P**	**00 19 01.8 +2.0**
	baz=166				
BLA	**Blacksburg**	**30.97 349**	P	**P**	**00 19 01.8 +2.0**
BLA			IAmb	IAmb	00 19 05.0
	comp=Z,40nm,1.3s				
S58A	**Poland Farm, P**	**30.97 352**	P	**P**	**00 19 01.4 +1.7**
	baz=170				
S58A	**Poland Farm, P**	**30.97 352**	P	**P**	**00 19 01.1 +1.4**
S58A			IAmb	IAmb	00 19 16.0
	comp=Z,17nm,1.1s				
S59A	**Mechanicsville**	**31.02 353**	P	**P**	**00 19 02.2 +2.1**
	baz=172				
U51A	**La Follette**	**31.06 343**	P	**P**	**00 19 02.6 +2.0**
	baz=158				
T54A	**Tazewell**	**31.07 347**	P	**P**	**00 19 03.0 +2.3**
	baz=163,SNR=5.8				
TZTN	**Tazewell**	**31.08 344**	P	**P**	**00 19 02.6 +1.9**
	baz=160				
TZTN	**Tazewell**	**31.08 344**	P	**P**	**00 19 02.8 +2.1**
TZTN			IAmb	IAmb	00 19 03.6
	comp=Z,13nm,0.8s				
V49A	**McMinnville**	**31.11 340**	P	**P**	**00 19 03.0 +2.1**
	baz=155,SNR=5.8				
T53A	**Wise**	**31.22 345**	P	**P**	**00 19 03.9 +1.9**
	baz=162				
PLAL	**Pickwick Lake**	**31.23 336**	P	**P**	**00 19 04.1 +2.0**
PLAL			IAmb	IAmb	00 19 04.9
	comp=Z,21nm,0.8s				
S57A	**Dark Hollow, R**	**31.24 351**	P	**P**	**00 19 03.8 +1.7**
	baz=169				
S57A	**Dark Hollow, R**	**31.24 351**	P	**P**	**00 19 03.3 +1.1**
S57A			IAmb	IAmb	00 19 04.8
	comp=Z,18nm,0.8s				
S56A	**Natural Bridge**	**31.26 350**	P	**P**	**00 19 04.2 +1.8**
	baz=167				
R58B	**Mineral**	**31.29 353**	P	**P**	**00 19 04.7 +2.2**
	baz=171				
R58B	**Mineral**	**31.29 353**	P	**P**	**00 19 04.3 +1.8**
R58B			IAmb	IAmb	00 19 23.4
	comp=Z,14nm,1.2s				
U50A	**Jamestown**	**31.35 342**	P	**P**	**00 19 05.2 +2.0**
	baz=157				
OXF	**Oxford**	**31.40 334**	P	**P**	**00 19 05.2 +1.7**
	baz=148				
OXF	**Oxford**	**31.40 334**	P	**P**	**00 19 04.1 +0.5**
OXF			IAmb	IAmb	00 19 06.0
	comp=Z,12nm,1.1s				
HKT	**Hockley**	**31.41 320**	P	**P**	**00 19 04.6 +1.0**
V48A	**Smith Brothers**	**31.41 338**	P	**P**	**00 19 06.0 +2.3**
R59A	**King George, V**	**31.44 354**	P	**P**	**00 19 05.9 +2.2**
	baz=172				
T52A	**Hallie**	**31.46 345**	P	**P**	**00 19 06.4 +2.3**
	baz=161,SNR=6.1				
CBN	**Corbin Frederi**	**31.47 353**	P	**P**	**00 19 06.3 +2.2**
	baz=172				
S55A	**Lewisburg**	**31.53 349**	P	**P**	**00 19 07.0 +2.3**
	baz=166				
CLTN	**Cedars of Leba**	**31.55 339**	P	**P**	**00 19 06.5 +1.6**
CLTN			IAmb	IAmb	00 19 07.4
	comp=Z,8.4nm,0.6s				
T51A	**Gray**	**31.59 343**	P	**P**	**00 19 07.7 +2.5**
	baz=159,SNR=9.5				
R58A	**Rapidan**	**31.64 353**	P	**P**	**00 19 07.4 +1.8**
	baz=170				
R57A	**Stanardsville**	**31.71 352**	P	**P**	**00 19 08.3 +2.1**
	baz=170				
S54A	**Dingess, Beckl**	**31.72 348**	P	**P**	**00 19 08.7 +2.4**
	baz=164				
S54A	**Dingess, Beckl**	**31.72 348**	P	**P**	**00 19 08.0 +1.6**
S54A			IAmb	IAmb	00 19 09.5
	comp=Z,17nm,0.8s				
U49A	**Red Boiling Sp**	**31.74 340**	P	**P**	**00 19 08.6 +2.0**
	baz=155				
S53A	**Williamson**	**31.79 346**	P	**P**	**00 19 09.0 +2.0**
	baz=163				
T50A	**Nancy**	**31.90 342**	P	**P**	**00 19 10.3 +2.4**
	baz=157				
R56A	**Bull Pasture M**	**31.95 351**	P	**P**	**00 19 11.0 +2.7**
	baz=168				
NATX	**Nacogdoches**	**31.96 324**	P	**P**	**00 19 10.6 +2.1**
	baz=136				
NATX	**Nacogdoches**	**31.96 324**	P	**P**	**00 19 09.7 +1.2**
NATX			IAmb	IAmb	00 19 11.1
	comp=Z,32nm,1.2s				
GO02	**Mina Guanaco**	**31.99 174**	P	**P**	**00 19 08.8 -0.3**
R54A	**Victor**	**32.02 348**	P	**P**	**00 19 11.2 +2.2**
	baz=165				
S52A	**Salyersville**	**32.02 345**	P	**P**	**00 19 11.1 +2.1**
	baz=161				
CCAR	**Cane Creek**	**32.02 330**	P	**P**	**00 19 11.1 +2.1**
Z41A	**Richland Creek**	**32.04 328**	P	**P**	**00 19 10.9 +1.8**
	baz=141				
Z41A	**Richland Creek**	**32.04 328**	P	**P**	**00 19 10.5 +1.3**
Z41A			IAmb	IAmb	00 19 11.4
	comp=Z,9.0nm,0.7s				
X43A	**Marvell**	**32.08 332**	P	**P**	**00 19 11.7 +2.3**
	baz=145				
X43A	**Marvell**	**32.08 332**	P	**P**	**00 19 10.7 +1.2**
X43A			IAmb	IAmb	00 19 15.7
	comp=Z,16nm,0.7s				
Q60A	**Greensboro**	**32.12 356**	P	**P**	**00 19 12.1 +2.3**
	baz=175				
Q60A	**Greensboro**	**32.12 356**	P	**P**	**00 19 11.5 +1.8**
S51A	**Beattyville**	**32.12 344**	P	**P**	**00 19 11.7 +1.9**
	baz=160				
S51A	**Beattyville**	**32.12 344**	P	**P**	**00 19 11.8 +1.9**
S51A			IAmb	IAmb	00 19 12.9
	comp=Z,13nm,0.8s				
WVT	**Waverly**	**32.14 337**	P	**P**	**00 19 11.5 +1.5**
	baz=152				
WVT	**Waverly**	**32.14 337**	P	**P**	**00 19 11.5 +1.5**
T49A	**Edmonton**	**32.20 341**	P	**P**	**00 19 12.2 +1.7**
	baz=156				
T49A	**Edmonton**	**32.20 341**	P	**P**	**00 19 12.2 +1.7**
T49A			IAmb	IAmb	00 19 13.3
	comp=Z,14nm,0.7s				
Q58A	**Fox Den Farm,**	**32.23 353**	P	**P**	**00 19 13.2 +2.4**
	baz=171				
R53A	**Hurricane**	**32.37 347**	P	**P**	**00 19 14.2 +2.2**
	baz=163				
R53A	**Hurricane**	**32.37 347**	P	**P**	**00 19 14.0 +2.1**
R53A			IAmb	IAmb	00 19 15.8
	comp=Z,11nm,0.7s				
S50A	**Richmond**	**32.38 343**	P	**P**	**00 19 14.3 +2.1**
	baz=159				
Q57A	**Strasburg**	**32.42 352**	P	**P**	**00 19 14.7 +2.3**
	baz=170				
WLAR	**White Oak Lake**	**32.53 328**	P	**P**	**00 19 13.1 -0.3**
WLAR			IAmb	IAmb	00 19 15.5
	comp=Z,12nm,0.7s				
Q56A	**Snyder Ridge,**	**32.53 351**	P	**P**	**00 19 16.0 +2.6**
	baz=169				
Q56A	**Snyder Ridge,**	**32.53 351**	P	**P**	**00 19 15.7 +2.3**
Q56A			IAmb	IAmb	00 19 22.5
	comp=Z,25nm,1.2s				
HALT	**Halls**	**32.55 335**	P	**P**	**00 19 15.0 +1.4**
SDMD	**Soldier's Deli**	**32.61 355**	P	**P**	**00 19 14.8 +0.8**
Q55A	**Buckhannon**	**32.64 350**	P	**P**	**00 19 17.0 +2.6**
	baz=167				
P61A	**Hammonton**	**32.73 358**	P	**P**	**00 19 16.7 +1.6**
R51A	**Hillsboro**	**32.74 345**	P	**P**	**00 19 17.3 +2.1**
	baz=160				
S49A	**Springfield**	**32.75 342**	P	**P**	**00 19 17.3 +2.1**
	baz=157,SNR=9.9				
Q54A	**Coxs Mills**	**32.76 349**	P	**P**	**00 19 17.9 +2.5**
	baz=166				
Q54A	**Coxs Mills**	**32.76 349**	P	**P**	**00 19 17.6 +2.2**
Q54A			IAmb	IAmb	00 19 18.6
	comp=Z,20nm,0.9s				
P59A	**Jarrettsville**	**32.77 355**	P	**P**	**00 19 17.3 +1.9**
	baz=174				
Q53A	**Leroy**	**32.78 348**	P	**P**	**00 19 17.6 +2.0**
	baz=164				
P57A	**Homestead Farm**	**32.81 353**	P	**P**	**00 19 17.4 +1.7**
	baz=171				
P57A	**Homestead Farm**	**32.81 353**	P	**P**	**00 19 18.2 +2.4**
P57A			IAmb	IAmb	00 19 18.7
	comp=Z,7.8nm,0.8s				
GLAT	**Glass**	**32.84 335**	P	**P**	**00 19 17.1 +1.0**
GNAR	**Gosnell**	**32.89 334**	P	**P**	**00 19 18.0 +1.4**
P60A	**Greenville**	**32.91 356**	P	**P**	**00 19 19.0 +2.4**
	baz=175				
P60A	**Greenville**	**32.91 356**	P	**P**	**00 19 18.4 +1.7**
P60A			IAmb	IAmb	00 19 27.4
	comp=Z,11nm,0.9s				
R50A	**Paris**	**32.92 344**	P	**P**	**00 19 19.3 +2.5**
	baz=159,SNR=8.7				
R50A	**Paris**	**32.92 344**	P	**P**	**00 19 18.1 +1.3**
R50A			IAmb	IAmb	00 19 20.1
	comp=Z,26nm,0.7s				
P56A	**Dayton Farm, R**	**32.94 352**	P	**P**	**00 19 19.3 +2.4**
	baz=169				
PEBM	**Pemiscott Bayo**	**32.95 335**	P	**P**	**00 19 17.9 +0.9**
UALR	**University of**	**32.99 330**	P	**P**	**00 19 18.5 +1.0**
UALR			IAmb	IAmb	00 19 21.6
	comp=Z,6.5nm,0.6s				
X40A	**Basin Creek Fa**	**33.01 329**	P	**P**	**00 19 18.8 +1.1**
	baz=142,SNR=8.5				
X40A	**Basin Creek Fa**	**33.01 329**	IAmb	IAmb	00 19 19.9
	comp=Z,14nm,1.0s				
PSUB	**Penn St. - Bra**	**33.02 357**	P	**P**	**00 19 18.8 +1.3**
PSUB			IAmb	IAmb	00 19 19.8
	comp=Z,44nm,1.4s				
Q52A	**Bidwell**	**33.04 347**	P	**P**	**00 19 20.1 +2.2**
	baz=163,SNR=5.4				
P55A	**Reedsville**	**33.09 350**	P	**P**	**00 19 20.9 +2.6**
	baz=168				
435B	**Jarrell**	**33.09 319**	P	**P**	**00 19 19.6 +1.2**
	baz=131				
435B	**Jarrell**	**33.09 319**	P	**P**	**00 19 19.9 +1.5**
435B			IAmb	IAmb	00 19 20.4
	comp=Z,12nm,0.9s				
O61A	**Allentown**	**33.14 358**	P	**P**	**00 19 20.6 +2.0**
	baz=177				
MVL	**Millersville**	**33.15 355**	P	**P**	**00 19 20.3 +1.6**
MVL			IAmb	IAmb	00 19 23.4
	comp=Z,12nm,1.0s				
R49A	**Shelbyville**	**33.18 342**	P	**P**	**00 19 20.9 +1.9**
	baz=158				
R49A	**Shelbyville**	**33.18 342**	P	**P**	**00 19 19.9 +0.8**
R49A			IAmb	IAmb	00 19 21.7
	comp=Z,11nm,0.7s				
MCWV	**Mont Chateau**	**33.24 350**	P	**P**	**00 19 22.1 +2.5**
	baz=168				
MCWV	**Mont Chateau**	**33.24 350**	P	**P**	**00 19 21.2 +1.7**
W41B	**Gary Mavity, V**	**33.27 331**	P	**P**	**00 19 21.2 +1.4**
	baz=144				
W41B	**Gary Mavity, V**	**33.27 331**	P	**P**	**00 19 21.1 +1.3**
W41B			IAmb	IAmb	00 19 21.7
	comp=Z,23nm,1.4s				
P54A	**Burton**	**33.30 350**	P	**P**	**00 19 22.1 +2.0**
	baz=166				
HENM	**Henderson Moun**	**33.30 336**	P	**P**	**00 19 21.5 +1.4**
O58A	**Lewisberry**	**33.32 355**	P	**P**	**00 19 22.5 +2.2**
	baz=173				
Q50A	**Georgetown**	**33.35 344**	P	**P**	**00 19 22.8 +2.2**
	baz=160,SNR=8.6				
P53A	**Whipple**	**33.36 348**	P	**P**	**00 19 22.8 +2.2**
	baz=165				
P53A	**Whipple**	**33.36 348**	P	**P**	**00 19 21.1 +0.5**
P53A			IAmb	IAmb	00 19 40.2
	comp=Z,33nm,1.3s				
Q51A	**Peebles**	**33.36 345**	P	**P**	**00 19 23.1 +2.4**
	baz=161,SNR=7.4				
Q51A	**Peebles**	**33.36 345**	P	**P**	**00 19 22.1 +1.4**
Q51A			IAmb	IAmb	00 19 23.8
	comp=Z,24nm,0.7s				
WHAR	**Wooly Hollow**	**33.38 331**	P	**P**	**00 19 21.8 +1.0**
WHAR			IAmb	IAmb	00 19 22.4
	comp=Z,16nm,0.5s				
BDFB	**Brasilia**	**33.39 132**	P	**P**	**00 19 21.2 0.0**
	comp=Z,1.5nm,0.5s,baz=302,slow=9.6,SNR=4.2				
BDFB	**Brasilia**	**33.39 132**	P	**P**	**00 19 21.0 -0.2**
MIAR	**Mount Ida**	**33.44 328**	P	**P**	**00 19 22.1 +0.8**
	baz=141				
MIAR	**Mount Ida**	**33.44 328**	P	**P**	**00 19 22.2 +0.9**
WCI	**Wyandotte Cave**	**33.47 341**	P	**P**	**00 19 23.4 +1.8**
	baz=156				
WCI	**Wyandotte Cave**	**33.47 341**	P	**P**	**00 19 23.5 +1.9**
LCAR	**Lake Charles**	**33.48 333**	IAmb	IAmb	00 19 23.9
	comp=Z,14nm,0.6s				
O57A	**Amberson**	**33.48 354**	P	**P**	**00 19 23.9 +2.3**
	baz=172				
**O56

O56A IAmb IAmb 00 19 26.7
comp=Z,19nm,0.8s
P52A Corning 33.66 347 P P **00 19 25.4 +2.2**
baz=164,SNR=5.9
O55A Ligonier 33.69 351 P P **00 19 26.0 +2.5**
baz=169
P51A Williamsport 33.72 346 P P **00 19 26.1 +2.4**
baz=162
P51A Williamsport 33.72 346 P P **00 19 25.1 +1.4**
BRNJ Basking Ridge 33.73 358 P P **00 19 25.4 +1.7**
Q49A Aurora 33.76 343 P P **00 19 26.3 +2.3**
baz=158
O54A Avella 33.84 350 P P **00 19 26.9 +2.1**
baz=167
O54A Avella 33.84 350 P P **00 19 26.4 +1.6**
O54A IAmb IAmb 00 19 32.8
comp=Z,35nm,1.5s
SSPA Standing Stone 33.93 353 P P **00 19 27.9 +2.4**
baz=171
SSPA Standing Stone 33.93 353 P P **00 19 26.7 +1.2**
SSPA IAmb IAmb 00 19 28.9
comp=Z,22nm,1.1s
Q48A North Vernon 33.94 342 P P **00 19 27.6 +2.0**
baz=157
N60A Cedar Hill Far 33.94 357 P P **00 19 27.8 +2.2**
baz=176
N57A Milroy 34.01 354 P P **00 19 28.1 +1.9**
baz=172
N58A Sunbury 34.02 355 P P **00 19 28.2 +2.0**
baz=173
N58A Sunbury 34.02 355 P P **00 19 27.6 +1.4**
N58A IAmb IAmb 00 19 38.6
comp=Z,48nm,1.5s
N59A State Game Lan 34.02 356 P P **00 19 28.9 +2.6**
baz=175
N59A State Game Lan 34.02 356 P P **00 19 28.3 +2.0**
N59A IAmb IAmb 00 19 29.2
comp=Z,15nm,0.8s
P50A Jamestown 34.03 345 P P **00 19 28.4 +2.0**
baz=161,SNR=9.4
PAL Palisades 34.03 359 P P **00 19 27.5 +1.2**
W39A Magazine 34.05 329 P P **00 19 28.1 +1.5**
baz=141,SNR=6.2
W39A Magazine 34.05 329 IAmb IAmb 00 19 28.8
comp=Z,20nm,0.8s
O52A Adamsville 34.06 348 P P **00 19 28.8 +2.3**
baz=164,SNR=6.8
O52A Adamsville 34.06 348 P P **00 19 28.9 +2.3**
S44A Carbondale 34.06 337 P P **00 19 28.1 +1.4**
O53A New Philadelph 34.06 349 P P **00 19 28.5 +1.9**
baz=165
ODNJ Ogdensburg 34.13 358 P P **00 19 28.8 +1.6**
WSPT Westport, CT 34.19 360 P P **00 19 29.1 +1.5**
WSPT IAmb IAmb 00 19 34.5
comp=Z,36nm,1.2s
N55A Marion Center 34.21 352 P P **00 19 30.7 +2.7**
baz=169
O51A Pataskala 34.25 347 P P **00 19 30.4 +2.1**
baz=163
N56A West Decatur 34.26 353 P P **00 19 30.6 +2.3**
baz=171
YLE Yale 34.33 0 P P **00 19 30.1 +1.1**
P48A Milroy 34.33 343 P P **00 19 30.2 +1.2**
baz=158
P48A Milroy 34.33 343 P P **00 19 29.8 +0.8**
M60A Port Jervis 34.37 358 P P **00 19 31.1 +1.8**
baz=177
ACSO Alum Creek Sta 34.42 347 P P **00 19 32.3 +2.6**
baz=162
ACSO Alum Creek Sta 34.42 347 P P **00 19 31.8 +2.1**
ACSO IAmb IAmb 00 19 32.8
comp=Z,18nm,0.8s
O50A Cable 34.49 346 P P **00 19 32.6 +2.3**
baz=161,SNR=10
U40A Yellville 34.51 331 P P **00 19 31.8 +1.2**
baz=144,SNR=26
M58A Price's Panora 34.52 355 P P **00 19 33.0 +2.4**
baz=174
N53A Lisbon 34.53 350 P P **00 19 32.7 +2.1**
baz=166
N53A Lisbon 34.53 350 P P **00 19 32.6 +1.9**
N53A IAmb IAmb 00 19 34.8
comp=Z,8.4nm,0.6s
N54A Moraine State 34.54 351 P P **00 19 33.1 +2.3**
baz=168
N54A Moraine State 34.54 351 P P **00 19 32.8 +2.0**
N54A IAmb IAmb 00 19 34.2
comp=Z,28nm,1.0s
M57A Sunshine Farm, 34.55 355 P P **00 19 33.2 +2.4**
baz=173
M57A Sunshine Farm, 34.55 355 P P **00 19 33.2 +2.4**
M57A IAmb IAmb 00 19 34.2
comp=Z,17nm,0.8s
M59A Waymart 34.62 357 P P **00 19 33.7 +2.2**
baz=176
N52A McGinn's Farm, 34.70 348 P P **00 19 34.3 +2.2**
baz=165,SNR=7.1
O49A Covington 34.71 345 P P **00 19 33.9 +1.7**
baz=160
O49A Covington 34.71 345 P P **00 19 33.6 +1.4**
O49A IAmb IAmb 00 19 35.7
comp=Z,27nm,1.4s
KSCT Kent School, K 34.75 359 P P **00 19 33.9 +1.4**
KSCT IAmb IAmb 00 19 45.3
comp=Z,42nm,1.1s
M56A Emporium 34.80 353 P P **00 19 35.3 +2.3**
baz=171,SNR=5.1
M56A Emporium 34.80 353 P P **00 19 35.0 +2.0**
M55A Ridgway 34.86 353 P P **00 19 35.9 +2.4**
baz=170
M55A Ridgway 34.86 353 P P **00 19 35.1 +1.6**
M55A IAmb IAmb 00 19 36.4
comp=Z,18nm,0.9s
MGMO Mountain Grove 34.88 333 IAmb IAmb 00 19 35.3
comp=Z,11nm,0.7s
N51A Ashland 34.94 348 P P **00 19 36.1 +1.8**
baz=164
N51A Ashland 34.94 348 P P **00 19 36.0 +1.8**
N51A IAmb IAmb 00 19 36.5
comp=Z,13nm,0.8s
BRYW Bryant College 34.96 2 P P **00 19 35.2 +0.8**
N50A Nevada 34.97 347 P P **00 19 36.4 +2.0**
baz=162,SNR=7.8
HHAR Hobbs 34.98 330 IAmb IAmb 00 19 35.5
comp=Z,9.9nm,0.6s
O48A Farmland 35.00 344 P P **00 19 36.5 +1.9**
baz=159
L60A Shokan 35.02 359 P P **00 19 37.4 +2.5**
baz=178
M54A Oil Creek Stat 35.02 351 P P **00 19 37.3 +2.4**
baz=168
M54A Oil Creek Stat 35.02 351 P P **00 19 36.8 +1.9**
M54A IAmb IAmb 00 19 39.1
comp=Z,31nm,1.1s
L58A Harry Jones Me 35.15 356 P P **00 19 38.2 +2.2**
baz=175
CCM Cathedral Cave 35.18 335 P P **00 19 37.7 +1.4**
baz=148
CCM Cathedral Cave 35.18 335 P P **00 19 37.3 +1.0**
L57A Andrews Acres 35.18 355 P P **00 19 38.4 +2.1**
baz=173
L61A Hillsdale 1, H 35.21 359 P P **00 19 38.7 +2.2**
baz=179
L59A Walton 35.25 357 P P **00 19 38.5 +1.7**
L59A IAmb IAmb 00 19 48.1
comp=Z,10.0nm,1.0s
SLM Saint Louis 35.26 336 P P **00 19 37.7 +0.7**
SLM IAmb IAmb 00 19 38.3
comp=Z,17nm,0.5s
M51A Elyria 35.30 348 P P **00 19 39.4 +2.2**
baz=164
QUA2 Belchertown 35.30 1 P P **00 19 38.8 +1.6**
BINY Binghamton 35.31 356 P P **00 19 39.7 +2.3**
baz=175
BINY Binghamton 35.31 356 P P **00 19 39.1 +1.7**
BINY IAmb IAmb 00 19 40.4
comp=Z,12nm,0.7s
M52A Chesterland 35.34 349 P P **00 19 39.7 +2.1**
baz=166
M52A Chesterland 35.34 349 P P **00 19 38.8 +1.2**
M52A IAmb IAmb 00 19 40.6
comp=Z,23nm,0.9s
N49A Columbus Grove 35.36 345 P P **00 19 39.5 +1.7**
baz=161
N49A Columbus Grove 35.36 345 P P **00 19 39.3 +1.5**
N49A IAmb IAmb 00 19 54.6
comp=Z,41nm,1.4s

L56A Greenwood 35.38 354 P P **00 19 39.8 +1.8**
baz=172
L56A Greenwood 35.38 354 P P **00 19 39.5 +1.5**
L56A IAmb IAmb 00 19 41.2
comp=Z,24nm,1.0s
BCX Boston College 35.39 2 P P **00 19 39.3 +1.3**
BCX IAmb IAmb 00 19 40.9
comp=Z,18nm,0.8s
WES Weston 35.44 2 P P **00 19 40.1 +1.7**
WES IAmb IAmb 00 19 40.7
comp=Z,11nm,0.9s
L55A Hinsdale 35.52 353 P P **00 19 41.2 +2.0**
baz=171
N48A Decatur 35.52 344 P P **00 19 40.5 +1.3**
baz=159
HRV Adam Dziewonsk 35.55 2 P P **00 19 41.5 +2.1**
baz=182
HRV Adam Dziewonsk 35.55 2 P P **00 19 41.0 +1.7**
HRV IAmb IAmb 00 19 41.9
comp=Z,22nm,0.9s
L53A Girard 35.55 351 P P **00 19 41.0 +1.6**
baz=168
M50A Fremont 35.55 347 P P **00 19 41.2 +1.8**
baz=163
M50A Fremont 35.55 347 P P **00 19 40.8 +1.4**
ABTX Abilene, Hawle 35.62 320 P P **00 19 41.2 +1.0**
baz=130,SNR=7.0
ABTX Abilene, Hawle 35.62 320 P P **00 19 41.3 +1.0**
ABTX IAmb IAmb 00 19 42.1
comp=Z,12nm,1.0s
TUL1 Leonard 35.65 327 P P **00 19 40.7 +0.4**
baz=139,SNR=5.2
TUL1 Leonard 35.65 327 IAmb IAmb 00 19 41.6
comp=Z,12nm,0.6s
L54A Sinclairville 35.68 352 P P **00 19 42.6 +2.1**
baz=169
SFIN Lafayette 35.68 341 P P **00 19 42.0 +1.5**
baz=156,SNR=10.0
W35A Tecumseh 35.69 325 P P **00 19 41.2 +0.6**
K62A Royalston 35.69 1 P P **00 19 42.5 +2.0**
baz=181
K62A Royalston 35.69 1 P P **00 19 41.7 +1.1**
K62A IAmb IAmb 00 19 43.9
comp=Z,20nm,0.9s
N47A Urbana 35.73 344 P P **00 19 42.6 +1.7**
baz=158
N47A Urbana 35.73 344 P P **00 19 42.1 +1.3**
N47A IAmb IAmb 00 19 43.5
comp=Z,33nm,1.1s
K63A Dunstable 35.73 2 P P **00 19 42.8 +1.9**
baz=182
TRY Troy 35.75 359 P P **00 19 42.4 +1.3**
TRY IAmb IAmb 00 19 46.8
comp=Z,41nm,1.4s
WVNY West Valley, N 35.76 353 P P **00 19 43.3 +2.1**
WVNY IAmb IAmb 00 19 43.9
comp=Z,21nm,0.6s
K59A Cooperstown 35.83 358 P P **00 19 43.6 +1.8**
baz=177
X34A Smith Ranch, M 35.84 324 P P **00 19 43.0 +1.0**
X34A IAmb IAmb 00 19 43.8
comp=Z,9.3nm,0.9s
K58A Earlville 35.85 357 P P **00 19 44.0 +2.0**
baz=176,SNR=5.3
K58A Earlville 35.85 357 IAmb IAmb 00 19 45.7
comp=Z,14nm,0.8s
K57A Scipio Center 35.88 356 P P **00 19 44.4 +2.2**
baz=174
K56A Middlesex 35.91 355 P P **00 19 44.2 +1.7**
baz=173
O44A Mansfield 35.93 340 P P **00 19 43.2 +0.6**
O44A IAmb IAmb 00 19 43.8
comp=Z,12nm,0.7s
K54A Basiliko Farm, 35.97 353 P P **00 19 44.7 +1.7**
baz=170
M48A Edgerton 36.03 345 P P **00 19 45.0 +1.5**
baz=160
M48A Edgerton 36.03 345 P P **00 19 44.8 +1.4**
L50A Kingsville 36.11 348 P P **00 19 46.3 +2.2**
baz=163
M47A Cromwell 36.15 344 P P **00 19 46.0 +1.5**
baz=158
OKCSW OKLAHOMA CITY 36.19 325 P P **00 19 46.3 +1.4**
J62A Henniker 36.26 2 P P **00 19 48.5 +3.1**
baz=182
J60A Lant Hill Farm 36.26 360 P P **00 19 47.7 +2.3**
baz=179
CPUP Villa Florida 36.34 156 P P **00 19 46.8 +0.6**
comp=Z,0.6nm,0.7s,baz=328,slow=9.5,SNR=1.9
CPUP pP **pP** **00 20 18.9 -1.7**
comp=Z,1.3nm,0.6s,baz=341,slow=9.1,SNR=3.4
CPUP Villa Florida 36.34 156 P P **00 19 46.9 +0.6**
J61A Chester 36.37 1 P P **00 19 48.7 +2.4**
baz=181
L49A Milan 36.38 347 P P **00 19 48.5 +2.0**
baz=162
L48A N Adams 36.39 346 P P **00 19 48.0 +1.5**
baz=161
ACCN Adirondack Com 36.41 359 P P **00 19 47.8 +1.1**
ACCN IAmb IAmb 00 19 49.6
comp=Z,9.0nm,0.9s
J58A Remsen 36.43 357 P P **00 19 48.8 +1.9**
baz=176
J58A Remsen 36.43 357 P P **00 19 49.2 +2.3**
J58A IAmb IAmb 00 19 49.3
comp=Z,12nm,0.7s
J56A Wolcott 36.45 355 P P **00 19 48.9 +2.0**
baz=174
J56A Wolcott 36.45 355 P P **00 19 48.3 +1.4**
J56A IAmb IAmb 00 19 49.6
comp=Z,15nm,0.9s
TXAR Lajitas Array 36.49 312 P P **00 19 48.8 +1.1**
comp=Z,1.5nm,0.5s,baz=124,slow=9.1,SNR=30
TXAR PcP **PcP** **00 22 09.9 +1.6**
comp=Z,0.7nm,0.4s,baz=146,slow=4.6,SNR=5.0
MEDO Medina 36.49 353 P P **00 19 49.3 +1.9**
WMOK Wichita Mounta 36.50 323 P P **00 19 47.6 0.0**
baz=134,SNR=8.2
J59A Piesco 36.50 358 P P **00 19 49.7 +2.2**
baz=178
J59A Piesco 36.50 358 P P **00 19 48.9 +1.4**
J59A IAmb IAmb 00 19 49.8
comp=Z,21nm,1.1s
J57A Williamstown 36.52 356 P P **00 19 49.4 +1.8**
baz=175,SNR=7.6
J55A Hilton 36.52 354 P P **00 19 49.2 +1.6**
baz=172
J55A Hilton 36.52 354 P P **00 19 49.2 +1.6**
J55A IAmb IAmb 00 19 50.2
comp=Z,17nm,0.6s
HDIL Hopedale 36.58 339 P P **00 19 48.6 +0.5**
baz=152,SNR=6.2
L47A Sherwood 36.61 345 P P **00 19 49.4 +1.0**
baz=160
HNH Hanover 36.73 1 P P **00 19 50.9 +1.5**
HNH IAmb IAmb 00 19 52.4
comp=Z,12nm,0.9s
I58A Old Forge 36.74 358 P P **00 19 51.6 +2.0**
baz=177,SNR=9.2
K50A Casco 36.77 348 P P **00 19 51.8 +2.0**
baz=164
K50A Casco 36.77 348 P P **00 19 51.1 +1.3**
M44A Midewin, Midew 36.90 341 P P **00 19 51.0 +0.2**
M44A IAmb IAmb 00 20 06.0
comp=Z,38nm,1.1s
L46A Eue Claire 36.94 344 P P **00 19 52.7 +1.5**
baz=158
L46A Eue Claire 36.94 344 P P **00 19 52.6 +1.4**
K49A Clarkson 36.96 347 P P **00 19 52.9 +1.6**
baz=163
NCB Newcomb 37.00 359 P P **00 19 53.5 +1.8**
NCB IAmb IAmb 00 19 54.8
comp=Z,6.9nm,0.6s
I57A Carthage 37.02 357 P P **00 19 54.1 +2.2**
baz=176
I64A Boothbay 37.06 4 P P **00 19 54.7 +2.5**
baz=186
K48A Perry 37.13 346 P P **00 19 54.4 +1.7**
baz=162
I63A Otisfield 37.13 3 P P **00 19 54.7 +1.9**
baz=184
I63A Otisfield 37.13 3 P P **00 19 54.7 +1.9**
I63A IAmb IAmb 00 19 55.6
comp=Z,19nm,0.8s
K47A Vermontville 37.21 345 P P **00 19 54.8 +1.3**
baz=160
LBNH Lisbon 37.27 1 P P **00 19 56.3 +2.3**
baz=182
LBNH Lisbon 37.27 1 P P **00 19 55.4 +1.5**
LBNH IAmb IAmb 00 19 56.9
comp=Z,24nm,0.9s
K46A Dorr 37.43 345 P P **00 19 56.4 +1.1**
baz=159
J49A Marlette 37.44 348 P P **00 19 57.2 +1.8**
baz=163
H58A Gabriels 37.45 359 P P **00 19 57.5 +2.0**
baz=178
I55A Frankford 37.45 355 P P **00 19 57.0 +1.5**
baz=172
I51A Listowel 37.48 351 P P **00 19 57.5 +1.8**
baz=167
J48A Bridge Port 37.52 347 P P **00 19 57.9 +1.8**
baz=162
J48A Bridge Port 37.52 347 P P **00 19 57.6 +1.6**
J48A IAmb IAmb 00 19 58.5
comp=Z,23nm,0.9s
H57A Richville 37.53 357 P P **00 19 57.6 +1.4**
baz=176
H61A Lyndonville 37.56 1 P P **00 19 58.5 +2.0**
baz=182
H60A Morristown 37.58 0 P P **00 19 58.5 +2.0**
baz=180
I52A Shelburne 37.60 352 P P **00 19 58.8 +2.0**
baz=168
H62A Milan 37.63 2 P P **00 19 59.6 +2.7**
baz=183
H62A Milan 37.63 2 P P **00 19 58.8 +1.8**
H62A IAmb IAmb 00 20 07.1
comp=Z,34nm,1.4s
LONY Lake Ozonia 37.66 358 P P **00 19 59.4 +2.2**
baz=177
LONY Lake Ozonia 37.66 358 P P **00 19 58.5 +1.3**
LONY IAmb IAmb 00 20 00.2
comp=Z,30nm,1.4s
H59A Cadyville 37.67 359 P P **00 19 59.8 +2.5**
baz=179
J47A Sunmer 37.70 346 P P **00 19 59.0 +1.4**
baz=161,SNR=5.2
J47A Sunmer 37.70 346 P P **00 19 59.1 +1.4**
H56A Elgin 37.71 356 P P **00 19 59.6 +1.9**
baz=175,SNR=5.4
H55A Tweed 37.74 355 P P **00 19 59.7 +1.8**
baz=173,SNR=9.7
U32A Winter Ranch, 37.77 325 P P **00 19 58.8 +0.5**
U32A IAmb IAmb 00 20 00.1
comp=Z,17nm,0.6s
H63A New Sharon 37.77 4 P P **00 20 00.4 +2.3**
baz=185
H64A Troy 37.81 4 P P **00 20 00.7 +2.3**
baz=186
H53A Bobcaygeon 37.90 354 P P **00 20 01.0 +1.8**
baz=171
I49A Point Hope 37.93 349 P P **00 20 00.4 +0.9**
H65A Eastbrook 37.95 6 P P **00 20 01.9 +2.3**
baz=188
L42A Oliver, Polo 37.99 340 P P **00 20 00.2 +0.1**
L42A IAmb IAmb 00 20 00.9
comp=Z,20nm,0.7s
J46A Howard City 38.01 345 P P **00 20 01.7 +1.5**
baz=159
EMMW East Machias 38.04 6 P P **00 20 01.8 +1.4**
G59A Clarenceville 38.10 360 P P **00 20 02.9 +2.1**
baz=180
G60A Masonville 38.12 1 P P **00 20 03.2 +2.1**
baz=181
H66A Whiting 38.13 7 P P **00 20 03.5 +2.4**
baz=189
SADO Sadowa 38.16 353 P P **00 20 02.9 +1.5**
comp=Z,12nm,0.4s,baz=206,slow=2.5,SNR=18
SADO Sadowa 38.16 353 P P **00 20 02.9 +1.5**
SADO IAmb IAmb 00 20 03.7
comp=Z,20nm,0.9s
G57A Newington 38.16 358 P P **00 20 03.3 +1.9**
baz=177,SNR=8.8
G58A Ormstown 38.17 359 P P **00 20 03.4 +1.9**
baz=178
K43A Burlington 38.18 342 P P **00 20 02.0 +0.4**
J45A Montague 38.29 344 P P **00 20 03.8 +1.3**
baz=158
J45A Montague 38.29 344 P P **00 20 03.4 +0.9**
G62A West of Eustis 38.30 3 P P **00 20 04.8 +2.3**
baz=184,SNR=5.4
G61A St-Isidore-de- 38.32 2 P P **00 20 04.7 +1.9**
baz=182
AMTX Amarillo 38.37 321 P P **00 20 05.0 +1.5**
baz=130
PKME Peaks-Kenny Pk 38.42 4 P P **00 20 05.5 +2.0**
baz=186
PKME Peaks-Kenny Pk 38.42 4 P P **00 20 05.4 +1.8**
PKME IAmb IAmb 00 20 06.3
comp=Z,29nm,1.1s
G53A Haliburton 38.44 354 P P **00 20 05.3 +1.6**
baz=171,SNR=5.5
G64A Maxfield 38.45 5 P P **00 20 06.3 +2.5**
baz=187
KSU1 Kansas State U 38.50 330 P P **00 20 04.3 0.0**
baz=140,SNR=6.4
MSTX Muleshoe 38.50 319 P P **00 20 05.5 +0.9**
baz=128
MSTX Muleshoe 38.50 319 IAmb IAmb 00 20 06.1
comp=Z,13nm,1.0s
GGN Saint George 38.52 7 P P **00 20 05.8 +1.4**
I46A Reed City 38.52 346 P P **00 20 05.6 +1.2**
baz=160
HAL Halifax 38.55 11 P P **00 20 05.9 +1.3**
L40A Anamosa 38.60 338 IAmb IAmb 00 20 06.0
comp=Z,21nm,0.7s
G54A Lake Saint Pet 38.66 354 P P **00 20 07.3 +1.6**
baz=172,SNR=5.7
H48A Harrisville 38.76 348 P P **00 20 07.6 +1.2**
H47A Mio 38.85 347 P P **00 20 09.2 +2.0**
baz=162
F60A Warwick 39.00 1 P P **00 20 10.2 +1.9**
baz=182
JFWS Jewell Farm 39.00 340 P P **00 20 09.1 +0.6**
baz=152,SNR=8.3
MNTX Cornudas Mount 39.00 314 P P **00 20 09.9 +1.3**
baz=123,SNR=15
MNTX Cornudas Mount 39.00 314 P P **00 20 10.0 +1.4**
H46A Fife Lake 39.02 346 P P **00 20 09.7 +1.1**
baz=161
F61A St Evariste 39.03 2 P P **00 20 10.2 +1.6**
baz=183
F64A Sherman 39.09 5 P P **00 20 10.9 +1.8**
baz=187
F64A Sherman 39.09 5 P P **00 20 10.7 +1.6**
F64A IAmb IAmb 00 20 11.5
comp=Z,16nm,0.8s
RCBR Riachuelo 39.17 108 P P **00 20 09.8 -0.5**
RCBR IAmb IAmb 00 20 20.5
comp=Z,18nm,1.1s
F52A Sundridge 39.19 353 P P **00 20 11.5 +1.6**
baz=170
ALGO Algonquin Park 39.21 355 P P **00 20 11.7 +1.6**
baz=172,SNR=8.1
SCIA State Center 39.23 336 P P **00 20 11.6 +1.2**
baz=147
TRQ Mont Tremblant 39.26 358 P P **00 20 12.1 +1.5**
H45A Beulah 39.31 345 P P **00 20 12.2 +1.3**
baz=159
G47A Hillman 39.33 348 P P **00 20 13.1 +2.0**
baz=163
E58A La Victoria 39.39 360 P P **00 20 13.6 +2.0**
baz=180
F51A Arnstein 39.39 352 P P **00 20 13.2 +1.5**
baz=169
E60A Ste Agathe de 39.41 2 P P **00 20 14.2 +2.4**
baz=182
I42A Draeger Farm, 39.44 342 P P **00 20 12.9 +0.9**
E61A Lac Etchemin 39.51 3 P P **00 20 14.6 +2.0**
baz=184
LMN Caledonia Moun 39.52 9 P P **00 20 14.1 +1.4**
E55A Montcerf-Lytto 39.55 357 P P **00 20 14.7 +1.7**
baz=175,SNR=11
E52A Mattawa 39.60 354 P P **00 20 14.7 +1.3**
baz=171,SNR=5.7
E56A St. Veronique 39.60 358 P P **00 20 15.0 +1.6**
baz=177
G45A Suttons Bay 39.60 346 P P **00 20 14.7 +1.3**
baz=160
H43A Windswept, Lux 39.63 343 P P **00 20 14.9 +1.3**
H43A IAmb IAmb 00 20 16.0
comp=Z,26nm,0.7s
E63A Oxbow 39.64 5 P P **00 20 15.8 +2.1**

baz=187
E63A Oxbow 39.64 5 P **P 00 20 15.3 +1.6**
E63A IAmb IAmb 00 20 16.3
comp=Z,22nm,0.8s
E64A Bridgewater 39.69 6 P **P 00 20 15.9 +1.7**
baz=188,SNR=5.0
GBN Guysborough 39.71 13 P **P 00 20 15.1 +0.8**
GBN IAmb IAmb 00 20 30.4
comp=Z,53nm,1.4s
F48A Evansville 39.72 350 P **P 00 20 15.6 +1.3**
baz=165
PQI Presque Isle 39.93 5 P **P 00 20 18.1 +2.0**
PQI IAmb IAmb 00 20 18.5
comp=Z,22nm,0.7s
E51A G1948 Merrick 39.94 353 P **P 00 20 18.1 +2.0**
baz=170
D60A Saint Jean D'O 39.97 2 P **P 00 20 18.4 +2.0**
baz=183
I40A Norwalk 39.99 340 IAmb IAmb 00 20 17.9
comp=Z,25nm,0.8s
D59A Saint-Raymond 40.04 1 P **P 00 20 18.9 +1.9**
baz=182
D57A Chemin Vers le 40.04 359 P **P 00 20 18.9 +1.9**
baz=179
D55A Sainte-Anne-du 40.09 357 P **P 00 20 19.1 +1.7**
baz=176
D58A Chemin du LacG 40.11 0 P **P 00 20 19.4 +1.8**
baz=180
F45A CMU Biological 40.18 346 P **P 00 20 19.5 +1.4**
baz=161
D62A Allapoint, All 40.25 4 P **P 00 20 20.7 +2.0**
baz=186,SNR=11
E48A Lockeyer 40.27 350 P **P 00 20 20.6 +1.7**
baz=166,SNR=6.2
D63A Stockholm 40.28 5 P **P 00 20 20.9 +1.9**
baz=188,SNR=8.1
D54A Lac Fusel, La 40.29 356 P **P 00 20 20.4 +1.4**
baz=174,SNR=7.0
D61A St Aubert, Com 40.30 3 P **P 00 20 21.5 +2.4**
baz=184,SNR=13
LATQ La Tuque 40.40 0 P **P 00 20 22.0 +2.2**
baz=180,SNR=7.2
LATQ La Tuque 40.40 0 P **P 00 20 22.1 +2.2**
LATQ IAmb IAmb 00 20 22.8
comp=Z,11nm,0.9s
E47A Iron Bridge 40.44 349 P **P 00 20 22.1 +1.8**
baz=164
D51A Lot 18 Range I 40.47 353 P **P 00 20 22.2 +1.7**
baz=170
E46A Sault Ste Mari 40.56 348 P **P 00 20 22.4 +1.2**
D50A G1974 Best Tow 40.60 353 P **P 00 20 23.1 +1.5**
baz=170
BATG Bathurst New B 40.74 7 P **P 00 20 24.4 +1.7**
D48A Paudash Townsh 40.88 351 P **P 00 20 25.4 +1.5**
baz=167
F42A Maple Grove Fa 40.91 344 P **P 00 20 25.0 +0.8**
D46A Sault St. Mari 41.01 349 P **P 00 20 26.0 +1.0**
baz=163
BGNE Belgrade 41.02 331 P **P 00 20 26.0 +0.8**
baz=140
BGNE Belgrade 41.02 331 P **P 00 20 26.2 +1.0**
BGNE IAmb IAmb 00 20 26.8
comp=Z,32nm,0.8s
G40A Rib Lake 41.08 342 P **P 00 20 26.5 +0.9**
121A Cookes Peak, D 41.17 313 P **P 00 20 28.8 +2.1**
baz=121
E43A Lone Tree Farm 41.18 345 P **P 00 20 27.0 +0.6**
E43A IAmb IAmb 00 20 44.8
comp=Z,45nm,1.1s
BNM Barren Site 41.21 316 P **P 00 20 28.2 +1.1**
VLDQ Val d'Or 41.30 356 IAmb IAmb 00 20 31.4
comp=Z,9.3nm,0.6s
COWI Conover 41.51 343 P **P 00 20 30.2 +1.2**
COWI IAmb IAmb 00 20 31.5
comp=Z,28nm,1.0s
T25A Trinidad 41.51 321 P **P 00 20 30.7 +1.3**
baz=129
ANMO Albuquerque 41.54 317 P **P 00 20 31.2 +1.5**
baz=125
ANMO Albuquerque 41.54 317 P **P 00 20 31.1 +1.5**
GO05 Huala 41.63 179 P **P 00 20 29.2 -1.0**
SPMN Marine on St. 41.91 339 P **P 00 20 32.5 +0.2**
baz=150,SNR=5.4
ECSD EROS Data Cent 42.16 334 P **P 00 20 34.3 -0.1**
baz=144,SNR=10
ECSD EROS Data Cent 42.16 334 IAmb IAmb 00 20 35.7
comp=Z,11nm,0.8s
LSQQ Lebel-sur-Quev 42.21 356 P **P 00 20 35.8 +1.1**
baz=174
D41A Chassel 42.23 344 P **P 00 20 35.3 +0.4**
SDCO Great Sand Dun 42.57 321 P **P 00 20 39.8 +1.7**
baz=128,SNR=11
OGNE Ogallala 42.67 327 P **P 00 20 39.1 +0.4**
baz=135
OGNE Ogallala 42.67 327 P **P 00 20 39.4 +0.7**
E38A The Farm, Brul 42.70 341 P **P 00 20 39.5 +0.8**
E38A IAmb IAmb 00 20 44.7
comp=Z,12nm,0.9s
CHGQ Chibougamau 42.94 359 P **P 00 20 42.3 +1.7**
baz=178
MATQ Matagami 42.95 356 P **P 00 20 42.0 +1.4**
baz=173,SNR=8.8
TUC Tucson 43.28 311 P **P 00 20 45.3 +1.7**
baz=118
TUC Tucson 43.28 311 P **P 00 20 44.8 +1.2**
S22A 4UR Ranch, Cre 43.41 320 P **P 00 20 46.9 +2.0**
baz=127
S22A 4UR Ranch, Cre 43.41 320 P **P 00 20 46.9 +2.0**
SUSD Miller 43.74 333 P **P 00 20 47.3 +0.2**
baz=141,SNR=12
EYMN Ely 43.87 342 P **P 00 20 48.6 +0.6**
baz=153,SNR=11
ISCO Idaho Springs 43.92 323 P **P 00 20 50.6 +1.6**
baz=130,SNR=6.9
ISCO Idaho Springs 43.92 323 P **P 00 20 50.5 +1.5**
MVCO Mesa Verde 44.18 318 P **P 00 20 52.4 +1.5**
baz=124
DRLN Deer Lake 44.27 15 P **P 00 20 51.6 +0.4**
DRLN IAmb IAmb 00 20 58.3
comp=Z,37nm,1.2s
SMCO Snowmass 44.36 322 P **P 00 20 54.1 +1.5**
214A Organ Pipe Nat 44.66 309 P **P 00 20 57.2 +2.6**
baz=116
214A Organ Pipe Nat 44.66 309 P **P 00 20 56.1 +1.5**
PHWY Pilot Hill 44.80 325 P **P 00 20 56.9 +1.0**
WUAZ Wupatki 45.24 315 P **P 00 21 01.3 +1.9**
baz=120,SNR=11
WUAZ Wupatki 45.24 315 IAmb IAmb 00 21 03.2
comp=Z,12nm,0.9s
AGMN Agassiz Nation 45.63 339 P **P 00 21 02.8 +0.8**
AGMN IAmb IAmb 00 21 03.3
comp=Z,18nm,0.6s
O20A White River Ci 45.72 322 P **P 00 21 04.6 +1.5**
baz=127
RSSD Black Hills 45.95 329 P **P 00 21 05.9 +1.1**
baz=135
RSSD Black Hills 45.95 329 P **P 00 21 06.0 +1.2**
K22A Casper 46.29 326 P **P 00 21 08.7 +1.2**
baz=131
SRU San Rafael Swe 46.56 319 P **P 00 21 10.7 +1.0**
MDND Maddock 46.70 336 P **P 00 21 11.1 +0.7**
baz=142,SNR=6.9
PKCU Pink Cliffs 46.87 316 P **P 00 21 14.1 +1.8**
Q16A Castle Valley 46.88 319 P **P 00 21 14.3 +2.1**
TMUT Trail Mountain 47.11 319 P **P 00 21 14.9 +0.9**
ULM Lac du Bonnet 47.29 340 P **P 00 21 15.2 +0.3**
comp=Z,26nm,0.5s,baz=145,slow=7.1,SNR=98
ULM Lac du Bonnet 47.29 340 IAmb IAmb 00 21 15.9
comp=Z,40nm,1.1s
MSU Marysvale 47.33 318 P **P 00 21 17.5 +1.8**
PLCA Paso Flores 47.39 177 P **P 00 21 13.5 -2.4**
SZCU Shurtz Canyon 47.48 316 P **P 00 21 18.0 +1.2**
JLU Jordanelle 47.98 320 P **P 00 21 21.8 +1.0**
NLU North Lily Min 48.03 319 P **P 00 21 22.3 +1.3**
BW06 Boulder Array 48.09 324 P **P 00 21 22.1 +0.6**
baz=128,SNR=7.1
PDAR Pinedale Array 48.09 324 P **P 00 21 22.2 +0.7**
comp=Z,3.7nm,0.6s,baz=127,slow=8.8,SNR=29
PDAR ScP **ScP 00 26 27.3 +0.3**
comp=Z,0.3nm,0.6s,baz=108,slow=5.8,SNR=3.5
SCHQ Schefferville 48.12 5 P **P 00 21 22.3 +1.1**
comp=Z,30nm,0.5s,baz=194,slow=6.4,SNR=57
SCHQ ScP **ScP 00 26 26.3 -0.2**
comp=Z,4.4nm,0.8s,baz=211,slow=5.9,SNR=4.9
PFO Pinyon Flats O 48.14 310 P **P 00 21 22.2 +0.3**
SHPR Sheep Range 48.41 314 P **P 00 21 26.4 +2.4**

PSUT Pine Spring 48.47 317 P **P 00 21 26.5 +2.1**
TUQ Turquoise Moun 48.49 312 P **P 00 21 26.2 +1.6**
baz=116
DUG Dugway, Tooele 48.63 319 P **P 00 21 27.0 +1.4**
baz=122,SNR=6.2
MURC Murrieta 48.70 309 P **P 00 21 27.2 +1.2**
baz=113
LAO LASA Array 48.85 330 P **P 00 21 27.4 +0.4**
baz=134
GSC Goldstone, Bar 49.09 312 P **P 00 21 30.6 +1.5**
baz=115
GSC Goldstone, Bar 49.09 312 P **P 00 21 30.1 +1.0**
DGMT Dagmar 49.16 333 P **P 00 21 30.8 +1.5**
baz=137,SNR=19
REDW Red Top Meadow 49.21 324 IAmb IAmb 00 21 32.0
comp=Z,11nm,0.6s
SNOW Snow King Moun 49.21 324 P **P 00 21 31.2 +1.1**
SNOW IAmb IAmb 00 21 32.8
comp=Z,13nm,1.1s
MOOW Moose Ponds 49.38 324 P **P 00 21 32.2 +0.9**
TPNV Topopah Spring 49.39 314 P **P 00 21 33.7 +2.3**
baz=117,SNR=5.9
RLMT Red Lodge 49.40 327 P **P 00 21 32.5 +1.1**
baz=130
RLMT Red Lodge 49.40 327 P **P 00 21 32.5 +1.1**
FLWY Flagg Ranch 49.55 325 P **P 00 21 33.4 +0.8**
R11A Troy Canyon, C 49.57 316 P **P 00 21 34.3 +1.5**
baz=118,SNR=6.8
IMW Indian Meadow 49.58 324 P **P 00 21 33.0 +0.2**
IMW IAmb IAmb 00 21 34.7
comp=Z,6.5nm,0.6s
H17A Grant Village 49.67 325 P **P 00 21 34.8 +1.3**
baz=128
H17A Grant Village 49.67 325 P **P 00 21 35.2 +1.7**
EDW2 Edwards Air Fo 49.81 311 P **P 00 21 35.5 +1.0**
baz=114
LRMC Laurel Mtn Rad 49.81 311 P **P 00 21 36.2 +1.6**
baz=114
MPMC Manual Prospec 49.91 312 P **P 00 21 36.5 +1.1**
baz=115
YMR Madison River 50.06 325 P **P 00 21 38.5 +2.0**
YHB Horse Butte 50.24 325 P **P 00 21 39.4 +1.6**
QLMT Earthquake Lak 50.42 325 P **P 00 21 41.2 +2.1**
ELK Elko 50.50 319 P **P 00 21 40.5 +0.6**
CWC Cottonwood Cre 50.50 312 P **P 00 21 41.3 +1.4**
baz=115
VES Vestal, Richgr 51.01 311 P **P 00 21 45.0 +1.7**
baz=113
ROSA Rosais 51.35 45 P **P 00 21 46.3 +0.4**
DLMT Dillon 51.40 325 P **P 00 21 48.1 +1.7**
NV11 Mina Array Sit 51.40 315 P **P 00 21 47.6 +1.1**
SMMC Simmler 51.49 310 P **P 00 21 48.3 +1.3**
baz=112
NVAR Mina Array Bea 51.51 315 P **P 00 21 48.6 +1.3**
comp=Z,1.2nm,0.6s,baz=111,slow=6.9,SNR=15
NVAR PcP **PcP 00 23 00.2 +0.8**
comp=Z,0.7nm,0.5s,baz=124,slow=5.3,SNR=5.0
EGMT Eagleton 51.52 329 P **P 00 21 48.2 +1.1**
baz=131
EGMT Eagleton 51.52 329 IAmb IAmb 00 21 49.7
comp=Z,6.5nm,0.6s
LRM Limekiln Ridge 51.59 326 P **P 00 21 49.3 +1.4**
OMMB Old Mammoth Mi 51.66 313 P **P 00 21 49.7 +1.1**
RYN Ryan 51.75 315 P **P 00 21 50.2 +1.1**
MFID Camas Ranch 52.25 321 IAmb IAmb 00 21 55.4
comp=Z,8.2nm,0.7s
MSO Missoula 53.02 326 P **P 00 21 59.1 +0.9**
baz=126
MSO Missoula 53.02 326 P **P 00 21 59.1 +0.9**
FFC Flin Flon 53.09 339 P **P 00 21 58.9 +0.4**
FFC IAmb IAmb 00 21 59.2
comp=Z,9.4nm,0.5s
SAO San Andreas Ge 53.12 311 P **P 00 22 00.4 +1.4**
SAO IAmb IAmb 00 22 11.0
comp=Z,14nm,1.3s
PLID Pearl Lake 53.24 323 P **P 00 22 00.7 +0.7**
WVOR Wild Horse Val 53.55 319 IAmb IAmb 00 22 06.0
comp=Z,7.9nm,0.8s
JTMT Jette 53.74 327 P **P 00 22 05.2 +1.7**
JTMT IAmb IAmb 00 22 05.8
comp=Z,8.3nm,0.9s
BMO Blue Mountains 53.90 322 P **P 00 22 06.6 +1.9**
FCC Fort Churchill 54.27 347 IAmb IAmb 00 22 08.6
comp=Z,20nm,1.1s
MOD Modoc Plateau 54.41 318 P **P 00 22 09.3 +0.9**
F10A Beach Ranch, E 54.44 323 IAmb IAmb 00 22 10.6
comp=Z,6.7nm,0.5s
O03E Paynes Creek 54.75 315 P **P 00 22 11.6 +0.7**
baz=114
G08A Pilot Rock 55.13 322 IAmb IAmb 00 22 15.4
comp=Z,9.1nm,0.7s
M04C Macdoel 55.39 317 P **P 00 22 16.4 +0.9**
baz=115
NEW Newport 55.61 326 P **P 00 22 17.5 +0.6**
baz=123
NEW Newport 55.61 326 P **P 00 22 17.4 +0.5**
NEW IAmb IAmb 00 22 18.3
comp=Z,9.8nm,1.4s
J05D Fort Rock, OR 55.64 319 P **P 00 22 18.6 +1.3**
baz=116,SNR=10.0
PINE Pine Mountain 55.67 319 P **P 00 22 19.4 +1.9**
PINE IAmb IAmb 00 22 20.5
comp=Z,18nm,1.0s
KCPM Cahto Peak 55.77 314 P **P 00 22 18.9 +0.6**
KCPM IAmb IAmb 00 22 35.9
comp=Z,28nm,1.4s
L04D Klamath Falls 55.89 317 P **P 00 22 19.1 +0.1**
baz=115
YBH Yreka Blue Hor 55.96 317 P **P 00 22 19.1 -0.4**
C09A Chrisman Ranch 56.01 325 IAmb IAmb 00 22 21.5
comp=Z,8.8nm,0.7s
F07A Phinny Hill Vi 56.02 322 P **P 00 22 21.0 +1.3**
F07A IAmb IAmb 00 22 22.3
comp=Z,14nm,1.4s
HAWA Hanford 56.03 323 P **P 00 22 20.5 +0.7**
KMRM Mail Ridge 56.06 314 P **P 00 22 20.9 +0.6**
KMRM IAmb IAmb 00 22 24.3
comp=Z,12nm,1.0s
G06A Carlson Farm, 56.15 321 P **P 00 22 22.5 +1.8**
G06A IAmb IAmb 00 22 23.0
comp=Z,4.7nm,0.7s
E07A Sunnyside 56.30 323 P **P 00 22 22.5 +0.7**
KHMM Horse Mountain 56.33 315 P **P 00 22 23.4 +1.1**
KHMM IAmb IAmb 00 22 24.7
comp=Z,27nm,1.3s
HUMO Hull Mountain 56.49 317 P **P 00 22 22.6 -0.6**
JCC Jacoby Creek, 56.52 315 P **P 00 22 25.6 +2.3**
G05D Wamic, OR 56.57 321 P **P 00 22 25.4 +1.7**
baz=118
I04A Tendick Farm, 56.63 319 P **P 00 22 24.6 +0.5**
baz=116
KRMB Red Mountain 56.70 316 P **P 00 22 25.7 +0.9**
KRMB IAmb IAmb 00 22 29.8
comp=Z,22nm,1.3s
H04A Detroit Lake 56.87 320 IAmb IAmb 00 22 29.7
comp=Z,9.5nm,0.9s
B08A Colville Reser 56.91 325 IAmb IAmb 00 22 27.5
comp=Z,12nm,1.2s
K02D Willamette Mer 57.00 317 P **P 00 22 27.9 +1.0**
baz=114
LTY Liberty 57.13 323 IAmb IAmb 00 22 29.7
comp=Z,6.8nm,0.8s
KBO Bosley Butte 57.19 316 P **P 00 22 29.0 +0.8**
I03D Drain, OR 57.20 318 P **P 00 22 28.6 +0.5**
baz=115
IVI Ivigtut 57.35 14 P **P 00 22 28.9 +0.2**
IVI IAmb IAmb 00 22 42.9
comp=Z,16nm,1.2s
KEBM Edson Butte 57.52 317 P **P 00 22 32.3 +1.8**
COR Corvallis 57.55 319 P **P 00 22 32.7 +2.2**
COR IAmb IAmb 00 22 33.8
comp=Z,24nm,1.1s
LON Longmire 57.58 322 P **P 00 22 31.7 +0.9**
G03D McMinnville, O 57.79 320 P **P 00 22 32.9 +0.7**
baz=116
E04D Cinebar 57.95 322 P **P 00 22 33.7 +0.4**
baz=117
B05A Bryant 58.46 324 P **P 00 22 36.7 -0.1**
baz=118
E03A Lebam 58.56 321 P **P 00 22 38.7 +1.2**
E03A IAmb IAmb 00 22 49.2
comp=Z,14nm,1.2s
D03D Eldon 58.72 323 P **P 00 22 39.1 +0.5**
baz=117
A04D Lummi Island 59.04 324 P **P 00 22 40.9 +0.2**
baz=118

NLWA Neilton Lookou 59.12 322 P **P 00 22 42.4 +0.9**
NLWA IAmb IAmb 00 22 44.6
comp=Z,8.3nm,0.9s
PGC Sidney 59.44 324 P **P 00 22 44.8 +1.3**
PGC IAmb IAmb 00 23 03.5
comp=Z,16nm,1.1s
LLLB Lillooet 59.48 326 IAmb IAmb 00 22 46.1
comp=Z,9.1nm,1.1s
SFJD Kangerlussuaq 62.00 10 P **P 00 23 00.6 +0.1**
SFJD IAmb IAmb 00 23 00.9
comp=Z,7.6nm,0.8s
YKA Yellowknife Ar 63.27 340 P **P 00 23 09.5 +0.6**
comp=Z,16nm,0.6s,baz=133,slow=6.6,SNR=268
ANGG Ammassalik, Gr 63.67 16 P **P 00 23 11.8 +0.2**
ILULI Ilulissat 63.95 9 P **P 00 23 13.5 +0.2**
TIC Toumodi 67.52 86 *e*P **P 00 23 35.9 -1.4**
LIC Lamto 67.55 86 *e*P **P 00 23 36.3 -1.1**
comp=Z,23nm,0.6s
DBIC Dimbokro 67.68 86 P **P 00 23 37.3 -1.0**
comp=Z,4.3nm,0.6s,baz=276,slow=7.2,SNR=11
DBIC Dimbokro 67.68 86 P **P 00 23 37.5 -0.7**
CRAG Craig 67.70 328 P **P 00 23 37.8 +0.2**
CRAG IAmb IAmb 00 23 43.9
comp=Z,33nm,1.4s
KIC Kosan Boka 67.82 86 *e*P **P 00 23 38.1 -1.1**
comp=Z,18nm,0.7s
RES Resolute Bay 68.96 354 P **P 00 23 45.5 +0.4**
SUMG Summit 68.96 11 *i* P **P 00 23 46.4 +0.8**
comp=Z,107nm,0.6s
SUMG Summit 68.96 11 P **P 00 23 46.2 +0.6**
ESDC Sonseca Array 69.60 50 P **P 00 23 48.5 -1.3**
comp=Z,0.1nm,0.3s,baz=259,slow=5.9,SNR=5.0
BESE Bessie Mountai 69.72 331 P **P 00 23 51.4 +1.2**
BESE IAmb IAmb 00 23 55.6
comp=Z,12nm,1.0s
C36M Paulatuk 70.59 343 P **P 00 23 54.3 -0.9**
baz=125
DSB Dublin 70.69 36 P **P 00 23 54.9 -1.2**
DSB IAmb IAmb 00 24 01.6
comp=Z,33nm,1.1s
HYT Haines Junctio 71.76 332 P **P 00 24 04.1 +1.6**
HYT IAmb IAmb 00 24 15.3
comp=Z,15nm,1.5s
EPYK Eagle Plains 73.39 338 P **P 00 24 12.8 +0.9**
baz=112
EPYK Eagle Plains 73.39 338 IAmb IAmb 00 24 13.3
comp=Z,9.5nm,0.3s
CTGM Chitina Glacie 73.58 332 P **P 00 24 14.8 +1.5**
CTGM IAmb IAmb 00 24 31.2
comp=Z,16nm,1.4s
DAWY Dawson 73.65 335 P **P 00 24 14.3 +0.8**
TOA0 Torodi Ar. Sit 73.69 78 P **P 00 24 12.9 -1.6**
TORD Torodi Ar. Bea 73.69 78 P **P 00 24 13.3 -1.3**
comp=Z,0.8nm,0.4s,baz=284,slow=6.2,SNR=33
TORD pP **pP 00 24 52.8 -0.5**
comp=Z,0.7nm,0.5s,baz=285,slow=6.2,SNR=2.4
BARN Barnard Glacie 73.76 332 P **P 00 24 15.7 +1.3**
BALM Baldy 74.08 332 P **P 00 24 17.0 +0.9**
TGL Tana Glacier 74.23 331 P **P 00 24 18.5 +1.4**
TGL IAmb IAmb 00 24 19.5
comp=Z,12nm,1.0s
CRQM Cirque 74.38 331 P **P 00 24 19.8 +1.8**
MCARA McCarthy VSAT 74.48 332 P **P 00 24 20.2 +1.8**
MCARA IAmb IAmb 00 24 21.2
comp=Z,23nm,1.3s
EGAK Eagle 74.60 336 P **P 00 24 20.5 +1.6**
VRDI Verde Repeater 74.65 332 P **P 00 24 21.2 +1.7**
VRDI IAmb IAmb 00 24 23.3
comp=Z,13nm,1.2s
GLB Gilahina Butte 74.86 332 P **P 00 24 22.2 +1.6**
MENT Mentasta 75.19 333 P **P 00 24 24.0 +1.6**
DOT Dot Lake 75.51 334 P **P 00 24 26.1 +1.9**
DOT IAmb IAmb 00 24 26.6
comp=Z,12nm,0.7s
SCRK Sand Creek 75.56 335 P **P 00 24 26.3 +1.7**
SCRK IAmb IAmb 00 24 26.9
comp=Z,11nm,1.2s
EYAK Cordova Ski Ar 75.59 331 P **P 00 24 26.0 +1.4**
EYAK IAmb IAmb 00 24 34.3
comp=Z,28nm,1.3s
DAG Danmarks Havn 75.63 11 *i* P **P 00 24 24.6 0.0**
comp=Z,9.1nm,0.8s
HIN Hinchinbrook I 75.92 331 P **P 00 24 26.6 -0.1**
FID Port Fidalgo 75.98 331 P **P 00 24 27.7 +0.8**
FID IAmb IAmb 00 24 32.7
comp=Z,35nm,1.3s
PRP Porcupine Dome 76.57 336 P **P 00 24 31.1 +0.7**
SCM Sheep Creek Mo 76.59 332 IAmb IAmb 00 24 32.5
comp=Z,18nm,1.0s
FYU Fort Yukon 76.70 337 P **P 00 24 32.3 +1.4**
FYU IAmb IAmb 00 24 33.0
comp=Z,20nm,1.4s
HDA Harding Lake 76.92 335 P **P 00 24 32.9 +0.8**
baz=102
HDA Harding Lake 76.92 335 IAmb IAmb 00 24 33.6
comp=Z,6.7nm,0.7s
ILAR Eielson Array 76.97 335 P **P 00 24 32.9 +0.5**
comp=Z,1.3nm,0.5s,baz=104,slow=4.6,SNR=26
KNK Knik Glacier 77.05 331 P **P 00 24 34.3 +1.4**
KNK IAmb IAmb 00 24 34.9
comp=Z,8.4nm,0.8s
SML Sawmill 77.05 332 P **P 00 24 33.2 +0.2**
SML IAmb IAmb 00 24 35.5
comp=Z,12nm,1.0s
POKR Poker Plat Res 77.27 335 P **P 00 24 34.6 +0.6**
baz=101
SEW Seward 77.32 330 P **P 00 24 35.0 +0.6**
SEW IAmb IAmb 00 24 51.7
comp=Z,26nm,1.4s
GHO Glory Hole Cre 77.33 332 IAmb IAmb 00 24 36.4
comp=Z,12nm,0.8s
CCB Clear Creek Bu 77.33 335 P **P 00 24 34.9 +0.5**
PMR Palmer 77.39 332 P **P 00 24 35.8 +1.0**
PMR IAmb IAmb 00 24 36.4
comp=Z,11nm,1.0s
WRH Wood River Hil 77.42 335 P **P 00 24 35.9 +1.0**
RND Reindeer 77.56 333 IAmb IAmb 00 24 38.1
comp=Z,15nm,0.7s
MDM Murphy Dome 77.57 335 P **P 00 24 36.8 +1.0**
RC01 Rabbit Creek A 77.61 331 P **P 00 24 37.2 +1.2**
RC01 IAmb IAmb 00 24 44.8
comp=Z,14nm,1.4s
NEA Nenana 77.86 335 P **P 00 24 37.8 +0.4**
BRLK Bradley Lake 77.99 330 P **P 00 24 38.6 +0.4**
BRLK IAmb IAmb 00 24 45.8
comp=Z,30nm,1.2s
SUA Susitna One 78.14 331 IAmb IAmb 00 24 40.9
comp=Z,12nm,0.8s
ECH Echery 78.43 42 P **P 00 24 40.1 -0.7**
SENIN Lac Senin/Sane 78.44 44 P **P 00 24 41.3 +0.1**
BPAW Bear Paw Mtn. 78.61 334 P **P 00 24 41.0 -0.5**
BPAW IAmb IAmb 00 24 48.8
comp=Z,13nm,1.1s
KDAK Kodiak Island 78.66 328 P **P 00 24 42.1 +0.3**
KDAK IAmb IAmb 00 24 53.7
comp=Z,23nm,1.2s
COLD Coldfoot 78.75 337 P **P 00 24 43.8 +1.5**
TOLK Toolik Lake Re 78.76 339 P **P 00 24 42.5 +0.3**
baz=100
TOLK Toolik Lake Re 78.76 339 P **P 00 24 43.7 +1.4**
PPLA Purkeypile 78.99 333 IAmb IAmb 00 24 44.9
comp=Z,12nm,0.6s
RSO Redoubt South 79.00 330 P **P 00 24 43.8 -0.1**
BFO Black Forest 79.21 42 P **P 00 24 44.1 -1.0**
SII Sitkinak Islan 79.43 326 P **P 00 24 45.6 -0.5**
STCH Steam Cracks 80.30 288 P **P 00 24 50.9 -0.7**
HLP Hilina Pali 80.47 288 P **P 00 24 52.6 0.0**
MLH Mauna Loa 80.53 289 P **P 00 24 54.1 +1.1**
SALO Salr 80.68 45 P **P 00 24 53.0 -0.1**
SALO IAmb IAmb 00 24 59.5
comp=Z,17nm,1.1s
KHU Kahuku 80.77 288 P **P 00 24 52.6 -1.7**
FETA Feichten 80.81 44 *i* P **P 00 24 54.0 +0.1**
comp=Z,6.6nm,1.3s
ZCCA Zocca 81.01 46 P **P 00 24 53.7 -1.2**
ZCCA IAmb IAmb 00 24 54.2
comp=Z,26nm,1.5s
NBO00 NORSAR Array S 81.08 29 P **P 00 24 55.1 +0.3**
NBO00 IAmb IAmb 00 25 00.6
comp=Z,20nm,1.2s
NC204 NORSAR Array S 81.08 29 P **P 00 24 55.0 +0.1**
NAO01 NORSAR Array S 81.12 30 P **P 00 24 55.4 +0.3**
NAO01 IAmb IAmb 00 25 09.1
comp=Z,25nm,1.2s
OSSC Osservatorio P 81.22 47 P **P 00 24 54.5 -1.4**

OSSC IAmb IAmb 00 25 08.0
comp=Z,16nm,1.4s
NB2 NORSAR Subarra 81.29 29 P **P** **00 24 56.4 +0.4**
comp=Z,2.2nm,0.8s,baz=266,slow=5.3
NOA NORSAR Array B 81.29 29 P **P** **00 24 56.4 +0.4**
comp=Z,1.4nm,0.6s,baz=268,slow=5.3,SNR=5.1
NB201 NORSAR Array S 81.33 29 P **P** **00 24 56.8 +0.6**
NC303 NORSAR Array S 81.37 29 P **P** **00 24 57.2 +0.8**
NC303 IAmb IAmb 00 25 01.0
comp=Z,17nm,1.0s
NC602 NORSAR Array S 81.44 30 P **P** **00 24 56.5 -0.3**
NC405 NORSAR Array S 81.54 29 P **P** **00 24 57.4 +0.1**
NC405 IAmb IAmb 00 24 59.5
comp=Z,50nm,1.5s
KBS Kingsbay 82.37 11 P **P** **00 25 02.0 +0.7**
CNBA Chernabura Isl 82.45 324 P **P** **00 25 02.2 +0.1**
GEC2 GERESS Array S 82.78 42 P **P** **00 25 03.4 -0.7**
GERES GERESS Array B 82.78 42 P **P** **00 25 03.8 -0.3**
comp=Z,0.9nm,0.6s,baz=269,slow=3.1,SNR=11
SDPT Sand Point 82.95 325 P **P** **00 25 05.3 +0.6**
MOA Molln 83.19 43 *i* P **P** **00 25 05.0 -1.2**
comp=Z,5.9nm,1.2s
SPA0 Spitsbergen Ar 83.24 12 P **P** **00 25 06.2 +0.4**
RDOG Red Dog Mine 83.65 338 P **P** **00 25 08.9 +0.9**
CONA Conrad Observa 84.26 43 *i* P **P** **00 25 08.7 -3.0**
comp=Z,4.5nm,1.7s
ARCES ARCESS Array B 86.64 20 P **P** **00 25 23.0 +0.1**
comp=Z,2.6nm,0.7s,baz=261,slow=3.3,SNR=13
ARE0 ARCESS Array S 86.64 20 P **P** **00 25 22.8 -0.1**
SCTE Santa Cesarea 86.83 50 P **P** **00 25 24.7 +0.3**
SCTE IAmb IAmb 00 25 28.4
comp=Z,25nm,1.3s
GAMB Gambell 87.72 334 P **P** **00 25 29.0 +0.9**
GAMB IAmb IAmb 00 25 48.2
comp=Z,19nm,1.4s
FINES FINESS Array B 88.40 28 P **P** **00 25 31.7 +0.3**
comp=Z,1.8nm,0.7s,baz=267,slow=3.8,SNR=6.8
VNA2 Neumayer--Watz 88.69 163 P **P** **00 25 31.3 -1.2**
baz=307,slow=5.6
SNAA Sanae 90.34 163 P **P** **00 25 39.0 -1.3**
SNAA Sanae 90.34 163 P **P** **00 25 39.0 -1.3**
MLR Muntele Rosu 91.45 44 P **P** **00 25 46.0 -0.2**
MLR IAmb IAmb 00 25 49.7
comp=Z,5.8nm,1.2s
TIRR Tirgusor 93.38 45 P **P** **00 25 53.1 -1.8**
ZALV Zalesovo Beam 116.64 14 PKP **PKPdf** **00 31 22.8 -0.1**
comp=Z,1.1nm,0.4s,baz=236,slow=3.8,SNR=6.4
MKAR Makanchi Array 122.29 20 PKP **PKPdf** **00 31 33.7 -0.3**
comp=Z,1.1nm,0.4s,baz=296,slow=2.7,SNR=47
SONM Songino Array 125.56 0 PKP **PKiKP** **00 31 40.7 -0.1**
comp=Z,0.5nm,0.4s,baz=324,slow=1.0,SNR=13
KSH Kashi 125.72 29 PKP **PKPdf** **00 31 40.5 -0.4**
KSH SKS **SKSdf** **00 38 35.8 -2.8**
KSH LR LR
comp=Z,730nm,5.7s
KSH LR LR
comp=Z,340nm,5.8s
KSH LR LR
comp=Z,480nm,6.7s
WMQ Urumqi 126.66 17 *e*PKP **PKPdf** **00 31 42.0 -0.5**
WMQ LR LR
comp=Z,610nm,29.0s
WMQ LR LR
comp=Z,940nm,29.2s
WMQ LR LR
comp=Z,140nm,29.0s
MJAR Matsushiro Arr 127.83 328 PKP **PKPdf** **00 31 43.2 -1.7**
comp=Z,1.5nm,0.4s,baz=316,slow=0.2,SNR=9.7
NJ2 Nanjing 139.69 344 *e*PKP **PKPdf** **00 32 06.3 -0.9**
CD2 Chengdu 142.34 4 PKP **PKPdf** **00 32 10.3 -1.8**
ASAR Alice Springs 149.16 234 PKPbc **PKPbc** **00 32 27.6 -0.6**
comp=Z,3.2nm,0.5s,baz=115,slow=3.7,SNR=37
WRA Warramunga Arr 150.39 241 PKPbc **PKPbc** **00 32 30.9 -0.3**
comp=Z,3.1nm,0.4s,baz=110,slow=2.4,SNR=22
WRA pPKPbc **pPKPbc** **00 33 11.7 -0.7**
comp=Z,2.7nm,0.7s,baz=111,slow=2.4,SNR=3.1
CMAR Chiang Mai Arr 153.66 17 PKP **PKPdf** **00 32 31.0 +0.2**
comp=Z,0.6nm,0.3s,baz=308,slow=2.3,SNR=4.1
CMAR PKPbc **PKiKP** **00 32 38.9 +0.2**
comp=Z,2.8nm,0.6s,baz=326,slow=3.6,SNR=14

*ISCJB **30** 00:41:19.7±0.9, 9.8S±0.1×152.55E±0.08, h33km, mb3.5/6, MS2.8/2, Error ellipse: s-maj=19.6km s-min=11.6km az=172.4*
*IDC **30** 00:41:25.2±6.1, 9.82S×152.41E, h70km±51km, mb3.4/7, mb1 3.6/8, mb1mx3.4/34, mbtmp3.7/8, ML1.7/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/19, Error ellipse: s-maj=40.4km s-min=25.0km az=94.0*
ISC 30 00:41:21.1±1.0, 9.8S±0.2×152.6E±0.1, h35km, n10, σ0§87/10, mb3.5/6, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.40**	**274**	P		**Pn**		**00 42 40.0**	**+0.8**
	1.8nm,0.3s,baz=88,slow=9.8,SNR=11								
PMG				S		**Sn**		**00 43 40.4**	**+0.2**
	0.7nm,0.3s,baz=94,slow=15,SNR=1.7								
KRVT	**Keravat (AS076**	**5.51**	**354**	LR		LR		00 44 29.1	
	comp=Z,189nm,19.8s,baz=153,slow=34								
WRA	**Warramunga Arr**	**20.31**	**238**	P		**P**		**00 45 53.2**	**-1.1**
	1.8nm,0.7s,baz=62,slow=11,SNR=12								
WRA				LR		LR		00 53 35.7	
	comp=Z,27nm,18.4s,baz=25,slow=36								
ASAR	**Alice Springs**	**22.56**	**230**	P		**P**		**00 46 17.9**	**-0.6**
	0.8nm,0.7s,baz=63,slow=9.3,SNR=9.7								
STKA	**Stephens Creek**	**24.21**	**203**	P		**P**		**00 46 35.3**	**+0.7**
	0.7nm,0.6s,baz=24,slow=8.4,SNR=4.5								
STKA				LR		LR		00 55 45.1	
	comp=Z,39nm,20.6s,baz=23,slow=36								
SONM	**Songino Array**	**70.48**	**329**	P		**P**		**00 52 32.1**	**-0.2**
	0.6nm,0.8s,baz=130,slow=3.9,SNR=5.4								
MKAR	**Makanchi Array**	**83.98**	**319**	P		**P**		**00 53 47.1**	**-0.8**
	0.9nm,0.8s,baz=106,slow=6.0,SNR=8.8								
ILAR	**Eielson Array**	**86.85**	**22**	P		**P**		**00 54 01.6**	**-0.1**
	0.1nm,0.5s,baz=257,slow=4.5,SNR=4.2								
NVAR	**Mina Array Bea**	**95.30**	**52**	P		**P**		**00 54 43.1**	**+1.1**
	0.4nm,0.7s,baz=256,slow=5.5,SNR=3.9								
TORD	**Torodi Ar. Bea**	**151.33**	**279**	PKPbc		**PKPbc**		**01 01 11.3**	**-0.8**
	1.3nm,1.0s,baz=116,slow=3.4,SNR=4.4								

*ISCJB **30** 00:56:15.1±0.5, 31.07N±0.04×115.35W±0.03, h15km±3km, Error ellipse: s-maj=6.1km s-min=4.5km az=17.5*
*MEX **30** 00:56:15.8±0.3, 31.08N×115.45W, h20km, MD3.3*
*ECX **30** 00:56:16.0±0.6, 31.10N×115.41W, h10km, MD3.5, ML3.7*
*ANF **30** 00:56:17.6±1.0, 31.31N×115.22W, h6km±5km, ML3.4/21, Error ellipse: s-maj=9.8km s-min=3.3km az=34.0*
ISC 30 00:56:15.2±0.9, 31.07N±0.04×115.39W±0.03, h15km±5km, n33, σ1§21/45, 9C-2D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.07**	**246**	*i* P		**Pg**		**00 56 18.9**	**+0.4**
	baz=24,slow=3.1								
SPIG				*i* S		**Sg**		**00 56 20.9**	**+0.2**
SPIG	**San Pedro Mart**	**0.07**	**246**	*e*P		**Pg**		**00 56 18.4**	**-0.1**
SPIG				*e*S		**Sg**		**00 56 20.9**	**+0.2**
SPX	**San Pedro Mart**	**0.07**	**239**	⇓*e*P		**Pg**		**00 56 17.9**	**-0.6**
SPX				*e*S		**Sg**		**00 56 19.9**	**-0.8**
SPX				IAML				00 56 20.3	
	comp=N,90μm,0.3s								
SPX				⇑*e*				00 56 20.3	
SFX	**San Felipe**	**0.47**	**94**	⇑*i*P		**Pg**		**00 56 24.7**	**+0.2**
SFX				*e*S		**Sg**		**00 56 31.1**	**+0.4**
SQX	**San Quintin**	**0.65**	**220**	⇑*e*P		**Pg**		**00 56 27.7**	**-0.1**
SQX				*e*S		**Sb**		**00 56 36.4**	**-0.6**
VTX	**Valle De La Tr**	**0.76**	**206**	⇑*e*P		Pg		00 56 24.2	-5.8
VTX				*e*S		Sg		00 56 29.6	-10
ESJX	**Sierra Juarez**	**1.04**	**333**	⇑*e*P		**Pb**		**00 56 33.5**	**-1.6**
ESJX				*e*S		**Sb**		**00 56 46.7**	**-2.0**
CCX	**Cicese**	**1.34**	**306**	⇑*e*P		**Pn**		**00 56 39.0**	**-0.5**
ERMX	**Rumorosa**	**1.57**	**340**	*e*P		**Pn**		**00 56 42.4**	**-0.3**
ERMX				*e*S		**Sb**		**00 57 03.4**	**-0.5**
ERMX				IAML				00 57 09.8	
	comp=E,479nm,0.9s								
ERMX				⇑*e*				00 57 09.8	
ERMX				⇑*e*				00 57 16.4	
CBX	**Cerro Bola**	**1.64**	**319**	*e*P		**Pn**		**00 56 43.8**	**+0.1**
CBX				*e*S		**Sn**		**00 57 04.9**	**+0.2**
CBX				⇓*e*				00 57 17.6	
CBX				IAML				00 57 17.6	
	comp=E,705nm,0.6s								
IKP	**In-Ko-Pah, Jac**	**1.69**	**339**	P		**Pb**		**00 56 46.1**	**+0.1**
	baz=150,SNR=81								
IKP				S		**Sb**		**00 57 06.7**	**-0.5**
	baz=150								
PIX	**Pinacate**	**1.72**	**73**	⇑*e*P		**Pn**		**00 56 43.2**	**-1.5**
SWSC	**Sam W. Stewart**	**1.90**	**350**	Pb		**Pb**		**00 56 50.4**	**+0.8**
	baz=163,SNR=18								
MONP2	**Monument Peak**	**2.01**	**335**	Pb		**Pb**		**00 56 51.6**	**-0.1**
	baz=147,SNR=44								
MONP2				S		**Sb**		**00 57 16.3**	**-0.3**
	baz=147								
GLA	**Glamis**	**2.03**	**14**	P		**Pn**		**00 56 48.7**	**-0.3**
	baz=191								
109C	**Camp Elliot, M**	**2.32**	**322**	P		**Pb**		**00 56 55.0**	**-1.8**
	baz=134,SNR=23								
109C				S		**Sb**		**00 57 23.9**	**-1.4**
	baz=134								
214A	**Organ Pipe Nat**	**2.37**	**68**	P		**Pn**		**00 56 53.7**	**0.0**
	baz=253,SNR=21								
TPFO	**Pinon Flats**	**2.68**	**341**	Sb		**Sb**		**00 57 36.8**	**+1.0**
	baz=155								
PFO	**Pinyon Flats O**	**2.69**	**341**	Pb		**Pb**		**00 57 03.5**	**+0.4**
	baz=155,SNR=31								
PFO				Sb		**Sb**		**00 57 36.8**	**+0.8**
	baz=155								
MURC	**Murrieta**	**2.94**	**329**	P		**Pn**		**00 57 03.7**	**+2.1**
	baz=143,SNR=24								
BELC	**Belle Mtn. Jos**	**2.96**	**350**	P		**Pn**		**00 57 02.8**	**+0.9**
	baz=166								
SCI2	**San Clemente I**	**3.29**	**306**	P		**Pn**		**00 57 09.3**	**+3.2**
	baz=120								
BBRC	**Big Bear Solar**	**3.43**	**338**	Pb		**Pb**		**00 57 16.3**	**+0.4**
	baz=154								
BBRC				Sb		**Sb**		**00 57 59.4**	**+1.9**
	baz=154								
CIS	**Catalina Islan**	**3.46**	**313**	P		**Pn**		**00 57 11.2**	**+2.6**
	baz=127								
BFSC	**Mount Baldy Ra**	**3.69**	**329**	Sb		**Sb**		**00 58 06.8**	**+1.9**
	baz=144								
RRX	**Edison Barstow**	**4.02**	**341**	Pg		**Pg**		**00 57 30.5**	**-1.8**
	baz=157								
TUC	**Tucson**	**4.12**	**71**	P		**Pn**		**00 57 18.1**	**+0.4**
	baz=256								
GSC	**Goldstone, Bar**	**4.38**	**345**	Pg		**Pg**		**00 57 38.2**	**-0.9**
	baz=161								
EDW2	**Edwards Air Fo**	**4.38**	**331**	Pb		**Pb**		**00 57 30.6**	**-1.3**
	baz=146,SNR=8.7								
LRMC	**Laurel Mtn Rad**	**4.79**	**337**	Pg		**Pg**		**00 57 46.0**	**-1.0**
	baz=153								
MPMC	**Manual Prospec**	**5.27**	**341**	Pg		**Pg**		**00 57 55.7**	**-0.4**
	baz=158								
WUAZ	**Wupatki**	**5.56**	**36**	P		**Pn**		**00 57 39.1**	**+1.4**
	baz=218								
121A	**Cookes Peak, D**	**6.64**	**75**	P		**Pn**		**00 57 53.5**	**+1.1**
	baz=261								

*NEIC **30** 01:01:45.3±1.1, 58.92N±0.06×141.29W±0.08, h4km±7km*
*PGC **30** 01:01:45.6±0.5, 58.86N×141.18W, h10km, ML2.6/10, 107km Wsw of Yakutat, Ak Off Coast Of Southeastern Alaska*
*AEIC **30** 01:01:46.8±0.9, 58.77N±0.09×141.33W±0.09, h23km±8km, ML2.3, ML2.6(OTT)*
ISC 30 01:01:43.6±2.2, 58.85N±0.08×141.28W±0.04, h7km±12km, n35, σ1§46/54, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNL	**Peninsula**	**1.27**	**49**	P		**Pn**		**01 02 08.1**	**+0.3**
SAMH	**Samovar Hills**	**1.31**	**11**	P		**Pg**		**01 02 09.2**	**+0.4**
SAMH				S		**Sn**		**01 02 26.2**	**0.0**
MESA	**MESA**	**1.38**	**346**	P		**Pb**		**01 02 10.2**	**+0.3**
MESA	**MESA**	**1.38**	**346**	Pn		**Pg**		**01 02 10.4**	**+0.3**
MESA						**Sb**		**01 02 26.6**	**-1.1**
RKAV	**Rock Avalanche**	**1.46**	**359**	P		**Pb**		**01 02 11.3**	**+0.2**
RKAV				S		**Sg**		**01 02 29.6**	**-1.0**
DHAK	**Deception Hill**	**1.60**	**80**	Pn		**Pn**		**01 02 13.1**	**+0.7**
DHAK						**Sn**		**01 02 32.4**	**-0.9**
WAX	**Waxell Ridge**	**1.80**	**334**	Pn		**Pn**		**01 02 15.7**	**+0.7**
WAX						**Sn**		**01 02 36.8**	**-1.3**
GRNC	**Granite Creek**	**1.91**	**353**	Pn		**Pn**		**01 02 17.5**	**+0.8**
GRNC				S		**Sb**		**01 02 41.6**	**-1.3**
TGL	**Tana Glacier**	**2.07**	**338**	Pn		**Pn**		**01 02 19.6**	**+0.8**
TGL						**Sb**		**01 02 45.7**	**-1.8**
CTGM	**Chitina Glacie**	**2.13**	**359**	Pn		**Pn**		**01 02 20.5**	**+0.8**
CTGM				Sn		**Sn**		**01 02 46.3**	**0.0**
CTGM	**Chitina Glacie**	**2.13**	**359**	Pn		**Pn**		**01 02 20.6**	**+1.0**
HMT	**Hamilton**	**2.13**	**316**	Pn		**Pn**		**01 02 20.4**	**+0.8**
CRQM	**Cirque**	**2.14**	**335**	Pn		**Pn**		**01 02 20.4**	**+0.6**
CRQM						**Sb**		**01 02 47.8**	**-1.6**
KIAG	**Kiagna River**	**2.15**	**346**	Pn		**Pn**		**01 02 21.0**	**+1.0**
KIAG				Sn		**Sn**		**01 02 47.0**	**-0.1**
BARN	**Barnard Glacie**	**2.23**	**355**	Pn		**Pn**		**01 02 22.1**	**+1.0**
BALM	**Baldy**	**2.26**	**347**	Pn		**Pn**		**01 02 22.7**	**+1.2**
BALM				Sn		**Sb**		**01 02 50.6**	**-2.4**
BALM	**Baldy**	**2.26**	**347**	Pn		**Pn**		**01 02 22.8**	**+1.3**
YUK7	**Dusty Glacier**	**2.32**	**42**	Pn		**Pn**		**01 02 24.0**	**+1.6**
YUK7				Sn		**Sn**		**01 02 51.2**	**0.0**
PTPK	**Patty Peak**	**2.42**	**346**	Pn		**Pn**		**01 02 25.2**	**+1.5**
PTPK				Sn		**Sn**		**01 02 54.8**	**+1.0**
YUK6	**Outpost Mounta**	**2.56**	**34**	Pn		**Pn**		**01 02 27.7**	**+2.0**
YUK6				Sn		**Sn**		**01 02 57.8**	**+0.6**
YUK6				Sg		**Sb**		**01 03 02.7**	**+0.9**
PLBC	**Pleasant Camp**	**2.60**	**74**	Pn		**Pn**		**01 02 27.0**	**+1.0**
PLBC				Sn		**Sn**		**01 02 57.2**	**-0.6**
MCARA	**McCarthy VSAT**	**2.69**	**342**	Pn		**Pn**		**01 02 28.7**	**+1.4**
HYT	**Haines Junctio**	**2.75**	**42**	Sn		**Sn**		**01 03 02.6**	**+0.9**
HYT	**Haines Junctio**	**2.75**	**42**	Pn		**Pn**		**01 02 31.1**	**+2.9**
YUK4	**Talbot Arm**	**2.83**	**27**	Pn		**Pb**		**01 02 32.9**	**-1.7**
YUK4				Sn		**Sb**		**01 03 06.9**	**-2.6**
YUK5	**Granite Creek**	**2.86**	**35**	Pn		**Pn**		**01 02 31.8**	**+2.1**
YUK5				Sn		**Sn**		**01 03 05.0**	**+0.5**
GLB	**Gilahina Butte**	**2.90**	**335**	Pn		**Pn**		**01 02 31.7**	**+1.6**
YUK2	**White River**	**2.96**	**4**	Pn		**Pn**		**01 02 33.3**	**+2.3**
YUK3	**Moose Creek**	**2.97**	**8**	Pn		**Pn**		**01 02 34.0**	**+2.7**
FID	**Port Fidalgo**	**3.25**	**308**	Pn		**Pn**		**01 02 36.9**	**+2.0**
YUK1	**Sand Pete Hill**	**3.34**	**6**	Pn		**Pn**		**01 02 38.8**	**+2.5**
WHY	**Whitehorse**	**3.71**	**58**	Pn		**Pn**		**01 02 42.6**	**+1.2**
WHY				Sn		**Sn**		**01 03 23.6**	**-1.7**
WHY	**Whitehorse**	**3.71**	**58**	Pn		**Pn**		**01 02 43.0**	**+1.7**
DAWY	**Dawson**	**5.32**	**9**	Pn		**Pn**		**01 03 05.2**	**+1.9**
DAWY	**Dawson**	**5.32**	**9**	Pn		**Pn**		**01 03 05.6**	**+2.3**

*IDC **30** 01:02:51.1±1.6, 6.15S×152.20E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.8/31, mbtmp3.9/6, ML2.2/1, Error ellipse: s-maj=49.4km s-min=17.3km az=114.0*
*ISCJB **30** 01:02:55.1±1.3, 6.17S±0.09×152.21E±0.2, h36km, mb3.6/5, Error ellipse: s-maj=25.7km s-min=7.6km az=26.0*
ISC 30 01:02:56.5±1.5, 6.1S±0.1×152.2E±0.2, h36km, n8, σ0§63/10, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.83**	**356**	Pn		**Pn**		**01 03 24.4**	**-1.0**
	78nm,0.3s,baz=213,slow=3.4,SNR=58								
KRVT				Sn		**Sn**		**01 03 47.9**	**+0.6**
	49nm,0.3s,baz=112,slow=22,SNR=7.4								
PMG	**Port Moresby**	**5.93**	**237**	Pn		**Pn**		**01 04 21.2**	**-0.6**
	3.7nm,0.3s,baz=58,slow=9.5,SNR=5.9								
PMG				Sn		**Sn**		**01 05 28.6**	**+0.2**
	3.9nm,0.3s,baz=144,slow=21,SNR=8.5								
WRA	**Warramunga Arr**	**22.09**	**230**	P		**P**		**01 07 48.3**	**-0.5**
	2.9nm,1.0s,baz=54,slow=10,SNR=13								
ASAR	**Alice Springs**	**24.74**	**223**	P		**P**		**01 08 15.0**	**+0.1**
	2.9nm,1.0s,baz=58,slow=8.5,SNR=17								
SONM	**Songino Array**	**67.12**	**328**	P		**P**		**01 13 46.7**	**+0.1**
	0.5nm,0.6s,baz=149,slow=6.8,SNR=3.4								
MKAR	**Makanchi Array**	**80.92**	**319**	P		**P**		**01 15 08.1**	**+0.9**
	0.2nm,0.8s,baz=92,slow=7.2,SNR=2.0								
ILAR	**Eielson Array**	**83.63**	**22**	P		**P**		**01 15 20.9**	**0.0**
	0.7nm,0.7s,baz=247,slow=5.3,SNR=12								
TORD	**Torodi Ar. Bea**	**150.09**	**286**	PKPbc		**PKPbc**		**01 22 44.5**	**0.0**
	0.4nm,0.8s,baz=97,slow=2.3,SNR=3.1								

*SJA **30** 01:05:37.6±0.5, 33.68S×72.22W, h8km±5km, ML3.2, MW3.3*
*GUC **30** 01:05:39.9±0.7, 33.87S×72.07W, h46km±5km, ML3.2*
ISC 30 01:05:38.7±1.9, 33.87S±0.05×72.04W±0.08, h3km±15km, n19, σ1§40/27, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.91**	**21**	IAML				01 06 13.9	
	comp=N,692nm,0.3s								
GO05	**Huala**	**1.14**	**176**	⇑*i*P		**Pg**		**01 06 00.1**	**-0.4**
GO05				*i* S		**Sg**		**01 06 15.4**	**+0.1**
ROC1	**El Roble**	**1.24**	**44**	*i* P		**Pb**		**01 06 01.7**	**-1.1**
ROC1				*e*S		**Sb**		**01 06 18.7**	**-0.5**
ROCH	**El Roble**	**1.24**	**44**	*e*P		**Pb**		**01 06 01.8**	**-1.1**
ROCH				*e*S		**Sb**		**01 06 18.8**	**-0.6**
ROCH				IAML				01 06 25.6	
	comp=N,548nm,0.5s								
CLCH	**Cerro Calan**	**1.34**	**70**	*e*P		**Pn**		**01 06 04.0**	**-0.3**
CLCH				*e*S		**Sn**		**01 06 21.5**	**-1.1**
CLCH				IAML				01 06 24.0	
	comp=E,1μm,0.2s								
PEL	**Peldehue**	**1.34**	**58**	⇓*i*P		**Pn**		**01 06 03.8**	**-0.5**
PEL				*i* S		**Sg**		**01 06 21.9**	**+0.1**
PEL				IAML				01 06 23.9	
	comp=E,754nm,0.1s								
PEL	**Peldehue**	**1.34**	**58**	*i* P		**Pn**		**01 06 04.0**	**-0.3**
PEL				*e*S		**Sg**		**01 06 24.3**	**+2.5**
LMEL	**Las Melosas**	**1.52**	**90**	*e*P		**Pb**		**01 06 06.9**	**-0.8**
LMEL				*i* S		**Sg**		**01 06 26.6**	**-1.1**
LMEL				IAML				01 06 31.2	
	comp=N,674nm,0.2s								
FCH	**Farellones**	**1.55**	**70**	⇓*i*P		**Pn**		**01 06 07.2**	**-0.3**
FCH				*e*S		**Sg**		**01 06 28.4**	**-0.2**
FCH				IAML				01 06 30.9	
	comp=E,652nm,0.2s								
COIS	**El Sosneado**	**2.36**	**122**	*i* P		**Pb**		**01 06 21.3**	**-0.6**
COIS				*e*S		**Sg**		**01 06 55.6**	**+1.0**
ASAL	**Salagasta**	**2.97**	**65**	*i* P		**Pb**		**01 06 31.7**	**-0.6**
RTCV	**Cerro Valdivia**	**3.56**	**57**	*i* P		**Pn**		**01 06 36.5**	**+1.7**
RTLL	**Cerro Villicun**	**3.93**	**51**	*i* P		**Pn**		**01 06 41.7**	**+1.7**
RTLL				IAML				01 07 43.1	
	comp=Z,23nm,0.4s								
ACCO	**Cerro Coronel**	**4.13**	**38**	*i* P		**Pn**		**01 06 44.5**	**+1.5**
AMOG	**MOGNA**	**4.19**	**47**	*i* P		**Pn**		**01 06 44.9**	**+1.4**
AROG	**Rodeo**	**4.29**	**31**	*i* P		**Pn**		**01 06 46.4**	**+1.3**
ACAN	**Cantantal**	**4.37**	**70**	*i* P		**Pn**		**01 06 49.0**	**+3.0**
VCA	**Vinchina**	**6.08**	**34**	⇑*i*P		**Pn**		**01 07 10.5**	**+0.9**
VCA				IAML				01 08 41.4	
	comp=Z,10.0nm,0.4s								
TCA	**Tanti**	**6.77**	**70**	*i* P		**Pn**		**01 07 21.9**	**+3.0**

TAP 30 01:15:50.2, 23.94N×121.01E, h10km, ML2.5, 6C-1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMLT	**Sun Moon Lake**	**0.12**	**242**	⇑*i*P		**Pg**		**01 15 53.6**	**+0.5**
	baz=239								
SMLT				*i* S		**Sg**		**01 15 56.2**	**+1.0**
	baz=239								
DPDB	**Guoxing**	**0.12**	**321**	⇑*i*P		**Pg**		**01 15 53.6**	**+0.4**
	baz=320								
DPDB				*i* S		**Sg**		**01 15 56.1**	**+0.8**
	baz=320								
TYC	**Yuchr**	**0.15**	**257**	⇑*i*P		**Pg**		**01 15 53.7**	**+0.3**
	baz=255								
TYC				*i* S		**Sg**		**01 15 56.3**	**+0.5**
	baz=255								
OWD	**Renai**	**0.15**	**84**	*i* P		Pb		01 15 55.0	-0.1
	baz=83								
OWD				*i* S		Sg		01 15 58.1	+2.0
	baz=83								
SSLB	**Suanglung**	**0.16**	**200**	⇑P		Pg		01 15 54.2	+0.5
	baz=199								
SSLB				S		Sg		01 15 56.7	+0.5
	baz=199								
CHGB	**Renai**	**0.19**	**51**	⇑P		Pb		01 15 55.4	-0.5
	baz=50								
CHGB				S		Sg		01 15 58.7	+1.4
	baz=50								
VWDT	**VWDT**	**0.22**	**147**	P		Pb		01 15 56.1	-0.1
	baz=147								
VWDT				S		Sg		01 15 59.4	+1.6
	baz=147								
WHYT	**Xinyi Township**	**0.28**	**211**	*e*P		Pb		01 15 56.8	-0.6
	baz=211								
WHYT				*e*S		Sb		01 16 01.1	-1.0
	baz=211								
WJS	**Zhushan**	**0.28**	**246**	*i* P		Pb		01 15 57.0	-0.4
	baz=246								
WJS				*e*S		Sb		01 16 02.3	+0.1
	baz=246								
WNT	**Mingjian**	**0.31**	**259**	P		Pb		01 15 57.3	-0.4
	baz=258								
WNT				S		Sb		01 16 02.5	-0.3
	baz=258								
WHF	**Hehuan Shan**	**0.31**	**48**	*i* P		Pb		01 15 58.0	-0.1
	baz=49								
WHF				S		Sb		01 16 02.5	-0.8
	baz=49								
TDCB	**Techi**	**0.34**	**23**	*e*P		Pg		01 15 57.3	+0.3
	baz=23								
WHP	**Taichung City**	**0.34**	**350**	P		Pb		01 15 58.1	-0.4
	baz=349								
WHP				S		Sb		01 16 03.6	-0.3
	baz=349								
TCU	**Taichung**	**0.37**	**304**	P		Pb		01 15 58.8	-0.1
	baz=304								
TCU				*e*S		Sb		01 16 04.6	-0.1
	baz=304								
ESL	**Shilin**	**0.41**	**108**	⇓*i*P		Pb		01 15 59.4	0.0
	baz=107								
ESL				S		Sb		01 16 05.9	+0.3
	baz=107

baz=265
YULB Yu-li 0.60 154 P Pb 01 16 02.6 -0.2
baz=154
YULB S Sb 01 16 11.2 -0.1
baz=154
NMLH Miaoli 0.63 341 *e*S Sb 01 16 13.2 +1.0
baz=341
TWF1 Yuli 0.64 156 P Pb 01 16 03.4 0.0
baz=155
TWF1 S Sb 01 16 12.9 +0.5
baz=155
NSTT Nanjuang 0.69 359 P Pb 01 16 04.5 +0.2
baz=359
NSTT S Sb 01 16 14.9 +1.0
baz=359
CHY Chiayi 0.69 231 *e*S Sb 01 16 14.1 +0.2
baz=230
CHN4 Tsaushan 0.70 213 P Pb 01 16 04.9 +0.4
baz=213
CHN4 *e*S Sb 01 16 14.8 +0.7
baz=213
LIOB Emei 0.70 0 *e*P Pb 01 16 04.5 -0.1
LIOB *e*S Sb 01 16 15.2 +0.9
TPUB Ta-pu 0.72 209 P Pb 01 16 04.8 -0.1
baz=208
FULB Fuli 0.78 161 *e*P Pb 01 16 06.5 +0.6
baz=160
FULB *e*S Sb 01 16 17.3 +0.8
baz=160
WTP Ta-pu 0.78 208 P Pb 01 16 05.8 0.0
baz=207
WTP *e*S Sb 01 16 16.1 -0.4
baz=207
NSK Sanguang 0.80 23 *e*P Pg 01 16 05.1 -0.5
baz=23
NSK *e*S Sg 01 16 16.1 0.0
baz=23
YHNB Yeheng 0.80 24 P Pg 01 16 05.5 -0.1
baz=24
STYT Tauyuan 0.81 197 *e*S Sb 01 16 18.4 +1.2
baz=196
TWK Hsinying 0.82 216 *e*P Pb 01 16 07.2 +0.6
baz=215
TWK S Sb 01 16 18.9 +1.1
baz=215
ENA Nanau 0.82 54 *e*P Pb 01 16 06.5 -0.1
baz=54
NANB Nanao 0.83 54 P Pb 01 16 06.6 -0.1
baz=54
NANB *e*S Sb 01 16 18.4 +0.5
baz=54
SNST Tainan City 0.86 214 *e*P Pb 01 16 07.2 +0.1
baz=213
ENTT Nioudou 0.86 36 P Pb 01 16 07.8 +0.6
baz=36
ENTT S Sb 01 16 19.8 +0.9
baz=36
CHN1 Nanshi 0.87 211 *e*P Pb 01 16 07.4 0.0
baz=210
CHN1 *e*S Sb 01 16 20.1 +1.0
baz=210

TAP 30 01:16:11.8,23°.19N×120°.68E,h9km,ML1.4,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTP	**Ta-pu**	**0.08**	**313**	*e*P	Pg	01 16 13.5	-0.5
WTP	baz=316			*e*S	Sg	01 16 14.9	-0.7
STYT	**Tauyuan**	**0.08**	**112**	*i* P	Pg	01 16 14.7	+0.7
STYT	baz=110			S	Sg	01 16 16.8	+1.1
TPUB	**Ta-pu**	**0.11**	**339**	P	Pg	01 16 15.1	+0.6
TPUB	baz=339			S	Sg	01 16 17.2	+0.8
TPUB	**Ta-pu**	**0.11**	**339**	*e*S	Pg	01 16 14.8	+0.3
CHN1	baz=208 **Nanshi**	**0.14**	**266**	*i* P	Pg	01 16 15.6	+0.8
CHN1	baz=267			*i* S	Sg	01 16 18.3	+1.4
SGST	baz=267 **Jiashian**	**0.14**	**217**	*e*P	Pg	01 16 15.7	+0.8
SGST	baz=215			*e*S	Sg	01 16 18.8	+1.8
SNST	baz=215 **Tainan City**	**0.17**	**279**	P	Pg	01 16 16.2	+0.9
SNST	baz=280			*e*S	Sg	01 16 19.6	+1.9
SNST	baz=280 **Tainan City**	**0.17**	**279**	*e*S	Sg	01 16 19.6	+1.9
CHN4	baz=213 **Tsaushan**	**0.17**	**334**	P	Pg	01 16 16.4	+0.9
CHN4	baz=335			S	Sg	01 16 19.7	+1.8
TWK	baz=335 **Hsinying**	**0.19**	**293**	P	Pg	01 16 16.6	+0.9
TWK	baz=295			S	Sg	01 16 20.0	+1.6
SLGT	baz=295 **Liugui**	**0.20**	**188**	*e*P	Pg	01 16 16.9	+0.9
SLGT	baz=188			*e*S	Sg	01 16 21.3	+2.6
ELDTW	baz=188 **Lidau**	**0.32**	**91**	*e*S	Sb	01 16 25.2	+0.3
ALS	baz=90 **Alishan**	**0.34**	**21**	*e*P	Pb	01 16 19.5	-0.6
ALS	baz=22			*e*S	Sb	01 16 26.1	+1.0
	baz=22						

OMAN 30 01:23:11.3±0.4,17°.39N×59°.75E,h34km±16km,ml3.5/5, Error ellipse: s-maj=25.2km s-min=2.3km az=308.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQM	**DQM**	**3.28**	**321**	P	Pn	01 24 00.2	-0.1
DQM	SNR=77			S	Sn	01 24 40.1	+1.8
SHAO	**Shalim**	**3.98**	**280**	P	Pn	01 24 09.2	-0.7
SHAO	SNR=9.5			S	Sn	01 24 53.9	-1.5
DMTO	**DMTO**	**4.59**	**275**	P	Pn	01 24 17.5	-0.8
DMTO	SNR=16			S	Sn	01 25 08.5	-2.0
JMDO	SNR=7.4 **Jabal Madar**	**5.19**	**343**	P	Pn	01 24 26.6	0.0
JMDO	SNR=18			S	Sn	01 25 26.4	+1.0
WBK	**Wadi Bani Khal**	**5.25**	**352**	P	Pn	01 24 27.6	+0.2
WBK	SNR=14			S	Sn	01 25 28.1	+1.3
RBK	**Rabkut**	**5.29**	**272**	P	Pn	01 24 27.2	-0.8
RBK				S	Sn	01 25 27.6	-0.3
WHFO	**Wadi Hawf**	**5.72**	**276**	P	Pn	01 24 33.8	-0.1
BSY	**Bisya**	**5.84**	**336**	P	Pn	01 24 35.9	+0.3
SMDO	**Samad**	**5.87**	**345**	P	Pn	01 24 35.6	-0.3
SMDO	SNR=15			S	Sn	01 25 43.3	+1.3
WSAR	**Wadi Sarin**	**5.92**	**350**	P	Pn	01 24 36.4	-0.1
WSAR				S	Sn	01 25 43.9	+0.7
ABTO	**Aybut**	**6.16**	**271**	P	Pn	01 24 39.3	-0.6
	SNR=12						

BYKL 30 01:27:13.1±0.2,54°.82N×112°.26E,4C-2D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.64**	**276**	⇑*i*Pg	Pg	01 27 25.4	+0.1
YLYR				*e*Sg	Sg	01 27 34.2	+0.6
YLYR	541nm,0.4s			Pmax			
YLYR	3μm,0.4s			Smax			
UKT	**Uakit**	**1.03**	**49**	⇑*i*Pg	Pg	01 27 31.9	-1.0
UKT				*e*Pb	Pb	01 27 33.9	0.0
UKT				*e*Sg	Sg	01 27 45.5	-0.7
UKT				*e*Sb	Sn	01 27 50.0	-0.1
UKT	115nm,0.6s			max			
UKT				Smax			
	337nm,0.4s						
KMO	**Kumora**	**1.23**	**331**	⇑*i*Pg	Pg	01 27 35.2	-1.4
KMO				*e*Sg	Sg	01 27 51.4	-1.1
KMO				*e*Sb	Sb	01 27 53.8	+0.2
KMO	162nm,0.5s			Pmax			
KMO	772nm,1.1s			max			
YOA	**Uoyan**	**1.35**	**347**	*e*Pg	Pg	01 27 37.9	-1.1
YOA				*e*Sg	Sg	01 27 56.0	-0.5
YOA				*e*Sb	Sn	01 27 58.2	+0.3
YOA	152nm,0.2s			Pmax			
YOA	2μm,0.6s			max			
SVKR	**Severomuysk**	**1.50**	**29**	*e*Pg	Pn	01 27 41.4	+0.1
SVKR				*e*Sg	Sn	01 28 01.8	+0.3
SVKR	560nm,0.4s			Pmax			
SVKR	1μm,0.8s			Smax			
NIZ	**Nizh Angarsk**	**1.83**	**303**	⇓*i*Pg	Pn	01 27 45.3	-0.5
NIZ				*e*Sg	Sn	01 28 09.8	+0.2
NIZ	106nm,0.5s			Pmax			
NIZ	356nm,0.4s			Smax			
NLYR	**Nelyaty**	**2.57**	**48**	⇓*i*Pn	Pn	01 27 54.9	-1.1
NLYR				*e*Pg	Pb	01 27 59.0	-1.1
NLYR				*e*		01 28 03.8	
NLYR				*e*Sg	Sb	01 28 33.0	+0.8
NLYR	74nm,0.7s			max			
NLYR	199nm,1.0s			Smax			
MXMB	**Maximikha**	**2.59**	**234**	*e*Pn	Pn	01 27 53.1	-3.2
MXMB				*e*Pg	Pb	01 27 59.0	-1.5
MXMB				*e*Sg	Sb	01 28 34.1	+1.2
CIT	**Chita**	**2.91**	**164**	*e*Sg	Sb	01 28 44.0	+2.1
OGRR	**Ongureny**	**2.98**	**249**	*e*Pn	Pn	01 28 01.8	+0.2
OGRR				*e*Pg	Pb	01 28 05.9	-1.1
OGRR				*e*		01 28 10.7	
OGRR				*e*Sg	Sb	01 28 45.0	+1.0
OGRR	23nm,0.7s			max			
OGRR	188nm,1.0s			Smax			
BOD	**Bodaibo**	**3.16**	**17**	*e*Pg	Pb	01 28 09.3	-0.8
BOD				*e*Sg	Sb	01 28 49.6	+0.5
BOD				*e*SgSg	SgSg	01 28 54.6	+0.1
BOD	18nm,0.8s			Pmax			
BOD	67nm,0.5s			max			
KELR	**Kotokel**	**3.23**	**232**	*e*	Pn	01 28 04.6	-0.4
KELR				*e*Pg	Pb	01 28 10.7	-0.5
KELR				*e*Sg	Sg	01 28 54.0	-2.6
CRS	**Chara**	**3.98**	**56**	*e*Pg	Pb	01 28 24.5	+0.5
CRS				*e*Sg	Sb	01 29 16.4	+3.8
CRS	33nm,0.9s			Pmax			
CRS	259nm,1.2s			Smax			
TRG	**Tyrgan**	**4.07**	**242**	*e*Pn	Pn	01 28 15.1	-1.5
TRG				*e*Pg	Pb	01 28 25.0	-0.6
TRG				*e*Sn	Sn	01 29 02.2	-2.7
TRG				*e*Sg	Sb	01 29 17.7	+2.4
TRG	9.0nm,0.6s			Pmax			
TRG	93nm,1.0s			Smax			
FFNB	**Fofonovo**	**4.30**	**232**	*e*Sg	Sg	01 29 27.5	-3.7
TUP	**Tupik**	**4.49**	**92**	⇑*i*Pn	Pn	01 28 21.2	-1.2
TUP				*e*Pg	Pb	01 28 33.6	+0.8
TUP				*e*		01 28 40.0	
TUP				*e*Sg	Sg	01 29 32.6	-4.6
TUP	39nm,1.0s			max			
TUP	369nm,0.8s			Smax			
HRMR	**Khuramsha**	**4.51**	**227**	*e*Pn	Pn	01 28 22.1	-0.6
HRMR				*e*Pg	Pb	01 28 34.1	+0.9
HRMR				*e*Sg	Sg	01 29 33.9	-4.1
HRMR	33nm,0.5s			Pmax			
HRMR	394nm,0.9s			Smax			
KPC	**Khapcheranga**	**5.12**	**179**	*e*Pg	Pb	01 28 45.2	+1.6
KPC				*e*Sg	Sg	01 29 52.5	-5.1
KPC	5.0nm,0.3s			Pmax			
KPC	101nm,1.2s			Smax			
IVK	**Ivanovka**	**5.59**	**240**	*e*Sg	Sg	01 30 05.9	-6.7
YKLR	**Yuktali**	**5.60**	**68**	*e*Pn	Pn	01 28 36.2	-1.4
YKLR				*e*Pg	Pb	01 28 53.3	+1.7
YKLR				*e*		01 29 42.1	
YKLR				*e*Sg	Sg	01 30 06.4	-6.4
TLY	**Talaya**	**6.05**	**242**	*e*Sg	Sb	01 30 18.8	+6.5
TLY	25nm,0.9s			Smax			
ARS	**Arshan**	**6.56**	**248**	*e*Sg	Sg	01 30 35.9	-7.9
ARS	96nm,1.0s			Smax			
CLNS	**Chul'man**	**7.40**	**69**	*e*Sg	Sg	01 31 00.9	-10
ORL	**Orlik**	**7.74**	**258**	*e*Sn	Sn	01 30 42.7	+7.3
ORL				*e*Sg	Sg	01 31 12.6	-8.8
ORL	21nm,0.6s			Smax			

BYKL 30 01:28:09.9±0.3,54°.80N×112°.22E,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.62**	**278**	*e*Pg	Pg	01 28 21.2	-0.5
YLYR				*e*Sg	Sg	01 28 28.8	-0.9
YLYR	291nm,0.3s			Pmax			
YLYR	1μm,0.3s			Smax			
UKT	**Uakit**	**1.06**	**49**	*e*Pg	Pg	01 28 28.8	-1.4
UKT				*e*Sg	Sg	01 28 42.9	-1.1
UKT				*e*Sb	Sn	01 28 46.8	-0.9
UKT	10.0nm,0.1s			Pmax			
UKT	170nm,0.2s			Smax			
KMO	**Kumora**	**1.23**	**332**	*e*Pg	Pg	01 28 31.9	-1.7
KMO				*e*Sg	Sg	01 28 47.9	-1.7
KMO	13nm,0.1s			Pmax			
KMO	156nm,0.8s			Smax			
YOA	**Uoyan**	**1.36**	**348**	*e*Pg	Pg	01 28 35.3	-0.8
YOA				*e*Sg	Sg	01 28 52.2	-1.5
YOA	132nm,0.2s			Pmax			
YOA	244nm,0.3s			Smax			
SVKR	**Severomuysk**	**1.52**	**29**	*e*Pg	Pn	01 28 37.7	-0.8
SVKR				*e*Sg	Sg	01 28 58.2	-0.6
SVKR	78nm,0.1s			Pmax			
SVKR	200nm,0.2s			Smax			
SYVR	**Suvo**	**1.73**	**230**	*e*Pg	Pn	01 28 40.7	-0.6
SYVR				*e*Sg	Sn	01 29 04.4	+0.3
SYVR	11nm,0.2s			Pmax			
SYVR	100nm,0.3s			Smax			
NIZ	**Nizh Angarsk**	**1.82**	**304**	*e*Pg	Pn	01 28 42.0	-0.4
NIZ				*e*Sg	Sn	01 29 06.6	+0.4
NIZ	29nm,0.2s			Pmax			
NIZ	108nm,0.4s			Smax			
CIT	**Chita**	**2.90**	**163**	*e*Sg	Sb	01 29 40.0	+1.6
CIT	189nm,0.2s			Smax			
OGRR	**Ongureny**	**2.95**	**249**	*e*Pg	Pb	01 29 02.5	-0.9
OGRR				*e*Sg	Sb	01 29 42.2	+2.2
OGRR	6.0nm,0.2s			Pmax			
OGRR	32nm,0.3s			Smax			

BYKL 30 01:29:02.1±0.3,54°.82N×112°.25E,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.63**	**276**	*e*Pg	Pg	01 29 13.9	-0.3
YLYR				*e*Sg	Sg	01 29 22.7	+0.3
YLYR	416nm,0.1s			Pmax			
YLYR	1μm,0.3s			Smax			
UKT	**Uakit**	**1.04**	**49**	*e*Pg	Pg	01 29 20.7	-1.2
UKT				*e*Pb	Pb	01 29 22.9	-0.1
UKT				*e*Sg	Sg	01 29 34.5	-0.9
UKT				*e*Sb	Sn	01 29 38.5	-0.7
UKT	17nm,0.1s			Pmax			
UKT	176nm,0.2s			Smax			
KMO	**Kumora**	**1.23**	**331**	*e*Pg	Pg	01 29 23.1	-2.5
KMO				*e*		01 29 26.2	
KMO				*e*Sg	Sg	01 29 39.5	-2.0
KMO				*e*		01 29 44.5	
KMO	54nm,0.3s			Pmax			
KMO	220nm,1.3s			Smax			
YOA	**Uoyan**	**1.35**	**347**	*e*Pg	Pg	01 29 26.3	-1.6
YOA				*e*Sg	Sg	01 29 44.0	-1.4
YOA	124nm,0.2s			Pmax			
YOA	600nm,0.4s			Smax			
SVKR	**Severomuysk**	**1.50**	**29**	*e*Pg	Pn	01 29 29.5	-0.8
SVKR				*e*Sg	Sg	01 29 50.3	+0.1
SVKR	241nm,0.3s			Pmax			
SVKR	730nm,0.7s			Smax			
SYVR	**Suvo**	**1.76**	**230**	*e*Pg	Pn	01 29 33.6	-0.3
SYVR				*e*Sg	Sn	01 29 57.0	0.0
SYVR				*e*		01 30 04.6	
SYVR	8.0nm,0.2s			Pmax			
SYVR	104nm,0.5s			Smax			
NIZ	**Nizh Angarsk**	**1.82**	**303**	*e*Pg	Pn	01 29 34.2	-0.5
NIZ				*e*Sg	Sn	01 29 58.4	-0.1
NIZ	43nm,0.3s			Pmax			
NIZ	233nm,0.4s			Smax			
CIT	**Chita**	**2.91**	**164**	*e*Sg	Sb	01 30 32.4	+1.4
CIT	189nm,0.2s			Smax			
OGRR	**Ongureny**	**2.98**	**249**	*e*Pg	Pb	01 29 54.9	-1.1
OGRR				*e*Sg	Sb	01 30 34.1	+1.3
OGRR	14nm,0.7s			Pmax			
OGRR	23nm,0.4s			Smax			

*IDC **30** 01:32:44.0±0.9,16°.51N×86°.01W,h0km,mb3.8/9, mb1 4.0/15,mb1mx3.9/36,mbtmp3.8/15,ML3.3/6,MS3.5/17, Ms1 3.5/17,ms1mx3.4/37,Error ellipse: s-maj=21.2km s-min=16.4km az=44.0*
*NEIC **30** 01:32:46.5±2.7,16°.74N±0°.03×86°.12W±0°.06,h10km±1km, mb4.2/41*
*ISCJB **30** 01:32:48.2±0.3,16°.69N±0°.03×86°.10W±0°.04,h49km, mb3.8/8,MS3.6/10,Error ellipse: s-maj=5.7km s-min=4.5km az=13.9*

ISC 30 01:32:49.8±0.5,16°.65N±0°.05×86°.11W±0°.05,h49km,n79, σ2s19/76,mb3.9/12,MS3.6/10,North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**2.81**	**204**		**Pn**	**01 33 32.4**	**0.0**
TGUH					**Sn**	**01 33 59.7**	**-5.4**
ESTN	**Estel**	**3.54**	**184**		**Pn**	**01 33 42.9**	**+0.6**
TEIG	**Tepich**	**4.10**	**330**	Pn	**Pn**	**01 33 48.8**	**-1.2**
TEIG				Sn	**Sn**	**01 34 32.3**	**-4.5**
TEIG	comp=Z,323nm,18.6s,slow=37			LR	LR	01 35 23.0	
TEIG	**Tepich**	**4.10**	**330**		**Pn**	**01 33 48.6**	**-1.3**
TEIG					**Sn**	**01 34 30.8**	**-5.9**
SNET	**Serv Nac Est T**	**4.21**	**226**		**Pn**	**01 33 52.4**	**+0.8**
APG	**El Apazote**	**4.50**	**249**	Pn	**Pn**	**01 33 54.0**	**-1.6**
APG	0.9nm,0.3s,baz=34,slow=17,SNR=6.2			Sn	**Sn**	**01 34 44.2**	**-2.5**
APG	6.5nm,0.3s,baz=309,slow=20,SNR=16			LR	LR	01 35 44.7	
ACON	comp=Z,440nm,20.5s,baz=66,slow=40 **Acoyapa**	**4.75**	**169**		**Pn**	**01 34 00.0**	**+1.2**
ESPN	**Las Esperanzas**	**4.77**	**158**		**Pn**	**01 34 00.4**	**+1.3**
FSCY	**Frank Sound, G**	**5.39**	**60**	Pn	**Pn**	**01 34 06.9**	**-0.7**
FSCY				Sn	**Sn**	**01 35 05.8**	**-2.5**
JTS	**Las Juntas de**	**6.42**	**170**	Pn	Pn	01 34 17.0	-4.9
JTS	0.1nm,0.3s,baz=32,slow=19,SNR=1.7			Lg	Lg	01 36 03.4	
JTS	0.9nm,0.3s,baz=348,slow=20,SNR=2.7 **Las Juntas de**	**6.42**	**170**		**Pn**	**01 34 22.0**	**+0.1**
CBCY	**The Bluff, Cay**	**6.78**	**62**	Pn	**Pn**	**01 34 26.1**	**-0.6**
CBCY				Sn	**Sn**	**01 35 38.5**	**-4.0**
CMIG	**Matias Romero**	**8.41**	**274**	Pn	**Pn**	**01 34 48.0**	**-1.0**
CMIG	0.8nm,0.3s,baz=49,slow=8.7,SNR=7.0			Sn	**Sn**	**01 36 21.2**	**-1.5**
CMIG	0.4nm,0.3s,baz=273,slow=18,SNR=2.3			LR	LR	01 38 29.7	
061Z	comp=Z,669nm,18.1s,baz=94,slow=41 **Ochoppi**	**10.37**	**27**	Pn	**Pn**	**01 35 15.2**	**-0.6**
060A	**Indiantown**	**11.63**	**26**	Pn	**Pn**	**01 35 33.1**	**0.0**
656A	**Williston**	**13.08**	**14**	Pn	**Pn**	**01 35 50.3**	**-2.5**
656A				Sn	Sn	01 38 06.4	-10
553A	**Crawfordville**	**13.56**	**6**	Pn	**Pn**	**01 35 58.2**	**-1.3**
451A	**Vernon**	**13.90**	**1**	Pn	**Pn**	**01 36 03.0**	**-1.1**
250A	**Grady**	**15.26**	**360**	P	**Pn**	**01 36 19.3**	**-2.7**
255A	**Hazlehurst**	**15.56**	**12**	Pn	**Pn**	**01 36 24.9**	**-1.0**
HKT	**Hockley**	**15.95**	**328**		**Pn**	**01 36 30.1**	**-0.8**
152A	**Waverly Hall**	**16.00**	**4**	P	**Pn**	**01 36 32.4**	**+0.9**
152A					Sn	01 39 15.4	-12
LRAL	**Lakeview Retre**	**16.33**	**357**	P	**Pn**	**01 36 36.2**	**+0.5**
LRAL	comp=Z,12nm,1.1s			IAmb	IAmb	01 36 39.1	
ROSC	**El Rosal**	**16.48**	**134**	LR	LR	01 43 19.6	
	comp=Z,139nm,18.7s,baz=8.0,slow=39						
Z50A	**Ashland**	**16.53**	**1**		**Pn**	**01 36 37.2**	**-1.0**
Z50A	comp=Z,27nm,1.4s			IAmb	IAmb	01 36 56.2	
GOGA	**Godfrey**	**16.86**	**8**	Pn	**Pn**	**01 36 40.7**	**-1.6**
833A	**Chaparral WMA,**	**16.88**	**316**		**Pn**	**01 36 40.3**	**-2.4**
SDV	**Santo Domingo**	**16.95**	**115**	Pn	**Pn**	**01 36 41.8**	**-2.0**
SDV	comp=Z,0.1nm,0.3s,baz=318,slow=16,SNR=1.7			Sn	**Sn**	**01 39 44.8**	**-6.6**
SDV	comp=Z,0.1nm,0.3s,baz=357,slow=19,SNR=2.9			LR	LR	01 43 45.9	
RGRS	comp=Z,69nm,18.3s,baz=232,slow=39 **Roger Stewart**	**17.05**	**17**		**P**	**01 36 46.2**	**+0.4**
Y49A	**Blount Mountai**	**17.14**	**359**		**Pn**	**01 36 47.0**	**+1.2**
NHSC	**New Hope**	**17.24**	**17**		**Pn**	**01 36 47.4**	**+0.4**
Y52A	**Lilburn**	**17.24**	**6**		**Pn**	**01 36 47.1**	**+0.1**
435B	**Jarrell**	**17.53**	**325**	P	**Pn**	**01 36 49.8**	**-1.0**
435B	comp=Z,13nm,0.5s			IAmb	IAmb	01 36 55.0	
X48A	**Hartselle**	**17.75**	**357**		**Pn**	**01 36 52.8**	**-0.5**
HODGE	**Hodges**	**17.84**	**10**	P	**Pn**	**01 36 54.9**	**+0.4**
HODGE	comp=Z,29nm,1.2s			IAmb	IAmb	01 36 59.5	
X51A	**Calhoun**	**17.87**	**3**	P	**P**	**01 36 57.4**	**+2.3**
X51A	comp=Z,22nm,1.2s			IAmb	IAmb	01 36 57.4	
JSC	**Jenkinsville**	**18.09**	**13**		**P**	**01 36 56.9**	**-0.5**
JSC	comp=Z,16nm,1.4s			IAmb	IAmb	01 37 09.5	
WHTX	**Lake Whitney,**	**18.42**	**328**	P	**P**	**01 37 02.1**	**+1.1**
WHTX	comp=Z,16nm,0.6s			IAmb	IAmb	01 37 08.9	
BG3	**Lake Jocassee**	**18.49**	**8**	P	**Pn**	**01 37 03.1**	**+0.8**
W50A	**Signal Mountai**	**18.49**	**2**	P	**P**	**01 37 00.4**	**-1.4**
W50A	comp=Z,36nm,1.5s			IAmb	IAmb	01 37 08.2	

SWET	**Sewanee**	**18.49**	**0**	P		**P**	**01 37 02.3**	**+0.5**
BIRD	**Birdtown, Kers**	**18.62**	**15**	P		**P**	**01 37 03.1**	**-0.1**
X58A	**Rowland**	**18.83**	**18**	P		**P**	**01 37 06.4**	**+0.9**
X58A				IAmb		IAmb	01 37 19.0	
	comp=Z,15nm,0.7s							
KMSC	**Kings Mountain**	**18.90**	**12**	P		**P**	**01 37 07.2**	**+0.9**
KMSC				IAmb		IAmb	01 37 19.4	
	comp=Z,14nm,1.1s							
TKL	**Tuckaleechee C**	**19.04**	**6**	P		**Pn**	**01 37 09.9**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=163,slow=12,SNR=14							
TKL				S		S	01 40 28.3	-13
	comp=Z,0.4nm,0.3s,baz=59,slow=12,SNR=4.1							
TKL				LR		LR	01 43 33.9	
	comp=Z,109nm,20.8s,baz=186,slow=34							
TKL	**Tuckaleechee C**	**19.04**	**6**	IAmb		IAmb	01 37 12.1	
	comp=Z,29nm,1.2s							
SJG	**San Juan**	**19.11**	**83**	P		**P**	**01 37 07.4**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=197,slow=8.5,SNR=3.2							
SJG				LR		LR	01 43 39.8	
	comp=Z,172nm,20.9s,baz=260,slow=34							
SJG	**San Juan**	**19.11**	**83**	IAmb		IAmb	01 37 11.1	
	comp=Z,36nm,1.2s							
V53A	**Saluda**	**19.17**	**8**	P		**P**	**01 37 10.5**	**+1.2**
V53A				IAmb		IAmb	01 37 12.9	
	comp=Z,21nm,1.0s							
WVT	**Waverly**	**19.46**	**356**	P		**Pn**	**01 37 16.6**	**+2.7**
WVT				IAmb		IAmb	01 37 21.0	
	comp=Z,5.3nm,0.6s							
V55A	**Taylorsville**	**19.61**	**12**	P		**Pn**	**01 37 16.2**	**+0.5**
TZTN	**Tazewell**	**19.94**	**6**	P		**P**	**01 37 16.9**	**-0.8**
TZTN				IAmb		IAmb	01 37 22.4	
	comp=Z,23nm,1.1s							
V58A	**Windy Hill, Pi**	**20.06**	**17**	P		**P**	**01 37 20.4**	**+1.5**
ABTX	**Abilene, Hawle**	**20.07**	**325**	P		**P**	**01 37 20.8**	**+1.7**
ABTX				IAmb		IAmb	01 37 31.3	
	comp=Z,15nm,1.0s							
TXAR	**Lajitas Array**	**20.47**	**311**	P		**P**	**01 37 25.8**	**+2.2**
	comp=Z,2.0nm,0.7s,baz=129,slow=12,SNR=12							
TXAR				S		S	**01 41 03.0**	**-7.1**
	comp=Z,0.3nm,0.3s,baz=122,slow=17,SNR=3.8							
TX31	**Lajitas Ar. Si**	**20.47**	**311**	P		**P**	**01 37 25.1**	**+1.5**
TX32	**Lajitas Array**	**20.47**	**311**	P		**P**	**01 37 25.1**	**+1.5**
TUL1	**Leonard**	**21.03**	**338**	P		**P**	**01 37 28.4**	**-1.0**
TUL1				IAmb		IAmb	01 37 47.1	
	comp=Z,6.4nm,0.9s							
WMOK	**Wichita Mounta**	**21.29**	**330**	P		**P**	**01 37 30.4**	**-1.8**
WMOK				IAmb		IAmb	01 37 49.2	
	comp=Z,6.9nm,0.9s							
WCI	**Wyandotte Cave**	**21.50**	**360**	P		**P**	**01 37 34.9**	**+0.5**
WCI				IAmb		IAmb	01 37 37.6	
	comp=Z,13nm,0.9s							
MNTX	**Cornudas Mount**	**23.04**	**314**	P		**P**	**01 37 49.2**	**-1.6**
MNTX				IAmb		IAmb	01 37 55.0	
	comp=Z,5.6nm,1.1s							
LPIG	**La Paz**	**23.84**	**292**	LR		LR	01 48 47.8	
	comp=Z,92nm,20.1s,baz=171,slow=40							
ANMO	**Albuquerque**	**25.74**	**319**	P		**P**	**01 38 18.5**	**+2.5**
	comp=Z,1.8nm,0.9s,baz=156,slow=11,SNR=5.2							
ANMO	**Albuquerque**	**25.74**	**319**	P		**P**	**01 38 17.4**	**+1.4**
ANMO				IAmb		IAmb	01 38 20.1	
	comp=Z,5.3nm,1.2s							
SADO	**Sadowa**	**28.64**	**10**	LR		LR	01 50 11.9	
	comp=Z,88nm,20.1s,baz=188,slow=36							
PDAR	**Pinedale Array**	**32.83**	**327**	LR		LR	01 55 06.0	
	comp=Z,118nm,18.3s,baz=317,slow=41							
NVAR	**Mina Array Bea**	**35.57**	**314**	P		**P**	**01 39 46.0**	**+3.3**
	comp=Z,1.2nm,0.8s,baz=122,slow=8.6,SNR=11							
NVAR				LR		LR	01 57 24.4	
	comp=Z,128nm,18.1s,baz=236,slow=42							
LPAZ	**La Paz**	**37.23**	**151**	LR		LR	01 55 13.2	
	comp=Z,96nm,18.2s,baz=344,slow=36							
SCHQ	**Schefferville**	**40.91**	**17**	P		**P**	**01 40 28.6**	**+1.5**
	comp=Z,1.0nm,0.5s,baz=209,slow=10,SNR=3.0							
SCHQ	**Schefferville**	**40.91**	**17**	IAmb		IAmb	01 40 37.3	
	comp=Z,11nm,1.4s							
BDFB	**Brasilia**	**49.42**	**128**	LR		LR	02 04 22.6	
	comp=Z,58nm,18.8s,baz=82,slow=38							
YKA	**Yellowknife Ar**	**49.95**	**343**	P		**P**	**01 41 40.1**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=138,slow=7.6,SNR=9.3							
CPUP	**Villa Florida**	**51.07**	**146**	LR		LR	02 06 37.6	
	comp=Z,51nm,19.2s,baz=344,slow=40							
ILAR	**Eielson Array**	**62.75**	**335**	P		**P**	**01 43 11.5**	**+1.9**
	comp=Z,0.7nm,0.9s,baz=120,slow=5.3,SNR=6.2							
ESDC	**Sonseca Array**	**73.61**	**53**	P		**P**	**01 44 20.5**	**+2.2**
	comp=Z,0.4nm,0.8s,baz=269,slow=6.7,SNR=4.0							
ESDC				LR		LR	02 11 55.7	
	comp=Z,32nm,19.8s,baz=300,slow=32							
TORD	**Torodi Ar. Bea**	**84.26**	**78**	P		**P**	**01 45 17.9**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=310,slow=4.4,SNR=3.2							
FINES	**FINESS Array B**	**85.65**	**26**	P		**P**	**01 45 24.1**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=246,slow=8.1,SNR=4.8							
FINES				LR		LR	02 21 41.7	
	comp=Z,29nm,20.6s,baz=256,slow=34							
NRIK	**Noril'sk**	**94.12**	**2**	LR		LR	02 28 57.3	
	comp=Z,30nm,20.5s,baz=64,slow=36							
KSH	**Kashi**	**121.67**	**16**	*e*PKP		**PKiKP**	**01 51 42.3**	**+3.4**

*IDC **30** 01:35:29.3±1.5,2.°88S×129.°08E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.5/33, mbtmpb3.7/4, ML3.4/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/38, Error ellipse: s-maj=35.8km s-min=24.1km az=93.0*

*ISCJB **30** 01:35:31.6±0.6,2.°74S±0.°04×129.°09E±0.°04, h10km, mb3.7/2, MS2.7/1, Error ellipse: s-maj=7.2km s-min=4.6km az=143.3*

*DJA **30** 01:35:32.8±0.3,3.°3S±3.°×12.°9E±.°, h10km, M4.0/8, mb5.3/2, mB6.8/1, MLv3.4/8, Mw(mB)6.7/1*

ISC 30 01:35:31.8±0.8,**2.°83S**±0.°06×**129.°11E**±0.°04,**h10**km,**n13,**
σ2**$**22/18,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.55**	**199**	P	**Pg**	**01 35 42.8**	**+0.3**
MSAI				S	**Sb**	**01 35 52.1**	**+0.7**
AAI	**Ambon**	**1.25**	**227**	P	**Pn**	**01 35 56.3**	**+0.9**
AAI				S	**Sg**	**01 36 13.1**	**+1.0**
BNDI	**Bandanaira**	**1.86**	**155**	P	**Pb**	**01 36 06.6**	**+0.6**
NLAI	**Namlea**	**2.05**	**258**	P	**Pn**	**01 36 08.0**	**+1.7**
NLAI				S	**Sn**	**01 36 33.9**	**+2.0**
SIJI	**Sorong**	**2.91**	**48**	Pn	**Pn**	**01 36 18.4**	**+0.2**
	3.5nm,0.3s,baz=253,slow=23,SNR=16						
SIJI				Sn	**Sn**	**01 36 54.0**	**+0.8**
	2.4nm,0.3s,baz=90,slow=19,SNR=4.5						
SWI	**Sorong**	**2.91**	**48**	P	**Pn**	**01 36 19.3**	**+1.1**
FAKI	**Fak Fak**	**3.14**	**92**	P	**Pn**	**01 36 21.5**	**+0.1**
SANI	**Sanana**	**3.21**	**284**	P	**Pn**	**01 36 21.6**	**-0.8**
SANI				S	**Sn**	**01 36 59.4**	**-1.3**
MMPI	**Merauke**	**12.54**	**117**	P	**Pn**	**01 38 33.3**	**+2.8**
WRA	**Warramunga Arr**	**17.76**	**164**	P	**Pn**	**01 39 37.0**	**-2.4**
	0.2nm,0.3s,baz=348,slow=12,SNR=7.6						
ASAR	**Alice Springs**	**21.23**	**168**	P	**P**	**01 40 16.9**	**-1.2**
	1.7nm,0.5s,baz=349,slow=11,SNR=34						
ASAR				S	**S**	**01 44 07.7**	**-6.6**
	0.3nm,0.7s,baz=348,slow=22,SNR=3.1						
LEM	**Lembang**	**21.77**	**259**	LR	LR	01 50 00.7	
	comp=Z,31nm,20.4s,baz=188,slow=40						
MKAR	**Makanchi Array**	**64.28**	**326**	P	**P**	**01 46 06.6**	**-0.9**
	0.5nm,0.6s,baz=117,slow=8.5,SNR=7.8						

*IDC **30** 01:36:57.3±1.4,6.°43S×147.°67E, h0km, mb3.7/5, mb1 3.9/9, mb1mx3.7/32, mbtmpb3.8/9, ML3.6/3, MS2.8/2, Ms1 2.8/2, ms1mx2.4/32, Error ellipse: s-maj=39.5km s-min=19.1km az=97.0*

*ISCJB **30** 01:37:03.9±1.2,6.°52S±0.°07×147.°3E±0.°2, h63km, mb3.6/5, Error ellipse: s-maj=25.7km s-min=9.7km az=171.2*

ISC 30 01:37:05.2±1.2,**6.°54S**±0.°09×**147.°4E**±0.°2,**h63**km,**n11,**
σ1**$**92/11,**mb3.6**/5,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.86**	**185**	Pn	**Pn**	**01 37 46.7**	**-1.8**
	11nm,0.3s,baz=15,slow=9.2,SNR=14						
PMG				Sn	**Sn**	**01 38 23.0**	**+1.3**
	9.4nm,0.3s,baz=112,slow=22,SNR=3.4						
PMG				LR	LR	01 39 18.4	
	comp=Z,50nm,20.5s,baz=0.5,slow=47						
JAY	**Jayapura**	**7.79**	**301**	Pn	**Pn**	**01 38 54.0**	**-2.0**
	2.9nm,0.3s,baz=89,slow=10,SNR=6.7						
CTA	**Charters Tower**	**13.52**	**185**	Pn	**Pn**	**01 40 12.4**	**-1.7**
	0.2nm,0.3s,baz=3.5,slow=13,SNR=3.2						
WRA	**Warramunga Arr**	**18.40**	**222**	P	**Pn**	**01 41 14.9**	**-1.2**
	0.1nm,0.3s,baz=51,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**21.41**	**216**	P	**P**	**01 41 50.2**	**+2.1**
	0.8nm,0.4s,baz=30,slow=12,SNR=6.8						
FITZ	**Fitzroy Crossi**	**24.14**	**240**	P	**P**	**01 42 18.4**	**+2.9**
	6.2nm,1.1s,baz=68,slow=11,SNR=2.4						
STKA	**Stephens Creek**	**25.79**	**191**	P	**P**	**01 42 31.4**	**+1.1**
	1.2nm,0.6s,baz=9.4,slow=13,SNR=2.9						
TGY	**Tagaytay City**	**33.33**	**308**	LR	LR	01 57 06.0	
	comp=Z,52nm,18.8s,baz=24,slow=36						
MKAR	**Makanchi Array**	**78.17**	**320**	P	**P**	**01 48 59.4**	**+1.4**
	0.2nm,0.4s,baz=102,slow=7.3,SNR=3.6						
ILAR	**Eielson Array**	**85.81**	**23**	P	**P**	**01 49 37.3**	**-0.3**
	0.5nm,0.8s,baz=250,slow=5.5,SNR=5.4						
TORD	**Torodi Ar. Bea**	**145.62**	**284**	PKPbc	**PKPab**	**01 56 38.5**	**+0.3**
	1.0nm,0.6s,baz=79,slow=4.3,SNR=16						

*ISCJB **30** 01:50:58.2±0.8,27.°7N±0.°1×139.°5E±0.°3, h507km, mb3.1/8, Error ellipse: s-maj=30.2km s-min=16.7km az=173.0*

*IDC **30** 01:51:02.7±6.1,27.°79N×139.°52E, h546km±79km, mb2.8/8, mb1 2.9/9, mb1mx2.6/59, mbtmpb3.7/9, Error ellipse: s-maj=28.9km s-min=13.7km az=79.0*

ISC 30 01:50:59.6±1.0,**27.°8N**±0.°1×**139.°6E**±0.°2,**h507**km,**n9,**
σ0**$**68/9,**mb3.2**/8,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USRK	**Ussuriysk Ar.**	**17.48**	**342**	P	**P**	**01 54 35.8**	**+1.2**
	baz=145,slow=9.2,SNR=6.2						
WRA	**Warramunga Arr**	**47.70**	**187**	P	**P**	**01 58 50.3**	**+0.4**
	0.5nm,0.3s,baz=1.5,slow=7.9,SNR=15						
MKAR	**Makanchi Array**	**48.23**	**309**	P	**P**	**01 58 53.7**	**0.0**
	0.2nm,0.5s,baz=90,slow=8.6,SNR=3.9						
KURBB	**Kurchatov Arra**	**50.89**	**314**	P	**P**	**01 59 13.2**	**0.0**
	0.9nm,0.4s,baz=90,slow=7.9,SNR=7.8						
ASAR	**Alice Springs**	**51.43**	**187**	P	**P**	**01 59 17.4**	**0.0**
	0.3nm,0.5s,baz=19,slow=12,SNR=5.8						
BVAR	**Borovoye Array**	**55.96**	**317**	P	**P**	**01 59 48.7**	**-0.5**
	1.2nm,0.4s,baz=94,slow=7.0,SNR=12						
ILAR	**Eielson Array**	**58.24**	**29**	P	**P**	**02 00 03.9**	**-0.7**
	0.2nm,0.6s,baz=263,slow=5.8,SNR=4.1						
YKA	**Yellowknife Ar**	**72.65**	**28**	P	**P**	**02 01 35.5**	**+0.6**
	0.2nm,0.5s,baz=295,slow=5.8,SNR=3.7						
FINES	**FINESS Array B**	**76.29**	**333**	P	**P**	**02 01 55.1**	**-0.5**
	2.6nm,0.9s,baz=146,slow=3.7,SNR=4.9						

*IDC **30** 01:57:57.7±58.0, 16.°57S×179.°66W, h0km, mb4.7/3, mb1 4.8/3, mb1mx3.9/28, mbtmpb4.7/3, Error ellipse: s-maj=1061.0km s-min=142.1km az=77.0*

*ISCJB **30** 01:58:37.4±0.9, 17.°1S±0.°1×178.°2W±0.°1, h550km, mb4.4/3, Error ellipse: s-maj=19.4km s-min=14.2km az=7.2*

*NEIC **30** 01:58:39.7±1.3, 17.°2S±0.°2×178.°1W±0.°1, h577km±11km, mb4.4/7*

ISC 30 01:58:38.5±1.0,**17.°1S**±0.°2×**178.°1W**±0.°1,**h550**km,**n13,**
σ2**$**12/13,**mb4.4**/7,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.73**	**260**	P	**P**	**02 00 00.7**	**+2.1**
MSVF				S	**S**	**02 01 08.4**	**+4.7**
NIUE	**Niue**	**8.01**	**105**	P	**P**	**02 00 37.3**	**+0.9**
RAO	**Raoul Island**	**12.08**	**179**	P	**P**	**02 01 18.9**	**+1.1**
DZM	**Mont Dzumac**	**15.37**	**249**	P	**P**	**02 01 49.1**	**-2.9**
DZM				IAmb	IAmb	02 01 57.6	
	comp=Z,13nm,1.0s						
URZ	**Urewera**	**21.48**	**190**	P	**P**	**02 02 46.3**	**-1.5**
URZ				IAmb	IAmb	02 02 55.3	
	comp=Z,9.0nm,0.9s						
LTZ	**Lake Taylor**	**26.87**	**196**	P	**P**	**02 03 33.9**	**-1.7**
COEN	**Coen**	**37.40**	**269**	P	**P**	**02 05 04.8**	**-0.6**
COEN				IAmb	IAmb	02 05 06.5	
	comp=Z,7.2nm,0.7s						
STKA	**Stephens Creek**	**39.27**	**240**	P	**P**	**02 05 19.9**	**-0.4**
	comp=Z,2.3nm,0.4s,baz=90,slow=9.6,SNR=14						
STKA	**Stephens Creek**	**39.27**	**240**	IAmb	IAmb	02 05 21.0	
	comp=Z,1.3nm,1.1s						
WRA	**Warramunga Arr**	**45.07**	**259**	P	**P**	**02 06 05.0**	**-1.1**
	comp=Z,3.3nm,0.5s,baz=93,slow=7.9,SNR=78						
AS31	**Alice Springs**	**45.29**	**253**	P	**P**	**02 06 07.2**	**-0.6**
AS31				IAmb	IAmb	02 06 07.7	
	comp=Z,7.4nm,0.5s						
ASAR	**Alice Springs**	**45.29**	**253**	P	**P**	**02 06 07.2**	**-0.7**
	comp=Z,2.4nm,0.5s,baz=88,slow=7.6,SNR=271						
DOT	**Dot Lake**	**84.73**	**15**	P	**P**	**02 10 13.7**	**-0.7**
DOT				IAmb	IAmb	02 10 21.0	
	comp=Z,7.5nm,0.9s						

IDC 30 02:31:58.2±6.2,**4.°27S**×**138.°17E, h132**km±90km,**mb3.0**/1, **mb1 3.2**/4,**mb1mx3.0**/32,**mbtmpb3.5**/4,**Error ellipse: s-maj=113.1km s-min=22.0km az=105.0,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.08**	**56**	P	Pn	02 32 44.1	-1.9
	0.5nm,0.3s,baz=219,slow=14,SNR=2.5						
JAY				S	Sn	02 33 23.8	+1.0
	1.7nm,0.3s,baz=61,slow=19,SNR=4.1						
WRA	**Warramunga Arr**	**16.02**	**193**	P	Pn	02 35 35.9	-0.3
	0.2nm,0.3s,baz=19,slow=12,SNR=10						
ASAR	**Alice Springs**	**19.72**	**192**	P	P	02 36 18.0	+0.4
	0.2nm,0.3s,baz=16,slow=11,SNR=18						
MKAR	**Makanchi Array**	**70.69**	**323**	P	P	02 42 59.7	-0.1
	0.3nm,0.7s,baz=101,slow=7.5,SNR=3.4						

*IDC **30** 02:35:37.5±2.4,3.°85N×95.°21E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/42, mbtmpb3.6/7, ML3.4/1, Error ellipse: s-maj=79.7km s-min=20.8km az=57.0*

*ISCJB **30** 02:35:40.9±1.3,3.°9N±0.°2×95.°3E±0.°1, h35km, mb3.6/5, Error ellipse: s-maj=27.5km s-min=10.0km az=40.4*

ISC 30 02:35:42.7±1.8,**3.°9N**±0.°2×**95.°3E**±0.°2,**h35**km,**n10**,σ0**$**42/8, **mb3.6**/5,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.81**	**106**	Pn	**Pn**	**02 36 38.9**	**-0.1**
	2.9nm,0.3s,baz=304,slow=12,SNR=13						
PSI				Sn	**Sn**	**02 37 22.9**	**+0.1**
	7.3nm,0.3s,baz=61,slow=12,SNR=10.0						
CMAR	**Chiang Mai Arr**	**14.94**	**14**	Pn	**Pn**	**02 39 11.6**	**+0.2**
	baz=204,slow=11,SNR=1.9						
H08S2	**Diego Garcia H**	**25.43**	**243**	T	T	03 08 25.3	
	baz=63,slow=76,SNR=35						
H08S3	**Diego Garcia H**	**25.44**	**243**	T	T	03 08 26.8	
	baz=63,slow=76,SNR=28						
H08S1	**Diego Carcia H**	**25.45**	**243**	T	T	03 08 26.5	
	baz=63,slow=76,SNR=20						
MKAR	**Makanchi Array**	**44.21**	**347**	P	**P**	**02 43 48.5**	**0.0**
	0.2nm,0.4s,baz=160,slow=8.0,SNR=7.6						
SONM	**Songino Array**	**44.84**	**11**	P	**P**	**02 43 52.9**	**-0.6**
	0.3nm,0.5s,baz=186,slow=8.3,SNR=3.9						
WRA	**Warramunga Arr**	**45.10**	**123**	P	**P**	**02 43 55.9**	**-0.1**
	1.0nm,0.6s,baz=301,slow=9.1,SNR=8.5						
ASAR	**Alice Springs**	**46.55**	**128**	P	**P**	**02 44 07.5**	**+0.2**
	0.4nm,0.6s,baz=304,slow=8.1,SNR=4.7						
ZALV	**Zalesovo Beam**	**50.65**	**352**	P	**P**	**02 44 38.9**	**+0.6**
	0.6nm,0.4s,baz=147,slow=8.7,SNR=3.1						

*SFS **30** 02:46:10.0, 36.°77N×4.°17W, h67km, ML2.6, IZNATE (MALAGA)*

*ISCJB **30** 02:46:11.4±0.4, 36.°96N±0.°03×4.°30W±0.°02, h35km, Error ellipse: s-maj=4.2km s-min=2.3km az=0.2*

*MDD **30** 02:46:11.1±0.6, 36.°77N×4.°17W, h66km±5km, mb2.6/9, Error ellipse: s-maj=6.2km s-min=3.2km az=166.0, PRXIMO*

*INMG **30** 02:46:11.8±1.1, 36.°83N×4.°24W, h60km±5km, ML2.0, Error ellipse: s-maj=2.8km s-min=2.4km az=165.0*

ISC 30 02:46:11.3±1.2,**36.°88N**±0.°04×**4.°21W**±0.°02,**h35**km,**n62,**
σ1**$**62/108,**4C,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMAL	**Malaga-Limoner**	**0.22**	**236**	⇑*i*P	**Pn**	**02 46 21.1**	**+2.8**
EMAL				*e*S	**Sn**	**02 46 28.8**	**+5.7**
EGOR	**Sierra Gorda,**	**0.24**	**19**	⇑P	**Pn**	**02 46 21.9**	**+3.2**
	1.6nm,0.1s,SNR=18						
EGOR				S	**Sn**	**02 46 30.1**	**+6.3**
	12nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**0.47**	**92**	P	**Pn**	**02 46 22.2**	**+0.6**
	14nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**02 46 31.0**	**+2.4**
	59nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**0.56**	**235**	⇑P	**Pn**	**02 46 23.3**	**+0.5**
	4.5nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**02 46 32.3**	**+1.5**
	1.4nm,0.2s,SNR=14						
EQUE	**Quentar**	**0.69**	**62**	S	**Sn**	**02 46 36.8**	**+2.5**
	0.4nm,0.1s,SNR=7.9						
EBER	**Berja**	**1.06**	**89**	P	**Pn**	**02 46 29.3**	**-0.5**
	1.2nm,0.2s,SNR=9.2						
EBER				S	**Sn**	**02 46 42.8**	**-0.6**
	1.9nm,0.2s,SNR=8.4						
GORA	**Gorafe**	**1.10**	**57**	P	**Pn**	**02 46 31.8**	**+1.4**
	1.1nm,0.1s,SNR=7.9						
GORA				S	**Sn**	**02 46 47.2**	**+2.7**
	5.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.29**	**44**	P	**Pn**	**02 46 33.4**	**+0.5**
	0.8nm,0.2s,SNR=14						
EQES				S	**Sn**	**02 46 49.7**	**+0.6**
	3.8nm,0.3s,SNR=10.0						
EADA	**Adamuz**	**1.31**	**347**	P	**Pn**	**02 46 34.4**	**+1.1**
	1.0nm,0.1s,SNR=21						
EADA				S	**Sn**	**02 46 51.0**	**+1.4**
	6.8nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**1.53**	**321**	P	**Pn**	**02 46 36.8**	**+0.6**
	0.2nm,0.1s,SNR=18						
ECAB				S	**Sn**	**02 46 55.8**	**+0.9**
	4.3nm,0.1s,SNR=28						
ENIJ	**Nijar**	**1.60**	**86**	P	**Pn**	**02 46 37.5**	**+0.3**
	0.5nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**02 46 53.7**	**-3.0**
	2.6nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**1.81**	**46**	P	**Pn**	**02 46 40.0**	**-0.1**
	0.8nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**02 47 01.7**	**-0.2**
	2.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.15**	**295**	⇑P	**Pn**	**02 46 44.6**	**-0.1**
	1.2nm,0.1s,SNR=18						
EMIN				S	**Sn**	**02 47 09.6**	**-0.7**
	7.2nm,0.1s,SNR=25						
PAB	**San Pablo**	**2.66**	**358**	P	**Pn**	**02 46 53.0**	**+1.2**
	0.2nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**02 47 21.6**	**-1.3**
	0.3nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.69**	**285**	P	**Pn**	**02 46 52.0**	**-0.1**
	1.5nm,0.1s,SNR=10						
EGRO				S	**Sn**	**02 47 22.2**	**-1.4**
	3.4nm,0.1s,SNR=11						
ETOB	**Tobarra**	**2.74**	**49**	P	**Pn**	**02 46 52.4**	**-0.5**
	0.6nm,0.1s,SNR=12						
ETOB				S	**Sn**	**02 47 22.7**	**-2.2**
	0.0nm,0.3s,SNR=5.0						
ESDC	**Sonseca Array**	**2.79**	**4**	P	**Pn**	**02 46 54.7**	**+1.1**
	0.3nm,0.2s,baz=181,slow=13,SNR=6.2						
ESDC				S	**Sn**	**02 47 25.0**	**-1.1**
	1.0nm,0.1s,baz=190,slow=20,SNR=3.8						
PVAQ	**Vaqueiros**	**2.85**	**282**	*e*P	**Pn**	**02 46 54.0**	**-0.3**
PVAQ				*e*S	**Sn**	**02 47 25.5**	**-2.0**
PVAQ				A	A	02 47 28.3	
	9.1nm,0.2s						
PVAQ	**Vaqueiros**	**2.85**	**282**	P	**Pn**	**02 46 54.0**	**-0.3**
PVAQ				S	**Sn**	**02 47 25.5**	**-2.0**
	9.1nm,0.2s						
EBAD	**Badajoz**	**2.90**	**311**	P	**Pn**	**02 46 55.5**	**+0.4**
	1.1nm,0.1s,SNR=17						
EBAD				S	**Sn**	**02 47 28.2**	**-0.5**
	6.1nm,0.2s,SNR=22						
PBDV	**Barranco-do-Ve**	**3.00**	**278**	*e*P	**Pn**	**02 46 56.7**	**+0.3**
PBDV				*e*S	**Sn**	**02 47 29.6**	**-1.6**
PBDV				A	A	02 47 32.5	
	3.1nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.00**	**278**	P	**Pn**	**02 46 56.7**	**+0.3**
PBDV				S	**Sn**	**02 47 29.6**	**-1.6**
	3.1nm,0.3s						
PBEJ	**Beja**	**3.13**	**292**	*e*P	**Pn**	**02 46 58.7**	**+0.6**
PBEJ				*e*S	**Sn**	**02 47 32.9**	**-1.4**
PBEJ				A	A	02 47 34.9	
	2.7nm,0.3s						
PBEJ	**Beja**	**3.13**	**292**	P	**Pn**	**02 46 58.7**	**+0.6**
PBEJ				S	**Sn**	**02 47 32.9**	**-1.4**
	1.4nm,0.3s						
PCVE	**Castro Verde**	**3.15**	**285**	*e*P	**Pn**	**02 46 58.5**	**+0.1**
PCVE				*e*S	**Sn**	**02 47 33.8**	**-0.9**
PCVE				A	A	02 47 34.5	
	3.3nm,0.1s						
PCVE	**Castro Verde**	**3.15**	**285**	P	**Pn**	**02 46 58.5**	**+0.1**
PCVE				S	**Sn**	**02 47 33.8**	**-0.9**
	3.3nm,0.1s						
PESTR	**Estremoz**	**3.33**	**308**	*e*P	**Pn**	**02 47 01.3**	**+0.4**
PESTR				*e*S	**Sn**	**02 47 37.9**	**-1.4**
PESTR				A	A	02 47 39.0	
	1.9nm,0.4s						
**AF

PVRL	Vila Real	5.17	329	*e*S	Sn	02 48 25.9	+1.3
PVRL	Vila Real	5.17	329	S	Sn	02 48 25.9	+1.3
POLO	Lamas de Olo	5.28	329	*e*P	Pn	02 47 29.3	+1.5
POLO	Lamas de Olo	5.28	329	P	Pn	02 47 29.3	+1.5
PBRG	Braganca	5.29	339	*e*P	Pn	02 47 29.5	+1.6
PBRG	Braganca	5.29	339	P	Pn	02 47 29.5	+1.6

IDC 30 03:08:35.2±7.3, 18°03'S×175°19'W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/30, mbtmp3.6/3, Error ellipse: s-maj=330.7km s-min=38.6km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	47.62	259	P	P	03 17 13.3	-0.1
	0.3nm,0.3s,baz=97,slow=7.7,SNR=8.7						
ASAR	Alice Springs	47.71	254	P	P	03 17 13.9	-0.2
	0.5nm,0.6s,baz=89,slow=8.5,SNR=17						
ILAR	Eielson Array	85.35	12	P	P	03 21 13.4	-0.4
	0.3nm,0.9s,baz=225,slow=7.1,SNR=3.1						
BRTR	Keskin Array B	147.00	317	PKPbc	PKPbc	03 28 20.1	-0.3
	0.4nm,0.8s,baz=40,slow=4.7,SNR=2.7						

IDC 30 03:11:07.5±50.0, 16°66'S×177°90'W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/31, mbtmp3.9/3, Error ellipse: s-maj=920.1km s-min=159.0km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	39.67	240	P	P	03 18 41.7	+0.2
	0.5nm,0.4s,baz=86,slow=9.3,SNR=6.1						
WRA	Warramunga Arr	45.35	258	P	P	03 19 27.6	-0.3
	0.3nm,0.4s,baz=94,slow=7.6,SNR=8.8						
ASAR	Alice Springs	45.61	253	P	P	03 19 29.7	-0.3
	3.5nm,0.6s,baz=88,slow=8.3,SNR=62						

*SNET **30** 03:43:14.6±1.2, 13°37'N×89°71'W, h62km±12km, ML4.3*
*ISCJB **30** 03:43:15.0±0.9, 13°4N±0°1×89°62W±0°07, h70km±11km, Error ellipse: s-maj=23.7km s-min=5.0km az=24.4*
*UCR **30** 03:43:15.6±1.4, 13°40N×89°62W, h62km±8km, MD3.6, ML4.0*
*GCG **30** 03:43:17.1±0.4, 13°49N×89°72W, h24km±4km, MD4.0*
ISC 30 03:43:16.5±1.5, 13°40'N±0°10'×89°63'W±0°05, h59km±11km, n42, σ0°93/50, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEVE	Cerro Verde	0.43	1	*e*P	Pn	03 43 27.2	-0.7
CEVE				*e*S	Sn	03 43 36.5	+0.3
CEVE				IAML		03 43 40.2	
	comp=Z,19μm,0.4s						
CEVE	Cerro Verde	0.43	1	*e*P	Pn	03 43 27.2	-0.7
CEVE				*e*S	Sn	03 43 36.5	+0.3
CEVE				IAML		03 43 40.2	
	comp=Z,19μm,0.4s						
SBLS	San Blas	0.44	1	*e*P	Pn	03 43 27.4	-0.6
SBLS	San Blas	0.44	1	*e*P	Pn	03 43 27.3	-0.8
SNJE	San Jose	0.47	3	*e*P	Pn	03 43 27.6	-0.7
SNJE	San Jose	0.47	3	*e*P	Pn	03 43 27.6	-0.7
BOQS	Boqueron	0.48	45	*e*P	Pn	03 43 27.9	-0.5
BOQS				*e*S	Sn	03 43 37.4	+0.4
SNET	Serv Nac Est T	0.48	53	*e*P	Pn	03 43 27.7	-0.6
SNET				*e*S	Sn	03 43 37.5	+0.7
SNET				IAML		03 43 39.8	
	comp=Z,16μm,0.2s						
SNET	Serv Nac Est T	0.48	53	*e*P	Pn	03 43 27.7	-0.6
SNET				IAML		03 43 39.8	
	comp=Z,16μm,0.2s						
UESS	Universidad de	0.53	52	IAML		03 43 40.0	
	comp=Z,11μm,0.3s						
UESS	Universidad de	0.53	52	IAML		03 43 40.0	
	comp=Z,11μm,0.3s						
AEIL	Aeropuerto Ilo	0.58	59	*e*P	Pn	03 43 29.2	-0.2
AEIL				*e*S	Sn	03 43 40.4	+1.7
AEIL				IAML		03 43 41.8	
	comp=Z,9μm,0.2s						
UNIC	Universidad Ca	0.59	8	*e*P	Pn	03 43 28.5	-1.0
UNIC	Universidad Ca	0.59	8	*e*P	Pn	03 43 28.5	-1.0
LFRS	El Faro	0.59	68	*e*P	Pn	03 43 29.0	-0.6
LBRS	Las Brisas	0.66	59	*e*P	Pn	03 43 29.8	-0.6
PAVA	Las Pavas	0.74	65	*e*P	Pn	03 43 30.9	-0.4
PAVA				IAML		03 43 48.7	
	comp=Z,3μm,0.6s						
PAVA	Las Pavas	0.74	65	*e*P	Pn	03 43 30.9	-0.4
PAVA				IAML		03 43 48.7	
	comp=Z,3μm,0.6s						
COEG	Centro de Oper	0.76	73	*e*P	Pn	03 43 31.0	-0.5
LLGN	La Laguna	1.01	41	*e*P	Pn	03 43 33.8	-1.0
LLGN	La Laguna	1.01	41	*e*P	Pn	03 43 33.8	-1.0
MTO3	Montecristo	1.03	15	*e*P	Pn	03 43 34.2	-0.9
MTO3	Montecristo	1.03	15	*e*P	Pn	03 43 34.2	-0.9
ALJI	Alcalda de J	1.03	94	*e*P	Pn	03 43 33.9	-1.0
ALJI				*e*S	Sn	03 43 48.4	-0.2
COEB	Comit de Eme	1.07	85	*e*P	Pn	03 43 34.9	-0.7
IXG	Ixpaco	1.10	314	*e*P	Pn	03 43 35.3	-0.7
IXG	Ixpaco	1.10	314	*e*P	Pn	03 43 35.3	-0.7
IXG	Ixpaco	1.10	314	*e*P	Pn	03 43 34.5	-1.6
PACA	Pacayal	1.27	87	*e*S	Sn	03 43 57.2	+2.7
PACA	Pacayal	1.27	87	*e*S	Sn	03 43 57.2	+2.7
NBG	Las Nubes	1.37	330	*e*P	Pn	03 43 40.0	+0.3
NBG				*e*S	Sn	03 43 57.5	+0.4
NBG	Las Nubes	1.37	330	*e*P	Pn	03 43 40.0	+0.3
NBG				*e*S	Sn	03 43 57.5	+0.4
FUG	Fuego 3	1.57	312	*e*P	Pn	03 43 42.3	-0.1
FUG	Fuego 3	1.57	312	*e*P	Pn	03 43 42.3	-0.1
LCND	La Caada	1.69	93	*e*P	Pn	03 43 43.2	-0.6
LCND	La Caada	1.69	93	*e*P	Pn	03 43 43.2	-0.6
STG3	Santiaguito 3,	2.29	305	*e*P	Pn	03 43 52.2	0.0
STG3				*e*S	Sn	03 44 20.0	+0.6
TGUH	Tegucigalpa,Un	2.38	74	*e*P	Pn	03 43 52.7	-0.6
CRIN	San Cristobal	2.61	105	*e*P	Pn	03 43 55.3	-1.0
CNGN	Cerro Negro	2.99	107	*e*P	Pn	03 44 01.3	-0.3
ESTN	Estel	3.19	95	*e*P	Pn	03 44 04.0	-0.3
ESTN				*e*S	Sn	03 44 39.7	-1.5
ESTN				IAML		03 44 44.3	
	comp=E,25nm,0.6s						
MATN	Matagalpa	3.64	97	*e*P	Pn	03 44 09.8	-0.7

IDC 30 03:43:49.9±2.2, 1°24'N×126°27'E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/24, mbtmp3.3/3, Error ellipse: s-maj=185.5km s-min=28.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.49	160	P	P	03 48 51.3	+0.2
	0.7nm,0.6s,baz=338,slow=11,SNR=8.4						
ASAR	Alice Springs	25.84	164	P	P	03 49 23.1	-0.2
	0.2nm,0.6s,baz=345,slow=9.4,SNR=5.2						
MKAR	Makanchi Array	59.35	326	P	P	03 53 53.8	-0.1
	0.2nm,0.6s,baz=117,slow=6.9,SNR=3.2						

*SJA **30** 04:01:08.7±0.6, 23°59S×68°27W, h114km±6km, ML3.0, MW3.0*
*ISCJB **30** 04:01:09.4±0.8, 23°53S±0°04×68°34W±0°07, h129km±12km, Error ellipse: s-maj=10.5km s-min=6.9km az=19.0*
*GUC **30** 04:01:09.3±0.6, 23°52S×68°44W, h135km±6km, ML3.5*
ISC 30 04:01:10.2±1.7, 23°54S±0°05×68°32W±0°06, h120km±18km, n22, σ0°41/35, 2C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	1.07	329	*e*P	Pn	04 01 32.9	-0.5
LVC				*e*S	Sn	04 01 50.5	-0.3
LVC	Limon Verde	1.07	329	*i* P	Pn	04 01 32.9	-0.5
LVC				*e*S	Sn	04 01 50.8	0.0
LVC				IAML		04 01 52.0	
	comp=Z,146nm,0.1s						
PB15	IPOC Station P	1.10	287	*e*P	Pn	04 01 33.6	+0.1
PB15				*i* S	Sn	04 01 51.8	+0.6
PB15	IPOC Station P	1.10	287	*i* P	Pn	04 01 33.5	0.0
PB15				*e*S	Sn	04 01 51.1	0.0
PB15				IAML		04 01 54.2	
	comp=Z,3μm,0.1s						
PB06	IPOC Station P	1.42	305	‖ *i* P	Pn	04 01 36.7	-0.1
PB06				*i* S	Sn	04 01 57.3	+0.2
PB06				IAML		04 02 00.1	
	comp=N,1μm,0.1s						
PB06	IPOC Station P	1.42	305	*i* P	Pn	04 01 36.7	-0.1
PB06				*e*S	Sn	04 01 57.6	+0.5
PB05	IPOC Station P	1.86	291	*e*P	Pn	04 01 41.7	-0.4
PB05				*i* S	Sn	04 02 06.0	-0.4
PB05				IAML		04 02 15.3	
	comp=N,81nm,0.3s						
PB05	IPOC Station P	1.86	291	*i* P	Pn	04 01 41.9	-0.2
PB09	IPOC Station P	1.93	334	*e*P	Pn	04 01 43.2	+0.2
PB09				*i* S	Sn	04 02 08.3	+0.4
PB09				IAML		04 02 14.4	
	comp=E,77nm,0.5s						
PB09	IPOC Station P	1.93	334	*i* P	Pn	04 01 43.5	+0.5
PB03	IPOC Station P	1.98	318	*e*P	Pn	04 01 43.5	-0.1
PB03				*i* S	Sn	04 02 09.3	+0.1
PB03				IAML		04 02 14.4	
	comp=E,193nm,0.3s						
GO02	Mina Guanaco	1.99	215	*e*P	Pn	04 01 44.1	+0.3
GO02				*i* S	Sn	04 02 10.6	+1.1
GO02				IAML		04 02 14.6	
	comp=N,214nm,0.4s						
PB10	IPOC Station P	2.05	270	*e*P	Pn	04 01 44.0	-0.3
PB10				*i* S	Sn	04 02 09.7	-0.6
PB10				IAML		04 02 18.4	
	comp=E,98nm,0.3s						
PB10	IPOC Station P	2.05	270	*i* P	Pn	04 01 44.4	+0.1
PB04	IPOC Station P	2.07	305	‖ *i* P	Pn	04 01 44.2	-0.5
PB04				*i* S	Sn	04 02 10.9	-0.1
PB04				IAML		04 02 16.8	
	comp=N,168nm,0.3s						
PB04	IPOC Station P	2.07	305	*i* P	Pn	04 01 44.7	0.0
PB14	IPOC Station P	2.19	240	‖ *i* P	Pn	04 01 46.3	-0.1
PB14				*i* S	Sn	04 02 14.1	+0.1
PB14	IPOC Station P	2.19	240	*i* P	Pn	04 01 45.9	-0.4
HJA	Humahuaca	2.70	84	*i* P	Pn	04 01 52.7	-0.2
YJA	Yavi	2.92	63	*i* P	Pn	04 01 55.6	-0.2
YJA				IAML		04 01 55.9	
	comp=Z,5.9nm,0.7s						
ACCO	Cerro Coronel	7.06	185	*i* P	Pn	04 02 50.4	-0.8
LPAZ	La Paz	7.21	1	*i* P	Pn	04 02 54.1	+0.5

*IDC **30** 04:02:12.8±1.3, 28°00N×53°60E, h0km, mb3.5/10, mb1 3.7/11, mb1mx3.5/37, mbtmp3.6/11, ML3.2/1, MS2.6/3, Ms1 2.6/3, ms1mx2.4/59, Error ellipse: s-maj=27.4km s-min=20.9km az=9.0*
*ISCJB **30** 04:02:15.6±0.5, 28°09N±0°03×53°50E±0°06, h10km, mb3.5/9, Error ellipse: s-maj=7.8km s-min=4.7km az=168.4*
*TEH **30** 04:02:15.7, 28°14N×53°65E, h5km, ML3.5*
*THR **30** 04:02:20.0, 28°18N×53°62E, h18km, ML3.3*
ISC 30 04:02:15.4±0.6, 28°11N±0°03×53°66E±0°04, h10km, n41, σ2°34/41, mb3.5/9, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHRM	Jahrom	0.41	349	*e*Pg	Pg	04 02 22.5	-1.0
JHRM				*e*Sg	Sg	04 02 29.1	+0.2
LMD1	Lamerd	0.88	210	*e*Pg	Pg	04 02 32.6	+0.2
LMD1				IAMB	IAmb	04 02 56.3	
	comp=Z,0.0nm,0.6s						
ISRV	Sarvestan	1.36	339	*e*Pn	Pg	04 02 41.8	+0.2
ISRV				IAMB	IAmb	04 02 46.6	
	comp=Z,6μm,0.5s						
ISRV				*e*Sg	Sn	04 03 03.8	+4.7
SHI	Shiraz	1.83	327	*e*Pn	Pb	04 02 48.8	-0.4
IKAZ	Kazeroun	2.31	317	*e*Pn	Pb	04 02 56.7	-0.7
IKAZ				IAMB	IAmb	04 03 49.8	
	comp=Z,4μm,0.8s						
BNDS	Bandar-Abbas	2.33	107	*e*AML	AML	04 04 02.7	
	comp=N,142nm,0.3s						
BNDS				*e*Pn	Pg	04 03 00.5	+0.3
BNDS				*e*AML	AML	04 03 52.8	
	comp=E,142nm,0.6s						
GENO	Geno	2.33	107	IAMB	IAmb	04 03 48.8	
	comp=Z,0.0nm,0.7s						
NIAN	Nian	2.86	100	IAMB	IAmb	04 04 04.6	
	comp=Z,0.0nm,0.8s						
NGRK	Negar Kerman	3.10	60	*e*Pn	Pn	04 03 07.5	+2.8
NGRK				IAMB	IAmb	04 04 05.8	
	comp=Z,0.0nm,0.8s						
KRBR	Kerman	3.29	55	*e*Pn	Pb	04 03 12.6	-1.6
KRBR	Kerman	3.29	55	*e*Pn	Pb	04 03 12.6	-1.6
KRBR				*e*Sg	Sg	04 04 02.8	+1.4
KRBR				*e*AML	AML	04 04 09.9	
	comp=E,70nm,0.6s						
KRBR				*e*AML	AML	04 04 14.5	
	comp=N,88nm,0.8s						
TVBK	TV Kerman	3.30	55	*e*Pn	Pb	04 03 11.1	-3.1
TVBK				IAMB	IAmb	04 03 28.3	
	comp=Z,0.0nm,0.6s						
KHGB	Koh Gabri	3.34	47	*e*Pn	Pn	04 03 11.0	+3.0
IMEH	Mehriz	3.38	14	*e*Pn	Pn	04 03 11.5	+3.0
KLNJ	Kolanjah	3.41	329	*e*Pn	Pn	04 03 09.4	+0.4
MSFE	Esma-Masafi	3.53	140	*e*Pn	Pn	04 03 14.8	+4.4
NAZ	Nazwa, Dubai	3.58	150	*e*Pn	Pn	04 03 15.2	+4.1
MDH	Madha	3.66	139	*e*Pn	Pn	04 03 16.8	+4.7
ISAD	Sadrabad	3.80	0	*e*Pn	Pn	04 03 17.5	+3.2
CHMN	Cheshme madani	3.82	62	*e*Pn	Pn	04 03 18.2	+3.5
IBAF	Bafgh	3.85	25	*e*Pn	Pn	04 03 17.7	+2.9
UOSS	Minazif	3.88	144	*e*Pn	Pn	04 03 15.6	+0.4
ASHO	Ashiyiah	4.03	147	*e*Pn	Pn	04 03 20.0	+2.8
IZEF	Zefreh	4.91	347	*e*Pn	Pn	04 03 30.5	+0.9
ANAR	Anarak	5.07	1	*e*Pn	Pn	04 03 34.2	+2.6
IKLH	Kolahrood	5.50	341	*e*Pn	Pn	04 03 40.8	+3.2
TPRV	Parvadeh(Tabas	5.56	27	*e*Pn	Pn	04 03 40.9	+2.6
TKDS	Koohdasht(Taba	6.24	28	*e*Pn	Pn	04 03 50.5	+2.8
WSAR	Wadi Sarin	6.60	136	Pn	Pn	04 03 51.9	-0.7
	comp=Z,0.5nm,0.3s,baz=332,slow=8.5,SNR=3.6						
WSAR				Sn	Sn	04 05 06.7	-1.2
	comp=Z,0.9nm,0.3s,baz=165,slow=20,SNR=3.0						
WSAR				LR	LR	04 07 17.1	
	comp=Z,34nm,20.1s,baz=300,slow=46						
GEYT	Alibeck	10.48	20	LR	LR	04 08 49.7	
	comp=Z,38nm,21.3s,baz=185,slow=37						
MMAI	Mount Meron Ar	16.47	292	LR	LR	04 13 11.0	
	comp=Z,27nm,19.5s,baz=150,slow=40						
BRTR	Keskin Array B	20.21	310	P	P	04 06 50.5	-0.1
	comp=Z,0.5nm,0.6s,baz=131,slow=13,SNR=6.1						
AKTO	Aktyubinsk	22.55	7	P	P	04 07 15.9	+0.4
	comp=Z,1.2nm,0.8s,baz=181,slow=13,SNR=2.4						
BVAR	Borovoye Array	27.81	22	P	P	04 08 05.0	+0.4
	comp=Z,0.4nm,0.7s,baz=252,slow=39,SNR=2.9						
MKAR	Makanchi Array	29.16	42	P	P	04 08 17.2	+0.5
	comp=Z,0.4nm,0.5s,baz=234,slow=8.1,SNR=11						
ZALV	Zalesovo Beam	34.43	33	P	P	04 09 03.2	+0.4
	comp=Z,1.3nm,0.4s,baz=240,slow=10,SNR=7.8						
GERES	GERESS Array B	36.95	315	P	P	04 09 23.9	-0.9
	comp=Z,0.3nm,0.9s,baz=90,slow=8.1,SNR=2.8						
FINES	FINESS Array B	38.08	339	P	P	04 09 32.9	-1.1
	comp=Z,1.5nm,0.8s,baz=153,slow=11,SNR=4.1						
SONM	Songino Array	45.03	49	P	P	04 10 30.2	-1.2
	comp=Z,0.6nm,0.9s,baz=270,slow=8.6,SNR=4.7						
TORD	Torodi Ar. Bea	50.50	264	P	P	04 11 12.5	-1.6
	comp=Z,0.6nm,0.7s,baz=65,slow=9.7,SNR=4.4						
ILAR	Eielson Array	86.05	9	P	P	04 14 54.4	-1.6
	comp=Z,0.1nm,0.6s,baz=308,slow=3.5,SNR=4.9						

*IDC **30** 04:23:16.7±1.1, 4°86S×102°90E, h0km, mb4.0/13, mb1 4.2/13, mb1mx3.9/53, mbtmp4.0/13, Error ellipse: s-maj=51.9km s-min=14.3km az=53.0*
*ISCJB **30** 04:23:22.9±0.6, 5°05S±0°06×102°91E±0°05, h59km, mb4.0/13, Error ellipse: s-maj=9.8km s-min=5.4km az=38.6*
*DJA **30** 04:23:25.2±0.5, 5°S±3°×10°3E±°, h30km±5km, M4.0/11, mb3.9/1, MLv4.0/11*
ISC 30 04:23:24.6±0.7, 4°96S±0°08×103°00E±0°07, h59km, n30, σ0°95/30, mb4.0/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	Manna	0.60	356	P	Pn	04 23 37.7	+0.1
MNAI				S	Sn	04 23 47.7	+0.6
LWLI	Liwa	1.06	93	P	Pn	04 23 43.5	0.0
MDSI	Maura Dua	1.27	68	P	Pn	04 23 47.0	+0.8
MDSI				S	Sn	04 24 03.4	+1.1
KSI	Kapahiang	1.36	343	P	Pn	04 23 48.2	+0.7
KSI				S	Sn	04 24 05.4	+0.7
KASI	Kota Agung	1.59	111	P	Pn	04 23 51.0	+0.5
KASI				S	Sn	04 24 09.9	-0.2
KLSI		1.75	81	P	Pn	04 23 53.8	+1.2
MASI	Maura Aman, Be	1.96	337	P	Pn	04 23 58.0	+2.4
PPSI	Pulau Pagai	3.70	306	P	Pn	04 24 20.4	+1.1
SISI	Saibi	5.32	313	P	Pn	04 24 41.9	+0.4
NGJI	Ngawi	8.75	106	P	Pn	04 25 18.8	-10
CMAR	Chiang Mai Arr	23.61	350	P	P	04 28 28.5	-1.9
	1.2nm,0.5s,baz=182,slow=9.3,SNR=5.6						
FITZ	Fitzroy Crossi	25.70	122	P	P	04 28 49.8	+0.3
	1.3nm,0.4s,baz=318,slow=8.2,SNR=6.8						
H08S2	Diego Garcia H	30.43	263	T	T	05 01 49.4	
	baz=86						
H08S3	Diego Garcia H	30.44	263	T	T	05 01 51.1	
	baz=86,slow=74						
H08S1	Diego Garcia H	30.45	263	T	T	05 01 54.7	
	baz=86,slow=74						
H01W3	Cape Leeuwin H	31.51	162	T	T	05 02 60.0	
	baz=340,slow=74						
H01W2	Cape Leeuwin H	31.52	162	T	T	05 03 01.7	
	baz=340,slow=74						
H01W1	Cape Leeuwin H	31.52	162	T	T	05 03 00.9	
	baz=340						
WRA	Warramunga Arr	33.94	119	P	P	04 30 02.9	+0.3
	0.9nm,0.4s,baz=298,slow=9.1,SNR=14						
WRA				PcP	PcP	04 32 40.5	+0.5
	0.4nm,0.9s,baz=307,slow=2.5,SNR=3.0						
ASAR	Alice Springs	35.11	125	P	P	04 30 13.3	+0.7
	1.3nm,0.6s,baz=297,slow=7.9,SNR=16						
ASAR				PcP	PcP	04 32 44.1	+0.8
	0.4nm,0.6s,baz=339,slow=2.3,SNR=4.7						
STKA	Stephens Creek	44.96	131	P	P	04 31 35.5	+1.4
	1.1nm,0.5s,baz=319,slow=7.6,SNR=5.3						
SONM	Songino Array	52.66	3	P	P	04 32 32.8	-0.2
	1.0nm,0.6s,baz=179,slow=9.2,SNR=7.4						
SONM				PcP	PcP	04 33 41.6	-0.6
	0.4nm,0.4s,baz=197,slow=4.0,SNR=4.1						
MKAR	Makanchi Array	54.70	343	P	P	04 32 46.8	-1.0
	1.1nm,0.8s,baz=144,slow=7.8,SNR=13						
USRK	Usuriysk Ar.	55.45	25	P	P	04 32 52.2	-1.0
	1.2nm,0.7s,baz=204,slow=4.4,SNR=3.6						
ZALV	Zalesovo Beam	60.65	348	P	P	04 33 28.6	-0.7
	0.9nm,0.4s,baz=145,slow=7.1,SNR=5.0						
BVAR	Borovoye Array	63.99	339	P	P	04 33 50.6	-1.2
	1.1nm,0.6s,baz=143,slow=9.3,SNR=9.5						
BRTR	Keskin Array B	77.52	312	P	P	04 35 14.2	-0.3
	0.4nm,0.7s,baz=128,slow=4.5,SNR=3.3						
FINES	FINESS Array B	88.11	332	P	P	04 36 08.6	0.0
	3.2nm,0.9s,baz=134,slow=5.5,SNR=6.0						
ARCES	ARCESS Array B	90.26	340	P	P	04 36 18.1	-0.5
	4.9nm,1.0s,baz=99,slow=5.8,SNR=3.2						
TXAR	Lajitas Array	145.01	43	PKPbc	PKPab	04 42 55.9	+0.3
	0.6nm,0.6s,baz=265,slow=1.2,SNR=7.2						

*ISCJB **30** 04:40:43.9±0.2, 61°22N±0°02×146°88W±0°03, h49km±4km, mb3.6/6, MS3.4/1, Error ellipse: s-maj=2.7km s-min=2.2km az=15.7*
*NEIC **30** 04:40:44.8±1.8, 61°26N±0°01×146°88W±0°05, h33km±6km*
*AEIC **30** 04:40:45.1±1.6, 61°25N±0°02×146°86W±0°05, h20km±4km, ML3.5*
*IDC **30** 04:40:46.0±5.2, 61°39N×146°95W, h53km±38km, mb3.4/6, mb1 3.7/9, mb1mx3.3/49, mbtmp3.6/9, ML3.1/3, MS3.4/1, Ms1 3.4/1, ms1mx2.5/37, Error ellipse: s-maj=59.5km s-min=21.1km az=54.0*
ISC 30 04:40:43.9±0.9, 61°23N±0°02×146°87W±0°03, h32km±7km, n155, σ1°32/167, mb3.7/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JPK	Jack Peak	0.22	143		Pn	04 40 51.1	+0.1
VMT	TAPS Tl Valdez	0.28	121		Pb	04 40 51.4	+0.1
VMT					Sn	04 40 56.9	-0.1
GLI	Glacier Island	0.37	198		Pb	04 40 52.7	+0.2
GLI	Glacier Island	0.37	198		Sn	04 40 59.4	+0.3
FID	Port Fidalgo	0.52	158		Pb	04 40 54.8	+0.1
FID					Sn	04 41 03.1	+0.3
SCM	Sheep Creek Mo	0.64	340		Pb	04 40 55.9	-0.9
SCM					Sb	04 41 05.3	-0.3
KNK	Knik Glacier	0.79	284		Pn	04 40 58.8	0.0
KNK	Knik Glacier	0.79	284		Sn	04 41 09.9	+0.4
PWL	Port Wells	0.81	243		Pn	04 40 59.0	0.0
HIN	Hinchinbrook I	0.85	168		Pn	04 41 00.3	+0.6
HIN	Hinchinbrook I	0.85	168		Sn	04 41 12.2	+1.1
PS12	TAPS Pump St12	0.87	73		Pn	04 40 59.0	-0.8
PS12					Sb	04 41 10.8	-1.0
EYAK	Cordova Ski Ar	0.88	141		Pn	04 41 00.5	+0.6
EYAK					Sn	04 41 13.4	+1.8
SML	Sawmill	0.91	310		Pn	04 41 00.2	-0.3
SML	Sawmill	0.91	310		Sb	04 41 12.4	-0.6
PS11	TAPS Pump St11	1.08	37		Pb	04 41 03.3	-0.7
PS11					Sb	04 41 18.0	+0.2
GHO	Glory Hole Cre	1.13	300		Pn	04 41 03.6	+0.2
PMR	Palmer	1.15	289		Pn	04 41 03.9	+0.3
PMR					Sb	04 41 19.5	-0.1
GOAT	Goat Mountain	1.23	121		Pn	04 41 05.5	+0.6
RAGM	Ragged Mountai	1.37	127		Pb	04 41 08.3	-0.6
RC01	Rabbit Creek A	1.40	265		Pn	04 41 08.4	+1.3
WAT6	Susitna Watana	1.42	343		Pn	04 41 07.2	-0.4
GLB	Gilahina Butte	1.49	80		Pn	04 41 08.7	+0.2
GLB	Gilahina Butte	1.49	80		Sn	04 41 27.5	+0.7
HMT	Hamilton	1.56	124		Pn	04 41 10.7	+1.3
FIS	Fire Island	1.62	268		Pn	04 41 11.9	+1.7
SEW	Seward	1.70	230		Pn	04 41 12.4	+1.2
NICHA	Nichawak Mount	1.74	124		Pn	04 41 12.4	+0.6
BERG	Berg Lake	1.77	117		Pn	04 41 13.3	+1.1
WAT1	Susitna Watana	1.79	334		Pn	04 41 13.

YUK3	**Moose Creek**	**3.12**	**77**		**Pn**	**04 41 31.9**	**+0.9**
YUK1	**Sand Pete Hill**	**3.16**	**70**		**Pn**	**04 41 32.9**	**+1.4**
BWN	**Browne**	**3.19**	**339**	Pn	**Pn**	**04 41 32.7**	**+1.0**
HDA	**Harding Lake**	**3.19**	**359**	P	**Pn**	**04 41 33.2**	**+1.5**
	baz=179						
HDA				S	**Sb**	**04 42 14.6**	**-3.6**
	baz=179						
HDA	**Harding Lake**	**3.19**	**359**		**Pn**	**04 41 33.8**	**+2.0**
SAMH	**Samovar Hills**	**3.19**	**108**		**Pn**	**04 41 33.5**	**+1.7**
IVE	**Iliamna Volcan**	**3.27**	**251**		**Pn**	**04 41 33.7**	**+0.8**
CAST	**Castle Rocks**	**3.28**	**314**		**Pn**	**04 41 34.7**	**+1.7**
WRH	**Wood River Hil**	**3.30**	**351**		**Pn**	**04 41 33.9**	**+0.7**
ILS	**Iliamna Low So**	**3.31**	**250**		**Pn**	**04 41 34.2**	**+0.7**
PS08	**TAPS Pump Stn8**	**3.33**	**0**		**Pn**	**04 41 34.6**	**+1.0**
PCA	**Pinnacle**	**3.45**	**106**	Pn	**Pn**	**04 41 36.1**	**+0.8**
BPAW	**Bear Paw Mtn.**	**3.45**	**328**		**Pn**	**04 41 36.1**	**+0.8**
CCB	**Clear Creek Bu**	**3.46**	**353**		**Pn**	**04 41 36.1**	**+0.8**
NEA	**Nenana**	**3.51**	**344**		**Pn**	**04 41 37.0**	**+0.9**
ILAR	**Eielson Array**	**3.56**	**360**	P	**Pn**	**04 41 37.0**	**+0.2**
	10nm,0.3s,baz=188,slow=13,SNR=139						
ILAR				S	**Sn**	**04 42 20.5**	**+2.8**
	7.3nm,0.3s,baz=182,slow=20,SNR=6.6						
IL01		**3.56**	**360**		**Pn**	**04 41 37.0**	**+0.3**
CHUM	**Lake Minchumin**	**3.67**	**319**		**Pn**	**04 41 39.2**	**+0.9**
COLA	**College**	**3.69**	**353**		**Pn**	**04 41 39.3**	**+0.8**
TCOL	**CIGO, UAF Yank**	**3.69**	**353**	P	**Pn**	**04 41 39.5**	**+1.0**
	baz=172						
TCOL				S	**Sn**	**04 42 24.9**	**+4.1**
	baz=172						
TCOL	**CIGO, UAF Yank**	**3.69**	**353**		**Pn**	**04 41 39.1**	**+0.6**
AU22	**Augustine Moun**	**3.73**	**243**		**Pn**	**04 41 40.1**	**+1.0**
AUQ	**Augustine Qik'**	**3.76**	**243**		**Pn**	**04 41 41.2**	**+1.6**
AUH	**Augustine H**	**3.77**	**243**		**Pn**	**04 41 41.5**	**+1.8**
AUI	**Augustine Isla**	**3.78**	**243**		**Pn**	**04 41 41.3**	**+1.5**
MDM	**Murphy Dome**	**3.79**	**351**		**Pn**	**04 41 41.5**	**+1.4**
POKR	**Poker Plat Res**	**3.91**	**356**	P	**Pn**	**04 41 42.6**	**+1.0**
	baz=176						
POKR				S	**Sn**	**04 42 30.9**	**+4.5**
	baz=176						
POKR	**Poker Plat Res**	**3.91**	**356**		**Pn**	**04 41 42.4**	**+0.8**
YUK4	**Talbot Arm**	**3.97**	**85**		**Pn**	**04 41 44.2**	**+1.5**
PNL	**Peninsula**	**4.02**	**110**		**Pn**	**04 41 44.3**	**+1.2**
YUK6	**Outpost Mounta**	**4.14**	**90**		**Pn**	**04 41 45.9**	**+0.8**
MLY	**Manley**	**4.20**	**337**		**Pn**	**04 41 46.5**	**+0.8**
SVW2	**Sparrevohn**	**4.22**	**272**		**Pn**	**04 41 46.1**	**+0.2**
YUK7	**Dusty Glacier**	**4.32**	**96**		**Pn**	**04 41 48.8**	**+1.3**
PRP	**Porcupine Dome**	**4.35**	**7**		**Pn**	**04 41 48.5**	**+0.7**
YUK5	**Granite Creek**	**4.36**	**87**		**Pn**	**04 41 48.4**	**+0.4**
EGAK	**Eagle**	**4.41**	**34**	Pn	**Pn**	**04 41 49.8**	**+1.3**
DAWY	**Dawson**	**4.47**	**47**		**Pn**	**04 41 50.5**	**+1.1**
KDAK	**Kodiak Island**	**4.52**	**223**	Pn	**Pn**	**04 41 50.6**	**+0.6**
HYT	**Haines Junctio**	**4.57**	**91**		**Pn**	**04 41 53.3**	**+2.4**
TT01	**Tatalina**	**4.62**	**295**		**Pn**	**04 41 51.6**	**+0.2**
TTA	**Tatalina**	**4.62**	**296**		**Pn**	**04 41 51.5**	**0.0**
DHAK	**Deception Hill**	**4.83**	**113**	Pn	**Pn**	**04 41 55.7**	**+1.4**
KABU	**Katmai Buttres**	**5.19**	**239**		**Pn**	**04 41 60.0**	**+0.7**
OHAK	**Old Harbor**	**5.20**	**222**		**Pn**	**04 41 59.4**	**+0.1**
IM03		**5.67**	**330**		**Pn**	**04 42 06.5**	**+0.8**
WHY	**Whitehorse**	**5.87**	**90**		**Pn**	**04 42 08.7**	**+0.1**
SKAG	**Skagway**	**6.00**	**102**	Pn	**Pn**	**04 42 12.4**	**+2.1**
SII	**Sitkinak Islan**	**6.02**	**222**	Pn	**Pn**	**04 42 11.0**	**+0.3**
COLD	**Coldfoot**	**6.19**	**348**	Pn	**Pn**	**04 42 16.0**	**+3.0**
BM03	**Burnt Mountain**	**6.29**	**8**		**Pn**	**04 42 15.1**	**+0.7**
BESE	**Bessie Mountai**	**6.60**	**108**	Pn	**Pn**	**04 42 18.9**	**+0.3**
EPYK	**Eagle Plains**	**6.83**	**37**	P	**Pn**	**04 42 24.9**	**+3.1**
	baz=226						
EPYK	**Eagle Plains**	**6.83**	**37**	Pn	**Pn**	**04 42 23.8**	**+2.0**
JIS	**Juneau Island**	**6.97**	**110**	Pn	**Pn**	**04 42 25.1**	**+1.6**
TOLK	**Toolik Lake Re**	**7.53**	**352**	P	**Pn**	**04 42 33.7**	**+2.4**
	baz=170						
TOLK				S	**Sn**	**04 43 58.7**	**+3.2**
	baz=170						
TOLK	**Toolik Lake Re**	**7.53**	**352**		**Pn**	**04 42 34.6**	**+3.3**
ANM	**Nome**	**9.07**	**300**	Pn	**Pn**	**04 42 53.7**	**+1.3**
INK	**Inuvik**	**9.08**	**33**	P	**Pn**	**04 42 52.5**	**0.0**
	0.1nm,0.3s,baz=209,slow=14,SNR=4.9						
INK	**Inuvik**	**9.08**	**33**		**Pn**	**04 42 53.3**	**+0.8**
CNBA	**Chernabura Isl**	**9.30**	**232**	Pn	**Pn**	**04 42 56.6**	**+1.0**
UNV	**Unalaska Valle**	**12.84**	**244**	Pn	**Pn**	**04 43 44.1**	**+0.2**
YKA	**Yellowknife Ar**	**15.19**	**71**	P	**Pn**	**04 44 14.6**	**-1.1**
	0.0nm,0.3s,baz=275,slow=12,SNR=5.2						
NVAR	**Mina Array Bea**	**28.90**	**129**	P	**P**	**04 46 41.5**	**+1.7**
	0.5nm,0.7s,baz=319,slow=8.9,SNR=4.8						
TXAR	**Lajitas Array**	**42.74**	**118**	P	**P**	**04 48 38.2**	**+0.2**
	0.4nm,0.8s,baz=316,slow=5.0,SNR=3.8						
KLR	**Kul'dur**	**44.89**	**293**	LR	LR	05 10 12.5	
	comp=Z,44nm,18.6s,baz=70,slow=39						
FINES	**FINESS Array B**	**57.53**	**4**	P	**P**	**04 50 27.6**	**-1.8**
	2.9nm,1.0s,baz=7.6,slow=13,SNR=2.5						
MKAR	**Makanchi Array**	**65.26**	**325**	P	**P**	**04 51 20.2**	**-1.7**
	0.2nm,0.4s,baz=36,slow=5.9,SNR=5.0						
AKASG	**Malin Array Be**	**68.38**	**3**	P	**P**	**04 51 40.5**	**-1.2**
	0.5nm,0.5s,baz=236,slow=0.5,SNR=3.4						
ESDC	**Sonseca Array**	**75.01**	**29**	P	**P**	**04 52 21.4**	**-0.4**
	0.5nm,0.5s,baz=339,slow=6.1,SNR=5.5						

IDC ***30*** *04:57:15.3±1.4,2˚.05N×125˚.99E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.5/58, mbtmp4.0/4, Error ellipse: s-maj=139.4km s-min=19.5km az=68.0*

ISCJB ***30*** *04:57:26.9±1.2, 1˚.7N±0˚.1×125˚.94E±0˚.04, h100km, Error ellipse: s-maj=14.7km s-min=5.9km az=9.6*

DJA ***30*** *04:57:27.1±0.9,2˚N±2˚×12˚6E±˚, h36km±16km, M4.1/12, mb4.1/5, mB5.0/2, MLv4.1/12, Mw(mB)4.3/2*

ISC 30 04:57:28.3±1.1,1˚.69N±0˚.09×125˚.96E±0˚.05, h100km, n15, σ2s07/23, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.68**	**123**	P	**Pn**	**04 57 55.8**	**-1.0**
TNTI				S	**Sn**	**04 58 18.2**	**-0.3**
KMSI	**Cibinong**	**2.27**	**241**	P	**Pn**	**04 58 03.9**	**-0.5**
KMSI				S	**Sn**	**04 58 29.9**	**-2.1**
LBMI	**Labuha**	**2.78**	**146**	P	**Pn**	**04 58 10.7**	**-0.5**
LBMI				S	**Sn**	**04 58 45.3**	**+1.1**
SANI	**Sanana**	**3.72**	**180**	P	**Pn**	**04 58 22.5**	**-1.2**
SANI				S	**Sn**	**04 59 03.4**	**-3.2**
LUWI	**Luwuk**	**4.19**	**230**	P	**Pn**	**04 58 29.8**	**-0.2**
LUWI				S	**Sn**	**04 59 20.3**	**+2.4**
MRSI	**Marisa**	**4.19**	**253**	P	**Pn**	**04 58 29.4**	**-0.7**
APSI	**Ampana**	**5.03**	**239**	P	**Pn**	**04 58 43.6**	**+2.2**
	41nm,0.6s,905nm0.5nm						
NLAI	**Namlea**	**5.03**	**167**	P	**Pn**	**04 58 41.0**	**-0.5**
	19nm,0.4s,2µm0.3nm						
NLAI				S	**Sn**	**04 59 35.1**	**-3.3**
	19nm,0.4s,2µm0.3nm						
MPSI	**Mapaga**	**6.21**	**258**	P	**Pn**	**04 58 57.4**	**-0.1**
SPSI	**Sidrap Palu**	**8.36**	**228**	P	**Pn**	**04 59 24.2**	**-2.5**
KMPI	**Kaimana, Papua**	**9.39**	**124**	P	Pn	04 59 28.3	-13
WRA	**Warramunga Arr**	**23.02**	**159**	P	**P**	**05 02 25.0**	**+0.1**
	4.3nm,0.4s,baz=338,slow=10,SNR=31						
WRA				PcP	**PcP**	**05 06 12.6**	**+1.1**
	0.4nm,0.6s,baz=338,slow=2.2,SNR=4.5						
WRA				S	**S**	**05 06 33.3**	**+5.3**
	0.7nm,0.8s,baz=342,slow=18,SNR=6.7						
ASAR	**Alice Springs**	**26.36**	**163**	P	**P**	**05 02 55.9**	**+0.6**
	0.8nm,0.5s,baz=343,slow=7.4,SNR=17						
ASAR				PcP	**PcP**	**05 06 19.9**	**+1.0**
	0.4nm,0.5s,baz=351,slow=2.5,SNR=5.6						
ASAR				S	S	05 07 34.5	+13
	0.6nm,0.7s,baz=337,slow=16,SNR=4.3						
STKA	**Stephens Creek**	**36.53**	**157**	P	**P**	**05 04 25.7**	**+1.3**
	3.3nm,0.8s,baz=334,slow=9.6,SNR=7.5						
MKAR	**Makanchi Array**	**58.80**	**326**	P	**P**	**05 07 13.7**	**-2.5**
	0.2nm,0.4s,baz=125,slow=7.3,SNR=5.4						

ISCJB ***30*** *05:03:40.9±0.6,6˚.33S±0˚.09×154˚.99E±0˚.05, h56km, mb3.7/7, MS3.4/2, Error ellipse: s-maj=12.3km s-min=7.2km az=9.2*

NEIC ***30*** *05:03:40.7±2.6,6˚.3S±0˚.1×154˚.79E±0˚.10, h35km±2km, mb4.5/7*

IDC ***30*** *05:03:46.8±5.0,6˚.41S×154˚.92E, h99km±43km, mb3.6/7, mb1 3.8/9, mb1mx3.4/48, mbtmp4.0/9, MS3.4/2, Ms1 3.4/2, ms1mx2.6/34, Error ellipse: s-maj=30.2km s-min=25.0km az=35.0*

ISC 30 05:03:42.6±0.7,6˚.4S±0˚.1×154˚.96E±0˚.07, h56km, n24, σ1s77/21, mb4.0/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.81**	**122**	Pn	**Pn**	**05 05 05.8**	**-0.4**
HNR				Sn	**Sn**	**05 06 12.5**	**+1.0**
PMG	**Port Moresby**	**8.30**	**248**	P	**Pn**	**05 05 43.2**	**+2.8**
	2.8nm,0.3s,baz=101,slow=5.9,SNR=8.1						
PMG				S	**Sn**	**05 07 16.1**	**+3.2**
	1.2nm,0.3s,baz=348,slow=19,SNR=3.1						
PMG	**Port Moresby**	**8.30**	**248**	Pn	**Pn**	**05 05 36.1**	**-4.3**
DZM	**Mont Dzumac**	**19.16**	**146**	P	**Pn**	**05 08 03.1**	**+0.1**
	0.5nm,0.3s,baz=288,slow=16,SNR=5.4						
DZM	**Mont Dzumac**	**19.16**	**146**	P	**Pn**	**05 08 03.0**	**-0.1**
DZM				IAmb	IAmb	05 08 13.5	
	comp=Z,11nm,1.2s						
ARMA	**Armidale**	**24.14**	**187**	P	**P**	**05 08 54.5**	**+1.0**
ARMA				IAmb	IAmb	05 09 12.6	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**24.16**	**234**	P	**P**	**05 08 53.9**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=58,slow=9.7,SNR=17						
ASAR	**Alice Springs**	**26.57**	**227**	P	**P**	**05 09 14.9**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=59,slow=8.7,SNR=10.0						
H11S3	**WAKE ISLAND Hy**	**27.27**	**25**	T	T	05 37 37.0	
	baz=205,slow=75						
H11S2	**WAKE ISLAND Hy**	**27.27**	**25**	T	T	05 37 38.7	
	baz=205,slow=75						
H11S1	**WAKE ISLAND Hy**	**27.28**	**25**	T	T	05 37 34.1	
	baz=205,slow=75						
STKA	**Stephens Creek**	**28.30**	**205**	P	**P**	**05 09 29.9**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=32,slow=16,SNR=2.8						
STKA	**Stephens Creek**	**28.30**	**205**	P	**P**	**05 09 30.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**30.89**	**245**	P	**P**	**05 09 53.0**	**-1.1**
	comp=Z,1.9nm,0.7s,baz=70,slow=8.5,SNR=2.7						
FITZ	**Fitzroy Crossi**	**30.89**	**245**	P	**P**	**05 09 53.7**	**-0.4**
FITZ				IAmb	IAmb	05 10 01.7	
	comp=Z,13nm,1.4s						
TGY	**Tagaytay City**	**39.41**	**301**	LR	LR	05 26 31.9	
	comp=Z,84nm,21.4s,baz=292,slow=35						
ASAJ	**Asahikawa**	**51.47**	**349**	LR	LR	05 29 41.2	
	comp=Z,29nm,20.3s,baz=123,slow=30						
CMAR	**Chiang Mai Arr**	**60.48**	**295**	P	**P**	**05 13 47.5**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=127,slow=5.7,SNR=6.4						
MCARA	**McCarthy VSAT**	**82.64**	**25**	P	**P**	**05 16 01.2**	**+1.5**
MCARA				IAmb	IAmb	05 16 12.9	
	comp=Z,15nm,1.4s						
MK31	**Makanchi Array**	**82.91**	**319**	P	**P**	**05 16 01.1**	**-0.4**
MKAR	**Makanchi Array**	**82.91**	**319**	P	**P**	**05 16 00.3**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=98,slow=5.3,SNR=8.9						
DOT	**Dot Lake**	**83.29**	**23**	P	**P**	**05 16 06.0**	**+2.9**
QSPA	**South Pole Qui**	**83.61**	**180**	P	**P**	**05 16 04.6**	**-0.3**
QSPA				IAmb	IAmb	05 16 08.6	
	comp=Z,6.9nm,1.5s						
YKA	**Yellowknife Ar**	**95.79**	**28**	P	**P**	**05 17 01.3**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=269,slow=4.6,SNR=3.6						

IDC 30 05:04:51.5±1.4, 53˚.79S×134˚.05W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/36, mbtmp3.7/4, MS3.7/11, Ms1 3.7/11, ms1mx3.5/21, Error ellipse: s-maj=54.6km s-min=33.2km az=165.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBI	**Tubuai**	**32.55**	**333**	*e*LR	LR	05 19 54.0	
	comp=Z,320nm,27.8s,baz=156						
TBI	**Tubuai**	**32.55**	**333**	*e*T	T	05 45 55.2	
	27nm,0.3s						
QSPA	**South Pole Qui**	**36.38**	**180**	P	P	05 11 57.1	0.0
	2.0nm,1.0s,baz=158,slow=9.0,SNR=3.2						
URZ	**Urewera**	**36.51**	**275**	LR	LR	05 23 34.6	
	comp=Z,74nm,20.7s,baz=142,slow=31						
RPZ	**Rata Peaks**	**36.70**	**263**	LR	LR	05 23 01.3	
	comp=Z,93nm,21.8s,baz=138,slow=30						
TVO	**Taravao**	**37.83**	**336**	*e*T	T	05 52 30.7	
	0.6nm,0.3s						
RAR	**Rarotonga**	**37.98**	**319**	LR	LR	05 24 06.9	
	comp=Z,129nm,19.8s,baz=96,slow=30						
PPT2	**Papeete2**	**38.09**	**336**	*e*LR	LR	05 22 26.6	
	comp=Z,294nm,26.0s,baz=172						
PPT	**Papeete**	**38.11**	**336**	LR	LR	05 24 16.0	
	comp=Z,101nm,20.1s,baz=196,slow=31						
PLCA	**Paso Flores**	**43.58**	**99**	LR	LR	05 27 47.6	
	comp=Z,67nm,18.6s,baz=247,slow=32						
TAOE	**Nuku Hiva Isla**	**45.08**	**351**	*e*LR	LR	05 25 46.8	
	comp=Z,204nm,29.1s						
DZM	**Mont Dzumac**	**54.55**	**281**	LR	LR	05 31 30.9	
	comp=Z,91nm,21.2s,baz=214,slow=29						
MAW	**Mawson**	**58.26**	**188**	LR	LR	05 37 58.8	
	comp=Z,69nm,18.3s,baz=236,slow=34						
CPUP	**Villa Florida**	**61.48**	**96**	LR	LR	05 37 25.3	
	comp=Z,62nm,18.1s,baz=211,slow=32						
STKA	**Stephens Creek**	**61.79**	**254**	LR	LR	05 38 15.4	
	comp=Z,30nm,18.1s,baz=26,slow=32						
LPAZ	**La Paz**	**62.81**	**80**	P	P	05 15 19.6	-0.1
	1.3nm,0.8s,baz=220,slow=7.9,SNR=4.9						
ASAR	**Alice Springs**	**72.43**	**254**	P	P	05 16 19.4	-0.2
	0.3nm,0.8s,baz=142,slow=6.5,SNR=3.3						
H01W1	**Cape Leeuwin H**	**73.90**	**233**	T	T	06 38 32.3	
	baz=145,slow=76						
H01W2	**Cape Leeuwin H**	**73.90**	**233**	T	T	06 38 24.1	
	baz=145,slow=76						
H01W3	**Cape Leeuwin H**	**73.92**	**233**	T	T	06 38 20.8	
	baz=145,slow=76						
WRA	**Warramunga Arr**	**75.09**	**257**	P	P	05 16 35.5	+0.2
	0.4nm,0.8s,baz=146,slow=5.4,SNR=1.8						
H11S2	**WAKE ISLAND Hy**	**88.04**	**305**	T	T	06 55 43.5	
	baz=148,slow=76						
H11S3	**WAKE ISLAND Hy**	**88.06**	**305**	T	T	06 55 52.3	
	baz=148,slow=76						
H11S1	**WAKE ISLAND Hy**	**88.06**	**305**	T	T	06 55 45.3	
	baz=148,slow=76						
H11N3	**WAKE ISLAND Hy**	**89.00**	**306**	T	T	06 56 47.2	
	baz=149,slow=76,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**89.00**	**306**	T	T	06 56 46.9	
	baz=149,slow=76,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**89.01**	**306**	T	T	06 56 48.1	
	baz=149,slow=76,SNR=5.5						
BOSA	**Boshof**	**95.99**	**162**	LR	LR	05 57 37.0	
	comp=Z,34nm,18.8s,baz=206,slow=33						
PDAR	**Pinedale Array**	**98.46**	**18**	LR	LR	05 55 36.0	
	comp=Z,70nm,18.3s,baz=284,slow=31						
SONM	**Songino Array**	**142.38**	**286**	PKP	PKPdf	05 24 25.3	0.0
	0.6nm,0.7s,baz=132,slow=2.1,SNR=3.6						

ISCJB ***30*** *05:24:15.1±0.7,37˚.13N±0˚.09×135˚.2E±0˚.2, h372km, mb3.1/3, Error ellipse: s-maj=18.0km s-min=12.7km az=178.1*

JMA ***30*** *05:24:15.8±0.5,37˚.06N×135˚.31E, h374km±4km, M3.1*

IDC ***30*** *05:24:17.1±1.6,37˚.11N×135˚.04E, h386km±18km, mb2.9/3, mb1 3.0/5, mb1mx2.6/45, mbtmp3.5/5, Error ellipse: s-maj=40.1km s-min=19.5km az=84.0*

ISC 30 05:24:15.8±0.9,37˚.1N±0˚.1×135˚.2E±0˚.1, h372km, n13, σ0s29/12, mb2.9/3, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKY	**Yasaka**	**1.48**	**183**	P	**Pn**	**05 25 06.1**	**-0.1**
JKSM	**Kasumi**	**1.58**	**196**	P	**Pn**	**05 25 06.5**	**-0.2**
JWT	**Wachi**	**1.83**	**175**	P	**Pn**	**05 25 08.2**	**0.0**
JYTA	**Yamagatataniai**	**1.96**	**140**	P	**Pn**	**05 25 08.8**	**-0.1**
MJAR	**Matsushiro Arr**	**2.49**	**102**	P	Pn	05 25 16.4	+3.8
	0.0nm,0.3s,baz=279,slow=9.2,SNR=4.2						
JWY	**Kouya**	**2.91**	**173**	P	**Pn**	**05 25 16.0**	**-0.2**
JIE	**Ise**	**2.98**	**155**	P	**Pn**	**05 25 17.0**	**+0.2**
JFT	**Otama**	**4.12**	**83**	P	**Pn**	**05 25 27.4**	**+0.1**
JMM	**Marumori**	**4.52**	**79**	P	**Pn**	**05 25 30.8**	**-0.5**
USRK	**Ussuriysk Ar.**	**7.49**	**342**	P	**P**	**05 26 05.3**	**+0.2**
	baz=153,slow=11,SNR=9.3						
ILAR	**Eielson Array**	**52.08**	**32**	P	**P**	**05 32 49.0**	**+0.4**
	0.4nm,0.7s,baz=264,slow=7.7,SNR=5.6						
WRA	**Warramunga Arr**	**56.75**	**181**	P	**P**	**05 33 22.3**	**-0.1**
	0.1nm,0.4s,baz=356,slow=7.6,SNR=3.1						
FINES	**FINESS Array B**	**66.35**	**330**	P	**P**	**05 34 25.0**	**-0.3**
	2.7nm,0.9s,baz=63,slow=6.4,SNR=4.5						

ROM 30 05:50:57.5±0.4, 41˚.357N±0˚.010×14˚.463E±0˚.010, h23km±2km, Md1.7/4, ML1.9/4, Error ellipse: s-maj=0.9km s-min=0.6km az=180.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAGA	**Valle Agricola**	**0.18**	**289**	P	Pb	05 51 02.7	-0.1
VAGA				S	Sb	05 51 06.7	+0.3
VAGA				AML	AML		
	comp=E,581µm,0.6s						
VAGA				AML	AML		
	comp=N,866µm,0.2s						
VAGA				AML	AML		
	comp=E,580µm,0.6s						
VAGA				AML	AML		
	comp=N,823µm,0.2s						
VAGA				AML	AML		
	comp=E,610µm,0.6s						
VAGA				END			
SACR	**S. Croce Del S**	**0.19**	**77**	P	Pb	05 51 02.7	-0.2
SACR				S	Sb	05 51 06.8	+0.2
SACR				AML	AML		
	comp=E,364µm,0.6s						
SACR				AML	AML		
	comp=N,385µm,0.4s						
SACR				END			
BSSO	**Busso**	**0.21**	**28**	P	Pb	05 51 03.4	+0.1
BSSO				S	Sb	05 51 07.9	+0.8
BSSO				AML	AML		
	comp=E,448µm,0.3s						
BSSO				AML	AML		
	comp=N,512µm,0.5s						
BSSO				AML	AML		
	comp=N,198µm,0.5s						
BSSO				AML	AML		
	comp=E,447µm,0.3s						
BSSO				AML	AML		
	comp=E,190µm,0.7s						
BSSO				AML	AML		
	comp=N,512µm,0.5s						
BSSO				END			
PAOL	**Paolisi**	**0.34**	**166**	P	Pb	05 51 05.4	+0.4
PAOL				S	Sb	05 51 10.7	+0.7
PAOL				AML	AML		
	comp=E,170µm,0.3s						
PAOL				AML	AML		
	comp=N,176µm,1.2s						
PAOL				AML	AML		
	comp=E,170µm,0.3s						
PAOL				END			
TRIV	**Trivento**	**0.41**	**9**	AML	AML		
	comp=E,106µm,0.9s						
TRIV				AML	AML		
	comp=N,98µm,1.0s						
MELA	**Melanico ??? S**	**0.61**	**55**	AML	AML		
	comp=N,186µm,0.4s						
MELA				AML	AML		
	comp=E,242µm,1.1s						
MELA				AML	AML		
	comp=N,267µm,1.6s						
MELA				AML	AML		
	comp=E,176µm,1.6s						
INTR	**Introdacqua**	**0.78**	**328**	AML	AML		
	comp=E,98µm,0.9s						
INTR				AML	AML		
	comp=E,98µm,0.9s						
INTR				AML	AML		
	comp=N,125µm,0.9s						

ROM 30 05:51:01.6±0.1, 42˚.706N±0˚.005×13˚.287E±0˚.009, h10km, ML2.1/17, Error ellipse: s-maj=0.7km s-min=0.5km az=239.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.08**	**155**	P	Pg	05 51 04.6	+0.5
SMA1				S	Sg	05 51 06.4	+0.6
SMA1				AML	AML		
	comp=E,2865µm,0.4s						
SMA1				AML	AML		
	comp=N,3490µm,0.4s						
CAMP	**Campotosto**	**0.19**	**152**	P	Pg	05 51 06.4	+0.6
CAMP				S	Sg	05 51 09.7	+1.2
CAMP				AML	AML		
	comp=N,800µm,0.2s						
CAMP				AML	AML		
	comp=E,927µm,0.3s						
TERO	**Teramo**	**0.25**	**110**	P	Pg	05 51 07.1	+0.5
TERO				S	Sg	05 51 11.2	+1.1
TERO				AML	AML		
	comp=N,684µm,0.6s						
TERO				AML	AML		
	comp=E,395µm,0.9s						
T0104	**Madonna delle**	**0.35**	**174**	P	Pg	05 51 09.2	+0.7
T0104				S	Sb	05 51 15.1	-0.4
T0104				AML	AML		
	comp=E,614µm,1.2s						
T0104				AML	AML		
	comp=N,396µm,0.7s						
T0104				AML	AML		
	comp=N,397µm,0.7s						
T0104				AML	AML		
	comp=E,609µm,1.2s						
T0104				AML	AML		
	comp=E,613µm,1.2s						
T0104				AML	AML		
	comp=N,416µm,0.8s						
FDMO	**Fiordimonte**	**0.36**	**336**	P	Pg	05 51 08.9	+0.1
FDMO				S	Sg	05 51 14.5	+0.9
FDMO				AML	AML		
	comp=N,374µm,0.2s						
FDMO				AML	AML		
	comp=E,334µm,1.1s						
OFFI	**Offida**	**0.37**	**52**	P	Pb	05 51 10.1	-0.3
OFFI				AML	AML		
	comp=E,819µm,0.5s						
OFFI				AML	AML		
	comp=N,861µm,0.4s						
CSP1	**Cessapalombo**	**0.39**	**351**	P	Pg	05 51 09.4	+0.1
CSP1				S	Sg	05 51 15.5	+1.0
ARRO	**Arrone**	**0.41**	**252**	P	Pg	05 51 09.9	+0.3
ARRO				S	Sb	05 51 16.4	-0.7
ARRO				AML

comp=E,120μm,1.4s
CERT AML AML
comp=N,90μm,0.6s
ARVD Arcevia 0.83 342 P Pg 05 51 17.4 -0.2
ARVD S Sb 05 51 30.4 +1.0
ARVD AML AML
comp=N,66μm,1.4s
ARVD AML AML
comp=E,83μm,1.3s
PIEI Pieia 0.99 327 P Pg 05 51 20.1 -0.6
PIEI AML AML
comp=N,54μm,1.2s
PIEI AML AML
comp=E,58μm,1.1s
NARO Abbazia di Nar 1.04 330 P Pg 05 51 21.2 -0.5
BDI Bagni Di Lucca 2.38 306 P Pn 05 51 42.5 +1.7

ROM 30 06:08:57.3±0.2, 41°.371N±0'.007×14°.420E±0'.005, h20km±1km, Md1.5/4, ML2.2/5, Error ellipse: s-maj=0.6km s-min=0.5km az=196.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.15**	**288**	P		Pg	06 09 02.0	+0.1
VAGA				S		Sg	06 09 05.3	+0.4
VAGA				AML		AML		
	comp=N,3415μm,1.2s							
VAGA				AML		AML		
	comp=N,3410μm,1.2s							
VAGA				AML		AML		
	comp=E,2660μm,1.1s							
VAGA				AML		AML		
	comp=N,3590μm,1.2s							
VAGA				AML		AML		
	comp=E,2480μm,1.1s							
VAGA				AML		AML		
	comp=E,2485μm,1.1s							
VAGA				END				
SACR	**S. Croce Del S**	**0.22**	**83**	P		Pg	06 09 02.8	0.0
SACR				S		Sg	06 09 06.9	+0.4
SACR				AML		AML		
	comp=E,700μm,1.3s							
SACR				AML		AML		
	comp=N,750μm,0.4s							
SACR				AML		AML		
	comp=N,908μm,0.4s							
SACR				AML		AML		
	comp=E,930μm,0.3s							
SACR				END				
BSSO	**Busso**	**0.22**	**37**	P		Pg	06 09 02.9	+0.1
BSSO				S		Sg	06 09 07.1	+0.5
BSSO				AML		AML		
	comp=E,663μm,0.7s							
BSSO				AML		AML		
	comp=N,1220μm,0.7s							
BSSO				AML		AML		
	comp=E,350μm,1.3s							
BSSO				AML		AML		
	comp=N,362μm,0.7s							
BSSO				AML		AML		
	comp=E,972μm,0.3s							
BSSO				AML		AML		
	comp=E,408μm,1.3s							
BSSO				AML		AML		
	comp=E,968μm,0.3s							
BSSO				AML		AML		
	comp=N,1485μm,0.5s							
BSSO				AML		AML		
	comp=N,603μm,0.5s							
BSSO				END				
MIDA	**Miranda**	**0.30**	**335**	P		Pb	06 09 03.9	-0.1
MIDA				S		Sg	06 09 08.8	+0.2
MIDA				AML		AML		
	comp=E,218μm,0.5s							
MIDA				AML		AML		
	comp=N,187μm,0.7s							
MIDA				AML		AML		
	comp=N,254μm,0.4s							
MIDA				AML		AML		
	comp=E,291μm,0.6s							
MIDA				END				
TRIV	**Trivento**	**0.41**	**14**	P		Pb	06 09 06.0	+0.1
TRIV				AML		AML		
	comp=E,184μm,0.5s							
TRIV				AML		AML		
	comp=N,240μm,1.4s							
TRIV				END				

*NNC **30** 06:09:05.0±0.7, 42°.66N×75°.68E, h0km, mb3.6, mpv2.5, Error ellipse: s-maj=4.5km s-min=2.6km az=130.0, Suspected Mining explosion.*
*ISCJB **30** 06:09:05.4±0.6, 42°.67N±0'.04×75°.70E±0'.04, h0km, Error ellipse: s-maj=5.7km s-min=3.6km az=146.5*
*SOME **30** 06:09:05.1, 42°.68N×75°.65E*

ISC 30 06:09:05.8±1.1, 42°.69N±0'.04×75°.68E±0'.03, h0km, n12, σ0§43/19, 2C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.24**	**345**	P		**Pg**	**06 09 10.4**	**-0.1**
	SNR=37							
TKM2	**Tokmak 2**	**0.24**	**345**	⇑P		**Pg**	**06 09 10.1**	**-0.3**
	1.5nm,0.2s							
TKM2				⇑S		**Sg**	**06 09 14.1**	**+0.6**
	10nm,0.3s							
KST	**Kastek**	**0.41**	**30**	P		**Pg**	**06 09 13.6**	**-0.1**
	12nm,0.2s							
KST				S		**Sg**	**06 09 19.8**	**+0.8**
	9.2nm,0.2s							
KBK	**Karagaybulak**	**0.54**	**267**	P		**Pg**	**06 09 16.3**	**+0.1**
	SNR=8.3							
DGS	**Degeres**	**0.56**	**7**	P		**Pg**	**06 09 16.3**	**-0.1**
	1.2nm,0.2s							
DGS				S		**Sg**	**06 09 24.6**	**+0.9**
	3.3nm,0.2s							
ULHL	**Ulahol**	**0.60**	**137**	P		**Pg**	**06 09 17.3**	**-0.1**
	SNR=8.1							
KZA	**Kyzart**	**0.69**	**208**	P		**Pg**	**06 09 19.2**	**+0.2**
	SNR=8.9							
AAK	**Ala-Archa**	**0.88**	**267**	⇓P		**Pg**	**06 09 22.3**	**-0.3**
	1.0nm,0.6s							
AAK				⇓S		**Sg**	**06 09 33.7**	**-0.3**
	2.1nm,0.6s							
TNSS	**Tian-Shan**	**0.99**	**69**	P		**Pg**	**06 09 24.3**	**-0.5**
	2.3nm,0.1s							
TNSS				S		**Sg**	**06 09 38.2**	**+0.5**
	2.7nm,0.1s							
KTBS	**Karatobe**	**1.26**	**35**	P		**Pg**	**06 09 29.5**	**-0.4**
	1.2nm,0.2s							
KTBS				S		**Sb**	**06 09 47.1**	**0.0**
	3.0nm,0.2s							
EKS2	**Erkin-Say**	**1.41**	**270**	P		**Pg**	**06 09 32.7**	**0.0**
	SNR=17							
MRKS	**Merke**	**1.81**	**273**	P		**Pb**	**06 09 39.5**	**-0.3**
	6.1nm,0.2s							
MRKS				S		**Sg**	**06 10 04.4**	**+0.4**
	4.6nm,0.2s							

*ISCJB **30** 06:09:23.9±0.5, 36°.57N±0'.02×9°.74W±0'.04, h35km, Error ellipse: s-maj=5.1km s-min=3.5km az=0.6*
*SFS **30** 06:09:26.0, 36°.60N×9°.87W, h37km, ML2.7, SW. CABO DE SAN VICENTE*
*MDD **30** 06:09:26.1±1.2, 36°.60N×9°.86W, h40km±24km, mbLg2.6/31, Error ellipse: s-maj=12.0km s-min=8.0km az=39.0, PRXIMO*
*INMG **30** 06:09:27.0±0.8, 36°.64N×9°.74W, h18km±3km, ML2.3, Error ellipse: s-maj=3.3km s-min=2.8km az=41.0*
*IGIL **30** 06:09:27.1, 36°.63N×9°.73W, h19km, ML2.4*
*CNRM **30** 06:09:28.2, 36°.37N×9°.46W, h64km, ml3.3*

ISC 30 06:09:24.9±1.6, 36°.59N±0'.05×9°.78W±0'.07, h35km, n74, σ1§65/141, 4C-4D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.94**	**55**	⇑eP		**Pn**	**06 09 42.9**	**+1.3**
PFVI				*e*S		**Sn**	**06 09 54.8**	**+1.0**
PFVI				A		A	06 09 55.3	
	66nm,0.1s							
PFVI	**Vila Bisbo**	**0.94**	**55**	P		**Pn**	**06 09 45.9**	**+4.3**
PFVI				S		**Sn**	**06 09 58.8**	**+5.1**
PFVI	**Vila Bisbo**	**0.94**	**55**	⇑P		**Pn**	**06 09 42.9**	**+1.3**
	13nm,0.1s,SNR=18							
PFVI				S		**Sn**	**06 09 54.7**	**+1.0**
	91nm,0.1s,SNR=7.9							
MORF	**Marmelete**	**1.15**	**52**	*e*P		**Pn**	**06 09 46.0**	**+1.4**
MORF				*e*S		**Sn**	**06 09 59.6**	**+0.4**
MORF				AML		AML	06 10 00.8	
	comp=N,64nm,0.1s							
MORF	**Marmelete**	**1.15**	**52**	⇑*e*P		**Pn**	**06 09 46.0**	**+1.4**
MORF				*e*S		**Sn**	**06 10 00.2**	**+1.0**
MORF				A		A	06 10 00.8	
	comp=N,52nm,0.1s							
MORF	**Marmelete**	**1.15**	**52**	P		**Pn**	**06 09 46.0**	**+1.4**
MORF				S		**Sn**	**06 09 59.6**	**+0.4**
	comp=N,64nm,0.1s							
PTEO	**Sao Teotonio**	**1.27**	**41**	*e*P		**Pn**	**06 09 47.6**	**+1.4**
PTEO				*e*S		**Sn**	**06 10 03.2**	**+1.1**
PTEO				A		A	06 10 04.3	
	comp=N,28nm,0.1s							
PTEO	**Sao Teotonio**	**1.27**	**41**	P		**Pn**	**06 09 47.6**	**+1.4**
PTEO				S		**Sn**	**06 10 03.2**	**+1.1**
	comp=N,14nm,0.1s							
PBDV	**Barranco-do-Ve**	**1.62**	**66**	⇓*e*P		**Pn**	**06 09 52.5**	**+1.5**
PBDV				*e*S		**Sn**	**06 10 11.2**	**+0.5**
PBDV				A		A	06 10 18.3	
	comp=N,15nm,0.3s							
PBDV	**Barranco-do-Ve**	**1.62**	**66**	P		**Pn**	**06 09 52.5**	**+1.5**
PBDV				S		**Sn**	**06 10 11.2**	**+0.5**
	comp=N,15nm,0.3s							
PCVE	**Castro Verde**	**1.74**	**53**	*e*P		**Pn**	**06 09 54.3**	**+1.7**
PCVE				*e*S		**Sn**	**06 10 14.7**	**+1.2**
PCVE				A		A	06 10 16.4	
	comp=N,21nm,0.2s							
PCVE	**Castro Verde**	**1.74**	**53**	P		**Pn**	**06 09 54.3**	**+1.7**
PCVE				S		**Sn**	**06 10 14.7**	**+1.2**
	comp=N,21nm,0.2s							
PNCL	**Nicolau / Gran**	**1.81**	**33**	⇑*e*P		**Pn**	**06 09 54.9**	**+1.2**
PNCL				*e*S		**Sn**	**06 10 15.8**	**+0.4**
PNCL				A		A	06 10 19.1	
	comp=N,14nm,0.2s							
PNCL	**Nicolau / Gran**	**1.81**	**33**	P		**Pn**	**06 09 54.9**	**+1.2**
PNCL				S		**Sn**	**06 10 15.8**	**+0.4**
	comp=N,14nm,0.2s							
PVAQ	**Vaqueiros**	**1.84**	**63**	⇓*e*P		**Pn**	**06 09 55.4**	**+1.4**
PVAQ				*e*S		**Sn**	**06 10 16.5**	**+0.4**
PVAQ				A		A	06 10 19.0	
	comp=N,24nm,0.1s							
PVAQ	**Vaqueiros**	**1.84**	**63**	P		**Pn**	**06 09 56.7**	**+2.6**
PVAQ				S		**Sn**	**06 10 18.1**	**+2.0**
PVAQ	**Vaqueiros**	**1.84**	**63**	P		**Pn**	**06 09 55.4**	**+1.4**
PVAQ				S		**Sn**	**06 10 16.5**	**+0.4**
	comp=N,24nm,0.1s							
EGRO	**El Granado**	**2.07**	**62**	P		**Pn**	**06 09 58.8**	**+1.7**
	comp=N,1.5nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**06 10 22.2**	**+0.6**
	comp=N,22nm,0.1s,SNR=7.9							
PBEJ	**Beja**	**2.09**	**46**	⇓*e*P		**Pn**	**06 09 58.6**	**+1.1**
PBEJ				*e*S		**Sn**	**06 10 22.5**	**+0.2**
PBEJ				A		A	06 10 25.6	
	comp=N,10nm,0.2s							
PBEJ	**Beja**	**2.09**	**46**	P		**Pn**	**06 09 58.6**	**+1.1**
PBEJ				S		**Sn**	**06 10 22.5**	**+0.2**
	comp=N,5.1nm,0.2s							
PMAFR	**Mafra**	**2.39**	**9**	*e*P		**Pn**	**06 10 02.7**	**+1.1**
PMAFR				*e*S		**Sn**	**06 10 29.9**	**+0.2**
PMAFR				A		A	06 10 33.4	
	comp=N,18nm,0.2s							
PMAFR	**Mafra**	**2.39**	**9**	P		**Pn**	**06 10 02.6**	**+1.1**
	comp=N,7.7nm,0.1s,SNR=7.9							
PMAFR				S		**Sn**	**06 10 29.0**	**-0.7**
	comp=N,12nm,0.1s,SNR=7.9							
EVO	**Evora**	**2.39**	**36**	⇓*e*P		**Pn**	**06 10 02.6**	**+1.1**
EVO				*e*S		**Sn**	**06 10 29.5**	**-0.2**
EVO				A		A	06 10 30.1	
	comp=N,21nm,0.3s							
EVO	**Evora**	**2.39**	**36**	*e*P		**Pn**	**06 10 02.7**	**+1.1**
EVO				*e*S		**Sn**	**06 10 29.2**	**-0.5**
EVO	**Evora**	**2.39**	**36**	P		**Pn**	**06 10 02.7**	**+1.1**
EVO				S		**Sn**	**06 10 29.2**	**-0.5**
PBAR	**Barrancos**	**2.70**	**53**	*e*S		**Sn**	**06 10 37.5**	**+0.3**
PBAR	**Barrancos**	**2.70**	**53**	S		**Sn**	**06 10 37.5**	**+0.3**
EMIN	**Mina Concepcio**	**2.75**	**64**	P		**Pn**	**06 10 07.8**	**+1.3**
	comp=N,0.7nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**06 10 37.9**	**-0.5**
	comp=N,2.7nm,0.1s,SNR=7.9							
PMTG	**Montargil**	**2.76**	**26**	*e*P		**Pn**	**06 10 07.3**	**+0.6**
PMTG				*e*S		**Sn**	**06 10 37.6**	**-1.2**
PMTG				A		A	06 10 38.7	
	comp=N,8.1nm,0.2s							
PMTG	**Montargil**	**2.76**	**26**	P		**Pn**	**06 10 07.3**	**+0.6**
PMTG				S		**Sn**	**06 10 37.6**	**-1.2**
	comp=N,8.1nm,0.2s							
PESTR	**Estremoz**	**2.86**	**37**	*e*P		**Pn**	**06 10 08.8**	**+0.8**
PESTR				*e*S		**Sn**	**06 10 41.0**	**-0.2**
PESTR				A		A	06 10 42.1	
	comp=N,5.4nm,0.4s							
PESTR	**Estremoz**	**2.86**	**37**	P		Pn	06 10 14.3	+6.3
PESTR				S		**Sn**	**06 10 43.5**	**+2.2**
EBAD	**Badajoz**	**3.08**	**45**	P		**Pn**	**06 10 11.8**	**+0.8**
	comp=N,2.2nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**06 10 46.0**	**-0.6**
	comp=N,4.6nm,0.0s,SNR=7.9							
PTOM	**Tomar**	**3.21**	**19**	*e*P		**Pn**	**06 10 13.9**	**+1.1**
PTOM				*e*S		**Sn**	**06 10 48.9**	**-0.9**
PTOM				A		A	06 10 52.0	
	comp=N,6.0nm,0.3s							
PTOM	**Tomar**	**3.21**	**19**	P		**Pn**	**06 10 13.9**	**+1.1**
PTOM				S		**Sn**	**06 10 48.9**	**-0.9**
	comp=N,3.0nm,0.3s							
PMRV	**Marv??o**	**3.40**	**33**	*e*P		**Pn**	**06 10 16.6**	**+1.1**
PMRV				*e*S		**Sn**	**06 10 53.5**	**-1.1**
PMRV				A		A	06 10 55.4	
	comp=N,5.9nm,0.3s							
PMRV	**Marv??o**	**3.40**	**33**	P		**Pn**	**06 10 16.6**	**+1.1**
PMRV				S		**Sn**	**06 10 53.5**	**-1.1**
	comp=N,5.9nm,0.3s							
PCBR	**Castelo Branco**	**3.71**	**29**	*e*P		**Pn**	**06 10 21.3**	**+1.5**
PCBR				*e*S		**Sn**	**06 11 01.3**	**-1.0**
PCBR				A		A	06 11 03.7	
	comp=N,2.9nm,0.9s							
PCBR	**Castelo Branco**	**3.71**	**29**	P		**Pn**	**06 10 21.3**	**+1.5**
PCBR				S		**Sn**	**06 11 01.3**	**-1.0**
	comp=N,1.4nm,0.9s							
ECAB	**El Cabril**	**3.78**	**66**	P		**Pn**	**06 10 22.0**	**+1.3**
	comp=N,1.0nm,0.2s,SNR=7.9							
ECAB				S		**Sn**	**06 11 02.5**	**-1.5**
	comp=N,2.8nm,0.2s,SNR=7.9							
HORN	**Hornachuelos**	**3.82**	**70**	P		**Pn**	**06 10 22.2**	**+0.9**
HORN				S		**Sn**	**06 11 05.0**	**0.0**
EMIJ	**Mijas**	**4.03**	**89**	P		**Pn**	**06 10 25.5**	**+1.3**
	comp=N,0.3nm,0.1s,SNR=7.9							
EMIJ				S		**Sn**	**06 11 09.6**	**-0.7**
	comp=N,1.5nm,0.3s,SNR=7.9							
MTE	**Manteigas**	**4.19**	**24**	*e*P		**Pn**	**06 10 27.4**	**+1.1**
MTE				*e*S		**Sn**	**06 11 12.2**	**-1.8**
MTE				A		A	06 11 15.0	
	comp=N,4.4nm,0.6s							
MTE	**Manteigas**	**4.19**	**24**	P		**Pn**	**06 10 27.4**	**+1.1**
MTE				S		**Sn**	**06 11 12.2**	**-1.8**
	comp=N,2.2nm,0.6s							
PVIS	**Viseu**	**4.37**	**19**	*e*P		**Pn**	**06 10 29.4**	**+0.5**
PVIS				*e*S		**Sn**	**06 11 17.8**	**-0.8**
PVIS				A		A	06 11 20.4	
	comp=N,3.2nm,0.3s							
PVIS	**Viseu**	**4.37**	**19**	P		**Pn**	**06 10 29.4**	**+0.5**
PVIS				S		**Sn**	**06 11 17.8**	**-0.8**
	comp=N,1.6nm,0.3s							
SRHM	**Skhour des Reh**	**4.40**	**159**	P		**Pn**	**06 10 33.9**	**+4.7**
SRHM				S		**Sn**	**06 11 19.0**	**-0.3**
EADA	**Adamuz**	**4.43**	**68**	P		**Pn**	**06 10 31.0**	**+1.3**
	comp=N,1.5nm,0.2s,SNR=7.9							
EADA				S		**Sn**	**06 11 17.7**	**-2.5**
	comp=N,1.7nm,0.2s,SNR=7.9							
EPLA	**Plasencia**	**4.53**	**39**	P		**Pn**	**06 10 31.4**	**+0.5**
	comp=N,1.5nm,0.2s,SNR=7.9							
EPLA				S		**Sn**	**06 11 20.5**	**-1.8**
	comp=N,5.0nm,0.1s,SNR=7.9							
EGOR	**Sierra Gorda,**	**4.58**	**82**	P		**Pn**	**06 10 33.8**	**+2.0**
	comp=N,0.4nm,0.2s,SNR=7.9							
EGOR				S		**Sn**	**06 11 23.5**	**-0.4**
	comp=N,1.1nm,0.2s,SNR=7.9							
PVRL	**Vila Real**	**4.95**	**18**	*e*P		**Pn**	**06 10 37.5**	**+0.8**
PVRL				*e*S		**Sn**	**06 11 31.1**	**-1.6**
PVRL				A		A	06 11 32.5	
	comp=N,3.1nm,0.1s							
PVRL	**Vila Real**	**4.95**	**18**	P		**Pn**	**06 10 37.5**	**+0.8**
PVRL				S		**Sn**	**06 11 31.1**	**-1.6**
	comp=N,1.6nm,0.1s							
ELGU	**Los Guajares,**	**4.95**	**85**	P		**Pn**	**06 10 38.6**	**+1.8**
	comp=N,0.3nm,0.1s,SNR=7.9							
ELGU				S		**Sn**	**06 11 32.0**	**-0.9**
	comp=N,3.3nm,0.4s,SNR=7.9							
MVO	**Moncorvo**	**5.04**	**24**	*e*P		**Pn**	**06 10 39.0**	**+0.9**
MVO				*e*S		**Sn**	**06 11 33.3**	**-1.9**
MVO				A		A	06 11 36.0	
	comp=N,2.7nm,0.2s							
MVO	**Moncorvo**	**5.04**	**24**	P		**Pn**	**06 10 38.8**	**+0.7**
	comp=N,4.2nm,0.1s,SNR=7.9							
MVO				S		**Sn**	**06 11 33.0**	**-2.2**
	comp=N,1.3nm,0.2s,SNR=7.9							
PAB	**San Pablo**	**5.20**	**54**	P		**Pn**	**06 10 41.8**	**+1.5**
	comp=N,0.3nm,0.1s,SNR=7.9							
PAB				S		**Sn**	**06 11 36.4**	**-2.7**
	comp=N,1.0nm,0.2s,SNR=7.9							
PCAB	**Cabril**	**5.29**	**14**	*e*P		**Pn**	**06 10 42.3**	**+0.9**
PCAB	**Cabril**	**5.29**	**14**	P		**Pn**	**06 10 42.3**	**+0.9**
ELOB	**Lobios**	**5.43**	**14**	P		**Pn**	**06 10 43.9**	**+0.4**
	comp=N,0.7nm,0.1s,SNR=7.9							
ELOB				S		**Sn**	**06 11 41.2**	**-3.6**
	comp=N,0.5nm,0.2s,SNR=7.9							
EQES	**Quesada**	**5.49**	**75**	P		**Pn**	**06 10 45.5**	**+1.1**
	comp=N,0.4nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**06 11 44.7**	**-1.6**
	comp=N,1.8nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**5.52**	**54**	P		**Pn**	**06 10 45.6**	**+0.9**
	baz=240,slow=13,SNR=7.9							
ESDC				S		**Sn**	**06 11 45.3**	**-1.7**
	baz=240,slow=24,SNR=7.9							
MD31	**MD31**	**5.56**	**130**	P		**Pn**	**06 10 44.3**	**-1.0**
MD31				S		**Sn**	**06 11 44.2**	**-3.8**
TISM	**Timmit**	**5.59**	**149**	P		**Pn**	**06 10 45.6**	**0.0**
TISM				S		Sn	06 11 42.3	-6.4
EZAM	**Zamans**	**5.61**	**8**	P		**Pn**	**06 10 46.4**	**+0.6**
	comp=N,1.6nm,0.2s,SNR=7.9							
EZAM				S		**Sn**	**06 11 46.7**	**-2.3**
	comp=N,0.5nm,0.2s,SNR=7.9							
MDT	**Midelt**	**5.69**	**130**	P		**Pn**	**06 10 46.9**	**-0.2**
MDT				S		**Sn**	**06 11 46.6**	**-4.7**
PBRG	**Braganca**	**5.71**	**23**	*e*P		**Pn**	**06 10 48.0**	**+0.7**
PBRG				*e*S		**Sn**	**06 11 49.2**	**-2.5**
PBRG	**Braganca**	**5.71**	**23**	P		**Pn**	**06 10 48.0**	**+0.7**
PBRG				S		**Sn**	**06 11 49.2**	**-2.5**
ECAL	**Calabor**	**5.84**	**23**	P		**Pn**	**06 10 49.1**	**+0.1**
	comp=N,1.5nm,0.1s,SNR=7.9							
ECAL				S		**Sn**	**06 11 51.8**	**-2.9**
	comp=N,1.6nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**5.96**	**73**	S		**Sn**	**06 11 55.7**	**-2.3**
	comp=N,1.3nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**5.98**	**46**	P		**Pn**	**06 10 52.0**	**+1.0**
	comp=N,0.5nm,0.2s,SNR=7.9							
GUD				S		**Sn**	**06 11 55.9**	**-2.4**
	comp=N,2.8nm,0.4s,SNR=7.9							
TTIG	**Tnine Tigouga,**	**6.13**	**169**	P		**Pn**	**06 10 52.8**	**-0.4**
TTIG				S		**Sn**	**06 11 56.7**	**-5.5**
TZRR	**Tazzarine**	**6.78**	**148**	P		**Pn**	**06 11 02.4**	**+0.4**
TZRR				S		**Sn**	**06 12 15.7**	**-2.2**
ETOB	**Tobarra**	**6.85**	**70**	P		**Pn**	**06 11 03.4**	**+0.4**
	comp=N,0.7nm,0.3s,SNR=7.9							
ETOB				S		**Sn**	**06 12 16.4**	**-3.3**
	comp=N,0.2nm,0.2s,SNR=7.9							
ETOR	**Torete**	**7.37**	**53**	P		**Pn**	**06 11 11.3**	**+1.3**
	comp=N,3.0nm,0.3s,SNR=7.9							
ETOR				S		**Sn**	**06 12 29.1**	**-3.4**
	comp=N,3.1nm,0.4s,SNR=7.9							

ROM 30 06:09:26.8±0.1, 41°.396N±0'.006×14°.424E±0'.007, h18km±1km, ML2.0/8, Error ellipse: s-maj=0.7km s-min=0.1km az=31.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VAGA	**Valle Agricola**	**0.14**	**278**	P		Pg	06 09 31.0	-0.1
VAGA				S		Sg	06 09 34.7	+0.6
VAGA				AML		AML		
	comp=E,2480μm,1.1s							
VAGA				AML		AML		
	comp=N,3415μm,1.2s							
VAGA				AML		AML		
	comp=E,2660μm,1.1s							
VAGA				AML		AML		
	comp=N,3410μm,1.2s							
VAGA				AML		AML		
	comp=N,3590μm,1.2s							
VAGA				AML		AML		
	comp=E,2485μm,1.1s							
BSSO	**Busso**	**0.20**	**40**	P		Pg	06 09 32.0	+0.1
BSSO				S		Sg	06 09 36.0	+0.7
BSSO				AML		AML		
	comp=E,970μm,0.3s							
BSSO				AML		AML		
	comp=N,1485μm,0.5s							
BSSO				AML		AML		
	comp=E,350μm,1.3s							
BSSO				AML		AML		
	comp=E,408μm,1.3s							
BSSO				AML		AML		
	comp=N,603μm,0.5s							
BSSO				AML		AML		
	comp=E,972μm,0.3s							
BSSO				AML		AML		
	comp=E,968μm,0.3s							
SACR	**S. Croce Del S**	**0.21**	**90**	P		Pb	06 09 31.9	+0.1
SACR				S		Sg	06 09 36.0	+0.3
SACR				AML		AML		
	comp=N,908μm,0.4s							
SACR				AML		AML		
	comp=E,930μm,0.3s							
MIDA	**Miranda**	**0.28**	**333**	P		Pg	06 09 32.8	-0.3
MIDA				S		Sb	06 09 37.7	+0.2
MIDA				AML		AML		
	comp=E,291μm,0.6s							
MIDA				AML		AML		
	comp=N,254μm,0.4s							
CERA	**Filignano**	**0.36**	**304**	P		Pb	06 09 34.8	-0.1
CERA				AML		AML		
	comp=E,364μm,0.8s							
CERA				AML		AML		
	comp=N,444μm,0.3s							
CERA				AML		AML		
	comp=N,444μm,0.3s							
CERA				AML		AML		
	comp=E,354μm,0.8s							
CERA				AML		AML		
	comp=N,456μm,0.3s							
CERA				AML		AML		
	comp=E,364μm,0.8s							
RNI2	**Rionero Sannit**	**0.37**	**326**	P		Pb	06 09 34.8	-0.1
RNI2				S		Sb	06 09 40.2	-0.2
RNI2				AML		AML		
	comp=N,246μm,1.3s							
RNI2				AML		AML		
	comp=E,362μm,0.4s							
RNI2				AML		AML		
	comp=N,246μm,1.3s							
RNI2				AML		AML		
	comp=E,362μm,0.4s							
RNI2				AML		AML		
	comp=N,246μm,1.3s							
RNI2				AML		AML		
	comp=E,355μm,0.4s							
PAOL	**Paolisi**	**0.38**	**163**	P		Pg	06 09 34.8	0.0
PAOL				S		Sb	06 09 41.0	+0.3
PAOL				AML		AML		
	comp=E,222μm,0.2s							
PAOL				AML		AML		
	comp=N,206μm,0.2s							
TRIV	**Trivento**	**0.38**	**14**	P		Pb	06 09 35.0	-0.1
GATE	**Gambatesa**	**0.38**	**72**	P		Pb	06 09 35.3	+0.1
GATE				AML		AML		
	comp=E,314μm,0.5s							
GATE				AML		AML		
	comp=N,246μm,0.7s							
GATE				AML		AML		
	comp=E,116μm,0.8s							
GATE				AML		AML		
	comp=N,236μm,0.5s							
GATE				AML		AML		
	comp=N,246μm,0.7s							
GATE		

comp=N,198µm,1.3s
MELA AML AML
comp=E,244µm,0.3s
POFI Posta Fibreno 0.62 301 P Pg 06 09 39.2 0.0
POFI AML AML
comp=E,96µm,0.8s
POFI AML AML
comp=N,89µm,1.2s
POFI AML AML
comp=E,92µm,0.4s
POFI AML AML
comp=N,85µm,1.2s

*ISCJB **30** 06:15:05.5±0.2, 34°.29N±0°.04×134°.97E±0°.05, h418km±2km, mb3.5/21, Error ellipse: s-maj=7.7km s-min=5.2km az=42.4*
*JMA **30** 06:15:06.6±0.1, 34°.40N×134°.97E, h412km±2km, M3.4*
*NEIC **30** 06:15:06.5±1.4, 34°.29N±0°.09×134°.9E±0°.1, h411km±7km, mb4.1/36*
*IDC **30** 06:15:06.8±0.6, 34°.29N×134°.89E, h414km±6km, mb3.2/21, mb1 3.4/27, mb1mx3.3/57, mbtmp4.0/27, Error ellipse: s-maj=11.0km s-min=8.3km az=119.0*
ISC 30 06:15:06.5±0.5, 34°33'N±0°.06×134°.96E±0°.06, h412km±5km, n89, σ1°31/104, mb3.8/35, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAJ2	**Tsuna**	**0.11**	**325**	P	**S**	**06 15 57.2**	**0.0**
JAJ2				S	**S**	**06 16 37.7**	**-0.4**
JWY	**Kouya**	**0.53**	**102**	S	**S**	**06 16 38.1**	**-1.0**
JAI	**Aioi**	**0.68**	**219**	P	**P**	**06 15 58.1**	**0.0**
JAI				S	**S**	**06 16 39.1**	**-0.5**
JTNC	**Tanabenakahech**	**0.74**	**133**	P	**P**	**06 15 58.4**	**+0.2**
JTNC				S	**S**	**06 16 38.9**	**-1.0**
JWT	**Wachi**	**1.02**	**21**	P	**P**	**06 15 59.0**	**+0.2**
JWT				S	**S**	**06 16 40.0**	**-1.2**
JMN	**Monobe**	**1.08**	**237**	P	**P**	**06 15 59.7**	**+0.4**
JMN				S	**S**	**06 16 41.8**	**0.0**
JIE	**Ise**	**1.44**	**87**	P	**P**	**06 16 01.0**	**+0.4**
JIE				S	**S**	**06 16 43.4**	**-0.9**
JHS	**Saijyo**	**1.66**	**294**	P	**P**	**06 16 01.8**	**+0.2**
JHS				S	**S**	**06 16 45.7**	**-0.6**
TTO1	**TONANKAI O.B.S**	**1.67**	**114**	P	**P**	**06 16 02.6**	**+1.2**
JYTA	**Yamagatataniai**	**1.93**	**49**	P	**P**	**06 16 03.3**	**+0.3**
JYTA				S	**S**	**06 16 48.0**	**-0.9**
INU	**Inuyama**	**1.97**	**58**	P	**P**	**06 16 03.5**	**+0.2**
JNA	**Nagahama**	**2.20**	**250**	P	**P**	**06 16 05.8**	**+1.0**
JNA				S	**S**	**06 16 51.5**	**-0.5**
JKG	**Kaga**	**2.24**	**30**	P	**P**	**06 16 05.0**	**+0.1**
JTO	**Tosashimizu**	**2.32**	**232**	P	**P**	**06 16 06.3**	**+0.7**
JOI	**OKI**	**2.41**	**325**	P	**P**	**06 16 06.5**	**+0.5**
JYN	**Shimob**	**3.17**	**67**	P	**P**	**06 16 11.3**	**-0.6**
MAJO	**Matsushiro**	**3.45**	**49**	P	**P**	**06 16 13.8**	**-0.3**
MAT	**Matsushiro**	**3.45**	**49**	P	**P**	**06 16 14.4**	**+0.2**
MAT				S	**S**	**06 17 12.8**	**+3.5**
MJAR	**Matsushiro Arr**	**3.45**	**49**	P	**P**	**06 16 14.4**	**+0.3**
	1.6nm,0.3s,baz=219,slow=6.4,SNR=104						
MJAR				S	**S**	**06 17 12.3**	**+3.0**
	baz=283,slow=34,SNR=2.7						
MJB9	**Matsu-Tunnel**	**3.45**	**49**	P	**P**	**06 16 13.8**	**-0.4**
JNU	**Nakatsue**	**3.61**	**252**	P	**P**	**06 16 16.1**	**+0.4**
	4.8nm,0.3s,baz=32,slow=4.2,SNR=28						
JNU				S	**S**	**06 17 11.2**	**-0.8**
	baz=270,slow=20,SNR=2.6						
JNU	**Nakatsue**	**3.61**	**252**	P	**P**	**06 16 16.3**	**+0.6**
JRY	**Ryogami san**	**3.64**	**61**	P	**P**	**06 16 16.0**	**+0.1**
KSRS	**Korea Array**	**6.51**	**301**	P	**P**	**06 16 45.6**	**+0.3**
	0.4nm,0.3s,baz=116,slow=13,SNR=5.7						
ERM	**Erimo**	**10.02**	**38**		**P**	**06 17 23.9**	**0.0**
USA0B	**Ussuriysk Arra**	**10.12**	**348**	P	**P**	**06 17 25.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**10.12**	**348**	P	**P**	**06 17 25.4**	**+0.4**
	baz=170,slow=10,SNR=41						
ASAJ	**Asahikawa**	**11.42**	**29**	P	**P**	**06 17 39.6**	**+0.3**
	1.7nm,0.3s,baz=243,slow=9.8,SNR=7.6						
ASAJ				S	**S**	**06 19 39.7**	**-5.8**
	0.7nm,0.3s,baz=34,slow=15,SNR=4.1						
JKA	**Kamikawa-asahi**	**11.42**	**29**	P	**P**	**06 17 39.6**	**+0.3**
JKA					**S**	**06 19 39.7**	**-5.9**
KLR	**Kul'dur**	**15.08**	**352**	P	**P**	**06 18 18.0**	**-1.1**
	0.5nm,0.3s,baz=193,slow=8.2,SNR=6.6						
YHNB	**Yeheng**	**15.24**	**234**	P	**P**	**06 18 19.7**	**-1.5**
NACB	**Ninganchiao**	**15.43**	**233**	P	**P**	**06 18 20.9**	**-2.3**
NACB				IAmb	IAmb	06 18 27.4	
	comp=Z,17nm,0.8s						
SSLB	**Suanglung**	**16.12**	**233**	P	**P**	**06 18 29.0**	**-1.6**
SSLB				IAmb	IAmb	06 18 30.7	
	comp=Z,20nm,1.1s						
YULB	**Yu-li**	**16.17**	**231**	P	**P**	**06 18 28.2**	**-3.0**
TPUB	**Ta-pu**	**16.67**	**233**	P	**P**	**06 18 33.8**	**-2.8**
PETK	**Petropavlovsk-**	**24.77**	**34**	P	**P**	**06 19 53.6**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=305,slow=10,SNR=4.2						
ULN	**Ulaanbaatar**	**24.84**	**311**	P	**P**	**06 19 54.0**	**+0.1**
ULN				IAmb	IAmb	06 19 56.2	
	comp=Z,3.0nm,0.7s						
SONM	**Songino Array**	**25.24**	**311**	P	**P**	**06 19 58.1**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=114,slow=8.9,SNR=9.6						
UBPT	**Khong Chiam**	**32.62**	**242**	P	**P**	**06 21 03.5**	**+1.3**
UBPT				IAmb	IAmb	06 21 04.9	
	comp=Z,11nm,1.0s						
PBKT	**Sadao Pong**	**35.20**	**248**	P	**P**	**06 21 24.1**	**0.0**
PBKT				IAmb	IAmb	06 21 25.1	
	comp=Z,4.4nm,0.6s						
CM31	**Chiang Mai Arr**	**35.71**	**253**	P	**P**	**06 21 28.9**	**+0.6**
CM31				IAmb	IAmb	06 21 45.8	
	comp=Z,8.9nm,1.5s						
CMAR	**Chiang Mai Arr**	**35.71**	**253**	P	**P**	**06 21 28.1**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=57,slow=6.3,SNR=4.5						
FAKI	**Fak Fak**	**37.14**	**184**	P	**P**	**06 21 40.2**	**-0.1**
FAKI				IAmb	IAmb	06 21 41.0	
	comp=Z,13nm,0.7s						
BILL	**Bilibino**	**38.18**	**18**	P	**P**	**06 21 49.6**	**+1.5**
BILL				IAmb	IAmb	06 21 50.9	
	comp=Z,6.4nm,1.0s						
ZALV	**Zalesovo Beam**	**39.98**	**315**	P	**P**	**06 22 03.4**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=95,slow=6.0,SNR=3.2						
MK31	**Makanchi Array**	**41.18**	**304**	P	**P**	**06 22 12.2**	**-0.7**
MKAR	**Makanchi Array**	**41.18**	**304**	P	**P**	**06 22 13.3**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=85,slow=11,SNR=8.3						
MKAR				ScP	**ScP**	**06 27 11.3**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=74,slow=6.4,SNR=3.1						
KURK	**Kurchatov**	**43.54**	**310**	P	**P**	**06 22 31.5**	**0.0**
MTN	**Manton Dam**	**47.05**	**185**	P	**P**	**06 22 58.9**	**-0.1**
KNRA	**Kununurra**	**50.08**	**188**	P	**P**	**06 23 21.9**	**+0.2**
KNRA				IAmb	IAmb	06 23 31.6	
	comp=Z,29nm,1.4s						
KDAK	**Kodiak Island**	**52.58**	**40**	P	**P**	**06 23 40.7**	**+1.2**
FITZ	**Fitzroy Crossi**	**52.88**	**191**	P	**P**	**06 23 42.2**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=4.7,slow=7.7,SNR=3.7						
FITZ	**Fitzroy Crossi**	**52.88**	**191**	P	**P**	**06 23 42.6**	**+0.5**
FITZ				IAmb	IAmb	06 23 49.9	
	comp=Z,10nm,1.5s						
KTH	**Kantishna Hill**	**52.89**	**33**	P	**P**	**06 23 38.6**	**-3.2**
KTH				IAmb	IAmb	06 23 39.9	
	comp=Z,4.6nm,1.0s						
MLY	**Manley**	**52.89**	**31**	P	**P**	**06 23 40.0**	**-1.7**
TOLK	**Toolik Lake Re**	**53.24**	**26**	P	**P**	**06 23 45.6**	**+1.4**
MDM	**Murphy Dome**	**53.96**	**31**	P	**P**	**06 23 51.4**	**+2.1**
MDM				IAmb	IAmb	06 23 51.8	
	comp=Z,5.8nm,0.5s						
WRAB	**Tennant Creek**	**53.96**	**181**	P	**P**	**06 23 49.3**	**-0.6**
WRAB				IAmb	IAmb	06 24 08.6	
	comp=Z,7.8nm,1.2s						
WRA	**Warramunga Arr**	**53.97**	**181**	P	**P**	**06 23 49.7**	**-0.3**
	comp=Z,2.3nm,0.3s,baz=355,slow=7.7,SNR=20						
IL31		**54.55**	**31**	P	**P**	**06 23 55.2**	**+1.7**
ILAR	**Eielson Array**	**54.55**	**31**	P	**P**	**06 23 54.0**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=261,slow=6.5,SNR=15						
ABKAR	**Akbulak array**	**55.65**	**310**	P	**P**	**06 24 01.6**	**0.0**
ABKAR				IAmb	IAmb	06 24 01.8	
	comp=Z,1.8nm,0.5s						
AS31	**Alice Springs**	**57.68**	**181**	P	**P**	**06 24 15.6**	**-0.3**
ASAR	**Alice Springs**	**57.68**	**181**	P	**P**	**06 24 15.7**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=17,slow=13,SNR=8.5						
EPYK	**Eagle Plains**	**58.43**	**28**	P	**P**	**06 24 22.0**	**+1.4**
EPYK				IAmb	IAmb	06 24 22.7	
	comp=Z,3.5nm,1.0s						
INK	**Inuvik**	**59.14**	**26**	P	**P**	**06 24 26.0**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=282,slow=6.6,SNR=4.6						
INK	**Inuvik**	**59.14**	**26**	P	**P**	**06 24 26.3**	**+1.1**
SPITS	**Spitsbergen Ar**	**62.12**	**348**	P	**P**	**06 24 45.3**	**+0.4**
	comp=Z,9.3nm,0.9s,baz=89,slow=8.9,SNR=6.7						

ARCES	**ARCESS Array B**	**64.63**	**338**	P	**P**	**06 25 01.4**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=56,slow=8.9,SNR=7.2						
STKA	**Stephens Creek**	**66.15**	**174**	P	**P**	**06 25 11.2**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=339,slow=10,SNR=3.6						
STKA	**Stephens Creek**	**66.15**	**174**	P	**P**	**06 25 12.2**	**+0.9**
RES	**Resolute Bay**	**66.46**	**13**	P	**P**	**06 25 13.3**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=313,slow=4.7,SNR=9.3						
RES	**Resolute Bay**	**66.46**	**13**	P	**P**	**06 25 13.7**	**+1.0**
BBOO	**Buckleboo**	**66.79**	**179**	P	**P**	**06 25 14.5**	**-0.8**
FIA1	**FINESS Array S**	**68.68**	**331**	P	**P**	**06 25 26.9**	**+0.2**
FINES	**FINESS Array B**	**68.68**	**331**	P	**P**	**06 25 26.5**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=70,slow=4.1,SNR=15						
YKA	**Yellowknife Ar**	**68.71**	**28**	P	**P**	**06 25 27.1**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=296,slow=6.1,SNR=4.6						
NWAO	**Narrogin (SRO)**	**68.94**	**196**	P	**P**	**06 25 28.4**	**-0.1**
NWAO				IAmb	IAmb	06 25 45.5	
	comp=Z,22nm,1.4s						
NWAO	**Narrogin (SRO)**	**68.94**	**196**	P	**P**	**06 25 28.4**	**-0.1**
NWAO				IAmb	IAmb	06 25 45.5	
	comp=Z,20nm,1.5s						
AKASG	**Malin Array Be**	**73.11**	**320**	P	**P**	**06 25 52.6**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=52,slow=6.3,SNR=4.8						
SUMG	**Summit**	**73.29**	**358**	P	**P**	**06 25 54.7**	**+0.4**
NC405	**NORSAR Array S**	**74.31**	**335**	P	**P**	**06 25 60.0**	**+0.1**
NB201	**NORSAR Array S**	**74.50**	**335**	P	**P**	**06 26 01.1**	**+0.1**
NB201				IAmb	IAmb	06 26 02.1	
	comp=Z,8.2nm,1.0s						
NC204	**NORSAR Array S**	**74.53**	**336**	P	**P**	**06 26 01.3**	**+0.2**
NB2	**NORSAR Subarra**	**74.54**	**335**	P	**P**	**06 26 01.2**	**0.0**
	comp=Z,0.2nm,0.4s,baz=43,slow=5.9						
NOA	**NORSAR Array B**	**74.54**	**335**	P	**P**	**06 26 00.9**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=56,slow=7.3,SNR=6.1						
NVAR	**Mina Array Bea**	**80.78**	**50**	P	**P**	**06 26 37.2**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=283,slow=5.5,SNR=3.7						
GERES	**GERESS Array B**	**82.08**	**325**	P	**P**	**06 26 42.3**	**0.0**
	comp=Z,0.4nm,0.6s,baz=47,slow=6.0,SNR=4.0						
PDAR	**Pinedale Array**	**83.25**	**42**	P	**P**	**06 26 48.6**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=264,slow=3.4,SNR=4.0						

*VAO **30** 06:38:20.7±0.6, 22°.04S×68°.87W, h158km±5km, mb4.0*
*ISCJB **30** 06:38:21.6±0.3, 21°.90S±0°.03×68°.56W±0°.05, h144km±6km, mb3.4/3, Error ellipse: s-maj=8.1km s-min=4.6km az=0.7*
*SJA **30** 06:38:21.6±0.5, 21°.84S×68°.52W, h137km±3km, ML3.1, MW3.3*
*IDC **30** 06:38:22.2±0.7, 21°.93S×68°.18W, h113km±8km, mb3.4/4, mb1 3.7/6, mb1mx3.5/28, mbtmp3.9/6, Error ellipse: s-maj=23.8km s-min=13.2km az=113.0*
*GUC **30** 06:38:22.8±0.8, 21°.84S×68°.56W, h120km±5km, ML3.5*
ISC 30 06:38:22.7±0.7, 21°.84S±0°.04×68°.45W±0°.05, h125km±7km, n64, σ1°46/80, mb3.8/3, 6C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.74**	**273**	*e*P	**Pn**	**06 38 43.1**	**0.0**
PB09				*e*S	**Sn**	**06 38 58.3**	**-0.2**
PB09				IAML		06 39 01.0	
	comp=E,990nm,0.3s						
PB09	**IPOC Station P**	**0.74**	**273**	*i* P	**Pn**	**06 38 43.4**	**+0.3**
PB09				*e*S	**Sn**	**06 38 59.4**	**+1.0**
LVC	**Limon Verde**	**0.88**	**209**	↓*i*P	**Pn**	**06 38 44.2**	**-0.2**
LVC				*e*S	**Sn**	**06 39 00.7**	**-0.2**
LVC	**Limon Verde**	**0.88**	**209**	P	**Pn**	**06 38 44.2**	**-0.2**
	comp=E,254nm,0.3s,baz=328,slow=6.3,SNR=1847						
LVC				S	**Sn**	**06 39 00.1**	**-0.8**
	comp=E,192nm,0.3s,baz=211,slow=19,SNR=69						
LVC	**Limon Verde**	**0.88**	**209**	*e*P	**Pn**	**06 38 44.1**	**-0.3**
LVC	**Limon Verde**	**0.88**	**209**	*e*P	**Pn**	**06 38 44.1**	**-0.3**
LVC	**Limon Verde**	**0.88**	**209**	*i* P	**Pn**	**06 38 44.6**	**+0.2**
LVC				IAML		06 39 01.3	
	comp=Z,776nm,0.1s						
LVC				*e*S	**Sn**	**06 39 01.9**	**+1.0**
PB03	**IPOC Station P**	**1.23**	**260**	↑*i*P	**Pn**	**06 38 47.4**	**-0.3**
PB03				*e*S	**Sn**	**06 39 06.1**	**-0.5**
PB03				IAML		06 39 07.6	
	comp=N,873nm,0.5s						
PB06	**IPOC Station P**	**1.35**	**230**	↑*i*P	**Pn**	**06 38 49.0**	**+0.1**
PB06				*e*S	**Sn**	**06 39 08.7**	**-0.2**
PB06				IAML		06 39 11.0	
	comp=E,1µm,0.5s						
PB06	**IPOC Station P**	**1.35**	**230**	*i* P	**Pn**	**06 38 48.8**	**-0.1**
PB04	**IPOC Station P**	**1.65**	**252**	↑*i*P	**Pn**	**06 38 52.0**	**-0.3**
PB04				*e*S	**Sn**	**06 39 14.3**	**-0.8**
PB04				IAML		06 39 17.5	
	comp=N,643nm,0.3s						
PB04	**IPOC Station P**	**1.65**	**252**	*i* P	**Pn**	**06 38 52.1**	**-0.3**
PB15	**IPOC Station P**	**1.66**	**215**	↑*i*P	**Pn**	**06 38 52.4**	**-0.1**
PB15				*e*S	**Sn**	**06 39 15.8**	**+0.5**
PB15	**IPOC Station P**	**1.66**	**215**	*i* P	**Pn**	**06 38 52.8**	**+0.3**
PB15				*e*S	**Sn**	**06 39 15.8**	**+0.5**
PB15				IAML		06 39 18.6	
	comp=Z,2µm,0.3s						
PB08	**IPOC Station P**	**1.82**	**339**	↓*i*P	**Pn**	**06 38 55.7**	**+1.1**
PB08				*e*S	**Sn**	**06 39 20.0**	**+1.1**
PB08				IAML		06 39 21.8	
	comp=N,381nm,0.4s						
PB05	**IPOC Station P**	**1.91**	**238**	↑*i*P	**Pn**	**06 38 54.9**	**-0.5**
PB05				*e*S	**Sn**	**06 39 20.0**	**-0.5**
PB05				IAML		06 39 26.3	
	comp=N,428nm,0.4s						
PB05	**IPOC Station P**	**1.91**	**238**	↓*i*P	**Pn**	**06 38 55.0**	**-0.5**
TA01	**Diego Aracena**	**2.06**	**308**	↑*i*P	**Pn**	**06 38 56.6**	**-0.5**
TA01				*i* S	**Sn**	**06 39 22.5**	**-1.0**
GO01	**Chusmiza**	**2.27**	**342**	↓*i*P	**Pn**	**06 39 00.8**	**+0.5**
GO01				*e*S	**Sn**	**06 39 29.9**	**+0.8**
GO01				IAML		06 39 32.6	
	comp=N,493nm,0.5s						
PB11	**IPOC Station P**	**2.36**	**331**	↓*i*P	**Pn**	**06 39 00.9**	**-0.2**
PB11				*e*S	**Sn**	**06 39 30.4**	**-0.2**
PB10	**IPOC Station P**	**2.56**	**229**	*i* P	**Pn**	**06 39 03.2**	**-0.3**
PSGC	**Pisagua**	**2.73**	**325**	IAML		06 39 38.6	
	comp=N,194nm,0.5s						
YJA	**Yavi**	**2.74**	**98**	↑*i*P	**Pn**	**06 39 08.0**	**+1.8**
YJA				IAML		06 39 12.9	
	comp=Z,13nm,0.6s						
HJA	**Humahuaca**	**3.12**	**116**	*i* P	**Pn**	**06 39 13.0**	**+1.9**
HJA				IAML		06 39 14.3	
	comp=Z,13nm,0.3s						
PB14	**IPOC Station P**	**3.31**	**213**	*i* P	**Pn**	**06 39 13.2**	**-0.2**
SLA	**San Lorenzo**	**3.94**	**137**	*i* P	**Pn**	**06 39 23.1**	**+1.4**
SLA				IAML		06 39 27.3	
	comp=Z,6.3nm,0.8s						
LPAZ	**La Paz**	**5.53**	**3**	P	**Pn**	**06 39 44.4**	**+0.9**
	comp=Z,1.8nm,0.3s,baz=171,slow=5.8,SNR=49						
LPAZ				S	**Sn**	**06 40 48.1**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=76,slow=18,SNR=2.0						
LPAZ	**La Paz**	**5.53**	**3**	*e*P	**Pn**	**06 39 44.8**	**+1.3**
LPAZ	**La Paz**	**5.53**	**3**	*e*P	**Pn**	**06 39 44.8**	**+1.3**
LPAZ	**La Paz**	**5.53**	**3**	*i* P	**Pn**	**06 39 45.4**	**+1.9**
ACCO	**Cerro Coronel**	**8.73**	**184**	*i* P	**Pn**	**06 40 24.1**	**-2.2**
AMOG	**MOGNA**	**9.06**	**180**	*i* P	**Pn**	**06 40 27.4**	**-3.1**
SIV	**San Ignacio**	**9.08**	**51**	P	**Pn**	**06 40 27.4**	**-3.5**
	comp=Z,5.4nm,0.3s,baz=244,slow=11,SNR=154						
SIV				S	**Sn**	**06 42 04.5**	**-7.0**
	comp=Z,0.1nm,0.3s,baz=270,slow=20,SNR=2.3						
RTLL	**Cerro Villicun**	**9.45**	**180**	*i* P	**Pn**	**06 40 33.2**	**-2.5**
RTCV	**Cerro Valdivia**	**9.98**	**180**	*i* P	**Pn**	**06 40 39.9**	**-3.0**
TCA	**Tanti**	**10.06**	**161**	*i* P	**Pn**	**06 40 42.5**	**-1.6**
AQDB	**Aquidauana**	**11.97**	**86**	*e*P	**Pn**	**06 41 12.0**	**+2.6**
AQDB	**Aquidauana**	**11.97**	**86**	*e*P	**Pn**	**06 41 12.0**	**+2.6**
ITQB	**Itaqui**	**13.19**	**129**	*e*P	**Pn**	**06 41 24.4**	**-0.8**
ITQB	**Itaqui**	**13.19**	**129**	*e*P	**Pn**	**06 41 24.4**	**-0.8**
SALV	**Santo Antonio**	**13.43**	**66**	*e*P	**Pn**	**06 41 29.6**	**+1.1**
SALV	**Santo Antonio**	**13.43**	**66**	*e*P	**Pn**	**06 41 29.6**	**+1.1**
TRCB	**Terra Rica**	**14.66**	**97**	*e*P	**P**	**06 41 45.7**	**-1.4**
TRCB	**Terra Rica**	**14.66**	**97**	*e*P	**P**	**06 41 45.7**	**-1.4**
CLDB	**Colider**	**16.30**	**50**	*e*P	**P**	**06 42 04.8**	**-0.5**
CLDB	**Colider**	**16.30**	**50**	*e*P	**P**	**06 42 04.8**	**-0.5**
ARAG	**Araguaiana, MT**	**16.89**	**72**	*e*P	**Pn**	**06 42 13.4**	**+1.8**
ARAG	**Araguaiana, MT**	**16.89**	**72**	*e*P	**Pn**	**06 42 13.4**	**+1.8**
ITRB	**Iturama**	**17.05**	**86**	*e*P	**Pn**	**06 42 13.5**	**-0.1**
ITRB	**Iturama**	**17.05**	**86**	*e*P	**Pn**	**06 42 13.5**	**-0.1**
FRTB	**Fartura**	**17.50**	**98**	*e*P	**P**	**06 42 18.2**	**-0.2**
FRTB	**Fartura**	**17.50**	**98**	*e*P	**P**	**06 42 18.2**	**-0.2**
BB19B	**Bebedouro**	**18.56**	**91**	*e*P	**P**	**06 42 29.6**	**-0.4**
BB19B	**Bebedouro**	**18.56**	**91**	*e*P	**P**	**06 42 29.6**	**-0.4**
IPMB	**Ipameri, GO**	**19.41**	**82**	*e*P	**P**	**06 42 38.9**	**-0.4**
IPMB	**Ipameri, GO**	**19.41**	**82**	*e*P	**P**	**06 42 38.9**	**-0.4**
VAO	**Valinhos**	**19.89**	**97**	*e*P	**P**	**06 42 44.0**	**-0.5**
VAO	**Valinhos**	**19.89**	**97**	*e*P	**P**	**06 42 44.0**	**-0.5**
BDFB	**Brasilia**	**20.30**	**76**	P	**P**	**06 42 47.3**	**-1.6**

	comp=Z,1.8nm,0.5s,baz=223,slow=11,SNR=6.8						
NVAR	**Mina Array Bea**	**76.03**	**322**	P	**P**	**06 49 59.0**	**+2.5**
	comp=Z,0.1nm,0.4s,baz=167,slow=8.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**77.06**	**70**	P	**P**	**06 50 02.4**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=260,slow=5.0,SNR=9.0						
YKA	**Yellowknife Ar**	**91.65**	**340**	P	**P**	**06 51 15.8**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=130,slow=4.6,SNR=9.7						
ASAR	**Alice Springs**	**129.81**	**207**	PKP	**PKiKP**	**06 57 18.6**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=52,slow=1.5,SNR=3.4						
WRA	**Warramunga Arr**	**132.88**	**210**	PKP	**PKiKP**	**06 57 25.1**	**0.0**
	comp=Z,0.5nm,1.0s,baz=170,slow=5.9,SNR=4.8						

IDC 30 07:01:07.7±2.3, 54°.58N×83°.46E, h0km, mb1 2.4/2, mb1mx2.4/39, mbtmp2.4/2, ML2.1/2, Error ellipse: s-maj=19.5km s-min=10.2km az=163.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**128**	*i*		07 07 06.6	
	baz=310,slow=340,SNR=4.1						
ZALV	**Zalesovo Beam**	**1.01**	**128**	Pg	Pg	07 01 26.7	-0.4
	1.6nm,0.3s,baz=311,slow=16,SNR=16						
ZALV				Lg	Lg	07 01 41.7	
	3.2nm,0.3s,baz=310,slow=28,SNR=20						
KURBB	**Kurchatov Array**	**4.97**	**219**	Pn	Pn	07 02 24.8	+1.3
	0.0nm,0.3s,baz=39,slow=12,SNR=2.6						
KURBB				Sn	Sn	07 03 19.5	-2.0
	0.0nm,0.3s,baz=34,slow=15,SNR=3.4						
KURBB				Lg	Lg	07 03 43.1	
	0.1nm,0.3s,baz=38,slow=33,SNR=4.7						
MKAR	**Makanchi Array**	**7.83**	**186**	Pn	Pn	07 03 02.5	-0.2
	0.1nm,0.3s,baz=11,slow=14,SNR=3.0						

*ISCJB **30** 07:13:19.7±0.6, 13°.43S±0°.08×72°.00W±0°.08, h33km, mb3.8/5, Error ellipse: s-maj=14.5km s-min=5.9km az=136.4*
*IDC **30** 07:13:23.5±1.8, 13°.49S×72°.15W, h56km±19km, mb3.5/5, mb1 3.7/11, mb1mx3.6/36, mbtmp3.8/11, ML3.6/6, MS2.7/4, Ms1 2.7/4, ms1mx2.6/25, Error ellipse: s-maj=33.1km s-min=13.4km az=48.0*
ISC 30 07:13:22.1±0.7, 13°.44S±0°.09×72°.05W±0°.09, h35km, n13, σ1°96/16, mb3.8/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.73**	**127**	P	**Pn**	**07 14 34.3**	**+2.8**
	1.2nm,0.3s,baz=294,slow=9.5,SNR=37						
LPAZ				LR	LR	07 16 10.6	
	comp=Z,43nm,19.3s,baz=328,slow=35						
NNA	**Nana**	**4.89**	**287**	P	**Pn**	**07 14 32.6**	**-0.6**
	2.5nm,0.3s,baz=173,slow=12,SNR=17						
NNA				S	**Sn**	**07 15 32.3**	**+3.6**
	1.3nm,0.3s,baz=19,slow=16,SNR=3.6						
NNA				LR	LR	07 16 35.0	
	comp=Z,113nm,18.4s,baz=132,slow=40						
ATAH	**Atahualpa**	**8.84**	**315**	P	**Pn**	**07 15 28.5**	**+0.7**
	0.8nm,0.3s,baz=170,slow=22,SNR=8.2						
ATAH				S	**Sn**	**07 17 09.7**	**+3.1**
	0.3nm,0.3s,baz=83,slow=9.1,SNR=1.6						
ATAH				LR	LR	07 19 31.4	
	comp=Z,78nm,19.8s,baz=195,slow=42						
LVC	**Limon Verde**	**9.59**	**162**	P	**Pn**	**07 15 37.2**	**-0.8**
	1.0nm,0.3s,baz=333,slow=10,SNR=9.4						
LVC				S	**Sn**	**07 17 26.4**	**+1.6**
	0.3nm,0.3s,baz=179,slow=18,SNR=3.3						
LVC				LR	LR	07 20 11.3	
	comp=Z,34nm,19.8s,baz=312,slow=43						
SIV	**San Ignacio**	**10.92**	**105**	P	**Pn**	**07

MORW				IAmb	IAmb	07 23 15.1		
	comp=Z,27nm,1.4s							
MJAR	**Matsushiro Arr**	**67.47**	**323**	P	**P**	**07 23 56.5**	**-0.1**	
	comp=Z,1.4nm,0.5s,baz=129,slow=5.9,SNR=5.3							
JKA	**Kamikawa-asahi**	**70.84**	**331**	P	**P**	**07 24 17.8**	**+1.1**	
ASAJ	**Asahikawa**	**70.84**	**331**	P	**P**	**07 24 17.8**	**+1.1**	
	comp=Z,12nm,1.0s,baz=221,slow=32,SNR=3.2							
SSLB	**Suanglung**	**71.85**	**303**	P	**P**	**07 24 22.8**	**-0.3**	
QSPA	**South Pole Qui**	**72.53**	**180**	P	**P**	**07 24 26.8**	**+0.4**	
	comp=Z,1.1nm,0.9s,baz=48,slow=0.6,SNR=6.0							
QSPA	**South Pole Qui**	**72.53**	**180**	P	**P**	**07 24 27.1**	**+0.7**	
PETK	**Petropavlovsk-**	**73.26**	**345**	P	**P**	**07 24 31.0**	**+0.6**	
	comp=Z,8.8nm,1.0s,baz=188,slow=9.7,SNR=3.5							
PNTR	**Pine Nut**	**78.81**	**43**	P	**P**	**07 25 03.3**	**+1.5**	
YERR	**Yerington**	**78.98**	**43**	P	**P**	**07 25 03.9**	**+1.2**	
NVAR	**Mina Array Bea**	**79.30**	**44**	P	**P**	**07 25 05.5**	**+1.1**	
	comp=Z,0.8nm,0.6s,baz=225,slow=9.2,SNR=8.5							
MOD	**Modoc Plateau**	**79.93**	**40**	P	**P**	**07 25 09.4**	**+1.9**	
SEY	**Seymchan**	**83.36**	**347**	P	**P**	**07 25 24.4**	**+0.1**	
	comp=Z,1.2nm,0.5s,baz=262,slow=21,SNR=4.1							
ILAR	**Eielson Array**	**85.56**	**13**	P	**P**	**07 25 35.0**	**0.0**	
	comp=Z,0.2nm,0.7s,baz=222,slow=7.3,SNR=2.6							
TXAR	**Lajitas Array**	**85.97**	**58**	P	**P**	**07 25 40.0**	**+2.0**	
	comp=Z,1.5nm,0.8s,baz=223,slow=6.7,SNR=12							
PDAR	**Pinedale Array**	**87.22**	**44**	P	**P**	**07 25 44.5**	**+0.7**	
	comp=Z,0.5nm,0.5s,baz=200,slow=3.0,SNR=7.5							
CMAR	**Chiang Mai Arr**	**88.56**	**290**	P	**P**	**07 25 49.6**	**-0.6**	
	comp=Z,0.4nm,0.3s,baz=125,slow=4.9,SNR=4.2							
KSH	**Kashi**	**112.68**	**306**	PKP	**PP**	**07 32 27.8**	**-0.2**	
KSH				pPKP	pPKiKP	07 33 24.5	-13	
KSH				PKS	PKSdf	07 36 02.3	+56	
BRTR	**Keskin Array B**	**144.36**	**315**	PKP	PKPbc	07 32 28.7	-0.7	
	comp=Z,0.8nm,0.6s,baz=67,slow=4.8,SNR=4.8							

*NEIC **30** 07:22:36.5±2.2,20°.5N±0°.1×146°.8E±0°.1,h10km±1km, mb4.5/13*

*ISCJB **30** 07:22:39.6±0.4,20°.44N±0°.06×146°.7E±0°.1,h44km, mb3.9/20,MS3.4/4, Error ellipse: s-maj=15.5km s-min=8.5km az=165.4*

*IDC **30** 07:22:50.9±7.0,20°.44N×146°.65E,h129km±65km, mb3.6/20,mb1 3.7/21,mb1mx3.6/53,mbtmp4.0/21,MS3.3/5, Ms1 3.3/5,ms1mx2.9/36, Error ellipse: s-maj=22.5km s-min=11.1km az=77.0*

ISC 30 07:22:41.6±0.5,20°.42N±0°.09×146°.8E±0°.1,h44km,n38, σ1§10/35,mb4.1/26,MS3.3/4,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**17.73**	**337**	P		**P**	**P**	**07 26 47.6**	**+1.9**
	0.1nm,0.3s,baz=222,slow=28,SNR=4.3								
MJAR				LR		LR	LR	07 33 35.1	
	comp=Z,39nm,20.9s,baz=195,slow=36								
KSRS	**Korea Array**	**23.61**	**320**	P		**P**	**P**	**07 27 49.9**	**+1.4**
	1.0nm,0.5s,baz=147,slow=9.4,SNR=4.2								
ASAJ	**Asahikawa**	**23.89**	**353**	LR		LR	LR	07 36 42.5	
	comp=Z,72nm,21.1s,baz=88,slow=35								
USRK	**Ussuriysk Ar.**	**26.73**	**336**	P		**P**	**P**	**07 28 18.1**	**+1.2**
	1.4nm,0.8s,baz=120,slow=8.5,SNR=3.9								
PMG	**Port Moresby**	**29.64**	**179**	P		**P**	**P**	**07 28 43.1**	**0.0**
	3.5nm,0.5s,baz=327,slow=8.9,SNR=3.2								
PMG	**Port Moresby**	**29.64**	**179**	P		**P**	**P**	**07 28 43.6**	**+0.5**
PMG				IAmb		IAmb	IAmb	07 28 45.4	
	comp=Z,6.1nm,0.8s								
KLR	**Kul'dur**	**31.16**	**341**	P		**P**	**P**	**07 28 57.3**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=159,slow=8.1,SNR=3.2								
PETK	**Petropavlovsk-**	**33.70**	**12**	LR		LR	LR	07 41 30.4	
	comp=Z,34nm,21.7s,baz=237,slow=33								
COEN	**Coen**	**34.35**	**186**	P		**P**	**P**	**07 29 23.4**	**-1.1**
COEN				IAmb		IAmb	IAmb	07 29 27.1	
	comp=Z,8.6nm,1.1s								
WRA	**Warramunga Arr**	**41.93**	**198**	P		**P**	**P**	**07 30 29.2**	**+1.0**
	comp=Z,2.8nm,0.7s,baz=17,slow=8.5,SNR=14								
SONM	**Songino Array**	**42.48**	**320**	P		**P**	**P**	**07 30 34.2**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=127,slow=6.2,SNR=3.5								
CMAR	**Chiang Mai Arr**	**45.05**	**276**	P		**P**	**P**	**07 30 52.8**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=77,slow=5.9,SNR=4.6								
AS31	**Alice Springs**	**45.59**	**197**	P		**P**	**P**	**07 30 58.3**	**+0.7**
ASAR	**Alice Springs**	**45.59**	**197**	P		**P**	**P**	**07 30 58.2**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=15,slow=7.8,SNR=25								
DZM	**Mont Dzumac**	**46.39**	**154**	P		**P**	**P**	**07 31 05.0**	**+1.0**
	comp=Z,7.4nm,0.8s,baz=282,slow=6.0,SNR=3.7								
DZM	**Mont Dzumac**	**46.39**	**154**	P		**P**	**P**	**07 31 05.0**	**+1.0**
MSVF	**Nonsavu**	**48.76**	**139**	P		**P**	**P**	**07 31 21.7**	**-0.7**
MSVF				IAmb		IAmb	IAmb	07 31 36.1	
	comp=Z,4.5nm,0.7s								
STKA	**Stephens Creek**	**52.24**	**186**	P		**P**	**P**	**07 31 48.5**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=48,slow=6.0,SNR=3.8								
STKA	**Stephens Creek**	**52.24**	**186**	P		**P**	**P**	**07 31 48.3**	**-0.1**
ZALV	**Zalesovo Beam**	**57.30**	**322**	P		**P**	**P**	**07 32 23.6**	**-1.3**
	comp=Z,2.7nm,0.6s,baz=106,slow=5.7,SNR=8.7								
MK31	**Makanchi Array**	**58.04**	**313**	P		**P**	**P**	**07 32 29.2**	**-1.0**
MKAR	**Makanchi Array**	**58.04**	**313**	P		**P**	**P**	**07 32 29.1**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=97,slow=9.9,SNR=14								
MAKZ	**Makanchi**	**58.25**	**313**	P		**P**	**P**	**07 32 30.6**	**-1.2**
MAKZ				IAmb		IAmb	IAmb	07 32 33.9	
	comp=Z,4.0nm,1.0s								
TRF	**Thorofare Moun**	**59.88**	**28**	P		**P**	**P**	**07 32 42.0**	**-0.8**
NRIK	**Noril'sk**	**60.36**	**339**	P		**P**	**P**	**07 32 45.9**	**0.0**
	comp=Z,1.4nm,0.6s,baz=126,slow=8.7,SNR=3.4								
KURK	**Kurchatov**	**60.70**	**317**	P		**P**	**P**	**07 32 47.7**	**-0.7**
KURK				IAmb		IAmb	IAmb	07 32 49.9	
	comp=Z,3.8nm,0.8s								
ILAR	**Eielson Array**	**61.65**	**26**	P		**P**	**P**	**07 32 56.4**	**+1.8**
	comp=Z,0.3nm,0.9s,baz=260,slow=4.4,SNR=3.0								
AAK	**Ala-Archa**	**63.61**	**308**	P		**P**	**P**	**07 33 08.1**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=56,slow=6.7,SNR=2.4								
BVAR	**Borovoye Array**	**65.82**	**320**	P		**P**	**P**	**07 33 20.8**	**-1.6**
	comp=Z,3.7nm,0.6s,baz=81,slow=9.2,SNR=16								
BRVK	**Borovoye**	**65.89**	**320**	P		**P**	**P**	**07 33 21.6**	**-1.1**
KK31	**Karatay Array**	**66.48**	**309**	P		**P**	**P**	**07 33 25.7**	**-1.1**
KK31				IAmb		IAmb	IAmb	07 33 38.4	
	comp=Z,3.2nm,1.2s								
KKAR	**Karatay Array**	**66.48**	**309**	P		**P**	**P**	**07 33 25.9**	**-0.9**
KKAR				IAmb		IAmb	IAmb	07 33 38.3	
	comp=Z,3.2nm,1.2s								
AKTO	**Aktyubinsk**	**73.78**	**318**	P		**P**	**P**	**07 34 09.6**	**-1.7**
	comp=Z,1.0nm,0.6s,baz=67,slow=12,SNR=3.8								
AKTO				LR		LR	LR	08 09 57.2	
	comp=Z,24nm,18.5s,baz=10,slow=38								
YKA	**Yellowknife Ar**	**75.99**	**28**	P		**P**	**P**	**07 34 22.2**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=287,slow=6.0,SNR=6.8								
NVAR	**Mina Array Bea**	**81.27**	**52**	P		**P**	**P**	**07 34 53.4**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=268,slow=5.6,SNR=3.8								
PDAR	**Pinedale Array**	**85.88**	**46**	P		**P**	**P**	**07 35 17.2**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=251,slow=2.8,SNR=3.0								
AKASG	**Malin Array Be**	**90.48**	**326**	LR		LR	LR	08 19 38.4	
	comp=Z,28nm,18.3s,baz=315,slow=38								
LPAZ	**La Paz**	**146.63**	**89**	PKPbc		**PKPbc**	**P**	**07 42 20.5**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=297,slow=5.9,SNR=4.3								

*IDC **30** 07:43:42.8±0.9,3°.85N×95°.77E,h0km,mb4.1/11, mb1 4.1/13,mb1mx3.9/35,mbtmp4.0/13,ML3.4/2,MS2.9/5, Ms1 3.0/5,ms1mx2.7/40, Error ellipse: s-maj=34.8km s-min=15.5km az=47.0*

*NEIC **30** 07:43:47.8±2.7,3°.77N±0°.03×95°.80E±0°.09,h35km±2km, mb4.4/18*

*ISCJB **30** 07:43:48.0±0.4,3°.87N±0°.04×95°.85E±0°.04,h50km, mb4.0/13,MS3.5/3, Error ellipse: s-maj=7.1km s-min=3.9km az=42.8*

*DJA **30** 07:43:49.6±0.7,4°.N±4°×9°.6E±°,h10km,M4.1/10,mb4.3/2, MLv4.2/5,MLv4.0/10*

ISC 30 07:43:49.3±0.5,3°.83N±0°.04×95°.86E±0°.06,h50km,n58, σ1§50/64,mb4.2/22,MS3.3/3,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.69**	**51**	P		P	**Pn**	**07 44 03.1**	**+0.1**
TPTI		**1.43**	**113**	P		P	**Pn**	**07 44 12.7**	**-0.1**
TPTI				S		S	**Sn**	**07 44 30.4**	**-0.1**
SNSI	**Sinabang, Aceh**	**1.48**	**162**	P		P	**Pn**	**07 44 14.6**	**+1.0**
LHMI	**Lhok Sumawe**	**1.76**	**38**	P		P	**Pn**	**07 44 19.1**	**+1.7**
LHMI	**Lhok Sumawe**	**1.76**	**38**				**Pn**	**07 44 18.6**	**+1.2**
LHMI						Sn	**Sn**	**07 44 40.5**	**+1.8**
KCSI	**Kotacane, Aceh**	**1.93**	**99**	P		P	**Pn**	**07 44 21.2**	**+1.5**
GSI	**Gunungsitoli**	**3.04**	**146**	P		P	**Pn**	**07 44 35.7**	**+0.8**
GSI	**Gunungsitoli**	**3.04**	**146**				**Pn**	**07 44 35.8**	**+1.0**
GSI						Sn	**Sn**	**07 45 10.0**	**-0.1**
PSI	**Prapat**	**3.22**	**108**	Pn		Pn	**Pn**	**07 44 37.3**	**-0.2**
	3.1nm,0.3s,baz=295,slow=11,SNR=22								
PSI						Sn	**Sn**	**07 45 17.6**	**+2.8**
	6.8nm,0.3s,baz=144,slow=21,SNR=5.7								
PSI				LR		LR	LR	07 46 10.1	
	comp=Z,117nm,19.7s,baz=354,slow=44								
RPSI	**Rantau Prapat**	**3.26**	**110**				**Pn**	**07 44 40.4**	**+2.5**
RPSI				Sn			**Sn**	**07 45 12.0**	**-3.4**
RPSI	**Rantau Prapat**	**3.26**	**110**				**Pn**	**07 44 37.3**	**-0.5**
RPSI							**Sn**	**07 45 17.6**	**+2.1**
PBSI	**Pulau Batu**	**4.55**	**148**	P			**Pn**	**07 44 57.3**	**+1.6**
KULM	**Kulim**	**4.99**	**73**				**Pn**	**07 45 02.6**	**+0.9**
KULM				Sn			**Sn**	**07 45 57.6**	**-0.5**
IPM	**Ipoh**	**5.19**	**83**				**Pn**	**07 45 04.9**	**+0.5**
IPM				Sn			**Sn**	**07 46 01.6**	**-1.4**
SISI	**Saibi**	**6.05**	**148**	P			**Pn**	**07 45 17.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**14.85**	**11**	Pn			**Pn**	**07 47 15.8**	**-0.4**
	0.1nm,0.3s,baz=198,slow=32,SNR=2.9								
CMAR				LR			LR	07 52 20.6	
	comp=Z,70nm,19.3s,baz=192,slow=35								
PALK	**Pallekele**	**15.47**	**283**	LR			LR	07 51 16.1	
	comp=Z,15nm,22.0s,baz=108,slow=30								
SBUM	**Sibu**	**16.39**	**94**	Pn			**Pn**	**07 47 36.5**	**+0.4**
KKM	**Kota Kinabalu**	**20.39**	**83**	P			**P**	**07 48 21.9**	**-0.5**
KKM				IAmb			IAmb	07 48 31.9	
	comp=Z,24nm,1.2s								
H08S2	**Diego Garcia H**	**25.95**	**244**	T			T	08 16 28.3	
	baz=66,slow=74								
H08S3	**Diego Garcia H**	**25.95**	**244**	T			T	08 16 29.5	
	baz=66								
H08S1	**Diego Garcia H**	**25.97**	**244**	T			T	08 16 28.8	
	baz=66,slow=74								
XAN	**Xi'an**	**32.42**	**20**	P			**P**	**07 50 14.2**	**-0.5**
XAN				IAmb			IAmb	07 50 14.6	
	comp=Z,5.1nm,0.7s								
KNRA	**Kununurra**	**37.89**	**122**	P			**P**	**07 51 02.8**	**+0.9**
KNRA				IAmb			IAmb	07 51 08.8	
	comp=Z,8.3nm,1.1s								
HHC	**Hu-ho-hao-te**	**39.48**	**19**	*eP*			**P**	**07 51 15.5**	**+0.5**
HHC				pmax			pmax		
	comp=Z,4.0nm,1.0s								
HHC				pmax			pmax		
	comp=Z,97nm,5.1s								
KSH	**Kashi**	**39.84**	**336**	P			**P**	**07 51 19.5**	**+1.4**
KSH				sP			sP	07 51 41.0	+3.8
KSH				S			**S**	**07 57 19.5**	**+0.2**
KSH				sS			sS	07 57 45.3	+4.1
KSH				SS			**SS**	**08 00 10.8**	**-6.3**
KSH				pmax			pmax		
	comp=Z,350nm,4.9s								
KSH				LR			LR		
	comp=N,300nm,8.2s								
KSH				LR			LR		
	comp=E,580nm,6.5s								
KSH				LR			LR		
	comp=Z,630nm,6.8s								
WMQ	**Urumqi**	**40.48**	**351**	*eP*			**P**	**07 51 24.3**	**+1.1**
WMQ				pmax			pmax		
	comp=Z,9.0nm,0.9s								
WMQ				pmax			pmax		
	comp=Z,93nm,4.5s								
WMQ				LR			LR		
	comp=N,670nm,29.3s								
WMQ				LR			LR		
	comp=E,2μm,29.1s								
WMQ				LR			LR		
	comp=Z,84nm,28.8s								
GAR	**Garm**	**42.01**	**330**	P			**P**	**07 51 36.0**	**+0.1**
GAR				IAmb			IAmb	07 51 36.9	
	comp=Z,14nm,1.2s								
CHGR	**Chuyangaron**	**42.34**	**329**	P			**P**	**07 51 38.8**	**+0.2**
AAK	**Ala-Archa**	**43.08**	**337**	LR			LR	08 11 10.7	
	comp=Z,35nm,18.2s,baz=12,slow=38								
MK31	**Makanchi Array**	**44.39**	**347**	P			**P**	**07 51 54.3**	**-0.7**
MKAR	**Makanchi Array**	**44.39**	**347**	P			**P**	**07 51 54.2**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=159,slow=8.4,SNR=38								
MAKZ	**Makanchi**	**44.48**	**346**	P			**P**	**07 51 54.9**	**-0.7**
MAKZ				IAmb			IAmb	07 51 55.7	
	comp=Z,2.5nm,0.6s								
KSRS	**Korea Array**	**44.51**	**37**	LR			LR	08 13 48.8	
	comp=Z,19nm,18.4s,baz=105,slow=41								
WRA	**Warramunga Arr**	**44.57**	**123**	P			**P**	**07 51 57.2**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=302,slow=9.2,SNR=21								
WRAB	**Tennant Creek**	**44.58**	**123**	P			**P**	**07 51 53.1**	**-3.7**
WRAB				IAmb			IAmb	07 52 07.2	
	comp=Z,4.2nm,1.1s								
SONM	**Songino Array**	**44.77**	**10**	P			**P**	**07 51 57.8**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=191,slow=8.9,SNR=24								
SONM				PcP			**PcP**	**07 53 40.4**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=206,slow=2.0,SNR=4.6								
ULN	**Ulaanbaatar**	**44.92**	**11**	P			**P**	**07 51 58.9**	**-0.4**
ULN				IAmb			IAmb	07 51 59.0	
	comp=Z,6.6nm,1.4s								
KK31	**Karatay Array**	**45.12**	**334**	P			**P**	**07 52 01.2**	**+0.4**
KKAR	**Karatay Array**	**45.12**	**334**	P			**P**	**07 52 01.2**	**+0.4**
ASAR	**Alice Springs**	**46.05**	**128**	P			**P**	**07 52 09.1**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=299,slow=7.8,SNR=12								
ASAR				PcP			**PcP**	**07 53 45.5**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=324,slow=4.6,SNR=2.9								
KURK	**Kurchatov**	**48.93**	**346**	P			**P**	**07 52 30.2**	**-0.1**
KURK				IAmb			IAmb	07 52 31.8	
	comp=Z,3.2nm,1.1s								
ZAA0	**Zalesovo Array**	**50.77**	**352**	P			**P**	**07 52 44.2**	**-0.1**
ZALV	**Zalesovo Beam**	**50.77**	**352**	P			**P**	**07 52 43.7**	**-0.5**
	comp=Z,5.1nm,0.5s,baz=182,slow=7.4,SNR=22								
USRK	**Ussuriysk Ar.**	**51.26**	**33**	P			**P**	**07 52 49.8**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=251,slow=5.4,SNR=4.2								
PMG	**Port Moresby**	**52.78**	**105**	P			**P**	**07 52 57.7**	**-2.2**
PMG				IAmb			IAmb	07 53 01.1	
	comp=Z,6.0nm,1.0s								
ATD	**Arta Tunnel**	**53.02**	**281**	P			**P**	**07 52 58.8**	**-3.0**
ABKAR	**Akbulak array**	**54.58**	**332**	P			**P**	**07 53 13.2**	**+0.7**
ABKAR				IAmb			IAmb	07 53 13.7	
	comp=Z,2.4nm,0.9s								
BRTR	**Keskin Array B**	**66.37**	**312**	P			**P**	**07 54 34.0**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=128,slow=5.8,SNR=5.5								
TIXI	**Tiksi**	**70.86**	**11**	P			**P**	**07 54 59.7**	**-0.8**
FINES	**FINESS Array B**	**77.06**	**332**	P			**P**	**07 55 36.8**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=108,slow=6.2,SNR=4.1								
ARCES	**ARCESS Array B**	**79.63**	**340**	P			**P**	**07 55 51.2**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=102,slow=6.6,SNR=7.8								
GERES	**GERESS Array B**	**81.97**	**319**	P			**P**	**07 56 05.0**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=107,slow=4.5,SNR=4.2								
ESDC	**Sonseca Array**	**95.12**	**310**	P			**P**	**07 57 08.4**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=87,slow=5.2,SNR=2.9								
ULM	**Lac du Bonnet**	**125.19**	**9**	PKP			**PKPdf**	**08 02 44.9**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=212,slow=4.1,SNR=4.3								
NVAR	**Mina Array Bea**	**127.40**	**34**	PKP			**PKiKP**	**08 02 51.5**	**+1.6**
	comp=Z,0.1nm,0.6s,baz=316,slow=2.5,SNR=3.5								
PDAR	**Pinedale Array**	**128.22**	**24**	PKP			**PKiKP**	**08 02 51.8**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=108,slow=4.8,SNR=2.9								
TXAR	**Lajitas Array**	**142.07**	**28**	PKP			**PKPdf**	**08 03 16.3**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=343,slow=0.9,SNR=2.9								

*IDC **30** 07:45:10.9±3.4, 1°.46N×102°.48W,h0km,mb3.8/6, mb1 4.1/6,mb1mx3.9/29,mbtmp3.8/6,MS3.6/14, Ms1 3.6/14,ms1mx3.4/28, Error ellipse: s-maj=129.5km s-min=21.7km az=49.0*

*ISCJB **30** 07:45:11.5±2.7, 1°.6N±0°.4×102°.4W±0°.5,h10km,mb3.6/6, MS3.6/14, Error ellipse: s-maj=98.8km s-min=16.2km az=140.0*

ISC 30 07:45:13.2±3.2,1°.6N±0°.5×102°.3W±0°.6,h10km,n22, σ0§99/6,mb3.6/6,MS3.7/14,Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**17.04**	**25**	LR		LR	LR	07 54 31.7	
	comp=Z,69nm,18.2s,baz=211,slow=32								
APG	**El Apazote**	**17.73**	**41**	LR		LR	LR	07 53 58.2	
	comp=Z,76nm,18.6s,baz=197,slow=29								
JTS	**Las Juntas de**	**19.29**	**63**	LR		LR	LR	07 54 49.1	
	comp=Z,286nm,18.7s,baz=320,slow=30								
ATAH	**Atahualpa**	**25.40**	**110**	P		P	**P**	**07 50 41.4**	**-0.2**
	4.1nm,0.7s,baz=295,slow=14,SNR=4.1								
ATAH				LR			LR	07 58 08.6	
	comp=Z,188nm,21.3s,baz=297,slow=30								
TXAR	**Lajitas Array**	**27.61**	**357**	P		P	**P**	**07 51 01.5**	**+0.4**
	0.8nm,1.0s,baz=176,slow=14,SNR=2.9								
TXAR				LR			LR	08 00 24.1	
	comp=Z,49nm,20.9s,baz=0.0,slow=33								
ROSC	**El Rosal**	**28.13**	**83**	LR			LR	08 00 19.1	
	comp=Z,194nm,18.8s,baz=226,slow=32								
NNA	**Nana**	**28.68**	**119**	LR			LR	07 59 49.4	
	comp=Z,86nm,20.4s,baz=297,slow=30								
PFO	**Pinyon Flats O**	**34.50**	**339**	LR			LR	08 02 25.9	
	comp=Z,51nm,19.6s,baz=329,slow=30								
LPAZ	**La Paz**	**38.15**	**119**	P			**P**	**07 52 34.1**	**+0.3**
	1.9nm,1.1s,baz=308,slow=9.3,SNR=4.9								
LPAZ				LR			LR	08 04 48.9	
	comp=Z,57nm,18.9s,baz=1.5,slow=31								
TAOE	**Nuku Hiva Isla**	**39.11**	**254**	*eLR*			LR	08 03 13.9	
	comp=Z,226nm,25.4s								
NVAR	**Mina Array Bea**	**39.48**	**340**	P			**P**	**07 52 45.4**	**+1.1**
	0.8nm,0.8s,baz=166,slow=9.2,SNR=7.0								
PDAR	**Pinedale Array**	**41.50**	**352**	P			**P**	**07 53 00.7**	**-0.2**
	0.8nm,0.9s,baz=152,slow=7.9,SNR=5.6								
PDAR				LR			LR	08 07 49.3	
	comp=Z,118nm,19.2s,baz=358,slow=33								
PPT	**Papeete**	**50.30**	**246**	LR			LR	08 09 26.7	
	comp=Z,67nm,19.9s,baz=72,slow=29								
PPT2	**Papeete2**	**50.30**	**246**	*eLR*			LR	08 08 32.8	
	comp=Z,152nm,26.0s								
PLCA	**Paso Flores**	**51.11**	**149**	LR			LR	08 09 24.0	
	comp=Z,50nm,19.8s,baz=292,slow=28								
TBI	**Tubuai**	**52.12**	**239**	*eLR*			LR	08 09 15.9	
	comp=Z,136nm,31.2s								
BBB	**Bella Bella**	**54.84**	**341**	LR			LR	08 16 49.8	
	comp=Z,67nm,18.8s,baz=175,slow=35								
BDFB	**Brasilia**	**56.32**	**110**	LR			LR	08 17 25.4	
	comp=Z,109nm,19.5s,baz=141,slow=34								
ILAR	**Eielson Array**	**70.72**	**341**	P			**P**	**07 56 28.1**	**-1.1**
	0.8nm,0.8s,baz=153,slow=5.4,SNR=8.0								
H11S2	**WAKE ISLAND Hy**	**90.43**	**288**	T			T	09 38 26.5	
	baz=86,slow=74,SNR=4.9								
H11S1	**WAKE ISLAND Hy**	**90.43**	**288**	T			T	09 38 20.7	
	baz=86,slow=74,SNR=5.3								
H11S3	**WAKE ISLAND Hy**	**90.45**	**288**	T			T	09 38 25.5	
	baz=86,slow=74,SNR=4.8								

*IDC **30** 08:00:46.7±3.1,52°.41N×35°.30E,h0km,mb1 3.9/2, mb1mx3.1/53,mbtmp3.8/2,ML2.8/4, Error ellipse: s-maj=46.8km s-min=11.7km az=129.0*

VLA 30 08:00:36.0,52°.29N×35°.40E,M2.7,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014),Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.91**	**13**	Pn			Pg	08 01 32.1	+0.3
	1.8nm,0.3s,baz=220,slow=16,SNR=2.3								
OBN				Lg			Lg	08 02 11.8	
	1.5nm,0.3s,baz=231,slow=20,SNR=6.5								
AKASG	**Malin Array Be**	**4.17**	**250**	Pn			Pb	08 01 50.3	+0.1
	1.1nm,0.3s,baz=61,slow=23,SNR=4.9								
AKASG				Pg			Pg	08 01 59.2	+3.2
	2.0nm,0.3s,baz=57,slow=15,SNR=7.7								
AKASG				Sn			Sb	08 02 37.0	-4.1
	2.0nm,0.3s,baz=59,slow=18,SNR=5.4								
AKASG				Lg			Lg	08 02 52.9	
	2.1nm,0.3s,baz=68,slow=29,SNR=4.5								
FINES	**FINESS Array B**	**10.49**	**335**	Pn			Pn	08 03 12.6	+5.2
	0.2nm,0.3s,baz=152,slow=14,SNR=5.5								
I31KZ	**AKTYUBINSK INF**	**14.26**	**89**	*i*		

NPS	**Neapolis**	**0.50**	**253**	P	**Pg**	**08 37 51.9**	**+0.5**
NPS				S	**Sg**	**08 37 58.5**	**+0.4**
NPS				AML	AML	08 37 58.9	
	comp=E,16299μm,0.5s						
NPS				AML	AML	08 37 59.2	
	comp=N,12272μm,0.4s						
FRMA	**Ierapetra Chan**	**0.55**	**224**	P	**Pg**	**08 37 51.0**	**-1.3**
FRMA				S	**Sg**	**08 37 58.1**	**-1.5**
	comp=N,3μm,0.2s						
LAST	**Lasithi**	**0.64**	**247**	P	**Pg**	**08 37 54.2**	**+0.2**
LAST				S	**Sg**	**08 38 03.0**	**+0.5**
	comp=N,3μm,0.4s						
LAST	**Lasithi**	**0.64**	**247**	P	**Pg**	**08 37 54.2**	**+0.2**
LAST				S	**Sg**	**08 38 02.2**	**-0.3**
LAST				AML	AML	08 38 03.6	
	comp=E,7565μm,0.5s						
LAST				AML	AML	08 38 03.7	
	comp=N,7414μm,0.2s						
KARP	**Karpathos**	**0.80**	**80**	P	**Pg**	**08 37 56.6**	**-0.5**
KARP				S	**Sb**	**08 38 08.2**	**+0.2**
	comp=N,4μm,0.5s						
KARP	**Karpathos**	**0.80**	**80**	P	**Pg**	**08 37 56.6**	**-0.5**
KARP				S	**Sg**	**08 38 07.1**	**-0.6**
KARP				AML	AML	08 38 08.4	
	comp=N,8504μm,0.5s						
KARP				AML	AML	08 38 08.7	
	comp=E,6562μm,0.3s						
KARP	**Karpathos**	**0.80**	**80**	PG	**Pg**	**08 37 56.6**	**-0.5**
KARP				SG	**Sb**	**08 38 08.1**	**+0.1**
HRKL	**Herakleio**	**0.90**	**264**	P	**Pb**	**08 37 59.4**	**+0.5**
HRKL				S	**Sg**	**08 38 11.1**	**+0.3**
	comp=E,4μm,0.4s						
HRKL	**Herakleio**	**0.90**	**264**	PG	**Pb**	**08 37 59.9**	**+0.9**
IACM	**Heraklion**	**0.93**	**264**	P	**Pg**	**08 37 59.6**	**+0.1**
IACM				S	**Sg**	**08 38 11.9**	**+0.3**
	comp=E,13μm,0.4s						
IACM	**Heraklion**	**0.93**	**264**	P	**Pg**	**08 37 59.4**	**0.0**
IACM				S	**Sb**	**08 38 12.3**	**+0.8**
KSTL	**Kastelli Herak**	**0.93**	**264**	P	**Pg**	**08 37 56.0**	**-3.5**
KSTL				S	**Sg**	**08 38 06.0**	**-5.6**
IDI	**Anoyia**	**1.07**	**264**	P	**Pg**	**08 38 01.7**	**-0.6**
IDI				S	**Sg**	**08 38 15.5**	**-0.9**
IDI				AML	AML	08 38 17.3	
	comp=N,4177μm,0.4s						
IDI				AML	AML	08 38 20.7	
	comp=E,3508μm,0.4s						
IDI	**Anoyia**	**1.07**	**264**	PN	**Pg**	**08 38 02.3**	**0.0**
SANT	**Santorini**	**1.13**	**328**	P	**Pg**	**08 38 02.3**	**-1.1**
SANT	**Santorini**	**1.13**	**328**	P	**Pg**	**08 38 02.6**	**-0.9**
SANT				S	**Sg**	**08 38 17.6**	**-0.7**
SANT				AML	AML	08 38 20.7	
	comp=E,6438μm,0.2s						
SANT				AML	AML	08 38 23.3	
	comp=N,1694μm,0.3s						
SANT	**Santorini**	**1.13**	**328**	PN	**Pg**	**08 38 03.5**	**+0.1**
THR6	**Thira Island,**	**1.15**	**326**	P	**Pb**	**08 38 02.8**	**-0.4**
THR6	**Thira Island,**	**1.15**	**326**	P	**Pb**	**08 38 03.0**	**-0.2**
SAP1	**Santorini-Akro**	**1.15**	**326**	P	**Pb**	**08 38 03.0**	**-0.2**
SAP1				S	**Sn**	**08 38 19.8**	**+1.0**
THR8	**Santorini-Mono**	**1.16**	**330**	P	**Pb**	**08 38 02.4**	**-0.9**
SAP2K	**Karterados**	**1.17**	**329**	P	**Pb**	**08 38 03.0**	**-0.6**
SAP2K				S	**Sg**	**08 38 20.2**	**+0.7**
	comp=N,10μm,0.5s						
SFIR	**Foira Santorin**	**1.19**	**329**	P	**Pg**	**08 38 04.7**	**+0.2**
THR7	**Fira-Santorini**	**1.19**	**329**	P	**Pb**	**08 38 03.3**	**-0.6**
THR7	**Fira-Santorini**	**1.19**	**329**	P	**Pb**	**08 38 04.0**	**+0.1**
THR3	**Thira Island,**	**1.19**	**327**	P	**Pb**	**08 38 03.2**	**-0.7**
THR3	**Thira Island,**	**1.19**	**327**	P	**Pb**	**08 38 03.2**	**-0.7**
SIVA	**Sivas**	**1.20**	**251**	P	**Pb**	**08 38 04.4**	**+0.3**
SIVA				S	**Sb**	**08 38 20.3**	**+0.9**
	comp=N,3μm,0.3s						
SIVA	**Sivas**	**1.20**	**251**	P	**Pb**	**08 38 04.1**	**0.0**
SIVA				S	**Sb**	**08 38 19.0**	**-0.4**
SIVA				AML	AML	08 38 25.0	
	comp=N,5449μm,0.3s						
SIVA				AML	AML	08 38 26.1	
	comp=E,6992μm,0.4s						
THT2	**Imerovigli**	**1.20**	**329**	P	**Pn**	**08 38 03.9**	**-0.1**
THT2				S	**Sg**	**08 38 20.9**	**+0.4**
	comp=E,2μm,0.4s						
THT2	**Imerovigli**	**1.20**	**329**	PN	**Pg**	**08 38 05.7**	**+0.9**
TMBK	**Timbaki Herakl**	**1.22**	**254**	P	**Pn**	**08 38 04.5**	**+0.3**
TMBK				S	**Sb**	**08 38 21.0**	**+1.1**
	comp=E,1μm,0.5s						
THR5	**Thira Island,**	**1.22**	**326**	P	**Pn**	**08 38 03.6**	**-0.6**
THR5	**Thira Island,**	**1.22**	**326**	P	**Pn**	**08 38 03.6**	**-0.6**
NISR	**Nisiros**	**1.42**	**32**	P	**Pn**	**08 38 06.5**	**-0.5**
NISR	**Nisiros**	**1.42**	**32**	P	**Pn**	**08 38 05.8**	**-1.2**
NISR				AML	AML	08 38 31.8	
	comp=E,4068μm,0.3s						
NISR				AML	AML	08 38 34.9	
	comp=N,3230μm,0.5s						
AMGA	**Amorgos Island**	**1.44**	**350**	P	**Pn**	**08 38 06.4**	**-0.9**
AMGA	**Amorgos Island**	**1.44**	**350**	P	**Pn**	**08 38 06.4**	**-0.9**
AMGA				AML	AML	08 38 33.8	
	comp=E,1590μm,0.2s						
AMGA				AML	AML	08 38 35.5	
	comp=N,2131μm,0.6s						
KOSK	**Kos Island**	**1.48**	**25**	PN	**Pb**	**08 38 09.5**	**+0.6**
IOSP	**Ios island**	**1.50**	**331**	P	**Pn**	**08 38 07.7**	**-0.4**
IOSP				S	**Sn**	**08 38 26.8**	**-0.8**
IOSP	**Ios island**	**1.50**	**331**	P	**Pn**	**08 38 07.4**	**-0.8**
IOSP				AML	AML	08 38 30.7	
	comp=N,2178μm,0.3s						
IOSP				AML	AML	08 38 36.0	
	comp=E,1339μm,0.5s						
VAM	**Vamos**	**1.63**	**271**	P	**Pn**	**08 38 09.0**	**-0.9**
VAM				S	**Sb**	**08 38 32.6**	**+0.7**
	comp=E,1μm,0.5s						
VAM	**Vamos**	**1.63**	**271**	P	**Pn**	**08 38 09.2**	**-0.7**
VAM				S	**Sn**	**08 38 29.9**	**-0.8**
VAM				AML	AML	08 38 35.0	
	comp=N,2424μm,0.5s						
VAM				AML	AML	08 38 38.6	
	comp=E,1819μm,0.5s						
APE	**Apeiranthos**	**1.74**	**342**	P	**Pn**	**08 38 11.0**	**-0.5**
APE	**Apeiranthos**	**1.74**	**342**	P	**Pn**	**08 38 11.0**	**-0.5**
APE				AML	AML	08 38 39.4	
	comp=E,795μm,0.5s						
APE				AML	AML	08 38 42.5	
	comp=N,854μm,0.5s						
CHAN	**Chania**	**1.76**	**274**	P	**Pn**	**08 38 11.3**	**-0.3**
ARG	**Arkhangelos**	**1.77**	**62**	P	**Pn**	**08 38 11.7**	**0.0**
ARG	**Arkhangelos**	**1.77**	**62**	P	**Pn**	**08 38 11.9**	**+0.2**
ARG				S	**Sn**	**08 38 32.8**	**-1.2**
ARG				AML	AML	08 38 40.9	
	comp=N,1223μm,0.4s						
ARG				AML	AML	08 38 41.8	
	comp=E,1964μm,0.4s						
IMMV	**Iera Moni Meta**	**1.81**	**272**	P	**Pn**	**08 38 12.0**	**-0.3**
IMMV	**Iera Moni Meta**	**1.81**	**272**	P	**Pn**	**08 38 12.3**	**0.0**
IMMV				S	**Sn**	**08 38 34.0**	**-1.1**
IMMV				AML	AML	08 38 45.9	
	comp=N,1790μm,0.3s						
IMMV				AML	AML	08 38 54.3	
	comp=E,1978μm,0.6s						
GVDS	**Gavdos**	**1.81**	**253**	P	**Pb**	**08 38 15.4**	**+0.8**
GVD	**Gavdhos**	**1.82**	**252**	P	**Pb**	**08 38 15.3**	**+0.7**
GVD	**Gavdhos**	**1.82**	**252**	P	**Pn**	**08 38 12.5**	**+0.1**
GVD				AML	AML	08 38 46.2	
	comp=N,1412μm,0.3s						
GVD				AML	AML	08 38 49.0	
	comp=E,1057μm,0.3s						
BODT	**Bodrum**	**1.88**	**28**	PN	**Pn**	**08 38 14.5**	**+1.2**
MHLO	**Agia Marina, M**	**1.94**	**312**	P	**Pn**	**08 38 14.6**	**+0.5**
MHLO	**Agia Marina, M**	**1.94**	**312**	P	**Pn**	**08 38 14.5**	**+0.4**
MHLO				AML	AML	08 38 45.6	
	comp=N,2711μm,0.5s						
MHLO				AML	AML	08 38 47.9	
	comp=E,3257μm,0.7s						
MHLA	**Plaka, Milos I**	**1.96**	**313**	P	**Pn**	**08 38 15.3**	**+0.9**
RODP	**Rodopos**	**2.00**	**275**	P	**Pn**	**08 38 15.1**	**+0.2**
SMG	**Samos**	**2.35**	**12**	P	**Pn**	**08 38 19.0**	**-0.8**
SMG	**Samos**	**2.35**	**12**	P	**Pn**	**08 38 18.5**	**-1.3**
ANKY	**Antikythira Is**	**2.40**	**282**	P	**Pn**	**08 38 20.3**	**-0.2**
ANKY	**Antikythira Is**	**2.40**	**282**	P	**Pn**	**08 38 20.4**	**-0.1**
ANKY				AML	AML	08 38 59.7	
	comp=E,639μm,0.5s						
ANKY				AML	AML	08 39 00.5	
	comp=N,496μm,0.7s						
YER	**Yerkesik**	**2.41**	**44**	PN	**Pn**	**08 38 21.6**	**+0.9**
GCAM	**G?zelcaml?**	**2.44**	**20**	PN	**Pn**	**08 38 22.9**	**+2.0**
FETY	**Fethiye**	**2.64**	**62**	PN	**Pn**	**08 38 25.2**	**+1.4**
KTHA	**Kythira Island**	**2.68**	**289**	P	**Pn**	**08 38 24.0**	**-0.4**
KTHA	**Kythira Island**	**2.68**	**289**	P	**Pn**	**08 38 24.0**	**-0.4**
KTHR	**Kythira**	**2.73**	**289**	P	**Pn**	**08 38 24.8**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**2.88**	**28**	PN	**Pn**	**08 38 29.2**	**+2.1**
AKAS	**Kas**	**2.89**	**72**	PN	**Pn**	**08 38 28.6**	**+1.3**
VLI	**Veliai**	**2.95**	**297**	P	**Pn**	**08 38 28.1**	**+0.1**
VLI	**Veliai**	**2.95**	**297**	P	**Pn**	**08 38 28.2**	**+0.3**
VLI				AML	AML	08 39 04.8	
	comp=E,370μm,0.5s						
VLI				AML	AML	08 39 07.3	
	comp=N,472μm,0.3s						
URLA	**Izmir**	**2.96**	**6**	PN	**Pn**	**08 38 29.1**	**+0.8**
CHOS	**Chios island**	**2.98**	**358**	P	**Pn**	**08 38 28.5**	**0.0**
KARY	**Karystos**	**2.98**	**332**	P	**Pn**	**08 38 28.5**	**+0.2**
KRND	**KRANIDI**	**3.15**	**310**	P	**Pn**	**08 38 32.0**	**+1.3**
DID	**Didima**	**3.17**	**312**	P	**Pn**	**08 38 31.8**	**+0.7**
DID	**Didima**	**3.17**	**312**	P	**Pn**	**08 38 32.2**	**+1.1**
GLHS	**Glhisar (BURDU**	**3.19**	**56**	PN	**Pn**	**08 38 33.1**	**+1.7**
ELL	**Elmali**	**3.29**	**65**	PN	**Pn**	**08 38 34.4**	**+1.6**
DYR	**Agios Nikonas**	**3.41**	**295**	P	**Pn**	**08 38 35.8**	**+1.5**
DYR	**Agios Nikonas**	**3.41**	**295**	P	**Pn**	**08 38 35.8**	**+1.5**
VLX	**Vlachokerasia**	**3.65**	**304**	P	**Pn**	**08 38 38.9**	**+1.2**
VLX	**Vlachokerasia**	**3.65**	**304**	P	**Pn**	**08 38 39.0**	**+1.3**
LOUT	**Loutraki**	**3.65**	**316**	P	**Pn**	**08 38 38.6**	**+0.9**
VIL2	**Platees**	**3.65**	**321**	P	**Pn**	**08 38 37.6**	**-0.1**
LTK	**Loutraki**	**3.68**	**316**	P	**Pn**	**08 38 39.9**	**+1.8**
LTK	**Loutraki**	**3.68**	**316**	P	**Pn**	**08 38 38.6**	**+0.5**
SIGR	**SIGRI**	**3.81**	**356**	P	**Pn**	**08 38 39.7**	**0.0**
ITM	**Ithomi**	**3.88**	**298**	P	**Pn**	**08 38 41.9**	**+1.2**
MRKA	**Markates**	**3.90**	**328**	P	**Pn**	**08 38 42.6**	**+1.6**
PYL	**PYLOS**	**3.90**	**294**	P	**Pn**	**08 38 42.2**	**+1.2**
KLV	**Kalavryta, Ach**	**4.18**	**310**	P	**Pn**	**08 38 46.7**	**+1.7**
KLV	**Kalavryta, Ach**	**4.18**	**310**	P	**Pn**	**08 38 46.1**	**+1.1**
SKIA	**Skiathos**	**4.34**	**331**	P	**Pn**	**08 38 48.1**	**+1.0**
KALE	**Kalithea**	**4.41**	**314**	P	**Pn**	**08 38 49.8**	**+1.6**
LAKA	**Lakka**	**4.41**	**311**	P	**Pn**	**08 38 49.7**	**+1.6**
TRIZ	**Trizonia**	**4.43**	**313**	P	**Pn**	**08 38 49.6**	**+1.3**
SERG	**Sergoula**	**4.47**	**313**	P	**Pn**	**08 38 50.4**	**+1.4**
AGG	**Agios Georgios**	**4.75**	**321**	P	**Pn**	**08 38 54.9**	**+2.2**
AGG	**Agios Georgios**	**4.75**	**321**	P	**Pn**	**08 38 54.1**	**+1.3**
MAKR	**Makrakomi, Fth**	**4.84**	**319**	P	**Pn**	**08 38 56.1**	**+2.0**
BRTR	**Keskin Array B**	**7.31**	**52**	Pn	**Pn**	**08 39 29.6**	**+1.4**
	comp=N,0.1nm,0.3s,baz=221,slow=16,SNR=4.1						
VYHS	**Vyhne**	**14.17**	**340**	*e*PN	Pn	08 40 56.5	-5.2
AKASG	**Malin Array Be**	**15.44**	**7**	Pn	**Pn**	**08 41 18.9**	**0.0**
	comp=N,0.8nm,0.3s,baz=193,slow=10,SNR=6.7						
TORD	**Torodi Ar. Bea**	**31.30**	**231**	P	**P**	**08 44 02.4**	**+1.0**
	comp=N,0.7nm,0.5s,baz=45,slow=8.7,SNR=5.4						
KURBB	**Kurchatov Arra**	**40.31**	**51**	P	**P**	**08 45 16.0**	**-2.2**
	comp=N,0.2nm,0.4s,baz=269,slow=8.7,SNR=3.1						
MKAR	**Makanchi Array**	**42.93**	**57**	P	**P**	**08 45 40.2**	**+0.4**
	comp=N,0.5nm,0.4s,baz=267,slow=7.9,SNR=6.9						

*VIE **30** 08:37:58.8±0.9, 44°.93N×15°.05E, h6km±4km, mb2.1/1, ml1.9/4, Error ellipse: s-maj=4.9km s-min=3.2km az=169.0 68 km SE of Rijeka*

ISC 30 08:37:57.0±1.2, 44°.81N±0°.03×15°.00E±0°.04, h3km±12km, n15, σ1°31/25, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**0.27**	**201**	*i*	Pg		Pg	08 38 01.4	-0.7
NVLJ					Sg		**Sg**	**08 38 05.1**	**-0.5**
UDBI	**Udbina**	**0.61**	**117**	*e*	Pg		**Pg**	**08 38 08.5**	**-0.3**
DUGI	**Dugi Otok**	**0.82**	**177**	*e*	Pg		Pg	08 38 11.1	-1.6
DUGI					Sg		**Sg**	**08 38 22.8**	**-0.6**
OZLJ	**Ozalj**	**0.87**	**22**	*e*	Pg		**Pb**	**08 38 14.2**	**-0.5**
OZLJ					Sg		**Sn**	**08 38 26.5**	**-2.7**
BRJN	**Brijuni**	**0.90**	**276**	*e*	Pg		**Pg**	**08 38 14.4**	**+0.3**
BRJN					Sg		**Sg**	**08 38 26.4**	**+0.7**
MORI	**Morici**	**1.07**	**152**	*i*	Pg		Pb	08 38 16.1	-2.1
MORI					Sg		**Sb**	**08 38 32.2**	**-0.4**
ZIRJ	**Zirje**	**1.25**	**158**	*i*	Pg		**Pn**	**08 38 19.1**	**-2.2**
ZIRJ					Sg		**Sb**	**08 38 37.5**	**-0.1**
PTJ	**Puntijarka**	**1.29**	**32**		ePg		**Pg**	**08 38 21.8**	**+0.1**
PTJ					Sg		**Sn**	**08 38 39.9**	**0.0**
KIJV	**Kijevo**	**1.29**	**128**	*i*	Pg		**Pn**	**08 38 22.2**	**+0.2**
OBKA	**Obir**	**1.73**	**350**	*i*	Pn		**Pb**	**08 38 28.6**	**-0.8**
OBKA	0.7nm,0.1s								
					Sg		**Sg**	**08 38 52.8**	**+0.3**
SOKA	1.1nm,0.2s **Soboth**	**1.87**	**1**	*i*	Pn		**Pb**	**08 38 30.4**	**-1.3**
SOKA	0.7nm,0.2s								
					Sg		**Sg**	**08 38 57.2**	**+0.3**
RICI	0.6nm,0.2s **Ricice**	**2.02**	**130**		ePn		**Pn**	**08 38 33.7**	**+1.7**
RICI					Sg		**Sb**	**08 39 01.7**	**+1.7**
MYKA	**Terra Mystica**	**2.05**	**333**	*i*	Pn		**Pn**	**08 38 32.6**	**+0.1**
MYKA	1.7nm,0.3s								
	0.5nm,0.1s				Sg		**Sg**	**08 39 02.7**	**-0.2**
MAKA	**Makarska**	**2.11**	**136**	*e*	Pn		**Pn**	**08 38 34.0**	**+0.9**
MAKA					Sn		**Sn**	**08 39 02.3**	**+2.5**
ABTA	**Abfaltersbach**	**2.60**	**319**	*i*	Pg		**Pg**	**08 38 47.0**	**+0.2**
ABTA	0.1nm,0.1s								
	0.6nm,0.2s				Sg		**Sg**	**08 39 23.2**	**+2.6**

IDC 30 08:42:01.3±1.4, 51°.19S×138°.70E, h0km, mb3.9/4, mb1 3.9/5, mb1mx3.7/33, mbtmp3.8/5, ML3.6/1, MS3.5/4, Ms1 3.4/4, ms1mx3.1/19, Error ellipse: s-maj=179.8km s-min=22.3km az=88.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**19.41**	**7**	P		P	Pn	08 46 29.5	-0.5
STKA	0.1nm,0.3s,baz=162,slow=12,SNR=5.4								
	comp=Z,62nm,18.8s,baz=203,slow=34					LR	LR	08 52 56.1	
RPZ	**Rata Peaks**	**22.98**	**84**	LR		LR	LR	08 53 53.1	
	comp=Z,108nm,18.5s,baz=268,slow=31								
H01W1	**Cape Leeuwin H**	**24.06**	**303**	T		T	T	09 12 36.2	
	baz=138,slow=75,SNR=64								
H01W2	**Cape Leeuwin H**	**24.07**	**303**	T		T	T	09 12 36.8	
	baz=138,slow=75,SNR=63								
H01W3	**Cape Leeuwin H**	**24.08**	**303**	T		T	T	09 12 37.4	
	baz=138,slow=75,SNR=66								
ASAR	**Alice Springs**	**27.72**	**351**	P		P	P	08 47 51.3	0.0
	0.4nm,0.7s,baz=174,slow=8.8,SNR=8.0								
WRA	**Warramunga Arr**	**31.37**	**352**	P		P	P	08 48 24.1	+0.4
	0.4nm,0.7s,baz=174,slow=7.9,SNR=4.6								
QSPA	**South Pole Qui**	**59.93**	**180**	P		P	P	08 49 28.6	+0.1
	2.9nm,0.8s,baz=318,slow=5.5,SNR=13								
MAW	**Mawson**	**39.03**	**216**	LR		LR	LR	09 03 46.0	
	comp=Z,83nm,18.5s,baz=55,slow=33								
KRVT	**Keravat (AS076**	**48.04**	**18**	LR		LR	LR	09 09 56.0	
	comp=Z,63nm,18.3s,baz=94,slow=35								
H08S2	**Diego Garcia H**	**69.24**	**284**	T		T	T	10 09 06.8	
	baz=142,slow=76,SNR=16								
H08S1	**Diego Garcia H**	**69.25**	**284**	T		T	T	10 09 06.8	
	baz=142,slow=76,SNR=5.8								
H08S3	**Diego Garcia H**	**69.26**	**284**	T		T	T	10 09 06.8	
	baz=142,slow=76,SNR=22								
USRK	**Ussuriysk Ar.**	**95.19**	**355**	P		P	P	08 55 24.5	-1.3
	0.6nm,0.5s,baz=162,slow=6.1,SNR=2.9								

*IDC **30** 08:47:22.7±0.8, 1°.52N×126°.42E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.8/48, mbtmp4.0/10, ML3.6/1, MS3.2/3, Ms1 3.3/3, ms1mx2.8/29, Error ellipse: s-maj=59.9km s-min=14.7km az=72.0*

*ISCJB **30** 08:47:23.2±0.4, 1°.66N±0°.04×126°.49E±0°.05, h10km, mb4.0/9, Error ellipse: s-maj=8.3km s-min=4.2km az=143.0*

*DJA **30** 08:47:26.5±0.3, 2°.N±3°×12°.6E±°, h10km, M4.2/11, mb4.5/4, mB4.7/2, MLv4.0/11, Mw(mB)4.0/2*

*NEIC **30** 08:47:27.9±0.9, 1°.5N±0°.2×126°.3E±0°.1, h35km±7km, mb4.2/12*

ISC 30 08:47:24.7±0.5, 1°.63N±0°.06×126°.49E±0°.08, h10km, n39, σ1°62/43, mb4.1/14, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.23**	**134**	P		P	**Pb**	**08 47 48.1**	**+0.1**
TNTI				S		S	**Sb**	**08 48 04.2**	**+0.3**
TNTI	**Ternate**	**1.23**	**134**				**Pb**	**08 47 48.1**	**+0.1**
TNTI					Sn		**Sg**	**08 48 04.5**	**+0.3**
LBMI	**Labuha**	**2.47**	**156**	P		P	**Pn**	**08 48 05.7**	**+0.6**
LBMI				S		S	**Sn**	**08 48 35.7**	**+0.3**
KMSI	**Cibinong**	**2.72**	**247**	P		P	**Pn**	**08 48 09.4**	**+0.9**
SANI	**Sanana**	**3.69**	**188**	P		P	**Pn**	**08 48 22.3**	**+0.4**
MRSI	**Marisa**	**4.69**	**256**	P		P	**Pn**	**08 48 37.6**	**+2.0**
SKMP	**Bagumbayan, Su**	**5.23**	**338**	P		P	**Pn**	**08 48 44.6**	**+1.5**
APSI	**Ampana**	**5.46**	**242**	P		P	**Pn**	**08 48 47.6**	**+1.4**
	55nm,0.5s,809nm0.2nm								
KCP	**Kidapawan**	**5.52**	**345**	⇓P			**Pn**	**08 48 50.3**	**+3.2**
KCP				S			**Sb**	**08 50 05.0**	**-2.7**
MPSI	**Mapaga**	**6.71**	**259**	P			**Pn**	**08 49 05.5**	**+2.0**
	22nm,0.7s,0.1nm								
PAGZ	**Pagadian**	**6.91**	**333**	P			**Pn**	**08 49 07.0**	**+0.8**
TTSI	**Tana Toraja**	**8.12**	**235**	P			**Pn**	**08 49 23.6**	**+0.7**
KNRA	**Kununurra**	**17.34**	**173**	P			**Pn**	**08 51 27.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**19.62**	**182**	P			**P**	**08 51 52.4**	**-1.2**
	0.1nm,0.3s,baz=356,slow=12,SNR=3.2								
FITZ	**Fitzroy Crossi**	**19.62**	**182**	P			**P**	**08 51 51.8**	**-1.8**
FITZ				IAmb			IAmb	08 51 52.3	
	comp=Z,20nm,1.5s								
COEN	**Coen**	**22.66**	**134**	P			**P**	**08 52 26.1**	**-0.4**
COEN				IAmb			IAmb	08 52 27.6	
	comp=Z,10nm,1.5s								
WRAB	**Tennant Creek**	**22.78**	**161**	P			**P**	**08 52 26.6**	**-1.0**
WRAB				IAmb			IAmb	08 52 28.4	
	comp=Z,12nm,1.0s								
WRA	**Warramunga Arr**	**22.78**	**161**	P			**P**	**08 52 26.0**	**-1.7**
	comp=Z,6.8nm,0.6s,baz=338,slow=10,SNR=40								
WR0	**Warramunga Arr**	**22.86**	**160**	P			**P**	**08 52 27.5**	**-1.0**
WR0				IAmb			IAmb	08 52 34.9	
	comp=Z,5.3nm,0.9s								
AS31	**Alice Springs**	**26.16**	**164**	P			**P**	**08 52 58.3**	**-1.2**
ASAR	**Alice Springs**	**26.16**	**164**	P			**P**	**08 52 58.0**	**-1.5**
	comp=Z,1.4nm,0.4s,baz=344,slow=7.9,SNR=46								
ASAR	**Alice Springs**	**26.16**	**164**	P			**P**	**08 52 58.0**	**-1.5**
CMAR	**Chiang Mai Arr**	**31.77**	**304**	LR			LR	09 07 41.7	
	comp=Z,12nm,19.1s,baz=165,slow=38								
BBOO	**Buckleboo**	**35.43**	**166**	P			**P**	**08 54 20.8**	**-0.5**
STKA	**Stephens Creek**	**36.28**	**158**	P			**P**	**08 54 27.5**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=346,slow=7.4,SNR=12								
STKA	**Stephens Creek**	**36.28**	**158**	P			**P**	**08 54 28.0**	**-0.4**
KLR	**Kul'dur**	**47.63**	**5**	P			**P**	**08 56 01.9**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=181,slow=9.8,SNR=4.1								
SONM	**Songino Array**	**49.20**	**342**	P			**P**	**08 56 13.3**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=162,slow=10,SNR=3.1								
MK31	**Makanchi Array**	**59.14**	**326**	P			**P**	**08 57 25.6**	**-0.1**
MK31				IAmb			IAmb	08 57 33.9	
	comp=Z,7.2nm,1.3s								
MKAR	**Makanchi Array**	**59.14**	**326**	P			**P**	**08 57 25.4**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=119,slow=7.6,SNR=20								
MAKZ	**Makanchi**	**59.32**	**326**	P			**P**	**08 57 25.8**	**-1.2**
KSH	**Kashi**	**59.36**	**316**	P			**P**	**08 57 31.8**	**+4.3**
KSH				PcP			**PcP**	**08 58 18.0**	**+2.5**
KSH				S			**S**	**09 05 36.8**	**+0.2**
KSH				ScS			**ScS**	**09 07 13.0**	**-5.2**
KSH	**Kashi**	**59.36**	**316**	SS			SS	09 09 33.5	+2.0
KSH				pmax			pmax		
	comp=Z,300nm,4.1s								
KSH				LR			LR		
	comp=N,750nm,5.7s								
KSH				LR			LR		
	comp=E,750nm,4.9s								
KSH				LR			LR		
	comp=Z,580nm,6.0s								
KURBB	**Kurchatov Arra**	**63.37**	**328**	P			**P**	**08 57 54.2**	**0.0**
	comp=Z,3.7nm,0.7s,baz=126,slow=6.3,SNR=15								
KURK	**Kurchatov**	**63.38**	**328**	P			**P**	**08 57 54.1**	**-0.2**
BVAR	**Borovoye Array**	**68.94**	**328**	P			**P**	**08 58 30.0**	**0.0**
	comp=Z,0.5nm,0.4s,baz=167,slow=7.2,SNR=3.6								
ABKAR	**Akbulak array**	**73.62**	**321**	P			**P**	**08 58 57.6**	**-0.8**
ABKAR				IAmb			IAmb	08 59 00.1	
	comp=Z,1.3nm,0.8s								
ILAR	**Eielson Array**	**87.09**	**25**	P			**P**	**09 00 10.3**	**-0.2**
	comp=Z,0.3nm,0.9s,baz=258,slow=5.3,SNR=2.8								
ILAR				LR			LR	09 41 29.8	
	comp=Z,46nm,18.2s,baz=121,slow=37								
KMBO	**Kilima Mbogo**	**89.27**	**269**	LR			L

BRSE **Bradley Lake S** 0.76 75 Pn 09 24 32.3 +0.1
BRSE Sn 09 24 45.2 +0.4
RED **Redoubt Volcan** 0.92 342 Pn 09 24 34.0 0.0
RED Sn 09 24 48.1 +0.2
RSO **Redoubt South** 0.95 343 Pn 09 24 34.7 +0.2
RDWB **Redoubt West** 0.99 341 Pn 09 24 35.0 +0.1
RDWB Sn 09 24 49.4 -0.1
DFR **Drift River** 1.07 347 Pn 09 24 36.0 +0.2
DFR Sn 09 24 51.4 +0.4
NCT **North Crescent** 1.08 340 Pn 09 24 36.0 +0.1
NCT Sn 09 24 51.1 0.0
FOSS **Fourpeaked Sta** 1.08 226 Pn 09 24 35.7 -0.2
RDJH **Redoubt Jeurge** 1.08 344 Pn 09 24 36.2 +0.3
RDJH Sn 09 24 52.7 +1.3
CAPN **Captain Cook N** 1.32 23 Pn 09 24 40.8 +2.1
SLKM **Skilak Lake** 1.38 45 Pn 09 24 39.5 +0.1
SLKM Sn 09 24 57.4 -0.2
SEW **Seward** 1.49 67 Pn 09 24 40.7 -0.1
SEW Sn 09 24 59.7 -0.3
KAHG **Katmai Hook Gl** 1.62 230 Pn 09 24 42.5 -0.1
SPCR **Spurr Chakacha** 1.65 360 Pn 09 24 43.7 +0.7
SPBG **Spurr Blockage** 1.71 357 Pn 09 24 44.5 +0.7
SPBG Sn 09 25 07.5 +2.2
KAHC **Katmai Hardscr** 1.71 239 Pn 09 24 43.4 -0.5
SPCP **Crater Peak Br** 1.72 1 Pn 09 24 44.9 +1.0
SPCG **Spurr Capps Gl** 1.75 3 Pn 09 24 45.1 +0.9
KDAK **Kodiak Island** 1.79 187 Pn 09 24 43.6 -1.1
KDAK Sn 09 25 05.3 -1.6
SPNN **North Nagishla** 1.83 352 Pn 09 24 46.2 +0.7
FIS **Fire Island** 1.87 31 Pn 09 24 46.8 +1.1
RC01 **Rabbit Creek A** 1.96 37 Pn 09 24 47.9 +0.9
KCG **Knife Ck. Glac** 1.96 232 Pn 09 24 46.9 -0.2
SUA **Susitna One** 2.04 20 Pn 09 24 49.0 +0.9
KABU **Katmai Buttres** 2.06 233 Pn 09 24 48.5 +0.1
KELA **Mount Kelaz** 2.15 240 Pn 09 24 49.2 -0.3
SVW2 **Sparrevohn** 2.29 314 Pn 09 24 51.0 -0.3
KJL **Kejulik** 2.32 231 Pn 09 24 52.0 +0.2
PWL **Port Wells** 2.33 54 Pn 09 24 52.0 +0.2
OHAK **Old Harbor** 2.41 194 Pn 09 24 51.4 -1.5
SKT **Skwentna** 2.46 7 Pn 09 24 54.1 +0.6
PMR **Palmer** 2.54 35 Pn 09 24 54.8 +0.2
KNK **Knik Glacier** 2.62 43 Pn 09 24 56.0 +0.2
GHO **Glory Hole Cre** 2.74 34 Pn 09 24 57.8 +0.3
PLK2 **Peulik 2** 2.81 232 Pn 09 24 58.6 +0.3
PLK3 **Peulik 3** 2.84 230 Pn 09 24 58.8 +0.2
GLI **Glacier Island** 2.87 60 Pn 09 24 58.3 -0.7
PLK5 **Peulik 5** 2.90 239 Pn 09 24 59.9 +0.5
PLK1 **Peulik 1** 2.90 235 Pn 09 24 59.7 +0.3
SML **Sawmill** 2.95 38 Pn 09 25 00.3 +0.1
HIN **Hinchinbrook I** 2.98 71 Pn 09 25 00.5 -0.1
MID **Middleton Isla** 2.99 90 Pn 09 25 00.6 0.0
FID **Port Fidalgo** 3.10 65 Pn 09 25 01.2 -0.9
JPK **Jack Peak** 3.16 59 Pn 09 25 02.9 -0.1
SII **Sitkinak Islan** 3.19 200 Pn 09 25 02.1 -1.2
VMT **TAPS Tl Valdez** 3.28 60 Pn 09 25 04.7 +0.2
SCM **Sheep Creek Mo** 3.31 44 Pn 09 25 05.5 +0.5
PPLA **Purkeypile** 3.35 0 Pn 09 25 06.5 +0.9
EYAK **Cordova Ski Ar** 3.38 70 Pn 09 25 05.5 -0.4
HUR **Hurricane** 3.65 19 Pn 09 25 10.5 +0.9
WAT6 **Susitna Watana** 3.73 34 Pn 09 25 11.3 +0.5
WAT1 **Susitna Watana** 3.73 27 Pn 09 25 11.5 +0.8
WAT2 **Susitna Watana** 3.84 25 Pn 09 25 12.9 +0.7
TT01 **Tatalina** 3.84 333 Pn 09 25 12.4 +0.2
TTA **Tatalina** 3.86 333 Pn 09 25 12.5 +0.1
RAGM **Ragged Mountai** 3.87 74 Pn 09 25 12.5 -0.1
GOAT **Goat Mountain** 3.88 71 Pn 09 25 12.7 -0.1
PS12 **TAPS Pump St12** 3.98 58 Pn 09 25 14.3 +0.2
TRF **Thorofare Moun** 4.01 12 Pn 09 25 14.7 0.0
KTH **Kantishna Hill** 4.06 8 Pn 09 25 15.6 +0.5
HMT **Hamilton** 4.06 75 Pn 09 25 15.1 -0.1
PS11 **TAPS Pump St11** 4.15 50 Pn 09 25 16.9 +0.6
CHIR **Chirikof Islan** 4.17 208 Pn 09 25 15.0 -1.7
RND **Reindeer** 4.18 21 Pn 09 25 17.5 +0.6
NICHA **Nichawak Mount** 4.20 77 Pn 09 25 17.1 0.0
DHY **Denali Highway** 4.22 31 Pn 09 25 18.1 +0.5
SUCK **Suckling Hills** 4.28 79 Pn 09 25 18.6 +0.5
CHUM **Lake Minchumin** 4.34 359 Pn 09 25 19.3 +0.4
BERG **Berg Lake** 4.35 75 Pn 09 25 18.8 -0.3
MCK **McKinley** 4.47 19 Pn 09 25 21.6 +0.9
GRIN **Grindle Hills** 4.52 77 Pn 09 25 21.6 +0.1
BGLC **Bering Glacier** 4.53 79 Pn 09 25 21.8 +0.3
GLB **Gilahina Butte** 4.55 62 Pn 09 25 21.8 -0.1
KHIT **Khitrov Hills** 4.58 75 Pn 09 25 22.1 -0.1
BPAW **Bear Paw Mtn.** 4.60 7 Pn 09 25 23.2 +0.8
CROM **Cirque** 4.66 71 Pn 09 25 23.6 -0.2
PAX **Paxson** 4.72 41 Pn 09 25 24.8 +0.7
WAX **Waxell Ridge** 4.77 75 Pn 09 25 24.5 -0.4
BWN **Browne** 4.81 14 Pn 09 25 25.6 +0.3
KULT **Kultieth River** 4.82 78 Pn 09 25 25.6 0.0
TGL **Tana Glacier** 4.83 72 Pn 09 25 25.2 -0.4
MCARA **McCarthy VSAT** 4.89 64 Pn 09 25 26.7 +0.3
VNHG **Veniaminof 1** 5.00 231 Pn 09 25 28.3 +0.2
KIAG **Kiagna River** 5.09 70 Pn 09 25 29.5 +0.2
PTPK **Patty Peak** 5.10 67 Pn 09 25 29.9 +0.5
BALM **Baldy** 5.12 69 Pn 09 25 29.6 0.0
NEA **Nenana** 5.25 15 Pn 09 25 31.8 +0.6
WRH **Wood River Hil** 5.30 20 Pn 09 25 31.9 0.0
GRNC **Granite Creek** 5.35 73 Pn 09 25 32.5 -0.3
BARN **Barnard Glacie** 5.45 69 Pn 09 25 34.6 +0.4
HDA **Harding Lake** 5.46 25 P Pn 09 25 34.5 +0.4
baz=209
HDA S Sn 09 26 32.6 -2.9
baz=209
HDA **Harding Lake** 5.46 25 Pn 09 25 34.7 +0.5
RIDG **Independent Ri** 5.46 37 Pn 09 25 35.9 +1.6
RIDG Sn Sn 09 26 34.7 -1.0
CCB **Clear Creek Bu** 5.51 20 Pn 09 25 34.5 -0.3
MLY **Manley** 5.54 6 Pn 09 25 35.5 +0.3
PS08 **TAPS Pump Stn8** 5.61 24 Pn 09 25 36.5 +0.4
DOT **Dot Lake** 5.65 40 Pn 09 25 40.8 +4.1
TCOL **CIGO, UAF Yank** 5.71 19 P Pn 09 25 37.6 +0.1
baz=203
TCOL S Sn 09 26 39.3 -2.2
baz=203
TCOL **CIGO, UAF Yank** 5.71 19 Pn 09 25 38.0 +0.5
COLA **College** 5.71 19 Pn 09 25 37.5 0.0
MDM **Murphy Dome** 5.73 17 Pn 09 25 38.3 +0.4
SAMH **Samovar Hills** 5.78 79 Pn 09 25 39.2 +0.6
IL01 5.79 23 Pn 09 25 38.4 -0.3
IL31 5.79 23 Pn 09 25 38.8 +0.1
IL31 Sn Sn 09 26 41.9 -1.6
ILAR **Eielson Array** 5.79 23 P Pn 09 25 38.6 -0.1
5.6nm,0.3s,baz=211,slow=14,SNR=463
ILAR S Sn 09 26 39.3 -4.3
13nm,0.3s,baz=3.9,slow=27,SNR=13
SCRK **Sand Creek** 5.90 38 Pn 09 25 40.6 +0.4
POKR **Poker Plat Res** 6.00 20 P Pn 09 25 41.6 0.0
baz=204
POKR S Sn 09 26 45.1 -3.7
baz=204
POKR **Poker Plat Res** 6.00 20 Pn 09 25 41.9 +0.3
YUK2 **White River** 6.01 63 Pn 09 25 42.4 +0.7
PCA **Pinnacle** 6.04 80 Pn 09 25 42.5 +0.3
BC03 6.12 50 Pn 09 25 43.7 +0.6
SDPT **Sand Point** 6.14 230 Pn 09 25 43.0 -0.5
YUK3 **Moose Creek** 6.18 64 Pn 09 25 44.6 +0.4
BVCY **Beaver Creek** 6.21 58 Pn 09 25 44.7 +0.3
CNBA **Chernabura Isl** 6.22 223 Pn 09 25 43.0 -1.5
YUK1 **Sand Pete Hill** 6.26 60 Pn 09 25 46.0 +0.8
IM03 6.49 354 Pn 09 25 48.5 +0.3
PNL **Peninsula** 6.49 83 Pn 09 25 48.5 +0.2
PRP **Porcupine Dome** 6.73 24 Pn 09 25 51.9 +0.4
YUK4 **Talbot Arm** 6.94 69 Pn 09 25 56.0 +1.6
YUK6 **Outpost Mounta** 7.02 73 Pn 09 25 56.2 +0.6
YUK7 **Dusty Glacier** 7.11 76 Pn 09 25 56.8 0.0
DHAK **Deception Hill** 7.17 88 Pn 09 25 57.6 +0.1
YUK5 **Granite Creek** 7.28 71 Pn 09 25 59.5 +0.3
HYT **Haines Junctio** 7.43 74 Pn Pn 09 26 02.2 +1.1
DAWY **Dawson** 7.56 48 Pn 09 26 02.1 -0.6
FALS **False Pass** 7.70 237 Pn 09 26 04.0 -0.6
COLD **Coldfoot** 7.75 6 Pn 09 26 05.4 +0.1
ANM **Nome** 7.96 315 Pn 09 26 08.7 +0.5
PLBC **Pleasant Camp** 8.05 84 Pn 09 26 09.7 +0.3
SKAG **Skagway** 8.58 83 Pn 09 26 18.0 +1.5
BM03 **Burnt Mountain** 8.58 20 Pn 09 26 15.8 -0.9
WHY **Whitehorse** 8.71 75 Pn 09 26 18.8 +0.3
BESE **Bessie Mountai** 8.98 89 Pn 09 26 23.8 +1.6
TOLK **Toolik Lake Re** 9.19 6 P Pn 09 26 25.5 +0.5
baz=188
TOLK S Sn 09 28 06.6 +0.1
baz=188
TOLK **Toolik Lake Re** 9.19 6 Pn 09 26 25.4 +0.4
AHB **Akutan Harbor** 9.24 240 Pn 09 26 24.5 -1.1
JIS **Juneau Island** 9.30 90 Pn 09 26 27.7 +1.3
UNV **Unalaska Valle** 9.72 240 Pn 09 26 30.8 -1.4
EPYK **Eagle Plains** 9.79 39 P Pn 09 26 33.9 +0.8
baz=233
EPYK S Sn 09 28 18.4 -2.6
baz=233
MSW **Makushin Switc** 9.80 241 Pn 09 26 32.3 -1.0
MREP **Makushin Rep't** 9.85 241 Pn 09 26 32.8 -1.2
OKTU **Okmok Mt. Tuli** 10.71 242 Pn 09 26 44.1 -1.7
INK **Inuvik** 11.96 35 P Pn 09 27 02.1 -0.3
0.2nm,0.3s,baz=255,slow=15,SNR=5.7
INK S Sn 09 29 07.0 -6.5
0.1nm,0.3s,baz=171,slow=32,SNR=3.9
GSMY **Great Sitkin M** 15.32 251 Pn 09 27 45.5 -1.0
C36M **Paulatuk** 15.42 39 P Pn 09 27 45.4 -2.2
baz=244
YKA **Yellowknife Ar** 18.27 65 P Pn 09 28 22.9 +0.2
0.2nm,0.3s,baz=274,slow=9.8,SNR=19
RES **Resolute Bay** 25.47 31 LR LR 09 41 49.7
comp=Z,85nm,21.2s,baz=114,slow=42
YBH **Yreka Blue Hor** 25.51 121 P P 09 29 39.2 +3.6
1.4nm,0.7s,baz=224,slow=8.6,SNR=3.6
PETK **Petropavlovsk-** 27.93 279 P P 09 29 56.9 -0.2
2.8nm,0.8s,baz=66,slow=13,SNR=8.4
NVAR **Mina Array Bea** 30.15 119 P P 09 30 18.6 +1.5
0.4nm,0.6s,baz=298,slow=10,SNR=3.9
PDAR **Pinedale Array** 30.89 104 P P 09 30 26.2 +2.5
0.3nm,0.6s,baz=15,slow=2.9,SNR=6.0
TXAR **Lajitas Array** 44.44 111 P P 09 32 20.4 +2.7
0.4nm,0.8s,baz=343,slow=3.9,SNR=3.4
ARCES **ARCESS Array B** 51.19 1 P P 09 33 07.6 -1.6
1.7nm,0.7s,baz=353,slow=6.7,SNR=3.1
SONM **Songino Array** 55.38 307 P P 09 33 39.5 -0.8
0.4nm,0.5s,baz=46,slow=7.9,SNR=3.0
FINES **FINESS Array B** 59.32 1 P P 09 34 06.5 -1.1
1.1nm,0.7s,baz=28,slow=7.2,SNR=3.6

DJA ***30*** *09:33:16.0±0.7,5°N±4°×12°6E±°, h159km±9km, M5.0/9, mb5.0/4, mB5.2/4, MLv5.1/9, Mw(mB)4.5/4*
MAN ***30*** *09:33:16.1, 5°.38N×125°.62E, h139km, MS4.5*
BJI ***30*** *09:33:16.5±0.0, 5°.50N×125°.80E, h139km, mb4.7/20, mB5.1/13*
ISCJB ***30*** *09:33:16.2±0.3, 5°.42N±0°.02×125°.69E±0°.04, h146km±2km, mb4.4/34, Error ellipse: s-maj=5.9km s-min=3.7km az=175.3*
NEIC ***30*** *09:33:17.7±1.8, 5°.41N±0°.05×125°.73E±0°.09, h145km±6km, mb4.6/61*
IDC ***30*** *09:33:17.6±0.7, 5°.39N×125°.59E, h150km±5km, mb4.1/24, mb1 4.2/27, mb1mx4.0/48, mbtmp4.6/27, Error ellipse: s-maj=14.2km s-min=7.2km az=78.0*
ISC 30 09:33:17.0±0.6, 5°.37N±0°.03×125°.70E±0°.05, h142km±5km, n134, σ1°51/151, mb4.5/56, 2C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.03**	**314**	⇑P		**Pn**		**09 33 39.5**	**-2.0**
GSPH				S		**Sn**		**09 33 57.9**	**-2.2**
SKMP	**Bagumbayan, Su**	**1.62**	**315**	P		**Pn**		**09 33 45.5**	**-1.8**
SKMP				S		**Sn**		**09 34 08.6**	**-1.9**
MATI	**Mati**	**1.66**	**20**	P		**Pn**		**09 33 46.8**	**-1.0**
MATI				S		**Sn**		**09 34 11.4**	**0.0**
DAV	**Davao City (W)**	**1.69**	**356**	P		**Pn**		**09 33 48.4**	**+0.3**
187nm,0.3s,baz=124,slow=2.5,SNR=17									
DAV				S			**Sn**	**09 34 13.3**	**+1.3**
840nm,0.3s,baz=145,slow=22,SNR=14									
DAV	**Davao City (W)**	**1.69**	**356**	⇓eP		**Pn**		**09 33 47.2**	**-1.0**
DAV	**Davao City (W)**	**1.69**	**356**	Pn		**Pn**		**09 33 48.5**	**+0.3**
DAV				Sn		**Sn**		**09 34 09.7**	**-2.3**
KCP	**Kidapawan**	**1.74**	**340**	⇑P		**Pn**		**09 33 48.8**	**0.0**
KCP				S		**Sn**		**09 34 14.1**	**+1.1**
CTBH	**Cotabato--PC H**	**2.34**	**322**	⇓P		**Pn**		**09 33 55.2**	**-0.5**
CTBH				S		**Sn**		**09 34 23.7**	**-1.9**
BUKP	**Musuan**	**2.57**	**346**	P		**Pn**		**09 33 58.0**	**-0.8**
BUKP				S		**Sn**		**09 34 30.1**	**-0.8**
BIPH	**Bislig**	**2.87**	**13**	P		**Pn**		**09 34 04.5**	**+2.0**
BIPH				S		**Sn**		**09 34 37.0**	**-0.6**
CGP	**Cagayan de Oro**	**3.23**	**342**	⇓P		**Pn**		**09 34 07.7**	**+0.7**
CGP				S		**Sn**		**09 34 50.9**	**+5.2**
PAGZ	**Pagadian**	**3.37**	**317**	P		**Pn**		**09 34 07.4**	**-1.5**
PAGZ				S		**Sn**		**09 34 48.1**	**-0.9**
PAGZ	**Pagadian**	**3.37**	**317**	P		**Pn**		**09 34 07.5**	**-1.4**
PAGZ				S		Sn		09 35 05.5	+17
BUTP	**Butuan**	**3.58**	**359**	P		**Pn**		**09 34 11.8**	**+0.2**
BUTP				S		Sn		09 35 12.1	+18
BUTP	**Butuan**	**3.58**	**359**	P		**Pn**		**09 34 11.8**	**+0.2**
BUTP				S		**Sn**		**09 34 56.8**	**+3.0**
MSLP	**Maasin**	**4.81**	**350**	P		**Pn**		**09 34 26.9**	**-0.8**
MSLP				S		**Sn**		**09 35 19.3**	**-3.6**
MSLP	**Maasin**	**4.81**	**350**	P		**Pn**		**09 34 27.4**	**-0.3**
MSLP				S		**Sn**		**09 35 18.7**	**-4.2**
TNTI	**Ternate**	**4.86**	**160**	P		**Pn**		**09 34 28.8**	**+0.3**
TNTI	**Ternate**	**4.86**	**160**			**Pn**		**09 34 28.6**	**+0.1**
TNTI				Sn		**Sn**		**09 35 21.4**	**-2.7**
OCLP	**Ormoc**	**5.75**	**349**	P		**Pn**		**09 34 42.9**	**+2.5**
OCLP				S		Sn		09 35 31.1	-14
MRSI	**Marisa**	**6.14**	**218**	P		**Pn**		**09 34 47.6**	**+2.0**
133nm,0.7s,1.1nm									
LBMI	**Labuha**	**6.23**	**163**	P		**Pn**		**09 34 46.7**	**-0.1**
80nm,0.9s,2μm1.2nm									
LUWI	**Luwuk**	**7.01**	**205**			**Pn**		**09 34 58.6**	**+1.4**
SANI	**Sanana**	**7.37**	**178**	P		**Pn**		**09 34 59.7**	**-2.4**
SIJI	**Sorong**	**8.33**	**138**	P		**Pn**		**09 35 15.7**	**+0.8**
4.1nm,0.3s,baz=344,slow=14,SNR=7.3									
SIJI				S		**Sn**		**09 36 44.3**	**-3.2**
baz=199,slow=23,SNR=1.3									
FAKI	**Fak Fak**	**10.52**	**141**	Pn		**Pn**		**09 35 45.5**	**+1.4**
KAPI	**Kappang**	**11.90**	**210**	Pn		**Pn**		**09 36 03.1**	**+0.7**
SBUM	**Sibu**	**13.75**	**258**	Pn		**Pn**		**09 36 27.5**	**+1.2**
SOEI	**Soe**	**15.09**	**185**	Pn		**Pn**		**09 36 44.1**	**-1.0**
BATI	**Baumata**	**15.60**	**187**	P		**P**		**09 36 50.7**	**0.0**
17nm,0.3s,baz=17,slow=1.8,SNR=15									
BATI				S		**S**		**09 39 46.4**	**+0.2**
1.0nm,0.3s,baz=291,slow=22,SNR=2.0									
KSM	**Kuching**	**15.84**	**256**	P		**P**		**09 36 54.0**	**+0.7**
KSM				IAmb		IAmb		09 36 57.3	
comp=Z,21nm,0.7s									
JAY	**Jayapura**	**16.91**	**117**	P		**Pn**		**09 37 06.4**	**+0.9**
comp=Z,3.1nm,0.3s,baz=229,slow=5.6,SNR=8.0									
JAGI	**Jajag, Banyuwa**	**17.33**	**220**	P		**Pn**		**09 37 17.9**	**+0.2**
YULB	**Yu-li**	**18.42**	**347**	P		**P**		**09 37 20.3**	**-1.2**
YULB				IAmb		IAmb		09 37 24.7	
comp=Z,26nm,1.4s									
TPUB	**Ta-pu**	**18.49**	**345**	P		**P**		**09 37 21.0**	**-1.3**
TPUB				IAmb		IAmb		09 37 22.6	
comp=Z,16nm,0.8s									
SSLB	**Suanglung**	**18.88**	**346**	P		**P**		**09 37 25.8**	**-0.7**
MTN	**Manton Dam**	**18.88**	**163**	P		**Pn**		**09 37 27.7**	**-1.1**
YHNB	**Yeheng**	**19.64**	**348**	P		**P**		**09 37 33.4**	**-1.4**
YHNB				IAmb		IAmb		09 37 39.8	
comp=Z,36nm,1.2s									
KNRA	**Kununurra**	**21.13**	**172**	P		**P**		**09 37 51.5**	**+0.7**
JOW	**Kunigami**	**21.49**	**6**	P		**P**		**09 37 54.8**	**+0.2**
comp=Z,3.0nm,0.6s,baz=182,slow=14,SNR=9.6									
JOW	**Kunigami**	**21.49**	**6**	IAmb		IAmb		09 37 56.0	
comp=Z,26nm,0.7s									
LEM	**Lembang**	**21.73**	**236**	P		**P**		**09 37 59.7**	**+2.2**
comp=Z,37nm,0.8s,baz=313,slow=20,SNR=4.5									
MYKOM	**Kota Tinggi**	**22.09**	**262**	P		**P**		**09 38 02.5**	**+1.5**
ANA2	**Anatahan**	**22.45**	**59**	P		**P**		**09 38 03.0**	**-1.5**
FITZ	**Fitzroy Crossi**	**23.32**	**180**	P		**P**		**09 38 13.0**	**+0.4**
comp=Z,20nm,0.5s,baz=354,slow=7.4,SNR=69									
FITZ	**Fitzroy Crossi**	**23.32**	**180**	IAmb		IAmb		09 38 14.8	
comp=Z,23nm,0.6s									
IPM	**Ipoh**	**24.60**	**269**	P		**P**		**09 38 24.9**	**+0.5**
IPM				IAmb		IAmb		09 38 27.3	
comp=Z,30nm,1.2s									
CHAI	**Chaiyaphum**	**25.51**	**296**	P		**P**		**09 38 34.4**	**+1.8**
comp=Z,22μm,0.6s									
COEN	**Coen**	**25.87**	**138**	P		**P**		**09 38 36.6**	**+0.8**
PMG	**Port Moresby**	**25.94**	**124**	P		**P**		**09 38 37.3**	**+0.9**
comp=Z,3.8nm,0.6s,baz=222,slow=6.7,SNR=3.9									
PMG	**Port Moresby**	**25.94**	**124**	IAmb		IAmb		09 38 38.4	
comp=Z,5.4nm,0.8s									
WRAB	**Tennant Creek**	**26.54**	**162**	P		**P**		**09 38 41.6**	**-0.2**
WRAB				IAmb		IAmb		09 38 59.7	
comp=Z,23nm,1.4s									
WRA	**Warramunga Arr**	**26.55**	**162**	P		**P**		**09 38 41.8**	**-0.1**
comp=Z,4.1nm,0.3s,baz=341,slow=9.3,SNR=39									
WRA				S		**S**		**09 43 00.3**	**-5.6**
comp=Z,1.0nm,0.7s,baz=333,slow=14,SNR=3.7
WRA ScP **ScP** **09 45 28.4 -1.6**
comp=Z,2.4nm,0.3s,baz=330,slow=1.9,SNR=43
WR0 **Warramunga Arr** 26.63 161 P **P** **09 38 42.5 -0.1**
PBKT **Sadao Pong** 26.67 297 P **P** **09 38 42.9 0.0**
JCJ **Chichijima** 26.72 34 P **P** **09 38 42.2 -1.1**
comp=Z,136nm,0.5s,baz=243,slow=4.5,SNR=9.5
PSI **Prapat** 26.82 266 P **P** **09 38 44.5 -0.1**
comp=Z,9.5nm,0.8s,baz=81,slow=7.3,SNR=6.3
RPSI **Rantau Prapat** 26.84 265 P **P** **09 38 45.4 +0.9**
RPSI IAmb IAmb 09 38 47.3
comp=Z,12nm,0.9s
WHN **Wuhan** 27.23 338 ⇓P **P** **09 38 50.8 +3.0**
NJ2 **Nanjing** 27.31 347 eP **P** **09 38 50.0 +1.5**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
PSA00 **Pilbara Seismi** 27.38 192 P **P** **09 38 49.5 +0.2**
JNU **Nakatsue** 28.03 9 P **P** **09 38 54.0 -1.0**
comp=Z,8.5nm,0.9s,baz=213,slow=4.1,SNR=3.9
JNU **Nakatsue** 28.03 9 P **P** **09 38 54.6 -0.4**
PHRA **Phrae** 28.07 300 P P 09 39 00.6 +5.1
comp=Z,1.3nm,2.1s
CMAR **Chiang Mai Arr** 29.17 299 P **P** **09 39 04.8 -0.5**
comp=Z,2.3nm,0.7s,baz=115,slow=7.4,SNR=14
CMAR ScP **ScP** **09 45 36.4 -1.7**
comp=Z,0.5nm,0.4s,baz=141,slow=3.0,SNR=4.9
ASAR **Alice Springs** 29.95 165 P **P** **09 39 12.4 +0.4**
comp=Z,5.8nm,0.4s,baz=339,slow=7.1,SNR=225
ASAR PcP **PcP** **09 42 10.4 -0.9**
comp=Z,0.8nm,0.7s,baz=349,slow=2.6,SNR=3.3
ASAR S **S** **09 43 57.6 -1.8**
comp=Z,1.2nm,0.8s,baz=348,slow=16,SNR=4.8
ASAR ScP **ScP** **09 45 39.7 -0.8**
comp=Z,4.3nm,0.7s,baz=349,slow=2.8,SNR=26
GIRL **Giralia** 30.01 202 P **P** **09 39 13.6 +1.0**
INU **Inuyama** 31.61 18 P **P** **09 39 26.7 +0.2**
KSRS **Korea Array** 32.00 3 P **P** **09 39 30.1 +0.2**
comp=Z,6.3nm,0.7s,baz=182,slow=9.7,SNR=24
MJAR **Matsushiro Arr** 33.08 19 P **P** **09 39 38.2 -1.1**
comp=Z,5.9nm,0.7s,baz=190,slow=8.3,SNR=11
MAJO **Matsushiro** 33.08 19 P **P** **09 39 38.5 -0.8**
MAT **Matsushiro** 33.08 19 P **P** **09 39 38.3 -1.1**
MJB9 **Matsu-Tunnel** 33.08 19 P **P** **09 39 38.7 -0.7**
MJB9 IAmb IAmb 09 39 46.8
comp=Z,22nm,1.5s
BJI **Beijing** 35.57 347 eP **P** **09 40 02.8 +2.1**
BJI pmax pmax
comp=Z,4.0nm,0.9s
BJI LR LR
comp=Z,260nm,6.1s
BJI LR LR
comp=Z,270nm,4.9s
FORT **Forrest** 36.01 177 P **P** **09 40 05.3 +0.7**
LZH **Lanzhou** 36.58 330 eP **P** **09 40 12.5 +2.9**
LZH pP pP 09 40 43.3 +2.8
LZH sP sP 09 40 59.8 +3.1
LZH pmax pmax
comp=Z,12nm,1.2s
HHC **Hu-ho-hao-te** 37.53 342 eP **P** **09 40 17.3 -0.2**
HHC pmax pmax
comp=Z,3.0nm,0.9s
HHC pmax pmax
comp=Z,100nm,5.7s
HHC LR LR
comp=Z,250nm,15.3s
HHC LR LR
comp=Z,210nm,15.3s
HHC LR LR
comp=Z,280nm,13.6s
NWAO **Narrogin (SRO)** 38.92 191 P **P** **09 40 29.8 +0.7**
NWAO **Narrogin (SRO)** 38.92 191 P **P** **09 40 29.8 +0.7**
NWAO IAmb IAmb 09 40 30.6
comp=Z,16nm,0.8s
USA0B **Ussuriysk Arra** 39.07 7 IAmb IAmb 09 40 31.4
comp=Z,9.2nm,0.8s
USRK **Ussuriysk Ar.** 39.07 7 P **P** **09 40 30.4 +0.2**
comp=Z,6.8nm,0.7s,baz=188,slow=6.5,SNR=26
STKA **Stephens Creek** 40.02 159 P **P** **09 40 39.3 +1.2**
comp=Z,8.7nm,0.8s,baz=334,slow=7.8,SNR=16
STKA **Stephens Creek** 40.02 159 P **P** **09 40 39.4 +1.2**
ASAJ **Asahikawa** 41.35 18 P **P** **09 40 50.0 +1.0**
comp=Z,10nm,0.4s,baz=231,slow=11,SNR=24
JKA **Kamikawa-asahi** 41.35 18 P **P** **09 40 50.0 +1.0**
TAPN **Taplejung** 42.23 305 eP **P** **09 40 56.9 +0.1**
comp=Z,9.2nm,0.4s
RAMN **Ramite** 42.98 304 eP **P** **09 41 03.3 +0.6**
comp=Z,10nm,0.5s
JIRN **Jiri** 43.59 305 eP **P** **09 41 08.3 +0.5**
comp=Z,28nm,0.4s
GUN **Gumba** 43.94 305 eP **P** **09 41 10.5 -0.1**
comp=Z,19nm,0.5s
SONM **Songino Array** 45.43 342 P **P** **09 41 20.9 -0.8**
comp=Z,0.3nm,0.4s,baz=159,slow=8.5,SNR=5.1
SONM PcP **PcP** **09 42 57.6 -0.9**
comp=Z,0.4nm,0.4s,baz=147,slow=4.9,SNR=2.6
KOLN **Koldanda** 45.76 304 eP **P** **09 41 24.2 -0.6**
comp=Z,13nm,0.3s
DANN **Dangsing** 45.84 305 eP **P** **09 41 24.8 -0.7**
comp=Z,39nm,0.7s
CAN **Canberra** 46.03 153 P **P** **09 41 29.0 +2.5**
CAN IAmb IAmb 09 41 43.4
comp=Z,36nm,1.4s
WMQ **Urumqi** 50.80 325 eP **P** **09 42 05.0 +2.0**
WMQ pmax pmax
comp=Z,8.0nm,0.7s
WMQ pmax pmax
comp=Z,210nm,5.9s
WMQ LR LR
comp=Z,840nm,29.0s
WMQ LR LR
comp=Z,990nm,28.9s
WMQ LR LR
comp=Z,180nm,28.9s
PETK **Petropavlovsk-** 54.32 23 P **P** **09 42 29.8 +1.0**
comp=Z,9.6nm,0.6s,baz=200,slow=2.8,SNR=17
MK31 **Makanchi Array** 55.63 325 P **P** **09 42 37.5 -0.8**
MKAR **Makanchi Array** 55.63 325 P **P** **09 42 37.2 -1.0**
comp=Z,1.2nm,0.3s,baz=119,slow=7.4,SNR=29
MKAR PP **PP** **09 44 41.7 -2.3**
comp=Z,0.5nm,0.6s,baz=112,slow=7.1,SNR=2.2
MKAR ScP **ScP** **09 47 19.0 -3.0**
comp=Z,0.8nm,0.6s,baz=135,slow=4.5,SNR=2.3
KSH **Kashi** 56.17 315 eP **P** **09 42 46.8 +4.5**
YAK **Yakutsk** 56.62 2 P **P** **09 42 44.9 0.0**
comp=Z,9.4nm,0.6s,baz=26,slow=1.4,SNR=6.7
ZALV **Zalesovo Beam** 58.67 333 P **P** **09 42 56.7 -2.7**
comp=Z,0.6nm,0.3s,baz=125,slow=5.8,SNR=2.7
KURBB **Kurchatov Arra** 59.81 327 P **P** **09 43 06.1 -1.2**
comp=Z,1.8nm,0.8s,baz=124,slow=6.4,SNR=13
KURK **Kurchatov** 59.81 327 P **P** **09 43 06.2 -1.2**
KURK IAmb IAmb 09 43 07.1
comp=Z,3.0nm,0.7s
BVAR **Borovoye Array** 65.39 327 P **P** **09 43 43.0 -1.4**
comp=Z,0.6nm,0.3s,baz=80,slow=4.2,SNR=5.0
TIXI **Tiksi** 66.23 1 P **P** **09 43 48.1 -1.3**
TIXI IAmb IAmb 09 43 49.5
comp=

RC01						IAmb	IAmb	09 45 25.8	
	comp=Z,16nm,1.1s								
SEW	**Seward**	**82.81**	**30**	P		**P**		**09 45 25.3**	**+0.1**
PMR	**Palmer**	**83.01**	**29**	P		**P**		**09 45 26.6**	**+0.4**
PMR						IAmb	IAmb	09 45 27.1	
	comp=Z,6.7nm,0.9s								
MCK	**McKinley**	**83.17**	**27**	IAmb	IAmb			09 45 28.0	
	comp=Z,12nm,0.8s								
RND	**Reindeer**	**83.19**	**27**	P		**P**		**09 45 27.4**	**+0.1**
RND						IAmb	IAmb	09 45 27.9	
	comp=Z,8.9nm,0.6s								
CCB	**Clear Creek Bu**	**83.68**	**26**	P		**P**		**09 45 29.9**	**+0.3**
CCB						IAmb	IAmb	09 45 30.1	
	comp=Z,7.0nm,1.2s								
HDA	**Harding Lake**	**84.05**	**26**	IAmb	IAmb			09 45 32.0	
	comp=Z,8.9nm,0.6s								
IL31		**84.08**	**25**	IAmb	IAmb			09 45 32.2	
	comp=Z,3.5nm,0.6s								
ILAR	**Eielson Array**	**84.08**	**25**	P		**P**		**09 45 31.0**	**-0.7**
	comp=Z,3.0nm,0.6s,baz=248,slow=5.2,SNR=68								
FID	**Port Fidalgo**	**84.29**	**30**	P		**P**		**09 45 33.8**	**+1.0**
ARCES	**ARCESS Array B**	**88.57**	**340**	P		**P**		**09 45 51.7**	**-1.8**
	comp=Z,3.3nm,0.9s,baz=77,slow=6.5,SNR=5.0								
FINES	**FINESS Array B**	**89.91**	**332**	P		**P**		**09 45 57.9**	**-2.0**
	comp=Z,5.5nm,1.0s,baz=72,slow=4.5,SNR=4.8								
YKA	**Yellowknife Ar**	**98.44**	**24**	P		**P**		**09 46 38.7**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=296,slow=4.6,SNR=7.5								
TORD	**Torodi Ar. Bea**	**121.43**	**289**	PKP		**PKPdf**		**09 51 53.2**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=38,slow=2.1,SNR=5.1								

*IDC **30** 09:44:08.1±0.8,24˚.24N×93˚.12E,h0km,mb3.9/10, mb1 3.9/11,mb1mx3.6/55,mbtmp3.8/11,ML3.6/1,MS2.9/2, Ms1 3.0/2,ms1mx2.7/37,Error ellipse: s-maj=19.5km s-min=13.1km az=110.0*

*NDI **30** 09:44:12.9±1.8,24˚.35N×93˚.10E,h12km±6km,ML4.1, mb4.2(NEIC)*

*NEIC **30** 09:44:13.3±0.8,24˚.18N±0˚.06×93˚.1E±0˚.1,h38km±5km, mb4.2/7*

ISC 30 09:44:12.8±1.3,24˚.27N±0˚.03×93˚.08E±0˚.05,h31km±10km, n43,σ1s67/54,mb4.0/13,1D,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AZL	**Aizawl**	**0.63**	**214**	*i* P		**Pn**	**09 44 27.0**	**+1.2**
AZL				*e*S		**Sn**	**09 44 36.9**	**+2.0**
AZL				IAML			09 44 38.1	
	comp=N,13μm,0.8s							
AZL				IAML			09 44 41.8	
	comp=E,18μm,0.7s							
SHL	**Shillong**	**1.69**	**320**	*e*P		**Pb**	**09 44 43.1**	**-0.1**
SHL				*e*P		**Pn**	**09 44 44.0**	**+3.7**
SHL				*e*S		**Sb**	**09 45 03.5**	**-0.7**
SHL				*e*S		**Sn**	**09 45 06.0**	**+5.0**
SHL				IAML			09 45 06.2	
	comp=N,9μm,0.2s							
SHL				IAML			09 45 06.5	
	comp=E,13μm,0.3s							
SHL	**Shillong**	**1.69**	**320**			**Pb**	**09 44 42.1**	**-1.1**
SHL				Sn		**Sb**	**09 45 02.7**	**-1.5**
AGT	**Agartala**	**1.71**	**257**	*e*P		**Pb**	**09 44 43.4**	**-0.1**
AGT				*e*S		**Sb**	**09 45 05.0**	**+0.3**
AGT				IAML			09 45 11.8	
	comp=N,2μm,0.4s							
AGT				IAML			09 45 20.9	
	comp=E,1μm,0.1s							
SAIH	**SAIHA**	**1.77**	**183**	*e*P		**Pb**	**09 44 43.5**	**-1.2**
SAIH				*e*S		**Sb**	**09 45 09.2**	**+2.6**
SAIH				IAML			09 45 11.5	
	comp=E,2μm,0.3s							
SAIH				IAML			09 45 14.4	
	comp=N,1μm,0.3s							
BELO	**BELONIA**	**1.80**	**236**	*e*S		**Sb**	**09 45 08.6**	**+1.3**
BRDH	**Bariadhala**	**2.06**	**220**	Pn		**Pn**	**09 44 44.9**	**-0.4**
	comp=N,0.3nm,0.3s,baz=67,slow=24,SNR=7.4							
BRDH				Lg		Lg	09 45 14.0	
	comp=N,1.1nm,0.3s,baz=102,slow=24,SNR=33							
GUWA	**GUWAHATI**	**2.29**	**327**	*e*P		**Pn**	**09 44 49.3**	**+0.8**
GUWA				*ex*		x	09 45 22.1	
GUWA				IAML			09 45 22.5	
	comp=E,2μm,0.5s							
GTK	**Tadong**	**5.05**	**308**	*e*P		**Pn**	**09 45 28.9**	**+2.3**
GTK				*ex*		x	09 46 17.9	
GTK				IAML			09 46 30.1	
	comp=N,169nm,0.1s							
LSA	**Lhasa**	**5.68**	**343**	Pn		**Pn**	**09 45 36.8**	**+1.4**
LSA				Sn		**Sn**	**09 46 39.8**	**-0.1**
TAPN	**Taplejung**	**5.73**	**304**	*e*Pn		**Pn**	**09 45 38.1**	**+2.1**
ODAN	**Odare**	**5.75**	**298**	*e*Pn		**Pn**	**09 45 38.3**	**+2.1**
ODAN				*e*Sn		**Sn**	**09 46 41.0**	**-0.2**
	comp=N,542nm,0.4s							
RAMN	**Ramite**	**6.43**	**296**	*e*Pn		**Pn**	**09 45 47.5**	**+1.9**
BOK	**Bokaro**	**6.59**	**267**	*e*P		**Pn**	**09 45 49.3**	**+1.7**
BOK				*e*S		**Sn**	**09 47 00.3**	**-1.4**
BOK				IAML			09 47 03.0	
	comp=N,83nm,0.2s							
JIRN	**Jiri**	**7.06**	**300**	*e*Pn		**Pn**	**09 45 55.8**	**+1.5**
JIRN				*e*Sn		**Sn**	**09 47 12.9**	**-0.8**
	comp=N,423nm,0.3s							
GUN	**Gumba**	**7.42**	**301**	*e*Pn		**Pn**	**09 46 00.9**	**+1.7**
PKI	**Pulchoki**	**7.64**	**297**	*e*Pn		**Pn**	**09 46 03.8**	**+1.4**
PKIN	**Phulchoki**	**7.66**	**297**	*e*Pn		**Pn**	**09 46 03.4**	**+0.9**
KKN	**Kakani**	**7.84**	**298**	*e*Pn		**Pn**	**09 46 06.5**	**+1.6**
DMN	**Daman**	**7.91**	**297**	*e*Pn		**Pn**	**09 46 07.4**	**+1.5**
CMAR	**Chiang Mai Arr**	**7.96**	**135**	Pn		**Pn**	**09 46 05.2**	**-1.2**
	comp=N,0.2nm,0.3s,baz=311,slow=16,SNR=3.7							
CMAR				Lg		Lg	09 48 19.8	
	comp=N,0.1nm,0.3s,baz=301,slow=26,SNR=3.5							
CMAR				LR		LR	09 49 47.3	
	comp=N,64nm,19.8s,baz=310,slow=43							
GKN	**Gorkha**	**8.45**	**298**	*e*Pn		**Pn**	**09 46 14.0**	**+0.8**
KOLN	**Koldanda**	**9.21**	**294**	*e*Pn		**Pn**	**09 46 23.8**	**+0.1**
KOLN				*e*Sn		**Sn**	**09 48 02.5**	**-3.9**
	comp=N,93nm,0.4s							
DANN	**Dangsing**	**9.29**	**298**	*e*Pn		**Pn**	**09 46 25.2**	**+0.2**
DANN				*e*Sn		**Sn**	**09 48 04.5**	**-4.1**
	comp=N,127nm,0.5s							
PSI	**Prapat**	**22.08**	**164**	LR		LR	09 58 04.1	
	comp=N,51nm,20.0s,baz=224,slow=38							
MK31	**Makanchi Array**	**24.08**	**342**	P		**P**	**09 49 26.2**	**+0.8**
MKAR	**Makanchi Array**	**24.08**	**342**	P		**P**	**09 49 25.8**	**+0.3**
	comp=N,1.8nm,0.7s,baz=168,slow=6.7,SNR=11							
MAKZ	**Makanchi**	**24.19**	**341**	P		**P**	**09 49 27.3**	**+0.9**
MAKZ				IAmb		IAmb	09 49 46.6	
	comp=Z,2.3nm,0.8s							
GAR	**Garm**	**24.22**	**313**	P		**P**	**09 49 27.7**	**+0.7**
GAR				IAmb		IAmb	09 49 43.6	
	comp=Z,11nm,0.7s							
SONM	**Songino Array**	**25.79**	**21**	P		**P**	**09 49 42.3**	**+1.2**
	comp=Z,3.4nm,0.7s,baz=209,slow=12,SNR=19							
KURBB	**Kurchatov Arra**	**28.62**	**340**	P		**P**	**09 50 05.8**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=155,slow=9.1,SNR=3.0							
ZALV	**Zalesovo Beam**	**30.28**	**350**	P		**P**	**09 50 20.8**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=172,slow=7.7,SNR=5.8							
ABKAR	**Akbulak array**	**35.95**	**322**	P		**P**	**09 51 10.6**	**+0.1**
ABKAR				IAmb		IAmb	09 51 29.4	
	comp=Z,1.8nm,0.7s							
TIXI	**Tiksi**	**51.53**	**14**	P		**P**	**09 53 15.2**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=288,slow=3.6,SNR=4.1							
FITZ	**Fitzroy Crossi**	**52.74**	**140**	P		**P**	**09 53 25.2**	**+0.2**
KNRA	**Kununurra**	**52.82**	**135**	P		**P**	**09 53 24.8**	**-0.8**
ASAR	**Alice Springs**	**61.96**	**137**	P		**P**	**09 54 29.0**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=323,slow=7.0,SNR=26							
GERES	**GERESS Array B**	**65.29**	**314**	P		**P**	**09 54 51.1**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=28,slow=26,SNR=3.9							
ILAR	**Eielson Array**	**80.01**	**22**	P		**P**	**09 56 18.9**	**0.0**
	comp=Z,0.2nm,0.6s,baz=306,slow=5.3,SNR=4.3							
INK	**Inuvik**	**81.59**	**16**	P		**P**	**09 56 27.9**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=294,slow=2.9,SNR=4.4							
INK	**Inuvik**	**81.59**	**16**	IAmb		IAmb	09 56 42.8	
	comp=Z,3.6nm,1.2s							
TORD	**Torodi Ar. Bea**	**85.93**	**282**	P		**P**	**09 56 51.6**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=66,slow=2.8,SNR=3.0							
TXAR	**Lajitas Array**	**124.33**	**18**	PKP		**PKPdf**	**10 03 08.9**	**-0.5**
	comp=Z,0.1nm,0.7s,baz=316,slow=5.1,SNR=2.3							

*NIED **30** 09:44:00,36˚.30N×141˚.50E,h20km,Mw4.7 Best double couple: Mo1.11000×10^16 NP1:φs226.00000°,δ20.00000°, λ163.00000°. NP2:φs332.00000°,δ84.00000°,λ71.00000°.*

*IDC **30** 09:44:11.1±0.5,36˚.20N×141˚.41E,h0km,mb4.1/26, mb1 4.2/31,mb1mx4.2/52,mbtmp4.1/31,ML3.5/4,MS3.9/16, Ms1 3.9/16,ms1mx3.8/26,Error ellipse: s-maj=13.6km s-min=12.9km az=128.0*

*MOS **30** 09:44:12.9±1.2,36˚.29N×141˚.55E,h23km,mb4.6/21,Error ellipse: s-maj=8.6km s-min=5.6km az=98.2*

*ISCJB **30** 09:44:13.9±0.2,36˚.28N±0˚.03×141˚.49E±0˚.03,h26km, mb4.2/48,MS4.0/18,Error ellipse: s-maj=3.8km s-min=3.4km az=154.5*

*BJI **30** 09:44:14.3±0.0,36˚.23N×141˚.43E,h31km,mb4.7/39, mB5.1/30,Ms4.5/22,Ms7 4.4/20*

*JMA **30** 09:44:15.3±0.1,36˚.28N×141˚.42E,h48km±3km,M4.6*

JMA Felt I J1.

*NEIC **30** 09:44:16.7±1.6,36˚.19N±0˚.05×141˚.44E±0˚.03,h35km±6km, mb4.7/44*

ISC 30 09:44:14.6±0.3,36˚.22N±0˚.03×141˚.60E±0˚.04,h26km,n170, σ2s05/175,mb4.5/62,MS4.0/18,10C-1D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHOJ	**Chosi**	**0.79**	**230**	P		**Pn**	**09 44 29.5**	**-0.6**
JHYU	**Hitachinakayam**	**0.83**	**279**	P		**Pb**	**09 44 28.9**	**-1.5**
JHYU				S		**Sb**	**09 44 37.9**	**-3.3**
JIHU	**Itakohorinouch**	**0.91**	**254**	P		**Pb**	**09 44 30.7**	**-1.0**
JHO	**Hitachi**	**0.92**	**295**	P		**Pb**	**09 44 29.7**	**-2.3**
ONAJ	**Iwakimizuishiy**	**1.09**	**324**	P		**Pn**	**09 44 32.3**	**-2.0**
JSMT	**Sammumatsuo**	**1.10**	**239**	P		**Pn**	**09 44 33.8**	**-0.5**
JYT	**Yasato**	**1.14**	**271**	P		**Pn**	**09 44 33.0**	**-1.9**
JFFD	**Fukushimafurud**	**1.21**	**316**	S		**Sn**	**09 44 47.4**	**-4.0**
JFK	**Kawauchi**	**1.28**	**333**	P		**Pn**	**09 44 35.4**	**-1.6**
JFK				S		**Sn**	**09 44 49.9**	**-3.5**
JMST	**Minamisoumatoc**	**1.61**	**339**	S		**Sn**	**09 44 58.2**	**-3.0**
BSO1	**Boso 1**	**1.64**	**198**	P		**Pb**	**09 44 42.5**	**-1.4**
JFT	**Otama**	**1.65**	**322**	P		**Pn**	**09 44 41.3**	**-0.6**
BSO3	**Boso 3**	**1.67**	**213**	P		**Pb**	**09 44 43.0**	**-1.6**
JAG	**Ashikaga**	**1.75**	**277**	P		**Pn**	**09 44 41.5**	**-1.8**
JMM	**Marumori**	**1.77**	**339**	P		**Pn**	**09 44 42.5**	**-1.0**
JFY	**Yanaizu**	**1.93**	**308**	P		**Pn**	**09 44 45.0**	**-0.8**
JKT	**Katashina**	**1.97**	**287**	P		**Pn**	**09 44 45.5**	**-1.0**
MJAR	**Matsushiro Arr**	**2.76**	**278**	Pn		**Pn**	**09 44 55.8**	**-1.4**
	5.8nm,0.3s,baz=112,slow=8.8,SNR=243							
MJAR				Sn		**Sn**	**09 45 26.6**	**-3.0**
	6.0nm,0.3s,baz=107,slow=10,SNR=7.5							
MJAR				LR		LR	09 46 07.2	
	comp=Z,2μm,20.7s,baz=100,slow=45							
MAJO	**Matsushiro**	**2.76**	**278**	*i* P		**Pn**	**09 44 57.2**	**0.0**
MAJO	**Matsushiro**	**2.76**	**278**			**Pn**	**09 44 57.3**	**0.0**
MAT	**Matsushiro**	**2.76**	**278**	P		**Pn**	**09 44 57.2**	**0.0**
MAT				S		**Sn**	**09 45 30.4**	**+0.7**
MJB9	**Matsu-Tunnel**	**2.76**	**278**			**Pn**	**09 44 57.3**	**0.0**
JHJ2	**Mitsune**	**3.43**	**206**			**Pn**	**09 45 08.6**	**+2.2**
JHJ2				Sn		**Sn**	**09 45 43.7**	**-2.5**
INU	**Inuyama**	**3.83**	**258**			**Pn**	**09 45 13.1**	**+1.2**
ERM	**Erimo**	**5.91**	**11**	*ce*P		**Pn**	**09 45 40.5**	**0.0**
ERM				pmax		pmax		
	comp=Z,69nm,1.0s							
ERM	**Erimo**	**5.91**	**11**	Pn		**Pn**	**09 45 42.4**	**+2.0**
NMR	**Nemuro--Hokkai**	**7.81**	**23**	*i* P		**Pn**	**09 46 04.3**	**-2.3**
NMR				*i* S		Sn	09 47 25.9	-8.2
ASAJ	**Asahikawa**	**7.92**	**5**	Pn		**Pn**	**09 46 07.5**	**-0.6**
	comp=Z,2.0nm,0.3s,baz=217,slow=8.2,SNR=13							
ASAJ				Sn		**Sn**	**09 47 30.4**	**-6.5**
	comp=Z,0.5nm,0.3s,baz=237,slow=27,SNR=1.6							
JKA	**Kamikawa-asahi**	**7.92**	**5**			**Pn**	**09 46 07.5**	**-0.6**
JKA						**Sn**	**09 47 30.4**	**-6.4**
GRPR	**Tuman**	**8.39**	**21**	*e*P		**Pn**	**09 46 12.6**	**-1.9**
GRPR				*e*S		**Sn**	**09 47 41.0**	**-7.4**
GRPR				pmax		pmax		
	comp=Z,58nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**8.46**	**21**	*e*P		**Pn**	**09 46 13.7**	**-1.7**
YUK				*e*S		**Sn**	**09 47 42.4**	**-7.6**
YUK				pmax		pmax		
	comp=Z,74nm,0.8s							
YUK				pmax		pmax		
	comp=N,63nm,0.3s							
YUK				pmax		pmax		
	comp=E,82nm,0.3s							
SHO	**Shikotan**	**8.63**	**26**	*e*P		**Pn**	**09 46 14.7**	**-3.0**
SHO				pmax		pmax		
	comp=N,18nm,0.7s							
SHO				pmax		pmax		
	comp=Z,15nm,0.7s							
SHO				pmax		pmax		
	comp=E,13nm,0.5s							
JCJ	**Chichijima**	**9.11**	**177**	Pn		**Pn**	**09 46 23.4**	**-1.1**
	comp=E,28nm,0.3s,baz=283,slow=22,SNR=8.1							
JCJ				Sn		**Sn**	**09 47 58.7**	**-7.5**
	comp=E,54nm,0.3s,baz=287,slow=21,SNR=7.0							
JNU	**Nakatsue**	**9.36**	**254**	Pn		**Pn**	**09 46 25.1**	**-2.7**
	comp=E,0.3nm,0.3s,baz=66,slow=10.0,SNR=2.1							
JNU				LR		LR	09 50 20.5	
	comp=E,1μm,20.0s,baz=36,slow=40							
JNU	**Nakatsue**	**9.36**	**254**	Pn		**Pn**	**09 46 25.6**	**-2.3**
USA0B	**Ussuriysk Arra**	**10.84**	**320**	*i* P		**Pn**	**09 46 48.9**	**+0.9**
USA0B	**Ussuriysk Arra**	**10.84**	**320**			**Pn**	**09 46 48.7**	**+0.7**
USRK	**Ussuriysk Ar.**	**10.84**	**320**	Pn		**Pn**	**09 46 49.1**	**+1.1**
	baz=131,slow=12,SNR=6.5							
USRK				LR		LR	09 50 49.0	
	comp=E,301nm,19.0s,baz=125,slow=37							
KSRS	**Korea Array**	**11.03**	**280**	Pn		**Pn**	**09 46 49.9**	**-0.8**
	baz=93,slow=14,SNR=2.5							
CN2	**Changchun**	**14.50**	**306**	*e*P		**P**	**09 47 45.0**	**+0.6**
CN2				*e*S		**Sn**	**09 50 24.3**	**+6.5**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
CN2				LR		LR		
	comp=N,600nm,17.0s							
CN2				LR		LR		
	comp=E,500nm,17.0s							
CN2				LR		LR		
	comp=Z,500nm,16.0s							
KLR	**Kul'dur**	**14.86**	**334**	*i* P		**Pn**	**09 47 43.2**	**+0.2**
KLR				pmax		pmax		
	comp=Z,2.0nm,1.3s							
KLR	**Kul'dur**	**14.86**	**334**	Pn		**Pn**	**09 47 43.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=135,slow=19,SNR=2.9							
KLR				LR		LR	09 53 49.5	
	comp=Z,108nm,18.7s,baz=146,slow=39							
NJ2	**Nanjing**	**19.27**	**264**	*e*P		**P**	**09 48 37.0**	**-0.3**
NJ2				pmax		pmax		
	comp=Z,11nm,0.5s							
PETK	**Petropavlovsk-**	**20.32**	**29**	P		**P**	**09 48 49.0**	**+0.4**
	comp=Z,7.4nm,1.0s,baz=218,slow=9.0,SNR=3.6							
PETK				LR		LR	09 56 41.4	
	comp=Z,226nm,21.9s,baz=239,slow=37							
BJI	**Beijing**	**20.34**	**288**	*e*P		**P**	**09 48 45.5**	**-3.4**
BJI				LR		LR		
	comp=Z,430nm,6.9s							
BJI				LR		LR		
	comp=Z,220nm,6.2s							
BJI				LR		LR		
	comp=Z,350nm,14.2s							
TPUB	**Ta-pu**	**22.24**	**240**	P		**P**	**09 49 07.1**	**-2.4**
HHC	**Hu-ho-hao-te**	**23.89**	**290**	*e*P		**P**	**09 49 20.5**	**-5.7**
HHC				pmax		pmax		
	comp=Z,9.0nm,0.8s							
HHC				pmax		pmax		
	comp=Z,180nm,6.0s							
HHC				LR		LR		
	comp=Z,200nm,13.6s							
HHC				LR		LR		
	comp=Z,160nm,16.2s							
YAK	**Yakutsk**	**26.90**	**348**	*i* P		**P**	**09 49 52.6**	**-0.5**
YAK				pmax		pmax		
	comp=Z,5.0nm,0.8s							
YAK	**Yakutsk**	**26.90**	**348**	P		**P**	**09 49 52.8**	**-0.3**
	comp=Z,3.4nm,0.3s,baz=184,slow=13,SNR=2.3							
SEY	**Seymchan**	**27.56**	**11**	P		**P**	**09 50 00.8**	**+1.7**
	comp=Z,9.1nm,1.1s,baz=191,slow=16,SNR=3.3							
H11N2	**WAKE ISLAND Hy**	**27.61**	**120**	T		T	10 19 11.6	
	baz=311,slow=75,SNR=118							
H11N1	**WAKE ISLAND Hy**	**27.61**	**120**	T		T	10 19 07.2	
	baz=311,slow=75,SNR=103							
H11N3	**WAKE ISLAND Hy**	**27.62**	**120**	T		T	10 19 18.9	
	baz=311,slow=75,SNR=110							
ULN	**Ulaanbaatar**	**27.94**	**305**	*i* P		**P**	**09 50 02.7**	**-0.2**
ULN				pmax		pmax		
	comp=Z,3.0nm,0.6s							
H11S1	**WAKE ISLAND Hy**	**28.30**	**122**	T		T	10 19 56.4	
	baz=313,slow=75,SNR=192							
H11S3	**WAKE ISLAND Hy**	**28.30**	**122**	T		T	10 20 05.1	
	baz=313,slow=75,SNR=142							
BOD	**Bodaibo**	**28.30**	**328**	*e*P		**P**	**09 50 04.7**	**-1.1**
BOD				pmax		pmax		
	comp=Z,11nm,1.3s							
H11S2	**WAKE ISLAND Hy**	**28.31**	**122**	T		T	10 20 00.4	
	baz=313,slow=75,SNR=143							
SONM	**Songino Array**	**28.37**	**305**	P		**P**	**09 50 06.3**	**-0.4**
	comp=Z,2.5nm,0.7s,baz=107,slow=10,SNR=10							
LZH	**Lanzhou**	**30.36**	**281**	*e*P		**P**	**09 50 25.3**	**+0.8**
LZH				pP		sP	09 50 38.8	+4.0
LZH				pmax		pmax		
	comp=Z,19nm,1.3s							
LZH				pmax		pmax		
	comp=Z,59nm,4.4s							
TLY	**Talaya**	**30.98**	**312**	*e*P		**P**	**09 50 31.3**	**+1.6**
TLY				pmax		pmax		
	comp=Z,11nm,0.8s							
TLY				MLR		MLR		
	comp=Z,746nm,15.0s							
TLY	**Talaya**	**30.98**	**312**	P		**P**	**09 50 28.7**	**-1.0**
	comp=Z,4.3nm,0.8s,baz=143,slow=10,SNR=7.0							
CD2	**Chengdu**	**31.84**	**272**	P		**P**	**09 50 38.0**	**+0.6**
QIZ	**Qiongzhong**	**32.74**	**247**	P		**P**	**09 50 47.3**	**+1.9**
QIZ				S		**S**	**09 56 03.5**	**+2.9**
QIZ				LR		LR		
	comp=Z,270nm,13.9s							
QIZ				LR		LR		
	comp=Z,330nm,9.4s							
QIZ				LR		LR		
	comp=Z,290nm,18.6s							
GTA	**Gaotai**	**32.96**	**288**	*e*P		**P**	**09 50 46.5**	**-0.8**
GTA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
BILL	**Bilibino**	**34.77**	**16**	*e*P		**P**	**09 51 04.3**	**+1.8**
BILL				PPP		PPP	09 52 32.0	
BILL							09 53 35.0	
BILL				SS		SS	09 58 37.0	-25
BILL				SSS		SSS	09 59 16.0	
BILL				pmax		pmax		
	comp=Z,3.0nm,1.3s							
BILL				MLR		MLR		
	comp=Z,307nm,18.0s							
ATKA	**Atka Island**	**34.87**	**49**	P		**P**	**09 51 05.2**	**+1.6**
TIXI	**Tiksi**	**36.12**	**353**	*i* P		**P**	**09 51 14.6**	**+0.6**
TIXI				pmax		pmax		
	comp=Z,1.0nm,1.0s							
FAKI	**Fak Fak**	**39.91**	**195**	P		**P**	**09 51 47.1**	**+0.6**
CHTO	**Chiang Mai**	**41.25**	**257**	P		**P**	**09 51 57.6**	**-0.1**
CHTO				pmax		pmax		
	comp=Z,6.0nm,1.4s							
WMQ	**Urumqi**	**41.35**	**298**	*e*P		**P**	**09 52 00.3**	**+2.0**
WMQ				pP		sP	09 52 11.0	+2.2
WMQ				pmax		pmax		
	comp=Z,12nm,1.5s							
WMQ				pmax		pmax		
	comp=Z,180nm,4.7s							
WMQ				LR		LR		
	comp=Z,840nm,29.1s							
WMQ				LR		LR		
	comp=Z,920nm,29.2s							
WMQ				LR		LR		
	comp=Z,190nm,24.1s							
WMQ	**Urumqi**	**41.35**	**298**	P		**P**	**09 51 59.8**	**+1.4**
WMQ				pmax		pmax		
	comp=Z,16nm,1.0s							
WMQ	**Urumqi**	**41.35**	**298**	P		**P**	**09 51 59.8**	**+1.4**
WMQ				IAmb		IAmb	09 52 11.7	
	comp=Z,16nm,1.0s							
CMAR	**Chiang Mai Arr**	**41.45**	**256**	*i* P		**P**	**09 52 00.3**	**+1.0**
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**41.45**	**256**	P		**P**	**09 51 58.2**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=51,slow=7.1,SNR=12							
CMAR				LR		LR	10 09 56.9	
	comp=Z,123nm,19.5s,baz=46,slow=37							
ANM	**Nome**	**42.21**	**31**	P		**P**	**09 52 07.1**	**+2.1**
ANM				pmax		pmax		
	comp=Z,8.0nm,1.4s							
ANM	**Nome**	**42.21**	**31**	P		**P**	**09 52 07.1**	**+2.1**
NRIK	**Noril'sk**	**44.07**	**336**	LR		LR	10 11 30.0	
	comp=Z,126nm,19.1s,baz=90,slow=37							
MK31	**Makanchi Array**	**44.68**	**303**	*e*P		**P**	**09 52 25.2**	**-0.1**
MK31	**Makanchi Array**	**44.68**	**303**	P		**P**	**09 52 25.2**	**-0.1**
MKAR	**Makanchi Array**	**44.68**	**303**	*i* P		**P**	**09 52 26.6**	**+1.3**
MKAR				pmax		pmax		
	comp=Z,5.0nm,0.8s							
MKAR	**Makanchi Array**	**44.68**	**303**	P		**P**	**09 52 24.8**	**-0.5**
	comp=Z,4.7nm,0.8s,baz=92,slow=9.6,SNR=16							
MKAR				LR		LR	10 11 12.4	
	comp=Z,199nm,21.1s,baz=74,slow=36							
MAKZ	**Makanchi**	**44.89**	**303**	P		**P**	**09 52 27.9**	**+1.0**
MAKZ				pmax		pmax		
	comp=Z,6.0nm,0.9s							
MAKZ	**Makanchi**	**44.89**	**303**	P		**P**	**09 52 27.9**	**+1.0**
PMG	**Port Moresby**	**45.68**	**172**	*e*P		**P**	**09 52 34.0**	**+0.7**
PMG				pmax		pmax		
	comp=Z,17nm,0.8s							
TAPN	**Taplejung**	**46.16**	**275**	*e*P		**P**	**09 52 37.6**	**+0.1**
	comp=Z,10nm,0.6s	

KSH S **S** **10 00 28.0 -0.4**
KSH ScS **ScS** **10 02 58.5 -4.1**
KSH SS **SS** **10 04 01.8 -1.2**
KSH pmax pmax
comp=Z,450nm,4.4s
KSH LR LR
comp=Z,560nm,6.6s
KSH LR LR
comp=Z,710nm,6.3s
KSH LR LR
comp=Z,400nm,5.7s
AAK **Ala-Archa** **51.01 299**↑ *e*P **P** **09 53 16.2 +1.7**
AAK pmax pmax
comp=Z,3.0nm,0.9s
AAK **Ala-Archa** **51.01 299** P **P** **09 53 14.9 +0.4**
BVAR **Borovoye Array** **51.23 313** P **P** **09 53 14.9 -0.9**
comp=Z,1.3nm,0.8s,baz=74,slow=5.4,SNR=5.9
BRVK **Borovoye** **51.29 313** *c e*P **P** **09 53 15.6 -0.6**
BRVK pmax pmax
comp=Z,2.0nm,0.8s
BRVK **Borovoye** **51.29 313** P **P** **09 53 16.3 +0.1**
BRVK IAmb IAmb 09 53 28.1
comp=Z,7.8nm,0.8s
LEM **Lembang** **53.39 224** P **P** **09 53 33.7 +1.3**
LEM pmax pmax
comp=Z,37nm,1.1s
KK31 **Karatay Array** **53.67 301** IAmb IAmb 09 53 47.4
comp=Z,6.7nm,0.9s
KKAR **Karatay Array** **53.67 301** IAmb IAmb 09 53 47.4
comp=Z,6.7nm,0.9s
EPYK **Eagle Plains** **54.16 29** P **P** **09 53 40.1 +2.9**
INK **Inuvik** **55.04 27** P **P** **09 53 44.7 +1.2**
INK pmax pmax
comp=Z,3.0nm,0.7s
INK **Inuvik** **55.04 27** P **P** **09 53 43.8 +0.2**
comp=Z,1.8nm,0.9s,baz=268,slow=11,SNR=4.1
INK **Inuvik** **55.04 27** P **P** **09 53 44.7 +1.2**
INK IAmb IAmb 09 53 58.4
comp=Z,3.3nm,0.7s
GAR **Garm** **55.19 296** P **P** **09 53 44.9 -0.4**
WRAB **Tennant Creek** **56.27 188** *c e*P **P** **09 53 53.3 +0.4**
WRAB pmax pmax
comp=Z,5.0nm,0.8s
WRAB **Tennant Creek** **56.27 188** P **P** **09 53 53.9 +1.0**
WR0 **Warramunga Arr** **56.27 188** P **P** **09 53 53.5 +0.5**
WRA **Warramunga Arr** **56.28 188** P **P** **09 53 53.0 +0.1**
comp=Z,6.2nm,0.9s,baz=3.3,slow=7.6,SNR=33
ARU **Arti** **57.07 319** *c i*P **P** **09 53 58.6 +0.3**
ARU *PP **sP** **09 54 08.5 -0.3**
ARU 09 56 01.0
ARU S **S** **10 01 53.5 +2.2**
ARU SS **SS** **10 05 35.8 -3.8**
ARU pmax pmax
comp=Z,5.0nm,0.6s
ABKAR **Akbulak array** **58.58 311** IAmb IAmb 09 54 21.2
comp=Z,7.8nm,0.9s
AKTO **Aktyubinsk** **59.33 312** P **P** **09 54 13.9 -0.3**
comp=Z,2.0nm,0.7s,baz=76,slow=13,SNR=6.6
ASAR **Alice Springs** **60.01 188** P **P** **09 54 19.1 +0.1**
comp=Z,1.6nm,0.7s,baz=16,slow=11,SNR=26
GEYT **Alibeck** **64.36 299** LR LR 10 24 45.1
comp=Z,104nm,18.8s,baz=175,slow=38
YKA **Yellowknife Ar** **64.44 30** P **P** **09 54 49.8 +1.5**
comp=Z,0.2nm,0.7s,baz=300,slow=6.4,SNR=4.1
AFI **Afiamalu** **66.50 130** LR LR 10 18 28.0
comp=Z,59nm,21.5s,baz=298,slow=31
STKA **Stephens Creek** **67.74 180** P **P** **09 55 10.2 +0.4**
comp=Z,1.9nm,0.8s,baz=319,slow=6.1,SNR=3.7
FORT **Forrest** **67.85 193** P **P** **09 55 11.6 +1.2**
FINES **FINESS Array B** **69.60 332** P **P** **09 55 20.9 -0.3**
comp=Z,2.6nm,0.8s,baz=62,slow=6.8,SNR=3.8
FINES LR LR 10 30 37.9
comp=Z,126nm,19.0s,baz=38,slow=40
PINE **Pine Mountain** **70.75 50** P **P** **09 55 30.2 +1.4**
PINE IAmb IAmb 09 55 45.4
comp=Z,17nm,1.4s
KBZ **Khabaz** **71.55 311** P **P** **09 55 33.4 +0.1**
comp=Z,1.9nm,0.8s,baz=129,slow=6.5,SNR=3.7
KBZ LR LR 10 29 04.0
comp=Z,131nm,18.9s,baz=24,slow=38
BEKR **Beckworth** **73.23 53** P **P** **09 55 45.4 +1.7**
YERR **Yerington** **74.44 53** P **P** **09 55 53.4 +2.6**
YERR IAmb IAmb 09 56 06.2
comp=Z,11nm,1.3s
DLMT **Dillon** **74.81 45** P **P** **09 55 54.5 +1.7**
DLMT IAmb IAmb 09 56 09.5
comp=Z,12nm,1.4s
NB2 **NORSAR Subarra** **75.00 337** P **P** **09 55 53.9 +0.5**
comp=Z,2.8nm,0.8s,baz=41,slow=5.9
NOA **NORSAR Array B** **75.00 337** P **P** **09 55 53.0 -0.4**
comp=Z,1.0nm,0.7s,baz=38,slow=5.9,SNR=3.5
AKASG **Malin Array Be** **75.03 323** P **P** **09 55 53.7 0.0**
comp=Z,3.0nm,0.6s,baz=48,slow=6.2,SNR=21
AKBB **Malin Array Si** **75.03 323** P **P** **09 55 53.8 +0.1**
AKBB pmax pmax
comp=Z,4.0nm,0.8s
AKBB **Malin Array Si** **75.03 323** P **P** **09 55 53.8 +0.1**
AKBB IAmb IAmb 09 55 54.6
comp=Z,4.1nm,0.8s
KVN **Kaiserville** **75.13 52** P **P** **09 55 57.5 +2.7**
KVN pmax pmax
comp=Z,10.0nm,1.4s
NVAR **Mina Array Bea** **75.35 53** P **P** **09 55 58.2 +2.1**
comp=Z,1.1nm,0.9s,baz=267,slow=6.3,SNR=8.8
NVAR LR LR 10 21 39.2
comp=Z,77nm,21.6s,baz=348,slow=30
MOOW **Moose Ponds** **76.84 45** P **P** **09 56 03.6 -0.9**
R11A **Troy Canyon, C** **77.14 52** P **P** **09 56 08.5 +2.2**
R11A IAmb IAmb 09 56 22.4
comp=Z,11nm,1.5s
PDAR **Pinedale Array** **78.13 45** P **P** **09 56 13.0 +1.3**
comp=Z,0.4nm,0.6s,baz=268,slow=3.4,SNR=5.3
PDAR LR LR 10 31 07.7
comp=Z,49nm,18.5s,baz=18,slow=36
RDMU **Red Mountain** **79.49 47** P **P** **09 56 20.3 +1.1**
BRTR **Keskin Array B** **79.50 312** *i* P **P** **09 56 20.2 +1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR **Keskin Array B** **79.50 312** P **P** **09 56 19.4 +0.2**
comp=Z,0.9nm,0.7s,baz=57,slow=3.9,SNR=4.4
ULM **Lac du Bonnet** **80.10 33** P **P** **09 56 24.3 +2.3**
comp=Z,0.8nm,0.7s,baz=315,slow=4.3,SNR=1.9
VYHS **Vyhne** **81.48 326** *e* P 09 56 43.6 +14
GERES **GERESS Array B** **83.48 328** P **P** **09 56 39.3 -0.7**
comp=Z,0.3nm,0.6s,baz=31,slow=6.2,SNR=2.6
PPT **Papeete** **84.13 117** LR LR 10 28 58.2
comp=Z,67nm,21.4s,baz=300,slow=32
TXAR **Lajitas Array** **90.50 52** P **P** **09 57 15.2 +0.7**
comp=Z,0.2nm,0.7s,baz=318,slow=3.6,SNR=2.9
TXAR LR LR 10 33 02.2
comp=Z,65nm,20.4s,baz=0.0,slow=32
LPAZ **La Paz** **146.96 61** PKPbc **PKPab** **10 03 57.3 -0.2**
comp=Z,0.9nm,0.5s,baz=24,slow=5.3,SNR=6.2
SIV **San Ignacio** **151.49 51** PKPbc **PKiKP** **10 04 08.2 +1.0**
comp=Z,0.7nm,0.4s,baz=208,slow=4.8,SNR=5.2

*JMA **30** 09:49:14.7±0.1,23˚.79N×121˚.50E,h14km*
*ISCJB **30** 09:49:15.3±0.2,23˚.84N±0˚.01×121˚.49E±0˚.02,h17km±3km, Error ellipse: s-maj=2.8km s-min=1.7km az=24.5*
*TAP **30** 09:49:15.1,23.84N×121.45E,h17km,ML2.8,B*
ISC 30 09:49:15.1±0.8,**23.84N**±0˚.01×**121.48E**±0˚.02,**h17**km±4km, **n78**,σ0**48**/125,**2C-5D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.04**	**242**↑	*i* P		**Pg**	**09 49 18.4**	**+0.2**
	baz=190							
ESL				*i* S		**Sg**	**09 49 20.2**	**+0.1**
	baz=190							
ENLB	**Shoufeng**	**0.14**	**59**	*e*P		**Pg**	**09 49 18.9**	**-0.1**
	baz=61							
ENLB				*e*S		**Sb**	**09 49 22.4**	**+0.4**
	baz=61							
EGFH	**Guangfu**	**0.17**	**195**	P		**Pg**	**09 49 19.5**	**0.0**
	baz=186							
EGFH				*e*S		**Sg**	**09 49 22.4**	**0.0**
	baz=186							
HWA	**Hwalien**	**0.18**	**40**	*e*P		**Pb**	**09 49 20.6**	**+0.5**
	baz=43							
TWD	**Chiawan**	**0.27**	**24**	*e*P		**Pb**	**09 49 21.5**	**-0.1**
	baz=32							
TWD				*e*S		**Sg**	**09 49 25.3**	**+0.3**
	baz=32							
OWD	**Renai**	**0.30**	**294**	*e*P		**Pg**	**09 49 21.4**	**-0.2**
	baz=299							
OWD				S		**Sg**	**09 49 25.5**	**-0.5**
	baz=299							
VWDT	**VWDT**	**0.32**	**255**↑	P		**Pg**	**09 49 21.9**	**+0.1**
	baz=247							
VWDT				S		**Sg**	**09 49 26.1**	**-0.2**
	baz=247							
HGSD	**Ruisui**	**0.34**	**188**	*e*P		**Pb**	**09 49 22.8**	**-0.1**
	baz=190							
HGSD				*e*S		**Sb**	**09 49 28.3**	**+0.3**
	baz=190							
CHGB	**Renai**	**0.35**	**309**	⇓P		**Pg**	**09 49 22.6**	**0.0**
	baz=315							
CHGB				S		**Sg**	**09 49 27.4**	**-0.4**
	baz=315							
NACB	**Ninganchiao**	**0.35**	**18**	P		**Pg**	**09 49 22.6**	**+0.1**
	baz=23							
NACB				S		**Sg**	**09 49 27.3**	**-0.3**
	baz=23							
EHY	**Hungye**	**0.36**	**203**	P		**Pg**	**09 49 22.2**	**-0.3**
	baz=197							
EHY				*e*S		**Sg**	**09 49 27.6**	**0.0**
	baz=197							
WHF	**Hehuan Shan**	**0.36**	**328**	*e*P		**Pg**	**09 49 22.5**	**-0.4**
	baz=325							
WHF				*e*S		**Sg**	**09 49 27.4**	**-0.8**
	baz=325							
ETLH	**Xiulin Townshi**	**0.37**	**1**	P		**Pg**	**09 49 22.8**	**0.0**
	baz=6.0							
ETLH				S		**Sg**	**09 49 27.7**	**-0.4**
	baz=6.0							
YULB	**Yu-li**	**0.47**	**200**	*e*P		**Pg**	**09 49 23.9**	**-0.6**
	baz=190							
YULB				*e*S		**Sg**	**09 49 30.8**	**-0.2**
	baz=190							
SSLB	**Suanglung**	**0.48**	**264**	*e*P		**Pg**	**09 49 24.4**	**-0.4**
	baz=262							
SSLB				S		**Sg**	**09 49 29.8**	**-1.5**
	baz=262							
TWT	**Tachien**	**0.50**	**327**	⇓P		**Pg**	**09 49 25.4**	**+0.2**
	baz=322							
TWT				*e*S		**Sg**	**09 49 31.6**	**-0.4**
	baz=322							
TDCB	**Techi**	**0.51**	**325**	⇓P		**Pg**	**09 49 25.4**	**+0.1**
	baz=322							
TDCB				S		**Sg**	**09 49 31.3**	**-0.9**
	baz=322							
TWF1	**Yuli**	**0.51**	**199**	*e*P		**Pg**	**09 49 24.7**	**-0.6**
	baz=194							
TWF1				*e*S		**Sg**	**09 49 32.2**	**+0.1**
	baz=194							
DPDB	**Guoxing**	**0.54**	**292**	⇓P		**Pg**	**09 49 25.7**	**-0.2**
	baz=291							
DPDB				*e*S		**Sg**	**09 49 32.2**	**-0.9**
	baz=291							
TYC	**Yuchr**	**0.57**	**277**	⇓P		**Pg**	**09 49 25.9**	**-0.6**
	baz=276							
TYC				*e*S		**Sg**	**09 49 32.7**	**-1.3**
	baz=276							
WHYT	**Xinyi Township**	**0.59**	**257**	*e*P		**Pb**	**09 49 26.9**	**0.0**
	baz=249							
WHYT				*e*S		**Sg**	**09 49 34.1**	**-0.4**
	baz=249							
YUS	**Yu-Shan**	**0.59**	**234**	*e*P		**Pg**	**09 49 26.8**	**-0.2**
	baz=231							
YUS				*e*S		**Sg**	**09 49 34.0**	**-0.9**
	baz=231							
NNSH	**Datong**	**0.60**	**352**	*e*P		**Pg**	**09 49 26.8**	**-0.1**
	baz=359							
NNSH				*e*S		**Sg**	**09 49 34.4**	**-0.6**
	baz=359							
NNS	**Nan Shan**	**0.61**	**351**	P		**Pg**	**09 49 27.1**	**-0.1**
	baz=4.0							
NNS				S		**Sg**	**09 49 35.2**	**-0.2**
	baz=4.0							
ENA	**Nanau**	**0.64**	**22**	*e*P		**Pg**	**09 49 27.2**	**-0.5**
	baz=25							
NANB	**Nanao**	**0.64**	**23**	P		**Pg**	**09 49 26.9**	**-0.9**
	baz=26							
NANB				*e*S		**Sg**	**09 49 35.7**	**-0.6**
	baz=26							
FULB	**Fuli**	**0.65**	**195**	*e*P		**Pg**	**09 49 27.7**	**-0.3**
	baz=202							
FULB				*e*S		**Sb**	**09 49 38.1**	**+1.1**
	baz=202							
WHP	**Taichung City**	**0.65**	**312**	P		**Pg**	**09 49 27.8**	**-0.2**
	baz=314							
WHP				*e*S		**Sg**	**09 49 36.3**	**-0.4**
	baz=314							
WJS	**Zhushan**	**0.68**	**269**	*e*P		**Pg**	**09 49 28.6**	**0.0**
	baz=270							
WJS				*e*S		**Sb**	**09 49 38.1**	**+0.3**
	baz=270							
ALS	**Alishan**	**0.69**	**242**	*e*P		**Pg**	**09 49 28.7**	**-0.1**
	baz=239							
ALS				*e*S		**Sg**	**09 49 37.6**	**-0.5**
	baz=239							
WNT	**Mingjian**	**0.72**	**274**	*e*P		**Pg**	**09 49 29.3**	**0.0**
	baz=273							
CHKT	**Chengkung**	**0.74**	**188**	*e*P		**Pg**	**09 49 28.6**	**-1.0**
	baz=185							
NDT	**Datong Townshi**	**0.77**	**3**	*e*P		**Pg**	**09 49 30.0**	**-0.1**
	baz=5.0							
NDT				*e*S		**Sg**	**09 49 39.9**	**-0.3**
	baz=5.0							
CHN5	**Tsauling**	**0.77**	**252**	*e*P		**Pb**	**09 49 30.4**	**+0.3**
	baz=242							
CHN5				*e*S		**Sb**	**09 49 40.8**	**+0.5**
	baz=242							
ELDTW	**Lidau**	**0.77**	**213**	*e*P		**Pg**	**09 49 29.4**	**-0.8**
	baz=218							
ELDTW				*e*S		**Sg**	**09 49 39.3**	**-1.0**
	baz=218							
ENTT	**Nioudou**	**0.81**	**6**	*e*P		**Pb**	**09 49 30.8**	**+0.1**
	baz=9.0							
ENTT				*e*S		**Sb**	**09 49 41.3**	**0.0**
	baz=9.0							
TWQ1	**Liyutan**	**0.82**	**309**	*e*P		**Pg**	**09 49 31.4**	**+0.2**
	baz=316							
TWQ1				*e*S		**Sg**	**09 49 43.0**	**+1.1**
	baz=316							
YHNB	**Yeheng**	**0.84**	**354**	*e*P		**Pb**	**09 49 31.4**	**+0.1**
	baz=356							
YHNB				*e*S		**Sb**	**09 49 41.9**	**-0.4**
	baz=356							
NSK	**Sanguang**	**0.84**	**353**	*e*P		**Pb**	**09 49 31.7**	**+0.3**
	baz=356							
NSK				*e*S		**Sb**	**09 49 41.9**	**-0.6**
	baz=356							
TWC	**Suao**	**0.84**	**24**	*e*P		**Pb**	**09 49 31.4**	**0.0**
	baz=26							
WDLH	**Douliu**	**0.87**	**261**	*e*P		**Pb**	**09 49 31.8**	**0.0**
	baz=259							
TWE	**Neicheng**	**0.90**	**11**	*e*P		**Pb**	**09 49 32.4**	**+0.1**
	baz=15							
TWE				*e*S		**Sb**	**09 49 44.4**	**+0.3**
	baz=15							
NSTT	**Nanjuang**	**0.90**	**331**	*e*P		**Pb**	**09 49 32.6**	**+0.2**
	baz=334							
NSTT				*e*S		**Sb**	**09 49 44.3**	**+0.2**
	baz=334							
LIOB	**Emei**	**0.91**	**333**	*e*P		**Pb**	**09 49 32.6**	**+0.1**
	baz=335							
LIOB				*e*S		**Sb**	**09 49 44.6**	**+0.3**
	baz=335							
WDJ	**Dajia District**	**0.92**	**304**	*e*P		**Pn**	**09 49 33.6**	**+0.3**
	baz=305							
WDJ				*e*S		**Sn**	**09 49 47.1**	**+1.0**
	baz=305							
SLBB	**Yuanshan**	**0.93**	**9**	*e*P		**Pb**	**09 49 32.6**	**-0.2**
	baz=19							
PTSB	**Yuanli**	**0.93**	**311**	*e*P		**Pb**	**09 49 32.0**	**-0.8**
	baz=312							
NMLH	**Miaoli**	**0.94**	**318**	*e*P		**Pb**	**09 49 33.4**	**+0.1**
	baz=320							
NWLT	**Wulai**	**0.94**	**2**	*e*P		**Pb**	**09 49 33.1**	**+0.1**
	baz=16							
STYT	**Tauyuan**	**0.94**	**225**	*e*P		**Pb**	**09 49 33.0**	**0.0**
	baz=222							
TPUB	**Ta-pu**	**0.94**	**236**	*e*P		**Pg**	**09 49 33.4**	**0.0**
	baz=222							
TPUB				*e*S		**Sb**	**09 49 45.3**	**+0.1**
	baz=222							
CHN4	**Tsaushan**	**0.94**	**239**	*e*P		**Pg**	**09 49 33.3**	**-0.1**
	baz=226							
CHN4				*e*S		**Sg**	**09 49 45.8**	**0.0**
	baz=226							
WTP	**Ta-pu**	**0.98**	**234**	*e*P		**Pn**	**09 49 34.4**	**+0.2**
	baz=231							
WTP				*e*S		**Sg**	**09 49 47.0**	**-0.1**
	baz=231							
RLNB	**Erlin**	**1.02**	**273**	*e*P		**Pn**	**09 49 34.7**	**0.0**
	baz=272							
TWK	**Hsinying**	**1.07**	**238**	*e*P		**Pg**	**09 49 35.7**	**-0.1**
	baz=225							
TWK				*e*S		**Sn**	**09 49 49.9**	**0.0**
	baz=225							
TWG	**Pinlang**	**1.07**	**200**	*e*P		**Pb**	**09 49 35.0**	**-0.3**
	baz=185							
TWGBT	**Beinan**	**1.07**	**200**	*e*P		**Pn**	**09 49 35.5**	**0.0**
	baz=185							
CHN1	**Nanshi**	**1.08**	**234**	*e*P		**Pg**	**09 49 37.0**	**+0.9**
	baz=231							
CHN1				*e*S		**Sn**	**09 49 51.2**	**+1.0**
	baz=231							
SNST	**Tainan City**	**1.09**	**236**	*e*P		**Pg**	**09 49 36.7**	**+0.6**
	baz=233							
SNST				*e*S		**Sn**	**09 49 51.1**	**+0.8**
	baz=233							
SGST	**Jiashian**	**1.11**	**228**	*e*P		**Pg**	**09 49 36.2**	**-0.3**
	baz=225							
SGST				*e*S		**Sn**	**09 49 51.3**	**+0.4**
	baz=225							
SLGT	**Liugui**	**1.13**	**222**	*e*P		**Pn**	**09 49 36.5**	**+0.3**
	baz=220							
TATO	**Taipei**	**1.14**	**1**	*e*P		**Pg**	**09 49 37.8**	**+0.7**
	baz=12							
TWA	**Mucha**	**1.15**	**5**	*e*P		**Pn**	**09 49 36.5**	**+0.1**
	baz=17							
TIPB	**Shuangxi**	**1.18**	**16**	*e*P		**Pn**	**09 49 36.9**	**0.0**
	baz=18							
YM01	**YM01**	**1.31**	**4**	*e*P		**Pg**	**09 49 40.5**	**+0.1**
	baz=26							
YM10	**YM10**	**1.32**	**3**	*e*P		**Pg**	**09 49 40.3**	**-0.3**
	baz=25							
ECL	**Taimali**	**1.32**	**201**	*e*P		**Pn**	**09 49 38.6**	**-0.3**
	baz=185							
YM11	**YM11**	**1.33**	**4**	*e*P		**Pg**	**09 49 41.7**	**+1.0**
	baz=25							
SCLT	**Jiali**	**1.35**	**241**	*e*P		**Pb**	**09 49 40.4**	**+0.5**
	baz=239							
MASBT	**Mashibuluo**	**1.44**	**213**	*e*P		**Pb**	**09 49 41.6**	**0.0**
	baz=205							
PHUB	**P'eng-hu**	**1.77**	**260**	*e*P		**Pn**	**09 49 44.9**	**-0.1**
	baz=258							
IRIF	**Iriomote-Funau**	**2.12**	**76**	*e*S		**Sn**	**09 50 15.8**	**0.0**
VWUC	**VWUC**	**2.18**	**302**	*e*P		**Pn**	**09 49 50.0**	**-0.5**
	baz=304							
JKRS	**Kuro-shima**	**2.35**	**80**	*e*S		**Sn**	**09 50 22.1**	**+0.6**
PTMZ	**Houxiangcun**	**2.46**	**300**	*e*P		**Pn**	**09 49 53.5**	**-0.9**
	baz=301							
JIJ	**Ishigaki jima**	**2.50**	**77**	P		**Pn**	**09 49 54.6**	**-0.4**
JIJ				*e*S		**Sn**	**09 50 24.7**	**-0.3**
JISG	**Ishigakijimahi**	**2.70**	**73**	P		**Pn**	**09 49 57.9**	**+0.2**
KNMB	**Chin-men Tao**	**2.89**	**283**	*e*P		**Pn**	**09 49 59.9**	**-0.4**
	baz=279							

*ISCJB **30** 10:16:36.7±0.4,2˚.76S±0˚.04×139˚.21E±0˚.05,h10km, mb3.9/7,MS3.1/4, Error ellipse: s-maj=7.3km s-min=5.4km az=157.7*
*IDC **30** 10:16:36.6±0.7,2˚.66S×139˚.14E,h0km,mb4.0/8, mb1 4.3/11,mb1mx4.0/27,mbtmp4.1/11,ML4.4/1,MS3.1/7, Ms1 3.1/7,ms1mx2.9/28,Error ellipse: s-maj=17.3km s-min=12.4km az=176.0*
*NEIC **30** 10:16:40.3±2.0,2˚.69S±0˚.09×139˚.23E±0˚.06,h26km±5km, mb4.4/13*
*DJA **30** 10:16:40.3±0.3,3˚S±3˚×13˚9E±˚,h10km,M4.3/7,mB4.5/1, mb4.5/7,MLv4.2/4,Mw(mB)3.6/1,Mwp5.2/1*
ISC 30 10:16:38.7±0.5,**2.62S**±0˚.05×**139˚.20E**±0˚.04,**h10**km,**n43,** σ1§**84**/42,**mb4.1**/11,**MS3.1**/4,**Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.79**	**322**	P		**Pg**	**10 16 54.8**	**+0.8**
SMPI				S		**Sb**	**10 17 06.8**	**+1.4**
GENI	**Genyem**	**0.97**	**88**	P		**Pg**	**10 16 58.8**	**+1.4**
GENI				S		**Sb**	**10 17 14.1**	**+3.6**
WAMI	**Wamena**	**1.34**	**201**	P		**Pg**	**10 17 08.7**	**+4.2**
JAY	**Jayapura**	**1.51**	**86**	Pg		**Pn**	**10 17 05.9**	**0.0**
	14nm,0.3s,baz=268,slow=5.9,SNR=45							
JAY				Lg		Lg	10 17 26.2	
	38nm,0.3s,baz=101,slow=18,SNR=7.4							
JAY				LR		LR	10 17 54.0	
	comp=Z,512nm,20.0s,baz=30,slow=49							
FAKI	**Fak Fak**	**6.95**	**267**	P		**Pn**	**10 18 21.1**	**+0.5**
	22nm,0.6s,6μm0.1nm							
FAKI	**Fak Fak**	**6.95**	**267**			**Pn**	**10 18 21.4**	**+0.8**
SIJI	**Sorong**	**8.12**	**282**	Pn		**Pn**	**10 18 39.0**	**+2.3**
	4.0nm,0.3s,baz=44,slow=14,SNR=6.9							
SIJI				LR		LR	10 22 33.1	
	comp=Z,184nm,18.1s,baz=80,slow=44							
PMG	**Port Moresby**	**10.40**	**131**	Pn		**Pn**	**10 19 08.1**	**+0.1**
	0.5nm,0.3s,baz=315,slow=10.0,SNR=2.6							
COEN	**Coen**	**11.93**	**161**			**Pn**	**10 19 30.0**	**+1.0**
NLAI	**Namlea**	**12.10**	**267**	P		**Pn**	**10 19 31.3**	**+0.1**
	18nm,1.0s							
KRVT	**Keravat (AS076**	**12.91**	**98**	LR		LR	10 24 35.3	
	comp=Z,47nm,20.5s,baz=7.6,slow=37							
MTN	**Manton Dam**	**12.91**	**218**			**Pn**	**10 19 41.0**	**-1.4**
SOEI	**Soe**	**16.44**	**244**	P		**P**	**10 20 32.6**	**+0.1**
	71nm,1.0s							
SOEI	**Soe**	**16.44**	**244**	P		**Pn**	**10 20 29.8**	**0.0**
SOEI				IAmb		IAmb	10 20 44.7	
	comp=Z,50nm,0.9s							
KNRA	**Kununurra**	**16.55**	**218**	P		**Pn**	**10 20 29.8**	**-1.2**
GUMO	**Guam**	**17.06**	**19**	LR		LR	10 25 26.0	
	comp=Z,43nm,20.9s,baz=172,slow=31							
BATI	**Baumata**	**17.17**	**243**	P		**Pn**	**10 20 37.3**	**-1.6**
	comp=Z,6.5nm,0.3s,baz=51,slow=6.5,SNR=3.3							
WR0	**Warramunga Arr**	**17.82**	**194**	P		**Pn**	**10 20 44.9**	**-2.1**
WRAB	**Tennant Creek**	**17.84**	**195**	P		**Pn**	**10 20 44.9**	**-2.4**
WRA	**Warramunga Arr**	**17.86**	**195**	P		**Pn**	**10 20 44.6**	**-2.8**
	comp=Z,1.3nm,0.3s,baz=17,slow=12,SNR=33							
FITZ	**Fitzroy Crossi**	**20.33**	**220**	P		**P**	**10 21 14.0**	**-1.2**
	comp=Z,6.4nm,0.7s,baz=40,slow=11,SNR=5.6							
FITZ				LR		LR	10 30 02.1	
	comp=Z,186nm,19.2s,baz=32,slow=40							
FITZ	**Fitzroy Crossi**	**20.33**	**220**	IAmb		IAmb	10 21 22.6	
	comp=Z,9.3nm,0.8s							
AS31	**Alice Springs**	**21.54**	**193**	P		**P**	**10 21 27.5**	**-0.8**
AS31				IAmb		IAmb	10 21 39.3	
	comp=Z,4.5nm,0.4s							
ASAR	**Alice Springs**	**21.54**	**193**	P		**P**	**10 21 27.1**	**-1.1**
	comp=Z,2.8nm,0.6s,baz=14,slow=10,SNR=92							
ASAR				S		**S**	**10 25 21.5**	**-5.7**
	comp=Z,0.8nm,0.8s,baz=17,slow=26,SNR=3.5							
ASAR				LR		LR	10 29 54.2	
	comp=Z,81nm,19.1s,baz=12,slow=37							
STKA	**Stephens Creek**	**29.19**	**176**	P		**P**	**10 22 39.2**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=1.7,slow=7.9,SNR=4.2							
STKA	**Stephens Creek**	**29.19**	**176**	P		**P**	**10 22 38.6**	**-1.8**
KSRS	**Korea Array**	**41.23**	**346**	LR		LR	10 39 23.1	
	comp=Z,15nm,21.0s,baz=40,slow=33							
CMAR	**Chiang Mai Arr**	**44.82**	**300**	P		**P**	**10 24 53.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=94,slow=7.3,SNR=4.0							
PALK	**Pallekele**	**59.19**	**280**	LR		LR	10 53 09.7	
	comp=Z,16nm,18.9s,baz=21,slow=37							
MK31	**Makanchi Array**	**70.02**	**322**	P		**P**	**10 27 51.3**	**+0.5**
MK31				IAmb		IAmb	10 27 51.9	
	comp=Z,2.0nm,1.1s							
MKAR	**Makanchi Array**	**70.02**	**322**	P		**P**	**10 27 50.8**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=113,slow=7.5,SNR=16							
MAKZ	**Makanchi**	**70.22**	**322**	P		**P**	**10 27 52.4**	**+0.5**
MAKZ				IAmb		IAmb	10 27 55.2	
	comp=Z,2.8nm,0.6s							
KSH	**Kashi**	**71.38**	**313**	P		**P**	**10 28 02.3**	**+3.0**
KSH				PcP		**PcP**	**10 28 22.0**	**+3.0**
KSH				S

VNDA	**Vanda**	**75.82**	**175**	P	**P**	**10**	**28**	**24.6 0.0**
	comp=Z,2.3nm,0.8s,baz=307,slow=7.0,SNR=6.3							
VNDA	**Vanda**	**75.82**	**175**	P	**P**	**10**	**28**	**24.4 -0.2**
VNDA				IAmb	IAmb	10	28	33.9
	comp=Z,4.1nm,1.1s							
CHGR	**Chuyangaron**	**76.19**	**311**	P	**P**	**10**	**28**	**27.7 +0.2**
ILAR	**Eielson Array**	**85.55**	**24**	P	**P**	**10**	**29**	**15.9 -1.0**
	comp=Z,1.3nm,0.9s,baz=252,slow=5.8,SNR=10							
DOT	**Dot Lake**	**86.47**	**26**	P	**P**	**10**	**29**	**21.0 -0.5**
ARCES	**ARCESS Array B**	**100.59**	**341**	P	**Pdif**	**10**	**30**	**25.7 -0.7**
	comp=Z,5.8nm,1.0s,baz=64,slow=9.1,SNR=3.5							
TORD	**Torodi Ar. Bea**	**136.70**	**286**	PKP	**PKPdf**	**10**	**36**	**01.8 -0.7**
	comp=Z,0.7nm,0.7s,baz=78,slow=2.8,SNR=2.9							

SJA ***30*** *10:17:31.3±0.7, 22.°35S×67.°45W, h175km±7km, ML2.6, MW2.9*

ISCJB ***30*** *10:17:32.6±1.0, 22.°42S±0.°04×67.°54W±0.°04, h170km±11km, Error ellipse: s-maj=7.1km s-min=6.3km az=5.9*

GUC ***30*** *10:17:33.4±0.7, 22.°43S×67.°78W, h184km±6km, ML3.0*

ISC 30 10:17:31.9±1.9, 22°41S±0.°05×67°51W±0.°04, h177km±17km, n24, σ0.86/37, 5C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**1.31**	**261**	*e*P		**Pn**	**10 18 02.9**	**+0.6**
LVC				*e*S		**Sn**	**10 18 25.4**	**-0.3**
LVC	**Limon Verde**	**1.31**	**261**	*i* P		**Pn**	**10 18 02.5**	**+0.2**
PB09	**IPOC Station P**	**1.72**	**290**	⇑*i* P		**Pn**	**10 18 07.0**	**+1.0**
PB09				*i* S		**Sn**	**10 18 32.4**	**+0.1**
PB09	**IPOC Station P**	**1.72**	**290**	*i* P		**Pn**	**10 18 06.4**	**+0.4**
PB09				*e*S		**Sn**	**10 18 31.8**	**-0.6**
PB09				IAML			10 18 34.4	
	comp=Z,37nm,0.4s							
YJA	**Yavi**	**1.86**	**83**	*i* P		**Pn**	**10 18 07.7**	**-0.1**
YJA				*e*S		**Sn**	**10 18 34.3**	**-1.1**
YJA				IAML			10 18 35.2	
	comp=Z,8.4nm,0.6s							
PB06	**IPOC Station P**	**1.93**	**261**	*e*P		**Pn**	**10 18 09.0**	**+0.8**
PB06				IAML			10 18 38.2	
	comp=N,39nm,0.2s							
PB06	**IPOC Station P**	**1.93**	**261**	*i* P		**Pn**	**10 18 09.2**	**+1.0**
PB06				IAML			10 18 45.3	
	comp=Z,25nm,0.3s							
PB15	**IPOC Station P**	**1.98**	**246**	*e*P		**Pn**	**10 18 09.4**	**+0.6**
PB15				*e*S		**Sn**	**10 18 37.4**	**+0.1**
PB15	**IPOC Station P**	**1.98**	**246**	*i* P		**Pn**	**10 18 09.6**	**+0.9**
PB15				*e*S		**Sn**	**10 18 37.7**	**+0.4**
PB15				IAML			10 18 44.2	
	comp=Z,192nm,0.2s							
HJA	**Humahuaca**	**2.09**	**113**	*i* P		**Pn**	**10 18 10.5**	**+0.3**
PB03	**IPOC Station P**	**2.11**	**279**	⇑*i* P		**Pn**	**10 18 10.4**	**+0.2**
PB03				*i* S		**Sn**	**10 18 39.1**	**-0.7**
PB03				IAML			10 18 40.0	
	comp=N,80nm,0.5s							
PB04	**IPOC Station P**	**2.45**	**271**	⇑*i* P		**Pn**	**10 18 14.3**	**+0.3**
PB04				*i* S		**Sn**	**10 18 45.0**	**-1.6**
PB04				IAML			10 18 47.6	
	comp=E,66nm,0.2s							
PB04	**IPOC Station P**	**2.45**	**271**	*i* P		**Pn**	**10 18 14.6**	**+0.6**
PB05	**IPOC Station P**	**2.53**	**259**	⇑*i* P		**Pn**	**10 18 15.3**	**+0.3**
PB05				*i* S		**Sn**	**10 18 47.0**	**-1.2**
PB05				IAML			10 18 48.9	
	comp=E,25nm,0.4s							
PB05	**IPOC Station P**	**2.53**	**259**	*i* P		**Pn**	**10 18 15.4**	**+0.5**
PB05				IAML			10 18 50.2	
	comp=Z,15nm,0.7s							
PB08	**IPOC Station P**	**2.73**	**325**	*e*P		**Pn**	**10 18 18.9**	**+1.4**
PB08				*i* S		**Sn**	**10 18 53.6**	**+0.6**
PB08				IAML			10 18 56.3	
	comp=N,35nm,0.6s							
SLA	**San Lorenzo**	**2.95**	**142**	*i* P		**Pn**	**10 18 20.6**	**+0.6**
SLA				IAML			10 19 39.4	
	comp=Z,5.4nm,2.8s							
PB10	**IPOC Station P**	**3.02**	**248**	*e*P		**Pn**	**10 18 20.6**	**0.0**
PB10				*i* S		**Sn**	**10 18 56.8**	**-1.7**
PB10				IAML			10 18 59.1	
	comp=E,21nm,0.3s							
PB10	**IPOC Station P**	**3.02**	**248**	*i* P		**Pn**	**10 18 20.9**	**+0.3**
PB10				IAML			10 19 41.4	
	comp=Z,12nm,2.0s							
TA01	**Diego Aracena**	**3.09**	**306**	*e*P		**Pn**	**10 18 21.1**	**-0.5**
TA01				*i* S		**Sn**	**10 18 58.1**	**-2.1**
TA01				IAML			10 19 01.0	
	comp=E,46nm,0.3s							
GO01	**Chusmiza**	**3.15**	**330**	*e*P		**Pn**	**10 18 23.2**	**+0.4**
GO01				*e*S		**Sn**	**10 19 03.0**	**+0.7**
PB11	**IPOC Station P**	**3.31**	**322**	IAML			10 19 04.9	
	comp=E,50nm,0.2s							
GO02	**Mina Guanaco**	**3.34**	**214**	⇑*i* P		**Pn**	**10 18 25.6**	**+0.7**
GO02				*e*S		**Sn**	**10 19 06.3**	**0.0**
PB14	**IPOC Station P**	**3.46**	**230**	*i* P		**Pn**	**10 18 27.3**	**+0.9**
PB14				IAML			10 19 13.6	
	comp=Z,15nm,0.6s							

IDC 30 10:44:56.4±2.8, 16°40N×95°78E, h0km, mb3.7/2, mb1 3.6/3, mb1mx3.3/42, mbtmp3.6/3, ML3.6/1, MS2.8/2, Ms1 2.9/2, ms1mx2.6/35, Error ellipse: s-maj=35.0km s-min=22.4km az=6.0, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMAR	**Chiang Mai Arr**	**3.65**	**55**	Pn		Pn	10 45 52.5	-1.6
	1.4nm,0.3s,baz=242,slow=15,SNR=9.6							
CMAR				Pg		Pg	10 46 04.3	-2.0
	3.7nm,0.3s,baz=239,slow=19,SNR=29							
CMAR				Lg		Lg	10 46 52.3	
	1.1nm,0.3s,baz=239,slow=33,SNR=4.4							
CMAR				LR		LR	10 47 37.3	
	comp=Z,49nm,19.1s,baz=22,slow=44							
LEM	**Lembang**	**25.88**	**152**	LR		LR	11 02 08.3	
	comp=Z,58nm,19.6s,baz=78,slow=40							
MKAR	**Makanchi Array**	**32.31**	**343**	P		P	10 51 27.2	+0.1
	0.5nm,0.6s,baz=159,slow=9.0,SNR=7.1							
ZALV	**Zalesovo Beam**	**38.44**	**350**	P		P	10 52 19.6	-0.1
	0.3nm,0.3s,baz=162,slow=7.2,SNR=3.6							

IDC ***30*** *10:48:57.8±0.7, 56.°67S×25.°11W, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.1/26, mbtmp4.2/10, MS3.4/6, Ms1 3.4/6, ms1mx3.2/18, Error ellipse: s-maj=23.6km s-min=19.0km az=47.0*

ISCJB ***30*** *10:49:02.1±0.4, 56.°74S±0.°06×25.°2W±0.°1, h35km, mb4.2/9, MS3.4/6, Error ellipse: s-maj=12.2km s-min=6.9km az=149.6*

NEIC ***30*** *10:49:05.6±1.7, 56.°8S±0.°1×25.°2W±0.°2, h58km±6km, mb4.8/18*

ISC 30 10:49:03.0±0.5, 56°73S±0.°10×25°0W±0.°1, h35km, n93, σ1.9/04/83, mb4.7/14, MS3.4/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	**Hope Point**	**6.96**	**286**	Pn		**Pn**	**10 50 43.9**	**+1.6**
VNA1	**Neumayer--Stat**	**15.72**	**159**	P		**P**	**10 52 44.6**	**-0.4**
VNA2	**Neumayer--Watz**	**16.11**	**159**	P		**P**	**10 52 49.5**	**+0.1**
	baz=324,slow=14							
SNAA	**Sanae**	**17.64**	**157**	P		**P**	**10 53 09.0**	**+2.8**
SNAA	**Sanae**	**17.64**	**157**	P		**P**	**10 53 05.6**	**-0.7**
	baz=320,slow=16,SNR=2.2							
PMSA	**Palmer Station**	**20.39**	**231**	LR		LR	10 59 17.2	
	comp=Z,55nm,18.5s,baz=84,slow=30							
PMSA	**Palmer Station**	**20.39**	**231**	P		Pn	10 53 36.0	-2.5
USHA	**Ushuaia**	**24.19**	**256**	P		**P**	**10 54 15.3**	**-0.4**
	10nm,0.8s,baz=78,slow=8.0,SNR=5.3							
USHA				LR		LR	11 01 27.8	
	comp=Z,110nm,20.7s,baz=110,slow=31							
GO09	**Cerro Castillo**	**27.88**	**261**	P		**P**	**10 54 47.8**	**-1.4**
GO09				IAmb		IAmb	10 54 48.9	
	comp=Z,59nm,1.5s							
TRQA	**Tornquist**	**30.70**	**292**	P		**P**	**10 55 12.8**	**-1.5**
PLTB	**Pedras Altas**	**31.86**	**309**	*e*P		**P**	**10 55 25.0**	**+0.5**
PLTB	**Pedras Altas**	**31.86**	**309**	*e*P		**P**	**10 55 25.0**	**+0.5**
PLCA	**Paso Flores**	**33.31**	**279**	P		**P**	**10 55 35.1**	**-2.0**
	comp=Z,3.4nm,0.9s,baz=177,slow=12,SNR=3.9							
PLCA				LR		LR	11 10 07.5	
	comp=Z,43nm,18.3s,baz=158,slow=38							
PLCA	**Paso Flores**	**33.31**	**279**	*e*P		**P**	**10 55 38.3**	**+1.1**
PLCA	**Paso Flores**	**33.31**	**279**	*e*P		**P**	**10 55 38.3**	**+1.1**
PLCA	**Paso Flores**	**33.31**	**279**	IAmb		IAmb	10 55 35.8	
	comp=Z,13nm,1.4s							
QSPA	**South Pole Qui**	**33.52**	**180**	P		**P**	**10 55 39.8**	**+1.0**
	comp=Z,4.5nm,0.6s,baz=213,slow=1.7,SNR=60							
QSPA	**South Pole Qui**	**33.52**	**180**	P		**P**	**10 55 40.3**	**+1.4**
QSPA				IAmb		IAmb	10 55 41.4	
	comp=Z,5.6nm,0.7s							
ITQB	**Itaqui**	**34.97**	**307**	*e*P		**P**	**10 55 52.6**	**+1.0**
ITQB	**Itaqui**	**34.97**	**307**	*e*P		**P**	**10 55 52.6**	**+1.0**
SPB	**Sao Paulo**	**36.92**	**324**	*e*P		**P**	**10 56 09.1**	**+0.8**
SPB	**Sao Paulo**	**36.92**	**324**	*e*P		**P**	**10 56 09.1**	**+0.8**
VAO	**Valinhos**	**37.32**	**325**	*e*P		**P**	**10 56 13.2**	**+1.4**
VAO	**Valinhos**	**37.32**	**325**	*e*P		**P**	**10 56 13.2**	**+1.4**
PTGB	**Pitanga**	**37.50**	**317**	*e*P		**P**	**10 56 14.7**	**+1.4**
PTGB	**Pitanga**	**37.50**	**317**	*e*P		**P**	**10 56 14.7**	**+1.4**
FRTB	**Fartura**	**37.86**	**322**	*e*P		**P**	**10 56 17.8**	**+1.5**
FRTB	**Fartura**	**37.86**	**322**	*e*P		**P**	**10 56 17.8**	**+1.5**
CPUP	**Villa Florida**	**38.17**	**309**	P		**P**	**10 56 17.8**	**-1.1**
	comp=Z,6.9nm,0.9s,baz=172,slow=10,SNR=15							
CPUP	**Villa Florida**	**38.17**	**309**	*e*P		**P**	**10 56 19.0**	**+0.1**
CPUP	**Villa Florida**	**38.17**	**309**	*e*P		**P**	**10 56 19.0**	**+0.1**
CPUP	**Villa Florida**	**38.17**	**309**	P		**P**	**10 56 19.3**	**+0.4**
CPUP				IAmb		IAmb	10 56 19.9	
	comp=Z,6.0nm,0.8s							
ROC1	**El Roble**	**39.30**	**287**	P		**P**	**10 56 27.1**	**-1.5**
TRCB	**Terra Rica**	**39.46**	**318**	*e*P		**P**	**10 56 30.6**	**+0.9**
TRCB	**Terra Rica**	**39.46**	**318**	*e*P		**P**	**10 56 30.6**	**+0.9**
PMNB	**Patos De Minas**	**41.37**	**328**	*e*P		**P**	**10 56 46.6**	**+1.0**
PMNB	**Patos De Minas**	**41.37**	**328**	*e*P		**P**	**10 56 46.6**	**+1.0**
ITRB	**Iturama**	**41.50**	**323**	*e*P		**P**	**10 56 47.9**	**+1.4**
ITRB	**Iturama**	**41.50**	**323**	*e*P		**P**	**10 56 47.9**	**+1.4**
IPMB	**Ipameri, GO**	**42.42**	**326**	*e*P		**P**	**10 56 55.2**	**+1.1**
IPMB	**Ipameri, GO**	**42.42**	**326**	*e*P		**P**	**10 56 55.2**	**+1.1**
AQDB	**Aquidauana**	**42.73**	**315**	*e*P		**P**	**10 56 56.7**	**+0.2**
AQDB	**Aquidauana**	**42.73**	**315**	*e*P		**P**	**10 56 56.7**	**+0.2**
GO02	**Mina Guanaco**	**44.88**	**296**	P		**P**	**10 57 13.6**	**-0.6**
GO02				IAmb		IAmb	10 57 14.3	
	comp=Z,14nm,0.6s							
BOSA	**Boshof**	**44.99**	**73**	P		**P**	**10 57 15.3**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=197,slow=14,SNR=2.5							
BOSA				LR		LR	11 10 50.1	
	comp=Z,48nm,22.0s,baz=192,slow=29							
ARAG	**Araguaiana, MT**	**45.71**	**323**	*e*P		**P**	**10 57 22.0**	**+1.6**
ARAG	**Araguaiana, MT**	**45.71**	**323**	*e*P		**P**	**10 57 22.0**	**+1.6**
VNDA	**Vanda**	**45.95**	**182**	P		**P**	**10 57 21.5**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=172,slow=7.1,SNR=2.5							
VNDA				LR		LR	11 15 38.0	
	comp=Z,50nm,19.2s,baz=190,slow=35							
LVC	**Limon Verde**	**46.69**	**298**	*e*P		**P**	**10 57 28.5**	**-0.1**
LVC	**Limon Verde**	**46.69**	**298**	*e*P		**P**	**10 57 28.5**	**-0.1**
LVC	**Limon Verde**	**46.69**	**298**	P		**P**	**10 57 27.5**	**-1.0**
PB10	**IPOC Station P**	**46.73**	**296**	P		**P**	**10 57 27.0**	**-1.5**
SALV	**Santo Antonio**	**46.90**	**318**	*e*P		**P**	**10 57 30.8**	**+1.0**
SALV	**Santo Antonio**	**46.90**	**318**	*e*P		**P**	**10 57 30.8**	**+1.0**
PB04	**IPOC Station P**	**47.53**	**297**	P		**P**	**10 57 35.0**	**+0.1**
PB04				IAmb		IAmb	10 57 37.3	
	comp=Z,16nm,1.1s							
H10S2	**ASCENSION HYDR**	**48.34**	**14**	T		T	11 50 41.6	
	baz=31,slow=74,SNR=7.4							
H10S3	**ASCENSION HYDR**	**48.34**	**14**	T		T	11 50 40.8	
	baz=189,slow=74,SNR=7.4							
GO01	**Chusmiza**	**49.33**	**300**	P		**P**	**10 57 49.6**	**+0.4**
H10N1	**ASCENSION HYDR**	**49.45**	**14**	T		T	11 52 00.6	
	baz=188,slow=75,SNR=4.0							
H10N3	**ASCENSION HYDR**	**49.46**	**14**	T		T	11 51 58.9	
	baz=188,slow=75,SNR=14							
H10N2	**ASCENSION HYDR**	**49.47**	**14**	T		T	11 52 02.6	
	baz=188,slow=75,SNR=9.3							
PB11	**IPOC Station P**	**49.48**	**299**	P		**P**	**10 57 49.8**	**-0.1**
PB11				IAmb		IAmb	10 57 51.3	
	comp=Z,9.1nm,0.7s							
MNMC	**Minye Minyo**	**49.99**	**300**	P		**P**	**10 57 54.4**	**+0.5**
NBLI	**Livramento-PB**	**50.12**	**344**	*e*P		**P**	**10 57 54.4**	**-0.3**
NBLI	**Livramento-PB**	**50.12**	**344**	*e*P		**P**	**10 57 54.4**	**-0.3**
CLDB	**Colider**	**51.57**	**320**	*e*P		**P**	**10 58 04.7**	**-0.8**
CLDB	**Colider**	**51.57**	**320**	*e*P		**P**	**10 58 04.7**	**-0.8**
NBPA	**Parau_RN**	**51.73**	**345**	*e*P		**P**	**10 58 07.2**	**+0.5**
NBPA	**Parau_RN**	**51.73**	**345**	*e*P		**P**	**10 58 07.2**	**+0.5**
LPAZ	**La Paz**	**51.76**	**303**	P		**P**	**10 58 08.1**	**+0.5**
	comp=Z,8.2nm,0.5s,baz=122,slow=4.6,SNR=54							
LPAZ	**La Paz**	**51.76**	**303**	*e*P		**P**	**10 58 08.3**	**+0.7**
LPAZ	**La Paz**	**51.76**	**303**	*e*P		**P**	**10 58 08.3**	**+0.7**
LPAZ	**La Paz**	**51.76**	**303**	P		**P**	**10 58 08.5**	**+0.9**
SAML	**Samuel**	**56.15**	**313**	*e*P		**P**	**10 58 38.4**	**-0.5**
SAML	**Samuel**	**56.15**	**313**	*e*P		**P**	**10 58 38.4**	**-0.5**
SAML	**Samuel**	**56.15**	**313**	P		**P**	**10 58 39.2**	**+0.3**
SAML				IAmb		IAmb	10 58 40.2	
	comp=Z,6.9nm,0.8s							
OTAV	**Otavalo**	**71.04**	**302**	*e*P		**P**	**11 00 18.9**	**+1.1**
OTAV	**Otavalo**	**71.04**	**302**	*e*P		**P**	**11 00 18.9**	**+1.1**
OTAV	**Otavalo**	**71.04**	**302**	P		**P**	**11 00 17.5**	**-0.3**
OTAV				IAmb		IAmb	11 00 27.5	
	comp=Z,8.8nm,1.1s							
TORD	**Torodi Ar. Bea**	**73.08**	**27**	P		**P**	**11 00 29.6**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=204,slow=7.1,SNR=6.1							
SDV	**Santo Domingo**	**75.35**	**313**	*e*P		**P**	**11 00 43.8**	**+0.9**
SDV	**Santo Domingo**	**75.35**	**313**	*e*P		**P**	**11 00 43.8**	**+0.9**
OXZ	**Oxford**	**79.29**	**193**	P		**P**	**11 01 03.0**	**-1.4**
STKA	**Stephens Creek**	**91.01**	**169**	LR		LR	11 40 56.7	
	comp=Z,43nm,18.7s,baz=178,slow=34							
ASAR	**Alice Springs**	**97.96**	**161**	P		Pdif	11 02 35.6	+0.2
	comp=Z,0.3nm,0.9s,baz=180,slow=3.7,SNR=3.2							
PDAR	**Pinedale Array**	**121.73**	**300**	PKP		**PKiKP**	**11 07 51.9**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=146,slow=5.8,SNR=5.6							
NVAR	**Mina Array Bea**	**122.77**	**291**	PKP		**PKiKP**	**11 07 55.5**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=104,slow=2.6,SNR=3.9							
CMAR	**Chiang Mai Arr**	**123.70**	**109**	PKP		**PKiKP**	**11 07 57.1**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=217,slow=4.3,SNR=3.4							
YKA	**Yellowknife Ar**	**137.49**	**317**	PKP		**PKiKP**	**11 08 21.4**	**-1.8**
	comp=Z,1.8nm,0.7s,baz=124,slow=2.2,SNR=23							
SONM	**Songino Array**	**149.56**	**86**	PKPbc		**PKiKP**	**11 08 46.7**	**-2.0**
	comp=Z,1.0nm,0.5s,baz=212,slow=3.5,SNR=7.0							
DOT	**Dot Lake**	**150.01**	**309**			**PKiKP**	**11 08 49.1**	**0.0**
ILAR	**Eielson Array**	**151.47**	**310**	PKPbc		**PKiKP**	**11 08 51.5**	**-0.5**
	comp=Z,5.7nm,0.7s,baz=144,slow=4.4,SNR=57							
COLD	**Coldfoot**	**153.15**	**315**			**PKiKP**	**11 08 56.2**	**+0.8**

ISCJB ***30*** *11:15:25.1±0.4, 35.°32N±0.°04×140.°19E±0.°04, h65km±4km, mb3.5/7, Error ellipse: s-maj=7.0km s-min=5.0km az=31.6*

JMA ***30*** *11:15:25.6±0.2, 35.°37N×140.°20E, h61km±2km, M3.4 Broadband fault plane solution: P waves. NP1: φs±190.00000°, δ50.00000°, λ-111.00000°. NP2: φs±41.00000°, δ44.00000°, λ-67.00000°. Principal axes: T Plg3.0000°, Azm295.0000°; N Plg16.0000°, Azm204.0000°; P Plg74.0000°, Azm35.0000°;*

JMA Felt II J1.

IDC ***30*** *11:15:26.0±3.2, 35.°35N×140.°17E, h54km±30km, mb3.3/7, mb1 3.5/8, mb1mx3.3/34, mbtmp3.6/8, ML3.3/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/22 Error ellipse: s-maj=27.1km s-min=18.9km az=106.0*

ISC 30 11:15:26.2±0.8, 35°33N±0.°05×140°17E±0.°04, h58km±6km, n33, σ0.63/36, mb3.5/7, 7C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JCN	**Nagara**	**0.09**	**19**	⇓P		**Pn**	**11 15 35.1**	**+0.1**
JKUC	**kamogawauchiur**	**0.17**	**171**	⇓P		**Pn**	**11 15 35.1**	**-0.2**
JKUC				*i* S		**Sn**	**11 15 42.1**	**+0.2**
KTR	**Katsuura**	**0.22**	**146**	*i* S		**Sn**	**11 15 42.2**	**-0.1**
BSO4	**Boso 4**	**0.37**	**157**	P		Pn	**11 15 36.8**	**+0.2**
BSO4				*e*X			11 15 45.6	
TATJ	**Tateyama 2**	**0.38**	**217**	⇓P		**Pn**	**11 15 37.4**	**+0.6**
JSMT	**Sammumatsuo**	**0.39**	**37**	⇑P		**Pn**	**11 15 36.7**	**-0.2**
BSO3	**Boso 3**	**0.60**	**152**	⇑P		**Pn**	**11 15 38.9**	**0.0**
BSO3				X			11 15 49.0	
JIM2	**Oshima 3**	**0.86**	**225**	P		**Pn**	**11 15 42.1**	**-0.3**
JIM2				S		**Sn**	**11 15 53.8**	**-0.5**
JOD2	**Odawara 2**	**0.88**	**266**	⇑P		**Pn**	**11 15 42.3**	**-0.4**
JOD2				S		**Sn**	**11 15 53.9**	**-0.9**
BSO1	**Boso 1**	**0.95**	**135**	⇑P		**Pn**	**11 15 42.4**	**-0.6**
BSO1				S		**Sn**	**11 15 55.7**	**+0.2**
JFNN	**Fujinakano**	**1.22**	**264**	P		**Pn**	**11 15 47.2**	**+0.1**
JFNN				S		**Sn**	**11 16 03.2**	**+0.5**
JIZS	**Izushimoda**	**1.22**	**240**	P		**Pn**	**11 15 47.1**	**0.0**
JIZS				S		**Sn**	**11 16 02.1**	**-0.6**
JAG	**Ashikaga**	**1.23**	**332**	⇑P		**Pn**	**11 15 46.6**	**-0.7**
JRY	**Ryogami san**	**1.23**	**304**	⇑P		**Pn**	**11 15 47.2**	**-0.1**
JRY				*e*S		**Sn**	**11 16 03.2**	**+0.1**
JYN	**Shimob**	**1.33**	**278**	⇑P		**Pn**	**11 15 48.5**	**-0.2**
JYN				*e*S		**Sn**	**11 16 05.1**	**-0.4**
JMKN	**Mikurajimanish**	**1.51**	**198**	S		**Sn**	**11 16 09.6**	**-0.1**
MJAR	**Matsushiro Arr**	**1.99**	**308**	P		**Pn**	**11 15 57.3**	**-0.3**
	2.4nm,0.3s,baz=128,slow=17,SNR=166							
MJAR				S		**Sn**	**11 16 23.6**	**+2.2**
	3.0nm,0.3s,baz=122,slow=16,SNR=9.0							
MJAR				LR		LR	11 16 52.2	
	comp=Z,44nm,21.5s,baz=20,slow=44							
MAT	**Matsushiro**	**2.00**	**308**	P		**Pn**	**11 15 57.6**	**0.0**
MAT				S		**Sn**	**11 16 21.1**	**-0.4**
ASAJ	**Asahikawa**	**8.97**	**11**	P		**Pn**	**11 17 31.9**	**-1.1**
	0.3nm,0.3s,baz=218,slow=19,SNR=2.9							
ASAJ				S		Sn	11 19 02.2	-10
	0.2nm,0.3s,baz=136,slow=32,SNR=1.7							
KSRS	**Korea Array**	**10.09**	**286**	LR		LR	11 21 07.1	
	comp=Z,26nm,20.0s,baz=90,slow=34							
H11N2	**WAKE ISLAND Hy**	**28.22**	**116**	T		T	11 50 53.5	
	baz=308,slow=75,SNR=46							
H11N1	**WAKE ISLAND Hy**	**28.23**	**116**	T		T	11 50 52.9	
	baz=308,slow=75,SNR=46							
H11N3	**WAKE ISLAND Hy**	**28.24**	**116**	T		T	11 50 54.7	
	baz=308,slow=75,SNR=50							
H11S1	**WAKE ISLAND Hy**	**28.86**	**119**	T		T	11 51 13.3	
	baz=312,slow=75,SNR=24							
H11S3	**WAKE ISLAND Hy**	**28.86**	**119**	T		T	11 51 16.5	
	baz=312,slow=75,SNR=19							
H11S2	**WAKE ISLAND Hy**	**28.88**	**119**	T		T	11 51 14.4	
	baz=312,slow=75,SNR=17							
ZALV	**Zalesovo Beam**	**42.34**	**314**	P		**P**	**11 23 13.7**	**-0.6**
	0.6nm,0.3s,baz=101,slow=7.5,SNR=3.4							
MKAR	**Makanchi Array**	**44.19**	**303**	P		**P**	**11 23 29.6**	**+0.3**
	1.0nm,0.6s,baz=92,slow=9.5,SNR=12							
ILAR	**Eielson Array**	**51.47**	**32**	P		**P**	**11 24 24.7**	**-0.6**
	0.3nm,0.7s,baz=286,slow=6.5,SNR=4.4							
WRA	**Warramunga Arr**	**55.25**	**187**	P		**P**	**11 24 53.7**	**+0.2**
	1.0nm,0.5s,baz=1.7,slow=7.5,SNR=17							
ASAR	**Alice Springs**	**58.98**	**187**	P		**P**	**11 25 20.0**	**+0.2**
	0.4nm,0.9s,baz=359,slow=5.0,SNR=6.7							
YKA	**Yellowknife Ar**	**65.78**	**29**	P		**P**	**11 26 04.6**	**-0.2**
	0.1nm,0.4s,baz=302,slow=6.7,SNR=3.6							
PDAR	**Pinedale Array**	**79.58**	**45**	P		**P**	**11 27 28.7**	**+1.3**
	0.1nm,0.5s,baz=325,slow=4.6,SNR=3.2							

ISC 30 11:23:09.7±1.3, 49°14N±0.°05×18°76E±0.°04, h10km±22km, n6, σ1.9/05/11, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LANS	**Liptovska Anna**	**0.47**	**88**	*e*PG		**Pg**	**11 23 19.2**	**+0.4**
LANS				*e*SG		**Sb**	**11 23 26.9**	**-0.2**
LANS				*e*LG		Lg	11 23 27.7	
KOLL	**Kolacno**	**0.61**	**203**	*e*PG		**Pg**	**11 23 21.1**	**-0.4**
KOLL				*e*SG		**Sg**	**11 23 29.7**	**+0.2**
VYHS	**Vyhne**	**0.65**	**175**	*e*PG		**Pg**	**11 23 22.5**	**+0.2**
VYHS				*e*SG		**Sg**	**11 23 29.7**	**-1.0**
MORC	**Moravsky Berou**	**1.02**	**309**	*e*PG		**Pg**	**11 23 28.9**	**-0.4**
MORC				*e*SG		**Sg**	**11 23 41.6**	**-1.0**
VRAC	**Vranov**	**1.43**	**278**	*e*PN		**Pg**	**11 23 36.7**	**-0.5**
VRAC				*e*SG		**Sg**	**11 23 57.0**	**+1.3**
KRUC	**Moravsky**	**1.56**	**268**	*e*SG		**Sg**	**11 24 01.5**	**+1.8**

**IDC 30 12:07:50

TUQ	**Turquoise Moun**	**1.02**	**243**	P		**Pg**	**13 38 53.6**	**+0.1**
	baz=62,SNR=228							
TUQ				S		**Sg**	**13 39 07.4**	**+0.6**
	baz=62							
TUQ	**Turquoise Moun**	**1.02**	**243**			**Pg**	**13 38 53.7**	**+0.1**
NEE2	**Needles Airpor**	**1.14**	**172**	P		**Pg**	**13 38 55.9**	**-0.1**
	baz=353,SNR=8.6							
NEE2				S		**Sg**	**13 39 11.4**	**+0.6**
	baz=353							
NEE2	**Needles Airpor**	**1.14**	**172**			**Pg**	**13 38 55.8**	**-0.1**
SHOC	**Shoshone, Teco**	**1.19**	**270**	P		**Pg**	**13 38 56.5**	**-0.3**
	baz=89,SNR=119							
SHOC				S		**Sg**	**13 39 12.1**	**-0.1**
	baz=89							
DSCC	**Desert Studies**	**1.30**	**235**			**Pn**	**13 38 57.9**	**-0.9**
GMRC	**Granite Mounta**	**1.31**	**212**	P		**Pn**	**13 38 58.4**	**-0.8**
	baz=31,SNR=69							
GMRC				S		**Sb**	**13 39 15.6**	**-0.8**
	baz=31							
GMRC	**Granite Mounta**	**1.31**	**212**			**Pn**	**13 38 58.3**	**-0.8**
GMRC						**Sb**	**13 39 15.5**	**-0.8**
DANC	**Danby, Needles**	**1.34**	**200**			**Pn**	**13 39 00.1**	**+0.6**
TPNV	**Topopah Spring**	**1.56**	**312**	P		**Pn**	**13 39 02.0**	**-0.6**
	baz=131							
TPNV				Sb		**Sb**	**13 39 23.5**	**-0.1**
	baz=131							
TPNV	**Topopah Spring**	**1.56**	**312**	Pn		**Pn**	**13 39 02.8**	**+0.2**
HEC	**Hector,Ludlow**	**1.64**	**230**	P		**Pn**	**13 39 02.9**	**-0.7**
	baz=48,SNR=26							
HEC				Sg		**Sg**	**13 39 28.5**	**+1.8**
	baz=48							
HEC	**Hector,Ludlow**	**1.64**	**230**			**Pn**	**13 39 02.8**	**-0.7**
LCMT	**Little Creek M**	**1.68**	**48**			**Pn**	**13 39 04.4**	**+0.2**
GSC	**Goldstone, Bar**	**1.73**	**250**	P		**Pn**	**13 39 04.1**	**-0.8**
	baz=69							
GSC				Sg		**Sg**	**13 39 31.2**	**+1.5**
	baz=69							
GSC	**Goldstone, Bar**	**1.73**	**250**	Pn		**Pn**	**13 39 05.6**	**+0.8**
FURC	**Furnace Creek,**	**1.75**	**289**	Pb		**Pb**	**13 39 06.4**	**-0.2**
	baz=108							
FURC				Sb		**Sb**	**13 39 29.4**	**+0.4**
	baz=108							
IRM	**Iron Mountain**	**1.76**	**189**	P		**Pn**	**13 39 04.6**	**-0.6**
	baz=8.9,SNR=34							
KNB	**Kanab**	**1.95**	**55**			**Pn**	**13 39 08.4**	**+0.4**
CCUT	**Cedar City**	**2.02**	**35**			**Pn**	**13 39 09.8**	**+0.9**
BELC	**Belle Mtn. Jos**	**2.13**	**208**	P		**Pn**	**13 39 10.0**	**-0.4**
	baz=27							
BELC				Sg		**Sg**	**13 39 44.0**	**+1.5**
	baz=27							
Y12C	**Blythe**	**2.16**	**174**	Pn		**Pb**	**13 39 12.8**	**-0.8**
MPMC	**Manual Prospec**	**2.18**	**275**	P		**Pn**	**13 39 10.7**	**-0.4**
	baz=93							
SZCU	**Shurtz Canyon**	**2.19**	**39**			**Pb**	**13 39 12.8**	**-1.4**
R11A	**Troy Canyon, C**	**2.52**	**346**	P		**Pn**	**13 39 15.6**	**-0.2**
	baz=165,SNR=21							
R11A				Sb		**Sb**	**13 39 52.8**	**+1.6**
	baz=165							
R11A	**Troy Canyon, C**	**2.52**	**346**			**Pn**	**13 39 15.4**	**-0.4**
PKCU	**Pink Cliffs**	**2.53**	**52**			**Pn**	**13 39 18.0**	**+1.9**
XPFO	**Pion Flat**	**2.66**	**211**			**Pn**	**13 39 17.3**	**-0.3**
PFO	**Pinyon Flats O**	**2.66**	**211**	P		**Pn**	**13 39 17.3**	**-0.3**
	baz=30							
PFO	**Pinyon Flats O**	**2.66**	**211**			**Pn**	**13 39 17.3**	**-0.3**
PSUT	**Pine Spring**	**2.74**	**16**			**Pn**	**13 39 19.1**	**+0.3**
EDW2	**Edwards Air Fo**	**2.79**	**250**	P		**Pn**	**13 39 18.7**	**-0.7**
	baz=67							
WUAZ	**Wupatki**	**2.83**	**97**	P		**Pn**	**13 39 20.6**	**+0.6**
	baz=279							
WUAZ				Sb		**Sg**	**13 40 02.6**	**-2.2**
	baz=279							
WUAZ	**Wupatki**	**2.83**	**97**	Pn		**Pn**	**13 39 21.0**	**+1.0**
ISA	**Isabella, Lake**	**2.99**	**266**	Pn		**Pn**	**13 39 21.5**	**-0.6**
MTPU	**Mount Pierson**	**3.00**	**44**			**Pn**	**13 39 24.1**	**+1.5**
MURC	**Murrieta**	**3.02**	**221**	P		**Pn**	**13 39 22.7**	**+0.2**
	baz=40							
MWC	**Mount Wilson**	**3.14**	**239**	Pn		**Pn**	**13 39 24.9**	**+0.5**
MONP2	**Monument Peak**	**3.28**	**204**	P		**Pn**	**13 39 26.3**	**0.0**
	baz=23							
TCRU	**Three Creeks R**	**3.30**	**34**	Pn		**Pn**	**13 39 27.2**	**+0.7**
BAR	**Barrett**	**3.56**	**206**	Pn		**Pn**	**13 39 30.9**	**+0.9**
NV11	**Mina Array Sit**	**3.67**	**314**	Pn		**Pn**	**13 39 32.0**	**+0.4**
OMMB	**Old Mammoth Mi**	**3.77**	**298**	Pn		**Pn**	**13 39 33.9**	**+0.8**
CIS	**Catalina Islan**	**3.88**	**231**	P		**Pn**	**13 39 34.4**	**+0.1**
	baz=49							
214A	**Organ Pipe Nat**	**4.27**	**157**	Pn		**Pn**	**13 39 40.9**	**+1.1**
ELK	**Elko**	**4.85**	**356**	Pn		**Pn**	**13 39 48.0**	**+0.2**
TUC	**Tucson**	**4.90**	**136**	Pn		**Pn**	**13 39 49.2**	**+0.8**

*MDD **30** 13:50:20.7±1.7,36°.63N×9°.80W,h44km±3.43km,mb3.8/1, Error ellipse: s-maj=15.7km s-min=13.3km az=50.0, PRIXMO*
*INMG **30** 13:50:21.4±0.8,36°.68N×9°.71W,h19km±3km,ML1.6,Error ellipse: s-maj=4.2km s-min=3.8km az=53.0*
*IGIL **30** 13:50:21.5,36°.64N×9°.72W,h24km,ML1.7*
ISC 30 13:50:21.0±3.6,**36°.7N**±0°.1×**9°.7W**±0°.1,**h35**km,**n29**, σ0°**66**/53,**2C, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**0.84**	**59**⇑	*e*P	**Pn**	**13 50 36.6**	**+0.3**
PFVI				*e*S	**Sn**	**13 50 48.0**	**+0.6**
PFVI				A	A	13 50 49.0	
	9.7nm,0.1s						
PFVI	**Vila Bisbo**	**0.84**	**59** ⇑	P	**Pn**	**13 50 36.6**	**+0.3**
	5.1nm,0.1s,SNR=18						
PFVI				S	**Sn**	**13 50 47.9**	**+0.5**
	3.9nm,0.3s,SNR=11						
MORF	**Marmelete**	**1.05**	**55**	*e*P	**Pn**	**13 50 39.6**	**+0.4**
MORF				*e*S	**Sn**	**13 50 53.0**	**+0.3**
MORF				AML	AML	13 50 55.6	
	comp=N,13nm,0.3s						
MORF	**Marmelete**	**1.05**	**55**	*e*P	**Pn**	**13 50 39.6**	**+0.4**
MORF				*e*S	**Sn**	**13 50 53.4**	**+0.7**
MORF				A	A	13 50 54.4	
	comp=N,7.6nm,0.1s						
MORF	**Marmelete**	**1.05**	**55**	P	**Pn**	**13 50 39.6**	**+0.4**
MORF				S	**Sn**	**13 50 53.4**	**+0.7**
	comp=N,7.6nm,0.1s						
PTEO	**Sao Teotonio**	**1.16**	**43**	*e*S	**Sn**	**13 50 56.2**	**+0.9**
PTEO				A	A	13 50 57.2	
	comp=N,4.5nm,0.2s						
PTEO	**Sao Teotonio**	**1.16**	**43**	S	**Sn**	**13 50 56.2**	**+0.9**
	comp=N,2.2nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.53**	**69**	*e*P	**Pn**	**13 50 46.3**	**+0.4**
PBDV				*e*S	**Sn**	**13 51 04.7**	**+0.1**
PBDV				A	A	13 51 08.8	
	comp=N,1.5nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.53**	**69**	P	**Pn**	**13 50 46.3**	**+0.4**
PBDV				S	**Sn**	**13 51 04.7**	**+0.1**
	comp=N,1.5nm,0.2s						
PCVE	**Castro Verde**	**1.63**	**55**	*e*P	**Pn**	**13 50 48.0**	**+0.7**
PCVE				*e*S	**Sn**	**13 51 07.7**	**+0.6**
PCVE				A	A	13 51 09.9	
	comp=N,3.7nm,0.3s						
PCVE	**Castro Verde**	**1.63**	**55**	P	**Pn**	**13 50 48.0**	**+0.7**
PCVE				S	**Sn**	**13 51 07.7**	**+0.6**
	comp=N,3.7nm,0.3s						
PNCL	**Nicolau / Gran**	**1.70**	**34**	*e*P	**Pn**	**13 50 48.6**	**+0.5**
PNCL				*e*S	**Sn**	**13 51 09.2**	**+0.6**
PNCL				A	A	13 51 10.9	
	comp=N,2.0nm,0.1s						
PNCL	**Nicolau / Gran**	**1.70**	**34**	P	**Pn**	**13 50 48.6**	**+0.5**
PNCL				S	**Sn**	**13 51 09.2**	**+0.6**
	comp=N,2.0nm,0.1s						
PVAQ	**Vaqueiros**	**1.75**	**66**	*e*P	**Pn**	**13 50 49.2**	**+0.3**
PVAQ				*e*S	**Sn**	**13 51 09.8**	**-0.1**
PVAQ				A	A	13 51 13.3	
	comp=N,2.8nm,0.1s						
PVAQ	**Vaqueiros**	**1.75**	**66**	P	**Pn**	**13 50 49.2**	**+0.3**
PVAQ				S	**Sn**	**13 51 09.8**	**-0.1**
	comp=N,2.8nm,0.1s						
EGRO	**El Granado**	**1.97**	**64**	P	**Pn**	**13 50 52.4**	**+0.5**
	comp=N,0.5nm,0.1s,SNR=4.5						
EGRO				S	**Sn**	**13 51 15.6**	**+0.2**
	comp=N,1.3nm,0.4s,SNR=5.6						
EVO	**Evora**	**2.27**	**36**	*e*P	**Pn**	**13 50 56.3**	**+0.2**
EVO				*e*S	**Sn**	**13 51 22.8**	**-0.1**
EVO				A	A	13 51 23.1	
	comp=N,8.5nm,0.8s						
EVO	**Evora**	**2.27**	**36**	P	**Pn**	**13 50 56.3**	**+0.2**
EVO				S	**Sn**	**13 51 22.8**	**-0.1**
	comp=N,8.5nm,0.8s						
PMAFR	**Mafra**	**2.27**	**9**	*e*P	**Pn**	**13 50 56.5**	**+0.4**
PMAFR				*e*S	**Sn**	**13 51 23.0**	**+0.1**
PMAFR	**Mafra**	**2.27**	**9**	P	**Pn**	**13 50 56.3**	**+0.3**
	comp=N,1.7nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**13 51 22.8**	**-0.1**
	comp=N,7.9nm,0.2s,SNR=7.9						
PMTG	**Montargil**	**2.64**	**26**	*e*P	**Pn**	**13 51 00.9**	**-0.2**
PMTG				*e*S	**Sn**	**13 51 30.7**	**-1.2**
PMTG				A	A	13 51 35.5	
	comp=N,2.9nm,0.9s						
PMTG	**Montargil**	**2.64**	**26**	P	**Pn**	**13 51 00.9**	**-0.2**
PMTG				S	**Sn**	**13 51 30.7**	**-1.2**
	comp=N,2.9nm,0.9s						
EMIN	**Mina Concepcio**	**2.66**	**66**	P	**Pn**	**13 51 01.1**	**-0.2**
	comp=N,0.2nm,0.1s,SNR=7.7						
EMIN				S	**Sn**	**13 51 31.2**	**-1.1**
	comp=N,0.3nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**2.74**	**37**	*e*S	**Sn**	**13 51 34.1**	**-0.3**
EBAD	**Badajoz**	**2.97**	**46**	P	**Pn**	**13 51 05.4**	**-0.2**
	comp=N,0.3nm,0.1s,SNR=5.0						
EBAD				S	**Sn**	**13 51 39.6**	**-0.4**
	comp=N,4.6nm,1.0s,SNR=6.5						
PMRV	**Marv??o**	**3.28**	**33**	*e*S	**Sn**	**13 51 46.7**	**-1.1**
PMRV	**Marv??o**	**3.28**	**33**	S	**Sn**	**13 51 46.7**	**-1.1**
ECAB	**El Cabril**	**3.69**	**67**	P	**Pn**	**13 51 15.8**	**+0.2**
	comp=N,0.2nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**13 51 56.3**	**-1.6**
	comp=N,0.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**4.35**	**69**	P	**Pn**	**13 51 24.8**	**+0.2**
	comp=N,0.2nm,0.1s,SNR=4.0						
EADA				S	**Sn**	**13 52 12.0**	**-2.1**
	comp=N,0.2nm,0.1s,SNR=7.9						

*MDD **30** 13:52:00.8±0.5,39°.57N×8°.59W,h0km,mbLg2.0/19,Error ellipse: s-maj=5.1km s-min=2.8km az=109.0,PRXIMO*
*SFS **30** 13:52:00.0,39°.44N×9°.04W,h102km,ML1.5,CALDAS DE RAINHA (PORTUGAL)*
*INMG **30** 13:52:01.1±1.3,39°.58N×8°.61W,h1km±5km,ML1.8, Error ellipse: s-maj=4.1km s-min=2.0km az=109.0*
*CNRM **30** 13:52:06.7,39°.52N×8°.41W,h5km,ml4.0*
ISC 30 13:52:00.1±1.0,**39°.56N**±0°.02×**8°.58W**±0°.03,**h10**km±8km, **n45**, σ0°**74**/64,**Portugal**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTOM	**Tomar**	**0.14**	**66**	*e*Pg	**Pg**	**13 52 03.4**	**+0.1**
PTOM				A	A	13 52 08.2	
	134nm,0.2s						
PTOM	**Tomar**	**0.14**	**66**	Pg	**Pg**	**13 52 03.4**	**+0.1**
PMTG	**Montargil**	**0.56**	**151**	*e*Pg	**Pg**	**13 52 10.3**	**-0.7**
PMTG				*e*Sg	**Sb**	**13 52 19.1**	**-1.0**
PMTG				A	A	13 52 24.4	
	5.3nm,0.4s						
PMTG	**Montargil**	**0.56**	**151**	Pg	**Pg**	**13 52 10.3**	**-0.7**
PMTG				Lg	Lg	13 52 19.1	
	5.3nm,0.4s						
PMAFR	**Mafra**	**0.81**	**222**	*e*P	**Pb**	**13 52 16.0**	**-0.3**
PMAFR				*e*S	**Sb**	**13 52 27.3**	**-0.1**
PMAFR				A	A	13 52 32.2	
	27nm,0.2s						
PMAFR	**Mafra**	**0.81**	**222**	Pg	**Pg**	**13 52 15.5**	**-0.3**
	3.1nm,0.2s,SNR=7.9						
PMAFR				Lg	Lg	13 52 27.3	
	69nm,0.3s,SNR=8.1						
PCBR	**Castelo Branco**	**0.90**	**71**	*e*P	**Pb**	**13 52 18.1**	**+0.4**
PCBR				*e*S	**Sb**	**13 52 30.3**	**+0.6**
PCBR				A	A	13 52 34.0	
	27nm,0.3s						
PCBR	**Castelo Branco**	**0.90**	**71**	Pg	**Pb**	**13 52 18.1**	**+0.4**
PCBR				Lg	Lg	13 52 30.3	
	13nm,0.3s						
PMRV	**Marv??o**	**0.93**	**98**	*e*P	**Pb**	**13 52 18.4**	**+0.1**
PMRV				*e*S	**Sn**	**13 52 32.3**	**-0.3**
PMRV				A	A	13 52 35.4	
	30nm,0.4s						
PMRV	**Marv??o**	**0.93**	**98**	Pg	**Pb**	**13 52 18.4**	**+0.1**
PMRV				Lg	Lg	13 52 32.3	
	30nm,0.4s						
PESTR	**Estremoz**	**1.03**	**132**	*e*P	**Pn**	**13 52 20.4**	**-0.3**
PESTR				*e*S	**Sn**	**13 52 35.1**	**-0.1**
PESTR				A	A	13 52 37.4	
	13nm,0.3s						
PESTR	**Estremoz**	**1.03**	**132**	P	**Pn**	**13 52 21.3**	**+0.7**
PESTR				S	**Sn**	**13 52 36.2**	**+1.0**
EVO	**Evora**	**1.12**	**157**	*e*P	**Pn**	**13 52 21.6**	**-0.2**
EVO				*e*S	**Sn**	**13 52 37.6**	**+0.4**
EVO				A	A	13 52 42.6	
	12nm,0.3s						
EVO	**Evora**	**1.12**	**157**	*e*P	**Pn**	**13 52 21.6**	**-0.2**
EVO				*e*S	**Sn**	**13 52 38.0**	**+0.8**
EVO	**Evora**	**1.12**	**157**	Pg	**Pn**	**13 52 21.6**	**-0.2**
EVO				Lg	Lg	13 52 38.0	
MTE	**Manteigas**	**1.16**	**43**	*e*P	**Pb**	**13 52 21.9**	**-0.3**
MTE				*e*S	**Sn**	**13 52 38.2**	**-0.1**
MTE				A	A	13 52 42.1	
	18nm,0.3s						
MTE	**Manteigas**	**1.16**	**43**	Pg	**Pb**	**13 52 21.9**	**-0.3**
MTE				Lg	Lg	13 52 38.2	
	8.8nm,0.3s						
PVIS	**Viseu**	**1.27**	**24**	*e*P	**Pb**	**13 52 24.1**	**0.0**
PVIS				*e*S	**Sg**	**13 52 41.1**	**+0.2**
PVIS				A	A	13 52 42.2	
	20nm,0.3s						
PVIS	**Viseu**	**1.27**	**24**	Pg	**Pb**	**13 52 24.1**	**0.0**
PVIS				Lg	Lg	13 52 41.1	
	9.9nm,0.3s						
PNCL	**Nicolau / Gran**	**1.45**	**178**	*e*P	**Pg**	**13 52 27.4**	**-0.5**
PNCL				*e*S	**Sg**	**13 52 46.8**	**+0.2**
PNCL				A	A	13 52 48.7	
	9.1nm,0.3s						
PNCL	**Nicolau / Gran**	**1.45**	**178**	Pg	**Pg**	**13 52 27.4**	**-0.5**
PNCL				Lg	Lg	13 52 46.8	
	9.1nm,0.3s						
EBAD	**Badajoz**	**1.46**	**123**	Pg	**Pn**	**13 52 26.3**	**-0.2**
	13nm,0.5s,SNR=17						
EBAD				Lg	Lg	13 52 47.3	
	12nm,0.3s,SNR=10						
POLO	**Lamas de Olo**	**1.91**	**18**	*e*Sg	**Sb**	**13 53 00.2**	**+1.2**
POLO	**Lamas de Olo**	**1.91**	**18**	Lg	Lg	13 53 00.2	
EPLA	**Plasencia**	**1.99**	**75**	Pg	**Pb**	**13 52 37.2**	**+0.8**
	1.6nm,0.3s,SNR=6.4						
EPLA				Lg	Lg	13 53 03.0	
	17nm,0.4s,SNR=6.0						
MVO	**Moncorvo**	**1.99**	**36**	*e*Sg	**Sg**	**13 53 03.7**	**-0.5**
MVO	**Moncorvo**	**1.99**	**36**	Pg	**Pg**	**13 52 38.8**	**+0.5**
	2.1nm,0.4s,SNR=7.9						
MVO				Lg	Lg	13 53 03.3	
	11nm,0.4s,SNR=7.1						
PTEO	**Sao Teotonio**	**2.02**	**183**	*e*Pg	**Pg**	**13 52 38.4**	**-0.3**
PTEO				*e*Sg	**Sg**	**13 53 04.5**	**-0.3**
PTEO	**Sao Teotonio**	**2.02**	**183**	Pg	**Pg**	**13 52 38.4**	**-0.3**
PTEO				Lg	Lg	13 53 04.5	
EGRO	**El Granado**	**2.20**	**157**	Pg	**Pg**	**13 52 41.1**	**-1.1**
	1.4nm,0.4s,SNR=5.1						
EGRO				Sn	**Sn**	**13 53 04.6**	**+0.8**
	SNR=7.9						
EGRO				Lg	Lg	13 53 10.4	
	12nm,0.4s,SNR=11						
PVAQ	**Vaqueiros**	**2.26**	**162**	*e*Pn	**Pn**	**13 52 38.7**	**+1.3**
PVAQ	**Vaqueiros**	**2.26**	**162**	*e*Pg	**Pg**	**13 52 42.6**	**-0.7**
PVAQ				*e*Sg	**Sg**	**13 53 11.6**	**-1.0**
PVAQ	**Vaqueiros**	**2.26**	**162**	P	**Pg**	**13 52 42.7**	**-0.7**
PVAQ				S	**Sg**	**13 53 13.4**	**+0.8**
PVAQ	**Vaqueiros**	**2.26**	**162**	Pn	**Pn**	**13 52 38.7**	**+1.3**
PVAQ				Pg	**Pg**	**13 52 42.6**	**-0.7**
PVAQ				Lg	Lg	13 53 11.6	
EMIN	**Mina Concepcio**	**2.33**	**140**	Pn	**Pn**	**13 52 39.8**	**+1.3**
	0.1nm,0.2s,SNR=4.0						
EMIN				Pg	**Pg**	**13 52 44.1**	**-0.7**
	0.6nm,0.3s,SNR=7.9						
EMIN				Sn	**Sn**	**13 53 07.5**	**+0.4**
	1.4nm,0.6s,SNR=7.9						
EMIN				Lg	Lg	13 53 14.1	
	2.4nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**2.34**	**10**	Sn	**Sn**	**13 53 06.4**	**-1.1**
	SNR=7.9						
ELOB				Lg	Lg	13 53 13.2	
	5.0nm,0.2s,SNR=4.8						
PFVI	**Vila Bisbo**	**2.43**	**185**	Lg	Lg	13 53 16.5	
	5.3nm,0.4s,SNR=7.9						
EZAM	**Zamans**	**2.59**	**358**	Lg	Lg	13 53 23.1	
	2.7nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**2.76**	**30**	Pn	**Pn**	**13 52 44.4**	**0.0**
	1.0nm,0.3s,SNR=7.9						
ECAL				Pg	**Pg**	**13 52 52.0**	**-0.9**
	3.8nm,0.3s,SNR=7.0						
ECAL				Sn	**Sn**	**13 53 17.7**	**-0.2**
	4.9nm,0.3s,SNR=7.9						
ECAL				Lg	Lg	13 53 28.1	
	14nm,0.4s,SNR=5.2						
ECAB	**El Cabril**	**2.88**	**120**	Pn	**Pn**	**13 52 45.9**	**-0.1**
	0.3nm,0.3s,SNR=7.9						
ECAB				Pg	**Pg**	**13 52 53.7**	**-1.6**
	1.1nm,0.4s,SNR=5.9						
ECAB				Sn	**Sn**	**13 53 22.8**	**+2.1**
	0.7nm,0.3s,SNR=7.9						
ECAB				Lg	Lg	13 53 32.5	
	7.3nm,0.4s,SNR=9.7						
HORN	**Hornachuelos**	**3.11**	**122**	P	**Pb**	**13 52 56.0**	**+0.5**
HORN				S	**Sb**	**13 53 32.8**	**-0.7**
PAB	**San Pablo**	**3.27**	**89**	Pg	**Pg**	**13 53 01.3**	**-1.4**
	0.6nm,0.3s,SNR=7.9						
PAB				Sn	**Sn**	**13 53 31.0**	**+0.6**
	0.4nm,0.2s,SNR=7.9						
PAB				Lg	Lg	13 53 44.6	
	4.4nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.42**	**113**	Lg	Lg	13 53 48.3	
	1.8nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**3.56**	**71**	Pg	**Pg**	**13 53 07.1**	**-1.2**
	0.9nm,0.3s,SNR=7.9						
GUD				Lg	Lg	13 53 53.0	
	2.4nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**3.57**	**87**	Lg	Lg	13 53 55.3	
	1.3nm,0.4s,baz=270,slow=32,SNR=5.8						

*RHSSO **30** 13:54:46.1±0.2,44°.23N×18°.53E,h2km±1km,ML3.0/1*
*PDG **30** 13:54:46.4±0.4,44°.24N×18°.62E,h12km,MD3.3/2, ML3.3/10, Error ellipse: s-maj=0.5km s-min=0.9km az=0.0*
*PRU **30** 13:54:46.1±0.0,44°.13N×18°.51E,h1km*
*BEO **30** 13:54:46.8±0.2,44°.23N×18°.55E,h8km±2km,ML3.1/14*
ISC 30 13:54:45.9±1.0,**44°.24N**±0°.01×**18°.56E**±0°.01,**h4**km±9km, **n116**, σ1**§45**/194,**14C-15D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAPS	**Han Pijesak,Bl**	**0.32**	**118**	*e*Pg	**Pg**	**13 54 51.7**	**-0.5**
HAPS				*e*Sg	**Sg**	**13 54 56.9**	**+0.5**
HAPS	**Han Pijesak,Bl**	**0.32**	**118**	*e*Pg	**Pg**	**13 54 51.6**	**-0.6**
HAPS				*e*Sg	**Sg**	**13 54 56.9**	**+0.5**
DOB	**Doboj**	**0.59**	**327**	*e*Pg	**Pg**	**13 54 57.0**	**-0.2**
DOB				*e*Sg	**Sb**	**13 55 07.0**	**-0.5**
DOB	**Doboj**	**0.59**	**327**	*e*Pg	**Pg**	**13 54 57.0**	**-0.2**
DOB				*e*Sg	**Sg**	**13 55 05.8**	**+0.9**
BBLS	**Lazić**	**0.72**	**121**	*e*Pg	**Pg**	**13 55 00.1**	**+0.5**
BBLS				*e*Sg	**Sb**	**13 55 10.5**	**-0.7**
BBLS	**Lazić**	**0.72**	**121**	*e*Pg	**Pg**	**13 54 59.1**	**-0.5**
BBLS				*e*Sg	**Sg**	**13 55 09.8**	**+0.9**
TEKS	**Tekeris**	**0.76**	**66**	*e*Pg	**Pg**	**13 55 01.5**	**+1.0**
TEKS				*e*Sg	**Sg**	**13 55 11.0**	**+0.6**
TEKS	**Tekeris**	**0.76**	**66**	*e*Pg	**Pg**	**13 55 00.4**	**-0.1**
TEKS				*e*Sg	**Sg**	**13 55 11.4**	**+1.0**
RUDO	**Rudo**	**0.86**	**136**	*e*Pg	**Pg**	**13 55 01.1**	**-1.2**
RUDO				*e*Sg	**Sg**	**13 55 13.9**	**+0.5**
DIVS	**Divibare**	**1.04**	**97**	*e*Pg	**Pg**	**13 55 05.4**	**-0.5**
DIVS				*e*Sg	**Sn**	**13 55 21.8**	**-0.6**
DIVS	**Divibare**	**1.04**	**97**	*e*Pg	**Pg**	**13 55 05.3**	**-0.6**
DIVS				*e*Sg	**Sg**	**13 55 19.7**	**+0.3**
UPM	**Unac-Piva**	**1.07**	**166**	*e*Pg	**Pg**	**13 55 05.4**	**-0.9**
UPM				*e*Sg	**Sg**	**13 55 19.6**	**-0.6**
UPM	**Unac-Piva**	**1.07**	**166**	⇓*i*Pg	**Pg**	**13 55 06.2**	**-0.1**
UPM				*e*Sg	**Sn**	**13 55 22.9**	**-0.2**
MGRS	**Mrkonjic Grad**	**1.07**	**280**	*e*Pg	**Pg**	**13 55 05.4**	**-1.0**
MGRS				*e*Sg	**Sg**	**13 55 20.0**	**-0.3**
PLE	**Pljevlja**	**1.09**	**146**	⇓*i*Pg	**Pg**	**13 55 06.2**	**-0.6**
PLE				*e*Sg	**Sn**	**13 55 22.9**	**-0.7**
BLY	**Banja Luka**	**1.11**	**298**	*e*Pg	**Pg**	**13 55 07.6**	**+0.5**
BLY				*e*Sg	**Sn**	**13 55 23.5**	**-0.3**
BLY	**Banja Luka**	**1.11**	**298**	*e*Pn	**Pn**	**13 55 08.5**	**+0.4**
BLY				*e*Sn	**Sb**	**13 55 22.7**	**+0.4**
BLY	**Banja Luka**	**1.11**	**298**	⇑P	**Pn**	**13 55 08.6**	**+0.5**
BLY				⇑S	**Sn**	**13 55 23.6**	**-0.2**
RICI	**Ricice**	**1.27**	**235**	iPg	**Pg**	**13 55 09.4**	**-0.9**
RICI				Sg	**Sg**	**13 55 27.0**	**+0.3**
FRGS	**Fruska Gora**	**1.28**	**44**	*e*Pg	**Pn**	**13 55 09.7**	**-0.9**
FRGS				*e*Sg	**Sb**	**13 55 27.7**	**+0.3**
FRGS	**Fruska Gora**	**1.28**	**44**	*e*Pg	**Pn**	**13 55 09.5**	**-1.1**
FRGS				*e*Sg	**Sg**	**13 55 27.9**	**+0.9**
TRUS	**Trudelj**	**1.33**	**90**	*e*Pg	**Pb**	**13 55 11.5**	**+0.1**
TRUS				*e*Sg	**Sn**	**13 55 30.1**	**+0.8**
IVAS	**Ivanjica**	**1.

PTJ	**Puntijarka**	**2.48**	**313**	*e*Pn	**Pn**	**13 55 28.2**	**+1.1**
DUGI	**Dugi Otok**	**2.53**	**266**	*i* Pn	**Pn**	**13 55 29.4**	**+1.7**
BZS	**Buzias**	**2.57**	**57**	*e*Pn	**Pn**	**13 55 28.4**	**+0.1**
BZS	**Buzias**	**2.57**	**57**	⇑P	**Pn**	**13 55 28.3**	**0.0**
BZS				⇑S	**Sn**	**13 55 58.5**	**-1.5**
BZS				AML	AML	13 56 00.8	
OZLJ	**Ozalj**	**2.59**	**303**	*e*Pn	**Pn**	**13 55 30.1**	**+1.7**
ZAGS	**Zajecar**	**2.69**	**98**	*e*Pn	**Pn**	**13 55 30.1**	**+0.3**
TIH	**Tihany**	**2.70**	**350**	*e*Pn	**Pn**	**13 55 29.1**	**-0.9**
TIH				*e*Sg	**Sg**	**13 56 13.1**	**+0.5**
CRES	**Cresnjev**	**2.71**	**307**	*e*Pn	**Pn**	**13 55 30.3**	**+0.1**
CRES				*e*Sn	**Sn**	**13 56 04.1**	**+0.7**
BARS	**Barje**	**2.77**	**120**	*e*Pn	**Pn**	**13 55 27.1**	**-3.8**
BARS	**Barje**	**2.77**	**120**	*e*Pn	**Pn**	**13 55 31.2**	**+0.3**
SIRR	**Siria**	**2.98**	**46**	⇓P	**Pn**	**13 55 33.6**	**-0.4**
SIRR				AML	AML	13 56 25.0	
MPLH	**Magyarpolny**	**3.02**	**347**	*e*Pn	**Pn**	**13 55 35.0**	**+0.7**
MPLH				Sn	**Sn**	**13 56 11.1**	**+0.1**
TIR	**Tirane**	**3.05**	**161**	⇑P	**Pn**	**13 55 36.9**	**+2.1**
TIR				AML	AML	13 56 40.6	
ZAPS	**Zavoj**	**3.11**	**107**	*e*Pn	**Pn**	**13 55 36.5**	**+0.8**
CSKK	**Cskako**	**3.13**	**356**	*e*Pn	**Pn**	**13 55 36.0**	**+0.1**
CSKK				Sn	**Sn**	**13 56 10.0**	**-3.7**
GZR	**Gura Zlata**	**3.22**	**68**	⇑P	**Pn**	**13 55 37.5**	**+0.3**
GZR				AML	AML	13 56 33.2	
CEY	**Cerknica**	**3.29**	**299**	*e*Pn	**Pn**	**13 55 37.8**	**-0.4**
CEY				*e*Sn	**Sn**	**13 56 17.3**	**-0.5**
BOSS	**Bosilegrad**	**3.35**	**120**	*e*Pn	**Pn**	**13 55 39.1**	**+0.1**
SRE	**Strehaia**	**3.36**	**81**	⇓P	**Pn**	**13 55 39.8**	**+0.7**
SRE				AML	AML	13 56 39.9	
SOKA	**Soboth**	**3.48**	**316**	Pn	**Pn**	**13 55 41.2**	**+0.4**
	2.2nm,0.2s,SNR=10						
SOKA				*i* Sn	**Sn**	**13 56 20.7**	**-1.7**
	7.0nm,0.4s						
OBKA	**Obir**	**3.62**	**310**	*i* Pn	**Pn**	**13 55 46.0**	**+3.1**
	0.7nm,0.2s						
OBKA				*i* Sn	**Sn**	**13 56 30.1**	**+4.0**
	16nm,0.7s						
ARSA	**Arzberg**	**3.68**	**326**	Pn	**Pn**	**13 55 44.4**	**+0.8**
	26nm,0.5s,SNR=33						
ARSA				*i* Sn	**Sn**	**13 56 26.7**	**-0.8**
	10.0nm,0.4s						
VTS	**Vitosha**	**3.77**	**114**	⇑P	**Pn**	**13 55 45.5**	**+0.6**
VTS				AML	AML	13 56 53.9	
PSZ	**Piszkesteto**	**3.79**	**14**	⇓P	**Pn**	**13 55 45.4**	**+0.2**
PSZ				AML	AML	13 56 51.4	
PSZ	**Piszkesteto**	**3.79**	**14**	*e*Pn	**Pn**	**13 55 44.1**	**-1.1**
PSZ	**Piszkesteto**	**3.79**	**14**	Sn	**Sn**	**13 56 28.1**	**-2.2**
MATE	**Matera**	**3.84**	**202**	⇑P	**Pn**	**13 55 47.5**	**+1.8**
MATE				AML	AML	13 56 31.3	
DRGR		**3.88**	**47**	*e*Pn	**Pn**	**13 55 46.5**	**+0.2**
DRGR		**3.88**	**47**	⇑P	**Pn**	**13 55 46.6**	**+0.2**
DRGR				AML	AML	13 56 58.2	
CONA	**Conrad Observa**	**4.14**	**334**	*i* Pn	**Pn**	**13 55 50.4**	**+0.5**
	3.2nm,0.3s						
CONA				*i* Sn	**Sn**	**13 56 40.5**	**+1.8**
	6.5nm,0.3s						
VAY	**Valandovo**	**4.15**	**133**	*e*Pn	**Pn**	**13 55 51.0**	**+1.0**
MYKA	**Terra Mystica**	**4.20**	**306**	*i* Pn	**Pn**	**13 55 53.9**	**+3.1**
	1.0nm,0.2s						
MYKA				*i* Sn	**Sn**	**13 56 44.1**	**+3.8**
	2.9nm,0.4s						
MODS	**Modra-Piesok**	**4.23**	**348**	*e*PN	**Pn**	**13 55 51.4**	**+0.3**
MODS				*e*SN	**Sn**	**13 56 38.5**	**-2.4**
MODS				*e*LG	Lg	13 56 41.7	
VYHS	**Vyhne**	**4.26**	**3**	*e*PN	**Pn**	**13 55 52.0**	**+0.5**
KOLL	**Kolacno**	**4.34**	**359**	*e*PN	**Pn**	**13 55 54.4**	**+1.8**
KOLL				*e*SN	**Sn**	**13 56 42.6**	**-1.0**
SMOL	**Smolenice**	**4.34**	**350**	*e*PN	**Pn**	**13 55 54.0**	**+1.3**
SMOL				*e*PG	**Pg**	**13 56 08.3**	**-0.8**
SMOL				*e*SN	**Sn**	**13 56 44.7**	**+1.0**
SMOL				*e*LG	Lg	13 56 45.9	
KBA	**Koelnbreinsper**	**4.63**	**310**	*i* Pn	**Pn**	**13 55 58.4**	**+1.8**
	1.5nm,0.3s						
KBA				*i* Sn	**Sn**	**13 56 50.4**	**-0.4**
	3.0nm,0.4s						
MOA	**Molln**	**4.69**	**322**	Pn	**Pn**	**13 55 59.1**	**+1.8**
	0.5nm,0.1s,SNR=13						
MOA				*i* Sn	**Sn**	**13 56 51.3**	**-0.8**
	2.0nm,0.3s						
VOIR		**4.77**	**73**	⇓P	**Pn**	**13 55 58.2**	**-0.4**
ABTA	**Abfaltersbach**	**4.93**	**303**	*i* Pn	**Pn**	**13 56 02.5**	**+1.7**
	0.9nm,0.3s						
ABTA				*i* Sn	**Sb**	**13 57 05.5**	**-7.0**
	1.3nm,0.4s						
LANS	**Liptovska Anna**	**4.95**	**7**	*e*PN	**Pn**	**13 55 59.9**	**-1.1**
KRUC	**Moravsky**	**5.05**	**344**	*e*PN	**Pn**	**13 55 59.1**	**-3.2**
KRUC				*e*SN	**Sn**	**13 57 02.3**	**+1.3**
VRAC	**Vranov**	**5.25**	**346**	*e*PN	**Pn**	**13 56 05.5**	**+0.5**
VRAC				*e*SN	**Sn**	**13 57 07.1**	**+1.2**
KOLS	**Kolonicke sedl**	**5.35**	**27**	*e*PG	**Pg**	**13 56 32.2**	**+3.9**
MORC	**Moravsky Berou**	**5.58**	**353**	⇑P	**Pn**	**13 56 11.5**	**+1.8**
MORC	**Moravsky Berou**	**5.58**	**353**	*e*PN	**Pn**	**13 56 10.3**	**+0.6**
MORC				*e*SN	**Sn**	**13 57 15.3**	**+1.1**
WTTA	**Wattenberg**	**5.71**	**304**	Pn	**Pn**	**13 56 14.1**	**+2.5**
	4.2nm,0.3s,SNR=4.9						
WTTA				*i* Sn	**Sn**	**13 57 18.7**	**+1.2**
	2.7nm,0.5s						
WATA	**Walderalm**	**5.78**	**305**	*i* Pn	**Pn**	**13 56 14.9**	**+2.5**
	1.6nm,0.2s						
WATA				*i* Sn	**Sn**	**13 57 23.5**	**+4.2**
	1.4nm,0.4s						
SQTA	**Sankt Quirin**	**5.94**	**303**	*i* Pn	**Pn**	**13 56 18.9**	**+4.2**
	2.3nm,0.3s						
SQTA				*i* Sg	Sg	13 58 08.2	+12
	3.6nm,0.6s						
KRLC	**Kraliky**	**5.96**	**349**	*e*PN	**Pn**	**13 56 17.1**	**+2.2**
KHC	**Kasperske Hory**	**5.97**	**327**	*e*PN	**Pn**	**13 56 16.3**	**+1.3**
KHC				*e*SN	**Sn**	**13 57 23.1**	**-0.7**
MOTA	**Moosalm**	**6.07**	**303**	*i* Pn	**Pn**	**13 56 19.2**	**+2.8**
	0.5nm,0.3s						
MOTA				*i* Sg	Sg	13 58 11.7	+11
	1.4nm,0.4s						
FETA	**Feichten**	**6.15**	**300**	*i* Pn	**Pn**	**13 56 20.9**	**+3.2**
FETA				*i* Sn	**Sg**	**13 57 57.2**	**-6.2**
DPC	**Dobruska-Polom**	**6.30**	**347**	*e*PN	**Pn**	**13 56 21.4**	**+1.9**

NIED ***30*** *13:59:00,45.˝30N×149.˝90E,h101km,Mw4.2 Best double couple: M₀2.14000×10¹⁵ NP1:φ₁343.00000°, δ64.00000°,λ6.00000°. NP2:φ₂250.00000°,δ84.00000°, λ153.00000°.*

BJI ***30*** *13:59:20.8±0.0,45.˝98N×150.˝43E,h143km,mb4.5/31, mB4.9/25*

MOS ***30*** *13:59:24.6±0.9,45.˝95N×149.˝89E,h144km,mb4.3/16, Error ellipse: s-maj=8.1km s-min=5.7km az=58.8*

SKHL ***30*** *13:59:25.2±0.6,45.˝82N×149.˝99E,h139km±7km,mb5.2/10, msh5.8/7*

ISCJB ***30*** *13:59:25.1±0.2,45.˝81N±0.˝03×149.˝83E±0.˝04,h152km, mb4.2/45,Error ellipse: s-maj=5.4km s-min=2.0km az=144.9*

NEIC ***30*** *13:59:27.4±1.4,46.˝05N±0.˝10×149.˝8E±0.˝1,h149km±7km, mb4.7/78*

IDC ***30*** *13:59:27.8±2.1,46.˝17N×149.˝72E,h150km±19km, mb3.6/15,mb1 3.8/21,mb1mx3.7/34,mbtmp4.1/21,MS2.7/1, Ms1 2.7/1,ms1mx2.3/32,Error ellipse: s-maj=17.8km s-min=10.5km az=146.0*

JMA ***30*** *13:59:28.3±0.5,45.˝25N×149.˝94E,h141km,M4.4*

ISC 30 13:59:26.1±0.5, 45.˝78N±0.˝05×149.˝94E±0.˝05, h152km, n236, σ1$73/251, mb4.5/74, 4C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.56**	**250**	*c* iPN	**Pn**	**13 59 55.9**	**-0.5**
KUR	**Kuril'sk**	**1.56**	**250**	*i* P	**Pn**	**13 59 55.0**	**-1.4**
KUR				AMB	AMB	13 59 56.0	
	2μm,0.5s						
KUR				*i* S	**Sn**	**14 00 17.0**	**-2.6**
KUR				A	A	14 00 23.0	
	3μm,0.5s						
KUR				A	A	14 00 23.0	
	542nm,0.5s						
SHO	**Shikotan**	**2.92**	**230**	*c* iPN	**Pn**	**14 00 11.2**	**-1.3**
SHO				*i* S	**Sn**	**14 00 45.0**	**-3.4**
SHO				pmax	pmax		
	comp=Z,402nm,0.3s						
SHO				pmax	pmax		
	comp=N,124nm,0.2s						
SHO				pmax	pmax		
	comp=E,226nm,0.2s						
SHO				smax	smax		
	comp=E,689nm,0.3s						
SHO				smax	smax		
	comp=N,756nm,0.2s						
SHO	**Shikotan**	**2.92**	**230**	*i* P	**Pn**	**14 00 11.5**	**-1.0**
SHO				AMB	AMB	14 00 14.0	
	comp=N,402nm,0.3s						
SHO				*i* S	**Sn**	**14 00 46.0**	**-2.4**
SHO				A	A	14 00 47.0	
	comp=N,756nm,0.3s						
SHO				A	A	14 00 47.0	
	comp=N,689nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.38**	**240**	*c* iPN	**Pn**	**14 00 18.7**	**+0.3**
YUK				*i* S	**Sn**	**14 01 00.2**	**+1.3**
YUK				pmax	pmax		
	comp=N,291nm,0.2s						
YUK				pmax	pmax		
	comp=E,503nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				smax	smax		
	comp=N,394nm,0.3s						
YUK				smax	smax		
	comp=E,791nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.38**	**240**	*i* P	**Pn**	**14 00 18.0**	**-0.4**
YUK				AMB	AMB	14 00 19.0	
	comp=E,1μm,0.3s						
YUK				*i* S	**Sn**	**14 00 58.0**	**-0.9**
YUK				A	A	14 01 03.0	
	comp=E,394nm,0.3s						
YUK				A	A	14 01 03.0	
	comp=E,791nm,0.3s						
GRPR	**Tuman**	**3.46**	**240**	*d* iPN	**Pn**	**14 00 19.2**	**-0.2**
GRPR				*e*S	**Sn**	**14 00 59.6**	**-1.1**
GRPR				pmax	pmax		
	comp=Z,824nm,0.4s						
GRPR				pmax	pmax		
	comp=N,263nm,0.3s						
GRPR				pmax	pmax		
	comp=E,270nm,0.3s						
GRPR				smax	smax		
	comp=N,766nm,0.2s						
GRPR				smax	smax		
	comp=E,206nm,0.1s						
GRPR	**Tuman**	**3.46**	**240**	*i* P	**Pn**	**14 00 19.0**	**-0.4**
GRPR				AMB	AMB	14 00 20.0	
	comp=E,824nm,0.4s						
GRPR				*e*S	**Sn**	**14 00 59.0**	**-1.7**
GRPR				A	A	14 01 03.0	
	comp=E,766nm,0.4s						
GRPR				A	A	14 01 03.0	
	comp=E,206nm,0.4s						
GLVR	**Golovnino**	**3.75**	**239**	*d* iPN	**Pn**	**14 00 23.4**	**+0.3**
GLVR				*i* S	**Sn**	**14 01 07.5**	**+0.1**
GLVR				pmax	pmax		
	comp=E,92nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,2μm,0.4s						
GLVR				pmax	pmax		
	comp=N,58nm,0.2s						
GLVR				smax	smax		
	comp=N,545nm,0.2s						
GLVR				smax	smax		
	comp=E,1μm,0.2s						
GLVR	**Golovnino**	**3.75**	**239**	*i* P	**Pn**	**14 00 23.0**	**-0.1**
GLVR				AMB	AMB	14 00 23.0	
	comp=E,780nm,0.4s						
GLVR				*i* S	**Sn**	**14 01 07.0**	**-0.4**
GLVR				A	A	14 01 16.0	
	comp=E,545nm,0.4s						
GLVR				A	A	14 01 16.0	
	comp=E,1μm,0.4s						
NEM2	**Nemuro 2**	**3.85**	**233**	P	**Pn**	**14 00 23.1**	**-1.3**
NEM2				*e*S	**Sn**	**14 01 05.5**	**-4.2**
NMR	**Nemuro--Hokkai**	**3.86**	**233**	*c* iPN	**Pn**	**14 00 23.2**	**-1.3**
NMR				*i* S	**Sn**	**14 01 05.7**	**-4.1**
NMR	**Nemuro--Hokkai**	**3.86**	**233**	*i* P	**Pn**	**14 00 23.9**	**-0.6**
JRA	**Rausu**	**3.89**	**243**	P	**Pn**	**14 00 25.2**	**+0.3**
JNK	**Nakash**	**4.32**	**241**	P	**Pn**	**14 00 30.7**	**+0.1**
JTKR	**Abashiri--Toko**	**4.66**	**249**	P	**Pn**	**14 00 35.2**	**+0.3**
JAK	**Akkeshi**	**4.68**	**235**	P	**Pn**	**14 00 33.9**	**-1.3**
JAK				*e*S	**Sn**	**14 01 25.2**	**-3.9**
JMP	**Maruseppu**	**5.00**	**252**	P	**Pn**	**14 00 40.7**	**+1.1**
JAR	**Ashorobuto**	**5.06**	**243**	P	**Pn**	**14 00 40.6**	**+0.3**
YSS	**Yuzh-Sakhalins**	**5.11**	**286**	ePN	**Pn**	**14 00 40.9**	**0.0**
YSS				*e*S	**Sn**	**14 01 39.3**	**-0.1**
YSS				pmax	pmax		
	comp=Z,80nm,0.7s						
YSS				smax	smax		
	comp=N,60nm,0.9s						
YSS				smax	smax		
	comp=E,60nm,1.2s						
YSS				MLR	MLR		
	comp=Z,200nm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.11**	**286**	*e*P	**Pn**	**14 00 40.5**	**-0.4**
YSS				AMB	AMB	14 00 41.8	
	comp=Z,60nm,0.7s						
YSS				*e*S	**Sn**	**14 01 38.2**	**-1.2**
YSS				A	A	14 01 40.5	
	comp=Z,30nm,0.8s						
YSS				A	A	14 01 40.5	
	comp=Z,40nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.11**	**286**		**Pn**	**14 00 40.7**	**-0.2**
JOB	**Onbets**	**5.24**	**239**	P	**Pn**	**14 00 42.2**	**-0.5**
JOB				*e*S	**Sn**	**14 01 39.4**	**-3.0**
JKK2	**Kamakawa 2**	**5.46**	**252**	P	**Pn**	**14 00 46.8**	**+1.2**
JKA	**Kamikawa-asahi**	**5.47**	**255**	*e*P	**Pn**	**14 00 47.1**	**+1.4**
JKA	**Kamikawa-asahi**	**5.47**	**255**		**Pn**	**14 00 47.1**	**+1.4**
ASAJ	**Asahikawa**	**5.47**	**255**	P	**Pn**	**14 00 47.1**	**+1.4**
	comp=Z,9.0nm,0.3s,baz=75,slow=11,SNR=68						
JCH	**Churui**	**5.69**	**239**	P	**Pn**	**14 00 47.6**	**-1.1**
JCH				*e*S	**Sn**	**14 01 49.0**	**-4.2**
JAB	**Ashibetsu**	**5.96**	**250**	P	**Pn**	**14 00 53.9**	**+1.7**
JEM	**Erimo**	**6.18**	**235**	P	**Pn**	**14 00 54.9**	**-0.2**
JEM				*e*S	**Sn**	**14 02 02.2**	**-2.6**
ERM	**Erimo**	**6.18**	**235**	*i* PN	**Pn**	**14 00 54.5**	**-0.6**
ERM	**Erimo**	**6.18**	**235**		**Pn**	**14 00 55.1**	**0.0**
JBT2	**Biratori 2**	**6.21**	**244**	P	**Pn**	**14 00 55.2**	**-0.4**
JNBK	**Urakawa-nobuka**	**6.25**	**239**	P	**Pn**	**14 00 54.0**	**-2.1**
JNBK				*e*S	**Sn**	**14 02 00.4**	**-6.2**
UGL	**Uglegorsk**	**6.28**	**305**	*e*P	**Pn**	**14 00 54.8**	**-1.6**
UGL				AMB	AMB	14 00 56.8	
	comp=Z,70nm,0.8s						
UGL				*e*rx	rx	14 01 34.8	
SKR	**Severo-Kuril's**	**6.41**	**38**	*e*PN	**Pn**	**14 00 55.7**	**-2.4**
SKR				*e*S	**Sn**	**14 02 04.5**	**-5.7**
SKR				pmax	pmax		
	comp=Z,114nm,0.4s						
SKR				smax	smax		
	comp=N,96nm,1.0s						
SKR				smax	smax		
	comp=E,83nm,1.1s						
SKR	**Severo-Kuril's**	**6.41**	**38**	*e*P	**Pn**	**14 00 56.0**	**-2.1**
SKR				AMB	AMB	14 01 00.0	
	comp=E,114nm,0.4s						
SKR				*e*S	**Sn**	**14 02 05.8**	**-4.4**
SKR				A	A	14 02 14.0	
	comp=E,99nm,0.8s						
SKR				A	A	14 02 14.0	
	comp=E,89nm,0.8s						
JEW	**Eniwo**	**6.76**	**247**	P	**Pn**	**14 01 03.5**	**+0.6**
TYV	**Tymovskoe**	**7.03**	**319**	*e*PN	**Pn**	**14 01 04.2**	**-2.2**
TYV				*e*S	**Sn**	**14 02 22.2**	**-3.0**
TYV				pmax	pmax		
	comp=Z,29nm,0.9s						
TYV				smax	smax		
	comp=N,15nm,2.2s						
TYV	**Tymovskoe**	**7.03**	**319**	*e*P	**Pn**	**14 01 05.5**	**-0.9**
TYV				AMB	AMB	14 01 07.2	
	comp=N,20nm,0.8s						
JNB	**Noboribetsu**	**7.21**	**246**	P	**Pn**	**14 01 07.9**	**-1.0**
JNB				*e*S	**Sn**	**14 02 25.9**	**-3.7**
PAU	**Pauzhetka**	**7.28**	**36**	*e*P	**Pn**	**14 01 07.1**	**-2.7**
JKB	**Kayabe**	**7.53**	**242**	P	**Pn**	**14 01 11.1**	**-2.0**
JKB				*e*S	**Sn**	**14 02 29.9**	**-7.2**
JSH	**Shimam**	**7.77**	**250**	P	**Pn**	**14 01 16.4**	**0.0**
JYM2	**Yakumo 2**	**7.82**	**245**	P	**Pn**	**14 01 15.8**	**-1.2**
JSR	**Shiriuchi**	**8.11**	**242**	P	**Pn**	**14 01 18.9**	**-1.9**
JTM	**Tenmabayashi**	**8.17**	**236**	P	**Pn**	**14 01 18.9**	**-2.8**
JTM				*e*S	Sn	14 02 42.7	-10
JANG	**Nango**	**8.20**	**232**	P	**Pn**	**14 01 18.7**	**-3.4**
JANG				*e*S	Sn	14 02 43.8	-10
JTH	**Tanohata**	**8.32**	**228**	P	**Pn**	**14 01 20.3**	**-3.4**
JTH				*e*S	Sn	14 02 47.3	-9.0
JOSM	**Okushiri--Mats**	**8.41**	**248**	P	**Pn**	**14 01 23.6**	**-1.3**
PEA0B	**Petropavlovsk-**	**8.90**	**32**	PN	**Pn**	**14 01 28.8**	**-2.5**
PEA0B	**Petropavlovsk-**	**8.90**	**32**		**Pn**	**14 01 28.9**	**-2.5**
PETK	**Petropavlovsk-**	**8.90**	**32**	P	**Pn**	**14 01 28.7**	**-2.7**
	comp=N,7.5nm,0.3s,baz=208,slow=12,SNR=144						
OFUJ	**Ofunato**	**9.06**	**225**	P	**Pn**	**14 01 30.9**	**-2.7**
JRG	**Rokugo**	**9.37**	**230**	P	**Pn**	**14 01 35.5**	**-2.1**
JIO	**Ouri**	**9.71**	**224**	P	**Pn**	**14 01 38.9**	**-3.2**
JIO				*e*S	Sn	14 03 19.8	-10
GRNR	**Gornyy**	**10.30**	**304**	⇓*i*PN	**Pn**	**14 01 49.3**	**-0.6**
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GRNR	**Gornyy**	**10.30**	**304**	*e*P	**Pn**	**14 01 49.3**	**-0.6**
GRNR				AMB	AMB	14 01 49.7	
	comp=Z,10.0nm,0.8s						
JYA	**Atsumi**	**10.44**	**230**	*e*S	**Sn**	**14 03 41.9**	**-5.5**
JFY	**Yanaizu**	**11.34**	**226**	P	**Pn**	**14 02 02.2**	**-1.5**
MJB9	**Matsu-Tunnel**	**12.77**	**228**	Pn	**Pn**	**14 02 21.7**	**-0.5**
MAJO	**Matsushiro**	**12.77**	**228**	*i* PN	**Pn**	**14 02 21.4**	**-0.8**
MAJO	**Matsushiro**	**12.77**	**228**	Pn	**Pn**	**14 02 21.8**	**-0.4**
MJAR	**Matsushiro Arr**	**12.77**	**228**	P	**Pn**	**14 02 21.3**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=29,slow=15,SNR=13						
KLR	**Kul'dur**	**12.77**	**292**	*i* PN	**Pn**	**14 02 21.6**	**-0.5**
KLR	**Kul'dur**	**12.77**	**292**	P	**Pn**	**14 02 21.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=100,slow=16,SNR=13						
KLR	**Kul'dur**	**12.77**	**292**	*e*P	**Pn**	**14 02 21.6**	**-0.5**
USA0B	**Ussuriysk Arra**	**12.81**	**269**	PN	**Pn**	**14 02 22.8**	**+0.1**
USA0B	**Ussuriysk Arra**	**12.81**	**269**	Pn	**Pn**	**14 02 22.8**	**+0.1**
USRK	**Ussuriysk Ar.**	**12.81**	**269**	P	**Pn**	**14 02 22.7**	**0.0**
	baz=80,slow=11,SNR=16						
EKMR	**Ekimchan**	**13.23**	**310**	*e*P	**Pn**	**14 02 26.5**	**-1.5**
EKMR				AMB	AMB	14 02 38.2	
	comp=Z,6.0nm,0.8s						
INU	**Inuyama**	**14.30**	**228**	Pn	**Pn**	**14 02 42.5**	**+0.9**
MDJ	**Mudanjiang**	**14.40**	**273**	Pn	**Pn**	**14 02 42.9**	**+0.1**
BMKR	**Bomnak**	**16.13**	**311**	*e*P	**Pn**	**14 03 00.0**	**-4.1**
BMKR				AMB	AMB	14 03 06.0	
	comp=Z,4.0nm,0.8s						
ZEA	**Zeya**	**16.63**	**307**	*e*P	**P**	**14 03 08.4**	**-1.5**
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
ZEA	**Zeya**	**16.63**	**307**	*e*P	**P**	**14 03 08.4**	**-1.5**
ZEA				AMB	AMB	14 03 10.2	
	comp=Z,29nm,1.0s						
KROS	**Kirovskiy**	**17.03**	**309**	*e*P	**P**	**14 03 10.5**	**-3.8**
KROS				AMB	AMB	14 03 17.5	
	comp=Z,16nm,0.9s						
SEY	**Seymchan**	**17.25**	**4**	P	**P**	**14 03 14.4**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=185,slow=12,SNR=8.2						
KSRS	**Korea Array**	**18.41**	**251**	P	**Pn**	**14 03 32.0**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=56,slow=11,SNR=9.0						
YAK	**Yakutsk**	**20.04**	**332**	*i* P	**P**	**14 03 46.4**	**-0.5**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YAK	**Yakutsk**	**20.04**	**332**	*e*P	**P**	**14 03 46.4**	**-0.5**
GSTR	**Great Sitkin T**	**23.06**	**62**	P	**P**	**14 04 18.8**	**+0.9**
BILL	**Bilibino**	**23.87**	**15**	⇓*e*P	**P**	**14 04 27.1**	**+2.0**
BILL				*PP	**pwP**	**14 05 01.0**	**+2.4**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NJ2	**Nanjing**	**27.61**	**251**	*e*P	**P**	**14 05 00.3**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TIK	**Tiksi**	**27.81**	**346**	*e*P	**P**	**14 05 00.8**	**+0.3**
TIXI	**Tiksi**	**27.83**	**346**	*i* P	**P**	**14 05 00.8**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TIXI	**Tiksi**	**27.83**	**346**	P	**P**	**14 05 01.0**	**+0.4**
TIXI				IAmb	IAmb	14 05 03.9	
	comp=Z,8.3nm,0.4s						
HHC	**Hu-ho-hao-te**	**28.17**	**274**	*e*P	**P**	**14 05 05.5**	**+1.4**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,90nm,5.0s						
H11N2	**WAKE ISLAND Hy**	**29.50**	**146**	T	T	14 36 27.3	
	baz=336,slow=76,SNR=190						
H11N1	**WAKE ISLAND Hy**	**29.52**	**146**	T	T	14 36 26.7	
	baz=336,slow=76,SNR=168						
H11N3	**WAKE ISLAND Hy**	**29.52**	**146**	T	T	14 36 29.2	
	baz=336,slow=76,SNR=190						
H11S1	**WAKE ISLAND Hy**	**30.54**	**147**	T	T	14 37 48.1	
	baz=337,slow=76,SNR=164						
H11S3	**WAKE ISLAND Hy**	**30.55**	**147**	T	T	14 37 46.3	
	baz=337,slow=76,SNR=129						
H11S2	**WAKE ISLAND Hy**	**30.56**	**147**	T	T	14 37 47.6	
	baz=337,slow=76,SNR=150						
FALS	**False Pass**	**30.61**	**56**	P	**P**	**14 05 25.9**	**+0.5**
ANM	**Nome**	**30.78**	**36**	P	**P**	**14 05 27.1**	**+0.3**
ANM				pmax	pmax		
	comp=Z,19nm,1.8s						
ANM	**Nome**	**30.78**	**36**	P	**P**	**14 05 27.1**	**+0.3**
ANM				IAmb	IAmb	14 05 29.6	
	comp=Z,19nm,1.8s						
GUMO	**Guam**	**32.37**	**189**	LR	LR	14 21 07.7	
	comp=Z,12nm,18.4s,baz=111,slow=40						
RDOG	**Red Dog Mine**	**32.77**	**31**	P	**P**	**14 05 44.4**	**+0.2**
TTA	**Tatalina**	**34.60**	**41**	P	**P**	**14 06 00.7**	**+0.6**
TTA	**Tatalina**	**34.60**	**41**	P	**P**	**14 06 00.7**	**+0.6**
LZH	**Lanzhou**	**35.71**	**271**	*e*P	**P**	**14 06 11.8**	**+1.7**
LZH				pP	pP	14 06 44.0	+1.6
LZH				sP	sP	14 07 03.

WRH	Wood River Hil	38.16	38	P	P	14 06 30.7	+0.5
SML	Sawmill	38.18	43	P	P	14 06 30.7	+0.2
SML				pmax	pmax		
	comp=Z,83nm,1.9s						
SML	Sawmill	38.18	43	P	P	14 06 30.7	+0.2
COLA	College	38.26	38	*i* P	P	14 06 31.4	+0.5
COLA				pmax	pmax		
	comp=Z,12nm,0.9s						
COLA	College	38.26	38	P	P	14 06 31.7	+0.7
CCB	Clear Creek Bu	38.28	38	P	P	14 06 32.0	+0.8
CCB				IAmb	IAmb	14 06 33.2	
	comp=Z,5.1nm,0.6s						
DHY	Denali Highway	38.53	40	P	P	14 06 34.1	+0.6
DHY				IAmb	IAmb	14 06 55.2	
	comp=Z,37nm,1.9s						
CD2	Chengdu	38.60	264	P	P	14 06 34.0	-0.3
HDA	Harding Lake	38.66	38	P	P	14 06 34.5	+0.1
HDA				IAmb	IAmb	14 06 35.8	
	comp=Z,6.8nm,0.6s						
IL31		38.67	38	P	P	14 06 34.7	+0.3
ILAR	Eielson Array	38.67	38	*eP*	P	14 06 34.8	+0.3
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ILAR	Eielson Array	38.67	38	P	P	14 06 34.5	0.0
	comp=Z,2.9nm,0.6s,baz=268,slow=7.8,SNR=34						
GLI	Glacier Island	38.86	44	P	P	14 06 36.4	+0.3
FID	Port Fidalgo	39.18	44	P	P	14 06 38.8	+0.1
HIN	Hinchinbrook I	39.21	45	P	P	14 06 39.8	+0.7
PRP	Porcupine Dome	39.22	37	P	P	14 06 39.8	+0.6
PRP				IAmb	IAmb	14 06 41.0	
	comp=Z,7.6nm,0.6s						
FYU	Fort Yukon	39.31	35	P	P	14 06 41.1	+1.4
FYU				IAmb	IAmb	14 06 42.0	
	comp=Z,12nm,0.6s						
PAX	Paxson	39.41	41	P	P	14 06 41.7	+1.0
PAX				pmax	pmax		
	comp=Z,31nm,2.0s						
PAX	Paxson	39.41	41	P	P	14 06 41.7	+1.0
PAX				IAmb	IAmb	14 07 29.3	
	comp=Z,31nm,2.0s						
EYAK	Cordova Ski Ar	39.56	44	P	P	14 06 43.1	+1.2
RIDG	Independent Ri	39.62	39	P	P	14 06 42.6	+0.2
RAGM	Ragged Mountai	40.11	44	P	P	14 06 47.9	+1.4
HMT	Hamilton	40.32	45	P	P	14 06 49.8	+1.5
GLB	Gilahina Butte	40.37	43	P	P	14 06 49.8	+1.2
GLB				IAmb	IAmb	14 07 03.0	
	comp=Z,26nm,1.6s						
MCARA	McCarthy VSAT	40.75	43	P	P	14 06 53.0	+1.3
CRQM	Cirque	40.80	44	P	P	14 06 54.0	+1.6
CRQM				IAmb	IAmb	14 06 56.0	
	comp=Z,31nm,1.1s						
TGL	Tana Glacier	40.95	44	P	P	14 06 54.6	+1.2
TGL				IAmb	IAmb	14 08 21.2	
	comp=Z,38nm,1.5s						
WAX	Waxell Ridge	40.99	44	P	P	14 06 54.5	+0.8
WAX				IAmb	IAmb	14 07 46.0	
	comp=Z,28nm,1.0s						
EGAK	Eagle	41.12	37	P	P	14 06 54.7	+0.1
BALM	Baldy	41.13	43	P	P	14 06 56.3	+1.4
BALM				IAmb	IAmb	14 07 34.7	
	comp=Z,25nm,1.4s						
ZALV	Zalesovo Beam	41.40	306	P	P	14 06 55.2	-1.8
	comp=Z,0.6nm,0.4s,baz=90,slow=4.7,SNR=3.4						
BARN	Barnard Glacie	41.46	43	P	P	14 06 59.0	+1.3
BARN				IAmb	IAmb	14 07 25.8	
	comp=Z,55nm,1.8s						
CTGM	Chitina Glacie	41.63	43	P	P	14 07 00.2	+1.2
CTGM				IAmb	IAmb	14 07 55.2	
	comp=Z,52nm,1.6s						
DAWY	Dawson	41.98	38	P	P	14 07 02.3	+0.6
EPYK	Eagle Plains	42.73	35	P	P	14 07 08.7	+1.0
EPYK				IAmb	IAmb	14 07 09.9	
	comp=Z,14nm,1.1s						
WMQ	Urumqi	43.22	291	*eP*	P	14 07 13.8	+1.8
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,120nm,6.1s						
WMQ				LR	LR		
	comp=Z,250nm,29.1s						
WMQ				LR	LR		
	comp=Z,2µm,29.0s						
WMQ				LR	LR		
	comp=Z,85nm,25.5s						
HYT	Haines Junctio	43.49	43	P	P	14 07 15.9	+1.9
HYT				IAmb	IAmb	14 07 17.1	
	comp=Z,6.9nm,0.7s						
INK	Inuvik	43.64	32	P	P	14 07 15.7	+0.8
INK				pmax	pmax		
	comp=Z,11nm,1.3s						
INK	Inuvik	43.64	32	P	P	14 07 15.7	+0.8
WHY	Whitehorse	44.78	43	P	P	14 07 26.1	+1.9
WHY				IAmb	IAmb	14 07 56.9	
	comp=Z,33nm,1.8s						
MK31	Makanchi Array	45.43	297	*i* P	P	14 07 28.1	-1.3
MK31	Makanchi Array	45.43	297	P	P	14 07 28.0	-1.5
MKAR	Makanchi Array	45.43	297	P	P	14 07 28.1	-1.4
	comp=Z,0.9nm,0.5s,baz=68,slow=6.5,SNR=21						
MKAR				PcP	PcP	14 09 07.0	+1.1
	comp=Z,0.6nm,0.6s,baz=80,slow=4.6,SNR=3.5						
MAKZ	Makanchi	45.62	297	P	P	14 07 29.2	-1.7
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MAKZ	Makanchi	45.62	297	P	P	14 07 29.2	-1.7
JIS	Juneau Island	45.74	46	P	P	14 07 33.3	+1.6
JIS				IAmb	IAmb	14 07 39.0	
	comp=Z,49nm,1.3s						
KURK	Kurchatov	46.06	303	*i* P	P	14 07 32.3	-2.0
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURK	Kurchatov	46.06	303	*eP*	P	14 07 33.7	-0.6
KURK	Kurchatov	46.06	303	P	P	14 07 32.3	-2.0
LSA	Lhasa	48.12	272	P	P	14 07 53.0	+1.9
LSA				pmax	pmax		
	comp=Z,57nm,0.8s						
CHTO	Chiang Mai	49.75	255	P	P	14 08 05.2	+2.1
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CHTO	Chiang Mai	49.75	255	P	P	14 08 05.2	+2.1
CMAR	Chiang Mai Arr	50.00	254	P	P	14 08 07.5	+2.5
	comp=Z,1.0nm,0.6s,baz=37,slow=7.5,SNR=13						
SHL	Shillong	50.14	267	P	P	14 08 06.9	+0.8
SHL				pmax	pmax		
	comp=Z,19nm,0.5s						
SHL	Shillong	50.14	267	P	P	14 08 06.9	+0.8
KDJ	Kajisay	50.83	294	P	P	14 08 11.0	-0.1
KDJ				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KDJ	Kajisay	50.83	294	P	P	14 08 11.1	-0.1
TAPN	Taplejung	51.95	272	*eP*	P	14 08 21.5	+1.7
	comp=Z,20nm,0.5s						
AAK	Ala-Archa	52.28	295	*i* P	P	14 08 21.4	-0.5
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	Ala-Archa	52.28	295	*eP*	P	14 08 21.4	-0.5
AAK	Ala-Archa	52.28	295	P	P	14 08 21.9	0.0
RES	Resolute Bay	52.44	18	P	P	14 08 21.6	-0.7
RES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RES	Resolute Bay	52.44	18	P	P	14 08 21.6	-0.7
JIRN	Jiri	52.82	273	*eP*	P	14 08 27.9	+1.6
GUN	Gumba	52.88	274	*eP*	P	14 08 28.0	+1.3
	comp=Z,30nm,0.5s						
RAMN	Ramite	52.97	272	*eP*	P	14 08 28.7	+1.5
	comp=Z,44nm,0.4s						
KSH	Kashi	52.97	291	P	P	14 08 33.5	+6.5
KSH				pP	pwP	14 09 05.5	+1.7
KSH				sP	sP	14 09 21.3	+3.5
KSH				S	S	14 15 51.5	+6.8
KSH				sS	sS	14 16 48.3	+3.2
KSH				pmax	pmax		
	comp=Z,620nm,6.5s						
KSH				LR	LR		
	comp=Z,510nm,5.1s						
KSH				LR	LR		
	comp=Z,290nm,6.5s						
KSH				LR	LR		
	comp=Z,850nm,6.4s						
YKA	Yellowknife Ar	53.00	35	P	P	14 08 27.3	+0.6
	comp=Z,1.9nm,0.6s,baz=300,slow=7.0,SNR=17						
KKN	Kakani	53.37	274	*eP*	P	14 08 31.6	+1.5
	comp=Z,41nm,0.7s						
PKI	Pulchoki	53.42	274	*eP*	P	14 08 31.7	+1.1
	comp=Z,3.1nm,0.7s						
PKIN	Phulchoki	53.42	274	*eP*	P	14 08 31.7	+1.1
	comp=Z,16nm,0.7s						
DMN	Daman	53.61	274	*eP*	P	14 08 33.5	+1.6
GKN	Gorkha	53.69	274	*eP*	P	14 08 33.8	+1.4
	comp=Z,40nm,0.4s						
DANN	Dangsing	54.09	275	*eP*	P	14 08 37.3	+1.9
	comp=Z,79nm,0.5s						
KK31	Karatay Array	54.52	298	P	P	14 08 37.7	-0.3
KK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KK31	Karatay Array	54.52	298	P	P	14 08 37.7	-0.3
KKAR	Karatay Array	54.52	298	P	P	14 08 37.8	-0.3
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KKAR	Karatay Array	54.52	298	P	P	14 08 37.8	-0.3
KOLN	Koldanda	54.56	275	*eP*	P	14 08 40.4	+1.7
ABKAR	Akbulak array	57.34	309	P	P	14 08 56.6	-1.3
ABKAR				IAmb	IAmb	14 08 57.3	
	comp=Z,2.4nm,0.4s						
CHGR	Chuyangaron	57.85	294	P	P	14 09 01.5	-0.3
NIL	Nilore	58.11	287	P	P	14 09 04.5	+0.9
NIL				pmax	pmax		
	comp=Z,11nm,0.9s						
NIL	Nilore	58.11	287	P	P	14 09 04.5	+0.9
NIL				IAmb	IAmb	14 09 05.4	
	comp=Z,11nm,0.9s						
LTY	Liberty	58.12	53	P	P	14 09 04.4	+0.9
LTY				IAmb	IAmb	14 10 43.0	
	comp=Z,12nm,1.7s						
KBL	Kabul	60.36	290	P	P	14 09 18.5	-0.8
KBL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KBL	Kabul	60.36	290	P	P	14 09 18.5	-0.8
KBL				IAmb	IAmb	14 09 19.4	
	comp=Z,5.1nm,0.6s						
WVOR	Wild Horse Val	62.13	57	P	P	14 09 32.2	+1.2
WVOR				pmax	pmax		
	comp=Z,7.0nm,2.5s						
FFC	Flin Flon	62.88	38	P	P	14 09 36.2	+0.7
FFC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FFC	Flin Flon	62.88	38	P	P	14 09 36.2	+0.7
FFC				IAmb	IAmb	14 09 37.3	
	comp=Z,4.3nm,0.8s						
FINES	FINESS Array B	63.96	334	P	P	14 09 41.2	-1.3
	comp=Z,1.9nm,0.9s,baz=15,slow=4.5,SNR=3.9						
NVAR	Mina Array Bea	64.83	60	P	P	14 09 50.9	+2.0
	comp=Z,1.6nm,0.7s,baz=294,slow=7.6,SNR=14						
GEYT	Alibeck	65.19	299	P	P	14 09 51.2	+0.2
	comp=Z,1.0nm,0.6s,baz=50,slow=7.2,SNR=3.5						
WRA	Warramunga Arr	66.93	196	P	P	14 10 04.8	+2.7
	comp=Z,0.4nm,0.6s,baz=10.0,slow=6.6,SNR=4.2						
PD31	Pinedale Array	67.08	52	P	P	14 10 04.2	+1.0
PDAR	Pinedale Array	67.08	52	P	P	14 10 04.5	+1.3
	comp=Z,1.5nm,0.6s,baz=258,slow=1.6,SNR=18						
ULM	Lac du Bonnet	68.67	39	*eP*	P	14 10 13.0	+0.3
ULM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ULM	Lac du Bonnet	68.67	39	P	P	14 10 12.9	+0.3
	comp=Z,1.2nm,0.5s,baz=295,slow=3.6,SNR=4.1						
ULM	Lac du Bonnet	68.67	39	IAmb	IAmb	14 10 49.8	
	comp=Z,43nm,1.9s						
KIV	Kislovodsk	69.87	313	*i* P	P	14 10 20.4	+0.1
KIV				*i*		14 12 58.3	
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIV	Kislovodsk	69.87	313	*eP*	P	14 10 20.4	+0.1
ASAR	Alice Springs	70.64	196	P	P	14 10 29.1	+4.1
	comp=Z,0.8nm,0.8s,baz=9.3,slow=6.1,SNR=10						
AKASG	Malin Array Be	71.10	325	P	P	14 10 25.7	-1.7
	comp=Z,0.2nm,0.3s,baz=40,slow=6.5,SNR=3.0						
VYHS	Vyhne	76.86	329	*eP*	P	14 11 10.8	+10
VYHS	Vyhne	76.86	329	*e*	P	14 11 10.8	+10
GERES	GERESS Array B	78.33	332	*eP*	P	14 11 09.7	+0.5
GERES	GERESS Array B	78.33	332	P	P	14 11 09.1	-0.1
	comp=Z,0.3nm,0.5s,baz=36,slow=5.3,SNR=3.6						
TX31	Lajitas Ar. Si	79.88	58	P	P	14 11 18.8	+0.8
TX32	Lajitas Array	79.88	58	P	P	14 11 18.9	+0.9
TXAR	Lajitas Array	79.88	58	P	P	14 11 19.5	+1.5
	comp=Z,2.1nm,0.5s,baz=295,slow=4.5,SNR=51						

*ISCJB **30** 14:14:38.6±0.5,31°.09N±0°.04×130°.28E±0°.09, h164km±3km, mb3.4/5, Error ellipse: s-maj=12.8km s-min=6.0km az=16.5*
*IDC **30** 14:14:38.9±0.9,31°.06N×130°.02E, h151km±9km, mb3.2/5, mb1 3.5/8, mb1mx3.2/41, mbtmp3.7/8, Error ellipse: s-maj=26.2km s-min=9.4km az=104.0*
*JMA **30** 14:14:40.3±0.1,31°.09N×130°.29E, h156km±1km, M3.6*
ISC 30 14:14:39.4±0.8, 31°.06N±0°.05×130°.20E±0°.08, h161km±6km, n19, σ1§14/32, mb3.4/5, Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JSU	Suzuyama	0.50	26	P		Pn	14 15 02.2	+0.2
JSU					eS	Sn	14 15 18.9	-0.6
JKC	Kuchinoerabu	0.60	180	P		Pn	14 15 03.1	+0.6
JKC					eS	Sn	14 15 20.7	+0.5
JTSR	Tashiro 2	0.63	80	P		Pn	14 15 02.5	-0.2
JTSR					eS	Sn	14 15 19.1	-1.5
JSJ	Shimokoshiki	0.74	326	P		Pn	14 15 03.3	-0.1
JSJ					eS	Sn	14 15 21.4	-0.4
JTN	Tanegashima 3	0.79	121	P		Pn	14 15 03.8	+0.1
JTN					eS	Sn	14 15 21.6	-0.7
JYAK	Yakushimahirau	0.86	162	P		Pn	14 15 04.7	+0.5
JYAK					eS	Sn	14 15 23.0	-0.2
JMTN	Minamitane	0.90	137	P		Pn	14 15 04.8	+0.3
JMTN					eS	Sn	14 15 23.3	-0.4
JTZ	Takazaki	1.13	42	P		Pn	14 15 06.3	0.0
JTZ					eS	Sn	14 15 25.9	-1.2
JNN	Nakanoshima	1.25	193	P		Pn	14 15 08.3	+0.9
JNN					eS	Sn	14 15 30.1	+1.2
JIU3	Izumi3	1.57	19	P		Pn	14 15 11.0	+0.4
JIU3					eS	Sn	14 15 33.7	-1.0
JNU	Nakatsue	2.13	16	P		Pn	14 15 17.1	+0.3
	26nm,0.3s,baz=214,slow=7.3,SNR=245							
JNU					S	Sn	14 15 45.0	-0.8
	3.1nm,0.3s,baz=89,slow=21,SNR=1.7							
JOW	Kunigami	4.54	202	P		Pn	14 15 47.2	+0.3
	1.2nm,0.3s,baz=133,slow=13,SNR=44							
JOW					S	Sn	14 16 36.3	-3.4
	1.6nm,0.3s,baz=101,slow=17,SNR=5.1							
MJAR	Matsushiro Arr	8.62	49	P		Pn	14 16 43.7	+2.8
	0.1nm,0.3s,baz=240,slow=14,SNR=9.4							
MJAR					S	Sn	14 18 14.6	-2.3
	0.1nm,0.3s,baz=235,slow=26,SNR=5.4							
ASAJ	Asahikawa	16.30	33	P		Pn	14 18 18.3	-0.8
	0.3nm,0.3s,baz=159,slow=14,SNR=3.5							
SONM	Songino Array	24.72	319	P		P	14 19 46.1	+0.4
	0.3nm,0.5s,baz=147,slow=8.6,SNR=2.8							
WRA	Warramunga Arr	50.87	175	P		P	14 23 24.3	+0.5
	0.8nm,0.9s,baz=353,slow=8.0,SNR=5.4							
ASAR	Alice Springs	54.53	176	P		P	14 23 51.6	+0.9
	0.6nm,0.8s,baz=356,slow=6.4,SNR=13							
FINES	FINESS Array B	69.53	330	P		P	14 25 29.9	-0.3
	1.7nm,0.5s,baz=64,slow=4.8,SNR=8.8							
YKA	Yellowknife Ar	73.44	26	P		P	14 25 53.8	+0.3
	0.2nm,0.6s,baz=306,slow=5.7,SNR=4.2							

*IDC **30** 14:45:27.4±2.7, 6°.05N×125°.89E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/41, mbtmp3.2/3, Error ellipse: s-maj=230.6km s-min=28.3km az=65.0*
*ISCJB **30** 14:45:37.8±1.1, 6°.21N±0°.08×126°.8E±0°.1, h112km±11km, mb3.1/3, Error ellipse: s-maj=17.6km s-min=13.5km az=0.0*
*MAN **30** 14:45:37.5, 6°.18N×126°.82E, h97km, MS3.5*
ISC 30 14:45:38.9±1.4, 6°.19N±0°.09×126°.7E±0°.1, h107km±12km, n11, σ1§48/17, mb3.1/3, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MATI	Mati	0.87	330	P		Pn	14 45 57.4	-1.2
MATI				S		Sn	14 46 12.5	-0.9
DMPH	Davao City--Mi	1.47	307	P		Pn	14 46 06.4	+1.2
GSPH	General Santos	1.73	267	⇑P		Pn	14 46 08.4	-0.1
GSPH				S		Sn	14 46 31.3	+0.2
KCP	Kidapawan	1.79	297	⇑P		Pn	14 46 09.8	+0.6
KCP				S		Sn	14 46 33.4	+1.1
SKMP	Bagumbayan, Su	2.16	279	P		Pn	14 46 12.9	-0.9
SKMP				S		Sn	14 46 41.7	+1.1
BUKP	Musuan	2.33	316	P		Pn	14 46 16.0	-0.1
BUKP				S		Sn	14 46 45.6	+1.0
CGP	Cagayan de Oro	3.00	319	⇓P		Pn	14 46 26.2	+1.4
CGP				S		Sn	14 47 00.9	+0.6
PAGZ	Pagadian	3.67	297	P		Pn	14 46 30.6	-3.3
WRA	Warramunga Arr	27.04	164	P		P	14 51 13.7	+2.4
	0.2nm,0.4s,baz=344,slow=10,SNR=3.5							
ASAR	Alice Springs	30.50	167	P		P	14 51 42.1	+0.1
	0.2nm,0.5s,baz=342,slow=7.1,SNR=10							
MKAR	Makanchi Array	55.54	324	P		P	14 55 02.0	-1.1
	0.1nm,0.4s,baz=114,slow=8.2,SNR=4.1							

*IDC **30** 14:55:06.6±1.8, 52°.95N×167°.17W, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.4/63, mbtmp3.5/5, Error ellipse: s-maj=48.4km s-min=27.5km az=6.0*
*ISCJB **30** 14:55:09.3±0.8, 52°.87N±0°.07×167°.38W±0°.06, h39km±10km, mb3.4/4, Error ellipse: s-maj=12.5km s-min=5.3km az=162.0*
*AEIC **30** 14:55:09.5±1.9, 52°.88N±0°.05×167°.42W±0°.05, h26km±6km, ML3.2*
*NEIC **30** 14:55:09.8±1.7, 52°.91N±0°.06×167°.44W±0°.06, h30km±7km*
ISC 30 14:55:09.6±1.4, 52°.97N±0°.08×167°.41W±0°.04, h20km±11km, n48, σ1§07/46, mb3.5/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OKFG	Magazine Ridge	0.53	326			Pn	14 55 21.8	-0.3
OKFG						Sn	14 55 31.0	+0.5
OKTU	Okmok Mt. Tuli	0.56	318			Pn	14 55 22.2	-0.3
OKSP	Okmok Steeple	0.60	299			Pb	14 55 21.9	+0.5
OKCE	Okmok Cone E	0.64	316			Pn	14 55 23.5	-0.2
OKNC	Okmok New Cone	0.65	319			Pn	14 55 23.5	-0.2
OKNC						Sn	14 55 34.4	+1.0
NIKH	Nikolski High	0.87	271			Pb	14 55 24.9	-1.1
NIKH						Sb	14 55 36.8	-0.5
MREP	Makushin Rep't	0.93	25			Pb	14 55 27.2	+0.1
MSW	Makushin Switc	1.02	21			Pb	14 55 28.6	0.0
MSW						Sn	14 55 42.2	-0.3
MCIR	Makushin Cirqu	1.03	17			Pn	14 55 29.5	+0.5
UNV	Unalaska Valle	1.03	31			Pb	14 55 28.2	-0.6
UNV						Sb	14 55 42.1	+0.3
MTBL	Makushin Table	1.09	23			Pb	14 55 30.1	+0.3
AKMO	Akutan Morgan	1.40	36			Pn	14 55 34.2	+0.1
AKRB	Akutan Reef Bi	1.41	34			Pn	14 55 34.6	+0.4
AKBBA	Akutan Broad B	1.44	37			Pn	14 55 34.4	-0.1
AKLV	Akutan Long Va	1.48	35			Pn	14 55 34.6	-0.5
AKGG	Akutan Green G	1.50	34			Pn	14 55 35.5	+0.2
AKUT	Akutan	1.52	39			Pn	14 55 35.6	0.0
WESP	Westdahl Peak	2.21	45			Pn	14 55 46.0	+0.8
WEBT	Westdahl Beart	2.27	43			Pn	14 55 46.9	+1.0
SSBA	Shishaldin	2.66	46			Pn	14 55 51.8	+0.5
FALS	False Pass	3.03	50			Pn	14 55 58.2	+1.9
ATKA	Atka Island	4.21	262			Pn	14 56 12.9	+0.4
CNKA	Chernabura Isl	4.99	65	Pn		Pn	14 56 22.7	-0.5
ADK	Adak	5.78	263	Pn		Pn	14 56 34.8	+0.8
SUA	Susitna One	12.38	40	Pn		Pn	14 58 06.4	+1.8
HIN	Hinchinbrook I	13.64	49	Pn		Pn	14 58 22.2	+0.5
FID	Port Fidalgo	13.80	47	Pn		Pn	14 58 22.6	-1.2
SCM	Sheep Creek Mo	13.94	43	Pn		Pn	14 58 25.6	-0.3
RAGM	Ragged Mountai	14.48	50	Pn		Pn	14 58 30.8	-2.4
SUCK	Suckling Hills	14.80	52	Pn		Pn	14 58 35.0	-2.5
TGL	Tana Glacier	15.46	50	P		P	14 58 51.4	+0.7
BARN	Barnard Glacie	16.10	50	P		P	14 58 59.4	+1.5
CTGM	Chitina Glacie	16.22	50	P		P	14 59 00.2	+1.0
TOLK	Toolik Lake Re	17.84	21	P		P	14 59 18.3	+1.3
HYT	Haines Junctio	17.99	52	P		P	14 59 21.4	+2.7
DAWY	Dawson	18.19	41	P		P	14 59 21.9	+1.1
PETK	Petropavlovsk-	20.86	284	P		Pn	14 59 51.5	-1.0
	2.3nm,0.9s,baz=85,slow=13,SNR=8.3							
INK	Inuvik	22.19	33	P		P	15 00 03.2	-0.9
	1.6nm,0.7s,baz=248,slow=8.2,SNR=6.1							
YKA	Yellowknife Ar	28.95	50	P		P	15 01 06.3	-0.8
	0.4nm,0.5s,baz=276,slow=7.6,SNR=5.7							
F04A	Amboy	29.68	85	P		P	15 01 14.9	+1.2
NVAR	Mina Array Bea	36.50	93	P		P	15 02 12.4	-1.1
	0.1nm,0.3s,baz=332,slow=9.5,SNR=3.4							
H11N2	WAKE ISLAND Hy	38.68	221	T		T	15 43 58.2	
	baz=25,slow=76,SNR=228							
H11N3	WAKE ISLAND Hy	38.68	221	T		T	15 44 00.6	
	baz=25,slow=76,SNR=233							
H11N1	WAKE ISLAND Hy	38.69	221	T		T	15 43 51.0	
	baz=25,slow=76,SNR=218							
H11S1	WAKE ISLAND Hy	39.86	220	T		T	15 45 17.6	
	baz=24,slow=76,SNR=158							
H11S2	WAKE ISLAND Hy	39.87	220	T		T	15 45 30.7	
	baz=24,slow=76,SNR=132							
H11S3	WAKE ISLAND Hy	39.88	220	T		T	15 45 21.6	
	baz=24,slow=76,SNR=78							
TXAR	Lajitas Array	51.56	91	P		P	15 04 12.9	-1.3
	0.5nm,0.7s,baz=311,slow=6.8,SNR=6.7							

*ISCJB **30** 15:05:11.5±1.3, 16°.9S±0°.6×179°.4W±0°.4, h500km, mb3.2/7, Error ellipse: s-maj=89.3km s-min=17.1km az=149.5*
*IDC **30** 15:05:12.5±8.6, 17°.05S×179°.26W, h503km±97km, mb2.8/7, mb1 3.1/7, mb1mx2.9/33, mbtmp3.6/7, Error ellipse: s-maj=84.2km s-min=29.7km az=150.0*
ISC 30 15:05:12.3±1.4, 17°.0S±0°.6×179°.3W±0°.4, h500km, n8, σ0§74/9, mb3.2/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.37	240	P		P	15 11 49.9	-0.2
	0.6nm,0.5s,baz=78,slow=11,SNR=4.9							
WRA	Warramunga Arr	43.99	259	P		P	15 12 34.5	-0.6
	0.3nm,0.6s,baz=95,slow=7.7,SNR=3.7							
ASAR	Alice Springs	44.26	253	P		P	15 12 37.1	0.0
	2.3nm,0.5s,baz=89,slow=7.9,SNR=59							
ASAR				PcP		pP	15 14 09.9	+1.0
	0.3nm,0.5s,baz=100,slow=4.5,SNR=4.6							
NVAR	Mina Array Bea	79.33	44	P		P	15 16 26.8	+0.7
	0.1nm,0.4s,baz=236,slow=6.4,SNR=2.9							

H01W1	**Cape Leeuwin H**	**34.66**	**112**	T	T	16 01 37.7	
	baz=271,slow=74,SNR=14						
CMAR	**Chiang Mai Arr**	**52.01**	**30**	P	**P**	**15 27 12.0**	**+0.4**
	1.2nm,1.0s,baz=219,slow=7.0,SNR=8.7						
ASAR	**Alice Springs**	**53.51**	**100**	P	**P**	**15 27 22.9**	**0.0**
	1.6nm,0.6s,baz=254,slow=6.4,SNR=34						
AS31	**Alice Springs**	**53.51**	**100**	P	**P**	**15 27 23.0**	**+0.1**
WRA	**Warramunga Arr**	**55.12**	**96**	P	**P**	**15 27 35.5**	**+0.9**
	2.5nm,1.0s,baz=252,slow=7.9,SNR=6.2						
WRA	**Warramunga Arr**	**55.12**	**96**	P	**P**	**15 27 35.2**	**+0.5**
STKA	**Stephens Creek**	**57.74**	**112**	P	**P**	**15 27 52.5**	**-0.8**
	1.2nm,0.7s,baz=293,slow=7.7,SNR=3.3						
STKA	**Stephens Creek**	**57.74**	**112**	P	**P**	**15 27 52.4**	**-0.8**
STKA				IAmb	IAmb	15 29 10.8	
	comp=Z,2.9nm,1.5s						
SNAA	**Sanae**	**59.65**	**201**	P	**P**	**15 28 05.8**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=75,slow=16,SNR=3.3						
SNAA	**Sanae**	**59.65**	**201**	IAmb	IAmb	15 28 08.7	
	comp=Z,20nm,1.7s						
QSPA	**South Pole Qui**	**62.18**	**180**	P	**P**	**15 28 23.2**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=270,slow=1.8,SNR=22						
QSPA	**South Pole Qui**	**62.18**	**180**	P	**P**	**15 28 23.1**	**-0.2**
VNDA	**Vanda**	**62.43**	**166**	P	**P**	**15 28 25.7**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=275,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**74.76**	**6**	P	**P**	**15 29 39.8**	**-2.0**
	comp=Z,0.5nm,0.8s,baz=184,slow=6.8,SNR=5.9						
ZALV	**Zalesovo Beam**	**82.08**	**6**	P	**P**	**15 30 22.3**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=174,slow=4.1,SNR=2.8						
YKA	**Yellowknife Ar**	**144.98**	**7**	PKP	**PKPbc**	**15 37 36.6**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=330,slow=4.1,SNR=4.4						

*ISCJB **30** 15:19:07.0±0.7,28°.2S±0°.2×74°.4E±0°.1, h10km, mb4.0/7, Error ellipse: s-maj=23.3km s-min=17.5km az=158.7*
*IDC **30** 15:19:07.4±0.9,28°.19S×74°.33E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.7/36, mbtmp3.9/7, Error ellipse: s-maj=32.3km s-min=24.8km az=167.0*
*NEIC **30** 15:19:10.0±1.3,28°.2S±0°.2×74°.4E±0°.2, h17km±4km, mb4.7/5*

ISC 30 15:19:08.8±0.8,28°.2S±0°.2×74°.3E±0°.1,h10km,n15, σ0s58/11,mb4.3/8,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
H08S2	**Diego Garcia H**	**20.47**	**355**	T		T	15 44 22.5	
	baz=176,slow=76,SNR=3.1							
H08S1	**Diego Garcia H**	**20.47**	**355**	T		T	15 44 22.9	
	baz=176,slow=76,SNR=3.1							
H08S3	**Diego Garcia H**	**20.49**	**355**	T		T	15 44 23.4	
	baz=176,slow=76,SNR=3.0							
RPSI	**Rantau Prapat**	**38.72**	**42**	P		**P**	**15 26 32.7**	**-0.6**
RPSI				IAmb		IAmb	15 26 33.2	
	comp=Z,12nm,1.2s							
SUR	**Sutherland**	**46.03**	**251**	P		**P**	**15 27 33.3**	**+0.3**
	comp=Z,4.7nm,0.9s,baz=84,slow=9.2,SNR=3.3							
SUR	**Sutherland**	**46.03**	**251**	P		**P**	**15 27 33.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**47.93**	**90**	P		**P**	**15 27 47.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**52.09**	**30**	P		**P**	**15 28 20.1**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=215,slow=7.7,SNR=2.5							
ASAR	**Alice Springs**	**53.31**	**100**	P		**P**	**15 28 28.1**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=261,slow=4.6,SNR=8.5							
WRA	**Warramunga Arr**	**54.93**	**96**	P		**P**	**15 28 41.1**	**+0.8**
	comp=Z,2.5nm,1.0s,baz=252,slow=7.3,SNR=2.5							
QSPA	**South Pole Qui**	**61.98**	**180**	P		**P**	**15 29 28.5**	**-0.5**
	comp=Z,4.8nm,0.9s,baz=288,slow=2.3,SNR=1.9							
QSPA	**South Pole Qui**	**61.98**	**180**	IAmb		IAmb	15 31 29.5	
	comp=Z,15nm,1.9s							
MKAR	**Makanchi Array**	**74.94**	**6**	P		**P**	**15 30 49.2**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=192,slow=6.8,SNR=2.5							
TORD	**Torodi Ar. Bea**	**81.34**	**290**	P		**P**	**15 31 26.0**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=135,slow=6.1,SNR=3.4							
YKA	**Yellowknife Ar**	**145.15**	**7**	PKPbc		**PKPdf**	**15 38 46.0**	**0.0**
	comp=Z,0.2nm,0.5s,baz=336,slow=3.7,SNR=4.0							

UCR 30 15:55:11.1±2.1,11°.34N×85°.51W,h187km±16km,MD3.6, ML3.8,Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CONN	**Concepcion**	**0.26**	**332**	*e*P		Pn	15 55 36.2	+0.2
GB1A	**Borinquen Arri**	**0.53**	**168**	*e*P		Pn	15 55 37.4	+0.5
BUEV	**Buena Vista**	**0.54**	**170**	*e*P		Pn	15 55 37.0	0.0
ACON	**Acoyapa**	**0.71**	**27**	*e*P		Pn	15 55 38.3	+0.6
CUI	**Cuipilapa**	**0.75**	**154**	*e*P		Pn	15 55 38.6	+0.5
CUI				*e*S		Sn	15 55 59.5	+0.7
MGAN	**Managua**	**1.08**	**318**	*e*P		Pn	15 55 40.3	+0.2
TISN	**Laguna Tiscapa**	**1.10**	**317**	*e*P		Pn	15 55 40.7	+0.5
CEDE	**Laguna Cedeo**	**1.16**	**137**	*e*P		Pn	15 55 41.8	+1.0
ARE1	**Arenal 1**	**1.16**	**138**	*e*P		Pn	15 55 41.8	+1.0
JTS	**Las Juntas de**	**1.17**	**152**	*e*P		Pn	15 55 41.0	+0.1
COPN	**Copaltepe**	**1.35**	**308**	*e*P		Pn	15 55 41.9	-0.4
MOMN	**Momotombo**	**1.47**	**317**	*e*P		Pn	15 55 43.3	-0.1
MATN	**Matagalpa**	**1.64**	**345**	*e*P		Pn	15 55 45.6	+0.6
CNGN	**Cerro Negro**	**1.64**	**315**	IAML			15 56 17.0	
	comp=E,315nm,0.3s							
ESTN	**Estel**	**1.95**	**334**	*e*P		Pn	15 55 48.7	+0.5
CRIN	**San Cristobal**	**2.03**	**312**	*e*P		Pn	15 55 48.8	-0.2
LCR2	**La Lucha 2**	**2.17**	**137**	*e*P		Pn	15 55 52.2	+1.5
TGUH	**Tegucigalpa,Un**	**3.21**	**328**	*e*P		Pn	15 56 03.8	+1.0

*GCG **30** 15:56:23.1±0.4, 14°.49N×90°.95W, h196km±4km, MD3.8*
*SNET **30** 15:56:31.6±0.6, 13°.16N×90°.75W, h16km±3km, ML3.2*

ISC 30 15:56:22.2±4.6,13°.8N±0°.5×91°.2W±0°.2,h188km±45km,n9, σ0s54/10,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FUG	**Fuego 3**	**0.77**	**25**	*e*P		**Pn**	**15 56 49.5**	**0.0**
FUG	**Fuego 3**	**0.77**	**25**	*e*P		**Pn**	**15 56 49.5**	**0.0**
FUG				*e*S		**Sn**	**15 57 10.5**	**-0.3**
IXG	**Ixpaco**	**0.83**	**60**	*e*P		**Pn**	**15 56 51.0**	**+1.1**
STG3	**Santiaguito 3,**	**1.02**	**338**	*e*P		**Pn**	**15 56 51.5**	**+0.2**
STG3				*e*S		**Sn**	**15 57 13.3**	**-0.5**
CEVE	**Cerro Verde**	**1.52**	**87**	IAML			15 57 19.8	
	comp=Z,429nm,0.3s							
CEVE	**Cerro Verde**	**1.52**	**87**	*e*P		**Pn**	**15 56 55.0**	**-0.3**
CEVE				*e*S		Sn	15 57 13.1	-7.8
CEVE				IAML			15 57 19.8	
	comp=Z,429nm,0.3s							
SNJE	**San Jose**	**1.54**	**86**	*e*P		**Pn**	**15 56 55.3**	**-0.2**
MTO3	**Montecristo**	**1.88**	**70**	*e*S		**Sn**	**15 57 27.4**	**0.0**
MTO3	**Montecristo**	**1.88**	**70**	*e*P		Pn	15 57 02.5	+3.5
MTO3				*e*S		**Sn**	**15 57 27.4**	**0.0**

*ISCJB **30** 16:07:48.7±0.7,5°.51S±0°.07×147°.21E±0°.09, h195km, Error ellipse: s-maj=12.7km s-min=10.3km az=179.8*
*NEIC **30** 16:07:48.7±2.1,5°.49S±0°.07×147°.2E±0°.2, h177km±8km, mb4.7/11*
*IDC **30** 16:07:49.2±1.6,5°.52S×147°.13E, h182km±20km, mb3.5/4, mb1 3.8/6, mb1mx3.2/35, mbtmp4.1/6, Error ellipse: s-maj=42.2km s-min=11.3km az=111.0*

ISC 30 16:07:50.2±0.9,5°.55S±0°.09×147°.2E±0°.1,h195km,n20, σ1s12/23,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.83**	**181**	P		**Pn**	**16 08 49.5**	**-0.2**
	10nm,0.3s,baz=13,slow=11,SNR=45							
PMG				S		**Sn**	**16 09 34.7**	**-1.9**
	8.5nm,0.3s,baz=133,slow=17,SNR=14							
PMG	**Port Moresby**	**3.83**	**181**	Pn		**Pn**	**16 08 49.3**	**-0.5**
COEN	**Coen**	**9.26**	**205**	P		**Pn**	**16 10 01.3**	**+1.3**
MTN	**Manton Dam**	**17.46**	**244**	P		**P**	**16 11 39.4**	**-1.2**
WR0	**Warramunga Arr**	**18.91**	**220**	P		**P**	**16 11 56.5**	**+0.1**
WR0				IAmb		IAmb	16 11 57.4	
	comp=Z,9.7nm,0.5s							
WRAB	**Tennant Creek**	**19.01**	**220**	P		**P**	**16 11 57.7**	**+0.3**
WRAB				IAmb		IAmb	16 12 02.3	
	comp=Z,11nm,0.6s							
WRA	**Warramunga Arr**	**19.02**	**220**	P		**P**	**16 11 58.2**	**+0.6**
	comp=Z,2.4nm,0.3s,baz=40,slow=11,SNR=93							
WRA				S		**S**	**16 15 22.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=38,slow=20,SNR=6.8							
WRA	**Warramunga Arr**	**19.02**	**220**	P		**P**	**16 11 56.5**	**-1.1**
KNRA	**Kununurra**	**20.73**	**240**	P		**P**	**16 12 14.2**	**-1.8**
KNRA				IAmb		IAmb	16 12 43.7	
	comp=Z,114nm,1.9s							
AS31	**Alice Springs**	**22.12**	**214**	P		**P**	**16 12 30.9**	**+0.8**
ASAR	**Alice Springs**	**22.12**	**214**	P		**P**	**16 12 31.1**	**+1.0**
	comp=Z,2.9nm,0.6s,baz=47,slow=8.3,SNR=98							
ASAR				S		**S**	**16 16 21.3**	**+1.6**
	comp=Z,0.7nm,0.9s,baz=36,slow=20,SNR=4.2							
FITZ	**Fitzroy Crossi**	**24.50**	**238**	P		**P**	**16 12 51.2**	**-0.6**
	comp=Z,4.0nm,0.5s,baz=60,slow=13,SNR=33							
FITZ	**Fitzroy Crossi**	**24.50**	**238**	P		**P**	**16 12 51.2**	**-0.6**
FITZ				IAmb		IAmb	16 13 36.5	
	comp=Z,114nm,2.0s							
DZM	**Mont Dzumac**	**24.80**	**133**	P		**P**	**16 12 56.1**	**+1.4**
DZM				IAmb		IAmb	16 13 47.1	
	comp=Z,52nm,1.9s							
MMRI	**Maumere**	**24.99**	**262**	P		**P**	**16 12 56.5**	**+0.2**
ARMA	**Armidale**	**25.08**	**171**	P		**P**	**16 12 58.8**	**+1.7**
ARMA				IAmb		IAmb	16 13 49.2	
	comp=Z,16nm,1.4s							
MJAR	**Matsushiro Arr**	**42.72**	**349**	P		**P**	**16 15 27.3**	**-0.8**
	comp=Z,2.2nm,1.0s,baz=176,slow=11,SNR=3.1							
TUWZ	**Tuamarina**	**42.95**	**150**	P		**P**	**16 15 29.3**	**-0.6**
SNZO	**South Karori**	**43.24**	**150**	P		**P**	**16 15 31.1**	**-1.1**
ILAR	**Eielson Array**	**84.98**	**23**	P		**P**	**16 20 03.5**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=250,slow=4.8,SNR=4.5							

*ISCJB **30** 16:25:15.0±1.4,5°.1S±0°.2×68°.7E±0°.2, h13km, mb3.7/7, MS3.3/6, Error ellipse: s-maj=34.4km s-min=6.1km az=44.3*
*IDC **30** 16:25:15.1±1.8,5°.08S×68°.60E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/41, mbtmp3.6/7, MS3.3/6, Ms1 3.3/6, ms1mx3.0/44, Error ellipse: s-maj=56.1km s-min=25.3km az=63.0*

ISC 30 16:25:17.2±1.8,5°.1S±0°.2×68°.7E±0°.2,h13km,n20, σ0s75/21,mb3.8/7,MS3.3/6,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
H08N2	**Diego Garcia H**	**2.56**	**118**	Pn		**Pn**	**16 25 57.0**	**-1.1**
H08N2				Sn		**Sn**	**16 26 29.0**	**-0.1**
H08N2				T		T	16 28 45.0	
	baz=297,slow=74,SNR=103							
H08N3	**Diego Garcia H**	**2.56**	**118**	Pn		**Pn**	**16 25 58.0**	**-0.2**
H08N3				Sn		**Sn**	**16 26 29.0**	**-0.1**
H08N3				T		T	16 28 45.1	
	baz=297,slow=74,SNR=95							
H08N1	**Diego Garcia H**	**2.58**	**118**	Pn		**Pn**	**16 25 58.3**	**-0.2**
H08N1				Sn		**Sn**	**16 26 29.5**	**-0.1**
H08N1				T		T	16 28 46.4	
	baz=297,slow=74,SNR=97							
H08S3	**Diego Garcia H**	**4.49**	**124**	Pn		**Pn**	**16 26 24.5**	**-0.2**
H08S3				Sn		**Sn**	**16 27 16.8**	**0.0**
H08S3				T		T	16 31 19.4	
	baz=311,slow=74,SNR=47							
H08S1	**Diego Garcia H**	**4.49**	**124**	Pn		**Pn**	**16 26 24.5**	**-0.2**
H08S1				Sn		**Sn**	**16 27 16.8**	**0.0**
H08S1				T		T	16 31 10.7	
	baz=311,slow=74,SNR=30							
H08S2	**Diego Garcia H**	**4.51**	**124**	Pn		**Pn**	**16 26 24.8**	**-0.2**
H08S2				Sn		**Sn**	**16 27 17.2**	**0.0**
H08S2				T		T	16 31 08.9	
	baz=311,slow=74							
WSAR	**Wadi Sarin**	**29.87**	**341**	LR		LR	16 41 46.9	
	comp=Z,22nm,18.2s,baz=222,slow=33							
PSI	**Prapat**	**31.19**	**76**	LR		LR	16 42 05.8	
	comp=Z,57nm,18.8s,baz=278,slow=32							
CMAR	**Chiang Mai Arr**	**37.91**	**51**	P		**P**	**16 32 35.2**	**+0.7**
	0.3nm,0.6s,baz=243,slow=8.0,SNR=3.3							
CMAR				LR		LR	16 45 32.0	
	comp=Z,17nm,21.9s,baz=265,slow=32							
BOSA	**Boshof**	**47.31**	**235**	LR		LR	16 50 31.7	
	comp=Z,40nm,20.9s,baz=34,slow=32							
MKAR	**Makanchi Array**	**53.08**	**12**	P		**P**	**16 34 33.0**	**-1.3**
	0.3nm,0.7s,baz=215,slow=6.6,SNR=2.3							
KURBB	**Kurchatov Arra**	**56.17**	**8**	P		**P**	**16 34 57.8**	**+1.2**
	0.6nm,0.9s,baz=200,slow=7.7,SNR=3.0							
ZALV	**Zalesovo Beam**	**60.40**	**11**	P		**P**	**16 35 24.3**	**-1.8**
	0.7nm,0.4s,baz=197,slow=4.5,SNR=3.1							
SONM	**Songino Array**	**62.26**	**28**	P		**P**	**16 35 39.4**	**+0.4**
	0.8nm,0.9s,baz=242,slow=6.2,SNR=5.0							
ASAR	**Alice Springs**	**65.25**	**114**	P		**P**	**16 35 59.4**	**+0.3**
	0.5nm,0.7s,baz=279,slow=6.2,SNR=9.6							
WRA	**Warramunga Arr**	**65.36**	**109**	P		**P**	**16 36 01.1**	**+1.2**
	0.7nm,0.6s,baz=282,slow=6.3,SNR=6.8							
TIXI	**Tiksi**	**85.83**	**16**	LR		LR	17 18 02.5	
	comp=Z,18nm,19.6s,baz=352,slow=37							
SPITS	**Spitsbergen Ar**	**87.79**	**351**	LR		LR	17 19 44.9	
	comp=Z,56nm,19.5s,baz=205,slow=37							
NVAR	**Mina Array Bea**	**146.25**	**10**	PKPbc		**PKPab**	**16 44 58.6**	**-0.3**
	0.3nm,0.5s,baz=1.7,slow=0.6,SNR=5.5							
TXAR	**Lajitas Array**	**154.87**	**344**	PKPbc		**PKPbc**	**16 45 19.1**	**-0.2**
	0.4nm,0.8s,baz=38,slow=1.6,SNR=2.9							

*IDC **30** 16:33:07.0±3.2, 46°.26S×165°.96E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.5/27, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=89.7km s-min=35.9km az=174.0*
*ISCJB **30** 16:33:09.1±1.2, 46°.05S±0°.05×165°.92E±0°.07, h19km±8km, mb3.3/2, Error ellipse: s-maj=9.1km s-min=7.3km az=144.1*
*WEL **30** 16:33:09.9±1.1, 46°.5S±6°×16°.6E±°, h5km, M4.2/17, ML4.3/13, MLv4.2/17, Error ellipse: s-maj=0.0km s-min=0.0km az=59.9*
*NEIC **30** 16:33:13.3±1.3, 46°.50S±0°.03×166°.66E±0°.09, h10km±5km, mb4.6/3*

ISC 30 16:33:11.9±1.8,46°.07S±0°.06×166°.12E±0°.08,h24km±12km, n71,σ1s57/70,mb4.4/5,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.40**	**104**	P		**Pb**	**16 33 20.1**	**-0.3**
PYZ				S		**Sb**	**16 33 27.0**	**+0.8**
PYZ	**Puysegur Point**	**0.40**	**104**	Pg		**Pb**	**16 33 20.1**	**-0.3**
DCZ	**Deep Cove**	**0.94**	**50**	P		**Pn**	**16 33 28.6**	**-1.0**
DCZ				S		**Sn**	**16 33 41.6**	**-0.7**
WHZ	**Wether Hill Ro**	**1.28**	**83**	P		**Pn**	**16 33 34.2**	**-0.1**
WHZ	**Wether Hill Ro**	**1.28**	**83**			**Pn**	**16 33 34.0**	**-0.3**
APZ	**The Paps**	**1.50**	**121**	P		**Pn**	**16 33 35.6**	**-1.7**
MLZ	**Mavora Lakes**	**1.57**	**64**	P		**Pb**	**16 33 39.7**	**-0.5**
MLZ				S		**Sb**	**16 34 02.3**	**+2.7**
MLZ	**Mavora Lakes**	**1.57**	**64**			**Pb**	**16 33 39.8**	**-0.5**
MSZ	**Milford Sound**	**1.89**	**43**	P		**Pn**	**16 33 43.7**	**+1.0**
SYZ	**Scrubby Hill**	**2.14**	**104**	P		**Pn**	**16 33 45.9**	**-0.2**
EAZ	**Earnscleugh**	**2.39**	**71**	P		**Pn**	**16 33 51.3**	**+1.8**
EAZ				S		**Sb**	**16 34 22.6**	**-0.5**
WKZ	**Wanaka**	**2.39**	**60**	P		**Pb**	**16 33 52.1**	**-2.1**
WKZ	**Wanaka**	**2.39**	**60**			**Pb**	**16 33 52.0**	**-2.2**
TUZ	**Tuapeka**	**2.45**	**89**	P		**Pn**	**16 33 51.3**	**+1.0**
TUZ				S		**Sb**	**16 34 22.7**	**-2.2**
JCZ	**Jackson Bay**	**2.75**	**44**	P		**Pn**	**16 33 57.0**	**+2.5**
HHSZ	**Highcliff Hill**	**3.13**	**88**	P		**Pn**	**16 34 00.5**	**+0.8**
LBZ	**Lake Benmore**	**3.33**	**61**	P		**Pn**	**16 34 03.5**	**+1.1**
LBZ				S		**Sn**	**16 34 42.9**	**+1.6**
LBZ	**Lake Benmore**	**3.33**	**61**			**Pn**	**16 34 04.0**	**+1.5**
ODZ	**Otahua Downs**	**3.34**	**74**	P		**Pn**	**16 34 02.4**	**-0.2**
ODZ	**Otahua Downs**	**3.34**	**74**			**Pn**	**16 34 02.3**	**-0.3**
FOZ	**Fox Glacier**	**3.65**	**47**	P		**Pn**	**16 34 08.9**	**+2.0**
FOZ	**Fox Glacier**	**3.65**	**47**			**Pb**	**16 34 12.6**	**-3.1**
RPZ	**Rata Peaks**	**4.22**	**58**	Pn		**Pn**	**16 34 15.4**	**+0.6**
	8.5nm,0.3s,baz=216,slow=9.8,SNR=25							
RPZ				Sn		**Sn**	**16 35 04.6**	**+1.3**
	15nm,0.3s,baz=32,slow=18,SNR=14							
RPZ	**Rata Peaks**	**4.22**	**58**	P		**Pn**	**16 34 14.9**	**+0.1**
RPZ	**Rata Peaks**	**4.22**	**58**			**Pn**	**16 34 14.4**	**-0.4**
WVZ	**Waitaha Valley**	**4.46**	**49**	P		**Pn**	**16 34 19.9**	**+2.0**
OXZ	**Oxford**	**5.03**	**59**	P		**Pn**	**16 34 25.5**	**-0.4**
OXZ	**Oxford**	**5.03**	**59**	Pn		**Pn**	**16 34 26.3**	**+0.5**
INZ	**Inchbonnie**	**5.07**	**51**	P		**Pn**	**16 34 28.3**	**+1.9**
MQZ	**McQueen's Vall**	**5.21**	**65**	P		**Pn**	**16 34 28.5**	**+0.2**
MQZ	**McQueen's Vall**	**5.21**	**65**	Pn		**Pn**	**16 34 28.3**	**+0.1**
OKCZ	**Okains Bay**	**5.46**	**67**	P		**Pn**	**16 34 33.3**	**+1.6**
LTZ	**Lake Taylor**	**5.50**	**55**	P		**Pn**	**16 34 31.8**	**-0.5**
LTZ	**Lake Taylor**	**5.50**	**55**			**Pn**	**16 34 31.9**	**-0.4**
DSZ	**Denniston Nort**	**5.96**	**46**	P		**Pn**	**16 34 39.3**	**+0.6**
KHZ	**Kahutara**	**6.46**	**58**	P		**Pn**	**16 34 47.4**	**+2.0**
KHZ	**Kahutara**	**6.46**	**58**	Pn		**Pn**	**16 34 47.0**	**+1.6**
THZ	**Tophouse**	**6.52**	**51**	P		**Pn**	**16 34 47.4**	**+1.0**
THZ	**Tophouse**	**6.52**	**51**	Pn		**Pn**	**16 34 47.3**	**+0.9**
QRZ	**Quartz Range**	**7.01**	**44**	P		**Pn**	**16 34 54.1**	**+1.0**
BSWZ	**Blackbirch Sta**	**7.09**	**55**	Pn		**Pn**	**16 34 56.8**	**+2.7**
NNZ	**Nelson**	**7.16**	**50**	P		**Pn**	**16 34 58.0**	**+3.0**
NNZ	**Nelson**	**7.16**	**50**	Pn		**Pn**	**16 34 57.3**	**+2.3**
TCW	**Tory Channel**	**7.65**	**53**	P		Pn	16 35 06.1	+4.3
DUWZ	**D'Urville Isla**	**7.74**	**50**	P		**Pn**	**16 35 06.3**	**+3.3**
SNZO	**South Karori**	**7.83**	**56**	Pn		**Pn**	**16 35 06.6**	**+2.4**
BHW	**Baring Head**	**7.86**	**57**	Pn		**Pn**	**16 35 06.8**	**+2.1**
PLWZ	**Palliser**	**7.99**	**59**	Pn		**Pn**	**16 35 07.2**	**+0.7**
MSWZ	**Moikau Station**	**8.08**	**58**	P		**Pn**	**16 35 09.2**	**+1.5**
MSWZ	**Moikau Station**	**8.08**	**58**	Pn		**Pn**	**16 35 08.1**	**+0.4**
OGWZ	**Otaki Gorge**	**8.42**	**55**	P		**Pn**	**16 35 15.7**	**+3.4**
MRZ	**Mangatainoka R**	**8.75**	**55**	P		**Pn**	**16 35 17.4**	**+0.5**
KHEZ	**Kahui Hut**	**8.92**	**43**	P		**Pn**	**16 35 20.7**	**+1.5**
TSZ	**Takapari Road**	**9.37**	**54**	P		**Pn**	**16 35 27.0**	**+1.6**
VRZ	**Vera Road**	**9.42**	**46**	P		**Pn**	**16 35 27.1**	**+1.1**
PKVZ	**Pokaka**	**9.59**	**48**	P		Pn	16 35 34.7	+6.3
HIZ	**Hauiti**	**9.94**	**44**	P		**Pn**	**16 35 34.4**	**+1.2**
HIZ	**Hauiti**	**9.94**	**44**	Pn		**Pn**	**16 35 34.4**	**+1.2**
URZ	**Urewera**	**11.28**	**50**	Pn		**Pn**	**16 35 51.9**	**+0.4**
SBA	**Scott Base**	**31.89**	**180**	P		**P**	**16 39 34.7**	**-0.1**
SBA				IAmb		IAmb	16 39 35.2	
	comp=Z,29nm,1.6s							
ASAR	**Alice Springs**	**34.25**	**300**	P		**P**	**16 39 54.5**	**-1.5**
	comp=Z,0.6nm,1.0s,baz=133,slow=6.8,SNR=2.2							
WRA	**Warramunga Arr**	**36.86**	**304**	P		**P**	**16 40 17.2**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=135,slow=7.5,SNR=2.1							
H01W1	**Cape Leeuwin H**	**40.41**	**267**	T		T	17 23 32.2	
	baz=122,slow=75,SNR=58							
H01W2	**Cape Leeuwin H**	**40.43**	**267**	T		T	17 23 31.6	
	baz=122,slow=75,SNR=58							
H01W3	**Cape Leeuwin H**	**40.43**	**267**	T		T	17 23 35.5	
	baz=122,slow=75,SNR=56							
QSPA	**South Pole Qui**	**44.05**	**180**	P		**P**	**16 41 17.3**	**-0.3**
QSPA				IAmb		IAmb	16 42 11.1	
	comp=Z,11nm,1.6s							
MAW	**Mawson**	**52.99**	**208**	P		**P**	**16 42 28.6**	**+2.6**
MAW				IAmb		IAmb	16 42 37.0	
	comp=Z,15nm,1.9s							
H08S2	**Diego Garcia H**	**87.06**	**262**	T		T	18 21 39.9	
	baz=136,slow=76,SNR=27							
H08S1	**Diego Garcia H**	**87.08**	**262**	T		T	18 21 43.6	
	baz=136,slow=76,SNR=7.2							
H08S3	**Diego Garcia H**	**87.08**	**262**	T		T	18 21 41.1	
	baz=136,slow=76,SNR=31							
TORD	**Torodi Ar. Bea**	**144.64**	**207**	PKP		**PKPdf**	**16 52 44.8**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=180,slow=1.3,SNR=1.5							

PRU 30 16:57:24.9±0.0,50°.15N×19°.13E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
OJC	**Ojcow**	**0.43**	**81**	*e*Pg		Pg	16 57 32.5	-0.7
OJC				*e*Pg		Pg	16 57 32.5	-0.7
OJC				*e*Sg		Sg	16 57 38.2	-0.7
OJC				*e*Sg		Sg	16 57 38.2	-0.7
OKC	**Ostrava-Krasne**	**0.71**	**244**	*e*SG		Sg	16 57 48.3	+0.7
	comp=Z,6.3nm,0.7s							
LANS	**Liptovska Anna**	**1.02**	**167**	*e*PG		Pg	16 57 44.2	-0.3
LANS				*e*SG		Sg	16 57 57.3	-0.5
LANS				*e*LG		Lg	16 57 58.0	
MORC	**Moravsky Berou**	**1.09**	**251**	*e*PG		Pg	16 57 45.9	+0.1
MORC				*e*SG		Sg	16 57 59.9	0.0
**KR

*MOS **30** 17:04:18.4±0.8, 13°.09N×143°.37E, h204km, mb4.7/19, Error ellipse: s-maj=10.4km s-min=6.0km az=109.1*
*DJA **30** 17:04:19.7±0.4, 13°.7N×14°.4E×, h215km±6km, M4.2/16, mB4.7/4, mb4.6/16, MLv4.1/1, Mw(mB)4.0/4*
*NEIC **30** 17:04:19.5±1.5, 13°.10N±0°.08×143°.44E±0°.09, h200km±5km, mb4.6/91*
*IDC **30** 17:04:19.7±0.5, 13°.06N×143°.50E, h201km±5km, mb3.9/31, mb1 4.0/34, mb1mx4.0/49, mbtmp4.5/34, MS3.2/1, Ms1 3.2/1, ms1mx2.5/33, Error ellipse: s-maj=10.6km s-min=6.4km az=91.0*
*BJI **30** 17:04:21.5±0.0, 13°.07N×143°.48E, h237km, mb4.6/37, mB4.7/21*
ISC 30 17:04:19.4±0.3, 13°.08N±0°.05×143°.47E±0°.06, h200km, n226, σθ°95/231, mb4.5/104, 9C-3D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.45**	**69**	P			**Pn**	**17 04 53.6**	**+0.9**
	196nm,0.3s,baz=288,slow=4.4,SNR=123								
GUMO				S			**Sn**	**17 05 18.6**	**0.0**
	1µm,0.3s,baz=26,slow=21,SNR=41								
GUMO	**Guam**	**1.45**	**69**				**Pn**	**17 04 53.0**	**+0.3**
ANA2	**Anatahan**	**3.90**	**34**				**Pn**	**17 05 19.7**	**-0.3**
SARN	**Sarigan**	**4.24**	**32**	Pn			**Pn**	**17 05 24.5**	**+0.3**
MANU	**Manus Island**	**15.51**	**165**	P			**P**	**17 07 48.6**	**+0.5**
JAY	**Jayapura**	**15.73**	**190**	P			**Pn**	**17 07 51.7**	**+1.0**
	0.7nm,0.3s,baz=46,slow=7.9,SNR=5.6								
SWI	**Sorong**	**18.40**	**222**	P			**Pn**	**17 08 23.8**	**+1.5**
SWI	**Sorong**	**18.40**	**222**	P			**Pn**	**17 08 22.9**	**+0.6**
	26nm,0.8s								
SIJI	**Sorong**	**18.40**	**222**	P			**Pn**	**17 08 23.7**	**+1.4**
	1.0nm,0.3s,baz=29,slow=9.9,SNR=8.1								
DAV	**Davao City (W)**	**18.59**	**253**	P			**Pn**	**17 08 24.1**	**-0.5**
	33nm,0.3s,baz=94,slow=9.2,SNR=4.0								
DAV	**Davao City (W)**	**18.59**	**253**	P			**P**	**17 08 21.1**	**-0.8**
FAKI	**Fak Fak**	**19.41**	**216**	P			**P**	**17 08 31.0**	**+0.4**
	31nm,1.2s								
FAKI	**Fak Fak**	**19.41**	**216**	P			**P**	**17 08 30.6**	**0.0**
FAKI				IAmb			IAmb	17 08 35.3	
	comp=Z,20nm,0.7s								
JOW	**Kunigami**	**19.75**	**316**	P			**P**	**17 08 35.3**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=154,slow=12,SNR=13								
JOW	**Kunigami**	**19.75**	**316**	P			**P**	**17 08 35.0**	**+0.8**
PMG	**Port Moresby**	**22.64**	**171**	*ce*P			**P**	**17 09 01.4**	**-2.2**
PMG				pmax			pmax		
	comp=Z,88nm,1.0s								
PMG	**Port Moresby**	**22.64**	**171**	P			**P**	**17 09 03.7**	**0.0**
	comp=Z,19nm,0.8s,baz=355,slow=8.8,SNR=22								
PMG	**Port Moresby**	**22.64**	**171**	P			**P**	**17 09 03.0**	**-0.7**
H11S3	**WAKE ISLAND Hy**	**22.97**	**73**	T			T	17 32 55.9	
	baz=267								
H11S1	**WAKE ISLAND Hy**	**22.99**	**73**	T			T	17 32 56.3	
	baz=267								
H11S2	**WAKE ISLAND Hy**	**22.99**	**73**	T			T	17 33 03.3	
	baz=267								
JNU	**Nakatsue**	**23.03**	**332**	P			**P**	**17 09 07.4**	**+0.3**
	comp=Z,30nm,0.8s,baz=93,slow=1.3,SNR=14								
JNU	**Nakatsue**	**23.03**	**332**	P			**P**	**17 09 06.5**	**-0.6**
WAKE	**Wake Island**	**23.09**	**71**	P			**P**	**17 09 08.8**	**+1.0**
YULB	**Yu-li**	**23.39**	**299**	P			**P**	**17 09 09.4**	**-1.0**
YULB				IAmb			IAmb	17 09 12.5	
	comp=Z,22nm,0.8s								
H11N1	**WAKE ISLAND Hy**	**23.40**	**71**	T			T	17 32 58.3	
	baz=256,slow=75,SNR=5.3								
H11N2	**WAKE ISLAND Hy**	**23.41**	**70**	T			T	17 32 44.1	
	baz=256,slow=75,SNR=5.5								
H11N3	**WAKE ISLAND Hy**	**23.42**	**71**	T			T	17 32 44.7	
	baz=256,slow=75,SNR=7.2								
SSLB	**Suanglung**	**23.83**	**300**	P			**P**	**17 09 14.0**	**-0.5**
YHNB	**Yeheng**	**23.83**	**302**	P			**P**	**17 09 13.0**	**-1.5**
MJAR	**Matsushiro Arr**	**23.84**	**349**	P			**P**	**17 09 13.6**	**-0.8**
	comp=Z,4.9nm,0.9s,baz=157,slow=9.0,SNR=10								
MJAR				ScP			**ScP**	**17 16 11.1**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=168,slow=3.4,SNR=8.9								
MAJO	**Matsushiro**	**23.84**	**349**	*i* P			**P**	**17 09 12.0**	**-2.4**
MAJO				pmax			pmax		
	comp=Z,17nm,1.0s								
MAJO	**Matsushiro**	**23.84**	**349**	P			**P**	**17 09 13.2**	**-1.2**
MAJO				IAmb			IAmb	17 09 14.4	
	comp=Z,18nm,1.0s								
MJB9	**Matsu-Tunnel**	**23.84**	**349**	P			**P**	**17 09 13.0**	**-1.4**
MJB9				IAmb			IAmb	17 09 14.4	
	comp=Z,18nm,1.0s								
TPUB	**Ta-pu**	**23.93**	**298**	P			**P**	**17 09 14.1**	**-1.3**
LUWI	**Luwuk**	**24.86**	**237**	P			**P**	**17 09 29.2**	**+5.3**
LUWI	**Luwuk**	**24.86**	**237**	P			**P**	**17 09 22.6**	**-1.3**
COEN	**Coen**	**26.86**	**181**	P			**P**	**17 09 41.5**	**-0.3**
COEN				IAmb			IAmb	17 09 42.9	
	comp=Z,12nm,0.8s								
KSRS	**Korea Array**	**27.97**	**333**	P			**P**	**17 09 51.7**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=173,slow=9.0,SNR=9.4								
KS19	**Wonju Array Si**	**28.03**	**333**	P			**P**	**17 09 51.0**	**-1.0**
MTN	**Manton Dam**	**28.51**	**206**	P			**P**	**17 09 55.6**	**-0.8**
MTN				IAmb			IAmb	17 10 02.6	
	comp=Z,16nm,1.3s								
WHN	**Wuhan**	**32.00**	**308**	⇓P			**P**	**17 10 27.0**	**0.0**
USRK	**Ussuriysk Ar.**	**32.54**	**345**	P			**P**	**17 10 33.0**	**+1.5**
	comp=Z,1.5nm,0.7s,baz=116,slow=6.6,SNR=4.0								
CTA	**Charters Tower**	**33.07**	**175**	P			**P**	**17 10 37.0**	**+0.6**
	comp=Z,6.7nm,0.9s,baz=8.5,slow=11,SNR=6.4								
CTAO	**Charters Tower**	**33.07**	**175**	P			**P**	**17 10 37.7**	**+1.3**
CTAO				pmax			pmax		
	comp=Z,11nm,1.1s								
YSS	**Yuzh-Sakhalins**	**33.77**	**359**	*i* P			**P**	**17 10 41.1**	**-1.0**
YSS				pmax			pmax		
	comp=Z,35nm,1.5s								
WR0	**Warramunga Arr**	**33.99**	**195**	P			**P**	**17 10 44.1**	**-0.2**
WRAB	**Tennant Creek**	**34.01**	**195**	*ce*P			**P**	**17 10 44.4**	**-0.2**
WRAB				pmax			pmax		
	comp=Z,37nm,0.6s								
WRAB	**Tennant Creek**	**34.01**	**195**	P			**P**	**17 10 44.3**	**-0.2**
WRA	**Warramunga Arr**	**34.02**	**195**	*i* P			**P**	**17 10 44.5**	**-0.1**
WRA				pmax			pmax		
	comp=Z,38nm,0.7s								
WRA	**Warramunga Arr**	**34.02**	**195**	P			**P**	**17 10 44.7**	**0.0**
	comp=Z,38nm,0.7s,baz=15,slow=9.3,SNR=293								
WRA				S			**S**	**17 15 52.1**	**-3.1**
	comp=Z,0.8nm,0.9s,baz=11,slow=14,SNR=4.2								
WRA				ScP			**ScP**	**17 16 44.4**	**+0.5**
	comp=Z,2.2nm,1.1s,baz=14,slow=3.7,SNR=5.4								
WRA	**Warramunga Arr**	**34.02**	**195**	P			**P**	**17 10 43.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**35.62**	**210**	P			**P**	**17 10 58.1**	**-0.2**
	comp=Z,4.9nm,0.8s,baz=6.1,slow=7.9,SNR=20								
FITZ	**Fitzroy Crossi**	**35.62**	**210**	P			**P**	**17 10 57.6**	**-0.7**
ENH	**Enshi**	**35.73**	**304**	P			**P**	**17 10 59.4**	**+0.2**
ENH				IAmb			IAmb	17 11 00.6	
	comp=Z,18nm,0.9s								
BJT	**Baijiatuao**	**36.01**	**323**	P			**P**	**17 11 02.0**	**+0.6**
BJT				pmax			pmax		
	comp=Z,14nm,0.8s								
BJT	**Baijiatuao**	**36.01**	**323**	P			**P**	**17 11 02.0**	**+0.6**
BJT				IAmb			IAmb	17 11 02.7	
	comp=Z,14nm,0.8s								
BJI	**Beijing**	**36.02**	**323**	*e*P			**P**	**17 11 01.8**	**+0.4**
BJI				pmax			pmax		
	comp=Z,18nm,0.7s								
XAN	**Xi'an**	**37.65**	**310**	P			**P**	**17 11 15.5**	**0.0**
XAN				pmax			pmax		
	comp=Z,13nm,1.0s								
XAN	**Xi'an**	**37.65**	**310**	P			**P**	**17 11 15.4**	**0.0**
XAN				pmax			pmax		
	comp=Z,10.0nm,0.8s								
XAN	**Xi'an**	**37.65**	**310**	P			**P**	**17 11 15.4**	**0.0**
XAN				IAmb			IAmb	17 11 16.2	
	comp=Z,10nm,0.8s								
AS31	**Alice Springs**	**37.70**	**194**	P			**P**	**17 11 15.5**	**-0.4**
ASAR	**Alice Springs**	**37.70**	**194**	P			**P**	**17 11 16.1**	**+0.2**
	comp=Z,10nm,0.6s,baz=18,slow=12,SNR=180								
ASAR				S			**S**	**17 16 49.2**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=190,slow=27,SNR=4.1								
ASAR				ScP			**ScP**	**17 16 57.1**	**-0.2**
	comp=Z,1.2nm,1.0s,baz=33,slow=3.0,SNR=5.8								
ASAR				LR			LR	17 27 22.8	
	comp=Z,36nm,21.2s,baz=2.5,slow=37								
EIDS	**Eidsvold**	**38.93**	**169**	P			**P**	**17 11 25.8**	**-0.2**
EIDS				IAmb			IAmb	17 11 40.0	
	comp=Z,13nm,1.1s								
BTO	**Baotou**	**40.11**	**319**	*e*P			**P**	**17 11 36.5**	**+0.7**
CHAI	**Chaiyaphum**	**40.22**	**279**	P			**P**	**17 11 37.4**	**+0.5**
	comp=Z,38µm,0.7s,comp=Z,405µm								
UTTA	**Uttaradit**	**41.56**	**282**	P			**P**	**17 11 48.6**	**+0.8**
	comp=Z,19µm,0.8s								
DZM	**Mont Dzumac**	**41.57**	**147**	P			**P**	**17 11 48.2**	**+0.3**
DZM				IAmb			IAmb	17 11 51.1	
	comp=Z,32nm,1.3s								
PHIT	**Phitsanulok**	**41.70**	**281**	P			**P**	**17 11 50.6**	**+1.7**
	comp=Z,75µm,1.0s								
PHRA	**Phrae**	**41.88**	**283**	P			**P**	**17 11 53.0**	**+2.6**
	comp=Z,0.9nm,1.3s								
PAYA	**Payao**	**42.24**	**284**	P			**P**	**17 11 54.0**	**+0.6**
	comp=Z,35µm,0.8s,comp=Z,292µm								
UTHA	**Uthaitani**	**42.67**	**279**	P			**P**	**17 11 58.0**	**+1.2**
	comp=Z,45µm,0.8s,comp=Z,382µm								
CMMT	**Chiang Mai**	**43.10**	**284**	P			**P**	**17 12 01.0**	**+0.7**
	comp=Z,2.8nm,0.8s								
CM31	**Chiang Mai Arr**	**43.10**	**283**	P			**P**	**17 12 00.7**	**+0.5**
CM31				IAmb			IAmb	17 12 01.8	
	comp=Z,10nm,0.6s								
CMAR	**Chiang Mai Arr**	**43.10**	**283**	⇓*e*P			**P**	**17 12 01.0**	**+0.7**
CMAR				pmax			pmax		
	comp=Z,8.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**43.10**	**283**	P			**P**	**17 12 00.9**	**+0.7**
	comp=Z,7.3nm,0.6s,baz=79,slow=6.7,SNR=94								
CMAR				pP			**pP**	**17 12 43.0**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=88,slow=5.9,SNR=1.8								
CHTO	**Chiang Mai**	**43.10**	**284**	P			**P**	**17 12 00.5**	**+0.2**
CHTO				pmax			pmax		
	comp=Z,4.0nm,0.9s								
CHTO	**Chiang Mai**	**43.10**	**284**	P			**P**	**17 12 00.5**	**+0.2**
ARMA	**Armidale**	**43.95**	**170**	P			**P**	**17 12 07.5**	**+0.6**
ARMA				IAmb			IAmb	17 12 08.4	
	comp=Z,12nm,0.8s								
MHMT	**Maesarieng**	**44.06**	**283**	P			**P**	**17 12 08.9**	**+1.0**
	comp=Z,22nm,0.7s								
STKA	**Stephens Creek**	**44.73**	**182**	P			**P**	**17 12 12.7**	**-0.3**
	comp=Z,5.6nm,0.6s,baz=358,slow=7.6,SNR=22								
STKA	**Stephens Creek**	**44.73**	**182**	P			**P**	**17 12 12.6**	**-0.3**
PSI	**Prapat**	**45.21**	**261**	P			**P**	**17 12 17.1**	**-0.1**
	comp=Z,11nm,0.7s,baz=74,slow=5.5,SNR=12								
RPSI	**Rantau Prapat**	**45.23**	**261**	P			**P**	**17 12 17.0**	**-0.3**
RPSI	**Rantau Prapat**	**45.23**	**261**	P			**P**	**17 12 17.1**	**-0.2**
ULN	**Ulaanbaatar**	**46.03**	**326**	*ce*P			**P**	**17 12 23.9**	**+0.7**
ULN				pmax			pmax		
	comp=Z,7.0nm,1.0s								
ULN	**Ulaanbaatar**	**46.03**	**326**	P			**P**	**17 12 24.3**	**+1.1**
FORT	**Forrest**	**46.05**	**199**	P			**P**	**17 12 23.8**	**+0.5**
BBOO	**Buckleboo**	**46.18**	**189**	P			**P**	**17 12 24.3**	**+0.1**
BBOO				IAmb			IAmb	17 12 24.9	
	comp=Z,14nm,0.7s								
SONM	**Songino Array**	**46.37**	**326**	P			**P**	**17 12 26.8**	**+0.9**
	comp=Z,3.7nm,0.6s,baz=145,slow=7.5,SNR=37								
SONM				PcP			**PcP**	**17 13 57.5**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=118,slow=3.1,SNR=3.6								
SONM				ScP			**ScP**	**17 17 30.9**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=151,slow=3.6,SNR=7.5								
GTA	**Gaotai**	**46.50**	**313**	*e*P			**P**	**17 12 27.5**	**+0.5**
GTA				pmax			pmax		
	comp=Z,16nm,0.7s								
GSI	**Gunungsitoli**	**46.91**	**259**	P			**P**	**17 12 28.9**	**-1.4**
GSI				IAmb			IAmb	17 12 29.8	
	comp=Z,19nm,0.5s								
ZAK	**Zakamensk**	**49.51**	**327**	*e*P			**P**	**17 12 49.7**	**-0.1**
ZAK				pmax			pmax		
	comp=Z,8.0nm,1.2s								
YAK	**Yakutsk**	**49.88**	**352**	*i* P			**P**	**17 12 52.3**	**+0.1**
YAK				pmax			pmax		
	comp=Z,7.0nm,0.5s								
YAK	**Yakutsk**	**49.88**	**352**	P			**P**	**17 12 52.3**	**+0.1**
	comp=Z,4.1nm,0.6s,baz=146,slow=1.5,SNR=7.0								
YAK	**Yakutsk**	**49.88**	**352**	P			**P**	**17 12 52.1**	**0.0**
YAK				IAmb			IAmb	17 12 53.8	
	comp=Z,10nm,0.7s								
SHL	**Shillong**	**49.96**	**292**	P			**P**	**17 12 53.0**	**-0.7**
SHL				pmax			pmax		
	comp=Z,15nm,0.7s								
SHL	**Shillong**	**49.96**	**292**	P			**P**	**17 12 53.0**	**-0.7**
SHL				IAmb			IAmb	17 12 53.9	
	comp=Z,15nm,0.7s								
TLY	**Talaya**	**50.07**	**329**	*i* P			**P**	**17 12 54.5**	**+0.6**
TLY				pmax			pmax		
	comp=Z,4.0nm,0.6s								
SEY	**Seymchan**	**50.19**	**5**	P			**P**	**17 12 55.0**	**+0.5**
SEY	**Seymchan**	**50.19**	**5**	P			**P**	**17 12 55.0**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=168,slow=14,SNR=2.8								
TOO	**Toolangi**	**50.42**	**178**	P			**P**	**17 12 57.3**	**+0.7**
TOO				pmax			pmax		
	comp=Z,23nm,0.8s								
TOO	**Toolangi**	**50.42**	**178**	P			**P**	**17 12 57.3**	**+0.7**
TOO				IAmb			IAmb	17 12 59.1	
	comp=Z,23nm,0.8s								
LSA	**Lhasa**	**51.02**	**298**	IAmb			IAmb	17 13 03.7	
	comp=Z,8.8nm,0.7s								
NWAO	**Narrogin (SRO)**	**52.16**	**208**	P			**P**	**17 13 08.8**	**-0.8**
	comp=Z,5.5nm,0.7s,baz=96,slow=10,SNR=2.8								
TAPN	**Taplejung**	**53.81**	**294**	*e*P			**P**	**17 13 22.1**	**-0.1**
	comp=Z,19nm,0.8s								
ODAN	**Odare**	**54.07**	**294**	*e*P			**P**	**17 13 23.7**	**-0.3**
	comp=Z,20nm,0.8s								
JIRN	**Jiri**	**55.18**	**295**	*e*P			**P**	**17 13 32.1**	**-0.1**
	comp=Z,28nm,0.7s								
GUN	**Gumba**	**55.47**	**295**	*e*P			**P**	**17 13 34.2**	**0.0**
	comp=Z,49nm,0.7s								
PKI	**Pulchoki**	**55.87**	**294**	*e*P			**P**	**17 13 36.4**	**-0.6**
PKIN	**Phulchoki**	**55.88**	**294**	*e*P			**P**	**17 13 36.4**	**-0.6**
KKN	**Kakani**	**55.99**	**295**	*e*P			**P**	**17 13 37.3**	**-0.5**
	comp=Z,14nm,0.8s								
DMN	**Daman**	**56.14**	**295**	*e*P			**P**	**17 13 38.4**	**-0.4**
	comp=Z,25nm,1.0s								
BILL	**Bilibino**	**56.89**	**10**	⇓*e*P			**P**	**17 13 42.0**	**-1.1**
BILL				*i*				17 14 27.9	
BILL				pmax			pmax		
	comp=Z,1.0nm,0.3s								
DANN	**Dangsing**	**57.36**	**295**	*e*P			**P**	**17 13 47.2**	**-0.3**
	comp=Z,57nm,0.7s								
TIXI	**Tiksi**	**59.21**	**355**	*i* P			**P**	**17 13 58.3**	**-0.8**
TIXI				pmax			pmax		
	comp=Z,1.0nm,0.8s								
TIXI	**Tiksi**	**59.21**	**355**	P			**P**	**17 13 58.8**	**-0.3**
	comp=Z,0.6nm,0.2s,baz=177,slow=1.8,SNR=4.4								
MK31	**Makanchi Array**	**60.91**	**316**	*i* P			**P**	**17 14 11.5**	**+0.3**
MK31				pmax			pmax		
	comp=Z,7.0nm,0.7s								
MK31	**Makanchi Array**	**60.91**	**316**	P			**P**	**17 14 11.7**	**+0.5**
MKAR	**Makanchi Array**	**60.91**	**316**	P			**P**	**17 14 11.8**	**+0.6**
	comp=Z,5.6nm,0.6s,baz=93,slow=8.6,SNR=88								
MAKZ	**Makanchi**	**61.13**	**316**	P			**P**	**17 14 13.1**	**+0.5**
MAKZ				pmax			pmax		
	comp=Z,13nm,0.7s								
MAKZ	**Makanchi**	**61.13**	**316**	P			**P**	**17 14 13.1**	**+0.5**
MAKZ				IAmb			IAmb	17 14 14.2	
	comp=Z,13nm,0.7s								
ZAA0	**Zalesovo Array**	**61.25**	**325**	P			**P**	**17 14 13.1**	**-0.1**
ZALV	**Zalesovo Beam**	**61.25**	**325**	P			**P**	**17 14 13.4**	**+0.2**
	comp=Z,3.1nm,0.5s,baz=106,slow=7.5,SNR=12								
ZALV				PcP			**PcP**	**17 14 52.9**	**-0.9**
	comp=Z,2.3nm,0.4s,baz=102,slow=3.6,SNR=7.0								
PDGK	**Podgornoye**	**62.25**	**312**	P			**P**	**17 14 20.0**	**-0.3**
PDGK				pmax			pmax		
	comp=Z,9.0nm,0.8s								
KDJ	**Kajisay**	**63.78**	**311**	P			**P**	**17 14 30.0**	**-0.6**
KDJ				pmax			pmax		
	comp=Z,9.0nm,0.9s								
KDJ	**Kajisay**	**63.78**	**311**	P			**P**	**17 14 29.9**	**-0.6**
KDJ				IAmb			IAmb	17 14 32.2	
	comp=Z,8.7nm,0.9s								
KURK	**Kurchatov**	**64.10**	**320**	*ce*P			**P**	**17 14 32.2**	**+0.1**
KURK				pmax			pmax		
	comp=Z,22nm,0.9s								
KURK	**Kurchatov**	**64.10**	**320**	P			**P**	**17 14 32.3**	**+0.1**
KSH	**Kashi**	**64.47**	**308**	P			P	17 14 40.0	+5.0
KSH				pP			pwP	17 15 31.0	+6.4
KSH				S			**S**	**17 23 01.8**	**+3.8**
KSH				pmax			pmax		
	comp=Z,440nm,4.5s								
KSH				LR			LR		
	comp=Z,630nm,6.8s								
NRN	**Naryn**	**64.60**	**310**	P			**P**	**17 14 35.6**	**-0.4**
NRN				pmax			pmax		
	comp=Z,4.0nm,1.0s								
NRN	**Naryn**	**64.60**	**310**	P			**P**	**17 14 35.6**	**-0.4**
KZA	**Kyzart**	**65.21**	**310**	P			**P**	**17 14 41.1**	**+1.0**
	SNR=11								
KBK	**Karagaybulak**	**65.48**	**311**	P			**P**	**17 14 42.2**	**+0.7**
	SNR=7.3								
CHMS	**Chumysh**	**65.65**	**311**	P			**P**	**17 14 42.5**	**+0.1**
	SNR=5.2								
UCH	**Uchtor**	**65.77**	**311**	P			**P**	**17 14 44.8**	**+1.1**
	SNR=8.7								
AAK	**Ala-Archa**	**65.81**	**311**	*ce*P			**P**	**17 14 43.5**	**-0.1**
AAK				pmax			pmax		
	comp=Z,1.0nm,0.5s								
AAK	**Ala-Archa**	**65.81**	**311**	P			**P**	**17 14 43.2**	**-0.4**
USP	**Ospenovka**	**65.86**	**312**	P			**P**	**17 14 44.0**	**+0.3**
	SNR=7.7								
AML	**Almayashu**	**66.37**	**310**	P			**P**	**17 14 48.3**	**+0.9**
	SNR=10.0								
NIL	**Nilore**	**66.48**	**301**	P			**P**	**17 14 48.1**	**+0.3**
NIL				pmax			pmax		
	comp=Z,30nm,0.7s								
NIL	**Nilore**	**66.48**	**301**	P			**P**	**17 14 48.1**	**+0.3**
ARSB	**Arslanbob**	**66.86**	**309**	P			**P**	**17 14 50.6**	**+0.4**
ARSB				IAmb			IAmb	17 14 51.7	
	comp=Z,9.6nm,0.8s								
MLY	**Manley**	**68.09**	**25**	P			**P**	**17 14 57.5**	**+0.2**
BTK	**Batken**	**68.46**	**308**	P			**P**	**17 14 59.2**	**-1.0**
BTK				pmax			pmax		
	comp=Z,4.0nm,0.7s								
BTK	**Batken**	**68.46**	**308**	P			**P**	**17 14 59.2**	**-1.0**
KK31	**Karatay Array**	**68.76**	**311**	*i* P			**P**	**17 15 01.8**	**-0.1**
KK31				pmax			pmax		
	comp=Z,7.0nm,0.8s								
KK31	**Karatay Array**	**68.76**	**311**	P			**P**	**17 15 01.7**	**-0.2**
KK31				IAmb			IAmb	17 15 03.0	
	comp=Z,8.1nm,0.8s								
KKAR	**Karatay Array**	**68.76**	**311**	P			**P**	**17 15 01.6**	**-0.3**
KKAR				pmax			pmax		
	comp=Z,8.0nm,0.8s								
KKAR	**Karatay Array**	**68.76**	**311**	P			**P**	**17 15 01.6**	**-0.3**
KKAR				IAmb			IAmb	17 15 03.0	
	comp=Z,8.1nm,0.8s								
GAR	**Garm**	**68.84**	**307**	P			**P**	**17 15 02.5**	**-0.1**
GAR				IAmb			IAmb	17 15 03.7	
	comp=Z,28nm,1.3s								
BRVK	**Borovoye**	**69.55**	**322**	*ce*P			**P**	**17 15 06.7**	**+0.2**
BRVK				pmax			pmax		
	comp=Z,8.0nm,0.7s								
BRVK	**Borovoye**	**69.55**	**322**	P			**P**	**17 15 06.9**	**+0.4**
IL31		**69.61**	**25**	P			**P**	**17 15 05.7**	**-1.0**
IL31				IAmb			IAmb	17 15 26.4	
	comp=Z,14nm,1.6s								
ILAR	**Eielson Array**	**69.61**	**25**	P			**P**	**17 15 05.8**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=250,slow=6.0,SNR=19								
ILAR				pP			**pP**	**17 15 51.0**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=254,slow=6.4,SNR=2.1								
CHGR	**Chuyangaron**	**69.75**	**307**	P			**P**	**17 15 08.0**	**-0.2**
KBL	**Kabul**	**69.95**	**302**	P			**P**	**17 15 09.1**	**-0.5**
KBL				pmax			pmax		
	comp=Z,10.0nm,1.0s								
KBL	**Kabul**	**69.95**	**302**	P			**P**	**17 15 09.1**	**-0.5**
KBL				IAmb			IAmb	17 15 11.9	
	comp=Z,9.8nm,1.0s								
KAAM	**Kaadhehdhoo**	**70.88**	**266**	P			**P**	**17 15 14.6**	**-0.6**
DAWY	**Dawson**	**72.70**	**27**	P			**P**	**17 15 26.5**	**+1.2**
DAWY				IAmb			IAmb	17 15 27.6	
	comp=Z,14nm,1.6s								
SVE	**Sverdlovsk**	**75.25**	**326**	*e*P			**P**	**17 15 40.9**	**+0.8**
SVE				pmax			pmax		
	comp=Z,9.0nm,0.9s								
INK	**Inuvik**	**75.35**	**22**	P			**P**	**17 15 40.3**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=248,slow=8.2,SNR=4.8								
HRA	**Herat**	**75.56**	**302**	P			**P**	**17 15 42.5**	**-0.1**
HRA				IAmb			IAmb	17 15 43.7	
	comp=Z,6.5nm,0.8s								
AB31	**Akbulak array**	**76.00**	**318**	*i* P			**P**	**17 15 44.0**	**-0.6**
AB31				pmax			pmax		
	comp=Z,3.0nm,0.5s								
ABKAR	**Akbulak array**	**76.00**	**318**	P			**P**	**17 15 44.3**	**-0.3**
ABKAR				IAmb			IAmb	17 15 45.2	
	comp=Z,7.5nm,0.8s								
ARU	**Arti**	**76.41**	**325**	*ce*P			**P**	**17 15 46.1**

YMR	**Madison River**	**91.67**	**43**	P	**P**	17 17 06.2	**+1.8**
YNR	**Norris Junctio**	**91.84**	**43**	P	**P**	17 17 05.5	**+0.2**
IMW	**Indian Meadow**	**91.95**	**44**	P	**P**	17 17 06.7	**+0.8**
IMW				IAmb	IAmb	17 17 07.8	
	comp=Z,12nm,1.6s						
FXWY	**Fox Creek**	**91.98**	**44**	P	**P**	17 17 07.0	**+1.1**
FLWY	**Flagg Ranch**	**92.05**	**44**	P	**P**	17 17 07.9	**+1.7**
FLWY				IAmb	IAmb	17 17 08.5	
	comp=Z,5.6nm,0.8s						
MOOW	**Moose Ponds**	**92.13**	**44**	P	**P**	17 17 07.7	**+1.1**
MOOW				IAmb	IAmb	17 20 43.1	
	comp=Z,11nm,2.0s						
YMP	**Mirror Lake Pl**	**92.18**	**43**	P	**P**	17 17 09.3	**+2.4**
RLMT	**Red Lodge**	**92.63**	**43**	P	**P**	17 17 08.7	**-0.2**
PDAR	**Pinedale Array**	**93.29**	**45**	P	**P**	17 17 12.2	**+0.3**
	comp=Z,0.3nm,0.7s,baz=202,slow=3.2,SNR=3.9						
AKASG	**Malin Array Be**	**94.64**	**324**	P	**P**	17 17 16.5	**-1.1**
	comp=Z,0.2nm,0.3s,baz=61,slow=6.1,SNR=3.4						
BRTR	**Keskin Array B**	**96.42**	**313**	*ce*P	**P**	17 17 25.7	**-0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**96.42**	**313**	P	**P**	17 17 25.0	**-1.2**
	comp=Z,0.6nm,0.7s,baz=45,slow=7.2,SNR=3.8						
VYHS	**Vyhne**	**101.56**	**326**	*e*P	**Pdif**	17 17 46.1	**-2.7**
VYHS	**Vyhne**	**101.56**	**326**	*e*PDIFF	**Pdif**	17 17 46.1	**-2.7**
TORD	**Torodi Ar. Bea**	**134.01**	**303**	PKP	**PKiKP**	17 23 15.0	**-0.3**
	comp=Z,0.4nm,0.6s,baz=33,slow=4.1,SNR=2.6						
TORD				SKPbc	**SKPbc**	17 26 23.3	**-1.1**
	comp=Z,0.8nm,0.7s,baz=47,slow=2.7,SNR=4.1						
DBIC	**Dimbokro**	**142.92**	**300**	PKhKP	PKPpre	17 23 25.8	
	comp=Z,2.5nm,0.6s,baz=91,slow=3.0,SNR=3.5						
LPAZ	**La Paz**	**149.28**	**100**	PKPbc	**PKiKP**	17 23 47.6	**+0.4**
	comp=Z,2.5nm,0.7s,baz=258,slow=2.5,SNR=11						
LPAZ	**La Paz**	**149.28**	**100**		**PKiKP**	17 23 47.4	**+0.1**

*NEIC **30** 17:15:48.9±1.6,57.15N±0.04×155.27W±0.08,h86km±9km*
AEIC 30 17:15:51.0±2.4,57.13N±0.03×155.26W±0.06,h62km±7km,
ML2.6,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK4	**Peulik 4**	**0.78**	**311**		Pn	17 16 06.5	+0.1
PLK3	**Peulik 3**	**0.78**	**316**		Pn	17 16 06.2	-0.2
PLK3					Sn	17 16 17.3	-0.4
SII	**Sitkinak Islan**	**0.82**	**133**		Pn	17 16 06.5	-0.4
SII					Sn	17 16 19.6	+1.0
PLK2	**Peulik 2**	**0.86**	**318**		Pn	17 16 07.3	0.0
CAHL	**Cahill**	**0.93**	**359**		Pn	17 16 07.8	-0.4
KJL	**Kejulik**	**0.94**	**350**		Pn	17 16 08.0	-0.5
KJL					Sn	17 16 19.4	-1.9
PLK1	**Peulik 1**	**0.99**	**313**		Pn	17 16 08.6	-0.3
OHAK	**Old Harbor**	**1.08**	**84**		Pn	17 16 09.2	-0.9
OHAK					Sn	17 16 23.8	-0.5
KABU	**Katmai Buttres**	**1.15**	**359**		Pn	17 16 09.5	-1.6
KABU					Sn	17 16 24.6	-1.5
CHIR	**Chirikof Islan**	**1.32**	**189**		Pn	17 16 12.2	-1.2
CHIR					Sn	17 16 29.4	-0.7
KELA	**Mount Kelaz**	**1.34**	**349**		Pn	17 16 12.9	-0.7
KAHC	**Katmai Hardscr**	**1.53**	**5**		Pn	17 16 16.1	-0.1
KAPH	**Katmai Pasha**	**1.55**	**18**		Pn	17 16 17.3	+0.8
KDAK	**Kodiak Island**	**1.59**	**64**	Pn	Pn	17 16 15.5	-1.4
KDAK	**Kodiak Island**	**1.59**	**64**		Sn	17 16 35.0	-1.5
FOSS	**Fourpeaked Sta**	**1.87**	**26**		Pn	17 16 19.1	-1.6
VNSG	**Veniaminof 6**	**2.34**	**246**		Sn	17 16 52.5	-2.2
BRLK	**Bradley Lake**	**3.50**	**39**		Pn	17 16 40.8	-2.2
BRSE	**Bradley Lake S**	**3.54**	**40**		Pn	17 16 41.5	-1.9
RED	**Redoubt Volcan**	**3.55**	**20**		Pn	17 16 42.8	-0.8
RSO	**Redoubt South**	**3.59**	**20**	Pn	Pn	17 16 43.7	-0.6
RDWB	**Redoubt West**	**3.60**	**19**		Pn	17 16 42.8	-1.6
DFR	**Drift River**	**3.72**	**20**		Pn	17 16 45.1	-0.9
SEW	**Seward**	**4.26**	**43**		Pn	17 16 50.4	-2.8
SLKM	**Skilak Lake**	**4.28**	**36**		Pn	17 16 51.0	-2.6
RC01	**Rabbit Creek A**	**4.89**	**33**		Pn	17 16 59.6	-2.3
SUA	**Susitna One**	**4.93**	**26**		Pn	17 17 01.1	-1.4
PWL	**Port Wells**	**5.18**	**41**		Pn	17 17 03.2	-2.7
KNK	**Knik Glacier**	**5.53**	**36**		Pn	17 17 08.0	-2.7
HIN	**Hinchinbrook I**	**5.61**	**51**		Pn	17 17 09.5	-2.3
GLI	**Glacier Island**	**5.65**	**45**	Pn	Pn	17 17 11.2	-1.1
GHO	**Glory Hole Cre**	**5.67**	**32**	Pn	Pn	17 17 10.8	-1.8
FID	**Port Fidalgo**	**5.82**	**48**		Pn	17 17 11.0	-3.6
SCM	**Sheep Creek Mo**	**6.21**	**37**		Pn	17 17 17.7	-2.3
WAT6	**Susitna Watana**	**6.65**	**32**		Pn	17 17 23.4	-2.7
TRF	**Thorofare Moun**	**6.80**	**19**	Pn	Pn	17 17 26.2	-2.0
RND	**Reindeer**	**7.06**	**24**	Pn	Pn	17 17 29.7	-1.9
DHY	**Denali Highway**	**7.15**	**30**	Pn	Pn	17 17 30.4	-2.5
GLB	**Gilahina Butte**	**7.28**	**49**	Pn	Pn	17 17 33.2	-1.5
BALM	**Baldy**	**7.72**	**54**	Pn	Pn	17 17 39.3	-1.3

*ISCJB **30** 17:39:42.7±0.8,6.08S±0.06×34.99E±0.09,h10km,*
mb3.4/2,Error ellipse: s-maj=14.3km s-min=6.9km
az=21.1
*IDC **30** 17:39:43.8±1.4,6.20S×35.18E,h0km,mb3.4/3,mb1 3.9/6,*
mb1mx3.5/31,mbtmp3.8/6,ML4.3/3,Error ellipse:
s-maj=32.0km s-min=17.6km az=109.0
ISC 30 17:39:45.2±0.9,6.13S±0.08×35.1E±0.1,h10km,n6,
σ1s75/10,Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**5.41**	**23**	Pn	**Pn**	17 41 06.5	**+0.3**
	2.8nm,0.3s,baz=210,slow=18,SNR=25						
KMBO				Pg	**Pb**	17 41 21.1	**+1.0**
	3.8nm,0.3s,baz=212,slow=18,SNR=11						
KMBO				Sn	**Sn**	17 42 06.3	**-2.5**
	9.6nm,0.3s,baz=233,slow=15,SNR=8.0						
KMBO				Lg	Lg	17 42 36.4	
	13nm,0.3s,baz=288,slow=17,SNR=15						
MBAR	**Mbarara**	**7.02**	**321**	Pn	**Pn**	17 41 30.1	**+1.9**
	8.5nm,0.3s,baz=126,slow=1.8,SNR=13						
MBAR				Sn	**Sn**	17 42 45.5	**-2.7**
	37nm,0.3s,baz=23,slow=22,SNR=8.5						
MBAR				Lg	Lg	17 43 29.3	
	19nm,0.3s,baz=67,slow=22,SNR=7.0						
LSZ	**Lusaka**	**11.35**	**216**	Pn	**Pn**	17 42 26.1	**-1.6**
	1.0nm,0.3s,baz=30,slow=9.1,SNR=7.7						
LSZ				Sn	**Sn**	17 44 35.3	**+0.6**
	0.4nm,0.3s,baz=319,slow=20,SNR=2.8						
LSZ				Lg	Lg	17 45 37.5	
	0.9nm,0.3s,baz=137,slow=21,SNR=7.8						
LBTB	**Lobatse**	**20.87**	**205**	P	**P**	17 44 27.9	**+0.1**
	2.1nm,0.6s,baz=39,slow=11,SNR=4.8						
GERES	**GERESS Array B**	**57.87**	**343**	P	**P**	17 49 38.0	**+0.7**
	0.4nm,0.7s,baz=141,slow=3.8,SNR=3.7						
MKAR	**Makanchi Array**	**67.22**	**33**	P	**P**	17 50 40.1	**+0.3**
	0.2nm,0.7s,baz=233,slow=4.5,SNR=2.6						

*IDC **30** 17:47:34.8±1.0,52.16N×169.56W,h0km,mb3.9/9,*
mb1 4.0/11,mb1mx3.7/36,mbtmp3.8/11,ML3.1/2,Error
ellipse: s-maj=34.3km s-min=16.5km az=0.0
*ISCJB **30** 17:47:38.8±0.6,52.25N±0.08×169.52W±0.08,h40km,*
mb3.8/9,Error ellipse: s-maj=12.8km s-min=4.2km
az=152.1
*AEIC **30** 17:47:40.2±2.5,52.30N±0.05×169.26W±0.10,h14km±4km,*
ML3.3
*NEIC **30** 17:47:41.1±1.5,52.41N±0.06×169.6W±0.1,h39km±7km*
ISC 30 17:47:41.0±0.8,52.4N±0.1×169.58W±0.07,h40km,n48,
σ0s75/45,mb3.6/9,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.75**	**35**		Pn	17 47 54.0	**-1.2**
NIKH					Sn	17 48 04.6	**-0.8**
OKSP	**Okmok Steeple**	**1.19**	**41**		Pn	17 48 00.1	**-1.0**
OKCE	**Okmok Cone E**	**1.37**	**38**		Pn	17 48 03.7	**+0.1**
OKNC	**Okmok New Cone**	**1.41**	**38**		Pn	17 48 04.4	**+0.3**
OKFG	**Magazine Ridge**	**1.46**	**43**		Pn	17 48 03.8	**-1.0**
OKFG					Sn	17 48 23.2	**+0.5**
MREP	**Makushin Rep't**	**2.24**	**49**		Pn	17 48 15.7	**+0.1**
MCIR	**Makushin Cirqu**	**2.27**	**44**		Pn	17 48 16.4	**+0.4**
MSW	**Makushin Switc**	**2.29**	**46**		Pn	17 48 16.0	**-0.3**
MSW					Sn	17 48 44.4	**+1.1**
MNAT	**Makushin Natee**	**2.32**	**48**		Pn	17 48 16.4	**-0.2**
MTBL	**Makushin Table**	**2.38**	**46**		Pn	17 48 17.4	**0.0**
UNV	**Unalaska Valle**	**2.38**	**50**		Pn	17 48 17.3	**-0.1**
UNV					Sn	17 48 45.7	**+0.5**
AKMO	**Akutan Morgan**	**2.76**	**50**		Pn	17 48 22.9	**+0.3**
LVA	**Lava Point**	**2.79**	**48**		Pn	17 48 23.0	**-0.1**
AKBBA	**Akutan Broad B**	**2.80**	**50**		Pn	17 48 23.3	**+0.1**
ATKA	**Atka Island**	**2.84**	**269**	Pn	Pn	17 48 23.7	**-0.1**
AKUT	**Akutan**	**2.90**	**51**	Pn	Pn	17 48 24.9	**+0.4**
GSTR	**Great Sitkin T**	**3.99**	**269**	Pn	Pn	17 48 39.4	**-0.3**
ADK	**Adak**	**4.41**	**267**	Pn	Pn	17 48 45.4	**+0.2**
FALS	**False Pass**	**4.44**	**53**	Pn	Pn	17 48 45.5	**-0.2**
KIWB	**Kanaga Island**	**4.70**	**267**	Pn	Pn	17 48 49.6	**+0.4**
SPIA	**Saint Paul Isl**	**4.84**	**356**	Pn	Pn	17 48 49.4	**-1.9**
CNBA	**Chernabura Isl**	**6.44**	**64**	Pn	Pn	17 49 13.9	**+0.8**
CHIR	**Chirikof Islan**	**8.90**	**62**	Pn	Pn	17 49 46.7	**-0.2**
OHAK	**Old Harbor**	**10.58**	**56**	Pn	Pn	17 50 08.2	**-1.7**
SEW	**Seward**	**13.57**	**47**	Pn	Pn	17 50 50.4	**-0.3**
KTH	**Kantishna Hill**	**14.88**	**34**	P	**P**	17 51 14.0	**+0.5**
GLI	**Glacier Island**	**14.96**	**46**	Pn	Pn	17 51 09.1	**-0.2**
HIN	**Hinchinbrook I**	**15.03**	**49**	Pn	Pn	17 51 09.2	**-1.2**
FID	**Port Fidalgo**	**15.18**	**47**	Pn	Pn	17 51 10.8	**-1.5**
NEA	**Nenana**	**16.17**	**33**	P	**P**	17 51 41.3	**+14**
GLB	**Gilahina Butte**	**16.64**	**47**	Pn	Pn	17 51 30.3	**-0.8**
ILAR	**Eielson Array**	**17.03**	**34**	P	Pn	17 51 34.8	**-1.0**
	0.1nm,0.3s,baz=240,slow=11,SNR=3.6						
PETK	**Petropavlovsk-**	**19.74**	**285**	P	**P**	17 52 07.5	**+0.4**
	0.5nm,0.3s,baz=84,slow=15,SNR=12						
MA2	**Magadan**	**23.04**	**304**	P	**P**	17 52 43.6	**+1.2**
	19nm,1.0s,baz=177,slow=19,SNR=2.6						
BBB	**Bella Bella**	**25.13**	**74**	P	**P**	17 53 02.1	**+0.3**
	23nm,0.9s,baz=344,slow=7.4,SNR=2.9						
YKA	**Yellowknife Ar**	**30.34**	**49**	P	**P**	17 53 49.0	**+0.6**
	0.3nm,0.5s,baz=274,slow=7.7,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**37.37**	**218**	T	T	18 34 54.3	
	baz=23						
H11N3	**WAKE ISLAND Hy**	**37.38**	**218**	T	T	18 34 44.2	
	baz=23						
H11N1	**WAKE ISLAND Hy**	**37.39**	**218**	T	T	18 34 48.3	
	baz=23						
H11S1	**WAKE ISLAND Hy**	**38.56**	**218**	T	T	18 36 10.9	
	baz=23,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**38.57**	**218**	T	T	18 36 20.8	
	baz=23,slow=17						
H11S3	**WAKE ISLAND Hy**	**38.57**	**218**	T	T	18 36 09.2	
	baz=23,slow=76,SNR=12						
PDAR	**Pinedale Array**	**40.53**	**79**	P	**P**	17 55 16.1	**-0.2**
	0.7nm,0.6s,baz=302,slow=3.9,SNR=8.5						
TXAR	**Lajitas Array**	**52.88**	**89**	P	**P**	17 56 52.2	**-0.6**
	0.3nm,0.6s,baz=300,slow=5.7,SNR=5.7						
ARCES	**ARCESS Array B**	**57.91**	**354**	P	**P**	17 57 29.0	**+0.6**
	8.4nm,0.9s,baz=33,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**63.72**	**313**	P	**P**	17 58 08.6	**+0.4**
	0.1nm,0.6s,baz=55,slow=7.0,SNR=2.6						
CMAR	**Chiang Mai Arr**	**76.49**	**283**	P	**P**	17 59 26.9	**+0.1**
	0.5nm,0.7s,baz=27,slow=6.6,SNR=5.6						
ASAR	**Alice Springs**	**90.29**	**230**	P	**P**	18 00 36.3	**-1.1**
	0.5nm,1.0s,baz=34,slow=5.7,SNR=3.6						

*ISCJB **30** 17:52:58.2±0.5,24.88N±0.03×122.40E±0.02,h9km±3km,*
Error ellipse: s-maj=4.9km s-min=2.8km az=17.4
*JMA **30** 17:52:58.0±0.3,24.83N×122.38E,h3km±4km,M2.4*
*TAP **30** 17:52:58.0,24.89N×122.36E,h18km±1km,ML2.7,D*
ISC 30 17:52:58.1±1.0,24.86N±0.03×122.38E±0.02,h10km±11km,
n59,σ0s55/85,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.38**	**293**	*i* P	**Pg**	17 53 06.1	**+0.4**
	baz=289						
TWB1				*i* S	**Sg**	17 53 11.4	**+0.7**
	baz=289						
EOS1	**EOS1**	**0.38**	**216**	P	**Pb**	17 53 06.8	**-0.1**
	baz=211						
EOS1				*e*S	**Sb**	17 53 13.5	**+0.6**
	baz=211						
NTC	**Toucheng**	**0.50**	**269**	*e*P	**Pb**	17 53 08.7	**-0.2**
	baz=265						
TIPB	**Shuangxi**	**0.51**	**283**	P	**Pb**	17 53 08.6	**-0.6**
	baz=279						
TIPB				*e*S	**Sb**	17 53 16.3	**-0.5**
	baz=279						
TWC	**Suao**	**0.54**	**243**	*i* P	**Pb**	17 53 09.0	**-0.7**
	baz=238						
TWC				*e*S	**Sg**	17 53 16.1	**+0.3**
	baz=238						
NWF	**Wu-fen Shan**	**0.58**	**291**	*e*P	**Pb**	17 53 10.2	**-0.2**
	baz=289						
NWF				*e*S	**Sb**	17 53 18.4	**-0.3**
	baz=289						
WFSB	**Wu-fen Shan**	**0.58**	**291**	*e*P	**Pb**	17 53 10.2	**-0.1**
	baz=289						
WFSB				*e*S	**Sb**	17 53 18.4	**-0.3**
	baz=289						
JYNG	**Yonagunijimaku**	**0.66**	**128**	P	**Pg**	17 53 10.7	**-0.1**
JYNG				*e*S	**Sg**	17 53 19.6	**+0.2**
TWE	**Neicheng**	**0.66**	**258**	P	**Pg**	17 53 11.0	**+0.1**
	baz=254						
TWE				*i* S	**Sb**	17 53 20.6	**-0.3**
	baz=254						
SLBB	**Yuanshan**	**0.68**	**261**	*e*P	**Pg**	17 53 11.4	**+0.1**
	baz=258						
YOJ	**Yonaguni jima**	**0.70**	**124**	P	**Pg**	17 53 11.1	**-0.5**
YOJ				*e*S	**Sg**	17 53 20.1	**-0.7**
YOJ	**Yonaguni jima**	**0.70**	**124**	*e*P	**Pg**	17 53 11.3	**-0.3**
	baz=125						
YOJ				*e*S	**Sg**	17 53 20.7	**-0.1**
	baz=125						
NANB	**Nanao**	**0.72**	**233**	*i* P	**Pb**	17 53 12.1	**-0.5**
	baz=230						
NANB				*e*S	**Sb**	17 53 23.2	**+0.6**
	baz=230						
ENA	**Nanau**	**0.72**	**234**	P	**Pb**	17 53 12.4	**-0.3**
	baz=230						
ENA				*e*S	**Sb**	17 53 22.7	**0.0**
	baz=230						
TWA	**Mucha**	**0.73**	**280**	*e*P	**Pb**	17 53 12.7	**-0.3**
	baz=277						
TWA				*e*S	**Sb**	17 53 22.9	**-0.1**
	baz=277						
ENTT	**Nioudou**	**0.77**	**254**	*e*P	**Pb**	17 53 13.6	**0.0**
	baz=250						
ENTT				*e*S	**Sb**	17 53 24.2	**+0.1**
	baz=250						
YM08	**YM08**	**0.79**	**295**	P	**Pg**	17 53 13.0	**-0.3**
	baz=293						
YM08				*e*S	**Sg**	17 53 23.7	**+0.1**
	baz=293						
YM01	**YM01**	**0.79**	**291**	*e*P	**Pb**	17 53 13.5	**-0.4**
	baz=289						
YM11	**YM11**	**0.79**	**293**	*e*P	**Pb**	17 53 13.5	**-0.5**
	baz=291						
YM05	**YM05**	**0.80**	**292**	*e*P	**Pg**	17 53 13.5	**0.0**
	baz=290						
YM10	**YM10**	**0.80**	**292**	*e*P	**Pb**	17 53 13.7	**-0.4**
	baz=290						
NWLT	**Wulai**	**0.80**	**264**	*e*P	**Pb**	17 53 14.2	**+0.1**
	baz=261						
NWLT				*e*S	**Sb**	17 53 24.7	**-0.3**
	baz=261						
TATO	**Taipei**	**0.82**	**278**	*e*P	**Pb**	17 53 14.2	**-0.2**
	baz=276						
TATO				*e*S	**Sb**	17 53 25.1	**-0.3**
	baz=276						
TWY	**Chenhua**	**0.82**	**301**	*e*P	**Pg**	17 53 13.9	**0.0**
	baz=299						
YM04	**YM04**	**0.82**	**291**	*e*P	**Pg**	17 53 13.9	**0.0**
	baz=289						
NDT	**Datong Townshi**	**0.83**	**252**	*e*P	**Pn**	17 53 15.1	**-0.7**
	baz=249						
NDT				*e*S	**Sb**	17 53 26.4	**+0.6**
	baz=249						
ANP	**Anpu**	**0.84**	**293**	*e*P	**Pg**	17 53 14.3	**-0.1**
	baz=291						
TWS1	**Kuangyinshan**	**0.90**	**286**	*e*P	**Pn**	17 53 16.2	**-0.7**
	baz=284						
YHNB	**Yeheng**	**0.93**	**258**	*e*P	**Pb**	17 53 16.2	**-0.1**
	baz=256						
YHNB				*e*S	**Sb**	17 53 29.3	**+0.5**
	baz=256						
NSK	**Sanguang**	**0.94**	**259**	*e*P	**Pb**	17 53 16.5	**-0.1**
	baz=256						
NSK				*e*S	**Sb**	17 53 28.9	**-0.3**
	baz=256						
NACB	**Ninganchiao**	**0.99**	**226**	P	**Pb**	17 53 17.1	**-0.1**
	baz=224						
NACB				*e*S	**Sb**	17 53 29.9	**-0.4**
	baz=224						
NNSH	**Datong**	**1.00**	**245**	*e*P	**Pb**	17 53 17.5	**-0.2**
	baz=242						
NNSH				*e*S	**Sb**	17 53 30.9	**0.0**
	baz=242						
NNS	**Nan Shan**	**1.01**	**246**	*i* P	**Pb**	17 53 17.6	**-0.1**
	baz=243						
NNS				*e*S	**Sb**	17 53 30.8	**-0.2**
	baz=243						
ETLH	**Xiulin Townshi**	**1.04**	**232**	P	**Pg**	17 53 17.8	**-0.4**
	baz=229						
ETLH				*e*S	**Sb**	17 53 32.4	**+0.3**
	baz=229						
WHF	**Hehuan Shan**	**1.24**	**235**	*e*P	**Pb**	17 53 21.6	**-0.3**
	baz=233						
WHF				*e*S	**Sg**	17 53 38.0	**-0.1**
	baz=233						
TWT	**Tachien**	**1.25**	**241**	*e*P	**Pg**	17 53 22.4	**+0.2**
	baz=239						
LIOB	**Emei**	**1.26**	**261**	*e*P	**Pg**	17 53 22.9	**+0.6**
	baz=258						
TDCB	**Techi**	**1.26**	**242**	*e*P	**Pb**	17 53 21.8	**-0.3**
	baz=239						
NSTT	**Nanjuang**	**1.27**	**260**	*e*P	**Pg**	17 53 23.3	**+0.8**
	baz=258						
IRIF	**Iriomote-Funau**	**1.34**	**113**	P	**Pb**	17 53 23.4	**+0.2**
CHGB	**Renai**	**1.36**	**234**	*e*P	**Pg**	17 53 23.8	**-0.3**
	baz=232						
WHP	**Taichung City**	**1.43**	**246**	*e*P	**Pg**	17 53 25.7	**+0.2**
	baz=244						
DPDB	**Guoxing**	**1.56**	**238**	*e*P	**Pg**	17 53 27.4	**-0.6**
	baz=236						
VWDT	**VWDT**	**1.58**	**226**	*e*P	**Pb**	17 53 27.0	**-0.4**
	baz=224						
JKRS	**Kuro-shima**	**1.61**	**112**	P	**Pb**	17 53 27.9	**0.0**
JKRS				*e*S	**Sb**	17 53 48.7	**+0.4**
HGSD	**Ruisui**	**1.62**	**213**	*e*P	**Pn**	17 53 26.9	**+0.2**
	baz=211						
SMLT	**Sun Moon Lake**	**1.66**	**234**	*e*P	**Pb**	17 53 29.1	**+0.2**
	baz=232						
JIJ	**Ishigaki jima**	**1.68**	**107**	P	**Pn**	17 53 28.0	**+0.5**
SSLB	**Suanglung**	**1.68**	**231**	*e*P	**Pb**	17 53 28.5	**-0.6**
	baz=229						
TYC	**Yuchr**	**1.68**	**236**	*e*P	**Pb**	17 53 28.2	**-0.9**
	baz=234						
YULB	**Yu-li**	**1.76**	**214**	*e*P	**Pn**	17 53 28.2	**-0.5**
	baz=213						
WHYT	**Xinyi Township**	**1.81**	**231**	*e*P	**Pb**	17 53 30.9	**-0.4**
	baz=229						
ALS	**Alishan**	**1.97**	**227**	*e*P	**Pb**	17 53 33.3	**-0.9**
	baz=225						
CHN5	**Tsauling**	**2.00**	**231**	*e*P	**Pb**	17 53 33.6	**-1.0**
	baz=230						
CHN4	**Tsaushan**	**2.22**	**228**	*e*P	**Pb**	17 53 37.1	**-1.1**
	baz=226						
TPUB	**Ta-pu**	**2.23**	**226**	*e*P	**Pb**	17 53 36.8	**-1.7**
	baz=224						
WTP	**Ta-pu**	**2.28**	**225**	*e*P	**Pn**	17 53 37.2	**+1.4**
	baz=224						
TWK	**Hsinying**	**2.34**	**228**	*e*P	**Pn**	17 53 38.1	**+1.3**
	baz=226						
SLGT	**Liugui**	**2.44**	**221**	*e*P	**Pn**	17 53 39.8	**+1.8**
	baz=219						

*IDC **30** 18:03:42.4±1.9,44.33N×147.98E,h0km,mb3.3/3,*
mb1 3.4/4,mb1mx3.2/38,mbtmp3.4/4,ML2.3/1,MS3.2/1,
Ms1 3.2/1,ms1mx2.4/27,Error ellipse: s-maj=46.3km
s-min=36.6km az=80.0
*JMA **30** 18:03:47.5±0.2,44.05N×148.09E,h0km,M4.2*
*MOS **30** 18:03:47.1±0.8,44.52N×148.19E,h60km,mb4.3/1,Error*
ellipse: s-maj=25.2km s-min=13.9km az=138.0
*SKHL **30** 18:03:48.3±0.0,44.49N×148.15E,h73km±7km,mb4.5/5*
ISC 30 18:03:43.8±1.9,44.32N±0.07×148.36E±0.08,h13km±11km,
n40,σ1s85/54,mb3.3/3,4D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.98**	**339**	*d i* PN	**Pg**	18 04 03.2	**+0.6**
KUR				*i* S	**Sg**	18 04 14.6	**-0.8**
KUR				pmax	pmax		
	comp=Z,650nm,0.3s						
KUR				pmax	pmax		
	comp=N,245nm,0.2s						
KUR				pmax	pmax		
	comp=E,411nm,0.2s						
KUR				smax	smax		
	comp=N,2μm,0.2s						
KUR				smax	smax		
	comp=E,3μm,0.2s						
KUR	**Kuril'sk**	**0.98**	**339**	*i* P	**Pg**	18 04 03.0	**+0.4**
KUR				AMB	AMB	18 04 03.6	
	comp=E,450nm,0.5s						
KUR				*i* S	**Sg**	18 04 14.0	**-1.4**
KUR				A	A	18 04 16.0	
	comp=E,2μm,0.3s						
KUR				A	A	18 04 16.0	
	comp=E,2μm,0.3s						
SHO	**Shikotan**	**1.19**	**248**	*d i* PN	**Pn**	18 04 07.7	**+1.5**
SHO				*i* S	**Sg**	18 04 21.2	**-1.0**
SHO				pmax	pmax		
	comp=Z,62nm,0.4s						
SHO				pmax	pmax		
	comp=N,30nm,0.2s						
SHO				pmax	pmax		
	comp=E,43nm,0.1s						
SHO				smax	smax		
	comp=N,234nm,0.2s						
SHO				smax	smax		
	comp=E,979nm,0.5s						
SHO	**Shikotan**	**1.19**	**248**	*i* P	**Pn**	18 04 07.0	**+0.8**
SHO				AMB	AMB	18 04 09.0	
	comp=E,62nm,0.3

GLVR				AMB	AMB	18 04 22.0		
	comp=N,97nm,0.3s							
GLVR				*e*S	**Sn**	**18 04 44.5**	**-0.9**	
GLVR				A	A	18 04 51.0		
	comp=N,620nm,0.4s							
GLVR				A	A	18 04 51.0		
	comp=N,117nm,0.4s							
JRA	**Rausu**	**2.37**	**262**	P	**Pb**	**18 04 25.1**	**-1.1**	
JRA				eS	**Sn**	**18 04 52.8**	**+1.7**	
JNSB	**Nemuroshibetsu**	**2.48**	**258**	P	**Pn**	**18 04 26.7**	**+2.8**	
JNSB				*e*S	**Sn**	**18 04 55.0**	**+0.9**	
JKHN	**Kushirohamanak**	**2.63**	**243**	P	**Pn**	**18 04 28.1**	**+2.2**	
JKHN				*e*S	**Sn**	**18 04 57.8**	**+0.1**	
JNK	**Nakash**	**2.73**	**256**	P	**Pn**	**18 04 29.9**	**+2.6**	
JNK				*e*S	**Sn**	**18 05 00.8**	**+0.5**	
JAK	**Akkeshi**	**2.97**	**245**	P	**Pn**	**18 04 32.7**	**+2.1**	
JAK				*e*S	**Sn**	**18 05 06.0**	**-0.1**	
JTKR	**Abashiri--Toko**	**3.23**	**265**	P	**Pn**	**18 04 37.7**	**+3.6**	
JAR	**Ashorobuto**	**3.48**	**254**	P	**Pn**	**18 04 41.0**	**+3.4**	
JAR				*e*S	**Sn**	**18 05 20.7**	**+2.0**	
JCH	**Churui**	**4.02**	**247**	P	**Pn**	**18 04 47.5**	**+2.5**	
JKK2	**Kamakawa 2**	**4.07**	**266**	P	Pn	18 04 50.6	+4.9	
JSE	**Soyaes**	**4.17**	**281**	P	**Pn**	**18 04 49.4**	**+2.3**	
JFR	**Furan**	**4.34**	**257**	P	**Pn**	**18 04 53.9**	**+4.5**	
JNBK	**Urakawa-nobuka**	**4.58**	**245**	P	**Pn**	**18 04 55.3**	**+2.6**	
JNBK				*e*S	**Sn**	**18 05 44.8**	**-0.9**	
JWK2	**Keihoku**	**4.71**	**284**	P	**Pn**	**18 04 57.9**	**+3.5**	
JKB	**Kayabe**	**5.89**	**248**	P	**Pn**	**18 05 13.7**	**+3.0**	
JKB				*e*S	**Sn**	**18 06 17.9**	**-0.2**	
JOT	**Ohata**	**6.13**	**244**	P	**Pn**	**18 05 16.3**	**+2.3**	
JOT				*e*S	**Sn**	**18 06 22.4**	**-1.5**	
PETK	**Petropavlovsk-**	**10.73**	**32**	Pn	**Pn**	**18 06 19.3**	**+2.3**	
	comp=N,0.1nm,0.3s,baz=204,slow=13,SNR=1.2							
PET	**Petropavlovsk**	**11.04**	**34**	*e*P	**Pn**	**18 06 19.3**	**-1.9**	
JCJ	**Chichijima**	**17.90**	**198**	LR	LR	18 14 02.6		
	comp=N,70nm,18.9s,baz=87,slow=35							
H11N2	**WAKE ISLAND Hy**	**28.98**	**142**	T	T	18 40 33.8		
	baz=333,slow=76,SNR=62							
H11N1	**WAKE ISLAND Hy**	**29.00**	**142**	T	T	18 40 34.9		
	baz=333,slow=76,SNR=53							
H11N3	**WAKE ISLAND Hy**	**29.00**	**142**	T	T	18 40 40.4		
	baz=333,slow=76,SNR=56							
SONM	**Songino Array**	**29.06**	**292**	P	**P**	**18 09 42.7**	**-1.1**	
	comp=N,0.2nm,0.4s,baz=80,slow=8.5,SNR=1.8							
H11S1	**WAKE ISLAND Hy**	**29.98**	**143**	T	T	18 41 53.6		
	baz=334,slow=76,SNR=78							
H11S3	**WAKE ISLAND Hy**	**29.98**	**143**	T	T	18 41 49.3		
	baz=334,slow=76,SNR=52							
H11S2	**WAKE ISLAND Hy**	**30.00**	**143**	T	T	18 41 52.5		
	baz=334,slow=76,SNR=44							
MKAR	**Makanchi Array**	**45.10**	**298**	P	**P**	**18 11 57.5**	**-2.1**	
	comp=N,0.1nm,0.4s,baz=71,slow=7.2,SNR=4.5							
ASAR	**Alice Springs**	**68.94**	**194**	P	**P**	**18 14 48.9**	**+0.4**	
	comp=N,0.3nm,0.8s,baz=14,slow=6.5,SNR=4.5							

*ISCJB **30** 18:20:02.7±0.1, 0.°00S±0.°02×124.°00E±0.°02, h110km, mb4.8/68, Error ellipse: s-maj=3.0km s-min=2.6km az=23.8*

*MOS **30** 18:20:03.6±0.9, 0.°03N×123.°87E, h122km, mb4.8/21, Error ellipse: s-maj=8.7km s-min=6.4km az=114.2*

*NEIC **30** 18:20:03.9±1.8, 0.°00S±0.°07×123.°92E±0.°06, h108km±5km, mb4.8/49*

*GCMT **30** 18:20:03.9±0.3, 0.°08N±0.°02×124.°09E±0.°02, h84km±3km, MW4.9/89, Moment Tensor Solution. s35,c42; s89,c128; Duration: 0 Moment tensor: Scale 10^16^Nm; M~rr~1.87±.09; M~θθ~0.35±.09; M~φφ~-2.22±.09; M~rθ~0.86±.05; M~rφ~-0.83±.09; M~θφ~0.44±.08; Best double couple: M~o~2.41400×10^16^ NP1:φ~s~37.00000°, δ57.00000°, λ116.00000°. NP2: φ~s~174.00000°, δ41.00000°, λ55.00000°. Principal axes: T 2.2580, Plg66.0000°, Azm358.0000°; N 0.3100, Plg22.0000°, Azm202.0000°; P -2.5700, Plg9.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **30** 18:20:04.2±0.1, 0.°5S±2.°2×12.°4E±.°, h110km±2km, M4.9/43, mB5.3/20, mb5.0/43, MLv5.3/24, Mw(mB)4.8/20, Mwp6.2/1*

*IDC **30** 18:20:04.2±0.7, 0.°02N×123.°83E, h107km±6km, mb4.2/31, mb1 4.3/35, mb1mx4.2/48, mbtmp4.6/35, MS3.5/14, Ms1 3.5/14, ms1mx3.3/39, Error ellipse: s-maj=11.8km s-min=7.2km az=69.0*

*KLM **30** 18:20:06.0, 0.°01S×123.°96E, h107km, mb4.8*

ISC 30 18:20:04.3±0.3, 0.°05S±0.°03×123.°99E±0.°03, h110km, n241, σ1ı§73/267, mb4.7/81, 15C-4D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KMSI	**Cibinong**	**0.62**	**359**	P		**Pn**	**18 20 21.9**	**-0.1**
KMSI				S		**Sn**	**18 20 34.6**	**-0.7**
LUWI	**Luwuk**	**1.57**	**231**	P		**Pn**	**18 20 31.0**	**-1.0**
LUWI				S		**Sn**	**18 20 49.9**	**-3.1**
LUWI	**Luwuk**	**1.57**	**231**			**Pn**	**18 20 31.1**	**-0.9**
MNI	**Manado**	**1.70**	**30**	P		**Pn**	**18 20 35.3**	**+1.7**
MRSI	**Marisa**	**2.12**	**284**	P		**Pn**	**18 20 36.4**	**-2.4**
APSI	**Ampana**	**2.50**	**250**	P		**Pn**	**18 20 43.1**	**-0.6**
APSI				S		**Sn**	**18 21 16.6**	**+2.6**
SANI	**Sanana**	**2.82**	**135**	P		**Pn**	**18 20 46.2**	**-1.7**
SANI				S		**Sn**	**18 21 16.2**	**-5.3**
TNTI	**Ternate**	**3.47**	**76**	P		**Pn**	**18 20 56.7**	**+0.1**
TNTI				S		**Sn**	**18 21 35.3**	**-1.7**
TNTI	**Ternate**	**3.47**	**76**			**Pn**	**18 20 56.7**	**+0.1**
LBMI	**Labuha**	**3.56**	**100**	P		**Pn**	**18 20 56.9**	**-0.8**
LBMI				S		**Sn**	**18 21 37.4**	**-1.7**
MPSI	**Mapaga**	**4.11**	**275**	P		**Pn**	**18 21 04.8**	**-0.4**
MPSI				S		**Sn**	**18 21 54.0**	**+1.6**
KDI	**Kendari**	**4.12**	**199**	P		**Pn**	**18 21 03.9**	**-1.4**
NLAI	**Namlea**	**4.44**	**136**	P		**Pn**	**18 21 09.9**	**+0.3**
NLAI				S		**Sn**	**18 21 58.2**	**-2.1**
TTSI	**Tana Toraja**	**5.13**	**234**	P		**Pn**	**18 21 18.5**	**-0.4**
	448nm,0.6s,11μm4.3nm							
TTSI				S		**Sn**	**18 22 12.8**	**-4.1**
	448nm,0.6s,11μm4.3nm							
AAI	**Ambon**	**5.54**	**131**	P		**Pn**	**18 21 26.1**	**+1.6**
AAI				pmax		pmax		
	comp=Z,652nm,0.9s							
AAI	**Ambon**	**5.54**	**131**	P		**Pn**	**18 21 25.7**	**+1.2**
	comp=Z,664nm,0.9s,comp=Z,6μmcomp=Z,2.4nm							
BBSI	**Bau Bau**	**5.59**	**195**	P		**Pn**	**18 21 25.4**	**+0.2**
	comp=Z,49nm,1.1s,comp=Z,507nmcomp=Z,0.3nm							
SPSI	**Sidrap Palu**	**5.74**	**227**	P		**Pn**	**18 21 27.0**	**-0.2**
	comp=Z,264nm,0.5s,comp=Z,5μmcomp=Z,1.7nm							
BNSI	**Bone**	**5.81**	**222**	P		**Pn**	**18 21 28.2**	**0.0**
	comp=Z,254nm,0.9s,comp=Z,3μmcomp=Z,1.5nm							
MSAI	**Masohi**	**5.92**	**124**	P		**Pn**	**18 21 31.0**	**+1.3**
	comp=Z,457nm,1.0s,comp=Z,4μmcomp=Z,1.2nm							
GSPH	**General Santos**	**6.17**	**9**	⇑p		**Pn**	**18 21 37.0**	**+3.9**
KAPI	**Kappang**	**6.50**	**221**	P		**Pn**	**18 21 37.0**	**-0.5**
KAPI	**Kappang**	**6.50**	**221**			**Pn**	**18 21 37.0**	**-0.5**
BKSI	**Bulukumba**	**6.51**	**216**	P		**Pn**	**18 21 38.4**	**+0.7**
	comp=Z,153nm,0.7s,comp=Z,2μmcomp=Z,1.0nm							
SKMP	**Bagumbayan, Su**	**6.54**	**5**	P		**Pn**	**18 21 38.3**	**+0.2**
SKMP				S		**Sn**	**18 22 50.0**	**-1.4**
SMKI	**Samarinda**	**6.80**	**267**	P		**Pn**	**18 21 43.3**	**+1.8**
	comp=Z,737nm,1.0s,comp=Z,5μmcomp=Z,2.3nm							
KCP	**Kidapawan**	**7.09**	**9**	⇑P		**Pn**	**18 21 49.7**	**+4.1**
BKB	**Balikpapan**	**7.20**	**260**	P		**Pn**	**18 21 48.3**	**+1.3**
	comp=Z,304nm,1.0s,comp=Z,3μmcomp=Z,1.2nm							
BKB	**Balikpapan**	**7.20**	**260**			**Pn**	**18 21 46.0**	**-1.0**
CTBH	**Cotabato--PC H**	**7.22**	**2**	⇑P		**Pn**	**18 21 49.5**	**+2.2**
DAV	**Davao City (W)**	**7.24**	**13**	P		**Pn**	**18 21 51.9**	**+4.3**
	baz=151,slow=3.1,SNR=5.3							
DAV				S		Sn	18 23 17.3	+9.0
	comp=Z,89nm,0.3s,baz=270,slow=20,SNR=3.4							
DAV				LR		LR	18 24 50.4	
	comp=Z,358nm,19.2s,baz=154,slow=40							
DAV	**Davao City (W)**	**7.24**	**13**			**Pn**	**18 21 48.8**	**+1.2**
SWI	**Sorong**	**7.31**	**96**	P		**Pn**	**18 21 49.7**	**+1.2**
SWI				pmax		pmax		
	comp=Z,458nm,0.8s							
SWI	**Sorong**	**7.31**	**96**	P		**Pn**	**18 21 49.2**	**+0.7**
	comp=Z,457nm,0.8s,comp=Z,4μmcomp=Z,1.4nm							
SIJI	**Sorong**	**7.32**	**96**	P		**Pn**	**18 21 49.6**	**+1.0**
	comp=Z,34nm,0.3s,baz=290,slow=10,SNR=87							
SIJI				S		**Sn**	**18 23 08.9**	**-1.3**
	baz=210,slow=18,SNR=1.0							
BNDI	**Bandanaira**	**7.39**	**127**	P		**Pn**	**18 21 49.6**	**0.0**
	comp=Z,915nm,1.1s,comp=Z,9μmcomp=Z,2.7nm							
PAGZ	**Pagadian**	**7.87**	**356**	P		**Pn**	**18 21 56.1**	**+0.1**
PAGZ				S		**Sn**	**18 23 23.4**	**0.0**
BUKP	**Musuan**	**7.94**	**8**	P		**Pn**	**18 22 00.2**	**+3.1**
KBKI	**Kotabaru**	**8.46**	**247**	P		**Pn**	**18 22 05.9**	**+1.8**
	comp=Z,48nm,1.0s,comp=Z,584nm							
CGP	**Cagayan de Oro**	**8.47**	**5**	⇓P		Pn	18 22 10.9	+6.6
FAKI	**Fak Fak**	**8.73**	**109**	P		**Pn**	**18 22 06.5**	**-1.3**
	comp=Z,268nm,1.0s,comp=Z,2μm							
FAKI	**Fak Fak**	**8.73**	**109**			**Pn**	**18 22 06.3**	**-1.5**
BUTP	**Butuan**	**9.10**	**10**	P		**Pn**	**18 22 16.9**	**+4.1**
SOEI	**Soe**	**9.65**	**178**	P		**Pn**	**18 22 21.4**	**+1.0**
	comp=Z,44nm,1.4s,comp=Z,2μm							
KKM	**Kota Kinabalu**	**9.84**	**308**			**Pn**	**18 22 22.8**	**-0.2**
MSLP	**Maasin**	**10.15**	**5**	P		**Pn**	**18 22 31.0**	**+4.0**
RKPI	**Ransiki, Papua**	**10.29**	**98**	P		**Pn**	**18 22 31.7**	**+2.8**
	comp=Z,197nm,1.1s,comp=Z,3μmcomp=Z,101μm							
KMPI	**Kaimana, Papua**	**10.35**	**110**	P		**Pn**	**18 22 28.5**	**-1.2**
	comp=Z,228nm,1.2s,comp=Z,6μm							
SAUI	**Saumlaki**	**10.73**	**137**	P		**Pn**	**18 22 35.6**	**+0.7**
	comp=Z,234nm,1.1s							
SAUI	**Saumlaki**	**10.73**	**137**			**Pn**	**18 22 34.4**	**-0.6**
OCLP	**Ormoc**	**11.04**	**3**	P		**Pn**	**18 22 43.0**	**+3.9**
SBUM	**Sibu**	**12.03**	**282**	P		**Pn**	**18 22 53.0**	**+0.8**
SBUM	**Sibu**	**12.03**	**282**			**Pn**	**18 22 51.9**	**-0.4**
BAKI	**Biak**	**12.17**	**95**	P		**Pn**	**18 22 51.8**	**-2.3**
	comp=Z,81nm,1.0s							
KMMI	**Kalianget**	**12.18**	**235**	P		**Pn**	**18 22 55.6**	**+1.3**
	comp=Z,68nm,0.9s							
KSM	**Kuching**	**13.77**	**276**	P		**P**	**18 23 18.9**	**-0.9**
TGY	**Tagaytay City**	**14.38**	**348**	P		**P**	**18 23 27.1**	**+0.5**
	comp=Z,12nm,0.3s,baz=132,slow=3.0,SNR=5.3							
PWJI	**Pagerwojo**	**14.51**	**237**	P		**Pn**	**18 23 24.8**	**+0.4**
	comp=Z,48nm,1.2s							
MTN	**Manton Dam**	**14.55**	**151**			**Pn**	**18 23 24.7**	**-0.3**
SMPI	**Sarmi**	**14.84**	**98**	P		**Pn**	**18 23 28.7**	**0.0**
	comp=Z,151nm,1.2s,comp=Z,2μm							
PCJI	**Pacitan**	**15.12**	**237**	P		**Pn**	**18 23 32.5**	**+0.3**
	comp=Z,116nm,0.8s							
KNRA	**Kununurra**	**16.23**	**163**	P		**P**	**18 23 46.9**	**-0.2**
GENI	**Genyem**	**16.37**	**99**	P		**P**	**18 23 48.4**	**-0.2**
	comp=Z,155nm,1.2s							
KPJI	**Karang Pucung**	**16.68**	**244**	P		**P**	**18 23 52.2**	**+0.2**
	comp=Z,90nm,0.8s							
JAY	**Jayapura**	**16.89**	**98**	P		**P**	**18 23 55.5**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=255,slow=5.1,SNR=3.2							
JAY	**Jayapura**	**16.89**	**98**	P		P	18 24 02.3	+7.9
LEM	**Lembang**	**17.67**	**247**	P		**P**	**18 24 03.4**	**+0.2**
	comp=Z,4.8nm,0.3s,baz=56,slow=6.2,SNR=14							
LEM	**Lembang**	**17.67**	**247**	P		**P**	**18 24 02.8**	**-0.4**
	comp=Z,58nm,1.0s							
CISI	**Cisompet, Garu**	**17.77**	**245**	P		**P**	**18 24 03.6**	**-0.6**
	comp=Z,126nm,0.9s							
CISI	**Cisompet, Garu**	**17.77**	**245**	P		**P**	**18 24 03.0**	**-1.1**
CISI				lAmb		lAmb	18 24 07.6	
	comp=Z,81nm,0.8s							
FITZ	**Fitzroy Crossi**	**18.01**	**175**	P		**P**	**18 24 06.7**	**0.0**
	comp=Z,0.8nm,0.3s,baz=6.0,slow=8.3,SNR=22							
FITZ				LR		LR	18 31 53.2	
	comp=Z,77nm,19.7s,baz=7.0,slow=39							
FITZ	**Fitzroy Crossi**	**18.01**	**175**	P		**P**	**18 24 06.8**	**+0.1**
FITZ				lAmb		lAmb	18 24 44.2	
	comp=Z,92nm,1.9s							
BLSI	**Bandar Lampung**	**19.45**	**254**	P		**Pn**	**18 24 25.9**	**+1.1**
	comp=Z,80nm,0.5s							
DLV	**T Lat**	**19.46**	**308**	P		**Pn**	**18 24 24.7**	**-0.4**
MYKOM	**Kota Tinggi**	**20.22**	**275**	P		Pn	18 24 33.0	-0.8
MDSI	**Maura Dua**	**20.28**	**257**	P		**P**	**18 24 29.6**	**-1.8**
	comp=Z,23nm,2.0s							
JRMM	**Jerantut**	**21.85**	**281**	P		**P**	**18 24 49.0**	**+0.7**
WRAB	**Tennant Creek**	**22.22**	**153**	*ce*P		**P**	**18 24 50.7**	**-1.3**
WRAB				pmax		pmax		
	comp=Z,25nm,1.0s							
WRAB	**Tennant Creek**	**22.22**	**153**	P		**P**	**18 24 52.3**	**+0.2**
WRA	**Warramunga Arr**	**22.22**	**153**	*i* P		**P**	**18 24 52.0**	**-0.1**
WRA				pmax		pmax		
	comp=Z,17nm,0.5s							
WRA	**Warramunga Arr**	**22.22**	**153**	P		**P**	**18 24 52.0**	**-0.1**
	comp=Z,22nm,0.6s,baz=334,slow=10.0,SNR=150							
WRA				pP		**pwP**	**18 25 15.7**	**+0.3**
	comp=Z,20nm,0.9s,baz=330,slow=12,SNR=6.3							
WRA				S		**S**	**18 28 48.8**	**-0.8**
	comp=Z,6.1nm,0.9s,baz=334,slow=16,SNR=4.7							
WRA				ScP		**ScP**	**18 32 12.9**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=326,slow=2.5,SNR=4.6							
WRA	**Warramunga Arr**	**22.22**	**153**			**P**	**18 24 50.5**	**-1.5**
WR0	**Warramunga Arr**	**22.33**	**153**	P		**P**	**18 24 53.0**	**-0.2**
WR0				lAmb		lAmb	18 24 57.2	
	comp=Z,46nm,1.2s							
KRJI	**Kerinci**	**22.62**	**265**	P		**P**	**18 24 55.6**	**-0.7**
	comp=Z,132nm,0.8s							
IPM	**Ipoh**	**23.38**	**281**	P		**P**	**18 25 04.0**	**+0.5**
IPM	**Ipoh**	**23.38**	**281**	P		**P**	**18 25 02.9**	**-0.7**
IPM				lAmb		lAmb	18 25 05.1	
	comp=Z,33nm,0.9s							
TPUB	**Ta-pu**	**23.43**	**352**	P		**P**	**18 25 03.6**	**-0.3**
TPUB				lAmb		lAmb	18 25 06.9	
	comp=Z,104nm,1.3s							
COEN	**Coen**	**23.49**	**127**	P		**P**	**18 25 05.4**	**+1.0**
COEN				lAmb		lAmb	18 25 50.1	
	comp=Z,52nm,1.4s							
PDSI	**Padang**	**23.55**	**268**	P		**P**	**18 25 03.9**	**-1.1**
	comp=Z,14nm,0.9s							
PMG	**Port Moresby**	**24.86**	**113**	*ce*P		**P**	**18 25 14.0**	**-2.9**
PMG				pmax		pmax		
	comp=Z,93nm,1.0s							
PMG	**Port Moresby**	**24.86**	**113**	P		**P**	**18 25 19.2**	**+2.3**
	comp=Z,21nm,0.9s,baz=313,slow=5.7,SNR=22							
PMG	**Port Moresby**	**24.86**	**113**	P		**P**	**18 25 18.1**	**+1.2**
PMG				lAmb		lAmb	18 25 22.1	
	comp=Z,20nm,0.9s							
RPSI	**Rantau Prapat**	**25.21**	**276**	P		**P**	**18 25 19.1**	**-1.0**
RPSI	**Rantau Prapat**	**25.21**	**276**	P		**P**	**18 25 19.0**	**-1.0**
PSI	**Prapat**	**25.22**	**277**	P		**P**	**18 25 19.0**	**-1.3**
PSI	**Prapat**	**25.22**	**277**	P		**P**	**18 25 19.0**	**-1.3**
	comp=Z,6.6nm,0.8s,baz=116,slow=3.8,SNR=7.4							
PSI				LR		LR	18 35 09.7	
	comp=Z,115nm,18.4s,baz=46,slow=36							
AS31	**Alice Springs**	**25.38**	**158**	P		**P**	**18 25 22.6**	**+1.1**
ASAR	**Alice Springs**	**25.38**	**158**	P		**P**	**18 25 22.6**	**+1.1**
	comp=Z,3.3nm,0.3s,baz=333,slow=8.8,SNR=131							
ASAR				pP		**pP**	**18 25 45.1**	**+0.2**
	comp=Z,3.0nm,0.4s,baz=342,slow=8.8,SNR=4.8							
ASAR				PcP		**PcP**	**18 28 52.5**	**+1.1**
	comp=Z,3.4nm,0.9s,baz=354,slow=2.8,SNR=4.7							
ASAR				S		**S**	**18 29 42.0**	**+2.0**
	comp=Z,3.5nm,1.0s,baz=346,slow=17,SNR=4.8							
ASAR				ScP		**ScP**	**18 32 20.9**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=336,slow=2.7,SNR=4.4							
CHAI	**Chaiyaphum**	**26.89**	**307**	P		**P**	**18 25 37.2**	**+2.0**
	comp=Z,31μm,0.8s							
CHAI	**Chaiyaphum**	**26.89**	**307**	P		**P**	**18 25 37.2**	**+2.0**
	comp=Z,31μm,0.8s							
MLSI	**Meulaboh, Aceh**	**27.89**	**279**	P		**P**	**18 25 42.3**	**-1.9**
PBKT	**Sadao Pong**	**28.07**	**307**	P		**P**	**18 25 49.3**	**+3.6**
	comp=Z,3.2nm,1.2s							
PBKT	**Sadao Pong**	**28.07**	**307**	P		**P**	**18 25 49.3**	**+3.6**
	comp=Z,3.2nm,1.2s							
SRDT	**SRDT**	**28.46**	**301**	P		**P**	**18 25 51.8**	**+2.6**
	comp=Z,8.4nm,1.0s							
UTHA	**Uthaitani**	**28.78**	**304**	P		**P**	**18 25 53.7**	**+1.7**
	comp=Z,31μm,1.3s,comp=Z,292μm							
UTTA	**Uttaradit**	**29.06**	**309**	P		**P**	**18 25 58.2**	**+3.8**
	comp=Z,11μm,0.9s							
UTTA	**Uttaradit**	**29.06**	**309**	P		**P**	**18 25 58.2**	**+3.8**
	comp=Z,11μm,0.9s							
CTA	**Charters Tower**	**29.53**	**134**	P		**P**	**18 26 00.8**	**+2.1**
	comp=Z,2.8nm,1.0s,baz=270,slow=10,SNR=3.2							
PAYA	**Payao**	**30.52**	**311**	P		**P**	**18 26 03.3**	**-4.1**
	comp=Z,62μm,0.7s							
CM31	**Chiang Mai Arr**	**30.72**	**308**	P		**P**	**18 26 08.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**30.72**	**308**	*ce*P		**P**	**18 26 09.8**	**+0.6**
CMAR				pmax		pmax		
	comp=Z,4.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**30.72**	**308**	P		**P**	**18 26 08.8**	**-0.4**
	comp=Z,3.7nm,1.0s,baz=136,slow=6.4,SNR=25							
CMAR				PcP		**PcP**	**18 29 05.5**	**+0.9**
	comp=Z,2.3nm,0.9s,baz=152,slow=1.8,SNR=7.4							
CMAR				LR		LR	18 39 56.1	
	comp=Z,59nm,20.2s,baz=140,slow=39							
FORT	**Forrest**	**30.81**	**173**	P		**P**	**18 26 10.3**	**+0.5**
CMMT	**Chiang Mai**	**30.92**	**309**	P		**P**	**18 26 11.8**	**+0.9**
	comp=Z,4.3nm,1.1s							
CMMT	**Chiang Mai**	**30.92**	**309**	P		**P**	**18 26 11.8**	**+0.9**
	comp=Z,4.3nm,1.1s							
CHTO	**Chiang Mai**	**30.92**	**309**	P		**P**	**18 26 10.8**	**-0.1**
CHTO				pmax		pmax		
	comp=Z,11nm,1.2s							
CHTO	**Chiang Mai**	**30.92**	**309**	P		**P**	**18 26 10.8**	**-0.1**
MHMT	**Maesarieng**	**31.37**	**307**	P		**P**	**18 26 17.1**	**+2.2**
	comp=Z,29nm,1.0s							
MHMT	**Maesarieng**	**31.37**	**307**	P		**P**	**18 26 17.1**	**+2.2**
WHN	**Wuhan**	**31.77**	**344**	⇑P		**P**	**18 26 20.5**	**+2.3**
JCJ	**Chichijima**	**32.16**	**32**	P		**P**	**18 26 20.9**	**-0.8**
	comp=Z,46nm,0.4s,baz=98,slow=22,SNR=5.5							
ENH	**Enshi**	**33.16**	**337**	P		**P**	**18 26 30.2**	**-0.2**
ENH				lAmb		lAmb	18 27 02.5	
	comp=Z,23nm,0.8s							
NWAO	**Narrogin (SRO)**	**33.32**	**190**	P		**P**	**18 26 32.0**	**+0.3**
	comp=Z,3.0nm,0.5s,baz=42,slow=7.9,SNR=4.5							
NWAO	**Narrogin (SRO)**	**33.32**	**190**	P		**P**	**18 26 31.7**	**0.0**
NWAO				lAmb		lAmb	18 26 55.5	
	comp=Z,31nm,1.4s							
JNU	**Nakatsue**	**33.62**	**10**	P		**P**	**18 26 33.6**	**-0.8**
	comp=Z,9.8nm,0.7s,baz=264,slow=5.2,SNR=6.1							
JNU	**Nakatsue**	**33.62**	**10**	P		**P**	**18 26 34.3**	**-0.1**
STKA	**Stephens Creek**	**35.77**	**154**	P		**P**	**18 26 54.6**	**+1.7**
STKA				pmax		pmax		
	comp=Z,3.0nm,0.6s							
STKA	**Stephens Creek**	**35.77**	**154**	P		**P**	**18 26 54.6**	**+1.7**
	comp=Z,11nm,0.5s,baz=334,slow=8.2,SNR=80							
STKA				LR		LR	18 42 37.2	
	comp=Z,57nm,18.5s,baz=355,slow=38							
STKA	**Stephens Creek**	**35.77**	**154**	P		**P**	**18 26 54.6**	**+1.7**
XAN	**Xi'an**	**36.74**	**339**	P		**P**	**18 27 00.7**	**-0.4**
XAN				pmax		pmax		
	comp=Z,19nm,1.2s							
XAN	**Xi'an**	**36.74**	**339**	P		**P**	**18 27 00.7**	**-0.4**
XAN				lAmb		lAmb	18 27 02.7	
	comp=Z,19nm,1.2s							
HNR	**Honiara**	**36.98**	**106**	P		**P**	**18 27 04.6**	**+1.2**
	comp=Z,31nm,0.6s,baz=310,slow=7.7,SNR=3.0							
HNR	**Honiara**	**36.98**	**106**	P		**P**	**18 27 04.1**	**+0.6**
INU	**Inuyama**	**37.25**	**18**	P		**P**	**18 27 05.7**	**+0.4**
KSRS	**Korea Array**	**37.49**	**5**	P		**P**	**18 27 08.4**	**+1.1**
	comp=Z,2.1nm,0.6s,baz=180,slow=9.7,SNR=9.7							
KSRS				LR		LR	18 42 55.9	
	comp=Z,37nm,20.5s,baz=206,slow=37							
MAJO	**Matsushiro**	**38.72**	**18**	P		**P**	**18 27 17.1**	**-0.7**
MAJO				pmax		pmax		
	comp=Z,54nm,1.4s							
MAJO	**Matsushiro**	**38.72**	**18**	P		**P**	**18 27 17.1**	**-0.7**
MAT	**Matsushiro**	**38.72**	**18**	P		**P**	**18 27 17.0**	**-0.8**
MJAR	**Matsushiro Arr**	**38.72**	**18**	P		**P**	**18 27 17.1**	**-0.7**
	comp=Z,9.5nm,0.6s,baz=188,slow=8.7,SNR=35							
MJAR				LR		LR	18 43 49.4	
	comp=Z,22nm,19.8s,baz=220,slow=37							
MJB9	**Matsu-Tunnel**	**38.72**	**18**	P		**P**	**18 27 17.0**	**-0.8**
ARMA	**Armidale**	**40.03**	**141**	P		**P**	**18 27 31.5**	**+2.6**
ARMA				lAmb		lAmb	18 27 32.3	
	comp=Z,11nm,0.6s							
LZH	**Lanzhou**	**40.54**	**335**	*e*P		**P**	**18 27 34.5**	**+1.5**
LZH				pmax		pmax		
	comp=Z,14nm,1.0s							
LSA	**Lhasa**	**43.06**	**316**

YAK	**Yakutsk**	**62.07**	**3**	*e*P	**P**	**18 30 12.0**	**-1.0**
YAK				pmax	pmax		
	comp=Z,28nm,0.8s						
YAK				pmax	pmax		
	comp=N,19nm,1.4s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.4s						
YAK	**Yakutsk**	**62.07**	**3**	P	**P**	**18 30 12.7**	**-0.3**
GAR	**Garm**	**62.54**	**315**	P	**P**	**18 30 15.2**	**-1.6**
GAR				IAmb	IAmb	18 31 01.2	
	comp=Z,12nm,1.1s						
ZALV	**Zalesovo Beam**	**62.77**	**335** *i*	P	**P**	**18 30 16.0**	**-1.8**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**62.77**	**335**	P	**P**	**18 30 15.9**	**-1.8**
	comp=Z,1.3nm,0.3s,baz=120,slow=8.5,SNR=6.0						
ZALV				pP	**pP**	**18 30 42.9**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=101,slow=4.7,SNR=1.8						
ZALV				LR	LR	18 57 58.2	
	comp=Z,63nm,18.6s,baz=54,slow=36						
CHGR	**Chuyangaron**	**63.23**	**314**	P	**P**	**18 30 19.4**	**-1.9**
CHGR				IAmb	IAmb	18 31 13.4	
	comp=Z,14nm,1.2s						
KURK	**Kurchatov**	**63.51**	**330**⇑ *e*P		**P**	**18 30 21.2**	**-1.6**
KURK				pmax	pmax		
	comp=Z,16nm,0.8s						
KURK	**Kurchatov**	**63.51**	**330**	P	**P**	**18 30 21.2**	**-1.6**
KURK				IAmb	IAmb	18 30 24.5	
	comp=Z,15nm,0.8s						
CASY	**Casey**	**66.79**	**186**	P	**P**	**18 30 45.1**	**+1.5**
CASY				IAmb	IAmb	18 30 45.9	
	comp=Z,11nm,0.9s						
BRVK	**Borovoye**	**69.11**	**329** *ce*P		**P**	**18 30 55.5**	**-3.0**
BRVK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
GEYT	**Alibeck**	**71.17**	**310**	P	**P**	**18 31 10.3**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=103,slow=3.9,SNR=3.4						
GEYT				LR	LR	19 06 15.9	
	comp=Z,30nm,19.2s,baz=0.0,slow=39						
TIXI	**Tiksi**	**71.65**	**2** *ce*P		**P**	**18 31 12.7**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,19nm,0.8s						
TIXI	**Tiksi**	**71.65**	**2**	P	**P**	**18 31 12.5**	**-1.1**
TIXI				IAmb	IAmb	18 31 13.7	
	comp=Z,28nm,1.1s						
ABKAR	**Akbulak array**	**73.38**	**322**	P	**P**	**18 31 22.2**	**-2.0**
AKTO	**Aktyubinsk**	**74.94**	**323**	LR	LR	19 06 53.0	
	comp=Z,47nm,20.0s,baz=121,slow=38						
SVE	**Sverdlovsk**	**75.77**	**330** *e*P		**P**	**18 31 36.5**	**-1.4**
SVE				pmax	pmax		
	comp=Z,11nm,1.2s						
ARU	**Arti**	**76.68**	**329** *d i*P		**P**	**18 31 40.6**	**-2.5**
ARU						18 34 30.0	
ARU				S	**S**	**18 41 19.1**	**-1.8**
ARU				SS	**SS**	**18 46 11.9**	**-6.9**
ARU				pmax	pmax		
	comp=Z,11nm,1.2s						
ARU	**Arti**	**76.68**	**329**	P	**P**	**18 31 41.0**	**-2.1**
OPO	**Ambohidratompo**	**77.48**	**251**	P	**P**	**18 31 48.7**	**+0.1**
	comp=Z,8.1nm,0.8s,baz=82,slow=6.4						
MAW	**Mawson**	**79.29**	**200**	P	**P**	**18 31 58.4**	**+1.1**
	comp=Z,11nm,1.0s,baz=57,slow=5.9,SNR=5.8						
MAW				LR	LR	19 01 55.8	
	comp=Z,30nm,21.9s,baz=5.0,slow=32						
RAYN	**Ar Rayn**	**79.47**	**294**	P	**P**	**18 31 57.2**	**-2.1**
RAYN				pmax	pmax		
	comp=Z,28nm,2.0s						
RAYN	**Ar Rayn**	**79.47**	**294**	P	**P**	**18 31 57.2**	**-2.1**
RAYN				IAmb	IAmb	18 34 02.9	
	comp=Z,28nm,1.9s						
VNDA	**Vanda**	**80.07**	**172**	P	**P**	**18 32 02.6**	**+1.3**
	comp=Z,3.6nm,0.8s,baz=290,slow=8.3,SNR=10						
VNDA	**Vanda**	**80.07**	**172**	P	**P**	**18 32 01.9**	**+0.5**
ZEI	**Tsey**	**82.75**	**313** *e*P		**P**	**18 32 14.4**	**-2.1**
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KBZ	**Khabaz**	**83.59**	**314**	P	**P**	**18 32 19.5**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=96,slow=9.2,SNR=3.5						
PRGR	**Permogore**	**84.51**	**332** *e*P		**P**	**18 32 20.7**	**-4.1**
PRGR				pmax	pmax		
	comp=Z,14nm,1.2s						
VRH	**Novokhopyorsk**	**85.18**	**321** *e*P		**P**	**18 32 26.3**	**-2.1**
VRH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMBO	**Kilima Mbogo**	**86.74**	**269** *i*P		**P**	**18 32 36.2**	**-1.0**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KMBO	**Kilima Mbogo**	**86.74**	**269**	P	**P**	**18 32 36.3**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=53,slow=10.0,SNR=4.6						
VSR	**Storozhevoye**	**86.78**	**321** *e*P		**P**	**18 32 33.7**	**-2.6**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LPSR	**Galich'ya Gora**	**87.03**	**323** *e*P		**P**	**18 32 34.5**	**-2.9**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ILAR	**Eielson Array**	**89.66**	**25**	P	**P**	**18 32 48.6**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=245,slow=4.2,SNR=5.7						
QSPA	**South Pole Qui**	**89.89**	**180**	P	**P**	**18 32 50.8**	**0.0**
QSPA				IAmb	IAmb	18 33 24.7	
	comp=Z,10nm,1.1s						
BRTR	**Keskin Array B**	**90.30**	**310**	P	**P**	**18 32 51.8**	**-1.6**
	comp=Z,1.6nm,1.0s,baz=93,slow=6.2,SNR=6.0						
ARCES	**ARCESS Array B**	**93.02**	**340**	P	**P**	**18 33 03.1**	**-2.0**
	comp=Z,5.5nm,0.9s,baz=80,slow=5.7,SNR=9.2						
AKASG	**Malin Array Be**	**93.06**	**321** *i*P		**P**	**18 33 04.1**	**-1.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**93.06**	**321**	P	**P**	**18 33 03.2**	**-2.4**
	comp=Z,0.5nm,0.5s,baz=69,slow=4.6,SNR=4.3						
EPYK	**Eagle Plains**	**93.77**	**23**	P	**P**	**18 33 09.0**	**+0.3**
FINES	**FINESS Array B**	**93.83**	**332**	P	**P**	**18 33 06.8**	**-2.2**
	comp=Z,3.8nm,0.9s,baz=63,slow=0.9,SNR=7.5						
INK	**Inuvik**	**94.65**	**21**	P	**P**	**18 33 13.1**	**+0.5**
INK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
INK	**Inuvik**	**94.65**	**21**	P	**P**	**18 33 13.1**	**+0.5**
BURAR	**Bucovina Array**	**95.96**	**318**	⇑P	**P**	**18 33 17.8**	**-1.4**
PDAR	**Pinedale Array**	**115.98**	**41**	PKP	**PKiKP**	**18 38 35.2**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=236,slow=1.6,SNR=4.1						
TOA0	**Torodi Ar. Sit**	**121.38**	**285**		**PKPdf**	**18 38 45.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**121.38**	**285**	PKP	**PKPdf**	**18 38 45.2**	**-0.5**
	comp=Z,2.4nm,0.6s,baz=82,slow=2.0,SNR=14						
TORD				pPKP	**pPKPdf**	**18 39 16.0**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=76,slow=1.4,SNR=3.4						
ANMO	**Albuquerque**	**121.57**	**48**	PKIKP	**PKiKP**	**18 38 47.5**	**+1.5**
ANMO	**Albuquerque**	**121.57**	**48**		**PKiKP**	**18 38 47.5**	**+1.5**
MNTX	**Cornudas Mount**	**123.74**	**51**		**PKPdf**	**18 38 48.3**	**-1.6**
SCHQ	**Schefferville**	**124.67**	**8**	PKP	**PKPdf**	**18 38 50.4**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=124,slow=2.7,SNR=5.5						
SCHQ	**Schefferville**	**124.67**	**8**		**PKPdf**	**18 38 50.2**	**-0.8**
TXAR	**Lajitas Array**	**126.05**	**53**	PKP	**PKiKP**	**18 38 55.9**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=270,slow=1.3,SNR=9.5						
JCT	**Junction City**	**128.57**	**50**	PKIKP	**PKPdf**	**18 38 59.1**	**-0.1**
JCT	**Junction City**	**128.57**	**50**		**PKPdf**	**18 38 59.1**	**-0.1**
PLCA	**Paso Flores**	**137.31**	**164**	PKP	**PKiKP**	**18 39 16.6**	**-0.7**
	comp=Z,4.7nm,1.1s,baz=239,slow=5.9,SNR=3.4						
CPUP	**Villa Florida**	**153.75**	**177**	PKP	**PKPdf**	**18 39 42.9**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=26,slow=9.4,SNR=3.2						
CPUP				PKPbc	**PKiKP**	**18 39 52.2**	**+0.8**
	comp=Z,2.6nm,0.7s,baz=95,slow=0.9,SNR=5.5						
CPUP				PKPab	**PKPab**	**18 40 03.0**	**-1.3**
	comp=Z,2.3nm,0.7s,baz=203,slow=1.3,SNR=2.8						
LPAZ	**La Paz**	**159.84**	**144**	PKP	**PKPdf**	**18 39 54.1**	**+1.9**
	comp=Z,1.6nm,0.8s,baz=358,slow=2.4,SNR=5.4						
LPAZ				PKPab	**sPKPdf**	**18 40 32.7**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=225,slow=5.0,SNR=5.8						
BDFB	**Brasilia**	**162.53**	**206**	PKPab	**PKPab**	**18 40 41.1**	**-1.5**
	comp=Z,2.7nm,0.7s,baz=277,slow=6.8,SNR=3.7						

*JMA **30** 18:31:16.7±0.1,24.°62N×122.°40E,h95km±2km,M1.8*
*TAP **30** 18:31:16.8,24.°72N×122.°35E,h100km,ML3.0,D*
*ISCJB **30** 18:31:17.2±0.5,24.°65N±0.°03×122.°43E±0.°02,h88km±4km,*
Error ellipse: s-maj=4.4km s-min=2.6km az=167.4
ISC 30 18:31:17.4±1.4,24.°66N±0.°04×122.°43E±0.°02,h90km±8km,
n78,σ0.°84/139,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.29**	**248**	*i* P		**Pn**	**18 31 31.1**	**+0.4**
	baz=225							
EOS1				S		**Sn**	**18 31 42.2**	**+1.6**
	baz=225							
JYNG	**Yonagunijimaku**	**0.52**	**113**	P		**Pn**	**18 31 32.2**	**0.0**
JYNG				S		**Sn**	**18 31 43.5**	**+0.2**
TWC	**Suao**	**0.53**	**265**	*i* P		**Pn**	**18 31 31.9**	**-0.4**
	baz=256							
TWC				S		**Sn**	**18 31 43.2**	**-0.2**
	baz=256							
YOJ	**Yonaguni jima**	**0.57**	**110**	P		**Pn**	**18 31 32.7**	**0.0**
YOJ				S		**Sn**	**18 31 44.1**	**0.0**
TIPB	**Shuangxi**	**0.63**	**300**	P		**Pn**	**18 31 33.1**	**-0.1**
	baz=295							
TIPB				S		**Sn**	**18 31 44.5**	**-0.6**
	baz=295							
NANB	**Nanao**	**0.66**	**250**	*i* P		**Pn**	**18 31 33.6**	**+0.1**
	baz=242							
NANB				S		**Sn**	**18 31 45.7**	**+0.3**
	baz=242							
ENA	**Nanau**	**0.66**	**250**	*i* P		**Pn**	**18 31 33.6**	**0.0**
	baz=242							
ENA				S		**Sn**	**18 31 46.2**	**+0.6**
	baz=242							
TWE	**Neicheng**	**0.69**	**275**	*i* P		**Pn**	**18 31 33.8**	**0.0**
	baz=274							
TWE				S		**Sn**	**18 31 45.8**	**-0.2**
	baz=274							
SLBB	**Yuanshan**	**0.72**	**278**	P		**Pn**	**18 31 33.1**	**-1.1**
	baz=279							
SLBB				S		**Sn**	**18 31 46.0**	**-0.7**
	baz=279							
ENTT	**Nioudou**	**0.78**	**269**	*i* P		**Pn**	**18 31 35.0**	**+0.3**
	baz=265							
ENTT				S		**Sn**	**18 31 49.0**	**+1.3**
	baz=265							
TWA	**Mucha**	**0.83**	**293**	P		**Pn**	**18 31 35.1**	**-0.1**
	baz=284							
TWA				*e*S		**Sn**	**18 31 48.2**	**-0.4**
	baz=284							
NDT	**Datong Townshi**	**0.83**	**266**	P		**Pn**	**18 31 35.7**	**+0.5**
	baz=263							
NDT				S		**Sn**	**18 31 49.2**	**+0.6**
	baz=263							
NWLT	**Wulai**	**0.85**	**278**	P		**Pn**	**18 31 35.1**	**-0.3**
	baz=280							
NWLT				S		**Sn**	**18 31 48.8**	**-0.1**
	baz=280							
NACB	**Ninganchiao**	**0.90**	**238**	P		**Pn**	**18 31 35.3**	**-0.6**
	baz=227							
NACB				S		**Sn**	**18 31 49.0**	**-0.9**
	baz=227							
YM01	**YM01**	**0.92**	**302**	P		**Pn**	**18 31 36.0**	**-0.2**
	baz=293							
YM01				S		**Sn**	**18 31 49.9**	**-0.4**
	baz=293							
YM11	**YM11**	**0.92**	**303**	*e*P		**Pn**	**18 31 35.8**	**-0.5**
	baz=295							
YM10	**YM10**	**0.93**	**303**	P		**Pn**	**18 31 36.2**	**-0.2**
	baz=294							
TWD	**Chiawan**	**0.95**	**233**	P		**Pn**	**18 31 36.1**	**-0.3**
	baz=227							
TWD				S		**Sn**	**18 31 50.5**	**-0.3**
	baz=227							
YHNB	**Yeheng**	**0.95**	**271**	P		**Pn**	**18 31 36.9**	**+0.2**
	baz=274							
YHNB				S		**Sn**	**18 31 51.0**	**-0.1**
	baz=274							
ETLH	**Xiulin Townshi**	**0.97**	**243**	P		**Pn**	**18 31 36.4**	**-0.4**
	baz=231							
ETLH				S		**Sn**	**18 31 50.9**	**-0.5**
	baz=231							
NSK	**Sanguang**	**0.97**	**271**	P		**Pn**	**18 31 36.8**	**0.0**
	baz=274							
NSK				S		**Sn**	**18 31 51.0**	**-0.3**
	baz=274							
NNSH	**Datong**	**0.98**	**257**	P		**Pn**	**18 31 36.9**	**-0.1**
	baz=247							
NNSH				S		**Sn**	**18 31 52.0**	**+0.5**
	baz=247							
HWA	**Hwalien**	**1.01**	**228**	*e*S		**Sn**	**18 31 53.0**	**+1.0**
	baz=222							
TWS1	**Kuangyinshan**	**1.02**	**296**	P		**Pn**	**18 31 37.2**	**-0.1**
	baz=294							
TWS1				S		**Sn**	**18 31 52.0**	**-0.2**
	baz=294							
WLTB	**Daxi**	**1.08**	**281**	*e*P		**Pn**	**18 31 38.4**	**+0.4**
	baz=277							
WLTB				S		**Sn**	**18 31 53.4**	**-0.1**
	baz=277							
NCUH	**Zhongli**	**1.17**	**286**	S		**Sn**	**18 31 55.7**	**+0.3**
	baz=290							
WHF	**Hehuan Shan**	**1.17**	**244**	*i* P		**Pn**	**18 31 39.2**	**-0.3**
	baz=239							
WHF				S		**Sn**	**18 31 55.4**	**-0.8**
	baz=239							
TWT	**Tachien**	**1.21**	**251**	P		**Pn**	**18 31 40.5**	**+0.8**
	baz=241							
TWT				*i* S		**Sn**	**18 31 56.7**	**+0.2**
	baz=241							
TDCB	**Techi**	**1.22**	**251**	P		**Pn**	**18 31 40.3**	**+0.5**
	baz=241							
TDCB				S		**Sn**	**18 31 56.6**	**-0.1**
	baz=241							
IRIF	**Iriomote-Funau**	**1.23**	**105**	P		**Pn**	**18 31 39.7**	**-0.1**
IRIF				S		**Sn**	**18 31 56.9**	**+0.2**
ESL	**Shilin**	**1.23**	**227**	P		**Pn**	**18 31 39.1**	**-0.8**
	baz=230							
ESL				S		**Sn**	**18 31 55.4**	**-1.4**
	baz=230							
LIOB	**Emei**	**1.28**	**270**	P		**Pn**	**18 31 40.5**	**+0.1**
	baz=266							
LIOB				S		**Sn**	**18 31 57.5**	**-0.3**
	baz=266							
CHGB	**Renai**	**1.29**	**243**	P		**Pn**	**18 31 40.9**	**+0.2**
	baz=232							
CHGB				S		**Sn**	**18 31 58.2**	**0.0**
	baz=232							
NSTT	**Nanjuang**	**1.30**	**269**	P		**Pn**	**18 31 41.0**	**+0.4**
	baz=266							
NSTT				S		**Sn**	**18 31 58.0**	**-0.1**
	baz=266							
EGFH	**Guangfu**	**1.34**	**223**	P		**Pn**	**18 31 41.0**	**-0.2**
	baz=211							
EGFH				S		**Sn**	**18 31 57.8**	**-1.2**
	baz=211							
WHP	**Taichung City**	**1.40**	**255**	P		**Pn**	**18 31 42.8**	**+0.9**
	baz=259							
WHP				S		**Sn**	**18 32 01.2**	**+0.7**
	baz=259							
HGSD	**Ruisui**	**1.48**	**218**	P		**Pn**	**18 31 42.3**	**-0.5**
	baz=209							
HGSD				S		**Sn**	**18 32 01.6**	**-0.5**
	baz=209							
VWDT	**VWDT**	**1.48**	**233**	P		**Pn**	**18 31 43.1**	**+0.2**
	baz=224							
VWDT				S		**Sn**	**18 32 01.5**	**-0.5**
	baz=224							
NMLH	**Miaoli**	**1.49**	**266**	S		**Sn**	**18 32 03.0**	**+0.5**
	baz=262							
DPDB	**Guoxing**	**1.50**	**246**	P		**Pn**	**18 31 44.3**	**+1.1**
	baz=237							
DPDB				S		**Sn**	**18 32 03.4**	**+0.7**
	baz=237							
JKRS	**Kuro-shima**	**1.50**	**106**	P		**Pn**	**18 31 43.4**	**+0.3**
JKRS				S		**Sn**	**18 32 03.1**	**+0.4**
EHY	**Hungye**	**1.53**	**222**	*e*P		**Pn**	**18 31 43.0**	**-0.5**
	baz=225							
EHY				S		**Sn**	**18 32 01.9**	**-1.3**
	baz=225							
TWQ1	**Liyutan**	**1.54**	**259**	S		**Sn**	**18 32 03.6**	**+0.1**
	baz=255							
JIJ	**Ishigaki jima**	**1.59**	**100**	P		**Pn**	**18 31 44.1**	**-0.2**
JIJ				S		**Sn**	**18 32 04.4**	**-0.3**
SSLB	**Suanglung**	**1.60**	**237**	*i* P		**Pn**	**18 31 45.3**	**+0.9**
	baz=231							
SSLB				S		**Sn**	**18 32 05.7**	**+0.7**
	baz=231							
TYC	**Yuchr**	**1.61**	**243**	P		**Pn**	**18 31 45.7**	**+1.1**
	baz=239							
TYC				S		**Sn**	**18 32 06.6**	**+1.4**
	baz=239							
YULB	**Yu-li**	**1.63**	**220**	P		**Pn**	**18 31 43.8**	**-1.0**
	baz=223							
YULB				S		**Sn**	**18 32 03.7**	**-1.8**
	baz=223							
TWF1	**Yuli**	**1.66**	**219**	*e*P		**Pn**	**18 31 43.9**	**-1.3**
	baz=222							
TWF1				S		**Sn**	**18 32 04.8**	**-1.4**
	baz=222							
TCU	**Taichung**	**1.67**	**253**	*e*S		**Sn**	**18 32 05.1**	**-1.4**
	baz=249							
JISG	**Ishigakijimahi**	**1.72**	**92**	P		**Pn**	**18 31 45.9**	**0.0**
JISG				S		**Sn**	**18 32 07.7**	**+0.1**
WHYT	**Xinyi Township**	**1.73**	**237**	*i* P		**Pn**	**18 31 47.2**	**+1.1**
	baz=233							
WHYT				S		**Sn**	**18 32 09.6**	**+1.8**
	baz=233							
WJS	**Zhushan**	**1.76**	**242**	S		**Sn**	**18 32 10.2**	**+1.7**
	baz=248							
WNT	**Mingjian**	**1.77**	**244**	P		**Pn**	**18 31 47.5**	**+0.9**
	baz=241							
WNT				S		**Sn**	**18 32 09.7**	**+0.9**
	baz=241							
FULB	**Fuli**	**1.78**	**216**	P		**Pn**	**18 31 46.9**	**+0.1**
	baz=206							
FULB				S		**Sn**	**18 32 09.0**	**-0.2**
	baz=206							
CHKT	**Chengkung**	**1.83**	**212**	S		**Sn**	**18 32 08.3**	**-1.8**
	baz=202							
ALS	**Alishan**	**1.87**	**233**	P		**Pn**	**18 31 49.2**	**+1.0**
	baz=223							
ALS				S		**Sn**	**18 32 12.0**	**+0.4**
	baz=223							
CHN5	**Tsauling**	**1.91**	**237**	P		**Pn**	**18 31 49.5**	**+0.9**
	baz=243							
CHN5				S		**Sn**	**18 32 13.5**	**+1.2**
	baz=243							
ELDTW	**Lidau**	**1.95**	**222**	P		**Pn**	**18 31 48.8**	**-0.2**
	baz=213							
ELDTW				S		**Sn**	**18 32 12.2**	**-0.9**
	baz=213							
WGK	**Gukeng**	**1.96**	**241**	S		**Sn**	**18 32 14.5**	**+1.4**
	baz=247							
RLNB	**Erlin**	**2.03**	**248**	*e*S		**Sn**	**18 32 14.3**	**-0.6**
	baz=252							
JTJ	**Tarama**	**2.07**	**90**	P		**Pn**	**18 31 50.9**	**+0.4**
JTJ				*e*S		**Sn**	**18 32 15.6**	**-0.2**
CHN4	**Tsaushan**	**2.12**	**233**	P		**Pn**	**18 31 51.8**	**+0.6**
	baz=229							
CHN4				S		**Sn**	**18 32 18.7**	**+1.7**
	baz=229							
TPUB	**Ta-pu**	**2.13**	**231**	P		**Pn**	**18 31 51.8**	**+0.6**
	baz=228							
TPUB				S		**Sn**	**18 32 17.9**	**+0.8**
	baz=228							
STYT	**Tauyuan**	**2.13**	**226**	*e*S		**Sn**	**18 32 17.9**	**+0.6**
	baz=216							
WTP	**Ta-pu**	**2.17**	**230**	P		**Pn**	**18 31 52.7**	**+0.8**
	baz=227							
WTP				S		**Sn**	**18 32 19.3**	**+1.0**
	baz=227							
TWGBT	**Beinan**	**2.21**	**214**	*e*S		**Sn**	**18 32 18.0**	**-1.1**
	baz=211							
TWG	**Pinlang**	**2.21**	**214**	*e*S		**Sn**	**18 32 18.1**	**-1.0**
	baz=211							
TWK	**Hsinying**	**2.25**	**232**	P		**Pn**	**18 31 53.8**	**+0.9**
	baz=229							
TWK				S		**Sn**	**18 32 20.8**	**+0.7**
	baz=229							
WSF	**Szhu**	**2.25**	**244**	*e*S		**Sn**	**18 32 19.7**	**-0.4**
	baz=240							
SNST	**Tainan City**	**2.27**	**231**	*e*P		**Pn**	**18 31 53.6**	**+0.4**
	baz=228							
SNST				S		**Sn**	**18 32 21.2**	**+0.6**
	baz=228							
CHN1	**Nanshi**	**2.27**	**230**	P		**Pn**	**18 31 53.8**	**+0.6**
	baz=227							
CHN1				S		**Sn**	**18 32 21.0**	**+0.4**
	baz=227							
SGST	**Jiashian**	**2.30**	**227**	*e*P		**Pn**	**18 31 53.9**	**+0.3**
	baz=224							
SGST				*e*S		**Sn**	**18 32 22.3**	**+1.0**
	baz=224							
SLGT	**Liugui**	**2.32**	**225**	P		**Pn**	**18 31 55.0**	**+1.1**
	baz=230							
SLGT				S		**Sn**	**18 32 22.5**	**+0.7**
	baz=230							
SSD	**Sandimen**	**2.51**	**221**	*e*P		**Pn**	**18 31 57.3**	**+0.9**
	baz=229							
SSD				*e*S		**Sn**	**18 32 27.5**	**+1.2**
	baz=229							
MASBT	**Mashibuluo**	**2.62**	**219**	P		**Pn**	**18 31 58.2**	**+0.5**
	baz=216							
MASBT				S		**Sn**	**18 32 29.5**	**+0.8**
	baz=216							
EAST	**Anshuo**	**2.69**	**213**	*e*S		**Sn**	**18 32 28.9**	**-1.7**
	baz=205							
VWUC	**VWUC**	**2.72**	**278**	S		**Sn**	**18 32 29.3**	**-2.0**
	baz=276							
PHUB	**P'eng-hu**	**2.84**	**247**	*e*P		**Pn**	**18 31 59.7**	**-1.1**
	baz=244							
PHUB				*e*S		**Sn**	**18 32 30.8**	**-3.4**
	baz=244							

*ISCJB **30** 18:31:38.8±0.7,21.°98S±0.°03×68.°73W±0.°08,h133km±9km,*
Error ellipse: s-maj=12.3km s-min=4.9km az=2.2
*SJA **30** 18:31:38.1±0.8,22.°01S×68.°61W,h126km±5km,ML3.4,*
MW3.6
*GUC **30** 18:31:38.7±0.7,21.°96S×68.°72W,h127km±4km,ML3.6*
ISC 30 18:31:39.4±1.5,21.°98S±0.°04×68.°69W±0.°07,
h126km±11km,n29,σ0.°66/44,8C-5D,Chile-Bolivia border
region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.54**	**290**	⇑*i* P		**Pn**	**18 31 58.3**	**-0.2**
PB09				*i* S		**Sn**	**18 32 12.7**	**-0.2**
PB09	**IPOC Station P**	**0.54**	**290**	*i* P		**Pn**	**18 31 58.5**	**0.0**
PB09				IAML			18 31 58.7	
	comp=Z,621nm,0.3s							
PB09				*e*S		**Sn**	**18 32 12.9**	**0.0**
LVC	**Limon Verde**	**0.66**	**198**	*i* P		**Pn**	**18 31 58.8**	**-0.7**
PB03	**IPOC Station P**	**0.99**	**266**	⇑*i* P		**Pn**	**18 32 01.9**	**-0.1**
PB03				*i* S		**Sn**	**18 32 19.5**	**+0.3**
PB03				IAML			18 32 20.9	
	comp=E,830nm,0.1s							
PB03	**IPOC Station P**	**0.99**	**266**	*i* P		**Pn**	**18 32 02.3**	**+0.3**
PB06	**IPOC Station P**	**1.09**	**228**	⇑*i* P		**Pn**	**18 32 03.0**	**0.0**
PB06				*i* S		**Sn**	**18 32 21.2**	**+0.3**
PB06				IAML			18 32 21.9	
	comp=N,2μm,0.4s							
PB06	**IPOC Station P**	**1.09**	**228**	*i* P		**Pn**	**18 32 03.0**	**0.0**
PB06				*e*S		**Sn**	**18 32 21.5**	**+0.6**
PB04	**IPOC Station P**	**1.40**	**255**	⇑*i* P		**Pn**	**18 32 06.4**	**+0.1**
PB04				*i* S		**Sn**	**18 32 27.0**	**+0.4**
PB04				IAML			18 32 33.0	
	comp=N,569nm,0.2s							
PB04	**IPOC Station P**	**1.40**	**255**	*i* P		**Pn**	**18 32 06.4**	**+0.1**
PB04

*ANF **30** 18:32:33.6±0.1,33°.40N×116°.34W,h15km,ML3.2/27, Error ellipse: s-maj=1.2km s-min=1.1km az=63.0*
*NEIC **30** 18:32:34.6±1.3,33°.38N±0°.01×116°.36W±0°.01,h17km±1km*
*SCEDC **30** 18:32:35.1,33°.39N×116°.33W,h11km,ML3.3,ML3.3*
*PAS **30** 18:32:35.1±1.3,33°.388N±0°.009×116°.33W±0°.01, h11km±3km,ML3.3*

ISC 30 18:32:34.6±0.8,33°.38N±0°.01×116°.34W±0°.01,h16km±5km, n151,σ0s80/196,Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORC	**Borrego Spring**	**0.13**	**212**		**Pg**	**18 32 38.2**	**-0.2**
BORC					**Sg**	**18 32 40.4**	**-0.4**
FRD	**Ford Ranch, An**	**0.25**	**298**		**Pg**	**18 32 40.1**	**-0.2**
FRD	**Ford Ranch, An**	**0.25**	**298**		**Pg**	**18 32 40.0**	**-0.2**
FRD					**Sg**	**18 32 43.8**	**-0.3**
XPFO	**Pion Flat**	**0.26**	**337**	Pg	**Pg**	**18 32 39.7**	**-0.6**
XPFO	**Pion Flat**	**0.26**	**337**		**Pb**	**18 32 43.2**	**+2.2**
PFO	**Pinyon Flats O**	**0.26**	**336**	P	**Pg**	**18 32 39.8**	**-0.6**
	baz=155,SNR=1000						
PFO				S	**Sg**	**18 32 43.3**	**-1.0**
	baz=155						
PFO	**Pinyon Flats O**	**0.26**	**336**	Pg	**Pg**	**18 32 39.6**	**-0.8**
PFO	**Pinyon Flats O**	**0.26**	**336**		**Pg**	**18 32 39.8**	**-0.6**
PFO					**Sg**	**18 32 43.4**	**-0.9**
SNDA	**J Saunders Pla**	**0.29**	**307**		**Sg**	**18 32 45.2**	**-0.1**
BZNA	**Buzz No.'s Pla**	**0.30**	**293**		**Sg**	**18 32 45.4**	**-0.2**
SALN	**Salton City**	**0.31**	**108**		**Pg**	**18 32 41.4**	**+0.3**
DNR	**Dunn Ranch,Anz**	**0.31**	**308**		**Sg**	**18 32 46.1**	**+0.3**
CRY	**Cary Ranch**	**0.39**	**299**		**Pg**	**18 32 42.4**	**-0.1**
CRY					**Sg**	**18 32 47.6**	**-0.4**
CTCC	**Cactus City**	**0.40**	**46**		**Pg**	**18 32 42.8**	**-0.1**
CTCC					**Sg**	**18 32 48.6**	**+0.3**
GVDA	**Garner Valley**	**0.41**	**316**		**Pg**	**18 32 42.5**	**-0.5**
BATC	**Bat Cave Butte**	**0.42**	**79**		**Pg**	**18 32 43.4**	**+0.3**
PLM	**Palomar**	**0.44**	**267**		**Pg**	**18 32 43.6**	**0.0**
CBKC	**Canebrake**	**0.48**	**172**		**Pg**	**18 32 44.3**	**0.0**
MONP2	**Monument Peak**	**0.49**	**189**	P	**Pg**	**18 32 44.5**	**+0.1**
	baz=8.6,SNR=205						
MONP2				S	**Sg**	**18 32 51.4**	**+0.3**
	baz=8.6						
MONP2	**Monument Peak**	**0.49**	**189**		**Pg**	**18 32 44.6**	**+0.1**
ERRC	**Elmore Ranch**	**0.50**	**121**		**Pb**	**18 32 45.7**	**+0.6**
ERRC					**Sb**	**18 32 53.5**	**+1.4**
EW2	**E Wide Canyon**	**0.57**	**354**		**Pg**	**18 32 45.5**	**-0.4**
CRR	**Carrizo Plain**	**0.58**	**148**		**Pg**	**18 32 46.2**	**+0.2**
POB	**Polly Butte**	**0.58**	**302**		**Pg**	**18 32 45.8**	**-0.4**
FRK	**Frink**	**0.58**	**87**		**Pg**	**18 32 45.9**	**-0.2**
DEVC	**Devers**	**0.59**	**340**		**Pg**	**18 32 46.0**	**-0.3**
SUP	**Superstition M**	**0.60**	**134**		**Pg**	**18 32 46.8**	**+0.4**
SUP					**Sg**	**18 32 55.4**	**+0.9**
SWSC	**Sam W. Stewart**	**0.62**	**134**	P	**Pg**	**18 32 46.8**	**0.0**
	baz=315,SNR=60						
SWSC				S	**Sg**	**18 32 55.5**	**+0.4**
	baz=315						
SWSC	**Sam W. Stewart**	**0.62**	**134**		**Pg**	**18 32 46.8**	**0.0**
SWSC					**Sg**	**18 32 55.7**	**+0.6**
DGR	**Domenigoni Val**	**0.63**	**296**		**Pg**	**18 32 46.5**	**-0.5**
HWB	**Hans Werner Br**	**0.63**	**236**		**Pg**	**18 32 46.6**	**-0.4**
HWB					**Sg**	**18 32 55.1**	**-0.3**
DPP	**Dos Picos Cty**	**0.63**	**234**		**Pg**	**18 32 46.7**	**-0.4**
DPP					**Sg**	**18 32 55.3**	**-0.2**
BACC	**Bachelor Mtn.**	**0.64**	**292**		**Pg**	**18 32 46.6**	**-0.5**
HAY	**Hayfield**	**0.64**	**59**		**Pg**	**18 32 47.4**	**+0.2**
EML	**El Monte Cty P**	**0.65**	**222**		**Pg**	**18 32 47.0**	**-0.3**
EML					**Sg**	**18 32 55.8**	**-0.1**
HMTC	**Hemet**	**0.65**	**301**		**Pg**	**18 32 46.9**	**-0.5**
BELC	**Belle Mtn. Jos**	**0.68**	**24**	P	**Pg**	**18 32 47.6**	**-0.5**
	baz=204,SNR=129						
BELC				S	**Sg**	**18 32 56.4**	**-0.8**
	baz=204						
BELC	**Belle Mtn. Jos**	**0.68**	**24**		**Pg**	**18 32 47.6**	**-0.5**
BLAC	**Blackrock camp**	**0.69**	**356**		**Pg**	**18 32 47.7**	**-0.6**
BLAC					**Sg**	**18 32 57.2**	**-0.3**
CLIC	**Calipatria**	**0.72**	**109**		**Pg**	**18 32 48.4**	**-0.3**
COK2	**Cook Ranch 2**	**0.73**	**136**		**Pg**	**18 32 49.4**	**+0.5**
COK2					**Sb**	**18 33 00.6**	**+1.8**
IKP	**In-Ko-Pah, Jac**	**0.75**	**165**	P	**Pg**	**18 32 49.2**	**0.0**
	baz=346,SNR=448						
IKP				S	**Sg**	**18 32 59.3**	**+0.1**
	baz=346						
IKP	**In-Ko-Pah, Jac**	**0.75**	**165**		**Pg**	**18 32 49.2**	**0.0**
IKP					**Sg**	**18 32 59.6**	**+0.4**
BAR	**Barrett**	**0.75**	**202**		**Pg**	**18 32 49.0**	**-0.3**
BAR	**Barrett**	**0.75**	**202**		**Sg**	**18 32 59.0**	**-0.2**
MURC	**Murrieta**	**0.75**	**287**	P	**Pg**	**18 32 48.8**	**-0.5**
	baz=106,SNR=62						
MURC				S	**Sg**	**18 32 58.5**	**-0.8**
	baz=106						
MURC	**Murrieta**	**0.75**	**287**		**Pg**	**18 32 48.9**	**-0.5**
MURC					**Sg**	**18 32 59.0**	**-0.4**
BBSC	**Beaumont Base**	**0.77**	**315**		**Pg**	**18 32 49.2**	**-0.4**
BBSC					**Sg**	**18 32 59.8**	**+0.1**
TPC	**Twentynine Pal**	**0.77**	**18**		**Pg**	**18 32 48.9**	**-0.7**
GORC	**Green Oak Ranc**	**0.78**	**254**		**Pg**	**18 32 49.2**	**-0.6**
GORC					**Sg**	**18 32 60.0**	**-0.2**
BC3	**Big Chuckawall**	**0.79**	**69**	P	**Pg**	**18 32 49.4**	**-0.6**
	baz=250,SNR=474						
BC3				S	**Sg**	**18 32 59.7**	**-0.7**
	baz=250						
BC3	**Big Chuckawall**	**0.79**	**69**		**Pg**	**18 32 49.4**	**-0.6**
BC3					**Sg**	**18 33 00.2**	**-0.2**
WESC	**Westside Schoo**	**0.80**	**140**		**Pg**	**18 32 49.7**	**-0.5**
WESC					**Sn**	**18 33 02.6**	**-0.2**
RMX	**La Rumorosa**	**0.80**	**164**		**Pg**	**18 32 50.9**	**+0.6**
RMX					**Sn**	**18 33 03.1**	**0.0**
YUH	**Yuha Desert**	**0.81**	**154**		**Pg**	**18 32 49.7**	**-0.6**
109C	**Camp Elliot, M**	**0.81**	**233**	P	**Pg**	**18 32 49.6**	**-0.7**
	baz=52,SNR=30						
109C				S	**Sg**	**18 33 00.3**	**-0.7**
	baz=52						
109C	**Camp Elliot, M**	**0.81**	**233**	Pg	**Pg**	**18 32 49.6**	**-0.7**
SDRC	**San Diego Road**	**0.82**	**219**		**Pg**	**18 32 49.9**	**-0.7**
SDRC					**Sg**	**18 33 00.7**	**-0.6**
TKX	**Tecate**	**0.84**	**196**		**Sg**	**18 33 00.7**	**-1.3**
ERPC	**Ernies Place**	**0.85**	**138**		**Pb**	**18 32 50.5**	**-0.5**
RMR	**Rimrock**	**0.86**	**347**		**Pg**	**18 32 50.7**	**-0.7**
PEC	**Perris**	**0.86**	**307**		**Pb**	**18 32 50.6**	**-0.7**
SGL	**Mount Signal**	**0.89**	**145**		**Pb**	**18 32 50.7**	**-0.9**
SNR	**Schaffner Ranc**	**0.91**	**124**		**Pb**	**18 32 52.0**	**-0.1**
OLP	**Otay Lakes Par**	**0.92**	**213**		**Pb**	**18 32 51.7**	**-0.5**
OLP					**Sb**	**18 33 04.0**	**-0.1**
GTM	**Goat Mountain**	**0.92**	**359**		**Pb**	**18 32 51.6**	**-0.7**
CFT	**Crafton Hills**	**0.92**	**316**		**Pb**	**18 32 52.0**	**-0.3**
DREC	**Desert Rsrch C**	**0.94**	**127**		**Sn**	**18 33 06.7**	**+0.4**
SVD	**Seven Oaks Dam**	**0.97**	**319**		**Pb**	**18 32 52.8**	**-0.3**
BBRC	**Big Bear Solar**	**1.01**	**331**	Pg	**Pb**	**18 32 53.4**	**-0.5**
	baz=151						
BBRC				Sn	**Sb**	**18 33 07.0**	**0.0**
	baz=151						
BBRC	**Big Bear Solar**	**1.01**	**331**		**Pb**	**18 32 53.4**	**-0.5**
BBRC					**Sb**	**18 33 07.2**	**+0.1**
RSBC	**Riverside Bore**	**1.02**	**306**		**Pb**	**18 32 53.8**	**-0.1**
RSBC					**Sb**	**18 33 06.5**	**-0.6**
BTL	**Butler Peak**	**1.04**	**328**		**Pb**	**18 32 54.2**	**-0.3**
TJX	**Tijuana**	**1.05**	**215**		**Sb**	**18 33 08.6**	**+0.5**
UABX	**UABC, Campus M**	**1.06**	**134**		**Sb**	**18 33 07.5**	**-0.6**
RVR	**Riverside**	**1.06**	**306**		**Pb**	**18 32 54.4**	**-0.3**
RVR					**Sb**	**18 33 08.7**	**+0.3**
CBX	**Cerro Bola**	**1.09**	**195**		**Pb**	**18 32 55.0**	**-0.3**
CBX					**Sb**	**18 33 09.3**	**-0.1**
COA	**Coachella**	**1.14**	**116**		**Pb**	**18 32 54.3**	**-1.6**
CSP	**Cedar Springs**	**1.25**	**317**		**Pn**	**18 32 57.9**	**+0.2**
IRM	**Iron Mountain**	**1.26**	**52**	P	**Pn**	**18 32 56.4**	**-1.3**
	baz=232,SNR=373						
IRM	**Iron Mountain**	**1.26**	**52**		**Pn**	**18 32 56.5**	**-1.2**
IRM					**Sg**	**18 33 15.4**	**-0.1**
SS2	**San Sevaine**	**1.28**	**311**		**Pn**	**18 32 58.0**	**+0.2**
GLA	**Glamis**	**1.30**	**104**	P	**Pn**	**18 32 56.7**	**-1.5**
	baz=285,SNR=86						
GLA				S	**Sb**	**18 33 13.0**	**-2.3**
	baz=285						
GLA	**Glamis**	**1.30**	**104**		**Pn**	**18 32 56.9**	**-1.4**
BFSC	**Mount Baldy Ra**	**1.40**	**308**	Sb	**Sn**	**18 33 17.8**	**-0.1**
	baz=127						
SSK	**Sunset Peak**	**1.40**	**307**		**Pn**	**18 33 00.2**	**+0.4**
PSRC	**Puddingstone R**	**1.42**	**301**		**Pn**	**18 33 00.6**	**+0.8**
PSRC					**Sn**	**18 33 18.7**	**+0.5**
BREC	**Barre Substati**	**1.44**	**288**		**Sn**	**18 33 16.2**	**-2.4**
VTV	**Victorville**	**1.44**	**325**		**Pb**	**18 33 01.3**	**+0.1**
VTV					**Sb**	**18 33 19.9**	**+0.6**
HEC	**Hector,Ludlow**	**1.45**	**0**	P	**Pn**	**18 32 59.1**	**-1.2**
	baz=180,SNR=96						
HEC				Sg	**Sg**	**18 33 21.5**	**+0.1**
	baz=180						
HEC	**Hector,Ludlow**	**1.45**	**0**		**Pb**	**18 33 01.3**	**-0.1**
DANC	**Danby, Needles**	**1.49**	**32**		**Pb**	**18 33 02.4**	**+0.4**
PEM	**Pine Mountain**	**1.50**	**302**		**Pn**	**18 33 01.9**	**+1.0**
GMRC	**Granite Mounta**	**1.51**	**22**	P	**Pn**	**18 33 00.1**	**-1.1**
	baz=202						
GMRC	**Granite Mounta**	**1.51**	**22**		**Pn**	**18 33 00.8**	**-0.5**
BLYC	**Blythe**	**1.56**	**76**		**Pn**	**18 33 00.5**	**-1.2**
Y12C	**Blythe**	**1.56**	**76**	P	**Pn**	**18 33 00.5**	**-1.3**
	baz=257,SNR=54						
Y12C	**Blythe**	**1.56**	**76**		**Pn**	**18 33 00.4**	**-1.3**
XTL	**Crystal Lake,**	**1.57**	**306**		**Pn**	**18 33 02.8**	**+0.8**
RRX	**Edison Barstow**	**1.59**	**340**	Pg	**Pb**	**18 33 04.3**	**+0.6**
	baz=160						
RRX				Sg	**Sg**	**18 33 26.2**	**+0.2**
	baz=160						
RRX	**Edison Barstow**	**1.59**	**340**		**Pb**	**18 33 04.7**	**+0.9**
HOLC	**Holcomb Ridge**	**1.66**	**311**		**Pn**	**18 33 04.4**	**+1.3**
MWC	**Mount Wilson**	**1.67**	**301**		**Pn**	**18 33 04.6**	**+1.2**
FMP	**Fort Macarthur**	**1.67**	**282**	Sb	**Sb**	**18 33 26.1**	**+0.2**
	baz=101						
PASC	**Pasadena Art C**	**1.73**	**298**		**Pn**	**18 33 05.2**	**+1.1**
CIS	**Catalina Islan**	**1.74**	**271**	Sb	**Sb**	**18 33 27.9**	**0.0**
	baz=90						
DSCC	**Desert Studies**	**1.77**	**6**		**Pb**	**18 33 07.8**	**+0.9**
SBB	**Saddle Back Bu**	**1.80**	**317**		**Pb**	**18 33 07.5**	**+0.2**
SBB					**Sb**	**18 33 30.4**	**+0.7**
HYS	**Haystack Butte**	**1.80**	**326**		**Pb**	**18 33 07.7**	**+0.3**
DECC	**Green Verdugo**	**1.88**	**298**	Sb	**Sb**	**18 33 32.1**	**+0.2**
	baz=117						
GSC	**Goldstone, Bar**	**1.96**	**349**	Pg	**Pb**	**18 33 10.9**	**+0.8**
	baz=168						
GSC	**Goldstone, Bar**	**1.96**	**349**	Pn	**Pn**	**18 33 07.7**	**+0.3**
NEE2	**Needles Airpor**	**1.99**	**45**	Pg	**Pb**	**18 33 11.1**	**+0.6**
	baz=226						
NEE2	**Needles Airpor**	**1.99**	**45**		**Pb**	**18 33 11.3**	**+0.9**
IR2C	**Iron Canyon**	**1.99**	**301**		**Pb**	**18 33 10.6**	**+0.1**
EDW2	**Edwards Air Fo**	**2.04**	**318**	P	**Pn**	**18 33 07.5**	**-0.8**
	baz=137						
EDW2				Sb	**Sb**	**18 33 37.4**	**+0.9**
	baz=137						
EDW2	**Edwards Air Fo**	**2.04**	**318**		**Pb**	**18 33 11.8**	**+0.5**
TUQ	**Turquoise Moun**	**2.08**	**9**	P	**Pn**	**18 33 08.3**	**-0.8**
	baz=190,SNR=48						
TUQ				Sb	**Sb**	**18 33 39.2**	**+1.3**
	baz=190						
TUQ	**Turquoise Moun**	**2.08**	**9**		**Pb**	**18 33 13.2**	**+1.0**
113A	**Mohawk Valley,**	**2.24**	**105**		**Pb**	**18 33 13.6**	**-1.1**
DTP	**Desert Tortois**	**2.26**	**327**		**Pb**	**18 33 16.0**	**+0.8**
OSI	**Osito Audit: C**	**2.34**	**303**		**Pb**	**18 33 17.0**	**+0.6**
LRMC	**Laurel Mtn Rad**	**2.38**	**332**	P	**Pn**	**18 33 12.8**	**-0.3**
	baz=152,SNR=37						
BLG	**Laguna Peak, P**	**2.39**	**289**	Sb	**Sb**	**18 33 47.5**	**+1.0**
	baz=167						
SFX	**San Felipe**	**2.65**	**151**		**Pn**	**18 33 18.1**	**+1.3**
W13A	**Hualapai Mount**	**2.66**	**49**		**Pn**	**18 33 17.6**	**+0.5**
Y14A	**Wickenburg**	**2.83**	**78**		**Pn**	**18 33 18.9**	**-0.4**
MPMC	**Manual Prospec**	**2.84**	**341**	Pg	**Pg**	**18 33 27.4**	**-1.7**
	baz=160						
ISA	**Isabella, Lake**	**2.88**	**323**		**Pn**	**18 33 21.0**	**+1.0**
DAC	**Darwin (Calif)**	**3.07**	**341**		**Pn**	**18 33 23.3**	**+0.5**
SHPR	**Sheep Range**	**3.27**	**17**		**Pn**	**18 33 26.2**	**+0.8**
SHPR				Pg	**Pg**	**18 33 35.3**	**-2.0**
214A	**Organ Pipe Nat**	**3.29**	**115**		**Pn**	**18 33 26.1**	**+0.5**
TPNV	**Topopah Spring**	**3.56**	**1**	P	**Pn**	**18 33 29.1**	**-0.4**
	baz=181						
TPNV	**Topopah Spring**	**3.56**	**1**		**Pn**	**18 33 29.8**	**+0.3**
X16A	**Lo Mia Camp, P**	**4.20**	**74**		**Pn**	**18 33 38.5**	**+0.3**
LCMT	**Little Creek M**	**4.42**	**34**		**Pn**	**18 33 41.9**	**+0.6**
U15A	**North Rim**	**4.51**	**46**		**Pn**	**18 33 43.3**	**+0.7**
WUAZ	**Wupatki**	**4.62**	**61**		**Pn**	**18 33 45.1**	**+1.1**
KNB	**Kanab**	**4.63**	**37**		**Pn**	**18 33 45.4**	**+1.2**
OMMB	**Old Mammoth Mi**	**4.75**	**334**		**Pb**	**18 34 00.9**	**+3.1**
CCUT	**Cedar City**	**4.82**	**29**		**Pb**	**18 34 00.6**	**+1.7**
SZCU	**Shurtz Canyon**	**4.97**	**31**		**Pb**	**18 34 01.9**	**+0.5**
R11A	**Troy Canyon, C**	**5.00**	**7**		**Pb**	**18 34 02.4**	**+0.5**
PKCU	**Pink Cliffs**	**5.22**	**38**	Pn	**Pn**	**18 33 52.5**	**0.0**
NV11	**Mina Array Sit**	**5.26**	**344**		**Pn**	**18 33 54.1**	**+1.4**
X18A	**Snowflake**	**5.43**	**76**		**Pn**	**18 33 55.8**	**+0.6**
PSUT	**Pine Spring**	**5.53**	**21**	Pn	**Pn**	**18 33 57.2**	**+0.7**
RYN	**Ryan**	**5.53**	**342**		**Pb**	**18 34 09.6**	**-1.4**
W18A	**Petrified Fore**	**5.74**	**71**	Pn	**Pn**	**18 34 00.4**	**+1.0**
MTPU	**Mount Pierson**	**5.75**	**35**		**Pn**	**18 34 02.2**	**+2.5**
121A	**Cookes Peak, D**	**7.24**	**94**	Pn	**Pn**	**18 34 20.5**	**+0.6**

*IDC **30** 18:37:19.5±20.0,51°.62N×178°.92W,h0km,mb3.5/4, mb1 4.0/4,mb1mx3.4/48,mbtmp3.5/4,Error ellipse: s-maj=397.3km s-min=69.4km az=85.0*
*ISCJB **30** 18:37:39.7±0.5,52°.0N±0°.2×176°.55W±0°.08,h83km±5km, Error ellipse: s-maj=37.3km s-min=5.3km az=169.5*
*NEIC **30** 18:37:39.8±0.4,51°.7N±0°.2×176°.44W±0°.06,h74km±12km*
*AEIC **30** 18:37:40.1±0.6,51°.8N±0°.2×176°.5W±0°.1,h70km±6km, ML3.5*

ISC 30 18:37:40.4±1.1,51°.9N±0°.3×176°.50W±0°.06,h75km±7km, n33,σ0s64/33,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADK	**Adak**	**0.12**	**287**		**Pn**	**18 37 50.5**	**-0.8**
ADAG	**Mount Adagdak**	**0.15**	**334**		**Pn**	**18 37 51.6**	**+0.1**
GSTD	**Great Sitkin T**	**0.30**	**46**		**Pn**	**18 37 51.9**	**-0.4**
GSTD					**Sn**	**18 38 01.1**	**+0.1**
GSMY	**Great Sitkin M**	**0.34**	**54**		**Pn**	**18 37 52.3**	**-0.1**
GSTR	**Great Sitkin T**	**0.37**	**47**		**Pn**	**18 37 52.8**	**+0.2**
KIRH	**Kanaga Island**	**0.37**	**278**		**Pn**	**18 37 52.6**	**0.0**
KIRH					**Sn**	**18 38 02.2**	**+0.5**
KIWB	**Kanaga Island**	**0.41**	**271**		**Pn**	**18 37 52.6**	**-0.3**
KIKV	**Kanaga Island**	**0.42**	**275**		**Pn**	**18 37 52.8**	**-0.2**
KICM	**Kanaga Island**	**0.44**	**280**		**Pn**	**18 37 53.4**	**+0.2**
KIMD	**Kanaga Island**	**0.47**	**260**		**Pn**	**18 37 53.0**	**-0.4**
TAPA	**Tanaga Point A**	**0.82**	**268**		**Pn**	**18 37 56.9**	**-0.1**
TAFP	**Tanaga Falls P**	**0.92**	**274**		**Pn**	**18 37 57.9**	**-0.4**
TAFP					**Sn**	**18 38 11.8**	**+0.3**
TASE	**Tanaga Southea**	**0.96**	**270**		**Pn**	**18 37 58.5**	**-0.1**
TANO	**Tanaga North**	**1.01**	**275**		**Pn**	**18 37 59.2**	**0.0**
TANO					**Sn**	**18 38 14.0**	**+0.7**
GAEA	**Gareloi East**	**1.40**	**268**		**Pn**	**18 38 04.4**	**+0.2**
ATKA	**Atka Island**	**1.47**	**75**		**Pn**	**18 38 04.9**	**-0.1**
ATKA					**Sn**	**18 38 24.3**	**+0.7**
KOWE	**Korovin West**	**1.48**	**69**		**Pn**	**18 38 05.2**	**-0.1**
KOKL	**Mount Kliuchef**	**1.49**	**71**		**Pn**	**18 38 05.6**	**+0.1**
KOKL					**Sn**	**18 38 24.4**	**-0.1**
KOFP	**Korovin Flat P**	**1.54**	**73**		**Pn**	**18 38 06.3**	**+0.2**
KOSE	**Korovin Southe**	**1.59**	**71**		**Pn**	**18 38 07.2**	**+0.5**
NIKH	**Nikolski High**	**4.81**	**73**	Pn	**Pn**	**18 38 52.8**	**+2.5**
SDPT	**Sand Point**	**10.14**	**63**	Pn	**Pn**	**18 40 02.9**	**-0.1**
CNBA	**Chernabura Isl**	**10.54**	**67**	Pn	**Pn**	**18 40 07.8**	**-0.5**
ILAR	**Eielson Array**	**19.98**	**38**	P	**P**	**18 42 05.3**	**-1.0**
	1.1nm,0.5s,baz=231,slow=8.6,SNR=17						
H11N2	**WAKE ISLAND Hy**	**34.59**	**208**	T	T	19 20 53.9	
	baz=18,slow=76,SNR=181						
H11N3	**WAKE ISLAND Hy**	**34.60**	**208**	T	T	19 20 56.6	
	baz=18,slow=76,SNR=192						
H11N1	**WAKE ISLAND Hy**	**34.61**	**208**	T	T	19 20 57.4	
	baz=18,slow=76,SNR=150						
H11S1	**WAKE ISLAND Hy**	**35.81**	**208**	T	T	19 22 28.8	
	baz=17,slow=76,SNR=61						
H11S2	**WAKE ISLAND Hy**	**35.82**	**208**	T	T	19 22 30.0	
	baz=17,slow=76,SNR=38						
H11S3	**WAKE ISLAND Hy**	**35.82**	**208**	T	T	19 22 36.1	
	baz=17,slow=76,SNR=32						
NVAR	**Mina Array Bea**	**42.07**	**85**	P	**P**	**18 45 25.8**	**+0.8**
	0.1nm,0.4s,baz=270,slow=9.9,SNR=1.9						
PDAR	**Pinedale Array**	**44.80**	**74**	P	**P**	**18 45 46.5**	**-0.3**
	1.7nm,0.7s,baz=312,slow=4.1,SNR=13						
TXAR	**Lajitas Array**	**57.17**	**83**	P	**P**	**18 47 19.0**	**-0.5**
	0.2nm,0.5s,baz=288,slow=3.4,SNR=4.5						

*IDC **30** 18:41:30.8±1.0,20°.04S×173°.66W,h0km,mb4.0/10, mb1 4.3/11,mb1mx4.1/30,mbtmp4.1/11,ML3.6/1,MS2.8/1, Ms1 2.8/1,ms1mx2.6/31,Error ellipse: s-maj=46.8km s-min=19.5km az=155.0*
*ISCJB **30** 18:41:33.4±0.8,19°.8S±0°.2×173°.7W±0°.1,h25km,mb4.0/10, Error ellipse: s-maj=25.7km s-min=12.2km az=148.4*

ISC 30 18:41:35.2±0.7,19°.7S±0°.1×173°.6W±0°.1,h25km,n24, σ1s37/27,mb4.0/10,8C,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.01**	**17**	Pn	**Pn**	**18 43 02.4**	**-0.3**
	14nm,0.3s,baz=169,slow=5.2,SNR=9.9						
AFI				Sn	**Sn**	**18 44 07.3**	**-3.5**
	1.2nm,0.3s,baz=78,slow=19,SNR=1.9						
RAR	**Rarotonga**	**13.07**	**99**	Pn	**Pn**	**18 44 38.0**	**-1.3**
	3.3nm,0.3s,baz=7.4,slow=3.8,SNR=5.5						
RAR				LR	LR	18 48 35.0	
	comp=Z,46nm,19.8s,baz=190,slow=32						
DZM	**Mont Dzumac**	**18.77**	**259**	P	**Pn**	**18 45 53.8**	**+0.4**
	0.3nm,0.3s,baz=90,slow=19,SNR=4.5						
STKA	**Stephens Creek**	**41.84**	**244**	P	**P**	**18 49 20.6**	**-2.7**
	2.2nm,0.9s,baz=123,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**48.70**	**255**	P	**P**	**18 50 16.2**	**-1.7**
	1.6nm,0.7s,baz=90,slow=8.0,SNR=36						
ASAR				PcP	**PcP**	**18 51 43.4**	**+0.4**
	1.0nm,0.7s,baz=112,slow=4.3,SNR=5.3						
WRA	**Warramunga Arr**	**48.79**	**260**	P	**P**	**18 50 16.9**	**-1.7**
	2.3nm,0.8s,baz=99,slow=8.5,SNR=11						
WRA				PcP	**PcP**	**18 51 42.5**	**-0.8**
	1.1nm,0.8s,baz=95,slow=3.2,SNR=4.4						
MJAR	**Matsushiro Arr**	**72.09**	**321**	P	**P**	**18 52 58.3**	**+0.9**
	1.6nm,0.9s,baz=124,slow=6.0,SNR=3.6						
PETK	**Petropavlovsk-**	**76.63**	**343**	P	**P**	**18 53 25.4**	**+1.9**
	7.1nm,1.0s,baz=142,slow=7.3,SNR=3.3						
NVAR	**Mina Array Bea**	**77.66**	**41**	P	**P**	**18 53 31.1**	**+1.2**
	1.2nm,0.8s,baz=228,slow=9.0,SNR=7.3						
TXAR	**Lajitas Array**	**83.18**	**56**	P	**P**	**18 54 00.6**	**+0.9**
	0.7nm,1.0s,baz=204,slow=2.7,SNR=3.9						
PDAR	**Pinedale Array**	**85.59**	**42**	P	**P**	**18 54 12.4**	**+0.6**
	0.5nm,0.7s,baz=198,slow=4.2,SNR=4.6						
ILAR	**Eielson Array**	**86.67**	**11**	P	**P**	**18 54 17.4**	**+1.1**
	0.5nm,0.9s,baz=204,slow=6.5,SNR=3.0						
CMAR	**Chiang Mai Arr**	**93.75**	**288**	P	**P**	**18 54 51.0**	**+0.5**
	1.0nm,0.9s,baz=89,slow=2.5,SNR=5.9						
AKASG	**Malin Array Be**	**144.16**	**335**	PKP	**PKPab**	**19 01 07.0**	**+0.6**
	1.8nm,0.7s,baz=37,slow=4.2,SNR=8.9						
SORM	**Soroca**	**146.51**	**333**	⇑P	**PKPab**	**19 01 15.5**	**+0.3**
BURAR	**Bucovina Array**	**148.21**	**335**	⇑P	**PKiKP**	**19 01 21.3**	**+0.4**
BIZ	**Bicaz**	**148.40**	**334**	⇑P	**PKiKP**	**19 01 21.9**	**+0.8**
TRPA	**Tarpa**	**148.75**	**339**	⇑P	**PKiKP**	**19 01 22.0**	**+0.3**
BRTR	**Keskin Array B**	**149.22**	**316**	PKPbc	**PKPbc**	**19 01 22.0**	**0.0**
	1.4nm,1.0s,baz=160,slow=4.6,SNR=5.0						
DOPR	**Dopca**	**149.47**	**333**	⇑P	**PKiKP**	**19 01 24.8**	**+1.4**
DRGR		**149.84**	**337**	⇑P	**PKiKP**	**19 01 24.9**	**+0.7**
VOIR		**150.03**	**333**	⇑P	**PKiKP**	**19 01 26.0**	**+1.3**
ARR	**Arges**	**150.27**	**334**	⇑P	**PKiKP**	**19 01 26.8**	**+1.7**
GERES	**GERESS Array B**	**150.32**	**350**	PKPbc	**PKPbc**	**19 01 24.4**	**+0.1**
	1.5nm,1.0s,baz=358,slow=3.2,SNR=8.7						

**BJI 30 18:46:40.6±0.0,48°.38N×121°.05E,h8

SIV	**San Ignacio**	**9.98**	**36**	P		**Pn**	**18 51 52.8 -1.4**
	comp=Z,0.4nm,0.3s,baz=250,slow=9.1,SNR=12						
SIV				S		**Sn**	**18 53 40.4 -5.3**
	comp=Z,0.1nm,0.3s,baz=289,slow=18,SNR=2.5						
PLCA	**Paso Flores**	**16.74**	**189**	P		Pn	18 53 27.9 +9.3
	comp=Z,0.2nm,0.3s,baz=17,slow=11,SNR=3.1						
BDFB	**Brasilia**	**19.93**	**68**	P		**P**	**18 53 53.5 +0.9**
	comp=Z,0.8nm,0.3s,baz=234,slow=8.9,SNR=17						
BDFB	**Brasilia**	**19.93**	**68**	P		**P**	**18 53 53.4 +0.9**
BDFB				IAmb		IAmb	18 53 54.0
	comp=Z,11nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.81**	**69**	P		**P**	**19 01 08.1 +2.1**
	comp=Z,0.3nm,0.4s,baz=265,slow=5.3,SNR=8.7						
MKAR	**Makanchi Array**	**146.78**	**40**	PKPbc		**PKiKP**	**19 08 58.1 +1.2**
	comp=Z,0.2nm,0.5s,baz=304,slow=2.0,SNR=3.3						

*IDC **30** 18:57:36.9±1.4,28°.41N×60°.83E,h0km,mb3.9/6, mb1 3.9/7,mb1mx3.5/44,mbtmp3.9/7,ML4.2/1,MS3.4/1, Ms1 3.4/1,ms1mx2.4/51,Error ellipse: s-maj=43.0km s-min=20.1km az=140.0*

*ISCJB **30** 18:57:39.3±0.6,27°.94N±0°.03×61°.35E±0°.07,h10km, mb3.8/6,MS3.3/1,Error ellipse: s-maj=8.6km s-min=4.3km az=16.4*

*TEH **30** 18:57:39.7,27°.92N×61°.25E,h10km,ML3.9*

*THR **30** 18:57:44.2,27°.94N×60°.97E,h15km,ML3.8*

*OMAN **30** 18:57:53.0±0.2,27°.53N×60°.57E,h25km,ml4.0/10,Error ellipse: s-maj=7.7km s-min=4.9km az=296.0*

*DSN **30** 18:57:53.5±1.7,27°.19N×60°.59E,h10km,ML4.0/7,Error ellipse: s-maj=48.4km s-min=13.3km az=143.0*

ISC 30 18:57:39.8±0.7,27.88N±0°.04×61.15E±0°.07,h10km,n66, σ2s95/61,mb3.8/6,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
SZD1	**Zahaedan-tmp**	**1.62**	**351**	*e*Pn			**Pb**	**18 58 11.1**	**+1.1**
ZHSF	**Zahedan**	**1.76**	**349**	*e*Pn			**Pg**	**18 58 15.2**	**+1.6**
ZHSF	**Zahedan**	**1.76**	**349**	*e*Pn			**Pg**	**18 58 15.2**	**+1.6**
CHBR	**Chabahar**	**2.35**	**195**	*e*Pn			**Pb**	**18 58 24.5**	**+2.2**
CHBR	**Chabahar**	**2.35**	**195**	*e*AML			AML	18 58 54.2	
	comp=E,624nm,0.3s								
CHBR				*e*AML			AML	18 58 55.0	
	comp=N,490nm,0.2s								
CHBR	**Chabahar**	**2.35**	**195**	*e*Pn			**Pb**	**18 58 24.5**	**+2.2**
KHNJ	**Kahnooj**	**3.05**	**272**	*e*Pn			**Pn**	**18 58 31.3**	**+3.2**
NHDN	**Nehbandan**	**3.63**	**345**	*e*Pn			**Pn**	**18 58 37.2**	**+0.9**
NHDN				IAMB			IAmb	18 58 38.1	
	comp=Z,0.0nm,0.4s								
CHMN	**Cheshme madani**	**3.73**	**303**	*e*Pn			**Pn**	**18 58 40.0**	**+2.2**
CHMN				IAMB			IAmb	18 58 40.5	
	comp=Z,0.0nm,0.3s								
NGRK	**Negar Kerman**	**4.26**	**295**	*e*Pn			**Pn**	**18 58 48.7**	**+3.6**
NGRK				IAMB			IAmb	18 59 00.4	
	comp=Z,0.0nm,0.4s								
KRBR	**Kerman**	**4.38**	**300**	*e*Pn			**Pn**	**18 58 50.4**	**+3.7**
KRBR	**Kerman**	**4.38**	**300**	*e*Pn			**Pn**	**18 58 50.4**	**+3.7**
TVBK	**TV Kerman**	**4.38**	**300**	*e*Pn			**Pn**	**18 58 49.9**	**+3.1**
TVBK				IAMB			IAmb	18 58 59.4	
	comp=Z,0.0nm,0.3s								
GENO	**Geno**	**4.44**	**265**	*e*Pn			Pn	18 58 53.0	+5.6
GENO				IAMB			IAmb	18 59 44.6	
	comp=Z,0.0nm,0.3s								
BANOM	**Banah**	**4.75**	**247**	P			**Pn**	**18 58 54.9**	**+3.3**
	SNR=46								
BANOM				S			**Sn**	**18 59 44.7**	**-1.9**
KHGB	**Koh Gabri**	**4.79**	**302**	*e*Pn			**Pn**	**18 58 55.1**	**+2.9**
KHGB				IAMB			IAmb	18 58 55.9	
	comp=Z,0.0nm,0.3s								
SHME	**Shamm**	**4.83**	**249**	P			**Pn**	**18 58 56.7**	**+4.1**
SHME	**Shamm**	**4.83**	**249**	*e*Pn			**Pn**	**18 58 56.5**	**+3.9**
IKOO	**Kooshah**	**4.90**	**338**	*e*Pn			**Pn**	**18 58 54.8**	**+1.0**
IDAH	**Dahanechah**	**4.97**	**347**	*e*Pn			**Pn**	**18 58 56.0**	**+1.2**
MDH	**Madha**	**5.04**	**241**	*i* P			**Pn**	**18 58 58.3**	**+2.7**
	SNR=28								
MDH	**Madha**	**5.04**	**241**	P			**Pn**	**18 58 58.5**	**+2.9**
	SNR=28								
MDH	**Madha**	**5.04**	**241**	*e*Pn			**Pn**	**18 58 58.5**	**+2.9**
MSFE	**Esma-Masafi**	**5.12**	**242**	P			**Pn**	**18 58 59.6**	**+3.0**
MSFE	**Esma-Masafi**	**5.12**	**242**	*e*Pn			**Pn**	**18 58 59.5**	**+2.8**
BIDO	**Bidbid**	**5.12**	**213**	*e*Pn			**Pn**	**18 59 00.3**	**+3.7**
WSAR	**Wadi Sarin**	**5.15**	**207**	Pn			Pn	18 59 01.7	+4.7
	comp=Z,7.0nm,0.3s,baz=33,slow=7.9,SNR=99								
WSAR				Sn			**Sn**	**18 59 54.4**	**-2.1**
	comp=Z,10nm,0.3s,baz=193,slow=18,SNR=16								
UOSS	**Minazif**	**5.31**	**238**	*i* P			**Pn**	**18 59 01.4**	**+2.2**
	SNR=23								
UOSS	**Minazif**	**5.31**	**238**	*e*Pn			**Pn**	**18 59 01.6**	**+2.4**
ITEG	**Tejag**	**5.42**	**338**	*e*Pn			**Pn**	**18 59 01.9**	**+1.1**
HATD	**Hatta, Dubai**	**5.43**	**237**	P			**Pn**	**18 59 03.2**	**+2.3**
HATD				S			**Sn**	**18 59 58.8**	**-4.6**
HATD	**Hatta, Dubai**	**5.43**	**237**	P			**Pn**	**18 59 03.8**	**+3.0**
HATD				S			**Sn**	**18 59 59.0**	**-4.5**
HATD	**Hatta, Dubai**	**5.43**	**237**	*e*Pn			**Pn**	**18 59 03.6**	**+2.7**
HOQ	**Hoqain**	**5.50**	**220**	P			**Pn**	**18 59 05.0**	**+3.1**
	SNR=74								
HOQ				S			**Sn**	**19 00 02.4**	**-2.8**
SMDO	**Samad**	**5.56**	**211**	P			**Pn**	**18 59 07.2**	**+4.5**
	SNR=27								
SMDO				S			**Sn**	**19 00 05.5**	**-1.2**
ASHO	**Ashiyiah**	**5.57**	**236**	*i* P			Pn	**18 59 05.8**	**+3.0**
	SNR=34								
ASHO	**Ashiyiah**	**5.57**	**236**	P			**Pn**	**18 59 06.1**	**+3.3**
	SNR=29								
ASHO	**Ashiyiah**	**5.57**	**236**	*e*Pn			**Pn**	**18 59 06.1**	**+3.3**
SOHO	**SOHO**	**5.58**	**229**	P			**Pn**	**18 59 05.6**	**+2.7**
	SNR=74								
SOHO				S			**Sn**	**19 00 03.8**	**-3.3**
WBK	**Wadi Bani Khal**	**5.60**	**201**	P			**Pn**	**18 59 06.4**	**+3.1**
	SNR=54								
WBK				S			**Sn**	**19 00 07.2**	**-0.6**
NAZ	**Nazwa, Dubai**	**5.70**	**241**	P			**Pn**	**18 59 08.2**	**+3.7**
NAZ	**Nazwa, Dubai**	**5.70**	**241**	*e*Pn			**Pn**	**18 59 06.1**	**+1.6**
AFRZ	**Afriz**	**5.83**	**342**	*e*Pn			**Pn**	**18 59 07.5**	**+1.1**
IBAF	**Bafgh**	**6.10**	**309**	*e*Pn			**Pn**	**18 59 12.4**	**+2.2**
JMDO	**Jabal Madar**	**6.14**	**207**	P			Pn	18 59 16.0	+5.4
	SNR=22								
ASUD	**Al Ashush, Dub**	**6.15**	**240**	*i* P			Pn	18 59 15.9	+5.2
	SNR=72								
ASUD	**Al Ashush, Dub**	**6.15**	**240**	P			Pn	18 59 16.3	+5.6
	SNR=72								
ASUD	**Al Ashush, Dub**	**6.15**	**240**	*e*Pn			**Pn**	**18 59 15.2**	**+4.5**
ARQ	**Araqi**	**6.16**	**224**	P			Pn	18 59 17.0	+6.1
	SNR=9.5								
ALNE	**Al Ain**	**6.17**	**233**	*e*Pn			Pn	18 59 16.1	+5.0
BSY	**Bisya**	**6.24**	**216**	P			Pn	18 59 17.8	+5.9
	SNR=6.6								
TPRV	**Parvadeh(Tabas**	**6.42**	**324**	*e*Pn			**Pn**	**18 59 15.4**	**+0.9**
TKDS	**Koohdasht(Taba**	**6.62**	**330**	*e*Pn			**Pn**	**18 59 20.0**	**+1.8**
TABS	**Tabas**	**6.72**	**330**	*e*Pn			**Pn**	**18 59 22.5**	**+3.9**
TABS	**Tabas**	**6.72**	**330**	*e*Pn			**Pn**	**18 59 22.5**	**+3.9**
TNSJ	**Nastanj**	**7.21**	**328**	*e*Pn			**Pn**	**18 59 27.8**	**+2.4**
IPAY	**Payeh**	**8.74**	**348**	*e*Pn			**Pn**	**18 59 48.6**	**+2.1**
THW	**Thamme Wali**	**10.38**	**59**	P			**Pn**	**19 00 10.5**	**+1.7**
AAK	**Ala-Archa**	**18.29**	**33**	P			**Pn**	**19 01 51.5**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=202,slow=4.0,SNR=6.2								
MKAR	**Makanchi Array**	**25.14**	**36**	P			**P**	**19 03 01.1**	**-4.0**
	comp=Z,0.5nm,0.3s,baz=218,slow=8.9,SNR=23								
KURBB	**Kurchatov Arra**	**26.27**	**25**	P			**P**	**19 03 11.4**	**-3.8**
	comp=Z,1.1nm,0.6s,baz=222,slow=8.7,SNR=11								
ZALV	**Zalesovo Beam**	**31.30**	**27**	P			P	19 03 55.1	-4.8
	comp=Z,2.7nm,0.4s,baz=238,slow=10,SNR=9.2								
AKASG	**Malin Array Be**	**33.20**	**322**	P			P	19 04 11.1	-5.6
	comp=Z,0.5nm,0.4s,baz=127,slow=8.1,SNR=4.9								
TLY	**Talaya**	**39.61**	**41**	LR			LR	19 24 25.3	
	comp=Z,52nm,21.8s,baz=75,slow=41								
SONM	**Songino Array**	**40.21**	**48**	P			**P**	**19 05 13.9**	**-2.7**
	comp=Z,0.5nm,0.5s,baz=264,slow=9.3,SNR=4.9								
TORD	**Torodi Ar. Bea**	**57.09**	**268**	P			P	19 07 22.7	-4.0
	comp=Z,1.3nm,0.5s,baz=61,slow=6.8,SNR=29								

*IDC **30** 19:18:32.0±1.7,10°.49N×127°.13E,h0km,mb4.0/7, mb1 4.1/7,mb1mx3.7/45,mbtmp4.0/7,Error ellipse: s-maj=154.1km s-min=21.2km az=69.0*

*MAN **30** 19:18:34.7,10°.08N×126°.49E,h183km,MS3.4*

*ISCJB **30** 19:18:35.9±0.8,10°.37N±0°.07×126°.99E±0°.06,h35km, mb4.0/7,Error ellipse: s-maj=10.3km s-min=8.1km az=165.1*

ISC 30 19:18:37.2±1.0,10°.30N±0°.08×126°.96E±0°.10,h35km,n12, σ1s49/16,mb3.9/7,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.54**	**251**	P		P	**Pn**	**19 19 02.7**	**+0.5**
SCPH				S		S	**Sn**	**19 19 19.0**	**-1.9**
BUTP	**Butuan**	**1.87**	**225**	P		P	**Pn**	**19 19 06.9**	**+0.2**
BUTP				S		S	**Sn**	**19 19 31.4**	**+2.4**
MSLP	**Maasin**	**2.08**	**266**	P		P	**Pn**	**19 19 09.1**	**-0.5**
MSLP				S		S	**Sn**	**19 19 35.1**	**+0.9**
OCLP	**Ormoc**	**2.43**	**288**	P		P	**Pn**	**19 19 13.7**	**-0.8**
OCLP				S		S	**Sn**	**19 19 43.3**	**+0.3**
BUKP	**Musuan**	**3.05**	**218**	P		P	**Pn**	**19 19 19.5**	**-3.5**
WRA	**Warramunga Arr**	**30.91**	**166**	P		P	**P**	**19 24 51.6**	**+0.8**
	0.4nm,0.9s,baz=344,slow=8.8,SNR=2.7								
ASAR	**Alice Springs**	**34.43**	**169**	P		P	**P**	**19 25 23.3**	**+1.6**
	0.2nm,0.4s,baz=352,slow=6.7,SNR=13								
MKAR	**Makanchi Array**	**52.42**	**322**	P		P	**P**	**19 27 47.1**	**+0.8**
	1.6nm,0.6s,baz=119,slow=8.5,SNR=23								
ARCES	**ARCESS Array B**	**84.41**	**340**	P		P	**P**	**19 31 05.5**	**-0.3**
	14nm,1.1s,baz=64,slow=6.0,SNR=6.9								
BRTR	**Keskin Array B**	**86.04**	**309**	P		P	**P**	**19 31 14.2**	**-0.6**
	0.6nm,0.7s,baz=73,slow=2.0,SNR=3.5								
FINES	**FINESS Array B**	**86.19**	**332**	P		P	**P**	**19 31 14.8**	**0.0**
	6.1nm,1.1s,baz=63,slow=3.7,SNR=6.0								
AKASG	**Malin Array Be**	**86.97**	**321**	P		P	**P**	**19 31 18.2**	**-0.7**
	0.4nm,0.5s,baz=64,slow=4.9,SNR=2.3								

*IDC **30** 19:23:08.7±1.5,52°.14N×169°.57W,h0km,mb3.5/4, mb1 3.8/6,mb1mx3.4/50,mbtmp3.5/6,ML2.8/2,Error ellipse: s-maj=61.2km s-min=22.3km az=176.0*

*AEIC **30** 19:23:12.1±1.6,52°.18N±0°.05×169°.4W±0°.1,h14km±5km, ML3.4*

*NEIC **30** 19:23:13.7±1.2,52°.23N±0°.08×169°.5W±0°.1,h27km±7km*

ISC 30 19:23:11.6±2.9,52.2N±0°.1×169.49W±0°.08,h14km±17km, n30,σ0s85/29,mb3.5/4,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.85**	**27**				**Pb**	**19 23 28.5**	**+0.3**
NIKH							**Sn**	**19 23 41.9**	**+0.4**
OKSP	**Okmok Steeple**	**1.27**	**34**				**Pn**	**19 23 34.7**	**-0.2**
OKSP							**Sb**	**19 23 51.3**	**-0.2**
OKCE	**Okmok Cone E**	**1.46**	**33**				**Pb**	**19 23 38.2**	**-0.3**
OKWE	**Okmok W'ng Wal**	**1.47**	**30**				**Pn**	**19 23 38.3**	**+0.6**
OKNC	**Okmok New Cone**	**1.50**	**33**				**Sg**	**19 23 59.5**	**-0.3**
OKER	**Okmok East Rim**	**1.52**	**34**				**Pn**	**19 23 38.9**	**+0.5**
OKFG	**Magazine Ridge**	**1.54**	**38**				**Pn**	**19 23 38.2**	**-0.3**
OKFG							**Sb**	**19 23 59.6**	**+0.5**
MGOD	**Makushin Gods**	**2.24**	**44**				**Pn**	**19 23 49.4**	**+1.2**
MREP	**Makushin Rep't**	**2.31**	**45**				**Pn**	**19 23 49.9**	**+0.8**
MSW	**Makushin Switc**	**2.36**	**43**				**Pn**	**19 23 50.8**	**+0.9**
MSW							**Sn**	**19 24 19.5**	**+0.9**
UNV	**Unalaska Valle**	**2.44**	**47**				**Pn**	**19 23 51.6**	**+0.8**
UNV							**Sn**	**19 24 20.9**	**+0.5**
MTBL	**Makushin Table**	**2.44**	**43**				**Pn**	**19 23 51.8**	**+0.7**
LVA	**Lava Point**	**2.85**	**45**				**Pn**	**19 23 57.3**	**+0.7**
AKBBA	**Akutan Broad B**	**2.86**	**47**				**Pn**	**19 23 57.1**	**+0.5**
AKGG	**Akutan Green G**	**2.90**	**45**				**Pn**	**19 23 58.8**	**+1.7**
AKUT	**Akutan**	**2.95**	**48**	Pn			**Pn**	**19 23 59.5**	**+1.6**
GSTR	**Great Sitkin T**	**4.05**	**271**	Pn			**Pn**	**19 24 14.2**	**+1.1**
KIWB	**Kanaga Island**	**4.75**	**269**	Pn			**Pn**	**19 24 23.6**	**+1.0**
ILAR	**Eielson Array**	**17.12**	**34**	P			**Pn**	**19 27 09.0**	**-1.2**
	0.0nm,0.3s,baz=230,slow=10,SNR=2.7								
PETK	**Petropavlovsk-**	**19.83**	**286**	P			**P**	**19 27 41.1**	**-0.5**
	0.2nm,0.3s,baz=86,slow=14,SNR=5.0								
YKA	**Yellowknife Ar**	**30.40**	**49**	P			**P**	**19 29 23.3**	**+0.5**
	0.4nm,0.5s,baz=274,slow=7.8,SNR=5.7								
H11N2	**WAKE ISLAND Hy**	**37.28**	**219**	T			T	20 11 02.4	
	baz=24								
H11N3	**WAKE ISLAND Hy**	**37.29**	**219**	T			T	20 11 00.4	
	baz=24,slow=74								
H11N1	**WAKE ISLAND Hy**	**37.30**	**219**	T			T	20 10 41.5	
	baz=24,slow=74								
H11S1	**WAKE ISLAND Hy**	**38.47**	**218**	T			T	20 11 56.1	
	baz=23,slow=76,SNR=29								
H11S2	**WAKE ISLAND Hy**	**38.49**	**218**	T			T	20 11 47.6	
	baz=23,slow=76,SNR=16								
H11S3	**WAKE ISLAND Hy**	**38.49**	**218**	T			T	20 11 44.8	
	baz=23,slow=76,SNR=10								
PDAR	**Pinedale Array**	**40.50**	**79**	P			**P**	**19 30 50.1**	**+0.1**
	0.8nm,0.7s,baz=308,slow=3.8,SNR=4.4								
TXAR	**Lajitas Array**	**52.82**	**89**	P			**P**	**19 32 25.9**	**-0.6**
	0.6nm,0.8s,baz=293,slow=3.6,SNR=5.9								
CMAR	**Chiang Mai Arr**	**76.58**	**283**	P			**P**	**19 35 00.6**	**-1.0**
	0.3nm,0.6s,baz=20,slow=5.8,SNR=3.1								

TAP 30 19:30:52.6,23°.24N×121°.38E,h21km,ML1.5,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
FULB	**Fuli**	**0.09**	**244**	P			Pb	19 30 57.0	+0.4
	baz=245								
FULB				S			Sb	19 31 01.0	+1.7
	baz=245								
CHKT	**Chengkung**	**0.14**	**184**	*e*S			Sb	19 31 01.1	-2.0
	baz=183								
TWF1	**Yuli**	**0.14**	**328**	*i* P			Pb	19 30 57.3	-1.5
	baz=317								
TWF1				S			Sb	19 31 00.9	-2.2
	baz=317								
YULB	**Yu-li**	**0.17**	**335**	P			Pb	19 30 57.7	-0.8
	baz=323								
YULB				S			Sb	19 31 01.6	-1.2
	baz=323								
HGSD	**Ruisui**	**0.26**	**10**	P			Pb	19 30 59.1	+0.2
	baz=18								
HGSD				*e*S			Sn	19 31 05.5	-1.2
	baz=18								
EHY	**Hungye**	**0.27**	**349**	P			Pb	19 30 59.5	+0.4
	baz=337								
EHY				S			Sb	19 31 04.6	+1.2
	baz=337								
ELDTW	**Lidau**	**0.33**	**262**	*i* P			Pb	19 30 59.6	-0.3
	baz=262								
ELDTW				S			Sb	19 31 04.7	-0.2
	baz=262								
TWGBT	**Beinan**	**0.50**	**213**	*e*S			Sb	19 31 09.5	0.0
	baz=216								
TWG	**Pinlang**	**0.50**	**214**	*e*S			Sb	19 31 09.7	+0.1
	baz=216								
VWDT	**VWDT**	**0.56**	**337**	*e*P			Pb	19 31 04.2	+0.3
	baz=347								
VWDT				S			Sb	19 31 12.1	+0.7
	baz=347								
STYT	**Tauyuan**	**0.57**	**263**	*e*P			Pb	19 31 04.2	0.0
	baz=258								
STYT				*e*S			Sb	19 31 12.5	+0.5
	baz=258								
SSLB	**Suanglung**	**0.67**	**325**	*e*P			Pb	19 31 06.2	+0.4
	baz=331								
SSLB				*e*S			Sn	19 31 16.0	-1.0
	baz=331								
TPUB	**Ta-pu**	**0.69**	**275**	P			Pb	19 31 06.6	+0.5
	baz=276								
TPUB				S			Sn	19 31 16.5	-0.9
	baz=276								
WTP	**Ta-pu**	**0.70**	**271**	P			Pn	19 31 06.9	-0.5
	baz=271								
WTP				S			Sn	19 31 17.6	-0.1
	baz=271								
SLGT	**Liugui**	**0.71**	**250**	*e*P			Pb	19 31 06.5	+0.1
	baz=253								
SLGT				*e*S			Sb	19 31 16.6	+0.8
	baz=253								
CHN4	**Tsaushan**	**0.73**	**279**	*e*P			Pn	19 31 07.5	-0.2
	baz=279								
CHN4				*e*S			Sn	19 31 18.2	-0.1
	baz=279								
CHN5	**Tsauling**	**0.74**	**299**	*e*P			Pn	19 31 07.8	-0.1
	baz=299								
CHN5				*e*S			Sn	19 31 18.4	-0.2
	baz=299								
CHN1	**Nanshi**	**0.78**	**266**	*e*P			Pn	19 31 08.9	+0.4
	baz=267								
CHN1				S			Sn	19 31 20.3	+0.7
	baz=267								
TWK	**Hsinying**	**0.82**	**272**	*e*S			Sn	19 31 21.5	+1.0
	baz=272								
WHF	**Hehuan Shan**	**0.91**	**354**	*e*P			Pb	19 31 09.3	-0.7
	baz=2.0								

TAP 30 19:30:57.9,24°.20N×121°.82E,h10km,ML1.5,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.21**	**264**	P			Pg	19 31 02.2	0.0
	baz=272								
TWD	**Chiawan**	**0.24**	**241**	*e*P			Pg	19 31 03.1	+0.3
	baz=248								
NANB	**Nanao**	**0.24**	**344**	P			Pg	19 31 02.9	+0.1
	baz=339								
NANB				S			Sg	19 31 06.7	+0.6
	baz=339								
ENA	**Nanau**	**0.24**	**342**	P			Pg	19 31 03.0	+0.1
	baz=339								
ENA				S			Sg	19 31 06.7	+0.5
	baz=339								
ETLH	**Xiulin Townshi**	**0.31**	**272**	P			Pg	19 31 04.3	+0.1
	baz=274								
ETLH				S			Sg	19 31 09.3	+1.0
	baz=274								
EOS1	**EOS1**	**0.45**	**39**	*e*S			Sb	19 31 15.2	+0.7
	baz=21								
NNSH	**Datong**	**0.46**	**300**	P			Pb	19 31 08.2	+0.1
	baz=300								
NNSH				S			Sg	19 31 13.6	+0.5
	baz=300								
NNS	**Nan Shan**	**0.47**	**301**	*e*P			Pb	19 31 08.2	-0.2
	baz=301								
NNS				S			Sg	19 31 14.2	+0.7
	baz=301								
NDT	**Datong Townshi**	**0.49**	**325**	P			Pg	19 31 07.7	+0.2
	baz=323								
NDT				S			Sb	19 31 15.5	-0.3
	baz=323								
ENTT	**Nioudou**	**0.50**	**332**	P			Pg	19 31 08.1	+0.5
	baz=330								
ENTT				S			Sb	19 31 15.4	-0.7
	baz=330								
WHF	**Hehuan Shan**	**0.51**	**264**	P			Pb	19 31 08.8	-0.4
	baz=267								
WHF				*e*S			Sb	19 31 16.9	+0.1
	baz=267								
TDCB	**Techi**	**0.61**	**275**	P			Pb	19 31 10.4	-0.2
	baz=277								
TDCB				*e*S			Sb	19 31 18.9	-0.5
	baz=277								
YHNB	**Yeheng**	**0.62**	**319**	P			Pb	19 31 10.8	-0.1
	baz=325								
YHNB				S			Sb	19 31 19.8	+0.1
	baz=325								
NSK	**Sanguang**	**0.64**	**319**	*e*S			Sb	19 31 20.0	-0.1
	baz=317								
NWLT	**Wulai**	**0.65**	**333**	*e*S			Sb	19 31 19.7	-0.6
	baz=331								
WHP	**Taichung City**	**0.80**	**276**	*e*P			Pb	19 31 14.0	+0.1
	baz=343								
WHP				*e*S			Sn	19 31 27.8	+0.5
	baz=343								
WHP	**Taichung City**	**0.80**	**276**	*e*P			Pb	19 31 14.0	+0.1
	baz=278								
WHP				*e*S			Sb	19 31 24.5	-0.4
	baz=278								

*ISCJB **30** 19:37:20.9±0.3,24°.26N±0°.02×122°.16E±0°.02,h19km±3km, Error ellipse: s-maj=2.9km s-min=2.1km az=148.8*

*TAP **30** 19:37:21.0,24°.29N×122°.08E,h25km,ML2.8,C*

*JMA **30** 19:37:20.7±0.1,24°.21N×122°.09E,h47km±2km,M2.1*

ISC 30 19:37:20.7±0.9,24°.25N±0°.02×122°.12E±0°.02,h22km±5km, n87,σ0s96/145,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.30**	**1**	P			**Pb**	**19 37 27.7**	**+0.3**
	baz=15								
EOS1				S			**Sn**	**19 37 33.2**	**-2.2**
	baz=15								
NANB	**Nanao**	**0.38**	**297**	*i* P			**Pb**	**19 37 28.4**	**-0.3**
	baz=299								
NANB				*e*S			**Sb**	**19 37 34.5**	**+0.3**
	baz=299								
ENA	**Nanau**	**0.39**	**297**	*i* P			**Pb**	**19 37 28.5**	**-0.4**
	baz=299								
ENA				S			**Sn**	**19 37 35.2**	**-2.5**
	baz=299								
TWC	**Suao**	**0.43**	**325**	*i* P			**Pb**	**19 37 29.0**	**-0.6**
	baz=328								
TWC				S			**Sb**	**19 37 34.7**	**-1.1**
	baz=328								
NACB	**Ninganchiao**	**0.49**	**261**	P			**Pb**	**19 37 31.1**	**+0.6**
	baz=258								
NACB				*e*S			**Sn**	**19 37 38.7**	**-1.5**
	baz=258								
TWD	**Chiawan**	**0.51**	**250**	P			**Pn**	**19 37 31.7**	**-0.9**
	baz=230								
TWD				S			**Sn**	**19 37 39.3**	**-1.4**
	baz=230								
HWA	**Hwalien**	**0.55**	**240**	*e*P			**Pn**	**19 37 32.6**	**-0.5**
	baz=233								
HWA				*e*

	baz=357							
WFSB	**Wu-fen Shan**	**0.87**	**339**	P		**Pn**	**19 37 37.3**	**-0.4**
	baz=356							
WFSB				S		**Sn**	**19 37 48.7**	**-1.0**
	baz=356							
TWA	**Mucha**	**0.87**	**326**	*i* P		**Pn**	**19 37 38.0**	**+0.3**
	baz=334							
TWA				*e*S		**Sn**	**19 37 49.5**	**-0.3**
	baz=334							
TDCB	**Techi**	**0.88**	**270**	P		**Pn**	**19 37 37.7**	**-0.2**
	baz=268							
TDCB				S		**Sn**	**19 37 49.8**	**-0.3**
	baz=268							
CHGB	**Renai**	**0.89**	**258**	P		**Pn**	**19 37 37.7**	**-0.3**
	baz=240							
CHGB				S		**Sn**	**19 37 50.3**	**0.0**
	baz=240							
TAP	**Taipei**	**0.96**	**325**	P		**Pn**	**19 37 40.0**	**+1.1**
	baz=340							
TAP				S		**Sn**	**19 37 52.9**	**+1.0**
	baz=340							
HGSD	**Ruisui**	**0.99**	**220**	P		**Pn**	**19 37 38.8**	**-0.5**
	baz=205							
WLTB	**Daxi**	**0.99**	**307**	P		**Pn**	**19 37 40.2**	**+0.9**
	baz=313							
WLTB				*e*S		**Sn**	**19 37 53.1**	**+0.5**
	baz=313							
YM01	**YM01**	**1.02**	**331**	P		**Pb**	**19 37 40.4**	**+0.6**
	baz=346							
YM01				S		**Sn**	**19 37 53.5**	**+0.1**
	baz=346							
VWDT	**VWDT**	**1.02**	**241**	P		**Pn**	**19 37 39.5**	**-0.2**
	baz=222							
VWDT				*e*S		**Sn**	**19 37 53.0**	**-0.4**
	baz=222							
YM10	**YM10**	**1.03**	**331**	P		**Pb**	**19 37 39.8**	**-0.1**
	baz=346							
YM10				S		**Sn**	**19 37 53.3**	**-0.5**
	baz=346							
YM11	**YM11**	**1.04**	**331**	P		**Pb**	**19 37 40.0**	**0.0**
	baz=347							
YM11				*e*S		**Sn**	**19 37 53.7**	**-0.2**
	baz=347							
EHY	**Hungye**	**1.04**	**225**	P		**Pn**	**19 37 38.6**	**-1.4**
	baz=221							
YM08	**YM08**	**1.05**	**333**	P		**Pb**	**19 37 40.3**	**+0.1**
	baz=335							
TWS1	**Kuangyinshan**	**1.06**	**323**	P		**Pb**	**19 37 40.7**	**+0.4**
	baz=337							
TWS1				S		**Sn**	**19 37 55.5**	**+1.1**
	baz=337							
WHP	**Taichung City**	**1.07**	**272**	P		**Pb**	**19 37 41.3**	**+0.7**
	baz=270							
WHP				S		**Sn**	**19 37 55.6**	**+0.9**
	baz=270							
ANP	**Anpu**	**1.08**	**330**	*e*P		**Pb**	**19 37 41.0**	**+0.2**
	baz=332							
LIOB	**Emei**	**1.08**	**291**	P		**Pb**	**19 37 41.3**	**+0.6**
	baz=292							
LIOB				S		**Sn**	**19 37 55.7**	**+0.8**
	baz=292							
NSTT	**Nanjuang**	**1.09**	**291**	P		**Pb**	**19 37 41.3**	**+0.5**
	baz=290							
NSTT				S		**Sn**	**19 37 55.8**	**+0.8**
	baz=290							
NCUH	**Zhongli**	**1.11**	**310**	*e*P		**Pb**	**19 37 41.8**	**+0.5**
	baz=312							
NCUH				*e*S		**Sn**	**19 37 57.2**	**+1.6**
	baz=312							
DPDB	**Guoxing**	**1.11**	**259**	*e*P		**Pb**	**19 37 41.7**	**+0.4**
	baz=245							
DPDB				*e*S		**Sn**	**19 37 55.9**	**+0.2**
	baz=245							
TWY	**Chenhua**	**1.12**	**335**	P		**Pb**	**19 37 42.0**	**+0.6**
	baz=338							
TWY				*e*S		**Sn**	**19 37 55.7**	**-0.2**
	baz=338							
YULB	**Yu-li**	**1.14**	**222**	P		**Pn**	**19 37 39.6**	**-1.8**
	baz=218							
SSLB	**Suanglung**	**1.16**	**247**	P		**Pb**	**19 37 42.1**	**0.0**
	baz=243							
SSLB				*e*S		**Sb**	**19 37 57.7**	**+0.9**
	baz=243							
TWF1	**Yuli**	**1.17**	**220**	*e*P		**Pn**	**19 37 41.6**	**-0.2**
	baz=232							
TYC	**Yuchr**	**1.21**	**254**	P		**Pb**	**19 37 43.0**	**+0.2**
	baz=238							
TYC				*e*S		**Sb**	**19 37 58.1**	**+0.2**
	baz=238							
TWQ1	**Liyutan**	**1.23**	**275**	P		**Pb**	**19 37 44.2**	**+0.9**
	baz=273							
TWQ1				S		**Sb**	**19 38 01.1**	**+2.3**
	baz=273							
NMLH	**Miaoli**	**1.25**	**283**	*e*P		**Pb**	**19 37 44.2**	**+0.7**
	baz=282							
FULB	**Fuli**	**1.29**	**216**	*e*P		**Pn**	**19 37 43.0**	**-0.5**
	baz=201							
CHKT	**Chengkung**	**1.34**	**211**	S		**Sn**	**19 37 59.1**	**-2.1**
	baz=194							
WJS	**Zhushan**	**1.34**	**252**	*e*P		**Pb**	**19 37 45.9**	**+0.7**
	baz=235							
WJS				*e*S		**Sb**	**19 38 04.2**	**+2.2**
	baz=235							
WNT	**Mingjian**	**1.36**	**254**	*e*S		**Sb**	**19 38 04.6**	**+2.0**
	baz=235							
ELDTW	**Lidau**	**1.46**	**224**	P		**Pn**	**19 37 45.0**	**-1.0**
	baz=220							
IRIF	**Iriomote-Funau**	**1.47**	**86**	P		**Pn**	**19 37 46.9**	**+1.0**
IRIF				S		**Sn**	**19 38 04.7**	**+0.2**
CHN5	**Tsauling**	**1.47**	**244**	*e*P		**Pb**	**19 37 47.7**	**+0.2**
	baz=225							
CHN5				S		**Sb**	**19 38 07.1**	**+1.4**
	baz=225							
WGK	**Gukeng**	**1.53**	**249**	*e*S		**Sb**	**19 38 09.3**	**+1.9**
	baz=245							
RLNB	**Erlin**	**1.65**	**258**	*e*S		**Sb**	**19 38 11.7**	**+0.9**
	baz=254							
STYT	**Tauyuan**	**1.66**	**229**	*e*S		**Sb**	**19 38 10.5**	**-0.5**
	baz=213							
CHN4	**Tsaushan**	**1.66**	**238**	P		**Pb**	**19 37 50.9**	**+0.3**
	baz=219							
CHN4				S		**Sb**	**19 38 12.2**	**+1.0**
	baz=219							
TPUB	**Ta-pu**	**1.66**	**236**	P		**Pb**	**19 37 50.0**	**-0.6**
	baz=221							
TPUB				S		**Sb**	**19 38 11.2**	**0.0**
	baz=221							
WTP	**Ta-pu**	**1.71**	**234**	P		**Pb**	**19 37 50.6**	**-0.8**
	baz=216							
WTP				S		**Sb**	**19 38 13.6**	**+1.1**
	baz=216							
TWGBT	**Beinan**	**1.72**	**214**	*e*S		**Sn**	**19 38 09.7**	**-0.9**
	baz=211							
TWG	**Pinlang**	**1.72**	**214**	*e*S		**Sn**	**19 38 10.4**	**-0.2**
	baz=211							
JKRS	**Kuro-shima**	**1.72**	**90**	*e*S		**Sn**	**19 38 11.3**	**+0.6**
CHY	**Chiayi**	**1.73**	**245**	S		**Sb**	**19 38 14.5**	**+1.6**
	baz=241							
TWK	**Hsinying**	**1.79**	**237**	P		**Pb**	**19 37 52.8**	**0.0**
	baz=219							
TWK				S		**Sb**	**19 38 15.9**	**+1.1**
	baz=219							
CHN1	**Nanshi**	**1.81**	**234**	P		**Pb**	**19 37 53.2**	**+0.1**
	baz=230							
CHN1				S		**Sb**	**19 38 15.3**	**0.0**
	baz=230							
SNST	**Tainan City**	**1.81**	**236**	S		**Sb**	**19 38 16.5**	**+1.2**
	baz=219							
SGST	**Jiashian**	**1.83**	**231**	P		**Pb**	**19 37 52.3**	**-1.2**
	baz=214							
SGST				S		**Sb**	**19 38 16.4**	**+0.5**
	baz=214							
WSF	**Szhu**	**1.84**	**251**	S		**Sb**	**19 38 17.3**	**+1.1**
	baz=246							
SLGT	**Liugui**	**1.84**	**227**	P		**Pb**	**19 37 52.7**	**-1.0**
	baz=214							
SLGT				S		**Sb**	**19 38 16.6**	**+0.2**
	baz=214							
JIJ	**Ishigaki jima**	**1.85**	**86**	P		**Pn**	**19 37 51.2**	**+0.1**
JIJ				*e*S		**Sn**	**19 38 13.1**	**-0.7**
ECL	**Taimali**	**1.96**	**213**	*e*S		**Sn**	**19 38 15.2**	**-1.5**
	baz=210							
JISG	**Ishigakijimahi**	**2.02**	**80**	*e*S		**Sn**	**19 38 17.4**	**-0.7**
SSD	**Sandimen**	**2.03**	**223**	*e*P		**Pn**	**19 37 54.9**	**+1.3**
	baz=218							
SSD				*e*S		**Sb**	**19 38 21.0**	**-0.7**
	baz=218							
MASBT	**Mashibuluo**	**2.13**	**220**	*e*P		**Pb**	**19 37 57.1**	**-1.5**
	baz=206							
MASBT				*e*S		**Sb**	**19 38 24.1**	**-0.5**
	baz=206							
EAST	**Anshuo**	**2.20**	**212**	*e*P		**Pn**	**19 37 56.5**	**+0.5**
	baz=209							
PHUB	**P'eng-hu**	**2.45**	**253**	*e*S		**Sn**	**19 38 29.7**	**+1.2**
	baz=246							
VWUC	**VWUC**	**2.54**	**287**	*e*P		**Pn**	**19 38 00.2**	**-0.3**
	baz=287							
VWUC				*e*S		**Sn**	**19 38 32.2**	**+1.4**
	baz=287							
PTMZ	**Houxiangcun**	**2.84**	**287**	*e*P		**Pn**	**19 38 04.8**	**+0.1**
	baz=286							
PTMZ				*e*S		**Sn**	**19 38 40.1**	**+1.8**
	baz=286							

*SNET **30** 19:53:56.8±1.5, 11.°52N×87.°18W, h144km±48km, ML3.4*
*UCR **30** 19:53:57.1±1.6, 11.°23N×87.°48W, h20km±101km, ML3.3*
*IDC **30** 19:54:05.2±2.2, 12.°03N×86.°77W, h50km±33km, mb3.2/3, mb1 3.6/5, mb1mx3.3/35, mbtmp3.3/5, ML2.9/2, Error ellipse: s-maj=132.0km s-min=24.3km az=44.0*

ISC 30 19:53:55.2±2.3, 11.°2N±0.°1×87.°35W±0.°06, h4km±18km, n19, σ1§46/28, mb3.4/3, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
COPN	**Copaltepe**	**1.22**	**37**	*e*P		**Pn**	**19 54 19.2**	**+0.1**
COPN				*e*S		**Sn**	**19 54 38.7**	**+2.7**
COPN	**Copaltepe**	**1.22**	**37**	⇓*e*P		**Pn**	**19 54 19.0**	**-0.1**
COPN				*e*S		**Sn**	**19 54 38.7**	**+2.7**
MOMN	**Momotombo**	**1.44**	**33**	*e*P		**Pn**	**19 54 21.8**	**-0.2**
MOMN				*e*S		**Sn**	**19 54 41.9**	**+0.6**
MOMN	**Momotombo**	**1.44**	**33**	*e*P		**Pn**	**19 54 21.5**	**-0.5**
MOMN				*e*S		**Sn**	**19 54 41.9**	**+0.6**
CNGN	**Cerro Negro**	**1.44**	**26**	*e*P		**Pn**	**19 54 22.6**	**+0.5**
CNGN				IAML			19 54 53.5	
	comp=E,525nm,0.4s							
CRIN	**San Cristobal**	**1.52**	**11**	*e*P		**Pn**	**19 54 23.3**	**+0.1**
CNCH	**Conchagua**	**2.12**	**347**	*e*P		**Pn**	**19 54 31.2**	**-0.2**
CNCH				*e*S		**Sn**	**19 54 56.6**	**-1.6**
CNCH	**Conchagua**	**2.12**	**347**	*e*P		**Pn**	**19 54 31.2**	**-0.2**
CNCH				*e*S		**Sn**	**19 54 56.6**	**-1.6**
LCND	**La Caada**	**2.16**	**346**	*e*P		**Pn**	**19 54 31.4**	**-0.5**
LCND				*e*S		**Sn**	**19 54 57.0**	**-2.2**
LCND				IAML			19 55 09.7	
	comp=Z,226nm,0.5s							
LCND	**La Caada**	**2.16**	**346**	*e*P		**Pn**	**19 54 31.4**	**-0.5**
LCND				*e*S		**Sn**	**19 54 57.0**	**-2.2**
LCND				IAML			19 55 09.7	
	comp=Z,226nm,0.5s							
MATN	**Matagalpa**	**2.21**	**39**	*e*P		**Pn**	**19 54 32.9**	**+0.2**
JTS	**Las Juntas de**	**2.52**	**111**	P		**Pg**	**19 54 43.5**	**-0.1**
	comp=Z,4.1nm,0.3s,baz=318,slow=16,SNR=9.1							
JTS				S		**Sb**	**19 55 10.1**	**-2.4**
	comp=Z,12nm,0.3s,baz=316,slow=18,SNR=5.6							
TECA	**Tecapa**	**2.54**	**334**	*e*P		**Pn**	**19 54 37.3**	**-0.1**
TECA	**Tecapa**	**2.54**	**334**	*e*P		**Pn**	**19 54 37.3**	**-0.1**
APG	**El Apazote**	**4.85**	**322**	P		**Pn**	**19 55 12.5**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=113,slow=15,SNR=2.8							
TXAR	**Lajitas Array**	**23.61**	**322**	P		**P**	**19 59 08.9**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=133,slow=10,SNR=10							
PDAR	**Pinedale Array**	**36.91**	**332**	P		**P**	**20 01 06.2**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=129,slow=9.8,SNR=3.5							
YKA	**Yellowknife Ar**	**54.84**	**345**	P		**P**	**20 03 25.3**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=139,slow=7.5,SNR=6.9							
CMAR	**Chiang Mai Arr**	**149.88**	**348**	PKPbc		**PKiKP**	**20 13 48.1**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=350,slow=3.8,SNR=6.4							

*ISCJB **30** 20:17:56.8±0.1, 19.°14N±0.°02×120.°32E±0.°02, h6km, mb4.8/121, MS4.3/43, Error ellipse: s-maj=3.0km s-min=2.4km az=178.2*
*IDC **30** 20:17:56.9±0.4, 19.°04N×120.°35E, h0km, mb4.6/28, mb1 4.8/31, mb1mx4.7/40, mbtmp4.7/31, ML3.5/3, MS4.2/31, Ms1 4.2/31, ms1mx4.0/50, Error ellipse: s-maj=14.6km s-min=9.6km az=77.0*
*GCMT **30** 20:17:58.7±0.2, 19.°13N±0.°01×120.°25E±0.°02, h12km, MW4.9/115, Moment Tensor Solution. s49,c63; s115,c176; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-3.09±.07; Mθθ2.41±.06; Mϕϕ0.67±.08; Mrθ-0.07±.23; Mθϕ1.22±.06; Mϕr0.57±.28; Best double couple: Mo3.11700×10^16^ NP1:ϕs233.00000°, δ48.00000°, λ-103.00000°. NP2:ϕs72.00000°, δ44.00000°, λ-76.00000°. Principal axes: T 3.0460, Plg2.0000°, Azm332.0000°; N 0.1360, Plg10.0000°, Azm242.0000°; P -3.1870, Plg80.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **30** 20:17:58.9±1.0, 19.°13N×120.°28E, h21km, mb5.2/43 Error ellipse: s-maj=7.4km s-min=4.1km az=112.5*
*MAN **30** 20:17:58.8, 19.°18N×120.°23E, h22km, MS4.9*
*BJI **30** 20:17:59.8±0.0, 19.°31N×120.°06E, h10km, mb4.8/76, mB5.0/58, Ms4.9/76, Ms7 4.7/72*
*NEIC **30** 20:17:59.7±1.7, 19.°13N±0.°06×120.°30E±0.°06, h16km±3km, mb5.1/111*

ISC 30 20:18:00.4±0.5, 19.°12N±0.°03×120.°29E±0.°04, h19km±2km, h19km:pP-P, n500, σ1§48/522, mb5.0/179, MS4.4/43, 17C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**1.20**	**173**	⇑P		**Pn**	**20 18 21.5**	**-0.6**
ABRA	**Dolores**	**1.51**	**165**	P		**Pn**	**20 18 24.5**	**-2.0**
APYP	**Conner**	**1.54**	**144**	P		**Pn**	**20 18 25.6**	**-1.2**
APYP				S		Sg	20 19 03.7	+13
CVP	**Callao Caves**	**2.02**	**134**	⇓P		**Pn**	**20 18 33.2**	**-0.2**
CVP				S		**Sn**	**20 18 52.1**	**-6.1**
BBP	**Basco**	**2.05**	**50**	P		**Pn**	**20 18 31.6**	**-2.3**
BBP				S		**Sn**	**20 18 58.3**	**-0.7**
BOLP	**Bolinao**	**2.75**	**188**	P		**Pn**	**20 18 43.4**	**-0.1**
BOLP				S		Sg	20 19 41.7	+13
SCZP	**Santa Cruz**	**3.34**	**186**	P		**Pn**	**20 18 50.8**	**-0.9**
SCZP				S		Sg	20 20 02.5	+15
BALP	**Baler**	**3.57**	**160**	P		**Pn**	**20 18 53.9**	**-0.9**
BALP				S		**Sg**	**20 19 56.6**	**+1.3**
PCPH	**Palayan**	**3.62**	**168**	⇑P		**Pn**	**20 18 56.1**	**+0.6**
TWG	**Pinlang**	**3.76**	**11**			**Pn**	**20 18 55.1**	**-2.3**
TPUB	**Ta-pu**	**4.17**	**4**			**Pn**	**20 19 00.7**	**-2.5**
YULB	**Yu-li**	**4.36**	**12**			**Pn**	**20 19 04.4**	**-1.3**
SSLB	**Suanglung**	**4.69**	**7**			**Pn**	**20 19 08.2**	**-2.0**
TGY	**Tagaytay City**	**5.02**	**173**	Pn		**Pn**	**20 19 14.4**	**-0.5**
	29nm,0.3s,baz=259,slow=18,SNR=3.0							
TGY				Pg		**Pb**	**20 19 26.6**	**-1.3**
	34nm,0.3s,baz=135,slow=0.8,SNR=9.2							
TGY				LR		LR	20 21 47.8	
	comp=Z,4μm,19.0s,baz=60,slow=47							
TGY	**Tagaytay City**	**5.02**	**173**	P		**Pb**	**20 19 24.2**	**-3.6**
LQP	**Lukban**	**5.12**	**166**	⇑P		**Pb**	**20 19 25.4**	**-4.2**
NACB	**Ninganchiao**	**5.17**	**13**			**Pn**	**20 19 15.6**	**-1.3**
LUBP	**Lubang**	**5.35**	**181**	P		Pn	20 19 25.4	+6.1
GQP	**Guinayangan**	**5.58**	**158**	⇓P		Pn	20 19 29.9	+7.5
GQP				S		**Sn**	**20 20 33.2**	**+7.2**
KNMB	**Chin-men Tao**	**5.61**	**342**			**Pn**	**20 19 19.8**	**-3.0**
YHNB	**Yeheng**	**5.62**	**10**			**Pn**	**20 19 22.0**	**-1.0**
YOJ	**Yonaguni jima**	**5.89**	**25**	P		**Pn**	**20 19 25.8**	**-0.9**
YOJ	**Yonaguni jima**	**5.89**	**25**	Pn		**Pn**	**20 19 25.8**	**-0.9**
TATO	**Taipei**	**5.93**	**11**	Pn		**Pn**	**20 19 26.6**	**-0.7**
QZH	**Quanzhou**	**6.01**	**345**	Pn		**Pn**	**20 19 25.8**	**-2.5**
QZH				Sn		**Sn**	**20 20 31.0**	**-5.6**
QZH				LR		LR		
	comp=N,3μm,13.3s							
QZH				LR		LR		
	comp=E,2μm,11.4s							
QZH				LR		LR		
	comp=Z,5μm,11.4s							
HKPS	**Hong Kong Po S**	**6.56**	**300**	Pn		**Pn**	**20 19 32.6**	**-3.3**
HKPS						**Pn**	**20 19 33.6**	**-2.3**
GZH	**Guangzhou**	**7.60**	**303**	Pn		**Pn**	**20 19 47.3**	**-2.8**
GZH				Sn		**Sn**	**20 21 09.3**	**-6.4**
QIZ	**Qiongzhong**	**9.88**	**271**	P		**Pn**	**20 20 20.0**	**-1.6**
QIZ				S		**Sn**	**20 22 12.0**	**0.0**
QIZ				pmax		pmax		
	comp=Z,43nm,0.7s							
QIZ				LR		LR		
	comp=N,3μm,14.7s							
QIZ				LR		LR		
	comp=E,3μm,11.8s							
QIZ				LR		LR		
	comp=Z,3μm,13.5s							
QIZ	**Qiongzhong**	**9.88**	**271**			**Pn**	**20 20 18.9**	**-2.7**
JOW	**Kunigami**	**10.63**	**42**	Pn		**Pn**	**20 20 32.0**	**+0.3**
	0.2nm,0.3s,baz=167,slow=11,SNR=6.2							
BUKP	**Musuan**	**12.09**	**157**	P		Pn	20 20 44.2	-7.6
WHN	**Wuhan**	**12.59**	**336**	⇑P		**Pn**	**20 20 57.8**	**-0.7**
WHN				S		**Sn**	**20 23 11.5**	**-6.7**
WHN				LR		LR		
	comp=N,7μm,13.4s							
WHN				LR		LR		
	comp=E,3μm,11.4s							
WHN				LR		LR		
	comp=Z,8μm,13.1s							
KCP	**Kidapawan**	**12.91**	**158**	⇑P		P	20 21 23.5	+10
NJ2	**Nanjing**	**12.95**	**355**	*e*P		**Pn**	**20 21 04.0**	**+0.6**
NJ2				S		**Sn**	**20 23 29.3**	**+2.4**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
NJ2				LR		LR		
	comp=N,3μm,11.4s							
NJ2				LR		LR		
	comp=E,3μm,10.9s							
NJ2				LR		LR		
	comp=Z,3μm,11.4s							
DAV	**Davao City (W)**	**13.03**	**156**	LR		LR	20 27 17.5	
	comp=Z,3μm,19.4s,baz=350,slow=43							
DAV	**Davao City (W)**	**13.03**	**156**	⇑*e*P		**Pn**	**20 21 07.0**	**+2.4**
SKMP	**Bagumbayan, Su**	**13.19**	**161**	P		**P**	**20 21 16.2**	**-0.5**
GYA	**Guiyang**	**14.53**	**303**	⇑*i*P		**Pn**	**20 21 22.8**	**-2.5**
GYA				PP		**PnPn**	**20 21 34.0**	**+0.7**
GYA				S		**Sn**	**20 24 01.5**	**-4.4**
GYA				SS		**SnSn**	**20 24 19.5**	**+0.9**
GYA				pmax		pmax		
	comp=Z,20nm,1.3s							
GYA				pmax		pmax		
	comp=Z,130nm,5.0s							
GYA				LR		LR		
	comp=N,2μm,11.7s							
GYA				LR		LR		
	comp=E,3μm,11.5s							
GYA				LR		LR		
	comp=Z,3μm,10.5s							
UBPT	**Khong Chiam**	**14.67**	**257**	P		**P**	**20 21 35.8**	**+2.7**
UBPT	**Khong Chiam**	**14.67**	**257**	Pn		**Pn**	**20 21 28.2**	**+1.1**
ENH	**Enshi**	**14.81**	**321**			**Pn**	**20 21 27.4**	**-1.6**
SKNT	**Sakolnakorn**	**15.66**	**265**	P		**Pn**	**20 21 42.3**	**+2.1**
	43nm,2.1s							
NONG	**Nongkai**	**16.29**	**269**	P		**P**	**20 21 53.6**	**+2.4**
	0.7nm,1.3s							
JNU	**Nakatsue**	**16.86**	**32**	Pn		**Pn**	**20 21 54.5**	**-0.9**
	0.3nm,0.3s,baz=214,slow=9.3,SNR=8.7							
JNU				LR		LR	20 29 15.4	
	comp=Z,398nm,18.4s,baz=216,slow=40							
JNU	**Nakatsue**	**16.86**	**32**			**Pn**	**20 21 54.7**	**-0.8**
JNU				IAmb		IAmb	20 22 00.1	
	comp=Z,165nm,1.3s							
TIA	**Tai'an**	**17.26**	**351**	P		**P**	**20 22 03.0**	**+1.2**
TIA				pmax		pmax		
	comp=Z,37nm,1.1s							
TIA				pmax		pmax		
	comp=Z,680nm,8.6s							
TIA				LR		LR		
	comp=Z,1μm,10.0s							
TIA				LR		LR		
	comp=Z,1μm,12.9s							
TIA				LR		LR		
	comp=Z,2μm,11.3s							
KMI	**Kunming**	**17.32**	**293**	P		**Pn**	**20 22 02.0**	**+0.5**
KMI				pP		P	20 22 04.3	+1.5
KMI				sP		pP	20 22 05.5	-1.9
KMI				S		**Sn**	**20 25 14.8**	**+0.9**
KMI				pmax		pmax		
	comp=Z,32nm,1.1s							
KMI				pmax		pmax		
	comp=Z,380nm,6.0s							
KMI				LR		LR		
	comp=Z,2μm,13.8s							
KMI				LR		LR		
	comp=Z,2μm,13.4s							
KMI				LR		LR		
	comp=Z,2μm,12.2s							
CHAI	**Chaiyaphum**	**17.75**	**262**	P		**P**	**20 22 08.6**	**+1.2**
	comp=Z,31μm,1.2s,comp=Z,405μm							
XAN	**Xi'an**	**17.99**	**328**	P		**Pn**	**20 22 09.5**	**0.0**
XAN				pP		pwP	20 22 18.3	-0.2
XAN				pmax		pmax		
	comp=Z,33nm,1.4s							
XAN				pmax		pmax		
	comp=Z,140nm,3.7s							
XAN				LR		LR		
	comp=Z,2μm,11.4s							
XAN				LR		LR		
	comp=Z,2μm,10.8s							
XAN				LR		LR		
	comp=Z,2μm,9.8s							
XAN	**Xi'an**	**17.99**	**328**	P		**Pn**	**20 22 08.5**	**-1.0**
XAN				pmax		pmax		
	comp=Z,129nm,1.8s							
XAN	**Xi'an**	**17.99**	**328**	P		**Pn**	**20 22 08.5**	**-1.0**
XAN				IAmb		IAmb	20 22 12.4	
	comp=Z,129nm,1.8s							
MNI	**Manado**	**18.12**	**165**	P		**P**	**20 22 13.2**	**+1.8**
MNI				pmax		pmax		
	comp=Z,107nm,1.3s							
SBUM	**Sibu**	**18.35**	**206**	P		**Pn**	**20 22 15.0**	**+1.0**
SBUM				IAmb		IAmb	20 22 45.5	
	comp=Z,41nm,1.5s							
PBKT	**Sadao Pong**	**18.57**	**265**	P		**Pn**	**20 22 17.3**	**+0.6**
	comp=Z,15nm,1.2s							
PBKT	**Sadao Pong**	**18.57**	**265**			**P**	**20 22 16.3**	**-0.1**
PBKT				IAmb		IAmb	20 22 33.4	
	comp=Z,45nm,1.3s							
MRSI	**Marisa**	**18.59**	**175**	P		**Pn**	**20 22 17.2**	**+0.2**
	comp=Z,37nm,1.1s,comp=Z,580nm							
MPSI	**Mapaga**	**18.67**	**181**	P		**P**	**20 22 16.3**	**-1.1**
	comp=Z,33nm,1.2s,comp=Z,944nm							
UTTA	**Uttaradit**	**18.78**	**269**	P		**Pn**	**20 22 20.2**	**+1.0**
	comp=Z,19μm,0.8s,comp=Z,270μm							
PHIT	**Phitsanulok**	**18.99**	**267**	P		**Pn**	**20 22 23.8**	**+2.1**
	comp=Z,306μm,1.0s							
PHRA	**Phrae**	**19.01**	**271**	P		**Pn**	**20 22 22.7**	**+0.7**
	comp=Z,4.9nm,1.3s							
CD2	**Chengdu**	**19.01**	**311**	P		**Pn**	**20 22 22.0**	**0.0**
CD2				SS		S	20 26 15.3	+19
CD2				pmax		pmax		
	comp=Z,70nm,0.6s							
CD2				pmax		pmax		
	comp=Z,440nm,9.8s							
CD2				LR		LR		
	comp=Z,4μm,10.7s							
CD2				LR		LR		
	comp=Z,4μm,11.4s							
CD2				LR		LR		
	comp=Z,5μm,12.1s							
PAYA	**Payao**	**19.29**	**274**	P		**Pn**	**20 22 26.6**	**+1.2**
	comp=Z,64μm,1.2s,comp=Z,607μm							
KSRS	**

comp=Z,139nm,1.2s,comp=Z,2µm
LUWI Luwuk 20.18 173 P **P** **20 22 34.1 +0.1**
LUWI IAmb IAmb 20 22 49.6
comp=Z,187nm,1.2s
CMMT Chiang Mai 20.19 273 P **P** **20 22 34.6 +0.4**
comp=Z,16nm,1.2s
CHTO Chiang Mai 20.20 273 P **P** **20 22 34.3 +0.1**
CHTO pmax pmax
comp=Z,32nm,1.1s
CHTO Chiang Mai 20.20 273 P **P** **20 22 34.3 +0.1**
CHTO IAmb IAmb 20 22 36.0
comp=Z,32nm,1.1s
UTHA Uthaitani 20.21 263 P Pn 20 22 36.0 -0.4
comp=Z,64µm,1.0s,comp=Z,517µm
CM31 Chiang Mai Arr 20.23 272 P **P** **20 22 35.2 +0.7**
CM31 IAmb IAmb 20 22 49.4
comp=Z,67nm,1.4s
CMAR Chiang Mai Arr 20.23 272 *i* P **P** **20 22 35.5 +1.0**
CMAR pmax pmax
comp=Z,21nm,1.1s
CMAR Chiang Mai Arr 20.23 272 P **P** **20 22 35.5 +1.0**
comp=Z,19nm,1.1s,baz=82,slow=8.5,SNR=68
CMAR PcP **PcP** **20 26 48.9 +0.3**
comp=Z,2.7nm,0.7s,baz=49,slow=0.5,SNR=18
CMAR LR LR 20 30 33.9
comp=Z,211nm,19.2s,baz=78,slow=37
BKB Balikpapan 20.52 190 P **P** **20 22 37.3 -0.4**
comp=Z,234nm,1.2s,comp=Z,4µm
BKB Balikpapan 20.52 190 P **P** **20 22 38.7 +1.0**
BKB IAmb IAmb 20 22 41.3
comp=Z,629nm,1.6s
UMPA Umpang Tak 20.63 265 P Pn 20 22 41.3 +0.1
comp=Z,47µm,1.1s
PHET Kaeng Krachan 20.79 256 P Pn 20 22 43.9 +0.8
comp=Z,41µm,0.8s
SRDT SRDT 20.82 260 P Pn 20 22 43.3 -0.1
comp=Z,12nm,1.2s
LBMI Labuha 20.87 159 P Pn 20 22 44.3 +0.3
comp=Z,34nm,1.5s,comp=Z,1µm
BJT Baijiatuau 21.13 351 P **P** **20 22 44.7 +0.6**
BJT pmax pmax
comp=Z,137nm,1.2s
BJT Baijiatuau 21.13 351 P **P** **20 22 44.7 +0.6**
BJT IAmb IAmb 20 22 47.0
comp=Z,137nm,1.2s
BJI Beijing 21.15 351 ⇓ *i* P **P** **20 22 45.0 +0.7**
BJI pmax pmax
comp=Z,95nm,1.2s
BJI LR LR
comp=Z,990nm,12.0s
BJI LR LR
comp=Z,760nm,11.5s
BJI LR LR
comp=Z,1µm,11.8s
MHMT Maesarieng 21.21 271 P **P** **20 22 46.9 +1.7**
comp=Z,77nm,1.1s,comp=Z,1µm
JCJ Chichijima 21.62 64 LR LR 20 29 34.4
comp=Z,152nm,21.9s,baz=348,slow=32
SANI Sanana 21.77 164 P **P** **20 22 47.7 -3.4**
comp=Z,49nm,1.0s,comp=Z,571nm
INU Inuyama 21.91 39 P **P** **20 22 53.3 +0.8**
INU IAmb IAmb 20 23 06.0
comp=Z,298nm,1.6s
TTSI Tana Toraja 22.03 181 P **P** **20 22 54.4 +0.5**
comp=Z,50nm,1.2s,comp=Z,793nm
LZH Lanzhou 22.27 323 ⇓ P **P** **20 22 57.5 +0.9**
LZH sP pwP 20 23 04.8 -0.5
LZH pmax pmax
comp=Z,97nm,1.4s
LZH pmax pmax
comp=Z,380nm,5.4s
LZH LR LR
comp=Z,3µm,7.6s
LZH LR LR
comp=Z,2µm,9.2s
LZH LR LR
comp=Z,2µm,9.2s
SWI Sorong 22.59 150 P **P** **20 23 01.9 +2.0**
SWI pmax pmax
comp=Z,32nm,1.2s
SWI Sorong 22.59 150 P **P** **20 23 00.5 +0.6**
comp=Z,32nm,1.2s
SIJI Sorong 22.60 150 P **P** **20 22 58.1 -1.9**
comp=Z,20nm,1.0s,baz=353,slow=10,SNR=7.1
SNY Shenyang 22.81 6 ⇑ P **P** **20 23 01.5 -0.6**
SNY S **S** **20 27 09.8 -0.5**
SNY pmax pmax
comp=Z,18nm,1.1s
SNY pmax pmax
comp=Z,540nm,5.5s
SNY LR LR
comp=Z,940nm,12.4s
SNY LR LR
comp=Z,1µm,12.0s
SNY LR LR
comp=Z,2µm,11.2s
HHC Hu-ho-hao-te 22.92 343 *e*P **P** **20 23 04.0 +0.7**
HHC S **S** **20 27 08.0 -4.5**
HHC pmax pmax
comp=Z,16nm,1.2s
HHC pmax pmax
comp=Z,140nm,5.5s
HHC LR LR
comp=Z,950nm,12.3s
HHC LR LR
comp=Z,950nm,13.8s
HHC LR LR
comp=Z,970nm,12.7s
TRTT Trang 22.93 243 P **P** **20 23 05.4 +1.8**
comp=Z,27nm,1.2s,comp=Z,1µm
SPSI Sidrap Palu 22.94 181 P **P** **20 23 04.7 +1.0**
comp=Z,179nm,1.2s,comp=Z,2µm
SURT Suratani 23.15 247 P **P** **20 23 07.5 +1.7**
comp=Z,54nm,1.1s
BTO Baotou 23.16 340 *e*P **P** **20 23 01.5 -4.4**
BTO S **S** **20 27 18.5 +1.9**
NLAI Namlea 23.20 163 P **P** **20 23 06.7 +0.4**
comp=Z,66nm,1.3s
BNSI Bone 23.37 180 P **P** **20 23 08.0 0.0**
comp=Z,63nm,1.5s,comp=Z,1µm
MAT Matsushiro 23.43 39 P P 20 23 17.6 +9.1
MAT S **S** **20 27 22.8 +1.8**
MJAR Matsushiro Arr 23.43 39 P **P** **20 23 07.7 -0.9**
comp=Z,7.8nm,1.2s,baz=226,slow=6.5,SNR=6.2
KULM Kulim 23.57 237 P **P** **20 23 09.7 -0.3**
KULM IAmb IAmb 20 23 11.6
comp=Z,110nm,1.7s
MYKOM Kota Tinggi 23.58 225 P **P** **20 23 10.1 0.0**
MYKOM IAmb IAmb 20 23 11.3
comp=Z,70nm,1.2s
IPM Ipoh 23.78 235 P **P** **20 23 10.2 -1.9**
IPM IAmb IAmb 20 23 11.9
comp=Z,72nm,1.3s
MSAI Masohi 23.88 158 P **P** **20 23 12.7 -0.3**
comp=Z,8.5nm,0.8s,comp=Z,703nm
AAI Ambon 23.96 160 P **P** **20 23 14.1 +0.4**
comp=Z,39nm,1.3s,comp=Z,876nm
KAPI Kappang 23.98 181 P **P** **20 23 14.7 +0.8**
KAPI pmax pmax
comp=Z,255nm,1.5s
KAPI Kappang 23.98 181 P **P** **20 23 14.7 +0.8**
KAPI IAmb IAmb 20 23 27.0
comp=Z,256nm,1.4s
GUMO Guam 24.20 99 P **P** **20 23 15.0 -1.0**
GUMO pmax pmax
comp=Z,303nm,1.3s
GUMO Guam 24.20 99 LR LR 20 32 55.9
comp=Z,432nm,18.5s,baz=286,slow=37
GUMO Guam 24.20 99 P **P** **20 23 15.0 -1.0**
GUMO IAmb IAmb 20 23 16.0
comp=Z,303nm,1.2s
BKSI Bulukumba 24.29 180 P **P** **20 23 16.1 -0.6**
comp=Z,39nm,1.8s,comp=Z,590nm
FAKI Fak Fak 24.86 151 P **P** **20 23 16.2 -5.7**
comp=Z,19nm,1.3s
FAKI Fak Fak 24.86 151 P **P** **20 23 22.2 +0.3**
FAKI IAmb IAmb 20 23 45.0
comp=Z,30nm,1.2s
CN2 Changchun 24.99 9 *e*P **P** **20 23 23.8 +0.9**
CN2 *e*S **S** **20 27 44.5 -1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,700nm,14.0s
CN2 LR LR
comp=Z,1µm,14.0s
CN2 LR LR

comp=Z,800nm,14.0s
MSHR Mys Shultsa 25.14 19 *i* P **P** **20 23 25.0 +0.8**
VLA Vladivostok 25.85 20 *i* P **P** **20 23 30.8 +0.1**
VLA pmax pmax
comp=Z,20nm,1.2s
PSI Prapat 26.45 235 P **P** **20 23 36.3 -0.3**
comp=Z,9.2nm,0.8s,baz=42,slow=12,SNR=12
PSI LR LR 20 34 59.3
comp=Z,330nm,18.1s,baz=12,slow=39
RPSI Rantau Prapat 26.52 235 P **P** **20 23 35.8 -1.3**
RPSI IAmb IAmb 20 23 37.0
comp=Z,32nm,1.2s
RPSI Rantau Prapat 26.52 235 P **P** **20 23 36.3 -0.8**
BKNI Bangkinang 26.56 228 P **P** **20 23 36.3 -1.1**
BKNI IAmb IAmb 20 23 38.2
comp=Z,63nm,0.6s
MDJ Mudanjiang 26.59 15 P **P** **20 23 37.8 +0.5**
MDJ S **S** **20 28 15.8 +4.8**
MDJ pmax pmax
comp=Z,49nm,1.5s
MDJ pmax pmax
comp=Z,250nm,7.9s
MDJ LR LR
comp=Z,1µm,12.9s
MDJ LR LR
comp=Z,1µm,12.5s
MDJ LR LR
comp=Z,2µm,15.8s
MDJ Mudanjiang 26.59 15 P **P** **20 23 37.6 +0.3**
MDJ IAmb IAmb 20 23 39.3
comp=Z,53nm,1.0s
USA0B Ussuriysk Arra 26.86 19 *i* P **P** **20 23 39.5 -0.3**
USA0B Ussuriysk Arra 26.86 19 P **P** **20 23 39.7 -0.1**
USA0B IAmb IAmb 20 23 41.3
comp=Z,33nm,1.3s
USRK Ussuriysk Ar. 26.86 19 P **P** **20 23 40.8 +1.0**
comp=Z,10nm,0.7s,baz=208,slow=7.9,SNR=24
USRK PcP **PcP** **20 27 00.5 -1.5**
comp=Z,1.4nm,0.7s,baz=264,slow=1.4,SNR=3.3
USRK LR LR 20 35 09.2
comp=Z,353nm,19.7s,baz=198,slow=38
GTA Gaotai 26.87 323 *e*P **P** **20 23 40.3 +0.2**
GTA pP pP 20 23 44.8 -0.2
GTA sP pwP 20 23 47.8 -1.5
GTA PcP **PcP** **20 27 02.8 +0.4**
GTA S **S** **20 28 15.5 -0.4**
GTA sS pS 20 28 20.8 -0.4
GTA SS 20 29 26.0
GTA pmax pmax
comp=Z,11nm,1.2s
GTA pmax pmax
comp=Z,230nm,5.8s
GTA LR LR
comp=Z,950nm,13.4s
GTA LR LR
comp=Z,2µm,12.7s
GTA LR LR
comp=Z,2µm,12.0s
SHL Shillong 27.02 289 P **P** **20 23 41.1 -0.6**
SHL pmax pmax
comp=Z,24nm,1.0s
SHL Shillong 27.02 289 P **P** **20 23 41.1 -0.6**
SHL IAmb IAmb 20 23 56.4
comp=Z,24nm,1.0s
SDSI Sungai Dareh 27.21 225 P P 20 23 54.3 +11
PDSI Padang 27.85 227 P **P** **20 23 48.9 -0.1**
comp=Z,5.5nm,0.9s,comp=Z,1µm
PLAI Plampang 27.88 185 P **P** **20 23 48.1 -1.1**
comp=Z,69nm,1.9s,comp=Z,1µm
PWJI Pagerwojo 28.24 198 P **P** **20 23 51.2 -1.2**
comp=Z,38nm,1.1s
MDSI Maura Dua 28.32 216 P **P** **20 23 51.6 -1.5**
comp=Z,14nm,1.2s
WOJI Wonogiri, Jawa 28.33 200 P **P** **20 23 52.9 -0.3**
comp=Z,41nm,1.3s
GSI Gunungsitoli 28.44 234 P **P** **20 23 50.7 -3.6**
comp=Z,23nm,0.9s
GSI Gunungsitoli 28.44 234 P **P** **20 23 53.0 -1.3**
GSI IAmb IAmb 20 24 07.7
comp=Z,16nm,0.8s
LSA Lhasa 28.48 297 P **P** **20 23 56.3 +1.2**
LSA pmax pmax
comp=Z,28nm,1.2s
LSA Lhasa 28.48 297 P **P** **20 23 56.3 +1.2**
LSA IAmb IAmb 20 23 57.5
comp=Z,28nm,1.2s
SOEI Soe 28.96 172 P P 20 24 09.1 +10
BATI Baumata 29.33 173 P **P** **20 24 00.9 -1.2**
comp=Z,43nm,0.8s,baz=167,slow=1.8,SNR=11
BATI PcP **PcP** **20 27 08.2 -0.3**
comp=Z,6.6nm,0.4s,baz=270,slow=3.0,SNR=7.2
ULN Ulaanbaatar 30.64 342 *ce* P **P** **20 24 13.4 -0.2**
ULN pmax pmax
comp=Z,27nm,1.7s
ULN Ulaanbaatar 30.64 342 P **P** **20 24 13.9 +0.3**
ULN IAmb IAmb 20 24 41.4
comp=Z,24nm,1.4s
SONM Songino Array 30.80 342 P **P** **20 24 15.4 +0.4**
comp=Z,5.6nm,1.0s,baz=159,slow=9.4,SNR=24
SONM PcP **PcP** **20 27 11.7 -0.3**
comp=Z,1.1nm,0.9s,baz=203,slow=3.0,SNR=3.1
SONM LR LR 20 37 26.1
comp=Z,712nm,19.4s,baz=162,slow=38
TAPN Taplejung 30.97 291 *e*P **P** **20 24 17.1 +0.1**
comp=Z,72nm,1.3s
ODAN Odare 31.19 290 *e*P **P** **20 24 19.1 +0.3**
comp=Z,43nm,0.8s
KLR Kul'dur 31.43 14 LR LR 20 37 47.5
comp=Z,511nm,19.1s,baz=197,slow=38
RAMN Ramite 31.90 290 *e*P **P** **20 24 25.1 0.0**
comp=Z,59nm,0.8s
JIRN Jiri 32.35 292 *e*P **P** **20 24 29.6 +0.4**
comp=Z,217nm,1.4s
GUN Gumba 32.66 292 *e*P **P** **20 24 32.1 +0.2**
comp=Z,109nm,1.0s
PKI Pulchoki 33.03 291 *e*P **P** **20 24 34.6 -0.5**
comp=Z,13nm,1.5s
PKIN Phulchoki 33.04 291 *e*P **P** **20 24 34.6 -0.5**
comp=Z,84nm,1.6s
KKN Kakani 33.17 292 *e*P **P** **20 24 35.9 -0.3**
comp=Z,73nm,1.2s
DMN Daman 33.30 291 *e*P **P** **20 24 37.3 -0.1**
comp=Z,90nm,1.2s
YSS Yuzh-Sakhalins 33.31 28 *e*P **P** **20 24 38.3 +1.4**
YSS *e**PP **pwP** **20 24 48.0 +2.5**
YSS *e*S **S** **20 29 56.2 -0.2**
YSS *e*SSS SSS 20 32 04.2
YSS MLR MLR
comp=Z,400nm,15.0s
ZAK Zakamensk 34.01 340 *e*P **P** **20 24 42.2 -0.9**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
GRNR Gornyy 34.08 18 *e*P **P** **20 24 39.9 -3.7**
GRNR pmax pmax
comp=Z,9.0nm,1.3s
DANN Dangsing 34.57 292 *e*P **P** **20 24 48.2 -0.3**
comp=Z,236nm,1.6s
ZEA Zeya 34.97 7 *e*P **P** **20 24 51.8 +0.6**
ZEA pmax pmax
comp=Z,28nm,1.2s
ZEA MLR MLR
comp=N,1µm,14.0s
ZEA MLR MLR
comp=E,1µm,14.0s
ZEA MLR MLR
comp=Z,1µm,14.0s
TLY Talaya 35.04 342 *e*P **P** **20 24 53.0 +1.1**
TLY *e* 20 26 33.2
TLY *e*S **S** **20 30 18.9 -4.2**
TLY pmax pmax
comp=Z,43nm,1.3s
TLY MLR MLR
comp=Z,1µm,16.0s
TLY Talaya 35.04 342 P **P** **20 24 51.7 -0.2**
comp=Z,3.8nm,0.9s,baz=164,slow=9.9,SNR=6.6
TLY Talaya 35.04 342 P **P** **20 24 52.3 +0.5**
TLY IAmb IAmb 20 24 53.9
comp=Z,16nm,1.2s
KNRA Kununurra 35.56 166 P **P** **20 24 54.5 -2.2**
KNRA IAmb IAmb 20 25 26.1
comp=Z,69nm,1.6s
MOY Mondy 35.86 339 *e*P **P** **20 25 00.0 +1.0**
MOY pmax pmax
comp=Z,33nm,2.0s
WMQ Urumqi 36.76 319 *e*P **P** **20 25 08.0 +1.2**
WMQ pP sP 20 25 13.5 -0.7
WMQ sP pwP 20 25 20.5 +4.5
WMQ pmax pmax
comp=Z,13nm,1.7s
WMQ pmax pmax
comp=Z,150nm,5.3s
WMQ LR LR
comp=Z,830nm,12.3s
WMQ LR LR
comp=Z,550nm,9.3s
WMQ LR LR
comp=Z,440nm,16.7s
WMQ Urumqi 36.76 319 P **P** **20 25 08.0 +1.2**
WMQ pmax pmax
comp=Z,34nm,1.3s
WMQ Urumqi 36.76 319 P **P** **20 25 08.0 +1.2**
WMQ IAmb IAmb 20 25 25.5
comp=Z,34nm,1.3s
FITZ Fitzroy Crossi 37.35 172 P **P** **20 25 09.8 -2.1**
FITZ IAmb IAmb 20 25 48.3
comp=Z,92nm,1.9s
BOD Bodaibo 38.93 355 *e*P **P** **20 25 25.6 +0.8**
BOD pmax pmax
comp=Z,12nm,1.7s
COEN Coen 39.85 144 P **P** **20 25 31.2 -1.8**
COEN IAmb IAmb 20 25 33.2
comp=Z,9.0nm,1.1s
PSA00 Pilbara Seismi 40.44 181 P **P** **20 25 36.9 -0.9**
PSA00 IAmb IAmb 20 26 20.7
comp=Z,221nm,1.6s
WRAB Tennant Creek 41.18 160 *ce* P **P** **20 25 42.5 -1.4**
WRAB pmax pmax
comp=Z,28nm,1.3s
WRAB Tennant Creek 41.18 160 P **P** **20 25 42.6 -1.4**
WRAB IAmb IAmb 20 25 43.9
comp=Z,28nm,1.2s
WRA Warramunga Arr 41.19 160 P **P** **20 25 42.9 -1.1**
WRA Warramunga Arr 41.19 160 P **P** **20 25 41.9 -2.1**
comp=Z,13nm,1.1s,baz=343,slow=8.9,SNR=25
WRA PcP **PcP** **20 27 42.3 -0.7**
comp=Z,2.1nm,0.6s,baz=337,slow=3.5,SNR=4.8
WRA Warramunga Arr 41.19 160 P **P** **20 25 42.9 -1.1**
WRA IAmb IAmb 20 25 44.7
comp=Z,1.0nm,1.1s
MK31 Makanchi Array 41.55 320 *i* P **P** **20 25 47.0 +0.3**
MK31 pmax pmax
comp=Z,19nm,0.9s
MK31 Makanchi Array 41.55 320 P **P** **20 25 47.1 +0.3**
MK31 IAmb IAmb 20 25 57.4
comp=Z,23nm,1.1s
MKAR Makanchi Array 41.55 320 P **P** **20 25 47.4 +0.7**
comp=Z,12nm,0.9s,baz=113,slow=8.4,SNR=71
MKAR PcP **PcP** **20 27 43.8 -0.1**
comp=Z,4.3nm,0.9s,baz=118,slow=4.4,SNR=4.7
MKAR LR LR 20 43 57.5
comp=Z,387nm,21.1s,baz=94,slow=38
MAKZ Makanchi 41.74 320 *i* P **P** **20 25 48.7 +0.4**
MAKZ pmax pmax
comp=Z,29nm,1.3s
MAKZ Makanchi 41.74 320 P **P** **20 25 48.2 -0.1**
MAKZ IAmb IAmb 20 25 50.5
comp=Z,23nm,1.1s
PDGK Podgornoye 41.85 314 *i* P **P** **20 25 50.2 +0.8**
PDGK pmax pmax
comp=Z,34nm,1.3s
PRZ Przheval'sk 42.29 313 P **P** **20 25 53.4 +0.3**
PRZ pmax pmax
comp=Z,56nm,1.4s
PRZ Przheval'sk 42.29 313 P **P** **20 25 53.4 +0.3**
PRZ IAmb IAmb 20 25 56.7
comp=Z,56nm,1.4s
KDJ Kajisay 43.03 312 P **P** **20 25 59.0 -0.1**
KDJ pmax pmax
comp=Z,21nm,1.3s
KDJ Kajisay 43.03 312 P **P** **20 25 59.0 -0.1**
KDJ IAmb IAmb 20 26 01.9
comp=Z,21nm,1.3s
KSH Kashi 43.15 308 P **P** **20 26 03.5 +3.5**
KSH PP **PcP** **20 27 47.5 -2.0**
KSH S **S** **20 32 31.5 +5.8**
KSH SS **SS** **20 35 37.8 -0.8**
KSH pmax pmax
comp=Z,55nm,1.2s
KSH pmax pmax
comp=Z,610nm,7.8s
KSH LR LR
comp=Z,1µm,11.4s
KSH LR LR
comp=Z,2µm,17.8s
KSH LR LR
comp=Z,1µm,15.4s
YAK Yakutsk 43.37 6 *e*P **P** **20 26 00.1 -1.2**
YAK pmax pmax
comp=Z,23nm,1.3s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK Yakutsk 43.37 6 P **P** **20 26 01.7 +0.4**
comp=E,2.5nm,0.3s,baz=166,slow=9.0,SNR=5.8
YAK LR LR 20 45 30.3
comp=E,220nm,19.2s,baz=208,slow=38
YAK Yakutsk 43.37 6 IAmb IAmb 20 26 04.0
comp=Z,34nm,1.3s
NRN Naryn 43.66 310 P **P** **20 26 03.7 -0.6**
NRN pmax pmax
comp=Z,30nm,1.2s
NRN Naryn 43.66 310 P **P** **20 26 03.7 -0.6**
NRN IAmb IAmb 20 26 06.9
comp=Z,30nm,1.1s
WAKE Wake Island 43.68 82 P **P** **20 26 04.2 -0.2**
WAKE IAmb IAmb 20 26 05.1
comp=Z,80nm,0.9s
ULHL Ulahol 43.73 312 P **P** **20 26 07.3 +2.5**
SNR=6.0
ZAA0 Zalesovo Array 44.13 330 P **P** **20 26 06.7 -0.8**
ZAA0 IAmb IAmb 20 26 09.3
comp=Z,20nm,0.9s
ZALV Zalesovo Beam 44.13 330 P **P** **20 26 07.8 +0.3**
comp=Z,22nm,1.0s,baz=119,slow=6.7,SNR=48
ZALV PcP **PP** **20 27 51.1 +0.6**
comp=Z,0.8nm,0.3s,baz=111,slow=3.2,SNR=2.3
ZALV LR LR 20 45 19.7
comp=Z,634nm,18.9s,baz=159,slow=37
NIL Nilore 44.19 299 P **P** **20 26 06.5 -1.9**
NIL pmax pmax
comp=Z,18nm,0.8s
NIL Nilore 44.19 299 P **P** **20 26 06.5 -1.9**
NIL IAmb IAmb 20 26 17.4
comp=Z,18nm,0.8s
KZA Kyzart 44.38 311 P **P** **20 26 12.0 +1.7**
SNR=23
TKM2 Tokmak 2 44.39 312 *i* P **P** **20 26 09.3 -0.8**
TKM2 pmax pmax
comp=Z,20nm,1.4s
TKM2 Tokmak 2 44.39 312 P **P** **20 26 11.7 +1.7**
SNR=13
AS31 Alice Springs 44.55 162 P **P** **20 26 09.1 -2.1**
AS31 IAmb IAmb 20 26 11.7
comp=Z,2.8nm,1.0s
ASAR Alice Springs 44.55 162 P **P** **20 26 09.8 -1.5**
comp=Z,6.1nm,0.9s,baz=338,slow=6.8,SNR=44
ASAR PcP **PcP** **20 27 53.4 -0.9**
comp=Z,0.7nm,0.7s,baz=339,slow=5.0,SNR=2.4
ASAR LR LR 20 47 04.1
comp=Z,112nm,20.1s,baz=356,slow=39
PEA0B Petropavlovsk- 44.56 31 *i* P **P** **20 26 10.4 -0.6**
PEA0B Petropavlovsk- 44.56 31 P **P** **20 26 11.5 +0.5**
PEA0B IAmb IAmb 20 26 28.8
comp=Z,117nm,1.4s
PETK Petropavlovsk- 44.56 31 P **P** **20 26 11.4 +0.5**
comp=Z,15nm,0.7s,baz=207,slow=6.4,SNR=13
PETK LR LR 20 45 33.9
comp=Z,135nm,18.1s,baz=241,slow=37
KBK Karagaybulak 44.77 312 P **P** **20 26 15.0 +2.0**
SNR=17
UCH Uchtor 44.95 311 P **P** **20 26 16.6 +1.7**
SNR=44
PET Petropavlovsk 44.98 32 *i* P **P** **20 26 13.4 -0.9**
PET pmax pmax
comp=Z,119nm,2.0s
CHMS Chumysh 45.01 312 P **P** **20 26 16.2 +1.4**
SNR=18
AAK Ala-Archa 45.08 312 *i* P **P** **20 26 16.4 +0.9**
AAK pmax pmax
comp=Z,14nm,1.4s
AAK Ala-Archa 45.08 312 P **P** **20 26 16.5 +1.1**

comp=Z,7.7nm,1.1s,baz=98,slow=8.1,SNR=11
AAK PcP **PcP** **20 27 56.3 +0.2**
comp=Z,3.4nm,0.8s,baz=131,slow=5.3,SNR=6.4
AAK **Ala-Archa** **45.08 312** P **P** **20 26 17.2 +1.7**
SNR=7.5
AAK **Ala-Archa** **45.08 312** P **P** **20 26 16.6 +1.1**
AAK IAmb IAmb 20 26 18.3
comp=Z,13nm,1.2s
USP **Ospenovka** **45.26 313** P **P** **20 26 18.2 +1.4**
SNR=18
AML **Almayashu** **45.51 311** P **P** **20 26 21.2 +2.0**
SNR=34
KURK **Kurchatov** **45.55 324** *i* P **P** **20 26 18.3 -0.6**
KURK pmax pmax
comp=Z,31nm,1.0s
KURK **Kurchatov** **45.55 324** P **P** **20 26 18.2 -0.7**
KURK IAmb IAmb 20 26 20.6
comp=Z,28nm,1.1s
KURBB **Kurchatov Arra** **45.56 324** P **P** **20 26 19.3 +0.4**
comp=Z,19nm,0.8s,baz=122,slow=7.9,SNR=84
EKS2 **Erkin-Say** **45.59 311** P **P** **20 26 21.4 +1.8**
SNR=15
ARSB **Arslanbob** **45.81 309** P **P** **20 26 21.3 0.0**
ARSB IAmb IAmb 20 26 23.7
comp=Z,26nm,1.2s
BTK **Batken** **47.14 307** P **P** **20 26 30.3 -1.4**
BTK pmax pmax
comp=Z,25nm,1.3s
BTK **Batken** **47.14 307** P **P** **20 26 30.3 -1.4**
BTK IAmb IAmb 20 26 33.9
comp=Z,25nm,1.3s
GAR **Garm** **47.33 306** P **P** **20 26 33.1 -0.1**
GAR IAmb IAmb 20 26 35.7
comp=Z,73nm,1.1s
KBL **Kabul** **47.76 300** P **P** **20 26 36.7 0.0**
KBL pmax pmax
comp=Z,42nm,1.3s
KBL **Kabul** **47.76 300** P **P** **20 26 36.7 0.0**
KBL IAmb IAmb 20 26 39.3
comp=Z,42nm,1.3s
KK31 **Karatay Array** **48.03 311** *i* P **P** **20 26 39.2 +0.8**
KK31 pmax pmax
comp=Z,27nm,0.9s
KK31 **Karatay Array** **48.03 311** P **P** **20 26 38.8 +0.3**
KK31 IAmb IAmb 20 26 41.0
comp=Z,30nm,0.9s
KKAR **Karatay Array** **48.03 311** P **P** **20 26 38.8 +0.4**
KKAR pmax pmax
comp=Z,31nm,1.0s
KKAR **Karatay Array** **48.03 311** P **P** **20 26 38.8 +0.4**
KKAR IAmb IAmb 20 26 41.0
comp=Z,30nm,0.9s
MORW **Morawa** **48.08 185** P **P** **20 26 38.4 -0.4**
MORW IAmb IAmb 20 26 39.6
comp=Z,56nm,1.3s
CHGR **Chuyangaron** **48.16 305** P **P** **20 26 39.6 0.0**
CHGR IAmb IAmb 20 26 46.0
comp=Z,31nm,1.0s
SEY **Seymchan** **49.01 19** *i* P **P** **20 26 46.6 +1.0**
FORT **Forrest** **50.17 171** P **P** **20 26 54.1 -0.7**
FORT IAmb IAmb 20 27 02.9
comp=Z,80nm,1.3s
BRVK **Borovoye** **51.22 324** *i* P **P** **20 27 02.8 +0.2**
BRVK pmax pmax
comp=Z,16nm,1.0s
BRVK **Borovoye** **51.22 324** P **P** **20 27 02.6 0.0**
BRVK IAmb IAmb 20 27 04.5
comp=Z,16nm,1.1s
NWAO **Narrogin (SRO)** **51.83 183** P **P** **20 27 06.7 -0.6**
NWAO pmax pmax
comp=Z,54nm,1.3s
NWAO **Narrogin (SRO)** **51.83 183** P **P** **20 27 06.7 -0.6**
NWAO IAmb IAmb 20 27 16.4
comp=Z,54nm,1.2s
TIXI **Tiksi** **52.78 3** *ce* P **P** **20 27 12.7 -1.2**
TIXI pmax pmax
comp=Z,17nm,1.7s
TIXI **Tiksi** **52.78 3** P **P** **20 27 13.2 -0.7**
TIXI IAmb IAmb 20 27 14.4
comp=Z,27nm,1.4s
HRA **Herat** **53.36 299** P **P** **20 27 18.5 -0.5**
HRA IAmb IAmb 20 27 20.6
comp=Z,29nm,1.2s
BBOO **Buckleboo** **53.79 164** P **P** **20 27 21.2 -0.6**
BBOO IAmb IAmb 20 27 23.1
comp=Z,123nm,1.3s
STKA **Stephens Creek** **54.66 158** P **P** **20 27 27.8 -0.4**
STKA pmax pmax
comp=Z,5.0nm,1.1s
STKA **Stephens Creek** **54.66 158** P **P** **20 27 27.5 -0.7**
comp=Z,12nm,0.9s,baz=345,slow=7.0,SNR=18
STKA **Stephens Creek** **54.66 158** P **P** **20 27 27.8 -0.4**
STKA IAmb IAmb 20 27 28.9
comp=Z,5.2nm,1.1s
AB31 **Akbulak array** **56.47 317** *i* P **P** **20 27 41.1 +0.1**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR **Akbulak array** **56.47 317** P **P** **20 27 41.0 -0.1**
ABKAR IAmb IAmb 20 27 42.8
comp=Z,23nm,1.1s
BILL **Bilibino** **56.72 19** ⇑ *e* P **P** **20 27 43.2 +0.7**
BILL *PP **pP** **20 27 46.0 -1.7**
BILL *SP **pwP** **20 27 52.0 +0.3**
BILL pmax pmax
comp=Z,34nm,1.7s
BILL MLR MLR
comp=Z,315nm,17.0s
GEYT **Alibeck** **56.75 303** P **P** **20 27 44.4 +1.1**
comp=Z,30nm,1.0s,baz=108,slow=4.8,SNR=60
GEYT LR LR 20 54 50.2
comp=Z,367nm,21.4s,baz=95,slow=39
GYA0B **ALIBECK ARRAY** **56.75 303** P **P** **20 27 44.6 +1.3**
GYA0B IAmb IAmb 20 27 45.9
comp=Z,56nm,1.1s
SVE **Sverdlovsk** **57.69 326** ⇓ *e* P **P** **20 27 50.4 +0.9**
SVE pmax pmax
comp=Z,57nm,1.5s
AKTO **Aktyubinsk** **57.89 318** *i* P **P** **20 27 50.8 -0.3**
AKTO pmax pmax
comp=Z,29nm,1.2s
ARU **Arti** **58.70 325** *c i* P **P** **20 27 55.7 -1.0**
ARU 20 28 41.9
ARU S **S** **20 36 02.1 +1.8**
ARU pmax pmax
comp=Z,41nm,1.1s
ARU **Arti** **58.70 325** P **P** **20 27 55.3 -1.4**
ARU IAmb IAmb 20 27 57.9
comp=Z,36nm,1.1s
GSTR **Great Sitkin T** **58.99 40** P **P** **20 27 58.4 -0.4**
DZM **Mont Dzumac** **60.92 130** *e* P **P** **20 28 13.5 +1.0**
comp=Z,73nm,1.2s
DZM **Mont Dzumac** **60.92 130** *e* LR LR 20 46 22.0
comp=Z,470nm,22.7s
DZM **Mont Dzumac** **60.92 130** P **P** **20 28 13.4 +1.0**
DZM IAmb IAmb 20 28 15.5
comp=Z,31nm,1.1s
TOO **Toolangi** **61.17 157** P **P** **20 28 14.1 +0.3**
TOO pmax pmax
comp=Z,25nm,1.0s
TOO **Toolangi** **61.17 157** P **P** **20 28 14.1 +0.3**
TOO IAmb IAmb 20 28 16.3
comp=Z,25nm,1.0s
PRGR **Permogore** **66.08 330** *e* P **P** **20 28 44.7 -1.2**
PRGR pmax pmax
comp=Z,22nm,0.9s
GNI **Garni** **67.05 306** P **P** **20 28 53.5 +0.8**
GNI pmax pmax
comp=Z,38nm,1.3s
GNI **Garni** **67.05 306** P **P** **20 28 53.5 +0.8**
GNI IAmb IAmb 20 29 10.6
comp=Z,38nm,1.2s
ZEI **Tsey** **67.41 309** *e* P **P** **20 28 53.9 -1.2**
ZEI pmax pmax
comp=Z,17nm,1.1s
MSVF **Nonsavu** **67.53 119** P **P** **20 28 58.0 +2.1**
MSVF pmax pmax
comp=Z,17nm,1.1s
MSVF **Nonsavu** **67.53 119** P **P** **20 28 58.0 +2.1**
MSVF IAmb IAmb 20 28 59.9
comp=Z,17nm,1.1s
KBZ **Khabaz** **68.05 310** P **P** **20 28 59.4 +0.7**
comp=Z,9.3nm,1.0s,baz=156,slow=9.5,SNR=9.6
KBZ LR LR 21 02 02.9
comp=Z,262nm,18.5s,baz=72,slow=39
KIV **Kislovodsk** **68.18 311** *c i* P **P** **20 28 59.4 -0.3**
KIV *i* 20 29 07.8
KIV *i* 20 29 24.6
KIV *i* 20 31 29.6
KIV pmax pmax
comp=Z,24nm,1.0s
KIV **Kislovodsk** **68.18 311** P **P** **20 28 58.9 -0.8**
KIV IAmb IAmb 20 29 01.4
comp=Z,32nm,1.1s
NEY **Neytrino** **68.23 310** *i* P **P** **20 29 00.2 +0.1**
NEY pmax pmax
comp=Z,2.0nm,0.9s
VRH **Novokhopyorsk** **68.23 318** *e* P **P** **20 28 59.2 -0.5**
VRH pmax pmax
comp=Z,50nm,1.0s
RAYN **Ar Rayn** **69.09 289** P **P** **20 29 04.9 -0.8**
RAYN pmax pmax
comp=Z,17nm,1.1s
RAYN **Ar Rayn** **69.09 289** P **P** **20 29 04.9 -0.8**
RAYN IAmb IAmb 20 29 06.4
comp=Z,17nm,1.1s
TMCR **Tamitsa** **69.61 332** *e* P **P** **20 29 07.8 -0.3**
TMCR pmax pmax
comp=Z,44nm,1.0s
VORD **Divnogorie** **69.78 318** *e* P **P** **20 29 08.3 -1.0**
VORD pmax pmax
comp=Z,10.0nm,0.7s
VSR **Storozhevoye** **69.83 319** *e* P **P** **20 29 08.6 -1.1**
VSR pmax pmax
comp=Z,30nm,1.1s
LPSR **Galich'ya Gora** **69.85 320** *e* P **P** **20 29 09.4 -0.3**
LPSR pmax pmax
comp=Z,50nm,1.2s
MOS **Moscow** **70.32 323** *e* P **P** **20 29 10.8 -1.8**
MOS *e* 20 29 23.8
MOS *e* 20 38 46.5
MOS pmax pmax
comp=Z,97nm,1.8s
OBN **Obninsk** **70.98 323** ⇑ *e* P **P** **20 29 16.5 -0.1**
OBN *PP **pP** **20 29 21.0 -1.2**
OBN *SP **pwP** **20 29 24.0 -1.3**
OBN *e* 20 39 16.9
OBN pmax pmax
comp=Z,66nm,1.7s
OBN MLR MLR
comp=Z,165nm,15.0s
OBN **Obninsk** **70.98 323** P **P** **20 29 16.0 -0.6**
OBN IAmb IAmb 20 29 18.0
comp=Z,56nm,1.3s
APA **Apatity** **71.32 336** ⇑ *i* P **P** **20 29 20.5 +2.0**
APA pmax pmax
comp=Z,11nm,0.9s
ANN **Anapa** **71.81 312** *e* P **P** **20 29 20.1 -1.7**
ANN pmax pmax
comp=Z,47nm,1.0s
TOLK **Toolik Lake Re** **72.42 23** P **P** **20 29 26.4 +1.3**
baz=277
TOLK **Toolik Lake Re** **72.42 23** P **P** **20 29 26.1 +0.9**
TOLK IAmb IAmb 20 29 45.3
comp=Z,15nm,1.2s
MLY **Manley** **72.42 26** P **P** **20 29 25.8 +0.5**
MLY IAmb IAmb 20 29 27.1
comp=Z,18nm,1.0s
BPAW **Bear Paw Mtn.** **72.44 27** P **P** **20 29 25.2 -0.1**
BPAW IAmb IAmb 20 29 36.4
comp=Z,74nm,1.8s
KTH **Kantishna Hill** **72.54 28** P **P** **20 29 25.9 0.0**
KTH IAmb IAmb 20 29 27.2
comp=Z,12nm,1.0s
SUA **Susitna One** **72.91 30** P **P** **20 29 28.0 -0.3**
SUA IAmb IAmb 20 29 29.4
comp=Z,21nm,0.9s
MSF **Maaselka** **73.24 335** P **P** **20 29 32.8 +2.8**
MSF pmax pmax
comp=Z,28nm,1.6s
MCK **McKinley** **73.39 28** P **P** **20 29 30.9 -0.1**
MCK pmax pmax
comp=Z,29nm,1.1s
MCK **McKinley** **73.39 28** P **P** **20 29 30.9 -0.1**
MCK IAmb IAmb 20 29 32.5
comp=Z,29nm,1.1s
RND **Reindeer** **73.48 28** P **P** **20 29 30.9 -0.7**
RND pmax pmax
comp=Z,28nm,1.0s
RND **Reindeer** **73.48 28** P **P** **20 29 30.9 -0.7**
RND IAmb IAmb 20 29 32.1
comp=Z,28nm,1.0s
WRH **Wood River Hil** **73.63 27** P **P** **20 29 32.7 +0.4**
WRH IAmb IAmb 20 29 34.1
comp=Z,13nm,1.0s
TCOL **CIGO, UAF Yank** **73.66 26** P **P** **20 29 33.4 +0.9**
baz=280
CCB **Clear Creek Bu** **73.72 27** P **P** **20 29 32.4 -0.5**
CCB IAmb IAmb 20 29 49.6
comp=Z,15nm,1.5s
POKR **Poker Plat Res** **73.79 26** P **P** **20 29 34.8 +1.5**
baz=280
ARCES **ARCESS Array B** **73.92 339** P **P** **20 29 33.8 -0.2**
comp=Z,3.9nm,0.9s,baz=90,slow=6.3,SNR=4.3
ARCES LR LR 21 05 28.1
comp=Z,250nm,19.6s,baz=121,slow=38
SML **Sawmill** **74.00 30** P **P** **20 29 34.2 -0.4**
SML IAmb IAmb 20 29 52.4
comp=Z,31nm,1.2s
KNK **Knik Glacier** **74.01 30** P **P** **20 29 34.7 0.0**
KNK IAmb IAmb 20 29 35.5
comp=Z,20nm,0.9s
IL31 **74.09 26** P **P** **20 29 35.1 +0.2**
IL31 IAmb IAmb 20 30 18.3
comp=Z,21nm,1.6s
ILAR **Eielson Array** **74.09 26** P **P** **20 29 34.0 -1.0**
comp=Z,2.1nm,0.9s,baz=280,slow=5.6,SNR=21
HDA **Harding Lake** **74.13 27** P **P** **20 29 35.0 -0.2**
baz=281
HDA **Harding Lake** **74.13 27** P **P** **20 29 34.4 -0.8**
HDA IAmb IAmb 20 29 35.2
comp=Z,10nm,1.0s
FYU **Fort Yukon** **74.40 24** P **P** **20 29 37.9 +1.1**
FYU IAmb IAmb 20 29 38.7
comp=Z,29nm,1.3s
SCM **Sheep Creek Mo** **74.46 29** P **P** **20 29 37.1 -0.2**
SCM pmax pmax
comp=Z,67nm,1.4s
SCM **Sheep Creek Mo** **74.46 29** P **P** **20 29 37.1 -0.2**
SCM IAmb IAmb 20 29 56.0
comp=Z,67nm,1.4s
FIA1 **FINESS Array S** **75.40 330** P **P** **20 29 41.8 -0.8**
FIA1 IAmb IAmb 20 29 44.5
comp=Z,119nm,1.8s
FINES **FINESS Array B** **75.40 330** P **P** **20 29 42.0 -0.6**
FINES **FINESS Array B** **75.40 330** P **P** **20 29 42.0 -0.6**
comp=Z,14nm,1.1s,baz=90,slow=3.8,SNR=8.0
FINES LR LR 21 05 01.5
comp=Z,247nm,20.3s,baz=72,slow=37
DOT **Dot Lake** **75.53 27** **PcP** **20 29 54.4 -2.0**
BR131 **Keskin Array S** **75.54 307** *i* P **P** **20 29 47.5 +3.4**
BRTR **Keskin Array B** **75.54 307** P **P** **20 29 43.7 -0.3**
comp=Z,1.1nm,1.0s,baz=101,slow=4.7,SNR=3.6
BRTR LR LR 21 06 55.8
comp=Z,91nm,21.2s,baz=72,slow=39
VSU **Vasula** **75.75 327** *ce* P **P** **20 29 45.9 +1.2**
VSU pmax pmax
comp=Z,75nm,1.7s
AKASG **Malin Array Be** **76.11 319** *i* P **P** **20 29 46.0 -0.9**
AKASG pmax pmax
comp=Z,5.0nm,0.9s
AKASG **Malin Array Be** **76.11 319** P **P** **20 29 45.2 -1.8**
comp=Z,4.4nm,0.9s,baz=63,slow=5.7,SNR=21
AKASG LR LR 21 04 50.0
comp=Z,155nm,20.0s,baz=285,slow=37
AKBB **Malin Array Si** **76.11 319** *i* P **P** **20 29 46.0 -0.9**
AKBB **Malin Array Si** **76.11 319** P **P** **20 29 46.3 -0.6**
AKBB IAmb IAmb 20 29 47.0
comp=Z,13nm,1.1s
GLB **Gilahina Butte** **76.18 29** P **P** **20 29 47.9 +0.7**
GLB IAmb IAmb 20 29 48.5
comp=Z,29nm,1.2s
EGAK **Eagle** **76.47 26** P **P** **20 29 48.5 -0.2**
EGAK IAmb IAmb 20 29 49.6
comp=Z,10.0nm,0.9s
DAWY **Dawson** **77.41 26** P **P** **20 29 53.8 -0.3**
DAWY IAmb IAmb 20 29 55.5
comp=Z,11nm,1.0s
EPYK **Eagle Plains** **77.75 24** P **P** **20 29 55.5 -0.4**
baz=290
EPYK **Eagle Plains** **77.75 24** P **P** **20 29 55.5 -0.4**
EPYK IAmb IAmb 20 32 47.4
comp=Z,49nm,0.3s
INK **Inuvik** **78.22 21** P **P** **20 29 57.7 -0.7**
INK pmax pmax
comp=Z,16nm,1.2s
INK **Inuvik** **78.22 21** P **P** **20 29 57.7 -0.7**
INK IAmb IAmb 20 29 59.2
comp=Z,16nm,1.2s
SUW **Suwalki** **78.83 323** *e* P **P** **20 30 01.6 -0.5**
SUW **Suwalki** **78.83 323** *e* P **P** **20 30 01.6 -0.5**
SUW *e* P **P** **20 30 01.6 -0.5**
SUW **Suwalki** **78.83 323** P **P** **20 30 01.5 -0.5**
SUW IAmb IAmb 20 30 03.0
comp=Z,33nm,0.9s
BUR08 **Bucovina Ar. S** **79.45 317** P **P** **20 30 05.7 -0.1**
BUR08 IAmb IAmb 20 31 48.1
comp=Z,24nm,1.7s
KWP **Kalwaria Pacla** **80.44 319** *e* P **P** **20 30 10.6 -0.3**
KWP **Kalwaria Pacla** **80.44 319** *e* P **P** **20 30 10.6 -0.3**
KWP *e* P **P** **20 30 10.6 -0.3**
KWP **Kalwaria Pacla** **80.44 319** P **P** **20 30 10.8 -0.1**
KWP IAmb IAmb 20 30 12.0
comp=Z,236nm,1.0s
WHY **Whitehorse** **80.55 29** P **P** **20 30 12.0 +0.5**
WHY IAmb IAmb 20 30 23.0
comp=Z,28nm,1.4s
C36M **Paulatuk** **80.84 19** P **P** **20 30 12.3 -0.3**
baz=300
KOLS **Kolonicke sedl** **80.93 319** *e* P **P** **20 30 16.4 +2.8**
KOLS **Kolonicke sedl** **80.93 319** *e* P **P** **20 30 16.4 +2.8**
UZH **Uzhgorod** **81.01 318** *e* P P 20 30 05.7 -8.3
UZH *i* 20 30 10.5
UZH *e* 20 30 14.3
TRPA **Tarpa** **81.01 318** *e* P **P** **20 30 14.0 0.0**
ABPO **Ambohimpanom** **81.08 246** P **P** **20 30 14.4 -0.6**
ABPO pmax pmax
comp=Z,21nm,1.2s
ABPO **Ambohimpanom** **81.08 246** P **P** **20 30 14.4 -0.6**
ABPO IAmb IAmb 20 30 15.7
comp=Z,20nm,1.2s
DAG **Danmarks Havn** **81.22 351** *i* P **P** **20 30 13.8 -0.8**
DAG pmax pmax
comp=Z,9.0nm,0.8s
DAG **Danmarks Havn** **81.22 351** *i* P **P** **20 30 13.8 -0.8**
comp=Z,8.6nm,0.8s
HFS **Hagfors** **81.57 331** LR LR 21 07 45.4
comp=Z,63nm,19.0s,baz=72,slow=37
NIE **Niedzica** **81.99 319** *e* P **P** **20 30 20.0 +0.8**
NIE **Niedzica** **81.99 319** *e* P **P** **20 30 20.0 +0.8**
NIE *e* P **P** **20 30 20.0 +0.8**
OJC **Ojcow** **82.02 320** P **P** **20 30 18.8 -0.5**
OJC pmax pmax
comp=Z,11nm,0.9s
OJC **Ojcow** **82.02 320** *e* P **P** **20 30 19.4 0.0**
OJC *e* P **P** **20 30 19.4 0.0**
OJC **Ojcow** **82.02 320** P **P** **20 30 18.8 -0.5**
OJC IAmb IAmb 20 30 20.7
comp=Z,11nm,0.9s
NB2 **NORSAR Subarra** **82.30 332** P **P** **20 30 19.8 -0.9**
comp=Z,4.8nm,0.9s,baz=64,slow=5.3
NOA **NORSAR Array B** **82.30 332** P **P** **20 30 19.7 -0.9**
comp=Z,4.0nm,0.9s,baz=64,slow=5.1,SNR=8.1
NOA LR LR 21 09 32.1
comp=Z,386nm,20.2s,baz=60,slow=38
VTS **Vitosha** **82.31 312** P **P** **20 30 20.2 -1.0**
VTS pmax pmax
comp=Z,22nm,1.2s
VTS **Vitosha** **82.31 312** P **P** **20 30 20.2 -1.0**
VTS IAmb IAmb 20 30 22.3
comp=Z,22nm,1.2s
VYHS **Vyhne** **83.22 319** *e* P **P** **20 30 25.5 -0.1**
VYHS pmax pmax
comp=Z,14nm,1.5s
VYHS **Vyhne** **83.22 319** *e* P **P** **20 30 25.5 -0.1**
GRG **Griva** **83.44 311** P **P** **20 30 27.7 +0.8**
MORC **Moravsky Berou** **83.54 320** *e* P **P** **20 30 27.3 0.0**
RES **Resolute Bay** **83.77 9** P **P** **20 30 27.8 -0.1**
RES pmax pmax
comp=Z,13nm,1.0s
RES **Resolute Bay** **83.77 9** LR LR 21 13 01.9
comp=Z,101nm,18.1s,baz=254,slow=39
RES **Resolute Bay** **83.77 9** P **P** **20 30 27.8 -0.1**
RES IAmb IAmb 20 30 29.3
comp=Z,13nm,1.0s
KMBO **Kilima Mbogo** **83.79 267** *i* P **P** **20 30 30.7 +1.2**
KMBO pmax pmax
comp=Z,5.0nm,0.9s
KMBO **Kilima Mbogo** **83.79 267** P **P** **20 30 29.6 +0.1**
comp=Z,4.6nm,0.9s,baz=36,slow=5.4,SNR=12
KMBO LR LR 21 05 22.2
comp=Z,57nm,21.1s,baz=90,slow=34
KMBO **Kilima Mbogo** **83.79 267** P **P** **20 30 29.8 +0.3**
KMBO IAmb IAmb 20 30 31.3
comp=Z,22nm,1.4s
KSP **Ksiaz** **83.87 322** *e* P **P** **20 30 28.5 -0.4**
KSP **Ksiaz** **83.87 322** *e* P **P** **20 30 28.5 -0.4**
KSP *e* P **P** **20 30 28.5 -0.4**
KRLC **Kraliky** **83.88 321** *e* P **P** **20 30 29.6 +0.6**
KRLC **Kraliky** **83.88 321** *e* P **P** **20 30 29.6 +0.6**
OSTC **Ostas** **84.03 322** *e* P **P** **20 30 30.5 +0.8**
DPC **Dobruska-Polom** **84.05 321** *e* P **P** **20 30 30.6 +0.7**
DPC **Dobruska-Polom** **84.05 321** *e* P **P** **20 30 30.6 +0.7**
MORH **Mrgy, Hungar** **84.17 317** *e* P **P** **20 30 30.0 -0.4**
UPC **Upice** **84.17 322** *e* P **P** **20 30 31.0 +0.6**
UPC **Upice** **84.17 322** *e* P **P** **20 30 31.0 +0.6**
FNA **Florina** **84.23 311** P **P** **20 30 28.9 -2.1**
FNA pmax pmax
comp=Z,10.0nm,1.1s
FNA **Florina** **84.23 311** P **P** **20 30 28.9 -2.1**
FNA IAmb IAmb 20 30 30.2
comp=Z,9.9nm,1.1s
VRAC **Vranov** **84.29 320** LR LR 21 11 53.7
comp=Z,178nm,18.2s,baz=70,slow=38
VRAC **Vranov** **84.29 320** *e* P **P** **20 30 31.5 +0.4**
KRUC **Moravsky** **84.50 320** *e* P **P** **20 30 32.2 +0.1**
MPLH **Magyarpolny** **84.52 318** *e* P **P** **20 30 32.1 -0.2**
TREC **Trest** **84.96 321** *e* P **P** **20 30 35.1 +0.6**
TREC **Trest** **84.96 321** *e* P **P** **20 30 35.1 +0.6**
PVCC **Panska Ves** **85.01 322** *e* P **P** **20 30 35.4 +0.8**
PVCC **Panska Ves** **85.01 322** *e* P **P** **20 30 35.4 +0.8**
GOPC **GO Pecny, Ondr** **85.13 321** *e* P **P** **20 30 35.3 0.0**
GOPC **GO Pecny, Ondr** **85.13 321** *e* P **P** **20 30 35.3 0.0**
BRG **Berggiesshubel** **85.23 322** *e* P **P** **20 30 35.7 0.0**
comp=Z,15nm,1.0s
BRG *e* 20 30 44.8
comp=Z,11nm,1.3s
BRG **Berggiesshubel** **85.23 322** *e* P **P** **20 30 35.7 0.0**
BRG *e* 20 30 44.8
BRG pmax pmax
comp=Z,15nm,1.0s
PRU **Pruhonice** **85.24 321** *e* P **P** **20 30 36.1 +0.3**
PRU **Pruhonice** **85.24 321** *e* P **P** **20 30 36.1 +0.3**
CONA **Conrad Observa** **85.27 319** *i* PcP **P** **20 30 36.6 +0.5**
comp=Z,10nm,1.5s
CLL **Collm** **85.58 323** P **P** **20 30 36.7 -0.8**
CLL pmax pmax
comp=Z,14nm,1.1s
CLL **Collm** **85.58 323** *e* P **P** **20 30 35.0 -2.5**
comp=Z,14nm,1.1s
CLL *e* 20 30 49.0
CLL **Collm** **85.58 323** P **P** **20 30 36.7 -0.8**
CLL IAmb IAmb 20 30 38.5
comp=Z,14nm,1.1s
PBCC **Pribram** **85.69 321** *e* P **P** **20 30 38.4 +0.3**
ARSA **Arzberg** **85.75 319** *i* P **P** **20 30 37.6 -0.9**
comp=Z,5.6nm,1.2s
KHC **Kasperske Hory** **86.17 321** *e* P **P** **20 30 40.8 +0.3**
KHC *e* 20 30 45.6
KHC **Kasperske Hory** **86.17 321** *e* P **P** **20 30 40.8 +0.3**
KHC *e* pP **pP** **20 30 45.6 -0.5**
GEC2 **GERESS Array S** **86.22 321** P **P** **20 30 40.6 -0.3**
GEC2 IAmb IAmb 20 30 41.5
comp=Z,5.2nm,0.9s
GERES **GERESS Array B** **86.22 321** P **P** **20 30 39.9 -0.9**
comp=Z,2.8nm,0.8s,baz=57,slow=4.9,SNR=19
MOA **Molln** **86.29 320** *i* PcP **P** **20 30 40.4 -0.7**
comp=Z,10.0nm,1.2s
KULLO **Kullorsuaq** **86.51 359** *i* P **P** **20 30 41.4 -0.2**
KULLO pmax pmax
comp=Z,13nm,0.8s
KULLO **Kullorsuaq** **86.51 359** *i* P **P** **20 30 41.4 -0.2**
comp=Z,13nm,0.8s
SUMG **Summit** **87.42 354** *i* P **P** **20 30 46.6 -0.1**
SUMG **Summit** **87.42 354** *i* P **P** **20 30 46.6 -0.1**
SUMG **Summit** **87.42 354** P **P** **20 30 46.6 -0.1**

SUMG					IAmb	IAmb	20 31 34.7		
	comp=Z,18nm,1.5s								
YKA	**Yellowknife Ar**	**87.94**	**22**	P	**P**		**20 30 48.3**	**-0.5**	
	comp=Z,8.8nm,0.9s,baz=315,slow=4.6,SNR=78								
WTTA	**Wattenberg**	**88.15**	**320**	*i* PcP	**P**		**20 30 50.1**	**-0.2**	
	comp=Z,20nm,1.5s,SNR=4.7								
WATA	**Walderalm**	**88.15**	**320**	*i* PcP	**P**		**20 30 48.9**	**-1.4**	
	comp=Z,14nm,1.8s								
D03D	**Eldon**	**92.73**	**37**	P	**P**		**20 31 12.3**	**+0.9**	
	baz=302								
H04D	**Lebanon**	**94.54**	**40**	P	**P**		**20 31 21.4**	**+1.5**	
	baz=302								
I04A	**Tendick Farm,**	**95.13**	**40**	P	**P**		**20 31 21.9**	**-0.7**	
	baz=303								
L02E	**Cave Junction**	**95.26**	**42**	P	**P**		**20 31 21.9**	**-1.3**	
	baz=302								
J04D	**Umpqua Nationa**	**95.62**	**41**	P	**P**		**20 31 26.5**	**+1.4**	
	baz=303								
NEW	**Newport**	**95.63**	**34**	P	**P**		**20 31 25.1**	**+0.3**	
	baz=307								
PPT	**Papeete**	**95.72**	**107**	LR	LR		21 12 34.4		
	comp=Z,51nm,19.1s,baz=342,slow=34								
PPT2	**Papeete2**	**95.73**	**107**	*e*LR	LR		21 02 28.8		
	comp=Z,108nm,24.0s								
PINE	**Pine Mountain**	**96.03**	**40**	P	**P**		**20 31 26.0**	**-0.9**	
PINE				IAmb	IAmb		20 31 36.9		
	comp=Z,18nm,1.4s								
L04D	**Klamath Falls**	**96.05**	**42**	P	**P**		**20 31 27.7**	**+0.7**	
	baz=303								
MAW	**Mawson**	**96.06**	**199**	LR	LR		21 11 46.2		
	comp=Z,51nm,18.3s,baz=54,slow=34								
J05D	**Fort Rock, OR**	**96.13**	**40**	P	**P**		**20 31 28.0**	**+0.7**	
	baz=304								
M02C	**Callahan**	**96.14**	**42**	P	**P**		**20 31 28.2**	**+0.9**	
	baz=302								
N02D	**Trinity Center**	**96.45**	**43**	P	**P**		**20 31 29.5**	**+0.8**	
	baz=302								
M04C	**Macdoel**	**96.57**	**42**	P	**P**		**20 31 30.7**	**+1.3**	
	baz=303								
O02D	**Mt. Diablo Mer**	**96.82**	**43**	P	**P**		**20 31 31.4**	**+0.9**	
	baz=302								
FRB	**Frobisher Bay**	**97.12**	**4**	LR	LR		21 19 29.1		
	comp=Z,81nm,18.3s,baz=360,slow=38								
MOD	**Modoc Plateau**	**97.47**	**41**	P	**P**		**20 31 33.5**	**0.0**	
MOD				IAmb	IAmb		20 31 34.8		
	comp=Z,7.6nm,1.2s								
TBI	**Tubuai**	**97.58**	**112**	*e*LR	LR		21 03 20.9		
	comp=Z,275nm,42.0s								
PAHR	**Pah Rah Range**	**99.27**	**42**	P	**Pdif**		**20 31 39.2**	**-2.4**	
PAHR				IAmb	IAmb		20 31 51.2		
	comp=Z,8.4nm,1.3s								
VNDA	**Vanda**	**99.43**	**172**	LR	LR		21 17 54.9		
	comp=Z,72nm,20.2s,baz=348,slow=36								
NVAR	**Mina Array Bea**	**100.69**	**43**	P	**Pdif**		**20 31 48.8**	**+0.8**	
	comp=Z,0.7nm,0.6s,baz=291,slow=5.8,SNR=6.8								
TORD	**Torodi Ar. Bea**	**111.55**	**293**	PP	**PP**		**20 37 14.5**	**-1.1**	
	comp=Z,1.9nm,1.2s,baz=27,slow=3.6,SNR=3.8								
TXAR	**Lajitas Array**	**115.83**	**42**	PKP	**PKiKP**		**20 36 42.4**	**-0.1**	
	comp=Z,1.5nm,0.8s,baz=239,slow=0.3,SNR=17								
JCT	**Junction City**	**117.39**	**39**	PKIKP	**PKPdf**		**20 36 44.7**	**-0.7**	
JCT	**Junction City**	**117.39**	**39**		**PKPdf**		**20 36 44.7**	**-0.7**	
Q51A	**Peebles**	**118.07**	**21**		**PKPdf**		**20 36 44.5**	**-1.9**	
URIC	**Uribia, Colomb**	**147.07**	**23**	*e*P	**PKPdf**		**20 37 39.1**	**-1.8**	
URIC	**Uribia, Colomb**	**147.07**	**23**	*e*P	**PKPdf**		**20 37 39.1**	**-1.8**	
SJCC	**San Jacinto, C**	**147.38**	**29**	*e*P	**PKPbc**		**20 37 43.8**	**-0.1**	
SJCC	**San Jacinto, C**	**147.38**	**29**	*e*P	**PKPbc**		**20 37 43.8**	**-0.1**	
CODC	**Agustn Codazz**	**148.11**	**26**	*e*P	**PKPbc**		**20 37 45.8**	**0.0**	
CODC	**Agustn Codazz**	**148.11**	**26**	*e*P	**PKPbc**		**20 37 45.8**	**0.0**	
DABV	**Dabajuro**	**148.27**	**27**	*e*P	**PKPbc**		**20 37 45.8**	**-0.4**	
DABV	**Dabajuro**	**148.27**	**21**	*e*P	**PKPbc**		**20 37 45.8**	**-0.4**	
SMLC	**San Martn de**	**148.85**	**28**	*e*P	**PKPdf**		**20 37 44.5**	**+0.6**	
SMLC	**San Martn de**	**148.85**	**28**	*e*P	**PKPdf**		**20 37 44.5**	**+0.6**	
UREC	**San Jos de Ur**	**149.08**	**32**	*e*P	**PKPdf**		**20 37 43.8**	**-0.5**	
UREC	**San Jos de Ur**	**149.08**	**32**	*e*P	**PKPdf**		**20 37 43.8**	**-0.5**	
OCAC	**Ocana**	**149.69**	**27**	*e*P	**PKiKP**		**20 37 51.1**	**0.0**	
OCAC	**Ocana**	**149.69**	**27**	*e*P	**PKiKP**		**20 37 51.1**	**0.0**	
SDV	**Santo Domingo**	**150.16**	**22**	PKPbc	**PKPbc**		**20 37 50.9**	**-0.4**	
	comp=Z,27nm,0.6s,baz=349,slow=3.6,SNR=10								
SDV	**Santo Domingo**	**150.16**	**22**		**PKPdf**		**20 37 46.0**	**-0.2**	
CBOC	**Ciudad Bolivar**	**150.43**	**34**	*e*P	**PKPbc**		**20 37 51.1**	**-0.8**	
CBOC	**Ciudad Bolivar**	**150.43**	**34**	*e*P	**PKPbc**		**20 37 51.1**	**-0.8**	
BRRC	**Barranca, Sant**	**150.51**	**29**	*e*P	**PKPbc**		**20 37 52.4**	**+0.6**	
BRRC	**Barranca, Sant**	**150.51**	**29**	*e*P	**PKPbc**		**20 37 52.4**	**+0.6**	
SOCV	**Socops**	**150.64**	**23**	*e*P	**PKPbc**		**20 37 51.8**	**-0.4**	
SOCV	**Socops**	**150.64**	**23**	*e*P	**PKPbc**		**20 37 51.8**	**-0.4**	
PTBC	**PUERTO BERRIO**	**150.65**	**31**	*e*P	**PKPbc**		**20 37 50.4**	**-1.8**	
PTBC	**PUERTO BERRIO**	**150.65**	**31**	*e*P	**PKPbc**		**20 37 50.4**	**-1.8**	
PAMC	**Pamplona, Colo**	**150.76**	**27**	*e*P	**PKPbc**		**20 37 52.4**	**-0.6**	
PAMC	**Pamplona, Colo**	**150.76**	**27**	*e*P	**PKPbc**		**20 37 52.4**	**-0.6**	
PLMC	**San Jos del P**	**151.08**	**36**	*e*P	**PKPbc**		**20 37 53.8**	**+0.4**	
PLMC	**San Jos del P**	**151.08**	**36**	*e*P	**PKPbc**		**20 37 53.8**	**+0.4**	
MALC	**Bahia Malaga**	**151.20**	**39**	*e*P	**PKiKP**		**20 37 55.8**	**+1.7**	
MALC	**Bahia Malaga**	**151.20**	**39**	*e*P	**PKiKP**		**20 37 55.8**	**+1.7**	
BARC	**Barichara**	**151.21**	**29**	*e*P	**PKPbc**		**20 37 52.4**	**-1.4**	
BARC	**Barichara**	**151.21**	**29**	*e*P	**PKPbc**		**20 37 52.4**	**-1.4**	
NORC	**Norcasia**	**151.28**	**33**	*e*P	**PKPdf**		**20 37 51.1**	**+3.3**	
NORC	**Norcasia**	**151.28**	**33**	*e*P	**PKPdf**		**20 37 51.1**	**+3.3**	
GUY2C	**Guyana, Caldas**	**151.31**	**34**	*e*P	**PKPbc**		**20 37 53.8**	**-0.6**	
GUY2C	**Guyana, Caldas**	**151.31**	**34**	*e*P	**PKPbc**		**20 37 53.8**	**-0.6**	
SPBC	**San Pablo de B**	**151.61**	**31**	*e*P	**PKPbc**		**20 37 53.1**	**-1.5**	
SPBC	**San Pablo de B**	**151.61**	**31**	*e*P	**PKPbc**		**20 37 53.1**	**-1.5**	
YOTC	**Yotoco, Valle**	**151.80**	**37**	*e*P	**PKPbc**		**20 37 55.1**	**0.0**	
YOTC	**Yotoco, Valle**	**151.80**	**37**	*e*P	**PKPbc**		**20 37 55.1**	**0.0**	
RUSC	**La Rusia**	**151.87**	**29**	*e*P	**PKPbc**		**20 37 55.1**	**-0.6**	
RUSC	**La Rusia**	**151.87**	**29**	*e*P	**PKPbc**		**20 37 55.1**	**-0.6**	
TAMC	**Tame, Arauca**	**151.96**	**26**	*e*P	**PKPbc**		**20 37 53.1**	**-2.2**	
TAMC	**Tame, Arauca**	**151.96**	**26**	*e*P	**PKPbc**		**20 37 53.1**	**-2.2**	
CTAB	**Cerro Tablazo,**	**152.09**	**32**	*e*P	**PKiKP**		**20 37 57.1**	**+0.6**	
CTAB	**Cerro Tablazo,**	**152.09**	**32**	*e*P	**PKiKP**		**20 37 57.1**	**+0.6**	
ROSC	**El Rosal**	**152.18**	**33**	PKPbc	**PKiKP**		**20 37 56.9**	**+0.4**	
	comp=Z,15nm,0.5s,baz=320,slow=4.5,SNR=9.2								
ROSC	**El Rosal**	**152.18**	**33**		**PKPdf**		**20 37 47.9**	**-1.7**	
ELOV	**Elorza**	**152.32**	**21**	*e*P	**PKPbc**		**20 37 53.8**	**-2.3**	
ELOV	**Elorza**	**152.32**	**21**	*e*P	**PKPbc**		**20 37 53.8**	**-2.3**	
ORTC	**Ortega, Tolima**	**152.48**	**35**	*e*P	**PKPbc**		**20 37 55.8**	**-0.7**	
ORTC	**Ortega, Tolima**	**152.48**	**35**	*e*P	**PKPbc**		**20 37 55.8**	**-0.7**	
CHIC	**Chingaza**	**152.66**	**32**	*e*P	**PKPbc**		**20 37 56.4**	**-0.9**	
CHIC	**Chingaza**	**152.66**	**32**	*e*P	**PKPbc**		**20 37 56.4**	**-0.9**	
POPC	**Popayan, Colom**	**152.77**	**40**	*e*P	**PKPdf**		**20 37 53.1**	**+2.8**	
POPC	**Popayan, Colom**	**152.77**	**40**	*e*P	**PKPdf**		**20 37 53.1**	**+2.8**	
BBAC	**Balboa, Cauca**	**152.82**	**41**	*e*P	**PKPbc**		**20 37 56.4**	**-1.1**	
BBAC	**Balboa, Cauca**	**152.82**	**41**	*e*P	**PKPbc**		**20 37 56.4**	**-1.1**	
VILC	**Villavicencio,**	**153.12**	**32**	*e*P	**PKPbc**		**20 37 58.4**	**+0.4**	
VILC	**Villavicencio,**	**153.12**	**32**	*e*P	**PKPbc**		**20 37 58.4**	**+0.4**	
SIV	**San Ignacio**	**176.63**	**23**	PKP	**PKPdf**		**20 38 10.5**	**+0.1**	
	comp=Z,3.3nm,0.9s,baz=335,slow=1.6,SNR=11								

IDC 30 20:24:45.2±1.1, 19°14N×120°46E, h0 km, mb3.5/6, mb1 3.7/6, mb1mx3.5/37, mbtmp3.6/6, Error ellipse: s-maj=46.3km s-min=20.7km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**20.38**	**272**	P	P	20 29 24.2	+0.4
	0.4nm,0.5s,baz=80,slow=9.3,SNR=4.4						
WRA	**Warramunga Arr**	**41.15**	**160**	P	P	20 32 30.9	-0.5
	0.4nm,0.7s,baz=349,slow=8.2,SNR=3.1						
MKAR	**Makanchi Array**	**41.63**	**320**	P	P	20 32 34.9	-0.3
	0.8nm,0.8s,baz=119,slow=8.7,SNR=5.5						
ZALV	**Zalesovo Beam**	**44.20**	**330**	P	P	20 32 55.4	-0.4
	2.1nm,0.9s,baz=125,slow=7.8,SNR=4.2						
ASAR	**Alice Springs**	**44.52**	**162**	P	P	20 32 58.9	+0.1
	0.7nm,0.7s,baz=341,slow=6.8,SNR=13						
YKA	**Yellowknife Ar**	**87.87**	**22**	P	P	20 37 36.7	+0.3
	0.3nm,0.7s,baz=317,slow=4.9,SNR=5.4						

*IDC **30** 20:31:00.9±0.4, 19°05N×120°35E, h0km, mb4.5/28, mb1 4.7/30, mb1mx4.6/45, mbtmp4.6/30, ML3.8/2, MS3.8/13, Ms1 3.8/13, ms1mx3.5/47, Error ellipse: s-maj=15.3km s-min=10.5km az=85.0*

*NEIC **30** 20:31:02.8±1.9, 19°16N±0°06×120°16E±0°07, h10km±1km, mb5.0/81*

*ISCJB **30** 20:31:03.9±0.1, 19°12N±0°02×120°30E±0°03, h27km, mb4.8/105, MS4.2/18, Error ellipse: s-maj=3.7km s-min=2.7km az=171.8*

*GCMT **30** 20:31:03.8±0.4, 19°07N±0°03×120°27E±0°06, h20km±1km, MW4.8/85, Moment Tensor Solution. s11,c11; s85,c109; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.15±.19; Mθθ 1.60±.12; Mϕϕ 0.55±.11; Mrθ -0.42±.23; Mrϕ 0.55±.07;*

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Mϕϕ 0.16±.37; Best double couple: M0 2.03700×10¹⁶ NP1: ϕ0 74.00000°, δ50.00000°, λ -81.00000°. NP2: ϕ 240.00000°, δ 41.00000°, λ -101.00000°. Principal axes: T 1.8600, Plg 5.0000°, Azm 158.0000°; N 0.3550, Plg 7.0000°, Azm 248.0000°; P -2.2140, Plg 82.0000°, Azm 34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*MOS **30** 20:31:03.4±1.0, 19°13N×120°28E, h24km, mb5.1/37 Error ellipse: s-maj=7.4km s-min=4.2km az=111.8*

*BJI **30** 20:31:03.8±0.0, 19°25N×120°05E, h10km, mb4.7/61, mB5.2/28, Ms4.7/31, Ms7 4.5/31*

*MAN **30** 20:31:05.2, 19°14N×120°44E, h28km, MS4.9*

*KLM **30** 20:31:07.0, 19°36N×119°96E, h32km, mb4.9*

ISC 30 20:31:05.3±0.3, 19°13N±0°03×120°26E±0°04, h27km, n391, σ1 9 40/388, mb4.9/142, MS4.2/18, 48C-7D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**1.21**	**171**	⇑P	**Pn**	**20 31 25.2**	**-1.3**
ABRA	**Dolores**	**1.53**	**164**	P	**Pn**	**20 31 28.5**	**-2.4**
APYP	**Conner**	**1.57**	**143**	P	**Pn**	**20 31 29.9**	**-1.4**
BBP	**Basco**	**2.07**	**51**	P	**Pn**	**20 31 35.9**	**-2.4**
BOLP	**Bolinao**	**2.75**	**187**	P	**Pb**	**20 31 57.3**	**+3.5**
BOLP				S	**Sb**	**20 32 24.8**	**-2.3**
SCZP	**Santa Cruz**	**3.35**	**186**	P	**Pn**	**20 31 58.3**	**+2.5**
BALP	**Baler**	**3.60**	**159**	P	**Pn**	**20 31 59.9**	**+0.6**
BALP				S	**Sb**	**20 32 55.1**	**+3.7**
PCPH	**Palayan**	**3.63**	**167**	⇓P	**Pn**	**20 32 00.8**	**+1.0**
TWG	**Pinlang**	**3.75**	**12**		**Pn**	**20 31 59.8**	**-1.6**
TPUB	**Ta-pu**	**4.17**	**5**		**Pn**	**20 32 05.0**	**-2.1**
YULB	**Yu-li**	**4.35**	**13**		**Pn**	**20 32 08.6**	**-1.1**
SSLB	**Suanglung**	**4.68**	**8**		**Pn**	**20 32 12.6**	**-1.6**
TGY	**Tagaytay City**	**5.04**	**172**	Pn	**Pn**	**20 32 20.6**	**+1.4**
	57nm,0.3s,baz=144,slow=14,SNR=2.7						
TGY				LR	LR	20 34 51.1	
	comp=Z,1μm,18.4s,baz=92,slow=46						
TGY	**Tagaytay City**	**5.04**	**172**	⇑P	**Pb**	**20 32 28.9**	**-3.9**
LQP	**Lukban**	**5.14**	**166**	⇑P	**Pn**	**20 32 21.8**	**+1.2**
NACB	**Ninganchiao**	**5.17**	**14**		**Pn**	**20 32 20.1**	**-0.8**
KNMB	**Chin-men Tao**	**5.59**	**342**		**Pn**	**20 32 23.9**	**-2.8**
GQP	**Guinayangan**	**5.60**	**158**	⇓P	**Pn**	**20 32 30.0**	**+3.1**
YHNB	**Yeheng**	**5.61**	**10**		**Pn**	**20 32 27.2**	**+0.1**
YOJ	**Yonaguni jima**	**5.89**	**25**	P	**Pn**	**20 32 30.2**	**-0.6**
YOJ	**Yonaguni jima**	**5.89**	**25**	Pn	**Pn**	**20 32 30.2**	**-0.6**
QZH	**Quanzhou**	**5.99**	**345**	Pn	**Pn**	**20 32 30.5**	**-1.7**
QZH				Sn	**Sn**	**20 33 34.8**	**-5.1**
QZH				LR	LR		
	comp=N,1μm,11.4s						
QZH				LR	LR		
	comp=E,690nm,9.0s						
QZH				LR	LR		
	comp=Z,2μm,10.4s						
HKPS	**Hong Kong Po S**	**6.53**	**300**		**Pn**	**20 32 36.9**	**-2.6**
QIZ	**Qiongzhong**	**9.85**	**271**	P	**Pn**	**20 33 23.5**	**-1.7**
QIZ				S	**Sn**	**20 35 13.3**	**-1.6**
QIZ				pmax	pmax		
	comp=Z,26nm,0.9s						
QIZ				LR	LR		
	comp=N,1μm,12.0s						
QIZ				LR	LR		
	comp=E,1μm,9.0s						
QIZ				LR	LR		
	comp=Z,2μm,10.2s						
QIZ	**Qiongzhong**	**9.85**	**271**	Pn	**Pn**	**20 33 22.3**	**-2.8**
QIZ					**Sn**	**20 35 10.3**	**-4.6**
PAGZ	**Pagadian**	**11.62**	**164**	P	**Pn**	**20 33 50.8**	**+1.4**
BUKP	**Musuan**	**12.12**	**157**	P	**Pn**	**20 33 57.5**	**+1.3**
KCP	**Kidapawan**	**12.93**	**158**	⇓P	**P**	**20 34 16.0**	**-1.8**
NJ2	**Nanjing**	**12.93**	**355**	*e*P	**Pn**	**20 34 09.8**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
SKMP	**Bagumbayan, Su**	**13.21**	**161**	P	**P**	**20 34 20.2**	**-0.6**
GYA	**Guiyang**	**14.50**	**303**	⇑*i*P	**Pn**	**20 34 26.8**	**-2.0**
GYA				S	**Sn**	**20 37 07.5**	**-1.3**
GYA				SS	**S**	**20 37 27.3**	**-0.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,290nm,4.8s						
GYA				LR	LR		
	comp=N,600nm,10.8s						
GYA				LR	LR		
	comp=E,1μm,9.2s						
GYA				LR	LR		
	comp=Z,1μm,9.4s						
UBPT	**Khong Chiam**	**14.64**	**257**	Pn	**Pn**	**20 34 30.5**	**-0.2**
ENH	**Enshi**	**14.78**	**321**		**Pn**	**20 34 32.8**	**+0.2**
SPMM	**Sapulut**	**14.80**	**195**	P	**Pn**	**20 34 35.0**	**+2.1**
SPMM	**Sapulut**	**14.80**	**195**	P	**Pn**	**20 34 35.0**	**+2.1**
SKNT	**Sakolnakorn**	**15.63**	**265**	P	**P**	**20 34 46.8**	**-0.9**
	34nm,1.6s						
JNU	**Nakatsue**	**16.87**	**32**	Pn	**Pn**	**20 34 59.1**	**-0.4**
	0.3nm,0.3s,baz=218,slow=5.0,SNR=7.9						
JNU				LR	LR	20 41 26.5	
	comp=Z,187nm,18.8s,baz=220,slow=37						
JNU	**Nakatsue**	**16.87**	**32**	Pn	**Pn**	**20 34 59.1**	**-0.4**
JNU				IAmb	IAmb	20 35 04.2	
	comp=Z,105nm,1.2s						
TIA	**Tai'an**	**17.24**	**351**	P	**P**	**20 35 07.0**	**+1.5**
TIA				pmax	pmax		
	comp=Z,26nm,1.2s						
KMI	**Kunming**	**17.29**	**293**	P	**P**	**20 35 06.0**	**-0.3**
KMI				pP	pP	20 35 09.3	-3.2
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KMI				LR	LR		
	comp=Z,1μm,10.4s						
KMI				LR	LR		
	comp=Z,580nm,13.4s						
KMI				LR	LR		
	comp=Z,1μm,10.4s						
KMI	**Kunming**	**17.29**	**293**	P	**Pn**	**20 35 04.3**	**-0.7**
KMI				pmax	pmax		
	comp=Z,17nm,0.9s						
KMI	**Kunming**	**17.29**	**293**		**Pn**	**20 35 04.2**	**-0.7**
KMI				IAmb	IAmb	20 35 15.7	
	comp=Z,17nm,0.9s						
XAN	**Xi'an**	**17.96**	**328**	P	**P**	**20 35 13.3**	**-0.2**
XAN				pP	sP	20 35 23.0	0.0
XAN				pmax	pmax		
	comp=Z,19nm,1.3s						
XAN	**Xi'an**	**17.96**	**328**	P	**Pn**	**20 35 11.2**	**-1.9**
XAN				pmax	pmax		
	comp=Z,52nm,1.6s						
XAN	**Xi'an**	**17.96**	**328**		**Pn**	**20 35 11.2**	**-1.9**
XAN				IAmb	IAmb	20 35 16.4	
	comp=Z,52nm,1.6s						
MNI	**Manado**	**18.14**	**165**	P	**P**	**20 35 17.6**	**+2.0**
MNI				pmax	pmax		
	comp=Z,63nm,1.3s						
SBUM	**Sibu**	**18.35**	**206**	P	Pn	20 35 27.0	+9.1
SBUM	**Sibu**	**18.35**	**206**	P	Pn	20 35 27.0	+9.1
PBKT	**Sadao Pong**	**18.54**	**265**	P	**Pn**	**20 35 21.5**	**+1.3**
	comp=Z,13nm,1.1s						
PBKT	**Sadao Pong**	**18.54**	**265**	P	**P**	**20 35 19.8**	**-0.1**
PBKT				IAmb	IAmb	20 35 37.4	
	comp=Z,24nm,1.1s						
MRSI	**Marisa**	**18.61**	**175**	P	**P**	**20 35 19.4**	**-1.3**
	comp=Z,20nm,0.7s						
PHIT	**Phitsanulok**	**18.95**	**267**	P	**Pn**	**20 35 28.0**	**+2.7**
	comp=Z,311μm,1.0s						
PHRA	**Phrae**	**18.97**	**271**	P	**Pn**	**20 35 26.7**	**+1.2**
CD2	**Chengdu**	**18.98**	**311**	P	**Pn**	**20 35 25.8**	**+0.3**
CD2				pmax	pmax		
	comp=Z,60nm,0.9s						
PAYA	**Payao**	**19.25**	**274**	P	**Pn**	**20 35 31.1**	**+2.2**
	comp=Z,54μm,1.1s,comp=Z,427μm						
KSRS	**Korea Array**	**19.45**	**19**	P	**Pn**	**20 35 30.4**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=203,slow=12,SNR=16						
KSRS				LR	LR	20 42 41.9	
	comp=Z,238nm,20.0s,baz=198,slow=36						
LAMP	**Lampang**	**19.53**	**272**	P	Pn	20 35 40.4	+8.1
DL2	**Dalian**	**19.75**	**3**	P	Pn	20 35 43.5	+8.9
DL2				pmax	pmax		
	comp=Z,57nm,0.9s						
APSI	**Ampana**	**19.96**	**176**	P	**P**	**20 35 34.9**	**-0.6**
	comp=Z,46nm,1.0s						
KSM	**Kuching**	**20.07**	**210**	P	Pn	20 35 38.0	-0.6
KSM	**Kuching**	**20.07**	**210**	P	Pn	20 35 38.0	-0.6
KSM	**Kuching**	**20.07**	**210**	P	**P**	**20 35 36.6**	**-0.1**
KSM				IAmb	IAmb	20 35 39.3	
	comp=Z,54nm,1.1s						
CMMT	**Chiang Mai**	**20.16**	**273**	P	Pn	20 35 39.1	-0.6
	comp=Z,12nm,1.7s						
CHTO	**Chiang Mai**	**20.16**	**273**	P	**P**	**20 35 37.8**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,28nm,1.2s						
CHTO	**Chiang Mai**	**20.16**	**273**	P	**P**	**20 35 37.8**	**+0.1**
CHTO				IAmb	IAmb	20 35 43.8	
	comp=Z,28nm,1.1s						
UTHA	**Uthaitani**	**20.18**	**263**	P	Pn	20 35 40.5	+0.6
	comp=Z,52μm,0.7s,comp=Z,450μm						
CM31	**Chiang Mai Arr**	**20.19**	**272**		Pn	20 35 38.9	-1.1
CM31				IAmb	IAmb	20 35 53.4	
	comp=Z,23nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.19**	**272**	P	Pn	20 35 39.5	-0.6
	comp=Z,14nm,1.1s,baz=83,slow=8.4,SNR=53						
CMAR				PcP	**PcP**	**20 39 52.7**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=74,slow=0.5,SNR=10						
CMAR				LR	LR	20 43 54.0	
	comp=Z,41nm,18.8s,baz=120,slow=38						
LUWI	**Luwuk**	**20.20**	**173**	P	**P**	**20 35 37.3**	**-0.7**
	comp=Z,96nm,1.0s						
BKB	**Balikpapan**	**20.53**	**190**	P	**P**	**20 35 40.9**	**-0.8**
	comp=Z,156nm,0.8s,comp=Z,2μm						
BKB	**Balikpapan**	**20.53**	**190**	P	**P**	**20 35 40.8**	**-0.8**
BKB				IAmb	IAmb	20 35 52.9	
	comp=Z,144nm,1.0s						
SRDT	**SRDT**	**20.79**	**260**	P	Pn	20 35 49.1	+2.1
	comp=Z,18nm,1.0s						
LBMI	**Labuha**	**20.89**	**159**	P	**P**	**20 35 42.9**	**-2.7**
	comp=Z,28nm,0.8s						
BJT	**Baijiatuan**	**21.12**	**351**	P	**P**	**20 35 48.9**	**+1.1**
BJT				pmax	pmax		
	comp=Z,66nm,0.9s						
BJT	**Baijiatuan**	**21.12**	**351**	P	**P**	**20 35 48.9**	**+1.1**
BJT				IAmb	IAmb	20 36 02.0	
	comp=Z,66nm,0.9s						
BJI	**Beijing**	**21.14**	**351**	⇓*i*P	**P**	**20 35 49.0**	**+1.0**
BJI				pmax	pmax		
	comp=Z,60nm,1.3s						
BJI				LR	LR		
	comp=Z,600nm,8.0s						
BJI				LR	LR		
	comp=Z,650nm,11.1s						
BJI				LR	LR		
	comp=Z,550nm,11.8s						
MHMT	**Maesarieng**	**21.18**	**271**	P	**P**	**20 35 51.2**	**+2.5**
	comp=Z,88nm,1.1s						
SANI	**Sanana**	**21.79**	**164**	P	**P**	**20 35 49.9**	**-5.3**
	comp=Z,36nm,0.7s						
INU	**Inuyama**	**21.93**	**39**	P	**P**	**20 35 57.5**	**+0.9**
INU				IAmb	IAmb	20 36 00.5	
	comp=Z,98nm,1.3s						
TTSI	**Tana Toraja**	**22.04**	**181**	P	**P**	**20 35 59.4**	**+1.5**
	comp=Z,46nm,1.1s						
LZH	**Lanzhou**	**22.24**	**323**	⇓P	**P**	**20 36 01.0**	**+0.9**
LZH				pP	pP	20 36 06.0	-0.5
LZH				sP	sP	20 36 08.8	-0.9
LZH				pmax	pmax		
	comp=Z,58nm,1.4s						
LZH				LR	LR		
	comp=Z,940nm,9.2s						
LZH				LR	LR		
	comp=Z,810nm,8.1s						
LZH				LR	LR		
	comp=Z,1μm,10.0s						
SWI	**Sorong**	**22.61**	**150**	P	**P**	**20 36 02.3**	**-1.8**
	comp=Z,21nm,1.1s						
SIJI	**Sorong**	**22.62**	**150**	P	**P**	**20 36 03.2**	**-1.0**
	comp=Z,12nm,0.9s,baz=340,slow=17,SNR=5.4						
SNY	**Shenyang**	**22.80**	**6**	⇑P	P	20 36 13.8	+7.9
SNY				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC	**Hu-ho-hao-te**	**22.90**	**343**	*e*P	**P**	**20 36 08.5**	**+1.5**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC		

GSI IAmb IAmb 20 37 06.5
comp=Z,10nm,0.7s
LSA Lhasa 28.44 297 P **P** **20 36 58.4 -0.1**
LSA pmax pmax
comp=Z,13nm,0.8s
LSA Lhasa 28.44 297 P **P** **20 36 58.4 -0.1**
LSA IAmb IAmb 20 37 10.0
comp=Z,13nm,0.8s
BATI Baumata 29.34 173 P **P** **20 37 05.0 -1.0**
comp=Z,38nm,0.9s,baz=162,slow=1.2,SNR=11
ULN Ulaanbaatar 30.61 342 *ce*P **P** **20 37 18.4 +1.2**
ULN pmax pmax
comp=Z,18nm,1.5s
SONM Songino Array 30.78 342 P **P** **20 37 18.7 +0.1**
comp=Z,3.8nm,1.1s,baz=163,slow=9.3,SNR=16
SONM PcP **PcP** **20 40 17.0 +1.4**
comp=Z,1.7nm,1.2s,baz=188,slow=2.9,SNR=2.7
SONM LR LR 20 49 56.4
comp=Z,267nm,20.6s,baz=185,slow=37
TAPN Taplejung 30.94 291 *e*P **P** **20 37 21.4 +0.9**
comp=Z,39nm,1.1s
ODAN Odare 31.15 290 *e*P **P** **20 37 23.1 +0.8**
comp=Z,58nm,0.8s
KLR Kul'dur 31.42 15 *i* P **P** **20 37 24.5 +0.4**
KLR pmax pmax
comp=Z,27nm,1.4s
KLR Kul'dur 31.42 15 P **P** **20 37 25.1 +1.0**
comp=Z,9.5nm,1.0s,baz=217,slow=7.1,SNR=15
KLR LR LR 20 50 19.8
comp=Z,285nm,18.6s,baz=210,slow=37
JIRN Jiri 32.32 292 *e*P **P** **20 37 33.6 +0.9**
comp=Z,60nm,0.8s
GUN Gumba 32.62 292 *e*P **P** **20 37 36.3 +0.9**
comp=Z,145nm,0.9s
PKI Pulchoki 32.99 291 *e*P **P** **20 37 38.8 +0.2**
PKIN Phulchoki 33.00 291 *e*P **P** **20 37 38.7 +0.1**
comp=Z,30nm,1.1s
KKN Kakani 33.13 292 *e*P **P** **20 37 40.2 +0.5**
comp=Z,52nm,0.8s
DMN Daman 33.26 291 *e*P **P** **20 37 41.3 +0.4**
comp=Z,60nm,0.9s
YSS Yuzh-Sakhalins 33.31 29 *e*P **P** **20 37 41.4 +0.7**
ZAK Zakamensk 33.99 340 *e*P **P** **20 37 47.1 +0.4**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
GRNR Gornyy 34.08 18 *e*P **P** **20 37 44.7 -2.7**
DANN Dangsing 34.54 292 *e*P **P** **20 37 52.2 +0.2**
comp=Z,90nm,1.2s
ZEA Zeya 34.97 7 *e*P **P** **20 37 57.4 +2.5**
ZEA pmax pmax
comp=Z,17nm,1.0s
TLY Talaya 35.02 342 *e*P **P** **20 37 57.2 +1.7**
TLY pmax pmax
comp=Z,26nm,1.3s
TLY MLR MLR
comp=Z,422nm,11.0s
MOY Mondy 35.84 339 *e*P **P** **20 38 04.1 +1.5**
WMQ Urumqi 36.73 319 *e*P **P** **20 38 12.0 +1.7**
WMQ pP pP 20 38 14.8 -2.6
WMQ sP sP 20 38 18.5 -1.8
WMQ pmax pmax
comp=Z,8.0nm,1.3s
WMQ pmax pmax
comp=Z,54nm,4.9s
WMQ LR LR
comp=Z,630nm,29.1s
WMQ LR LR
comp=Z,1μm,29.2s
PMG Port Moresby 38.82 135 LR LR 20 55 19.5
comp=Z,42nm,20.1s,baz=326,slow=38
KRVT Keravat (AS076 38.99 123 LR LR 20 51 30.0
comp=Z,188nm,20.4s,baz=291,slow=32
WRAB Tennant Creek 41.20 160 *ce*P **P** **20 38 46.5 -1.4**
WRAB pmax pmax
comp=Z,11nm,1.0s
WRAB Tennant Creek 41.20 160 P **P** **20 38 47.0 -0.9**
WRAB IAmb IAmb 20 38 47.4
comp=Z,24nm,1.3s
WRA Warramunga Arr 41.21 160 P **P** **20 38 46.2 -1.7**
comp=Z,8.0nm,1.0s,baz=343,slow=9.0,SNR=20
WRA PcP **PcP** **20 40 46.0 -0.8**
comp=Z,0.9nm,0.5s,baz=343,slow=3.1,SNR=6.1
WRA Warramunga Arr 41.21 160 P **P** **20 38 45.6 -2.3**
WRA IAmb IAmb 20 38 48.1
comp=Z,0.9nm,1.4s
MK31 Makanchi Array 41.52 320 *i* P **P** **20 38 51.4 +1.2**
MK31 pmax pmax
comp=Z,30nm,1.1s
MK31 Makanchi Array 41.52 320 P **P** **20 38 51.4 +1.2**
MK31 IAmb IAmb 20 39 02.0
comp=Z,17nm,1.0s
MKAR Makanchi Array 41.52 320 *ce*P **P** **20 38 52.0 +1.8**
MKAR pmax pmax
comp=Z,10.0nm,0.9s
MKAR Makanchi Array 41.52 320 P **P** **20 38 51.3 +1.1**
comp=Z,9.5nm,0.9s,baz=113,slow=9.3,SNR=47
MKAR PcP **PcP** **20 40 47.4 0.0**
comp=Z,4.1nm,1.0s,baz=113,slow=3.2,SNR=4.8
MKAR LR LR 20 56 48.0
comp=Z,196nm,18.9s,baz=90,slow=37
MAKZ Makanchi 41.71 320 *i* P **P** **20 38 53.0 +1.2**
MAKZ pmax pmax
comp=Z,22nm,1.3s
MAKZ Makanchi 41.71 320 P **P** **20 38 52.4 +0.6**
MAKZ IAmb IAmb 20 39 03.1
comp=Z,15nm,1.1s
PDGK Podgornoye 41.82 314 *i* P **P** **20 38 54.0 +1.1**
PDGK pmax pmax
comp=Z,20nm,1.2s
KSH Kashi 43.12 308 P **P** **20 39 07.5 +4.0**
KSH S S **20 45 36.8 +8.5**
KSH pmax pmax
comp=Z,41nm,1.2s
KSH pmax pmax
comp=Z,360nm,7.8s
KSH LR LR
comp=Z,800nm,10.0s
KSH LR LR
comp=Z,1μm,12.4s
KSH LR LR
comp=Z,950nm,7.0s
YAK Yakutsk 43.37 6 *i* P **P** **20 39 05.7 +0.7**
YAK pmax pmax
comp=Z,23nm,1.4s
YAK Yakutsk 43.37 6 P **P** **20 39 06.5 +1.6**
comp=Z,2.4nm,0.3s,baz=169,slow=19,SNR=3.6
NRN Naryn 43.62 310 P **P** **20 39 09.8 +2.0**
NRN pmax pmax
comp=Z,22nm,1.2s
NRN Naryn 43.62 310 P **P** **20 39 09.8 +2.0**
NRN IAmb IAmb 20 39 11.5
comp=Z,22nm,1.1s
ULHL Ulahol 43.69 312 P **P** **20 39 10.7 +2.4**
SNR=7.9
ZAA0 Zalesovo Array 44.11 330 P **P** **20 39 11.7 +0.6**
ZAA0 IAmb IAmb 20 39 21.3
comp=Z,19nm,0.8s
ZALV Zalesovo Beam 44.11 330 P **P** **20 39 12.0 +0.9**
ZALV Zalesovo Beam 44.11 330 P **P** **20 39 12.0 +0.9**
comp=Z,13nm,0.9s,baz=116,slow=6.8,SNR=33
ZALV LR LR 20 58 24.0
comp=Z,269nm,18.6s,baz=94,slow=37
NIL Nilore 44.16 299 P **P** **20 39 12.2 +0.3**
NIL pmax pmax
comp=Z,34nm,0.8s
NIL Nilore 44.16 299 P **P** **20 39 12.2 +0.3**
NIL IAmb IAmb 20 39 22.0
comp=Z,34nm,0.8s
KZA Kyzart 44.35 311 P **P** **20 39 16.6 +2.9**
SNR=18
TKM2 Tokmak 2 44.36 312 *i* P **P** **20 39 14.8 +1.2**
TKM2 pmax pmax
comp=Z,17nm,1.5s
TKM2 Tokmak 2 44.36 312 P **P** **20 39 15.8 +2.3**
SNR=10
PETK Petropavlovsk- 44.57 31 P **P** **20 39 14.7 -0.2**
comp=Z,16nm,0.9s,baz=208,slow=5.0,SNR=9.2
AS31 Alice Springs 44.57 162 P **P** **20 39 14.0 -1.1**
AS31 IAmb IAmb 20 39 15.6
comp=Z,2.3nm,0.8s
ASAR Alice Springs 44.57 162 P **P** **20 39 13.8 -1.4**
comp=Z,6.8nm,0.8s,baz=341,slow=6.4,SNR=70
ASAR PcP **PcP** **20 40 55.6 -2.4**
comp=Z,0.6nm,0.8s,baz=335,slow=3.8,SNR=2.5
KBK Karagaybulak 44.73 312 P **P** **20 39 19.1 +2.6**
SNR=10
UCH Uchtor 44.91 311 P **P** **20 39 21.3 +3.0**
SNR=28
CHMS Chumysh 44.97 312 P **P** **20 39 20.2 +1.9**
SNR=12
AAK Ala-Archa 45.05 312 *i* P **P** **20 39 20.9 +1.9**
AAK pmax pmax
comp=Z,9.0nm,1.4s
AAK Ala-Archa 45.05 312 P **P** **20 39 19.7 +0.7**
AAK IAmb IAmb 20 39 27.9
comp=Z,9.9nm,1.3s
USP Ospenovka 45.23 313 P **P** **20 39 22.3 +2.1**
SNR=12
AML Almayashu 45.47 311 P **P** **20 39 25.0 +2.3**
SNR=27
KURK Kurchatov 45.52 324 *ce*P **P** **20 39 23.0 +0.6**
KURK pmax pmax
comp=Z,21nm,1.0s
KURK Kurchatov 45.52 324 P **P** **20 39 22.1 -0.3**
KURK IAmb IAmb 20 39 33.2
comp=Z,17nm,0.8s
EKS2 Erkin-Say 45.56 311 P **P** **20 39 25.5 +2.5**
SNR=10
ARSB Arslanbob 45.78 309 P **P** **20 39 25.0 +0.2**
ARSB IAmb IAmb 20 39 28.3
comp=Z,14nm,1.1s
BTK Batken 47.10 307 P **P** **20 39 34.7 -0.5**
BTK pmax pmax
comp=Z,14nm,1.1s
BTK Batken 47.10 307 P **P** **20 39 34.7 -0.5**
BTK IAmb IAmb 20 40 02.9
comp=Z,14nm,1.1s
GAR Garm 47.29 306 P **P** **20 39 35.8 -0.9**
GAR IAmb IAmb 20 39 39.6
comp=Z,62nm,1.1s
KBL Kabul 47.72 300 P **P** **20 39 41.0 +0.8**
KBL pmax pmax
comp=Z,27nm,1.3s
KBL Kabul 47.72 300 P **P** **20 39 41.0 +0.8**
KBL IAmb IAmb 20 39 43.2
comp=Z,27nm,1.2s
KK31 Karatay Array 47.99 311 ⇑ *e*P **P** **20 39 43.1 +1.1**
KK31 pmax pmax
comp=Z,23nm,1.0s
KK31 Karatay Array 47.99 311 P **P** **20 39 43.0 +1.1**
KK31 IAmb IAmb 20 39 53.5
comp=Z,24nm,0.9s
KKAR Karatay Array 47.99 311 P **P** **20 39 43.0 +1.0**
KKAR pmax pmax
comp=Z,24nm,1.0s
KKAR Karatay Array 47.99 311 P **P** **20 39 43.0 +1.0**
KKAR IAmb IAmb 20 39 53.5
comp=Z,24nm,0.9s
CHGR Chuyangaron 48.13 305 P **P** **20 39 42.9 -0.3**
CHGR IAmb IAmb 20 39 45.8
comp=Z,25nm,1.0s
SEY Seymchan 49.01 19 *i* P **P** **20 39 49.9 +0.5**
SEY Seymchan 49.01 19 P **P** **20 39 49.2 -0.1**
comp=Z,9.2nm,0.9s,baz=238,slow=5.9,SNR=7.0
FORT Forrest 50.18 171 P **P** **20 39 57.2 -1.5**
FORT IAmb IAmb 20 40 08.7
comp=Z,32nm,0.8s
BRVK Borovoye 51.19 324 *i* P **P** **20 40 06.3 +0.2**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 51.19 324 P **P** **20 40 06.8 +0.6**
BRVK IAmb IAmb 20 40 17.1
comp=Z,12nm,0.9s
TIXI Tiksi 52.77 3 *ce*P **P** **20 40 16.8 -0.7**
TIXI pmax pmax
comp=Z,18nm,1.7s
TIXI Tiksi 52.77 3 P **P** **20 40 17.3 -0.3**
comp=Z,3.4nm,0.8s,baz=180,slow=24,SNR=9.4
TIXI Tiksi 52.77 3 P **P** **20 40 17.0 -0.5**
TIXI IAmb IAmb 20 40 32.0
comp=Z,35nm,1.8s
HRA Herat 53.32 299 P **P** **20 40 23.2 +0.7**
HRA IAmb IAmb 20 40 24.5
comp=Z,17nm,1.1s
BBOO Buckleboo 53.81 163 P **P** **20 40 24.9 -0.8**
BBOO IAmb IAmb 20 40 26.5
comp=Z,29nm,0.8s
STKA Stephens Creek 54.69 158 P **P** **20 40 31.2 -0.9**
STKA pmax pmax
comp=Z,3.0nm,0.9s
STKA Stephens Creek 54.69 158 P **P** **20 40 31.4 -0.6**
comp=Z,12nm,0.8s,baz=343,slow=7.7,SNR=26
STKA Stephens Creek 54.69 158 P **P** **20 40 31.2 -0.9**
STKA IAmb IAmb 20 40 33.5
comp=Z,3.5nm,0.9s
AB31 Akbulak array 56.44 317 ⇑ *e*P **P** **20 40 45.2 +0.7**
AB31 pmax pmax
comp=Z,17nm,1.2s
ABKAR Akbulak array 56.44 317 P **P** **20 40 44.5 0.0**
ABKAR IAmb IAmb 20 40 46.9
comp=Z,20nm,1.2s
BILL Bilibino 56.72 19 ⇑ *i*P **P** **20 40 47.2 +1.0**
BILL *e**PP **pP** **20 40 50.7 -3.0**
BILL pmax pmax
comp=Z,41nm,2.5s
BILL Bilibino 56.72 19 P **P** **20 40 46.3 +0.1**
BILL IAmb IAmb 20 40 56.7
comp=Z,14nm,0.9s
GEYT Alibeck 56.72 303 P **P** **20 40 48.4 +1.5**
comp=Z,21nm,1.0s,baz=108,slow=4.8,SNR=42
GYA0B ALIBECK ARRAY 56.72 303 P **P** **20 40 46.4 -0.4**
GYA0B IAmb IAmb 20 40 58.5
comp=Z,30nm,0.9s
AKTO Aktyubinsk 57.86 318 *i* P **P** **20 40 55.1 +0.5**
AKTO pmax pmax
comp=Z,16nm,1.1s
ARU Arti 58.68 325 *ce*P **P** **20 41 00.3 +0.1**
ARU pmax pmax
comp=Z,40nm,1.7s
ARU Arti 58.68 325 LR LR 21 06 17.4
comp=Z,137nm,18.6s,baz=112,slow=36
ARU Arti 58.68 325 P **P** **20 41 00.4 +0.2**
ARU IAmb IAmb 20 41 10.0
comp=Z,16nm,0.7s
DZM Mont Dzumac 60.96 130 P **P** **20 41 17.5 +1.0**
DZM IAmb IAmb 20 41 19.6
comp=Z,19nm,1.1s
TOO Toolangi 61.20 157 P **P** **20 41 18.8 +1.1**
TOO pmax pmax
comp=Z,15nm,0.9s
TOO Toolangi 61.20 157 P **P** **20 41 18.8 +1.1**
TOO IAmb IAmb 20 41 19.8
comp=Z,15nm,0.8s
KIRV Kirov 63.90 327 LR LR 21 11 09.3
comp=Z,200nm,18.7s,baz=236,slow=38
PRGR Permogore 66.06 330 *e*P **P** **20 41 48.3 -1.1**
PRGR pmax pmax
comp=Z,27nm,0.7s
GNI Garni 67.02 306 *ce*P **P** **20 41 58.1 +1.9**
GNI pmax pmax
comp=Z,57nm,1.3s
GNI Garni 67.02 306 P **P** **20 41 55.2 -1.1**
GNI IAmb IAmb 20 42 11.4
comp=Z,26nm,1.2s
ZEI Tsey 67.38 309 *e*P **P** **20 41 58.5 0.0**
ZEI pmax pmax
comp=Z,17nm,0.9s
MSVF Nonsavu 67.56 119 P **P** **20 42 00.0 +0.2**
MSVF pmax pmax
comp=Z,27nm,1.3s
MSVF Nonsavu 67.56 119 P **P** **20 42 00.0 +0.2**
MSVF IAmb IAmb 20 42 03.4
comp=Z,27nm,1.3s
KBZ Khabaz 68.02 310 P **P** **20 42 02.6 +0.4**
comp=Z,7.7nm,1.0s,baz=160,slow=1.4,SNR=6.5
KIV Kislovodsk 68.14 311 *c i*P **P** **20 42 04.6 +1.4**
KIV *i* 20 42 12.3
KIV *e* 20 42 28.9
KIV *i* 20 44 34.1
KIV pmax pmax
comp=Z,17nm,1.0s
KIV Kislovodsk 68.14 311 P **P** **20 42 03.5 +0.3**
KIV IAmb IAmb 20 42 14.6
comp=Z,25nm,0.9s
VRH Novokhopyorsk 68.20 318 *e*P **P** **20 42 03.4 +0.2**
VRH pmax pmax
comp=Z,30nm,1.0s
RAYN Ar Rayn 69.06 289 P **P** **20 42 08.5 -0.7**
RAYN pmax pmax
comp=Z,9.0nm,0.9s
RAYN Ar Rayn 69.06 289 P **P** **20 42 08.4 -0.7**
RAYN IAmb IAmb 20 42 19.1
comp=Z,8.6nm,0.9s
TMCR Tamitsa 69.58 332 *e*P **P** **20 42 10.2 -1.4**
TMCR pmax pmax
comp=Z,59nm,1.5s
VORD Divnogorie 69.74 318 *e*P **P** **20 42 13.4 +0.6**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 69.80 319 *i* P **P** **20 42 13.5 +0.3**
VSR pmax pmax
comp=Z,33nm,1.2s
LPSR Galich'ya Gora 69.81 320 *e*P **P** **20 42 13.5 +0.2**
LPSR pmax pmax
comp=Z,30nm,1.0s
MOS Moscow 70.29 323 *e*P **P** **20 42 15.3 -0.8**
MOS *e* 20 42 28.0
MOS pmax pmax
comp=Z,62nm,1.9s
TTA Tatalina 70.31 29 P **P** **20 42 17.4 +1.1**
TTA Tatalina 70.31 29 P **P** **20 42 17.4 +1.1**
OBN Obninsk 70.95 323 ⇓ *e*P **P** **20 42 20.0 -0.2**
OBN *SP **pP** **20 42 28.0 +0.3**
OBN pmax pmax
comp=Z,42nm,1.7s
OBN MLR MLR
comp=Z,114nm,14.0s
OBN Obninsk 70.95 323 P **P** **20 42 19.3 -0.9**
OBN IAmb IAmb 20 42 36.2
comp=Z,61nm,1.5s
APA Apatity 71.30 336 ⇑ *i*P **P** **20 42 18.8 -3.2**
APA pmax pmax
comp=Z,10.0nm,1.3s
APA MLR MLR
comp=Z,800nm,14.0s
RSO Redoubt South 72.09 31 P **P** **20 42 29.1 +1.9**
TOLK Toolik Lake Re 72.42 23 P **P** **20 42 30.3 +1.5**
baz=278
MLY Manley 72.43 26 P **P** **20 42 30.0 +1.1**
MLY IAmb IAmb 20 42 31.2
comp=Z,11nm,1.0s
BPAW Bear Paw Mtn. 72.44 27 P **P** **20 42 29.6 +0.5**
BPAW IAmb IAmb 20 43 02.5
comp=Z,27nm,0.9s
SUA Susitna One 72.92 30 P **P** **20 42 32.2 +0.1**
SUA IAmb IAmb 20 42 33.4
comp=Z,21nm,1.0s
MCK McKinley 73.40 28 P **P** **20 42 35.0 +0.3**
MCK pmax pmax
comp=Z,21nm,1.1s
MCK McKinley 73.40 28 P **P** **20 42 35.0 +0.3**
MCK IAmb IAmb 20 42 36.4
comp=Z,21nm,1.1s
RND Reindeer 73.49 28 P **P** **20 42 35.3 0.0**
RND pmax pmax
comp=Z,18nm,1.0s
RND Reindeer 73.49 28 P **P** **20 42 35.4 0.0**
RND IAmb IAmb 20 42 36.7
comp=Z,18nm,1.0s
MDM Murphy Dome 73.49 26 P **P** **20 42 35.3 +0.1**
MDM IAmb IAmb 20 42 37.7
comp=Z,24nm,1.2s
WRH Wood River Hil 73.64 27 P **P** **20 42 36.9 +0.8**
WRH IAmb IAmb 20 42 57.0
comp=Z,9.8nm,1.0s
POKR Poker Plat Res 73.80 26 P **P** **20 42 38.2 +1.2**
baz=280
SML Sawmill 74.00 30 P **P** **20 42 39.0 +0.7**
SML IAmb IAmb 20 42 40.2
comp=Z,25nm,1.2s
KNK Knik Glacier 74.02 30 P **P** **20 42 38.6 +0.3**
KNK IAmb IAmb 20 42 49.0
comp=Z,38nm,1.4s
SIM Simferopol' 74.07 313 *e*P **P** **20 42 42.8 +3.9**
SIM *e* 20 42 58.0
SIM pmax pmax
comp=Z,11nm,0.7s
ILAR Eielson Array 74.09 26 P **P** **20 42 38.0 -0.7**
ILAR Eielson Array 74.09 26 P **P** **20 42 38.0 -0.7**
comp=Z,1.6nm,0.8s,baz=291,slow=6.6,SNR=10
HDA Harding Lake 74.14 27 P **P** **20 42 38.7 -0.3**
baz=281
SCM Sheep Creek Mo 74.47 29 P **P** **20 42 41.2 +0.1**
SCM pmax pmax
comp=Z,40nm,1.3s
SCM Sheep Creek Mo 74.47 29 P **P** **20 42 41.2 +0.1**
SCM IAmb IAmb 20 42 43.6
comp=Z,40nm,1.3s
FINES FINESS Array B 75.37 330 P **P** **20 42 46.6 +0.5**
comp=Z,7.3nm,1.1s,baz=188,slow=3.9,SNR=5.7
BRTR Keskin Array B 75.50 307 *i* P **P** **20 42 49.7 +2.1**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 75.50 307 P **P** **20 42 47.6 0.0**
comp=Z,0.6nm,0.9s,baz=125,slow=11,SNR=3.7
VSU Vasula 75.73 327 *ce*P **P** **20 42 48.7 +0.5**
VSU pmax pmax
comp=Z,101nm,1.3s
AKASG Malin Array Be 76.08 319 P **P** **20 42 50.2 -0.2**
comp=Z,4.6nm,0.9s,baz=62,slow=5.5,SNR=14
GLB Gilahina Butte 76.19 29 P **P** **20 42 51.7 +0.8**
GLB IAmb IAmb 20 43 33.9
comp=Z,32nm,1.5s
EGAK Eagle 76.48 26 P **P** **20 42 52.9 +0.5**
EGAK IAmb IAmb 20 42 53.8
comp=Z,8.9nm,1.1s
SORM Soroca 77.25 317 ⇑ P **P** **20 42 56.8 -0.2**
SORM Soroca 77.25 317 ⇑ P **P** **20 42 56.8 -0.2**
DAWY Dawson 77.42 26 P **P** **20 42 57.8 0.0**
DAWY IAmb IAmb 20 42 60.0
comp=Z,7.8nm,1.1s
EPYK Eagle Plains 77.75 24 P **P** **20 42 59.9 +0.3**
baz=290
EPYK Eagle Plains 77.75 24 P **P** **20 42 59.7 +0.1**
EPYK IAmb IAmb 20 43 03.6
comp=Z,32nm,1.6s
INK Inuvik 78.22 21 P **P** **20 43 00.8 -1.2**
comp=Z,7.7nm,1.1s,baz=272,slow=7.9,SNR=5.4
INK Inuvik 78.22 21 P **P** **20 43 02.1 +0.1**
INK IAmb IAmb 20 43 12.1
comp=Z,16nm,1.3s
TESR Tescani 78.79 315 ⇑ P **P** **20 43 06.5 +0.8**
SUW Suwalki 78.80 323 P **P** **20 43 05.3 -0.3**
SUW pmax pmax
comp=Z,31nm,0.9s
SUW Suwalki 78.80 323 P **P** **20 43 05.3 -0.3**
SUW IAmb IAmb 20 43 15.2
comp=Z,31nm,0.9s
VRI Vrincioaia 78.91 315 ⇑ P **P** **20 43 07.6 +1.2**
VRI Vrincioaia 78.91 315 ⇑ P **P** **20 43 07.6 +1.2**
PLOR Plostina 78.97 315 ⇑ P P 20 43 12.6 +5.9
PLOR Plostina 78.97 315 ⇑ P P 20 43 12.6 +5.8
BIZ Bicaz 79.03 316 ⇑ P **P** **20 43 07.9 +0.9**
BURAR Bucovina Array 79.42 317 ⇑ P **P** **20 43 09.6 +0.4**
BURAR Bucovina Array 79.42 317 ⇑ P **P** **20 43 09.6 +0.4**
BUR08 Bucovina Ar. S 79.42 317 P **P** **20 43 09.1 -0.2**
BUR08 IAmb IAmb 20 43 23.6
comp=Z,7.1nm,1.0s
OZUR 79.48 315 ⇑ P **P** **20 43 10.6 +1.1**
MLR Muntele Rosu 79.54 314 P **P** **20 43 09.8 -0.2**
MLR pmax pmax
comp=Z,8.0nm,1.0s
MLR Muntele Rosu 79.54 314 ⇑ P **P** **20 43 11.0 +0.9**
MLR Muntele Rosu 79.54 314 P **P** **20 43 09.8 -0.2**
MLR IAmb IAmb 20 43 35.1
comp=Z,8.2nm,1.0s
VOIR 80.16 315 ⇑ P **P** **20 43 16.6 +3.3**
VOIR 80.16 315 ⇑ P **P** **20 43 16.6 +3.3**
KWP Kalwaria Pacla 80.41 319 P **P** **20 43 14.9 +0.5**
KWP Kalwaria Pacla 80.41 319 P **P** **20 43 14.9 +0.5**
KWP IAmb IAmb 20 43 25.2
comp=Z,251nm,1.2s
ARR Arges 80.46 315 ⇑ P **P** **20 43 15.6 +0.7**
HUMR Humele 80.48 314 ⇑ P **P** **20 43 15.3 +0.4**
CJR Cluj-Napoca 80.74 316 ⇑ P **P** **20 43 18.5 +2.2**
CJR Cluj-Napoca 80.74 316 ⇑ P **P** **20 43 18.5 +2.2**
C36M Paulatuk 80.84 19 P **P** **20 43 16.2 -0.1**
baz=300
UZH Uzhgorod 80.98 318 *e*P **P** **20 43 15.0 -2.5**
UZH *e* 20 43 21.7
TRPA Tarpa 80.98 318 ⇑ P **P** **20 43 17.0 -0.5**
ABPO Ambohimpanom 81.05 246 P **P** **20 43 18.6 0.0**
ABPO pmax pmax
comp=Z,20nm,1.4s
ABPO Ambohimpanom 81.05 246 P **P** **20 43 18.6 0.0**
ABPO IAmb IAmb 20 43 20.3

	comp=Z,20nm,1.4s							
DAG	**Danmarks Havn**	**81.21**	**351**	*i* P		**P**	**20 43 18.0**	**-0.2**
DAG	**Danmarks Havn**	**81.21**	**351**	*i* P		**P**	**20 43 18.0**	**-0.2**
DRGR		**81.30**	**316**	⇑P		**P**	**20 43 20.0**	**+0.7**
DRGR		**81.30**	**316**	⇑P		**P**	**20 43 20.0**	**+0.7**
DEV	**Deva**	**81.46**	**316**	⇑P		**P**	**20 43 21.4**	**+1.3**
DEV	**Deva**	**81.46**	**316**	⇑P		**P**	**20 43 21.4**	**+1.3**
GZR	**Gura Zlata**	**81.70**	**315**	⇑P		**P**	**20 43 22.0**	**+0.5**
GZR	**Gura Zlata**	**81.70**	**315**	⇑P		**P**	**20 43 22.0**	**+0.5**
PUNG	**Punghina**	**81.95**	**314**	⇑P		**P**	**20 43 23.5**	**+0.8**
OJC	**Ojcow**	**81.99**	**320**	P		**P**	**20 43 22.9**	**+0.1**
OJC					pmax	pmax		
	comp=Z,15nm,1.1s							
OJC	**Ojcow**	**81.99**	**320**	*e*P		**P**	**20 43 23.7**	**+0.8**
OJC				*e*P		**P**	**20 43 23.7**	**+0.8**
OJC	**Ojcow**	**81.99**	**320**	P		**P**	**20 43 22.9**	**+0.1**
OJC				IAmb		IAmb	20 43 24.2	
	comp=Z,15nm,1.1s							
SIRR	**Siria**	**82.15**	**316**	⇑P		**P**	**20 43 23.3**	**-0.5**
VTS	**Vitosha**	**82.28**	**312**	P		**P**	**20 43 24.5**	**-0.2**
VTS					pmax	pmax		
	comp=Z,15nm,1.2s							
VTS	**Vitosha**	**82.28**	**312**	⇑P		**P**	**20 43 25.5**	**+0.8**
VTS	**Vitosha**	**82.28**	**312**	P		**P**	**20 43 24.4**	**-0.2**
VTS				IAmb		IAmb	20 43 26.3	
	comp=Z,15nm,1.2s							
NB2	**NORSAR Subarra**	**82.28**	**332**	P		**P**	**20 43 23.9**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=66,slow=4.8							
NOA	**NORSAR Array B**	**82.28**	**332**	P		**P**	**20 43 23.8**	**-0.4**
	comp=Z,3.5nm,0.9s,baz=64,slow=5.1,SNR=5.0							
VYHS	**Vyhne**	**83.19**	**319**	*e*P		**P**	**20 43 29.7**	**+0.6**
VYHS					pmax	pmax		
	comp=Z,11nm,1.7s							
VYHS	**Vyhne**	**83.19**	**319**	*e*P		**P**	**20 43 29.7**	**+0.6**
KMBO	**Kilima Mbogo**	**83.76**	**267**	*i* P		**P**	**20 43 34.2**	**+1.2**
KMBO					pmax	pmax		
	comp=Z,1.0nm,0.3s							
KMBO	**Kilima Mbogo**	**83.76**	**267**	P		**P**	**20 43 33.4**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=46,slow=4.9,SNR=7.1							
KMBO	**Kilima Mbogo**	**83.76**	**267**	P		**P**	**20 43 32.7**	**-0.3**
KMBO				IAmb		IAmb	20 43 35.4	
	comp=Z,7.1nm,1.1s							
RES	**Resolute Bay**	**83.77**	**9**	P		**P**	**20 43 32.1**	**+0.5**
RES					pmax	pmax		
	comp=Z,13nm,1.1s							
RES	**Resolute Bay**	**83.77**	**9**	P		**P**	**20 43 32.1**	**+0.5**
RES				IAmb		IAmb	20 43 33.4	
	comp=Z,13nm,1.1s							
KSP	**Ksiaz**	**83.84**	**322**	*e*P		**P**	**20 43 33.5**	**+1.0**
KSP	**Ksiaz**	**83.84**	**322**	*e*P		**P**	**20 43 33.5**	**+1.0**
KSP				*e*P		**P**	**20 43 33.5**	**+1.0**
KRLC	**Kraliky**	**83.85**	**321**	*e*P		**P**	**20 43 33.3**	**+0.8**
KRLC				*e*			20 43 41.9	
KRLC	**Kraliky**	**83.85**	**321**	*e*P		**P**	**20 43 33.3**	**+0.8**
KRLC				*ex*		x	20 43 41.9	
OSTC	**Ostas**	**84.00**	**322**	*e*P		**P**	**20 43 34.4**	**+1.1**
DPC	**Dobruska-Polom**	**84.02**	**321**	*e*P		**P**	**20 43 34.5**	**+1.1**
DPC	**Dobruska-Polom**	**84.02**	**321**	*e*P		**P**	**20 43 34.5**	**+1.1**
CHVC	**Chvalec**	**84.08**	**322**	*e*P		**P**	**20 43 34.4**	**+0.7**
UPC	**Upice**	**84.14**	**322**	*e*P		**P**	**20 43 35.1**	**+1.1**
UPC	**Upice**	**84.14**	**322**	*e*P		**P**	**20 43 35.1**	**+1.1**
VRAC	**Vranov**	**84.26**	**320**	⇑P		**P**	**20 43 36.0**	**+1.4**
VRAC	**Vranov**	**84.26**	**320**	⇑P		**P**	**20 43 36.0**	**+1.4**
VRAC	**Vranov**	**84.26**	**320**	*e*P		**P**	**20 43 35.7**	**+1.1**
KRUC	**Moravsky**	**84.47**	**320**	*e*P		**P**	**20 43 36.2**	**+0.5**
ITM	**Ithomi**	**85.03**	**308**	P		**P**	**20 43 37.7**	**-1.1**
ITM				IAmb		IAmb	20 43 52.4	
	comp=Z,16nm,1.0s							
GOPC	**GO Pecny, Ondr**	**85.10**	**321**	*e*P		**P**	**20 43 39.2**	**+0.4**
GOPC	**GO Pecny, Ondr**	**85.10**	**321**	*e*P		**P**	**20 43 39.2**	**+0.4**
BRG	**Berggiesshubel**	**85.20**	**322**	*e*P		**P**	**20 43 39.7**	**+0.5**
	comp=Z,16nm,1.1s							
BRG				*e*			20 43 48.6	
	comp=Z,14nm,1.1s							
BRG	**Berggiesshubel**	**85.20**	**322**	*e*P		**P**	**20 43 39.7**	**+0.5**
BRG				*e*			20 43 48.6	
BRG					pmax	pmax		
	comp=Z,16nm,1.1s							
PRU	**Pruhonice**	**85.21**	**321**	*e*P		**P**	**20 43 39.4**	**0.0**
PRU				*e*			20 43 48.7	
PRU	**Pruhonice**	**85.21**	**321**	*e*P		**P**	**20 43 39.4**	**0.0**
PRU				*ex*		x	20 43 48.7	
CONA	**Conrad Observa**	**85.24**	**319**	P		**P**	**20 43 38.2**	**-1.4**
	comp=Z,8.1nm,1.4s							
CASY	**Casey**	**85.46**	**184**	P		**P**	**20 43 40.3**	**+0.3**
CASY				IAmb		IAmb	20 43 48.9	
	comp=Z,12nm,0.9s							
CLL	**Collm**	**85.55**	**323**	*e*P		**P**	**20 43 40.0**	**-1.0**
CLL				*e*			20 43 50.0	
CLL					pmax	pmax		
	comp=Z,20nm,1.5s							
CLL	**Collm**	**85.55**	**323**	*e*P		**P**	**20 43 40.0**	**-1.0**
	comp=Z,20nm,1.5s							
CLL				*e*			20 43 50.0	
CLL				*e*			20 43 54.0	
CLL	**Collm**	**85.55**	**323**	P		**P**	**20 43 40.7**	**-0.3**
CLL				IAmb		IAmb	20 43 43.0	
	comp=Z,9.6nm,1.1s							
KHC	**Kasperske Hory**	**86.14**	**321**	*e*P		**P**	**20 43 44.9**	**+0.9**
KHC				*e*			20 43 53.0	
KHC	**Kasperske Hory**	**86.14**	**321**	*e*P		**P**	**20 43 44.9**	**+0.9**
KHC				*ex*		x	20 43 53.0	
GERES	**GERESS Array B**	**86.18**	**321**	P		**P**	**20 43 44.4**	**0.0**
	comp=Z,2.6nm,0.9s,baz=72,slow=4.3,SNR=15							
MOA	**Molln**	**86.25**	**320**	*i* PcP		**P**	**20 43 45.1**	**+0.5**
	comp=Z,16nm,1.5s							
KBA	**Koelnbreinsper**	**87.15**	**319**	*i* pP		**P**	**20 43 50.7**	**+1.5**
	comp=Z,1.2nm,0.6s							
SUMG	**Summit**	**87.41**	**354**	*i* P		**P**	**20 43 50.1**	**-0.1**
SUMG	**Summit**	**87.41**	**354**	*i* P		**P**	**20 43 50.1**	**-0.1**
YKA	**Yellowknife Ar**	**87.95**	**22**	P		**P**	**20 43 52.5**	**0.0**
	comp=Z,5.9nm,0.9s,baz=315,slow=4.7,SNR=59							
WTTA	**Wattenberg**	**88.12**	**320**	*i* PcP		**P**	**20 43 53.8**	**0.0**
	comp=Z,3.4nm,0.7s							
MOTA	**Moosalm**	**88.40**	**320**	PcP		**P**	**20 43 54.0**	**-1.2**
	comp=Z,1.0nm,0.5s							
FETA	**Feichten**	**88.78**	**320**	*i* P		**P**	**20 43 55.0**	**-2.0**
	comp=Z,10nm,1.8s							
BNI	**Bardonecchia**	**92.20**	**319**	P		**P**	**20 44 12.2**	**-0.7**
BNI					pmax	pmax		
	comp=Z,46nm,1.7s							
BNI	**Bardonecchia**	**92.20**	**319**	P		**P**	**20 44 12.2**	**-0.7**
BNI				IAmb		IAmb	20 45 25.4	
	comp=Z,46nm,1.7s							
D03D	**Eldon**	**92.74**	**37**	P		**P**	**20 44 16.8**	**+1.7**
	baz=302							
I04A	**Tendick Farm,**	**95.15**	**40**	P		**P**	**20 44 26.6**	**+0.2**
	baz=303							
NEW	**Newport**	**95.64**	**34**	P		**P**	**20 44 29.4**	**+0.9**
	baz=307							
PINE	**Pine Mountain**	**96.04**	**40**	P		**P**	**20 44 31.1**	**+0.4**
PINE				IAmb		IAmb	20 44 33.3	
	comp=Z,7.1nm,1.1s							
L04D	**Klamath Falls**	**96.06**	**42**	P		**P**	**20 44 32.3**	**+1.6**
	baz=303							
J05D	**Fort Rock, OR**	**96.14**	**40**	P		**P**	**20 44 32.5**	**+1.4**
	baz=304							
M02C	**Callahan**	**96.15**	**42**	P		**P**	**20 44 32.5**	**+1.4**
	baz=302							
M04C	**Macdoel**	**96.59**	**42**	P		**P**	**20 44 34.2**	**+1.1**
	baz=303							
O02D	**Mt. Diablo Mer**	**96.84**	**43**	P		**P**	**20 44 35.6**	**+1.4**
	baz=302							
NVAR	**Mina Array Bea**	**100.70**	**43**	P		**Pdif**	**20 44 52.5**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=261,slow=5.4,SNR=6.3							
TXAR	**Lajitas Array**	**115.84**	**42**	PKP		**PKiKP**	**20 49 46.0**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=251,slow=0.7,SNR=9.0							
SDV	**Santo Domingo**	**150.16**	**22**	PKPbc		**PKiKP**	**20 50 55.4**	**-0.4**
	comp=Z,12nm,0.5s,baz=325,slow=4.2,SNR=10							
SDV	**Santo Domingo**	**150.16**	**22**			**PKPbc**	**20 50 55.0**	**+0.1**
ROSC	**El Rosal**	**152.19**	**33**	PKPbc		**PKiKP**	**20 51 01.2**	**+1.0**
	comp=Z,9.2nm,0.4s,baz=9.7,slow=8.4,SNR=5.5							
ROSC	**El Rosal**	**152.19**	**33**			**PKiKP**	**20 51 00.9**	**+0.7**
OTAV	**Otavalo**	**153.40**	**46**	PKIKP		**PKiKP**	**20 51 03.0**	**+0.2**
OTAV	**Otavalo**	**153.40**	**46**			**PKPbc**	**20 51 02.4**	**-0.3**
LPAZ	**La Paz**	**171.52**	**72**	PKIKP		**PKPdf**	**20 51 11.6**	**-1.4**
LPAZ	**La Paz**	**171.52**	**72**	PKP		**PKPdf**	**20 51 13.4**	**+0.5**
	comp=Z,2.5nm,1.0s,baz=22,slow=2.4,SNR=6.3							
LPAZ	**La Paz**	**171.52**	**72**			**PKPdf**	**20 51 11.6**	**-1.4**

*VAO **30** 20:36:43.4±1.0, 19.°62S×72.°09W, h240km±6km, mb4.0*
*SJA **30** 20:36:58.2±0.8, 19.°43S×69.°29W, h99km±26km, ML3.6, MW3.3*

*ISCJB **30** 20:37:02.0±0.3, 19.°76S±0.°03×69.°13W±0.°05, h115km±4km, mb3.8/4, Error ellipse: s-maj=8.4km s-min=4.8km az=177.6*
*GUC **30** 20:37:03.2±0.5, 19.°83S×69.°18W, h100km±2km, ML4.1*
*IDC **30** 20:37:05.6±1.0, 19.°86S×68.°80W, h131km±9km, mb3.6/5, mb1 3.7/9, mb1mx3.5/36, mbtmp4.0/9, Error ellipse: s-maj=23.3km s-min=9.2km az=97.0*

ISC 30 20:37:02.4±0.6, 19.79S±0.03×69.15W±0.06, h107km±5km, n62, σ1s94/80, mb4.0/4, 5C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.13**	**343**	⇑*i*P		**Pn**		**20 37 18.2**	**+0.2**
GO01				*i* S		**Sn**		**20 37 29.6**	**0.0**
PB08	**IPOC Station P**	**0.35**	**180**	⇓*i*P		**Pn**		**20 37 19.1**	**+0.5**
PB08				*i* S		**Sn**		**20 37 30.8**	**+0.1**
PB08				IAML				20 37 31.4	
	comp=E,13μm,0.2s								
PB11	**IPOC Station P**	**0.47**	**274**	⇑*i*P		**Pn**		**20 37 19.2**	**+0.2**
PB11				*i* S		**Sn**		**20 37 31.5**	**+0.1**
MNMC	**Minye Minye**	**0.78**	**328**	⇑*i*P		**Pn**		**20 37 22.5**	**+0.9**
MNMC				*i* S		**Sn**		**20 37 37.1**	**+1.1**
MNMC				IAML				20 37 39.6	
	comp=E,9μm,0.2s								
PSGC	**Pisagua**	**0.93**	**282**	⇑*i*P		**Pn**		**20 37 23.2**	**+0.4**
PSGC				*i* S		**Sn**		**20 37 38.6**	**+0.4**
TA01	**Diego Aracena**	**1.23**	**231**	⇑*i*P		**Pn**		**20 37 26.2**	**+0.3**
TA01				*i* S		**Sn**		**20 37 43.4**	**-0.3**
AP01	**Chacalluta**	**1.81**	**321**	*e*P		**Pn**		**20 37 33.9**	**+1.0**
AP01				*i* S		**Sn**		**20 37 56.9**	**+0.9**
AP01				IAML				20 38 05.4	
	comp=N,4μm,0.6s								
PB09	**IPOC Station P**	**2.00**	**182**	⇓*i*P		**Pn**		**20 37 36.8**	**+1.4**
PB09				*i* S		**Sn**		**20 38 01.3**	**+0.7**
PB09				IAML				20 38 07.5	
	comp=N,1μm,0.6s								
PB09	**IPOC Station P**	**2.00**	**182**	*i* P		**Pn**		**20 37 36.8**	**+1.4**
PB09				*e*S		**Sn**		**20 38 05.3**	**+4.7**
PB03	**IPOC Station P**	**2.31**	**194**	⇓*i*P		**Pn**		**20 37 40.5**	**+1.0**
PB03				*i* S		**Sn**		**20 38 09.0**	**+1.1**
PB03				IAML				20 38 15.5	
	comp=E,759nm,0.3s								
PB04	**IPOC Station P**	**2.69**	**200**	*e*P		**Pn**		**20 37 46.1**	**+1.6**
PB04				*i* S		**Sn**		**20 38 15.9**	**-0.8**
PB04				IAML				20 38 29.2	
	comp=N,772nm,0.6s								
PB04	**IPOC Station P**	**2.69**	**200**	*i* P		**Pn**		**20 37 45.3**	**+0.8**
PB04				*e*S		**Sn**		**20 38 20.8**	**+4.0**
LVC	**Limon Verde**	**2.81**	**175**	P		**Pn**		**20 37 49.3**	**+3.1**
	comp=N,27nm,0.3s,baz=347,slow=8.2,SNR=141								
LVC				S		**Sn**		**20 38 23.5**	**+3.6**
	comp=N,25nm,0.3s,baz=354,slow=6.8,SNR=7.3								
LVC	**Limon Verde**	**2.81**	**175**	*e*P		**Pn**		**20 37 48.5**	**+2.3**
LVC	**Limon Verde**	**2.81**	**175**	*e*P		**Pn**		**20 37 48.5**	**+2.3**
PB06	**IPOC Station P**	**2.92**	**188**	⇓*i*P		**Pn**		**20 37 48.8**	**+1.3**
PB06				*i* S		**Sn**		**20 38 23.3**	**+1.1**
PB06				IAML				20 38 32.3	
	comp=N,595nm,0.2s								
PB06	**IPOC Station P**	**2.92**	**188**	*i* P		**Pn**		**20 37 49.0**	**+1.5**
PB05	**IPOC Station P**	**3.20**	**198**	*i* P		**Pn**		**20 37 52.5**	**+1.4**
PB15	**IPOC Station P**	**3.41**	**185**	*e*P		**Pn**		**20 37 55.7**	**+1.7**
PB15				*i* S		**Sn**		**20 38 35.9**	**+2.0**
PB15	**IPOC Station P**	**3.41**	**185**	*i* P		**Pn**		**20 37 56.5**	**+2.4**
PB15				IAML				20 38 48.2	
	comp=Z,824nm,0.1s								
LPAZ	**La Paz**	**3.62**	**16**	P		**Pn**		**20 38 00.1**	**+2.9**
	comp=Z,2.7nm,0.3s,baz=188,slow=8.1,SNR=54								
LPAZ				S		**Sn**		**20 38 44.3**	**+4.8**
	comp=Z,1.1nm,0.3s,baz=199,slow=8.0,SNR=4.2								
LPAZ	**La Paz**	**3.62**	**16**	*e*P		**Pn**		**20 37 59.6**	**+2.3**
LPAZ	**La Paz**	**3.62**	**16**	*e*P		**Pn**		**20 37 59.6**	**+2.3**
PB10	**IPOC Station P**	**3.92**	**199**	*i* P		**Pn**		**20 38 01.5**	**+0.8**
YJA	**Yavi**	**4.14**	**126**	*i* P		**Pn**		**20 38 06.6**	**+2.5**
YJA				IAML				20 38 09.1	
	comp=Z,5.9nm,0.4s								
AZAP	**Zapla**	**5.82**	**140**	*i* P		**Pn**		**20 38 27.9**	**+1.5**
ASTB	**Santa Barbara**	**6.01**	**134**	⇑*i*P		**Pn**		**20 38 25.9**	**-3.2**
SIV	**San Ignacio**	**8.57**	**65**	P		**Pn**		**20 39 01.9**	**-1.9**
	comp=Z,4.3nm,0.3s,baz=269,slow=9.5,SNR=72								
SAML	**Samuel**	**12.23**	**29**	*e*P		**Pn**		**20 39 49.0**	**-4.0**
SAML	**Samuel**	**12.23**	**29**	*e*P		**Pn**		**20 39 49.0**	**-4.0**
CPUP	**Villa Florida**	**12.68**	**123**	P		**Pn**		**20 39 56.4**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=300,slow=12,SNR=7.8								
CPUP	**Villa Florida**	**12.68**	**123**	*e*P		**P**		**20 40 05.2**	**-0.6**
CPUP	**Villa Florida**	**12.68**	**123**	*e*P		**P**		**20 40 05.2**	**-0.6**
SALV	**Santo Antonio**	**13.39**	**75**	*e*P		**P**		**20 40 13.7**	**-0.1**
SALV	**Santo Antonio**	**13.39**	**75**	*e*P		**P**		**20 40 13.7**	**-0.1**
PP1B	**Ponte de Pedra**	**13.70**	**83**	*e*P		**P**		**20 40 17.8**	**+0.5**
PP1B	**Ponte de Pedra**	**13.70**	**83**	*e*P		**P**		**20 40 17.8**	**+0.5**
PTGB	**Pitanga**	**16.56**	**110**	*e*P		**P**		**20 40 50.2**	**+1.2**
PTGB	**Pitanga**	**16.56**	**110**	*e*P		**P**		**20 40 50.2**	**+1.2**
ITAB	**Concordia**	**17.27**	**119**	*e*P		**Pn**		**20 40 57.6**	**+0.7**
ITAB	**Concordia**	**17.27**	**119**	*e*P		**Pn**		**20 40 57.6**	**+0.7**
ITRB	**Iturama**	**17.69**	**93**	*e*P		**Pn**		**20 41 04.0**	**+1.8**
ITRB	**Iturama**	**17.69**	**93**	*e*P		**Pn**		**20 41 04.0**	**+1.8**
PLTB	**Pedras Altas**	**18.36**	**134**	*e*P		**P**		**20 41 04.3**	**-4.5**
PLTB	**Pedras Altas**	**18.36**	**134**	*e*P		**P**		**20 41 04.3**	**-4.5**
FRTB	**Fartura**	**18.56**	**104**	*e*P		**P**		**20 41 11.1**	**+0.1**
FRTB	**Fartura**	**18.56**	**104**	*e*P		**P**		**20 41 11.1**	**+0.1**
BB19B	**Bebedouro**	**19.37**	**97**	*e*P		**P**		**20 41 19.1**	**-0.8**
BB19B	**Bebedouro**	**19.37**	**97**	*e*P		**P**		**20 41 19.1**	**-0.8**
IPMB	**Ipameri, GO**	**19.90**	**88**	*e*P		**P**		**20 41 24.8**	**-0.9**
IPMB	**Ipameri, GO**	**19.90**	**88**	*e*P		**P**		**20 41 24.8**	**-0.9**
RCLB	**Rio Claro- Sao**	**20.34**	**101**	*e*P		**P**		**20 41 29.1**	**-1.3**
RCLB	**Rio Claro- Sao**	**20.34**	**101**	*e*P		**P**		**20 41 29.1**	**-1.3**
BDFB	**Brasilia**	**20.55**	**82**	P		**P**		**20 41 32.0**	**-0.7**
	comp=Z,2.0nm,0.5s,baz=263,slow=14,SNR=1.9								
VAO	**Valinhos**	**20.90**	**103**	*e*P		**P**		**20 41 34.5**	**-1.9**
VAO	**Valinhos**	**20.90**	**103**	*e*P		**P**		**20 41 34.5**	**-1.9**
DBIC	**Dimbokro**	**68.48**	**74**	P		**P**		**20 47 51.9**	**-1.8**
	comp=Z,3.1nm,0.8s,baz=221,slow=11,SNR=3.6								
PDAR	**Pinedale Array**	**72.53**	**330**	P		**P**		**20 48 19.6**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=113,slow=6.0,SNR=2.4								
TORD	**Torodi Ar. Bea**	**77.00**	**71**	P		**P**		**20 48 43.3**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=249,slow=5.6,SNR=12								
TORD				pP		**pP**		**20 49 11.7**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=248,slow=5.8,SNR=2.4								
YKA	**Yellowknife Ar**	**89.51**	**341**	P		**P**		**20 49 48.5**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=134,slow=4.5,SNR=18								
YKA				pP		**pP**		**20 50 17.1**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=136,slow=4.7,SNR=2.9								
MKAR	**Makanchi Array**	**144.38**	**34**	PKP		**PKPab**		**20 56 24.1**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=212,slow=1.4,SNR=2.2								
SONM	**Songino Array**	**151.79**	**6**	PKPbc		**PKPbc**		**20 56 44.7**	**0.0**
	comp=Z,0.2nm,0.6s,baz=292,slow=1.3,SNR=4.8								

JMA 30 20:40:30.0, 37.°00N×140.°58E, h9km±1km, M2.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFFD	**Fukushimafurud**	**0.09**	**351**	P		Pg		20 40 32.4	0.0
JFFD				S		Sg		20 40 34.0	-0.1
ONAJ	**Iwakimizuishiy**	**0.20**	**60**	P		Pg		20 40 34.2	0.0
ONAJ				S		Sg		20 40 37.3	+0.2
JHO	**Hitachi**	**0.39**	**181**	P		Pg		20 40 37.5	-0.1
JHO				S		Sg		20 40 42.9	+0.2
JFK	**Kawauchi**	**0.43**	**33**	P		Pg		20 40 38.3	-0.2
JFK				S		Sg		20 40 44.2	-0.1
JFT	**Otama**	**0.55**	**340**	P		Pg		20 40 40.8	+0.1
JFT				S		Sg		20 40 48.3	+0.3
JFY	**Yanaizu**	**0.81**	**300**	S		Sg		20 40 55.9	-0.2
MAT	**Matsushiro**	**1.96**	**257**	P		Pb		20 41 05.8	-0.1
MAT				S		Sb		20 41 30.3	-0.1

ROM 30 20:41:59.3±0.1, 43.°396N±0.°003×12.°518E±0.°004, h7km, ML1.4/6, Error ellipse: s-maj=0.4km s-min=0.1km az=54.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.05**	**127**	P		Pg		20 42 01.0	+0.1
ATFO				S		Sg		20 42 02.1	0.0
ATFO				AML		AML			
	comp=E,1045μm,0.6s								
ATFO				AML		AML			
	comp=N,978μm,0.4s								
ATVO	**AVT- Monte Val**	**0.08**	**260**	P		Pg		20 42 01.5	+0.2
ATVO				S		Sg		20 42 03.0	+0.3
ATVO				AML		AML			
	comp=N,360μm,0.3s								
ATVO				AML		AML			
	comp=E,470μm,0.3s								
ATPI	**Pietralunga -**	**0.10**	**303**	P		Pg		20 42 01.9	+0.3
ATPI				S		Sg		20 42 04.0	+0.8
ATPI				AML		AML			
	comp=E,197μm,0.1s								
ATPI				AML		AML			
	comp=N,394μm,0.1s								
ATPI				AML		AML			
	comp=E,198μm,0.1s								
MURB	**Monte Urbino**	**0.13**	**178**	P		Pg		20 42 02.6	+0.5
MURB				S		Sg		20 42 05.2	+1.1
MURB				AML		AML			
	comp=E,346μm,0.3s								
MURB				AML		AML			
	comp=N,370μm,1.0s								
MURB				AML		AML			
	comp=N,348μm,0.2s								
MURB				AML		AML			
	comp=E,345μm,0.3s								
MURB				AML		AML			
	comp=E,396μm,0.3s								
MURB				AML		AML			
	comp=N,348μm,0.2s								
PIEI	**Pieia**	**0.14**	**5**	P		Pg		20 42 02.8	+0.5
PIEI				S		Sg		20 42 05.4	+1.2
PIEI				AML		AML			
	comp=N,133μm,0.4s								
PIEI				AML		AML			
	comp=N,134μm,0.4s								
PIEI				AML		AML			
	comp=E,280μm,0.4s								
FRON	**Frontone**	**0.19**	**51**	AML		AML			
	comp=N,174μm,0.1s								
FRON				AML		AML			
	comp=E,88μm,1.5s								
FOSV	**Fossato di Vic**	**0.20**	**120**	P		Pg		20 42 03.6	+0.3
FOSV				S		Sg		20 42 07.8	+1.6
NARO	**Abbazia di Nar**	**0.22**	**12**	P		Pg		20 42 04.2	+0.6
NARO				S		Sg		20 42 07.9	+1.3
NARO				AML		AML			
	comp=E,99μm,0.2s								
NARO				AML		AML			
	comp=N,74μm,1.6s								
NARO				AML		AML			
	comp=N,74μm,1.6s								
BADI	**Badiali**	**0.23**	**300**	P		Pg		20 42 04.4	+0.6
BADI				S		Sg		20 42 08.5	+1.6
BADI				AML		AML			
	comp=E,169μm,0.1s								
BADI				AML		AML			
	comp=E,169μm,0.1s								
BADI				AML		AML			
	comp=N,232μm,0.8s								
BADI				AML		AML			
	comp=N,232μm,0.8s								

*ATH **30** 20:42:39.6, 36.°49N×27.°10E, h16km±2km, ML2.6/3, Error ellipse: s-maj=3.0km s-min=1.1km az=49.0*
*ISK **30** 20:42:39.7, 36.°49N×27.°13E, h4km, ML2.7/9*
*ISCJB **30** 20:42:40.2±0.7, 36.°47N±0.°03×27.°13E±0.°04, h6km±7km, Error ellipse: s-maj=6.0km s-min=4.8km az=23.8*
*THE **30** 20:42:40.3, 36.°49N×27.°17E, h6km±2km, ML2.5/4, Error ellipse: s-maj=2.1km s-min=0.5km az=36.0*

ISC 30 20:42:40.2±0.9, 36.50N±0.°02×27.14E±0.°03, h12km±6km, n25, σ0s50/35, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.12**	**357**	P		**Pg**		**20 42 43.3**	**+0.1**
NISR				S		**Sg**		**20 42 45.6**	**+0.1**
	4μm,0.3s								
NISR	**Nisiros**	**0.12**	**357**	P		**Pg**		**20 42 43.2**	**0.0**
NISR				S		**Sg**		**20 42 45.3**	**-0.1**
NISR				AML		AML		20 42 49.5	
	comp=N,6126μm,0.3s								
NISR				AML		AML		20 42 51.3	
	comp=E,11661μm,0.6s								
**KOSK

SHL				*e*PN			21 09 25.0		
SHL				*e*S		**Sn**	**21 10 08.9**	**-1.4**	
SHL				*e*SN			21 10 12.0		
SHL				IAML			21 10 14.6		
	comp=N,122nm,0.2s								
SHL				IAML			21 10 15.1		
	comp=E,155nm,0.1s								
SHL	**Shillong**	**4.43**	**335**			**Pn**	**21 09 21.8**	**+1.8**	
SHL				Sn		**Sn**	**21 10 09.8**	**-0.5**	
CHTO	**Chiang Mai**	**5.41**	**119**			**Pn**	**21 09 34.5**	**+1.3**	
CMMT	**Chiang Mai**	**5.41**	**119**	P		**Pn**	**21 09 34.5**	**+1.2**	
CM31	**Chiang Mai Arr**	**5.60**	**123**			**Pn**	**21 09 37.4**	**+1.6**	
CMAR	**Chiang Mai Arr**	**5.60**	**123**	P		**Pn**	**21 09 37.4**	**+1.5**	
	comp=E,0.8nm,0.3s,baz=297,slow=14,SNR=47								
CMAR				S		**Sn**	**21 10 39.6**	**+0.7**	
	comp=E,1.2nm,0.3s,baz=316,slow=17,SNR=4.8								
PAYA	**Payao**	**5.94**	**111**	P		**Pn**	**21 09 42.5**	**+1.9**	
LAMP	**Lampang**	**6.12**	**119**	P		**Pn**	**21 09 44.6**	**+1.7**	
PHRA	**Phrae**	**6.62**	**116**	P		**Pn**	**21 09 52.2**	**+2.4**	
NANT	**Nan**	**6.88**	**112**	P		**Pn**	**21 09 55.3**	**+1.8**	
UTTA	**Uttaradit**	**7.27**	**120**	P		**Pn**	**21 10 00.4**	**+1.7**	
GTK	**Tadong**	**7.54**	**321**	*e*P		**Pn**	**21 10 03.8**	**+1.3**	
GTK				*e*S		**Sn**	**21 11 25.3**	**-1.5**	
GTK				IAML			21 11 30.6		
	comp=N,40nm,0.3s								
GTK				IAML			21 11 31.4		
	comp=E,45nm,0.1s								
ODAN	**Odare**	**8.00**	**313**	*e*Pn		**Pn**	**21 10 10.0**	**+1.1**	
ODAN				*e*Sn		**Sn**	**21 11 35.5**	**-2.6**	
	comp=E,68nm,0.3s								
TAPN	**Taplejung**	**8.11**	**317**	*e*Pn		**Pn**	**21 10 11.7**	**+1.2**	
LSA	**Lhasa**	**8.50**	**343**			**Pn**	**21 10 18.0**	**+2.0**	
LSA				Sn		**Sn**	**21 11 48.2**	**-2.5**	
RAMN	**Ramite**	**8.61**	**310**	*e*Pn		**Pn**	**21 10 18.9**	**+1.6**	
JIRN	**Jiri**	**9.33**	**312**	*e*Pn		**Pn**	**21 10 28.2**	**+0.9**	
JIRN				*e*Sn		**Sn**	**21 12 06.5**	**-4.4**	
GUN	**Gumba**	**9.70**	**312**	*e*Pn		**Pn**	**21 10 32.9**	**+0.6**	
PKI	**Pulchoki**	**9.83**	**309**	*e*Pn		**Pn**	**21 10 34.8**	**+0.8**	
PKIN	**Phulchoki**	**9.84**	**309**	*e*Pn		**Pn**	**21 10 34.8**	**+0.6**	
PBA	**Port Blair**	**9.92**	**187**	Pn		Pn	21 10 35.4	+0.4	
PBA						Sn	21 12 24.4	-0.5	
KKN	**Kakani**	**10.05**	**310**	*e*Pn		**Pn**	**21 10 38.0**	**+1.0**	
DMN	**Daman**	**10.07**	**308**	*e*Pn		**Pn**	**21 10 38.0**	**+0.7**	
DMN				*e*Sn		**Sn**	**21 12 25.2**	**-3.7**	
	comp=E,22nm,0.4s								
UBPT	**Khong Chiam**	**12.56**	**118**	Pn		**Pn**	**21 11 14.1**	**+2.9**	
PALK	**Pallekele**	**19.13**	**224**	LR		LR	21 22 27.8		
	comp=E,19nm,18.6s,baz=63,slow=44								
PSI	**Prapat**	**19.26**	**165**	P		**Pn**	**21 12 37.4**	**+0.6**	
	comp=E,0.9nm,0.3s,baz=346,slow=8.3,SNR=3.6								
RPSI	**Rantau Prapat**	**19.36**	**165**	P		**Pn**	**21 12 37.4**	**-0.4**	
GSI	**Gunungsitoli**	**20.44**	**170**	P		**P**	**21 12 47.7**	**-0.3**	
AAK	**Ala-Archa**	**26.60**	**327**	P		**P**	**21 13 50.1**	**+1.8**	
	comp=E,0.4nm,0.6s,baz=200,slow=15,SNR=2.6								
MK31	**Makanchi Array**	**26.90**	**342**	P		**P**	**21 13 52.1**	**+1.3**	
MKAR	**Makanchi Array**	**26.90**	**342**	P		**P**	**21 13 52.4**	**+1.5**	
	comp=E,0.5nm,0.4s,baz=145,slow=10,SNR=13								
MAKZ	**Makanchi**	**27.01**	**342**	P		**P**	**21 13 52.0**	**+0.2**	
ZALV	**Zalesovo Beam**	**33.08**	**350**	P		**P**	**21 14 46.5**	**+1.1**	
	comp=E,0.7nm,0.3s,baz=163,slow=6.0,SNR=3.2								
ABKAR	**Akbulak array**	**38.61**	**324**	P		**P**	**21 15 34.8**	**+2.1**	
ARU	**Arti**	**43.51**	**332**	P		**P**	**21 16 12.8**	**-0.1**	
ARU				IAmb		IAmb	21 16 22.9		
	comp=Z,9.7nm,1.4s								
PSAD3	**Pilbara Seismi**	**49.78**	**148**	P		**P**	**21 17 02.7**	**+0.4**	
KNRA	**Kununurra**	**50.33**	**134**	P		**P**	**21 17 06.2**	**-0.4**	
TIXI	**Tiksi**	**53.96**	**13**	LR		LR	21 43 23.8		
	comp=Z,42nm,19.2s,baz=122,slow=39								
TIXI	**Tiksi**	**53.96**	**13**	P		**P**	**21 17 32.4**	**-0.3**	
TIXI				IAmb		IAmb	21 17 32.7		
	comp=Z,5.9nm,0.5s								
SEY	**Seymchan**	**56.77**	**28**	LR		LR	21 43 50.1		
	comp=Z,159nm,19.9s,baz=156,slow=38								
WRA	**Warramunga Arr**	**57.08**	**133**	P		**P**	**21 17 55.9**	**0.0**	
	comp=Z,2.9nm,0.6s,baz=321,slow=7.5,SNR=32								
WRA	**Warramunga Arr**	**57.08**	**133**	IAmb		IAmb	21 17 57.7		
	comp=Z,0.1nm,0.8s								
AKASG	**Malin Array Be**	**57.69**	**317**	P		**P**	**21 17 59.9**	**0.0**	
	comp=Z,0.2nm,0.4s,baz=80,slow=7.4,SNR=2.9								
PET	**Petropavlovsk**	**57.88**	**40**	P		**P**	**21 17 58.7**	**-2.4**	
AS31	**Alice Springs**	**59.42**	**137**	P		**P**	**21 18 12.5**	**+0.2**	
ASAR	**Alice Springs**	**59.42**	**137**	P		**P**	**21 18 12.8**	**+0.5**	
	comp=Z,2.0nm,0.6s,baz=318,slow=6.9,SNR=38								
COEN	**Coen**	**59.80**	**122**	P		**P**	**21 18 11.2**	**-3.8**	
COEN				IAmb		IAmb	21 18 23.2		
	comp=Z,15nm,1.4s								
FINES	**FINESS Array B**	**60.75**	**329**	P		**P**	**21 18 21.1**	**+0.3**	
	comp=Z,2.1nm,0.9s,baz=114,slow=4.8,SNR=3.7								
SCTE	**Santa Cesarea**	**65.61**	**305**	P		**P**	**21 18 52.2**	**-1.1**	
SCTE				IAmb		IAmb	21 18 56.8		
	comp=Z,17nm,1.3s								
GERES	**GERESS Array B**	**67.78**	**315**	P		**P**	**21 19 08.1**	**+0.9**	
	comp=Z,0.4nm,0.6s,baz=67,slow=7.6,SNR=6.1								
CASP	**Castiglione de**	**70.76**	**309**	P		**P**	**21 19 24.1**	**-1.6**	
KIWB	**Kanaga Island**	**72.67**	**41**	P		**P**	**21 19 35.7**	**-1.2**	
MLY	**Manley**	**80.68**	**23**	P		**P**	**21 20 22.3**	**+0.4**	
MLY				IAmb		IAmb	21 20 23.0		
	comp=Z,4.1nm,0.7s								
PPLA	**Purkeypile**	**81.23**	**25**	P		**P**	**21 20 24.9**	**-0.1**	
PPLA				IAmb		IAmb	21 20 28.6		
	comp=Z,11nm,1.3s								
MDM	**Murphy Dome**	**81.61**	**22**	P		**P**	**21 20 27.4**	**+0.6**	
SKT	**Skwentna**	**81.97**	**26**	P		**P**	**21 20 28.5**	**-0.2**	
SKT				IAmb		IAmb	21 20 28.9		
	comp=Z,8.4nm,1.1s								
IL31		**82.19**	**22**	P		**P**	**21 20 29.0**	**-0.8**	
IL31				IAmb		IAmb	21 20 30.3		
	comp=Z,3.0nm,0.8s								
ILAR	**Eielson Array**	**82.19**	**22**	P		**P**	**21 20 28.9**	**-1.0**	
	comp=Z,2.1nm,0.6s,baz=286,slow=5.0,SNR=45								
RND	**Reindeer**	**82.25**	**24**	P		**P**	**21 20 29.8**	**-0.5**	
RND				IAmb		IAmb	21 20 45.0		
	comp=Z,5.2nm,1.2s								
SUA	**Susitna One**	**82.55**	**26**	P		**P**	**21 20 31.6**	**-0.4**	
SUA				IAmb		IAmb	21 20 43.0		
	comp=Z,5.8nm,1.5s								
BOSA	**Boshof**	**82.94**	**236**	P		**P**	**21 20 35.2**	**+0.8**	
	comp=Z,1.3nm,0.9s,baz=56,slow=7.3,SNR=2.5								
BOSA	**Boshof**	**82.94**	**236**	IAmb		IAmb	21 20 46.6		
	comp=Z,3.6nm,1.1s								
DHY	**Denali Highway**	**82.99**	**24**	P		**P**	**21 20 34.3**	**+0.1**	
SML	**Sawmill**	**83.33**	**25**	P		**P**	**21 20 36.5**	**+0.7**	
SML				IAmb		IAmb	21 20 47.4		
	comp=Z,12nm,1.1s								
BRLK	**Bradley Lake**	**83.40**	**27**	P		**P**	**21 20 35.5**	**-0.8**	
BRLK				IAmb		IAmb	21 20 48.9		
	comp=Z,27nm,1.4s								
KNK	**Knik Glacier**	**83.50**	**25**	P		**P**	**21 20 36.9**	**+0.1**	
KNK				IAmb		IAmb	21 20 41.1		
	comp=Z,11nm,1.2s								
KDAK	**Kodiak Island**	**83.68**	**30**	P		**P**	**21 20 37.2**	**-0.5**	
SCM	**Sheep Creek Mo**	**83.71**	**25**	P		**P**	**21 20 38.1**	**+0.2**	
INK	**Inuvik**	**83.95**	**16**	P		**P**	**21 20 38.1**	**-0.8**	
	comp=Z,0.9nm,0.7s,baz=349,slow=9.7,SNR=3.3								
TORD	**Torodi Ar. Bea**	**87.34**	**283**	P		**P**	**21 20 58.0**	**+1.3**	
	comp=Z,0.3nm,0.7s,baz=79,slow=4.6,SNR=3.3								

*IDC **30** 21:58:59.3± 1.8, 16°.38S× 175°.31W, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/30, mbtmp3.7/5, MS3.5/10, Ms1 3.5/10, ms1mx3.3/26, Error ellipse: s-maj=86.4km s-min=29.8km az=152.0*

ISC 30 21:59:06.0± 1.4, 15°.9S± 0°.4× 174°.9W± 0°.2, h35km, n25, σ2§12/8, mb3.8/5, MS3.5/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.64**	**57**		Pn	**Pn**	**21 59 59.3**	**-0.8**
	17nm,0.3s,baz=183,slow=7.7,SNR=12							
AFI					Sn	**Sn**	**22 00 40.2**	**-1.7**
	9.1nm,0.3s,baz=136,slow=23,SNR=3.5							
AFI					LR	LR	22 01 17.4	
	comp=Z,540nm,20.5s,baz=258,slow=33							
AFI					T	T	22 03 51.0	
	14nm,0.3s,baz=302,slow=15,SNR=5.4							
DZM	**Mont Dzumac**	**18.64**	**248**	P		**P**	**22 03 17.6**	**-3.4**
	0.1nm,0.3s,baz=285,slow=19,SNR=2.4							
DZM					LR	LR	22 08 54.4	
	comp=Z,179nm,21.6s,baz=33,slow=33							
DZM	**Mont Dzumac**	**18.64**	**248**	*e*P		**Pn**	**22 03 22.6**	**+1.1**
	39nm,1.3s							
DZM				*e*LR		LR	22 07 40.8	
	comp=Z,304nm,25.2s							
PPT	**Papeete**	**24.32**	**97**	LR		LR	22 12 04.0	
	comp=Z,44nm,18.4s,baz=8.5,slow=32							
PPT2	**Papeete2**	**24.32**	**98**	*e*LR		LR	22 10 33.2	
	comp=Z,94nm,25.2s							
TBI	**Tubuai**	**25.07**	**111**	*e*LQ		LQ	22 09 52.4	
	512nm,29.0s							
HNR	**Honiara**	**25.34**	**282**	LR		LR	22 12 39.5	
	comp=Z,97nm,20.7s,baz=112,slow=33							
TAOE	**Nuku Hiva Isla**	**34.65**	**82**	*e*LR		LR	22 15 09.0	
	comp=Z,165nm,26.2s							
H11S2	**WAKE ISLAND Hy**	**38.69**	**331**	T		T	22 46 17.6	
	baz=149,slow=76,SNR=5.0							
H11S3	**WAKE ISLAND Hy**	**38.70**	**331**	T		T	22 46 31.7	
	baz=149,slow=76,SNR=5.5							
H11S1	**WAKE ISLAND Hy**	**38.71**	**331**	T		T	22 46 22.4	
	baz=149,slow=76,SNR=5.3							
H11N3	**WAKE ISLAND Hy**	**39.67**	**333**	T		T	22 47 40.5	
	baz=152,slow=76,SNR=14							
H11N1	**WAKE ISLAND Hy**	**39.67**	**333**	T		T	22 47 39.3	
	baz=152,slow=76,SNR=46							
H11N2	**WAKE ISLAND Hy**	**39.69**	**333**	T		T	22 47 42.0	
	baz=152,slow=76,SNR=14							
WRA	**Warramunga Arr**	**48.30**	**257**	P		P	22 07 38.3	-6.0
	0.4nm,0.7s,baz=88,slow=7.4,SNR=2.6							
ASAR	**Alice Springs**	**48.55**	**252**	P		P	22 07 41.0	-5.3
	0.7nm,0.8s,baz=90,slow=8.1,SNR=4.2							
MJAR	**Matsushiro Arr**	**68.40**	**321**	LR		LR	22 34 21.4	
	comp=Z,19nm,20.6s,baz=250,slow=31							
PETK	**Petropavlovsk-**	**72.69**	**343**	P		**P**	**22 10 30.6**	**+0.5**
	5.2nm,0.9s,baz=179,slow=8.6,SNR=3.7							
PETK					LR	LR	22 35 32.4	
	comp=Z,63nm,21.2s,baz=60,slow=30							
USRK	**Ussuriysk Ar.**	**76.93**	**324**	LR		LR	22 38 14.1	
	comp=Z,70nm,21.3s,baz=153,slow=31							
TXAR	**Lajitas Array**	**82.12**	**57**	P		**P**	**22 11 25.9**	**+2.3**
	0.4nm,1.0s,baz=240,slow=7.1,SNR=2.0							
PDAR	**Pinedale Array**	**83.64**	**42**	P		**P**	**22 11 32.0**	**+0.7**
	0.5nm,0.7s,baz=242,slow=3.8,SNR=4.4							
PLCA	**Paso Flores**	**90.24**	**133**	LR		LR	22 46 54.6	
	comp=Z,32nm,18.2s,baz=192,slow=32							
CMAR	**Chiang Mai Arr**	**91.39**	**289**	LR		LR	22 52 39.5	
	comp=Z,8.4nm,18.2s,baz=95,slow=35							
SONM	**Songino Array**	**94.26**	**319**	LR		LR	22 52 02.0	
	comp=Z,29nm,18.6s,baz=172,slow=34							
BRTR	**Keskin Array B**	**145.62**	**319**	PKPbc		**PKPab**	**22 18 41.6**	**-0.1**
	0.6nm,0.7s,baz=85,slow=3.0,SNR=3.3							

*ISCJB **30** 22:21:52.2± 0.4, 47°.41N± 0°.02× 16°.93E± 0°.03, h6km± 3km, Error ellipse: s-maj=3.3km s-min=2.7km az=37.4*
*VIE **30** 22:21:52.2± 0.5, 47°.36N× 16°.95E, h3km± 3km, mb1.9/7, ml2.5/8, Error ellipse: s-maj=3.6km s-min=1.7km az=117.0*
26 km ESE of Lutzmannsburg
*PRU **30** 22:21:52.2± 0.0, 47°.38N× 17°.05E, h0km*

ISC 30 22:21:52.8± 1.2, 47°.45N± 0°.02× 16°.88E± 0°.02, h12km± 10km, n38, σ1§27/64, Austria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MPLH	**Magyarpolny**	**0.53**	**122**	*e*Pn		**Pb**	**22 22 04.0**	**-0.1**
MPLH					Sn	**Sb**	**22 22 12.1**	**+0.3**
ZST	**Bratislava**	**0.76**	**11**	*e*PG		**Pb**	**22 22 07.6**	**-0.4**
ZST				*e*SG		**Sn**	**22 22 19.9**	**-1.0**
CONA	**Conrad Observa**	**0.83**	**305**	*i* Pg		**Pn**	**22 22 10.6**	**0.0**
	3µm,0.0s,SNR=30							
CONA				*i* Sg		**Sn**	**22 22 23.0**	**+0.2**
	18nm,0.2s							
TIH	**Tihany**	**0.89**	**128**	*e*Pn		**Pn**	**22 22 11.0**	**-0.1**
TIH					Sn	**Sb**	**22 22 23.0**	**+1.1**
ARSA	**Arzberg**	**0.94**	**258**	*i* Pg		**Pn**	**22 22 11.8**	**-0.1**
	3.2nm,0.3s,SNR=67							
ARSA				*i* Sg		**Sb**	**22 22 24.4**	**+0.8**
	62nm,0.3s							
CSKK	**Cskako**	**0.94**	**95**	*e*Pn		**Pn**	**22 22 12.0**	**+0.1**
CSKK				*e*Sg		**Sb**	**22 22 24.0**	**+0.4**
CSKK				Sb		**Sn**	**22 22 25.1**	**-0.3**
MODS	**Modra-Piesok**	**0.96**	**16**	*e*PG		**Pg**	**22 22 11.1**	**-0.3**
MODS				*e*SG		**Sn**	**22 22 25.1**	**-0.8**
MODS				*e*LG		Lg	22 22 26.6	
SMOL	**Smolenice**	**1.13**	**19**	*e*PG		**Pn**	**22 22 14.6**	**+0.1**
SMOL				*e*SG		**Sn**	**22 22 31.6**	**+1.7**
SMOL				*e*LG		Lg	22 22 34.0	
KALN	**Kalnik**	**1.35**	**193**	*i* Pg		**Pn**	**22 22 17.5**	**-0.1**
KALN				Sg		**Sb**	**22 22 34.9**	**-0.5**
SOKA	**Soboth**	**1.48**	**239**	*i* Pn		**Pb**	**22 22 20.1**	**-0.3**
	0.5nm,0.1s,SNR=14							
SOKA				*i* Sg		**Sg**	**22 22 40.5**	**0.0**
	9.6nm,0.3s							
KOLL	**Kolacno**	**1.52**	**42**	*e*PN		**Pb**	**22 22 20.5**	**-0.5**
KRUC	**Moravsky**	**1.64**	**349**	*e*PN		**Pn**	**22 22 22.1**	**+0.5**
KRUC				*e*SN		**Sb**	**22 22 43.7**	**-0.1**
PTJ	**Puntijarka**	**1.67**	**202**	*e*Pn		**Pn**	**22 22 22.3**	**+0.3**
PTJ				Sn		**Sn**	**22 22 42.4**	**-0.9**
VYHS	**Vyhne**	**1.68**	**51**	*e*PN		**Pn**	**22 22 22.0**	**-0.1**
VYHS				*e*SN		**Sn**	**22 22 42.1**	**-1.5**
MORH	**Mrgy, Hungar**	**1.73**	**135**	*e*Pn		**Pn**	**22 22 23.0**	**+0.3**
MORH				Sn		**Sg**	**22 22 48.1**	**-0.5**
MOA	**Molln**	**1.81**	**284**	*i* Pn		**Pn**	**22 22 24.2**	**+0.3**
	2.6nm,0.1s							
MOA				*i* Sg		**Sg**	**22 22 52.0**	**+1.0**
	17nm,0.4s							
MOSL	**Moslavina**	**1.84**	**183**	*i* Pn		**Pb**	**22 22 25.7**	**-0.8**
MOSL					Sn	**Sn**	**22 22 45.6**	**-2.0**
OBKA	**Obir**	**1.85**	**240**	*i* Pn		**Pn**	**22 22 25.6**	**+1.1**
	0.6nm,0.1s							
OBKA				*e*Sg		**Sg**	**22 22 52.8**	**+0.5**
	18nm,0.4s							
VRAC	**Vranov**	**1.87**	**354**	*e*PN		**Pb**	**22 22 25.7**	**-1.2**
TREC	**Trest**	**2.06**	**334**	*e*SN		**Sg**	**22 22 58.2**	**-1.0**
OZLJ	**Ozalj**	**2.08**	**208**	*e*Pn		**Pn**	**22 22 27.8**	**+0.3**
PSZ	**Piszkesteto**	**2.09**	**76**	*e*Pn		**Pn**	**22 22 28.1**	**+0.3**
PSZ				*e*Pg		**Pg**	**22 22 33.1**	**+0.1**
PSZ				Sn		**Sn**	**22 22 53.1**	**-0.7**
BSZH	**Besenyszg**	**2.31**	**93**	Sn		**Sg**	**22 23 09.0**	**+2.0**
MORC	**Moravsky Berou**	**2.37**	**10**	*e*PN		**Pn**	**22 22 32.2**	**+0.6**
MORC				*e*SN		**Sn**	**22 23 01.2**	**+0.6**
LANS	**Liptovska Anna**	**2.42**	**45**	*e*PN		**Pn**	**22 22 33.0**	**+0.6**
LANS				*e*SN		**Sn**	**22 23 02.8**	**+0.8**
KBA	**Koelnbreinsper**	**2.43**	**262**	*e*Pn		**Pn**	**22 22 34.1**	**+1.5**
	3.4nm,0.3s,SNR=10							
KBA				*e*Sn		**Sn**	**22 23 04.0**	**+1.6**
	3.8nm,0.4s							
KRLC	**Kraliky**	**2.63**	**359**	*e*PN		**Pn**	**22 22 36.2**	**+1.1**
KHC	**Kasperske Hory**	**2.77**	**309**	*e*PN		**Pb**	**22 22 40.1**	**-2.2**
KHC				*e*SN		**Sb**	**22 23 16.1**	**-0.1**
GOPC	**GO Pecny, Ondr**	**2.83**	**331**	*e*PN		**Pn**	**22 22 39.7**	**+1.8**
UDBI	**Udbina**	**3.03**	**195**	*e*Pn		**Pn**	**22 22 41.7**	**+1.1**
UPC	**Upice**	**3.11**	**350**	*e*PN		**Pn**	**22 22 43.6**	**+1.9**
NVLJ	**Novalja**	**3.21**	**207**	*i* Pn		**Pn**	**22 22 44.5**	**+1.5**
NVLJ					Sn	**Sn**	**22 23 18.5**	**-2.7**
KUJV	**Kijevo**	**3.46**	**186**	*e*Pn		**Pn**	**22 22 48.3**	**+1.7**
WTTA	**Wattenberg**	**3.57**	**269**	*i* Pn		**Pn**	**22 22 51.3**	**+3.1**
	0.9nm,0.1s							
MORI	**Morici**	**3.68**	**193**	*e*Pn		**Pn**	**22 22 52.6**	**+3.1**
MORI					Sn	**Sn**	**22 23 29.8**	**-3.0**
DUGI	**Dugi Otok**	**3.69**	**201**	*i* Pn		**Pn**	**22 22 52.2**	**+2.5**
BRG	**Berggiesshubel**	**3.93**	**332**	SG		**Sg**	**22 23 58.6**	**-0.3**
	3.6nm,0.3s							
CLL	**Collm**	**4.62**	**328**	*e*Sg		**Sg**	**22 24 19.0**	**-1.9**
	comp=Z,6.0nm,0.6s							

*ISCJB **30** 22:21:52.9± 0.6, 23°.11N± 0°.08× 144°.0E± 0°.1, h34km, mb3.7/17, Error ellipse: s-maj=19.5km s-min=11.7km az=170.8*
*IDC **30** 22:21:58.8± 5.7, 23°.16N× 143°.95E, h70km± 51km, mb3.4/17, mb1 3.6/19, mb1mx3.5/49, mbtmp3.7/19, ML3.3/2, Error ellipse: s-maj=23.7km s-min=15.2km az=89.0*

ISC 30 22:21:54.8± 0.7, 23°.1N± 0°.1× 144°.1E± 0°.2, h34km, n20, σ1§09/20, mb3.7/17, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**14.30**	**341**	P		**Pn**	**22 25 15.5**	**+0.6**
	0.1nm,0.3s,baz=132,slow=10,SNR=6.3							
KSRS	**Korea Array**	**19.91**	**320**	P		**P**	**22 26 24.4**	**+0.9**
	0.2nm,0.3s,baz=134,slow=12,SNR=3.4							
USRK	**Ussuriysk Ar.**	**23.25**	**338**	P		**P**	**22 26 59.1**	**0.0**
	0.2nm,0.6s,baz=118,slow=12,SNR=4.8							
KLR	**Kul'dur**	**27.81**	**343**	P		**P**	**22 27 41.4**	**+0.7**
	2.5nm,0.7s,baz=154,slow=9.3,SNR=8.1							
SONM	**Songino Array**	**38.78**	**319**	P		**P**	**22 29 17.0**	**+0.8**
	0.3nm,0.6s,baz=131,slow=8.3,SNR=4.1							
CMAR	**Chiang Mai Arr**	**42.30**	**272**	P		**P**	**22 29 46.8**	**+1.2**
	0.3nm,0.7s,baz=56,slow=8.1,SNR=2.9							
WRA	**Warramunga Arr**	**43.84**	**193**	P		**P**	**22 29 56.7**	**-1.1**
	0.4nm,0.3s,baz=14,slow=9.0,SNR=7.1							
ASAR	**Alice Springs**	**47.54**	**193**	P		**P**	**22 30 28.5**	**+1.4**
	0.2nm,0.5s,baz=14,slow=12,SNR=5.3							
ZALV	**Zalesovo Beam**	**53.61**	**321**	P		**P**	**22 31 11.9**	**-0.7**
	0.5nm,0.4s,baz=129,slow=6.7,SNR=2.8							
MKAR	**Makanchi Array**	**54.34**	**312**	P		**P**	**22 31 17.8**	**-0.3**
	0.2nm,0.4s,baz=89,slow=9.1,SNR=4.9							
STKA	**Stephens Creek**	**54.74**	**183**	P		**P**	**22 31 21.3**	**+0.3**
	0.8nm,0.5s,baz=47,slow=12,SNR=2.8							
KURBB	**Kurchatov Arra**	**57.05**	**316**	P		**P**	**22 31 35.7**	**-1.7**
	1.2nm,1.1s,baz=91,slow=5.8,SNR=6.0							
ILAR	**Eielson Array**	**60.41**	**27**	P		**P**	**22 32 00.2**	**-0.3**
	0.5nm,0.6s,baz=261,slow=5.6,SNR=7.7							
BVAR	**Borovoye Array**	**62.12**	**319**	P		**P**	**22 32 12.0**	**-0.4**
	1.4nm,0.4s,baz=88,slow=6.1,SNR=12							
INK	**Inuvik**	**65.94**	**24**	P		**P**	**22 32 37.7**	**+0.5**
	0.4nm,0.4s,baz=19,slow=18,SNR=2.4							
YKA	**Yellowknife Ar**	**74.83**	**28**	P		**P**	**22 33 31.7**	**+0.2**
	0.6nm,0.7s,baz=292,slow=5.6,SNR=5.3							
NVAR	**Mina Array Bea**	**81.63**	**52**	P		**P**	**22 34 11.0**	**+1.1**
	0.4nm,0.6s,baz=276,slow=5.0,SNR=4.6							
FINES	**FINESS Array B**	**82.25**	**335**	P		**P**	**22 34 10.4**	**-2.0**
	4.1nm,0.9s,baz=37,slow=3.5,SNR=4.1							
BRTR	**Keskin Array B**	**89.95**	**314**	P		**P**	**22 34 49.1**	**-1.9**
	0.2nm,0.5s,baz=55,slow=1.9,SNR=2.3							
LPAZ	**La Paz**	**148.99**	**83**	PKPbc		**PKPbc**	**22 41 40.5**	**-0.3**
	0.8nm,0.6s,baz=224,slow=3.4,SNR=3.5							

*IDC **30** 22:35:50.3± 1.5, 5°.27S× 146°.14E, h0km, mb3.4/3, mb1 3.7/5, mb1mx3.5/29, mbtmp3.5/5, ML3.4/1, MS3.1/1, Ms1 3.0/1, ms1mx2.4/21, Error ellipse: s-maj=43.7km s-min=24.7km az=111.0*
*ISCJB **30** 22:35:57.7± 1.4, 5°.5S± 0°.1× 146°.2E± 0°.2, h69km, mb3.3/3, Error ellipse: s-maj=25.2km s-min=13.4km az=159.8*

ISC 30 22:35:58.7± 1.4, 5°.5S± 0°.1× 146°.2E± 0°.2, h69km, n7, σ1§12/7, mb3.7/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.03**	**166**	Pn		**Pn**	**22 36 56.8**	**-1.3**
	2.5nm,0.3s,baz=53,slow=2.4,SNR=5.7							
PMG					Sn	**Sn**	**22 37 45.5**	**+1.4**
	7.2nm,0.3s,baz=120,slow=22,SNR=16							
WRA	**Warramunga Arr**	**18.42**	**218**	P		**Pn**	**22 40 08.8**	**-0.7**
	0.1nm,0.3s,baz=39,slow=12,SNR=6.0							
ASAR	**Alice Springs**	**21.60**	**212**	P		**P**	**22 40 44.0**	**+0.8**
	0.2nm,0.5s,baz=47,slow=7.8,SNR=5.4							
FITZ	**Fitzroy Crossi**	**23.65**	**236**	P		**P**	**22 41 04.3**	**+0.3**
	1.7nm,0.5s,baz=52,slow=9

AZAP				IAML			23 18 13.1	
	comp=Z,282nm,0.4s							
ACLC	**CERRO LA CRUZ**	**2.88**	**203**	*i* P		**Pn**	**23 17 34.0**	**-0.8**
VCA	**Vinchina**	**2.99**	**228**	*i* P		**Pn**	**23 17 34.7**	**-1.5**
APLL	**PUNTA DE LOS L**	**3.69**	**192**	*i* P		**Pn**	**23 17 44.9**	**-0.9**
CPUP	**Villa Florida**	**7.47**	**89**	Pn		**Pn**	**23 18 38.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=274,slow=15,SNR=2.3							
CPUP				Lg		Lg	23 20 48.8	
	comp=Z,0.4nm,0.3s,baz=284,slow=10,SNR=3.0							
ZALV	**Zalesovo Beam**	**145.20**	**31**	PKPbc		**PKPab**	**23 36 23.7**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=303,slow=3.0,SNR=7.8							
MKAR	**Makanchi Array**	**147.79**	**43**	PKPbc		**PKPbc**	**23 36 31.4**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=296,slow=3.0,SNR=7.6							

TAP 30 23:17:48.6, 24.50N×121.59E, h33km±1km, ML1.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDT	**Datong Townshi**	**0.13**	**328**	S	Sb	23 17 58.5	-0.2
	baz=327						
NDT	**Datong Townshi**	**0.13**	**328**	*eS*	Sb	23 17 58.7	0.0
	baz=85						
ENA	**Nanau**	**0.16**	**116**	P	Pb	23 17 54.6	-0.1
	baz=115						
ENA				S	Sb	23 17 59.0	+0.1
	baz=115						
NANB	**Nanao**	**0.16**	**115**	*eP*	Pn	23 17 54.2	0.0
	baz=114						
NANB				S	Sb	23 17 59.0	-0.1
	baz=114						
NNSH	**Datong**	**0.20**	**250**	*eP*	Pb	23 17 55.7	+0.4
	baz=250						
NNSH				S	Sb	23 17 59.5	-0.4
	baz=250						
NNSH	**Datong**	**0.20**	**250**	*eS*	Sb	23 17 59.2	-0.7
	baz=171						
NNS	**Nan Shan**	**0.20**	**254**	*eP*	Pb	23 17 55.5	+0.1
	baz=252						
NNS				S	Sb	23 17 59.5	-0.5
	baz=252						
NNS	**Nan Shan**	**0.20**	**254**	S	Sb	23 17 59.2	-0.7
	baz=171						
NWLT	**Wulai**	**0.29**	**345**	*eP*	Pb	23 17 55.7	-0.5
	baz=344						
NWLT				S	Sn	23 18 01.4	-0.1
	baz=344						
NWLT	**Wulai**	**0.29**	**345**	*eS*	Sn	23 18 01.4	0.0
	baz=35						

TAP 30 23:17:53.1, 24.59N×121.36E, h10km, ML1.3, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**0.08**	**13**	P	Pg	23 17 55.6	0.0
	baz=13						
YHNB				S	Sg	23 17 57.1	-0.2
	baz=13						
NSK	**Sanguang**	**0.09**	**1**	P	Pg	23 17 55.3	-0.3
	baz=6.0						
NSK				S	Sg	23 17 57.0	-0.3
	baz=6.0						
NNS	**Nan Shan**	**0.15**	**174**	*eP*	Pg	23 17 56.8	+0.2
	baz=171						
NNSH	**Datong**	**0.16**	**171**	P	Pg	23 17 57.0	+0.3
	baz=171						
NWLT	**Wulai**	**0.23**	**36**	*eP*	Pg	23 17 57.8	-0.1
	baz=35						
LIOB	**Emei**	**0.32**	**280**	*eS*	Sg	23 18 04.1	+0.5
	baz=280						
TWT	**Tachien**	**0.37**	**206**	*eS*	Sg	23 18 06.2	+0.6
	baz=207						
TDCB	**Techi**	**0.38**	**208**	*eP*	Pg	23 18 00.5	-0.3
	baz=208						
TDCB				*eS*	Sg	23 18 05.9	+0.1
	baz=208						
ETLH	**Xiulin Townshi**	**0.40**	**163**	*eS*	Sg	23 18 06.6	+0.2
	baz=163						

JMA 30 23:20:29.0±0.2, 37.49N×144.40E, h46km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.46**	**290**	P	Pn	23 21 08.0	+1.4
JIKH				S	Sn	23 21 36.6	+1.1
JIO	**Ouri**	**2.60**	**293**	P	Pn	23 21 10.2	+1.7
JIO				*eS*	Sn	23 21 40.7	+1.9
JKMT	**Kesennumamotoy**	**2.66**	**301**	P	Pn	23 21 10.7	+1.4
JKMT				*eS*	Sn	23 21 41.7	+1.4
OFUJ	**Ofunato**	**2.67**	**307**	P	Pn	23 21 10.8	+1.3
OFUJ				S	Sn	23 21 41.9	+1.3
JMK	**Ichinoseki**	**2.90**	**301**	P	Pn	23 21 14.2	+1.6
JMK				S	Sn	23 21 48.2	+2.0
JOM	**Ohasama**	**3.14**	**310**	P	Pn	23 21 18.1	+2.1
JOM				*eS*	Sn	23 21 54.4	+2.2
JFT	**Otama**	**3.23**	**272**	P	Pn	23 21 19.6	+2.4
JFT				*eS*	Sn	23 21 56.7	+2.2
JYK	**Kaneyama**	**3.49**	**295**	P	Pn	23 21 23.2	+2.5
JRY	**Ryogami san**	**4.65**	**253**	P	Pn	23 21 37.4	+0.6
JRY				*eS*	Sn	23 22 28.7	-0.8
JKB	**Kayabe**	**5.10**	**330**	P	Pn	23 21 44.9	+2.1
JKB				*eS*	Sn	23 22 39.2	-1.2
JCH	**Churui**	**5.18**	**351**	P	Pn	23 21 43.6	-0.3
JCH				*eS*	Sn	23 22 39.6	-2.7
NEM2	**Nemuro 2**	**5.96**	**9**	P	Pn	23 21 51.9	-2.7
NEM2				*eS*	Sn	23 22 55.6	-5.8
JTKR	**Abashiri--Toko**	**6.49**	**357**	P	Pn	23 22 00.2	-1.6
JTKR				*eS*	Sn	23 23 10.1	-4.3

ISCJB ***30*** *23:33:10.7±0.6, 32.17S±0.04×178.0W±0.1, h10km, mb4.4/7, MS3.7/11, Error ellipse: s-maj=15.6km s-min=4.8km az=15.7*

NEIC ***30*** *23:33:11.5±2.5, 32.08S±0.07×177.8W±0.2, h9km±2km, mb4.3/9*

IDC ***30*** *23:33:11.7±0.7, 31.81S×177.98W, h0km, mb4.4/7, mb1 4.6/8, mb1mx4.2/31, mbtmp4.4/8, ML4.7/1, MS3.7/11, Ms1 3.7/11, ms1mx3.5/27, Error ellipse: s-maj=27.1km s-min=21.1km az=111.0*

ISC 30 23:33:12.3±0.6, 32.00S±0.05×178.0W±0.1, h10km, n100, σ1°94/94, mb4.3/11, MS3.9/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.73**	**1**	P	Pn	**23 33 53.8**	**-2.3**
GLKZ				S	**Sn**	**23 34 24.9**	**-4.3**
RAO	**Raoul Island**	**2.74**	**1**	Pn	**Pn**	**23 33 56.0**	**-0.4**
	143nm,0.3s,baz=41,slow=20,SNR=4.3						
RAO				Sn	**Sn**	**23 34 25.8**	**-3.7**
	254nm,0.3s,baz=68,slow=19,SNR=3.9						
RAO				LR	LR	23 34 51.5	
	comp=Z,379nm,19.8s,baz=131,slow=39						
RAO	**Raoul Island**	**2.74**	**1**		**Pn**	**23 33 55.9**	**-0.4**
RAO					**Sn**	**23 34 24.9**	**-4.5**
RIZ	**Raoul Island**	**2.75**	**1**	P	**Pn**	**23 33 55.7**	**-0.7**
MXZ	**Matakaoa Point**	**6.33**	**208**	P	**Pn**	**23 34 45.5**	**-0.1**
MXZ	**Matakaoa Point**	**6.33**	**208**	Pn	**Pn**	**23 34 43.7**	**-1.9**
MXZ					**Sn**	**23 35 53.4**	**-4.5**
WMGZ	**Waiomatatini S**	**6.51**	**206**	P	**Pn**	**23 34 48.2**	**+0.1**
PKGZ	**Pakihiroa**	**6.70**	**208**	P	**Pn**	**23 34 50.6**	**-0.2**
HAZ	**Te Kaha**	**6.71**	**210**	P	**Pn**	**23 34 50.8**	**0.0**
PUZ	**Puketiti**	**6.79**	**206**	P	**Pn**	**23 34 51.2**	**-0.8**
RUGZ	**Raukumara Rang**	**6.93**	**210**	P	**Pn**	**23 34 53.1**	**-0.9**
OPRZ	**Ohinepanea**	**7.35**	**216**	P	**Pn**	**23 35 00.3**	**+0.6**
URZ	**Urewera**	**7.42**	**211**	Pn	**Pn**	**23 34 59.4**	**-1.2**
	3.1nm,0.3s,baz=1.3,slow=5.0,SNR=18						
URZ				Sn	**Sn**	**23 36 23.3**	**-1.5**
	33nm,0.3s,baz=202,slow=6.5,SNR=24						
URZ	**Urewera**	**7.42**	**211**	P	**Pn**	**23 34 59.5**	**-1.1**
URZ	**Urewera**	**7.42**	**211**		**Pn**	**23 35 00.7**	**+0.1**
URZ					Sn	23 36 14.9	-10
WCZ	**Waipu Caves**	**7.48**	**236**	P	Pn	23 35 08.6	+7.2
RIGZ	**Rimuhau**	**7.53**	**206**	P	**Pn**	**23 35 01.7**	**-0.5**
PRGZ	**Paritu Road**	**7.68**	**205**	P	**Pn**	**23 35 04.5**	**+0.3**
OUZ	**Omahuta**	**7.71**	**243**	P	Pn	23 35 11.5	+6.9
OUZ	**Omahuta**	**7.71**	**243**		Pn	23 35 11.4	+6.8
MUGZ	**Murupara**	**7.75**	**212**	P	**Pn**	**23 35 05.0**	**-0.2**
SNGZ	**Shannon Statio**	**7.76**	**208**	P	**Pn**	**23 35 04.9**	**-0.5**
SNGZ				S	**Sn**	**23 36 29.0**	**-4.3**

RTZ	**Ruatahuna**	**7.77**	**210**	P		**Pn**	**23 35 06.1**	**+0.6**
RAHZ	**Arahi**	**7.98**	**209**	P		**Pn**	**23 35 08.8**	**+0.5**
ALRZ	**Allen Road**	**8.02**	**214**	P		**Pn**	**23 35 08.4**	**-0.5**
MTHZ	**Maungataniwha**	**8.03**	**210**	P		**Pn**	**23 35 07.7**	**-1.3**
MTHZ				S		**Sn**	**23 36 35.8**	**-4.1**
WHHZ	**Waihua**	**8.06**	**208**	P		**Pn**	**23 35 09.8**	**+0.4**
ARHZ	**Aropaoanui**	**8.31**	**208**	P		**Pn**	**23 35 11.1**	**-1.8**
HIZ	**Hauiti**	**8.74**	**220**	Pn		**Pn**	**23 35 16.3**	**-2.4**
BFZ	**Birch Farm**	**9.83**	**207**	Pn		**Pn**	**23 35 29.1**	**-4.5**
BFZ						**Sn**	**23 37 17.9**	**-6.1**
MSWZ	**Moikau Station**	**10.85**	**208**	Pn		**Pn**	**23 35 46.1**	**-1.4**
MSWZ						Sn	23 37 39.6	-9.4
PLWZ	**Palliser**	**10.97**	**208**	Pn		**Pn**	**23 35 48.7**	**-0.7**
PLWZ						Sn	23 37 42.2	-10
BHW	**Baring Head**	**10.99**	**209**	Pn		**Pn**	**23 35 45.9**	**-3.6**
NNZ	**Nelson**	**11.51**	**215**	Pn		**Pn**	**23 35 55.6**	**-1.1**
QRZ	**Quartz Range**	**11.65**	**218**	Pn		**Pn**	**23 36 01.1**	**+2.6**
BSWZ	**Blackbirch Sta**	**11.67**	**212**	Pn		**Pn**	**23 35 55.8**	**-3.1**
THZ	**Tophouse**	**12.16**	**214**	Pn		**Pn**	**23 36 04.7**	**-0.9**
KHZ	**Kahutara**	**12.39**	**211**	Pn		Pn	23 36 03.9	-4.7
LTZ	**Lake Taylor**	**13.24**	**213**	Pn		**Pn**	**23 36 19.4**	**-1.0**
MQZ	**McQueen's Vall**	**13.81**	**210**	Pn		**Pn**	**23 36 26.5**	**-1.6**
ODZ	**Otahua Downs**	**15.75**	**211**	Pn		**Pn**	**23 36 49.7**	**-4.4**
WKZ	**Wanaka**	**16.33**	**215**	Pn		**Pn**	**23 36 59.0**	**-2.6**
DZM	**Mont Dzumac**	**17.01**	**302**	LR		LR	23 42 44.5	
	comp=Z,938nm,18.5s,baz=206,slow=34							
DZM	**Mont Dzumac**	**17.01**	**302**	*eP*		**P**	**23 37 16.5**	**+4.2**
	42nm,1.1s							
DZM				*eLR*		LR	23 41 14.7	
	comp=Z,716nm,21.8s							
MLZ	**Mavora Lakes**	**17.16**	**215**	Pn		**Pn**	**23 37 09.8**	**-2.3**
WHZ	**Wether Hill Ro**	**17.63**	**214**	Pn		**Pn**	**23 37 15.5**	**-2.4**
TBI	**Tubuai**	**26.64**	**78**	*eLQ*		LQ	23 43 59.8	
	410nm,24.5s							
TBI				*eLR*		LR	23 45 07.8	
	comp=Z,253nm,30.5s							
EIDS	**Eidsvold**	**27.86**	**276**	P		**P**	**23 39 03.5**	**+1.3**
EIDS				IAmb		IAmb	23 39 03.5	
	comp=Z,5.1nm,1.4s							
PPT2	**Papeete2**	**29.41**	**68**	*eLQ*		LQ	23 45 09.4	
	comp=Z,398nm,28.2s							
PPT2				*eLR*		LR	23 46 19.2	
	comp=Z,176nm,25.0s							
PPT	**Papeete**	**29.42**	**68**	LR		LR	23 49 14.9	
	comp=Z,34nm,20.1s,baz=206,slow=33							
TAU	**Tasmania Unive**	**29.42**	**238**	P		**P**	**23 39 17.0**	**+1.2**
HNR	**Honiara**	**30.37**	**313**	LR		LR	23 50 18.1	
	comp=Z,231nm,18.8s,baz=150,slow=34							
TOO	**Toolangi**	**30.37**	**249**	P		**P**	**23 39 25.2**	**+0.8**
STKA	**Stephens Creek**	**34.15**	**259**	P		**P**	**23 39 59.8**	**+2.1**
	comp=Z,2.9nm,0.7s,baz=105,slow=9.5,SNR=9.6							
STKA				LR		LR	23 53 09.9	
	comp=Z,213nm,18.3s,baz=39,slow=35							
STKA	**Stephens Creek**	**34.15**	**259**	P		**P**	**23 40 00.2**	**+2.6**
BBOO	**Buckleboo**	**38.57**	**256**	P		**P**	**23 40 36.0**	**+0.7**
BBOO				IAmb		IAmb	23 40 36.8	
	comp=Z,10nm,0.8s							
BBOO				PcP		**PcP**	**23 42 49.8**	**+1.9**
COEN	**Coen**	**39.74**	**288**	P		P	**23 40 46.6**	**+1.3**
COEN				IAmb		IAmb	23 40 48.2	
	comp=Z,2.8nm,0.8s							
AS31	**Alice Springs**	**43.05**	**269**	P		**P**	**23 41 12.0**	**-0.5**
ASAR	**Alice Springs**	**43.05**	**269**	P		**P**	**23 41 13.2**	**+0.7**
	comp=Z,2.8nm,0.4s,baz=106,slow=7.3,SNR=48							
WRAB	**Tennant Creek**	**44.18**	**274**	P		**P**	**23 41 22.0**	**+0.4**
WRA	**Warramunga Arr**	**44.19**	**274**	P		**P**	**23 41 22.2**	**+0.5**
	comp=Z,7.1nm,0.4s,baz=113,slow=7.8,SNR=83							
WRA				LR		LR	23 59 05.9	
	comp=Z,234nm,18.9s,baz=110,slow=35							
WRA	**Warramunga Arr**	**44.19**	**274**	P		**P**	**23 41 21.6**	**0.0**
FORT	**Forrest**	**45.66**	**257**	P		**P**	**23 41 33.8**	**+0.6**
VNDA	**Vanda**	**46.51**	**186**	LR		LR	23 57 56.7	
	comp=Z,60nm,19.2s,baz=5.0,slow=32							
NWAO	**Narrogin (SRO)**	**53.85**	**250**	LR		LR	00 01 01.2	
	comp=Z,119nm,21.5s,baz=109,slow=31							
QSPA	**South Pole Qui**	**58.11**	**180**	P		**P**	**23 43 08.5**	**+2.8**
	comp=Z,1.8nm,0.8s,baz=25,slow=5.3,SNR=5.8							
MAW	**Mawson**	**70.82**	**201**	LR		LR	00 15 51.9	
	comp=Z,83nm,18.3s,baz=56,slow=36							
VNA3	**Neumayer Olymp**	**76.71**	**176**	P		**P**	**23 45 04.9**	**+1.7**
VNA2	**Neumayer--Watz**	**77.15**	**177**	P		**P**	**23 45 07.6**	**+2.0**
	baz=175,slow=3.6							
VNA1	**Neumayer--Stat**	**77.38**	**177**	P		**P**	**23 45 09.9**	**+3.0**
PLCA	**Paso Flores**	**81.42**	**133**	LR		LR	00 15 09.4	
	comp=Z,64nm,18.3s,baz=240,slow=31							
H06S1	**SOCORRO T**	**81.62**	**62**	T		T	01 16 12.3	
	SNR=8.4							
PETK	**Petropavlovsk-**	**87.36**	**346**	P		**P**	**23 45 59.4**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=96,slow=6.0,SNR=3.1							
YERR	**Yerington**	**89.25**	**42**	P		**P**	**23 46 07.8**	**-0.9**
YERR				IAmb		IAmb	23 46 09.0	
	comp=Z,2.0nm,0.7s							
KLR	**Kul'dur**	**92.42**	**330**	P		**P**	**23 46 23.4**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=101,slow=0.4,SNR=5.8							
TXAR	**Lajitas Array**	**93.25**	**57**	P		**P**	**23 46 27.7**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=198,slow=5.7,SNR=3.6							
CMAR	**Chiang Mai Arr**	**93.93**	**289**	LR		LR	00 31 34.0	
	comp=Z,12nm,18.9s,baz=350,slow=37							
HHC	**Hu-ho-hao-te**	**97.35**	**314**	*eP*		**P**	**23 46 45.8**	**0.0**
MK31	**Makanchi Array**	**118.80**	**309**			**PKiKP**	**23 52 00.4**	**-0.2**
MKAR	**Makanchi Array**	**118.80**	**309**	PKP		**PKiKP**	**23 52 00.8**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=192,slow=0.8,SNR=17							
ZALV	**Zalesovo Beam**	**119.22**	**318**	PKP		**PKiKP**	**23 52 01.7**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=151,slow=3.3,SNR=3.0							
KURBB	**Kurchatov Arra**	**122.19**	**313**	PKP		**PKiKP**	**23 52 06.9**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=117,slow=2.0,SNR=9.1							
AAK	**Ala-Archa**	**123.00**	**303**	PKP		**PKiKP**	**23 52 10.1**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=113,slow=5.6,SNR=5.1							
AAK	**Ala-Archa**	**123.00**	**303**			**PKiKP**	**23 52 09.0**	**-0.1**
GAR	**Garm**	**125.11**	**298**			**PKiKP**	**23 52 13.0**	**-0.4**
ARCES	**ARCESS Array B**	**140.15**	**347**	PKhKP		PKPpre	23 52 35.4	
	comp=Z,3.9nm,0.8s,baz=72,slow=2.9,SNR=4.2							
KBZ	**Khabaz**	**145.98**	**302**	PKPbc		**PKPbc**	**23 52 51.9**	**-0.1**
	comp=Z,4.1nm,1.0s,baz=60,slow=6.8,SNR=5.4							
OBN	**Obninsk**	**146.47**	**324**			**PKPab**	**23 52 53.6**	**-0.4**
FIA1	**FINESS Array S**	**146.64**	**339**			**PKPbc**	**23 52 53.6**	**+0.2**
FINES	**FINESS Array B**	**146.64**	**339**	PKPbc		**PKPbc**	**23 52 53.6**	**+0.2**
	comp=Z,7.4nm,0.5s,baz=47,slow=3.7,SNR=67							
NB2	**NORSAR Subarra**	**150.33**	**351**	PKP		**PKiKP**	**23 53 03.1**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=16,slow=2.6							
NOA	**NORSAR Array B**	**150.33**	**351**	PKPbc		**PKiKP**	**23 53 03.2**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=17,slow=4.1,SNR=5.1							
HFS	**Hagfors**	**150.81**	**348**	PKPbc		**PKiKP**	**23 53 04.1**	**-0.7**
	comp=Z,3.3nm,0.7s,baz=113,slow=3.7,SNR=7.4							
AKASG	**Malin Array Be**	**152.56**	**321**	PKPbc		**PKiKP**	**23 53 09.2**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=48,slow=3.2,SNR=14							
BRTR	**Keskin Array B**	**153.33**	**296**	PKPbc		**PKiKP**	**23 53 11.2**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=146,slow=4.1,SNR=20							
KWP	**Kalwaria Pacla**	**156.56**	**325**	PKPdf		**PKPdf**	**23 53 05.9**	**-1.3**
KWP						**pPKPab**	**23 53 36.9**	**-1.0**
CLL	**Collm**	**159.08**	**340**	*e*PKPab		**PKPab**	**23 53 47.0**	**+0.2**
VYHS	**Vyhne**	**159.19**	**327**	*e*PKP		**PKPab**	**23 53 47.7**	**+0.2**
GERES	**GERESS Array B**	**161.00**	**336**	PKPab		**PKPab**	**23 53 55.5**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=36,slow=5.3,SNR=3.6							
TORD	**Torodi Ar. Bea**	**161.23**	**179**	PKPab		**PKPab**	**23 53 58.6**	**+1.6**
	comp=Z,1.3nm,0.8s,baz=174,slow=3.0,SNR=7.8							

ISCJB ***30*** *23:41:55.0±0.3, 28.11N±0.04×99.34E±0.04, h10km, mb3.9/13, MS3.1/5, Error ellipse: s-maj=6.5km s-min=4.5km az=11.4*

IDC ***30*** *23:41:55.7±0.8, 28.14N×99.40E, h0km, mb3.8/14, mb1 3.9/14, mb1mx3.7/51, mbtmp3.8/14, MS3.2/5, Ms1 3.2/5, ms1mx3.0/34, Error ellipse: s-maj=28.5km s-min=16.2km az=53.0*

NEIC ***30*** *23:41:56.9±2.0, 28.13N±0.09×99.43E±0.07, h10km±1km, mb4.0/12*

BJI ***30*** *23:41:57.0±0.0, 28.23N×99.38E, h12km, mb4.0/18, ML3.8/10, Ms3.7/8, Ms7 3.6/6*

ISC 30 23:41:57.1±0.5, 28.12N±0.06×99.29E±0.05, h10km, n51, σ1°67/53, mb4.0/18, MS3.0/5, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**4.30**	**133**	Pn	**Pn**	**23 43 02.3**	**-0.5**
KMI				Sg	**Sg**	**23 44 16.8**	**+1.7**
KMI				smax	smax		
	comp=N,83nm,1.3s						
KMI				smax	smax		
	comp=E,64nm,1.0s						
KMI				LR	LR		
	comp=N,580nm,7.2s						
KMI				LR	LR		
	comp=Z,180nm,5.8s						
KMI	**Kunming**	**4.30**	**133**		**Pn**	**23 43 02.6**	**-0.1**
CD2	**Chengdu**	**4.78**	**53**	Pg	**Pb**	**23 43 23.5**	**+2.5**
CD2				Sg	**Sg**	**23 44 28.5**	**-2.1**
CD2				smax	smax		
	comp=N,50nm,1.2s						
CD2				smax	smax		
	comp=E,50nm,1.3s						
CD2				LR	LR		
	comp=N,860nm,5.1s						
CD2				LR	LR		
	comp=Z,980nm,8.5s						
KOHI	**KOHIMA**	**5.21**	**244**	*eP*	**Pn**	**23 43 16.3**	**+1.0**
KOHI				*eS*	**Sn**	**23 44 08.0**	**-7.6**
KOHI				IAML		23 44 29.6	
	comp=E,177nm,0.5s						
KOHI				IAML		23 44 29.7	
	comp=N,222nm,0.4s						
KOHI				IAML		23 44 58.6	
	comp=N,44nm,0.6s						
KOHI				IAML		23 44 59.0	
	comp=E,73nm,0.6s						
SHL	**Shillong**	**7.09**	**251**	*eP*	**Pn**	**23 43 43.5**	**+2.3**
SHL				*eS*	**Sn**	**23 45 02.3**	**+0.3**
SHL				IAML		23 45 04.1	
	comp=N,63nm,0.0s						
SHL				IAML		23 45 05.0	
	comp=E,70nm,0.4s						
SHL	**Shillong**	**7.09**	**251**		**Pn**	**23 43 43.7**	**+2.6**
SHL					**Sn**	**23 45 02.9**	**+1.0**
LSA	**Lhasa**	**7.31**	**284**		**Pn**	**23 43 47.3**	**+2.9**
LZH	**Lanzhou**	**8.83**	**25**	*eP*	**Pn**	**23 44 05.5**	**+0.6**
LZH				pP	Pg	23 44 15.5	-31
LZH				sP		23 44 19.5	
LZH				pmax	pmax		
	comp=E,18nm,1.1s						
ENH	**Enshi**	**9.16**	**74**	Pn	**Pn**	**23 44 08.1**	**-1.4**
GTK	**Tadong**	**9.51**	**268**	*eP*	**Pn**	**23 44 17.0**	**+2.7**
GTK				IAML		23 45 20.0	
	comp=E,17nm,0.1s						
GTK				IAML		23 45 20.0	
	comp=N,16nm,0.1s						
GTK				*eS*	**Sn**	**23 46 01.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**9.63**	**182**	Pn	Pn	23 44 22.9	+7.1
	comp=N,0.0nm,0.3s,baz=356,slow=12,SNR=9.4						
CMAR				Pg		23 44 56.8	
	comp=N,0.1nm,0.3s,baz=353,slow=16,SNR=6.3						
CMAR				Lg	Lg	23 47 04.8	
	comp=N,0.0nm,0.3s,baz=4.2,slow=30,SNR=3.3						
TAPN	**Taplejung**	**10.29**	**268**	*eP*	**Pn**	**23 44 26.5**	**+1.3**
	comp=N,44nm,0.6s						
ODAN	**Odare**	**10.64**	**266**	*eP*	**Pn**	**23 44 30.1**	**+0.2**
	comp=N,42nm,0.6s						
RAMN	**Ramite**	**11.33**	**267**	*eP*	**Pn**	**23 44 40.8**	**+1.5**
	comp=N,124nm,0.6s						
JIRN	**Jiri**	**11.60**	**271**	*eP*	**Pn**	**23 44 44.1**	**+0.9**
	comp=N,50nm,0.3s						
GUN	**Gumba**	**11.86**	**272**	*eP*	**Pn**	**23 44 47.3**	**+0.7**
	comp=N,33nm,0.5s						
PKI	**Pulchoki**	**12.30**	**271**	*eP*	**Pn**	**23 44 52.7**	**0.0**
	comp=N,7.5nm,0.8s						
PKIN	**Phulchoki**	**12.31**	**271**	*eP*	**Pn**	**23 44 52.8**	**0.0**
	comp=N,22nm,0.3s						
KKN	**Kakani**	**12.39**	**272**	*eP*	**Pn**	**23 44 54.4**	**+0.5**
	comp=N,37nm,0.6s						
DMN	**Daman**	**12.56**	**271**	*eP*	**Pn**	**23 44 56.1**	**-0.1**
	comp=N,36nm,0.7s						
DANN	**Dangsing**	**13.70**	**275**	*eP*	**Pn**	**23 45 09.2**	**-2.5**
	comp=N,23nm,0.6s						
WMQ	**Urumqi**	**18.23**	**332**	*eP*	**Pn**	**23 46 08.3**	**-2.0**
WMQ				pmax	pmax		
	comp=N,9.0nm,1.1s						
WMQ				LR	LR		
	comp=N,400nm,29.0s						
WMQ				LR	LR		
	comp=N,63nm,19.5s						
YULB	**Yu-li**	**20.36**	**98**	P	**P**	**23 46 32.4**	**-1.5**
YULB				IAmb	IAmb	23 46 42.0	
	comp=Z,11nm,1.0s						
SONM	**Songino Array**	**20.44**	**14**	P	**P**	**23 46 34.0**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=194,slow=12,SNR=10						
TARG	**Taragay, Kyrgy**	**22.16**	**313**	P	**P**	**23 46 55.8**	**+2.2**
TARG				IAmb	IAmb	23 47 10.9	
	comp=Z,6.9nm,1.0s						
MK31	**Makanchi Array**	**22.92**	**329**	P	**P**	**23 47 01.4**	**+0.2**
MK31				IAmb	IAmb	23 47 05.6	
	comp=Z,3.1nm,0.9s						
MKAR	**Makanchi Array**	**22.92**	**329**	P	**P**	**23 47 02.2**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=140,slow=10,SNR=21						
MKAR				ScP	**ScP**	**23 54 30.7**	**+1.3**
	comp=Z,0.7nm,1.1s,baz=163,slow=1.3,SNR=4.1						
NIL	**Nilore**

FRD	Ford Ranch, An	0.22	147		Pb	23 44 26.8	-0.4
FRD					Sb	23 44 30.6	-0.8
PFO	Pinyon Flats O	0.25	106	P	Pb	23 44 26.7	-0.6
	baz=291,SNR=1000						
PFO				S	Sb	23 44 30.4	-1.4
	baz=291						
PFO	Pinyon Flats O	0.25	106		Pb	23 44 26.8	-0.6
PFO					Sb	23 44 30.1	-1.6
XPFO	Pion Flat	0.25	106		Pb	23 44 26.8	-0.6
XPFO	Pion Flat	0.25	106		Pn	23 44 30.4	+0.7
BBSC	Beaumont Base	0.31	321		Sb	23 44 32.6	-0.1
PLM	Palomar	0.34	196		Pb	23 44 28.9	+0.3
EW2	E Wide Canyon	0.38	47		Sb	23 44 33.9	-0.6
MURC	Murrieta	0.38	258	P	Pb	23 44 29.1	+0.1
	baz=75,SNR=315						
MURC				S	Sb	23 44 34.8	+0.3
	baz=75						
MURC	Murrieta	0.38	258		Sb	23 44 34.9	+0.4
PEC	Perris	0.40	301		Sb	23 44 34.8	-0.3
BORC	Borrego Spring	0.50	146		Sb	23 44 37.9	0.0
SVD	Seven Oaks Dam	0.52	325		Pb	23 44 31.1	-0.4
RSBC	Riverside Bore	0.56	301		Pb	23 44 31.6	-0.8
RSBC					Sb	23 44 39.1	-0.9
HLNC	Highland	0.59	318		Pb	23 44 32.4	-0.4
BBRC	Big Bear Solar	0.60	346	P	Pb	23 44 32.5	-0.6
	baz=164,SNR=54						
BBRC				S	Sb	23 44 40.5	-0.8
	baz=164						
BBRC	Big Bear Solar	0.60	346		Sb	23 44 40.5	-0.8
CFSC	Central Fire S	0.61	314		Pb	23 44 33.1	-0.1
CLTC	Calectric	0.63	311		Pb	23 44 33.2	-0.3
CTCC	Cactus City	0.63	92		Pb	23 44 33.2	-0.3
CTCC					Sb	23 44 41.9	-0.1
GORC	Green Oak Ranc	0.66	218		Pb	23 44 33.7	-0.4
GORC					Sb	23 44 42.8	-0.1
HWB	Hans Werner Br	0.68	195		Sb	23 44 43.2	-0.1
BELC	Belle Mtn. Jos	0.70	63	P	Pb	23 44 34.1	-0.6
	baz=244,SNR=1000						
BELC				S	Sb	23 44 43.1	-0.9
	baz=244						
DPP	Dos Picos Cty	0.70	194		Pb	23 44 34.3	-0.3
DPP					Sb	23 44 43.8	-0.1
TPC	Twentynine Pal	0.72	54		Pb	23 44 34.2	-0.7
BATC	Bat Cave Butte	0.79	106		Pb	23 44 35.5	-0.5
EML	El Monte Cty P	0.79	186		Sb	23 44 46.5	0.0
CSP	Cedar Springs	0.80	321		Pb	23 44 36.0	-0.4
MONP2	Monument Peak	0.83	161	P	Pb	23 44 37.0	0.0
	baz=342,SNR=130						
MONP2				S	Sb	23 44 48.0	+0.2
	baz=342						
CHNC	Chino	0.84	292		Pb	23 44 36.5	-0.4
CHNC					Sb	23 44 48.0	+0.2
109C	Camp Elliot, M	0.85	201	P	Pb	23 44 36.7	-0.4
	baz=21,SNR=23						
109C				S	Sb	23 44 48.0	0.0
	baz=21						
109C	Camp Elliot, M	0.85	201		Pb	23 44 36.7	-0.4
109C					Sb	23 44 47.9	0.0
HAY	Hayfield	0.89	88		Pb	23 44 37.7	-0.1
BFSC	Mount Baldy Ra	0.94	306	P	Pb	23 44 37.8	-0.9
	baz=125,SNR=144						
BFSC				S	Sb	23 44 50.1	-0.7
	baz=125						
BFSC	Mount Baldy Ra	0.94	306		Pb	23 44 37.9	-0.9
SSK	Sunset Peak	0.95	304		Pb	23 44 38.1	-0.8
SDRC	San Diego Road	0.96	190		Pb	23 44 38.5	-0.5
FRK	Frink	0.97	106		Pb	23 44 37.5	-1.6
PSRC	Puddingstone R	0.97	295		Pb	23 44 38.6	-0.6
PSRC					Sb	23 44 51.7	+0.1
BAR	Barrett	1.00	176		Pb	23 44 39.4	-0.3
BAR					Sb	23 44 52.6	+0.1
VTV	Victorville	1.00	331		Pb	23 44 39.4	-0.4
VTV					Sb	23 44 52.1	-0.4
CRR	Carrizo Plain	1.03	140		Pb	23 44 39.0	-1.1
PEM	Pine Mountain	1.05	298		Pb	23 44 40.0	-0.6
BC3	Big Chuckawall	1.08	91	P	Pb	23 44 39.8	-1.3
	baz=273,SNR=301						
BC3				S	Sb	23 44 54.7	-0.1
	baz=273						
BC3	Big Chuckawall	1.08	91		Pb	23 44 39.8	-1.3
SWSC	Sam W. Stewart	1.08	133	P	Pn	23 44 39.4	-1.6
	baz=314,SNR=64						
SWSC				S	Sn	23 44 55.6	+0.3
	baz=314						
XTL	Crystal Lake,	1.11	304		Pn	23 44 40.8	-0.8
IKP	In-Ko-Pah, Jac	1.16	152	P	Pn	23 44 41.4	-0.7
	baz=334,SNR=170						
IKP				S	Sn	23 44 57.8	+0.4
	baz=334						
HEC	Hector,Ludlow	1.19	16	P	Pn	23 44 42.0	-0.7
	baz=196,SNR=66						
HEC				S	Sn	23 44 58.0	-0.3
	baz=196						
HOLC	Holcomb Ridge	1.20	311		Pn	23 44 42.4	-0.3
RRX	Edison Barstow	1.21	350	P	Pn	23 44 42.5	-0.3
	baz=169,SNR=10						
RRX				S	Sn	23 44 58.8	+0.2
	baz=169						
RRX	Edison Barstow	1.21	350		Pn	23 44 42.7	-0.1
MWC	Mount Wilson	1.22	297	Pn	Pn	23 44 42.6	-0.4
MWC					Sb	23 44 58.5	-0.4
FMP	Fort Macarthur	1.29	272	P	Pn	23 44 43.6	-0.3
	baz=90,SNR=16						
FMP				S	Sb	23 45 00.7	0.0
	baz=90						
PASC	Pasadena Art C	1.29	293		Pn	23 44 43.8	-0.1
PASC					Sn	23 45 00.3	-0.3
IRM	Iron Mountain	1.41	70	P	Pn	23 44 44.5	-1.2
	baz=251,SNR=446						
IRM				Sb	Sb	23 45 04.5	+0.2
	baz=251						
IRM	Iron Mountain	1.41	70		Pb	23 44 47.1	+0.4
GMRC	Granite Mounta	1.42	39	P	Pn	23 44 44.9	-0.9
	baz=220,SNR=131						
GMRC				Sb	Sb	23 45 04.7	+0.1
	baz=220						
CIS	Catalina Islan	1.42	259	P	Pn	23 44 45.0	-0.7
	baz=78,SNR=50						
CIS				Sb	Sb	23 45 05.3	+0.7
	baz=78						
DECC	Green Verdugo	1.44	294	P	Pn	23 44 45.2	-0.7
	baz=112,SNR=14						
DECC				Sb	Sb	23 45 05.6	+0.5
	baz=112						
EDW2	Edwards Air Fo	1.58	320	P	Pn	23 44 47.9	0.0
	baz=138,SNR=102						
EDW2				Sb	Sb	23 45 09.6	+0.4
	baz=138						
EDW2	Edwards Air Fo	1.58	320		Pn	23 44 48.0	0.0
GSC	Goldstone, Bar	1.62	358	P	Pn	23 44 48.2	-0.3
	baz=178,SNR=420						
GSC				Sb	Sb	23 45 11.3	+1.0
	baz=178						
GSC	Goldstone, Bar	1.62	358		Pn	23 44 48.2	-0.3
GSC				Pg	Pb	23 44 50.6	+0.3
GSC					Sn	23 45 07.7	-1.1
SCI2	San Clemente I	1.66	246	P	Pn	23 44 49.1	+0.1
	baz=64,SNR=30						
SCI2				Sb	Sb	23 45 13.1	+1.6
	baz=64						
GLA	Glamis	1.73	111	P	Pn	23 44 48.5	-1.5
	baz=293,SNR=43						
GLA	Glamis	1.73	111	Pg	Pb	23 44 53.3	+1.2
DTP	Desert Tortois	1.82	330		Pn	23 44 51.1	-0.2
Y12C	Blythe	1.85	87	P	Pn	23 44 50.4	-1.2
	baz=269,SNR=44						
Y12C				Sb	Sb	23 45 18.4	+1.4
	baz=269						
Y12C	Blythe	1.85	87		Pn	23 44 50.5	-1.2
TUQ	Turquoise Moun	1.88	21	P	Pn	23 44 51.5	-0.6
	baz=201,SNR=60						
TUQ				Sb	Sb	23 45 19.0	+1.2
	baz=201						
TUQ	Turquoise Moun	1.88	21		Pn	23 44 51.5	-0.6
OSI	Osito Audit: C	1.89	300	S	Sn	23 45 16.2	+0.9
	baz=118						
OSI	Osito Audit: C	1.89	300	Pn	Pn	23 44 52.9	+0.8
LRMC	Laurel Mtn Rad	1.95	337	P	Pn	23 44 52.9	-0.3
	baz=156,SNR=48						
LRMC				Sb	Sb	23 45 21.0	+1.0
	baz=156						
BLG	Laguna Peak, P	1.98	283	Pb	Pb	23 44 55.6	-0.8
	baz=101						
BLG				Sb	Sb	23 45 22.0	+1.4
	baz=101						
NEE2	Needles Airpor	2.07	58	P	Pn	23 44 53.6	-1.0
	baz=239						
NEE2				Sb	Sb	23 45 24.7	+1.6
	baz=239						
ARVC	Arvin	2.25	310	P	Pn	23 44 57.1	+0.1
	baz=129						
ARVC				Sb	Sb	23 45 30.0	+1.7
	baz=129						
SHOC	Shoshone, Teco	2.25	10	P	Pn	23 44 56.8	-0.2
	baz=190,SNR=11						
MPI	Mount Pinos, F	2.29	300		Pn	23 44 59.1	+1.2
SNCC	San Nicolas Is	2.36	260	S	Sn	23 45 27.3	+0.3
	baz=78						
SCZ2	Santa Cruz Isl	2.42	278	P	Pn	23 44 59.2	-0.4
	baz=96,SNR=9.2						
ISA	Isabella, Lake	2.44	325	P	Pn	23 44 59.6	-0.2
	baz=143,SNR=19						
ISA				Sb	Sb	23 45 35.5	+1.7
	baz=143						
ISA	Isabella, Lake	2.44	325		Pn	23 44 59.7	0.0
MPMC	Manual Prospec	2.45	346	P	Pn	23 44 59.8	-0.2
	baz=165,SNR=71						
113A	Mohawk Valley,	2.66	109		Pn	23 45 01.5	-1.2
DAC	Darwin (Calif)	2.68	345		Pb	23 45 05.7	-2.8
PKM	Mcpherson Peak	2.81	296	P	Pn	23 45 05.9	+0.9
	baz=114						
CWC	Cottonwood Cre	2.96	339	P	Pn	23 45 07.3	+0.3
	baz=158						
SHPR	Sheep Range	3.10	24		Pn	23 45 09.2	+0.2
Y14A	Wickenburg	3.12	84		Pn	23 45 08.7	-0.5
TPNV	Topopah Spring	3.29	7	P	Pn	23 45 12.0	+0.5
	baz=187,SNR=24						
PAGB	Antelope Grade	3.54	306	Pn	Pn	23 45 15.9	+1.1
214A	Organ Pipe Nat	3.73	116	P	Pn	23 45 17.2	-0.3
	baz=299						
214A	Organ Pipe Nat	3.73	116	Pn	Pn	23 45 17.5	0.0
PMPB	Monarch Peak	4.18	308	Pn	Pn	23 45 23.9	+0.2
OMMB	Old Mammoth Mi	4.33	336		Pn	23 45 28.2	+2.2
MDPB	Devils Postpil	4.38	335		Pn	23 45 29.0	+2.4
MDPB					Sn	23 46 14.3	-2.8
LCMT	Little Creek M	4.38	40		Pn	23 45 27.3	+0.7
U15A	North Rim	4.57	52		Pn	23 45 29.7	+0.5
U15A					Sn	23 46 21.4	-0.3
KNB	Kanab	4.62	43		Pn	23 45 30.7	+0.9
CCUT	Cedar City	4.74	35	Pn	Pn	23 45 29.0	-2.6
CCUT				Pg	Pb	23 45 49.5	+5.9
CCUT					Sn	23 46 23.6	-2.5
R11A	Troy Canyon, C	4.75	11	P	Pn	23 45 32.3	+0.7
	baz=192						
R11A	Troy Canyon, C	4.75	11	Pn	Pn	23 45 33.0	+1.4
R11A					Pb	23 45 48.8	+5.1
WUAZ	Wupatki	4.79	66	P	Pn	23 45 33.5	+1.3
	baz=249,SNR=6.6						
SZCU	Shurtz Canyon	4.91	36		Pn	23 45 35.0	+1.1
TUC	Tucson	5.19	104	P	Pn	23 45 36.3	-1.3
	baz=287						
TUC	Tucson	5.19	104	Pn	Pn	23 45 36.1	-1.5
PKCU	Pink Cliffs	5.21	43		Pn	23 45 40.0	+1.9
PKCU				Pg	Pb	23 45 56.1	+4.4
CMB	Columbia Colle	5.25	327	Pn	Pn	23 45 39.7	+1.3
PSUT	Pine Spring	5.38	25		Pn	23 45 42.2	+1.9
KVN	Kaiserville	5.47	349	Pn	Pn	23 45 42.5	+1.0
MTPU	Mount Pierson	5.71	39		Pn	23 45 46.4	+1.4
PNTR	Pine Nut	5.87	338	Pn	Pn	23 45 46.3	-0.7
W18A	Petrified Fore	5.97	74	P	Pn	23 45 49.9	+1.5
	baz=258						
W18A	Petrified Fore	5.97	74	Pn	Pn	23 45 49.6	+1.2
319A	Douglas	6.71	108	Pn	Pn	23 45 59.1	+0.5
BMN	Battle Mountai	6.75	357	Pn	Pn	23 46 00.8	+1.7
BEKR	Beckworth	6.82	336	Pn	Pn	23 46 03.6	+3.5
ELK	Elko	7.15	9	Pn	Pn	23 46 04.4	-0.2
SRU	San Rafael Swe	7.38	41	Pn	Pn	23 46 08.9	+1.2
121A	Cookes Peak, D	7.61	96	P	Pn	23 46 10.8	-0.1
	baz=281,SNR=6.6						
121A	Cookes Peak, D	7.61	96		Pn	23 46 11.3	+0.5
BNM	Barren Site	8.42	84	Pn	Pn	23 46 23.1	+1.0
MNTX	Cornudas Mount	9.78	99	Pn	Pn	23 46 40.6	+0.1

IDC ***30*** *23:48:13.3±0.7, 10°.21S×75°.33W, h0km, mb3.9/9, mb1 4.2/12, mb1mx4.0/36, mbtmp3.9/12, ML3.8/3, MS3.9/7, Ms1 3.9/7, ms1mx3.6/22, Error ellipse: s-maj=18.8km s-min=14.9km az=116.0*

ISCJB ***30*** *23:48:16.7±0.3, 10°.18S±0°.04×75°.41W±0°.06, h41km, mb3.9/9, MS3.9/7, Error ellipse: s-maj=8.7km s-min=5.4km az=165.6*

NEIC ***30*** *23:48:16.8±2.1, 10°.21S±0°.06×75°.41W±0°.08, h28km±5km, mb4.6/45*

ISC 30 23:48:18.5±0.5, 10°.24S±0°.06×75°.39W±0°.09, h41km, n72, σ1s21/64, mb4.5/29, MS4.1/7, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	Nana	2.25	219	Pn	Pn	23 48 52.5	-0.7
	101nm,0.3s,baz=33,slow=18,SNR=78						
NNA				Lg	Lg	23 49 26.3	
	84nm,0.3s,baz=326,slow=23,SNR=22						
NNA	Nana	2.25	219		Pn	23 48 52.0	-1.3
NNA					Sn	23 49 19.4	-0.4
ATAH	Atahualpa	4.29	316	Pn	Pn	23 49 24.6	+2.9
	7.7nm,0.3s,baz=116,slow=4.2,SNR=44						
ATAH				Lg	Lg	23 50 30.0	
	7.8nm,0.3s,baz=183,slow=22,SNR=6.2						
LPAZ	La Paz	9.27	131	Pn	Pn	23 50 33.3	+3.1
	0.1nm,0.3s,baz=332,slow=9.4,SNR=4.6						
LPAZ				Lg	Lg	23 53 04.2	
	0.3nm,0.3s,baz=181,slow=18,SNR=3.0						
LPAZ	La Paz	9.27	131	Pn	Pn	23 50 34.1	+3.9
OTAV	Otavalo	10.85	343	Pn	Pn	23 50 52.5	+0.7
PB11	IPOC Station P	10.96	150	Pn	Pn	23 50 53.3	+0.4
GO01	Chusmiza	11.11	148		Pn	23 50 53.4	-1.9
SAML	Samuel	12.10	85		Pn	23 51 06.2	-2.3
LVC	Limon Verde	13.77	154	Pn	Pn	23 51 32.8	+1.2
ROSC	El Rosal	15.02	4	Pn	P	23 51 52.5	-0.7
	0.9nm,0.3s,baz=217,slow=20,SNR=1.9						
ROSC				Lg	Lg	23 56 10.2	
	1.5nm,0.3s,baz=203,slow=18,SNR=2.4						
ROSC	El Rosal	15.02	4		Pn	23 51 47.2	-1.3
SIV	San Ignacio	15.06	114	Pn	Pn	23 51 48.5	-0.1
	0.3nm,0.3s,baz=313,slow=11,SNR=8.7						
SIV				Lg	Lg	23 56 08.6	
	0.9nm,0.3s,baz=357,slow=18,SNR=3.6						
GO02	Mina Guanaco	15.83	160	P	Pn	23 51 59.2	+0.4
SDV	Santo Domingo	19.58	14	P	P	23 52 42.5	-1.0
	1.3nm,0.3s,baz=255,slow=12,SNR=3.7						
SDV	Santo Domingo	19.58	14	P	P	23 52 41.2	-2.3
BCIP	Isla Barro Col	19.79	347		P	23 52 45.2	-0.2
JTS	Las Juntas de	22.51	335	P	P	23 53 14.5	-0.4
JTS				IAmb	IAmb	23 53 29.8	
	comp=Z,26nm,1.2s						
CPUP	Villa Florida	23.40	136	P	P	23 53 24.4	+0.6
	comp=Z,1.9nm,0.6s,baz=311,slow=9.9,SNR=5.9						
CPUP				LR	LR	00 04 31.8	
	comp=Z,143nm,20.0s,baz=316,slow=42						
CPUP	Villa Florida	23.40	136	P	P	23 53 23.0	-0.8
BDFB	Brasilia	27.20	104	LR	LR	00 05 23.2	
	comp=Z,517nm,18.0s,baz=294,slow=38						
T57A	Hurt	47.13	356	P	P	23 56 47.2	+0.5
S57A	Dark Hollow, R	47.87	356	P	P	23 56 52.5	+0.1
S57A				IAmb	IAmb	23 56 56.7	
	comp=Z,12nm,1.3s						
TXAR	Lajitas Array	47.88	326	P	P	23 56 53.5	+0.7
	comp=Z,0.7nm,0.8s,baz=147,slow=9.5,SNR=8.1						
LCAR	Lake Charles	48.41	343	P	P	23 56 55.4	-1.2
LCAR				IAmb	IAmb	23 56 59.2	
	comp=Z,9.1nm,1.3s						
PBMO	Poplar Bluff	48.87	344	P	P	23 56 59.1	-1.1
PBMO				IAmb	IAmb	23 56 59.9	
	comp=Z,5.1nm,0.6s						
SIUC	Southern Illin	49.44	346	P	P	23 57 03.6	-0.8
SIUC				IAmb	IAmb	23 57 05.8	
	comp=Z,6.3nm,0.8s						
HHAR	Hobbs	49.47	340	P	P	23 57 03.0	-1.8
HHAR				IAmb	IAmb	23 57 06.4	
	comp=Z,7.8nm,1.1s						
TUL1	Leonard	49.78	338	P	P	23 57 06.8	-0.4
P43A	Skaggs, Pawnee	51.34	346	P	P	23 57 17.8	-1.0
319A	Douglas	52.61	323	P	P	23 57 27.3	-1.4
319A				IAmb	IAmb	23 57 31.4	
	comp=Z,14nm,1.3s						
T25A	Trinidad	54.44	332	P	P	23 57 42.1	0.0
T25A				IAmb	IAmb	23 57 45.1	
	comp=Z,7.3nm,1.1s						
214A	Organ Pipe Nat	55.15	321	P	P	23 57 46.8	-0.3
214A				IAmb	IAmb	23 57 51.5	
	comp=Z,5.6nm,1.1s						
SDCO	Great Sand Dun	55.44	331	P	P	23 57 50.4	+1.0
SDCO				IAmb	IAmb	23 57 51.8	
	comp=Z,6.1nm,1.1s						
S22A	4UR Ranch, Cre	56.09	330	P	P	23 57 53.6	-0.4
WUAZ	Wupatki	56.80	325	P	P	23 57 58.3	-0.7
WUAZ				IAmb	IAmb	23 58 01.9	
	comp=Z,9.9nm,1.2s						
W13A	Hualapai Mount	57.96	323	P	P	23 58 06.8	-0.5
W13A				IAmb	IAmb	23 58 10.3	
	comp=Z,5.9nm,1.2s						
KNB	Kanab	58.69	325	P	P	23 58 11.8	-0.5
LCMT	Little Creek M	58.93	325	P	P	23 58 13.5	-0.4
SRU	San Rafael Swe	58.99	329	P	P	23 58 13.9	-0.5
SHPR	Sheep Range	59.68	323	P	P	23 58 17.8	-1.4
SHPR				IAmb	IAmb	23 58 22.0	
	comp=Z,5.6nm,1.2s						
JLU	Jordanelle	60.58	329	P	P	23 58 25.9	+0.6
TPNV	Topopah Spring	60.62	323	P	P	23 58 24.9	-0.6
TCUT	Toone Canyon	60.94	329	P	P	23 58 27.5	-0.3
DUG	Dugway, Tooele	60.98	328	P	P	23 58 26.6	-1.3
DUG				IAmb	IAmb	23 58 29.9	
	comp=Z,9.7nm,1.4s						
R11A	Troy Canyon, C	61.19	325	P	P	23 58 29.0	-0.4
PDAR	Pinedale Array	61.31	332	P	P	23 58 30.9	+0.7
	comp=Z,0.2nm,0.5s,baz=128,slow=5.8,SNR=4.9						
OMMB	Old Mammoth Mi	62.71	322	IAmb	IAmb	23 58 43.0	
	comp=Z,7.2nm,1.0s						
MDPB	Devils Postpil	62.77	322	IAmb	IAmb	23 58 42.7	
	comp=Z,4.7nm,1.1s						
NVAR	Mina Array Bea	62.82	323	P	P	23 58 42.3	+1.9
	comp=Z,1.1nm,0.8s,baz=144,slow=6.6,SNR=11						
ULM	Lac du Bonnet	62.84	345	P	P	23 58 40.0	0.0
	comp=Z,2.9nm,0.8s,baz=172,slow=6.6,SNR=5.7						
WAKR	Walker	63.55	322	IAmb	IAmb	23 58 48.9	
	comp=Z,4.6nm,1.0s						
YERR	Yerington	63.74	323	P	P	23 58 46.9	+0.4
BEKR	Beckworth	64.97	323	IAmb	IAmb	23 58 57.3	
	comp=Z,8.3nm,1.3s						
MOD	Modoc Plateau	66.25	325	IAmb	IAmb	23 59 05.1	
	comp=Z,9.0nm,1.2s						
PPT	Papeete	72.01	255	LR	LR	00 23 43.0	
	comp=Z,49nm,19.3s,baz=352,slow=30						
DBIC	Dimbokro	72.21	80	LR	LR	00 29 43.4	
	comp=Z,107nm,18.2s,baz=260,slow=34						
YKA	Yellowknife Ar	78.61	343	P	P	00 00 16.0	+0.4
	comp=Z,1.1nm,0.8s,baz=137,slow=6.0,SNR=16						
QSPA	South Pole Qui	79.88	180	P	P	00 00 24.4	+1.6
QSPA				IAmb	IAmb	00 00 26.6	
	comp=Z,7.6nm,1.1s						
TORD	Torodi Ar. Bea	79.95	75	P	P	00 00 24.5	+0.5
	comp=Z,2.8nm,0.9s,baz=262,slow=2.9,SNR=7.0						
TORD				LR	LR	00 35 03.6	
	comp=Z,74nm,18.1s,baz=350,slow=35						
ESDC	Sonseca Array	82.55	48	P	P	00 00 38.0	+0.6
	comp=Z,0.5nm,0.7s,baz=248,slow=3.7,SNR=3.5						
ILAR	Eielson Array	91.48	336	P	P	00 01 21.4	+1.1
	comp=Z,0.5nm,0.9s,baz=173,slow=3.6,SNR=4.3						
BOSA	Boshof	94.34	120	LR	LR	00 41 51.8	
	comp=Z,59nm,18.9s,baz=292,slow=34						
MAW	Mawson	96.79	165	LR	LR	00 47 16.9	
	comp=Z,37nm,18.6s,baz=242,slow=37						
ZALV	Zalesovo Beam	133.62	16	PKP	PKiKP	00 07 32.1	+0.3
	comp=Z,0.5nm,0.3s,baz=242,slow=3.2,SNR=5.7						
ASAR	Alice Springs	135.77	220	PKP	PKPdf	00 07 36.0	+0.4
	comp=Z,1.2nm,0.9s,baz=100,slow=1.9,SNR=10.0						
WRA	Warramunga Arr	138.09	224	PKP	PKPdf	00 07 40.3	+0.3
	comp=Z,1.4nm,0.8s,baz=138,slow=1.7,SNR=9.6						
WRA	Warramunga Arr	138.09	224		PKPdf	00 07 38.1	-1.9
MKAR	Makanchi Array	138.93	23	PKP	PKiKP	00 07 42.4	-0.6
	comp=Z,0.3nm,0.8s,baz=323,slow=2.2,SNR=3.0						
KSH	Kashi	141.28	36	PKP	PKiKP	00 07 47.0	-1.1
KSH				PKS	PKSdf	00 11 21.5	+0.1
KSH				SKKS		00 17 38.0	
KSH				LR	LR		
	comp=N,460nm,5.3s						
KSH				LR	LR		
	comp=E,270nm,6.3s						
KSH				LR	LR		
	comp=Z,350nm,5.5s						
SONM	Songino Array	142.50	358	PKP	PKPdf	00 07 46.7	-0.6
	comp=Z,0.2nm,0.6s,baz=31,slow=0.5,SNR=2.8						
KSRS	Korea Array	145.73	326	PKPbc	PKPab	00 07 54.6	+0.8
	comp=Z,7.4nm,1.1s,baz=51,slow=3.2,SNR=15						

ISCJB ***30*** *23:51:24.1±1.1, 71°.0N±0°.1×7°.2W±0°.2, h20km, Error ellipse: s-maj=21.8km s-min=4.3km az=160.9*

NAO ***30*** *23:51:24.0±2.9, 70°.90N×7°.14W, ML3.9*

BER ***30*** *23:51:25.8±2.2, 70°.91N×7°.26W, h6km±50km, ML3.3, ML3.9(NAO), Confirmed Earthquake*

ISC 30 23:51:26.1±1.7, 71°.0N±0°.2×7°.47W±0°.07, h20km, n19, σ0s53/23, 3D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNE	Jan Mayen East	0.28	278	↓iP	Pb	23 51 32.3	-0.1
JNE				eS	Sb	23 51 36.6	0.0
JNE				IAML		23 51 38.1	
	comp=Z,5μm,0.5s						
JNW	Jan Mayen West	0.33	284	↓iP	Pb	23 51 32.8	-0.3
JNW				eS	Sb	23 51 38.0	+0.1
JNW				IAML		23 51 38.7	
	comp=Z,3μm,0.6s						
JMIC	Jan Mayen	0.34	276	Pg	Pb	23 51 33.2	-0.3
JMIC				Lg	Lg	23 51 38.7	
JMIC	Jan Mayen	0.34	276	Pg	Pb	23 51 33.2	-0.3
JMIC				Sg	Sb	23 51 38.7	+0.2
JMI	Jan Mayen	0.42	267	↓iP	Pb	23 51 34.8	0.0
JMI				eS	Sb	23 51 40.9	+0.3
JMI				IAML		23 51 43.0	
	comp=Z,1μm

CADA AML AML
comp=N,30700µm,1.3s
CADA AML AML
comp=N,30700µm,1.3s
CADA AML AML
comp=E,31300µm,0.3s
CIMA Civitanova Mar 0.23 23 P **Pb 00 30 11.9 +0.4**
CIMA S **Sn 00 30 17.9 +2.0**
CIMA AML AML
comp=E,9765µm,0.8s
CIMA AML AML
comp=E,9740µm,0.8s
CIMA AML AML
comp=N,25800µm,0.5s
CIMA AML AML
comp=E,9775µm,0.8s
CIMA AML AML
comp=N,25800µm,0.5s
CIMA AML AML
comp=N,25800µm,0.5s
CSP1 Cessapalombo 0.25 270 P **Pb 00 30 11.1 -0.7**
CSP1 S **Sb 00 30 16.2 -0.2**
CSP1 AML AML
comp=E,11540µm,0.5s
CSP1 AML AML
comp=N,7565µm,0.4s
CSP1 AML AML
comp=E,11515µm,0.5s
CSP1 AML AML
comp=N,7585µm,0.4s
CSP1 AML AML
comp=N,7580µm,0.4s
CSP1 AML AML
comp=E,11510µm,0.5s
TRE1 Treia 0.28 322 P **Pb 00 30 11.9 -0.2**
GUMA Gualdo di Mace 0.29 96 P **Pb 00 30 10.2 -2.1**
GUMA S **Sb 00 30 14.4 -2.6**
PP3 Marolino 0.29 9 P **Pb 00 30 12.8 +0.6**
SSM1 San Severino M 0.30 297 P **Pb 00 30 12.1 -0.4**
MDAR Monte D'Aria 0.31 289 P **Pb 00 30 12.0 -0.7**
FDMO Fiordimonte 0.34 261 P **Pb 00 30 12.3 -0.7**
FDMO S **Sb 00 30 18.4 0.0**
FDMO AML AML
comp=E,5625µm,0.3s
FDMO AML AML
comp=E,5630µm,0.3s
FDMO AML AML
comp=N,6325µm,0.4s
CING Cingoli 0.38 318 P **Pb 00 30 13.4 -0.2**
CING S **Sb 00 30 20.3 +0.8**
CING AML AML
comp=E,2055µm,0.5s
CING AML AML
comp=N,1770µm,0.3s
TRTR Tortoreto Alta 0.39 136 P **Pb 00 30 13.8 0.0**
TRTR AML AML
comp=E,8225µm,0.4s
TRTR AML AML
comp=N,8745µm,0.5s
EL6 Elcito 0.40 306 P **Pb 00 30 13.7 -0.3**
EL6 S **Sb 00 30 21.1 +1.0**
EL6 AML AML
comp=E,3980µm,0.4s
EL6 AML AML
comp=N,3655µm,0.6s
NRCA Norcia 0.41 231 P **Pb 00 30 13.2 -0.9**
NRCA AML AML
comp=E,3895µm,1.1s
NRCA AML AML
comp=E,4040µm,1.2s
NRCA AML AML
comp=N,4625µm,0.7s
NRCA AML AML
comp=N,4375µm,0.7s
AOI Ancona 0.46 5 P **Pb 00 30 14.9 0.0**
AOI AML AML
comp=E,2150µm,0.4s
AOI AML AML
comp=N,2120µm,0.7s
AOI AML AML
comp=N,2115µm,0.7s
AOI AML AML
comp=E,2155µm,0.4s
TERO Teramo 0.47 175 P **Pb 00 30 13.7 -1.3**
TERO S **Sb 00 30 21.2 -0.5**
TERO AML AML
comp=E,2100µm,0.2s
TERO AML AML
comp=N,1805µm,0.7s
TERO AML AML
comp=N,4330µm,0.7s
TERO AML AML
comp=E,4875µm,0.2s
SNTG Esanatoglia 0.47 290 P **Pb 00 30 14.7 -0.4**
SNTG S **Sb 00 30 22.6 +0.8**
SNTG AML AML
comp=N,1900µm,0.4s
SNTG AML AML
comp=E,2755µm,0.4s
CESI CESI - Serrava 0.48 260 P **Pb 00 30 14.6 -0.6**
CESI S **Sb 00 30 22.2 +0.2**
CESI AML AML
comp=E,954µm,0.4s
CESI AML AML
comp=N,1500µm,0.5s
CESI AML AML
comp=N,1495µm,0.5s
SMA1 SAN MARTINO 0.49 199 P **Pb 00 30 14.2 -1.1**
SMA1 S **Sb 00 30 21.9 -0.4**
SMA1 AML AML
comp=N,10765µm,1.0s
SMA1 AML AML
comp=N,10750µm,1.0s
SMA1 AML AML
comp=E,8590µm,0.5s
PCRO Pietralacroce 0.52 359 P **Pn 00 30 16.8 +0.1**
CAMP Campotosto 0.56 190 P **Pb 00 30 15.4 -1.2**
CAMP S **Sb 00 30 24.2 -0.2**
CAMP AML AML
comp=E,4255µm,0.7s
CAMP AML AML
comp=N,4095µm,0.6s
ARVD Arcevia 0.60 313 P **Pb 00 30 16.9 -0.2**
ARVD AML AML
comp=E,634µm,0.4s
ARVD AML AML
comp=N,694µm,0.6s
ARVD AML AML
comp=E,634µm,0.4s
FOSV Fossato di Vic 0.61 290 P **Pb 00 30 16.9 -0.5**
FOSV S **Sb 00 30 26.6 +1.0**
FOSV AML AML
comp=E,1415µm,0.9s
FOSV AML AML
comp=N,1795µm,0.6s
ATCC AVT- Casa Cast 0.67 278 P **Pb 00 30 17.8 -0.5**
ATCC AML AML
comp=N,2595µm,0.6s
ATCC AML AML
comp=E,3220µm,0.7s
VCEL Villa Celiera 0.73 163 P **Pn 00 30 18.4 -1.4**
VCEL AML AML
comp=N,3615µm,0.3s
VCEL AML AML
comp=E,3505µm,0.3s
AQU L'Aquila 0.74 188 *e*Pn **Pn 00 30 18.8 -1.1**
AQU L'Aquila 0.74 188 P **Pn 00 30 18.7 -1.2**
AQU AML AML
comp=E,1875µm,1.0s
AQU AML AML
comp=E,1835µm,1.0s
AQU AML AML
comp=N,2545µm,0.3s
AQU AML AML
comp=N,2445µm,1.2s
T0104 Madonna delle 0.75 192 P **Pn 00 30 18.4 -1.5**
T0104 AML AML
comp=E,7570µm,0.5s
T0104 AML AML
comp=E,7370µm,0.5s
T0104 AML AML
comp=E,7575µm,0.5s
T0104 AML AML
comp=N,5385µm,0.9s
T0104 AML AML
comp=N,5485µm,0.5s
MURB Monte Urbino 0.77 283 P **Pn 00 30 19.6 -0.6**
MURB AML AML
comp=N,3095µm,1.1s
MURB AML AML
comp=N,3290µm,1.1s
MURB AML AML
comp=E,3450µm,0.6s
MURB AML AML
comp=E,3425µm,0.6s
ARRO Arrone 0.77 229 P **Pn 00 30 19.2 -1.0**
ARRO AML AML
comp=E,2695µm,0.3s
ARRO AML AML
comp=N,1655µm,1.1s
MOMA Monte Martano 0.77 248 P **Pn 00 30 19.3 -1.0**
MOMA AML AML
comp=E,2045µm,0.7s
MOMA AML AML
comp=N,2315µm,1.2s
MOMA AML AML
comp=N,2310µm,1.2s
MOMA AML AML
comp=N,2215µm,1.2s
MOMA AML AML
comp=E,2040µm,0.7s
MOMA AML AML
comp=E,2085µm,0.8s
MPAG Monte Paganucc 0.79 313 P **Pb 00 30 21.6 +1.3**
MPAG AML AML
comp=E,996µm,0.5s
MPAG AML AML
comp=N,924µm,0.5s
FAGN Fagnano 0.82 178 P **Pn 00 30 20.1 -0.9**
FAGN AML AML
comp=N,4180µm,0.3s
FAGN AML AML
comp=E,4770µm,0.4s
CESX Cesi 0.86 236 P **Pn 00 30 20.6 -0.8**
CESX AML AML
comp=E,3475µm,0.5s
CESX AML AML
comp=N,1935µm,0.4s
PIEI Pieia 0.86 301 P **Pn 00 30 21.0 -0.5**
PIEI AML AML
comp=N,806µm,0.5s
PIEI AML AML
comp=E,918µm,0.8s
NARO Abbazia di Nar 0.88 307 P **Pb 00 30 22.4 +0.6**
NARO AML AML
comp=E,548µm,0.9s
NARO AML AML
comp=N,827µm,1.1s
ATTE AVT- Monte Tez 0.88 277 P **Pn 00 30 21.4 -0.4**
ATTE AML AML
comp=E,954µm,1.5s
ATTE AML AML
comp=N,1265µm,0.5s
ATVO AVT- Monte Val 0.88 290 P **Pn 00 30 21.5 -0.3**
ATVO AML AML
comp=E,1555µm,0.8s
ATVO AML AML
comp=N,1720µm,0.9s
FIAM Fiamignano 0.88 201 P **Pn 00 30 20.9 -0.9**
FIAM AML AML
comp=E,770µm,0.7s
FIAM AML AML
comp=N,200µm,0.3s
ATPI Pietralunga - 0.91 294 P **Pn 00 30 22.0 -0.2**
ATPI AML AML
comp=E,4425µm,0.6s
ATPI AML AML
comp=N,1785µm,1.1s
PE3 Peglio 0.97 309 P **Pb 00 30 24.8 +1.3**
PE3 AML AML
comp=E,2460µm,0.5s
PE3 AML AML
comp=N,2505µm,0.5s
CDCA Citt' di Caste 1.03 291 P **Pb 00 30 25.6 +1.3**
CDCA AML AML
comp=E,2130µm,0.7s
CDCA AML AML
comp=N,3025µm,0.9s
BADI Badiali 1.04 294 P **Pn 00 30 24.4 +0.5**
BADI AML AML
comp=E,1175µm,0.6s
BADI AML AML
comp=N,1166µm,0.5s
CAFR Castel Frentan 1.05 145 P **Pb 00 30 25.0 +0.3**
CAFR S **Sb 00 30 41.0 +3.1**
CAFR AML AML
comp=E,4205µm,0.5s
CAFR AML AML
comp=N,4010µm,0.3s
MGAB Montegabbione 1.07 261 AML AML
comp=E,2230µm,0.5s
MGAB AML AML
comp=E,2235µm,0.5s
MGAB AML AML
comp=N,2330µm,0.7s
MGAB AML AML
comp=E,2230µm,0.5s
MGAB AML AML
comp=N,2250µm,0.7s
PTQR Pietraquaria 1.07 186 P **Pn 00 30 24.2 -0.3**
PTQR AML AML
comp=E,480µm,1.5s
PTQR AML AML
comp=N,562µm,0.5s
PARC Parchiule 1.10 301 P **Pb 00 30 27.0 +1.3**
PARC AML AML
comp=E,881µm,0.6s
PARC AML AML
comp=N,692µm,0.7s
INTR Introdacqua 1.11 166 P **Pn 00 30 25.3 +0.3**
INTR AML AML
comp=E,1030µm,0.6s
INTR AML AML
comp=N,1845µm,0.6s
SSP9 Sansepolcro 1.14 296 P **Pb 00 30 26.8 +0.5**
LPEL Lama dei Pelig 1.15 156 P **Pb 00 30 26.0 -0.3**
LPEL AML AML
comp=N,1045µm,1.0s
LPEL AML AML
comp=E,1515µm,1.4s
CAFI Castiglion Fio 1.18 282 P **Pb 00 30 27.7 +0.8**
CAFI AML AML
comp=E,556µm,1.2s
CAFI AML AML
comp=E,559µm,1.2s
CAFI AML AML
comp=N,3320µm,1.5s
CAFI AML AML
comp=N,480µm,1.4s
CERT Cerreto 1.22 200 P **Pn 00 30 27.2 +0.9**
CERT AML AML
comp=N,1060µm,0.5s
CERT AML AML
comp=E,1805µm,0.5s
VVLD Villa Vallelon 1.22 177 P **Pb 00 30 27.8 +0.1**
VVLD AML AML
comp=N,686µm,0.7s
VVLD AML AML
comp=E,667µm,0.4s
MTCE Montecelio 1.22 209 P **Pn 00 30 27.1 +0.7**
MTCE AML AML
comp=N,620µm,0.6s
MTCE AML AML
comp=E,1138µm,1.2s
SACS San Casciano d 1.23 259 P **Pb 00 30 28.2 +0.5**
SACS AML AML
comp=N,581µm,0.6s
SACS AML AML
comp=E,638µm,0.7s
SACS AML AML
comp=N,570µm,0.9s
SACS AML AML
comp=E,672µm,0.7s
GUAR Guarcino 1.31 188 P **Pb 00 30 29.5 +0.4**
GUAR AML AML
comp=E,768µm,0.8s
GUAR AML AML
comp=N,1060µm,1.1s
DUGI Dugi Otok 1.42 50 *i* Pg **Pb 00 30 30.8 -0.2**
DUGI Sg **Sn 00 30 47.1 +0.2**
RMP Rome, Mte Porz 1.42 206 P **Pn 00 30 29.8 +0.7**
RMP AML AML
comp=N,1595µm,0.7s
RMP AML AML
comp=E,914µm,1.4s
TRIV Trivento 1.52 150 P **Pb 00 30 32.7 0.0**
TRIV AML AML
comp=N,476µm,1.3s
TRIV AML AML
comp=E,405µm,0.7s
TOLF Tolfa 1.54 229 P **Pn 00 30 31.8 +1.0**
TOLF AML AML
comp=N,270µm,1.3s
TOLF AML AML
comp=E,329µm,0.5s
MIDA Miranda 1.54 160 P **Pb 00 30 32.2 -0.9**
MIDA AML AML
comp=E,442µm,1.0s
MIDA AML AML
comp=N,355µm,1.6s
MIDA AML AML
comp=E,434µm,1.0s
MIDA AML AML
comp=N,457µm,1.3s
ZIRJ Zirje 1.63 69 *e*Pn **Pn 00 30 32.3 +0.3**
CSNT Castellina Chi 1.69 284 P **Pb 00 30 34.9 -0.7**
CSNT AML AML
comp=N,238µm,0.8s
CSNT AML AML
comp=E,186µm,0.8s
BSSO Busso 1.73 153 P **Pb 00 30 35.9 -0.4**
BSSO AML AML
comp=E,125µm,0.7s
BSSO AML AML
comp=E,320µm,0.7s
BSSO AML AML
comp=N,274µm,0.5s
BSSO AML AML
comp=N,124µm,0.5s
VAGA Valle Agricola 1.75 163 P **Pb 00 30 36.0 -0.6**
VAGA AML AML
comp=E,220µm,0.6s
VAGA AML AML
comp=N,336µm,1.5s
MORI Morici 1.75 63 *e*Pn **Pn 00 30 34.0 +0.3**
CIGN Sant'Elia a Pi 1.75 145 P **Pb 00 30 36.5 -0.2**
CIGN AML AML
comp=E,332µm,0.5s
CIGN AML AML
comp=N,396µm,1.6s
NVLJ Novalja 1.76 33 *e*Pn **Pn 00 30 33.8 0.0**
NVLJ Sn **Sn 00 30 54.8 -0.3**
MELA Melanico ??? S 1.81 139 P **Pb 00 30 37.3 -0.3**
MELA AML AML
comp=E,922µm,0.6s
MELA AML AML
comp=N,963µm,1.0s
MELA AML AML
comp=E,866µm,1.2s
MELA AML AML
comp=N,916µm,0.6s
TRIF Trifonti 1.94 272 P **Pn 00 30 38.0 +1.8**
TRIF AML AML
comp=N,171µm,0.6s
TRIF AML AML
comp=E,186µm,0.5s
PIGN Pignataro Magg 1.95 166 P **Pn 00 30 38.1 +1.7**
PIGN AML AML
comp=E,127µm,1.6s
PIGN AML AML
comp=N,121µm,1.5s
SGRT San Giovanni R 2.10 129 S **Sb 00 31 12.0 +3.6**
HVAR Hvar 2.13 87 *e*Pn **Pn 00 30 39.1 +0.3**
HVAR Sn **Sn 00 31 03.4 -0.9**
UDBI Udbina 2.15 47 *i* Pn **Pn 00 30 40.6 +1.3**
UDBI Sn **Sn 00 31 06.8 +1.7**
MSAG Monte S. Angel 2.23 127 P **Pn 00 30 40.7 +0.4**
MSAG AML AML
comp=E,686µm,0.7s
MSAG AML AML
comp=N,1350µm,0.7s
MSAG AML AML
comp=E,746µm,0.7s
MSAG AML AML
comp=N,1345µm,0.6s
KIJV Kijevo 2.27 65 *e*Pn **Pn 00 30 41.8 +1.0**
KIJV Sn **Sn 00 31 09.3 +1.4**
RIY Rijeka 2.33 16 Sn **Sn 00 31 10.6 +1.2**
RIY Rijeka 2.33 16 *e*Pn **Pn 00 30 42.2 +0.5**
SKDS Skadanscina 2.48 8 *i* Pn **Pn 00 30 43.7 0.0**
SKDS *i* Sn **Sn 00 31 10.5 -2.5**
comp=Z,38nm,0.3s
MAKA Makarska 2.55 84 *e*Pn **Pn 00 30 45.8 +1.2**
MAKA Sn **Sn 00 31 15.0 +0.4**
VULT Monte Vulture 2.63 143 P **Pn 00 30 46.7 +0.8**
VULT AML AML
comp=E,283µm,0.8s
VULT AML AML
comp=N,477µm,0.7s
VULT AML AML
comp=N,505µm,0.7s
VULT AML AML
comp=E,260µm,0.9s
RICI Ricice 2.65 80 ePn 00 30 47.2
RICI Sn **Sn 00 31 18.3 +1.1**
BOJS Bojanci 2.71 26 P **Pb 00 30 55.2 +2.4**
CEY Cerknica 2.72 13 *e*Pn **Pn 00 30 47.9 +0.9**
OZLJ Ozalj 2.88 28 *e*Pn **Pn 00 30 50.2 +1.1**
MGRS Mrkonjic Grad 2.88 61 *e*Pn **Pn 00 30 51.0 +1.7**
LJU Ljubljana 3.03 13 *e*Pn **Pn 00 30 52.0 +0.7**
STON Ston 3.06 93 *e*Pn **Pn 00 30 52.1 +0.5**
STON Sn **Sn 00 31 25.6 -1.6**
STON Ston 3.06 93 *e*Pn **Pn 00 30 52.4 +0.8**
STON *e*Sn **Sn 00 31 25.8 -1.4**
STON Ston 3.06 93 *e*Pn **Pn 00 30 51.7 +0.1**
CRES Cresnjev 3.06 26 *e*Pn **Pb 00 30 58.0 -0.8**
BLY Banja Luka 3.11 57 *e*Pn **Pn 00 30 53.6 +1.3**
BLY *e*Sn **Sn 00 31 27.7 -0.8**
BLY Banja Luka 3.11 57 *e*Pn **Pn 00 30 53.6 +1.3**
ROVR Rover Verones 3.11 326 P **Pn 00 30 53.1 +0.6**
ROVR AML AML
comp=N,44µm,1.5s
ROVR AML AML
comp=E,32µm,0.4s
STAL STALIGIAL 3.22 350 P **Pn 00 30 54.0 +0.1**
STAL S **Sn 00 31 33.0 +1.5**
STAL AML AML
comp=E,128µm,0.5s
STAL AML AML
comp=N,108µm,0.9s
SG1 Sgolgore (BA) 3.24 133 *e*Pn **Pn 00 30 54.0 -0.2**
ZAG Zagreb 3.25 32 *e*Pn **Pn 00 30 56.3 +2.1**
ZAG Zagreb 3.25 32 P **Pn 00 30 54.1 -0.1**
PTJ Puntijarka 3.31 31 iPn 00 30 55.5
PGF Pioggiola 3.39 262 *e*Pn **Pn 00 30 58.6 +2.3**
PGF *e*Sn **Sn 00 31 36.9 +1.3**
comp=N,12nm,0.6s
MAGA Magasa 3.40 323 P **Pn 00 30 56.8 +0.3**
MAGA AML AML
comp=E,274µm,0.5s
MAGA AML AML
comp=N,152µm,0.5s
DBRK Dubrovnik 3.41 96 *e*Pn **Pn 00 30 58.1 +1.6**
DBRK Sn **Sn 00 31 34.6 -1.4**
MOSL Moslavina 3.41 41 *e*Pn **Pn 00 30 56.2 -0.4**
NOCI Noci 3.49 130 S **Sn 00 31 38.0 0.0**
OBKA Obir 3.49 11 *i* Pn **Pb 00 31 02.3 -4.0**
OBKA comp=N,1.2nm,0.2s *i* Sn **Sn 00 31 39.0 +0.9**
comp=N,20nm,0.4s
MYKA Terra Mystica 3.54 1 *i* Pn **Pb 00 31 03.0 -4.1**
comp=N,2.2nm,0.3s
TREB Trebinje 3.55 94 *e*Pn **Pn 00 30 59.5 +1.1**
TREB *e*Sn **Sn 00 31 38.1 -1.3**
TREB Trebinje 3.55 94 *e*Pn **Pn 00 30 57.4 -1.0**
MASS Massafra 3.64 131 *e*Pn **Pn 00 30 59.6 0.0**
BRY Bratogost 3.67 91 *e*Pn **Pn 00 30 58.6 -1.5**
MABI Malga Bissina 3.67 325 P **Pn 00 31 01.2 +0.9**
KALN Kalnik 3.68 33 *e*Pn **Pn 00 31 00.6 +0.3**
HCY Herceg Novi 3.70 98 *e*Pn **Pn 00 30 59.5 -1.0**
HCY Herceg Novi 3.70 98 ||*i* Pn **Pn 00 31 01.5 +1.0**
HCY *e*Sn **Sn 00 31 45.1 +2.0**
KOSI Kohlern 3.71 336 P **Pn 00 31 01.6 +0.9**
KOSI AML AML
comp=E,98µm,0.7s
KOSI AML AML
comp=N,88µm,0.6s

ABTA	**Abfaltersbach**	**3.73**	**349**	Pn		**Pn**	**00 31 01.7**	**+0.8**
	comp=N,16nm,0.4s,SNR=44								
ABTA				*i* Sn		**Sn**	**00 31 43.5**	**-0.5**
	comp=N,23nm,0.7s								
SOKA	**Soboth**	**3.74**	**16**	*i* Pn		**Pn**	**00 31 02.9**	**+1.8**
	comp=N,1.5nm,0.5s								
APPI	**Appiano**	**3.77**	**335**	P		**Pn**	**00 31 02.3**	**+0.9**
BRES	**Bressanone**	**3.83**	**341**	P		**Pn**	**00 31 03.1**	**+0.6**
MDI	**Monti di Nese**	**3.84**	**316**	P		**Pn**	**00 31 03.2**	**+0.7**
UPM	**Unac-Piva**	**3.92**	**87**	*e*Pn		**Pn**	**00 31 00.9**	**-2.8**
ABSI	**Aberstueckl**	**3.97**	**337**	P		**Pn**	**00 31 05.3**	**+1.0**
ABSI				AML		AML			
	comp=E,216µm,0.6s								
ABSI				AML		AML			
	comp=N,138µm,1.0s								
CEME	**Cevo**	**3.99**	**96**	⇓*i* Pn		**Pn**	**00 31 05.2**	**+0.7**
CEME				*e*Sn		**Sn**	**00 31 52.3**	**+2.0**
KBA	**Koelnbreinsper**	**3.99**	**358**	*i* Pn		**Pn**	**00 31 05.7**	**+1.1**
	comp=N,1.3nm,0.3s								
RISI	**Rein**	**3.99**	**345**	P		**Pn**	**00 31 05.9**	**+1.2**
RISI				AML		AML			
	comp=N,153µm,0.4s								
RISI				AML		AML			
	comp=E,170µm,0.4s								
BUM	**Brajici-Budva**	**4.02**	**100**	⇑*i* Pn		**Pn**	**00 31 06.0**	**+1.1**
BUM				*e*Sn		**Sn**	**00 31 52.2**	**+1.1**
HAPS	**Han Pijesak,BI**	**4.05**	**74**	*e*Pn		**Pn**	**00 31 05.7**	**+0.3**
HAPS	**Han Pijesak,BI**	**4.05**	**74**	*e*Pn		**Pn**	**00 31 04.7**	**-0.7**
MOSI	**Grossmontoni**	**4.12**	**330**	P		**Pn**	**00 31 08.7**	**+2.3**
ROSI	**Rosskopf**	**4.12**	**339**	P		**Pn**	**00 31 07.6**	**+1.1**
ROSI				AML		AML			
	comp=N,105µm,0.7s								
ROSI				AML		AML			
	comp=E,84µm,1.6s								
PDG	**Podgorica**	**4.25**	**97**	*e*Pn		**Pn**	**00 31 09.4**	**+1.3**
PDG				*e*Sn		**Sn**	**00 31 54.4**	**-2.4**
PDG	**Podgorica**	**4.25**	**97**	*e*Pn		**Pn**	**00 31 07.5**	**-0.6**
TTG	**Podgorica**	**4.25**	**97**	⇓*i* Pn		**Pn**	**00 31 09.1**	**+1.0**
TTG				*e*Sn		**Sn**	**00 31 59.2**	**+2.4**
DRME	**Dracevica, Mon**	**4.26**	**100**	*e*Pn		**Pn**	**00 31 08.9**	**+0.8**
DRME	**Dracevica, Mon**	**4.26**	**100**	⇓*i* Pn		**Pn**	**00 31 09.3**	**+1.2**
DRME				*e*Sn		**Sn**	**00 31 58.8**	**+1.9**
RUDO	**Rudo**	**4.28**	**81**	*e*Pn		**Pn**	**00 31 04.4**	**-4.0**
BBLS	**Lazići**	**4.33**	**78**	*e*Pn		**Pn**	**00 31 10.1**	**+0.9**
BBLS	**Lazići**	**4.33**	**78**	*e*Pn		**Pn**	**00 31 06.9**	**-2.3**
ULC	**Ulcinj**	**4.36**	**103**	⇑*i* Pn		**Pn**	**00 31 10.2**	**+0.6**
ULC				*e*Sn		**Sn**	**00 32 01.0**	**+1.6**
WTTA	**Wattenberg**	**4.38**	**343**	*i* Pn		**Pn**	**00 31 12.9**	**+2.9**
	comp=E,2.5nm,0.4s								
WTTA				*i* Sn		**Sn**	**00 32 02.7**	**+2.4**
	comp=E,9.3nm,0.4s								
KOME	**Kolasin**	**4.39**	**91**	⇓*i* Pn		**Pn**	**00 31 11.4**	**+1.4**
KOME				*e*Sn		**Sn**	**00 32 01.6**	**+1.4**
ARSA	**Arzberg**	**4.39**	**18**	*i* Pn		**Pn**	**00 31 10.1**	**+0.2**
	comp=E,0.7nm,0.3s								
FETA	**Feichten**	**4.41**	**334**	Pn		**Pn**	**00 31 12.1**	**+1.7**
	comp=E,4.6nm,0.6s,SNR=8.7								
FETA				*i* Sn		**Sn**	**00 32 04.2**	**+3.4**
	comp=E,2.5nm,0.3s								
SQTA	**Sankt Quirin**	**4.45**	**339**	Pn		**Pn**	**00 31 12.8**	**+2.0**
	comp=E,3.8nm,0.3s,SNR=12								
WATA	**Walderalm**	**4.47**	**343**	Pn		**Pn**	**00 31 13.2**	**+2.1**
	comp=E,5.0nm,0.4s,SNR=4.9								
IST3	**Stromboli F**	**4.47**	**163**	P		**Pb**	**00 31 24.7**	**+1.8**
IST3				S		**Sn**	**00 31 59.0**	**-3.2**
SBF	**Sospel**	**4.51**	**282**	*e*Pn		**Pn**	**00 31 14.7**	**+3.0**
SBF				*e*Sn		**Sn**	**00 32 02.7**	**-0.6**
	comp=E,6.0nm,0.4s								
MOTA	**Moosalm**	**4.59**	**339**	*i* Pn		**Pn**	**00 31 14.9**	**+2.1**
	comp=E,2.4nm,0.3s,SNR=6.5								
SJES	**Sjenica**	**4.70**	**86**	*e*Pn		**Pn**	**00 31 15.3**	**+0.9**
VSL	**Villasalto**	**4.77**	**223**	P		**Pn**	**00 31 17.9**	**+2.7**
MOA	**Molln**	**4.79**	**6**	*e*Pn		**Pn**	**00 31 16.9**	**+1.5**
	comp=E,1.0nm,0.3s								
DIVS	**Divibare**	**4.79**	**76**	*e*Pn		**Pn**	**00 31 15.9**	**+0.4**
DIVS	**Divibare**	**4.79**	**76**	*e*Pn		**Pn**	**00 31 15.3**	**-0.2**
PUK	**Puka**	**4.80**	**100**	P		**Pn**	**00 31 17.4**	**+1.7**
IVAS	**Ivanjica**	**4.84**	**82**	*e*Pn		**Pn**	**00 31 16.8**	**+0.6**
IVAS				*e*Sn		**Sn**	**00 32 07.0**	**-4.4**
DAVA	**Damuels**	**4.93**	**330**	*i* Pn		**Pn**	**00 31 20.2**	**+2.6**
	comp=E,3.0nm,0.3s								
DAVA				*i* Sn		**Sn**	**00 32 15.4**	**+1.7**
	comp=E,2.4nm,0.3s								
FRGS	**Fruska Gora**	**4.96**	**63**	*e*Pn		**Pn**	**00 31 18.7**	**+0.9**
FRGS	**Fruska Gora**	**4.96**	**63**	*e*Pn		**Pn**	**00 31 19.3**	**+1.5**
MPLH	**Magyarpolny**	**4.96**	**33**	*e*Pn		Pb	00 31 26.0	-5.2
MILZ	**Milazzo**	**4.98**	**165**	P		**Pn**	**00 31 22.6**	**+4.6**
FRF	**La Foret Royal**	**5.05**	**278**	*e*Pn		**Pn**	**00 31 21.2**	**+2.1**
FRF				*e*Sn		**Sn**	**00 32 15.8**	**-0.7**
CONA	**Conrad Observa**	**5.10**	**18**	*i* Pn		**Pn**	**00 31 20.3**	**+0.4**
	comp=E,0.8nm,0.3s								
TRUS	**Trudelj**	**5.10**	**75**	*e*Pn		**Pn**	**00 31 20.2**	**+0.4**
LMR	**La Mourre**	**5.15**	**275**	*e*Pn		**Pn**	**00 31 22.2**	**+1.8**
LMR				*e*Sn		**Sn**	**00 32 18.2**	**-0.6**
	comp=E,0.8nm,0.3s								
MBDF	**Montbardon**	**5.16**	**291**	*e*Pn		**Pn**	**00 31 21.7**	**+1.0**
MBDF				*e*Sn		**Sn**	**00 32 17.8**	**-1.6**
	comp=E,0.6nm,0.2s								
GRUS	**Gruza**	**5.28**	**79**	*e*Pn		**Pn**	**00 31 22.7**	**+0.6**
LPG	**La Plagne**	**5.44**	**299**	*e*Pn		**Pn**	**00 31 24.9**	**+0.3**
LPG				*e*Sn		**Sn**	**00 32 23.7**	**-2.7**
	comp=E,7.1nm,0.5s								
LPL	**La Plagne**	**5.46**	**299**	*e*Pn		**Pn**	**00 31 25.1**	**+0.3**
LPL				*e*Sn		**Sn**	**00 32 23.7**	**-3.1**
	comp=E,9.7nm,0.5s								
SELS	**Selova**	**5.54**	**86**	*e*Pn		**Pn**	**00 31 26.2**	**+0.4**
GERES	**GERESS Array B**	**5.76**	**1**	Pn		**Pn**	**00 31 28.3**	**-0.5**
	comp=E,0.1nm,0.3s,baz=183,slow=14,SNR=8.9								
GERES				Sn		**Sn**	**00 32 32.4**	**-1.5**
	comp=E,1.1nm,0.3s,baz=176,slow=24,SNR=9.0								
ORIF	**Oris-en-Rattie**	**5.82**	**291**	*e*Pn		**Pn**	**00 31 30.4**	**+0.7**
ORIF				*e*Sn		**Sn**	**00 32 35.4**	**-0.2**
	comp=E,2.8nm,0.5s								
SMRF	**Simiane la Rot**	**5.86**	**281**	*e*P		**Pn**	**00 31 34.2**	**+4.0**
SMRF				*e*Sn		**Sn**	**00 32 34.8**	**-1.7**
MODS	**Modra-Piesok**	**5.89**	**25**	*e*PN		Pn	00 31 36.2	+5.6
BOVS	**Bovan**	**5.97**	**82**	*e*Pn		**Pn**	**00 31 32.2**	**+0.5**
KHC	**Kasperske Hory**	**6.04**	**0**	*e*PN		**Pn**	**00 31 32.3**	**-0.3**
KHC				x			00 31 47.7		
KHC				*e*SN		**Sn**	**00 32 36.7**	**-4.2**
BARS	**Barje**	**6.08**	**90**	*e*Pn		**Pn**	**00 31 33.6**	**+0.5**
CABF	**La Chapelle**	**6.36**	**306**	*e*Pn		**Pn**	**00 31 37.9**	**+0.8**
CABF				*e*Sn		**Sn**	**00 32 48.4**	**-0.5**
	comp=E,3.2nm,0.5s								
ZAGS	**Zajecar**	**6.36**	**81**	*e*Pn		**Pn**	**00 31 38.3**	**+1.3**
ZAGS				*e*Sn		**Sn**	**00 32 43.6**	**-5.1**
VYHS	**Vyhne**	**6.55**	**33**	*e*PN		Pn	00 31 44.3	+4.7
VYHS				*e*SG		Sb	00 33 33.7	+18
BOSS	**Bosilegrad**	**6.60**	**92**	*e*Pn		**Pn**	**00 31 41.5**	**+1.2**
ZAPS	**Zavoj**	**6.65**	**85**	*e*Pn		**Pn**	**00 31 41.9**	**+0.9**
ZAPS				*e*Sn		**Sn**	**00 32 49.8**	**-6.0**
HINF	**Hinteralfeld**	**6.67**	**317**	*e*Pn		**Pn**	**00 31 41.0**	**-0.3**
HINF				*e*Sn		**Sn**	**00 32 53.1**	**-3.2**
	comp=E,12nm,0.6s								
GOPC	**GO Pecny, Ondr**	**6.88**	**7**	*e*SN		**Sn**	**00 32 57.8**	**-3.6**
CDF	**Champ du Feu**	**6.89**	**323**	*e*Pn		**Pn**	**00 31 44.2**	**-0.2**
CDF				*e*Sn		**Sn**	**00 32 55.8**	**-6.1**
	comp=E,3.8nm,0.4s								
PRU	**Pruhonice**	**6.93**	**5**	*e*SN		**Sn**	**00 32 58.7**	**-4.0**
HAU	**Haudompre**	**7.05**	**317**	*e*Pn		**Pn**	**00 31 46.2**	**-0.2**
HAU				*e*Sn		**Sn**	**00 33 04.3**	**-1.3**
	comp=E,12nm,0.5s								
LASF	**Ste Croix**	**7.11**	**281**	*e*Pn		**Pn**	**00 31 48.3**	**+1.0**
LASF				*e*Sn		**Sn**	**00 33 04.3**	**-2.8**
NKC	**Novy Kostel**	**7.18**	**354**	*e*SN		**Sn**	**00 33 04.5**	**-4.4**
SMF	**Signal de Mont**	**7.75**	**301**	*e*Pn		**Pn**	**00 31 56.3**	**+0.2**
SMF				*e*Sn		Sn	00 33 15.8	-7.2
	comp=E,1.1nm,0.3s								
BRG	**Berggiesshubel**	**7.79**	**2**	SG		Sn	00 33 33.5	+10
	comp=E,7.8nm,1.6s								
SFTF	**Sexfontaines**	**7.85**	**314**	*e*Pn		**Pn**	**00 31 57.0**	**-0.5**
SFTF				*e*Sn		**Sn**	**00 33 20.4**	**-4.9**
	comp=E,0.9nm,0.2s								
LOR	**Lormes**	**8.02**	**305**	*e*Pn		**Pn**	**00 31 59.8**	**+0.1**
	baz=118								
LOR				*e*Sn		Sn	00 33 23.7	-5.7
	comp=E,4.1nm,0.3s,baz=120								
AVF	**Avril sur Loir**	**8.12**	**301**	*e*Pn		**Pn**	**00 32 01.8**	**+0.7**
AVF				*e*Sn		**Sn**	**00 33 27.1**	**-4.9**
SSF	**Saint Saulge**	**8.14**	**303**	*e*Pn		**Pn**	**00 32 03.1**	**+1.7**
SSF				*e*Sn		Sn	00 33 25.8	-6.6
	comp=E,4.7nm,0.6s								
CLL	**Collm**	**8.23**	**358**	*e*(Sn)		**Sn**	**00 33 40.0**	**+5.4**
CLL				*e*Sg		Sb	00 34 32.0	+28
BGF	**Bois d'Agland**	**8.36**	**298**	*e*Pn		**Pn**	**00 32 04.8**	**+0.4**
BGF				*e*Sn		**Sn**	**00 33 33.2**	**-4.6**
	comp=E,2.0nm,0.3s								
TORD	**Torodi Ar. Bea**	**31.54**	**202**	P		**P**	**00 36 25.2**	**+0.1**
	comp=E,0.7nm,0.4s,baz=12,slow=9.4,SNR=15								
MKAR	**Makanchi Array**	**47.38**	**60**	P		**P**	**00 38 37.2**	**+0.5**
	comp=E,0.3nm,0.8s,baz=292,slow=5.9,SNR=3.2								

ROM 31 00:35:54.5±0.2, 43°.086N±0°.009×13°.60E±0°.01, h28km±1km, ML1.5/2, Error ellipse: s-maj=1.1km s-min=1.0km az=250.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSP1	**Cessapalombo**	**0.29**	**271**	P	Pb	00 36 02.0	+0.2
CSP1				S	Sb	00 36 07.1	+0.4
CSP1				END			
FDMO	**Fiordimonte**	**0.38**	**263**	P	Pb	00 36 03.1	+0.1
FDMO				S	Sb	00 36 09.5	+0.7
FDMO				END			
NRCA	**Norcia**	**0.44**	**235**	P	Pb	00 36 03.9	-0.1
NRCA				AML	AML		
	comp=N,60µm,1.2s						
NRCA				AML	AML		
	comp=E,66µm,0.1s						
NRCA				END			
SMA1	**SAN MARTINO**	**0.49**	**203**	P	Pb	00 36 05.0	+0.2
SMA1				S	Sb	00 36 12.5	+0.6
SMA1				AML	AML		
	comp=N,93µm,1.3s						
SMA1				AML	AML		
	comp=E,76µm,1.6s						
SMA1				END			

ROM 31 00:36:16.5±0.2, 43°.057N±0°.010×13°.532E±0°.010, h32km±1km, ML2.2/1, Error ellipse: s-maj=1.0km s-min=0.7km az=224.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFFI	**Offida**	**0.17**	**137**	P	Pn	00 36 23.0	+0.2
CSP1	**Cessapalombo**	**0.24**	**278**	P	Pb	00 36 23.5	0.0
CSP1				S	Sn	00 36 28.6	-0.2
CSP1				END			
GUMA	**Gualdo di Mace**	**0.29**	**89**	P	Pb	00 36 22.5	-1.6
GUMA				S	Sb	00 36 26.7	-2.5
GUMA				AML	AML		
	comp=N,840µm,0.3s						
GUMA				AML	AML		
	comp=E,516µm,0.3s						
GUMA				END			
FDMO	**Fiordimonte**	**0.33**	**267**	P	Pb	00 36 24.6	+0.1
FDMO				S	Sn	00 36 30.7	0.0
FDMO				END			
TERO	**Teramo**	**0.44**	**173**	P	Pb	00 36 26.0	-0.1
TERO				S	Sn	00 36 33.2	-0.3
SMA1	**SAN MARTINO**	**0.45**	**199**	P	Pb	00 36 26.4	+0.1
SMA1				S	Sn	00 36 34.0	+0.1

*SOME **31** 00:45:46.9, 40°.83N×73°.17E, h5km*
*NNC **31** 00:45:47.2±1.1, 40°.75N×73°.15E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=10.1km s-min=4.5km az=176.0*
*KRNET **31** 00:45:48.0±0.1, 40°.77N×72°.94E, h29km, mb3.6*

ISC 31 00:45:44.6±0.9, 40°.64N±0°.04×73°.17E±0°.02, h10km, n70, σ1s 82/112, 28C-19D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**0.70**	**348**	⇑*i* P	**Pb**	**00 45 58.9**	**-0.2**
	baz=3.0						
ARSB				⇑*i* S	**Sg**	**00 46 06.7**	**-0.8**
	baz=3.0						
ARK	**Arkit**	**1.48**	**322**	⇓*i* P	**Pn**	**00 46 11.4**	**0.0**
	baz=25						
ARK				⇓*i* S	**Sn**	**00 46 28.2**	**-2.7**
	baz=25						
AML	**Almayashu**	**1.54**	**15**	⇑*i* P	**Pg**	**00 46 14.8**	**+0.5**
	baz=22						
AML				⇑*i* S	**Sg**	**00 46 34.0**	**-0.4**
	baz=22						
AML	**Almayashu**	**1.54**	**15**	P	**Pg**	**00 46 14.6**	**+0.3**
	SNR=307						
UCH	**Uchtor**	**1.88**	**32**	⇑*i* P	**Pg**	**00 46 20.7**	**-0.1**
	baz=38						
UCH				⇑*i* S	**Sg**	**00 46 44.5**	**-0.7**
	baz=38						
UCH	**Uchtor**	**1.88**	**32**	P	**Pb**	**00 46 19.9**	**+0.5**
	SNR=37						
BTK	**Batken**	**1.89**	**253**	⇑*i* P	**Pb**	**00 46 19.0**	**-0.3**
	baz=47						
BTK				⇑*i* S	**Sn**	**00 46 41.1**	**+0.1**
	baz=47						
EKS2	**Erkin-Say**	**2.07**	**12**	⇑*i* P	**Pb**	**00 46 22.2**	**-0.2**
	baz=18						
EKS2				⇑*i* S	**Sn**	**00 46 46.6**	**+1.0**
	baz=18						
EKS2	**Erkin-Say**	**2.07**	**12**	P	**Pg**	**00 46 23.5**	**-0.9**
	SNR=91						
MRKS	**Merke**	**2.11**	**1**	*e*P	**Pg**	**00 46 24.4**	**-0.7**
	30nm,0.2s						
MRKS				*e*S	**Sg**	**00 46 51.7**	**-0.7**
	334nm,0.3s						
MRKS	**Merke**	**2.11**	**1**	Pg	**Pg**	**00 46 24.4**	**-0.7**
MRKS				Lg	Lg	00 46 51.7	
KZA	**Kyzart**	**2.12**	**47**	⇑*i* P	**Pb**	**00 46 24.6**	**+1.1**
	baz=52						
KZA				⇑*i* S	**Sg**	**00 46 51.9**	**-1.1**
	baz=52						
KZA	**Kyzart**	**2.12**	**47**	P	**Pb**	**00 46 23.3**	**-0.2**
	SNR=23						
AAK	**Ala-Archa**	**2.23**	**26**	⇓*i* P	**Pb**	**00 46 25.1**	**-0.1**
	baz=31						
AAK				⇓*i* S	**Sb**	**00 46 52.0**	**-0.9**
	baz=31						
AAK	**Ala-Archa**	**2.23**	**26**	P	**Pb**	**00 46 25.2**	**+0.1**
	SNR=41						
AAK	**Ala-Archa**	**2.23**	**26**	⇓Pn	**Pb**	**00 46 25.0**	**-0.1**
	40nm,0.6s						
AAK				⇑Lg	Lg	00 46 55.0	
	124nm,0.6s						
NRN	**Naryn**	**2.28**	**69**	⇓*i* P	**Pb**	**00 46 27.7**	**+1.6**
	baz=73						
NRN				⇓*i* S	**Sb**	**00 46 56.5**	**+2.0**
	baz=73						
KBK	**Karagaybulak**	**2.42**	**33**	⇓*e*P	**Pb**	**00 46 27.9**	**-0.4**
	baz=38						
KBK				⇓*i* S	**Sb**	**00 46 56.9**	**-1.3**
	baz=38						
KBK	**Karagaybulak**	**2.42**	**33**	P	**Pb**	**00 46 28.3**	**0.0**
	SNR=21						
KSH	**Kashi**	**2.42**	**117**	Pn	**Pn**	**00 46 26.8**	**+2.4**
KSH				Sn	**Sb**	**00 46 58.0**	**-0.3**
KSH				smax	smax		
	comp=N,240nm,0.3s						
KSH				smax	smax		
	comp=E,250nm,0.2s						
FRU1	**Bishkek**	**2.43**	**26**	⇑*i* P	**Pb**	**00 46 27.7**	**-0.8**
	baz=31						
FRU1				⇑*i* S	**Sb**	**00 46 56.5**	**-2.0**
	baz=31						
CHMS	**Chumysh**	**2.64**	**26**	⇓*i* P	**Pb**	**00 46 30.6**	**-1.4**
	baz=31						
CHMS				⇓*i* S	**Sn**	**00 47 01.4**	**+2.0**
	baz=31						
CHMS	**Chumysh**	**2.64**	**26**	P	**Pb**	**00 46 31.0**	**-1.0**
	SNR=20						
DZA	**Taraz**	**2.64**	**329**	*e*P	**Pg**	**00 46 34.2**	**-1.0**
	comp=E,46nm,0.4s						
DZA				*e*S	**Sg**	**00 47 08.0**	**-1.5**
	comp=E,282nm,0.2s						
IUG	**luzhnay**	**2.81**	**304**	*e*P	**Pg**	**00 46 36.7**	**-1.7**
	comp=E,8.1nm,0.3s						
IUG				*e*S	**Sg**	**00 47 12.9**	**-1.8**
	comp=E,406nm,0.3s						
IUG	**luzhnay**	**2.81**	**304**	Pg	**Pg**	**00 46 36.7**	**-1.7**
	comp=E,8.1nm,0.3s						
IUG				Lg	Lg	00 47 12.9	
	comp=E,406nm,0.3s						
USP	**Ospenovka**	**2.81**	**20**	⇑*i* P	**Pb**	**00 46 32.6**	**-2.3**
	baz=24						
USP				⇑*i* S	**Sn**	**00 47 04.9**	**+1.3**
	baz=24						
USP	**Ospenovka**	**2.81**	**20**	P	**Pn**	**00 46 31.8**	**+2.1**
	SNR=6.8						
ULHL	**Ulahol**	**2.81**	**54**	⇓*i* P	**Pb**	**00 46 34.5**	**-0.6**
	baz=58						
ULHL				⇓*i* S	**Sb**	**00 47 08.5**	**-1.1**
	baz=58						
ULHL	**Ulahol**	**2.81**	**54**	P	**Pn**	**00 46 32.5**	**+2.7**
	SNR=15						
TKM2	**Tokmak 2**	**2.92**	**38**	⇑*e*P	**Pb**	**00 46 35.0**	**-1.8**
	baz=42						
TKM2				⇑*i* S	**Sn**	**00 47 09.1**	**+2.7**
	baz=42						
TKM2	**Tokmak 2**	**2.92**	**38**	P	**Pn**	**00 46 34.2**	**+3.0**
	SNR=17						
TKM2	**Tokmak 2**	**2.92**	**38**	⇓Pn	**Pn**	**00 46 33.8**	**+2.6**
	comp=E,2.1nm,0.3s						
TKM2				⇓Pg	**Pg**	**00 46 40.0**	**-0.5**
	comp=E,17nm,0.5s						
TKM2				⇓Lg	Lg	00 47 15.6	
	comp=E,28nm,0.5s						
CHM	**Chimkent**	**3.17**	**303**	*e*P	**Pg**	**00 46 44.2**	**-1.1**
	comp=E,87nm,0.2s						
CHM				*e*S	**Sg**	**00 47 25.1**	**-1.2**
	comp=E,781nm,0.4s						
KK31	**Karatay Array**	**3.17**	**322**	⇑Pg	**Pb**	**00 46 42.4**	**+1.4**
	comp=E,5.3nm,0.4s,baz=139,slow=17,SNR=11						
KK31				⇑Lg	Lg	00 47 23.5	
	comp=E,18nm,0.3s,baz=135,slow=28,SNR=8.3						
KST	**Kastek**	**3.18**	**40**	*e*P	**Pg**	**00 46 44.4**	**-1.2**
	comp=E,22nm,0.5s						
KST				*e*S	**Sg**	**00 47 26.6**	**-0.2**
	comp=E,80nm,0.6s						
KST	**Kastek**	**3.18**	**40**	Pg	**Pg**	**00 46 44.4**	**-1.2**
	comp=E,22nm,0.5s						
KST				Lg	Lg	00 47 26.6	
	comp=E,80nm,0.6s						
DGS	**Degeres**	**3.25**	**36**	*e*P	**Pb**	**00 46 44.7**	**+2.3**
	comp=E,13nm,0.7s						
DGS				*e*S	**Sg**	**00 47 26.9**	**-2.0**
	comp=E,62nm,0.5s						
DGS	**Degeres**	**3.25**	**36**	Pg	**Pb**	**00 46 44.7**	**+2.3**
DGS				Lg	Lg	00 47 26.9	
KDJ	**Kajisay**	**3.36**	**62**	⇓*i* P	**Pb**	**00 46 42.4**	**-2.0**
	baz=66						
KDJ				⇓*i* S	**Sb**	**00 47 22.0**	**-3.5**
	baz=66						
BRLS	**Borolday**	**3.46**	**315**	*e*P	**Pb**	**00 46 47.2**	**+1.2**
	comp=E,12nm,0.3s						
BRLS				*e*S	**Sb**	**00 47 30.7**	**+2.7**
	comp=E,54nm,0.4s						
BRLS	**Borolday**	**3.46**	**315**	Pg	**Pb**	**00 46 47.2**	**+1.2**
	comp=E,12nm,0.3s						
BRLS				Lg	Lg	00 47 30.7	
	comp=E,54nm,0.4s						
MTBS	**Maitube**	**3.48**	**43**	*e*P	**Pg**	**00 46 50.1**	**-1.2**
	comp=E,18nm,0.6s						
MTBS				*e*S	**Sg**	**00 47 35.4**	**-1.0**
	comp=E,49nm,0.5s						
IZV	**Izvestkoviy**	**3.52**	**46**	*e*P	**Pg**	**00 46 50.9**	**-1.0**
	comp=E,17nm,0.6s						
IZV				*e*S	**Sg**	**00 47 37.2**	**-0.2**
	comp=E,60nm,0.6s						
IZV	**Izvestkoviy**	**3.52**	**46**	Pg	**Pg**	**00 46 50.9**	**-1.0**
	comp=E,17nm,0.6s						
IZV				Lg	Lg	00 47 37.3	
TNSS	**Tian-Shan**	**3.70**	**48**	*e*P	**Pg**	**00 46 54.4**	**-1.1**
	comp=E,20nm,0.6s						
TNSS				*e*S	**Sg**	**00 47 42.9**	**-0.6**
	comp=E,41nm,0.8s						
TNSS	**Tian-Shan**	**3.70**	**48**	Pg	**Pg**	**00 46 54.4**	**-1.1**
	comp=E,20nm,0.6s						
TNSS				Lg	Lg	00 47 42.9	
	comp=E,41nm,0.8s						
AAA	**Alma-Ata**	**3.79**	**46**	*e*P	**Pg**	**00 46 56.0**	**-1.3**
	comp=E,12nm,0.1s						
AAA				*e*S	**Sg**	**00 47 46.3**	**-0.1**
	comp=E,53nm,0.5s						
AAA	**Alma-Ata**	**3.79**	**46**	Pg	**Pg**	**00 46 56.0**	**-1.3**
	comp=E,12nm,0.1s						
AAA				Lg	Lg	00 47 46.6	
	comp=E,53nm,0.5s						
KNDC	**Almaty**	**3.83**	**46**	⇑Pg	**Pb**	**00 46 52.4**	**+0.1**
	comp=E,12nm,0.5s						
KNDC				⇑Lg	Lg	00 47 46.9	
	comp=E,69nm,0.6s						
MDOK	**Medeo**	**3.84**	**48**	*e*P	**Pg**	**00 46 56.9**	**-1.2**
	comp=E,4.5nm,0.4s						
MDOK				*e*S	**Sg**	**00 47 47.0**	**-0.9**
	comp=E,36nm,0.7s						
MDOK	**Medeo**	**3.84**	**48**	⇓Pg	**Pb**	**00 46 52.9**	**+0.4**
	comp=E,13nm,0.7s						
MDOK				⇑Lg	Lg	00 47 46.4	
	comp=E,40nm,0.8s						
KOTS	**Kotyrbulak**	**3.92**	**47**	*e*P	**Pg**	**00 46 58.2**	**-1.6**
	comp=E,47nm,0.5s						
KOTS				*e*S	**Sg**	**00 47 49.9**	**-0.6**
	comp=E,168nm,0.5s						
KOTS	**Kotyrbulak**	**3.92**	**47**	Pg	**Pg**	**00 46 58.2**	**-1.6**

NEIC **31** 01:02:59.5±1.8, 36.68N±0.05×140.72E±0.07, h10km±1km, mb5.1/248

ISCJB **31** 01:02:59.9±0.3, 36.67N±0.01×140.63E±0.02, h17km±2km, mb5.0/160, MS4.6/56, Error ellipse: s-maj=2.8km s-min=2.0km az=136.4

JMA **31** 01:03:00.1, 36.69N×140.63E, h7km±1km, M5.4 Broadband fault plane solution: P waves. NP1: ϕ_s289.00000°, δ71.00000°, λ-142.00000°. NP2: ϕ_s184.00000°, δ55.00000°, λ-24.00000°. Principal axes: T Plg10.0000°, Azm53.0000°; N Plg48.0000°, Azm312.0000°; P Plg40.0000°, Azm152.0000°;

NIED **31** 01:03:00, 36.70N×140.70E, h5km, Mw5.0 Best double couple: $M_0$3.89000×10^{16} NP1:ϕ_s292.00000°, δ50.00000°, λ-135.00000°. NP2:ϕ_s170.00000°, δ57.00000°, λ-50.00000°.

MOS **31** 01:03:01.4±1.2, 36.73N×140.62E, h29km, mb5.3/99, MS4.5/10, Error ellipse: s-maj=6.8km s-min=3.7km az=111.6

GCMT **31** 01:03:02.5±0.2, 36.72N±0.01×140.58E±0.01, h12km, MW5.0/124, Moment Tensor Solution. s47,c65; s124,c188; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.49±.09; $M_{\theta\theta}$0.86±.10; $M_{\phi\phi}$1.62±.09; $M_{r\theta}$1.64±.25; $M_{\theta\phi}$-3.70±.07; $M_{\phi r}$1.37±.24; Best double couple: $M_0$4.79100×10^{16} NP1:ϕ_s283.00000°, δ61.00000°, λ-144.00000°. NP2:ϕ_s173.00000°, δ59.00000°, λ-35.00000°. Principal axes: T 4.9620, Plg1.0000°, Azm48.0000°; N -0.3490, Plg45.0000°, Azm317.0000°; P -4.6190, Plg45.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

IDC **31** 01:03:03.5±3.7, 36.68N×140.49E, h32km±26km, mb4.6/39, mb1 4.7/42, mb1mx4.6/48, mbtmp4.8/42, ML3.9/3, MS4.4/36, Ms1 4.4/36, ms1mx4.4/41 Error ellipse: s-maj=12.3km s-min=10.0km az=114.0

ISC 31 01:03:00.3±0.5, 36.69N±0.02×140.67E±0.03, h14km±3km, n852, σ1§47/842, mb5.1/262, MS4.5/57, 70C-24D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.12**	**227**	⇑P	**Pg**	**01 03 02.3**	**-1.3**
JHO				S	**Sg**	**01 03 04.0**	**-1.8**
JHYU	**Hitachinakayam**	**0.36**	**191**	⇓P	**Pg**	**01 03 07.1**	**-0.4**
JHYU				S	**Sg**	**01 03 12.3**	**0.0**
JFFD	**Fukushimafurud**	**0.41**	**347**	⇓P	**Pg**	**01 03 07.9**	**-0.6**
JFFD				S	**Sg**	**01 03 14.0**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.42**	**14**	⇑P	**Pg**	**01 03 08.5**	**-0.2**
ONAJ				S	**Sb**	**01 03 15.2**	**-0.7**
JYT	**Yasato**	**0.60**	**220**	⇑P	**Pg**	**01 03 11.1**	**-0.9**
JYT				S	**Sg**	**01 03 19.2**	**-0.8**
JSB	**Shiboa**	**0.67**	**295**	⇓P	**Pg**	**01 03 12.9**	**-0.4**
JSB				S	**Sb**	**01 03 21.8**	**-1.1**
JFK	**Kawauchi**	**0.69**	**13**	⇑P	**Pg**	**01 03 13.2**	**-0.6**
JFK				S	**Sb**	**01 03 23.2**	**-0.5**
JFT	**Otama**	**0.87**	**342**	⇓P	**Pg**	**01 03 16.4**	**-0.7**
JFT				S	**Sb**	**01 03 28.4**	**-0.3**
JAG	**Ashikaga**	**1.02**	**255**	⇑P	**Pb**	**01 03 17.8**	**-1.9**
JAG				S	**Sb**	**01 03 31.1**	**-1.8**
JMST	**Minamisoumatoc**	**1.05**	**9**	⇑P	**Pb**	**01 03 19.2**	**-1.0**
JFY	**Yanaizu**	**1.05**	**313**	⇓P	**Pb**	**01 03 19.4**	**-1.0**
JFY				S	**Sb**	**01 03 33.1**	**-1.0**
JSMT	**Sammumatsuo**	**1.06**	**190**	⇓P	**Pb**	**01 03 19.8**	**-0.6**
JKT	**Katashina**	**1.15**	**274**	⇑P	**Pb**	**01 03 20.5**	**-1.5**
JMM	**Marumori**	**1.18**	**5**	⇑P	**Pn**	**01 03 21.4**	**-1.0**
JHK	**Hiroka**	**1.44**	**293**	⇑P	**Pn**	**01 03 25.5**	**-0.5**
JHK				S	**Sn**	**01 03 44.2**	**-0.5**
JKUC	**kamogawauchiur**	**1.57**	**194**	⇓P	**Pn**	**01 03 27.5**	**-0.3**
JRY	**Ryogami san**	**1.58**	**245**	⇑P	**Pn**	**01 03 26.9**	**-1.0**
JRY				S	**Sn**	**01 03 47.0**	**-1.2**
JSGW	**Sagamiharawaka**	**1.61**	**228**	⇑P	**Pn**	**01 03 26.9**	**-1.4**
JSGW				S	**Sn**	**01 03 48.5**	**-0.3**
JGK	**Kuni**	**1.64**	**266**	⇑P	**Pn**	**01 03 28.7**	**-0.1**
JIKH	**Ishinomakikobu**	**1.74**	**21**	⇑P	**Pn**	**01 03 29.0**	**-1.0**
JIO	**Ouri**	**1.84**	**17**	⇑P	**Pn**	**01 03 31.1**	**-0.4**
JOFO	**Osakifurukawao**	**1.92**	**6**	⇑P	**Pn**	**01 03 33.4**	**+0.9**
MJAR	**Matsushiro Arr**	**1.99**	**266**	Pn	**Pn**	**01 03 33.7**	**+0.2**
	61nm,0.3s,baz=76,slow=14,SNR=2123						
MJAR				Sn	**Sb**	**01 03 59.2**	**-1.7**
	234nm,0.3s,baz=81,slow=30,SNR=19						
MJAR				LR	LR	01 03 59.5	
	comp=Z,3μm,20.9s,baz=80,slow=31						
MAJO	**Matsushiro**	**1.99**	**267**	*c* *i*P	**Pn**	**01 03 34.1**	**+0.6**
MAJO	**Matsushiro**	**1.99**	**267**	Pn	**Pn**	**01 03 34.2**	**+0.6**
MAJO				Sn	**Sb**	**01 04 00.5**	**-0.5**
MAT	**Matsushiro**	**1.99**	**267**	P	**Pn**	**01 03 33.9**	**+0.3**
MAT				S	**Sb**	**01 04 00.5**	**-0.5**
MAT	**Matsushiro**	**1.99**	**267**	P	**Pn**	**01 03 33.9**	**+0.3**
MAT				S	**Sb**	**01 04 00.4**	**-0.5**
MJB9	**Matsu-Tunnel**	**1.99**	**267**	Pn	**Pn**	**01 03 34.2**	**+0.6**
MJB9				Sn	**Sb**	**01 04 00.2**	**-0.8**
JYA	**Atsumi**	**2.05**	**338**	⇑P	**Pn**	**01 03 35.3**	**+1.0**
JJN	**Nakama**	**2.06**	**282**	P	**Pb**	**01 03 35.7**	**-1.7**
JNG	**Nsakai**	**2.09**	**263**	⇑P	**Pn**	**01 03 35.3**	**+0.3**
JAW	**Awa shima**	**2.10**	**328**	S	**Sb**	**01 04 05.0**	**+1.0**
JYN	**Shimob**	**2.10**	**236**	P	**Pn**	**01 03 34.9**	**-0.1**
JNT	**Takato**	**2.21**	**249**	P	**Pn**	**01 03 37.1**	**+0.5**
JKMT	**Kesenmumamotoy**	**2.21**	**16**	⇑P	**Pn**	**01 03 36.3**	**-0.2**
JYK	**Kaneyama**	**2.24**	**354**	P	**Pn**	**01 03 38.1**	**+1.1**
OFUJ	**Ofunato**	**2.51**	**18**	⇑P	**Pn**	**01 03 40.3**	**-0.4**
SHZ3	**Shizuoka 3**	**2.58**	**232**	P	**Pn**	**01 03 42.6**	**+1.0**
JNY	**Yasuok**	**2.64**	**241**	⇑P	**Pn**	**01 03 43.9**	**+1.4**
JRG	**Rokugo**	**2.70**	**359**	⇑P	**Pn**	**01 03 45.1**	**+1.8**
JGN	**Niukaw**	**2.75**	**261**	⇑P	**Pn**	**01 03 45.3**	**+1.3**
JYZW	**Yoshizawa**	**2.93**	**236**	P	**Pn**	**01 03 47.5**	**+1.1**
MIYJ	**Miyakonagasawa**	**3.02**	**17**	⇑P	**Pn**	**01 03 47.3**	**-0.4**
JAO	**Obara**	**3.11**	**244**	P	**Pn**	**01 03 50.3**	**+1.3**
INU	**Inuyama**	**3.25**	**247**	Pn	**Pn**	**01 03 51.3**	**+0.4**
INU				Sn	**Sn**	**01 04 30.9**	**+1.5**
JYTA	**Yamagatataniai**	**3.37**	**252**	P	**Pn**	**01 03 54.0**	**+1.5**
JKEN	**Kujiedanarisaw**	**3.60**	**13**	⇑P	**Pn**	**01 03 56.1**	**+0.4**
JHJ2	**Mitsune**	**3.64**	**191**	Pn	**Pn**	**01 03 56.2**	**0.0**
JTM	**Tenmabayashi**	**4.10**	**4**	P	**Pn**	**01 04 04.5**	**+1.9**
ERM	**Erimo**	**5.66**	**19**	*ce*P	**Pn**	**01 04 23.4**	**-0.5**
ERM				pmax	pmax		
	comp=Z,97nm,1.0s						
ERM	**Erimo**	**5.66**	**19**		**Pn**	**01 04 23.6**	**-0.3**
ASAJ	**Asahikawa**	**7.56**	**11**	Pn	**Pn**	**01 04 50.8**	**+0.8**
	comp=Z,6.5nm,0.3s,baz=238,slow=12,SNR=10						
ASAJ				Sn	**Sn**	**01 06 15.9**	**+0.4**
	comp=Z,2.9nm,0.3s,baz=133,slow=19,SNR=2.3						
JKA	**Kamikawa-asahi**	**7.56**	**11**		**Pn**	**01 04 50.8**	**+0.8**
JKA					**Sn**	**01 06 15.9**	**+0.4**
NMR	**Nemuro--Hokkai**	**7.71**	**29**	⇑*i*P	**Pn**	**01 04 49.4**	**-2.7**
YUK	**Yuzh-Kuril'sk**	**8.34**	**27**	*e*P	**Pn**	**01 04 58.0**	**-2.6**
YUK				*e*S	**Sn**	**01 06 27.9**	**-6.6**
YUK				pmax	pmax		
	comp=E,151nm,0.6s						
YUK				pmax	pmax		
	comp=Z,67nm,0.6s						
YUK				pmax	pmax		
	comp=N,53nm,0.4s						
YUK				MLR	MLR		
	comp=Z,2μm,11.0s						
YUK				MLR	MLR		
	comp=N,1μm,8.0s						
YUK				MLR	MLR		
	comp=E,2μm,10.0s						
SHO	**Shikotan**	**8.57**	**31**	*e*P	**Pn**	**01 05 01.0**	**-2.9**
SHO				pmax	pmax		
	comp=Z,39nm,0.5s						
SHO				pmax	pmax		
	comp=N,28nm,0.3s						
SHO				pmax	pmax		
	comp=E,11nm,0.3s						
SHO				MLR	MLR		
	comp=Z,2μm,16.0s						
SHO				MLR	MLR		
	comp=N,583nm,8.0s						
SHO				MLR	MLR		
	comp=E,1μm,11.0s						
JNU	**Nakatsue**	**8.80**	**249**	Pn	**Pn**	**01 05 07.5**	**+0.4**
	comp=E,0.4nm,0.3s,baz=78,slow=8.1,SNR=3.8						
JNU				LR	LR	01 08 42.3	
	comp=E,4μm,18.8s,baz=82,slow=39						
JNU	**Nakatsue**	**8.80**	**249**		**Pn**	**01 05 08.1**	**+1.0**
TEY	**Ternei**	**8.89**	**341**	⇑*e*P	Pn	01 05 13.9	+5.7
TEY				pmax	pmax		
	comp=E,20nm,1.2s						
TEY				pmax	pmax		
	comp=N,60nm,1.0s						
TEY				pmax	pmax		
	comp=Z,50nm,1.0s						
VLA	**Vladivostok**	**9.31**	**316**	*i* P	**Pn**	**01 05 17.7**	**+3.6**
MSHR	**Mys Shultsa**	**9.40**	**312**	‖*e*P	**Pn**	**01 05 19.3**	**+4.0**
JCJ	**Chichijima**	**9.65**	**172**	Pn	**Pn**	**01 05 16.8**	**-2.0**
	comp=Z,36nm,0.3s,baz=90,slow=23,SNR=9.8						
JCJ				Sn	Sn	01 06 58.0	-9.0
	comp=Z,10nm,0.3s,baz=209,slow=19,SNR=2.5						
JCJ				LR	LR	01 09 04.7	
	comp=Z,2μm,21.0s,baz=356,slow=37						
USA0B	**Ussuriysk Arra**	**10.00**	**321**	*i* P	**Pn**	**01 05 25.9**	**+2.4**
USA0B	**Ussuriysk Arra**	**10.00**	**321**		**Pn**	**01 05 23.6**	**+0.1**
USRK	**Ussuriysk Ar.**	**10.00**	**321**	Pn	**Pn**	**01 05 24.1**	**+0.7**
	baz=133,slow=13,SNR=3.5						
USRK				LR	LR	01 08 53.4	
	comp=Z,3μm,19.6s,baz=131,slow=35						
KUR	**Kuril'sk**	**10.12**	**30**	*e*P	**Pn**	**01 05 24.2**	**-0.8**
KUR				*i* S	**Sn**	**01 07 14.2**	**-4.1**
KUR				pmax	pmax		
	comp=Z,127nm,0.6s						
KUR				pmax	pmax		
	comp=E,36nm,0.4s						
KUR				pmax	pmax		
	comp=N,30nm,0.1s						
KUR				smax	smax		
	comp=E,134nm,0.6s						
KUR				smax	smax		
	comp=N,61nm,0.5s						
KUR				MLR	MLR		
	comp=Z,3μm,16.0s						
KUR				MLR	MLR		
	comp=E,4μm,11.0s						
KSRS	**Korea Array**	**10.22**	**278**	Pn	**Pn**	**01 05 29.0**	**+2.5**
	comp=E,1.0nm,0.3s,baz=94,slow=14,SNR=22						
KSRS				LR	LR	01 09 01.0	
	comp=E,1μm,21.4s,baz=88,slow=35						
KS19	**Wonju Array Si**	**10.27**	**278**		**Pn**	**01 05 26.8**	**-0.3**
YSS	**Yuzh-Sakhalins**	**10.37**	**8**	‖*e*P	**Pn**	**01 05 28.6**	**0.0**
YSS	**Yuzh-Sakhalins**	**10.37**	**8**		**Pn**	**01 05 28.9**	**+0.4**
TJN	**Taejon**	**10.72**	**272**	*i* P	Pn	01 05 40.7	+7.4
MDJ	**Mudanjiang**	**11.55**	**317**	P	**Pn**	**01 05 48.0**	**+3.3**
MDJ				pP		01 05 51.8	
MDJ				sP		01 05 53.3	
MDJ				S	**Sn**	**01 07 59.5**	**+6.1**
MDJ				sS		01 08 05.0	
MDJ				pmax	pmax		
	comp=E,33nm,1.9s						
MDJ				LR	LR		
	comp=E,4μm,14.2s						
MDJ				LR	LR		
	comp=E,4μm,13.5s						
MDJ				LR	LR		
	comp=E,5μm,14.9s						
MDJ	**Mudanjiang**	**11.55**	**317**		**Pn**	**01 05 45.7**	**+1.0**
CN2	**Changchun**	**13.62**	**306**	*e*P	**Pn**	**01 06 16.0**	**+3.1**
CN2				*es*P	P	01 06 24.5	+2.7
CN2				*e*S	**Sn**	**01 08 46.3**	**+2.3**
CN2				pmax	pmax		
	comp=E,20nm,0.8s						
CN2				pmax	pmax		
	comp=E,200nm,3.0s						
CN2				LR	LR		
	comp=E,2μm,11.0s						
CN2				LR	LR		
	comp=E,2μm,11.0s						
CN2				LR	LR		
	comp=E,1μm,12.0s						
KLR	**Kul'dur**	**14.12**	**335**	*i* P	**Pn**	**01 06 20.5**	**+0.7**
KLR				pmax	pmax		
	comp=Z,32nm,1.8s						
KLR	**Kul'dur**	**14.12**	**335**	Pn	**Pn**	**01 06 20.2**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=157,slow=11,SNR=12						
KLR				LR	LR	01 11 42.5	
	comp=Z,3μm,18.0s,baz=148,slow=37						
TYV	**Tymovskoe**	**14.24**	**5**	*e*P	**Pn**	**01 06 19.4**	**-2.0**
TYV				*e*S	**Sn**	**01 08 56.0**	**-3.1**
TYV				pmax	pmax		
	comp=Z,900nm,4.1s						
TYV				pmax	pmax		
	comp=Z,44nm,1.1s						
TYV				smax	smax		
	comp=N,30nm,2.0s						
TYV				smax	smax		
	comp=N,1μm,4.1s						
TYV				MLR	MLR		
	comp=N,4μm,15.0s						
TYV				MLR	MLR		
	comp=Z,4μm,15.0s						
GRNR	**Gornyy**	**14.40**	**349**	⇑*i*P	**Pn**	**01 06 22.7**	**-1.0**
GRNR				*e*S	**Sn**	**01 09 02.0**	**-1.1**
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GRNR				smax	smax		
	comp=N,4.0nm,0.6s						
GRNR				MLR	MLR		
	comp=Z,2μm,12.0s						
JOW	**Kunigami**	**14.40**	**230**	Pn	**Pn**	**01 06 23.6**	**-0.2**
DL2	**Dalian**	**15.22**	**284**	P	**P**	**01 06 39.8**	**+0.1**
DL2				S	**S**	**01 09 32.0**	**-7.9**
DL2				pmax	pmax		
	comp=Z,52nm,1.2s						
DL2				pmax	pmax		
	comp=Z,350nm,6.6s						
DL2				LR	LR		
	comp=Z,3μm,10.6s						
DL2				LR	LR		
	comp=Z,2μm,14.3s						
DL2				LR	LR		
	comp=Z,2μm,14.4s						
OKH	**Okha**	**16.93**	**5**	*de*P	Pn	01 06 46.6	-10
OKH				MLR	MLR		
	comp=Z,2μm,14.0s						
SSE	**Sheshan**	**17.11**	**257**	P	**Pn**	**01 06 57.0**	**-2.0**
SSE				S	**Sn**	**01 10 07.5**	**-1.5**
SSE				pmax	pmax		
	comp=Z,21nm,0.9s						
SSE				pmax	pmax		
	comp=Z,410nm,9.1s						
SSE				LR	LR		
	comp=Z,2μm,16.7s						
SSE				LR	LR		
	comp=Z,1μm,16.5s						
SKR	**Severo-Kuril's**	**17.85**	**34**	*e*P	**Pn**	**01 07 04.8**	**-3.2**
SKR				MLR	MLR		
	comp=Z,700nm,18.0s						
SKR				MLR	MLR		
	comp=Z,900nm,15.0s						
NJ2	**Nanjing**	**18.59**	**262**	*e*P	**Pn**	**01 07 20.0**	**+2.8**
NJ2				S	**S**	**01 10 49.5**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,470nm,4.5s						
NJ2				LR	LR		
	comp=Z,4μm,18.0s						
NJ2				LR	LR		
	comp=Z,2μm,16.6s						
NJ2				LR	LR		
	comp=Z,2μm,18.9s						
TIA	**Tai'an**	**18.95**	**276**	P	**P**	**01 07 20.8**	**-0.1**
TIA				S	**S**	**01 10 59.5**	**+3.6**
TIA				pmax	pmax		
	comp=Z,14nm,1.5s						
TIA				pmax	pmax		
	comp=Z,340nm,5.4s						
TIA				LR	LR		
	comp=Z,3μm,13.7s						
TIA				LR	LR		
	comp=Z,2μm,13.2s						
TIA				LR	LR		
	comp=Z,2μm,13.7s						
ZEA	**Zeya**	**19.44**	**336**	*e*P	**P**	**01 07 23.0**	**-3.1**
ZEA				pmax	pmax		
	comp=Z,36nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,4μm,16.0s						
BJI	**Beijing**	**19.48**	**287**	P	**P**	**01 07 24.3**	**-2.5**
BJI				S	**S**	**01 11 14.5**	**+8.0**
BJI				LR	LR		
	comp=Z,550nm,11.8s						
BJI				LR	LR		
	comp=Z,960nm,10.4s						
BJI				LR	LR		
	comp=Z,990nm,10.3s						
BJT	**Baijiatuau**	**19.49**	**287**	P	**P**	**01 07 25.0**	**-1.8**
BJT				pmax	pmax		
	comp=Z,31nm,1.1s						
BJT	**Baijiatuau**	**19.49**	**287**	P	**P**	**01 07 25.0**	**-1.8**
PETK	**Petropavlovsk-**	**20.28**	**31**	P	Pn	01 07 37.5	+0.2
	comp=Z,18nm,1.0s,baz=196,slow=10,SNR=3.7						
PETK				LR	LR	01 15 03.3	
	comp=Z,1μm,21.7s,baz=232,slow=35						
PET	**Petropavlovsk**	**20.62**	**32**	*e*P	**P**	**01 07 38.3**	**-0.7**
PET				*e*S	**S**	**01 11 20.5**	**-8.5**
PET				pmax	pmax		
	comp=Z,75nm,1.2s						
PET				pmax	pmax		
	comp=Z,300nm,11.8s						
PET				MLR	MLR		
	comp=Z,900nm,16.0s						
PET	**Petropavlovsk**	**20.62**	**32**	P	**P**	**01 07 37.8**	**-1.2**
PET				IAmb	IAmb	01 07 45.7	
	comp=Z,167nm,1.5s						
SSLB	**Suanglung**	**21.29**	**238**	P	**P**	**01 07 47.5**	**+0.9**
YULB	**Yu-li**	**21.32**	**237**	P	**P**	**01 07 45.9**	**-0.9**
QZH	**Quanzhou**	**22.23**	**244**	*e*P	**P**	**01 07 54.5**	**-2.1**
QZH				PP	**PnPn**	**01 08 23.0**	**+4.0**
QZH				S	**S**	**01 11 54.8**	**-6.2**
QZH				LR	LR		
	comp=Z,1μm,16.1s						
QZH				LR	LR		
	comp=Z,1μm,16.1s						
QZH				LR	LR		
	comp=Z,1μm,14.2s						
KNMB	**Chin-men Tao**	**22.67**	**244**	P	**P**	**01 08 01.7**	**+0.5**
KNMB				IAmb	IAmb	01 08 13.7	
	comp=Z,32nm,0.8s						
WHN	**Wuhan**	**22.73**	**262**	⇑P	**P**	**01 08 03.0**	**+1.2**
WHN				S	**S**	**01 12 05.8**	**-4.2**
WHN				pmax	pmax		
	comp=Z,42nm,0.9s						
WHN				LR	LR		
	comp=Z,1μm,8.1s						
WHN				LR	LR		
	comp=Z,4μm,14.1s						
WHN				LR	LR		
	comp=Z,5μm,15.4s						
HHC	**Hu-ho-hao-te**	**23.02**	**289**	*e*P	**P**	**01 08 04.5**	**-0.5**
HHC				S	**S**	**01 12 11.0**	**-4.3**
HHC				sS	sS	01 12 24.3	+1.9
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,73nm,6.4s						
HHC				LR	LR		
	comp=Z,500nm,12.4s						
HHC				LR	LR		
	comp=Z,470nm,10.6s						
GUMO	**Guam**	**23.31**	**170**	P	**P**	**01 08 08.3**	**+0.4**
GUMO				pmax	pmax		
	comp=Z,340nm,1.3s						
GUMO	**Guam**	**23.31**	**170**	LR	LR	01 16 10.9	
	comp=Z,523nm,21.7s,baz=34,slow=34						
GUMO	**Guam**	**23.31**	**170**	P	**P**	**01 08 08.3**	**+0.4**
MA2	**Magadan**	**23.82**	**13**	*i* P	**P**	**01 08 13.9**	**+1.3**
MA2	**Magadan**	**23.82**	**13**	P	**P**	**01 08 13.0**	**+0.5**
	comp=Z,38nm,0.8s,baz=204,slow=12						
MA2	**Magadan**	**23.82**	**13**	P	**P**	**01 08 13.2**	**+0.7**
MA2				IAmb	IAmb	01 08 16.0	
	comp=Z,93nm,1.1s						
BTO	**Baotou**	**24.20**	**289**	*e*P	**P**	**01 08 18.5**	**+2.1**
BTO				S	**S**	**01 12 35.0**	**+0.7**
XAN	**Xi'an**	**25.97**	**274**	P	**P**	**01 08 33.5**	**+1.0**
XAN				pP	sP	01 08 38.0	-0.6
XAN				pmax	pmax		
	comp=Z,47nm,1.1s						
XAN				pmax	pmax		
	comp=Z,96nm,5.2s						
XAN				LR	LR		
	comp=Z,2μm,13.7s						
XAN				LR	LR		
	comp=Z,960nm,17.4s						
XAN				LR	LR		
	comp=Z,1μm,14.1s						
YAK	**Yakutsk**	**26.28**	**348**	*e*P	**P**	**01 08 34.4**	**-0.5**
YAK				*e**PP	**sP**	**01 08 43.3**	**+2.3**
YAK				*e*		01 09 15.0	
YAK				*e*		01 12 03.0	
YAK				*e*S	**S**	**01 13 04.3**	**-2.6**
YAK				*e**SS	sS	01 13 22.9	+8.9
YAK				*e*		01 19 27.6	
YAK				pmax	pmax		
	comp=Z,66nm,1.1s						
YAK				pmax	pmax		
	comp=N,38nm,1.3s						
YAK				pmax	pmax		
	comp=E,18nm,1.2s						
YAK				pmax	pmax		
	comp=Z,484nm,4.1s						
YAK				pmax	pmax		
	comp=E,477nm,3.8s						
YAK				pmax	pmax		
	comp=N,274nm,3.8s						
YAK				smax	smax		
	comp=N,963nm,4.0s						
YAK				smax	smax		
	comp=E,228nm,2.1s						
YAK				MLR	MLR		
	comp=Z,3μm,14.0s						
YAK				MLR	MLR		
	comp=E,1μm,13.0s						
YAK				MLR	MLR		
	comp=N,1μm,12.0s						
YAK	**Yakutsk**	**26.28**	**348**	P	**P**	**01 08 34.5**	**-0.5**
	comp=N,22nm,0.6s,baz=214,slow=0.5,SNR=11						
YAK				LR	LR	01 18 55.2	
	comp=N,1μm,18.4s,baz=147,slow=36						
YAK	**Yakutsk**	**26.28**	**348**	P	**P**	**01 08 34.3**	**-0.7**
ENH	**Enshi**	**26.71**	**265**	IAmb	IAmb	01 08 44.0	
	comp=Z,29nm,0.8s						
ULN	**Ulaanbaatar**	**27.06**	**305**	*ce*P	**P**	**01 08 42.0**	**-0.4**
ULN				pmax	pmax		
	comp=Z,24nm,0.9s						
ULN	**Ulaanbaatar**	**27.06**	**305**	P	**P**	**01 08 41.7**	**-0.7**
ULN				IAmb	IAmb	01 08 45.0	
	comp=Z,21nm,0.8s						
ULN					**PcP**	**01 12 03.2**	**-0.1**
SEY	**Seymchan**	**27.24**	**12**	*i* P	**P**	**01 08 43.9**	**+0.2**
SEY	**Seymchan**	**27.24**	**12**	P	**P**	**01 08 44.4**	**+0.7**
	comp=Z,9.9nm,0.7s,baz=194,slow=7.5,SNR=9.4						
SEY				LR	LR	01 20 54.0	
	comp=Z,914nm,18.8s,baz=192,slow=39						
SONM	**Songino Array**	**27.49**	**305**	P	**P**	**01 08 45.0**	**-1.2**
	comp=Z,24nm,0.9s,baz=104,slow=7.9,SNR=57						
SONM				PcP	**PcP**	**01 12 04.8**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=113,slow=3.3,SNR=3.7						
SONM				LR	LR	01 19 48.6	
	comp=Z,935nm,19.2s,baz=98,slow=37						
BOD	**Bodaibo**	**27.51**	**329**	*e*P	**P**	**01 08 45.2**	**-0.9**
BOD				pmax	pmax		
	comp=Z,18nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**28.49**	**119**	T	T	01 38 39.8	
	baz=312,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.50**	**119**	T	T	01 38 40.3	
	baz=312,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.51**	**119**	T	T	01 38 41.1	
	baz=312,slow=75,SNR=8113						
TGY	**Tagaytay City**	**28.59**	**223**	LR	LR	01 21 28.0	
	comp=Z,242nm,18.0s,baz=238,slow=39						
H11S1	**WAKE ISLAND Hy**	**29.18**	**121**	T	T	01 39 31.1	
	baz=314,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.18**	**121**	T	T	01 39 31.7	
	baz=314,slow=76						
H11S2	**WAKE ISLAND Hy**	**29.20**	**121**	T	T	01 39 33.5	
	baz=314,slow=76						
LZH	**Lanzhou**	**29.54**	**280**	*e*P	**P**	**01 09 04.3**	**-0.3**
LZH				sP	sP	01 09 09.8	-0.9
LZH				PP	**PP**	**01 10 06.0**	**-5.2**
LZH				*e*S	**S**	**01 13 55.8**	**-3.4**
LZH				pmax	pmax		
	comp=Z,29nm,1.0s						
LZH				pmax	pmax		
	comp

ZAK pmax pmax
comp=Z,7.0nm,1.0s
TLY Talaya 30.11 312 *e*P **P 01 09 08.1 -1.3**
TLY pmax pmax
comp=Z,17nm,0.6s
TLY MLR MLR
comp=Z,4µm,16.0s
TLY Talaya 30.11 312 P **P 01 09 09.3 -0.1**
comp=Z,6.1nm,0.7s,baz=178,slow=3.6,SNR=7.4
TLY Talaya 30.11 312 P **P 01 09 10.2 +0.9**
GYA Guiyang 30.58 260⇑ *i*P **P 01 09 12.5 -1.3**
GYA PP **PnPn 01 10 12.5 -0.5**
GYA S **S 01 14 14.8 -0.7**
GYA SS **ScP 01 15 59.8 +5.3**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,110nm,4.8s
GYA LR LR
comp=Z,2µm,15.1s
GYA LR LR
comp=Z,940nm,15.6s
GYA LR LR
comp=Z,930nm,13.3s
CD2 Chengdu 31.08 270 P **P 01 09 18.0 -0.2**
CD2 sP pP 01 09 21.5 -0.9
CD2 S **S 01 14 19.8 -3.4**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,130nm,4.9s
CD2 LR LR
comp=Z,5µm,19.9s
CD2 LR LR
comp=Z,3µm,14.2s
CD2 LR LR
comp=Z,2µm,18.6s
MOY Mondy 31.71 311 *e*P **P 01 09 23.1 -0.5**
GTA Gaotai 32.10 287 *e*P **P 01 09 26.0 -1.1**
GTA pP pP 01 09 30.3 -1.1
GTA sP sP 01 09 33.5 +0.3
GTA PcP **PcP 01 12 16.8 +0.5**
GTA pmax pmax
comp=Z,110nm,6.2s
GTA LR LR
comp=Z,1µm,14.9s
GTA LR LR
comp=Z,540nm,17.3s
GTA LR LR
comp=Z,710nm,14.9s
QIZ Qiongzhong 32.25 245 P **P 01 09 28.8 +0.4**
QIZ S **S 01 14 41.3 -0.1**
QIZ sS **sS 01 14 49.5 +1.0**
QIZ LR LR
comp=Z,2µm,16.3s
QIZ LR LR
comp=Z,2µm,17.5s
QIZ LR LR
comp=Z,570nm,15.7s
GSTR Great Sitkin T 33.97 49 P **P 01 09 42.1 -1.1**
KMI Kunming 34.32 261 P **P 01 09 47.5 +0.7**
KMI pP pP 01 09 50.3 -0.8
KMI sP sP 01 09 52.5 -0.4
KMI PP **PP 01 11 05.8 +1.3**
KMI S **S 01 15 11.0 -3.0**
KMI sS pS 01 15 19.5 +0.5
KMI pmax pmax
comp=Z,15nm,0.5s
KMI pmax pmax
comp=Z,160nm,4.2s
KMI LR LR
comp=Z,2µm,16.7s
KMI LR LR
comp=Z,930nm,18.9s
KMI LR LR
comp=Z,1µm,17.2s
BILL Bilibino 34.52 17 *e*P **P 01 09 48.4 +0.6**
BILL *e* 01 10 59.8
BILL *e*PPP PPP 01 11 16.5
BILL *e* 01 12 22.9
BILL pmax pmax
comp=Z,10.0nm,1.3s
BILL MLR MLR
comp=Z,950nm,22.0s
BILL Bilibino 34.52 17 P **P 01 09 48.0 +0.2**
TIXI Tiksi 35.56 354⇓ *i*P **P 01 09 56.1 -0.5**
TIXI pmax pmax
comp=Z,36nm,2.5s
TIXI Tiksi 35.56 354 P **P 01 09 56.4 -0.2**
comp=Z,4.3nm,0.5s,baz=179,slow=7.0,SNR=15
TIXI LR LR 01 25 34.7
comp=Z,575nm,19.4s,baz=164,slow=38
TIXI Tiksi 35.56 354 P **P 01 09 57.0 +0.4**
TIXI IAmb IAmb 01 10 04.3
comp=Z,14nm,0.8s
NONG Nongkai 37.84 251 P **P 01 10 17.3 +0.7**
comp=Z,0.6nm,1.7s
SWI Sorong 38.37 195 P **P 01 10 21.2 +0.1**
comp=Z,45nm,1.4s
SIJI Sorong 38.38 195 P **P 01 10 20.9 -0.3**
comp=Z,11nm,0.5s,baz=353,slow=16,SNR=7.7
SPMM Sapulut 38.81 221 P **P 01 10 25.0 +0.1**
PHRA Phrae 39.81 254 P **P 01 10 34.7 +1.5**
comp=Z,2.0nm,1.7s,comp=Z,2µm
UTTA Uttaradit 40.01 253 P P 01 10 42.0 +7.2
CHAI Chaiyaphum 40.03 249 P **P 01 10 35.0 0.0**
comp=Z,35µm,1.3s
FAKI Fak Fak 40.18 193 P **P 01 10 36.4 +0.2**
FAKI IAmb IAmb 01 10 43.2
comp=Z,32nm,0.8s
PBKT Sadao Pong 40.39 251 P **P 01 10 38.5 +0.5**
comp=Z,7.3nm,1.1s,comp=Z,768nm
PBKT Sadao Pong 40.39 251 P **P 01 10 37.4 -0.6**
WMQ Urumqi 40.47 297 *e*P **P 01 10 39.0 +0.5**
WMQ pP pP 01 10 42.3 -0.5
WMQ sP sP 01 10 46.3 +1.7
WMQ pmax pmax
comp=Z,10.0nm,1.3s
WMQ pmax pmax
comp=Z,170nm,4.1s
WMQ LR LR
comp=Z,1µm,13.3s
WMQ LR LR
comp=Z,350nm,18.9s
WMQ Urumqi 40.47 297 P **P 01 10 37.9 -0.6**
WMQ pmax pmax
comp=Z,14nm,1.0s
WMQ Urumqi 40.47 297 P **P 01 10 37.9 -0.6**
CMMT Chiang Mai 40.63 256 P **P 01 10 41.6 +1.6**
comp=Z,4.5nm,2.0s
CHTO Chiang Mai 40.63 256 P **P 01 10 39.8 -0.2**
CHTO pmax pmax
comp=Z,7.0nm,1.1s
CHTO Chiang Mai 40.63 256 P **P 01 10 39.8 -0.2**
CMAR Chiang Mai Arr 40.84 255 *i*P **P 01 10 44.5 +2.8**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 40.84 255 P **P 01 10 40.8 -0.9**
comp=Z,1.7nm,0.8s,baz=55,slow=5.1,SNR=9.7
CMAR PcP **PcP 01 12 42.1 -0.4**
comp=Z,2.3nm,1.0s,baz=36,slow=3.8,SNR=6.4
CMAR LR LR 01 29 50.7
comp=Z,596nm,19.9s,baz=57,slow=40
MSAI Masohi 41.31 198 P **P 01 10 45.6 +0.1**
comp=Z,25nm,1.5s,comp=Z,805nm
LSA Lhasa 41.65 275 P **P 01 10 50.3 +1.4**
LSA Lhasa 41.65 275 P **P 01 10 48.3 -0.6**
LSA pmax pmax
comp=Z,11nm,1.0s
LSA Lhasa 41.65 275 P **P 01 10 48.3 -0.6**
ZAA0 Zalesovo Array 41.71 313 P **P 01 10 48.6 +0.1**
ZAA0 IAmb IAmb 01 10 51.1
comp=Z,26nm,0.7s
ZAA0 **PcP 01 12 43.6 -1.2**
ZALV Zalesovo Beam 41.71 313 P **P 01 10 48.3 -0.2**
comp=Z,28nm,0.6s,baz=96,slow=7.2,SNR=56
ZALV PcP **PcP 01 12 44.3 -0.5**
comp=Z,6.6nm,0.8s,baz=86,slow=2.7,SNR=5.2
ZALV LR LR 01 28 41.1
comp=Z,579nm,18.4s,baz=128,slow=37
ANM Nome 42.20 31 P **P 01 10 51.8 -0.5**
ANM pmax pmax
comp=Z,19nm,1.3s
ANM Nome 42.20 31 P **P 01 10 51.8 -0.5**
BNDI Bandanaira 42.22 196 P **P 01 10 53.0 +0.1**
comp=Z,372nm,1.1s,comp=Z,9µm

AZL Aizawl 43.02 266 *e*P **P 01 10 58.0 -1.6**
MK31 Makanchi Array 43.80 302 *i*P **P 01 11 05.0 -0.6**
MK31 pmax pmax
comp=Z,11nm,0.7s
MK31 Makanchi Array 43.80 302 P **P 01 11 04.9 -0.6**
MKAR Makanchi Array 43.80 302 P **P 01 11 05.3 -0.2**
comp=Z,11nm,0.8s,baz=84,slow=10,SNR=35
MKAR PcP **PcP 01 12 51.5 -0.5**
comp=Z,2.4nm,0.7s,baz=86,slow=4.3,SNR=2.4
MKAR LR LR 01 30 04.4
comp=Z,795nm,18.1s,baz=86,slow=37
MAKZ Makanchi 44.01 302 *i*P **P 01 11 06.7 -0.6**
MAKZ pmax pmax
comp=Z,16nm,1.4s
MAKZ Makanchi 44.01 302 P **P 01 11 06.7 -0.6**
RDOG Red Dog Mine 44.08 27 P **P 01 11 06.4 -1.1**
RDOG IAmb IAmb 01 11 21.0
comp=Z,23nm,1.2s
BNSI Bone 45.17 210 P **P 01 11 17.0 +0.3**
comp=Z,31nm,1.2s
TAPN Taplejung 45.37 274 *e*P **P 01 11 18.4 -0.3**
KURK Kurchatov 45.68 308 *i*P **P 01 11 19.4 -1.0**
KURK pmax pmax
comp=Z,55nm,0.8s
KURK Kurchatov 45.68 308 P **P 01 11 19.9 -0.6**
KURBB Kurchatov Arra 45.75 308 P **P 01 11 20.4 -0.6**
comp=Z,44nm,0.8s,baz=84,slow=8.1,SNR=127
ODAN Odare 45.84 273 *e*P **P 01 11 21.7 -0.7**
comp=Z,20nm,0.7s
KAPI Kappang 45.87 210 P **P 01 11 21.1 -1.2**
KAPI pmax pmax
comp=Z,82nm,1.3s
KAPI Kappang 45.87 210 P **P 01 11 21.1 -1.2**
PMG Port Moresby 46.25 171 *ce*P **P 01 11 25.6 +0.3**
PMG pmax pmax
comp=Z,63nm,1.0s
PMG Port Moresby 46.25 171 P **P 01 11 24.0 -1.3**
PMG IAmb IAmb 01 11 26.4
comp=Z,12nm,0.8s
PDGK Podgornoye 46.41 298 *i*P **P 01 11 26.0 -0.5**
PDGK pmax pmax
comp=Z,34nm,0.9s
RAMN Ramite 46.44 274 *e*P **P 01 11 26.5 -0.6**
comp=Z,45nm,0.7s
JIRN Jiri 46.46 275 *e*P **P 01 11 27.2 -0.2**
comp=Z,86nm,0.8s
GUN Gumba 46.60 276 *e*P **P 01 11 28.0 -0.4**
comp=Z,58nm,0.9s
PKI Pulchoki 47.12 275 *e*P **P 01 11 32.0 -0.5**
PKIN Phulchoki 47.13 275 *e*P **P 01 11 31.9 -0.6**
comp=Z,23nm,0.8s
KKN Kakani 47.13 276 *e*P **P 01 11 32.1 -0.3**
comp=Z,74nm,1.2s
DMN Daman 47.35 276 *e*P **P 01 11 33.6 -0.6**
PPLA Purkeypile 47.79 35 P **P 01 11 38.4 +1.4**
PPLA IAmb IAmb 01 11 44.8
comp=Z,35nm,1.5s
JRMM Jerantut 47.91 236 P **P 01 11 38.0 -0.3**
DANN Dangsing 48.10 277 *e*P **P 01 11 40.0 -0.1**
comp=Z,119nm,0.9s
KULM Kulim 48.13 239 P **P 01 11 41.0 +1.0**
KTH Kantishna Hill 48.36 34 P **P 01 11 41.7 +0.4**
KTH IAmb IAmb 01 12 01.1
comp=Z,18nm,1.2s
MLY Manley 48.45 32 P **P 01 11 42.0 0.0**
SOEI Soe 48.71 202 P **P 01 11 44.2 -0.3**
comp=Z,181nm,1.2s,comp=Z,2µm
SOEI Soe 48.71 202 P **P 01 11 44.1 -0.4**
BWN Browne 49.00 33 P **P 01 11 47.2 +1.0**
TOLK Toolik Lake Re 49.05 27 P **P 01 11 48.0 +1.5**
baz=267
TKM2 Tokmak 2 49.27 298 *i*P **P 01 11 48.3 -0.5**
TKM2 pmax pmax
comp=Z,33nm,1.3s
TKM2 Tokmak 2 49.27 298 P **P 01 11 49.2 +0.4**
SNR=22
BATI Baumata 49.31 202 P **P 01 11 48.0 -1.1**
comp=Z,72nm,1.1s
GHO Glory Hole Cre 49.34 36 P **P 01 11 48.4 -0.5**
GHO IAmb IAmb 01 12 07.3
comp=Z,17nm,1.1s
NRN Naryn 49.40 296 P **P 01 11 49.9 -0.1**
NRN pmax pmax
comp=Z,8.0nm,1.1s
NRN Naryn 49.40 296 P **P 01 11 49.9 -0.1**
MDM Murphy Dome 49.52 32 P **P 01 11 50.1 0.0**
MDM IAmb IAmb 01 11 59.6
comp=Z,32nm,1.4s
SML Sawmill 49.62 36 IAmb IAmb 01 11 56.0
comp=Z,15nm,0.9s
COLA College 49.69 32 *i*P **P 01 11 53.0 +1.7**
COLA pmax pmax
comp=Z,34nm,2.1s
CCB Clear Creek Bu 49.71 32 P **P 01 11 51.9 +0.4**
KZA Kyzart 49.76 298 P **P 01 11 56.1 +3.3**
SNR=7.5
KBK Karagaybulak 49.80 298 P **P 01 11 53.1 +0.3**
SNR=20
CHMS Chumysh 49.85 299 P **P 01 11 53.3 +0.4**
SNR=8.2
POKR Poker Plat Res 49.85 32 P **P 01 11 54.2 +1.6**
baz=272
USP Ospenovka 49.95 299 P **P 01 11 53.7 0.0**
SNR=12
KSH Kashi 50.01 294 P **P 01 11 58.5 +4.2**
KSH ScP **ScP 01 17 12.5 +3.0**
KSH S **S 01 19 10.8 +6.0**
KSH sS sS 01 19 17.3 +5.2
KSH ScS **ScS 01 21 47.5 +2.0**
KSH pmax pmax
comp=Z,46nm,1.3s
KSH pmax pmax
comp=Z,450nm,5.0s
KSH LR LR
comp=Z,2µm,15.4s
KSH LR LR
comp=Z,610nm,11.7s
KSH LR LR
comp=Z,1µm,14.1s
MTN Manton Dam 50.08 192 P **P 01 11 54.7 -0.1**
HDA Harding Lake 50.09 33 P **P 01 11 55.6 +1.1**
baz=273
HDA Harding Lake 50.09 33 P **P 01 11 53.6 -0.9**
HDA IAmb IAmb 01 12 07.0
comp=Z,18nm,1.2s
ILAR Eielson Array 50.10 32 P **P 01 11 55.5 +1.0**
comp=Z,3.3nm,0.7s,baz=269,slow=6.2,SNR=49
ILAR LR LR 01 34 37.4
comp=Z,281nm,19.9s,baz=288,slow=38
PLAI Plampang 50.13 210 P **P 01 11 52.6 -2.6**
comp=Z,56nm,0.9s
AAK Ala-Archa 50.13 298 *i*P **P 01 11 55.4 +0.1**
SNR=9.9
AAK Ala-Archa 50.13 298 *ce*P **P 01 11 53.9 -1.4**
AAK pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 50.13 298 P **P 01 11 55.2 -0.1**
comp=Z,6.7nm,0.8s,baz=122,slow=3.5,SNR=15
AAK Ala-Archa 50.13 298 P **P 01 11 54.9 -0.4**
BVAR Borovoye Array 50.37 312 P **P 01 11 56.1 -0.6**
comp=Z,12nm,0.6s,baz=79,slow=7.7,SNR=53
BRVK Borovoye 50.42 312 *i*P **P 01 11 56.5 -0.6**
BRVK pmax pmax
comp=Z,22nm,1.0s
BRVK Borovoye 50.42 312 P **P 01 11 56.6 -0.6**
BRVK IAmb IAmb 01 11 60.0
comp=Z,17nm,0.8s
COEN Coen 50.43 177 P **P 01 11 56.8 -0.6**
AML Almayashu 50.85 298 P **P 01 12 01.6 +0.6**
SNR=22
PSI Prapat 51.11 239 P **P 01 12 03.2 +0.3**
PSI pmax pmax
comp=Z,7.0nm,0.8s
JAGI Jajag, Banyuwa 51.36 214 P **P 01 12 03.4 -1.2**
DOT Dot Lake 51.42 34 P **P 01 12 04.0 -0.6**
ARSB Arslanbob 51.60 297 P **P 01 12 06.8 +0.4**
ARSB IAmb IAmb 01 12 15.6
comp=Z,26nm,0.9s
UGM Wanagama 52.62 219 P **P 01 12 12.9 -1.1**
KK31 Karatay Array 52.78 300⇑ *e*P **P 01 12 14.7 -0.3**
KK31 pmax pmax
comp=Z,21nm,1.0s
KK31 Karatay Array 52.78 300 P **P 01 12 14.6 -0.4**
KK31 IAmb IAmb 01 12 17.0
comp=Z,27nm,1.1s
KKAR Karatay Array 52.78 300 P **P 01 12 14.5 -0.5**

KKAR pmax pmax
comp=Z,27nm,1.1s
KKAR Karatay Array 52.78 300 P **P 01 12 14.5 -0.5**
KKAR IAmb IAmb 01 12 17.0
comp=Z,27nm,1.1s
GSI Gunungsitoli 53.12 239 P **P 01 12 16.8 -0.9**
DAWY Dawson 53.41 33 P **P 01 12 19.8 +0.5**
EPYK Eagle Plains 54.12 30 P **P 01 12 26.2 +1.8**
baz=280
EPYK Eagle Plains 54.12 30 P **P 01 12 24.9 +0.5**
NIL Nilore 54.16 288 P **P 01 12 25.4 +0.2**
NIL pmax pmax
comp=Z,17nm,1.0s
NIL Nilore 54.16 288 P **P 01 12 25.4 +0.2**
NIL IAmb IAmb 01 12 37.7
comp=Z,17nm,1.0s
GAR Garm 54.31 295 P **P 01 12 26.4 +0.1**
GAR IAmb IAmb 01 12 38.0
comp=Z,34nm,1.3s
INK Inuvik 54.96 27 P **P 01 12 32.0 +1.6**
comp=Z,7.2nm,0.9s,baz=273,slow=8.8,SNR=16
INK Inuvik 54.96 27 IAmb IAmb 01 12 38.8
comp=Z,11nm,0.7s
SVE Sverdlovsk 55.01 319⇓ *e*P **P 01 12 31.4 +0.4**
SVE pmax pmax
comp=Z,39nm,0.9s
SVE MLR MLR
comp=Z,1µm,17.0s
WHY Whitehorse 56.22 36 P **P 01 12 40.4 +0.6**
WHY IAmb IAmb 01 12 50.5
comp=Z,15nm,1.1s
ARU Arti 56.23 319 *d i*P **P 01 12 39.4 -0.3**
ARU 01 14 42.6
ARU S **S 01 20 29.2 +0.5**
ARU SS **SS 01 24 13.3 -1.5**
ARU pmax pmax
comp=Z,38nm,0.9s
ARU MLR MLR
comp=Z,680nm,15.0s
ARU Arti 56.23 319 P **P 01 12 39.3 -0.5**
comp=Z,12nm,0.8s,baz=54,slow=2.7,SNR=39
ARU Arti 56.23 319 P **P 01 12 39.9 +0.2**
FITZ Fitzroy Crossi 56.31 197 P **P 01 12 40.6 -0.1**
WRAB Tennant Creek 56.63 187 *ce*P **P 01 12 42.4 -0.6**
WRAB pmax pmax
comp=Z,60nm,1.3s
WRAB Tennant Creek 56.63 187 P **P 01 12 42.6 -0.4**
WR0 Warramunga Arr 56.64 187 P **P 01 12 42.3 -0.7**
WRA Warramunga Arr 56.64 187 P **P 01 12 41.8 -1.3**
WRA pmax pmax
comp=Z,3.0nm,1.0s
WRA Warramunga Arr 56.64 187 P **P 01 12 42.6 -0.5**
comp=Z,28nm,0.9s,baz=4.4,slow=7.5,SNR=157
WRA LR LR 01 36 40.1
comp=Z,192nm,18.4s,baz=15,slow=36
WRA Warramunga Arr 56.64 187 P **P 01 12 41.8 -1.3**
CTA Charters Tower 56.72 174 LR LR 01 35 45.3
comp=Z,323nm,21.5s,baz=357,slow=35
CTAO Charters Tower 56.72 174 P **P 01 12 44.7 +1.2**
KBL Kabul 56.98 291 P **P 01 12 45.2 -0.6**
KBL pmax pmax
comp=Z,16nm,1.2s
KBL Kabul 56.98 291 P **P 01 12 45.1 -0.6**
KBL IAmb IAmb 01 12 46.6
comp=Z,16nm,1.1s
HYB Hyderabad 57.60 268 *i*P **P 01 12 48.0 -2.1**
AB31 Akbulak array 57.71 310⇑ *e*P **P 01 12 49.7 -0.6**
AB31 pmax pmax
comp=Z,24nm,1.1s
ABKAR Akbulak array 57.71 310 P **P 01 12 49.6 -0.8**
ABKAR IAmb IAmb 01 12 54.5
comp=Z,18nm,0.9s
C36M Paulatuk 57.99 25 P **P 01 12 53.2 +1.3**
baz=289
AKTO Aktyubinsk 58.46 312 P **P 01 12 55.3 -0.3**
comp=Z,9.9nm,1.0s,baz=67,slow=8.7,SNR=16
KIRV Kirov 60.16 323 P **P 01 13 07.0 -0.2**
comp=Z,41nm,0.7s,baz=47,slow=4.5,SNR=12
AS31 Alice Springs 60.37 187 P **P 01 13 08.9 -0.1**
ASAR Alice Springs 60.37 187 P **P 01 13 08.9 -0.1**
comp=Z,15nm,0.8s,baz=10,slow=5.7,SNR=121
ASAR LR LR 01 38 27.3
comp=Z,266nm,19.7s,baz=12,slow=35
PRGR Permogore 60.73 327 *e*P **P 01 13 06.4 -4.6**
PRGR pmax pmax
comp=Z,20nm,1.1s
KBS Kingsbay 60.89 350 *ce*P **P 01 13 12.6 +0.7**
KBS pmax pmax
comp=Z,152nm,1.3s
HRA Herat 62.11 294 P **P 01 13 21.1 -0.1**
HRA IAmb IAmb 01 13 26.0
comp=Z,13nm,0.8s
EIDS Eidsvold 62.50 169 P **P 01 13 22.3 -1.0**
TMCR Tamitsa 62.76 331 *e*P **P 01 13 24.4 -0.3**
TMCR pmax pmax
comp=Z,30nm,1.0s
RES Resolute Bay 63.08 14 P **P 01 13 27.1 +0.4**
comp=Z,7.7nm,0.8s,baz=308,slow=5.4,SNR=18
RES Resolute Bay 63.08 14 P **P 01 13 27.4 +0.7**
RES IAmb IAmb 01 13 32.6
comp=Z,9.4nm,0.8s
DZM Mont Dzumac 63.31 153 LR LR 01 38 30.0
comp=Z,283nm,20.4s,baz=28,slow=34
DZM Mont Dzumac 63.31 153 *e*P **P 01 13 31.0 +2.1**
comp=Z,133nm,1.2s
DZM Mont Dzumac 63.31 153 *e*LR LR 01 32 16.8
comp=Z,589nm,24.6s
DZM Mont Dzumac 63.31 153 P **P 01 13 28.4 -0.4**
GEYT Alibeck 63.48 299 P **P 01 13 29.7 -0.3**
comp=Z,5.6nm,1.0s,baz=55,slow=5.6,SNR=13
GEYT LR LR 01 42 57.4
comp=Z,182nm,19.9s,baz=155,slow=38
GYA0B ALIBECK ARRAY 63.48 299 P **P 01 13 29.9 -0.1**
GYA0B IAmb IAmb 01 13 42.1
comp=Z,8.5nm,0.8s
ARCES ARCESS Array B 64.11 339 P **P 01 13 33.6 0.0**
comp=Z,18nm,1.0s,baz=56,slow=8.7,SNR=15
ARCES LR LR 01 44 52.1
comp=Z,279nm,19.3s,baz=30,slow=39
YKA Yellowknife Ar 64.40 30 P **P 01 13 36.7 +1.2**
comp=Z,2.3nm,0.8s,baz=303,slow=6.9,SNR=24
MSVF Nonsavu 64.62 140 *i*P **P 01 13 35.7 -1.9**
MSVF pmax pmax
comp=Z,20nm,0.9s
MSVF Nonsavu 64.62 140 P **P 01 13 37.1 -0.4**
DAG Danmarks Havn 66.06 355 *i*P **P 01 13 46.0 -0.1**
DAG Danmarks Havn 66.06 355 *i*P **P 01 13 46.0 -0.1**
LLLB Lilloget 66.91 43 P **P 01 13 52.4 +0.4**
MOS Moscow 67.17 323 *e*P **P 01 13 52.3 -1.2**
MOS *e* 01 22 36.7
MOS *e* 01 23 21.5
MOS pmax pmax
comp=Z,39nm,1.3s
MOS MLR MLR
comp=Z,500nm,14.0s
AFI Afiamalu 67.37 129 LR LR 01 39 58.5
comp=Z,131nm,21.1s,baz=310,slow=33
NLWA Neilton Lookou 67.38 47 P **P 01 13 55.0 -0.1**
VRH Novokhopyorsk 67.44 318 *e*P **P 01 13 54.2 -1.1**
VRH pmax pmax
comp=Z,30nm,0.6s
ARMA Armidale 67.54 170 P **P 01 13 56.0 -0.2**
D03D Eldon 67.77 47 P **P 01 14 01.0 +3.5**
baz=300,SNR=8.5
B05A Bryant 67.97 46 P **P 01 14 00.9 +2.1**
baz=301
OBN Obninsk 68.02 323 *e*P **P 01 13 58.6 -0.2**
OBN *e* 01 14 24.4
OBN *e* 01 16 25.1
OBN pmax pmax
comp=Z,32nm,1.3s
OBN MLR MLR
comp=Z,536nm,15.0s
OBN Obninsk 68.02 323 P **P 01 13 58.5 -0.3**
comp=Z,4.5nm,0.7s,baz=279,slow=21,SNR=6.9
OBN Obninsk 68.02 323 P **P 01 13 58.9 0.0**
D04E Lakebay 68.14 47 P **P 01 14 01.7 +1.9**
baz=301
FORT Forrest 68.15 192 P **P 01 13 59.1 -0.8**
LPSR Galich'ya Gora 68.18 320 *e*P **P 01 13 59.1 -0.8**
LPSR pmax pmax
comp=Z,20nm,0.7s
STKA Stephens Creek 68.22 179 P **P 01 13 59.8 -0.4**
STKA pmax pmax
comp=Z,4.0nm,1.0s

STKA **Stephens Creek** 68.22 179 P **P** 01 14 00.5 +0.3
comp=Z,14nm,1.0s,baz=342,slow=7.8,SNR=20
STKA LR LR 01 43 46.2
comp=Z,194nm,21.0s,baz=13,slow=36
STKA **Stephens Creek** 68.22 179 P **P** 01 13 59.9 -0.4
E04D **Cinebar** 68.58 47 P **P** 01 14 05.8 +3.2
baz=301,SNR=7.9
D05A **Enumclaw** 68.59 47 P **P** 01 14 03.4 +0.8
D05A IAmb IAmb 01 14 06.5
comp=Z,18nm,1.2s
VSR **Storozhevoye** 68.80 319⇓*i* P **P** 01 14 03.1 -0.7
VSR pmax pmax
comp=Z,38nm,0.7s
AKT **Akhty** 68.81 306 *e*P **P** 01 14 05.7 +1.5
AKT *e* 01 14 30.0
AKT pmax pmax
comp=Z,38nm,1.2s
FINES **FINESS Array B** 68.84 332 P **P** 01 14 03.8 -0.1
comp=Z,19nm,0.8s,baz=26,slow=5.1,SNR=25
FINES LR LR 01 46 18.9
comp=Z,505nm,18.1s,baz=31,slow=38
G03D **McMinnville, O** 68.85 49 P **P** 01 14 06.5 +2.3
baz=301
VORD **Divnogorie** 68.86 318 *e*P **P** 01 14 02.0 -2.2
VORD pmax pmax
comp=Z,20nm,0.6s
LON **Longmire** 68.92 47 P **P** 01 14 04.5 -0.3
LON pmax pmax
comp=Z,7.0nm,1.0s
LON **Longmire** 68.92 47 P **P** 01 14 04.5 -0.3
COR **Corvallis** 69.15 50 P **P** 01 14 07.5 +1.4
COR pmax pmax
comp=Z,38nm,1.1s
COR **Corvallis** 69.15 50 P **P** 01 14 07.5 +1.4
BBOO **Buckleboo** 69.28 184 P **P** 01 14 06.4 -0.4
LTY **Liberty** 69.32 46 P **P** 01 14 08.2 +0.9
B08A **Colville Reser** 69.50 45 P **P** 01 14 09.2 +0.9
J01E **Myrtle Point** 69.50 51 P **P** 01 14 10.8 +2.4
baz=302
H04D **Lebanon** 69.53 49 P **P** 01 14 11.2 +2.7
baz=302
I03D **Drain, OR** 69.58 50 P **P** 01 14 11.5 +2.6
baz=302
H04A **Detroit Lake** 69.78 49 P **P** 01 14 10.5 +0.4
H04A IAmb IAmb 01 14 13.3
comp=Z,19nm,1.0s
GOF **Gofitskoye** 69.88 312⇑*e*P **P** 01 14 10.8 +0.2
GOF pmax pmax
comp=Z,23nm,1.1s
K02D **Willamette Mer** 69.91 51 P **P** 01 14 13.8 +2.8
baz=302
G05D **Wamic, OR** 70.01 48 P **P** 01 14 13.8 +2.4
baz=302
I04A **Tendick Farm,** 70.11 50 P **P** 01 14 14.1 +1.9
baz=302,SNR=6.3
E07A **Sunnyside** 70.17 46 P **P** 01 14 14.3 +1.9
E07A IAmb IAmb 01 14 15.8
comp=Z,16nm,1.1s
L02E **Cave Junction** 70.23 52 P **P** 01 14 15.1 +2.2
baz=302
C09A **Chrisman Ranch** 70.40 45 P **P** 01 14 15.4 +1.6
C09A IAmb IAmb 01 14 16.8
comp=Z,21nm,1.3s
G06A **Carlson Farm,** 70.42 48 IAmb IAmb 01 14 19.7
comp=Z,20nm,1.3s
HAWA **Hanford** 70.44 46 P **P** 01 14 16.1 +2.0
HAWA IAmb IAmb 01 14 19.7
comp=Z,18nm,1.2s
VSU **Vasula** 70.45 329*c**e*P **P** 01 14 14.0 +0.1
VSU pmax pmax
comp=Z,74nm,0.8s
VSU **Vasula** 70.45 329 *e*P **P** 01 14 13.9 +0.1
VSU IAmb IAmb 01 14 17.2
comp=Z,60nm,0.8s
I05D **Terrebonne, OR** 70.47 49 P **P** 01 14 16.1 +1.7
baz=303
F07A **Phinny Hill Vi** 70.48 47 P **P** 01 14 16.1 +1.8
F07A IAmb IAmb 01 14 17.7
comp=Z,20nm,1.0s
ZEI **Tsey** 70.56 309 *e*P **P** 01 14 12.9 -2.2
ZEI pmax pmax
comp=Z,4.0nm,0.7s
J04D **Umpqua Nationa** 70.59 50 P **P** 01 14 17.7 +2.4
baz=302
KBZ **Khabaz** 70.67 310 P **P** 01 14 15.8 +0.3
comp=Z,8.7nm,1.0s,baz=174,slow=3.6,SNR=8.8
KBZ LR LR 01 49 38.3
comp=Z,201nm,18.2s,baz=42,slow=40
KIV **Kislovodsk** 70.68 311 *i* P **P** 01 14 16.4 +0.7
SNR=8.2
KIV **Kislovodsk** 70.68 311 *e*P **P** 01 14 15.1 -0.6
KIV *e* 01 14 20.4
KIV *e* 01 14 35.4
KIV *e* 01 16 50.0
KIV *e*PPP PPP 01 18 34.4
KIV pmax pmax
comp=Z,25nm,1.0s
KIV MLR MLR
comp=Z,157nm,17.0s
KIV **Kislovodsk** 70.68 311 ⇓P **P** 01 14 16.8 +1.1
KIV mb 01 14 17.6
KIV **Kislovodsk** 70.68 311 P **P** 01 14 15.8 +0.1
NEW **Newport** 70.79 44 P **P** 01 14 17.9 +1.7
baz=304
NEW **Newport** 70.79 44 P **P** 01 14 17.2 +1.0
L04D **Klamath Falls** 71.02 51 P **P** 01 14 20.2 +2.4
baz=303,SNR=7.9
YBH **Yreka Blue Hor** 71.02 52 P **P** 01 14 19.4 +1.6
YBH pmax pmax
comp=Z,9.0nm,1.1s
YBH **Yreka Blue Hor** 71.02 52 P **P** 01 14 19.4 +1.6
SUMG **Summit** 71.03 360 *i* P **P** 01 14 18.6 +0.9
SUMG pmax pmax
comp=Z,41nm,0.9s
SUMG **Summit** 71.03 360 *i* P **P** 01 14 18.6 +0.9
comp=Z,41nm,0.9s
SUMG **Summit** 71.03 360 IAmb IAmb 01 14 25.9
comp=Z,19nm,1.0s
NEY **Neytrino** 71.04 310 *i* P **P** 01 14 20.2 +2.2
NEY pmax pmax
comp=Z,1.0nm,0.8s
J05D **Fort Rock, OR** 71.11 50 P **P** 01 14 21.2 +2.8
baz=303
M02C **Callahan** 71.11 52 P **P** 01 14 20.7 +2.3
baz=303,SNR=5.9
MSFE **Esma-Masafi** 71.16 288 P **P** 01 14 19.0 +0.2
G08A **Pilot Rock** 71.38 47 P **P** 01 14 21.6 +1.6
N02D **Trinity Center** 71.43 53 P **P** 01 14 23.2 +2.9
baz=303
GNI **Garni** 71.43 306 *i* P **P** 01 14 22.4 +2.0
GNI pmax pmax
comp=Z,24nm,1.2s
HATD **Hatta, Dubai** 71.47 287 P **P** 01 14 20.8 +0.2
M04C **Macdoel** 71.54 51 P **P** 01 14 23.6 +2.6
baz=303,SNR=8.5
ASHO **Ashiyiah** 71.60 287 P **P** 01 14 22.2 +0.7
WDC **Whiskeytown Da** 71.75 53 P **P** 01 14 22.4 +0.3
WDC pmax pmax
comp=Z,11nm,1.1s
WDC **Whiskeytown Da** 71.75 53 P **P** 01 14 22.4 +0.3
O02D **Mt. Diablo Mer** 71.81 53 P **P** 01 14 24.4 +1.8
baz=303,SNR=6.8
F10A **Beach Ranch, E** 72.01 46 P **P** 01 14 22.4 -1.3
CAN **Canberra** 72.06 173 P **P** 01 14 25.0 +1.2
CAN pmax pmax
comp=Z,61nm,1.4s
CAN **Canberra** 72.06 173 P **P** 01 14 25.0 +1.2
IZAR **Zarasai** 72.38 327 *e*P **P** 01 14 25.6 0.0
IZAR IAmb IAmb 01 14 28.6
comp=Z,10nm,0.5s
O03E **Paynes Creek** 72.38 53 P **P** 01 14 27.5 +1.5
baz=304,SNR=10.0
ISAL **Salakas** 72.55 327 *e*P **P** 01 14 27.3 +0.7
ISAL IAmb IAmb 01 14 30.6
comp=Z,18nm,0.6s
BMO **Blue Mountains** 72.60 47 IAmb IAmb 01 14 30.3
comp=Z,12nm,1.0s
IIGN **Ignalina** 72.64 327 *e*P **P** 01 14 27.3 +0.1
IIGN IAmb IAmb 01 14 35.8
comp=Z,14nm,0.9s
JTMT **Jette** 72.65 43 P **P** 01 14 29.0 +1.4
JTMT IAmb IAmb 01 14 36.5
comp=Z,22nm,1.3s
NACGM **Naroch** 72.68 326 *e* **P** 01 14 28.0 +0.6
ORV **Oroville** 72.98 53 IAmb IAmb 01 14 34.4
comp=Z,20nm,1.4s

WVOR **Wild Horse Val** 73.17 49 P **P** 01 14 30.9 +0.2
WVOR pmax pmax
comp=Z,20nm,1.4s
WVOR **Wild Horse Val** 73.17 49 P **P** 01 14 30.9 +0.2
WVOR IAmb IAmb 01 14 34.1
comp=Z,20nm,1.4s
ANN **Anapa** 73.34 314 *e*P P 01 14 25.7 -5.8
ANN *e**PP sP 01 14 37.0 -0.8
ANN *e* 01 17 11.7
ANN *e*S S 01 23 49.4 -10
ANN pmax pmax
comp=Z,37nm,1.3s
MSO **Missoula** 73.38 44 P **P** 01 14 33.5 +1.6
baz=306
MSO **Missoula** 73.38 44 IAmb IAmb 01 14 37.6
comp=Z,14nm,1.2s
PABE **Paberze** 73.52 328 *e*P **P** 01 14 32.5 +0.2
PABE IAmb IAmb 01 14 35.2
comp=Z,39nm,0.8s
BEKR **Beckworth** 73.54 52 P **P** 01 14 33.0 0.0
BEKR IAmb IAmb 01 14 35.9
comp=Z,18nm,1.0s
PBUR **Paburg** 74.02 329 *e*P **P** 01 14 35.2 -0.1
PBUR IAmb IAmb 01 14 42.9
comp=Z,144nm,1.3s
TOO **Toolangi** 74.03 176 P **P** 01 14 36.3 +0.9
TOO pmax pmax
comp=Z,30nm,1.4s
TOO **Toolangi** 74.03 176 P **P** 01 14 36.3 +0.9
TOO IAmb IAmb 01 14 37.2
comp=Z,30nm,1.4s
NC405 **NORSAR Array S** 74.06 337 P **P** 01 14 36.1 +0.7
NC405 IAmb IAmb 01 14 43.6
comp=Z,15nm,0.8s
RUBR **Rubicon Trail** 74.12 53 P **P** 01 14 37.2 +0.7
RUBR IAmb IAmb 01 14 42.1
comp=Z,16nm,0.9s
AKASG **Malin Array Be** 74.20 322 *i* P **P** 01 14 35.7 -0.7
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKASG **Malin Array Be** 74.20 322 P **P** 01 14 35.8 -0.6
comp=Z,9.2nm,0.6s,baz=46,slow=6.4,SNR=35
AKASG LR LR 01 49 54.4
comp=Z,563nm,19.7s,baz=40,slow=38
AKBB **Malin Array Si** 74.20 322 P **P** 01 14 36.5 0.0
AKBB pmax pmax
comp=Z,15nm,0.8s
AKBB **Malin Array Si** 74.20 322 P **P** 01 14 36.5 0.0
AKBB IAmb IAmb 01 14 38.5
comp=Z,15nm,0.8s
NC204 **NORSAR Array S** 74.23 337 P **P** 01 14 36.9 +0.4
NB201 **NORSAR Array S** 74.24 337 P **P** 01 14 37.2 +0.7
PAHR **Pah Rah Range** 74.25 52 P **P** 01 14 38.6 +1.5
PAHR IAmb IAmb 01 14 40.2
comp=Z,14nm,1.0s
NB2 **NORSAR Subarra** 74.27 337 P **P** 01 14 36.5 -0.2
comp=Z,3.5nm,0.6s,baz=41,slow=5.9
NOA **NORSAR Array B** 74.27 337 P **P** 01 14 37.0 +0.2
NOA **NORSAR Array B** 74.27 337 P **P** 01 14 37.0 +0.2
comp=Z,6.2nm,0.8s,baz=43,slow=5.4,SNR=16
NOA LR LR 01 50 16.3
comp=Z,790nm,19.0s,baz=25,slow=38
MFID **Camas Ranch** 74.29 47 P **P** 01 14 39.1 +1.8
MFID IAmb IAmb 01 14 40.5
comp=Z,21nm,1.4s
FFC **Flin Flon** 74.31 32 P **P** 01 14 38.2 +1.2
FFC pmax pmax
comp=Z,13nm,1.0s
FFC **Flin Flon** 74.31 32 P **P** 01 14 38.1 +1.2
FFC IAmb IAmb 01 14 41.6
comp=Z,13nm,0.9s
PNTR **Pine Nut** 74.46 53 P **P** 01 14 37.5 -1.0
PNTR IAmb IAmb 01 14 44.3
comp=Z,28nm,1.4s
CMB **Columbia Colle** 74.55 54 IAmb IAmb 01 14 41.9
comp=Z,20nm,1.1s
FCC **Fort Churchill** 74.57 26 P **P** 01 14 38.9 +0.5
FCC pmax pmax
comp=Z,26nm,1.2s
FCC **Fort Churchill** 74.57 26 P **P** 01 14 38.9 +0.5
FCC IAmb IAmb 01 14 41.3
comp=Z,26nm,1.2s
YERR **Yerington** 74.75 53 P **P** 01 14 41.8 +1.7
YERR IAmb IAmb 01 14 43.4
comp=Z,20nm,1.0s
SUW **Suwalki** 74.86 327 *e*P **P** 01 14 40.9 +0.7
SUW **Suwalki** 74.86 327 *e*P **P** 01 14 40.9 +0.7
SUW *e*P **P** 01 14 40.9 +0.7
WAKR **Walker** 74.90 53 P **P** 01 14 40.7 -0.3
WAKR IAmb IAmb 01 14 44.4
comp=Z,14nm,1.1s
EGMT **Eagleton** 74.92 41 P **P** 01 14 42.5 +1.7
baz=308
EGMT **Eagleton** 74.92 41 P **P** 01 14 41.6 +0.8
EGMT IAmb IAmb 01 14 43.5
comp=Z,16nm,0.9s
SIM **Simferopol'** 75.16 315 P **P** 01 14 42.4 +0.3
SIM pmax pmax
comp=Z,11nm,0.7s
PMPB **Monarch Peak** 75.31 56 P **P** 01 14 44.5 +1.3
PMPB IAmb IAmb 01 14 57.1
comp=Z,19nm,1.1s
RYN **Ryan** 75.41 53 P **P** 01 14 45.6 +1.7
RYN IAmb IAmb 01 14 47.2
comp=Z,17nm,1.2s
KVN **Kaiserville** 75.44 52 P **P** 01 14 45.5 +1.4
KVN pmax pmax
comp=Z,18nm,0.9s
KVN **Kaiserville** 75.44 52 P **P** 01 14 45.5 +1.4
KVN IAmb IAmb 01 14 47.4
comp=Z,18nm,0.9s
NVAR **Mina Array Bea** 75.67 53 P **P** 01 14 47.4 +2.0
comp=Z,9.2nm,0.9s,baz=289,slow=5.8,SNR=50
NVAR LR LR 01 41 14.1
comp=Z,104nm,20.9s,baz=300,slow=30
OMMB **Old Mammoth Mi** 75.69 54 IAmb IAmb 01 14 49.0
comp=Z,15nm,1.3s
NV11 **Mina Array Sit** 75.76 53 P **P** 01 14 44.6 -1.3
NV11 IAmb IAmb 01 14 49.2
comp=Z,26nm,1.4s
PAGB **Antelope Grade** 75.95 56 P **P** 01 14 46.5 -0.4
PAGB IAmb IAmb 01 14 50.3
comp=Z,27nm,1.1s
QLMT **Earthquake Lak** 75.98 44 P **P** 01 14 46.2 -0.9
YHL **Hebgen Lake** 76.11 44 P **P** 01 14 47.5 -0.4
YHB **Horse Butte** 76.16 44 P **P** 01 14 47.4 -0.8
ELK **Elko** 76.22 49 P **P** 01 14 49.5 +0.9
ELK pmax pmax
comp=Z,8.0nm,1.0s
ELK **Elko** 76.22 49 P **P** 01 14 49.5 +0.9
SORM **Soroca** 76.28 320 P **P** 01 14 48.4 0.0
SORM **Soroca** 76.28 320 ⇓P **P** 01 14 48.5 0.0
YMR **Madison River** 76.34 44 P **P** 01 14 48.7 -0.5
KVT **Kavak** 76.35 311 P **P** 01 14 51.3 +2.2
GCMT **Greycliff** 76.36 43 P **P** 01 14 48.9 -0.3
YNR **Norris Junctio** 76.47 44 P **P** 01 14 49.0 -1.0
MALT **Malatya** 76.52 308 P **P** 01 14 52.0 +1.9
VES **Vestal, Richgr** 76.66 55 P **P** 01 14 51.7 +0.9
baz=306,SNR=6.9
LKWY **Lake** 76.72 44 P **P** 01 14 50.6 -0.8
LKWY pmax pmax
comp=Z,17nm,1.0s
LKWY **Lake** 76.72 44 P **P** 01 14 50.6 -0.8
LKWY IAmb IAmb 01 14 58.6
comp=Z,18nm,1.0s
H17A **Grant Village** 76.73 44 P **P** 01 14 55.5 +4.1
baz=309
PKM **Mcpherson Peak** 76.73 56 P **P** 01 14 54.1 +2.6
baz=306
YMP **Mirror Lake Pl** 76.75 44 P **P** 01 14 50.5 -1.0
MILM **Milestii Mici** 76.82 319 ⇓P **P** 01 14 51.5 0.0
IMW **Indian Meadow** 76.83 45 P **P** 01 14 51.2 -0.9
IMW IAmb IAmb 01 14 55.8
comp=Z,12nm,0.8s
FLWY **Flagg Ranch** 76.86 45 P **P** 01 14 51.0 -1.1
FLWY IAmb IAmb 01 14 58.8
comp=Z,19nm,1.1s
FXWY **Fox Creek** 76.95 45 P **P** 01 14 51.2 -1.4
CWC **Cottonwood Cre** 76.97 54 P **P** 01 14 54.7 +1.8
baz=306
RLMT **Red Lodge** 77.00 43 P **P** 01 14 54.8 +2.0
baz=309
MOOW **Moose Ponds** 77.04 45 P **P** 01 14 52.3 -0.8
MOOW IAmb IAmb 01 15 02.6
comp=Z,14nm,1.2s

TPAW **Teton Pass** 77.08 45 P **P** 01 14 52.7 -0.8
TPAW IAmb IAmb 01 14 59.5
comp=Z,17nm,1.2s
GRAC **Grapevine Rang** 77.11 53 P **P** 01 14 54.9 +1.5
baz=306
ISA **Isabella, Lake** 77.17 55 P **P** 01 14 55.0 +1.1
baz=306
ISA **Isabella, Lake** 77.17 55 P **P** 01 14 52.8 -1.0
ISA pmax pmax
comp=Z,4.0nm,1.0s
ISA **Isabella, Lake** 77.17 55 P **P** 01 14 52.8 -1.0
SNOW **Snow King Moun** 77.21 45 P **P** 01 14 53.4 -0.7
SNOW IAmb IAmb 01 14 57.8
comp=Z,11nm,1.0s
REDW **Red Top Meadow** 77.22 45 P **P** 01 14 52.8 -1.4
REDW IAmb IAmb 01 14 57.6
comp=Z,14nm,1.1s
IAS **Iasi** 77.30 320 P **P** 01 14 54.5 +0.3
IAS **Iasi** 77.30 320 ⇓P **P** 01 14 54.5 +0.3
LVV **L'vov** 77.31 324 *e*P **P** 01 14 54.8 +0.6
BEL **Belsk** 77.41 327 *e*P **P** 01 14 55.7 +1.0
BEL **Belsk** 77.41 327 *e*P **P** 01 14 55.7 +1.0
BEL *e*P **P** 01 14 55.7 +1.0
LEOM **Leova** 77.41 319 P **P** 01 14 56.5 +1.7
R11A **Troy Canyon, C** 77.44 51 P **P** 01 14 58.1 +2.7
baz=307
R11A **Troy Canyon, C** 77.44 51 P **P** 01 14 54.5 -0.9
R11A IAmb IAmb 01 14 58.7
comp=Z,27nm,1.2s
DGMT **Dagmar** 77.47 38 P **P** 01 14 57.1 +1.8
baz=312
DGMT **Dagmar** 77.47 38 IAmb IAmb 01 15 00.3
comp=Z,21nm,1.1s
VASR **Vaslui** 77.54 319 ⇑P **P** 01 14 56.5 +0.9
VASR mb 01 14 58.2
MPMC **Manual Prospec** 77.58 54 P **P** 01 14 58.3 +2.0
baz=307,SNR=11
LAO **LASA Array** 77.62 40 P **P** 01 14 58.2 +2.1
baz=311
LAO **LASA Array** 77.62 40 IAmb IAmb 01 14 58.6
comp=Z,22nm,1.2s
FURC **Furnace Creek,** 77.75 54 P **P** 01 14 58.7 +1.8
baz=307
ILGA **Ilgaz** 77.77 312 IAmb IAmb 01 15 01.2
comp=Z,15nm,0.8s
LRMC **Laurel Mtn Rad** 77.80 55 P **P** 01 14 58.5 +1.1
baz=307
TPNV **Topopah Spring** 77.86 53 P **P** 01 14 59.5 +1.8
baz=307,SNR=22
PRAR **RASCA** 77.87 321 ⇑P **P** 01 14 57.5 0.0
PRAR mb 01 15 06.1
HWUT **Hardware Ranch** 77.90 47 IAmb IAmb 01 15 01.3
comp=Z,29nm,1.2s
EDW2 **Edwards Air Fo** 77.95 56 P **P** 01 14 59.8 +1.7
baz=307,SNR=9.4
GAZ **Gaziantep** 77.97 307 IAmb IAmb 01 15 01.6
comp=Z,13nm,0.9s
DUG **Dugway, Tooele** 78.03 49 P **P** 01 15 00.7 +2.1
baz=308
DUG **Dugway, Tooele** 78.03 49 IAmb IAmb 01 15 02.0
comp=Z,13nm,0.9s
KWP **Kalwaria Pacla** 78.06 324 *e*P **P** 01 14 59.6 +1.2
KWP **Kalwaria Pacla** 78.06 324 *e*P **P** 01 14 59.6 +1.2
KWP *e*P **P** 01 14 59.6 +1.2
BURAR **Bucovina Array** 78.21 321 P **P** 01 14 59.9 +0.5
BURAR **Bucovina Array** 78.21 321 ⇑P **P** 01 14 60.0 +0.5
BURAR mb 01 15 00.9
BIZ **Bicaz** 78.21 320 ⇑P **P** 01 15 00.1 +0.8
TESR **Tescani** 78.22 320 ⇑P **P** 01 14 59.7 +0.3
MWC **Mount Wilson** 78.29 56 P **P** 01 14 59.6 -0.6
MWC pmax pmax
comp=Z,9.0nm,1.0s
MWC **Mount Wilson** 78.29 56 P **P** 01 14 59.6 -0.6
BW06 **Boulder Array** 78.33 45 P **P** 01 15 01.7 +1.3
baz=310
PDAR **Pinedale Array** 78.33 45 P **P** 01 15 01.7 +1.3
comp=Z,4.0nm,0.8s,baz=273,slow=2.1,SNR=37
PDAR LR LR 01 47 18.8
comp=Z,84nm,21.0s,baz=352,slow=34
TOPG **Topolog** 78.38 318 ⇑P **P** 01 15 00.8 +0.6
PETR **Petresti** 78.43 319 ⇑P **P** 01 15 02.1 +1.6
GSC **Goldstone, Bar** 78.48 55 P **P** 01 15 02.7 +1.5
baz=307,SNR=7.0
ODBI **Odobesti** 78.50 319 ⇑P **P** 01 15 01.7 +0.8
ODBI mb 01 15 05.7
CIS **Catalina Islan** 78.54 57 P **P** 01 15 02.7 +1.2
baz=307
BFSC **Mount Baldy Ra** 78.55 56 P **P** 01 15 03.3 +1.7
baz=307
VRI **Vrincioaia** 78.60 319 P **P** 01 15 03.0 +1.5
VRI **Vrincioaia** 78.60 319 ⇓P **P** 01 15 03.0 +1.5
NLU **North Lily Min** 78.62 48 P **P** 01 15 01.8 -0.2
BRTR **Keskin Array B** 78.63 311 P **P** 01 15 02.0 0.0
comp=Z,5.7nm,1.0s,baz=100,slow=5.1,SNR=20
PLOR **Plostina** 78.65 319 P **P** 01 15 02.2 +0.4
PLOR **Plostina** 78.65 319 ⇑P **P** 01 15 02.3 +0.4
HARR **Harsova** 78.74 318 P **P** 01 15 03.0 +0.8
HARR **Harsova** 78.74 318 ⇑P **P** 01 15 03.1 +0.8
HARR mb 01 15 05.9
KOLS **Kolonicke sedl** 78.75 324 *e*P **P** 01 15 02.9 +0.6
KOLS pmax pmax
comp=Z,11nm,1.3s
KOLS **Kolonicke sedl** 78.75 324 *e*P **P** 01 15 02.9 +0.6
SHPR **Sheep Range** 78.82 53 IAmb IAmb 01 15 06.5
comp=Z,18nm,1.2s
MPU **Maple Canyon** 78.85 48 P **P** 01 15 02.7 -0.5
OZUR 78.94 320 ⇓P **P** 01 15 04.5 +1.1
UZH **Uzhgorod** 78.95 324 *e*P **P** 01 15 00.0 -3.3
UZH *e* 01 15 12.2
TUQ **Turquoise Moun** 78.97 54 P **P** 01 15 05.6 +1.7
baz=307,SNR=16
OJC **Ojcow** 78.99 326 *e*P **P** 01 15 04.4 +0.8
OJC **Ojcow** 78.99 326 *e*P **P** 01 15 04.4 +0.8
OJC *e*P **P** 01 15 04.4 +0.8
ARCR **ARCALIA** 79.00 321 ⇑P **P** 01 15 05.1 +1.4
HEC **Hector,Ludlow** 79.07 55 P **P** 01 15 07.3 +2.9
baz=307
PGOR **Pogoanele** 79.10 318 ⇑P **P** 01 15 05.4 +1.2
PGOR mb 01 15 10.0
TRPA **Tarpa** 79.18 323 ⇑P **P** 01 15 05.6 +1.0
TRPA mb 01 15 13.2
TRPA **Tarpa** 79.18 323 *e*P **P** 01 15 05.1 +0.5
DOPR **Dopca** 79.23 320 ⇑P **P** 01 15 06.2 +1.3
MLR **Muntele Rosu** 79.26 319 P **P** 01 15 06.1 +0.8
MLR **Muntele Rosu** 79.26 319 ⇓P **P** 01 15 06.2 +0.8
NIE **Niedzica** 79.33 325 *e*P **P** 01 15 06.0 +0.5
NIE **Niedzica** 79.33 325 *e*P **P** 01 15 06.0 +0.5
NIE *e*P **P** 01 15 06.0 +0.5
MSU **Marysvale** 79.46 50 P **P** 01 15 06.1 -0.5
MSU **Marysvale** 79.46 50 P **P** 01 15 06.1 -0.5
GMRC **Granite Mounta** 79.54 54 P **P** 01 15 08.6 +1.6
baz=308,SNR=8.9
CJR **Cluj-Napoca** 79.63 321 P **P** 01 15 08.5 +1.3
CJR **Cluj-Napoca** 79.63 321 ⇑P **P** 01 15 08.5 +1.3
RDMU **Red Mountain** 79.72 47 P **P** 01 15 07.2 -0.8
PFO **Pinyon Flats O** 79.72 56 P **P** 01 15 09.5 +1.4
baz=308,SNR=8.3
PFO **Pinyon Flats O** 79.72 56 P **P** 01 15 09.8 +1.8
PFO pmax pmax
comp=Z,18nm,1.2s
LCMT **Little Creek M** 79.73 51 P **P** 01 15 06.6 -1.4
XPFO **Pion Flat** 79.73 56 P **P** 01 15 07.5 -0.6
XPFO IAmb IAmb 01 15 10.8
comp=Z,20nm,1.2s
TPFO **Pinon Flats** 79.73 56 P **P** 01 15 09.4 +1.3
baz=308,SNR=7.3
VOIR 79.76 320 P **P** 01 15 08.5 +0.5
VOIR 79.76 320 ⇑P **P** 01 15 08.5 +0.5
BELC **Belle Mtn. Jos** 79.79 55 P **P** 01 15 09.6 +1.2
baz=308,SNR=5.7
LANS **Liptovska Anna** 79.91 325 *e*P **P** 01 15 10.5 +1.9
LANS pmax pmax
comp=Z,7.0nm,0.7s
LANS **Liptovska Anna** 79.91 325 *e*P **P** 01 15 10.5 +1.9
KECS **Kecovo** 79.91 324 *e*P **P** 01 15 11.0 +2.4
KECS pmax pmax
comp=Z,4.0nm,0.7s
KECS **Kecovo** 79.91 324 *e*P **P** 01 15 11.0 +2.4
OKC **Ostrava-Krasne** 80.01 326 *e*P **P** 01 15 09.1 0.0
OKC **Ostrava-Krasne** 80.01 326 *e*P **P** 01 15 09.1 0.0
DRGR 80.02 322 P **P** 01 15 10.0 +0.6
DRGR pmax pmax
comp=Z,22nm,1.1s
DRGR 80.02 322 ⇑P **P** 01 15 09.9 +0.6

ARR Arges 80.03 320 ⇑P P 01 15 10.7 +1.3
KSP Ksiaz 80.08 328 *e*P P 01 15 10.4 +0.9
KSP Ksiaz 80.08 328 *e*P P 01 15 10.4 +0.9
KSP *e*P P 01 15 10.4 +0.9
K22A Casper 80.11 44 P P 01 15 10.9 +0.9
baz=311
ULM Lac du Bonnet 80.11 33 P P 01 15 10.1 +0.4
comp=Z,8.2nm,0.8s,baz=320,slow=6.7,SNR=16
ULM LR LR 01 53 51.2
comp=Z,257nm,18.2s,baz=333,slow=38
MDND Maddock 80.14 36 P P 01 15 11.6 +1.8
baz=315
MDND Maddock 80.14 36 IAmb IAmb 01 15 12.2
comp=Z,20nm,0.7s
MONP2 Monument Peak 80.18 56 P P 01 15 12.7 +2.1
baz=308
RAYN Ar Rayn 80.24 292 *i* P P 01 15 10.5 -0.3
SNR=8.6
RAYN Ar Rayn 80.24 292 P P 01 15 10.8 0.0
RAYN pmax pmax
comp=Z,23nm,1.4s
RAYN Ar Rayn 80.24 292 P P 01 15 10.8 0.0
RAYN IAmb IAmb 01 15 11.9
comp=Z,23nm,1.4s
IRM Iron Mountain 80.26 55 P P 01 15 12.4 +1.6
baz=308,SNR=6.8
MORC Moravsky Berou 80.32 327 P P 01 15 10.9 +0.1
MORC Moravsky Berou 80.32 327 ⇑P P 01 15 10.9 +0.1
MORC mb 01 15 13.2
MORC Moravsky Berou 80.32 327 *e*P P 01 15 11.5 +0.6
OSTC Ostas 80.33 328 *e*P P 01 15 11.5 +0.7
BC3 Big Chuckawall 80.36 55 P P 01 15 12.9 +1.5
baz=308,SNR=7.6
CHVC Chvalec 80.37 328 *e*P P 01 15 11.8 +0.7
DPC Dobruska-Polom 80.43 328 *e*P P 01 15 12.1 +0.7
DPC MLR MLR
comp=Z,900nm,15.6s
DPC Dobruska-Polom 80.43 328 *e*P P 01 15 12.1 +0.7
DPC AMS AMS 01 55 10.0
comp=Z,900nm,15.6s
KRLC Kraliky 80.44 327 AMS AMS 01 54 50.0
comp=Z,1µm,21.0s
RAR Rarotonga 80.44 125 LR LR 01 46 04.0
comp=Z,130nm,19.1s,baz=280,slow=32
UPC Upice 80.45 328 *e*P P 01 15 11.9 +0.4
UPC Upice 80.45 328 *e*P P 01 15 11.9 +0.4
RSSD Black Hills 80.48 41 P P 01 15 13.2 +1.2
baz=313
RSSD Black Hills 80.48 41 P P 01 15 11.8 -0.3
RSSD pmax pmax
comp=Z,6.0nm,1.0s
RSSD Black Hills 80.48 41 P P 01 15 11.8 -0.3
IKP In-Ko-Pah, Jac 80.54 56 P P 01 15 13.8 +1.4
baz=308,SNR=5.9
DEV Deva 80.56 321 P P 01 15 13.0 +0.9
DEV Deva 80.56 321 ⇑P P 01 15 13.1 +0.9
SWSC Sam W. Stewart 80.56 56 P P 01 15 14.1 +1.7
baz=308
PSZ Piszkesteto 80.59 324 P P 01 15 12.5 +0.2
PSZ pmax pmax
comp=Z,28nm,1.1s
PSZ Piszkesteto 80.59 324 ⇑P P 01 15 13.3 +0.9
PSZ mb 01 15 17.7
PSZ Piszkesteto 80.59 324 *e*P P 01 15 13.0 +0.6
PSZ Piszkesteto 80.59 324 P P 01 15 12.6 +0.2
PSZ IAmb IAmb 01 15 17.7
comp=Z,28nm,1.1s
VYHS Vyhne 80.67 325 *e*P P 01 15 13.7 +1.0
VYHS pmax pmax
comp=Z,12nm,1.2s
VYHS Vyhne 80.67 325 *e*P P 01 15 13.7 +1.0
U15A North Rim 80.69 51 IAmb IAmb 01 15 17.8
comp=Z,22nm,1.3s
O20A White River Ci 80.78 46 P P 01 15 14.9 +1.3
baz=311
O20A White River Ci 80.78 46 IAmb IAmb 01 15 16.3
comp=Z,14nm,1.0s
SIRR Siria 80.91 322 ⇑P P 01 15 14.7 +0.7
Y12C Blythe 80.92 55 P P 01 15 16.1 +1.8
baz=308,SNR=7.3
Y12C Blythe 80.92 55 IAmb IAmb 01 15 17.2
comp=Z,19nm,1.2s
GZR Gura Zlata 80.96 321 ⇑P P 01 15 14.8 +0.4
ELND Elena 81.02 318 ⇑P P 01 15 13.6 +0.6
BRG Berggiesshubel 81.04 329 *e*P P 01 15 14.8 +0.1
comp=Z,16nm,1.1s
BRG Berggiesshubel 81.04 329 P P 01 15 15.5 +0.9
VRAC Vranov 81.08 327 P P 01 15 15.8 +0.9
VRAC Vranov 81.08 327 ⇑P P 01 15 15.8 +0.9
VRAC mb 01 15 17.5
VRAC Vranov 81.08 327 *e*P P 01 15 15.7 +0.9
CLL Collm 81.10 330 ⇓ *i*P P 01 15 14.6 -0.3
CLL pmax pmax
comp=Z,23nm,0.9s
CLL Collm 81.10 330 ⇓ *i*P P 01 15 14.6 -0.3
comp=Z,23nm,0.9s
CLL Collm 81.10 330 IAmb IAmb 01 15 17.6
comp=Z,22nm,0.8s
GLA Glamis 81.15 55 P P 01 15 18.0 +2.4
baz=308
KRUC Moravsky 81.35 327 *e*P P 01 15 16.9 +0.6
PLVB Pleven 81.38 319 ⇑P P 01 15 16.9 +0.4
BZS Buzias 81.39 322 P P 01 15 17.1 +0.5
BZS pmax pmax
comp=Z,46nm,2.2s
BZS Buzias 81.39 322 ⇑P P 01 15 16.6 0.0
SRO Srobarova 81.40 325 *e*P P 01 15 17.6 +1.0
SRO pmax pmax
comp=Z,18nm,0.8s
SRO Srobarova 81.40 325 *e*P P 01 15 17.6 +1.0
GOPC GO Pecny, Ondr 81.42 328 *e*P P 01 15 16.9 +0.2
GOPC GO Pecny, Ondr 81.42 328 *e*P P 01 15 16.9 +0.2
PRA Prague 81.45 328 *e*P P 01 15 17.6 +0.8
PRA Prague 81.45 328 *e*P P 01 15 17.6 +0.8
PRU Pruhonice 81.46 328 *e*P P 01 15 17.2 +0.3
PRU MLR MLR
comp=Z,900nm,16.6s
PRU Pruhonice 81.46 328 *e*P P 01 15 17.2 +0.3
PRU AMS AMS 01 55 20.0
comp=Z,900nm,16.6s
MODS Modra-Piesok 81.47 326 *e*P P 01 15 17.8 +0.8
MODS pmax pmax
comp=Z,12nm,0.8s
MODS Modra-Piesok 81.47 326 *e*P P 01 15 17.8 +0.8
TREC Trest 81.58 327 AMS AMS 01 55 30.0
comp=Z,1µm,15.7s
N23A Red Feather La 81.60 45 P P 01 15 20.1 +1.9
baz=312
N23A Red Feather La 81.60 45 IAmb IAmb 01 15 24.6
comp=Z,34nm,1.4s
PUNG Punghina 81.66 320 ⇓P P 01 15 18.2 +0.2
WUAZ Wupatki 81.84 52 P P 01 15 21.2 +1.8
baz=310,SNR=8.2
WUAZ Wupatki 81.84 52 IAmb IAmb 01 15 22.6
comp=Z,14nm,1.0s
NKC Novy Kostel 82.15 329 *e*P P 01 15 20.8 +0.3
NKC Novy Kostel 82.15 329 *e*P P 01 15 20.8 +0.3
MPLH Magyarpolny 82.23 325 *e*P P 01 15 20.1 -0.9
TIH Tihany 82.27 324 *e*P P 01 15 20.0 -1.1
MORH Mrgy, Hungar 82.41 324 *e*P P 01 15 21.1 -0.8
CONA Conrad Observa 82.44 326 *i* pP P 01 15 23.2 +1.0
comp=Z,11nm,1.3s
X16A Lo Mia Camp, P 82.49 53 IAmb IAmb 01 15 26.3
comp=Z,15nm,1.3s
ISCO Idaho Springs 82.52 45 P P 01 15 25.7 +2.6
baz=312
KHC Kasperske Hory 82.52 328 *e*P P 01 15 22.8 +0.3
KHC Kasperske Hory 82.52 328 *e*P P 01 15 22.8 +0.3
MVCO Mesa Verde 82.53 49 P P 01 15 24.8 +1.7
baz=311,SNR=7.7
MVCO Mesa Verde 82.53 49 IAmb IAmb 01 15 25.4
comp=Z,14nm,1.2s
FRGS Fruska Gora 82.61 322 *e*P P 01 15 22.3 -0.7
VTS Vitosha 82.65 319 ⇑P P 01 15 24.3 +0.8
VTS mb 01 15 26.8
VTS Vitosha 82.65 319 IAmb IAmb 01 15 26.8
comp=Z,11nm,0.9s
GEC2 GERESS Array S 82.69 328 IAmb IAmb 01 15 25.6
comp=Z,6.9nm,0.8s
GERES GERESS Array B 82.69 328 P P 01 15 23.1 -0.4
comp=Z,4.1nm,0.6s,baz=38,slow=5.9,SNR=33
ELL Elmali 82.79 311 P P 01 15 27.8 +3.5
ARSA Arzberg 83.09 326 *i* pP P 01 15 25.9 +0.4
comp=Z,9.8nm,1.3s
W18A Petrified Fore 83.12 51 P P 01 15 27.5 +1.4
baz=310
214A Organ Pipe Nat 83.16 55 P P 01 15 27.7 +1.6
baz=309
214A Organ Pipe Nat 83.16 55 IAmb IAmb 01 15 29.1
comp=Z,24nm,1.5s
S22A 4UR Ranch, Cre 83.17 48 P P 01 15 28.6 +2.2
baz=312,SNR=13
S22A 4UR Ranch, Cre 83.17 48 IAmb IAmb 01 15 30.0
comp=Z,10nm,1.0s
MOA Molln 83.20 327 *i* pP P 01 15 27.0 +1.0
comp=Z,9.6nm,1.2s
EKA Eskdalemuir Ar 83.25 340 P P 01 15 28.1 +2.0
DIVS Divibare 83.28 321 *e*P P 01 15 26.4 -0.2
X18A Snowflake 83.37 52 IAmb IAmb 01 15 30.6
comp=Z,19nm,1.4s
OGNE Ogallala 83.73 43 P P 01 15 29.9 +0.9
baz=314
BBLS Lazići 83.74 322 *e*P P 01 15 29.6 +0.6
PERS Pernice 83.74 326 *e*P P 01 15 28.9 0.0
EYMN Ely 83.75 32 P P 01 15 28.7 -0.2
baz=320
SOKA Soboth 83.75 326 *i* pP P 01 15 29.4 +0.4
comp=Z,30nm,1.1s,SNR=16
HAPS Han Pijesak,Bl 83.81 322 *e*P P 01 15 28.9 -0.5
RUDO Rudo 83.94 321 *e*P P 01 15 29.6 -0.3
SDCO Great Sand Dun 83.96 47 P P 01 15 32.3 +1.9
baz=313,SNR=10.0
SDCO Great Sand Dun 83.96 47 IAmb IAmb 01 15 32.8
comp=Z,11nm,1.3s
OBKA Obir 84.09 326 pP P 01 15 31.9 +1.1
comp=Z,8.6nm,0.9s
PLE Pljevlja 84.14 321 P P 01 15 32.9 +1.8
BLY Banja Luka 84.18 323 *e*P P 01 15 29.4 -1.7
CRES Cresnjev 84.19 325 *e*P P 01 15 29.6 -1.6
KBA Koelnbreinsper 84.19 327 *i* P P 01 15 34.2 +2.8
comp=Z,14nm,0.9s,SNR=6.3
TUC Tucson 84.26 54 P P 01 15 33.2 +1.3
baz=310
TUC Tucson 84.26 54 P P 01 15 30.6 -1.2
TUC pmax pmax
comp=Z,12nm,1.3s
TUC Tucson 84.26 54 P P 01 15 30.6 -1.2
TUC IAmb IAmb 01 15 34.8
comp=Z,12nm,1.2s
MEM Membach 84.35 333 P P 01 15 30.6 -1.2
MYKA Terra Mystica 84.41 326 *i* pP P 01 15 33.3 +1.0
comp=Z,5.8nm,0.7s
UPM Unac-Piva 84.47 321 *e*P P 01 15 31.9 -0.9
MGRS Mrkonjic Grad 84.48 323 *e*P P 01 15 33.6 +0.9
ECSD EROS Data Cent 84.55 38 P P 01 15 33.6 +0.5
baz=317
STU Stuttgart 84.61 330 P P 01 15 33.6 +0.4
CEY Cerknica 84.73 325 *e*P P 01 15 33.0 -0.9
WATA Walderalm 84.76 328 *e*P P 01 15 36.4 +2.2
comp=Z,4.5nm,0.6s
WTTA Wattenberg 84.79 328 *i* PcP P 01 15 35.6 +1.2
comp=Z,7.2nm,1.0s
ABTA Abfaltersbach 84.81 327 *i* P P 01 15 33.9 -0.4
comp=Z,8.9nm,1.3s
PDG Podgorica 84.85 321 *e*P P 01 15 34.0 -0.5
PDG Podgorica 84.85 321 ⇑P P 01 15 35.0 +0.4
PDG mb 01 15 36.8
BRY Bratogost 84.87 321 *e*P P 01 15 34.3 -0.5
FNA Florina 84.93 318 P P 01 15 35.5 +0.5
FNA pmax pmax
comp=Z,31nm,0.7s
FNA Florina 84.93 318 IAmb IAmb 01 15 36.1
comp=Z,13nm,1.2s
MOTA Moosalm 84.95 328 *i* PcP P 01 15 35.3 +0.1
comp=Z,14nm,1.4s
RETA Reutte 84.99 329 *i* PcP P 01 15 35.7 +0.5
comp=Z,13nm,0.7s
SQTA Sankt Quirin 85.01 328 *i* PcP P 01 15 35.9 +0.5
comp=Z,4.3nm,0.7s
T25A Trinidad 85.01 47 P P 01 15 37.2 +1.5
baz=313,SNR=8.6
T25A Trinidad 85.01 47 IAmb IAmb 01 15 38.6
comp=Z,15nm,0.9s
PPT Papeete 85.01 116 LR LR 01 47 32.4
comp=Z,111nm,21.8s,baz=354,slow=31
PPT2 Papeete2 85.03 116 *e*LR LR 01 42 19.9
comp=Z,192nm,26.0s
PPT2 Papeete2 85.03 116 *e*T T 02 49 05.7
comp=Z,9.8nm,0.3s
BMRD Maredsous 85.05 333 P P 01 15 35.4 0.0
DRME Dracevica, Mon 85.07 320 *e*P P 01 15 35.4 -0.2
PAE Paea 85.07 116 *e*T T 02 49 08.3
comp=Z,2.1nm,0.3s
HCY Herceg Novi 85.23 321 *e*P P 01 15 32.6 -3.8
ANMO Albuquerque 85.26 49 P P 01 15 39.2 +2.2
baz=312
ANMO Albuquerque 85.26 49 *ce*P P 01 15 38.0 +1.0
ANMO pmax pmax
comp=Z,17nm,1.7s
ANMO Albuquerque 85.26 49 P P 01 15 36.5 -0.5
ANMO IAmb IAmb 01 15 40.2
comp=Z,13nm,1.2s
BFO Black Forest 85.31 330 P P 01 15 35.1 -1.7
BFO pmax pmax
comp=Z,21nm,0.9s
BFO Black Forest 85.31 330 P P 01 15 35.1 -1.7
FETA Feichten 85.37 328 *e*PcP P 01 15 37.5 +0.3
comp=Z,7.9nm,0.8s,SNR=5.6
TVO Taravao 85.39 116 *e*T T 02 49 31.9
comp=Z,1.2nm,0.3s
DAVA Damuels 85.51 329 *i* PcP P 01 15 38.1 +0.1
comp=Z,19nm,1.0s,SNR=8.0
CDF Champ du Feu 85.66 331 *e*P P 01 15 37.9 -0.7
CDF pmax pmax
comp=Z,13nm,0.8s
SCHQ Schefferville 85.83 16 P P 01 15 40.3 +1.1
comp=Z,3.7nm,0.7s,baz=2.7,slow=5.2,SNR=5.4
SCHQ LR LR 01 55 40.7
comp=Z,239nm,21.8s,baz=360,slow=37
319A Douglas 85.84 54 IAmb IAmb 01 15 42.7
comp=Z,27nm,1.4s
ECH Echery 85.86 331 IAmb IAmb 01 15 42.4
comp=Z,16nm,0.9s
121A Cookes Peak, D 86.04 52 P P 01 15 42.7 +1.8
baz=312
121A Cookes Peak, D 86.04 52 IAmb IAmb 01 15 44.0
comp=Z,14nm,1.1s
HINF Hinteralfeld 86.31 331 *e*P P 01 15 41.7 -0.1
HINF pmax pmax
comp=Z,7.0nm,0.9s
HAU Haudompre 86.35 331 *e*P P 01 15 41.7 -0.2
HAU pmax pmax
comp=Z,7.0nm,0.6s
G40A Rib Lake 86.39 33 IAmb IAmb 01 15 44.3
comp=Z,8.4nm,0.8s
TAOE Nuku Hiva Isla 86.67 104 *e*T T 02 51 05.6
comp=Z,27nm,0.2s
MATQ Matagami 87.49 24 P P 01 15 47.9 +0.5
baz=330
CABF La Chapelle 87.59 331 *e*P P 01 15 50.7 +2.6
CABF pmax pmax
comp=Z,66nm,1.8s
D46A Sault St. Mari 87.64 29 P P 01 15 48.5 +0.3
baz=326
AQU L'Aquila 87.79 324 *e*P P 01 15 49.3 +0.2
LOR Lormes 87.91 332 *e*P P 01 15 49.8 +0.3
LOR pmax pmax
comp=Z,32nm,1.4s
KSU1 Kansas State U 87.96 41 P P 01 15 50.8 +0.9
baz=318
MNTX Cornudas Mount 88.11 51 P P 01 15 51.3 +0.6
baz=313
AMTX Amarillo 88.16 47 P P 01 15 52.6 +1.6
baz=315
LDF La Druitiere 88.20 335 *e*P P 01 15 53.3 +2.5
LDF pmax pmax
comp=Z,69nm,1.9s
SSF Saint Saulge 88.21 332 *e*P P 01 15 52.3 +1.4
SSF pmax pmax
comp=Z,21nm,1.3s
LPL La Plagne 88.23 330 *e*P P 01 15 49.7 -1.6
LPL pmax pmax
comp=Z,38nm,1.8s
LPG La Plagne 88.24 330 *e*P P 01 15 52.9 +1.5
LPG pmax pmax
comp=Z,20nm,1.5s
D48A Paudash Townsh 88.25 27 P P 01 15 51.1 0.0
baz=327
E47A Iron Bridge 88.30 29 P P 01 15 52.1 +0.8
baz=326
LSQQ Lebel-sur-Quev 88.31 24 P P 01 15 51.7 +0.4
baz=331
CHGQ Chibougamau 88.37 22 P P 01 15 51.9 +0.2
baz=333
SMF Signal de Mont 88.44 332 *e*P P 01 15 52.5 +0.5
SMF pmax pmax
comp=Z,35nm,1.6s
AVF Avril sur Loir 88.50 332 *e*P P 01 15 51.7 -0.6
AVF pmax pmax
comp=Z,12nm,0.9s
E48A Lockeyer 88.70 28 P P 01 15 53.6 +0.4
baz=327
MBDF Montbardon 88.86 329 *e*P P 01 15 55.3 +1.1
MBDF pmax pmax
comp=Z,12nm,1.2s
TBI Tubuai 88.86 120 *e*LR LR 01 43 53.3
comp=Z,159nm,30.2s
TBI Tubuai 88.86 120 *e*T T 02 53 53.6
comp=Z,53nm,0.3s
D50A G1974 Best Tow 88.97 26 P P 01 15 55.1 +0.6
baz=329
ORIF Oris-en-Rattie 89.07 330 *e*P P 01 15 56.0 +0.9
ORIF pmax pmax
comp=Z,26nm,1.5s
H46A Fife Lake 89.10 31 P P 01 15 56.5 +1.4
baz=325
GLMI Grayling 89.11 30 P P 01 15 56.3 +1.1
baz=325
G47A Hillman 89.13 30 P P 01 15 56.3 +1.0
baz=326
D51A Lot 18 Range I 89.20 26 P P 01 15 56.1 +0.5
baz=329
SBF Sospel 89.28 328 *e*P P 01 15 55.5 -0.6
SBF pmax pmax
comp=Z,49nm,1.5s
H47A Mio 89.46 30 P P 01 15 58.4 +1.6
baz=326
VIVF Saint-Julien-l 89.60 330 *e*P P 01 15 59.3 +1.8
VIVF pmax pmax
comp=Z,116nm,2.7s
E51A G1948 Merrick 89.64 26 P P 01 15 58.5 +0.8
baz=329
H48A Harrisville 89.73 30 P P 01 15 58.9 +0.8
baz=326
FRF La Foret Royal 89.86 328 *e*P P 01 15 59.5 +0.8
FRF pmax pmax
comp=Z,14nm,1.1s
MFF Saint Martin d 89.93 334 *e*P P 01 16 02.2 +3.2
MFF pmax pmax
comp=Z,23nm,1.0s
WMOK Wichita Mounta 89.94 45 P P 01 16 00.7 +1.3
baz=316
WMOK Wichita Mounta 89.94 45 IAmb IAmb 01 16 01.6
comp=Z,11nm,1.3s
F51A Arnstein 90.00 27 P P 01 15 59.4 +0.1
baz=329
I48A Sherman Twp 90.00 30 P P 01 15 59.9 +0.6
baz=326
LMR La Mourre 90.11 328 *e*P P 01 15 58.7 -1.2
LMR pmax pmax
comp=Z,19nm,1.2s
E52A Mattawa 90.15 26 P P 01 16 00.3 +0.3
baz=330
J47A Sunmer 90.33 31 P P 01 16 02.4 +1.5
baz=325
F52A Sundridge 90.33 27 P P 01 16 01.4 +0.5
baz=329
E53A Dumoine, Ponti 90.41 25 P P 01 16 02.1 +0.8
baz=330
RJF Les Rejaudoux 90.44 333 *e*P P 01 16 05.0 +3.6
RJF pmax pmax
comp=Z,31nm,1.4s
HDIL Hopedale 90.49 36 P P 01 16 02.8 +1.1
baz=322
E54A Lac Daplat, Po 90.53 25 P P 01 16 02.6 +0.8
baz=331
CAF Calviac 90.56 332 *e*P P 01 16 02.0 0.0
CAF pmax pmax
comp=Z,63nm,1.9s
D55A Sainte-Anne-du 90.59 24 P P 01 16 02.5 +0.5
baz=332
ALGO Algonquin Park 90.64 26 P P 01 16 03.3 +1.0
baz=330
J48A Bridge Port 90.71 31 P P 01 16 03.8 +1.1
baz=326
TUL1 Leonard 90.75 43 P P 01 16 04.2 +1.2
baz=318
TX31 Lajitas Ar. Si 90.80 52 IAmb IAmb 01 16 06.1
comp=Z,13nm,1.4s
TX32 Lajitas Array 90.80 52 P P 01 16 02.7 -0.8
TX32 IAmb IAmb 01 16 06.1
comp=Z,13nm,1.4s
TXAR Lajitas Array 90.80 52 P P 01 16 04.8 +1.3
comp=Z,2.3nm,0.7s,baz=304,slow=3.3,SNR=29
ABTX Abilene, Hawle 90.96 47 P P 01 16 05.6 +1.5
baz=316
ABTX Abilene, Hawle 90.96 47 IAmb IAmb 01 16 06.6
comp=Z,11nm,1.0s
K48A Perry 90.98 31 P P 01 16 04.5 +0.5
baz=326
LFF La Frestale 91.04 333 *e*P P 01 16 06.5 +2.3
LFF pmax pmax
comp=Z,16nm,1.1s
D57A Chemin Vers le 91.09 23 P P 01 16 05.1 +0.7
baz=333
G54A Lake Saint Pet 91.11 26 P P 01 16 05.6 +1.0
baz=330
E56A St. Veronique 91.15 24 P P 01 16 05.2 +0.6
baz=332
D58A Chemin du LacG 91.33 22 P P 01 16 06.0 +0.5
baz=334
CCM Cathedral Cave 91.50 38 P P 01 16 06.9 +0.4
baz=321
CCM Cathedral Cave 91.50 38 P P 01 16 06.0 -0.4
CCM pmax pmax
comp=Z,15nm,1.4s
CCM Cathedral Cave 91.50 38 P P 01 16 06.0 -0.4
CCM IAmb IAmb 01 16 08.5
comp=Z,15nm,1.4s
L48A N Adams 91.55 32 P P 01 16 07.9 +1.3
baz=326
L49A Milan 91.70 31 P P 01 16 07.9 +0.7
baz=326
G55A Calabogie 91.72 25 P P 01 16 07.8 +0.5
baz=331
D59A Saint-Raymond 91.72 22 P P 01 16 07.9 +0.6
baz=335
MTLF Montolieu 91.84 331 *e*P P 01 16 07.7 -0.2
MTLF pmax pmax
comp=Z,14nm,1.3s
N47A Urbana 91.87 33 P P 01 16 08.7 +0.6
baz=325
U40A Yellville 91.98 41 P P 01 16 09.2 +0.4
baz=320
U40A Yellville 91.98 41 IAmb IAmb 01 16 10.4
comp=Z,14nm,1.1s
D61A St Aubert, Com 92.02 20 P P 01 16 09.7 +1.0
baz=336
J52A Paris 92.08 29 P P 01 16 09.7 +0.7
baz=328
H55A Tweed 92.17 26 P P 01 16 10.2 +0.8
baz=331
N48A Decatur 92.18 33 P P 01 16 11.0 +1.5
baz=325
I55A Frankford 92.28 27 P P 01 16 10.4 +0.5
baz=330
W39A Magazine 92.37 42 P P 01 16 10.5 -0.1
baz=319
JCT Junction City 92.39 49 P P 01 16 12.0 +1.2
baz=316
JCT Junction City 92.39 49 IAmb IAmb 01 16 12.2
comp=Z,10nm,1.2s
H56A Elgin 92.45 25 P P 01 16 11.0 +0.2
baz=331
O48A Farmland 92.62 33 P P 01 16 12.1 +0.5
baz=325
WHTX Lake Whitney, 92.69 46 P P 01 16 12.4 +0.3
baz=317
MIAR Mount Ida 92.97 42 P P 01 16 14.9 +1.6
baz=320
MIAR Mount Ida 92.97 42 IAmb IAmb 01 16 15.6
comp=Z,13nm,1.1s
WHAR Wooly Hollow 93.09 41 IAmb IAmb 01 16 30.6
comp=Z,12nm,1.3s
W41B Gary Mavity, V 93.20 41 P P 01 16 14.6 +0.2
baz=320
ETSF Etsaut 93.27 333 *e*P P 01 16 18.2 +3.6
ETSF pmax pmax
comp=Z,61nm,1.8s

G61A	**St-Isidore-de-** baz=335	**93.38**	**22**	P		**P**	**01 16 15.6**	**+0.6**
O50A	**Cable** baz=326	**93.38**	**32**	P		**P**	**01 16 15.9**	**+0.8**
KEST	**Kesra** comp=Z,386nm,19.0s,baz=343,slow=38	**94.93**	**322**	LR		LR	02 02 44.5	
S50A	**Richmond** baz=325	**95.06**	**34**	P		**P**	**01 16 23.7**	**+0.8**
U49A	**Red Boiling Sp** baz=324	**95.38**	**36**	P		**P**	**01 16 24.6**	**+0.3**
T50A	**Nancy** baz=325	**95.40**	**35**	P		**P**	**01 16 24.4**	**-0.1**
ESDC	**Sonseca Array** comp=Z,1.4nm,0.8s,baz=16,slow=4.7,SNR=8.1	**97.33**	**333**	P		Pdif	01 16 34.2	+0.9
ESDC				LR		LR	02 04 50.0	
TORD	**Torodi Ar. Bea** comp=Z,2.3nm,1.0s,baz=28,slow=2.2,SNR=8.9	**117.15**	**314**	PKP		**PKPdf**	**01 21 45.2**	**-0.4**
SDV	**Santo Domingo**	**125.97**	**39**	*e*P		**PKiKP**	**01 22 03.2**	**0.0**
SDV	**Santo Domingo**	**125.97**	**39**	*e*P		**PKiKP**	**01 22 03.2**	**0.0**
SDV	**Santo Domingo**	**125.97**	**39**			**PKiKP**	**01 22 03.6**	**+0.4**
DBIC	**Dimbokro** comp=Z,2.5nm,0.6s,baz=270,slow=3.0,SNR=4.2	**126.13**	**316**	PKP		**PKiKP**	**01 22 03.2**	**-0.1**
QSPA	**South Pole Qui**	**126.43**	**180**			**PKPdf**	**01 22 01.4**	**-0.4**
OTAV	**Otavalo**	**128.40**	**54**	*e*P		**PKiKP**	**01 22 08.9**	**+0.6**
OTAV	**Otavalo**	**128.40**	**54**	*e*P		**PKiKP**	**01 22 08.9**	**+0.6**
VNA2	**Neumayer--Watz** baz=109,slow=3.4	**141.82**	**196**	PKPdf		**PKPdf**	**01 22 24.4**	**-6.0**
SAML	**Samuel**	**144.91**	**44**	PKIKP		**PKPab**	**01 22 36.0**	**-0.6**
SAML	**Samuel**	**144.91**	**44**	*e*P		PKPbc	01 22 37.0	+0.4
SAML	**Samuel**	**144.91**	**44**	*e*P		PKPbc	01 22 37.0	+0.4
SAML	**Samuel**	**144.91**	**44**			**PKPab**	**01 22 36.0**	**-0.6**
NBMO	**Morrinhos-CE**	**146.78**	**1**	*e*P		**PKPab**	**01 22 43.6**	**-0.1**
NBMO	**Morrinhos-CE**	**146.78**	**1**	*e*P		**PKPab**	**01 22 43.6**	**-0.1**
LPAZ	**La Paz**	**147.38**	**59**	PKP2		**PKPdf**	**01 22 42.9**	**+0.5**
LPAZ	**La Paz** comp=Z,4.7nm,0.7s,baz=8.1,slow=4.4,SNR=15	**147.38**	**59**	PKPbc		**PKPbc**	**01 22 44.1**	**-0.7**
LPAZ	**La Paz**	**147.38**	**59**	*e*P		**PKPdf**	**01 22 43.3**	**+0.9**
LPAZ	**La Paz**	**147.38**	**59**	*e*P		**PKPdf**	**01 22 43.3**	**+0.9**
LPAZ	**La Paz**	**147.38**	**59**			**PKPdf**	**01 22 42.9**	**+0.5**
PB11	**IPOC Station P**	**148.58**	**66**			**PKPdf**	**01 22 42.4**	**-1.3**
RCBR	**Riachuelo**	**149.12**	**353**	*e*P		**PKPbc**	**01 22 47.1**	**-1.7**
RCBR	**Riachuelo**	**149.12**	**353**	*e*P		**PKPbc**	**01 22 47.1**	**-1.7**
NBPA	**Parau_RN**	**149.14**	**356**	*e*P		**PKPdf**	**01 22 46.7**	**+2.0**
NBPA	**Parau_RN**	**149.14**	**356**	*e*P		**PKPdf**	**01 22 46.7**	**+2.0**
CLDB	**Colider**	**150.30**	**34**	*e*P		**PKPdf**	**01 22 48.9**	**+2.4**
CLDB	**Colider**	**150.30**	**34**	*e*P		**PKPdf**	**01 22 48.9**	**+2.4**
LVC	**Limon Verde**	**150.85**	**69**	*e*P		**PKPdf**	**01 22 48.0**	**+0.5**
LVC	**Limon Verde**	**150.85**	**69**	*e*P		**PKPdf**	**01 22 48.0**	**+0.5**
GO02	**Mina Guanaco**	**151.72**	**75**	PKPdf		**PKPdf**	**01 22 47.1**	**-1.6**
SALV	**Santo Antonio**	**154.70**	**39**	*e*P		**PKPdf**	**01 22 53.4**	**+0.5**
SALV	**Santo Antonio**	**154.70**	**39**	*e*P		**PKPdf**	**01 22 53.4**	**+0.5**
ARAG	**Araguaiana, MT**	**156.33**	**31**	*e*P		**PKPdf**	**01 22 56.2**	**+1.2**
ARAG	**Araguaiana, MT**	**156.33**	**31**	*e*P		**PKPdf**	**01 22 56.2**	**+1.2**
PP1B	**Ponte de Pedra**	**156.54**	**40**	*e*P		**PKPdf**	**01 22 57.0**	**+1.7**
PP1B	**Ponte de Pedra**	**156.54**	**40**	*e*P		**PKPdf**	**01 22 57.0**	**+1.7**
AQDB	**Aquidauana**	**158.43**	**46**	*e*P		**PKPdf**	**01 22 59.1**	**+1.5**
AQDB	**Aquidauana**	**158.43**	**46**	*e*P		**PKPdf**	**01 22 59.1**	**+1.5**
FRTB	**Fartura**	**164.03**	**36**	*e*P		**PKPdf**	**01 23 04.7**	**+1.2**
FRTB	**Fartura**	**164.03**	**36**	*e*P		**PKPdf**	**01 23 04.7**	**+1.2**
VAO	**Valinhos**	**164.84**	**28**	*e*P		**PKPdf**	**01 23 06.0**	**+1.7**
VAO	**Valinhos**	**164.84**	**28**	*e*P		**PKPdf**	**01 23 06.0**	**+1.7**
ESAR	**Angra dos Reis**	**165.68**	**19**	*e*P		**PKPdf**	**01 23 07.6**	**+2.7**
ESAR	**Angra dos Reis**	**165.68**	**19**	*e*P		**PKPdf**	**01 23 07.6**	**+2.7**
PLTB	**Pedras Altas**	**167.21**	**72**	*e*P		**PKPdf**	**01 23 08.9**	**+3.1**
PLTB	**Pedras Altas**	**167.21**	**72**	*e*P		**PKPdf**	**01 23 08.9**	**+3.1**

*IDC **31** 01:09:49.7±0.8, 36.85N×140.50E, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.7/34, mbtmp3.7/9, Error ellipse: s-maj=23.8km s-min=18.6km az=145.0*
*ISCJB **31** 01:09:50.1±0.5, 36.69N±0.03×140.67E±0.05, h12km±3km, mb3.6/9, Error ellipse: s-maj=7.6km s-min=3.8km az=18.8*
*JMA **31** 01:09:50.8, 36.70N×140.61E, h7km, M3.6*
JMA Felt II J1.

ISC 31 01:09:50.2±1.2, 36.75N±0.05×140.59E±0.04, h5km±9km, n28, σ0°97/31, mb3.7/9, 5C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.14**	**188**	⇑P	**Pg**	**01 09 53.1**	**+0.2**
JHO				S	**Sg**	**01 09 54.7**	**-0.1**
JFFD	**Fukushimafurud**	**0.34**	**356**	P	**Pb**	**01 09 58.5**	**-0.4**
JFFD				S	**Sb**	**01 10 03.5**	**-1.2**
ONAJ	**Iwakimizuishiy**	**0.39**	**25**	P	**Pb**	**01 09 59.2**	**-0.5**
ONAJ				S	**Sb**	**01 10 05.0**	**-1.0**
JHYU	**Hitachinakayam**	**0.41**	**181**	P	**Pg**	**01 09 58.1**	**+0.1**
JHYU				S	**Sg**	**01 10 03.2**	**-0.1**
JSB	**Shiboa**	**0.58**	**292**	⇑P	**Pb**	**01 10 03.2**	**+0.3**
JYT	**Yasato**	**0.61**	**212**	⇑P	**Pg**	**01 10 01.9**	**0.0**
JYT				*e*S	**Sg**	**01 10 09.6**	**-0.2**
JFK	**Kawauchi**	**0.66**	**20**	⇑P	**Pb**	**01 10 03.9**	**-0.3**
JFK				S	**Sb**	**01 10 13.2**	**-0.5**
JFT	**Otama**	**0.80**	**345**	P	**Pb**	**01 10 06.9**	**+0.3**
JFT				S	**Sb**	**01 10 18.2**	**+0.5**
JFY	**Yanaizu**	**0.97**	**313**	P	**Pn**	**01 10 10.1**	**-0.4**
JAG	**Ashikaga**	**0.97**	**251**	⇑P	**Pg**	**01 10 08.6**	**-0.2**
MJAR	**Matsushiro Arr** 7.2nm,0.3s,baz=82,slow=18,SNR=16	**1.93**	**265**	Pn	**Pn**	**01 10 24.3**	**+0.6**
MJAR	6.3nm,0.3s,baz=330,slow=21,SNR=8.0			Sn	**Sn**	**01 10 48.8**	**+0.4**
MAT	**Matsushiro**	**1.93**	**265**	P	**Pb**	**01 10 24.6**	**-1.3**
MAT				S	**Sb**	**01 10 50.3**	**0.0**
USRK	**Ussuriysk Ar.** baz=126,slow=15,SNR=6.2	**9.91**	**321**	Pn	**Pn**	**01 12 16.3**	**+3.0**
SONM	**Songino Array** 0.6nm,0.6s,baz=93,slow=7.9,SNR=4.1	**27.40**	**305**	P	**P**	**01 15 34.2**	**-2.5**
H11N2	**WAKE ISLAND Hy** baz=312,slow=75,SNR=44	**28.57**	**119**	T	T	01 45 29.2	
H11N1	**WAKE ISLAND Hy** baz=312,slow=75,SNR=50	**28.58**	**119**	T	T	01 45 30.4	
H11N3	**WAKE ISLAND Hy** baz=312,slow=75,SNR=55	**28.59**	**119**	T	T	01 45 31.2	
H11S1	**WAKE ISLAND Hy** baz=314,slow=76,SNR=186	**29.27**	**121**	T	T	01 46 19.5	
H11S3	**WAKE ISLAND Hy** baz=314,slow=76,SNR=126	**29.27**	**121**	T	T	01 46 21.4	
H11S2	**WAKE ISLAND Hy** baz=314,slow=76,SNR=123	**29.28**	**121**	T	T	01 46 22.6	
ZALV	**Zelesovo Beam** 1.4nm,0.6s,baz=81,slow=7.4,SNR=4.0	**41.62**	**313**	P	**P**	**01 17 38.4**	**-0.7**
ILAR	**Eielson Array** 0.3nm,0.7s,baz=274,slow=6.0,SNR=5.6	**50.09**	**32**	P	**P**	**01 18 45.8**	**0.0**
INK	**Inuvik** 0.7nm,0.6s,baz=289,slow=6.2,SNR=3.6	**54.94**	**27**	P	**P**	**01 19 22.3**	**+0.7**
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=7.2,slow=7.6,SNR=6.4	**56.69**	**187**	P	**P**	**01 19 35.1**	**+0.4**
ASAR	**Alice Springs** 0.6nm,0.7s,baz=10,slow=7.8,SNR=5.3	**60.42**	**187**	P	**P**	**01 20 01.6**	**+0.8**
NVAR	**Mina Array Bea** 0.3nm,0.6s,baz=290,slow=5.6,SNR=2.9	**75.69**	**53**	P	**P**	**01 21 38.1**	**+1.2**
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=263,slow=4.0,SNR=4.4	**78.33**	**45**	P	**P**	**01 21 51.9**	**0.0**
GERES	**GERESS Array B** 0.3nm,0.5s,baz=34,slow=7.5,SNR=6.6	**82.61**	**328**	P	**P**	**01 22 13.5**	**-1.0**

BER 31 01:11:18.0±1.0, 66.40N×13.26E, h12km±9km, ML1.0, Confirmed Earthquake, Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KONS	**Konsvik**	**0.11**	**330**	*e*P	Pg	01 11 20.7	-0.2
KONS				*e*S	Sg	01 11 22.7	-0.4
KONS				IAML		01 11 23.1	
	comp=Z,31nm,0.2s						
KONS	**Konsvik**	**0.11**	**330**	*e*P	Pg	01 11 19.5	-1.4
KONS				*e*S	Sg	01 11 21.6	-1.5
KONS				IAML		01 11 21.8	
	comp=Z,9.4nm,0.2s						
STOK	**Stokkvaagen**	**0.12**	**235**	*e*P	Pg	01 11 21.0	0.0
STOK				*e*S	Sg	01 11 23.3	+0.1
STOK	**Stokkvaagen**	**0.12**	**235**	*e*P	Pg	01 11 19.8	-1.2
STOK				*e*S	Sg	01 11 22.1	-1.1
MOR8	**Moi Rana**	**0.53**	**115**	*e*S	Sb	01 11 36.9	0.0
MOR8				IAML		01 11 37.7	
	comp=Z,2.7nm,0.2s						
MOR8	**Moi Rana**	**0.53**	**115**	*e*P	Pg	01 11 27.9	-0.4
MOR8				*e*S	Sg	01 11 35.7	+0.3
STEI	**Steigen**	**1.72**	**26**	*e*Pg	Pn	01 11 48.2	+0.5
STEI				*e*Sg	Sg	01 12 12.6	-0.6
STEI	**Steigen**	**1.72**	**26**	*e*Pg	Pn	01 11 48.2	+0.5
STEI				*e*Sg	Sg	01 12 12.4	-0.8

JMA 31 01:11:38.1, 36.68N×140.64E, h7km±1km, M3.6, 5C-2D Broadband fault plane solution: P waves. NP1: φs8.00000°, δ61.00000°, λ-70.00000°. **NP2:** φs150.00000°, δ35.00000°, λ-123.00000°. **Principal axes:** T Plg14.0000°, Azm83.0000°; N Plg18.0000°, Azm178.0000°; P Plg67.0000°, Azm317.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.09**	**220**	P	Pg	01 11 40.2	0.0
JHO				S	Sg	01 11 41.7	0.0
JHYU	**Hitachinakayam**	**0.34**	**187**	⇓P	Pg	01 11 45.0	+0.2
JHYU				S	Sg	01 11 49.9	+0.6
JFFD	**Fukushimafurud**	**0.41**	**351**	⇓P	Pg	01 11 46.1	-0.1
ONAJ	**Iwakimizuishiy**	**0.44**	**17**	⇑P	Pg	01 11 46.6	-0.1
ONAJ				S	Sg	01 11 52.5	+0.1
JYT	**Yasato**	**0.58**	**219**	⇑P	Pg	01 11 49.1	-0.1
JSB	**Shiboa**	**0.65**	**297**	⇑P	Pg	01 11 51.0	+0.5
JSB				S	Sg	01 11 59.7	+0.7
JFK	**Kawauchi**	**0.71**	**15**	⇑P	Pg	01 11 51.3	-0.5
JFK				S	Sg	01 12 00.8	-0.3
JFT	**Otama**	**0.87**	**344**	P	Pg	01 11 54.4	-0.5
JFT				S	Sg	01 12 06.1	-0.1
JAG	**Ashikaga**	**0.99**	**255**	⇑P	Pg	01 11 55.8	-1.3
JAG				S	Sg	01 12 08.8	-1.1
JFY	**Yanaizu**	**1.04**	**314**	P	Pg	01 11 57.7	-0.4
JFY				S	Sg	01 12 11.2	-0.5
MAT	**Matsushiro**	**1.96**	**267**	P	Pn	01 12 12.1	+0.3
MAT				S	Sb	01 12 38.5	-0.3

ROM 31 01:13:22.9±0.1, 39.110N±0.003×16.342E±0.004, h11km, ML1.7/6 Error ellipse: s-maj=0.3km s-min=0.3km az=54.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAR1	**CAROLEI**	**0.17**	**325**	P	Pg	01 13 27.5	+0.7
CAR1				S	Sg	01 13 30.5	+1.0
CAR1				AML	AML		
	comp=E,491μm,0.4s						
CAR1				AML	AML		
	comp=N,442μm,0.4s						
SERS	**Sersale**	**0.28**	**105**	P	Pg	01 13 29.3	+0.6
SERS				S	Sb	01 13 33.8	-1.0
SERS				AML	AML		
	comp=E,233μm,0.5s						
SERS				AML	AML		
	comp=N,760μm,0.2s						
SERS				AML	AML		
	comp=E,788μm,0.2s						
SERS				AML	AML		
	comp=N,231μm,0.4s						
SERS				AML	AML		
	comp=N,232μm,0.4s						
GRI	**Girifalco**	**0.29**	**168**	P	Pg	01 13 29.4	+0.5
GRI				S	Sb	01 13 34.1	-1.0
GRI				AML	AML		
	comp=E,97μm,1.0s						
GRI				AML	AML		
	comp=N,97μm,0.5s						
CELI	**Celico**	**0.32**	**24**	P	Pg	01 13 29.8	+0.3
CELI				AML	AML		
	comp=E,190μm,0.2s						
CELI				AML	AML		
	comp=N,258μm,1.2s						
TIP	**Timpagrande**	**0.33**	**78**	P	Pg	01 13 30.1	+0.5
TIP				S	Sb	01 13 35.2	-1.1
TIP				AML	AML		
	comp=E,102μm,0.7s						
TIP				AML	AML		
	comp=N,83μm,0.3s						
CET2	**Cetraro**	**0.52**	**324**	P	Pg	01 13 33.0	0.0
CET2				S	Sb	01 13 41.0	-0.6
CET2				AML	AML		
	comp=E,219μm,1.1s						
CET2				AML	AML		
	comp=N,303μm,0.9s						
CET2				AML	AML		
	comp=E,220μm,1.1s						
CET2				AML	AML		
	comp=N,302μm,0.9s						
LADO	**San Nicola del**	**0.53**	**71**	P	Pg	01 13 33.0	-0.1
PIPA	**Pietrapaola**	**0.53**	**44**	P	Pg	01 13 33.4	+0.2
JOPP	**Joppolo**	**0.62**	**215**	P	Pg	01 13 35.0	+0.1
JOPP				S	Sg	01 13 43.5	+0.5
PLAC	**Placanica**	**0.66**	**173**	P	Pg	01 13 36.0	+0.3
PLAC				S	Sb	01 13 45.3	-0.5
PLAC				AML	AML		
	comp=N,41μm,1.3s						
PLAC				AML	AML		
	comp=E,42μm,1.6s						
SALB	**San Lorenzo Be**	**0.77**	**0**	P	Pg	01 13 37.4	-0.3
HAGA	**Augusta**	**2.05**	**208**	S	Sg	01 14 28.0	-0.7
RESU	**Resuttano**	**2.31**	**232**	P	Pn	01 13 58.2	-2.9
PAOL	**Paolisi**	**2.35**	**325**	S	Sn	01 14 29.0	-1.5
MA9	**Marino**	**3.87**	**315**	P	Pn	01 14 21.8	-0.6
MA9				S	Sn	01 15 03.0	-4.8

ROM 31 01:13:42.9±0.2, 43.063N±0.006×13.53E±0.01, h29km±1km, Md1.6/4, Error ellipse: s-maj=0.9km s-min=0.8km az=95.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFFI	**Offida**	**0.17**	**138**	P	Pb	01 13 49.0	+0.3
OFFI				END			
CSP1	**Cessapalombo**	**0.24**	**277**	P	Pb	01 13 49.3	-0.3
CSP1				S	Sb	01 13 54.5	+0.3
CSP1				END			
GUMA	**Gualdo di Mace**	**0.30**	**90**	P	Pb	01 13 48.3	-2.0
GUMA				S	Sb	01 13 52.7	-2.6
GUMA				AML	AML		
	comp=N,762μm,0.3s						
GUMA				AML	AML		
	comp=E,617μm,0.3s						
GUMA				AML	AML		
	comp=N,984μm,0.3s						
GUMA				AML	AML		
	comp=E,719μm,1.1s						
GUMA				END			
FDMO	**Fiordimonte**	**0.33**	**265**	P	Pb	01 13 50.5	-0.2
FDMO				S	Sb	01 13 56.6	+0.7
FDMO				AML	AML		
	comp=E,126μm,1.4s						
FDMO				AML	AML		
	comp=N,131μm,0.2s						
FDMO				END			
NRCA	**Norcia**	**0.38**	**233**	P	Pb	01 13 51.4	-0.1
CING	**Cingoli**	**0.40**	**322**	P	Pb	01 13 51.8	+0.1
CING				S	Sn	01 13 58.6	-0.7
EL6	**Elcito**	**0.41**	**311**	P	Pn	01 13 52.7	-0.3
TERO	**Teramo**	**0.44**	**173**	P	Pb	01 13 52.2	-0.2
SMA1	**SAN MARTINO**	**0.46**	**198**	P	Pn	01 13 53.3	-0.3
SMA1				S	Sb	01 13 59.9	+0.6
AOI	**Ancona**	**0.49**	**6**	P	Pb	01 13 52.9	-0.3

ROM 31 01:14:03.2±0.2, 43.048N±0.008×13.55E±0.01, h29km±1km, ML1.6/1, Error ellipse: s-maj=1.0km s-min=0.8km az=239.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFFI	**Offida**	**0.15**	**138**	P	Pn	01 14 09.8	+0.2
CSP1	**Cessapalombo**	**0.26**	**280**	P	Pb	01 14 09.9	-0.3
CSP1				S	Sb	01 14 15.1	+0.2
CSP1				END			
GUMA	**Gualdo di Mace**	**0.28**	**87**	P	Pb	01 14 08.9	-1.6
GUMA				S	Sb	01 14 13.3	-2.1
GUMA				AML	AML		
	comp=E,719μm,1.1s						
GUMA				AML	AML		
	comp=N,762μm,0.3s						
GUMA				AML	AML		
	comp=E,617μm,0.3s						
GUMA				AML	AML		
	comp=N,984μm,0.3s						
FDMO	**Fiordimonte**	**0.34**	**268**	P	Pb	01 14 11.1	-0.1
FDMO				S	Sb	01 14 17.3	+0.7
FDMO				END			
NRCA	**Norcia** comp=N,124μm,1.1s	**0.38**	**236**	AML	AML		
NRCA				AML	AML		
	comp=E,100μm,0.6s						
CING	**Cingoli**	**0.42**	**322**	P	Pb	01 14 12.2	-0.1
CING				S	Sb	01 14 19.2	+0.6
TERO	**Teramo**	**0.43**	**174**	P	Pb	01 14 12.7	+0.1
EL6	**Elcito**	**0.43**	**311**	P	Pb	01 14 12.9	+0.3
EL6				S	Sn	01 14 20.3	-0.2
SMA1	**SAN MARTINO**	**0.45**	**201**	P	Pb	01 14 12.9	+0.1
SMA1				S	Sn	01 14 20.5	-0.4
MURB	**Monte Urbino**	**0.78**	**286**	P	Pn	01 14 17.2	-1.1

PRU 31 01:14:32.3±0.0, 50.23N×18.82E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.58**	**228**	*e*PG	Pg	01 14 43.8	+0.3
OKC				*e*SG	Sg	01 14 51.8	+0.7
MORC	**Moravsky Berou**	**0.94**	**242**	*e*PG	Pg	01 14 49.7	-0.6
MORC				*e*SG	Sg	01 15 02.5	0.0
KRLC	**Kraliky**	**1.32**	**264**	*e*SG	Sg	01 15 13.6	-1.1
DPC	**Dobruska-Polom**	**1.61**	**275**	*e*PG	Pn	01 15 02.4	+0.4
DPC				*e*SG	Sn	01 15 23.4	0.0
CHVC	**Chvalec**	**1.81**	**283**	*e*PG	Pn	01 15 05.3	+0.6

*ISCJB **31** 01:24:50.9±1.6, 12.59N±0.09×88.05W±0.05, h32km±9km, Error ellipse: s-maj=17.4km s-min=4.4km az=26.2*
*SNET **31** 01:24:50.0±1.7, 12.55N×88.10W, h16km±16km, ML3.3*
*UCR **31** 01:24:51.2±1.9, 12.64N×88.02W, h32km±6km, MD3.5, ML3.3*

ISC 31 01:24:51.9±1.6, 12.67N±0.08×88.02W±0.04, h30km±12km, n28, σ0°90/41, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUCU	**Jucuarn**	**0.63**	**339**	*e*P	**Pb**	**01 25 04.3**	**-0.1**
JUCU				*e*S	**Sn**	**01 25 14.5**	**+0.7**
JUCU				IAML		01 25 16.6	
	comp=Z,4μm,0.2s						
CNCH	**Conchagua**	**0.63**	**16**	*e*P	**Pb**	**01 25 04.2**	**-0.3**
CNCH	**Conchagua**	**0.63**	**16**	*e*P	**Pb**	**01 25 04.2**	**-0.3**
LCND	**La Caada**	**0.65**	**11**	*e*P	**Pb**	**01 25 04.4**	**-0.5**
LCND				*e*S	**Sb**	**01 25 15.1**	**+1.4**
LCND				IAML		01 25 18.6	
	comp=Z,2μm,0.3s						
LCND	**La Caada**	**0.65**	**11**	*e*P	**Pb**	**01 25 04.4**	**-0.5**
LCND				*e*S	**Sb**	**01 25 15.1**	**+1.4**
LCND				IAML		01 25 18.6	
	comp=Z,2μm,0.3s						
LCY	**Lacayo**	**0.80**	**340**	*e*P	**Pb**	**01 25 06.7**	**-0.7**
LCY	**Lacayo**	**0.80**	**340**	*e*P	**Pb**	**01 25 06.7**	**-0.7**
BLLM	**Bellamira**	**0.80**	**344**	*e*P	**Pb**	**01 25 06.6**	**-0.7**
BLLM	**Bellamira**	**0.80**	**344**	*e*P	**Pb**	**01 25 06.6**	**-0.7**
ALJI	**Alcalda de J**	**0.85**	**321**	*e*P	**Pb**	**01 25 07.3**	**-0.9**
ALJI				*e*S	**Sn**	**01 25 19.3**	**+0.1**
ALJI				IAML		01 25 21.1	
	comp=Z,1μm,0.2s						
PACA	**Pacayal**	**0.85**	**339**	*e*P	**Pb**	**01 25 06.9**	**-1.3**
PACA				*e*S	**Sn**	**01 25 20.9**	**+1.4**
PACA	**Pacayal**	**0.85**	**339**	*e*P	**Pb**	**01 25 06.9**	**-1.3**
PACA				*e*S	**Sn**	**01 25 20.9**	**+1.4**
CRIN	**San Cristobal**	**0.94**	**88**	*e*P	**Pb**	**01 25 09.2**	**-0.5**
CRIN				*e*S	**Sn**	**01 25 23.2**	**+1.5**
TECA	**Tecapa**	**0.95**	**330**	*e*P	**Pn**	**01 25 08.7**	**-0.6**
TECA	**Tecapa**	**0.95**	**330**	*e*P	**Pn**	**01 25 08.7**	**-0.6**
COEB	**Comit de Eme**	**0.97**	**329**	*e*P	**Pn**	**01 25 09.0**	**-0.5**
COEB				*e*S	**Sn**	**01 25 23.0**	**+0.7**
COEB				IAML		01 25 23.4	
	comp=Z,588nm,0.4s						
COEG	**Centro de Oper**	**1.27**	**318**	*e*P	**Pn**	**01 25 13.3**	**-0.3**
COEG				*e*S	**Sn**	**01 25 29.8**	**+0.1**
COEG				IAML		01 25 34.3	
	comp=Z,263nm,0.3s						
CNGN	**Cerro Negro**	**1.30**	**97**	*e*P	**Pn**	**01 25 14.0**	**0.0**
CNGN				*e*S	**Sn**	**01 25 30.4**	**0.0**
PAVA	**Las Pavas**	**1.37**	**319**	*e*P	**Pn**	**01 25 13.9**	**-1.2**
PAVA				*e*S	**Sb**	**01 25 34.5**	**+0.3**
PAVA				IAML		01 25 34.8	
	comp=Z,153nm,0.2s						
PAVA	**Las Pavas**	**1.37**	**319**	*e*P	**Pn**	**01 25 13.9**	**-1.2**
PAVA				*e*S	**Sb**	**01 25 34.5**	**+0.3**
PAVA				IAML		01 25 34.8	
	comp=Z,153nm,0.2s						
LFRS	**El Faro**	**1.39**	**313**	*e*P	**Pn**	**01 25 14.7**	**-0.7**
MOMN	**Momotombo**	**1.46**	**100**	*e*P	**Pn**	**01 25 15.8**	**-0.4**
MOMN				*e*S	**Sn**	**01 25 34.9**	**+0.4**
MOMN	**Momotombo**	**1.46**	**100**	*e*P	**Pn**	**01 25 15.9**	**-0.4**
TGUH	**Tegucigalpa,Un**	**1.56**	**28**	*e*P	**Pn**	**01 25 15.8**	**-1.9**
BOQS	**Boqueron**	**1.62**	**311**	*e*P	**Pn**	**01 25 18.4**	**-0.3**
ESTN	**Estel**	**1.66**	**75**	*e*P	**Pn**	**01 25 18.1**	**-0.9**
SBLS	**San Blas**	**1.95**	**307**	*e*P	**Pn**	**01 25 24.1**	**+0.9**
SBLS	**San Blas**	**1.95**	**307**	*e*P	**Pn**	**01 25 24.1**	**+0.9**

*KRNET **31** 01:30:14.2±0.1, 39.54N×73.84E, mb3.5*
*SOME **31** 01:30:20.5, 39.97N×73.70E, h0km*
*NNC **31** 01:30:22.1±1.4, 39.90N×73.79E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=10.7km s-min=5.8km az=171.0*

ISC 31 01:30:19.0±1.4, 39.78N±0.07×73.91E±0.03, h10km, n56, σ18°93/92, 34C-9D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob** baz=40	**1.69**	**336**	⇓*i*P	**Pb**	**01 30 49.4**	**-0.9**
ARSB				⇓*i*S	**Sg**	**01 31 15.4**	**+1.9**
	baz=40						
ARLS	**Aral** baz=9.0	**2.10**	**8**	⇑*e*P	**Pb**	**01 30 55.6**	**-1.7**
ARLS				⇑*i*S	**Sg**	**01 31 26.5**	**-0.1**
	baz=9.0						
NRN	**Naryn** baz=40	**2.29**	**43**	⇑*i*P	**Pn**

KBK				⇓*i*S		**Sb**	**01 31 48.0**	**-0.7**
	baz=15							
KBK	**Karagaybulak**	**2.98**	**15**	P		**Pb**	**01 31 09.5**	**-2.8**
	SNR=17							
MRKS	**Merke**	**3.01**	**350**	*e*P		**Pb**	**01 31 12.8**	**+0.1**
	24nm,0.4s							
MRKS				*e*S		**Sb**	**01 31 50.6**	**+1.1**
	28nm,0.5s							
MRKS	**Merke**	**3.01**	**350**	Pg		**Pb**	**01 31 12.8**	**+0.1**
	24nm,0.4s							
MRKS				Lg		Lg	01 31 51.1	
	28nm,0.5s							
ULHL	**Ulahol**	**3.03**	**35**	⇑*i*P		**Pn**	**01 31 08.9**	**+1.7**
	baz=33							
ULHL				⇑*i*S		**Sb**	**01 31 48.8**	**-1.5**
	baz=33							
ULHL	**Ulahol**	**3.03**	**35**	P		**Pb**	**01 31 13.1**	**0.0**
	SNR=8.5							
CHMS	**Chumysh**	**3.28**	**11**	⇑*e*P		**Pn**	**01 31 12.3**	**+1.9**
	baz=11							
CHMS				⇑*i*S		**Sb**	**01 31 54.7**	**-2.5**
	baz=11							
TKM2	**Tokmak 2**	**3.38**	**22**	⇑*e*P		**Pn**	**01 31 14.1**	**+2.0**
	baz=21							
TKM2				⇑*i*S		**Sb**	**01 31 57.5**	**-3.0**
	baz=21							
TKM2	**Tokmak 2**	**3.38**	**22**	⇑Pn		**Pb**	**01 31 15.3**	**-3.9**
	4.6nm,0.6s							
TKM2				⇑Lg		Lg	01 32 07.0	
	13nm,0.6s							
KDJ	**Kajisay**	**3.41**	**46**	⇑*i*P		**Pn**	**01 31 13.9**	**+1.5**
	baz=44							
KDJ				⇑*i*S		**Sn**	**01 31 57.2**	**+4.1**
	baz=44							
USP	**Ospenovka**	**3.51**	**7**	⇑*i*P		**Pn**	**01 31 15.5**	**+1.8**
	baz=7.0							
USP				⇑*i*S		**Sb**	**01 32 00.4**	**-3.6**
	baz=7.0							
USP	**Ospenovka**	**3.51**	**7**	P		**Pb**	**01 31 22.4**	**+1.2**
	SNR=7.9							
TARG	**Taragay, Kyrgy**	**3.54**	**55**	⇑*i*P		**Pn**	**01 31 15.4**	**+1.0**
	baz=53							
TARG				⇑*i*S		**Sn**	**01 32 00.2**	**+3.6**
	baz=53							
KST	**Kastek**	**3.61**	**25**	*e*P		**Pg**	**01 31 26.4**	**-1.7**
	12nm,0.6s							
KST				*e*S		**Sg**	**01 32 14.2**	**-0.6**
	32nm,0.6s							
KST	**Kastek**	**3.61**	**25**	Pg		**Pg**	**01 31 26.4**	**-1.7**
	12nm,0.6s							
KST				Lg		Lg	01 32 14.2	
	32nm,0.6s							
SGDS	**Sogindy**	**3.71**	**8**	Pg		**Pg**	**01 31 28.3**	**-1.7**
	12nm,0.7s							
SGDS				Lg		Lg	01 32 17.0	
	24nm,0.8s							
DGS	**Degeres**	**3.73**	**21**	*e*P		**Pg**	**01 31 29.4**	**-1.0**
	8.9nm,0.7s							
DGS				*e*S		**Sg**	**01 32 18.7**	**-0.1**
	33nm,0.5s							
IUG	**luzhnay**	**3.77**	**310**	*e*P		**Pb**	**01 31 26.6**	**+0.9**
	0.8nm,0.3s							
IUG				*e*S		**Sb**	**01 32 13.8**	**+2.4**
	51nm,0.4s							
IUG	**luzhnay**	**3.77**	**310**	Pg		**Pg**	**01 31 29.3**	**-1.8**
IUG				Lg		Lg	01 32 18.9	
IZV	**Izvestkoviy**	**3.84**	**31**	*e*P		**Pg**	**01 31 30.5**	**-2.0**
	12nm,0.6s							
IZV				*e*S		**Sg**	**01 32 20.6**	**-1.6**
	32nm,0.6s							
IZV	**Izvestkoviy**	**3.84**	**31**	Pg		**Pg**	**01 31 33.2**	**+0.8**
	12nm,0.6s							
IZV				Lg		Lg	01 32 25.3	
	32nm,0.6s							
MTBS	**Maitube**	**3.85**	**29**	*e*P		**Pg**	**01 31 32.3**	**-0.4**
	7.1nm,0.5s							
MTBS				*e*S		**Sg**	**01 32 23.5**	**+1.1**
	16nm,0.7s							
TNSS	**Tian-Shan**	**3.98**	**34**	*e*P		**Pg**	**01 31 34.1**	**-1.1**
	9.9nm,0.5s							
TNSS				*e*S		**Sg**	**01 32 27.6**	**+0.9**
	23nm,0.6s							
TNSS	**Tian-Shan**	**3.98**	**34**	Pg		**Pg**	**01 31 34.1**	**-1.1**
	9.9nm,0.5s							
TNSS				Lg		Lg	01 32 27.6	
	23nm,0.6s							
MDOK	**Medeo**	**4.12**	**34**	*e*P		**Pg**	**01 31 36.4**	**-1.5**
	6.8nm,0.6s							
MDOK				*e*S		**Sg**	**01 32 30.6**	**-0.7**
	14nm,0.8s							
ANVS	**Anan'yevo**	**4.13**	**42**	⇑*i*P		**Pn**	**01 31 23.3**	**+1.1**
	baz=40							
ANVS				⇑*i*S		**Sn**	**01 32 14.0**	**+3.4**
	baz=40							
KK31	**Karatay Array**	**4.19**	**324**	⇑Pn		**Pn**	**01 31 23.6**	**+0.7**
	0.5nm,0.3s,baz=149,slow=14,SNR=6.3							
KK31				⇑Pg		**Pb**	**01 31 34.4**	**+1.7**
	1.4nm,0.3s,baz=140,slow=16,SNR=4.9							
KK31				Sn		**Sn**	**01 32 16.1**	**+4.2**
	3.0nm,0.3s,baz=141,slow=21,SNR=7.0							
KK31				⇓Lg		Lg	01 32 30.6	
	7.0nm,0.5s,baz=138,slow=28,SNR=4.5							
KOTS	**Kotyrbulak**	**4.21**	**34**	*e*P		**Pg**	**01 31 38.2**	**-1.4**
	16nm,0.4s							
KOTS				*e*S		**Sg**	**01 32 33.9**	**-0.1**
	59nm,0.9s							
KOTS	**Kotyrbulak**	**4.21**	**34**	Pg		**Pg**	**01 31 38.2**	**-1.4**
	16nm,0.4s							
KOTS				Lg		Lg	01 32 33.9	
	59nm,0.9s							
KTBS	**Karatobe**	**4.44**	**27**	*e*P		**Pg**	**01 31 42.0**	**-2.1**
	2.4nm,0.3s							
KTBS				*e*S		**Sg**	**01 32 40.5**	**-1.1**
	34nm,0.6s							
KTBS	**Karatobe**	**4.44**	**27**	Pg		**Pg**	**01 31 42.0**	**-2.1**
	5.6nm,0.5s							
KTBS				Lg		Lg	01 32 40.5	
	34nm,0.6s							
BRLS	**Boroldav**	**4.46**	**318**	*e*P		**Pb**	**01 31 38.5**	**+1.1**
	0.8nm,0.3s							
BRLS				*e*S		**Sb**	**01 32 34.5**	**+3.2**
	11nm,0.4s							
BRLS	**Boroldav**	**4.46**	**318**	Pg		**Pg**	**01 31 40.0**	**-4.4**
	0.9nm,0.6s							
BRLS				Lg		Lg	01 32 37.5	
	11nm,0.4s							
KUU	**Kurty**	**4.49**	**23**	*e*P		**Pg**	**01 31 42.5**	**-2.5**
	3.3nm,0.9s							
KUU				*e*S		**Sg**	**01 32 41.0**	**-2.2**
	18nm,0.7s							
CHKK	**Chushkaly**	**4.68**	**28**	*e*P		**Pg**	**01 31 46.5**	**-2.0**
	2.8nm,0.9s							
CHKK				*e*S		**Sg**	**01 32 47.8**	**-1.3**
	14nm,0.8s							
SATY	**Saty**	**4.71**	**44**	*e*P		**Pg**	**01 31 48.0**	**-1.1**
	14nm,1.0s							
SATY				*e*S		**Sg**	**01 32 51.0**	**+0.9**
	19nm,1.5s							
SATY	**Saty**	**4.71**	**44**	Pg		**Pg**	**01 31 48.0**	**-1.1**
	14nm,1.0s							
SATY				Lg		Lg	01 32 51.0	
	19nm,1.5s							
KURS	**Kuram**	**4.89**	**39**	*e*P		**Pg**	**01 31 51.0**	**-1.6**
	3.7nm,1.2s							
KURS				*e*S		**Sg**	**01 32 55.6**	**-0.4**
	8.5nm,1.8s							
ARXS	**Arharly**	**5.30**	**32**	*e*P		**Pg**	**01 31 57.4**	**-3.1**
	3.4nm,0.5s							
ARXS				*e*S		**Sg**	**01 33 07.5**	**-1.8**
	16nm,1.0s							
ARXS	**Arharly**	**5.30**	**32**	Pg		**Pg**	**01 31 57.4**	**-3.1**
	3.4nm,0.5s							
ARXS				Lg		Lg	01 33 07.5	
	16nm,1.0s							

MAN 31 01:41:31.9,5.89N×124.72E,h5km,mb4.2,ML3.0,MS2.7, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.65**	**344**	P	Pg	01 41 44.5	+0.2
SKMP				S	Sg	01 41 53.2	+0.4
DDMP	**Don Marcelino,**	**1.01**	**78**	P	Pb	01 41 52.2	+0.4
DDMP				S	Sn	01 42 06.7	-0.6
CTBH	**Cotabato--PC H**	**1.40**	**340**	⇑P	Pn	01 41 57.2	-1.0
CTBH				S	Sb	01 42 14.6	-2.2
DMPH	**Davao City--Mi**	**1.42**	**33**	P	Sn	01 42 20.3	+2.9
BUKP	**Musuan**	**2.00**	**10**	P	Pn	01 42 06.2	-0.2
BUKP				S	Sn	01 42 33.0	+1.1

MEX 31 01:55:24.4±0.5,16.30N×98.19W,h2km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.11**	**32**	*i* P	Pg	01 55 26.1	-0.5
PNIG				*i* S	Sg	01 55 28.2	+0.2

*IDC **31** 02:00:01.2±3.4,36.37N×71.32E,h157km±31km,mb3.1/7, mb1 3.3/13,mb1mx3.0/51,mbtmp3.7/13,Error ellipse: s-maj=27.5km s-min=16.3km az=13.0*
*ISCJB **31** 02:00:04.7±0.5,36.70N±0.04×71.39E±0.07,h200km, mb3.2/7,Error ellipse: s-maj=8.1km s-min=4.7km az=158.7*
*NNC **31** 02:00:09.3±2.9,37.03N×71.35E,h184km±56km,mb3.0, mpv4.1,Error ellipse: s-maj=31.3km s-min=17.2km az=178.0*

ISC 31 02:00:06.3±0.8,36.80N±0.07×71.44E±0.08,h200km,n40, σ1s22/37,mb3.1/7,4C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.61**	**17**	P	**Pn**	**02 01 28.6**	**-0.3**
	SNR=92						
UCH	**Uchtor**	**5.92**	**23**	P	**Pn**	**02 01 32.6**	**-0.3**
	SNR=29						
KZA	**Kyzart**	**6.04**	**28**	P	**Pn**	**02 01 36.9**	**+2.4**
	SNR=5.6						
EKS2	**Erkin-Say**	**6.13**	**16**	P	**Pn**	**02 01 35.9**	**+0.5**
	SNR=21						
AAK	**Ala-Archa**	**6.29**	**21**	P	**Pn**	**02 01 38.0**	**+0.6**
	6.3nm,0.3s,baz=165,slow=6.0,SNR=60						
AAK				S	**Sn**	**02 02 48.2**	**-1.5**
	3.3nm,0.3s,baz=131,slow=20,SNR=9.0						
AAK	**Ala-Archa**	**6.29**	**21**	P	**Pn**	**02 01 38.2**	**+0.7**
	SNR=22						
AAK	**Ala-Archa**	**6.29**	**21**	⇓P	**Pn**	**02 01 38.1**	**+0.6**
	6.5nm,0.3s						
AAK				⇑S	**Sn**	**02 02 47.9**	**-1.7**
	14nm,0.6s						
KK31	**Karatay Array**	**6.34**	**354**	P	**Pn**	**02 01 37.6**	**-0.3**
	7.2nm,0.4s,baz=175,slow=12,SNR=118						
KK31				⇓S	**Sn**	**02 02 46.8**	**-3.8**
	12nm,0.4s,baz=173,slow=21,SNR=3.5						
KBK	**Karagaybulak**	**6.45**	**24**	P	**Pn**	**02 01 41.0**	**+1.6**
	SNR=11						
ULHL	**Ulahol**	**6.59**	**33**	P	**Pn**	**02 01 41.9**	**+0.6**
	SNR=5.9						
CHMS	**Chumysh**	**6.70**	**21**	P	**Pn**	**02 01 42.8**	**+0.2**
	SNR=14						
USP	**Ospenovka**	**6.88**	**19**	P	**Pn**	**02 01 44.6**	**-0.4**
	SNR=13						
TKM2	**Tokmak 2**	**6.90**	**26**	P	**Pn**	**02 01 45.6**	**+0.2**
	SNR=18						
TKM2	**Tokmak 2**	**6.90**	**26**	⇑P	**Pn**	**02 01 45.4**	**0.0**
	6.1nm,0.5s						
TKM2				⇑S	**Sn**	**02 03 03.3**	**-0.7**
	9.2nm,0.8s						
GEYT	**Alibeck**	**10.66**	**280**	P	Pn	02 02 29.8	-4.3
	0.5nm,0.3s,baz=94,slow=10,SNR=9.7						
GEYT				S	Sn	02 04 22.4	-11
	0.9nm,0.3s,baz=96,slow=15,SNR=5.5						
MKAR	**Makanchi Array**	**12.85**	**36**	P	**Pn**	**02 03 03.2**	**+1.4**
	0.2nm,0.3s,baz=208,slow=12,SNR=9.8						
DANN	**Dangsing**	**13.36**	**126**	*e*P	Pn	02 03 06.4	-2.3
	12nm,0.3s						
KOLN	**Koldanda**	**13.66**	**128**	*e*P	Pn	02 03 10.0	-2.3
	8.6nm,0.3s						
GKN	**Gorkha**	**14.17**	**124**	*e*P	Pn	02 03 17.6	-1.0
	18nm,0.2s						
KURBB	**Kurchatov Arra**	**14.73**	**18**	P	**Pn**	**02 03 26.1**	**+1.1**
	0.0nm,0.3s,baz=210,slow=11,SNR=3.6						
KKN	**Kakani**	**14.74**	**124**	*e*P	Pn	02 03 25.1	-0.5
	26nm,0.5s						
DMN	**Daman**	**14.74**	**125**	*e*P	Pn	02 03 24.5	-1.2
	14nm,0.4s						
PKIN	**Phulchoki**	**14.96**	**124**	*e*P	**Pn**	**02 03 27.7**	**-0.6**
	17nm,0.5s						
PKI	**Pulchoki**	**14.97**	**124**	*e*P	**Pn**	**02 03 27.5**	**-1.0**
	2.8nm,0.4s						
AB31	**Akbulak array**	**15.00**	**330**	⇑P	**P**	**02 03 29.3**	**+0.2**
	0.4nm,0.3s,baz=149,slow=8.1,SNR=65						
GUN	**Gumba**	**15.07**	**122**	*e*P	**Pn**	**02 03 28.5**	**-1.2**
	38nm,0.8s						
JIRN	**Jiri**	**15.44**	**122**	*e*P	**Pn**	**02 03 33.6**	**-0.7**
	50nm,0.4s						
RAMN	**Ramite**	**16.17**	**123**	*e*P	**P**	**02 03 41.5**	**-1.0**
	19nm,0.5s						
TAPN	**Taplejung**	**16.68**	**120**	*e*P	**P**	**02 03 48.5**	**+0.4**
AKTO	**Aktyubinsk**	**16.70**	**329**	P	**Pn**	**02 03 49.0**	**+0.1**
	0.4nm,0.3s,baz=138,slow=6.9,SNR=8.3						
ODAN	**Odare**	**16.77**	**122**	*e*P	**P**	**02 03 49.3**	**+0.3**
	16nm,0.5s						
ZALV	**Zalesovo Beam**	**19.50**	**24**	P	**P**	**02 04 19.9**	**+1.8**
	0.5nm,0.3s,baz=218,slow=11,SNR=4.2						
AKASG	**Malin Array Be**	**33.04**	**308**	P	**P**	**02 06 23.5**	**+0.9**
	0.2nm,0.4s,baz=81,slow=7.2,SNR=3.7						
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**02 07 01.4**	**+1.4**
	2.0nm,1.0s,baz=119,slow=10,SNR=3.7						
NB2	**NORSAR Subarra**	**44.36**	**323**	P	**P**	**02 07 57.4**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.36**	**323**	P	**P**	**02 07 57.4**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=99,slow=8.1,SNR=3.6						
ESDC	**Sonseca Array**	**57.63**	**298**	P	**P**	**02 09 36.3**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=56,slow=8.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**66.08**	**269**	P	**P**	**02 10 30.2**	**-1.9**
	comp=Z,0.7nm,0.4s,baz=48,slow=6.3,SNR=17						
WRA	**Warramunga Arr**	**81.85**	**122**	P	**P**	**02 12 02.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=327,slow=5.0,SNR=3.3						
ASAR	**Alice Springs**	**84.14**	**125**	P	P	02 12 14.0	-1.1
	comp=Z,0.3nm,0.7s,baz=313,slow=6.2,SNR=3.5						

*NEIC **31** 02:23:18.5±1.8,51.22N±0.09×178.4W±0.1,h19km±9km*
*AEIC **31** 02:23:20.1±1.7,51.25N±0.09×178.3W±0.2,h14km±7km, ML3.9,mb4.0/14(NEIC)*
*IDC **31** 02:23:22.0±15.0,51.64N×177.46W,h0km,mb3.3/5, mb1 3.8/5,mb1mx3.4/32,mbtmp3.4/5,MS3.3/1,Ms1 3.3/1, ms1mx2.6/25,Error ellipse: s-maj=301.3km s-min=58.0km az=80.0*

ISC 31 02:23:19.2±2.1,51.22N±0.10×178.31W±0.07, h16km±10km,n51,σ0s97/51,mb3.7/8,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**0.63**	**334**		**Pg**	**02 23 31.4**	**-0.2**
TASE	**Tanaga Southea**	**0.64**	**15**		**Pb**	**02 23 32.4**	**+0.3**
TAPA	**Tanaga Point A**	**0.68**	**27**		**Pb**	**02 23 32.9**	**+0.3**
TANO	**Tanaga North**	**0.71**	**10**		**Pg**	**02 23 33.3**	**+0.2**
TAFP	**Tanaga Falls P**	**0.71**	**16**		**Pg**	**02 23 33.2**	**0.0**
TAFP					**Sb**	**02 23 44.0**	**+1.1**
KIMD	**Kanaga Island**	**0.87**	**51**		**Pg**	**02 23 35.7**	**-0.3**
KIWB	**Kanaga Island**	**0.96**	**48**		**Pb**	**02 23 37.3**	**-0.2**
KIWB					**Sn**	**02 23 51.1**	**-0.4**
KIKV	**Kanaga Island**	**0.97**	**47**		**Pb**	**02 23 37.5**	**-0.2**
KIKV					**Sg**	**02 23 50.4**	**-0.4**
KICM	**Kanaga Island**	**0.99**	**44**		**Pb**	**02 23 37.9**	**-0.1**
KIRH	**Kanaga Island**	**1.02**	**48**		**Pb**	**02 23 38.3**	**-0.3**
KIRH					**Sg**	**02 23 52.4**	**0.0**
KINC	**Kanaga Island**	**1.03**	**45**		**Pb**	**02 23 38.5**	**-0.2**
ADK	**Adak**	**1.22**	**56**		**Pn**	**02 23 41.0**	**-0.6**
ADK				Sn	**Sn**	**02 23 57.6**	**-0.1**
ADAG	**Mount Adagdak**	**1.31**	**54**		**Pn**	**02 23 42.8**	**0.0**
GSTD	**Great Sitkin T**	**1.59**	**57**		**Pn**	**02 23 46.8**	**0.0**
GSTD					**Sn**	**02 24 07.5**	**+0.5**
GSMY	**Great Sitkin M**	**1.63**	**59**		**Pn**	**02 23 47.2**	**0.0**
GSTR	**Great Sitkin T**	**1.66**	**57**		**Pn**	**02 23 48.0**	**+0.3**
GSTR				Sn	**Sn**	**02 24 07.8**	**-0.7**
GSIG	**Igitkin Island**	**1.68**	**62**		**Pn**	**02 23 47.4**	**-0.5**
ATKA	**Atka Island**	**2.74**	**67**		**Pn**	**02 24 02.0**	**-0.5**
ATKA				Sn	**Sn**	**02 24 35.3**	**0.0**
ATKA	**Atka Island**	**2.74**	**67**		Lg	02 24 36.5	
KOWE	**Korovin West**	**2.77**	**64**		**Pn**	**02 24 03.4**	**+0.5**
KOKL	**Mount Kliuchef**	**2.78**	**65**		**Pn**	**02 24 04.4**	**+1.2**
NIKH	**Nikolski High**	**6.09**	**70**		**Pn**	**02 24 48.8**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**6.66**	**67**		**Pn**	**02 24 58.3**	**+1.9**
MSW	**Makushin Switc**	**7.53**	**64**		**Pn**	**02 25 10.1**	**+1.9**
UNV	**Unalaska Valle**	**7.67**	**65**		**Pn**	**02 25 10.8**	**+0.7**
KTH	**Kantishna Hill**	**19.05**	**39**	P	**P**	**02 27 40.8**	**+0.3**
KTH				IAmb	IAmb	02 27 43.1	
	comp=Z,8.9nm,0.6s						
TRF	**Thorofare Moun**	**19.26**	**40**	P	**P**	**02 27 43.1**	**+0.2**
BPAW	**Bear Paw Mtn.**	**19.29**	**38**	P	**P**	**02 27 42.1**	**-0.9**
BPAW				IAmb	IAmb	02 27 46.8	
	comp=Z,5.2nm,0.6s						
RND	**Reindeer**	**19.82**	**41**	P	**P**	**02 27 47.2**	**-1.7**
RND				IAmb	IAmb	02 27 50.5	
	comp=Z,5.1nm,0.6s						
MLY	**Manley**	**19.85**	**35**	P	**P**	**02 27 48.1**	**-1.1**
SCM	**Sheep Creek Mo**	**19.91**	**46**	P	**P**	**02 27 50.5**	**+0.6**
DHY	**Denali Highway**	**20.31**	**42**	P	**P**	**02 27 52.8**	**-1.5**
DHY				IAmb	IAmb	02 27 58.0	
	comp=Z,6.1nm,0.8s						
WRH	**Wood River Hil**	**20.58**	**38**	P	**P**	**02 27 56.6**	**-0.5**
HDA	**Harding Lake**	**21.00**	**39**	P	**P**	**02 28 00.8**	**-0.9**
HDA				IAmb	IAmb	02 28 12.0	
	comp=Z,8.9nm,1.5s						
PAX	**Paxson**	**21.09**	**44**	P	**P**	**02 28 03.3**	**+0.6**
PAX				IAmb	IAmb	02 28 08.0	
	comp=Z,6.5nm,1.2s						
ILAR	**Eielson Array**	**21.18**	**38**	P	**P**	**02 28 01.9**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=239,slow=9.6,SNR=16						
GLB	**Gilahina Butte**	**21.43**	**48**	P	**P**	**02 28 07.4**	**+1.1**
DAWY	**Dawson**	**24.02**	**43**	P	**P**	**02 28 30.6**	**-2.4**
INK	**Inuvik**	**27.41**	**35**	LR	LR	02 39 10.9	
	comp=Z,56nm,18.1s,baz=277,slow=36						
H11N2	**WAKE ISLAND Hy**	**33.52**	**206**	T	T	03 05 48.5	
	baz=20						
H11N3	**WAKE ISLAND Hy**	**33.52**	**206**	T	T	03 05 49.3	
	baz=20						
H11N1	**WAKE ISLAND Hy**	**33.53**	**206**	T	T	03 05 48.6	
	baz=20						
H11S1	**WAKE ISLAND Hy**	**34.73**	**206**	T	T	03 07 20.4	
	baz=16,slow=76,SNR=103						
H11S2	**WAKE ISLAND Hy**	**34.75**	**205**	T	T	03 07 19.9	
	baz=16,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy**	**34.75**	**206**	T	T	03 07 19.1	
	baz=16,slow=76,SNR=37						
YKA	**Yellowknife Ar**	**35.12**	**46**	P	**P**	**02 30 10.7**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=277,slow=9.4,SNR=4.8						
NVAR	**Mina Array Bea**	**43.27**	**83**	P	**P**	**02 31 22.4**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=313,slow=6.9,SNR=2.3						
BW06	**Boulder Array**	**46.06**	**72**	P	**P**	**02 31 41.1**	**-1.2**
BW06				IAmb	IAmb	02 31 49.9	
	comp=Z,3.0nm,1.4s						
PD31	**Pinedale Array**	**46.06**	**72**	P	**P**	**02 31 41.0**	**-1.3**
PD31				IAmb	IAmb	02 31 49.9	
	comp=Z,2.6nm,1.4s						
PDAR	**Pinedale Array**	**46.06**	**72**	P	**P**	**02 31 40.9**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=295,slow=3.5,SNR=9.6						
TXAR	**Lajitas Array**	**58.37**	**81**	P	**P**	**02 33 14.4**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=284,slow=5.0,SNR=5.0						

*SJA **31** 03:18:09.4±0.5,22.20S×67.47W,h199km±4km,ML3.2, MW3.0*
*ISCJB **31** 03:18:10.6±0.9,22.31S±0.05×67.56W±0.06, h194km±12km,Error ellipse: s-maj=8.7km s-min=8.2km az=148.6*
*GUC **31** 03:18:11.1±0.7,22.17S×67.97W,h221km±10km,ML3.9*

ISC 31 03:18:10.3±1.8,22.28S±0.07×67.51W±0.06, h194km±16km,n23,σ0s79/35,3C-4D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.33**	**255**	*e*P	**Pn**	**03 18 42.9**	**+0.5**
LVC				*i* S	**Sn**	**03 19 06.4**	**-0.9**
LVC	**Limon Verde**	**1.33**	**255**	⇑*i*P	**Pn**	**03 18 42.9**	**+0.5**
LVC				*e*S	**Sn**	**03 19 07.6**	**+0.3**
LVC				IAML		03 19 09.1	
	comp=Z,63nm,0.1s						
PB09	**IPOC Station P**	**1.67**	**286**	*e*P	**Pn**	**03 18 45.9**	**+0.6**
PB09				*e*S	**Sn**	**03 19 11.8**	**-0.6**
PB09	**IPOC Station P**	**1.67**	**286**	*i* P	**Pn**	**03 18 46.2**	**+0.9**
PB09				*e*S	**Sn**	**03 19 12.2**	**-0.2**
YJA	**Yavi**	**1.85**	**87**	*i* P	**Pn**	**03 18 47.4**	**0.0**
YJA				IAML		03 18 47.7	
	comp=Z,109nm,0.4s						
PB06	**IPOC Station P**	**1.95**	**257**	*i* P	**Pn**	**03 18 48.7**	**+0.6**
PB15	**IPOC Station P**	**2.03**	**243**	*e*P	**Pn**	**03 18 49.9**	**+1.1**
PB15				*e*S	**Sn**	**03 19 18.6**	**-0.3**
PB15	**IPOC Station P**	**2.03**	**243**	*i* P	**Pn**	**03 18 50.0**	**+1.1**
PB15				*e*S	**Sn**	**03 19 19.5**	**+0.6**
PB15				IAML		03 19 22.3	
	comp=Z,2μm,0.1s						
PB03	**IPOC Station P**	**2.09**	**276**	⇑*i*P	**Pn**	**03 18 49.8**	**+0.3**
PB03				*e*S	**Sn**	**03 19 18.7**	**-1.2**
PB03				IAML		03 19 19.4	
	comp=N,663nm,0.3s						
HJA	**Humahuaca**	**2.15**	**116**	*i* P	**Pn**	**03 18 50.8**	**+0.4**
PB04	**IPOC Station P**	**2.44**	**268**	⇓*i*P	**Pn**	**03 18 53.9**	**+0.6**
PB04				*e*S	**Sn**	**03 19 25.6**	**-1.3**
PB04				IAML		03 19 27.4	
	comp=N,706nm,0.1s						
PB04	**IPOC Station P**	**2.44**	**268**	*i* P	**Pn**	**03 18 54.0**	**+0.6**
PB05	**IPOC Station P**	**2.55**	**257**	⇓*i*P	**Pn**	**03 18 55.0**	**+0.6**
PB05				*e*S	**Sn**	**03 19 27.4**	**-1.5**
PB05				IAML		03 19 30.6	
	comp=N,226nm,0.3s						
PB05	**IPOC Station P**	**2.55**	**257**	*i* P	**Pn**	**03 18 55.1**	**+0.6**
PB08	**IPOC Station P**	**2.62**	**324**	⇑*i*P	**Pn**	**03 18 56.5**	**+0.8**
PB08				*e*S	**Sn**	**03 19 30.2**	**-0.7**
PB08				IAML		03 19 31.9	
	comp=N,206nm,0.2s						
AZAP	**Zapla**	**2.97**	**131**	⇓*i*P	**Pn**	**03 18 59.9**

CPUP				IAmb	IAmb	03 41 13.8	
	comp=Z,3.8nm,0.9s						
H08N3	**Diego Garcia H**	**65.38**	**67**	T	T	04 53 38.4	
	baz=216,slow=74						
H08N1	**Diego Garcia H**	**65.39**	**67**	T	T	04 53 26.1	
	baz=216,slow=74						
H08N2	**Diego Garcia H**	**65.40**	**67**	T	T	04 53 37.1	
	baz=216						
TOA0	**Torodi Ar. Sit**	**65.93**	**347**	P	**P**	**03 42 05.2**	**+0.3**
TOA0				IAmb	IAmb	03 42 10.4	
	comp=Z,5.1nm,1.4s						
TORD	**Torodi Ar. Bea**	**65.93**	**347**	P	**P**	**03 42 04.0**	**-0.8**
	comp=Z,0.6nm,1.0s,baz=176,slow=7.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**65.93**	**347**	P	**P**	**03 42 04.0**	**-0.8**
H01W2	**Cape Leeuwin H**	**69.06**	**120**	T	T	04 58 52.8	
	baz=220						
H01W3	**Cape Leeuwin H**	**69.08**	**120**	T	T	04 58 55.2	
	baz=220						
H01W1	**Cape Leeuwin H**	**69.08**	**120**	T	T	04 58 56.0	
	baz=220						
LPAZ	**La Paz**	**72.30**	**266**	P	**P**	**03 42 46.8**	**+1.5**
	comp=Z,3.1nm,0.9s,baz=131,slow=5.4,SNR=12						
LPAZ	**La Paz**	**72.30**	**266**	P	**P**	**03 42 44.5**	**-0.8**
LPAZ				IAmb	IAmb	03 42 47.9	
	comp=Z,4.3nm,0.9s						
RPZ	**Rata Peaks**	**82.45**	**164**	LR	LR	04 19 25.8	
	comp=Z,101nm,19.0s,baz=194,slow=35						
ASAR	**Alice Springs**	**88.23**	**128**	P	**P**	**03 44 10.9**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=193,slow=4.4,SNR=6.4						
YKA	**Yellowknife Ar**	**151.08**	**311**	PKPbc	**PKiKP**	**03 51 11.5**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=90,slow=2.5,SNR=16						

*CNRM **31** 03:45:41.6, 35°.46N × 10°.21W, h30km, ml3.0*
*MDD **31** 03:45:45.1 ± 1.7, 35°.91N × 10°.09W, h0km, mbLg2.1/14, Error ellipse: s-maj=17.0km s-min=14.3km az=138.0, PRXIMO*
*IGIL **31** 03:45:45.6, 35°.72N × 10°.32W, h31km, ML2.0*
*INMG **31** 03:45:45.6 ± 0.7, 35°.82N × 10°.22W, h15km, ML2.0, Error ellipse: s-maj=5.0km s-min=3.4km az=112.0*
*SFS **31** 03:45:45.0, 35°.87N × 10°.00W, ML2.3, SW. CABO DE SAN VICENTE*

ISC 31 03:45:37.4 ± 1.8, 35°.60N ± 0°.03 × 10°.33W ± 0°.10, h10km, n43, σ 2s 52/77, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PFVI	**Vila Bisbo**	**1.95**	**38**	*e*P		**Pn**	**03 46 13.3**	**+2.6**
PFVI				*e*S		**Sn**	**03 46 34.0**	**-1.2**
PFVI				A		A	03 46 44.2	
	8.9nm,0.6s							
PFVI	**Vila Bisbo**	**1.95**	**38**	P		**Pn**	**03 46 13.2**	**+2.6**
	2.8nm,0.1s,SNR=7.9							
PFVI				S		**Sn**	**03 46 33.9**	**-1.2**
	8.8nm,0.1s,SNR=7.9							
MORF	**Marmelete**	**2.17**	**38**	*e*P		**Pn**	**03 46 16.4**	**+2.6**
MORF				*e*S		**Sn**	**03 46 38.8**	**-2.0**
MORF				AML		AML	03 46 40.5	
	comp=N,10nm,0.2s							
MORF	**Marmelete**	**2.17**	**38**	*e*P		**Pn**	**03 46 16.4**	**+2.6**
MORF				*e*S		**Sn**	**03 46 39.3**	**-1.5**
MORF				A		A	03 46 40.7	
	comp=N,6.3nm,0.2s							
MORF	**Marmelete**	**2.17**	**38**	P		**Pn**	**03 46 16.4**	**+2.6**
MORF				S		**Sn**	**03 46 39.3**	**-1.5**
	comp=N,6.3nm,0.2s							
PTEO	**Sao Teotonio**	**2.33**	**33**	*e*S		**Sn**	**03 46 43.4**	**-1.2**
PTEO				A		A	03 46 45.4	
	comp=N,2.9nm,0.1s							
PTEO	**Sao Teotonio**	**2.33**	**33**	S		**Sn**	**03 46 43.4**	**-1.2**
	comp=N,1.4nm,0.1s							
PBDV	**Barranco-do-Ve**	**2.54**	**49**	*e*P		**Pn**	**03 46 21.8**	**+3.1**
PBDV				*e*S		**Sn**	**03 46 48.7**	**-0.9**
PBDV				A		A	03 46 53.6	
	comp=N,3.4nm,0.6s							
PBDV	**Barranco-do-Ve**	**2.54**	**49**	P		**Pn**	**03 46 21.8**	**+3.1**
PBDV				S		**Sn**	**03 46 48.7**	**-0.9**
	comp=N,3.4nm,0.6s							
PCVE	**Castro Verde**	**2.74**	**42**	*e*P		**Pn**	**03 46 24.5**	**+3.0**
PCVE				*e*S		**Sn**	**03 46 53.4**	**-1.2**
PCVE				A		A	03 46 57.0	
	comp=N,3.1nm,0.9s							
PCVE	**Castro Verde**	**2.74**	**42**	P		**Pn**	**03 46 24.5**	**+3.0**
PCVE				S		**Sn**	**03 46 53.4**	**-1.2**
	comp=N,3.1nm,0.9s							
PVAQ	**Vaqueiros**	**2.77**	**49**	*e*P		**Pn**	**03 46 24.9**	**+3.0**
PVAQ				*e*S		**Sn**	**03 46 54.0**	**-1.4**
PVAQ				A		A	03 46 56.0	
	comp=N,6.4nm,0.3s							
PVAQ	**Vaqueiros**	**2.77**	**49**	P		**Pn**	**03 46 24.4**	**+2.6**
PVAQ				S		**Sn**	**03 46 55.5**	**+0.2**
PVAQ	**Vaqueiros**	**2.77**	**49**	P		**Pn**	**03 46 24.9**	**+3.0**
PVAQ				S		**Sn**	**03 46 54.0**	**-1.4**
	comp=N,6.4nm,0.3s							
PNCL	**Nicolau / Gran**	**2.89**	**29**	*e*P		**Pn**	**03 46 26.0**	**+2.4**
PNCL				*e*S		**Sn**	**03 46 56.7**	**-1.7**
PNCL				A		A	03 46 58.8	
	comp=N,3.5nm,0.7s							
PNCL	**Nicolau / Gran**	**2.89**	**29**	P		**Pn**	**03 46 26.0**	**+2.4**
PNCL				S		**Sn**	**03 46 56.7**	**-1.7**
	comp=N,3.5nm,0.7s							
EGRO	**El Granado**	**3.00**	**49**	P		**Pn**	**03 46 27.9**	**+2.9**
	comp=N,0.4nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**03 46 59.5**	**-1.4**
	comp=N,6.3nm,0.2s,SNR=7.9							
PBEJ	**Beja**	**3.12**	**39**	*e*S		**Sn**	**03 47 02.4**	**-1.8**
PBEJ				A		A	03 47 04.3	
	comp=N,3.4nm,0.5s							
PBEJ	**Beja**	**3.12**	**39**	S		**Sn**	**03 47 02.4**	**-1.8**
	comp=N,1.7nm,0.5s							
EVO	**Evora**	**3.46**	**32**	*e*P		**Pn**	**03 46 33.7**	**+2.3**
EVO				*e*S		**Sn**	**03 47 09.9**	**-2.6**
EVO				A		A	03 47 12.8	
	comp=N,4.2nm,0.1s							
EVO	**Evora**	**3.46**	**32**	*e*P		**Pn**	**03 46 33.7**	**+2.3**
EVO				*e*S		**Sn**	**03 47 10.2**	**-2.3**
EVO	**Evora**	**3.46**	**32**	P		**Pn**	**03 46 33.7**	**+2.3**
EVO				S		**Sn**	**03 47 10.2**	**-2.3**
EMIN	**Mina Concepcio**	**3.65**	**53**	P		**Pn**	**03 46 37.0**	**+3.0**
	comp=N,0.3nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**03 47 15.3**	**-1.8**
	comp=N,2.1nm,0.2s,SNR=7.6							
SRHM	**Skhour des Reh**	**3.72**	**146**	P		**Pn**	**03 46 37.2**	**+2.2**
SRHM				S		**Sn**	**03 47 20.2**	**+1.3**
PMTG	**Montargil**	**3.85**	**25**	*e*P		**Pn**	**03 46 38.2**	**+1.5**
PMTG				*e*S		**Sn**	**03 47 18.3**	**-3.6**
PMTG				A		A	03 47 19.1	
	comp=N,4.1nm,0.6s							
PMTG	**Montargil**	**3.85**	**25**	P		**Pn**	**03 46 38.2**	**+1.5**
PMTG				S		**Sn**	**03 47 18.3**	**-3.6**
	comp=N,4.1nm,0.6s							
PESTR	**Estremoz**	**3.92**	**33**	*e*P		**Pn**	**03 46 39.8**	**+2.0**
PESTR				*e*S		**Sn**	**03 47 21.0**	**-2.9**
PESTR				A		A	03 47 23.9	
	comp=N,2.0nm,0.8s							
EBAD	**Badajoz**	**4.11**	**39**	P		**Pn**	**03 46 42.6**	**+2.3**
	comp=N,0.2nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**03 47 26.4**	**-2.2**
	comp=N,1.5nm,0.1s,SNR=7.4							
PMRV	**Marv??o**	**4.48**	**31**	*e*P		**Pn**	**03 46 47.7**	**+2.3**
PMRV				*e*S		**Sn**	**03 47 34.4**	**-3.1**
PMRV				A		A	03 47 36.6	
	comp=N,1.2nm,0.2s							
PMRV	**Marv??o**	**4.48**	**31**	P		**Pn**	**03 46 47.7**	**+2.3**
PMRV				S		**Sn**	**03 47 34.4**	**-3.1**
	comp=N,1.2nm,0.2s							
EMIJ	**Mijas**	**4.60**	**76**	S		**Sn**	**03 47 38.3**	**-2.3**
	comp=N,0.5nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**4.65**	**56**	P		**Pn**	**03 46 50.6**	**+2.9**
	comp=N,0.2nm,0.2s,SNR=7.9							
ECAB				S		**Sn**	**03 47 38.4**	**-3.3**
	comp=N,0.9nm,0.2s,SNR=7.9							
OUK	**Oukaimeden**	**4.84**	**154**	P		**Pn**	**03 46 51.0**	**+0.3**
OUK				S		**Sn**	**03 47 42.2**	**-4.8**
TISM	**Timmit**	**5.05**	**139**	P		**Pn**	**03 46 54.5**	**+1.3**
TISM				S		**Sn**	**03 47 47.9**	**-3.7**
EGOR	**Sierra Gorda,**	**5.24**	**71**	S		**Sn**	**03 47 54.9**	**-1.7**
	comp=N,0.4nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**5.27**	**59**	P		**Pn**	**03 46 59.5**	**+3.1**
	comp=N,0.2nm,0.2s,SNR=7.9							
EADA				S		**Sn**	**03 47 54.0**	**-3.2**
	comp=N,1.1nm,0.1s,SNR=7.9							
MD31	**MD31**	**5.36**	**119**	P		**Pn**	**03 46 59.1**	**+1.5**
MD31				S		**Sn**	**03 47 58.1**	**-1.3**
MDT	**Midelt**	**5.50**	**119**	P		**Pn**	**03 47 00.4**	**+1.0**
MDT				S		**Sn**	**03 48 02.4**	**-0.4**
ELGU	**Los Guajares,**	**5.56**	**75**	S		**Sn**	**03 48 02.1**	**-2.3**
	comp=N,0.6nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**5.58**	**36**	S		**Sn**	**03 48 00.9**	**-3.9**
	comp=N,1.2nm,0.2s,SNR=7.9							
PAB	**San Pablo**	**6.17**	**49**	P		**Pn**	**03 47 11.4**	**+2.7**
	comp=N,0.1nm,0.1s,SNR=7.9							
PAB				S		**Sn**	**03 48 14.1**	**-5.3**
	comp=N,0.4nm,0.2s,SNR=7.9							
EQES	**Quesada**	**6.23**	**67**	S		**Sn**	**03 48 18.2**	**-2.7**
	comp=N,0.4nm,0.3s,SNR=7.9							
ESDC	**Sonseca Array**	**6.48**	**49**	P		**Pn**	**03 47 15.6**	**+2.6**
	comp=N,1.1nm,0.1s,SNR=7.9							
ESDC				S		**Sn**	**03 48 22.4**	**-4.6**
	comp=N,0.8nm,0.3s,SNR=7.9							

*ISCJB **31** 03:46:48.5 ± 0.4, 55°.36N ± 0°.03 × 17°.81E ± 0°.07, h0km, mb2.8/1, MS2.8/1, Error ellipse: s-maj=5.5km s-min=4.1km az=177.1*
*UPP **31** 03:46:51.6 ± 1.4, 55°.18N × 17°.73E, h0km, ML2.6, Suspected explosion*
*IDC **31** 03:46:51.8 ± 1.0, 55°.27N × 18°.15E, h0km, mb3.0/1, mb1 3.4/6, mb1mx3. 1/44, mbtmp3.2/6, ML2.9/5, MS2.9/1, Ms1 2.9/1, ms1mx2.4/26, Error ellipse: s-maj=15.4km s-min=9.3km az=102.0*
*BER **31** 03:46:52.9 ± 2.9, 55°.33N × 18°.04E, h0km, ML2.3(NAO), Suspected explosion*
*NAO **31** 03:46:54.3 ± 2.6, 55°.48N × 18°.10E, ML2.3*

ISC 31 03:46:49.9 ± 0.8, 55°.38N ± 0°.04 × 18°.02E ± 0°.03, h0km, n44, σ 1s 77/55, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BLEU	**Blekinge**	**1.55**	**308**	P		**Pb**	**03 47 20.2**	**+0.8**
BLEU				S		**Sn**	**03 47 42.1**	**+2.6**
BSD	**Bornholm Skovb**	**1.80**	**263**	*i* P		**Pb**	**03 47 22.5**	**-1.1**
BSD				*i* S		**Sg**	**03 47 47.7**	**+0.1**
ASPU	**Aespoe**	**2.19**	**339**	P		**Pb**	**03 47 31.8**	**+1.4**
PBUR	**Paburg**	**2.31**	**72**	*e*P		**Pn**	**03 47 31.7**	**+2.6**
VSTU	**Vaestervik**	**2.43**	**341**	P		**Pb**	**03 47 34.3**	**-0.1**
DEL	**Delary**	**2.58**	**297**	P		**Pn**	**03 47 34.0**	**+1.1**
EKSU	**Eksjoe**	**2.67**	**327**	P		**Pb**	**03 47 37.8**	**-0.6**
VIKU	**Vikbolandet**	**3.21**	**348**	P		**Pn**	**03 47 45.4**	**+3.9**
SLIT	**Slitere, Latvi**	**3.27**	**45**	*e*P		**Pn**	**03 47 45.0**	**+2.7**
PABE	**Paberze**	**3.39**	**85**	*e*P		**Pn**	**03 47 45.5**	**+1.5**
NYNU	**Nynaeshamn**	**3.64**	**360**	P		**Pn**	**03 47 50.8**	**+3.5**
ISAL	**Salakas**	**4.62**	**84**	*e*P		Pn	03 48 05.9	+5.0
IIGN	**Ignalina**	**4.68**	**87**	*e*P		**Pn**	**03 48 04.6**	**+2.9**
IZAR	**Zarasai**	**4.69**	**82**	*e*P		**Pn**	**03 48 04.2**	**+2.4**
CHVC	**Chvalec**	**4.94**	**195**	*e*P		**Pn**	**03 48 05.4**	**0.0**
OSTC	**Ostas**	**4.95**	**193**	*e*P		**Pn**	**03 48 04.4**	**-1.1**
BRG	**Berggiesshubel**	**5.14**	**210**	PG		**Pn**	**03 48 06.7**	**-1.3**
BRG				SG		Sn	03 48 58.2	-10
	1.5nm,0.4s							
DPC	**Dobruska-Polom**	**5.14**	**192**	*e*P		**Pn**	**03 48 08.3**	**+0.2**
HFS	**Hagfors**	**5.30**	**336**	Pn		**Pn**	**03 48 12.7**	**+2.5**
	baz=136,slow=12							
HFS				Sn		**Sn**	**03 49 11.2**	**-0.8**
	baz=148,slow=37							
HFS				Lg		Lg	03 49 39.7	
	baz=144,slow=28							
HFS	**Hagfors**	**5.30**	**336**	Pn		**Pn**	**03 48 12.6**	**+2.5**
	0.5nm,0.3s,baz=145,slow=14,SNR=34							
HFS				Lg		Lg	03 49 41.5	
	1.0nm,0.3s,baz=149,slow=28,SNR=5.8							
HFS	**Hagfors**	**5.30**	**336**	Pn		**Pn**	**03 48 12.7**	**+2.5**
	baz=136,slow=12							
HFS				Sn		**Sn**	**03 49 11.2**	**-0.8**
	baz=148,slow=37							
HFS				Sg		**Sg**	**03 49 39.7**	**-0.2**
	baz=144,slow=28							
KRLC	**Kraliky**	**5.37**	**189**	*e*P		**Pn**	**03 48 10.1**	**-1.1**
OKC	**Ostrava-Krasne**	**5.55**	**179**	*e*P		**Pn**	**03 48 13.0**	**-0.7**
VSU	**Vasula**	**5.69**	**54**	Pn		**Pn**	**03 48 17.8**	**+2.3**
VSU				Sn		**Sn**	**03 49 23.3**	**+1.9**
VSU				Lg		Lg	03 49 51.1	
VSU	**Vasula**	**5.69**	**54**	*e*P		**Pn**	**03 48 17.7**	**+2.2**
VSU	**Vasula**	**5.69**	**54**	Pn		**Pn**	**03 48 17.8**	**+2.3**
VSU				Sg		**Sg**	**03 49 51.1**	**-1.2**
PRU	**Pruhonice**	**5.80**	**203**	*e*P		**Pn**	**03 48 17.3**	**+0.2**
NRA0	**NORESS Array S**	**6.38**	**330**	Pn		**Pn**	**03 48 25.7**	**+0.7**
	baz=137,slow=11							
NRA0				Sn		**Sn**	**03 49 38.8**	**+0.4**
	baz=137,slow=28							
NRA0				Lg		Lg	03 50 12.5	
	baz=141,slow=28							
NRA0	**NORESS Array S**	**6.38**	**330**	Pn		**Pn**	**03 48 25.7**	**+0.7**
	baz=137,slow=11							
NRA0				Sn		**Sn**	**03 49 38.8**	**+0.4**
	baz=137,slow=28							
NRA0				Sg		**Sg**	**03 50 12.5**	**-1.9**
	baz=141,slow=28							
NB2	**NORSAR Subarra**	**6.72**	**330**	Pn		**Pn**	**03 48 30.2**	**+0.5**
	baz=145,slow=14							
NB2	**NORSAR Subarra**	**6.72**	**330**	Pn		**Pn**	**03 48 30.2**	**+0.5**
	baz=145,slow=14							
NOA	**NORSAR Array B**	**6.72**	**330**	Pn		**Pn**	**03 48 29.9**	**+0.2**
	0.0nm,0.3s,baz=169,slow=17,SNR=5.0							
NOA				Sn		**Sn**	**03 49 46.9**	**+0.1**
	0.0nm,0.3s,baz=291,slow=20,SNR=2.3							
NOA				Lg		Lg	03 50 23.1	
	0.1nm,0.3s,baz=220,slow=23,SNR=4.0							
KHC	**Kasperske Hory**	**6.82**	**205**	*e*P		**Pn**	**03 48 31.3**	**+0.1**
VYHS	**Vyhne**	**6.91**	**175**	*e*PN		**Pn**	**03 48 32.2**	**-0.2**
KOLS	**Kolonicke sedl**	**6.96**	**156**	*e*PN		**Pn**	**03 48 34.7**	**+1.6**
GERES	**GERESS Array B**	**7.06**	**204**	Pn		**Pn**	**03 48 35.4**	**+0.9**
	0.1nm,0.3s,baz=14,slow=12,SNR=6.0							
FIA0	**FINESS Array S**	**7.41**	**32**	Pn		**Pn**	**03 48 41.1**	**+2.0**
	baz=218,slow=12							
FIA0				Sn		**Sn**	**03 50 02.1**	**-1.6**
	baz=214,slow=22							
FIA0				Lg		Lg	03 50 43.7	
	baz=218,slow=28							
FIA0	**FINESS Array S**	**7.41**	**32**	Pn		**Pn**	**03 48 41.1**	**+2.0**
	baz=218,slow=12							
FIA0				Sn		**Sn**	**03 50 02.1**	**-1.6**
	baz=214,slow=22							
FIA0				Sg		**Sg**	**03 50 43.7**	**-3.7**
	baz=218,slow=28							
FINES	**FINESS Array B**	**7.41**	**32**	Pn		**Pn**	**03 48 41.4**	**+2.4**
	0.9nm,0.3s,baz=217,slow=11,SNR=32							
FINES				Sn		**Sn**	**03 50 01.3**	**-2.4**
	0.3nm,0.3s,baz=204,slow=20,SNR=2.9							
FINES				Lg		Lg	03 50 44.1	
	0.4nm,0.3s,baz=221,slow=28,SNR=3.7							
EKA	**Eskdalemuir Ar**	**12.05**	**279**	Pn		**Pn**	**03 49 41.8**	**-0.8**
	baz=85,slow=13,SNR=5.9							
ARA0	**ARCESS Array S**	**14.60**	**10**	Pn		Pn	03 50 14.2	-3.3
	baz=192,slow=14							
ARCES	**ARCESS Array B**	**14.60**	**10**	Pn		Pn	03 50 14.4	-3.1
	0.3nm,0.3s,baz=192,slow=14,SNR=19							
MMAI	**Mount Meron Ar**	**25.46**	**144**	LR		LR	04 02 53.5	
	comp=Z,28nm,18.8s,baz=130,slow=38							
TORD	**Torodi Ar. Bea**	**44.02**	**203**	P		**P**	**03 54 58.4**	**-0.7**
	0.1nm,0.5s,baz=15,slow=9.0,SNR=3.4							

*ISCJB **31** 04:05:52.7 ± 0.5, 55°.5S ± 0°.1 × 32°.9W ± 0°.1, h10km, mb4.3/7, MS3.2/4, Error ellipse: s-maj=16.9km s-min=7.8km az=35.6*
*IDC **31** 04:05:53.0 ± 0.8, 55°.49S × 32°.77W, h0km, mb4.3/8, mb1 4.4/8, mb1mx4. 1/26, mbtmp4.3/8, MS3.3/5, Ms1 3.2/5, ms1mx3.1/25, Error ellipse: s-maj=29.1km s-min=17.9km az=68.0*
*NEIC **31** 04:05:55.1 ± 0.7, 55°.6S ± 0°.2 × 33°.1W ± 0°.2, h15km ± 4km, mb4.5/10*

ISC 31 04:05:54.4 ± 0.6, 55°.5S ± 0°.1 × 33°.0W ± 0°.1, h10km, n30, σ 0s 81/23, mb4.6/10, MS3.2/4, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	**Hope Point**	**2.37**	**300**			**Pn**	**04 06 33.1**	**-0.2**
HOPE				Sn		**Sn**	**04 07 01.8**	**-0.6**
PMSA	**Palmer Station**	**17.84**	**226**	LR		LR	04 15 33.9	
	comp=Z,70nm,19.8s,baz=30,slow=32							
VNA3	**Neumayer Olymp**	**18.70**	**156**	P		Pn	04 10 20.8	+7.9
VNA2	**Neumayer--Watz**	**19.02**	**154**	P		Pn	04 10 23.6	+6.9
	baz=312,slow=12							
SNAA	**Sanae**	**20.64**	**153**	P		Pn	04 10 37.5	+1.5
SNAA	**Sanae**	**20.64**	**153**	P		**P**	**04 10 33.3**	**-0.4**
	4.3nm,1.1s,baz=336,slow=9.8,SNR=5.6							
SNAA				LR		LR	04 17 50.0	
	comp=Z,72nm,18.6s,baz=346,slow=35							
SNAA	**Sanae**	**20.64**	**153**	P		**P**	**04 10 33.2**	**-0.5**
PLCA	**Paso Flores**	**28.69**	**285**	LR		LR	04 23 27.6	
	comp=Z,70nm,19.2s,baz=154,slow=37							
CPUP	**Villa Florida**	**34.12**	**319**	P		**P**	**04 12 39.6**	**+0.5**
	2.8nm,0.9s,baz=167,slow=5.6,SNR=6.6							
CPUP				LR		LR	04 28 05.9	
	comp=Z,43nm,18.1s,baz=23,slow=39							
CPUP	**Villa Florida**	**34.12**	**319**	P		**P**	**04 12 39.4**	**+0.3**
CPUP				IAmb		IAmb	04 12 42.9	
	comp=Z,8.0nm,1.4s							
QSPA	**South Pole Qui**	**34.74**	**180**	P		**P**	**04 12 45.3**	**+0.9**
	comp=Z,8.7nm,1.0s,baz=190,slow=3.8,SNR=15							
QSPA	**South Pole Qui**	**34.74**	**180**	P		**P**	**04 12 44.3**	**-0.1**
MAW	**Mawson**	**42.49**	**146**	P		**P**	**04 13 49.5**	**+0.4**
	comp=Z,7.8nm,0.5s,baz=284,slow=4.2,SNR=8.0							
GO01	**Chusmiza**	**44.95**	**308**	P		**P**	**04 14 08.9**	**-1.2**
MNMC	**Minye Minye**	**45.60**	**308**	P		**P**	**04 14 15.2**	**+0.2**
VNDA	**Vanda**	**46.91**	**184**	P		**P**	**04 14 24.2**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=237,slow=6.5,SNR=3.8							
LPAZ	**La Paz**	**47.47**	**311**	P		**P**	**04 14 31.0**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=201,slow=3.2,SNR=6.8							
LPAZ	**La Paz**	**47.47**	**311**	P		**P**	**04 14 29.7**	**-0.3**
LPAZ				IAmb		IAmb	04 14 40.4	
	comp=Z,3.4nm,1.1s							
BOSA	**Boshof**	**49.07**	**82**	P		**P**	**04 14 39.6**	**-2.1**
	comp=Z,4.5nm,0.9s,baz=181,slow=6.2,SNR=6.0							
BOSA				LR		LR	04 32 37.6	
	comp=Z,24nm,18.8s,baz=228,slow=33							
BOSA	**Boshof**	**49.07**	**82**	P		**P**	**04 14 41.8**	**0.0**
BOSA				IAmb		IAmb	04 14 44.7	
	comp=Z,9.4nm,1.3s							
H10N3	**ASCENSION HYDR**	**49.76**	**24**	T		T	05 08 39.1	
	baz=193,slow=75,SNR=25							
H10N1	**ASCENSION HYDR**	**49.76**	**24**	T		T	05 08 43.7	
	baz=193,slow=75,SNR=23							
H10N2	**ASCENSION HYDR**	**49.77**	**24**	T		T	05 08 39.4	
	baz=193,slow=75,SNR=39							
LBTB	**Lobatse**	**52.05**	**79**	P		**P**	**04 15 06.4**	**+0.3**
LBTB				IAmb		IAmb	04 15 06.4	
	comp=Z,7.7nm,1.0s							
SAML	**Samuel**	**52.21**	**321**	P		**P**	**04 15 05.1**	**-0.2**
SAML				IAmb		IAmb	04 15 14.9	
	comp=Z,6.6nm,1.1s							
TOA0	**Torodi Ar. Sit**	**74.35**	**35**	P		**P**	**04 17 32.1**	**+0.1**
TOA0				IAmb		IAmb	04 17 34.3	
	comp=Z,5.6nm,0.9s							
TORD	**Torodi Ar. Bea**	**74.35**	**35**	P		**P**	**04 17 32.6**	**+0.6**
	comp=Z,5.0nm,0.9s,baz=200,slow=6.9,SNR=19							
ASAR	**Alice Springs**	**100.35**	**168**	P		**Pdif**	**04 19 39.8**	**-1.5**
	comp=Z,0.5nm,0.9s,baz=165,slow=3.8,SNR=3.2							
ZALV	**Zalesovo Beam**	**145.10**	**66**	PKP		**PKPdf**	**04 25 30.4**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=339,slow=3.8,SNR=4.8							
ILAR	**Eielson Array**	**147.34**	**313**	PKPbc		**PKPdf**	**04 25 35.4**	**+1.1**
	comp=Z,1.1nm,1.0s,baz=127,slow=3.0,SNR=6.0							

*ISCJB **31** 04:29:05.8 ± 0.4, 38°.85N ± 0°.01 × 1°.12W ± 0°.02, h6km ± 2km, Error ellipse: s-maj=3.0km s-min=2.0km az=35.8*
*INMG **31** 04:29:08.0 ± 0.9, 38°.77N × 1°.02W, h0km, ML2.7, Error ellipse: s-maj=1.5km s-min=1.1km az=107.0*
*SFS **31** 04:29:08.0, 38°.76N × 1°.02W, ML2.8, CAUDATE (ALBACETE)*
*MDD **31** 04:29:08.1 ± 0.3, 38°.76N × 1°.02W, h0km ± 3km, mbLg2.8/39, Error ellipse: s-maj=2.6km s-min=2.0km az=155.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
*CNRM **31** 04:29:09.7, 38°.66N × 0°.96W, h91km, ml3.8*
*LDG **31** 04:29:09.1 ± 0.1, 38°.78N × 1°.04W, h2km, Ml2.9/4, Error ellipse: s-maj=3.6km s-min=2.1km az=130.0*

ISC 31 04:29:06.8 ± 1.1, 38°.77N ± 0°.02 × 1°.03W ± 0°.02, h9km ± 9km, n79, σ 1s 39/153, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFON	**Font Roja**	**0.40**	**105**	Pg		**Pg**	**04 29 14.8**	**+0.1**
	3.1nm,0.1s,SNR=86							
AFON				Lg		Lg	04 29 21.0	
	700nm,0.4s,SNR=5.0							
ETOB	**Tobarra**	**0.42**	**253**	Pg		**Pb**	**04 29 16.1**	**-0.4**
	22nm,0.2s,SNR=395							
ETOB				Lg		Lg	04 29 22.2	
	417nm,0.3s,SNR=38							
EBEN2	**Beniarda presa**	**

ESDC					Lg		Lg	04 30 27.5	
	9.2nm,0.3s,baz=115,slow=31,SNR=7.9								
EQUE	**Quentar**	**2.46**	**231**		Pg		**Pg**	**04 29 52.9**	**-1.1**
	0.9nm,0.1s,SNR=7.9								
EQUE					Sn		**Sn**	**04 30 17.9**	**+0.4**
	5.3nm,0.3s,SNR=7.9								
EQUE					Lg		Lg	04 30 27.8	
	18nm,0.3s,SNR=7.9								
PAB	**San Pablo**	**2.69**	**288**		Pn		**Pn**	**04 29 51.3**	**+0.9**
	7.9nm,0.1s,SNR=7.9								
PAB					Sn		**Sn**	**04 30 23.9**	**+0.7**
	2.6nm,0.2s,SNR=7.9								
PAB					Lg		Lg	04 30 34.9	
	18nm,0.2s,SNR=7.9								
ELGU	**Los Guajares,**	**2.80**	**228**		Pn		**Pn**	**04 29 53.9**	**+2.0**
	0.4nm,0.2s,SNR=7.9								
ELGU					Pg		**Pg**	**04 29 59.7**	**-0.7**
	0.8nm,0.2s,SNR=7.9								
ELGU					Sn		**Sn**	**04 30 25.6**	**-0.2**
	2.2nm,0.2s,SNR=7.9								
ELGU					Lg		Lg	04 30 36.8	
	31nm,0.5s,SNR=7.9								
EADA	**Adamuz**	**2.85**	**259**		Pn		**Pn**	**04 29 52.3**	**-0.2**
	2.1nm,0.2s,SNR=37								
EADA					Pg		**Pb**	**04 29 59.3**	**+1.5**
	2.1nm,0.2s,SNR=7.9								
EADA					Sn		**Sn**	**04 30 27.0**	**+0.1**
	2.9nm,0.1s,SNR=7.9								
EADA					Lg		Lg	04 30 38.7	
	12nm,0.2s,SNR=5.0								
EGOR	**Sierra Gorda,**	**2.94**	**237**		Pn		**Pn**	**04 29 55.7**	**+1.8**
	0.1nm,0.1s,SNR=7.9								
EGOR					Sn		**Sn**	**04 30 29.4**	**-0.1**
	1.7nm,0.2s,SNR=7.9								
EGOR					Lg		Lg	04 30 42.1	
	15nm,0.3s,SNR=7.9								
ESAC	**San Caprasio**	**2.98**	**8**		Pn		**Pn**	**04 29 55.9**	**+1.6**
	0.5nm,0.1s,SNR=7.9								
ESAC					Pg		**Pg**	**04 30 03.3**	**-0.6**
	6.3nm,0.2s,SNR=7.9								
ESAC					Sn		**Sn**	**04 30 30.3**	**+0.1**
	11nm,0.2s,SNR=7.9								
ESAC					Lg		Lg	04 30 43.3	
	49nm,0.4s,SNR=7.9								
OKGL	**Djebel Kef Gue**	**3.04**	**153**		Pn		**Pn**	**04 29 57.0**	**+1.9**
	1.4nm,0.1s,SNR=7.9								
OKGL					Sn		**Sn**	**04 30 32.4**	**+0.7**
	5.8nm,0.2s,SNR=7.9								
EPOB	**Poblet**	**3.04**	**32**		Pn		**Pn**	**04 29 56.5**	**+1.3**
	1.3nm,0.2s,SNR=33								
EPOB					Sn		**Sn**	**04 30 32.3**	**+0.4**
	1.3nm,0.2s,SNR=5.0								
GUD	**Guadarrama**	**3.05**	**309**		Pn		**Pn**	**04 29 56.4**	**+1.1**
	0.2nm,0.1s,SNR=6.4								
GUD					Pg		**Pg**	**04 30 04.9**	**-0.3**
	2.3nm,0.2s,SNR=7.9								
GUD					Lg		Lg	04 30 45.2	
	14nm,0.4s,SNR=8.0								
ETOS	**Mallorca**	**3.15**	**70**		Pn		**Pn**	**04 29 57.8**	**+1.1**
	1.2nm,0.1s,SNR=23								
ETOS					Sn		**Sn**	**04 30 33.8**	**-0.6**
	0.7nm,0.1s,SNR=5.0								
EMAL	**Malaga-Limoner**	**3.36**	**234**	*e*P			**Pn**	**04 30 01.8**	**+2.4**
EMAL				*e*S			**Sg**	**04 30 55.2**	**+0.6**
HORN	**Hornachuelos**	**3.45**	**256**	P			**Pn**	**04 30 01.3**	**+0.6**
HORN				S			**Sn**	**04 30 41.9**	**+0.2**
ECAB	**El Cabril**	**3.51**	**260**	Pn			**Pn**	**04 30 01.7**	**0.0**
	1.0nm,0.2s,SNR=20								
ECAB					Sn		**Sn**	**04 30 43.2**	**-0.2**
	2.2nm,0.1s,SNR=7.9								
ECAB					Lg		Lg	04 30 59.1	
	11nm,0.3s,SNR=5.0								
EMIJ	**Mijas**	**3.69**	**235**	Pn			**Pn**	**04 30 05.8**	**+1.6**
	0.3nm,0.1s,SNR=11								
EMIJ					Sn		**Sn**	**04 30 47.9**	**0.0**
	1.3nm,0.2s,SNR=7.9								
EMIJ					Lg		Lg	04 31 07.1	
	6.1nm,0.4s,SNR=5.0								
CSOR	**Sort**	**3.96**	**24**		Pn		**Pn**	**04 30 09.8**	**+1.9**
	1.5nm,0.2s,SNR=44								
CSOR					Sn		**Sn**	**04 30 54.7**	**+0.2**
	2.8nm,0.3s,SNR=7.9								
CSOR					Lg		Lg	04 31 13.0	
	11nm,0.4s,SNR=5.0								
CFON	**Fontmartina**	**4.00**	**41**		Pn		**Pn**	**04 30 09.3**	**+0.9**
	1.1nm,0.2s,SNR=7.9								
CFON					Sn		**Sn**	**04 30 54.9**	**-0.4**
	3.2nm,0.3s,SNR=7.9								
ECHI	**Chisagues Biel**	**4.00**	**13**		Pn		**Pn**	**04 30 10.5**	**+2.1**
	0.3nm,0.1s,SNR=7.9								
ECHI					Sn		**Sn**	**04 30 56.5**	**+1.0**
	0.3nm,0.1s,SNR=7.9								
ECHI					Lg		Lg	04 31 16.9	
	3.9nm,0.4s,SNR=7.9								
EPLA	**Plasencia**	**4.12**	**290**		Pn		**Pn**	**04 30 10.6**	**+0.7**
	1.2nm,0.1s,SNR=13								
EPLA					Sn		**Sn**	**04 30 58.6**	**+0.4**
	2.5nm,0.2s,SNR=7.9								
EPLA					Lg		Lg	04 31 18.8	
	44nm,0.6s,SNR=7.0								
EORO	**Oroz-Betelu**	**4.12**	**357**	Pn			**Pn**	**04 30 11.6**	**+1.6**
	0.2nm,0.1s,SNR=7.9								
EORO					Pg		**Pg**	**04 30 26.2**	**+0.4**
	0.8nm,0.2s,SNR=7.9								
EORO					Sn		**Sn**	**04 30 57.9**	**-0.6**
	0.3nm,0.1s,SNR=7.9								
EORO					Lg		Lg	04 31 18.5	
	14nm,0.6s,SNR=7.9								
ETSF	**Etsaut**	**4.14**	**5**	*e*Pn			**Pn**	**04 30 11.3**	**+1.0**
ETSF	**Etsaut**	**4.14**	**5**	*e*Pg			**Pg**	**04 30 25.5**	**-0.6**
ETSF				*e*Sn			**Sn**	**04 30 57.3**	**-1.5**
ETSF				*e*Sg			**Sg**	**04 31 18.5**	**-1.2**
	3.3nm,0.3s								
ETSF	**Etsaut**	**4.14**	**5**	Pn			**Pn**	**04 30 11.3**	**+1.0**
ETSF				Pg			**Pg**	**04 30 25.5**	**-0.6**
ETSF				Sn			**Sn**	**04 30 57.3**	**-1.5**
ETSF				Lg			Lg	04 31 18.5	
	1.7nm,0.3s								
ATE	**Arette**	**4.32**	**3**	Pn			**Pn**	**04 30 15.5**	**+2.9**
	0.4nm,0.2s,SNR=7.9								
ATE					Sn		**Sn**	**04 31 01.6**	**-1.6**
	0.9nm,0.2s,SNR=7.9								
ATE					Lg		Lg	04 31 22.5	
	3.9nm,0.3s,SNR=7.9								
SJPF	**Ste Jean**	**4.34**	**358**	*e*Pn			**Pn**	**04 30 14.1**	**+1.1**
SJPF	**Ste Jean**	**4.34**	**358**	*e*Pg			**Pg**	**04 30 30.0**	**+0.1**
SJPF				*e*Sn			**Sn**	**04 31 01.8**	**-1.9**
SJPF				*e*Sg			**Sg**	**04 31 24.8**	**-1.3**
	3.0nm,0.3s								
SJPF	**Ste Jean**	**4.34**	**358**	Pn			**Pn**	**04 30 14.1**	**+1.1**
SJPF				Pg			**Pg**	**04 30 30.0**	**+0.1**
SJPF				Sn			**Sn**	**04 31 01.8**	**-1.9**
SJPF				Lg			Lg	04 31 24.8	
	1.5nm,0.3s								
CLLI	**Llivia**	**4.35**	**31**	Pn			**Pn**	**04 30 15.3**	**+2.0**
	0.9nm,0.2s,SNR=7.9								
CLLI					Sn		**Sn**	**04 31 02.8**	**-1.4**
	0.6nm,0.2s,SNR=7.9								
EPF	**Esparros**	**4.38**	**13**	*e*Pn			**Pn**	**04 30 15.8**	**+2.2**
EPF	**Esparros**	**4.38**	**13**	*e*Pg			**Pg**	**04 30 30.3**	**-0.4**
EPF				*e*Sn			**Sn**	**04 31 03.2**	**-1.6**
	5.8nm,0.3s								
EPF				*e*Sg			**Sg**	**04 31 25.8**	**-1.6**
	3.7nm,0.3s								
EPF	**Esparros**	**4.38**	**13**	Pn			**Pn**	**04 30 15.8**	**+2.2**
EPF				Pg			**Pg**	**04 30 30.3**	**-0.4**
EPF				Sn			**Sn**	**04 31 03.2**	**-1.6**
	2.9nm,0.3s								
EPF				Lg			Lg	04 31 25.8	
	1.9nm,0.3s								
EALK	**Alkurruntz**	**4.46**	**356**	Pn			**Pn**	**04 30 15.5**	**+0.8**
	0.6nm,0.2s,SNR=7.9								
EALK					Sn		**Sn**	**04 31 01.9**	**-4.9**
	4.4nm,0.3s,SNR=7.9								
EALK					Lg		Lg	04 31 30.2	
	8.1nm,0.3s,SNR=7.9								
EMIN	**Mina Concepcio**	**4.55**	**259**	Pn			**Pn**	**04 30 16.6**	**+0.7**
	0.2nm,0.1s,SNR=7.9								
EMIN					Sn		**Sn**	**04 31 07.7**	**-1.1**
	1.2nm,0.1s,SNR=7.9								
EMIN					Lg		Lg	04 31 31.1	
	10nm,0.4s,SNR=7.9								
JBK	**JBK**	**4.60**	**196**	P			**Pn**	**04 30 17.0**	**+0.3**
JBK				S			**Sn**	**04 31 12.7**	**+2.3**
EBAD	**Badajoz**	**4.67**	**272**	Pn			**Pn**	**04 30 17.9**	**+0.3**
	0.5nm,0.1s,SNR=7.3								
EBAD					Sn		**Sn**	**04 31 10.9**	**-1.0**
	1.8nm,0.1s,SNR=6.2								
EBAD					Lg		Lg	04 31 36.2	
	8.9nm,0.2s,SNR=5.0								
SJAF	**Saint Jean de**	**4.76**	**38**	Pn			**Pn**	**04 30 20.0**	**+1.3**
	0.3nm,0.2s,SNR=7.9								
SJAF					Sn		**Sn**	**04 31 13.2**	**-0.8**
	0.3nm,0.3s,SNR=7.9								
ELAN	**Lanestosa**	**4.81**	**339**	Pn			**Pn**	**04 30 21.4**	**+1.9**
	1.5nm,0.5s,SNR=7.9								
ELAN					Sn		**Sn**	**04 31 13.8**	**-1.6**
	1.0nm,0.2s,SNR=7.9								
ELAN					Lg		Lg	04 31 41.6	
	2.0nm,0.3s,SNR=7.9								
PMRV	**Marv??o**	**4.99**	**280**	*e*Pn			**Pn**	**04 30 23.5**	**+1.6**
PMRV				*e*Sn			**Sn**	**04 31 19.3**	**-0.5**
PMRV				*e*Sg			**Sg**	**04 31 47.6**	**+0.6**
PMRV	**Marv??o**	**4.99**	**280**	Pn			**Pn**	**04 30 23.5**	**+1.6**
PMRV				Sn			**Sn**	**04 31 19.3**	**-0.5**
PMRV				Lg			Lg	04 31 47.6	
PESTR	**Estremoz**	**5.12**	**273**	*e*Pn			**Pn**	**04 30 24.7**	**+0.9**
PESTR				*e*Sn			**Sn**	**04 31 23.1**	**+0.1**
PESTR				*e*Sg			**Sg**	**04 31 50.0**	**-1.2**
PESTR				A			A	04 32 02.4	
	6.1nm,0.5s								
PESTR	**Estremoz**	**5.12**	**273**	P			**Pn**	**04 30 22.9**	**-0.8**
PESTR				S			**Sn**	**04 31 24.5**	**+1.5**
MVO	**Moncorvo**	**5.19**	**299**	Pn			**Pn**	**04 30 25.4**	**+0.6**
	2.8nm,0.3s,SNR=7.9								
MVO					Sn		**Sn**	**04 31 22.4**	**-2.4**
	4.7nm,0.4s,SNR=7.9								
MVO					Lg		Lg	04 31 54.0	
	6.5nm,0.3s,SNR=7.9								
EGRO	**El Granado**	**5.23**	**258**	Pn			**Pn**	**04 30 24.0**	**-1.2**
	0.4nm,0.1s,SNR=7.9								
EGRO					Sn		**Sn**	**04 31 23.4**	**-2.3**
	1.0nm,0.2s,SNR=7.9								
EGRO					Lg		Lg	04 31 52.4	
	10nm,0.6s,SNR=7.9								
PVAQ	**Vaqueiros**	**5.45**	**258**	*e*Pn			**Pn**	**04 30 28.2**	**0.0**
PVAQ				*e*Sn			**Sn**	**04 31 29.7**	**-1.3**
PVAQ				A			A	04 32 06.2	
	5.1nm,0.5s								
PVAQ	**Vaqueiros**	**5.45**	**258**	P			**Pn**	**04 30 28.8**	**+0.6**
PVAQ				S			**Sn**	**04 31 31.0**	**0.0**
PVAQ	**Vaqueiros**	**5.45**	**258**	Pn			**Pn**	**04 30 28.2**	**0.0**
PVAQ				Sn			**Sn**	**04 31 29.7**	**-1.3**
	5.1nm,0.5s								
EVO	**Evora**	**5.47**	**270**	*e*S			**Sg**	**04 32 00.3**	**-2.1**
EVO	**Evora**	**5.47**	**270**	Lg			Lg	04 32 00.3	
EARI	**Arriondas**	**5.52**	**326**	Pn			**Pn**	**04 30 31.5**	**+2.3**
	0.2nm,0.1s,SNR=7.9								
EARI					Pg		**Pg**	**04 30 51.9**	**-0.5**
	0.1nm,0.1s,SNR=7.9								
EARI					Sn		**Sn**	**04 31 30.7**	**-2.1**
	1.9nm,0.4s,SNR=7.9								
EARI					Lg		Lg	04 32 02.6	
	1.1nm,0.3s,SNR=7.9								
PMTG	**Montargil**	**5.62**	**275**	*e*Pn			**Pn**	**04 30 31.0**	**+0.5**
PMTG				*e*Sn			**Sn**	**04 31 34.3**	**-0.9**
PMTG	**Montargil**	**5.62**	**275**	Pn			**Pn**	**04 30 31.0**	**+0.5**
PMTG				Sn			**Sn**	**04 31 34.3**	**-0.9**
PBDV	**Barranco-do-Ve**	**5.66**	**256**	*e*Pn			**Pn**	**04 30 31.3**	**+0.2**
PBDV				*e*Sn			**Sn**	**04 31 34.7**	**-1.5**
PBDV				A			A	04 32 20.1	
	4.1nm,0.7s								
PBDV	**Barranco-do-Ve**	**5.66**	**256**	Pn			**Pn**	**04 30 31.3**	**+0.2**
PBDV				Sn			**Sn**	**04 31 34.7**	**-1.5**
	4.1nm,0.7s								
TDRA	**Tendrara**	**5.78**	**188**	P			**Pn**	**04 30 36.0**	**+3.1**
TDRA				S			**Sn**	**04 31 34.3**	**-5.1**
ELOB	**Lobios**	**6.20**	**302**	Pn			**Pn**	**04 30 39.1**	**+0.5**
	2.4nm,0.4s,SNR=7.9								
ELOB					Sn		**Sn**	**04 31 45.3**	**-4.2**
	1.2nm,0.2s,SNR=7.9								
ELOB					Lg		Lg	04 32 24.8	
	3.3nm,0.4s,SNR=7.9								
EPON	**Pontenova**	**6.49**	**317**	Sn			**Sn**	**04 31 55.0**	**-1.6**
	1.3nm,0.2s,SNR=7.9								
EPON					Lg		Lg	04 32 34.8	
	3.1nm,0.3s,SNR=7.9								
CAF	**Calvac**	**6.57**	**20**	*e*Pn			**Pn**	**04 30 44.7**	**+1.1**
CAF	**Calvac**	**6.57**	**20**	Pn			**Pn**	**04 30 44.7**	**+1.1**
EAGO	**Agolada(Pontev**	**6.70**	**309**	Pn			**Pn**	**04 30 46.0**	**+0.6**
	0.8nm,0.1s,SNR=7.9								
EAGO					Lg		Lg	04 32 41.5	
	1.6nm,0.2s,SNR=7.9								

*ISCJB **31** 04:30:43.3±1.1,42°.99N±0°.06×146°.00E±0°.07,h42km, Error ellipse: s-maj=10.1km s-min=5.0km az=145.4*
*JMA **31** 04:30:43.5±0.1,42°.95N×145°.95E, h44km±1km,M2.7*
*SKHL **31** 04:30:44.3±0.4,43°.01N×146°.06E, h35km±5km, mb3.6/3*
ISC 31 04:30:43.0±2.1,42°.96N±0°.10×146°.04E±0°.07,h42km,n14,
σ0s55/25, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.46**	**332**	P	**Pn**	**04 30 53.7**	**+0.4**
NEM2				*e*S	**Sn**	**04 31 00.8**	**+0.3**
NMR	**Nemuro--Hokkai**	**0.47**	**331**	*i* P	**Pn**	**04 30 53.0**	**-0.4**
NMR				*e*S	**Sn**	**04 31 00.0**	**-0.7**
JKHN	**Kushirohamanak**	**0.65**	**281**	P	**Pn**	**04 30 55.7**	**-0.1**
JKHN				*e*S	**Sn**	**04 31 04.7**	**-0.3**
GLVR	**Golovnino**	**0.86**	**334**	*e*P	**Pn**	**04 30 59.0**	**+0.3**
GLVR				AMB	AMB	04 30 59.0	
	36nm,0.2s						
GLVR				*e*S	**Sn**	**04 31 10.0**	**-0.1**
GLVR				A	A	04 31 11.0	
	310nm,0.3s						
GLVR				A	A	04 31 11.0	
	585nm,0.3s						
JAK	**Akkeshi**	**0.98**	**272**	P	**Pn**	**04 31 00.3**	**0.0**
JAK				*e*S	**Sn**	**04 31 12.7**	**-0.3**
GRPR	**Tuman**	**1.05**	**350**	*e*P	**Pn**	**04 31 01.0**	**-0.2**
GRPR				AMB	AMB	04 31 03.0	
	30nm,0.3s						
GRPR				*e*S	**Sn**	**04 31 14.0**	**-0.7**
GRPR				A	A	04 31 15.0	
	365nm,0.3s						
GRPR				A	A	04 31 15.0	
	245nm,0.3s						
SHO	**Shikotan**	**1.08**	**32**	*i* P	**Pn**	**04 31 02.0**	**+0.4**
SHO				AMB	AMB	04 31 03.0	
	10.0nm,0.2s						
SHO				*i* S	**Sn**	**04 31 15.0**	**-0.4**
SHO				A	A	04 31 16.0	
	198nm,0.2s						
SHO				A	A	04 31 16.0	
	249nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.08**	**353**	*e*P	**Pn**	**04 31 02.0**	**+0.3**
YUK				*e*S	**Sn**	**04 31 15.0**	**-0.4**
YUK				A	A	04 31 18.0	
	236nm,0.2s						
YUK				A	A	04 31 18.0	
	287nm,0.2s						
JNSB	**Nemuroshibetsu**	**1.11**	**318**	P	**Pn**	**04 31 02.4**	**+0.3**
JNSB				*e*S	**Sn**	**04 31 16.1**	**0.0**
JNK	**Nakash**	**1.15**	**303**	P	**Pn**	**04 31 02.6**	**0.0**
JNK				*e*S	**Sn**	**04 31 16.0**	**-1.1**
JRA	**Rausu**	**1.18**	**326**	P	**Pn**	**04 31 03.6**	**+0.6**
JOB	**Onbets**	**1.62**	**269**	*e*S	**Sn**	**04 31 28.0**	**-0.6**
JAR	**Ashorobuto**	**1.69**	**282**	P	**Pn**	**04 31 10.5**	**+0.4**
JAR				*e*S	**Sn**	**04 31 30.9**	**+0.4**
JTKR	**Abashiri--Toko**	**1.85**	**304**	P	**Pn**	**04 31 13.6**	**+1.4**

*IDC **31** 05:05:51.5±0.7,20°.80N×146°.72E, h0km, mb3.8/13, mb1 4.0/14,mb1mx3.9/60,mbtmp3.9/14, ML4.1/1, Error ellipse: s-maj=24.0km s-min=14.6km az=93.0*
*NEIC **31** 05:05:53.1±1.2,20°.85N±0°.09×146°.6E±0°.2, h10km±4km, mb4.3/12*
*ISCJB **31** 05:05:55.1±0.5,20°.79N±0°.04×146°.7E±0°.1, h37km, mb3.8/13, Error ellipse: s-maj=14.0km s-min=6.3km az=0.2*
ISC 31 05:05:57.1±0.5,20°.83N±0°.06×146°.7E±0°.1,h37km,n37,
σ0s79/38,mb3.9/18,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**7.40**	**194**	Pn	**Pn**	**05 07 42.0**	**-0.6**
	3.3nm,0.3s,baz=18,slow=20,SNR=2.0						
GUMO					**Sn**	**05 09 06.5**	**+1.2**
	4.8nm,0.3s,baz=180,slow=20,SNR=2.2						
GUMO	**Guam**	**7.40**	**194**		**Pn**	**05 07 42.6**	**0.0**
MAJO	**Matsushiro**	**17.31**	**337**		**Pn**	**05 09 55.4**	**-0.5**
KSRS	**Korea Array**	**23.21**	**320**	P	**P**	**05 11 01.2**	**+0.4**
	2.4nm,0.7s,baz=141,slow=8.6,SNR=4.1						
KLR	**Kul'dur**	**30.74**	**341**	P	**P**	**05 12 09.1**	**+0.4**
	1.1nm,0.5s,baz=180,slow=5.1,SNR=2.9						
COEN	**Coen**	**34.74**	**186**	P	**P**	**05 12 43.8**	**-0.1**
COEN				IAmb	IAmb	05 13 00.9	
	comp=Z,2.4nm,0.8s						
MTN	**Manton Dam**	**36.78**	**206**	P	**P**	**05 13 00.8**	**-0.6**
KNRA	**Kununurra**	**40.31**	**207**	P	**P**	**05 13 30.9**	**-0.2**
KNRA				IAmb	IAmb	05 13 31.4	
	comp=Z,16nm,0.9s						
SONM	**Songino Array**	**42.09**	**319**	P	**P**	**05 13 47.3**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=99,slow=8.9,SNR=3.1						
WRAB	**Tennant Creek**	**42.26**	**197**	P	**P**	**05 13 46.8**	**-0.2**
WRAB				IAmb	IAmb	05 13 48.1	
	comp=Z,5.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**43.83**	**210**	P	**P**	**05 13 59.6**	**-0.1**
	comp=Z,6.8nm,1.1s,baz=31,slow=8.7,SNR=4.8						
FITZ	**Fitzroy Crossi**	**43.83**	**210**	IAmb	IAmb	05 14 09.6	
	comp=Z,5.4nm,1.2s						
CMAR	**Chiang Mai Arr**	**44.88**	**276**	P	**P**	**05 14 09.1**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=87,slow=5.7,SNR=3.4						
AS31	**Alice Springs**	**45.94**	**196**	P	**P**	**05 14 16.7**	**+0.2**
ASAR	**Alice Springs**	**45.94**	**196**	P	**P**	**05 14 15.5**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=14,slow=7.2,SNR=16						
ASAR				PcP	**PcP**	**05 15 53.3**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=20,slow=3.4,SNR=8.7						
STKA	**Stephens Creek**	**52.63**	**185**	P	**P**	**05 15 06.6**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=12,slow=7.7,SNR=5.0						
FORT	**Forrest**	**54.33**	**200**	P	**P**	**05 15 19.4**	**-0.6**
RAMN	**Ramite**	**54.82**	**289**	*e*P	**P**	**05 15 24.2**	**+0.1**
JIRN	**Jiri**	**55.10**	**290**	*e*P	**P**	**05 15 26.9**	**+0.7**
	comp=Z,22nm,0.7s						
GUN	**Gumba**	**55.34**	**290**	*e*P	**P**	**05 15 29.5**	**+1.6**
KKN	**Kakani**	**55.88**	**290**	*e*P	**P**	**05 15 32.7**	**+1.0**
	comp=Z,16nm,0.6s						
ZALV	**Zalesovo Beam**	**56.90**	**322**	P	**P**	**05 15 37.6**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=102,slow=8.3,SNR=3.9						
DANN	**Dangsing**	**57.14**	**291**	*e*P	**P**	**05 15 41.3**	**+0.6**
	comp=Z,7.9nm,0.8s						
KOLN	**Koldanda**	**57.36**	**290**	*e*P	**P**	**05 15 42.3**	**+0.1**
	comp=Z,18nm,0.8s						
MKAR	**Makanchi Array**	**57.67**	**313**	P	**P**	**05 15 43.7**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=90,slow=8.5,SNR=4.4						
NWAO	**Narrogin (SRO)**	**60.40**	**208**	P	**P**	**05 16 02.9**	**+0.2**
TOLK	**Toolik Lake Re**	**61.29**	**22**	P	**P**	**05 16 09.0**	**+0.6**
TOLK				IAmb	IAmb	05 16 21.5	
	comp=Z,5.0nm,1.4s						
ILAR	**Eielson Array**	**61.35**	**27**	P	**P**	**05 16 09.5**	**+0.7**
	comp=Z,0.3nm,1.0s,baz=254,slow=6.4,SNR=3.2						
KKAR	**Karatay Array**	**66.13**	**309**	P	**P**	**05 16 39.2**	**-1.6**
PLWZ	**Palliser**	**67.50**	**157**	P	**P**	**05 16 50.0**	**+0.7**
ABKAR	**Akbulak array**	**72.41**	**317**	P	**P**	**05 17 19.1**	**-0.4**
ABKAR				IAmb	IAmb	05 17 22.2	
	comp=Z,1.4nm,0.8s						
ABKAR	**Akbulak array**	**72.41**	**317**	P	**P**	**05 17 17.9**	**-1.6**
YKA	**Yellowknife Ar**	**75.69**	**28**	P	**P**	**05 17 37.8**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=288,slow=5.5,SNR=5.8						
NVAR	**Mina Array Bea**	**81.12**	**52**	P	**P**	**05 18 09.7**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=262,slow=6.3,SNR=4.8						
FINES	**FINESS Array B**	**85.34**	**335**	P	**P**	**05 18 28.9**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=66,slow=5.2,SNR=10						
W35A	**Tecumseh**	**97.99**	**48**	P	**P**	**05 19 30.1**	**+0.3**
LPAZ	**La Paz**	**146.75**	**88**	PKPbc	**PKPbc**	**05 25 37.1**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=7.9,slow=2.6,SNR=6.2						

*IDC **31** 05:16:12.3±1.1,20°.80N×146°.73E, h0km, mb3.8/10, mb1 3.9/10,mb1mx3.7/57,mbtmp3.8/10, Error ellipse: s-maj=32.9km s-min=21.5km az=89.0*
*NEIC **31** 05:16:14.4±1.1,20°.9N±0°.1×146°.7E±0°.2, h10km±4km, mb4.1/3*
*ISCJB **31** 05:16:16.4±0.7,20°.82N±0°.09×146°.7E±0°.2, h37km, mb3.7/10, Error ellipse: s-maj=24.2km s-min=13.1km az=172.0*
ISC 31 05:16:18.3±0.8,20°.8N±0°.1×146°.7E±0°.2,h37km,n15,
σ0s63/15,mb3.7/11,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**23.21**	**320**	P	**P**	**05 21 22.6**	**+0.7**
	1.6nm,0.7s,baz=145,slow=8.7,SNR=4.9						
USRK	**Ussuriysk Ar.**	**26.30**	**336**	P	**P**	**05 21 50.2**	**-0.1**
	2.0nm,1.0s,baz=134,slow=8.9,SNR=2.2

	comp=Z,0.5nm,0.6s,baz=95,slow=5.1,SNR=3.7								
ASAR				ScP	**ScP**	05 28 16.1	+2.3		
	comp=Z,1.2nm,0.6s,baz=105,slow=4.4,SNR=13								
ASAR				S	**S**	05 29 29.8	-2.0		
	comp=Z,0.2nm,0.7s,baz=98,slow=14,SNR=5.9								
ASAR	**Alice Springs**	**43.46**	**257**	P	**P**	05 23 45.8	-0.6		
WRAB	**Tennant Creek**	**43.57**	**263**	P	**P**	05 23 46.7	-0.6		
WRAB				IAmb	IAmb	05 23 47.1			
	comp=Z,7.2nm,0.8s								
FORT	**Forrest**	**48.20**	**247**	P	**P**	05 24 21.9	-0.2		
MTN	**Manton Dam**	**48.21**	**271**	P	**P**	05 24 21.9	-0.5		
MTN				IAmb	IAmb	05 24 22.4			
	comp=Z,11nm,0.7s								
KNRA	**Kununurra**	**49.67**	**267**	P	**P**	05 24 33.0	-0.1		
KNRA				IAmb	IAmb	05 24 51.5			
	comp=Z,22nm,1.2s								
FITZ	**Fitzroy Crossi**	**52.01**	**263**	P	**P**	05 24 50.2	+0.3		
	comp=Z,1.5nm,0.4s,baz=107,slow=5.5,SNR=8.3								
FITZ	**Fitzroy Crossi**	**52.01**	**263**	P	**P**	05 24 49.9	0.0		
FITZ				IAmb	IAmb	05 24 57.9			
	comp=Z,16nm,1.5s								
SIJI	**Sorong**	**52.45**	**286**	P	**P**	05 24 53.6	+0.4		
	comp=Z,22nm,0.8s,baz=107,slow=17,SNR=5.1								
PSA00	**Pilbara Seismi**	**56.61**	**257**	P	**P**	05 25 21.9	-0.2		
PSA00				IAmb	IAmb	05 25 36.4			
	comp=Z,35nm,1.2s								
VNDA	**Vanda**	**57.30**	**185**	P	**P**	05 25 27.1	+1.5		
	comp=Z,0.9nm,0.5s,baz=6.6,slow=7.5,SNR=7.4								
VNDA	**Vanda**	**57.30**	**185**	P	**P**	05 25 27.2	+1.5		
QSPA	**South Pole Qui**	**59.03**	**180**	P	**P**	05 26 41.9	+1.1		
	comp=Z,4.0nm,0.6s,baz=139,slow=0.4,SNR=26								
QSPA	**South Pole Qui**	**69.03**	**180**	P	**P**	05 26 42.1	+1.2		
QSPA				IAmb	IAmb	05 26 42.5			
	comp=Z,5.2nm,0.7s								
MJAR	**Matsushiro Arr**	**70.08**	**324**	P	**P**	05 26 47.4	+0.1		
	comp=Z,2.5nm,0.8s,baz=125,slow=6.4,SNR=5.3								
PETK	**Petropavlovsk-**	**76.55**	**346**	P	**P**	05 27 22.8	-0.8		
	comp=Z,8.8nm,1.0s,baz=230,slow=4.6,SNR=3.9								
YBH	**Yreka Blue Hor**	**81.31**	**39**	P	**P**	05 27 50.6	+1.5		
PNTR	**Pine Nut**	**81.62**	**43**	P	**P**	05 27 52.2	+1.2		
PNTR				IAmb	IAmb	05 27 53.9			
	comp=Z,4.1nm,0.7s								
HUMO	**Hull Mountain**	**81.71**	**38**	P	**P**	05 27 52.1	+1.1		
HUMO				IAmb	IAmb	05 27 54.1			
	comp=Z,8.0nm,1.4s								
YERR	**Yerington**	**81.79**	**43**	P	**P**	05 27 52.7	+0.9		
NVAR	**Mina Array Bea**	**82.07**	**44**	P	**P**	05 27 54.7	+1.4		
	comp=Z,1.0nm,0.6s,baz=223,slow=8.2,SNR=11								
NVAR	**Mina Array Bea**	**82.07**	**44**	P	**P**	05 27 54.5	+1.2		
SNAA	**Sanae**	**87.50**	**179**	P	**P**	05 28 18.2	-0.6		
VNA2	**Neumayer--Watz**	**88.10**	**177**	P	**P**	05 28 21.5	0.0		
	baz=187,slow=4.0								
TXAR	**Lajitas Array**	**88.15**	**58**	P	**P**	05 28 24.0	+1.4		
	comp=Z,1.5nm,0.8s,baz=220,slow=6.2,SNR=17								
TXAR	**Lajitas Array**	**88.15**	**58**	P	**P**	05 28 24.7	+2.0		
NEA	**Nenana**	**88.42**	**12**	P	**P**	05 28 22.7	-0.2		
ILAR	**Eielson Array**	**89.05**	**13**	P	**P**	05 28 25.7	-0.1		
	comp=Z,0.2nm,0.4s,baz=213,slow=5.4,SNR=9.9								
PLCA	**Paso Flores**	**89.60**	**134**	P	**P**	05 28 30.4	+1.1		
	comp=Z,2.1nm,1.0s,baz=250,slow=5.0,SNR=4.3								
PLCA	**Paso Flores**	**89.60**	**134**	IAmb	IAmb	05 28 33.9			
	comp=Z,11nm,1.4s								
PDAR	**Pinedale Array**	**90.01**	**44**	P	**P**	05 28 31.9	+0.7		
	comp=Z,0.7nm,0.7s,baz=197,slow=3.0,SNR=8.2								
MKAR	**Makanchi Array**	**110.87**	**313**	PKiKP	**PKiKP**	05 33 59.1	-0.7		
	comp=Z,0.2nm,0.5s,baz=128,slow=1.5,SNR=3.6								
NRS	**Narsarsuaq**	**128.65**	**27**		**PKPdf**	05 34 33.7	+0.4		
ARCES	**ARCESS Array B**	**129.27**	**349**	PKP	**PKPdf**	05 34 34.3	-0.1		
	comp=Z,4.7nm,0.9s,baz=38,slow=1.4,SNR=8.1								
FINES	**FINESS Array B**	**136.01**	**343**	PKP	**PKPdf**	05 34 47.3	+0.1		
	comp=Z,2.5nm,1.0s,baz=103,slow=3.0,SNR=3.5								
HFS	**Hagfors**	**139.91**	**350**	PKhKP	PKPpre	05 34 47.4			
	comp=Z,0.7nm,0.3s,baz=33,slow=2.4,SNR=9.2								
AKASG	**Malin Array Be**	**143.00**	**330**	PKhKP	PKPpre	05 34 57.8			
	comp=Z,1.1nm,0.3s,baz=44,slow=4.1,SNR=16								
BRTR	**Keskin Array B**	**146.48**	**311**	PKPbc	**PKPbc**	05 35 09.2	-0.1		
	comp=Z,0.6nm,0.6s,baz=130,slow=2.9,SNR=4.3								
BRTR	**Keskin Array B**	**146.48**	**311**	PKPdf	**PKPdf**	05 35 06.6	-0.2		
CLL	**Collm**	**148.35**	**346**	*e*PKPbc	**PKPbc**	05 35 14.0	+0.4		
GERES	**GERESS Array B**	**150.44**	**343**	PKPbc	**PKPbc**	05 35 19.1	+0.3		
	comp=Z,0.9nm,0.6s,baz=15,slow=2.5,SNR=8.2								
TORD	**Torodi Ar. Bea**	**172.12**	**185**	PKP	**PKPdf**	05 35 34.9	-0.8		
	comp=Z,1.1nm,1.1s,baz=207,slow=1.6,SNR=2.5								
TORD				PKPab	**PKPab**	05 37 03.1	-0.3		
	comp=Z,0.4nm,0.9s,baz=212,slow=5.1,SNR=3.1								

*ISK **31** 05:18:43.3, 34.°97N×23.°09E, h23km, ML3.9/9*
*ATH **31** 05:18:43.7, 35.°10N×23.°16E, h67km±5km, ML3.6/5, Error ellipse: s-maj=5.0km s-min=1.3km az=119.0*
*THE **31** 05:18:43.5, 35.°02N×23.°04E, h10km±1km, ML3.6/4, Error ellipse: s-maj=1.9km s-min=0.8km az=50.0*
*IDC **31** 05:18:48.1±2.3, 35.°39N×23.°29E, h64km±25km, mb3.4/4, mb1 3.4/8, mb1mx3.2/44, mbtmp3.5/8, ML3.5/4, MS3.5/1, Ms1 3.5/1, ms1mx2.4/34, Error ellipse: s-maj=23.9km s-min=22.4km az=32.0*

ISC 31 05:18:43.3±1.4, 35.°08N±0.°05×23.°03E±0.°04, h25km±11km, n86, σ1°64/100, mb3.8/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RODP	**Rodopos**	**0.77**	**51**	P	**Pn**	**05 18 59.3**	**+0.8**
RODP				SG	Sn	05 19 11.5	+2.3
ANKY	**Antikythira Is**	**0.82**	**16**	P	**Pn**	**05 19 00.0**	**+0.9**
ANKY				S	Sn	05 19 12.8	+2.4
	3µm,0.7s						
ANKY	**Antikythira Is**	**0.82**	**16**	P	**Pn**	**05 19 00.0**	**+0.9**
ANKY				S	Sn	05 19 12.2	+1.8
ANKY				AML	AML	05 19 18.9	
	comp=E,6484µm,0.5s						
ANKY				AML	AML	05 19 21.5	
	comp=N,6675µm,0.8s						
IMMV	**Iera Moni Meta**	**0.87**	**64**	P	**Pn**	**05 19 00.1**	**+0.2**
IMMV				S	Sn	05 19 12.7	+1.0
	comp=N,4µm,0.8s						
IMMV	**Iera Moni Meta**	**0.87**	**64**	P	**Pn**	**05 19 00.1**	**+0.2**
IMMV				S	Sn	05 19 12.1	+0.4
IMMV				AML	AML	05 19 16.3	
	comp=N,9417µm,0.9s						
IMMV				AML	AML	05 19 19.6	
	comp=E,5388µm,1.1s						
IMMV	**Iera Moni Meta**	**0.87**	**64**	PG	**Pn**	**05 19 00.5**	**+0.6**
IMMV				SG	Sn	05 19 13.2	+1.5
GVD	**Gavdhos**	**0.91**	**105**	P	**Pn**	**05 19 00.3**	**-0.1**
GVD				S	Sn	05 19 13.0	+0.4
	comp=E,3µm,0.3s						
GVD	**Gavdhos**	**0.91**	**105**	P	**Pn**	**05 19 00.4**	**-0.1**
GVD				S	Sb	05 19 11.6	-0.3
GVD				AML	AML	05 19 16.2	
	comp=E,5581µm,0.4s						
GVD				AML	AML	05 19 18.1	
	comp=N,6630µm,0.4s						
GVD	**Gavdhos**	**0.91**	**105**	PG	**Pn**	**05 19 00.2**	**-0.1**
GVD				SG	Sn	05 19 11.9	-0.7
GVDS	**Gavdos**	**0.91**	**105**	PG	**Pb**	**05 18 59.9**	**-0.4**
GVDS				SG	Sb	05 19 11.1	-0.9
VAM	**Vamos**	**1.01**	**71**	P	**Pb**	**05 19 02.4**	**+0.2**
VAM				S	Sn	05 19 17.8	+2.5
	comp=N,5µm,0.8s						
VAM	**Vamos**	**1.01**	**71**	P	**Pb**	**05 19 02.0**	**-0.1**
VAM				S	Sb	05 19 14.2	-0.9
VAM				AML	AML	05 19 21.6	
	comp=N,9784µm,0.8s						
VAM				AML	AML	05 19 22.4	
	comp=E,9436µm,1.0s						
KTHA	**Kythira Island**	**1.17**	**1**	P	**Pb**	**05 19 05.4**	**+0.5**
KTHA	**Kythira Island**	**1.17**	**1**	P	**Pb**	**05 19 05.8**	**+0.9**
KTHA	**Kythira Island**	**1.17**	**1**	PN	**Pb**	**05 19 06.4**	**+1.5**
SIVA	**Sivas**	**1.47**	**92**	P	**Pn**	**05 19 08.5**	**+0.4**
SIVA	**Sivas**	**1.47**	**92**	P	**Pn**	**05 19 08.0**	**-0.1**
IDI	**Anoyia**	**1.54**	**82**	P	**Pn**	**05 19 09.7**	**+0.5**
	comp=E,8.5nm,0.3s,baz=286,slow=14,SNR=56						
IDI				S	**Sn**	**05 19 27.1**	**-1.3**
	comp=E,17nm,0.3s,baz=300,slow=17,SNR=9.3						
IDI	**Anoyia**	**1.54**	**82**	P	**Pn**	**05 19 09.2**	**0.0**
IDI	**Anoyia**	**1.54**	**82**	PN	**Pn**	**05 19 09.7**	**+0.5**
MNVA	**Monemvasia**	**1.60**	**0**	P	**Pb**	**05 19 11.1**	**-1.0**
VLI	**Veliai**	**1.64**	**358**	P	**Pn**	**05 19 11.3**	**+0.9**
VLI				S	Sn	05 19 30.7	+0.1
VLI				AML	AML	05 19 47.8	
	comp=N,1628µm,0.5s						
VLI				AML	AML	05 19 48.0	
	comp=E,1676µm,0.6s						
HRKL	**Herakleio**	**1.72**	**82**	PN	**Pn**	**05 19 12.1**	**+0.6**
DYR	**Agios Nikonas**	**1.77**	**342**	P	**Pb**	**05 19 14.7**	**-0.3**
MHLO	**Agia Marina, M**	**1.96**	**34**	P	**Pn**	**05 19 15.1**	**+0.3**
MHLA	**Plaka, Milos I**	**2.01**	**34**	P	**Pn**	**05 19 16.5**	**+0.9**
LAST	**Lasithi**	**2.01**	**87**	P	**Pn**	**05 19 16.1**	**+0.5**
PYL	**PYLOS**	**2.09**	**330**	P	**Pn**	**05 19 17.6**	**+1.0**
ITM	**Ithomi**	**2.27**	**337**	P	**Pn**	**05 19 20.7**	**+1.4**
ITM	**Ithomi**	**2.27**	**337**	PN	**Pb**	**05 19 21.8**	**-1.9**
KRND	**KRANIDI**	**2.30**	**2**	P	**Pn**	**05 19 21.4**	**+1.9**
KRND	**KRANIDI**	**2.30**	**2**	P	**Pn**	**05 19 20.7**	**+1.2**
THR6	**Thira Island,**	**2.31**	**56**	P	**Pn**	**05 19 19.6**	**-0.1**
THR5	**Thira Island,**	**2.31**	**54**	P	**Pn**	**05 19 18.9**	**-0.8**
THR3	**Thira Island,**	**2.34**	**55**	P	**Pn**	**05 19 19.9**	**-0.2**
VLX	**Vlachokerasia**	**2.34**	**347**	P	**Pn**	**05 19 21.8**	**+1.6**
SANT	**Santorini**	**2.36**	**56**	P	**Pn**	**05 19 19.5**	**-1.0**
DID	**Didima**	**2.43**	**4**	P	**Pn**	**05 19 22.5**	**+1.2**
IOSP	**Ios island**	**2.46**	**48**	P	**Pn**	**05 19 21.4**	**-0.4**
ZKR	**Zakros**	**2.62**	**88**	P	**Pn**	**05 19 24.3**	**+0.3**
ZKR	**Zakros**	**2.62**	**88**	PN	**Pn**	**05 19 24.7**	**+0.8**
APE	**Apeiranthos**	**2.84**	**45**	P	**Pn**	**05 19 27.0**	**0.0**
APE	**Apeiranthos**	**2.84**	**45**	PN	**Pn**	**05 19 29.2**	**+2.2**
AMGA	**Amorgos Island**	**2.91**	**52**	P	**Pn**	**05 19 27.6**	**-0.3**
LTK	**Loutraki**	**2.94**	**359**	P	**Pn**	**05 19 29.2**	**+0.9**
KLV	**Kalavryta, Ach**	**3.04**	**347**	P	**Pn**	**05 19 31.7**	**+1.9**
VIL2	**Platees**	**3.13**	**4**	P	**Pn**	**05 19 31.2**	**+0.2**
PROD	**Prodromos**	**3.17**	**358**	P	**Pn**	**05 19 32.7**	**+1.2**
LAKA	**Lakka**	**3.26**	**345**	P	**Pn**	**05 19 33.6**	**+0.8**
TRIZ	**Trizonia**	**3.37**	**347**	P	**Pn**	**05 19 35.6**	**+1.4**
KALE	**Kalithea**	**3.38**	**348**	P	**Pn**	**05 19 35.7**	**+1.2**
KARP	**Karpathos**	**3.41**	**81**	PN	**Pn**	**05 19 35.9**	**+1.0**
SERG	**Sergoula**	**3.42**	**347**	P	**Pn**	**05 19 35.9**	**+1.0**
LKR	**Lokris**	**3.56**	**360**	P	**Pn**	**05 19 38.0**	**+1.1**
MRKA	**Markates**	**3.65**	**7**	P	**Pn**	**05 19 38.5**	**+0.4**
MAKR	**Makrakomi, Fth**	**3.99**	**350**	P	**Pn**	**05 19 43.9**	**+1.1**
BODT	**Bodrum**	**4.00**	**59**	PN	**Pn**	**05 19 44.8**	**+1.9**
DAT	**Datca**	**4.04**	**65**	PN	**Pn**	**05 19 45.6**	**+2.0**
CHOS	**Chios island**	**4.10**	**36**	PN	**Pn**	**05 19 47.4**	**+3.0**
AYDB	**Zeytinkoy-Aydi**	**4.85**	**52**	PN	**Pn**	**05 19 57.9**	**+3.2**
VAE	**Valguarnera**	**7.36**	**291**	S	**Sn**	**05 21 52.0**	**+0.2**
	comp=E,2.2nm,0.3s,baz=105,slow=8.7,SNR=4.2						
DBRK	**Dubrovnik**	**8.48**	**335**	*i* Pn	**Pn**	**05 20 41.0**	**-3.4**
DBRK				Sn	Sn	05 22 09.0	-10
STON	**Ston**	**8.81**	**334**	*i* Pn	**Pn**	**05 20 45.5**	**-3.4**
MAKA	**Makarska**	**9.43**	**332**	*e*Pn	**Pn**	**05 20 55.2**	**-2.1**
RICI	**Ricice**	**9.56**	**333**	ePn	**Pn**	**05 20 55.5**	**-3.7**
RICI				Sn	Sn	05 22 34.4	-11
BRTR	**Keskin Array B**	**9.63**	**58**	P	**Pn**	**05 21 01.0**	**+0.7**
	comp=E,0.1nm,0.3s,baz=222,slow=11,SNR=3.7						
KIJV	**Kijnvo**	**10.27**	**332**	*e*Pn	**Pn**	**05 21 06.6**	**-2.4**
ZIRJ	**Zirje**	**10.29**	**329**	*i* Pn	**Pn**	**05 21 07.0**	**-2.2**
ZIRJ				Sn	Sn	05 22 50.0	-14
MORI	**Morici**	**10.43**	**329**	*e*Pn	**Pn**	**05 21 09.2**	**-2.0**
MORI				Sn	Sn	05 22 55.0	-12
MLR	**Muntele Rosu**	**10.63**	**11**	P	**Pn**	**05 21 13.0**	**-1.0**
	comp=E,0.1nm,0.3s,baz=198,slow=9.6,SNR=3.0						
DUGI	**Dugi Otok**	**10.81**	**328**	*e*Pn	**Pn**	**05 21 14.6**	**-1.8**
NVLJ	**Novalja**	**11.35**	**329**	*e*Pn	**Pn**	**05 21 20.7**	**-3.0**
MOSL	**Moslavina**	**11.55**	**337**	*i* Pn	**Pn**	**05 21 23.4**	**-3.1**
OBKA	**Obir**	**13.09**	**333**	Pn	**Pn**	**05 21 49.7**	**+2.1**
	comp=E,1.1nm,0.4s						
ARSA	**Arzberg**	**13.40**	**337**	*e*Pn	**Pn**	**05 21 56.3**	**+4.7**
	comp=E,0.7nm,0.3s						
VYHS	**Vyhne**	**13.76**	**348**	*e*PN	**P**	**05 22 02.4**	**-2.5**
ABTA	**Abfaltersbach**	**14.09**	**329**	*i* Pn	**P**	**05 22 10.8**	**+2.1**
	comp=E,1.9nm,0.8s						
FETA	**Feichten**	**15.09**	**326**	*i* P	**P**	**05 22 21.8**	**+2.0**
GERES	**GERESS Array B**	**15.38**	**336**	P	**Pn**	**05 22 18.6**	**0.0**
	comp=E,0.2nm,0.3s,baz=157,slow=12,SNR=8.0						
KHC	**Kasperske Hory**	**15.67**	**336**	*e*P	**P**	**05 22 26.0**	**-0.2**
DAVA	**Damuels**	**15.68**	**325**	*i* Pn	**P**	**05 22 27.1**	**+0.7**
	comp=E,1.3nm,0.6s						
AKASG	**Malin Array Be**	**16.25**	**14**	P	**Pn**	**05 22 28.2**	**-1.5**
	comp=E,0.5nm,0.3s,baz=209,slow=9.4,SNR=4.5						
HFS	**Hagfors**	**25.79**	**349**	P	**P**	**05 24 10.2**	**-1.7**
	comp=E,2.3nm,0.5s,baz=161,slow=9.4,SNR=8.7						
TORD	**Torodi Ar. Bea**	**29.13**	**227**	P	**P**	**05 24 46.5**	**+4.3**
	comp=E,0.2nm,0.4s,baz=24,slow=8.6,SNR=4.9						
TORD				LR	LR	05 39 37.1	
	comp=E,89nm,18.4s,baz=340,slow=42						
ZALV	**Zalesovo Beam**	**46.32**	**46**	P	**P**	**05 27 04.1**	**-2.7**
	comp=E,0.5nm,0.3s,baz=282,slow=7.2,SNR=2.4						
SONM	**Songino Array**	**60.88**	**50**	P	**P**	**05 28 51.7**	**-2.1**
	comp=E,0.3nm,0.5s,baz=287,slow=5.9,SNR=3.3						

*ISCJB **31** 05:32:47.2±0.3, 10.°13S±0.°04×161.°58E±0.°06, h85km, mb4.2/15, Error ellipse: s-maj=9.0km s-min=6.2km az=7.5*
*IDC **31** 05:32:47.9±0.7, 10.°20S×161.°62E, h83km±4km, mb4.0/15, mb1 4.1/15, mb1mx3.9/41, mbtmp4.3/15, MS3.2/4, Ms1 3.2/4, ms1mx2.8/35, Error ellipse: s-maj=16.2km s-min=8.7km az=25.0*
*NEIC **31** 05:32:49.9±1.6, 10.°1S±0.°1×161.°5E±0.°1, h91km±7km, mb4.5/32*

ISC 31 05:32:48.6±0.5, 10.°13S±0.°06×161.°62E±0.°08, h85km, n63, σ0°99/66, mb4.4/31, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.79**	**293**	P	**Pn**	**05 33 18.0**	**+0.1**
	92nm,0.3s,baz=143,slow=9.1,SNR=17						
HNR				S	**Sn**	**05 33 40.4**	**+0.2**
	870nm,0.3s,baz=135,slow=23,SNR=20						
HNR	**Honiara**	**1.79**	**293**	*e*P	Pn	05 33 28.0	+10
HNR				*i* S	**Sn**	**05 33 42.0**	**+1.8**
DZM	**Mont Dzumac**	**12.74**	**159**	P	**Pn**	**05 35 48.0**	**+1.4**
	1.0nm,0.3s,baz=33,slow=9.9,SNR=31						
DZM				S	**Sn**	**05 38 04.7**	**-2.0**
	0.5nm,0.3s,baz=207,slow=18,SNR=4.3						
DZM				LR	LR	05 39 39.4	
	comp=Z,81nm,21.3s,baz=30,slow=32						
DZM	**Mont Dzumac**	**12.74**	**159**		**Pn**	**05 35 47.6**	**+1.0**
PATS	**Pohnpei**	**17.18**	**349**		**Pn**	**05 36 43.0**	**-0.3**
CTA	**Charters Tower**	**17.82**	**234**	P	**Pn**	**05 36 52.5**	**+1.3**
	1.1nm,0.3s,baz=62,slow=13,SNR=14						
EIDS	**Eidsvold**	**18.16**	**212**	P	**Pn**	**05 36 55.3**	**+0.2**
COEN	**Coen**	**18.44**	**256**	P	**Pn**	**05 36 58.1**	**-0.5**
ARMA	**Armidale**	**22.23**	**203**	P	**P**	**05 37 38.8**	**+0.3**
WRAB	**Tennant Creek**	**28.04**	**246**	P	**P**	**05 38 35.4**	**+3.3**
WRAB				IAmb	IAmb	05 38 47.0	
	comp=Z,15nm,1.4s						
STKA	**Stephens Creek**	**28.49**	**218**	P	**P**	**05 38 36.6**	**+0.7**
	comp=Z,3.2nm,0.9s,baz=45,slow=14,SNR=5.8						
STKA				LR	LR	05 49 05.3	
	comp=Z,46nm,20.8s,baz=27,slow=34						
STKA	**Stephens Creek**	**28.49**	**218**	IAmb	IAmb	05 38 38.3	
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**29.67**	**240**	P	**P**	**05 38 44.6**	**-1.9**
	comp=Z,0.6nm,0.5s,baz=62,slow=9.6,SNR=8.7						
ASAR				pP	**pP**	**05 39 06.3**	**+1.5**
	comp=Z,1.2nm,0.9s,baz=62,slow=9.6,SNR=3.8						
ASAR				PcP	**PcP**	**05 41 47.7**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=92,slow=2.2,SNR=3.2						
ASAR				LR	LR	05 48 55.2	
	comp=Z,67nm,21.4s,baz=82,slow=33						
ASAR	**Alice Springs**	**29.67**	**240**	P	**P**	**05 38 46.4**	**-0.1**
TOO	**Toolangi**	**30.95**	**205**	P	**P**	**05 38 58.2**	**+0.6**
TOO				IAmb	IAmb	05 39 02.6	
	comp=Z,17nm,1.4s						
BBOO	**Buckleboo**	**32.62**	**222**	P	**P**	**05 39 11.5**	**-0.8**
BBOO				IAmb	IAmb	05 39 12.7	
	comp=Z,9.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**35.73**	**253**	P	**P**	**05 39 38.0**	**-1.4**
	comp=Z,2.0nm,0.6s,baz=91,slow=9.6,SNR=7.9						
FITZ	**Fitzroy Crossi**	**35.73**	**253**	IAmb	IAmb	05 39 43.2	
	comp=Z,9.2nm,1.4s						
FORT	**Forrest**	**37.34**	**232**	P	**P**	**05 39 53.8**	**+0.9**
MJAR	**Matsushiro Arr**	**51.39**	**336**	P	**P**	**05 41 44.0**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=153,slow=8.0,SNR=6.4						
MAJO	**Matsushiro**	**51.39**	**336**	P	**P**	**05 41 44.1**	**-0.7**
MJB9	**Matsu-Tunnel**	**51.40**	**336**	P	**P**	**05 41 44.2**	**-0.6**
JKA	**Kamikawa-asahi**	**56.69**	**344**	P	**P**	**05 42 23.7**	**+0.6**
ASAJ	**Asahikawa**	**56.69**	**344**	P	**P**	**05 42 23.7**	**+0.5**
	comp=Z,9.9nm,0.6s,baz=130,slow=7.9,SNR=5.8						
KSRS	**Korea Array**	**56.91**	**328**	P	**P**	**05 42 24.6**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=134,slow=7.5,SNR=5.1						
USA0B	**Ussuriysk Arra**	**60.39**	**336**	P	**P**	**05 42 49.2**	**+0.3**
USRK	**Ussuriysk Ar.**	**60.39**	**336**	P	**P**	**05 42 49.2**	**+0.3**
	comp=Z,10nm,0.8s,baz=143,slow=5.9,SNR=23						
USRK				pP	**pP**	**05 43 11.1**	**+1.1**
	comp=Z,4.7nm,0.8s,baz=148,slow=7.4,SNR=4.9						
USRK	**Ussuriysk Ar.**	**60.39**	**336**	P	**P**	**05 42 49.1**	**+0.2**
KLR	**Kul'dur**	**64.68**	**339**	LR	LR	06 07 44.3	
	comp=Z,23nm,20.1s,baz=230,slow=32						
CMAR	**Chiang Mai Arr**	**68.04**	**295**	P	**P**	**05 43 39.1**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=127,slow=5.8,SNR=4.2						
CMAR				pP	**pP**	**05 43 59.4**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=128,slow=5.2,SNR=1.9						
ULN	**Ulaanbaatar**	**75.22**	**325**	P	**P**	**05 44 23.0**	**+0.8**
ULN				IAmb	IAmb	05 44 23.6	
	comp=Z,8.6nm,0.8s						
SONM	**Songino Array**	**75.57**	**325**	P	**P**	**05 44 24.6**	**+0.4**
	comp=Z,8.1nm,0.7s,baz=139,slow=5.0,SNR=45						
SONM				pP	**pP**	**05 44 45.3**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=133,slow=5.0,SNR=4.6						
SONM	**Songino Array**	**75.57**	**325**	P	**P**	**05 44 24.3**	**+0.1**
OHAK	**Old Harbor**	**76.62**	**23**	P	**P**	**05 44 30.8**	**+1.2**
QSPA	**South Pole Qui**	**79.86**	**180**	P	**P**	**05 44 47.2**	**-0.5**
QSPA				IAmb	IAmb	05 44 47.9	
	comp=Z,5.1nm,0.9s						
SUA	**Susitna One**	**80.48**	**21**	P	**P**	**05 44 51.2**	**+0.2**
SUA				IAmb	IAmb	05 44 52.1	
	comp=Z,12nm,1.4s						
PPLA	**Purkeypile**	**80.98**	**20**	P	**P**	**05 44 54.2**	**+0.6**
PPLA				IAmb	IAmb	05 45 07.5	
	comp=Z,17nm,1.5s						
SCM	**Sheep Creek Mo**	**81.96**	**22**	P	**P**	**05 44 59.2**	**+0.3**
SCM				IAmb	IAmb	05 45 01.5	
	comp=Z,8.0nm,1.0s						
TRF	**Thorofare Moun**	**81.98**	**20**	P	**P**	**05 44 58.5**	**-0.6**
IMAR	**Indian Mountai**	**82.69**	**17**	P	**P**	**05 45 03.1**	**+0.7**
DHY	**Denali Highway**	**82.73**	**21**	P	**P**	**05 45 03.5**	**+0.6**
DHY				IAmb	IAmb	05 45 08.4	
	comp=Z,6.7nm,1.3s						
MLY	**Manley**	**82.91**	**18**	IAmb	IAmb	05 45 05.1	
	comp=Z,6.6nm,1.0s						
GLB	**Gilahina Butte**	**83.05**	**23**	P	**P**	**05 45 05.2**	**+0.7**
WRH	**Wood River Hil**	**83.39**	**20**	P	**P**	**05 45 06.0**	**-0.1**
WRH				IAmb	IAmb	05 45 07.4	
	comp=Z,4.0nm,0.8s						
CCB	**Clear Creek Bu**	**83.60**	**20**	IAmb	IAmb	05 45 07.3	
	comp=Z,3.0nm,0.8s						
BARN	**Barnard Glacie**	**83.68**	**24**	P	**P**	**05 45 09.3**	**+1.4**
BARN				IAmb	IAmb	05 45 13.6	
	comp=Z,6.2nm,1.1s						
HDA	**Harding Lake**	**83.73**	**20**	P	**P**	**05 45 08.7**	**+0.8**
HDA				IAmb	IAmb	05 45 09.0	
	comp=Z,6.4nm,0.8s						
CTGM	**Chitina Glacie**	**83.76**	**24**	P	**P**	**05 45 09.2**	**+1.0**
IL31		**83.98**	**20**	IAmb	IAmb	05 45 10.4	
	comp=Z,6.6nm,1.2s

MTW	Mount Morrison	1.26	61	P		Pn	05 45 19.9	-0.2
OGWZ	Otaki Gorge	1.28	42	P		Pg	05 45 21.2	-0.4
TRWZ	Traveller	1.29	73	P		Pn	05 45 20.0	-0.5
GVZ	Greta Valley S	1.41	212	P		Pb	05 45 22.6	-0.3
HOWZ	Holdsworth Sta	1.41	52	P		Pn	05 45 22.3	+0.1
QRZ	Quartz Range	1.49	309	P		Pg	05 45 24.9	-0.6
TMWZ	Te Maipa	1.54	65	P		Pn	05 45 23.5	-0.5
MRZ	Mangatainoka R	1.61	47	P		Pn	05 45 25.2	+0.3
LTZ	Lake Taylor	1.66	232	P		Pb	05 45 26.7	-0.5
DSZ	Denniston Nort	1.68	270	P		Pb	05 45 28.1	+0.6
TIWZ	Tintock	1.71	55	P		Pn	05 45 26.5	+0.1
CPWZ	Castlepoint	1.84	63	P		Pn	05 45 28.4	+0.3
OHWZ	Ohakea	1.84	32	P		Pb	05 45 30.4	0.0
PRWZ	Pori Road	1.90	51	P		Pn	05 45 28.9	0.0
POWZ	Post Office Ro	1.90	44	P		Pn	05 45 29.4	+0.5
BFZ	Birch Farm	1.99	57	P		Pn	05 45 29.2	-0.9
OKCZ	Okains Bay	2.08	200	P		Pn	05 45 30.8	-0.5
CRLZ	Canterbury Las	2.08	210	P		Pn	05 45 31.5	+0.1
OXZ	Oxford	2.14	223	P		Pn	05 45 32.2	0.0
WAZ	Wanganui	2.14	20	P		Pb	05 45 35.1	-0.5
INZ	Inchbonnie	2.15	243	P		Pb	05 45 34.3	-1.3
DVHZ	Dannevirke	2.18	48	P		Pn	05 45 32.3	-0.5
MQZ	McQueen's Vall	2.18	208	P		Pn	05 45 31.6	-1.2
TSZ	Takapari Road	2.25	41	P		Pn	05 45 33.9	+0.2
AKCZ	Akaroa Harbour	2.25	201	P		Pn	05 45 32.9	-0.8
LREZ	Lake Rotokare	2.33	7	P		Pn	05 45 36.6	+1.7
NMEZ	Namu Road	2.37	357	P		Pb	05 45 40.5	+1.2
PREZ	Palmer Road	2.44	2	P		Pb	05 45 40.2	-0.3
PNHZ	Pukenui	2.48	42	P		Pn	05 45 36.8	-0.1
KHEZ	Kahui Hut	2.48	359	P		Pb	05 45 40.8	-0.5
WPHZ	Waipukurau	2.50	47	P		Pg	05 45 44.7	0.0
NBEZ	Newall Road No	2.51	357	P		Pg	05 45 43.6	-1.4
PKE	Pukeiti	2.58	359	P		Pb	05 45 41.3	-1.7
MTVZ	Mangateitei	2.63	25	P		Pb	05 45 44.7	+0.9
PKVZ	Pokaka	2.68	22	P		Pb	05 45 43.4	-1.2
MOVZ	Moawhango	2.70	29	P		Pb	05 45 42.6	-2.5
VRZ	Vera Road	2.71	12	P		Pn	05 45 42.5	+2.5
TRVZ	Turoa	2.73	25	P		Pb	05 45 43.2	-2.5
BHHZ	Black Hill Sta	2.75	35	P		Pn	05 45 41.7	+1.0
DRZ	Dome Shelter	2.75	25	P		Pb	05 45 47.5	+1.4
WHVZ	Whangaehu Hut	2.76	26	P		Pb	05 45 44.9	-1.2
FWVZ	Far West T-bar	2.77	25	P		Pb	05 45 44.2	-2.1
KRHZ	Kereru	2.77	40	P		Pn	05 45 40.6	-0.3
TUVZ	Tukino	2.79	27	P		Pn	05 45 43.9	+2.6
NGZ	Ngauruhoe	2.86	25	P		Pb	05 45 46.0	-1.8
TWVZ	Taurewa	2.91	22	P		Pn	05 45 45.4	+2.6
WTVZ	West Tongariro	2.91	24	P		Pn	05 45 45.6	+2.7
RPZ	Rata Peaks	2.93	228	P		Pn	05 45 43.9	+0.7
KRVZ	Karewarewa	2.94	25	P		Pb	05 45 47.4	-1.8
KWHZ	Kaweka Forest	2.97	36	P		Pb	05 45 50.9	+1.3
KATZ	Kakaramea	3.07	25	P		Pb	05 45 52.5	+1.1
RITZ	Rihia Road	3.12	27	P		Pb	05 45 51.8	-0.4
RATZ	Rangitukua	3.19	25	P		Pb	05 45 54.7	+1.3
HIZ	Hauiti	3.32	11	P		Pn	05 45 50.9	+2.5
FOZ	Fox Glacier	3.58	239	P		Pn	05 45 54.6	+2.7
TLZ	Tolley Road	3.63	19	P		Pn	05 45 56.7	+4.0
LBZ	Lake Benmore	3.84	226	P		Pn	05 45 56.5	+0.9
ODZ	Otahua Downs	4.10	216	P		Pn	05 45 58.4	-0.7
TOZ	Tahuroa Road	4.20	16	P		Pn	05 46 02.9	+2.5
JCZ	Jackson Bay	4.49	238	P		Pn	05 46 08.0	+3.4
AWAZ	Awhitu Peninsu	4.73	6	P		Pn	05 46 11.3	+3.5
MKAZ	Moumakai	4.75	11	P		Pn	05 46 10.9	+2.9
ETAZ	East Tamaki Re	4.87	8	P		Pn	05 46 13.2	+3.6
WIAZ	Waiheke Island	5.05	10	P		Pn	05 46 11.7	-0.5

IDC ***31*** *05:46:21.2±1.3, 19°.09N×120°.50E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.5/33, mbtmp3.5/6, MS2.7/1, Ms1 2.9/1, ms1mx2.5/33, Error ellipse: s-maj=44.9km s-min=25.8km az=64.0*

ISCJB ***31*** *05:46:23.7±1.1, 19°.0N±0°.2×120°.4E±0°.2, h28km, mb3.5/5, MS2.5/1, Error ellipse: s-maj=31.3km s-min=21.4km az=153.7*

ISC 31 05:46:25.4±1.2, 19°.1N±0°.2×120°.5E±0°.2, h28km, n6, σ0§54/6, mb3.5/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr 0.8nm,0.7s,baz=69,slow=9.3,SNR=5.4	20.39	272	P		P	P	05 51 00.3	+0.1
CMAR	 comp=Z,20nm,18.7s,baz=320,slow=37			LR		LR	LR	05 58 47.7	
SONM	Songino Array 0.4nm,0.6s,baz=140,slow=7.0,SNR=3.2	30.89	341	P		P	P	05 52 39.5	-0.2
MKAR	Makanchi Array 0.8nm,0.9s,baz=121,slow=6.9,SNR=3.6	41.68	320	P		P	P	05 54 12.0	+0.4
ZALV	Zalesovo Beam 0.4nm,0.3s,baz=110,slow=8.4,SNR=3.9	44.25	330	P		P	P	05 54 31.6	-0.7
ASAR	Alice Springs 0.6nm,0.8s,baz=341,slow=6.9,SNR=6.2	44.46	162	P		P	P	05 54 34.1	-0.2
YKA	Yellowknife Ar 0.3nm,0.7s,baz=314,slow=5.5,SNR=4.8	87.92	22	P		P	P	05 59 12.8	+0.5

SOME ***31*** *05:56:34.8, 39°.57N×73°.93E, h10km*

KRNET ***31*** *05:56:34.0±0.1, 39°.51N×73°.78E, mb3.3*

ISCJB ***31*** *05:56:36.1±1.0, 39°.46N±0°.05×73°.81E±0°.05, h10km, Error ellipse: s-maj=8.2km s-min=5.1km az=159.8*

NNC ***31*** *05:56:38.0±1.2, 39°.71N×73°.87E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=9.8km s-min=5.6km az=168.0*

ISC 31 05:56:38.5±1.6, 39°.68N±0°.07×73°.82E±0°.03, h10km, n47, σ1§97/77, 34C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARSB	Arslanbob baz=42	1.76	339	⇑*iP*			Pn	05 57 09.4	+0.2
ARSB	 baz=42			⇑*iS*			Sg	05 57 35.8	+0.6
ARLS	Aral baz=10.0	2.21	10	⇑*iP*			Pn	05 57 16.5	+1.0
ARLS	 baz=10.0			⇑*iS*			Sb	05 57 47.8	+1.5
BTK	Batken baz=84	2.34	280	⇑*iP*			Pn	05 57 16.1	-1.0
BTK	 baz=84			⇑*iS*			Sn	05 57 46.6	+0.6
NRN	Naryn baz=40	2.42	43	⇑*iP*			Pn	05 57 18.8	+0.4
NRN	 baz=40			⇑*iS*			Sb	05 57 51.3	-0.9
AML	Almayashu baz=59	2.45	358	⇑*iP*			Pn	05 57 19.6	+0.7
AML	 baz=59			⇑*iS*			Sb	05 57 53.3	0.0
AML	Almayashu SNR=21	2.45	358	P			Pn	05 57 19.3	+0.4
ARK	Arkit baz=29	2.54	327	⇓*iP*			Pn	05 57 20.0	+0.1
ARK	 baz=29			⇓*iS*			Sb	05 57 54.1	-1.6
UCH	Uchtor baz=11	2.60	11	⇑*iP*			Pn	05 57 22.1	+1.1
UCH	 baz=11			⇑*iS*			Sb	05 57 57.1	-0.6
UCH	Uchtor SNR=20	2.60	11	P			Pn	05 57 21.9	+0.9
KZA	Kyzart baz=23	2.63	24	⇑*iP*			Pn	05 57 22.5	+1.1
KZA	 baz=23			⇑*iS*			Sb	05 57 57.7	-0.8
KZA	Kyzart SNR=13	2.63	24	P			Pb	05 57 24.5	-1.5
EKS2	Erkin-Say baz=60	2.98	359	⇑*eP*			Pn	05 57 26.9	+1.0
EKS2	 baz=60			⇑*iS*			Sb	05 58 05.7	-2.6
EKS2	Erkin-Say SNR=6.7	2.98	359	P			Pn	05 57 27.0	+1.0
AAK	Ala-Archa baz=10.0	3.00	10	⇑*iP*			Pn	05 57 27.4	+1.1
AAK	 baz=10.0			⇑*iS*			Sb	05 58 06.3	-2.6
AAK	Ala-Archa 3.5nm,0.5s	3.00	10	⇑Pn			Pn	05 57 26.8	+0.6
AAK	 12nm,0.5s			⇑Lg			Lg	05 58 13.8	
KBK	Karagaybulak baz=15	3.10	16	⇑*iP*			Pn	05 57 28.9	+1.3
KBK	 baz=15			⇑*iS*			Sb	05 58 08.3	-3.3
KBK	Karagaybulak SNR=7.2	3.10	16	P			Pn	05 57 29.6	+2.0
MRKS	Merke 14nm,0.3s	3.10	352	*eP*			Pb	05 57 33.0	-0.7
MRKS	 16nm,0.4s			*eS*			Sg	05 58 15.4	-2.5
MRKS	Merke 14nm,0.3s	3.10	352	Pg			Pb	05 57 33.0	-0.7
MRKS	 16nm,0.4s			Lg			Lg	05 58 15.4	
ULHL	Ulahol baz=33	3.15	35	⇓*iP*			Pn	05 57 29.3	+0.9
ULHL	 baz=33			⇓*iS*			Sn	05 58 09.2	+3.0
ULHL	Ulahol SNR=6.7	3.15	35	P			Pb	05 57 33.3	-1.4
FRU1	Bishkek baz=11	3.19	11	⇑*iP*			Pn	05 57 30.0	+1.2
FRU1	 baz=11			⇑*iS*			Sb	05 58 10.9	-3.3
CHMS	Chumysh baz=12	3.39	12	⇑*iP*			Pn	05 57 32.9	+1.4
CHMS	 baz=12			⇑*iS*			Sn	05 58 15.7	+3.9
TKM2	Tokmak 2 baz=21	3.50	22	⇑*iP*			Pn	05 57 34.6	+1.4
TKM2	 baz=21			⇑*iS*			Sn	05 58 18.6	+3.7
TKM2	Tokmak 2 4.8nm,0.7s	3.50	22	⇑Pn			Pn	05 57 35.2	+1.9
TKM2	 6.2nm,0.6s			⇑Lg			Lg	05 58 26.6	
KDJ	Kajisay baz=44	3.53	45	⇓*iP*			Pn	05 57 34.5	+0.9
KDJ	 baz=44			⇓*iS*			Sn	05 58 18.5	+3.0
USP	Ospenovka baz=8.0	3.62	8	⇑*iP*			Pn	05 57 35.6	+0.9
USP	 baz=8.0			⇑*iS*			Sn	05 58 21.3	+3.8
USP	Ospenovka SNR=6.1	3.62	8	P			Pb	05 57 42.3	-0.3
KST	Kastek 5.2nm,0.4s	3.73	25	*eP*			Pb	05 57 44.5	0.0
KST	 18nm,0.5s			*eS*			Sg	05 58 35.0	-3.2
KST	Kastek 5.2nm,0.4s	3.73	25	Pg			Pb	05 57 44.6	0.0
KST	 18nm,0.5s			Lg			Lg	05 58 35.0	
IUG	Iuzhnay 1.3nm,0.5s	3.78	312	*eP*			Pb	05 57 46.9	+1.5
IUG	 30nm,0.8s			*eS*			Sg	05 58 38.9	-1.1
IUG	Iuzhnay 1.3nm,0.5s	3.78	312	Pg			Pb	05 57 46.9	+1.5
IUG	 30nm,0.8s			Lg			Lg	05 58 39.5	
SGDS	Sogindy 5.0nm,0.5s	3.82	9	Pg			Pb	05 57 46.8	+0.8
SGDS	 11nm,0.8s			Lg			Lg	05 58 38.7	
DGS	Degeres 4.6nm,0.5s	3.85	22	*eP*			Pb	05 57 47.5	+0.9
DGS	 15nm,0.5s			*eS*			Sg	05 58 40.0	-2.2
DGS	Degeres 4.6nm,0.5s	3.85	22	Pg			Pb	05 57 47.5	+0.9
DGS	 15nm,0.5s			Lg			Lg	05 58 40.0	
IZV	Izvestkoviy 6.9nm,0.6s	3.96	31	*eP*			Pb	05 57 50.1	+1.7
IZV	 18nm,0.7s			*eS*			Sg	05 58 44.7	-1.0
IZV	Izvestkoviy 6.9nm,0.6s	3.96	31	Pg			Pb	05 57 50.1	+1.7
IZV	 18nm,0.7s			Lg			Lg	05 58 45.4	
MTBS	Maitube 4.3nm,0.4s	3.97	29	*eP*			Pb	05 57 49.9	+1.3
MTBS	 9.8nm,0.4s			*eS*			Sg	05 58 43.7	-2.2
TNSS	Tian-Shan 4.7nm,0.3s	4.10	34	*eP*			Pb	05 57 52.3	+1.4
TNSS	 11nm,0.6s			*eS*			Sg	05 58 47.9	-2.2
KK31	Karatay Array 0.5nm,0.3s,baz=142,slow=13,SNR=20	4.23	325	Pn			Pn	05 57 43.6	+0.6
KK31	 1.6nm,0.5s,baz=143,slow=16,SNR=5.5			Pg			Pb	05 57 54.7	+1.7
KK31	 1.8nm,0.4s,baz=141,slow=22,SNR=6.7			⇑Sn			Sn	05 58 35.2	+2.7
KK31	 3.7nm,0.4s,baz=221,slow=40,SNR=4.9			⇑Lg			Lg	05 58 50.9	
KOTS	Kotyrbulak 8.5nm,0.4s	4.33	34	*eP*			Pb	05 57 55.6	+0.9
KOTS	 33nm,0.7s			*eS*			Sg	05 58 53.9	-3.6
KOTS	Kotyrbulak 8.5nm,0.4s	4.33	34	Pg			Pb	05 57 55.6	+0.9
KOTS	 33nm,0.7s			Lg			Lg	05 58 53.9	
BRLS	Boroldoy 0.8nm,0.3s	4.49	319	*eP*			Pb	05 57 57.9	+0.4
BRLS	 6.0nm,0.5s			*eS*			Sg	05 58 58.0	-4.7
BRLS	Boroldoy 0.8nm,0.3s	4.49	319	Pg			Pb	05 57 57.9	+0.4
BRLS	 6.0nm,0.5s			Lg			Lg	05 58 58.6	
CHKK	Chushkaly 1.9nm,0.6s	4.80	29	*eP*			Pb	05 58 04.6	+1.9
CHKK	 9.0nm,0.9s			*eS*			Sg	05 59 08.8	-3.7
SATY	Saty 9.7nm,0.9s	4.83	44	*eP*			Pb	05 58 03.5	+0.2
SATY	 13nm,1.5s			*eS*			Sg	05 59 07.5	-6.0
SATY	Saty 9.7nm,0.9s	4.83	44	Pg			Pb	05 58 03.5	+0.2
SATY	 13nm,1.5s			Lg			Lg	05 59 07.5	

JMA 31 05:58:07.1±0.3, 37°.29N×144°.30E, h49km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.47	295	P			Pn	05 58 46.3	+1.5
JIO	Ouri	2.61	297	P			Pn	05 58 48.2	+1.5
JIO				*eS*			Sn	05 59 18.2	+1.0
JKMT	Kesennumamotoy	2.70	305	P			Pn	05 58 49.3	+1.3
JFK	Kawauchi	2.73	273	P			Pn	05 58 49.5	+1.0
JFK				*eS*			Sn	05 59 21.4	+1.1
OFUJ	Ofunato	2.74	312	P			Pn	05 58 49.6	+1.1
OFUJ				*eS*			Sn	05 59 21.4	+1.0
JMST	Minamisoumatoc	2.75	280	*eS*			Sn	05 59 22.4	+1.8
JMK	Ichinoseki	2.94	305	P			Pn	05 58 53.0	+1.7
JFT	Otama	3.16	275	P			Pn	05 58 56.9	+2.5
JFT				*eS*			Sn	05 59 33.2	+2.3
JOM	Ohasama	3.21	314	P			Pn	05 58 56.9	+1.8
JOM				*eS*			Sn	05 59 34.3	+2.2
BSO1	Boso 1	3.77	227	*eS*			Sn	05 59 40.1	-4.8
JRY	Ryogami san	4.52	255	P			Pn	05 59 13.8	+0.7
JRY				*eS*			Sn	06 00 03.7	-0.7
JOD2	Odawara 2	4.67	246	*eS*			Sn	06 00 04.1	-3.9
JOT	Ohata	4.80	329	P			Pn	05 59 18.7	+1.9
JOT				*eS*			Sn	06 00 11.6	+0.5
JKB	Kayabe	5.24	332	P			Pn	05 59 23.7	+0.9
JKB				*eS*			Sn	06 00 21.0	-0.9
JCH	Churui	5.37	353	P			Pn	05 59 23.4	-1.2
NEM2	Nemuro 2	6.17	10	P			Pn	05 59 31.6	-3.9
JTKR	Abashiri--Toko	6.68	358	P			Pn	05 59 41.4	-1.2
JTKR				*eS*			Sn	06 00 52.5	-4.8
JHR	Hokuryu	6.74	344	P			Pn	05 59 45.1	+1.7

IDC ***31*** *06:01:23.9±1.1, 39°.23N×74°.72E, h0km, mb3.6/9, mb1 3.7/15, mb1mx3.5/49, mbtmp3.6/15, ML3.2/6, MS2.6/1, Ms1 2.6/1, ms1mx2.3/45, Error ellipse: s-maj=21.6km s-min=16.0km az=101.0*

KRNET ***31*** *06:01:26.2±0.1, 39°.44N×74°.69E, mb4.3*

BJI ***31*** *06:01:26.8±0.0, 39°.43N×74°.62E, h11km, ML3.7/6*

SOME ***31*** *06:01:28.2, 39°.62N×74°.75E, h0km*

NNC ***31*** *06:01:31.2±1.4, 39°.68N×74°.69E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=11.2km s-min=6.5km az=158.0*

ISC 31 06:01:25.2±0.7, 39°.48N±0°.04×74°.73E±0°.02, h10km, n84, σ1§91/120, mb3.7/8, 22C-25D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSH	Kashi	0.96	88	Pg			Pg	06 01 41.0	-2.8
KSH				Sg			Sg	06 01 51.0	-5.3
KSH	 comp=N,3μm,0.6s			smax		smax	smax		
KSH	 comp=E,1μm,0.5s			smax		smax	smax		
NRN	Naryn baz=26	2.18	26	⇓*iP*			Pg	06 02 06.4	-0.6
NRN	 baz=26			⇓*iS*			Sg	06 02 35.7	+0.5
ARSB	Arslanbob baz=26	2.27	325	⇓*iP*			Pg	06 02 07.1	-1.7
ARSB	 baz=26			⇓*iS*			Sg	06 02 37.6	-0.7
ARLS	Aral baz=54	2.40	353	⇓*eP*			Pg	06 02 09.6	-1.6
ARLS	 baz=54			⇓*iS*			Sg	06 02 41.1	-1.2
KZA	Kyzart baz=9.0	2.62	8	⇓*iP*			Pb	06 02 12.8	+0.2
KZA	 baz=9.0			⇓*iS*			Sg	06 02 47.1	-2.4
KZA	Kyzart SNR=138	2.62	8	P			Pg	06 02 13.5	-2.0
UCH	Uchtor baz=57	2.75	357	⇑*iP*			Pb	06 02 14.5	-0.2
UCH	 baz=57			⇑*iS*			Sb	06 02 49.7	+1.1
UCH	Uchtor SNR=250	2.75	357	P			Pb	06 02 15.0	+0.3
AML	Almayashu baz=45	2.76	344	⇓*iP*			Pb	06 02 14.3	-0.6
AML	 baz=45			⇓*iS*			Sb	06 02 49.9	+0.9
AML	Almayashu SNR=252	2.76	344	P			Pb	06 02 15.1	+0.1
ULHL	Ulahol SNR=21	2.99	22	P			Pb	06 02 19.2	+0.5
BTK	Batken baz=83	3.07	282	⇑*iP*			Pb	06 02 17.9	-2.1
BTK	 baz=83			⇑*iS*			Sb	06 02 55.7	-1.9
ARK	Arkit baz=19	3.13	319	⇑*iP*			Pb	06 02 18.8	-2.2
ARK	 baz=19			⇑*iS*			Sb	06 02 57.0	-2.3
BOOM	Boomskoye usch baz=17	3.14	17	⇓*iP*			Pb	06 02 20.2	-1.1
BOOM	 baz=17			⇓*iS*			Sb	06 02 59.2	-0.5
AAK	Ala-Archa 13nm,0.3s,baz=148,slow=8.1,SNR=59	3.16	357	Pn			Pb	06 02 21.4	-0.1
AAK	 11nm,0.3s,baz=271,slow=22,SNR=7.8			Sn			Sg	06 03 04.1	-2.6
AAK	 comp=Z,84nm,19.8s,baz=36,slow=44			LR			LR	06 03 53.5	
AAK	Ala-Archa baz=57	3.16	357	⇑*iP*			Pb	06 02 20.5	-1.0
AAK	 baz=57			⇑*iS*			Sb	06 02 59.5	-0.6
AAK	Ala-Archa SNR=62	3.16	357	P			Pb	06 02 21.5	-0.1
AAK	Ala-Archa 44nm,0.4s	3.16	357	⇓Pn			Pb	06 02 21.2	-0.3
AAK	 107nm,0.7s			⇓Lg			Lg	06 03 06.4	
KBK	Karagaybulak baz=3.0	3.17	3	⇑*iP*			Pb	06 02 20.8	-1.1
KBK	 baz=3.0			⇑*iS*			Sb	06 03 00.2	-0.5
KBK	Karagaybulak SNR=93	3.17	3	P			Pb	06 02 21.5	-0.4
KDJ	Kajisay baz=35	3.23	34	⇑*iP*			Pb	06 02 21.2	-1.6
KDJ	 baz=35			⇑*iS*			Sb	06 03 01.7	-0.6
TARG	Taragay, Kyrgy baz=45	3.24	45	⇑*iP*			Pb	06 02 21.7	-1.4
TARG	 baz=45			⇑*iS*			Sb	06 03 01.6	-1.2
EKS2	Erkin-Say baz=48	3.26	348	⇓*iP*			Pb	06 02 21.3	-1.9
EKS2	 baz=48			⇓*iS*			Sb	06 03 01.5	-1.5
EKS2	Erkin-Say SNR=20	3.26	348	P			Pb	06 02 22.2	-1.0
FRU1	Bishkek baz=59	3.33	359	⇓*iP*			Pb	06 02 22.2	-2.1
FRU1	 baz=59			⇓*iS*			Sb	06 03 03.1	-1.8
MRKS	Merke 99nm,0.4s	3.45	341	*eP*			Pg	06 02 29.4	-1.9
MRKS	 43nm,0.3s			*eS*			Sg	06 03 14.1	-2.0
MRKS	Merke 99nm,0.4s	3.45	341	Pg			Pg	06 02 29.4	-1.9
MRKS	 43nm,0.3s			Lg			Lg	06 03 14.1	
TKM2	Tokmak 2 baz=11	3.50	10	⇑*iP*			Pb	06 02 25.0	-2.4
TKM2	 baz=11			⇑*iS*			Sb	06 03 07.7	-2.3
TKM2	Tokmak 2 SNR=40	3.50	10	P			Pb	06 02 25.7	-1.6
TKM2	Tokmak 2 41nm,0.4s	3.50	10	⇑Pn			Pb	06 02 25.9	-1.5
TKM2	 69nm,0.5s			⇓Lg			Lg	06 03 16.7	
CHMS	Chumysh baz=1.0	3.51	0	⇓*iP*			Pb	06 02 24.9	-2.6
CHMS	 baz=1.0			⇓*iS*			Sb	06 03 07.6	-2.7
CHMS	Chumysh SNR=39	3.51	0	P			Pb	06 02 26.2	-1.4
KST	Kastek 80nm,0.7s	3.68	14	*eP*			Pg	06 02 35.4	-0.2
KST	 101nm,0.6s			*eS*			Sg	06 03 24.1	+0.8
KST	Kastek 80nm,0.7s	3.68	14	Pg			Pg	06 02 35.4	-0.2
KST	 101nm,0.6s			Lg			Lg	06 03 24.9	
USP	Ospenovka SNR=15	3.79	357	P			Pb	06 02 29.1	-3.1
DGS	Degeres 89nm,0.5s	3.84	11	*eP*			Pg	06 02 36.9	-1.8
DGS	 118nm,0.6s			*eS*			Sg	06 03 26.8	-1.7
DGS	Degeres 89nm,0.5s	3.84	11	Pg			Pg	06 02 36.9	-1.8
DGS	 118nm,0.6s			Lg			Lg	06 03 26.8	
MTBS	Maitube 47nm,0.5s	3.86	19	*eP*			Pg	06 02 38.8	-0.5
MTBS	 56nm,0.4s			*eS*			Sg	06 03 29.3	+0.1
TNSS	Tian-Shan 50nm,0.8s	3.92	24	*eP*			Pg	06 02 39.3	-1.1
TNSS	 60nm,0.5s			*eS*			Sg	06 03 30.9	-0.4
TNSS	Tian-Shan 50nm,0.8s	3.92	24	Pg			Pg	06 02 39.3	-1.1
TNSS	 60nm,0.5s			Lg			Lg	06 03 31.5	
SGDS	Sogindy 41nm,0.5s	3.97	359	Pg			Pg	06 02 39.3	-1.9
SGDS	 34nm,0.7s			Lg			Lg	06 03 31.1	
ANVS	Anan'yevo baz=33	3.97	33	⇓*iP*			Pb	06 02 31.5	-4.0
ANVS	 baz=33			⇓*iS*			Sb	06 03 19.3	-4.3
AAA	Alma-Ata 54nm,0.3s	4.07	23	Pg			Pg	06 02 42.7	-0.5
AAA	 88nm,0.5s			Lg			Lg	06 03 36.6	
MDOK	Medeo 26nm,0.5s	4.07	25	*eP*			Pg	06 02 41.3	-1.9
MDOK	 58nm,0.8s			*eS*			Sg	06 03 33.6	-2.3
MDOK	Medeo 33nm,0.7s	4.07	25	⇑Pg			Pg	06 02 40.9	-2.3
MDOK	 95nm,0.8s			⇑Lg			Lg	06 03 34.3	

KNDC	**Almaty**	**4.09**	**24**	Pg	**Pg**	**06 02 42.6**	**-1.0**
KNDC				Lg	Lg	06 03 34.9	
KOTS	**Kotyrbulak**	**4.15**	**25**	*eP*	**Pg**	**06 02 43.4**	**-1.4**
	96nm,0.5s						
KOTS				*eS*	**Sg**	**06 03 38.0**	**-0.6**
	360nm,0.7s						
KOTS	**Kotyrbulak**	**4.15**	**25**	Pg	**Pg**	**06 02 43.4**	**-1.4**
	96nm,0.5s						
KOTS				Lg	Lg	06 03 38.0	
	360nm,0.7s						
IUG	**Iuzhnay**	**4.45**	**308**	*eP*	**Pg**	**06 02 50.1**	**-0.4**
	5.0nm,0.4s						
IUG				*eS*	**Sg**	**06 03 49.4**	**+1.3**
	122nm,0.7s						
IUG	**Iuzhnay**	**4.45**	**308**	Pg	**Pg**	**06 02 50.1**	**-0.4**
	5.0nm,0.4s						
IUG				Lg	Lg	06 03 49.4	
	122nm,0.7s						
KTBS	**Karatobe**	**4.47**	**18**	*eP*	**Pg**	**06 02 48.7**	**-2.2**
	33nm,0.6s						
KTBS				*eS*	**Sg**	**06 03 47.1**	**-1.7**
	72nm,0.5s						
KTBS	**Karatobe**	**4.47**	**18**	Pg	**Pg**	**06 02 48.7**	**-2.2**
	33nm,0.6s						
KTBS				Lg	Lg	06 03 47.7	
	72nm,0.5s						
SATY	**Saty**	**4.52**	**37**	*eP*	**Pg**	**06 02 50.4**	**-1.4**
	32nm,1.0s						
SATY				*eS*	**Sg**	**06 03 49.4**	**-1.0**
	85nm,1.4s						
KUU	**Kurty**	**4.57**	**15**	*eP*	**Pg**	**06 02 50.7**	**-2.0**
	36nm,0.8s						
KUU				*eS*	**Sg**	**06 03 49.7**	**-2.2**
	80nm,0.5s						
ZHN	**Zhinishke**	**4.62**	**36**	*eP*	**Pg**	**06 02 52.0**	**-1.7**
	14nm,0.6s						
ZHN				*eS*	**Sg**	**06 03 52.2**	**-1.3**
	9.4nm,0.5s						
CHKK	**Chushkaly**	**4.68**	**20**	*eP*	**Pg**	**06 02 53.5**	**-1.4**
	17nm,0.7s						
CHKK				*eS*	**Sg**	**06 03 54.4**	**-1.1**
	58nm,0.5s						
KURS	**Kuram**	**4.76**	**32**	*eP*	**Pg**	**06 02 56.3**	**-0.2**
	18nm,1.3s						
KURS				*eS*	**Sg**	**06 03 59.3**	**+1.1**
	42nm,1.1s						
KK31	**Karatay Array**	**4.81**	**320**	Pn	Pn	06 02 41.9	+4.1
	1.4nm,0.3s,baz=131,slow=13,SNR=84						
KK31				⇑Pg	**Pg**	**06 02 54.8**	**-2.6**
	11nm,0.7s,baz=134,slow=16,SNR=7.3						
KK31				⇓Lg	Lg	06 03 57.7	
	14nm,0.5s,baz=140,slow=29,SNR=4.2						
UZB	**Uzynbulak**	**4.88**	**40**	*eP*	**Pg**	**06 02 57.3**	**-1.4**
	10nm,0.5s						
UZB				*eS*	**Sg**	**06 04 01.3**	**-0.7**
	40nm,1.2s						
KPKS	**Kokpek**	**4.96**	**35**	*eP*	**Pg**	**06 02 58.9**	**-1.4**
	46nm,0.9s						
KPKS				*eS*	**Sg**	**06 04 03.7**	**-0.9**
	129nm,0.6s						
SHLS	**Shalkode**	**5.11**	**43**	*eP*	**Pg**	**06 03 05.9**	**+2.7**
	28nm,0.6s						
SHLS				*eS*	**Sg**	**06 04 16.0**	**+6.6**
	82nm,0.9s						
BRLS	**Boroldaу**	**5.12**	**315**	*eP*	**Pg**	**06 03 00.6**	**-2.6**
	0.5nm,0.2s						
BRLS				*eS*	**Sg**	**06 04 07.4**	**-2.1**
	7.1nm,0.5s						
BRLS	**Boroldaу**	**5.12**	**315**	Pg	**Pg**	**06 03 00.6**	**-2.6**
	0.5nm,0.2s						
BRLS				Lg	Lg	06 04 07.4	
	7.1nm,0.5s						
PDGK	**Podgornoye**	**5.25**	**41**	⇑Pg	**Pg**	**06 03 04.3**	**-1.5**
	11nm,0.6s						
PDGK				⇑Lg	Lg	06 04 12.3	
	103nm,1.2s						
ARXS	**Arharly**	**5.26**	**25**	*eP*	**Pg**	**06 03 02.8**	**-3.2**
	23nm,0.7s						
ARXS				*eS*	**Sg**	**06 04 11.0**	**-3.1**
	53nm,0.7s						
ARXS	**Arharly**	**5.26**	**25**	Pg	**Pg**	**06 03 02.8**	**-3.2**
	23nm,0.7s						
ARXS				Lg	Lg	06 04 11.0	
	53nm,0.7s						
MK31	**Makanchi Array**	**9.16**	**35**	Pg	Pn	06 04 16.7	+39
	1.1nm,0.8s,baz=216,slow=8.9,SNR=4.0						
MK31				Lg	Lg	06 06 14.2	
	8.2nm,1.2s,baz=216,slow=31,SNR=3.9						
MKAR	**Makanchi Array**	**9.16**	**35**	Pn	**Pn**	**06 03 41.2**	**+3.8**
	0.1nm,0.3s,baz=213,slow=11,SNR=6.1						
MKAR				Lg	Lg	06 06 11.9	
	0.1nm,0.3s,baz=233,slow=29,SNR=2.6						
WMQ	**Urumqi**	**10.62**	**62**	*eP*	Pn	06 04 05.0	+7.5
KURBB	**Kurchatov Arra**	**11.46**	**12**	Pn	**Pn**	**06 04 12.3**	**+3.5**
	0.1nm,0.3s,baz=193,slow=12,SNR=4.2						
KURBB				Lg	Lg	06 07 25.4	
	0.1nm,0.3s,baz=198,slow=27,SNR=6.8						
BVAR	**Borovoye Array**	**13.87**	**349**	Pn	**Pn**	**06 04 43.6**	**+1.8**
	0.1nm,0.3s,baz=163,slow=11,SNR=2.7						
AB31	**Akbulak array**	**14.37**	**318**	P	**Pn**	**06 04 49.1**	**+0.4**
	1.8nm,0.6s,baz=121,slow=12,SNR=3.2						
ZALV	**Zalesovo Beam**	**16.01**	**22**	Pn	**P**	**06 05 13.1**	**-0.8**
	0.2nm,0.3s,baz=239,slow=8.2,SNR=2.3						
AKTO	**Aktyubinsk**	**16.08**	**318**	Pn	**P**	**06 05 12.8**	**-1.9**
	0.1nm,0.3s,baz=113,slow=13,SNR=3.7						
AKTO	**Aktyubinsk**	**16.08**	**318**	⇓P	**P**	**06 05 12.9**	**-1.7**
	4.1nm,0.8s						
ARU	**Arti**	**20.03**	**333**	P	Pn	06 06 00.1	+0.3
	0.4nm,0.2s,baz=135,slow=17,SNR=1.8						
BRTR	**Keskin Array B**	**31.47**	**284**	P	**P**	**06 07 48.5**	**+1.4**
	0.4nm,0.5s,baz=92,slow=5.7,SNR=4.3						
FINES	**FINESS Array B**	**36.77**	**323**	P	**P**	**06 08 33.9**	**+1.2**
	5.7nm,1.1s,baz=108,slow=13,SNR=4.0						
ARCES	**ARCESS Array B**	**39.59**	**335**	P	**P**	**06 08 57.7**	**+1.4**
	3.0nm,0.9s,baz=94,slow=8.6,SNR=5.4						
GERES	**GERESS Array B**	**43.69**	**303**	P	**P**	**06 09 31.9**	**+1.6**
	0.2nm,0.6s,baz=57,slow=7.2,SNR=2.6						
NOA	**NORSAR Array B**	**43.85**	**321**	P	**P**	**06 09 32.3**	**+1.0**
	0.2nm,0.4s,baz=109,slow=7.1,SNR=2.3						
TORD	**Torodi Ar. Bea**	**68.71**	**270**	P	**P**	**06 12 29.4**	**0.0**
	0.3nm,0.5s,baz=47,slow=5.2,SNR=4.1						
YKA	**Yellowknife Ar**	**78.09**	**4**	P	**P**	**06 13 24.7**	**+0.9**
	0.2nm,0.4s,baz=346,slow=5.6,SNR=4.6						
ASAR	**Alice Springs**	**83.64**	**128**	P	**P**	**06 13 54.2**	**+0.1**
	0.5nm,0.6s,baz=317,slow=5.2,SNR=14						

MAN 31 06:16:23.4,12.82N×123.46E,h34km,mb4.7,ML3.5, MS3.4,2C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**1.03**	**41**	P	Pn	06 16 41.5	+0.1
CNP	**Catarman**	**1.22**	**105**	P	Pb	06 16 50.1	+4.1
CNP				S	Sb	06 17 13.1	+12
RCP	**Roxas**	**1.43**	**209**	⇑P	Pb	06 16 52.1	+2.5
RCP				S	Sb	06 17 14.2	+6.6
GQP	**Guinayangan**	**1.46**	**318**	⇓P	Pn	06 16 43.7	-3.7
GQP				S	Sn	06 17 04.2	-1.1
OTRP	**Odiongan**	**1.47**	**252**	P	Pn	06 16 48.9	+1.3
OTRP				S	Sn	06 17 05.7	+0.1
LQP	**Lukban**	**2.26**	**305**	⇑P	Pn	06 16 58.8	+0.1
LQP				S	Sn	06 17 26.7	+1.2
GUIM	**Jordan**	**2.34**	**201**	P	Pn	06 17 00.3	+0.7
GUIM				S	Sn	06 17 11.1	-16
POLP	**Polilio Island**	**2.40**	**322**	P	Pn	06 17 01.0	+0.7
POLP				S	Sn	06 17 30.0	+1.4

*IDC **31** 06:16:42.7±0.7,20.80N×146.71E,h0km,mb3.9/14, mb1 4.1/16,mb1mx4.0/55,mbtmp4.0/16,ML3.6/2, Error ellipse: s-maj=25.9km s-min=14.4km az=85.0*
*NEIC **31** 06:16:44.4±1.0,20.88N±0.09×146.7E±0.2,h10km±2km, mb4.3/6*
*ISCJB **31** 06:16:46.5±0.5,20.79N±0.05×146.67E±0.10,h37km, mb3.9/14,Error ellipse: s-maj=13.5km s-min=6.7km az=173.9*

ISC 31 06:16:48.5±0.6,20.83N±0.07×146.6E±0.1,h37km,n42, σ0.64/38,mb3.9/17,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**7.40**	**193**	Pn	**Pn**	**06 18 33.7**	**-0.3**
	3.8nm,0.3s,baz=9.0,slow=19,SNR=1.9						
GUMO				Sn	**Sn**	**06 19 57.7**	**+1.1**
	0.5nm,0.3s,baz=197,slow=19,SNR=1.7						

MJAR	**Matsushiro Arr**	**17.30**	**337**	P	**Pn**	**06 20 46.8**	**-0.3**
	0.0nm,0.3s,baz=153,slow=11,SNR=5.5						
H11S3	**WAKE ISLAND Hy**	**19.02**	**94**	T	T	06 40 37.4	
	baz=284						
H11N1	**WAKE ISLAND Hy**	**19.04**	**90**	T	T	06 40 47.3	
	baz=274						
H11S1	**WAKE ISLAND Hy**	**19.04**	**94**	T	T	06 40 45.9	
	baz=284						
H11N2	**WAKE ISLAND Hy**	**19.04**	**90**	T	T	06 40 36.9	
	baz=274						
H11S2	**WAKE ISLAND Hy**	**19.04**	**94**	T	T	06 40 41.0	
	baz=284						
H11N3	**WAKE ISLAND Hy**	**19.05**	**90**	T	T	06 40 46.3	
	baz=274						
KSRS	**Korea Array**	**23.20**	**320**	P	**P**	**06 21 52.8**	**+0.8**
	2.4nm,0.8s,baz=150,slow=9.8,SNR=6.4						
USRK	**Ussuriysk Ar.**	**26.29**	**336**	P	**P**	**06 22 21.8**	**+1.4**
	2.0nm,0.7s,baz=154,slow=10,SNR=7.9						
USRK	**Ussuriysk Ar.**	**26.29**	**336**	P	**P**	**06 22 19.6**	**-0.8**
PMG	**Port Moresby**	**30.05**	**179**	P	**P**	**06 22 53.2**	**-1.0**
	5.2nm,0.6s,baz=285,slow=5.7,SNR=4.8						
SONM	**Songino Array**	**42.07**	**319**	P	**P**	**06 24 36.8**	**0.0**
	0.7nm,0.8s,baz=128,slow=6.9,SNR=4.4						
WRAB	**Tennant Creek**	**42.26**	**197**	P	**P**	**06 24 38.3**	**-0.1**
WRAB				IAmb	IAmb	06 24 48.8	
	comp=Z,7.6nm,1.1s						
CMAR	**Chiang Mai Arr**	**44.85**	**276**	P	**P**	**06 24 59.4**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=94,slow=5.6,SNR=4.8						
ASAR	**Alice Springs**	**45.94**	**196**	P	**P**	**06 25 07.0**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=20,slow=6.6,SNR=17						
ASAR				PcP	**PcP**	**06 26 44.9**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=25,slow=3.2,SNR=9.5						
STKA	**Stephens Creek**	**52.63**	**185**	P	**P**	**06 25 58.3**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=346,slow=7.1,SNR=4.1						
STKA	**Stephens Creek**	**52.63**	**185**	IAmb	IAmb	06 26 01.8	
	comp=Z,0.6nm,1.1s						
TAPN	**Taplejung**	**53.77**	**289**	*eP*	**P**	**06 26 08.6**	**+0.7**
	comp=Z,24nm,1.1s						
ODAN	**Odare**	**54.11**	**289**	*eP*	**P**	**06 26 10.9**	**+0.6**
RAMN	**Ramite**	**54.80**	**289**	*eP*	**P**	**06 26 16.3**	**+1.0**
	comp=Z,7.9nm,0.6s						
JIRN	**Jiri**	**55.08**	**290**	*eP*	**P**	**06 26 18.2**	**+0.8**
	comp=Z,46nm,0.8s						
GUN	**Gumba**	**55.32**	**290**	*eP*	**P**	**06 26 19.8**	**+0.7**
	comp=Z,32nm,0.9s						
KKN	**Kakani**	**55.86**	**290**	*eP*	**P**	**06 26 23.3**	**+0.4**
	comp=Z,26nm,0.8s						
DMN	**Daman**	**56.03**	**290**	*eP*	**P**	**06 26 24.6**	**+0.4**
GKN	**Gorkha**	**56.40**	**290**	*eP*	**P**	**06 26 27.0**	**+0.4**
	comp=Z,65nm,1.1s						
ZALV	**Zalesovo Beam**	**56.88**	**322**	P	**P**	**06 26 28.9**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=103,slow=7.6,SNR=5.0						
DANN	**Dangsing**	**57.12**	**291**	*eP*	**P**	**06 26 32.6**	**+0.7**
	comp=Z,73nm,0.8s						
KOLN	**Koldanda**	**57.34**	**290**	*eP*	**P**	**06 26 33.6**	**+0.2**
	comp=Z,22nm,0.8s						
MKAR	**Makanchi Array**	**57.65**	**313**	P	**P**	**06 26 35.1**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=83,slow=10,SNR=3.2						
MKAR				PcP	**PcP**	**06 27 28.0**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=84,slow=4.9,SNR=3.1						
ILAR	**Eielson Array**	**61.35**	**27**	P	**P**	**06 27 00.5**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=282,slow=4.5,SNR=2.9						
BRVK	**Borovoye**	**65.47**	**320**	P	**P**	**06 27 27.9**	**+0.2**
KKAR	**Karatay Array**	**66.11**	**309**	P	**P**	**06 27 32.0**	**0.0**
KKAR				IAmb	IAmb	06 27 33.1	
	comp=Z,2.5nm,0.8s						
KKAR	**Karatay Array**	**66.11**	**309**	P	**P**	**06 27 32.1**	**+0.1**
TUWZ	**Tuamarina**	**66.92**	**158**	P	**P**	**06 27 37.1**	**+0.2**
RAR	**Rarotonga**	**66.99**	**125**	P	**P**	**06 27 39.2**	**+1.4**
ABKAR	**Akbulak array**	**72.39**	**317**	P	**P**	**06 28 10.6**	**-0.2**
ABKAR				IAmb	IAmb	06 28 11.1	
	comp=Z,1.6nm,0.7s						
ABKAR	**Akbulak array**	**72.39**	**317**	P	**P**	**06 28 10.2**	**-0.5**
YKA	**Yellowknife Ar**	**75.70**	**28**	P	**P**	**06 28 29.6**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=289,slow=5.6,SNR=5.3						
NVAR	**Mina Array Bea**	**81.14**	**52**	P	**P**	**06 29 00.4**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=257,slow=5.9,SNR=7.4						
KBZ	**Khabaz**	**85.27**	**315**	P	**P**	**06 29 21.5**	**0.0**
	comp=Z,2.2nm,0.9s,baz=45,slow=2.9,SNR=3.0						
FINES	**FINESS Array B**	**85.32**	**335**	P	**P**	**06 29 20.5**	**-0.9**
	comp=Z,2.0nm,0.5s,baz=64,slow=4.1,SNR=16						

*ISCJB **31** 06:27:49.9±0.6,86.69N±0.09×6.4E±˚,h10km,mb3.6/9, Error ellipse: s-maj=16.6km s-min=9.0km az=40.3*
*IDC **31** 06:27:50.3±0.8,86.71N×65.90E,h0km,mb3.7/9, mb1 3.9/11,mb1mx3.6/51,mbtmp3.8/11,ML3.3/2,MS3.5/3, Ms1 3.5/3,ms1mx3.0/39,Error ellipse: s-maj=25.8km s-min=15.6km az=120.0*
*IEPN **31** 06:27:56.0,86.25N×68.67E,h20km*

ISC 31 06:27:52.0±0.8,86.55N±0.09×64.05E±0.09,h10km,n18, σ2.45/20,mb3.8/9,North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZFI2	**Zemlya Franca-**	**6.00**	**206**	*eP*	**Pn**	**06 29 21.3**	**+0.6**
ZFI2				*eS*	**Sn**	**06 30 24.9**	**-4.4**
	7.5nm,0.4s						
KBS	**Kingsbay**	**9.42**	**249**	*eP*	**Pn**	**06 30 09.2**	**+1.8**
KBS				*eS*	**Sn**	**06 31 50.2**	**-2.9**
SPA0	**Spitsbergen Ar**	**9.90**	**243**	*eP*	**Pn**	**06 30 16.0**	**+1.9**
SPA0				*eS*	**Sn**	**06 32 02.5**	**-2.4**
SPITS	**Spitsbergen Ar**	**9.90**	**243**	Pn	**Pn**	**06 30 15.1**	**+1.1**
	baz=36,slow=14,SNR=32						
SPITS				Sn	**Sn**	**06 32 04.8**	**-0.2**
	baz=48,slow=26,SNR=4.9						
HOPEN	**Hopen**	**11.09**	**230**	*eP*	**Pn**	**06 30 31.5**	**+1.1**
HOPEN				*eS*	**Sn**	**06 32 28.2**	**-6.0**
ARCES	**ARCESS Array B**	**18.00**	**225**	P	**P**	**06 32 03.6**	**+1.3**
	0.1nm,0.3s,baz=0.5,slow=10,SNR=2.6						
INK	**Inuvik**	**25.16**	**15**	P	**P**	**06 33 14.1**	**-2.6**
	2.2nm,0.9s,baz=333,slow=4.5,SNR=2.4						
FINES	**FINESS Array B**	**26.06**	**222**	P	**P**	**06 33 26.3**	**+1.3**
	1.6nm,0.8s,baz=357,slow=2.8,SNR=3.6						
NOA	**NORSAR Array B**	**27.16**	**238**	LR	LR	06 45 03.5	
	comp=Z,26nm,19.2s,baz=280,slow=38						
ILAR	**Eielson Array**	**28.41**	**28**	P	**P**	**06 33 44.3**	**-1.7**
	0.4nm,0.8s,baz=2.5,slow=8.1,SNR=4.8						
YKA	**Yellowknife Ar**	**31.14**	**359**	P	**P**	**06 34 08.9**	**-1.3**
	0.6nm,0.8s,baz=359,slow=8.4,SNR=7.1						
AKTO	**Aktyubinsk**	**36.30**	**187**	P	**P**	**06 34 56.5**	**+1.3**
	1.7nm,0.8s,baz=12,slow=9.3,SNR=6.2						
AKASG	**Malin Array Be**	**36.68**	**217**	P	**P**	**06 35 00.2**	**+1.9**
	2.1nm,0.9s,baz=6.7,slow=9.0,SNR=5.6						
GERES	**GERESS Array B**	**39.20**	**234**	LR	LR	06 51 14.1	
	comp=Z,92nm,18.3s,baz=312,slow=36						
SONM	**Songino Array**	**39.85**	**135**	P	**P**	**06 35 25.4**	**+0.2**
	0.6nm,0.7s,baz=337,slow=6.4,SNR=4.5						
CMAR	**Chiang Mai Arr**	**68.82**	**144**	P	**P**	**06 38 55.8**	**-0.3**
	0.8nm,0.7s,baz=344,slow=8.1,SNR=5.1						
TORD	**Torodi Ar. Bea**	**75.35**	**243**	P	**P**	**06 39 36.6**	**+1.4**
	0.5nm,0.7s,baz=359,slow=5.7,SNR=2.5						
ROSC	**El Rosal**	**87.79**	**319**	LR	LR	07 19 33.4	
	comp=Z,68nm,19.3s,baz=42,slow=35						

*ATH **31** 06:29:07.4,35.10N×23.18E,h79km±4km,ML3.8/12,Error ellipse: s-maj=4.9km s-min=1.4km az=111.0*
*NEIC **31** 06:29:07.8±2.6,35.10N±0.09×23.09E±0.06,h40km±11km, mb3.8/4,ML4.1(ATH)*
*THE **31** 06:29:08.8,35.02N×23.06E,h36km±14km,ML4.0/7,Error ellipse: s-maj=14.7km s-min=0.9km az=60.0*
*IDC **31** 06:29:10.2±1.8,35.23N×23.16E,h65km±18km,mb3.6/11, mb1 3.7/17,mb1mx3.4/52,mbtmp3.8/17,Error ellipse: s-maj=20.3km s-min=15.8km az=15.0*
*HLW **31** 06:29:12.7,34.71N×23.68E,h22km±27km,Md4.6,Ml4.5*
*GII **31** 06:29:16.4±0.0,34.77N×24.32E,h10km,MD3.6/3*

ISC 31 06:29:06.5±1.2,34.98N±0.04×23.04E±0.04,h32km±9km, n135,σ2.30/161,mb3.8/12,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RODP	**Rodopos**	**0.82**	**45**	P	**Pb**	**06 29 22.5**	**+0.1**
RODP				S	**Sb**	**06 29 33.3**	**+0.1**
	2μm,0.6s						
GVD	**Gavdhos**	**0.87**	**99**	P	**Pb**	**06 29 24.1**	**+0.9**
GVD				S	**Sb**	**06 29 35.3**	**+0.8**
	19μm,0.5s						
GVD	**Gavdhos**	**0.87**	**99**	P	**Pb**	**06 29 24.0**	**+0.9**
GVD				S	**Sb**	**06 29 36.4**	**+1.9**
GVD				AML	AML	06 29 41.5	
	comp=N,31579μm,0.6s						
GVD				AML	AML	06 29 42.4	
	comp=E,44158μm,0.4s						

GVDS	**Gavdos**	**0.87**	**99**	P	**Pb**	**06 29 23.8**	**+0.6**
GVDS				S	**Sb**	**06 29 35.7**	**+1.2**
	comp=E,8μm,0.3s						
IMMV	**Iera Moni Meta**	**0.91**	**58**	P	**Pb**	**06 29 23.9**	**+0.1**
IMMV				S	**Sb**	**06 29 36.3**	**+0.8**
	comp=E,13μm,0.7s						
IMMV	**Iera Moni Meta**	**0.91**	**58**	P	**Pb**	**06 29 23.9**	**+0.1**
IMMV				S	**Sb**	**06 29 37.2**	**+1.7**
IMMV				AML	AML	06 29 39.7	
	comp=N,28917μm,0.8s						
IMMV				AML	AML	06 29 43.3	
	comp=E,22340μm,0.7s						
ANKY	**Antikythira Is**	**0.91**	**13**	P	**Pb**	**06 29 23.8**	**0.0**
ANKY				S	**Sb**	**06 29 36.7**	**+1.1**
	comp=E,6μm,0.6s						
ANKY	**Antikythira Is**	**0.91**	**13**	P	**Pb**	**06 29 23.8**	**0.0**
ANKY				S	**Sb**	**06 29 36.7**	**+1.1**
ANKY				AML	AML	06 29 39.0	
	comp=E,12352μm,0.7s						
ANKY				AML	AML	06 29 40.0	
	comp=N,10082μm,0.5s						
CHAN	**Chania**	**0.98**	**56**	P	**Pb**	**06 29 25.0**	**0.0**
CHAN				S	**Sb**	**06 29 37.5**	**-0.1**
	comp=N,5μm,0.8s						
VAM	**Vamos**	**1.04**	**65**	P	**Pb**	**06 29 25.9**	**-0.1**
VAM				S	**Sb**	**06 29 39.6**	**+0.3**
	comp=N,32μm,0.7s						
VAM	**Vamos**	**1.04**	**65**	P	**Pb**	**06 29 25.9**	**-0.1**
VAM				S	**Sn**	**06 29 37.8**	**-0.6**
VAM				AML	AML	06 29 45.3	
	comp=N,31051μm,0.7s						
VAM				AML	AML	06 29 46.0	
	comp=E,31472μm,0.7s						
KTHA	**Kythira Island**	**1.27**	**1**	P	**Pn**	**06 29 28.9**	**+0.7**
KTHA	**Kythira Island**	**1.27**	**1**	P	**Pb**	**06 29 29.5**	**-0.4**
KTHA				S	**Sb**	**06 29 46.6**	**+0.5**
KTHA				AML	AML	06 29 55.2	
	comp=N,3082μm,0.5s						
KTHA				AML	AML	06 29 56.1	
	comp=E,10046μm,1.0s						
KTHR	**Kythira**	**1.28**	**359**	P	**Pn**	**06 29 29.2**	**+1.0**
SIVA	**Sivas**	**1.45**	**88**	P	**Pb**	**06 29 32.1**	**-0.8**
SIVA	**Sivas**	**1.45**	**88**	P	**Pn**	**06 29 31.8**	**+1.2**
SIVA				S	**Sb**	**06 29 50.1**	**-0.9**
SIVA				AML	AML	06 30 03.3	
	comp=E,12645μm,0.6s						
SIVA				AML	AML	06 30 07.8	
	comp=N,7542μm,0.7s						
IDI	**Anoyia**	**1.55**	**78**	P	**Pb**	**06 29 33.4**	**-1.1**
	comp=N,26nm,0.3s,baz=246,slow=10.0,SNR=170						
IDI				S	**Sn**	**06 29 51.9**	**+0.9**
	comp=N,63nm,0.3s,baz=74,slow=20,SNR=9.3						
IDI	**Anoyia**	**1.55**	**78**	P	**Pn**	**06 29 33.1**	**+1.2**
IDI				S	**Sn**	**06 29 50.4**	**-0.5**
IDI				AML	AML	06 30 00.9	
	comp=N,2865μm,0.6s						
IDI				AML	AML	06 30 09.9	
	comp=E,2973μm,0.6s						
VLI	**Veliai**	**1.74**	**357**	P	**Pn**	**06 29 35.8**	**+1.3**
VLI	**Veliai**	**1.74**	**357**	P	**Pn**	**06 29 36.0**	**+1.5**
VLI				S	**Sn**	**06 29 55.4**	**-0.2**
VLI				AML	AML	06 30 11.2	
	comp=E,2409μm,0.9s						
VLI				AML	AML	06 30 14.9	
	comp=N,4090μm,0.9s						
DYR	**Agios Nikonas**	**1.87**	**342**	P	**Pn**	**06 29 38.2**	**+1.9**
DYR	**Agios Nikonas**	**1.87**	**342**	P	**Pb**	**06 29 38.4**	**-1.6**
DYR				S	**Sn**	**06 30 00.3**	**+1.4**
DYR				AML	AML	06 30 22.9	
	comp=E,811μm,0.9s						
DYR				AML	AML	06 30 23.6	
	comp=N,590μm,0.8s						
LAST	**Lasithi**	**2.01**	**84**	P	**Pn**	**06 29 40.2**	**+1.9**
LAST	**Lasithi**	**2.01**	**84**	P	**Pn**	**06 29 39.1**	**+0.8**
LAST				S	**Sn**	**06 30 02.7**	**+0.3**
LAST				AML	AML	06 30 19.0	
	comp=E,1253μm,0.7s						
LAST				AML	AML	06 30 24.3	
	comp=N,2036μm,1.0s						
MHLO	**Agia Marina, M**	**2.03**	**33**	P	**Pn**	**06 29 39.8**	**+1.2**
MHLO	**Agia Marina, M**	**2.03**	**33**	P	**Pn**	**06 29 38.7**	**+0.2**
MHLO				S	**Sn**	**06 30 02.5**	**-0.4**
MHLO				AML	AML	06 30 16.0	
	comp=E,7863μm,1.0s						
MHLO				AML	AML	06 30 17.7	
	comp=N,6959μm,0.5s						
MHLA	**Plaka, Milos I**	**2.09**	**32**	P	**Pn**	**06 29 40.8**	**+1.4**
NPS	**Neapolis**	**2.13**	**82**	P	**Pn**	**06 29 41.9**	**+2.0**
NPS	**Neapolis**	**2.13**	**82**	P	**Pn**	**06 29 41.8**	**+2.0**
PYL	**PYLOS**	**2.18**	**332**	P	**Pn**	**06 29 41.4**	**+0.8**
THR5	**Thira Island,**	**2.36**	**52**	P	**Pn**	**06 29 42.8**	**-0.3**
ITM	**Ithomi**	**2.37**	**338**	P	**Pn**	**06 29 44.0**	**+0.7**
ITM	**Ithomi**	**2.37**	**338**	P	**Pn**	**06 29 44.8**	**+1.6**
ITM				S	**Sn**	**06 30 13.0**	**+1.7**
ITM				AML	AML	06 30 33.5	
	comp=N,474μm,0.7s						
ITM				AML	AML	06 30 38.5	
	comp

comp=E,2.9nm,0.3s,baz=294,slow=10,SNR=5.3
MMAI S Sn 06 33 21.9 -8.3
comp=E,6.8nm,0.3s,baz=269,slow=24,SNR=5.3
FRGS Fruska Gora 10.46 347 *e*Pn **Pn 06 31 30.7 -3.6**
MORI Morici 10.53 330 *i* Pn **Pn 06 31 32.4 -2.8**
MORI Sn Sn 06 33 18.9 -13
MMLI Mount Malkishu 10.62 100 Pn **Pn 06 31 34.4 -2.1**
MMLI Sn Sn 06 33 21.2 -13
NATI Neve Ativ 10.66 96 Pn **Pn 06 31 34.0 -3.0**
MLR Muntele Rosu 10.73 P **Pn 06 31 37.5 -0.5**
comp=E,0.1nm,0.3s,baz=198,slow=11,SNR=2.2
YTIR Yattir 10.74 106 Pn **Pn 06 31 36.3 -1.9**
HMDT Nahal Hemdat 10.76 101 Pn **Pn 06 31 36.5 -1.9**
HMDT Sn Sn 06 33 25.9 -12
DSI Dead Sea 10.87 105 Pn **Pn 06 31 38.2 -1.7**
DUGI Dugi Otok 10.90 328 *e*Pn **Pn 06 31 37.3 -3.1**
MZDA Masada 10.96 106 Pn **Pn 06 31 39.3 -1.7**
MZDA Sn Sn 06 33 30.2 -12
KRMI Paran Flat 10.98 113 Pn **Pn 06 31 40.3 -1.2**
NRCA Norcia 11.01 318 Pn **Pn 06 31 42.6 +0.8**
UDBI Udbina 11.05 332 *e*Pn **Pn 06 31 40.8 -1.6**
PRNI Paran 11.09 111 Pn **Pn 06 31 40.5 -2.4**
KEST Kesra 11.21 278 S **Sn 06 33 43.6 -5.3**
comp=E,0.1nm,0.3s,baz=319,slow=20,SNR=3.6
HRFI Mount Harif 11.26 113 Pn **Pn 06 31 42.5 -2.8**
MBRI Mt Berech 11.29 114 Pn **Pn 06 31 43.3 -2.4**
EIL Elat 11.38 114 Pn **Pn 06 31 44.8 -2.0**
EIL Sn Sn 06 33 40.1 -13
EIL Elat 11.38 114 P **Pn 06 31 45.0 -1.9**
comp=E,1.0nm,0.3s,baz=340,slow=2.7,SNR=13
EIL S Sn 06 33 43.3 -10
comp=E,3.6nm,0.3s,baz=342,slow=9.0,SNR=8.4
NVLJ Novalja 11.44 329 *i* Pn **Pn 06 31 45.1 -2.6**
NVLJ Sn Sn 06 33 42.6 -12
MOSL Moslavina 11.65 338 *e*Pn **Pn 06 31 46.7 -3.9**
ASF Jabal al Asfar 11.89 100 S **Sn 06 33 57.4 -8.1**
comp=E,0.4nm,0.3s,baz=319,slow=20,SNR=4.2
CRES Cresnjev 12.27 334 *e*Pn **Pn 06 31 55.5 -3.5**
CEY Cerknica 12.59 331 *e*Pn **Pn 06 32 00.6 -2.7**
OBKA Obir 13.18 333 *i* Pn **Pn 06 32 10.8 -0.7**
comp=E,1.3nm,0.4s
OBKA *i* Sn **Sn 06 34 44.2 +7.1**
comp=E,5.9nm,0.8s
VYHS Vyhne 13.86 348 *e*PN **P 06 32 29.4 +0.8**
ABTA Abfaltersbach 14.18 329 Pn **Pn 06 32 26.7 +1.5**
comp=E,3.4nm,0.7s
FETA Feichten 15.18 326 *i* pP **P 06 32 45.6 +2.2**
comp=E,2.4nm,0.7s
MOTA Moosalm 15.25 328 Pn **P 06 32 49.7 +5.4**
comp=E,0.7nm,0.4s
GERES GERESS Array B 15.48 336 P **Pn 06 32 42.4 -0.2**
comp=E,0.1nm,0.3s,baz=158,slow=11,SNR=4.4
KHC Kasperske Hory 15.77 337 P **P 06 32 50.2 +0.4**
KHC IAmb IAmb 06 32 52.6
comp=Z,9.0nm,1.8s
AKASG Malin Array Be 16.34 14 P **Pn 06 32 51.7 -1.7**
comp=Z,2.1nm,0.3s,baz=203,slow=10,SNR=8.2
KBZ Khabaz 17.64 54 P **Pn 06 33 09.9 +0.2**
comp=Z,0.1nm,0.3s,baz=210,slow=8.1,SNR=2.0
ESDC Sonseca Array 21.94 290 P **P 06 33 58.9 +1.5**
comp=Z,0.5nm,0.7s,baz=90,slow=10,SNR=2.6
HFS Hagfors 25.89 349 P **P 06 34 33.7 -1.6**
comp=Z,2.9nm,0.7s,baz=150,slow=11,SNR=13
FINES FINESS Array B 26.55 3 P **P 06 34 38.7 -2.6**
comp=Z,2.4nm,0.9s,baz=176,slow=9.1,SNR=6.8
NB2 NORSAR Subarra 27.16 347 P **P 06 34 47.3 +0.5**
comp=Z,0.1nm,0.3s,baz=156,slow=3
NOA NORSAR Array B 27.16 347 P **P 06 34 45.2 -1.6**
comp=Z,2.0nm,1.1s,baz=145,slow=18,SNR=5.1
EKA Eskdalemuir Ar 27.21 327 P **P 06 34 46.6 -0.6**
comp=Z,0.3nm,0.4s,baz=118,slow=9.0,SNR=2.8
TORD Torodi Ar. Bea 29.07 227 P **P 06 35 06.3 +2.2**
comp=Z,0.5nm,0.6s,baz=26,slow=6.0,SNR=5.2
ARCES ARCESS Array B 34.64 2 P **P 06 35 50.0 -2.5**
comp=Z,7.2nm,1.1s,baz=185,slow=8.1,SNR=6.8
SPITS Spitsbergen Ar 43.40 358 P **P 06 37 04.3 -1.3**
comp=Z,2.3nm,0.7s,baz=170,slow=11,SNR=9.9
MK31 Makanchi Array 45.32 56 P **P 06 37 20.1 -1.3**
MK31 IAmb IAmb 06 37 56.1
comp=Z,2.7nm,1.3s
MKAR Makanchi Array 45.32 56 P **P 06 37 19.7 -1.8**
comp=Z,0.5nm,0.4s,baz=272,slow=8.1,SNR=9.8
MKAR Makanchi Array 45.32 56 P **P 06 37 21.1 -0.4**
ZALV Zalesovo Beam 46.38 46 P **P 06 37 27.3 -2.3**
comp=Z,0.8nm,0.3s,baz=266,slow=7.7,SNR=3.5
USRK Ussuriysk Ar. 78.19 44 P **P 06 41 01.3 -1.5**
comp=Z,0.4nm,0.5s,baz=269,slow=2.4,SNR=3.4
ASAR Alice Springs 119.73 99 PKP **PKPdf 06 47 53.8 0.0**
comp=Z,0.3nm,0.9s,baz=358,slow=2.2,SNR=2.9

*ISCJB **31** 06:30:13.4±0.3,23.98N±0.02×122.62E±0.01,h24km±3km, Error ellipse: s-maj=3.3km s-min=2.0km az=165.7*
*JMA **31** 06:30:13.9±0.2,23.99N×122.61E,h34km±4km,M2.9*
*TAP **31** 06:30:14.2,24.05N×122.63E,h40km±1km,ML3.4,C*
ISC 31 06:30:13.5±1.0,23.97N±0.02×122.61E±0.02,h31km±11km, **n85,σ0.82/148,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.57**	**33**	P		**Pn**	**06 30 25.0**	**-0.5**
JYNG				S		**Sb**	**06 30 33.2**	**+0.2**
YOJ	**Yonaguni jima**	**0.61**	**37**	P		**Pn**	**06 30 25.6**	**-0.5**
YOJ				S		**Sn**	**06 30 34.2**	**-0.7**
YOJ	**Yonaguni jima**	**0.61**	**37**	P		**Pn**	**06 30 25.8**	**-0.3**
	baz=44							
YOJ				S		**Sn**	**06 30 33.7**	**-1.2**
	baz=44							
EOS1	**EOS1**	**0.72**	**323**	P		**Pb**	**06 30 28.1**	**+0.4**
	baz=318							
EOS1					*e*S	**Sb**	**06 30 38.1**	**+0.8**
	baz=318							
NANB	**Nanao**	**0.91**	**300**	*e*P		**Pn**	**06 30 30.4**	**+0.3**
	baz=296							
NANB					*e*S	**Sn**	**06 30 42.2**	**0.0**
	baz=296							
ENA	**Nanau**	**0.91**	**300**	*e*P		**Pn**	**06 30 30.4**	**+0.1**
	baz=295							
ENA					*e*S	**Sb**	**06 30 43.6**	**+0.9**
	baz=295							
ENLB	**Shoufeng**	**0.93**	**266**	*e*S		**Sn**	**06 30 43.1**	**+0.5**
	baz=251							
TWD	**Chiawan**	**0.93**	**277**	*e*P		**Pn**	**06 30 30.6**	**+0.1**
	baz=272							
TWD					*e*S	**Sn**	**06 30 42.8**	**0.0**
	baz=272							
TWC	**Suao**	**0.94**	**313**	*e*P		**Pn**	**06 30 30.4**	**-0.2**
	baz=309							
TWC					*e*S	**Sb**	**06 30 43.2**	**-0.2**
	baz=309							
NACB	**Ninganchiao**	**0.95**	**282**	*e*P		**Pn**	**06 30 30.9**	**+0.2**
	baz=265							
NACB					*e*S	**Sn**	**06 30 42.9**	**-0.3**
	baz=265							
ETLH	**Xiulin Townshi**	**1.06**	**283**	*e*P		**Pn**	**06 30 32.6**	**+0.3**
	baz=268							
ETLH					*e*S	**Sn**	**06 30 45.7**	**-0.3**
	baz=268							
EGS		**1.07**	**325**	*e*P		**Pn**	**06 30 31.7**	**-0.6**
	baz=333							
EGS					*e*S	**Sb**	**06 30 46.8**	**-0.2**
	baz=333							
IRIF	**Iriomote-Funau**	**1.08**	**70**	P		**Pn**	**06 30 33.1**	**+0.5**
IRIF					*e*S	**Sn**	**06 30 46.4**	**-0.2**
ESL	**Shilin**	**1.09**	**262**	*e*P		**Pn**	**06 30 32.7**	**+0.1**
	baz=251							
ESL					*e*S	**Sn**	**06 30 46.1**	**-0.5**
	baz=251							
HATJ	**Hateruma jima**	**1.10**	**85**	P		**Pb**	**06 30 33.9**	**0.0**
HATJ					*e*S	**Sb**	**06 30 48.3**	**+0.4**
EGFH	**Guangfu**	**1.12**	**255**	*e*P		**Pn**	**06 30 33.8**	**+0.6**
	baz=251							
EGFH					*e*S	**Sn**	**06 30 48.1**	**+0.6**
	baz=251							
NTC	**Toucheng**	**1.13**	**321**	*e*P		**Pb**	**06 30 34.3**	**-0.1**
	baz=318							
NTC					*e*S	**Sb**	**06 30 48.8**	**-0.1**
	baz=318							
TWE	**Neicheng**	**1.14**	**311**	*e*P		**Pn**	**06 30 33.6**	**+0.3**
	baz=308							
TWE					*e*S	**Sn**	**06 30 47.8**	**-0.1**
	baz=308							
ENTT	**Nioudou**	**1.16**	**305**	*e*P		**Pn**	**06 30 34.4**	**+0.7**
	baz=302							
ENTT					*e*S	**Sb**	**06 30 50.5**	**+0.7**
	baz=302							
NDT	**Datong Townshi**	**1.18**	**302**	*e*P		**Pn**	**06 30 34.6**	**+0.6**
	baz=288							
NDT					*e*S	**Sn**	**06 30 49.2**	**+0.2**
	baz=288							
SLBB	**Yuanshan**	**1.18**	**311**	*e*P		**Pn**	**06 30 34.2**	**+0.2**
	baz=308							
SLBB					*e*S	**Sb**	**06 30 50.0**	**-0.3**
	baz=308							
HGSD	**Ruisui**	**1.19**	**246**	*e*P		**Pn**	**06 30 34.6**	**+0.6**
	baz=243							
HGSD					*e*S	**Sn**	**06 30 48.6**	**-0.5**
	baz=243							
NNSH	**Datong**	**1.21**	**292**	*e*P		**Pn**	**06 30 34.9**	**+0.4**
	baz=289							
NNSH					*e*S	**Sb**	**06 30 51.1**	**-0.1**
	baz=289							
NNS	**Nan Shan**	**1.22**	**293**	*e*P		**Pn**	**06 30 35.2**	**+0.6**
	baz=289							
TIPB	**Shuangxi**	**1.23**	**324**	*e*P		**Pn**	**06 30 34.5**	**0.0**
	baz=334							
TIPB					*e*S	**Sn**	**06 30 50.7**	**+0.6**
	baz=334							
WHF	**Hehuan Shan**	**1.24**	**278**	*e*P		**Pn**	**06 30 35.5**	**+0.4**
	baz=275							
WHF					*e*S	**Sn**	**06 30 51.4**	**+0.4**
	baz=275							
EHY	**Hungye**	**1.27**	**249**	*e*P		**Pn**	**06 30 35.9**	**+0.8**
	baz=245							
EHY					*e*S	**Sn**	**06 30 51.6**	**+0.5**
	baz=245							
NWLT	**Wulai**	**1.29**	**309**	*e*P		**Pn**	**06 30 36.3**	**+0.8**
	baz=292							
NWLT					*e*S	**Sb**	**06 30 53.8**	**+0.4**
	baz=292							
JKRS	**Kuro-shima**	**1.31**	**78**	P		**Pb**	**06 30 37.0**	**-0.4**
JKRS				S		**Sb**	**06 30 54.4**	**+0.5**
CHGB	**Renai**	**1.31**	**274**	P		**Pn**	**06 30 36.8**	**+0.9**
	baz=271							
CHGB					*e*S	**Sn**	**06 30 52.5**	**-0.1**
	baz=271							
YHNB	**Yeheng**	**1.32**	**302**	*e*P		**Pn**	**06 30 36.7**	**+0.8**
	baz=299							
YHNB					*e*S	**Sb**	**06 30 54.1**	**-0.3**
	baz=299							
NWF	**Wu-fen Shan**	**1.33**	**326**	*e*P		**Pn**	**06 30 36.2**	**+0.2**
	baz=324							
NWF					*e*S	**Sn**	**06 30 52.6**	**-0.1**
	baz=324							
WFSB	**Wu-fen Shan**	**1.33**	**326**	*e*P		**Pn**	**06 30 36.0**	**+0.1**
	baz=324							
WFSB					*e*S	**Sn**	**06 30 52.6**	**0.0**
	baz=324							
NSK	**Sanguang**	**1.34**	**302**	P		**Pn**	**06 30 36.9**	**+0.7**
	baz=287							
TWF1	**Yuli**	**1.35**	**243**	*e*P		**Pn**	**06 30 37.4**	**+1.1**
	baz=240							
TWF1					*e*S	**Sb**	**06 30 54.7**	**-0.5**
	baz=240							
TDCB	**Techi**	**1.35**	**282**	*e*P		**Pb**	**06 30 37.7**	**-0.7**
	baz=269							
VWDT	**VWDT**	**1.36**	**261**	*e*P		**Pn**	**06 30 37.5**	**+1.1**
	baz=258							
VWDT					*e*S	**Sn**	**06 30 54.4**	**+1.0**
	baz=258							
TWA	**Mucha**	**1.37**	**317**	*e*P		**Pn**	**06 30 37.2**	**+0.7**
	baz=315							
TWA					*e*S	**Sn**	**06 30 54.0**	**+0.3**
	baz=315							
TATO	**Taipei**	**1.43**	**315**	*e*P		**Pn**	**06 30 38.5**	**+1.2**
	baz=327							
TATO					*e*S	**Sb**	**06 30 57.8**	**+0.4**
	baz=327							
FULB	**Fuli**	**1.43**	**238**	*e*P		**Pn**	**06 30 38.1**	**+0.7**
	baz=226							
FULB					*e*S	**Sn**	**06 30 56.8**	**+1.6**
	baz=226							
CHKT	**Chengkung**	**1.44**	**233**	*e*P		**Pn**	**06 30 38.5**	**+1.1**
	baz=221							
CHKT					*e*S	**Sn**	**06 30 55.4**	**+0.1**
	baz=221							
JIJ	**Ishigaki jima**	**1.45**	**74**	P		**Pn**	**06 30 38.1**	**+0.4**
JIJ					*e*S	**Sn**	**06 30 55.8**	**+0.1**
SSLB	**Suanglung**	**1.53**	**263**	*e*P		**Pn**	**06 30 40.2**	**+1.5**
	baz=261							
DPDB	**Guoxing**	**1.54**	**273**	*e*P		**Pn**	**06 30 40.4**	**+1.5**
	baz=270							
WHP	**Taichung City**	**1.55**	**282**	*e*P		**Pb**	**06 30 41.3**	**-0.3**
	baz=269							
WHP					*e*S	**Sn**	**06 30 57.8**	**-0.4**
	baz=269							
SMLT	**Sun Moon Lake**	**1.57**	**267**	*e*P		**Pn**	**06 30 40.9**	**+1.5**
	baz=264							
SMLT					*e*S	**Sn**	**06 30 59.7**	**+1.0**
	baz=264							
YUS	**Yu-Shan**	**1.59**	**253**	*e*P		**Pn**	**06 30 41.5**	**+1.4**
	baz=250							
YUS					*e*S	**Sn**	**06 31 00.3**	**+0.5**
	baz=250							
LIOB	**Emei**	**1.60**	**295**	*e*P		**Pb**	**06 30 41.4**	**-1.1**
	baz=292							
TYC	**Yuchr**	**1.60**	**268**	*e*P		**Pb**	**06 30 41.4**	**-1.1**
	baz=265							
TYC					*e*S	**Sn**	**06 31 00.2**	**+0.8**
	baz=265							
NSTT	**Nanjuang**	**1.61**	**294**	*e*P		**Pb**	**06 30 41.8**	**-0.8**
	baz=292							
TWH	**Lutao**	**1.63**	**220**	*e*P		**Pn**	**06 30 41.0**	**+0.8**
	baz=217							
TWH					*e*S	**Sn**	**06 30 59.6**	**-0.5**
	baz=217							
WHYT	**Xinyi Township**	**1.63**	**261**	P		**Pn**	**06 30 41.9**	**+1.7**
	baz=248							
WHYT					*e*S	**Sn**	**06 31 01.4**	**+1.3**
	baz=248							
ELDTW	**Lidau**	**1.66**	**242**	P		**Pn**	**06 30 41.5**	**+0.9**
	baz=239							
ELDTW					S	**Sn**	**06 31 01.1**	**+0.2**
	baz=239							
JISG	**Ishigakijimahi**	**1.67**	**68**	P		**Pn**	**06 30 40.7**	**+0.1**
JISG					*e*S	**Sn**	**06 31 00.4**	**-0.6**
ALS	**Alishan**	**1.72**	**255**	*e*P		**Pn**	**06 30 41.7**	**+0.1**
	baz=252							
ALS					*e*S	**Sn**	**06 31 04.3**	**+1.7**
	baz=252							
TWQ1	**Liyutan**	**1.72**	**283**	*e*P		**Pb**	**06 30 43.3**	**-1.1**
	baz=280							
TWQ1					*e*S	**Sn**	**06 31 03.2**	**+0.9**
	baz=280							
WJS	**Zhushan**	**1.73**	**265**	*e*P		**Pb**	**06 30 44.5**	**-0.2**
	baz=263							
NSY	**Sanri**	**1.75**	**285**	*e*P		**Pb**	**06 30 44.0**	**-0.9**
	baz=282							
WNT	**Mingjian**	**1.76**	**267**	*e*P		**Pb**	**06 30 44.8**	**-0.4**
	baz=265							
CHN5	**Tsauling**	**1.81**	**258**	*e*P		**Pb**	**06 30 45.4**	**-0.7**
	baz=247							
CHN5					*e*S	**Sb**	**06 31 08.3**	**0.0**
	baz=247							
TWGBT	**Beinan**	**1.81**	**231**	*e*P		**Pn**	**06 30 43.5**	**+0.8**
	baz=241							
TWGBT					*e*S	**Sn**	**06 31 05.0**	**+0.4**
	baz=241							
TWG	**Pinlang**	**1.82**	**231**	*e*P		**Pn**	**06 30 43.9**	**+1.2**
	baz=241							
TWG					*e*S	**Sn**	**06 31 06.2**	**+1.5**
	baz=241							
WCHH	**Zhanghua**	**1.88**	**274**	*e*P		**Pb**	**06 30 46.0**	**-1.2**
	baz=271							
WGK	**Gukeng**	**1.90**	**262**	*e*P		**Pb**	**06 30 48.0**	**+0.5**
	baz=259							
WDLH	**Douliu**	**1.92**	**262**	*e*P		**Pb**	**06 30 46.8**	**-1.0**
	baz=259							
WDLH					*e*S	**Sb**	**06 31 10.6**	**-0.8**
	baz=259							
TPUB	**Ta-pu**	**1.94**	**250**	*e*P		**Pb**	**06 30 46.8**	**-1.3**
	baz=255							
TPUB					*e*S	**Sb**	**06 31 11.1**	**-0.8**
	baz=255							
CHN4	**Tsaushan**	**1.95**	**252**	*e*P		**Pb**	**06 30 47.4**	**-1.0**
	baz=249							
CHN4					*e*S	**Sb**	**06 31 11.8**	**-0.5**
	baz=249							
JTJ	**Tarama**	**2.02**	**70**	P		**Pn**	**06 30 46.4**	**+0.9**
JTJ					*e*S	**Sn**	**06 31 10.5**	**+0.8**
SLGT	**Liugui**	**2.05**	**242**	*e*P		**Pb**	**06 30 48.9**	**-1.2**
	baz=232							
SLGT					*e*S	**Sb**	**06 31 13.6**	**-1.5**
	baz=232							
CHY	**Chiayi**	**2.06**	**257**	*e*P		**Pb**	**06 30 48.5**	**-1.7**
	baz=255							
RLNB	**Erlin**	**2.06**	**268**	*e*P		**Pb**	**06 30 49.1**	**-1.2**
	baz=277							
SGST	**Jiashian**	**2.06**	**245**	*e*P		**Pb**	**06 30 48.9**	**-1.4**
	baz=235							
SGST					*e*S	**Sb**	**06 31 14.3**	**-1.2**
	baz=235							
CHN1	**Nanshi**	**2.06**	**248**	*e*P		**Pb**	**06 30 49.4**	**-1.0**
	baz=246							
CHN1					*e*S	**Sb**	**06 31 14.0**	**-1.6**
	baz=246							
TWK	**Hsinying**	**2.07**	**251**	*e*P		**Pb**	**06 30 49.4**	**-1.0**
	baz=248							
TWK					*e*S	**Sb**	**06 31 14.9**	**-0.9**
	baz=248							
SNST	**Tainan City**	**2.08**	**249**	*e*P		**Pn**	**06 30 48.3**	**+2.1**
	baz=247							
SNST					*e*S	**Sb**	**06 31 15.8**	**-0.2**
	baz=247							
LAY	**Lan-yu**	**2.16**	**207**	*e*P		**Pn**	**06 30 47.8**	**+0.4**
	baz=205							
LAY					*e*S	**Sn**	**06 31 11.7**	**-1.5**
	baz=205							
EAST	**Anshuo**	**2.27**	**226**	*e*P		**Pn**	**06 30 49.0**	**+0.1**
	baz=224							
MASBT	**Mashibuluo**	**2.27**	**234**	*e*P		**Pn**	**06 30 49.0**	**+0.2**
	baz=227							
SCZT	**Fangliau**	**2.43**	**229**	*e*P		**Pn**	**06 30 52.6**	**+1.6**
	baz=222							
JIRB	**Irabujima**	**2.49**	**69**	*e*S		**Sn**	**06 31 22.4**	**+1.2**
JMJ	**Miyako jima 2**	**2.59**	**71**	*e*P		**Pn**	**06 30 53.9**	**+0.7**
	baz=74							
JMJ					*e*S	**Sn**	**06 31 23.6**	**-0.1**
	baz=74							
TWKBT	**Hengchun**	**2.61**	**220**	*e*P		**Pn**	**06 30 55.0**	**+1.4**
	baz=218							
PHUB	**P'eng-hu**	**2.82**	**261**	*e*P		**Pn**	**06 30 57.8**	**+1.3**
	baz=274							
PHUB					*e*S	**Sn**	**06 31 30.5**	**+1.1**
	baz=274							
VWUC	**VWUC**	**3.05**	**290**	*e*P		**Pn**	**06 30 59.4**	**-0.3**
	baz=288							
PTMZ	**Houxiangcun**	**3.35**	**289**	*e*P		**Pn**	**06 31 04.0**	**+0.2**
	baz=288							

*UCR **31** 07:45:40.8±1.9,13.12N×91.36W,h16km±15km,MD3.9, ML3.5,mb4.2(NEIC)*
*GCG **31** 07:45:41.1±0.7,13.24N×91.35W,h5km±13km,MD4.3*
*SNET **31** 07:45:41.2±1.7,13.27N×91.37W,h20km,ML3.7*
*ISCJB **31** 07:45:42.3±0.7,13.15N±0.05×91.35W±0.03,h40km±6km, mb3.9/11,MS3.9/3,Error ellipse: s-maj=9.2km s-min=4.3km az=27.0*
*NEIC **31** 07:45:44.7±1.9,13.32N±0.06×91.22W±0.06,h35km±2km, mb4.2/34*
*IDC **31** 07:45:50.0±2.4,13.43N×90.87W,h86km±19km,mb3.6/11, mb1 3.8/14,mb1mx3.6/38,mbtmp3.9/14,MS3.7/5, Ms1 3.7/5,ms1mx3.3/25,Error ellipse: s-maj=32.9km s-min=11.4km az=62.0*
ISC 31 07:45:42.3±0.6,13.18N±0.06×91.25W±0.05,h21km±4km, **n109,σ1.37/126,mb4.2/25,MS3.9/3,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
IXG	**Ixpaco**	**1.26**	**39**	*e*P		**Pn**	**07 46 04.7**	**-0.2**
IXG	**Ixpaco**	**1.26**	**39**	*e*P		**Pn**	**07 46 04.7**	**-0.2**
IXG	**Ixpaco**	**1.26**	**39**	*i* P		**Pn**	**07 46 04.0**	**-0.9**
ERG	**Entre ros, C**	**1.29**	**346**	*e*P		**Pb**	**07 46 05.3**	**-0.6**
FUG	**Fuego 3**	**1.32**	**18**	*e*P		**Pn**	**07 46 05.8**	**+0.1**
FUG	**Fuego 3**	**1.32**	**18**	*e*P		**Pn**	**07 46 05.8**	**+0.1**
PCG	**Pacaya**	**1.36**	**27**	*e*P		**Pn**	**07 46 06.0**	**-0.3**
PCG	**Pacaya**	**1.36**	**27**	*e*P		**Pn**	**07 46 06.0**	**-0.3**
STG3	**Santiaguito 3,**	**1.55**	**349**	*e*P		**Pn**	**07 46 08.0**	**-0.9**
NBG	**Las Nubes**	**1.65**	**32**	*e*P		**Pb**	**07 46 11.5**	**-0.8**
NBG					*e*S	**Sb**	**07 46 34.7**	**+1.9**
NBG	**Las Nubes**	**1.65**	**32**	*e*P		**Pb**	**07 46 11.5**	**-0.8**
NBG					*e*S	**Sb**	**07 46 34.7**	**+1.9**
CEVE	**Cerro Verde**	**1.71**	**68**	*e*P		**Pn**	**07 46 11.1**	**0.0**
CEVE					*e*S	**Sb**	**07 46 35.8**	**+1.5**
CEVE					IAML		07 46 43.8	
	comp=Z,2μm,0.5s							
CEVE	**Cerro Verde**	**1.71**	**68**	*e*P		**Pn**	**07 46 11.1**	**0.0**
CEVE					*e*S	**Sb**	**07 46 35.8**	**+1.5**
CEVE					IAML		07 46 43.8	
	comp=Z,2μm,0.5s							
SBLS	**San Blas**	**1.72**	**67**	*e*P		**Pn**	**07 46 10.9**	**-0.3**
SBLS	**San Blas**	**1.72**	**67**	*e*P		**Pn**	**07 46 10.9**	**-0.3**
SNJE	**San Jose**	**1.74**	**67**	*e*P		**Pn**	**07 46 11.6**	**+0.1**
SNJE	**San Jose**	**1.74**	**67**	*e*P		**Pn**	**07 46 11.6**	**+0.1**
APG	**El Apazote**	**1.97**	**23**	P		**Pn**	**07 46 15.4**	**+0.8**
	comp=Z,42nm,0.3s,baz=196,slow=13,SNR=311							
APG					S	**Sn**	**07 46 38.6**	**-0.2**
	comp=Z,32nm,0.3s,baz=223,slow=21,SNR=6.1							
BOQS	**Boqueron**	**2.00**	**74**	*e*P		**Pn**	**07 46 16.0**	**+1.0**
SNET	**Serv Nac Est T**	**2.03**	**75**	*e*P		**Pn**	**07 46 16.5**	**+1.1**
SNET					*e*S	**Sb**	**07 46 42.8**	**-0.6**
SNET					IAML		07 46 52.8	
	comp=Z,675nm,0.7s							
SNET	**Serv Nac Est T**	**2.03**	**75**	*e*P		**Pn**	**07 46 16.5**	**+1.1**
SNET					*e*S	**Sb**	**07 46 42.8**	**-0.6**
SNET					IAML		07 46 52.8	
	comp=Z,675nm,0.7s							
SNET	**Serv Nac Est T**	**2.03**	**75**			**Pn**	**07 46 15.2**	**-0.2**
UEES	**Universidad Ev**	**2.03**	**75**	*e*P		**Pn**	**07 46 16.5**	**+1.1**
UEES	**Universidad Ev**	**2.03**	**75**	*e*P		**Pn**	**07 46 16.5**	**+1.1**
LFU	**La Fuente**	**2.16**	**75**	*e*P		**Pn**	**07 46 18.2**	**+1.2**
LFU	**La Fuente**	**2.16**	**75**	*e*P		**Pn**	**07 46 18.2**	**+1.2**
LFRS	**El Faro**	**2.18**	**78**	*e*P		**Pn**	**07 46 18.4**	**+1.0**
LBRS	**Las Brisas**	**2.22**	**75**	*e*P		**Pn**	**07 46 19.1**	**+1.1**
COEG	**Centro de Oper**	**2.35**	**79**	*e*P		**Pn**	**07 46 20.4**	**+0.6**
COEG					*e*S	**Sb**	**07 46 51.9**	**-0.7**
COEG					IAML		07 46 56.1	
	comp=Z,506nm,0.4s							
MRL	**Marmol**	**2.43**	**39**	*e*P		**Pn**	**07 46 21.9**	**+0.9**
MRL	**Marmol**	**2.43**	**39**	*e*P		**Pn**	**07 46 21.9**	**+0.9**
ALJI	**Alcalda de J**	**2.62**	**86**	*e*P		**Pn**	**07 46 23.9**	**+0.6**
ALJI					*e*S	**Sb**	**07 46 58.6**	**-1.6**
ALJI					IAML		07 47 05.4	
	comp=Z,223nm,0.6s							
COEB	**Comit de Eme**	**2.67**	**83**	*e*P		**Pn**	**07 46 24.4**	**+0.2**
COEB					*e*S	**Sn**	**07 46 58.2**	**+2.3**
COEB					IAML		07 47 06.6	
	comp=Z,198nm,0.5s							
TECA	**Tecapa**	**2.70**	**83**	*e*P		**Pn**	**07 46 25.5**	**+0.9**
TECA	**Tecapa**	**2.70**	**83**	*e*P		**Pn**	**07 46 25.5**	**+0.9**

TEIG	**Tepich**	**7.57**	**22**			**Pn**	07 47 31.5	**+0.1**
MOIG	**Morelia**	**11.51**	**305**	Pn		**Pn**	07 48 27.7	**+2.0**
MOIG						**Sn**	07 50 34.4	**+0.4**
553A	**Crawfordville**	**18.07**	**19**			**P**	07 49 52.5	**+0.2**
TX32	**Lajitas Array**	**19.78**	**326**			**Pn**	07 50 12.5	**-0.4**
TXAR	**Lajitas Array**	**19.78**	**326**	P		**Pn**	07 50 13.4	**+0.6**
	comp=Z,0.1nm,0.3s,baz=154,slow=13,SNR=20							
TXAR	**Lajitas Array**	**19.78**	**326**	Pn		**Pn**	07 50 12.7	**-0.2**
LRAL	**Lakeview Retre**	**20.14**	**10**	P		**P**	07 50 15.3	**+0.2**
Z50A	**Ashland**	**20.57**	**13**	P		**P**	07 50 19.2	**-0.6**
Z50A				IAmb		IAmb	07 50 27.6	
	comp=Z,9.3nm,1.1s							
ABTX	**Abilene, Hawle**	**20.82**	**340**	P		**P**	07 50 22.4	**-0.1**
ABTX				IAmb		IAmb	07 50 26.6	
	comp=Z,8.1nm,0.8s							
MIAR	**Mount Ida**	**21.38**	**355**	P		**P**	07 50 27.8	**-0.7**
UALR	**University of**	**21.52**	**358**	P		**P**	07 50 29.0	**-1.0**
UALR				IAmb		IAmb	07 50 31.9	
	comp=Z,9.5nm,0.9s							
W41B	**Gary Mavity, V**	**21.92**	**358**	P		**P**	07 50 33.6	**-0.7**
WHAR	**Wooly Hollow**	**22.04**	**358**	P		**P**	07 50 34.2	**-1.3**
WHAR				IAmb		IAmb	07 50 35.0	
	comp=Z,6.8nm,1.0s							
MNTX	**Cornudas Mount**	**22.55**	**327**	P		**P**	07 50 41.5	**+0.4**
MNTX				IAmb		IAmb	07 50 43.8	
	comp=Z,9.6nm,1.1s							
LCAR	**Lake Charles**	**22.79**	**0**	P		**P**	07 50 42.1	**-1.4**
LCAR				IAmb		IAmb	07 50 42.8	
	comp=Z,5.2nm,0.7s							
V48A	**Smith Brothers**	**22.82**	**9**	P		**P**	07 50 43.0	**-0.8**
CPCT	**Cooper Cave**	**22.99**	**14**	P		**P**	07 50 44.3	**-1.4**
CPCT				IAmb		IAmb	07 50 46.2	
	comp=Z,9.5nm,1.2s							
CLTN	**Cedars of Leba**	**23.24**	**10**	P		**P**	07 50 47.0	**-1.2**
TKL	**Tuckaleechee C**	**23.38**	**15**	P		**P**	07 50 48.0	**-1.6**
	comp=Z,3.3nm,0.7s,baz=187,slow=12,SNR=7.0							
TKL	**Tuckaleechee C**	**23.38**	**15**	P		**P**	07 50 48.9	**-0.7**
AMTX	**Amarillo**	**23.58**	**338**	P		**P**	07 50 52.1	**+0.4**
AMTX				IAmb		IAmb	07 50 52.8	
	comp=Z,7.1nm,0.8s							
ATAH	**Atahualpa**	**23.88**	**147**	P		**P**	07 50 56.8	**+1.7**
	comp=Z,5.8nm,0.8s,baz=351,slow=5.0,SNR=4.0							
MGMO	**Mountain Grove**	**23.89**	**358**	P		**P**	07 50 53.1	**-1.5**
MGMO				IAmb		IAmb	07 50 54.4	
	comp=Z,9.6nm,0.9s							
T47A	**Sharon Grove**	**24.00**	**8**	P		**P**	07 50 54.2	**-1.3**
T49A	**Edmonton**	**24.37**	**11**	P		**P**	07 50 57.7	**-1.3**
T49A				IAmb		IAmb	07 50 58.7	
	comp=Z,7.4nm,0.8s							
CCM	**Cathedral Cave**	**24.78**	**0**	P		**P**	07 51 01.5	**-1.1**
CCM				IAmb		IAmb	07 51 02.4	
	comp=Z,14nm,1.2s							
ANMO	**Albuquerque**	**25.67**	**330**	P		**P**	07 51 12.1	**+1.1**
	comp=Z,0.7nm,0.6s,baz=146,slow=13,SNR=5.4							
ANMO	**Albuquerque**	**25.67**	**330**	P		**P**	07 51 11.5	**+0.5**
KNB	**Kanab**	**30.59**	**325**	P		**P**	07 51 55.2	**+0.2**
PDAR	**Pinedale Array**	**33.47**	**335**	P		**P**	07 52 19.7	**-0.5**
	comp=Z,0.2nm,0.6s,baz=135,slow=10,SNR=2.6							
PDAR	**Pinedale Array**	**33.47**	**335**	P		**P**	07 52 19.9	**-0.3**
E46A	**Sault Ste Mari**	**33.60**	**9**	P		**P**	07 52 18.9	**-2.1**
REDW	**Red Top Meadow**	**34.49**	**334**	P		**P**	07 52 29.8	**+0.7**
REDW				IAmb		IAmb	07 52 30.6	
	comp=Z,3.7nm,0.8s							
NVAR	**Mina Array Bea**	**34.76**	**321**	P		**P**	07 52 33.7	**+2.2**
	comp=Z,2.8nm,0.7s,baz=129,slow=8.2,SNR=27							
NVAR				LR		LR	08 07 10.0	
	comp=Z,129nm,21.5s,baz=88,slow=37							
NVAR	**Mina Array Bea**	**34.76**	**321**	P		**P**	07 52 33.0	**+1.5**
BEKR	**Beckworth**	**36.91**	**321**	IAmb		IAmb	07 52 57.4	
	comp=Z,6.1nm,1.4s							
LPAZ	**La Paz**	**37.14**	**141**	P		**P**	07 52 53.4	**+0.8**
	comp=Z,0.5nm,0.7s,baz=307,slow=10,SNR=2.5							
ULM	**Lac du Bonnet**	**37.16**	**355**	P		**P**	07 52 48.6	**-3.0**
	comp=Z,1.7nm,0.6s,baz=158,slow=11,SNR=4.5							
ULM	**Lac du Bonnet**	**37.16**	**355**	IAmb		IAmb	07 52 56.7	
	comp=Z,5.1nm,1.2s							
F10A	**Beach Ranch, E**	**39.38**	**331**	IAmb		IAmb	07 53 20.9	
	comp=Z,4.3nm,0.8s							
SIV	**San Ignacio**	**41.60**	**133**	P		**P**	07 53 29.2	**0.0**
	comp=Z,2.2nm,0.9s,baz=310,slow=9.3,SNR=9.6							
SCHQ	**Schefferville**	**45.74**	**20**	P		**P**	07 53 58.9	**-3.0**
	comp=Z,6.8nm,0.8s,baz=225,slow=8.6,SNR=7.8							
SCHQ	**Schefferville**	**45.74**	**20**	P		**P**	07 53 59.0	**-3.0**
YKA	**Yellowknife Ar**	**51.99**	**346**	P		**P**	07 54 48.5	**-1.2**
	comp=Z,1.1nm,0.7s,baz=148,slow=7.6,SNR=18							
YKA				PcP		**PcP**	07 56 01.3	**-0.6**
	comp=Z,0.6nm,0.7s,baz=152,slow=3.9,SNR=8.3							
YKA	**Yellowknife Ar**	**51.99**	**346**	P		**P**	07 54 48.0	**-1.7**
ILAR	**Eielson Array**	**63.88**	**337**	P		**P**	07 56 12.7	**-0.4**
	comp=Z,1.0nm,1.1s,baz=166,slow=5.1,SNR=9.1							
SUA	**Susitna One**	**64.14**	**333**	P		**P**	07 56 15.5	**+0.4**
TULEG	**Thule**	**64.46**	**6**	P		**P**	07 56 16.8	**+0.1**
TRF	**Thorofare Moun**	**64.69**	**335**	P		**P**	07 56 19.0	**+0.3**
PPLA	**Purkeypile**	**65.29**	**334**	P		**P**	07 56 22.4	**-0.2**
MLY	**Manley**	**65.48**	**336**	P		**P**	07 56 23.3	**-0.3**
MLY				IAmb		IAmb	07 56 23.9	
	comp=Z,3.6nm,0.9s							
COLD	**Coldfoot**	**66.16**	**339**	P		**P**	07 56 27.5	**-0.4**
COLD				IAmb		IAmb	07 56 28.9	
	comp=Z,2.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**89.86**	**77**	LR		LR	08 36 31.7	
	comp=Z,47nm,20.2s,baz=320,slow=34							
FINES	**FINESS Array B**	**90.93**	**25**	LR		LR	08 41 48.1	
	comp=Z,68nm,18.6s,baz=252,slow=37							
KSH	**Kashi**	**126.24**	**12**	PKP		**PKiKP**	08 04 45.5	**+1.2**
KSH				PP		**PP**	08 06 43.8	**+6.8**
KSH				PKS		**PKSdf**	08 08 19.8	**-0.8**
KSH				SKKS			08 13 32.0	
KSH				LR	LR			
	comp=N,430nm,5.0s							
KSH				LR	LR			
	comp=E,400nm,5.1s							
KSH				LR	LR			
	comp=Z,380nm,4.7s							
LZH	**Lanzhou**	**128.97**	**344**	*e*PKP		**PKPdf**	08 04 48.3	**-0.9**
LZH				pPKP		sPKPdf	08 05 02.8	+4.9
LZH				sPKP			08 05 08.5	
ASAR	**Alice Springs**	**136.07**	**250**	PKP		**PKPdf**	08 05 01.9	**-0.8**
	comp=Z,0.3nm,0.9s,baz=113,slow=2.4,SNR=2.7							
CMAR	**Chiang Mai Arr**	**147.00**	**342**	PKPbc		**PKPbc**	08 05 24.3	**0.0**
	comp=Z,1.7nm,0.7s,baz=0.8,slow=4.5,SNR=12							
CMAR	**Chiang Mai Arr**	**147.00**	**342**			**PKPbc**	08 05 24.6	**+0.3**

*ISCJB **31** 07:48:20.5±1.2, 15°.96N±0°.06×98°.55W±0°.04, h2km±7km, mb3.3/2, Error ellipse: s-maj=9.9km s-min=6.3km az=10.2*
*IDC **31** 07:48:21.9±5.0, 16°.06N×98°.39W, h0km, mb3.5/3, mb1 3.8/6, mb1mx3.6/39, mbtmp3.6/6, ML3.3/2, Error ellipse: s-maj=89.2km s-min=20.8km az=4.0*
*NEIC **31** 07:48:25.5±2.7, 16°.14N±0°.04×98°.44W±0°.03, h13km±5km*
*MEX **31** 07:48:25.6±1.1, 16°.20N×98°.48W, h1km±7km, MD4.2*
ISC 31 07:48:23.8±1.7,**16°.12N**±0°.06×**98°.52W**±0°.05,**h9**km±10km,
n43,σ2**9**02/60,**Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.46**	**54**	*i* P	**Pg**	07 48 33.0	**+0.1**
PNIG				*i* S	**Sg**	07 48 38.8	**-0.2**
PNIG	**Pinotepa**	**0.46**	**54**		**Pg**	07 48 33.0	**+0.1**
PNIG					**Sg**	07 48 38.6	**-0.4**
HMTT	**Tlapaneco**	**1.67**	**359**	*e*P	**Pn**	07 48 50.1	**-3.3**
HMTT				*i* S	**Sn**	07 49 11.1	**-3.9**
HMTT	**Tlapaneco**	**1.67**	**359**		**Pn**	07 48 50.1	**-3.3**
HMTT					**Sn**	07 49 11.1	**-3.9**
CAIG	**El Cayaco**	**1.92**	**299**	*e*P	**Pn**	07 48 54.4	**-2.3**
CAIG	**El Cayaco**	**1.92**	**299**		**Pn**	07 48 54.4	**-2.3**
VHO	**Vista Hermosa**	**1.96**	**61**	*e*P	**Pn**	07 48 55.9	**-1.5**
VHO				*e*S	**Sn**	07 49 22.5	**+0.3**
OXBJ	**Oaxaca**	**1.96**	**61**	*e*S	**Sb**	07 49 23.4	**-1.1**
OXBJ	**Oaxaca**	**1.96**	**61**		**Sb**	07 49 23.4	**-1.1**
MEIG	**Mezcala**	**2.09**	**330**	*e*P	**Pn**	07 48 57.2	**-1.8**
MEIG				*i* S	**Sn**	07 49 20.8	**-4.4**
MEIG	**Mezcala**	**2.09**	**330**		**Pn**	07 48 57.2	**-1.8**
MEIG					**Sn**	07 49 20.8	**-4.4**
HUIG	**Huatulco**	**2.34**	**98**	*e*P	**Pn**	07 49 01.2	**-1.3**
HUIG	**Huatulco**	**2.34**	**98**		**Pn**	07 49 01.2	**-1.3**
PLIG	**Platanillo**	**2.45**	**338**	*e*P	**Pn**	07 49 02.7	**-1.4**
PLIG				*e*S	**Sn**	07 49 35.4	**+1.2**
PLIG	**Platanillo**	**2.45**	**338**		**Pn**	07 49 02.7	**-1.4**
PLIG					**Sn**	07 49 35.4	**+1.2**
ARIG	**Puente Sto Nin**	**2.77**	**321**	*e*P	**Pn**	07 49 07.6	**-0.8**
ARIG				*e*S	**Sn**	07 49 42.0	**-0.1**
ARIG	**Puente Sto Nin**	**2.77**	**321**		**Pn**	07 49 07.6	**-0.8**
ARIG					**Sn**	07 49 42.0	**-0.1**
YAIG	**Yautepec**	**2.78**	**349**	*e*P	**Pn**	07 49 10.6	**+1.9**
YAIG				*e*S	**Sn**	07 49 44.5	**+2.0**
YAIG	**Yautepec**	**2.78**	**349**		**Pn**	07 49 10.6	**+1.9**
YAIG					**Sn**	07 49 44.5	**+2.0**
PHPU	**Puebla**	**2.93**	**6**	*e*P	**Pn**	07 49 12.5	**+1.7**
PHPU				*e*S	**Sb**	07 49 51.8	**-0.6**
PHPU	**Puebla**	**2.93**	**6**		**Pn**	07 49 12.5	**+1.7**
PHPU					**Sb**	07 49 51.8	**-0.6**
UNM	**Universidad Na**	**3.26**	**349**	*e*P	**Pn**	07 49 18.0	**+2.6**
UNM				*e*S	**Sb**	07 49 59.2	**-2.6**
UNM	**Universidad Na**	**3.26**	**349**		**Pn**	07 49 17.0	**+1.6**
TOVM	**TOLUCA**	**3.34**	**341**	*e*P	**Pn**	07 49 18.7	**+2.2**
TOVM				*i* S	**Sb**	07 50 04.9	**+0.6**
PTVM	**Pico Tres Padr**	**3.50**	**351**	*e*S	**Sb**	07 50 10.1	**+1.1**
PTVM	**Pico Tres Padr**	**3.50**	**351**		**Sb**	07 50 10.1	**+1.1**
CMIG	**Matias Romero**	**3.61**	**74**	Pn	**Pn**	07 49 18.3	**-1.7**
	0.8nm,0.3s,baz=240,slow=15,SNR=5.3						
CMIG				Lg	Lg	07 50 13.3	
	20nm,0.3s,baz=209,slow=19,SNR=4.3						
VTVM	**Tizayuca**	**3.64**	**356**	*e*P	**Pb**	07 49 27.3	**-1.2**
VTVM	**Tizayuca**	**3.64**	**356**		**Pb**	07 49 27.3	**-1.2**
MOIG	**Morelia**	**4.36**	**325**		**Pn**	07 49 34.6	**+4.1**
TEIG	**Tepich**	**10.55**	**66**	Pn	**Pn**	07 50 53.1	**-2.2**
TEIG	**Tepich**	**10.55**	**66**		**Pn**	07 50 53.3	**-2.0**
TXAR	**Lajitas Array**	**13.98**	**341**	Pn	**Pn**	07 51 46.1	**+3.8**
	0.1nm,0.3s,baz=161,slow=14,SNR=3.6						
TXAR	**Lajitas Array**	**13.98**	**341**		**Pn**	07 51 43.5	**+1.2**
JTS	**Las Juntas de**	**14.41**	**112**	Pn	**Pn**	07 51 50.4	**+2.2**
ABTX	**Abilene, Hawle**	**16.47**	**357**		**Pn**	07 52 16.4	**+1.3**
ABTX				IAmb	IAmb	07 52 18.8	
	comp=Z,10.0nm,0.9s						
MNTX	**Cornudas Mount**	**16.73**	**339**	Pn	**Pn**	07 52 20.2	**+1.8**
MNTX				IAmb	IAmb	07 52 24.9	
	comp=Z,4.3nm,1.4s						
GDL2	**Guadalupe Moun**	**16.87**	**343**	Pn	**Pn**	07 52 21.6	**+1.2**
ANMO	**Albuquerque**	**20.06**	**341**	P	**P**	07 52 58.1	**+0.5**
	comp=Z,1.3nm,0.6s,baz=137,slow=11,SNR=5.1						
ANMO	**Albuquerque**	**20.06**	**341**	P	**P**	07 52 58.5	**+0.9**
T47A	**Sharon Grove**	**23.12**	**24**	P	**P**	07 53 29.6	**-0.6**
PDAR	**Pinedale Array**	**28.19**	**343**	P	**P**	07 54 16.6	**-0.4**
	comp=Z,0.3nm,0.6s,baz=145,slow=10.0,SNR=4.5						
ILAR	**Eielson Array**	**58.47**	**338**	P	**P**	07 58 20.2	**+0.3**
	comp=Z,0.5nm,0.9s,baz=120,slow=5.3,SNR=5.0						

*IDC **31** 07:52:30.9±0.9, 31°.19N×142°.47E, h0km, mb3.8/9, mb1 3.9/12, mb1mx3.7/30, mbtmp3.8/12, ML3.4/3, MS2.7/2, Ms1 2.7/2, ms1mx2.4/39, Error ellipse: s-maj=27.6km s-min=18.9km az=77.0*
*NEIC **31** 07:52:32.8±1.5, 31°.21N±0°.07×142°.28E±0°.06, h10km±1km, mb4.3/14*
*ISCJB **31** 07:52:34.2±0.5, 31°.18N±0°.04×142°.23E±0°.07, h37km, mb3.8/9, Error ellipse: s-maj=9.4km s-min=5.3km az=151.2*
ISC 31 07:52:36.0±0.7,**31°.09N**±0°.06×**142°.24E**±0°.10,**h37**km,**n45,**
σ1**9**03/49,**mb3.9**/13,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.88**	**315**	Pn	**Pn**	07 53 17.8	**-1.5**
JHJ2				Sn	**Sn**	07 53 49.6	**-3.1**
JCJ	**Chichijima**	**3.98**	**181**	Pn	**Pn**	07 53 36.0	**+1.5**
	8.9nm,0.3s,baz=283,slow=19,SNR=3.5						
JCJ				Sn	**Sn**	07 54 16.6	**-3.3**
	7.9nm,0.3s,baz=107,slow=19,SNR=3.0						
MJAR	**Matsushiro Arr**	**6.39**	**329**	Pn	**Pn**	07 54 07.6	**0.0**
	0.3nm,0.3s,baz=146,slow=10,SNR=48						
MJAR				Sn	**Sn**	07 55 19.0	**-0.2**
	0.2nm,0.3s,baz=351,slow=17,SNR=4.3						
MJAR	**Matsushiro Arr**	**6.39**	**329**		**Pn**	07 54 06.9	**-0.6**
MAJO	**Matsushiro**	**6.39**	**329**		**Pn**	07 54 07.4	**-0.1**
MAJO				Sn	**Sn**	07 55 18.3	**-0.9**
MAT	**Matsushiro**	**6.39**	**329**	P	**Pn**	07 54 08.5	**+0.9**
MAT				S	**Sn**	07 55 19.1	**-0.1**
MJB9	**Matsu-Tunnel**	**6.39**	**329**		**Pn**	07 54 07.4	**-0.2**
MJB9				Sn	**Sn**	07 55 18.5	**-0.9**
JNU	**Nakatsue**	**9.85**	**285**	LR	LR	07 57 40.2	
	comp=Z,32nm,22.0s,baz=94,slow=31						
JNU	**Nakatsue**	**9.85**	**285**	Pn	**Pn**	07 54 54.7	**-0.3**
JOW	**Kunigami**	**12.94**	**254**	Pn	**Pn**	07 55 38.3	**+0.9**
KSRS	**Korea Array**	**13.43**	**302**	LR	LR	08 00 52.3	
	comp=Z,41nm,18.8s,baz=110,slow=37						
INCN	**Inchon**	**14.38**	**301**	Pn	**Pn**	07 55 57.2	**+0.2**
KLR	**Kul'dur**	**19.78**	**339**	P	**P**	07 57 03.4	**+0.5**
	0.1nm,0.3s,baz=147,slow=9.6,SNR=3.7						
YULB	**Yu-li**	**20.12**	**253**	P	**P**	07 57 07.1	**+0.3**
YULB				IAmb	IAmb	07 57 22.5	
	comp=Z,28nm,1.4s						
ULN	**Ulaanbaatar**	**31.57**	**312**	P	**P**	07 58 54.2	**-0.9**
ULN				IAmb	IAmb	07 58 55.5	
	comp=Z,4.2nm,1.4s						
SONM	**Songino Array**	**31.98**	**312**	P	**P**	07 58 59.6	**+1.0**
	comp=Z,0.9nm,0.9s,baz=116,slow=7.2,SNR=5.6						
SONM	**Songino Array**	**31.98**	**312**	P	**P**	07 58 58.1	**-0.5**
ZALV	**Zalesovo Beam**	**46.56**	**317**	P	**P**	08 01 00.6	**+0.6**
	comp=Z,0.5nm,0.3s,baz=101,slow=6.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**46.56**	**317**	P	**P**	08 00 59.1	**-0.8**
MK31	**Makanchi Array**	**48.05**	**307**	P	**P**	08 01 12.3	**+0.7**
MKAR	**Makanchi Array**	**48.05**	**307**	P	**P**	08 01 11.9	**+0.3**
	comp=Z,0.7nm,0.7s,baz=84,slow=9.3,SNR=7.5						
MKAR	**Makanchi Array**	**48.05**	**307**	P	**P**	08 01 12.2	**+0.5**
MAKZ	**Makanchi**	**48.26**	**307**	P	**P**	08 01 13.4	**+0.1**
KURK	**Kurchatov**	**50.28**	**312**	P	**P**	08 01 29.0	**+0.3**
KURK				IAmb	IAmb	08 01 29.8	
	comp=Z,2.3nm,0.8s						
SKT	**Skwentna**	**51.96**	**33**	P	**P**	08 01 40.3	**-0.7**
RC01	**Rabbit Creek A**	**52.76**	**34**	P	**P**	08 01 46.1	**-0.9**
IL31		**54.22**	**30**	P	**P**	08 01 57.4	**-0.1**
ILAR	**Eielson Array**	**54.22**	**30**	P	**P**	08 01 55.9	**-1.8**
	comp=Z,0.3nm,0.9s,baz=254,slow=6.2,SNR=3.1						
AS31	**Alice Springs**	**55.03**	**189**	P	**P**	08 02 04.4	**+0.4**
ASAR	**Alice Springs**	**55.03**	**189**	P	**P**	08 02 04.7	**+0.7**
	comp=Z,0.4nm,0.5s,baz=2.6,slow=5.7,SNR=14						
ASAR	**Alice Springs**	**55.03**	**189**	P	**P**	08 02 04.6	**+0.6**
KK31	**Karatay Array**	**56.85**	**304**	P	**P**	08 02 17.3	**+0.4**
KK31				IAmb	IAmb	08 02 19.0	
	comp=Z,3.1nm,1.1s						
KKAR	**Karatay Array**	**56.85**	**304**	P	**P**	08 02 17.4	**+0.5**
HYT	**Haines Junctio**	**58.73**	**34**	P	**P**	08 02 29.8	**-0.2**
CHGR	**Chuyangaron**	**58.99**	**299**	P	**P**	08 02 31.9	**-0.2**
INK	**Inuvik**	**59.40**	**25**	P	**P**	08 02 32.6	**-1.6**
	comp=Z,3.3nm,0.6s,baz=295,slow=11,SNR=17						
INK	**Inuvik**	**59.40**	**25**	P	**P**	08 02 32.9	**-1.4**
INK				IAmb	IAmb	08 02 33.8	
	comp=Z,3.8nm,0.7s						
ABKAR	**Akbulak array**	**62.38**	**313**	P	**P**	08 02 55.5	**+0.7**
ABKAR				IAmb	IAmb	08 02 56.6	
	comp=Z,3.1nm,1.2s						
ABKAR	**Akbulak array**	**62.38**	**313**	P	**P**	08 02 55.3	**+0.4**
FINES	**FINESS Array B**	**74.40**	**333**	P	**P**	08 04 11.3	**+1.5**
	comp=Z,2.4nm,0.9s,baz=48,slow=2.1,SNR=3.6						
FINES	**FINESS Array B**	**74.40**	**333**	P	**P**	08 04 09.9	**+0.1**
NVAR	**Mina Array Bea**	**78.03**	**52**	P	**P**	08 04 32.2	**+1.0**
	comp=Z,1.0nm,0.3s,baz=292,slow=7.7,SNR=2.8						
NVAR	**Mina Array Bea**	**78.03**	**52**	P	**P**	08 04 30.7	**-0.5**
AKASG	**Malin Array Be**	**79.44**	**323**	P	**P**	08 04 39.2	**+0.9**
	comp=Z,0.5nm,0.5s,baz=46,slow=5.3,SNR=3.9						
AKASG	**Malin Array Be**	**79.44**	**323**	P	**P**	08 04 38.2	**-0.1**

*ISCJB **31** 08:08:49.8±0.7, 4°.02N±0°.07×128°.05E±0°.07, h71km, mb3.5/6, Error ellipse: s-maj=10.6km s-min=8.7km az=44.6*
*IDC **31** 08:08:53.3±3.6, 3°.70N×128°.00E, h102km±41km, mb3.3/6, mb1 3.4/7, mb1mx3.2/36, mbtmp3.7/7, Error ellipse: s-maj=53.3km s-min=18.1km az=69.0*
*DJA **31** 08:08:53.0±1.6, 4°.N±4°×12°.8E±°, h34km±31km, M4.7/13, mb4.9/10, mB5.1/5, MLv4.6/13, Mw(mB)4.5/5*
ISC 31 08:08:51.1±0.8,**3°.90N**±0°.09×**128°.1E**±0°.1,**h71**km,**n17,**
σ1**9**95/18,**mb3.7**/6,**North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.18**	**193**	P	**Pn**	08 09 40.9	**+2.1**
LBMI	**Labuha**	**4.54**	**187**	P	**Pn**	08 09 59.5	**+2.1**
KMSI	**Cibinong**	**5.26**	**231**	P	**Pn**	08 10 08.8	**+1.6**
	179nm,0.7s,1.0nm						
SWI	**Sorong**	**5.70**	**146**	P	**Pn**	08 10 15.2	**+2.0**
	92nm,0.5s,2µm0.5nm						
SIJI	**Sorong**	**5.70**	**146**	P	**Pn**	08 10 15.6	**+2.3**
	20nm,0.3s,baz=333,slow=18,SNR=82						
SIJI				S	**Sn**	08 11 16.6	**-0.9**
	2.5nm,0.3s,baz=134,slow=16,SNR=3.0						
SANI	**Sanana**	**6.26**	**200**	P	**Pn**	08 10 22.2	**+1.2**
	25nm,1.1s,1µm0.2nm						
MRSI	**Marisa**	**7.01**	**241**	P	**Pn**	08 10 32.6	**+1.4**
	202nm,0.6s,0.7nm						
FAKI	**Fak Fak**	**7.95**	**148**	P	**Pn**	08 10 46.0	**+2.0**
	55nm,0.7s,0.2nm						
APSI	**Ampana**	**8.01**	**234**	P	**Pn**	08 10 46.2	**+1.4**
	48nm,1.1s,0.2nm						
MPSI	**Mapaga**	**8.91**	**247**	P	**Pn**	08 10 58.5	**+1.4**
	8.9nm,0.8s						
BAKI	**Biak**	**9.48**	**122**	P	**Pn**	08 11 07.7	**+2.8**
ASAR	**Alice Springs**	**27.98**	**169**	P	**P**	08 14 32.9	**-2.4**
	0.2nm,0.5s,baz=358,slow=8.3,SNR=6.5						
CMAR	**Chiang Mai Arr**	**31.96**	**299**	P	**P**	08 15 09.2	**-1.3**
	0.9nm,0.7s,baz=123,slow=10,SNR=4.3						
KSRS	**Korea Array**	**33.40**	**360**	P	**P**	08 15 22.4	**-0.4**
	2.2nm,1.0s,baz=174,slow=9.6,SNR=4.3						
STKA	**Stephens Creek**	**37.83**	**161**	P	**P**	08 15 58.9	**-2.0**
	0.4nm,0.4s,baz=320,slow=9.2,SNR=4.3						
SONM	**Songino Array**	**47.58**	**340**	P	**P**	08 17 21.8	**+2.0**
	0.2nm,0.5s,baz=144,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**58.20**	**325**	P	**P**	08 18 37.4	**-0.5**
	0.5nm,0.4s,baz=112,slow=7.7,SNR=16						

*ISCJB **31** 08:21:16.8±0.4, 32°.21N±0°.02×115°.26W±0°.02, h20km±3km, Error ellipse: s-maj=3.7km s-min=2.9km az=8.2*
*SCEDC **31** 08:21:16.8, 32°.19N×115°.26W, h15km, ML3.0, ML2.9, ML3.1(ECX)*
*PAS **31** 08:21:16.8±2.5, 32°.19N±0°.02×115°.26W±0°.02, h15km±3km, ML2.9, ML3.1(ECX)*
*NEIC **31** 08:21:17.5±2.2, 32°.22N±0°.02×115°.29W±0°.02, h25km±5km*
*ANF **31** 08:21:17.4±0.6, 32°.29N×115°.27W, h26km±4km, ML2.6/12, ML2.6/12, Error ellipse: s-maj=5.2km s-min=2.7km az=1.0*
*ECX **31** 08:21:18.1±0.6, 32°.21N×115°.31W, h5km, MD2.9, ML3.1*
ISC 31 08:21:16.6±0.9,**32°.21N**±0°.02×**115°.29W**±0°.02,**h17**km±6km,
n79,σ0**9**78/117,**7C-6D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.21**	**356**	*e*P	**Pg**	08 21 21.7	**+0.1**
CPBX				*e*S	**Sg**	08 21 25.2	**+0.2**
CPBX				⇓*e*		08 21 26.8	
CPBX				IAML		08 21 26.8	
	comp=E,18µm,0.3s						
CPBX				IAML		08 21 26.9	
	comp=N,13µm,0.2s						
CPBX	**Cerro Prieto**	**0.21**	**356**		**Pg**	08 21 21.5	**-0.1**
MBIG	**Mexicali**	**0.21**	**21**	⇓*e*P	**Pb**	08 21 21.9	**0.0**
UABX	**UABC, Campus M**	**0.44**	**343**	*e*P	**Pb**	08 21 26.1	**+0.3**
UABX	**UABC, Campus M**	**0.44**	**343**		**Pb**	08 21 26.2	**+0.3**
UABX					**Sb**	08 21 33.3	**+1.2**
ESJX	**Sierra Juarez**	**0.60**	**250**	⇑*e*P	**Pg**	08 21 28.2

XPFO	**Pion Flat**	**1.71**	**325**		**Pn**	**08 21 44.9**	**-0.8**
PFO	**Pinyon Flats O**	**1.71**	**325**	P	**Pn**	**08 21 44.9**	**-0.8**
	baz=144,SNR=10						
PFO				S	**Sn**	**08 22 05.8**	**-1.4**
	baz=144						
PFO	**Pinyon Flats O**	**1.71**	**325**	Pn	**Pn**	**08 21 44.9**	**-0.8**
PFO				Sn	**Sb**	**08 22 09.2**	**+0.3**
BZNA	**Buzz No.'s Pla**	**1.73**	**318**		**Pn**	**08 21 45.9**	**0.0**
SNDA	**J Saunders Pla**	**1.74**	**321**		**Pn**	**08 21 45.7**	**-0.5**
PLM	**Palomar**	**1.75**	**311**		**Pg**	**08 21 49.6**	**-0.6**
IRM	**Iron Mountain**	**1.94**	**3**	P	**Pn**	**08 21 48.2**	**-0.7**
	baz=183,SNR=21						
POB	**Polly Butte**	**2.01**	**317**		**Pn**	**08 21 50.0**	**+0.1**
214A	**Organ Pipe Nat**	**2.12**	**96**	P	**Pn**	**08 21 50.6**	**-0.6**
	baz=277						
214A				S	**Sn**	**08 22 16.9**	**-0.3**
	baz=277						
214A	**Organ Pipe Nat**	**2.12**	**96**	Pn	**Pn**	**08 21 50.6**	**-0.6**
MURC	**Murrieta**	**2.12**	**311**	P	**Pn**	**08 21 51.6**	**+0.4**
	baz=130						
MURC				Sb	**Sb**	**08 22 22.6**	**+2.0**
	baz=130						
Y14A	**Wickenburg**	**2.58**	**47**		**Pn**	**08 21 59.7**	**+2.1**
BFSC	**Mount Baldy Ra**	**2.83**	**316**	Sb	**Sb**	**08 22 43.3**	**+2.0**
	baz=135						
MWC	**Mount Wilson**	**3.07**	**312**		**Pn**	**08 22 04.2**	**-0.3**
W13A	**Hualapai Mount**	**3.11**	**22**		**Pn**	**08 22 07.0**	**+2.0**
X16A	**Lo Mia Camp, P**	**3.90**	**55**		**Pn**	**08 22 16.9**	**+1.0**
SHPR	**Sheep Range**	**4.29**	**1**	Pn	**Pn**	**08 22 22.2**	**+1.0**
U15A	**North Rim**	**4.88**	**30**	Pn	**Pn**	**08 22 31.1**	**+1.7**

IDC ***31*** *08:30:60.0±1.2, 11°.15S×72°.93W, h0km, mb3.6/4, mb1 3.8/8, mb1mx3.7/33, mbtmp3.7/8, ML3.7/4, MS3.1/3, Ms1 3.1/3, ms1mx2.8/28, Error ellipse: s-maj=44.3km s-min=17.2km az=29.0*

ARE ***31*** *08:31:00±3.8, 11°.5S±0°.1×73°.00W±0°.07, h145km±10km*

ISCJB ***31*** *08:31:01.6±0.5, 11°.46S±0°.05×72°.97W±0°.04, h33km, mb3.5/4, MS3.2/1, Error ellipse: s-maj=7.6km s-min=5.1km az=33.1*

NEIC ***31*** *08:31:03.2±1.4, 11°.49S±0°.07×73°.00W±0°.07, h22km±5km, ML4.3(ARE)*

ISC 31 08:31:04.3±0.7, 11°.42S±0°.07×72°.99W±0°.06, h35km, n16, σ1s15/21, mb3.6/4, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.81**	**261**	Pn	**Pn**	**08 32 01.2**	**+0.6**
	16nm,0.3s,baz=81,slow=8.6,SNR=24						
NNA				Sn	**Sn**	**08 32 45.6**	**+1.4**
	35nm,0.3s,baz=237,slow=20,SNR=9.0						
NNA				LR	LR	08 33 41.3	
	comp=Z,234nm,18.4s,baz=84,slow=41						
NNA	**Nana**	**3.81**	**261**		**Pn**	**08 32 00.9**	**+0.3**
NNA				Sn	**Sn**	**08 32 44.6**	**+0.4**
LPAZ	**La Paz**	**6.76**	**136**	Pn	**Pn**	**08 32 43.9**	**+2.2**
	0.3nm,0.3s,baz=311,slow=9.5,SNR=13						
LPAZ				Lg	Lg	08 34 33.1	
	3.7nm,0.3s,baz=216,slow=11,SNR=5.7						
LPAZ	**La Paz**	**6.76**	**136**		**Pn**	**08 32 41.3**	**-0.4**
ATAH	**Atahualpa**	**6.82**	**308**	Pn	**Pn**	**08 32 40.6**	**-1.7**
	2.0nm,0.3s,baz=249,slow=16,SNR=14						
ATAH				Sn	**Sn**	**08 33 58.7**	**-0.2**
	baz=270,slow=20,SNR=1.3						
MNMC	**Minye Minye**	**8.34**	**157**	Pn	**Pn**	**08 33 01.7**	**-1.3**
MNMC				Sn	**Sn**	**08 34 35.2**	**-1.0**
PB11	**IPOC Station P**	**8.90**	**159**	Pn	**Pn**	**08 33 09.8**	**-0.8**
PB11				Sn	**Sn**	**08 34 48.5**	**-1.2**
GO01	**Chusmiza**	**8.98**	**156**	Pn	**Pn**	**08 33 10.1**	**-1.9**
SAML	**Samuel**	**9.96**	**77**		**Pn**	**08 33 26.8**	**+1.7**
SAML				Sn	**Sn**	**08 35 15.3**	**-0.4**
LVC	**Limon Verde**	**11.79**	**161**	LR	LR	08 39 01.5	
	comp=Z,56nm,21.9s,baz=330,slow=40						
SIV	**San Ignacio**	**12.44**	**113**	Pn	**Pn**	**08 33 59.2**	**+0.1**
	0.6nm,0.3s,baz=303,slow=13,SNR=12						
SIV				Lg	Lg	08 37 35.5	
	3.1nm,0.3s,baz=0.7,slow=21,SNR=7.2						
BDFB	**Brasilia**	**24.64**	**103**	P	**P**	**08 36 23.1**	**+1.1**
	1.1nm,0.5s,baz=278,slow=11,SNR=1.9						
BDFB				LR	LR	08 46 32.7	
	comp=Z,75nm,20.2s,baz=259,slow=38						
TXAR	**Lajitas Array**	**50.17**	**325**	P	**P**	**08 39 56.7**	**-0.1**
	0.2nm,0.5s,baz=150,slow=9.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**78.01**	**74**	P	**P**	**08 43 00.0**	**+0.2**
	0.6nm,0.8s,baz=274,slow=3.9,SNR=2.5						
QSPA	**South Pole Qui**	**78.72**	**180**	P	**P**	**08 43 03.4**	**+0.4**
YKA	**Yellowknife Ar**	**80.44**	**342**	P	**P**	**08 43 11.6**	**-0.4**
	0.2nm,0.3s,baz=140,slow=6.3,SNR=6.4						

IDC ***31*** *08:34:13.6±1.2, 7°.11S×155°.31E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/34, mbtmp3.7/8, ML4.2/1, MS3.8/2, Ms1 3.8/2, ms1mx2.8/37, Error ellipse: s-maj=39.7km s-min=24.5km az=107.0*

ISCJB ***31*** *08:34:19.7±0.9, 7°.1S±0°.1×155°.0E±0°.1, h50km, mb3.5/7, MS3.8/2, Error ellipse: s-maj=21.5km s-min=11.8km az=144.6*

ISC 31 08:34:21.2±1.0, 7°.0S±0°.1×155°.1E±0°.2, h50km, n11, σ0s99/10, mb3.5/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**4.08**	**312**	Pn	**Pn**	**08 35 21.4**	**+0.3**
	13nm,0.3s,baz=153,slow=6.8,SNR=4.6						
KRVT				Sn	**Sn**	**08 36 06.7**	**-0.9**
	5.5nm,0.3s,baz=236,slow=18,SNR=2.5						
ASAR	**Alice Springs**	**26.21**	**229**	P	**P**	**08 39 50.1**	**-1.5**
	0.4nm,0.6s,baz=61,slow=9.1,SNR=8.5						
STKA	**Stephens Creek**	**27.73**	**205**	P	**P**	**08 40 05.6**	**+0.4**
	2.7nm,0.9s,baz=43,slow=14,SNR=5.4						
RPZ	**Rata Peaks**	**39.12**	**162**	LR	LR	08 53 45.6	
	comp=Z,192nm,21.9s,baz=44,slow=30						
CMAR	**Chiang Mai Arr**	**60.88**	**296**	P	**P**	**08 44 29.9**	**+0.6**
	0.5nm,0.7s,baz=120,slow=8.7,SNR=4.7						
SONM	**Songino Array**	**69.42**	**327**	P	**P**	**08 45 24.8**	**+0.5**
	0.5nm,0.8s,baz=123,slow=5.3,SNR=3.5						
VNDA	**Vanda**	**70.53**	**178**	LR	LR	09 07 28.7	
	comp=Z,47nm,21.8s,baz=11,slow=28						
ILAR	**Eielson Array**	**83.38**	**21**	P	**P**	**08 46 41.5**	**-1.3**
	0.1nm,0.4s,baz=240,slow=5.8,SNR=5.5						
MKAR	**Makanchi Array**	**83.50**	**319**	P	**P**	**08 46 44.7**	**+0.9**
	0.3nm,0.6s,baz=87,slow=6.1,SNR=3.2						
YKA	**Yellowknife Ar**	**96.34**	**28**	P	**P**	**08 47 44.1**	**-0.2**
	0.2nm,0.6s,baz=268,slow=5.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**153.12**	**285**	PKPbc	**PKiKP**	**08 54 15.2**	**+0.5**
	0.4nm,0.6s,baz=30,slow=2.8,SNR=3.2						

IDC ***31*** *08:36:26.3±0.4, 15°.66S×172°.96W, h0km, mb4.8/23, mb1 4.9/25, mb1mx4.7/45, mbtmp4.8/25, ML4.2/2, MS3.9/17, Ms1 3.9/17, ms1mx3.8/25, Error ellipse: s-maj=20.1km s-min=12.5km az=133.0*

MOS ***31*** *08:36:28.0±1.1, 15°.66S×172°.93W, h18km, mb5.1/27, Error ellipse: s-maj=11.9km s-min=7.7km az=65.6*

ISCJB ***31*** *08:36:29.4±0.1, 15°.62S±0°.03×172°.98W±0°.04, h29km, mb4.8/54, MS4.1/21, Error ellipse: s-maj=6.8km s-min=3.2km az=33.3*

NEIC ***31*** *08:36:30.9±1.5, 15°.66S±0°.05×172°.93W±0°.10, h32km±3km, mb5.1/185*

GCMT ***31*** *08:36:37.9±0.4, 15°.77S±0°.03×172°.53W±0°.02, h63km±2km, MW5.0/74, Moment Tensor Solution. s34,c36; s74,c93; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.03±. 17; Mθθ=4.82±. 18; Mϕϕ-2.79±.20; Mrθ-1.03±.11; Mrϕ-0.24±.13; Mθϕ1.19±.09; Best double couple: M0=4.33700×10^16 NP1:ϕs129.00000°, δ71.00000°, λ-34.00000°. NP2: ϕs232.00000°, δ58.00000°, λ-158.00000°. Principal axes: T 4.9940, Plg9.0000°, Azm183.0000°; N -1.3130, Plg51.0000°, Azm284.0000°; P -3.6800, Plg37.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 08:36:30.6±0.3, 15°.70S±0°.04×172°.88W±0°.06, h29km, n538, σ1s107/465, mb5.1/125, MS4.0/21, 35C-11D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.07**	**31**	Pn	**Pn**	**08 37 03.2**	**-0.3**
	662nm,0.3s,baz=259,slow=5.2,SNR=656						
AFI				Sn	**Sn**	**08 37 25.8**	**-2.6**
	342nm,0.3s,baz=204,slow=18,SNR=7.0						
AFI				LR	LR	08 37 44.8	
	comp=Z,3μm,19.0s,baz=293,slow=38						
NIUE	**Niue**	**4.39**	**140**		**Pn**	**08 37 36.3**	**+1.0**
NIUE				Sn	**Sn**	**08 38 21.7**	**-3.8**
KNTN	**Kanton**	**12.89**	**5**	Pn	**Pn**	**08 39 31.3**	**-0.7**
RAR	**Rarotonga**	**13.59**	**116**	P	**Pn**	**08 39 42.2**	**+0.7**
RAR	**Rarotonga**	**13.59**	**116**	Pn	**Pn**	**08 39 42.1**	**+0.6**
	1.4nm,0.3s,baz=284,slow=12,SNR=3.8						
RAR				Sn		08 41 58.9	-13
	0.5nm,0.3s,baz=285,slow=20,SNR=2.3						
RAR	**Rarotonga**	**13.59**	**116**		**Pn**	**08 39 42.2**	**+0.7**
RAO	**Raoul Island**	**14.27**	**198**	Pn	**Pn**	**08 39 50.6**	**-0.1**
	64nm,0.3s,baz=130,slow=19,SNR=2.7						
RAO				LR	LR	08 43 56.5	
	comp=Z,275nm,21.5s,baz=17,slow=32						
GLKZ	**Green Lake**	**14.28**	**198**	P	**Pn**	**08 39 48.3**	**-2.5**
DZM	**Mont Dzumac**	**20.55**	**249**	P	Pn	08 41 10.0	+0.5
	35nm,1.0s,baz=83,slow=16,SNR=12						
DZM	**Mont Dzumac**	**20.55**	**249**	*eP*	Pn	08 41 11.4	+1.9
	117nm,1.2s						
DZM				*e*LQ	LQ	08 45 10.2	
	851nm,25.8s						
DZM				*e*LR	LR	08 46 07.0	
	comp=Z,1μm,28.1s						
DZM	**Mont Dzumac**	**20.55**	**249**	P	**P**	**08 41 07.6**	**+0.4**
PAE	**Paea**	**22.40**	**98**	*e*T	T	09 04 33.6	
	3.3nm,0.3s						
PPT	**Papeete**	**22.41**	**98**	LR	LR	08 47 39.9	
	comp=Z,127nm,20.0s,baz=268,slow=30						
PPT2	**Papeete2**	**22.41**	**98**	*e*LQ	LQ	08 45 51.3	
	707nm,29.2s						
PPT2				*e*LR	LR	08 46 33.7	
	comp=Z,624nm,27.2s,baz=259						
PPT2	**Papeete2**	**22.41**	**98**	*e*T	T	09 04 34.7	
	6.2nm,0.4s						
TVO	**Taravao**	**22.72**	**99**	*e*T	T	09 04 58.0	
	1.8nm,0.3s						
OUZ	**Omahta**	**22.91**	**209**	P	**P**	**08 41 31.2**	**-0.9**
OUZ	**Omahuta**	**22.91**	**209**	P	**P**	**08 41 31.7**	**-0.5**
OUZ				IAmb	IAmb	08 41 36.3	
	comp=Z,94nm,1.1s						
GRZ	**Great Barrier**	**22.96**	**205**	P	**P**	**08 41 34.3**	**+1.6**
MXZ	**Matakaoa Point**	**23.14**	**198**	P	**P**	**08 41 36.7**	**+2.3**
MXZ	**Matakaoa Point**	**23.14**	**198**	P	**P**	**08 41 34.6**	**+0.2**
MXZ				IAmb	IAmb	08 41 53.6	
	comp=Z,115nm,1.2s						
WCZ	**Waipu Caves**	**23.16**	**207**	P	**P**	**08 41 35.2**	**+0.4**
KUZ	**Kuaotunu**	**23.29**	**204**	P	**P**	**08 41 37.1**	**+1.1**
XMAS	**Kiritimati**	**23.32**	**42**	P	**P**	**08 41 36.4**	**-0.1**
XMAS				IAmb	IAmb	08 42 27.0	
	comp=Z,99nm,1.1s						
TBI	**Tubuai**	**23.33**	**113**	*e*S	**S**	**08 45 47.2**	**-0.3**
	comp=Z,113nm,31.3s						
TBI				*e*LQ	LQ	08 46 02.6	
	comp=Z,442nm,32.2s						
TBI				*e*LR	LR	08 47 05.7	
	comp=Z,526nm,27.5s,baz=290						
TBI	**Tubuai**	**23.33**	**113**	*e*T	T	09 05 48.1	
	comp=Z,8.9nm,0.2s						
WMGZ	**Waiomatatini S**	**23.34**	**198**	P	**P**	**08 41 40.9**	**+4.4**
HAZ	**Te Kaha**	**23.47**	**199**	P	**P**	**08 41 38.8**	**+1.1**
PKGZ	**Pakihiroa**	**23.51**	**198**	P	**P**	**08 41 42.0**	**+3.8**
WIAZ	**Waiheke Island**	**23.56**	**205**	P	**P**	**08 41 39.9**	**+1.2**
PUZ	**Puketiti**	**23.62**	**198**	P	**P**	**08 41 39.2**	**0.0**
PUZ				S	**S**	**08 45 54.6**	**+2.6**
RUGZ	**Raukumara Rang**	**23.70**	**199**	P	**P**	**08 41 41.9**	**+1.8**
ETAZ	**East Tamaki Re**	**23.78**	**205**	P	**P**	**08 41 43.3**	**+2.5**
MKAZ	**Moumakai**	**23.82**	**204**	P	**P**	**08 41 42.1**	**+1.0**
TGRZ	**Tauranga**	**23.96**	**202**	P	**P**	**08 41 45.9**	**+3.5**
OPRZ	**Ohinepanea**	**23.96**	**201**	P	**P**	**08 41 40.2**	**-2.2**
CNGZ	**Carnagh Statio**	**24.02**	**197**	P	**P**	**08 41 46.7**	**+3.7**
TKGZ	**Te Karaka**	**24.08**	**198**	P	**P**	**08 41 46.5**	**+3.0**
EDRZ	**Edgecumbe**	**24.13**	**200**	P	**P**	**08 41 47.4**	**+3.3**
URZ	**Urewera**	**24.15**	**200**	P	**P**	**08 41 44.7**	**+0.5**
	comp=Z,124nm,0.7s,baz=25,slow=3.6,SNR=98						
URZ	**Urewera**	**24.15**	**200**	P	**P**	**08 41 45.3**	**+1.1**
URZ	**Urewera**	**24.15**	**200**	P	**P**	**08 41 44.4**	**+0.2**
KMRZ	**Kaimai**	**24.17**	**202**	P	**P**	**08 41 48.6**	**+4.1**
KARZ	**Kaharoa**	**24.22**	**201**	P	**P**	**08 41 48.9**	**+4.0**
BFZ	**Birch Farm**	**26.63**	**199**	P	**P**	**08 42 07.6**	**+1.0**
BFZ				IAmb	IAmb	08 42 15.3	
	comp=Z,33nm,0.6s						
HNR	**Honiara**	**27.23**	**280**	LR	LR	08 50 51.7	
	comp=Z,377nm,21.7s,baz=129,slow=32						
BHW	**Baring Head**	**27.73**	**200**	P	**P**	**08 42 17.4**	**+0.9**
PLWZ	**Palliser**	**27.75**	**199**	P	**P**	**08 42 17.6**	**+0.8**
QRZ	**Quartz Range**	**28.06**	**204**	P	**P**	**08 42 20.4**	**+0.9**
NNZ	**Nelson**	**28.08**	**202**	P	**P**	**08 42 19.5**	**-0.1**
THZ	**Tophouse**	**28.73**	**202**	P	**P**	**08 42 26.5**	**+1.0**
LTZ	**Lake Taylor**	**29.84**	**202**	P	**P**	**08 42 36.8**	**+1.4**
LTZ				IAmb	IAmb	08 42 45.3	
	comp=Z,32nm,0.7s						
LHI	**Lord Howe Isla**	**30.03**	**233**	P	**P**	**08 42 36.5**	**-0.6**
RPZ	**Rata Peaks**	**31.10**	**203**	P	**P**	**08 42 50.2**	**+3.7**
	comp=Z,4.0nm,0.6s,baz=21,slow=8.6,SNR=3.2						
FOZ	**Fox Glacier**	**31.42**	**205**	P	**P**	**08 42 49.3**	**+0.1**
FOZ				IAmb	IAmb	08 43 04.5	
	comp=Z,50nm,1.1s						
WHZ	**Wether Hill Ro**	**34.13**	**204**	P	**P**	**08 43 13.6**	**+0.7**
EIDS	**Eidsvold**	**35.00**	**248**	P	**P**	**08 43 19.0**	**-1.7**
ARMA	**Armidale**	**35.62**	**239**	P	**P**	**08 43 24.6**	**-1.6**
H11S2	**WAKE ISLAND Hy**	**39.47**	**329**	T	T	09 24 24.7	
	baz=146,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**39.49**	**329**	T	T	09 24 29.7	
	baz=146,slow=76,SNR=7.1						
H11S1	**WAKE ISLAND Hy**	**39.49**	**329**	T	T	09 24 38.2	
	baz=146,slow=76,SNR=18						
KIP	**Kipapa**	**39.67**	**22**	*e*P	**P**	**08 44 01.5**	**+1.3**
KIP				pmax	pmax		
	comp=Z,108nm,1.2s						
H11N3	**WAKE ISLAND Hy**	**40.42**	**330**	T	T	09 25 51.6	
	baz=146						
H11N1	**WAKE ISLAND Hy**	**40.42**	**330**	T	T	09 25 58.3	
	baz=146						
H11N2	**WAKE ISLAND Hy**	**40.43**	**330**	T	T	09 25 59.7	
	baz=146						
COEN	**Coen**	**42.46**	**266**	P	**P**	**08 44 22.9**	**-0.5**
TOO	**Toolangi**	**42.67**	**231**	P	**P**	**08 44 23.6**	**-1.3**
TOO				pmax	pmax		
	comp=Z,12nm,1.0s						
TOO	**Toolangi**	**42.67**	**231**	P	**P**	**08 44 23.6**	**-1.3**
STKA	**Stephens Creek**	**44.32**	**240**	P	**P**	**08 44 37.0**	**-1.3**
STKA	**Stephens Creek**	**44.32**	**240**	P	**P**	**08 44 37.0**	**-1.3**
	comp=Z,3.5nm,0.6s,baz=86,slow=11,SNR=18						
STKA				LR	LR	09 02 06.3	
	comp=Z,101nm,20.1s,baz=34,slow=35						
BBOO	**Buckleboo**	**49.10**	**240**	P	**P**	**08 45 14.2**	**-1.4**
WRAB	**Tennant Creek**	**50.26**	**257**	*e*P	**P**	**08 45 24.2**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.4s						
WRA	**Warramunga Arr**	**50.27**	**257**	LR	LR	09 06 42.8	
	comp=Z,76nm,18.3s,baz=60,slow=36						
ASAR	**Alice Springs**	**50.50**	**252**	P	**P**	**08 45 24.6**	**-1.8**
	comp=Z,8.9nm,0.6s,baz=87,slow=8.1,SNR=202						
ASAR				LR	LR	09 05 16.2	
	comp=Z,263nm,21.5s,baz=95,slow=34						
KNRA	**Kununurra**	**56.02**	**261**	P	**P**	**08 46 07.0**	**-0.1**
SBA	**Scott Base**	**63.00**	**185**	P	**P**	**08 46 55.7**	**+1.4**
SBA				pmax	pmax		
	comp=Z,47nm,1.7s						
SBA	**Scott Base**	**63.00**	**185**	P	**P**	**08 46 55.7**	**+1.4**
VNDA	**Vanda**	**63.13**	**186**	P	**P**	**08 46 57.1**	**+1.9**
VNDA				pmax	pmax		
	comp=Z,23nm,1.9s						
VNDA	**Vanda**	**63.13**	**186**	P	**P**	**08 46 56.7**	**+1.5**
	comp=Z,2.9nm,0.8s,baz=14,slow=5.3,SNR=7.6						
VNDA	**Vanda**	**63.13**	**186**	P	**P**	**08 46 57.1**	**+1.9**
VNDA				IAmb	IAmb	08 47 30.6	
	comp=Z,23nm,1.9s						
PSA00	**Pilbara Seismi**	**63.60**	**253**	P	**P**	**08 46 58.5**	**-0.8**
SNCC	**San Nicolas Is**	**70.43**	**46**	P	**P**	**08 47 43.3**	**+1.0**
	baz=235						
SCZ2	**Santa Cruz Isl**	**70.78**	**45**	P	**P**	**08 47 45.5**	**+1.0**
	baz=235						
SCI2	**San Clemente I**	**70.95**	**46**	P	**P**	**08 47 46.2**	**+0.7**
	baz=236						
SBC	**Santa Barbara**	**70.98**	**44**	P	**P**	**08 47 46.9**	**+1.2**
	baz=235						
PKM	**Mcpherson Peak**	**71.17**	**44**	P	**P**	**08 47 48.2**	**+1.0**
	baz=234,SNR=7.8						
SAO	**San Andreas Ge**	**71.22**	**42**	P	**P**	**08 47 48.0**	**+0.9**
SAO				pmax	pmax		
	comp=Z,23nm,1.0s						
SAO	**San Andreas Ge**	**71.22**	**42**	P	**P**	**08 47 48.0**	**+0.9**
SAO				IAmb	IAmb	08 47 49.4	
	comp=Z,23nm,1.0s						
BLG	**Laguna Peak, P**	**71.23**	**45**	P	**P**	**08 47 48.0**	**+0.8**
	baz=235						
CIS	**Catalina Islan**	**71.28**	**46**	P	**P**	**08 47 48.1**	**+0.5**
	baz=236						
SMMC	**Simmler**	**71.30**	**44**	P	**P**	**08 47 49.1**	**+1.4**
	baz=234,SNR=5.2						
PMPB	**Monarch Peak**	**71.30**	**42**	P	**P**	**08 47 48.2**	**+0.5**
PMPB				IAmb	IAmb	08 47 50.2	
	comp=Z,28nm,1.1s						
PAGB	**Antelope Grade**	**71.38**	**43**	P	**P**	**08 47 48.8**	**+0.6**
PAGB				IAmb	IAmb	08 47 50.5	
	comp=Z,23nm,1.1s						
HOPS	**Hopland Field**	**71.58**	**39**	P	**P**	**08 47 49.6**	**+0.4**
OSI	**Osito Audit: C**	**71.75**	**45**	P	**P**	**08 47 51.5**	**+1.1**
	baz=235						
DECC	**Green Verdugo**	**71.81**	**45**	P	**P**	**08 47 51.2**	**+0.5**
	baz=236						
109C	**Camp Elliot, M**	**71.91**	**47**	P	**P**	**08 47 51.8**	**+0.4**
	baz=237						
ARVC	**Arvin**	**71.97**	**44**	P	**P**	**08 47 52.3**	**+0.7**
	baz=235,SNR=5.1						
MWC	**Mount Wilson**	**71.98**	**45**	P	**P**	**08 47 52.3**	**+0.3**
MWC				pmax	pmax		
	comp=Z,18nm,1.0s						
MWC	**Mount Wilson**	**71.98**	**45**	P	**P**	**08 47 52.3**	**+0.3**
MWC				IAmb	IAmb	08 47 53.6	
	comp=Z,18nm,0.9s						
VES	**Vestal, Richgr**	**72.21**	**44**	P	**P**	**08 47 53.5**	**+0.4**
	baz=235,SNR=15						
MURC	**Murrieta**	**72.23**	**46**	P	**P**	**08 47 54.1**	**+0.7**
	baz=237						
BFSC	**Mount Baldy Ra**	**72.27**	**46**	P	**P**	**08 47 53.7**	**+0.1**
	baz=236,SNR=7.4						
VOG	**Valley Oaks Go**	**72.29**	**43**	P	**P**	**08 47 53.8**	**+0.3**
	baz=234						
MONP2	**Monument Peak**	**72.39**	**47**	P	**P**	**08 47 55.2**	**+0.7**
	baz=237,SNR=6.3						
EDW2	**Edwards Air Fo**	**72.40**	**45**	P	**P**	**08 47 54.9**	**+0.6**
	baz=236,SNR=23						
IKP	**In-Ko-Pah, Jac**	**72.49**	**48**	P	**P**	**08 47 55.9**	**+1.0**
	baz=238,SNR=7.4						
O02D	**Mt. Diablo Mer**	**72.50**	**38**	P	**P**	**08 47 56.2**	**+1.3**
	baz=231,SNR=10						
ISA	**Isabella, Lake**	**72.52**	**44**	P	**P**	**08 47 56.0**	**+1.0**
	baz=235,SNR=24						
ISA	**Isabella, Lake**	**72.52**	**44**	P	**P**	**08 47 55.6**	**+0.6**
ISA				pmax	pmax		
	comp=Z,34nm,1.2s						
ISA	**Isabella, Lake**	**72.52**	**44**	P	**P**	**08 47 55.6**	**+0.6**
ISA				IAmb	IAmb	08 47 57.1	
	comp=Z,34nm,1.2s						
CMB	**Columbia Colle**	**72.66**	**41**	P	**P**	**08 47 56.8**	**+1.0**
CMB				pmax	pmax		
	comp=Z,19nm,0.9s						
CMB	**Columbia Colle**	**72.66**	**41**	IAmb	IAmb	08 47 57.6	
	comp=Z,19nm,0.9s						
KRMB	**Red Mountain**	**72.71**	**36**	P	**P**	**08 47 57.1**	**+1.0**
PFO	**Pinyon Flats O**	**72.76**	**47**	P	**P**	**08 47 57.1**	**+0.6**
	baz=237,SNR=6.4						
PFO	**Pinyon Flats O**	**72.76**	**47**	*i*P	**P**	**08 47 56.8**	**+0.2**
PFO				pmax	pmax		
	comp=Z,23nm,1.5s						
PFO	**Pinyon Flats O**	**72.76**	**47**	P	**P**	**08 47 56.8**	**+0.2**
	comp=Z,4.3nm,0.8s,baz=225,slow=6.0,SNR=7.6						
PFO	**Pinyon Flats O**	**72.76**	**47**	P	**P**	**08 47 56.6**	**+0.1**
XPFO	**Pion Flat**	**72.76**	**47**	P	**P**	**08 47 56.6**	**+0.1**
BBRC	**Big Bear Solar**	**72.79**	**46**	P	**P**	**08 47 57.2**	**+0.3**
	baz=237						
AFDM	**Forest Hills D**	**72.84**	**40**	IAmb	IAmb	08 47 58.6	
	comp=Z,17nm,1.0s						
SWSC	**Sam W. Stewart**	**72.86**	**48**	P	**P**	**08 47 57.6**	**+0.6**
	baz=238						
WDC	**Whiskeytown Da**	**72.90**	**38**	IAmb	IAmb	08 47 59.5	
	comp=Z,36nm,1.4s						
LRMC	**Laurel Mtn Rad**	**72.94**	**45**	P	**P**	**08 47 58.4**	**+0.8**
	baz=236,SNR=16						
N02D	**Trinity Center**	**73.05**	**37**	P	**P**	**08 47 59.6**	**+1.5**
	baz=231,SNR=9.9						
PETK	**Petropavlovsk-**	**73.06**	**342**	P	**P**	**08 47 58.0**	**+0.2**
	comp=Z,17nm,0.8s,baz=138,slow=9.6,SNR=16						
PETK				LR	LR	09 12 40.2	
	comp=Z,34nm,21.6s,baz=61,slow=30						
RRX	**Edison Barstow**	**73.07**	**45**	P	**P**	**08 47 58.6**	**+0.3**
	baz=236						
O03E	**Paynes Creek**	**73.16**	**38**	P	**P**	**08 47 59.2**	**+0.4**
	baz=232,SNR=15						
CWC	**Cottonwood Cre**	**73.22**	**43**	P	**P**	**08 48 00.0**	**+0.8**
	baz=235						
M02C	**Callahan**	**73.23**	**37**	P	**P**	**08 48 00.4**	**+1.2**
	baz=230

comp=Z,24nm,1.0s
QSPA South Pole Qui 74.35 180 P P 08 48 06.4 +1.0
I02D Swisshome 74.43 34 P P 08 48 07.3 +1.4
baz=229
I03D Drain, OR 74.44 35 P P 08 48 07.2 +1.2
baz=230,SNR=13
214A Organ Pipe Nat 74.52 50 P P 08 48 07.7 +0.9
baz=240
214A Organ Pipe Nat 74.52 50 IAmb IAmb 08 48 08.9
comp=Z,37nm,1.6s
K04D Chiloquin, OR 74.65 37 P P 08 48 08.5 +1.0
baz=231,SNR=5.6
NEE2 Needles Airpor 74.66 47 P P 08 48 08.3 +0.7
baz=238
KVN Kaiserville 74.70 41 IAmb IAmb 08 48 09.8
comp=Z,24nm,1.0s
TPNV Topopah Spring 74.72 44 P P 08 48 09.0 +0.9
baz=236,SNR=17
TPNV Topopah Spring 74.72 44 IAmb IAmb 08 48 10.1
comp=Z,15nm,0.9s
J04D Umpqua Nationa 74.83 36 P P 08 48 09.6 +1.0
baz=231,SNR=22
I04A Tendick Farm, 75.02 35 P P 08 48 09.9 +0.5
baz=230,SNR=13
COR Corvallis 75.04 34 P **P 08 48 10.5 +1.0**
COR pmax pmax
comp=Z,42nm,1.2s
COR Corvallis 75.04 34 P P 08 48 10.5 +1.0
MOD Modoc Plateau 75.05 38 IAmb IAmb 08 48 11.8
comp=Z,32nm,0.9s
KDAK Kodiak Island 75.11 11 P **P 08 48 09.9 +0.3**
KDAK pmax pmax
comp=Z,166nm,1.9s
KDAK Kodiak Island 75.11 11 P P 08 48 09.9 +0.3
SHPR Sheep Range 75.21 45 IAmb IAmb 08 48 13.1
comp=Z,27nm,1.2s
H04D Lebanon 75.31 35 P P 08 48 12.3 +1.3
baz=230,SNR=12
J05D Fort Rock, OR 75.36 36 P P 08 48 12.8 +1.2
baz=231,SNR=31
Y14A Wickenburg 75.38 48 IAmb IAmb 08 48 13.7
comp=Z,19nm,1.1s
G03D McMinnville, O 75.47 34 P P 08 48 13.1 +1.2
baz=229,SNR=12
PINE Pine Mountain 75.84 36 P P 08 48 15.2 +0.8
R11A Troy Canyon, C 75.93 43 P **P 08 48 15.6 +0.6**
baz=237,SNR=18
I05D Terrebonne, OR 75.96 35 P P 08 48 15.6 +0.8
baz=231,SNR=15
F04D Rainier, OR 76.17 33 P P 08 48 17.2 +1.3
baz=229
TUC Tucson 76.19 50 P P 08 48 17.6 +1.1
baz=241
TUC Tucson 76.19 50 P **P 08 48 16.7 +0.2**
TUC pmax pmax
comp=Z,46nm,1.7s
TUC Tucson 76.19 50 P P 08 48 16.7 +0.2
TUC IAmb IAmb 08 48 18.7
comp=Z,46nm,1.7s
WVOR Wild Horse Val 76.35 38 IAmb IAmb 08 48 19.2
comp=Z,29nm,1.0s
G05D Wamic, OR 76.54 35 P P 08 48 18.9 +0.8
baz=231,SNR=6.7
E04D Cinebar 76.71 33 P P 08 48 20.1 +1.1
baz=230,SNR=14
KSRS Korea Array 76.72 315 P P 08 48 20.6 +1.4
comp=Z,2.1nm,0.8s,baz=122,slow=6.0,SNR=5.0
KSRS LR LR 09 15 32.0
comp=Z,34nm,21.4s,baz=56,slow=31
X16A Lo Mia Camp, P 76.74 48 IAmb IAmb 08 48 22.1
comp=Z,20nm,1.0s
F05D White Salmon 76.87 34 P P 08 48 20.9 +1.0
baz=231,SNR=6.0
319A Douglas 76.88 52 P **P 08 48 21.1 +0.6**
319A IAmb IAmb 08 48 22.6
comp=Z,19nm,1.0s
G06A Carlson Farm, 76.91 35 IAmb IAmb 08 48 22.0
comp=Z,19nm,1.0s
D04E Lakebay 77.01 32 P P 08 48 22.2 +1.6
baz=229
D03D Eldon 77.08 32 P P 08 48 22.0 +1.0
baz=229,SNR=8.2
U15A North Rim 77.14 46 IAmb IAmb 08 48 24.6
comp=Z,30nm,1.1s
LON Longmire 77.23 33 IAmb IAmb 08 48 23.5
comp=Z,44nm,1.7s
WUAZ Wupatki 77.33 47 P P 08 48 24.0 +1.1
baz=240
WUAZ Wupatki 77.33 47 IAmb IAmb 08 48 25.3
comp=Z,21nm,1.1s
ELK Elko 77.47 41 P **P 08 48 24.4 +0.7**
comp=Z,8.6nm,0.9s,baz=239,slow=4.9,SNR=35
F07A Phinny Hill Vi 77.71 35 IAmb IAmb 08 48 26.4
comp=Z,18nm,0.9s
USRK Ussuriysk Ar, 77.92 323 P P 08 48 26.2 +0.4
comp=Z,3.0nm,1.0s,baz=112,slow=5.1,SNR=4.1
A04D Lummi Island 78.05 31 P P 08 48 27.3 +0.9
baz=229
B05A Bryant 78.06 32 P P 08 48 27.3 +0.8
baz=230,SNR=8.1
LEM Lembang 78.11 266 P P 08 48 37.6 +10
HAWA Hanford 78.23 35 IAmb IAmb 08 48 29.4
comp=Z,34nm,1.1s
W18A Petrified Fore 78.30 48 P P 08 48 29.1 +0.7
baz=241
C06D Leavenworth 78.46 33 P P 08 48 28.8 0.0
baz=231
121A Cookes Peak, D 78.54 51 P P 08 48 31.0 +1.2
baz=243,SNR=7.3
BMO Blue Mountains 78.56 37 IAmb IAmb 08 48 31.1
comp=Z,24nm,1.1s
MFID Camas Ranch 78.60 39 IAmb IAmb 08 48 31.5
comp=Z,20nm,1.0s
ZAIG Zacatecas 78.69 62 P P 08 48 31.7 +0.7
DUG Dugway, Tooele 78.74 43 P P 08 48 31.3 +0.7
baz=238
DUG Dugway, Tooele 78.74 43 P **P 08 48 31.3 +0.7**
DUG pmax pmax
comp=Z,22nm,1.4s
DUG Dugway, Tooele 78.74 43 IAmb IAmb 08 48 32.4
comp=Z,18nm,1.1s
SUA Susitna One 78.89 11 P P 08 48 31.2 +0.2
PMR Palmer 79.31 11 IAmb IAmb 08 48 34.5
comp=Z,29nm,1.4s
B08A Colville Reser 79.55 33 IAmb IAmb 08 48 35.7
comp=Z,20nm,1.0s
GRNR Gornyy 79.65 330⇑ *i*P **P 08 48 33.4 -1.8**
GRNR pmax pmax
comp=Z,9.0nm,1.1s
GRNR MLR MLR
comp=Z,90nm,14.0s
LLLB Lillooet 79.69 30 IAmb IAmb 08 48 36.9
comp=Z,18nm,0.9s
C09A Chrisman Ranch 79.77 34 IAmb IAmb 08 48 37.4
comp=Z,19nm,0.8s
LENM Lemitar 79.88 50 P P 08 48 37.6 +0.5
TGL Tana Glacier 79.91 14 IAmb IAmb 08 48 37.7
comp=Z,22nm,1.1s
MNTX Cornudas Mount 80.00 53 P P 08 48 38.3 +0.7
baz=245,SNR=19
MNTX Cornudas Mount 80.00 53 P P 08 48 38.0 +0.5
MVCO Mesa Verde 80.18 47 P P 08 48 39.7 +1.1
baz=242
TXAR Lajitas Array 80.36 56 P P 08 48 40.5 +0.8
comp=Z,8.2nm,1.0s,baz=225,slow=6.4,SNR=38
TXAR LR LR 09 17 22.2
comp=Z,69nm,19.0s,baz=0.0,slow=30
BARN Barnard Glacie 80.46 15 IAmb IAmb 08 48 41.4
comp=Z,42nm,1.4s
ANMO Albuquerque 80.61 50 P P 08 48 42.1 +1.1
baz=243
ANMO Albuquerque 80.61 50⇓ *i*P **P 08 48 40.6 -0.4**
ANMO pmax pmax
comp=Z,15nm,1.0s
ANMO Albuquerque 80.61 50 P P 08 48 41.7 +0.7
comp=Z,9.7nm,1.1s,baz=221,slow=6.4,SNR=29
ANMO Albuquerque 80.61 50 P P 08 48 41.5 +0.5
ANMO IAmb IAmb 08 48 45.1
comp=Z,22nm,1.3s
NEW Newport 80.67 34 P P 08 48 40.8 -0.1
baz=234,SNR=8.9
NEW Newport 80.67 34 P P 08 48 41.0 +0.2
NEW Newport 80.67 34 P P 08 48 41.0 +0.2
comp=Z,5.0nm,0.8s,baz=247,slow=4.3,SNR=12
NJ2 Nanjing 80.74 307 *e*P **P 08 48 43.3 +1.8**
NJ2 pmax pmax
comp=Z,13nm,0.5s

KTH Kantishna Hill 80.82 10 P P 08 48 40.3 -0.9
RND Reindeer 81.03 11 IAmb IAmb 08 48 43.4
comp=Z,20nm,1.0s
KLR Kul'dur 81.04 327⇑ *i*P **P 08 48 42.2 -0.5**
KLR pmax pmax
comp=Z,6.0nm,1.5s
MCK McKinley 81.32 11 IAmb IAmb 08 48 44.6
comp=Z,28nm,0.9s
S22A 4UR Ranch, Cre 81.60 47 P P 08 48 47.1 +0.7
baz=243,SNR=30
S22A 4UR Ranch, Cre 81.60 47 IAmb IAmb 08 48 48.7
comp=Z,26nm,0.9s
DLMT Dillon 81.61 38 IAmb IAmb 08 48 47.4
comp=Z,17nm,1.1s
MSO Missoula 81.62 36 P P 08 48 45.6 -0.4
baz=236,SNR=17
MSO Missoula 81.62 36 IAmb IAmb 08 48 47.0
comp=Z,36nm,1.3s
REDW Red Top Meadow 81.63 41 IAmb IAmb 08 48 49.0
comp=Z,42nm,1.5s
CN2 Changchun 81.63 320 *e*P **P 08 48 46.3 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
TPAW Teton Pass 81.63 40 IAmb IAmb 08 48 48.3
comp=Z,34nm,1.3s
O20A White River Ci 81.74 44 P P 08 48 47.5 +0.6
baz=242,SNR=5.3
SNOW Snow King Moun 81.74 41 IAmb IAmb 08 48 48.8
comp=Z,23nm,1.1s
BW06 Boulder Array 82.15 42 P P 08 48 48.9 -0.1
baz=240,SNR=11
BW06 Boulder Array 82.15 42 P P 08 48 49.1 0.0
BW06 IAmb IAmb 08 48 50.3
comp=Z,16nm,1.1s
PDAR Pinedale Array 82.15 42 P **P 08 48 49.2 +0.2**
comp=Z,7.5nm,0.8s,baz=219,slow=3.2,SNR=59
PDAR LR LR 09 18 34.9
comp=Z,180nm,20.2s,baz=273,slow=31
SMCO Snowmass 82.16 46 IAmb IAmb 08 48 51.3
comp=Z,46nm,1.4s
MLY Manley 82.23 9 IAmb IAmb 08 48 49.0
comp=Z,14nm,0.9s
HDA Harding Lake 82.30 11 P P 08 48 48.8 -0.3
baz=205
HDA Harding Lake 82.30 11 IAmb IAmb 08 48 49.7
comp=Z,16nm,0.9s
H17A Grant Village 82.33 40 P P 08 48 52.1 +2.1
baz=239,SNR=7.3
H17A Grant Village 82.33 40 IAmb IAmb 08 48 52.9
comp=Z,24nm,1.4s
CCB Clear Creek Bu 82.36 11 IAmb IAmb 08 48 49.9
comp=Z,22nm,0.8s
SDCO Great Sand Dun 82.54 48 P **P 08 48 51.4 +0.1**
baz=244,SNR=14
SDCO Great Sand Dun 82.54 48 P P 08 48 51.2 0.0
TCOL CIGO, UAF Yank 82.56 10 P P 08 48 50.1 -0.2
baz=204
COLA College 82.56 10 *d i*P **P 08 48 49.8 -0.5**
COLA pmax pmax
comp=Z,33nm,0.9s
COLA College 82.56 10 P P 08 48 50.1 -0.2
MDM Murphy Dome 82.57 10 IAmb IAmb 08 48 51.1
comp=Z,34nm,1.5s
ILAR Eielson Array 82.64 11 P P 08 48 50.5 -0.3
comp=Z,4.4nm,0.8s,baz=229,slow=6.4,SNR=66
POKR Poker Flat Res 82.86 11 P **P 08 48 51.6 -0.3**
baz=205
SEY Seymchan 82.93 345⇓ *e*P **P 08 48 51.6 -0.7**
MSTX Muleshoe 82.94 52 P P 08 48 53.6 +0.3
baz=246
T25A Trinidad 83.06 48 P P 08 48 53.8 -0.1
baz=244,SNR=7.7
Q24A Divide 83.33 47 P P 08 48 55.9 +0.6
baz=244
Q24A Divide 83.33 47 IAmb IAmb 08 48 57.3
comp=Z,31nm,1.2s
ISCO Idaho Springs 83.38 46 P P 08 48 56.1 +0.5
baz=243
ISCO Idaho Springs 83.38 46 P P 08 48 55.8 +0.2
ISCO pmax pmax
comp=Z,11nm,1.3s
833A Chaparral WMA, 83.43 58 P P 08 48 55.5 -0.2
baz=248
RLMT Red Lodge 83.50 40 P P 08 48 56.5 +0.5
baz=240
CMIG Mas Romero 83.51 70 P P 08 48 57.2 +0.9
comp=Z,2.2nm,0.7s,baz=270,slow=7.1,SNR=2.8
DAWY Dawson 83.58 14 IAmb IAmb 08 48 57.1
comp=Z,16nm,0.9s
N23A Red Feather La 83.64 45 P P 08 48 57.2 +0.3
baz=243,SNR=9.6
N23A Red Feather La 83.64 45 IAmb IAmb 08 48 58.6
comp=Z,20nm,1.0s
WHN Wuhan 83.67 304 P P 08 48 59.5 +2.6
JCT Junction City 83.90 56 P P 08 48 57.9 -0.2
baz=248
JCT Junction City 83.90 56 P **P 08 48 58.1 0.0**
JCT pmax pmax
comp=Z,6.0nm,0.8s
JCT Junction City 83.90 56 P P 08 48 58.1 0.0
K22A Casper 84.06 43 P P 08 48 58.8 0.0
baz=242
K22A Casper 84.06 43 IAmb IAmb 08 49 00.2
comp=Z,20nm,1.3s
AMTX Amarillo 84.14 51 P P 08 48 59.4 +0.1
baz=246
COLD Coldfoot 84.36 9 P P 08 48 59.9 +0.4
EGMT Eagleton 84.66 37 P P 08 49 01.8 +0.1
baz=240
ABTX Abilene, Hawle 84.83 54 P P 08 49 02.9 +0.1
baz=248
BILL Bilibino 84.87 352 *e*P **P 08 49 00.6 -1.5**
BILL *e* 08 52 16.3
BILL pmax pmax
comp=Z,33nm,2.5s
BILL Bilibino 84.87 352 P P 08 49 02.2 +0.1
BILL IAmb IAmb 08 49 03.1
comp=Z,15nm,1.1s
KSCO Kaye Shedlock' 85.12 47 P P 08 49 04.2 -0.1
baz=246
TOLK Toolik Lake Re 85.76 8 P P 08 49 07.0 +0.3
baz=202
435B Jarrell 85.78 57 P P 08 49 07.9 +0.3
baz=249
435B Jarrell 85.78 57 IAmb IAmb 08 49 09.0
comp=Z,12nm,0.8s
LAO LASA Array 86.12 39 P P 08 49 09.5 +0.5
baz=242
EPYK Eagle Plains 86.13 14 P P 08 48 08.3 -0.2
baz=215
EPYK Eagle Plains 86.13 14 IAmb IAmb 08 49 09.6
comp=Z,18nm,1.0s
WMOK Wichita Mounta 86.28 53 P P 08 49 09.4 -0.6
baz=248
WMOK Wichita Mounta 86.28 53 P P 08 49 09.9 -0.1
WMOK pmax pmax
comp=Z,10.0nm,2.5s
WHTX Lake Whitney, 86.32 55 P P 08 49 10.1 -0.1
baz=249
RSSD Black Hills 86.34 42 P P 08 49 10.0 -0.3
baz=244
RSSD Black Hills 86.34 42 P P 08 49 09.8 -0.5
RSSD pmax pmax
comp=Z,6.0nm,1.0s
RSSD Black Hills 86.34 42 P P 08 49 09.8 -0.5
U32A Winter Ranch, 86.73 51 IAmb IAmb 08 49 14.0
comp=Z,12nm,0.9s
APG El Apazote 86.92 74 P P 08 49 14.6 +0.9
comp=Z,18nm,0.9s,baz=319,slow=10.0,SNR=17
CBKS Cedar Bluff 87.11 48 P P 08 49 14.5 +0.5
baz=247
MAW Mawson 87.67 198 P P 08 49 17.0 +0.9
MAW Mawson 87.67 198 P P 08 49 17.0 +0.9
comp=Z,4.5nm,0.9s,baz=176,slow=12,SNR=4.1
MAW LR LR 09 27 42.7
comp=Z,62nm,18.4s,baz=62,slow=35
SNET Serv Nac Est T 87.69 75 P P 08 49 17.2 -0.1
HIA Hailar 87.73 323 P P 08 49 16.2 -0.5
HIA pmax pmax
comp=Z,14nm,1.4s
HIA Hailar 87.73 323 P P 08 49 16.2 -0.5
HIA IAmb IAmb 08 49 35.3
comp=Z,14nm,1.4s
DGMT Dagmar 88.15 38 P P 08 49 19.0 +0.4
baz=244
INK Inuvik 88.44 14 P P 08 49 19.3 -0.2
comp=Z,6.7nm,0.9s,baz=200,slow=5.3,SNR=10.0

INK Inuvik 88.44 14 IAmb IAmb 08 49 20.2
comp=Z,8.6nm,0.9s
NATX Nacogdoches 88.47 57 P P 08 49 21.0 +0.5
baz=251
PLCA Paso Flores 88.94 132 LR LR 09 20 21.5
comp=Z,56nm,20.6s,baz=288,slow=30
TUL1 Leonard 88.98 52 P P 08 49 22.9 0.0
baz=250
TUL1 Leonard 88.98 52 P P 08 49 22.5 -0.3
TUL1 IAmb IAmb 08 49 25.2
comp=Z,10nm,1.1s
KSU1 Kansas State U 89.48 49 P P 08 49 25.5 +0.3
baz=249
YAK Yakutsk 89.58 337 *e*P **P 08 49 23.7 -1.3**
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.5s
HHC Hu-ho-hao-te 89.59 313 *e*P **P 08 49 27.3 +1.5**
HHC sP sP 08 49 41.5 +3.6
HHC SKS **SKSac 08 59 58.3 +3.9**
HHC S **ScS 09 00 18.8 -0.8**
HHC pmax pmax
comp=E,8.0nm,0.8s
HHC pmax pmax
comp=E,51nm,6.5s
HHC LR LR
comp=E,210nm,19.0s
HHC LR LR
comp=E,140nm,17.5s
HHC LR LR
comp=E,79nm,15.9s
YKA Yellowknife Ar 90.17 23 P **P 08 49 27.6 -0.1**
comp=E,4.0nm,0.9s,baz=234,slow=4.2,SNR=39
MIAR Mount Ida 90.24 54 P P 08 49 28.9 +0.1
baz=251
W39A Magazine 90.29 54 P P 08 49 29.1 +0.1
baz=251
Z41A Richland Creek 90.44 56 P P 08 49 30.4 +0.7
baz=252
MDND Maddock 90.69 40 P P 08 49 31.1 +0.5
baz=247
X40A Basin Creek Fa 90.80 54 P P 08 49 31.7 +0.3
baz=252
ECSD EROS Data Cent 91.11 45 P P 08 49 32.4 -0.3
baz=249
U40A Yellville 91.38 53 P P 08 49 34.3 +0.3
baz=252
W41B Gary Mavity, V 91.47 54 P P 08 49 35.0 +0.5
baz=252
W41B Gary Mavity, V 91.47 54 IAmb IAmb 08 49 35.9
comp=Z,8.1nm,1.0s
C36M Paulatuk 91.51 15 P P 08 49 34.5 +0.7
baz=226
KMI Kunming 91.61 296 P P 08 49 37.8 +2.2
KMI pmax pmax
comp=Z,20nm,0.5s
KMI pmax pmax
comp=Z,74nm,3.9s
MGMO Mountain Grove 92.07 52 P P 08 49 37.0 -0.2
VNA3 Neumayer Olymp 92.52 175 P P 08 49 39.1 +0.4
VNA2 Neumayer--Watz 93.02 175 P P 08 49 42.1 +1.0
baz=186,slow=2.9
CCM Cathedral Cave 93.12 51 P P 08 49 41.8 -0.2
baz=253
CCM Cathedral Cave 93.12 51 P P 08 49 41.4 -0.7
CCM pmax pmax
comp=Z,6.0nm,1.1s
CCM Cathedral Cave 93.12 51 P P 08 49 41.4 -0.7
CMAR Chiang Mai Arr 93.18 288 P P 08 49 44.0 +1.2
CMAR Chiang Mai Arr 93.18 288 P P 08 49 44.0 +1.2
comp=Z,1.4nm,0.9s,baz=99,slow=3.2,SNR=9.5
CMAR LR LR 09 29 21.9
comp=Z,27nm,18.1s,baz=2.0,slow=34
VNA1 Neumayer--Stat 93.21 175 P P 08 49 41.0 -0.9
OXF Oxford 93.51 55 P P 08 49 44.4 +0.5
baz=254
LZH Lanzhou 93.80 306 *e*P **P 08 49 43.0 -2.5**
LZH pP PcP 08 49 50.3 +4.3
LZH sP pP 08 49 53.5 -0.9
LZH *e*PP **PP 08 53 32.3 +0.9**
LZH pmax pmax
comp=Z,19nm,1.4s
LZH pmax pmax
comp=Z,95nm,6.5s
LZH LR LR
comp=Z,340nm,17.0s
LZH LR LR
comp=Z,350nm,17.2s
LZH LR LR
comp=Z,440nm,19.6s
ULM Lac du Bonnet 93.85 39 P P 08 49 43.9 -1.2
comp=Z,2.5nm,0.8s,baz=261,slow=5.3,SNR=6.5
ULM LR LR 09 24 05.6
comp=Z,218nm,20.4s,baz=296,slow=30
SPMN Marine on St. 94.18 44 P P 08 49 47.0 +0.2
baz=252
ULN Ulaanbaatar 94.98 318⇓ *e*P **P 08 49 50.5 -0.1**
ULN pmax pmax
comp=Z,7.0nm,2.5s
WVT Waverly 95.19 54 P P 08 49 51.4 -0.2
baz=254
JFWS Jewell Farm 95.26 47 P P 08 49 51.3 -0.5
baz=254
HDIL Hopedale 95.29 49 P P 08 49 51.7 -0.2
baz=254
TIXI Tiksi 95.42 344⇑ *e*P **P 08 49 51.3 -0.5**
TIXI pmax pmax
comp=Z,11nm,2.5s
W49A Belvidere 96.16 55 P P 08 49 56.1 0.0
baz=255
Y51A Rockmart 96.82 57 P P 08 49 58.3 -0.8
baz=256
U49A Red Boiling Sp 96.89 54 P P 08 49 58.9 -0.4
baz=256
V50A Pikeville 97.22 55 P P 08 50 00.2 -0.7
baz=256
T49A Edmonton 97.23 54 P P 08 50 00.6 -0.3
baz=256
S49A Springfield 97.58 53 P P 08 50 02.0 -0.5
baz=256
K47A Vermontville 98.93 48 P P 08 50 08.2 -0.2
baz=257
J47A Sunmer 99.19 48 P Pdif 08 50 09.6 +0.1
baz=257
H46A Fife Lake 99.21 46 P Pdif 08 50 09.6 +0.1
baz=257
ROSC El Rosal 99.52 88 LR LR 09 28 30.1
comp=Z,80nm,18.9s,baz=220,slow=31
U54A Nelsons Funny 100.00 55 P Pdif 08 50 14.2 +0.8
baz=258
Z57A Bowman 100.23 58 P Pdif 08 50 15.1 +0.8
baz=258
L50A Kingsville 100.39 49 P Pdif 08 50 15.7 +0.9
baz=258
MK31 Makanchi Array 111.39 314 *e*PKIKP **PKiKP 08 55 01.1 -0.9**
MKAR Makanchi Array 111.39 314 PKiKP **PKiKP 08 55 01.2 -0.9**
comp=Z,0.8nm,0.6s,baz=97,slow=0.7,SNR=9.0
KURK Kurchatov 113.69 319⇑ *i*PKIKP **PKiKP 08 55 05.1 -1.1**
KURK pmax pmax
comp=Z,3.0nm,1.7s
KSH Kashi 116.05 307 PKP **PKPdf 08 55 10.5 -0.8**
KSH PP **PP 08 56 23.0 +6.8**
KSH PKS **PKSdf 08 58 47.0 -1.1**
KSH SKS **SKSdf 09 02 18.5 -3.1**
KSH SKKS **SKKSac 09 03 11.5 -4.0**
KSH SS **SS 09 12 20.5 +3.2**
KSH LR LR
comp=Z,380nm,6.1s
KSH LR LR
comp=Z,560nm,5.9s
AAK Ala-Archa 117.06 310⇑ *i*PKIKP **PKPdf 08 55 12.4 -0.8**
BRVK Borovoye 118.48 322⇑ *i*PKIKP **PKPdf 08 55 14.8 -0.5**
BRVK pmax pmax
comp=Z,10.0nm,2.5s
KBL Kabul 121.73 301 PKIKP **PKPdf 08 55 22.0 -0.5**
KBL Kabul 121.73 301 PKPdf 08 55 22.0 -0.5
ARU Arti 123.85 328⇑ *i*PKIKP **PKPdf 08 55 25.2 -0.4**
ARU pmax pmax
comp=Z,15nm,2.5s
ARU Arti 123.85 328 PKP **PKPdf 08 55 25.2 -0.4**
comp=Z,1.9nm,0.6s,baz=291,slow=1.4,SNR=11
ARU Arti 123.85 328 PKPdf 08 55 24.7 -0.8
ARCES ARCESS Array B 124.97 352 PKP **PKPdf 08 55 26.8 -0.5**
comp=Z,6.3nm,0.9s,baz=349,slow=1.2,SNR=11

ABKAR	**Akbulak array**	125.76 320			PKPdf	08 55 29.0	-0.4
ABKAR	**Akbulak array**	125.76 320			PKPdf	08 55 28.9	-0.6
AKTO	**Aktyubinsk**	126.53 322		PKP	PKPdf	08 55 30.2	-0.7
	comp=Z,1.8nm,0.7s,baz=17,slow=2.2,SNR=7.6						
KIRV	**Kirov**	127.03 334		PKP	PKPdf	08 55 31.5	0.0
	comp=Z,11nm,0.6s,baz=180,slow=2.0,SNR=3.5						
FINES	**FINESS Array B**	132.34 348		PKIKP	PKPdf	08 55 41.4	-0.2
FINES	**FINESS Array B**	132.34 348		PKP	PKPdf	08 55 41.7	+0.1
	comp=Z,4.9nm,1.1s,baz=288,slow=1.8,SNR=5.6						
FINES	**FINESS Array B**	132.34 348			PKPdf	08 55 41.4	-0.2
BOSA	**Boshof**	132.59 202		PKP	PKPdf	08 55 43.5	+0.2
	comp=Z,2.2nm,0.8s,baz=180,slow=3.0,SNR=3.7						
OBN	**Obninsk**	134.58 337		*e*PKIKP	PKPdf	08 55 45.2	-0.8
OBN				*e*		08 58 19.6	
OBN				*e*PPP	PPP	09 01 12.3	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
AKASG	**Malin Array Be**	140.80 338		PKIKP	PKPdf	08 55 56.8	-0.8
AKASG	**Malin Array Be**	140.80 338		PKP	PKPdf	08 55 56.2	-1.4
	comp=Z,1.6nm,0.7s,baz=32,slow=2.7,SNR=6.7						
AKASG	**Malin Array Be**	140.80 338			PKPdf	08 55 56.8	-0.8
OJC	**Ojcow**	144.07 346		PKIKP	PKPab	08 56 01.1	+0.2
OJC	**Ojcow**	144.07 346			PKPab	08 56 01.1	+0.2
CLL	**Collm**	144.16 354		*e*PKIKP	PKPbc	08 56 02.0	+0.4
CLL				pmax	pmax		
	comp=Z,11nm,1.0s						
CLL	**Collm**	144.16 354		*e*PKPdf	PKPbc	08 56 02.0	+0.4
	comp=Z,11nm,1.0s						
CLL	**Collm**	144.16 354			PKPbc	08 56 01.6	0.0
UPC	**Upice**	144.54 350		*e*PKIKP	PKPab	08 56 02.7	0.0
UPC	**Upice**	144.54 350		*e*PKP	PKPab	08 56 02.7	0.0
KOLS	**Kolonicke sedl**	144.61 343		*e*PKIKP	PKPbc	08 56 03.6	+0.4
KOLS	**Kolonicke sedl**	144.61 343		*e*PKP	PKPbc	08 56 03.6	+0.4
OKC	**Ostrava-Krasne**	144.79 348		*e*PKIKP	PKPab	08 56 03.5	-0.1
OKC	**Ostrava-Krasne**	144.79 348		*e*PKP	PKPab	08 56 03.5	-0.1
BUR08	**Bucovina Ar. S**	144.81 339			PKPab	08 56 03.9	0.0
KRLC	**Kraliky**	144.82 349		*e*PKIKP	PKPab	08 56 03.8	0.0
KRLC	**Kraliky**	144.82 349		*e*PKP	PKPab	08 56 03.8	0.0
BURAR	**Bucovina Array**	144.83 339		PKIKP	PKPbc	08 56 04.2	+0.2
BURAR	**Bucovina Array**	144.83 339		⇑P	PKPbc	08 56 04.3	+0.2
BURAR	**Bucovina Array**	144.83 339			PKPab	08 56 03.8	-0.1
UZH	**Uzhgorod**	144.87 342		⇓*i*PKIKP	PKPab	08 56 03.7	-0.2
UZH				*e*		08 56 15.0	
MOX	**Moxa**	144.95 355		PKIKP	PKPdf	08 56 05.3	+0.3
MORC	**Moravsky Berou**	144.97 348		⇑PKIKP	PKPbc	08 56 04.5	+0.2
MORC	**Moravsky Berou**	144.97 348		⇑P	PKPbc	08 56 04.5	+0.2
MORC	**Moravsky Berou**	144.97 348		*e*P	PKPab	08 56 04.4	+0.1
MORC	**Moravsky Berou**	144.97 348			PKPab	08 56 04.1	-0.2
BIZ	**Bicaz**	145.07 337		⇑P	PKPdf	08 56 05.2	-0.1
LANS	**Liptovska Anna**	145.14 346		*e*PKIKP	PKPdf	08 56 06.0	+0.6
LANS	**Liptovska Anna**	145.14 346		*e*PKP	PKPdf	08 56 06.0	+0.6
MEM	**Membach**	145.16 1		PKPdf	PKPbc	08 56 04.7	-0.2
MEM				PKIKP	PKiKP	08 56 08.4	-0.8
BSTI	**Sart Tilman**	145.18 2		PKPdf	PKPbc	08 56 04.9	0.0
TESR	**Tescani**	145.22 336		⇓P	PKPbc	08 56 04.9	-0.3
TRPA	**Tarpa**	145.25 342		⇑P	PKPbc	08 56 05.4	+0.2
TRPA	**Tarpa**	145.25 342		*e*P	PKPbc	08 56 04.1	-1.1
PRU	**Pruhonice**	145.27 352		*e*PKIKP	PKPbc	08 56 05.0	-0.2
PRU	**Pruhonice**	145.27 352		*e*PKP	PKPbc	08 56 05.0	-0.2
NKC	**Novy Kostel**	145.28 354		PKIKP	PKPdf	08 56 06.7	+1.1
GOPC	**GO Pecny, Ondr**	145.31 351		*e*PKIKP	PKPbc	08 56 04.7	-0.7
GOPC	**GO Pecny, Ondr**	145.31 351		*e*PKP	PKPbc	08 56 04.7	-0.7
TLCR		145.38 333		⇑PKIKP	PKPbc	08 56 05.4	-0.3
TLCR		145.38 333		⇑P	PKPbc	08 56 05.4	-0.3
BMRD	**Maredsous**	145.43 3		PKPdf	PKPbc	08 56 05.6	-0.1
BMRD				x	x	08 56 29.0	
KECS	**Kecovo**	145.51 344		*e*PKIKP	PKPab	08 56 06.4	+0.1
KECS	**Kecovo**	145.51 344		*e*PKP	PKPab	08 56 06.4	+0.1
TNS	**Taunus Mts**	145.55 358		PKIKP	PKPab	08 56 07.4	+1.0
VRAC	**Vranov**	145.60 349		PKPbc	PKPdf	08 56 05.9	-0.2
	comp=Z,14nm,1.0s,baz=18,slow=2.7,SNR=12						
VRAC	**Vranov**	145.60 349		⇑P	PKPbc	08 56 06.5	+0.1
VRAC	**Vranov**	145.60 349		*e*P	PKPbc	08 56 06.6	+0.3
DOU	**Dourbes**	145.63 3		PKPdf	PKPdf	08 56 06.2	+0.1
PBCC	**Pribram**	145.64 352		*e*PKP	PKPdf	08 56 06.4	+0.2
VRI	**Vrincioaia**	145.72 335		⇑PKP2	PKPdf	08 56 06.6	+0.1
VRI	**Vrincioaia**	145.72 335		⇑P	PKPdf	08 56 06.6	+0.1
PLOR	**Plostina**	145.77 335		⇑PKP2	PKPbc	08 56 07.1	+0.1
PLOR	**Plostina**	145.77 335		⇑P	PKPbc	08 56 07.1	+0.1
TREC	**Trest**	145.80 350		*e*PKP2	PKPdf	08 56 06.7	+0.2
TREC	**Trest**	145.80 350		*e*PKP	PKPdf	08 56 06.7	+0.2
KRUC	**Moravsky**	145.87 349		*e*P	PKPbc	08 56 07.2	0.0
VYHS	**Vyhne**	145.90 346		*e*PKP2	PKPbc	08 56 07.6	+0.3
VYHS	**Vyhne**	145.90 346		*e*PKP	PKPbc	08 56 07.6	+0.3
GRA1	**Grafenberg Arr**	145.93 355			PKPdf	08 56 06.8	+0.1
GRF	**Grafenberg Arr**	145.93 355		PKP2	PKPdf	08 56 06.8	+0.1
WLF	**Walferdange**	146.11 1		PKPab	PKPbc	08 56 08.1	+0.3
WLF				PKiKP	PKiKP	08 56 11.1	0.0
DOPR	**Dopca**	146.16 337		⇑P	PKPbc	08 56 08.3	+0.1
PSZ	**Piszkesteto**	146.18 344		PKP2	PKPdf	08 56 07.2	-0.1
PSZ	**Piszkesteto**	146.18 344		*e*P	PKPbc	08 56 08.1	-0.2
PSZ	**Piszkesteto**	146.18 344			PKPdf	08 56 07.2	-0.1
KHC	**Kasperske Hory**	146.24 352	*d*	*i*PKP2	PKPbc	08 56 08.2	-0.2
KHC	**Kasperske Hory**	146.24 352		*e*PKP	PKPbc	08 56 08.4	0.0
KHC	**Kasperske Hory**	146.24 352			PKPdf	08 56 07.9	+0.6
WET	**Wettzell**	146.31 353		PKP2	PKPab	08 56 10.5	+1.2
MLR	**Muntele Rosu**	146.34 336		PKPbc	PKPbc	08 56 08.5	-0.4
	comp=Z,13nm,1.0s,baz=197,slow=2.0,SNR=16						
MLR	**Muntele Rosu**	146.34 336		⇑P	PKPbc	08 56 09.3	+0.4
MLR	**Muntele Rosu**	146.34 336			PKPdf	08 56 07.0	-0.7
MODS	**Modra-Piesok**	146.36 348		*e*PKP2	PKPbc	08 56 08.5	-0.2
MODS	**Modra-Piesok**	146.36 348		*e*PKP	PKPbc	08 56 08.5	-0.2
DRGR		146.39 341		⇓PKP2	PKPbc	08 56 09.1	+0.2
DRGR		146.39 341		⇓P	PKPbc	08 56 09.1	+0.2
GEC2	**GERESS Array S**	146.50 352			PKPdf	08 56 07.4	-0.4
GERES	**GERESS Array B**	146.50 352		PKPbc	PKPbc	08 56 08.9	-0.3
	comp=Z,2.8nm,0.7s,baz=11,slow=2.7,SNR=23						
GERES	**GERESS Array B**	146.50 352			PKPdf	08 56 07.6	-0.2
BR131	**Keskin Array S**	146.70 321		PKP2	PKPbc	08 56 10.2	0.0
BR131	**Keskin Array S**	146.70 321			PKPbc	08 56 10.2	0.0
BRTR	**Keskin Array B**	146.70 321		PKPbc	PKPbc	08 56 10.1	-0.1
	comp=Z,10nm,0.9s,baz=126,slow=2.1,SNR=43						
BRTR	**Keskin Array B**	146.70 321			PKPbc	08 56 09.7	-0.5
VOIR		146.74 337		⇑PKP2	PKPbc	08 56 10.5	+0.5
VOIR		146.74 337		⇑P	PKPbc	08 56 10.5	+0.5
ARR	**Arges**	146.95 347		⇑P	PKPab	08 56 11.7	-0.3
CONA	**Conrad Observa**	147.06 349	*i*	PKPbc	PKPdf	08 56 08.4	-0.4
	comp=Z,17nm,0.8s,SNR=7.6						
ANTO	**Ankara**	147.12 322		PKP2	PKPab	08 56 12.6	-0.2
SIRR	**Siria**	147.18 341		⇑P	PKPbc	08 56 11.4	+0.3
MOA	**Molln**	147.40 351	*i*	PKPab	PKPbc	08 56 11.7	0.0
	comp=Z,13nm,1.3s						
BFO	**Black Forest**	147.44 358		PKP2	PKPbc	08 56 11.4	-0.4
BFO	**Black Forest**	147.44 358			PKPbc	08 56 11.4	-0.4
MPLH	**Magyarpolny**	147.44 347		*e*P	PKPbc	08 56 11.0	-0.8
GZR	**Gura Zlata**	147.59 339		⇑PKIKP	PKPbc	08 56 12.1	-0.3
GZR	**Gura Zlata**	147.59 339		⇑P	PKPbc	08 56 12.1	-0.3
ARSA	**Arzberg**	147.77 349	*i*	PKPab	PKPbc	08 56 11.7	-1.1
	comp=Z,12nm,1.1s						
BZS	**Buzias**	147.78 341		⇑PKP2	PKPbc	08 56 12.8	+0.1
BZS	**Buzias**	147.78 341		⇑P	PKPbc	08 56 12.8	+0.1
MORH	**Mrgy, Hungar**	148.08 345		*e*P	PKPdf	08 56 12.1	+1.7
RETA	**Reutte**	148.16 355	*i*	PKiKP	PKPbc	08 56 14.0	+0.1
	comp=Z,16nm,1.2s						
WATA	**Walderalm**	148.24 354	*i*	PKiKP	PKPbc	08 56 14.1	0.0
	comp=Z,13nm,1.0s						
MOTA	**Moosalm**	148.27 355	*i*	PKiKP	PKPbc	08 56 13.8	-0.4
	comp=Z,20nm,1.1s						
KBA	**Koelnbreinsper**	148.28 352		PKP2	PKPbc	08 56 15.0	+0.7
KBA	**Koelnbreinsper**	148.28 352	*i*	PKiKP	PKPbc	08 56 13.8	-0.5
	comp=Z,8.1nm,1.0s						
WTTA	**Wattenberg**	148.30 354		PKP2	PKPbc	08 56 15.2	+0.9
WTTA	**Wattenberg**	148.30 354	*i*	PKiKP	PKPbc	08 56 14.4	0.0
	comp=Z,17nm,1.0s						
ASF	**Jabal al Asfar**	148.37 307		PKPbc	PKPbc	08 56 15.2	+0.3
	comp=Z,4.5nm,0.9s,baz=102,slow=6.9,SNR=4.5						
SQTA	**Sankt Quirin**	148.38 355	*i*	PKiKP	PKPbc	08 56 14.4	-0.1
	comp=Z,14nm,1.0s						
SOKA	**Soboth**	148.41 350	*i*	PKiKP	PKPbc	08 56 14.1	-0.5
	comp=Z,13nm,1.0s,SNR=7.0						
DAVA	**Damuels**	148.42 356	*i*	PKiKP	PKPbc	08 56 14.9	+0.3
	comp=Z,21nm,1.0s						
FETA	**Feichten**	148.62 355	*i*	PKiKP	PKPbc	08 56 15.4	+0.2
	comp=Z,15nm,1.1s						
MYKA	**Terra Mystica**	148.68 351	*i*	PKiKP	PKPbc	08 56 14.4	-0.8
	comp=Z,14nm,1.1s						
ABTA	**Abfaltersbach**	148.72 353	*i*	PKiKP	PKPbc	08 56 14.8	-0.5
	comp=Z,15nm,0.9s						
FUORN	**Ofenpass-Fuorn**	149.06 356			PKPbc	08 56 16.0	-0.4
STAL	**STALIGIAL**	149.17 352			PKPbc	08 56 15.5	-1.0
CSS	**Mathiatis**	149.67 314			PKPbc	08 56 17.4	-0.6
BLY	**Banja Luka**	149.81 346		⇑P	PKPbc	08 56 17.8	-0.2
BLY	**Banja Luka**	149.81 346			PKPbc	08 56 17.5	-0.5
VTS	**Vitosha**	149.81 336		⇑PKP2	PKPbc	08 56 18.4	+0.1
VTS	**Vitosha**	149.81 336		⇑P	PKPbc	08 56 18.4	+0.1
VTS	**Vitosha**	149.81 336			PKPbc	08 56 17.6	-0.7
TEOL	**Teolo**	150.18 354			PKPbc	08 56 18.2	-0.7
TEOL				PKPab	PKPab	08 56 24.6	-0.3
BNI	**Bardonecchia**	150.73 1		PKIKP	PKPbc	08 56 20.2	-0.2
BNI	**Bardonecchia**	150.73 1			PKPbc	08 56 20.2	-0.2
EIL	**Elat**	150.89 303		PKPbc	PKPbc	08 56 21.3	+0.2
	comp=Z,16nm,1.0s,baz=346,slow=8.1,SNR=8.3						
PCAB	**Cabril**	150.97 24	*e*	PKPbc	PKiKP	08 56 21.4	-0.1
PDG	**Podgorica**	151.39 341		⇑P	PKPbc	08 56 20.9	-0.9
PDG	**Podgorica**	151.39 341			PKPbc	08 56 21.3	-0.5
MSSA	**Maissana**	151.40 356			PKPbc	08 56 20.9	-1.0
MVO	**Moncorvo**	151.82 23	*e*	PKPbc	PKiKP	08 56 23.4	+0.1
FNA	**Florina**	152.10 336		PKIKP	PKPbc	08 56 22.8	-0.8
FNA	**Florina**	152.10 336			PKPbc	08 56 22.8	-0.8
ESDC	**Sonseca Array**	154.22 20		PKPbc	PKPbc	08 56 28.3	0.0
	comp=Z,1.6nm,0.7s,baz=348,slow=1.6,SNR=10						
ESDC	**Sonseca Array**	154.22 20			PKPbc	08 56 27.7	-0.6
ESDC					PKPab	08 56 42.0	0.0
MORF	**Marmelete**	154.34 30	*e*	PKPbc	PKPbc	08 56 28.3	-0.3
TOA0	**Torodi Ar. Sit**	174.17 115			PKPdf	08 56 36.6	-1.9
TOA0				PKPab	PKPab	08 58 09.3	-0.8
TORD	**Torodi Ar. Bea**	174.17 115		PKP	PKPdf	08 56 37.2	-1.3
	comp=Z,3.6nm,0.9s,baz=3.8,slow=2.2,SNR=13						
TORD				PKPab	PKPab	08 58 09.3	-0.9
	comp=Z,2.0nm,1.0s,baz=249,slow=3.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	174.17 115			PKPdf	08 56 36.5	-1.9
TORD					PKPab	08 58 09.0	-1.2

*IDC **31** 08:45:47.5±0.9,7°.15S×155°.07E, h0km, mb4.2/8, mb1 4.3/11,mb1mx4.0/45,mbtmp4.2/11,ML3.1/3,MS3.4/2, Ms1 3.4/2,ms1mx2.9/25, Error ellipse: s-maj=26.1km s-min=18.9km az=123.0*

*ISCJB **31** 08:45:51.5±0.4,7°.21S±0°.06×154°.97E±0°.05, h41km, mb4.1/9,MS3.9/1, Error ellipse: s-maj=9.1km s-min=6.7km az=139.3*

*NEIC **31** 08:45:52.7±1.0,7°.1S±0°.1×155°.00E±0°.08, h35km±1km, mb4.7/20*

ISC 31 08:45:53.2±0.7,**7°.19S**±0°.08×**155°.01E**±0°.09,**h41**km,**n44,** σ0**s76**/46,**mb4.6**/20,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**4.12**	**314**	Pn	**Pn**	**08 46 52.2**	**-1.4**
	7.4nm,0.3s,baz=120,slow=14,SNR=5.1						
KRVT				Sn	**Sn**	**08 47 41.8**	**+1.1**
	11nm,0.3s,baz=124,slow=22,SNR=3.6						
PMG	**Port Moresby**	**8.07**	**254**	Pn	**Pn**	**08 47 47.9**	**-0.1**
	1.3nm,0.3s,baz=57,slow=13,SNR=7.4						
PMG				Sn	**Sn**	**08 49 19.1**	**+1.1**
	0.8nm,0.3s,baz=276,slow=9.0,SNR=7.6						
PMG				LR	LR	08 51 04.6	
	comp=Z,115nm,18.3s,baz=76,slow=39						
COEN	**Coen**	**13.43**	**239**	Pn	**Pn**	**08 49 01.5**	**+0.1**
CTA	**Charters Tower**	**15.38**	**213**	Pn	**Pn**	**08 49 28.1**	**+0.6**
	0.1nm,0.3s,baz=33,slow=14,SNR=4.1						
MTN	**Manton Dam**	**24.16**	**255**	P	**P**	**08 51 05.6**	**-0.2**
MTN				IAmb	IAmb	08 51 08.1	
	comp=Z,33nm,1.2s						
AS31	**Alice Springs**	**26.05**	**229**	P	**P**	**08 51 21.9**	**-1.1**
ASAR	**Alice Springs**	**26.06**	**229**	P	**P**	**08 51 22.2**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=62,slow=8.7,SNR=24						
ASAR	**Alice Springs**	**26.06**	**229**	P	**P**	**08 51 21.7**	**-1.3**
KNRA	**Kununurra**	**27.05**	**250**	P	**P**	**08 51 32.0**	**0.0**
KNRA				IAmb	IAmb	08 51 32.9	
	comp=Z,22nm,1.1s						
STKA	**Stephens Creek**	**27.57**	**205**	P	**P**	**08 51 37.8**	**+1.3**
	comp=Z,7.8nm,0.9s,baz=21,slow=12,SNR=18						
STKA	**Stephens Creek**	**27.57**	**205**	P	**P**	**08 51 36.9**	**+0.5**
FITZ	**Fitzroy Crossi**	**30.59**	**246**	P	**P**	**08 52 03.3**	**-0.2**
FITZ				IAmb	IAmb	08 52 06.0	
	comp=Z,19nm,1.5s						
BBOO	**Buckleboo**	**30.98**	**212**	P	**P**	**08 52 05.6**	**-1.2**
BBOO				IAmb	IAmb	08 52 11.3	
	comp=Z,20nm,1.4s						
PSAD3	**Pilbara Seismi**	**36.90**	**243**	P	**P**	**08 52 57.0**	**-1.4**
KKM	**Kota Kinabalu**	**40.88**	**288**	P	**P**	**08 53 31.3**	**-0.4**
USRK	**Ussuriysk Ar.**	**55.21**	**340**	P	**P**	**08 55 21.2**	**-0.8**
ENH	**Enshi**	**57.38**	**313**	P	**P**	**08 55 37.8**	**0.0**
XAN	**Xi'an**	**59.85**	**316**	P	**P**	**08 55 54.4**	**-0.5**
XAN				IAmb	IAmb	08 55 55.0	
	comp=Z,6.9nm,1.0s						
CM31	**Chiang Mai Arr**	**60.88**	**296**	P	**P**	**08 56 02.7**	**+0.5**
CM31				IAmb	IAmb	08 56 05.4	
	comp=Z,4.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**60.88**	**296**	P	**P**	**08 56 02.9**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=124,slow=4.9,SNR=13						
CMAR	**Chiang Mai Arr**	**60.88**	**296**	P	**P**	**08 56 03.1**	**+0.9**
SHL	**Shillong**	**69.40**	**301**	P	**P**	**08 56 57.8**	**+0.2**
SHL				IAmb	IAmb	08 57 01.6	
	comp=Z,7.1nm,0.8s						
SONM	**Songino Array**	**69.50**	**327**	P	**P**	**08 56 58.0**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=106,slow=5.2,SNR=5.6						
SONM				LR	LR	09 26 19.9	
	comp=Z,69nm,21.2s,baz=75,slow=35						
SONM	**Songino Array**	**69.50**	**327**	P	**P**	**08 56 57.6**	**-0.2**
IMAR	**Indian Mountai**	**81.90**	**19**	P	**P**	**08 58 08.2**	**+0.1**
RND	**Reindeer**	**82.08**	**22**	P	**P**	**08 58 09.0**	**-0.1**
MCK	**McKinley**	**82.23**	**22**	P	**P**	**08 58 09.2**	**-0.6**
MCK				IAmb	IAmb	08 58 16.9	
	comp=Z,8.8nm,1.0s						
ILAR	**Eielson Array**	**83.55**	**21**	P	**P**	**08 58 16.2**	**-0.5**
	comp=Z,1.6nm,1.1s,baz=238,slow=5.4,SNR=8.2						
MK31	**Makanchi Array**	**83.56**	**319**	P	**P**	**08 58 17.8**	**+0.6**
MKAR	**Makanchi Array**	**83.56**	**319**	P	**P**	**08 58 17.5**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=98,slow=6.2,SNR=7.8						
MKAR	**Makanchi Array**	**83.56**	**319**	P	**P**	**08 58 17.4**	**+0.3**
BARN	**Barnard Glacie**	**83.80**	**26**	P	**P**	**08 58 18.4**	**+0.2**
BARN				IAmb	IAmb	08 58 27.4	
	comp=Z,4.9nm,1.0s						
CTGM	**Chitina Glacie**	**83.90**	**26**	P	**P**	**08 58 18.1**	**-0.6**
CTGM				IAmb	IAmb	08 58 20.5	
	comp=Z,9.7nm,0.9s						
BCAR	**Beaver Creek A**	**84.66**	**24**	P	**P**	**08 58 22.4**	**0.0**
HYT	**Haines Junctio**	**85.54**	**27**	P	**P**	**08 58 26.8**	**-0.1**
HYT				IAmb	IAmb	08 58 28.9	
	comp=Z,7.4nm,0.9s						
EPYK	**Eagle Plains**	**88.03**	**22**	P	**P**	**08 58 38.4**	**-0.5**
NVAR	**Mina Array Bea**	**91.83**	**52**	P	**P**	**08 58 57.9**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=250,slow=5.7,SNR=4.8						
NVAR	**Mina Array Bea**	**91.83**	**52**	P	**P**	**08 58 57.5**	**0.0**
BVAR	**Borovoye Array**	**92.45**	**323**	P	**P**	**08 59 02.2**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=48,slow=6.4,SNR=2.7						
YKA	**Yellowknife Ar**	**96.50**	**28**	P	**P**	**08 59 18.1**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=266,slow=4.6,SNR=13						
GERES	**GERESS Array B**	**127.22**	**329**	PKP	**PKPdf**	**09 04 53.9**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=332,slow=2.0,SNR=4.4						
GERES	**GERESS Array B**	**127.22**	**329**		**PKPdf**	**09 04 53.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**153.09**	**285**	PKPbc	**PKPbc**	**09 05 47.4**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=80,slow=2.1,SNR=5.6						
TORD	**Torodi Ar. Bea**	**153.09**	**285**		**PKPbc**	**09 05 47.1**	**-0.3**

*RSPR **31** 08:48:34.6,18°.91N×68°.40W, h96km±3km, MD3.4/9*
*NEIC **31** 08:48:35.8±2.0, 18°.9N±0°.2×68°.4W±0°.2, h76km±23km*
*OSPL **31** 08:48:38.3±0.4, 18°.81N×68°.28W, h75km±8km, MD3.7, ML2.7*

ISC 31 08:48:39.2±3.5,**18°.8N**±0°.1×**68°.2W**±0°.1,**h62**km±26km,**n40,** σ1**s46**/63,**13C-6D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.35**	**202**	⇑*e*P	**Pn**	**08 48 48.9**	**-0.9**
PCDR	**Punta Cana, DR**	**0.35**	**202**	⇑*e*P	**Pn**	**08 48 48.9**	**-0.9**
PCDR				*e*S	**Sn**	**08 48 58.0**	**+0.5**
PCDR	**Punta Cana, DR**	**0.35**	**202**	*i* P	**Pn**	**08 48 49.6**	**-0.3**
PCDR				*e*S	**Sn**	**08 48 57.7**	**+0.1**
PCDR				IAML		08 49 01.7	
	comp=Z,293nm,0.8s						
PCDR	**Punta Cana, DR**	**0.35**	**202**		**Pn**	**08 48 49.0**	**-0.9**
PCDR					**Sn**	**08 48 59.5**	**+2.0**
AGPR	**Aguadilla, PR**	**1.13**	**109**	⇑*e*P	**Pn**	**08 48 56.0**	**-3.1**
AGPR	**Aguadilla, PR**	**1.13**	**109**	⇑*e*P	**Pn**	**08 48 56.0**	**-3.1**
AGPR	**Aguadilla, PR**	**1.13**	**109**	*i* P	**Pn**	**08 48 58.0**	**-1.0**
AGPR				*e*S	**Sn**	**08 49 12.8**	**-1.0**
AGPR				IAML		08 49 19.6	
	comp=Z,166nm,0.2s						
AGPR	**Aguadilla, PR**	**1.13**	**109**		**Pn**	**08 48 58.0**	**-1.0**
AGPR				Sn	**Sn**	**08 49 14.6**	**+0.8**
MPR	**Mayaguez**	**1.22**	**121**	*i* P	**Pn**	**08 48 59.1**	**-1.0**
MPR				IAML		08 49 20.2	
	comp=Z,108nm,0.6s						
LSP	**Las Mesas**	**1.28**	**121**	⇑*e*P	**Pn**	**08 48 59.3**	**-1.7**
LSP	**Las Mesas**	**1.28**	**121**	⇑*e*P	**Pn**	**08 48 59.3**	**-1.7**
LSP				*e*S	**Sn**	**08 49 18.8**	**+1.5**
LSP	**Las Mesas**	**1.28**	**121**		**Pn**	**08 48 59.3**	**-1.7**
LSP					**Sn**	**08 49 18.8**	**+1.5**
CRPR	**Cabo Rojo, PR**	**1.35**	**127**	⇑*e*P	**Pn**	**08 49 00.1**	**-1.9**
CRPR	**Cabo Rojo, PR**	**1.35**	**127**	⇑*e*P	**Pn**	**08 49 00.1**	**-1.9**
CRPR				*e*S	**Sn**	**08 49 20.2**	**+1.2**
CRPR	**Cabo Rojo, PR**	**1.35**	**127**		**Pn**	**08 49 00.3**	**-1.6**
CRPR				Sn	**Sn**	**08 49 21.6**	**+2.6**
MLPR	**Magueyes Islan**	**1.43**	**127**	⇑*e*P	**Pn**	**08 49 00.8**	**-2.2**
MLPR	**Magueyes Islan**	**1.43**	**127**	*e*S	**Sn**	**08 49 22.7**	**+1.9**
MLPR	**Magueyes Islan**	**1.43**	**127**		**Pn**	**08 49 00.7**	**-2.2**
MLPR				Sn	**Sn**	**08 49 20.8**	**+0.1**
AOPR	**Arecibo Observ**	**1.49**	**109**	⇑*e*P	**Pn**	**08 49 02.4**	**-1.5**
AOPR	**Arecibo Observ**	**1.49**	**109**	⇑*e*P	**Pn**	**08 49 02.4**	**-1.5**
AOPR				*e*S	**Sn**	**08 49 23.6**	**+1.2**
AOPR	**Arecibo Observ**	**1.49**	**109**		**Pn**	**08 49 02.8**	**-1.0**
AOPR					**Sn**	**08 49 23.3**	**+0.9**
EMPR	**Esperanza - Ma**	**1.66**	**102**	*e*S	**Sn**	**08 49 27.0**	**+0.6**
EMPR	**Esperanza - Ma**	**1.66**	**102**	⇑*e*P	**Pn**	**08 49 04.8**	**-1.3**
EMPR	**Esperanza - Ma**	**1.66**	**102**		**Pn**	**08 49 05.8**	**-0.3**
OBIP	**Obispado Ponce**	**1.74**	**117**	⇓*e*P	**Pn**	**08 49 05.9**	**-1.3**
OBIP	**Obispado Ponce**	**1.74**	**117**	⇓*e*P	**Pn**	**08 49 05.9**	**-1.3**
OBIP				*e*S	**Sn**	**08 49 29.6**	**+1

*NEIC **31** 09:21:08.0±1.1,33°49N±0°01×116°49W±0°01,h16km±1km*
*ANF **31** 09:21:07.3±0.1,33°51N×116°48W,h14km±1km,ML3.0/26,*
Error ellipse: s-maj=1.3km s-min=1.1km az=69.0
*SCEDC **31** 09:21:08.6,33°50N×116°48W,h10km,ML3.1,ML3.1,*
ML3.1
*PAS **31** 09:21:08.6±1.4,33°502N±0°009×116°477W±0°009,*
h10km±2km,ML3.1

ISC 31 09:21:08.1±0.8,33°49N±0°01×116°48W±0°01,h13km±5km,
n132,σ0°64/195,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRD	**Ford Ranch, An**	**0.10**	**274**		**Pb**	**09 21 13.1**	**+1.1**
FRD	**Ford Ranch, An**	**0.10**	**274**		**Pb**	**09 21 13.1**	**+1.1**
PFO	**Pinyon Flats O**	**0.12**	**9**	P	**Pg**	**09 21 11.0**	**-0.5**
	baz=188,SNR=1000						
PFO				S	**Pb**	**09 21 12.9**	**+0.4**
	baz=188						
PFO	**Pinyon Flats O**	**0.12**	**9**		**Pb**	**09 21 12.9**	**+0.4**
PFO	**Pinyon Flats O**	**0.12**	**9**	Pg	**Pg**	**09 21 10.8**	**-0.7**
PFO				Sg	**Pb**	**09 21 12.9**	**+0.4**
XPFO	**Pion Flat**	**0.12**	**10**	Pg	**Pg**	**09 21 10.8**	**-0.7**
XPFO				Sg	**Pb**	**09 21 12.9**	**+0.4**
XPFO	**Pion Flat**	**0.12**	**10**		**Pb**	**09 21 12.9**	**+0.4**
SNDA	**J Saunders Pla**	**0.13**	**300**		**Pb**	**09 21 14.0**	**+1.5**
DNR	**Dunn Ranch,Anz**	**0.15**	**302**		**Pb**	**09 21 14.7**	**+1.8**
BZNA	**Buzz No.'s Pla**	**0.15**	**271**		**Pg**	**09 21 12.1**	**+0.2**
BZNA					**Sg**	**09 21 14.7**	**+0.1**
BORC	**Borrego Spring**	**0.23**	**166**		**Pg**	**09 21 13.3**	**+0.4**
BORC					**Sg**	**09 21 16.6**	**+0.4**
CRY	**Cary Ranch**	**0.23**	**290**		**Sg**	**09 21 16.6**	**+0.2**
GVDA	**Garner Valley**	**0.24**	**318**		**Pg**	**09 21 13.1**	**-0.2**
GVDA					**Sg**	**09 21 16.5**	**-0.3**
PLM	**Palomar**	**0.34**	**247**		**Pg**	**09 21 15.7**	**+0.5**
PLM					**Sg**	**09 21 20.7**	**+0.8**
POB	**Polly Butte**	**0.42**	**298**		**Pg**	**09 21 16.5**	**+0.1**
CTCC	**Cactus City**	**0.44**	**68**		**Pg**	**09 21 17.1**	**+0.2**
CTCC					**Sg**	**09 21 23.3**	**+0.5**
DEVC	**Devers**	**0.45**	**350**		**Pg**	**09 21 17.1**	**0.0**
DEVC					**Sg**	**09 21 22.8**	**-0.3**
EW2	**E Wide Canyon**	**0.46**	**8**		**Pg**	**09 21 17.1**	**-0.1**
EW2					**Sg**	**09 21 22.6**	**-0.7**
SALN	**Salton City**	**0.46**	**116**		**Pg**	**09 21 17.8**	**+0.5**
DGR	**Domenigoni Val**	**0.47**	**290**		**Pg**	**09 21 17.4**	**0.0**
DGR					**Sg**	**09 21 23.5**	**-0.1**
BACC	**Bachelor Mtn.**	**0.48**	**285**		**Pg**	**09 21 17.6**	**0.0**
BATC	**Bat Cave Butte**	**0.54**	**93**		**Pg**	**09 21 18.8**	**+0.2**
BLAC	**Blackrock camp**	**0.58**	**8**		**Pg**	**09 21 19.3**	**-0.3**
BLAC					**Sg**	**09 21 26.9**	**-0.5**
MONP2	**Monument Peak**	**0.60**	**175**	P	**Pg**	**09 21 20.1**	**+0.3**
	baz=356,SNR=108						
MONP2				S	**Sg**	**09 21 28.0**	**+0.2**
	baz=356						
MONP2	**Monument Peak**	**0.60**	**175**		**Pg**	**09 21 20.1**	**+0.3**
MONP2					**Sg**	**09 21 28.1**	**+0.4**
BBSC	**Beaumont Base**	**0.60**	**316**		**Pg**	**09 21 19.9**	**+0.1**
MURC	**Murrieta**	**0.61**	**281**	P	**Pg**	**09 21 19.8**	**-0.1**
	baz=99,SNR=56						
MURC				S	**Sg**	**09 21 28.0**	**+0.1**
	baz=99						
MURC	**Murrieta**	**0.61**	**281**		**Pg**	**09 21 19.9**	**-0.1**
MURC					**Sg**	**09 21 28.1**	**+0.1**
HWB	**Hans Werner Br**	**0.61**	**221**		**Pg**	**09 21 20.2**	**+0.2**
HWB					**Sg**	**09 21 28.2**	**+0.1**
CBKC	**Canebrake**	**0.62**	**162**		**Pg**	**09 21 20.3**	**+0.2**
DPP	**Dos Picos Cty**	**0.62**	**218**		**Pg**	**09 21 20.4**	**+0.1**
DPP					**Sg**	**09 21 28.6**	**+0.1**
BELC	**Belle Mtn. Jos**	**0.65**	**38**	P	**Pg**	**09 21 20.5**	**-0.3**
	baz=219,SNR=353						
BELC				S	**Sg**	**09 21 28.9**	**-0.5**
	baz=219						
BELC	**Belle Mtn. Jos**	**0.65**	**38**		**Pg**	**09 21 20.5**	**-0.3**
ERRC	**Elmore Ranch**	**0.67**	**124**		**Pb**	**09 21 22.3**	**+0.7**
EML	**El Monte Cty P**	**0.67**	**207**		**Pg**	**09 21 21.0**	**-0.2**
EML					**Sg**	**09 21 30.0**	**0.0**
PEC	**Perris**	**0.69**	**306**		**Pg**	**09 21 21.4**	**-0.2**
HAY	**Hayfield**	**0.70**	**72**		**Pg**	**09 21 22.2**	**+0.5**
GORC	**Green Oak Ranc**	**0.71**	**242**		**Pg**	**09 21 21.6**	**-0.3**
GORC					**Sg**	**09 21 31.9**	**+0.8**
FRK	**Frink**	**0.71**	**97**		**Pg**	**09 21 21.7**	**-0.2**
TPC	**Twentynine Pal**	**0.71**	**30**		**Pg**	**09 21 21.5**	**-0.5**
CRR	**Carrizo Plain**	**0.74**	**144**		**Pg**	**09 21 22.7**	**+0.3**
CFT	**Crafton Hills**	**0.76**	**316**		**Pg**	**09 21 22.7**	**-0.1**
CFT					**Sg**	**09 21 32.8**	**0.0**
SWSC	**Sam W. Stewart**	**0.79**	**133**	P	**Pg**	**09 21 23.1**	**-0.2**
	baz=315,SNR=112						
SWSC				S	**Sg**	**09 21 33.9**	**+0.2**
	baz=315						
SWSC	**Sam W. Stewart**	**0.79**	**133**		**Pg**	**09 21 23.2**	**-0.2**
SWSC					**Sg**	**09 21 34.1**	**+0.4**
109C	**Camp Elliot, M**	**0.79**	**221**	P	**Pg**	**09 21 23.2**	**-0.2**
	baz=40,SNR=124						
109C				S	**Sg**	**09 21 33.6**	**-0.3**
	baz=40						
109C	**Camp Elliot, M**	**0.79**	**221**		**Pg**	**09 21 23.2**	**-0.2**
109C				Sg	**Sg**	**09 21 33.8**	**-0.1**
SME	**Santa Rosa Min**	**0.80**	**295**		**Pg**	**09 21 23.2**	**-0.4**
SME					**Sg**	**09 21 33.6**	**-0.5**
SVD	**Seven Oaks Dam**	**0.80**	**320**		**Pg**	**09 21 23.4**	**-0.3**
SVD					**Sg**	**09 21 33.8**	**-0.4**
BAR	**Barrett**	**0.82**	**191**		**Pg**	**09 21 23.7**	**-0.3**
BAR	**Barrett**	**0.82**	**191**		**Sg**	**09 21 34.5**	**-0.3**
BAR	**Barrett**	**0.82**	**191**	Sg	**Sg**	**09 21 34.6**	**-0.2**
SDRC	**San Diego Road**	**0.84**	**207**		**Pg**	**09 21 23.9**	**-0.5**
SDRC					**Sg**	**09 21 34.8**	**-0.6**
BBRC	**Big Bear Solar**	**0.85**	**335**	P	**Pg**	**09 21 24.3**	**-0.4**
	baz=154,SNR=71						
BBRC				S	**Sg**	**09 21 35.6**	**-0.3**
	baz=154						
BBRC	**Big Bear Solar**	**0.85**	**335**		**Pg**	**09 21 24.3**	**-0.4**
BBRC					**Sg**	**09 21 35.4**	**-0.5**
RSBC	**Riverside Bore**	**0.85**	**305**		**Sg**	**09 21 35.2**	**-0.6**
CLIC	**Calipatria**	**0.87**	**113**		**Pg**	**09 21 24.7**	**-0.3**
BC3	**Big Chuckawall**	**0.88**	**79**	P	**Pg**	**09 21 24.7**	**-0.3**
	baz=260,SNR=148						
BC3				S	**Sg**	**09 21 36.2**	**-0.2**
	baz=260						
BC3	**Big Chuckawall**	**0.88**	**79**		**Pg**	**09 21 24.7**	**-0.3**
BC3					**Sg**	**09 21 36.9**	**+0.4**
BTL	**Butler Peak**	**0.88**	**331**		**Pg**	**09 21 24.9**	**-0.3**
IKP	**In-Ko-Pah, Jac**	**0.89**	**159**	P	**Pg**	**09 21 25.4**	**0.0**
	baz=340,SNR=153						
IKP				S	**Sg**	**09 21 37.1**	**0.0**
	baz=340						
IKP	**In-Ko-Pah, Jac**	**0.89**	**159**		**Pg**	**09 21 25.4**	**0.0**
IKP					**Sg**	**09 21 37.0**	**0.0**
COK2	**Cook Ranch 2**	**0.90**	**135**		**Pb**	**09 21 25.0**	**-0.6**
RVR	**Riverside**	**0.90**	**304**		**Pg**	**09 21 24.8**	**-0.7**
RVR					**Sg**	**09 21 37.0**	**-0.2**
TKX	**Tecate**	**0.92**	**187**		**Pb**	**09 21 24.6**	**-1.4**
TKX					**Sg**	**09 21 36.3**	**-1.7**
RMX	**La Rumorosa**	**0.95**	**159**		**Pb**	**09 21 27.0**	**+0.5**
RMX					**Sb**	**09 21 40.4**	**+1.4**
OLP	**Otay Lakes Par**	**0.96**	**203**		**Pb**	**09 21 25.9**	**-0.7**
OLP					**Sb**	**09 21 38.5**	**-0.6**
MLSC	**Mira Loma**	**1.04**	**300**		**Sb**	**09 21 41.1**	**-0.3**
CSP	**Cedar Springs**	**1.09**	**318**		**Pb**	**09 21 28.4**	**-0.5**
TJX	**Tijuana**	**1.09**	**206**		**Pb**	**09 21 28.5**	**-0.3**
TJX					**Sb**	**09 21 43.2**	**+0.3**
SSS	**San Sevaine**	**1.11**	**311**		**Pb**	**09 21 28.6**	**-0.5**
CHNC	**Chino**	**1.12**	**297**		**Pb**	**09 21 28.9**	**-0.5**
CHNC					**Sb**	**09 21 43.8**	**-0.1**
CBX	**Cerro Bola**	**1.18**	**187**		**Pn**	**09 21 30.2**	**-0.3**
CBX					**Sb**	**09 21 46.0**	**+0.2**
BFSC	**Mount Baldy Ra**	**1.23**	**308**	P	**Pn**	**09 21 30.3**	**-0.9**
	baz=127,SNR=41						
BFSC				S	**Sb**	**09 21 46.7**	**-0.6**
	baz=127						
BFSC	**Mount Baldy Ra**	**1.23**	**308**		**Pn**	**09 21 30.3**	**-0.9**
BFSC					**Sb**	**09 21 46.5**	**-0.7**
SSK	**Sunset Peak**	**1.24**	**306**		**Pn**	**09 21 30.7**	**-0.6**
PSRC	**Puddingstone R**	**1.26**	**299**		**Pn**	**09 21 31.2**	**-0.2**
PSRC					**Sb**	**09 21 47.5**	**-0.3**
VTV	**Victorville**	**1.28**	**327**		**Pn**	**09 21 31.3**	**-0.5**
VTV					**Sb**	**09 21 48.1**	**-0.5**
IRM	**Iron Mountain**	**1.30**	**59**	P	**Pn**	**09 21 31.0**	**-1.0**
	baz=240,SNR=200						
IRM	**Iron Mountain**	**1.30**	**59**		**Pn**	**09 21 31.0**	**-1.0**
PEM	**Pine Mountain**	**1.34**	**301**		**Pn**	**09 21 32.4**	**-0.1**
HEC	**Hector,Ludlow**	**1.34**	**5**	Pg	**Pn**	**09 21 32.9**	**+0.1**
	baz=185						
HEC	**Hector,Ludlow**	**1.34**	**5**		**Pn**	**09 21 32.8**	**+0.1**
XTL	**Crystal Lake,**	**1.40**	**305**		**Pn**	**09 21 33.2**	**-0.4**
RRX	**Edison Barstow**	**1.45**	**343**	Pg	**Pb**	**09 21 35.0**	**+0.1**
	baz=162						
RRX	**Edison Barstow**	**1.45**	**343**		**Sb**	**09 21 54.2**	**+0.9**
GLA	**Glamis**	**1.45**	**107**	P	**Pn**	**09 21 33.0**	**-1.2**
	baz=288,SNR=11						
GLA	**Glamis**	**1.45**	**107**		**Pn**	**09 21 33.1**	**-1.0**
GLA				Sn	**Sn**	**09 21 52.2**	**-0.9**
GMRC	**Granite Mounta**	**1.46**	**28**	P	**Pn**	**09 21 33.4**	**-1.0**
	baz=208,SNR=28						
GMRC	**Granite Mounta**	**1.46**	**28**		**Pb**	**09 21 35.8**	**+0.5**
GMRC					**Sb**	**09 21 53.9**	**+0.1**
HOLC	**Holcomb Ridge**	**1.49**	**311**		**Pn**	**09 21 35.0**	**+0.2**
MWC	**Mount Wilson**	**1.50**	**300**		**Pn**	**09 21 35.4**	**+0.4**
MWC				Sn	**Sb**	**09 21 55.7**	**+0.6**
ESJX	**Sierra Juarez**	**1.55**	**163**		**Pn**	**09 21 34.4**	**-1.2**
PASC	**Pasadena Art C**	**1.57**	**296**		**Pn**	**09 21 36.7**	**+0.9**
PASC				Sn	**Sn**	**09 21 56.0**	**0.0**
PASC	**Pasadena Art C**	**1.57**	**296**		**Sb**	**09 21 57.0**	**0.0**
CIS	**Catalina Islan**	**1.62**	**267**	P	**Pn**	**09 21 35.9**	**-0.5**
	baz=86,SNR=23						
CIS				Sb	**Sb**	**09 21 58.8**	**+0.6**
	baz=86						
SBB	**Saddle Back Bu**	**1.64**	**317**		**Pb**	**09 21 38.1**	**-0.1**
HYS	**Haystack Butte**	**1.64**	**327**		**Pb**	**09 21 38.5**	**+0.2**
Y12C	**Blythe**	**1.66**	**80**	P	**Pn**	**09 21 35.7**	**-1.2**
	baz=262,SNR=39						
Y12C	**Blythe**	**1.66**	**80**		**Pn**	**09 21 35.9**	**-1.0**
Y12C				Sn	**Sn**	**09 21 58.4**	**+0.4**
DSCC	**Desert Studies**	**1.68**	**11**		**Pb**	**09 21 39.6**	**+0.7**
DECC	**Green Verdugo**	**1.72**	**297**	Sb	**Sb**	**09 22 01.7**	**+0.5**
	baz=116						
GSC	**Goldstone, Bar**	**1.83**	**352**	Pg	**Pb**	**09 21 41.7**	**+0.2**
	baz=171						
GSC	**Goldstone, Bar**	**1.83**	**352**		**Pn**	**09 21 39.4**	**0.0**
GSC				Sn	**Sn**	**09 22 02.8**	**+0.3**
IR2C	**Iron Canyon**	**1.83**	**300**		**Pb**	**09 21 41.1**	**-0.4**
EDW2	**Edwards Air Fo**	**1.87**	**318**	Pg	**Pb**	**09 21 42.6**	**+0.4**
	baz=137						
EDW2				Sb	**Sb**	**09 22 06.5**	**+0.9**
	baz=137						
EDW2	**Edwards Air Fo**	**1.87**	**318**		**Pb**	**09 21 42.2**	**0.0**
LEOC	**Leona Valley**	**1.89**	**308**		**Pb**	**09 21 42.7**	**+0.1**
TUQ	**Turquoise Moun**	**2.00**	**13**	P	**Pn**	**09 21 41.3**	**-0.5**
	baz=193,SNR=19						
NEE2	**Needles Airpor**	**2.00**	**50**	Pg	**Pb**	**09 21 45.1**	**+0.7**
	baz=231,SNR=9.0						
NEE2	**Needles Airpor**	**2.00**	**50**		**Pb**	**09 21 45.3**	**+0.8**
OSI	**Osito Audit: C**	**2.17**	**302**	Sb	**Sb**	**09 22 15.1**	**+0.8**
	baz=120						
LRMC	**Laurel Mtn Rad**	**2.22**	**334**	Pg	**Pb**	**09 21 49.4**	**+1.2**
	baz=153,SNR=27						
BLG	**Laguna Peak, P**	**2.24**	**287**	Sb	**Sb**	**09 22 16.9**	**+0.8**
	baz=105						
113A	**Mohawk Valley,**	**2.39**	**107**	Pn	**Pn**	**09 21 48.4**	**+1.5**
ARVC	**Arvin**	**2.54**	**311**	Sb	**Sb**	**09 22 26.3**	**+1.6**
	baz=129						
W13A	**Hualapai Mount**	**2.68**	**53**		**Pn**	**09 21 50.8**	**-0.5**
W13A				Sn	**Sn**	**09 22 22.8**	**-1.0**
ISA	**Isabella, Lake**	**2.72**	**323**		**Pn**	**09 21 51.3**	**-0.3**
ISA				Sn	**Sn**	**09 22 24.9**	**+0.4**
DAC	**Darwin (Calif)**	**2.93**	**342**	Pn	**Pn**	**09 21 53.8**	**-0.8**
DAC				Sn	**Sn**	**09 22 28.4**	**-1.3**
Y14A	**Wickenburg**	**2.93**	**80**		**Pn**	**09 21 53.9**	**-0.6**
Y14A				Sn	**Sn**	**09 22 27.9**	**-1.7**
SHPR	**Sheep Range**	**3.20**	**19**	Pn	**Pn**	**09 21 57.9**	**-0.4**
SHPR				Sn	**Sn**	**09 22 36.9**	**+0.5**
214A	**Organ Pipe Nat**	**3.45**	**115**	Pn	**Pn**	**09 22 00.9**	**-0.7**
214A				Sn	**Sn**	**09 22 42.3**	**-0.1**
TPNV	**Topopah Spring**	**3.46**	**3**		**Pn**	**09 22 03.1**	**+1.3**
TPNV				Sn	**Sn**	**09 22 40.9**	**-1.9**
X16A	**Lo Mia Camp, P**	**4.29**	**76**		**Pn**	**09 22 13.7**	**+0.3**
X16A				Sn	**Sn**	**09 23 04.5**	**+1.1**
LCMT	**Little Creek M**	**4.40**	**36**		**Pn**	**09 22 15.3**	**+0.5**
LCMT				Sn	**Sn**	**09 23 05.1**	**-0.9**
U15A	**North Rim**	**4.52**	**48**		**Pn**	**09 22 17.3**	**+0.8**
OMMB	**Old Mammoth Mi**	**4.60**	**334**	Pn	**Pn**	**09 22 17.6**	**0.0**
KNB	**Kanab**	**4.62**	**39**	Pn	**Pn**	**09 22 18.9**	**+1.0**
MDPB	**Devils Postpil**	**4.64**	**334**	Pn	**Pn**	**09 22 18.2**	**0.0**
WUAZ	**Wupatki**	**4.68**	**63**	Pn	**Pn**	**09 22 19.3**	**+0.7**
NV11	**Mina Array Sit**	**5.12**	**345**	Pn	**Pn**	**09 22 25.0**	**+0.4**
PSUT	**Pine Spring**	**5.47**	**22**	Pn	**Pn**	**09 22 30.3**	**+0.8**
W18A	**Petrified Fore**	**5.81**	**72**	Pn	**Pn**	**09 22 36.1**	**+1.8**

WEL 31 09:28:05.7,40°S±2°×17°7E±°,h48km±3km,M3.7/43,
ML4.2/16,MLv3.7/43,Error ellipse: s-maj=0.0km
s-min=0.0km az=79.1,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHZ	**Kahuranaki**	**0.12**	**36**	P	Pn	09 28 13.5	+0.1
KAHZ				S	Sn	09 28 19.4	+0.6
PXZ	**Pawanui**	**0.15**	**158**	P	Pn	09 28 13.8	+0.3
PXZ				S	Sn	09 28 19.9	+0.8
CKHZ	**Cape Kidnapper**	**0.32**	**44**	P	Pn	09 28 15.0	+0.2
CKHZ				S	Sn	09 28 22.1	+0.8
WPHZ	**Waipukurau**	**0.32**	**237**	P	Pn	09 28 15.3	+0.5
WPHZ				S	Sn	09 28 22.5	+1.2
PRHZ	**Porangahau**	**0.40**	**197**	P	Pn	09 28 16.2	+0.6
PRHZ				S	Sn	09 28 23.9	+1.2
KRHZ	**Kereru**	**0.41**	**307**	P	Pn	09 28 15.7	0.0
KRHZ				S	Sn	09 28 22.6	-0.3
MCHZ	**McNeill Hill**	**0.45**	**351**	P	Pn	09 28 16.7	+0.5
PNHZ	**Pukenui**	**0.45**	**267**	P	Pn	09 28 16.5	+0.2
PNHZ				S	Sn	09 28 24.4	+0.6
KWHZ	**Kaweka Forest**	**0.54**	**329**	P	Pn	09 28 17.5	+0.1
ANWZ	**Angora Road**	**0.62**	**203**	P	Pn	09 28 18.7	+0.5
DVHZ	**Dannevirke**	**0.63**	**229**	P	Pn	09 28 18.8	+0.3
ARHZ	**Aropaoanui**	**0.65**	**14**	P	Pn	09 28 19.2	+0.6
TSZ	**Takapari Road**	**0.66**	**255**	P	Pn	09 28 19.1	+0.3
BHHZ	**Black Hill Sta**	**0.69**	**305**	P	Pn	09 28 19.5	+0.3
WHHZ	**Waihua**	**0.88**	**23**	P	Pn	09 28 22.1	+0.4
BFZ	**Birch Farm**	**0.89**	**207**	P	Pn	09 28 22.1	+0.2
PRWZ	**Pori Road**	**0.91**	**223**	P	Pn	09 28 22.8	+0.6
POWZ	**Post Office Ro**	**0.93**	**237**	P	Pn	09 28 22.8	+0.4
MOVZ	**Moawhango**	**0.93**	**301**	P	Pn	09 28 23.4	+0.9
RAHZ	**Arahi**	**1.00**	**13**	P	Pn	09 28 23.6	+0.3
MTHZ	**Maungataniwha**	**1.03**	**2**	P	Pn	09 28 24.0	+0.2
TUVZ	**Tukino**	**1.07**	**305**	P	Pn	09 28 25.7	+1.3
MRHZ	**Matea Rd**	**1.09**	**345**	P	Pn	09 28 25.3	+0.7
KNZ	**Kokohu**	**1.10**	**39**	P	Pn	09 28 24.4	-0.3
WHVZ	**Whangaehu Hut**	**1.11**	**303**	P	Pn	09 28 26.2	+1.2
CPWZ	**Castlepoint**	**1.11**	**204**	P	Pn	09 28 25.2	+0.3
TIWZ	**Tintock**	**1.12**	**218**	P	Pn	09 28 25.2	+0.2
TRVZ	**Turoa**	**1.12**	**301**	P	Pn	09 28 26.3	+1.1
DRZ	**Dome Shelter**	**1.13**	**303**	P	Pn	09 28 26.7	+1.4
HATZ	**Hinemaiaia**	**1.13**	**331**	P	Pn	09 28 25.9	+0.8
MTVZ	**Mangateitei**	**1.14**	**296**	P	Pn	09 28 26.6	+1.3
FWVZ	**Far West T-bar**	**1.15**	**303**	P	Pn	09 28 26.5	+0.9
RITZ	**Rihia Road**	**1.16**	**321**	P	Pn	09 28 26.7	+1.2
NGZ	**Ngauruhoe**	**1.16**	**307**	P	Pn	09 28 26.7	+1.0
OHWZ	**Ohakea**	**1.17**	**254**	P	Pn	09 28 27.5	+1.9
SNGZ	**Shannon Statio**	**1.19**	**21**	P	Pn	09 28 26.0	+0.1
KRVZ	**Karewarewa**	**1.19**	**311**	P	Pn	09 28 27.0	+1.0
MRZ	**Mangatainoka R**	**1.21**	**230**	P	Pn	09 28 26.1	0.0
WTVZ	**West Tongariro**	**1.21**	**309**	P	Pn	09 28 27.3	+1.1
KATZ	**Kakaramea**	**1.24**	**317**	P	Pn	09 28 27.8	+1.1
PKVZ	**Pokaka**	**1.26**	**298**	P	Pn	09 28 28.0	+1.0
RTZ	**Ruatahuna**	**1.28**	**7**	P	Pn	09 28 27.4	+0.2
PRGZ	**Paritu Road**	**1.28**	**42**	P	Pn	09 28 26.9	-0.3
RATZ	**Rangitukua**	**1.29**	**322**	P	Pn	09 28 28.1	+0.8
TWVZ	**Taurewa**	**1.33**	**308**	P	Pn	09 28 28.4	+0.5
ALRZ	**Allen Road**	**1.37**	**345**	P	Pn	09 28 28.7	+0.4
WHTZ	**Whakaora**	**1.38**	**332**	P	Pn	09 28 29.5	+0.9
WAZ	**Wanganui**	**1.40**	**275**	P	Pn	09 28 30.8	+2.0
TMWZ	**Te Maipa**	**1.40**	**209**	P	Pn	09 28 28.3	-0.5
HOWZ	**Holdsworth Sta**	**1.40**	**224**	P	Pn	09 28 28.5	-0.3
RIGZ	**Rimuhau**	**1.40**	**33**	P	Pn	09 28 28.5	-0.3
MUGZ	**Murupara**	**1.41**	**359**	P	Pn	09 28 28.9	0.0
PRRZ	**Plateau Road**	**1.42**	**347**	P	Pn	09 28 29.4	+0.4
WATZ	**Wairara**	**1.44**	**325**	P	Pn	09 28 29.7	+0.4
WPRZ	**Whakapapatarin**	**1.45**	**340**	P	Pn	09 28 29.7	+0.2
RAGZ	**Rawiri**	**1.47**	**20**	P	Pn	09 28 29.7	-0.2
OGWZ	**Otaki Gorge**	**1.54**	**233**	P	Pn	09 28 30.5	-0.3
HRRZ	**Handcock Road**	**1.55**	**345**	P	Pn	09 28 31.2	+0.4
RRRZ	**Republican Roa**	**1.56**	**352**	P	Pn	09 28 31.1	+0.1
KUTZ	**Kaahu Road**	**1.59**	**331**	P	Pn	09 28 31.8	+0.5
MTW	**Mount Morrison**	**1.60**	**217**	P	Pn	09 28 30.6	-1.0
GRRZ	**Galatos Road**	**1.62**	**341**	P	Pn	09 28 32.5	+0.6
HSRZ	**Hossack Road**	**1.63**	**345**	P	Pn	09 28 32.3	+0.3
URZ	**Urewera**	**1.65**	**9**	P	Pn	09 28 31.7	-0.5
MWZ	**Matawai**	**1.66**	**21**	P	Pn	09 28 31.8	-0.5
TARZ	**Mount Tarawera**	**1.67**	**352**	P	Pn	09 28 32.9	+0.4
TKGZ	**Te Karaka**	**1.67**	**30**	P	Pn	09 28 31.9	-0.5
HLRZ	**Highlands Stat**	**1.67**	**348**	P	Pn	09 28 34.0	+1.5
TRWZ	**Traveller**	**1.73**	**209**	P	Pn	09 28 32.1	-1.2
KIW	**Kapiti Island**	**1.73**	**235**	P	Pn	09 28 33.2	-0.2
VRZ	**Vera Road**	**1.75**	**295**	P	Pn	09 28 34.3	+0.8
MKRZ	**Makatiti**	**1.77**	**352**	P	Pn	09 28 34.4	+0.5
UTU	**Utuhina**	**1.77**	**345**	P	Pn	09 28 34.4	+0.5
EDRZ	**Edgecumbe**	**1.78**	**359**	P	Pn	09 28 34.0	-0.1
CNGZ	**Carnagh Statio**	**1.78**	**39**	P	Pn	09 28 33.5	-0.5
CAW	**Cannon Point**	**1.79**	**227**	P	Pn	09 28 33.4	-0.8
OMRZ	**Omania**	**1.81**	**350**	P	Pn	09 28 34.4	0.0
PAWZ	**Paruwai Farm**	**1.82**	**214**	P	Pn	09 28 33.5	-1.0
TLZ	**Tolley Road**	**1.83**	**328**	P	Pn	09 28 34.9	+0.1
NGRZ	**Ngongotaha**	**1.84**	**345**	P	Pn	09 28 35.6	+0.7
LREZ	**Lake Rotokare**	**1.89**	**282**	P	Pn	09 28 37.4	+1.9
MARZ	**Manawahe**	**1.90**	**357**	P	Pn	09 28 36.0	+0.3
KARZ	**Kaharoa**	**1.91**	**347**	P	Pn	09 28 35.9	+0.1
MSWZ	**Moikau Station**	**1.92**	**217**	P	Pn	09 28 34.4	-1.6
HIZ	**Hauiti**	**2.04**	**312**	P	Pn	09 28 37.9	+0.5
WHRZ	**Whale Island**	**2.04**	**4**	P	Pn	09 28 37.3	-0.2
RUGZ	**Raukumara Rang**	**2.04**	**20**	P	Pn	09 28 37.1	-0.6
PLWZ	**Palliser**	**2.04**	**214**	P	Pn	09 28 36.1	-1.5
OPRZ	**Ohinepanea**	**2.05**	**355**	P	Pn	09 28 37.2	-0.5
MHEZ	**Mangahewa**	**2.07**	**292**	P	Pn	09 28 39.8	+1.8
PREZ	**Palmer Road**	**2.10**	**284**	P	Pn	09 28 40.8	+2.3
BHW	**Baring Head**	**2.10**	**223**	P	Pn	09 28 37.1	-1.3
DREZ	**Durham Road**	**2.12**	**288**	P	Pn	09 28 40.7	+2.1
PUZ	**Puketiti**	**2.15**	**33**	P	Pn	09 28 37.7	-1.3
TGRZ	**Tauranga**	**2.19**	**349**	P	Pn	09 28 39.4	-0.2
KHEZ	**Kahui Hut**	**2.22**	**285**	P	Pn	09 28 42.6	+2.5
PKGZ	**Pakihiroa**	**2.24**	**27**	P	Pn	09 28 39.6	-0.6
HAZ	**Te Kaha**	**2.27**	**20**	P	Pn	09 28 39.5	-1.2
PKE	**Pukeiti**	**2.27**	**287**	P	Pn	09 28 42.9	+2.1
NMEZ	**Namu Road**	**2.30**	**281**	P	Pn	09 28 48.0	+6.9
TCW	**Tory Channel**	**2.33**	**235**	P	Pn	09 28 40.4	-1.1
NBEZ	**Newall Road No**	**2.34**	**284**	P	Pn	09 28 44.2	+2.6
DUWZ	**D'Urville Isla**	**2.37**	**246**	P	Pn	09 28 41.9	-0.2
TOZ	**Tahuroa Road**	**2.38**	**335**	P	Pn	09 28 42.3	+0.2
WIZ	**White Island**	**2.38**	**8**	P	Pn	09 28 41.2	-0.9
WMGZ	**Waiomat

KURK			⇑Lg	Lg	10 12 29.0	
	41nm,0.7s					
MAKZ	**Makanchi**	**6.89 125**	⇑Lg	Lg	10 14 24.9	
	12nm,0.8s					
MK31	**Makanchi Array**	**7.06 124**	Lg	Lg	10 14 33.1	
	11nm,0.9s,baz=306,slow=25,SNR=3.0					
MDOK	**Medeo**	**8.22 163**	Lg	Lg	10 15 12.8	
	10nm,0.8s					
TKM2	**Tokmak 2**	**8.25 171**	⇑Lg	Lg	10 15 08.6	
	11nm,0.8s					
KK31	**Karatay Array**	**8.28 197**	Lg	Lg	10 15 10.4	
	4.9nm,0.8s,baz=15,slow=27,SNR=3.6					

*SJA **31** 10:20:12.3±0.4,21°.11S×68°.82W,h110km±4km,ML2.7, MW2.7*
*ISCJB **31** 10:20:13.5±0.9,21°.17S±0°.03×68°.90W±0°.09, h120km±10km, Error ellipse: s-maj=13.4km s-min=4.4km az=0.9*
*GUC **31** 10:20:13.1±0.7,21°.16S×68°.91W,h115km±5km,ML2.7*

ISC 31 10:20:13.1±1.6,**21°.14S**±0°.03×**68°.86W**±0°.08, **h120**km±13km**,n20,**σ0**.95**/34**,1C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.74**	**208**	*eP*		**Pn**		**10 20 33.0**	**0.0**
PB09				*i* S		**Sn**		**10 20 47.5**	**-0.6**
PB09				IAML				10 20 48.5	
	comp=N,169nm,0.6s								
PB09	**IPOC Station P**	**0.74**	**208**	*i* P		**Pn**		**10 20 32.5**	**-0.6**
PB09				*e*S		**Sn**		**10 20 47.1**	**-1.0**
PB08	**IPOC Station P**	**1.03**	**345**	*e*P		**Pn**		**10 20 36.4**	**+0.4**
PB08				*i* S		**Sn**		**10 20 53.4**	**+0.3**
PB08				IAML				10 20 54.8	
	comp=E,227nm,0.6s								
PB03	**IPOC Station P**	**1.23**	**222**	*e*P		**Pn**		**10 20 37.6**	**-0.1**
PB03				*i* S		**Sn**		**10 20 55.6**	**-0.7**
PB03				IAML				10 20 56.5	
	comp=N,188nm,0.5s								
LVC	**Limon Verde**	**1.47**	**182**	*i* P		**Pn**		**10 20 40.5**	**-0.1**
LVC				*e*S		**Sn**		**10 21 01.3**	**0.0**
GO01	**Chusmiza**	**1.50**	**348**	*e*P		**Pn**		**10 20 41.1**	**0.0**
GO01				*i* S		**Sn**		**10 21 03.4**	**+1.2**
PB11	**IPOC Station P**	**1.56**	**331**	*e*P		**Pn**		**10 20 41.9**	**+0.4**
PB11				*i* S		**Sn**		**10 21 03.9**	**+0.9**
PB04	**IPOC Station P**	**1.69**	**225**	*e*P		**Pn**		**10 20 42.7**	**-0.3**
PB04				*i* S		**Sn**		**10 21 05.7**	**0.0**
PB04				IAML				10 21 10.0	
	comp=N,88nm,0.2s								
PB04	**IPOC Station P**	**1.69**	**225**	*i* P		**Pn**		**10 20 43.5**	**+0.5**
PB06	**IPOC Station P**	**1.69**	**203**	*e*P		**Pn**		**10 20 42.9**	**-0.2**
PB06				*i* S		**Sn**		**10 21 05.5**	**-0.3**
PB06				IAML				10 21 06.0	
	comp=E,104nm,0.4s								
PB06	**IPOC Station P**	**1.69**	**203**	*i* P		**Pn**		**10 20 43.0**	**0.0**
PB06				*e*S		**Sn**		**10 21 06.1**	**+0.3**
PSGC	**Pisagua**	**1.94**	**322**	*e*P		**Pn**		**10 20 46.0**	**0.0**
PSGC				*i* S		**Sn**		**10 21 11.6**	**+0.6**
PB05	**IPOC Station P**	**2.11**	**216**	⇑*i* P		**Pn**		**10 20 48.1**	**0.0**
PB05				*i* S		**Sn**		**10 21 14.7**	**-0.3**
PB05				IAML				10 21 17.7	
	comp=N,25nm,0.3s								
PB05	**IPOC Station P**	**2.11**	**216**	*i* P		**Pn**		**10 20 48.2**	**+0.1**
MNMC	**Minye Minye**	**2.11**	**341**	*e*P		**Pn**		**10 20 49.4**	**+1.1**
MNMC				*i* S		**Sn**		**10 21 15.5**	**+1.3**
PB15	**IPOC Station P**	**2.14**	**195**	*e*P		**Pn**		**10 20 48.4**	**-0.1**
PB15				*i* S		**Sn**		**10 21 15.5**	**-0.1**
PB15	**IPOC Station P**	**2.14**	**195**	*i* P		**Pn**		**10 20 48.9**	**+0.4**
PB15				IAML				10 21 24.2	
	comp=Z,146nm,0.1s								
PB14	**IPOC Station P**	**3.75**	**202**	*i* P		**Pn**		**10 21 10.5**	**+0.9**
HJA	**Humahuaca**	**3.80**	**123**	*i* P		**Pn**		**10 21 11.9**	**+1.5**
HJA				IAML				10 21 13.6	
	comp=Z,3.1nm,0.6s								
LPAZ	**La Paz**	**4.87**	**8**	*i* P		**Pn**		**10 21 21.1**	**-3.9**

*GCG **31** 10:21:36.8±3.0, 12°.65N×93°.95W,h50km±999km,MD4.7*
*UCR **31** 10:21:42.6±7.2, 12°.91N×93°.35W,h0km±882km,MD4.2, mb4.6(NEIC)*
*ISCJB **31** 10:22:03.8±0.2, 14°.03N±0°.03×92°.12W±0°.02,h46km, mb4.4/40,MS4.1/16, Error ellipse: s-maj=4.3km s-min=2.6km az=21.5*
*MEX **31** 10:22:03.3±0.8, 13°.89N×92°.48W,h6km±35km,MD4.6*
*MOS **31** 10:22:05.0±1.2, 14°.11N×91°.98W,h53km, mb4.7/21, Error ellipse: s-maj=15.4km s-min=5.8km az=108.7*
*IDC **31** 10:22:05.2±2.3, 13°.81N×92°.38W,h50km±18km, mb4.0/15, mb1 4.2/20,mb1mx4.0/44, mbtmp4.3/20,ML3.6/5,MS4.0/16, Ms1 4.0/16,ms1mx3.8/27, Error ellipse: s-maj=19.8km s-min=9.7km az=27.0*
*NEIC **31** 10:22:05.1±2.7, 13°.97N±0°.05×92°.25W±0°.05,h48km±5km, mb4.6/200,Md4.6(MEX)*

ISC 31 10:22:04.4±0.4,**13°.89N**±0°.06×**92°.35W**±0°.05,**h46**km,**n607,** σ1**.45**/609,**mb4.5**/108,**MS4.1**/16,**2C-8D, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.94**	**54**	*e*P		**Pn**		**10 22 21.1**	**-0.2**
THIG		**1.02**	**5**	*e*P		**Pn**		**10 22 20.7**	**-1.7**
THIG				*e*S		**Sn**		**10 22 34.4**	**-1.1**
THIG		**1.02**	**5**			**Pn**		**10 22 20.7**	**-1.7**
THIG						**Sn**		**10 22 34.4**	**-1.1**
STG3	**Santiaguito 3,**	**1.12**	**43**	*e*P		**Pn**		**10 22 22.8**	**-1.1**
STG3				*e*S		Sn		10 23 00.3	+22
FUG	**Fuego 3**	**1.57**	**69**	*e*P		**Pn**		**10 22 28.8**	**-1.2**
FUG				*e*S		Sn		10 23 05.7	+17
FUG	**Fuego 3**	**1.57**	**69**	*e*P		**Pn**		**10 22 28.8**	**-1.2**
FUG				*e*S		Sn		10 23 05.7	+17
PCG	**Pacaya**	**1.77**	**73**	*e*P		**Pn**		**10 22 32.3**	**-0.5**
PCG				*e*S		Sn		10 23 15.9	+22
PCG	**Pacaya**	**1.77**	**73**	*e*P		**Pn**		**10 22 32.3**	**-0.5**
PCG				*e*S		Sn		10 23 15.9	+22
IXG	**Ixpaco**	**1.88**	**81**	*e*P		**Pn**		**10 22 32.3**	**-1.9**
IXG				*e*S		Sn		10 23 15.3	+19
IXG	**Ixpaco**	**1.88**	**81**	*e*P		**Pn**		**10 22 32.3**	**-1.9**
IXG				*e*S		Sn		10 23 15.3	+19
PCIG		**1.99**	**335**	*e*P		**Pn**		**10 22 33.6**	**-2.0**
PCIG				*i* S		**Sn**		**10 22 56.3**	**-3.2**
PCIG		**1.99**	**335**			**Pn**		**10 22 33.6**	**-2.0**
PCIG						**Sn**		**10 22 56.3**	**-3.2**
NBG	**Las Nubes**	**2.06**	**70**	*e*P		**Pn**		**10 22 37.9**	**+0.9**
NBG				*e*S		Sn		10 23 15.5	+14
NBG	**Las Nubes**	**2.06**	**70**	*e*P		**Pn**		**10 22 37.9**	**+0.9**
NBG				*e*S		Sn		10 23 15.5	+14
APG	**El Apazote**	**2.14**	**58**	P		**Pn**		**10 22 38.3**	**+0.4**
	42nm,0.3s,baz=256,slow=23,SNR=495								
APG				S		**Sn**		**10 23 07.2**	**+3.9**
	119nm,0.3s,baz=360,slow=10,SNR=6.6								
MRL	**Marmol**	**2.84**	**65**	*e*P		**Pn**		**10 22 51.0**	**+3.4**
MRL				*e*S		Sn		10 23 32.4	+12
MRL	**Marmol**	**2.84**	**65**	*e*P		**Pn**		**10 22 51.0**	**+3.4**
MRL				*e*S		Sn		10 23 32.4	+12
SNET	**Serv Nac Est T**	**3.04**	**93**			**Pn**		**10 22 49.3**	**-0.8**
SNET					Sn	**Sn**		**10 23 23.7**	**-1.6**
CMIG	**Matias Romero**	**4.01**	**323**	P		**Pn**		**10 23 03.0**	**-0.5**
	2.7nm,0.3s,baz=158,slow=12,SNR=38								
CMIG				S		**Sn**		**10 23 50.9**	**+1.7**
	15nm,0.3s,baz=44,slow=10.0,SNR=5.2								
CMIG	**Matias Romero**	**4.01**	**323**	*e*P		**Pn**		**10 23 02.1**	**-1.3**
CMIG				*i* S		**Sn**		**10 23 46.4**	**-2.8**
CMIG	**Matias Romero**	**4.01**	**323**			**Pn**		**10 23 02.1**	**-1.3**
HUIG	**Huatulco**	**4.09**	**298**	*e*P		**Pn**		**10 23 02.2**	**-2.2**
HUIG				*i* S		**Sn**		**10 23 47.2**	**-3.8**
HUIG	**Huatulco**	**4.09**	**298**			**Pn**		**10 23 02.2**	**-2.2**
TGUH	**Tegucigalpa,Un**	**4.93**	**87**			**Pn**		**10 23 14.3**	**-1.9**
VHO	**Vista Hermosa**	**5.28**	**307**	*e*P		**Pn**		**10 23 21.2**	**+0.2**
VHO				*e*S		**Sn**		**10 24 20.1**	**-0.6**
ESTN	**Estel**	**5.87**	**97**			**Pn**		**10 23 27.3**	**-1.7**
ACON	**Acoyapa**	**7.25**	**104**			**Pn**		**10 23 46.9**	**-1.0**
TEIG	**Tepich**	**7.41**	**31**	LR		LR		10 27 06.9	
	comp=Z,2μm,20.5s,slow=40								
TEIG	**Tepich**	**7.41**	**31**			**Pn**		**10 23 50.0**	**-0.1**
ESPN	**Las Esperanzas**	**8.02**	**101**			**Pn**		**10 23 58.4**	**-0.1**
JTS	**Las Juntas de**	**8.07**	**115**	*e*P		**Pn**		**10 24 00.0**	**+0.8**
JTS	**Las Juntas de**	**8.07**	**115**	P		**Pn**		**10 23 59.1**	**-0.1**
	1.4nm,0.3s,baz=16,slow=18,SNR=6.0								
JTS	**Las Juntas de**	**8.07**	**115**			**Pn**		**10 23 59.6**	**+0.4**
JTS					Sn	**Sn**		**10 25 27.9**	**-1.2**
MOIG	**Morelia**	**10.23**	**305**			**Pn**		**10 24 30.2**	**+1.2**
833A	**Chaparral WMA,**	**15.79**	**337**	P		**Pn**		**10 25 44.7**	**+1.0**
	baz=153								
833A	**Chaparral WMA,**	**15.79**	**337**			**Pn**		**10 25 43.5**	**-0.2**
833A				IAmb		IAmb		10 25 55.4	
	comp=Z,79nm,1.6s								
061Z	**Ochoppi**	**16.04**	**40**	Pn		**Pn**		**10 25 46.2**	**-0.8**
HKT	**Hockley**	**16.31**	**349**	‖*eP*		**P**		**10 25 52.0**	**-0.5**
HKT				pmax		pmax			
	comp=Z,25nm,1.8s								
HKT	**Hockley**	**16.31**	**349**	Pn		**Pn**		**10 25 49.8**	**-0.4**
HKT				IAmb		IAmb		10 25 53.0	
	comp=Z,56nm,1.9s								
060A	**Indiantown**	**17.23**	**39**	P		**Pn**		**10 26 01.5**	**-0.3**
	baz=222								
DWPF	**Disney Wildern**	**17.42**	**34**	P		**Pn**		**10 26 04.2**	**-0.1**
	baz=217								
435B	**Jarrell**	**17.49**	**345**	P		**P**		**10 26 07.4**	**+1.6**
	baz=162								
553A	**Crawfordville**	**17.80**	**23**	P		**Pn**		**10 26 07.9**	**-0.9**
553A				IAmb		IAmb		10 26 29.9	
	comp=Z,54nm,1.1s								
BRAL	**Brewton**	**17.88**	**15**	P		**P**		**10 26 10.2**	**+0.2**
	baz=196								
JCT	**Junction City**	**17.89**	**339**	P		**P**		**10 26 12.5**	**+2.4**
	baz=155								
JCT	**Junction City**	**17.89**	**339**	P		**P**		**10 26 10.4**	**+0.2**
JCT				pmax		pmax			
	comp=Z,12nm,1.0s								
JCT	**Junction City**	**17.89**	**339**	P		**P**		**10 26 10.4**	**+0.2**
656A	**Willston**	**17.89**	**29**	P		**Pn**		**10 26 09.4**	**-0.6**
656A				IAmb		IAmb		10 26 13.7	
	comp=Z,56nm,0.8s								
NATX	**Nacogdoches**	**17.92**	**354**	P		**P**		**10 26 11.4**	**+1.0**
	baz=172								
NATX	**Nacogdoches**	**17.92**	**354**	P		**Pn**		**10 26 09.8**	**-0.5**
NATX				IAmb		IAmb		10 26 12.6	
	comp=Z,74nm,1.7s								
VBMS	**Vicksburg**	**18.32**	**5**	P		**Pn**		**10 26 15.1**	**-0.2**
	baz=185								
VBMS	**Vicksburg**	**18.32**	**5**	P		**P**		**10 26 14.6**	**-0.3**
VBMS				IAmb		IAmb		10 26 25.0	
	comp=Z,48nm,1.4s								
TXAR	**Lajitas Array**	**18.61**	**328**	P		**Pn**		**10 26 20.5**	**+1.7**
TXAR	**Lajitas Array**	**18.61**	**328**	P		**Pn**		**10 26 20.7**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=150,slow=9.1,SNR=35								
TXAR	**Lajitas Array**	**18.61**	**328**	P		**Pn**		**10 26 20.5**	**+1.7**
TX31	**Lajitas Ar. Si**	**18.61**	**328**			**Pn**		**10 26 19.9**	**+1.2**
TX31				IAmb		IAmb		10 26 24.1	
	comp=Z,44nm,1.8s								
TX32	**Lajitas Array**	**18.61**	**328**	P		**Pn**		**10 26 19.8**	**+1.0**
TX32				IAmb		IAmb		10 26 24.1	
	comp=Z,44nm,1.8s								
WHTX	**Lake Whitney,**	**18.62**	**346**	P		**Pn**		**10 26 19.5**	**+0.7**
	baz=164								
WHTX	**Lake Whitney,**	**18.62**	**346**	P		**P**		**10 26 18.3**	**+0.2**
352A	**Blakely**	**18.79**	**20**	P		**P**		**10 26 19.7**	**-0.3**
	baz=202								
GUY2C	**Guyana, Caldas**	**18.82**	**116**	*e*P		**Pn**		**10 26 22.7**	**+0.8**
GUY2C	**Guyana, Caldas**	**18.82**	**116**	*e*P		**Pn**		**10 26 22.7**	**+0.8**
353A	**Camilla**	**18.92**	**22**	P		**P**		**10 26 20.5**	**-0.9**
	baz=204								
PTBC	**PUERTO BERRIO,**	**19.05**	**111**	*e*P		**P**		**10 26 21.6**	**-1.5**
PTBC	**PUERTO BERRIO,**	**19.05**	**111**	*e*P		**P**		**10 26 21.6**	**-1.5**
NORC	**Norcasia**	**19.10**	**114**	*e*P		**P**		**10 26 24.1**	**+0.5**
NORC	**Norcasia**	**19.10**	**114**	*e*P		**P**		**10 26 24.1**	**+0.5**
TIGA	**Tifton**	**19.23**	**23**	P		**P**		**10 26 24.1**	**-0.8**
	baz=206								
Z41A	**Richland Creek**	**19.29**	**359**	P		**P**		**10 26 25.7**	**+0.3**
	baz=178								
Z41A	**Richland Creek**	**19.29**	**359**	P		**P**		**10 26 25.5**	**+0.1**
Z41A				IAmb		IAmb		10 26 31.1	
	comp=Z,31nm,1.0s								
OTAV	**Otavalo**	**19.32**	**133**	*e*P		**P**		**10 26 26.3**	**-0.2**
OTAV	**Otavalo**	**19.32**	**133**	P		**P**		**10 26 25.9**	**-0.5**
252A	**Lumpkin**	**19.33**	**20**	P		**P**		**10 26 25.5**	**-0.4**
	baz=202								
OCAC	**Ocana**	**19.50**	**105**	*e*P		**P**		**10 26 27.5**	**-0.6**
OCAC	**Ocana**	**19.50**	**105**	*e*P		**P**		**10 26 27.5**	**-0.6**
ORTC	**Ortega, Tolima**	**19.57**	**119**	*e*P		**Pn**		**10 26 29.9**	**-0.5**
ORTC	**Ortega, Tolima**	**19.57**	**119**	*e*P		**Pn**		**10 26 29.9**	**-0.5**
253A	**Americus**	**19.59**	**21**	P		**P**		**10 26 28.4**	**-0.5**
	baz=204								
LRAL	**Lakeview Retre**	**19.68**	**13**	P		**P**		**10 26 29.4**	**-0.3**
	baz=195								
LRAL	**Lakeview Retre**	**19.68**	**13**	P		**P**		**10 26 30.4**	**+0.7**
LRAL				IAmb		IAmb		10 26 50.9	
	comp=Z,60nm,2.0s								
254A	**Abbeville**	**19.80**	**23**	P		**P**		**10 26 30.6**	**-0.5**
	baz=206								
ABTX	**Abilene, Hawle**	**19.80**	**342**	P		**Pn**		**10 26 33.2**	**+0.2**
	baz=158,SNR=11								
ABTX	**Abilene, Hawle**	**19.80**	**342**	P		**Pn**		**10 26 32.8**	**-0.2**
ROSC	**El Rosal**	**19.92**	**115**	P		**Pn**		**10 26 34.6**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=82,slow=5.2,SNR=6.6								
ROSC	**El Rosal**	**19.92**	**115**	P		**P**		**10 26 31.7**	**-1.2**
CCAR	**Cave Creek**	**19.95**	**1**	P		**P**		**10 26 32.1**	**-0.5**
152A	**Waverly Hall**	**19.95**	**19**	P		**P**		**10 26 33.5**	**+0.8**
	baz=202,SNR=7.1								
152A	**Waverly Hall**	**19.95**	**19**	P		**P**		**10 26 33.0**	**+0.2**
255A	**Hazlehurst**	**20.11**	**25**	P		**P**		**10 26 34.0**	**-0.4**
	baz=208								
255A	**Hazlehurst**	**20.11**	**25**	P		**P**		**10 26 34.3**	**-0.1**
Z50A	**Ashland**	**20.15**	**16**	P		**P**		**10 26 34.4**	**-0.5**
	baz=198								
Z50A	**Ashland**	**20.15**	**16**	P		**P**		**10 26 34.3**	**-0.5**
BARC	**Barichara**	**20.20**	**109**	*e*P		Pn		10 26 37.6	-0.4
BARC	**Barichara**	**20.20**	**109**	*e*P		Pn		10 26 37.6	-0.4
256A	**Glennville**	**20.40**	**26**	P		**P**		**10 26 37.1**	**-0.5**
	baz=210								
Z51A	**Franklin**	**20.42**	**17**	P		Pn		10 26 39.1	-1.1
154A	**Montrose**	**20.46**	**23**	P		**P**		**10 26 38.0**	**-0.3**
	baz=206								
154A	**Montrose**	**20.46**	**23**	P		**P**		**10 26 37.9**	**-0.3**
154A				IAmb		IAmb		10 27 01.6	
	comp=Z,36nm,0.9s								
X40A	**Basin Creek Fa**	**20.52**	**359**	P		**P**		**10 26 39.6**	**+0.8**
	baz=178								
X40A	**Basin Creek Fa**	**20.52**	**359**	P		**P**		**10 26 38.9**	**+0.1**
X40A				IAmb		IAmb		10 26 59.3	
	comp=Z,32nm,1.8s								
Z52A	**Williamson**	**20.53**	**19**	P		**P**		**10 26 38.8**	**-0.2**
	baz=202								
CHIC	**Chingaza**	**20.53**	**115**	*e*P		**P**		**10 26 40.4**	**+0.8**
CHIC	**Chingaza**	**20.53**	**115**	*e*P		**P**		**10 26 40.4**	**+0.8**
RUSC	**La Rusia**	**20.56**	**111**	*e*P		**P**		**10 26 39.3**	**-0.7**
RUSC	**La Rusia**	**20.56**	**111**	*e*P		**P**		**10 26 39.3**	**-0.7**
X43A	**Marvell**	**20.58**	**3**	P		**P**		**10 26 39.2**	**-0.3**
MIAR	**Mount Ida**	**20.60**	**357**	P		**P**		**10 26 40.0**	**+0.3**
	baz=176,SNR=5.4								
MIAR	**Mount Ida**	**20.60**	**357**	P		**P**		**10 26 38.9**	**-0.8**
MIAR				pmax		pmax			
	comp=Z,30nm,1.2s								
MIAR	**Mount Ida**	**20.60**	**357**	P		**P**		**10 26 38.9**	**-0.8**
MIAR				IAmb		IAmb		10 26 57.1	
	comp=Z,30nm,1.1s								
Y49A	**Blount Mountai**	**20.60**	**14**	P		**P**		**10 26 40.0**	**+0.3**
Y49A				IAmb		IAmb		10 27 30.1	
	comp=Z,48nm,1.8s								
OXF	**Oxford**	**20.71**	**7**	P		**P**		**10 26 40.6**	**-0.3**
	baz=188								
OXF	**Oxford**	**20.71**	**7**	P		**P**		**10 26 39.8**	**-1.0**
OXF				pmax		pmax			
	comp=Z,16nm,0.9s								
OXF	**Oxford**	**20.71**	**7**	P		**P**		**10 26 39.8**	**-1.0**
OXF				IAmb		IAmb		10 26 52.5	
	comp=Z,16nm,0.8s								
155A	**Kite**	**20.72**	**24**	P		**P**		**10 26 40.3**	**-0.7**
	baz=208								
257A	**Skidaway Islan**	**20.78**	**28**	P		**P**		**10 26 41.2**	**-0.5**
	baz=212								
UALR	**University of**	**20.80**	**0**	P		**P**		**10 26 41.2**	**-0.6**
UALR				IAmb		IAmb		10 27 03.8	
	comp=Z,17nm,0.8s								
Z53A	**Monticello**	**20.90**	**21**	P		**P**		**10 26 42.4**	**-0.5**
	baz=204								
Y51A	**Rockmart**	**20.99**	**17**	P		**P**		**10 26 43.6**	**-0.4**
	baz=200								
X48A	**Hartselle**	**21.03**	**12**	P		**P**		**10 26 42.5**	**-1.8**
X48A				IAmb		IAmb		10 26 52.4	
	comp=Z,43nm,1.8s								
GOGA	**Godfrey**	**21.05**	**21**	P		**P**		**10 26 44.1**	**-0.5**
	baz=204								
GOGA	**Godfrey**	**21.05**	**21**	P		**P**		**10 26 42.9**	**-1.7**
GOGA				pmax		pmax			
	comp=Z,17nm,1.1s								
GOGA	**Godfrey**	**21.05**	**21**	P		**P**		**10 26 42.9**	**-1.7**
Z54A	**Sparta**	**21.12**	**23**	P		**P**		**10 26 44.4**	**-0.9**
	baz=206								
156A	**Sylvania**	**21.15**	**26**	P		**P**		**10 26 45.3**	**-0.4**
	baz=210								
W41B	**Gary Mavity, V**	**21.20**	**0**	P		**P**		**10 26 45.7**	**-0.4**
	baz=180								
W41B	**Gary Mavity, V**	**21.20**	**0**	P		**P**		**10 26 45.8**	**-0.4**
W39A	**Magazine**	**21.26**	**357**	P		**P**		**10 26 47.7**	**+1.0**
	baz=176								
Y52A	**Lilburn**	**21.27**	**19**	P		**P**		**10 26 46.3**	**-0.6**
	baz=202								
Y52A	**Lilburn**	**21.27**	**19**	P		**P**		**10 26 45.4**	**-1.5**
Y52A				IAmb		IAmb		10 27 02.2	
	comp=Z,19nm,0.9s								
GDL2	**Guadalupe Moun**	**21.29**	**331**	P		**P**		**10 26 49.4**	**+2.1**
WHAR	**Wooly Hollow**	**21.31**	**0**	P		**P**		**10 26 44.2**	**-3.2**
Z55A	**Blythe**	**21.38**	**24**	P		**P**		**10 26 47.1**	**-0.9**
	baz=208								
MNTX	**Cornudas Mount**	**21.38**	**328**	P		**P**		**10 26 49.6**	**+1.4**
	baz=142,SNR=28								
MNTX	**Cornudas Mount**	**21.38**	**328**	P		**P**		**10 26 49.7**	**+1.6**
MNTX				IAmb		IAmb		10 26 52.0	
	comp=Z,18nm,1.1s								
157A	**Early Branch**	**21.39**	**27**	P		**P**		**10 26 48.0**	**-0.1**
	baz=211								
Y53A	**Monroe**	**21.41**	**20**	P		**P**		**10 26 46.8**	**-1.7**
	baz=203								
FPAL	**Fort Paine**	**21.45**	**15**	P		**P**		**10 26 48.9**	**0.0**
WMOK	**Wichita Mounta**	**21.56**	**345**	P		**P**		**10 26 50.5**	**+0.4**
	baz=162								
WMOK	**Wichita Mounta**	**21.56**	**345**	P		**P**		**10 26 50.4**	**+0.4**
WMOK				pmax		pmax			
	comp=Z,11nm,1.1s								
WMOK	**Wichita Mounta**	**21.56**	**345**	P		**P**		**10 26 50.4**	**+0.4**
W35A	**Tecumseh**	**21.56**	**350**	P		**P**		**10 26 49.3**	**-0.7**
X51A	**Calhoun**	**21.68**	**17**	P		**P**		**10 26 50.3**	**-1.0**
	baz=200								
X51A	**Calhoun**	**21.68**	**17**	P		**P**		**10 26 51.1**	**-0.2**
X51A				IAmb		IAmb		10 27 17.5	
	comp=Z,34nm,1.3s								
Y54A	**Tignall**	**21.74**	**22**	P		**P**		**10 26 51.2**	**-0.7**
	baz=206								
W49A	**Belvidere**	**21.84**	**14**	P		**P**		**10 26 52.6**	**-0.5**
	baz=196,SNR=5.2								
SDV	**Santo Domingo**	**21.86**	**101**	P		**P**		**10 26 54.7**	**+1.1**
	comp=Z,7.2nm,0.4s,baz=232,slow=12,SNR=3.3								
OKCFA	**Oklahoma City**	**21.92**	**349**	P		**P**		**10 26 54.2**	**+0.2**
X52A	**Dahlonega**	**22.00**	**19**	P		**P**		**10 26 55.3**	**+0.5**
	baz=202,SNR=5.4								
SWET	**Sewanee**	**22.01**	**14**	P		**P**		**10 26 54.2**	**-0.8**
SWET				IAmb		IAmb		10 27 27.5	
	comp=Z,33nm,1.3s								
Z57A	**Bowman**	**22.04**	**27**	P		**P**		**10 26 53.5**	**-1.7**
	baz=211								
X53A	**Estanollee**	**22.10**	**20**	P		**P**		**10 26 55.3**	**-0.5**
	baz=203								
LCAR	**Lake Charles**	**22.11**	**3**	P		**P**		**10 26 54.7**	**-1.3**
NHSC	**New Hope**	**22.11**	**28**	P		**P**		**10 26 55.7**	**-0.3**
	baz=212								
MSTX	**Muleshoe**	**22.12**	**336**	P		**P**		**10 26 57.3**	**+1.1**
	baz=152								
MSTX	**Muleshoe**	**22.12**	**336**	P		**P**		**10 26 56.4**	**+0.2**
MSTX				IAmb		IAmb		10 26 59.5	
	comp=Z,33nm,1.1s								
Y55A	**Saluda**	**22.12**	**24**	P		**P**		**10 26 54.5**	**-1.6**
	baz=208								
TUL1	**Leonard**	**22.15**	**353**	P		**P**		**10 26 56.3**	**-0.1**
	baz=170								
TUL1	**Leonard**	**22.15**	**353**	P		**P**		**10 26 54.0**	**-2.3**
TUL1				IAmb		IAmb		10 27 14.2	
	comp=Z,15nm,0.8s								
W50A	**Signal Mountai**	**22.15**	**15**	P		**P**		**10 26 55.5**	**-0.9**
	baz=198								
W50A	**Signal Mountai**	**22.15**	**15**	P		**P**		**10 26 55.3**	**-1.1**
W50A				IAmb		IAmb		10 27 45.9	
	comp=Z,

KMSC IAmb IAmb 10 27 31.7
comp=Z,17nm,1.2s
U50A Jamestown 23.42 15 P P 10 27 08.5 -1.1
baz=198,SNR=9.0
Y59A Loris 23.45 29 P P 10 27 08.8 -0.9
baz=214
T47A Sharon Grove 23.48 11 P P 10 27 08.7 -1.4
T47A IAmb IAmb 10 27 09.3
comp=Z,17nm,1.0s
U51A La Follette 23.61 17 P P 10 27 10.1 -1.2
baz=200,SNR=5.6
W56A Indian Trail 23.67 25 P P 10 27 10.9 -0.9
baz=209
V54A Nebo 23.72 21 P P 10 27 11.0 -1.4
baz=205
U52A Thorn Hill 23.82 18 P P 10 27 11.8 -1.5
baz=202
SIUC Southern Illin 23.89 6 P P 10 27 13.1 -0.8
SIUC IAmb IAmb 10 27 13.5
comp=Z,18nm,0.8s
TZTN Tazewell 23.90 18 P P 10 27 12.6 -1.4
baz=201
TZTN Tazewell 23.90 18 P P 10 27 12.5 -1.4
TZTN IAmb IAmb 10 27 44.4
comp=Z,44nm,1.4s
T49A Edmonton 23.91 14 P P 10 27 12.6 -1.5
baz=196,SNR=6.2
T49A Edmonton 23.91 14 P P 10 27 12.4 -1.6
T49A IAmb IAmb 10 27 13.4
comp=Z,12nm,0.9s
W57A Gilead 23.93 26 P P 10 27 12.9 -1.4
baz=210
W57A Gilead 23.93 26 P P 10 27 12.8 -1.4
W57A IAmb IAmb 10 27 19.6
comp=Z,24nm,1.3s
BNM Barren Site 23.97 330 P P 10 27 14.3 -0.6
T50A Nancy 24.00 15 P P 10 27 13.3 -1.6
baz=198
U53A Fall Branch 24.04 20 P P 10 27 14.1 -1.2
baz=203
Y22D IRIS PASSCAL I 24.05 329 P P 10 27 18.7 +3.1
baz=143
Y22D IRIS PASSCAL I 24.05 329 P P 10 27 16.3 +0.7
V55A Taylorsville 24.05 23 P P 10 27 14.1 -1.2
baz=207
V55A Taylorsville 24.05 23 P P 10 27 14.2 -1.2
X59A McDuffie Farm, 24.06 29 P P 10 27 14.2 -1.3
baz=214
CCM Cathedral Cave 24.09 2 P P 10 27 13.9 -1.8
baz=182
CCM Cathedral Cave 24.09 2 P P 10 27 13.7 -2.0
CCM pmax pmax
comp=Z,11nm,1.1s
CCM Cathedral Cave 24.09 2 P P 10 27 13.7 -2.0
LPM Los Pinos Moun 24.10 330 P P 10 27 16.7 +0.7
W58A Raeford 24.14 27 P P 10 27 14.6 -1.6
baz=212
LENM Lemitar 24.15 329 P P 10 27 16.9 +0.4
T51A Gray 24.18 17 P P 10 27 15.6 -1.0
baz=200
V56A Mocksville 24.29 24 P P 10 27 16.6 -0.9
baz=208
USIN University of 24.34 9 P P 10 27 16.9 -1.1
USIN IAmb IAmb 10 27 18.2
comp=Z,18nm,0.8s
X60A Albert Glenn T 24.36 30 P P 10 27 17.4 -0.8
baz=215
U54A Nelsons Funny 24.43 21 P P 10 27 17.6 -1.3
baz=205
U54A Nelsons Funny 24.43 21 P P 10 27 17.5 -1.5
ANMO Albuquerque 24.53 331 P P 10 27 22.1 +2.0
baz=145
ANMO Albuquerque 24.53 331 ||| P P 10 27 22.4 +2.4
ANMO pmax pmax
comp=Z,5.0nm,0.8s
ANMO Albuquerque 24.53 331 P P 10 27 21.9 +1.9
comp=Z,3.9nm,0.7s,baz=143,slow=12,SNR=21
ANMO Albuquerque 24.53 331 P P 10 27 22.3 +2.3
T52A Hallie 24.59 18 P P 10 27 19.2 -1.1
baz=202
T52A Hallie 24.59 18 P P 10 27 18.9 -1.4
T52A IAmb IAmb 10 27 43.6
comp=Z,40nm,1.5s
T53A Wise 24.62 19 P P 10 27 19.4 -1.2
baz=203
S49A Springfield 24.62 14 P P 10 27 19.4 -1.1
baz=196
V57A Coltrane Farms 24.65 25 P P 10 27 19.3 -1.5
baz=210
U55A TA2, Sparta 24.69 22 P P 10 27 20.2 -1.1
baz=207
S50A Richmond 24.73 15 P P 10 27 21.0 -0.6
baz=198
U56A King 24.81 24 P P 10 27 21.7 -0.6
baz=208
WCI Wyandotte Cave 24.83 11 P P 10 27 21.6 -0.9
baz=194
WCI Wyandotte Cave 24.83 11 P P 10 27 21.3 -1.1
WCI pmax pmax
comp=Z,25nm,0.8s
WCI Wyandotte Cave 24.83 11 P P 10 27 21.3 -1.1
WCI IAmb IAmb 10 27 22.5
comp=Z,25nm,0.8s
V58A Windy Hill, Pi 24.85 26 P P 10 27 21.5 -1.1
baz=212
V58A Windy Hill, Pi 24.85 26 P P 10 27 21.3 -1.3
W60A Pink Hill 24.87 30 P P 10 27 21.7 -1.1
baz=215
TUC Tucson 24.90 321 P P 10 27 26.0 +2.8
baz=133
TUC Tucson 24.90 321 P P 10 27 25.7 +2.4
TUC pmax pmax
comp=Z,7.0nm,1.3s
S51A Beattyville 24.91 17 P P 10 27 21.8 -1.4
baz=200
S51A Beattyville 24.91 17 P P 10 27 22.0 -1.2
S51A IAmb IAmb 10 27 55.3
comp=Z,15nm,1.1s
CNNC Cliffs of the 24.94 29 P P 10 27 22.1 -1.4
baz=215
CNNC Cliffs of the 24.94 29 P P 10 27 22.6 -0.9
CNNC IAmb IAmb 10 27 23.4
comp=Z,15nm,0.7s
T54A Tazewell 25.00 21 P P 10 27 23.0 -1.1
baz=205
OLIL Olney 25.03 8 P P 10 27 23.2 -1.1
OLIL IAmb IAmb 10 27 25.1
comp=Z,22nm,0.8s
R49A Shelbyville 25.13 13 P P 10 27 23.6 -1.5
baz=196
R49A Shelbyville 25.13 13 P P 10 27 21.8 -3.3
R49A IAmb IAmb 10 27 23.9
comp=Z,10nm,0.9s
V59A Middlesex 25.21 28 P P 10 27 24.7 -1.2
baz=213
U57A Blanch 25.30 25 P P 10 27 26.1 -0.6
baz=210
R50A Paris 25.32 15 P P 10 27 25.9 -1.0
baz=198
W61A Ground Anchor 25.32 30 P P 10 27 25.9 -1.0
baz=216
T55A Pulaski 25.34 22 P P 10 27 25.9 -1.2
baz=207
S53A Williamson 25.39 19 P P 10 27 27.2 -0.3
baz=203
KSU1 Kansas State U 25.39 352 P P 10 27 28.4 +0.8
baz=170
R51A Hillsboro 25.53 16 P P 10 27 28.1 -0.7
baz=200
T25A Trinidad 25.54 337 P P 10 27 31.5 +2.4
baz=151,SNR=10
T25A Trinidad 25.54 337 P P 10 27 31.7 +2.6
T25A IAmb IAmb 10 27 34.3
comp=Z,21nm,1.1s
T56A Rocky Mt 25.54 23 P P 10 27 28.1 -0.8
baz=208
BLA Blacksburg 25.55 22 P P 10 27 28.5 -0.6
baz=207
U58A Oxford 25.60 26 P P 10 27 28.9 -0.6
baz=212
Q48A North Vernon 25.62 12 P P 10 27 28.2 -1.3
baz=194
CBKS Cedar Bluff 25.67 347 P P 10 27 31.4 +1.2
baz=163
CBKS Cedar Bluff 25.67 347 P P 10 27 29.8 -0.4
CBKS pmax pmax
comp=Z,15nm,0.8s
CBKS Cedar Bluff 25.67 347 P P 10 27 29.8 -0.4
CBKS IAmb IAmb 10 27 32.6
comp=Z,14nm,0.8s
BLO Bloomington 25.71 10 P P 10 27 29.1 -1.2
BLO pmax pmax
comp=Z,65nm,2.0s
BLO Bloomington 25.71 10 P P 10 27 29.1 -1.2
BLO IAmb IAmb 10 27 59.1
comp=Z,65nm,1.9s
T57A Hurt 25.82 25 P P 10 27 32.0 +0.5
baz=210
U59A Littleton 25.90 28 P P 10 27 30.8 -1.4
baz=214
Q50A Georgetown 25.94 15 P P 10 27 31.3 -1.2
baz=198
214A Organ Pipe Nat 25.97 317 P P 10 27 35.8 +2.9
baz=129
X18A Snowflake 26.00 325 P P 10 27 32.3 -1.0
R53A Hurricane 26.04 19 P P 10 27 32.5 -0.8
baz=203
T58A Grand View Acr 26.07 26 P P 10 27 33.0 -0.7
baz=211
P48A Milroy 26.20 12 P P 10 27 33.3 -1.5
baz=195
P48A Milroy 26.20 12 P P 10 27 32.6 -2.2
P48A IAmb IAmb 10 27 40.4
comp=Z,52nm,1.7s
Q51A Peebles 26.27 16 P P 10 27 34.9 -0.7
baz=200
Q51A Peebles 26.27 16 P P 10 27 34.1 -1.5
Q51A IAmb IAmb 10 28 07.0
comp=Z,16nm,0.9s
U60A Pendleton 26.29 28 P P 10 27 34.7 -0.9
baz=215
W18A Petrified Fore 26.32 326 P P 10 27 36.7 +0.5
W18A IAmb IAmb 10 27 48.9
comp=Z,11nm,1.1s
SDCO Great Sand Dun 26.49 336 P P 10 27 40.0 +2.2
baz=150,SNR=6.9
SDCO Great Sand Dun 26.49 336 P P 10 27 39.3 +1.5
Q52A Bidwell 26.52 18 P P 10 27 36.5 -1.3
baz=202
T59A Double "B" Far 26.52 27 P P 10 27 36.7 -1.0
baz=213
T59A Double "B" Far 26.52 27 P P 10 27 36.5 -1.3
T59A IAmb IAmb 10 28 19.7
comp=Z,16nm,1.1s
S57A Dark Hollow, R 26.60 24 P P 10 27 37.5 -0.9
baz=210
KSCO Kaye Shedlock' 26.62 342 P P 10 27 39.6 +0.8
baz=157
Q53A Leroy 26.65 19 P P 10 27 38.2 -0.7
baz=204
HDIL Hopedale 26.70 5 P P 10 27 38.0 -1.3
baz=186
P50A Jamestown 26.71 15 P P 10 27 38.9 -0.5
baz=198
X16A Lo Mlia Camp, P 26.76 323 P P 10 27 42.4 +2.1
P51A Williamsport 26.78 16 P P 10 27 38.5 -1.6
baz=200
P51A Williamsport 26.78 16 P P 10 27 37.8 -2.2
P51A IAmb IAmb 10 28 15.3
comp=Z,12nm,0.8s
SFIN Lafayette 26.79 9 P P 10 27 38.8 -1.3
baz=191
SFIN Lafayette 26.79 9 P P 10 27 38.4 -1.7
SFIN IAmb IAmb 10 27 48.7
comp=Z,42nm,1.7s
Q54A Cox Mills 26.99 20 P P 10 27 41.4 -0.6
baz=205
O48A Farmland 27.02 12 P P 10 27 40.6 -1.6
baz=195
S22A 4UR Ranch, Cre 27.03 334 P P 10 27 45.1 +2.4
baz=147,SNR=20
S22A 4UR Ranch, Cre 27.03 334 P P 10 27 44.8 +2.1
S22A IAmb IAmb 10 27 46.2
comp=Z,11nm,1.0s
T60A Surry 27.03 28 P P 10 27 40.5 -1.8
baz=215
O49A Covington 27.13 14 P P 10 27 42.0 -1.2
baz=197
P52A Corning 27.18 17 P P 10 27 42.3 -1.4
baz=202
O50A Cable 27.26 15 P P 10 27 43.2 -1.2
baz=198
P53A Whipple 27.27 19 P P 10 27 43.9 -0.6
baz=203
S59A Mechanicsville 27.29 27 P P 10 27 44.1 -0.5
baz=213
MVCO Mesa Verde 27.33 331 P P 10 27 48.1 +2.7
baz=144,SNR=16
MVCO Mesa Verde 27.33 331 P P 10 27 48.3 +2.9
MVCO IAmb IAmb 10 27 50.3
comp=Z,28nm,1.2s
Q24A Divide 27.42 338 P P 10 27 47.3 +1.1
baz=152
R58A Rapidan 27.44 25 P P 10 27 45.7 -0.3
baz=211
ACSO Alum Creek Sta 27.50 16 P P 10 27 45.2 -1.3
ACSO IAmb IAmb 10 27 46.7
comp=Z,30nm,1.4s
WUAZ Wupatki 27.51 325 P P 10 27 50.1 +3.2
baz=136
WUAZ Wupatki 27.51 325 P P 10 27 47.4 +0.5
N47A Urbana 27.52 11 P P 10 27 45.3 -1.3
baz=194
O51A Pataskala 27.52 16 P P 10 27 45.3 -1.5
baz=200
S60A Water View 27.53 28 P P 10 27 46.4 -0.4
baz=214
N48A Decatur 27.62 12 P P 10 27 46.9 -0.8
baz=195
P54A Burton 27.67 20 P P 10 27 46.7 -1.3
baz=205
O52A Adamsville 27.71 18 P P 10 27 47.2 -1.2
baz=202
GLA Glamis 27.98 317 P P 10 27 53.8 +2.9
baz=127
O53A New Philadelph 28.02 18 P P 10 27 50.9 -0.3
baz=203
Y12C Blythe 28.21 318 P P 10 27 55.3 +2.3
baz=129
SMCO Snowmass 28.30 336 P P 10 27 53.9 -0.3
N51A Ashland 28.31 16 P P 10 27 52.2 -1.6
baz=200
ISCO Idaho Springs 28.33 338 P P 10 27 52.4 -1.9
ISCO pmax pmax
comp=Z,3.0nm,1.0s
ISCO Idaho Springs 28.33 338 P P 10 27 52.4 -1.9
N52A McGinn's Farm, 28.40 17 P P 10 27 52.6 -1.9
baz=202
M49A Liberty Center 28.44 13 P P 10 27 54.4 -0.4
baz=197
P57A Homestead Farm 28.45 24 P P 10 27 54.4 -0.7
baz=210
P57A Homestead Farm 28.45 24 P P 10 27 54.4 -0.7
P57A IAmb IAmb 10 28 55.8
comp=Z,36nm,1.5s
SWSC Sam W. Stewart 28.57 316 P P 10 27 59.2 +3.0
baz=126
R61A Willards 28.64 29 P P 10 27 54.9 -1.8
baz=216
N53A Lisbon 28.65 18 P P 10 27 55.5 -1.3
baz=203
U15A North Rim 28.68 325 P P 10 27 57.1 -0.4
W13A Hualapai Mount 28.69 321 P P 10 27 55.6 -1.8
BC3 Big Chuckawall 28.76 317 P P 10 28 00.7 +2.7
baz=127
L48A N Adams 28.79 12 P P 10 27 57.3 -0.7
baz=196
IRM Iron Mountain 28.87 318 P P 10 28 02.0 +3.2
baz=128
O56A Blue Knob Stat 28.93 22 P P 10 27 58.6 -0.7
baz=208
MONP2 Monument Peak 28.96 315 P P 10 28 03.0 +3.1
baz=125
N54A Moraine State 29.05 20 P P 10 27 58.5 -1.9
baz=205
L49A Milan 29.09 13 P P 10 27 59.8 -0.9
baz=197
Q61A Milford 29.09 28 P P 10 27 59.4 -1.3
baz=215
M52A Chesterland 29.17 17 P P 10 28 00.6 -0.8
baz=202
P59A Jarrettsville 29.20 26 P P 10 28 00.6 -1.1
baz=213
O57A Amberson 29.23 23 P P 10 28 00.5 -1.4
baz=210
N55A Marion Center 29.23 21 P P 10 28 00.3 -1.7
baz=207
L50A Kingsville 29.25 15 P P 10 28 01.7 -0.3
baz=199
K46A Dorr 29.25 10 P P 10 28 02.6 +0.5
baz=193
K47A Vermontville 29.38 11 P P 10 28 03.7 +0.5
baz=194
SSPA Standing Stone 29.50 23 P P 10 28 03.6 -0.7
baz=209
SSPA Standing Stone 29.50 23 P P 10 28 03.8 -0.5
GMRC Granite Mounta 29.59 319 P P 10 28 08.2 +2.8
baz=128
O20A White River Ci 29.63 335 P P 10 28 07.6 +1.8
baz=147
P60A Greenville 29.71 27 P P 10 28 05.6 -0.6
baz=214
N57A Milroy 29.73 23 P P 10 28 04.7 -1.7
baz=210
K49A Clarkson 29.80 13 P P 10 28 06.6 -0.3
baz=197
SRU San Rafael Swe 29.81 331 P P 10 28 07.1 -0.2
SRU pmax pmax
comp=Z,18nm,1.8s
SRU San Rafael Swe 29.81 331 P P 10 28 07.1 -0.2
MTPU Mount Pierson 29.81 327 P P 10 28 06.8 -0.8
J46A Howard City 29.92 10 P P 10 28 07.9 -0.1
baz=193
ECSD EROS Data Cent 29.97 354 P P 10 28 08.4 -0.1
baz=171
Q16A Castle Valley 29.97 330 P P 10 28 07.9 -0.9
SZCU Shurtz Canyon 29.97 326 P P 10 28 08.9 +0.1
CCUT Cedar City 30.09 325 P P 10 28 13.1 +3.3
ERPA Erie 30.10 19 P P 10 28 12.5 +2.8
TUQ Turquoise Moun 30.17 319 P P 10 28 12.7 +2.2
baz=129
P17A Butcher Ranch, 30.20 331 P P 10 28 13.5 +2.7
TMUT Trail Mountain 30.28 330 P P 10 28 14.2 +2.5
TCRU Three Creeks R 30.38 328 P P 10 28 15.1 +2.7
M57A Sunshine Farm, 30.39 23 P P 10 28 11.3 -1.0
baz=210
SHPR Sheep Range 30.40 322 P P 10 28 15.3 +2.8
SCI2 San Clemente I 30.50 313 P P 10 28 14.7 +1.4
baz=122
RRX Edison Barstow 30.52 318 P P 10 28 15.4 +2.0
baz=127
RDMU Red Mountain 30.56 334 P P 10 28 16.1 +2.1
BFSC Mount Baldy Ra 30.58 316 P P 10 28 17.1 +2.9
baz=125
CIS Catalina Islan 30.63 314 P P 10 28 16.2 +1.7
baz=123
M58A Price's Panora 30.68 24 P P 10 28 13.3 -1.5
baz=211
SHOC Shoshone, Teco 30.69 320 P P 10 28 17.2 +2.3
baz=129
N60A Cedar Hill Far 30.82 26 P P 10 28 14.6 -1.3
baz=214
J52A Paris 30.99 17 P P 10 28 15.1 -2.3
baz=202
PSUT Pine Spring 31.06 326 P P 10 28 20.7 +2.3
H46A Fife Lake 31.15 10 P P 10 28 17.8 -1.1
baz=193
K22A Casper 31.17 340 P P 10 28 19.7 +0.4
baz=152
EDW2 Edwards Air Fo 31.18 317 P P 10 28 22.0 +2.7
baz=125
M59A Waymart 31.24 25 P P 10 28 18.6 -1.1
baz=213
LRMC Laurel Mtn Rad 31.33 318 P P 10 28 23.6 +2.9
baz=127
TPNV Topopah Spring 31.35 321 P P 10 28 24.1 +3.2
baz=130
FURC Furnace Creek, 31.41 320 P P 10 28 24.3 +3.0
baz=129
L58A Harry Jones Me 31.49 24 P P 10 28 20.5 -1.5
baz=212
MPMC Manual Prospec 31.55 319 P P 10 28 25.4 +2.6
baz=128
BINY Binghamton 31.57 24 P P 10 28 20.9 -1.7
baz=211
RSSD Black Hills 31.75 344 P P 10 28 25.1 +0.7
baz=158
RSSD Black Hills 31.75 344 P P 10 28 25.1 +0.7
RSSD pmax pmax
comp=Z,3.0nm,0.7s
RSSD Black Hills 31.75 344 P P 10 28 25.1 +0.7
DUG Dugway, Tooele 31.76 329 P P 10 28 27.1 +2.6
DUG pmax pmax
comp=Z,5.0nm,1.4s
TCUT Toone Canyon 31.81 332 P P 10 28 25.0 -0.1
K57A Scipio Center 31.83 22 P P 10 28 24.2 -0.6
baz=210
R11A Troy Canyon, C 31.89 324 P P 10 28 28.3 +2.6
baz=133
R11A Troy Canyon, C 31.89 324 P P 10 28 28.7 +3.0
L59A Walton 31.94 25 P P 10 28 24.6 -1.3
baz=213
GRAC Grapevine Rang 32.06 320 P P 10 28 29.8 +2.7
baz=129
L60A Shokan 32.11 26 P P 10 28 26.2 -1.1
baz=214
K58A Earlville 32.18 23 P P 10 28 26.6 -1.4
baz=211
K58A Earlville 32.18 23 P P 10 28 26.8 -1.2
F45A CMU Biological 32.22 9 P P 10 28 27.8 -0.4
baz=192
KSCT Kent School, K 32.22 27 P P 10 28 26.9 -1.4
M62A Hamden 32.26 28 P P 10 28 27.6 -1.0
baz=217
HWUT Hardware Ranch 32.28 332 P P 10 28 31.2 +2.1
HWUT IAmb IAmb 10 28 32.5
comp=Z,9.5nm,1.1s
BW06 Boulder Array 32.38 336 P P 10 28 32.1 +2.1
baz=147
BW06 Boulder Array 32.38 336 P P 10 28 33.1 +3.0
PD31 Pinedale Array 32.38 336 P P 10 28 31.4 +1.4
PDAR Pinedale Array 32.38 336 P P 10 28 30.9 +0.9
comp=Z,1.4nm,0.9s,baz=152,slow=9.6,SNR=9.2
PDAR PcP **PcP 10 31 17.4 +0.6**
comp=Z,0.6nm,0.6s,baz=155,slow=4.2,SNR=5.4
PDAR LR LR 10 45 17.1
comp=Z,167nm,18.4s,baz=124,slow=43
PDAR Pinedale Array 32.38 336 P P 10 28 30.1 +0.1
BGU Big Grassy Mou 32.42 330 P P 10 28 32.8 +2.5
SPUT South Promonto 32.45 331 P P 10 28 32.3 +1.8
VES Vestal, Richgr 32.46 317 P P 10 28 33.5 +3.0
baz=125
J59A Piesco 33.22 24 P P 10 28 36.0 -1.1
BRYW Bryant College 33.26 29 P P 10 28 35.6 -1.7
REDW Red Top Meadow 33.40 335 P P 10 28 41.0 +2.1
ELK Elko 33.40 328 P P 10 28 40.4 +1.4
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK Elko 33.40 328 P P 10 28 40.4 +1.4
M66A Nantucket 33.44 31 P P 10 28 38.1 -0.8
baz=221
SNOW Snow King Moun 33.44 335 P P 10 28 40.9 +1.6
NV11 Mina Array Sit 33.46 322 P P 10 28 41.9 +2.6
NV11 IAmb IAmb 10 28 51.0
comp=Z,14nm,1.4s
OMMB Old Mammoth Mi 33.46 320 P P 10 28 42.3 +2.6
OMMB IAmb IAmb 10 28 54.7
comp=Z,6.5nm,1.4s
MDPB Devils Postpil 33.52 320 P P 10 28 43.1 +3.0
NVAR Mina Array Bea 33.55 322 P P 10 28 42.6 +2.4
comp=Z,4.0nm,0.8s,baz=137,slow=8.8,SNR=42
NVAR PcP **PcP 10 31 21.8 +1.6**
comp=Z,0.8nm,0.7s,baz=148,slow=3.8,SNR=4.6
NVAR LR LR 10 44 31.0
comp=Z,236nm,20.9s,baz=132,slow=40
NVAR Mina Array Bea 33.55 322 P P 10 28 42.3 +2.1
TPAW Teton Pass 33.55 335 P P 10 28 42.0 +1.8
TPAW IAmb IAmb 10 28 46.7
comp=Z,18nm,1.2s
L64A Middleborough 33.60 30 P P 10 28 40.0 -0.3
baz=220
D46A Sault St. Mari 33.63 10 P P 10 28 39.9 -0.7
baz=194
MOOW Moose Ponds 33.68 336 P P 10 28 40.8 -0.5
MOOW IAmb IAmb 10 28 49.9
comp=Z,9.8nm,1.4s
FXWY Fox Creek 33.70 335 P P 10 28 42.3 +0.8
FXWY IAmb IAmb 10 28 46.3
comp=Z,10nm,1.4s
NCB Newcomb 33.76 24 P P 10 28 41.1 -0.7

RYN **Ryan** 33.80 322 P **P** **10 28 42.2 -0.2**
RYN IAmb IAmb 10 28 57.0
comp=Z,9.6nm,1.5s
IMW **Indian Meadow** 33.88 336 P **P** **10 28 43.5 +0.4**
IMW IAmb IAmb 10 28 52.7
comp=Z,23nm,1.8s
MDND **Maddock** 34.39 351 P **P** **10 28 47.1 -0.1**
baz=167
MDND **Maddock** 34.39 351 P **P** **10 28 46.3 -0.8**
YERR **Yerington** 34.46 321 P **P** **10 28 49.7 +1.6**
YERR IAmb IAmb 10 29 02.6
comp=Z,5.4nm,1.1s
YMR **Madison River** 34.53 336 P **P** **10 28 49.5 +0.8**
LAO **LASA Array** 34.71 343 P **P** **10 28 50.9 +0.9**
baz=156
LAO **LASA Array** 34.71 343 P **P** **10 28 50.8 +0.8**
LAO IAmb IAmb 10 28 52.4
comp=Z,13nm,1.3s
PNTR **Pine Nut** 34.75 321 P **P** **10 28 53.1 +2.5**
PNTR IAmb IAmb 10 29 09.6
comp=Z,6.7nm,1.1s
YHL **Hebgen Lake** 34.77 336 P **P** **10 28 53.2 +2.3**
QLMT **Earthquake Lak** 34.85 336 P **P** **10 28 53.9 +2.4**
E54A **Lac Daplat, Po** 34.86 18 P **P** **10 28 49.7 -1.5**
baz=206
VCNR **Virginia City** 34.91 322 P **P** **10 28 54.1 +2.1**
PAHR **Pah Rah Range** 35.01 322 P **P** **10 28 52.8 0.0**
PAHR IAmb IAmb 10 29 04.0
comp=Z,5.0nm,1.0s
RUBR **Rubicon Trail** 35.06 321 P **P** **10 28 55.6 +2.2**
RUBR IAmb IAmb 10 29 05.0
comp=Z,19nm,1.4s
MCMT **McKenzie Canyo** 35.43 335 P **P** **10 28 59.5 +3.1**
H62A **Milan** 35.52 26 P **P** **10 28 55.3 -1.6**
baz=217
E56A **St. Veronique** 35.66 21 P **P** **10 28 56.8 -1.3**
baz=209
MFID **Camas Ranch** 35.67 330 P **P** **10 28 59.4 +1.1**
MFID IAmb IAmb 10 29 10.2
comp=Z,13nm,1.3s
BEKR **Beckworth** 35.69 322 P **P** **10 29 01.8 +3.1**
DLMT **Dillon** 35.76 335 P **P** **10 29 01.6 +2.5**
DLMT IAmb IAmb 10 29 02.7
comp=Z,16nm,1.3s
DGMT **Dagmar** 35.85 347 P **P** **10 29 00.9 +1.2**
baz=160
DGMT **Dagmar** 35.85 347 P **P** **10 29 01.9 +2.2**
E58A **La Victoria** 36.14 23 P **P** **10 29 01.1 -1.1**
baz=212
ULM **Lac du Bonnet** 36.38 356 P **P** **10 29 03.8 -0.3**
comp=Z,1.6nm,0.7s,baz=196,slow=6.3,SNR=4.2
ULM LR LR 10 44 46.1
comp=Z,186nm,18.9s,baz=106,slow=37
WVOR **Wild Horse Val** 36.40 326 P **P** **10 29 06.9 +2.3**
WVOR pmax pmax
comp=Z,11nm,1.3s
WVOR **Wild Horse Val** 36.40 326 P **P** **10 29 06.9 +2.3**
WVOR IAmb IAmb 10 29 13.9
comp=Z,11nm,1.3s
D57A **Chemin Vers le** 36.47 21 P **P** **10 29 03.0 -2.0**
baz=211
G63A **Kingsbury** 36.62 27 P **P** **10 29 05.6 -0.8**
baz=219
SAML **Samuel** 36.78 126 P **P** **10 29 06.3 -1.7**
SAML pmax pmax
comp=Z,3.0nm,0.8s
SAML **Samuel** 36.78 126 P **P** **10 29 06.3 -1.7**
D58A **Chemin du LacG** 36.90 22 P **P** **10 29 07.3 -1.4**
baz=212
MOD **Modoc Plateau** 36.96 324 P **P** **10 29 11.3 +1.9**
MOD IAmb IAmb 10 29 23.7
comp=Z,17nm,1.6s
EGMT **Eagleton** 36.98 341 P **P** **10 29 11.0 +1.6**
baz=151
EGMT **Eagleton** 36.98 341 P **P** **10 29 11.1 +1.6**
EGMT IAmb IAmb 10 29 41.3
comp=Z,6.3nm,0.9s
PLID **Pearl Lake** 37.01 332 P **P** **10 29 11.2 +1.2**
LATQ **La Tuque** 37.18 22 P **P** **10 29 10.1 -0.9**
baz=212
LATQ **La Tuque** 37.18 22 P **P** **10 29 07.7 -3.3**
LATQ IAmb IAmb 10 30 30.3
comp=Z,22nm,1.8s
LSQQ **Lebel-sur-Quev** 37.29 17 P **P** **10 29 10.1 -1.8**
baz=205
BMO **Blue Mountains** 37.45 330 P **P** **10 29 12.7 -0.8**
BMO pmax pmax
comp=Z,8.0nm,1.3s
BMO **Blue Mountains** 37.45 330 P **P** **10 29 12.7 -0.8**
BMO IAmb IAmb 10 29 17.2
comp=Z,7.9nm,1.3s
MSO **Missoula** 37.49 335 P **P** **10 29 15.1 +1.2**
baz=144
MATQ **Matagami** 37.75 16 P **P** **10 29 14.0 -1.8**
baz=203
M04C **Macdoel** 37.76 323 P **P** **10 29 18.8 +2.6**
baz=128
D61A **St Aubert, Com** 38.03 25 P **P** **10 29 16.9 -1.3**
baz=216
F10A **Beach Ranch, E** 38.25 332 P **P** **10 29 22.2 +2.0**
L04D **Klamath Falls** 38.31 323 P **P** **10 29 22.4 +1.6**
baz=128
LPAZ **La Paz** 38.36 141 P **P** **10 29 21.7 -0.4**
LPAZ pmax pmax
comp=Z,4.0nm,1.4s
LPAZ **La Paz** 38.36 141 P **P** **10 29 21.0 -1.1**
comp=Z,0.7nm,0.7s,baz=309,slow=6.5,SNR=3.0
LPAZ LR LR 10 44 21.6
comp=Z,104nm,20.9s,baz=326,slow=35
LPAZ **La Paz** 38.36 141 P **P** **10 29 21.7 -0.4**
JTMT **Jette** 38.38 336 P **P** **10 29 23.3 +2.0**
JTMT IAmb IAmb 10 29 23.7
comp=Z,5.2nm,0.9s
J05D **Fort Rock, OR** 38.38 325 P **P** **10 29 24.1 +2.6**
baz=131
J04D **Umpqua Nationa** 38.84 325 P **P** **10 29 27.0 +1.6**
baz=130
I04A **Tendick Farm,** 39.36 325 P **P** **10 29 31.0 +1.5**
baz=130
HAWA **Hanford** 39.64 330 P **P** **10 29 32.3 +0.6**
HAWA IAmb IAmb 10 30 42.5
comp=Z,15nm,1.7s
G05D **Wamic, OR** 39.73 328 P **P** **10 29 34.6 +2.1**
baz=132
MNMC **Minye Minye** 39.73 145 P **P** **10 29 32.7 -0.4**
MNMC IAmb IAmb 10 29 39.0
comp=Z,31nm,1.7s
I03D **Drain, OR** 39.83 324 P **P** **10 29 35.3 +2.0**
baz=128
J01E **Myrtle Point** 39.83 323 P **P** **10 29 35.5 +2.2**
baz=127
NEW **Newport** 39.95 334 P **P** **10 29 35.3 +1.0**
baz=140
H04D **Lebanon** 40.01 326 P **P** **10 29 36.4 +1.6**
baz=130
C09A **Chrisman Ranch** 40.09 333 P **P** **10 29 36.8 +1.3**
C09A IAmb IAmb 10 29 39.0
comp=Z,30nm,1.6s
F05D **White Salmon** 40.24 328 P **P** **10 29 39.6 +2.8**
baz=133
I02D **Swisshome** 40.36 324 P **P** **10 29 40.9 +3.2**
baz=128
LON **Longmire** 41.01 329 P **P** **10 29 42.7 -0.4**
LON pmax pmax
comp=Z,6.0nm,1.0s
LON **Longmire** 41.01 329 P **P** **10 29 42.7 -0.4**
D03D **Eldon** 42.18 329 P **P** **10 29 53.7 +1.1**
baz=132
LLLB **Lillooet** 43.76 333 P **P** **10 30 05.0 -0.4**
LLLB IAmb IAmb 10 30 10.4
comp=Z,33nm,1.7s
SCHQ **Schefferville** 45.45 20 LR LR 10 50 31.4
comp=Z,383nm,18.9s,baz=169,slow=38
YKA **Yellowknife Ar** 51.06 347 P **P** **10 31 02.1 +0.3**
comp=Z,9.2nm,0.7s,baz=149,slow=7.4,SNR=100
YKA PcP **PcP** **10 32 17.8 +0.7**
comp=Z,1.9nm,0.8s,baz=152,slow=3.7,SNR=7.4
CPUP **Villa Florida** 52.52 140 LR LR 10 55 04.8
comp=Z,132nm,18.2s,baz=21,slow=38
PLCA **Paso Flores** 57.98 161 LR LR 10 51 09.5
comp=Z,86nm,20.2s,baz=338,slow=30
C36M **Paulatuk** 58.93 347 P **P** **10 31 59.2 +0.6**
baz=143
TGL **Tana Glacier** 59.26 334 P **P** **10 32 03.3 +2.2**
MCARA **McCarthy VSAT** 59.65 334 P **P** **10 32 04.5 +0.8**
SFJD **Kangerlussuaq** 59.73 18 P **P** **10 32 05.3 +1.2**
SFJD pmax pmax
comp=Z,152nm,1.9s
SFJD **Kangerlussuaq** 59.73 18 P **P** **10 32 05.2 +1.2**
BCAR **Beaver Creek A** 60.00 336 P **P** **10 32 08.1 +1.9**
GLB **Gilahina Butte** 60.01 334 P **P** **10 32 07.8 +1.6**
EPYK **Eagle Plains** 60.13 341 P **P** **10 32 08.4 +1.5**
baz=128
INK **Inuvik** 60.45 344 P **P** **10 32 10.0 +0.9**
comp=Z,6.9nm,0.4s,baz=130,slow=5.0,SNR=39
EGAK **Eagle** 60.69 338 P **P** **10 32 09.5 -1.3**
EGAK IAmb IAmb 10 32 34.5
comp=Z,9.2nm,1.3s
HIN **Hinchinbrook I** 60.70 333 P **P** **10 32 10.5 -0.5**
RES **Resolute Bay** 60.81 359 P **P** **10 32 10.2 -1.2**
RES pmax pmax
comp=Z,7.0nm,1.5s
RES **Resolute Bay** 60.81 359 P **P** **10 32 10.2 -1.2**
RES IAmb IAmb 10 32 55.0
comp=Z,7.4nm,1.5s
PAX **Paxson** 61.42 335 P **P** **10 32 17.4 +1.5**
PAX pmax pmax
comp=Z,5.0nm,0.8s
PAX **Paxson** 61.42 335 P **P** **10 32 17.4 +1.5**
PAX IAmb IAmb 10 32 17.8
comp=Z,5.0nm,0.8s
DHY **Denali Highway** 62.24 335 P **P** **10 32 21.0 -0.5**
GHO **Glory Hole Cre** 62.34 333 P **P** **10 32 23.2 +1.1**
PMR **Palmer** 62.36 333 P **P** **10 32 22.9 +0.8**
PMR pmax pmax
comp=Z,51nm,1.9s
PMR **Palmer** 62.36 333 P **P** **10 32 22.9 +0.8**
RC01 **Rabbit Creek A** 62.43 333 P **P** **10 32 24.6 +2.0**
PRP **Porcupine Dome** 62.65 338 P **P** **10 32 24.9 +0.7**
HDA **Harding Lake** 62.67 337 P **P** **10 32 23.2 -0.9**
IL31 62.81 337 P **P** **10 32 25.5 +0.5**
ILAR **Eielson Array** 62.81 337 P **P** **10 32 25.1 +0.1**
ILAR **Eielson Array** 62.81 337 P **P** **10 32 25.9 +0.8**
comp=Z,2.7nm,0.8s,baz=143,slow=4.4,SNR=37
ILAR LR LR 11 03 22.6
comp=Z,138nm,18.8s,baz=108,slow=39
ILAR **Eielson Array** 62.81 337 P **P** **10 32 25.1 +0.1**
RND **Reindeer** 62.99 335 P **P** **10 32 28.2 +1.9**
RND pmax pmax
comp=Z,12nm,0.8s
RND **Reindeer** 62.99 335 P **P** **10 32 28.2 +1.9**
SUA **Susitna One** 63.03 333 P **P** **10 32 28.6 +1.9**
SUA IAmb IAmb 10 32 30.6
comp=Z,7.6nm,0.9s
MCK **McKinley** 63.16 335 P **P** **10 32 29.4 +2.0**
MCK pmax pmax
comp=Z,18nm,1.3s
MCK **McKinley** 63.16 335 P **P** **10 32 29.4 +2.0**
POKR **Poker Flat Res** 63.17 337 P **P** **10 32 28.5 +1.0**
baz=117
COLA **College** 63.22 337 ⇓*e*P **P** **10 32 28.0 +0.2**
COLA pmax pmax
comp=Z,6.0nm,1.1s
TCOL **CIGO, UAF Yank** 63.23 337 P **P** **10 32 28.6 +0.8**
baz=116
BMAR **Burnt Mountain** 63.28 340 P **P** **10 32 29.8 +1.6**
BWN **Browne** 63.55 336 P **P** **10 32 29.5 -0.5**
SKT **Skwentna** 63.56 333 P **P** **10 32 28.4 -1.7**
TRF **Thorofare Moun** 63.59 335 P **P** **10 32 29.9 -0.6**
KTH **Kantishna Hill** 63.90 335 P **P** **10 32 32.9 +0.5**
KTH IAmb IAmb 10 32 34.2
comp=Z,10nm,1.0s
BPAW **Bear Paw Mtn.** 64.14 335 P **P** **10 32 31.6 -2.3**
PPLA **Purkeypile** 64.18 334 P **P** **10 32 34.4 +0.1**
MLY **Manley** 64.41 336 P **P** **10 32 36.4 +0.8**
PPT **Papeete** 64.53 243 LR LR 10 54 26.8
comp=Z,89nm,18.2s,baz=78,slow=30
COLD **Coldfoot** 65.11 339 P **P** **10 32 42.1 +2.0**
COLD IAmb IAmb 10 32 54.6
comp=Z,8.8nm,1.3s
TOLK **Toolik Lake Re** 65.51 340 P **P** **10 32 43.8 +1.0**
baz=116
TOLK **Toolik Lake Re** 65.51 340 P **P** **10 32 44.3 +1.5**
IMAR **Indian Mountai** 65.93 337 P **P** **10 32 45.5 +0.1**
ESDC **Sonseca Array** 80.05 52 P **P** **10 34 07.5 -2.1**
comp=Z,0.5nm,0.7s,baz=280,slow=5.0,SNR=4.2
ESDC **Sonseca Array** 80.05 52 P **P** **10 34 06.9 -2.7**
BILL **Bilibino** 81.44 338 ⇓*e*P **P** **10 34 18.1 +1.8**
BILL pmax pmax
comp=Z,33nm,2.9s
BILL **Bilibino** 81.44 338 P **P** **10 34 17.9 +1.6**
BILL IAmb IAmb 10 34 19.7
comp=Z,6.6nm,0.7s
NOA **NORSAR Array B** 84.41 28 P **P** **10 34 31.1 -0.8**
comp=Z,0.5nm,0.6s,baz=292,slow=4.2,SNR=2.9
NOA LR LR 11 14 52.2
comp=Z,92nm,18.9s,baz=290,slow=38
ARCES **ARCESS Array B** 86.35 18 P **P** **10 34 40.6 -0.8**
comp=Z,2.3nm,0.7s,baz=294,slow=4.6,SNR=5.2
ARCES LR LR 11 13 10.9
comp=Z,79nm,19.1s,baz=314,slow=36
GERES **GERESS Array B** 89.91 39 P **P** **10 34 58.4 -0.5**
comp=Z,0.4nm,0.7s,baz=300,slow=2.9,SNR=4.2
TIXI **Tiksi** 90.30 348 ⇓*i*P **P** **10 35 00.7 +0.6**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI **Tiksi** 90.30 348 P **P** **10 34 59.8 -0.2**
comp=Z,3.8nm,0.8s,baz=0.0,slow=24,SNR=13
TIXI **Tiksi** 90.30 348 P **P** **10 35 00.2 +0.1**
TORD **Torodi Ar. Bea** 90.74 76 P **P** **10 35 02.1 -1.2**
comp=Z,0.5nm,0.7s,baz=305,slow=5.1,SNR=2.5
TORD LR LR 11 16 13.7
comp=Z,75nm,18.4s,baz=0.0,slow=36
FINES **FINESS Array B** 90.75 25 LR LR 11 15 38.8
comp=Z,90nm,18.1s,baz=283,slow=35
NRIK **Norilʹsk** 96.99 0 LR LR 11 23 47.9
comp=Z,179nm,18.8s,baz=338,slow=38
YAK **Yakutsk** 97.45 341 ⇓*e*P Pdif 10 35 34.6 +1.5
YAK pmax pmax
comp=Z,6.0nm,0.9s
AKASG **Malin Array Be** 98.01 33 LR LR 11 22 57.5
comp=Z,80nm,18.0s,baz=315,slow=37
KIV **Kislovodsk** 109.35 33 *e*P **Pdif** **10 36 26.0 -0.6**
KIV *e* 10 40 58.9
KIV pmax pmax
comp=Z,4.0nm,1.1s
BRVK **Borovoye** 111.67 11 ⇓*i*PKIKP **PKiKP** **10 40 33.7 -0.3**
TLY **Talaya** 113.24 349 ⇑*i*PKIKP **PKiKP** **10 40 36.8 -0.3**
KURK **Kurchatov** 115.19 6 *i* PKIKP **PKPdf** **10 40 41.4 +0.6**
ULN **Ulaanbaatar** 116.13 346 *i* PKIKP **PKPdf** **10 40 43.3 +0.3**
SONM **Songino Array** 116.32 346 PKP **PKPdf** **10 40 43.4 +0.1**
comp=Z,0.4nm,0.8s,baz=302,slow=3.2,SNR=4.8
MKAR **Makanchi Array** 119.41 4 PKIKP **PKiKP** **10 40 49.5 +0.3**
MKAR **Makanchi Array** 119.41 4 PKP **PKPdf** **10 40 49.0 -0.1**
comp=Z,0.3nm,0.7s,baz=259,slow=2.9,SNR=2.8
MKAR **Makanchi Array** 119.41 4 **PKiKP** **10 40 49.5 +0.3**
BOSA **Boshof** 120.62 115 PKIKP **PKPdf** **10 40 51.3 -0.7**
BOSA **Boshof** 120.62 115 PKP **PKPdf** **10 40 51.6 -0.4**
comp=Z,1.7nm,0.7s,baz=258,slow=2.4,SNR=3.8
BOSA **Boshof** 120.62 115 **PKPdf** **10 40 51.3 -0.7**
KSH **Kashi** 125.77 11 *e*PKP **PKiKP** **10 41 04.0 +1.9**
STKA **Stephens Creek** 127.70 240 PKP **PKiKP** **10 41 05.9 0.0**
comp=Z,0.7nm,0.7s,baz=225,slow=2.9,SNR=3.5
LZH **Lanzhou** 127.99 343 *e*PKP **PKPdf** **10 41 06.3 +0.2**
LZH pPKP sPKPdf 10 41 23.5 -1.6
LZH sPKP 10 41 30.5
LZH LR LR
comp=N,51nm,18.0s
LZH LR LR
comp=E,59nm,18.2s
LZH LR LR
comp=Z,76nm,20.1s
WRAB **Tennant Creek** 135.03 256 ⇑*i*PKIKP **PKiKP** **10 41 22.2 +1.2**
ASAR **Alice Springs** 135.31 250 PKIKP **PKPdf** **10 41 19.2 -0.8**
ASAR **Alice Springs** 135.31 250 PKP **PKPdf** **10 41 19.4 -0.6**
comp=Z,0.3nm,0.7s,baz=102,slow=1.6,SNR=4.0
ASAR **Alice Springs** 135.31 250 **PKPdf** **10 41 19.2 -0.8**
CMAR **Chiang Mai Arr** 145.99 341 PKP2 **PKPab** **10 41 40.9 +0.3**
CMAR **Chiang Mai Arr** 145.99 341 PKPbc **PKPab** **10 41 41.3 +0.7**
comp=Z,12nm,0.7s,baz=337,slow=3.3,SNR=48
CMAR **Chiang Mai Arr** 145.99 341 PKPbc **PKPab** **10 41 40.9 +0.3**

*NNC **31** 10:25:29.6±2.5, 37.°02N×71.°24E, h163km±63km, mb2.7, mpv3.5, Error ellipse: s-maj=26.4km s-min=16.1km az=8.0*
ISC 31 10:25:26.1±3.7, 36.°8N±0.°2×71.°1E±0.°1, h88km, n9,
σ1ᵍ29/12, **4C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.69**	**20**	P	**Pn**	**10 26 49.7**	**+1.3**
	SNR=29						
UCH	**Uchtor**	**6.02**	**25**	P	**Pn**	**10 26 54.0**	**+1.0**
	SNR=8.7						
EKS2	**Erkin-Say**	**6.20**	**18**	P	**Pn**	**10 26 57.0**	**+1.9**
	SNR=15						
KK31	**Karatay Array**	**6.31**	**356**	⇑P	**Pn**	**10 26 58.1**	**+1.5**
	1.1nm,0.3s,baz=173,slow=12,SNR=53						
KK31				⇑S	**Sn**	**10 28 06.9**	**-0.3**
	3.0nm,0.5s,baz=186,slow=25,SNR=11						
AAK	**Ala-Archa**	**6.38**	**23**	P	**Pn**	**10 26 59.0**	**+1.4**
	SNR=8.5						
AAK	**Ala-Archa**	**6.38**	**23**	P	**Pn**	**10 26 58.4**	**+0.7**
	3.8nm,0.7s						
AAK				⇑S	**Sn**	**10 28 09.2**	**0.0**
	5.0nm,0.6s						
USP	**Ospenovka**	**6.96**	**21**	P	**Pn**	**10 27 06.1**	**+0.7**
	SNR=8.9						
TKM2	**Tokmak 2**	**7.02**	**28**	⇓P	**Pn**	**10 27 06.5**	**+0.1**
	3.3nm,0.8s						
TKM2				⇑S	**Sn**	**10 28 23.3**	**-1.3**
	3.7nm,1.1s						
AB31	**Akbulak array**	**14.87**	**330**	⇓P	**Pn**	**10 28 50.2**	**-1.3**
	0.4nm,0.5s,baz=138,slow=11,SNR=7.6						

*ISCJB **31** 10:27:41.7±0.9, 7.°34S±0.°08×105.°18E±0.°05, h67km±8km, mb3.8/8, Error ellipse: s-maj=14.5km s-min=5.1km az=30.7*
*NEIC **31** 10:27:41±1.8, 7.°51S±0.°07×105.°07E±0.°03, h46km±8km, mb4.2/8*
*DJA **31** 10:27:42.1±1.5, 7.°5S±5'×10.°5E±.°, h27km±17km, M3.9/13, mb3.7/3, MLv4.0/13*
*IDC **31** 10:27:47.3±5.4, 7.°22S×105.°28E, h93km±41km, mb3.5/8, mb1 3.6/9, mb1mx3.3/51, mbtmp3.9/9, Error ellipse: s-maj=49.7km s-min=17.1km az=62.0*
ISC 31 10:27:41.2±1.6, 7.°46S±0.°08×105.°10E±0.°07, h45km±15km, **n50**, σ1ᵍ29/51, **mb4.0**/12, **Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**1.51**	**73**	P	**Pn**	**10 28 04.4**	**-1.5**
SKJI				S	**Sn**	**10 28 25.2**	**+0.8**
SBJI	**Serang**	**1.68**	**38**	P	**Pn**	**10 28 08.5**	**+0.4**
DBJI	**Dramaga**	**1.87**	**61**	P	**Pn**	**10 28 10.8**	**0.0**
DBJI				S	**Sn**	**10 28 32.7**	**-0.5**
KASI	**Kota Agung**	**2.01**	**343**	P	**Pn**	**10 28 13.0**	**+0.2**
CNJI	**Cibinong**	**2.02**	**86**	P	**Pn**	**10 28 13.3**	**+0.5**
CBJI	**Citeko**	**2.02**	**59**	P	**Pn**	**10 28 12.6**	**-0.2**
CBJI				S	**Sn**	**10 28 35.2**	**-1.7**
LEM	**Lembang**	**2.58**	**76**	P	**Pn**	**10 28 24.2**	**+3.6**
	45nm,0.3s,baz=199,slow=11,SNR=13						
LEM				S	**Sn**	**10 28 53.6**	**+2.8**
	19nm,0.3s,baz=351,slow=21,SNR=8.7						
LEM	**Lembang**	**2.58**	**76**	P	**Pn**	**10 28 21.7**	**+1.1**
LWLI	**Liwa**	**2.64**	**337**	P	**Pn**	**10 28 21.5**	**+0.1**
CISI	**Cisompet, Garu**	**2.69**	**92**	P	**Pn**	**10 28 22.1**	**0.0**
CISI	**Cisompet, Garu**	**2.69**	**92**		**Pn**	**10 28 20.7**	**-1.4**
CISI				Sn	**Sn**	**10 28 51.1**	**-2.5**
KLSI		**2.77**	**352**	P	**Pn**	**10 28 24.4**	**+1.2**
MDSI	**Maura Dua**	**3.09**	**343**	P	**Pn**	**10 28 28.4**	**+0.8**
CMJI	**Cimerak**	**3.33**	**96**	P	**Pn**	**10 28 29.6**	**-1.3**
MNAI	**Manna**	**3.75**	**325**	P	**Pn**	**10 28 37.1**	**+0.5**
MNAI	**Manna**	**3.75**	**325**	Pn	**Pn**	**10 28 36.8**	**+0.3**
MNAI				Sn	**Sn**	**10 29 20.5**	**+1.0**
KPJI	**Karang Pucung**	**3.80**	**88**	P	**Pn**	**10 28 39.6**	**+2.3**
KSI	**Kapahiang**	**4.53**	**326**	P	**Pn**	**10 28 48.8**	**+1.4**
TPI	**Tanjungpandan**	**5.32**	**29**	P	**Pn**	**10 28 57.5**	**-0.7**
	30nm,1.3s,0.1nm						
UGM	**Wanagama**	**5.39**	**95**	P	**Pn**	**10 28 59.5**	**+0.3**
	206nm,1.7s,1.5nm						
UGM	**Wanagama**	**5.39**	**95**	Pn	**Pn**	**10 28 59.7**	**+0.5**
UGM				Sn	**Sn**	**10 30 00.2**	**+0.1**
JAGI	**Jajag, Banyuwa**	**9.02**	**97**	Pn	**Pn**	**10 29 49.1**	**+0.1**
GIRL	**Giralia**	**17.47**	**151**	Pn	**Pn**	**10 31 38.5**	**-3.2**
PSA00	**Pilbara Seismi**	**19.99**	**136**	P	**Pn**	**10 32 12.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**22.62**	**120**	P	**P**	**10 32 40.2**	**+1.7**
	1.7nm,0.7s,baz=333,slow=4.5,SNR=4.2						
FITZ	**Fitzroy Crossi**	**22.62**	**120**	P	**P**	**10 32 39.7**	**+1.3**
KNRA	**Kununurra**	**24.56**	**112**	P	**P**	**10 32 57.4**	**+0.3**
KNRA				IAmb	IAmb	10 32 58.3	
	comp=Z,7.6nm,1.0s						
H01W3	**Cape Leeuwin H**	**28.53**	**164**	T	T	11 04 01.8	
	baz=344,slow=76,SNR=5.4						
H01W1	**Cape Leeuwin H**	**28.55**	**164**	T	T	11 04 04.1	
	baz=344,slow=76,SNR=5.0						
H01W2	**Cape Leeuwin H**	**28.55**	**164**	T	T	11 04 05.0	
	baz=344,slow=76,SNR=5.7						
ASAR	**Alice Springs**	**31.98**	**123**	P	**P**	**10 34 04.2**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=300,slow=8.4,SNR=12						
H08S2	**Diego Garcia H**	**32.32**	**267**	T	T	11 08 33.2	
	baz=91,slow=76,SNR=30						
H08S3	**Diego Garcia H**	**32.33**	**268**	T	T	11 08 34.0	
	baz=91,slow=76,SNR=29						
H08S1	**Diego Carcia H**	**32.34**	**267**	T	T	11 08 34.7	
	baz=91,slow=76,SNR=18						
STKA	**Stephens Creek**	**41.75**	**131**	P	**P**	**10 35 27.8**	**+1.5**
	comp=Z,1.6nm,0.7s,baz=326,slow=8.5,SNR=5.7						
STKA	**Stephens Creek**	**41.75**	**131**	P	**P**	**10 35 27.6**	**+1.3**
SONM	**Songino Array**	**55.06**	**1**	P	**P**	**10 37 07.8**	**-0.8**
SONM	**Songino Array**	**55.06**	**1**	P	**P**	**10 37 07.8**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=167,slow=6.4,SNR=3.9						
USA0B	**Ussuriysk Arra**	**56.87**	**23**	P	**P**	**10 37 20.6**	**-0.8**
USA0B				IAmb	IAmb	10 37 22.2	
	comp=Z,5.2nm,1.1s						
USRK	**Ussuriysk Ar.**	**56.87**	**23**	P	**P**	**10 37 20.4**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=194,slow=5.4,SNR=8.9						
MKAR	**Makanchi Array**	**57.70**	**342**	P	**P**	**10 37 27.3**	**0.0**
	comp=Z,0.5nm,0.7s,baz=141,slow=7.8,SNR=6.6						
MKAR	**Makanchi Array**	**57.70**	**342**	P	**P**	**10 37 27.1**	**-0.1**
KLR	**Kulʹdur**	**61.08**	**20**	P	**P**	**10 37 48.5**	**-2.0**
	comp=Z,0.4nm,0.5s,baz=199,slow=6.1,SNR=3.7						
ZAA0	**Zalesovo Array**	**63.52**	**347**	P	**P**	**10 38 06.2**	**-0.5**
ZAA0				IAmb	IAmb	10 38 07.8	
	comp=Z,1.5nm,0.8s						
ZALV	**Zalesovo Beam**	**63.52**	**347**	P	**P**	**10 38 06.2**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=159,slow=4.5,SNR=6.6						
ZALV	**Zalesovo Beam**	**63.52**	**347**	P	**P**	**10 38 06.5**	**-0.3**
ABKAR	**Akbulak array**	**68.86**	**330**	P	**P**	**10 38 41.3**	**+0.3**
ABKAR	**Akbulak array**	**68.86**	**330**	P	**P**	**10 38 40.5**	**-0.5**
ABKAR				IAmb	IAmb	10 38 43.6	
	comp=Z,1.2nm,0.6s						
TXAR	**Lajitas Array**	**145.27**	**48**	PKP	**PKPab**	**10 47 15.8**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=306,slow=1.2,SNR=7.1						
TXAR	**Lajitas Array**	**145.27**	**48**		**PKPab**	**10 47 15.2**	**+0.4**

WEL 31 10:40:53.9±1.7, 34.°S±10'×18.°0W±2.°1, h33km, M4.0/12, **mB4.7/1, ML4.2**/12, **MLv4.0**/12, **Mw(mB)3.9**/1, **Error ellipse: s-maj=0.0km s-min=0.0km az=94.5, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.26**	**199**	P	Pn	10 41 57.6	+1.1
WMGZ	**Waiomatatini S**	**4.48**	**197**	P	Pn	10 42 00.8	+1.4
WMGZ				S	Sn	10 42 52.4	+2.0
HAZ	**Te Kaha**	**4.60**	**203**	P	Pn	10 42 01.7	+0.6
HAZ				S	Sn	10 42 53.7	+0.2
PKGZ	**Pakihiroa**	**4.63**	**200**	P	Pn	10 42 02.1	+0.5
GRZ	**Great Barrier**	**4.66**	**233**	P	Pn	10 42 01.6	-0.4
PUZ	**Puketiti**	**4.76**	**198**	P	Pn	10 42 03.3	0.0
PUZ				S	Sn	10 42 57.6	+0.3
KUZ	**Kuaotunu**	**4.79**	**227**	P	Pn	10 42 05.5	+1.7
RUGZ	**Raukumara Rang**	**4.83**	**203**	P	Pn	10 42 04.2	-0.2
CNGZ	**Carnagh Statio**	**5.16**	**197**	P	Pn	10 42 08.7	-0.2
OPRZ	**Ohinepanea**	**5.16**	**213**	P	Pn	10 42 08.5	-0.3
MWZ	**Matawai**	**5.21**	**203**	P	Pn	10 42 08.4	-1.2
TKGZ	**Te Karaka**	**5.21**	**200**	P	Pn	10 42 08.4	-1.2
URZ	**Urewera**	**5.29**	**206**	P	Pn	10 42 09.4	-1.2
RAGZ	**Rawiri**	**5.39**	**203**	P	Pn	10 42 11.8	-0.3
RIGZ	**Rimuhau**	**5.49**	**199**	P	Pn	10 42 11.5	-1.8
MUGZ	**Murupara**	**5.61**	**208**	P	Pn	10 42 13.2	-1.8
SNGZ	**Shannon Statio**	**5.68**	**202**	P	Pn	10 42 13.9	-2.1
KNZ	**Kokohu**	**5.80**	**199**	P	Pn	10 42 14.7	-3.0
MTHZ	**Maungataniwha**	**5.91**	**205**	P	Pn	10 42 18.9	-0.3
KWHZ	**Kaweka Forest**	**6.57**	**206**	P	Pn	10 42 23.9	-4.3
KAHZ	**Kahuranaki**	**6.75**	**202**	P	Pn	10 42 26.1	-4.6
KRHZ	**Kereru**	**6.78**	**205**	P	Pn	10 42 27.3	-3.8
PNHZ	**Pukenui**	**7.08**	**205**	P	Pn	10 42 31.

*IDC **31** 10:45:27.7±1.5,20°.37S×178°.32W,h565km±18km, mb3.6/16,mb1 3.8/19,mb1mx3.6/37,mbtmp4.6/19,Error ellipse: s-maj=16.9km s-min=11.7km az=129.0*
*ISCJB **31** 10:45:28.4±0.2,20°.37S±0°.03×178°.46W±0°.05,h587km, mb4.1/18,Error ellipse: s-maj=6.7km s-min=3.2km az=12.7*
*NEIC **31** 10:45:28.6±2.0,20°.30S±0°.10×178°.37W±0°.09, h578km±6km,mb4.5/71*

ISC 31 10:45:28.8±0.4,**20°.29S**±0°.06×**178°.32W**±0°.07,**h587**km, **n210,σ1°62/223,mb4.4**/50,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.27**	**306**	P		**P**	**10 46 55.7**	**+0.3**
NIUE	**Niue**	**8.00**	**83**	P		**P**	**10 47 26.2**	**-1.5**
NIUE				S		**S**	**10 49 11.6**	**+6.4**
AFI	**Afiamalu**	**8.91**	**46**	P		**P**	**10 47 34.4**	**-2.4**
	20nm,0.3s,baz=46,slow=1.9,SNR=39							
AFI				S		**S**	**10 49 13.9**	**-7.6**
	10nm,0.3s,baz=71,slow=21,SNR=7.6							
AFI	**Afiamalu**	**8.91**	**46**	P		**P**	**10 47 34.3**	**-2.4**
AFI						**S**	**10 49 15.2**	**-6.3**
GLKZ	**Green Lake**	**8.95**	**178**	P		**P**	**10 47 34.1**	**-2.6**
GLKZ				S		S	10 49 09.1	-13
DZM	**Mont Dzumac**	**14.32**	**260**	P		**P**	**10 48 30.0**	**-1.2**
	3.5nm,0.3s,baz=138,slow=9.5,SNR=33							
DZM	**Mont Dzumac**	**14.32**	**260**	P		**P**	**10 48 30.4**	**-0.8**
OUZ	**Omahuta**	**16.50**	**204**	P		**P**	**10 48 52.8**	**+1.6**
OUZ	**Omahuta**	**16.50**	**204**	P		**P**	**10 48 53.0**	**+1.8**
GRZ	**Great Barrier**	**16.82**	**198**	P		**P**	**10 48 54.6**	**+0.6**
WCZ	**Waipu Caves**	**16.87**	**201**	P		**P**	**10 48 56.1**	**+1.5**
KUZ	**Kuaotunu**	**17.21**	**196**	P		**P**	**10 48 58.5**	**+0.9**
MXZ	**Matakaoa Point**	**17.46**	**189**	P		**P**	**10 48 59.1**	**-0.8**
MXZ	**Matakaoa Point**	**17.46**	**189**	P		**P**	**10 48 59.1**	**-0.8**
EPAZ	**Eden Park BICE**	**17.61**	**199**	P		**P**	**10 49 02.8**	**+1.6**
ETAZ	**East Tamaki Re**	**17.62**	**198**	P		**P**	**10 49 02.9**	**+1.4**
MKAZ	**Moumakai**	**17.70**	**197**	P		**P**	**10 49 02.9**	**+0.8**
WMGZ	**Waiomatatini S**	**17.70**	**189**	P		**P**	**10 49 02.1**	**0.0**
WTAZ	**Waiatarua**	**17.71**	**199**	P		**P**	**10 49 03.3**	**+1.1**
HAZ	**Te Kaha**	**17.74**	**190**	P		**P**	**10 49 01.2**	**-1.2**
KBAZ	**Karaka Road Bo**	**17.77**	**198**	P		**P**	**10 49 04.6**	**+2.0**
PKGZ	**Pakihiroa**	**17.82**	**189**	P		**P**	**10 49 02.0**	**-1.3**
RUGZ	**Raukumara Rang**	**17.96**	**190**	P		**P**	**10 49 03.5**	**-1.1**
RUGZ				S		**S**	**10 51 57.1**	**-2.8**
PUZ	**Puketiti**	**17.97**	**189**	P		**P**	**10 49 04.3**	**-0.3**
TGRZ	**Tauranga**	**18.01**	**194**	P		**P**	**10 49 06.5**	**+1.6**
OPRZ	**Ohinepanea**	**18.05**	**193**	P		**P**	**10 49 04.8**	**-0.5**
KMRZ	**Kaimai**	**18.20**	**195**	P		**P**	**10 49 08.1**	**+1.4**
TOZ	**Tahuroa Road**	**18.20**	**196**	P		**P**	**10 49 08.2**	**+1.6**
KARZ	**Kaharoa**	**18.29**	**194**	P		**P**	**10 49 08.8**	**+1.3**
MWZ	**Matawai**	**18.34**	**190**	P		**P**	**10 49 05.8**	**-2.2**
URZ	**Urewera**	**18.34**	**191**	P		**P**	**10 49 05.1**	**-2.8**
	6.1nm,0.3s,baz=260,slow=3.4,SNR=23							
URZ				S		**S**	**10 51 58.6**	**-7.3**
	0.4nm,0.3s,baz=29,slow=3.3,SNR=3.0							
URZ	**Urewera**	**18.34**	**191**	P		**P**	**10 49 05.1**	**-2.8**
URZ	**Urewera**	**18.34**	**191**	P		**P**	**10 49 05.0**	**-2.8**
URZ				S		**S**	**10 52 03.5**	**-2.4**
ONRZ	**Omania**	**18.35**	**193**	P		**P**	**10 49 08.3**	**+0.2**
CNGZ	**Carnagh Statio**	**18.39**	**199**	P		**P**	**10 49 08.9**	**+0.6**
TKGZ	**Te Karaka**	**18.39**	**190**	P		**P**	**10 49 08.1**	**-0.3**
RAGZ	**Rawiri**	**18.52**	**191**	P		**P**	**10 49 10.4**	**+0.7**
RRRZ	**Republican Roa**	**18.54**	**193**	P		**P**	**10 49 10.8**	**+1.0**
KNTN	**Kanton**	**18.56**	**21**	P		**P**	**10 49 07.5**	**-2.8**
HSRZ	**Hossack Road**	**18.57**	**194**	P		**P**	**10 49 11.2**	**+1.1**
MUGZ	**Murupara**	**18.62**	**192**	P		**P**	**10 49 09.0**	**-1.5**
GRRZ	**Galatos Road**	**18.64**	**194**	P		**P**	**10 49 12.9**	**+2.3**
HRRZ	**Handcock Road**	**18.64**	**193**	P		**P**	**10 49 11.2**	**+0.5**
RIGZ	**Rimuhau**	**18.67**	**190**	P		**P**	**10 49 10.6**	**-0.4**
TLZ	**Tolley Road**	**18.75**	**195**	P		**P**	**10 49 13.9**	**+2.2**
WPRZ	**Whakapapatarin**	**18.79**	**194**	P		**P**	**10 49 13.7**	**+1.6**
SNGZ	**Shannon Statio**	**18.81**	**191**	P		**P**	**10 49 11.0**	**-1.2**
PRGZ	**Paritu Road**	**18.86**	**189**	P		**P**	**10 49 13.6**	**+0.9**
MTHZ	**Maungataniwha**	**18.97**	**192**	P		**P**	**10 49 12.1**	**-1.6**
RAHZ	**Arahi**	**18.99**	**191**	P		**P**	**10 49 13.0**	**-0.9**
KNZ	**Kokohu**	**18.99**	**190**	P		**P**	**10 49 12.8**	**-1.0**
MRHZ	**Matea Rd**	**19.04**	**193**	P		**P**	**10 49 13.3**	**-1.0**
WATZ	**Wairara**	**19.07**	**194**	P		**P**	**10 49 16.8**	**+2.2**
HIZ	**Hauiti**	**19.10**	**197**	P		**P**	**10 49 17.6**	**+2.8**
RATZ	**Rangitukua**	**19.21**	**194**	P		**P**	**10 49 17.3**	**+1.4**
RITZ	**Rihia Road**	**19.29**	**194**	P		**P**	**10 49 17.5**	**+0.9**
TWVZ	**Taurewa**	**19.48**	**195**	P		**P**	**10 49 18.1**	**-0.3**
WTVZ	**West Tongariro**	**19.49**	**194**	P		**P**	**10 49 19.8**	**+1.3**
NGZ	**Ngauruhoe**	**19.54**	**194**	P		**P**	**10 49 19.3**	**+0.3**
MCHZ	**McNeill Hill**	**19.57**	**192**	P		**P**	**10 49 18.6**	**-0.5**
KWHZ	**Kaweka Forest**	**19.60**	**192**	P		**P**	**10 49 18.8**	**-0.7**
TUVZ	**Tukino**	**19.62**	**194**	P		**P**	**10 49 19.0**	**-0.7**
FWVZ	**Far West T-bar**	**19.63**	**194**	P		**P**	**10 49 19.7**	**-0.2**
PKVZ	**Pokaka**	**19.71**	**195**	P		**P**	**10 49 21.4**	**+0.9**
MOVZ	**Moawhango**	**19.73**	**194**	P		**P**	**10 49 19.4**	**-1.2**
BHHZ	**Black Hill Sta**	**19.74**	**193**	P		**P**	**10 49 18.5**	**-2.2**
KRHZ	**Kereru**	**19.83**	**192**	P		**P**	**10 49 20.1**	**-1.4**
KAHZ	**Kahuranaki**	**19.88**	**191**	P		**P**	**10 49 21.2**	**-0.7**
PXZ	**Pawanui**	**20.11**	**191**	P		**P**	**10 49 23.1**	**-0.9**
LRRZ	**Lake Rotokare**	**20.11**	**197**	P		**P**	**10 49 26.6**	**+2.6**
PNHZ	**Pukenui**	**20.12**	**192**	P		**P**	**10 49 23.0**	**-1.1**
WAZ	**Wanganui**	**20.24**	**195**	P		**P**	**10 49 27.9**	**+2.7**
TSZ	**Takapari Road**	**20.31**	**193**	P		**P**	**10 49 24.7**	**-1.1**
PRHZ	**Porangahau**	**20.38**	**191**	P		**P**	**10 49 26.0**	**-0.4**
BFZ	**Birch Farm**	**20.85**	**192**	P		**P**	**10 49 28.4**	**-2.3**
BFZ				IAmb	IAmb	IAmb	10 49 42.8	
	comp=Z,53nm,1.4s							
MRZ	**Mangatainoka R**	**20.97**	**193**	P		**P**	**10 49 29.4**	**-2.2**
DUWZ	**D'Urville Isla**	**21.50**	**196**	P		**P**	**10 49 35.8**	**-0.7**
MSWZ	**Moikau Station**	**21.76**	**193**	P		**P**	**10 49 37.8**	**-1.0**
SNZO	**South Karori**	**21.78**	**194**	P		**P**	**10 49 37.8**	**-1.1**
TCW	**Tory Channel**	**21.79**	**195**	P		**P**	**10 49 39.8**	**+0.7**
BHW	**Baring Head**	**21.84**	**194**	P		**P**	**10 49 38.0**	**-1.5**
PLWZ	**Palliser**	**21.91**	**193**	P		**P**	**10 49 38.7**	**-1.4**
QRZ	**Quartz Range**	**21.91**	**199**	P		**P**	**10 49 39.9**	**-0.3**
QRZ	**Quartz Range**	**21.91**	**199**	P		**P**	**10 49 39.9**	**-0.2**
NNZ	**Nelson**	**22.03**	**197**	P		**P**	**10 49 40.0**	**-1.1**
NNZ	**Nelson**	**22.03**	**197**	P		**P**	**10 49 40.4**	**-0.7**
TUWZ	**Tuamarina**	**22.08**	**196**	P		**P**	**10 49 40.8**	**-0.8**
TUWZ	**Tuamarina**	**22.08**	**196**	P		**P**	**10 49 39.4**	**-2.2**
BSWZ	**Blackbirch Sta**	**22.36**	**195**	P		**P**	**10 49 45.4**	**+1.3**
BSWZ	**Blackbirch Sta**	**22.36**	**195**	P		**P**	**10 49 44.5**	**+0.3**
THZ	**Tophouse**	**22.67**	**197**	P		**P**	**10 49 45.4**	**-1.5**
THZ	**Tophouse**	**22.67**	**197**	P		**P**	**10 49 45.6**	**-1.3**
THZ				IAmb	IAmb	IAmb	10 49 48.1	
	comp=Z,20nm,0.9s							
DSZ	**Denniston Nort**	**22.97**	**199**	P		**P**	**10 49 49.7**	**0.0**
KHZ	**Kahutara**	**23.11**	**195**	P		**P**	**10 49 49.0**	**-1.8**
KHZ	**Kahutara**	**23.11**	**195**	P		**P**	**10 49 49.0**	**-1.7**
KHZ				IAmb	IAmb	IAmb	10 49 50.5	
	comp=Z,35nm,1.0s							
GVZ	**Greta Valley S**	**23.75**	**196**	P		**P**	**10 49 54.6**	**-1.9**
LTZ	**Lake Taylor**	**23.79**	**197**	P		**P**	**10 49 54.5**	**-2.3**
LTZ	**Lake Taylor**	**23.79**	**197**	P		**P**	**10 49 54.8**	**-2.0**
LTZ				IAmb	IAmb	IAmb	10 49 59.5	
	comp=Z,22nm,1.1s							
INZ	**Inchbonnie**	**23.98**	**199**	P		**P**	**10 49 57.1**	**-1.3**
OXZ	**Oxford**	**24.35**	**197**	P		**P**	**10 50 00.4**	**-1.4**
OXZ	**Oxford**	**24.35**	**197**	P		**P**	**10 49 59.7**	**-2.1**
OXZ				IAmb	IAmb	IAmb	10 50 00.6	
	comp=Z,22nm,0.8s							
WVZ	**Waitaha Valley**	**24.51**	**200**	P		**P**	**10 50 02.6**	**-0.6**
MQZ	**McQueen's Vall**	**24.54**	**196**	P		**P**	**10 50 02.1**	**-1.3**
MQZ	**McQueen's Vall**	**24.54**	**196**	P		**P**	**10 50 01.6**	**-1.8**
RPZ	**Rata Peaks**	**24.99**	**198**	P		**P**	**10 50 07.6**	**+0.1**
	comp=Z,8.5nm,0.5s,baz=253,slow=1.9,SNR=8.7							
RPZ	**Rata Peaks**	**24.99**	**198**	P		**P**	**10 50 08.1**	**+0.6**
RPZ	**Rata Peaks**	**24.99**	**198**	P		**P**	**10 50 08.2**	**+0.7**
RPZ				IAmb	IAmb	IAmb	10 50 15.6	
	comp=Z,24nm,1.1s							
FOZ	**Fox Glacier**	**25.22**	**201**	P		**P**	**10 50 07.8**	**-1.6**
LBZ	**Lake Benmore**	**25.87**	**199**	P		**P**	**10 50 14.1**	**-1.0**
LBZ	**Lake Benmore**	**25.87**	**199**	P		**P**	**10 50 13.4**	**-1.7**
LBZ				IAmb	IAmb	IAmb	10 50 14.0	
	comp=Z,18nm,1.0s							
MLZ	**Mavora Lakes**	**27.41**	**201**	P		**P**	**10 50 28.6**	**0.0**
DCZ	**Deep Cove**	**27.83**	**202**	P		**P**	**10 50 32.4**	**+0.2**
WHZ	**Wether Hill Ro**	**27.93**	**201**	P		**P**	**10 50 32.8**	**-0.4**
EIDS	**Eidsvold**	**28.61**	**254**	P		**P**	**10 50 39.2**	**-0.2**
EIDS				IAmb	IAmb	IAmb	10 50 40.1	
	comp=Z,19nm,0.6s							
ARMA	**Armidale**	**28.89**	**244**	P		**P**	**10 50 42.3**	**+0.4**
ARMA				IAmb	IAmb	IAmb	10 50 43.5	
	comp=Z,18nm,0.9s							
CAN	**Canberra**	**32.38**	**236**	P		**P**	**10 51 11.2**	**-0.4**
CAN				IAmb	IAmb	IAmb	10 51 13.2	
	comp=Z,16nm,1.2s							
PMG	**Port Moresby**	**35.00**	**283**	P		**P**	**10 51 34.2**	**+0.5**
	comp=Z,11nm,0.8s,baz=87,slow=4.0,SNR=9.2							
PMG	**Port Moresby**	**35.00**	**283**	P		**P**	**10 51 32.5**	**-1.2**
PMG				IAmb		IAmb	10 51 34.9	
	comp=Z,13nm,0.8s							
TOO	**Toolangi**	**35.78**	**233**	P		**P**	**10 51 39.9**	**0.0**
TOO				IAmb		IAmb	10 51 40.9	
	comp=Z,32nm,1.4s							
COEN	**Coen**	**37.27**	**273**	P		**P**	**10 51 52.5**	**+0.1**
COEN				IAmb		IAmb	10 51 53.7	
	comp=Z,12nm,0.8s							
STKA	**Stephens Creek**	**37.61**	**244**	P		**P**	**10 51 55.1**	**+0.1**
	comp=Z,9.6nm,0.5s,baz=82,slow=11,SNR=37							
STKA	**Stephens Creek**	**37.61**	**244**	P		**P**	**10 51 55.3**	**+0.4**
BBOO	**Buckleboo**	**42.37**	**243**	P		**P**	**10 52 32.8**	**-0.1**
AS31	**Alice Springs**	**44.27**	**257**	P		**P**	**10 52 47.6**	**-0.2**
AS31				IAmb		IAmb	10 52 48.9	
	comp=Z,17nm,1.2s							
ASAR	**Alice Springs**	**44.27**	**257**	P		**P**	**10 52 47.8**	**0.0**
	comp=Z,30nm,0.7s,baz=96,slow=7.7,SNR=457							
ASAR				PcP		**PcP**	**10 54 19.7**	**+0.6**
	comp=Z,2.1nm,0.5s,baz=109,slow=3.6,SNR=5.4							
ASAR				ScP		**ScP**	**10 57 16.8**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=110,slow=4.0,SNR=4.5							
ASAR				S		**S**	**10 58 38.0**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=91,slow=16,SNR=6.6							
ASAR	**Alice Springs**	**44.27**	**257**	P		**P**	**10 52 47.1**	**-0.7**
ASAR				PcP		**PcP**	**10 54 19.6**	**+0.5**
WRAB	**Tennant Creek**	**44.32**	**262**	P		**P**	**10 52 47.2**	**-1.0**
WRAB				IAmb		IAmb	10 52 48.3	
	comp=Z,30nm,1.1s							
MTN	**Manton Dam**	**48.86**	**270**	P		**P**	**10 53 22.2**	**-0.2**
MTN				IAmb		IAmb	10 53 22.5	
	comp=Z,24nm,0.6s							
FORT	**Forrest**	**49.10**	**246**	P		**P**	**10 53 23.5**	**-0.4**
KNRA	**Kununurra**	**50.37**	**266**	P		**P**	**10 53 33.2**	**-0.2**
KNRA				IAmb		IAmb	10 53 34.0	
	comp=Z,18nm,0.7s							
FITZ	**Fitzroy Crossi**	**52.76**	**262**	P		**P**	**10 53 50.9**	**+0.3**
FITZ				IAmb		IAmb	10 53 51.5	
	comp=Z,4.3nm,0.6s							
SOEI	**Soe**	**56.19**	**272**	P		**P**	**10 54 14.8**	**0.0**
SOEI				IAmb		IAmb	10 54 17.2	
	comp=Z,37nm,0.8s							
PSA00	**Pilbara Seismi**	**57.42**	**257**	P		**P**	**10 54 21.7**	**-1.2**
PSA00				IAmb		IAmb	10 54 25.9	
	comp=Z,41nm,1.3s							
NWAO	**Narrogin (SRO)**	**58.20**	**243**	P		**P**	**10 54 27.4**	**-0.6**
NWAO				IAmb		IAmb	10 54 28.6	
	comp=Z,59nm,1.4s							
NWAO	**Narrogin (SRO)**	**58.20**	**243**	P		**P**	**10 54 27.4**	**-0.6**
NWAO				IAmb		IAmb	10 54 28.6	
	comp=Z,52nm,1.4s							
MORW	**Morawa**	**59.63**	**248**	P		**P**	**10 54 37.4**	**-0.2**
MORW				IAmb		IAmb	10 54 38.0	
	comp=Z,13nm,0.8s							
QSPA	**South Pole Qui**	**69.78**	**180**	P		**P**	**10 55 42.3**	**+1.4**
QSPA				IAmb		IAmb	10 55 43.2	
	comp=Z,7.5nm,0.8s							
MJAR	**Matsushiro Arr**	**69.86**	**324**	P		**P**	**10 55 42.0**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=146,slow=6.1,SNR=11							
MJAR	**Matsushiro Arr**	**69.86**	**324**	P		**P**	**10 55 41.9**	**+0.2**
MAJO	**Matsushiro**	**69.86**	**324**	P		**P**	**10 55 42.2**	**+0.6**
MAJO				IAmb		IAmb	10 55 43.4	
	comp=Z,13nm,1.3s							
MJB9	**Matsu-Tunnel**	**69.86**	**324**	P		**P**	**10 55 42.1**	**+0.4**
MJB9				IAmb		IAmb	10 55 43.4	
	comp=Z,13nm,1.3s							
ADK	**Adak**	**71.87**	**1**	P		**P**	**10 55 53.8**	**+0.7**
JKA	**Kamikawa-asahi**	**73.39**	**332**	P		**P**	**10 56 03.8**	**+1.8**
ASAJ	**Asahikawa**	**73.40**	**332**	P		**P**	**10 56 03.8**	**+1.8**
	comp=Z,9.7nm,0.8s,baz=109,slow=3.5,SNR=5.5							
UNV	**Unalaska Valle**	**74.52**		P		**P**	**10 56 08.5**	**+0.5**
PETK	**Petropavlovsk-**	**75.99**	**345**	P		**P**	**10 56 17.1**	**+0.8**
	comp=Z,4.3nm,0.7s,baz=134,slow=8.4,SNR=8.5							
PETK	**Petropavlovsk-**	**75.99**	**345**	P		**P**	**10 56 17.7**	**+1.4**
USRK	**Ussuriysk Ar.**	**78.62**	**326**	P		**P**	**10 56 32.5**	**+1.8**
	comp=Z,1.4nm,0.8s,baz=99,slow=5.0,SNR=6.6							
USRK	**Ussuriysk Ar.**	**78.62**	**326**	P		**P**	**10 56 32.2**	**+1.5**
NJ2	**Nanjing**	**79.51**	**310**	*e*P		**P**	**10 56 36.3**	**+0.6**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
MDPB	**Devils Postpil**	**80.12**	**44**	P		**P**	**10 56 41.2**	**+2.1**
OMMB	**Old Mammoth Mi**	**80.16**	**44**	P		**P**	**10 56 38.6**	**-0.7**
YBH	**Yreka Blue Hor**	**80.31**	**39**	P		**P**	**10 56 41.3**	**+1.5**
WAKR	**Walker**	**80.39**	**43**	P		**P**	**10 56 41.8**	**+1.4**
BEKR	**Beckworth**	**80.61**	**41**	P		**P**	**10 56 42.7**	**+1.3**
PNTR	**Pine Nut**	**80.63**	**42**	P		**P**	**10 56 43.1**	**+1.4**
PNTR				IAmb		IAmb	10 56 45.0	
	comp=Z,7.8nm,0.9s							
HUMO	**Hull Mountain**	**80.71**	**38**	P		**P**	**10 56 44.2**	**+2.4**
VCNR	**Virginia City**	**80.72**	**42**	P		**P**	**10 56 44.1**	**+2.0**
YERR	**Yerington**	**80.79**	**43**	P		**P**	**10 56 43.8**	**+1.3**
NVAR	**Mina Array Bea**	**81.08**	**44**	P		**P**	**10 56 46.1**	**+2.1**
	comp=Z,2.0nm,0.8s,baz=222,slow=8.8,SNR=15							
NVAR	**Mina Array Bea**	**81.08**	**44**	P		**P**	**10 56 45.4**	**+1.4**
NV11	**Mina Array Sit**	**81.17**	**44**	P		**P**	**10 56 46.3**	**+1.9**
KVN	**Kaiserville**	**81.56**	**43**	P		**P**	**10 56 48.0**	**+1.6**
PMSA	**Palmer Station**	**81.60**	**157**	P		**P**	**10 56 47.0**	**+1.1**
MAW	**Mawson**	**81.66**	**200**	P		**P**	**10 56 46.6**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=153,slow=9.0,SNR=4.2							
MAW	**Mawson**	**81.66**	**200**	P		**P**	**10 56 46.7**	**+0.5**
MOD	**Modoc Plateau**	**81.85**	**40**	P		**P**	**10 56 49.0**	**+1.3**
SHPR	**Sheep Range**	**82.11**	**47**	P		**P**	**10 56 51.5**	**+2.3**
PINE	**Pine Mountain**	**82.60**	**38**	P		**P**	**10 56 53.8**	**+2.3**
PINE				IAmb		IAmb	10 56 55.1	
	comp=Z,7.6nm,0.9s							
SUA	**Susitna One**	**84.42**	**13**	P		**P**	**10 57 01.3**	**+1.3**
SUA				IAmb		IAmb	10 57 01.4	
	comp=Z,5.2nm,0.8s							
G08A	**Pilot Rock**	**84.63**	**38**	P		**P**	**10 57 03.5**	**+2.0**
KNK	**Knik Glacier**	**84.87**	**14**	P		**P**	**10 57 03.6**	**+1.5**
KNK				IAmb		IAmb	10 57 21.0	
	comp=Z,12nm,1.5s							
PMR	**Palmer**	**84.88**	**14**	P		**P**	**10 57 02.4**	**+0.3**
PMR				IAmb		IAmb	10 57 03.9	
	comp=Z,13nm,1.5s							
BMO	**Blue Mountains**	**85.34**	**39**	P		**P**	**10 57 06.5**	**+1.7**
F10A	**Beach Ranch, E**	**86.02**	**38**	P		**P**	**10 57 09.1**	**+1.0**
F10A				IAmb		IAmb	10 57 10.5	
	comp=Z,7.7nm,0.8s							
SEY	**Seymchan**	**86.10**	**347**	P		**P**	**10 57 08.7**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=162,slow=7.4,SNR=5.8							
RND	**Reindeer**	**86.56**	**13**	P		**P**	**10 57 11.2**	**+1.0**
RND				IAmb		IAmb	10 57 11.8	
	comp=Z,8.4nm,0.8s							
TXAR	**Lajitas Array**	**87.19**	**57**	P		**P**	**10 57 16.1**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=219,slow=7.1,SNR=11							
TXAR	**Lajitas Array**	**87.19**	**57**	P		**P**	**10 57 14.0**	**0.0**
WRH	**Wood River Hil**	**87.66**	**13**	P		**P**	**10 57 16.1**	**+0.9**
WRH				IAmb		IAmb	10 57 16.5	
	comp=Z,8.8nm,1.0s							
HDA	**Harding Lake**	**87.84**	**13**	P		**P**	**10 57 16.9**	**+0.8**
HDA				IAmb		IAmb	10 57 18.1	
	comp=Z,6.9nm,1.1s							
CCB	**Clear Creek Bu**	**87.87**	**13**	P		**P**	**10 57 16.8**	**+0.6**
IMAR	**Indian Mountai**	**88.00**	**10**	P		**P**	**10 57 18.0**	**+1.3**
IL31		**88.17**	**13**	P		**P**	**10 57 18.2**	**+0.7**
IL31				IAmb		IAmb	10 57 18.8	
	comp=Z,5.2nm,1.2s							
ILAR	**Eielson Array**	**88.17**	**13**	P		**P**	**10 57 17.8**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=218,slow=5.5,SNR=21							
ILAR	**Eielson Array**	**88.17**	**13**	P		**P**	**10 57 18.2**	**+0.6**
VNA3	**Neumayer Olymp**	**88.37**	**176**	P		**P**	**10 57 18.9**	**+0.2**
VNA2	**Neumayer--Watz**	**88.81**	**177**	P		**P**	**10 57 21.0**	**+0.4**
	baz=182,slow=3.5							
HHC	**Hu-ho-hao-te**	**88.99**	**314**	*e*P		**P**	**10 57 21.3**	**-0.8**
HHC				pmax		pmax		
	comp=Z,7.0nm,0.8s							
HHC				pmax		pmax		
	comp=Z,45nm,6.2s							
PD31	**Pinedale Array**	**89.01**	**43**	P		**P**	**10 57 23.6**	**+1.3**
PDAR	**Pinedale Array**	**89.01**	**43**	P		**P**	**10 57 23.9**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=207,slow=3.6,SNR=12							
PDAR	**Pinedale Array**	**89.01**	**43**	P		**P**	**10 57 23.2**	**+0.9**
VNA1	**Neumayer--Stat**	**89.04**	**177**	P		**P**	**10 57 21.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**89.76**	**290**	P		**P**	**10 57 27.6**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=135,slow=3.3,SNR=9.0							
YKA	**Yellowknife Ar**	**96.44**	**25**	P		**P**	**10 57 55.5**	**0.0**
	comp=Z,0.4nm,0.9s,baz=249,slow=4.1,SNR=3.2							
MKAR	**Makanchi Array**	**110.83**	**314**	PKiKP		**PKiKP**	**11 02 55.2**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=66,slow=3.0,SNR=3.9							
MKAR	**Makanchi Array**	**110.83**	**314**	PKiKP		**PKiKP**	**11 02 55.3**	**-0.6**
KSH	**Kashi**	**114.52**	**305**	*e*PKP		**PKiKP**	**11 03 07.0**	**+3.7**
ARCES	**ARCESS Array B**	**128.66**	**350**	PKP		**PKPdf**	**11 03 29.8**	**+0.4**
	comp=Z,4.2nm,0.9s,baz=113,slow=2.1,SNR=5.3							
AKASG	**Malin Array Be**	**142.68**	**331**	PKhKP		PKPpre	11 03 52.9	
	comp=Z,2.0nm,0.5s,baz=40,slow=4.4,SNR=17							
BRTR	**Keskin Array B**	**146.47**	**312**	PKPbc		**PKPbc**	**11 04 05.9**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=129,slow=5.5,SNR=6.8							
KOLS	**Kolonicke sedl**	**146.99**	**335**	*e*PKP		**PKPbc**	**11 04 05.1**	**-1.2**
KOLS				*e*			11 04 11.1	
CLL	**Collm**	**147.79**	**347**	*i* PKPbc		**PKiKP**	**11 04 09.3**	**-0.4**
	comp=Z,8.0nm,1.0s							
CLL				*e*PKPab		**PKPab**	**11 04 13.0**	**+0.2**
CLL	**Collm**	**147.79**	**347**	PKPdf		**PKPdf**	**11 04 05.4**	**+0.9**
CLL						**PKPbc**	**11 04 09.1**	**+0.9**
BRG	**Berggiesshubel**	**147.98**	**345**	*i* PKP		**PKiKP**	**11 04 09.9**	**-0.2**
	comp=Z,5.5nm,0.8s							
VYHS	**Vyhne**	**148.65**	**338**	*e*PKP		**PKiKP**	**11 04 11.8**	**+0.2**
VYHS				*e*			11 04 18.4	
MODS	**Modra-Piesok**	**149.28**	**339**	*e*PKP		**PKiKP**	**11 04 13.0**	**+0.1**
BCLA	**Clavier**	**149.79**	**355**	PKPdf		**PKPbc**	**11 04 11.3**	**-1.9**
GERES	**GERESS Array B**	**149.91**	**344**	PKPbc		**PKiKP**	**11 04 14.2**	**0.0**
	comp=Z,0.9nm,0.6s,baz=357,slow=2.7,SNR=8.9							
GERES	**GERESS Array B**	**149.91**	**344**	PKPdf		**PKPdf**	**11 04 06.0**	**-2.0**
GERES						**PKiKP**	**11 04 14.5**	**+0.2**
GERES				PKPab		**PKPab**	**11 04 20.9**	**-1.0**

*ISCJB **31** 11:21:24.9±0.4,21°.08S±0°.03×68°.14W±0°.05,h172km±5km, Error ellipse: s-maj=7.9km s-min=4.2km az=174.4*
*SJA **31** 11:21:24.5±0.7,21°.06S×68°.07W,h172km±6km,ML3.2, MW3.4*
*NEIC **31** 11:21:24.2±1.7,21°.15S±0°.05×67°.8W±0°.1,h147km±7km, mb4.2/3,ML3.8(G

JMA 31 11:43:50.5±0.2,24°.83N×123°.21E,h32km,M1.8,
Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.41**	**206**	P	Pb	11 43 59.2	-0.5
YOJ				S	Sb	11 44 05.4	-0.5
JYNG	**Yonagunijimaku**	**0.45**	**213**	P	Pb	11 44 00.0	-0.2
JYNG				S	Sb	11 44 06.3	-0.6
IRIF	**Iriomote-Funau**	**0.68**	**136**	P	Pn	11 44 03.6	-0.3
IRIF				*e*S	Sn	11 44 13.6	+0.1
JKRS	**Kuro-shima**	**0.94**	**129**	P	Pn	11 44 07.5	+0.1
JKRS				*e*S	Sn	11 44 19.2	-0.5
HATJ	**Hateruma jima**	**0.94**	**145**	P	Pn	11 44 07.3	-0.2
JIJ	**Ishigaki jima**	**0.97**	**118**	P	Pn	11 44 07.6	-0.3
JIJ				*e*S	Sn	11 44 20.8	+0.3
JISG	**Ishigakijimahi**	**1.03**	**103**	P	Pn	11 44 08.6	-0.1
JTJ	**Tarama**	**1.37**	**98**	P	Pb	11 44 14.8	-0.7

TAP 31 11:44:48.6,24°.50N×121°.86E,h14km,ML1.8,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.11**	**357**	*i* P	Pg	11 44 52.0	+0.1
	baz=2.0						
TWC				S	Sg	11 44 54.0	0.0
	baz=2.0						
NANB	**Nanao**	**0.12**	**232**	*i* P	Pg	11 44 51.9	-0.1
	baz=232						
NANB				S	Sg	11 44 54.4	+0.1
	baz=232						
ENA	**Nanau**	**0.13**	**235**	*i* P	Pg	11 44 52.0	-0.1
	baz=232						
ENA				*i* S	Sg	11 44 54.9	+0.5
	baz=232						
EOS1	**EOS1**	**0.25**	**79**	P	Pb	11 44 54.5	-0.4
	baz=75						
EOS1				S	Sb	11 44 58.5	-0.7
	baz=75						
TWE	**Neicheng**	**0.28**	**322**	P	Pg	11 44 54.8	+0.4
	baz=324						
TWE				*e*S	Sg	11 44 58.9	+0.5
	baz=324						
ENTT	**Nioudou**	**0.30**	**297**	*i* P	Pb	11 44 55.4	-0.4
	baz=297						
ENTT				S	Sg	11 44 59.5	+0.5
	baz=297						
SLBB	**Yuanshan**	**0.32**	**321**	*i* P	Pg	11 44 55.2	0.0
	baz=321						
SLBB				*e*S	Sb	11 45 00.8	-0.4
	baz=321						
NDT	**Datong Townshi**	**0.33**	**288**	P	Pb	11 44 56.1	-0.2
	baz=288						
NDT				S	Sg	11 45 00.5	+0.5
	baz=288						
NACB	**Ninganchiao**	**0.41**	**216**	P	Pg	11 44 56.5	-0.2
	baz=215						
NACB				S	Sg	11 45 01.8	-0.4
	baz=215						
NWLT	**Wulai**	**0.42**	**310**	P	Pb	11 44 57.9	0.0
	baz=304						
NWLT				S	Sg	11 45 03.2	+0.4
	baz=304						
NNSH	**Datong**	**0.44**	**260**	P	Pg	11 44 57.5	+0.1
	baz=260						
NNSH				S	Sg	11 45 03.5	+0.2
	baz=260						
NNS	**Nan Shan**	**0.45**	**262**	P	Pg	11 44 57.8	+0.3
	baz=261						
NNS				S	Sg	11 45 03.7	+0.1
	baz=261						
ETLH	**Xiulin Townshi**	**0.45**	**229**	P	Pg	11 44 57.5	-0.1
	baz=229						
ETLH				S	Sg	11 45 04.3	+0.6
	baz=229						
TIPB	**Shuangxi**	**0.47**	**357**	P	Pb	11 44 58.7	0.0
	baz=357						
TIPB				S	Sb	11 45 04.9	-0.6
	baz=357						
YHNB	**Yeheng**	**0.47**	**291**	P	Pb	11 44 58.8	+0.1
	baz=294						
YHNB				S	Sg	11 45 04.6	+0.3
	baz=294						
NSK	**Sanguang**	**0.48**	**291**	P	Pb	11 44 59.1	+0.1
	baz=291						
NSK				S	Sg	11 45 05.0	+0.2
	baz=291						
WHF	**Hehuan Shan**	**0.65**	**237**	*e*P	Pg	11 45 00.8	-0.5
	baz=236						
WHP	**Taichung City**	**0.86**	**255**	P	Pb	11 45 05.9	+0.5
	baz=254						
WHP				*e*S	Sb	11 45 16.8	0.0
	baz=254						
VWDT	**VWDT**	**0.99**	**221**	*e*P	Pb	11 45 07.0	-0.6
	baz=229						
VWDT				*e*S	Sb	11 45 20.3	-0.2
	baz=229						
SSLB	**Suanglung**	**1.09**	**229**	P	Pn	11 45 09.5	0.0
	baz=228						

*IDC **31** 12:06:40.8±4.5,36°.63N×71°.47E,h81km±30km,mb3.5/4,*
mb1 3.7/11,mb1mx3.3/49,mbtmp3.9/11,Error ellipse:
s-maj=57.7km s-min=24.2km az=145.0
*ISCJB **31** 12:06:44.4±1.1,37°.08N±0°.09×71°.12E±0°.08,h100km,*
mb3.3/1,Error ellipse: s-maj=14.9km s-min=6.5km
az=150.0
*NNC **31** 12:06:48.1±3.7,37°.21N×71°.25E,h112km±68km,mb3.8,*
mpv4.4,Error ellipse: s-maj=37.4km s-min=25.8km
az=142.0

ISC 31 12:06:45.2±1.6,37°.0N±0°.1×71°.18E±0°.10,h100km,n25,
σ1s04/30,4C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.46**	**20**	P	**Pn**	**12 08 04.8**	**+0.5**
	SNR=80						
UCH	**Uchtor**	**5.80**	**25**	P	**Pn**	**12 08 09.3**	**+0.2**
	SNR=14						
KZA	**Kyzart**	**5.95**	**31**	P	**Pn**	**12 08 11.0**	**0.0**
	SNR=7.8						
EKS2	**Erkin-Say**	**5.97**	**19**	P	**Pn**	**12 08 11.9**	**+0.8**
	SNR=25						
KK31	**Karatay Array**	**6.09**	**355**	⇓P	**Pn**	**12 08 13.8**	**+1.1**
	20nm,0.3s,baz=180,slow=13,SNR=537						
KK31				⇑S	**Sn**	**12 09 20.4**	**-0.6**
	2.4nm,0.3s,baz=187,slow=25,SNR=5.5						
AAK	**Ala-Archa**	**6.16**	**23**	P	**Pn**	**12 08 14.1**	**+0.4**
	12nm,0.3s,baz=171,slow=6.0,SNR=186						
AAK				S	**Sn**	**12 09 21.4**	**-1.3**
	4.1nm,0.3s,baz=123,slow=22,SNR=16						
AAK	**Ala-Archa**	**6.16**	**23**	P	**Pn**	**12 08 14.3**	**+0.6**
	SNR=36						
AAK	**Ala-Archa**	**6.16**	**23**	⇓P	**Pn**	**12 08 14.1**	**+0.4**
	18nm,0.4s						
AAK				⇑S	**Sn**	**12 09 20.6**	**-2.1**
	15nm,0.5s						
KBK	**Karagaybulak**	**6.33**	**26**	P	**Pn**	**12 08 16.4**	**+0.4**
	SNR=9.9						
CHMS	**Chumysh**	**6.56**	**24**	P	**Pn**	**12 08 19.4**	**+0.3**
	SNR=28						
USP	**Ospenovka**	**6.73**	**21**	P	**Pn**	**12 08 21.2**	**-0.2**
	SNR=27						
TKM2	**Tokmak 2**	**6.79**	**29**	P	**Pn**	**12 08 22.5**	**+0.1**
	SNR=35						
TKM2	**Tokmak 2**	**6.79**	**29**	⇓P	**Pn**	**12 08 22.3**	**-0.1**
	12nm,0.6s						
TKM2				⇑S	**Sn**	**12 09 38.6**	**+0.3**
	6.1nm,0.8s						
GEYT	**Alibeck**	**10.43**	**279**	P	**Pn**	**12 09 11.3**	**-0.3**
	1.2nm,0.3s,baz=112,slow=10.0,SNR=24						
GEYT				S	**Sn**	**12 11 04.3**	**-2.1**
	2.9nm,0.3s,baz=121,slow=22,SNR=14						
MKAR	**Makanchi Array**	**12.78**	**37**	P	**Pn**	**12 09 41.6**	**-1.5**
	0.1nm,0.3s,baz=221,slow=14,SNR=7.6						
KURBB	**Kurchatov Arra**	**14.58**	**19**	P	**Pn**	**12 10 07.6**	**+1.3**
	0.1nm,0.3s,baz=206,slow=10,SNR=13						
AB31	**Akbulak array**	**14.70**	**330**	P	**Pn**	**12 10 07.1**	**-0.8**
	1.5nm,0.4s,baz=137,slow=13,SNR=86						
BVAR	**Borovoye Array**	**16.01**	**358**	P	**Pn**	**12 10 24.0**	**-0.4**
	0.6nm,0.3s,baz=166,slow=9.2,SNR=7.2						
AKTO	**Aktyubinsk**	**16.40**	**329**	P	**Pn**	**12 10 30.4**	**+1.2**
	1.4nm,0.3s,baz=148,slow=9.8,SNR=19						
AKTO	**Aktyubinsk**	**16.40**	**329**	⇑P	**P**	**12 10 31.3**	**+1.0**
	4.1nm,0.5s						

ZALV	**Zalesovo Beam**	**19.38**	**25**	P	**P**	**12 11 01.9**	**-0.9**
	1.0nm,0.3s,baz=221,slow=11,SNR=13						
FINES	**FINESS Array B**	**37.13**	**326**	P	**P**	**12 13 47.4**	**+1.7**
	2.2nm,0.8s,baz=110,slow=5.1,SNR=3.6						
ARCES	**ARCESS Array B**	**40.72**	**337**	P	**P**	**12 14 17.0**	**+1.5**
	4.5nm,1.0s,baz=113,slow=9.3,SNR=7.3						
NOA	**NORSAR Array B**	**44.05**	**323**	P	**P**	**12 14 43.9**	**+1.1**
	0.3nm,0.5s,baz=95,slow=7.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**65.88**	**269**	P	**P**	**12 17 19.4**	**-1.0**
	0.2nm,0.5s,baz=47,slow=5.1,SNR=2.2						

*ISCJB **31** 12:33:23.6±0.5,31°.54N±0°.02×115°.45W±0°.03,h8km±5km,*
Error ellipse: s-maj=4.8km s-min=3.1km az=44.8
*NEIC **31** 12:33:23.7±1.9,31°.59N±0°.03×115°.46W±0°.04,h3km,8km*
*ANF **31** 12:33:25.0±1.5,31°.59N×115°.53W,h10km,ML2.6/7,Error*
ellipse: s-maj=12.6km s-min=11.7km az=109.0
*PAS **31** 12:33:24.3±1.5,31°.55N±0°.03×115°.50W±0°.02,h10km±2km*
*SCEDC **31** 12:33:24.3,31°.55N×115°.50W,h10km,M3.1,ML3.1,*
ML3.1(ECX)
*MEX **31** 12:33:25.5±21.0,31°.53N×115°.25W,h20km±999km,MD3.8*
*ECX **31** 12:33:25.6±0.6,31°.53N×115°.47W,h6km,MD2.9,ML3.1*

ISC 31 12:33:23.8±1.0,31°.55N±0°.02×115°.49W±0°.03,h10km±9km,
n36,σ0s64/66,4C-2D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIG	**San Pedro Mart**	**0.50**	**178**	*i* P	**Pb**	**12 33 34.7**	**-0.2**
	baz=300,slow=9.3						
SPIG				*e*S	**Sg**	**12 33 40.4**	**0.0**
SPIG	**San Pedro Mart**	**0.50**	**178**	*e*P	**Pg**	**12 33 34.5**	**+0.8**
SPIG				*e*S	**Sg**	**12 33 41.4**	**+1.0**
SPIG	**San Pedro Mart**	**0.50**	**178**		**Pb**	**12 33 34.7**	**-0.2**
SPIG					**Sg**	**12 33 40.4**	**0.0**
SPX	**San Pedro Mart**	**0.51**	**178**	⇑*e*P	**Pg**	**12 33 33.8**	**-0.1**
SPX				*e*S	**Sg**	**12 33 40.5**	**-0.2**
SPX	**San Pedro Mart**	**0.51**	**178**		**Pg**	**12 33 33.8**	**-0.1**
SPX					**Sg**	**12 33 40.1**	**-0.6**
ESJX	**Sierra Juarez**	**0.60**	**319**	⇓*e*P	**Pg**	**12 33 35.3**	**-0.2**
ESJX				*e*S	**Sg**	**12 33 43.7**	**+0.2**
ESJX	**Sierra Juarez**	**0.60**	**319**		**Pg**	**12 33 35.3**	**-0.2**
ESJX					**Sg**	**12 33 43.4**	**-0.1**
SFX	**San Felipe**	**0.74**	**133**	*e*P	**Pg**	**12 33 38.3**	**0.0**
SFX				*e*S	**Sg**	**12 33 47.8**	**-0.1**
SFX	**San Felipe**	**0.74**	**133**		**Pg**	**12 33 38.3**	**0.0**
SFX					**Sg**	**12 33 47.9**	**-0.1**
SQX	**San Quintin**	**1.03**	**199**	⇑*e*P	**Pg**	**12 33 43.5**	**-0.1**
SQX				*e*S	**Sg**	**12 33 56.6**	**-0.4**
CCX	**Cicese**	**1.05**	**288**		**Pg**	**12 33 43.5**	**-0.6**
CCX					**Sg**	**12 33 57.0**	**-0.9**
ERMX	**Rumorosa**	**1.10**	**335**	⇑*e*P	**Pb**	**12 33 45.4**	**+0.3**
ERMX				*e*S	**Sb**	**12 33 60.0**	**+0.4**
IKP	**In-Ko-Pah, Jac**	**1.22**	**334**	P	**Pn**	**12 33 47.4**	**+0.4**
	baz=155						
IKP				S	**Sb**	**12 34 02.8**	**-0.1**
	baz=155						
IKP	**In-Ko-Pah, Jac**	**1.22**	**334**	*e*P	**Pn**	**12 33 47.4**	**+0.4**
CBX	**Cerro Bola**	**1.26**	**308**	⇑*e*P	**Pb**	**12 33 48.2**	**+0.5**
CBX				*e*S	**Sg**	**12 34 04.6**	**+0.2**
CBX				⇓*e*		12 34 05.7	
CBX				IAML		12 34 05.7	
	comp=N,654nm,0.3s						
TJIG	**Tijuana**	**1.34**	**311**	*e*P	**Pn**	**12 33 49.1**	**+0.5**
TJIG				*e*S	**Sb**	**12 34 06.0**	**-0.3**
TJIG	**Tijuana**	**1.34**	**311**		**Pn**	**12 33 49.1**	**+0.5**
TJIG					**Sb**	**12 34 06.0**	**-0.3**
CRR	**Carrizo Plain**	**1.40**	**343**		**Pg**	**12 33 51.0**	**+0.4**
SWSC	**Sam W. Stewart**	**1.42**	**349**	P	**Pn**	**12 33 50.3**	**+0.7**
	baz=170						
SWSC				S	**Sg**	**12 34 10.1**	**+0.6**
	baz=170						
BAR	**Barrett**	**1.51**	**319**		**Pb**	**12 33 51.9**	**-0.1**
BAR				Sn	**Sn**	**12 34 10.9**	**+0.2**
MONP2	**Monument Peak**	**1.56**	**330**	P	**Pn**	**12 33 52.3**	**+0.5**
	baz=150						
MONP2				S	**Sb**	**12 34 12.9**	**+0.2**
	baz=150						
GLA	**Glamis**	**1.60**	**20**	Pb	**Pg**	**12 33 54.3**	**-0.2**
	baz=201						
GLA				Sb	**Sg**	**12 34 15.6**	**+0.3**
	baz=201						
GLA	**Glamis**	**1.60**	**20**	Pn	**Pn**	**12 33 52.8**	**+0.6**
GLA				Sn	**Sn**	**12 34 13.5**	**+0.7**
113A	**Mohawk Valley,**	**1.90**	**50**		**Pn**	**12 33 56.5**	**+0.3**
113A				Sn	**Sn**	**12 34 19.2**	**+1.0**
109C	**Camp Elliot, M**	**1.92**	**315**	Pb	**Pb**	**12 33 58.9**	**+0.1**
	baz=134						
109C	**Camp Elliot, M**	**1.92**	**315**		**Pn**	**12 33 57.4**	**+0.9**
109C				Sn	**Sb**	**12 34 22.8**	**0.0**
TPFO	**Pinon Flats**	**2.21**	**338**	Pb	**Pb**	**12 34 04.0**	**+0.1**
	baz=158						
TPFO				Sb	**Sg**	**12 34 33.5**	**-1.3**
	baz=158						
PFO	**Pinyon Flats O**	**2.21**	**338**	Pb	**Pb**	**12 34 04.6**	**+0.6**
	baz=158						
PFO				Sb	**Sg**	**12 34 33.7**	**-1.3**
	baz=158						
PFO	**Pinyon Flats O**	**2.21**	**338**	Pn	**Pb**	**12 34 03.5**	**-0.5**
PFO				Sn	**Sn**	**12 34 27.8**	**-0.4**
214A	**Organ Pipe Nat**	**2.31**	**79**		**Pn**	**12 34 02.2**	**+0.2**
214A				Sn	**Sn**	**12 34 31.2**	**+0.7**
Y14A	**Wickenburg**	**3.17**	**41**		**Pn**	**12 34 14.5**	**+0.8**
GSC	**Goldstone, Bar**	**3.90**	**344**	Pn	**Pn**	**12 34 23.5**	**-0.4**
GSC				Sn	**Sn**	**12 35 10.5**	**+0.7**
TUC	**Tucson**	**4.07**	**78**	Pn	**Pn**	**12 34 25.8**	**-0.3**
TUC				Sn	**Sn**	**12 35 11.6**	**-2.3**
X16A	**Lo Mia Camp, P**	**4.44**	**49**	Pn	**Pn**	**12 34 33.1**	**+1.7**
X16A				Sn	**Sn**	**12 35 23.6**	**+0.4**
U15A	**North Rim**	**5.54**	**28**	Pn	**Pn**	**12 34 45.7**	**-0.9**
KNB	**Kanab**	**5.88**	**21**	Pn	**Pn**	**12 34 50.8**	**-0.4**

ISC 31 12:37:48.7±0.9,50°.93N±0°.07×15°.60E±0°.03,h0km,n11,
σ2s23/21,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.45**	**101**	*i* Pg	**Pg**	**12 37 56.2**	**-1.0**
KSP				*i* Pg	**Pg**	**12 37 56.2**	**-1.0**
KSP				*e*Sg	**Sg**	**12 38 05.6**	**+2.6**
KSP				*e*Sg	**Sg**	**12 38 05.6**	**+2.6**
BRG	**Berggiesshubel**	**1.05**	**268**	PN	**Pn**	**12 38 09.6**	**-1.2**
BRG				PG	**Pb**	**12 38 11.0**	**+1.2**
BRG				SG	**Sn**	**12 38 31.0**	**+4.9**
	37nm,0.5s						
CLL	**Collm**	**1.68**	**284**	*i* Pn	**Pn**	**12 38 15.5**	**-3.9**
CLL				*e*Pg	**Pb**	**12 38 19.0**	**-1.6**
CLL				*i* Sg	**Sg**	**12 38 44.8**	**+2.0**
	comp=Z,22nm,0.7s						
MORC	**Moravsky Berou**	**1.69**	**132**	*e*PN	**Pn**	**12 38 16.4**	**-3.2**
MORC				*e*SG	**Sg**	**12 38 44.6**	**+1.5**
VRAC	**Vranov**	**1.74**	**158**	*e*PN	**Pg**	**12 38 20.8**	**-1.3**
VRAC				*e*SG	Sg	12 38 54.2	+10
KRUC	**Moravsky**	**1.94**	**164**	*e*PN	**Pg**	**12 38 23.8**	**-2.0**
KRUC				*e*SG	Sg	12 39 01.5	+11
SMOL	**Smolenice**	**2.69**	**153**	*e*PN	Pn	12 38 23.2	-10
SMOL				*e*SG	Sg	12 39 26.4	+11
OJC	**Ojcow**	**2.77**	**103**	*e*Pg	**Pn**	**12 38 34.1**	**-0.2**
OJC				*e*Pg	**Pn**	**12 38 34.1**	**-0.2**
OJC				*e*Sg	**Sn**	**12 39 09.5**	**+1.1**
OJC				*e*Sg	**Sn**	**12 39 09.5**	**+1.1**
MODS	**Modra-Piesok**	**2.78**	**156**	*e*PG	**Pg**	**12 38 43.6**	**+1.7**
MODS				*e*SG	Sg	12 39 28.4	+10
LANS	**Liptovska Anna**	**3.06**	**124**	*e*SG	**Sg**	**12 39 26.3**	**-0.7**
VYHS	**Vyhne**	**3.21**	**138**	*e*PG	**Pg**	**12 38 49.3**	**-1.0**

*IDC **31** 12:43:25.8±1.4,14°.25S×174°.54W,h0km,mb3.8/4,*
mb1 4.2/5,mb1mx3.8/27,mbtmp3.8/5,ML4.1/1,MS2.5/1,
Ms1 2.5/1,ms1mx2.3/31,Error ellipse: s-maj=74.1km
s-min=25.1km az=158.0
*ISCJB **31** 12:43:31.1±0.6,15°.2S±0°.1×174°.03W±0°.09,h73km,*
mb3.5/4,Error ellipse: s-maj=18.5km s-min=10.4km
az=159.0
*NEIC **31** 12:43:32.7±1.1,15°.2S±0°.1×174°.0W±0°.1,h72km±10km,*
mb4.3/3

ISC 31 12:43:32.5±0.7,15°.2S±0°.1×173°.92W±0°.09,h73km,n15,
σ1s22/18,mb4.2/7,Tonga Islands

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

AFI	**Afiamalu**	**2.44**	**58**	Pn	**Pn**	**12 44 11.6**	**+1.3**
	36nm,0.3s,baz=187,slow=1.3,SNR=75						
AFI				Sn	**Sn**	**12 44 36.5**	**-2.6**
	158nm,0.3s,baz=81,slow=20,SNR=28						
AFI				LR	LR	12 44 56.0	
	comp=Z,82nm,19.7s,baz=292,slow=33						
AFI	**Afiamalu**	**2.44**	**58**		**Pn**	**12 44 11.7**	**+1.4**
AFI					**Sn**	**12 44 37.0**	**-2.1**
NIUE	**Niue**	**5.42**	**136**	Pn	**Pn**	**12 44 51.4**	**+0.6**
MSVF	**Nonsavu**	**8.11**	**251**	Pn	**Pn**	**12 45 26.6**	**-1.0**
WRAB	**Tennant Creek**	**49.39**	**257**	P	**P**	**12 52 14.7**	**-0.6**
WRAB				IAmb	IAmb	12 52 22.2	
	comp=Z,5.4nm,1.5s						
AS31	**Alice Springs**	**49.70**	**252**	P	**P**	**12 52 16.3**	**-1.3**
AS31				IAmb	IAmb	12 52 18.5	
	comp=Z,1.7nm,0.6s						
ASAR	**Alice Springs**	**49.70**	**252**	P	**P**	**12 52 17.9**	**+0.3**
	comp=Z,6.1nm,0.6s,baz=85,slow=8.1,SNR=188						
ASAR	**Alice Springs**	**49.70**	**252**	P	**P**	**12 52 17.3**	**-0.3**
NVAR	**Mina Array Bea**	**74.52**	**42**	P	**P**	**12 55 04.8**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=224,slow=5.9,SNR=4.2						
QSPA	**South Pole Qui**	**74.83**	**180**	P	**P**	**12 55 05.5**	**+0.5**
QSPA				IAmb	IAmb	12 55 06.9	
	comp=Z,2.8nm,0.8s						
ILAR	**Eielson Array**	**82.35**	**11**	P	**P**	**12 55 46.0**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=223,slow=6.5,SNR=5.0						
PDAR	**Pinedale Array**	**82.46**	**42**	P	**P**	**12 55 47.9**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=210,slow=3.0,SNR=3.0						
BRTR	**Keskin Array B**	**145.69**	**321**	PKP	**PKPab**	**13 03 04.8**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=53,slow=0.7,SNR=7.6						
GERES	**GERESS Array B**	**145.88**	**351**	PKP	**PKPab**	**13 03 04.5**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=26,slow=3.4,SNR=3.8						
GERES	**GERESS Array B**	**145.88**	**351**	PKPdf	**PKPdf**	**13 03 02.1**	**-0.9**
GERES				PKPbc	**PKPab**	**13 03 04.6**	**+0.3**

*IDC **31** 12:49:29.6±1.7,18°.79S×177°.66W,h482km±18km,*
mb3.8/16,mb1 4.0/18,mb1mx3.8/32,mbtmp4.6/18,Error
ellipse: s-maj=16.4km s-min=10.2km az=112.0
*ISCJB **31** 12:49:30.5±0.2,18°.68S±0°.04×177°.82W±0°.04,h500km,*
mb4.2/19,Error ellipse: s-maj=6.4km s-min=4.4km
az=138.5
*NEIC **31** 12:49:30.7±2.1,18°.63S±0°.10×177°.7W±0°.1,h492km±6km,*
mb4.4/102

ISC 31 12:49:31.1±0.3,18°.58S±0°.06×177°.67W±0°.06,h500km,
n256,σ1s27/278,mb4.3/65,36C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.16**	**281**	P	**P**	**12 50 52.4**	**+1.5**
AFI	**Afiamalu**	**7.31**	**51**	P	**P**	**12 51 18.7**	**-1.9**
	2.1nm,0.3s,baz=4.3,slow=3.8,SNR=5.2						
AFI				S	**S**	**12 52 44.4**	**-6.0**
	11nm,0.3s,baz=55,slow=16,SNR=11						
AFI	**Afiamalu**	**7.31**	**51**	P	**P**	**12 51 18.9**	**-1.7**
AFI					**S**	**12 52 44.7**	**-5.6**
NIUE	**Niue**	**7.34**	**95**	P	**P**	**12 51 20.3**	**-0.5**
NIUE				S	**S**	**12 52 50.8**	**+0.1**
FUNA	**Funafuti**	**10.44**	**343**	P	**P**	**12 51 52.1**	**-1.2**
KNTN	**Kanton**	**16.75**	**21**	P	**P**	**12 53 00.8**	**+1.1**
OUZ	**Omahuta**	**18.30**	**203**	P	**P**	**12 53 15.4**	**+1.3**
URZ	**Urewera**	**20.14**	**192**	P	**P**	**12 53 28.5**	**-2.4**
	4.7nm,0.3s,baz=304,slow=2.6,SNR=23						
URZ				S	**S**	**12 56 41.4**	**-4.2**
	0.3nm,0.3s,baz=217,slow=20,SNR=3.4						
URZ	**Urewera**	**20.14**	**192**	P	**P**	**12 53 27.3**	**-3.5**
BFZ	**Birch Farm**	**22.65**	**192**	P	**P**	**12 53 52.5**	**-1.0**
QRZ	**Quartz Range**	**23.72**	**199**	P	**P**	**12 54 02.2**	**-0.9**
NNZ	**Nelson**	**23.84**	**197**	P	**P**	**12 54 02.7**	**-1.4**
TUWZ	**Tuamarina**	**23.89**	**196**	P	**P**	**12 54 03.4**	**-1.1**
THZ	**Tophouse**	**24.48**	**197**	P	**P**	**12 54 08.0**	**-1.8**
THZ				IAmb	IAmb	12 54 25.7	
	comp=Z,21nm,1.2s						
KHZ	**Kahutara**	**24.91**	**196**	P	**P**	**12 54 11.3**	**-2.3**
LTZ	**Lake Taylor**	**25.59**	**197**	P	**P**	**12 54 15.2**	**-4.6**
OXZ	**Oxford**	**26.16**	**197**	P	**P**	**12 54 23.9**	**-0.8**
OXZ				IAmb	IAmb	12 54 27.8	
	comp=Z,9.7nm,0.8s						
ARMA	**Armidale**	**30.23**	**241**	P	**P**	**12 55 01.0**	**+0.4**
ARMA				IAmb	IAmb	12 55 06.8	
	comp=Z,14nm,1.4s						
CAN	**Canberra**	**33.87**	**234**	P	**P**	**12 55 31.2**	**-0.4**
CAN				IAmb	IAmb	12 55 33.1	
	comp=Z,23nm,1.3s						
TOO	**Toolangi**	**37.31**	**232**	P	**P**	**12 55 59.9**	**-0.2**
TOO				IAmb	IAmb	12 56 09.1	
	comp=Z,9.1nm,1.1s						
COEN	**Coen**	**37.82**	**271**	P	**P**	**12 56 04.4**	**-0.2**
STKA	**Stephens Creek**	**38.94**	**242**	P	**P**	**12 56 13.6**	**+0.1**
	comp=Z,4.8nm,0.6s,baz=95,slow=10.0,SNR=20						
STKA	**Stephens Creek**	**38.94**	**242**	P	**P**	**12 56 13.5**	**0.0**
BBOO	**Buckleboo**	**43.71**	**242**	P	**P**	**12 56 51.1**	**-0.4**
BBOO				IAmb	IAmb	12 56 51.5	
	comp=Z,12nm,0.6s						
WRAB	**Tennant Creek**	**45.20**	**260**	P	**P**	**12 57 01.5**	**-1.7**
WRAB				IAmb	IAmb	12 57 02.2	
	comp=Z,9.1nm,1.1s						
AS31	**Alice Springs**	**45.29**	**255**	P	**P**	**12 57 03.2**	**-0.7**
AS31				IAmb	IAmb	12 57 04.2	
	comp=Z,8.2nm,0.7s						
ASAR	**Alice Springs**	**45.30**	**255**	P	**P**	**12 57 03.2**	**-0.7**
	comp=Z,29nm,0.6s,baz=91,slow=8.4,SNR=634						
ASAR				PcP	**PcP**	**12 58 32.9**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=102,slow=3.9,SNR=6.9						
ASAR				ScP	**ScP**	**13 01 40.6**	**+2.5**
	comp=Z,0.7nm,0.9s,baz=99,slow=4.8,SNR=4.1						
ASAR				S	**S**	**13 03 04.5**	**-3.1**
	comp=Z,2.8nm,1.1s,baz=90,slow=15,SNR=13						
ASAR	**Alice Springs**	**45.30**	**255**	P	**P**	**12 57 02.1**	**-1.8**
ASAR				PcP	**PcP**	**

KSAR	Wonju Array Be	75.68	318	P		P	13 00 24.9	+0.1
SAO	San Andreas Ge	76.42	43	P		P	13 00 29.3	+0.4
SAO				IAmb		IAmb	13 00 32.1	
	comp=Z,7.4nm,0.9s							
USA0B	Ussuriysk Array	77.56	325	P		P	13 00 35.9	+1.0
USA0B				IAmb		IAmb	13 00 37.5	
	comp=Z,7.8nm,1.1s							
USRK	Ussuriysk Ar.	77.56	325	P		P	13 00 36.1	+1.2
	comp=Z,3.0nm,0.7s,baz=107,slow=4.1,SNR=17							
USRK	Ussuriysk Ar.	77.56	325	P		P	13 00 34.0	-0.9
AFDM	Forest Hills D	78.00	42	P		P	13 00 39.2	+1.8
ORV	Oroville	78.02	41	P		P	13 00 39.1	+1.6
XPFO	Pion Flat	78.07	48	P		P	13 00 37.7	-0.4
OHAK	Old Harbor	78.21	13	P		P	13 00 38.7	+0.6
OHAK				IAmb		IAmb	13 00 39.3	
	comp=Z,17nm,0.9s							
MDPB	Devils Postpil	78.46	44	P		P	13 00 41.0	+0.7
YBH	Yreka Blue Hor	78.60	39	P		P	13 00 42.2	+1.5
WAKR	Walker	78.72	43	P		P	13 00 43.4	+1.8
BEKR	Beckworth	78.92	41	P		P	13 00 44.3	+1.7
PNTR	Pine Nut	78.95	42	P		P	13 00 44.7	+1.9
PNTR				IAmb		IAmb	13 00 46.0	
	comp=Z,10nm,0.8s							
HUMO	Hull Mountain	78.99	38	P		P	13 00 42.8	+0.1
VCNR	Virginia City	79.04	42	P		P	13 00 45.8	+2.6
YERR	Yerington	79.12	43	P		P	13 00 45.2	+1.5
YERR				IAmb		IAmb	13 00 46.5	
	comp=Z,6.2nm,0.6s							
MDJ	Mudanjiang	79.14	325	P		P	13 00 44.8	+1.4
MDJ				pmax		pmax		
	comp=Z,29nm,1.0s							
MDJ				pmax		pmax		
	comp=Z,66nm,3.4s							
MDJ	Mudanjiang	79.14	325	P		P	13 00 45.3	+1.9
NVAR	Mina Array Bea	79.42	43	P		P	13 00 47.5	+2.2
	comp=Z,2.4nm,0.6s,baz=223,slow=8.5,SNR=32							
NV11	Mina Array Sit	79.51	43	P		P	13 00 47.2	+1.4
113A	Mohawk Valley,	79.57	50	P		P	13 00 47.5	+1.5
KVN	Kaiserville	79.89	43	P		P	13 00 48.0	+0.3
MOD	Modoc Plateau	80.14	40	P		P	13 00 47.9	-1.1
PINE	Pine Mountain	80.88	38	P		P	13 00 54.3	+1.5
PINE				IAmb		IAmb	13 00 56.1	
	comp=Z,14nm,1.1s							
CN2	Changchun	80.98	322	*e*P		P	13 00 54.3	+1.3
CN2				pmax		pmax		
	comp=Z,30nm,1.0s							
KLR	Kul'dur	81.04	329	P		P	13 00 53.9	+0.6
	comp=Z,1.5nm,0.5s,baz=111,slow=1.3,SNR=8.2							
BRLK	Bradley Lake	81.06	13	P		P	13 00 53.8	+0.7
BRLK				IAmb		IAmb	13 00 59.4	
	comp=Z,16nm,1.2s							
WVOR	Wild Horse Val	81.46	40	P		P	13 00 56.6	+0.8
WVOR				IAmb		IAmb	13 00 59.3	
	comp=Z,6.1nm,1.0s							
TUC	Tucson	81.55	52	P		P	13 00 57.5	+1.1
WHN	Wuhan	81.57	306	P		P	13 00 57.5	+1.1
G06A	Carlson Farm,	81.91	37	P		P	13 00 58.4	+0.5
LCMT	Little Creek M	82.07	47	P		P	13 01 00.5	+1.5
X16A	Lo Mia Camp, P	82.07	50	P		P	13 01 01.1	+1.9
319A	Douglas	82.25	53	P		P	13 01 03.2	+3.2
319A				IAmb		IAmb	13 01 04.2	
	comp=Z,9.0nm,0.9s							
CCUT	Cedar City	82.26	46	P		P	13 01 02.2	+2.2
D05A	Enumclaw	82.34	35	P		P	13 01 01.1	+1.1
D05A				IAmb		IAmb	13 01 03.9	
	comp=Z,17nm,1.2s							
KNB	Kanab	82.36	47	P		P	13 01 00.3	-0.2
PSUT	Pine Spring	82.42	45	P		P	13 01 01.0	+0.2
U15A	North Rim	82.44	48	P		P	13 01 02.0	+0.9
U15A				IAmb		IAmb	13 01 04.6	
	comp=Z,7.8nm,0.8s							
SZCU	Shurtz Canyon	82.47	46	P		P	13 01 03.2	+2.1
SUA	Susitna One	82.62	13	P		P	13 01 00.8	-0.4
SUA				IAmb		IAmb	13 01 02.6	
	comp=Z,6.6nm,0.9s							
ELK	Elko	82.66	43	P		P	13 01 02.2	+0.2
G08A	Pilot Rock	82.90	37	P		P	13 01 05.0	+2.0
PKCU	Pink Cliffs	82.93	47	P		P	13 01 05.9	+2.3
E07A	Sunnyside	83.14	36	P		P	13 01 05.1	+1.1
E07A				IAmb		IAmb	13 01 06.9	
	comp=Z,4.8nm,0.9s							
HAWA	Hanford	83.22	36	P		P	13 01 06.2	+1.8
HAWA				IAmb		IAmb	13 01 07.2	
	comp=Z,6.1nm,1.0s							
GHO	Glory Hole Cre	83.29	13	P		P	13 01 04.7	+0.2
GHO				IAmb		IAmb	13 01 05.8	
	comp=Z,12nm,0.8s							
MFID	Camas Ranch	83.72	40	P		P	13 01 08.9	+1.7
GLB	Gilahina Butte	84.21	16	P		P	13 01 10.1	+1.1
GLB				IAmb		IAmb	13 01 10.2	
	comp=Z,7.1nm,0.8s							
BALM	Baldy	84.25	16	P		P	13 01 10.3	+0.9
BALM				IAmb		IAmb	13 01 27.3	
	comp=Z,13nm,1.4s							
F10A	Beach Ranch, E	84.29	38	P		P	13 01 11.1	+1.2
F10A				IAmb		IAmb	13 01 12.1	
	comp=Z,6.5nm,0.9s							
BARN	Barnard Glacie	84.46	17	P		P	13 01 11.1	+0.6
BARN				IAmb		IAmb	13 01 12.3	
	comp=Z,13nm,0.9s							
CTGM	Chitina Glacie	84.47	17	P		P	13 01 09.7	-0.8
CTGM				IAmb		IAmb	13 01 11.8	
	comp=Z,9.3nm,0.9s							
KTH	Kantishna Hill	84.48	12	P		P	13 01 10.0	-0.4
KTH				IAmb		IAmb	13 01 11.6	
	comp=Z,6.0nm,0.8s							
TRF	Thorofare Moun	84.51	12	P		P	13 01 10.8	+0.1
PLID	Pearl Lake	84.52	39	P		P	13 01 12.9	+1.7
SEY	Seymchan	84.58	347	P		P	13 01 11.2	+0.4
	comp=Z,6.2nm,0.6s,baz=167,slow=8.0							
RND	Reindeer	84.76	13	P		P	13 01 12.2	+0.5
RND				IAmb		IAmb	13 01 13.1	
	comp=Z,13nm,0.8s							
DHY	Denali Highway	84.78	13	P		P	13 01 12.3	+0.4
DHY				IAmb		IAmb	13 01 15.0	
	comp=Z,7.8nm,1.4s							
MCK	McKinley	85.03	12	P		P	13 01 13.7	+0.7
MCK				IAmb		IAmb	13 01 14.6	
	comp=Z,15nm,1.1s							
ENH	Enshi	85.23	304	P		P	13 01 15.9	+1.2
TXAR	Lajitas Array	85.76	57	P		P	13 01 19.8	+2.4
	comp=Z,3.6nm,0.8s,baz=219,slow=6.3,SNR=45							
HDA	Harding Lake	86.05	13	P		P	13 01 17.7	-0.1
HDA				IAmb		IAmb	13 01 19.7	
	comp=Z,5.0nm,0.8s							
CCB	Clear Creek Bu	86.08	12	P		P	13 01 17.8	-0.1
CCB				IAmb		IAmb	13 01 18.3	
	comp=Z,3.2nm,0.6s							
MCMT	McKenzie Canyo	86.29	40	P		P	13 01 20.2	+0.4
IL31		86.38	13	P		P	13 01 19.1	-0.2
IL31				IAmb		IAmb	13 01 20.4	
	comp=Z,6.1nm,1.2s							
ILAR	Eielson Array	86.38	13	P		P	13 01 19.3	-0.1
	comp=Z,2.1nm,0.8s,baz=213,slow=5.1,SNR=25							
ILAR	Eielson Array	86.38	13	P		P	13 01 19.6	+0.2
S22A	4UR Ranch, Cre	86.91	49	P		P	13 01 22.4	-0.6
XAN	Xi'an	87.22	307	P		P	13 01 25.5	+1.3
XAN				pP		PcP	13 01 31.3	+5.6
XAN				pmax		pmax		
	comp=Z,11nm,1.4s							
YHL	Hebgen Lake	87.32	41	P		P	13 01 26.6	+1.9
PD31	Pinedale Array	87.35	43	P		P	13 01 26.2	+1.4
PD31				IAmb		IAmb	13 01 27.5	
	comp=Z,5.7nm,1.5s							
PDAR	Pinedale Array	87.35	43	P		P	13 01 25.9	+1.0
	comp=Z,1.4nm,0.8s,baz=203,slow=1.5,SNR=13							
PDAR	Pinedale Array	87.35	43	P		P	13 01 26.3	+1.4
BMAR	Burnt Mountain	89.16	12	P		P	13 01 34.0	+1.5
CMAR	Chiang Mai Arr	89.77	289	P		P	13 01 38.0	+1.6
	comp=Z,3.2nm,0.8s,baz=118,slow=2.8,SNR=25							
SNAA	Sanae	89.92	178	P		P	13 01 36.3	+0.2
VNA3	Neumayer Olymp	90.03	176	P		P	13 01 37.1	+0.6
ABTX	Abilene, Hawle	90.22	56	P		P	13 01 39.6	+1.4
ABTX				IAmb		IAmb	13 01 40.8	
	comp=Z,5.2nm,0.8s							
VNA2	Neumayer--Watz	90.48	177	P		P	13 01 39.2	+0.6
	baz=170,slow=2.8							
SONM	Songino Array	94.52	319	P		P	13 01 58.4	+0.8
	comp=Z,0.6nm,0.7s,baz=104,slow=5.1,SNR=4.7							
SONM	Songino Array	94.52	319	P		P	13 01 57.4	-0.2
YKA	Yellowknife Ar	94.64	25	P		P	13 01 58.3	+0.6
	comp=Z,0.9nm,0.8s,baz=241,slow=4.2,SNR=9.7							
YKA	Yellowknife Ar	94.64	25	P		P	13 01 57.9	+0.2
ZALV	Zalesovo Beam	109.19	322	PKiKP		PKiKP	13 07 03.1	-0.4
	comp=Z,1.3nm,0.5s,baz=163,slow=1.2,SNR=6.9							
ZALV	Zalesovo Beam	109.19	322			PKiKP	13 07 02.9	-0.6
MKAR	Makanchi Array	110.10	314	PKiKP		PKiKP	13 07 04.9	-0.6
	comp=Z,1.7nm,0.5s,baz=194,slow=0.6,SNR=46							
MKAR	Makanchi Array	110.10	314			PKiKP	13 07 04.8	-0.7
KSH	Kashi	114.04	306	*e*PKP		PKiKP	13 07 20.0	+6.6
BRVK	Borovoye	117.87	321			PKiKP	13 07 19.9	-0.3
KK31	Karatay Array	118.28	309			PKPdf	13 07 20.9	-0.5
KKAR	Karatay Array	118.28	309			PKPdf	13 07 20.9	-0.5
KKAR	Karatay Array	118.28	309			PKPdf	13 07 20.4	-0.9
ABKAR	Akbulak array	124.90	318			PKiKP	13 07 34.0	-0.2
ABKAR	Akbulak array	124.90	318			PKPdf	13 07 33.3	-0.5
ARCES	ARCESS Array B	127.09	350	PKP		PKPdf	13 07 37.3	-0.1
	comp=Z,5.1nm,0.9s,baz=29,slow=2.8,SNR=11							
ARCES	ARCESS Array B	127.09	350			PKiKP	13 07 38.0	0.0
GEYT	Alibeck	128.00	304	PKP		PKiKP	13 07 40.4	-0.4
	comp=Z,2.4nm,0.6s,baz=186,slow=1.5,SNR=10							
GEYT	Alibeck	128.00	304			PKiKP	13 07 40.5	-0.3
FINES	FINESS Array B	134.02	344	PKhKP		PKPpre	13 07 45.1	
	comp=Z,2.2nm,0.7s,baz=333,slow=2.1,SNR=3.9							
FINES				PKP		PKPdf	13 07 50.5	-0.2
	comp=Z,2.3nm,0.7s,baz=122,slow=1.8,SNR=6.3							
FINES	FINESS Array B	134.02	344			PKPdf	13 07 50.1	-0.6
KBZ	Khabaz	137.77	315	PKP		PKiKP	13 08 00.1	-0.3
	comp=Z,1.0nm,0.7s,baz=186,slow=3.4,SNR=3.8							
AKASG	Malin Array Be	141.47	332	PKhKP		PKPpre	13 07 59.8	
	comp=Z,5.5nm,0.5s,baz=43,slow=4.2,SNR=33							
AKASG				PKP		PKiKP	13 08 07.1	-0.6
	comp=Z,2.6nm,0.6s,baz=41,slow=2.6,SNR=7.7							
SORM	Soroca	143.72	330	⇑P		PKPdf	13 08 07.9	-0.9
GAZ	Gaziantep	144.30	308			PKPdf	13 08 10.9	+0.7
KWP	Kalwaria Pacla	144.96	337	*e*PKP		PKPab	13 08 12.3	+0.1
KWP				*e*PKP		PKPab	13 08 12.3	+0.1
KWP	Kalwaria Pacla	144.96	337			PKPab	13 08 12.2	+0.1
VASR	Vaslui	145.04	329	⇑P		PKPab	13 08 13.3	+0.7
ILGA	Ilgaz	145.04	317			PKPbc	13 08 12.1	-0.1
OJC	Ojcow	145.48	340	*e*PKP		PKPab	13 08 13.7	-0.4
OJC				*e*PKP		PKPab	13 08 13.7	-0.4
OJC	Ojcow	145.48	340			PKPab	13 08 13.3	-0.8
BUR08	Bucovina Ar. S	145.51	332			PKPab	13 08 14.6	0.0
TLCR		145.52	326	⇑P		PKPab	13 08 14.2	-0.2
BURAR	Bucovina Array	145.53	332	⇑P		PKPab	13 08 14.7	+0.1
BURAR	Bucovina Array	145.53	332	PKPbc		PKPab	13 08 13.9	-0.6
BIZ	Bicaz	145.63	331	⇑P		PKPab	13 08 15.4	-1.0
TESR	Tescani	145.69	330	⇑P		PKPab	13 08 14.7	-0.4
KOLS	Kolonicke sedl	145.69	336	*e*PKP		PKPab	13 08 15.0	-0.1
BR131	Keskin Array S	145.75	315			PKPab	13 08 14.6	-1.2
BRTR	Keskin Array B	145.75	315	PKPbc		PKPbc	13 08 14.5	+0.2
	comp=Z,7.8nm,0.8s,baz=136,slow=4.5,SNR=26							
BRTR	Keskin Array B	145.75	315	PKPbc		PKPab	13 08 14.6	-1.2
JURR	Jurilovca	145.76	326	⇑P		PKPab	13 08 14.5	-0.9
KSP	Ksiaz	145.94	344	*e*PKP		PKPab	13 08 15.7	-0.3
KSP				*e*PKP		PKPab	13 08 15.7	-0.3
TOPG	Topolog	145.95	326	⇑P		PKPab	13 08 15.9	-0.3
NIE	Niedzica	146.00	339	*e*PKP		PKPab	13 08 15.9	-0.4
NIE				*e*PKP		PKPab	13 08 15.9	-0.4
VRI	Vrincioaia	146.11	329	⇑P		PKPbc	13 08 15.0	+0.1
PLOR	Plostina	146.16	329	⇑P		PKPab	13 08 15.9	-1.2
BMR	Baia Mare	146.22	334	⇑P		PKPab	13 08 16.5	-0.7
OSTC	Ostas	146.22	344	⇑*e*PKP		PKPbc	13 08 14.2	-0.9
OSTC				*e*PKPAB		PKPab	13 08 16.5	-0.6
CLL	Collm	146.26	348	⇓/PKPbc		PKPab	13 08 16.1	-1.1
	comp=Z,30nm,0.8s							
CLL	Collm	146.26	348			PKPbc	13 08 15.7	+0.6
HARR	Harsova	146.31	326	⇑P		PKPab	13 08 16.7	-0.9
UPC	Upice	146.32	344	⇑*e*PKP		PKPab	13 08 16.3	-1.2
DPC	Dobruska-Polom	146.38	344	⇑*e*PKP		PKPab	13 08 16.9	-0.9
BRG	Berggiesshubel	146.48	347	*e*PKP		PKPbc	13 08 14.7	-1.1
	comp=Z,4.0nm,1.2s							
BRG	Berggiesshubel	146.48	347	⇑/PKP		PKiKP	13 08 17.0	-1.0
	comp=Z,16nm,1.0s							
KRLC	Kraliky	146.51	343	⇑*e*PKP		PKiKP	13 08 17.0	-1.2
LANS	Liptovska Anna	146.51	339	*e*PKP		PKiKP	13 08 17.8	-0.4
MORC	Moravsky Berou	146.56	342	⇑P		PKPbc	13 08 16.8	+0.7
MORC	Moravsky Berou	146.56	342	*e*PKP		PKiKP	13 08 16.9	-1.4
MORC	Moravsky Berou	146.56	342	PKPbc		PKiKP	13 08 17.2	-1.1
PVCC	Panska Ves	146.66	346	⇑*e*PKP		PKiKP	13 08 17.5	-0.9
DOPR	Dopca	146.68	330	⇑P		PKiKP	13 08 18.2	-0.4
KEC2	Kecovo	146.73	338	*e*PKP		PKiKP	13 08 17.7	-0.9
KECS				*e*			13 08 19.0	
MLR	Muntele Rosu	146.76	329	⇑P		PKiKP	13 08 17.6	-1.3
MLR	Muntele Rosu	146.76	329	PKPbc		PKPbc	13 08 17.2	+0.4
CJR	Cluj-Napoca	146.93	333	⇑P		PKiKP	13 08 18.5	-0.6
PRU	Pruhonice	147.17	345	⇑*e*PKP		PKiKP	13 08 18.6	-0.8
DRGR		147.25	334	⇑P		PKiKP	13 08 19.2	-0.6
VRAC	Vranov	147.25	343	⇑P		PKiKP	13 08 19.4	-0.3
VRAC	Vranov	147.25	343	*e*PKP		PKiKP	13 08 18.6	-1.1
VYHS	Vyhne	147.29	340	*e*PKP		PKiKP	13 08 19.4	-0.4
NKC	Novy Kostel	147.39	348	⇑*e*PKP		PKiKP	13 08 19.2	-0.8
PSZ	Piszkesteto	147.42	338	⇑P		PKiKP	13 08 19.5	-0.6
PSZ	Piszkesteto	147.42	338			PKiKP	13 08 19.6	-0.6
PSZ				PKPab		PKPab	13 08 23.1	+1.1
ARR	Arges	147.48	330	⇑P		PKiKP	13 08 20.6	+0.2
KRUC	Moravsky	147.53	343	*e*PKP		PKiKP	13 08 19.6	-0.6
PBCC	Pribram	147.58	346	⇑*e*PKP		PKiKP	13 08 19.7	-0.6
PBCC				*e*PKPAB		PKiKP	13 08 23.8	+1.2
RAZG	Razgrad	147.83	326	⇑P		PKiKP	13 08 20.6	-0.5
MODS	Modra-Piesok	147.89	341	*e*PKP		PKiKP	13 08 20.4	-0.6
HUMR	Humele	147.93	329	⇑P		PKiKP	13 08 20.1	-1.1
CSS	Mathiatis	148.04	307			PKPbc	13 08 20.4	0.0
CSS				PKPab		PKPab	13 08 25.0	0.0
SIRR	Siria	148.10	334	⇑P		PKiKP	13 08 20.5	-1.0
KHC	Kasperske Hory	148.19	346	⇑*e*PKP		PKiKP	13 08 21.1	-0.6
KHC				*e*PKPAB		PKPab	13 08 26.4	+1.3
KHC	Kasperske Hory	148.19	346			PKPbc	13 08 20.3	-0.1
KHC				PKPab		PKPab	13 08 26.4	+1.3
GZR	Gura Zlata	148.31	332	⇑P		PKiKP	13 08 21.5	-0.5
GEC2	GERESS Array S	148.43	346			PKiKP	13 08 21.9	-0.3
GERES	GERESS Array B	148.43	346	PKPbc		PKiKP	13 08 22.0	-0.3
	comp=Z,5.6nm,0.7s,baz=28,slow=3.0,SNR=49							
GERES	GERESS Array B	148.43	346			PKiKP	13 08 21.5	-0.7
BZS	Buzias	148.64	334	⇑P		PKiKP	13 08 22.5	-0.1
SRE	Strehaia	148.68	331	⇑P		PKiKP	13 08 23.1	+0.4
CONA	Conrad Observa	148.71	342	*i* PKiKP		PKiKP	13 08 22.9	+0.1
	comp=Z,21nm,1.1s,SNR=8.5							
MOA	Molln	149.22	344	*e*PKiKP		PKiKP	13 08 23.7	-0.1
	comp=Z,10nm,1.4s							
ARSA	Arzberg	149.42	342	*i* PKiKP		PKiKP	13 08 24.0	-0.3
	comp=Z,6.5nm,1.2s							
ELL	Elmali	149.76	312			PKiKP	13 08 24.8	-0.6
ELL				PKPab		PKPab	13 08 31.3	-0.8
MANT	Manisa	149.77	316			PKiKP	13 08 24.9	-0.5
BFO	Black Forest	149.92	352			PKiKP	13 08 25.6	+0.3
SOKA	Soboth	150.08	342	*i* PKiKP		PKiKP	13 08 25.4	-0.3
	comp=Z,8.6nm,0.8s,SNR=6.5							
KBA	Koelnbreinsper	150.17	345	*i* PKiKP		PKPbc	13 08 25.3	-0.1
	comp=Z,9.9nm,0.7s							
VTS	Vitosha	150.19	328			PKiKP	13 08 25.7	-0.4
VTS				PKPab		PKPab	13 08 34.9	+1.1
WATA	Walderalm	150.33	347	*i* PKiKP		PKiKP	13 08 26.2	-0.1
	comp=Z,8.1nm,0.7s							
RETA	Reutte	150.35	348	*i* PKiKP		PKiKP	13 08 26.3	+0.1
	comp=Z,15nm,1.3s							
WTTA	Wattenberg	150.39	347	*i* PKiKP		PKiKP	13 08 26.7	+0.2
	comp=Z,18nm,0.6s,SNR=5.4							
MOTA	Moosalm	150.42	348	*i* PKiKP		PKiKP	13 08 26.4	-0.1
	comp=Z,9.7nm,0.8s							
MYKA	Terra Mystica	150.51	344	*i* PKiKP		PKiKP	13 08 26.1	-0.5
	comp=Z,10nm,0.7s							
SQTA	Sankt Quirin	150.52	348	*i* PKiKP		PKiKP	13 08 26.9	+0.3
	comp=Z,13nm,0.7s							
ABTA	Abfaltersbach	150.68	346	*i* PKiKP		PKiKP	13 08 26.7	-0.3
	comp=Z,21nm,0.7s,SNR=7.8							
DAVA	Damuels	150.70	349	*i* PKiKP		PKiKP	13 08 28.1	+1.1
	comp=Z,21nm,1.4s							
FETA	Feichten	150.80	348	*i* PKiKP		PKiKP	13 08 27.5	+0.3
	comp=Z,12nm,0.9s							
LJU	Ljubljana	150.81	342	*i* PKPbc		PKiKP	13 08 27.3	+0.2
BOJS	Bojanci	151.08	341	*i* PKPbc		PKiKP	13 08 28.2	+0.6
STAL	STALIGIAL	151.09	345			PKiKP	13 08 27.3	-0.4
FUORN	Ofenpass-Fuorn	151.28	349			PKiKP	13 08 29.0	+0.6
FNA	Florina	152.49	328			PKiKP	13 08 30.6	-0.2
FNA				PKPab		PKPab	13 08 43.0	-0.4
DBIC	Dimbokro	166.25	148	PKP		PKPdf	13 08 39.0	-0.5
	comp=Z,2.7nm,0.9s,baz=66,slow=4.1,SNR=3.7							
TORD	Torodi Ar. Bea	174.57	173	PKP		PKPdf	13 08 43.6	-0.3
	comp=Z,1.5nm,0.9s,baz=268,slow=1.0,SNR=5.1							
TORD	Torodi Ar. Bea	174.57	173	PKPdf		PKPdf	13 08 42.7	-1.2
TORD				PKPab		PKPab	13 10 19.4	-1.1

NNC 31 12:59:26.2±6.0, 36°88N×70°76E, h195km±85km, mb2.6,

mpv3.6, 1C-5D, Error ellipse: s-maj=58.7km s-min=34.4km az=1.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.22	358	P	Pn	13 00 57.2	+1.0
	6.3nm,0.6s,baz=178,slow=12,SNR=58						
KK31				⇓S	Sn	13 02 09.0	+1.5
	1.3nm,0.3s,baz=181,slow=24,SNR=6.8						
AAK	Ala-Archa	6.43	25	⇓P	Pn	13 00 59.0	-0.2
	2.8nm,0.6s						
AAK				⇓S	Sn	13 02 13.0	+0.3
	4.5nm,0.5s						
TKM2	Tokmak 2	7.09	30	⇓P	Pn	13 01 07.1	-0.7
	1.6nm,0.6s						
TKM2				⇓S	Sn	13 02 27.9	-0.3
	6.2nm,0.8s						
AB31	Akbulak array	14.66	331	P	P	13 02 46.3	+0.8
	0.2nm,0.3s,baz=145,slow=12,SNR=8.3						
AKTO	Aktyubinsk	16.36	330	⇑P	P	13 03 03.2	-1.0
	2.6nm,1.1s						

ISCJB 31 13:02:20.2±0.8, 14°.47N±0°.07×93°.76W±0°.05, h10km, mb3.5/4, Error ellipse: s-maj=9.4km s-min=6.5km az=9.6
IDC 31 13:02:20.1±1.4, 14°.40N×93°.70W, h0km, mb3.5/4, mb1 3.8/8, mb1mx3.6/38, mbtmp3.5/8, ML3.2/2, Error ellipse: s-maj=39.7km s-min=20.6km az=47.0
NEIC 31 13:02:24.0±2.2, 14°.54N±0°.07×93°.80W±0°.05, h23km±7km, mb4.6/5, Md3.9(MEX)
MEX 31 13:02:24.1±0.5, 14°.48N×93°.82W, h13km±11km, MD3.9

ISC 31 13:02:22.0±0.9, 14°51N±0°.08×93°76W±0°.05, h10km, n20, σ1°54/25, mb3.6/6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.30	24	*e*P	Pn	13 02 45.2	-1.1
PCIG				*i* S	Sb	13 03 01.1	-2.2
PCIG		1.30	24		Pn	13 02 45.2	-1.1
PCIG					Sb	13 03 01.1	-2.2
THIG		1.50	74	*i* P	Pn	13 02 48.2	-0.8
THIG				*i* S	Sn	13 03 07.0	-1.7
THIG		1.50	74		Sn	13 03 07.0	-1.7
HUIG	Huatulco	2.59	299	*e*P	Pn	13 03 02.3	-1.8
HUIG	Huatulco	2.59	299		Pn	13 03 02.3	-1.8
CMIG	Matias Romero	2.79	337	Pn	Pn	13 03 06.3	-0.4
	6.0nm,0.3s,baz=171,slow=13,SNR=24						
CMIG				Sn	Sn	13 03 41.2	+0.7
	6.6nm,0.3s,baz=142,slow=16,SNR=8.9						
APG	El Apazote	3.23	81	Pn	Pn	13 03 12.9	-0.1
APG				Sn	Sn	13 03 55.1	+3.5
	2.7nm,0.3s,baz=305,slow=12,SNR=2.4						
TEIG	Tepich	7.73	42	Pn	Pn	13 04 14.5	-0.1
TXAR	Lajitas Array	17.37	330	P	Pn	13 06 26.3	+1.6
	0.0nm,0.3s,baz=151,slow=11,SNR=2.9						
Z41A	Richland Creek	18.69	3	P	P	13 06 41.8	+1.4
Z41A				IAmb	IAmb	13 07 37.9	
	comp=Z,14nm,0.6s						
CPRX	Cap Rock	20.61	335	Pn	P	13 07 03.4	+1.8
S54A	Dingess, Beckl	25.70	23	P

GLVR eS Sn 13 05 02.4 +2.2
GLVR pmax pmax
comp=Z,92nm,0.4s
GLVR Golovnino 4.50 255 eP Pn 13 04 12.0 +2.9
GLVR AMB AMB 13 04 15.0
comp=Z,92nm,0.4s
GLVR eS Sn 13 05 01.5 +1.3
JRA Rausu 4.72 258 P Pn 13 04 15.6 +3.5
JRA eS Sn 13 05 07.9 +2.4
JNK Nakash 5.10 255 P Pn 13 04 20.1 +2.7
JNK eS Sn 13 05 16.4 +1.4
JAK Akkeshi 5.34 250 P Pn 13 04 22.5 +1.9
JAK eS Sn 13 05 19.9 -0.9
JTKR Abashiri--Toko 5.55 261 P Pn 13 04 27.0 +3.4
JAR Ashorobuto 5.85 255 P Pn 13 04 31.2 +3.5
JMP Maruseppu 5.93 263 P Pn 13 04 32.5 +3.7
JOB Onbets 5.95 251 P Pn 13 04 31.7 +2.6
JOB eS Sn 13 05 36.0 0.0
YSS Yuzh-Sakhalins 6.39 290 ePN Pn 13 04 38.5 +3.5
YSS eS Sn 13 05 48.0 +1.3
YSS pmax pmax
comp=Z,10.0nm,0.4s
YSS Yuzh-Sakhalins 6.39 290 eP Pn 13 04 38.5 +3.5
YSS AMB AMB 13 04 39.5
comp=Z,10.0nm,0.4s
YSS eS Sn 13 05 48.0 +1.3
YSS Yuzh-Sakhalins 6.39 290 Pn Pn 13 04 37.9 +2.9
JCH Churui 6.39 250 P Pn 13 04 38.0 +2.9
JCH eS Sn 13 05 45.6 -1.1
JKK2 Kamakawa 2 6.39 262 P Pn 13 04 39.2 +4.1
JKA Kamikawa-asahi 6.44 265 eP Pn 13 04 40.1 +4.3
JKA Kamikawa-asahi 6.44 265 Pn 13 04 40.1 +4.3
ASAJ Asahikawa 6.45 265 P Pn 13 04 40.1 +4.3
comp=Z,1.4nm,0.3s,baz=110,slow=12,SNR=17
ASAJ S Sn 13 06 03.1 +15
comp=Z,0.2nm,0.3s,baz=167,slow=7.9,SNR=2.6
ASAJ LR LR 13 07 00.4
comp=Z,46nm,21.0s,baz=216,slow=36
ERM Erimo 6.80 246|| ePN Pn 13 04 45.0 +4.3
ERM Erimo 6.80 246 Pn Pn 13 04 44.8 +4.1
JBT2 Biratori 2 7.00 254 P Pn 13 04 46.3 +2.9
JNB Noboribetsu 8.02 255 P Pn 13 05 00.8 +3.4
JNB eS Sn 13 06 26.8 0.0
JKB Kayabe 8.26 251 P Pn 13 05 02.7 +1.9
JKB eS Sn 13 06 29.7 -3.1
PETK Petropavlovsk- 9.00 24 P Pn 13 05 11.7 +0.8
comp=Z,0.1nm,0.3s,baz=179,slow=12,SNR=6.6
PETK S Sn 13 06 58.6 +7.7
comp=Z,0.1nm,0.3s,baz=253,slow=23,SNR=2.7
GRNR Gornyy 11.62 305 ePN Pn 13 05 45.9 -0.8
GRNR Gornyy 11.62 305 eP Pn 13 05 45.9 -0.8
MJAR Matsushiro Arr 13.19 234 P Pn 13 06 12.4 +4.2
comp=Z,0.0nm,0.3s,baz=38,slow=6.8,SNR=2.4
MJAR Matsushiro Arr 13.19 234 Pn 13 06 12.1 +3.9
USRK Ussuriysk Ar. 13.94 273 P Pn 13 06 19.5 +1.1
baz=116,slow=20,SNR=2.8
KLR Kul'dur 14.07 294 P Pn 13 06 21.5 +1.3
comp=Z,0.1nm,0.3s,baz=104,slow=20,SNR=2.2
EKMR Ekimchan 14.54 310 erx rx 13 06 31.0
BMKR Bomnak 17.44 312 eP Pn 13 07 03.0 -0.7
SEY Seymchan 17.91 1 P Pn 13 07 07.2 -2.2
comp=Z,0.1nm,0.3s,baz=62,slow=23,SNR=2.6
KROS Kirovskiy 18.34 310 eP Pn 13 07 14.0 -0.8
KROS AMB AMB 13 07 15.9
comp=Z,6.0nm,0.4s
JCJ Chichijima 19.43 206 LR LR 13 14 15.8
comp=Z,42nm,21.6s,baz=177,slow=34
YAK Yakutsk 21.20 331|| eP P 13 07 43.7 -1.9
YAK pmax pmax
comp=Z,2.0nm,1.0s
YAK Yakutsk 21.20 331 P P 13 07 43.5 -2.1
comp=Z,5.7nm,0.3s,baz=136,slow=5.0,SNR=7.9
YAK Yakutsk 21.20 331 eP P 13 07 43.7 -1.9
YAK Yakutsk 21.20 331 P P 13 07 43.2 -2.3
BILL Bilibino 24.28 13 eP P 13 08 15.8 -1.2
BILL pmax pmax
comp=Z,1.0nm,1.0s
BILL Bilibino 24.28 13 eP P 13 08 15.8 -1.2
JOW Kunigami 26.03 233 P P 13 08 35.2 +1.9
JOW IAmb IAmb 13 09 33.7
comp=Z,13nm,0.9s
H11N2 WAKE ISLAND Hy 28.31 148 T T 13 39 46.5
baz=339
H11N1 WAKE ISLAND Hy 28.32 148 T T 13 39 47.9
baz=339
H11N3 WAKE ISLAND Hy 28.32 148 T T 13 39 42.7
baz=339
H11S1 WAKE ISLAND Hy 29.36 150 T T 13 41 10.9
baz=338
H11S3 WAKE ISLAND Hy 29.36 150 T T 13 41 10.9
baz=338
H11S2 WAKE ISLAND Hy 29.37 150 T T 13 41 09.2
baz=338
ULN Ulaanbaatar 30.44 291|| eP P 13 09 12.7 +0.1
ULN pmax pmax
comp=Z,11nm,3.2s
ULN Ulaanbaatar 30.44 291 eP P 13 09 12.7 +0.1
SONM Songino Array 30.88 292 P P 13 09 14.6 -1.9
SONM pmax pmax
comp=Z,2.0nm,1.5s
SONM Songino Array 30.88 292 P P 13 09 14.6 -1.9
comp=Z,0.6nm,0.7s,baz=72,slow=9.3,SNR=2.6
IMAR Indian Mountai 35.78 35 P P 13 09 58.5 -0.3
BPAW Bear Paw Mtn. 36.76 38 P P 13 10 07.5 +0.3
KTH Kantishna Hill 36.76 39 P P 13 10 07.7 +0.5
KTH IAmb IAmb 13 10 11.8
comp=Z,23nm,1.5s
TRF Thorofare Moun 37.04 39 P P 13 10 09.2 -0.5
MCK McKinley 37.65 39 P P 13 10 15.2 +0.5
MCK pmax pmax
comp=Z,32nm,2.0s
MCK McKinley 37.65 39 P P 13 10 15.2 +0.5
MCK IAmb IAmb 13 10 32.4
comp=Z,32nm,2.0s
GTA Gaotai 38.16 280 eP P 13 10 20.8 +1.4
GTA pP pP 13 10 25.0 -3.2
GTA sP sP 13 10 28.0 -5.4
GTA pmax pmax
comp=Z,3.0nm,1.0s
SCM Sheep Creek Mo 38.43 42 P P 13 10 21.6 +0.2
SCM pmax pmax
comp=Z,86nm,2.0s
SCM Sheep Creek Mo 38.43 42 P P 13 10 21.6 +0.2
ILAR Eielson Array 38.56 37 eP P 13 10 24.0 +1.7
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 38.56 37 P P 13 10 20.8 -1.5
comp=Z,0.5nm,0.8s,baz=268,slow=7.5,SNR=4.5
CRQM Cirque 40.55 43 P P 13 10 39.8 +0.6
BCAR Beaver Creek A 40.90 40 P P 13 10 42.3 +0.5
EGAK Eagle 41.01 37 P P 13 10 42.2 -0.5
EGAK IAmb IAmb 13 10 42.9
comp=Z,17nm,1.6s
CTGM Chitina Glacie 41.39 43 P P 13 10 46.7 +0.6
CTGM IAmb IAmb 13 11 59.1
comp=Z,33nm,1.6s
DAWY Dawson 41.84 38 P P 13 10 49.9 +0.3
EPYK Eagle Plains 42.68 34 P P 13 10 56.7 +0.4
EPYK IAmb IAmb 13 11 52.0
comp=Z,40nm,1.9s
ZALV Zalesovo Beam 42.71 307 P P 13 10 55.3 -1.4
comp=Z,0.4nm,0.3s,baz=74,slow=11,SNR=2.6
HYT Haines Junctio 43.26 43 P P 13 11 02.1 +1.0
HYT IAmb IAmb 13 11 22.8
comp=Z,23nm,1.6s
MK31 Makanchi Array 46.74 298 P P 13 11 27.9 -1.0
MK31 pmax pmax
comp=Z,3.0nm,1.4s
MK31 Makanchi Array 46.74 298 P P 13 11 27.9 -1.0
MKAR Makanchi Array 46.74 298 P P 13 11 28.2 -0.7
comp=Z,0.5nm,0.5s,baz=68,slow=6.3,SNR=10
MKAR PcP PcP 13 10 31.4 -0.4
comp=Z,0.3nm,0.6s,baz=82,slow=2.5,SNR=3.6
MKAR Makanchi Array 46.74 298 P P 13 11 27.8 -1.2
MKAR PcP 13 10 31.2 -0.6
C36M Paulatuk 46.83 29 P P 13 11 28.8 -0.5
C36M IAmb IAmb 13 11 37.9
comp=Z,15nm,1.8s
MAKZ Makanchi 46.93 298 P P 13 11 29.8 -0.6
MAKZ pmax pmax
comp=Z,5.0nm,1.6s
MAKZ Makanchi 46.93 298 P P 13 11 29.8 -0.6
WRAK Wrangell Islan 47.08 47 P P 13 11 30.8 -0.5
OPA Opana 47.26 102 P P 13 11 34.3 +1.1
OPA pmax pmax
comp=Z,122nm,1.1s
OPA Opana 47.26 102 P P 13 11 34.3 +1.1
KURK Kurchatov 47.38 304|| eP P 13 11 30.2 -3.6
KURK pmax pmax
comp=Z,3.0nm,0.9s
KURK Kurchatov 47.38 304 P P 13 11 32.0 -1.8
RIM Rim 50.69 102 P P 13 12 00.8 +1.2
BRVK Borovoye 51.12 310 P P 13 12 01.3 -1.0
BRVK pmax pmax
comp=Z,5.0nm,1.5s
BRVK Borovoye 51.12 310 eP P 13 12 01.3 -1.0
BRVK Borovoye 51.12 310 P P 13 12 01.3 -1.0
BRVK IAmb IAmb 13 13 08.1
comp=Z,5.3nm,1.5s
KDJ Kajisay 52.13 295 P P 13 12 08.7 -1.6
KDJ pmax pmax
comp=Z,4.0nm,0.9s
KDJ Kajisay 52.13 295 P P 13 12 08.7 -1.6
KDJ IAmb IAmb 13 12 10.4
comp=Z,4.5nm,0.8s
YKA Yellowknife Ar 52.94 35 P P 13 12 15.5 -0.2
comp=Z,0.4nm,0.6s,baz=296,slow=7.0
AAK Ala-Archa 53.59 297|| eP P 13 12 21.0 0.0
AAK pmax pmax
comp=Z,2.0nm,0.9s
AAK Ala-Archa 53.59 297 eP P 13 12 21.0 0.0
AAK Ala-Archa 53.59 297 P P 13 12 20.5 -0.5
ARU Arti 55.50 318 P P 13 12 32.6 -1.9
ARU pmax pmax
comp=Z,31nm,2.0s
ARU Arti 55.50 318 eP P 13 12 32.6 -1.9
ARU Arti 55.50 318 P P 13 12 32.6 -1.9
ARU IAmb IAmb 13 13 24.7
comp=Z,31nm,2.0s
KK31 Karatay Array 55.84 299 P P 13 12 36.7 -0.4
KK31 pmax pmax
comp=Z,15nm,2.0s
KK31 Karatay Array 55.84 299 P P 13 12 36.7 -0.4
KK31 IAmb IAmb 13 12 50.7
comp=Z,15nm,2.0s
KKAR Karatay Array 55.84 299 P P 13 12 36.4 -0.7
KKAR pmax pmax
comp=Z,15nm,2.0s
KKAR Karatay Array 55.84 299 P P 13 12 36.4 -0.7
KKAR Karatay Array 55.84 299 P P 13 12 36.7 -0.5
KKAR IAmb IAmb 13 12 50.7
comp=Z,15nm,2.0s
ABKAR Akbulak array 58.65 310 P P 13 12 55.9 -0.9
ABKAR Akbulak array 58.65 310 P P 13 12 56.0 -0.9
ARCES ARCESS Array B 59.07 341 P P 13 12 58.6 -0.9
comp=Z,4.5nm,0.9s,baz=32,slow=8.7,SNR=3.6
NVAR Mina Array Bea 64.21 61 P P 13 13 35.7 +0.8
comp=Z,0.1nm,0.3s,baz=293,slow=7.7,SNR=3.2
NVAR Mina Array Bea 64.21 61 P P 13 13 34.2 -0.6
FINES FINESS Array B 65.08 334 P P 13 13 38.4 -1.5
comp=Z,2.5nm,0.6s,baz=25,slow=7.3,SNR=14
FINES FINESS Array B 65.08 334 P P 13 13 38.1 -1.8
GEYT Alibeck 66.51 301 P P 13 13 49.8 +0.2
comp=Z,0.9nm,0.5s,baz=66,slow=5.0,SNR=4.3
GEYT Alibeck 66.51 301 P P 13 13 49.2 -0.4
NB2 NORSAR Subarra 69.45 341 P P 13 14 06.5 -1.1
comp=Z,0.7nm,0.3s,baz=29,slow=6.5
NOA NORSAR Array B 69.45 341 P P 13 14 06.2 -1.4
comp=Z,1.5nm,0.7s,baz=29,slow=6.6,SNR=6.7
ASAR Alice Springs 70.27 197 P P 13 14 14.8 +1.8
comp=Z,0.4nm,1.0s,baz=12,slow=6.4,SNR=3.0
KIV Kislovodsk 71.17 314 eP P 13 14 17.9 -0.6
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV Kislovodsk 71.17 314 eP P 13 14 17.9 -0.6
KBZ Khabaz 71.22 313 P P 13 14 16.1 -2.5
comp=Z,2.1nm,1.0s,baz=53,slow=5.1,SNR=3.0
AKASG Malin Array Be 72.31 326 P P 13 14 24.2 -0.9
AKASG pmax pmax
comp=Z,2.0nm,1.3s
AKASG Malin Array Be 72.31 326 P P 13 14 23.9 -1.2
comp=Z,1.6nm,0.5s,baz=37,slow=6.5,SNR=11
AKASG Malin Array Be 72.31 326 P P 13 14 24.2 -0.9
BUR08 Bucovina Ar. S 76.35 326 P P 13 14 48.2 -0.6
BUR08 IAmb IAmb 13 15 05.7
comp=Z,25nm,1.9s
CLL Collm 77.52 335 eP P 13 14 54.0 -1.2
CLL Collm 77.52 335 eP P 13 14 54.0 -1.2
VYHS Vyhne 78.04 330 eP P 13 14 58.3 +0.1
VYHS Vyhne 78.04 330 eP P 13 14 58.2 +0.1
TXAR Lajitas Array 79.30 59 P P 13 15 05.1 -0.4
comp=Z,0.4nm,0.6s,baz=300,slow=4.1,SNR=6.1
TXAR Lajitas Array 79.30 59 P P 13 15 04.3 -1.2
GERES GERESS Array B 79.47 333 eP P 13 15 06.6 +0.5
GERES GERESS Array B 79.47 333 P P 13 15 05.5 -0.6
comp=Z,0.4nm,0.7s,baz=32,slow=5.2,SNR=4.3
GERES GERESS Array B 79.47 333 P P 13 15 05.0 -1.0

*VIE **31** 13:10:37.5±0.2,46°.50N×9°.68E,h3km,ml1.0/2,Error ellipse: s-maj=1.6km s-min=0.9km az=172.0 12 km WNW of St. Moritz*

ZUR 31 13:10:37.4,46°.49N×9°.68E,h5km±2km,MLh0.9/8,3C-2D, Error ellipse: s-maj=4.3km s-min=0.8km az=89.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCEL	**Celerina**	**0.12**	**81**	↑Pg	Pg	13 10 40.5	+0.5
SCEL				Sg	Sg	13 10 42.4	+0.6
VDL	**Val di Lei**	**0.16**	**268**	↑Pg	Pg	13 10 41.1	+0.5
VDL				Sg	Sg	13 10 43.3	+0.5
SVAM	**Vaz, Muldain**	**0.23**	**333**	↓Pg	Pg	13 10 42.2	+0.2
BERNI	**Berninapass**	**0.25**	**108**	↓Pg	Pg	13 10 42.8	+0.5
BERNI				Sg	Sg	13 10 46.0	+0.4
DAVOX	**Davos/Dischmat**	**0.32**	**25**	↑Pg	Pg	13 10 43.9	+0.2
DAVOX				Sg	Sg	13 10 48.2	+0.2
FUORN	**Ofenpass-Fuorn**	**0.42**	**72**	Pg	Pg	13 10 45.9	+0.3
PANIX	**Pigniu (Panix)**	**0.52**	**311**	Pg	Pg	13 10 47.5	+0.2
FETA	**Feichten**	**0.90**	**53**	Pg	Pg	13 10 54.3	-0.3
	0.2nm,0.1s						
FETA				eSg	Sg	13 11 06.1	-0.1
	0.3nm,0.1s						

ROM 31 13:12:33.0±0.1,40°.263N±0°.004×15°.893E±0°.004, h10km,ML1.1/5,Error ellipse: s-maj=0.4km s-min=0.1km az=32.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIRI	**Monte Sirino -**	**0.08**	**194**	P	Pg	13 12 35.7	+0.3
SIRI				S	Sg	13 12 37.7	+0.5
SIRI				AML	AML		
	comp=N,228μm,0.2s						
SIRI				AML	AML		
	comp=N,231μm,0.2s						
SIRI				AML	AML		
	comp=E,183μm,0.3s						
SIRI				AML	AML		
	comp=E,168μm,0.3s						
MCEL	**Monticello**	**0.09**	**311**	P	Pg	13 12 35.8	+0.2
MCEL				S	Sg	13 12 37.8	+0.4
MCEL				AML	AML		
	comp=N,140μm,0.8s						
MCEL				AML	AML		
	comp=E,104μm,1.0s						
MCEL				AML	AML		
	comp=E,112μm,0.4s						
MCEL				AML	AML		
	comp=N,122μm,1.5s						
MTSN	**Montesano sull**	**0.11**	**272**	P	Pg	13 12 36.1	+0.3
MTSN				S	Sg	13 12 38.2	+0.5
MTSN				AML	AML		
	comp=E,130μm,1.2s						
MTSN				AML	AML		
	comp=N,164μm,1.3s						
SCHR	**S. Chirico Rap**	**0.15**	**115**	P	Pg	13 12 36.8	+0.4
SCHR				S	Sg	13 12 39.8	+1.0
SCHR				AML	AML		
	comp=N,62μm,0.6s						
SCHR				AML	AML		
	comp=E,55μm,0.3s						
SLCN	**Sala Consilina**	**0.24**	**303**	P	Pg	13 12 38.8	+0.9
SLCN				AML	AML		
	comp=N,83μm,1.5s						
SLCN				AML	AML		
	comp=E,86μm,1.5s						
CUC	**Castrocucco**	**0.28**	**192**	P	Pg	13 12 39.2	+0.7
CUC				S	Sb	13 12 43.7	-1.1
MGR	**Morigerati**	**0.29**	**244**	P	Pb	13 12 39.9	-0.4

*IDC **31** 13:49:11.1±1.2,22°.94N×143°.98E,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.5/49,mbtmp3.5/7,ML2.5/1,Error ellipse: s-maj=37.6km s-min=25.0km az=81.0*
*ISCJB **31** 13:49:14.4±1.1,22°.9N±0°.1×143°.9E±0°.2,h34km,mb3.4/5, Error ellipse: s-maj=31.9km s-min=18.9km az=164.4*

ISC 31 13:49:16.2±1.1,22°.9N±0°.1×143°.9E±0°.2,h34km,n7, σ0s47/7,mb3.5/5,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**14.44**	**341**	Pn	Pn	**13 52 38.7**	**+0.4**
	0.0nm,0.3s,baz=146,slow=13,SNR=4.8						
KSRS	**Korea Array**	**19.99**	**320**	P	P	**13 53 45.7**	**0.0**
	0.8nm,0.8s,baz=144,slow=8.1,SNR=3.1						
KLR	**Kul'dur**	**27.96**	**343**	P	P	**13 55 03.2**	**-0.2**
	1.5nm,0.6s,baz=172,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**47.34**	**193**	P	P	**13 57 47.1**	**+0.1**
	0.2nm,1.0s,baz=16,slow=8.1,SNR=3.0						
MKAR	**Makanchi Array**	**54.39**	**312**	P	P	**13 58 39.6**	**-0.2**
	0.2nm,0.6s,baz=87,slow=9.3,SNR=3.7						
ILAR	**Eielson Array**	**60.62**	**27**	P	P	**13 59 22.9**	**-0.6**
	0.5nm,0.9s,baz=264,slow=5.3,SNR=4.4						
NVAR	**Mina Array Bea**	**81.83**	**52**	P	P	**14 01 32.9**	**+0.5**
	0.3nm,0.6s,baz=279,slow=4.7,SNR=3.9						

*IDC **31** 13:55:00.9±0.6,17°.61S×173°.85W,h0km,mb4.1/12, mb1 4.3/14,mb1mx4.2/33,mbtmp4.2/14,ML3.8/3,MS3.5/8, Ms1 3.5/8,ms1mx3.3/28,Error ellipse: s-maj=26.7km s-min=14.9km az=132.0*
*ISCJB **31** 13:55:01.2±0.2,17°.45S±0°.04×174°.01W±0°.08,h10km, mb4.1/12,MS3.6/8,Error ellipse: s-maj=11.9km s-min=3.7km az=26.4*
*NEIC **31** 13:55:02.6±1.7,17°.65S±0°.06×173°.69W±0°.09,h15km±3km, mb5.0/30*

ISC 31 13:55:01.7±0.4,17°.61S±0°.06×173°.72W±0°.07,h10km, n146,σ1s64/133,mb4.8/25,MS3.5/8,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**3.89**	**113**		Pn	**13 56 00.8**	**-0.8**
AFI	**Afiamalu**	**4.13**	**27**	Pn	Pn	**13 56 05.3**	**+0.3**
	16nm,0.3s,baz=209,slow=8.1,SNR=25						
AFI				Sn	Sn	**13 56 48.8**	**-4.6**
	57nm,0.3s,baz=80,slow=12,SNR=6.9						
AFI				LR	LR	13 56 59.9	
	comp=Z,134nm,18.4s,baz=149,slow=28						
AFI	**Afiamalu**	**4.13**	**27**		Pn	**13 56 05.1**	**+0.2**
RAO	**Raoul Island**	**12.21**	**198**	Pn	Pn	**13 57 55.0**	**-0.8**
	87nm,0.3s,baz=61,slow=22,SNR=2.5						
RAO	**Raoul Island**	**12.21**	**198**		Pn	**13 57 54.5**	**-1.2**
GLKZ	**Green Lake**	**12.22**	**198**	P	Pn	**13 57 56.5**	**+0.6**
RAR	**Rarotonga**	**13.64**	**107**	Pn	Pn	**13 58 15.3**	**-0.1**
	2.0nm,0.3s,baz=231,slow=7.0,SNR=4.9						
RAR				LR	LR	14 02 11.1	
	comp=Z,122nm,18.2s,baz=270,slow=31						
RAR	**Rarotonga**	**13.64**	**107**		Pn	**13 58 14.9**	**-0.4**
DZM	**Mont Dzumac**	**19.17**	**253**	P	P	**13 59 24.2**	**-1.5**
	0.2nm,0.3s,baz=77,slow=18,SNR=2.6						
DZM	**Mont Dzumac**	**19.17**	**253**	eP	Pn	13 59 42.8	+16
	25nm,1.1s						
DZM				eLR	LR	14 04 19.6	
	comp=Z,337nm,27.2s						
OUZ	**Omahuta**	**20.86**	**210**	P	Pn	13 59 46.5	+0.2
OUZ	**Omahuta**	**20.86**	**210**	P	P	**13 59 44.1**	**+0.3**
MXZ	**Matakaoa Point**	**21.08**	**198**	P	P	**13 59 46.0**	**-0.1**
WCZ	**Waipu Caves**	**21.10**	**208**	P	P	**13 59 49.0**	**+2.6**
KUZ	**Kuaotunu**	**21.22**	**204**	P	P	**13 59 50.2**	**+2.5**
WMGZ	**Waiomatatini S**	**21.28**	**197**	P	P	**13 59 50.1**	**+1.7**
HAZ	**Te Kaha**	**21.41**	**199**	P	P	**13 59 51.1**	**+1.3**
PKGZ	**Pakihiroa**	**21.45**	**198**	P	P	**13 59 52.4**	**+2.2**
WIAZ	**Waiheke Island**	**21.49**	**205**	P	P	**13 59 53.3**	**+2.7**
PUZ	**Puketiti**	**21.56**	**197**	P	P	**13 59 52.5**	**+1.0**
MBAZ	**Motutapu North**	**21.57**	**206**	P	P	**13 59 54.4**	**+2.9**
RUGZ	**Raukumara Rang**	**21.64**	**199**	P	P	**13 59 54.3**	**+2.0**
ETAZ	**East Tamaki Re**	**21.71**	**205**	P	P	**13 59 55.9**	**+2.9**
MKAZ	**Moumakai**	**21.75**	**205**	P	P	**13 59 56.0**	**+2.6**
KBAZ	**Karaka Road Bo**	**21.85**	**205**	P	P	**13 59 56.8**	**+2.4**
OPRZ	**Ohinepanea**	**21.89**	**201**	P	P	**13 59 58.4**	**+3.5**
AWAZ	**Awhitu Peninsu**	**21.93**	**206**	P	P	**13 59 57.2**	**+1.9**
MWZ	**Matawai**	**22.02**	**199**	P	P	**13 59 58.2**	**+1.8**
TKGZ	**Te Karaka**	**22.02**	**198**	P	P	**13 59 59.2**	**+2.9**
URZ	**Urewera**	**22.08**	**199**	P	P	**13 59 57.8**	**+0.8**
	7.9nm,0.3s,baz=291,slow=5.5,SNR=24						
URZ				S	S	**14 03 56.9**	**-3.6**
	4.2nm,0.8s,baz=94,slow=24,SNR=5.5						
URZ	**Urewera**	**22.08**	**199**	P	P	**13 59 57.9**	**+0.9**
URZ	**Urewera**	**22.08**	**199**	P	P	**13 59 56.9**	**-0.1**
URZ				IAmb	IAmb	13 59 58.7	
	comp=Z,112nm,1.9s						
KMRZ	**Kaimai**	**22.11**	**202**	P	P	**14 00 01.7**	**+4.4**
TOZ	**Tahuroa Road**	**22.17**	**203**	P	P	**14 00 00.4**	**+2.5**
RAGZ	**Rawiri**	**22.20**	**199**	P	P	**14 00 01.4**	**+3.0**
RIGZ	**Rimuhau**	**22.30**	**198**	P	P	**14 00 02.6**	**+3.3**
MUGZ	**Murupara**	**22.39**	**200**	P	P	**14 00 01.3**	**+0.9**
SNGZ	**Shannon Statio**	**22.49**	**199**	P	P	**14 00 04.2**	**+2.8**
KNZ	**Kokohu**	**22.61**	**198**	P	P	**14 00 05.9**	**+3.3**
RAHZ	**Arahi**	**22.69**	**199**	P	P	**14 00 05.0**	**+1.5**
MTHZ	**Maungataniwha**	**22.71**	**199**	P	P	**14 00 06.1**	**+2.3**
PAE	**Paea**	**23.01**	**94**	eT	T	14 23 22.3	
	comp=Z,4.2nm,0.3s						
PPT2	**Papeete2**	**23.02**	**94**	eLR	LR	14 05 25.3	
	comp=Z,194nm,27.5s						
PPT2	**Papeete2**	**23.02**	**94**	eT	T	14 23 22.7	
	comp=Z,5.1nm,0.3s						
PPT	**Papeete**	**23.02**	**94**	LR	LR	14 06 32.2	
	comp=Z,42nm,20.8s,baz=268,slow=30						
HIZ	**Hauiti**	**23.10**	**203**	P	P	**14 00 10.1**	**+2.4**
TVO	**Taravao**	**23.31**	**94**	eT	T	14 23 38.4	
	comp=Z,1.9nm,0.3s						
KWHZ	**Kaweka Forest**	**23.36**	**200**	P	P	**14 00 11.1**	**+0.5**
TBI	**Tubuai**	**23.42**	**108**	eLR	LR	14 05 40.7	
	comp=Z,208nm,31.0s						
TBI	**Tubuai**	**23.42**	**108**	eT	T	14 23 56.7	
	comp=Z,7.6nm,0.3s						
KAHZ	**Kahuranaki**	**23.56**	**198**	P	P	**14 00 14.6**	**+2.1**
PXZ	**Pawanui**	**23.79**	**198**	P	P	**14 00 17.4**	**+2.9**
BFZ	**Birch Farm**	**24.57**	**199**	P	P	**14 00 22.8**	**+1.0**
BFZ				IAmb	IAmb	14 00 50.4	
	comp=Z,89nm,1.6s						
BHW	**Baring Head**	**25.66**	**200**	P	P	**14 00 31.7**	**0.0**
PLWZ	**Palliser**	**25.68**	**199**	P	P	**14 00 32.5**	**+0.6**
TUWZ	**Tuamarina**	**26.00**	**201**	P	P	**14 00 35.8**	**+1.1**
THZ	**Tophouse**	**26.66**	**203**	P	P	**14 00 40.6**	**-0.2**
THZ				IAmb	IAmb	14 01 12.5	
	comp=Z,95nm,1.7s						
KHZ	**Kahutara**	**27.01**	**201**	P	P	**14 00 43.5**	**-0.4**
KHZ				IAmb	IAmb	14 01 31.0	
	comp=Z,100nm,1.8s						
LTZ	**Lake Taylor**	**27.78**	**202**	P	P	**14 00 50.7**	**-0.1**
RPZ	**Rata Peaks**	**29.03**	**203**	P	P	**14 01 02.8**	**+0.8**
	comp=Z,9.8nm,0.8s,baz=168,slow=5.8,SNR=2.6						
RPZ	**Rata Peaks**	**29.03**	**203**	IAmb	IAmb	14 01 34.4	
	comp=Z,69nm,1.6s						
TAOE	**Nuku Hiva Isla**	**33.77**	**79**	eT	T	14 36 47.5	
	comp=Z,35nm,0.2s						
TAOE	**Nuku Hiva Isla**	**33.77**	**79**	P	P	**14 01 42.6**	**-1.5**
KHLU	**Kahalu`u**	**40.91**	**26**	P	P	**14 02 43.9**	**-0.6**
MWH	**Moku'aweowe**	**40.94**	**27**	P	P	**14 02 44.9**	**-0.4**
COEN	**Coen**	**41.57**	**269**	P	P	**14 02 49.1**	**-0.9**
H11N3	**WAKE ISLAND Hy**	**41.69**	**332**	T	T	14 47 04.6	
	baz=151,slow=77,SNR=2.7						
H11N1	**WAKE ISLAND Hy**	**41.69**	**332**	T	T	14 47 02.5	
	baz=151,slow=77,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**41.70**	**332**	T	T	14 47 04.6	
	baz=151,slow=77,SNR=3.8						
STKA	**Stephens Creek**	**42.70**	**242**	P	P	**14 02 57.5**	**-1.6**
	comp=Z,1.5nm,0.9s,baz=45,slow=10.0,SNR=2.7						
BBOO	**Buckleboo**	**47.46**	**241**	P	P	**14 03 36.6**	**-0.4**
BBOO				IAmb	IAmb	14 04 35.3	
	comp=Z,26nm,1.5s						
WRAB	**Tennant Creek**	**49.06**	**259**	P	P	**14 03 47.8**	**-1.7**
WRAB				IAmb	IAmb	14 03 51.6	
	comp=Z,15nm,1.7s						
AS31	**Alice Springs**	**49.16**	**254**	P	P	**14 03 49.0**	**-1.3**
ASAR	**Alice Springs**	**49.16**	**254**	P	P	**14 03 49.5**	**-0.7**
	comp=Z,5.0nm,0.6s,baz=89,slow=8.3,SNR=167						
ASAR				S	S	14 10 46.6	-9.5
	comp=Z,0.3nm,0.7s,baz=88,slow=15,SNR=4.2						

ASAR	**Alice Springs**	**49.16**	**254**	P		**P**	**14 03 49.1**	**-1.2**
KNRA	**Kununurra**	**54.96**	**263**	P		**P**	**14 04 32.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**57.48**	**259**	P		**P**	**14 04 51.6**	**+0.2**
	comp=Z,2.2nm,1.0s,baz=104,slow=8.3,SNR=2.7							
FITZ				LR		LR	14 30 05.7	
	comp=Z,41nm,19.3s,baz=94,slow=37							
FITZ	**Fitzroy Crossi**	**57.48**	**259**	P		**P**	**14 04 51.0**	**-0.5**
FITZ				IAmb		IAmb	14 06 00.2	
	comp=Z,30nm,1.8s							
QSPA	**South Pole Qui**	**72.45**	**180**	P		**P**	**14 06 28.8**	**+0.5**
QSPA				IAmb		IAmb	14 06 47.8	
	comp=Z,18nm,1.7s							
EDW2	**Edwards Air Fo**	**74.32**	**45**	P		**P**	**14 06 39.9**	**+0.2**
	baz=235							
IKP	**In-Ko-Pah, Jac**	**74.37**	**48**	P		**P**	**14 06 39.7**	**-0.3**
	baz=237							
ISA	**Isabella, Lake**	**74.45**	**44**	P		**P**	**14 06 42.4**	**+2.0**
	baz=234							
O02D	**Mt. Diablo Mer**	**74.50**	**38**	P		**P**	**14 06 42.7**	**+2.1**
	baz=230							
PETK	**Petropavlovsk-**	**74.63**	**343**	P		**P**	**14 06 42.2**	**+1.2**
	comp=Z,3.2nm,0.7s,baz=88,slow=10,SNR=7.3							
PETK	**Petropavlovsk-**	**74.63**	**343**	P		**P**	**14 06 42.0**	**+1.0**
LRMC	**Laurel Mtn Rad**	**74.87**	**45**	P		**P**	**14 06 43.9**	**+0.9**
	baz=235							
CWC	**Cottonwood Cre**	**75.16**	**44**	P		**P**	**14 06 46.5**	**+1.9**
	baz=234							
MPMC	**Manual Prospec**	**75.33**	**44**	P		**P**	**14 06 46.6**	**+0.9**
	baz=235							
GSC	**Goldstone, Bar**	**75.36**	**45**	P		**P**	**14 06 47.5**	**+1.8**
	baz=236							
HEC	**Hector,Ludlow**	**75.41**	**46**	P		**P**	**14 06 47.2**	**+1.2**
	baz=236							
IRM	**Iron Mountain**	**75.86**	**47**	P		**P**	**14 06 50.5**	**+1.9**
	baz=237							
YERR	**Yerington**	**75.91**	**41**	P		**P**	**14 06 49.4**	**+0.4**
TUQ	**Turquoise Moun**	**76.03**	**45**	P		**P**	**14 06 51.7**	**+2.1**
	baz=236							
M04C	**Macdoel**	**76.07**	**37**	P		**P**	**14 06 52.0**	**+2.2**
	baz=230							
L04D	**Klamath Falls**	**76.08**	**37**	P		**P**	**14 06 51.6**	**+1.9**
	baz=230							
NVAR	**Mina Array Bea**	**76.17**	**42**	P		**P**	**14 06 52.1**	**+1.6**
	comp=Z,2.6nm,0.9s,baz=224,slow=8.8,SNR=15							
NVAR				LR		LR	14 34 18.5	
	comp=Z,71nm,19.7s,baz=325,slow=31							
NVAR	**Mina Array Bea**	**76.17**	**42**	P		**P**	**14 06 51.3**	**+0.8**
NV11	**Mina Array Sit**	**76.27**	**42**	P		**P**	**14 06 51.9**	**+1.0**
TPNV	**Topopah Spring**	**76.65**	**44**	P		**P**	**14 06 55.1**	**+1.9**
	baz=236							
J04D	**Umpqua Nationa**	**76.85**	**36**	P		**P**	**14 06 56.8**	**+2.6**
	baz=230							
H04D	**Lebanon**	**77.33**	**35**	P		**P**	**14 06 59.1**	**+2.5**
	baz=229							
R11A	**Troy Canyon, C**	**77.88**	**43**	P		**P**	**14 07 01.7**	**+1.7**
	baz=236							
TUC	**Tucson**	**78.03**	**50**	P		**P**	**14 07 02.6**	**+1.7**
	baz=240							
121A	**Cookes Peak, D**	**80.36**	**51**	P		**P**	**14 07 15.8**	**+2.1**
	baz=242							
MNTX	**Cornudas Mount**	**81.79**	**53**	P		**P**	**14 07 22.0**	**+0.8**
	baz=243							
TXAR	**Lajitas Array**	**82.10**	**56**	P		**P**	**14 07 24.6**	**+1.7**
	comp=Z,0.8nm,1.0s,baz=222,slow=8.9,SNR=5.5							
TXAR	**Lajitas Array**	**82.10**	**56**	P		**P**	**14 07 23.1**	**+0.1**
ANMO	**Albuquerque**	**82.45**	**50**	P		**P**	**14 07 25.5**	**+0.7**
	baz=242							
RND	**Reindeer**	**83.06**	**11**	P		**P**	**14 07 28.2**	**+1.0**
RND				IAmb		IAmb	14 07 29.4	
	comp=Z,7.9nm,1.0s							
MCK	**McKinley**	**83.34**	**11**	P		**P**	**14 07 29.1**	**+0.6**
MCK				IAmb		IAmb	14 07 30.6	
	comp=Z,11nm,1.0s							
S22A	**4UR Ranch, Cre**	**83.49**	**47**	P		**P**	**14 07 31.3**	**+1.1**
	baz=242							
PDAR	**Pinedale Array**	**84.11**	**42**	P		**P**	**14 07 34.2**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=236,slow=3.0,SNR=6.8							
PDAR				LR		LR	14 43 09.1	
	comp=Z,85nm,18.1s,baz=48,slow=34							
PDAR	**Pinedale Array**	**84.11**	**42**	P		**P**	**14 07 33.6**	**+0.3**
WRH	**Wood River Hil**	**84.17**	**11**	P		**P**	**14 07 33.2**	**+0.5**
WRH				IAmb		IAmb	14 07 35.0	
	comp=Z,7.1nm,0.8s							
HDA	**Harding Lake**	**84.32**	**11**	P		**P**	**14 07 34.5**	**+1.0**
	baz=206							
HDA	**Harding Lake**	**84.32**	**11**	P		**P**	**14 07 34.1**	**+0.6**
CCB	**Clear Creek Bu**	**84.38**	**11**	P		**P**	**14 07 34.1**	**+0.3**
CCB				IAmb		IAmb	14 07 35.2	
	comp=Z,8.0nm,1.0s							
TCOL	**CIGO, UAF Yank**	**84.58**	**11**	P		**P**	**14 07 36.0**	**+1.2**
	baz=205							
COLA	**College**	**84.58**	**11**	P		**P**	**14 07 35.0**	**+0.3**
COLA				IAmb		IAmb	14 07 36.8	
	comp=Z,11nm,0.7s							
IL31		**84.66**	**11**	P		**P**	**14 07 34.9**	**-0.3**
ILAR	**Eielson Array**	**84.66**	**11**	P		**P**	**14 07 35.6**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=228,slow=5.9,SNR=15							
ILAR	**Eielson Array**	**84.66**	**11**	P		**P**	**14 07 35.5**	**+0.3**
IMAR	**Indian Mountai**	**84.69**	**8**	P		**P**	**14 07 35.8**	**+0.5**
POKR	**Poker Flat Res**	**84.88**	**11**	P		**P**	**14 07 37.1**	**+0.8**
	baz=205							
PRP	**Porcupine Dome**	**85.59**	**11**	P		**P**	**14 07 40.8**	**+0.8**
PRP				IAmb		IAmb	14 07 42.0	
	comp=Z,7.6nm,1.1s							
DAWY	**Dawson**	**85.63**	**14**	P		**P**	**14 07 41.0**	**+0.9**
DAWY				IAmb		IAmb	14 07 42.4	
	comp=Z,4.5nm,0.9s							
BMAR	**Burnt Mountain**	**87.47**	**11**	P		**P**	**14 07 48.5**	**-0.6**
TOLK	**Toolik Lake Re**	**87.76**	**9**	P		**P**	**14 07 51.5**	**+1.0**
	baz=203							
YKA	**Yellowknife Ar**	**92.24**	**24**	P		**P**	**14 08 11.7**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=241,slow=4.2							
CMAR	**Chiang Mai Arr**	**93.01**	**288**	P		**P**	**14 08 16.7**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=97,slow=4.7,SNR=3.3							
CMAR				LR		LR	14 46 44.7	
	comp=Z,8.0nm,20.6s,baz=160,slow=33							
CMAR	**Chiang Mai Arr**	**93.01**	**288**	P		**P**	**14 08 16.1**	**0.0**
ULM	**Lac du Bonnet**	**95.83**	**39**	LR		LR	14 45 17.6	
	comp=Z,76nm,18.7s,baz=18,slow=32							
MKAR	**Makanchi Array**	**112.14**	**314**	PKiKP		**PKiKP**	**14 13 37.3**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=50,slow=1.9,SNR=5.2							
MKAR	**Makanchi Array**	**112.14**	**314**			**PKiKP**	**14 13 37.5**	**-0.1**
AKASG	**Malin Array Be**	**142.24**	**336**	PKhKP		**PKPdf**	**14 14 31.1**	**-3.3**
	comp=Z,0.6nm,0.7s,baz=50,slow=4.5,SNR=4.9							
CLL	**Collm**	**145.96**	**352**	*e*PKPbc		**PKPdf**	**14 14 42.0**	**+1.2**
	comp=Z,15nm,1.2s							
CLL	**Collm**	**145.96**	**352**	PKPbc		**PKPbc**	**14 14 42.2**	**+0.7**
BRG	**Berggiesshubel**	**146.25**	**351**	*e*PKP		**PKPab**	**14 14 44.2**	**+1.1**
	comp=Z,20nm,1.6s							
BR131	**Keskin Array S**	**147.63**	**319**			**PKPbc**	**14 14 46.8**	**-0.1**
BRTR	**Keskin Array B**	**147.63**	**319**	PKPbc		**PKPbc**	**14 14 47.8**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=124,slow=3.1,SNR=11							
BRTR	**Keskin Array B**	**147.63**	**319**			**PKPbc**	**14 14 47.0**	**+0.1**
GERES	**GERESS Array B**	**148.26**	**351**	PKPbc		**PKPbc**	**14 14 49.5**	**+1.2**
	comp=Z,1.1nm,0.9s,baz=27,slow=3.3,SNR=6.0							
GERES	**GERESS Array B**	**148.26**	**351**			**PKPbc**	**14 14 48.3**	**+0.1**
ABTA	**Abfaltersbach**	**150.49**	**351**	*i* pPKPbc		**PKPbc**	**14 14 56.5**	**+2.6**
TORD	**Torodi Ar. Bea**	**173.74**	**134**	PKPab		**PKPab**	**14 16 43.5**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=235,slow=5.1,SNR=2.6							
TORD	**Torodi Ar. Bea**	**173.74**	**134**			**PKPab**	**14 16 43.0**	**+0.8**

*ISCJB **31** 14:14:04.5±0.6, 10°.91S±0°.08×165°.76E±0°.07, h61km, mb4.0/8, Error ellipse: s-maj=12.2km s-min=7.9km az=36.1*

*NEIC **31** 14:14:05.0±1.9, 10°.86S±0°.08×165°.8E±0°.1, h51km±9km, mb4.7/15*

*IDC **31** 14:14:05.5±3.4, 10°.80S×165°.79E, h48km±29km, mb3.8/9, mb1 4.0/11, mb1mx3.7/34, mbtmp4.1/11, ML4.3/2, MS3.4/11, Ms1 3.4/11, ms1mx3.2/31, Error ellipse: s-maj=28.0km s-min=20.2km az=57.0*

ISC 31 14:14:06.3±0.7, 10°.92S±0°.08×165°.76E±0°.09, h61km, n40, σ1§18/37, mb4.2/12, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.91**	**284**	P	**Pn**	**14 15 30.2**	**-1.1**
	14nm,0.3s,baz=39,slow=0.5,SNR=8.6						
HNR				S	**Sn**	**14 16 37.9**	**+0.2**
	5.4nm,0.3s,baz=306,slow=23,SNR=2.8						
HNR				LR	LR	14 17 49.4	
	comp=Z,277nm,20.1s,baz=84,slow=38						
HNR	**Honiara**	**5.91**	**284**	P	**Pn**	**14 15 30.0**	**-1.3**
HNR	**Honiara**	**5.91**	**284**	Pn	**Pn**	**14 15 28.9**	**-2.4**
DZM	**Mont Dzumac**	**11.11**	**177**	P	**Pn**	**14 16 43.5**	**+0.9**
	1.1nm,0.3s,baz=340,slow=17,SNR=11						
DZM				S	**Sn**	**14 18 43.1**	**-2.3**
	0.5nm,0.3s,baz=125,slow=23,SNR=4.3						
DZM				LR	LR	14 21 01.6	
	comp=Z,138nm,18.6s,baz=37,slow=37						
DZM	**Mont Dzumac**	**11.11**	**177**	Pn	**Pn**	**14 16 43.7**	**+1.1**
PMG	**Port Moresby**	**18.37**	**273**	LR	LR	14 25 08.5	
	comp=Z,145nm,19.7s,baz=99,slow=36						
EIDS	**Eidsvold**	**20.00**	**222**	Pn	**P**	**14 18 35.8**	**+1.8**
EIDS				IAmb	IAmb	14 18 37.4	
	comp=Z,8.5nm,0.8s						
MANU	**Manus Island**	**20.27**	**294**	P	**P**	**14 18 36.8**	**-0.3**
MANU				IAmb	IAmb	14 18 40.0	
	comp=Z,154nm,1.8s						
CTA	**Charters Tower**	**20.87**	**242**	P	**P**	**14 18 45.3**	**+1.7**
	comp=Z,14nm,1.1s,baz=64,slow=13,SNR=6.5						
AFI	**Afiamalu**	**22.14**	**100**	LR	LR	14 26 35.1	
	comp=Z,36nm,18.7s,baz=289,slow=34						
COEN	**Coen**	**22.26**	**260**	P	**P**	**14 18 58.6**	**+0.1**
ARMA	**Armidale**	**23.43**	**212**	P	**P**	**14 19 11.2**	**+0.8**
ARMA				IAmb	IAmb	14 19 14.3	
	comp=Z,13nm,1.2s						
URZ	**Urewera**	**29.07**	**161**	P	**P**	**14 20 01.6**	**+0.7**
	comp=Z,11nm,1.0s,baz=346,slow=8.3,SNR=2.5						
URZ				LR	LR	14 29 45.3	
	comp=Z,100nm,20.0s,baz=3.0,slow=32						
URZ	**Urewera**	**29.07**	**161**	P	**P**	**14 20 00.9**	**0.0**
URZ				IAmb	IAmb	14 20 05.2	
	comp=Z,67nm,1.8s						
STKA	**Stephens Creek**	**30.54**	**223**	P	**P**	**14 20 15.9**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=36,slow=9.8,SNR=5.8						
STKA				LR	LR	14 32 07.2	
	comp=Z,128nm,18.2s,baz=26,slow=35						
STKA	**Stephens Creek**	**30.54**	**223**	P	**P**	**14 20 15.6**	**+1.5**
SNZO	**South Karori**	**31.29**	**167**	P	**P**	**14 20 18.1**	**-2.4**
WR0	**Warramunga Arr**	**31.36**	**250**	P	**P**	**14 20 21.2**	**-0.2**
THZ	**Tophouse**	**31.36**	**170**	P	**P**	**14 20 19.2**	**-2.1**
WRAB	**Tennant Creek**	**31.53**	**250**	P	**P**	**14 20 22.6**	**-0.4**
WRAB				IAmb	IAmb	14 20 32.5	
	comp=Z,8.4nm,1.3s						
TOO	**Toolangi**	**32.19**	**211**	P	**P**	**14 20 29.5**	**+0.9**
TOO				IAmb	IAmb	14 20 50.4	
	comp=Z,14nm,1.4s						
AS31	**Alice Springs**	**32.86**	**243**	P	**P**	**14 20 34.0**	**-0.7**
ASAR	**Alice Springs**	**32.86**	**243**	P	**P**	**14 20 34.4**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=71,slow=9.6,SNR=44						
ASAR				PcP	**PcP**	**14 23 19.8**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=70,slow=2.2,SNR=4.3						
ASAR				LR	LR	14 33 15.8	
	comp=Z,60nm,19.9s,baz=95,slow=35						
ASAR	**Alice Springs**	**32.86**	**243**	P	**P**	**14 20 33.3**	**-1.3**
RAR	**Rarotonga**	**34.60**	**112**	LR	LR	14 31 52.3	
	comp=Z,50nm,18.1s,baz=180,slow=31						
RAR	**Rarotonga**	**34.60**	**112**	P	**P**	**14 20 49.4**	**-0.3**
BBOO	**Buckleboo**	**34.92**	**227**	P	**P**	**14 20 53.4**	**+1.0**
BBOO				IAmb	IAmb	14 21 17.4	
	comp=Z,28nm,1.4s						
FITZ	**Fitzroy Crossi**	**39.42**	**255**	P	**P**	**14 21 31.5**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=116,slow=6.6,SNR=4.3						
FITZ	**Fitzroy Crossi**	**39.42**	**255**	P	**P**	**14 21 31.0**	**+0.3**
FITZ				IAmb	IAmb	14 22 43.8	
	comp=Z,34nm,1.7s						
KSRS	**Korea Array**	**59.78**	**326**	LR	LR	14 46 22.5	
	comp=Z,18nm,20.1s,baz=295,slow=32						
USRK	**Ussuriysk Ar.**	**62.84**	**333**	LR	LR	14 54 20.0	
	comp=Z,21nm,18.1s,baz=242,slow=38						
SONM	**Songino Array**	**78.57**	**324**	P	**P**	**14 26 00.9**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=116,slow=5.6,SNR=2.3						
ILAR	**Eielson Array**	**83.39**	**19**	P	**P**	**14 26 26.8**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=223,slow=5.9,SNR=6.0						
ILAR	**Eielson Array**	**83.39**	**19**	P	**P**	**14 26 27.2**	**+0.7**
NVAR	**Mina Array Bea**	**85.93**	**50**	LR	LR	15 00 38.5	
	comp=Z,57nm,18.4s,baz=356,slow=32						
SYO	**Syowa Base**	**91.91**	**197**	*e*P	**P**	**14 27 07.2**	**-0.5**
MKAR	**Makanchi Array**	**93.43**	**317**	P	**P**	**14 27 15.7**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=97,slow=5.0,SNR=4.5						
MKAR	**Makanchi Array**	**93.43**	**317**	P	**P**	**14 27 15.2**	**0.0**
ZALV	**Zalesovo Beam**	**93.46**	**324**	P	**P**	**14 27 15.5**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=103,slow=6.5,SNR=2.9						
ZALV	**Zalesovo Beam**	**93.46**	**324**	P	**P**	**14 27 14.7**	**-0.3**

*IDC **31** 14:21:01.0±0.9, 6°.15S×104°.23E, h0km, mb3.9/12, mb1 3.9/12, mb1mx3.8/38, mbtmp3.9/12, MS3.2/3, Ms1 3.3/3, ms1mx2.9/34, Error ellipse: s-maj=31.1km s-min=19.5km az=58.0*

*ISCJB **31** 14:21:03.7±0.6, 6°.49S±0°.07×103°.84E±0°.05, h42km, mb3.9/12, MS3.3/2, Error ellipse: s-maj=12.0km s-min=5.4km az=31.4*

*DJA **31** 14:21:05.4±0.3, 6°.5S×4°.4×10°.4E±°, h10km, M3.9/10, mb3.5/3, MLv4.1/10*

*NEIC **31** 14:21:08.4±1.6, 6°.13S±0°.07×104°.12E±0°.09, h57km±7km, mb4.7/10*

ISC 31 14:21:06.0±0.7, 6°.4S±0°.1×103°.93E±0°.08, h42km, n60, σ1§63/50, mb4.0/15, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**1.00**	**35**	P	**Pn**	**14 21 23.1**	**-0.4**
LWLI	**Liwa**	**1.33**	**6**	P	**Pn**	**14 21 30.3**	**+2.1**
KLSI		**1.83**	**26**	P	**Pn**	**14 21 37.2**	**+2.2**
MDSI	**Maura Dua**	**1.87**	**8**	P	**Pn**	**14 21 37.4**	**+1.9**
MNAI	**Manna**	**2.20**	**334**	P	**Pn**	**14 21 41.9**	**+1.8**
MNAI	**Manna**	**2.20**	**334**		**Pn**	**14 21 41.8**	**+1.7**
SKJI	**Sukabumi**	**2.69**	**104**	P	Pn	14 21 51.7	+4.9
DBJI	**Dramaga**	**2.81**	**94**	P	**Pn**	**14 21 53.0**	**+4.5**
CBJI	**Citeko**	**2.91**	**92**	P	Pn	14 21 56.3	+6.6
KSI	**Kapahiang**	**2.99**	**334**	P	**Pn**	**14 21 50.9**	**-0.1**
CNJI	**Cibinong**	**3.32**	**107**	P	**Pn**	**14 22 00.1**	**+4.7**
PMBI	**Palembang**	**3.50**	**14**	Pn	**Pn**	**14 21 57.2**	**-0.7**
MASI	**Maura Aman, Be**	**3.60**	**332**	P	**Pn**	**14 22 00.3**	**+0.9**
LEM	**Lembang**	**3.70**	**98**	Pn	**Pn**	**14 22 02.4**	**+1.6**
	5.3nm,0.3s,baz=193,slow=22,SNR=2.6						
LEM				Sn	**Sn**	**14 22 44.9**	**+1.7**
	13nm,0.3s,baz=344,slow=22,SNR=4.2						
CISI	**Cisompet, Garu**	**4.04**	**107**	P	**Pn**	**14 22 08.5**	**+3.1**
CISI	**Cisompet, Garu**	**4.04**	**107**	Pn	**Pn**	**14 22 07.6**	**+2.2**
KPJI	**Karang Pucung**	**5.06**	**101**	P	**Pn**	**14 22 23.1**	**+3.7**
	33nm,2.0s,0.2nm						
PPSI	**Pulau Pagai**	**5.29**	**312**	P	**Pn**	**14 22 22.8**	**+0.3**
	93nm,0.9s,0.9nm						
UGM	**Wanagama**	**6.73**	**104**	Pn	**Pn**	**14 22 42.4**	**+0.1**
GSI	**Gunungsitoli**	**9.90**	**320**	Pn	**Pn**	**14 23 24.5**	**-1.3**
JAGI	**Jajag, Banyuwa**	**10.36**	**102**	Pn	**Pn**	**14 23 30.6**	**-1.4**
PSI	**Prapat**	**10.37**	**331**	LR	LR	14 27 50.1	
	comp=Z,106nm,18.6s,baz=129,slow=40						
SOEI	**Soe**	**20.42**	**101**	P	**P**	**14 25 38.3**	**-1.6**
SOEI				IAmb	IAmb	14 26 06.2	
	comp=Z,24nm,0.8s						
CMAR	**Chiang Mai Arr**	**25.14**	**349**	P	**P**	**14 26 26.2**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=183,slow=9.1,SNR=11						
CMAR				LR	LR	14 37 43.3	
	comp=Z,32nm,18.2s,baz=50,slow=40						
H01W3	**Cape Leeuwin H**	**29.91**	**163**	T	T	14 58 15.2	
	baz=341,slow=76,SNR=5.2						
H01W2	**Cape Leeuwin H**	**29.93**	**163**	T	T	14 58 12.7	
	baz=341,slow=76,SNR=4.2						
H01W1	**Cape Leeuwin H**	**29.93**	**163**	T	T	14 58 16.0	
	baz=341,slow=76,SNR=6.5						
HKPS	**Hong Kong Po S**	**30.16**	**19**	P	**P**	**14 27 11.2**	**-1.1**
H08S2	**Diego Garcia H**	**31.22**	**266**	T	T	15 00 10.1	
	baz=89,slow=75,SNR=5.0						
H08S3	**Diego Garcia H**	**31.23**	**266**	T	T	15 00 05.0	
	baz=89,slow=75,SNR=9.2						
H08S1	**Diego Carcia H**	**31.24**	**266**	T	T	15 00 05.8	
	baz=89,slow=75,SNR=3.9						
ASAR	**Alice Springs**	**33.56**	**124**	P	**P**	**14 27 41.4**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=301,slow=7.9,SNR=6.2						
ODAN	**Odare**	**36.70**	**335**	*e*P	**P**	**14 28 10.1**	**+0.7**
	comp=Z,7.8nm,0.7s						
TAPN	**Taplejung**	**36.99**	**336**	*e*P	**P**	**14 28 12.4**	**+0.4**
RAMN	**Ramite**	**37.12**	**334**	*e*P	**P**	**14 28 14.7**	**+1.8**
	comp=Z,5.2nm,0.5s						
GUN	**Gumba**	**38.26**	**334**	*e*P	**P**	**14 28 23.8**	**+1.0**
	comp=Z,12nm,0.6s						
GKN	**Gorkha**	**38.90**	**332**	*e*P	**P**	**14 28 28.6**	**+0.7**
KOLN	**Koldanda**	**39.20**	**331**	*e*P	**P**	**14 28 31.4**	**+1.0**
DANN	**Dangsing**	**39.61**	**332**	*e*P	**P**	**14 28 34.7**	**+0.8**
	comp=Z,18nm,0.6s						
STKA	**Stephens Creek**	**43.35**	**131**	P	**P**	**14 29 03.4**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=309,slow=8.6,SNR=4.4						
STKA	**Stephens Creek**	**43.35**	**131**	P	**P**	**14 29 03.3**	**-1.0**
KSRS	**Korea Array**	**49.00**	**25**	P	**P**	**14 29 47.4**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=218,slow=7.3,SNR=4.9						
SONM	**Songino Array**	**54.00**	**2**	P		**P**	**14 30 26.3**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=177,slow=9.0,SNR=20							
SONM	**Songino Array**	**54.00**	**2**	P		**P**	**14 30 26.2**	**+0.3**
MK31	**Makanchi Array**	**56.29**	**342**	P		**P**	**14 30 42.5**	**+0.1**
MK31				IAmb		IAmb	14 31 00.8	
	comp=Z,1.3nm,1.1s							
MKAR	**Makanchi Array**	**56.29**	**342**	P		**P**	**14 30 42.0**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=149,slow=7.8,SNR=13							
MKAR	**Makanchi Array**	**56.29**	**342**	P		**P**	**14 30 42.2**	**-0.2**
USA0B	**Ussuriysk Arra**	**56.32**	**24**	P		**P**	**14 30 42.0**	**-0.6**
USA0B				IAmb		IAmb	14 31 55.9	
	comp=Z,29nm,1.8s							
USRK	**Ussuriysk Ar.**	**56.32**	**24**	P		**P**	**14 30 41.9**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=204,slow=5.0,SNR=9.5							
KKAR	**Karatay Array**	**57.80**	**332**	P		**P**	**14 30 52.1**	**-1.1**
GEYT	**Alibeck**	**61.28**	**320**	P		**P**	**14 31 18.4**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=123,slow=5.3,SNR=3.6							
GEYT	**Alibeck**	**61.28**	**320**	P		**P**	**14 31 17.6**	**+0.3**
ZALV	**Zalesovo Beam**	**62.19**	**347**	P		**P**	**14 31 22.4**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=165,slow=6.2,SNR=4.6							
ABKAR	**Akbulak array**	**67.32**	**330**	P		**P**	**14 31 56.4**	**-0.1**
ABKAR				IAmb		IAmb	14 33 50.3	
	comp=Z,14nm,1.9s							
BOSA	**Boshof**	**77.05**	**242**	P		P	14 33 00.3	+4.9
	comp=Z,1.4nm,0.8s,baz=70,slow=7.0,SNR=2.1							
BOSA	**Boshof**	**77.05**	**242**	IAmb		IAmb	14 34 31.9	
	comp=Z,38nm,2.0s							
BRTR	**Keskin Array B**	**79.13**	**312**	P		**P**	**14 33 08.8**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=110,slow=8.0,SNR=2.3							
AKASG	**Malin Array Be**	**85.30**	**322**	P		**P**	**14 33 38.5**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=99,slow=4.6,SNR=3.7							
AKASG				LR		LR	15 16 51.3	
	comp=Z,30nm,19.1s,baz=305,slow=39							
TXAR	**Lajitas Array**	**145.36**	**45**	PKPbc		**PKPab**	**14 40 40.5**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=282,slow=0.7,SNR=5.8							
TXAR	**Lajitas Array**	**145.36**	**45**			**PKPdf**	**14 40 39.6**	**-0.6**

MAN 31 14:29:04.1, 7°.27N×126°.45E, h64km, mb4.5, ML3.4, MS3.2, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.37**	**211**	P	Pn	14 29 16.6	+1.3
MATI				S	Sn	14 29 27.0	+3.7
BIPH	**Bislig**	**0.92**	**354**	⇓P	Pn	14 29 20.8	-0.4
BIPH				S	Sn	14 29 34.2	+0.3
DMPH	**Davao City--Mi**	**0.96**	**259**	⇑P	Pn	14 29 25.3	+3.6
DMPH				S	Sn	14 29 41.9	+7.1
DDMP	**Don Marcelino,**	**1.37**	**213**	P	Pn	14 29 28.0	+0.9
DDMP				S	Sn	14 29 46.6	+2.2
BUKP	**Musuan**	**1.51**	**294**	P	Pn	14 29 30.1	+1.1
BUKP				S	Sn	14 29 48.4	+0.6
BUTP	**Butuan**	**1.88**	**334**	P	Pn	14 29 35.3	+1.3
CGP	**Cagayan de Oro**	**2.10**	**304**	⇓P	Pn	14 29 37.9	+0.8
CGP				S	Sn	14 30 04.4	+2.2
CTBH	**Cotabato--PC H**	**2.19**	**269**	⇑P	Pn	14 29 38.8	+0.6
CTBH	**Cotabato--PC H**	**2.19**	**269**	⇑P	Sn	14 30 03.4	-0.8
PAGZ	**Pagadian**	**3.10**	**281**	P	Pn	14 29 51.6	+1.0

**NNC 31 14:33:35.7±5.1, 36°.41N×70°.56E, h0km, mb3.8, mpv3.5, 2C-2D, Error ellipse: s-maj=49.2km s-min=32.8km az=155.

GUMA			AML	AML		
	comp=N,159μm,0.5s					
GUMA			AML	AML		
	comp=E,238μm,0.3s					
GUMA			AML	AML		
	comp=N,159μm,0.5s					
GUMA			AML	AML		
	comp=E,238μm,0.3s					
GUMA			AML	AML		
	comp=N,159μm,0.5s					
PIGN	**Pignataro Magg**	**1.66 156**	P	Pb	14 36 04.9	-0.6
OZLJ	**Ozalj**	**3.28 28**	Sg	Sg	14 37 23.1	+3.0
T0721	**Laino Castello**	**3.44 143**	P	Pg	14 36 39.4	-1.2
ABSI	**Aberstueckl**	**4.24 341**	P	Pb	14 36 46.2	-3.5
ATN	**Antennamare**	**4.85 159**	P	Pb	14 36 55.7	-4.2
VLO	**Vlora**	**5.16 114**	P	Pn	14 36 54.7	+2.6
HPAC	**Pachino**	**6.18 166**	P	Pn	14 37 07.6	+1.4

*GEN **31** 14:36:38.2, 43°.97N×11°.05E, h11km±5km, Ml1.1*
ROM 31 14:36:38.3±0.1**, 43°.984N**±0°.003**×10°.991E**±0°.004**, h10km, Md1.4/4, Error ellipse: s-maj=0.3km s-min=0.2km az=58.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTCR	**Monte La Croce**	**0.04**	**7**	P	Pg	14 36 40.7	+0.2
MTCR				S	Sg	14 36 42.2	+0.2
MTCR				END			
PTF	**Prato**	**0.06**	**113**	P	Pg	14 36 40.8	+0.3
PTF				S	Sg	14 36 42.4	+0.3
PTF				END			
POPM	**Popiglio**	**0.18**	**290**	P	Pg	14 36 42.8	+0.6
POPM				S	Sg	14 36 46.1	+1.3
POPM	**Popiglio**	**0.18**	**290**	P	Pg	14 36 42.8	+0.6
POPM				S	Sg	14 36 46.0	+1.2
POPM				END			
CRMI	**Carmignano**	**0.19**	**184**	P	Pg	14 36 43.1	+0.6
CRMI				S	Sg	14 36 46.4	+1.1
CRMI				END			
MAIM	**Mastiano**	**0.37**	**259**	P	Pg	14 36 46.0	+0.4
MAIM				S	Sg	14 36 51.3	+0.9
MAIM	**Mastiano**	**0.37**	**259**	P	Pg	14 36 46.1	+0.5
MAIM				S	Sb	14 36 51.7	-1.0
CARD	**Cardoso**	**0.37**	**277**	P	Pg	14 36 46.3	+0.6
CARD				S	Sb	14 36 51.7	-1.1
EQUI	**Equi**	**0.63**	**287**	P	Pb	14 36 51.3	-0.1
EQUI				S	Sb	14 37 00.0	-0.2

*ISCJB **31** 14:38:22.0±1.0, 36°.49N±0°.05×142°.58E±0°.07, h9km, mb3.6/5, Error ellipse: s-maj=9.5km s-min=5.8km az=31.2*
*JMA **31** 14:38:24.5±0.2, 36°.45N×142°.55E, h74km, M3.4*
*IDC **31** 14:38:27.2±1.8, 37°.07N×142°.18E, h0km, mb3.7/5, mb1 3.7/8, mb1mx3.5/36, mbtmp3.7/8, ML3.5/2, Error ellipse: s-maj=41.3km s-min=24.1km az=84.0*
ISC 31 14:38:23.8±1.4**, 36°.55N**±0°.06×**142°.43E**±0°.08**, h9**km, n29, σ1§67/28, mb3.6/5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.42**	**293**	P	**Pg**	**14 38 50.7**	**-0.3**
JFK	**Kawauchi**	**1.49**	**304**	*e*S	**Sg**	**14 39 12.1**	**+0.5**
JHO	**Hitachi**	**1.50**	**273**	P	**Pb**	**14 38 51.1**	**-0.7**
JHO				*e*S	**Sg**	**14 39 11.6**	**-0.3**
JHYU	**Hitachinakayam**	**1.50**	**262**	P	**Pb**	**14 38 51.3**	**-0.5**
JHYU				S	**Sb**	**14 39 10.9**	**0.0**
CHOJ	**Chosi**	**1.53**	**237**	P	**Pn**	**14 38 50.9**	**-0.3**
CHOJ				S	**Sn**	**14 39 10.3**	**-0.9**
JFT	**Otama**	**1.93**	**301**	P	**Pb**	**14 38 58.3**	**-0.9**
JAG	**Ashikaga**	**2.40**	**268**	P	**Pn**	**14 39 03.8**	**+0.5**
JMK	**Ichinoseki**	**2.58**	**339**	P	**Pn**	**14 39 06.8**	**+1.1**
JMK				S	**Sn**	**14 39 38.7**	**+1.5**
JYK	**Kaneyama**	**2.87**	**326**	P	**Pn**	**14 39 11.1**	**+1.3**
JRY	**Ryogami san**	**2.90**	**260**	P	**Pn**	**14 39 10.3**	**+0.1**
JOD2	**Odawara 2**	**3.00**	**246**	P	**Pn**	**14 39 11.7**	**+0.1**
JOM	**Ohasama**	**3.05**	**343**	S	**Sn**	**14 39 50.3**	**+1.5**
JYN	**Shimob**	**3.32**	**253**	P	**Pn**	**14 39 17.0**	**+1.0**
MJAR	**Matsushiro Arr**	**3.40**	**271**	Pn	**Pn**	**14 39 18.7**	**+1.7**
	0.6nm,0.3s,baz=106,slow=9.4,SNR=89						
MAT	**Matsushiro**	**3.40**	**271**	P	**Pn**	**14 39 19.1**	**+2.0**
MAT				*e*S	**Sb**	**14 40 01.9**	**-3.7**
MAT	**Matsushiro**	**3.40**	**271**	P	**Pn**	**14 39 19.0**	**+2.0**
ASAJ	**Asahikawa**	**7.56**	**1**	Pn	**Pn**	**14 40 13.0**	**-1.1**
	2.0nm,0.3s,baz=226,slow=7.4,SNR=19						
ASAJ				Sn	**Sn**	**14 41 34.5**	**-5.3**
	0.4nm,0.3s,baz=304,slow=29,SNR=2.8						
USRK	**Ussuriysk Ar.**	**11.03**	**317**	Pn	**Pn**	**14 41 01.0**	**-0.6**
	baz=120,slow=14,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**27.20**	**121**	T	T	15 12 24.4	
	baz=313,slow=75,SNR=4.8						
H11N1	**WAKE ISLAND Hy**	**27.21**	**121**	T	T	15 12 23.7	
	baz=313,slow=75,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**27.22**	**121**	T	T	15 12 24.4	
	baz=313,slow=75,SNR=5.8						
H11S1	**WAKE ISLAND Hy**	**27.91**	**124**	T	T	15 13 35.0	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**27.92**	**124**	T	T	15 13 34.2	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**27.93**	**124**	T	T	15 13 37.6	
	baz=316						
SONM	**Songino Array**	**28.73**	**304**	P	**P**	**14 44 23.2**	**+1.7**
	1.6nm,0.8s,baz=106,slow=10.0,SNR=7.8						
ZALV	**Zalesovo Beam**	**42.84**	**313**	P	**P**	**14 46 22.7**	**+0.8**
	0.9nm,0.7s,baz=100,slow=8.1,SNR=4.2						
MKAR	**Makanchi Array**	**45.06**	**303**	P	**P**	**14 46 40.7**	**+0.7**
	0.9nm,0.7s,baz=87,slow=11,SNR=9.6						
ASAR	**Alice Springs**	**60.43**	**189**	P	P	14 48 42.4	+8.7
	0.1nm,0.4s,baz=4.6,slow=6.9,SNR=5.3						
AKASG	**Malin Array Be**	**75.17**	**323**	P	**P**	**14 50 06.4**	**+0.1**
	0.3nm,0.5s,baz=44,slow=6.0,SNR=4.2						

*HLW **31** 14:55:37.9, 29°.65N×36°.62E, h10km±10km, Ml3.2*
*ISCJB **31** 14:55:39.9±1.8, 29°.7N±0°.1×36°.3E±0°.2, h10km, Error ellipse: s-maj=23.7km s-min=8.5km az=34.5*
*JSO **31** 14:55:40.2±2.4, 30°.N±18°×3°.6E±1°.4, h5km, M3.2/6, Mjma3.1/6, ML3.4/2, MLv3.1/6*
ISC 31 14:55:35.6±2.1**, 29°.66N**±0°.08×**36°.4E**±0°.1**, h10**km, n9, σ0§83/10, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.27**	**288**	P	**Pg**	**14 56 00.0**	**0.0**
EIL	**Elat**	**1.29**	**271**	P	**Pg**	**14 56 01.6**	**+1.3**
HBST	**Basata**	**1.54**	**254**	P	**Pg**	**14 56 06.4**	**+1.1**
	baz=256						
HBST				AMP		14 56 00.0	
	baz=256						
SWQJ	**Swaqa**	**1.61**	**349**	P	**Pg**	**14 56 07.1**	**+0.6**
HDHB	**Dhahab**	**1.84**	**240**	P	**Pg**	**14 56 11.1**	**+0.2**
	baz=243						
KZIT	**Kziot**	**2.15**	**306**	P	**Pb**	**14 56 14.7**	**0.0**
HKAT	**Jabal Katrina**	**2.42**	**243**	P	**Pb**	**14 56 18.8**	**-0.5**
	baz=245						
HKAT				S	**Sb**	**14 56 48.7**	**-0.5**
	baz=245						
HKAT				AMP		14 57 00.0	
	baz=245						
ASF	**Jabal al Asfar**	**2.54**	**9**	P	**Pb**	**14 56 21.0**	**-0.3**
RSH		**2.68**	**300**	P	**Pb**	**14 56 22.7**	**-1.0**
	baz=299						

*ISCJB **31** 15:06:16.0±0.3, 34°.58N±0°.02×25°.37E±0°.02, h50km±2km, mb4.2/43, MS3.6/1, Error ellipse: s-maj=4.1km s-min=2.5km az=33.4*
*HLW **31** 15:06:15.5, 34°.64N×25°.44E, h16km±11km, Ml4.1*
*MOS **31** 15:06:15.9±1.1, 34°.58N×25°.32E, h44km, mb4.5/15, Error ellipse: s-maj=7.1km s-min=4.1km az=89.4*
*ISK **31** 15:06:16.0, 34°.65N×25°.19E, h80km, ML4.0/16*
*THE **31** 15:06:17.9, 34°.65N×25°.30E, h0km±1km, ML3.7/8, Error ellipse: s-maj=2.3km s-min=0.7km az=176.0*
*NEIC **31** 15:06:17.8±1.8, 34°.65N±0°.07×25°.30E±0°.07, h46km±5km, mb4.2/31*
*MED_RC **31** 15:06:17.0±0.3, 34°.55N×25°.28E, h44km, MW4.5/10, Moment Tensor Solution.Mantle waves: s10,c11; Duration: 1§0 Moment tensor: Scale 10¹⁶Nm; Mrr0.16±.05; Mθθ-0.59±.11; Mφφ0.43±.12; Mrθ0.11±.01; Mθφ-0.67±.11; Mφr-0.04±.02; Best double couple:*
M₀0.85000×10¹⁶ NP1:φ₁§108.00000°, δ87.00000°, λ171.00000°. NP2:φ₂199.00000°, δ81.00000°, λ3.00000°. Principal axes: T 0.7700, Plg8.0000°, Azm63.0000°; N 0.1500, Plg81.0000°, Azm270.0000°; P -0.9200, Plg4.0000°, Azm154.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.
*ATH **31** 15:06:19.0, 34°.84N×25°.32E, h44km, ML3.8/18 Error ellipse: s-maj=1.7km s-min=0.8km az=352.0*
*IDC **31** 15:06:18.4±1.1, 34°.78N×25°.35E, h48km±7km, mb3.8/23, mb1 3.9/32, mb1mx3.8/46, mbtmp4.0/32, MS3.3/9, Ms1 3.3/9, ms1mx3.0/51, Error ellipse: s-maj=16.1km s-min=10.4km az=16.0*
*GII **31** 15:06:23.5±0.4, 34°.47N×25°.96E, h50km, MD3.2/3*
ISC 31 15:06:16.6±0.6**, 34°.57N**±0°.04×**25°.38E**±0°.03**, h35**km±1km, n305, σ1§72/339, mb4.2/46, 5C-10D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.54**	**33**	P	**Pn**	**15 06 29.8**	**+2.0**
FRMA				S	**Sn**	**15 06 39.2**	**+3.6**
	7μm,0.6s						
LAST	**Lasithi**	**0.60**	**8**	P	**Pn**	**15 06 28.4**	**-0.4**
LAST				S	**Sn**	**15 06 36.4**	**-0.9**
	7μm,0.8s						
LAST	**Lasithi**	**0.60**	**8**	P	**Pn**	**15 06 28.4**	**-0.4**
LAST				S	**Sn**	**15 06 35.8**	**-1.5**
LAST				AML	AML	15 06 39.2	
	comp=E,33027μm,0.7s						
LAST				AML	AML	15 06 39.7	
	comp=N,22717μm,1.0s						
SIVA	**Sivas**	**0.65**	**314**	P	**Pn**	**15 06 29.2**	**-0.1**
SIVA				S	**Sn**	**15 06 37.5**	**-0.9**
	comp=N,55μm,0.6s						
SIVA	**Sivas**	**0.65**	**314**	P	**Pn**	**15 06 29.3**	**0.0**
SIVA				S	**Sn**	**15 06 37.4**	**-0.9**
SIVA				AML	AML	15 06 41.9	
	comp=N,76758μm,0.6s						
SIVA				AML	AML	15 06 45.0	
	comp=E,86586μm,0.5s						
TMBK	**Timbaki Herakl**	**0.71**	**315**	P	**Pn**	**15 06 31.1**	**+0.9**
TMBK				S	**Sn**	**15 06 40.3**	**+0.4**
	comp=E,8μm,0.7s						
NPS	**Neapolis**	**0.72**	**15**	P	**Pn**	**15 06 30.8**	**+0.4**
NPS				S	**Sn**	**15 06 41.5**	**+1.3**
	comp=E,9μm,0.7s						
NPS	**Neapolis**	**0.72**	**15**	P	**Pn**	**15 06 31.2**	**+0.8**
NPS				S	**Sn**	**15 06 42.7**	**+2.5**
NPS	**Neapolis**	**0.72**	**15**	P	**Pn**	**15 06 30.6**	**+0.3**
NPS				S	**Sn**	**15 06 38.2**	**-2.0**
NPS				AML	AML	15 06 43.6	
	comp=E,17716μm,0.8s						
NPS				AML	AML	15 06 45.6	
	comp=N,22886μm,0.6s						
HRKL	**Herakleio**	**0.78**	**343**	P	**Pn**	**15 06 32.0**	**+0.9**
HRKL				S	**Sn**	**15 06 41.1**	**-0.5**
	comp=N,20μm,0.9s						
KSTL	**Kastelli Herak**	**0.78**	**341**	P	**Pn**	**15 06 29.2**	**-1.9**
KSTL				S	**Sn**	**15 06 38.0**	**-3.6**
IACM	**Heraklion**	**0.78**	**341**	P	**Pn**	**15 06 32.0**	**+0.9**
IACM	**Heraklion**	**0.78**	**341**	P	**Pn**	**15 06 31.5**	**+0.4**
IDI	**Anoyia**	**0.82**	**331**	P	**Pn**	**15 06 32.2**	**+0.4**
	comp=N,188nm,0.3s,baz=151,slow=16,SNR=373						
IDI				S	**Sn**	**15 06 42.3**	**-0.5**
	comp=N,725nm,0.3s,baz=209,slow=11,SNR=54						
IDI	**Anoyia**	**0.82**	**331**	P	**Pn**	**15 06 31.7**	**-0.1**
IDI				S	**Sn**	**15 06 41.0**	**-1.9**
IDI				AML	AML	15 06 44.5	
	comp=E,7192μm,0.5s						
IDI				AML	AML	15 06 44.8	
	comp=N,15034μm,0.7s						
STIA	**Sitia Lasithi**	**0.86**	**43**	P	**Pn**	**15 06 34.6**	**+2.3**
STIA				S	**Sn**	**15 06 48.3**	**+4.6**
ZKR	**Zakros**	**0.88**	**51**	P	**Pn**	**15 06 34.8**	**+2.3**
ZKR				S	**Sn**	**15 06 49.3**	**+5.2**
	comp=N,6μm,0.5s						
ZKR	**Zakros**	**0.88**	**51**	P	**Pn**	**15 06 34.8**	**+2.3**
ZKR				S	**Sn**	**15 06 46.0**	**+1.8**
ZKR				AML	AML	15 06 53.7	
	comp=E,15997μm,0.5s						
ZKR				AML	AML	15 06 57.2	
	comp=N,8462μm,0.4s						
ZKR	**Zakros**	**0.88**	**51**	PG	**Pn**	**15 06 35.2**	**+2.7**
ZKR				SG	**Sn**	**15 06 49.6**	**+5.5**
PRNS	**Prines Rethymn**	**1.07**	**318**	P	**Pn**	**15 06 37.3**	**+2.2**
PRNS				S	**Sn**	**15 06 52.2**	**+3.4**
GVDS	**Gavdos**	**1.10**	**285**	P	**Pn**	**15 06 37.6**	**+2.2**
GVD	**Gavdhos**	**1.10**	**285**	P	**Pn**	**15 06 37.3**	**+1.8**
GVD	**Gavdhos**	**1.10**	**285**	P	**Pn**	**15 06 37.3**	**+1.8**
GVD				AML	AML	15 07 09.2	
	comp=N,9557μm,0.5s						
GVD				AML	AML	15 07 10.6	
	comp=E,11568μm,0.5s						
VAM	**Vamos**	**1.28**	**311**	P	**Pn**	**15 06 39.5**	**+1.5**
VAM				S	**Sn**	**15 06 57.8**	**+3.9**
	comp=E,5μm,0.4s						
VAM	**Vamos**	**1.28**	**311**	P	**Pn**	**15 06 39.8**	**+1.8**
VAM	**Vamos**	**1.28**	**311**	P	**Pn**	**15 06 39.4**	**+1.5**
VAM				S	**Sn**	**15 06 53.7**	**-0.3**
VAM				AML	AML	15 07 00.3	
	comp=E,10614μm,0.8s						
VAM				AML	AML	15 07 01.6	
	comp=N,9364μm,0.4s						
IMMV	**Iera Moni Meta**	**1.45**	**308**	P	**Pn**	**15 06 41.8**	**+1.5**
IMMV	**Iera Moni Meta**	**1.45**	**308**	P	**Pn**	**15 06 41.9**	**+1.5**
IMMV				AML	AML	15 07 10.8	
	comp=N,6387μm,0.4s						
IMMV				AML	AML	15 07 22.2	
	comp=E,5972μm,0.5s						
RODP	**Rodopos**	**1.66**	**307**	P	**Pn**	**15 06 45.6**	**+2.4**
KARP	**Karpathos**	**1.76**	**56**	P	**Pn**	**15 06 47.8**	**+3.2**
KARP	**Karpathos**	**1.76**	**56**	P	**Pn**	**15 06 47.7**	**+3.0**
KARP				AML	AML	15 07 30.9	
	comp=E,6229μm,0.7s						
KARP				AML	AML	15 07 35.1	
	comp=N,3929μm,0.8s						
KARP	**Karpathos**	**1.76**	**56**	PN	**Pn**	**15 06 47.6**	**+3.0**
KARP	**Karpathos**	**1.76**	**56**		**Pn**	**15 06 47.6**	**+3.0**
THR6	**Thira Island,**	**1.79**	**1**	P	**Pn**	**15 06 45.1**	**+0.1**
SANT	**Santorini**	**1.80**	**2**	P	**Pn**	**15 06 44.5**	**-0.8**
SANT				AML	AML	15 07 15.5	
	comp=E,5285μm,0.8s						
SANT				AML	AML	15 07 20.9	
	comp=N,2571μm,0.8s						
SANT	**Santorini**	**1.80**	**2**	PN	**Pn**	**15 06 45.7**	**+0.5**
SANT	**Santorini**	**1.80**	**2**	Pn	**Pn**	**15 06 45.0**	**-0.2**
THR3	**Thira Island,**	**1.84**	**1**	P	**Pn**	**15 06 45.6**	**-0.1**
THR8	**Santorini-Mono**	**1.84**	**3**	P	**Pn**	**15 06 45.4**	**-0.3**
THR5	**Thira Island,**	**1.85**	**359**	P	**Pn**	**15 06 45.6**	**-0.2**
THR7	**Fira-Santorini**	**1.87**	**1**	P	**Pn**	**15 06 45.0**	**-0.9**
THT2	**Imerowigli**	**1.87**	**1**	PN	**Pn**	**15 06 46.3**	**+0.2**
ANKY	**Antikythira Is**	**2.14**	**308**	P	**Pn**	**15 06 51.8**	**+2.0**
ANKY	**Antikythira Is**	**2.14**	**308**	P	**Pn**	**15 06 51.7**	**+2.0**
ANKY				AML	AML	15 07 35.9	
	comp=N,1936μm,0.7s						
ANKY				AML	AML	15 07 36.4	
	comp=E,1867μm,0.6s						
IOSP	**Ios island**	**2.15**	**358**	P	**Pn**	**15 06 49.9**	**-0.2**
IOSP				S	**Sn**	**15 07 12.7**	**-2.8**
IOSP				AML	AML	15 07 22.6	
	comp=N,1994μm,0.5s						
IOSP				AML	AML	15 07 26.3	
	comp=E,2961μm,0.6s						
MHLO	**Agia Marina, M**	**2.26**	**340**	P	**Pn**	**15 06 51.7**	**+0.2**
MHLO				AML	AML	15 07 32.7	
	comp=N,6386μm,0.5s						
MHLO				AML	AML	15 07 40.6	
	comp=E,7051μm,1.0s						
AMGA	**Amorgos Island**	**2.30**	**10**	P	**Pn**	**15 06 51.9**	**-0.2**
AMGA				S	**Sn**	**15 07 17.1**	**-2.0**
AMGA				AML	AML	15 07 33.5	
	comp=E,2248μm,1.0s						
AMGA				AML	AML	15 07 37.4	
	comp=N,1979μm,1.0s						
MHLA	**Plaka, Milos I**	**2.31**	**341**	P	**Pn**	**15 06 52.4**	**+0.3**
MHLA				AML	AML	15 07 37.8	
	comp=N,4198μm,1.1s						
MHLA				AML	AML	15 07 42.4	
	comp=E,4086μm,1.3s						
NISR	**Nisiros**	**2.49**	**34**	P	**Pn**	**15 06 56.3**	**+1.7**
NISR				AML	AML	15 07 44.5	
	comp=N,2586μm,1.3s						
NISR				AML	AML	15 08 00.1	
	comp=E,2153μm,1.3s						

APE	**Apeiranthos**	**2.50**	**3**	*e*P	**Pn**	**15 06 54.6 -0.2**
APE	**Apeiranthos**	**2.50**	**3**	P	**Pn**	**15 06 54.6 -0.2**
APE				S	**Sn**	**15 07 21.2 -3.0**
APE	**Apeiranthos**	**2.50**	**3**	PN	**Pn**	**15 06 54.9 +0.1**
KTHA	**Kythira Island**	**2.54**	**312**	P	**Pn**	**15 06 56.0 +0.7**
KTHA				AML	AML	15 07 44.7
	comp=N,1218μm,0.8s					
KTHA				AML	AML	15 07 48.1
	comp=E,1502μm,0.8s					
KOSK	**Kos Island**	**2.54**	**30**	PN	**Pn**	**15 06 56.8 +1.5**
SERI	**Serifos**	**2.69**	**345**	P	**Pn**	**15 06 57.0 -0.4**
SERI				AML	AML	15 07 45.0
	comp=E,659μm,0.7s					
SERI				AML	AML	15 07 46.9
	comp=N,551μm,0.7s					
ARG	**Arkhangelos**	**2.79**	**53**	P	**Pn**	**15 07 00.9 +2.2**
ARG	**Arkhangelos**	**2.79**	**53**	P	**Pn**	**15 07 01.1 +2.5**
ARG	**Arkhangelos**	**2.79**	**53**	PN	**Pn**	**15 07 01.2 +2.5**
DAT	**Datca**	**2.81**	**39**	PN	**Pn**	**15 07 00.9 +1.8**
DATC	**Datca-Mugla**	**2.87**	**40**	PN	**Pn**	**15 07 01.8 +1.9**
VLI	**Veliai**	**2.93**	**318**	P	**Pn**	**15 07 00.5 -0.1**
BODT	**Bodrum**	**2.95**	**32**	PN	**Pn**	**15 07 02.5 +1.6**
TNSA	**Tinos**	**2.97**	**357**	P	**Pn**	**15 07 01.8 +0.6**
SLUM	**Salum**	**3.07**	**183**	S	**Sn**	**15 07 39.5 +1.4**
	baz=184					
SLUM				AMP		15 07 00.0
	baz=184					
DYR	**Agios Nikonas**	**3.31**	**312**	P	**Pn**	**15 07 06.6 +0.7**
KRND	**KRANIDI**	**3.34**	**328**	P	**Pn**	**15 07 06.1 -0.2**
MLSB	**Milas**	**3.35**	**35**	PN	**Pn**	**15 07 08.5 +2.0**
DID	**Didima**	**3.41**	**330**	P	**Pn**	**15 07 07.2 -0.1**
GCAM	**G?zelcaml?**	**3.47**	**25**	PN	**Pn**	**15 07 09.8 +1.7**
YER	**Yerkesik**	**3.48**	**42**	P	**Pn**	**15 07 10.4 +2.0**
YER	**Yerkesik**	**3.48**	**42**	PN	**Pn**	**15 07 10.3 +1.9**
VLY	**Voula,Athens**	**3.52**	**339**	P	**Pn**	**15 07 09.2 +0.4**
KARY	**Karystos**	**3.54**	**348**	P	**Pn**	**15 07 09.1 0.0**
ATHU	**Athens Univers**	**3.63**	**340**	P	**Pn**	**15 07 09.8 -0.5**
FETY	**Fethiye**	**3.66**	**55**	PN	**Pn**	**15 07 12.1 +1.4**
PTL	**Penteli**	**3.69**	**341**	P	**Pn**	**15 07 11.0 -0.1**
VLX	**Vlachokerasia**	**3.71**	**320**	P	**Pn**	**15 07 12.2 +0.7**
PYL	**PYLOS**	**3.76**	**309**	P	**Pn**	**15 07 11.2 -0.9**
ITM	**Ithomi**	**3.83**	**314**	P	**Pn**	**15 07 13.2 +0.1**
ITM	**Ithomi**	**3.83**	**314**		**Pn**	**15 07 13.1 0.0**
AKAS	**Kas**	**3.83**	**63**	PN	**Pn**	**15 07 15.6 +2.4**
CHOS	**Chios island**	**3.85**	**8**	P	**Pn**	**15 07 13.3 -0.2**
CHOS	**Chios island**	**3.85**	**8**	PN	**Pn**	**15 07 13.8 +0.4**
URLA	**Izmir**	**3.91**	**14**	PN	**Pn**	**15 07 14.9 +0.7**
AYDB	**Zeytinkoy-Aydi**	**3.94**	**30**	PN	**Pn**	**15 07 16.0 +1.3**
LTK	**Loutraki**	**3.96**	**331**	P	**Pn**	**15 07 14.5 -0.4**
VIL2	**Platees**	**4.02**	**336**	P	**Pn**	**15 07 14.6 -1.1**
EREA	**Eretria**	**4.02**	**344**	P	**Pn**	**15 07 15.7 0.0**
THAL	**Thalero**	**4.10**	**328**	P	**Pn**	**15 07 18.5 +1.7**
AMT	**Artemida-Makis**	**4.20**	**316**	P	**Pn**	**15 07 18.7 +0.6**
GLHS	**Glhisar (BURDU**	**4.23**	**51**	PN	**Pn**	**15 07 20.7 +2.1**
ELL	**Elmali**	**4.29**	**58**	P	**Pn**	**15 07 20.8 +1.4**
ELL	**Elmali**	**4.29**	**58**	PN	**Pn**	**15 07 21.5 +2.1**
ELL	**Elmali**	**4.29**	**58**		**Pn**	**15 07 20.8 +1.4**
KLV	**Kalavryta, Ach**	**4.34**	**324**	P	**Pn**	**15 07 20.2 +0.1**
MRKA	**Markates**	**4.38**	**341**	P	**Pn**	**15 07 20.3 -0.2**
DRO	**Drossia**	**4.50**	**320**	P	**Pn**	**15 07 23.4 +1.2**
LAKA	**Lakka**	**4.58**	**324**	P	**Pn**	**15 07 23.4 +0.1**
KALE	**Kalithea**	**4.62**	**327**	P	**Pn**	**15 07 23.9 -0.2**
TRIZ	**Trizonia**	**4.63**	**326**	P	**Pn**	**15 07 24.6 +0.5**
SERG	**Sergoula**	**4.68**	**326**	P	**Pn**	**15 07 25.9 +1.1**
MANT	**Manisa**	**4.68**	**32**		**Pn**	**15 07 25.8 +0.8**
RLS	**Riolos of Patr**	**4.70**	**319**	P	**Pn**	**15 07 26.4 +1.4**
SKIA	**Skiathos**	**4.84**	**342**	P	**Pn**	**15 07 27.4 +0.4**
AGG	**Agios Georgios**	**5.08**	**332**	P	**Pn**	**15 07 31.3 +1.1**
AGG	**Agios Georgios**	**5.08**	**332**	P	**Pn**	**15 07 30.7 +0.5**
AGG	**Agios Georgios**	**5.08**	**332**		**Pn**	**15 07 31.2 +1.1**
PVO	**Paravola**	**5.09**	**324**	P	**Pn**	**15 07 31.7 +1.3**
MAKR	**Makrakomi, Fth**	**5.15**	**331**	P	**Pn**	**15 07 33.2 +2.1**
SWA2		**5.31**	**179**	P	**Pn**	**15 07 35.6 +2.3**
	baz=179					
THL	**Klokotos Trika**	**5.67**	**333**	P	**Pn**	**15 07 39.5 +1.2**
LIT	**Litokhoron**	**5.99**	**338**	P	**Pn**	**15 07 43.8 +1.1**
LIT	**Litokhoron**	**5.99**	**338**		**Pn**	**15 07 43.8 +1.1**
KPRO	**Kipourio**	**6.26**	**330**	P	**Pn**	**15 07 47.3 +0.8**
ALN	**Alexandroupoli**	**6.34**	**5**	P	**Pn**	**15 07 50.1 +2.6**
ALN	**Alexandroupoli**	**6.34**	**5**	Pn	**Pn**	**15 07 50.1 +2.6**
CSS	**Mathiatis**	**6.56**	**84**	Pn	**Pn**	**15 07 51.0 +0.4**
CSS	**Mathiatis**	**6.56**	**84**		**Pn**	**15 07 50.7 +0.1**
KNT	**Kendrikon**	**6.87**	**344**	P	**Pn**	**15 07 55.9 +1.1**
KNT				pmax	pmax	
	comp=Z,18nm,0.9s					
FNA	**Florina**	**6.97**	**334**	P	**Pn**	**15 07 57.0 +0.7**
FNA	**Florina**	**6.97**	**334**		**Pn**	**15 07 57.0 +0.7**
KOT	**Kottamia**	**7.16**	**128**	P	**Pn**	**15 08 00.0 +1.2**
	baz=129					
KOT				S	**Sn**	**15 09 16.5 -2.4**
	baz=129					
SCTE	**Santa Cesarea**	**7.78**	**317**	Pn	**Pn**	**15 08 06.0 -1.2**
NBNS	**Bani Suef**	**7.78**	**138**	P	**Pn**	**15 08 09.8 +2.4**
	baz=138					
HFRF	**Wahat Farafira**	**7.81**	**160**	P	**Pn**	**15 08 09.5 +1.8**
	baz=160					
HFRF				AMP		15 09 00.0
	baz=160					
HFRF				S	**Sn**	**15 09 32.5 -2.5**
	baz=160					
SUZ	**Suez**	**7.88**	**125**	P	**Pn**	**15 08 10.5 +1.9**
	baz=125					
RSH		**7.89**	**115**	P	**Pn**	**15 08 09.3 +0.4**
	baz=115					

comp=Z,0.4nm,0.3s,baz=295,slow=1.5,SNR=2.4
ASF S **Sn** **15 10 23.7 -3.3**
comp=Z,0.2nm,0.3s,baz=197,slow=12,SNR=3.5
STON Ston 10.23 326 *e*Pn Pn 15 08 36.3 -4.5
STON Sn Sn 15 10 19.9 -14
SGRT San Giovanni R 10.44 316 Pn **Pn** **15 08 41.0 -2.8**
PAOL Paolisi 10.71 310 Pn **Pn** **15 08 45.0 -2.5**
MAKA Makarska 10.87 326 *e*Pn **Pn** **15 08 46.2 -3.4**
MLR Muntele Rosu 10.92 2 P **Pn** **15 08 52.3 +1.9**
MLR Muntele Rosu 10.92 2 P **Pn** **15 08 50.5 +0.1**
comp=Z,0.1nm,0.3s,baz=226,slow=5.1,SNR=3.5
MLR LR LR 15 13 41.8
comp=Z,218nm,18.6s,baz=120,slow=41
MLR Muntele Rosu 10.92 2 Pn **Pn** **15 08 52.3 +1.9**
RICI Ricice 10.98 327 iPn **Pn** **15 08 47.5 -3.5**
RICI Sn Sn 15 10 39.6 -13
HVAR Hvar 11.06 324 *e*Pn Pn 15 08 45.4 -6.8
HVAR Sn Sn 15 10 40.6 -14
INTR Introdacqua 11.68 313 Pn **Pn** **15 08 59.6 -1.1**
KIJV Kijevo 11.70 326 *e*Pn Pn 15 08 56.8 -4.2
KIJV Sn Sn 15 10 58.3 -12
ZIRJ Zirje 11.80 323 *e*Pn Pn 15 08 58.4 -4.0
MORI Morici 11.93 324 *e*Pn **Pn** **15 09 01.3 -2.7**
UDBI Udbina 12.40 326 *i* Pn **Pn** **15 09 07.2 -3.4**
NRCA Norcia 12.63 314 Pn **Pn** **15 09 13.1 -0.7**
MURB Monte Urbino 13.24 315 Pn **Pn** **15 09 23.1 +1.1**
ANN Anapa 13.79 39 *e*P **Pn** **15 09 28.8 -0.7**
ANN *e*S **Sn** **15 12 00.7 -0.6**
ANN pmax pmax
comp=Z,52nm,1.1s
CASP Castiglione de 13.98 310 P **P** **15 09 39.4 -0.2**
SOKA Soboth 14.41 330 *i* P **P** **15 09 44.4 -0.1**
comp=Z,1.7nm,0.6s
OBKA Obir 14.48 329 *i* Pn **P** **15 09 45.1 -0.1**
comp=Z,1.5nm,0.5s
KOLS Kolonicke sedl 14.54 352 *e*P **Pn** **15 09 42.6 +2.9**
KOLS Kolonicke sedl 14.54 352 *e*PN **Pn** **15 09 42.6 +2.9**
STAL STALIGIAL 15.13 324 P **P** **15 09 51.9 -0.4**
STAL IAmb IAmb 15 10 14.9
comp=Z,27nm,1.8s
KBA Koelnbreinsper 15.44 328 P **Pn** **15 09 53.8 +1.9**
KBA pmax pmax
comp=Z,5.0nm,1.9s
KBA Koelnbreinsper 15.44 328 *i* P **P** **15 09 56.5 +0.5**
comp=Z,1.5nm,0.4s
ABTA Abfaltersbach 15.57 325 *i* P **P** **15 09 57.3 -0.1**
comp=Z,3.8nm,0.5s
MOA Molln 15.66 331 *e*P **P** **15 09 58.2 -0.1**
comp=Z,2.2nm,0.6s
SALO Salr 15.82 319 P **P** **15 09 59.9 -0.1**
SALO IAmb IAmb 15 10 01.0
comp=Z,22nm,0.8s
AKH Akhalkalaki 15.82 59 P **P** **15 09 58.9 -1.3**
AKH pmax pmax
comp=Z,8.0nm,0.9s
AKH Akhalkalaki 15.82 59 P **P** **15 09 58.9 -1.3**
VRAC Vranov 16.10 339 P **Pn** **15 09 59.8 -0.4**
comp=Z,0.2nm,0.3s,baz=26,slow=20,SNR=1.4
VRAC LR LR 15 16 46.8
comp=Z,106nm,21.8s,baz=100,slow=40
KIV Kislovodsk 16.33 50 *d* *i* P **P** **15 10 07.2 +1.4**
KIV pmax pmax
comp=Z,26nm,1.0s
KIV Kislovodsk 16.33 50 P **P** **15 10 07.3 +1.5**
KIV IAmb IAmb 15 10 08.6
comp=Z,20nm,0.9s
KBZ Khabaz 16.36 51 *d* *i* P **P** **15 10 07.9 +1.9**
KBZ Khabaz 16.36 51 P **P** **15 10 06.2 +0.3**
comp=Z,0.5nm,0.3s,baz=245,slow=8.8,SNR=44
KBZ LR LR 15 18 01.6
comp=Z,83nm,18.2s,baz=333,slow=43
KIEV Kiev 16.36 9 P **Pn** **15 10 04.0 +0.6**
WTTA Wattenberg 16.36 325 *i* P **P** **15 10 05.6 -0.7**
comp=Z,0.9nm,0.3s
GNI Garni 16.36 64⇓ *e*P **P** **15 10 07.1 +0.8**
GNI pmax pmax
comp=Z,51nm,2.6s
GNI Garni 16.36 64 LR LR 15 17 50.0
comp=Z,114nm,21.1s,baz=272,slow=42
AKASG Malin Array Be 16.37 9 P **Pn** **15 10 03.3 -0.2**
comp=Z,4.5nm,0.3s,baz=200,slow=11,SNR=30
AKASG Malin Array Be 16.37 9 P **Pn** **15 10 02.8 -0.7**
AKBB Malin Array Si 16.37 9 P **Pn** **15 10 03.7 +0.2**
AKBB pmax pmax
comp=Z,14nm,0.7s
AKBB Malin Array Si 16.37 9 **Pn** **15 10 03.7 +0.2**
AKBB IAmb IAmb 15 10 04.9
comp=Z,14nm,0.7s
FUORN Ofenpass-Fuorn 16.60 321 P **P** **15 10 09.4 +0.4**
GEC2 GERESS Array S 16.69 332 **Pn** **15 10 08.2 +0.5**
GERES GERESS Array B 16.69 332 P **Pn** **15 10 06.8 -0.9**
comp=Z,0.4nm,0.3s,baz=146,slow=12,SNR=16
DAVOX Davos/Dischmat 16.91 321 P **P** **15 10 11.3 -0.9**
comp=Z,0.3nm,0.3s,baz=122,slow=20,SNR=2.7
DAVOX LR LR 15 18 08.5
comp=Z,188nm,19.4s,baz=90,slow=42
KHC Kasperske Hory 16.97 333⇓ *e*P **P** **15 10 13.0 +0.2**
KHC Kasperske Hory 16.97 333 P **P** **15 10 13.3 +0.5**
WET Wettzell 17.25 331 P **Pn** **15 10 13.1 -1.6**
WET pmax pmax
comp=Z,4.0nm,1.7s
SENIN Lac Senin/Sane 18.07 316 P **Pn** **15 10 24.4 -0.5**
SENIN IAmb IAmb 15 10 40.5
comp=Z,45nm,1.9s
SLE Schleitheim 18.26 321 P **Pn** **15 10 27.6 +0.5**
BRG Berggiesshubel 18.30 336 P **Pn** **15 10 27.9 +0.4**
GRF Grafenberg Arr 18.36 330 P **P** **15 10 27.3 -0.7**
GRF pmax pmax
comp=Z,17nm,3.0s
MOX Moxa 18.94 332 P **Pn** **15 10 35.1 -0.2**
MOX pmax pmax
comp=Z,5.0nm,2.1s
CLL Collm 18.98 336 *e*P **P** **15 10 32.0 -2.9**
ECH Echery 19.24 321 P **P** **15 10 37.3 -0.5**
ECH pmax pmax
comp=Z,21nm,1.5s
ECH Echery 19.24 321 P **P** **15 10 37.3 -0.5**
ECH IAmb IAmb 15 11 25.1
comp=Z,21nm,1.5s
LOR Lormes 20.55 315 P **P** **15 10 50.8 -1.2**
IIGN Ignalina 20.79 1 *e*P **P** **15 10 51.8 -2.8**
IIGN IAmb IAmb 15 11 00.4
comp=Z,3.9nm,0.7s
PABE Paberze 20.96 358 *e*P **P** **15 10 53.1 -3.3**
ISAL Salakas 21.01 1 *e*P **P** **15 10 54.4 -2.5**
ISAL IAmb IAmb 15 10 58.7
comp=Z,6.3nm,0.7s
IZAR Zarasai 21.19 1 *e*P **P** **15 10 53.5 -5.3**
IZAR IAmb IAmb 15 10 59.5
comp=Z,6.2nm,0.4s
MEM Membach 21.36 325 P **P** **15 11 00.4 -0.3**
comp=Z,12nm,0.8s
DOU Dourbes 21.73 322 P **P** **15 11 04.1 -0.6**
OBN Obninsk 21.97 17⇓ *e*P **P** **15 11 07.8 +0.6**
OBN pmax pmax
comp=Z,6.0nm,0.4s
ESBB Sonseca Array 23.89 291 P **P** **15 11 27.2 +0.3**
ESDC Sonseca Array 23.89 291 P **P** **15 11 27.2 +0.2**
comp=Z,0.8nm,0.5s,baz=78,slow=9.6,SNR=16
ESDC Sonseca Array 23.89 291 IAmb IAmb 15 11 28.3
comp=Z,1.6nm,1.1s
PAB San Pablo 24.18 291 P **P** **15 11 30.0 +0.3**
PAB pmax pmax
comp=Z,68nm,2.0s
PAB San Pablo 24.18 291 P **P** **15 11 30.0 +0.3**
MDT Midelt 24.97 275 P **P** **15 11 37.6 +0.6**
comp=Z,0.9nm,0.4s,baz=290,slow=3.9,SNR=4.5
GEYT Alibeck 26.54 73 P **P** **15 11 51.9 +0.8**
comp=Z,0.9nm,0.3s,baz=276,slow=10,SNR=6.2
HFS Hagfors 26.70 347 P **P** **15 11 51.3 -0.8**
comp=Z,1.2nm,0.4s,baz=168,slow=11,SNR=4.3
FINES FINESS Array B 26.90 1 P **P** **15 11 51.1 -2.9**
comp=Z,4.5nm,0.9s,baz=158,slow=12,SNR=13
NOA NORSAR Array B 28.02 345 P **P** **15 12 03.5 -0.6**
comp=Z,0.4nm,0.5s,baz=141,slow=9.9,SNR=2.7
NOA LR LR 15 23 33.2
comp=Z,30nm,19.9s,baz=285,slow=37
AKTO Aktyubinsk 28.53 46 P **P** **15 12 07.4 -1.3**
comp=Z,1.6nm,0.4s,baz=246,slow=8.3,SNR=12
EKA Eskdalemuir Ar 28.63 325 P **P** **15 12 07.7 -1.8**
comp=Z,1.6nm,0.6s,baz=124,slow=10,SNR=4.9
ABKAR Akbulak array 29.32 49 P **P** **15 12 15.4 -0.3**
ABKAR IAmb IAmb 15 12 16.5
comp=Z,9.8nm,1.8s
PRGR Permogore 30.01 19 *e*P **P** **15 12 18.7 -3.0**
PRGR pmax pmax
comp=Z,11nm,0.9s
TORD Torodi Ar. Bea 30.25 231 P **P** **15 12 25.7 +1.4**
comp=Z,1.0nm,0.4s,baz=31,slow=9.0,SNR=15
TORD Torodi Ar. Bea 30.25 231 P **P** **15 12 25.1 +0.9**
ARU Arti 31.43 36 *d* *i* P **P** **15 12 34.4 +0.1**
ARU S **S** **15 17 41.2 +1.7**
ARU SS **SnSn** **15 19 29.6 +4.4**
ARU pmax pmax
comp=Z,8.0nm,1.6s
ARU Arti 31.43 36 P **P** **15 12 32.8 -1.5**
comp=Z,0.8nm,0.4s,baz=213,slow=8.7,SNR=7.6
ARU Arti 31.43 36 P **P** **15 12 34.8 +0.6**
SVE Sverdlovsk 32.63 36 *e*P **P** **15 12 44.6 -0.2**
SVE pmax pmax
comp=Z,9.0nm,0.6s
ARCES ARCESS Array B 35.02 0 P **P** **15 13 02.7 -2.8**
comp=Z,1.6nm,0.5s,baz=175,slow=9.1,SNR=16
KK31 Karatay Array 35.81 63 P **P** **15 13 13.0 +0.4**
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KK31 Karatay Array 35.81 63 P **P** **15 13 13.0 +0.4**
KK31 IAmb IAmb 15 13 14.2
comp=Z,2.6nm,0.9s
KKAR Karatay Array 35.81 63 P **P** **15 13 13.0 +0.4**
KKAR pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 35.81 63 P **P** **15 13 13.1 +0.5**
KKAR IAmb IAmb 15 13 14.2
comp=Z,2.6nm,0.9s
KKAR Karatay Array 35.81 63 P **P** **15 13 13.1 +0.4**
BRVK Borovoye 36.58 46⇓ *e*P **P** **15 13 19.2 +0.3**
BRVK pmax pmax
comp=Z,5.0nm,1.7s
BRVK Borovoye 36.58 46 P **P** **15 13 18.6 -0.3**
BRVK IAmb IAmb 15 13 19.8
comp=Z,3.3nm,1.1s
AAK Ala-Archa 38.76 63 *c* *e*P **P** **15 13 39.1 +1.3**
AAK pmax pmax
comp=Z,3.0nm,1.0s
NRN Naryn 40.01 65 P **P** **15 13 49.4 +1.0**
NRN pmax pmax
comp=Z,4.0nm,1.1s
NRN Naryn 40.01 65 P **P** **15 13 49.4 +1.0**
NRN IAmb IAmb 15 13 50.5
comp=Z,4.3nm,1.1s
KSH Kashi 40.26 68 P **P** **15 13 48.0 -2.2**
KSH pP sP 15 14 04.8 +0.4
KSH ScP **ScP** **15 19 36.8 -3.3**
KSH S **S** **15 19 50.3 -5.0**
KSH pmax pmax
comp=Z,670nm,7.1s
KSH LR LR
comp=N,460nm,6.7s
KSH LR LR
comp=E,220nm,9.7s
KSH LR LR
comp=Z,120nm,6.3s
KURK Kurchatov 41.42 50⇑ *e*P **P** **15 13 59.3 -0.2**
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 41.42 50 P **P** **15 13 59.2 -0.2**
KURK IAmb IAmb 15 14 00.3
comp=Z,3.3nm,0.8s
MAKZ Makanchi 43.74 56 P **P** **15 14 18.5 0.0**
MAKZ pmax pmax
comp=Z,10.0nm,1.9s
MAKZ Makanchi 43.74 56 P **P** **15 14 18.4 0.0**
MAKZ IAmb IAmb 15 14 55.3
comp=Z,10nm,1.9s
SPITS Spitsbergen Ar 43.89 357 P **P** **15 14 17.9 -1.2**
comp=Z,1.5nm,0.6s,baz=144,slow=11,SNR=14
MK31 Makanchi Array 43.95 56 *i* P **P** **15 14 20.4 +0.2**
MK31 Makanchi Array 43.95 56 P **P** **15 14 20.2 +0.1**
MKAR Makanchi Array 43.95 56 *i* P **P** **15 14 20.5 +0.3**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 43.95 56 P **P** **15 14 20.0 -0.1**
comp=Z,1.0nm,0.3s,baz=264,slow=8.5,SNR=33
MKAR PcP **PcP** **15 16 06.4 +0.8**
comp=Z,1.4nm,1.0s,baz=274,slow=4.3,SNR=2.4
MKAR Makanchi Array 43.95 56 P **P** **15 14 20.2 0.0**
ZAA0 Zalesovo Array 45.29 46 P **P** **15 14 29.9 -0.7**
ZALV Zalesovo Beam 45.29 46 *e*P **P** **15 14 30.0 -0.6**
ZALV Zalesovo Beam 45.29 46 P **P** **15 14 29.8 -0.8**
comp=Z,2.4nm,0.4s,baz=268,slow=8.8,SNR=13
ZALV LR LR 15 36 55.1
comp=Z,42nm,20.6s,baz=74,slow=41
ZALV Zalesovo Beam 45.29 46 P **P** **15 14 30.0 -0.6**
WMQ Urumqi 48.15 59 *e*P **P** **15 14 54.0 +0.7**
WMQ pmax pmax
comp=Z,7.0nm,0.7s
WMQ pmax pmax
comp=Z,120nm,6.5s
WMQ LR LR
comp=N,400nm,29.0s
WMQ LR LR
comp=E,1μm,29.1s
WMQ LR LR
comp=Z,110nm,29.0s
NRIK Noril'sk 48.34 25 P **P** **15 14 54.1 -0.1**
comp=Z,2.7nm,0.6s,baz=234,slow=7.1,SNR=8.3
DANN Dangsing 49.60 80 *e*P **P** **15 15 06.0 +1.1**
comp=Z,12nm,0.3s
GKN Gorkha 50.45 80 *e*P **P** **15 15 11.9 +0.7**
comp=Z,7.6nm,0.3s
DMN Damoh 50.99 81 *e*P **P** **15 15 16.3 +1.0**
comp=Z,7.6nm,0.3s
PKIN Phulchoki 51.23 80 *e*P **P** **15 15 17.5 +0.3**
comp=Z,7.2nm,0.7s
PKI Pulchoki 51.25 80 *e*P **P** **15 15 17.6 +0.2**
GUN Gumba 51.49 80 *e*P **P** **15 15 19.0 -0.3**
JIRN Jiri 51.85 80 *e*P **P** **15 15 22.4 +0.5**
RAMN Ramite 52.47 81 *e*P **P** **15 15 26.2 -0.2**
TAPN Taplejung 53.21 80 *e*P **P** **15 15 32.0 +0.1**
ZAK Zakamensk 57.01 48 *e*P **P** **15 15 59.0 +0.2**
ZAK pmax pmax
comp=Z,3.0nm,0.9s
TULEG Thule 57.66 344 P **P** **15 16 01.5 -1.3**
SONM Songino Array 59.73 50 P **P** **15 16 18.2 +0.4**
comp=Z,2.0nm,0.7s,baz=287,slow=7.8,SNR=16
SONM Songino Array 59.73 50 P **P** **15 16 17.9 +0.1**
ULN Ulaanbaatar 60.13 50⇓ *e*P **P** **15 16 21.2 +0.5**
ULN pmax pmax
comp=Z,11nm,2.5s
ULN Ulaanbaatar 60.13 50 P **P** **15 16 20.4 -0.3**
FRB Frobisher Bay 61.27 330 P **P** **15 16 27.5 -0.3**
TIXI Tiksi 61.66 20⇑ *e*P **P** **15 16 29.5 -0.9**
TIXI pmax pmax
comp=Z,2.0nm,1.3s
LZH Lanzhou 62.30 64 *e*P **P** **15 16 35.5 0.0**
LZH pP pP 15 16 44.0 -2.0
LZH sP sP 15 16 48.3 -1.7
LZH *e*PP PP 15 18 44.5 -8.1
LZH pmax pmax
comp=Z,15nm,1.3s
LZH pmax pmax
comp=Z,46nm,4.5s
BOSA Boshof 62.84 180 LR LR 15 46 20.6
comp=Z,47nm,20.2s,baz=11,slow=38
SCHQ Schefferville 63.76 320 P **P** **15 16 44.0 -0.7**
comp=Z,2.7nm,0.4s,baz=69,slow=5.8,SNR=11
HHC Hu-ho-hao-te 65.82 56 *e*P **P** **15 16 59.5 +1.0**
HHC pmax pmax
comp=Z,5.0nm,0.7s
HHC pmax pmax
comp=Z,30nm,6.0s
YAK Yakutsk 66.30 30⇓ *e*P **P** **15 17 01.2 +0.2**
YAK pmax pmax
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 66.46 83 P **P** **15 17 03.1 +0.3**
comp=Z,1.0nm,0.8s,baz=302,slow=7.6,SNR=9.7
KLR Kul'dur 74.10 41⇑ *e*P **P** **15 17 51.3 +2.3**
KLR pmax pmax
comp=Z,4.0nm,1.9s
USRK Ussuriysk Ar. 77.13 45 P **P** **15 18 05.8 -0.7**
comp=Z,2.3nm,0.5s,baz=298,slow=4.3,SNR=14
YKA Yellowknife Ar 78.07 342 P **P** **15 18 10.1 -1.3**
comp=Z,0.6nm,0.5s,baz=34,slow=5.3,SNR=9.2
KSRS Korea Array 78.50 52 P **P** **15 18 14.7 +0.5**
comp=Z,1.1nm,0.7s,baz=308,slow=5.1,SNR=4.1
ILAR Eielson Array 80.81 357 P **P** **15 18 25.6 -0.6**
comp=Z,0.4nm,0.8s,baz=14,slow=6.0,SNR=4.7
MJAR Matsushiro Arr 85.59 48 P **P** **15 18 51.8 +0.3**
comp=Z,2.7nm,1.0s,baz=308,slow=4.5,SNR=3.9

BEO 31 15:07:51.7±0.3, 44°42N×21°95E, h0km, ML1.4/11, 5C,
Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUBS	**Kucevo**	**0.20**	**269**	*e*Pg	Pg	Pg	15 07 53.8	-1.6
KUBS				*e*Sg	Sg	Sg	15 07 56.9	-1.1
ZAGS	**Zajecar**	**0.64**	**161**	*e*Pg	Pg	Pg	15 08 02.2	-1.7
ZAGS				*e*Sg	Sg	Sg	15 08 12.3	+0.2
BOVS	**Bovan**	**0.80**	**193**	*e*Pg	Pg	Pg	15 08 06.3	-0.7
BOVS				*e*Sg	Sg	Sg	15 08 17.9	+0.5
BLKB	**Belogradchik**	**0.95**	**146**	⇑S	Sg	Sg	15 08 22.6	+0.4
GRUS	**Gruza**	**1.03**	**240**	*e*Pg	Pg	Pg	15 08 10.4	-1.1
GRUS				*e*Sg	Sg	Sg	15 08 25.2	+0.4
TRUS	**Trudelj**	**1.12**	**261**	*e*Pg	Pg	Pg	15 08 12.4	-0.8
TRUS				*e*Sg	Sg	Sg	15 08 27.6	-0.1
GZR	**Gura Zlata**	**1.14**	**31**	⇑P	Pg	Pg	15 08 13.1	-0.5
GZR				⇑S	Sb	Sb	15 08 30.0	+0.3
BZS	**Buzias**	**1.22**	**349**	*e*Pg	Pg	Pg	15 08 13.6	-1.5
BZS				*e*Sg	Sg	Sg	15 08 31.1	+0.1
BZS	**Buzias**	**1.22**	**349**	⇑P	Pg	Pg	15 08 13.7	-1.5
BZS				⇑S	Sg	Sg	15 08 31.5	+0.5
ZAPS	**Zavoj**	**1.25**	**156**	*e*Pg	Pg	Pg	15 08 14.8	-0.8
ZAPS				*e*Sg	Sg	Sg	15 08 31.6	-0.1
SELS	**Selova**	**1.34**	**207**	*e*Pg	Pg	Pg	15 08 15.7	-1.6
SELS				*e*Sg	Sg	Sg	15 08 34.9	+0.2
DIVS	**Divibare**	**1.44**	**258**	*e*Pg	Pn	Pn	15 08 17.3	-1.8
DIVS				*e*Sg	Sg	Sg	15 08 37.2	-0.8
IVAS	**Ivanjica**	**1.54**	**238**	*e*Pg	Pn	Pn	15 08 19.9	-0.6
IVAS				*e*Sg	Sg	Sg	15 08 40.6	-0.7
BARS	**Barje**	**1.60**	**183**	*e*Pg	Pn	Pn	15 08 19.6	-1.7
BARS				*e*Sg	Sn	Sn	15 08 41.2	-1.4

KRSC 31 15:17:40.8±1.4, 48°19N×155°93E, h16km±20km, ML4.3,
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.50**	**3**	*e*P	Pn	Pn	15 18 22.4	+1.5
SKR				*e*S	Sn	Sn	15 18 53.0	+1.9
PAU	**Pauzhetka**	**3.33**	**9**	*e*P	Pn	Pn	15 18 35.3	+3.0
PAU				*e*S	Sn	Sn	15 19 15.4	+3.8
KDTR	**Khodutka, Kamc**	**3.88**	**20**	*e*P	Pn	Pn	15 18 43.2	+3.4
KDTR				*e*S	Sn	Sn	15 19 30.1	+5.0
ASAK	**Asacha**	**4.39**	**16**	*e*P	Pn	Pn	15 18 50.6	+3.7
ASAK				*e*S	Sn	Sn	15 19 41.8	+4.1
MTVR	**Mutnovka**	**4.54**	**18**	*e*P	Pn	Pn	15 18 52.9	+3.9
MTVR				*e*S	Sn	Sn	15 19 46.2	+4.8
GRL	**Gorelyy**	**4.58**	**17**	*e*P	Pn	Pn	15 18 53.8	+4.3
GRL				*e*S	Sn	Sn	15 19 48.6	+6.1
KRMR	**Karymshinskiy**	**4.86**	**16**	*e*P	Pn	Pn	15 18 58.6	+5.4
KRMR				*e*S	Sn	Sn	15 19 56.0	+6.9
UGLR	**Uglovaya**	**5.36**	**19**	*e*P	Pn	Pn	15 19 04.7	+4.6
AVH	**Avacha**	**5.39**	**18**	*e*P	Pn	Pn	15 19 05.7	+5.1
AVH				*e*S	Sn	Sn	15 20 06.3	+4.0
KOK	**Koryaka**	**5.39**	**18**	*e*P	Pn	Pn	15 19 05.6	+4.9
SMAR	**Somma**	**5.40**	**19**	*e*P	Pn	Pn	15 19 05.9	+5.0
KRER	**Koryakskii**	**5.43**	**18**	*e*P	Pn	Pn	15 19 04.8	+3.6
NLC	**Nalytchevo**	**5.44**	**22**	*e*S	Sn	Sn	15 20 07.7	+4.2
KRX	**Arik**	**5.46**	**17**	*e*P	Pn	Pn	15 19 06.2	+4.6
SPN	**Mys Shipunski**	**5.56**	**26**	*e*P	Pn	Pn	15 19 07.0	+4.1
SPN				*e*S	Sn	Sn	15 20 11.9	+5.4
GNL	**Ganaly**	**5.66**	**12**	*e*P	Pn	Pn	15 19 07.4	+3.0
KZV	**Kizimen**	**7.45**	**20**	*e*P	Pn	Pn	15 19 34.8	+5.9
TUMR	**Tumrok**	**7.57**	**19**	*e*P	Pn	Pn	15 19 36.1	+5.5

DJA 31 15:36:41.6±0.3, 9°S×113°E×, h10km, M3.8/14, mb4.1/3,
MLv3.7/14, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**0.96**	**353**	P	Pg	Pg	15 37 00.0	-0.1
JAGI				S	Sg	Sg	15 37 12.2	-0.4
IGBI	**Denpasar**	**1.06**	**55**	P	Pg	Pg	15 37 01.6	-0.4
DNP	**Denpasar**	**1.19**	**51**	P	Pb	Pb	15 37 04.3	0.0
GMJI	**Gumukmas**	**1.41**	**325**	P	Pn	Pn	15 37 06.3	-1.0
SRBI	**Singaraja**	**1.63**	**35**	P	Pn	Pn	15 37 10.0	-0.4
TWSI	**Taliwang, Sumb**	**2.67**	**75**	P	Pn	Pn	15 37 24.2	-0.5
PWJI	**Pagerwojo**	**2.81**	**300**	P	Pn	Pn	15 37 25.7	-0.9
GRJI	**Gresik**	**3.06**	**325**	P	Pn	Pn	15 37 31.1	+1.0
PCJI	**Pacitan**	**3.29**	**292**	P	Pn	Pn	15 37 33.1	-0.2
PLAI	**Plampang**	**3.51**	**80**	P	Pn	Pn	15 37 32.2	+0.9
WOJI	**Wonogiri, Jawa**	**3.67**	**295**	P	Pn	Pn	15 37 38.4	0.0
UGM	**Wanagama**	**4.00**	**292**	P	Pn	Pn	15 37 43.4	+0.4
KPJI	**Karang Pucung** 26nm,2.2s,0.2nm	**5.68**	**291**	P	Pn	Pn	15 38 06.5	+0.4
WSI	**Waingapu**	**5.95**	**93**	P	Pn	Pn	15 38 10.4	+0.6
CISI	**Cisompet, Garu**	**6.65**	**286**	P	Pn	Pn	15 38 20.1	+0.6

*BJI **31** 15:43:24.9±0.0, 17°22N×146°44E, h86km, mb4.5/15, mB4.9/15, Ms4.7/5, Ms7 4.5/5*
*ISCJB **31** 15:43:28.9±0.2, 17°43N±0°03×146°06E±0°04, h100km, mb4.3/48, Error ellipse: s-maj=6.1km s-min=3.7km az=18.8*
*NEIC **31** 15:43:30.7±1.8, 17°42N±0°08×146°1E±0°1, h101km±6km, mb4.8/79*
*MOS **31** 15:43:30.2±1.1, 17°43N×146°02E, h113km, mb4.5/19, Error ellipse: s-maj=12.6km s-min=6.4km az=85.6*
*IDC **31** 15:43:31.7±1.8, 17°41N×146°02E, h114km±16km, mb3.8/21, mb1 4.0/22, mb1mx3.9/38, mbtmp4.2/22, MS3.1/5, Ms1 3.2/5, ms1mx2.9/32, Error ellipse: s-maj=17.8km s-min=9.4km az=90.0*

ISC 31 15:43:30.4±0.3, 17°42N±0°05×146°13E±0°07, h100km,
n159, σ1s09/156, mb4.6/75, 3C-5D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SARN	**Sarigan**	**0.79**	**205**			**Pn**	**15 43 48.2**	**-0.6**
ANA2	**Anatahan**	**1.15**	**201**			**Pn**	**15 43 52.5**	**0.0**
GUMO	**Guam** 76nm,0.3s,baz=120,slow=2.5,SNR=39	**4.00**	**198**	P	Pn	**Pn**	**15 44 30.4**	**+0.7**
GUMO				LR	LR		15 45 14.9	
GUMO	comp=Z,82nm,19.8s,baz=33,slow=26			S		**Sn**	**15 45 16.3**	**+0.7**
	98nm,0.3s,baz=176,slow=21,SNR=4.7							
PATS	**Pohnpei**	**15.88**	**130**	Pn		**Pn**	**15 47 08.4**	**+0.1**
H11N1	**WAKE ISLAND Hy 19.81** baz=267,slow=75,SNR=93	**80**		T		T	16 08 38.1	
H11N2	**WAKE ISLAND Hy 19.82** baz=267,slow=75,SNR=88	**80**		T		T	16 08 42.0	
H11N3	**WAKE ISLAND Hy 19.83** baz=267,slow=75,SNR=115	**80**		T		T	16 08 39.5	
MJAR	**Matsushiro Arr**	**20.30**	**341**	P		**P**	**15 47 58.3**	**0.0**
MJAR	comp=Z,2.0nm,0.9s			pmax		pmax		
MJAR	**Matsushiro Arr**	**20.30**	**341**	P		**P**	**15 47 58.3**	**0.0**
	comp=Z,1.3nm,0.5s,baz=162,slow=9.8,SNR=12							
MAJO	**Matsushiro**	**20.30**	**341**	P		**P**	**15 47 57.7**	**-0.7**
MAJO	comp=Z,41nm,1.7s			pmax		pmax		
MAJO	**Matsushiro**	**20.30**	**341**	P		**P**	**15 47 57.7**	**-0.7**
MAJO	comp=Z,41nm,1.6s			IAmb		IAmb	15 48 22.1	
MJB9	**Matsu-Tunnel**	**20.30**	**341**	P		**P**	**15 47 57.8**	**-0.6**
MJB9	comp=Z,41nm,1.6s			IAmb		IAmb	15 48 22.1	
JAY	**Jayapura**	**20.52**	**196**	P		**P**	**15 48 01.4**	**+0.5**
	comp=Z,24nm,0.7s,baz=358,slow=7.3,SNR=5.4							
SMPI	**Sarmi**	**20.63**	**201**	P		Pn	15 48 07.9	+2.7
	comp=Z,43nm,1.1s							
SWI	**Sorong**	**23.34**	**220**	P		**P**	**15 48 30.5**	**+0.4**
SWI	comp=Z,61nm,1.2s			pmax		pmax		
SWI	**Sorong**	**23.34**	**220**	P		**P**	**15 48 30.0**	**-0.1**
	comp=Z,62nm,1.3s							
SIJI	**Sorong**	**23.34**	**220**	P		**P**	**15 48 30.2**	**0.0**
	comp=Z,26nm,0.5s,baz=34,slow=9.8,SNR=16							
YHNB	**Yeheng**	**24.18**	**292**	P		**P**	**15 48 37.3**	**-0.4**
YHNB	comp=Z,21nm,1.0s			IAmb		IAmb	15 48 59.3	
SSLB	**Suanglung**	**24.38**	**289**	P		**P**	**15 48 40.1**	**+0.5**
SSLB	comp=Z,38nm,1.6s			IAmb		IAmb	15 49 06.1	
FAKI	**Fak Fak**	**24.42**	**215**	P		**P**	**15 48 40.2**	**+0.4**
FAKI	comp=Z,34nm,1.1s			IAmb		IAmb	15 49 09.0	
TPUB	**Ta-pu**	**24.60**	**288**	P		**P**	**15 48 41.6**	**+0.2**
TPUB				IAmb		IAmb	15 49 30.8	

comp=Z,149nm,2.0s
KSRS Korea Array 25.59 325 P **P** **15 48 50.6 +0.3**
comp=Z,0.8nm,0.6s,baz=149,slow=8.3,SNR=4.5
PMG Port Moresby 26.67 178c *i*P **P** **15 48 59.6 -0.6**
PMG pmax pmax
comp=Z,66nm,0.8s
PMG Port Moresby 26.67 178 P **P** **15 48 60.0 -0.3**
comp=Z,14nm,0.6s,baz=2.3,slow=6.5,SNR=15
PMG Port Moresby 26.67 178 P **P** **15 48 60.0 -0.3**
PMG IAmb IAmb 15 49 00.8
comp=Z,16nm,0.8s
ASAJ Asahikawa 26.78 354 P **P** **15 49 01.5 +0.5**
comp=Z,7.8nm,0.7s,baz=238,slow=5.0,SNR=6.3
ASAJ LR LR 15 58 51.6
comp=Z,38nm,19.1s,baz=184,slow=34
JKA Kamikawa-asahi 26.78 354 P **P** **15 49 01.4 +0.5**
NJ2 Nanjing 28.64 306 *e*P **P** **15 49 18.0 +0.4**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
USA0B Ussuriysk Arra 29.24 339 P **P** **15 49 23.2 +0.4**
USA0B pmax pmax
comp=Z,39nm,2.0s
USA0B Ussuriysk Arra 29.24 339 P **P** **15 49 23.2 +0.4**
USA0B IAmb IAmb 15 50 15.6
comp=Z,39nm,1.9s
USRK Ussuriysk Ar. 29.24 339 P **P** **15 49 22.0 -0.8**
comp=Z,1.1nm,0.8s,baz=144,slow=10,SNR=3.6
LUWI Luwuk 29.43 234 P **P** **15 49 24.1 -0.8**
LUWI IAmb IAmb 15 49 38.9
comp=Z,23nm,0.8s
COEN Coen 31.32 186 P **P** **15 49 40.7 -0.7**
KKM Kota Kinabalu 31.34 252 P **P** **15 49 42.4 +0.5**
KKM IAmb IAmb 15 50 26.6
comp=Z,36nm,1.1s
MTN Manton Dam 33.52 207 P **P** **15 49 58.9 -1.8**
MTN IAmb IAmb 15 50 08.2
comp=Z,24nm,1.2s
KLR Kul'dur 33.80 343⇓ *e*P **P** **15 50 03.9 +1.1**
KLR pmax pmax
comp=Z,8.0nm,1.8s
KAPI Kappang 34.29 232 P **P** **15 50 07.8 +0.4**
KAPI pmax pmax
comp=Z,32nm,1.2s
KAPI Kappang 34.29 232 P **P** **15 50 07.8 +0.4**
KAPI IAmb IAmb 15 50 59.9
comp=Z,32nm,1.1s
SOEI Soe 34.59 220 P **P** **15 50 08.2 -1.8**
SOEI IAmb IAmb 15 50 35.5
comp=Z,34nm,1.3s
SBUM Sibu 36.47 250 P **P** **15 50 26.4 +0.2**
SBUM IAmb IAmb 15 50 27.8
comp=Z,12nm,1.4s
PEA0B Petropavlovsk- 36.75 12⇓ *e*P **P** **15 50 28.2 +0.2**
PEA0B Petropavlovsk- 36.75 12 P **P** **15 50 29.4 +1.4**
PETK Petropavlovsk- 36.75 12 P **P** **15 50 29.1 +1.1**
comp=Z,5.6nm,0.6s,baz=185,slow=8.5,SNR=21
PETK LR LR 16 01 49.5
comp=Z,48nm,21.8s,baz=233,slow=30
KNRA Kununurra 37.08 208 P **P** **15 50 30.0 -1.2**
HHC Hu-ho-hao-te 37.79 315 *e*P **P** **15 50 38.5 +1.3**
HHC pmax pmax
comp=Z,7.0nm,0.9s
HHC pmax pmax
comp=Z,42nm,6.3s
KSM Kuching 38.61 250 P **P** **15 50 43.9 -0.3**
WRAB Tennant Creek 38.88 198⇓ *e*P **P** **15 50 45.1 -1.2**
WRAB pmax pmax
comp=Z,4.0nm,0.6s
WRAB Tennant Creek 38.88 198 P **P** **15 50 45.5 -0.8**
WRAB IAmb IAmb 15 50 48.6
comp=Z,6.2nm,0.6s
FITZ Fitzroy Crossi 40.65 211 P **P** **15 51 00.1 -0.8**
FITZ IAmb IAmb 15 51 27.1
comp=Z,24nm,1.6s
LZH Lanzhou 41.71 305 *e*P **P** **15 51 12.5 +2.7**
LZH pP pP 15 51 31.3 -0.8
LZH sP sP 15 51 40.8 -2.3
LZH *e*PP **PnPn** **15 52 53.5 -0.3**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,92nm,5.6s
LZH LR LR
comp=Z,340nm,13.5s
LZH LR LR
comp=Z,350nm,13.8s
LZH LR LR
comp=Z,520nm,17.2s
AS31 Alice Springs 42.55 197 P **P** **15 51 15.6 -0.9**
ASAR Alice Springs 42.55 197 P **P** **15 51 15.3 -1.2**
comp=Z,1.5nm,0.5s,baz=21,slow=7.5,SNR=42
ASAR ScP **ScP** **15 56 45.5 -3.6**
comp=Z,0.4nm,0.9s,baz=21,slow=5.3,SNR=4.4
EIDS Eidsvold 42.80 173 P **P** **15 51 18.5 0.0**
EIDS IAmb IAmb 15 52 38.1
comp=Z,40nm,1.9s
UGM Wanagama 43.27 237 P **P** **15 51 23.1 +0.7**
DZM Mont Dzumac 44.00 152 P **P** **15 51 29.8 +1.5**
ULN Ulaanbaatar 44.03 322 P **P** **15 51 28.8 +0.5**
ULN pmax pmax
comp=Z,16nm,1.9s
ULN Ulaanbaatar 44.03 322 P **P** **15 51 28.8 +0.5**
ULN IAmb IAmb 15 51 43.7
comp=Z,16nm,1.9s
SONM Songino Array 44.40 322 P **P** **15 51 30.3 -1.0**
comp=Z,1.1nm,0.6s,baz=138,slow=7.6,SNR=9.3
SONM Songino Array 44.40 322 IAmb IAmb 15 51 34.4
comp=Z,1.1nm,0.6s
CHTO Chiang Mai 44.77 279 P **P** **15 51 35.3 +0.9**
CHTO pmax pmax
comp=Z,5.0nm,1.8s
CMAR Chiang Mai Arr 44.81 279 P **P** **15 51 35.3 +0.5**
comp=Z,1.0nm,0.6s,baz=82,slow=6.8,SNR=14
CMAR LR LR 16 12 17.8
comp=Z,7.0nm,18.1s,baz=10.0,slow=39
KIWB Kanaga Island 44.92 32 P **P** **15 51 35.2 +0.1**
ADK Adak 45.17 32 P **P** **15 51 38.5 +1.4**
ADK pmax pmax
comp=Z,134nm,1.5s
ADK Adak 45.17 32 P **P** **15 51 38.5 +1.4**
YAK Yakutsk 46.05 349⇑ *e*P **P** **15 51 41.5 -2.3**
YAK pmax pmax
comp=Z,8.0nm,0.8s
KULM Kulim 46.07 260 P **P** **15 51 47.1 +2.3**
KULM IAmb IAmb 15 53 13.5
comp=Z,44nm,1.6s
PSA00 Pilbara Seismi 46.53 215 P **P** **15 51 47.6 -0.5**
ATKA Atka Island 46.62 33 P **P** **15 51 49.3 +0.8**
ARMA Armidale 47.85 174 P **P** **15 51 58.3 -0.2**
ARMA IAmb IAmb 15 51 59.1
comp=Z,9.5nm,1.1s
PSI Prapat 48.53 258 P **P** **15 52 02.8 -1.2**
PSI pmax pmax
comp=Z,10.0nm,1.2s
RPSI Rantau Prapat 48.57 258 P **P** **15 52 02.8 -1.3**
RPSI IAmb IAmb 15 52 44.2
comp=Z,10nm,1.2s
STKA Stephens Creek 49.21 185 P **P** **15 52 07.9 -0.7**
comp=Z,1.5nm,0.4s,baz=13,slow=9.3,SNR=12
STKA Stephens Creek 49.21 185 P **P** **15 52 07.8 -0.8**
GSI Gunungsitoli 50.32 257 P **P** **15 52 17.9 +0.4**
GSI IAmb IAmb 15 52 45.4
comp=Z,15nm,0.9s
BBOO Buckleboo 50.87 191 P **P** **15 52 20.5 -0.6**
FORT Forrest 50.98 200 P **P** **15 52 21.4 -0.7**
UNV Unalaska Valle 51.47 34 P **P** **15 52 25.8 +0.4**
AKUT Akutan 51.99 34 P **P** **15 52 30.0 +0.7**
BILL Bilibino 52.20 9 *e*P **P** **15 52 30.5 -0.2**
BILL *e* 15 53 36.5
BILL *e* 15 54 25.8
BILL *e*PPP PPP 15 55 36.1
BILL pmax pmax
comp=Z,7.0nm,0.9s
BILL Bilibino 52.20 9 P **P** **15 52 31.4 +0.7**
CAN Canberra 52.52 177 P **P** **15 52 33.9 +0.4**
CAN pmax pmax
comp=Z,55nm,1.6s
CAN Canberra 52.52 177 P **P** **15 52 33.9 +0.4**
GAMB Gambell 54.48 21 P **P** **15 52 47.7 +0.4**
GAMB IAmb IAmb 15 53 28.7
comp=Z,31nm,1.6s
MORW Morawa 54.60 213 P **P** **15 52 47.4 -1.4**
MORW IAmb IAmb 15 52 49.5
comp=Z,22nm,0.9s
TOO Toolangi 54.70 181 P **P** **15 52 49.4 +0.1**
TOO pmax pmax
comp=Z,22nm,1.5s
TOO Toolangi 54.70 181 P **P** **15 52 49.4 +0.1**
TOO IAmb IAmb 15 53 26.8
comp=Z,22nm,1.4s
TIXI Tiksi 55.18 353⇓ *e*P **P** **15 52 50.5 -1.8**
TIXI pmax pmax
comp=Z,1.0nm,0.8s
TIXI Tiksi 55.18 353 P **P** **15 52 50.3 -2.1**
comp=Z,0.4nm,0.3s,baz=360,slow=24,SNR=2.9
TIXI Tiksi 55.18 353 IAmb IAmb 15 53 22.1
comp=Z,18nm,2.0s
AIN Ainahou 55.23 78 P **P** **15 52 54.0 +0.3**
OBL Observatory Le 55.39 78 P **P** **15 52 54.7 -0.2**
WMQ Urumqi 55.46 312 *e*P **P** **15 52 56.5 +1.6**
WMQ pmax pmax
comp=Z,6.0nm,0.7s
WMQ pmax pmax
comp=Z,58nm,6.7s
WMQ LR LR
comp=Z,750nm,28.9s
WMQ LR LR
comp=Z,1μm,29.2s
WMQ LR LR
comp=Z,130nm,28.8s
NWAO Narrogin (SRO) 57.18 209 P **P** **15 53 08.2 +1.1**
NWAO pmax pmax
comp=Z,88nm,1.8s
NWAO Narrogin (SRO) 57.18 209 P **P** **15 53 08.1 +1.1**
NWAO Narrogin (SRO) 57.18 209 P **P** **15 53 08.2 +1.1**
NWAO IAmb IAmb 15 53 13.8
comp=Z,88nm,1.8s
ANM Nome 57.21 23 P **P** **15 53 08.1 +1.2**
ANM pmax pmax
comp=Z,19nm,1.9s
ANM Nome 57.21 23 P **P** **15 53 08.1 +1.2**
ANM IAmb IAmb 15 53 48.6
comp=Z,19nm,1.9s
ZALV Zalesovo Beam 59.28 323 P **P** **15 53 20.8 -0.6**
comp=Z,0.4nm,0.3s,baz=110,slow=8.1,SNR=3.6
MK31 Makanchi Array 59.64 314 P **P** **15 53 23.7 -0.5**
MK31 pmax pmax
comp=Z,2.0nm,1.2s
MK31 Makanchi Array 59.64 314 P **P** **15 53 23.7 -0.5**
MKAR Makanchi Array 59.64 314 P **P** **15 53 23.6 -0.6**
comp=Z,0.1nm,0.4s,baz=87,slow=8.0,SNR=6.2
OHAK Old Harbor 59.68 33 P **P** **15 53 26.1 +2.0**
MAKZ Makanchi 59.86 314 P **P** **15 53 25.2 -0.5**
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
MAKZ Makanchi 59.86 314 P **P** **15 53 25.2 -0.5**
RDOG Red Dog Mine 59.88 20 P **P** **15 53 26.3 +0.9**
RDOG IAmb IAmb 15 53 27.2
comp=Z,4.9nm,1.0s
KURK Kurchatov 62.49 319⇓ *e*P **P** **15 53 42.6 -0.7**
KURK pmax pmax
comp=Z,11nm,3.6s
KURK Kurchatov 62.49 319 P **P** **15 53 41.9 -1.4**
KURK Kurchatov 62.49 319 IAmb IAmb 15 55 04.9
comp=Z,13nm,1.9s
KURBB Kurchatov Arra 62.54 318 P **P** **15 53 41.9 -1.8**
comp=Z,1.3nm,0.7s,baz=95,slow=7.3,SNR=12
KTH Kantishna Hill 62.58 27 P **P** **15 53 44.8 +1.0**
KTH IAmb IAmb 15 54 51.2
comp=Z,24nm,1.6s
NRIK Noril'sk 62.95 340 P **P** **15 53 44.2 -1.8**
comp=Z,2.0nm,0.5s,baz=132,slow=7.5,SNR=6.8
MLY Manley 63.09 25 P **P** **15 53 47.7 +0.6**
KSH Kashi 63.95 306 P **P** **15 53 57.8 +4.5**
KSH S **S** **16 02 25.5 +3.9**
KSH pmax pmax
comp=Z,220nm,8.2s
KSH LR LR
comp=Z,300nm,11.1s
KSH LR LR
comp=Z,460nm,7.7s
COLA College 64.23 26⇑ *e*P **P** **15 53 55.5 +1.0**
HDA Harding Lake 64.50 26 P **P** **15 53 56.3 0.0**
HDA IAmb IAmb 15 54 34.4
comp=Z,7.0nm,0.8s
IL31 64.61 26 P **P** **15 53 56.1 -0.8**
IL31 IAmb IAmb 15 54 06.6
comp=Z,20nm,1.9s
ILAR Eielson Array 64.61 26 P **P** **15 53 56.0 -0.9**
comp=Z,1.2nm,0.6s,baz=248,slow=6.2,SNR=28
ILAR Eielson Array 64.61 26 P **P** **15 53 55.6 -1.4**
TOLK Toolik Lake Re 64.62 21 P **P** **15 53 58.0 +0.9**
PAX Paxson 64.83 28 P **P** **15 53 59.3 +0.7**
PAX pmax pmax
comp=Z,5.0nm,0.6s
PAX Paxson 64.83 28 P **P** **15 53 59.3 +0.7**
PAX IAmb IAmb 15 54 00.8
comp=Z,5.4nm,0.6s
DOT Dot Lake 65.58 27 P **P** **15 54 03.9 +0.6**
DOT IAmb IAmb 15 54 07.5
comp=Z,4.8nm,0.8s
BMAR Burnt Mountain 66.12 23 P **P** **15 54 07.9 +1.1**
BCAR Beaver Creek A 66.50 28 P **P** **15 54 09.9 +0.6**
HYT Haines Junctio 68.30 31 P **P** **15 54 22.5 +1.8**
HYT IAmb IAmb 15 54 27.3
comp=Z,8.5nm,1.0s
INK Inuvik 70.38 23 P **P** **15 54 33.3 +0.1**
INK pmax pmax
comp=Z,31nm,1.9s
INK Inuvik 70.38 23 P **P** **15 54 33.2 +0.1**
INK IAmb IAmb 15 54 34.5
comp=Z,31nm,1.9s
YKA Yellowknife Ar 78.92 28 P **P** **15 55 22.7 +0.1**
comp=Z,1.5nm,0.7s,baz=287,slow=5.7,SNR=15
B08A Colville Reser 80.13 42 P **P** **15 55 30.5 +0.9**
PINE Pine Mountain 80.22 47 P **P** **15 55 32.0 +1.6**
PINE IAmb IAmb 15 55 33.1
comp=Z,10.0nm,0.8s
RES Resolute Bay 80.56 14 P **P** **15 55 31.3 0.0**
RES pmax pmax
comp=Z,5.0nm,0.8s
RES Resolute Bay 80.56 14 P **P** **15 55 31.3 0.0**
BEKR Beckworth 81.66 51 P **P** **15 55 38.8 +0.7**
PAHR Pah Rah Range 82.43 51 P **P** **15 55 42.7 +0.6**
PNTR Pine Nut 82.44 52 P **P** **15 55 42.1 -0.2**
PNTR IAmb IAmb 15 55 44.7
comp=Z,24nm,1.9s
BMO Blue Mountains 82.44 45 P **P** **15 55 42.9 +0.9**
BMO pmax pmax
comp=Z,5.0nm,1.1s
BMO Blue Mountains 82.44 45 P **P** **15 55 42.9 +0.9**
KVN Kaiserville 83.57 51 P **P** **15 55 48.8 +0.7**
KVN pmax pmax
comp=Z,10.0nm,1.5s
KVN Kaiserville 83.57 51 P **P** **15 55 48.8 +0.7**
KVN IAmb IAmb 15 56 25.3
comp=Z,10.0nm,1.5s
NVAR Mina Array Bea 83.60 52 P **P** **15 55 48.9 +0.6**
comp=Z,2.3nm,0.7s,baz=271,slow=6.0,SNR=14
NVAR LR LR 16 29 17.5
comp=Z,71nm,18.4s,baz=3.5,slow=33
NVAR Mina Array Bea 83.60 52 P **P** **15 55 48.2 0.0**
NV11 Mina Array Sit 83.71 52 P **P** **15 55 49.1 +0.3**
ARCES ARCESS Array B 83.83 342 P **P** **15 55 47.9 -0.6**
comp=Z,3.4nm,0.8s,baz=40,slow=4.7,SNR=3.8
ELK Elko 85.14 49 P **P** **15 55 56.2 +0.1**
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 85.14 49 P **P** **15 55 56.1 +0.1**
R11A Troy Canyon, C 85.66 51 P **P** **15 55 59.9 +1.4**
YHL Hebgen Lake 86.56 44 P **P** **15 56 04.2 +1.2**
OBN Obninsk 86.57 327 *e*P **P** **15 56 00.4 -2.0**
OBN *e* 15 59 26.0
OBN pmax pmax
comp=Z,2.0nm,0.8s
DUG Dugway, Tooele 87.07 49 P **P** **15 56 06.2 +0.8**
DUG pmax pmax
comp=Z,3.0nm,0.7s
DUG Dugway, Tooele 87.07 49 P **P** **15 56 06.2 +0.8**
YNE Yellowstone No 87.28 44 P **P** **15 56 05.5 -1.0**
KIV Kislovodsk 87.39 315 *e*P **P** **15 56 04.6 -2.2**
KIV pmax pmax
comp=Z,2.0nm,1.0s
HWUT Hardware Ranch 87.46 47 **P** **15 56 08.3 +1.0**
FFC Flin Flon 87.94 33 P **P** **15 56 08.8 -0.3**
FFC pmax pmax
comp=Z,4.0nm,0.9s
FFC Flin Flon 87.94 33 P **P** **15 56 08.8 -0.3**
PDAR Pinedale Array 88.42 46 P **P** **15 56 12.1 +0.2**
comp=Z,0.3nm,0.5s,baz=210,slow=1.2,SNR=4.1
PB11 IPOC Station P 146.04 100 PKPbc **PKPbc** **16 03 00.5 +0.7**
LPAZ La Paz 147.21 93 PKPbc **PKPbc** **16 03 04.8 +1.0**
comp=Z,4.3nm,0.9s,baz=22,slow=6.0,SNR=11
LPAZ La Paz 147.21 93 **PKPbc** **16 03 04.0 +0.2**

*NNC **31** 17:02:35.7±4.5,41°.50N×83°.57E,h0^{km},mb3.6,mpv3.2,*
Error ellipse: s-maj=36.8km s-min=24.4km az=174.0
*SOME **31** 17:02:38.9,41°.20N×83°.13E,h5^{km}*
ISC 31 17:02:32.6±3.1, 41°.4N±0°.2×83°.58E±0°.10, h10^{km}, n19,
σ1$ŝ$81/23, 2C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 8.5nm,0.4s	**3.53**	**301**	*e*P	**Pb**		**17 03 37.6**	**+2.4**
SHLS	149nm,0.4s			*e*S	**Sb**		**17 04 20.3**	**+2.1**
SHLS	**Shalkode** 5.5nm,0.2s	**3.53**	**301**	Pg	**Pb**		**17 03 37.1**	**+1.9**
SHLS	149nm,0.4s			Lg	Lg		17 04 20.3	
PDGK	**Podgornoye** 0.6nm,0.2s	**3.60**	**304**	Pg	**Pg**		**17 03 41.9**	**+0.4**
PDGK	15nm,0.7s			Lg	Lg		17 04 28.6	
PDGK	**Podgornoye**	**3.60**	**304**	Pn	**Pn**		**17 03 26.7**	**-1.8**
PDGK				Lg	Lg		17 04 21.9	
UZB	**Uzynbulak** 2.9nm,0.4s	**3.81**	**299**	*e*P	**Pg**		**17 03 46.8**	**+1.2**
UZB	41nm,0.5s			*e*S	**Sg**		**17 04 35.8**	**+0.8**
UZB	**Uzynbulak** 2.9nm,0.4s	**3.81**	**299**	Pg	**Pg**		**17 03 46.8**	**+1.2**
UZB	41nm,0.5s			Lg	Lg		17 04 35.7	
KPKS	**Kokpek** 5.2nm,0.5s	**4.18**	**301**	*e*P	**Pg**		**17 03 52.5**	**-0.1**
KPKS	32nm,0.6s			*e*S	**Sg**		**17 04 45.4**	**-1.3**
SATY	**Saty** 3.5nm,0.4s	**4.19**	**295**	*e*P	**Pg**		**17 03 52.9**	**0.0**
SATY	39nm,0.6s			*e*S	**Sg**		**17 04 46.4**	**-0.8**
SATY	**Saty** 3.5nm,0.4s	**4.19**	**295**	Pg	**Pg**		**17 03 52.8**	**0.0**
SATY	39nm,0.6s			Lg	Lg		17 04 46.9	
KURS	**Kuram** 2.3nm,0.8s	**4.52**	**299**	*e*P	**Pg**		**17 03 58.5**	**-0.7**
KURS	7.3nm,0.8s			*e*S	**Sg**		**17 04 55.4**	**-2.3**
MDOK	**Medeo** 5.0nm,5.0s	**5.16**	**292**	*e*P	**Pg**		**17 04 10.6**	**-0.9**
MDOK	8.5nm,0.5s			*e*S	**Sg**		**17 05 16.5**	**-1.8**
MDOK	**Medeo** 6.0nm,0.6s	**5.16**	**292**	Lg	Lg		17 05 14.9	
MDOK	**Medeo** 2.6nm,0.3s	**5.16**	**292**	Pg	**Pg**		**17 04 10.0**	**-1.4**
MDOK	8.5nm,0.5s			Lg	Lg		17 05 16.9	
TNSS	**Tian-Shan** 1.2nm,0.5s	**5.19**	**291**	*e*P	**Pg**		**17 04 10.9**	**-1.3**
TNSS	7.9nm,0.7s			*e*S	**Sg**		**17 05 16.6**	**-2.8**
TNSS	**Tian-Shan** 1.3nm,0.4s	**5.19**	**291**	Pg	**Pg**		**17 04 10.3**	**-1.9**
TNSS	7.2nm,0.4s			Lg	Lg		17 05 15.8	
MK31	**Makanchi Array** 0.5nm,0.3s,baz=167,slow=16,SNR=13	**5.48**	**351**	Pg	**Pb**		**17 04 11.8**	**+3.3**
MK31	3.5nm,0.6s,baz=163,slow=28,SNR=3.6			Lg	Lg		17 05 25.5	
MAKZ	**Makanchi** 0.8nm,0.5s	**5.54**	**349**	⇑Pg	**Pg**		**17 04 16.0**	**-2.7**
MAKZ	1.0nm,0.7s			⇓Lg	Lg		17 05 29.1	
TKM2	**Tokmak 2** 9.2nm,0.8s	**6.13**	**287**	⇓Lg	Lg		17 05 46.5	
AAK	**Ala-Archa** 4.2nm,0.6s	**6.88**	**283**	⇑Lg	Lg		17 06 09.6	

ISC 31 17:17:08.3±0.8, 49°.83N±0°.04×18°.52E±0°.02, h0^{km}, n15,
σ0$ŝ$59/29, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.24**	**272**	*e*PG	**Pg**		**17 17 13.8**	**+0.8**
OKC	comp=Z,14nm,0.3s			*e*SG	**Sg**		**17 17 16.6**	**+0.5**
MORC	**Moravsky Berou**	**0.64**	**266**	*e*PG	**Pg**		**17 17 20.9**	**+0.4**
MORC				*e*SG	**Sg**		**17 17 29.0**	**+0.2**
OJC	**Ojcow**	**0.91**	**64**	*e*Pg	**Pg**		**17 17 25.5**	**-0.2**
OJC				*e*Pg	**Pg**		**17 17 25.5**	**-0.2**
OJC				*e*Sg	**Sg**		**17 17 37.9**	**+0.3**
OJC				*e*Sg	**Sg**		**17 17 37.9**	**+0.3**
LANS	**Liptovska Anna**	**0.92**	**138**	*e*PG	**Pb**		**17 17 27.2**	**+0.1**
LANS				*e*SG	**Sb**		**17 17 39.9**	**0.0**
LANS				*e*LG	Lg		17 17 44.6	
KRLC	**Kraliky**	**1.15**	**283**	*e*PG	**Pg**		**17 17 30.1**	**-0.2**
KRLC	comp=Z,6.4nm,0.5s			*e*SG	**Sg**		**17 17 44.8**	**-0.5**
VYHS	**Vyhne**	**1.35**	**171**	*e*PN	**Pg**		**17 17 34.3**	**+0.1**
VYHS				*e*SN	**Sb**		**17 17 52.9**	**+0.5**
VRAC	**Vranov**	**1.36**	**248**	*e*PG	**Pg**		**17 17 34.1**	**-0.3**
VRAC				*e*SG	**Sg**		**17 17 51.8**	**-0.2**
DPC	**Dobruska-Polom**	**1.51**	**291**	*e*PG	**Pn**		**17 17 36.0**	**-0.7**
DPC				*e*SG	**Sg**		**17 17 55.9**	**-0.9**
KRUC	**Moravsky**	**1.59**	**242**	*e*PG	**Pn**		**17 17 37.4**	**-0.3**
KRUC				*e*SG	**Sn**		**17 17 58.4**	**-0.5**
OSTC	**Ostas**	**1.65**	**297**	*e*PG	**Pn**		**17 17 38.8**	**+0.2**
OSTC				*e*SG	**Sn**		**17 18 00.7**	**+0.2**
UPC	**Upice**	**1.75**	**294**	*e*PG	**Pn**		**17 17 40.3**	**+0.4**
UPC				*e*SG	**Sb**		**17 18 03.7**	**-0.1**
CHVC	**Chvalec**	**1.76**	**296**	*e*PG	**Pn**		**17 17 40.0**	**0.0**
CHVC				*e*SG	**Sb**		**17 18 03.9**	**-0.1**
GOPC	**GO Pecny, Ondr**	**2.42**	**273**	*e*SG	**Sb**		**17 18 22.8**	**-0.2**
PRU	**Pruhonice**	**2.58**	**275**	*e*SG	**Sb**		**17 18 29.4**	**+1.8**
KHC	**Kasperske Hory**	**3.30**	**260**	*e*SG	**Sg**		**17 18 52.9**	**-1.4**

MAN 31 17:21:44.4, 10°.30N×125°.19E, h16^{km}, mb4.1, ML2.9,
MS2.6, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.36**	**244**	P	Pb		17 21 52.4	-0.1
MSLP				S	Sb		17 21 59.3	+1.3
OCLP	**Ormoc**	**0.94**	**323**	P	Pb		17 22 01.6	-0.8
OCLP				S	Sn		17 22 16.0	-0.2
LLP	**Lapu-Lapu**	**1.20**	**271**	⇓P	Pn		17 22 06.4	-0.3
LLP				S	Sn		17 22 23.0	+0.3

*IDC **31** 17:32:47.2±0.9,20°.84N×146°.75E,h0^{km},mb3.8/11,*
mb1 4.0/11,mb1mx3.8/48,mbtmp3.8/11,MS2.9/2,
Ms1 3.0/2,ms1mx2.7/32,Error ellipse: s-maj=27.7km
s-min=22.0km az=75.0
*NEIC **31** 17:32:48.0±1.4,20°.88N±0°.06×146°.9E±0°.2,h13^{km}±5^{km},*
mb4.5/5
*ISCJB **31** 17:32:50.7±0.7,20°.85N±0°.09×146°.7E±0°.2,h40^{km},*
mb3.7/11,MS2.9/2,Error ellipse: s-maj=22.0km
s-min=13.5km az=1.0
ISC 31 17:32:52.6±0.8, 20°.9N±0°.1×146°.8E±0°.2, h40^{km}, n24,
σ1$ŝ$12/24, mb3.9/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array** 1.0nm,0.8s,baz=137,slow=10,SNR=3.7	**23.25**	**319**	P	**P**		**17 37 56.5**	**+0.1**
USRK	**Ussuriysk Ar.** 3.8nm,0.9s,baz=152,slow=8.0,SNR=6.0	**26.31**	**336**	P	**P**		**17 38 25.9**	**+1.5**
USRK	**Ussuriysk Ar.**	**26.31**	**336**	P	**P**		**17 38 22.9**	**-1.6**
SONM	**Songino Array** 0.3nm,0.7s,baz=127,slow=9.5,SNR=3.2	**42.12**	**319**	P	**P**		**17 40 43.3**	**+2.2**
SONM				LR	LR		17 59 59.4	
	comp=Z,34nm,18.4s,baz=223,slow=39							
SONM	**Songino Array**	**42.12**	**319**	P	**P**		**17 40 41.4**	**+0.4**
WRAB	**Tennant Creek**	**42.34**	**197**	P	**P**		**17 40 42.4**	**-0.5**
WRAB				IAmb	IAmb		17 41 01.2	
	comp=Z,24nm,1.9s							
FITZ	**Fitzroy Crossi**	**43.92**	**210**	P	**P**		**17 40 55.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**44.97**	**276**	LR	LR		17 58 02.1	

comp=Z,7.1nm,20.9s,baz=135,slow=34
ASAR Alice Springs 46.01 196 P **P** **17 41 11.8 -0.5**
comp=Z,0.3nm,0.9s,baz=16,slow=6.4,SNR=11
ASAR PcP **PcP** **17 42 49.8 +1.3**
comp=Z,0.4nm,0.7s,baz=21,slow=3.6,SNR=4.0
ASAR Alice Springs 46.01 196 P **P** **17 41 12.4 +0.1**
ZALV Zalesovo Beam 56.93 322 P **P** **17 42 32.9 -0.7**
comp=Z,0.7nm,0.4s,baz=106,slow=5.8,SNR=5.0
NRIK Noril'sk 59.93 339 P **P** **17 42 54.0 -0.4**
comp=Z,1.0nm,0.3s,baz=97,slow=10,SNR=8.1
ILAR Eielson Array 61.26 27 P **P** **17 43 03.4 -0.1**
comp=Z,0.7nm,0.9s,baz=250,slow=6.3,SNR=5.2
ILAR Eielson Array 61.26 27 P **P** **17 43 02.9 -0.6**
KK31 Karatay Array 66.18 309 P **P** **17 43 35.2 -1.1**
KKAR Karatay Array 66.18 309 P **P** **17 43 35.4 -0.9**
KKAR IAmb IAmb 17 43 43.1
comp=Z,2.8nm,0.9s
KKAR Karatay Array 66.18 309 P **P** **17 43 36.6 +0.3**
YKA Yellowknife Ar 75.61 28 P **P** **17 44 33.5 +0.4**
comp=Z,0.6nm,0.7s,baz=287,slow=6.4,SNR=6.4
YKA Yellowknife Ar 75.61 28 P **P** **17 44 31.5 -1.6**
NVAR Mina Array Bea 81.02 52 P **P** **17 45 06.0 +2.2**
comp=Z,1.0nm,0.7s,baz=262,slow=6.2,SNR=8.5
NVAR Mina Array Bea 81.02 52 P **P** **17 45 02.3 -1.6**
FINES FINESS Array B 85.34 336 P **P** **17 45 25.4 0.0**
comp=Z,2.9nm,0.6s,baz=76,slow=3.6,SNR=18
FINES FINESS Array B 85.34 336 P **P** **17 45 25.6 +0.3**
PDAR Pinedale Array 85.59 46 P **P** **17 45 28.5 +1.2**
comp=Z,0.1nm,0.4s,baz=191,slow=0.9,SNR=3.3

*IDC **31** 17:34:04.1±1.2,34.43N×25.22E,h0km,mb4.0/9,*
mb1 3.9/15,mb1mx3.7/44,mbtmp3.8/15,ML3.5/5,MS3.3/1,
Ms1 3.3/1,ms1mx2.4/48,Error ellipse: s-maj=25.4km
s-min=20.7km az=176.0
*ISCJB **31** 17:34:10.5±0.3,34.57N±0.02×25.43E±0.03,h59km±4km,*
mb3.9/9,MS3.2/1,Error ellipse: s-maj=5.1km s-min=3.6km
az=149.4
*HLW **31** 17:34:11.3,34.59N×25.47E,h14km±11km,Md3.6,MI3.9*
*ISK **31** 17:34:12.7,34.74N×25.36E,h26km,ML3.5/15*
*THE **31** 17:34:12.6,34.65N×25.28E,h0km±1km,ML3.3/6,Error*
ellipse: s-maj=2.6km s-min=0.8km az=177.0
*ATH **31** 17:34:13.4,34.83N×25.24E,h50km±2km,ML3.3/13,Error*
ellipse: s-maj=2.7km s-min=1.2km az=353.0
*GII **31** 17:34:15.0±0.0,34.36N×26.07E,h1km,MD3.5/1*
ISC 31 17:34:10.8±1.0,**34.58N**±0.04×**25.41E**±0.04,**h36**km±2km,
n103,σ2§19/129,**mb4.1**/9,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.51**	**31**	P		**Pn**	**17 34 24.4**	**+2.8**
FRMA				S		**Sn**	**17 34 34.1**	**+5.0**
	2μm,0.7s							
LAST	**Lasithi**	**0.58**	**5**	P		**Pn**	**17 34 22.9**	**+0.1**
LAST				S		**Sn**	**17 34 31.9**	**+0.7**
	5μm,0.8s							
LAST	**Lasithi**	**0.58**	**5**	P		**Pn**	**17 34 22.9**	**+0.1**
LAST				S		**Sn**	**17 34 31.9**	**+0.7**
LAST				AML		AML	17 34 33.8	
	comp=E,14448μm,0.7s							
LAST				AML		AML	17 34 34.3	
	comp=N,9735μm,0.9s							
SIVA	**Sivas**	**0.66**	**312**	P		**Pn**	**17 34 24.0**	**+0.2**
SIVA				S		**Sn**	**17 34 31.4**	**-1.5**
	comp=N,15μm,0.8s							
SIVA	**Sivas**	**0.66**	**312**	P		**Pn**	**17 34 23.8**	**0.0**
SIVA				S		**Sn**	**17 34 31.2**	**-1.8**
SIVA				AML		AML	17 34 36.7	
	comp=N,23253μm,0.9s							
SIVA				AML		AML	17 34 39.0	
	comp=E,20974μm,0.7s							
NPS	**Neapolis**	**0.70**	**13**	P		**Pn**	**17 34 25.4**	**+1.1**
NPS				S		**Sn**	**17 34 35.3**	**+1.4**
	comp=E,4μm,0.7s							
NPS	**Neapolis**	**0.70**	**13**	P		**Pn**	**17 34 25.5**	**+1.1**
NPS				S		**Sn**	**17 34 35.3**	**+1.4**
NPS				AML		AML	17 34 39.3	
	comp=E,9177μm,0.8s							
NPS				AML		AML	17 34 42.9	
	comp=N,6814μm,0.7s							
HRKL	**Herakleio**	**0.78**	**341**	P		**Pn**	**17 34 26.2**	**+0.9**
HRKL	**Herakleio**	**0.78**	**341**	PG		**Pn**	**17 34 25.9**	**+0.6**
HRKL				SG		**Sn**	**17 34 35.1**	**-0.6**
KSTL	**Kastelli Herak**	**0.78**	**339**	P		**Pn**	**17 34 24.2**	**-1.1**
KSTL				S		**Sn**	**17 34 33.5**	**-2.2**
IACM	**Heraklion**	**0.78**	**339**	P		**Pn**	**17 34 25.7**	**+0.4**
IDI	**Anoyia**	**0.83**	**329**	Pg		**Pn**	**17 34 26.0**	**-0.1**
	comp=N,37nm,0.3s,baz=155,slow=17,SNR=82							
IDI				Lg		Lg	17 34 37.2	
	comp=N,133nm,0.3s,baz=198,slow=13,SNR=49							
IDI				LR		LR	17 35 01.5	
	comp=N,259nm,19.8s,baz=72,slow=64							
IDI	**Anoyia**	**0.83**	**329**	P		**Pn**	**17 34 26.1**	**0.0**
IDI				S		**Sn**	**17 34 35.0**	**-2.2**
IDI				AML		AML	17 34 39.0	
	comp=N,3373μm,0.5s							
IDI				AML		AML	17 34 40.0	
	comp=E,2373μm,0.6s							
IDI	**Anoyia**	**0.83**	**329**	PG		**Pn**	**17 34 26.5**	**+0.4**
IDI				SG		**Sn**	**17 34 36.4**	**-0.8**
STIA	**Sitia Lasithi**	**0.84**	**42**	P		**Pn**	**17 34 29.6**	**+3.5**
STIA				S		**Sn**	**17 34 43.1**	**+5.9**
ZKR	**Zakros**	**0.85**	**51**	P		**Pn**	**17 34 29.5**	**+3.2**
ZKR				S		**Sn**	**17 34 43.9**	**+6.3**
	comp=E,2μm,0.7s							
ZKR	**Zakros**	**0.85**	**51**	P		**Pn**	**17 34 30.0**	**+3.7**
ZKR				S		**Sn**	**17 34 42.7**	**+5.1**
ZKR				AML		AML	17 34 48.5	
	comp=E,5466μm,0.6s							
ZKR				AML		AML	17 34 50.4	
	comp=N,2323μm,0.4s							
ZKR	**Zakros**	**0.85**	**51**	PG		**Pn**	**17 34 28.9**	**+2.6**
GVDS	**Gavdos**	**1.12**	**284**	P		**Pn**	**17 34 32.4**	**+2.5**
GVDS	**Gavdos**	**1.12**	**284**	PG		**Pn**	**17 34 32.5**	**+2.5**
GVD	**Gavdhos**	**1.12**	**284**	P		**Pn**	**17 34 31.9**	**+1.9**
GVD	**Gavdhos**	**1.12**	**284**	P		**Pn**	**17 34 31.3**	**+1.3**
GVD				AML		AML	17 34 50.4	
	comp=N,2531μm,0.9s							
GVD				AML		AML	17 34 52.2	
	comp=E,4406μm,0.8s							
GVD	**Gavdhos**	**1.12**	**284**	PG		**Pn**	**17 34 32.1**	**+2.1**
VAM	**Vamos**	**1.30**	**310**	P		**Pn**	**17 34 34.1**	**+1.7**
VAM				S		**Sn**	**17 34 50.8**	**+2.3**
	comp=E,2μm,0.7s							
VAM	**Vamos**	**1.30**	**310**	P		**Pn**	**17 34 33.2**	**+0.8**
VAM				AML		AML	17 34 54.4	
	comp=N,3649μm,0.7s							
VAM				AML		AML	17 34 54.4	
	comp=E,3798μm,0.7s							
IMMV	**Iera Moni Meta**	**1.47**	**307**	P		**Pn**	**17 34 35.1**	**+0.3**
IMMV				AML		AML	17 35 01.3	
	comp=N,2463μm,1.0s							
IMMV				AML		AML	17 35 04.4	
	comp=E,2263μm,0.9s							
IMMV	**Iera Moni Meta**	**1.47**	**307**	PN		**Pn**	**17 34 36.2**	**+1.4**
KNDR	**Palaiochora Ch**	**1.56**	**295**	PN		**Pn**	**17 34 38.8**	**+2.7**
RODP	**Rodopos**	**1.68**	**306**	PN		**Pn**	**17 34 39.4**	**+1.8**
KARP	**Karpathos**	**1.73**	**55**	P		**Pn**	**17 34 42.5**	**+4.1**
KARP				AML		AML	17 35 17.1	
	comp=E,1608μm,0.8s							
KARP				AML		AML	17 35 25.9	
	comp=N,1758μm,0.8s							
KARP	**Karpathos**	**1.73**	**55**	PN		**Pn**	**17 34 41.4**	**+3.0**
THR6	**Thira Island,**	**1.77**	**360**	P		**Pn**	**17 34 39.4**	**+0.4**
SANT	**Santorini**	**1.79**	**1**	P		**Pn**	**17 34 39.9**	**+0.6**
SANT				AML		AML	17 35 10.0	
	comp=N,779μm,0.9s							
SANT				AML		AML	17 35 22.0	
	comp=E,1781μm,0.8s							
SANT	**Santorini**	**1.79**	**1**	PN		**Pn**	**17 34 40.2**	**+1.0**
THR8	**Santorini-Mono**	**1.83**	**2**	P		**Pn**	**17 34 40.0**	**+0.3**
THR3	**Thira Island,**	**1.83**	**360**	P		**Pn**	**17 34 40.0**	**+0.3**
THR5	**Thira Island,**	**1.84**	**358**	P		**Pn**	**17 34 40.3**	**+0.4**
THR7	**Fira-Santorini**	**1.84**	**0**	P		**Pn**	**17 34 40.3**	**+0.4**
IOSP	**Ios island**	**2.14**	**357**	P		**Pn**	**17 34 44.6**	**+0.6**
IOSP				S		**Sn**	**17 35 07.1**	**-2.3**
IOSP				AML		AML	17 35 15.2	
	comp=N,1110μm,0.8s							
IOSP				AML		AML	17 35 19.3	
	comp=E,1112μm,0.7s							
ANKY	**Antikythira Is**	**2.16**	**307**	P		**Pn**	**17 34 45.4**	**+1.2**
ANKY				AML		AML	17 35 29.9	
	comp=E,879μm,0.8s							
ANKY				AML		AML	17 35 32.8	
	comp=N,783μm,1.0s							
MHLO	**Agia Marina, M**	**2.26**	**339**	P		**Pn**	**17 34 45.8**	**+0.1**
AMGA	**Amorgos Island**	**2.28**	**10**	P		**Pn**	**17 34 46.6**	**+0.6**
AMGA				AML		AML	17 35 28.1	
	comp=E,664μm,0.6s							
AMGA				AML		AML	17 35 32.0	
	comp=N,664μm,0.8s							
APE	**Apeiranthos**	**2.49**	**2**	P		**Pn**	**17 34 49.3**	**+0.5**
APE	**Apeiranthos**	**2.49**	**2**	PN		**Pn**	**17 34 49.8**	**+1.0**
KOSK	**Kos Island**	**2.52**	**30**	PN		**Pn**	**17 34 50.9**	**+1.8**
KTHA	**Kythira Island**	**2.55**	**312**	P		**Pn**	**17 34 50.6**	**+0.9**
KTHA	**Kythira Island**	**2.55**	**312**	PN		**Pn**	**17 34 51.3**	**+1.7**
SERI	**Serifos**	**2.69**	**344**	P		**Pn**	**17 34 51.6**	**0.0**
SERI				S		**Sn**	**17 35 19.4**	**-3.5**
ARG	**Arkhangelos**	**2.75**	**53**	P		**Pn**	**17 34 55.7**	**+3.3**
ARG	**Arkhangelos**	**2.75**	**53**	PN		**Pn**	**17 34 55.1**	**+2.7**
DAT	**Datca**	**2.78**	**39**	PN		**Pn**	**17 34 55.3**	**+2.4**
BODT	**Bodrum**	**2.92**	**31**	PN		**Pn**	**17 34 56.6**	**+1.9**
VLI	**Veliai**	**2.94**	**317**	P		**Pn**	**17 34 55.1**	**+0.1**
SLUM	**Salum**	**3.08**	**183**	P		**Pn**	**17 34 59.7**	**+2.7**
	baz=185							
SLUM				AMP			17 35 00.0	
	baz=185							
SLUM				S		**Sn**	**17 35 34.3**	**+1.7**
	baz=185							
DYR	**Agios Nikonas**	**3.32**	**312**	P		**Pn**	**17 35 01.1**	**+0.8**
SMG	**Samos**	**3.33**	**20**	P		**Pn**	**17 35 01.3**	**+0.9**
DID	**Didima**	**3.41**	**330**	P		**Pn**	**17 35 01.1**	**-0.5**
GCAM	**G?zelcaml?**	**3.45**	**25**	PN		**Pn**	**17 35 04.7**	**+2.8**
YER	**Yerkesik**	**3.46**	**42**	PN		**Pn**	**17 35 04.8**	**+2.7**
TURN	**Turunc**	**3.46**	**48**	PN		**Pn**	**17 35 00.6**	**-1.5**
KARY	**Karystos**	**3.54**	**347**	P		**Pn**	**17 35 04.1**	**+0.9**
FETY	**Fethiye**	**3.63**	**54**	PN		**Pn**	**17 35 06.5**	**+2.0**
PTL	**Penteli**	**3.68**	**341**	P		**Pn**	**17 35 05.3**	**+0.1**
CHOS	**Chios island**	**3.84**	**8**	P		**Pn**	**17 35 08.9**	**+1.5**
CHOS	**Chios island**	**3.84**	**8**	PN		**Pn**	**17 35 10.6**	**+3.2**
AYDB	**Zeytinkoy-Aydi**	**3.91**	**30**	PN		**Pn**	**17 35 11.5**	**+3.0**
LTK	**Loutraki**	**3.97**	**331**	P		**Pn**	**17 35 08.8**	**-0.3**
KLV	**Kalavryta, Ach**	**4.35**	**324**	P		**Pn**	**17 35 15.1**	**+0.7**
SWA2		**5.32**	**180**	P		**Pn**	**17 35 30.1**	**+2.5**
	baz=181							
SWA2				AMP			17 36 00.0	
	baz=181							
SWA2				S		**Sn**	**17 36 27.9**	**+0.2**
	baz=181							
CSS	**Mathiatis**	**6.53**	**84**	Pn		**Pn**	**17 35 46.1**	**+1.8**
HNAT	**Natroun**	**6.62**	**137**	P		**Pn**	**17 35 47.6**	**+2.0**
	baz=137							
KOT	**Kottamia**	**7.14**	**129**	P		**Pn**	**17 35 57.2**	**+4.4**
	baz=129							
NBNS	**Bani Suef**	**7.77**	**138**	P		**Pn**	**17 36 04.1**	**+2.7**
	baz=138							
NBNS				AMP			17 37 00.0	
	baz=138							
NBNS				S		**Sn**	**17 37 26.5**	**-1.6**
	baz=138							
HFRF	**Wahat Farafira**	**7.81**	**161**	P		**Pn**	**17 36 04.7**	**+2.7**
	baz=161							
HFRF				S		**Sn**	**17 37 27.8**	**-1.4**
	baz=161							
TAMRE	**El Minia**	**8.33**	**144**	P		**Pn**	**17 36 12.4**	**+3.3**
	baz=144							
BRTR	**Keskin Array B**	**8.34**	**50**	Pn		**Pn**	**17 36 10.2**	**+1.0**
	comp=N,0.1nm,0.3s,baz=219,slow=14,SNR=6.0							
SLTI	**Sal'it**	**8.38**	**103**	Sn		**Sn**	**17 37 39.8**	**-3.3**
KZIT	**Kziot**	**8.40**	**113**	Pn		**Pn**	**17 36 10.1**	**0.0**
MMAI	**Mount Meron Ar**	**8.46**	**98**	Pn		**Pn**	**17 36 10.2**	**-0.7**
	comp=N,0.3nm,0.3s,baz=290,slow=11,SNR=2.8							
MMAI				Sn		**Sn**	**17 37 40.1**	**-5.0**
	comp=N,1.5nm,0.3s,baz=231,slow=13,SNR=5.2							
AMAZ	**Amatzia**	**8.53**	**108**	Pn		**Pn**	**17 36 12.6**	**+0.7**
AMAZ				Sn		**Sn**	**17 37 43.5**	**-3.4**
KSDI	**Kefar Szold**	**8.63**	**96**	Pn		**Pn**	**17 36 13.5**	**+0.4**
YTIR	**Yattir**	**8.76**	**109**	Pn		**Pn**	**17 36 15.4**	**+0.4**
YTIR				Sn		**Sn**	**17 37 48.9**	**-3.6**
HMDT	**Nahal Hemdat**	**8.77**	**103**	Pn		**Pn**	**17 36 16.2**	**+1.2**
HMDT				Sn		**Sn**	**17 37 50.2**	**-2.3**
DSI	**Dead Sea**	**8.88**	**107**	Pn		**Pn**	**17 36 17.6**	**+1.0**
MZDA	**Masada**	**8.97**	**109**	Pn		**Pn**	**17 36 18.7**	**+0.9**
MZDA				Sn		**Sn**	**17 37 54.4**	**-3.2**
PRNI	**Paran**	**9.13**	**115**	Pn		**Pn**	**17 36 20.3**	**+0.2**
PRNI				Sn		**Sn**	**17 37 57.8**	**-3.8**
HRFI	**Mount Harif**	**9.32**	**116**	Pn		**Pn**	**17 36 22.9**	**+0.3**
MBRI	**Mt Berech**	**9.36**	**118**	Pn		**Pn**	**17 36 24.0**	**+0.8**
MBRI				Sn		**Sn**	**17 38 05.0**	**-2.2**
EIL	**Elat**	**9.45**	**119**	Sn		**Sn**	**17 38 05.5**	**-3.9**
EIL	**Elat**	**9.45**	**119**	Pn		Pn	17 36 21.1	-3.3
	baz=350,slow=18,SNR=2.5							
EIL				Sn		**Sn**	**17 38 04.6**	**-4.8**
	comp=N,2.6nm,0.3s,baz=217,slow=4.2,SNR=9.7							
KBZ	**Khabaz**	**16.33**	**51**	Pn		**P**	**17 38 00.7**	**+0.9**
	comp=N,0.2nm,0.3s,baz=233,slow=8.6,SNR=20							
AKASG	**Malin Array Be**	**16.35**	**9**	Pn		**Pn**	**17 37 57.9**	**+0.4**
	comp=N,1.2nm,0.3s,baz=201,slow=11,SNR=12							
GERES	**GERESS Array B**	**16.69**	**332**	Pn		**Pn**	**17 38 02.5**	**+0.6**
	comp=N,0.1nm,0.3s,baz=145,slow=12,SNR=5.5							
MDT	**Midelt**	**25.00**	**274**	LR		LR	17 50 28.8	
	comp=N,64nm,18.4s,baz=350,slow=40							
FINES	**FINESS Array B**	**26.89**	**1**	P		**P**	**17 39 45.9**	**-2.1**
	comp=N,4.1nm,1.0s,baz=163,slow=9.8,SNR=4.8							
AKTO	**Aktyubinsk**	**28.50**	**46**	P		**P**	**17 40 02.8**	**+0.3**
	comp=N,0.9nm,0.5s,baz=234,slow=11,SNR=4.5							
TORD	**Torodi Ar. Bea**	**30.28**	**231**	P		P	17 40 14.8	-3.8
	comp=N,0.4nm,0.7s,baz=35,slow=8.8,SNR=3.1							
ARCES	**ARCESS Array B**	**35.01**	**0**	P		**P**	**17 40 57.5**	**-2.0**
	comp=N,2.3nm,0.9s,baz=182,slow=8.1,SNR=5.0							
MKAR	**Makanchi Array**	**43.92**	**56**	P		**P**	**17 42 15.0**	**+1.0**
	comp=N,0.8nm,0.5s,baz=268,slow=7.9,SNR=18							
ZALV	**Zalesovo Beam**	**45.26**	**46**	P		**P**	**17 42 24.6**	**+0.1**
	comp=N,1.4nm,0.5s,baz=268,slow=9.2,SNR=6.9							
SONM	**Songino Array**	**59.70**	**50**	P		**P**	**17 44 12.8**	**+1.0**
	comp=N,0.8nm,0.6s,baz=285,slow=7.3,SNR=8.5							
SCHQ	**Schefferville**	**63.77**	**320**	P		**P**	**17 44 38.6**	**-0.2**
	comp=N,2.3nm,0.9s,baz=56,slow=14,SNR=3.6							
USRK	**Ussuriysk Ar.**	**77.10**	**45**	P		**P**	**17 46 00.4**	**0.0**
	comp=N,2.4nm,0.9s,baz=296,slow=5.2,SNR=6.8							

MAN 31 18:26:00.9,5.90N×127.11E,h101km,mb4.8,ML3.7,
MS3.7,1C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.34**	**321**	P		Pn	18 26 26.4	+1.0
MATI				S		Sn	18 26 44.0	+0.2
DDMP	**Don Marcelino,**	**1.40**	**278**	P		Pn	18 26 27.0	+0.9
DDMP				S		Sn	18 26 46.1	+1.0
KCP	**Kidapawan**	**2.29**	**299**	↓P		Pn	18 26 35.7	-1.6
KCP				S		Sn	18 27 05.6	+0.4
SKMP	**Bagumbayan, Su**	**2.62**	**284**	P		Pn	18 26 42.1	+0.4
BUKP	**Musuan**	**2.83**	**314**	P		Pn	18 26 45.4	+1.0
BUKP				S		Sn	18 27 19.3	+1.3
CTBH	**Cotabato--PC H**	**3.13**	**295**	↑P		Pn	18 26 49.4	+0.9

*ISCJB **31** 18:26:45.0±0.3,8.37S±0.04×116.99E±0.03,h158km±3km,*
mb3.8/10,Error ellipse: s-maj=7.1km s-min=4.0km
az=11.7
*NEIC **31** 18:26:45.1±2.9,8.33S±0.07×117.00E±0.05,h144km±5km,*
mb4.7/29
*IDC **31** 18:26:46.0±2.2,8.36S×116.98E,h147km±19km,mb3.5/10,*
mb1 3.7/13,mb1mx3.5/37,mbtmp4.1/13,MS2.6/1,
Ms1 2.6/1,ms1mx2.4/20,Error ellipse: s-maj=26.8km
s-min=12.5km az=62.0
*DJA **31** 18:26:47.3±0.4,9°S±5°×11°E±°,h132km±5km,M4.5/19,*
mb4.5/7,MLv4.6/4,MLv4.4/19
ISC 31 18:26:45.2±0.6,**8.39S**±0.05×**117.02E**±0.04,**h145**km±5km,
n93,σ1§63/103,**mb4.4**/22,**2C,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.37**	**201**	P		**Pn**	**18 27 07.1**	**+1.7**
PLAI	**Plampang**	**0.87**	**120**	P		**Pn**	**18 27 10.0**	**+1.6**
PLAI				S		**Sn**	**18 27 25.7**	**-0.3**
DNP	**Denpasar**	**1.81**	**261**	P		**Pn**	**18 27 19.4**	**+1.6**
SRBI	**Singaraja**	**1.81**	**280**	P		**Pn**	**18 27 20.1**	**+2.3**
IGBI	**Denpasar**	**1.90**	**257**	P		**Pn**	**18 27 19.9**	**+1.1**
IGBI				S		**Sn**	**18 27 45.0**	**+0.4**
JAGI	**Jajag, Banyuwa**	**2.84**	**268**	P		**Pn**	**18 27 30.9**	**+0.6**
JAGI				S		**Sn**	**18 28 05.0**	**-0.1**
JAGI	**Jajag, Banyuwa**	**2.84**	**268**			**Pn**	**18 27 31.0**	**+0.7**
JAGI						Sn	**18 28 04.8**	**-0.3**

KMMI Kalianget 3.31 294 P **Pn** **18 27 40.4 +4.1**
WSI Waingapu 3.48 112 P **Pn** **18 27 40.3 +1.8**
GMJI Gumukmas 3.54 272 P **Pn** **18 27 40.5 +1.2**
KAPI Kappang 4.31 39 Pn Pn 18 27 54.0 +4.6
BKSI Bulukumba 4.33 46 P Pn 18 27 54.5 +4.8
GRJI Gresik 4.73 288 P **Pn** **18 27 58.6 +3.6**
BNSI Bone 5.01 38 P Pn 18 28 04.8 +6.1
34nm,0.8s,0.1nm
MMRI Maumere 5.17 93 P **Pn** **18 28 01.5 +0.7**
90nm,0.6s,0.4nm0.4nm
MMRI Maumere 5.17 93 **Pn** **18 28 01.8 +1.0**
MMRI Sn **Sn** **18 29 03.0 +3.2**
PWJI Pagerwojo 5.18 274 P **Pn** **18 28 01.7 +0.8**
99nm,0.6s,0.6nm0.6nm
SPSI Sidrap Palu 5.18 32 P Pn 18 28 05.7 +4.8
17nm,1.1s,0.1nm
PCJI Pacitan 5.79 272 P **Pn** **18 28 10.5 +1.5**
53nm,0.7s,0.7nm
TTSI Tana Toraja 6.00 28 P Pn 18 28 17.7 +5.8
21nm,0.8s,0.1nm
WOJI Wonogiri, Jawa 6.06 275 P **Pn** **18 28 14.8 +2.1**
45nm,1.4s,0.3nm
UGM Wanagama 6.45 274 P **Pn** **18 28 20.3 +2.4**
UGM Wanagama 6.45 274 Pn **Pn** **18 28 19.3 +1.4**
UGM Sn **Sn** **18 29 29.9 -0.5**
BATI Baumata 6.80 106 P **Pn** **18 28 22.4 -0.2**
9.8nm,0.3s,baz=301,slow=2.5,SNR=13
BATI S **Sn** **18 29 36.7 -2.3**
9.3nm,0.3s,baz=299,slow=19,SNR=2.8
BKB Balikpapan 7.08 359 Pn **Pn** **18 28 28.3 +1.9**
SOEI Soe 7.29 101 **Pn** **18 28 29.9 +0.7**
CISI Cisompet, Garu 9.15 275 Pn **Pn** **18 28 52.7 -1.4**
CISI **Sn** **18 33 33.7 -2.5**
LUWI Luwuk 9.28 38 Pn **Pn** **18 28 54.4 -1.4**
LEM Lembang 9.45 279 LR LR 18 33 46.7
comp=Z,32nm,18.3s,baz=340,slow=45
SBUM Sibu 11.78 336 Pn **Pn** **18 29 27.5 -1.4**
FITZ Fitzroy Crossi 12.78 140 P **Pn** **18 29 41.6 -0.3**
0.2nm,0.3s,baz=323,slow=8.9,SNR=11
FITZ S Sn 18 31 54.6 -8.5
1.3nm,0.3s,baz=180,slow=17,SNR=14
FITZ Fitzroy Crossi 12.78 140 **Pn** **18 29 41.2 -0.7**
FITZ Sn 18 31 49.0 -14
PSA00 Pilbara Seismi 13.39 169 Pn **Pn** **18 29 47.5 -2.1**
KNRA Kununurra 13.57 123 **Pn** **18 29 51.4 -0.5**
SAUI Saumlaki 14.14 89 P **Pn** **18 30 01.7 -0.7**
GIRL Giralia 14.42 190 Pn **Pn** **18 30 03.4 +0.7**
MNAI Manna 14.54 285 **Pn** **18 30 03.9 -0.3**
MTN Manton Dam 14.56 109 **Pn** **18 30 02.3 -2.1**
SIJI Sorong 16.04 63 P **P** **18 30 25.5 +2.1**
2.2nm,0.3s,baz=260,slow=5.8,SNR=18
FAKI Fak Fak 16.09 71 **Pn** **18 30 22.7 -0.8**
FAKI IAmb IAmb 18 30 25.2
comp=Z,106nm,1.7s
WRAB Tennant Creek 20.32 126 P **P** **18 31 10.2 0.0**
MORW Morawa 20.59 182 P **P** **18 31 13.6 +0.7**
MORW IAmb IAmb 18 31 41.9
comp=Z,59nm,1.6s
GSI Gunungsitoli 21.64 296 P **P** **18 31 23.7 -0.6**
GSI IAmb IAmb 18 31 51.9
comp=Z,28nm,1.6s
AS31 Alice Springs 22.19 135 P **P** **18 31 30.3 +0.4**
ASAR Alice Springs 22.19 135 P **P** **18 31 30.5 +0.6**
comp=Z,1.9nm,0.4s,baz=308,slow=9.1,SNR=78
ASAR PcP **PcP** **18 35 21.6 +0.3**
comp=Z,0.5nm,0.6s,baz=325,slow=1.1,SNR=5.1
ASAR ScP **ScP** **18 38 43.6 -1.7**
comp=Z,0.5nm,0.7s,baz=337,slow=2.3,SNR=5.7
NWAO Narrogin (SRO) 24.42 180 P **P** **18 31 50.7 +0.3**
NWAO IAmb IAmb 18 32 02.4
comp=Z,50nm,1.7s
NWAO Narrogin (SRO) 24.42 180 P **P** **18 31 50.7 +0.3**
NWAO IAmb IAmb 18 32 02.3
comp=Z,68nm,1.8s
FORT Forrest 24.55 157 P **P** **18 31 52.2 +0.7**
FORT IAmb IAmb 18 31 54.5
comp=Z,16nm,0.7s
COEN Coen 26.24 105 P **P** **18 32 08.9 +1.9**
COEN IAmb IAmb 18 32 12.0
comp=Z,9.1nm,0.8s
PMG Port Moresby 29.79 94 P **P** **18 32 34.7 -3.9**
BBOO Buckleboo 30.02 147 P **P** **18 32 39.0 -1.5**
CMAR Chiang Mai Arr 32.09 326 P **P** **18 33 00.3 +1.6**
comp=Z,0.7nm,0.9s,baz=153,slow=6.7,SNR=4.8
CMAR PcP **PcP** **18 35 44.8 -0.1**
comp=Z,0.3nm,0.6s,baz=192,slow=1.7,SNR=4.2
CMAR ScP **ScP** **18 39 13.7 -1.4**
comp=Z,0.3nm,0.6s,baz=186,slow=2.6,SNR=4.1
CMAR Chiang Mai Arr 32.09 326 P **P** **18 32 58.1 -0.6**
CMAR **PcP** **18 35 45.3 +0.4**
CMAR **ScP** **18 39 13.4 -1.7**
NACB Ninganchiao 32.67 8 P 18 33 13.9 +10
NACB IAmb IAmb 18 33 44.5
comp=Z,17nm,0.9s
STKA Stephens Creek 32.68 139 P **P** **18 33 04.9 +1.1**
comp=Z,1.6nm,0.5s,baz=322,slow=9.2,SNR=10
STKA Stephens Creek 32.68 139 P **P** **18 33 03.1 -0.7**
JOW Kunigami 36.68 17 P **P** **18 33 36.4 -1.8**
JOW IAmb IAmb 18 34 10.1
comp=Z,35nm,1.5s
ANA2 Anatahan 37.55 49 P **P** **18 33 43.7 -2.0**
TOO Toolangi 38.82 143 P **P** **18 33 59.0 +2.9**
TOO IAmb IAmb 18 34 36.1
comp=Z,41nm,1.8s
CAN Canberra 39.67 137 P **P** **18 34 05.5 +2.3**
CAN IAmb IAmb 18 34 44.7
comp=Z,27nm,1.4s
USRK Ussuriysk Ar. 54.07 13 P **P** **18 35 56.4 +1.6**
comp=Z,0.8nm,0.5s,baz=198,slow=6.8,SNR=4.1
**USRK Ussuriysk

comp=Z,0.3nm,0.4s,baz=169,slow=2.6,SNR=4.9
NVAR Mina Array Bea 122.13 50 PKP **PKiKP 18 45 25.5 +1.9**
comp=Z,0.2nm,0.6s,baz=270,slow=1.8,SNR=2.4
CPUP Villa Florida 145.05 189 PKPbc **PKPab 18 46 06.7 +0.8**
comp=Z,3.5nm,0.5s,baz=178,slow=2.5,SNR=16
CPUP Villa Florida 145.05 189 PKPdf 18 46 07.3 +1.1
BDFB Brasilia 151.90 212 PKPbc **PKPbc 18 46 24.6 +0.4**
comp=Z,0.7nm,0.3s,baz=95,slow=1.8,SNR=3.1
BDFB PKPab **PKPab 18 46 35.0 +1.3**
comp=Z,0.6nm,0.3s,baz=199,slow=5.5,SNR=4.4
LPAZ La Paz 154.96 168 PKPab **PKPab 18 46 48.7 +1.5**
comp=Z,1.5nm,0.6s,baz=189,slow=6.0,SNR=7.0

JMA 31 18:35:32.2±0.2, 37.37N×144.56E, h40km, M3.9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.62**	**292**	P	Pn	18 36 13.8	+1.8
JIKH				*e*S	Sn	18 36 44.3	+1.7
JIO	**Ouri**	**2.76**	**294**	P	Pn	18 36 15.6	+1.7
JIO				*e*S	Sn	18 36 48.1	+2.1
JKMT	**Kesennumamotoy**	**2.83**	**302**	P	Pn	18 36 16.4	+1.6
JKMT				S	Sn	18 36 49.5	+1.8
OFUJ	**Ofunato**	**2.85**	**308**	P	Pn	18 36 16.5	+1.4
OFUJ				*e*S	Sn	18 36 49.4	+1.3
JMK	**Ichinoseki**	**3.07**	**302**	P	Pn	18 36 20.1	+1.9
JMK				*e*S	Sn	18 36 55.7	+2.1
JOU	**Okura**	**3.24**	**289**	P	Pn	18 36 22.9	+2.4
JOU				*e*S	Sn	18 37 00.9	+3.0
JOM	**Ohasama**	**3.32**	**310**	P	Pn	18 36 23.4	+1.8
JOM				*e*S	Sn	18 37 01.5	+1.8
JFT	**Otama**	**3.36**	**274**	P	Pn	18 36 24.8	+2.6
JFT				S	Sn	18 37 03.8	+2.9
JYK	**Kaneyama**	**3.66**	**296**	P	Pn	18 36 29.0	+2.8
JRG	**Rokugo**	**3.69**	**304**	P	Pn	18 36 29.4	+2.7
JRG				*e*S	Sn	18 37 12.9	+4.0
JAH	**Hinai**	**4.16**	**314**	P	Pn	18 36 36.0	+2.8
JTM	**Tenmabayashi**	**4.36**	**323**	*e*S	Sn	18 37 25.0	-0.5
JRY	**Ryogami san**	**4.74**	**255**	P	Pn	18 36 42.1	+0.9
JRY				*e*S	Sn	18 37 34.0	-1.0
JOD2	**Odawara 2**	**4.89**	**246**	P	Pn	18 36 44.1	+0.8
JOD2				*e*S	Sn	18 37 37.9	-0.7
MAT	**Matsushiro**	**5.15**	**263**	P	Pn	18 36 49.8	+3.0
MAT				*e*S	Sn	18 37 48.0	+2.9
JKB	**Kayabe**	**5.27**	**330**	P	Pn	18 36 50.1	+1.7
JCH	**Churui**	**5.32**	**350**	P	Pn	18 36 48.7	-0.3
JCH				*e*S	Sn	18 37 46.0	-3.0
NEM2	**Nemuro 2**	**6.06**	**8**	P	Pn	18 36 56.2	-2.9
NEM2				*e*S	Sn	18 38 00.8	-6.3
JTKR	**Abashiri--Toko**	**6.61**	**356**	P	Pn	18 37 06.3	-0.5
JTKR				*e*S	Sn	18 38 16.9	-3.9

BEO ***31*** *18:39:17.0±1.0, 39.90N×15.94E, h33km, ML3.2/4*
ROM 31 18:39:14.6±0.1, 41.384N±0.004×14.417E±0.005, h14km, ML2.6/27, Error ellipse: s-maj=0.5km s-min=0.1km az=35.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTRJ	**Pietraroja**	**0.09**	**103**	P	Pg	18 39 17.6	-0.1
PTRJ				S	Sg	18 39 19.9	+0.1
PTRJ				AML	AML		
	comp=E,51550μm,0.3s						
PTRJ				AML	AML		
	comp=N,33400μm,1.0s						
PTRJ				AML	AML		
	comp=E,51550μm,0.3s						
PTRJ				AML	AML		
	comp=N,33400μm,1.0s						
VAGA	**Valle Agricola**	**0.14**	**283**	P	Pb	18 39 18.8	-0.3
VAGA				S	Sb	18 39 21.8	-0.2
VAGA				AML	AML		
	comp=E,7955μm,0.6s						
VAGA				AML	AML		
	comp=N,16300μm,0.5s						
VAGA				AML	AML		
	comp=E,8390μm,0.6s						
VAGA				AML	AML		
	comp=N,16250μm,0.5s						
VAGA				AML	AML		
	comp=N,16850μm,0.5s						
VAGA				AML	AML		
	comp=E,7965μm,0.6s						
BSSO	**Busso**	**0.21**	**39**	P	Pg	18 39 19.7	+0.3
BSSO				S	Sg	18 39 23.3	+0.7
BSSO				AML	AML		
	comp=E,4890μm,1.4s						
BSSO				AML	AML		
	comp=N,6095μm,0.6s						
BSSO				AML	AML		
	comp=E,2050μm,0.8s						
BSSO				AML	AML		
	comp=N,2420μm,0.6s						
SACR	**S. Croce Del S**	**0.22**	**86**	P	Pg	18 39 19.5	0.0
SACR				S	Sb	18 39 23.8	-0.4
SACR				AML	AML		
	comp=E,2090μm,0.7s						
SACR				AML	AML		
	comp=N,1930μm,0.8s						
SACR				AML	AML		
	comp=E,2115μm,0.7s						
SACR				AML	AML		
	comp=N,1990μm,0.8s						
SACR				AML	AML		
	comp=N,1935μm,0.8s						
PIGN	**Pignataro Magg**	**0.26**	**224**	P	Pg	18 39 20.4	+0.3
PIGN				S	Sb	18 39 24.5	-0.7
PIGN				AML	AML		
	comp=N,1435μm,0.3s						
PIGN				AML	AML		
	comp=E,1364μm,0.8s						
PIGN				AML	AML		
	comp=E,1365μm,0.8s						
PIGN				AML	AML		
	comp=N,1375μm,0.3s						
PIGN				AML	AML		
	comp=E,1326μm,0.8s						
PIGN				AML	AML		
	comp=N,1430μm,0.3s						
MIDA	**Miranda**	**0.29**	**335**	P	Pg	18 39 20.5	-0.1
MIDA				S	Sg	18 39 25.2	+0.5
MIDA				AML	AML		
	comp=N,1680μm,0.5s						
MIDA				AML	AML		
	comp=E,1695μm,0.7s						
PSB1	**Pescosannita**	**0.34**	**118**	P	Pg	18 39 21.6	+0.1
PSB1				AML	AML		
	comp=E,940μm,1.0s						
PSB1				AML	AML		
	comp=N,1135μm,1.0s						
PSB1				AML	AML		
	comp=E,925μm,0.7s						
PSB1				AML	AML		
	comp=N,1140μm,1.0s						
PSB1				AML	AML		
	comp=E,938μm,1.0s						
PSB1				AML	AML		
	comp=N,1140μm,1.0s						
PSB1				AML	AML		
	comp=E,926μm,0.7s						
CERA	**Filignano**	**0.37**	**306**	P	Pb	18 39 22.7	-0.2
CERA				AML	AML		
	comp=N,1186μm,0.4s						
CERA				AML	AML		
	comp=N,1180μm,0.4s						
CERA				AML	AML		
	comp=E,1530μm,0.3s						
CERA				AML	AML		
	comp=N,1226μm,0.4s						
CERA				AML	AML		
	comp=E,1490μm,0.3s						
PAOL	**Paolisi**	**0.37**	**162**	P	Pg	18 39 22.0	-0.1
PAOL				AML	AML		
	comp=N,775μm,0.2s						
PAOL				AML	AML		
	comp=E,810μm,0.4s						
PAOL				AML	AML		
	comp=N,775μm,0.2s						
PAOL				AML	AML		
	comp=N,818μm,0.2s						
PAOL				AML	AML		
	comp=E,802μm,0.2s						
RNI2	**Rionero Sannit**	**0.38**	**328**	P	Pg	18 39 22.3	+0.1
RNI2				AML	AML		
	comp=N,1550μm,0.6s						
RNI2				AML	AML		
	comp=E,1500μm,0.9s						
RNI2				AML	AML		
	comp=E,1605μm,0.9s						
RNI2				AML	AML		
	comp=N,1585μm,0.6s						
GATE	**Gambatesa**	**0.39**	**71**	P	Pb	18 39 23.1	-0.3
GATE				AML	AML		
	comp=E,751μm,0.5s						
GATE				AML	AML		
	comp=N,773μm,0.4s						
GATE				AML	AML		
	comp=E,378μm,0.9s						
GATE				AML	AML		
	comp=N,898μm,0.4s						
GATE				AML	AML		
	comp=E,750μm,0.5s						
GATE				AML	AML		
	comp=E,378μm,0.9s						
GATE				AML	AML		
	comp=N,898μm,0.4s						
TRIV	**Trivento**	**0.40**	**15**	P	Pg	18 39 22.7	+0.2
TRIV				S	Sb	18 39 28.7	-0.6
TRIV				AML	AML		
	comp=E,1052μm,0.6s						
TRIV				AML	AML		
	comp=E,1053μm,0.6s						
TRIV				AML	AML		
	comp=N,869μm,0.3s						
TRIV				AML	AML		
	comp=E,1052μm,0.6s						
CIGN	**Sant'Elia a Pi**	**0.46**	**53**	P	Pg	18 39 23.7	+0.1
MODR	**Mondragone**	**0.47**	**240**	P	Pg	18 39 24.2	+0.3
MODR				AML	AML		
	comp=E,2075μm,0.8s						
MODR				AML	AML		
	comp=N,1560μm,0.6s						
MODR				AML	AML		
	comp=N,1555μm,0.6s						
MRB1	**Monte Rocchett**	**0.49**	**121**	P	Pg	18 39 24.4	+0.1
MRB1				AML	AML		
	comp=E,1136μm,1.5s						
MRB1				AML	AML		
	comp=N,1615μm,0.8s						
MRB1				AML	AML		
	comp=E,1181μm,1.5s						
MRB1				AML	AML		
	comp=N,1590μm,0.8s						
MRB1				AML	AML		
	comp=E,1134μm,1.5s						
MRB1				AML	AML		
	comp=N,1615μm,0.8s						
MRB1				AML	AML		
	comp=E,1180μm,1.5s						
MOCO	**Biccari - m.te**	**0.56**	**91**	P	Pg	18 39 25.8	+0.2
MOCO				AML	AML		
	comp=N,156μm,0.8s						
MOCO				AML	AML		
	comp=E,350μm,0.5s						
MOCO				AML	AML		
	comp=N,165μm,0.6s						
MOCO				AML	AML		
	comp=N,156μm,0.8s						
MOCO				AML	AML		
	comp=E,351μm,0.5s						
MOCO				AML	AML		
	comp=N,166μm,0.6s						
MOCO				AML	AML		
	comp=E,338μm,0.5s						
MELA	**Melanico ??? S**	**0.62**	**59**	P	Pg	18 39 26.3	-0.5
MELA				AML	AML		
	comp=E,1132μm,0.6s						
MELA				AML	AML		
	comp=N,954μm,0.3s						
MELA				AML	AML		
	comp=N,1006μm,0.3s						
MELA				AML	AML		
	comp=N,956μm,0.3s						
MELA				AML	AML		
	comp=E,1134μm,0.6s						
MELA				AML	AML		
	comp=E,1125μm,0.6s						
POFI	**Posta Fibreno**	**0.63**	**302**	P	Pg	18 39 26.6	-0.2
POFI				AML	AML		
	comp=E,311μm,0.4s						
POFI				AML	AML		
	comp=N,276μm,0.7s						
POFI				AML	AML		
	comp=E,310μm,0.4s						
POFI				AML	AML		
	comp=N,276μm,0.7s						
LPEL	**Lama dei Peligni**	**0.69**	**345**	P	Pg	18 39 27.0	-1.0
LPEL				AML	AML		
	comp=E,670μm,1.2s						
LPEL				AML	AML		
	comp=N,479μm,0.2s						
LPEL				AML	AML		
	comp=E,670μm,1.2s						
INTR	**Introdacqua**	**0.74**	**329**	P	Pg	18 39 28.3	-0.6
INTR				AML	AML		
	comp=E,622μm,0.7s						
INTR				AML	AML		
	comp=N,925μm,0.4s						
SNAL	**S. Angelo Dei**	**0.75**	**127**	P	Pg	18 39 29.2	0.0
SNAL				AML	AML		
	comp=E,320μm,0.7s						
SNAL				AML	AML		
	comp=N,316μm,0.9s						
SNAL				AML	AML		
	comp=N,317μm,0.9s						
MCRV	**Calabrutti - M**	**0.83**	**136**	P	Pg	18 39 29.8	-0.8
MCRV				AML	AML		
	comp=E,460μm,0.6s						
MCRV				AML	AML		
	comp=N,506μm,0.4s						
MCRV				AML	AML		
	comp=E,459μm,0.6s						
MCRV				AML	AML		
	comp=N,507μm,0.4s						
GIUL	**Giuliano Di Ro**	**0.89**	**282**	P	Pg	18 39 32.1	+0.3
GIUL				AML	AML		
	comp=E,135μm,0.9s						
GIUL				AML	AML		
	comp=N,114μm,0.7s						
PTQR	**Pietraquaria**	**0.99**	**310**	P	Pb	18 39 33.3	-0.3
PTQR				AML	AML		
	comp=E,100μm,1.5s						
PTQR				AML	AML		
	comp=N,93μm,0.6s						
PTQR				AML	AML		
	comp=E,101μm,1.5s						
MRLC	**Muro Lucano**	**1.02**	**127**	P	Pb	18 39 33.8	-0.2
MRLC				AML	AML		
	comp=E,210μm,0.5s						
MRLC				AML	AML		
	comp=N,158μm,0.8s						
MRLC				AML	AML		
	comp=E,213μm,0.5s						
MRLC				AML	AML		
	comp=N,156μm,0.5s						
MRLC				AML	AML		
	comp=N,159μm,0.8s						
SGRT	**San Giovanni R**	**1.06**	**69**	P	Pb	18 39 34.4	-0.3
SGRT				AML	AML		
	comp=E,528μm,0.6s						
SGRT				AML	AML		
	comp=N,454μm,0.4s						
LATB	**Latina**	**1.10**	**276**	P	Pb	18 39 34.5	-0.8
LATB				AML	AML		
	comp=E,54μm,0.8s						
LATB				AML	AML		
	comp=N,42μm,1.6s						
LATB				AML	AML		
	comp=N,42μm,1.6s						
LATB				AML	AML		
	comp=E,54μm,0.8s						
MSAG	**Monte S. Angel**	**1.17**	**73**	P	Pn	18 39 36.4	-0.1
MSAG				AML	AML		
	comp=N,682μm,0.4s						
MSAG				AML	AML		
	comp=E,360μm,1.6s						
MSAG				AML	AML		
	comp=E,356μm,1.6s						
MSAG				AML	AML		
	comp=N,648μm,0.4s						
MSAG				AML	AML		
	comp=N,683μm,0.4s						
TERO	**Teramo**	**1.38**	**334**	P	Pn	18 39 39.7	+0.3
EL6	**Elcito**	**2.17**	**334**	P	Pb	18 39 53.6	-0.1
COR1	**Corinaldo**	**2.48**	**335**	P	Pb	18 39 59.0	+0.2
COR1				S	Sb	18 40 30.0	+0.8
STON	**Ston**	**2.86**	**58**	*e*Pn	Pn	18 40 00.4	+0.7
STON	**Ston**	**2.86**	**58**	*e*Pn	Pn	18 40 00.2	+0.5
DBRK	**Dubrovnik**	**3.06**	**64**	*e*Pn	Pn	18 40 03.2	+0.7
TREB	**Trebinje**	**3.22**	**64**	*e*Pn	Pn	18 40 05.7	+1.1
TREB				*e*Sn	Sn	18 40 44.2	+1.4
TREB	**Trebinje**	**3.22**	**64**	*e*Pn	Pn	18 40 05.5	+0.9
BRY	**Bratogost**	**3.42**	**62**	*e*Pn	Pn	18 40 08.0	+0.4
DRME	**Dracevica, Mon**	**3.65**	**76**	*e*Pn	Pn	18 40 11.8	+1.2
PDG	**Podgorica**	**3.76**	**72**	*e*Pn	Pn	18 40 11.1	-1.0
PDG				*e*Sn	Sn	18 40 51.0	-5.1
PDG	**Podgorica**	**3.76**	**72**	*e*Pn	Pn	18 40 13.6	+1.5
UPM	**Unac-Piva**	**3.79**	**60**	*e*Pn	Pn	18 40 14.1	+1.4
HAPS	**Han Pijesak,Bl**	**4.29**	**50**	*e*Pn	Pn	18 40 20.4	+0.9
BBLS	**Lazići**	**4.44**	**54**	*e*Pn	Pb	18 40 27.2	-5.1
BBLS				*e*Sn	Sn	18 41 18.9	+6.0
BBLS	**Lazići**	**4.44**	**54**	*e*Pn	Pn	18 40 22.4	+0.9
SJES	**Sjenica**	**4.53**	**64**	*e*Pn	Pn	18 40 24.0	+1.3
SJES				*e*Sn	Sn	18 41 13.5	-1.7
IVAS	**Ivanjica**	**4.77**	**61**	*e*Pn	Pn	18 40 27.2	+1.1
DIVS	**Divibare**	**4.92**	**55**	*e*Pn	Pn	18 40 31.3	+3.2
DIVS	**Divibare**	**4.92**	**55**	*e*Pn	Pn	18 40 28.8	+0.7
OBKA	**Obir**	**5.12**	**1**	Pn	Pn	18 40 32.1	+1.2
	comp=N,0.8nm,0.2s						
OBKA				*e*Sn	Sn	18 41 30.2	+0.3
	comp=N,2.5nm,0.7s						
TRUS	**Trudelj**	**5.24**	**55**	*e*Pn	Pn	18 40 33.3	+0.9
GRUS	**Gruza**	**5.28**	**60**	*e*Pn	Pn	18 40 33.9	+1.0
SELS	**Selova**	**5.30**	**68**	*e*Pn	Pn	18 40 32.9	-0.3
ZAPS	**Zavoj**	**6.38**	**70**	*e*Sn	Sn	18 41 47.4	-13
MOA	**Molln**	**6.47**	**359**	*e*Pn	Pn	18 40 51.5	+2.2
	comp=N,0.3nm,0.2s						

ISC 31 18:39:19.3±2.6, 41.8N±0.1×14.53E±0.07, h01km, n10, σ1°01/17, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.99**	**302**	*e*Pn	**Pn**	**18 39 40.4**	**-0.1**
HVAR	**Hvar**	**1.96**	**46**	*e*Pn	**Pn**	**18 39 52.5**	**-1.3**
HVAR					Sn	**18 40 21.8**	**-0.4**
ZIRJ	**Zirje**	**2.00**	**24**	*e*Pn	**Pn**	**18 39 54.1**	**-0.3**
ZIRJ					Sn	**18 40 23.3**	**-0.2**
DUGI	**Dugi Otok**	**2.19**	**10**	*e*Pn	**Pn**	**18 39 56.6**	**-0.4**
DUGI					Sn	**18 40 27.6**	**0.0**
MORI	**Morici**	**2.21**	**23**	*e*Pn	**Pn**	**18 39 56.5**	**-0.8**
RICI	**Ricice**	**2.54**	**48**	*e*Pn	**Pn**	**18 40 00.4**	**-1.4**
RICI					Sn	**18 40 35.6**	**+2.1**
KIJV	**Kijevo**	**2.57**	**32**	*e*Pn	**Pn**	**18 40 02.0**	**-0.3**
KIJV					Sn	**18 40 38.4**	**-0.1**
NVLJ	**Novalja**	**2.74**	**5**	*i*Pn	**Pn**	**18 40 03.6**	**-0.9**
NVLJ					Sn	**18 40 42.4**	**-0.9**
UDBI	**Udbina**	**2.84**	**18**	*i*Pn	**Pn**	**18 40 06.2**	**+0.2**
UDBI					Sn	**18 40 46.3**	**-0.1**
MGRS	**Mrkonjic Grad**	**3.19**	**35**	*e*Pn	**Pn**	**18 40 12.6**	**+1.8**

WEL 31 18:50:00.2, 40.S±3.×17.4E±., h90km±7km, M3.5/48, ML3.9/8, MLv3.5/48, Error ellipse: s-maj=0.0km s-min=0.0km az=47.3, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.43**	**189**	P	Pn	18 50 15.0	+0.5
DUWZ				S	Sn	18 50 26.4	+1.3
KIW	**Kapiti Island**	**0.84**	**126**	P	Pn	18 50 18.7	+0.7
KIW				S	Sn	18 50 31.7	+0.2
TCW	**Tory Channel**	**0.86**	**167**	P	Pn	18 50 19.3	+1.0
TCW				S	Sn	18 50 33.2	+1.4
LREZ	**Lake Rotokare**	**0.96**	**18**	P	Pn	18 50 20.0	+0.7
NMEZ	**Namu Road**	**0.96**	**354**	P	Pn	18 50 19.5	+0.1
NMEZ				S	Sn	18 50 34.3	+0.5
WAZ	**Wanganui**	**0.97**	**51**	P	Pn	18 50 20.5	+1.0
NNZ	**Nelson**	**0.97**	**209**	P	Pn	18 50 20.0	+0.5
NNZ				S	Sn	18 50 35.0	+1.0
OGWZ	**Otaki Gorge**	**0.99**	**117**	P	Pn	18 50 20.3	+0.6
OHWZ	**Ohakea**	**1.01**	**81**	P	Pn	18 50 21.0	+1.1
PREZ	**Palmer Road**	**1.03**	**6**	P	Pn	18 50 20.5	+0.3
TUWZ	**Tuamarina**	**1.06**	**183**	P	Pn	18 50 20.9	+0.4
KHEZ	**Kahui Hut**	**1.08**	**0**	P	Pn	18 50 20.9	0.0
CAW	**Cannon Point**	**1.09**	**133**	P	Pn	18 50 21.6	+0.7
NBEZ	**Newall Road No**	**1.11**	**354**	P	Pn	18 50 21.1	+0.1
PKE	**Pukeiti**	**1.18**	**359**	P	Pn	18 50 21.9	0.0
DREZ	**Durham Road**	**1.19**	**7**	P	Pn	18 50 22.3	+0.2
QRZ	**Quartz Range**	**1.22**	**248**	P	Pn	18 50 21.8	-0.6
BHW	**Baring Head**	**1.22**	**148**	P	Pn	18 50 22.9	+0.5
MRZ	**Mangatainoka R**	**1.23**	**104**	P	Pn	18 50 22.8	+0.3
HOWZ	**Holdsworth Sta**	**1.26**	**115**	P	Pn	18 50 23.3	+0.4
MHEZ	**Mangahewa**	**1.32**	**11**	P	Pn	18 50 23.8	+0.2
POWZ	**Post Office Ro**	**1.34**	**91**	P	Pn	18 50 24.5	+0.6
BSWZ	**Blackbirch Sta**	**1.34**	**184**	P	Pn	18 50 25.0	+1.1
VRZ	**Vera Road**	**1.37**	**25**	P	Pn	18 50 24.6	+0.3
MTW	**Mount Morrison**	**1.38**	**125**	P	Pn	18 50 24.5	+0.1
CMWZ	**Cape Campbell**	**1.38**	**174**	P	Pn	18 50 28.0	+3.6
MSWZ	**Moikau Station**	**1.40**	**138**	P	Pn	18 50 25.1	+0.4
PAWZ	**Paruwai Farm**	**1.47**	**134**	P	Pn	18 50 25.9	+0.3
TIWZ	**Tintock**	**1.48**	**106**	P	Pn	18 50 25.8	+0.1
PKVZ	**Pokaka**	**1.49**	**44**	P	Pn	18 50 26.4	+0.6
MTVZ	**Mangateitei**	**1.49**	**49**	P	Pn	18 50 26.3	+0.5
PRWZ	**Pori Road**	**1.51**	**98**	P	Pn	18 50 26.4	+0.5
PLWZ	**Palliser**	**1.52**	**142**	P	Pn	18 50 26.4	+0.2
TSZ	**Takapari Road**	**1.52**	**79**	P	Pn	18 50 26.0	-0.3
TRVZ	**Turoa**	**1.60**	**48**	P	Pn	18 50 28.1	+0.7
TMWZ	**Te Maipa**	**1.60**	**118**	P	Pn	18 50 27.6	+0.4
DRZ	**Dome Shelter**	**1.62**	**48**	P	Pn	18 50 28.9	+1.2
THZ	**Tophouse**	**1.62**	**211**	P	Pn	18 50 28.0	+0.5
FWVZ	**Far West T-bar**	**1.63**	**47**	P	Pn	18 50 28.1	+0.4
WHVZ	**Whangaehu Hut**	**1.63**	**49**	P	Pn	18 50 28.3	+0.6
TRWZ	**Traveller**	**1.63**	**129**	P	Pn	18 50 28.0	+0.4
DVHZ	**Dannevirke**	**1.65**	**88**	P	Pn	18 50 27.3	-0.5
MOVZ	**Moawhango**	**1.65**	**55**	P	Pn	18 50 27.8	-0.1
TUVZ	**Tukino**	**1.68**	**49**	P	Pn	18 50 29.1	+0.8
TWVZ	**Taurewa**	**1.70**	**41**	P	Pn	18 50 28.8	+0.2
NGZ	**Ngauruhoe**	**1.71**	**46**	P	Pn	18 50 29.3	+0.6
BFZ	**Birch Farm**	**1.73**	**101**	P	Pn	18 50 28.7	-0.1
PNHZ	**Pukenui**	**1.74**	**75**	P	Pn	18 50 28.4	-0.6
WTVZ	**West Tongariro**	**1.75**	**45**	P	Pn	18 50 29.5	+0.3
CPWZ	**Castlepoint**	**1.75**	**109**	P	Pn	18 50 29.7	+0.7
KRVZ	**Karewarewa**	**1.79**	**45**	P	Pn	18 50 30.0	+0.3
BHHZ	**Black Hill Sta**	**1.81**	**61**	P	Pn	18 50 29.3	-0.6
ANWZ	**Angora Road**	**1.88**	**93**	P	Pn	18 50 30.7	-0.1
WPHZ	**Waipukurau**	**1.89**	**81**	P	Pn	18 50 30.4	-0.5
KATZ	**Kakaramea**	**1.91**	**43**	P	Pn	18 50 31.8	+0.5
KRHZ	**Kereru**	**1.95**	**69**	P	Pn	18 50 31.0	-0.7
HIZ	**Hauiti**	**1.97**	**20**	P	Pn	18 50 31.5	-0.4
RITZ	**Rihia Road**	**1.99**	**46**	P	Pn	18 50 32.4	+0.1
PRHZ	**Porangahau**	**2.01**	**88**	P	Pn	18 50 31.9	-0.5
RATZ	**Rangitukua**	**2.03**	**43**	P	Pn	18 50 33.9	+1.1
KHZ	**Kahutara**	**2.07**	**190**	P	Pn	18 50 33.6	+0.4
KWHZ	**Kaweka Forest**	**2.08**	**64**	P	Pn	18 50 32.7	-0.8
WATZ	**Wairara**	**2.13**	**39**	P	Pn	18 50 35.1	+1.0
DSZ	**Denniston Nort**	**2.16**	**230**	P	Pn	18 50 34.1	-0.3
HATZ	**Hinemaiaia**	**2.18**	**48**	P	Pn	18 50 33.7	-1.1
PXZ	**Pawanui**	**2.21**	**82**	P	Pn	18 50 34.3	-0.8
MCHZ	**McNeill Hill**	**2.26**	**67**	P	Pn	18 50 34.8	-1.0
KAHZ	**Kahuranaki**	**2.27**	**76**	P	Pn	18 50 35.2	-0.8
TLZ	**Tolley Road**	**2.36**	**31**	P	Pn	18 50 37.0	-0.1
MRHZ	**Matea Rd**	**2.41**	**51**	P	Pn	18 50 38.4	+0.5
ARHZ	**Aropaoanui**	**2.55**	**65**	P	Pn	18 50 38.2	-1.5
ALRZ	**Allen Road**	**2.55**	**46**	P	Pn	18 50 41.5	+1.8
MTHZ	**Maungataniwha**	**2.66**	**56**	P	Pn	18 50 39.8	-1.4
GVZ	**Greta Valley S**	**2.69**	**195**	P	Pn	18 50 41.0	-0.5
LTZ	**Lake Taylor**	**2.74**	**208**	P	Pn	18 50 42.5	+0.3
RAHZ	**Arahi**	**2.78**	**59**	P	Pn	18 50 46.3	+3.5
RRRZ	**Republican Roa**	**2.81**	**44**	P	Pn	18 50 45.2	+2.1
MUGZ	**Murupara**	**2.85**	**49**	P	Pn	18 50 42.1	-1.6
TARZ	**Mount Tarawera**	**2.88**	**43**	P	Pn	18 50 46.7	+2.5
TOZ	**Tahuroa Road**	**2.88**	**24**	P	Pn	18 50 43.4	-0.7
KMRZ	**Kaimai**	**2.94**	**31**	P	Pn	18 50 44.9	+0.1
INZ	**Inchbonnie**	**3.04**	**219**	P	Pn	18 50 46.2	+0.1
KNZ	**Kokohu**	**3.13**	**66**	P	Pn	18 50 44.7	-2.7
URZ	**Urewera**	**3.20**	**50**	P	Pn

MKAZ	**Moumakai**	**3.38**	**16**	P	Pn	18 50 50.2	-0.6
MWZ	**Matawai**	**3.40**	**54**	P	Pn	18 50 52.8	+1.7
OKCZ	**Okains Bay**	**3.42**	**192**	P	Pn	18 50 50.4	-0.9
MQZ	**McQueen's Vall**	**3.48**	**196**	P	Pn	18 50 50.4	-1.7
ETAZ	**East Tamaki Re**	**3.49**	**12**	P	Pn	18 50 51.8	-0.5
AKCZ	**Akaroa Harbour**	**3.59**	**193**	P	Pn	18 50 52.2	-1.4
WVZ	**Waitaha Valley**	**3.65**	**221**	P	Pn	18 50 54.4	+0.1
MBAZ	**Motutapu North**	**3.66**	**11**	P	Pn	18 50 54.3	-0.4
WIAZ	**Waiheke Island**	**3.68**	**14**	P	Pn	18 50 54.6	-0.3
RUGZ	**Raukumara Rang**	**3.73**	**51**	P	Pn	18 50 53.2	-2.3
ABAZ	**Army Bay**	**3.82**	**10**	P	Pn	18 50 56.5	-0.2
KUZ	**Kuaotunu**	**3.86**	**21**	P	Pn	18 50 56.1	-1.2
RPZ	**Rata Peaks**	**4.00**	**212**	P	Pn	18 51 00.4	+1.2
FOZ	**Fox Glacier**	**4.45**	**223**	P	Pn	18 51 04.5	-0.7
OUZ	**Omahuta**	**5.15**	**356**	P	Pn	18 51 14.8	-0.1
ODZ	**Otahua Downs**	**5.29**	**207**	P	Pn	18 51 15.8	-0.8
JCZ	**Jackson Bay**	**5.36**	**225**	P	Pn	18 51 17.0	-0.7

*IDC **31** 18:57:43.7±1.4, 7°.00S×109°.18E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.2/39, mbtmp3.4/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/26, Error ellipse: s-maj=42.1km s-min=13.7km az=14.0*

*ISCJB **31** 18:57:45.1±1.7, 8°.34S±0°.08×107°.77E±0°.05, h30km±10km, MS3.1/1, Error ellipse: s-maj=13.9km s-min=6.4km az=28.4*

*DJA **31** 18:57:46.2±0.6, 8°S±3°×10°8E±°, h20km±5km, M3.2/13, mb1.9/1, MLv3.8/13*

ISC 31 18:57:44.3±2.1, 8°.34S±0°.10×107°.70E±0°.05, h25km±15km, n18, σ1§20/22, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.79**	**8**	P	**Pb**	**18 57 59.7**	**+0.3**
CISI				S	**Sb**	**18 58 10.6**	**+0.8**
CMJI	**Cimerak**	**0.92**	**53**	P	**Pb**	**18 58 00.9**	**-0.8**
CMJI				S	**Sb**	**18 58 11.5**	**-2.0**
CNJI	**Cibinong**	**1.17**	**331**	P	**Pb**	**18 58 06.5**	**+0.6**
CNJI				S	**Sn**	**18 58 20.1**	**-0.3**
LEM	**Lembang**	**1.51**	**357**	Pg	**Pb**	**18 58 12.1**	**+0.4**
	44nm,0.3s,baz=91,slow=5.0,SNR=40						
LEM				Lg	Lg	18 58 33.3	
	35nm,0.3s,baz=154,slow=18,SNR=14						
LEM	**Lembang**	**1.51**	**357**	P	**Pb**	**18 58 12.4**	**+0.7**
KPJI	**Karang Pucung**	**1.58**	**51**	P	**Pn**	**18 58 11.7**	**+1.0**
KPJI				S	**Sn**	**18 58 29.7**	**-0.6**
SKJI	**Sukabumi**	**1.75**	**319**	P	**Pn**	**18 58 14.7**	**+1.6**
SKJI				S	**Sn**	**18 58 35.5**	**+0.9**
DBJI	**Dramaga**	**2.01**	**332**	P	**Pb**	**18 58 19.9**	**-0.3**
YOGI	**Yogyakarta**	**2.62**	**79**	P	**Pn**	**18 58 25.5**	**+0.4**
UGM	**Wanagama**	**2.83**	**82**	P	**Pn**	**18 58 28.5**	**+0.6**
SMRI	**Semarang**	**3.00**	**65**	P	**Pn**	**18 58 32.1**	**+1.7**
WOJI	**Wonogiri, Jawa**	**3.23**	**81**	P	**Pn**	**18 58 35.3**	**+1.8**
PCJI	**Pacitan**	**3.44**	**88**	P	**Pn**	**18 58 37.0**	**+0.6**
LWLI	**Liwa**	**4.90**	**312**	P	**Pn**	**18 58 54.9**	**-1.6**
ASAR	**Alice Springs**	**29.35**	**124**	P	**P**	**19 03 46.0**	**+0.5**
	0.2nm,0.9s,baz=294,slow=9.0,SNR=2.8						
STKA	**Stephens Creek**	**39.23**	**131**	P	**P**	**19 05 11.6**	**+0.7**
	6.0nm,1.4s,baz=312,slow=12,SNR=4.2						
GUMO	**Guam**	**42.85**	**60**	LR	LR	19 25 00.0	
	comp=Z,24nm,18.0s,baz=100,slow=40						
MKAR	**Makanchi Array**	**59.38**	**340**	P	**P**	**19 07 42.6**	**-1.9**
	0.1nm,0.4s,baz=143,slow=8.1,SNR=5.4						

*ISCJB **31** 19:06:49.0±0.4, 43°.78N±0°.03×105°.25W±0°.04, h0km, mb3.7/1, Error ellipse: s-maj=4.8km s-min=4.6km az=27.7*

*IDC **31** 19:06:50.4±1.2, 43°.87N×105°.60W, h0km, mb3.7/1, mb1 3.6/5, mb1mx3.4/43, mbtmp3.4/5, ML2.7/3, Error ellipse: s-maj=33.2km s-min=8.5km az=147.0*

*NEIC **31** 19:06:50.7±1.8, 43°.77N±0°.05×105°.27W±0°.06, h0km±2km, ML3.3/66*

ISC 31 19:06:49.9±1.0, 43°.78N±0°.06×105°.29W±0°.07, h0km, n61, σ1§35/58, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.96**	**69**		**Pb**	**19 07 08.9**	**-0.7**
RSSD				IAML		19 07 29.7	
	138nm,0.5s						
RSSD				IAML		19 07 30.4	
	153nm,0.5s						
K22A	**Casper**	**1.45**	**219**		**Pn**	**19 07 15.9**	**-1.6**
K22A				IAML		19 07 38.7	
	comp=E,245nm,0.7s						
PHWY	**Pilot Hill**	**2.48**	**183**		**Pn**	**19 07 32.0**	**+0.2**
PHWY				IAML		19 08 12.9	
	comp=E,55nm,0.7s						
RWWY	**Rawlins**	**2.52**	**215**		**Pn**	**19 07 32.9**	**+0.5**
RWWY				IAML		19 08 07.8	
	comp=E,153nm,0.7s						
RWWY				IAML		19 08 08.3	
	comp=E,160nm,0.8s						
N23A	**Red Feather La**	**2.92**	**190**		**Pn**	**19 07 38.9**	**+1.0**
N23A				IAML		19 08 21.9	
	comp=N,106nm,0.7s						
N23A				IAML		19 08 24.9	
	comp=E,70nm,0.6s						
LAO	**LASA Array**	**2.98**	**348**		**Pn**	**19 07 38.9**	**+0.4**
LAO				IAML		19 08 30.5	
	comp=E,174nm,0.7s						
LAO				IAML		19 08 36.6	
	comp=E,172nm,0.8s						
RLMT	**Red Lodge**	**3.15**	**297**		**Pn**	**19 07 41.0**	**-0.1**
RLMT				IAML		19 08 31.9	
	comp=E,50nm,0.6s						
RLMT				IAML		19 08 35.9	
	comp=E,44nm,0.8s						
BW06	**Boulder Array**	**3.28**	**254**		**Pn**	**19 07 43.2**	**+0.4**
BW06				IAML		19 08 39.9	
	comp=E,41nm,0.6s						
BW06				IAML		19 08 41.5	
	comp=N,46nm,0.9s						
PD31	**Pinedale Array**	**3.28**	**254**		**Pn**	**19 07 43.2**	**+0.4**
PDAR	**Pinedale Array**	**3.28**	**254**	Pn	**Pn**	**19 07 44.0**	**+1.2**
	comp=N,4.7nm,0.3s,baz=65,slow=17,SNR=86						
PDAR				Lg	Lg	19 08 26.8	
	comp=N,2.4nm,0.3s,baz=75,slow=35,SNR=4.2						
PDAR	**Pinedale Array**	**3.28**	**254**		**Pn**	**19 07 43.6**	**+0.8**
YNE	**Yellowstone No**	**3.60**	**292**		**Pn**	**19 07 47.1**	**-0.1**
YNE				IAML		19 08 44.7	
	comp=N,69nm,0.7s						
YNE				IAML		19 08 46.9	
	comp=E,84nm,0.6s						
YMP	**Mirror Lake Pl**	**3.63**	**287**		**Pn**	**19 07 48.2**	**+0.5**
YMP				IAML		19 08 46.8	
	comp=E,91nm,0.6s						
YMP				IAML		19 08 49.5	
	comp=N,84nm,0.5s						
OGNE	**Ogallala**	**3.72**	**138**		**Pn**	**19 07 50.6**	**+2.0**
OGNE				IAML		19 08 54.3	
	comp=N,147nm,0.7s						
OGNE				IAML		19 08 57.2	
	comp=N,122nm,0.8s						
LKWY	**Lake**	**3.76**	**284**		**Pn**	**19 07 50.2**	**+0.8**
H17A	**Grant Village**	**3.86**	**281**		**Pn**	**19 07 52.7**	**+1.9**
H17A				IAML		19 08 54.5	
	comp=N,40nm,0.7s						
H17A				IAML		19 08 54.8	
	comp=E,21nm,1.1s						
FLWY	**Flagg Ranch**	**3.92**	**276**		**Pn**	**19 07 53.1**	**+1.5**
FLWY				IAML		19 08 59.9	
	comp=E,33nm,1.0s						
FLWY				IAML		19 09 08.0	
	comp=E,34nm,1.6s						
MOOW	**Moose Ponds**	**3.96**	**271**		**Pn**	**19 07 53.5**	**+1.4**
MOOW				IAML		19 09 16.0	
	comp=E,8.0nm,4.9s						
MOOW				IAML		19 09 26.4	
	comp=E,11nm,4.2s						
ISCO	**Idaho Springs**	**3.98**	**184**		**Pn**	**19 07 54.2**	**+1.7**
ISCO				IAML		19 09 00.5	
	comp=E,18nm,0.8s						
ISCO				IAML		19 09 00.9	
	comp=E,16nm,0.8s						
SNOW	**Snow King Moun**	**3.98**	**267**		**Pn**	**19 07 55.4**	**+2.9**
SNOW				IAML		19 08 58.3	
	comp=E,38nm,1.1s						
SNOW				IAML		19 09 11.7	
	comp=E,37nm,0.7s						
YNR	**Norris Junctio**	**3.99**	**285**		**Pn**	**19 07 55.0**	**+2.4**
YNR				IAML		19 08 22.2	
	comp=E,16nm,0.5s						
YNR				IAML		19 09 28.4	
	comp=N,17nm,4.9s						
YPP	**Pitchstone Pla**	**4.01**	**279**		**Pn**	**19 07 55.2**	**+2.3**
YPP				IAML		19 09 03.2	
	comp=N,23nm,4.3s						
YPP				IAML		19 09 04.3	
	comp=E,21nm,2.5s						
REDW	**Red Top Meadow**	**4.07**	**266**		**Pn**	**19 07 54.7**	**+1.1**
REDW				IAML		19 09 05.7	
	comp=E,50nm,0.9s						
REDW				IAML		19 09 08.6	
	comp=E,35nm,0.7s						
IMW	**Indian Meadow**	**4.09**	**274**		**Pn**	**19 07 55.1**	**+1.1**
IMW				IAML		19 09 05.5	
	comp=E,38nm,0.6s						
IMW				IAML		19 09 21.9	
	comp=E,22nm,0.8s						
TPAW	**Teton Pass**	**4.12**	**268**		**Pn**	**19 07 54.4**	**0.0**
TPAW				IAML		19 09 11.8	
	comp=E,47nm,1.0s						
TPAW				IAML		19 09 12.3	
	comp=E,28nm,0.8s						
FXWY	**Fox Creek**	**4.17**	**270**		**Pn**	**19 07 55.4**	**+0.5**
FXWY				IAML		19 09 04.3	
	comp=E,13nm,2.8s						
FXWY				IAML		19 09 23.8	
	comp=E,9.0nm,3.6s						
YMR	**Madison River**	**4.18**	**284**		**Pn**	**19 07 54.4**	**-0.7**
YMR				IAML		19 09 13.3	
	comp=N,40nm,2.2s						
YMR				IAML		19 09 25.5	
	comp=E,32nm,1.1s						
O20A	**White River Ci**	**4.26**	**212**		**Pn**	**19 07 57.0**	**+0.9**
O20A				IAML		19 09 13.6	
	comp=E,46nm,0.8s						
O20A				IAML		19 09 20.5	
	comp=N,42nm,0.8s						
YHB	**Horse Butte**	**4.36**	**285**		**Pn**	**19 07 58.1**	**+0.6**
YHB				IAML		19 08 59.9	
	comp=E,15nm,4.6s						
YHB				IAML		19 09 10.0	
	comp=N,26nm,4.3s						
AHID	**Auburn Hatcher**	**4.37**	**259**		**Pn**	**19 08 00.6**	**+2.9**
AHID				IAML		19 09 13.0	
	comp=N,41nm,0.8s						
AHID				IAML		19 09 14.9	
	comp=E,30nm,0.7s						
YHL	**Hebgen Lake**	**4.37**	**286**		**Pn**	**19 07 58.6**	**+0.8**
YHL				IAML		19 09 16.7	
	comp=E,28nm,0.8s						
YHL				IAML		19 09 20.1	
	comp=N,33nm,0.8s						
RDMU	**Red Mountain**	**4.52**	**226**		**Pn**	**19 08 02.0**	**+2.2**
RDMU				IAML		19 09 19.7	
	comp=E,25nm,1.0s						
RDMU				IAML		19 09 22.0	
	comp=N,30nm,0.8s						
QLMT	**Earthquake Lak**	**4.53**	**286**		**Pn**	**19 08 01.1**	**+1.1**
DGMT	**Dagmar**	**4.75**	**9**		**Pn**	**19 08 04.2**	**+1.4**
DGMT				IAML		19 09 24.2	
	comp=N,125nm,0.8s						
DGMT				IAML		19 09 30.3	
	comp=N,83nm,0.7s						
SMCO	**Snowmass**	**4.77**	**196**		Pn	19 08 09.2	+5.8
SMCO				IAML		19 08 57.7	
	comp=N,18nm,4.9s						
SMCO				IAML		19 09 31.1	
	comp=N,22nm,0.7s						
HWUT	**Hardware Ranch**	**5.11**	**247**		**Pn**	**19 08 08.4**	**+0.5**
HWUT				IAML		19 09 36.3	
	comp=N,27nm,1.1s						
HWUT				IAML		19 09 46.7	
	comp=N,35nm,0.9s						
KSCO	**Kaye Shedlock'**	**5.17**	**156**		**Pn**	**19 08 09.4**	**+0.8**
KSCO				IAML		19 09 35.9	
	comp=N,54nm,0.9s						
KSCO				IAML		19 09 54.3	
	comp=E,78nm,0.8s						
TCUT	**Toone Canyon**	**5.25**	**242**		**Pn**	**19 08 09.7**	**-0.3**
TCUT				IAML		19 09 48.2	
	comp=N,106nm,0.7s						
TCUT				IAML		19 09 52.6	
	comp=E,71nm,0.8s						
EGMT	**Eagleton**	**5.27**	**325**		**Pn**	**19 08 10.6**	**+0.6**
EGMT				IAML		19 09 45.7	
	comp=E,45nm,0.8s						
EGMT				IAML		19 09 48.1	
	comp=E,46nm,1.1s						
JLU	**Jordanelle**	**5.57**	**237**		**Pn**	**19 08 15.8**	**+1.6**
MDND	**Maddock**	**5.69**	**42**		**Pn**	**19 08 14.1**	**-1.5**
SPUT	**South Promonto**	**5.84**	**247**		**Pn**	**19 08 18.7**	**+0.8**
P17A	**Bucher Ranch,**	**5.93**	**225**		**Pn**	**19 08 18.0**	**-1.2**
SDCO	**Great Sand Dun**	**6.03**	**182**		**Pn**	**19 08 20.9**	**+0.3**
SRU	**San Rafael Swe**	**6.10**	**222**		**Pn**	**19 08 22.0**	**+0.5**
S22A	**4UR Ranch, Cre**	**6.14**	**192**		**Pn**	**19 08 23.0**	**+0.9**
ECSD	**EROS Data Cent**	**6.28**	**87**		**Pn**	**19 08 24.9**	**+1.1**
TMUT	**Trail Mountain**	**6.31**	**227**		**Pn**	**19 08 24.3**	**-0.1**
NLU	**North Lily Min**	**6.35**	**235**		**Pn**	**19 08 26.2**	**+1.3**
BGU	**Big Grassy Mou**	**6.41**	**246**		**Pn**	**19 08 27.6**	**+2.0**
Q16A	**Castle Valley**	**6.57**	**224**		**Pn**	**19 08 28.1**	**+0.1**
T25A	**Trinidad**	**6.67**	**174**		**Pn**	**19 08 30.3**	**+1.0**
ELK	**Elko**	**7.98**	**251**	Pn	**Pn**	**19 08 46.8**	**-0.5**
	comp=E,0.1nm,0.3s,baz=70,slow=12,SNR=3.7						
PSUT	**Pine Spring**	**8.32**	**234**		**Pn**	**19 08 53.4**	**+1.4**
I10CA	**LAC DU BONNET**	**9.01**	**41**	*i*		20 02 20.0	
	baz=225,slow=335,SNR=3.7						
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**Pn**	**19 09 02.5**	**-0.2**
	comp=E,0.9nm,0.3s,baz=230,slow=11,SNR=13						
ULM				Lg	Lg	19 11 32.3	
	comp=E,0.3nm,0.3s,baz=150,slow=20,SNR=2.7						
W13A	**Hualapai Mount**	**10.92**	**220**		**Pn**	**19 09 24.0**	**-3.6**
NVAR	**Mina Array Bea**	**11.18**	**246**	Pn	**Pn**	**19 09 32.7**	**+1.5**
	comp=E,0.1nm,0.3s,baz=53,slow=13,SNR=4.9						
TXAR	**Lajitas Array**	**14.47**	**174**	Pg	P	19 11 17.5	+54
	baz=353,slow=18,SNR=2.4						
TXAR				Lg	Lg	19 14 24.8	
	comp=E,0.0nm,0.3s,baz=358,slow=19,SNR=3.4						
MKAR	**Makanchi Array**	**89.56**	**355**	P	**P**	**19 19 48.0**	**-1.1**
	comp=E,0.3nm,0.6s,baz=9.5,slow=3.8,SNR=4.1						
MKAR	**Makanchi Array**	**89.56**	**355**	P	**P**	**19 19 48.8**	**-0.4**

NNC 31 19:20:41.4±6.9, 37°.22N×70°.76E, h0km, mb3.7, mpv3.4, 2C-2D, Error ellipse: s-maj=56.3km s-min=42.1km az=164.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.88**	**358**	⇑Pn	Pn	19 22 10.5	+0.6
	0.6nm,0.3s,baz=181,slow=13,SNR=62						
KK31				⇓Sn	Sn	19 23 21.1	+3.1
	4.1nm,0.5s,baz=182,slow=21						
AAK	**Ala-Archa**	**6.13**	**27**	Pn	Pn	19 22 15.1	+1.7
	2.6nm,0.6s						
AAK				Sn	Sn	19 23 23.0	-1.2
	7.0nm,0.9s						
TKM2	**Tokmak 2**	**6.80**	**32**	⇓Pn	Pn	19 22 22.2	-0.4
	5.7nm,1.2s						
TKM2				⇑Sn	Sn	19 23 41.5	+0.7
	2.3nm,0.8s						
AB31	**Akbulak array**	**14.36**	**330**	P	Pn	19 24 02.7	-3.2
	0.7nm,0.7s,baz=162,slow=11,SNR=11						

*ISK **31** 19:27:16.8, 37°.40N×27°.03E, h4km, ML2.5/12*

*ISCJB **31** 19:27:17.2±0.4, 37°.40N±0°.03×27°.00E±0°.04, h18km±8km, Error ellipse: s-maj=5.1km s-min=4.1km az=157.2*

*ATH **31** 19:27:17.1, 37°.42N×26°.88E, h22km±1km, ML2.1/2, Error ellipse: s-maj=2.4km s-min=1.1km az=93.0*

ISC 31 19:27:16.9±1.1, 37°.40N±0°.03×27°.00E±0°.03, h19km±3km, n22, σ0§66/30, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIDI	**Didim-Aydin**	**0.20**	**96**	PG	**Pg**	**19 27 21.1**	**-0.8**
SMG	**Samos**	**0.34**	**338**	P	**Pg**	**19 27 23.4**	**-0.8**
SMG				S	**Sb**	**19 27 28.5**	**-0.9**
SMG				AML	AML	19 27 30.0	
	comp=E,726μm,0.2s						
SMG				AML	AML	19 27 32.1	
	comp=N,641μm,0.2s						
YKAV	**Yalikavak-Bodr**	**0.35**	**140**	PG	**Pg**	**19 27 24.2**	**-0.2**
YKAV				SG	**Sg**	**19 27 29.9**	**+0.4**
GCAM	**G?zelcaml?**	**0.36**	**32**	PG	**Pg**	**19 27 24.5**	**0.0**
GCAM				SG	**Sg**	**19 27 29.9**	**+0.2**
BODT	**Bodrum**	**0.42**	**143**	PG	**Pg**	**19 27 25.2**	**-0.4**
BODT				SG	**Sg**	**19 27 31.7**	**+0.3**
MLSB	**Milas**	**0.63**	**99**	PG	**Pg**	**19 27 28.8**	**-0.7**
KOSK	**Kos Island**	**0.64**	**181**	PG	**Pb**	**19 27 30.2**	**+0.7**
GMLD	**Gumuldur**	**0.68**	**355**	PG	**Pb**	**19 27 30.7**	**+0.5**
NISR	**Nisiros**	**0.79**	**172**	P	**Pb**	**19 27 33.3**	**+1.2**
DAT	**Datca**	**0.81**	**145**	PG	**Pg**	**19 27 32.8**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.90**	**52**	PG	**Pg**	**19 27 34.4**	**-0.1**
BLCB	**Balcova**	**0.99**	**2**	PG	**Pn**	**19 27 36.3**	**+0.5**
URLA	**Izmir**	**1.01**	**342**	PG	**Pn**	**19 27 37.0**	**+0.8**
AMGA	**Amorgos Island**	**1.04**	**238**	P	**Pg**	**19 27 36.7**	**-0.5**
AMGA				S	**Sb**	**19 27 49.6**	**-0.1**
AMGA				AML	AML	19 27 52.8	
	comp=N,383μm,0.6s						
AMGA				AML	AML	19 27 53.5	
	comp=E,306μm,0.4s						
YER	**Yerkesik**	**1.06**	**104**	PG	**Pb**	**19 27 37.4**	**+0.7**
APE	**Apeiranthos**	**1.21**	**255**	P	**Pn**	**19 27 38.8**	**-0.2**
APE				S	**Sb**	**19 27 53.8**	**-0.8**
APE	**Apeiranthos**	**1.21**	**255**	PN	**Pn**	**19 27 39.2**	**+0.2**
CHOS	**Chios island**	**1.24**	**323**	P	**Pb**	**19 27 39.7**	**-0.1**
CHOS				S	**Sn**	**19 27 55.6**	**0.0**
CHOS	**Chios island**	**1.24**	**323**	PN	**Pn**	**19 27 39.5**	**+0.2**
TURN	**Turunc**	**1.39**	**112**	PN	**Pn**	**19 27 39.5**	**-1.8**
IOSP	**Ios island**	**1.52**	**244**	P	**Pb**	**19 27 44.3**	**-0.2**
IOSP				S	**Sb**	**19 28 03.8**	**+0.3**
SIGR	**SIGRI**	**2.02**	**334**	P	**Pn**	**19 27 50.7**	**+0.6**

ISK 31 19:43:18.4, 37°.41N×27°.04E, h3km, ML3.0/13, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIDI	**Didim-Aydin**	**0.16**	**103**	PG	Pg	19 43 22.8	+1.3
GCAM	**G?zelcaml?**	**0.32**	**28**	PG	Pg	19 43 25.6	+1.0
GCAM				SG	Sg	19 43 31.7	-0.8
YKAV	**Yalikavak-Bodr**	**0.34**	**147**	PG	Pg	19 43 25.7	+0.7
YKAV				SG	Sb	19 43 31.8	-1.2
BODT	**Bodrum**	**0.41**	**149**	PG	Pg	19 43 26.8	+0.5
BODT				SG	Sb	19 43 33.3	-1.7
MLSB	**Milas**	**0.59**	**101**	PG	Pg	19 43 30.4	+0.6
KOSK	**Kos Island**	**0.66**	**185**	PG	Pb	19 43 32.2	-0.4
GMLD	**Gumuldur**	**0.67**	**351**	PG	Pb	19 43 32.2	-0.5
DAT	**Datca**	**0.81**	**148**	PG	Pb	19 43 34.9	-0.2
DATC	**Datca-Mugla**	**0.82**	**143**	PG	Pb	19 43 35.3	0.0
AYDB	**Zeytinkoy-Aydi**	**0.86**	**51**	PG	Pg	19 43 35.3	+0.5
BLCB	**Balcova**	**0.97**	**360**	PG	Pb	19 43 37.7	-0.2
URLA	**Izmir**	**1.01**	**340**	PG	Pb	19 43 38.5	-0.1
YER	**Yerkesik**	**1.03**	**105**	PG	Pb	19 43 39.0	+0.1
CHOS	**Chios island**	**1.25**	**321**	PN	Pg	19 43 42.2	-0.1
TURN	**Turunc**	**1.36**	**113**	PN	Pn	19 43 40.8	-3.4
FETY	**Fethiye**	**1.81**	**115**	PN	Pb	19 43 51.6	-0.6
AKAS	**Kas**	**2.37**	**119**	PN	Pn	19 43 59.8	+1.5
ELL	**Elmali**	**2.38**	**105**	PN	Pn	19 43 59.8	+1.3

*BEO **31** 19:43:25.2±1.4, 38°.52N×26°.83E, h10km, ML3.2/3*

*ATH **31** 19:43:42.6, 39°.69N×25°.54E, h14km±3km, ML3.0/8, Error ellipse: s-maj=3.3km s-min=1.2km az=78.0*

*THE **31** 19:43:43.1, 39°.68N×25°.59E, h10km±2km, ML2.8/6, Error ellipse: s-maj=2.7km s-min=0.8km az=106.0*

ISC 31 19:43:42.8±1.1, 39°.67N±0°.02×25°.56E±0°.02, h4km±10km, n48, σ1§65/66, 6C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFSA	**Agios Efstrati**	**0.46**	**254**	P	**Pg**	**19 43 52.0**	**+0.4**
EFSA				S	**Sg**	**19 43 58.8**	**+1.2**
EFSA				AML	AML	19 43 59.1	
	comp=E,4730μm,0.4s						
EFSA				AML	AML	19 43 59.3	
	comp=N,3717μm,0.4s						
SIGR	**SIGRI**	**0.51**	**153**	P	**Pg**	**19 43 52.3**	**-0.2**
SIGR				S	**Sg**	**19 43 59.9**	**+0.8**
	comp=N,4μm,0.3s						
SIGR	**SIGRI**	**0.51**	**153**	P	**Pg**	**19 43 52.5**	**0.0**
SIGR				S	**Sg**	**19 43 59.7**	**+0.6**
SIGR				AML	AML	19 44 00.5	
	comp=E,6949μm,0.2s						
SIGR				AML	AML	19 44 00.7	
	comp=N,8183μm,0.4s						
GADA	**Gvkgeada**	**0.58**	**26**	P	**Pg**	**19 43 53.9**	**-0.1**
EZN	**Ezine**	**0.61**	**75**	P	**Pg**	**19 43 53.9**	**-0.5**
EZN				S	**Sg**	**19 44 02.0**	**-0.4**
	comp=N,2μm,0.3s						
PRK	**Paraskevi**	**0.69**	**127**	P	**Pb**	**19 43 56.9**	**-0.5**
PRK				S	**Sb**	**19 44 06.7**	**-0.5**
	comp=N,2μm,0.4s						
PRK	**Paraskevi**	**0.69**	**127**	P	**Pb**	**19 43 56.8**	**-0.5**
PRK				S	**Sb**	**19 44 07.0**	**-0.2**
PRK				AML	AML	19 44 10.9	
	comp=E,3270μm,0.4s						
PRK				AML	AML	19 44 11.6	
	comp=N,3336μm,0.4s						
SMTH	**Samothraki Isl**	**0.80**	**358**	P	**Pg**	**19 43 58.1**	**-0.1**
SMTH				S	**Sb**	**19 44 10.1**	**-0.4**
	comp=N,538nm,0.4s						
SMTH	**Samothraki Isl**	**0.80**	**358**	P	**Pg**	**19 43 58.0**	**-0.2**
SMTH				S	**Sg**	**19 44 08.8**	**+0.1**
SMTH				AML	AML	19 44 12.0	
	comp=N,1479μm,0.4s						
SMTH				AML	AML	19 44 18.9	
	comp=E,1253μm,0.5s						
SKY	**Skiros Island**	**1.11**	**225**	P	**Pb**	**19 44 02.1**	**-2.4**
SKY				S	**Sb**	**19 44 18.7**	**-0.7**
SKY				AML	AML	19 44 20.1	
	comp=N,1134μm,0.2s						
SKY				AML	AML	19 44 20.9	
	comp=E,1290μm,0.2s						
PSRA	**Psara**	**1.12**	**180**	P	**Pb**	**19 44 04.2**	**-0.5**
PSRA				S	**Sn**	**19 44 20.9**	**-0.1**
PSRA				AML	AML	19 44 21.8	
	comp=N,1538μm,0.4s						
PSRA				AML	AML	19 44 23.8	
	comp=E,1920μm,0.5s						
THAS	**Thassos island**	**1.14**	**326**	P	**Pb**	**19 44 04.4**	**-0.6**
THAS	**Thassos island**	**1.14**	**326**	P	**Pb**	**19 44 04.7**	**-0.3**
THAS				S	**Sb**	**19 44 19.3**	**-0.9**
ALN	**Alexandroupoli**	**1.28**	**17**	P	**Pn**	**19 44 06.5**	**-0.9**
ALN				S	**Sb**	**19 44 22.

ARR	Arges	5.74	353	⇑P		Pn	19 45 10.6	+1.8
MLR	Muntele Rosu	5.83	3	⇓P		Pn	19 45 13.4	+3.4
DIVS	Divibare	6.07	319	*e*Pn		Pn	19 45 15.6	+2.2
GZR	Gura Zlata	6.08	341	⇑P		Pn	19 45 15.9	+2.4
PLOR	Plostina	6.23	7	⇑P		Pn	19 45 20.0	+4.5
VRI	Vrincioaia	6.25	7	⇑P		Pn	19 45 20.0	+4.2
DOPR	Dopca	6.30	359	⇓P		Pn	19 45 19.5	+3.1
TESR	Tescani	6.89	6	⇑P		Pn	19 45 28.3	+3.9
BURAR	Bucovina Array	7.95	358	⇑P		Pn	19 45 42.2	+3.0

IDC ***31*** *19:53:50.7±1.3,5.°25S×153.°84E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.6/43, mbtmp3.7/10, ML4.0/1, Error ellipse: s-maj=32.0km s-min=27.1km az=121.0*

ISCJB ***31*** *19:53:57.1±0.8,5.°28S±0.°09×153.°7E±0.°1, h56km, mb3.6/9, Error ellipse: s-maj=16.8km s-min=11.9km az=14.4*

NEIC ***31*** *19:54:04.2±0.8,5.°2S±0.°1×153.°4E±0.°2, h94km±13km, mb4.7/8*

ISC 31 19:53:59.2±1.0,5.°12S±0.°10×153.°7E±0.°1, h56km, n25, σ1§45/22, mb3.9/13, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.86**	**296**	Pn	**Pn**	**19 54 26.9**	**-1.8**
	53nm,0.3s,baz=93,slow=2.9,SNR=15						
KRVT				Sn	**Sn**	**19 54 52.9**	**+1.7**
	50nm,0.3s,baz=194,slow=19,SNR=4.3						
HNR	**Honiara**	**7.53**	**125**	Pn	Pn	19 55 54.7	+8.3
PMG	**Port Moresby**	**7.76**	**236**		**Pn**	**19 55 49.8**	**+0.2**
SARN	**Sarigan**	**23.06**	**340**	P	**P**	**19 59 01.5**	**+1.5**
MTN	**Manton Dam**	**23.56**	**249**	P	**P**	**19 59 07.5**	**+2.6**
MTN				IAmb	IAmb	19 59 47.1	
	comp=Z,29nm,1.4s						
WRAB	**Tennant Creek**	**23.91**	**230**	P	**P**	**19 59 06.6**	**-1.5**
ARMA	**Armidale**	**25.24**	**184**	P	**P**	**19 59 22.7**	**+2.5**
ARMA				IAmb	IAmb	20 00 07.1	
	comp=Z,26nm,1.9s						
ASAR	**Alice Springs**	**26.53**	**224**	P	**P**	**19 59 30.6**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=56,slow=9.2,SNR=6.5						
ASAR	**Alice Springs**	**26.53**	**224**	P	**P**	**19 59 30.4**	**-1.5**
KNRA	**Kununurra**	**26.65**	**245**	P	**P**	**19 59 32.1**	**-0.8**
KNRA				IAmb	IAmb	20 00 22.6	
	comp=Z,61nm,1.7s						
H11S3	**WAKE ISLAND Hy**	**26.73**	**28**	T	T	20 28 02.7	
	baz=213						
H11S2	**WAKE ISLAND Hy**	**26.74**	**28**	T	T	20 27 54.8	
	baz=213						
H11S1	**WAKE ISLAND Hy**	**26.75**	**28**	T	T	20 27 56.5	
	baz=213						
FITZ	**Fitzroy Crossi**	**30.30**	**242**	P	**P**	**20 00 04.0**	**-1.5**
	comp=Z,1.9nm,0.9s,baz=63,slow=11,SNR=5.7						
FITZ	**Fitzroy Crossi**	**30.30**	**242**	P	**P**	**20 00 03.7**	**-1.8**
FITZ				IAmb	IAmb	20 01 11.6	
	comp=Z,30nm,2.0s						
FORT	**Forrest**	**35.12**	**220**	P	**P**	**20 00 46.1**	**-1.3**
FORT				IAmb	IAmb	20 00 47.5	
	comp=Z,21nm,0.9s						
CMAR	**Chiang Mai Arr**	**58.83**	**295**	P	**P**	**20 03 52.0**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=119,slow=5.6,SNR=5.6						
SONM	**Songino Array**	**67.08**	**327**	P	**P**	**20 04 47.8**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=145,slow=5.1,SNR=7.9						
SONM	**Songino Array**	**67.08**	**327**	P	**P**	**20 04 47.7**	**+0.9**
MKAR	**Makanchi Array**	**81.16**	**319**	P	**P**	**20 06 09.6**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=92,slow=7.5,SNR=5.1						
ZALV	**Zalesovo Beam**	**81.92**	**326**	P	**P**	**20 06 13.5**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=98,slow=6.0,SNR=2.9						
ILAR	**Eielson Array**	**82.12**	**22**	P	**P**	**20 06 12.6**	**-0.9**
	comp=Z,0.5nm,1.0s,baz=234,slow=6.2,SNR=3.2						
KURBB	**Kurchatov Arra**	**84.61**	**322**	P	**P**	**20 06 26.2**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=89,slow=5.3,SNR=3.5						
BVAR	**Borovoye Array**	**90.04**	**323**	P	**P**	**20 06 52.4**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=83,slow=3.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**151.26**	**288**	PKPbc	**PKiKP**	**20 13 48.3**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=76,slow=2.3,SNR=17						

ISCJB ***31*** *20:01:03.7±0.6,19.°12N±0.°01×120.°29E±0.°01, h1km±4km, mb5.7/308, MS5.4/111, Error ellipse: s-maj=2.4km s-min=2.0km az=160.9*

IDC ***31*** *20:01:05.4±0.3,19.°05N×120.°33E, h0km, mb5.3/54, mb1 5.3/56, mb1mx5.3/64, mbtmp5.3/56, ML4.2/3, MS5.2/35, Ms1 5.2/35, ms1mx5.1/45, Error ellipse: s-maj=9.7km s-min=7.7km az=71.0*

NEIC ***31*** *20:01:06.5±1.8,19.°12N±0.°05×120.°27E±0.°07, h11km±2km, mb5.8/354, Ms_20 5.3/173, Mwb5.7, Mww5.7, Mwc5.7(GCMT), Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr-2.40; Mθθ1.78; Mφφ0.62; Mrθ-2.48; Mθφ1.23; Mφr-2.01; Fault plane solution: Mo4.04000×10^17 NP1:φs243.72000°, δ19.24000°, λ-79.14000°. NP2:φs52.23000°, δ71.12000°, λ-93.76000°. Principal axes: T 4.1122, Plg26.0000°, Azm145.0000°; N -0.1425, Plg4.0000°, Azm53.0000°; P -3.9697, Plg64.0000°, Azm316.0000°;*

MOS ***31*** *20:01:06.3±0.8,19.°08N×120.°36E, h21km, mb5.9/130, MS5.5/67 Error ellipse: s-maj=5.4km s-min=3.3km az=109.9*

MAN ***31*** *20:01:07.2,19.°14N×120.°14E, h34km, mb5.9, ML5.0, MS5.5*

MAN Intensity III - Laoag City; Sarrat Ilocos Norte.

GCMT ***31*** *20:01:07.5±0.1,19.°13N±0.°01×120.°23E±0.°01, h12km, MW5.7/165, Moment Tensor Solution. s142,c251; s165,c346; Duration: 1§6 Moment tensor: Scale 10^17 Nm; Mrr-3.77±.03; Mθθ2.46±.03; Mφφ1.31±.03; Mrθ0.54±.09; Mθφ1.50±.03; Mφr0.49±.09; Best double couple: Mo3.70300×10^17 NP1:φs234.00000°, δ51.00000°, λ-92.00000°. NP2:φs57.00000°, δ39.00000°, λ-88.00000°. Principal axes: T 3.5630, Plg6.0000°, Azm325.0000°; N 0.2810, Plg1.0000°, Azm235.0000°; P -3.8440, Plg84.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***31*** *20:01:07.1±0.0,19.°40N×120.°10E, h5km, mb5.6/68, mB5.9/61, Ms5.9/93, Ms7 5.8/86*

KLM ***31*** *20:01:09.0,19.°21N×120.°34E, h38km, mb5.7*

NEIC ***31*** *20:01:09,19.°15N×120.°28E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr-3.97; Mθθ2.51; Mφφ1.46; Mrθ0.20; Mθφ1.59; Mφr-0.09; Fault plane solution: Mo3.83000×10^17 NP1:φs237.00000°, δ46.00000°, λ-87.00000°. NP2:φs52.00000°, δ44.00000°, λ-94.00000°. Principal axes: T 3.6610, Plg1.0000°, Azm324.0000°; N 0.3184, Plg2.0000°, Azm54.0000°; P -3.9794, Plg87.0000°, Azm216.0000°;*

NEIC ***31*** *20:01:11,19.°09N×120.°33E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr-4.19; Mθθ2.69; Mφφ1.50; Mrθ-0.99; Mθφ1.13; Mφr-0.79; Fault plane solution: Mo4.05000×10^17 NP1:φs57.00000°, δ54.00000°, λ-92.00000°. NP2:φs240.00000°, δ36.00000°, λ-87.00000°. Principal axes: T 3.5763, Plg9.0000°, Azm148.0000°; N 0.8216, Plg2.0000°, Azm58.0000°; P -4.3979, Plg81.0000°, Azm318.0000°;*

ISC 31 20:01:06.9±0.4,19.°06N±0.°02×120.°32E±0.°03, h13km±2km, h13km: pP-P, n1745, σ1§32/1893, mb5.7/450, MS5.4/172, 65C-70D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**1.14**	**174**	⇓P	**Pg**	**20 01 28.8**	**0.0**
ABRA	**Dolores**	**1.45**	**165**	P	**Pn**	**20 01 33.3**	**+0.5**
ABRA				S	**Sb**	**20 01 52.2**	**+0.2**
APYP	**Conner**	**1.48**	**144**	P	**Pb**	**20 01 34.2**	**+0.1**
APYP				S	**Sn**	**20 01 47.0**	**-5.3**
SGCP	**Mt. Cagua**	**1.82**	**116**	P	**Pb**	**20 01 39.9**	**-0.2**
SGCP				S	**Sb**	**20 02 03.7**	**+0.8**
CVP	**Callao Caves**	**1.96**	**133**	⇑P	**Pb**	**20 01 42.1**	**-0.4**
CVP				S	**Sb**	**20 02 06.7**	**0.0**
BBP	**Basco**	**2.07**	**48**	P	**Pn**	**20 01 41.0**	**-0.3**
CAUP	**Cauayan**	**2.54**	**146**	P	**Pb**	**20 01 51.9**	**-0.5**
CAUP				S	**Sb**	**20 02 23.5**	**0.0**
BOLP	**Bolinao**	**2.69**	**188**	P	**Pn**	**20 01 49.6**	**-0.3**
BOLP				S	**Sn**	**20 02 22.2**	**-0.2**
SMPP	**San Manuel, Pa**	**2.91**	**173**	P	**Pn**	**20 01 53.4**	**+0.4**
SCZP	**Santa Cruz**	**3.29**	**187**	P	**Pn**	**20 01 57.9**	**-0.2**
SCZP				S	Sn	20 02 19.8	-17
BALP	**Baler**	**3.51**	**160**	P	**Pn**	**20 02 03.5**	**+2.3**
BALP				S	**Sn**	**20 02 45.2**	**+2.6**
TWG	**Pinlang**	**3.81**	**10**		**Pn**	**20 02 03.3**	**-2.0**
TPUB	**Ta-pu**	**4.23**	**4**		**Pn**	**20 02 09.1**	**-2.0**
POLP	**Polilio Island**	**4.58**	**160**	P	**Pn**	**20 02 18.1**	**+2.2**
POLP				S	**Sn**	**20 03 06.3**	**-2.5**
SSLB	**Suanglung**	**4.74**	**7**		**Pn**	**20 02 16.5**	**-1.7**
TGY	**Tagaytay City**	**4.96**	**173**	Pn	**Pn**	**20 02 23.7**	**+2.5**
	78nm,0.3s,baz=109,slow=2.7,SNR=22						
TGY				Sn	**Sn**	**20 03 20.6**	**+2.1**
	baz=187,slow=16,SNR=2.3						
TGY				LR	LR	20 04 56.6	
	comp=Z,48μm,18.8s,baz=18,slow=47						
TGY	**Tagaytay City**	**4.96**	**173**	⇑P	**Pn**	**20 02 20.6**	**-0.7**
LQP	**Lukban**	**5.05**	**166**	⇑P	**Pn**	**20 02 24.7**	**+2.1**
LQP				S	**Pg**	**20 02 46.7**	**+2.9**
NACB	**Ninganchiao**	**5.23**	**13**		**Pn**	**20 02 23.4**	**-1.4**
LUBP	**Lubang**	**5.29**	**181**	P	Pn	20 02 31.1	+5.4
LUBP				S	**Sn**	**20 03 23.4**	**-3.3**
GQP	**Guinayangan**	**5.51**	**158**	⇑P	**Pn**	**20 02 30.4**	**+1.7**
YHNB	**Yeheng**	**5.67**	**10**		**Pn**	**20 02 29.7**	**-1.2**
KNMB	**Chin-men Tao**	**5.67**	**342**		**Pn**	**20 02 27.4**	**-3.5**
BOAC	**Boac**	**5.75**	**165**	P	**Pn**	**20 02 34.0**	**+1.9**
BOAC				S	Pg	20 03 04.1	+6.9
YOJ	**Yonaguni jima**	**5.93**	**24**	P	**Pn**	**20 02 34.0**	**-0.4**
YOJ	**Yonaguni jima**	**5.93**	**24**		**Pn**	**20 02 34.0**	**-0.4**
TATO	**Taipei**	**5.99**	**10**		**Pn**	**20 02 35.0**	**-0.2**
QZH	**Quanzhou**	**6.07**	**345**	⇓*i*Pn	**Pn**	**20 02 33.3**	**-3.1**
QZH				Sn	**Sn**	**20 03 39.3**	**-6.5**
QZH				LR	LR		
	comp=N,39μm,9.2s						
QZH				LR	LR		
	comp=E,49μm,9.4s						
QZH				LR	LR		
	comp=Z,53μm,11.3s						
PVCP	**Virac**	**6.56**	**145**	P	**Pn**	**20 02 45.8**	**+2.7**
PVCP				S	**Sn**	**20 03 55.1**	**-2.7**
HKPS	**Hong Kong Po S**	**6.62**	**300**		**Pn**	**20 02 40.7**	**-3.2**
OTRP	**Odiongan**	**6.86**	**166**	P	**Pn**	**20 02 50.6**	**+3.4**
OTRP				S	Sn	20 03 46.5	-19
GZH	**Guangzhou**	**7.65**	**303**	Pn	**Pn**	**20 02 55.3**	**-2.8**
GZH				Sn	**Sn**	**20 04 17.0**	**-7.7**
GZH				LR	LR		
	comp=N,43μm,12.8s						
GZH				LR	LR		
	comp=E,80μm,12.4s						
RCP	**Roxas**	**7.81**	**162**	⇓P	**Pn**	**20 03 04.9**	**+4.6**
LLP	**Lapu-Lapu**	**9.38**	**157**	P	**Pn**	**20 03 23.8**	**+2.0**
LLP				S	**Sn**	**20 05 04.1**	**-3.1**
QIZ	**Qiongzhong**	**9.91**	**272**	P	**Pn**	**20 03 26.3**	**-2.9**
QIZ				S	**Sn**	**20 05 17.5**	**-2.9**
QIZ				pmax	pmax		
	comp=Z,1μm,11.8s						
QIZ				LR	LR		
	comp=N,32μm,12.7s						
QIZ				LR	LR		
	comp=E,22μm,12.7s						
QIZ				LR	LR		
	comp=Z,26μm,14.1s						
QIZ	**Qiongzhong**	**9.91**	**272**		**Pn**	**20 03 26.0**	**-3.1**
JOW	**Kunigami**	**10.65**	**42**	Pn	**Pn**	**20 03 39.8**	**+0.5**
	1.6nm,0.3s,baz=195,slow=17,SNR=25						
JOW	**Kunigami**	**10.65**	**42**		**Pn**	**20 03 38.6**	**-0.7**
CGP	**Cagayan de Oro**	**11.36**	**157**	⇓P	**Pn**	**20 03 52.0**	**+3.0**
SSE	**Sheshan**	**12.01**	**4**	P	**Pn**	**20 03 57.5**	**-0.3**
SSE				S	**Sn**	**20 06 13.0**	**+1.3**
SSE				pmax	pmax		
	comp=Z,1μm,13.4s						
SSE	**Sheshan**	**12.01**	**4**		**Pn**	**20 03 56.4**	**-1.4**
CTBH	**Cotabato--PC H**	**12.37**	**162**	⇓P	**Pn**	**20 04 04.9**	**+2.1**
WHN	**Wuhan**	**12.65**	**336**	⇓P	**Pn**	**20 04 04.3**	**-2.3**
WHN				S	**Sn**	**20 06 26.5**	**-0.9**
WHN				pmax	pmax		
	comp=Z,76nm,0.5s						
WHN				LR	LR		
	comp=N,23μm,9.5s						
WHN				LR	LR		
	comp=E,72μm,10.8s						
WHN				LR	LR		
	comp=Z,88μm,13.2s						
DAV	**Davao City (W)**	**12.96**	**156**	Pn	**Pn**	**20 04 13.8**	**+2.9**
	1.9nm,0.3s,baz=17,slow=5.4,SNR=5.2						
DAV				LR	LR	20 10 27.0	
	comp=Z,36μm,19.4s,baz=339,slow=43						
DAV	**Davao City (W)**	**12.96**	**156**	⇓*e*P	**Pn**	**20 04 10.5**	**-0.5**
DAV	**Davao City (W)**	**12.96**	**156**		**Pn**	**20 04 11.8**	**+0.6**
NJ2	**Nanjing**	**13.01**	**354**	*e*P	**Pn**	**20 04 10.8**	**-0.6**
NJ2				PP	**PnPn**	**20 04 20.0**	**+0.5**
NJ2				S	**Sn**	**20 06 41.0**	**+5.0**
NJ2				pmax	pmax		
	comp=Z,22nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,380nm,4.6s						
NJ2				LR	LR		
	comp=N,35μm,11.4s						
NJ2				LR	LR		
	comp=E,29μm,10.9s						
NJ2				LR	LR		
	comp=Z,26μm,12.8s						
DLV	**T Lat**	**13.42**	**240**		**Pn**	**20 04 17.6**	**+0.3**
KKM	**Kota Kinabalu**	**13.54**	**198**		**Pn**	**20 04 18.9**	**0.0**
GYA	**Guiyang**	**14.59**	**303**	⇑*i*P	**Pn**	**20 04 30.0**	**-3.2**
GYA				PP	**PnPn**	**20 04 41.8**	**+0.6**
GYA				S	**Sn**	**20 07 13.8**	**-1.1**
GYA				SS	**S**	**20 07 31.0**	**-3.2**
GYA				pmax	pmax		
	comp=Z,2μm,9.6s						
GYA				LR	LR		
	comp=N,18μm,11.4s						
GYA				LR	LR		
	comp=E,24μm,10.3s						
GYA				LR	LR		
	comp=Z,33μm,11.6s						
UBPT	**Khong Chiam**	**14.68**	**257**	P	**P**	**20 04 38.1**	**-2.5**
	70nm,1.2s,2μm						
UBPT	**Khong Chiam**	**14.68**	**257**		**Pn**	**20 04 34.7**	**+0.3**
ENH	**Enshi**	**14.88**	**321**		**Pn**	**20 04 35.0**	**-2.0**
SLVN	**Son La**	**15.58**	**281**		**Pn**	**20 04 43.4**	**-3.0**
SKNT	**Sakolnakorn**	**15.68**	**265**	P	**P**	**20 04 49.7**	**-2.1**
	161nm,1.3s,3μm						
NONG	**Nongkai**	**16.32**	**269**	P	**P**	**20 04 57.4**	**-1.4**
	2.6nm,1.2s						
JNU	**Nakatsue**	**16.89**	**32**	Pn	**Pn**	**20 05 03.4**	**+0.2**
	1.5nm,0.3s,baz=209,slow=4.4,SNR=18						
JNU				LR	LR	20 12 24.2	
	comp=Z,4μm,18.6s,baz=223,slow=40						
JNU	**Nakatsue**	**16.89**	**32**	P	**Pn**	**20 05 01.8**	**-1.4**
TIA	**Tai'an**	**17.32**	**351**	P	**P**	**20 05 09.8**	**0.0**
TIA				pmax	pmax		
	comp=Z,200nm,1.2s						
TIA				pmax	pmax		
	comp=Z,8μm,10.0s						
TIA				LR	LR		
	comp=N,17μm,10.0s						
TIA				LR	LR		
	comp=E,13μm,12.8s						
TIA				LR	LR		
	comp=Z,20μm,11.2s						
KMI	**Kunming**	**17.37**	**293**	P	**Pn**	**20 05 09.3**	**-0.1**
KMI				pP	P	20 05 10.5	-0.2
KMI				sP	pP	20 05 11.5	-2.1
KMI				PP	**PnPn**	**20 05 23.5**	**+4.0**
KMI				S	**Sn**	**20 08 20.5**	**-2.2**
KMI				sS	S	20 08 24.0	-7.3
KMI				SS	**SnSn**	**20 08 40.5**	**+4.3**
KMI				pmax	pmax		
	comp=Z,1μm,3.7s						
KMI				LR	LR		
	comp=N,32μm,12.0s						
KMI				LR	LR		
	comp=E,25μm,11.3s						
KMI				LR	LR		
	comp=Z,26μm,12.2s						
KMI	**Kunming**	**17.37**	**293**	P	**Pn**	**20 05 08.1**	**-1.3**
KMI				pmax	pmax		
	comp=Z,240nm,1.3s						
KMI	**Kunming**	**17.37**	**293**	P	**Pn**	**20 05 08.1**	**-1.3**
CHAI	**Chaiyaphum**	**17.77**	**263**	P	**P**	**20 05 15.9**	**+1.0**
	comp=Z,113μm,1.1s						
XAN	**Xi'an**	**18.05**	**328**	P	**Pn**	**20 05 16.3**	**-1.3**
XAN				pmax	pmax		
	comp=Z,238nm,1.3s						
XAN	**Xi'an**	**18.05**	**328**	P	**Pn**	**20 05 16.3**	**-1.3**
MNI	**Manado**	**18.06**	**165**	P	**P**	**20 05 18.3**	**+0.2**
MNI				pmax	pmax		
	comp=Z,523nm,1.1s						
SBUM	**Sibu**	**18.31**	**207**	P	**P**	**20 05 22.0**	**+1.1**
SBUM	**Sibu**	**18.31**	**207**	P	**P**	**20 05 20.8**	**0.0**
TJN	**Taejon**	**18.33**	**18**	*de*P	**P**	**20 05 21.2**	**+0.2**
MRSI	**Marisa**	**18.53**	**175**	P	**P**	**20 05 22.7**	**-0.6**
	comp=Z,310nm,1.0s,comp=Z,4μmcomp=Z,10μm						
PBKT	**Sadao Pong**	**18.59**	**265**	P	**Pn**	**20 05 25.2**	**+1.0**
	comp=Z,88nm,1.1s,comp=Z,3μm						
PBKT	**Sadao Pong**	**18.59**	**265**	P	**P**	**20 05 23.8**	**-0.1**
MPSI	**Mapaga**	**18.61**	**181**	P	**Pn**	**20 05 25.3**	**+0.9**
	comp=Z,127nm,0.9s,comp=Z,4μmcomp=Z,9μm						
KMSI	**Cibinong**	**18.71**	**169**	P	**Pn**	**20 05 25.8**	**+0.1**
	comp=Z,422nm,0.8s,comp=Z,4μmcomp=Z,367nm						
UTTA	**Uttaradit**	**18.81**	**269**	P	**Pn**	**20 05 27.6**	**+0.8**
	comp=Z,147μm,0.9s						
PHIT	**Phitsanulok**	**19.01**	**268**	P	**Pn**	**20 05 30.4**	**+1.1**
PHRA	**Phrae**	**19.04**	**272**	P	**Pn**	**20 05 30.2**	**+0.6**
	comp=Z,22nm,0.9s,comp=Z,1μm						
CD2	**Chengdu**	**19.07**	**311**	P	**P**	**20 05 28.3**	**-0.9**
CD2				SS	S	20 09 23.8	+18
CD2				pmax	pmax		
	comp=Z,230nm,2.0s						
CD2				pmax	pmax		
	comp=Z,11μm,11.7s						
CD2				LR	LR		
	comp=Z,42μm,10.0s						
CD2				LR	LR		
	comp=Z,43μm,11.8s						
CD2				LR	LR		
	comp=Z,51μm,12.6s						
INCN	**Inchon**	**19.17**	**15**	P	**P**	**20 05 29.3**	**-0.9**
INCN				pmax	pmax		
	comp=Z,377nm,1.4s						
INCN	**Inchon**	**19.17**	**15**	P	**P**	**20 05 29.3**	**-0.9**
TNTI	**Ternate**	**19.44**	**158**	P	**P**	**20 05 33.9**	**+0.6**
	comp=Z,129nm,1.9s,comp=Z,3μmcomp=Z,6μm						
TNTI	**Ternate**	**19.44**	**158**	P	**P**	**20 05 32.8**	**-0.5**
KSAR	**Wonju Array Be**	**19.48**	**18**	P	**P**	**20 05 33.4**	**-0.1**
KSAR	**Wonju Array Be**	**19.48**	**18**	P	**P**	**20 05 33.4**	**-0.1**
KSAR				PcP	**PcP**	**20 09 54.6**	**+0.3**
KSRS	**Korea Array**	**19.50**	**18**	P	**P**	**20 05 34.0**	**+0.3**
KSRS	**Korea Array**	**19.50**	**18**	P	**P**	**20 05 34.0**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=201,slow=12,SNR=106						
KSRS				PcP	**PcP**	**20 09 55.1**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=203,slow=2.9,SNR=7.1						
KSRS				LR	LR	20 13 49.3	
	comp=Z,4μm,18.3s,baz=202,slow=39						
KS19	**Wonju Array Si**	**19.52**	**18**	P	**P**	**20 05 34.0**	**0.0**
LAMP	**Lampang**	**19.60**	**272**	P	**Pn**	**20 05 36.8**	**+0.4**
	comp=Z,154μm,0.7s						
SMKI	**Samarinda**	**19.62**	**189**	P	**Pn**	**20 05 38.3**	**+1.7**
	comp=Z,1μm,1.3s,comp=Z,17μmcomp=Z,12μm						
PATY	**Pattaya**	**19.67**	**255**	P	**Pn**	**20 05 39.4**	**+2.2**
	comp=Z,198μm,0.9s						
DL2	**Dalian**	**19.81**	**3**	⇓*i*P	**Pn**	**20 05 38.5**	**-0.2**
DL2				pmax	pmax		
	comp=Z,350nm,1.2s						
DL2				pmax	pmax		
	comp=Z,8μm,10.2s						
DL2				LR	LR		
	comp=Z,12μm,14.3s						
DL2				LR	LR		
	comp=Z,18μm,14.1s						
DL2				LR	LR		
	comp=Z,14μm,11.8s						
TIY	**Taiyuan**	**19.82**	**341**	*e*P	**Pn**	**20 05 39.3**	**+0.3**
TIY				pmax	pmax		
	comp=Z,990nm,1.8s						
TIY				LR	LR		
	comp=Z,16μm,12.0s						
TIY				LR	LR		
	comp=Z,24μm,14.5s						
TIY				LR	LR		
	comp=Z,16μm,15.4s						
APSI	**Ampana**	**19.89**	**176**	P	**Pn**	**20 05 40.0**	**+0.2**
	comp=Z,409nm,1.1s,comp=Z,4μm						
KSM	**Kuching**	**20.04**	**210**	P	Pn	20 05 41.0	-0.6
KSM	**Kuching**	**20.04**	**210**	P	**P**	**20 05 40.0**	**+0.2**
KSM				IAmb	IAmb	20 05 42.6	
	comp=Z,344nm,1.1s						
LUWI	**Luwuk**	**20.12**	**173**	P	**P**	**20 05 41.2**	**+0.6**
	comp=Z,721nm,1.1s,comp=Z,8μmcomp=Z,10μm						
LUWI	**Luwuk**	**20.12**	**173**	P	**P**	**20 05 39.9**	**-0.8**
LUWI				IAmb	IAmb	20 06 00.7	
	comp=Z,553nm,0.9s						
CMMT	**Chiang Mai**	**20.22**	**273**	P	**P**	**20 05 42.7**	**+0.9**
	comp=Z,66nm,1.0s,comp=Z,2μm						
CHTO	**Chiang Mai**	**20.23**	**273**	P	**P**	**20 05 42.0**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,138nm,1.1s						
CHTO				MLR	MLR		
	comp=Z,2μm,18.0s						
CHTO	**Chiang Mai**	**20.23**	**273**	P	**P**	**20 05 42.0**	**+0.1**
UTHA	**Uthaitani**	**20.23**	**263**	P	Pn	20 05 43.6	-0.3
	comp=Z,245μm,0.8s						
CM31	**Chiang Mai Arr**	**20.26**	**272**	P	**P**	**20 05 42.3**	**+0.1**
CM31				PcP	**PcP**	**20 09 57.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**20.26**	**272**	P	**P**	**20 05 43.1**	**+0.9**
	comp=Z,20nm,0.9s,baz=78,slow=8.7,SNR=135						
CMAR				PcP	**PcP**	**20 09 57.6**	**+1.5**
	comp=Z,15nm,0.7s,baz=84,slow=0.6,SNR=29						
CMAR				LR	LR	20 13 33.8	
	comp=Z,2μm,18.8s,baz=84,slow=37						
CMAR				P3KP		20 40 42.0	
	comp=Z,1.3nm,1.1s,baz=302,slow=3.7,SNR=5.3						
CMAR	**Chiang Mai Arr**	**20.26**	**272**	P	**P**	**20 05 41.5**	**-0.7**
CMAR				PcP	**PcP**	**20 09 56.8**	**+0.7**
BKB	**Balikpapan**	**20.47**	**190**	P	Pn	20 05 46.0	-0.6
	comp=Z,1μm,1.8s,comp=Z,16μmcomp=Z,14μm						
BKB	**Balikpapan**	**20.47**	**190**	P	**P**	**20 05 45.3**	**+0.8**
BKB				IAMs_20	IAMs_20	20 14 09.6	
	comp=Z,17μm,19.0s						
UMPA	**Umpang Tak**	**20.65**	**265**	P	Pn	20 05 48.9	+0.1
	comp=Z,366μm,1.0s						
PHET	**Kaeng Krachan**	**20.80**	**256**	P	Pn	20 05 50.8	+0.2
	comp=Z,319μm,1.0s						
SRDT	**SRDT**	**20.84**	**260**	P	Pn	20 05 50.3	-0.6
	comp=Z,82nm,1.0s,comp=Z,2μm						
BJT	**Baijiatuan**	**21.20**	**351**	P	**P**	**20 05 52.9**	**+0.7**
BJT				pmax	pmax		

SNY LR LR
comp=Z,5μm,9.8s
SNY LR LR
comp=Z,20μm,11.4s
SPSI Sidrap Palu 22.88 181 P **P** **20 06 11.6 +1.2**
comp=Z,919nm,1.2s,comp=Z,8μmcomp=Z,7μm
TRTT Trang 22.93 244 P **P** **20 06 12.7 +1.8**
comp=Z,94nm,1.1s,comp=Z,3μm
HHC Hu-ho-hao-te 22.98 343 *e*P **P** **20 06 12.3 +0.9**
HHC PP **PnPn** **20 06 39.5 +3.3**
HHC S **S** **20 10 20.0 -1.5**
HHC pmax pmax
comp=Z,200nm,1.3s
HHC pmax pmax
comp=Z,3μm,6.6s
HHC LR LR
comp=Z,12μm,12.8s
HHC LR LR
comp=Z,10μm,13.2s
HHC LR LR
comp=Z,13μm,12.6s
NLAI Namlea 23.14 163 P **P** **20 06 16.2 +3.2**
comp=Z,470nm,1.2s,comp=Z,4μm
SURT Suratani 23.15 247 P **P** **20 06 15.0 +1.8**
comp=Z,222nm,1.3s,comp=Z,4μm
BNSI Bone 23.31 181 P **P** **20 06 15.8 +1.0**
comp=Z,387nm,1.1s,comp=Z,5μm
MAJO Matsushiro 23.46 38*d**e*P **P** **20 06 15.0 -1.2**
MAJO pmax pmax
comp=Z,287nm,2.0s
MAJO Matsushiro 23.46 38 P **P** **20 06 15.4 -0.8**
MAJO IAmb IAmb 20 06 38.7
comp=Z,609nm,1.7s
MAJO PcP **PcP** **20 10 03.5 +1.4**
MAT Matsushiro 23.46 38 P **P** **20 06 15.6 -0.6**
MAT S **S** **20 10 27.0 -2.4**
MJAR Matsushiro Arr 23.46 38 P **P** **20 06 15.2 -1.0**
MJAR pmax pmax
comp=Z,93nm,1.3s
MJAR Matsushiro Arr 23.46 38 P **P** **20 06 15.9 -0.2**
comp=Z,37nm,1.1s,baz=234,slow=9.1,SNR=38
MJAR Matsushiro Arr 23.46 38 P **P** **20 06 15.2 -1.0**
MJB9 Matsu-Tunnel 23.46 38 P **P** **20 06 15.0 -1.2**
MJB9 IAmb IAmb 20 06 38.7
comp=Z,621nm,1.7s
MYKOM Kota Tinggi 23.56 225 P **P** **20 06 18.0 +0.8**
MYKOM Kota Tinggi 23.56 225 P **P** **20 06 16.4 -0.8**
MYKOM IAmb IAmb 20 06 31.1
comp=Z,296nm,1.3s
MYKOM IAMs_20 IAMs_20 20 14 55.1
comp=Z,11μm,19.0s
KULM Kulim 23.56 237 P **P** **20 06 18.0 +0.7**
KULM Kulim 23.56 237 P **P** **20 06 16.5 -0.9**
KULM IAmb IAmb 20 06 27.9
comp=Z,386nm,1.5s
KULM PcP **PcP** **20 10 03.7 +1.0**
IPM Ipoh 23.77 235 P **P** **20 06 18.1 -1.2**
IPM IAmb IAmb 20 06 28.9
comp=Z,438nm,1.3s
IPM PcP **PcP** **20 10 03.9 +0.7**
TPRI Tanjung Pinang 23.77 222 P **P** **20 06 20.3 +1.0**
comp=Z,191nm,0.8s,comp=Z,3μm
MSAI Masohi 23.82 158 P **P** **20 06 22.3 +2.5**
comp=Z,70nm,1.2s,comp=Z,975nm
AAI Ambon 23.89 160 P **P** **20 06 20.8 +0.3**
AAI pmax pmax
comp=Z,268nm,1.2s
AAI Ambon 23.89 160 P **P** **20 06 22.0 +1.5**
comp=Z,268nm,1.2s,comp=Z,3μmcomp=Z,9μm
KAPI Kappang 23.93 181 P **P** **20 06 20.5 -0.3**
KAPI pmax pmax
comp=Z,918nm,1.4s
KAPI Kappang 23.93 181 P **P** **20 06 20.5 -0.3**
LKP Lekhapani 23.93 295⇓ *i*P **P** **20 06 19.1 -1.7**
LKP IAmb IAmb 20 06 22.0
comp=Z,66nm,0.7s
PKDT Phuket 24.06 245 P P 20 06 33.2 +11
GUMO Guam 24.16 99 P **P** **20 06 22.4 -0.6**
GUMO pmax pmax
comp=Z,1μm,1.7s
GUMO MLR MLR
comp=Z,7μm,20.0s
GUMO Guam 24.16 99 P **P** **20 06 22.5 -0.5**
comp=Z,106nm,0.9s,baz=262,slow=15,SNR=3.5
GUMO LR LR 20 16 05.1
comp=Z,7μm,18.6s,baz=280,slow=37
GUMO Guam 24.16 99 P **P** **20 06 22.4 -0.6**
BKSI Bulukumba 24.23 180 P **P** **20 06 23.9 +0.3**
comp=Z,282nm,0.9s,comp=Z,4μmcomp=Z,6μm
SARN Sarigan 24.33 91 P **P** **20 06 21.6 -3.1**
SARN IAmb IAmb 20 07 15.8
comp=Z,292nm,1.5s
RKPI Ransiki, Papua 24.56 145 P P 20 06 35.3 +8.7
FAKI Fak Fak 24.79 151 P **P** **20 06 28.8 +0.1**
comp=Z,113nm,0.9s,comp=Z,2μm
FAKI Fak Fak 24.79 151 P **P** **20 06 27.1 -1.7**
FAKI PcP **PcP** **20 10 06.3 +1.0**
CN2 Changchun 25.04 9⇑ *i*P **P** **20 06 31.5 +0.7**
CN2 *e*sP pwP 20 06 38.5 +1.5
CN2 PcP **PcP** **20 10 06.3 +0.9**
CN2 *e*S **S** **20 10 52.0 -2.6**
CN2 pmax pmax
comp=Z,90nm,1.2s
CN2 pmax pmax
comp=Z,4μm,9.0s
CN2 LR LR
comp=Z,10μm,12.0s
CN2 LR LR
comp=Z,12μm,12.0s
CN2 LR LR
comp=Z,13μm,12.0s
KOHI KOHIMA 25.10 290 *ex* **P** **20 06 32.2 +0.5**
KOHI IAmb IAmb 20 06 40.3
comp=Z,54nm,0.7s
KOHI IAMs_20 IAMs_20 20 18 37.8
comp=Z,18μm,13.4s
JORH JORHAT 25.17 292 *ex* **P** **20 06 29.0 -3.1**
JORH IAmb IAmb 20 06 33.5
comp=Z,91nm,0.5s
MSHR Mys Shultsa 25.18 19⇑ *e*P **P** **20 06 33.8 +1.8**
BNDI Bandanaira 25.26 157 P **P** **20 06 36.4 +3.5**
comp=Z,483nm,0.9s,comp=Z,7μmcomp=Z,6μm
ZIRO ZIRO 25.70 294⇓ *i*P **P** **20 06 37.2 +0.1**
ZIRO IAMs_20 IAMs_20 20 17 05.5
comp=Z,16μm,15.9s
SIMRM Sittwe 25.86 277 P **P** **20 06 37.9 -0.5**
VLA Vladivostok 25.90 20*d* *i*P **P** **20 06 39.7 +1.2**
VLA pmax pmax
comp=Z,668nm,1.7s
PSI Prapat 26.44 235 P **P** **20 06 43.1 -0.8**
PSI 20 10 08.5
PSI pmax pmax
comp=Z,242nm,1.3s
PSI MLR MLR
comp=Z,4μm,22.0s
PSI Prapat 26.44 235 P **P** **20 06 44.2 +0.4**
comp=Z,34nm,0.8s,baz=43,slow=5.9,SNR=20
PSI PcP **PcP** **20 10 09.3 0.0**
comp=Z,23nm,1.0s,baz=307,slow=3.1,SNR=5.7
PSI LR LR 20 16 32.7
comp=Z,2μm,19.1s,baz=43,slow=35
RPSI Rantau Prapat 26.51 235 P **P** **20 06 43.1 -1.2**
RPSI IAmb IAmb 20 06 54.1
comp=Z,242nm,1.3s
RPSI **PcP** **20 10 08.5 -0.8**
RPSI Rantau Prapat 26.51 235 **PcP** **20 10 09.3 0.0**
BKNI Bangkinang 26.54 228 P **P** **20 06 45.1 +0.5**
comp=Z,430nm,0.9s,comp=Z,3μmcomp=Z,3μm
BKNI Bangkinang 26.54 228 P **P** **20 06 44.3 -0.3**
BKNI IAMs_20 IAMs_20 20 17 17.2
comp=Z,10μm,18.0s
LHMI Lhok Sumawe 26.61 242 P **P** **20 06 45.2 -0.1**
LHMI IAmb IAmb 20 06 57.3
comp=Z,166nm,1.0s
MDJ Mudanjiang 26.64 15 P **P** **20 06 46.0 +0.8**
MDJ S **S** **20 11 21.0 +1.2**
MDJ sS sS 20 11 29.0 +3.6
MDJ SS **SnSn** **20 12 24.5 +1.8**
MDJ pmax pmax
comp=Z,370nm,1.1s
MDJ pmax pmax
comp=Z,2μm,11.8s
MDJ LR LR
comp=Z,11μm,12.1s
MDJ LR LR
comp=Z,15μm,12.1s
MDJ LR LR
comp=Z,12μm,12.2s
MDJ Mudanjiang 26.64 15 P **P** **20 06 45.0 -0.1**
MDJ IAmb IAmb 20 06 47.2
comp=Z,316nm,1.0s
MDJ IAMs_20 IAMs_20 20 16 47.9
comp=Z,7μm,22.0s
PMBI Palembang 26.67 217 P **P** **20 06 48.5 +2.7**
comp=Z,331nm,0.9s,comp=Z,5μmcomp=Z,4μm
PMBI Palembang 26.67 217 P **P** **20 06 46.1 +0.3**
PMBI IAmb IAmb 20 06 49.6
comp=Z,237nm,0.8s
KMMI Kalianget 26.69 194 P **P** **20 06 50.8 +4.9**
comp=Z,236nm,1.0s,comp=Z,4μm
USA0B Ussuriysk Arra 26.91 19 P **P** **20 06 46.6 -1.0**
USA0B 20 10 08.9
USA0B pmax pmax
comp=Z,162nm,1.2s
USA0B Ussuriysk Arra 26.91 19 P **P** **20 06 46.6 -1.0**
USA0B IAmb IAmb 20 06 49.9
comp=Z,162nm,1.1s
USA0B **PcP** **20 10 08.9 -0.8**
USRK Ussuriysk Ar. 26.91 19 P **P** **20 06 47.5 -0.1**
USRK 20 10 08.9
USRK Ussuriysk Ar. 26.91 19 P **P** **20 06 48.4 +0.7**
comp=Z,47nm,0.7s,baz=208,slow=7.5,SNR=103
USRK PcP **PcP** **20 10 09.3 -0.3**
comp=Z,8.4nm,0.8s,baz=226,slow=2.6,SNR=4.8
USRK LR LR 20 18 19.2
comp=Z,4μm,19.8s,baz=195,slow=38
USRK Ussuriysk Ar. 26.91 19 P **P** **20 06 47.5 -0.1**
USRK **PcP** **20 10 08.9 -0.8**
KCSI Kotacane, Aceh 26.91 238 P **P** **20 06 47.2 -0.8**
comp=Z,78nm,1.2s,comp=Z,1μm
GTA Gaotai 26.93 323 P **P** **20 06 48.5 +0.4**
GTA pP sP 20 06 53.0 +0.2
GTA sP pwP 20 06 56.3 +1.5
GTA PcP **PcP** **20 10 10.8 +0.8**
GTA S **S** **20 11 24.5 -0.4**
GTA sS sS 20 11 30.5 +0.2
GTA PcS **PcS** **20 13 50.8 -0.7**
GTA pmax pmax
comp=Z,59nm,1.7s
GTA pmax pmax
comp=Z,3μm,11.7s
GTA LR LR
comp=Z,9μm,14.4s
GTA LR LR
comp=Z,16μm,12.0s
GTA LR LR
comp=Z,22μm,12.4s
DGPR DIGLIPUR 26.94 262 *e*P **P** **20 06 43.7 -4.5**
DGPR IAmb IAmb 20 06 58.5
comp=Z,43nm,0.9s
GRJI Gresik 26.94 197 P **P** **20 06 52.0 +3.8**
comp=Z,298nm,0.8s,comp=Z,2μm
SHL Shillong 27.06 289 P **P** **20 06 48.5 -1.0**
SHL pmax pmax
comp=Z,121nm,1.0s
SHL MLR MLR
comp=Z,4μm,18.0s
SHL Shillong 27.06 289⇓ *i*P **P** **20 06 48.4 -1.1**
SHL IAmb IAmb 20 07 01.3
comp=Z,92nm,1.0s
SHL Shillong 27.06 289⇓ *i*P **P** **20 06 55.0 +5.5**
SHL *i* S **S** **20 11 36.0 +8.6**
SHL Shillong 27.06 289 P **P** **20 06 48.5 -1.0**
SDSI Sungai Dareh 27.19 225 P P 20 07 04.7 +14
SRBI Singaraja 27.44 191 P **P** **20 06 55.8 +3.2**
comp=Z,222nm,1.3s,comp=Z,3μmcomp=Z,5μm
MMRI Maumere 27.58 176 P **P** **20 06 55.7 +1.8**
comp=Z,234nm,1.0s,comp=Z,4μm
MMRI Maumere 27.58 176 P **P** **20 06 53.9 -0.1**
MMRI IAmb IAmb 20 07 12.4
comp=Z,192nm,0.9s
MLSI Meulaboh, Aceh 27.59 241 P **P** **20 06 55.2 +1.1**
comp=Z,166nm,1.3s,comp=Z,3μm
SMPI Sarmi 27.64 137 P P 20 07 11.0 +16
NGJI Ngawi 27.67 199 P **P** **20 06 57.5 +2.8**
comp=Z,186nm,1.0s,comp=Z,6μm
SMRI Semarang 27.71 201 P **P** **20 06 54.3 -0.8**
PLAI Plampang 27.82 185 P **P** **20 06 58.3 +2.2**
comp=Z,293nm,1.4s,comp=Z,4μmcomp=Z,4μm
TWSI Taliwang, Sumb 27.83 187 P **P** **20 07 00.2 +4.1**
comp=Z,93nm,1.0s,comp=Z,2μm
PDSI Padang 27.83 227 P **P** **20 06 57.8 +1.6**
comp=Z,38nm,1.2s,comp=Z,958nm
DNP Denpasar 28.02 191 P **P** **20 07 00.3 +2.5**
DNP pmax pmax
comp=Z,560nm,1.2s
DNP Denpasar 28.02 191 P P 20 07 13.3 +15
JAGI Jajag, Banyuwa 28.02 193 P **P** **20 06 59.4 +1.5**
comp=Z,119nm,1.0s,comp=Z,2μmcomp=Z,4μm
JAGI Jajag, Banyuwa 28.02 193 P **P** **20 06 57.4 -0.5**
JAGI IAmb IAmb 20 07 17.6
comp=Z,99nm,0.9s
JAGI PcP **PcP** **20 10 11.7 -1.1**
KRJI Kerinci 28.03 223 P **P** **20 06 59.0 +0.9**
comp=Z,377nm,1.5s,comp=Z,6μmcomp=Z,3μm
KLSI 28.16 215 P **P** **20 07 00.4 +1.3**
comp=Z,57nm,1.0s,comp=Z,939nm
IGBI Denpasar 28.17 191 P **P** **20 07 02.8 +3.7**
comp=Z,196nm,1.3s,comp=Z,2μm
MDSI Maura Dua 28.29 216 P **P** **20 07 01.0 +0.8**
comp=Z,70nm,0.9s,comp=Z,1μm
WOJI Wonogiri, Jawa 28.29 200 P **P** **20 07 01.5 +1.3**
comp=Z,153nm,1.0s,comp=Z,2μm
MASI Maura Aman, Be 28.34 221 P **P** **20 07 02.1 +1.3**
comp=Z,280nm,0.9s,comp=Z,4μm
GSI Gunungsitoli 28.43 234 P **P** **20 07 00.9 -0.7**
comp=Z,105nm,1.0s,comp=Z,2μmcomp=Z,3μm
GSI Gunungsitoli 28.43 234 P **P** **20 06 59.9 -1.7**
GSI IAmb IAmb 20 07 12.2
comp=Z,119nm,1.0s
GSI **PcP** **20 10 15.0 +1.1**
YOGI Yogyakarta 28.48 201 P P 20 07 09.2 +7.3
UGM Wanagama 28.49 201 P **P** **20 07 05.5 +3.4**
comp=Z,190nm,0.8s
UGM Wanagama 28.49 201 P **P** **20 07 03.4 +1.3**
UGM PcP **PcP** **20 10 14.1 +0.1**
KPJI Karang Pucung 28.53 204 P **P** **20 07 04.7 +2.3**
comp=Z,145nm,1.5s,comp=Z,4μm
KSI Kapahiang 28.53 220 P **P** **20 07 03.3 +0.8**
comp=Z,134nm,0.9s,comp=Z,2μm
LSA Lhasa 28.53 297 *i* P **P** **20 07 04.4 +1.5**
SNR=46
LSA Lhasa 28.53 297 P **P** **20 07 03.6 +0.7**
LSA 20 10 15.6
LSA pmax pmax
comp=Z,93nm,0.9s
LSA MLR MLR
comp=Z,6μm,18.0s
LSA Lhasa 28.53 297 P **P** **20 07 03.6 +0.7**
LSA PcP **PcP** **20 10 15.6 +1.1**
LSA IAMs_20 IAMs_20 20 18 53.0
comp=Z,6μm,18.0s
PCJI Pacitan 28.54 199 P **P** **20 07 06.6 +4.1**
comp=Z,258nm,1.1s,comp=Z,3μm
WSI Waingapu 28.55 180 P **P** **20 07 01.2 -1.3**
comp=Z,536nm,0.8s,comp=Z,6μm
LEM Lembang 28.61 207 P **P** **20 07 05.5 +2.2**
comp=Z,64nm,0.8s,baz=168,slow=5.5,SNR=13
LEM LR LR 20 19 17.7
comp=Z,4μm,18.4s,baz=50,slow=38
SBJI Serang 28.66 211 P P 20 07 20.4 +17
SNSI Sinabang, Aceh 28.73 238 P P 20 07 10.8 +6.6
DBJI Dramaga 28.75 209 P **P** **20 07 06.9 +2.5**
comp=Z,101nm,0.9s
PBSI Pulau Batu 28.79 231 P P 20 07 10.5 +5.8
LWLI Liwa 28.79 215 P **P** **20 07 08.3 +3.4**
comp=Z,87nm,0.9s
MNAI Manna 28.88 218 P **P** **20 07 03.8 -1.8**
MNAI IAmb IAmb 20 07 21.3
comp=Z,244nm,1.0s
MNAI IAMs_20 IAMs_20 20 18 39.2
comp=Z,7μm,19.0s
SOEI Soe 28.89 172 P **P** **20 07 05.6 -0.2**
comp=Z,160nm,0.9s,comp=Z,2μmcomp=Z,4μm
SOEI Soe 28.89 172 P **P** **20 07 04.1 -1.7**
SOEI IAmb IAmb 20 07 40.4
comp=Z,221nm,1.1s
SAUI Saumlaki 28.97 157 P **P** **20 07 05.8 -0.5**
comp=Z,317nm,0.9s,comp=Z,3μmcomp=Z,4μm
SAUI Saumlaki 28.97 157 P **P** **20 07 05.1 -1.2**
SAUI IAMs_20 IAMs_20 20 14 23.3
comp=Z,7μm,19.0s
KASI Kota Agung 28.98 214 P **P** **20 07 07.9 +1.5**
comp=Z,126nm,1.1s,comp=Z,2μm
SISI Saibi 29.08 228 P **P** **20 07 06.8 -0.5**
comp=Z,111nm,1.2s,comp=Z,1μm
CISI Cisompet, Garu 29.18 206 P **P** **20 07 12.2 +4.0**
comp=Z,215nm,1.2s,comp=Z,2μmcomp=Z,4μm
CISI Cisompet, Garu 29.18 206 P **P** **20 07 07.3 -1.0**
CISI IAmb IAmb 20 07 14.8
comp=Z,226nm,1.1s
CISI PcP **PcP** **20 10 15.9 +0.2**
TEY Ternei 29.23 24 *e*P **P** **20 07 08.5 +0.1**
CNJI Cibinong 29.25 208 P P 20 07 15.2 +6.4
BATI Baumata 29.27 173 P **P** **20 07 08.2 -0.7**
comp=Z,252nm,0.9s,baz=222,slow=0.3,SNR=55
BATI PcP **PcP** **20 10 16.7 +0.7**
comp=Z,26nm,0.7s,baz=303,slow=5.1,SNR=3.6
JAY Jayapura 29.35 135 LR LR 20 17 02.5
comp=Z,5μm,21.8s,baz=330,slow=33
PPSI Pulau Pagai 29.49 225 P P 20 07 16.2 +5.3
ERM Erimo 30.00 35*d**e*P **P** **20 07 14.6 -0.6**
ERM Erimo 30.00 35 P **P** **20 07 14.1 -1.1**
HIA Hailar 30.14 359 P **P** **20 07 15.0 -1.5**
HIA 20 10 17.7
HIA pmax pmax
comp=Z,70nm,1.2s
HIA MLR MLR
comp=Z,4μm,18.0s
HIA Hailar 30.14 359 P **P** **20 07 15.0 -1.5**
HIA **PcP** **20 10 17.6 0.0**
GTK Tadong 30.23 292⇓ *i*P **P** **20 07 18.1 +0.5**
GTK IAmb IAmb 20 07 19.8
comp=Z,140nm,1.4s
ULN Ulaanbaatar 30.70 342*d* *i*P **P** **20 07 22.1 +0.5**
ULN pmax pmax
comp=Z,151nm,1.7s
ULN Ulaanbaatar 30.70 342 P **P** **20 07 21.0 -0.5**
ULN IAmb IAmb 20 07 23.9
comp=Z,285nm,1.8s
ULN PcP **PcP** **20 10 20.1 +0.8**
ULN Ulaanbaatar 30.70 342 IAMs_20 IAMs_20 20 19 44.8
comp=Z,10μm,20.0s
SONM Songino Array 30.87 342 P **P** **20 07 22.9 -0.1**
SONM 20 10 19.8
SONM pmax pmax
comp=Z,142nm,1.8s
SONM Songino Array 30.87 342 P **P** **20 07 23.6 +0.6**
comp=Z,16nm,0.8s,baz=155,slow=6.3,SNR=109
SONM PcP **PcP** **20 10 20.3 +0.6**
comp=Z,6.5nm,0.8s,baz=162,slow=3.9,SNR=7.8
SONM LR LR 20 20 34.4
comp=Z,8μm,18.9s,baz=154,slow=38
SONM P3KPbc 20 39 18.5
comp=Z,0.3nm,0.8s,baz=352,slow=2.9,SNR=2.4
SONM Songino Array 30.87 342 P **P** **20 07 22.9 -0.1**
SONM **PcP** **20 10 19.8 0.0**
TAPN Taplejung 31.02 292 *e*P **P** **20 07 25.1 +0.3**
comp=Z,310nm,1.1s
ASAJ Asahikawa 31.18 32 P **P** **20 07 26.4 +0.8**
comp=Z,13nm,0.6s,baz=232,slow=11,SNR=15
ASAJ PcP **PcP** **20 10 21.5 +1.0**
comp=Z,16nm,0.9s,baz=270,slow=6.1,SNR=3.3
JKA Kamikawa-asahi 31.18 32 **PcP** **20 10 21.5 +1.0**
ODAN Odare 31.24 291 *e*P **P** **20 07 26.9 +0.3**
comp=Z,294nm,0.9s
KLR Kul'dur 31.48 14*d* *i*P **P** **20 07 28.9 +0.7**
KLR pmax pmax
comp=Z,282nm,1.4s
KLR Kul'dur 31.48 14 P **P** **20 07 29.8 +1.6**
comp=Z,88nm,1.1s,baz=220,slow=7.1,SNR=109
KLR PcP **PcP** **20 10 21.8 +0.7**
comp=Z,9.0nm,0.8s,baz=233,slow=3.1,SNR=4.3
RAMN Ramite 31.95 291 *e*P **P** **20 07 33.5 +0.6**
comp=Z,430nm,0.9s
JIRN Jiri 32.40 292 *e*P **P** **20 07 37.4 +0.4**
comp=Z,619nm,1.1s
BWNR Bhubaneshwar 32.49 278 *e*P **P** **20 07 37.8 +0.3**
BWNR *i* x x 20 07 47.0
GUN Gumba 32.71 292 *e*P **P** **20 07 39.9 +0.2**
comp=Z,1μm,1.0s
YUK Yuzh-Kuril'sk 32.82 35 *e*P **P** **20 07 37.5 -2.5**
YUK *i* S **S** **20 12 56.5 -0.4**
YUK pmax pmax
comp=Z,700nm,1.1s
YUK pmax pmax
comp=N,156nm,0.9s
YUK pmax pmax
comp=E,221nm,1.1s
YUK pmax pmax
comp=Z,1μm,1.9s
PKI Pulchoki 33.08 291 *e*P **P** **20 07 42.6 -0.3**
comp=Z,36nm,1.1s
PKIN Phulchoki 33.09 291 *e*P **P** **20 07 42.4 -0.5**
comp=Z,206nm,1.2s
KKN Kakani 33.22 292 *e*P **P** **20 07 43.9 -0.1**
comp=Z,243nm,0.9s
CIT Chita 33.32 352 *e*P **P** **20 07 44.5 +0.1**
CIT *e* 20 10 26.6
CIT pmax pmax
comp=Z,144nm,1.6s
YSS Yuzh-Sakhalins 33.34 28⇓ *i*P **P** **20 07 45.2 +0.6**
YSS *e* 20 07 55.2
YSS *e*PPP PPP 20 08 56.6
YSS *e* 20 10 26.9
YSS *e*S **S** **20 13 02.5 -2.5**
YSS 20 18 13.0
YSS pmax pmax
comp=E,50nm,1.2s
YSS pmax pmax
comp=Z,140nm,1.2s
YSS pmax pmax
comp=N,40nm,1.1s
YSS smax smax
comp=E,1μm,9.7s
YSS MLR MLR
comp=Z,4μm,15.0s
YSS MLR MLR
comp=N,3μm,14.0s
YSS Yuzh-Sakhalins 33.34 28 P **P** **20 07 44.5 -0.1**
YSS IAmb IAmb 20 07 47.5
comp=Z,217nm,1.2s
DMN Daman 33.35 291 *e*P **P** **20 07 44.9 -0.3**
comp=Z,515nm,1.1s
MTN Manton Dam 33.44 161 P **P** **20 07 43.7 -2.0**
MTN IAmb IAmb 20 07 45.3
comp=Z,121nm,1.5s
MTN PcP **PcP** **20 10 27.4 +0.4**
GKN Gorkha 33.81 292 *e*P **P** **20 07 48.6 -0.5**
comp=Z,587nm,1.0s
MANU Manus Island 33.86 125 P **P** **20 07 49.5 0.0**
MANU IAmb IAmb 20 07 55.0
comp=Z,178nm,1.9s
MANU IAMs_20 IAMs_20 20 18 41.8
comp=Z,5μm,20.0s
ZAK Zakamensk 34.08 340 *e*P **P** **20 07 51.6 +0.5**
ZAK *e* 20 10 28.9
ZAK pmax pmax
comp=Z,42nm,1.4s
ZAK pmax pmax
comp=Z,18nm,1.2s
GRNR Gornyy 34.13 18⇓ *i*P **P** **20 07 51.8 +0.4**
GRNR *i* 20 07 54.0
GRNR *e* 20 09 02.2
GRNR *e*S **S** **20 13 20.2 +3.1**
GRNR pmax pmax
comp=Z,30nm,1.1s
GRNR smax smax
comp=N,3.0nm,1.0s
GRNR MLR MLR
comp=Z,3μm,13.0s
DANN Dangsing 34.62 292 *e*P **P** **20 07 55.8 -0.5**
comp=Z,786nm,1.2s
KUR Kuril'sk 34.69 35*d* *i*P **P** **20 07 56.9 +0.6**
KUR *i* S **S** **20 13 28.7 +2.9**
KUR *e*SS **SnSn** **20 15 32.8 -5.8**
KUR pmax pmax
comp=Z,678nm,1.0s
KUR pmax pmax
comp=Z,2μm,4.1s
KOLN Koldanda 34.69 291 *e*P **P** **20 07 56.7 -0.1**
comp=Z,429nm,1.0s
ZEA Zeya 35.03 7 *e*P **P** **20 07 59.8 +0.7**
ZEA *e*PPP PPP 20 09 36.0
ZEA *e*S **S** **20 13 37.0 +6.2**
ZEA pmax pmax
comp=N,72nm,1.2s
ZEA pmax pmax

ZEA comp=Z,78nm,1.2s pmax pmax
ZEA comp=Z,2µm,10.0s pmax pmax
ZEA comp=N,800nm,11.0s pmax pmax
ZEA comp=Z,1µm,9.0s smax smax
ZEA comp=E,3µm,13.0s MLR MLR
ZEA comp=N,16µm,14.0s MLR MLR
ZEA comp=E,12µm,14.0s MLR MLR
ZEA comp=Z,20µm,14.0s MLR MLR

TLY Talaya 35.10 342 *d iP* **P 20 08 00.6 +0.8**
TLY *e* 20 10 32.0
TLY *eS* **S 20 13 30.6 -1.5**
TLY *e* 20 18 12.7
TLY pmax pmax
TLY comp=Z,295nm,1.5s MLR MLR
TLY comp=Z,19µm,14.0s
TLY Talaya 35.10 342 P **P 20 08 01.0 +1.1**
comp=Z,12nm,0.7s,baz=157,slow=9.6,SNR=21
TLY Talaya 35.10 342 P **P 20 08 00.1 +0.2**
TLY IAmb IAmb 20 08 02.5
TLY comp=Z,224nm,1.7s IAMs_20 IAMs_20 20 22 50.3
TLY comp=Z,8µm,21.0s

IRK Irkutsk 35.42 343 *eP* **P 20 08 03.2 +0.6**
IRK pmax pmax
comp=Z,255nm,2.2s

KNRA Kununurra 35.50 166 P **P 20 08 02.1 -1.4**
KNRA IAmb IAmb 20 08 04.9
comp=Z,264nm,1.4s

MOY Mondy 35.92 339 *eP* **P 20 08 07.8 +0.8**
MOY pmax pmax
comp=Z,207nm,1.9s

TYV Tymovskoe 36.34 24 *eP* **P 20 08 11.3 +0.9**
TYV *eS* **S 20 13 56.1 +5.1**
TYV pmax pmax
comp=Z,22nm,1.3s
TYV pmax pmax
comp=Z,300nm,4.3s
TYV smax smax
comp=E,3µm,8.0s
TYV MLR MLR
comp=Z,4µm,15.0s

WMQ Urumqi 36.82 319 *eP* **P 20 08 16.0 +1.3**
WMQ sP pwP 20 08 25.5 +4.0
WMQ PP **PP 20 09 39.0 +0.4**
WMQ S **S 20 14 03.0 +4.3**
WMQ pmax pmax
comp=Z,44nm,1.9s
WMQ pmax pmax
comp=Z,440nm,5.5s
WMQ LR LR
comp=Z,10µm,14.9s
WMQ LR LR
comp=Z,6µm,14.9s
WMQ LR LR
comp=Z,6µm,19.1s

WMQ Urumqi 36.82 319 P **P 20 08 15.4 +0.7**
WMQ 20 10 37.5
WMQ pmax pmax
comp=Z,88nm,1.1s
WMQ MLR MLR
comp=Z,4µm,21.0s

WMQ Urumqi 36.82 319 P **P 20 08 15.4 +0.7**
WMQ PcP **PcP 20 10 37.5 +0.9**
WMQ Urumqi 36.82 319 IAMs_20 IAMs_20 20 23 16.4
comp=Z,4µm,21.0s

FITZ Fitzroy Crossi 37.29 172 P **P 20 08 18.0 -0.8**
comp=Z,68nm,0.8s,baz=4.1,slow=7.2,SNR=84
FITZ Fitzroy Crossi 37.29 172 P **P 20 08 17.0 -1.8**
NKL Nikolayevsk 37.51 20 *eP* **P 20 08 19.1 -1.2**
NKL *eS* **S 20 14 03.7 -5.1**
NKL pmax pmax
comp=N,7.0nm,1.2s
NKL pmax pmax
comp=Z,183nm,1.2s
NKL pmax pmax
comp=Z,160nm,4.4s

PMG Port Moresby 38.73 135 *ceP* **P 20 08 30.8 -0.2**
PMG pmax pmax
comp=Z,133nm,1.2s

PMG Port Moresby 38.73 135 P **P 20 08 30.7 -0.4**
comp=Z,8.4nm,0.5s,baz=339,slow=4.4,SNR=9.6
PMG PcP **PcP 20 10 43.9 +1.1**
comp=Z,11nm,0.7s,baz=38,slow=12,SNR=3.7
PMG Port Moresby 38.73 135 P **P 20 08 30.3 -0.7**
PMG **PcP 20 10 43.5 +0.7**

PATS Pohnpei 38.87 103 P **P 20 08 33.5 +1.3**
PATS IAmb IAmb 20 08 42.0
comp=Z,348nm,1.3s

KRVT Keravat (AS076 38.90 123 P **P 20 08 31.9 -0.6**
comp=Z,204nm,1.0s,baz=322,slow=18,SNR=4.8

MDRS Chennai 38.91 267 *ex* **P 20 08 32.8 +0.2**
MDRS IAmb IAmb 20 08 35.3
comp=Z,46nm,0.7s

BOD Bodaibo 38.99 355 *eP* **P 20 08 32.4 -0.3**
BOD pmax pmax
comp=Z,52nm,1.9s

HYB Hyderabad 39.64 275 *i P* **P 20 08 38.0 -0.8**
HYB *ePP* **PnPn 20 10 20.0 +7.1**
HYB *eS* S 20 14 52.0 +10
HYB Hyderabad 39.64 275 *eP* **P 20 08 35.9 -2.9**
HYB IAmb IAmb 20 08 39.3
comp=Z,39nm,0.8s

COEN Coen 39.79 144 P **P 20 08 37.8 -2.0**
COEN IAMs_20 IAMs_20 20 23 04.0
comp=Z,4µm,20.0s

DDI Dehra Dun 39.80 295 *⇓iP* **P 20 08 39.0 -1.0**
DDI IAmb IAmb 20 08 42.8
comp=Z,111nm,0.6s

BHPL Bhopal 40.12 284 *⇓iP* **P 20 08 41.6 -1.1**
BHPL IAmb IAmb 20 08 52.4
comp=Z,77nm,0.8s
BHPL *i* x x 20 10 27.5

PALK Pallekele 40.22 258 P **P 20 08 43.3 -0.3**
PALK 20 10 48.5
PALK pmax pmax
comp=Z,43nm,1.0s
PALK MLR MLR
comp=Z,2µm,18.0s

PALK Pallekele 40.22 258 P **P 20 08 44.1 +0.5**
comp=Z,12nm,0.8s,baz=64,slow=7.0,SNR=13
PALK PcP **PcP 20 10 49.0 +1.3**
comp=Z,7.5nm,0.8s,baz=39,slow=2.0,SNR=6.5
PALK LR LR 20 25 22.5
comp=Z,869nm,18.6s,baz=56,slow=36
PALK Pallekele 40.22 258 P **P 20 08 43.3 -0.3**
PALK **PcP 20 10 48.5 +0.8**

PSA00 Pilbara Seismi 40.38 181 P **P 20 08 43.8 -0.9**
PSA00 IAmb IAmb 20 08 45.6
comp=Z,203nm,1.1s

PSA00 Pilbara Seismi 40.38 181 P **P 20 08 43.1 -1.6**
PSA00 IAmb IAmb 20 08 46.0
comp=Z,85nm,1.1s

NDI New Delhi 40.38 292 *eP* **P 20 08 42.0 -2.8**
ZSN Zaisan 40.42 323 *⇓iP* **P 20 08 45.5 +0.6**
comp=Z,143nm,2.9s
ZSN *e*LR LR 20 28 33.2
comp=Z,954nm,11.3s

ZSN Zaisan 40.42 323 *d iP* **P 20 08 45.4 +0.6**
ZSN pmax pmax
comp=Z,143nm,2.9s
ZSN MLR MLR
comp=Z,954nm,11.0s

SMLA Simla 40.65 296 *⇓iP* **P 20 08 47.1 +0.1**
SMLA IAmb IAmb 20 08 57.4
comp=Z,173nm,1.1s

WRAB Tennant Creek 41.12 160 *c iP* **P 20 08 49.9 -0.9**
WRAB pmax pmax
comp=Z,147nm,1.3s

WRAB Tennant Creek 41.12 160 P **P 20 08 49.7 -1.1**
WRAB PcP **PcP 20 10 51.1 +0.8**
DHRM DHARAMSHALA 41.53 297 *⇓iP* **P 20 08 52.8 -1.6**
DHRM IAmb IAmb 20 09 01.1
comp=Z,121nm,1.1s

MK31 Makanchi Array 41.61 320 *i P* **P 20 08 55.7 +1.0**
MK31 pmax pmax
comp=Z,162nm,1.1s

MK31 Makanchi Array 41.61 320 P **P 20 08 55.1 +0.5**
MK31 PcP **PcP 20 10 51.4 -0.2**

MKAR Makanchi Array 41.61 320 P **P 20 08 55.8 +1.1**
comp=Z,40nm,0.8s,baz=116,slow=9.9,SNR=244
MKAR PcP **PcP 20 10 51.9 +0.3**
MKAR comp=Z,19nm,0.9s,baz=104,slow=5.1,SNR=3.5 LR LR 20 27 06.4
comp=Z,5µm,20.3s,baz=101,slow=38

MKAR Makanchi Array 41.61 320 P **P 20 08 55.0 +0.3**
MKAR **PcP 20 10 50.7 -0.9**
MAKZ Makanchi 41.80 320 *i* P **P 20 08 55.8 -0.5**
MAKZ pmax pmax
comp=Z,122nm,1.3s

MAKZ Makanchi 41.80 320 P **P 20 08 56.8 +0.5**
MAKZ IAmb IAmb 20 08 59.8
comp=Z,163nm,1.3s
MAKZ PcP **PcP 20 10 51.2 -1.0**
MAKZ IAMs_20 IAMs_20 20 26 38.6
comp=Z,5µm,21.0s

SHLS Shalkode 41.87 314 *⇓iP* **P 20 08 55.2 -1.8**
comp=Z,168nm,2.2s
SHLS *e*S **S 20 15 10.3 -4.5**
SHLS *e*LR LR 20 29 39.6
comp=Z,2µm,11.4s

SHLS Shalkode 41.87 314 *d iP* **P 20 08 55.1 -1.8**
SHLS *e*S **S 20 15 10.2 -4.5**
SHLS pmax pmax
comp=Z,168nm,2.2s

PDGK Podgornoye 41.91 314 *i P* **P 20 08 57.7 +0.3**
PDGK pmax pmax
comp=Z,112nm,1.3s

UZB Uzynbulak 42.16 314 *⇓iP* **P 20 08 59.8 +0.3**
comp=Z,154nm,2.0s
UZB *e*PP **PP 20 10 42.0 +5.0**
UZB *e*S **S 20 15 20.6 +1.4**
UZB *e*LR LR 20 30 48.1
comp=Z,2µm,11.2s

UZB Uzynbulak 42.16 314 *d iP* **P 20 08 59.7 +0.3**
UZB *e* 20 10 42.0
UZB *e*S **S 20 15 20.6 +1.4**
UZB pmax pmax
comp=Z,154nm,2.0s

PRZ Przheval'sk 42.35 313 P **P 20 09 02.8 +1.7**
PRZ Przheval'sk 42.35 313 P **P 20 09 02.8 +1.7**
PRZ IAmb IAmb 20 09 05.0
comp=Z,257nm,1.5s
PRZ PcP **PcP 20 10 55.5 +1.1**

SKR Severo-Kuril's 42.40 33 *eP* **P 20 09 00.8 -0.1**
SKR *e*S **S 20 15 22.0 0.0**
SKR pmax pmax
comp=Z,1µm,2.7s
SKR pmax pmax
comp=Z,324nm,1.0s
SKR MLR MLR
comp=Z,2µm,16.0s
SKR MLR MLR
comp=Z,1µm,15.0s

KPKS Kokpek 42.51 314 *⇓iP* **P 20 09 03.0 +0.9**
comp=Z,161nm,2.0s
KPKS *e*S **S 20 15 22.6 -1.6**
KPKS *e*LR LR 20 29 25.9
comp=Z,2µm,12.7s

KPKS Kokpek 42.51 314 *d iP* **P 20 09 03.0 +0.9**
KPKS *e*S **S 20 15 22.6 -1.6**
KPKS pmax pmax
comp=Z,161nm,2.0s
KPKS MLR MLR
comp=Z,2µm,13.0s

TARG Taragay, Kyrgy 42.52 312 P **P 20 09 03.7 +1.1**
TARG PcP **PcP 20 10 56.2 +0.9**
TARG IAMs_20 IAMs_20 20 28 14.6
comp=Z,6µm,19.0s

KDJ Kajisay 43.09 312 P **P 20 09 07.4 +0.4**
KDJ pmax pmax
comp=Z,225nm,1.8s
KDJ MLR MLR
comp=Z,7µm,18.0s

KDJ Kajisay 43.09 312 P **P 20 09 07.4 +0.4**
KDJ IAmb IAmb 20 09 10.3
comp=Z,225nm,1.8s

KSH Kashi 43.21 308 P **P 20 09 11.5 +3.6**
KSH ScP **ScP 20 14 52.0 +3.6**
KSH S **S 20 15 40.5 +5.9**
KSH SS **SS 20 18 46.5 -1.1**
KSH pmax pmax
comp=Z,1µm,2.1s
KSH pmax pmax
comp=Z,2µm,10.5s
KSH LR LR
comp=Z,17µm,13.3s
KSH LR LR
comp=Z,13µm,12.8s
KSH LR LR
comp=Z,22µm,14.4s

TDK Taldyqorghan 43.28 316 *eP* **P 20 09 09.2 +0.9**
TDK *e*S **S 20 15 36.4 +1.1**
TDK *e*LR LR 20 28 21.2
comp=Z,5µm,13.9s

TDK Taldyqorghan 43.28 316 *eP* **P 20 09 09.1 +0.9**
TDK *e*S **S 20 15 36.3 +1.1**
TDK MLR MLR
comp=Z,5µm,14.0s

TRD Trivandrum 43.29 262 *eP* **P 20 09 06.0 -2.7**
TRD IAmb IAmb 20 09 25.1
comp=Z,119nm,1.9s

YAK Yakutsk 43.43 6 *d iP* **P 20 09 08.8 -0.3**
YAK *e**PP **pwP 20 09 17.2 +1.1**
YAK *e* 20 10 49.5
YAK *e* 20 10 56.8
YAK *e*S **S 20 15 37.5 +0.6**
YAK *e*SS **SS 20 18 46.6 -4.3**
YAK *e* 20 19 10.0
YAK pmax pmax
comp=Z,91nm,1.2s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=N,49nm,1.2s
YAK pmax pmax
comp=Z,390nm,3.0s
YAK pmax pmax
comp=N,339nm,2.7s
YAK pmax pmax
comp=E,212nm,3.0s
YAK smax smax
comp=E,2µm,7.8s
YAK smax smax
comp=N,1µm,6.8s

YAK Yakutsk 43.43 6 P **P 20 09 09.2 +0.1**
comp=N,27nm,0.8s,baz=190,slow=1.3,SNR=4.7
YAK PcP **PcP 20 10 57.7 +0.4**
comp=N,21nm,0.8s,baz=206,slow=2.7,SNR=4.2

YAK Yakutsk 43.43 6 P **P 20 09 08.3 -0.8**
YAK IAMs_20 IAMs_20 20 30 00.8
comp=Z,3µm,18.0s

MDOK Medeo 43.52 313 *eP* **P 20 09 11.2 +0.7**
MDOK *e*S **S 20 15 40.4 +1.3**
MDOK *e*LR LR 20 30 53.1
comp=Z,5µm,12.3s

MDOK Medeo 43.52 313 *eP* **P 20 09 11.1 +0.7**
MDOK *e*S **S 20 15 40.4 +1.3**
TNSS Tian-Shan 43.55 313 *eP* **P 20 09 11.7 +0.8**
TNSS Tian-Shan 43.55 313 *eP* **P 20 09 11.7 +0.8**
AAA Alma-Ata 43.63 313 *eP* P 20 09 05.5 -5.7
AAA *e*LR LR 20 31 07.1
comp=Z,4µm,12.7s

AAA Alma-Ata 43.63 313 *eP* **P 20 09 13.1 +1.9**
WAKE Wake Island 43.66 82 P **P 20 09 11.4 -0.2**
NRN Naryn 43.72 311 P **P 20 09 13.2 +1.0**
NRN 20 11 00.1
NRN pmax pmax
comp=Z,212nm,1.5s

NRN Naryn 43.72 311 P **P 20 09 13.2 +1.0**
NRN IAmb IAmb 20 09 15.3
comp=Z,212nm,1.4s
NRN PcP **PcP 20 11 00.1 +1.0**

ULHL Ulahol 43.79 312 P **P 20 09 14.4 +1.8**
SNR=16
H11S3 WAKE ISLAND Hy 43.80 83 P **P 20 09 12.9 +0.4**
baz=285,slow=4.9,SNR=2.5
H11S3 T T 20 54 51.4
baz=275,slow=75,SNR=25

H11S1 WAKE ISLAND Hy 43.81 83 P **P 20 09 13.2 +0.6**
baz=285,slow=4.9,SNR=4.3
H11S1 T T 20 55 09.0
baz=275,slow=75,SNR=20

H11S2 WAKE ISLAND Hy 43.82 83 P **P 20 09 13.6 +0.9**
baz=285,slow=4.9,SNR=2.8
H11S2 T T 20 54 52.7
baz=275,slow=75,SNR=19

H11N1 WAKE ISLAND Hy 43.82 81 P **P 20 09 15.1 +2.3**
baz=264,slow=11,SNR=3.3
H11N1 T T 20 55 06.3
baz=277,slow=75,SNR=11

H11N2 WAKE ISLAND Hy 43.83 81 P **P 20 09 14.8 +2.1**
baz=264,slow=11,SNR=3.2
H11N2 T T 20 55 10.0
baz=277,slow=75,SNR=10

H11N3 WAKE ISLAND Hy 43.84 81 P **P 20 09 14.7 +1.9**
baz=264,slow=11,SNR=3.1
H11N3 T T 20 55 04.5
baz=277,slow=75,SNR=7.0

POO Poona 43.90 277 *ex* P 20 09 07.8 -5.8
POO IAmb IAmb 20 09 14.6
comp=Z,35nm,0.6s

ZAA0 Zalesovo Array 44.20 330 P **P 20 09 14.6 -0.9**
ZAA0 IAmb IAmb 20 09 17.1
comp=Z,110nm,1.1s
ZAA0 PcP **PcP 20 11 00.4 +0.3**

ZALV Zalesovo Beam 44.20 330 P **P 20 09 15.8 +0.3**
comp=Z,41nm,0.7s,baz=122,slow=7.2,SNR=220
ZALV PcP **PcP 20 11 00.0 0.0**
comp=Z,4.2nm,0.5s,baz=118,slow=4.0,SNR=3.2
ZALV LR LR 20 28 28.6
comp=Z,7µm,19.1s,baz=125,slow=37

ZALV Zalesovo Beam 44.20 330 P **P 20 09 14.6 -0.9**
ZALV PcP **PcP 20 10 59.4 -0.7**

NIL Nilore 44.24 299 P **P 20 09 15.8 -0.4**
NIL pmax pmax
comp=Z,138nm,0.8s
NIL MLR MLR
comp=Z,5µm,21.0s

NIL Nilore 44.24 299 P **P 20 09 15.8 -0.4**
NIL IAmb IAmb 20 09 27.4
comp=Z,138nm,0.8s

NIL Nilore 44.24 299 IAMs_20 IAMs_20 20 29 47.1
comp=Z,5µm,21.0s

KUU Kurty 44.25 314 *⇓iP* **P 20 09 17.1 +0.9**
comp=Z,328nm,1.6s
KUU *e*S **S 20 15 50.5 +0.9**
KUU *e*LR LR 20 31 49.1
comp=Z,4µm,12.4s

KUU Kurty 44.25 314 *d iP* **P 20 09 17.0 +0.9**
KUU *e*S **S 20 15 50.4 +0.9**
KUU pmax pmax
comp=Z,329nm,1.5s

KZA Kyzart 44.44 311 P **P 20 09 20.3 +2.2**
SNR=48

GOA Goa 44.45 273 *eP* **P 20 09 18.2 +0.2**
GOA IAmb IAmb 20 09 28.4
comp=Z,146nm,1.2s

TKM2 Tokmak 2 44.45 312 *i P* **P 20 09 18.5 +0.5**
TKM2 pmax pmax
comp=Z,133nm,1.6s

TKM2 Tokmak 2 44.45 312 P **P 20 09 19.5 +1.5**
SNR=41
AS31 Alice Springs 44.48 162 P **P 20 09 17.4 -0.8**
ASAR Alice Springs 44.48 162 P **P 20 09 16.7 -1.4**
ASAR 20 11 01.0
ASAR Alice Springs 44.48 162 P **P 20 09 18.4 +0.3**
comp=Z,36nm,0.5s,baz=342,slow=6.8,SNR=457
ASAR PcP **PcP 20 11 00.7 -0.8**
comp=Z,5.1nm,0.8s,baz=339,slow=5.0,SNR=2.2
ASAR LR LR 20 31 29.7
comp=Z,1µm,18.2s,baz=351,slow=41

ASAR Alice Springs 44.48 162 P **P 20 09 16.7 -1.4**
ASAR PcP **PcP 20 11 01.0 -0.5**

PEA0B Petropavlovsk- 44.59 31 P **P 20 09 19.0 +0.3**
PEA0B pmax pmax
comp=Z,266nm,1.1s

PEA0B Petropavlovsk- 44.59 31 P **P 20 09 19.0 +0.3**
PETK Petropavlovsk- 44.59 31 P **P 20 09 18.5 -0.2**
PETK 20 11 01.1

PETK Petropavlovsk- 44.59 31 P **P 20 09 19.1 +0.4**
comp=Z,115nm,0.9s,baz=197,slow=5.5,SNR=66
PETK PcP **PP 20 11 02.4 -0.4**
comp=Z,14nm,0.8s,baz=225,slow=3.6,SNR=3.7
PETK LR LR 20 28 33.5
comp=Z,2µm,19.3s,baz=229,slow=37

PETK Petropavlovsk- 44.59 31 P **P 20 09 18.5 -0.2**
PETK PcP **PcP 20 11 01.1 -0.3**

KBK Karagaybulak 44.83 312 P **P 20 09 23.0 +2.0**
SNR=63

UCH Uchtor 45.01 311 P **P 20 09 24.9 +2.2**
SNR=113

PET Petropavlovsk 45.02 32 *d iP* **P 20 09 23.0 +1.0**
PET *e* 20 11 11.5
PET *e*S **S 20 15 59.3 -1.0**
PET *e*SS **ScS 20 19 15.5 -3.4**
PET pmax pmax
comp=Z,120nm,0.8s
PET pmax pmax
comp=Z,800nm,11.5s
PET pmax pmax
comp=Z,500nm,12.9s
PET MLR MLR
comp=Z,2µm,18.0s
PET MLR MLR
comp=Z,3µm,15.0s

PET Petropavlovsk 45.02 32 P **P 20 09 21.7 -0.3**
CHMS Chumysh 45.06 312 P **P 20 09 24.0 +1.3**
SNR=50

FRU1 Bishkek 45.09 312 P **P 20 09 23.1 +0.2**
FRU1 pmax pmax
comp=Z,96nm,1.3s
FRU1 MLR MLR
comp=Z,7µm,18.0s

FRU1 Bishkek 45.09 312 P **P 20 09 23.1 +0.2**
AAK Ala-Archa 45.14 312 *i P* **P 20 09 24.7 +1.3**
SNR=24

AAK Ala-Archa 45.14 312 *d iP* **P 20 09 24.9 +1.5**
AAK pmax pmax
comp=Z,61nm,1.3s

AAK Ala-Archa 45.14 312 P **P 20 09 25.1 +1.7**
comp=Z,21nm,1.1s,baz=95,slow=7.1,SNR=44
AAK PcP **PcP 20 11 04.6 +0.8**
comp=Z,13nm,0.6s,baz=130,slow=4.3,SNR=11
AAK LR LR 20 30 18.3
comp=Z,7µm,21.2s,baz=68,slow=39

AAK Ala-Archa 45.14 312 P **P 20 09 25.1 +1.7**
SNR=24
AAK Ala-Archa 45.14 312 P **P 20 09 23.9 +0.5**
AAK PcP **PcP 20 11 04.4 +0.6**

SGDS Sogindy 45.29 313 *⇓iP* **P 20 09 24.5 0.0**
comp=Z,158nm,3.8s
SGDS *e*PP **PP 20 11 14.7 +4.4**
SGDS *e*S **S 20 16 10.2 +5.5**
SGDS *e*LR LR 20 32 01.5
comp=Z,1µm,12.6s

USP Ospenovka 45.32 313 P **P 20 09 26.1 +1.4**
SNR=57

AML Almayashu 45.57 311 P **P 20 09 29.1 +2.0**
SNR=84

KURK Kurchatov 45.62 324 *d iP* **P 20 09 27.3 +0.5**
KURK pmax pmax
comp=Z,282nm,2.1s

KURK Kurchatov 45.62 324 P **P 20 09 26.8 0.0**
KURK IAmb IAmb 20 09 28.4
comp=Z,93nm,1.0s

KURBB Kurchatov Arra 45.62 324 P **P 20 09 27.8 +1.0**
comp=Z,48nm,0.7s,baz=123,slow=7.9,SNR=201

EKS2 Erkin-Say 45.65 312 P **P 20 09 29.3 +1.9**
SNR=33

ARSB Arslanbob 45.87 309 P **P 20 09 29.5 +0.3**
ARSB IAmb IAmb 20 09 32.1
comp=Z,135nm,1.3s
ARSB PcP **PcP 20 11 07.2 +0.8**

MA2 Magadan 46.02 21 *d iP* **P 20 09 30.3 +0.4**
MA2 pmax pmax
comp=Z,191nm,1.3s

MA2 Magadan 46.02 21 P **P 20 09 30.9 +1.1**
comp=Z,95nm,1.0s,baz=223,slow=9.8,SNR=15
MA2 PcP **PcP 20 11 06.8 +0.5**
comp=Z,25nm,0.9s,baz=175,slow=4.6,SNR=3.8

MA2 Magadan 46.02 21 P **P 20 09 29.9 0.0**
MA2 IAmb IAmb 20 09 32.0
comp=Z,140nm,1.1s
MA2 PcP **PcP 20 11 07.4 +1.1**

MA2 Magadan 46.02 21 IAMs_20 IAMs_20 20 29 35.7
comp=Z,3µm,20.0s

BTLS Baital 46.18 315 *eP* **P 20 09 31.3 -0.1**
BTLS *e*S **S 20 16 20.9 +3.6**
BTLS *e*LR LR 20 33 10.0

BTLS Baital 46.18 315 *e*P **P** 20 09 31.3 -0.1
BTLS *e*S **S** 20 16 20.9 +3.6
CTA Charters Tower 46.47 145 P **P** 20 09 34.4 +0.5
comp=Z,31nm,1.0s,baz=329,slow=12,SNR=15
CTAO Charters Tower 46.47 145 P **P** 20 09 34.5 +0.5
CTAO pmax pmax
comp=Z,45nm,1.3s
CTAO Charters Tower 46.47 145 IAMs_20 IAMs_20 20 27 56.1
comp=Z,4μm,21.0s
MNCI Minicoy 47.02 264 P **P** 20 09 39.0 +0.6
BTK Batken 47.20 307 P **P** 20 09 39.9 +0.4
BTK pmax pmax
comp=Z,199nm,1.6s
BTK Batken 47.20 307 P **P** 20 09 39.9 +0.4
BTK IAmb IAmb 20 09 42.3
comp=Z,199nm,1.6s
BHUJ Bhuj 47.25 284 *e*P **P** 20 09 39.2 -0.9
BHUJ IAmb IAmb 20 09 50.9
comp=Z,117nm,0.8s
HMDM Hanimaadhoo 47.39 262 P **P** 20 09 40.6 -0.7
DZA Taraz 47.45 311 *e*P **P** 20 09 40.4 -1.1
DZA Taraz 47.45 311 *e*P **P** 20 09 40.3 -1.1
KBL Kabul 47.81 300 P **P** 20 09 44.4 -0.2
KBL pmax pmax
comp=Z,254nm,1.5s
KBL MLR MLR
comp=Z,7μm,18.0s
KBL Kabul 47.81 300 P **P** 20 09 44.4 -0.2
JBG Jabagly 47.90 310*d* *i*P **P** 20 09 47.4 +2.3
JBG *e*S S 20 16 53.4 +11
JBG pmax pmax
comp=Z,93nm,1.8s
JBG MLR MLR
comp=Z,2μm,16.0s
MORW Morawa 48.02 185 P **P** 20 09 45.4 -0.5
MORW IAmb IAmb 20 09 57.6
comp=Z,113nm,0.9s
KK31 Karatay Array 48.09 311 *i* P **P** 20 09 47.1 +0.8
KK31 pmax pmax
comp=Z,98nm,0.9s
KK31 Karatay Array 48.09 311 P **P** 20 09 47.0 +0.7
KK31 IAmb IAmb 20 09 48.8
comp=Z,122nm,1.0s
KK31 PcP **PcP** **20 11 13.6 -0.4**
KKAR Karatay Array 48.09 311 P **P** 20 09 46.4 +0.1
KKAR 20 11 13.6
KKAR pmax pmax
comp=Z,122nm,1.0s
KKAR Karatay Array 48.09 311 P **P** 20 09 46.4 +0.1
KKAR IAmb IAmb 20 09 48.8
comp=Z,122nm,1.0s
KKAR PcP **PcP** **20 11 13.6 -0.4**
KKAR Karatay Array 48.09 311 P **P** 20 09 46.4 +0.1
KKAR PcP **PcP** **20 11 13.2 -0.8**
IUG Iuzhnay 48.21 310⇓ *i*P **P** 20 09 48.6 +1.2
comp=Z,23nm,1.6s
IUG *e*S S 20 16 56.1 +9.4
IUG Iuzhnay 48.21 310*d* *i*P **P** 20 09 48.6 +1.2
IUG *e*S S 20 16 56.0 +9.4
IUG pmax pmax
comp=Z,23nm,1.6s
HNR Honiara 48.24 122 IAMs_20 IAMs_20 20 27 24.1
comp=Z,5μm,20.0s
BRZS Berezniki 48.76 321⇓ *i*P **P** 20 09 52.0 +0.6
comp=Z,189nm,2.8s
BRZS *e*PP **PP** **20 11 45.7 +1.3**
BRZS *e*LR LR 20 33 10.0
comp=Z,1μm,12.7s
BRZS Berezniki 48.76 321*d* *i*P **P** 20 09 52.0 +0.6
BRZS *e* 20 11 45.7
BRZS pmax pmax
comp=Z,189nm,2.8s
BRZS MLR MLR
comp=Z,1μm,13.0s
SEY Seymchan 49.06 19⇓ *i*P **P** 20 09 53.7 +0.3
SEY Seymchan 49.06 19 P **P** 20 09 54.9 +1.5
comp=Z,70nm,0.9s,baz=226,slow=5.7,SNR=71
SEY PcP **PcP** **20 11 18.1 +1.1**
comp=Z,14nm,0.7s,baz=212,slow=5.1,SNR=3.5
KAAM Kaadhehdhoo 49.92 254 IAMs_20 IAMs_20 20 30 58.1
comp=Z,3μm,18.0s
FORT Forrest 50.10 171 P **P** 20 10 01.4 -0.4
BVAR Borovoye Array 51.21 324 P **P** 20 10 10.8 +0.8
comp=Z,15nm,0.8s,baz=117,slow=12,SNR=88
BVAR PcP **PcP** **20 11 25.1 0.0**
comp=Z,23nm,0.8s,baz=108,slow=3.3,SNR=11
BRVK Borovoye 51.29 324*d* *i*P **P** 20 10 11.4 +0.9
BRVK pmax pmax
comp=Z,89nm,1.3s
BRVK Borovoye 51.29 324 P **P** 20 10 10.7 +0.2
BRVK PcP **PcP** **20 11 25.4 0.0**
BRVK Borovoye 51.29 324 IAMs_20 IAMs_20 20 32 07.4
comp=Z,3μm,20.0s
NWAO Narrogin (SRO) 51.77 183 P **P** 20 10 13.9 -0.4
NWAO pmax pmax
comp=Z,112nm,1.0s
NWAO Narrogin (SRO) 51.77 183 LR LR 20 35 39.7
comp=Z,940nm,19.0s,baz=344,slow=40
NWAO Narrogin (SRO) 51.77 183 P **P** 20 10 13.9 -0.4
NWAO IAmb IAmb 20 10 26.2
comp=Z,112nm,0.9s
NWAO Narrogin (SRO) 51.77 183 P **P** 20 10 13.9 -0.4
NWAO IAmb IAmb 20 10 26.2
comp=Z,140nm,0.9s
TIXI Tiksi 52.83 3*d* *i*P **P** 20 10 20.7 -1.0
TIXI pmax pmax
comp=Z,182nm,1.7s
TIXI Tiksi 52.83 3 P **P** 20 10 21.4 -0.3
comp=Z,31nm,0.9s,baz=180,slow=24,SNR=69
TIXI Tiksi 52.83 3 P **P** 20 10 20.5 -1.2
TIXI IAmb IAmb 20 10 22.9
comp=Z,356nm,1.8s
TIXI IAMs_20 IAMs_20 20 35 02.9
comp=Z,3μm,18.0s
SMY Shemya 53.30 38 P **P** 20 10 25.0 -0.5
SMY pmax pmax
comp=Z,449nm,1.5s
SMY Shemya 53.30 38 P **P** 20 10 25.0 -0.5
EIDS Eidsvold 53.34 145 P **P** 20 10 24.9 -1.2
EIDS PcP **PcP** **20 11 31.8 -1.8**
EIDS IAMs_20 IAMs_20 20 31 32.6
comp=Z,2μm,18.0s
HRA Herat 53.41 299 P **P** 20 10 26.6 -0.3
HRA IAmb IAmb 20 10 28.9
comp=Z,196nm,1.5s
HRA PcP **PcP** **20 11 33.9 -0.3**
HRA IAMs_20 IAMs_20 20 35 58.3
comp=Z,3μm,21.0s
BBOO Buckleboo 53.73 164 P **P** 20 10 29.1 +0.3
BBOO IAMs_20 IAMs_20 20 35 05.5
comp=Z,2μm,21.0s
H08S3 Diego Garcia H 54.09 245 P **P** 20 10 30.9 -0.6
H08S2 Diego Garcia H 54.09 245 P **P** 20 10 30.9 -0.6
H08S1 Diego Garcia H 54.11 245 P **P** 20 10 31.0 -0.6
NRIK Noril'sk 54.15 346 P **P** 20 10 32.1 +0.7
comp=Z,99nm,1.0s,baz=127,slow=7.3,SNR=131
NRIK LR LR 20 34 38.7
comp=Z,8μm,19.2s,baz=148,slow=37
STKA Stephens Creek 54.60 158 P **P** 20 10 35.7 +0.6
comp=Z,96nm,0.9s,baz=337,slow=9.3,SNR=102
STKA Stephens Creek 54.60 158 P **P** 20 10 35.5 +0.4
H08N1 Diego Carcia H 54.74 247 P **P** 20 10 36.3 +0.2
baz=64,slow=5.0,SNR=4.0
H08N2 Diego Garcia H 54.74 247 P **P** 20 10 36.2 +0.1
baz=64,slow=5.0,SNR=7.1
H08N3 Diego Garcia H 54.76 247 P **P** 20 10 36.7 +0.5
baz=64,slow=5.0,SNR=4.4
AB31 Akbulak array 56.53 317 *i* P **P** 20 10 49.6 +0.7
AB31 pmax pmax
comp=Z,36nm,0.7s
ABKAR Akbulak array 56.53 317 P **P** 20 10 49.2 +0.2
ABKAR Akbulak array 56.53 317 P **P** 20 10 48.9 0.0
ASHT Ashkhabad 56.60 303 P **P** 20 10 51.1 +1.5
ASHT pmax pmax
comp=Z,1μm,1.7s
ASHT MLR MLR
comp=Z,4μm,21.0s
ASHT Ashkhabad 56.60 303 P **P** 20 10 51.1 +1.5
ASHT IAMs_20 IAMs_20 20 37 30.5
comp=Z,4μm,21.0s
BILL Bilibino 56.76 19*d* *i*P **P** 20 10 50.7 +0.4
BILL pmax pmax
comp=Z,279nm,1.8s
BILL MLR MLR
comp=Z,4μm,17.0s
BILL Bilibino 56.76 19 P **P** 20 10 50.5 +0.2
GEYT Alibeck 56.81 303 P **P** 20 10 52.8 +1.6
comp=Z,74nm,0.8s,baz=108,slow=4.8,SNR=248
GEYT LR LR 20 37 48.5
comp=Z,5μm,21.5s,baz=75,slow=39
GEYT Alibeck 56.81 303 P **P** 20 10 51.5 +0.3
GYA0B ALIBECK ARRAY 56.81 303 P **P** 20 10 52.0 +0.9
MIDW Midway 57.28 68 P **P** 20 10 55.0 +0.4
MIDW IAmb IAmb 20 11 08.4
comp=Z,104nm,0.9s
WSAR Wadi Sarin 57.32 286 LR LR 20 37 26.7
comp=Z,877nm,18.6s,baz=108,slow=38
ARMA Armidale 57.68 148 P **P** 20 10 58.3 +0.9
ARMA IAMs_20 IAMs_20 20 35 01.6
comp=Z,4μm,20.0s
SVE Sverdlovsk 57.75 326*c* *i*P **P** 20 10 58.6 +1.2
SVE *e* 20 14 34.0
SVE *e*S **S** **20 18 58.4 +2.4**
SVE pmax pmax
comp=Z,349nm,1.5s
SVE MLR MLR
comp=Z,4μm,12.0s
AKTO Aktyubinsk 57.95 318 P **P** 20 10 59.8 +0.8
comp=Z,49nm,1.0s,baz=96,slow=7.8,SNR=108
ADK Adak 58.60 40 P **P** 20 11 03.4 -0.1
ADK pmax pmax
comp=Z,115nm,1.2s
ADK Adak 58.60 40 P **P** 20 11 03.4 -0.1
ADK IAmb IAmb 20 11 05.2
comp=Z,115nm,1.2s
ARU Arti 58.77 325*d* *i*P **P** 20 11 04.7 +0.2
ARU pmax pmax
comp=Z,307nm,1.7s
ARU Arti 58.77 325 P **P** 20 11 05.0 +0.5
comp=Z,14nm,0.5s,baz=104,slow=3.0,SNR=86
ARU Arti 58.77 325 P **P** 20 11 04.9 +0.4
ARU IAMs_20 IAMs_20 20 37 39.2
comp=Z,3μm,19.0s
GSTR Great Sitkin T 59.02 40 P **P** 20 11 04.6 -1.8
BANOM Banah 59.06 289 *i* P **P** 20 11 06.9 -0.2
SNR=7.7
UOSS Minazif 59.27 288 P **P** 20 11 06.0 -2.6
HATD Hatta, Dubai 59.36 288 P **P** 20 11 09.7 +0.5
ASHO Ashiyiah 59.44 288 P **P** 20 11 10.3 +0.4
ASUD Al Ashush, Dub 60.11 288 P **P** 20 11 14.9 +0.6
ATKA Atka Island 60.17 40 P **P** 20 11 13.7 -0.6
CAN Canberra 60.54 153 P **P** 20 11 17.8 +0.8
CAN pmax pmax
comp=Z,174nm,1.6s
CAN Canberra 60.54 153 P **P** 20 11 17.8 +0.8
CAN IAmb IAmb 20 11 19.9
comp=Z,174nm,1.6s
DZM Mont Dzumac 60.86 130 P **P** 20 11 21.5 +2.0
comp=Z,74nm,1.0s,baz=351,slow=6.4,SNR=24
DZM Mont Dzumac 60.86 130 *e*P **P** 20 11 21.0 +1.5
comp=Z,270nm,1.2s
DZM *e*S **S** **20 19 33.6 -3.7**
comp=Z,3μm,30.1s
DZM *e*LQ LQ 20 26 57.6
comp=Z,2μm,25.2s
DZM *e*LR LR 20 29 34.7
comp=Z,7μm,22.8s
DZM Mont Dzumac 60.86 130 P **P** 20 11 17.9 -1.6
DZM IAMs_20 IAMs_20 20 33 40.0
comp=Z,4μm,22.0s
TOO Toolangi 61.11 157 P **P** 20 11 20.9 +0.1
TOO pmax pmax
comp=Z,183nm,1.2s
TOO MLR MLR
comp=Z,2μm,18.0s
TOO Toolangi 61.11 157 P **P** 20 11 20.9 +0.1
TOO IAMs_20 IAMs_20 20 39 19.2
comp=Z,2μm,18.0s
LHI Lord Howe Isla 62.53 143 P **P** 20 11 31.0 +0.5
LHI IAmb IAmb 20 11 34.1
comp=Z,145nm,1.2s
GAMB Gambell 63.36 27 P **P** 20 11 35.7 +0.1
NIKH Nikolski High 63.49 40 P **P** 20 11 35.4 -1.2
SOCY Socotra 63.94 275 P **P** 20 11 38.1 -2.3
SOCY IAMs_20 IAMs_20 20 41 10.9
comp=Z,1μm,18.0s
KIRV Kirov 63.99 327 P **P** 20 11 40.1 +0.3
comp=Z,147nm,0.7s,baz=89,slow=3.0,SNR=87
LKRN Lenkeran, Azer 64.12 304 P **P** 20 11 41.9 +0.8
FUNA Funafuti 64.16 110 P **P** 20 11 41.5 -0.2
AKT Akhty 64.74 308 *e*P **P** 20 11 45.9 +0.7
AKT 20 12 17.9
AKT *e* 20 14 10.2
AKT pmax pmax
comp=Z,144nm,1.0s
MAK Makhachkala 64.82 309 *e*P P 20 11 40.7 -4.8
MAK *e* 20 14 13.1
MAK *e*PPP PPP 20 15 39.7
MAK *e*S **S** **20 20 20.1 -6.1**
MAK pmax pmax
comp=Z,127nm,1.1s
UNV Unalaska Valle 64.93 39 P **P** 20 11 45.2 -0.8
UNV IAmb IAmb 20 14 07.0
comp=Z,125nm,1.5s
SEKA Sheki 65.16 307 P **P** 20 11 48.1 +0.2
MNGR Mingechevir, A 65.27 307 P **P** 20 11 49.4 +0.9
AKUT Akutan 65.37 38 P **P** 20 11 48.5 -0.4
GANJ Ganja 65.86 307 P **P** 20 11 53.1 +0.7
GROC Groznyy 66.05 310 *e*P **P** 20 11 51.5 -2.0
GROC *e* 20 12 20.9
GROC *e* 20 14 17.5
GROC pmax pmax
comp=Z,94nm,1.0s
PRGR Permogore 66.15 330⇓ *i*P **P** 20 11 53.6 -0.2
PRGR *e**PP **sP** 20 11 58.7 +0.1
PRGR *e**SP **pwP** **20 12 01.9 +1.1**
PRGR pmax pmax
comp=Z,138nm,0.9s
ANM Nome 66.22 27 P **P** 20 11 55.2 +1.0
ANM pmax pmax
comp=Z,165nm,1.6s
ANM MLR MLR
comp=Z,1μm,18.0s
ANM Nome 66.22 27 P **P** 20 11 55.1 +1.0
ANM IAmb IAmb 20 11 57.3
comp=Z,165nm,1.6s
ANM IAMs_20 IAMs_20 20 43 35.6
comp=Z,1μm,18.0s
TAU Tasmania Unive 66.48 159 P **P** 20 11 57.5 +1.4
TAU Tasmania Unive 66.48 159 P **P** 20 11 57.5 +1.4
TAU Tasmania Unive 66.48 159 IAMs_20 IAMs_20 20 41 33.6
comp=Z,2μm,21.0s
NAX Nakhchivan 66.63 305 P **P** 20 11 58.1 +0.6
FALS False Pass 66.75 38 P **P** 20 11 59.5 +1.7
TBLG Delisi 66.95 308 P **P** 20 11 59.4 0.0
TBLG Delisi 66.95 308 P **P** 20 11 59.4 0.0
GNI Garni 67.11 306 *i* P **P** 20 12 02.1 +1.5
SNR=17
GNI Garni 67.11 306*d* *i*P **P** 20 12 01.6 +1.0
GNI pmax pmax
comp=Z,551nm,1.7s
GNI Garni 67.11 306 P **P** 20 12 02.1 +1.5
comp=Z,79nm,1.2s,baz=92,slow=1.8,SNR=29
GNI Garni 67.11 306 P **P** 20 12 00.3 -0.3
GNI Garni 67.11 306 IAMs_20 IAMs_20 20 44 24.6
comp=Z,1μm,20.0s
ZEI Tsey 67.47 309 *e*P P 20 11 57.9 -5.0
ZEI pmax pmax
comp=Z,124nm,1.0s
MSVF Nonsavu 67.47 119 P **P** 20 12 02.2 -0.8
MSVF pmax pmax
comp=Z,82nm,1.0s
MSVF MLR MLR
comp=Z,4μm,21.0s
MSVF Nonsavu 67.47 119 P **P** 20 12 02.2 -0.8
MSVF IAmb IAmb 20 12 26.9
comp=Z,82nm,1.0s
MSVF Nonsavu 67.47 119 IAMs_20 IAMs_20 20 35 56.2
comp=Z,3μm,21.0s
RDOG Red Dog Mine 67.53 23 P **P** 20 12 03.0 +0.4
RDOG IAmb IAmb 20 12 05.5
comp=Z,181nm,1.6s
GOF Gofitskoye 67.88 312⇓ *i*P **P** 20 12 05.3 +0.2
GOF pmax pmax
comp=Z,244nm,2.1s
AKH Akhalkalaki 67.92 308 P **P** 20 12 05.5 -0.2
AKH pmax pmax
comp=Z,129nm,1.1s
AKH MLR MLR
comp=Z,4μm,22.0s
AKH Akhalkalaki 67.92 308 ⇑P **P** 20 12 07.7 +2.0
AKH Akhalkalaki 67.92 308 P **P** 20 12 05.5 -0.2
MSEY Mahe Island 68.01 257 P **P** 20 12 05.1 -1.4
MSEY pmax pmax
comp=Z,65nm,1.1s
MSEY MLR MLR
comp=Z,2μm,18.0s
MSEY Mahe Island 68.01 257 P **P** 20 12 05.1 -1.4
MSEY IAmb IAmb 20 12 16.8
comp=Z,65nm,1.1s
MSEY Mahe Island 68.01 257 IAMs_20 IAMs_20 20 41 58.6
comp=Z,2μm,18.0s
KBZ Khabaz 68.11 310 P **P** 20 12 07.2 +0.7
comp=Z,33nm,0.9s,baz=94,slow=6.1,SNR=57
KBZ LR LR 20 45 11.6
comp=Z,3μm,18.9s,baz=73,slow=39
KIV Kislovodsk 68.24 311 *i* P **P** 20 12 08.4 +0.9
SNR=30
KIV Kislovodsk 68.24 311*d* *i*P **P** 20 12 08.0 +0.4
KIV *e**PP **sP** 20 12 12.4 0.0
KIV *e**SP **pwP** **20 12 15.6 +1.5**
KIV *e* 20 12 33.3
KIV *e* 20 14 36.4
KIV *e*PPP PPP 20 16 19.2
KIV *e*S **S** **20 21 08.9 +0.9**
KIV *e*SS **SS** **20 25 33.2 +2.5**
KIV pmax pmax
comp=Z,191nm,1.7s
KIV MLR MLR
comp=Z,2μm,20.0s
KIV Kislovodsk 68.24 311 ⇑P **P** 20 12 08.9 +1.3
KIV Kislovodsk 68.24 311 P **P** 20 12 07.7 +0.1
KIV IAMs_20 IAMs_20 20 44 31.9
comp=Z,3μm,21.0s
VRH Novokhopyorsk 68.29 318 *e*P **P** 20 12 07.2 -0.4
VRH pmax pmax
comp=Z,290nm,1.0s
VRH MLR MLR
comp=Z,3μm,17.0s
SDPT Sand Point 68.43 37 P **P** 20 12 07.6 -0.7
CNBA Chernabura Isl 68.97 38 P **P** 20 12 11.5 -0.2
RAYN Ar Rayn 69.14 289 *i* P **P** 20 12 13.5 0.0
SNR=37
RAYN Ar Rayn 69.14 289 P **P** 20 12 13.4 0.0
RAYN pmax pmax
comp=Z,82nm,1.2s
RAYN MLR MLR
comp=Z,1μm,20.0s
RAYN Ar Rayn 69.14 289 P **P** 20 12 13.4 0.0
RAYN IAmb IAmb 20 12 23.7
comp=Z,82nm,1.1s
RAYN IAMs_20 IAMs_20 20 47 54.1
comp=Z,1μm,20.0s
TMCR Tamitsa 69.67 332 *e*P **P** 20 12 14.8 -1.1
TMCR pmax pmax
comp=Z,308nm,1.3s
VORR Voronezh 69.82 319 *e*P **P** 20 12 16.0 -1.1
VORR pmax pmax
comp=Z,450nm,1.6s
VORD Divnogorie 69.84 318 *e*P **P** 20 12 16.3 -0.9
VORD pmax pmax
comp=Z,120nm,1.5s
VSR Storozhevoye 69.89 319 *e*P **P** 20 12 16.8 -0.7
VSR pmax pmax
comp=Z,160nm,1.1s
LPSR Galich'ya Gora 69.91 320 *e*P **P** 20 12 17.3 -0.3
LPSR pmax pmax
comp=Z,220nm,1.0s
LPSR MLR MLR
comp=Z,2μm,11.0s
MOS Moscow 70.39 323 *e*P **P** 20 12 17.2 -3.3
MOS *e*S **S** **20 21 29.9 -2.7**
MOS pmax pmax
comp=Z,1μm,2.3s
MOS pmax pmax
comp=Z,392nm,1.7s
MOS MLR MLR
comp=N,600nm,16.0s
MOS MLR MLR
comp=Z,2μm,16.0s
MOS MLR MLR
comp=E,2μm,18.0s
SOC Sochi 70.42 310*d* *i*P **P** 20 12 20.2 -0.7
SOC *e* 20 14 55.3
SOC *e*S **S** **20 21 34.1 +0.6**
SOC pmax pmax
comp=Z,50nm,0.8s
SOC MLR MLR
comp=Z,2μm,18.0s
BINT Bingol 70.54 305 P **P** 20 12 21.7 -0.2
SVW2 Sparrevohn 70.67 31 P **P** 20 12 23.2 +1.0
SVW2 IAmb IAmb 20 12 24.9
comp=Z,230nm,1.7s
LVZ Lovozero 70.89 336*ce*P **P** 20 12 23.9 +0.5
LVZ pmax pmax
comp=Z,108nm,1.7s
LVZ Lovozero 70.89 336 P **P** 20 12 23.4 0.0
LVZ IAmb IAmb 20 12 25.8
comp=Z,162nm,1.4s
OBN Obninsk 71.05 323*ce*P **P** 20 12 24.5 0.0
OBN *e**SP **pwP** **20 12 31.3 -0.3**
OBN *e* 20 12 46.6
OBN *e* 20 15 02.0
OBN *e*PPP PPP 20 16 45.0
OBN *e*S **S** **20 21 41.9 +1.6**
OBN *e*SS **SS** **20 26 16.4 +3.3**
OBN pmax pmax
comp=Z,304nm,1.7s
OBN MLR MLR
comp=Z,2μm,16.0s
OBN Obninsk 71.05 323 ⇑P **P** 20 12 24.7 +0.2
OBN mb 20 12 40.1
OBN Obninsk 71.05 323 P **P** 20 12 24.0 -0.5
IMAR Indian Mountai 71.12 26 P **P** 20 12 25.3 +0.5
CHIR Chirikof Islan 71.14 36 P **P** 20 12 25.2 +0.2
APA Apatity 71.38 336⇓ *i*P **P** 20 12 25.7 -0.6
APA *i* 20 12 35.4
APA *i* S **S** **20 21 43.0 -0.9**
APA *i* PS 20 22 08.0
APA *i* SS **SS** **20 26 21.0 +3.2**
APA pmax pmax
comp=Z,48nm,1.0s
SII Sitkinak Islan 71.85 36 P **P** 20 12 30.0 +0.6
ANN Anapa 71.86 312 *e*P P 20 12 23.2 -6.4
ANN *e**PP pP 20 12 30.2 -3.0
ANN *e*S S 20 21 39.3 -11
ANN *e* 20 26 26.4
ANN pmax pmax
comp=Z,53nm,1.2s
PPLA Purkeypile 72.09 29 P **P** 20 12 31.5 +0.6
RSO Redoubt South 72.12 31 P **P** 20 12 30.8 -0.3
MALT Malatya 72.23 305 P **P** 20 12 33.3 +1.2
OHAK Old Harbor 72.26 35 P **P** 20 12 31.4 -0.3
OHAK IAmb IAmb 20 12 33.2
comp=Z,87nm,0.9s
DAMY Dhamar 72.32 280 P **P** 20 12 32.8 -0.5
DAMY IAmb IAmb 20 12 44.5
comp=Z,68nm,1.2s
COLD Coldfoot 72.40 24 P **P** 20 12 32.9 +0.5
TOLK Toolik Lake Re 72.46 23 P **P** 20 12 33.9 +1.1
baz=277
TOLK Toolik Lake Re 72.46 23 P **P** 20 12 33.1 +0.2
TOLK IAmb IAmb 20 12 35.3
comp=Z,68nm,1.1s
MLY Manley 72.46 26 P **P** 20 12 32.7 -0.3
MLY IAmb IAmb 20 12 35.5
comp=Z,96nm,1.0s
BPAW Bear Paw Mtn. 72.48 27 P **P** 20 12 32.8 -0.2
SKT Skwentna 72.51 30 P **P** 20 12 32.6 -0.6
SKT IAmb IAmb 20 12 34.6
comp=Z,223nm,1.6s
KDAK Kodiak Island 72.56 34 P **P** 20 12 33.5 0.0
KDAK pmax pmax
comp=Z,586nm,1.8s
KDAK Kodiak Island 72.56 34 P **P** 20 12 33.5 0.0
KTH Kantishna Hill 72.58 28 P **P** 20 12 33.5 -0.2
JOF Joensuu 72.78 331 P **P** 20 12 35.2 +0.4
JOF pmax pmax
comp=Z,67nm,1.0s
TRF Thorofare Moun 72.87 28 P **P** 20 12 34.4 -1.2
TRF IAMs_20 IAMs_20 20 45 26.9
comp=Z,1μm,18.0s
SUA Susitna One 72.95 30 P **P** 20 12 35.4 -0.6
SUA IAmb IAmb 20 12 37.3

comp=Z,119nm,0.9s
BWN Browne 73.13 27 P P 20 12 35.9 -0.9
BWN IAmb IAmb 20 12 39.7
comp=Z,85nm,0.8s
BRLK Bradley Lake 73.14 32 P P 20 12 36.1 -1.0
BRLK IAmb IAmb 20 12 39.1
comp=Z,62nm,0.8s
MSF Maaselka 73.31 335 P P 20 12 38.2 +0.3
MSF pmax pmax
comp=Z,105nm,1.2s
GAZ Gaziantep 73.39 304 P P 20 12 38.7 -0.3
MCK McKinley 73.43 28 P P 20 12 38.7 +0.1
MCK pmax pmax
comp=Z,165nm,1.1s
MCK McKinley 73.43 28 P P 20 12 38.7 +0.1
MCK IAmb IAmb 20 12 40.3
comp=Z,165nm,1.1s
RC01 Rabbit Creek A 73.49 30 P P 20 12 39.0 0.0
KVT Kavak 73.52 308 P P 20 12 40.0 +0.4
RND Reindeer 73.52 28 P P 20 12 39.0 -0.3
RND pmax pmax
comp=Z,142nm,1.0s
RND Reindeer 73.52 28 P P 20 12 39.0 -0.3
RND IAmb IAmb 20 12 40.5
comp=Z,142nm,1.0s
MDM Murphy Dome 73.53 26 P P 20 12 40.0 +0.8
MDM IAmb IAmb 20 12 41.5
comp=Z,130nm,1.0s
WRH Wood River Hil 73.67 27 P P 20 12 39.9 -0.1
WRH IAmb IAmb 20 12 42.6
comp=Z,155nm,1.5s
PMR Palmer 73.70 30 P P 20 12 40.1 -0.1
PMR pmax pmax
comp=Z,61nm,0.9s
PMR Palmer 73.70 30 P P 20 12 40.1 -0.1
PMR IAmb IAmb 20 12 41.3
comp=Z,61nm,0.9s
TCOL CIGO, UAF Yank 73.70 26 P P 20 12 40.5 +0.3
baz=280
COLA College 73.70 26 $\Downarrow$ *e*P P 20 12 40.5 +0.3
COLA pmax pmax
comp=Z,92nm,1.8s
COLA College 73.70 26 P P 20 12 39.8 -0.4
COLA IAmb IAmb 20 12 43.3
comp=Z,290nm,2.0s
PUL Pulkovo 73.74 328 *d* **i** P P 20 12 40.8 +0.3
PUL pmax pmax
comp=Z,166nm,1.1s
CCB Clear Creek Bu 73.76 27 P P 20 12 40.1 -0.4
GHO Glory Hole Cre 73.76 30 P P 20 12 40.8 +0.1
SEW Seward 73.80 31 P P 20 12 40.1 -0.7
POKR Poker Plat Res 73.83 26 P P 20 12 41.3 +0.3
baz=280
OUZ Omahuta 73.93 137 P P 20 12 42.4 +0.5
ARCES ARCESS Array B 73.98 339 P P 20 12 41.5 -0.3
ARCES ARCESS Array B 73.98 339 P P 20 12 42.1 +0.3
comp=Z,20nm,0.8s,baz=68,slow=8.0,SNR=23
ARCES LR LR 20 48 36.3
comp=Z,3μm,19.6s,baz=82,slow=38
ARCES ARCESS Array B 73.98 339 P P 20 12 41.5 -0.3
ARE0 ARCESS Array S 73.98 339 *e*P **P 20 12 42.2 +0.4**
ARE0 ARCESS Array S 73.98 339 P P 20 12 41.2 -0.6
SGF Sodankyl 74.02 336 P P 20 12 42.7 +0.7
SGF pmax pmax
comp=Z,100nm,1.4s
SML Sawmill 74.03 30 P P 20 12 42.0 -0.2
KNK Knik Glacier 74.05 30 P P 20 12 41.8 -0.5
KNK IAmb IAmb 20 12 53.6
comp=Z,137nm,1.2s
KEKH Kekaha 74.11 72 P P 20 12 41.9 -1.5
IL31 74.13 26 P P 20 12 41.5 -1.2
ILAR Eielson Array 74.13 26 P P 20 12 41.9 -0.8
comp=Z,11nm,0.8s,baz=290,slow=4.9,SNR=60
ILAR PP **PP 20 15 29.2 +1.3**
comp=Z,1.2nm,0.8s,baz=285,slow=7.2,SNR=3.2
ILAR PKPPKP **P'P'df 20 40 12.8 -6.3**
comp=Z,0.8nm,1.1s,baz=321,slow=1.8,SNR=4.3
ILAR LR LR 20 47 12.6
comp=Z,461nm,19.5s,baz=304,slow=37
ILAR Eielson Array 74.13 26 P P 20 12 41.6 -1.1
SIM Simferopol' 74.16 313 *de*P **P 20 12 43.1 -0.2**
SIM pmax pmax
comp=Z,62nm,0.7s
HDA Harding Lake 74.17 27 P P 20 12 42.1 -0.9
baz=281
HDA Harding Lake 74.17 27 P P 20 12 42.4 -0.6
DHY Denali Highway 74.23 28 P P 20 12 43.5 -0.1
SPA0 Spitsbergen Ar 74.30 348 *e*P **P 20 12 44.6 +1.0**
SPA0 Spitsbergen Ar 74.30 348 P P 20 12 44.1 +0.5
FYU Fort Yukon 74.44 24 P P 20 12 44.4 -0.1
FYU IAmb IAmb 20 12 47.3
comp=Z,256nm,1.7s
SCM Sheep Creek Mo 74.50 29 P P 20 12 45.0 0.0
SCM pmax pmax
comp=Z,177nm,1.0s
SCM Sheep Creek Mo 74.50 29 P P 20 12 45.0 0.0
BMAR Burnt Mountain 74.52 24 P P 20 12 45.5 +0.5
PRP Porcupine Dome 74.54 26 P P 20 12 45.2 0.0
ATD Arta Tunnel 74.61 277 P P 20 12 44.9 -1.6
OUL Oulu 74.75 334 P P 20 12 46.5 +0.3
OUL pmax pmax
comp=Z,87nm,1.7s
GLI Glacier Island 74.80 30 P P 20 12 46.5 -0.2
GLI IAmb IAmb 20 12 48.3
comp=Z,125nm,1.0s
HSPB Hornsund (broa 74.84 347 P P 20 12 47.6 +1.0
HSPB pmax pmax
comp=Z,133nm,1.4s
HSPB Hornsund (broa 74.84 347 *e*P **P 20 12 47.2 +0.6**
KBS Kingsbay 74.88 349 P P 20 12 46.3 -0.6
KBS pmax pmax
comp=Z,57nm,1.1s
KBS MLR MLR
comp=Z,5μm,19.0s
KBS Kingsbay 74.88 349 *e*P **P 20 12 47.5 +0.6**
KBS Kingsbay 74.88 349 P P 20 12 46.3 -0.6
KTK1 Kautokeino 74.89 338 *e*P **P 20 12 47.7 +0.7**
PAX Paxson 75.11 28 P P 20 12 47.8 -0.7
PAX pmax pmax
comp=Z,86nm,1.3s
PAX Paxson 75.11 28 P P 20 12 47.9 -0.7
PAX IAmb IAmb 20 12 50.5
comp=Z,86nm,1.3s
FID Port Fidalgo 75.12 30 P P 20 12 48.7 +0.2
FID IAmb IAmb 20 12 50.3
comp=Z,203nm,1.3s
SUF Sumiainen 75.15 332 P P 20 12 48.7 +0.1
SUF pmax pmax
comp=Z,86nm,1.4s
HIN Hinchinbrook I 75.18 31 P P 20 12 49.0 0.0
HIN IAmb IAmb 20 13 09.4
comp=Z,101nm,1.0s
RIDG Independent Ri 75.21 27 P P 20 12 49.0 -0.1
RIDG IAmb IAmb 20 12 50.5
comp=Z,124nm,1.1s
FIA1 FINESS Array S 75.46 330 P P 20 12 49.3 -1.1
FINES FINESS Array B 75.46 330 P P 20 12 49.8 -0.7
FINES FINESS Array B 75.46 330 P P 20 12 50.5 0.0
comp=Z,27nm,0.9s,baz=97,slow=6.0,SNR=27
FINES LR LR 20 48 34.2
comp=Z,3μm,21.1s,baz=74,slow=38
FINES FINESS Array B 75.46 330 P P 20 12 49.8 -0.7
EYAK Cordova Ski Ar 75.51 31 P P 20 12 51.4 +0.7
SCRK Sand Creek 75.53 27 P P 20 12 50.0 -1.0
SCRK IAmb IAmb 20 12 52.6
comp=Z,84nm,1.4s
DOT Dot Lake 75.57 27 P P 20 12 50.9 -0.2
DOT IAmb IAmb 20 12 52.6
comp=Z,71nm,1.1s
BR131 Keskin Array S 75.59 307 P P 20 12 50.8 -1.1
BR131 pmax pmax
comp=Z,33nm,1.5s
BR131 Keskin Array S 75.59 307 P P 20 12 50.8 -1.1
BRTR Keskin Array B 75.59 307 P P 20 12 51.5 -0.4
comp=Z,4.0nm,1.1s,baz=133,slow=5.4,SNR=23
BRTR PP **PP 20 15 35.2 -5.9**
comp=Z,1.6nm,0.8s,baz=78,slow=7.7,SNR=3.8
BRTR LR LR 20 51 18.2
comp=Z,960nm,19.4s,baz=62,slow=40
BRTR Keskin Array B 75.59 307 P P 20 12 50.8 -1.1
OPA Opana 75.72 72 P P 20 12 51.7 -1.0
OPA pmax pmax
comp=Z,183nm,1.1s
OPA Opana 75.72 72 P P 20 12 51.7 -1.0
MMAI Mount Meron Ar 75.74 300 P P 20 12 53.8 +1.1
comp=Z,9.5nm,1.0s,baz=78,slow=7.8,SNR=14
KIP Kipapa 75.78 72 P P 20 12 51.8 -1.2
KIP pmax pmax
comp=Z,201nm,1.4s
KIP Kipapa 75.78 72 P P 20 12 51.8 -1.2
KIP IAmb IAmb 20 13 04.8
comp=Z,201nm,1.4s
HON Honolulu 75.82 72 P P 20 12 52.5 -0.7
HON pmax pmax
comp=Z,600nm,1.7s
HON Honolulu 75.82 72 P P 20 12 52.5 -0.7
VSU Vasula 75.82 327 *d* **i** P **P 20 12 52.7 +0.2**
VSU pmax pmax
comp=Z,648nm,1.3s
VSU Vasula 75.82 327 *e*P **P 20 12 52.6 +0.1**
VSU IAmb IAmb 20 13 06.9
comp=Z,881nm,1.4s
MENT Mentasta 75.89 28 P P 20 12 53.6 +0.7
MENT IAmb IAmb 20 12 55.3
comp=Z,113nm,1.4s
RAGM Ragged Mountai 76.07 31 P P 20 12 54.4 +0.3
MICGM Minsk 76.11 323 $\Downarrow$ *i* P P **20 12 53.0 -1.3**
MICGM PM 20 12 55.0
comp=Z,0.3nm,1.5s
MICGM PM 20 12 56.0
comp=E,0.4nm,1.5s
MICGM *e* 20 13 03.0
MICGM *e*S S 20 22 28.0 -10
MICGM *e*LR LR 20 47 30.0
MNK Minsk 76.11 323 $\Downarrow$ *i* P P **20 12 53.0 -1.3**
MNK *e* 20 13 03.0
MNK *e*S S 20 22 28.0 -10
MNK pmax pmax
comp=Z,310nm,1.5s
AKASG Malin Array Be 76.18 319 *i* P P **20 12 54.0 -0.8**
AKASG pmax pmax
comp=Z,20nm,0.9s
AKASG Malin Array Be 76.18 319 P P 20 12 54.0 -0.8
comp=Z,20nm,0.9s,baz=62,slow=5.9,SNR=77
AKASG PP **PP 20 15 45.8 +0.3**
comp=Z,1.1nm,0.7s,baz=93,slow=10,SNR=3.0
AKASG Malin Array Be 76.18 319 P P 20 12 53.5 -1.3
AKBB Malin Array Si 76.18 319 P P 20 12 53.5 -1.2
AKBB pmax pmax
comp=Z,42nm,1.0s
AKBB MLR MLR
comp=Z,3μm,19.0s
AKBB Malin Array Si 76.18 319 P P 20 12 53.5 -1.2
AKBB IAMs_20 IAMs_20 20 49 11.4
comp=Z,3μm,19.0s
KIEV Kiev 76.19 319 P P 20 12 53.0 -1.8
ANTO Ankara 76.20 308 P P 20 12 54.2 -1.0
ANTO pmax pmax
comp=Z,34nm,1.1s
ANTO MLR MLR
comp=Z,1μm,19.0s
ANTO Ankara 76.20 308 P P 20 12 54.2 -1.0
ANTO Ankara 76.20 308 IAMs_20 IAMs_20 20 51 18.0
comp=Z,1μm,19.0s
TRO Tromso 76.20 339 *e*P **P 20 12 55.6 +1.1**
BR231 Keskin MP Arra 76.22 308 P P 20 12 55.1 -0.3
GLB Gilahina Butte 76.22 29 P P 20 12 55.0 +0.1
GLB IAmb IAmb 20 12 57.1
comp=Z,216nm,1.5s
GLB IAMs_20 IAMs_20 20 50 20.5
comp=Z,1μm,18.0s
HMT Hamilton 76.28 31 P P 20 12 55.7 +0.5
HMT IAmb IAmb 20 15 07.0
comp=Z,82nm,0.6s
EGAK Eagle 76.51 26 P P 20 12 56.1 -0.3
IDID Didziasalis 76.56 324 *e*P **P 20 12 57.4 +0.6**
SUCK Suckling Hills 76.58 31 P P 20 12 57.7 +0.8
MCARA McCarthy VSAT 76.60 29 P P 20 12 57.6 +0.6
MCARA IAmb IAmb 20 13 24.4
comp=Z,80nm,1.1s
VAF Ylistaro 76.61 332 P P 20 12 57.0 0.0
VAF pmax pmax
comp=Z,71nm,1.8s
NACGM Naroch 76.63 324 *e*P **P 20 12 56.0 -1.2**
NACGM PM 20 13 07.0
comp=Z,0.7nm,1.0s
NACGM *e*LQ LQ 20 44 42.0
NACGM *e*LR LR 20 48 19.0
NACGM LRM MLR 20 50 46.0
comp=Z,5.0nm,12.0s
CRQM Cirque 76.71 30 P P 20 12 58.0 +0.1
CRQM IAmb IAmb 20 12 59.8
comp=Z,113nm,1.2s
BCAR Beaver Creek A 76.71 28 P P 20 12 58.2 +0.5
IZAR Zarasai 76.72 325 *e*P **P 20 12 58.2 +0.4**
IZAR IAmb IAmb 20 13 12.7
comp=Z,74nm,1.3s
HIZ Hauiti 76.75 139 P P 20 12 59.1 +1.1
QRZ Quartz Range 76.79 142 P P 20 13 00.0 +1.8
QRZ IAmb IAmb 20 13 12.4
comp=Z,233nm,1.6s
ISAL Salakas 76.83 324 *e*P **P 20 12 58.8 +0.4**
ISAL IAmb IAmb 20 13 13.3
comp=Z,33nm,1.2s
IIGN Ignalina 76.83 324 *e*P **P 20 12 58.9 +0.5**
IIGN IAmb IAmb 20 13 14.0
comp=Z,38nm,1.0s
TGL Tana Glacier 76.86 30 P P 20 12 59.0 +0.4
TGL IAmb IAmb 20 13 00.5
comp=Z,212nm,1.7s
EIL Elat 76.92 297 P P 20 12 59.8 +0.4
comp=Z,40nm,1.2s,baz=86,slow=2.5,SNR=30
EIL Elat 76.92 297 P P 20 12 59.6 +0.2
comp=Z,63nm,1.4s
CSS Mathiatis 76.94 303 P P 20 12 56.0 -3.5
CSS Mathiatis 76.94 303 P P 20 12 59.4 -0.1
comp=Z,23nm,1.1s
CSS Mathiatis 76.94 303 P P 20 12 58.9 -0.6
CSS IAmb IAmb 20 13 09.6
comp=Z,66nm,0.9s
DCZ Deep Cove 77.01 148 P P 20 13 01.6 +2.2
DCZ IAmb IAmb 20 13 11.4
comp=Z,85nm,1.2s
BALM Baldy 77.01 30 P P 20 13 00.3 +0.9
BALM Baldy 77.01 30 P P 20 13 00.3 +0.9
BALM IAmb IAmb 20 13 01.5
comp=Z,76nm,1.4s
PYZ Puysegur Point 77.27 149 P P 20 13 01.7 +0.8
PYZ IAmb IAmb 20 13 13.1
comp=Z,138nm,1.2s
KIS Kishinev 77.31 315 *e*P **P 20 13 00.0 -1.3**
comp=Z,800nm,14.0s
KIS Kishinev 77.31 315 *e*PP PP 20 16 04.0 +8.8
KIS Kishinev 77.31 315 *e*PS **PnS 20 23 38.0 +7.6**
KIS *e*L L 20 38 06.0
KIS LRM MLR 20 50 08.0
comp=Z,3μm,20.0s
BARN Barnard Glacie 77.32 30 P P 20 13 01.9 +0.5
SORM Soroca 77.34 317 P P 20 13 01.1 -0.3
SORM Soroca 77.34 317 $\Uparrow$ P **P 20 13 01.1 -0.3**
KHLH Kahului Airpor 77.35 72 P P 20 13 02.2 +0.3
MLZ Mavora Lakes 77.42 148 P P 20 13 03.0 +1.3
MLZ IAmb IAmb 20 13 14.1
comp=Z,264nm,1.8s
DAWY Dawson 77.45 26 P P 20 13 01.6 -0.2
DAWY IAmb IAmb 20 13 03.9
comp=Z,71nm,1.1s
CTGM Chitina Glacie 77.50 30 P P 20 13 02.7 +0.4
CTGM IAmb IAmb 20 13 04.8
comp=Z,123nm,0.9s
WKZ Wanaka 77.51 147 P P 20 13 04.8 +2.5
WKZ IAmb IAmb 20 13 25.6
comp=Z,192nm,1.4s
NNZ Nelson 77.53 142 P P 20 13 03.7 +1.3
THZ Tophouse 77.61 143 P P 20 13 03.5 +0.6
THZ IAmb IAmb 20 13 15.2
comp=Z,62nm,1.0s
WHZ Wether Hill Ro 77.70 148 P P 20 13 04.6 +1.3
TLCR 77.77 314 P P 20 13 04.0 +0.2
TLCR 77.77 314 $\Uparrow$ P **P 20 13 04.0 +0.2**
TLCR mb 20 13 14.2
EPYK Eagle Plains 77.79 24 P P 20 13 03.3 -0.3
baz=290
EPYK Eagle Plains 77.79 24 P P 20 13 03.2 -0.4
LBZ Lake Benmore 77.82 146 P P 20 13 05.3 +1.3
LEOM Leova 77.83 315 P P 20 13 04.5 +0.4
RPZ Rata Peaks 77.84 145 P P 20 13 05.5 +1.4
LTZ Lake Taylor 77.90 144 P P 20 13 05.7 +1.2
LTZ IAmb IAmb 20 13 22.4
comp=Z,75nm,1.1s
TUWZ Tuamarina 78.00 142 P P 20 13 06.7 +1.7
URZ Urewera 78.01 138 P P 20 13 05.8 +0.6
STEI Steigen 78.03 338 *e*P **P 20 13 04.9 +0.1**
PABE Paberze 78.03 325 *e*P **P 20 13 05.3 +0.2**
PABE IAmb IAmb 20 13 19.1
comp=Z,401nm,1.5s
OXZ Oxford 78.13 144 P P 20 13 05.7 +0.1
OXZ IAmb IAmb 20 13 29.6
comp=Z,198nm,1.8s
OXZ IAMs_20 IAMs_20 20 37 57.5
comp=Z,2μm,22.0s
BSWZ Blackbirch Sta 78.14 142 P P 20 13 05.5 -0.3
TOPG Topolog 78.15 313 $\Uparrow$ P **P 20 13 06.6 +0.7**
KHLU Kahalu`u 78.19 73 P P 20 13 04.9 -1.9
KHLU IAmb IAmb 20 13 20.2
comp=Z,89nm,0.9s
TIRR Tirgusor 78.23 313 P P 20 13 05.8 -0.6
TIRR pmax pmax
comp=Z,124nm,1.2s
TIRR MLR MLR
comp=Z,5μm,18.0s
TIRR Tirgusor 78.23 313 P P 20 13 05.8 -0.6
TIRR IAmb IAmb 20 13 16.7
comp=Z,124nm,1.2s
VARL Varlezi 78.24 315 $\Uparrow$ P **P 20 13 07.1 +0.7**
VARL mb 20 13 20.8
INK Inuvik 78.26 21 P P 20 13 05.2 -0.9
INK 20 16 02.7
INK pmax pmax
comp=Z,155nm,1.5s
INK MLR MLR
comp=Z,1μm,19.0s
INK Inuvik 78.26 21 P P 20 13 05.8 -0.3
comp=Z,37nm,1.1s,baz=288,slow=6.1,SNR=37
INK PP **PP 20 16 03.6 +1.1**
comp=Z,12nm,1.1s,baz=283,slow=8.2,SNR=3.8
INK Inuvik 78.26 21 P P 20 13 05.2 -0.9
INK IAmb IAmb 20 13 07.7
comp=Z,155nm,1.4s
INK **PP 20 16 02.7 +0.2**
INK IAMs_20 IAMs_20 20 44 54.8
comp=Z,1μm,19.0s
PCA Pinnacle 78.27 30 P P 20 13 07.2 +0.7
PCA IAmb IAmb 20 13 09.0
comp=Z,91nm,1.0s
CMWZ Cape Campbell 78.36 142 P P 20 13 06.2 -0.8
SNZO South Karori 78.37 141 P P 20 13 06.7 -0.4
SNZO IAmb IAmb 20 13 26.0
comp=Z,148nm,1.1s
MXZ Matakaoa Point 78.38 137 P P 20 13 06.7 -0.5
MXZ IAmb IAmb 20 13 20.9
comp=Z,104nm,1.0s
MXZ IAMs_20 IAMs_20 20 42 36.2
comp=Z,2μm,22.0s
KHZ Kahutara 78.39 143 P P 20 13 07.9 +0.8
KHZ IAmb IAmb 20 13 25.8
comp=Z,98nm,1.3s
KHZ IAMs_20 IAMs_20 20 46 11.3
comp=Z,3μm,20.0s
TUDR 78.44 314 $\Uparrow$ P **P 20 13 08.3 +0.7**
TUDR mb 20 13 27.1
POHA Pohakuloa 78.47 73 P **P 20 13 08.4 -0.1**
POHA IAmb IAmb 20 13 22.0
comp=Z,92nm,0.8s
MLOA Mauna Loa Obse 78.49 73 P P 20 13 08.7 -0.2
HARR Harsova 78.50 313 P P 20 13 08.4 +0.5
HARR Harsova 78.50 313 $\Uparrow$ P **P 20 13 08.4 +0.5**
HARR mb 20 13 18.6
ODZ Otahua Downs 78.51 146 P P 20 13 07.2 -0.6
ODZ IAmb IAmb 20 13 56.4
comp=Z,117nm,1.6s
BHW Baring Head 78.53 141 P P 20 13 07.7 -0.2
KHU Kahuku 78.53 74 P P 20 13 09.6 +0.8
KHU pmax pmax
comp=Z,143nm,0.9s
KHU Kahuku 78.53 74 P P 20 13 09.6 +0.8
HMH Hmuu'ula Sheep 78.55 73 P P 20 13 07.8 -1.2
PSN Preselentsi 78.59 312 *i* P **P 20 13 08.7 +0.2**
CRLZ Canterbury Las 78.61 144 P P 20 13 07.2 -1.1
AIN Ainahou 78.64 73 P P 20 13 07.5 -1.9
ISK Istanbul-Kandi 78.66 310 P P 20 13 10.1 +1.2
MLH Mauna Loa 78.67 73 P P 20 13 09.8 +0.2
MLH pmax pmax
comp=Z,142nm,1.0s
MLH Mauna Loa 78.67 73 P P 20 13 09.8 +0.2
MLH IAmb IAmb 20 13 32.1
comp=Z,142nm,1.0s
PETR Petresti 78.70 314 $\Uparrow$ P **P 20 13 09.9 +0.9**
MQZ McQueen's Vall 78.71 144 P P 20 13 09.3 +0.4
MQZ IAmb IAmb 20 13 29.2
comp=Z,186nm,1.4s
MQZ IAMs_20 IAMs_20 20 44 12.4
comp=Z,1μm,18.0s
MSWZ Moikau Station 78.76 141 P P 20 13 11.0 +1.8
HLP Hilina Pali 78.80 73 P P 20 13 09.0 -1.1
ODBI Odobesti 78.81 315 $\Uparrow$ P **P 20 13 11.2 +1.6**
ODBI mb 20 13 26.2
PLWZ Palliser 78.86 141 P P 20 13 11.0 +1.2
PUH Pauahi 78.86 73 P P 20 13 10.3 -0.2
TESR Tescani 78.88 315 $\Uparrow$ P **P 20 13 10.3 +0.3**
SUW Suwalki 78.90 323 *e*P **P 20 13 09.5 -0.4**
SUW Suwalki 78.90 323 *e*P **P 20 13 09.5 -0.4**
SUW *e*P **P 20 13 09.5 -0.4**
SUW Suwalki 78.90 323 P P 20 13 08.4 -1.5
BFZ Birch Farm 78.91 140 P P 20 13 09.8 -0.3
BFZ IAmb IAmb 20 13 27.6
comp=Z,126nm,0.9s
MOR8 Moi Rana 78.97 337 *e*P **P 20 13 09.3 -0.8**
PBUR Paburg 78.98 326 *e*P **P 20 13 10.6 +0.3**
PBUR IAmb IAmb 20 13 21.0
comp=Z,171nm,0.9s
VRI Vrincioaia 79.00 315 P P 20 13 11.4 +0.7
VRI pmax pmax
comp=Z,96nm,1.0s
VRI Vrincioaia 79.00 315 $\Uparrow$ P **P 20 13 11.7 +1.0**
PLOR Plostina 79.06 315 P P 20 13 11.9 +0.9
PLOR Plostina 79.06 315 $\Uparrow$ P **P 20 13 11.9 +0.9**
BIZ Bicaz 79.12 316 $\Uparrow$ P **P 20 13 12.0 +0.7**
ELL Elmali 79.17 305 P P 20 13 10.6 -1.4
ELL pmax pmax
comp=Z,355nm,1.4s
ELL MLR MLR
comp=Z,6μm,20.0s
ELL Elmali 79.17 305 P P 20 13 10.6 -1.4
PRD Provadia 79.28 312 *i* P **P 20 13 12.5 +0.3**
FURI Furi 79.30 276 P P 20 13 12.4 -0.8
HYT Haines Junctio 79.33 29 P P 20 13 13.1 +0.8
HYT IAmb IAmb 20 13 15.1
comp=Z,96nm,1.1s
ISR Istrita 79.34 314 P P 20 13 14.3 +1.7
ISR pmax pmax
comp=Z,95nm,1.1s
STOK Stokkvaagen 79.44 337 *e*P **P 20 13 13.3 +0.8**
BURAR Bucovina Array 79.51 317 P P 20 13 13.7 +0.1
BURAR Bucovina Array 79.51 317 $\Uparrow$ P **P 20 13 14.1 +0.5**
BURAR mb 20 13 28.3
BURAR Bucovina Array 79.51 317 P P 20 13 13.6 0.0
BUR08 Bucovina Ar. S 79.51 317 P P 20 13 13.0 -0.5
DHAK Deception Hill 79.58 31 P P 20 13 15.4 +1.8
LVV L'vov 79.62 319 *e*P **P 20 13 13.8 -0.2**
LVV *e* 20 16 18.2
LVV *e* 20 18 14.2
LVV *e*S **S 20 23 12.3 -3.5**
LVV *e* 20 24 10.2
LVV *e* 20 28 24.5
LVV *e* 20 31 44.6
MLR Muntele Rosu 79.64 315 P P 20 13 13.4 -0.9
MLR pmax pmax
comp=Z,170nm,1.7s
MLR MLR MLR
comp=Z,4μm,22.0s
MLR Muntele Rosu 79.64 315 $\Uparrow$ P **P 20 13 15.1 +0.8**
MLR Muntele Rosu 79.64 315 P P 20 13 13.4 -0.9
MLR IAmb IAmb 20 13 18.9
comp=Z,170nm,1.7s
SULR 79.66 314 $\Uparrow$ P **P 20 13 14.9 +0.6**
RAZG Razgrad 79.80 313 $\Uparrow$ P **P 20 13 15.6 +0.5**
FETY Fethiye 79.84 305 P P 20 13 11.5 -4.0
DOPR Dopca 79.87 315 $\Uparrow$ P **P 20 13 16.2 +0.7**
JMB Yambol 80.06 311 *i* P **P 20 13 16.1 -0.4**
ARCR ARCALIA 80.23 316 $\Uparrow$ P **P 20 13 18.2 +0.9**
VOIR 80.25 315 P P 20 13 17.7 +0.1

VOIR pmax pmax
comp=Z,23nm,1.1s
VOIR 80.25 315 ⇑P **P** **20 13 17.6 +0.1**
SZH **Strazhica** 80.28 312 *i* P **P** **20 13 16.9 -0.8**
YER **Yerkesik** 80.32 306 P **P** **20 13 17.8 -0.3**
ELND **Elena** 80.42 312 ⇑P **P** **20 13 18.9 +0.4**
GOLR 80.49 314 ⇑P **P** **20 13 18.6 -0.1**
GOLR mb 20 13 33.5
KWP **Kalwaria Pacla** 80.50 319 *e*P **P** **20 13 19.0 +0.3**
KWP **Kalwaria Pacla** 80.50 319 *e*P **P** **20 13 19.0 +0.3**
KWP *e*P **P** **20 13 19.0 +0.3**
KWP **Kalwaria Pacla** 80.50 319 P **P** **20 13 18.8 0.0**
COPA **Copaceanca** 80.53 313 ⇑P **P** **20 13 19.2 +0.3**
ARR **Arges** 80.56 315 ⇑P **P** **20 13 19.8 +0.6**
NSS **Namsos** 80.57 335 *e*P **P** **20 13 18.6 -0.1**
HUMR **Humele** 80.57 314 ⇑P **P** **20 13 19.3 +0.1**
WHY **Whitehorse** 80.59 29 P **P** **20 13 18.8 -0.3**
ARG **Arkhangelos** 80.70 305 P **P** **20 13 18.9 -1.2**
ARG **Arkhangelos** 80.70 305 P **P** **20 13 20.3 +0.2**
ARG pmax pmax
comp=Z,64nm,1.2s
SKAG **Skagway** 80.83 30 P **P** **20 13 21.1 +0.8**
SKAG IAmb IAmb 20 13 23.1
comp=Z,74nm,1.1s
CJR **Cluj-Napoca** 80.83 316 P **P** **20 13 22.0 +1.4**
CJR **Cluj-Napoca** 80.83 316 ⇑P **P** **20 13 22.0 +1.4**
C36M **Paulatuk** 80.89 19 P **P** **20 13 20.0 -0.4**
baz=300
C36M **Paulatuk** 80.89 19 P **P** **20 13 19.4 -1.0**
C36M IAMs_20 IAMs_20 20 52 53.9
comp=Z,1μm,19.0s
ALN **Alexandroupoli** 80.90 310 P **P** **20 13 19.2 -1.8**
ALN **Alexandroupoli** 80.90 310 P **P** **20 13 19.4 -1.6**
ALN pmax pmax
comp=Z,37nm,1.1s
ALN MLR MLR
comp=Z,400nm,20.0s
ALN **Alexandroupoli** 80.90 310 P **P** **20 13 19.4 -1.6**
DIM **Dimitrovgrad** 80.92 311 *i* P **P** **20 13 21.5 +0.4**
BEL **Belsk** 80.95 322 *e*P **P** **20 13 21.1 0.0**
BEL **Belsk** 80.95 322 *e*P **P** **20 13 21.1 0.0**
BEL *e*P **P** **20 13 21.1 0.0**
KOLS **Kolonicke sedl** 80.99 319 *e*P **P** **20 13 21.5 +0.1**
KOLS pmax pmax
comp=Z,12nm,1.2s
KOLS **Kolonicke sedl** 80.99 319 *e*P **P** **20 13 21.5 +0.1**
EZN **Ezine** 81.01 309 P **P** **20 13 21.0 -0.6**
UZH **Uzhgorod** 81.07 318 ⇑*i*P **P** **20 13 21.1 -0.7**
UZH *e* 20 13 25.7
UZH *e* 20 13 31.1
UZH *e*S **S** **20 23 30.3 -0.7**
UZH *e* 20 24 42.3
TRPA **Tarpa** 81.08 318 ⇑P **P** **20 13 22.4 +0.6**
TRPA mb 20 13 27.6
TRPA **Tarpa** 81.08 318 *e*P **P** **20 13 20.1 -1.7**
ABPO **Ambohimpanom** 81.08 246 P **P** **20 13 22.5 0.0**
ABPO pmax pmax
comp=Z,76nm,1.2s
ABPO **Ambohimpanom** 81.08 246 P **P** **20 13 22.6 0.0**
ABPO IAmb IAmb 20 13 33.0
comp=Z,76nm,1.2s
LOT **Lotru** 81.11 315 ⇑P **P** **20 13 22.7 +0.5**
PLVB **Pleven** 81.16 313 ⇑P **P** **20 13 23.1 +0.7**
PRK **Paraskevi** 81.22 308 P **P** **20 13 21.4 -1.4**
DAG **Danmarks Havn** 81.29 351 *i* P **P** **20 13 21.9 -0.5**
DAG pmax pmax
comp=Z,42nm,0.8s
DAG **Danmarks Havn** 81.29 351 *i* P **P** **20 13 21.9 -0.5**
comp=Z,42nm,0.8s
DRGR 81.39 316 P **P** **20 13 23.7 +0.1**
DRGR pmax pmax
comp=Z,64nm,1.1s
DRGR 81.39 316 ⇑P **P** **20 13 24.2 +0.6**
BESE **Bessie Mountai** 81.39 31 P **P** **20 13 23.2 -0.1**
BESE IAmb IAmb 20 13 26.2
comp=Z,110nm,1.4s
PLD **Plovdiv** 81.50 312 *i* P **P** **20 13 24.0 -0.2**
PLD **Plovdiv** 81.50 312 P **P** **20 13 24.4 +0.2**
PLD pmax pmax
comp=Z,145nm,1.7s
DEV **Deva** 81.55 316 P **P** **20 13 25.1 +0.7**
DEV pmax pmax
comp=Z,116nm,1.2s
DEV **Deva** 81.55 316 ⇑P **P** **20 13 25.5 +1.1**
KARP **Karpathos** 81.64 305 P **P** **20 13 22.9 -2.3**
KARP **Karpathos** 81.64 305 P **P** **20 13 24.6 -0.5**
LTVH **Ltavrtes, Hu** 81.72 317 *e*P P 20 13 35.1 +10
JIS **Juneau Island** 81.74 31 P **P** **20 13 24.5 -0.5**
JIS IAmb IAmb 20 13 28.0
comp=Z,66nm,1.1s
PGB **Panagyurishte** 81.74 312 *i* P **P** **20 13 25.5 0.0**
SRE **Strehaia** 81.74 314 P **P** **20 13 25.6 +0.2**
SRE **Strehaia** 81.74 314 ⇑P **P** **20 13 25.6 +0.2**
GZR **Gura Zlata** 81.79 315 ⇑P **P** **20 13 26.3 +0.5**
XMAS **Kiritimati** 81.99 91 P **P** **20 13 28.4 +1.1**
XMAS IAmb IAmb 20 13 30.6
comp=Z,108nm,0.9s
PUNG **Punghina** 82.04 314 ⇑P **P** **20 13 27.9 +0.9**
NIE **Niedzica** 82.05 320 P **P** **20 13 27.8 +0.8**
NIE pmax pmax
comp=Z,21nm,1.1s
NIE **Niedzica** 82.05 320 *e*P **P** **20 13 27.7 +0.6**
NIE *e*P **P** **20 13 27.7 +0.6**
NIE *e*S **SKKSac** **20 23 55.9 +6.3**
NIE *e*S **SKKSac** **20 23 56.9 +6.3**
OJC **Ojcow** 82.08 320 P **P** **20 13 26.8 -0.4**
OJC pmax pmax
comp=Z,58nm,0.9s
OJC **Ojcow** 82.08 320 *e*P **P** **20 13 26.7 -0.4**
OJC *e*P **P** **20 13 26.7 -0.4**
OJC *e*S **SKKSac** **20 23 53.5 +2.8**
OJC *e*S **SKKSac** **20 23 53.5 +2.8**
OJC **Ojcow** 82.08 320 P **P** **20 13 26.8 -0.4**
OJC IAmb IAmb 20 13 37.5
comp=Z,58nm,0.9s
NC405 **NORSAR Array S** 82.12 332 P **P** **20 13 26.7 -0.4**
NC303 **NORSAR Array S** 82.22 332 P **P** **20 13 26.8 -0.8**
SIRR **Siria** 82.25 316 ⇑P **P** **20 13 28.7 +0.6**
KECS **Kecovo** 82.25 319 *e*P **P** **20 13 28.4 +0.3**
KECS pmax pmax
comp=Z,19nm,1.1s
KECS **Kecovo** 82.25 319 *e*P **P** **20 13 28.4 +0.3**
NB201 **NORSAR Array S** 82.33 332 P **P** **20 13 27.0 -1.2**
NB201 IAmb IAmb 20 13 29.0
comp=Z,119nm,1.1s
NVR **Nevrokopi** 82.33 311 P **P** **20 13 27.5 -1.1**
MMB **Musomiste** 82.35 311 *i* P **P** **20 13 27.8 -0.9**
NC602 **NORSAR Array S** 82.35 332 P **P** **20 13 27.2 -1.1**
NORES **NORESS Array B** 82.35 332 P **P** **20 13 28.6 +0.3**
NB2 **NORSAR Subarra** 82.37 332 P **P** **20 13 27.3 -1.1**
comp=Z,0.6nm,0.5s,baz=65,slow=5.3
NOA **NORSAR Array B** 82.37 332 P **P** **20 13 27.5 -0.9**
comp=Z,18nm,0.9s,baz=63,slow=5.1,SNR=38
NOA PP **PP** **20 16 36.5 -0.3**
comp=Z,3.0nm,0.9s,baz=68,slow=8.3,SNR=3.7
NOA LR LR 20 52 40.6
comp=Z,5μm,20.1s,baz=65,slow=38
VTS **Vitosha** 82.37 312 P **P** **20 13 28.2 -0.8**
VTS **Vitosha** 82.37 312 *i* P **P** **20 13 29.2 +0.2**
VTS **Vitosha** 82.37 312 P **P** **20 13 28.4 -0.6**
VTS pmax pmax
comp=Z,77nm,1.0s
VTS MLR MLR
comp=Z,1μm,21.0s
VTS **Vitosha** 82.37 312 ⇑P **P** **20 13 29.8 +0.9**
VTS mb 20 13 39.7
VTS **Vitosha** 82.37 312 P **P** **20 13 28.4 -0.6**
VTS IAmb IAmb 20 13 39.7
comp=Z,77nm,1.0s
VTS IAMs_20 IAMs_20 20 55 39.0
comp=Z,1μm,21.0s
NC204 **NORSAR Array S** 82.46 333 P **P** **20 13 28.2 -0.7**
NC204 IAmb IAmb 20 13 38.3
comp=Z,189nm,1.4s
GKP **Gorka Klasztor** 82.48 324 *e*P **P** **20 13 29.2 +0.1**
GKP **Gorka Klasztor** 82.48 324 *e*P **P** **20 13 29.2 +0.1**
GKP *e*P **P** **20 13 29.2 +0.1**
BZS **Buzias** 82.49 316 P **P** **20 13 28.6 -0.7**
BZS pmax pmax
comp=Z,24nm,1.4s
BZS **Buzias** 82.49 316 ⇑P **P** **20 13 29.3 0.0**
NBO00 **NORSAR Array S** 82.56 332 P **P** **20 13 27.9 -1.5**
NBO00 IAmb IAmb 20 13 43.1
comp=Z,113nm,1.2s
NAO01 **NORSAR Array S** 82.60 332 *e*P **P** **20 13 29.0 -0.6**
NAO01 **NORSAR Array S** 82.60 332 P **P** **20 13 28.5 -1.1**
NAO01 IAmb IAmb 20 13 29.3
comp=Z,93nm,1.2s
LANS **Liptovska Anna** 82.66 319 *e*P **P** **20 13 31.1 +0.9**
LANS pmax pmax
comp=Z,9.0nm,0.9s
LANS **Liptovska Anna** 82.66 319 *e*P **P** **20 13 31.1 +0.9**
SANT **Santorini** 82.71 306 P **P** **20 13 29.1 -1.6**
SANT IAmb IAmb 20 13 39.3
comp=Z,75nm,1.0s
SANT IAMs_20 IAMs_20 20 55 13.6
comp=Z,936nm,18.0s
KKB **Krupnik** 82.72 312 *i* P **P** **20 13 30.0 -0.6**
IOSP **Ios island** 82.73 306 P **P** **20 13 31.9 +1.1**
PSZ **Piszkesteto** 82.82 318 P **P** **20 13 29.7 -1.4**
PSZ pmax pmax
comp=Z,55nm,1.5s
PSZ MLR MLR
comp=Z,2μm,19.0s
PSZ **Piszkesteto** 82.82 318 *e*P **P** **20 13 31.0 -0.1**
PSZ **Piszkesteto** 82.82 318 P **P** **20 13 29.7 -1.4**
DOMB **Dombas** 82.84 334 *e*P **P** **20 13 30.3 -0.5**
SOH **Sokhos** 82.86 311 P **P** **20 13 30.9 -0.6**
SOH pmax pmax
comp=Z,20nm,1.9s
PAIG **Paliouri** 82.92 310 P **P** **20 13 29.5 -2.2**
PAIG **Paliouri** 82.92 310 P **P** **20 13 31.4 -0.3**
PAIG pmax pmax
comp=Z,73nm,1.0s
PLG **Polygyros** 82.94 310 P **P** **20 13 30.3 -1.6**
BSD **Bornholm Skovb** 83.03 326 *i* P **P** **20 13 31.5 -0.4**
BSD pmax pmax
comp=Z,110nm,1.1s
BSD MLR MLR
comp=Z,5μm,13.0s
BSD **Bornholm Skovb** 83.03 326 *i* P **P** **20 13 31.5 -0.4**
comp=Z,111nm,1.1s
comp=Z,5μm,13.0s
OSL **Oslo** 83.07 331 *e*P **P** **20 13 31.4 -0.6**
LAST **Lasithi** 83.07 305 P **P** **20 13 34.3 +1.6**
KNT **Kendrikon** 83.08 311 P **P** **20 13 30.2 -2.3**
KNT **Kendrikon** 83.08 311 P **P** **20 13 31.7 -0.8**
KNT pmax pmax
comp=Z,39nm,1.7s
HORT **Hortiatis** 83.12 310 P **P** **20 13 31.3 -1.5**
THE **Thessaloniki** 83.20 311 P **P** **20 13 31.8 -1.3**
THE pmax pmax
comp=Z,30nm,1.6s
OKC **Ostrava-Krasne** 83.21 320 *e*P **P** **20 13 32.8 -0.2**
OKC *e* 20 13 42.3
OKC MLR MLR
comp=Z,2μm,15.5s
OKC **Ostrava-Krasne** 83.21 320 *e*P **P** **20 13 32.8 -0.2**
OKC *ex* x 20 13 42.3
OKC AMS AMS 20 53 20.0
comp=Z,2μm,15.5s
MOL **Molde** 83.22 335 *e*P **P** **20 13 32.6 -0.1**
VAY **Valandovo** 83.26 311 P **P** **20 13 32.9 -0.5**
VAY pmax pmax
comp=Z,72nm,1.4s
VYHS **Vyhne** 83.28 319 *e*P **P** **20 13 34.0 +0.6**
VYHS pmax pmax
comp=Z,93nm,1.7s
VYHS **Vyhne** 83.28 319 *e*P **P** **20 13 34.0 +0.6**
WRAK **Wrangell Islan** 83.50 32 P **P** **20 13 34.8 +0.5**
WRAK IAmb IAmb 20 13 39.0
comp=Z,52nm,1.2s
GRG **Griva** 83.50 311 P **P** **20 13 34.5 -0.2**
GRG **Griva** 83.50 311 P **P** **20 13 33.4 -1.3**
GRG pmax pmax
comp=Z,43nm,1.1s
BUD **Budapest** 83.52 318 P **P** **20 13 35.1 +0.5**
BUD pmax pmax
comp=Z,41nm,1.3s
MORC **Moravsky Berou** 83.60 320 P **P** **20 13 34.7 -0.4**
MORC pmax pmax
comp=Z,33nm,1.2s
MORC MLR MLR
comp=Z,2μm,19.0s
MORC **Moravsky Berou** 83.60 320 ⇑P **P** **20 13 35.0 -0.1**
MORC mb 20 13 37.8
MORC **Moravsky Berou** 83.60 320 *e*P **P** **20 13 35.3 +0.2**
MORC **Moravsky Berou** 83.60 320 P **P** **20 13 34.7 -0.4**
AKN **Aaknes** 83.63 334 *e*P **P** **20 13 35.1 +0.1**
KONO **Kongsberg** 83.71 331 P **P** **20 13 35.2 -0.1**
KONO pmax pmax
comp=Z,56nm,1.2s
KONO MLR MLR
comp=Z,5μm,22.0s
KONO **Kongsberg** 83.71 331 P **P** **20 13 35.2 -0.1**
KONO IAmb IAmb 20 13 46.0
comp=Z,56nm,1.2s
LIT **Litokhoron** 83.72 310 P **P** **20 13 33.5 -2.4**
LIT **Litokhoron** 83.72 310 P **P** **20 13 34.2 -1.7**
LIT pmax pmax
comp=Z,114nm,1.4s
LIT MLR MLR
comp=Z,600nm,18.0s
LIT **Litokhoron** 83.72 310 P **P** **20 13 34.2 -1.7**
LIT IAmb IAmb 20 13 36.8
comp=Z,114nm,1.4s
SKAR **Skarslia** 83.80 333 *e*P **P** **20 13 36.0 +0.1**
KMBO **Kilima Mbogo** 83.81 267 *i* P **P** **20 13 38.3 +1.2**
SNR=21
KMBO **Kilima Mbogo** 83.81 267 P **P** **20 13 38.3 +1.2**
comp=Z,13nm,0.8s,baz=58,slow=5.5,SNR=35
KMBO LR LR 20 48 42.9
comp=Z,611nm,21.3s,baz=88,slow=34
KMBO **Kilima Mbogo** 83.81 267 P **P** **20 13 37.2 +0.2**
KMBO IAmb IAmb 20 13 39.8
comp=Z,125nm,1.6s
RES **Resolute Bay** 83.83 9 P **P** **20 13 35.1 -0.5**
RES pmax pmax
comp=Z,85nm,1.1s
RES **Resolute Bay** 83.83 9 PP PP 20 16 48.3 0.0
comp=Z,4.0nm,1.0s,baz=301,slow=12,SNR=2.3
RES **Resolute Bay** 83.83 9 P **P** **20 13 35.1 -0.5**
RES IAmb IAmb 20 13 37.3
comp=Z,85nm,1.1s
FRGS **Fruska Gora** 83.84 316 *e*P **P** **20 13 35.7 -0.7**
KSP **Ksiaz** 83.94 322 *e*P **P** **20 13 37.1 +0.4**
KSP **Ksiaz** 83.94 322 *e*P **P** **20 13 37.1 +0.4**
KSP *e*P **P** **20 13 37.1 +0.4**
KRLC **Kraliky** 83.94 321 *e*P **P** **20 13 37.5 +0.7**
KRLC *e* 20 13 46.5
KRLC MLR MLR
comp=Z,2μm,15.9s
KRLC **Kraliky** 83.94 321 *e*P **P** **20 13 37.5 +0.7**
KRLC *ex* x 20 13 46.5
KRLC AMS AMS 20 54 50.0
comp=Z,2μm,15.9s
CSKK **Cskako** 84.05 318 *e*P **P** **20 13 36.0 -1.3**
OSTC **Ostas** 84.09 322 *e*P **P** **20 13 38.2 +0.6**
OSTC AMS AMS 20 57 20.0
comp=Z,4μm,13.4s
DIVS **Divibare** 84.10 315 *e*P **P** **20 13 37.2 -0.6**
DPC **Dobruska-Polom** 84.11 321 *e*P **P** **20 13 38.2 +0.5**
DPC *e* 20 13 47.5
DPC MLR MLR
comp=Z,3μm,13.3s
DPC **Dobruska-Polom** 84.11 321 *e*P **P** **20 13 38.2 +0.5**
DPC *ex* x 20 13 47.5
DPC AMS AMS 20 57 20.0
comp=Z,3μm,13.3s
IMMV **Iera Moni Meta** 84.14 305 P **P** **20 13 37.1 -0.9**
SMOL **Smolenice** 84.14 319 *e*P **P** **20 13 38.3 +0.5**
SMOL **Smolenice** 84.14 319 *e*P **P** **20 13 38.3 +0.5**
KZN **Kozani** 84.17 311 P **P** **20 13 36.4 -1.8**
CHVC **Chvalec** 84.18 322 *e*P **P** **20 13 38.2 +0.2**
CHVC AMS AMS 20 57 20.0
comp=Z,3μm,13.3s
AGG **Agios Georgios** 84.20 309 P **P** **20 13 35.5 -2.8**
AGG **Agios Georgios** 84.20 309 P **P** **20 13 36.4 -2.0**
AGG pmax pmax
comp=Z,42nm,1.1s
AGG MLR MLR
comp=Z,1μm,20.0s
AGG **Agios Georgios** 84.20 309 P **P** **20 13 36.4 -2.0**
AGG IAMs_20 IAMs_20 20 56 59.6
comp=Z,1μm,20.0s
MORH **Mrgy, Hungar** 84.23 317 *e*P **P** **20 13 37.1 -1.2**
UPC **Upice** 84.23 322 *e*SKS **S** **20 24 08.6 +5.3**
UPC AMS AMS 20 57 20.0
comp=Z,4μm,11.1s
GVD **Gavdhos** 84.26 305 P **P** **20 13 36.9 -1.8**
MODS **Modra-Piesok** 84.29 319 *e*P **P** **20 13 38.4 -0.2**
MODS pmax pmax
comp=Z,88nm,1.8s
MODS **Modra-Piesok** 84.29 319 *e*P **P** **20 13 38.4 -0.2**
FNA **Florina** 84.29 311 P **P** **20 13 37.2 -1.6**
FNA **Florina** 84.29 311 P **P** **20 13 37.1 -1.7**
FNA pmax pmax
comp=Z,45nm,1.0s
FNA **Florina** 84.29 311 P **P** **20 13 37.1 -1.7**
FNA IAmb IAmb 20 13 47.5
comp=Z,45nm,1.0s
VRAC **Vranov** 84.35 320 P **P** **20 13 39.7 +0.8**
VRAC pmax pmax
comp=Z,84nm,1.1s
VRAC **Vranov** 84.35 320 ⇑P **P** **20 13 40.0 +1.1**
VRAC mb 20 13 40.9
VRAC **Vranov** 84.35 320 *e*P **P** **20 13 39.4 +0.5**
TULEG **Thule** 84.45 2 P **P** **20 13 38.3 -0.5**
TULEG IAmb IAmb 20 13 41.1
comp=Z,67nm,1.3s
TULEG IAMs_20 IAMs_20 20 53 11.8
comp=Z,1μm,19.0s
TIH **Tihany** 84.45 318 *e*P **P** **20 13 38.0 -1.4**
HYA **Hoyanger** 84.47 334 *e*P **P** **20 13 38.8 -0.3**
KRUC **Moravsky** 84.56 320 P **P** **20 13 40.5 +0.6**
KRUC pmax pmax
comp=Z,36nm,1.6s
KRUC **Moravsky** 84.56 320 *e*P **P** **20 13 40.3 +0.4**
BBLS **Lazići** 84.58 314 *e*P **P** **20 13 40.3 +0.1**
MPLH **Magyarpolny** 84.58 318 *e*P **P** **20 13 39.1 -1.0**
KTHA **Kythira Island** 84.58 306 P **P** **20 13 40.0 -0.3**
EVR **Evrytania** 84.62 309 P **P** **20 13 38.8 -1.8**
PHP **Peshkopia** 84.64 312 P **P** **20 13 39.2 -1.3**
RUDO **Rudo** 84.69 314 *e*P **P** **20 13 40.2 -0.5**
RUE **Ruedersdorf** 84.72 324 *e*P **P** **20 13 41.0 +0.4**
DIB **Dawson Inlet,** 84.78 35 P **P** **20 13 40.8 -0.1**
DIB IAmb IAmb 20 13 45.3
comp=Z,65nm,1.4s
H02S1 **DAWSON INLET T** 84.78 35 P **P** **20 13 41.9 +1.0**
PLE **Pljevlja** 84.78 314 P **P** **20 13 42.4 +1.1**
HAPS **Han Pijesak,BI** 84.80 315 *e*P **P** **20 13 40.4 -1.0**
ODD1 **Odda** 84.90 332 *e*P **P** **20 13 41.7 +0.2**
TREC **Trest** 85.02 321 *e*P **P** **20 13 42.8 +0.5**
TREC MLR MLR
comp=Z,4μm,11.0s
TREC **Trest** 85.02 321 *e*P **P** **20 13 42.8 +0.5**
TREC *ex* x 20 24 24.3
TREC AMS AMS 20 55 40.0
comp=Z,4μm,11.0s
JAN **Janina** 85.06 310 P **P** **20 13 42.7 0.0**
PVCC **Panska Ves** 85.07 322 *e*P **P** **20 13 42.8 +0.4**
PVCC MLR MLR
comp=Z,3μm,13.4s
PVCC **Panska Ves** 85.07 322 *e*P **P** **20 13 42.8 +0.4**
PVCC AMS AMS 20 55 50.0
comp=Z,3μm,13.4s
MOBC **Moresby Island** 85.08 35 P **P** **20 13 42.8 +0.3**
ITM **Ithomi** 85.12 308 P **P** **20 13 39.4 -3.6**
ITM **Ithomi** 85.12 308 P **P** **20 13 41.8 -1.3**
UPM **Unac-Piva** 85.16 314 *e*P **P** **20 13 42.4 -0.9**
TIR **Tirane** 85.16 312 P **P** **20 13 42.4 -0.7**
TIR pmax pmax
comp=Z,94nm,1.0s
TIR MLR MLR
comp=Z,2μm,18.0s
TIR **Tirane** 85.16 312 ⇑P **P** **20 13 43.0 -0.1**
TIR mb 20 13 57.6
TIR **Tirane** 85.16 312 P **P** **20 13 42.4 -0.7**
TIR IAmb IAmb 20 13 57.6
comp=Z,94nm,1.0s
TIR IAMs_20 IAMs_20 20 57 34.0
comp=Z,2μm,18.0s
GOPC **GO Pecny, Ondr** 85.19 321 *e*P **P** **20 13 43.1 0.0**
GOPC MLR MLR
comp=Z,4μm,11.7s
GOPC **GO Pecny, Ondr** 85.19 321 *e*P **P** **20 13 43.1 0.0**
GOPC AMS AMS 20 58 00.0
comp=Z,4μm,11.7s
PDG **Podgorica** 85.20 313 *e*P **P** **20 13 42.6 -0.6**
PDG **Podgorica** 85.20 313 ⇑P **P** **20 13 43.3 0.0**
PDG mb 20 13 53.1
PDG **Podgorica** 85.20 313 P **P** **20 13 41.8 -1.4**
PDG IAmb IAmb 20 13 53.0
comp=Z,37nm,0.9s
PDG IAMs_20 IAMs_20 20 56 46.7
comp=Z,1μm,21.0s
BLS5 **Blasjo** 85.22 332 *e*P **P** **20 13 43.2 +0.1**
ASK **Askoy** 85.23 333 *e*P **P** **20 13 42.8 -0.2**
BRG **Berggiesshubel** 85.29 322 *i* P **P** **20 13 43.5 0.0**
comp=Z,89nm,1.2s
BRG *i* 20 13 53.1
comp=Z,95nm,1.0s
BRG *e*PP **PP** **20 17 02.5 +1.6**
comp=Z,18nm,1.3s
BRG S SKSac 20 23 22.0 -46
comp=N,3μm,13.8s
comp=E,2μm,21.3s
comp=Z,3μm,16.4s
BRG **Berggiesshubel** 85.29 322 P **P** **20 13 43.8 +0.3**
BRG pmax pmax
comp=Z,88nm,1.1s
PRU **Pruhonice** 85.31 321 *e*P **P** **20 13 43.7 +0.1**
PRU *e* 20 13 52.9
PRU *e* 20 24 09.2
PRU MLR MLR
comp=Z,3μm,16.5s
PRU **Pruhonice** 85.31 321 *e*P **P** **20 13 43.7 +0.1**
PRU *ex* x 20 13 52.9
PRU *e*S **SKSac** **20 24 09.2 +0.8**
PRU AMS AMS 20 57 20.0
comp=Z,3μm,16.5s
DRME **Dracevica, Mon** 85.33 313 *e*P **P** **20 13 43.4 -0.6**
CONA **Conrad Observa** 85.33 319 *i* PcP **P** **20 13 43.9 0.0**
comp=Z,60nm,1.6s,SNR=17
PRA **Prague** 85.34 322 *e*P **P** **20 13 44.5 +0.7**
PRA *e* 20 24 15.5
PRA MLR MLR
comp=Z,3μm,14.7s
PRA **Prague** 85.34 322 *e*P **P** **20 13 44.5 +0.7**
PRA *e*S **S** **20 24 15.5 +1.3**
PRA AMS AMS 20 55 50.0
comp=Z,3μm,14.7s
MUD **Monsted U'grnd** 85.38 329 *i* P **P** **20 13 43.3 -0.5**
MUD pmax pmax
comp=Z,71nm,1.0s
MUD **Monsted U'grnd** 85.38 329 *i* P **P** **20 13 43.3 -0.5**
comp=Z,71nm,1.0s
CASY **Casey** 85.40 184 P **P** **20 13 44.5 +1.0**
CASY IAmb IAmb 20 13 54.7
comp=Z,74nm,1.1s
IGT **Igoumenitsa** 85.48 310 P **P** **20 13 43.7 -1.0**
IGT pmax pmax
comp=Z,64nm,0.9s
BRY **Bratogost** 85.52 314 P **P** **20 13 44.9 -0.1**
BRY **Bratogost** 85.52 314 *e*P **P** **20 13 44.5 -0.5**
CLL **Collm** 85.65 323 ⇓*i*P **P** **20 13 45.0 -0.3**
CLL *i* 20 13 54.4
CLL *e*S **S** **20 24 19.0 +1.8**
CLL pmax pmax
comp=Z,82nm,1.2s
CLL **Collm** 85.65 323 ⇓*i*P **P** **20 13 45.0 -0.3**
comp=Z,82nm,1.2s
CLL *i* 20 13 54.4
comp=Z,92nm,1.1s
CLL *i* 20 13 58.6
CLL *e* 20 16 50.0
CLL *e*PP **PP** **20 17 05.0 +1.2**
CLL *e*PPP PPP 20 18 54.0
CLL *e*PPPP 20 20 30.0
CLL *e*S **S** **20 24 19.0 +1.8**
CLL *e*PS **PnS** **20 25 17.0 +3.3**
CLL *e*PPS PPS 20 25 38.0
CLL *e*SS **SS** **20 30 00.0 +7.4**
CLL *e*SSS SSS 20 33 24.0
CLL *e* 20 34 24.0
CLL *e*PKPPKPdPP'P'df 20 39 49.0 -9.2
CLL **Collm** 85.65 323 P **P** **20 13 44.8 -0.5**
CLL IAmb IAmb 20 13 55.4
comp=Z,73nm,1.0s
KOGS **Kog** 85.67 318 *i* P **P** **20 13 45.5 -0.1**
HCY **Herceg Novi** 85.72 313 P **P** **20 13 45.7 -0.1**

HCY	Herceg Novi	85.72	313	*e*P	P	20	13	44.4	-1.4
BLY	Banja Luka	85.73	316	*e*P	P	20	13	45.6	-0.2
BLY	Banja Luka	85.73	316	⇑P	P	20	13	46.5	+0.6
BLY				mb		20	14	01.1	
BLY	Banja Luka	85.73	316	P	P	20	13	45.7	-0.1
PBCC	Pribram	85.75	321	*e*P	P	20	13	45.8	-0.1
PBCC				*ex*	x	20	13	55.3	
KEK	Kerkira	85.80	310	P	P	20	13	38.8	-7.5
ARSA	Arzberg	85.81	319	*i* PcP	P	20	13	46.0	-0.3
	comp=Z,52nm,1.9s,SNR=17								
MGRS	Mrkonjic Grad	85.92	316	*e*P	P	20	13	47.3	+0.4
STON	Ston	86.10	314	*e*P	P	20	13	46.6	-1.1
KHC	Kasperske Hory	86.23	321	*e*P	P	20	13	48.4	+0.1
KHC				*e*		20	13	57.4	
KHC				*e*		20	24	23.9	
KHC				MLR	MLR				
	comp=Z,3µm,21.0s								
KHC	Kasperske Hory	86.23	321	*e*P	P	20	13	48.4	+0.1
KHC				*ex*	x	20	13	57.4	
KHC				*e*S	S	20	24	23.9	+0.7
KHC				AMS	AMS	20	56	20.0	
	comp=Z,3µm,21.0s								
KHC	Kasperske Hory	86.23	321	P	P	20	13	47.7	-0.7
GEC2	GERESS Array S	86.28	321	P	P	20	13	48.7	+0.1
GEC2				pmax	pmax				
	comp=Z,39nm,1.1s								
GEC2	GERESS Array S	86.28	321	P	P	20	13	48.3	-0.3
GERES	GERESS Array B	86.28	321	P	P	20	13	48.0	-0.6
GERES	GERESS Array B	86.28	321	P	P	20	13	48.5	-0.2
	comp=Z,14nm,0.9s,baz=59,slow=5.1,SNR=99								
GERES				PP	PP	20	17	07.0	-2.0
	comp=Z,1.7nm,0.9s,baz=62,slow=10,SNR=2.4								
GERES				PKKPbc	PKKPbc	20	31	46.6	-0.9
	comp=Z,0.6nm,0.9s,baz=267,slow=2.0,SNR=3.3								
GERES				PKPPKP	P'P'df	20	39	60.0	+2.7
	comp=Z,1.1nm,1.1s,baz=354,slow=4.9,SNR=4.2								
GERES				LR	LR	20	56	01.9	
	comp=Z,2µm,19.0s,baz=86,slow=38								
GERES	GERESS Array B	86.28	321	P	P	20	13	48.0	-0.6
PERS	Pernice	86.32	318	*i* P	P	20	13	48.5	-0.3
MOA	Molln	86.35	320	*i* PcP	P	20	13	48.3	-0.6
	comp=Z,78nm,1.5s,SNR=30								
SOKA	Soboth	86.35	318	*i* PcP	P	20	13	48.7	-0.3
	comp=Z,63nm,2.1s,SNR=18								
NKC	Novy Kostel	86.43	322	*e*P	P	20	13	49.4	+0.2
NKC				MLR	MLR				
	comp=Z,4µm,13.8s								
NKC	Novy Kostel	86.43	322	*e*P	P	20	13	49.4	+0.2
NKC				AMS	AMS	20	55	10.0	
	comp=Z,4µm,13.8s								
CRES	Cresnjev	86.43	317	*e*P	P	20	13	49.4	+0.1
KULLO	Kullorsuaq	86.57	359	*i* P	P	20	13	49.5	+0.1
KULLO				pmax	pmax				
	comp=Z,55nm,0.9s								
KULLO	Kullorsuaq	86.57	359	*i* P	P	20	13	49.5	+0.1
	comp=Z,55nm,0.9s								
WET	Wettzell	86.64	321	P	P	20	13	50.5	+0.2
WET				pmax	pmax				
	comp=Z,31nm,2.5s								
BOJS	Bojanci	86.69	317	*e*P	P	20	13	50.6	0.0
MOX	Moxa	86.72	323	P	P	20	13	50.5	-0.2
MOX				pmax	pmax				
	comp=Z,23nm,1.8s								
OBKA	Obir	86.73	318	*i* P	P	20	13	47.8	-3.0
	comp=Z,23nm,1.1s,SNR=7.1								
SCO	Scoresbysund	86.89	348	P	P	20	13	51.2	+0.2
SCO				pmax	pmax				
	comp=Z,66nm,1.5s								
SCO	Scoresbysund	86.89	348	P	P	20	13	51.2	+0.2
SCO				IAmb	IAmb	20	14	05.4	
	comp=Z,66nm,1.5s								
LJU	Ljubljana	86.93	318	*i* P	P	20	13	51.6	-0.2
CEY	Cerknica	87.12	318	*e*P	P	20	13	52.3	-0.4
KBA	Koelnbreinsper	87.24	319	P	P	20	13	53.2	-0.3
KBA				pmax	pmax				
	comp=Z,34nm,1.2s								
KBA	Koelnbreinsper	87.24	319	*i* PcP	P	20	13	53.1	-0.3
	comp=Z,46nm,1.3s,SNR=8.3								
MYKA	Terra Mystica	87.25	319	*i* PcP	P	20	13	52.5	-0.8
	comp=Z,17nm,1.4s,SNR=5.2								
GRB1	Grafenberg Arr	87.26	322	P	P	20	13	53.5	+0.2
GRB1				pmax	pmax				
	comp=Z,27nm,1.0s								
GRA1	Grafenberg Arr	87.38	322	P	P	20	13	52.6	-1.3
GRA1				IAmb	IAmb	20	13	56.7	
	comp=Z,95nm,1.8s								
GRF	Grafenberg Arr	87.38	322	P	P	20	13	52.6	-1.3
GRF				pmax	pmax				
	comp=Z,95nm,1.8s								
SUMG	Summit	87.49	354	*i* P	P	20	13	54.4	0.0
SUMG				pmax	pmax				
	comp=Z,120nm,1.1s								
SUMG	Summit	87.49	354	*i* P	P	20	13	54.4	0.0
	comp=Z,123nm,1.1s								
SUMG	Summit	87.49	354	P	P	20	13	54.0	-0.4
SUMG				IAmb	IAmb	20	14	08.7	
	comp=Z,87nm,1.3s								
ABTA	Abfaltersbach	87.90	319	*i* PcP	P	20	13	55.4	-1.1
	comp=Z,35nm,1.4s,SNR=12								
STAL	STALIGIAL	87.98	319	P	P	20	13	55.5	-1.4
STAL				IAmb	IAmb	20	14	10.7	
	comp=Z,81nm,1.3s								
YKA	Yellowknife Ar	87.99	22	P	P	20	13	56.7	+0.2
YKA	Yellowknife Ar	87.99	22	P	P	20	13	57.1	+0.7
	comp=Z,41nm,0.9s,baz=315,slow=4.6,SNR=43								
YKA				PKiKP	PKiKP	20	18	58.6	0.0
	comp=Z,0.6nm,0.6s,baz=322,slow=1.7,SNR=5.3								
YKA				PKKPbc	PKKPbc	20	31	40.6	-3.0
	comp=Z,0.9nm,0.6s,baz=132,slow=2.8,SNR=12								
YKA				PKPPKP	P'P'df	20	39	51.5	-2.2
	comp=Z,0.7nm,1.0s,baz=93,slow=2.4,SNR=3.9								
YKA	Yellowknife Ar	87.99	22	P	P	20	13	56.6	+0.2
YKA					PKiKP	20	18	57.5	-1.1
YKA					PKKPdf	20	31	36.6	-0.2
FUR	Furstenfeldbru	88.03	321	P	P	20	13	57.5	+0.5
FUR				pmax	pmax				
	comp=Z,58nm,1.4s								
ACER	Acerenza	88.12	313	P	P	20	13	57.3	-0.4
ACER				IAmb	IAmb	20	14	07.7	
	comp=Z,91nm,1.3s								
TIP	Timpagrande	88.18	311	P	P	20	13	56.5	-1.5
TIP				IAmb	IAmb	20	13	59.2	
	comp=Z,131nm,1.6s								
TIP				IAMs_20	IAMs_20	20	59	53.9	
	comp=Z,942nm,18.0s								
WTTA	Wattenberg	88.21	320	*i* PcP	P	20	13	57.5	-0.6
	comp=Z,37nm,1.0s,SNR=11								
WATA	Walderalm	88.22	320	*i* PcP	P	20	13	57.4	-0.7
	comp=Z,50nm,1.7s,SNR=12								
SQTA	Sankt Quirin	88.49	320	*i* PcP	P	20	13	58.6	-0.7
	comp=Z,33nm,1.1s,SNR=13								
MOTA	Moosalm	88.50	320	*i* PcP	P	20	13	58.6	-0.8
	comp=Z,20nm,1.0s,SNR=6.0								
RETA	Reutte	88.64	320	*i* PcP	P	20	13	59.8	-0.2
	comp=Z,18nm,1.4s								
TNS	Taunus Mts	88.72	323	P	P	20	14	00.8	+0.5
TNS				pmax	pmax				
	comp=Z,21nm,1.1s								
BUG	Bochum--Univer	88.78	325	P	P	20	14	00.3	-0.1
BUG				pmax	pmax				
	comp=Z,34nm,1.2s								
FETA	Feichten	88.87	320	*i* PcP	P	20	14	00.6	-0.6
	comp=Z,26nm,1.0s,SNR=11								
STU	Stuttgart	88.98	322	P	P	20	13	59.6	-1.9
STU				pmax	pmax				
	comp=Z,65nm,1.8s								
STU				MLR	MLR				
	comp=Z,2µm,21.0s								
STU	Stuttgart	88.98	322	P	P	20	13	59.6	-1.9
STU				IAmb	IAmb	20	14	05.4	
	comp=Z,65nm,1.8s								
INTR	Introdacqua	89.02	314	P	P	20	14	00.5	-1.4
TEOL	Teolo	89.03	318	P	P	20	14	01.3	-0.5
TEOL				IAmb	IAmb	20	14	12.2	
	comp=Z,87nm,1.0s								
CEL	Celeste	89.16	310	P	P	20	14	02.2	-0.4
CEL				IAmb	IAmb	20	14	16.7	
	comp=Z,89nm,1.0s								
CEL				IAMs_20	IAMs_20	20	59	48.0	
	comp=Z,1µm,21.0s								
NRCA	Norcia	89.20	315	P	P	20	14	02.2	-0.5
NRCA				IAmb	IAmb	20	14	12.9	
	comp=Z,33nm,0.9s								
AQU	L'Aquila	89.21	315	P	P	20	14	02.7	-0.1
AQU				pmax	pmax				
	comp=Z,35nm,0.9s								
AQU				MLR	MLR				
	comp=Z,2µm,22.0s								
AQU	L'Aquila	89.21	315	*e*P	P	20	14	02.6	-0.2
AQU	L'Aquila	89.21	315	P	P	20	14	02.7	-0.1
AQU				IAmb	IAmb	20	14	19.5	
	comp=Z,35nm,0.9s								
AQU				IAMs_20	IAMs_20	20	56	51.9	
	comp=Z,2µm,22.0s								
DAVA	Damuels	89.27	320	*i* PcP	P	20	14	02.8	-0.2
	comp=Z,26nm,1.1s,SNR=6.2								
FUORN	Ofenpass-Fuorn	89.34	320	P	P	20	14	02.9	-0.6
FUORN				IAmb	IAmb	20	14	18.4	
	comp=Z,62nm,1.1s								
MURB	Monte Urbino	89.40	316	P	P	20	14	03.9	+0.2
MURB				IAmb	IAmb	20	14	14.9	
	comp=Z,86nm,1.0s								
SALO	Salr	89.64	319	P	P	20	14	04.2	-0.5
SALO				IAmb	IAmb	20	14	14.9	
	comp=Z,72nm,0.9s								
BFO	Black Forest	89.69	322	P	P	20	14	04.0	-0.9
BFO				pmax	pmax				
	comp=Z,33nm,1.4s								
BFO	Black Forest	89.69	322	P	P	20	14	04.0	-0.9
MBAR	Mbarara	89.80	269	P	P	20	14	06.1	-0.1
MBAR				pmax	pmax				
	comp=Z,14nm,1.1s								
MBAR				MLR	MLR				
	comp=Z,900nm,19.0s								
MBAR	Mbarara	89.80	269	P	P	20	14	06.1	-0.1
MBAR				IAMs_20	IAMs_20	20	56	51.8	
	comp=Z,877nm,19.0s								
SLE	Schleitheim	89.87	321	P	P	20	14	05.1	-0.6
SLE				pmax	pmax				
	comp=Z,33nm,2.4s								
ZCCA	Zocca	89.93	317	P	P	20	14	07.2	+1.1
TUE	Stuetta	89.97	320	P	P	20	14	05.5	-1.0
TUE				IAmb	IAmb	20	14	16.6	
	comp=Z,40nm,1.0s								
OSSC	Osservatorio P	90.12	317	P	P	20	14	05.2	-1.7
PRMA	PARMA	90.16	318	P	P	20	14	07.6	+0.5
LATE	Laterza	90.16	316	P	P	20	14	06.2	-1.0
CDF	Champ du Feu	90.27	322	*e*P	P	20	14	06.9	-0.7
CDF				pmax	pmax				
	comp=Z,78nm,1.6s								
WLF	Walferdange	90.28	324	P	P	20	14	07.8	+0.2
WLF				pmax	pmax				
	comp=Z,59nm,1.1s								
WLF	Walferdange	90.28	324	P	P	20	14	07.8	+0.2
WLF				IAmb	IAmb	20	14	09.1	
	comp=Z,59nm,1.1s								
VLC	Villacollemand	90.39	317	P	P	20	14	07.6	-0.7
VLC				IAmb	IAmb	20	14	17.6	
	comp=Z,46nm,1.0s								
ECH	Echery	90.43	322	P	P	20	14	07.5	-0.8
ECH				pmax	pmax				
	comp=Z,63nm,1.9s								
ECH				MLR	MLR				
	comp=Z,2µm,22.0s								
ECH	Echery	90.43	322	P	P	20	14	07.5	-0.8
ECH				IAMs_20	IAMs_20	20	56	13.8	
	comp=Z,2µm,22.0s								
CASP	Castiglione de	90.70	316	IAMs_20	IAMs_20	20	59	48.3	
	comp=Z,1µm,21.0s								
GIVF	Givet	90.80	324	*e*P	P	20	14	09.3	-0.6
GIVF				pmax	pmax				
	comp=Z,55nm,1.4s								
HINF	Hinteralfeld	90.81	322	*e*P	P	20	14	09.2	-0.9
HINF				pmax	pmax				
	comp=Z,25nm,1.4s								
MSSA	Maissana	90.87	318	P	P	20	14	09.1	-1.4
MSSA				IAmb	IAmb	20	14	24.3	
	comp=Z,45nm,1.0s								
CORL	Corleone	91.18	311	IAMs_20	IAMs_20	21	02	54.0	
	comp=Z,818nm,19.0s								
SENIN	Lac Senin/Sane	91.26	320	P	P	20	14	12.3	-0.2
SENIN				IAmb	IAmb	20	14	26.5	
	comp=Z,39nm,1.0s								
LLLB	Lillooet	91.77	34	P	P	20	14	15.4	+0.9
EKA	Eskdalemuir Ar	91.82	332	P	P	20	14	14.7	+0.1
EKA				pmax	pmax				
	comp=Z,4.0nm,1.2s								
LPG	La Plagne	92.02	320	*e*P	P	20	14	15.8	-0.3
LPG				pmax	pmax				
	comp=Z,52nm,1.0s								
LPL	La Plagne	92.03	320	*e*P	P	20	14	15.7	-0.3
LPL				pmax	pmax				
	comp=Z,45nm,0.9s								
PGF	Pioggiola	92.03	316	*e*P	P	20	14	16.1	+0.1
PGF				pmax	pmax				
	comp=Z,84nm,1.2s								
SAOF	Saorge	92.27	318	P	P	20	14	16.8	-0.1
SAOF				pmax	pmax				
	comp=Z,53nm,1.1s								
BNI	Bardonecchia	92.29	319	P	P	20	14	16.1	-1.1
BNI				pmax	pmax				
	comp=Z,43nm,1.0s								
BNI	Bardonecchia	92.29	319	P	P	20	14	16.1	-1.1
BNI				IAmb	IAmb	20	14	23.4	
	comp=Z,43nm,1.0s								
NLWA	Neilton Lookou	92.39	38	P	P	20	14	19.1	+1.7
NLWA				IAmb	IAmb	20	14	20.8	
	comp=Z,117nm,1.8s								
MBDF	Montbardon	92.39	319	*e*P	P	20	14	16.5	-1.2
MBDF				pmax	pmax				
	comp=Z,21nm,1.0s								
SBF	Sospel	92.41	318	*e*P	P	20	14	16.7	-0.9
SBF				pmax	pmax				
	comp=Z,47nm,0.9s								
ISO	Isola	92.49	319	P	P	20	14	18.2	+0.2
ISO				pmax	pmax				
	comp=Z,32nm,1.2s								
D03D	Eldon	92.76	37	P	P	20	14	21.1	+2.1
	baz=302,SNR=15								
LOR	Lormes	92.83	322	*e*P	P	20	14	18.4	-1.1
LOR				pmax	pmax				
	comp=Z,43nm,1.5s								
ORIF	Oris-en-Rattie	92.85	320	P	P	20	14	19.6	-0.1
ORIF				pmax	pmax				
	comp=Z,33nm,1.2s								
B05A	Bryant	92.93	36	P	P	20	14	21.5	+1.7
	baz=303,SNR=5.3								
FRF	La Foret Royal	93.05	318	*e*P	P	20	14	19.7	-0.8
FRF				pmax	pmax				
	comp=Z,73nm,1.4s								
D04E	Lakebay	93.13	38	P	P	20	14	22.7	+1.9
	baz=302								
SSF	Saint Saulge	93.15	322	*e*P	P	20	14	20.0	-0.9
SSF				pmax	pmax				
	comp=Z,78nm,1.8s								
SMF	Signal de Mont	93.17	322	*e*P	P	20	14	20.1	-0.9
SMF				pmax	pmax				
	comp=Z,71nm,1.6s								
LMR	La Mourre	93.25	318	*e*P	P	20	14	20.9	-0.5
LMR				pmax	pmax				
	comp=Z,101nm,1.6s								
CLF	Chambon-Foret	93.33	324	P	P	20	14	21.3	-0.3
AVF	Avril sur Loir	93.38	322	*e*P	P	20	14	21.0	-0.9
AVF				pmax	pmax				
	comp=Z,18nm,1.1s								
SSB	Saint Sauveur	93.47	320	P	P	20	14	22.3	-0.2
SSB				pmax	pmax				
	comp=Z,20nm,2.4s								
D05A	Enumclaw	93.58	37	P	P	20	14	24.6	+1.7
E04D	Cinebar	93.58	38	P	P	20	14	24.2	+1.3
	baz=303								
VIVF	Saint-Julien-l	93.62	320	*e*P	P	20	14	22.4	-0.7
VIVF				pmax	pmax				
	comp=Z,47nm,1.5s								
C06D	Leavenworth	93.79	36	P	P	20	14	25.0	+1.2
	baz=304								
G03D	McMinnville, O	93.89	39	P	P	20	14	25.9	+1.6
	baz=302								
LON	Longmire	93.92	38	P	P	20	14	25.2	+0.7
LON				pmax	pmax				
	comp=Z,13nm,1.1s								
LON	Longmire	93.92	38	P	P	20	14	25.2	+0.7
SFJD	Kangerlussuaq	93.94	356	P	P	20	14	23.4	-0.7
SFJD				pmax	pmax				
	comp=Z,37nm,1.6s								
SFJD	Kangerlussuaq	93.94	356	*i* P	P	20	14	23.0	-1.1
I02D	Swisshome	94.11	41	P	P	20	14	27.3	+2.0
	baz=302								
COR	Corvallis	94.20	40	P	P	20	14	27.5	+1.7
COR				pmax	pmax				
	comp=Z,53nm,1.0s								
COR	Corvallis	94.20	40	P	P	20	14	27.4	+1.7
COR				IAmb	IAmb	20	14	29.1	
	comp=Z,53nm,1.0s								
TCF	Toulx Ste Croi	94.31	322	*e*P	P	20	14	25.7	-0.6
TCF				pmax	pmax				
	comp=Z,152nm,2.4s								
B08A	Colville Reser	94.41	35	P	P	20	14	27.3	+0.6
B08A				IAmb	IAmb	20	14	29.1	
	comp=Z,64nm,1.5s								
KEBM	Edson Butte	94.45	42	P	P	20	14	28.2	+1.2
J01E	Myrtle Point	94.55	41	P	P	20	14	28.7	+1.3
	baz=302,SNR=7.1								
H04D	Lebanon	94.57	40	P	P	20	14	29.1	+1.7
	baz=302,SNR=10								
F05D	White Salmon	94.59	38	P	P	20	14	28.6	+1.0
	baz=303								
I03D	Drain, OR	94.64	41	P	P	20	14	28.8	+1.0
	baz=302,SNR=9.0								
H04A	Detroit Lake	94.82	39	P	P	20	14	29.9	+1.2
H04A				IAmb	IAmb	20	14	31.0	
	comp=Z,54nm,1.4s								
KBO	Bosley Butte	94.86	42	P	P	20	14	30.2	+1.3
KBO				IAmb	IAmb	20	14	31.8	
	comp=Z,58nm,1.3s								
K02D	Willamette Mer	94.96	42	P	P	20	14	30.6	+1.1
	baz=302,SNR=6.3								
KEST	Kesra	94.98	310	P	P	20	14	29.8	+0.1
	comp=Z,12nm,1.1s,baz=312,slow=11,SNR=4.2								
KEST				LR	LR	21	05	00.6	
	comp=Z,1µm,18.4s,baz=350,slow=40								
KEST	Kesra	94.98	310	P	P	20	14	29.3	-0.3
KEST				IAmb	IAmb	20	14	44.3	
	comp=Z,55nm,1.5s								
G05D	Wamic, OR	95.03	39	P	P	20	14	31.0	+1.4
	baz=304								
E07A	Sunnyside	95.14	37	P	P	20	14	30.4	+0.3
I04A	Tendick Farm,	95.16	40	P	P	20	14	31.1	+0.9
	baz=303,SNR=17								
RJF	Les Rejaudoux	95.26	322	*e*P	P	20	14	30.3	-0.3
RJF				pmax	pmax				
	comp=Z,125nm,2.0s								
L02E	Cave Junction	95.28	42	P	P	20	14	31.8	+1.0
	baz=302								
C09A	Chrisman Ranch	95.31	35	P	P	20	14	31.4	+0.6
C09A				IAmb	IAmb	20	14	33.3	
	comp=Z,53nm,1.6s								
HAWA	Hanford	95.42	37	P	P	20	14	32.8	+1.4
HAWA				IAmb	IAmb	20	14	34.1	
	comp=Z,69nm,1.9s								
HUMO	Hull Mountain	95.45	41	P	P	20	14	32.5	+0.9
F07A	Phinny Hill Vi	95.48	38	P	P	20	14	31.7	+0.1
F07A				IAmb	IAmb	20	14	34.3	
	comp=Z,90nm,1.9s								
I05D	Terrebonne, OR	95.52	39	P	P	20	14	33.2	+1.3
	baz=303								
J04D	Umpqua Nationa	95.64	41	P	P	20	14	33.2	+0.5
	baz=303,SNR=14								
NEW	Newport	95.66	34	P	P	20	14	33.1	+0.7
	baz=307								
NEW	Newport	95.66	34	P	P	20	14	33.0	+0.6
NEW				pmax	pmax				
	comp=Z,19nm,1.2s								
NEW	Newport	95.66	34	P	P	20	14	33.9	+1.4
	comp=Z,12nm,1.1s,baz=319,slow=4.3,SNR=10								
NEW	Newport	95.66	34	P	P	20	14	33.0	+0.6
PPT	Papeete	95.68	107	LR	LR	20	51	06.5	
	comp=Z,711nm,20.5s,baz=292,slow=31								
PPT2	Papeete2	95.69	107	*e*S	SKKSac	20	25	39.3	+5.9
	comp=Z,577nm,25.8s								
PPT2	Papeete2	95.69	107	*e*LR	LR	20	45	36.0	
	comp=Z,3µm,32.0s,baz=296								
MTLF	Montolieu	95.92	320	*e*P	P	20	14	32.9	-0.8
MTLF				pmax	pmax				
	comp=Z,39nm,1.5s								
MAW	Mawson	96.02	199	P	P	20	14	33.1	-0.2
	comp=Z,5.5nm,0.8s,baz=50,slow=3.9,SNR=6.4								
MAW				LR	LR	20	54	27.1	
	comp=Z,410nm,20.0s,baz=55,slow=33								
PINE	Pine Mountain	96.06	40	P	P	20	14	36.0	+1.4
PINE				IAmb	IAmb	20	14	37.6	
	comp=Z,52nm,1.2s								
L04D	Klamath Falls	96.07	42	P	P	20	14	35.4	+0.8
	baz=303,SNR=20								
YBH	Yreka Blue Hor	96.07	42	P	P	20	14	35.7	+1.2
	comp=Z,8.0nm,1.0s,baz=24,slow=1.4,SNR=19								
YBH	Yreka Blue Hor	96.07	42	P	P	20	14	35.8	+1.2
J05D	Fort Rock, OR	96.16	40	P	P	20	14	36.0	+1.1
	baz=303,SNR=14								
M02C	Callahan	96.16	42	P	P	20	14	36.4	+1.5
	baz=302,SNR=9.8								
KMRM	Mail Ridge	96.22	44	P	P	20	14	36.4	+1.2
G08A	Pilot Rock	96.38	38	P	P	20	14	36.9	+1.0
N02D	Trinity Center	96.48	43	P	P	20	14	37.4	+1.0
	baz=302,SNR=7.3								
M04C	Macdoel	96.60	42	P	P	20	14	38.1	+1.1
	baz=303,SNR=12								
WDC	Whiskeytown Da	96.79	43	P	P	20	14	36.5	-1.2
WDC				pmax	pmax				
	comp=Z,56nm,1.9s								
WDC	Whiskeytown Da	96.79	43	P	P	20	14	36.5	-1.2
WDC				IAmb	IAmb	20	14	39.7	
	comp=Z,56nm,1.9s								
LSZ	Lusaka	96.83	256	P	P	20	14	37.1	-1.3
LSZ				pmax	pmax				
	comp=Z,18nm,0.9s								
LSZ				MLR	MLR				
	comp=Z,1µm,19.0s								
LSZ	Lusaka	96.83	256	LR	LR	20	56	33.9	
	comp=Z,1µm,18.1s,baz=90,slow=34								
LS

PAHR Pah Rah Range 99.30 42 P Pdif 20 14 49.9 +0.7
MFID Camas Ranch 99.30 38 P Pdif 20 14 49.7 +0.7
VNDA Vanda 99.37 172 P Pdif 20 14 49.8 +1.5
comp=Z,3.4nm,0.8s,baz=317,slow=6.2,SNR=8.8
VNDA PP PP 20 18 46.0 -5.7
comp=Z,7.2nm,1.1s,baz=302,slow=8.1,SNR=4.7
VNDA LR LR 21 00 33.1
comp=Z,858nm,20.8s,baz=344,slow=36
VNDA Vanda 99.37 172 P Pdif 20 14 50.2 +1.9
PNTR Pine Nut 99.50 43 P Pdif 20 14 51.2 +1.0
CMB Columbia Colle 99.57 44 P Pdif 20 14 51.0 +0.7
CMB pmax pmax
comp=Z,10.0nm,1.1s
CMB Columbia Colle 99.57 44 P Pdif 20 14 51.0 +0.7
EGMT Eagleton 99.61 31 P Pdif 20 14 50.5 +0.2
baz=313
KVN Kaiserville 100.49 42 P Pdif 20 14 54.8 +0.2
KVN Kaiserville 100.49 42 Pdif 20 14 54.8 +0.2
NVAR Mina Array Bea 100.71 43 P Pdif 20 14 56.4 +0.8
comp=Z,4.6nm,0.8s,baz=286,slow=4.5,SNR=24
NVAR PKiKP PKiKP 20 19 23.4 +1.7
comp=Z,1.4nm,0.8s,baz=278,slow=3.4,SNR=3.6
NVAR PKKPbc PKKPbc 20 31 10.9 +1.0
comp=Z,0.3nm,0.7s,baz=157,slow=4.9,SNR=3.2
NVAR Mina Array Bea 100.71 43 Pdif 20 14 55.2 -0.3
ELK Elko 101.27 40 P Pdif 20 14 57.4 -0.6
ELK Elko 101.27 40 P Pdif 20 14 58.8 +0.8
comp=Z,1.0nm,0.8s,baz=266,slow=3.7,SNR=4.9
ELK PKiKP PKiKP 20 19 23.6 +1.0
comp=Z,2.0nm,0.9s,baz=275,slow=3.6,SNR=4.4
ELK Elko 101.27 40 Pdif 20 14 57.4 -0.6
TAOE Nuku Hiva Isla 101.79 95 eLR LR 20 48 25.2
comp=Z,2μm,22.3s
ESDC Sonseca Array 101.82 319 PP PP 20 18 59.0 -11
comp=Z,0.9nm,0.8s,baz=56,slow=9.1,SNR=4.4
CWC Cottonwood Cre 101.99 45 P Pdif 20 15 01.3 +0.1
baz=305
SCZ2 Santa Cruz Isl 102.28 47 P Pdif 20 15 03.2 +0.7
baz=303
R11A Troy Canyon, C 102.49 42 P Pdif 20 15 04.7 +1.2
baz=307
R11A Troy Canyon, C 102.49 42 Pdif 20 15 03.7 +0.2
LRMC Laurel Mtn Rad 102.80 45 P Pdif 20 15 05.6 +0.8
baz=305
TPNV Topopah Spring 102.89 43 P Pdif 20 15 05.9 +0.6
baz=306
TPNV Topopah Spring 102.89 43 Pdif 20 15 05.9 +0.6
TPNV Topopah Spring 102.89 43 Pdif 20 15 05.9 +0.6
EDW2 Edwards Air Fo 102.92 46 P Pdif 20 15 06.2 +0.9
baz=305
DUG Dugway, Tooele 103.06 39 P Pdif 20 15 08.5 +2.6
DUG pmax pmax
comp=Z,5.0nm,1.0s
DUG Dugway, Tooele 103.06 39 IAMs_20 IAMs_20 20 56 15.9
comp=Z,587nm,18.0s
BOSA Boshof 103.19 244 PKiKP PKiKP 20 19 27.5 +1.3
comp=Z,3.0nm,1.1s,baz=160,slow=1.6,SNR=4.1
PDAR Pinedale Array 103.25 35 Pdiff Pdif 20 15 07.5 +0.6
comp=Z,1.2nm,1.1s,baz=321,slow=2.1,SNR=5.0
PDAR PKiKP PKiKP 20 19 26.6 +0.4
comp=Z,2.6nm,1.0s,baz=303,slow=3.6,SNR=4.5
PDAR PKKPbc PKKPbc 20 31 01.1 -1.5
comp=Z,0.6nm,0.7s,baz=124,slow=4.5,SNR=5.1
PDAR PKKP PKKPdf 20 31 09.8 -0.1
comp=Z,2.1nm,0.9s,baz=132,slow=3.8,SNR=9.4
PDAR Pinedale Array 103.25 35 Pdif 20 15 05.8 -1.0
TAM Tamanrasset 103.95 300 IAMs_20 IAMs_20 21 09 27.5
comp=Z,872nm,18.0s
ULM Lac du Bonnet 103.95 23 Pdiff Pdif 20 15 09.5 0.0
comp=Z,1.1nm,0.6s,baz=279,slow=2.5,SNR=4.7
ULM PP PP 20 19 24.1 -1.7
comp=Z,8.3nm,1.0s,baz=8.0,slow=11,SNR=3.7
ULM PKKPbc PKKPbc 20 30 57.6 -2.8
comp=Z,1.7nm,0.8s,baz=176,slow=6.4,SNR=3.7
ULM PKKP PKKPdf 20 31 04.7 -3.7
comp=Z,1.9nm,0.7s,baz=300,slow=1.6,SNR=3.6
TUQ Turquoise Moun 103.99 44 P Pdif 20 15 11.2 +1.1
baz=306
SYO Syowa Base 104.35 202 ePdiff Pdif 20 15 13.6 +3.0
PFO Pinyon Flats O 104.69 46 PP PKiKP 20 19 26.4 -2.5
comp=Z,1.1nm,0.5s,baz=260,slow=6.8,SNR=2.7
PFO Pinyon Flats O 104.69 46 PKiKP 20 19 25.2 -3.8
TPFO Pinon Flats 104.70 46 P Pdif 20 15 14.4 +1.1
baz=305
BELC Belle Mtn. Jos 104.78 46 P Pdif 20 15 14.7 +1.1
baz=306
SFS San Fernando 105.18 318 IAMs_20 IAMs_20 21 10 03.3
comp=Z,1μm,20.0s
O20A White River Ci 105.75 37 P PKiKP 20 19 31.6 +0.8
baz=313
SCHQ Schefferville 106.16 4 PKKPbc PKKPbc 20 30 53.5 -0.5
comp=Z,4.3nm,1.1s,baz=170,slow=12,SNR=2.4
MDT Midelt 106.32 314 PKKPbc PKKPbc 20 30 55.4 +2.5
comp=Z,0.6nm,0.7s,baz=238,slow=4.8,SNR=4.0
MDT PKKP PKKPdf 20 31 03.9 -0.1
comp=Z,1.9nm,0.9s,baz=316,slow=1.6,SNR=5.2
WUAZ Wupatki 106.89 42 P PKiKP 20 19 34.2 +1.2
baz=309
214A Organ Pipe Nat 108.14 46 IAMs_20 IAMs_20 21 05 33.1
comp=Z,667nm,18.0s
TUC Tucson 109.28 44 P PKiKP 20 19 38.5 +1.1
baz=309
T25A Trinidad 109.99 37 P PKiKP 20 19 39.6 +0.8
baz=315
ANMO Albuquerque 110.31 40 P PKiKP 20 19 40.4 +0.9
baz=313
ANMO Albuquerque 110.31 40 i PKiKP PKiKP 20 19 39.7 +0.2
ANMO 20 20 10.8
ANMO Albuquerque 110.31 40 PKiKP PKiKP 20 19 41.2 +1.8
comp=Z,3.6nm,0.9s,baz=207,slow=2.4,SNR=7.4
ANMO PP PP 20 20 12.0 -1.3
comp=Z,1.9nm,0.9s,baz=329,slow=7.5,SNR=4.8
ANMO Albuquerque 110.31 40 PKiKP 20 19 39.7 +0.2
ANMO PP 20 20 10.8 -2.5
CBKS Cedar Bluff 111.28 33 IAMs_20 IAMs_20 21 02 26.7
comp=Z,1μm,19.0s
TORD Torodi Ar. Bea 111.60 293 PKiKP PKiKP 20 19 41.1 -1.0
comp=Z,2.9nm,0.8s,baz=19,slow=1.7,SNR=13
TORD PP PP 20 20 22.4 -0.9
comp=Z,3.8nm,1.0s,baz=64,slow=3.6,SNR=6.2
TORD PKKPbc PKKPbc 20 30 36.1 +0.6
comp=Z,1.6nm,0.7s,baz=252,slow=2.9,SNR=7.1
TORD PKKPab PKKPab 20 30 46.4 +0.2
comp=Z,1.7nm,0.8s,baz=245,slow=2.8,SNR=4.1
TORD PKKP PKKPdf 20 30 53.8 -0.4
comp=Z,4.0nm,0.9s,baz=259,slow=2.7,SNR=7.5
TORD Torodi Ar. Bea 111.60 293 PKiKP 20 19 40.1 -2.0
TORD PP 20 20 21.2 -2.1
D50A G1974 Best Tow 111.63 15 P PKiKP 20 19 40.4 -0.9
baz=340
JFWS Jewell Farm 112.22 24 P PKiKP 20 19 41.9 -0.7
baz=329
G47A Hillman 112.39 18 P PKiKP 20 19 42.7 -0.1
baz=335
I45A Fountain 112.67 20 P PKiKP 20 19 42.8 -0.6
baz=333
D55A Sainte-Anne-du 112.71 12 P PKiKP 20 19 42.7 -0.7
baz=344
F51A Arnstein 112.77 15 P PKiKP 20 19 43.3 -0.3
baz=339
LATQ La Tuque 112.82 10 P PKiKP 20 19 43.5 -0.1
baz=347
D57A Chemin Vers le 113.00 11 P PKiKP 20 19 43.1 -0.9
baz=346
F52A Sundridge 113.04 15 P PKiKP 20 19 43.5 -0.5
baz=340
MNTX Cornudas Mount 113.16 42 P PKiKP 20 19 44.9 +0.2
baz=313
MSTX Muleshoe 113.17 38 P PKiKP 20 19 44.9 +0.1
baz=316
ALGO Algonquin Park 113.19 14 P PKiKP 20 19 43.6 -0.7
baz=341
E56A St. Veronique 113.25 11 P PKiKP 20 19 44.2 -0.3
baz=344
U32A Winter Ranch, 113.50 34 IAMs_20 IAMs_20 21 14 36.7
comp=Z,1μm,21.0s
E58A La Victoria 113.73 10 P PKiKP 20 19 45.1 -0.3
baz=346
NVL N'lazarevskaya 113.93 200 i PKiKP PKiKP 20 19 47.9 +3.0
NVL e 20 20 37.5
NVL ePPP PPP 20 23 04.3
NVL ePS PS 20 30 14.4 -1.4
NVL eSS SS 20 36 28.2 +0.7
K46A Dorr 114.02 21 P PKiKP 20 19 45.6 -0.4
baz=333
E61A Lac Etchemin 114.09 8 P PKiKP 20 19 45.6 -0.4
baz=349
J48A Bridge Port 114.11 19 P PKiKP 20 19 45.7 -0.4
baz=335
K47A Vermontville 114.29 20 P PKiKP 20 19 46.2 -0.3
baz=334
F60A Warwick 114.33 9 P PKiKP 20 19 46.3 -0.2
baz=347
E63A Oxbow 114.35 7 P PKiKP 20 19 45.8 -0.7
baz=351
I51A Listowel 114.45 17 P PKiKP 20 19 46.4 -0.5
baz=338
F61A St Evariste 114.47 9 P PKiKP 20 19 46.5 -0.3
baz=348
H55A Tweed 114.71 14 P PKPdf 20 19 47.8 +0.5
baz=342
L47A Sherwood 114.85 21 P PKPdf 20 19 47.7 +0.1
baz=334
WMOK Wichita Mounta 114.86 35 P PKiKP 20 19 47.8 -0.1
baz=319
G60A Masonville 115.12 10 P PKiKP 20 19 47.7 -0.3
baz=347
L48A N Adams 115.13 20 P PKiKP 20 19 47.7 -0.5
baz=334
PKME Peaks-Kenny Pk 115.39 8 P PKPdf 20 19 48.6 0.0
baz=350
TUL1 Leonard 115.52 32 P PKPdf 20 19 49.1 0.0
baz=322
L50A Kingsville 115.55 19 P PKiKP 20 19 49.0 0.0
baz=336
SFIN Lafayette 115.59 23 P PKiKP 20 19 48.9 -0.2
baz=331
N47A Urbana 115.65 22 P PKPdf 20 19 49.4 +0.2
baz=333
H61A Lyndonville 115.73 10 P PKPdf 20 19 49.4 +0.1
baz=347
J55A Hilton 115.78 15 P PKPdf 20 19 49.6 +0.2
baz=341
TX31 Lajitas Ar. Si 115.85 42 PKPdf 20 19 50.8 +0.7
TX32 Lajitas Array 115.85 42 PKPdf 20 19 50.5 +0.5
TXAR Lajitas Array 115.85 42 PKiKP PKPdf 20 19 50.3 +0.2
TXAR Lajitas Array 115.85 42 PKP PKPdf 20 19 51.0 +1.0
comp=Z,6.7nm,0.7s,baz=248,slow=0.7,SNR=71
TXAR PP PP 20 20 50.9 -1.8
comp=Z,2.0nm,0.8s,baz=272,slow=3.4,SNR=2.4
TXAR PKKPbc PKKPbc 20 30 20.8 -1.0
comp=Z,0.4nm,0.7s,baz=148,slow=4.7,SNR=4.6
TXAR PKKPab PKKPab 20 30 27.2 -1.0
comp=Z,0.9nm,1.0s,baz=153,slow=8.6,SNR=4.8
TXAR Lajitas Array 115.85 42 PKPdf 20 19 50.3 +0.2
TXAR PKKPbc 20 30 20.3 -1.4
N48A Decatur 115.90 21 P PKiKP 20 19 49.5 -0.2
baz=333
CCM Cathedral Cave 115.91 27 P PKiKP 20 19 49.6 -0.2
baz=327
CCM Cathedral Cave 115.91 27 PKiKP PKiKP 20 19 49.6 -0.2
CCM Cathedral Cave 115.91 27 PKiKP 20 19 49.6 -0.2
ABTX Abilene, Hawle 115.95 37 P PKPdf 20 19 50.1 0.0
baz=318
ABTX Abilene, Hawle 115.95 37 PKiKP 20 19 49.9 -0.2
I59A Olmsteadville 116.11 11 P PKiKP 20 19 49.8 -0.3
baz=345
HHAR Hobbs 116.13 30 PKiKP 20 19 49.9 -0.4
I60A Shoreham 116.17 11 P PKiKP 20 19 50.1 0.0
baz=346
K55A Perry 116.23 15 P PKiKP 20 19 49.7 -0.7
baz=341
J58A Remsen 116.25 13 P PKiKP 20 19 50.3 -0.1
baz=344
J59A Pisco 116.31 12 P PKPdf 20 19 50.6 +0.1
baz=344
O48A Farmland 116.39 22 P PKiKP 20 19 50.1 -0.5
baz=333
K56A Middlesex 116.44 14 P PKiKP 20 19 50.4 -0.3
baz=342
I62A Tamworth 116.47 9 P PKiKP 20 19 50.4 -0.3
baz=348
U40A Yellville 116.58 30 P PKPdf 20 19 50.7 -0.5
baz=325
U40A Yellville 116.58 30 PKPdf 20 19 50.7 -0.5
N50A Nevada 116.60 20 P PKPdf 20 19 50.6 -0.4
baz=335
L55A Hinsdale 116.65 16 P PKPdf 20 19 50.7 -0.5
baz=340
I64A Boothbay 116.67 8 P PKPdf 20 19 50.7 -0.4
baz=350
N51A Ashland 116.71 19 P PKPdf 20 19 51.1 -0.2
baz=336
J60A Lant Hill Farm 116.73 11 P PKPdf 20 19 50.5 -0.7
baz=346
O49A Covington 116.74 21 P PKPdf 20 19 50.9 -0.4
baz=334
K58A Earlville 116.75 13 P PKPdf 20 19 51.1 -0.2
baz=343
J61A Chester 116.79 10 P PKiKP 20 19 52.0 +0.6
baz=346
K59A Cooperstown 116.91 12 P PKPdf 20 19 51.4 -0.2
baz=344
L56A Greenwood 116.91 15 P PKPdf 20 19 51.4 -0.3
baz=341
M54A Oil Creek Stat 116.96 17 P PKPdf 20 19 51.7 0.0
baz=339
P48A Milroy 117.01 22 P PKPdf 20 19 51.4 -0.5
baz=333
O50A Cable 117.01 20 P PKPdf 20 19 51.8 -0.1
baz=335
N52A McGinn's Farm, 117.02 19 P PKPdf 20 19 51.6 -0.2
baz=337
W39A Magazine 117.08 31 P PKPdf 20 19 51.9 -0.3
baz=324
J63A Strafford 117.09 9 P PKiKP 20 19 52.0 +0.1
baz=348
ACSO Alum Creek Sta 117.14 20 P PKPdf 20 19 52.0 -0.1
baz=335
ACSO Alum Creek Sta 117.14 20 PKPdf 20 19 51.8 -0.3
L57A Andrews Acres 117.21 14 P PKPdf 20 19 52.0 -0.2
baz=342
BINY Binghamton 117.22 14 P PKPdf 20 19 52.1 -0.1
baz=343
BINY Binghamton 117.22 14 PKPdf 20 19 52.1 -0.1
M55A Ridgway 117.23 16 P PKPdf 20 19 52.0 -0.3
baz=340
N53A Lisbon 117.28 18 P PKPdf 20 19 52.1 -0.2
baz=338
K61A Williamstown 117.32 11 P PKPdf 20 19 52.2 -0.2
baz=346
PBMO Poplar Bluff 117.33 28 PKPdf 20 19 52.0 -0.6
O51A Pataskala 117.34 20 P PKPdf 20 19 51.5 -1.0
baz=336,SNR=5.0
Q48A North Vernon 117.36 23 P PKPdf 20 19 52.6 0.0
baz=332
N54A Moraine State 117.38 17 P PKPdf 20 19 52.3 -0.2
baz=338
L58A Harry Jones Me 117.39 14 P PKiKP 20 19 52.8 +0.2
baz=343
JCT Junction City 117.42 39 P PKiKP 20 19 53.7 +0.7
baz=317
JCT Junction City 117.42 39 PKiKP PKiKP 20 19 53.1 +0.1
JCT MLR MLR
comp=Z,600nm,19.0s
JCT Junction City 117.42 39 PKiKP 20 19 53.1 +0.1
JCT IAMs_20 IAMs_20 21 13 04.1
comp=Z,577nm,19.0s
L59A Walton 117.43 13 P PKiKP 20 19 52.7 +0.1
baz=344
P50A Jamestown 117.44 21 P PKPdf 20 19 52.4 -0.4
baz=334
K63A Dunstable 117.60 10 P PKPdf 20 19 52.5 -0.4
baz=348
Q49A Aurora 117.60 22 P PKPdf 20 19 52.4 -0.6
baz=333
LCAR Lake Charles 117.60 29 PKPdf 20 19 52.9 -0.2
O52A Adamsville 117.61 19 P PKPdf 20 19 52.8 -0.2
baz=336
L61B Northampton 117.64 11 P PKPdf 20 19 52.4 -0.6
baz=346
WHTX Lake Whitney, 117.65 36 P PKiKP 20 19 53.6 +0.2
baz=319
MIAR Mount Ida 117.70 31 P PKiKP 20 19 53.6 +0.3
baz=324
MIAR Mount Ida 117.70 31 PKIKP PKiKP 20 19 53.8 +0.4
MIAR Mount Ida 117.70 31 PKiKP 20 19 53.8 +0.4
L61A Hillsdale 1, H 117.72 12 P PKiKP 20 19 53.3 +0.1
baz=345
M57A Sunshine Farm, 117.77 15 P PKiKP 20 19 53.4 +0.1
baz=341
HRV Adam Dziewonsk 117.77 10 P PKiKP 20 19 53.5 +0.2
baz=347
WCI Wyandotte Cave 117.77 24 P PKPdf 20 19 53.1 -0.2
baz=332
WCI Wyandotte Cave 117.77 24 PKIKP PKPdf 20 19 52.9 -0.5
WCI Wyandotte Cave 117.77 24 PKPdf 20 19 52.9 -0.5
P51A Williamsport 117.80 20 P PKPdf 20 19 53.4 0.0
baz=335
P51A Williamsport 117.80 20 PKPdf 20 19 51.3 -2.1
W41B Gary Mavity, V 117.83 30 P PKPdf 20 19 53.5 0.0
baz=325
W41B Gary Mavity, V 117.83 30 PKPdf 20 19 52.4 -1.2
N56A West Decatur 117.87 16 P PKPdf 20 19 53.3 -0.3
baz=340
M58A Price's Panora 117.89 14 P PKPdf 20 19 53.5 0.0
baz=342
P52A Corning 117.96 20 P PKPdf 20 19 53.3 -0.4
baz=336
M59A Waymart 117.97 13 P PKPdf 20 19 53.1 -0.6
baz=343
O54A Avella 117.99 18 P PKiKP 20 19 54.0 +0.2
baz=338
O54A Avella 117.99 18 PKPdf 20 19 52.9 -0.8
X40A Basin Creek Fa 118.11 31 P PKiKP 20 19 54.2 0.0
baz=324
UALR University of 118.11 30 PKiKP 20 19 54.1 0.0
Q51A Peebles 118.11 21 P PKPdf 20 19 54.0 0.0
baz=335
R49A Shelbyville 118.13 23 P PKPdf 20 19 53.8 -0.3
baz=333
SNAA Sanae 118.14 197 PKPdf PKPdf 20 19 52.4 -0.6
SNAA Sanae 118.14 197 PKiKP PKPdf 20 19 52.2 -0.9
SNAA MLR MLR
comp=Z,1μm,20.0s
SNAA Sanae 118.14 197 PKPdf 20 19 52.2 -0.9
SNAA IAMs_20 IAMs_20 21 07 19.6
comp=Z,980nm,20.0s
N57A Milroy 118.22 15 P PKPdf 20 19 54.1 0.0
baz=341
SSPA Standing Stone 118.24 16 P PKPdf 20 19 54.1 -0.1
baz=341
SSPA Standing Stone 118.24 16 PKPdf 20 19 54.1 -0.1
O55A Ligonier 118.27 17 P PKPdf 20 19 54.1 -0.2
baz=339
P53A Whipple 118.33 19 P PKPdf 20 19 54.2 -0.3
baz=337
P53A Whipple 118.33 19 PKPdf 20 19 54.0 -0.4
N58A Sunbury 118.34 15 P PKPdf 20 19 54.2 -0.2
baz=342
M60A Port Jervis 118.34 13 P PKPdf 20 19 54.2 -0.2
baz=344
L63A North Scituate 118.39 10 P PKPdf 20 19 53.8 -0.7
baz=347
O56A Blue Knob Stat 118.41 16 P PKPdf 20 19 54.3 -0.3
baz=340
L64A Middleborough 118.44 9 P PKPdf 20 19 54.4 -0.1
baz=348
R50A Paris 118.44 22 P PKPdf 20 19 54.1 -0.6
baz=334
R50A Paris 118.44 22 PKPdf 20 19 54.4 -0.3
L65A Cape Cod Natio 118.47 9 P PKPdf 20 19 54.4 -0.2
baz=349
N59A State Game Lan 118.49 14 P PKPdf 20 19 54.4 -0.3
baz=343
435B Jarrell 118.49 37 IAMs_20 IAMs_20 21 15 35.1
comp=Z,844nm,19.0s
P54A Burton 118.49 18 P PKPdf 20 19 54.6 -0.2
baz=338
Q52A Bidwell 118.53 20 P PKPdf 20 19 54.7 -0.1
baz=336
M61A Granite Spring 118.53 12 P PKPdf 20 19 54.7 0.0
baz=345
S49A Springfield 118.54 23 P PKPdf 20 19 54.1 -0.7
baz=332
T47A Sharon Grove 118.54 25 PKPdf 20 19 54.3 -0.6
T47A PP 20 21 07.8 -3.0
ODNJ Ogdensburg 118.58 13 PKiKP 20 19 55.0 +0.1
MCWV Mont Chateau 118.63 18 P PKPdf 20 19 54.5 -0.5
baz=338
N60A Cedar Hill Far 118.68 13 P PKPdf 20 19 54.7 -0.4
baz=344
R51A Hillsboro 118.69 21 P PKPdf 20 19 54.9 -0.3
baz=334
O57A Amberson 118.71 16 P PKPdf 20 19 54.8 -0.4
baz=341
M64A Tiverton 118.76 10 P PKiKP 20 19 55.4 +0.2
baz=348
P55A Reedsville 118.77 18 P PKPdf 20 19 54.9 -0.4
baz=338
PAL Palisades 118.80 12 P PKPdf 20 19 55.0 -0.2
baz=345
Q53A Leroy 118.86 19 P PKPdf 20 19 55.3 -0.2
baz=336
S50A Richmond 118.95 22 P PKPdf 20 19 55.4 -0.3
baz=333
Q54A Coxs Mills 118.96 19 P PKPdf 20 19 55.1 -0.5
baz=337
N61A South Mountain 118.96 13 P PKPdf 20 19 55.6 0.0
baz=344
O59A Robesonia 118.97 14 P PKPdf 20 19 55.1 -0.5
baz=342
O58A Lewisberry 118.97 15 P PKPdf 20 19 55.1 -0.5
baz=342
R52A Catlettsburg 118.97 21 P PKPdf 20 19 55.4 -0.3
baz=335
WVT Waverly 118.99 26 P PKiKP 20 19 55.8 0.0
baz=330
WVT Waverly 118.99 26 PKIKP PKPdf 20 19 54.9 -0.9
WVT 20 21 10.8
WVT Waverly 118.99 26 PKPdf 20 19 54.9 -0.9
WVT PP PP 20 21 10.8 -3.0
T49A Edmonton 119.05 24 P PKPdf 20 19 55.7 -0.2
baz=332
P56A Dayton Farm, R 119.05 17 P PKiKP 20 19 56.0 +0.1
baz=339
O60A Telford 119.14 14 P PKPdf 20 19 55.8 -0.1
baz=343
Q55A Buckhannon 119.17 18 P PKPdf 20 19 55.9 -0.2
baz=338
R53A Hurricane 119.20 20 P PKPdf 20 19 56.0 -0.2
baz=336
833A Chaparral WMA, 119.22 40 P PKiKP 20 19 57.3 +0.8
baz=316
833A Chaparral WMA, 119.22 40 PKiKP 20 19 56.7 +0.2
MVL Millersville 119.22 15 PKPdf 20 19 56.1 0.0
S51A Beattyville 119.28 22 P PKPdf 20 19 55.7 -0.6
baz=334,SNR=8.3
S51A Beattyville 119.28 22 PKPdf 20 19 55.7 -0.6
P57A Homestead Farm 119.29 16 P PKPdf 20 19 56.1 -0.2
baz=340
T50A Nancy 119.38 23 P PKPdf 20 19 56.4 -0.1
baz=333
Q56A Snyder Ridge, 119.39 17 P PKPdf 20 19 56.4 -0.1
baz=339
Q56A Snyder Ridge, 119.39 17 PKPdf 20 19 56.3 -0.2
S52A Salyersville 119.42 21 P PKiKP 20 19 56.7 +0.1
baz=335
U49A Red Boiling Sp 119.47 24 P PKPdf 20 19 56.6 -0.1
baz=332
P60A Greenville 119.57 14 P PKPdf 20 19 56.5 -0.3
baz=343
P59A Jarrettsville 119.57 15 P PKPdf 20 19 56.2 -0.6
baz=342
Q57A Strasburg 119.61 17 P PKPdf 20 19 56.4 -0.5
baz=340
CLTN Cedars of Leba 119.63 25 PKPdf 20 19 56.6 -0.4
R54A Victor 119.64 19 P PKPdf 20 19 56.4 -0.6
baz=337
OXF Oxford 119.68 28 P PKPdf 20 19 56.8 -0.3
baz=328
OXF Oxford 119.68 28 PKiKP PKPdf 20 19 57.0 -0.1
OXF Oxford 119.68 28 PKPdf 20 19 57.0 -0.1
V48A Smith Brothers 119.73 25 PKPdf 20 19 56.7 -0.5
S53A Williamson 119.74 20 P PKPdf 20 19 57.1 -0.1
baz=336
T51A Gray 119.75 22 P PKPdf 20 19 57.1 -0.1
baz=334
VNA2 Neumayer--Watz 119.79 197 PKPdf PKiKP 20 19 56.3 +0.1
baz=71,slow=1.3
R55A Marlinton 119.82 18 P PKPdf 20 19 57.1 -0.3
baz=338
PLAL Pickwick Lake 119.87 27 PKPdf 20 19 56.8 -0.7
Q58A Fox Den Farm, 119.89 16 P PKPdf 20 19 57.2 -0.2
baz=340
S54A Dingess, Beckl 119.89 20 P PKPdf 20 19 57.2 -0.3
baz=336
S54A Dingess, Beckl 119.89 20 PKPdf 20 19 57.3 -0.3
R56A Bull Pasture M 119.91 18 P PKPdf 20 19 57.5 -0.1
baz=339
U50A Jamestown 119.91 23 P PKPdf 20 19 57.6 0.0

	baz=333								
T52A	Hallie	119.97	21	P		PKPdf	20 19 57.5	-0.1	
	baz=335								
V49A	McMinnville	120.08	25	P		PKPdf	20 19 57.7	-0.2	
	baz=331								
HKT	Hockley	120.11	36	PKIKP		PKPdf	20 19 57.8	-0.2	
HKT	Hockley	120.11	36			PKPdf	20 19 57.9	-0.2	
S55A	Lewisburg	120.17	19	P		PKPdf	20 19 57.8	-0.3	
	baz=337								
VNA1	Neumayer--Stat	120.17	198	PKPdf		PKiKP	20 19 57.3	+0.4	
T53A	Wise	120.23	21	P		PKiKP	20 19 58.4	+0.1	
	baz=335								
VNA3	Neumayer Olymp	120.25	197	PKPdf		PKPdf	20 19 56.8	-0.2	
U51A	La Follette	120.25	23	P		PKPdf	20 19 58.1	-0.1	
	baz=333								
DBIC	Dimbokro	120.26	290	PKIKP		PKPdf	20 19 58.1	-0.7	
DBIC	Dimbokro	120.26	290	PKP		PKPdf	20 19 58.4	-0.4	
	comp=Z,4.8nm,0.8s,baz=33,slow=1.9,SNR=7.1								
DBIC	Dimbokro	120.26	290			PKPdf	20 19 58.1	-0.7	
R57A	Stanardsville	120.27	17	P		PKPdf	20 19 58.1	-0.1	
	baz=339								
TZTN	Tazewell	120.27	22	P		PKPdf	20 19 58.1	-0.1	
	baz=334								
TZTN	Tazewell	120.27	22			PKPdf	20 19 57.6	-0.7	
KIC	Kosan Boka	120.29	290	*e*PKIKP		PKPdf	20 19 58.4	-0.4	
	comp=Z,7.1nm,0.6s								
Q60A	Greensboro	120.29	15	P		PKPdf	20 19 58.1	0.0	
	baz=342								
R58A	Rapidan	120.41	17	P		PKPdf	20 19 58.1	-0.3	
	baz=340								
TIC	Toumodi	120.41	290	*e*PKIKP		PKPdf	20 19 58.5	-0.6	
U52A	Thorn Hill	120.47	22	P		PKPdf	20 19 58.3	-0.4	
	baz=334								
V50A	Pikevile	120.47	24	P		PKPdf	20 19 58.3	-0.4	
	baz=332								
T54A	Tazewell	120.48	20	P		PKPdf	20 19 58.5	-0.2	
	baz=336								
W49A	Belvidere	120.50	25	P		PKPdf	20 19 58.5	-0.2	
	baz=331								
S56A	Natural Bridge	120.54	18	P		PKPdf	20 19 58.6	-0.1	
	baz=338								
SWET	Sewanee	120.55	25			PKPdf	20 19 57.9	-1.0	
SWET					IAMs_20	IAMs_20	21 12 44.5		
	comp=Z,1μm,21.0s								
LIC	Lamto	120.61	290	*e*PKIKP		PKPdf	20 19 58.7	-0.7	
	comp=Z,9.1nm,0.5s								
V51A	Loudon	120.64	23	P		PKPdf	20 19 58.8	-0.2	
	baz=333,SNR=6.3								
V51A	Loudon	120.64	23			PKPdf	20 19 58.9	-0.2	
S57A	Dark Hollow, R	120.64	18	P		PKiKP	20 19 59.0	0.0	
	baz=339								
T55A	Pulaski	120.69	20	P		PKPdf	20 19 58.8	-0.3	
	baz=337								
BLA	Blacksburg	120.71	19	P		PKPdf	20 19 58.8	-0.3	
	baz=337								
BLA	Blacksburg	120.71	19	PKIKP		PKPdf	20 19 58.6	-0.6	
BLA				MLR		MLR			
	comp=Z,1μm,22.0s								
BLA	Blacksburg	120.71	19			PKPdf	20 19 58.6	-0.6	
BLA					IAMs_20	IAMs_20	21 15 06.8		
	comp=Z,1μm,22.0s								
R59A	King George, V	120.74	16	P		PKPdf	20 19 58.9	-0.2	
	baz=341								
R58B	Mineral	120.75	17	P		PKPdf	20 19 59.0	-0.1	
	baz=340								
R58B	Mineral	120.75	17			PKPdf	20 19 59.0	-0.1	
X48A	Hartselle	120.75	26			PKPdf	20 19 58.0	-1.2	
U53A	Fall Branch	120.78	21	P		PKPdf	20 19 59.3	0.0	
	baz=335								
W50A	Signal Mountai	120.81	24	P		PKPdf	20 19 58.9	-0.4	
	baz=332								
W50A	Signal Mountai	120.81	24			PKPdf	20 19 58.6	-0.7	
V52A	Sevierville	120.88	23	P		PKPdf	20 19 59.2	-0.3	
	baz=334,SNR=11								
V52A	Sevierville	120.88	23			PKPdf	20 19 59.3	-0.1	
CPCT	Cooper Cave	120.89	24			PKiKP	20 19 59.7	+0.2	
U54A	Nelsons Funny	120.89	21	P		PKPdf	20 19 59.1	-0.5	
	baz=336								
TKL	Tuckaleechee C	120.98	23	PKIKP		PKPdf	20 19 59.4	-0.3	
TKL	Tuckaleechee C	120.98	23			PKPdf	20 19 59.4	-0.3	
T56A	Rocky Mt	121.00	19	P		PKPdf	20 19 59.3	-0.4	
	baz=338								
S58A	Poland Farm, P	121.04	17	P		PKPdf	20 19 59.3	-0.3	
	baz=340								
S58A	Poland Farm, P	121.04	17			PKPdf	20 19 59.3	-0.3	
W51A	Cleveland	121.05	24	P		PKPdf	20 19 59.4	-0.4	
	baz=332								
VBMS	Vicksburg	121.08	30	P		PKPdf	20 19 59.9	0.0	
	baz=326								
S59A	Mechanicsville	121.10	16	P		PKPdf	20 19 59.8	0.0	
	baz=341								
U55A	TA2, Sparta	121.16	20	P		PKPdf	20 19 59.7	-0.4	
	baz=336,SNR=5.7								
T57A	Hurt	121.26	18	P		PKPdf	20 20 00.0	-0.1	
	baz=338								
V53A	Saluda	121.32	22	P		PKiKP	20 20 00.6	+0.2	
	baz=334,SNR=11								
V53A	Saluda	121.32	22			PKPdf	20 20 00.0	-0.3	
W52A	Murphy	121.43	23	P		PKPdf	20 20 00.3	-0.2	
	baz=333,SNR=9.7								
W52A	Murphy	121.43	23			PKPdf	20 20 00.1	-0.5	
V54A	Nebo	121.52	21	P		PKPdf	20 20 00.3	-0.4	
	baz=335,SNR=5.1								
T58A	Grand View Acr	121.52	18	P		PKPdf	20 20 00.5	-0.1	
	baz=339								
Y49A	Blount Mountai	121.53	26			PKPdf	20 20 00.3	-0.5	
X51A	Calhoun	121.54	24	P		PKPdf	20 20 00.6	-0.2	
	baz=332								
W53A	Cullowhee	121.64	23	P		PKPdf	20 20 01.1	0.0	
	baz=334,SNR=21								
V55A	Taylorsville	121.70	21	P		PKPdf	20 20 00.6	-0.4	
	baz=336,SNR=5.0								
V55A	Taylorsville	121.70	21			PKPdf	20 20 00.9	-0.1	
U57A	Blanch	121.76	19	P		PKPdf	20 20 01.1	0.0	
	baz=338								
T59A	Double "B" Far	121.77	17	P		PKiKP	20 20 01.3	+0.1	
	baz=340								
T59A	Double "B" Far	121.77	17			PKPdf	20 20 01.1	+0.1	
X52A	Dahlonega	121.88	23	P		PKPdf	20 20 01.2	-0.3	
	baz=333,SNR=8.9								
BG3	Lake Jocassee	121.88	22			PKiKP	20 20 01.6	+0.1	
V56A	Mocksville	121.97	20	P		PKPdf	20 20 01.3	-0.3	
	baz=337								
LRAL	Lakeview Retre	121.99	27	P		PKPdf	20 20 01.5	-0.2	
	baz=329								
LRAL	Lakeview Retre	121.99	27			PKPdf	20 20 01.5	-0.2	
U58A	Oxford	122.03	18	P		PKPdf	20 20 01.5	-0.1	
	baz=339								
Y51A	Rockmart	122.04	25	P		PKPdf	20 20 01.4	-0.3	
	baz=332								
W54A	Cherokee Point	122.06	22	P		PKPdf	20 20 01.4	-0.3	
	baz=335,SNR=5.1								
V57A	Coltrane Farms	122.13	19	P		PKPdf	20 20 01.7	-0.2	
	baz=338								
X53A	Estanollee	122.19	23	P		PKiKP	20 20 02.6	+0.4	
	baz=334,SNR=7.7								
Z50A	Ashland	122.26	26	P		PKPdf	20 20 01.6	-0.6	
	baz=331								
Z50A	Ashland	122.26	26			PKPdf	20 20 02.0	-0.2	
U59A	Littleton	122.29	17	P		PKPdf	20 20 02.0	-0.1	
	baz=340								
U59A	Littleton	122.29	17		IAMs_20	IAMs_20	21 19 55.3		
	comp=Z,949nm,20.0s								
KMSC	Kings Mountain	122.31	21	P		PKPdf	20 20 01.7	-0.5	
	baz=336,SNR=5.6								
KMSC	Kings Mountain	122.31	21			PKPdf	20 20 02.2	0.0	
V58A	Windy Hill, Pi	122.42	19	P		PKPdf	20 20 02.4	+0.1	
	baz=338								
PAULI	Pauline	122.43	22			PKPdf	20 20 02.4	0.0	
Y52A	Lilburn	122.47	24	P		PKPdf	20 20 02.3	-0.2	
	baz=333,SNR=7.0								
Y52A	Lilburn	122.47	24			PKiKP	20 20 02.8	0.0	
X54A	Belton	122.48	22	P		PKiKP	20 20 02.7	-0.1	
	baz=335,SNR=8.1								
Z51A	Franklin	122.51	25			PKPdf	20 20 02.3	-0.3	
W56A	Indian Trail	122.56	20	P		PKPdf	20 20 02.5	-0.2	
	baz=337								
Y53A	Monroe	122.66	24	P		PKiKP	20 20 03.4	+0.4	
	baz=333,SNR=6.3								
V59A	Middlesex	122.71	18	P		PKPdf	20 20 03.0	+0.1	
	baz=339								
W57A	Gilead	122.74	20	P		PKPdf	20 20 02.7	-0.3	
	baz=337								
W57A	Gilead	122.74	20			PKPdf	20 20 03.0	0.0	
HODGE	Hodges	122.81	22			PKPdf	20 20 02.7	-0.4	
X55A	Gracelyn & Ava	122.81	22	P		PKPdf	20 20 03.1	-0.1	
	baz=335,SNR=7.5								
Z52A	Williamson	122.92	25	P		PKiKP	20 20 03.6	0.0	
	baz=332,SNR=7.4								
Y54A	Tignall	122.98	23	P		PKiKP	20 20 03.9	+0.1	
	baz=334,SNR=7.4								
V60A	Jim Taylor Roa	122.99	17	P		PKPdf	20 20 03.5	+0.1	
	baz=340								
X56A	White Oak	123.00	21	P		PKPdf	20 20 03.2	-0.3	
	baz=336								
BIRD	Birdtown, Kers	123.05	20			PKPdf	20 20 03.3	-0.3	
BIRD					IAMs_20	IAMs_20	21 17 37.9		
	comp=Z,1μm,20.0s								
GOGA	Godfrey	123.10	24	P		PKiKP	20 20 03.8	-0.1	
	baz=333,SNR=5.8								
GOGA	Godfrey	123.10	24	PKIKP		PKiKP	20 20 04.0	0.0	
GOGA	Godfrey	123.10	24			PKiKP	20 20 04.0	0.0	
W58A	Raeford	123.10	19	P		PKiKP	20 20 03.9	-0.1	
	baz=338								
JSC	Jenkinsville	123.11	21	PKIKP		PKPdf	20 20 03.7	0.0	
JSC				MLR		MLR			
	comp=Z,700nm,21.0s								
JSC	Jenkinsville	123.11	21			PKPdf	20 20 03.7	0.0	
JSC					IAMs_20	IAMs_20	21 18 37.6		
	comp=Z,689nm,21.0s								
V61A	Roper	123.15	16	P		PKPdf	20 20 03.8	+0.1	
	baz=341								
Z53A	Monticello	123.17	24	P		PKiKP	20 20 04.1	-0.1	
	baz=333,SNR=6.9								
250A	Grady	123.21	27			PKiKP	20 20 04.6	+0.4	
Y55A	Saluda	123.22	22	P		PKPdf	20 20 03.9	-0.1	
	baz=335								
152A	Waverly Hall	123.26	25	P		PKPdf	20 20 04.0	-0.1	
	baz=332,SNR=6.9								
152A	Waverly Hall	123.26	25			PKiKP	20 20 04.4	+0.1	
Z54A	Sparta	123.49	23	P		PKiKP	20 20 04.6	-0.1	
	baz=334,SNR=7.4								
X58A	Rowland	123.50	19	P		PKiKP	20 20 04.6	-0.1	
	baz=338								
BRAL	Brewton	123.56	28	P		PKiKP	20 20 05.3	+0.3	
	baz=329								
BRAL	Brewton	123.56	28			PKiKP	20 20 04.9	-0.1	
Y57A	Sumter	123.65	21	P		PKiKP	20 20 04.9	-0.1	
	baz=336								
X59A	McDuffie Farm,	123.71	19	P		PKiKP	20 20 05.4	+0.2	
	baz=338								
Z55A	Blythe	123.76	23	P		PKiKP	20 20 05.6	+0.3	
	baz=334								
252A	Lumpkin	123.84	26	P		PKiKP	20 20 05.7	+0.2	
	baz=331								
X60A	Albert Glenn T	123.89	18	P		PKiKP	20 20 05.8	+0.3	
	baz=339								
Z56A	Williston	123.94	22	P		PKiKP	20 20 05.8	+0.2	
	baz=335								
Z56A	Williston	123.94	22		IAMs_20	IAMs_20	21 19 34.6		
	comp=Z,1μm,19.0s								
Y58A	Scranton	123.99	20	P		PKiKP	20 20 05.7	0.0	
	baz=337								
253A	Americus	124.03	25	P		PKPdf	20 20 05.7	+0.2	
	baz=332								
253A	Americus	124.03	25			PKPdf	20 20 05.8	+0.2	
155A	Kite	124.18	23	P		PKiKP	20 20 06.4	+0.3	
	baz=334								
Z57A	Bowman	124.20	21	P		PKiKP	20 20 06.4	+0.3	
	baz=336								
352A	Blakely	124.21	26	P		PKiKP	20 20 06.4	+0.2	
	baz=331								
Y60A	Bolivia	124.35	19	P		PKPdf	20 20 06.1	0.0	
	baz=339								
Y60A	Bolivia	124.35	19		IAMs_20	IAMs_20	21 22 23.1		
	comp=Z,1μm,20.0s								
254A	Abbeville	124.46	24	P		PKiKP	20 20 06.6	-0.1	
	baz=333								
353A	Camilla	124.62	26	P		PKiKP	20 20 07.2	+0.1	
	baz=332								
157A	Early Branch	124.66	22	P		PKiKP	20 20 07.2	+0.1	
	baz=336								
Z59A	Georgetown, SC	124.73	20	P		PKiKP	20 20 07.1	-0.1	
	baz=338								
TIGA	Tifton	124.79	25	P		PKiKP	20 20 07.4	0.0	
	baz=332								
TIGA	Tifton	124.79	25			PKiKP	20 20 07.5	+0.1	
255A	Hazlehurst	124.79	24	P		PKiKP	20 20 07.4	0.0	
	baz=334								
456A	Hilliard	126.04	24			PKiKP	20 20 09.9	0.0	
DWPF	Disney Wildern	128.60	25	P		PKPdf	20 20 14.5	+0.1	
	baz=334								
APG	El Apazote	134.56	44	PKP		PKPdf	20 20 26.7	+0.5	
	comp=Z,4.7nm,0.7s,baz=300,slow=15								
TGUH	Tegucigalpa,Un	137.32	42		IAMs_20	IAMs_20	21 29 46.6		
	comp=Z,436nm,20.0s								
ACON	Acoyapa	140.22	41			PKPdf	20 20 37.0	+0.5	
ACON					IAMs_20	IAMs_20	21 36 10.5		
	comp=Z,502nm,20.0s								
DR12	Loma Pena Alta	141.20	15			PKPdf	20 20 38.1	-0.1	
JTS	Las Juntas de	141.64	43	PKIKP		PKPdf	20 20 37.9	-1.2	
JTS	Las Juntas de	141.64	43	PKP		PKPdf	20 20 38.6	-0.4	
	comp=Z,8.5nm,0.7s,baz=207,slow=7.1,SNR=4.3								
JTS	Las Juntas de	141.64	43			PKPdf	20 20 37.9	-1.2	
SJG	San Juan	142.52	10	PKIKP		PKPdf	20 20 39.2	-1.3	
SJG	San Juan	142.52	10	PKP		PKPdf	20 20 40.0	-0.4	
	comp=Z,6.1nm,0.5s,baz=208,slow=19,SNR=3.2								
SJG	San Juan	142.52	10			PKPdf	20 20 39.2	-1.3	
SKI	Saint Kitts	143.71	5		IAMs_20	IAMs_20	21 17 54.4		
	comp=Z,864nm,20.0s								
H05N1	Guadeloupe/Mar	144.82	2	PKP		PKPbc	20 20 43.5	0.0	
GO10	Punta Arenas	144.84	168			PKPdf	20 20 43.7	+0.2	
BCIP	Isla Barro Col	145.62	37	PKIKP		PKPbc	20 20 46.1	-0.1	
BCIP	Isla Barro Col	145.62	37			PKPbc	20 20 46.1	-0.1	
FDF	Fort de France	146.39	3	PKP2		PKPdf	20 20 47.3	0.0	
FDF	Fort de France	146.39	3			PKPdf	20 20 47.3	0.0	
SMRC	Santa Marta, M	146.72	27	*e*P		PKPdf	20 20 48.5	+0.6	
SMRC	Santa Marta, M	146.72	27	*e*P		PKPdf	20 20 48.5	+0.6	
URIC	Uribia, Colomb	147.11	23	*e*P		PKPbc	20 20 51.2	+0.6	
URIC	Uribia, Colomb	147.11	23	*e*P		PKPbc	20 20 51.2	+0.6	
SJCC	San Jacinto, C	147.42	29	*e*P		PKPdf	20 20 48.5	-0.6	
SJCC	San Jacinto, C	147.42	29	*e*P		PKPdf	20 20 48.5	-0.6	
EFI	East Falkland	147.43	182	PKP2		PKPbc	20 20 50.8	+0.4	
EFI	East Falkland	147.43	182			PKPbc	20 20 50.8	+0.4	
LCBC	Los crdobas,	147.75	32	*e*P		PKPab	20 20 59.1	+4.5	
LCBC	Los crdobas,	147.75	32	*e*P		PKPab	20 20 59.1	+4.5	
ARGC	Ariguani, Magd	147.88	28	*e*P		PKPdf	20 20 50.5	+0.7	
ARGC	Ariguani, Magd	147.88	28	*e*P		PKPdf	20 20 50.5	+0.7	
CODC	Agustn Codazz	148.15	26	*e*P		PKPdf	20 20 51.8	+1.6	
CODC				*e*P		PKPbc	20 20 53.2	-0.3	
CODC	Agustn Codazz	148.15	26	*e*P		PKPdf	20 20 51.8	+1.6	
CODC				*e*P		PKPbc	20 20 53.2	-0.3	
UREC	San Jos de Ur	149.11	32	*e*P		PKPdf	20 20 53.2	+1.3	
UREC	San Jos de Ur	149.11	32	*e*P		PKPdf	20 20 53.2	+1.3	
DBBC	Dabeiba	149.39	34	*e*P		PKiKP	20 20 59.1	+1.2	
DBBC	Dabeiba	149.39	34	*e*P		PKiKP	20 20 59.1	+1.2	
SOLC	Bahia Solano	149.40	36	*e*P		PKPbc	20 20 54.5	-2.2	
SOLC	Bahia Solano	149.40	36	*e*P		PKPbc	20 20 54.5	-2.2	
ZARC	Zaragoza, Cauc	149.67	31	*e*P		PKPdf	20 20 51.8	-0.9	
ZARC	Zaragoza, Cauc	149.67	31	*e*P		PKPdf	20 20 51.8	-0.9	
OCAC	Ocana	149.72	28	*e*P		PKPbc	20 20 57.8	+0.1	
OCAC	Ocana	149.72	28	*e*P		PKPbc	20 20 57.8	+0.1	
TOSP	Speyside	149.82	2			PKPbc	20 20 56.5	-1.2	
SDV	Santo Domingo	150.21	22	PKP		PKPdf	20 20 54.0	+0.3	
	comp=Z,119nm,0.8s,baz=326,slow=3.1,SNR=8.3								
SDV				PKPbc		PKPbc	20 20 59.6	+0.7	
	comp=Z,100nm,0.6s,baz=329,slow=3.4,SNR=29								
SDV	Santo Domingo	150.21	22			PKPdf	20 20 54.1	+0.3	
SDV				PKPbc		PKPbc	20 20 59.3	+0.4	
SDV	Santo Domingo	150.21	22		IAMs_20	IAMs_20	21 35 22.4		
	comp=Z,501nm,20.0s								
CBOC	Ciudad Bolivar	150.47	35	*e*P		PKPbc	20 20 58.5	-1.0	
CBOC	Ciudad Bolivar	150.47	35	*e*P		PKPbc	20 20 58.5	-1.0	
PCRV	Puerto La Cruz	150.54	10	PKPbc		PKPbc	20 20 58.4	-1.1	
	comp=Z,38nm,0.7s,baz=309,slow=2.8,SNR=10								
BRRC	Barranca, Sant	150.55	29	*e*P		PKiKP	20 21 00.5	+0.3	
BRRC	Barranca, Sant	150.55	29	*e*P		PKiKP	20 21 00.5	+0.3	
PTBC	PUERTO BERRIO	150.69	31	*e*P		PKPbc	20 20 58.5	-1.4	
PTBC	PUERTO BERRIO	150.69	31	*e*P		PKPbc	20 20 58.5	-1.4	
PAMC	Pamplona, Colo	150.80	27	*e*P		PKPbc	20 21 00.5	-0.2	
PAMC	Pamplona, Colo	150.80	27	*e*P		PKPbc	20 21 00.5	-0.2	
PLMC	San Jos del P	151.11	36	*e*P		PKPbc	20 20 59.8	-1.1	
PLMC	San Jos del P	151.11	36	*e*P		PKPbc	20 20 59.8	-1.1	
MALC	Bahia Malaga	151.23	39	*e*P		PKiKP	20 21 01.8	+0.2	
MALC	Bahia Malaga	151.23	39	*e*P		PKiKP	20 21 01.8	+0.2	
BARC	Barichara	151.25	29	*e*P		PKiKP	20 21 01.8	-0.2	
BARC	Barichara	151.25	29	*e*P		PKiKP	20 21 01.8	-0.2	
NORC	Norcasia	151.32	33	*e*P		PKPbc	20 20 58.5	-2.9	
NORC	Norcasia	151.32	33	*e*P		PKPbc	20 20 58.5	-2.9	
GUY2C	Guyana, Caldas	151.35	34	*e*P		PKPdf	20 20 58.5	+2.5	
GUY2C				*e*P		sPKPdf	20 21 01.1	+0.2	
GR1C	Gorgona, Isla	151.51	42	*e*P		PKiKP	20 21 02.5	+0.3	
GR1C	Gorgona, Isla	151.51	42	*e*P		PKiKP	20 21 02.5	+0.3	
SPBC	San Pablo de B	151.64	31	*e*P		PKPbc	20 21 01.1	-1.0	
SPBC	San Pablo de B	151.64	31	*e*P		PKPbc	20 21 01.1	-1.0	
YOTC	Yotoco, Valle	151.83	37	*e*P		PKPdf	20 20 55.8	-0.4	
YOTC	Yotoco, Valle	151.83	37	*e*P		PKPdf	20 20 55.8	-0.4	
TOLC	Tolima	151.91	35	*e*P		PKiKP	20 21 03.8	+0.4	
TOLC	Tolima	151.91	35	*e*P		PKiKP	20 21 03.8	+0.4	
RUSC	La Rusia	151.91	29	*e*P		PKPdf	20 20 55.1	-1.7	
RUSC	La Rusia	151.91	29	*e*P		PKPdf	20 20 55.1	-1.7	
TAMC	Tame, Arauca	152.00	26	*e*P		PKiKP	20 21 03.1	-0.1	
TAMC	Tame, Arauca	152.00	26	*e*P		PKiKP	20 21 03.1	-0.1	
ROSC	El Rosal	152.22	33	PKP		PKPdf	20 20 59.2	+2.1	
	comp=Z,35nm,0.9s,baz=133,slow=2.3,SNR=13								
ROSC				PKPbc		PKiKP	20 21 05.3	+1.2	
	comp=Z,56nm,0.6s,baz=358,slow=5.8,SNR=31								
ROSC	El Rosal	152.22	33			PKPdf	20 20 58.6	+1.4	
ROSC				PKPbc		PKiKP	20 21 05.4	+1.2	
ELOV	Elorza	152.36	21	*e*P		PKPbc	20 21 02.5	-1.2	
ELOV	Elorza	152.36	21	*e*P		PKPbc	20 21 02.5	-1.2	
ORTC	Ortega, Tolima	152.51	35	*e*P		PKPbc	20 21 01.1	-2.9	
ORTC	Ortega, Tolima	152.51	35	*e*P		PKPbc	20 21 01.1	-2.9	
CVER	Cruz Verde, Cu	152.61	33	*e*P		PKPdf	20 20 58.5	+0.6	
CVER	Cruz Verde, Cu	152.61	33	*e*P		PKPdf	20 20 58.5	+0.6	
CHIC	Chingaza	152.69	32	*e*P		PKPdf	20 20 57.1	-0.7	
CHIC	Chingaza	152.69	32	*e*P		PKPdf	20 20 57.1	-0.7	
POPC	Popayan, Colom	152.79	40	*e*P		PKPdf	20 20 57.8	0.0	
POPC	Popayan, Colom	152.79	40	*e*P		PKPdf	20 20 57.8	0.0	
BBAC	Balboa, Cauca	152.85	41	*e*P		PKPbc	20 21 04.5	-0.6	
BBAC	Balboa, Cauca	152.85	41	*e*P		PKPbc	20 21 04.5	-0.6	
PCON	Cinco Dias	153.13	39	*e*P		PKPdf	20 20 55.1	-3.6	
PCON	Cinco Dias	153.13	39	*e*P		PKPdf	20 20 55.1	-3.6	
SOTA	Rioblanco	153.16	40	*e*P		PKPdf	20 20 58.5	-0.2	
SOTA	Rioblanco	153.16	40	*e*P		PKPdf	20 20 58.5	-0.2	
VILC	Villavicencio,	153.16	32	*e*P		PKPbc	20 21 05.1	-0.5	
VILC	Villavicencio,	153.16	32	*e*P		PKPbc	20 21 05.1	-0.5	
CRUC	La Cruz	153.39	42	*e*P		PKiKP	20 21 07.8	+1.2	
CRUC	La Cruz	153.39	42	*e*P		PKiKP	20 21 07.8	+1.2	
OTAV	Otavalo	153.41	46	PKIKP		PKPdf	20 20 59.4	+0.4	
OTAV							20 21 07.2		
OTAV							20 21 16.7		
OTAV	Otavalo	153.41	46			PKPdf	20 20 59.4	+0.4	
OTAV				PKPbc		PKiKP	20 21 07.2	+0.5	
OTAV				PKPab		PKPab	20 21 16.7	-1.8	
BETC	Betania	153.41	37	*e*P		PKiKP	20 21 06.5	+0.3	
BETC	Betania	153.41	37	*e*P		PKiKP	20 21 06.5	+0.3	
PTGC	Puerto Gaitan,	153.84	29	*e*P		PKPdf	20 21 00.5	+1.4	
PTGC	Puerto Gaitan,	153.84	29	*e*P		PKPdf	20 21 00.5	+1.4	
FLOC	Florencia	154.17	39	*e*P		PKPdf	20 20 59.8	+0.3	
FLOC	Florencia	154.17	39	*e*P		PKPdf	20 20 59.8	+0.3	
MDP	Montagnes des	155.01	343	PKPbc		PKPdf	20 21 10.0	+9.3	
	comp=Z,13nm,1.0s,baz=45,slow=0.4,SNR=4.3								
PTLC	Puerto Leguiza	155.80	40	*e*P		PKPdf	20 21 03.8	+2.0	
PTLC	Puerto Leguiza	155.80	40	*e*P		PKPd

	comp=Z,1µm,20.9s,baz=306,slow=36							
COEN	**Coen**	**39.75**	**144**	P		**P**	**20 12 02.5**	**-1.2**
PSAA2	**Pilbara Seismi**	**40.34**	**181**	P		**P**	**20 12 08.8**	**+0.1**
PSAA1	**Pilbara Seismi**	**40.36**	**181**	P		**P**	**20 12 09.1**	**+0.4**
PSAA1				IAmb		IAmb	20 12 14.9	
	comp=Z,47nm,1.2s							
MKAR	**Makanchi Array**	**41.65**	**320**	P		**P**	**20 12 20.3**	**+1.0**
	comp=Z,9.1nm,0.9s,baz=106,slow=11,SNR=3.6							
MKAR	**Makanchi Array**	**41.65**	**320**	P		**P**	**20 12 19.2**	**0.0**
KDJ	**Kajisay**	**43.13**	**312**	P		**P**	**20 12 29.6**	**-2.0**
ZAA0	**Zalesovo Array**	**44.24**	**330**	P		**P**	**20 12 39.5**	**-0.5**
ZALV	**Zalesovo Beam**	**44.24**	**330**	P		**P**	**20 12 40.2**	**+0.2**
	comp=Z,17nm,1.0s,baz=113,slow=7.9,SNR=3.8							
ZALV	**Zalesovo Beam**	**44.24**	**330**	P		**P**	**20 12 39.1**	**-0.9**
NIL	**Nilore**	**44.28**	**299**	P		**P**	**20 12 41.6**	**+0.8**
NIL				IAmb		IAmb	20 12 42.6	
	comp=Z,19nm,0.9s							
AS31	**Alice Springs**	**44.45**	**162**	P		**P**	**20 12 41.7**	**-0.4**
ASAR	**Alice Springs**	**44.45**	**162**	P		**P**	**20 12 42.4**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=338,slow=7.2,SNR=4.5							
ASAR	**Alice Springs**	**44.45**	**162**	P		**P**	**20 12 41.5**	**-0.6**
PETK	**Petropavlovsk-**	**44.60**	**31**	P		**P**	**20 12 43.1**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=241,slow=7.0,SNR=3.9							
PETK	**Petropavlovsk-**	**44.60**	**31**	P		**P**	**20 12 42.5**	**-0.5**
KURK	**Kurchatov**	**45.66**	**324**	P		**P**	**20 12 51.6**	**+0.2**
KURK				IAmb		IAmb	20 12 52.3	
	comp=Z,27nm,1.2s							
KURBB	**Kurchatov Arra**	**45.66**	**324**	P		**P**	**20 12 52.0**	**+0.5**
	comp=Z,14nm,0.7s,baz=120,slow=8.0,SNR=6.9							
KK31	**Karatay Array**	**48.13**	**311**	P		**P**	**20 13 12.7**	**+1.8**
KK31				IAmb		IAmb	20 13 13.2	
	comp=Z,19nm,0.9s							
KK31				PcP		**PcP**	**20 14 38.0**	**-0.4**
KKAR	**Karatay Array**	**48.13**	**311**	P		**P**	**20 13 12.8**	**+1.8**
KKAR				PcP		**PcP**	**20 14 37.7**	**-0.7**
KKAR	**Karatay Array**	**48.13**	**311**	P		**P**	**20 13 12.7**	**+1.8**
KKAR				IAmb		IAmb	20 13 13.2	
	comp=Z,19nm,0.9s							
KKAR				PcP		**PcP**	**20 14 37.7**	**-0.7**
SEY	**Seymchan**	**49.08**	**19**	P		**P**	**20 13 18.5**	**+0.7**
	comp=Z,14nm,1.1s,baz=253,slow=11,SNR=4.8							
FORT	**Forrest**	**50.07**	**171**	P		**P**	**20 13 26.3**	**+0.6**
NWAO	**Narrogin (SRO)**	**51.75**	**183**	P		**P**	**20 13 39.6**	**+1.2**
NWAO				IAmb		IAmb	20 13 42.6	
	comp=Z,47nm,1.5s							
NWAO	**Narrogin (SRO)**	**51.75**	**183**	P		**P**	**20 13 39.9**	**+1.5**
NWAO				IAmb		IAmb	20 13 42.6	
	comp=Z,64nm,1.6s							
BBOO	**Buckleboo**	**53.69**	**164**	P		**P**	**20 13 53.6**	**+0.9**
NRIK	**Noril'sk**	**54.18**	**346**	P		**P**	**20 13 55.9**	**0.0**
	comp=Z,16nm,0.9s,baz=140,slow=6.3,SNR=4.5							
ABKAR	**Akbulak array**	**56.57**	**317**	P		**P**	**20 14 14.2**	**+0.7**
ABKAR				PcP		**PcP**	**20 15 08.7**	**-1.3**
ABKAR	**Akbulak array**	**56.57**	**317**	P		**P**	**20 14 14.5**	**+1.1**
ABKAR				IAmb		IAmb	20 14 15.0	
	comp=Z,20nm,1.4s							
ABKAR				PcP		**PcP**	**20 15 08.1**	**-1.8**
BILL	**Bilibino**	**56.78**	**19**	P		**P**	**20 14 15.2**	**+0.5**
BILL				IAmb		IAmb	20 14 26.8	
	comp=Z,16nm,0.7s							
GEYT	**Alibeck**	**56.85**	**303**	P		**P**	**20 14 17.4**	**+1.7**
	comp=Z,11nm,0.9s,baz=104,slow=3.7,SNR=4.3							
GEYT	**Alibeck**	**56.85**	**303**	P		**P**	**20 14 16.6**	**+0.9**
GYA0B	**ALIBECK ARRAY**	**56.85**	**303**	P		**P**	**20 14 17.2**	**+1.5**
GYA0B				IAmb		IAmb	20 14 18.1	
	comp=Z,18nm,1.0s							
AKTO	**Aktyubinsk**	**57.99**	**318**	P		**P**	**20 14 24.1**	**+0.5**
	comp=Z,3.0nm,0.6s,baz=94,slow=13,SNR=5.0							
ARU	**Arti**	**58.81**	**325**	P		**P**	**20 14 29.0**	**-0.1**
	comp=Z,5.4nm,0.8s,baz=113,slow=7.6,SNR=3.6							
ARU	**Arti**	**58.81**	**325**	P		**P**	**20 14 28.8**	**-0.3**
CAN	**Canberra**	**60.50**	**153**	P		**P**	**20 14 42.3**	**+1.2**
TOO	**Toolangi**	**61.07**	**157**	P		**P**	**20 14 45.0**	**+0.2**
TOO				IAmb		IAmb	20 14 57.2	
	comp=Z,20nm,1.3s							
KIRV	**Kirov**	**64.03**	**327**	P		**P**	**20 15 04.7**	**+0.4**
	comp=Z,31nm,0.6s,baz=49,slow=1.2,SNR=3.8							
PPLA	**Purkeypile**	**72.10**	**29**	P		**P**	**20 15 55.4**	**+0.2**
MLY	**Manley**	**72.48**	**29**	P		**P**	**20 15 58.1**	**+0.8**
SKT	**Skwentna**	**72.52**	**30**	P		**P**	**20 15 57.2**	**-0.3**
SKT				IAmb		IAmb	20 16 20.6	
	comp=Z,21nm,1.3s							
KDAK	**Kodiak Island**	**72.57**	**34**	P		**P**	**20 15 57.6**	**-0.2**
SUA	**Susitna One**	**72.96**	**30**	P		**P**	**20 16 00.4**	**+0.1**
SUA				IAmb		IAmb	20 16 18.4	
	comp=Z,15nm,1.1s							
RC01	**Rabbit Creek A**	**73.50**	**30**	P		**P**	**20 16 02.0**	**-1.3**
RC01				IAmb		IAmb	20 16 04.0	
	comp=Z,14nm,1.1s							
ARCES	**ARCESS Array B**	**74.02**	**339**	P		**P**	**20 16 06.7**	**+0.4**
	comp=Z,4.6nm,1.0s,baz=64,slow=12,SNR=3.1							
ARCES	**ARCESS Array B**	**74.02**	**339**	P		**P**	**20 16 06.0**	**-0.3**
ILAR	**Eielson Array**	**74.14**	**26**	P		**P**	**20 16 05.4**	**-1.6**
	comp=Z,1.4nm,1.0s,baz=252,slow=6.0,SNR=3.7							
SPA0	**Spitsbergen Ar**	**74.34**	**348**	P		**P**	**20 16 08.9**	**+0.9**
FINES	**FINESS Array B**	**75.50**	**330**	P		**P**	**20 16 15.2**	**+0.3**
	comp=Z,6.3nm,1.0s,baz=97,slow=11,SNR=4.0							
FINES	**FINESS Array B**	**75.50**	**330**	P		**P**	**20 16 14.5**	**-0.4**
SCRK	**Sand Creek**	**75.54**	**27**	P		**P**	**20 16 15.6**	**+0.3**
SCRK				IAmb		IAmb	20 16 30.3	
	comp=Z,23nm,1.6s							
MMAI	**Mount Meron Ar**	**75.78**	**300**	LR		LR	20 52 26.1	
	comp=Z,951nm,20.3s,baz=75,slow=38							
AKASG	**Malin Array Be**	**76.22**	**319**	P		**P**	**20 16 18.8**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=64,slow=5.8,SNR=2.6							
AKASG	**Malin Array Be**	**76.22**	**319**	P		**P**	**20 16 18.2**	**-1.1**
GLB	**Gilahina Butte**	**76.23**	**29**	P		**P**	**20 16 19.5**	**+0.3**
GLB				IAmb		IAmb	20 16 30.1	
	comp=Z,19nm,1.3s							
MCARA	**McCarthy VSAT**	**76.61**	**29**	P		**P**	**20 16 22.2**	**+0.8**
CRQM	**Cirque**	**76.72**	**30**	P		**P**	**20 16 22.6**	**+0.4**
BCAR	**Beaver Creek A**	**76.73**	**28**	P		**P**	**20 16 22.5**	**+0.5**
TGL	**Tana Glacier**	**76.87**	**30**	P		**P**	**20 16 23.1**	**+0.2**
TGL				IAmb		IAmb	20 16 42.5	
	comp=Z,42nm,1.7s							
BARN	**Barnard Glacie**	**77.34**	**30**	P		**P**	**20 16 26.1**	**+0.5**
BARN				IAmb		IAmb	20 16 38.6	
	comp=Z,21nm,1.3s							
CTGM	**Chitina Glacie**	**77.52**	**30**	P		**P**	**20 16 27.5**	**+0.9**
CTGM				IAmb		IAmb	20 16 37.9	
	comp=Z,22nm,1.2s							
WHY	**Whitehorse**	**80.60**	**29**	P		**P**	**20 16 44.1**	**+0.6**
WHY				IAmb		IAmb	20 17 06.5	
	comp=Z,24nm,1.6s							
NC405	**NORSAR Array S**	**82.16**	**332**	P		**P**	**20 16 50.4**	**-1.2**
RES	**Resolute Bay**	**83.85**	**9**	P		**P**	**20 17 00.4**	**+0.3**
	comp=Z,8.2nm,1.1s,baz=317,slow=8.5,SNR=3.0							
RES	**Resolute Bay**	**83.85**	**9**	P		**P**	**20 17 00.6**	**+0.5**
RES				IAmb		IAmb	20 17 01.9	
	comp=Z,17nm,1.2s							
GERES	**GERESS Array B**	**86.32**	**321**	P		**P**	**20 17 13.5**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=66,slow=4.7,SNR=4.3							
GERES	**GERESS Array B**	**86.32**	**321**	P		**P**	**20 17 13.2**	**+0.1**
YKA	**Yellowknife Ar**	**88.00**	**22**	P		**P**	**20 17 20.3**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=312,slow=5.2							
YKA	**Yellowknife Ar**	**88.00**	**22**	P		**P**	**20 17 20.4**	**-0.4**
SYO	**Syowa Base**	**104.33**	**202**	eX		**Pdif**	**20 18 30.0**	**-4.8**
TXAR	**Lajitas Array**	**115.85**	**42**	PKP		**PKiKP**	**20 23 15.3**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=328,slow=0.9,SNR=3.9							
TXAR	**Lajitas Array**	**115.85**	**42**			**PKiKP**	**20 23 14.9**	**+0.5**
TKL	**Tuckaleechee C**	**121.00**	**23**	PKP		**PKPdf**	**20 23 24.1**	**+0.2**
	comp=Z,2.1nm,0.5s,baz=310,slow=7.9,SNR=4.0							
TKL	**Tuckaleechee C**	**121.00**	**23**			**PKPdf**	**20 23 23.7**	**-0.3**
CMIG	**Matias Romero**	**130.12**	**46**	PKP		**PKPdf**	**20 23 41.4**	**-0.5**
	comp=Z,10nm,1.1s,baz=39,slow=6.5,SNR=4.0							

*ISCJB **31** 20:07:42.3±0.5, 18°.99N±0°.07×120°.32E±0°.08, h10km, mb4.1/21, Error ellipse: s-maj=11.3km s-min=9.7km az=32.0*
*NEIC **31** 20:07:43.9±1.5, 18°.9N±0°.1×120°.4E±0°.1, h11km±5km, mb4.9/20*
*IDC **31** 20:07:43.2±0.8, 19°.03N×120°.38E, h0km, mb4.1/21, mb1 4.2/23, mb1mx4.1/53, mbtmp4.1/23, ML3.9/2, Error ellipse: s-maj=20.1km s-min=17.3km az=84.0*

ISC 31 20:07:44.2±0.6, 19°.01N±0°.09×120°.34E±0°.10, h10km, n57, σ0§97/59, mb4.5/26, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JNU	**Nakatsue**	**16.93**	**32**	Pn		**Pn**	**20 11 42.2**	**+1.0**
	0.4nm,0.3s,baz=188,slow=7.1,SNR=3.0							
JNU	**Nakatsue**	**16.93**	**32**			**Pn**	**20 11 41.8**	**+0.6**
JNU				IAmb		IAmb	20 11 53.0	
	comp=Z,158nm,1.6s							
KSAR	**Wonju Array Be**	**19.51**	**18**	P		**P**	**20 12 13.0**	**+1.4**
KSRS	**Korea Array**	**19.54**	**18**	P		**P**	**20 12 12.4**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=202,slow=11,SNR=6.4							
KS19	**Wonju Array Si**	**19.56**	**18**	P		**P**	**20 12 13.6**	**+1.4**
CMAR	**Chiang Mai Arr**	**20.27**	**272**	P		**P**	**20 12 21.9**	**+1.8**
	comp=Z,2.4nm,0.8s,baz=75,slow=8.6,SNR=5.0							
CMAR				PcP		**PcP**	**20 16 34.2**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=89,slow=0.9,SNR=5.7							
CMAR	**Chiang Mai Arr**	**20.27**	**272**	P		**P**	**20 12 21.1**	**+1.0**
CMAR						**PcP**	**20 16 32.1**	**-1.8**
BJT	**Baijiatuau**	**21.24**	**351**	P		**P**	**20 12 28.3**	**-2.1**
MJAR	**Matsushiro Arr**	**23.49**	**38**	P		**P**	**20 12 56.4**	**+2.3**
	comp=Z,3.4nm,1.0s,baz=231,slow=8.8,SNR=3.0							
MJAR	**Matsushiro Ar**	**23.49**	**38**	P		**P**	**20 12 53.9**	**-0.3**
MDJ	**Mudanjiang**	**26.68**	**15**	P		**P**	**20 13 23.5**	**+0.2**
MDJ				IAmb		IAmb	20 13 31.5	
	comp=Z,22nm,0.9s							
USRK	**Ussuriysk Ar.**	**26.94**	**19**	P		**P**	**20 13 26.9**	**+1.2**
	comp=Z,4.1nm,0.7s,baz=204,slow=7.6,SNR=8.7							
USRK	**Ussuriysk Ar.**	**26.94**	**19**	P		**P**	**20 13 25.9**	**+0.2**
SONM	**Songino Array**	**30.91**	**342**	P		**P**	**20 14 01.6**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=146,slow=8.0,SNR=3.4							
SONM	**Songino Array**	**30.91**	**342**	P		**P**	**20 14 00.3**	**-0.8**
KLR	**Kul'dur**	**31.52**	**14**	P		**P**	**20 14 06.0**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=241,slow=10,SNR=4.5							
MKAR	**Makanchi Array**	**41.65**	**320**	P		**P**	**20 15 34.1**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=115,slow=11,SNR=4.0							
MKAR	**Makanchi Array**	**41.65**	**320**	P		**P**	**20 15 33.0**	**+0.2**
ZALV	**Zalesovo Beam**	**44.24**	**331**	P		**P**	**20 15 54.1**	**+0.5**
	comp=Z,2.9nm,0.7s,baz=116,slow=8.8,SNR=4.5							
NIL	**Nilore**	**44.28**	**299**	P		**P**	**20 15 53.1**	**-1.2**
AS31	**Alice Springs**	**44.44**	**162**	P		**P**	**20 15 54.4**	**-1.1**
ASAR	**Alice Springs**	**44.44**	**162**	P		**P**	**20 15 56.0**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=339,slow=7.0,SNR=9.7							
ASAR	**Alice Springs**	**44.44**	**162**	P		**P**	**20 15 54.4**	**-1.1**
PETK	**Petropavlovsk-**	**44.62**	**31**	P		**P**	**20 15 55.2**	**-1.5**
	comp=Z,7.6nm,1.0s,baz=204,slow=5.3,SNR=4.8							
PETK	**Petropavlovsk-**	**44.62**	**31**	P		**P**	**20 15 54.9**	**-1.8**
KURK	**Kurchatov**	**45.66**	**324**	P		**P**	**20 16 04.4**	**-0.5**
KURK				IAmb		IAmb	20 16 13.1	
	comp=Z,10.0nm,0.8s							
KURBB	**Kurchatov Arra**	**45.67**	**324**	P		**P**	**20 16 06.0**	**+1.0**
	comp=Z,3.2nm,0.6s,baz=121,slow=8.0,SNR=8.1							
KK31	**Karatay Array**	**48.13**	**311**	P		**P**	**20 16 24.6**	**+0.2**
KK31				IAmb		IAmb	20 16 32.9	
	comp=Z,12nm,0.9s							
KKAR	**Karatay Array**	**48.13**	**311**	P		**P**	**20 16 24.4**	**-0.1**
KKAR				IAmb		IAmb	20 16 32.9	
	comp=Z,12nm,0.9s							
KKAR	**Karatay Array**	**48.13**	**311**	P		**P**	**20 16 24.5**	**+0.1**
TIXI	**Tiksi**	**52.88**	**3**	P		**P**	**20 17 00.6**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=222,slow=7.0							
TIXI	**Tiksi**	**52.88**	**3**	P		**P**	**20 16 60.0**	**+0.2**
TIXI				IAmb		IAmb	20 17 07.1	
	comp=Z,32nm,1.8s							
NRIK	**Noril'sk**	**54.19**	**346**	P		**P**	**20 17 10.4**	**+0.9**
	comp=Z,2.5nm,0.5s,baz=121,slow=8.0,SNR=3.1							
STKA	**Stephens Creek**	**54.55**	**158**	P		**P**	**20 17 13.8**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=342,slow=12,SNR=2.1							
STKA	**Stephens Creek**	**54.55**	**158**	P		**P**	**20 17 13.0**	**+0.4**
ABKAR	**Akbulak array**	**56.57**	**317**	P		**P**	**20 17 27.6**	**+0.6**
ABKAR				IAmb		IAmb	20 17 35.3	
	comp=Z,18nm,1.4s							
ABKAR	**Akbulak array**	**56.57**	**317**	P		**P**	**20 17 27.5**	**+0.5**
BILL	**Bilibino**	**56.80**	**19**	P		**P**	**20 17 28.5**	**+0.2**
GEYT	**Alibeck**	**56.85**	**303**	P		**P**	**20 17 31.1**	**+1.9**
	comp=Z,3.5nm,0.8s,baz=169,slow=3.0,SNR=6.3							
GEYT	**Alibeck**	**56.85**	**303**	P		**P**	**20 17 28.5**	**-0.7**
GYA0B	**ALIBECK ARRAY**	**56.85**	**303**	P		**P**	**20 17 28.4**	**-0.9**
AKTO	**Aktyubinsk**	**57.99**	**318**	P		**P**	**20 17 37.8**	**+0.7**
	comp=Z,5.2nm,0.8s,baz=84,slow=12,SNR=4.2							
KIRV	**Kirov**	**64.04**	**327**	P		**P**	**20 18 18.1**	**+0.3**
	comp=Z,15nm,0.6s,baz=57,slow=5.5,SNR=3.4							
RND	**Reindeer**	**73.55**	**28**	P		**P**	**20 19 17.6**	**+0.3**
ILAR	**Eielson Array**	**74.16**	**26**	P		**P**	**20 19 20.5**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=288,slow=5.2,SNR=4.4							
ILAR	**Eielson Array**	**74.16**	**26**	P		**P**	**20 19 20.1**	**-0.6**
AKASG	**Malin Array Be**	**76.22**	**319**	P		**P**	**20 19 32.1**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=65,slow=3.0,SNR=2.6							
AKASG	**Malin Array Be**	**76.22**	**319**	P		**P**	**20 19 31.4**	**-1.4**
NOA	**NORSAR Array B**	**82.41**	**332**	P		**P**	**20 20 05.8**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=69,slow=5.2,SNR=2.6							
RES	**Resolute Bay**	**83.87**	**9**	P		**P**	**20 20 14.1**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=330,slow=8.1,SNR=2.5							
RES	**Resolute Bay**	**83.87**	**9**	P		**P**	**20 20 13.6**	**-0.1**
RES				IAmb		IAmb	20 20 21.5	
	comp=Z,7.3nm,1.1s							
GERES	**GERESS Array B**	**86.32**	**321**	P		**P**	**20 20 26.4**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=62,slow=4.6,SNR=2.9							
GERES	**GERESS Array B**	**86.32**	**321**	P		**P**	**20 20 26.0**	**-0.7**
YKA	**Yellowknife Ar**	**88.02**	**22**	P		**P**	**20 20 35.3**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=311,slow=4.6,SNR=9.5							
YKA	**Yellowknife Ar**	**88.02**	**22**	P		**P**	**20 20 34.6**	**+0.2**
TXAR	**Lajitas Array**	**115.87**	**42**	PKP		**PKiKP**	**20 26 28.6**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=311,slow=1.0,SNR=3.8							
TXAR	**Lajitas Array**	**115.87**	**42**			**PKiKP**	**20 26 27.1**	**-0.8**

*IDC **31** 20:23:19.0±1.6, 0°.79N×123°.38E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/36, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=105.3km s-min=19.6km az=60.0*
*NEIC **31** 20:23:34.7±2.1, 0°.59N±0°.10×123°.1E±0°.2, h135km±9km, mb4.3/11*
*DJA **31** 20:23:39.3±0.5, 0°N±4°×12°2E±°, h136km±5km, M3.8/10, mb4.1/1, MLv3.6/10*

ISC 31 20:23:37.4±0.7, 0°.23N±0°.06×122°.45E±0°.06, h150km, n28, σ1§33/33, mb4.1/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MRSI	**Marisa**	**0.56**	**296**	P		**Pn**	**20 23 59.8**	**+0.8**
MRSI				S		**Sn**	**20 24 16.4**	**+0.9**
LUWI	**Luwuk**	**1.30**	**166**	P		**Pn**	**20 24 05.8**	**+0.8**
LUWI				S		**Sn**	**20 24 25.9**	**-0.2**
LUWI	**Luwuk**	**1.30**	**166**			**Pn**	**20 24 05.4**	**+0.5**
LUWI				Sn		**Sn**	**20 24 26.7**	**+0.6**
APSI	**Ampana**	**1.39**	**215**	P		**Pn**	**20 24 07.1**	**+1.3**
APSI				S		**Sn**	**20 24 28.8**	**+1.3**
KMSI	**Cibinong**	**1.57**	**77**	P		**Pn**	**20 24 10.0**	**+2.3**
KMSI				S		**Sn**	**20 24 32.8**	**+1.9**
MPSI	**Mapaga**	**2.55**	**272**	P		**Pn**	**20 24 20.1**	**+1.0**
TTSI	**Tana Toraja**	**4.18**	**219**	P		**Pn**	**20 24 41.6**	**+1.6**
SPSI	**Sidrap Palu**	**4.95**	**213**	P		**Pn**	**20 24 51.1**	**+0.9**
BNSI	**Bone**	**5.16**	**207**	P		**Pn**	**20 24 54.3**	**+1.4**
JAGI	**Jajag, Banyuwa**	**11.96**	**224**	Pn		**P**	**20 26 31.7**	**+1.8**
MTN	**Manton Dam**	**15.59**	**147**			**Pn**	**20 27 10.1**	**+1.0**
MTN				IAmb		IAmb	20 27 17.8	
	comp=Z,24nm,1.6s							
KNRA	**Kununurra**	**16.99**	**159**	P		**P**	**20 27 26.0**	**+0.3**
KNRA				IAmb		IAmb	20 28 17.2	
	comp=Z,44nm,1.5s							
FITZ	**Fitzroy Crossi**	**18.48**	**170**	P		**P**	**20 27 41.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=355,slow=9.0,SNR=6.9							
FITZ	**Fitzroy Crossi**	**18.48**	**170**	P		**P**	**20 27 41.3**	**-0.6**
FITZ				IAmb		IAmb	20 28 34.4	
	comp=Z,38nm,1.9s							
WRAB	**Tennant Creek**	**23.18**	**150**	P		**P**	**20 28 29.1**	**-1.8**
WRAB				IAmb		IAmb	20 29 08.4	
	comp=Z,16nm,1.6s							
AS31	**Alice Springs**	**26.23**	**156**	P		**P**	**20 28 57.0**	**-1.6**
ASAR	**Alice Springs**	**26.23**	**156**	P		**P**	**20 28 57.1**	**-1.4**
	comp=Z,3.9nm,0.5s,baz=343,slow=14,SNR=13							
ASAR	**Alice Springs**	**26.23**	**156**	P		**P**	**20 28 58.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**29.34**	**309**	P		**P**	**20 29 27.6**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=130,slow=6.6,SNR=8.2							
CMAR	**Chiang Mai Arr**	**29.34**	**309**	P		**P**	**20 29 27.9**	**+1.5**
BBOO	**Buckleboo**	**35.28**	**160**	P		**P**	**20 30 16.3**	**-1.7**
STKA	**Stephens Creek**	**36.72**	**152**	P		**P**	**20 30 28.4**	**-1.7**
	comp=Z,3.9nm,1.0s,baz=329,slow=13,SNR=3.6							
CAN	**Canberra**	**43.18**	**148**	P		**P**	**20 31 22.9**	**-0.6**
SONM	**Songino Array**	**49.43**	**346**	P		**P**	**20 32 10.1**	**-2.1**
MK31	**Makanchi Array**	**58.13**	**329**	P		**P**	**20 33 13.9**	**-1.4**
MKAR	**Makanchi Array**	**58.13**	**329**	P		**P**	**20 33 14.5**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=127,slow=8.1,SNR=10							
MAKZ	**Makanchi**	**58.30**	**328**	P		**P**	**20 33 15.4**	**-1.0**
MAKZ				IAmb		IAmb	20 33 17.5	
	comp=Z,7.1nm,1.8s							
KURK	**Kurchatov**	**62.50**	**330**	P		**P**	**20 33 44.0**	**-0.9**
KURK				IAmb		IAmb	20 33 45.0	
	comp=Z,2.2nm,0.7s							

*ISCJB **31** 20:24:01.5±0.5, 2°.36N±0°.05×98°.96E±0°.07, h150km, mb3.4/6, Error ellipse: s-maj=10.1km s-min=6.6km az=177.3*
*IDC **31** 20:24:01.4±1.2, 2°.26N×98°.99E, h139km±3km, mb3.2/6, mb1 3.3/7, mb1mx3.0/43, mbtmp3.6/7, Error ellipse: s-maj=53.4km s-min=19.3km az=59.0*
*DJA **31** 20:24:03.5±0.5, 2°N±2°×9°9E±°, h129km±5km, M3.4/12, MLv3.4/12*

ISC 31 20:24:02.5±0.7, 2°.36N±0°.05×98°.97E±0°.07, h150km, n20, σ1§11/24, mb3.4/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**0.44**	**354**	P		**Pn**	**20 24 23.2**	**-0.5**
	32nm,0.3s,baz=326,slow=9.7,SNR=215							
PSI				S		**Sn**	**20 24 37.9**	**-2.0**
	35nm,0.3s,baz=137,slow=19,SNR=22							
KCSI	**Kotacane, Aceh**	**1.67**	**314**	P		**Pn**	**20 24 33.4**	**-0.4**
KCSI				S		**Sn**	**20 24 55.3**	**-2.6**
KCSI	**Kotacane, Aceh**	**1.67**	**314**	P		**Pn**	**20 24 33.5**	**-0.3**
GSI	**Gunungsitoli**	**1.75**	**233**	P		**Pn**	**20 24 34.7**	**0.0**
GSI				S		**Sn**	**20 24 59.0**	**-0.4**
GSI	**Gunungsitoli**	**1.75**	**233**	P		**Pn**	**20 24 34.8**	**+0.1**
PBSI	**Pulau Batu**	**2.50**	**196**	P		**Pn**	**20 24 43.4**	**-0.2**
PBSI				S		**Sn**	**20 25 13.8**	**-1.5**
SNSI	**Sinabang, Aceh**	**2.64**	**271**	P		**Pn**	**20 24 45.8**	**+0.4**
SNSI	**Sinabang, Aceh**	**2.64**	**271**	P		**Pn**	**20 24 46.2**	**+0.8**
BKNI	**Bangkinang**	**2.89**	**134**	P		**Pn**	**20 24 49.2**	**+0.7**
MLSI	**Meulaboh, Aceh**	**3.19**	**307**	P		**Pn**	**20 24 52.1**	**-0.1**
MLSI	**Meulaboh, Aceh**	**3.19**	**307**	P		**Pn**	**20 24 54.0**	**+1.8**
SISI	**Saibi**	**3.66**	**178**	P		**Pn**	**20 24 59.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**16.00**	**360**	P		**P**	**20 27 41.5**	**+1.6**
	0.1nm,0.3s,baz=192,slow=11,SNR=7.9							
ASAR	**Alice Springs**	**42.72**	**129**	P		**P**	**20 31 44.1**	**-0.9**
	0.5nm,0.5s,baz=303,slow=8.1,SNR=11							
SONM	**Songino Array**	**45.75**	**7**	P		**P**	**20 32 09.3**	**+0.4**
	0.4nm,0.5s,baz=192,slow=8.2,SNR=7.1							
MKAR	**Makanchi Array**	**46.58**	**344**	P		**P**	**20 32 16.0**	**+0.8**
	0.3nm,0.4s,baz=160,slow=8.7,SNR=9.4							
ZALV	**Zalesovo Beam**	**52.72**	**350**	P		**P

LBMI	**Labuha**	**0.28**	**27**	P	**Pb**	**20 49 13.2**	**+0.4**
LBMI				S	**Sb**	**20 49 16.8**	**-0.7**
TNTI	**Ternate**	**1.64**	**360**	P	**Pn**	**20 49 35.3**	**+0.6**
SANI	**Sanana**	**1.81**	**230**	P	**Pn**	**20 49 37.1**	**+0.2**
SANI				S	**Sn**	**20 49 59.6**	**-0.3**
NLAI	**Namlea**	**2.36**	**187**	P	**Pn**	**20 49 45.9**	**+1.4**
NLAI				S	**Sn**	**20 50 13.8**	**+0.3**
MSAI	**Masohi**	**2.90**	**148**	P	**Pn**	**20 49 52.9**	**+0.9**
AAI	**Ambon**	**2.90**	**164**	P	**Pn**	**20 49 52.5**	**+0.5**
KMSI	**Cibinong**	**3.69**	**293**	P	**Pn**	**20 50 04.6**	**+1.7**
SWI	**Sorong**	**3.88**	**90**	P	**Pn**	**20 50 05.6**	**+0.1**
LUWI	**Luwuk**	**4.61**	**268**	P	**Pn**	**20 50 15.2**	**-0.2**
MRSI	**Marisa** 17nm,0.8s,0.1nm	**5.60**	**284**	P	**Pn**	**20 50 29.2**	**+0.1**
APSI	**Ampana**	**5.72**	**270**	P	**Pn**	**20 50 31.9**	**+1.0**
ASAR	**Alice Springs** 1.5nm,0.6s,baz=344,slow=10,SNR=32	**23.52**	**165**	P	**P**	**20 54 14.6**	**-1.6**
TAPN	**Taplejung**	**47.34**	**309**	*eP*	**P**	**20 57 41.2**	**+0.7**
ODAN	**Odare**	**47.35**	**309**	*eP*	**P**	**20 57 41.2**	**+0.7**
RAMN	**Ramite** 14nm,0.6s	**48.01**	**308**	*eP*	**P**	**20 57 45.7**	**+0.1**
JIRN	**Jiri** 10nm,0.5s	**48.67**	**309**	*eP*	**P**	**20 57 51.6**	**+0.8**
GUN	**Gumba** 18nm,0.7s	**49.03**	**309**	*eP*	**P**	**20 57 53.3**	**-0.3**
PKI	**Pulchoki**	**49.24**	**308**	*eP*	**P**	**20 57 54.3**	**-0.9**
PKIN	**Phulchoki** 2.2nm,0.4s	**49.25**	**308**	*eP*	**P**	**20 57 54.4**	**-0.8**
KKN	**Kakani**	**49.44**	**309**	*eP*	**P**	**20 57 55.8**	**-0.8**
DANN	**Dangsing** 23nm,0.7s	**50.89**	**308**	*eP*	**P**	**20 58 06.9**	**-0.8**
SONM	**Songino Array** 0.2nm,0.6s,baz=149,slow=8.9,SNR=2.1	**51.85**	**342**	P	**P**	**20 58 14.4**	**0.0**
MKAR	**Makanchi Array** 0.8nm,0.4s,baz=116,slow=7.8,SNR=30	**61.71**	**326**	P	**P**	**20 59 24.2**	**0.0**

IDC ***31*** *20:52:40.1±1.6, 7.°12S×154.°97E, h0km, mb3.3/5, mb1 3.6/6, mb1mx3.5/36, mbtmp3.4/6, ML3.5/1, Error ellipse: s-maj=40.3km s-min=33.3km az=101.0*
ISCJB ***31*** *20:52:44.5±1.2, 7.°2S±0.°1×154.°9E±0.°2, h41km, mb3.3/5, Error ellipse: s-maj=29.1km s-min=14.1km az=142.3*

ISC 31 20:52:46.3±1.3, 7.°1S±0.°2×154.°9E±0.°2, h41km, n7, σ1§16/8, mb3.4/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076** 3.1nm,0.3s,baz=112,slow=19,SNR=1.2	**4.00**	**314**	Pn	**Pn**	**20 53 44.8**	**-0.3**
KRVT				Sn	**Sn**	**20 54 31.1**	**+0.3**
	4.9nm,0.3s,baz=188,slow=17,SNR=1.3						
ASAR	**Alice Springs** 0.3nm,0.8s,baz=62,slow=9.8,SNR=5.4	**26.01**	**229**	P	**P**	**20 58 15.6**	**0.0**
CMAR	**Chiang Mai Arr** 0.2nm,0.5s,baz=89,slow=7.9,SNR=5.1	**60.75**	**296**	P	**P**	**21 02 53.0**	**-1.5**
SONM	**Songino Array** 0.2nm,0.4s,baz=126,slow=5.3,SNR=4.9	**69.39**	**327**	P	**P**	**21 03 51.4**	**+1.3**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=96,slow=5.8,SNR=2.1	**83.44**	**319**	P	**P**	**21 05 10.2**	**+0.6**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=246,slow=5.6,SNR=5.7	**83.54**	**22**	P	**P**	**21 05 08.7**	**-1.0**
TORD	**Torodi Ar. Bea** 0.4nm,0.8s,baz=60,slow=3.5,SNR=3.2	**152.96**	**285**	PKPbc	**PKiKP**	**21 12 41.7**	**+1.2**

IDC 31 21:08:22.7±27.0, 22.°13S×176.°65W, h391km±215km, mb2.7/2, mb1 3.0/2, mb1mx2.8/18, mbtmp3.5/2, Error ellipse: s-maj=339.1km s-min=65.6km az=137.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs** 0.3nm,0.7s,baz=91,slow=8.0,SNR=7.2	**45.39**	**258**	P	P	21 16 04.5	+0.2
ILAR	**Eielson Array** 0.2nm,0.4s,baz=217,slow=5.9,SNR=4.3	**89.62**	**12**	P	P	21 20 37.7	+1.2
BVAR	**Borovoye Array** 0.3nm,0.4s,baz=108,slow=2.6,SNR=4.0	**121.12**	**319**	PKP	PKiKP	21 26 29.5	0.0
AKASG	**Malin Array Be** 1.3nm,0.4s,baz=43,slow=4.3,SNR=14	**145.04**	**331**	PKPbc	PKPdf	21 27 12.4	-1.4

ISCJB ***31*** *21:15:40.3±0.3, 67.°74N±0.°02×20.°51E±0.°05, h0km, Error ellipse: s-maj=2.9km s-min=2.7km az=159.4*
NAO ***31*** *21:15:41.6±0.6, 67.°81N×20.°45E, ML2.6*
HEL ***31*** *21:15:42.4±0.2, 67.°84N×20.°30E, h0km, ML2.3, Suspected explosion*
IDC ***31*** *21:15:42.4±0.9, 67.°79N×20.°69E, h0km, mb1 3.2/5, mb1mx3.0/41, mbtmp3.2/5, ML2.4/5, Error ellipse: s-maj=14.8km s-min=6.3km az=116.0*
BER ***31*** *21:15:44.0±3.3, 67.°77N×20.°42E, h0km, ML2.0, ML2.6(NAO), Suspected explosion*

ISC 31 21:15:40.9±0.7, 67.°77N±0.°03×20.°31E±0.°03, h0km, n55, σ1§65/88, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIF	**Kilpisjarvi**	**1.25**	**8**	Pg	**Pg**	**21 16 04.1**	**-0.7**
KIF				Lg	Lg	21 16 20.5	
KIF	**Kilpisjarvi** baz=189	**1.25**	**8**	PG	**Pg**	**21 16 04.5**	**-0.3**
KIF				MSG		21 16 19.5	
	comp=Z,45nm,0.2s						
KIF				SB	**Sg**	**21 16 20.2**	**-0.8**
HEF	**Hetta**	**1.41**	**62**	Pg	**Pg**	**21 16 07.5**	**-0.3**
HEF				Lg	Lg	21 16 25.8	
HEF	**Hetta** baz=244	**1.41**	**62**	PG	**Pg**	**21 16 07.2**	**-0.7**
HEF				MSG		21 16 24.1	
	comp=Z,27nm,0.2s						
HEF				SN	**Sn**	**21 16 30.9**	**+3.8**
HEF	**Hetta**	**1.41**	**62**	Pg	**Pg**	**21 16 07.5**	**-0.3**
KTK1	**Kautokeino**	**1.65**	**40**	Pn	**Pn**	**21 16 11.1**	**0.0**
KTK1				Sn	**Sb**	**21 16 33.0**	**-0.5**
KTK1	**Kautokeino**	**1.65**	**40**	*eP*	**Pn**	**21 16 11.0**	**0.0**
KTK1				*eS*	**Sn**	**21 16 32.4**	**-0.6**
KTK1				IAML		21 16 36.4	
	comp=Z,30nm,0.3s						
STEI	**Steigen**	**1.93**	**277**	Pn	**Pn**	**21 16 16.0**	**+1.2**
STEI				Sn	**Sn**	**21 16 41.4**	**+1.7**
STEI	**Steigen**	**1.93**	**277**	*eP*	**Pn**	**21 16 16.0**	**+1.2**
STEI				*eS*	**Sn**	**21 16 40.8**	**+1.1**
STEI				IAML		21 16 46.6	
	comp=Z,14nm,0.5s						
TRO	**Tromso**	**1.94**	**346**	Pn	**Pn**	**21 16 15.1**	**+0.2**
TRO				Sn	**Sn**	**21 16 40.6**	**+0.6**
TRO	**Tromso**	**1.94**	**346**	*eP*	**Pn**	**21 16 15.1**	**+0.2**
TRO				*eS*	**Sn**	**21 16 42.2**	**+0.3**
TRO				IAML		21 16 44.3	
	comp=Z,14nm,0.2s						
KALU	**Kalix**	**2.27**	**146**	PB	**Pb**	**21 16 21.9**	**-0.7**
KALU				SG	**Sb**	**21 16 52.5**	**+1.4**
TOF	**Tornio**	**2.32**	**135**	PB	**Pb**	**21 16 22.9**	**-0.6**
TOF				MSG		21 16 52.6	
	comp=Z,18nm,0.2s						
TOF				SG	**Sg**	**21 16 54.1**	**-1.3**
SGF	**Sodankyl**	**2.41**	**95**	PN	**Pb**	**21 16 23.3**	**-1.7**
SGF				SG	**Sg**	**21 16 57.2**	**-0.8**
RNF	**Rovaniemi**	**2.51**	**115**	PB	**Pb**	**21 16 25.6**	**-1.1**
RNF				SG	**Sg**	**21 17 00.3**	**-1.1**
LOF	**Lofoten**	**2.58**	**281**	Pn	**Pn**	**21 16 26.1**	**+2.4**
LOF				Sn	**Sb**	**21 17 00.1**	**+0.1**
LOF	**Lofoten**	**2.58**	**281**	*eP*	**Pn**	**21 16 26.3**	**+2.6**
LOF				IAML		21 17 03.3	
	comp=Z,18nm,0.3s						
ARCES	**ARCESS Array B** comp=Z,2.1nm,0.3s,baz=230,slow=15,SNR=109	**2.60**	**45**	Pn	**Pn**	**21 16 25.0**	**+0.9**
ARCES				Lg	Lg	21 16 59.4	
	comp=Z,6.5nm,0.3s,baz=230,slow=26,SNR=18						
ARE0	**ARCESS Array S** baz=227	**2.60**	**45**	PB	**Pn**	**21 16 24.9**	**+0.8**
ARE0				SG	**Sb**	**21 17 00.7**	**0.0**
ARA0	**ARCESS Array S** baz=232,slow=14	**2.60**	**45**	Pn	**Pn**	**21 16 24.8**	**+0.7**
ARA0				Sn	**Sn**	**21 16 56.0**	**-0.3**
	baz=225,slow=22						
ARA0				Lg	Lg	21 17 00.3	
	baz=228,slow=28						
ARA0	**ARCESS Array S** baz=232,slow=14	**2.60**	**45**	Pn	**Pn**	**21 16 24.8**	**+0.7**
ARA0				Sn	**Sn**	**21 16 56.0**	**-0.3**
	baz=225,slow=22						
MOR8	**Moi Rana**	**2.81**	**238**	Pn	**Pn**	**21 16 27.8**	**+0.8**
MOR8				Sn	**Sn**	**21 17 04.2**	**+2.6**
MOR8	**Moi Rana**	**2.81**	**238**	*eP*	**Pn**	**21 16 28.3**	**+1.3**
MOR8				*eS*	**Sn**	**21 16 59.8**	**-1.8**
MOR8				IAML		21 17 05.5	
	comp=Z,20nm,0.3s						
KONS	**Konsvik**	**3.08**	**249**	Pn	**Pn**	**21 16 33.6**	**+2.9**
KONS				Sn	**Sn**	**21 17 11.2**	**+3.1**
KONS				Lg	Lg	21 17 19.0	
KONS	**Konsvik**	**3.08**	**249**	*eP*	**Pn**	**21 16 33.5**	**+2.9**
KONS				IAML		21 17 20.8	
	comp=Z,11nm,0.5s						
HAMF	**Hammerfest**	**3.13**	**21**	Pn	**Pn**	**21 16 32.1**	**+0.8**
HAMF				Sn	**Sn**	**21 17 10.2**	**+0.9**
HAMF	**Hammerfest**	**3.13**	**21**	*eP*	**Pn**	**21 16 32.3**	**+1.1**
HAMF				IAML		21 17 11.3	
	comp=Z,23nm,0.4s						
KEV	**Kevo**	**3.15**	**48**	Pn	**Pn**	**21 16 31.8**	**+0.2**
KEV				Sn	**Sn**	**21 17 11.4**	**+1.6**
KEV	**Kevo**	**3.15**	**48**	PN	**Pn**	**21 16 32.4**	**+0.8**
KEV				SN	**Sn**	**21 17 11.2**	**+1.4**
KEV				MSG		21 17 13.6	
	comp=Z,10nm,0.2s						
KEV	**Kevo**	**3.15**	**48**	Pn	**Pn**	**21 16 31.8**	**+0.2**
KEV				Sn	**Sn**	**21 17 11.4**	**+1.6**
STOK	**Stokkvaagen**	**3.20**	**247**	Pn	**Pn**	**21 16 33.6**	**+1.3**
STOK				Sn	**Sn**	**21 17 14.2**	**+3.1**
STOK				Lg	Lg	21 17 23.0	
STOK	**Stokkvaagen**	**3.20**	**247**	*eP*	**Pn**	**21 16 33.5**	**+1.2**
STOK				*eS*	**Sn**	**21 17 13.7**	**+2.6**
BURU	**Burvik**	**3.23**	**172**	PN	**Pn**	**21 16 36.2**	**+3.5**
OUL	**Oulu** baz=324	**3.51**	**138**	PG	**Pb**	**21 16 45.5**	**+1.8**
VRF	**Varrio**	**3.54**	**86**	PN	**Pn**	**21 16 38.0**	**+1.0**
OUF	**Merijarvi**	**3.87**	**150**	PN	**Pn**	**21 16 44.0**	**+2.5**
UMAU	**Umeaa**	**3.91**	**178**	PN	**Pn**	**21 16 45.3**	**+3.2**
UMAU				SG	**Sg**	**21 17 45.5**	**-0.8**
MSF	**Maaselka**	**3.92**	**114**	PN	**Pn**	**21 16 44.7**	**+2.4**
KU6	**Riekki**	**4.16**	**110**	PN	**Pn**	**21 16 47.5**	**+1.9**
APA0	**Apatity Array** baz=290,slow=12	**4.84**	**86**	Pn	**Pn**	**21 16 54.9**	**+0.1**
APA0				Sn	**Sn**	**21 17 49.6**	**-1.8**
	baz=280,slow=28						
APA0				Lg	Lg	21 18 09.1	
	baz=287,slow=28						
APA0	**Apatity Array** baz=290,slow=12	**4.84**	**86**	Pn	**Pn**	**21 16 54.9**	**+0.1**
APA0				Sn	**Sn**	**21 17 49.6**	**-1.8**
	baz=280,slow=28						
FIA0	**FINESS Array S** baz=345,slow=16	**6.82**	**156**	Pn	**Pn**	**21 17 23.1**	**+1.2**
FIA0				Sn	**Sn**	**21 18 40.1**	**-0.1**
	baz=348,slow=22						
FIA0				Lg	Lg	21 19 16.1	
	baz=346,slow=37						
FIA0	**FINESS Array S** baz=345,slow=16	**6.82**	**156**	Pn	**Pn**	**21 17 23.1**	**+1.2**
FIA0				Sg	**Sg**	**21 19 16.1**	**-3.5**
	baz=346,slow=37						
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=344,slow=14,SNR=7.1	**6.82**	**156**	Pn	**Pn**	**21 17 23.6**	**+1.7**
FINES				Sn	**Sn**	**21 18 40.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=348,slow=21,SNR=5.9						
FINES				Lg	Lg	21 19 16.1	
	comp=Z,0.4nm,0.3s,baz=346,slow=27,SNR=5.5						
NB2	**NORSAR Subarra** baz=21,slow=12	**7.81**	**214**	Pn	**Pn**	**21 17 36.8**	**+1.2**
NB2				Lg	Lg	21 19 45.8	
	baz=16,slow=37						
NB2	**NORSAR Subarra** baz=21,slow=12	**7.81**	**214**	Pn	**Pn**	**21 17 36.8**	**+1.2**
NB2				Sg	**Sg**	**21 19 45.8**	**-5.6**
	baz=16,slow=37						
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=24,slow=12,SNR=3.0	**7.81**	**214**	Pn	**Pn**	**21 17 37.1**	**+1.5**
NOA				Lg	Lg	21 19 48.3	
	comp=Z,0.0nm,0.3s,baz=55,slow=16,SNR=2.7						
NRA0	**NORESS Array S** baz=28,slow=16	**8.02**	**212**	Pn	**Pn**	**21 17 39.5**	**+1.1**
NRA0	**NORESS Array S** baz=28,slow=16	**8.02**	**212**	Pn	**Pn**	**21 17 39.5**	**+1.1**
HFS	**Hagfors** baz=6.3,slow=12	**8.20**	**204**	Pn	**Pn**	**21 17 41.3**	**+0.4**
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=18,slow=13,SNR=4.4	**8.20**	**204**	Pn	**Pn**	**21 17 41.5**	**+0.7**
HFS				Sn	**Sn**	**21 19 11.4**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=22,slow=26,SNR=4.0						
HFS				Lg	Lg	21 19 59.9	
	comp=Z,0.3nm,0.3s,baz=19,slow=27,SNR=3.8						
HFS	**Hagfors** baz=6.3,slow=12	**8.20**	**204**	Pn	**Pn**	**21 17 41.3**	**+0.4**
SPA0	**Spitsbergen Ar** baz=154,slow=14	**10.52**	**356**	Pn	**Pn**	**21 18 12.9**	**+0.2**
SPA0	**Spitsbergen Ar** baz=154,slow=14	**10.52**	**356**	Pn	**Pn**	**21 18 12.9**	**+0.2**
SPITS	**Spitsbergen Ar** baz=146,slow=13,SNR=4.0	**10.52**	**356**	Pn	**Pn**	**21 18 13.1**	**+0.4**

IDC ***31*** *21:32:00.5±0.4, 19.°01N×120.°33E, h0km, mb4.6/35, mb1 4.7/38, mb1mx4.7/50, mbtmp4.7/38, ML4.0/4, MS4.2/32, Ms1 4.2/32, ms1mx4.1/45, Error ellipse: s-maj=14.1km s-min=9.8km az=87.0*
ISCJB ***31*** *21:32:00.6±0.9, 19.°13N±0.°02×120.°23E±0.°02, h7km±5km, mb4.8/106, MS4.2/36, Error ellipse: s-maj=3.7km s-min=2.4km az=160.6*
NEIC ***31*** *21:32:01.6±3.0, 19.°12N±0.°05×120.°18E±0.°07, h10km± 1km, mb5.2/132*
KLM ***31*** *21:32:02.0, 19.°15N×120.°42E, h10km, mb4.8*
MOS ***31*** *21:32:02.3± 1.1, 19.°08N×120.°23E, h21km, mb5.2/54, Error ellipse: s-maj=7.2km s-min=4.0km az=110.5*
MAN ***31*** *21:32:02.7, 19.°17N×120.°08E, h33km, mb5.7, ML4.7, MS5.0*
GCMT ***31*** *21:32:03.6± 0.3, 19.°09N±0.°02×120.°25E±0.°03, h12km, MW4.9/103, Moment Tensor Solution. s26,c30; s103,c142; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.21±.09; Mθθ2.15±.07; Mϕϕ0.05±.09; Mrθ-0.63±.29; Mθϕ1.17±.07; Mϕr0.33±.37; Best double couple: Mo2.56100×10^16 NP1:ϕ81.00000°, δ52.00000°, λ-70.00000°. NP2:ϕ230.00000°, δ42.00000°, λ-114.00000°. Principal axes: T 2.7130, Plg5.0000°, Azm157.0000°; N -0.3100, Plg16.0000°, Azm248.0000°; P -2.4080, Plg73.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***31*** *21:32:03.5±0.0, 19.°44N×120.°14E, h5km, mb4.7/56, mB4.9/30, ML4.6/1, Ms4.6/81, Ms7 4.6/77*

ISC 31 21:32:03.0±0.6, 19.°11N±0.°02×120.°21E±0.°03, h16km±3km, n542, σ1§78/546, mb5.0/159, MS4.3/36, 29C-18D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**1.20**	**169**	⇑P	**Pn**	**21 32 24.2**	**-1.0**
ABRA	**Dolores**	**1.53**	**162**	P	**Pn**	**21 32 28.7**	**-0.9**
ABRA				S	**Sn**	**21 32 47.1**	**-2.2**
APYP	**Conner**	**1.58**	**142**	P	**Pn**	**21 32 29.8**	**-0.6**
APYP				S	**Sn**	**21 32 51.4**	**+0.9**
SGCP	**Mt. Cagua**	**1.94**	**116**	P	**Pn**	**21 32 36.4**	**+1.0**
SGCP				S	**Sn**	**21 33 01.1**	**+1.7**
CVP	**Callao Caves**	**2.07**	**132**	⇓P	**Pn**	**21 32 38.1**	**+1.0**
CVP				S	**Sn**	**21 33 02.8**	**+0.2**
BBP	**Basco**	**2.12**	**51**	P	**Pn**	**21 32 36.7**	**-1.0**
BBP				S	**Sn**	**21 33 03.2**	**-0.5**
CAUP	**Cauayan**	**2.64**	**144**	P	**Pb**	**21 32 47.4**	**-2.6**
CAUP				S	**Sn**	**21 33 16.6**	**-0.1**
BOLP	**Bolinao**	**2.73**	**186**	P	**Pn**	**21 32 45.7**	**-0.5**
BOLP				S	**Sn**	**21 33 17.9**	**-1.0**
SMPP	**San Manuel, Pa**	**2.98**	**171**	P	**Pn**	**21 32 49.1**	**-0.5**
SCZP	**Santa Cruz**	**3.33**	**185**	P	**Pn**	**21 32 54.7**	**+0.2**
SCZP				S	**Sg**	**21 33 54.6**	**+4.6**
BALP	**Baler**	**3.59**	**159**	P	**Pn**	**21 32 58.9**	**+0.8**
BALP				S	**Sn**	**21 33 42.4**	**+2.2**
TWG	**Pinlang**	**3.78**	**12**		**Pn**	**21 32 59.3**	**-1.3**
TWG					**Sn**	**21 33 43.5**	**-1.3**
TPUB	**Ta-pu**	**4.19**	**5**		**Pn**	**21 33 05.1**	**-1.2**
TPUB					**Sn**	**21 33 48.4**	**-6.5**
POLP	**Polilio Island**	**4.66**	**159**	P	**Pn**	**21 33 15.0**	**+2.2**
POLP				S	**Sn**	**21 34 00.5**	**-6.1**
SSLB	**Suanglung**	**4.71**	**8**		**Pn**	**21 33 12.1**	**-1.3**
TGY	**Tagaytay City**	**5.03**	**172**	Pn	**Pn**	**21 33 18.0**	**+0.1**
	10nm,0.3s,baz=307,slow=10,SNR=3.6						
TGY				LR	LR	21 35 42.2	
	comp=Z,4μm,19.9s,baz=20,slow=45						
TGY	**Tagaytay City**	**5.03**	**172**	P	**Pb**	**21 33 27.4**	**-3.3**
LQP	**Lukban**	**5.13**	**165**	⇑P	**Pn**	**21 33 20.3**	**+0.9**
LQP				S	**Pg**	**21 33 42.7**	**+1.3**
NACB	**Ninganchiao**	**5.20**	**14**		**Pn**	**21 33 20.6**	**+0.5**
NACB				Sn	**Sn**	**21 34 14.8**	**-5.0**
KNMB	**Chin-men Tao**	**5.59**	**343**		**Pn**	**21 33 23.5**	**-2.0**
KNMB				Sn	**Sn**	**21 34 24.8**	**-4.7**
GQP	**Guinayangan**	**5.60**	**157**	⇓P	**Pn**	**21 33 29.2**	**+3.5**
YHNB	**Yeheng**	**5.64**	**11**		**Pn**	**21 33 26.8**	**+0.6**
YHNB				Sn	**Sn**	**21 34 24.4**	**-6.3**
YOJ	**Yonaguni jima**	**5.93**	**26**	P	**Pn**	**21 33 30.6**	**+0.5**
YOJ	**Yonaguni jima**	**5.93**	**26**		**Pn**	**21 33 30.6**	**+0.5**
TATO	**Taipei**	**5.96**	**11**		**Pn**	**21 33 30.2**	**-0.3**
QZH	**Quanzhou**	**6.00**	**346**	⇓*i*Pn	**Pn**	**21 33 30.0**	**-1.1**
QZH					Sn	**Sn**	**21 34 34.8**	**-4.6**
QZH					LR	LR		
	comp=N,3μm,9.5s						
QZH					LR	LR		
	comp=E,3μm,9.5s						
QZH					LR	LR		
	comp=Z,4μm,11.8s						
HKPS	**Hong Kong Po S**	**6.50**	**300**		**Pn**	**21 33 37.0**	**-1.0**
GZH	**Guangzhou**	**7.53**	**303**	Pn	**Pn**	**21 33 51.3**	**-0.9**
GZH				Sn	**Sn**	**21 35 14.5**	**-2.8**
GZH				LR	LR		
	comp=N,4μm,11.8s						
GZH				LR	LR		
	comp=E,6μm,11.8s						
QIZ	**Qiongzhong**	**9.81**	**271**	P	**Pn**	**21 34 22.5**	**-1.0**
QIZ				S	**Sn**	**21 36 14.0**	**+0.7**
QIZ				LR	LR		
	comp=N,3μm,16.7s						
QIZ				LR	LR		
	comp=E,2μm,12.7s						
QIZ				LR	LR		
	comp=Z,1μm,12.9s						
QIZ	**Qiongzhong**	**9.81**	**271**	Pn	**Pn**	**21 34 22.3**	**-1.1**
QIZ					**Sn**	**21 36 08.1**	**-5.2**
JOW	**Kunigami** 0.5nm,0.3s,baz=184,slow=14,SNR=12	**10.68**	**43**	Pn	**Pn**	**21 34 36.2**	**+0.8**
JOW	**Kunigami**	**10.68**	**43**	Pn	**Pn**	**21 34 35.2**	**-0.3**
WHN	**Wuhan**	**12.56**	**336**	P	**Pn**	**21 35 00.5**	**-0.6**
WHN				S	**Sn**	**21 37 20.5**	**-0.2**
WHN				LR	LR		
	comp=N,4μm,12.1s						
WHN				LR	LR		
	comp=E,2μm,6.1s						
WHN				LR	LR		
	comp=Z,5μm,14.2s						
KCP	**Kidapawan**	**12.93**	**158**	⇑P	Pn	21 35 11.5	+5.2
NJ2	**Nanjing**	**12.95**	**355**	*eP*	**Pn**	**21 35 07.5**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,130nm,3.5s						
NJ2				LR	LR		
	comp=E,2μm,9.9s						
NJ2				LR	LR		
	comp=Z,2μm,13.7s						
DAV	**Davao City (W)** comp=Z,2μm,19.2s,baz=338,slow=43	**13.06**	**156**	LR	LR	21 41 20.4	
KKM	**Kota Kinabalu**	**13.56**	**197**	Pn	**Pn**	**21 35 15.9**	**+1.0**
GYA	**Guiyang**	**14.47**	**303**	⇑*i*P	**Pn**	**21 35 28.5**	**+1.1**
GYA				PP	**PnPn**	**21 35 40.8**	**+5.4**
GYA				S	**Sn**	**21 38 10.5**	**+2.9**
GYA				SS	**S**	**21 38 26.0**	**-1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA				pmax	pmax		
	comp=Z,200nm,9.0s						
GYA				LR	LR		
	comp=E,2μm,12.6s						
GYA				LR	LR		
	comp=Z,2μm,14.8s						
UBPT	**Khong Chiam**	**14.59**	**257**	Pn	**Pn**	**21 35 28.7**	**-0.2**
ENH	**Enshi**	**14.77**	**321**		**Pn**	**21 35 28.7**	**-2.6**
SLVN	**Son La**	**15.47**	**281**	P	**Pn**	**21 35 38.8**	**-1.9**
JNU	**Nakatsue** 1.0nm,0.3s,baz=251,slow=7.2,SNR=11	**16.91**	**32**	Pn	**Pn**	**21 35 59.2**	**+0.2**
JNU				LR	LR	21 43 12.4	
	comp=Z,299nm,20.4s,baz=192,slow=40						
JNU	**Nakatsue**	**16.91**	**32**		**Pn**	**21 35 57.3**	**-1.7**
JNU				IAmb	IAmb	21 36 04.5	
	comp=Z,299nm,1.3s						
TIA	**Tai'an**	**17.25**	**352**	P	**P**	**21 36 05.3**	**+0.6**
TIA				pmax	pmax		
	comp=Z,44nm,1.3s						
TIA				pmax	pmax		
	comp=Z,670nm,10.0s						
TIA				LR	LR		
	comp=Z,1μm,10.6s						
TIA				LR	LR		
	comp=Z,850nm,12.8s						
TIA				LR	LR		
	comp=Z,1μm,12.4s						
KMI	**Kunming**	**17.25**	**293**	P	**P**	**21 36 04.3**	**-0.8**
KMI				pP	pP	21 36 06.0	-2.8
KMI				sP	pwP	21 36 08.8	-3.8
KMI				PP	**PnPn**	**21 36 18.8**	**+5.1**
KMI				S	**Sn**	**21 39 16.0**	**+0.6**
KMI				sS	S	21 39 18.3	-6.1
KMI				SS	**SnSn**	**21 39 36.0**	**+7.1**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,180nm,3.5s						
KMI				LR	LR		
	comp=Z,2μm,15.2s						
KMI				LR	LR		
	comp=Z,1μm,15.7s						
KMI	**Kunming**	**17.25**	**293**	P	**P**	**21 36 03.7**	**-1.4**
KMI				pmax	pmax		
	comp=Z,40nm,1.2s						
KMI	**Kunming**	**17.25**	**293**	P	**P**	**21 36 03.7**	**-1.4**
CHAI	**Chaiyaphum**	**17.67**	**262**	P	P	21 36 19.6	+10
XAN	**Xi'an**	**17.95**	**328**	P	**P**	**21 36 12.8**	**+0.3**
XAN				pmax	pmax		
	comp=Z,41nm,1.9s						
XAN				pmax	pmax		
	comp=Z,190nm,5.2s						
XAN				LR	LR		
	comp=Z,1μm,10.3s						
XAN				LR	LR		
	comp=Z,2μm,10.8s						
XAN	**Xi'an**	**17.95**	**328**	P	**P**	**21 36 12.3**	**-0.3**
XAN				pmax	pmax		
	comp=Z,180nm,1.8s						
XAN	**Xi'an**	**17.95**

KSRS Korea Array 19.48 19 P Pn 21 36 30.0 -0.5
KSRS Korea Array 19.48 19 P Pn 21 36 29.9 -0.5
comp=Z,0.9nm,0.3s,baz=204,slow=10,SNR=34
KSRS LR LR 21 43 40.5
comp=Z,518nm,20.7s,baz=198,slow=36
LAMP Lampang 19.49 272 P Pn 21 36 39.7 +8.9
TNTI Ternate 19.53 158 P P 21 36 28.0 -2.0
SMKI Samarinda 19.66 189 P Pn 21 36 34.4 +1.6
comp=Z,212nm,1.4s,comp=Z,3μm
TIY Taiyuan 19.74 341 *eP* **Pn 21 36 35.5 +1.8**
TIY S **S 21 40 07.8 -6.5**
TIY pmax pmax
comp=Z,76nm,1.1s
TIY LR LR
comp=Z,1μm,11.5s
TIY LR LR
comp=Z,1μm,11.0s
DL2 Dalian 19.76 3 P Pn 21 36 33.5 -0.4
DL2 LR LR
comp=Z,940nm,14.5s
DL2 LR LR
comp=Z,810nm,16.1s
DL2 LR LR
comp=Z,1μm,14.9s
PCI Palu 19.89 181 P Pn 21 36 35.0 -0.6
comp=Z,79nm,1.2s,comp=Z,1μm
APSI Ampana 19.95 176 P P 21 36 34.9 +0.4
comp=Z,31nm,1.0s
KSM Kuching 20.04 210 P P 21 36 33.5 -1.9
KSM IAmb IAmb 21 36 49.1
comp=Z,188nm,1.8s
CMMT Chiang Mai 20.11 273 P Pn 21 36 38.6 +0.4
comp=Z,9.2nm,1.1s
CHTO Chiang Mai 20.12 273 P P 21 36 36.3 -0.1
CHTO pmax pmax
comp=Z,28nm,1.2s
CHTO Chiang Mai 20.12 273 P P 21 36 36.3 -0.1
UTHA Uthaitani 20.13 263 P Pn 21 36 43.2 +4.8
comp=Z,36μm,1.4s,comp=Z,337μm
CM31 Chiang Mai Arr 20.15 272 P P 21 36 34.8 -1.9
CMAR Chiang Mai Arr 20.15 272 *ceP* Pn 21 36 39.0 +0.4
CMAR pmax pmax
comp=Z,6.0nm,0.9s
CMAR Chiang Mai Arr 20.15 272 P Pn 21 36 38.8 +0.2
comp=Z,6.4nm,0.8s,baz=82,slow=8.4,SNR=41
CMAR PcP **PcP 21 40 52.8 +1.2**
comp=Z,1.5nm,0.7s,baz=74,slow=0.7,SNR=15
CMAR ScP **ScP 21 44 28.1 +0.7**
comp=Z,0.6nm,0.9s,baz=50,slow=0.5,SNR=4.2
CMAR Chiang Mai Arr 20.15 272 P P 21 36 35.9 -0.8
CMAR **ScP 21 44 27.8 +0.4**
LUWI Luwuk 20.18 173 P Pn 21 36 37.7 -1.3
comp=Z,130nm,1.1s,comp=Z,2μm
LUWI Luwuk 20.18 173 IAmb IAmb 21 36 58.1
comp=Z,144nm,1.1s
BKB Balikpapan 20.50 190 P Pn 21 36 41.7 -1.1
comp=Z,223nm,1.5s,comp=Z,3μm
BKB Balikpapan 20.50 190 P P 21 36 36.5 -4.1
BKB IAmb IAmb 21 36 43.9
comp=Z,166nm,1.1s
UMPA Umpang Tak 20.55 265 P Pn 21 36 48.0 +4.7
comp=Z,28μm,1.1s,comp=Z,450μm
SRDT SRDT 20.74 260 P Pn 21 36 48.7 +3.1
comp=Z,13nm,1.2s
BJT Baijiatuau 21.13 351 P P 21 36 49.3 +2.2
BJT pmax pmax
comp=Z,183nm,1.5s
BJT Baijiatuau 21.13 351 IAmb IAmb 21 36 54.8
comp=Z,141nm,0.9s
MHMT Maesarieng 21.13 271 P P 21 36 50.7 +3.3
comp=Z,66nm,1.1s,comp=Z,848nm
JCJ Chichijima 21.70 64 LR LR 21 43 39.3
comp=Z,158nm,21.6s,baz=166,slow=32
SANI Sanana 21.78 164 P P 21 36 50.6 -3.7
comp=Z,50nm,0.8s,comp=Z,566nm
INU Inuyama 21.97 39 IAmb IAmb 21 37 00.1
comp=Z,137nm,1.1s
TTSI Tana Toraja 22.02 181 P P 21 37 01.6 +4.7
comp=Z,47nm,1.3s,comp=Z,662nm
LZH Lanzhou 22.22 323 ⇓*P* **P 21 37 01.3 +2.2**
LZH sP pwP 21 37 04.3 -2.8
LZH *eS* **S 21 41 03.8 +0.4**
LZH LR LR
comp=Z,2μm,11.2s
LZH LR LR
comp=Z,2μm,13.1s
SWI Sorong 22.62 150 P P 21 37 04.3 +1.0
SWI pmax pmax
comp=Z,25nm,0.9s
SWI Sorong 22.62 150 P P 21 37 05.7 +2.4
comp=Z,66nm,0.9s
KBKI Kotabaru 22.62 191 P P 21 37 21.2 +18
HHC Hu-ho-hao-te 22.90 343 *eP* **P 21 37 08.3 +2.1**
HHC PP **PnPn 21 37 38.0 +7.1**
HHC SS Sn 21 41 49.5 +18
HHC pmax pmax
comp=Z,48nm,1.3s
HHC pmax pmax
comp=Z,150nm,4.7s
HHC LR LR
comp=Z,790nm,12.3s
HHC LR LR
comp=Z,450nm,13.2s
HHC LR LR
comp=Z,710nm,12.2s
SPSI Sidrap Palu 22.93 181 P P 21 37 07.7 +1.1
comp=Z,95nm,1.2s,comp=Z,1μm
NLAI Namlea 23.22 162 P P 21 37 11.6 +2.1
comp=Z,60nm,1.4s,comp=Z,2μm
BNSI Bone 23.36 180 P P 21 37 13.3 +2.3
comp=Z,38nm,2.5s
MAJO Matsushiro 23.48 39⇑ *eP* **P 21 37 14.1 +2.0**
MAJO pmax pmax
comp=Z,60nm,2.1s
MAJO Matsushiro 23.48 39 P P 21 37 10.7 -1.4
MAJO IAmb IAmb 21 37 34.9
comp=Z,79nm,1.2s
MAT Matsushiro 23.48 39 P P 21 37 11.5 -0.6
MAT S **S 21 41 34.2 +9.0**
MJB9 Matsu-Tunnel 23.48 39 IAmb IAmb 21 37 34.9
comp=Z,85nm,1.2s
MJAR Matsushiro Arr 23.49 39 P P 21 37 10.6 -1.5
MJAR 21 40 54.9
MJAR pmax pmax
comp=Z,18nm,0.9s
MJAR Matsushiro Arr 23.49 39 P P 21 37 11.5 -0.6
comp=Z,4.0nm,0.8s,baz=217,slow=5.5,SNR=12
MJAR PKKPbc PKKPdf 22 04 39.6 +52
comp=Z,2.8nm,1.1s,baz=281,slow=4.2,SNR=4.2
MJAR Matsushiro Arr 23.49 39 P P 21 37 10.6 -1.5
MJAR PcP **PcP 21 40 54.9 -3.0**
MYKOM Kota Tinggi 23.52 225 P P 21 37 14.0 +1.4
IPM Ipoh 23.71 235 P P 21 37 12.2 -2.3
KAPI Kappang 23.98 181 P P 21 37 15.0 -1.9
KAPI pmax pmax
comp=Z,80nm,1.1s
KAPI Kappang 23.98 181 P P 21 37 15.0 -1.9
KAPI IAmb IAmb 21 37 18.7
comp=Z,80nm,1.1s
AAI Ambon 23.98 160 P P 21 37 18.0 +1.1
AAI pmax pmax
comp=Z,43nm,1.3s
AAI Ambon 23.98 160 P P 21 37 18.9 +2.0
comp=Z,34nm,1.2s
GUMO Guam 24.27 99 LR LR 21 46 52.2
comp=Z,300nm,18.5s,baz=270,slow=37
BKSI Bulukumba 24.28 180 P P 21 37 20.1 +0.4
comp=Z,55nm,1.0s,comp=Z,795nm
CN2 Changchun 25.01 9 *eP* **P 21 37 27.3 +1.2**
CN2 *eS* **S 21 41 48.0 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,900nm,12.0s
CN2 LR LR
comp=Z,700nm,13.0s
PSI Prapat 26.39 235 P P 21 37 35.2 -3.9
PSI pmax pmax
comp=Z,37nm,1.5s
RPSI Rantau Prapat 26.45 234 P P 21 37 35.2 -4.3
BKNI Bangkinang 26.50 227 P P 21 37 35.9 -4.0
MDJ Mudanjiang 26.61 15 P P 21 37 41.0 +0.4
MDJ pP sP 21 37 44.5 -1.6
MDJ sP pwP 21 37 48.3 -0.5
MDJ LR LR
comp=Z,1μm,11.4s
MDJ LR LR
comp=Z,710nm,12.2s
GTA Gaotai 26.83 323 P P 21 37 44.0 +1.2
GTA pP pwP 21 37 48.5 -2.6
GTA sP sP 21 37 51.5 +3.0
GTA PcP **PcP 21 41 06.5 +1.1**
GTA S **S 21 42 25.0 +6.3**
GTA PcS **PcS 21 44 46.3 -0.5**
GTA pmax pmax
comp=Z,14nm,1.5s
GTA pmax pmax
comp=Z,170nm,5.5s
GTA LR LR
comp=Z,510nm,14.8s
GTA LR LR
comp=Z,1μm,12.4s
USA0B Ussuriysk Arra 26.89 19 IAmb IAmb 21 37 54.5
comp=Z,40nm,0.8s
USRK Ussuriysk Ar. 26.89 19 P P 21 37 44.0 +0.8
USRK 21 41 02.4
USRK Ussuriysk Ar. 26.89 19 P P 21 37 44.4 +1.3
comp=Z,19nm,0.7s,baz=212,slow=6.5,SNR=60
USRK PcP **PcP 21 41 05.4 +0.2**
comp=Z,1.6nm,0.9s,baz=204,slow=3.2,SNR=4.2
USRK LR LR 21 49 24.9
comp=Z,233nm,19.0s,baz=188,slow=39
USRK Ussuriysk Ar. 26.89 19 P P 21 37 44.0 +0.8
USRK PcP **PcP 21 41 02.4 -2.8**
SHL Shillong 26.95 289 P P 21 37 42.9 -1.2
SHL 21 41 07.6
SHL pmax pmax
comp=Z,28nm,1.1s
SHL Shillong 26.95 289 *eP* P 21 37 51.0 +6.9
SHL Shillong 26.95 289 P P 21 37 42.9 -1.2
SHL PcP **PcP 21 41 07.6 +1.6**
PLAI Plampang 27.86 185 P P 21 37 53.5 +1.4
comp=Z,36nm,1.1s
GSI Gunungsitoli 28.38 234 P P 21 37 55.5 -1.3
LSA Lhasa 28.41 297 P P 21 37 56.2 -1.3
LSA pmax pmax
comp=Z,26nm,1.3s
LSA Lhasa 28.41 297 P P 21 37 56.2 -1.3
UGM Wanagama 28.50 200 P P 21 37 58.7 +0.8
SOEI Soe 28.96 172 P P 21 38 00.4 -1.6
SOEI IAmb IAmb 21 38 19.2
comp=Z,74nm,1.5s
BATI Baumata 29.33 173 P P 21 38 03.5 -1.7
comp=Z,39nm,0.8s,baz=59,slow=2.1,SNR=12
JAY Jayapura 29.46 135 LR LR 21 47 22.0
comp=Z,197nm,21.2s,baz=323,slow=31
ULN Ulaanbaatar 30.62 342*d iP* **P 21 38 17.9 +1.4**
ULN pmax pmax
comp=Z,38nm,1.7s
ULN Ulaanbaatar 30.62 342 P P 21 38 18.1 +1.6
ULN IAmb IAmb 21 38 20.1
comp=Z,54nm,1.6s
SONM Songino Array 30.78 342 P P 21 38 19.2 +1.3
SONM 21 41 15.9
SONM pmax pmax
comp=Z,38nm,1.8s
SONM Songino Array 30.78 342 P P 21 38 19.2 +1.3
comp=Z,5.8nm,0.7s,baz=160,slow=8.9,SNR=30
SONM PcP **PcP 21 41 15.9 +0.8**
comp=Z,1.6nm,0.8s,baz=166,slow=3.0,SNR=4.0
SONM LR LR 21 50 45.0
comp=Z,602nm,20.7s,baz=142,slow=36
SONM Songino Array 30.78 342 P P 21 38 19.2 +1.3
SONM Songino Array 30.78 342 ScP **ScP 21 44 50.7 -6.6**
TAPN Taplejung 30.90 291 *eP* **P 21 38 21.1 +1.7**
comp=Z,50nm,1.2s
ODAN Odare 31.12 290 *eP* **P 21 38 22.7 +1.4**
comp=Z,72nm,1.1s
ASAJ Asahikawa 31.19 32 P P 21 38 21.9 +0.6
comp=Z,9.0nm,0.8s,baz=218,slow=12,SNR=4.2
ASAJ LR LR 21 52 10.3
comp=Z,243nm,18.2s,baz=228,slow=39
JKA Kamikawa-asahi 31.19 32 P P 21 38 21.9 +0.5
KLR Kul'dur 31.45 15*d iP* **P 21 38 24.9 +1.3**
KLR pmax pmax
comp=Z,78nm,1.5s
KLR Kul'dur 31.45 15 P P 21 38 25.2 +1.6
comp=Z,17nm,1.1s,baz=216,slow=7.2,SNR=25
KLR LR LR 21 51 30.1
comp=Z,534nm,20.1s,baz=204,slow=37
RAMN Ramite 31.83 290 *eP* **P 21 38 29.3 +1.7**
comp=Z,46nm,0.8s
JIRN Jiri 32.28 292 *eP* **P 21 38 33.5 +1.8**
comp=Z,301nm,1.5s
GUN Gumba 32.59 292 *eP* **P 21 38 35.9 +1.6**
comp=Z,126nm,1.0s
PKI Pulchoki 32.96 291 *eP* **P 21 38 38.4 +0.8**
comp=Z,16nm,1.7s
PKIN Phulchoki 32.97 291 *eP* **P 21 38 38.5 +0.9**
comp=Z,77nm,1.6s
KKN Kakani 33.10 292 *eP* **P 21 38 39.7 +1.0**
comp=Z,44nm,1.0s
DMN Daman 33.23 291 *eP* **P 21 38 40.9 +1.1**
comp=Z,51nm,1.0s
YSS Yuzh-Sakhalins 33.35 29 *eP* **P 21 38 40.8 +0.5**
YSS *e* 21 38 48.6
YSS pmax pmax
comp=Z,30nm,0.9s
YSS Yuzh-Sakhalins 33.35 29 P P 21 38 40.2 -0.1
ZAK Zakamensk 33.99 341 *eP* **P 21 38 47.1 +1.1**
ZAK pmax pmax
comp=Z,12nm,1.1s
GRNR Gornyy 34.11 18⇓ *iP* **P 21 38 44.4 -2.5**
GRNR *eS* **S 21 44 09.4 -2.8**
GRNR pmax pmax
comp=Z,10.0nm,0.8s
GRNR smax smax
comp=N,2.0nm,0.9s
GRNR MLR MLR
comp=Z,280nm,13.0s
DANN Dangsing 34.50 292 *eP* **P 21 38 52.0 +1.0**
comp=Z,191nm,1.4s
ZEA Zeya 34.99 7 *eP* **P 21 38 55.6 +1.2**
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA MLR MLR
comp=E,800nm,14.0s
ZEA MLR MLR
comp=Z,1μm,14.0s
ZEA MLR MLR
comp=N,1μm,15.0s
TLY Talaya 35.02 342*d iP* **P 21 38 56.4 +1.6**
TLY pmax pmax
comp=Z,23nm,1.2s
TLY Talaya 35.02 342 P P 21 38 55.2 +0.4
comp=Z,5.6nm,0.7s,baz=159,slow=8.2,SNR=7.2
TLY Talaya 35.02 342 P P 21 38 55.6 +0.8
TLY IAmb IAmb 21 38 58.0
comp=Z,95nm,2.0s
IRK Irkutsk 35.34 343 *eP* **P 21 38 58.9 +1.4**
IRK pmax pmax
comp=Z,54nm,1.8s
KNRA Kununurra 35.58 166 P P 21 38 58.7 -1.2
KNRA IAmb IAmb 21 39 12.3
comp=Z,19nm,0.8s
MOY Mondy 35.84 340 *eP* **P 21 39 03.6 +1.7**
MOY pmax pmax
comp=Z,49nm,2.2s
TYV Tymovskoe 36.33 24 *eP* **P 21 39 07.3 +1.3**
TYV pmax pmax
comp=Z,400nm,3.7s
TYV pmax pmax
comp=Z,10.0nm,1.6s
WMQ Urumqi 36.71 319 *eP* **P 21 39 11.0 +1.5**
WMQ sP pwP 21 39 21.3 +3.8
WMQ PcP **PcP 21 41 32.5 +0.6**
WMQ pmax pmax
comp=Z,14nm,1.7s
WMQ pmax pmax
comp=Z,170nm,7.9s
WMQ LR LR
comp=Z,460nm,8.9s
WMQ LR LR
comp=Z,590nm,18.1s
WMQ LR LR
comp=Z,330nm,18.1s
WMQ Urumqi 36.71 319 P P 21 39 10.8 +1.3
WMQ pmax pmax
comp=Z,35nm,1.5s
WMQ Urumqi 36.71 319 P P 21 39 10.8 +1.3
WMQ IAmb IAmb 21 39 13.9
comp=Z,35nm,1.5s
FITZ Fitzroy Crossi 37.36 171 P P 21 39 13.2 -1.9
comp=Z,12nm,0.9s,baz=11,slow=7.6,SNR=16
PMG Port Moresby 38.84 135 P P 21 39 26.4 -1.3
PMG pmax pmax
comp=Z,12nm,1.1s
PMG Port Moresby 38.84 135 P P 21 39 26.4 -1.3
BOD Bodaibo 38.92 355 *eP* **P 21 39 28.5 +0.7**
BOD pmax pmax
comp=Z,14nm,1.6s
PATS Pohnpei 38.98 103 P P 21 39 27.6 -1.3
COEN Coen 39.89 144 P P 21 39 34.4 -2.0
COEN PcP **PcP 21 41 39.9 -2.2**
WRAB Tennant Creek 41.20 160*d iP* **P 21 39 45.9 -1.3**
WRAB pmax pmax
comp=Z,26nm,1.7s
WRAB Tennant Creek 41.20 160 P P 21 39 45.4 -1.8
MK31 Makanchi Array 41.50 320 *i P* **P 21 39 51.2 +1.8**
MK31 Makanchi Array 41.50 320 IAmb IAmb 21 39 52.6
comp=Z,70nm,1.9s
MKAR Makanchi Array 41.50 320*ceP* **P 21 39 51.2 +1.8**
MKAR pmax pmax
comp=Z,8.0nm,0.8s
MKAR Makanchi Array 41.50 320 P P 21 39 51.1 +1.6
comp=Z,7.8nm,0.8s,baz=112,slow=9.8,SNR=71
MKAR PcP **PcP 21 41 47.6 +0.7**
comp=Z,1.7nm,0.7s,baz=112,slow=3.4,SNR=2.8
MKAR LR LR 21 58 01.0
comp=Z,309nm,20.6s,baz=103,slow=38
MKAR Makanchi Array 41.50 320 P P 21 39 50.1 +0.7
MAKZ Makanchi 41.70 320 P P 21 39 51.8 +0.8
MAKZ pmax pmax
comp=Z,28nm,1.2s
MAKZ Makanchi 41.70 320 P P 21 39 51.8 +0.8
KSH Kashi 43.09 308 P P 21 40 07.3 +4.7
KSH PcS **PcS 21 45 51.3 +6.3**
KSH S S 21 46 37.0 +8.7
YAK Yakutsk 43.39 6 *eP* **P 21 40 04.9 +0.4**
YAK *e**PP **pwP 21 40 14.4 +1.6**
YAK *e* 21 41 51.2
YAK *eS* **S 21 46 31.6 0.0**
YAK *e**SS sS 21 46 45.0 +7.0
YAK *e* 21 50 02.0
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK smax smax
comp=N,174nm,3.3s
YAK smax smax
comp=E,223nm,3.3s
YAK Yakutsk 43.39 6 P P 21 40 04.8 +0.4
comp=E,8.5nm,0.7s,baz=214,slow=3.6,SNR=9.8
YAK Yakutsk 43.39 6 IAmb IAmb 21 40 07.7
comp=Z,21nm,0.8s
H11S3 WAKE ISLAND Hy 43.90 83 T T 22 25 44.2
baz=276,SNR=4.4
H11S1 WAKE ISLAND Hy 43.91 83 T T 22 25 42.6
baz=276
H11S2 WAKE ISLAND Hy 43.92 83 T T 22 25 42.6
baz=276
ZAA0 Zalesovo Array 44.10 331 IAmb IAmb 21 40 12.6
comp=Z,104nm,1.9s
ZALV Zalesovo Beam 44.10 331 P P 21 40 11.1 +0.7
comp=Z,18nm,0.9s,baz=118,slow=7.7,SNR=55
ZALV LR LR 21 59 23.6
comp=Z,382nm,20.2s,baz=130,slow=37
ZALV Zalesovo Beam 44.10 331 P P 21 40 11.2 +0.9
NIL Nilore 44.13 299 P P 21 40 11.2 +0.2
NIL pmax pmax
comp=Z,24nm,0.9s
NIL Nilore 44.13 299 P P 21 40 11.2 +0.2
NIL IAmb IAmb 21 40 14.2
comp=Z,24nm,0.8s
KZA Kyzart 44.33 311 P P 21 40 16.4 +3.5
SNR=10
TKM2 Tokmak 2 44.34 312 P P 21 40 15.5 +2.8
SNR=5.3
AS31 Alice Springs 44.56 162 P P 21 40 13.6 -0.9
ASAR Alice Springs 44.57 162 P P 21 40 13.2 -1.2
ASAR Alice Springs 44.57 162 P P 21 40 13.5 -1.0
comp=Z,7.4nm,0.6s,baz=341,slow=6.7,SNR=109
ASAR LR LR 22 02 16.2
comp=Z,114nm,18.0s,baz=3.0,slow=41
ASAR Alice Springs 44.57 162 P P 21 40 13.2 -1.2
PETK Petropavlovsk- 44.60 32 P P 21 40 15.0 +0.6
PETK Petropavlovsk- 44.60 32 P P 21 40 15.0 +0.6
comp=Z,17nm,0.9s,baz=203,slow=5.8,SNR=13
PETK LR LR 22 00 07.9
comp=Z,144nm,18.4s,baz=241,slow=38
KBK Karagaybulak 44.71 312 P P 21 40 18.6 +2.9
SNR=13
UCH Uchtor 44.89 311 P P 21 40 20.5 +3.0
SNR=22
CHMS Chumysh 44.95 312 P P 21 40 19.5 +2.1
SNR=14
AAK Ala-Archa 45.02 312*de***P P 21 40 20.7 +2.5**
AAK pmax pmax
comp=Z,13nm,1.3s
AAK Ala-Archa 45.02 312 P P 21 40 20.1 +2.0
comp=Z,7.7nm,1.2s,baz=107,slow=7.0,SNR=8.4
AAK PcP **PcP 21 41 59.6 +0.6**
comp=Z,2.6nm,0.8s,baz=116,slow=5.2,SNR=5.4
AAK LR LR 22 02 29.0
comp=Z,477nm,19.1s,baz=86,slow=40
AAK Ala-Archa 45.02 312 P P 21 40 18.5 +0.3
PET Petropavlovsk 45.03 32 *eP* **P 21 40 18.8 +1.0**
PET pmax pmax
comp=Z,86nm,1.2s
PET Petropavlovsk 45.03 32 P P 21 40 17.9 +0.1
USP Ospenovka 45.21 313 P P 21 40 22.1 +2.6
SNR=14
AML Almayashu 45.45 311 P P 21 40 24.6 +2.7
SNR=13
KURK Kurchatov 45.51 324*d iP* **P 21 40 23.0 +1.4**
KURK pmax pmax
comp=Z,58nm,1.7s
KURK Kurchatov 45.51 324 P P 21 40 23.1 +1.5
KURBB Kurchatov Arra 45.52 324 P P 21 40 23.2 +1.5
comp=Z,13nm,0.7s,baz=122,slow=7.9,SNR=89
EKS2 Erkin-Say 45.54 312 P P 21 40 24.7 +2.5
SNR=8.0
ARSB Arslanbob 45.76 309 P P 21 40 23.9 0.0
ARSB IAmb IAmb 21 40 27.4
comp=Z,28nm,1.4s
MA2 Magadan 46.01 21⇑ *eP* **P 21 40 27.8 +2.3**
MA2 pmax pmax
comp=Z,86nm,2.5s
MA2 Magadan 46.01 21 LR LR 22 01 50.6
comp=Z,240nm,18.1s,baz=209,slow=39
BTK Batken 47.08 307 P P 21 40 34.0 -0.3
BTK pmax pmax
comp=Z,34nm,1.5s
BTK Batken 47.08 307 P P 21 40 34.0 -0.3
BTK IAmb IAmb 21 40 37.7
comp=Z,34nm,1.4s
KBL Kabul 47.69 300 P P 21 40 38.5 -0.8
KBL pmax pmax
comp=Z,29nm,1.2s
KBL Kabul 47.69 300 P P 21 40 38.5 -0.8
KBL IAmb IAmb 21 40 43.1
comp=Z,30nm,1.1s
KK31 Karatay Array 47.97 311 IAmb IAmb 21 40 44.2
comp=Z,23nm,0.9s
KK31 PcP **PcP 21 42 10.1 +0.9**
KKAR Karatay Array 47.97 311 P P 21 40 42.7 +1.6
KKAR 21 42 09.8
KKAR Karatay Array 47.97 311 P P 21 40 42.7 +1.6
KKAR PcP **PcP 21 42 09.8 +0.6**
KKAR Karatay Array 47.97 311 IAmb IAmb 21 40 44.2
comp=Z,23nm,0.9s
HNR Honiara 48.36 122 LR LR 21 58 11.3
comp=Z,228nm,20.0s,baz=304,slow=33
SEY Seymchan 49.04 19*c iP* **P 21 40 50.8 +1.8**
SEY Seymchan 49.04 19 P P 21 40 50.6 +1.7
comp=Z,11nm,0.7s,baz=227,slow=5.8,SNR=30
FORT Forrest 50.17 171 P P 21 40 57.9 0.0
BVAR Borovoye Array 51.11 324 P P 21 41 06.6 +1.8
comp=Z,4.0nm,0.8s,baz=120,slow=10,SNR=23
BVAR PcP **PcP 21 42 20.4 0.0**
comp=Z,4.3nm,0.8s,baz=99,slow=4.7,SNR=7.6
BRVK Borovoye 51.18 324*d iP* **P 21 41 06.8 +1.4**
BRVK pmax pmax
comp=Z,20nm,1.3s
BRVK Borovoye 51.18 324 P P 21 41 05.0 -0.4

NWAO **Narrogin (SRO)** 51.82 183 P **P** 21 41 09.8 -0.5
comp=Z,6.6nm,0.7s,baz=15,slow=8.7,SNR=6.4
NWAO LR LR 22 07 12.0
comp=Z,78nm,18.2s,baz=342,slow=41
TIXI **Tiksi** 52.79 3 ⇓*i* P **P** 21 41 16.7 -0.3
TIXI pmax pmax
comp=Z,42nm,1.7s
TIXI **Tiksi** 52.79 3 P **P** 21 41 16.4 -0.6
comp=Z,5.2nm,0.8s,baz=172,slow=5.7,SNR=4.1
TIXI LR LR 22 06 08.3
comp=Z,208nm,18.6s,baz=190,slow=39
TIXI **Tiksi** 52.79 3 P **P** 21 41 16.4 -0.6
TIXI IAmb IAmb 21 41 19.3
comp=Z,24nm,1.1s
HRA **Herat** 53.29 299 IAmb IAmb 21 41 24.3
comp=Z,43nm,1.5s
BBOO **Buckleboo** 53.81 163 P **P** 21 41 24.0 -1.0
NRIK **Noril'sk** 54.07 346 *i* P **P** 21 41 27.6 +1.1
NRIK **Noril'sk** 54.07 346 P **P** 21 41 27.5 +1.0
comp=Z,17nm,0.8s,baz=131,slow=7.4,SNR=43
NRIK LR LR 22 05 34.1
comp=Z,494nm,19.1s,baz=143,slow=37
STKA **Stephens Creek** 54.69 158 P **P** 21 41 30.8 -0.6
comp=Z,12nm,0.7s,baz=336,slow=7.7,SNR=18
STKA **Stephens Creek** 54.69 158 P **P** 21 41 31.0 -0.4
ABKAR **Akbulak array** 56.42 317 P **P** 21 41 44.9 +1.1
ABKAR PcP **PcP** 21 42 39.6 -1.1
ABKAR **Akbulak array** 56.42 317 IAmb IAmb 21 41 46.7
comp=Z,78nm,1.8s
GEYT **Alibeck** 56.69 303 P **P** 21 41 48.1 +2.1
comp=Z,18nm,0.9s,baz=145,slow=3.1,SNR=76
GEYT LR LR 22 08 42.5
comp=Z,343nm,19.8s,baz=50,slow=39
GEYT **Alibeck** 56.69 303 P **P** 21 41 46.7 +0.7
BILL **Bilibino** 56.75 19 *de*P **P** 21 41 46.4 +0.6
BILL pmax pmax
comp=Z,57nm,1.7s
BILL **Bilibino** 56.75 19 P **P** 21 41 46.7 +0.9
SVE **Sverdlovsk** 57.65 326⇓ *e*P **P** 21 41 54.2 +1.8
SVE pmax pmax
comp=Z,86nm,1.5s
AKTO **Aktyubinsk** 57.84 318 LR LR 22 06 47.5
comp=Z,227nm,19.4s,baz=95,slow=36
ARU **Arti** 58.67 325 *i* P **P** 21 42 00.5 +1.0
ARU pmax pmax
comp=Z,77nm,1.7s
ARU **Arti** 58.67 325 LR LR 22 07 17.6
comp=Z,211nm,20.9s,baz=110,slow=36
ARU **Arti** 58.67 325 P **P** 21 42 00.4 +0.9
DZM **Mont Dzumac** 60.98 130 LR LR 22 04 44.9
comp=Z,193nm,21.2s,baz=20,slow=32
TOO **Toolangi** 61.20 157 P **P** 21 42 18.0 +0.9
TOO pmax pmax
comp=Z,18nm,1.0s
TOO **Toolangi** 61.20 157 P **P** 21 42 18.0 +0.9
TOO IAmb IAmb 21 42 29.1
comp=Z,18nm,1.0s
LKRN **Lenkeran, Azer** 64.01 304 P **P** 21 42 37.4 +1.4
AKT **Akhty** 64.62 308 *e*P **P** 21 42 41.3 +1.2
AKT *e* 21 43 15.0
AKT pmax pmax
comp=Z,34nm,1.1s
SEKA **Sheki** 65.04 307 P **P** 21 42 43.6 +0.8
MNGR **Mingechevir, A** 65.16 307 P **P** 21 42 44.9 +1.5
GANJ **Ganja** 65.75 307 P **P** 21 42 48.6 +1.3
PRGR **Permogore** 66.05 330 *e*P **P** 21 42 48.3 -0.5
PRGR *e**PP **pwP** 21 42 54.2 -2.5
PRGR pmax pmax
comp=Z,26nm,0.8s
NAX **Nakhchivan** 66.52 305 P **P** 21 42 53.6 +1.2
TAU **Tasmania Unive** 66.57 159 P **P** 21 42 54.8 +2.5
GNI **Garni** 66.99 306⇑ *i*P **P** 21 42 57.8 +2.3
GNI pmax pmax
comp=Z,115nm,1.5s
GNI **Garni** 66.99 306 P **P** 21 42 54.9 -0.6
ZEI **Tsey** 67.36 309 *e*P **P** 21 42 56.6 -1.2
ZEI pmax pmax
comp=Z,13nm,0.9s
AKH **Akhalkalaki** 67.80 308 P **P** 21 43 00.0 -0.6
AKH pmax pmax
comp=Z,38nm,1.3s
AKH **Akhalkalaki** 67.80 308 P **P** 21 43 00.0 -0.6
KBZ **Khabaz** 68.00 310 *d i*P **P** 21 43 02.7 +1.2
KBZ **Khabaz** 68.00 310 P **P** 21 43 02.5 +1.0
comp=Z,7.8nm,1.0s,baz=98,slow=2.9,SNR=13
KBZ LR LR 22 16 05.5
comp=Z,246nm,18.4s,baz=72,slow=39
KIV **Kislovodsk** 68.12 311 *d i*P **P** 21 43 03.7 +1.2
KIV *e* 21 43 08.0
KIV *e* 21 43 28.9
KIV *e* 21 45 29.7
KIV *e*PPP PPP 21 47 14.4
KIV pmax pmax
comp=Z,41nm,1.7s
KIV **Kislovodsk** 68.12 311 P **P** 21 43 02.0 -0.4
VRH **Novokhopyorsk** 68.18 318 *e*P **P** 21 43 02.7 +0.2
VRH pmax pmax
comp=Z,90nm,1.9s
RAYN **Ar Rayn** 69.02 289 P **P** 21 43 06.5 -1.9
RAYN pmax pmax
comp=Z,13nm,1.1s
RAYN **Ar Rayn** 69.02 289 P **P** 21 43 06.5 -1.9
RAYN IAmb IAmb 21 43 22.9
comp=Z,13nm,1.1s
TMCR **Tamitsa** 69.58 332 *e*P **P** 21 43 10.2 -0.8
TMCR pmax pmax
comp=Z,57nm,1.0s
VSR **Storozhevoye** 69.78 319 *e*P **P** 21 43 11.8 -0.7
VSR pmax pmax
comp=Z,30nm,1.0s
LPSR **Galich'ya Gora** 69.80 320 *e*P **P** 21 43 12.8 +0.2
LPSR pmax pmax
comp=Z,40nm,1.2s
MOS **Moscow** 70.28 323 *e*P **P** 21 43 13.8 -1.7
MOS *e* 21 43 26.7
MOS pmax pmax
comp=Z,78nm,1.7s
MOS pmax pmax
comp=Z,200nm,2.1s
SVW2 **Sparrevohn** 70.68 31 IAmb IAmb 21 43 28.7
comp=Z,13nm,0.8s
OBN **Obninsk** 70.94 323⇑ *i*P **P** 21 43 20.3 +0.8
OBN *e* 21 43 25.8
OBN *e* 21 43 37.0
OBN *e*PPP PPP 21 47 40.1
OBN pmax pmax
comp=Z,64nm,1.7s
OBN **Obninsk** 70.94 323 P **P** 21 43 18.6 -0.9
OBN PP PP 21 45 48.3 -8.2
IMAR **Indian Mountai** 71.11 26 P **P** 21 43 20.8 +0.4
TOLK **Toolik Lake Re** 72.45 23 P **P** 21 43 28.8 +0.4
baz=277
MLY **Manley** 72.46 26 IAmb IAmb 21 43 40.3
comp=Z,21nm,0.8s
JOF **Joensuu** 72.68 331 P **P** 21 43 31.1 +1.3
JOF pmax pmax
comp=Z,18nm,0.8s
MSF **Maaselka** 73.21 335 P **P** 21 43 34.0 +1.1
MSF pmax pmax
comp=Z,25nm,0.9s
MCK **McKinley** 73.43 28 IAmb IAmb 21 43 45.2
comp=Z,27nm,1.0s
MDM **Murphy Dome** 73.53 26 IAmb IAmb 21 43 46.4
comp=Z,25nm,0.9s
PUL **Pulkovo** 73.64 328⇑ *e*P **P** 21 43 38.0 +2.5
PUL pmax pmax
comp=Z,34nm,1.3s
WRH **Wood River Hil** 73.67 27 IAmb IAmb 21 43 51.4
comp=Z,17nm,1.1s
TCOL **CIGO, UAF Yank** 73.70 26 P **P** 21 43 36.2 +0.4
baz=280
COLA **College** 73.70 26⇓ *e*P **P** 21 43 36.3 +0.5
COLA pmax pmax
comp=Z,21nm,1.7s
PMR **Palmer** 73.70 30 IAmb IAmb 21 43 45.7
comp=Z,22nm,0.9s
GHO **Glory Hole Cre** 73.77 30 IAmb IAmb 21 43 47.0
comp=Z,27nm,1.0s
POKR **Poker Plat Res** 73.83 26 P **P** 21 43 36.8 +0.1
baz=280
ARCES **ARCESS Array B** 73.90 339 P **P** 21 43 35.9 -1.0
ARCES **ARCESS Array B** 73.90 339 P **P** 21 43 37.5 +0.6
comp=Z,4.5nm,0.9s,baz=63,slow=8.5,SNR=4.2
ARCES LR LR 22 18 44.7
comp=Z,170nm,18.0s,baz=150,slow=38
ARCES **ARCESS Array B** 73.90 339 P **P** 21 43 35.9 -1.0
ILAR **Eielson Array** 74.13 26 P **P** 21 43 36.9 -1.4
ILAR **Eielson Array** 74.13 26 P **P** 21 43 37.3 -1.0
comp=Z,2.3nm,0.8s,baz=283,slow=6.0,SNR=23
ILAR LR LR 22 18 24.4
comp=Z,73nm,18.0s,baz=71,slow=38
ILAR **Eielson Array** 74.13 26 P **P** 21 43 36.9 -1.4
HDA **Harding Lake** 74.17 27 P **P** 21 43 38.1 -0.5
baz=281
HDA **Harding Lake** 74.17 27 IAmb IAmb 21 43 48.0
comp=Z,18nm,0.9s
FYU **Fort Yukon** 74.44 24 IAmb IAmb 21 44 46.5
comp=Z,20nm,1.0s
BMAR **Burnt Mountain** 74.51 24 P **P** 21 43 42.0 +1.5
OUL **Oulu** 74.65 334 P **P** 21 43 42.0 +0.7
OUL pmax pmax
comp=Z,39nm,2.0s
FINES **FINESS Array B** 75.37 330 *i* P **P** 21 43 48.2 +2.7
FINES pmax pmax
comp=Z,9.0nm,0.9s
FINES **FINESS Array B** 75.37 330 P **P** 21 43 45.6 +0.1
comp=Z,3.7nm,0.8s,baz=106,slow=4.2,SNR=5.9
FINES LR LR 22 18 29.6
comp=Z,402nm,18.1s,baz=56,slow=37
FINES **FINESS Array B** 75.37 330 P **P** 21 43 44.3 -1.2
BRTR **Keskin Array B** 75.48 307 P **P** 21 43 47.9 +1.1
comp=Z,0.7nm,0.9s,baz=76,slow=5.2,SNR=4.5
BRTR **Keskin Array B** 75.48 307 P **P** 21 43 44.7 -2.2
SCRK **Sand Creek** 75.53 27 IAmb IAmb 21 43 56.8
comp=Z,18nm,1.1s
DOT **Dot Lake** 75.57 27 IAmb IAmb 21 43 57.0
comp=Z,14nm,0.8s
VSU **Vasula** 75.72 327⇑ *e*P **P** 21 43 48.3 +0.7
MENT **Mentasta** 75.90 28 IAmb IAmb 21 44 04.7
comp=Z,18nm,1.1s
AKASG **Malin Array Be** 76.07 319 P **P** 21 43 49.4 -0.3
comp=Z,3.3nm,0.9s,baz=64,slow=5.6,SNR=16
AKASG LR LR 22 19 37.8
comp=Z,129nm,18.1s,baz=40,slow=38
GLB **Gilahina Butte** 76.23 29 IAmb IAmb 21 43 53.4
comp=Z,28nm,1.3s
EGAK **Eagle** 76.51 26 IAmb IAmb 21 44 02.4
comp=Z,15nm,0.8s
NACGM **Naroch** 76.53 324 *e* **P** 21 43 52.0 -0.3
BCAR **Beaver Creek A** 76.72 28 P **P** 21 43 53.8 +0.5
BCAR PP **PP** 21 46 40.4 -5.1
SORM **Soroca** 77.23 317 ⇑P **P** 21 43 56.5 +0.1
BARN **Barnard Glacie** 77.33 30 IAmb IAmb 21 44 08.0
comp=Z,17nm,0.8s
DAWY **Dawson** 77.45 26 IAmb IAmb 21 44 08.3
comp=Z,15nm,0.8s
EPYK **Eagle Plains** 77.78 24 P **P** 21 43 59.3 +0.1
baz=290
EPYK **Eagle Plains** 77.78 24 IAmb IAmb 21 44 09.3
comp=Z,13nm,0.8s
INK **Inuvik** 78.25 21 P **P** 21 44 01.5 -0.2
comp=Z,7.2nm,1.0s,baz=298,slow=6.3,SNR=10
INK **Inuvik** 78.25 21 IAmb IAmb 21 44 03.3
comp=Z,49nm,1.6s
ICOR **Ion Corvin** 78.63 313 P **P** 21 44 05.7 +1.4
GIRR **Girov** 78.75 316 P **P** 21 44 05.7 +0.8
GIRR mb 21 44 14.9
TESR **Tescani** 78.77 315 ⇑P **P** 21 44 05.8 +0.8
SUW **Suwalki** 78.79 323 *e*P **P** 21 44 05.5 +0.5
SUW **Suwalki** 78.79 323 *e*P **P** 21 44 05.5 +0.5
SUW *e*P **P** 21 44 05.5 +0.5
VRI **Vrincioaia** 78.89 315 P **P** 21 44 07.3 +1.6
VRI pmax pmax
comp=Z,18nm,1.7s
VRI **Vrincioaia** 78.89 315 ⇑P **P** 21 44 06.7 +1.0
PLOR **Plostina** 78.95 315 P **P** 21 44 07.1 +1.1
PLOR **Plostina** 78.95 315 ⇑P **P** 21 44 07.2 +1.1
BIZ **Bicaz** 79.01 316 ⇑P **P** 21 44 07.5 +1.2
HYT **Haines Junctio** 79.33 29 IAmb IAmb 21 44 19.4
comp=Z,19nm,1.0s
BURAR **Bucovina Array** 79.40 317 P **P** 21 44 09.7 +1.1
BURAR **Bucovina Array** 79.40 317 ⇑P **P** 21 44 09.8 +1.1
BURAR mb 21 44 19.4
BURAR **Bucovina Array** 79.40 317 P **P** 21 44 09.0 +0.4
MLR **Muntele Rosu** 79.52 314 P **P** 21 44 10.2 +0.9
MLR pmax pmax
comp=Z,14nm,2.1s
MLR **Muntele Rosu** 79.52 314 ⇑P **P** 21 44 10.5 +1.2
MLR **Muntele Rosu** 79.52 314 IAmb IAmb 21 44 13.5
comp=Z,30nm,1.4s
SULR 79.54 314 P **P** 21 44 10.3 +1.0
VOIR 80.14 315 P **P** 21 44 13.2 +0.6
VOIR 80.14 315 P **P** 21 44 13.2 +0.6
KWP **Kalwaria Pacla** 80.39 319 *e*P **P** 21 44 15.0 +1.2
KWP **Kalwaria Pacla** 80.39 319 *e*P **P** 21 44 15.0 +1.2
KWP *e*P **P** 21 44 15.0 +1.2
ARR **Arges** 80.44 315 ⇑P **P** 21 44 15.5 +1.3
HUMR **Humele** 80.46 314 ⇓P **P** 21 44 15.4 +1.2
SKAG **Skagway** 80.84 30 IAmb IAmb 21 44 19.6
comp=Z,60nm,1.8s
OPO **Ambohidratompo** 80.86 247 P **P** 21 44 17.5 +0.6
comp=Z,6.0nm,0.9s,baz=18,slow=3.2,SNR=4.2
C36M **Paulatuk** 80.87 19 P **P** 21 44 15.4 -0.5
baz=300
KOLS **Kolonicke sedl** 80.88 319 *e*P **P** 21 44 19.6 +3.2
KOLS **Kolonicke sedl** 80.88 319 *e*P **P** 21 44 19.6 +3.2
UZH **Uzhgorod** 80.96 318 *e*P **P** 21 44 17.1 +0.3
UZH *e* 21 44 21.8
TRPA **Tarpa** 80.97 318 *e*P **P** 21 44 17.1 +0.2
DAG **Danmarks Havn** 81.22 351 *i* P **P** 21 44 18.0 +0.3
DAG pmax pmax
comp=Z,9.0nm,0.7s
DAG **Danmarks Havn** 81.22 351 *i* P **P** 21 44 18.0 +0.3
comp=Z,9.1nm,0.7s
DRGR 81.28 316 P **P** 21 44 19.5 +0.8
DRGR pmax pmax
comp=Z,19nm,1.3s
DRGR 81.28 316 ⇑P **P** 21 44 19.9 +1.2
DEV **Deva** 81.44 316 P **P** 21 44 21.1 +1.7
DEV pmax pmax
comp=Z,16nm,1.2s
NIE **Niedzica** 81.94 319 *e*P **P** 21 44 23.6 +1.5
NIE **Niedzica** 81.94 319 *e*P **P** 21 44 23.6 +1.5
NIE *e*P **P** 21 44 23.6 +1.5
OJC **Ojcow** 81.97 320 *e*P **P** 21 44 23.0 +0.8
OJC **Ojcow** 81.97 320 *e*P **P** 21 44 23.0 +0.8
OJC *e*P **P** 21 44 23.0 +0.8
OJC **Ojcow** 81.97 320 IAmb IAmb 21 44 32.8
comp=Z,14nm,0.9s
VTS **Vitosha** 82.25 312 ⇑P **P** 21 44 25.3 +1.3
VTS mb 21 44 26.9
VTS **Vitosha** 82.25 312 IAmb IAmb 21 44 26.1
comp=Z,26nm,1.4s
NB2 **NORSAR Subarra** 82.27 332 P **P** 21 44 23.5 -0.1
comp=Z,9.8nm,1.0s,baz=64,slow=5.3
NOA **NORSAR Array B** 82.27 332 P **P** 21 44 22.9 -0.7
comp=Z,3.6nm,1.0s,baz=64,slow=4.9,SNR=5.9
NOA LR LR 22 23 35.1
comp=Z,342nm,19.4s,baz=65,slow=38
KNT **Kendrikon** 82.96 311 P **P** 21 44 28.4 +0.8
KNT pmax pmax
comp=Z,8.0nm,1.4s
VYHS **Vyhne** 83.17 319 *e*P **P** 21 44 28.7 +0.2
VYHS **Vyhne** 83.17 319 *e*P **P** 21 44 28.7 +0.2
GRG **Griva** 83.39 311 P **P** 21 44 27.1 -2.7
GRG pmax pmax
comp=Z,9.0nm,1.4s
MORC **Moravsky Berou** 83.49 320 P **P** 21 44 30.4 +0.2
MORC pmax pmax
comp=Z,6.0nm,2.1s
MORC **Moravsky Berou** 83.49 320 *e*P **P** 21 44 30.9 +0.7
MORC **Moravsky Berou** 83.49 320 IAmb IAmb 21 44 31.6
comp=Z,19nm,1.6s
KMBO **Kilima Mbogo** 83.71 267 P **P** 21 44 30.0 -2.2
KMBO pmax pmax
comp=Z,18nm,1.5s
KMBO **Kilima Mbogo** 83.71 267 P **P** 21 44 33.4 +1.3
comp=Z,5.1nm,1.1s,baz=63,slow=5.0,SNR=8.9
KMBO **Kilima Mbogo** 83.71 267 P **P** 21 44 30.0 -2.2
KMBO IAmb IAmb 21 44 35.2
comp=Z,18nm,1.4s
RES **Resolute Bay** 83.79 9 P **P** 21 44 31.8 +0.7
RES pmax pmax
comp=Z,19nm,0.9s
RES **Resolute Bay** 83.79 9 IAmb IAmb 21 44 42.0
comp=Z,15nm,0.9s
KSP **Ksiaz** 83.83 322 *e*P **P** 21 44 32.8 +1.0
KSP **Ksiaz** 83.83 322 *e*P **P** 21 44 32.8 +1.0
KSP *e*P **P** 21 44 32.8 +1.0
OSTC **Ostas** 83.99 322 *e*P **P** 21 44 33.6 +1.0
DPC **Dobruska-Polom** 84.00 321 *e*P **P** 21 44 34.0 +1.2
DPC *e* 21 44 42.2
DPC **Dobruska-Polom** 84.00 321 *e*P **P** 21 44 34.0 +1.2
DPC *ex* x 21 44 42.2
CHVC **Chvalec** 84.07 322 *e*P **P** 21 44 31.5 -1.6
MORH **Mrgy, Hungar** 84.12 317 *e*P **P** 21 44 33.0 -0.3
UPC **Upice** 84.13 322 *e*P **P** 21 44 34.2 +0.9
UPC *e* 21 44 43.2
UPC **Upice** 84.13 322 *e*P **P** 21 44 34.2 +0.9
UPC *ex* x 21 44 43.2
VRAC **Vranov** 84.24 320 P **P** 21 44 35.6 +1.6
VRAC pmax pmax
comp=Z,18nm,1.0s
VRAC **Vranov** 84.24 320 ⇑P **P** 21 44 35.6 +1.6
VRAC mb 21 44 36.5
VRAC **Vranov** 84.24 320 *e*P **P** 21 44 35.3 +1.3
TIH **Tihany** 84.34 318 *e*P P 21 44 29.1 -5.4
KRUC **Moravsky** 84.46 320 P **P** 21 44 36.0 +1.0
KRUC pmax pmax
comp=Z,9.0nm,1.5s
KRUC **Moravsky** 84.46 320 *e*P **P** 21 44 36.2 +1.2
MPLH **Magyarpolny** 84.47 318 *e*P **P** 21 44 34.0 -1.1
GOPC **GO Pecny, Ondr** 85.08 321 *e*P **P** 21 44 39.5 +1.3
GOPC *e* 21 44 47.2
GOPC **GO Pecny, Ondr** 85.08 321 *e*P **P** 21 44 39.5 +1.3
GOPC *ex* x 21 44 47.2
BRG **Berggiesshubel** 85.19 322 *e*P **P** 21 44 39.4 +0.8
comp=Z,18nm,1.0s
BRG **Berggiesshubel** 85.19 322 P **P** 21 44 39.7 +1.1
BRG pmax pmax
comp=Z,22nm,2.0s
PRU **Pruhonice** 85.20 321 *e*P **P** 21 44 38.5 -0.2
PRU **Pruhonice** 85.20 321 *e*P **P** 21 44 38.5 -0.2
CONA **Conrad Observa** 85.23 319 *i* pP **P** 21 44 40.1 +1.0
comp=Z,12nm,1.5s
CLL **Collm** 85.54 323 *i* P **P** 21 44 39.7 -0.7
CLL *i* 21 44 46.3
CLL *e* 21 44 49.0
CLL pmax pmax
comp=Z,97nm,2.3s
CLL **Collm** 85.54 323 *i* P **P** 21 44 39.7 -0.7
comp=Z,97nm,2.3s
CLL *i* 21 44 46.3
CLL *e* 21 44 49.0
CLL *e*PP **PP** 21 47 57.0 -1.6
CLL **Collm** 85.54 323 IAmb IAmb 21 44 51.1
comp=Z,15nm,1.0s
ARSA **Arzberg** 85.70 319 *i* pP **P** 21 44 42.3 +0.9
comp=Z,12nm,1.9s
KHC **Kasperske Hory** 86.12 321 *e*P **P** 21 44 44.2 +0.8
KHC *e* 21 44 53.2
KHC **Kasperske Hory** 86.12 321 *e*P **P** 21 44 44.2 +0.8
KHC *ex* x 21 44 53.2
GEC2 **GERESS Array S** 86.17 321 P **P** 21 44 44.7 +1.0
GEC2 pmax pmax
comp=Z,10.0nm,1.0s
GEC2 **GERESS Array S** 86.17 321 IAmb IAmb 21 44 45.3
comp=Z,36nm,1.8s
GERES **GERESS Array B** 86.17 321 P **P** 21 44 44.0 +0.2
comp=Z,2.2nm,0.8s,baz=60,slow=5.3,SNR=19
GERES LR LR 22 28 11.3
comp=Z,214nm,20.4s,baz=314,slow=39
MOA **Molln** 86.24 320 *i* pP **P** 21 44 45.1 +1.1
comp=Z,18nm,1.4s
SOKA **Soboth** 86.24 318 *i* PcP **P** 21 44 44.6 +0.5
comp=Z,11nm,1.7s,SNR=4.5
WET **Wettzell** 86.53 321 P **P** 21 44 46.4 +1.0
WET pmax pmax
comp=Z,8.0nm,2.8s
OBKA **Obir** 86.62 318 *i* pP **P** 21 44 46.7 +0.7
comp=Z,9.2nm,1.6s
KBA **Koelnbreinsper** 87.13 319 P **P** 21 44 52.6 +4.0
KBA pmax pmax
comp=Z,10.0nm,2.1s
SUMG **Summit** 87.42 354 P **P** 21 44 47.6 -2.1
SUMG pmax pmax
comp=Z,18nm,1.0s
SUMG **Summit** 87.42 354 *i* P **P** 21 44 50.0 +0.3
SUMG **Summit** 87.42 354 P **P** 21 44 47.6 -2.1
SUMG IAmb IAmb 21 45 00.4
comp=Z,18nm,1.0s
ABTA **Abfaltersbach** 87.79 319 *i* PcP **P** 21 44 51.2 -0.5
comp=Z,7.9nm,1.5s
YKA **Yellowknife Ar** 87.98 22 *i* P **P** 21 44 52.6 +0.5
YKA pmax pmax
comp=Z,7.0nm,0.7s
YKA **Yellowknife Ar** 87.98 22 P **P** 21 44 52.5 +0.4
comp=Z,6.8nm,0.7s,baz=313,slow=4.6,SNR=86
WTTA **Wattenberg** 88.10 320 *i* PcP **P** 21 44 52.7 -0.5
comp=Z,7.2nm,0.8s
WATA **Walderalm** 88.11 320 *i* PcP **P** 21 44 53.2 0.0
comp=Z,13nm,1.8s
SQTA **Sankt Quirin** 88.38 320 *i* pP **P** 21 44 54.6 +0.1
comp=Z,6.6nm,1.1s
MOTA **Moosalm** 88.39 320 *i* pP **P** 21 44 54.7 +0.1
comp=Z,6.5nm,1.3s
FETA **Feichten** 88.76 320 *i* pP **P** 21 44 57.2 +0.8
comp=Z,13nm,1.7s
DAVA **Damuels** 89.16 320 *i* pP **P** 21 44 58.2 0.0
comp=Z,12nm,1.6s
FUORN **Ofenpass-Fuorn** 89.23 320 IAmb IAmb 21 45 13.7
comp=Z,8.9nm,0.9s
LLLB **Lillooet** 91.78 34 IAmb IAmb 21 45 25.7
comp=Z,14nm,1.1s
BNI **Bardonecchia** 92.18 319 P **P** 21 45 13.4 +1.1
BNI pmax pmax
comp=Z,13nm,2.4s
BNI **Bardonecchia** 92.18 319 IAmb IAmb 21 45 23.5
comp=Z,12nm,1.1s
D03D **Eldon** 92.78 37 P **P** 21 45 16.0 +1.2
baz=302
B08A **Colville Reser** 94.43 35 IAmb IAmb 21 48 28.6
comp=Z,13nm,0.9s
I03D **Drain, OR** 94.67 41 P **P** 21 45 25.0 +1.4
baz=302
K02D **Willamette Mer** 94.99 42 P **P** 21 45 25.9 +0.7
baz=302
I04A **Tendick Farm,** 95.19 40 P **P** 21 45 25.9 -0.1
baz=303
J04D **Umpqua Nationa** 95.67 41 P **P** 21 45 29.1 +0.7
baz=303
NEW **Newport** 95.67 34 P **P** 21 45 28.3 +0.1
baz=307
L04D **Klamath Falls** 96.10 42 P **P** 21 45 31.0 +0.7
baz=303
YBH **Yreka Blue Hor** 96.11 42 P **P** 21 45 30.2 -0.1
YBH pmax pmax
comp=Z,9.0nm,1.4s
YBH **Yreka Blue Hor** 96.11 42 P **P** 21 45 30.2 -0.1
YBH IAmb IAmb 21 45 32.6
comp=Z,9.4nm,1.4s
M02C **Callahan** 96.19 42 P **P** 21 45 30.7 0.0
baz=302
M04C **Macdoel** 96.63 42 P **P** 21 45 32.8 0.0
baz=303
O02D **Mt. Diablo Mer** 96.88 43 P **P** 21 45 33.5 -0.3
baz=302
O03E **Paynes Creek** 97.45 43 P **P** 21 45 36.0 -0.4
baz=303
MOD **Modoc Plateau** 97.52 41 P **P** 21 45 36.4 -0.4
MOD IAmb IAmb 21 47 04.3
comp=Z,4.8nm,0.7s
BEKR **Beckworth** 98.61 43 P **P** 21 45 40.7 -1.1
BEKR IAmb IAmb 21 45 54.4
comp=Z,5.0nm,1.0s
NVAR **Mina Array Bea** 100.74 43 P **Pdif** 21 45 52.4 +1.0
comp=Z,1.2nm,0.9s,baz=280,slow=4.8,SNR=7.9
NVAR **Mina Array Bea** 100.74 43 Pdif **Pdif** 21 45 47.9 -3.5
SYO **Syowa Base** 104.36 202⇑ *e*PPdiff pPdif 21 46 10.0 -0.6
TORD **Torodi Ar. Bea** 111.48 293 PKIKP **PKiKP** 21 50 37.0 -0.5
comp=Z,0.6nm,0.7s,baz=17,slow=1.5,SNR=3.2
TORD PKKPab **PKKPab** 22 01 41.6 -0.7
comp=Z,0.9nm,0.8s,baz=246,slow=1.7,SNR=4.2
TX31 **Lajitas Ar. Si** 115.88 42 **PKPdf** 21 50 45.9 +0.2
TX31 PP PP 21 51 38.7 -10
TX32 **Lajitas Array** 115.88 42 **PKPdf** 21 50 45.9 +0.2
TXAR **Lajitas Array** 115.88 42 PKIKP **PKiKP** 21 50 45.3 -0.5
TXAR **Lajitas Array** 115.88 42 PKP **PKPdf** 21 50 46.4 +0.7
comp=Z,1.3nm,0.7s,baz=189,slow=0.7,SNR=15
TXAR PP **PP** 21 51 51.8 +3.2
comp=Z,0.6nm,0.9s,baz=253,slow=0.9,SNR=2.4
TXAR **Lajitas Array** 115.88 42 **PKiKP** 21 50 45.2 -0.5
JCT **Junction City** 117.45 39 PKIKP **PKiKP** 21 50 48.7 0.0
JCT **Junction City** 117.45 39 **PKiKP** 21 50 48.7 0.0

SMRC	**Santa Marta, M**	**146.72**	**26**	*e*P		**PKiKP**	**21 51 47.6**	**-0.3**
SMRC	**Santa Marta, M**	**146.72**	**26**	*e*P		**PKiKP**	**21 51 47.6**	**-0.3**
SJCC	**San Jacinto, C**	**147.43**	**29**	*e*P		**PKiKP**	**21 51 49.6**	**+0.2**
SJCC	**San Jacinto, C**	**147.43**	**29**	*e*P		**PKiKP**	**21 51 49.6**	**+0.2**
CODC	**Agustn Codazz**	**148.15**	**26**	*e*P		**PKiKP**	**21 51 51.0**	**+0.1**
CODC				*e*P		**sPKPab**	**21 51 57.6**	**-0.2**
CODC	**Agustn Codazz**	**148.15**	**26**	*e*P		**PKiKP**	**21 51 51.0**	**+0.1**
CODC				*e*P		**sPKPab**	**21 51 57.6**	**-0.2**
DABV	**Dabajuro**	**148.30**	**21**	*e*P		**PKPab**	**21 51 53.6**	**+1.2**
DABV	**Dabajuro**	**148.30**	**21**	*e*P		**PKPab**	**21 51 53.6**	**+1.2**
SMLC	**San Martn de**	**148.90**	**28**	*e*P		**PKiKP**	**21 51 52.3**	**-0.1**
SMLC	**San Martn de**	**148.90**	**28**	*e*P		**PKiKP**	**21 51 52.3**	**-0.1**
UREC	**San Jos de Ur**	**149.12**	**32**	*e*P		**PKiKP**	**21 51 53.0**	**+0.1**
UREC	**San Jos de Ur**	**149.12**	**32**	*e*P		**PKiKP**	**21 51 53.0**	**+0.1**
OCAC	**Ocana**	**149.73**	**27**	*e*P		**PKiKP**	**21 51 55.0**	**+0.6**
OCAC	**Ocana**	**149.73**	**27**	*e*P		**PKiKP**	**21 51 55.0**	**+0.6**
SDV	**Santo Domingo**	**150.20**	**22**			**PKPdf**	**21 51 49.5**	**+0.1**
SDV					PKPbc	**PKiKP**	**21 51 54.8**	**-0.5**
CBOC	**Ciudad Bolivar**	**150.48**	**34**	*e*P		**PKPab**	**21 51 59.6**	**-1.9**
CBOC	**Ciudad Bolivar**	**150.48**	**34**	*e*P		**PKPab**	**21 51 59.6**	**-1.9**
BRRC	**Barranca, Sant**	**150.55**	**29**	*e*P		**PKiKP**	**21 51 55.6**	**-0.2**
BRRC	**Barranca, Sant**	**150.55**	**29**	*e*P		**PKiKP**	**21 51 55.6**	**-0.2**
PTBC	**PUERTO BERRIO**	**150.70**	**31**	*e*P		**PKiKP**	**21 51 55.6**	**-0.5**
PTBC	**PUERTO BERRIO**	**150.70**	**31**	*e*P		**PKiKP**	**21 51 55.6**	**-0.5**
PAMC	**Pamplona, Colo**	**150.80**	**27**	*e*P		**PKPbc**	**21 51 56.3**	**0.0**
PAMC	**Pamplona, Colo**	**150.80**	**27**	*e*P		**PKPbc**	**21 51 56.3**	**0.0**
BARC	**Barichara**	**151.25**	**29**	*e*P		**PKiKP**	**21 51 58.3**	**+0.7**
BARC	**Barichara**	**151.25**	**29**	*e*P		**PKiKP**	**21 51 58.3**	**+0.7**
MALC	**Bahia Malaga**	**151.25**	**39**	*e*P		**PKPab**	**21 52 05.6**	**+1.0**
MALC	**Bahia Malaga**	**151.25**	**39**	*e*P		**PKPab**	**21 52 05.6**	**+1.0**
NORC	**Norcasia**	**151.33**	**33**	*e*P		**PKPbc**	**21 51 56.9**	**-0.1**
NORC	**Norcasia**	**151.33**	**33**	*e*P		**PKPbc**	**21 51 56.9**	**-0.1**
GUY2C	**Guyana, Caldas**	**151.36**	**34**	*e*P		**PKPbc**	**21 51 56.9**	**-0.7**
GUY2C				*e*P		**pPKPbc**	**21 51 59.6**	**-2.5**
GUY2C	**Guyana, Caldas**	**151.36**	**34**	*e*P		**PKPbc**	**21 51 56.9**	**-0.7**
GUY2C				*e*P		**pPKPbc**	**21 51 59.6**	**-2.5**
SPBC	**San Pablo de B**	**151.65**	**31**	*e*P		**PKPbc**	**21 51 57.6**	**-0.2**
SPBC	**San Pablo de B**	**151.65**	**31**	*e*P		**PKPbc**	**21 51 57.6**	**-0.2**
YOTC	**Yotoco, Valle**	**151.85**	**37**	*e*P		**PKPbc**	**21 51 56.3**	**-2.0**
YOTC	**Yotoco, Valle**	**151.85**	**37**	*e*P		**PKPbc**	**21 51 56.3**	**-2.0**
RUSC	**La Rusia**	**151.91**	**29**	*e*P		**PKiKP**	**21 51 59.6**	**+0.3**
RUSC	**La Rusia**	**151.91**	**29**	*e*P		**PKiKP**	**21 51 59.6**	**+0.3**
TOLC	**Tolima**	**151.92**	**35**⇑	*e*P		**PKiKP**	**21 51 58.9**	**-0.1**
TOLC	**Tolima**	**151.92**	**35**⇑	*e*P		**PKiKP**	**21 51 58.9**	**-0.1**
CTAB	**Cerro Tablazo,**	**152.14**	**32**	*e*P		**PKiKP**	**21 52 00.6**	**+0.9**
CTAB	**Cerro Tablazo,**	**152.14**	**32**	*e*P		**PKiKP**	**21 52 00.6**	**+0.9**
ROSC	**El Rosal**	**152.23**	**32**	*e*P		**PKPdf**	**21 51 52.3**	**-0.5**
ROSC	**El Rosal**	**152.23**	**32**	*e*P		**PKPdf**	**21 51 52.3**	**-0.5**
ROSC	**El Rosal**	**152.23**	**32**		PKPbc	**PKiKP**	**21 52 00.7**	**+0.9**
	comp=Z,12nm,0.6s,baz=323,slow=6.3,SNR=12							
ROSC	**El Rosal**	**152.23**	**32**			**PKPdf**	**21 51 52.9**	**+0.1**
ROSC						**PKiKP**	**21 52 00.6**	**+0.9**
ELOV	**Elorza**	**152.35**	**21**	*e*P		**PKiKP**	**21 51 59.6**	**+0.1**
ELOV	**Elorza**	**152.35**	**21**	*e*P		**PKiKP**	**21 51 59.6**	**+0.1**
CHIC	**Chingaza**	**152.71**	**32**	*e*P		**PKiKP**	**21 52 00.9**	**+0.1**
CHIC	**Chingaza**	**152.71**	**32**	*e*P		**PKiKP**	**21 52 00.9**	**+0.1**
BBAC	**Balboa, Cauca**	**152.88**	**41**	*e*P		**PKPdf**	**21 51 53.0**	**-0.6**
BBAC	**Balboa, Cauca**	**152.88**	**41**	*e*P		**PKPdf**	**21 51 53.0**	**-0.6**
PCON	**Cinco Dias**	**153.16**	**39**	*e*P		**PKiKP**	**21 52 01.6**	**-0.3**
PCON	**Cinco Dias**	**153.16**	**39**	*e*P		**PKiKP**	**21 52 01.6**	**-0.3**
VILC	**Villavicencio,**	**153.17**	**32**	*e*P		**PKiKP**	**21 52 02.3**	**+0.8**
VILC	**Villavicencio,**	**153.17**	**32**	*e*P		**PKiKP**	**21 52 02.3**	**+0.8**
CRUC	**La Cruz**	**153.42**	**41**	*e*P		**PKPbc**	**21 51 58.3**	**-3.8**
CRUC	**La Cruz**	**153.42**	**41**	*e*P		**PKPbc**	**21 51 58.3**	**-3.8**
OTAV	**Otavalo**	**153.44**	**46**		PKIKP	**PKPdf**	**21 51 50.0**	**-4.1**
OTAV	**Otavalo**	**153.44**	**46**		PKPdf	**PKPdf**	**21 51 50.6**	**-4.1**
BDFB	**Brasilia**	**168.24**	**285**		PKP	**PKPdf**	**21 52 10.1**	**+0.1**
	comp=Z,2.5nm,0.9s,baz=41,slow=6.7,SNR=3.1							
SAML	**Samuel**	**169.38**	**19**		PKIKP	**PKPdf**	**21 52 09.4**	**-1.2**
SAML							21 53 20.8	
SAML	**Samuel**	**169.38**	**19**		PKPdf	**PKPdf**	**21 52 09.4**	**-1.2**
SAML						**PKPab**	**21 53 20.8**	**-2.1**
LPAZ	**La Paz**	**171.57**	**72**		PKP	**PKPdf**	**21 52 12.3**	**-0.2**
	comp=Z,3.9nm,1.1s,baz=359,slow=3.1,SNR=9.0							
LPAZ					PP	**PP**	**21 57 29.0**	**+4.2**
	comp=Z,1.0nm,0.8s,baz=343,slow=5.0,SNR=3.8							
LPAZ	**La Paz**	**171.57**	**72**			**PKPdf**	**21 52 12.5**	**0.0**
LPAZ					PKPab	**PKPab**	**21 53 29.8**	**-4.0**
CPUP	**Villa Florida**	**172.47**	**197**		PKP	**PKPdf**	**21 52 11.3**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=229,slow=9.3,SNR=2.0							

ISK ***31*** *21:38:56.1, 37.41N×26.99E, h5km, ML2.7/14*
ISCJB ***31*** *21:38:57.4±0.5, 37.44N±0.02×27.00E±0.04, h7km±7km, Error ellipse: s-maj=5.8km s-min=3.8km az=159.8*
ATH ***31*** *21:38:57.9, 37.46N×26.92E, h20km±2km, ML2.4/1, Error ellipse: s-maj=3.3km s-min=1.4km az=64.0*
ISC 31 21:38:57.1±1.0, 37.42N±0.03×27.00E±0.03, h15km±9km, n22, σ0.82/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SMG	**Samos**	**0.31**	**336**	P		**Pg**	**21 39 03.4**	**-0.3**
SMG				S		**Sb**	**21 39 08.8**	**-0.6**
SMG				AML		AML	21 39 09.4	
	comp=N,2030μm,0.2s							
SMG				AML		AML	21 39 10.4	
	comp=E,2106μm,0.2s							
GCAM	**G?zelcaml?**	**0.33**	**34**	PG		**Pg**	**21 39 04.3**	**+0.3**
BODT	**Bodrum**	**0.44**	**145**	PG		**Pg**	**21 39 05.7**	**-0.2**
BODT				SG		**Sg**	**21 39 12.5**	**+0.7**
MLSB	**Milas**	**0.63**	**101**	PG		**Pg**	**21 39 09.3**	**-0.2**
MLSB				SG		**Sb**	**21 39 19.8**	**+1.2**
GMLD	**Gumuldur**	**0.66**	**354**	PG		**Pb**	**21 39 10.7**	**+0.4**
KOSK	**Kos Island**	**0.67**	**181**	PG		**Pb**	**21 39 11.3**	**+0.8**
NISR	**Nisiros**	**0.82**	**173**	P		**Pn**	**21 39 14.8**	**+0.7**
NISR				S		**Sn**	**21 39 27.1**	**+1.1**
DAT	**Datca**	**0.83**	**146**	PG		**Pg**	**21 39 12.9**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.88**	**53**	PG		**Pg**	**21 39 14.0**	**-0.2**
BLCB	**Balcova**	**0.96**	**2**	PG		**Pn**	**21 39 16.1**	**0.0**
URLA	**Izmir**	**0.99**	**341**	PG		**Pn**	**21 39 16.6**	**+0.1**
AMGA	**Amorgos Island**	**1.06**	**237**	P		**Pb**	**21 39 16.4**	**-0.9**
AMGA				S		**Sn**	**21 39 31.8**	**-0.3**
YER	**Yerkesik**	**1.06**	**105**	PG		**Pb**	**21 39 17.8**	**+0.5**
CHOS	**Chios island**	**1.22**	**322**	P		**Pb**	**21 39 19.5**	**-0.4**
CHOS				S		**Sn**	**21 39 36.4**	**+0.3**
CHOS	**Chios island**	**1.22**	**322**	PN		**Pg**	**21 39 20.2**	**-0.4**
APE	**Apeiranthos**	**1.23**	**254**	P		**Pb**	**21 39 19.8**	**-0.2**
APE				S		**Sn**	**21 39 37.4**	**+1.3**
APE	**Apeiranthos**	**1.23**	**254**	PN		**Pn**	**21 39 19.5**	**-0.3**
TURN	**Turunc**	**1.39**	**113**	PN		**Pn**	**21 39 19.5**	**-2.5**
IOSP	**Ios island**	**1.54**	**243**	P		**Pb**	**21 39 25.1**	**-0.2**
IOSP				S		**Sg**	**21 39 46.9**	**+0.2**
DKL	**Dikili**	**1.65**	**357**	PN		**Pb**	**21 39 27.6**	**+0.4**
FETY	**Fethiye**	**1.84**	**115**	PN		**Pb**	**21 39 30.2**	**-0.4**
AKAS	**Kas**	**2.40**	**119**	PN		**Pb**	**21 39 38.8**	**-1.4**

IDC ***31*** *21:45:53.6±0.4, 19.05N×120.29E, h0km, mb4.6/35, mb1 4.6/37, mb1mx4.6/51, mbtmp4.6/37, ML4.0/2, MS3.8/14, Ms1 3.8/14, ms1mx3.6/46, Error ellipse: s-maj=14.4km s-min=9.7km az=77.0*
ISCJB ***31*** *21:45:54.7±1.0, 19.10N±0.02×120.28E±0.03, h17km±7km, mb4.7/107, MS3.8/14, Error ellipse: s-maj=4.5km s-min=2.8km az=168.4*
NEIC ***31*** *21:45:55.0±2.9, 19.18N±0.04×120.14E±0.05, h10km±1km, mb4.8/102*
MAN ***31*** *21:45:54.7, 19.23N×120.08E, h28km, mb5.5, ML4.5, MS4.8*
MOS ***31*** *21:45:56.0±0.9, 19.12N×120.25E, h25km, mb5.0/40, Error ellipse: s-maj=7.4km s-min=4.4km az=105.6*
ISC 31 21:45:56.1±0.8, 19.11N±0.03×120.28E±0.04, h14km±5km, n378, σ1$74/394, mb4.8/137, MS3.8/14, 10C-15D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.51**	**164**	P		**Pn**	**21 46 21.7**	**-1.0**
ABRA				S		**Sn**	**21 46 40.6**	**-1.6**
APYP	**Conner**	**1.54**	**144**	P		**Pn**	**21 46 23.1**	**0.0**
APYP				S		**Sn**	**21 46 42.0**	**-0.9**
SGCP	**Mt. Cagua**	**1.88**	**117**	P		**Pn**	**21 46 29.0**	**+1.2**
SGCP				S		**Sb**	**21 46 54.5**	**+0.8**
CVP	**Callao Caves**	**2.03**	**134**	⇓P		**Pn**	**21 46 30.2**	**+0.4**
CVP				S		Sg	21 47 11.3	+10
CAUP	**Cauayan**	**2.61**	**146**	P		**Pn**	**21 46 40.1**	**+2.4**
CAUP				S		**Sb**	**21 47 13.5**	**-0.9**
SMPP	**San Manuel, Pa**	**2.97**	**173**	P		**Pn**	**21 46 41.9**	**-0.9**
SMPP				S		**Sn**	**21 47 17.0**	**-1.3**

SCZP	**Santa Cruz**	**3.34**	**186**		P	**Pn**	**21 46 48.0**	**+0.1**
SCZP					S	Sn	21 47 17.8	-9.4
BALP	**Baler**	**3.57**	**160**		P	**Pn**	**21 46 52.6**	**+1.5**
BALP					S	**Sn**	**21 47 29.2**	**-3.9**
TWG	**Pinlang**	**3.76**	**11**			**Pn**	**21 46 51.8**	**-1.9**
TWG					Sn	**Sn**	**21 47 32.4**	**-5.4**
TPUB	**Ta-pu**	**4.18**	**4**			**Pn**	**21 46 58.9**	**-0.6**
SSLB	**Suanglung**	**4.69**	**8**			**Pn**	**21 47 05.2**	**-1.4**
SSLB						**Sn**	**21 47 55.5**	**-5.3**
TGY	**Tagaytay City**	**5.02**	**173**		Pn	**Pn**	**21 47 13.8**	**+2.7**
	39nm,0.3s,baz=136,slow=5.0,SNR=5.2							
TGY					LR	LR	21 49 43.1	
	comp=Z,1μm,18.1s,baz=78,slow=46							
TGY	**Tagaytay City**	**5.02**	**173**	⇑	P	**Pn**	**21 47 08.8**	**-2.2**
LQP	**Lukban**	**5.12**	**166**	⇑	P	**Pn**	**21 47 13.2**	**+0.7**
NACB	**Ninganchiao**	**5.18**	**13**			**Pn**	**21 47 11.9**	**-1.3**
GQP	**Guinayangan**	**5.58**	**158**	⇓	P	**Pn**	**21 47 21.1**	**+2.5**
KNMB	**Chin-men Tao**	**5.61**	**342**			**Pn**	**21 47 16.6**	**-2.5**
YHNB	**Yeheng**	**5.62**	**10**			**Pn**	**21 47 16.4**	**-2.9**
YHNB					Sn	**Sn**	**21 48 22.4**	**-1.4**
YOJ	**Yonaguni jima**	**5.89**	**25**		P	**Pn**	**21 47 23.8**	**+0.8**
YOJ	**Yonaguni jima**	**5.89**	**25**		Pn	**Pn**	**21 47 23.8**	**+0.8**
QZH	**Quanzhou**	**6.01**	**345**	*e*	Pn	**Pn**	**21 47 24.3**	**-0.3**
QZH					Sn	**Sn**	**21 48 27.3**	**-5.9**
QZH					smax	smax		
	comp=N,52nm,0.6s							
QZH					smax	smax		
	comp=E,71nm,0.8s							
QZH					LR	LR		
	comp=N,1μm,12.6s							
QZH					LR	LR		
	comp=E,1μm,12.6s							
QZH					LR	LR		
	comp=Z,1μm,10.8s							
HKPS	**Hong Kong Po S**	**6.55**	**300**			**Pn**	**21 47 29.4**	**-2.7**
HKPS						**Sn**	**21 48 39.0**	**-7.6**
QIZ	**Qiongzhong**	**9.87**	**271**		P	**Pn**	**21 48 15.5**	**-2.1**
QIZ					S	**Sn**	**21 50 04.0**	**-4.3**
QIZ					pmax	pmax		
	comp=Z,33nm,1.5s							
QIZ	**Qiongzhong**	**9.87**	**271**			**Pn**	**21 48 14.7**	**-2.9**
QIZ						**Sn**	**21 50 01.8**	**-6.5**
JOW	**Kunigami**	**10.64**	**42**		Pn	**Pn**	**21 48 29.6**	**+1.5**
WHN	**Wuhan**	**12.59**	**336**		P	**P**	**21 49 05.3**	**-0.9**
WHN					S	**Sn**	**21 51 20.3**	**+5.6**
KCP	**Kidapawan**	**12.91**	**158**	⇑	P	**P**	**21 49 09.8**	**-0.2**
NJ2	**Nanjing**	**12.95**	**355**	*e*	P	**Pn**	**21 49 01.5**	**+1.8**
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
DAV	**Davao City (W)**	**13.03**	**156**		LR	LR	21 55 11.9	
	comp=Z,730nm,18.4s,baz=0.5,slow=43							
KKM	**Kota Kinabalu**	**13.58**	**197**		Pn	**Pn**	**21 49 12.2**	**+3.7**
GYA	**Guiyang**	**14.53**	**303**		P	**Pn**	**21 49 20.0**	**-1.4**
GYA					PP	**PnPn**	**21 49 32.0**	**+2.6**
GYA					S	**Sn**	**21 52 04.5**	**+2.2**
GYA					SS	**SnSn**	**21 52 18.5**	**+3.5**
GYA					pmax	pmax		
	comp=Z,10.0nm,0.6s							
GYA					pmax	pmax		
	comp=Z,230nm,8.2s							
GYA					LR	LR		
	comp=N,450nm,8.4s							
GYA					LR	LR		
	comp=E,720nm,10.3s							
GYA					LR	LR		
	comp=Z,1μm,10.3s							
UBPT	**Khong Chiam**	**14.66**	**257**		Pn	**Pn**	**21 49 20.6**	**-2.5**
SLVN	**Son La**	**15.53**	**281**			**Pn**	**21 49 29.6**	**-5.2**
JNU	**Nakatsue**	**16.87**	**32**		Pn	**Pn**	**21 49 52.0**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=206,slow=11,SNR=5.6							
JNU					LR	LR	21 56 07.9	
	comp=Z,226nm,20.3s,baz=174,slow=36							
JNU	**Nakatsue**	**16.87**	**32**			**Pn**	**21 49 49.3**	**-2.5**
JNU					IAmb	IAmb	21 50 06.4	
	comp=Z,92nm,1.3s							
TIA	**Tai'an**	**17.26**	**351**		P	**P**	**21 50 00.0**	**+1.9**
TIA					pmax	pmax		
	comp=Z,21nm,1.0s							
KMI	**Kunming**	**17.31**	**293**		P	**Pn**	**21 49 58.3**	**+0.6**
KMI					pP	pP	21 50 02.0	-0.3
KMI					sP	sP	21 50 04.8	+1.0
KMI					PP	**PnPn**	**21 50 12.8**	**+5.0**
KMI					S	**Sn**	**21 53 06.8**	**-3.5**
KMI					sS	S	21 53 12.3	-6.8
KMI					SS	**SnSn**	**21 53 32.3**	**+8.6**
KMI					pmax	pmax		
	comp=Z,8.0nm,0.7s							
KMI					pmax	pmax		
	comp=Z,280nm,4.6s							
KMI					LR	LR		
	comp=N,1μm,13.6s							
KMI					LR	LR		
	comp=E,740nm,16.1s							
KMI					LR	LR		
	comp=Z,500nm,16.2s							
KMI	**Kunming**	**17.31**	**293**		P	**Pn**	**21 49 54.5**	**-3.1**
KMI					pmax	pmax		
	comp=Z,30nm,1.3s							
KMI	**Kunming**	**17.31**	**293**		P	**Pn**	**21 49 54.5**	**-3.1**
CHAI	**Chaiyaphum**	**17.74**	**262**		P	**P**	**21 50 08.5**	**+4.9**
	comp=Z,17μm,0.7s							
XAN	**Xi'an**	**17.98**	**328**		P	**P**	**21 50 07.3**	**+1.1**
XAN					pP	pwP	21 50 15.8	+2.2
XAN					pmax	pmax		
	comp=Z,13nm,1.3s							
XAN	**Xi'an**	**17.98**	**328**		P	**Pn**	**21 50 01.9**	**-3.9**
XAN					pmax	pmax		
	comp=Z,15nm,1.1s							
XAN	**Xi'an**	**17.98**	**328**			**Pn**	**21 50 01.9**	**-3.9**
TJN	**Taejon**	**18.29**	**18**⇓	*e*	P	**P**	**21 50 15.5**	**+1.0**
SBUM	**Sibu**	**18.34**	**206**		P	**P**	**21 50 10.0**	**-0.2**
PBKT	**Sadao Pong**	**18.56**	**265**		P	**Pn**	**21 50 14.4**	**+1.6**
	comp=Z,7.3nm,0.9s							
PBKT	**Sadao Pong**	**18.56**	**265**		P	**P**	**21 50 13.0**	**+0.4**
MRSI	**Marisa**	**18.59**	**175**		P	**Pn**	**21 50 13.7**	**+0.5**
	comp=Z,43nm,0.8s							
UTTA	**Uttaradit**	**18.77**	**269**		P	**Pn**	**21 50 22.0**	**+6.6**
	comp=Z,13μm,0.7s							
PHIT	**Phitsanulok**	**18.98**	**267**		P	**Pn**	**21 50 24.4**	**+6.5**
	comp=Z,191μm,1.0s							
PHRA	**Phrae**	**19.00**	**271**		P	**Pn**	**21 50 19.1**	**+1.0**
	comp=Z,2.6nm,1.0s							
CD2	**Chengdu**	**19.00**	**311**		P	**Pn**	**21 50 18.5**	**+0.3**
CD2					pmax	pmax		
	comp=Z,30nm,0.4s							
PAYA	**Payao**	**19.28**	**274**		P	**Pn**	**21 50 23.1**	**+1.5**
	comp=Z,31μm,0.7s,comp=Z,270μm							
KSAR	**Wonju Array Be**	**19.44**	**18**		P	**P**	**21 50 22.3**	**+0.2**
KSAR	**Wonju Array Be**	**19.44**	**18**		P	**P**	**21 50 22.3**	**+0.2**
KSRS	**Korea Array**	**19.46**	**19**		P	**P**	**21 50 22.9**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=202,slow=11,SNR=25							
KSRS					LR	LR	21 57 33.3	
	comp=Z,284nm,19.8s,baz=192,slow=36							
KS19	**Wonju Array Si**	**19.49**	**18**		P	**P**	**21 50 21.3**	**-1.3**
LAMP	**Lampang**	**19.56**	**272**		P	**Pn**	**21 50 29.7**	**+4.8**
	comp=Z,25μm,0.7s							
DL2	**Dalian**	**19.76**	**3**		P	**Pn**	**21 50 27.0**	**-0.1**
DL2					pmax	pmax		
	comp=Z,58nm,1.1s							
APSI	**Ampana**	**19.94**	**176**		P	**P**	**21 50 28.0**	**+0.2**
	comp=Z,39nm,0.9s							
KSM	**Kuching**	**20.07**	**210**		P	**P**	**21 50 28.6**	**-0.6**
KSM					IAmb	IAmb	21 50 35.0	
	comp=Z,44nm,1.1s							
LUWI	**Luwuk**	**20.18**	**173**		P	Pn	21 50 31.6	-0.6
	comp=Z,102nm,1.1s							
LUWI	**Luwuk**	**20.18**	**173**		P	**P**	**21 50 30.7**	**+0.4**
CMMT	**Chiang Mai**	**20.18**	**273**		P	**P**	**21 50 31.3**	**+0.9**
	comp=Z,7.9nm,1.1s							
CHTO	**Chiang Mai**	**20.18**	**273**		P	**P**	**21 50 29.7**	**-0.7**
CHTO					pmax	pmax		
	comp=Z,10.0nm,0.9s							
CHTO	**Chiang Mai**	**20.18**	**273**		P	**P**	**21 50 29.7**	**-0.7**
UTHA	**Uthaitani**	**20.20**	**263**		P	Pn	21 50 32.9	+0.4
	comp=Z,46μm,0.7s,comp=Z,360μm							
CM31	**Chiang Mai Arr**	**20.21**	**272**			**P**	**21 50 30.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**20.21**	**272**		P	**P**	**21 50 31.5**	**+0.8**
	comp=Z,8.4nm,1.0s,baz=81,slow=8.5,SNR=47							
CMAR					PcP	**PcP**	**21 54 45.4**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=58,slow=0.8,SNR=30							
CMAR					LR	LR	21 57 19.9	
	comp=Z,48nm,20.3s,baz=110,slow=34							
CMAR	**Chiang Mai Arr**	**20.21**	**272**		P	**P**	**21 50 31.6**	**+0.8**
CMAR						**PcP**	**21 54 45.1**	**+0.1**

BKB	**Balikpapan**	**20.52**	**190**		P	**P**	**21 50 34.0**	**0.0**
	comp=Z,103nm,0.8s							
BKB	**Balikpapan**	**20.52**	**190**		P	**P**	**21 50 33.0**	**-1.0**
BKB					IAmb	IAmb	21 50 37.5	
	comp=Z,83nm,0.9s							
UMPA	**Umpang Tak**	**20.61**	**265**		P	Pn	21 50 38.2	+0.8
	comp=Z,29μm,0.9s,comp=Z,854μm							
PHET	**Kaeng Krachan**	**20.78**	**256**		P	Pn	21 50 40.3	+1.0
	comp=Z,39μm,0.8s,comp=Z,405μm							
SRDT	**SRDT**	**20.81**	**260**		P	Pn	21 50 41.0	+1.4
	comp=Z,13nm,1.1s							
BJT	**Baijiatuan**	**21.13**	**351**		P	**P**	**21 50 40.2**	**-0.3**
BJT					pmax	pmax		
	comp=Z,57nm,1.0s							
BJT	**Baijiatuan**	**21.13**	**351**		P	**P**	**21 50 40.2**	**-0.3**
BJT					IAmb	IAmb	21 50 46.4	
	comp=Z,56nm,1.0s							
MHMT	**Maesarieng**	**21.20**	**271**		P	**P**	**21 50 45.9**	**+4.5**
	comp=Z,52nm,1.2s							
SANI	**Sanana**	**21.77**	**164**		P	**P**	**21 50 43.3**	**-4.1**
TTSI	**Tana Toraja**	**22.02**	**181**		P	**P**	**21 50 52.3**	**+2.1**
	comp=Z,31nm,0.8s							
LZH	**Lanzhou**	**22.26**	**323**	⇓	P	**P**	**21 50 54.0**	**+1.1**
LZH					pP	pP	21 50 59.0	+3.0
LZH					sP	pwP	21 51 01.5	+1.2
LZH					PP	sP	21 51 21.0	+24
LZH					pmax	pmax		
	comp=Z,39nm,1.2s							
LZH					pmax	pmax		
	comp=Z,260nm,4.1s							
LZH					LR	LR		
	comp=N,1μm,11.4s							
LZH					LR	LR		
	comp=E,720nm,12.5s							
LZH					LR	LR		
	comp=Z,1μm,13.2s							
SWI	**Sorong**	**22.59**	**150**		P	**P**	**21 50 54.7**	**-1.6**
	comp=Z,15nm,0.8s							
HHC	**Hu-ho-hao-te**	**22.92**	**343**	*e*	P	**P**	**21 50 59.5**	**-0.2**
HHC					pmax	pmax		
	comp=Z,16nm,1.3s							
HHC					pmax	pmax		
	comp=Z,150nm,6.0s							
SPSI	**Sidrap Palu**	**22.94**	**181**		P	**P**	**21 51 00.7**	**+0.8**
	comp=Z,68nm,1.2s,comp=Z,564nm							
BNSI	**Bone**	**23.37**	**180**		P	**P**	**21 51 05.3**	**+1.0**
	comp=Z,32nm,1.4s							
MAJO	**Matsushiro**	**23.44**	**39**⇓	*e*	P	**P**	**21 51 06.3**	**+1.3**
MAJO					pmax	pmax		
	comp=Z,4.0nm,0.7s							
MAJO	**Matsushiro**	**23.44**	**39**		P	**P**	**21 51 05.4**	**+0.4**
MAJO					IAmb	IAmb	21 51 17.9	
	comp=Z,42nm,1.5s							
MAT	**Matsushiro**	**23.44**	**39**		P	**P**	**21 51 04.2**	**-0.8**
MAT					S	**S**	**21 55 21.8**	**+3.8**
MJAR	**Matsushiro Arr**	**23.44**	**39**		P	**P**	**21 51 04.4**	**-0.6**
	comp=Z,5.2nm,1.0s,baz=228,slow=9.5,SNR=6.4							
MJAR	**Matsushiro Arr**	**23.44**	**39**		P	**P**	**21 51 06.4**	**+1.4**
MJB9	**Matsu-Tunnel**	**23.44**	**39**		P	**P**	**21 51 05.4**	**+0.4**
MJB9					IAmb	IAmb	21 51 17.9	
	comp=Z,44nm,1.5s							
MJB9					PcP	**PcP**	**21

comp=Z,48nm,0.8s
GUN Gumba 32.65 292 *e*P P 21 52 28.7 +0.5
comp=Z,72nm,0.8s
PKI Pulchoki 33.02 291 *e*P P 21 52 31.3 -0.1
comp=Z,2.4nm,0.8s
PKIN Phulchoki 33.03 291 *e*P P 21 52 31.3 -0.1
comp=Z,29nm,1.2s
KKN Kakani 33.16 292 *e*P P 21 52 32.6 +0.1
comp=Z,30nm,0.8s
DMN Daman 33.29 291 *e*P P 21 52 33.7 0.0
comp=Z,36nm,0.9s
YSS Yuzh-Sakhalins 33.32 28 *e*P P 21 52 34.1 +0.8
YSS *e* 21 52 41.8
YSS pmax pmax
comp=Z,20nm,1.2s
YSS Yuzh-Sakhalins 33.32 28 P P 21 52 33.3 0.0
ZAK Zakamensk 34.01 340 *e*P P 21 52 39.8 +0.3
ZAK pmax pmax
comp=Z,4.0nm,1.1s
GRNR Gornyy 34.09 18⇓ *i*P P 21 52 40.1 +0.1
GRNR pmax pmax
comp=Z,6.0nm,1.0s
GRNR MLR MLR
comp=Z,160nm,16.0s
DANN Dangsing 34.56 292 *e*P P 21 52 44.6 -0.2
comp=Z,28nm,0.7s
ZEA Zeya 34.98 7 *e*P P 21 52 50.2 +2.5
ZEA pmax pmax
comp=Z,18nm,1.4s
TLY Talaya 35.04 342⇑ *e*P P 21 52 49.6 +1.3
TLY pmax pmax
comp=Z,10.0nm,1.1s
TLY Talaya 35.04 342 P P 21 52 48.0 -0.2
comp=Z,5.3nm,0.6s,baz=120,slow=16,SNR=4.6
TLY Talaya 35.04 342 P P 21 52 45.2 -3.1
TLY IAmb IAmb 21 52 52.7
comp=Z,12nm,1.2s
KNRA Kununurra 35.56 166 P P 21 52 51.5 -1.5
KNRA IAmb IAmb 21 52 55.9
comp=Z,23nm,1.1s
MOY Mondy 35.86 339 *e*P P 21 52 56.6 +1.2
WMQ Urumqi 36.75 319 *e*P P 21 53 03.5 +0.4
WMQ sP pwP 21 53 14.8 +4.4
WMQ pmax pmax
comp=Z,6.0nm,0.7s
WMQ pmax pmax
comp=Z,230nm,5.1s
WMQ LR LR
comp=N,420nm,29.1s
WMQ LR LR
comp=E,510nm,29.1s
WMQ LR LR
comp=Z,180nm,22.1s
WMQ Urumqi 36.75 319 P P 21 53 00.1 -3.0
WMQ pmax pmax
comp=Z,7.0nm,0.6s
WMQ Urumqi 36.75 319 P P 21 53 00.1 -3.0
WMQ IAmb IAmb 21 53 15.5
comp=Z,6.8nm,0.6s
FITZ Fitzroy Crossi 37.35 172 P P 21 53 06.5 -1.7
comp=Z,5.5nm,0.7s,baz=0.5,slow=8.3,SNR=13
FITZ Fitzroy Crossi 37.35 172 P P 21 53 06.9 -1.4
PMG Port Moresby 38.80 135 LR LR 22 07 17.4
comp=Z,44nm,21.1s,baz=271,slow=33
KRVT Keravat (AS076 38.96 123 LR LR 22 06 32.2
comp=Z,153nm,19.7s,baz=299,slow=32
PSAD1 Pilbara Seismi 40.32 181 P P 21 53 31.7 -1.5
PSAD1 IAmb IAmb 21 53 33.0
comp=Z,37nm,1.3s
PSAC1 Pilbara Seismi 40.40 181 P P 21 53 32.8 -1.1
PSAC1 IAmb IAmb 21 53 42.3
comp=Z,37nm,1.2s
PSAB2 Pilbara Seismi 40.42 181 P P 21 53 32.8 -1.2
PSAB2 IAmb IAmb 21 53 45.1
comp=Z,36nm,1.2s
PSAC2 Pilbara Seismi 40.43 181 P P 21 53 33.0 -1.0
PSAC2 IAmb IAmb 21 53 44.6
comp=Z,19nm,1.1s
PSAA2 Pilbara Seismi 40.43 181 P P 21 53 33.0 -1.1
PSAA2 IAmb IAmb 21 53 47.0
comp=Z,51nm,1.4s
PSAB1 Pilbara Seismi 40.43 181 P P 21 53 33.2 -1.0
PSA00 Pilbara Seismi 40.44 181 P P 21 53 33.2 -0.9
PSAA1 Pilbara Seismi 40.44 181 P P 21 53 33.1 -1.1
PSAA1 IAmb IAmb 21 53 50.4
comp=Z,27nm,1.1s
PSAA3 Pilbara Seismi 40.44 181 P P 21 53 33.3 -0.9
PSAB3 Pilbara Seismi 40.46 181 P P 21 53 33.4 -0.9
PSAB3 IAmb IAmb 21 53 41.6
comp=Z,60nm,1.5s
PSAD2 Pilbara Seismi 40.48 180 P P 21 53 33.3 -1.2
PSAD2 IAmb IAmb 21 53 33.7
comp=Z,45nm,1.4s
PSAC3 Pilbara Seismi 40.49 181 P P 21 53 33.5 -1.1
PSAC3 IAmb IAmb 21 53 51.9
comp=Z,32nm,1.4s
PSAD3 Pilbara Seismi 40.51 181 P P 21 53 33.7 -1.0
WRAB Tennant Creek 41.18 160⇓ *e*P P 21 53 37.7 -2.6
WRAB pmax pmax
comp=Z,10.0nm,1.3s
WRAB Tennant Creek 41.18 160 P P 21 53 38.8 -1.5
MK31 Makanchi Array 41.54 320 *i*P P 21 53 44.0 +0.9
MKAR Makanchi Array 41.54 320 *i*P P 21 53 44.1 +1.0
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR Makanchi Array 41.54 320 P P 21 53 44.0 +0.8
comp=Z,6.7nm,0.8s,baz=112,slow=10.0,SNR=64
MKAR PcP PcP 21 55 40.2 -0.1
comp=Z,2.8nm,0.8s,baz=101,slow=5.2,SNR=5.2
MKAR Makanchi Array 41.54 320 P P 21 53 43.8 +0.7
MAKZ Makanchi 41.74 320 *i*P P 21 53 44.4 -0.3
MAKZ pmax pmax
comp=Z,8.0nm,0.9s
MAKZ Makanchi 41.74 320 P P 21 53 45.7 +1.0
PDGK Podgornoye 41.85 314 *i*P P 21 53 46.0 +0.2
PDGK pmax pmax
comp=Z,13nm,1.2s
KSH Kashi 43.14 308 P P 21 53 59.8 +3.4
KSH PcP PcP 21 55 49.3 +3.3
KSH S S 22 00 26.5 +4.0
KSH sS sS 22 00 34.3 +6.1
KSH pmax pmax
comp=Z,25nm,0.6s
KSH pmax pmax
comp=Z,350nm,5.9s
KSH LR LR
comp=N,650nm,8.4s
KSH LR LR
comp=E,670nm,7.6s
KSH LR LR
comp=Z,380nm,6.5s
YAK Yakutsk 43.38 6 *e*P P 21 53 58.6 +0.9
YAK pmax pmax
comp=Z,16nm,1.2s
YAK Yakutsk 43.38 6 P P 21 53 58.0 +0.3
comp=Z,4.6nm,0.7s,baz=202,slow=21,SNR=6.5
YAK Yakutsk 43.38 6 P P 21 53 57.7 -0.1
ZAA0 Zalesovo Array 44.13 330 IAmb IAmb 21 54 05.1
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 44.13 330 *i*P P 21 54 04.1 +0.2
ZALV Zalesovo Beam 44.13 330 P P 21 54 03.9 0.0
comp=Z,11nm,0.7s,baz=119,slow=7.7,SNR=52
ZALV PcP PcP 21 55 47.7 -1.2
comp=Z,0.7nm,0.4s,baz=124,slow=4.4,SNR=2.4
ZALV LR LR 22 13 06.0
comp=Z,198nm,19.3s,baz=74,slow=37
NIL Nilore 44.18 299 P P 21 54 04.1 -0.6
NIL pmax pmax
comp=Z,23nm,0.7s
NIL Nilore 44.18 299 P P 21 54 04.1 -0.6
TKM2 Tokmak 2 44.38 312 P P 21 54 08.1 +1.7
SNR=6.1
AS31 Alice Springs 44.55 162 P P 21 54 06.6 -1.0
ASAR Alice Springs 44.55 162 P P 21 54 06.2 -1.4
ASAR Alice Springs 44.55 162 P P 21 54 06.7 -1.0
comp=Z,4.3nm,0.6s,baz=339,slow=6.8,SNR=113
ASAR Alice Springs 44.55 162 P P 21 54 06.2 -1.4
PEA0B Petropavlovsk- 44.57 31 P P 21 54 07.0 -0.4
PEA0B pmax pmax
comp=Z,54nm,1.1s
PEA0B Petropavlovsk- 44.57 31 P P 21 54 07.0 -0.4
PETK Petropavlovsk- 44.57 31 P P 21 54 07.2 -0.2
PETK Petropavlovsk- 44.57 31 P P 21 54 07.9 +0.5
comp=Z,17nm,0.8s,baz=209,slow=5.6,SNR=12
PETK Petropavlovsk- 44.57 31 P P 21 54 07.2 -0.2

KBK Karagaybulak 44.76 312 P P 21 54 11.1 +1.7
SNR=7.0
UCH Uchtor 44.94 311 P P 21 54 13.6 +2.4
SNR=9.4
PET Petropavlovsk 44.99 32 *e*P P 21 54 11.4 +0.6
PET pmax pmax
comp=Z,44nm,0.8s
PET Petropavlovsk 44.99 32 P P 21 54 11.3 +0.6
CHMS Chumysh 45.00 312 P P 21 54 12.5 +1.4
SNR=8.5
AAK Ala-Archa 45.07 312⇓ *e*P P 21 54 13.1 +1.2
AAK pmax pmax
comp=Z,4.0nm,1.3s
AAK Ala-Archa 45.07 312 P P 21 54 11.3 -0.6
comp=Z,1.6nm,0.7s,baz=122,slow=4.0,SNR=6.1
AAK PcP PcP 21 55 52.5 -0.1
comp=Z,3.0nm,0.6s,baz=96,slow=4.3,SNR=11
AAK Ala-Archa 45.07 312 P P 21 54 09.5 -2.4
USP Ospenovka 45.26 313 P P 21 54 14.6 +1.4
SNR=5.6
AML Almayashu 45.50 311 P P 21 54 17.6 +2.1
SNR=9.6
KURK Kurchatov 45.55 324 *i*P P 21 54 15.7 +0.4
KURK pmax pmax
comp=Z,14nm,0.7s
KURK Kurchatov 45.55 324 P P 21 54 15.6 +0.3
KURK IAmb IAmb 21 54 17.0
comp=Z,15nm,0.8s
KURBB Kurchatov Arra 45.55 324 P P 21 54 15.7 +0.4
comp=Z,14nm,0.6s,baz=122,slow=7.9,SNR=74
CTA Charters Tower 46.54 145 P P 21 54 22.9 -0.5
comp=Z,5.6nm,1.0s,baz=315,slow=7.1,SNR=4.2
BTK Batken 47.13 307 IAmb IAmb 21 54 30.1
comp=Z,11nm,1.3s
KBL Kabul 47.75 300 P P 21 54 33.2 +0.1
KBL pmax pmax
comp=Z,10.0nm,0.9s
KBL Kabul 47.75 300 P P 21 54 33.2 +0.1
KBL IAmb IAmb 21 54 35.6
comp=Z,9.5nm,0.9s
KK31 Karatay Array 48.02 311 *e*P P 21 54 35.3 +0.5
KK31 pmax pmax
comp=Z,14nm,0.8s
KK31 Karatay Array 48.02 311 PcP PcP 21 56 02.9 +0.2
KKAR Karatay Array 48.02 311 P P 21 54 35.6 +0.8
KKAR 21 56 02.8
KKAR Karatay Array 48.02 311 P P 21 54 35.6 +0.8
KKAR PcP PcP 21 56 02.8 0.0
KKAR Karatay Array 48.02 311 IAmb IAmb 21 54 37.2
comp=Z,15nm,0.8s
KKAR PcP 21 56 02.5 -0.2
MORW Morawa 48.07 185 P P 21 54 33.8 -1.4
HNR Honiara 48.30 122 LR LR 22 12 23.5
comp=Z,175nm,20.1s,baz=313,slow=33
SEY Seymchan 49.02 19 P P 21 54 43.2 +1.1
comp=Z,11nm,0.7s,baz=232,slow=7.0,SNR=34
FORT Forrest 50.16 171 P P 21 54 50.7 -0.5
BVAR Borovoye Array 51.15 324 P P 21 54 59.4 +0.9
comp=Z,2.9nm,0.7s,baz=112,slow=9.8,SNR=20
BVAR PcP PcP 21 56 12.7 -1.2
comp=Z,4.5nm,0.7s,baz=164,slow=5.9,SNR=12
BRVK Borovoye 51.22 324 *i*P P 21 54 59.0 0.0
BRVK pmax pmax
comp=Z,9.0nm,0.9s
BRVK Borovoye 51.22 324 P P 21 54 58.9 0.0
BRVK IAmb IAmb 21 55 00.8
comp=Z,7.1nm,0.8s
NWAO Narrogin (SRO) 51.83 183 P P 21 55 03.6 -0.1
NWAO pmax pmax
comp=Z,27nm,1.4s
NWAO Narrogin (SRO) 51.83 183 P P 21 55 03.6 -0.1
comp=Z,9.3nm,0.8s,baz=332,slow=6.6,SNR=4.2
NWAO Narrogin (SRO) 51.83 183 IAmb IAmb 21 55 09.5
comp=Z,27nm,1.4s
TIXI Tiksi 52.78 3⇑ *i*P P 21 55 10.1 -0.2
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 52.78 3 P P 21 55 09.9 -0.4
comp=Z,2.9nm,0.6s,baz=180,slow=24,SNR=16
HRA Herat 53.35 299 IAmb IAmb 21 55 16.8
comp=Z,8.8nm,1.1s
NRIK Noril'sk 54.08 346 P P 21 55 20.4 +0.4
comp=Z,16nm,0.7s,baz=134,slow=7.0,SNR=51
STKA Stephens Creek 54.66 158 P P 21 55 24.4 -0.2
comp=Z,5.5nm,0.7s,baz=327,slow=7.8,SNR=14
STKA Stephens Creek 54.66 158 P P 21 55 24.6 0.0
AB31 Akbulak array 56.46 317⇑ *e*P P 21 55 37.9 +0.5
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 56.46 317 P P 21 55 37.9 +0.5
ABKAR PcP PcP 21 56 32.3 -1.9
ABKAR Akbulak array 56.46 317 IAmb IAmb 21 55 39.1
comp=Z,21nm,1.3s
ASHT Ashkhabad 56.53 303 P P 21 55 37.8 -0.3
ASHT pmax pmax
comp=Z,55nm,0.9s
BILL Bilibino 56.72 19 *d*/*i*P P 21 55 39.3 +0.3
BILL pmax pmax
comp=Z,10.0nm,0.6s
BILL Bilibino 56.72 19 P P 21 55 39.5 +0.5
GEYT Alibeck 56.75 303 P P 21 55 40.9 +1.2
comp=Z,16nm,0.8s,baz=147,slow=3.5,SNR=73
GEYT Alibeck 56.75 303 P P 21 55 40.1 +0.4
SVE Sverdlovsk 57.69 326⇑ *e*P P 21 55 46.8 +0.9
SVE pmax pmax
comp=Z,27nm,1.4s
AKTO Aktyubinsk 57.88 318 *i*P P 21 55 47.4 -0.1
AKTO pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 58.70 325 *d*/*i*P P 21 55 53.0 -0.1
ARU pmax pmax
comp=Z,33nm,1.7s
ARU Arti 58.70 325 P P 21 55 53.1 +0.1
TOO Toolangi 61.17 157 P P 21 56 11.2 +0.9
TOO pmax pmax
comp=Z,9.0nm,0.8s
TOO Toolangi 61.17 157 P P 21 56 11.2 +0.9
TOO IAmb IAmb 21 56 12.8
comp=Z,9.3nm,0.8s
KIRV Kirov 63.92 327 P P 21 56 28.6 +0.3
comp=Z,48nm,0.7s,baz=64,slow=1.0,SNR=17
LKRN Lenkeran, Azer 64.06 304 P P 21 56 30.4 +0.8
SEKA Sheki 65.09 307 P P 21 56 36.6 +0.2
MNGR Mingechevir, A 65.21 307 P P 21 56 37.9 +0.8
GANJ Ganja 65.80 307 P P 21 56 41.6 +0.6
PRGR Permogore 66.08 330 *e*P P 21 56 41.1 -1.2
PRGR pmax pmax
comp=Z,22nm,0.7s
NAX Nakhchivan 66.57 305 P P 21 56 46.6 +0.6
GNI Garni 67.05 306⇓ *e*P P 21 56 51.2 +2.0
GNI pmax pmax
comp=Z,37nm,1.3s
ZEI Tsey 67.41 309 *e*P P 21 56 50.8 -0.7
ZEI pmax pmax
comp=Z,10.0nm,0.9s
KBZ Khabaz 68.04 310 P P 21 56 55.5 +0.3
comp=Z,6.3nm,0.9s,baz=117,slow=2.9,SNR=12
KIV Kislovodsk 68.17 311 *d*/*i*P P 21 56 56.5 +0.4
KIV *i* *PP pP 21 57 01.8 +1.8
KIV *e* 21 57 21.9
KIV *e* 21 59 29.2
KIV *e*PPP PPP 22 01 04.9
KIV *e*S S 22 05 57.3 +1.3
KIV *e*SS SS 22 10 20.9 +2.4
KIV pmax pmax
comp=Z,11nm,1.0s
KIV Kislovodsk 68.17 311 P P 21 56 57.0 +0.9
VRH Novokhopyorsk 68.22 318 *e*P P 21 56 55.6 -0.5
VRH pmax pmax
comp=Z,30nm,0.7s
RAYN Ar Rayn 69.08 289 P P 21 57 02.0 -0.1
RAYN pmax pmax
comp=Z,6.0nm,0.8s
RAYN Ar Rayn 69.08 289 P P 21 57 02.0 -0.1
RAYN IAmb IAmb 21 57 02.6
comp=Z,5.7nm,0.8s
TMCR Tamitsa 69.61 332 *e*P P 21 57 04.4 -0.1
TMCR pmax pmax
comp=Z,35nm,1.4s
VSR Storozhevoye 69.83 319⇑ *i*P P 21 57 05.9 -0.2
VSR pmax pmax
comp=Z,18nm,0.8s
LPSR Galich'ya Gora 69.84 320 *e*P P 21 57 05.5 -0.7
LPSR pmax pmax
comp=Z,20nm,0.8s

OBN Obninsk 70.98 323 *e*P P 21 57 13.1 0.0
OBN *e**PP pP 21 57 18.0 +1.0
OBN *e* 21 57 33.0
OBN *e* 21 59 50.5
OBN *e*PPP PPP 22 01 31.5
OBN *e*S S 22 06 30.9 +2.5
OBN *e*SS SS 22 11 05.4 +4.4
OBN pmax pmax
comp=Z,46nm,2.5s
IMAR Indian Mountai 71.08 26 P P 21 57 14.1 +0.5
TOLK Toolik Lake Re 72.42 23 IAmb IAmb 21 57 23.5
comp=Z,7.1nm,0.8s
MLY Manley 72.43 26 IAmb IAmb 21 57 23.7
comp=Z,14nm,0.9s
MCK McKinley 73.40 28 IAmb IAmb 21 57 28.5
comp=Z,18nm,1.0s
WRH Wood River Hil 73.64 27 IAmb IAmb 21 57 30.2
comp=Z,8.3nm,0.9s
COLA College 73.67 26⇓ *e*P P 21 57 29.8 +0.9
COLA pmax pmax
comp=Z,7.0nm,0.9s
CCB Clear Creek Bu 73.73 27 P P 21 57 29.7 +0.4
ARCES ARCESS Array B 73.92 339 P P 21 57 30.7 +0.3
comp=Z,3.4nm,0.9s,baz=72,slow=7.8,SNR=5.8
ILAR Eielson Array 74.09 26 P P 21 57 30.6 -0.8
comp=Z,2.2nm,0.8s,baz=292,slow=5.3,SNR=24
ILAR Eielson Array 74.09 26 P P 21 57 31.0 -0.5
HDA Harding Lake 74.14 27 IAmb IAmb 21 57 31.8
comp=Z,5.9nm,0.8s
BMAR Burnt Mountain 74.48 24 P P 21 57 34.9 +1.1
FINES FINESS Array B 75.40 330 P P 21 57 38.9 -0.1
comp=Z,5.0nm,0.9s,baz=77,slow=4.1,SNR=6.3
BRTR Keskin Array B 75.53 307 P P 21 57 39.3 -1.2
BRTR Keskin Array B 75.53 307 P P 21 57 40.5 0.0
comp=Z,0.4nm,0.6s,baz=61,slow=7.2,SNR=3.0
BRTR Keskin Array B 75.53 307 P P 21 57 39.3 -1.2
AKASG Malin Array Be 76.11 319 *ce*P P 21 57 42.5 -0.8
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 76.11 319 P P 21 57 41.9 -1.4
comp=Z,2.8nm,0.8s,baz=62,slow=6.6,SNR=9.7
AKASG Malin Array Be 76.11 319 P P 21 57 40.8 -2.5
AKBB Malin Array Si 76.11 319 P P 21 57 41.7 -1.7
AKBB pmax pmax
comp=Z,5.0nm,1.0s
AKBB Malin Array Si 76.11 319 P P 21 57 41.6 -1.7
EGAK Eagle 76.48 26 P P 21 57 44.9 -0.3
EGAK IAmb IAmb 21 57 46.3
comp=Z,8.4nm,0.9s
BCAR Beaver Creek A 76.68 28 P P 21 57 47.1 +0.6
DAWY Dawson 77.42 26 P P 21 57 50.5 -0.1
DAWY IAmb IAmb 21 57 52.1
comp=Z,8.2nm,0.9s
RPZ Rata Peaks 77.91 145 P P 21 57 53.2 -0.2
comp=Z,19nm,0.9s,baz=348,slow=13,SNR=4.2
RPZ Rata Peaks 77.91 145 IAmb IAmb 21 57 56.1
comp=Z,30nm,1.0s
INK Inuvik 78.22 21 P P 21 57 53.4 -1.5
INK Inuvik 78.22 21 P P 21 57 54.8 0.0
comp=Z,3.9nm,0.9s,baz=289,slow=7.1,SNR=8.7
INK Inuvik 78.22 21 P P 21 57 53.4 -1.5
INK IAmb IAmb 21 57 55.8
comp=Z,8.8nm,1.1s
SUW Suwalki 78.83 323 P P 21 57 56.8 -1.7
SUW pmax pmax
comp=Z,55nm,1.3s
SUW Suwalki 78.83 323 P P 21 57 56.8 -1.7
VRI Vrincioaia 78.94 315 P P 21 58 00.3 +1.0
BURAR Bucovina Array 79.44 317 P P 21 58 01.9 -0.3
BURAR Bucovina Array 79.44 317 P P 21 58 00.7 -1.5
KWP Kalwaria Pacla 80.43 319 P P 21 58 06.7 -0.6
KWP pmax pmax
comp=Z,24nm,2.2s
WHY Whitehorse 80.56 29 IAmb IAmb 21 58 09.9
comp=Z,7.0nm,0.8s
KOLS Kolonicke sedl 80.92 319 *e*P P 21 58 10.0 0.0
KOLS Kolonicke sedl 80.92 319 *e*P P 21 58 10.0 0.0
DAG Danmarks Havn 81.23 351 *i*P P 21 58 10.3 -0.8
DAG pmax pmax
comp=Z,7.0nm,0.6s
DAG Danmarks Havn 81.23 351 *i*P P 21 58 10.3 -0.8
comp=Z,6.7nm,0.6s
DRGR 81.32 316 P P 21 58 12.3 +0.1
DRGR pmax pmax
comp=Z,11nm,1.5s
OJC Ojcow 82.02 320 P P 21 58 16.1 +0.4
OJC pmax pmax
comp=Z,10.0nm,0.8s
OJC Ojcow 82.02 320 IAmb IAmb 21 58 25.7
comp=Z,7.2nm,0.9s
NC405 NORSAR Array S 82.05 332 P P 21 58 15.6 -0.1
NB2 NORSAR Subarra 82.30 332 P P 21 58 15.6 -1.5
comp=Z,2.8nm,0.8s,baz=65,slow=5.6
NOA NORSAR Array B 82.30 332 P P 21 58 15.5 -1.5
comp=Z,3.2nm,0.9s,baz=68,slow=4.8,SNR=8.0
VTS Vitosha 82.30 312 P P 21 58 18.2 +0.6
VTS pmax pmax
comp=Z,9.0nm,1.2s
VTS Vitosha 82.30 312 IAmb IAmb 21 58 18.6
comp=Z,7.7nm,1.0s
VYHS Vyhne 83.21 319 *e*P P 21 58 22.4 +0.4
VYHS Vyhne 83.21 319 *e*P P 21 58 22.4 +0.4
RES Resolute Bay 83.78 9 P P 21 58 24.5 +0.1
RES pmax pmax
comp=Z,8.0nm,1.0s
RES Resolute Bay 83.78 9 IAmb IAmb 21 58 25.4
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 83.78 267 *i*P P 21 58 27.1 +1.2
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 83.78 267 P P 21 58 26.3 +0.5
comp=Z,2.4nm,0.8s,baz=45,slow=12,SNR=6.8
KMBO Kilima Mbogo 83.78 267 P P 21 58 25.2 -0.6
KSP Ksiaz 83.87 322 P P 21 58 25.9 +0.6
KSP pmax pmax
comp=Z,13nm,0.9s
KRLC Kraliky 83.88 321 *e*P P 21 58 25.6 +0.1
KRLC Kraliky 83.88 321 *e*P P 21 58 25.6 +0.1
DPC Dobruska-Polom 84.04 321 *e*P P 21 58 26.8 +0.5
DPC Dobruska-Polom 84.04 321 *e*P P 21 58 26.8 +0.5
CHVC Chvalec 84.11 322 *e*P P 21 58 26.6 0.0
VRAC Vranov 84.28 320 P P 21 58 27.9 +0.4
VRAC pmax pmax
comp=Z,9.0nm,1.0s
PVCC Panska Ves 85.00 322 P P 21 58 31.3 +0.2
PVCC pmax pmax
comp=Z,7.0nm,1.3s
GOPC GO Pecny, Ondr 85.12 321 *e*P P 21 58 31.7 0.0
GOPC GO Pecny, Ondr 85.12 321 *e*P P 21 58 31.7 0.0
BRG Berggiesshubel 85.22 322 *e*P P 21 58 32.2 0.0
comp=Z,10nm,1.0s
BRG *e* 21 58 40.8
comp=Z,9.8nm,1.1s
BRG Berggiesshubel 85.22 322 P P 21 58 32.5 +0.3
BRG pmax pmax
comp=Z,10.0nm,0.9s
PRU Pruhonice 85.24 321 *e*P P 21 58 32.1 -0.2
PRU *e* 21 58 41.3
PRU Pruhonice 85.24 321 *e*P P 21 58 32.1 -0.2
PRU *ex* x 21 58 41.3
CONA Conrad Observa 85.27 319 *i* PcP P 21 58 32.6 0.0
comp=Z,4.7nm,1.2s
CONA Conrad Observa 85.27 319 *i*P P 21 58 32.6 0.0
comp=Z,4.7nm,1.2s
CLL Collm 85.58 323 *i*P P 21 58 33.1 -0.8
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 85.58 323 *i*P P 21 58 33.1 -0.8
comp=Z,9.0nm,0.9s
CLL Collm 85.58 323 P P 21 58 33.7 -0.3
CLL IAmb IAmb 21 58 34.4
comp=Z,6.8nm,0.8s
PBCC Pribram 85.69 321 *e*P P 21 58 34.5 0.0
ARSA Arzberg 85.75 319 *i* PcP P 21 58 34.8 -0.1
comp=Z,4.2nm,0.9s
ARSA Arzberg 85.75 319 *i*P P 21 58 34.8 -0.1
comp=Z,4.2nm,0.9s
KHC Kasperske Hory 86.16 321⇑ *e*P P 21 58 36.8 -0.2
KHC pmax pmax
comp=Z,36nm,2.7s
KHC Kasperske Hory 86.16 321 *e*P P 21 58 36.7 -0.2
GERES GERESS Array B 86.21 321 P P 21 58 36.7 -0.6
comp=Z,1.9nm,0.8s,baz=60,slow=5.3,SNR=20
GERES GERESS Array B 86.21 321 P P 21 58 36.8 -0.5
MOA Molln 86.28 320 *i* pP P 21 58 37.7 +0.1

comp=Z,11nm,1.6s
MOA Molln 86.28 320 *i* PcP **P** **21 58 37.7 +0.1**
comp=Z,11nm,1.6s
SOKA Soboth 86.28 318 *i* pP **P** **21 58 37.4 -0.3**
comp=Z,2.4nm,0.8s,SNR=5.5
SOKA Soboth 86.28 318 *i* P **P** **21 58 37.4 -0.3**
comp=Z,2.4nm,0.8s,SNR=5.5
KBA Koelnbreinsper 87.17 319 *e*PcP **P** **21 58 41.0 -1.1**
comp=Z,1.4nm,0.7s
KBA Koelnbreinsper 87.17 319 *e*P **P** **21 58 41.0 -1.1**
comp=Z,1.4nm,0.7s
SUMG Summit 87.43 354 *i* P **P** **21 58 42.9 -0.2**
SUMG Summit 87.43 354 *i* P **P** **21 58 42.9 -0.2**
YKA Yellowknife Ar 87.95 22 P **P** **21 58 45.2 0.0**
comp=Z,7.5nm,0.7s,baz=313,slow=4.6,SNR=122
WTTA Wattenberg 88.14 320 *i* pP **P** **21 58 46.1 -0.7**
comp=Z,3.0nm,0.7s,SNR=6.4
WTTA Wattenberg 88.14 320 *i* P **P** **21 58 46.1 -0.7**
comp=Z,3.0nm,0.7s,SNR=6.4
WATA Walderalm 88.15 320 *i* PcP **P** **21 58 45.9 -0.8**
comp=Z,6.7nm,1.2s
WATA Walderalm 88.15 320 *i* P **P** **21 58 45.9 -0.8**
comp=Z,6.7nm,1.2s
SQTA Sankt Quirin 88.42 320 *i* PcP **P** **21 58 47.1 -0.9**
comp=Z,1.8nm,0.5s
SQTA Sankt Quirin 88.42 320 *i* P **P** **21 58 47.1 -0.9**
comp=Z,1.8nm,0.5s
MOTA Moosalm 88.43 320 *i* PcP **P** **21 58 47.1 -1.0**
comp=Z,1.3nm,0.5s
MOTA Moosalm 88.43 320 *i* P **P** **21 58 47.1 -1.0**
comp=Z,1.3nm,0.5s
FETA Feichten 88.81 320 *i* pP **P** **21 58 49.3 -0.6**
comp=Z,2.4nm,0.7s,SNR=5.5
FETA Feichten 88.81 320 *i* PcP **P** **21 58 49.3 -0.6**
comp=Z,2.4nm,0.7s,SNR=5.5
BEKR Beckworth 98.57 43 P Pdif 21 59 35.5 +0.6
BEKR IAmb IAmb 21 59 36.5
comp=Z,2.6nm,0.9s
TX31 Lajitas Ar. Si 115.83 42 **PKiKP** **22 04 37.8 -1.2**
TX32 Lajitas Array 115.83 42 **PKiKP** **22 04 38.2 -0.8**
TXAR Lajitas Array 115.83 42 PKiKP **PKiKP** **22 04 37.9 -1.1**
TXAR Lajitas Array 115.83 42 PKP **PKiKP** **22 04 38.9 -0.1**
comp=Z,1.8nm,0.7s,baz=234,slow=0.4,SNR=21
TXAR Lajitas Array 115.83 42 **PKiKP** **22 04 37.9 -1.1**
JCT Junction City 117.41 39 PKiKP **PKPdf** **22 04 41.5 -0.4**
JCT Junction City 117.41 39 **PKPdf** **22 04 41.5 -0.4**
WVT Waverly 118.95 26 PKiKP **PKPdf** **22 04 44.3 -0.4**
WVT Waverly 118.95 26 **PKPdf** **22 04 44.3 -0.4**
VNA2 Neumayer--Wätz 119.83 197 PKPdf **PKPdf** **22 04 44.2 -1.0**
baz=62,slow=2.0
VNA3 Neumayer Olymp 120.29 197 PKPdf **PKPdf** **22 04 45.3 -0.8**
SDV Santo Domingo 150.17 22 PKP **PKPdf** **22 05 42.1 -0.7**
comp=Z,4.4nm,0.7s,baz=266,slow=3.5,SNR=6.4
SDV PKPbc **PKPbc** **22 05 47.6 -0.2**
comp=Z,22nm,0.7s,baz=353,slow=1.5,SNR=22
ROSC El Rosal 152.19 33 PKPbc **PKiKP** **22 05 53.4 +0.3**
comp=Z,15nm,0.5s,baz=85,slow=23,SNR=7.5
ROSC El Rosal 152.19 33 PKPdf **PKPdf** **22 05 43.9 -2.2**
ROSC **PKPbc** **22 05 53.7 +1.0**
LPAZ La Paz 171.50 72 PKP **PKPdf** **22 06 06.6 +0.8**
comp=Z,2.7nm,1.1s,baz=296,slow=4.0,SNR=7.1
SIV San Ignacio 176.64 23 PKP **PKPdf** **22 06 06.6 -0.3**
comp=Z,2.5nm,0.8s,baz=9.2,slow=2.4,SNR=8.3

IDC 31 21:54:12.8±2.6, 54°48N×35°55W, h0km, mb3.5/4, mb1 3.5/4, mb1mx3.2/54, mbtmp3.5/4, MS3.6/1, Ms1 3.6/1, ms1mx3.0/31, Error ellipse: s-maj=71.8km s-min=40.4km az=73.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**47.40**	**78**	P	P	22 02 49.2	+0.4
	0.5nm,0.8s,baz=294,slow=7.1,SNR=2.6						
BRTR				LR	LR	22 25 18.2	
	comp=Z,60nm,18.3s,baz=93,slow=39						
TORD	**Torodi Ar. Bea**	**50.50**	**130**	P	P	22 03 12.2	-0.3
	0.3nm,0.5s,baz=333,slow=8.6,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.69**	**41**	P	P	22 04 31.8	-0.5
	0.3nm,0.5s,baz=324,slow=7.1,SNR=3.4						
MKAR	**Makanchi Array**	**66.25**	**42**	P	P	22 05 02.1	-0.3
	0.4nm,0.7s,baz=328,slow=5.2,SNR=4.7						
ASAR	**Alice Springs**	**148.23**	**19**	PKPbc	PKPbc	22 14 00.2	-0.3
	0.5nm,0.5s,baz=348,slow=2.3,SNR=14						

ROM 31 21:56:43.3±0.0, 43°392N±0°002×12°518E±0°003, h9km, ML1.2/13, Error ellipse: s-maj=0.2km s-min=0.1km az=317.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATFO	**Monte Foce - G**	**0.05**	**123**	P	Pg	21 56 45.3	0.0
ATFO				AML	AML		
	comp=E,579μm,0.4s						
ATFO				AML	AML		
	comp=N,754μm,0.4s						
ATVO	**AVT- Monte Val**	**0.08**	**263**	P	Pg	21 56 45.9	+0.3
ATVO				S	Sg	21 56 47.4	+0.2
ATVO				AML	AML		
	comp=E,640μm,0.3s						
ATVO				AML	AML		
	comp=N,294μm,0.2s						
ATVO				AML	AML		
	comp=E,640μm,0.3s						
ATVO				AML	AML		
	comp=N,294μm,0.2s						
ATPI	**Pietralunga -**	**0.10**	**305**	P	Pg	21 56 46.4	+0.5
ATPI				S	Sg	21 56 48.4	+0.7
ATPI				AML	AML		
	comp=E,138μm,1.4s						
ATPI				AML	AML		
	comp=N,178μm,0.1s						
ATPI				AML	AML		
	comp=E,138μm,1.4s						
MURB	**Monte Urbino**	**0.13**	**178**	P	Pg	21 56 46.8	+0.5
MURB				S	Sg	21 56 49.1	+0.7
MURB				AML	AML		
	comp=N,338μm,0.3s						
MURB				AML	AML		
	comp=E,370μm,0.2s						
MURB				AML	AML		
	comp=N,338μm,0.3s						
PIEI	**Pieia**	**0.14**	**5**	P	Pg	21 56 47.2	+0.7
PIEI				S	Sg	21 56 49.9	+1.1
PIEI				AML	AML		
	comp=E,220μm,0.2s						
PIEI				AML	AML		
	comp=N,152μm,0.2s						
ATMI	**Monte Miggiano**	**0.19**	**253**	P	Pg	21 56 47.9	+0.5
ATMI				S	Sg	21 56 51.1	+1.1
ATMI				AML	AML		
	comp=E,60μm,0.3s						
ATMI				AML	AML		
	comp=N,59μm,0.4s						
FRON	**Frontone**	**0.20**	**50**	P	Pg	21 56 48.1	+0.7
FRON				S	Sg	21 56 51.6	+1.3
FRON				AML	AML		
	comp=E,65μm,0.7s						
FRON				AML	AML		
	comp=N,96μm,0.8s						
SSFR	**Montelago di S**	**0.20**	**77**	P	Pg	21 56 48.0	+0.5
SSFR				S	Sg	21 56 51.4	+1.1
SSFR				AML	AML		
	comp=N,130μm,1.0s						
SSFR				AML	AML		
	comp=E,298μm,0.3s						
FOSV	**Fossato di Vic**	**0.20**	**119**	P	Pg	21 56 48.2	+0.6
CDCA	**Citt' di Caste**	**0.22**	**288**	P	Pg	21 56 48.8	+1.0
NARO	**Abbazia di Nar**	**0.22**	**12**	P	Pg	21 56 48.5	+0.6
NARO				S	Sg	21 56 52.3	+1.3
NARO				AML	AML		
	comp=E,83μm,0.2s						
NARO				AML	AML		
	comp=N,55μm,0.1s						
NARO				AML	AML		
	comp=N,55μm,0.1s						
ATCC	**AVT- Casa Cast**	**0.23**	**157**	P	Pg	21 56 48.6	+0.7
ATCC				S	Sg	21 56 53.0	+2.0
ATCC				AML	AML		
	comp=N,114μm,0.1s						
ATCC				AML	AML		
	comp=N,114μm,0.1s						
ATCC				AML	AML		
	comp=E,132μm,1.0s						
ATTE	**AVT- Monte Tez**	**0.23**	**212**	P	Pg	21 56 48.4	+0.4
BADI	**Badiali**	**0.23**	**301**	P	Pg	21 56 48.9	+0.8
BADI				S	Sg	21 56 52.9	+1.7
MPAG	**Monte Paganucc**	**0.29**	**36**	P	Pg	21 56 50.0	+0.8
MPAG				S	Sb	21 56 54.9	-1.0
MPAG				AML	AML		
	comp=E,36μm,1.5s						
MPAG				AML	AML		
	comp=N,44μm,1.6s						
PARC	**Parchiule**	**0.33**	**322**	P	Pb	21 56 50.8	-0.6
FSSB	**Fossombrone**	**0.35**	**32**	P	Pg	21 56 51.0	+0.6
FSSB				AML	AML		
	comp=N,66μm,0.3s						
FSSB				AML	AML		
	comp=E,51μm,1.1s						
CAFI	**Castiglion Fio**	**0.41**	**261**	P	Pb	21 56 52.0	-0.7
MGAB	**Montegabbione**	**0.56**	**212**	P	Pg	21 56 54.8	+0.5
MGAB				AML	AML		
	comp=E,30μm,1.2s						
MGAB				AML	AML		
	comp=N,32μm,0.7s						

NIED ***31*** *22:41:00, 31°40N×129°00E, h5km, Mw3.7 Best double couple: M₀4.51000×10¹⁴ NP1:φs193.00000°, δ62.00000°, λ-152.00000°. NP2:φs90.00000°, δ66.00000°, λ-31.00000°.*
ISCJB ***31*** *22:41:24.3±1.5, 31°47N±0°04×129°04E±0°06, h11km±9km, mb3.0/2, Error ellipse: s-maj=8.7km s-min=5.8km az=146.1*
JMA ***31*** *22:41:24.4±0.2, 31°45N×129°03E, h8km±2km, M3.9*
IDC ***31*** *22:41:25.8±3.1, 31°57N×128°98E, h0km, mb3.1/2, mb1 3.3/4, mb1mx3.1/46, mbtmp3.2/4, ML2.4/2, Error ellipse: s-maj=39.5km s-min=34.6km az=114.0*
ISC 31 22:41:25.3±2.0, 31°42N±0°05×129°10E±0°07, h8km±13km, n12, σ0°84/20, 1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSJ	**Shimokoshiki**	**0.58**	**64**	⇓P	**Pg**	**22 41 36.3**	**-0.3**
JSJ				*e*S	**Sg**	**22 41 44.8**	**+0.6**
JSU	**Suzuyama**	**1.16**	**86**	P	**Pb**	**22 41 47.2**	**-0.4**
JSU				S	**Sn**	**22 42 03.7**	**-0.2**
JKC	**Kuchinoerabu**	**1.34**	**135**	P	**Pn**	**22 41 50.5**	**+0.2**
JKC				*e*S	**Sn**	**22 42 08.6**	**+0.3**
JYAK	**Yakushimahirau**	**1.69**	**134**	P	**Pn**	**22 41 53.5**	**-1.6**
JYAK				*e*S	**Sn**	**22 42 17.6**	**+0.6**
JNN	**Nakanoshima**	**1.71**	**157**	P	**Pn**	**22 41 55.4**	**0.0**
JNN				*e*S	**Sn**	**22 42 18.2**	**+0.7**
JTZ	**Takazaki**	**1.76**	**74**	P	**Pn**	**22 41 55.7**	**-0.4**
JTZ				*e*S	**Sn**	**22 42 19.1**	**+0.4**
JTN	**Tanegashima 3**	**1.79**	**115**	P	**Pn**	**22 41 55.9**	**-0.5**
JTN				*e*S	**Sn**	**22 42 18.6**	**-0.7**
JMTN	**Minamitane**	**1.85**	**123**	P	**Pn**	**22 41 57.6**	**+0.2**
KSRS	**Korea Array**	**6.09**	**351**	Pn	**Pn**	**22 42 56.0**	**+0.3**
	0.4nm,0.3s,baz=169,slow=14,SNR=5.7						
KSRS				Sn	**Sn**	**22 44 04.7**	**-0.8**
	1.5nm,0.3s,baz=171,slow=25,SNR=11						
KSRS				Lg	Lg	22 44 33.4	
	1.1nm,0.3s,baz=166,slow=30,SNR=5.3						
MJAR	**Matsushiro Arr**	**9.12**	**54**	Pn	**Pn**	**22 43 39.5**	**+2.3**
	0.0nm,0.3s,baz=241,slow=14,SNR=2.5						
SONM	**Songino Array**	**23.83**	**320**	P	**P**	**22 46 38.8**	**-0.2**
	0.3nm,0.6s,baz=127,slow=8.9,SNR=3.6						
MKAR	**Makanchi Array**	**38.83**	**307**	P	**P**	**22 48 50.7**	**-0.1**
	0.4nm,0.9s,baz=109,slow=6.7,SNR=2.5						

IDC ***31*** *23:01:28.8±2.8, 33°31N×76°08E, h0km, mb3.2/4, mb1 3.3/7, mb1mx3.1/37, mbtmp3.2/7, ML3.0/3, Error ellipse: s-maj=58.5km s-min=25.4km az=53.0*
ISC 31 23:01:31.2±2.0, 33°5N±0°2×76°9E±0°3, h10km, n14, σ2°49/15, mb3.1/3, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DANN	**Dangsing**	**7.83**	**129**	*e*P	**Pn**	**23 03 25.6**	**+0.2**
	1.7nm,0.2s						
DANN				*e*S	**Sn**	**23 04 52.6**	**-1.6**
AAK	**Ala-Archa**	**9.32**	**349**	Pn	**Pn**	**23 03 48.9**	**+3.1**
	0.2nm,0.3s,baz=175,slow=11,SNR=6.0						
PKIN	**Phulchoki**	**9.42**	**126**	*e*P	**Pn**	**23 03 46.9**	**-0.3**
	3.3nm,0.2s						
PKI	**Pulchoki**	**9.43**	**126**	*e*P	**Pn**	**23 03 47.2**	**-0.3**
	0.5nm,0.4s						
GUN	**Gumba**	**9.54**	**123**	*e*P	**Pn**	**23 03 47.8**	**-1.2**
	6.5nm,0.7s						
JIRN	**Jiri**	**9.91**	**123**	*e*P	**Pn**	**23 03 53.0**	**-1.1**
	5.3nm,0.3s						
RAMN	**Ramite**	**10.64**	**125**	*e*P	**Pn**	**23 04 03.3**	**-0.7**
	2.3nm,0.4s						
TAPN	**Taplejung**	**11.18**	**120**	*e*P	**Pn**	**23 04 09.4**	**-1.9**
	1.8nm,0.4s						
MKAR	**Makanchi Array**	**13.92**	**16**	Pn	**P**	**23 04 53.6**	**-3.1**
	0.1nm,0.3s,baz=201,slow=14,SNR=8.7						
KURBB	**Kurchatov Arra**	**17.17**	**4**	Pn	**Pn**	**23 05 30.5**	**-0.6**
	0.0nm,0.3s,baz=193,slow=11,SNR=3.6						
BVAR	**Borovoye Array**	**20.07**	**349**	P	**P**	**23 06 03.8**	**-0.8**
	0.6nm,0.5s,baz=151,slow=12,SNR=8.1						
AKTO	**Aktyubinsk**	**21.88**	**326**	P	**P**	**23 06 20.4**	**-3.7**
	0.4nm,0.4s,baz=126,slow=11,SNR=4.1						
CMAR	**Chiang Mai Arr**	**24.78**	**122**	P	**P**	**23 06 57.1**	**+3.8**
	0.3nm,0.7s,baz=313,slow=8.5,SNR=2.8						
SONM	**Songino Array**	**26.39**	**48**	P	**P**	**23 07 11.9**	**+4.0**
	0.2nm,0.4s,baz=239,slow=8.1,SNR=3.2						

SJA ***31*** *23:21:37.2±0.5, 22°36S×68°38W, h116km±3km, ML3.8, MW3.6*
IDC ***31*** *23:21:37.8±0.9, 22°47S×68°18W, h93km±11km, mb3.3/3, mb1 3.5/5, mb1mx3.3/35, mbtmp3.8/5, Error ellipse: s-maj=24.8km s-min=19.0km az=118.0*
ISCJB ***31*** *23:21:38.1±0.6, 22°37S±0°04×68°50W±0°09, h122km±7km, mb3.5/2, Error ellipse: s-maj=13.8km s-min=5.9km az=4.5*
GUC ***31*** *23:21:39.1±0.7, 22°30S×68°63W, h121km±5km, ML3.5*
ISC 31 23:21:38.7±0.9, 22°37S±0°05×68°44W±0°08, h111km±8km, n27, σ1°35/42, 7C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.50**	**242**	P	**Pn**	**23 21 56.1**	**+0.1**
	544nm,0.3s,baz=52,slow=7.4,SNR=8101						
LVC				S	**Sn**	**23 22 08.8**	**-0.3**
	489nm,0.3s,baz=150,slow=23,SNR=99						
LVC	**Limon Verde**	**0.50**	**242**	*i* P	**Pn**	**23 21 56.2**	**+0.1**
LVC				IAML		23 22 09.7	
	comp=Z,1μm,0.1s						
LVC				*e*S	**Sn**	**23 22 09.8**	**+0.7**
PB09	**IPOC Station P**	**0.94**	**307**	⇑*i* P	**Pn**	**23 21 59.7**	**+0.1**
PB09				*e*S	**Sn**	**23 22 15.0**	**-0.4**
PB09				IAML		23 22 16.8	
	comp=N,864nm,0.4s						
PB09	**IPOC Station P**	**0.94**	**307**	*i* P	**Pn**	**23 21 59.6**	**0.0**
PB09				*e*S	**Sn**	**23 22 16.1**	**+0.8**
PB06	**IPOC Station P**	**1.10**	**252**	⇑*i* P	**Pn**	**23 22 01.4**	**+0.3**
PB06				*i* S	**Sn**	**23 22 18.6**	**+0.4**
PB06				IAML		23 22 19.8	
	comp=E,1μm,0.5s						
PB06	**IPOC Station P**	**1.10**	**252**	*i* P	**Pn**	**23 22 01.5**	**+0.3**
PB06				*e*S	**Sn**	**23 22 19.4**	**+1.2**
PB03	**IPOC Station P**	**1.26**	**285**	⇑*i* P	**Pn**	**23 22 02.7**	**-0.3**
PB03				*i* S	**Sn**	**23 22 20.6**	**-0.7**
PB03				IAML		23 22 21.9	
	comp=E,3μm,0.3s						
PB15	**IPOC Station P**	**1.27**	**229**	⇑*i* P	**Pn**	**23 22 04.0**	**+0.9**
PB15				*i* S	**Sn**	**23 22 23.1**	**+1.6**
PB15	**IPOC Station P**	**1.27**	**229**	*i* P	**Pn**	**23 22 03.8**	**+0.7**
PB15				*e*S	**Sn**	**23 22 22.6**	**+1.1**
PB15				IAML		23 22 25.6	
	comp=Z,4μm,0.2s						
PB04	**IPOC Station P**	**1.58**	**271**	⇑*i* P	**Pn**	**23 22 06.4**	**-0.4**
PB04				*i* S	**Sn**	**23 22 27.4**	**-0.7**
PB04				IAML		23 22 30.9	
	comp=N,1μm,0.3s						
PB04	**IPOC Station P**	**1.58**	**271**	*i* P	**Pn**	**23 22 06.9**	**+0.1**
PB05	**IPOC Station P**	**1.70**	**253**	⇑*i* P	**Pn**	**23 22 07.8**	**-0.3**
PB05				*i* S	**Sn**	**23 22 29.8**	**-0.7**
PB05				IAML		23 22 35.7	
	comp=N,460nm,0.2s						
PB05	**IPOC Station P**	**1.70**	**253**	*i* P	**Pn**	**23 22 08.3**	**+0.2**
PB10	**IPOC Station P**	**2.26**	**239**	⇓*i* P	**Pn**	**23 22 15.7**	**+0.7**
PB10				IAML		23 22 50.8	
	comp=N,260nm,0.2s						
PB10	**IPOC Station P**	**2.26**	**239**	*i* P	**Pn**	**23 22 15.3**	**+0.4**
PB08	**IPOC Station P**	**2.32**	**343**	*e*P	**Pn**	**23 22 16.9**	**+0.6**
PB08				*i* S	**Sn**	**23 22 46.0**	**+1.1**
PB08				IAML		23 22 48.3	
	comp=E,157nm,0.3s						
TA01	**Diego Aracena**	**2.42**	**318**	⇑*i* P	**Pn**	**23 22 15.8**	**-1.4**
TA01				*i* S	**Sn**	**23 22 45.0**	**-1.7**
TA01				IAML		23 22 46.7	
	comp=N,314nm,0.5s						
PB11	**IPOC Station P**	**2.84**	**336**	*e*P	**Pn**	**23 22 21.7**	**-1.1**
PB11				*i* S	**Sn**	**23 22 55.1**	**-1.5**
PB14	**IPOC Station P**	**2.88**	**218**	*i* P	**Pn**	**23 22 23.9**	**+0.5**
LPAZ	**La Paz**	**6.06**	**3**	P	**Pn**	**23 23 08.2**	**+1.7**
	comp=N,0.5nm,0.3s,baz=180,slow=8.1,SNR=11						
LPAZ				S	**Sn**	**23 24 16.4**	**+1.6**
	comp=N,0.1nm,0.3s,baz=132,slow=7.9,SNR=1.2						
LPAZ	**La Paz**	**6.06**	**3**	*i* P	**Pn**	**23 23 08.3**	**+1.9**
RTLL	**Cerro Villicun**	**8.92**	**180**	*i* P	**Pn**	**23 23 43.6**	**-1.1**
RTLL				IAML		23 23 46.2	
	comp=Z,2.5nm,0.3s						
SIV	**San Ignacio**	**9.42**	**49**	P	**Pn**	**23 23 48.2**	**-3.3**
	comp=Z,2.8nm,0.3s,baz=246,slow=12,SNR=55						
RTCV	**Cerro Valdivia**	**9.45**	**181**	*i* P	**Pn**	**23 23 47.4**	**-4.4**
BDFB	**Brasilia**	**20.43**	**74**	P	**P**	**23 26 06.3**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=242,slow=10.0,SNR=3.5						
TXAR	**Lajitas Array**	**61.59**	**325**	P	**P**	**23 31 47.2**	**+2.6**
	comp=Z,0.1nm,0.6s,baz=143,slow=7.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**77.24**	**70**	P	**P**	**23 33 20.8**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=257,slow=5.4,SNR=25						

ISCJB ***31*** *23:33:16.8±0.7, 44°7S±0°1×37°4E±0°2, h10km, mb3.9/8, MS3.8/7, Error ellipse: s-maj=28.3km s-min=11.3km az=152.0*
IDC ***31*** *23:33:17.2±0.8, 44°67S×37°56E, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.8/35, mbtmp4.0/10, ML3.4/2, MS3.6/8, Ms1 3.6/8, ms1mx3.4/36, Error ellipse: s-maj=36.3km s-min=17.2km az=63.0*
ISC 31 23:33:18.6±0.8, 44°7S±0°1×37°5E±0°2, h10km, n14, σ0°70/11, mb3.9/8, MS3.5/7, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**17.86**	**308**	P	**Pn**	**23 37 26.1**	**-1.1**
	0.1nm,0.3s,baz=117,slow=11,SNR=1.7						
SUR				LR	LR	23 43 26.7	
	comp=Z,105nm,18.1s,baz=164,slow=34						
BOSA	**Boshof**	**18.75**	**325**	P	**P**	**23 37 37.1**	**-0.6**
	0.1nm,0.3s,baz=142,slow=10,SNR=5.4						
BOSA				LR	LR	23 43 29.4	
	comp=Z,191nm,19.2s,baz=206,slow=33						
LBTB	**Lobatse**	**21.85**	**330**	P	**P**	**23 38 11.2**	**-0.2**
	3.7nm,1.0s,baz=167,slow=14,SNR=2.8						
LBTB				LR	LR	23 45 24.9	
	comp=Z,120nm,19.6s,baz=155,slow=33						
MAW	**Mawson**	**26.60**	**158**	LR	LR	23 47 09.3	
	comp=Z,81nm,19.8s,baz=256,slow=31						
OPO	**Ambohidratompo**	**27.28**	**20**	LR	LR	23 48 22.9	
	comp=Z,123nm,18.1s,baz=348,slow=33						
LSZ	**Lusaka**	**30.34**	**342**	P	**P**	**23 39 31.2**	**+0.6**
	1.1nm,0.6s,baz=159,slow=8.9,SNR=3.8						
LSZ				LR	LR	23 49 58.5	
	comp=Z,94nm,19.9s,baz=156,slow=33						
SNAA	**Sanae**	**33.18**	**202**	P	**P**	**23 39 55.8**	**+0.7**
	0.7nm,0.7s,baz=56,slow=11,SNR=3.8						
QSPA	**South Pole Qui**	**45.53**	**180**	P	**P**	**23 41 38.0**	**-0.1**
	1.0nm,0.6s,baz=253,slow=1.9,SNR=8.3						
VNDA	**Vanda**	**53.40**	**167**	P	**P**	**23 42 37.1**	**-0.7**
	1.0nm,0.6s,baz=153,slow=9.0,SNR=3.2						
VNDA				LR	LR	00 03 34.8	
	comp=Z,71nm,20.5s,baz=203,slow=34						
TORD	**Torodi Ar. Bea**	**66.07**	**321**	P	**P**	**23 44 06.6**	**+0.9**
	0.8nm,0.9s,baz=143,slow=8.0,SNR=4.0						
STKA	**Stephens Creek**	**77.29**	**122**	P	**P**	**23 45 13.2**	**-0.1**
	2.7nm,0.8s,baz=216,slow=8.4,SNR=5.8						
STKA				LR	LR	00 14 28.8	
	comp=Z,145nm,21.3s,baz=345,slow=32						
ASAR	**Alice Springs**	**78.10**	**111**	P	**P**	**23 45 17.8**	**-0.2**
	1.1nm,0.9s,baz=232,slow=5.0,SNR=6.5						
MKAR	**Makanchi Array**	**99.30**	**29**	LR	LR	00 28 19.9	
	comp=Z,340nm,18.4s,baz=96,slow=33						
TXAR	**Lajitas Array**	**145.74**	**257**	PKPbc	**PKPab**	**23 52 58.4**	**+0.2**
	1.2nm,0.8s,baz=152,slow=4.6,SNR=12						

MAN ***31*** *23:33:54.9, 14°16N×124°31E, h0km, mb4.7, ML3.6, MS3.6*
IDC ***31*** *23:34:06.0±4.9, 14°05N×124°30E, h132km±42km, mb3.0/5, mb1 3.2/6, mb1mx3.0/40, mbtmp3.4/6, Error ellipse: s-maj=51.4km s-min=20.0km az=62.0*
ISC 31 23:33:57.6±1.1, 14°05N±0°08×124°35E±0°09, h37km, n12, σ2°86/15, mb3.3/5, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.49**	**203**	P	**Pn**	**23 34 06.3**	**-1.7**
PVCP				S	**Sn**	**23 34 12.5**	**-2.9**
CNP	**Catarman**	**1.56**	**169**	P	**Pn**	**23 34 24.8**	**+2.0**
CNP				S	**Sn**	**23 34 48.4**	**+6.6**
GQP	**Guinayangan**	**1.86**	**266**	⇓P	**Pn**	**23 34 27.5**	**+0.7**
GQP				S	**Sn**	**23 34 52.1**	**+3.0**
POLP	**Polilio Island**	**2.43**	**286**	P	**Pn**	**23 34 36.1**	**+1.4**
POLP				S	**Sn**	**23 35 07.7**	**+4.4**
LQP	**Lukban**	**2.73**	**272**	⇑P	**Pn**	**23 34 39.4**	**+0.3**
OTRP	**Odiongan**	**2.83**	**234**	P	**Pn**	**23 34 41.0**	**+0.8**
TGY	**Tagaytay City**	**3.31**	**271**	P	Pn	23 34 54.5	+7.6
	34nm,0.3s,baz=296,slow=5.5,SNR=4.5						
TGY				S	Sn	23 35 36.3	+11
	28nm,0.3s,baz=116,slow=5.5,SNR=3.9						
CMAR	**Chiang Mai Arr**	**24.77**	**284**	P	**P**	**23 39 14.2**	**-1.8**
	0.6nm,0.8s,baz=80,slow=7.5,SNR=6.7						
SONM	**Songino Array**	**36.84**	**340**	P	**P**	**23 41 01.3**	**-1.0**
	0.1nm,0.4s,baz=143,slow=9.3,SNR=3.3						
ASAR	**Alice Springs**	**38.63**	**166**	P	**P**	**23 41 16.9**	**-0.6**
	0.4nm,0.5s,baz=351,slow=7.6,SNR=8.3						
MKAR	**Makanchi Array**	**47.91**	**322**	P	**P**	**23 42 31.4**	**-0.8**
	0.2nm,0.6s,baz=119,slow=8.3,SNR=2.7						
KURBB	**Kurchatov Arra**	**51.92**	**325**	P	**P**	**23 43 01.2**	**-1.3**
	0.4nm,0.6s,baz=123,slow=7.1,SNR=2.9						

IDC ***31*** *23:41:45.0±0.5, 18°98N×120°26E, h0km, mb4.8/29, mb1 4.8/31, mb1mx4.8/42, mbtmp4.8/31, ML3.8/3, MS4.5/35, Ms1 4.5/35, ms1mx4.5/42, Error ellipse: s-maj=15.1km s-min=12.0km az=95.0*
ISCJB ***31*** *23:41:46.2±0.9, 19°08N±0°02×120°17E±0°02, h13km±5km, mb5.0/118, MS4.6/40, Error ellipse: s-maj=3.4km s-min=2.6km az=162.1*
MOS ***31*** *23:41:47.3±1.0,

SGCP	**Mt. Cagua**	**1.95**	**115**	P		**Pn**	**23 42 20.7**	**0.0**
SGCP				S		**Sn**	**23 42 45.0**	**0.0**
CVP	**Callao Caves**	**2.07**	**131**	⇑P		**Pn**	**23 42 21.4**	**-0.9**
CVP				S		**Sn**	**23 42 49.3**	**+1.3**
BBP	**Basco**	**2.16**	**51**	P		**Pn**	**23 42 22.4**	**-1.2**
BBP				S		**Sn**	**23 42 47.1**	**-3.1**
CAUP	**Cauayan**	**2.63**	**143**	P		**Pn**	**23 42 31.8**	**+1.7**
CAUP				S		**Sn**	**23 43 01.5**	**-0.4**
BOLP	**Bolinao**	**2.69**	**186**	P		**Pn**	**23 42 30.0**	**-0.9**
BOLP				S		**Sn**	**23 42 59.1**	**-4.3**
SCZP	**Santa Cruz**	**3.29**	**185**	P		**Pn**	**23 42 42.7**	**+3.5**
SCZP				S		**Sn**	**23 43 16.3**	**-1.9**
BALP	**Baler**	**3.57**	**158**	P		**Pn**	**23 42 44.1**	**+1.1**
BALP				S		Sn	23 43 10.4	-15
TWG	**Pinlang**	**3.82**	**12**			**Pn**	**23 42 44.6**	**-1.8**
TPUB	**Ta-pu**	**4.22**	**6**			**Pn**	**23 42 49.6**	**-2.4**
SSLB	**Suanglung**	**4.74**	**9**			**Pn**	**23 42 56.3**	**-2.9**
TGY	**Tagaytay City**	**5.00**	**172**	Pn		**Pn**	**23 43 04.3**	**+1.6**
	33nm,0.3s,baz=299,slow=0.9,SNR=6.0							
TGY				LR		LR	23 45 27.5	
	comp=Z,10μm,21.9s,baz=34,slow=45							
LQP	**Lukban**	**5.11**	**165**	⇑p		**Pn**	**23 43 01.1**	**-3.2**
NACB	**Ninganchiao**	**5.24**	**14**			**Pn**	**23 43 05.4**	**-0.6**
KNMB	**Chin-men Tao**	**5.62**	**343**			**Pn**	**23 43 08.0**	**-3.2**
YHNB	**Yeheng**	**5.67**	**11**			**Pn**	**23 43 11.6**	**-0.4**
YOJ	**Yonaguni jima**	**5.97**	**26**	P		**Pn**	**23 43 16.0**	**0.0**
YOJ	**Yonaguni jima**	**5.97**	**26**			**Pn**	**23 43 16.0**	**0.0**
TATO	**Taipei**	**5.99**	**11**			**Pn**	**23 43 17.4**	**+1.1**
QZH	**Quanzhou**	**6.02**	**346**	⇑*i*Pn		**Pn**	**23 43 14.5**	**-2.2**
QZH				Sn		**Sn**	**23 44 19.5**	**-6.0**
QZH				LR		LR		
	comp=N,10μm,12.2s							
QZH				LR		LR		
	comp=E,5μm,11.2s							
QZH				LR		LR		
	comp=Z,11μm,12.0s							
HKPS	**Hong Kong Po S**	**6.49**	**300**			**Pn**	**23 43 21.1**	**-2.1**
QIZ	**Qiongzhong**	**9.78**	**271**	P		**Pn**	**23 44 06.5**	**-1.8**
QIZ				S		**Sn**	**23 45 59.3**	**+1.3**
QIZ				pmax		pmax		
	comp=Z,20nm,0.9s							
QIZ				LR		LR		
	comp=N,6μm,15.7s							
QIZ				LR		LR		
	comp=E,5μm,13.3s							
QIZ				LR		LR		
	comp=Z,5μm,12.3s							
QIZ	**Qiongzhong**	**9.78**	**271**			**Pn**	**23 44 06.5**	**-1.8**
JOW	**Kunigami**	**10.73**	**43**	Pn		**Pn**	**23 44 20.1**	**-1.2**
	0.4nm,0.3s,baz=194,slow=1.4,SNR=6.8							
JOW	**Kunigami**	**10.73**	**43**			**Pn**	**23 44 22.3**	**+1.0**
WHN	**Wuhan**	**12.58**	**336**	⇓P		**Pn**	**23 44 46.5**	**-0.2**
WHN				S		**Sn**	**23 47 06.3**	**-0.3**
WHN				LR		LR		
	comp=N,6μm,11.3s							
WHN				LR		LR		
	comp=E,12μm,10.1s							
WHN				LR		LR		
	comp=Z,14μm,11.9s							
KCP	**Kidapawan**	**12.91**	**158**	⇑P		P	23 44 56.9	-5.1
NJ2	**Nanjing**	**12.98**	**355**	*e*P		**Pn**	**23 44 53.5**	**+1.5**
NJ2				pmax		pmax		
	comp=Z,14nm,0.6s							
NJ2				pmax		pmax		
	comp=Z,220nm,4.0s							
NJ2				LR		LR		
	comp=N,6μm,11.8s							
NJ2				LR		LR		
	comp=E,6μm,11.8s							
NJ2				LR		LR		
	comp=Z,4μm,9.9s							
DAV	**Davao City (W)**	**13.04**	**156**	LR		LR	23 51 06.1	
	comp=Z,8μm,18.7s,baz=332,slow=43							
DAV	**Davao City (W)**	**13.04**	**156**	⇑*e*P		**Pn**	**23 44 54.0**	**+1.1**
KKM	**Kota Kinabalu**	**13.52**	**197**	Pn		**Pn**	**23 45 00.3**	**+0.7**
GYA	**Guiyang**	**14.47**	**303**	⇑*i*P		**Pn**	**23 45 11.8**	**-0.8**
GYA				PP		**PnPn**	**23 45 22.5**	**+1.9**
GYA				S		**Sn**	**23 47 52.5**	**-0.4**
GYA				SS		**S**	**23 48 11.3**	**-1.3**
GYA				pmax		pmax		
	comp=Z,20nm,0.7s							
GYA				pmax		pmax		
	comp=Z,80nm,5.7s							
GYA				LR		LR		
	comp=N,6μm,12.1s							
GYA				LR		LR		
	comp=E,5μm,13.9s							
GYA				LR		LR		
	comp=Z,5μm,11.6s							
UBPT	**Khong Chiam**	**14.56**	**257**	P		P	23 45 29.5	+9.3
UBPT	**Khong Chiam**	**14.56**	**257**	Pn		**Pn**	**23 45 13.2**	**-0.6**
ENH	**Enshi**	**14.78**	**321**			**Pn**	**23 45 16.6**	**-0.1**
SLVN	**Son La**	**15.45**	**281**	Pn		**Pn**	**23 45 22.2**	**-3.5**
NONG	**Nongkai**	**16.19**	**269**	P		**P**	**23 45 38.4**	**+0.1**
	1.0nm,1.1s							
JNU	**Nakatsue**	**16.95**	**32**	Pn		**Pn**	**23 45 44.8**	**0.0**
	0.8nm,0.3s,baz=198,slow=5.8,SNR=13							
JNU				LR		LR	23 53 05.0	
	comp=Z,864nm,18.5s,baz=214,slow=40							
JNU	**Nakatsue**	**16.95**	**32**	IAmb		IAmb	23 45 58.6	
	comp=Z,266nm,1.0s							
KMI	**Kunming**	**17.24**	**294**	P		**Pn**	**23 45 48.5**	**-0.3**
KMI				pP		P	23 45 50.8	+0.5
KMI				sP		pP	23 45 53.5	+0.1
KMI				S		**Sn**	**23 48 56.0**	**-4.6**
KMI				SS		**SnSn**	**23 49 19.0**	**+5.0**
KMI				pmax		pmax		
	comp=Z,10.0nm,0.5s							
KMI				pmax		pmax		
	comp=Z,580nm,3.4s							
KMI				LR		LR		
	comp=Z,5μm,12.4s							
KMI				LR		LR		
	comp=Z,4μm,12.0s							
KMI				LR		LR		
	comp=Z,4μm,12.7s							
KMI	**Kunming**	**17.24**	**294**	P		**Pn**	**23 45 48.1**	**-0.7**
KMI				pmax		pmax		
	comp=Z,33nm,1.1s							
KMI	**Kunming**	**17.24**	**294**	P		**Pn**	**23 45 48.1**	**-0.7**
TIA	**Tai'an**	**17.28**	**352**	P		**P**	**23 45 50.3**	**-0.1**
TIA				pmax		pmax		
	comp=Z,68nm,1.4s							
TIA				pmax		pmax		
	comp=Z,1μm,10.3s							
TIA				LR		LR		
	comp=Z,3μm,11.1s							
TIA				LR		LR		
	comp=Z,2μm,14.4s							
TIA				LR		LR		
	comp=Z,3μm,10.7s							
CHAI	**Chaiyaphum**	**17.64**	**263**	P		**P**	**23 46 00.8**	**+6.3**
	comp=Z,29μm,0.9s							
XAN	**Xi'an**	**17.97**	**328**	P		**P**	**23 45 58.0**	**0.0**
XAN				pmax		pmax		
	comp=Z,56nm,1.4s							
XAN				pmax		pmax		
	comp=Z,620nm,6.9s							
XAN				LR		LR		
	comp=Z,5μm,11.9s							
XAN				LR		LR		
	comp=Z,3μm,9.8s							
XAN				LR		LR		
	comp=Z,6μm,10.6s							
XAN	**Xi'an**	**17.97**	**328**	P		**Pn**	**23 45 56.6**	**-0.9**
XAN	**Xi'an**	**17.97**	**328**	P		**Pn**	**23 45 56.6**	**-0.9**
SBUM	**Sibu**	**18.27**	**206**	P		**P**	**23 46 06.0**	**+4.6**
SBUM	**Sibu**	**18.27**	**206**	Pn		**Pn**	**23 45 59.3**	**-2.0**
TJN	**Taejon**	**18.36**	**19**	⇓*e*P		**P**	**23 46 03.6**	**+1.4**
MRSI	**Marisa**	**18.56**	**174**	P		**P**	**23 46 03.4**	**-1.2**
	comp=Z,64nm,0.9s,comp=Z,958nmcomp=Z,2μm							
MPSI	**Mapaga**	**18.62**	**181**	P		**P**	**23 46 03.3**	**-2.0**
	comp=Z,23nm,0.9s,comp=Z,898nmcomp=Z,3μm							
UTTA	**Uttaradit**	**18.68**	**269**	P		**Pn**	**23 46 13.3**	**+7.1**
	comp=Z,35μm,1.3s,comp=Z,405μm							
PHIT	**Phitsanulok**	**18.88**	**267**	P		**Pn**	**23 46 15.0**	**+6.3**
	comp=Z,212μm,1.2s							
PHRA	**Phrae**	**18.90**	**272**	P		**Pn**	**23 46 10.6**	**+1.6**
	comp=Z,7.3nm,1.7s							
CD2	**Chengdu**	**18.96**	**312**	P		**Pn**	**23 46 10.3**	**+0.7**
CD2				PP		**pwP**	**23 46 20.3**	**+4.2**
CD2				SS		S	23 50 00.5	+16
CD2				pmax		pmax		
	comp=Z,100nm,1.1s							
CD2				pmax		pmax		
	comp=Z,310nm,3.5s							
CD2				LR		LR		
	comp=Z,7μm,13.5s							
CD2				LR		LR		
	comp=Z,8μm,12.1s							
CD2				LR		LR		
	comp=Z,10μm,11.0s							
INCN	**Inchon**	**19.19**	**16**	P		**P**	**23 46 11.6**	**+0.2**
INCN				pmax		pmax		
	comp=Z,131nm,1.2s							
INCN	**Inchon**	**19.19**	**16**	P		**P**	**23 46 11.6**	**+0.2**
INCN				IAmb		IAmb	23 46 21.9	
	comp=Z,131nm,1.1s							
LAMP	**Lampang**	**19.46**	**272**	P		**Pn**	**23 46 19.0**	**+3.2**
	comp=Z,35μm,1.0s,comp=Z,405μm							
KSAR	**Wonju Array Be**	**19.50**	**19**	P		**P**	**23 46 15.1**	**+0.3**
KSAR	**Wonju Array Be**	**19.50**	**19**	P		**P**	**23 46 15.1**	**+0.3**
KSRS	**Korea Array**	**19.52**	**19**	P		**P**	**23 46 14.4**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=202,slow=11,SNR=53							
KSRS				PcP		**PcP**	**23 50 34.4**	**-1.0**
	comp=Z,0.0nm,0.3s,baz=193,slow=3.4,SNR=4.1							
KSRS				LR		LR	23 54 00.1	
	comp=Z,966nm,20.6s,baz=202,slow=38							
PATY	**Pattaya**	**19.54**	**255**	P		**Pn**	**23 46 21.8**	**+5.1**
	comp=Z,49μm,1.5s							
KS19	**Wonju Array Si**	**19.55**	**19**	P		**P**	**23 46 15.2**	**-0.1**
KS19				IAmb		IAmb	23 46 24.8	
	comp=Z,92nm,1.0s							
SMKI	**Samarinda**	**19.62**	**189**	P		**Pn**	**23 46 18.6**	**+1.0**
	comp=Z,263nm,1.2s							
TIY	**Taiyuan**	**19.77**	**342**	*e*P		**Pn**	**23 46 21.5**	**+2.2**
TIY				S		**S**	**23 49 59.3**	**-0.9**
TIY				pmax		pmax		
	comp=Z,100nm,1.2s							
TIY				pmax		pmax		
	comp=Z,1μm,11.8s							
TIY				LR		LR		
	comp=Z,3μm,11.5s							
TIY				LR		LR		
	comp=Z,5μm,16.6s							
DL2	**Dalian**	**19.80**	**3**	P		**Pn**	**23 46 20.0**	**+0.4**
DL2				pmax		pmax		
	comp=Z,200nm,0.9s							
DL2				pmax		pmax		
	comp=Z,2μm,9.6s							
DL2				LR		LR		
	comp=Z,2μm,10.6s							
DL2				LR		LR		
	comp=Z,2μm,12.4s							
DL2				LR		LR		
	comp=Z,2μm,11.2s							
APSI	**Ampana**	**19.91**	**176**	P		**P**	**23 46 16.1**	**-3.3**
	comp=Z,82nm,1.2s,comp=Z,812nm							
KSM	**Kuching**	**19.99**	**210**	P		**P**	**23 46 21.0**	**+0.7**
KSM	**Kuching**	**19.99**	**210**	P		**Pn**	**23 46 21.4**	**-0.7**
CMMT	**Chiang Mai**	**20.09**	**273**	P		Pn	23 46 22.7	-0.5
	comp=Z,25nm,1.7s,comp=Z,690nm							
CHTO	**Chiang Mai**	**20.09**	**273**	P		**P**	**23 46 18.6**	**-2.8**
CHTO				pmax		pmax		
	comp=Z,24nm,1.1s							
CHTO	**Chiang Mai**	**20.09**	**273**	P		**P**	**23 46 18.6**	**-2.8**
UTHA	**Uthaitani**	**20.10**	**263**	P		Pn	23 46 26.0	+2.6
	comp=Z,57μm,1.3s,comp=Z,629μm							
CM31	**Chiang Mai Arr**	**20.12**	**272**	P		**P**	**23 46 22.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**20.12**	**272**	*i* P		Pn	23 46 23.6	0.0
CMAR				pmax		pmax		
	comp=Z,14nm,1.0s							
CMAR	**Chiang Mai Arr**	**20.12**	**272**	P		Pn	23 46 22.9	-0.8
	comp=Z,14nm,1.0s,baz=84,slow=8.4,SNR=41							
CMAR				PcP		**PcP**	**23 50 37.2**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=82,slow=0.4,SNR=15							
CMAR				LR		LR	23 54 12.4	
	comp=Z,513nm,18.5s,baz=82,slow=37							
CMAR	**Chiang Mai Arr**	**20.12**	**272**	P		**P**	**23 46 21.3**	**-0.4**
CMAR						**PcP**	**23 50 37.1**	**+0.3**
LUWI	**Luwuk**	**20.15**	**172**	P		**P**	**23 46 20.6**	**-1.4**
	comp=Z,162nm,1.2s,comp=Z,2μm							
LUWI	**Luwuk**	**20.15**	**172**	P		**P**	**23 46 20.9**	**-1.1**
LUWI				IAmb		IAmb	23 46 37.2	
	comp=Z,88nm,0.9s							
BKB	**Balikpapan**	**20.47**	**189**	P		**P**	**23 46 25.3**	**-0.1**
	comp=Z,271nm,1.2s,comp=Z,3μmcomp=Z,3μm							
BKB	**Balikpapan**	**20.47**	**189**	P		**P**	**23 46 24.5**	**-1.0**
UMPA	**Umpang Tak**	**20.52**	**265**	P		Pn	23 46 30.7	+2.4
	comp=Z,67μm,1.2s							
PHET	**Kaeng Krachan**	**20.68**	**256**	P		Pn	23 46 32.9	+2.8
	comp=Z,54μm,1.1s							
SRDT	**SRDT**	**20.71**	**260**	P		Pn	23 46 33.5	+3.0
	comp=Z,30nm,1.8s							
MHMT	**Masarieng**	**21.11**	**271**	P		**P**	**23 46 35.2**	**+2.8**
	comp=Z,94nm,1.4s,comp=Z,2μm							
BJT	**Baijiatuau**	**21.16**	**351**	P		**P**	**23 46 33.2**	**+0.5**
BJT				pmax		pmax		
	comp=Z,180nm,1.0s							
BJT	**Baijiatuau**	**21.16**	**351**	P		**P**	**23 46 33.2**	**+0.5**
BJI	**Beijing**	**21.18**	**351**	P		**P**	**23 46 34.0**	**+1.1**
BJI				S		**S**	**23 50 28.5**	**+0.4**
BJI				pmax		pmax		
	comp=Z,190nm,1.1s							
BJI				LR		LR		
	comp=Z,2μm,11.8s							
BJI				LR		LR		
	comp=Z,1μm,9.8s							
BJI				LR		LR		
	comp=Z,2μm,11.8s							
JCJ	**Chichijima**	**21.73**	**64**	LR		LR	23 53 02.9	
	comp=Z,398nm,21.4s,baz=232,slow=31							
SANI	**Sanana**	**21.75**	**164**	P		**P**	**23 46 34.6**	**-4.7**
	comp=Z,67nm,0.9s							
TTSI	**Tana Toraja**	**21.98**	**181**	P		**P**	**23 46 43.2**	**+1.4**
	comp=Z,64nm,1.0s,comp=Z,1μm							
INU	**Inuyama**	**22.01**	**39**	P		**P**	**23 46 42.2**	**+0.3**
LZH	**Lanzhou**	**22.23**	**323**	⇓P		**P**	**23 46 45.8**	**+1.2**
LZH				pP		sP	23 46 49.3	+0.1
LZH				S		**S**	**23 50 51.5**	**+2.4**
LZH				SS		**SnSn**	**23 51 25.0**	**+8.5**
LZH				pmax		pmax		
	comp=Z,150nm,1.3s							
LZH				pmax		pmax		
	comp=Z,1μm,5.2s							
LZH				LR		LR		
	comp=Z,6μm,11.4s							
LZH				LR		LR		
	comp=Z,4μm,12.1s							
LZH				LR		LR		
	comp=Z,6μm,13.0s							
KBKI	**Kotabaru**	**22.58**	**190**	P		**P**	**23 46 47.3**	**-0.9**
	comp=Z,26nm,0.8s							
SWI	**Sorong**	**22.61**	**150**	P		**P**	**23 46 52.3**	**+3.8**
TRTT	**Trang**	**22.82**	**243**	P		P	23 47 02.1	+11
SNY	**Shenyang**	**22.86**	**7**	⇑P		**P**	**23 46 51.0**	**0.0**
SNY				S		**S**	**23 50 56.5**	**-3.6**
SNY				pmax		pmax		
	comp=Z,32nm,1.3s							
SNY				pmax		pmax		
	comp=Z,600nm,3.8s							
SNY				LR		LR		
	comp=Z,2μm,11.2s							
SNY				LR		LR		
	comp=Z,700nm,10.4s							
SNY				LR		LR		
	comp=Z,4μm,11.3s							
SPSI	**Sidrap Palu**	**22.90**	**181**	P		**P**	**23 46 52.5**	**+1.0**
	comp=Z,242nm,1.2s,comp=Z,2μm							
HHC	**Hu-ho-hao-te**	**22.92**	**343**	*e*P		**P**	**23 46 53.0**	**+1.2**
HHC				PP		**PnPn**	**23 47 24.5**	**+8.0**
HHC				pmax		pmax		
	comp=Z,60nm,1.2s							
HHC				pmax		pmax		
	comp=Z,650nm,5.1s							
HHC				LR		LR		
	comp=Z,2μm,12.2s							
HHC				LR		LR		
	comp=Z,1μm,13.3s							
HHC				LR		LR		
	comp=Z,2μm,12.8s							
SURT	**Suratani**	**23.03**	**247**	P		**P**	**23 46 56.2**	**+3.2**
	comp=Z,68nm,1.9s,comp=Z,2μm							
NLAI	**Namlea**	**23.20**	**162**	P		**P**	**23 46 55.6**	**+1.0**
	comp=Z,63nm,0.9s,comp=Z,3μm							
KULM	**Kulim**	**23.46**	**237**	P		**P**	**23 46 58.0**	**+0.7**
KULM	**Kulim**	**23.46**	**237**	P		**P**	**23 46 57.2**	**-0.1**
MYKOM	**Kota Tinggi**	**23.48**	**225**	P		**P**	**23 46 59.0**	**+1.6**
MYKOM	**Kota Tinggi**	**23.48**	**225**	P		**P**	**23 46 57.8**	**+0.4**
MAJO	**Matsushiro**	**23.53**	**39**	⇓*e*P		**P**	**23 46 57.4**	**-0.4**
MAJO				pmax		pmax		
	comp=Z,107nm,2.3s							
MAJO	**Matsushiro**	**23.53**	**39**	P		**P**	**23 46 57.1**	**-0.7**
MAJO				IAmb		IAmb	23 47 12.9	
	comp=Z,82nm,1.1s							
MAT	**Matsushiro**	**23.53**	**39**	P		**P**	**23 46 57.5**	**-0.3**
MAT				S		**S**	**23 51 14.0**	**+2.6**
MJAR	**Matsushiro Arr**	**23.53**	**39**	P		**P**	**23 46 57.6**	**-0.2**
MJAR				pmax		pmax		
	comp=Z,29nm,1.1s							
MJAR	**Matsushiro Arr**	**23.53**	**39**	P		**P**	**23 46 57.8**	**0.0**
	comp=Z,7.7nm,1.0s,baz=174,slow=32,SNR=11							
MJAR	**Matsushiro Arr**	**23.53**	**39**	P		**P**	**23 46 57.6**	**-0.2**
MJB9	**Matsu-Tunnel**	**23.53**	**39**	IAmb		IAmb	23 47 17.1	
	comp=Z,114nm,1.2s							
IPM	**Ipoh**	**23.67**	**235**	P		**P**	**23 47 00.0**	**+0.6**
MSAI	**Masohi**	**23.89**	**158**	P		**P**	**23 47 05.4**	**+4.0**
KAPI	**Kappang**	**23.94**	**181**	P		**P**	**23 47 01.9**	**0.0**
KAPI				pmax		pmax		
	comp=Z,86nm,1.0s							
KAPI	**Kappang**	**23.94**	**181**	P		**P**	**23 47 01.9**	**0.0**
KAPI				IAmb		IAmb	23 47 21.1	
	comp=Z,86nm,1.0s							
AAI	**Ambon**	**23.95**	**160**	P		**P**	**23 47 07.0**	**+4.9**
BKSI	**Bulukumba**	**24.24**	**180**	P		**P**	**23 47 04.8**	**+0.1**
	comp=Z,61nm,0.9s,comp=Z,948nm							
GUMO	**Guam**	**24.30**	**99**	LR		LR	23 56 37.6	
	comp=Z,1μm,18.6s,baz=290,slow=37							
TPI	**Tanjungpandan**	**24.95**	**211**	P		**P**	**23 47 12.3**	**+1.1**
	comp=Z,60nm,1.4s,comp=Z,1μm							
CN2	**Changchun**	**25.05**	**9**	*e*P		**P**	**23 47 12.5**	**+0.7**
CN2				*e*sP		pwP	23 47 21.0	+2.0
CN2				*e*S		**S**	**23 51 32.8**	**-2.7**
CN2				pmax		pmax		
	comp=Z,30nm,1.3s							
CN2				pmax		pmax		
	comp=Z,800nm,10.0s							
CN2				LR		LR		
	comp=Z,2μm,12.0s							
CN2				LR		LR		
	comp=Z,2μm,12.0s							
CN2				LR		LR		
	comp=Z,2μm,12.0s							
MSHR	**Mys Shultsa**	**25.21**	**19**	⇓*e*P		**P**	**23 47 15.9**	**+2.7**
VLA	**Vladivostok**	**25.93**	**20**	⇓*i*P		**P**	**23 47 22.8**	**+3.1**
VLA				pmax		pmax		
	comp=Z,197nm,1.4s							
PSI	**Prapat**	**26.35**	**235**	P		**P**	**23 47 24.0**	**0.0**
PSI				pmax		pmax		
	comp=Z,17nm,1.0s							
RPSI	**Rantau Prapat**	**26.41**	**235**	P		**P**	**23 47 24.0**	**-0.4**
BKNI	**Bangkinang**	**26.46**	**227**	P		**P**	**23 47 27.1**	**+2.3**
	comp=Z,69nm,0.8s							
BKNI	**Bangkinang**	**26.46**	**227**	P		**P**	**23 47 24.1**	**-0.7**
BKNI				IAmb		IAmb	23 47 35.1	
	comp=Z,52nm,0.8s							
PMBI	**Palembang**	**26.61**	**216**	P		**P**	**23 47 26.5**	**+0.3**
MDJ	**Mudanjiang**	**26.65**	**15**	P		**P**	**23 47 26.5**	**+0.2**
MDJ				S		**S**	**23 52 05.8**	**+4.8**
MDJ				sS		sS	23 52 15.0	+8.4
MDJ				pmax		pmax		
	comp=Z,81nm,1.1s							
MDJ				pmax		pmax		
	comp=Z,310nm,3.7s							
MDJ				LR		LR		
	comp=Z,2μm,13.0s							
MDJ				LR		LR		
	comp=Z,2μm,12.1s							
MDJ				LR		LR		
	comp=Z,1μm,13.0s							
MDJ	**Mudanjiang**	**26.65**	**15**	P		**P**	**23 47 26.1**	**-0.2**
KCSI	**Kotacane, Aceh**	**26.81**	**238**	P		**P**	**23 47 29.4**	**+1.3**
GTA	**Gaotai**	**26.84**	**323**	*e*P		**P**	**23 47 28.5**	**+0.3**
GTA				pP		sP	23 47 32.8	-0.2
GTA				sP		pwP	23 47 36.0	+0.3
GTA				S		**S**	**23 52 02.5**	**-1.8**
GTA				sS		pS	23 52 08.5	+0.7
GTA				pmax		pmax		
	comp=Z,13nm,2.1s							
GTA				pmax		pmax		
	comp=Z,250nm,6.2s							
GTA				LR		LR		
	comp=Z,1μm,13.7s							
GTA				LR		LR		
	comp=Z,3μm,12.0s							
GTA				LR		LR		
	comp=Z,4μm,12.4s							
SHL	**Shillong**	**26.93**	**289**	P		**P**	**23 47 28.2**	**-1.1**
SHL				pmax		pmax		
	comp=Z,50nm,1.2s							
SHL	**Shillong**	**26.93**	**289**	P		**P**	**23 47 28.2**	**-1.1**
SHL				IAmb		IAmb	23 47 31.9	
	comp=Z,50nm,1.2s							
USA0B	**Ussuriysk Arra**	**26.93**	**19**	IAmb		IAmb	23 47 39.7	
	comp=Z,52nm,0.8s							
USRK	**Ussuriysk Ar.**	**26.93**	**19**	P		**P**	**23 47 29.0**	**+0.2**
USRK	**Ussuriysk Ar.**	**26.93**	**19**	P		**P**	**23 47 29.3**	**+0.5**
	comp=Z,21nm,0.8s,baz=206,slow=5.7,SNR=36							
USRK				LR		LR	23 59 09.2	
	comp=Z,784nm,19.8s,baz=193,slow=39							
USRK	**Ussuriysk Ar.**	**26.93**	**19**	P		**P**	**23 47 29.1**	**+0.2**
SDSI	**Sungai Dareh**	**27.11**	**225**	P		P	23 47 45.0	+14
MMRI	**Maumere**	**27.61**	**176**	P		P	23 47 47.0	+12
PLAI	**Plampang**	**27.83**	**185**	P		**P**	**23 47 36.8**	**-0.3**
	comp=Z,53nm,1.5s,comp=Z,1μm							
TWSI	**Taliwang, Sumb**	**27.83**	**187**	P		P	23 47 50.9	+14
KLSI		**28.09**	**214**	P		**P**	**23 47 42.3**	**+2.8**
	comp=Z,17nm,1.5s							
MDSI	**Maura Dua**	**28.22**	**216**	P		**P**	**23 47 43.8**	**+3.1**
	comp=Z,18nm,0.9s,comp=Z,651nmcomp=Z,3μm							
GSI	**Gunungsitoli**	**28.33**	**234**	P		**P**	**23 47 42.1**	**+0.4**
	comp=Z,38nm,1.4s							
GSI	**Gunungsitoli**	**28.33**	**234**	P		**P**	**23 47 40.8**	**-0.9**
GSI				IAmb		IAmb	23 47 44.1	
	comp=Z,29nm,1.0s							
LSA	**Lhasa**	**28.41**	**297**	P		**P**	**23 47 44.5**	**+1.7**
LSA	**Lhasa**	**28.41**	**297**	P		**P**	**23 47 43.9**	**+1.1**
LSA				pmax		pmax		
	comp=Z,21nm,1.0s							
LSA	**Lhasa**	**28.41**	**297**	P		**P**	**23 47 43.9**	**+1.1**
KPJI	**Karang Pucung**	**28.49**	**204**	P		**P**	**23 47 43.0**	**0.0**
	comp=Z,29nm,1.1s							
LEM	**Lembang**	**28.56**	**207**	LR		LR	23 59 57.9	
	comp=Z,666nm,18.3s,baz=50,slow=38							
KASI	**Kota Agung**	**28.92**	**214**	P		**P**	**23 47 46.1**	**-0.8**
	comp=Z,46nm,1.3s							
SOEI

JKA **Kamikawa-asahi** 31.23 32 P **P** 23 48 07.7 +0.6
KLR **Kul'dur** 31.49 15*c* *i*P **P** 23 48 10.0 +0.7
KLR pmax pmax
comp=Z,72nm,1.4s
KLR **Kul'dur** 31.49 15 P **P** 23 48 09.6 +0.3
comp=Z,20nm,1.0s,baz=223,slow=7.8,SNR=30
KLR LR LR 00 01 37.2
comp=Z,1µm,20.0s,baz=206,slow=38
RAMN **Ramite** 31.82 291 *e*P **P** 23 48 13.7 +0.9
comp=Z,60nm,0.7s
JIRN **Jiri** 32.27 292 *e*P **P** 23 48 17.7 +0.8
comp=Z,552nm,1.8s
GUN **Gumba** 32.58 292 *e*P **P** 23 48 20.4 +0.8
comp=Z,117nm,1.0s
PKI **Pulchoki** 32.95 291 *e*P **P** 23 48 22.9 +0.1
comp=Z,31nm,1.9s
PKIN **Phulchoki** 32.96 291 *e*P **P** 23 48 22.8 0.0
comp=Z,126nm,1.7s
KKN **Kakani** 33.09 292 *e*P **P** 23 48 24.1 +0.2
DMN **Daman** 33.22 291 *e*P **P** 23 48 25.2 +0.1
CIT **Chita** 33.29 353 *e*P **P** 23 48 26.0 +0.9
YSS **Yuzh-Sakhalins** 33.39 29 *e*P **P** 23 48 26.3 +0.3
YSS *e**SP **pwP** 23 48 34.5 +1.3
YSS *e* 23 49 45.6
YSS *e*S **S** 23 53 44.9 -1.7
YSS *e*SS **SS** 23 56 08.9 -1.8
YSS pmax pmax
comp=Z,50nm,1.0s
YSS **Yuzh-Sakhalins** 33.39 29 P **P** 23 48 26.4 +0.5
ZAK **Zakamensk** 34.02 341 *e*P **P** 23 48 31.6 +0.1
ZAK pmax pmax
comp=Z,17nm,1.0s
DANN **Dangsing** 34.49 292 *e*P **P** 23 48 36.3 +0.1
KUR **Kuril'sk** 34.75 35 *e*P **P** 23 48 39.6 +1.8
KUR *e*S **S** 23 54 10.6 +3.0
KUR pmax pmax
comp=Z,318nm,1.2s
ZEA **Zeya** 35.02 7 *e*P **P** 23 48 42.0 +1.9
ZEA *e* 23 50 17.0
ZEA pmax pmax
comp=Z,61nm,1.6s
ZEA pmax pmax
comp=Z,500nm,10.0s
TLY **Talaya** 35.05 342 *e*P **P** 23 48 42.5 +2.2
TLY *e* 23 50 11.8
TLY pmax pmax
comp=Z,88nm,1.8s
TLY **Talaya** 35.05 342 P **P** 23 48 41.8 +1.5
comp=Z,6.4nm,0.8s,baz=160,slow=10,SNR=2.6
TLY **Talaya** 35.05 342 P **P** 23 48 39.8 -0.6
IRK **Irkutsk** 35.37 343 *e*P **P** 23 48 43.6 +0.5
IRK pmax pmax
comp=Z,71nm,1.9s
KNRA **Kununurra** 35.55 166 P **P** 23 48 43.0 -1.9
KNRA IAmb IAmb 23 48 56.2
comp=Z,26nm,0.9s
MOY **Mondy** 35.86 340 *e*P **P** 23 48 48.5 +1.1
MOY pmax pmax
comp=Z,74nm,2.0s
TYV **Tymovskoe** 36.38 24 *e*P **P** 23 48 53.3 +1.6
TYV *e* 23 54 29.9
TYV pmax pmax
comp=Z,500nm,5.5s
TYV pmax pmax
comp=Z,13nm,1.1s
WMQ **Urumqi** 36.72 319 *e*P **P** 23 48 56.5 +1.7
WMQ sP pwP 23 49 05.0 +2.7
WMQ pmax pmax
comp=Z,14nm,1.5s
WMQ pmax pmax
comp=Z,230nm,4.1s
WMQ LR LR
comp=Z,1µm,15.3s
WMQ LR LR
comp=Z,1µm,14.1s
WMQ LR LR
comp=Z,1µm,16.9s
WMQ **Urumqi** 36.72 319 P **P** 23 48 55.1 +0.3
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ **Urumqi** 36.72 319 P **P** 23 48 55.1 +0.3
FITZ **Fitzroy Crossi** 37.33 171 P **P** 23 48 58.2 -1.9
NKL **Nikolayevsk** 37.54 20 *e*P **P** 23 49 04.1 +2.5
NKL *e* 23 51 19.0
NKL pmax pmax
comp=Z,46nm,1.3s
NKL pmax pmax
comp=N,7.0nm,0.6s
NKL pmax pmax
comp=Z,92nm,3.8s
PMG **Port Moresby** 38.84 134 P **P** 23 49 13.8 +0.9
PMG pmax pmax
comp=Z,15nm,1.1s
PMG **Port Moresby** 38.84 134 P **P** 23 49 13.8 +0.9
BOD **Bodaibo** 38.96 355 *e*P **P** 23 49 11.7 -1.7
BOD pmax pmax
comp=Z,19nm,1.5s
HYB **Hyderabad** 39.51 274 *i*P **P** 23 49 18.0 -0.6
COEN **Coen** 39.88 144 P **P** 23 49 22.1 +0.5
PSA00 **Pilbara Seismi** 40.40 180 P **P** 23 49 25.5 -0.3
WRAB **Tennant Creek** 41.18 160‖ *e*P **P** 23 49 30.5 -1.8
WRAB pmax pmax
comp=Z,20nm,1.3s
MK31 **Makanchi Array** 41.51 320 P **P** 23 49 35.4 +0.6
MKAR **Makanchi Array** 41.51 320 P **P** 23 49 35.6 +0.8
comp=Z,6.2nm,0.8s,baz=113,slow=9.6,SNR=56
MKAR LR LR 00 07 55.4
comp=Z,954nm,18.0s,baz=98,slow=38
MKAR **Makanchi Array** 41.51 320 P **P** 23 49 35.1 +0.2
MAKZ **Makanchi** 41.71 320 P **P** 23 49 36.8 +0.4
MAKZ pmax pmax
comp=Z,28nm,1.1s
MAKZ **Makanchi** 41.71 320 P **P** 23 49 36.8 +0.4
SKR **Severo-Kuril's** 42.45 34‖ *e*P **P** 23 49 43.1 +0.7
KSH **Kashi** 43.09 308 P **P** 23 49 51.5 +3.5
KSH S **S** 23 56 19.8 +6.0
KSH sS sS 23 56 27.8 +8.4
KSH SS **SS** 23 59 25.0 -1.2
KSH pmax pmax
comp=Z,190nm,1.7s
KSH pmax pmax
comp=Z,350nm,5.8s
KSH LR LR
comp=Z,3µm,17.7s
KSH LR LR
comp=Z,4µm,14.1s
KSH LR LR
comp=Z,3µm,15.2s
YAK **Yakutsk** 43.43 6 *e*P **P** 23 49 50.8 +0.7
YAK pmax pmax
comp=Z,23nm,0.9s
YAK **Yakutsk** 43.43 6 P **P** 23 49 50.0 -0.1
comp=Z,10nm,0.8s,baz=191,slow=2.8,SNR=9.9
YAK **Yakutsk** 43.43 6 P **P** 23 49 50.5 +0.4
YAK IAmb IAmb 23 50 01.9
comp=Z,30nm,0.8s
NRN **Naryn** 43.60 311 P **P** 23 49 52.8 +0.5
NRN pmax pmax
comp=Z,24nm,1.0s
NRN **Naryn** 43.60 311 P **P** 23 49 52.8 +0.5
ZAA0 **Zalesovo Array** 44.12 331 IAmb IAmb 23 50 05.6
comp=Z,23nm,0.9s
ZALV **Zalesovo Beam** 44.12 331 P **P** 23 49 55.4 -0.4
comp=Z,26nm,0.9s,baz=118,slow=7.2,SNR=40
ZALV LR LR 00 09 08.6
comp=Z,1µm,20.0s,baz=136,slow=37
NIL **Nilore** 44.12 299 P **P** 23 49 55.9 -0.3
NIL pmax pmax
comp=Z,29nm,0.7s
NIL **Nilore** 44.12 299 P **P** 23 49 55.9 -0.3
NIL IAmb IAmb 23 49 59.3
comp=Z,29nm,0.7s
KZA **Kyzart** 44.33 311 P **P** 23 50 00.8 +2.6
SNR=7.2
TKM2 **Tokmak 2** 44.34 312 P **P** 23 49 57.9 -0.1
SNR=8.7
AS31 **Alice Springs** 44.54 162 P **P** 23 49 58.2 -1.4
ASAR **Alice Springs** 44.54 162 P **P** 23 49 57.8 -1.8
comp=Z,12nm,0.8s,baz=341,slow=6.7,SNR=102
ASAR LR LR 00 10 43.4
comp=Z,262nm,21.0s,baz=356,slow=39
ASAR **Alice Springs** 44.54 162 P **P** 23 49 57.5 -2.1
PETK **Petropavlovsk-** 44.65 31 P **P** 23 49 59.4 -0.7
comp=Z,38nm,1.0s,baz=194,slow=7.4,SNR=15
PETK LR LR 00 09 04.6
comp=Z,431nm,19.3s,baz=242,slow=37
KBK **Karagaybulak** 44.71 312 P **P** 23 50 03.3 +2.3
SNR=13
UCH **Uchtor** 44.90 311 P **P** 23 50 05.0 +2.2
SNR=22
CHMS **Chumysh** 44.95 312 P **P** 23 50 04.0 +1.2
SNR=13
AAK **Ala-Archa** 45.03 312 *i* P **P** 23 50 05.7 +2.2
SNR=6.6
AAK **Ala-Archa** 45.03 312‖ *e*P **P** 23 50 05.1 +1.6
AAK pmax pmax
comp=Z,22nm,2.1s
AAK **Ala-Archa** 45.03 312 P **P** 23 50 04.0 +0.5
PET **Petropavlovsk** 45.07 32 *e*P **P** 23 50 04.9 +1.4
PET *e*S **S** 23 56 42.5 +0.6
PET pmax pmax
comp=Z,110nm,1.0s
PET **Petropavlovsk** 45.07 32 P **P** 23 50 03.0 -0.5
AML **Almayashu** 45.45 311 P **P** 23 50 11.6 +4.4
SNR=8.1
KURK **Kurchatov** 45.52 324 *d* *i*P **P** 23 50 07.5 +0.4
KURK pmax pmax
comp=Z,74nm,1.7s
KURK **Kurchatov** 45.52 324 P **P** 23 50 07.1 0.0
KURK IAmb IAmb 23 50 10.5
comp=Z,36nm,1.0s
EKS2 **Erkin-Say** 45.54 312 P **P** 23 50 09.4 +1.9
SNR=7.5
MA2 **Magadan** 46.05 21⇑ *e*P **P** 23 50 11.2 +0.1
MA2 pmax pmax
comp=Z,59nm,1.2s
MA2 **Magadan** 46.05 21 P **P** 23 50 10.8 -0.3
BTK **Batken** 47.08 307 P **P** 23 50 19.9 +0.3
BTK pmax pmax
comp=Z,8.0nm,0.9s
BTK **Batken** 47.08 307 P **P** 23 50 19.9 +0.3
KBL **Kabul** 47.69 300 P **P** 23 50 24.3 -0.3
KBL pmax pmax
comp=Z,23nm,1.0s
KBL **Kabul** 47.69 300 P **P** 23 50 24.3 -0.3
KBL IAmb IAmb 23 50 39.5
comp=Z,23nm,0.9s
KK31 **Karatay Array** 47.97 311 P **P** 23 50 26.1 -0.4
KK31 pmax pmax
comp=Z,26nm,0.9s
KK31 **Karatay Array** 47.97 311 P **P** 23 50 26.1 -0.4
KK31 IAmb IAmb 23 50 30.7
comp=Z,26nm,0.9s
KKAR **Karatay Array** 47.97 311 P **P** 23 50 26.5 +0.1
KKAR pmax pmax
comp=Z,26nm,0.9s
KKAR **Karatay Array** 47.97 311 P **P** 23 50 26.5 +0.1
KKAR IAmb IAmb 23 50 30.7
comp=Z,26nm,0.9s
MORW **Morawa** 48.03 185 IAmb IAmb 23 50 39.4
comp=Z,29nm,1.1s
HNR **Honiara** 48.36 122 LR LR 00 07 35.2
comp=Z,994nm,22.0s,baz=296,slow=32
SEY **Seymchan** 49.08 19⇑ *e*P **P** 23 50 34.4 -0.2
SEY **Seymchan** 49.08 19 P **P** 23 50 34.8 +0.2
comp=Z,20nm,0.8s,baz=216,slow=6.1,SNR=22
FORT **Forrest** 50.14 171 P **P** 23 50 42.6 -0.4
BVAR **Borovoye Array** 51.12 324 PcP **PcP** 23 52 05.5 -0.3
comp=Z,8.7nm,0.9s,baz=147,slow=3.4,SNR=5.0
BRVK **Borovoye** 51.19 324⇑ *i*P **P** 23 50 52.1 +1.3
BRVK pmax pmax
comp=Z,28nm,1.3s
BRVK **Borovoye** 51.19 324 P **P** 23 50 50.5 -0.3
BRVK IAmb IAmb 23 50 54.3
comp=Z,21nm,1.1s
NWAO **Narrogin (SRO)** 51.79 183 P **P** 23 50 55.5 +0.1
NWAO pmax pmax
comp=Z,22nm,0.9s
NWAO **Narrogin (SRO)** 51.79 183 LR LR 00 14 43.7
comp=Z,90nm,21.9s,baz=44,slow=38
NWAO **Narrogin (SRO)** 51.79 183 P **P** 23 50 55.5 +0.1
NWAO IAmb IAmb 23 51 05.4
comp=Z,22nm,0.9s
TIXI **Tiksi** 52.82 3 P **P** 23 51 01.3 -1.3
comp=Z,8.3nm,0.8s,baz=176,slow=5.7,SNR=21
TIXI LR LR 00 15 53.1
comp=Z,399nm,18.1s,baz=190,slow=39
TIXI **Tiksi** 52.82 3 P **P** 23 51 01.4 -1.2
TIXI IAmb IAmb 23 51 12.1
comp=Z,24nm,1.0s
BBOO **Buckleboo** 53.78 163 P **P** 23 51 09.4 -0.7
NRIK **Noril'sk** 54.10 346 P **P** 23 51 11.8 -0.2
comp=Z,26nm,0.7s,baz=132,slow=7.2,SNR=37
NRIK LR LR 00 15 19.3
comp=Z,2µm,19.6s,baz=150,slow=37
STKA **Stephens Creek** 54.66 158 P **P** 23 51 15.9 -0.7
STKA pmax pmax
comp=Z,9.0nm,1.1s
STKA **Stephens Creek** 54.66 158 P **P** 23 51 15.3 -1.3
comp=Z,14nm,0.8s,baz=332,slow=6.8,SNR=31
STKA **Stephens Creek** 54.66 158 P **P** 23 51 15.9 -0.7
ABKAR **Akbulak array** 56.43 317 P **P** 23 51 29.4 +0.2
GEYT **Alibeck** 56.69 303 P **P** 23 51 32.3 +1.0
comp=Z,18nm,0.8s,baz=150,slow=3.2,SNR=35
GEYT **Alibeck** 56.69 303 P **P** 23 51 31.7 +0.4
BILL **Bilibino** 56.79 19 *de*P **P** 23 51 30.9 -0.5
BILL pmax pmax
comp=Z,88nm,2.5s
BILL **Bilibino** 56.79 19 P **P** 23 51 31.1 -0.4
SVE **Sverdlovsk** 57.66 326 *c* *i*P **P** 23 51 38.5 +0.7
SVE pmax pmax
comp=Z,113nm,1.8s
ARMA **Armidale** 57.77 148 P **P** 23 51 39.7 +0.7
ARU **Arti** 58.68 325 *d* *i*P **P** 23 51 44.9 0.0
ARU 23 52 31.7
ARU 23 53 54.7
ARU S **S** 23 59 51.7 +2.8
ARU pmax pmax
comp=Z,57nm,1.0s
ARU **Arti** 58.68 325 P **P** 23 51 44.3 -0.6
BANOM **Banah** 58.92 289 P **P** 23 51 48.0 +0.8
DZM **Mont Dzumac** 60.98 130 LR LR 00 14 54.1
comp=Z,620nm,21.9s,baz=10.0,slow=33
DZM **Mont Dzumac** 60.98 130 *e*P **P** 23 52 02.3 +1.0
comp=Z,88nm,1.3s
DZM **Mont Dzumac** 60.98 130 P **P** 23 52 02.1 +0.8
TOO **Toolangi** 61.18 157 P **P** 23 52 02.8 +0.5
TOO pmax pmax
comp=Z,27nm,1.0s
TOO **Toolangi** 61.18 157 P **P** 23 52 02.8 +0.5
TOO IAmb IAmb 23 52 12.5
comp=Z,27nm,0.9s
MAK **Makhachkala** 64.70 309 *e*P **P** 23 52 23.3 -2.5
MAK pmax pmax
comp=Z,162nm,1.3s
GROC **Groznyy** 65.94 310 *e*P **P** 23 52 32.4 -1.4
GROC *e* 23 53 04.4
GROC pmax pmax
comp=Z,38nm,1.3s
PRGR **Permogore** 66.06 330 *e*P **P** 23 52 32.7 -1.5
PRGR pmax pmax
comp=Z,49nm,0.8s
ANM **Nome** 66.26 27 P **P** 23 52 36.4 +0.9
ANM pmax pmax
comp=Z,14nm,1.0s
ANM **Nome** 66.26 27 P **P** 23 52 36.4 +0.9
ANM IAmb IAmb 23 52 52.5
comp=Z,14nm,1.0s
FALS **False Pass** 66.82 38 P **P** 23 52 40.0 +0.8
TBLG **Delisi** 66.84 308 IAmb IAmb 23 52 55.4
comp=Z,13nm,1.1s
GNI **Garni** 66.99 306 P **P** 23 52 41.7 +0.9
GNI **Garni** 66.99 306 *d* *i*P **P** 23 52 41.9 +1.1
GNI pmax pmax
comp=Z,122nm,1.7s
GNI **Garni** 66.99 306 P **P** 23 52 41.0 +0.2
GNI IAmb IAmb 23 52 57.9
comp=Z,24nm,1.0s
ZEI **Tsey** 67.36 309 *e*P **P** 23 52 42.5 -0.6
ZEI pmax pmax
comp=Z,21nm,1.0s
MSVF **Nonsavu** 67.60 119 P **P** 23 52 47.4 +2.6
MSVF pmax pmax
comp=Z,44nm,1.2s
MSVF **Nonsavu** 67.60 119 P **P** 23 52 47.4 +2.6
GOF **Gofitskoye** 67.77 312‖ *e*P **P** 23 52 46.0 +0.6
GOF pmax pmax
comp=Z,79nm,1.9s
AKH **Akhalkalaki** 67.80 308 ⇑P **P** 23 52 47.9 +2.0
KBZ **Khabaz** 68.00 310 P **P** 23 52 47.0 +0.2
comp=Z,12nm,1.1s,baz=107,slow=4.9,SNR=14
KBZ LR LR 00 25 51.4
comp=Z,720nm,18.9s,baz=74,slow=39
KIV **Kislovodsk** 68.13 311 *i* P **P** 23 52 48.6 +0.7
SNR=12
KIV **Kislovodsk** 68.13 311 *d* *i*P **P** 23 52 48.1 +0.3
KIV *e**SP **pwP** 23 52 54.6 -0.9
KIV *i* 23 53 14.5
KIV *e* 23 55 12.6
KIV *e*PPP PPP 23 56 53.5
KIV pmax pmax
comp=Z,63nm,1.6s
KIV **Kislovodsk** 68.13 311 ⇑P **P** 23 52 48.8 +1.0
KIV **Kislovodsk** 68.13 311 P **P** 23 52 47.8 -0.1
VRH **Novokhopyorsk** 68.19 318 *e*P **P** 23 52 47.6 -0.3
VRH pmax pmax
comp=Z,90nm,1.6s
RAYN **Ar Rayn** 69.00 289 *i* P **P** 23 52 53.4 -0.2
SNR=8.4
RAYN **Ar Rayn** 69.00 289 P **P** 23 52 52.8 -0.8
RAYN pmax pmax
comp=Z,19nm,1.0s
RAYN **Ar Rayn** 69.00 289 P **P** 23 52 52.8 -0.8
RAYN IAmb IAmb 23 53 03.7
comp=Z,19nm,1.0s
TMCR **Tamitsa** 69.60 332 *e*P **P** 23 52 56.6 +0.2
TMCR pmax pmax
comp=Z,59nm,1.3s
VSR **Storozhevoye** 69.79 319 *e*P **P** 23 52 56.4 -1.5
VSR pmax pmax
comp=Z,60nm,1.8s
LPSR **Galich'ya Gora** 69.81 320 *e*P **P** 23 52 57.5 -0.5
LPSR pmax pmax
comp=Z,60nm,0.9s
MOS **Moscow** 70.29 323 *e*P **P** 23 52 57.2 -3.7
MOS pmax pmax
comp=Z,110nm,1.8s
MOS pmax pmax
comp=Z,600nm,3.4s
SOC **Sochi** 70.31 310 *e*P **P** 23 52 57.0 -4.2
SOC *e* 23 55 39.3
SOC *e*PPP PPP 23 57 15.0
OBN **Obninsk** 70.95 323 *e*P **P** 23 53 04.8 -0.1
OBN *e**PP **sP** 23 53 09.3 -0.6
OBN *e**SP **pwP** 23 53 11.6 -1.0
OBN *e* 23 53 22.9
OBN *e* 23 55 41.5
OBN *e*PPP PPP 23 57 25.0
OBN pmax pmax
comp=Z,72nm,1.6s
OBN **Obninsk** 70.95 323 P **P** 23 53 03.9 -1.0
IMAR **Indian Mountai** 71.16 26 P **P** 23 53 05.3 -0.7
APA **Apatity** 71.31 336‖ *i*P **P** 23 53 11.2 +4.3
APA pmax pmax
comp=Z,18nm,0.9s
ANN **Anapa** 71.75 312 *e*P **P** 23 53 07.7 -2.2
ANN *e**PP **pP** 23 53 12.6 -1.0
ANN *e* 23 53 25.6
ANN pmax pmax
comp=Z,28nm,1.1s
TOLK **Toolik Lake Re** 72.49 23 P **P** 23 53 14.2 +0.2
baz=278
SKT **Skwentna** 72.56 30 P **P** 23 53 13.8 -0.7
SKT IAmb IAmb 23 53 24.0
comp=Z,27nm,1.1s
KTH **Kantishna Hill** 72.62 28 IAmb IAmb 23 53 26.0
comp=Z,22nm,0.9s
TRF **Thorofare Moun** 72.92 28 IAmb IAmb 23 53 30.0
comp=Z,24nm,1.2s
GAZ **Gaziantep** 73.27 304 P **P** 23 53 19.0 -0.3
WRH **Wood River Hil** 73.71 27 IAmb IAmb 23 53 32.0
comp=Z,32nm,1.0s
TCOL **CIGO, UAF Yank** 73.74 26 P **P** 23 53 21.0 -0.4
baz=280
COLA **College** 73.74 26‖ *e*P **P** 23 53 21.4 0.0
COLA pmax pmax
comp=Z,15nm,1.1s
PMR **Palmer** 73.75 30 IAmb IAmb 23 53 30.8
comp=Z,24nm,1.0s
CCB **Clear Creek Bu** 73.80 27 IAmb IAmb 23 53 32.8
comp=Z,20nm,1.1s
GHO **Glory Hole Cre** 73.81 30 IAmb IAmb 23 53 36.4
comp=Z,36nm,1.2s
POKR **Poker Plat Res** 73.88 26 P **P** 23 53 21.8 -0.4
baz=280
ARCES **ARCESS Array B** 73.92 339 P **P** 23 53 22.0 -0.4
ARCES **ARCESS Array B** 73.92 339 P **P** 23 53 22.0 -0.4
comp=Z,6.8nm,0.9s,baz=79,slow=6.8,SNR=7.0
ARCES LR LR 00 29 06.2
comp=Z,611nm,19.9s,baz=109,slow=38
SIM **Simferopol'** 74.05 313 P **P** 23 53 23.3 -0.3
SIM pmax pmax
comp=Z,16nm,0.8s
ILAR **Eielson Array** 74.17 26 P **P** 23 53 22.0 -1.9
ILAR **Eielson Array** 74.17 26 P **P** 23 53 22.0 -1.9
comp=Z,2.2nm,0.8s,baz=277,slow=3.6,SNR=22
ILAR LR LR 00 27 52.5
comp=Z,72nm,19.6s,baz=314,slow=37
ILAR **Eielson Array** 74.17 26 P **P** 23 53 22.5 -1.4
HDA **Harding Lake** 74.21 27 P **P** 23 53 22.9 -1.3
baz=281
HDA **Harding Lake** 74.21 27 IAmb IAmb 23 53 33.6
comp=Z,28nm,1.0s
DHY **Denali Highway** 74.28 28 IAmb IAmb 23 53 34.7
comp=Z,19nm,1.0s
FYU **Fort Yukon** 74.48 24 IAmb IAmb 23 53 40.5
comp=Z,42nm,1.2s
BMAR **Burnt Mountain** 74.55 24 P **P** 23 53 26.5 +0.4
PAX **Paxson** 75.15 28 IAmb IAmb 23 53 39.8
comp=Z,25nm,1.0s
FINES **FINESS Array B** 75.38 330 P **P** 23 53 30.7 -0.2
comp=Z,6.1nm,0.9s,baz=57,slow=6.5,SNR=9.1
FINES LR LR 00 29 24.1
comp=Z,863nm,19.4s,baz=64,slow=38
BRTR **Keskin Array B** 75.48 307 *i* P **P** 23 53 32.9 +0.7
BRTR pmax pmax
comp=Z,2.0nm,1.1s
BRTR **Keskin Array B** 75.48 307 P **P** 23 53 31.9 -0.3
comp=Z,0.2nm,0.3s,baz=98,slow=5.1,SNR=5.6
BRTR LR LR 00 31 57.4
comp=Z,252nm,18.5s,baz=58,slow=40
BRTR **Keskin Array B** 75.48 307 P **P** 23 53 30.2 -1.9
SCRK **Sand Creek** 75.57 27 IAmb IAmb 23 53 41.9
comp=Z,33nm,1.2s
VSU **Vasula** 75.73 327 *ce*P **P** 23 53 34.0 +1.0
VSU **Vasula** 75.73 327 *e*P **P** 23 53 33.3 +0.3
VSU IAmb IAmb 23 53 43.7
comp=Z,158nm,1.1s
MENT **Mentasta** 75.94 28 IAmb IAmb 23 53 52.5
comp=Z,20nm,1.0s
AKASG **Malin Array Be** 76.08 319 *i* P **P** 23 53 32.7 -2.5
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG **Malin Array Be** 76.08 319 P **P** 23 53 34.0 -1.2
comp=Z,0.6nm,0.3s,baz=61,slow=5.9,SNR=19
AKBB **Malin Array Si** 76.08 319 IAmb IAmb 23 53 44.5
comp=Z,16nm,1.1s
VRDI **Verde Repeater** 76.49 30 IAmb IAmb 23 53 47.6
comp=Z,18nm,1.1s
NACGM **Naroch** 76.54 324 *e* P **P** 23 53 36.0 -1.7
EGAK **Eagle** 76.55 26 IAmb IAmb 23 53 47.5
comp=Z,32nm,1.1s
RAO **Raoul Island** 76.62 128 LR LR 00 21 27.1
comp=Z,268nm,20.9s,baz=114,slow=31
IZAR **Zarasai** 76.63 325 *e*P **P** 23 53 43.0 +4.8
IZAR IAmb IAmb 23 53 48.8
comp=Z,13nm,1.1s
MCARA **McCarthy VSAT** 76.65 29 P **P** 23 53 36.4 -1.9
MCARA IAmb IAmb 23 53 48.8
comp=Z,34nm,1.2s
ISAL **Salakas** 76.74 324 *e*P **P** 23 53 42.0 +3.2
ISAL IAmb IAmb 23 53 49.3
comp=Z,8.9nm,0.9s
IIGN **Ignalina** 76.74 324 *e*P **P** 23 53 39.2 +0.3
IIGN IAmb IAmb 23 53 45.8
comp=Z,14nm,1.1s
BCAR **Beaver Creek A** 76.76 28 P **P** 23 53 38.9 0.0
CSS **Mathiatis** 76.82 303 IAmb IAmb 23 53 49.8
comp=Z,20nm,0.9s
BALM **Baldy** 77.06 30 P **P** 23 53 39.2 -1.5
BALM IAmb IAmb 23 53 51.3
comp=Z,26nm,1.1s
SORM **Soroca** 77.23 317 ⇑P **P** 23 53 41.0 -0.7
DAWY **Dawson** 77.50 26 IAmb IAmb 23 53 53.2
comp=Z,25nm,0.9s
EPYK **Eagle Plains** 77.82 24 P **P** 23 53 43.3 -1.5

baz=290
EPYK Eagle Plains 77.82 24 IAmb IAmb 23 53 54.4
comp=Z,32nm,1.0s
LBZ Lake Benmore 77.91 146 P **P** **23 53 45.0 -0.4**
LBZ IAmb IAmb 23 54 00.2
comp=Z,20nm,1.1s
RPZ Rata Peaks 77.93 145 LR LR 00 29 14.7
comp=Z,220nm,18.2s,baz=268,slow=37
RPZ Rata Peaks 77.93 145 P **P** **23 53 46.1 +0.5**
PABE Paberze 77.94 325 *eP* **P** **23 53 45.1 -0.4**
TOPG Topolog 78.04 313 ⇑P **P** **23 53 46.3 -0.1**
INK Inuvik 78.29 21 P **P** **23 53 46.4 -0.9**
comp=Z,6.5nm,1.0s,baz=294,slow=8.7,SNR=9.0
INK Inuvik 78.29 21 IAmb IAmb 23 53 57.0
comp=Z,25nm,1.1s
TESR Tescani 78.77 315 ⇑P **P** **23 53 50.4 0.0**
SUW Suwalki 78.80 323 *eP* **P** **23 53 49.5 -0.9**
SUW Suwalki 78.80 323 *eP* **P** **23 53 49.5 -0.9**
SUW *eP* **P** **23 53 49.5 -0.9**
PBUR Paburg 78.89 326 *eP* **P** **23 53 50.7 -0.1**
PBUR IAmb IAmb 23 54 05.4
comp=Z,130nm,1.2s
VRI Vrincioaia 78.90 315 ⇑P **P** **23 53 51.7 +0.6**
PLOR Plostina 78.95 315 ⇑P **P** **23 53 52.0 +0.6**
BFZ Birch Farm 79.01 140 P **P** **23 53 51.3 -0.3**
BFZ IAmb IAmb 23 54 01.6
comp=Z,32nm,0.8s
BIZ Bicaz 79.02 316 ⇑P **P** **23 53 51.1 -0.7**
HYT Haines Junctio 79.38 29 IAmb IAmb 23 54 04.5
comp=Z,42nm,1.1s
BURAR Bucovina Array 79.41 317 ⇑P **P** **23 53 53.1 -0.8**
BURAR mb 23 54 04.3
BURAR Bucovina Array 79.41 317 P **P** **23 53 52.9 -1.0**
MLR Muntele Rosu 79.53 314 ⇑P **P** **23 53 54.9 +0.1**
ARCR ARCALIA 80.12 316 ⇑P **P** **23 53 57.8 +0.1**
VOIR 80.15 315 ⇑P **P** **23 53 57.6 -0.4**
KWP Kalwaria Pacla 80.40 319 *eP* **P** **23 54 00.7 +1.5**
KWP Kalwaria Pacla 80.40 319 *eP* **P** **23 54 00.7 +1.5**
KWP *eP* **P** **23 54 00.7 +1.5**
HUMR Humele 80.46 314 ⇑P **P** **23 53 59.2 -0.4**
WHY Whitehorse 80.64 29 IAmb IAmb 23 54 11.1
comp=Z,26nm,1.0s
CJR Cluj-Napoca 80.73 316 ⇑P **P** **23 54 02.0 +0.9**
KOLS Kolonicke sedl 80.89 319 *eP* **P** **23 54 01.7 -0.1**
KOLS Kolonicke sedl 80.89 319 *eP* **P** **23 54 01.7 -0.1**
C36M Paulatuk 80.91 19 P **P** **23 54 00.3 -1.1**
baz=300
ABPO Ambohimpanom 80.97 246 P **P** **23 54 00.8 -2.1**
ABPO pmax pmax
comp=Z,8.0nm,1.0s
ABPO Ambohimpanom 80.97 246 P **P** **23 54 00.8 -2.1**
UZH Uzhgorod 80.97 318 *eP* **P** **23 54 00.4 -1.8**
DAG Danmarks Havn 81.25 351 ⇓ *i* P **P** **23 54 02.1 -1.1**
DAG pmax pmax
comp=Z,11nm,0.8s
DAG Danmarks Havn 81.25 351 ⇓ *i* P **P** **23 54 02.1 -1.1**
comp=Z,11nm,0.8s
DRGR 81.28 316 ⇑P **P** **23 54 04.2 +0.1**
DEV Deva 81.44 316 ⇑P **P** **23 54 05.5 +0.7**
KARP Karpathos 81.53 305 P **P** **23 54 03.4 -2.1**
OJC Ojcow 81.98 320 *eP* **P** **23 54 07.3 -0.3**
OJC Ojcow 81.98 320 *eP* **P** **23 54 07.3 -0.3**
OJC *eP* **P** **23 54 07.3 -0.3**
OJC Ojcow 81.98 320 IAmb IAmb 23 54 17.7
comp=Z,18nm,0.9s
SIRR Siria 82.14 316 ⇑P **P** **23 54 08.8 +0.3**
VTS Vitosha 82.26 312 ⇑P **P** **23 54 09.7 +0.3**
VTS mb 23 54 19.8
VTS Vitosha 82.26 312 IAmb IAmb 23 54 19.8
comp=Z,23nm,1.1s
NB2 NORSAR Subarra 82.29 332 P **P** **23 54 07.5 -1.5**
comp=Z,22nm,1.2s,baz=68,slow=5.1
NB2 NORSAR Subarra 82.29 332 P **P** **23 54 07.5 -1.5**
baz=68,slow=5.1
NOA NORSAR Array B 82.29 332 P **P** **23 54 07.1 -1.9**
comp=Z,2.5nm,0.7s,baz=65,slow=5.0,SNR=9.6
NOA LR LR 00 33 20.9
comp=Z,1μm,19.9s,baz=65,slow=38
LANS Liptovska Anna 82.56 319 *eP* **P** **23 54 11.4 +0.8**
LANS Liptovska Anna 82.56 319 *eP* **P** **23 54 11.4 +0.8**
PSZ Piszkesteto 82.72 318 P **P** **23 54 10.6 -1.0**
PSZ pmax pmax
comp=Z,8.0nm,1.0s
PSZ Piszkesteto 82.72 318 P **P** **23 54 10.6 -1.0**
VYHS Vyhne 83.18 319 *eP* **P** **23 54 13.7 -0.2**
VYHS Vyhne 83.18 319 *eP* **P** **23 54 13.7 -0.2**
MORC Moravsky Berou 83.50 320 *eP* **P** **23 54 14.4 -1.1**
KMBO Kilima Mbogo 83.68 267 *i* P **P** **23 54 17.9 +0.5**
SNR=11
KMBO Kilima Mbogo 83.68 267 P **P** **23 54 16.7 -0.7**
KMBO pmax pmax
comp=Z,6.0nm,1.1s
KMBO Kilima Mbogo 83.68 267 P **P** **23 54 17.8 +0.4**
comp=Z,8.4nm,1.1s,baz=82,slow=6.6,SNR=15
KMBO Kilima Mbogo 83.68 267 P **P** **23 54 16.7 -0.7**
KSP Ksiaz 83.84 322 *eP* **P** **23 54 17.1 -0.1**
KSP Ksiaz 83.84 322 *eP* **P** **23 54 17.1 -0.1**
KSP *eP* **P** **23 54 17.1 -0.1**
KRLC Kraliky 83.84 321 *eP* **P** **23 54 17.2 -0.1**
KRLC Kraliky 83.84 321 *eP* **P** **23 54 17.2 -0.1**
OSTC Ostas 84.00 322 *eP* **P** **23 54 18.1 +0.1**
DPC Dobruska-Polom 84.01 321 *eP* **P** **23 54 18.7 +0.5**
DPC *e* 23 54 27.4
DPC Dobruska-Polom 84.01 321 *eP* **P** **23 54 18.7 +0.5**
DPC *ex* x 23 54 27.4
CHVC Chvalec 84.08 322 *eP* **P** **23 54 18.4 -0.1**
UPC Upice 84.14 322 *eP* **P** **23 54 18.7 0.0**
UPC *e* 23 54 28.1
UPC Upice 84.14 322 *eP* **P** **23 54 18.7 0.0**
UPC *ex* x 23 54 28.1
VRAC Vranov 84.25 320 ⇑P **P** **23 54 19.1 -0.2**
VRAC mb 23 54 30.1
VRAC Vranov 84.25 320 *eP* **P** **23 54 19.1 -0.2**
TULEG Thule 84.44 2 IAmb IAmb 23 54 34.2
comp=Z,12nm,1.1s
KRUC Moravsky 84.47 320 *eP* **P** **23 54 18.8 -1.6**
PDG Podgorica 85.09 313 IAmb IAmb 23 54 34.1
comp=Z,17nm,1.1s
GOPC GO Pecny, Ondr 85.09 321 *eP* **P** **23 54 23.1 -0.5**
GOPC *e* 23 54 32.1
GOPC GO Pecny, Ondr 85.09 321 *eP* **P** **23 54 23.1 -0.5**
GOPC *ex* x 23 54 32.1
BRG Berggiesshubel 85.19 322 *eP* **P** **23 54 23.6 -0.5**
comp=Z,9.4nm,1.0s
BRG *i* 23 54 33.2
comp=Z,32nm,1.0s
PRU Pruhonice 85.21 321 *eP* **P** **23 54 23.7 -0.4**
PRU Pruhonice 85.21 321 *eP* **P** **23 54 23.7 -0.4**
CONA Conrad Observa 85.23 319 *i* PcP **P** **23 54 25.3 +0.9**
comp=Z,18nm,1.2s
MUD Monsted U'grnd 85.30 329 *i* P P 23 54 31.0 +6.6
MUD pmax pmax
comp=Z,87nm,1.3s
MUD Monsted U'grnd 85.30 329 *i* P P 23 54 31.0 +6.6
comp=Z,86nm,1.3s
CASY Casey 85.41 184 P **P** **23 54 24.5 0.0**
CASY IAmb IAmb 23 54 25.8
comp=Z,15nm,1.0s
CLL Collm 85.55 323 *i* P **P** **23 54 24.7 -1.1**
CLL *i* 23 54 30.9
CLL pmax pmax
comp=Z,17nm,1.2s
CLL Collm 85.55 323 *i* P **P** **23 54 24.7 -1.1**
comp=Z,17nm,1.2s
CLL *i* 23 54 30.9
CLL *i* 23 54 34.1
CLL Lm MLR 00 36 00.0
comp=Z,700nm,18.9s
CLL Collm 85.55 323 IAmb IAmb 23 54 36.0
comp=Z,20nm,1.0s
KALN Kalnik 85.56 317 P **P** **23 54 25.5 -0.5**
BLY Banja Luka 85.62 316 IAmb IAmb 23 54 36.5
comp=Z,11nm,0.9s
PBCC Pribram 85.66 321 *eP* **P** **23 54 26.0 -0.4**
ARSA Arzberg 85.71 319 *i* pP **P** **23 54 28.1 +1.3**
comp=Z,11nm,1.1s
KHC Kasperske Hory 86.13 321 ⇑ *eP* **P** **23 54 28.7 -0.1**
KHC pmax pmax
comp=Z,25nm,1.5s
KHC Kasperske Hory 86.13 321 *eP* **P** **23 54 28.4 -0.4**
KHC *ex* x 23 54 37.8
RICI Ricice 86.14 315 P **P** **23 54 27.8 -1.1**
GEC2 GERESS Array S 86.18 321 IAmb IAmb 23 54 39.0
comp=Z,14nm,1.0s

GERES GERESS Array B 86.18 321 P **P** **23 54 27.9 -1.2**
GERES GERESS Array B 86.18 321 P **P** **23 54 28.1 -1.0**
comp=Z,2.8nm,0.9s,baz=60,slow=5.3,SNR=22
GERES LR LR 00 33 32.1
comp=Z,327nm,18.5s,baz=91,slow=36
GERES GERESS Array B 86.18 321 P **P** **23 54 27.9 -1.2**
SOKA Soboth 86.25 318 *i* PcP **P** **23 54 29.4 -0.1**
comp=Z,6.9nm,0.9s
KIJV Kijevo 86.42 315 P **P** **23 54 29.4 -0.9**
OBKA Obir 86.62 318 *i* P **P** **23 54 33.3 +1.9**
comp=Z,11nm,1.1s
KBA Koelnbreinsper 87.14 319 *i* pP **P** **23 54 35.2 +1.2**
comp=Z,16nm,1.3s
SUMG Summit 87.45 354 *i* P **P** **23 54 36.0 +0.8**
SUMG Summit 87.45 354 *i* P **P** **23 54 36.0 +0.8**
SUMG Summit 87.45 354 IAmb IAmb 23 54 44.4
comp=Z,14nm,1.0s
ABTA Abfaltersbach 87.80 319 PcP **P** **23 54 36.1 -0.9**
comp=Z,9.3nm,1.2s
STAL STALIGIAL 87.88 319 IAmb IAmb 23 54 47.6
comp=Z,12nm,1.1s
YKA Yellowknife Ar 88.02 22 P **P** **23 54 36.9 -0.7**
comp=Z,11nm,0.8s,baz=314,slow=4.5,SNR=70
YKA Yellowknife Ar 88.02 22 P **P** **23 54 36.4 -1.2**
WTTA Wattenberg 88.11 320 *i* PcP **P** **23 54 38.0 -0.6**
comp=Z,12nm,1.3s,SNR=5.5
WATA Walderalm 88.11 320 *i* PcP **P** **23 54 37.8 -0.8**
comp=Z,8.5nm,1.1s
SQTA Sankt Quirin 88.39 320 *i* PcP **P** **23 54 39.3 -0.6**
comp=Z,15nm,1.2s
MOTA Moosalm 88.40 320 *i* P **P** **23 54 38.1 -1.9**
comp=Z,11nm,1.2s
FETA Feichten 88.77 320 *i* PcP **P** **23 54 41.1 -0.6**
comp=Z,4.2nm,0.9s,SNR=4.9
AQU L'Aquila 89.10 315 P **P** **23 54 42.7 -0.5**
AQU pmax pmax
comp=Z,13nm,0.9s
AQU L'Aquila 89.10 315 P **P** **23 54 42.7 -0.5**
AQU IAmb IAmb 23 54 53.6
comp=Z,13nm,0.9s
FUORN Ofenpass-Fuorn 89.24 320 IAmb IAmb 23 54 55.1
comp=Z,15nm,1.1s
ZCCA Zocca 89.82 317 IAmb IAmb 23 54 58.5
comp=Z,15nm,1.0s
PRMA PARMA 90.06 318 P **P** **23 54 45.5 -2.1**
VLC Villacollemand 90.29 317 IAmb IAmb 23 55 06.7
comp=Z,11nm,1.0s
LLLB Lillooet 91.83 34 IAmb IAmb 23 55 13.7
comp=Z,15nm,1.0s
D03D Elton 92.83 37 P **P** **23 55 00.6 +0.2**
baz=302
B05A Bryant 93.00 36 P **P** **23 55 01.4 +0.3**
baz=303
D04E Lakebay 93.20 37 P **P** **23 55 02.9 +0.8**
baz=303
E04D Cinebar 93.65 38 P **P** **23 55 06.8 +2.6**
baz=303
B08A Colville Reser 94.47 35 IAmb IAmb 23 55 22.4
comp=Z,11nm,1.1s
J01E Myrtle Point 94.63 41 P **P** **23 55 09.1 +0.4**
baz=302
H04D Lebanon 94.64 40 P **P** **23 55 09.5 +0.8**
baz=303
I03D Drain, OR 94.71 41 P **P** **23 55 09.4 +0.3**
baz=302
KEST Kesra 94.87 310 LR LR 00 45 40.4
comp=Z,200nm,19.0s,baz=156,slow=40
K02D Willamette Mer 95.04 42 P **P** **23 55 11.0 +0.2**
baz=302
I04A Tendick Farm, 95.23 40 P **P** **23 55 11.2 -0.3**
baz=303
HUMO Hull Mountain 95.53 41 IAmb IAmb 23 55 23.9
comp=Z,7.9nm,1.1s
J04D Umpqua Nationa 95.72 41 P **P** **23 55 14.1 +0.1**
baz=303
NEW Newport 95.72 34 P **P** **23 55 14.1 +0.5**
baz=307
NEW Newport 95.72 34 P **P** **23 55 13.8 +0.1**
NEW pmax pmax
comp=Z,7.0nm,1.1s
NEW Newport 95.72 34 P **P** **23 55 13.8 +0.1**
comp=Z,1.3nm,0.7s,baz=9.6,slow=5.9,SNR=3.0
NEW Newport 95.72 34 IAmb IAmb 23 55 24.7
comp=Z,6.7nm,1.1s
PPT Papeete 95.81 106 LR LR 00 31 27.6
comp=Z,133nm,20.3s,baz=343,slow=31
MAW Mawson 95.99 199 LR LR 00 32 46.0
comp=Z,88nm,21.9s,baz=56,slow=32
PINE Pine Mountain 96.12 40 IAmb IAmb 23 55 22.7
comp=Z,7.1nm,1.0s
L04D Klamath Falls 96.14 42 P **P** **23 55 15.1 -0.8**
baz=303
YBH Yreka Blue Hor 96.15 42 P **P** **23 55 16.2 +0.3**
YBH pmax pmax
comp=Z,2.0nm,1.0s
YBH Yreka Blue Hor 96.15 42 P **P** **23 55 16.2 +0.3**
J05D Fort Rock, OR 96.23 40 P **P** **23 55 15.6 -0.7**
baz=304
M02C Callahan 96.24 42 P **P** **23 55 15.7 -0.6**
baz=302
N02D Trinity Center 96.55 43 P **P** **23 55 17.6 -0.1**
baz=302
M04C Macdoel 96.67 42 P **P** **23 55 17.9 -0.4**
baz=303
O02D Mt. Diablo Mer 96.92 43 P **P** **23 55 19.1 -0.3**
baz=302
MOD Modoc Plateau 97.56 41 IAmb IAmb 23 55 37.3
comp=Z,7.6nm,1.1s
ORV Oroville 98.09 43 IAmb IAmb 23 55 39.9
comp=Z,4.7nm,1.1s
BEKR Beckworth 98.66 43 IAmb IAmb 23 55 41.7
comp=Z,5.8nm,1.0s
PAHR Pah Rah Range 99.37 42 P **Pdif** **23 55 31.8 +1.3**
PAHR IAmb IAmb 23 55 37.0
comp=Z,5.3nm,1.2s
VNDA Vanda 99.41 172 LR LR 00 41 13.6
comp=Z,153nm,20.9s,baz=348,slow=36
PNTR Pine Nut 99.58 43 IAmb IAmb 23 55 37.8
comp=Z,5.7nm,1.1s
NVAR Mina Array Bea 100.79 43 P **Pdif** **23 55 36.9 0.0**
comp=Z,0.7nm,0.6s,baz=285,slow=5.7,SNR=7.1
NVAR PP **PP** **23 59 42.9 -1.0**
comp=Z,0.3nm,0.5s,baz=309,slow=8.7,SNR=2.8
NVAR Mina Array Bea 100.79 43 **Pdif** **23 55 36.7 -0.2**
SHPR Shoup Range 103.94 43 **Pdif** **23 55 51.0 +0.1**
TORD Torodi Ar. Bea 111.47 293 PKiKP **PKiKP** **00 00 20.4 -2.5**
comp=Z,0.9nm,0.8s,baz=357,slow=2.6,SNR=4.2
TORD PKKPbc **PKKPbc** **00 11 19.1 +2.1**
comp=Z,0.5nm,0.6s,baz=266,slow=2.2,SNR=4.5
TXAR Lajitas Array 115.92 42 PKP **PKiKP** **00 00 30.6 -0.5**
comp=Z,1.0nm,0.5s,baz=248,slow=0.7,SNR=18
TXAR PP **PP** **00 01 37.3 +3.0**
comp=Z,0.9nm,0.9s,baz=292,slow=4.8,SNR=3.1
TROLL Troll, Antarti 116.44 198 PKPdf **PKPdf** **00 00 29.9 -1.0**
JCT Junction City 117.49 39 **PKPdf** **00 00 33.5 -0.5**
WVT Waverly 119.03 26 **PKPdf** **00 00 36.3 -0.5**
VNA2 Neumayer--Watz 119.76 197 PKPdf **PKPdf** **00 00 36.0 -1.0**
baz=53,slow=1.1
BCIP Isla Barro Col 145.69 37 *eP* **PKPdf** **00 01 26.5 -0.6**
URIC Uribia, Colomb 147.15 22 *eP* **PKiKP** **00 01 38.5 +4.4**
SJCC San Jacinto, C 147.47 29 *eP* **PKPbc** **00 01 31.7 -0.9**
LCBC Los crdobas, 147.80 32 *eP* **PKPbc** **00 01 33.4 0.0**
ARGC Ariguani, Magd 147.92 28 *eP* **PKiKP** **00 01 35.2 -0.6**
CODC Agustn Codazz 148.19 26 *eP* **PKPdf** **00 01 31.8 +0.5**
DABV Dabajuro 148.34 21 *eP* **PKiKP** **00 01 35.9 -0.7**
SMLC San Martn de 148.94 28 *eP* **PKPdf** **00 01 32.0 -0.5**
UREC San Jos de Ur 149.17 32 *eP* **PKPdf** **00 01 32.9 0.0**
DBBC Dabeiba 149.45 33 *eP* **PKPbc** **00 01 35.9 -2.0**
ZARC Zaragoza, Cauc 149.72 31 *eP* **PKPdf** **00 01 32.7 -1.1**
OCAC Ocana 149.77 27 *eP* **PKPbc** **00 01 38.2 -0.5**
SDV Santo Domingo 150.24 22 *eP* **PKPbc** **00 01 38.5 -1.4**
SDV Santo Domingo 150.24 22 **PKPbc** **00 01 39.2 -0.8**
HELC Santa Helena 150.50 33 *eP* **PKPbc** **00 01 39.3 -1.5**
CBOC Ciudad Bolivar 150.52 34 *eP* **PKPbc** **00 01 39.3 -1.3**
BRRC Barranca, Sant 150.60 29 *eP* **PKPbc** **00 01 40.1 -0.5**
SOCV Socops 150.72 23 *eP* **PKPbc** **00 01 39.1 -1.8**
PTBC PUERTO BERRIO 150.74 31 *eP* **PKPbc** **00 01 39.7 -1.2**
PAMC Pamplona, Colo 150.84 27 *eP* **PKPbc** **00 01 41.0 -0.8**
PLMC San Jos del P 151.18 36 *eP* **PKPdf** **00 01 35.0 -1.2**
BARC Barichara 151.29 29 *eP* **PKPbc** **00 01 41.1 -1.4**
NORC Norcasia 151.38 33 *eP* **PKPbc** **00 01 40.7 -1.8**
GUY2C Guyana, Caldas 151.41 34 *eP* **PKPbc** **00 01 42.1 -0.9**
GUY2C *eP* **sPKPdf** **00 01 42.6 +0.2**
SPBC San Pablo de B 151.70 31 *eP* **PKPbc** **00 01 41.0 -2.3**
YOTC Yotoco, Valle 151.90 37 *eP* **PKPdf** **00 01 37.3 -0.1**
YOTC *eP* **pPKPbc** **00 01 46.3 -1.3**

RUSC La Rusia 151.96 29 *eP* **PKPbc** **00 01 43.5 -0.8**
TOLC Tolima 151.97 35 *eP* **PKPbc** **00 01 42.0 -2.1**
ANIL Santa Ana 152.00 35 *eP* **PKPbc** **00 01 42.6 -1.6**
TAMC Tame, Arauca 152.04 26 *eP* **PKPbc** **00 01 41.7 -2.2**
ROSC El Rosal 152.27 32 PKP **PKPdf** **00 01 38.7 +0.5**
comp=Z,8.5nm,0.8s,baz=177,slow=21,SNR=4.4
ROSC PKPbc **PKiKP** **00 01 45.5 +0.3**
comp=Z,25nm,0.7s,baz=39,slow=6.5,SNR=13
ROSC El Rosal 152.27 32 *eP* **PKPbc** **00 01 42.6 -2.3**
ELOV Elorza 152.39 21 *eP* **PKPbc** **00 01 44.1 -0.6**
ORTC Ortega, Tolima 152.57 35 *eP* **PKPbc** **00 01 42.6 -2.5**
CHIC Chingaza 152.75 32 *eP* **PKPdf** **00 01 38.2 -0.7**
POPC Popayan, Colom 152.86 39 *eP* **PKPbc** **00 01 43.6 -2.5**
BBAC Balboa, Cauca 152.92 41 *eP* **PKPbc** **00 01 44.1 -2.0**
PCON Cinco Dias 153.20 39 *eP* **PKPbc** **00 01 43.7 -3.5**
VILC Villavicencio, 153.21 32 *eP* **PKPdf** **00 01 39.5 +0.2**
VILC *eP* **sPKPdf** **00 01 44.5 -0.2**
SOTA Rioblanco 153.23 40 *eP* **PKPbc** **00 01 44.9 -2.3**
CRUC La Cruz 153.46 41 *eP* **PKPdf** **00 01 34.2 -5.7**
GCUF Volcan Galeras 153.47 42 *eP* **PKPdf** **00 01 40.6 +0.5**
OTAV Otavalo 153.49 46 *eP* **PKPdf** **00 01 40.8 +0.8**
OTAV Otavalo 153.49 46 **PKPbc** **00 01 47.2 -0.5**
FLOC Florencia 154.24 39 *eP* **PKPbc** **00 01 45.1 -3.7**
BDFB Brasilia 168.23 285 PKP **PKPdf** **00 01 54.7 -0.7**
comp=Z,4.7nm,1.0s,baz=103,slow=6.4,SNR=4.4
BDFB Brasilia 168.23 285 **PKPdf** **00 01 55.4 +0.1**
SAML Samuel 169.42 18 **PKPdf** **00 01 55.1 -0.9**
SAML **PKPab** **00 03 06.2 -2.2**
MNMC Minye Minye 170.75 92 **PKPdf** **00 01 57.0 0.0**
LPAZ La Paz 171.60 72 PKP **PKPdf** **00 01 57.5 -0.4**
comp=Z,2.6nm,0.8s,baz=25,slow=2.4,SNR=7.4
CPUP Villa Florida 172.42 197 PKP **PKPdf** **00 01 55.1 -2.2**
comp=Z,0.6nm,0.5s,baz=242,slow=2.1,SNR=2.2

*SKHL **31** 23:50:35.7±0.0, 45.50N×153.32E, h35km±5km, mb4.3/2*
*IDC **31** 23:50:42.3±3.0, 46.88N×152.40E, h107km±24km, mb3.3/5, mb1 3.4/8, mb1mx3.0/55, mbtmp3.7/8, Error ellipse: s-maj=38.1km s-min=22.9km az=119.0*
ISC 31 23:50:40.4±1.4, 46.6N±0.2×152.5E±0.2, h100km, n19, σ2s14/15, mb3.6/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.52**	**248**	*eP*		**Pn**	**23 51 33.0**	**0.0**
KUR					AMB	AMB	23 51 34.0	
	18nm,0.4s							
KUR				*i* S		**Sn**	**23 52 16.0**	**+2.2**
KUR					A	A	23 52 25.0	
	86nm,0.4s							
KUR					A	A	23 52 25.0	
	97nm,0.4s							
SHO	**Shikotan**	**4.86**	**237**	*eP*		Pn	23 51 48.0	-3.2
SHO				*eS*		**Sn**	**23 52 42.2**	**-4.0**
SHO					A	A	23 52 49.0	
	38nm,0.3s							
SHO					A	A	23 52 49.0	
	73nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**5.35**	**243**	*eP*		**Pn**	**23 51 57.0**	**-0.8**
YUK					AMB	AMB	23 52 03.0	
	42nm,0.5s							
YUK				*eS*		**Sn**	**23 52 57.8**	**-0.3**
YUK					A	A	23 53 15.0	
	129nm,0.5s							
YUK					A	A	23 53 15.0	
	63nm,0.5s							
GRPR	**Tuman**	**5.43**	**243**	*eS*		**Sn**	**23 53 00.5**	**+0.5**
NMR	**Nemuro--Hokkai**	**5.80**	**238**	*i* P		Pn	23 52 01.0	-2.9
NMR				*i* S		**Sn**	**23 53 05.0**	**-4.1**
PETK	**Petropavlovsk-**	**7.30**	**26**	P		**Pn**	**23 52 23.3**	**-0.9**
	0.2nm,0.3s,baz=180,slow=13,SNR=3.4							
ASAJ	**Asahikawa**	**7.41**	**254**	P		**Pn**	**23 52 27.7**	**+1.9**
	0.4nm,0.3s,baz=77,slow=14,SNR=4.8							
USRK	**Usuriysk Ar.**	**14.60**	**268**	P		**Pn**	**23 54 04.2**	**+2.3**
	baz=72,slow=14,SNR=3.1							
H11N2	**WAKE ISLAND Hy**	**29.32**	**151**	T		T	00 27 53.7	
	baz=340,slow=76,SNR=75							
H11N1	**WAKE ISLAND Hy**	**29.33**	**151**	T		T	00 27 55.2	
	baz=340,slow=76,SNR=36							
H11N3	**WAKE ISLAND Hy**	**29.33**	**151**	T		T	00 27 57.7	
	baz=340,slow=76,SNR=30							
H11S1	**WAKE ISLAND Hy**	**30.40**	**153**	T		T	00 29 18.5	
	baz=340,slow=76,SNR=48							
H11S3	**WAKE ISLAND Hy**	**30.41**	**153**	T		T	00 29 15.6	
	baz=340,slow=76,SNR=39							
H11S2	**WAKE ISLAND Hy**	**30.41**	**153**	T		T	00 29 17.0	
	baz=340,slow=76,SNR=32							
MKAR	**Makanchi Array**	**46.62**	**297**	P		**P**	**23 58 57.4**	**-0.9**
	0.2nm,0.7s,baz=74,slow=7.3,SNR=3.4							
FINES	**FINESS Array B**	**63.96**	**335**	P		**P**	**00 01 01.8**	**-0.6**
	2.5nm,0.8s,baz=39,slow=7.3,SNR=7.9							
NOA	**NORSAR Array B**	**68.20**	**341**	P		**P**	**00 01 29.4**	**-0.2**
	0.4nm,0.5s,baz=28,slow=6.5,SNR=3.1							
AKASG	**Malin Array Be**	**71.40**	**326**	P		**P**	**00 01 49.2**	**-0.1**
	0.4nm,0.3s,baz=34,slow=6.1,SNR=4.1							
ASAR	**Alice Springs**	**71.97**	**198**	P		**P**	**00 01 55.3**	**+2.4**
	0.2nm,0.6s,baz=16,slow=4.7,SNR=4.2							

*IDC **31** 23:58:44.5±7.7, 23.44S×179.75W, h466km±67km, mb3.5/8, mb1 3.5/9, mb1mx3.2/45, mbtmp4.3/9, Error ellipse: s-maj=83.1km s-min=18.9km az=49.0*
ISC 31 23:58:43.8±3.8, 23.5S±0.4×179.8W±0.4, h450km, n9, σ0s99/9, mb4.0/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.99**	**189**	P		**P**	**00 01 55.4**	**+0.8**
	1.1nm,0.3s,baz=337,slow=4.6,SNR=6.6							
RPZ	**Rata Peaks**	**21.56**	**198**	P		**P**	**00 02 59.1**	**-0.1**
	9.7nm,0.9s,baz=56,slow=7.3,SNR=2.9							
CTA	**Charters Tower**	**31.65**	**269**	P		**P**	**00 04 30.4**	**+1.7**
	8.5nm,0.4s,baz=95,slow=11,SNR=41							
PMG	**Port Moresby**	**34.51**	**288**	P		**P**	**00 04 53.0**	**-0.1**
	7.6nm,0.7s,baz=106,slow=6.8,SNR=5.1							
STKA	**Stephens Creek**	**35.05**	**248**	P		**P**	**00 04 56.2**	**-1.2**
	1.3nm,0.7s,baz=95,slow=11,SNR=2.9							
ASAR	**Alice Springs**	**42.28**	**260**	P		**P**	**00 05 56.6**	**+0.1**
	1.5nm,0.4s,baz=93,slow=7.5,SNR=54							
WRA	**Warramunga Arr**	**42.61**	**266**	P		**P**	**00 05 58.2**	**-0.9**
	2.9nm,0.3s,baz=94,slow=8.3,SNR=22							
FITZ	**Fitzroy Crossi**	**51.03**	**265**	P		**P**	**00 07 03.2**	**-0.1**
	0.8nm,0.4s,baz=79,slow=5.2,SNR=4.4							
QSPA	**South Pole Qui**	**66.62**	**180**	P		**P**	**00 08 48.0**	**-0.1**
	1.1nm,0.6s,baz=74,slow=0.9,SNR=6.1							

ISC Computed Locations for December 2013

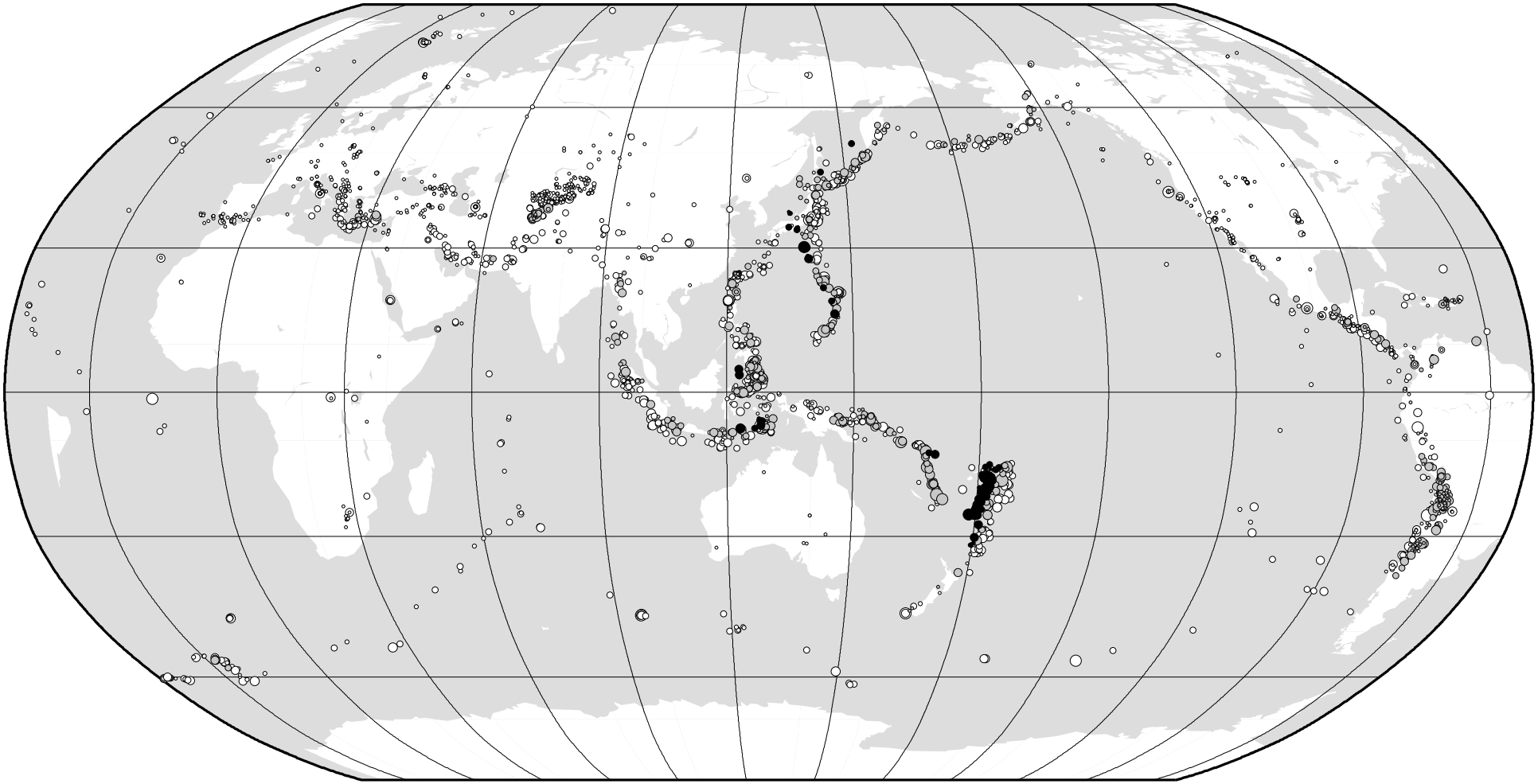

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2836 Events